Cl **00**   *SC*   *P*   *L*   **#** **1015**
Rasor, Gregg   Motorola

Comment Type   **TR**   *Comment Status*   **X**

Currently, no references to child piconets and neighbor piconets are made at all; this should be corrected. (In fact, the usability of neighbor and child piconets is unclear.)

SuggestedRemedy

Incorporate communication behavior and security associations with child piconets and neighbor piconets. Once the rationale for neighbor and child piconets has been clarified, one should revise the current Draft D10 specification such that compliance with the security architecture is enforced.

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L*   **#** **1009**
Rasor, Gregg   Motorola

Comment Type   **TR**   *Comment Status*   **X**

General security completeness is inadequate with respect to commercially viabale cryptosystems.

SuggestedRemedy

Add the RSA security suite found in 02/228r1 as an optional security suite, and review all proposed security options (protocol, ciphers, etc.) according to "KEY MANAGEMENT GUIDELINE" http://csrc.nist.gov/encryption/kms/guideline-1.pdf.

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L*   **#** **1010**
Rasor, Gregg   Motorola

Comment Type   **TR**   *Comment Status*   **X**

The MQV-based ECC security suite is superior to the ECIES-based security suite that has been incorporated in the current Draft, both in terms of received independent security scrutiny and standardization (it is completely standards-compliant and is the most widely studied Diffie-Hellman key agreement protocol around) and in terms of implementation cost and computational efficiency (it offers significant gate count savings and higher efficiency compared to the current ECC suite that is in the draft). Furthermore, the complete cost, including potential licensing issues, is significantly lower than that of the ECIES-based Variant of TLS that is currently in the Draft D10 specification.

SuggestedRemedy

Completely remove the ECIES-based ECC security suite (originally submitted as 02/210r0) and replace it by the better alternative (in all aspects): the MQV-based ECC security suite (originally submitted as 02/210r2). For further details on security and cost metrics, see also the forthcoming presentation in Vancouver (document numbers: 02/290, 02/291).

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L*   **#** **1011**
Rasor, Gregg   Motorola

Comment Type   **TR**   *Comment Status*   **X**

Currently, the mapping of roles to devices that is in effect is static in nature. Moreover, the role of the security manager is identified with that of the current piconet controller (although peer-to-peer security is also allowed). This approach, although simple, has its drawbacks, since it assumes each device to trust the piconet controller and, more importantly, to trust each subsequent piconet controller for its security needs. This might be especially undesirable in the event of an automatic piconet hand over, since the devices constituting the piconet exercise no control over the election process of the new piconet controller. From an implementation viewpoint, the drawback is that each change of the piconet controller now invokes by definition a change of security manager, thus potentially requiring an expensive re-establishment of keying relationships between all devices and the new security manager.

SuggestedRemedy

Incorporate a more flexible security model. Currently, all trust in the piconet is concentrated in a single device, the PNC, which poses some restrictions one should be very well aware of. A more general security model was presented by us in Dallas (see 02/030r0), Schaumburg, (see 02/114r3), and St. Louis (see 02/114r5). This more general security model prevented the disadvantages of the approach we had to take in Draft D09, while still allowing that approach, as a special case (at approximately the same implementation cost). The general security model allows for a relaxation of the amount of trust that needs to be concentrated in a single device, while at the same time allowing a speed up of authentication and a more robust architecture, if the PNC changes. The alternative security architecture presented in St. Louis by Dan Bailey (02/230, 02/231) was claimed to have the capability to provide the same advantages as our previously mentioned distributed security architecture, but the current Draft D10 specification suggests otherwise. The inflexible security architecture needs fixing. For further details, see the forthcoming presentation in Vancouver (document numbers: 02/290, 02/291).

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L*   **#** **367**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

???KO> sub-rates have no use unless used with powersave. Complicates PNC CTA allocation /KO

SuggestedRemedy

Remove all CTR-ival / subrate related from standard.

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L*   **#** **1012**

Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

Incorporate a mechanism for secure multicasting within the piconet setting. Comment: Currently, only the peer-to-peer and the broadcast communication scenario is being elaborated upon. This unnecessarily limits the usability of the piconet, since secure multicasting now requires operating several piconets, one for every multicast group. Moreover, implementing multicasting comes at limited additional cost when compared to the current supported communication scenarios.

SuggestedRemedy

Incorporate a mechanism for secure multicasting within the piconet setting. A general solution the multicasting communication scenario (i.e., communication for any specified subset of the devices that constitute the piconet) was presented in Dallas (see 02030r0), Schaumburg (02/114r3), and St. Louis (see 02/114r5). The inflexible security architecture needs fixing. For further details, see the forthcoming presentation in Vancouver (document numbers: 02/290, 02/291).

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** **1014**

Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

Currently, key life cycle management is incompletely specified. Comment: Symmetric keys of a particular type shall be used for the associated usage only, e.g., keys intended for securing the exchange of data keys shall not be used for securing the exchange of user data, and vice versa. Symmetric keys of a particular usage type shall be used for the associated usage only, e.g., keys intended for usage with an encryption algorithm shall not be used with a keyed hash function, and vice versa. Public keys of a particular type shall be used for the intended usage only, e.g., public keys intended for securing the establishment of symmetric keying material shall not be used for authenticity verification purposes, and vice versa. Expired or archived keys should not be used for, e.g., encryption and for the provision of data integrity any more, but might still be used for, e.g., decryption and for the verification of data integrity. The type of keying material, its intended usage, and the status as to its life cycle should become available during the generation or during the transfer of the key. Subsequent versions of the same key should be distinguishable via a key sequence number, such as to prevent the usage of old keys, when new keys have been issued, or vice versa. At any moment of time, the binding between the key value and all the key aspects discussed above should be stored in an authentic way.

SuggestedRemedy

Incorporate a classification of key life cycle and key usage aspects, both for public keying material and for symmetric keying material, and adapt key data objects accordingly. Currently, key life cycle management is incompletely specified. For further details, see the forthcoming presentation in Vancouver (document numbers: 02/290, 02/291).

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** **786**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Remove all references to implied ACK. This was created as a way to handle asynchronous traffic. It is not longer needed now that we have ATS.

SuggestedRemedy

Remove all references to implied ACK in the entire text.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** **1016**

Rasor, Gregg   Motorola

Comment Type **E**   *Comment Status* **X**

One distinguishes communication behavior and security associations within a piconet (ordinary devices, security managers, and piconet controller), between different piconets (piconet, child piconet, neighbor piconet), and between devices and the external trusted party. The term 'DEV' could therefore be occasionally used to denote things that are not a device, but, e.g., a neighbor piconet, thus causing confusion. Moreover, devices can have different roles. Adopting a more general term avoids this confusion.

SuggestedRemedy

Replace the concept 'DEV' by 'entity' or a similarly appropriate term throughout the clause.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** **1035**

Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

Throughout the Draft, accurately describe the cryptographic building blocks, cryptographic mechanisms, and security services offered. Comment: the descriptions are often incomplete, ambiguous, lack structure, or simply do not follow well-established cryptographic practice. We give two examples, to illustrate our point: (1) Page 210, lines 23-46 (Clauses 9.2.2-9.2.4): the specification is completely inadequate. Comment: The specification should describe authenticated key agreement, which provides key establishment, key authentication (and hereby mutual entity authentication), and key confirmation, rather than describing these security services separately and in a seemingly incoherent way. (2) Page 210, lines 48-52 (Clause 9.2.3): the specification of key transport is completely inadequate and is also incomplete (e.g., peer-to-peer key transport is also provided). The list goes on and on…

SuggestedRemedy

See the forthcoming presentation in Vancouver (document number: 02/290, 02/291). Help will be offered in Vancouver as well.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 2 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *Cl* **00**   *SC*

Cl **00**   *SC*   *P*   *L*   **#** **85**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

KO> The term AssocID leads the reader to believe that it's the ID you get when you are associated, i.e. the DEVID. The use in the text means that it's the UNASSIGNED ID, i.e. 0xFE./KO

SuggestedRemedy

Replace all occurances of AssocID with UnassignedID.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** **57**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The MAC address isn't needed as parameter in the Authentication exchange. The header carries the DevID of source and destination, and if either side is unknown to the other, they are not likely to accept authentication anyway. /KO

SuggestedRemedy

Table 11, page 40 <delete TrgtAddress and OrigAddress> 6.3.7.2, page 42, line 12 <delete OrigAddress> 6.3.7.6, page 44, line 7 <delete OrigAddress> 7.5.2.1, Figure 52, page 131 <delete 6 octet DEV address, change Length to 1+Ln> 7.5.2.3, Figure 54, page 132 <delete 6 octet DEV address, change Length to (1+Lm)+(4+Ln)+Lp>

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** **1038**

Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

In the 802.15.3 WPAN context, there are several security mechanisms in place, viz.: (1) A public-key based key establishment mechanism that results in the establishment of a symmetric (link) key between these parties based on their respective authentic public keys; (2) A symmetric key based key transport mechanism that results in the secure and authentic transfer of a symmetric (data) key from the transferring party to the recipient; (3) Several data transfer mechanisms that result in the secure and/or authentic transfer of message traffic between parties that share the data keys. Key compromise has the following effects, depending on the mechanism in place: (1) Compromise of the public key of any of the parties involved in the public-key based key establishment results in complete compromise of all link keys between that party and all its communicating parties, not only in the present, but also in the past and in the future; (2) Compromise of a link key shared between two parties results in complete compromise of all data keys shared between those two parties (and possibly others; in the D10 Draft: all parties in the piconet) that were securely transferred using this link key; (3) Compromise of a data key results in complete compromise of all data transferred between communicating parties that was secured using this data key. So, compromise of public keys has the following ripple effect: it invariably leads to compromise of link key(s), which in turn leads to compromise of data key(s), which finally leads to compromise of data security. In the end, we are interested in protecting all data between 802.15.3 devices using AES-128. This implies that we want to provide a so-called "128-bit security level" for the communicated data. Due to the ripple effect of key compromise this means that link keys and public keys should then also provide (at least) this security level. In particular, this means that (a) all link keys should be protected by 128-bit security level mechanisms (for AES, this means: AES-128); (b) all public keys should be protected by 128-bit security level mechanisms (for ECC this means: 256-bit prime curve or 283-binary curve; for NTRUEncrypt, this means 128-bit level keys (for comparison: although not in the D10 Draft, for RSA, this would mean: 3072-bit security, but possibly more due to Bernstein's attack on the number field sieve). For evidence that 80-bit security levels do not provide long-term security, see, e.g., ANSI X9.63-2001. For compatible public key/symmetric key key-sizes, see, e.g., Appendix 6 of FIPS Pub 186-2, Revision 2 (bit-strength RSA/ECC vs. symmetric key).

SuggestedRemedy

All key handling mechanisms should provide the same bit-level of security, (so-called 'consistent security level'), which is currently not the case. Make the Draft D10 specification consistent w.r.t. bit security levels. In particular, completely remove NTRUEncrypt as in the current Draft D10 (Clause 10.4 and elsewhere), since this is claimed by NTRU, to provide only an 80-bit security level (independent evidence is lacking for either the 80-bits or 128-bits security level of NTRUEncrypt).

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** 1039
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

The CCM combined encryption and authentication mechanism is a brand new technique that has not been subjected to independent security scrutiny yet. Moreover, the implementation cost, both in hardware and software, is comparable to other techniques that did receive this scrutiny (see, e.g., 02/218r1). Furthermore, the CCM scheme is twice as slow as AES-CTR mode, whereas the alternative AES-CTR + HMAC based on SHA256 mode provides at most 14% data integrity overhead (which really pays off if one moves to 500 mbps data rates, like with 802.15.3a). Lastly, the use of a single key system offers no additional advantages over the use of a separate encryption key and data integrity key, since a separate data integrity key is already needed for protecting 802.15.3 commands.

SuggestedRemedy

Completely remove the CCM combined encryption and authentication mechanism from the current draft D10 (Annex B.1) and replace it with a technically superior scheme. Remove the CCM mode of operation altogether and replace it by the better alternative (in all aspects) AES-CTR + HMAC based on SHA256. For further details, see also 02/218 and the forthcoming presentation in Vancouver (document numbers: 02/290, 02/291). Note: 02/128r2 contains updated implementation cost figures.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** 1040
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

The MQV-based ECC security suite is a good alternative to the ECIES-based security suite that has been incorporated in the current D10 Draft, both in terms of received independent security scrutiny and standardization (it is completely standards-compliant and is the most widely studied Diffie-Hellman key agreement protocol around) and in terms of implementation cost and computational efficiency (it offers significant gate count savings and higher efficiency compared to the current ECC suite that is in the draft).

SuggestedRemedy

Include the MQV-based ECC security suite, as contained in document 02/200r2, as an optional security suite for this standard. Completely incorporate the MQV-based ECC security suite as specified in 02/200r2 as an optional security suite in this standard.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L*   **#** 1013
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

Currently, anonymity is not considered at all in the draft. Lack of anonymity was a major criticism of the original Bluetooth specification. It led to a change requirement by Ericcson, after this privacy issue had been advertised on the front cover of the NY Times). One distinguishes a number of anonymity issues, including (1) tracking of devices and thereby their users; (2) tracking of device status information, which might lead to subtle, but annoying attacks (e.g., sleep-deprivation attack; (3) trace-ability of the manufacturer of the WPAN-chip, which might lead to passively monitoring which devices are owned by whom (e.g., for device theft).

SuggestedRemedy

Investigate what anonymity services could be provided. Discuss how to limit the exchange of device information such as to allow some anonymity services to be offered (e.g., as a distinguishing feature for WPAN vs. Bluetooth). For details on how this could be realized technically and what changes this would require to the specification of the security framework and of data objects, see the forthcoming presentation in Vancouver (document numbers: 02/290, 02/291).

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L* **0**   **#** 424
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

A 20 day Letter Ballot is much to short an interval to adequately review the volume of new text that was incorporated into D10. Particularly, all the material associated with security. There are major integration issues that need to be addressed that I did not have time to consider. Also given the PICs is now included in this document, there was no time to properly review the decisions made by the various editors to determine if they were in agreement as to what should be mandatory or optional.

SuggestedRemedy

Recommend that the next LB for 802.15.3 be extended to 30 days minimum.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L* 1   *#* **1196**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

KO> The lingo for different acknowledgements is inconsistent. Each abrevation should be possible to pronounce. The recommended nomenclature will be used in related comments, e.g. see doc: 02/276r0, page 2, Acknowledgement policies /KO

SuggestedRemedy

To firm up and homogenize the different features of the protocol, the following nomenclature shall be used. An objective is to separate similar functionality with different semantic meaning and to make all abbreviations pronouncable (Dly-ACK is NOT a good name).   - ACK-Policy   Parameter to MLME_STREAM_CREATE. Sets default mode for stream - ACK Request   Parameter to DATA or UNITDATA.request. Sets ACK-request field in MAC header to solicit an ACK from the destination   - No-ACK   ACK-Request/Policy 00. No acknowledgement requested - Imm-ACK   ACK-Mode/Policy 01. Immediate Acknowledgement requested. - Del-ACK   ACK-Mode/Policy 10. Delayed Acknowledgement requested.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L* 1   *#* **1**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> In some cases it's important to allow the Convergence Layer to change Ack policy. An example is an isochronous 1394 stream with no acknowledgement policy. Due to the nature of wireless communication the CL may opt to check that the packets on this stream is received by the destination DEV by occasionally inserting a frame with an immediate ack request. Only certain ack requests can be combined with certain ack policies. /KO

SuggestedRemedy

see doc: 02/276r0, page 2, Acknowledgement policies Resolution [01]

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L* 10   *#* **194**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> When PNC switches channels, the DEVS cannot be free to change at any time within a timeout. If they switch early (or late) they will not hear a beacon and eventually issue a MLME_SYNCH_LOST.indication to their DME. The switch must be synchronized. A similar manner as the new handover proposal is used with a count down to switch. All DEVs must stay awake to receive the beacons and they must switch at the same time. No DEV shall be allowed to transmit until they have correctly received a CTA from their PNC on the new channel./KO

SuggestedRemedy

See doc: 02276r0, page 21, resolution [10] Changing Channels

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L* 11   *#* **196**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> A method of moving the beacon is needed for several reasons. During hand-over, the private CTA of child and neighbor PNC might have been moved. Simarly, a method of changing the superframe duration is needed. All this must be synchronized throughout the piconet and possible child and neighbor piconets. /KO

SuggestedRemedy

See resolution [11] in 02276r0P802-15_TG3-commentsD10_KO.doc, page 23   This resolution contains changes from both Resolution [10] and [11]. It also solves handover, beacon move, superframe duration change, channel change and PNID change with client and neighbor piconets.

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L* 12   *#* **206**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The method of selecting the preferred AC is wrong. A child PNC should be first choice, a 802.15.3 capable neighbor second (how do we know?), AC des, AC capable, thereafter. It is essential that the AC can handle all associations and streams of the current PNC. SEC and PSAVE if used, Rate, comes last. Table 51 is based on some legacy, AC announcement doesn't exist and Transmit power is not known./KO

SuggestedRemedy

See resolution [12] in 02276r0P802-15_TG3-commentsD10_KO.doc

Proposed Response   *Response Status* **O**

Cl **00**   *SC*   *P*   *L* **13**   # **361**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

KO> The current wakeup mechanisms are not sufficient to wake up a DEV when a major system change occurs. Examples are channel change, PNC handover, beacon duration or location change and PNID change. A method is needed to allow all APS and SPS devices to easily check if a system change is in progress. The intervals for such checks must be decided by PNC./KO

SuggestedRemedy

See resolution [13] in 02276r0P802-15_TG3-commentsD10_KO.doc A system change bit is added to the mode field of the PNC synchronization IE. All DEVs are required to check this bit at minimum intervals. The bit is unrelated to any APS and SPS wakeup method.

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L* **14**   # **365**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

KO> The powersave modes are a disaster. They don't conform to the other frame formats, neither to the terminology of the rest of the standard. The beacon shares no info about when a certain SPS is awake. There is no handover procedure. A DEV can join several SPS but how does it know when to be awake? How do you send to broadcast of DEVs are in different SPS? What are you supposed to do with "suspended CTA?"? How does transmitters know when an intended receiver is awake? How does it fit wit with ATP? With pseudostat? with subrate? The APS doesn't work either, since there is no commonly agreed upon wake beacons to put the PCTM in. How is PNC supposed to calculate available CTA when DEvs of different SPS may end up with all their CTA needs in the same superframe at some intervals? The idea with PCTM is wrong since PNC should accept or reject CTR instantly. SPS interval is mentioned in clause 8 but never defined/KO

SuggestedRemedy

A much simpler power save solution is needed.   See resolution [14] in 02276r0P802-15_TG3-commentsD10_KO.doc

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L* **15**   # **422**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

KO> When handing over to a child or neighbor, it is possible that the total number of DEVs is greater than what the new PNC can handle. It is also possible that we get a conflict in DEVIDs between old and new piconet./KO

SuggestedRemedy

See resolution [15] in 02276r0P802-15_TG3-commentsD10_KO.doc Solution: let parent PNC assign a group of DEVID to the child or neighbor based on request.

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L* **2**   # **13**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

KO> Delayed-ACK: It is not possible to let the source send any number of frames up to aMaxDelACKBurstSize if they are smaller than aMaxFrameSize and their combined frame bodies is <= max-burst * aMaxFrameSize. The reason is that it's not known how much of the header and other overhead the destination will store. Neither is it a good solution to force all receiver implementations to support a fictive max value set in the standard. /KO

SuggestedRemedy

Let the del_ACK frame carry two values; max amount of aMaxFrameSize frames that can be received, and another one with the max amount of (smaller) frames that can be sent in a burst. That is, the aMaxDelACKBurstSize is made dynamic. Detailed solution: see [02] in 02276r0P802-15_TG3-commentsD10_KO.doc, Page 4

Proposed Response   *Response Status*   **O**

Cl **00**   *SC*   *P*   *L* **3**   # **43**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

KO> Handover procedure needs change. You cannot have an MLME timeout expiring in the midst of a synchronized transfer. There must be rules for how many beacons the "old" PNC sends before the "new" PNC assumes PNC responsibilities for the piconet. /KO

SuggestedRemedy

See Resolution[03] in 02276r0P802-15_TG3-commentsD10_KO.doc, page 5.

Proposed Response   *Response Status*   **O**

Cl **00** *SC* *P* *L* **4** # **51**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
KO> BSID must be persistent throughout the piconet lifetime. If the PNID changes the BSID is the only way to find the right PNC. After a handover the MACaddr of the PNC will have changed as well. BSID should be fixed and user defined. /KO

SuggestedRemedy
See Resolution [04] in 02276r0P802-15_TG3-commentsD10_KO.doc, page 10

Proposed Response   *Response Status* **O**

Cl **00** *SC* *P* *L* **7** # **131**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
KO> Implied ACK is not needed anymore now that we have an efficient asynchronous data mechanism. Besides, implied ACK is a solution for polling protocols, not for time slotted protocols. /KO

SuggestedRemedy
All resolutions collected in   doc: 02276r0, page 16, Resolution [07]

Proposed Response   *Response Status* **O**

Cl **00** *SC* *P* **1** *L* # **1099**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Another WPAN trademark question.

SuggestedRemedy
Verify the status of IEEE trademarking WPAN.

Proposed Response   *Response Status* **O**

Cl **00** *SC* *P* **1** *L* **1** # **464**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
We should have an informative annex with sample calculations and examples of frame headers, commands, IEs, beacons, etc.

SuggestedRemedy
Assign each person one item to create and assign 2 people to review their work.

Proposed Response   *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # **952**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**
copyright is 2001 within the draft

SuggestedRemedy
change to 2002

Proposed Response   *Response Status* **O**

Cl **00** *SC* **00** *P* *L* **10** # **1044**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The subclause on "Conformance and test methodology" is misleading. I understand it is a cut-n-paste from IEEE-SA.

SuggestedRemedy
I suggest that it should be rewritten specific to 802.15.3 and/or the text should be deleted.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
Page 7 of 185
Cl **00** *SC* **00**

Cl **00**   *SC* **00**   *P*   *L* **15**   # 1041
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
The (TM) after WPAN is incorrect, per my 10Jun02 e-mail to the 802.15 AC. The Trademark Examining Attorney has refused the registration on the ground that WPAN is a commonly known acronym for wireless personal area networks, and thus the mark is not registrable on the ground of descriptiveness.

SuggestedRemedy
Edit your draft globally for "WPAN(TM)" and change to "WPAN". Also, delete the entire sentence "WPAN TM is a trademark owned by the IEEE." on Page vi.

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **00**   *P*   *L* **16**   # 1042
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
The spelling of our Sponsors name is inconsistent on title page i.e., "LAN/MAN" and "LAN MAN".

SuggestedRemedy
I suggest editing all occurences of "LAN MAN" to "LAN/MAN".   Note: In reviewing the Sponsor's Home Page http://ieee802.org/ it appears they use both spellings, however, I suggest that we be consistent.

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **00**   *P*   *L* **20**   # 1043
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
The sentence "The Medium Access Control (MAC) protocol supports..." should be corrected.

SuggestedRemedy
I suggest the sentence read as follows "The Medium Access Control (MAC) sublayer supports...".

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **00**   *P*   *L* **20**   # 1048
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
The word public key is spelled "public key" and "public-key".

SuggestedRemedy
I suggest you correct all instances to be hyphenated or "public-key"

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **00**   *P*   *L* **55**   # 1046
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
The copyright in the running footer is incorrect.

SuggestedRemedy
Change the copyright in the footer to 2002 or 200x.

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **8.2.4**   *P*   *L*   # 988
Bain, Jay   Time Domain

Comment Type   **TR**   *Comment Status* **X**
To support the MLME-InitDependentPNC.request/confirm, text in this sub-clause should support the action of starting a dependent PNC.

SuggestedRemedy
see previous 6.3.x comment. see 02/289

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **8.2.5**   *P* **157** *L* **2**   # 987
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**
It is suggested that the neighbor sub-clause be split. The breakout would be for neighbors intending to be for 15.3 piconets or for neighbors intending to be for non-15.3 piconets.

SuggestedRemedy
Suggested text will be in document 02/289

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **all**   *P*   *L*   **#** **805**
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
There are many places in the draft that refer to things that an associated DEV can do. Unfortunately, with security turned on, many of these really require authentication. One solution would be to to say "associated or authenticated if required". the preferred way would be to have DEVs in mode 0 and 1 automatically authenticated in modes 0 and 1.

SuggestedRemedy
Add text that associated DEVs are automatically authenticated in modes 0 and 1, and throughout the draft use authenticated instead of associated as appropriate.

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **C.3.1**   *P* **322**   *L* **4**   **#** **579**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
There is no C.3.2 to justify C.3.1

SuggestedRemedy
Delete C.3.1 and change the title of C.3 to reflect that it is a comparison with TLS.

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **E.7**   *P* **344**   *L* **1**   **#** **1148**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Table number wrong

SuggestedRemedy
Should be E.3

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **Introduction**   *P*   *L*   **#** **757**
Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
802.15.3 should defintely be shown in the picture of the relationship of 802.15.3 to other standards!

SuggestedRemedy
Add 802.15.3 to the picture

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **Introduction**   *P*   *L*   **#** **1098**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
I understand via email from Ian Gifford that we can trademark WPAN.   Same comment on page vi.

SuggestedRemedy
Verify with Ian the status of the WPAN trademark ... remove if necessary

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.1**   *P* **1**   *L* **43**   **#** **1045**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
Again, the symbol for megabit per second is Mb/s, not Mbps.

SuggestedRemedy
Please make the change globally.

Proposed Response   *Response Status* **O**

Cl **02**   *SC* **2**   *P* **3**   *L* **41**   **#** **211**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
The FIPS 197 standard is a full standard, not a draft.

SuggestedRemedy
The reference should be updated to have the November 26, 2001 date instead of the term "draft"

Proposed Response   *Response Status* **O**

Cl **03**   *SC*   *P* **5**   *L* **38**   **#** **522**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Duplicate "of" in ..."measure of of the reduction"

SuggestedRemedy
Remove one "of".

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.12**   *P* **5**   *L* **3334**   **#** **1049**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The definition "3.12 child piconet: A piconet that exists entirely within a guaranteed time slot of another piconet, the parent piconet,and is controlled by an device that is a member of the parent piconet." is incorrect.

SuggestedRemedy
Change sentence to read "3.12 child piconet: A piconet that exists entirely within a guaranteed time slot of another piconet, the parent piconet,and is controlled by a device that is a member of the parent piconet."; changes "an device" to "a device".

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.13**   *P* **5**   *L* **3839**   **#** **1050**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The definition "3.13 coexistence: A measure of of the reduction in the throughput of one ystem when another system is brought into proximity." is incorrect.

SuggestedRemedy
Change sentence to read "3.13 coexistence: A measure of the reduction in the throughput of one ystem when another system is brought into proximity."; delete extra "of".

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.24**   *P* **6**   *L* **1314**   **#** **581**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
"simultaneously" and "sequentially" incorrectly spelled

SuggestedRemedy
correct spelling

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.3**   *P* **5**   *L* **11**   **#** **1047**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The definition "3.3 ad hoc network: An network that is created in a spontaneous manner." is incorrect.

SuggestedRemedy
Change sentence to read "3.3 ad hoc network: A network that is created in a spontaneous manner."; changes "An" to "A".

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.33**   *P*   *L*   **#** **1051**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The definition "The area of overlapping coverage between the two piconets may vary between congruent with the parent coverage area to mostly non-overlapping." is incorrect (I think).

SuggestedRemedy
Change sentence to read "The area of overlapping coverage between the two piconets may vary between congruency with the parent coverage area to mostly non-overlapping."; change "congruent" to "congruency".

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.34**   *P* **6**   *L* **4445**   # **1052**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The definition "3.34 parent piconet: A piconet which allocates a guaranteed time slot for another piconet of the same system (child piconet)or of another system (neighbor piconet)." is confusing. The 802 Charter i.e., LLC/MAC and PHY and the term "system" confuses me.

SuggestedRemedy

I suggest the following sentence "3.34 parent piconet: A piconet which allocates a guaranteed time slot for another piconet of the child piconet or of a neighbor piconet."; deleting 'system' reference. Or substitute 'system' with 'device'.

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.54**   *P* **7**   *L* **5254**   # **1053**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The decision to remove the 802.15.3/D9 Annex C with the SDL suggest it should also be removed from the references in Clause FM, 2, 3, and 4

SuggestedRemedy

I suggest you search on SDL and remove all occurences. Add it back when and if you add the SDL back into the 802.15.3.

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.54**   *P* **7**   *L* **5254**   # **584**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Is a definition of SDL needed if the standard does not contain any SDL?

SuggestedRemedy

Delete the definition of SDL

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **3.57**   *P* **8**   *L* **7**   # **1054**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The word "colaborative" is spelled wrong.

SuggestedRemedy

The correct spelling is "collaborative"; 2 L's. Edit your draft globally for "colaborative" and change to "collaborative".

Proposed Response   *Response Status* **O**

Cl **03**   *SC* **8.2.4**   *P* **155**   *L* **33**   # **582**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

Need to specify what a parent or neighbor does if it misses 4 consecutive beacons. Should it be required to stop its beacon as well?

SuggestedRemedy

Need to address the issue of what happens it lots of beacons are lost for child and neighbor piconets. Add text that describes the requirements to 8.2.4 and 8.2.5.

Proposed Response   *Response Status* **O**

Cl **04**   *SC*   *P* **10**   *L* **15**   # **523**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Missing definition for LQI.

SuggestedRemedy

Add definition for link quality indication.

Proposed Response   *Response Status* **O**

Cl **04**   *SC*   *P* **10**   *L* **3810**   # **585**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

The acronym "IE" is defined twice. The acronym ISM is not in alphabetical order.

SuggestedRemedy

Remove of on the "IE" definitions and put all definitions in alphabetical order.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
Page 11 of 185
Cl **04**   *SC*

Cl **04** *SC*   *P* **9**   *L* **1**   # **426**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

Missing definitions for the following acronyms: CCM, DER, ECQV, ECIES, CTR, CBC, CRL, SECID.

SuggestedRemedy

Add the following definitions: CCM - counter-counter mode, DER - ?, ECQV - eliptic curve Qu-Vanstone, ECIES - eliptic curve ??, CTR - counter mode, CBC - ??, CRL - ??, SECID - security identifier

Proposed Response   *Response Status* **O**

Cl **04** *SC* **4**   *P* **9**   *L* **38**   # **469**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

DIK is no longer used

SuggestedRemedy

Remove DIK from the acronyms list.

Proposed Response   *Response Status* **O**

Cl **04** *SC* **4.0**   *P* **9**   *L* **24**   # **1055**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The abbreviation "CSMA/CA carrier-sense multiple access with collision avoidance" is spelled wrong.

SuggestedRemedy

I suggest you chnage to "CSMA/CA carrier sense multiple access with collision avoidance"; deleting the hyphen.

Proposed Response   *Response Status* **O**

Cl **05** *SC*   *P* **13**   *L* **1**   # **527**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Throughout this document, "re-issue" and related forms sometimes are used.

SuggestedRemedy

Replace all occurrences of "re-issue" and etc. with "reissue", etc.

Proposed Response   *Response Status* **O**

Cl **05** *SC*   *P* **13**   *L* **1**   # **526**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Throughout this document, there is confusion about the proper representation of numbers. When referring to numeric values without attached dimensions, spell out the value if it is ten or less. If a value has an attached dimension, use numerals.

SuggestedRemedy

For example, something like "The length field is six octets long" is correct, and so is "The length field is 20 octets long". You would write something like "The power level is limited to 3 dBm" because there is an attached dimension.

Proposed Response   *Response Status* **O**

Cl **05** *SC*   *P* **13**   *L* **1**   # **524**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Throughout this document, "ad-hoc" is sometimes used where "ad hoc" is appropriate.

SuggestedRemedy

Replace all occurrences of "ad-hoc" with "ad hoc" since "ad hoc" is not a compound modifier.

Proposed Response   *Response Status* **O**

Cl **05** *SC*   *P* **13**   *L* **1**   # **525**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Throughout this document, there is confusion between "frames", PDUs, and other terms.

SuggestedRemedy

Use "frame" when referring to the physical representation of data. Use "MSDU" to refer to data transferred from SSCS to SSCS. Use "MPDU" to refer to PDUs that carry management information. Use "PDU" as a generic term when it doesn't matter whether you are describing MSDUs or MPDUs.

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **16**   *L* **23**   **#** **529**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 "Cryptography" is spelled incorrectly.

SuggestedRemedy
 Correct the spelling.

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **16**   *L* **25**   **#** **530**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 Extra comma following "symmetric key".

SuggestedRemedy
 Remove the comma in the subphrase "key, that is generated".

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **16**   *L* **9**   **#** **528**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 Missing period at end of sentence.

SuggestedRemedy
 Add the period.

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **17**   *L* **18**   **#** **531**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 "GTS that is used" is wrong.

SuggestedRemedy
 Change "GTS that is used" to "GTS that are used".

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **17**   *L* **22**   **#** **532**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 "Slotted aloha" is used without previous definition.

SuggestedRemedy
 Change sentence to read ..."that are accessed using a protocol named slotted aloha, 8.4.4.5."

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **17**   *L* **35**   **#** **533**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 Ambiguous.

SuggestedRemedy
 Change sentence to read "DEVs in the piconet are able to use the CAP to"...

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **17**   *L* **53**   **#** **534**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 FER differing definition.

SuggestedRemedy
 "FER" is defined as "frame error rate" on page 9, not "frame error ratio". Choose one or the other, or better don't redefine something already defined in the acronym list.

Proposed Response   *Response Status* **O**

Cl **05**   *SC*   *P* **18**   *L* **1**   **#** **535**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
 Spelling of "fragments"

SuggestedRemedy
 Proper spelling is "fragments".

Proposed Response   *Response Status* **O**

Cl **05** *SC* *P* **18** *L* **11** **#** **536**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Confusion about source vs. destination DEV.

SuggestedRemedy
Shouldn't the sentence read ..."that is sent when requested by the destination DEV."?
Maybe I don't understand this.

Proposed Response *Response Status* **O**

Cl **05** *SC* *P* **18** *L* **33** **#** **537**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Spelling "command".

SuggestedRemedy
Fix spelling of "command" (third word from the left).

Proposed Response *Response Status* **O**

Cl **05** *SC* *P* **18** *L* **34** **#** **538**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Spelling of "the".

SuggestedRemedy
Fix spelling of "the command".

Proposed Response *Response Status* **O**

Cl **05** *SC* *P* **18** *L* **38** **#** **539**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to ..."DEVs in a piconet".

Proposed Response *Response Status* **O**

Cl **05** *SC* *P* **19** *L* **1** **#** **540**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Spelling.

SuggestedRemedy
Change to ..."channels as requested".

Proposed Response *Response Status* **O**

Cl **05** *SC* *P* **19** *L* **16** **#** **542**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing word

SuggestedRemedy
Change to ..."change the channel that the piconet"...

Proposed Response *Response Status* **O**

Cl **05** *SC* *P* **19** *L* **2** **#** **541**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Spelling.

SuggestedRemedy
Change to ..."perform the scan."

Proposed Response *Response Status* **O**

Cl **05** *SC* *P* **19** *L* **23** **#** **543**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Spelling

SuggestedRemedy
Change to ..."to perform a channel scan"...

Proposed Response *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
Page 14 of 185
Cl **05** *SC*

Cl **05**　　*SC*　　　　　　　　　　*P* **19**　　　*L* **34**　　**#** **544**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Syntax.

SuggestedRemedy
Change ..."where long is relative"... to "where a "long period" is relative to"...

Proposed Response　　　*Response Status* **O**

Cl **05**　　*SC*　　　　　　　　　　*P* **19**　　　*L* **35**　　**#** **545**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Spelling

SuggestedRemedy
Change to ..."mode and synchronous power save"...

Proposed Response　　　*Response Status* **O**

Cl **05**　　*SC*　　　　　　　　　　*P* **20**　　　*L* **1**　　**#** **546**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Syntax

SuggestedRemedy
Change to ..."DEV is also able to ask that the PNC"...

Proposed Response　　　*Response Status* **O**

Cl **05**　　*SC*　　　　　　　　　　*P* **20**　　　*L* **29**　　**#** **547**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Orphan 's'.

SuggestedRemedy
Remove 's' that is supposed to accompany Mb/s (don't allow line break).

Proposed Response　　　*Response Status* **O**

Cl **05**　　*SC*　　　　　　　　　　*P* **20**　　　*L* **33**　　**#** **548**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Style.

SuggestedRemedy
Change to ..."In the 11 Mb/s mode, the entire MAC"...

Proposed Response　　　*Response Status* **O**

Cl **05**　　*SC*　　　　　　　　　　*P* **20**　　　*L* **34**　　**#** **549**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."probability of receiving the entire header correctly."

Proposed Response　　　*Response Status* **O**

Cl **05**　　*SC*　　　　　　　　　　*P* **20**　　　*L* **43**　　**#** **550**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."power is constrained by the limitations imposed by the appropriate regulatory bodies."

Proposed Response　　　*Response Status* **O**

Cl **05**　　*SC*　　　　　　　　　　*P* **20**　　　*L* **53**　　**#** **551**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Style.

SuggestedRemedy
Replace last sentence with "Refer to D1 for a discussion of interoperability."

Proposed Response　　　*Response Status* **O**

Cl **05**   *SC* **5.1**   *P* **13**   *L* **6**   **#** **966**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

This sounds like a good description of piconets, but I go wanting in understanding if the PNC factors in to this or are we talking about a volume that contains all devices and that all dimensions are 1 no greater than 10 meters, or 2 that the 10 meters is PNC to any DEV, or 3 that DEV to DEV can not be any greater than 10 meters.

SuggestedRemedy

Suggest adding text that suggests item 2 above.

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.2**   *P* **13**   *L* **17**   **#** **1186**

Barr, John   Motorola

Comment Type   **E**   *Comment Status*   **X**

Later in the text it is stated that a DEV acting as a PNC transmitting beacons constitutes a piconet. To be consistent, the same should be said here.

SuggestedRemedy

Change "Two or more" to "One or more".

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.2**   *P* **13**   *L* **20**   **#** **1056**

Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**

The sentence "Additionally the PNC manages the quality of service (QoS)requirements, power..." is gramatically incorrect.

SuggestedRemedy

I suggest you change the sentence to "Additionally, the PNC manages the quality of service (QoS)requirements, power..."; adding a comma after additionally.

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.2**   *P* **13**   *L* **41**   **#** **1057**

Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**

Again, the word "ad-hoc" is spelled incorrectly here and line 49, etc. Refer to 802.15.3/D9 CommentID: 269.

SuggestedRemedy

Ad hoc (please, no hyphen) has been an English word for over a hundred years (and yes, it has to do with Latin). Change all occurences of this word to ad hoc.

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.1**   *P* **14**   *L* **3**   **#** **212**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

803.15.3 should be 802.15.3.

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.1.1**   *P* **14**   *L* **11**   **#** **1187**

Barr, John   Motorola

Comment Type   **E**   *Comment Status*   **X**

Improper spelling.

SuggestedRemedy

Change "it start" to "it starts"

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.1.1**   *P* **14**   *L* **11**   **#** **1100**

Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**

If it finds one that is empty, it start ....

SuggestedRemedy

Replace with: If it finds one that is empty, it starts ...

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.1.1**   *P* **14**   *L* **11**   **#** **1058**
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
  The sentence "If it finds one that is empty, it start the piconet by..." is incorrect.

SuggestedRemedy
  I suggest you change the sentence to "If it finds one that is empty, it starts the piconet
  by..."; making start pural.

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.1.1**   *P* **14**   *L* **11**   **#** **586**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
  Bad grammar: "If it finds one that is empty, it start the piconet..."

SuggestedRemedy
  Replace "start" with "starts"

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.1.2**   *P* **14**   *L* **22**   **#** **1188**
Barr, John   Motorola

Comment Type   **E**   *Comment Status* **X**
  Bad english.

SuggestedRemedy
  Change "and the security policies allow it" to "and it is allowed by the current security
  policies".

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.10**   *P* **19**   *L* **33**   **#** **947**
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**
  "enable DEVS to completely ...." may be how many implementations will operate but this is
  implementation specific as to how deep the DEV will "turn off"

SuggestedRemedy
  to turn off completely or reduce power...

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.10**   *P* **20**   *L* **1**   **#** **1193**
Barr, John   Motorola

Comment Type   **E**   *Comment Status* **X**
  Bad grammar

SuggestedRemedy
  Change "PNC to switch" to "PNC switch"

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.10**   *P* **20**   *L* **1**   **#** **948**
Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status* **X**
  "PNC to switch"

SuggestedRemedy
  remove "to"

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.11**   *P* **20**   *L* **12**   **#** **950**
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**
  IF the comment on 8.13.1 is accepted, then the text in 5.3.11 should change to match.

SuggestedRemedy
  remove "directed" from "directed MTSs" change "PNC reduce ..." to PNC and DEVs during
  these piconet control fields to reduce ..."

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.11**   *P* **20**   *L* **14**   **#** **954**
Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status* **X**
  "the PNC reduce" seems to need extra "to"

SuggestedRemedy
  "the PNC to reduce"

Proposed Response   *Response Status* **O**

Cl **05**   *SC* **5.3.11**   *P* **20**   *L* **14**   # **1060**
Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**

The sentence "...the PNC reduce transmit power without adversely affecting operation of the piconet." is incorrect.

SuggestedRemedy

I suggest "...the PNC to reduce transmit power without adversely affecting operation of the piconet."; adding "to" after PNC.

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.11**   *P* **20**   *L* **18**   # **951**
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**

suggest adding clarification on interference to mean to others. Also, the extending battery life by reducing transmit power is not a characteristic of all possible alt-PHYs.

SuggestedRemedy

"interference to other networks" on line 18 "in some PHY types to extend battery life" also line 10 should have the same change as above related to extending battery life

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.2**   *P* **15**   *L* **14**   # **961**
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**

The text is not clear that the child uses the allocation approach and the neighbor uses the disassociation approach.

SuggestedRemedy

"... end the subsidiary piconet via the dissassocation command (for neighbor piconets) or by removing the allocated GTS from the beacon (for child piconets).

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.2.1**   *P* **15**   *L* **19**   # **960**
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**

It is not clear that only a single child piconet may exist in a single parent piconet.

SuggestedRemedy

Clarify! It would seem that more than a single child could exist. If so, then the text in the draft should reflect that and also correct words for which child takes over the piconet and using what process.

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.2.1**   *P* **15**   *L* **1922**   # **587**
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status*   **X**

If a parent piconet ends operation and a child piconet continues to operate without disruption, does the child piconet use all the airtime previously used by the parent piconet or does the child piconet continue to operate in the space previously alloted by the parent? Is this specified anywhere? What if multiple child piconets exist, or a child and a neighbor piconet both exist, when a parent piconet ends?

SuggestedRemedy

Add text to clause 8 that describes what to do in this case. I suggest letting the child piconet reclaim all of the unused time after the ATP expires. If there is more than one child piconet in the parent piconet, the first one whose ATP expires becomes the first PNC. Others can join the new parent piconet and request time. Once that is done, add an informative summary of this to clause 5 once the decision has been made.

Proposed Response   *Response Status*   **O**

Cl **05**   *SC* **5.3.2.2**   *P* **15**   *L* **28**   # **962**
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**

The text is written in a way that implies that only a single neighbor piconet can exist within a parent piconet.

SuggestedRemedy

adjust the sub-clause to reflect multiple neighbors. Then specify a process for the remaining neighbors and how they select one of their number to take over the role of parent. Interesting if they are all non-15.3 piconets.   8.2.5 should lead the change and this sub-clause follow obviously.

Proposed Response   *Response Status*   **O**

Cl **05** *SC* **5.3.2.2**   *P* **15**   *L* **2832** **#** **588**
Gilb, James   Appairent Technologie

Comment Type **T** *Comment Status* **X**

If a parent piconet ends operation and a neighbor piconet continues to operate without disruption, does the neighbor piconet use all the airtime previously used by the parent piconet or does the neighbor piconet continue to operate in the space previously alloted by the parent? Is this specified anywhere? What if multiple neighbor piconets exist, or a child and a neighbor piconet both exist, when a parent piconet ends?

SuggestedRemedy

Add text to clause 8 that describes what to do in this case. I suggest letting the neighbor piconet reclaim all of the unused time after the ATP expires if there are no other child or neighbor piconets in the parent piconet. If there is more than one child piconet in the parent piconet, the first one whose ATP expires becomes the first PNC. Others can join the new parent piconet and request time. Once that is done, add an informative summary of this to clause 5 once the decision has been made.Once that is done, add an informative summary of this to clause 5 once the decision has been made.

Proposed Response   *Response Status* **O**

Cl **05** *SC* **5.3.4**   *P* **16**   *L* **20** **#** **1189**
Barr, John   Motorola

Comment Type **E** *Comment Status* **X**

Unclear text regarding piconet 'use' mode.

SuggestedRemedy

Change "the piconet use mode" to "the piconet is using security mode"

Proposed Response   *Response Status* **O**

Cl **05** *SC* **5.3.8**   *P* **18**   *L* **34** **#** **1190**
Barr, John   Motorola

Comment Type **E** *Comment Status* **X**

Spelling error

SuggestedRemedy

Change "of th command" to "of the command"

Proposed Response   *Response Status* **O**

Cl **05** *SC* **5.3.8**   *P* **18**   *L* **34** **#** **1101**
Roberts, Richard   Xtremespectrum

Comment Type **E** *Comment Status* **X**

spelling problem

SuggestedRemedy

replace "th" with "the"

Proposed Response   *Response Status* **O**

Cl **05** *SC* **5.3.8**   *P* **18**   *L* **34** **#** **590**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**

"by the originator of th command,"

SuggestedRemedy

Replace "th" with "the"

Proposed Response   *Response Status* **O**

Cl **05** *SC* **5.3.8**   *P* **18**   *L* **34** **#** **953**
Bain, Jay   Time Domain

Comment Type **E** *Comment Status* **X**

change "th" to "the"

SuggestedRemedy

make editorial correction

Proposed Response   *Response Status* **O**

Cl **05** *SC* **5.3.8**   *P* **18**   *L* **3536** **#** **1191**
Barr, John   Motorola

Comment Type **E** *Comment Status* **X**

Mised grammar.

SuggestedRemedy

Change "it preferes to be the PNC, it is attached" to "if it prefers to be the PNC, if its is attached" or change "if it supports security" to "it supports security".

Proposed Response   *Response Status* **O**

Cl **05** *SC* **5.3.8** *P* **18** *L* **3536** *#* **591**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Bad grammar: "The response also indicates if the DEV is PNC capable,it prefers to be the PNC,it is attached to the power mains,if it supports security or is the PNC of a neighbor piconet."

SuggestedRemedy
"The response also indicates if the DEV is PNC capable, if it prefers to be the PNC, if it is attached to the power mains, if it supports security or if it is the PNC of a neighbor piconet."

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.3.8** *P* **18** *L* **38** *#* **1192**
Barr, John Motorola

Comment Type **E** *Comment Status* **X**
Bad grammar

SuggestedRemedy
Change "DEVs in piconet" to "DEVs in the piconet"

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.3.8** *P* **18** *L* **38** *#* **990**
Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**
missing "the".

SuggestedRemedy
"...other DEVs in the piconet".

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.3.8** *P* **19** *L* **1** *#* **1059**
Gifford, Ian Self

Comment Type **E** *Comment Status* **X**
The word "reqested" is spelled wrong.

SuggestedRemedy
I suggest "requested".

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.3.9** *P* **19** *L* **13** *#* **1102**
Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**
Rewrite first two sentence of 5.3.9 ... don't refer to clause 11.1 specifically.

SuggestedRemedy
The piconet operates in a dynamic environment as an unlicensed user and as such it is subject to ...

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.3.9** *P* **19** *L* **16** *#* **1103**
Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**
missing definite article

SuggestedRemedy
to dynamically change the channel that "the" piconet is using ...

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.3.9** *P* **19** *L* **16** *#* **991**
Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**
missing "the"

SuggestedRemedy
"... channel that the piconet..."

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.3.9** *P* **19** *L* **16** *#* **592**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Bad grammar: "dynamically change the channel that piconet is using"

SuggestedRemedy
"dynamically change the channel that the piconet is using"

Proposed Response *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
Page 20 of 185
Cl **05** *SC* **5.3.9**

Cl **05**　　*SC* **5.3.9**　　　　　*P* **19**　　*L* **22**　　**#** **593**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
"Performing" is incorrectly spelled.

SuggestedRemedy
Change "Peforming" to "Performing"

Proposed Response　　　*Response Status*　**O**

Cl **05**　　*SC* **5.4.1**　　　　　*P* **20**　　*L* **2526**　　**#** **1061**
Gifford, Ian　　　　　　　　　Self

Comment Type　**E**　　*Comment Status*　**X**
The sentence "Two channels plans are defined,..." is incorrect.

SuggestedRemedy
I suggest "Two channel plans are defined,..."; remove pural from channels.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　*P* **23**　　*L* **29**　　**#** **552**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Small problem with figure (extra line).

SuggestedRemedy
Remove little line at top righthand corner of PHY layer block.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　*P* **23**　　*L* **44**　　**#** **553**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Missing word.

SuggestedRemedy
Change to ..."the MAC and the MLME and the interface"...

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　*P* **24**　　*L* **26**　　**#** **554**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Syntax

SuggestedRemedy
Add hyphen between "PIB related".

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　*P* **24**　　*L* **27**　　**#** **555**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Syntax.

SuggestedRemedy
Change to ..."may require the layer entity to perform certain defined actions."

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　*P* **24**　　*L* **33**　　**#** **556**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Missing period.

SuggestedRemedy
Add a period at the end of the sentence.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　*P* **25**　　*L* **43**　　**#** **557**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Missing text.

SuggestedRemedy
Change to ..."include INVALID_PIB_ATTRIBUTE and WRITE_ONLY_PIB_ATTRIBUTE."

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **26**　　　　*L* **43**　　　**#** **558**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Syntax.

SuggestedRemedy
　Change to ..."If Status is SUCCESS, this confirms"...

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **28**　　　　*L* **42**　　　**#** **559**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Extra word and spelling error.

SuggestedRemedy
　Change to "that it performs either a PNC handover"...　　Also, you might explain here how
　the PNC MLME makes the decision either to do disassociation or to shut down the
　piconet. That's not clear.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **28**　　　　*L* **45**　　　**#** **560**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to ..."is still performing disassociation,"...

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **30**　　　　*L* **31**　　　**#** **561**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Syntax.

SuggestedRemedy
　Change to ..."during the scan process, are returned"...

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **30**　　　　*L* **45**　　　**#** **226**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to ..."is complete or when it determines"...

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **33**　　　　*L* **49**　　　**#** **227**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Style

SuggestedRemedy
　Change to "desired beacon is detected,"...

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **35**　　　　*L* **26**　　　**#** **228**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to "responsiveness of the PNC"...

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC*　　　　　　　　　　*P* **54**　　　　*L* **16**　　　**#** **229**
Gilb, James　　　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to ..."received before the HandoverTimeout"...

Proposed Response　　　*Response Status*　**O**

Cl **06**   *SC*   *P* **60**   *L* **51**   **#** **230**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax, obfuscation.

SuggestedRemedy
Yuck. "bi-partite" is normally used in botanical descriptions. Change all occurrences of "bi-partite" in this document to "two-party". For example, change this line to "DME to initiate a two-party channel time negotiation"...

Proposed Response   *Response Status* **O**

Cl **06**   *SC*   *P* **65**   *L* **46**   **#** **231**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Spacing.

SuggestedRemedy
Change to the ..."also be sent by the DEV's MLME"...

Proposed Response   *Response Status* **O**

Cl **06**   *SC*   *P* **72**   *L* **18**   **#** **232**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Spacing.

SuggestedRemedy
Change to ..."determines that it wishes to"...

Proposed Response   *Response Status* **O**

Cl **06**   *SC*   *P* **75**   *L* **8**   **#** **233**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Spelling.

SuggestedRemedy
Change to ..."by the MLME request"...

Proposed Response   *Response Status* **O**

Cl **06**   *SC*   *P* **77**   *L* **26**   **#** **234**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."reported to the DME."

Proposed Response   *Response Status* **O**

Cl **06**   *SC*   *P* **79**   *L* **14**   **#** **235**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."together with the primitives"...

Proposed Response   *Response Status* **O**

Cl **06**   *SC*   *P* **79**   *L* **29**   **#** **236**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."itives are considered as recommendations"...

Proposed Response   *Response Status* **O**

Cl **06**   *SC*   *P* **79**   *L* **45**   **#** **237**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "Data rate in Mbps."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

Page 23 of 185

Cl **06**   *SC*

Cl **06** *SC*   *P* **81**   *L* **22**   **#** **238**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Syntax.

SuggestedRemedy
  Change to ..."notified of the results"...

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **85**   *L* **28**   **#** **239**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Spelling.

SuggestedRemedy
  Change to ..."tion DEVIDs and their associated channel"...

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **91**   *L* **28**   **#** **240**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Style and spelling.

SuggestedRemedy
  Other enumerations are shown in upper case. For example you might show these as NO_ERROR, CARRIER_LOST, FORMAT_VIOLATION, and UNSUPPORTED_RATE for consistency.   Also change to ..."result of the receive process."

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **91**   *L* **51**   **#** **241**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Syntax.

SuggestedRemedy
  Change to ..."is only to be issued following"...

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **96**   *L* **36**   **#** **242**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Syntax.

SuggestedRemedy
  Change to ..."about to be transmitted."

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **97**   *L* **31**   **#** **243**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Syntax.

SuggestedRemedy
  Change to ..."local PHY entity to turn off"...

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **98**   *L* **30**   **#** **244**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Spelling.

SuggestedRemedy
  Change to ..."carrier was lost during the reception"...

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **98**   *L* **32**   **#** **245**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
  Spacing and spelling.

SuggestedRemedy
  Change to ..."An unsupported data rate was detected"...

Proposed Response   *Response Status* **O**

Cl **06** *SC*   *P* **99**   *L* **2**   **#** **246**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Add a period at the end of the sentence.

Proposed Response   *Response Status* **O**

Cl **06** *SC* **6**   *P* **23**   *L* **1**   **#** **222**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
The SMSeqNum and DEVSeqNum are no longer used.

SuggestedRemedy
Delete all references to the sequence number in clause 6.

Proposed Response   *Response Status* **O**

Cl **06** *SC* **6**   *P* **26**   *L* **51**   **#** **213**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
When the device is operating in security modes 1, 2 or 3, the MLME needs to be able to indicate to the DME what type of protection is used on a given received frame so that the DME can decide whether or not to accept the frame. This is important because some devices may want to choose to send unprotected frames to certain other devices and the DME needs to be able to determine whether its policy allows it to accept those frames.

SuggestedRemedy
An indication needs to be added to each MLME.indication and each MLME.confirm in Clause 6, which indicates that a frame is received from another DEV, specifying whether the frame had security turned on and whether the frame came from a device in the ACL. The interfaces for the above described MLME messages should add the following entries to the semantics description: MLME-XXX.indication (or .confirm)   (SecurityUse,   ACLEntry   )   The following table entries should be added to the above described MLME messages. Name   & Type & Valid Range & Description \\ SecurityUse & Boolean & TRUE or FALSE & This indicates to the DME if the received data frame had the security suite applied to it. \\ ACLEntry & Boolean & TRUE or FALSE & This indicates to the DME if the sender was found in the ACL. \\

Proposed Response   *Response Status* **O**

Cl **06** *SC* **6.1**   *P* **23**   *L* **15**   **#** **1195**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
This sentence is grammatically incorrect: "The DME would typically perform..."

SuggestedRemedy
Please change the indicated sentence to this one: "The DME typically performs such functions on behalf of the general system managment entities and implements standard managment protocols."

Proposed Response   *Response Status* **O**

Cl **06** *SC* **6.1**   *P* **23**   *L* **40**   **#** **485**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
The use, in this standard of the DME/MLME boundary can be confused with architectural decsions rather than simply a split that was created to facilitate describing the standard.

SuggestedRemedy
Add a paragraph that describes that the DME contains the functionality that is outside of the scope of the standard and other management functions while the MLME and MAC contain the functionality specified in the standard. Also add that the split is arbitrary and is not intended to be an architectural split for an implementation.

Proposed Response   *Response Status* **O**

Cl **06** *SC* **6.1**   *P* **23**   *L* **4344**   **#** **594**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Bad grammar: "Other interactions are not defined explicitly within this standard, such as the interface between the MAC and the MLME, the interface between the PHY and the PLME."

SuggestedRemedy
"Other interactions are not defined explicitly within this standard, such as the interface between the MAC and the MLME or the interface between the PHY and the PLME."

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.1**   *P* **23**   *L* **48**   **#** **1197**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

..."The management SAPs within this model are..." is incorrect. The SAPS listed are not all management SAPs.

SuggestedRemedy

Please change the indicated sentence fragment to: ..."The various SAPs within the model are:"

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.1**   *P* **23**   *L* **48**   **#** **595**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

This sentence indicates that "management SAPs" are listed below, but the list below contains non-management SAPs as well.

SuggestedRemedy

Delete the word "management"

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.2**   *P* **24**   *L* **19**   **#** **47**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Personal Information Base sounds inappropriate. There's nothing personal about it! /KO

SuggestedRemedy

Rename PIB to "Piconet Information Base".

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3**   *P* **26**   *L* **51**   **#** **215**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

When devices are running in a secure mode, they need to be able to indicate to the DME when frames received or frames being sent cause security operation failures. These security operation failures could be caused by not having the specified key or by a failed integrity check or some other cryptographic failure.

SuggestedRemedy

The following sub-clause should be added to Clause 6.   6.x.x Security management primitives   These primitives define how the MLME communicates security related events to the DME.   6.x.x.x MLME-SECURITY-ERROR.indication   This primitive allows the MLME of any DEV to indicate a failed security processing operation to the DME. The semantics of the primitive are as follows: MLME-SECURITY-ERROR.indication (SrcID,   DestID,   SECID,   ReasonCode   )   The primitive parameters are defined in Table xx.   Table xx - MLME-SECURITY-ERROR.indication parameters Name & Type & Valid Range & Description \\ SrcID   Integer & Any valid DEVID as defined in 7.2.3{xref} & The DEVID of the entity from which the frame causing the error originated. \\ DestID & Integer & Any valid DEVID as defined in 7.2.3{xref} & The DEVID of the device for which the frame was intended. \\ SECID & Octet string & Any valid security session identifier. & Specifies the unique security session identifier for the key that was used on the incoming frame or that was requested to be used on the outgoing frame. \\ ReasonCode & Enumeration & UNAVAILABLE-KEY, FAILED-SECURITY-CHECK, BAD-TIME-TOKEN & The reason for the security error. \\   6.x.x.x When generated   This primitive is issued by the MLME when it receives an MLME.request message from a higher layer that requires security to be applied to a frame, but it is unable to find an appropriate key in the ACL or fails to be able to apply security to the frame. This primitive is also issued by the MLME when it receives a validly formatted frame from another device that induces a failed security check according to the security suite or for which the device is unable to find the designated key in the ACL. This primitive is also issued by the MLME when the time token received in a frame does not correspond to the current time token known by the DEV or if the last beacon was not valid.   6.x.x.x Effect on receipt On receipt of this primitive, the DME is notified of a security error and the reason for the security error.

Proposed Response   *Response Status* **O**

Cl **06**　　*SC* **6.3**　　　　　*P* **26**　　*L* **51**　　# **214**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**

Devices need to have the capability of choosing when to send frames with security and when not to. The decision for when to send a frame with security and what key to use should be determined by the DME.

SuggestedRemedy

An indication needs to be added to each MLME.request and MLME.response in Clause 6, which cause the DEV to send a frame to another DEV, specifying whether that frame should be protected by security.　Add the following parameter to the primtive descriptions for frames sent over the air.　MLME-XXX.request (or .response)　(　KeySelection　) with this entry in the corresponding tables.　Name & Type & Valid range & Description \\ KeySelection & Enumeration & PICONET-MGMT, PICONET-DATA, PEER-MGMT, PEER-DATA, NONE & Specifies the key that shall be used to protect the outgoing frame or that security shall not be used on the frame. \\

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3**　　　　　*P* **26**　　*L* **51**　　# **216**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**

Since the DME is able to choose the keys used for a command (or no keys), the .confirm commands need to add "UNAVAILABLE_KEY" to all of the result codes.

SuggestedRemedy

Change all .confirm MLMEs that send frames as indicated.

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.1**　　　*P* **28**　　*L* **29**　　# **597**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**

Bad grammar: "The primitive parameters is defined in Table 3"

SuggestedRemedy

Replace "is" with "are".

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.1**　　　*P* **28**　　*L* **38**　　# **957**
Bain, Jay　　　　　　　　　　　Time Domain

Comment Type　**T**　　*Comment Status*　**X**

The description of SetDefaultPIB in Table 3 on page 28 calls out the PIB reset behaviour with the MLME-RESET.request primitive. The text on lines 38 and 39 do not seem to take this into account.

SuggestedRemedy

"In all cases ... default values but still consistent with the SetDefaultPIB parameter of Table 3".

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.1.1.2**　　*P* **28**　　*L* **42**　　# **2**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**

The sentence frag.: ..."that it peforms the either a PNC handover,..." is incorrect.

SuggestedRemedy

Please change the indicated sentence frag. to:　..."that it performs either a PNC handover,..."

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.1.1.2**　　*P* **28**　　*L* **46**　　# **4**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**T**　　*Comment Status*　**X**

The sentence frag.: ..."and leaves the operation unfinished." is confusing. Which operation is being referenced here?　The reset operation, the handover operation, or the shutdown operation.　If the handover, or shutdown operations are being referenced does this mean after the reset operation that there is the possibility of continuing these operations?

SuggestedRemedy

Replace the indicated sentence frag. with this fragment:　..."and cancels the interupted operation."

Proposed Response　　　　*Response Status*　**O**

Cl **06**   *SC* **6.3.10.1**   *P* **51**   *L* **18**   # **342**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The rules for disassociation and deauthentication with PNC are inconsistent. /KO

SuggestedRemedy

<add text> If the TrgtID is the PNC, the PNC shall interpret the request as a request for disassociation and initiate the disassociation procedure, 8.3.4

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.10.3**   *P* **52**   *L* **5**   # **59**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Deauthentication cannot "fail". Both PNC and client shall regard a deauthenticate request as being completed when requested and proceed with the deauthentication procedure. The PNC needs to get back the DevID from the confirm in case it has deauthenticated several DEVs. The reasonCode is not needed since the request cannot fail, and even if it did there is no recovery./KO

SuggestedRemedy

MLME_DEAUTHENTICATE.confirm <change text in line 7> This primitive reports the completion of a deauthentication. <Change parameter to MLME_DEAUTHENTICATE.confirm> MLME_DEAUTHENTICATE.confirm (DevID) <Change text in 6.3.10.3.1> This primitive is sent by the MLME after sending a deauthentication request command to a DEV and completeing the deauthentication procedure. The primitive shall be sent even if the deauthenticated DEV does not ACK the command frame.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.10.3**   *P* **52**   *L* **7**   # **344**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The rules for disassociation and deauthentication with PNC are inconsistent. /KO

SuggestedRemedy

< add text> This primitive shall only be sent to the DME after a deauthentication with a DEV. If deauthenticating with the PNC, the MLME shall respond with a MLME_DISASSOCIATE.confirm, 6.3.6.3 MSC needed in 8.3.4 and maybe clause 9. MSC see resolution [09] in 02276r0P802-15_TG3-commentsD10_KO.doc

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.1**   *P* **52**   *L* **37**   # **1063**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The sentence "...the most qualified of the AC capable DEVs in the piconet." has a first usage acroynm.

SuggestedRemedy

I suggest the following sentence "the most qualified of the alternate coordinator (AC) capable DEVs in the piconet.", spell out alternate coordinator. Please apply this first usage change globally for all acronyms.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.1**   *P* **52**   *L* **41**   # **14**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The current PNC Handover Procedure as described in clause 8 is partially broken. To fix the discovered short comings of the current Handover procedure add these parameters to the MLME-PNC-HANDOVER.request parameter list: NmbrHndOvrBcns, DEVInfolist, DEVCTRB list. Delete NmbrOfDEVs from the parm list since it can be determined from the DEVInfoList. Also add these new parameters to Table 15 with these type/range and defs. NmberHndOvrBcns: Type:Integer; Range: 2-8; Def: The number of beacons, containing the handover IE, the old PNC will transmit before control of the piconet by the old PNC is turned over to the new PNC.

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.2**   *P* **53**   *L* **33**   # **381**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Make these changes to the MLME-PNC-HANDOVER.indication parameter list: NumberOfDEVs(keep) NumberOfCTRBs(new) HandoverTimeout(delete) Status(keep)

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.2.2**   *P* **53**   *L* **48**   # **1104**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Spelling error

SuggestedRemedy
... then the DME is informed ...

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.3**   *P* **54**   *L* **1**   # **162**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Given the comments regarding clause 8.2.3 PNC Handover, there is now a need for an MLME-PNC-HANDOVER.response primitive. Consequently, renumber the current 6.3.11.3 to 6.3.11.4 and add clause 6.3.11.3 which describes the MLME-PNC-HANDOVER.response primitive. The text of which is included here. 6.3.11.3 MLME-PNC-HANDOVER.response This primitive is used to initiate a response to an MLME-PNC-HANDOVER.indication. The semantics of this primitive are: MLME-PNC-HANDOVER.response() 6.3.11.3.1 When generated This primitive is sent by the "new PNC" DME to its MLME after receiving these three primitives in succession(MLME-PNC-HANDOVER.indication, MLME-PNC-HANDOVER-INFO.indication, and MLME-PNC-HANDOVER-CTRB.indication) 6.3.11.3.2 Effect of receipt When the "new PNC" MLME receives this primitive from its DME, it sends a pnc handover response command to the current PNC MLME.

SuggestedRemedy
Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.3.1**   *P* **54**   *L* **14**   # **382**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Change the whole clause to this new text: The PNC MLME sends this primitive to its DME after it has sent its last beacon as PNC. The last current PNC beacon is the one where the value of the PNC-HandoverCountDown IE is zero.

SuggestedRemedy
Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.3.2**   *P* **54**   *L* **20**   # **384**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Please change the text in this clause to: "The PNC DME, upon receiving this primtive, is informed that its PNC handover procedure is complete." All the original text may be deleted. If the handover is successful, the PNC DME will be delighted. However, if the handover is unsuccessful(assume the old PNC did not hear the new PNC beacon) there really is nothing the old PNC can do about it. Since, if it tries to initiate a new Handover procedure with a new AC it could end up interfering with the new PNC. If it(old PNC) tries to issue its own beacon during what would be the next beacon transmission time of the new PNC it could cause interference with the new PNC beacon. Consequently, all the PNC DME can do is accept the fact that it did its best up to this point.

SuggestedRemedy
Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.3.2**   *P* **54**   *L* **20**   # **383**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Change this whole clause to this new text: The PNC DME, upon receiving this primitive, is informed that it(PNC) has broadcast its last beacon. Note: There is no need for the concept of success or failure to report since if the PNC receives the beacon from the new PNC that's great. However, if it doesn't receive the beacon from the new PNC, there is nothing the PNC can do about it, since if it tries to send a beacon at the next beacon interval it could end up interfering with the new PNC beacon. And if it tries to initiate another handover procedure with a different AC it could end up causing interference with the current new PNC. So all the old PNC can do is notify its DME that "hey the AC was in synch until this point"

SuggestedRemedy
Please make the indicated change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.4**   *P* **54**   *L* **25**   *#* **160**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
The PNC Handover procedure, described in 8.2.3, is partially broken. Given the changes recommended to correct the broken part of the functional description, the primitive, MLME-NEW-PNC.indication is no longer needed. Consequently, please delete clause 6.3.11.4 MLME-NEW-PNC.indication.

SuggestedRemedy
Please perform the requested technical change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.4**   *P* **54**   *L* **26**   *#* **22**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
The primitive MLME-PNC-HANDOVER-INFO.indication is missing from this section even though it is implied by Clause 8.2.3.   6.3.11.5 MLME-PNC-HANDOVER-INFO.indication This primitive indicates the reception by the DEV of an unsolicited DEVInfo list sent by the PNC as part of the PNC handover procedure, 8.2.3. The semantics of this primitive are: MLME-PNC-HANDOVER-INFO.indication(DEVInfoSet)   6.3.11.5.1 When generated The MLME sends this primitive to its DME upon receiving a complete DEVInfo list via the pnc handover info command(new, not to be confused with 7.5.3.3 which has been renamed pnc handover ctrb command).   6.3.11.5.2 Effect of receipt The "new PNC" DME is provided with a copy of the complete DEVInfoSet.

SuggestedRemedy
Please add the indicated primitive to the section just after the clause 6.3.11.3 MLME-PNC-HANDOVER.confirm

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.11.4**   *P* **54**   *L* **27**   *#* **24**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
The primitive MLME-PNC-HANDOVER-CTRB.indication is missing from this section even though it is implied by Clauses 7.5.3.3, and 8.2.3   6.3.11.6 MLME-PNC-HANDOVER-CTRB.indication This primitive indicates the reception by the DEV of an unsolicited CTRB list sent by the PNC as part of the PNC handover procedure, 8.2.3. The semantics of this primitive are: MLME-PNC-HANDOVER-CTRB.indication(DEVCTRB-list)   6.3.11.6.1 When generated   The MLME sends this primitive to its DME upon receiving a complete CTRB list as part of the PNC handover procedure, 8.2.3.   6.3.11.6.2 Effect of receipt The "new PNC" DME is provided with a copy of the complete CTRB list. The "new PNC" DME upon receiving this primitive shall generate an MLME-PNC-HANDOVER.response and send it to its MLME.

SuggestedRemedy
Please add the indicated primitive to the section just after the clause describing the MLME-PNC-HANDOVER-INFO.indication primitive.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.13.4.2**   *P* **59**   *L* **22**   *#* **26**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Mispelled word: "of" should be "or"

SuggestedRemedy
Perform the indicated correction.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14**   *P* **59**   *L* **27**   # **28**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The primitives MLME-CREATE-STREAM, MLME-MODIFY-STREAM, AND MLME-TERMINATE-STREAM have been incorrectly renamed to MLME-CREATE-CTA, MLME-MODIFY-CTA, and MLME-TERMINATE-CTA . In addition, parameters have been added to these aforementioned primitives that are also unnecessary. please remove NumTrgts and NumAsyncTUs from the all instances of the aforementioned primitives. Rename the TrgtIDlist to TrgtDEVID in all the indicated primitives. Also rename MLME-CREATE-CTA -> MLME-CREATE-STREAM, MLME-MODIFY-CTA -> MLME-MODIFY-STREAM, and MLME-TERMINATE-CTA -> MLME-TERMINATE-STREAM. Note: The individual who changed these primitive names clearly misunderstands the different mechanisms by which isochronous and asynchronous channel time allocations are initiated. An application has apriori information regarding isochronous data and its channel requirements. Consequently, it makes sense for the application to initiate via the DME a request to establish a channel time allocation using the MLME primitives. On the other hand when it comes to asynchronous data, the application does not posess apriori information regarding the channel time requirements of an outgoing asynchronous data frame(i.e. it doesn't no how many frames will be sent or when they will be sent). Consequently, it makes no sense for the application to initiate via the DME a channel time reservation for asynchronous data. It is more appropriate based on the mechnisms described in Annex A, Clause 6.6.1-3, and clause 8.5.2 for the convergence layer/asynch queue to initiate a channel time request to the PNC using the channel time request command directly.

SuggestedRemedy

Please perform the requested changes.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14**   *P* **59**   *L* **32**   # **31**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Using CTA in MLME is not good since it can fool implementors to think that the MLME can be used to request asynchronous time slots or any other channel time, while it's only used to create isochronous streams /KO

SuggestedRemedy

Change back all MLME_xxx_CTA.yyy to MLME_xxx_STREAM.yyy on pages 59 through 66.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14**   *P* **60**   *L* **24**   # **483**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

We refer to superframes per slot in many locations (as opposed to slots per superframe). However, this is not accurate and is confusing.

SuggestedRemedy

Change the terminology "superframes per slot" to be "1 slot per N superframes" Where this is defined, add text that says that "This meands that the rate isa subrate of the superframe rate. For example, a value of 4 meands one slot every fourth superframe." If it referes to awake beacons, then "it is one awake beacon after three sleep beacons, " This requires changes globally in clause 6, 7 and 8.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14**   *P* **61**   *L* **8**   # **33**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> CTA allocation doesn't belong to DME as has many times been thoroughly proven. DME should only handle the approval or denial based on network association and authentication status and not on current channel time allocation conditions of which it knows nothing

SuggestedRemedy

revert to D0B for 6.3.14.2 and 6.14.14.3. The CTA related stuff shall not be passed to DME, only SourceId, TgrtId and Priority. Modify and Terminate shall not go to DME at all. Del Indication/Response. 6.3.14.6 and 6.3.14.7 The correct primitives are found in 01469r5.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 31 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *Cl* **06**   *SC* **6.3.14**

Cl **06**   *SC* **6.3.14.1**   *P* **59**   *L* **34**   *#* **15**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The CTA request for asynchronous data can only be initialized by the MAC after having reviewed the current needs of its asynchronous data queue. It can be issued at certain time intervals, as new MAC_ASYNCH_DATA primitives are entered or as transmissions fails and needs to be repeated. It can absolutely not be initialized by the DME since the DME has no knowledge of the current queue status or how much of the requested time has already been allocated in CTAs. This is a MAC internal functionality and it only happens to reused the same CTR command frame as with isochornous stream reuqests. It is also wrong to use destination lists with isochornous MLME_STREAM_CREATE requests. /KO

SuggestedRemedy

In MLME_CREATE_CTA.request and in table 18 - Replace parameter NumTrgts and TrgtId list with TrgtID. - delete parameter NumAsynchTUs

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14.1**   *P* **59**   *L* **41**   *#* **404**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Insert the parm (ACK Policy) between stream Index and CTR-Control.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14.1**   *P* **59**   *L* **42**   *#* **18**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

KO> When defining the logical interface, or primitives, one should avoid having implementation specific constructs such as parts of frame formats. Instead the logical parameters should be defined and the implementor may choose the exact implementation.

SuggestedRemedy

6.3.14.1 and table 18 Replace the parameter CTR-Control with the discrete parameters CTR Interval type, GTS Type, CTR type, Stream Termination and Priority. Refer to 8.5.1.1 and 7.5.5.1

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14.1.1**   *P* **60**   *L* **5154**   *#* **16**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The CTA request for asynchronous data can only be initialized by the MAC after having reviewed the current needs of its asynchronous data queue. It can be issued at certain time intervals, as new MAC_ASYNCH_DATA primitives are entered or as transmissions fails and needs to be repeated. It can absolutely not be initialized by the DME since the DME has no knowledge of the current queue status or how much of the requested time has already been allocated in CTAs. This is a MAC internal functionality and it only happens to reused the same CTR command frame as with isochronous stream reuqests. It is also wrong to use destination lists with isochronous MLME_STREAM_CREATE requests. /KO

SuggestedRemedy

<Change text in 6.3.14.1.1> <from> This primitive is generated by an originating DME to initiate a bi-partite channel time negotiation between a DEV and its PNC. The purpose is to establish a channel time for the originating DEV to communicate with one or more DEVs in the piconet.   <to> This primitive is generated by an originating DME to initiate a bi-partite channel time negotiation between a DEV and its PNC. The purpose is to establish an isochronous data stream for the originating DEV to communicate with one DEV, a multicast group or all DEVs (broadcast) in the piconet.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.14.10**   *P* **65**   *L* **31**   *#* **410**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

???> Delete the MLME-TERMINATE-STREAM.indication primitive since the PNC DME does not care about this piece of information only its MLME does. Consequently, the MLME can handle deallocating the ct allocated to the stream index specified when terminating this stream.   Also, only isochronous data associated with a stream index requires a specific termination request. Asynchronous data follows a different set of rules.   In the case where a target DEV is disassociating, the disassociation process spelled out in clause 6.3.6, clause 7.5.1.3, clause 8.3.4 and illustrated in Figure 102 will take care of notifying the PNC and the source DEV that the target DEV is no longer available to receive any data(asynch or isoch)

SuggestedRemedy

Make the change.

Proposed Response   *Response Status* **O**

Cl **06**　　*SC* **6.3.14.10**　　　　*P* **65**　　　*L* **31**　　　# **919**
Bain, Jay　　　　　　　　　　　　Time Domain

Comment Type　**T**　　　*Comment Status*　**X**

This relates to another comment directed to 8.5.1 on MSCs. The indication does not free the resources in PNC-DME that were allocated in other primitives for CTA.　　We have a MLME-TERMINATE-CTA.ind but it is not for the PNC DME. We need to define an additional primitive for this.

SuggestedRemedy

add a MLME-RELEASEPNCDME-CTA.ind

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.14.10**　　　　*P* **65**　　　*L* **32**　　　# **155**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　　*Comment Status*　**X**

KO> MLME-TERMINATE-STREAM.indication not used for target, only source.

SuggestedRemedy

6.3.14.10 MLME_TERMINATION_CTA.indication <change from> This primitive is used to inform the target DEV that channel time that was previously allocated is no longer present in the most recently received beacon.　<to> This primitive is used to inform the source DEV that channel time that was previously allocated is no longer present in the most recently received beacon.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.14.10**　　　　*P* **65**　　　*L* **37**　　　# **38**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**E**　　　*Comment Status*　**X**

Move the "(" up one line.

SuggestedRemedy

Perform the requested editorial change.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.14.11**　　　　*P* **66**　　　*L* **10**　　　# **20**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　　*Comment Status*　**X**

Terminations can never be unsuccessful. The command can only originate from the client and the PNC cannot refuse termination. If the PNC wishes to initialize a termination it will just remove the CTA. /KO

SuggestedRemedy

Delete the ResultCode parameter from MLME_TERMINATE_STREAM.confirm

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.14.11**　　　　*P* **66**　　　*L* **8**　　　# **40**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**E**　　　*Comment Status*　**X**

Move the "(" up one line

SuggestedRemedy

Perform the requested editorial change.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.14.11**　　　　*P* **66**　　　*L* **9**　　　# **411**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　　*Comment Status*　**X**

Delete Resultcode. It is not needed.　　Consequently, clause 6.3.14.11.1 only needs to say: "The originating DEV MLME sends this primitive to its DME after sending its CTA request command with termination bit set and receiving an ACK."　　Consequently, clause 6.3.14.11.2 only needs to say: "The originating DME, when it receives this primitive, is notified its stream termination request has been sent and is now complete."

SuggestedRemedy

Make the change.

Proposed Response　　　*Response Status*　**O**

Cl **06** *SC* **6.3.14.11.2** *P* **66** *L* **21** # **21**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Terminations can never be unsuccessful. The command can only originate from the client and the PNC cannot refuse termination. If the PNC wishes to initialize a termination it will just remove the CTA. /KO

SuggestedRemedy

Change the text to read: The originating DME, when it receives this primitive, is notified that the stream has been terminated.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.14.2** *P* **61** *L* **7** # **407**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

The Parameter list for MLME-CREATE-STREAM.indication primitive shows a lack of understanding of what parameters are useful to the MLME and which are useful for the DME. The parameter list specified in 6.3.13.2 of doc 01/469r5 provided the correct parm list for the DME.

SuggestedRemedy

Make the requested change.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.14.3** *P* **61** *L* **39** # **408**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

The Parameter list MLME-CREATE-STREAM.response primitive shows a lack of understanding of which parameters are useful to the MLME and which are useful for the DME. The parameter list specified in 6.3.13.3 of doc 01/469r5 provided the correct parm list for the DME.

SuggestedRemedy

Make the requested change.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.14.5** *P* **63** *L* **1** # **19**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

KO> MLME_MODIFY_CTA.request can only modify the channel time and requested layour of the CTA, not destination and other parameters. /KO

SuggestedRemedy

Delete the following parameters from MLME_MODIFY_CTA.request and MLME_MODIFY_CTA.indication: NumTrgts, TrgtIdList, OrigID, SPSSetIndex, MinNumTUs (= what you already have!) NumAsyncTUs (see comment about asynch data)   Replace CTR-Control with individual parameters CTR-Interval, GTS-Type and CTR-Interval-Type

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.14.6** *P* **63** *L* **31** # **409**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

The inclusion of the MLME-MODIFY-STREAM.indication(6.3.14.6) and MLME-MODIFY-STREAM.response(6.3.14.7) primitives shows a lack of understanding of which primitives are needed by the DME and which ones are not. Doc 02/469r5 clause 6.3.14 clearly specified which ones the MLME required and these two are not required. Period.

SuggestedRemedy

Make the change.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.14.6.2** *P* **64** *L* **8** # **608**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**

Replace "The PNC MLME upon receipt" with "The PNC DME upon receipt".

SuggestedRemedy

Change as indicated.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.14.9** *P* **65** *L* **14** **#** **36**
Heberling, Allen   XtremeSpectrum

Comment Type **E** *Comment Status* **X**
 Move the "(" up one line.

SuggestedRemedy
 Perform the requested editorial change.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.15.2** *P* **67** *L* **29** **#** **42**
Heberling, Allen   XtremeSpectrum

Comment Type **E** *Comment Status* **X**
 Move the "(" up one line.

SuggestedRemedy
 Perform the requested editorial change.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.15.3** *P* **68** *L* **7** **#** **44**
Heberling, Allen   XtremeSpectrum

Comment Type **E** *Comment Status* **X**
 Move the "(" up one line

SuggestedRemedy
 Perform the requested editorial change.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.16** *P* **69** *L* **#** **897**
Bain, Jay   Time Domain

Comment Type **T** *Comment Status* **X**
 The MLME-REMOTESCAN.request calls for the PNC as origination of the command yet,
 the rest of the subclause is vague on who is the originator, e.g. OrigID.

SuggestedRemedy
 Make the initial description PNC specific and also remove the OrigID from table 20.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.16** *P* **69** *L* **39** **#** **609**
Gilb, James   Appaient Technologie

Comment Type **TR** *Comment Status* **X**
 The parameters "ReasonCode" and "ResultCode" have been confused in this section. The
 MLME-REMOTE-SCAN.response should contain a "ReasonCode" instead of a
 "ResultCode".

SuggestedRemedy
 Page 69 Line 39: Add "REQUEST_DENIED" to valid range for "ResultCode".   Page 70
 Line 30-32: Change to "The DME upon receiving this primitive may send either an MLME-
 SCAN.request to its MLME to initiate the requested channel scan or an MLME-REMOTE-
 SCAN.response with the ReasonCode indicating that the request for a remote scan was
 denied, 7.5.6.4"   Page 70 Line 42: Replace "ResultCode" with "ReasonCode".

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.16.4** *P* **71** *L* **14** **#** **46**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
 The parameters "NmbrChannels" and NmbrPiconets" described in clause7.5.6.4 are
 missing from MLME-REMOTE-SCAN.confirm primitive's parameter list.

SuggestedRemedy
 Please add the missing parameters to MLME-REMOTE-SCAN.confirm's primitive list.

Proposed Response *Response Status* **O**

Cl **06** *SC* **6.3.17** *P* **71** *L* **33** **#** **48**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
 The clause title: "Changing channels" is too restrictive given the change in primitive name.

SuggestedRemedy
 Rename clause 6.3.17 Changing Channels to "Changing Piconet parameters.

Proposed Response *Response Status* **O**

Cl **06**　　*SC* **6.3.17**　　　　　*P* **71**　　*L* **33**　　# **610**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
The subclause named "Changing channels" no longer seems appropriate because the MLME primitive can now also change the PNID and/or BSID without changing the channel number.

SuggestedRemedy
Change the subclause name to be "Changing piconet parameters"

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.17**　　　　　*P* **72**　　*L* **10**　　# **909**
Bain, Jay　　　　　　　　　　　　Time Domain

Comment Type　**T**　　*Comment Status*　**X**
Piconet Maximum transmit power is a beacon parameter that as suggested in the text (as a means of working with interference), may change during the duration of a piconet. It is not clear, how this parameter is adjusted after the initial configuration with MLME-START.request.　Many of the operations regarding channels involve the DME so there should be a means to reflect a DME choice into the IE of 7.4.7

SuggestedRemedy
I recommend that we overload the existing MLME-PICONET-PARM-CHANGE.request and create a duplicate of the parameter PiconetMaxTxPower.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.17.1**　　　　*P* **72**　　*L* **11**　　# **52**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**
Replace ChannelChangeTimeOut parameter with the NmbrOfChangeBeacons parm.　The BSID is a non changeable parameter. Consequently, delete the BSID parm from the MLME-PICONET-PARM-CHANGE.request parm list.　Also, delete all instances of BSID in clauses 6.3.17.1.1, 6.3.17.1.2

SuggestedRemedy
Perform the requested change in parameter name.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.17.1**　　　　*P* **72**　　*L* **18**　　# **54**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**
add a space between the word "it" and "wishes" in line 18.

SuggestedRemedy
Perform the requested editorial change.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.17.1.1**　　　*P* **72**　　*L* **18**　　# **611**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Replace "itwishes" with "it wishes".

SuggestedRemedy
Change as indicated.

Proposed Response　　　*Response Status*　**O**

Cl **06**　　*SC* **6.3.17.1.2**　　　*P* **72**　　*L* **24**　　# **418**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**
Doc: 02/276r0 provides an argument for the persistence of the PiconetBSID. Consequently, change this sentence frag. from: "...PNID, BSID, and ChannelChangeTimeOut parameters." to "...PNID, and NmbrOfChangeBeacons parameters."

SuggestedRemedy
Please make the indicated change.

Proposed Response　　　*Response Status*　**O**

Cl **06**   *SC* **6.3.17.1.2**   *P* **72**   *L* **25**   # **896**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

It is not clear by what means the DEV understands which of the three are to be changed. IE in 7.4.5 indicates that this is by noting if there is a difference between the current and the new. Something in 6.3.17.1.2 could improve readability.

SuggestedRemedy

put an xref to the IE in 7.4.5. This is where the actual operation is defined.

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.19.1**   *P* **75**   *L* **6**   # **1105**

Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**

Add APS to the acronyms list in clause 4

SuggestedRemedy

Add APS to the acronyms list in clause 4

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.19.2.2**   *P* **76**   *L* **32**   # **1065**

Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**

The description sentence does not end in a period: SPS-SET-CONFIGURE.request

SuggestedRemedy

Add the period.

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.2**   *P* **28**   *L* **53**   # **49**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

"array of PiconetDescription" suggests implementation /KO

SuggestedRemedy

change to: "list of PiconetDescription"

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.2**   *P* **29**   *L* **4749**   # **599**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

"if the piconet that is found is a child piconet,"

SuggestedRemedy

"if the piconet that is found is a child or neighbor piconet,"

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.2 Table 5**   *P* **29**   *L* **48**   # **968**

Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**

The ParentDEVAddress parameter description lacks text regarding a valid 15.3 neighbor found

SuggestedRemedy

"... is a child piconet or 15.3 neighbor piconet,..."

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.2.1**   *P* **30**   *L* **10**   # **153**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

PiconetBSID is missing from MLME-SCAN.request parameter list.

SuggestedRemedy

Please add PiconetBSID to MLME-SCAN.request parameter list

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.2.1**   *P* **30**   *L* **14**   # **967**

Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**

Should there be a timeout as part of the MLME-SCAN.request?

SuggestedRemedy

If so, add timeout parameter for Result code rename Table 6 Result code to be reason code add Table 6 result code as with other timeouts. add 6.3.2.2 MLME-SCAN.confirm parameter of ReasonCode

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.3.2.2**   *P* **30**   *L* **10**   **#** 416
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

PiconetBSID as a parameter to search for is not specified included in the MLME-SCAN.request parm list. Please add the PiconetBSID parm to the parm list between the OpenScan and PNID parms.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.2.2**   *P* **30**   *L* **36**   **#** 6
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

The parameter "ChannelRatingList" implies an operation in the scan process that is not described in clause 8.2.1.

SuggestedRemedy

Please add text to clause 8.2.1 to make it congruent with the implied operation in clause 6.3.2.2. Something along the lines of: ..."In addition, the searching DEV shall collect statistics on each channel scanned and save them in the ChannelRatingList as described in 7.5.6.4

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.2.2 Table 5**   *P* **29**   *L* **31**   **#** 920
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**

It seems that information on what type of CAP/MTS used by piconet is not returned as part of a scan. Since MTS is optional in PICS a DEV may not support this and thus consider joining a different piconet.

SuggestedRemedy

Add the CAP information from the channel timing IE to the MLME-SCAN.indicate primitive. Place as additional field in piconetdescriptionset in table 5.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.3 Table 6**   *P* **31**   *L* **12**   **#** 963
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**

MLME-START.request suggests the means to starts parents, children, and neighbors using the current PiconetType parameter. The MLME-START.request is not used for starting either child or neighbors. Both a neighbor and child would associate first (neighbor in associate) and then obtain channel time.

SuggestedRemedy

Recommend that PiconetType parameter be removed from Table 6 (page 31, line 12).

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.3 Table 6**   *P* **31**   *L* **25**   **#** 992
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**

The description field for the PiconetDescriptionSet carries the incorrect direction of flow. For start operation, the direction is towards the MAC and not a return as defined in MLME-START.request. Also, for starting, it is but a single set and not multiples.

SuggestedRemedy

New text for PiconetDescriptionSet in table 6 is recommended as "Characteristics of the superframe."

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.3 Table 7**   *P* **32**   *L* **8**   **#** 908
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**

CFPDuration parameter in the Elements of MACParameterSet table has a description that says "The duration in microseconds allocate to the CAP within the superframe" It would seem that some adjustment is necessary! Information in this table ties to Piconet synchronization parameters, 7.4.3. But, it is not clear what is intended in this case since the CAP value must be dynamic as the beacon duration changes. Is this a nominal split between CAP and CFP?

SuggestedRemedy

Recommend that the description be   "The nominal duration in microseconds allocated to the CFP. From this, the CAP end time, 7.4.3 is derived."

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.3.1**   *P* **31**   *L* **43**   *#* **417**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

PiconetBSID as a parameter to establish the id of the piconet is not specified in the MLME-START.request parm list. Please add the PiconetBSID parm to the parm list before the PNID parm.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.3.2**   *P* **32**   *L* **35**   *#* **894**

Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

MLME-START.confirm seems to be lacking parameters based on the text of sub-clause 8.2.1 (pg 151, ln 48) and 8.2.2 (pg 152, ln 35). The text indicates that the ChannelRatingList is in the MLME-START.confirm primitive and it is not present.

SuggestedRemedy

recommended text will be in 02/289

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.3.2**   *P* **32**   *L* **41**   *#* **8**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

MLME-START.confirm parameter list is not in agreement with the parameter list specified in clause 8.2.2. Please add the PiconetDescriptionSet, and ChannelRatingList parms to the MLME-START.confirm primitive.

SuggestedRemedy

Please add the ChannelRatingList parameter to the MLME-START.confirm primitive and to Table 6.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.4.1.2**   *P* **33**   *L* **49**   *#* **53**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Must scan for both BSID and PNID /KO

SuggestedRemedy

Change text to read: "..., the MLME scans the specified channel unter either a beacon with the specified PNID and BSID is detected or..."

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.4.3**   *P* **34**   *L* **23**   *#* **958**

Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

Use of "initiate" instead of "indicate"

SuggestedRemedy

"This primitive is used to indicate that the ...."

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.5.1**   *P* **34**   *L* **50**   *#* **402**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The DEVPiconetServicesIE is undefined. Consequently, delete this parameter from the MLME-ASSOICATE.request primitive parm list. See comments in 7.4.23.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.5.1**   *P* **34**   *L* **51**   *#* **202**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Services broadcast not standardized, thus not interoperable and must be removed from standard /KO

SuggestedRemedy

Remove MLME_ASSOCIATE.request parameter DEVPiconetServicesIE

Proposed Response   *Response Status* **O**

Cl **06**　　　*SC* **6.3.5.1**　　　　　*P* **34**　　　*L* **51**　　　# **602**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
"AssocTimeOut" should be "AssocTimeout".

SuggestedRemedy
Change as indicated.

Proposed Response　　*Response Status* **O**

Cl **06**　　　*SC* **6.3.5.1**　　　　　*P* **35**　　　*L* **26**　　　# **12**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**
The PNCResponse parameter is useless if the scheduler in the PNC for determining to which command frames the PNC must respond first is not specified. Consequently, please delete this parameter from the parm list of this primitive as well as from those in these other clauses(6.3.5.3, 6.3.5.4)

SuggestedRemedy
Please make the requested change.

Proposed Response　　*Response Status* **O**

Cl **06**　　　*SC* **6.3.6**　　　　　*P* **38**　　　*L* **20**　　　# **959**
Bain, Jay　　　　　　　　　　　　Time Domain

Comment Type **T**　　*Comment Status* **X**
The ReasonCode valid range points to the wrong section of clause 7

SuggestedRemedy
Change "As defined in 7.5.1.2" to "As defined in 7.5.1.3"

Proposed Response　　*Response Status* **O**

Cl **06**　　　*SC* **6.3.6.3**　　　　　*P* **39**　　　*L*　　　# **55**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**
Disassociation cannot "fail". Both PNC and client shall regard a disassociate request as being completed when requested and proceed with the disassociation procedure. The PNC needs to get back the DevID from the confirm in case it has disassociated several DEVs. The reasonCode is not needed since the request cannot fail, and even if it did there is no recovery./KO

SuggestedRemedy
MLME_DISASSOCIATE.confirm <change text in line 24> This primitive is only used in the PNC and reports the completion of a disassociation.   <Change parameter to MLME_DISASSOCIATE.confirm> MLME_DISASSOCIATE.confirm (DevID)   <Change text in 6.3.6.3.1 to> This primitive is sent by the PNC MLME after sending a disassociation request command to a DEV and completing the disassociation procedure. The primitive shall be sent even if the disassociated DEV does not ACK the command frame.

Proposed Response　　*Response Status* **O**

Cl **06**　　　*SC* **6.3.6.3**　　　　　*P* **39**　　　*L* **24**　　　# **158**
Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**
The MLME-DISASSOCIATION.confirm primitive has value only to the PNC. A DEV that requests to be disassociated from the piconet doesn't really care if it receives an ACK, since by the time it does receive an ACK it would most likely be shutdown. Consequently, the only entity that is interested in receiving a confirmation is the PNC, since it will still be in operation and therefore interested in knowing which DEV, it(PNC) had previously requested disassociate, responded with an ACK. Given this perspective please make these changes: Change this sentence from: "This primitive reports the results of a disassociation request." to "This primitive reports to the PNC the results of a PNC initiated disassociation request directed to a DEV. The semantics of the primitive are: MLME-DISASSOCIATE.confirm(DEVID)   6.3.6.1 When generated This primitive is sent by the PNC MLME to its DME after receiving an ACK from the DEV to which the PNC had sent a disassociation request command 7.5.1.3. (Delete lines 35-37)   6.3.6.2 Effect of receipt The PNC DME, when it receives the MLME-DISASSOCIATE.confirm primitive, is notified as to which DEV has been disassociated.

SuggestedRemedy
Please make the requested technical changes.

Proposed Response　　*Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

Page 40 of 185

Cl **06**　　　*SC* **6.3.6.3**

Cl **06**   *SC* **6.3.7**   *P* **41**   *L* **23**   *#* **494**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
The SECID is listed as an octet string in some of these tables.

SuggestedRemedy
Change the SECID to be 2 octets in all locations. Particularly, change tables 11, 12, 13 and 32.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.7**   *P* **41**   *L* **8**   *#* **217**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
The entries for ChallengeType and ChallengeLength should be removed as they are not used any longer.

SuggestedRemedy
Delete entries as indicated.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.8.1**   *P* **46**   *L* **23**   *#* **218**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
The use of the SECID in the MLME-REQUEST-KEY.request and MLME-REQUEST-KEY.indication implies that the requesting device knows the SECID of the key it is requesting. This will be true for piconet-wide keys because the SECID will be included in the beacon, but for peer-to-peer keys, the DEV may not know the SECID of the current key, in which case it perhaps should be allowed to request the key without knowing its SECID.

SuggestedRemedy
Change the MLMEs to indicate that a DEV is able to send the request key without knowing the SECID of the current key. Otherwise, perhaps the SECID can be deleted from the request command?

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.8.3.1**   *P* **47**   *L* **29**   *#* **604**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
"SUCESS" should be "SUCCESS"

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.x**   *P*   *L*   *#* **986**
Bain, Jay   Time Domain

Comment Type **TR**   *Comment Status* **X**
For a normal piconet start, the MLME-START.request contains MACParameterSet, PiconetMaxTXPower in addition to several other parameters. In that child and 15.3 neighbors "start" in different ways than MLME-START.request, a different mechanism should be defined. The MLME-START could be used (since the parameters of interest are present) but that is a very wierd overloading.

SuggestedRemedy
MLME-InitDependentPNC.request   This primitive is used to begin the operation of the child or neighbor PNC. The semantices of the primitive need definition.   MLME-InitDependentPNC.confirm   This primitive is used to inform the DME that the dependent PNC was able to initiate operation with the parameters sent with the request primitive. In clause 8, in the appropriate child or neighbor sub-clause. An MLME-InitDependentPNC.request shall be sent to the DEV after association and channel time allocation for a neighbor, or after channel time allocation for the child. The DEV would then apply the parameters of the MLME- before sending the first beacon it sends as a PNC. Note: The new MLME should come after the channel time is granted by the PNC. Because at least one PNC parameter is based on the resulting granted time, the DME should first inspect the granted time and then initiate piconet operation for the child or neighbor.   The graphics need to be changed as well in 8.2.4 and 8.2.5 to include the step in the correct location. see 02/289

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.3.x**   *P*   *L*   **#** **939**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Need an MLME primitive to enable multicast reception and to allow filtering for a particular multicast stream.

SuggestedRemedy

Add an MLME primitive to enable multicast reception and to allow filtering for a particular multicast stream.   6.x.xMLME-MULTICAST-RECEPTION-SETUP.request MLME-MULTICAST-RECEPTION-SETUP (

Multicast_status,   stream index(es),   ) The pirimitive parameters are contained in table xx Create table xx: Broadcast_status ; boolean ;True,FALSE; indicates whether the MAC should receive multicast traffic defined by the stream indices   stream index(es);octet ; stream index identifier; Used by the DEV to filter on particular broadcast addresses.   6.x.x.1 When Generated This primitive is sent by the DME to the MLME to control the multicast receiveparameters.   6.x.x.2 Effect of receipt If Multicast_status is TRUE, the DEV should receive broadcast frames with the stream index(es) specified in the primitive parameters.   If the status is TRUE and the stream index is set the the broadcast address 0xFF, the DEV shall pass all multicast frames regardless of stream index to the upper layers. If Multicast_status is FALSE and he stream index is set to the broadcast address, All multicast reception is turned off.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.4.4.2**   *P* **81**   *L* **22**   **#** **1066**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The sentence "The DME or MLME is notified of the of the results of starting the test mode." is incorrect.

SuggestedRemedy

I suggest "The DME or MLME is notified of the results of starting the test mode."; delete the second "of the".

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5**   *P* **81**   *L* **47**   **#** **428**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

There seems to be no policy about what is in or out of the PIB.

SuggestedRemedy

Only allow items in the PIB if they are not passed to the DME or they are clearly items that need to be managed by a higher layer. This requires changes to many items in the MAC and PHY PIB.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5.5**   *P* **84**   *L* **27**   **#** **219**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

The SECID, sequence numbers and time token should have lengths 2, 4 and 6 respectively.

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5.5**   *P* **84**   *L* **27**   **#** **220**

Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

There should be two SECIDs, one for the management key and one for the data key.

SuggestedRemedy

Add an additional entry for MACPIB_PNCManagementSECID that indicates the SECID of the management key. The MACPIB_PNCSECID should be called the MACPIB_PNCDataSECID and correspond to the data key only.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5.6**   *P* **85**   *L* **1**   **#** **1106**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
   Typo in title of 6.5.6

SuggestedRemedy
   Should be PIB, not PIC.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5.6**   *P* **85**   *L* **1**   **#** **612**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
   Replace "PIC" with "PIB"

SuggestedRemedy
   Change as indicated.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5.6**   *P* **85**   *L* **10**   **#** **430**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
   The ACL PIB really contains the information for a single DEV, not for the list of DEVs in the
   piconet, which is really what the DEV wants to know.

SuggestedRemedy
   Change the ACL PIB to be a single array, the entries of which are the items in the ACL PIB.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5.6**   *P* **85**   *L* **8**   **#** **221**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
   Each entry in the access control should be able to support keys shared with that particular
   device.

SuggestedRemedy
   For each access control list table, there should be ManagementKeyInfo,
   ManagementSECID, DataSECID, DataKeyInfo entries. Adding these fields to the table.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.5.9**   *P* **84**   *L* **22**   **#** **429**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
   The security group 6.5.5 has way too many things in it that don't belong there because they
   change too rapidly or are not really management items.

SuggestedRemedy
   Delete the following items from the security group: MACPIB_PNCSECID
   MACPIB_SMSeqNum MACPIB_DEVSeqNum MACPIB_CurrentTimeToken
   MACPIB_ValidBeacon MACPIB_NewPNC   Rename as follows: MACPIB_SecuritySuite -
   MACPIB_PiconetSecuritySuite

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.6**   *P* **85**   *L* **2728**   **#** **613**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
   Replace "source/destinationDEVIDs" with "source/destination DEVIDs"

SuggestedRemedy
   Change as indicated.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.6**   *P* **85**   *L* **35**   **#** **156**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
   Change this sentence fragment from "...as well and also needs the ability to create, ..." to
   "... as well and consequently needs the ability to create,..."

SuggestedRemedy
   Please make the indicated editorial change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.6.1.1**   *P* **86**   *L* **49**   **#** **1067**
Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**
   Again, the term "sub layer", used in the sentence "...LLC sub layer.", is spelled wrong.

SuggestedRemedy
   Change to "sublayer", dropping the space.

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.6.4**   *P* **88**   *L* **7**   **#** **80**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   An isochronous data stream is negotiated before hand and afterwards has a stream index
   assigned to it as a result of the negotiation. Consequently, there is no need for the
   parameters TrgtID, OrigID, or Priority to be part of the MAC-ISOCH-DATA.request
   parameter list. However, there is a need for an ACK policy parameter field to be part of the
   parm list.

SuggestedRemedy
   please remove the parameters(TrgtID, OrigID, and Priority) from the MLME-ISOCH-
   DATA.request parm list, and add the ACKpolicy parm.

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.6.4**   *P* **88**   *L* **8**   **#** **23**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   KO> MLME-s shouln't have primitives where the value is already known by the MAC and
   the value cannot be overriden using the primitive /KO

SuggestedRemedy
   6.6.4 MAC_ISOCH_DATA.request   Delete parameters TrgtID, OrigID and Priority. All of
   these parameters are already set in the MLME_CREATE_CTA.request and cannot be
   changed.

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.6.6**   *P* **89**   *L* **8**   **#** **27**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   KO> MLME_ISOCH_DATA.indication, priority not in header and cannot be known by
   receiver /KO

SuggestedRemedy
   Remove primitive "priority"

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.6.6**   *P* **89**   *L* **9**   **#** **78**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   The data frame format and MAC header do not support the passage of the priority field
   from one MAC to the other. Consequently, the primitive MAC-ISOCH-DATA.indication
   should not contain the priority field. Therefore please remove the priority parameter from
   the MAC-ISOCH-DATA.indication parameter list.

SuggestedRemedy
   Please perform the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.6.7**   *P* **89**   *L* **25**   **#** **164**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   The MAC SAP message sequence charts clause is no longer appropriate for inclusion in
   clause 6. It should be deleted since it is already present in clause 8.5.2.1 as figure 119.

SuggestedRemedy
   Please make the requested editorial change.

Proposed Response   *Response Status*   **O**

Cl **06**   *SC* **6.6.7**   *P* **89**   *L* **25**   **#** **1107**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
  MSC in clause 6

SuggestedRemedy
  Move to clause 8.5.2

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.6.7**   *P* **89**   *L* **28**   **#** **1068**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
  The sentence "...DEV-2 and DEV3 in a piconet." is inconsistent.

SuggestedRemedy
  I suggest the terms be hyphenated but having both different is confusing; i.e., "DEV-2 and
  DEV3".

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.6.7**   *P* **89**   *L* **30**   **#** **29**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
  KO> MSC belongs to clause 8.5.2, where it already exists /KO

SuggestedRemedy
  delete MSC

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.7.2.1.2**   *P* **93**   *L* **26**   **#** **1069**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
  The sentence "The effect of receipt of this primitive by the PHY entity is to start the
  transmitting the frame." is incorrect.

SuggestedRemedy
  I suggest "The effect of receipt of this primitive by the PHY entity is to start transmitting the
  frame."; delete the "the" after start.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.7.3.5**   *P*   *L*   **#** **502**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
  Cross reference to parameter missing.

SuggestedRemedy
  Add: "The parameter used in this primitive is defined in {xref Table 35}."

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.7.4.1.1**   *P* **96**   *L* **36**   **#** **1070**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
  The sentence "...about to transmitted." is incorrect.

SuggestedRemedy
  I suggest "...about to transmit.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.7.4.4**   *P* **97**   *L* **31**   **#** **1071**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
  The sentence "This primitive is a request by the MAC sublayer to the local PHY entity turn
  off the receiver." is incorrect.

SuggestedRemedy
  I suggest "This primitive is a request by the MAC sublayer to the local PHY entity to turn off
  the receiver."; add "to" after entity.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.7.4.6.1**   *P* **98**   *L* **26**   **#** **1072**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
  The sentence "...ing describes the parameter returned for each of those error conditions."
  is incorrect.

SuggestedRemedy
  I suggest "...ing describes the parameter returned for each of those error conditions:";
  adding a colon before the dashed list, per the IEEE Standards Style Manual.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.7.4.6.1**   *P* **98**   *L* **32**   # **1073**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The word "Anonsupported" is spelled wrong.

SuggestedRemedy
I suggest "A nonsupported"

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **6.7.4.6.1**   *P* **98**   *L* **32**   # **898**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**
missing space

SuggestedRemedy
An unsupported

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **8.12.2.3**   *P* **204**   *L* **28**   # **520**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Change "Sets" to "sets"

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **Figure 4**   *P* **89**   *L*   # **614**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
The MLME-CREATE-CTA.req should be shown coming from the DEV-2 DME. What is "MAC-Q"? Also, the CL is no longer the packet CL but the FCSL (i.e. frame convergence sublayer).

SuggestedRemedy
Change MAC-Q to be simply MAC. Change Packet CL to be FCSL in figure 4.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **Multiple**   *P*   *L*   # **601**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
To be consistent with all other "Timeout" values, "AssociationTimeOutPeriod" should be renamed "AssociationTimeoutPeriod" throughout Clause 6.

SuggestedRemedy
Change as indicated throughout clause 6.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **Table 11**   *P* **40**   *L* **11**   # **403**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Delete the parms: TrgtAddress and OrigAddress from this table. These parms are not needed in these primitives: MLME-AUTHENTICATE-.indication or MLME-CHALLENGE.indication. Consequently, delete TrgtAddress and OrigAddress from the parm lists for the indicated primitives.

SuggestedRemedy
Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **06**   *SC* **Table 13**   *P* **48**   *L* **36**   # **605**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
"DistrubuteKeyTimeout" should be "DistributeKeyTimeout".

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **06**　　*SC* **Table 15**　　　　*P* **53**　　　*L* **10**　　*#* **606**

Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**T**　　*Comment Status*　**X**

The text in the table is not clear to the difference between "HandoverTimeout" and "NewPNCTimeout" in this table.

SuggestedRemedy

Change the description of "HandoverTimeout" to be "The time allowed by the current PNC until the new PNC needs to begin sending the beacon." Change the description of "NewPNCTimeout" to be "The time announced by the new PNC before which it will begin sending the beacon."

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **Table 15**　　　　*P* **53**　　　*L* **18**　　*#* **17**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

PNCResponse is an unnecessary parameter. Consequently delete it. ACDEVAddress is no longer needed per comments regarding clause 8.2.3. Consequently, delete it from the table. Also Delete NewPNCTimeout since it is no longer needed per comments in clause 8.2.3.

SuggestedRemedy

Please make the requested changes.

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **Table 16**　　　　*P* **55**　　　*L* **7**　　*#* **61**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**

/KO

SuggestedRemedy

In description of QueriedDEVID, change last sentence: <from> "A value of BcstID is defined as a request for information from all associated DEVs.   <to> A value of BcstID is defined as a request for information about all associated DEVs.

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **Table 18**　　　　*P* **60**　　　*L* **21**　　*#* **405**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Insert the parm ACK Policy into the parm table between parms StreamIndex and CTR-Control.   Type: Enumeration; Range: no-ACK, imm-ACK, dly-ACK; Defn:Default ACK request type for stream

SuggestedRemedy

Please make the requested change.

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **Table 18**　　　　*P* **60**　　　*L* **30**　　*#* **607**

Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**

Replace "sochronous" with "isochronous".

SuggestedRemedy

Change as indicated.

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **Table 18**　　　　*P* **60**　　　*L* **34**　　*#* **34**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

NumAsyncTUs is an unnecessary parameter for the primitives MLME-CREATE-STREAM, MODIFY-STREAM, TERMINATE-STREAM.

SuggestedRemedy

Delete NumAsysncTUs from Table 18.

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **Table 18**　　　　*P* **60**　　　*L* **46**　　*#* **406**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Add this enumerated result code to the ResultCode range: ILLEGAL_ACK_POLICY

SuggestedRemedy

Please make the requested change.

Proposed Response　　　　*Response Status*　**O**

Cl **06**　　*SC* **Table 18**　　　*P* **60**　　　*L* **6**　　　# **30**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　*Comment Status*　**X**
NumTrgts is an inappropriate parameter for the primitives MLME-CREATE-STREAM, MLME-MODIFY-STREAM, and MLME-TERMINATE-STREAM.

SuggestedRemedy
Delete NumTrgts from Table 18

Proposed Response　　*Response Status*　**O**

Cl **06**　　*SC* **Table 18**　　　*P* **60**　　　*L* **8**　　　# **32**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　*Comment Status*　**X**
TrgtIDList is an unnecessary parameter for MLME-CREATE-STREAM, MODIFY-STREAM, and TERMINATE-STREAM

SuggestedRemedy
Replace TrgtIDList with TrgtDEVID.

Proposed Response　　*Response Status*　**O**

Cl **06**　　*SC* **Table 2**　　　*P* **27**　　　*L* **29**　　　# **400**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　*Comment Status*　**X**
Add an entry for an MLME-PNC-HANDOVER.response primitive 6.3.11.3. This is needed per comments in clause 7.5.3.2 and clause 8.2.3. Consequently, the reference for the MLME-PNC-HANDOVER.confirm should be renumbered 6.3.11.4

SuggestedRemedy
Please make the requested changes.

Proposed Response　　*Response Status*　**O**

Cl **06**　　*SC* **Table 2**　　　*P* **27**　　　*L* **30**　　　# **399**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　*Comment Status*　**X**
Delete MLME-NEW-PNC table entry. Primitive is no longer needed per later comments.

SuggestedRemedy
Pleae make the requested change.

Proposed Response　　*Response Status*　**O**

Cl **06**　　*SC* **Table 2**　　　*P* **27**　　　*L* **34**　　　# **401**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　*Comment Status*　**X**
MLME-CREATE -CTA, MLME-MODIFY-CTA, AND MLME-TERMINATE-CTA are incorrectly named. The correct primitive names for these entries are: MLME-CREATE-STREAM, MLME-MODIFY-STREAM, AND MLME-TERMINATE-STREAM. Comments in clauses 6.3.14.1-11 give the technical reasons for why the original names are correct and need to be reinstated.

SuggestedRemedy
Please make the requested change.

Proposed Response　　*Response Status*　**O**

Cl **06**　　*SC* **Table 2**　　　*P* **27**　　　*L* **42**　　　# **596**
Gilb, James　　　　　　　　　Appairent Technologie

Comment Type　**E**　*Comment Status*　**X**
A space is inserted before "MLME-PICONET-PARM-CHANGE"

SuggestedRemedy
Remove the space.

Proposed Response　　*Response Status*　**O**

Cl **06**　　*SC* **Table 21**　　　*P* **71**　　　*L* **45**　　　# **50**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　*Comment Status*　**X**
Delete the ChannelChangeTimeout parameter. Replace the deleted parm with NmbrOfChangeBeacons. see doc: 02/276r0 Page 21.　　Also, the BSID is a non changeable parameter. Consequently, delete the BSID parm from the table.

SuggestedRemedy
Perform the requested change in parameter name.

Proposed Response　　*Response Status*　**O**

Cl **06**　　*SC* **Table 21**　　　　*P* **71**　　*L* **50**　　# **1064**
Gifford, Ian　　　　　　　　Self

Comment Type **E**　　*Comment Status* **X**
　The description sentence does not end in a period: "A text string that identifies the piconet"

SuggestedRemedy
　Add the period.

Proposed Response　　*Response Status* **O**

Cl **06**　　*SC* **Table 30**　　　　*P* **84**　　*L* **3**　　# **63**
Heberling, Allen　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**
　KO> Services broadcast not standardized, thus not interoperable and must be removed
　from standard /KO

SuggestedRemedy
　Delete table 30

Proposed Response　　*Response Status* **O**

Cl **06**　　*SC* **Table 35**　　　　*P* **91**　　*L* **10**　　# **758**
Shvodian, William　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**
　Does the length field in the Tx length include security overhead?

SuggestedRemedy
　What is covered by the length field needs to be clarified.

Proposed Response　　*Response Status* **O**

Cl **06**　　*SC* **Table 35**　　　　*P* **91**　　*L* **23**　　# **762**
Shvodian, William　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**
　Does the MAC pass the HCS to the PHY or not? 12 octets in TXMACHead would include
　the HCS, but these are at best dummy octets, and more accurately they are dumb octets.
　Clasue 11, Figure 181 does not show HCS being passed from the MAC to the PHY.

SuggestedRemedy
　Change the header size to 10 octets and make clear that HCS is not sent in the Tx Vector

Proposed Response　　*Response Status* **O**

Cl **06**　　*SC* **Table 35**　　　　*P* **91**　　*L* **5**　　# **615**
Gilb, James　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　Replace "Any" with "0-255"

SuggestedRemedy
　Change as indicated

Proposed Response　　*Response Status* **O**

Cl **06**　　*SC* **Table 6**　　　　*P* **31**　　*L* **2526**　　# **600**
Gilb, James　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　References to "6.3.2.1" aren't correct.

SuggestedRemedy
　Change the xrefs to point to table 4 (6 locations in table 6).

Proposed Response　　*Response Status* **O**

Cl **06**　　*SC* **Table 8**　　　　*P* **33**　　*L* **19**　　# **1062**
Gifford, Ian　　　　　　　　Self

Comment Type **E**　　*Comment Status* **X**
　The description sentence does not end in a period: "...was returned as a result of an MLME-
　SCAN.request"

SuggestedRemedy
　Add the period.

Proposed Response　　*Response Status* **O**

Cl **06**　　*SC* **Table 9**　　　　*P* **35**　　*L* **11**　　# **603**
Gilb, James　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　To be consistent with all other "Timeout" values, "AssociationTimeOutPeriod" should be
　renamed "AssociationTimeoutPeriod".

SuggestedRemedy
　Change as indicated here and at all other locations.

Proposed Response　　*Response Status* **O**

Cl **06**　　　*SC* **Table 9**　　　*P* **35**　　　*L* **21**　　　*#* **204**

Heberling, Allen　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**

KO> Services broadcast not standardized, thus not interoperable and must be removed from standard /KO

SuggestedRemedy

Remove table entries DEVPiconetServicesIE and PNCPIconetServicesIE

Proposed Response　　　*Response Status* **O**

Cl **06**　　　*SC* **Table 9**　　　*P* **35**　　　*L* **27**　　　*#* **10**

Heberling, Allen　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**

"responsivenes" is spelled wrong. However, instead of spelling it correctly, please delete this useless parm. from the table.

SuggestedRemedy

Please make the requested change.

Proposed Response　　　*Response Status* **O**

Cl **07**　　　*SC*　　　　　*P*　　　*L*　　　*#* **1033**

Rasor, Gregg　　　　　　　Motorola

Comment Type **TR**　　*Comment Status* **X**

Many security notions in the draft are ill defined, imprecise, plainly wrong, or do not follow the well-established cryptographic nomenclature. We give two examples, to illustrate our point: (1) Page 5, line 21: 'authentication' is confused with 'authorization' here, since 'authentication' refers to 'evidence as to the true source of information or the true identity of entities' (see, e.g., the Handbook of Applied Cryptography, or Slide 2 of 02/114r5). This improper/sloppy use of terminology leads to misleading claims regarding security services offered: when, e.g., comparing Clause 9.4.3.2 (Security Mode 2) vs. Clause 9.4.3.3 (Security Mode 3), it seems that both modes provide the same security services, whereas in reality Security Mode 2 does not offer authenticity of public keying material at all; only Security Mode 3 does. Similarly, the objective of 'Mutual authentication', page 210, Clause 9.2.2, is completely wrongly stated: it is not about authorization, but about proving the device's identity to the other device. Furthermore, 'Verifying the authenticity of public keys', page 210, Clause 9.2.3, again, does not cover at all the cryptographic notion suggested. (2) Page 216, Figure 144: 'key confirmation' is unrightly labeled as 'verification of identity' here, whereas both notions are cryptographically quite distinct notions (here: key confirmation does not allow us to draw any conclusion about proper bindings between devices and public keys). The list goes on and on…

SuggestedRemedy

Incorporate proper security notions throughout the Draft, defined in line with well-established cryptographic practice. See the forthcoming presentation in Vancouver (document number: 02/290, 02/291). Help will be offered in Vancouver as well.

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required T/technical E/editorial　COMMENT STATUS: D/dispatched A/accepted R/rejected　SORT ORDER: Clause, Page, Line, Subclause　　　Page 50 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn　　　　　　　　　　　　　　　　　　　　　*Cl* **07**　　　*SC*

Cl **07**　　*SC*　　　　　　　　*P*　　　　*L*　　　# 1032
Rasor, Gregg　　　　　　　　　Motorola

Comment Type　**TR**　　*Comment Status* **X**

When two non-PNC devices A and B wish to communicate securely, they only need their PNC for allocation of time-slots, not for protection of contents. This observation allows the deployment of 802.15.3 WPAN networks in constellations where not all devices are within hearing range of one another, i.e., some form of inter-piconet communications is possible. This would allow the 802.15.3 WPAN to be deployed even over far larger distances, thus creating a low-cost competitor to, e.g., 802.11 networks. A short discussion of required info follows: (1) Key establishment. A and B only need to have access to each other's authentic public key and each other's static (full) device address to establish a secure and authentic channel (the full device address is needed to verify their respective certificates). (2) Heartbeat function. A and B only need to have access to a response that possession of the key by the other party and a timely response of the other party. The physical location of the other party (i.e., the piconet that other party is in) is not important, provided that party can be 'found'. (3) Key transport data keys from A (key originator) to B (key-recipient). The physical location of the other party (i.e., piconet it is in) is irrelevant, provided the other party can be 'found'. Proper receipt of the key update requires (a) static device addresses (48-bit IEEE addresses), since different piconets might use different dynamic short device Ids (8-bit piconet Ids); (b) full device addresses of group members, since otherwise B does not know with which parties it shares keying material. (4) Data integrity checks. If device addresses are contained in the message authentication codes, then full IEEE addresses need to be used, to allow verification of data integrity of inter-piconet communications. Information communicated from A to B should not depend on information in the beacon of A's piconet, since B's piconet might have different algorithm info (or other info contained in B's beacon). The current D10 Draft should conform to the requirements referred to above, for otherwise inter-piconet operations are not possible.

SuggestedRemedy

Make data and command transfer between non-PNC devices independent of status information contained in the beacon. Modify all security-relevant clauses in the Draft D10 document such as to comply with the general inter-piconet requirements above. In particular, remove 'global' synchronization via the time token (see 7.4.20) in beacon frames (see 7.3.1.2), ACK frames (7.3.2.2), command frames (7.3.3.2) and data frames (7.3.4.2) and everywhere else in the draft and replace it by more 'local' status information. This comes at virtually no cost. See the forthcoming presentation in Vancouver (document number: 02/290, 02/291). Help will be offered in Vancouver as well.

Proposed Response　　　*Response Status* **O**

Cl **07**　　*SC*　　　　　　*P* **101**　　*L* **25**　　# 248
Gilb, James　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status* **X**
Missing text.

SuggestedRemedy
Change to ..."octet numbering is illustrated in Figure 5."

Proposed Response　　　*Response Status* **O**

Cl **07**　　*SC*　　　　　　*P* **101**　　*L* **9**　　# 247
Gilb, James　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status* **X**
Clumsy syntax.

SuggestedRemedy
Change to "passed the header check sequence test."

Proposed Response　　　*Response Status* **O**

Cl **07**　　*SC*　　　　　　*P* **103**　　*L* **41**　　# 250
Gilb, James　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status* **X**
Syntax.

SuggestedRemedy
Change ..."Table 37:" to ..."Table 37."

Proposed Response　　　*Response Status* **O**

Cl **07**　　*SC*　　　　　　*P* **104**　　*L* **9**　　# 251
Gilb, James　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."policy is defined in 8.8.1."

Proposed Response　　　*Response Status* **O**

Cl **07**   *SC*   *P* **105**   *L* **1**   **#** **252**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Style.

SuggestedRemedy
You have already defined "SrcID", etc. (in the acronym list) and should not repeat the definitions. Delete this paragraph.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **105**   *L* **30**   **#** **253**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."number shall be set to 0 in all"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **105**   *L* **32**   **#** **254**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Style.

SuggestedRemedy
Change to "Maximum fragment number" in the header.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **106**   *L* **17**   **#** **256**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Throughout this document, change all occurrences of "one's" and "two's" when referring to logical operations to "ones" and "twos", as in "twos complement".

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **106**   *L* **2**   **#** **255**
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status* **X**
I think it's confusing that the maximum length of the frame body is aMaxFrameSize-4 octets. A maximum should be a maximum. Presumably this is to account for the FCS?

SuggestedRemedy
Redefine aMaxFrameSize so that it truly counts the maximum number of octets that can occur in a frame.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **106**   *L* **40**   **#** **1019**
Rasor, Gregg   Motorola

Comment Type   **E**   *Comment Status* **X**
Page 106, line 40: add '(the so-called stuffed octet)' behind '…with an all-zero value'

SuggestedRemedy
Add '(the ... stuffed octet)' behind '…with an all-zero value'

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **107**   *L* **21**   **#** **257**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Remove extra period at end of line.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **108**   *L* **23**   **#** **259**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Throughout this document, use compound modifiers properly. For example, change "A 32 octet bitmap" to "A 32-octet bitmap".

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
Page 52 of 185
Cl **07**   *SC*

Cl **07**   *SC*   *P* **108**   *L* **3**   **#** 258
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
　　Syntax.

SuggestedRemedy
　　Change to ..."Used to provide a relative"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **109**   *L*   **#** 1022
Rasor, Gregg   Motorola

Comment Type   **E**   *Comment Status* **X**
　　Figure 10: the left-most information element should have index 'n', rather than 'n-1'.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **109**   *L*   **#** 1023
Rasor, Gregg   Motorola

Comment Type   **TR**   *Comment Status* **X**
　　Figure 10: the SECID (=key identifier) is unnecessary, since it is implied by the security
　　architecture.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **109**   *L* **15**   **#** 260
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
　　Syntax.

SuggestedRemedy
　　Change to ..."and interpreted as described in"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **110**   *L*   **#** 1025
Rasor, Gregg   Motorola

Comment Type   **TR**   *Comment Status* **X**
　　Figure 12: The value of Ln in the current Draft D10 must be a constant that depends on the
　　frame type only.

SuggestedRemedy
　　Make the value of Ln depend on the security services indicator.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **110**   *L*   **#** 1024
Rasor, Gregg   Motorola

Comment Type   **TR**   *Comment Status* **X**
　　Figure 11: the non-secure Immediate ACK Frame Format does not contain a FCS, which is
　　incompatible with practice with all other frame formats.

SuggestedRemedy
　　This should be corrected.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **113**   *L* **40**   **#** 1026
Rasor, Gregg   Motorola

Comment Type   **E**   *Comment Status* **X**
　　Replace 'Figure 16' by 'Figure 17'.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **114**   *L* **42**   **#** 261
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
　　Style.

SuggestedRemedy
　　Change to ..."sent for zero length frames,"...

Proposed Response   *Response Status* **O**

Cl **07**　　*SC*　　　　　　　　　*P* **115**　　　*L* **1**　　　# **267**
Gilb, James　　　　　　　　　　　Appairent Technologie
Comment Type　**E**　　*Comment Status*　**X**
　Style.
SuggestedRemedy
　Throughout this document, all information elements should be given actual field names.
　For example, on page 120 field #1 might be named "CurrentTxPower", and field #2 might
　be named "TxPowerStepSize". It would be useful if different fonts were used when
　referring to field names in each IE.
Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **116**　　　*L* **29**　　　# **262**
Gilb, James　　　　　　　　　　　Appairent Technologie
Comment Type　**E**　　*Comment Status*　**X**
　Style.
SuggestedRemedy
　Delete "length field is used to know the number" and replace with "length field indicates the
　number".
Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **117**　　　*L* **1**　　　# **263**
Gilb, James　　　　　　　　　　　Appairent Technologie
Comment Type　**E**　　*Comment Status*　**X**
　Style.
SuggestedRemedy
　Throughout this document, replace references to 48-bit MAC addresses with the proper
　IEEE document number that describes the form of these addresses using something like
　"DEV address is the 48-bit MAC address as specified in [2]" or whatever the embedded
　reference number becomes.
Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **117**　　　*L* **4346**　　　# **1027**
Rasor, Gregg　　　　　　　　　　Motorola
Comment Type　**TR**　　*Comment Status*　**X**
　The key number is unnecessary, since there is only one broadcast key for the entire
　piconet (if key change notification is properly implemented - the current Draft D10 has
　some missing spots here). With the current Draft D10 text, one should add: 'The key
　number has a valid range of [1..255] if encryption is on', since otherwise the specification is
　ambiguous. The distinction between encryption ON/OFF should not be made via the value
　of a key number, but, e.g., be determined by checking the frame control field and the frame
　type. (Note: anomalies like this one abound throughout the whole Draft. The information is
　so much scattered throughout the document, that it is hard to get to grippes with the
　security services offered for anyone but the persistent.)
SuggestedRemedy
　Some help with improving the clarity of the document will be provided in Vancouver.
Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **117**　　　*L* **46**　　　# **264**
Gilb, James　　　　　　　　　　　Appairent Technologie
Comment Type　**E**　　*Comment Status*　**X**
　Syntax.
SuggestedRemedy
　Change to "this field shall be set to zero."
Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **119**　　　*L* **2324**　　　# **1030**
Rasor, Gregg　　　　　　　　　　Motorola
Comment Type　**TR**　　*Comment Status*　**X**
　The rationale for the SEC bit is unclear.
SuggestedRemedy
　Remove this SEC bit subfield.
Proposed Response　　　*Response Status*　**O**

Cl **07**   *SC*   *P* **119**   *L* **29**   *#* **266**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "Otherwise the AC bit shall be"

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **119**   *L* **3**   *#* **265**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Remove extra period from end of sentence.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **120**   *L* **27**   *#* **268**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."TX power is the DEV's estimate"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **121**   *L* **2**   *#* **269**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax

SuggestedRemedy
Change to ..."place the CTA blocks in"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **121**   *L* **22**   *#* **270**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Style.

SuggestedRemedy
Throughout this document, refer to IE field names without using "the" and "field". For example, change "The destination DEVID indicates" to "DestinationDEVID indicates". If field #2 were referenced in this paragraph, it would appear as "SlotLocation" not "the slot location field". This will prevent eventual confusion and make it easier for an implementation to be compared with the standard.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **122**   *L* **11**   *#* **271**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change "The DEV GTS status" to "DEV_GTS_StatusBitmap".

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **122**   *L* **29**   *#* **272**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "and its DEV GTS status bit"... Also change line 30 to read "If either its DEV GTS status"... "It's" is not the possessive form and this document should be checked completely for erroneous usage.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **122**   *L* **48**   **#** **1031**
Rasor, Gregg   Motorola

Comment Type   **E**   *Comment Status*   **X**
Drop the 'n' in 'indentifies'.

SuggestedRemedy

Proposed Response   *Response Status*   **O**

Cl **07**   *SC*   *P* **123**   *L* **1**   **#** **273**
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status*   **X**
Shouldn't there be a cap on the maximum number of ASIEs that may be placed in a beacon, simply to prevent transmissions of gigantic beacon MPDUs?

SuggestedRemedy
? Maybe limit the number of ASIEs a vendor may place in a beacon MPDU, or limit the total size of beacon MPDU?

Proposed Response   *Response Status*   **O**

Cl **07**   *SC*   *P* **124**   *L* **17**   **#** **274**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
Syntax.

SuggestedRemedy
Add period to end of line.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC*   *P* **127**   *L* **3**   **#** **275**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
Syntax.

SuggestedRemedy
Delete extra period from end of line.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC*   *P* **128**   *L* **8**   **#** **276**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
Style.

SuggestedRemedy
Change to "The PNC may transmit an ACK following reception of the PDU if the ACK request"...

Proposed Response   *Response Status*   **O**

Cl **07**   *SC*   *P* **129**   *L* **35**   **#** **277**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
Syntax.

SuggestedRemedy
Change to ..."used by a DEV to join a piconet"...

Proposed Response   *Response Status*   **O**

Cl **07**   *SC*   *P* **129**   *L* **43**   **#** **278**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
Syntax.

SuggestedRemedy
Change to ..."or the DEV's newly allocated DEVID, 8.3.1"

Proposed Response   *Response Status*   **O**

Cl **07**   *SC*   *P* **130**   *L* **13**   **#** **279**
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status*   **X**
Meaning? I think you want to set the SrcID to the PNCID.

SuggestedRemedy
Change to "The SrcID shall be set to the PNCID."

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 56 of 185
Cl **07**   *SC*

Cl **07**　　*SC*　　　　　　　　　*P* **131**　　　*L* **2**　　　　# **280**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Syntax.

SuggestedRemedy
　Change to "response to a channel time"...　Also change line #5 to read "response to a PS information command"...

Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **133**　　　*L* **28**　　　# **660**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Syntax.

SuggestedRemedy
　Delete comma at end of line.　Also fix spacing on line #34 to read "security manager. The"...

Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **134**　　　*L* **11**　　　# **661**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Word order.

SuggestedRemedy
　Change to ..."The request key command shall be"...

Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **137**　　　*L* **14**　　　# **662**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to ..."need to be transferred to"...

Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **139**　　　*L* **21**　　　# **663**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Style.

SuggestedRemedy
　Change to ..."whose element ID (refer to Figure 46) is 'n'."

Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **139**　　　*L* **28**　　　# **664**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Style.

SuggestedRemedy
　Change to ..."7.4, that the source DEV of this command"...

Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **140**　　　*L* **29**　　　# **665**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to ..."If the DEV is making a request".　Also change line #31 to read ..."andn it shall the last CTRB"...

Proposed Response　　　*Response Status*　**O**

Cl **07**　　*SC*　　　　　　　　　*P* **141**　　　*L* **45**　　　# **666**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
　Style.

SuggestedRemedy
　Change to ..."share of the available channel time."

Proposed Response　　　*Response Status*　**O**

Cl **07**   *SC*   *P* **142**   *L* **2**   **#** **667**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Missing word.

SuggestedRemedy

Change to ..."greater than or equal to the minimum"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **142**   *L* **36**   **#** **668**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Syntax.

SuggestedRemedy

Change to ..."If the number of available TUs is 0,"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **142**   *L* **49**   **#** **669**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Spelling.

SuggestedRemedy

Change to "pseudo-static GTS". I know there are other misspellings of 'pseudo' in this document and I suggest you run a spell-checker or a global search/replace.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **143**   *L* **1**   **#** **670**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Syntax.

SuggestedRemedy

Change to ..."about the remote DEVs' view of the"...

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **146**   *L* **14**   **#** **671**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Spelling.

SuggestedRemedy

Change all occurrences in this document of "wakeup" to "wake up".

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **147**   *L* **13**   **#** **672**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Syntax?

SuggestedRemedy

Fix the sentence "The and fields contain stream"... I don't know what's meant here.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **147**   *L* **21**   **#** **673**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Spelling.

SuggestedRemedy

Change to "A value of 0 in either ResumeStreamIndex or SuspendStreamIndex indicates"... If you don't like this format for IEs, "suspend" is presently spelled incorrectly.

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **148**   *L* **45**   **#** **674**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Syntax.

SuggestedRemedy

Remove comma after "Table 50,"...

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 58 of 185

Cl **07**   *SC*

Cl **07**   *SC*   *P* **210**   *L* **810**   **#** **1034**
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

Specify the security threat model that is assumed at system set-up. Without a proper indication of the threats considered, one cannot draw conclusion on the security provided by the 802.15.3 WPAN.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **07**   *SC*   *P* **32**   *L* **33**   **#** **249**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Style.

SuggestedRemedy

Throughout this document, consistently use the same style when referring to numeric values taken by variables. The recommended practice is to use apostrophes when referring to character data, and to avoid these when referring to numbers. Change this sentence to ..."shall be set to 1, when the frame body"... and this is required several paragraphs below.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **2.1**   *P* **102**   *L* **4051**   **#** **1017**
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

In the current draft, the security services that are provided on frames statically depend on the frame type (beacon, ACK, command, and data frame). Conceptually, the communicating device should decide how to protect the frames it sends (although it might keep the requirements and capabilities of the recipient devices in mind). More flexibility would be provided by allowing a SEC field of width 3, which would allow the following 8 possibilities for frame protection to be indicated: SEC = Encr x Auth, where Encr={ON, OFF} and where Auth={0, 32-bit, 64-bit, 128-bit}. (Here, Encr=ON and Auth=64 would correspond to encrypting data and providing a 64-bit integrity check hereover, whereas, e.g., Encr=OFF and Auth=0 would correspond to having no security at all.)

SuggestedRemedy

Cchange the Frame Control Field, such as to allow flexibility in the security services provided. Change the draft in line with the flexible security services identifier example given above and adapt all impacted text. See the forthcoming presentation in Vancouver (document number: 02/290, 02/291). Help will be offered in Vancouver as well. (Note: this security services indicator might be arranged at the frame level as well; specifying this in the frame control field only costs 3 bits however (including the SEC bit that is already provided in Draft D10.)

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **2.8**   *P* **106**   *L* **636**   **#** **1018**
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

The description of the FCS field is completely unclear. It is unclear whether the provision of a CRC check and the verification hereof are inverses of one another: conversion between bit strings and polynomials and encoding/decoding procedures lack clarity and precision. Moreover, statements as 'in the absence of errors …' (line 31) seem without meaning.

SuggestedRemedy

Replace the text by an unambiguous and clear description of the encoding/decoding procedures.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **3.1**   *P* **107**   *L*   **#** 1020
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

The non-secure beacon frame format has no sequence number associated with it, whereas the secure beacon frame format does. A similar remark applies to Imm-ACK (Clause 7.3.2), command frames (Clause 7.3.3), and data frames (Clause 7.3.4). This should be corrected.

SuggestedRemedy

This should be corrected.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **3.1**   *P* **109**   *L*   **#** 1021
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

The secure beacon frame format has both an integrity code (keyed hash function value) and a time token (sequence number derived from the beacon).

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **4.3**   *P* **118**   *L*   **#** 1028
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

Access control to the piconet (allocation of time slots) and access to transmitted information (by communicating devices in a piconet) are independent services, at least in principle, and should be treated as such.

SuggestedRemedy

The security mode should be a function of the device, not of the piconet. Change the Draft D10 text to accommodate for this sound design principle. See the forthcoming presentation in Vancouver (document number: 02/290, 02/291). Help will be offered in Vancouver as well.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **4.3**   *P* **118**   *L*   **#** 1029
Rasor, Gregg   Motorola

Comment Type **TR**   *Comment Status* **X**

Table 47: The SEC mode field does not unambiguously define the security suite used, since in Mode 3 there is no way of telling the used of X.509 certificates and implicit certificates apart.

SuggestedRemedy

This should be changed, since otherwise interoperability problems might abound.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **5.5.1**   *P* **140142**   *L*   **#** 1154
Schrader, Mark   Eastman Kodak Co.

Comment Type **TR**   *Comment Status* **X**

ACTIVE Source to SPS Destination: should the SPS Destination become ACTIVE? Currently undefined how to control this.

SuggestedRemedy

Solution Submitted in document 02/231r0.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **5.5.1**   *P* **140142**   *L*   **#** 1155
Schrader, Mark   Eastman Kodak Co.

Comment Type **TR**   *Comment Status* **X**

Uniform use of CTR interval and SPS Sets for both ACTIVE and SPS CTR Types is not documented. It is better to make the selection of the time base source explicit rather than implicit. It is easier to understand and easier to implement.

SuggestedRemedy

Document 02/231r0 adds the text, a figure, and the "Time Base" CTR control field.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **5.5.2**   *P* **142**   *L* **4250**   # **1160**

Schrader, Mark   Eastman Kodak Co.

Comment Type **TR**   *Comment Status* **X**

CTR reason codes: "Channel time unavailable" inadequate to allow SPS DEV to take action if the reason for not being able to allocate time is "superframe overloading"

SuggestedRemedy

Add reason code: Superframe Overloading This means that the ratio of the highest superframe loading to the smallest superframe loading divided the total remaining channel time is too high and could result in remaining channel time not being usable.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7**   *P* **101**   *L* **1**   # **492**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Reformat the cells in the MAC header setting tables.

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.0**   *P* **101**   *L* **11**   # **760**

Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

The words "validation following" are not needed

SuggestedRemedy

remove them

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.0**   *P* **101**   *L* **7**   # **759**

Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

This sentence is poor: The MAC in all DEVs shall be able to validate every frame received from the PHY, either error free or in error, using the frame check sequence (FCS).

SuggestedRemedy

The MAC in all DEVs shall be able to validate the error free reception of every frame received from the PHY using the frame check sequence (FCS).

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.1**   *P* **101**   *L* **15**   # **150**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> Why are we still doing the painful 802.11 version with LSb to the left? If you have LSb to the right and all fields in falling octet order, and of course send MSb first over the air, you will: - Have all fields and frame formats in the same orientation. - Have FCS in the same order as the rest of the frame - Have your buffers in transmitter and receiver built as the frame is specified. - Don't have to shift the orientation of data - send the bits over the air in the same order they are specified. Doing it this way, building buffers and reading them is trivial. Example: headerbuf[2] = PNID/256; headerbuf[3] = PNID%256; int PNID = headerbuf[2] * 256 + headerbuf[3]; HW: transmit(&headerbuf); // in the bit order it's built!!! /KO

SuggestedRemedy

Change the entire chapter 7 to: Send MSb first. Specify frames in the intuitive order, for instance: 7.2 General frame format |-- | octets: 2 | 2 | 1 | |--------------|------|------------------| ... | Frame Control | PNID | Destination DEVID | |-- Figure 6 - MAC geader and frame format 7.2.1 Frame control field |------------------------------------ | bits: b15-b14 | b13-b11 | b10 | |------------------|-----------|-----| ... | Protocol Version | Frame type | SEC | |------------------------------------ Figure 7 - Frame control field format   7.2.1.2 Frame type field |------------------------------------ | Type value | Frame type | see | | b13 b12 b11 | description | clause | |-------------|--------------|--------| | | 000 | Beacon frame | 7.3.1 | |-------------|--------------|--------| | | 001 | Imm-ACK frame | 7.3.2 | ... |------------------------------------ Table 36 - Valid frame type values   ------------------------> Transmission order

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.1**   *P* **101**   *L* **18**   # **1074**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The word "sub-fields" is spelled wrong.

SuggestedRemedy

Edit your draft globally for "sub-fields" and change to "subfields"; this also matches Figure 5 usage too.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.1**   *P* **101**   *L* **26**   **#** 616
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Complete the sentence "An example of the bit and octet numbering is illustrated in ."
Also, the term "numbering" is not correct. Within this section the "octets:" values describe the number of octets in the field and are not a numerical identifier of any kind.

SuggestedRemedy
Replace "An example of the bit and octet numbering is illustrated in ." with "An example of the bit and octet ordering is illustrated in Figure 5." and change the title of Figure 5 from "Example of bit and octet numbering" to "Example of bit and octet ordering".

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.1**   *P* **101**   *L* **26**   **#** 1075
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The sentence "An example of the bit and octet numbering is illustrated in ." is incomplete.

SuggestedRemedy
Please finish the sentence or delete it.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.1**   *P* **101**   *L* **26**   **#** 761
Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
xref missing at the end of the paragraph

SuggestedRemedy
add xref to figure 5.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2**   *P* **102**   *L* **19**   **#** 765
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Clarify that the MAC does not create or receive the HCS

SuggestedRemedy
Add the following sentence: The HCS is created by and removed by the PHY and is not passed from the MAC to the PHY.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.3**   *P* **103**   *L* **33**   **#** 766
Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Clarify that mode 0 and 1 have the sec bit set to zero, modes 2 and 3 have SEC bit set to 1.

SuggestedRemedy
Add the following: The SEC bit shall be set to '1', when the frame body is protected using the keys specified by the security session ID (SECID) (mode 2 or 3). The SEC bit shall be set to '0' otherwise (mode 0 or 1).

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.3**   *P* **103**   *L* **35**   **#** 782
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Frames with the SEC bit set to one use the secure frame format.

SuggestedRemedy
Add the following text: Frames with the SEC bit set to one shall use the secure frame format.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.4**   *P* **103**   *L* **40**   **#** 617
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
The paragraph ends with a semicolon instead of a period.

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.4**   *P* **103**   *L* **41**   # **767**

Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

semicolon at end of sentence should be a period.

SuggestedRemedy

change semicolon to period.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.7**   *P* **104**   *L* **23**   # **899**

Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

Clarification of the description for the more data field. The implied function of this field is to inform the receiving DEV whether or not it can expect more data from the originating DEV. Thus, the more data bit should only be set if there is more data to send to the same receiving DEV.

SuggestedRemedy

recommend to Change text to the following:"The more data bit shall be set to '1' for data frames when the originating DEV has more data to transmit, with the same destination DEVID, in the current GTS. "

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.8**   *P* **104**   *L* **26**   # **499**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

The pad field is uneccessary and downright silly when you think about it.

SuggestedRemedy

Remove the pad field and the pad octet requirements for frames. The pad field becomes a reserved bit in the frame control field. The pad octet is described in the first paragraph of 7.3, line 39 page 106. Delete the entire paragraph.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.8**   *P* **104**   *L* **26**   # **769**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Padding for security is needed. Security encrypts blocks of 128 bits (16 octets).

SuggestedRemedy

Need to add padding for security, plus a field to indicate how many pad octets there are.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.8**   *P* **104**   *L* **26**   # **394**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Remove the Pad field clause. Padding data frames creates unnecessary complications when fragmenting MSDUs and reassembing fragments into MSDUs

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.8**   *P* **104**   *L* **27**   # **1194**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The pad octet is a specific solution for some 16 bit implementation that has no bearing on interoperability. /KO

SuggestedRemedy

Get rid of pad bit in header and pad octet in all frames. Get rid of all pad octets inside command frames. Affected parts: Figure 7, page 102, line 48 7.2.1.8, page 104, line 26-30 7.2.8, page 106, line 9 "including stuffed octet" 7.3, page 106, line 42, "If the pad octet..." 7.3, page 106, line 45, "Note that the FCS ... the stuffed octet"

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.1.8**   *P* **104**   *L* **41**   **#** **770**

Shvodian, William   XtremeSpectrum

Comment Type **T**   *Comment Status* **X**

Pad field is not needed. If padding to 16 bits, why not 32?

SuggestedRemedy

Remove pad field. (need security padding, though)

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.3**   *P* **105**   *L* **2**   **#** **56**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Inconsistent DEVID naming conventions between clause 6 and clause 7. Which is it going to be: SrcID instead of OrigID, DestID instead of TrgtID? Lets be consistent.

SuggestedRemedy

Replace all instances of OrigID with SrcID, and all instances of TrgtID with DestID.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.4**   *P* **105**   *L* **12**   **#** **771**

Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Maximum fragment number is unclear

SuggestedRemedy

Change from "maximum fragment number to "last fragment number"

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.4.1**   *P* **105**   *L* **22**   **#** **154**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> During handover or information response, the information carrying commands must be sent with sequential MSDU# so that the receiver can sort and filter out duplicates. Thus a MSDU counter is needed for every DA. If during a handover, a PNC response is sent to another DEV than the DEV taking over the PNC role, the MSDU# sequence will be broken and the DEV receiving the handover information will be unable to reassemble the records correctly./KO

SuggestedRemedy

<change from> The MSDU numbers for all command frames shall be assigned from a single modulo-512 counter. <to> The MSDU numbers for all command frames shall be assigned from one modulo-512 counter per destination.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.4.2**   *P* **105**   *L* **2930**   **#** **1076**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The sentence "The fragment number shall be set '0' in all unfragmented frames." is incorrect.

SuggestedRemedy

I suggest "The fragment number shall be set to '0' in all unfragmented frames."; add "to" after set.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.4.3**   *P*   *L*   **#** **772**

Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Change max fragment number to Last fragment number was: 7.2.4.3 Max fragment number The maximum fragment number field indicates the maximum number of fragments within the current MSDU. The value of this field is equal to one less than the number of fragments. The maximum fragment number field shall be the same for every fragment of a fragmented MSDU and shall be set to '0' for all unfragmented MSDUs.

SuggestedRemedy

7.2.4.3 Last fragment number The last fragment number field indicates the fragment number of the last fragment in the current   MSDU. The value of this field is equal to one less than the total number of fragments. The last fragment number field shall be the same for every fragment of a fragmented MSDU and shall be set to '0' for all unfragmented MSDUs.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.5**   *P* **105**   *L* **41**   **#** **115**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> MTS shall not be identified by dest or source, since that would make them indistinguishable from an asynchronous GTS to/from the PNC. It would also complicate the queue implementation for the source /KO

SuggestedRemedy

Add: 0xFD shall be reserved for MTS traffic, 8.4.4.4.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.5**   *P* **105**   *L* **41**   **#** **117**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

KO> It's much easier to read a "bullet list" than just body text /KO

SuggestedRemedy

<Change text to:> The stream index is dynamically assigned by the PNC during the setup of a data stream, 7.5.5.1. The PNC allocates a unique stream index value for each stream in the piconet. Some values are reserved for specific purposes. - 0x00: reserved for asynchronous GTS and asynchronous data - 0xFD: reserved for MTS and command frames - 0xFE: reserved for an unassigned stream

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.5**   *P* **105**   *L* **41**   **#** **58**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Change this sentence fragment from"... 0x00 reserved for asynchronous data and 0xFE reserved for unassigned streams." to "...0x00 for ATS and asynchronous data, 0xFD reserved for MTS and command frames, and 0xFE reserved for unassigned streams." This proposed change removes an ambiguity between an ATS and MTS and provides more flexibilty in the scheduling of MTSs.

SuggestedRemedy

Perform the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.6**   *P* **105**   *L* **50**   **#** **60**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Which bit and byte order does the HCS get sent in? Does it get sent in the same order as the FCS?

SuggestedRemedy

Please clarify.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.7**   *P* **105**   *L* **47**   **#** **773**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Why is the HCS in the MAC frame format? It is created in the PHY and checked in the PHY. It has no use in the MAC. If an implementation wishes to pass down dummy octets, fine. The standard doesn't need to show this..

SuggestedRemedy

Remove HCS from the frame format and delete this sub-clause.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.7**   *P* **106**   *L* **4**   **#** **62**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Please clarify what impact the Security parameters have upon aMaxFrameSize-4? Does the amount of useful data get reduced to maintain the aMaxFrameSize-4?

SuggestedRemedy

Please add clarification to the indicated sentence.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.7**   *P* **106**   *L* **4**   **#** **774**
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

This sub-clause used to read: The frame body is a variable length field and contains information specific to individual frame types. The minimum frame body is zero octets. The maximum length frame body is aMaxFrameSize-4 octets, including the security information, if any.   This was removed at the Rolling Meadows ad hoc on the grounds that there would be no overhead for security. However, there obviously now is.

SuggestedRemedy

Modified as follows: The frame body is a variable length field and contains information specific to individual frame types. The minimum frame body is zero octets. The maximum length frame body is aMaxFrameSize-4 octets. This maximum length includes the security fields, if the frame is security protected.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.8**   *P* **106**   *L* **17**   **#** **68**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The sentences between lines 17 and 22 are grammatically incorrect. Please either delete the indicated sentences and replace with a reference to ANSI X3.66 CRC 32 or change the indicated text to: The FCS is the one's complement of the sum of the remainders in "a" and "b" below: a) the remainder resulting from $((xk*(x31+x30+...))$ divided(modulo 2) by $G(x))$. Where k is the number of bits in the calculation field.   b) the remainder resulting from the ((calculation field contents(treated as a polynomial) multiplied by $X32$) and then divided by $G(x))$

SuggestedRemedy

Perform either one of the requested changes. The goal is to finally get text that is concise, clear and unambiguous.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.8**   *P* **106**   *L* **24**   **#** **64**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

So when the sentence states..."The FCS shall be transmitted with the coefficient of the highest order term first." Does that mean the msb of the MSB of the FCS is sent first? and the msb of the LSB is sent next?

SuggestedRemedy

Please clarify.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.8**   *P* **106**   *L* **30**   **#** **66**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The sentence "At the receiver, the initial remainder shall be preset to all ones and the serial ..." is such a gramatical mess that it is incomprehensible.

SuggestedRemedy

Rewrite the offending sentence so that it no longer is gibberish.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.8**   *P* **106**   *L* **8**   **#** **35**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

KO> The FCS clause, copied from 802.11 is completely unreadable. The most essential information, what algorithm is used, is not there. Instead much work have been put in trying to describe an implementation that is never used (most impl. are table driven and some non inverted)   Also the receiver implementation can vary/KO

SuggestedRemedy

Change the text to read: Keep the two first sentences. Then replace all remaining text with this: The FCS algorithm shall be conformant to ANSI X3.66 CRC32. If the remainder is initialized to 0xFFFFFFFF and inverted after polynomial division, the generator polynomial shall be: $G(x) = x32 + ... + x + 1$ If upon reception, the non inverted CRC of the incoming data and its FCS shall result in the remainder of $x31 + ... + x + 1$

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.2.8**   *P* **106**   *L* **9**   **#** **166**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

If the pad bit is removed from the MAC header please remove this sentence fragment: "..., including, if present, the stuffed octet, 7.3,"

SuggestedRemedy

Please perform the requested technical change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.3**   *P* **106**   *L* **37**   **#** 223
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

A 2-octet secure frame counter needs to be added to the secure frame formats in Figure 10, Figure 12, Figure 17 and Figure 19.

SuggestedRemedy

The field should be called "Secure frame counter" and should be added directly after the time token in each figure. Add text to 7.3 that describes the secure frame counter field as follows: "The secure frame counter is used by the DEV for this frame to ensure uniqueness of the nonce."

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.3**   *P* **106**   *L* **38**   **#** 433
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

The SECID, time token and integrity code fields are not defined before they are first discussed.

SuggestedRemedy

Add either a forward reference to the definitions of these fields or define them here or in 7.2 with a generic secure frame as an example.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.3**   *P* **106**   *L* **39**   **#** 224
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

Because the SECID is now a 2-byte value, there is a reasonably high probability that multiple keys will share the same SECID. Since there is only one SECID currently in use for a particular relationship and type of key (management key or data key), there should be an indication in the SECID about what kind of key it is to avoid collisions that will cause confusion. Use the msbs of the SECID to differentiate the type of keys for which it is associated.

SuggestedRemedy

Add text where the SECID is defined that says that "The msb of the SECID shall be set to one for PNC-DEV keys and shall be set to 0 for peer-to-peer keys. The next most significant bit shall be set to 1 for data keys and shall be set to 0 for management keys." A table may work better.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.3**   *P* **106**   *L* **39**   **#** 495
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

Add a field, secure frame counter, to every secure frame. Make it 2 octets long.

SuggestedRemedy

Add a new element called the "secure frame counter." to every secure frame. The secure frame counter basically counts the number of secure frames that a particular DEV has transmitted within that superframe. The secure frame counter shall have a length 2-bytes and go directly after the time token. This counter is used as an input to the nonce for payload protection.   Add the requirement that a DEV shall not send two secure frames within the same superframe with the same secure frame counter. The simplest way to ensure this is that the beginning of each superframe, the value shall be set to 0 and it shall be incremented each time it is used within that superframe (which is any time you send a secure frame).

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.3**   *P* **106**   *L* **45**   **#** 434
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

The integrity code needs a secure frame counter to operate correctly.

SuggestedRemedy

Add a secure frame counter, 2 octets, to all secure frames at the beginning of the frame, right after the time token. Add the definition to 7.3, "The secure frame counter represents the number of times the slected key has been used during that superframe. The use of the secure frame counter in the encryption and integrity protocol is described in {xref}"

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.3**   *P* **106**   *L* **45**   **#** 70
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

If the Pad bit is removed from the frame control field, Will this note: "Note that the FCS calculation includes the stuffed octet, 7.2.18." still be necessary?

SuggestedRemedy

If pad bit is removed, delete the indicated sentence since it will no longer be relevant.

Proposed Response   *Response Status* **O**

Cl **07** *SC* **7.3**   *P* **107** *L*   **#** **938**

Shvodian, William   XtremeSpectrum

Comment Type **T** *Comment Status* **X**

For all of the secure frame formats, we may need to add the SMID (security manage ID) to the secure header so that a receiving DEV knows which key to use.

SuggestedRemedy

Add the 8 bit SMID to security frames to enable a DEV to know which key was used for the encryltion

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3**   *P* **107** *L* **16** **#** **425**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

The description of the elements that are in the beacon frame apply to both subclause 7.3.1.1 and 7.3.1.2.

SuggestedRemedy

Move the text and table to subclause 7.3.1.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3**   *P* **128** *L* **11** **#** **439**

Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**

The paragraph on when frames can be ignored seems a little out of place here since it applies to all frames, not just commands.

SuggestedRemedy

Move the paragraph either to 7.2 or somewhere nice in clause 8.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.1**   *P* **107** *L* **1** **#** **450**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

The beacon can be quite long, allow it to be split in two.

SuggestedRemedy

Either add a last field (0 for more fragments, 1 for final fragment) or allow the beacon to be fragmented with the fragmentation process, possibly with an upper limit of 2 or 3 fragments. Allow DEVs to act on any fragment they hear. Put the piconet syncrhonization IE in each fragment so DEVs know the timing for any fragment they hear.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.1**   *P* **108** *L* **16** **#** **436**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

The parent PNC address is no longer sent in its beacon.

SuggestedRemedy

Change the Parent PNC address to be the Parent BSID since that is what we send in the beacon now. Change the IE in 7.4.12 to be the Parent BSID using the definition and format from the Piconet BSID IE in 7.4.2.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.1.1** *P* **107** *L* **18** **#** **432**
Gilb, James Appairent Technologie

Comment Type **TR** *Comment Status* **X**
The CTAs should not be required to be the last element in the beacon. However, since the DEVs need some time to process these, they should appear near the beginning of the beacon. Other elements should appear near the end.

SuggestedRemedy
Change the text from listing the CTAs as "shall be the last information elements of the beacon frame." to be that the ordering in the beacon is determined by the position number in the table, where a column has been added to the IE table in this subclause to indicate the position number of the IE. The highest number element appears last, lowest number first. Elements with the same position number may appear in any order with relation to other elements with the same number. Suggested position numbers: Piconet BSID 4 Piconet synchronization parameters 1 Security session ID (SECID) (shouldn't be IE in beacon, already in frame format) Time token (shouldn't be IE in beacon, already in frame format) DEV association 10 PNC shutdown 10 Piconet maximum transmit power 10 Piconet parameter change 10 Parent PNC DEV address 10 Application specific 10 Integrity code (should be deleted, not IE in beacon) DEV GTS status 2 Channel time allocation 3

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.1.1** *P* **108** *L* **29** **#** **621**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Replace "secure" with "non-secure"

SuggestedRemedy
Change as indicated.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.1.2** *P* **109** *L* **6** **#** **781**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
What does the Integrity code protect? Only the IEs or the SECID and secure sequence number, too?

SuggestedRemedy
Clarify what the integrity code protects. The most important header fields are part of the nonce and thus already protected.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.2.2** *P* **110** *L* **44** **#** **168**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Get rid of Secure Imm-ACK. It adds way to much overhead and I have yet to hear an argument that justifies its continued inclusion in the specification.

SuggestedRemedy
Please perform the requested technical change.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.2.2** *P* **110** *L* **44** **#** **37**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
KO> Secure ACk will never work with timing requirements and will severely complicate HW implementation. It's also pointless since no secure version of other ACK types exist /KO

SuggestedRemedy
Get rid of the secure imm-ack.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.2.2** *P* **110** *L* **49** **#** **282**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Remove Secure Immediate ACK. It serves no purpose and complicates the ACK frame by giving it a frame body.

SuggestedRemedy
Delete Secure Imm-ACK frame.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.3.2.3** *P* **111** *L* **29** **#** **622**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Should there by a secure and non-secure version of the Delayed ACK frame?

SuggestedRemedy
Add a secure version of the delayed-ACK frame.

Proposed Response *Response Status* **O**

Cl **07**　　*SC* **7.3.2.3**　　　　　*P* **112**　　*L* **22**　　# **496**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**
　We have a secure Imm-ACK but not a secure delayed-ACK.

SuggestedRemedy
　Add a secure delayed-ACK as 7.3.2.4. Use the Imm-ACK frame but add the time token,
　secure frame counter, SECID and FCS.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　*SC* **7.3.3.2**　　　　　*P* **113**　　*L* **31**　　# **284**
Shvodian, William　　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**
　Secure Time token can be omitted becasue it is known by the receiver to be the time token
　(beacon number) in the beacon. The time token in the beacon can be used as the "virtual
　time token" for all of the DEVs in the piconet.

SuggestedRemedy
　Remove the Time token from the secure command frame format in the figure and the text.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　*SC* **7.3.3.2**　　　　　*P* **113**　　*L* **32**　　# **484**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**
　The sequence counter field is no longer needed.

SuggestedRemedy
　Delete the sequence counter field from this figure and delete all references to it in the
　draft. This includes deleting the MACPIB_SMSeqNum and MACPIB_DEVSeqNum.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　*SC* **7.3.4**　　　　　　*P* **114**　　*L* **25**　　# **500**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**
　The bit ordering for data has not yet been specified.

SuggestedRemedy
　Add text that says: "The data portion of the frame format field shall be sent lsb first over the
　medium with the msb of the data field sent last."

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　*SC* **7.4**　　　　　　　*P* **115**　　*L* **20**　　# **437**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**
　We are using different methods to communicate lists of DEVIDs, we really should use only
　one.

SuggestedRemedy
　Change all lists of DEVIDs (except in the CTR) to match the format used for the PCTM IE,
　7.4.15, e.g. the SPS status IE.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　*SC* **7.4**　　　　　　　*P* **115**　　*L* **22**　　# **444**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**T**　　*Comment Status*　**X**
　Remove the IE type and length and command type and length from every picture to save
　space. Leave a single picture of the IE and command at the beginning of the their
　respective clauses that shows the type and length.

SuggestedRemedy
　Resolve as indicated.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　*SC* **7.4**　　　　　　　*P* **115**　　*L* **22**　　# **445**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**
　Not all IEs should be able to be retrieved from all DEVs as a result of a probe command.

SuggestedRemedy
　Add a table of all of the IEs (possibly adding another 2 columns to table 46) that indicate if
　the element may be returned by the PNC or a DEV. For example, the piconet
　synchronization IE or piconet BSID would be returned by the PNC but not a DEV. Both the
　PNC and DEV would return the capabilities field. The CTA IEs or PCTM IE, on the other
　hand, would never be returned in response to a probe request since they only really belong
　in the beacon.

Proposed Response　　　　*Response Status*　**O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
Page 70 of 185
Cl **07**　　*SC* **7.4**

Cl **07**   *SC* **7.4.1**   *P* **117**   *L* **1**   *#* **1077**

Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**

The sentence "The DEV address is the 48-bit (IEEE 802 address of the DEV that is sending the frame." is incorrect.

SuggestedRemedy

I suggest you add the missing ")" character.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.4.1**   *P* **117**   *L* **1**   *#* **1108**

Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**

Typo as shown below

SuggestedRemedy

The DEV address is the 48-bit IEEE 802 ...

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.4.10**   *P* **122**   *L* **9**   *#* **74**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Remove DEV GTS status information element. The supposed benefits provided by this information element do not warrant chewing up 34 octets of beacon time.   In its place introduce this new information element: StreamAnnouncement IE   7.4.10 Stream announcement The stream announcement information element shall only be sent by the PNC in the beacon. The stream announcement IE shall be formatted as illustrated in Figure 33. This IE is used to indicate in the beacon to a DEV that its requested CTA |Element ID|Length|= 2|SrcDEVID|StreamIndex| SrcDEVID is defined in 7.x.x Stream Index is defined in 7.x.x

SuggestedRemedy

Please perform the requested change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.4.11**   *P* **122**   *L* **34**   *#* **300**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

The ASIE presents interoperability problem. What if two manufacturers choose the same IE value to convey different information. Anything application specific should be negotiated at the application layer, not in the MAC. This is a standard, after all. I will quote Bob O'Hara from 802.11:   "I am also conflicted about whether we should define a standard way to make the standard proprietary. 802.11 is not in the business of promoting proprietary anything. 802.11 is in the business of creating a (preferably single) interoperable standard."   Besides, that, the test in 7.4.11 says that the use of ASIEs are negotiated with command frames. What command frames? Proprietary ones? There are no command frames that negotiate the ASIE.

SuggestedRemedy

Remove the Application Specific IE.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.4.11**   *P* **122**   *L* **34**   *#* **76**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

The Application Specific information element is an interesting and potentially useful information element. However, the sentence in line 50 opens the door for interoperability problems. Consequently, if the sentence: ..."Its use by the application capable DEV is outside of the scope of this standard." is not deleted and replaced with a specification for how this information element is to be used, I strongly recommend that this information element be removed from the specification

SuggestedRemedy

Please either replace the indicated sentence with a specific description of how the information element will be used or remove the information element.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.4.11**   *P* **122**   *L* **34**   *#* **73**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

KO> Application specific IE is not standardized, thus not interoperable and must be removed from standard /KO

SuggestedRemedy

Delete clause 7.4.11

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.4.13**   *P* **123**   *L* **20**   *#* **376**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

If an earlier requested change to the piconet mode field is accepted(7.4.3,P118,L7), then the PNC shutdown IE is no longer necessary. Consequently, replace the PNC shutdown IE with the PNC HandoverCount IE.   The PNCHandoverCount info element shall be formatted as illustrated in Figure 36. This IE is used during the beacon transition phase of the PNC Handover procedure. |ElementID|Length=1|PNCHanoverBeaconCount(1 octet)| The PNCHandoverBeaconCount is decremented after each beacon the "old" PNC broadcasts during the Beacon transition period of the PNC Handover Procedure.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.13**   *P* **123**   *L* **20**   *#* **69**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

KO> Shutdown moved to a bit in the beacon synchronization field instead of as an IE. This simplifies HW implementation/KO

SuggestedRemedy

Delete clause 7.4.13

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.14**   *P* **123**   *L* **3436**   *#* **625**

Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status* **X**

It is not likely but it is possible that this information element could be longer that 256 bytes long if enough devices associate/disassociate at the same time.

SuggestedRemedy

Indicate that the PNC may use multiple DEV association IEs in the beacon too many DEVs are associating than will fit in the beacon.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.15**   *P* **124**   *L* **36**   *#* **1008**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status* **X**

suggest adding that this IE is in support of APS

SuggestedRemedy

change " ...channel time, with an APS mode DEV, whose ...

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.16**   *P* **125**   *L* **15**   *#* **301**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

This contains the DEVID of all of the DEVs in this SPS set that are in SPS mode.

SuggestedRemedy

Change to   The DEVID list field contains the identifier of every DEV that is currently in SPS mode.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.16**   *P* **125**   *L* **15**   *#* **353**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

SPS set is not defined. Please define. Also, the structure of the DEVID list is not defined either. Please define.

SuggestedRemedy

Please provide the requested definitions.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.16**   *P* **125**   *L* **9**   *#* **313**

Heberling, Allen   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**

SPS set field in Figure 40 is not defined. Please provide definition.

SuggestedRemedy

Please make the technical change.

Proposed Response   *Response Status* **O**

Cl **07** *SC* **7.4.17** *P* **125** *L* **17** *#* **302**

Shvodian, William   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

This is not an IE. It never is transmitted in a Beacon. It should be a command field.

SuggestedRemedy

Change this from an information element into a frame field and put it into a frame field sub-clause.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.17** *P* **125** *L* **17** *#* **438**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

We don't need most of the IEs listed for security purposes.

SuggestedRemedy

Unless it can be shown that these are needed to respond to a probe command, we can delete the following: Public key object 7.4.17 Time token 7.4.20 Integrity code 7.4.21 I think we still need these, but we should verify that they are needed, else delete them: Security suite OID 7.4.18 Security session ID 7.4.19

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.18** *P* **125** *L* **37** *#* **303**

Shvodian, William   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

This is not an IE. It is never sent in a beacon and there is no need to have type and length.

SuggestedRemedy

Change this from an information element into a frame field and put it into a frame field sub-clause.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.18** *P* **125** *L* **38** *#* **443**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

The OID field is variable and is potentially very long.

SuggestedRemedy

Change every instance of OID in clause 7 (and where referenced in clause 8) to be OID encoding, a 1 octet field that maps approved OIDs to an octet value. Add to the OID table in clause 9 a column that provides OID mappings for the security suites, with 0x00 as the first suite, 0x01 as the second, etc.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.18** *P* **125** *L* **39** *#* **442**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

The security suite OID only supports reporting on OID type.

SuggestedRemedy

Change the security suite OID IE to be able to report multiple OIDs or provide a mechanism by which a DEV responds to a probe with muliple OID IEs if if supports multiple security suites. Need to make sure that any time a DEV needs this information it gets the list instead of simply a single OID. This may impact the association response command as well.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.19** *P* **126** *L* **5** *#* **304**

Shvodian, William   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

This is not an IE. SECID is part of the frame secure formats

SuggestedRemedy

Change this from an information element into a frame field and put it into a frame field sub-clause.

Proposed Response *Response Status* **O**

Cl **07**   *SC* **7.4.2**   *P* **117**   *L* **17**   **#** **295**
Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
    I don't have a copy of ISO/IEC 646:1991 handy. Is this the ASCII standard?

SuggestedRemedy
    If so, add (ASCII).

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.20**   *P* **126**   *L* **21**   **#** **305**
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
    The beacon time token is not needed. It's function can be provided by the beacon number.

SuggestedRemedy
    Remove this sub-clause.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.20**   *P* **126**   *L* **21**   **#** **392**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
    Delete the time token IE clause since all of the secure frame types no longer need it since the beacon uses the beacon count subfield of the PiconetSynchParms field to fulfill that function.

SuggestedRemedy
    Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.22**   *P* **127**   *L* **1**   **#** **75**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
    The Overlapping PNID IE never used in standard. Should be deleted. /KO

SuggestedRemedy
    Delete clause 7.4.22

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.23**   *P* **127**   *L* **26**   **#** **306**
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
    This IE does not belong in the standard. This function belongs above the MAC. Besides, this is never sent in the beacon. It is a field in the association request and response and should not be an IE.

SuggestedRemedy
    Remove 7.4.23

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.23**   *P* **127**   *L* **27**   **#** **65**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
    KO> Services broadcast not standardized, thus not interoperable and must be removed from standard /KO

SuggestedRemedy
    delete the clause 7.4.23 about piconet services

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.23**   *P* **127**   *L* **27**   **#** **170**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
    The piconet services information element is a potentially powerful information element. Unfortunately, because its definition does not specify in any detail the contents of either the Piconet services field or the type field, this info element represents an interoperability liability. Consequently, this information element should be deleted from the specification until such time a complete definition is provided.

SuggestedRemedy
    Delete the piconet services information element or provide a detailed definition.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.3**   *P* **117**   *L* **32**   # **435**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

The time token is only 2 octets more than the beacon number and so 4 octets of the pair is redundant (and therefore evil).

SuggestedRemedy

Make the change the beacon number field to be the time token field in the piconet sycnrhonization IE. Define the beacon number to be the 4 least significant octets of the time token field.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.3**   *P* **117**   *L* **3536**   # **1080**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The sentence "However the valid range of this field is [aMinSuperframeDuration, aMaxSuperframeDuration]." is incorrect.

SuggestedRemedy

I suggest "However, the valid range of this field is [aMinSuperframeDuration, aMaxSuperframeDuration]."; add a comma after however.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.3**   *P* **117**   *L* **3841**   # **623**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

This paragraph is not very clear. Is the CAP end time measured from the start of the superframe?

SuggestedRemedy

Add text that the CAP end time is measured from the start of the beacon preamble, as defined in 8.6.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.3**   *P* **117**   *L* **41**   # **910**

Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

There are few comments on MTS use and what if anything comes via the DME. There is no wording related to the CAP parameters and that if they are all off (including min time dedicated to the CAP period) then MTS should be expected.

SuggestedRemedy

recommend that in clause 7.4.3, that text such as "If the CAP period indicates no available time and no message types are permitted during the CAP, then MTS is implied."

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.3**   *P* **117**   *L* **4445**   # **1078**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The sentence "If the piconet does not use data encryption,this field shall be set zero." is incorrect.

SuggestedRemedy

I suggest the sentence be changed to "If the piconet does not use data encryption,this field shall be set to zero."; adding "to" after set.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.4.3**   *P* **118**   *L* **13**   # **1079**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The paragraph should be reformated.

SuggestedRemedy

I suggest you change the numbered text to a numbered or dashed list.

Proposed Response   *Response Status* **O**

Cl **07** *SC* **7.4.3,Figure 24** *P* **118** *L* **8** *#* **67**

Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

KO> Shutdown moved to a bit in the beacon synchronization field instead of as an IE. This simplifies HW implementation/KO

SuggestedRemedy

Piconet mode field b7 = shutdown This bit replaces all related to the shutdown IE. Text: This bit is set to 1 by the PNC to indicate that the piconet is shutting down. When the piconet is active this bit is set to 0.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.4** *P* **119** *L* **13** *#* **1081**

Gifford, Ian Self

Comment Type **E** *Comment Status* **X**

In sentence "Bits b11-b15 are arranged in order of preference for PNC selection, with the highest preference (AC)corresponding to the msb.." is incorrect.

SuggestedRemedy

Delete the second period.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.4** *P* **119** *L* **3** *#* **1109**

Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**

Remove double period from end of first sentence on page 119.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.5** *P* **119** *L* **4951** *#* **624**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

At what point is the change timeout started from?

SuggestedRemedy

Add text that the change timeout is measured from the start of the beacon preamble, as defined in 8.6.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.7** *P* **120** *L* **32** *#* **298**

Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Delete the maximum transmit power IE. It only needs to be sent to the DEV in the association response command. It does not need to be in every beacon

SuggestedRemedy

Remove the Piconet Maximum Transmit Power IE. If this needs to be changed, create a new command to change it.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.8** *P* **121** *L* **33** *#* **901**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

incorrect xref

SuggestedRemedy

Reference to section 7.2.4 should be changed to 7.2.5

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.9** *P* **121** *L* **44** *#* **299**

Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Max CTAs should not be an IE. It should be a command field.

SuggestedRemedy

Change this from an information element into a frame field and put it into a frame field sub-clause. It should also be added to the association command.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.4.9** *P* **121** *L* **44** *#* **71**

Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

KO> The MaxCTA is a PNC implementation specific number, and depends on network size and PNC capabilities. It should not be a part of the standard /KO

SuggestedRemedy

Delete 7.4.9. also affects 8.4.4.2, 2nd paragraph

Proposed Response *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 76 of 185
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Cl **07** *SC* **7.4.9**

Cl **07**   *SC* **7.5**   *P* **128**   *L* **1**   **#** **449**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

There are now three commands that may need fragmentation and we have adopted a command level fragmentation rather than using the existing process.

SuggestedRemedy

Change the rules to allow fragmentation for only the following commands: PNC handover information command (remove last fields and text) PNC information command (remove last fields and text) SPS inquiry response command   The first two changes require updating the text and MSCs in clause 8 as well.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5**   *P* **128**   *L* **1**   **#** **501**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

We have not described what action to take when a command frame is received by a DEV.

SuggestedRemedy

Add a table that lists the commands and the actions to take (accept, may accept or shall ignore) that lists if the frame is received from a DEV or PNC and if it is received secure or insecure.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5**   *P* **128**   *L* **9**   **#** **137**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

The two sentences   "The PNC may ACK the frame if the ACK request is set to either Imm-ACK or implied-ACK" on line 9 and   "It may ACK the frame if the ACK request is set to either Imm-ACK or implied-ACK." on line 15   are just plain dumb. An ACK shall be sent within a SIFS. Of course PNC is going to ACK them before it checks if the DEV is authenticated. /KO

SuggestedRemedy

Delete these two sentences.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5**   *P* **129**   *L* **28**   **#** **225**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

In each of the commands, the DME should control whether the SEC field is set to 1 or 0.

SuggestedRemedy

In each case in which the SEC field is mentioned, the word 'shall' should be changed to should or the sentence should be removed. For example, in 7.5.1.1, remove the second sentence or change it to 'The SEC field in the frame control field should be set to 0.'

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.1**   *P* **129**   *L* **35**   **#** **902**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

grammer in this sentence.

SuggestedRemedy

Change text to:"These commands are used by a DEV to join a piconet and by the DEV or PNC to end a DEVs membership in the piconet."

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.1**   *P* **129**   *L* **3536**   **#** **626**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Unreadable sentence: "These command are used by a DEV to join and a piconet and by the DEV or PNC to end a DEVs membership in the piconet."

SuggestedRemedy

Change to "These commands are used either by a DEV to join a piconet or by the DEV or PNC to end a DEV's membership in the piconet."

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.1.1**   *P* **129**   *L* **44**   **#** **308**
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Piconet services IE should not be in the standard if tcontents are not specified.

SuggestedRemedy

Remove piconet services IE

Proposed Response   *Response Status* **O**

Cl **07** *SC* **7.5.1.1** *P* **129** *L* **46** *#* **90**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
The piconet services IE is incompletely defined. Either add more detail as requested in Clause 7.4.23, P127, L28 or delete this IE from the command.

SuggestedRemedy
Please perform either of the requested changes.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.1.1** *P* **130** *L* **1** *#* **440**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
The description of the ATP has functional parts in it.

SuggestedRemedy
Move the current paragraph to 8.3.4 and change the text 7.5.1.1 to read "The association time-out period (ATP) field is maximum amount of time that the association relationship will be maintained in the absence of communication between the PNC and DEV, as described in {xref 8.3.4}."

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.1.1** *P* **130** *L* **6** *#* **396**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Delete the sentences between lines 6 and 7 regarding the piconet services IE. The lack of specific details makes this IE a potential interoperability problem.

SuggestedRemedy
Please make the requested change.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.1.2** *P* **130** *L* *#* **309**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Piconet services does not belong in the standard if its use is not standardized.

SuggestedRemedy
Remove piconet services IE

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.1.2** *P* **130** *L* **13** *#* **82**
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
Change this sentence from ..."The SrcID shall be set to either the PNCID." to ..."The SrcID shall be set to the PNCID."

SuggestedRemedy
Perform the requested editorial change.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.1.2** *P* **130** *L* **13** *#* **965**
Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**
Extra either to be removed.

SuggestedRemedy
"The srcID ... the PNCID"

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.1.2** *P* **130** *L* **17** *#* **84**
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
The octet length field of the Security suite OID should be changed from "Ln" to "0-Ln"

SuggestedRemedy
Please make the requested editorial change.

Proposed Response *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
Page 78 of 185
Cl **07** *SC* **7.5.1.2**

Cl **07**   *SC* **7.5.1.2**   *P* **130**   *L* **17**   **#** **562**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

It appears that if the length of the OID is variable, it may not be possible to unambiguously parse the association response command.

SuggestedRemedy

Add the length of the OID before the OID to make this unambiguous.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.1.2**   *P* **130**   *L* **31**   **#** **152**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

KO> Always use MACRO names for enumerated values so the reader can easily search the standard for occurances and easily verify the implementation against the text /KO

SuggestedRemedy

0 -> SUCCESS 1 -> MAX_ASSOCIATIONS 2 -> CT_UNAVAILABLE 3 -> BAD_CHANNEL 4 -> PNC_SHUTDOWN 5 -> NEIGHBOR_UNSUPPORTED 6 -> CHANGE_CHANNEL 7 -> PNC_HANDOVER 8-255 -> Reserved

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.1.2**   *P* **131**   *L* **1**   **#** **94**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Delete lines 1-5 regarding the definitions of the PNC response field subfields.   Delete lines 11-12 regarding the piconet services IE which has been negativly commented on numerous times.

SuggestedRemedy

Please make the requested changes.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.1.2**   *P* **131**   *L* **15**   **#** **629**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

"CTRRespTime" is defined twice and "SPSRespTime" is not defined.

SuggestedRemedy

Change the second CTRRespTime to be SPSRespTime.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.1.2**   *P* **131**   *L* **25**   **#** **628**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

Replace "respone" with "response"

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.1.3**   *P* **131**   *L* **28**   **#** **133**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Always use MACRO names for enumerated values so the reader can easily search the standard for occurances and easily verify the implementation against the text /KO

SuggestedRemedy

0 -> ATP_EXPIRED 1 -> BAD_CHANNEL 2 -> SERVICE_DENIED 3 -> PNC_SHUTDOWN 4-255 Reserved

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.1.3**   *P* **131**   *L* **32**   **#** **312**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

What reason code does a DEV use when disassociating from the PNC?

SuggestedRemedy

Add reason code: 4 -> DEV leaving the piconet

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

Page 79 of 185

Cl **07**   *SC* **7.5.1.3**

Cl **07**   *SC* **7.5.1.3**   *P* **131**   *L* **33**   *#* **96**
Heberling, Allen   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**
Missing a reason code for when the DEV disassociates from the piconet. Add this reason code 4-> DEV_LEAVING_PICONET

SuggestedRemedy
Perform the requested addition to the reasoncode field.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.2.1**   *P* **132**   *L* **9**   *#* **563**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**
The RSA security suite should be added to the document and the following entries should be added to the list of public-key object types: 5 -> RSA 1024-1 key 6 -> RSA X.509 certificate

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.2.2**   *P* **132**   *L* **27**   *#* **1110**
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status* **X**
Poor sentence structure, rewrite as below.

SuggestedRemedy
The auth response field is the integrity code associated with the authentication protocol ...

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.2.2**   *P* **132**   *L* **32**   *#* **159**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
Always use MACRO names for enumerated values so the reader can easily search the standard for occurances and easily verify the implementation against the text   In this case some of the return codes makes no sense/KO

SuggestedRemedy
<change to> 0 -> SUCCESS 1 -> WRONG_KEY 2 -> WRONG_OID 3-255 Reserved

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.2.2**   *P* **132**   *L* **36**   *#* **310**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**
Authentication response command needs a response value of "DEV not a security manager"   in case a DEV tries to associate with another DEV who is not a security manager.

SuggestedRemedy
Add a "DEV is not a security manager" response code.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.2.3**   *P* **132**   *L* **50**   *#* **441**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**
The OID in this command is unnecessary. In any event, we should use the mapping of authentication types in 7.5.2.1 instead of the entire OID.

SuggestedRemedy
Delete the OID and its length from this command. If the identifier of the security relationship is required, put in the public key type field from 7.5.2.1 with an xref to where it is defined. Probably we don't need to send anything here.

Proposed Response   *Response Status* **O**

Cl **07** *SC* **7.5.2.4** *P* **133** *L* **46** **#** **157**

Heberling, Allen   XtremeSpectrum

Comment Type **E** *Comment Status* **X**

Always use MACRO names for enumerated values so the reader can easily search the standard for occurances and easily verify the implementation against the text   In this case some of the return codes makes no sense/KO

SuggestedRemedy

<change to> 0 -> SUCCESS 1 -> WRONG_KEY 2 -> WRONG_OID 3-255 Reserved

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.5** *P* **134** *L* **21** **#** **1111**

Roberts, Richard   Xtremespectrum

Comment Type **T** *Comment Status* **X**

Confusion on reference sequence counter ... clause 9.9.4 has tow sequence counters. Which one is used.

SuggestedRemedy

Refer to security subcommittee for clarification.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.5** *P* **134** *L* **6** **#** **564**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

The sequence number for the management keys was originally created to remove the need for devices to rely on the security of the group key and time token to provide freshness on management frames. However, since the techniques require that devices securely maintain a strictly increasing time token and since the devices cannot communicate without having a functioning beacon with an increasing time token, the sequence numbers are redundant and consume excess space.

SuggestedRemedy

The sequence number should be removed from all of these commands.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.6** *P* **134** *L* **23** **#** **565**

Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**

7.5.2.6-7.5.2.9: The security session ID (SECID) should be included before the Encrypted Seed (where the sequence number currently resides) in the request key response, distribute key request and distribute key response commands. This value is needed to uniquely identify the key that is being transmitted in the protocol. Note that the SECID should not be included in the request key command since the requesting party may not know the SECID of the key being requested.

SuggestedRemedy

Delete the SECID from the key request command.   Change the name of the SECID field in the other three commands to be Key SECID. Add the following text to each of the three commands: The key SECID field is the unique identifier for the seed (and corresponding key) that is being transported in this protocol.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.6** *P* **134** *L* **41** **#** **1112**

Roberts, Richard   Xtremespectrum

Comment Type **T** *Comment Status* **X**

Confusion on reference sequence counter ... clause 9.9.4 has tow sequence counters. Which one is used.

SuggestedRemedy

Refer to security subcommittee for clarification.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.6** *P* **134** *L* **43** **#** **1113**

Roberts, Richard   Xtremespectrum

Comment Type **E** *Comment Status* **X**

Line 43 makes a vague reference to clause 10. We need to be more specific.

SuggestedRemedy

I believe the reference is to table 81, but have this verified by the security subcommittee and correct as needed.

Proposed Response *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause Page 81 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *Cl* **07** *SC* **7.5.2.6**

Cl **07** *SC* **7.5.2.7** *P* **135** *L* **12** **#** **1114**
Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**

Line 12 makes a vague reference to clause 10. We need to be more specific.

SuggestedRemedy

I believe the reference is to table 81, but have this verified by the security subcommittee and correct as needed.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.8** *P* **135** *L* **31** **#** **1116**
Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**

Confusion on reference sequence counter ... clause 9.9.3 has tow sequence counters. Which one is used.

SuggestedRemedy

Refer to security subcommittee for clarification.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.9** *P* **135** *L* **36** **#** **348**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

KO> The rules for disassociation and deauthentication with PNC are inconsistent. /KO

SuggestedRemedy

If the DestId of this command is the PNC, the PNC shall initiate the disassociation procedure, 8.3.4. The PNC shall not send this command to an authenticated DEV. Instead the PNC shall use the Disassociation request command, 7.5.1.3, to terminate the piconet membership for a DEV.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.2.9** *P* **135** *L* **47** **#** **1115**
Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**

Confusion on reference sequence counter ... clause 9.9.5 has tow sequence counters. Which one is used.

SuggestedRemedy

Refer to security subcommittee for clarification.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.3.1** *P* **131** *L* **15** **#** **311**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

The disassociation request command should be integrity protected in a secure piconet.

SuggestedRemedy

Add the following text: The disassociation request command shall use the secure command format in piconets using security mode 2 or 3.

Proposed Response *Response Status* **O**

Cl **07** *SC* **7.5.3.1** *P* **136** *L* **10** **#** **98**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Delete the New PNC announcement command, since it is no longer needed since changes have been recommended for clause 8.2.3 that correct some discovered shortcomings of the current handover function described there. If the New PNC announcement command is deleted, renumber the PNC Handover command to 7.5.3.1.

SuggestedRemedy

Perform the requested technical and editorial change.

Proposed Response *Response Status* **O**

Cl **07**   *SC* **7.5.3.1**   *P* **136**   *L* **14**   # **1117**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Missing definite article

SuggestedRemedy
DEVID of the new PNC ...

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.3.2**   *P* **136**   *L* **31**   # **172**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Per an earlier comment, renumber the PNC Handover command clause from 7.5.3.2 to
7.5.3.1. Also due to changes in clause 8.2.3, make these changes to the PNC Handover
command and add a PNC handover response command. The proposed text for these
changes are below: 7.5.3.1 PNC handover request command keep the first two
sentences intact.   Make these changes to figure 63:
|CmdType|Length=2|NmbrDevs(1)|NmbrCTRBs(1)| The NmbrHndOvrBcns is the number
of beacons containing the HandOvrBcnCntIE that the "old PNC" will broadcast before the
handover transition is complete.   NmbrDevs is the same defintion as is currently defined
in this clause.   NmbrCTRBs is the number of CTRBs, excluding requests for
asynchronous channeltime, currently being served by the PNC, and that will be transferred
from the current PNC to the "new" PNC using the PNC handover CTRB command.
7.5.3.2 PNC handover response command The DEV, to which the current PNC
responsibilities are being transferred, shall use this command to indicate to the current
PNC that it has received, not only, the PNC handover request command but also the DEV
association list and CTRB list from the PNC. The structure of this command shall be as
ilustrated in figure xxx |Command type|Length=0|

SuggestedRemedy
Please perform the requested technical changes.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.3.3**   *P* **137**   *L* **1**   # **100**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Change the PNC handover information command to PNC handover CTRB command. This
name change is more descriptive and less confusing. Also change the title of figure 64 as
well. In addition delete the "Last" field from the command body since its function is better
served by the NmbrCTRBs field in the PNC Handover command and the fragmentation and
retry rules already described in Clause 8.7

SuggestedRemedy
Perform the requested changes.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.4.2**   *P* **138**   *L* **12**   # **923**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**
The use of the "last" field could be explained better. I take it that multiples of this command
may be present and the "last" field indicates that case. At first read, it seems that the text
refers to the "record" of figure 67.

SuggestedRemedy
"The "last" field is set to 0 if there are more commands containing DEV records that need
to be transfered to the AC."

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.4.4**   *P* **139**   *L* **30**   # **478**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
The transmission sequence resync command is left over from the old delayed-ACK
process and is no longer needed (or is it?)

SuggestedRemedy
Delete this command unless we can provide a reason why it is still needed. If it is still
needed, then there needs to be MLMEs generated for clause 6 and MSCs and text added
to clause 8 to describe how it is to be used.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.4.4**   *P* **139**   *L* **31**   **#** **41**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The transmission sequence sync command has no purpose after the implementation of delayed ACK. Besides it does not allow synchronization to a particular fragment./KO

SuggestedRemedy

delete the clause 7.5.5.4.   Delete entry 0x0012, Transmission sequence Sync command from table 48 on page 128

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.4.4**   *P* **139**   *L* **33**   **#** **787**

Shvodian, William   XtremeSpectrum

Comment Type **T**   *Comment Status* **X**

Is transmission sequence sync command needed any more

SuggestedRemedy

Remove if not needed.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5**   *P* **140**   *L* **7**   **#** **102**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Change the clause title from "Request, modify and terminate GTS allocations" to "Request, modify, and terminate channel time allocations (CTA)"   The requested name change is more consistent with the channel time commands.

SuggestedRemedy

Perform the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.1**   *P* **140**   *L* **43**   **#** **633**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Bad grammar: "The num targets field indicates the number of target DEVIDs will be in the target ID list."

SuggestedRemedy

Add "that" before "will"

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.1**   *P* **141**   *L* **15**   **#** **39**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> There is no application for having several CTAs of the same stream in the same superframe. Besides there is no definition how the PNC should handle a request where enough avail-TU exists but not enough CTR-interval. As an addition, it would be practically impossible to use with pseudo static streams. Only the CTR-interval-type 1 (subrate) has a useful implementation and hence the frame format of CTR-Control can be simplified. The interval 0 has no use after asynchronous GTS is incorporated /KO

SuggestedRemedy

Figure 24. Change b7 to Reserved   delete line 37-38   Change text on line 40-42 to read: The CTR interval field indicates the superframe interval with which the CTA shall be allocated. The value shall be >0 and a power of 2. A value 'n' means that the CTA will be allocated in every 'n' superframes.   delete line 44-45

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.1**   *P* **141**   *L* **37**   **#** **379**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Due to a previous comment regarding Figure 74, the defintion of CTR Interval type is no longer needed. Consequently, delete the sentence from between lines 37 & 38 inclusive. Also remove the sentence between lines 44 & 45 for the same reason.

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.1**   *P* **141**   *L* **40**   **#** **789**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Delete reference to CTR interval type. Since there is no guarantee how much the PNC will spread out multiple GTS slots in a superframe, DEVs must be prepared to accept the worst case assignment.

SuggestedRemedy

Remove line 36 to 45. Replace with: The CTR interval field indicates the number of superframes from one slot to the next. The value contain in the CTR interval field shall be a power of two.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.1**   *P* **142**   *L* **23**   **#** **634**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Bad grammar: "The desired number of TUs shall be greater than or equal to minimum number of TUs."

SuggestedRemedy

Insert "the" before "minimum"

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.1, Figure 74**   *P* **141**   *L* **29**   **#** **161**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

KO> Always use MACRO names for enumerated values so the reader can easily search the standard for occurances and easily verify the implementation against the text . In this case it's worse because one type suggests that the DEV can change the MTS allocation. It can not! /KO

SuggestedRemedy

Reduce CTR type field to 1 bit.   0 -> ACTIVE_GTS 1 -> SPS_GTS

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.2**   *P* **142**   *L* **10**   **#** **104**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

Change the clause title from " Channel time status command" to Channel time response command". This name change is more concise and less likely to be confused with the channel status commands.

SuggestedRemedy

Perform the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.2**   *P* **142**   *L* **10**   **#** **93**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

Use consistent naming convention! /KO

SuggestedRemedy

Rename Channel Time status command to Channel time response command.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.2**   *P* **142**   *L* **28**   **#** **790**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

The available number of TUs needs to clarify that that is TUs per interval.

SuggestedRemedy

New text: The available number of TUs field is used by the PNC to indicate to the requesting DEV the number TUs per CTR interval it has assigned to the requested stream.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.2**   *P* **142**   *L* **2829**   **#** **635**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Bad grammar: "The available number of TUs field is used by the PNC to indicate to the requesting DEV the number TUs it has assigned to the requested stream."

SuggestedRemedy

change "number TUs" to "number of TUs"

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.5.2**   *P* **142**   *L* **42**   # **95**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

KO> Always use MACRO names for enumerated values so the reader can easily search the standard for occurances and easily verify the implementation against the text /KO

SuggestedRemedy

Change the reason codes to: 0 -> SUCCESS 1 -> DEST_UNASSOCIATED 2 -> DEST_UNAUTHENTICATED 3 -> PRIORITY_UNSUPPORTED 4 -> ILLEGAL_STREAM 5 -> CT_UNAVAILABLE 6 -> DEST_APSMODE 7 -> PSEUDOSTAT_UNSUPPORTED 8 -> CHILD_UNSUPPORTED // see 8.2.4 9 -> ILLEGAL_REQUEST // see 8.5 10-255 -> Reserved

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.6.1**   *P* **143**   *L* **22**   # **470**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

Allow the PNC to send the channel status request command as a broadcast command. In this case, the ACK policy would be set to no-ACK in the case where the DID=BcstID

SuggestedRemedy

Add a sentence to the first paragraph that says "The ACK policy shall be set to no-ACK if the DID is set to the BcstID, i.e. when the PNC is requesting channel status information from all of the DEVs in the piconet."

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.7.2**   *P* **146**   *L* **45**   # **940**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Pending multicast or broadcast CTR should not prevent a DEV from going into APS.

SuggestedRemedy

Remove reason number 5 -> Pending CTR for broadcast/multicast.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.7.3**   *P* **147**   *L* **12**   # **911**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

"The and fields ..." lost some words relating to the ownership of these fields.

SuggestedRemedy

"The Suspend stream index and Resume stream index fields contain ..."

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.7.3**   *P* **147**   *L* **13**   # **380**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Change this sentence frag. from " The and fields contain stream indices..." to " The resume stream index and the suspend stream index fields contain stream indices..."

SuggestedRemedy

Please make the requested editorial change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.7.3**   *P* **147**   *L* **13**   # **1118**

Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**

Typo

SuggestedRemedy

The fields contain stream ....

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.7.3**   *P* **147**   *L* **13**   # **792**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

there is a word missing "The and fields..."

SuggestedRemedy

I guess theis should be "The suspend and resume fields..."

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **7.5.7.3 figure 85**   *P* **147**   *L* **8**   *#* **912**

Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status* **X**

The length field shows one less than the number of octets shown in the fields of this figure

SuggestedRemedy

Change length to be 3 in value instead of 2.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.7.4**   *P* **147**   *L* **41**   *#* **446**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

Let the PNC choose the next awake beacon, that way it can balance the traffic better.

SuggestedRemedy

Delete the next awake beacon from the SPS configuration request command and put it in the SPS configuration response command. Change the wording to indicate that the PNC sets this number, not the DEV. Change clause 8, where appropriate, to reflect this change. Make sure the MSCs reflect it as well.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.7.4**   *P* **148**   *L* **21**   *#* **900**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status* **X**

perhaps an adder to the SPS set index line to reenforce the SPS set

SuggestedRemedy

add to end of sentence "... and SPS set."

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.7.5**   *P* **148**   *L* **32**   *#* **447**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

The DEV needs to know which SPS set was started in case it made multiple requests.

SuggestedRemedy

Add the next awake beacon and SPS interval to the configuration response command to indicate the values associated with the set index that the DEV created (i.e. for code 1). These fields are missing for other response codes. This makes the table here like that in 7.5.7.4.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **7.5.7.7**   *P* **149**   *L* **36**   *#* **448**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

The SPS information response command could be quite long. There needs to add a way to fragment the command.

SuggestedRemedy

Either change the command to allow fragmentation as in the PNC handover information command or allow this command to be fragmented.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **8.5.1**   *P* **175**   *L* **17**   *#* **809**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

Anly a should be only an

SuggestedRemedy

Change a to an

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **8.5.1.1**   *P* **177**   *L* **2**   # **810**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

"Since and" should be "Since an"

SuggestedRemedy

Change to an

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **8.5.1.2**   *P* **177**   *L* **26**   # **811**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

"Only a the" should be "Only the"

SuggestedRemedy

delete "a"

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **9.4**   *P* **213**   *L* **13**   # **431**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

Need to identify which commands are sent with security under mode 2 and mode 3
scenarios.

SuggestedRemedy

For example, in a secure relationship with the PNC, the disassociate command shall only
be accepted if it is sent as a secure command frame. The probe command, however, may
be responded to by the DEV. We need a list of all of the commands, like the table in
clause 7 with 4 columns listing what to do with the frames, 1) TX allowed when SM=PNC,
2) RX action when SM=PNC, 3) TX allowed when SM=DEV and 4) RX actio when
SM=DEV. It is possible, in theory, to add these columns to the table in clause 7, but the
table would be too large.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figufre 19**   *P* **115**   *L* **7**   # **291**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Need to show what the integrity code protects. Does it include SECID and sequence
counter?

SuggestedRemedy

Clarify

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 10**   *P* **109**   *L* **6**   # **780**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Remove the Time token. This can be replaced by the beacon counter in the piconet
synchronization IE.

SuggestedRemedy

Remove Time Token from the Beacon

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 10**   *P* **109**   *L* **8**   # **281**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Secure Frame Counter (Data) or Sequence Counter (command) is missing. Not sure
which one is used to protect the beacon.

SuggestedRemedy

Add correct secure counter

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 10**   *P* **109**   *L* **8**   **#** **388**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Please make these changes to the secure beacon frame format: MAC
header|HCS|[SECID(fixedLnth)|FrameCounter(fixedLnth)]|...
...PiconetSynchParm(permanentfield)|... ...CTA-IEs(variableLnth)|PiconetBSID-
IE(variableLnth)|... ...Other IEs(as needed)|Integrity code-IE| [] means optional fields.
Please note that the TimeToken field has been removed as a seperate info element and
can be subsumed by the Beacon count subfield in the PiconetSynchParm field.   Again the
rationale for placing the variable length fields after the fixed length fields is that it makes
parsing the CTA-IEs more efficient.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 144**   *P* **216**   *L*   **#** **842**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

If the DEV is not in the ACL, the PNC should have the option of sending a "special
challenge."   This "special challenge" Will allow for the use of push buttons or other out of
scope authentication procedures.

SuggestedRemedy

Add a "special challenge" interchange to allow DEVs not on the ACL to be authenticated
via some alternative procedures.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 145**   *P* **217**   *L*   **#** **843**

Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**

The ACK does not need to be integrity protected. Integrity protected ACK should be
deleted.

SuggestedRemedy

Change from integrity protected ACK to Immediate ACK

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 15**   *P* **112**   *L* **35**   **#** **285**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

The Frame Body is not shown in the figure

SuggestedRemedy

Show frame body with a block under the command block

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 17**   *P* **113**   *L* **32**   **#** **283**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Sequence Counter should be called "secure sequence counter" for clarity and it is only 2
octets

SuggestedRemedy

Rename Secure Frame Counter and change to 2 octets

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 17**   *P* **113**   *L* **33**   **#** **286**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Show frame body at the bottom of the figure

SuggestedRemedy

Show frame body at the bottom of the figure

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 17**   *P* **113**   *L* **33**   **#** **389**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Delete the TimeToken field from the Secure command frame format. It is unneeded since
the beacon broadcasts the timetoken(BeaconCnt) every superframe.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 18**   *P*   *L*   *#* **287**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Show frame body under the data field

SuggestedRemedy

show frame body with a box under the data field.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 19**   *P*   *L*   *#* **289**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Remove the Time token. It can be implied from the beacon

SuggestedRemedy

remove time token

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 19**   *P*   *L*   *#* **290**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

sequence counter is missing

SuggestedRemedy

Add sequence counter

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 19**   *P* **115**   *L* **7**   *#* **288**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Show frame body box under the frame body

SuggestedRemedy

Show frame body box under the frame body

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 19**   *P* **115**   *L* **8**   *#* **390**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Delete the TimeToken field from the Secure data frame format. It is unneeded since the beacon broadcasts the timetoken(BeaconCnt) every superframe.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 23**   *P*   *L*   *#* **297**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

If needed, change the beacon number to 6 octets in the figure and the following text. This is dependent on the decision on whether 4 octets is sufficient for the time token.

SuggestedRemedy

Set beacon number to the appropriate number of octets.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 23**   *P* **117**   *L* **26**   *#* **296**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Key number is no longer needed. This was added to let a DEV know when the group key changed. Since the SECID is in every beacon, DEVs will know when the key changes.

SuggestedRemedy

Remove Key number for the beacon in figure 23 and remove the description from the text.

Proposed Response   *Response Status*   **O**

Cl **07**　　　*SC* **Figure 24**　　　*P* **118**　　*L* **7**　　　**#** **375**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Change figure 24 Piconet mode field by adding a Piconet shutdown bit to bit 7. Consequently, shortening the reserve field to just bits 5&6 inclusive. By making this change the Piconet Shutdown IE can be removed from the specification, thereby removing a 3 octet wasting IE from the beacon.

SuggestedRemedy

Please make the requested technical change.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　　*SC* **Figure 27**　　　*P* **119**　　*L* **39**　　　**#** **398**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Delete the BSID field from the piconet parm change info element. Replace the change time out field with a NmbrOfChangeBeacons field　　Also delete the text definition of the BSID field located at P120, L4-5. Since based on the analysis of C8.2.1 and C8.2.7 it makes no sense to change the BSID on the fly.　　The new format of the Piconet parm change IE shall be as illustrated here: |ElementID|Length= 4|ChangeBcnCntDown(1)|NewChannelIndex(1)|PNID(2)|　See doc: 02/276r0 Page 22 for new text descriptions and recommended text changes.

SuggestedRemedy

Please make the requested change.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　　*SC* **Figure 38**　　　*P* **124**　　*L* **5**　　　**#** **174**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**

Figure 38 is not consistent with Figure 67 on page 138 line 19. Please change Figure 38 to this format:　|AssociationStatus|Capability|DEV address|DEVID|

SuggestedRemedy

Please make the requested editorial change.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　　*SC* **Figure 48**　　　*P* **129**　　*L* **46**　　　**#** **395**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Since the Piconet Services element is incompletely defined, please remove this IE from figure 48.

SuggestedRemedy

Please make the requested change.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　　*SC* **Figure 49**　　　*P* **130**　　*L* **17**　　　**#** **88**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

The piconet services IE is another one of those weasel information elements that attempts to add functionality to the 15.3 MAC without specifying the details of the functionality it attempts to add. Consequently, the piconet services IE needs to be either described in more detail so that the potential for interoperability issues is eliminated or it should be deleted.

SuggestedRemedy

Please either provide more detail or delete this information element from the 15.3 MAC specification.

Proposed Response　　　　*Response Status*　**O**

Cl **07**　　　*SC* **Figure 49**　　　*P* **130**　　*L* **17**　　　**#** **86**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

What the blank blank is the PNC response field? From a protocol perspective the subfields of this entity make no sense.

SuggestedRemedy

Delete the PNC response field from the Association response command.

Proposed Response　　　　*Response Status*　**O**

Cl **07**   *SC* **Figure 49**   *P* **130**   *L* **17**   *#* **397**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
Remove the Piconet services IE from the Association response command since the comment in C7.4.23 P127, L27 recommends deleting this IE.

SuggestedRemedy
Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 50**   *P* **130**   *L* **48**   *#* **627**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
The bits in this figure are not numbered correctly

SuggestedRemedy
Swap the fields around and renumber the bits from 7 to 0 like the other fields in the standard.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 50**   *P* **130**   *L* **50**   *#* **92**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
What the blank blank is the PNC response field? Delete this field.

SuggestedRemedy
Perform the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 6**   *P* **102**   *L* **30**   *#* **764**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
HCS does not belong in the MAC frame format. HCS is inserted and removed by the PHY.

SuggestedRemedy
Remove HCS from the figure. Leave a space between the header and the frame body. HCS must be removed from all header figures. Leave a space between the payload and the header.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 6**   *P* **102**   *L* **33**   *#* **763**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
MAC Frame is nowhere defined as the frame body and the FCS.

SuggestedRemedy
Remove the "MAC Frame" block from the figure

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 63**   *P* **136**   *L*   *#* **784**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
Handover timeout is broken. If the PNC cannot succesfully transfer all required frames to the new PNCD in time for the handout the handover will happen anyway.

SuggestedRemedy
Remove the handover timeout.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 66**   *P* **138**   *L* **7**   *#* **377**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
The "Last" field is no longer needed given the requested changes in the PNC Handover Procedure in clause 8.2.3. Consequently, replace the "Last" field in figure 66 with a NmbrDEVs field.

SuggestedRemedy
Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 66**   *P* **138**   *L* **7**   # **140**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

KO> After handover was fixed there is a problem with this clause. The sequence relies on a last information element that no longer exists. This needs to be fixed by replacing the "Last" field with a Number of DEVs field. Dependencies: comment 26 and 82 In addition, this solves the problem with information commands being received in the wrong order due to repetitions/KO

SuggestedRemedy

Number of DEVs is set to 0 if no authenticated or associated DEV exists with the requested DEVID. Otherwise the Number of DEVs field is set to the total number of information records to be transferred.   Delete line 12-14 " The last field..."

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 67**   *P* **138**   *L* **20**   # **315**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

Figures 67 and 38 are inconsistent with each other. The comment I submitted for figure 38 proposes a change to its IE format. Similarly, I propose Figure 67 be changed to make it more consistent with the proposed change in Figure 38.   Please change figure 67 to this format: |SPSInfo|ATP(2)|AssociationStatus|Capability|DevAddress|DEVID|

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 67**   *P* **138**   *L* **21**   # **77**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

KO> After a handover, the new PNC needs to know the association timeout for each device to be able to do piconet live check /KO

SuggestedRemedy

Add a 2 octet field, ATP, to the format of a record in PNC information command.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 7**   *P* **102**   *L* **47**   # **393**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

Remove the Pad subfield from the frame control field. Padding command and/or data frames creates unnecessary complications. Particularly, when fragmenting MSDUs and reassembling fragments into MSDUs.

SuggestedRemedy

Please perform the requested change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 73**   *P* **140**   *L* **41**   # **106**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

Change the figure 73 caption from " Channel time request block for a particular stream" to Channel time request block field format"

SuggestedRemedy

Please perform the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 74**   *P* **141**   *L*   # **788**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

Remove CTR interval type.

SuggestedRemedy

Change CTR interval type to a reserved bit.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 74**   *P* **141**   *L* **15**   # **378**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

The CTR interval type field was found to cause inconsistent interpetations of the CTR Interval and the CTR TU. Consequently, delete the CTR interval type field from figure 74.

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **07**   *SC* **Figure 79**   *P* **144**   *L* **23**   *#* **791**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   Number of channels is eaual to m

SuggestedRemedy
   Change to: Number of channels (= m)

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Figure 9**   *P* **107**   *L* **10**   *#* **386**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   Please make these changes to the non-secure beacon frame format: MAC
   header|HCS|PiconetSynchParm(permanentfield)|... ...CTA-IEs(variableLnth)|PiconetBSID-
   IE(variableLnth)|... ...Other IEs(as needed)|...   Having the PiconetSynchParm as a
   permanent field in the beacon eliminates the IE overhead of this entity. Also placing the
   variable length CTA-IEs after these fixed length entities enables a more efficient parsing of
   the beacon frame body.

SuggestedRemedy
   Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **New**   *P*   *L*   *#* **307**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   The frame fields do not belong with the information elements. Information elements have
   type/length/value format. Frame fields only have a value. 802.11 has a subclause for
   (mangement) frame fields that separate from the information element sub-clause.

SuggestedRemedy
   Create a new sub-clause containing frame fields. This clause should include the contents
   of 7.4.4, 7.4.6, 7.4.9, 7.4.12, 7.4.13, 7.4.14, 7.4.17, 7.4.18, 7.4.19, 7.4.20, 7.4.21, 7.4.22,
   7.4.23,

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 37**   *P* **104**   *L* **8**   *#* **7**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   KO> The cleaning up of the semantics of the del-ACK policy bit and the ACK-Request field
   led to some other inconsistencies that need to be fixed. /KO

SuggestedRemedy
   Type 00, Description <change from> The recipient(s) does not acknowledge the
   transmission, and the sender treats the transmission as successful witout regard for the
   actual result. The use of this policy is defined in 8.8.1.   <to> The recipient(s) does not
   acknowledge the transmission, and if the del-ACK policy bit is set to 0, the sender treats
   the transmission as successful witout regard for the actual result. The use of no-ACK is
   defined in 8.8.1.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 37**   *P* **104**   *L* **8**   *#* **768**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   The No ACK request type description is incorrect. A frame with No ACK request type could
   have No ACK Policy or delayed ACK policy.

SuggestedRemedy
   Need to fix the description of no ACK request. Better yet, bo back to 2 bit ACK policy like
   802.11 uses, and use a 1 bit delayed ACK request.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **107**   *L* **24**   # **385**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

The information elements of the non-secure beacon need to be rearranged to this:
Info Elements   Present in beacon ChannelTimeAllocation   In every beacon Piconet
BSID   In every beacon DevAssociation   As needed
StreamAnnouncement   As needed PNCHandoverCount   As needed Piconet
parm change   As needed Parent PNC DEV Address   As needed   Please note that
these Info elements have been eliminated from the table: Info Element   Reason PNC
shutdown IE   Has become a bit field in the PiconetSynchParm field PiconetMaxTxPwr
Has become a field in the AssocResponse Cmd. ASIE   Is undefined and has no
place in a standard. DEV GTS Status   Is way to much overhead to burden the beacon
with.   Please note that these Info elements have been added to the table: Info
Element   Reason StreamAnnouncement   Needed to complete in a timely manner
CTR confirmation PNCHandoverCnt   Needed to indicate during the Handover
beacon   transition the number of beacons remaining before   the
new PNC broadcasts it first beacon.

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **107**   *L* **24**   # **387**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Insert a copy of table 38 into clause 7.3.1.2 just before Table 40 with these info elements
for the secure beacon frame: Info Elements   Present in beacon
ChannelTimeAllocation   In every beacon Piconet BSID   In every beacon
DevAssociation   As needed StreamAnnouncement   As needed
PNCHandoverCount   As needed Piconet parm change   As needed Parent
PNC DEV Address   As needed Integrity code   In every beacon

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **107**   *L* **27**   # **775**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Piconet BSID is in sub-clause 7.4.2 not 7.4.1

SuggestedRemedy

change xref to 7.4.2

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **107**   *L* **27**   # **79**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

wrong ref to BSID def/KO

SuggestedRemedy

in Piconet BSID, change subclause value to 7.4.2.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **107**   *L* **27**   # **618**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

The reference to "7.4.1" should be "7.4.2"

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **107**   *L* **29**   # **937**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

The piconet synchronization IE is always present in the beacon and the size never
changes. To simplify implementation the position in the beacon should be fixed and it
could be made into a field instead of an information element. That would save 2 octets.

SuggestedRemedy

Change the piconet synchronization IE into a field to simplify implementaion. At the very
minimum, the piconet synchronization IE should be required to be the first IE in every
beacon because it is the only IE that is fixed size and occurs in every beacon.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **107**   *L* **32**   **#** **72**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Since Table 38 is supposed to be representing the non-secure beacon frame format, copy Table 38 to just before Table 40 and then please remove the Security Session ID, Time token, and Integrity Code parameter fields from the original table 38 in clause 7.3.1.1.

SuggestedRemedy

Please perform the requested change.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **108**   *L* **1**   **#** **620**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

Replace "used" with "Used"

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **108**   *L* **12**   **#** **778**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Remove maximum transmit power. It is a waste to send these 3 octets every beacon.

SuggestedRemedy

add a maximum transmit power field to the Association Response command, Figure 49. If it is necessary for the PNC to change the maximum transmit while a piconet is operational: Also, add a "Piconet Maximum transmit power command" which is identical to the "Transmit Power change command" except that the value is as specified in the text for the Piconet Maximum transmit power IE. Add the MLMEs for this also.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **108**   *L* **14**   **#** **619**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

Replace "During change to new channel" with "Used during a change to a new piconet channel, PNID or BSID"

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **108**   *L* **26**   **#** **779**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Add a PNC Handover IE that specifies the number of frames until the PNC will stop transmitting Beacons. The current handover timeout is broken because the old PNC dosesn't really know how long it will take to get all of the required information to the new PNC because of packet errors.

SuggestedRemedy

Add an PNC Handover information element. It only needst to be 3 octetrs total (IE number, Length=1, handover countdown) . The last beacon sent by that PNC shall have counter number 0.

Proposed Response   *Response Status*   **O**

Cl **07**   *SC* **Table 38**   *P* **108**   *L* **4**   **#** **776**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

It is a waste to have a 6 octet time token in a secure beacon and a 4 octet beacon number in the piconet synchronization parameter.   Are 6 octets really needed? octets would roll over less than once per year with a 10 ms superframe.

SuggestedRemedy

If 4 octets are sufficient, just use the beacon number.   If 6 octets are needed, change the beacon number in the piconet synchronization parameter to 6 octets and delete the time token.

Proposed Response   *Response Status*   **O**

Cl **07**　　*SC* **Table 38**　　*P* **108**　　*L* **6**　　# **777**

Shvodian, William　　　　　　XtremeSpectrum

Comment Type **TR**　*Comment Status* **X**

DEV association IE does not belong in the beacon. There is no guarantee that the associating DEV will get the beacon anyway. The beacon is big enough as is. Other DEVs cannot talk to that DEV until it authenticates if it is a secure piconet anyway. The PNC info table is broadcast when the DEV associates (or authenticates in a secure piconet).

SuggestedRemedy

If the DEV does not receive the PNC info table and has not MTS assigned to it, it will shall to associate again.

Proposed Response　　*Response Status* **O**

Cl **07**　　*SC* **Table 46**　　*P* **115**　　*L* **26**　　# **391**

Heberling, Allen　　　　　　XtremeSpectrum

Comment Type **TR**　*Comment Status* **X**

Delete these Info Elements from the table: DEV GTS status; as commented earlier adds way to much overhead to the beacon. Application Specific IE; is an undefined IE. consequently should not be in this standard. Time token IE; This IE is no longer needed since it is broadcast in every secure beacon as the beacon count subfield of the piconetsynchparm entity. Piconet Services IE; is an undefined IE. consequently should not be in this standard. Replace the PNC Shutdown IE with PNCHandOver IE. The PNC Shutdown IE has been subsumed into the piconetSynchParm IE. The PNCHandOver IE is a new IE to be used in the beacon during the beacon transition phase from the Old PNC to the first New PNC beacon. Add the StreamAnnouncement IE to this table. This new IE is needed in the beacon as part of the CTR protocol. Without this element the delay between making a CT request and receiving a confirmation could be to long an interval for subrate CT requests. The consequences of which would be a failure to confirm.

SuggestedRemedy

Please make the requested change.

Proposed Response　　*Response Status* **O**

Cl **07**　　*SC* **Table 46**　　*P* **116**　　*L*　　# **294**

Shvodian, William　　　　　　XtremeSpectrum

Comment Type **TR**　*Comment Status* **X**

Where is the overlapping piconets IE used?

SuggestedRemedy

This needs a command and should be a command field, not an IE.

Proposed Response　　*Response Status* **O**

Cl **07**　　*SC* **Table 46**　　*P* **116**　　*L*　　# **785**

Shvodian, William　　　　　　XtremeSpectrum

Comment Type **TR**　*Comment Status* **X**

Add a new handover IE

SuggestedRemedy

Add a new handover handover IE to be used to announce the beacon number where handover will take place.

Proposed Response　　*Response Status* **O**

Cl **07**　　*SC* **Table 46**　　*P* **116**　　*L* **9**　　# **293**

Shvodian, William　　　　　　XtremeSpectrum

Comment Type **TR**　*Comment Status* **X**

Security suite OID IE, security session ID IE, The time token IE and trhe public key object should be frame fields, not IEs. IEs have type/length/value format.

SuggestedRemedy

Move these fields to be command frame fields, not IEs.

Proposed Response　　*Response Status* **O**

Cl **07**　　*SC* **Table 46.**　　*P* **115**　　*L* **41**　　# **292**

Shvodian, William　　　　　　XtremeSpectrum

Comment Type **TR**　*Comment Status* **X**

Remove the piconet maximum transmit power IE. This should be transmittted in an association response frame as a frame field.

SuggestedRemedy

Remove the piconet maximum transmit power IE.

Proposed Response　　*Response Status* **O**

Cl **07**　　*SC* **Table 48**　　*P* **128**　　*L* **27**　　# **783**

Shvodian, William　　　　　　XtremeSpectrum

Comment Type **TR**　*Comment Status* **X**

The disassociation command requires authentication if authentication is required.

SuggestedRemedy

Put and X in the Authenticated column of the Disassociation request command.

Proposed Response　　*Response Status* **O**

Cl **08**   *SC*   *P* **151**   *L* **50**   **#** **675**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Missing word.

SuggestedRemedy

Change to ..."or MLME-START.confirm commands."   Also fix spelling in line #48 to read "command as appropriate."

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **153**   *L* **27**   **#** **676**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Syntax.

SuggestedRemedy

Throughout this document, settle on either "timeout" or "time-out". I recommend "timeout" when referring to a value, and "time out" when referring to an action.

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **153**   *L* **40**   **#** **677**

Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status* **X**

I don't understand "at least aCHFrameRepeat of the superframes"...

SuggestedRemedy

Perhaps this should read "at least aCHFrameRepeat sequences of the superframes"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **154**   *L* **53**   **#** **678**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Spelling.

SuggestedRemedy

Change to ..."needs to allocate sufficient"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **155**   *L* **30**   **#** **679**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Syntax.

SuggestedRemedy

Remove "Note that" at end of the line, or add the missing text.

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **155**   *L* **44**   **#** **680**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Spelling.

SuggestedRemedy

Change to ..."DEV address, as shown in Table 38."

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **157**   *L* **24**   **#** **682**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Spelling.

SuggestedRemedy

Change to ..."DEV address as shown in Table 38."

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **159**   *L* **12**   **#** **684**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Syntax?

SuggestedRemedy

Change to "If the parent PNC wants to end a child piconet, the parent PNC shall use the stream termination process, 8.5.1.3, to remove the GTS from the beacon."

Proposed Response   *Response Status* **O**

Cl **08**　　　*SC*　　　　　　　　　　*P* **160**　　　*L* **35**　　　**#** **686**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Style.

SuggestedRemedy
　I would remove from the standard any examples such as this one that address wireless
　speakers. The standard should be agnostic.

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　　*SC*　　　　　　　　　　*P* **160**　　　*L* **49**　　　**#** **687**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Missing word.

SuggestedRemedy
　Change to ..."as defined in 7.5.1.2."

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　　*SC*　　　　　　　　　　*P* **160**　　　*L* **5**　　　**#** **685**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to "The MSC in Figure 99"...

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　　*SC*　　　　　　　　　　*P* **161**　　　*L* **7**　　　**#** **688**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**T**　　　*Comment Status*　**X**
　If there is no positive acknowledgement that a DEV received an association response, how
　will the PNC know when a DEV did NOT receive the response MPDU? Without
　confirmation, won't the PNC assume that the DEV received the response and consume
　resources?

SuggestedRemedy
　This problem will fix itself if the association aging mechanism works both at the PNC and
　each DEV. I apologize that I am not yet familiar enough with the standard to know.

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　　*SC*　　　　　　　　　　*P* **162**　　　*L* **39**　　　**#** **689**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Extraneous word.

SuggestedRemedy
　Change to ..."shall be at least aDEVIDReuseTime after the disassociation"...

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　　*SC*　　　　　　　　　　*P* **165**　　　*L* **44**　　　**#** **691**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Missing word.

SuggestedRemedy
　Change to ..."at the beginning of the superframe."

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　　*SC*　　　　　　　　　　*P* **167**　　　*L* **24**　　　**#** **694**
Gilb, James　　　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　　*Comment Status*　**X**
　Spelling.

SuggestedRemedy
　Change to ..."that need multiple GTSs within a superframe"...

Proposed Response　　　　*Response Status*　**O**

Cl **08**   *SC*   *P* **168**   *L* **39**   **#** **695**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to ..."the start of the beacon frame."   Also change line #54 to ..."right after the end of the current data frame"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **170**   *L* **22**   **#** **696**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Wrong use of possessive.

SuggestedRemedy
Change to ..."It is the PNC's responsibility to"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **175**   *L* **19**   **#** **698**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to ..."CTR Interval Type in Figure 74 shall"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **175**   *L* **23**   **#** **699**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "negotiated between the DEV that originates the stream and the PNC using the channel"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **177**   *L* **2**   **#** **700**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Wrong word

SuggestedRemedy
Change to ..."Since an 802.15.3 DEV is able"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **180**   *L* **1**   **#** **703**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "Figure 117 illustrates the message sequences involved when terminating a DEV-2 to DEV-3 stream in a piconet."

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **181**   *L* **25**   **#** **704**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Add a period at the end of the sentence.

Proposed Response   *Response Status* **O**

Cl **08**   *SC*   *P* **181**   *L* **38**   **#** **705**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Spelling.

SuggestedRemedy
Change to ..."done on the TU boundaries."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed U/unsatisfied Z/withdrawn

Page 100 of 185
Cl **08**   *SC*

Cl **08** *SC* *P* **181** *L* **44** **#** **706**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Wrong word.

SuggestedRemedy
Change to "When the PNC allocates an asynchronous GTS,"...

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **182** *L* **9** **#** **707**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing hyphen.

SuggestedRemedy
Change to ..."DEV-2 and DEV-3 in a piconet."

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **186** *L* **27** **#** **709**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Extra comma.

SuggestedRemedy
Change to ..."the source DEV may continue"...

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **186** *L* **30** **#** **710**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Style.

SuggestedRemedy
Change to ..."up to the maximum burst"... Also change line #36 to ..."does not exceed the maximum burst value."

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **190** *L* **1** **#** **716**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Spelling.

SuggestedRemedy
Change to "to the target, it may"... Also fix spelling on line 7; change to ..."information request field appropriately, 7.5.4.3."

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **190** *L* **14** **#** **717**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Style.

SuggestedRemedy
Change to ..."by a factor of two."

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **190** *L* **18** **#** **718**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Style.

SuggestedRemedy
Change to "Any DEV may send a probe command, with the information request field set to zero and the ACK request field in the header set to Imm-ACK, to any other DEV in the piconet to determine if the destination DEV is still present."

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **190** *L* **22** **#** **719**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Extra 's'.

SuggestedRemedy
Change to ..."operating in power save mode should consider"...

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **191** *L* **10** **#** **721**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing period.

SuggestedRemedy
Add a period to the end of the line.

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **191** *L* **2** **#** **720**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Wrong word.

SuggestedRemedy
Change to "When the target DEV receives the request,"...

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **193** *L* **7** **#** **723**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Wrong word.

SuggestedRemedy
Change to ..."all PDUs in a burst shall be sent"...

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **196** *L* **1** **#** **730**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to "If the DEV receives an APS sleep response command"...

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **200** *L* **49** **#** **732**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to ..."shall respond by sending an SPS inquiry response"...

Proposed Response *Response Status* **O**

Cl **08** *SC* *P* **201** *L* **5** **#** **733**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "If the SPS set is created, the PNC assigns an SPS set index to it." Also change line #10 to ..."configuration request command to the PNC with"... Also change line #16 to "The PNC shall respond to the requesting"...

Proposed Response *Response Status* **O**

Cl **08** *SC* **1** *P* **151** *L* **24** **#** **1176**
Allen, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Shouldn't section 8.15 be mentioned to be complete?

SuggestedRemedy
Mention purspose of 8.15

Proposed Response *Response Status* **O**

Cl **08** *SC* **12** *P* **195** *L* **16** **#** **1185**
Allen, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
"...SLEEP other than in APS.... sounds like improper Grammer.

SuggestedRemedy
Read again and let the Tech Editor decide.

Proposed Response *Response Status* **O**

Cl **08**   *SC* **12.1**   *P* **195198**   *L*   *#* **1158**
Schrader, Mark   Eastman Kodak Co.

Comment Type   **T**   *Comment Status*   **X**

There is a possibility of eliminating APS and providing similar functionality. This would simplify the standard.

SuggestedRemedy

Consider the following mode: An SPS CTR Type with CTR Interval defining its awake beacon interval. When the source DEV switches to SPS mode, it has no channel time allocated to it, but shall listen to its awake beacons CTAs and its PCTM. If an ACTIVE DEV can set the PCTM bit, this mode is similar to APS mode, except that the SPS DEV listens to beacons at fixed intervals and can stay in SPS mode indefinitely (assuming no PCTM event).

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **12.2**   *P* **199**   *L* **1**   *#* **1159**
Schrader, Mark   Eastman Kodak Co.

Comment Type   **TR**   *Comment Status*   **X**

No good method exists for the creator of an SPS set to move with other DEVs to a new SPS Set for the battery powered unit.

SuggestedRemedy

The best way for multiple DEVs to transition to new SPS timing is to leave one set and join the replacement set. Since multiple devices may be in the first set, this will only work if there are at least 2 SPS sets in existence at the same time during the transition. Change the minimum number of SPS Sets from 1 to 2 (or more) for a battery powered unit.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **12.2.1**   *P* **200**   *L*   *#* **1157**
Schrader, Mark   Eastman Kodak Co.

Comment Type   **TR**   *Comment Status*   **X**

There is concern that SPS opens up the possibility of overloading superframes for large numbers of DEVs using the same SPS Set. This probably tranlates into denial of a CTR.

SuggestedRemedy

The mechanism is in place for a DEV to trade off the amount of power saved with the loading of an individual superframe. This is shown in document 02/231r0. The use of this mechanism is up to the application, not the PNC.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **12.2.1**   *P* **200**   *L* **2**   *#* **1156**
Schrader, Mark   Eastman Kodak Co.

Comment Type   **TR**   *Comment Status*   **X**

The relationship between AWAKE beacons and GTS slots is not clear. Coloring the AWAKE beacons black and the GTS slots in Figure 137 will help, but it is not enough.

SuggestedRemedy

Change the Text and the two figures shown in 02/321r0 in the 8.12.2.1 section.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **12.2.2**   *P* **202**   *L* **3335**   *#* **1161**
Schrader, Mark   Eastman Kodak Co.

Comment Type   **TR**   *Comment Status*   **X**

The management of SPS IE is not well defined

SuggestedRemedy

See document 02/321r0 for deleted and inserted text.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **12.2.2**   *P* **202**   *L* **41**   *#* **1162**
Schrader, Mark   Eastman Kodak Co.

Comment Type   **TR**   *Comment Status*   **X**

The suspend and resume overrides are inadequate for correct operation of PS transiitons, but useful in overriding what should be default behavior.

SuggestedRemedy

See table ??3 and associtated text in 02/231r0. The default changes list the desired default behaviors for proper stream management. As an example: an active device using an SPS set to talk to a an SPS mode device should continue using that stream when it switches to SPS mode unless it manually suspends that stream.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 103 of 185

Cl **08**   *SC* **12.2.2**

Cl **08**　　*SC* **2**　　　　　*P* **151**　　*L* **32**　　# **1177**
Allen, James　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　AC voltage and AC (Alternate Coordinator) use the same TLA.

SuggestedRemedy
　Suggest renaming AC power so that it implies external power (EP) vs. AC power.　An external batter for portable devices may be just as good as AC power.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **2.3**　　　　*P* **155**　　*L* **18**　　# **1179**
Allen, James　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　Seems to reference PNC Des Mode as the most important.　Section 7.4.4. references AC bit 15.　Which is it?

SuggestedRemedy
　Just clarify.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **2.3**　　　　*P* **155**　　*L* **25**　　# **1180**
Allen, James　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　"the old PNC" seems wrong

SuggestedRemedy
　Should it be "... the current PNC..."

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **2.3**　　　　*P* **155**　　*L* **30**　　# **1181**
Allen, James　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　Incomplete Sentence

SuggestedRemedy
　"Note that" at the end of the paragraph is an incomplete paragraph.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **2.4**　　　　*P* **156**　　*L* **24**　　# **1182**
Allen, James　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　GTS0 is reference here but it is not in Figure 95 anywhere.

SuggestedRemedy
　Change the figure or increment GTS0 and the other references.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **2.6**　　　　*P* **159**　　*L* **15**　　# **1183**
Allen, James　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　should "times" be "time"?

SuggestedRemedy
　see above

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8**　　　　　*P* **151**　　*L* **1**　　# **491**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
　Terminology for ACK policy and ACK request needs to be checked for consistency.

SuggestedRemedy
　Change most occurances of ACK policy to ACK request. Change 8.8 to say "acknowledgement types" instead of "acknowledgement policies"　Specifically, need to change figures 124, 125 and page 190, line 53.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8.1**　　　　*P* **151**　　*L* **12**　　# **793**
Shvodian, William　　　　　　　　XtremeSpectrum

Comment Type **E**　　*Comment Status* **X**
　"at a DEV" is not needed here:　The fragmentation and defragmentation of the MSDUs at a DEV is described in subclause 8.7.

SuggestedRemedy
　New text:　The fragmentation and defragmentation of the MSDUs is described in subclause 8.7.

Proposed Response　　　*Response Status* **O**

Cl **08** *SC* **8.1** *P* **151** *L* **29** *#* **81**

Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**

KO> The general format for interfacing DME and MLME with timed requests lacks an MSC. /KO

SuggestedRemedy

Proposed MSC for 8.1 with caption in Resolution [05] in 02276r0P802-15_TG3-commentsD10_KO.doc

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.10** *P* **192** *L* **38** *#* **139**

Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**

Please move the Multi-rate support clause and diagrams to just before clause 8.12 Power management.

SuggestedRemedy

Please make the requested editorial change.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.10** *P* **193** *L* **16** *#* **999**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

suggest adding a line or a clarification to note the allowed PHY data rates for open MTS.

SuggestedRemedy

Clarify that open MTS is covered by Directed command frame

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.10** *P* **193** *L* **20** *#* **922**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

Imm-ack being at base rate deserves a note considering that the ack is a preamble, header, and SIFS and per the rules of this PHY, headers are at the base rate.

SuggestedRemedy

add to allowed PHY data rates column "(note that for the 2.4GHz PHY, this is irrelevant since the ACK occupies the header only and it is required to be at the base rate)"

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.10** *P* **193** *L* **8** *#* **657**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

Bad sentence: "...same rate as the rate of the last frame in the burst that it is ACKing."

SuggestedRemedy

Replace with: "...same rate as the rate of the last frame in the burst for which the Dly-ACK frame is being generated."

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.11** *P* **193** *L* **31** *#* **143**

Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**

Reorganize the new clause entitled "Interference mitigation and piconet coexistence" into 3 sub-clauses: 8.11.1 Channel change Move the text in CID#87 into this section. The text in CID#87 is a rewrite of 8.11.   8.11.2 Tx power control Move current clause 8.13 to 8.11.2 and clauses 8.13.1 and 8.13.2 to clauses 8.11.2.1 and 8.11.2.2 respectively. 8.11.3 Piconet coexistence

SuggestedRemedy

Please make the requested editorial changes.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.11** *P* **193** *L* **31** *#* **141**

Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**

Change clause 8.11's title from "Dynamic channel selection " to "Interference mitigation and piconet coexistence".   Since this clause contains text regarding techniques for avoiding interference.

SuggestedRemedy

Please make the requested title change.

Proposed Response *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **34**   *#* **145**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

The first paragraph beneath clause 8.11 entitled "Interference mitigation and piconet coexistence" should read: When the PNC determines the current channel conditions are unsatisfactory for the continued efficient use of the channel, the PNC has three methods that it may use to mitigate the perceived interference in the channel: - Change to a new channel with less interference or no interference. - Reduce the piconet's Tx Power. - Negotiate the establishment of either a neighbor piconet or child piconet(channel time coordination)   In addition to this requested text, please delete lines 11-23 on page 194 since they have been incorporated into the opening paragraph.

SuggestedRemedy

Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **3537**   *#* **658**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

Clause 8.9.3 says: "The channel status request command may be used by any DEV in the piconet to get information from a target DEV about the link quality between the two DEVs."   Clause 8.11 says: "To do this,the PNC sends the channel status request command,defined in 7.5.6.1,to request that the DEVs provide their channel status via the channel status response command,7.5.6.2."   Is the PNC allowed to send a channel status request command to a DEV if the PNC is currently not transferring data to the DEV?

SuggestedRemedy

Add text that indicates that the channel status request command shall only be sent to DEVs with which the originating DEV is currently transferring data.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **38**   *#* **724**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Style.

SuggestedRemedy

Change to "The algorithm required to use the channel status information when deciding whether to change the channel is outside the scope of this standard."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **40**   *#* **148**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The PNC cannot stop sending beacons. The consequence will be that a DEV starting up will not hear any beacons during scan and then start its own piconet. Neither can a PNC switch to other channels, while still maintaining the services of the piconet. The only possibility for PNC to do its own scanning would be to silence the piconet by allocating only a private CTA to itself and then listen while deviating its own beacon position during the listening period. A much better solution is to use remote scan. The remote scan response already contains a channel rating list. The PNC must trust the judgement of the reporting DEV. To account for deviations throughout the piconet area the PNC can ask two (or more) different DEVs to a do remote scan /KO

SuggestedRemedy

Delete paragraph page 193, line 40-44 "If the decision is made ... shall assume they are disconnected."   Change next paragraph: <from> When the PNC returns to the current channel it shall send a beacon at the appropriate time. In that beacon the PNC may send the piconet parameter change element indicating the new channel and the time-out for changing the channel. <to> If the decision is made by the PNC to change the channel, the PNC shall send the piconet parameter change element indicating the new channel and the time-out for changing the channel.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **40**   *#* **980**

Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

The text indicates that the PNC has already decided to change channels but if there is no channel available, the PNC may not have an alternative (other than terminating the piconet) but to return to the current channel. The text should be changed to indicate this.

SuggestedRemedy

change text to "...to attempt a channel change, ..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **42**   # **979**
Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

It is not stated how the beacon number field is handled when the PNC is attempting a dynamic channel change. Does it continue to increment as if it was still sending beacons? This would be best for SPS DEVs.

SuggestedRemedy

At end of 1st sentence, add a sentence as follows "The PNC shall continue to increment beacon count during the period when it is searching other channels."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **44**   # **659**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Should the word "disconnected" be "disassociated"?

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **193**   *L* **48**   # **725**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to ..."received the beacon with a piconet parameter change"... Also change line #52 to ..."not send a piconet parameter change"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11**   *P* **194**   *L* **7**   # **726**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

This subclause states that the PNC should "periodically" listen to the current channel to detect interference. I think we want to avoid the mess that result in 802.11 with respect to roaming (mostly not specified, lots of disparate vendor implementations) and should tighten up characteristics such as this.

SuggestedRemedy

I think any aspect of operation that is related to mobility, or interference mitigation, should be standardized. For this specific example, provide a PIB setting with a sensible default maximum time for when a PNC MUST analyze its environment.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11.1**   *P* **193**   *L* **40**   # **147**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Use this rewritten text based on the current text in 8.11:   If the PNC decides, based upon the results of either a remote scan or its own scans of other channels, to initiate a channel change, the PNC shall broadcast the piconet parameter change information element,7.4.5, in its current channel via its beacon for up to a NmbrOfChangeBeacons. The piconet parameter change information element shall contain the channel index of the new channel to which the PNC will be moving the piconet, and the change count after which the piconet DEVs should switch to the new channel.   The DEVs, receiving the beacon containing the piconet parameter change information element, shall change from their current channel to the new channel immediately after the beacon with the ChangeCount field of the PiconetParmChange IE becomes zero. The DEVs that changed channels shall wait for the PNC to broadcast its first new beacon in the new channel before commencing their previous transmissions. If there are DEVs in APS mode, the PNC shall...(include text as is from Page 194, lines 1-5) Also include line 25 and Figure 130 of Page 194 in this subclause. For another perspective and suggested text see doc: 02/276r0 page 22.   In addition to the above text, please add the text regarding "Maintaining child and neighbor piconets" from doc: 02/276r0 page 28 clause 8.11.1

SuggestedRemedy

Please perform the requested changes.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11.2**   *P* **194**   *L* **26**   # **149**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
Move clause 8.13 Tx Power control into clause 8.11.2 immediately after clause 8.11.1. No change in text required.

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.11.3**   *P* **194**   *L* **40**   # **151**
Heberling, Allen   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**
Use this text for this clause "If the PNC determines based upon its own scans or remote scans of other channels that the other channels are worse than its current channel which it has discovered is occuppied by an incumbent PNC, the PNC may decide to negotiate with the incumbent PNC either the establishment of a neighbor piconet as described in 8.2.5, or a child piconet as described in 8.2.4.

SuggestedRemedy
Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12**   *P*   *L*   # **915**
Bain, Jay   Time Domain

Comment Type   **TR**   *Comment Status* **X**
Text and a method is required so that a DEV that is the target of Channel time may determine of possible multiple CTAs, which are for SPS mode (a field in the CTR) and which for ACTIVE mode. This information would be used to understand when a stream change has been made by a source DEV and indicate to an SPS DEV if it should return to ACTIVE.

SuggestedRemedy
Document 02/231 contains a suggested solution. Of course, we could return to tri-partite negotiations!

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12**   *P* **195**   *L* **13**   # **331**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
Please change this sentence fragment from: "... all the DEVs that are communicating with each other and/or have simlar ..." to "...all the DEVs communicating with each other and /or having simlar ...".

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12**   *P* **195**   *L* **17**   # **333**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
What is the difference between a DEV in ACTIVE PSmode and one that is in the AWAKE state? Please clarify.

SuggestedRemedy
Please provide the requested clarificaiton.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12**   *P* **195**   *L* **3**   # **456**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**
Need to add a better explanation of the power save modes here.

SuggestedRemedy
Add text that says something similar to "There are three modes and 2 states in each mode. The modes are ACTIVE, APS and SPS. Within each mode, a DEV is either awake or sleeping."   Gather up all of the modes and state references and put them in the beginning of 8.12 rather than spread out throughout the sublcause.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12**   *P* **195**   *L* **3**   **#** **1000**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

Concern that some readers may think that only two states exist for anything when the intent is that this applies when refering to power management.

SuggestedRemedy

"... in this standard in the context of power management."

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12**   *P* **195**   *L* **4**   **#** **329**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

The second sentence of this paragraph states there are only two powersave modes for Power management. Yet, Table 23, clause 6.3.19.5, clause 7.5.7.4, and 8.12.2.2 imply a third PSmode called ACTIVE. Please clarify as to whether there are three modes(ACTIVE, APS, and SPS) or just two PSmodes(APS, SPS). Also what is the difference between the AWAKE state and the ACTIVE mode?

SuggestedRemedy

Please provide the requested clarification.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.1**   *P*   *L*   **#** **822**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

APS needs to be modified.

SuggestedRemedy

See XSI powersave submission

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L*   **#** **509**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

When a dev is in APS mode, it can be in either the AWAKE or SLEEP state. Therefore, the "APS sleep request command" and "APS sleep response command" are poorly named because the dev is not requesting to enter the SLEEP state but rather the APS mode of operation where SLEEP is one of the possible dev states along with AWAKE.   Also, the "APS max sleep duration" field is incorrectly named because this duration is the maximum amount of time a DEV can be in APS mode. "APS sleep cycle duration" is named ok because this indicates the amount of time a DEV can be in the SLEEP state while in APS mode.

SuggestedRemedy

Rename these commands "APS request command" and "APS response command". Change the "APS max sleep duration" field in both of these commands to "APS max duration".

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **26**   **#** **489**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

What does the PNC do if a DEV has GTSs assigned to it as the destination and it requests to go to APS mode?

SuggestedRemedy

Two options: 1) fix it or 2) delete APS mode.   To fix it, I offer 4 options: 1. The PNC refuses the request because of current streams/slots   2. The PNC accepts request and continues to allocate GTSs for the streams   3. The PNC accepts request and terminates the GTSs assigned to the DEV as destination.   4. The PNC accepts the request and doesn't allocate the CTAs until the DEV wakes up again. The PNC somehow communicates this to the other DEVs   Need to add how this is communicated to the other DEVs   Also need to specify if this applies if the DEV is the source of a GTS and if this applies to asynchronous data traffic as well.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **26**   **#** 488

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

What does the PNC do if the target DEV in APS mode does not respond to the PCTM before its scheduled wakeup?

SuggestedRemedy

Two options: 1) fix it or 2) delete APS mode.   In any case, add text that says "The PNC waits until the target DEV indicates that it is awake up by sending a directed frame to the PNC before it allocates the requested CTA."   To fix it, I offer 2 options: 1) The PNC should (or shall) reject the CTR with new message code "DEV failed to respond to wakeup" or   2) The PNC waits until ATP for the DEV expires and then rejects the CTR with message code "DEV not associated" and peforms the disassociation procedure (i.e. puts the association info into the beacon).

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **26**   **#** 487

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

How do you wake up a DEV that is in APS mode (Asynchronous Power Save mode) when you want to allocate a GTS to it?

SuggestedRemedy

Two options: 1) fix it or 2) delete APS mode.   To fix it, I offer 3 options: 1. Make SPS set 0 the set of all DEVs using APS mode. The SPS set interval and next awake beacon will be set to 0 for this set. Thus, when an originating DEV sends the CTR command to talk to the sleeping target DEV, it knows the target DEV is sleeping in APS mode and will wait, possibly for a long time, for the target DEV to wake up. This means that a battery powered PNC shall support at least 2 SPS sets and an AC powered PNC shall support 5 SPS sets.   2. The PNC responds to the CTR from the originating DEV with a channel time status command with reason code "Target DEV in APS mode". If the target DEV wakes up from APS mode, then the PNC send the channel time status command with reason code "Success" and allocates the CTA.   3. The orignating DEV watches the beacons after its request and reads the TIM element (should be CTIM - channel time indication map?) to see if the target DEV is being told by the PNC to wake up. If so, then the originating DEV knows the target DEV is sleeping in APS mode and will wait, possibly for a long time, for the target DEV to wake up.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **3233**   **#** 913

Bain, Jay   Time Domain

Comment Type   **TR**   *Comment Status* **X**

A CTR directed to an APS DEV will cause the PCTM information element action. However, there is no indication on the correct manner to inform the requesting DEV that the PNC is not able to comply with the CTR immediately.

SuggestedRemedy

Suggested that the sending DEV receive a reject of the CTR with a result code of pending. Text should indicate that the requesting DEV try again but that the PCTM bit will remain set. This will result in a DEV coming out of APS after the its next wake period. The PNC will not allow the DEV that was in APS mode to reenter APS mode until aAPSHoldOff expires. This allows for the CTR requester to requeue its CTR.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **40**   **#** 727

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**

Wrong word.

SuggestedRemedy

Change to ...", and waiting for the PNC to respond." Also change "wakeup" to "wake up" in this paragraph.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **4044**   **#** 510

Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status* **X**

When a dev is in APS mode, it can be in either the AWAKE or SLEEP state. Therefore, the following sentence is not correct: "The DEV shall be allowed to enter SLEEP state for a maximum sleep time duration indicated by the PNC in the APS sleep response command,..."

SuggestedRemedy

Replace with: "The DEV shall be allowed to enter APS mode for a maximum APS time duration indicated by the PNC in the APS response command,..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **4244**   **#** 511
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Poorly worded sentence: "The DEV is required to wakeup and check..."

SuggestedRemedy
"The DEV is required to enter the awake state and check..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **47**   **#** 728
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Style.

SuggestedRemedy
Change to "The DEV shall also switch to ACTIVE mode at the end of the number of superframes indicated by the PNC in the APS_MaxSleepDuration field of the APS sleep response command MPDU."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **4749**   **#** 1092
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
The sentence "The DEV also shall switch to ACTIVE mode at the end of number of superframes indicated by PNC in APS max sleep duration field in APS sleep response command." is incorrect.

SuggestedRemedy
I suggest "The DEV also shall switch to ACTIVE mode at the end of a number of superframes indicated by PNC in APS max sleep duration field in APS sleep response command."; adding "a" after "end of".

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **50**   **#** 729
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status* **X**
Related to switching to ACTIVE mode, can't the DEV send ANY PDU to the PNC that requires an Imm-ACK, not just a command?

SuggestedRemedy
Change to ..."the DEV shall send any directed frame, which may be an MSDU or MPDU with no payload, that requires"...   Also change "wakeup" to "wake up" in this paragraph.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **50**   **#** 363
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
When waking up from APS, the DEV can send any 0 length command frames. But 0 length isn't defined for all commands. Define a frame instead. /KO

SuggestedRemedy
<change from> Whenever the DEV wants to switch from APS mode to ACTIVE mode, the DEV shall send any directed frame, which may be a command frame with no payload, that requires an Imm-ACK to PNC until PNC acknowledges it. <to> Whenever the DEV wants to switch from APS mode to ACTIVE mode, the DEV shall send a probe command with the Information request field set to 0 and no information elements to PNC until PNC acknowledges it.   <also change Figure 133 and 134 accordingly>

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.1**   *P* **195**   *L* **5152**   **#** 512
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status* **X**
Incorrect sentence: "At the end of SLEEP state in APS mode, the DEV shall wakeup sufficient time before the expiration of the maximum sleep time in order to inform the PNC that it is in the ACTIVE mode."

SuggestedRemedy
"When transitioning from APS mode to ACTIVE mode, the DEV shall enter the AWAKE state sufficient time before the expiration of the maximum APS time in order to inform the PNC that it is in the ACTIVE mode."

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.1** *P* **196** *L* **13** **#** 513

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

Poorly worded sentence: "If the DEV receives APS sleep response command from the PNC that disapproves entering APS sleep, the DEV shall not enter APS mode..."

SuggestedRemedy

"If the DEV receives an APS response command from the PNC that disapproves entering APS mode, the DEV shall not enter APS mode..."

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.1** *P* **198** *L* **4** **#** 498

Gilb, James Appairent Technologie

Comment Type **TR** *Comment Status* **X**

Delete the MSCs in figures 135 and 136 since they are incomplete and redundant.

SuggestedRemedy

Change as indicated.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2** *P* *L* **#** 519

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

There is no good discussion in this section about when a dev in SPS mode is in the AWAKE or SLEEP state.

SuggestedRemedy

Add text to describe when a DEV in SPS mode changes from awake to sleep states.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2** *P* **196** *L* **5054** **#** 515

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

Poorly worded sentences.

SuggestedRemedy

"SPS mode allows a DEV that is sensitive to power utilization to sychronize its AWAKE state with peer DEVs. The SPS mode is based on the grouping of DEVs having similar power save requirements into SPS sets. These SPS sets are created and managed by the PNC, but the parameters of the sets are requested by the DEVs."

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2** *P* **198** *L* **#** 823

Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

SPS mode should be merged with a modified APS

SuggestedRemedy

See XSI powersave submission

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2** *P* **198** *L* **51** **#** 335

Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

The first sentence of this paragraph is and incomplete sentence. Please rewrite the sentence so that it expresses a complete thought.

SuggestedRemedy

Please provide the requested rewrite of the indicated sentence.

Proposed Response *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause Page 112 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *Cl* **08** *SC* **8.12.2**

Cl **08**   *SC* **8.12.2**   *P* **199**   *L* **2**   # **1093**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The use of AC in the sentence "...AC mains..." is very confusing. Is this referring to AC for alternate coordinator or alternating current? If the later then it is NOT capitalized in the IEEE Standards Style Manual.

SuggestedRemedy

I suggest that when discussing alternating current DO NOT use the acronym "AC or ac" but rather spell it out, thus avoiding possible confusion for the reader.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.2.1**   *P* **199**   *L* **10**   # **1094**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

The sentence "Each SPS set has a two parameters associated with it;the SPS interval and the next awake beacon." is incorrect.

SuggestedRemedy

I suggest "Each SPS set has two parameters associated with it; the SPS interval and the next awake beacon."; delete "a" after has.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.2.1**   *P* **199**   *L* **10**   # **731**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Style.

SuggestedRemedy

Change paragraph to "Each SPS set has two associated parameters: SPS_Interval and the next awake beacon. The SPS set is represented by an index value, SPS_SetIndex. SPS_Interval contains the number of superframes between two successive awake beacons of DEVs registered in that SPS set. The next awake beacon parameter is the beacon number corresponding to the immediate next awake beacon of DEVs registered in that SPS set. These parameters of an SPS set are maintained by the PNC. The parameters of an SPS set, wake beacons and an SPS cycle are illustrated in Figure 137."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.2.1**   *P* **199**   *L* **11**   # **1095**

Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**

There are two (2) occurences of a word "...the the..."

SuggestedRemedy

Delete the second occurence.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.2.1**   *P* **200**   *L* **1**   # **337**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Please change this sentence from: "The parameters of an SPSset, wake beacons, and SPS-cycle ..." to "The parameters of an SPSet index, next awake beacon, and SPS interval..." This requested change makes the parameters consistent with what is defined in clauses 7.5.7.4 and 7.5.7.7

SuggestedRemedy

Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.2.1**   *P* **200**   *L* **49**   # **516**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Replace "existing SPS set" with "existing SPS sets"

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.12.2.1**   *P* **201**   *L* **1**   # **339**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Please change the indicated sentence fragment from: "...is left to that DEV." to "...is left to each DEV."

SuggestedRemedy

Please make the requestd editorial change.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **15** *#* **343**
Heberling, Allen XtremeSpectrum
Comment Type **E** *Comment Status* **X**
Please change this sentence frag. from: "...A DEV that no longer needs to be in an SPS set shall..." to "...A DEV, no longer needing to be in an SPS set, shall...
SuggestedRemedy
Please make the requested change.
Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **16** *#* **345**
Heberling, Allen XtremeSpectrum
Comment Type **E** *Comment Status* **X**
Please change this sentence frag. from "...The PNC shall responds to the ..." to "...The PNC shall respond to the ..."
SuggestedRemedy
Please make the requested editorial change.
Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **16** *#* **518**
Gilb, James Appairent Technologie
Comment Type **E** *Comment Status* **X**
Replace "The PNC shall responds" with "The PNC shall respond".
SuggestedRemedy
Change as indicated.
Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **317** *#* **1003**
Bain, Jay Time Domain
Comment Type **E** *Comment Status* **X**
the operation types of clause 7 do not match the "new" "join" "leave". Change this clause to match 7
SuggestedRemedy
change to new request, join set, and leave request.
Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **5** *#* **341**
Heberling, Allen XtremeSpectrum
Comment Type **E** *Comment Status* **X**
Please change this sentence fragment from: "...If the SPS set is created, teh PNC assings and SPS set index..." to "... If the SPS set is created, the PNC assigns an SPS set index..."
SuggestedRemedy
Please make the requested editorial change.
Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **5** *#* **1002**
Bain, Jay Time Domain
Comment Type **E** *Comment Status* **X**
spelling for three words
SuggestedRemedy
"... is created, the PNC assigns an ..."
Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **56** *#* **1097**
Gifford, Ian Self
Comment Type **E** *Comment Status* **X**
The sentence "If the SPS set is created, teh PNC assings and SPS set index to it." is incorrect.
SuggestedRemedy
I suggest "If the SPS set is created, the PNC assigns and SPS set index to it." or whatever was originally meant.
Proposed Response *Response Status* **O**

Cl **08** *SC* **8.12.2.1** *P* **201** *L* **56** *#* **517**
Gilb, James Appairent Technologie
Comment Type **E** *Comment Status* **X**
Unreadable sentence: "If the SPS set is created, teh PNC assings and SPS set index to it."
SuggestedRemedy
Change to "If the SPS set is created, then the PNC assigns an SPS set index to it."
Proposed Response *Response Status* **O**

Cl **08**   *SC* **8.12.2.1 table 137**   *P* **200**   *L* **446**   *#* **1006**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

The use of the SPSI and CTRI abreviations is used only for this figure 137. If possible, update the figure to avoid use of these abreviations

SuggestedRemedy

update figure 137 to spell out SPS interval and CTR interval rather than the SPSI and CTRI

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.2.1 table 137**   *P* **200**   *L* **30**   *#* **1007**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

perhaps we should change beacon to be awake beacon.

SuggestedRemedy

change "beacon" to be "awake beacon"

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.2.2**   *P* **202**   *L* **27**   *#* **347**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

What is the difference between ACTIVE PS mode and the Awake state? Please clarify.

SuggestedRemedy

Please provide the requested clarification.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.2.2**   *P* **202**   *L* **28**   *#* **734**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

Missing word.

SuggestedRemedy

Change to ..."depending on the amount and type"...   Also change line #34 to ..."SPS sets wherein the DEV is a member."

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.2.2**   *P* **202**   *L* **33**   *#* **351**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

So the PNC is going to update the SPS IEs and then broadcast them in the beacon along with the CTAs? My concern is how long is the beacon going to become to convey this change in SPS status? Please clarify, and provide text providing limits to just how long the SPS status IE becomes.

SuggestedRemedy

Please provide the requested clarification and supporting text.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.2.2**   *P* **202**   *L* **34**   *#* **349**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Please change this sentence frag. from "...SPS sets that the DEV is a member." to "...SPS sets in which the DEV is a member."

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.12.2.2**   *P* **202**   *L* **34**   *#* **1004**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

Suggest adding a clarification that if the power save mode bit is the same as the current mode of operation, the PNC takes no action.

SuggestedRemedy

"If the state of the power save mode bit of the power save info field is the same as the current mode of the DEV, this indicates that no change is requested."

Proposed Response   *Response Status*   **O**

Cl **08** *SC* **8.12.2.2** *P* **202** *L* **41** *#* **355**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Change the spelling of this word: from "persistant" to "persistent".

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.2.2** *P* **202** *L* **47** *#* **357**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Why is PNC responsiveness being specified? Please provide justification or get rid of it.

SuggestedRemedy
Please provided the requested justification. If not delete the reference.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.2.3** *P* **204** *L* **25** *#* **735**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "One or more SPS IEs, 7.4.16, are provided"...   Also add a word to line #38 so it reads ..."SPS slots is specified by the CTR interval field"...

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.2.3** *P* **204** *L* **27** *#* **359**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Please change this sentence frag.: from "...and the DEVIDs of members of the set that are currrently in SPS mode." to "... and the set member DEVIDs currently in SPS mode."

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.3** *P* *L* *#* **486**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
The first paragraph in 8.12.3 is confusing.

SuggestedRemedy
Change the first paragraph in 8.12.3 to read "The number of superframes between time slots is specified the CTR interval field of the channel time request command, {xref channel time request command}. An additional condition placed on the timing is that the value of the CTR interval shall not be less than the number of superframes between awake beacons, i.e. the SPS interval. Since the CTR interval, like the SPS interval, must be a power of 2, the frequency of SPS slots must be a power of 2 that is a subrate of the awake beacon rate, as illustrated in Figure 140. {Add an example here of what this means} An SPS DEV shall listen to every awake beacon regardless of the frequency with which awake slots are allocated. If the SPS DEV is the DestID of any CTA in the awake beacon, then the SPS DEV shall listen during the associated GTS slot in that awake superframe."   An example needs to be generated and inserted as indicated above. Perhaps it would use the timing shown in figure 140.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.3** *P* **204** *L* **38** *#* **193**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Please change this sentence frag. from: "...between SPS slots is specified the CTR interval field of the CTR." to " ... between SPS slots is specified in the CTR interval field of the CTR."

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.12.3** *P* **204** *L* **39** *#* **1005**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**
missing word

SuggestedRemedy
"...specified by the CTR ...."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
Page 116 of 185
Cl **08**   *SC* **8.12.3**

Cl **08** *SC* **8.13.1** *P* **205** *L* **3** *#* **949**
Bain, Jay Time Domain

Comment Type **TR** *Comment Status* **X**
It would seem that all MTS should follow the same rule in using the maximum transmit power IE. The text calls for directed in both directions but not open or association. The text also does not note that the PNC shall use that setting for CAP and MTSs.   See also comment in clause 5.3.11 page 20.

SuggestedRemedy
"CAP, beacon and MTSs." on line 3. "in the CAP or MTSs to be ..." on line 7. " for the beacon, CAP, and MTSs to be ..." on line 8

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.13.1** *P* **205** *L* **4** *#* **824**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Max tranmit power should be sent in the association response and changed if needed with a command frame. There is no reason to put an IE into the beacon.

SuggestedRemedy
Change maximum power level change to being set in the association response and changed with a command frame.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.13.2** *P* **205** *L* **13** *#* **736**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Wrong word.

SuggestedRemedy
Change to "participating in a GTS may"...   Also fix the last line of this page to read "The specified order of frames in a given frame exchange sequence is specified elsewhere in this standard." You should give the subclause reference here as well.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.15** *P* **206** *L* **23** *#* **737**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing period

SuggestedRemedy
Add a period to the end of the line.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **151** *L* **35** *#* **83**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Scan, 8.2.1, needs a general review in terms of when BSID shall be used. It seems plausible that the main interest when scanning and synchronizing is the BSID and not the PNID. Discussion is needed about application. Same with sync. How is BSID set in DEVs without a user interface?/KO

SuggestedRemedy
TBD in Vancouver. Best solution not known.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **151** *L* **37** *#* **964**
Bain, Jay Time Domain

Comment Type **T** *Comment Status* **X**
It would seem that some mention of the multiple occupancy of a single channel would be appropriate with a pointer to the child and neighbor sub-clauses

SuggestedRemedy
Add text in 8.2.1 after the last paragraph. "The scanning process returns the information on child piconets, xref, and neighbor piconets, xref. This provides a complete inventory of each channel."

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **151** *L* **39** **#** **794**
Shvodian, William XtremeSpectrum

Comment Type **E** *Comment Status* **X**
MLME-START.request is not a command, it is a primitive.

SuggestedRemedy
Change to: MLME-START.request primitive

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **151** *L* **40** **#** **795**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
dev scans for BSID, not PNID.

SuggestedRemedy
Change to BSID in line 40 and 41.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **151** *L* **48** **#** **108**
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
the word "approiate" is mispelled. Replace the misspelled word with "appropriate".

SuggestedRemedy
Please perform the requested editorial change.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **151** *L* **52** **#** **976**
Bain, Jay Time Domain

Comment Type **T** *Comment Status* **X**
No mention is made of the inventory of channels including child or 15.3 neighbors on the same channel.

SuggestedRemedy
"The result of a scan shall include information on parent, child, and 15.3 neighbor piconets operating on the same channel." see 02/289

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **152** *L* **19** **#** **110**
Heberling, Allen XtremeSpectrum

Comment Type **T** *Comment Status* **X**
Move the paragraphs between lines 19 and 27 from their current location to line 44 in clause 8.2.2. The new location for this paragraph makes more sense given the content described in the moved paragraph. In addition to moving the indicated paragraph, modify the paragraph to this text: " Once a PNC has established a piconet, the PNC should periodically allocate channel time in the CFP such that there is quiet time for it to scan the channel for other piconets. If the PNC detects another piconet in the same channel it may take action to improve coexistence with the other piconet. Some of the actions the PNC may take include: - Changing to a different channel, 8.11 - Becoming a child or neighbor piconet of the other piconet, 8.2.4 and 8.2.5 - Reducing the piconet's transmit power, 8.x.1.

SuggestedRemedy
Please perform the requested changes.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.1** *P* **152** *L* **21** **#** **977**
Bain, Jay Time Domain

Comment Type **T** *Comment Status* **X**
There is the omission of mention that a PNC that is either a child or neighbor may be found. They are valid as opposed to a PNC that is not of the child or neighbor type.

SuggestedRemedy
"same channel, that is not a valid child or neighbor PNC, it may ...."

Proposed Response *Response Status* **O**

Cl **08**   *SC* **8.2.2**   *P* **152**   *L*   # **796**
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

   Scan should be done before start, not as a part of the start. DME chooses channel, not
   the MLME

SuggestedRemedy

   Change to: A DEV that is instructed to start a piconet through MLME-START.request,
   6.3.3.1, shall try only to start its own piconet and shall not attempt to associate with an
   existing piconet.   The DME will have requested a scan through the channels and will have
   chosen the channel in which to start the piconet.   When a DEV is looking to start a
   new piconet, it should also look for potential interference in the channels that it scans and
   rate the channels, from best (lowest interference) to worst (highest interference) and return
   this information in the MLME-SCAN.confirm command via the ChannelRatingList. The
   DME should choose the channel with the least amount of interference to start the
   piconet.   Once the DME has chosen a channel, it shall send the MLME-START.request
   primitive with the chosen channel.   The DEV shall listen to the channel for
   aMinChannelScan duration to determine if the channel is still clear. If, at the end of this
   listening period, the DEV determines that the channel is clear, the DEV, now the PNC,
   shall commence broadcasting its beacon once every superframe duration. If, however, the
   DEV determines that the channel is no longer clear, it shall issue an MLME-
   START.confirm with a ReasonCode indicating a failure to start the piconet.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.2**   *P* **152**   *L* **33**   # **993**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

   "When a DEV is looking to ..." sounds funny.

SuggestedRemedy

   "When a DEV attempting to start..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.2**   *P* **152**   *L* **35**   # **893**
Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

   The MLME-START.confirm primitive and the text of this paragraph do not match.   Also, it
   is a primitive and not a command.

SuggestedRemedy

   The text in this clause other than the editorial of command vs primitive, seems to match
   the intent so the change should be in clause 6 MLME-START.request/confirm more in
   02/289

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **20**   # **111**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

   KO> The current PNC handover information command (renamed to PNC handover CTRB)
   and the PNC information command does not contain any APS or SPS information. The
   SPS Set doesn't contain any information about the SPS set. The new PNC wouldn't know
   about it unless it's a member of the same SPS set. Neither is the current APS state
   passed. /KO

SuggestedRemedy

   KO> SPS/APS promotors group needs to clarify. Appropriate information elements need to
   be added to PNC information, 7.5.4.2, or a new SPS/APS handover command frame
   needs to be specified. The latter may be preferred since the PNC information can be a
   response to an inquiry from a DEV

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **20**   # **208**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

   KO> On several places in 8.2.3, 8.2.5 and 8.2.6 it is mentioned that PNC may hand over to
   a "802.15.3 capable/compliant PNC". Is it perhaps a little optimistic to assume that a non
   802.15.3 at all can communicate with our PNC?/KO

SuggestedRemedy

   Leave with E as food for thoughts...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **21**   *#* **338**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

KO> BSID must be persistent throughout the piconet lifetime. If the PNID changes the
BSID is the only way to find the right PNC. After a handover the MACaddr of the PNC will
have changed as well. BSID should be fixed and user defined. This part is solved in
Resolution [04] in 02276r0P802-15_TG3-commentsD10_KO.doc. One problem remains.
What if the new PNC taking over initially has a different BSID?/KO

SuggestedRemedy

TBD in Vancouver. We have already proven that a PNC cannot change BSID. The
consequence must be that a handover can only be done to a DEV with the same BSID as
the current PNC. This needs to be specified in 8.2.3. Add line 23: "If during the lifetime of
a piconet the PNC decides to either leave the piconet or to transfer its PNC responsibilities
to another DEV, the PNC shall attempt to choose a DEV that is capable of being a PNC.
PNC can only hand over to an AC with the same BSID as the current PNC's BSID"

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **26**   *#* **317**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Change this sentence fragment from "...with an indication of the hand-over time out." to "...
with the parameters specified in the PNC handover request command, 7.5.3.2."   Note:
The parameters specified in 7.5.3.2 are: |NmbrDEVs|NmbrCTRBs|

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **27**   *#* **797**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Handover timeout does not work.

SuggestedRemedy

Eliminate handover timeout. Instead, the PNC will announce the handover superframe in
the beacon.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **29**   *#* **319**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Change this sentence fragment from "... and obtain the DEV information from the current
PNC within ..." to "... and be prepared to receive the DEV Info List and CTRB records from
the current PNC."

SuggestedRemedy

Please make the indicated change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **33**   *#* **321**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Please change this sentence fragment from "...and the current channel time requests." to
"...and their current channel time requests."

SuggestedRemedy

Please make the requested editorial change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **36**   *#* **323**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Please change this sentence fragment from "...to the chosen AC using the PNC handover
information command, 7.5.3.3." to "...to the chosen AC using the PNC handover CTRB
command, 7.5.3.3."

SuggestedRemedy

Please make the indicated change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **38**   **#** **325**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Please delete the sentence starting with these words: " The PNC shall indicate that the transfer is complete..." Primarily, because of the changes suggested in an earlier comment which would do away with the need for the "last" field in the PNC handover CTRB command. Also delete the first two sentences of the last paragraph and insert these sentences: " The chosen AC after receiving the PNC handover request command, the DEV Association List, and the CTRB records shall respond to the PNC with a PNC handover response command. This will signal to the PNC that the chosen AC is ready to commence the handover beacon sequence. The PNC upon receiving the PNC handover response shall ACK the received command and then commence broadcasting a beacon with this additional parameter: HandOvrCntDwnIE= (HndOvrBcnCnt)   additional text is provided in 02/276r0 Page8, Clause 8.2.3 paragraph 3 and page 9 paragraph 1. Meanwhile the chosen AC after receiving an ACK to its PNC handover response command will prepare to broadcast its first beacon as the new PNC after the last beacon received from the current PNC.   The current PNC shall decrement the HandOvrCntDwnIE with each Beacon broadcast until the HandOvrCntDwnIE is zero. At the completion of the last handover beacon, the old PNC relinquishes control of the piconet, generates an MLME-PNC-HANDOVER.confirm to its DME, and aborts generating its next beacon. The new PNC shall broadcast its first Beacon as close to the start time of what would have been the old PNC's next beacon.   ...The new PNC shall begin using the PNCID fo all PNC related traffic,...

SuggestedRemedy
Please make the requested technical changes.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **153**   *L* **49**   **#** **415**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
During PNC Handover, Child and Neighbor piconets will encounter problems that the current PNC Handover text does not address. Doc: 02/276r0 page 26 Clause 8.2.3 provides text to be added to D10 Clause 8.2.3

SuggestedRemedy
Make the requested change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **154**   *L* **52**   **#** **373**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Please change the spelling of this word from "alloate" to "allocate"

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **154**   *L* **54**   **#** **1082**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The sentence "...traffic conditions within the piconet.." is incorrect.

SuggestedRemedy
Delete the second period.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **155**   *L* **19**   **#** **1083**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The term "Des-Mode" and "Des-mode" are used inconsistently.

SuggestedRemedy
I suggest the Editor standardize using "Des-Mode" or "Des-mode".

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.3**   *P* **155**   *L* **30**   **#** **374**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Please delete this sentence fragment. "Note that" from the end of the last complete sentence in the paragraph.

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**　　　*SC* **8.2.3**　　　　　　*P* **155**　　　*L* **30**　　　# **1084**
Gifford, Ian　　　　　　　　　　Self

Comment Type　**E**　　*Comment Status*　**X**
The sentence "Note that" is incomplete.

SuggestedRemedy
I suggest the Editor complete the sentence or delete it.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　　*SC* **8.2.3**　　　　　　*P* **155**　　　*L* **30**　　　# **89**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**
Last sentence chopped off after "Note that..."

SuggestedRemedy
Delete or fill in.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　　*SC* **8.2.3**　　　　　　*P* **155**　　　*L* **30**　　　# **637**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
Incomplete sentence starting with "Note that..."

SuggestedRemedy
Delete "Note that"

Proposed Response　　　*Response Status*　**O**

Cl **08**　　　*SC* **8.2.4**　　　　　　*P* **155**　　　*L* **31**　　　# **970**
Bain, Jay　　　　　　　　　　　Time Domain

Comment Type　**E**　　*Comment Status*　**X**
The sub-clause mentions static GTS in several places including figures. Should these be pseudo-static?

SuggestedRemedy
change several places to be pseudo-static instead of static

Proposed Response　　　*Response Status*　**O**

Cl **08**　　　*SC* **8.2.4**　　　　　　*P* **155**　　　*L* **34**　　　# **452**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**
Shouldn't neighbor and child piconets request pseudo-static GTSs? In the case of a child piconet, if it doesn't, the beacon timing may move around, confusing members of the child piconet and making power saving difficult.

SuggestedRemedy
Change "request a private GTS." to be "request a pseudo-static private GTS." here and change line 15, page 157 from "to obtain a private GTS for the neighbor piconet." to be "to obtain a pseudo-static private GTS for the neighbor piconet."

Proposed Response　　　*Response Status*　**O**

Cl **08**　　　*SC* **8.2.4**　　　　　　*P* **155**　　　*L* **41**　　　# **91**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**
KO> It should be possible for a PNC to deny creation of a child piconet.

SuggestedRemedy
On line 41 add text: If the PNC rejects the creation of a child piconet, it shall set the ReasonCode of the channel time response command to CHILD_UNSUPPORTED.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　　*SC* **8.2.4**　　　　　　*P* **156**　　　*L*　　　# **352**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**
KO> We lack methods for parent PNC to gracefully shut down the child piconet. The parent PNC cannot just remove the CTA since it would leave the child piconet hanging /KO

SuggestedRemedy
<Add text> 8.2.4.1 Parent PNC termination of child piconet If the parent PNC wishes to stop the child piconet, it shall send a disassociate request to the child PNC. The child PNC shall then immediately initiate its shutdown procedure, 8.2.6. The parent PNC shall listen for the child PNC shutdown beacon sequence to determine when the child piconet CTA can be removed. The parent PNC may set a maximum time for the completion of the child shutdown sequence, after which the CTA will be removed regardless of the completion of the child shutdown procedure.   If the child PNC receives a shutdown beacon from its parent, it shall immediately initiate its shutdown sequence, 8.2.6.

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
Page 122 of 185
Cl **08**　　　*SC* **8.2.4**

Cl **08**   *SC* **8.2.4**   *P* **156**   *L* **18**   *#* **974**

Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

Use of the word "internetwork" in the note for figure 95 is not consistent with text of child piconets.

SuggestedRemedy

remove "internetwork communication" and add "communication between child and parent piconets"

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.4**   *P* **156**   *L* **24**   *#* **973**

Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

Text mentions GTS0 but updated figure starts with GTS1

SuggestedRemedy

Start the example with GTS1

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.4**   *P* **156**   *L* **48**   *#* **956**

Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

In this draft is a statement that a child piconet could form to enhance the range of a piconet. If the DEVs already part of the parent move to the child, what happens? Do they stay associated but release their channel time with the parent and reestablish channel time within the child piconet private GTS? Do child PNCs use the same address space as the parent? If so how does the child PNC obtain DEVID numbers from the parent when previously unassociated DEVs decide to join the child piconet (by whatever means they can distinguish the parent from the child)? If new address space for child piconet, it is assumed that all previously established DEVs with the parent will have to disassociate themselves from the parent and reassociate with the child.

SuggestedRemedy

Add at end of paragraph "For child piconets established to extend the range of the parent piconet (xref) all DEVs moving from the parent would disassociate from the parent and resassociate with the child piconet."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.4**   *P* **156**   *L* **50**   *#* **350**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> Only the child PNC, which is a direct member of the parent PNC, can be allowed to exchange data with other members of the parant PNC. The reason is that the child piconet DEVs and the parant piconet DEVs may have the same DEVID but different PNID. Receivers must filter frames on both PNID and DestID to make sure they get only the frames addressed to them. Consequently two DEVs with the same DEVID in different piconets cannot exchange data. If this functionality is desired one would need a child PNC data forwarding capability which is currently not defined in the standard /KO

SuggestedRemedy

<add text> The non-PNC members of the child piconet may not exchange data with any DEV in the parent piconet

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.4**   *P* **156**   *L* **52**   *#* **975**

Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

It is implied by the text that communications between child DEVs and parent DEVs may occur. It may be appropriate to add the usual beyond scope note.

SuggestedRemedy

at end of line 52. "It is beyond the scope of this standard to describe methods that a child PNC may use to assume the role of repeater."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.4**   *P* **156**   *L* **53**   *#* **198**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> If one allowed hierarchical piconets ad absurdum the integrity of the TDMA protocol could not be maintained /KO

SuggestedRemedy

<add sentence> A child PNC shall decline the start of a subordinate client or neighbor piconet within its private CTA.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.2.4** *P* **156** *L* **735** *#* **982**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

Different terms used for the pseudo-static GTS. GTS2 in Figure 95 and GTSx in Figure 96

SuggestedRemedy

adjust the figures one way or the other.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.4 Figure 95** *P* **156** *L* **6** *#* **972**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

There was an available update to this figure. Was it intentional to not use it?

SuggestedRemedy

Use newer diagram with extra information similar to neighbor diagram.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.5** *P* *L* *#* **989**

Bain, Jay Time Domain

Comment Type **TR** *Comment Status* **X**

To support the MLME-InitDependentPNC.request/confirm, text in this sub-clause should support the action of starting a dependent PNC.

SuggestedRemedy

see the 6.3.x comment see 02/289

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.5** *P* **157** *L* **1** *#* **971**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

Static is still used in this sub-clause. Shouldn't it be changed to pseudo-static?

SuggestedRemedy

change several places including figures to be pseudo-static instead of static.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.5** *P* **157** *L* **33** *#* **200**

Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

If one allowed hierarchical piconets ad absurdum the integrity of the TDMA protocol could not be maintained /KO

SuggestedRemedy

<add sentence> A neighbor PNC shall decline the start of a subordinate client or neighbor piconet within its private CTA.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.5** *P* **157** *L* **33** *#* **354**

Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

We lack methods for parent PNC to gracefully shut down a neighbor piconet. The parent PNC cannot just remove the CTA since it would leave the neighbor piconet hanging /KO

SuggestedRemedy

<Add text> 8.2.5.1 Parent PNC termination of neighnor piconet If the parent PNC wishes to stop the neighbor piconet, it shall send a disassociate request to the neighbor PNC. The neighbor PNC shall then immediately initiate its shutdown procedure, 8.2.6. The parent PNC shall listen for the neighbor PNC shutdown beacon sequence to determine when the neighbor piconet CTA can be removed. The parent PNC may set a maximum time for the completion of the neighbor shutdown sequence, after which the CTA will be removed regardless of the completion of the neighbor shutdown procedure. If the neighbor PNC is not 802.15.3 compliant, the parent PNC shall provide the same time as it allows for its own shutdown sequence, for the neighbor PNC to stop its piconet before removing its private CTA.   If the neighbor PNC receives a shutdown beacon from its parent, it shall immediately initiate its shutdown sequence, 8.2.6.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.5** *P* **158** *L* **1** *#* **639**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

"Figure 95" should be "Figure 97"

SuggestedRemedy

Change as indicated.

Proposed Response *Response Status* **O**

Cl **08**　　*SC* **8.2.5**　　　　　*P* **158**　　*L* **31**　　　*#* **99**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type **E**　　*Comment Status* **X**

Non standard MSC /KO

SuggestedRemedy

Make real MSC

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8.2.5**　　　　　*P* **158**　　*L* **643**　　*#* **981**

Bain, Jay　　　　　　　　　　　Time Domain

Comment Type **E**　　*Comment Status* **X**

Different terms used for the pseudo-static GTS. GTS2 in Figure 97 and GTSx in Figure 98

SuggestedRemedy

adjust one way or the other to make the two figures agree.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8.2.5 Fig 97**　　　*P* **158**　　*L* **22**　　*#* **984**

Bain, Jay　　　　　　　　　　　Time Domain

Comment Type **E**　　*Comment Status* **X**

Note in Figure 97 regarding should indicate opportunity for communications.

SuggestedRemedy

should include () that this is an example of when Communication between Neighbor PNC and Parent PNC may occur.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8.2.5 Figure 97**　　*P* **158**　　*L* **16**　　*#* **983**

Bain, Jay　　　　　　　　　　　Time Domain

Comment Type **E**　　*Comment Status* **X**

The figure has an interval shown as C-P. Since this is not a child figure, suggest changing this to be N-P

SuggestedRemedy

Change C-P in the figure to be "N-P" in three places

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8.2.6**　　　　　*P* **159**　　*L* **11**　　*#* **101**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**

KO> Shutdown moved to a bit in the beacon synchronization field instead of as an IE. This simplifies HW implementation/KO

SuggestedRemedy

Change first sentence: <from> If the PNC intends to remove itself from the piconet and no other DEVs are capable of taking over as the PNC, the PNC places the PNC shutdown information element, 7.4.13, in the beacon. <to> If the PNC intends to remove itself from the piconet and no other DEVs are capable of taking over as the PNC, the PNC shall set the shutdown bit to 1 in the mode field of the beacon synchronization parameters information element, 7.4.3, in the beacon.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8.2.6**　　　　　*P* **159**　　*L* **15**　　*#* **356**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**

We lack methods for parent PNC to gracefully shut down a neighbor piconet. The parent PNC cannot just remove the CTA since it would leave the neighbor piconet hanging /KO

SuggestedRemedy

Change text <from> If the parent PNC wants to end either a child the parent PNC shall use either the stream termination process, 8.5.1.3, to remove the GTS from the beacon. If the parent PNC wants to end a neighbor piconet, it shall use the disassociation process, 8.3.4, to remove the neighbor PNC from the network. <to> If the parent PNC wants to stop a child piconet, the parent PNC shall use the Parent PNC termination of child piconet procedure, 8.2.4.1. If the parent PNC wants to stop a neighbor piconet, the parent PNC shall use the Parent PNC termination of neigbor piconet procedure, 8.2.5.1.

Proposed Response　　　*Response Status* **O**

Cl **08**　　*SC* **8.2.6**　　　　　*P* **159**　　*L* **15**　　*#* **181**

Heberling, Allen　　　　　　　　　XtremeSpectrum

Comment Type **TR**　　*Comment Status* **X**

The second paragraph of clause 8.2.6 is incomprehensible. Clean it up.

SuggestedRemedy

Rewrite the second paragraph of clause 8.2.6 so that it is clear, concise and comprehensible.

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required T/technical E/editorial　COMMENT STATUS: D/dispatched A/accepted R/rejected　SORT ORDER: Clause, Page, Line, Subclause　　Page 125 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn　　　　　　　　　　　　　　　　　　　　*Cl* **08**　　*SC* **8.2.6**

Cl **08**   *SC* **8.2.6**   *P* **159**   *L* **15**   *#* **103**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Sentence doesn't read right /KO

SuggestedRemedy

<change from> If the parent PNC wants to end either a child the parent PNC shall use
either the stream termination process, <to> If the parent PNC wants to end a child piconet
the parent PNC shall use the stream termination process,

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.6**   *P* **159**   *L* **15**   *#* **955**

Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

Left over "either" from earlier revision. Two places

SuggestedRemedy

make correction

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.6**   *P* **159**   *L* **15**   *#* **800**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Incorrect: If the parent PNC wants to end either a child the parent PNC

SuggestedRemedy

Should be: If the parent PNC wants to end a child the parent PNC

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.6**   *P* **159**   *L* **15**   *#* **641**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

Unreadable sentence: "If the parent PNC wants to end either a child the parent PNC shall
use..."

SuggestedRemedy

Clarify

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.6**   *P* **159**   *L* **19**   *#* **358**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

If the parent PNC shuts down, a child or neighbor PNC cannot just take over on its own
initiative. If there are more than one child and/or neighbor, the new PNC candidates would
all start sending beacons, which would lead to collisions. The procedure must be that the
parent PNC selects a child or neighbor to hand over to. If that fails, the parent shutdown
must lead to the shutdown of all client and neighbor piconets. /KO

SuggestedRemedy

<change text> <from> If the parent piconet ends operation, the child or neighbor piconet
may continue operation. The child PNC shall remove the parent PNC DEV address
element from its beacon frame, signifying that it is a free-standing piconet. If the neighbor
piconet is an 802.15.3 piconet, then the neighbor PNC removes the parent PNC DEV
address element from its beacon frame, signifying that it is a freestanding piconet. <to> If
a child or neighbor piconet is present, the parent PNC shall first attempt to hand over to
one of the child or neighbor PNC using the procedures defined in 8.2.3. If a handover for
any reason is impossible, the shutdown of the parent PNC shall start the shutdown
procedure for the child PNC as defined in 8.2.4.1, and the neighbor PNC as defined in
8.2.5.1.   If a child or neighbor PNC wishes to terminate its piconet, it shall first initiate the
shutdown procedure for its piconet. After the child or neighbor piconet shutdown is
completed, a child PNC may remain in the parent piconet as a DEV by initiating a stream
termination procedure for its private CTA, 8.5.1.3, or it may initiate the disassociation
procedure to leave the parent piconet, 8.3.4. A neighbor PNC shall only use the
disassociation procedure.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.2.6**   *P* **159**   *L* **1922**   *#* **642**

Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status*   **X**

There are many possible technical issues here if more than one child or neighbor piconet
exists when the parent piconet ends operation.

SuggestedRemedy

It might be safer for the parent to terminate all child or neighbor piconets before ending the
piconet.

Proposed Response   *Response Status*   **O**

Cl **08** *SC* **8.2.6** *P* **159** *L* **21** # **985**

Bain, Jay Time Domain

Comment Type **TR** *Comment Status* **X**

Multiple children (no limit stated in draft?) and neighbors can be in a single parent. On stopping the parent, there is no definition of how the neighbors and children remain operational when there are multiples. Text is provided in the remedy but it is not a very nice approach. It would be far better to allow one of the dependent piconets to pick up parent responsibility.

SuggestedRemedy

Change existing text to indicate single neighbor. Then add a new paragraph after line 22. "Parent piconets containing combinations of neighbor and child piconets (dependent piconets) are permitted in this standard. When multiple dependent piconets are present, the parent should end all child and neighbor piconets before removing itself from the piconet."

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.7** *P* **159** *L* **26** # **419**

Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

The BSID has persistence from one instantiation of a piconet to the next. Consequently, it makes no sense to modify the BSID during an instantiation of the piconet. Therefore, see Doc: 02/276r0 for recommended changes to the text in this sub clause.

SuggestedRemedy

Please make the requested changes.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.7** *P* **159** *L* **39** # **801**

Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

How is the PNC informed by a DEV of overlapping piconets with the overlapping piconets information element? What is the format of the command?

SuggestedRemedy

Need a new command to send the overlapping piconets information in.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.7** *P* **160** *L* **5** # **643**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

Change "IThe" to "The"

SuggestedRemedy

Change as indicated.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.7** *P* **160** *L* **5** # **1119**

Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**

Typo in line 5

SuggestedRemedy

The MSC ...

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.7** *P* **160** *L* **5** # **183**

Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**

Delete the "I" from the "IThe" at the beginning of the sentence starting on line 5 of this page.

SuggestedRemedy

Please perform the requested editorial change.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.2.8** *P* **160** *L* **3233** # **644**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**

Bad sentence: "The implication of this is that these DEVs to would be unable to form a piconet by themselves."

SuggestedRemedy

Clarify

Proposed Response *Response Status* **O**

Cl **08**   *SC* **8.2.8**   *P* **160**   *L* **34**   # **1120**
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status* **X**
   Typo

SuggestedRemedy
   of this is that these DEVs would be ...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.8**   *P* **160**   *L* **34**   # **903**
Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status* **X**
   extra word

SuggestedRemedy
   "that these DEVs would...."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.2.8**   *P* **160**   *L* **36**   # **185**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   Delete this sentence: "An example of this would be wireless speakers which would..." This
   sentence adds no value to the standard. Also, it will quickly become an obsolete example.

SuggestedRemedy
   Please perform the requested deletion.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.1**   *P* **160**   *L* **42**   # **340**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
   The rules for association and authentication with PNC are inconsistent. /KO

SuggestedRemedy
   < add text> In a piconet operating in security mode 0 or 1, an association shall also imply
   authentication. No authentication frame exchange shall be done with PNC in these modes.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.1**   *P* **161**   *L* **3**   # **105**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
   KO> Timeouts only works in the client in the vertical direction. A client cannot set a timeout
   for its server, less the entire distributed state machine in the scheduler is completely
   specified (RTOS theory) /KO

SuggestedRemedy
   Delete the sentence: "The time difference between sending an ACK..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.1**   *P* **162**   *L* **42**   # **1121**
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status* **X**
   Typo

SuggestedRemedy
   only one DEVID. The only exception to this is ...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.1**   *P* **162**   *L* **42**   # **647**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
   Bad grammar: "Only exception to this is the PNC itself."

SuggestedRemedy
   Change "Only" to "The only"

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.2**   *P* **163**   *L* **1**   # **187**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

The clause title Piconet services field is incorrect. If this clause is retained it should be renamed Piconet services which is more descriptive of the functionality described in this clause. The current clause title implies a description of the field, which is more appropriately described in clause 7.

SuggestedRemedy

Please perform the requested title change if this clause is retained.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.2**   *P* **163**   *L* **1**   # **189**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

this clause describes a potentially worthwhile information exchange within the piconet. Unfortunately, the lack of detail regarding the services that a piconet or DEVs in the piconet provide opens the door for serious interoperabilty issues. Consequently, it is recommended that until the details of which services are provided and encoded, this clause should be deleted from the specification.

SuggestedRemedy

Please perform the requested deletion of this clause.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.2**   *P* **163**   *L* **1**   # **802**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

The piconet services IE does not belong in a standard since it is completely unspecified.

SuggestedRemedy

Remove the piconet services IE.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.2**   *P* **163**   *L* **2**   # **107**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> Services broadcast not standardized, thus not interoperable and must be removed from standard /KO

SuggestedRemedy

Delete clause 8.3.2

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.2**   *P* **163**   *L* **5**   # **1122**

Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**

Spelling error

SuggestedRemedy

at the end of line 5 ...   and, if required,

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.3**   *P* **163**   *L* **23**   # **109**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> No need to broadcast piconet information after association. Instead the newly associated DEV should ask for the information it desires. The PNC may still broadcast information at intervals of its own choice. If nothing has changed in the piconet, no broadcast is necessary. /KO

SuggestedRemedy

Delete first sentence "The PNC shall broadcast ... after a DEV associates" Delete "In addition" <Change from> The PNC shall send the piconet information for each of the associated DEVs at least once every aBroadcastDEVInfoDuration via a PNC information command. <to> The PNC may broadcast the piconet information for each of the associated DEVs when any change of association status has occured or at intervals of the PNCs own choice via a PNC information command.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 129 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *Cl* **08**   *SC* **8.3.3**

Cl **08**   *SC* **8.3.3**   *P* **163**   *L* **24**   *#* **372**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
This whole clause raises the question of why does the PNC info command get broadcast
unsolicited? When a DEV associates, its Association IE info is broadcast via the beacon.
If the Associating DEV needs the DEV association list from the PNC it can request directed
frames from the PNC. There is no need to clog the medium with an unsolicited broadcast.
Consequently, remove this clause.

SuggestedRemedy
Please make the requested deletion.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.3.4**   *P* **163**   *L* **32**   *#* **346**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
The rules for disassociation and deauthentication with PNC are inconsistent. /KO

SuggestedRemedy
<add text> The PNC shall always initiate disassociation using the disassociation request
command and not the de-authenticate command.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.1**   *P* **165**   *L* **24**   *#* **803**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
RIFS needs to allow time for an ACK transmission, not just CCA or aBackoffSlot. 802.11
allows for the full thransmission of an ACK. Otherwise, if the ACK is not heard, the
retransmssion may well collide with the ACK and that frame will nto get through either.

SuggestedRemedy
change the equation for RIFS to: RIFS=2*SIFS+ACKTime

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.1**   *P* **165**   *L* **28**   *#* **690**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
I don't understand the sentence that starts "All ACKs, i.e.,Imm-ACK"... I guess the intent is
that all ACKs cannot be transmitted until at least a SIFS has elapsed but this sentence
should be reworked to say that.

SuggestedRemedy
Change to "The transmission of all acknowledgement MPDUs including Imm-ACK, Dly-
ACK, and implied ACKs shall commence a SIFS interval following the reception of the last
symbol of the frame that requires acknowledgement."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.1**   *P* **165**   *L* **34**   *#* **804**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
The following is misleading: The beacon frame, which is neither in the CAP nor the
CFP, does not use inter-frame spacing.   Interframe spacings still apply to the beacon, but
they are ensured by the location of the GTS slots.

SuggestedRemedy
Delete the sentence

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.2**   *P* **165**   *L* **49**   *#* **692**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Reword this as shown below.

SuggestedRemedy
Change to ..."it shall check whether there is enough time remaining in the CAP to transmit
the current frame followed by a SIFS interval."   Also change line #53 to say "If there is
insufficient time remaining in the CAP for the entire frame exchange sequence, then the
DEV shall not commence transmission of the frame."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.3**   *P* **166**   *L* **15**   # **1086**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The there is an error in the following "...[0,3]."

SuggestedRemedy
I suggest "...[0, 3]." or "...[0 and 3].".

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.3**   *P* **166**   *L* **37**   # **693**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Gobbledygook.

SuggestedRemedy
There is something wrong with the sentence beginning "This avoids the problem". I don't understand how to fix it.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.1**   *P* **167**   *L* **21**   # **176**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
There is no application for having several CTAs of the same superframe. Besides there is no definition how the PNC should handle a request where enough avail-TU exists but not enough CTR-interval. As an addition, it would be practically impossible to use with pseudo static streams. Only the CTR-interval-type 1 (subrate) has a useful implementation and hence the frame format of CTR-Control can be simplified. The interval 0 has no use after ATS is incorporated /KO

SuggestedRemedy
Delete sentence on line 21-22 "If multiple slots per superframe are requested,..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.1**   *P* **167**   *L* **24**   # **178**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
KO> There is no power to be saved by allocating powersave first in the beacons. On the contrary, since SPS CTA are likely to be subrates, it will severely complicate the allocation procedure to mix them with normal GTS. Instead they are better handled like ATS with higher priority and allocated in a section after the GTS for various allocations that don't occur in every beacon. MTS shall still be first, as specified./KO

SuggestedRemedy
delete sentence on line 24-46 "The PNC should attempt to allocate GTSs of all APS and SPS ..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.1**   *P* **167**   *L* **30**   # **451**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
The probe command is now used to communicate the new CTAs to the DEVs using a pseudo-static GTS. However, that doesn't seem to be the best way to do it.

SuggestedRemedy
Options: - Keep probe   - Add CTA to channel time status command   - Bring back channel time grant command, possibly with a different name

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.1**   *P* **168**   *L* **9**   # **453**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Bill Shvodian (WMS) needs to provide the source for figure 104 to the editors.

SuggestedRemedy
Bug Bill until he gives it up.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.1, Figure 104**   *P* **167**   *L* **28**   **#** 180

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

KO> Informing the receiver when a pseudostatic CTA is moved will be so much overhead that it's unmanagable. Besides, the constructions in there to avoid transmitter contention. Receiver contention is ok! Let whoever missed the CTA in the beacon listen to the whole superframe. Besides, if the intended receiver misses the CTA in the beacon, how is it going to find out when the PNC wants to inform it about the change? 2nd problem: A PNC must have the authority to arrange CTA as it pleases. It cannot be stopped by a DEV not responding. Especially if it needs to rearrange CTA to fit in a request from a new DEV in a timely fashion. The PNC shall make an effort to inform the transmitter but it shall always proceed with the change.   A third problem is that once the PNC has decided to change something, it must proceed. PNC may have a stronger signal than the DEV, hence the PNC doesn't hear the acknowledgements but the DEVs have heard the order to change. Consequently the PNC must finish what it has started./KO

SuggestedRemedy

Resolution [08] in 02276r0P802-15_TG3-commentsD10_KO.doc, page 18

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.2**   *P* **168**   *L* **43**   **#** 182

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

KO> MaxCTA of any kind is a PNC decision which may change due to PNC capabilities and amount of associated DEVs. Since we're not specifying the algorithm we should leave this up to the PNC implementer./KO

SuggestedRemedy

Delete the 2nd paragraph: "The PNC shall not assign more than aMaxAssignedCTAs

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.2**   *P* **168**   *L* **52**   **#** 184

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

KO> The time for delayed ACK must be allocated by the source of the data, not the dest, just like for imm-ACK /KO

SuggestedRemedy

Page 168 Line 52 ff: <change from> When Del-ACK is employed, the recipient of the data frame is responsible for obtaining the time required for transmission of the del-ACK frame. In the case of Imm-ACK it is the sender of the data frame, rather than the recipient, that guarantees the time required for Imm-ACK right after the end of the current data frame plus SIFS duration. <to> When any type of ACK is requested, it is the sender of the data frame, rather than the recipient, that guarantees that sufficient channel time is allocated for the ACK frame plus SIFS duration right after the end of the last data frame.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.2**   *P* **168**   *L* **52**   **#** 806

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

the recipient of Delayed ACK traffic is no longer responsible for obtaining channel time for sending the Dly-ACK frames

SuggestedRemedy

Change to: When Dly-ACK is employed, the sender of the data frame is responsible for obtaining the time required for transmission of the Dly-ACK frame.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.2**   *P* **169**   *L* **13**   **#** 807

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

DEVs that don't hear the Beacon cannot transmit in the CAP or MTS either.

SuggestedRemedy

Modified text: If a DEV did not receive the beacon, it shall not transmit during the CAP or any MTS or dynamic GTSs during the CFP.

Proposed Response   *Response Status* **O**

Cl **08**　　*SC* **8.4.4.2**　　　　*P* **169**　　*L* **17**　　　*#* **186**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

KO> The receiver cannot be involved during pseudostat move negotiation. Instead, the rules must be that a DEV that cannot interpret the CTA must stay awake for the whole superframe. That solves receiver problems with the move. The transmitter will still get the move probe handshake /KO

SuggestedRemedy

Insert text on line 17 saying:　A DEV that did not correctly receive the CTAs of a beacon shall listen for the following superframes until the CTAs of a beacon are correctly received.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.4.4.2**　　　　*P* **169**　　*L* **20**　　　*#* **421**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

KO> <change from> If an Imm-ACK is expected for that frame, the remaining time in the time slot needs to be large enough to accomodate the current frame, 2 SIFS periods and the Imm-ACK frame at the same PHY rate as the transmitted frame. <to> If an Imm-ACK or del-ACK is expected for that frame, the remaining time in the time slot needs to be large enough to accomodate the current frame, 2 SIFS periods and the Imm-ACK or del-ACK frame at the same PHY rate as the transmitted frame.

SuggestedRemedy

Please make the requested change.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.4.4.2**　　　　*P* **169**　　*L* **26**　　　*#* **45**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

KO> Text makes no sense. The PNC allocates what it's asked for. The PNC will not go back and reallocate more time if its available later. The client is always responsible for requesting changes. /KO

SuggestedRemedy

delete line 26-28

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.4.4.2**　　　　*P* **169**　　*L* **30**　　　*#* **969**

Bain, Jay　　　　　　　　　　Time Domain

Comment Type　**T**　　*Comment Status*　**X**

Paragraph mentions private GTS and where used.   1 Child is not mentioned as use.   2 It also mentions that private GTS will usually be pseudo-static GTSs. Shouldn't it be always? 3 Other text indicates that the child and neighbor will be "static". Static has been removed and pseudo-static is used instead elsewhere.

SuggestedRemedy

Add child networks as examples of private.   Change that privates are always pseudo-static.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.4.4.3**　　　　*P* **169**　　*L* **37**　　　*#* **191**

Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

What the blank is PNC responsiveness? This comment resonates with earlier comments regarding the PNC Response field in several of the MLME primitives and commands. Please remove this clause from the specification

SuggestedRemedy

Please perform the requested deletion.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.4.4.3**　　　　*P* **169**　　*L* **38**　　　*#* **808**

Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Since the PNC responsiveness is a should and cannot be a shall what purpose does it serve? It will likely be a function of the number of the devices in the piconet and the amount of request they are making. This is a queuing phenomenon and cannot be known at the time that a DEV joins a piconet.

SuggestedRemedy

Remove this sub-clause

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

Page 133 of 185

Cl **08**　　　*SC* **8.4.4.3**

Cl **08**   *SC* **8.4.4.3**   *P* **169**   *L* **38**   **#** **188**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> Timeouts only works in the client in the vertical direction. A client cannot set a timeout for its server, less the entire distributed state machine in the scheduler is completely specified (RTOS theory) /KO

SuggestedRemedy

Delete the whole subclause 8.4.4.3

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.4**   *P* **170**   *L* **14**   **#** **190**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The whole idea with MTS is that all associated DEVs get a default association for command frame transfer without requesting that time. To enable both a high throughput of the commands and not to wast power or channel time by having unnecessary allocations it is crucial that the MTS is kept short. /KO

SuggestedRemedy

<add a second sentence in first paragraph> The size of an MTS shall be limited to a frame body of 255 octets + 2 * SIFS + Imm-ACK at base rate.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.4**   *P* **170**   *L* **14**   **#** **924**
Bain, Jay   Time Domain

Comment Type **TR**   *Comment Status* **X**

Based on reading the mechanism of 8.4.4.5, it would seem that aMTSAssocPeriod at 0.6 seconds could yield a less than reasonable time to connect.

SuggestedRemedy

Change the aMTSAssocPeriod to be 0.075 second in table 54

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.4**   *P* **170**   *L* **27**   **#** **119**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> The PNC cannot be forced to assign MTS within any certain period. As for MTS for the second association request, this is trivial. It shall be issued by MLME after the association response but it cannot actually be sent until the MTS is allocated. /KO

SuggestedRemedy

<change line 26-27> <from> If commands are not allowed in the CAP, the PNC shall assign an MTS with the new DEVs DEVID as the SrcId within aMTSAssocPeriod of a successful association command in order to support fast connections. <to> If commands are not allowed in the CAP, the PNC shall assign an MTS with the new DEVs DEVID as the SrcId. The PNC shall assign this MTS with any interval of its choice to facilitate a balance between short latency in command frame exchange with the need to reduce unnecessary unused channel time allocations.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.4**   *P* **170**   *L* **6**   **#** **113**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> MTS shall not be identified by dest or source, since that would make them indistinguishable from an ATS to/from the PNC. It would also complicate the queue implementation for the source /KO

SuggestedRemedy

Change first sentence: <from> Management Time Slots (MTSs) are identical to GTSs except that the PNC address is either the SrcID or the DestID in the CTA <to> Management Time Slots (MTSs) are identical to GTSs except that the stream index is set to the management stream index, 7.2.5.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.4.4.5**   *P* **170**   *L* **34**   **#** **925**
Bain, Jay   Time Domain

Comment Type **TR**   *Comment Status* **X**

There is no requirement at all made on the PNC related to open MTSs. The impact is a very non-deterministic situation for DEVs using the services of the PNC.

SuggestedRemedy

Suggested text will be in document 02/289.

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.4.4.5** *P* **170** *L* **51** *#* **697**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Wrong terminology.

SuggestedRemedy
Change to ..."subsequent retransmission attempts should use back-off counters drawn from subsequent entries in the pseudo-random list of integers."

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.4.4.5** *P* **171** *L* **7** *#* **121**
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
SA not used for ID in this standard/KO

SuggestedRemedy
Replace "unassigned SA" with "UnassignedID". See other comment about replacing all "AssocID" with "UnassignedID".

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.4.4.6** *P* **171** *L* **23** *#* **454**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Fix the upper case disease in the figures in this subclause.

SuggestedRemedy
Change as indicated.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.4.4.6 Tables** *P* **171** *L* **3147** *#* **921**
Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**
Tables 105, 106, and 107 show slot n End time to be after the guard interval. The arrow should point to the end of SIFS as the slot end time.

SuggestedRemedy
move the arrow in three tables to end of SIFS

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.5** *P* **174** *L* **51** *#* **123**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
KO> The whole clause 8.5 is filled with many severe protocol errors, mixed with a variety of editorials. /KO

SuggestedRemedy
All resolutions collected in   Resolution [06] in 02276r0P802-15_TG3-commentsD10_KO.doc

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.5** *P* **175** *L* **3** *#* **195**
Heberling, Allen XtremeSpectrum

Comment Type **T** *Comment Status* **X**
KO> Please change this sentence frag. from "The creation, modification, and termination of asynchronous channel..." to "The reservation of asynchronous channel..."

SuggestedRemedy
Asynchronous channel time is not modifiable or terminated due to the fact that asynchronous data is non deterministic in when it will arrive and when it will expire. Consequently, make the requested change.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.5** *P* **175** *L* **6** *#* **135**
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
KO> Requests for asynchronous and isochronous channel time have two completely different sequences. Therefore the two can never be combined in the same request. /KO

SuggestedRemedy
<add two sentences> The same channel time request frame cannot contain CTRB for both asynchronus and isochronous channel time.   Incorrectly formatted requests shall be rejected by the PNC with the result code set to ILLEGAL_REQUEST.

Proposed Response *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 135 of 185
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

Cl **08** *SC* **8.5**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **14**   # **1087**

Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**

The terms "peer to peer" and "peer-to-peer" are used inconsistently in D10.

SuggestedRemedy

I suggest the Editor use "peer-to-peer". Please make the change globally.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **14**   # **199**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Please change this sentence frag. from "... are established, an isochronous stream may be sent peer to peer, modified, or terminated." to "... are established, they may be modified or terminated."

SuggestedRemedy

Please make the requested editorial change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **17**   # **201**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Please change this sentence frag. from: " Only a associated DEV..." to " Only an associated DEV..."

SuggestedRemedy

Please make the requested editorial change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **19**   # **1123**

Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**

punctuation

SuggestedRemedy

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **19**   # **203**

Heberling, Allen   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**

Please delete the sentences between lines 19 and 21 and replace with this sentence: " Only the DesiredNumberOfTUs in the CTRB of Figure 73 and the stream index shall be negotiable."

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **24**   # **412**

Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

Replace channel time status command with channel time response command. This will reduce any potential for confusion with the channel status command.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **25**   # **926**

Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**

The text of 8.5.2.1 pg 181 line 40-43 on no guarantee of what delay will be between the time of request and a beacon indicating the time should also be placed in 8.5.1

SuggestedRemedy

Place the text mentioned above into 8.5.1 with a change that noting the change from async to isosync

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1**   *P* **175**   *L* **49**   *#* **205**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

> After the last sentence in the list on line 48(The reason code field is set to "SUCCESS"),
> please add this next item to the list: Send a beacon with a stream announcement IE and
> the requested channel time if immediately available. This addition to the beacon is
> necessary to provide the requesting DEV with a more immediate response from the PNC
> particularly in the case where the DEV requested a sub rate CTA that could potentially
> result in the PNC not scheduling a beacon with the requested CTA IE until some
> considerable time in the future. This would cause the DEV to wait a long time to confirm
> the success of its request.

SuggestedRemedy

> Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.1**   *P* **176**   *L*   *#* **995**

Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

> Figure 119 MSC for reserving asynchronous data channel time provides MAC-SAP
> primitives. The MSC figures for isochronous do not show this information. The MSCs of
> figure 113 through 118 should have this information added where appropriate

SuggestedRemedy

> Add the MAC-ISOCH-DATA primitives as noted above

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.1**   *P* **178**   *L* **2027**   *#* **918**

Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

> In the figure 115, it would seem the two .reqs on the right side should be .ind and .rsp

SuggestedRemedy

> change to .ind and .rsp

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.1**   *P* **180**   *L* **10**   *#* **917**

Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**

> The MSCs indicate that several activities go on in the PNC DME related to channel time
> allocation. What is lacking is coordination of resources that the DME knows about and
> those known by the MAC of the PNC. Specifically, the termination, figure 117 and figure
> 118, have no DME involvement.

SuggestedRemedy

> The figures 117 and 118 should change to add the indication to PNC DME and to add the
> block noting the operation taking place in the PNC DME that allows the MAC and DME to
> be synched on resources.   Other change needs to be in 6.3.14.10 and is a different
> comment.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.1.1**   *P* **176**   *L* **4**   *#* **207**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

> The list of reason codes on line 4 are inconsistent with the ones listed in clause 8.5.1.2,
> P177, L46. Please change these reason codes from " priority unavailble, channel time
> unavailable, or unable to allocate as psuedo-static" to "PRIORITY_UNSUPPORTED,
> CT_UNAVAILABLE, PSUEDO_STATIC_UNSUPPORTED."

SuggestedRemedy

> Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.1.1**   *P* **176**   *L* **4**   *#* **125**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

> KO> Always use MACRO names for enumerated values so the reader can easily search
> the standard for occurances and easily verify the implementation against the text /KO

SuggestedRemedy

> Change last bullet: <from> - The reason code field shall be set to either 'priority
> unavailable', Channel time unavailable' or 'unavailable to allocate as pseudo-static' value.
> <to> - The reason code field shall be set to either PRIORITY_UNSUPPORTED,
> CT_UNAVAILABLE or PSEUDOSTAT_UNSUPPORTED value.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.1.2**   *P* **177**   *L* **26**   **#** **904**
Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**
   extra "a"

SuggestedRemedy
   "Only the ..."

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.2**   *P* **177**   *L* **26**   **#** **1124**
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**
   Typo

SuggestedRemedy
   Only the originating DEV may modify an established ...

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.2**   *P* **177**   *L* **26**   **#** **701**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
   Extra word

SuggestedRemedy
   Change to "Only the originating DEV"...

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.2**   *P* **177**   *L* **34**   **#** **360**
Heberling, Allen   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
   Please delete this sentence: "Minimum number of TUs field is set to either the original
   value requested or anew value ..." The minimum value should be a fixed quantity. It is the
   DesiredNumberOfTUs which is negotiable.

SuggestedRemedy
   Please make the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.2**   *P* **178**   *L* **10**   **#** **362**
Heberling, Allen   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
   Change this sentence from "build a new beacon with the requested channel time" to
   "build a new beacon with a stream announcement information element and the requested
   channel time if immediately available."

SuggestedRemedy
   Please make the indicated technical change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.2**   *P* **178**   *L* **2**   **#** **1088**
Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**
   There are two (2) occurences of a word "...desired desired..."

SuggestedRemedy
   Delete second occurence.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **41**   **#** **364**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   Please change this sentence frag. from "...followed by a beacon in which the CTAs
   assigned to the indicated stream index are set to a null CTA..." to " followed by a beacon in
   which the CTAs assigned to the indicated stream index are removed." In the case where
   the SrcDEV is requesting the termination of the stream, the ACK to its request is sufficient.
   The receiving DEV will know that the stream has been deallocated by the absence of the
   CTAs assoicated with the stream index. This is a more concise means of terminating the
   stream CTA.   In the case where the DestDEV is doing the termination the same rules
   apply. The SrcDEV will be notified via the absence of the CTA in the beacon.

SuggestedRemedy
   Please make the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **4344**   **#** **651**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
    This paragraph discusses a process and then ends with "see Figure 118" but figure 118 does not show the process discussed.

SuggestedRemedy
    Change the cross reference to be to Figure 117.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **4347**   **#** **907**
Bain, Jay   Time Domain

Comment Type   **T**   *Comment Status*   **X**
    Grammatical errors and reference to figure 118 is incorrect and does not pertain to text in this section.

SuggestedRemedy
    Change the paragraph to the following: "In the case where the PNC wishes to terminate the stream, it shall notify the originating DEV and the target DEV via the next periodic beacon that the CTAs assigned to the indicated stream index are set to a null CTA value for aMinBeaconInfoRepeat duration."

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **44**   **#** **366**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
    The sentences between lines 44 and 46 are redundant. Therefore delete them.

SuggestedRemedy
    Please make the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **44**   **#** **1089**
Gifford, Ian   Self

Comment Type   **E**   *Comment Status*   **X**
    The sentence "In the case where the originating DEV that wishes to terminate is the stream is the PNC,..." does not make sense; to many is's.

SuggestedRemedy
    I suggest the beginning of the sentence be rewritten.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **44**   **#** **120**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
    Change this sentence from "In the case where the originating DEV that wishes to terminate is the stream is the PNC,..." to " In the case where the originator of the stream termination request is the PNC, the PNC shall simply remove the CTAs associated with the terminated stream index from the next beacon."

SuggestedRemedy
    Please make the requested editorial change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **44**   **#** **127**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
    typo /KO

SuggestedRemedy
    In the case where the origination DEV that wishes to terminate is the stream is the PNC...

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.1.3**   *P* **179**   *L* **45**   **#** **702**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
    Extra word.

SuggestedRemedy
    Change to ..."that wishes to terminate the stream is the PNC,"...

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **1729**   # **1091**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The dashed list is missing the sub dashed items below the first dash.

SuggestedRemedy
The Editor should review the IEEE Standards Style Manual and correct D10 globally.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **26**   # **368**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Please change this sentence frag. from " ... GTS Type and CTR interval type shall be set to 0..." to " and GTS Type shall be set to 0..."

SuggestedRemedy
Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **36**   # **906**
Bain, Jay   Time Domain

Comment Type **T**   *Comment Status* **X**
Text seems to be incorrect.

SuggestedRemedy
Change the phrase to the following: "Each CTA shall have the same asynchronous stream index, source, start time and duration"

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **37**   # **197**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Please change this sentence frag.: from "...and the same destination, start time and duration." to "... , different destination DEVID, and the same start time and duration."

SuggestedRemedy
Please make the requested change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **40**   # **369**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Please change this sentence frag. from "...However, there is no guarantee of what the delay will..." to However, there is no guarantee of how long the delay will..."

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **89**   # **1090**
Gifford, Ian   Self

Comment Type **E**   *Comment Status* **X**
The sentence "The DEV switches between the two methods by sending an channel time request command that utilizes the new method." is incorrect.

SuggestedRemedy
I suggest "The DEV switches between the two methods by sending a channel time request command that utilizes the new method."; change "an" to "a".

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **9**   # **916**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**
change "an" to "a"

SuggestedRemedy
".. sending a channel..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.5.2.1**   *P* **181**   *L* **9**   # **1125**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Typo

SuggestedRemedy
... the two methods by sending a channel time request ...

Proposed Response   *Response Status* **O**

Cl **08** *SC* **8.5.2.1** *P* **182** *L* **4** **#** **994**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

spelling of asynchronous

SuggestedRemedy

"ansynchronous" to "asynchronous"

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.5.2.1 Figure 119** *P* **182** *L* **19** **#** **914**

Bain, Jay Time Domain

Comment Type **T** *Comment Status* **X**

In figure 119, The PNC DME has the task of building the beacon. In the isochronous operation figures, the PNC MLME is shown to be building the beacon.

SuggestedRemedy

Change the location of the build beacon element to the PNC MLME.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.5.2.2** *P* **182** *L* **#** **813**

Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

There is no reason in the world to terminate an asynchronous GTS. The slots are allocated then they go away. Delete this sub clause since it is unnecessary.

SuggestedRemedy

Delete sub-clause 8.5.2.2

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.5.2.2** *P* **182** *L* **37** **#** **370**

Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Please delete the Asynchronous GTS termination clause. Asynchronous data does not play by the same rules as isochronous data. Consequently, it is incorrect to assume that the isochronous stream termination rules apply to an asynchronous channel time allocation.

SuggestedRemedy

Please make the requested technical change.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.6** *P* **183** *L* **3** **#** **1126**

Roberts, Richard Xtremespectrum

Comment Type **T** *Comment Status* **X**

Insert a sentence in line 3.

SuggestedRemedy

Between the first and second sentence insert the following: In addition, child and neighbor PNC DEVs shall be synchronized to the parent PNCs clock.

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.6** *P* **183** *L* **7** **#** **814**

Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

it should be clarified that it is the superframe clock that is being reset

SuggestedRemedy

change "clock" to "superframe clock" in lines 7 and 9

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.6.1** *P* **183** *L* **28** **#** **996**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

At first read, it sounds like we don't care what the accuracy of the timer in the MAC is.

SuggestedRemedy

reorder the sentence to clarify the intent

Proposed Response *Response Status* **O**

Cl **08** *SC* **8.6.4** *P* **183** *L* **44** **#** **978**

Bain, Jay Time Domain

Comment Type **E** *Comment Status* **X**

There is no mention of the 6.3.4 MLME-SYNC.request, etc.

SuggestedRemedy

Add an xref to sub-clause 6.3.4 following "synchronization".

Proposed Response *Response Status* **O**

Cl **08**   *SC* **8.6.4**   *P* **183**   *L* **4548**   **#** **1001**

Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

what shall it use the "same superframe duration" for ? This sentence and the next may be confused by the reader into thinking that something may still be done if the beacon is not heard. Other sections such as pseudo-static GTSs allow specific operation.

SuggestedRemedy

Delete sentence starting with "If an associated..." and the sentence staring with "If a DEV did not ..."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.7**   *P* **185**   *L* **1**   **#** **708**

Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

I think this subclause needs some work. For example, what happens when retransmitting a fragment? Presumably the fragment number is not increased in that case and the standard should say so. If the first fragment of an MSDU cannot be transmitted, shouldn't the remaining fragments be discarded?   How many MSDUs must potentially reassembled at one time? Since the standards says that "multiple" SDUs may be retransmitted in a fragment burst, it should provide a value for this maximum number.

SuggestedRemedy

On line 20, this subclause talks about delivery to the FCSL. On line 38, it talks about delivery to the SSCS. One term should be used consistently, in addition to the provision of answers for the issues I raised in the comment section.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.7**   *P* **185**   *L* **15**   **#** **815**

Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

frames in an MSDU have the same last frag# too.

SuggestedRemedy

All fragments of the same MSDU shall have the same MSDU number and the same Last Fragment number.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.7**   *P* **185**   *L* **9**   **#** **129**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

max fragment number field used wrong /KO

SuggestedRemedy

<change from> Each fragment shall be sent with the max fragment number field set to the total amount of fragments of the current MSDU. <to> Each fragment shall be sent with the max fragment number field set to the highest fragment number of the current MSDU, which is the same as the total amount of fragments of the MSDU - 1.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8**   *P* **185**   *L* **42**   **#** **653**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Bad sentence: "There are four types of acknowledgement types..."

SuggestedRemedy

"The are four acknowledgement types...."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8**   *P* **185**   *L* **42**   **#** **124**

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Change this sentence frag. from "There are four types of acknowledgement types defined for this standard;..." to There are three acknowledgement mechanisms defined for this standard;..."   Delete reference to Implied-ACK since it is no longer needed now that we have an effective asynchronous data mechanism defined.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 142 of 185

RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn   *Cl* **08**   *SC* **8.8**

Cl **08**   *SC* **8.8.1**   *P* **185**   *L* **46**   **#** 816

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Is this the No-ACK policy of the No ACK request type. It sounds like the No-ACK request policy.

SuggestedRemedy

Need to clarify if this is No ACK policy of No-ACK request type. If it is the request type then it needs significant modification to cover Delayed ACK frames with no-ACK request

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.1**   *P* **185**   *L* **52**   **#** 9

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

The cleaning up of semantics of the del-ACK policy bit and the ACK-Request field led to some other inconsistencies that has to be fixed. /KO

SuggestedRemedy

Add the following sentence: All frames except the last in a burst using the delayed ACK policy shall have the ACK-Request field set to no-ACK.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.3**   *P* **186**   *L* **10**   **#** 905

Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**

perhaps we are overusing the "bi-partite" phrase. It seems unnecessary in this location.

SuggestedRemedy

delete "bi-partite"

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.3**   *P* **186**   *L* **24**   **#** 11

Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

KO> The cleaning up of semantics of the del-ACK policy bit and the ACK-Request field led to some other inconsistencies that has to be fixed. /KO

SuggestedRemedy

Insert the following text at line 24:   All frames in a burst shall have the del-ACK policy bit set to 1. The last frame of the burst, or the only frame if a single frame burst, shall have the ACK-Request field set to del-ACK. All other frames shall have the ACK-Request field set to no-ACK.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.3**   *P* **186**   *L* **27**   **#** 1127

Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**

Remove commas

SuggestedRemedy

If the value is not zero the source DEV may continue transmission in ...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.3**   *P* **186**   *L* **30**   **#** 1128

Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**

add a hypen

SuggestedRemedy

max burst --> max-burst   (needs to be consistent)

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.3**   *P* **186**   *L* **8.83**   # **817**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Is this Delayed ACK policy or Delayed ACK request type.

SuggestedRemedy

This clause needs to be modified to explain how the delayed ACK request type is used. This sub-clause needs to explain how no ACK and delayed ACK request types are used with the delayed ACK policy.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.3**   *P* **186**   *L* **9**   # **3**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

KO> A stream with del-ACK policy cannot be used with any other ACK-Request. Neither can the policy be changed, because enqueued frames with different ACK-Policy (del-ACK and other) will create unresolvable protocol conflicts. Consequently if del-ACK is declined by the destination, the stream must be terminated. /KO

SuggestedRemedy

8.8.3, Insert line 9: Delayed Acknowledgement can only be used with isochronous data. Insert line 23, before "The destination DEV may change the max burst..." Upon reception of an imm-ACK frame after sending a data frame with the ACK request field set to del-ACK, the source DEV MAC shall: - issue a MLME_TERMINATE_STREAM.indication to DME - send a Channel Time Request frame to PNC with the terminate bit set to 1 and the desired CT to 0

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.3**   *P* **187**   *L* **7**   # **1129**

Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**

In figure 123, there is an icon in the upper right hand corner of the box labeled "Alt"

SuggestedRemedy

What does Alt mean? Refer to the MAC subcommittee.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.4**   *P* **187**   *L* **21**   # **818**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Implied ACK policy is no longer needed since we have support for asynchronous time slots.

SuggestedRemedy

Remove this sub clause and andy reference to implied ACK.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.4**   *P* **187**   *L* **23**   # **5**

Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

Implied ACK should only be used with asynchronous data /KO

SuggestedRemedy

8.8.4 Insert line 23 Implied ACK shall only be used with asynchronous data

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.5**   *P* **188**   *L* **39**   # **819**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

CCA should not be used for retransmission. In a poor channel the sending DEV may not hear the other DEV. It needs to wait for an ACK time. 802.11 does not use CCA. It uses an ACK time-out. (p84 of 802.11 1999)

SuggestedRemedy

Replace CCA with ACK time.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.5**   *P* **188**   *L* **39**   # **711**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

Syntax.

SuggestedRemedy

Change to ..."If the result of the CCA assessment shows that the medium is idle,"...

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 144 of 185

Cl **08**   *SC* **8.8.5**

Cl **08**   *SC* **8.8.5**   *P* **188**   *L* **42**   # **712**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to ..."it shall wait for the duration of the Imm-ACK"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.6**   *P* **188**   *L* **48**   # **713**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Style.

SuggestedRemedy
Change to "However, a DEV might choose to attempt retransmission of an MSDU a fewer number of times as some data streams have a short lifetime."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.6**   *P* **189**   *L* **1**   # **192**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
???KO> Retry Bit) It's not enough to check stream id if the frame is asycnhronous or a command frame. The receiver must also check PNID, in case other piconets are present./KO

SuggestedRemedy
<change the last sentence on line 1-2 from> The stream index and the fragmentation field are used to detect multiple receptions of the same frame. <to> The PNID, MSDU number and Fragment number are used to detect multiple receptions of the same frame. In the case of isochronous streams, the MSDU number and fragment number are compared for the same stream. In all other cases the MSDU number and fragment number are compared with frames from the same SrcID.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.6**   *P* **189**   *L* **2**   # **998**
Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status* **X**
Fragmentation field and fragmentation control field elsewhere. Are they the same?

SuggestedRemedy
Change to "fragmentation control field" if appropriate

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.8.6**   *P* **189**   *L* **7**   # **820**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
The retry bit is also used to detect duplicate frames.

SuggestedRemedy
Change text to: The stream index and the fragmentation field and the retry bit are used to detect multiple receptions of the same frame.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9**   *P* **189**   *L* **10**   # **654**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
Replace "channelstatus" with "channel status"

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9**   *P* **189**   *L* **10**   # **997**
Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status* **X**
breakup "channelstatus"

SuggestedRemedy
"channelstatus" to "channel status"

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9**   *P* **189**   *L* **10**   **#** **714**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Spacing + syntax.

SuggestedRemedy
Change to ..."may use the channel status command to gather information about the quality of their link with another DEV."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9**   *P* **189**   *L* **6**   **#** **821**
Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Should say "Each Dev authenticated". Authentication should be automatic in modes 0 and 1.

SuggestedRemedy
Change to: "Each Dev authenticated"

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9.1**   *P* **189**   *L* **14**   **#** **490**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
PNC information command has been modified to include a "last" field similar to what was done in the PNC handover information command. However, the text in 8.9.1 has not been updated.

SuggestedRemedy
Use sub-clause 8.2.3, page 153, lines 32-39, as a template for inserting appropriate text into sub-clause 8.9.1. Check the MSC to reflect the new behaviour of the signal exchange between the two entities.   However, if we adopt standard fragmentation for this command, then the update is somewhat different, we just need to note that the command may be fragmented.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9.1**   *P* **189**   *L* **19**   **#** **126**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Change this sentence frag. from: "If the originating DEV request information about a single DEV that is not associated and, if required authenticated, then the PNC shall..." to "If the originating DEV requests information about a single DEV that is not associated, then the PNC shall..."

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9.2**   *P* **189**   *L* **53**   **#** **1130**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
typo

SuggestedRemedy
The probe process begins when the ...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9.2**   *P* **189**   *L* **53**   **#** **715**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Missing words.

SuggestedRemedy
Change to ..."it shall have the ACK request field in the MAC header set to either"...

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9.2**   *P* **189**   *L* **53**   **#** **128**
Heberling, Allen   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
Change this sentence frag. from " The probe process is begins when the ..." to " The probe process begins when the ..."

SuggestedRemedy
Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**　　*SC* **8.9.2**　　　　　*P* **189190**　　*L*　　　# **655**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**T**　　*Comment Status*　**X**
　If a MLME-PROBE.response can contain a request for IEs from the target dev for the
　response, then the dev generating the MLME-PROBE.response should set a
　"ProbeTimeout" timer before sending the probe command. This means that the MLME-
　PROBE.response primitive should contain a parameter named ProbeTimeout. Figure 127
　should be modified to show this timer as well. The timer should be set each time a
　response includes an embedded request. This is the price to pay for overloading the
　primitives.

SuggestedRemedy
　Change as indiated.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.2**　　　　　*P* **190**　　*L* **28**　　# **455**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**TR**　　*Comment Status*　**X**
　The probe MSC needs some work.

SuggestedRemedy
　The timeout closes when the .cfm is received. Also, we need to add and indication that the
　exchange of probe commands goes on until someone runs out of things to say.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.2**　　　　　*P* **190**　　*L* **3**　　# **130**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**
　Change this sentence frag. from "...it shall responds to the originator..." to "... it shall
　respond to the originator..."

SuggestedRemedy
　Please make the requested editorial change.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.2**　　　　　*P* **190**　　*L* **7**　　# **1131**
Roberts, Richard　　　　　　　　Xtremespectrum

Comment Type　**E**　　*Comment Status*　**X**
　spelling

SuggestedRemedy
　apprpriately --> appropriately

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.2**　　　　　*P* **190**　　*L* **7**　　# **132**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**
　Replace the mispelled word "apprpiately" with "appropriately"

SuggestedRemedy
　Please make the requested editorial change.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.2**　　　　　*P* **190**　　*L* **9**　　# **142**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**
　KO> Timeouts only works in the client in the vertical direction. A client cannot set a timeout
　for its server, less the entire distributed state machine in the scheduler is completely
　specified (RTOS theory) /KO

SuggestedRemedy
　Delete paragraph on line 9-16: "To accomodate peer discovery and peer-to-peer
　communication ... the required channel backoff time will be in addition to the delay
　described above"

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.3**　　　　　*P* **191**　　*L* **2**　　　# **134**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**
> Change this sentence frag. from "When the target DEV receiver the request,..." to When the target DEV receives the request,..."

SuggestedRemedy
> Please make the requested editorial change.

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.4**　　　　　*P* **191**　　*L*　　　# **895**
Bain, Jay　　　　　　　　　　Time Domain

Comment Type　**T**　　*Comment Status*　**X**
> Remote channel scan seems to need the content similar to the text of 8.2.1 that the PNC should allocate CFP such that there is quiet time for it to scan the channel for other piconets.

SuggestedRemedy
> Add the text in remote channel scan and change the MSC for remote channel scan to allow for an optional preceeding action of the PNC reserving channel time for the DEV being asked to perform the remote channel scan. The command (and primitive) should add a field to designate that there is a reserved slot for this operation.

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.4**　　　　　*P* **191**　　*L* **45**　　# **136**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**
> Change this sentence frag. from " One of the reason that the PNC would request a remote scan is if it determines that..." to " One of the reasons the PNC requests a remote scan is if it determines that..."

SuggestedRemedy
> Please make the requested editorial change.

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.4**　　　　　*P* **191**　　*L* **45**　　# **722**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
> Style.

SuggestedRemedy
> Change to "The PNC may request a remote scan if it determines"...

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.4**　　　　　*P* **191**　　*L* **50**　　# **656**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**
> Bad grammar: "The PNC initiate a remote scan..."

SuggestedRemedy
> Replace "initiate" with "initiates"

Proposed Response　　　　*Response Status*　**O**

Cl **08**　　*SC* **8.9.4**　　　　　*P* **191**　　*L* **50**　　# **144**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**
> KO> A PNC should always be able to order its DEVs to perform certain actions. The DEVs should not be able to refuse this, since it would create un resolvable chaos in the piconet. In the example of remote scan, one has to assume that the PNC has made an educated decision to select its scanner DEV. There is a danger if one allows DEVs to refuse that implementors always sets their DEVs to refuse all PNC requests /KO

SuggestedRemedy
> Change/ paragraphs 3 and 4 as follows: <from> The PNC initiates a remote scan by sending the remote scan request with a list of channels to a DEV in the piconet. The target DEV has the option of not accepting the request to perform a channel scan on behalf of the PNC. If the DEV does not accept the request, it shall respond to the PNC by sending a remote scan response command with a ReasonCode set to 'request denied'. The PNC upon receiving this response, may send another remote scan request to another piconet DEV, initiate its own channel scan or take other action.   In the case where the target DEV does accept the request, the target DEV shall initiate a series of OpenScan channel scans, ... <to> The PNC initiates a remote scan by sending the remote scan request with a list of channels to a DEV in the piconet.   The target DEV shall initiate a series of OpenScan channel scans, ...

Proposed Response　　　　*Response Status*　**O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
Page 148 of 185
Cl **08**　　*SC* **8.9.4**

Cl **08**   *SC* **8.9.4**   *P* **191**   *L* **51**   # **138**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   Change this sentence frag. from "The PNC initiate a remote scan by sending ..." to "The
   PNC initiates a remote scan by sending..."

SuggestedRemedy
   Please make the requested editorial change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **8.9.4**   *P* **192**   *L* **13**   # **25**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
   KO> A mechanism for reporting an overlapping PNC from a DEV was attempted but not
   fully specified. The easiest solution is to allow DEVs to report overlaps by sending,
   unsolicited, a remote scan response frame to PNC/KO

SuggestedRemedy
   <insert text> A DEV that is receiving beacons from more than one PNC may send,
   unsolicited, a remote scan response frame to its PNC with a piconet description set
   representing the interfering PNCs

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **9.2.9**   *P* **211**   *L* **24**   # **833**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   There is no need to transmit the time token since both the transmitter and receiver know
   what it is.   All secure beacons, ACKs, commands and data include the current time token
   and integrity protection, 7.3.

SuggestedRemedy
   "All secure beacons, ACKs, commands and data include an integrity code that is
   generated with the time token n the nonce."

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Fig 137**   *P* **200**   *L* **14**   # **1096**
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
   The second arrow in Case 2 is bent.

SuggestedRemedy
   Add some viagra :) to D10.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Fig. 96**   *P* **156**   *L* **33**   # **1085**
Gifford, Ian   Self

Comment Type   **E**   *Comment Status* **X**
   The term in the figure "w/self" is vague.

SuggestedRemedy
   I suggest you spell out the terminology to be clear. Please make the change globally for
   "w/" usage.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 100**   *P* **162**   *L*   # **646**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status* **X**
   The "association response cmd" should show that the DEVAddr = DEV-2 MAddr because
   this is the field that the receiving dev uses for determining the command is for it. Also, the
   abbreviations "SID" and "cmd" should be added to the key.

SuggestedRemedy
   Change as indicated.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 100**   *P* **162**   *L* **3**   # **87**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   KO> The association MSC has parameter names that are inconsistent with other clauses
   of D10.

SuggestedRemedy
   Replace DID with Dest and AssocID with UnassignedID

Proposed Response   *Response Status* **O**

Cl **08** *SC* **Figure 102** *P* **164** *L* **#** **648**

Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**

Add an AckTimeout timer to this figure.

SuggestedRemedy

Change as indicated.

Proposed Response *Response Status* **O**

Cl **08** *SC* **Figure 102-b** *P* **164** *L* **54** **#** **423**

Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

KO> Missing an MSC illustrating the primitives and signals needed during a de-authentication initiated by a DEV to the PNC.

SuggestedRemedy

See doc 02/276r0 resolution [09] page 20

Proposed Response *Response Status* **O**

Cl **08** *SC* **Figure 113** *P* **176** *L* **29** **#** **413**

Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

The Chk-Resources and Allocate Resources processes do not belong in the PNC DME. They belong in the MLME. Doc. 01/469r5 Figure 1 page 9 had it correct the first time Also add stream index IE to the beacons in the diagram per reasons given earlier in this clause.

SuggestedRemedy

Make the changes.

Proposed Response *Response Status* **O**

Cl **08** *SC* **Figure 113** *P* **176** *L* **36** **#** **114**

Heberling, Allen   XtremeSpectrum

Comment Type **E** *Comment Status* **X**

Replace the "channel time status command" in the MSC with "channel time response command". This requested change will be consistent with earlier comments in clause 7.

SuggestedRemedy

Please perform the requested change.

Proposed Response *Response Status* **O**

Cl **08** *SC* **Figure 114** *P* **177** *L* **8** **#** **414**

Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Please move the Chk-Resources and Allocate Resources processes from the DME to the MLME per figure 2, page 10 doc: 01/469r5. Again this shows a lack of understanding regarding the functionality of the DME versus the functionality of the MLME.

SuggestedRemedy

Make the change.

Proposed Response *Response Status* **O**

Cl **08** *SC* **Figure 115** *P* **178** *L* **27** **#** **116**

Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Replace the channel time status command in the MSC with channel time response command. This requested change is consistent with the requested command name change in clause 7.   Move the Chk-Resources and Allocate Resources processes from the PNC DME to the PNC MLME in the MSC. Doc. 01/469r5 figure 3, page 13 had it right the first time. IN addition, the primitives currently passing from the PNC MLME to the PNC DME are incorrectly labeled. Finally, even though they are incorrectly labeled they are unneeded. So delete the primitives from figure 115. Also make sure to get rid of MLME-Modify-Stream.indication and .response from clause 6.3.14.6 and 6.3.14.7 since they are not needed.

SuggestedRemedy

Make the change.

Proposed Response *Response Status* **O**

Cl **08**   *SC* **Figure 116**   *P* **179**   *L*   *#* **649**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

The MLME-MODIFY-CTA.cfm primitive should be sent after receiving the channel time status command indicating that no change will occur. There is no reason to wait for the beacon with no change in the CTA.

SuggestedRemedy

Change the MSC as indicated.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **Figure 116**   *P* **179**   *L* **13**   *#* **118**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Replace the channel time status command in the MSC with channel time response command. This requested change is consistent with the requested command name change in clause 7.   Move the Chk-Resources process from the PNC DME to the PNC MLME. And delete the MLME-Modify-Stream.ind/rsp from the MSC. AGain doc: 01/469r5 had it right the first time.

SuggestedRemedy

Make the change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **Figure 117**   *P* **180**   *L*   *#* **650**

Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

Add "w/ ResultCode = SUCCESS" to "MLME-TERMINATE-CTA.cfm"

SuggestedRemedy

Change as indicated.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **Figure 117**   *P* **180**   *L* **6**   *#* **122**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

1) The channel time request command in the MSC has the wrong parameter indicated. Replace the "DCTR-TUs=0" with "Stream Termination bit=1" This change will make the MSC consistent with the text description in clause 8.5.1.3.   2) Move the MLME-TERMINATE-CTA(STREAM).confirm from its current position in the MSC to just below the ACK . This is a more appropriate location for the confirm, since the requesting DEV will have received confirmation via the ACK that the PNC received its request to terminate the CTAs associated with a specific stream index.   Also remove the phrase w/(Null CTA, SI=x) from the beacon. There is no need for a null CTA.   Finally, remove the MLME-TERMINATE-STREAM.indication from the MSC since the receiving DEV-3 DME doesn't need to know anything about the terminated stream.

SuggestedRemedy

Please make the requested change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **Figure 117**   *P* **180**   *L* **7**   *#* **812**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Termination Bit should be used to terminate the stream, not Des-TU set to 0

SuggestedRemedy

redo the MSC.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **Figure 118**   *P* **180**   *L* **26**   *#* **371**

Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

Figure 118 is an incorrect MSC of what happens when a Target DEV disassociates from a piconet. Figure 102 is the correct MSC. Consequently, either remove figure 118 or replace it with figure 102

SuggestedRemedy

Please make the requested technical change.

Proposed Response   *Response Status*   **O**

Cl **08**   *SC* **Figure 119**   *P* **182**   *L*   # **652**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
The MLME-CREATE-CTA.req should be shown coming from the DEV-2 DME. What is "MAC-Q"? The Packet CL is now the FCSL.

SuggestedRemedy
Change MAC-Q to be MAC, change Packet CL to be FCSL.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 119**   *P* **182**   *L* **11**   # **327**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Figure 119 is a flawed MSC of the Asynchronous channel time reservation process and data frame exchange. Consequently, delete the current MSC from this section of clause 8.5.2.1 and replace it with 02r0P802-15_TG3-Asynch-channel-time-allocation.eps

SuggestedRemedy
Please make the requested technical change.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 135,136**   *P* **198**   *L*   # **514**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
These figures are redundant.

SuggestedRemedy
Remove

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 137**   *P* **200**   *L* **448**   # **1153**
Schrader, Mark   Eastman Kodak Co.

Comment Type **TR**   *Comment Status* **X**
The AWAKE Beacons are not distinguished. The GTS slots in the AWAKE superframe are not distinguished.

SuggestedRemedy
Color awake beacons black and GTS slots black.

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 137**   *P* **200**   *L* **448**   # **1152**
Schrader, Mark   Eastman Kodak Co.

Comment Type **E**   *Comment Status* **X**
Notation "Beacon" not correct

SuggestedRemedy
Change "Beacon" to "Awake Beacon"

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 94**   *P* **154**   *L* **48**   # **112**
Heberling, Allen   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**
Figure 94 has several problems in its Handover MSC.   -Prob. 1 PNC handover info command should be renamed PNC Handover CTRB command. This will make it less confusing with the PNC info command.   Prob. 2 The last PNC handover CTRB command should generate an MLME-PNC-HANDOVER-CTRB.indication primitive similar in functionality to the MLME-PNC-INFO.indication primitive.   Prob. 3 The MLME-PNC-HANDOVER.response primitive and the PNC handover response command are missing from the MSC. Please add them to the MSC.   Prob. 4 Delete the new PNC announcement command there is no need for this command.

SuggestedRemedy
Please perform the requested changes to figure 94 MSC as illustrated in 02r0P802-15_TG3-PNC-Handover-MSC.eps

Proposed Response   *Response Status* **O**

Cl **08**   *SC* **Figure 95**   *P* **156**   *L*   # **638**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
The comment in the figure is not very clear. Should the comment say "contention free period" or "contention access period"? Also, "may be used" by who? What does "internetwork communication" mean?

SuggestedRemedy
Check/Rewrite the note in this figure.

Proposed Response   *Response Status* **O**

Cl **08**　　*SC* **Figure 95**　　　*P* **156**　　*L* **15**　　# **681**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**T**　　*Comment Status*　**X**

I don't understand this figure. Neither "unassigned GTS time" field fits exactly into the parent's CFP. Perhaps you meant the second one shown on the righthand side of the diagram. In that case the first one shown at the left should not be marked with an asterisk.

SuggestedRemedy

Clarify the diagram to show that only part of the child's "unassigned GTS time" can be used in the manner described.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **Figure 96**　　　*P* **156**　　*L*　　# **798**
Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**

This figure should be replace with an MAC like the othere MSCs

SuggestedRemedy

Replace the figure with a real MSC.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **Figure 96**　　　*P* **156**　　*L* **28**　　# **97**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**

Non standard MSC /KO

SuggestedRemedy

Make real MSC

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **Figure 96**　　　*P* **156**　　*L* **43**　　# **177**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Figure 96 should be replaced with a proper MSC of the required protocol needed to establish a child piconet.

SuggestedRemedy

Replace figure 96 with a proper MSC.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **Figure 97**　　　*P* **158**　　*L*　　# **640**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**

Why does figure 97 point out "Communication between Neighbor PNC & Parent PNC" when the text of this section indicates that "The neighbor PNC is not a member of the parent piconet"?

SuggestedRemedy

Need to indicate that the communication during this period is restricted to only association, disassociation, authentication, CTR, etc.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **Figure 98**　　　*P* **158**　　*L*　　# **799**
Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**E**　　*Comment Status*　**X**

Replace this figure with an MSC

SuggestedRemedy

Replace the figure with an MSC

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **Figure 98**　　　*P* **158**　　*L* **31**　　# **179**
Heberling, Allen　　　　　　　　XtremeSpectrum

Comment Type　**TR**　　*Comment Status*　**X**

Figure 98 should be replaced with a proper MSC of the required protocol needed to establish a neighbor piconet.

SuggestedRemedy

Replace figure 98 with a proper MSC.

Proposed Response　　　*Response Status*　**O**

Cl **08**　　*SC* **Figure 98**　　　*P* **158**　　*L* **46**　　# **683**
Gilb, James　　　　　　　　　　Appairent Technologie

Comment Type　**E**　　*Comment Status*　**X**

Spelling.

SuggestedRemedy

Change "Steam" to "Stream".

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 153 of 185

Cl **08**　　*SC* **Figure 98**

Cl **08** *SC* **Figure 99** *P* **160** *L* **10** **#** **420**
Heberling, Allen   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Delete all references to BSID in the MSC since the BSID should not be allowed to be changed on the fly per numerous other comments.

SuggestedRemedy
Please make the requested changes.

Proposed Response *Response Status* **O**

Cl **08** *SC* **Figure 99** *P* **160** *L* **21** **#** **645**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Change "MLME-PICONET-PARM-CHANGE.cnf" to "MLME-PICONET-PARM-CHANGE.cmf"

SuggestedRemedy
Change as indicated.

Proposed Response *Response Status* **O**

Cl **08** *SC* **Table 52** *P* **193** *L* **21** **#** **146**
Heberling, Allen   XtremeSpectrum

Comment Type **E** *Comment Status* **X**
All frames in a burst must have the same phy-rate /KO

SuggestedRemedy
<change from> Same rate as the last frame of the burst being ACKed. <to> Same rate as the rate of the frames of the burst being ACKed.

Proposed Response *Response Status* **O**

Cl **09** *SC* *P* *L* **#** **941**
Shvodian, William   XtremeSpectrum

Comment Type **T** *Comment Status* **X**
It may be necessary to allow a SECID to be used for n frames after the SECID has been updated incase a DEV did now see the SECID change in the beacon. DEVs with pseudo-static slots are able to transmit even if some number of beacons are corrupted.

SuggestedRemedy
Decide if this should be allowed an update the text.

Proposed Response *Response Status* **O**

Cl **09** *SC* *P* **210** *L* **46** **#** **1036**
Rasor, Gregg   Motorola

Comment Type **E** *Comment Status* **X**
Replace 'commands' by 'communications'.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **09** *SC* **2.8** *P* **211** *L* **130** **#** **1037**
Rasor, Gregg   Motorola

Comment Type **TR** *Comment Status* **X**
Data integrity (or better: data authenticity) is relative to the holders of the key. So, not only the PNC might have generated the beacon message; every authenticated device in the piconet might.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **09** *SC* **7.5** *P* *L* **#** **865**
Shvodian, William   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
It needs to be clear which commands use secure command format and which use non secure command format.

SuggestedRemedy
Indicate which commands use secure command format and which don't

Proposed Response *Response Status* **O**

Cl **09** *SC* **9** *P* *L* **#** **861**
Shvodian, William   XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
proper MSCs are needed for all section in clause 9

SuggestedRemedy
Create proper MSCs

Proposed Response *Response Status* **O**

Cl **09**　　*SC* **9**　　　　　　　*P* **209**　　*L* **1**　　　**#** **482**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type **TR**　　*Comment Status* **X**
The PNCs DEV address is no longer in the beacon.

SuggestedRemedy
Ensure that the DEV address of the PNC is available in some other manner to all DEVs to peform the required security processes.

Proposed Response　　　*Response Status* **O**

Cl **09**　　*SC* **9**　　　　　　　*P* **209**　　*L* **1**　　　**#** **503**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Message authentication code collides with MAC, so we need to always reference it as IC or integrity code.

SuggestedRemedy
Globally change all occurances of message authentication code to be integrity code with a note where the IC is first defined to note that this is sometimes referred to as a message authentication code but that the acronym collides with medium access controller.

Proposed Response　　　*Response Status* **O**

Cl **09**　　*SC* **9.1.1**　　　　　*P* **209**　　*L* **19**　　　**#** **825**
Shvodian, William　　　　　　　　XtremeSpectrum

Comment Type **E**　　*Comment Status* **X**
Low Cost, Bandwidth, Computational power, and Memory should not be included in physical assumptions for security. They would belong in a requirements document, not the standard.

SuggestedRemedy
Remove thise bullets

Proposed Response　　　*Response Status* **O**

Cl **09**　　*SC* **9.1.1**　　　　　*P* **209**　　*L* **21**　　　**#** **827**
Shvodian, William　　　　　　　　XtremeSpectrum

Comment Type **E**　　*Comment Status* **X**
"outside of the piconet" should be "not part of the piconet"

SuggestedRemedy
change to "not part of the piconet"

Proposed Response　　　*Response Status* **O**

Cl **09**　　*SC* **9.1.1**　　　　　*P* **209**　　*L* **22**　　　**#** **583**
Gilb, James　　　　　　　　　　　Appairent Technologie

Comment Type **E**　　*Comment Status* **X**
Two occurances of the word must on this page, lines 22 and 26.

SuggestedRemedy
Change "must" to "needs to" since this is not a technical requirement here.

Proposed Response　　　*Response Status* **O**

Cl **09**　　*SC* **9.1.1**　　　　　*P* **209**　　*L* **24**　　　**#** **828**
Shvodian, William　　　　　　　　XtremeSpectrum

Comment Type **E**　　*Comment Status* **X**
"roaming" should be "mobile"

SuggestedRemedy
change to mobile

Proposed Response　　　*Response Status* **O**

Cl **09**　　*SC* **9.1.2**　　　　　*P* **209**　　*L* **43**　　　**#** **826**
Shvodian, William　　　　　　　　XtremeSpectrum

Comment Type **E**　　*Comment Status* **X**
This is not necessarily true:　"It is assumed that the PNC has more resources and functionality than an ordinary DEV."

SuggestedRemedy
Remove this sentence

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 155 of 185
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
Cl **09**　　*SC* **9.1.2**

Cl **09**   *SC* **9.2.11**   *P* **211**   *L* **31**   *#* **834**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**

Remove ACK integrity protection sub-clause. Protecting ACKs is unnecessary. This would require the ACKs to have a payload which would take significantly onger to process.

SuggestedRemedy

Remove this sub clause.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.2.2**   *P* **212**   *L*   *#* **835**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**

Does PNC handover require or allow ACL handover? If so, the mechanism must be described.

SuggestedRemedy

Describe ACL handover if needed.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.2.6**   *P* **211**   *L* **3**   *#* **829**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

"Encryption" should say "Data encryption"

SuggestedRemedy

Change to "Data encryption"

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.2.7**   *P* **211**   *L* **9**   *#* **830**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**

"Integrity" should be "Data integrity"

SuggestedRemedy

change to "Data integrity"

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.2.9**   *P* **211**   *L* **20**   *#* **427**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

How is the time token set for peer-to-peer security if the piconet is in mode 0 but two DEVs wish to establish a secure relationship?

SuggestedRemedy

Three ideas: 1) Add the ability of a DEV to pass a time token in the messages, either in every frame or only in the first frame or frames of the superframe. 2) Expand the beacon counter to be 6 octets and remove the time token from the beacon. 3) Have the DEVs set an 6 octet internal time token to be the current superframe counter and increment it with each superframe. When the superframe counter rolls over, simply increment the internal time token. The 4 least significant octets will still correspond to the superframe counter, but the time token will only roll over on 2^48 superframes.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.2.9**   *P* **211**   *L* **21**   *#* **831**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**

The dev rejects the beacon, not the time token: To prevent replay of old messages, a strictly-increasing time token is included in the beacon. A DEV may reject as invalid a received time token less than or equal to the current time token.

SuggestedRemedy

Change to: To prevent replay of old messages, a strictly-increasing time token is included in the beacon. A DEV may reject as invalid a received beacon with a time token less than or equal to the current time token.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.2.9**   *P* **211**   *L* **22**   *#* **832**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**

The time token doesn't need to be transmitted since it is known by both the transmitter and the receiver.

SuggestedRemedy

change the sentence from: "A DEV may reject as invalid a frame received with a time token less than the current time token." To: "A frame that was protected using an invalid time token will fail integrity check at the receiver and shall be discarded."

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.3**   *P* **212**   *L* **12**   **#** **568**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

Need to add a description of the security process for joining a piconet.

SuggestedRemedy

Add the following subclause to the end of 9.3   9.3.5 If a DEV wishes to join a secure piconet, it should associate with the PNC in order to be assigned a local DEVID and time slots to perform the authentication process. Since the device must be associated before the authentication process has taken place, the association command and response have the SEC field in the frame control field set to 0 and use the non-secure command frame format, {xref 7.5.1.x}.   Once the DEV is associated, the PNC should allocate an MTS to allow the DEV to proceed with the authentication protocol as described in 9.9.1{xref}. Before the authentication process is initiated, the DEV and PNC should ensure that they will be able to successfully implement the authentication protocol. Once the DEV is associated, the DEV or PNC may choose to send probe commands to each other to request or transmit public key objects or to request or transmit preferred OIDs. When a public key object is received in a probe command before authentication, the DEV may choose to determine whether that public key would be accepted in an authentication protocol and update its ACL if desired. The DEV and PNC may also exchange additional information before authentication if desired.   After the DEV has associated and exchanged the desired information with the PNC, the DEV should initiate the authentication protocol. The authentication and challenge commands are designed to be used with security turned off. In the authentication request command, the DEV should select either the security suite OID received in the association response or an OID received in a probe command after associating. Once the authentication protocol has been initiated, the DEV should follow the states and state transitions specified in 9.9.1.1 and 9.9.1.2 {xref}. While in the authentication process, the authentication commands should have the SEC field in the frame control field set to 0. If during the authentication process there is a security check failure of any kind, the DEV or PNC should return the appropriate error in the challenge response command or authentication response command respectively and exit from the authentication protocol.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.3**   *P* **212**   *L* **21**   **#** **569**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**

Need to add a description on how to create and receive a secure beacon.

SuggestedRemedy

Add the following text to the end of subclause 9.3   9.3.6 Secure beacon processing 9.3.6.1 Generating secure beacons   A PNC in a piconet using security should send secure beacons protected with the piconet protection key stored. For each superframe, the PNC should increment the time token and transmit a secure beacon with the SEC field in the frame control field set to 1.   9.3.6.2 Receiving secure beacons   In order to maintain secure and reliable operations in the piconet, a DEV shall use the beacon to help maintain the current time token and the current key. When the DEV receives a secure beacon, it shall verify that the time token is greater than the current time token, that the SECID matches the SECID for the piconet and that the integrity code passes. If all of these checks succeed, the DEV shall set the current time token to be the received time token value. If the time token is greater than the current time token, but the SECID does not match the current SECID, the device may set the current time token to the value in the beacon and send a key request command to the PNC to obtain the new key.

Proposed Response   *Response Status*   **O**

Cl **09**	*SC* **9.3**	*P* **212**	*L* **21**	# **566**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

Need to have a desrciption of how to do the secure frame generation.

SuggestedRemedy

Add the following subclause to 9.3   9.3.3 Secure frame generation   When a DEV wishes to send a secure frame, it shall obtain the appropriate keying material from the MAC PIB depending on the key indicated by the DME. If the DME indicates that the PICONET-MGMT key shall be used, then the DEV shall use the key from the MACPIB_ManagementKeyInfo entry from the MAC PIB piconet security group parameters. If the DME indicates that the PICONET-DATA key shall be used, the DEV shall use the key from the MACPIB_DataKeyInfo entry from the MAC PIB piconet security group parameters. If the DME indicates that the PEER-MGMT key shall be used, the DEV shall use the key from the MACPIB_ManagementKeyInfo entry from the corresponding MAC PIB access control list group parameters table. If the DME indicates that the PEER-DATA key shall be used, then the DEV shall use the key from the MACPIB_DataKeyInfo entry from the corresponding MAC PIB access control list group parameters table. If the DEV is unable to find the corresponding key that is to be used, the MLME shall return an MLME-SECURITY-ERROR.indication to the DME with the ReasonCode set to UNAVAILABLE-KEY and shall not transmit the requested frame. If the MLME-xxx.request command has an associated MLME-xxx.confirm, then the MLME shall also set the reason code for the .confirm to be UNAVAILABLE-KEY.   If the DEV is able to obtain the appropriate security suite and key from the MAC PIB, the DEV shall use the current time token in the frame. The SECID included in the frame shall be the value corresponding to the key being used.   The integrity code shall be computed on the entire frame up to the integrity code itself including the MAC header. However, the DEV shall set the retry field in the frame control field of the MAC header to be 0 only for the purposes of the integrity calculation. This operation is done in order to allow a device to retransmit a frame without recomputing the integrity code. The result of the integrity code computation shall be encrypted and placed in the integrity code field in the secure frame. The encryption operation shall be applied only to the integrity code, seeds that are being transmitted in a distribute key command or request key response command and the payload of data frames. The result of the encryption operation shall be inserted into the frame in the place of the data that was encrypted.   If any of the security operations fail, the MLME shall return an MLME-SECURITY-ERROR.indication to the DME with the ReasonCode set to FAILED-SECURITY-CHECK and shall not transmit the requested frame. If the security operations have been successfully performed and the payload field has been modified appropriately, the device shall then compute the FCS over the modified frame.

Proposed Response   *Response Status* **O**

Cl **09**	*SC* **9.3**	*P* **212**	*L* **21**	# **567**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

Need to describe how to receive an incoming secure frame.

SuggestedRemedy

Add the following section to the end of 9.3   9.3.4 When a DEV receives a secure frame, it shall obtain the appropriate keying material from the MAC PIB depending on the SECID and source address found in the frame. To find the correct key, the DEV shall first check the MAC PIB for an ACL entry that corresponds to a peer-to-peer relationship with the sending DEV and that has a MACPIB_DataSECID or MACPIB_ManagementSECID that matches the received SECID. If no peer-to-peer ACL entry matches the received frame, the DEV shall check the MACPIB_PNCDataSECID and MACPIB_ManagementSECID to determine if it matches the received SECID. If either of these entries gives a match, the DEV shall use the security suite in the corresponding MACPIB_SecuritySuite and the key corresponding to the SECID. If an appropriate entry in the ACL cannot be found, the MLME shall return an MLME-SECURITY-ERROR.indication to the DME with the ReasonCode set to UNAVAILABLE-KEY and shall not perform any additional operations on the received frame.   If the DEV is able to obtain the appropriate security suite and key from the ACL, the DEV shall compare the received time token to the value in the MACPIB_CurrentTimeToken. If the frame is a beacon frame, the DEV shall determine if the received time token is greater than the MACPIB_CurrentTimeToken. If the frame is not a beacon frame, the DEV shall determine if the received time token is equal to the MACPIB_CurrentTimeToken. If either of these checks fail, the MLME shall return an MLME-SECURITY-ERROR.indication to the DME with the ReasonCode set to BAD-TIME-TOKEN and shall not perform any additional operations on the received frame. If the time token matches, the DEV shall apply the operations defined by the security suite to the frame. Before the security operations have been performed and the payload field has been modified, the DEV shall check the FCS. The DEV shall also check that the retry field in the frame control field of the MAC header is set to 0 and, if not, set it to 0. This operation is done in order to allow a device to retransmit a frame without recomputing the integrity code.   The decryption operation shall be applied only to the integrity code, seeds that are being transmitted in a distribute key command or request key response command and the payload of data frames. The result of the decryption operation shall be replaced into the received frame in the place of the encrypted data. The integrity code shall be computed on the entire frame with the decrypted data replacing the encrypted data up to the integrity code itself including the MAC header.   If any of the security operations fail, the MLME shall return an MLME-SECURITY-ERROR.indication to the DME with the ReasonCode set to FAILED-SECURITY-CHECK and shall not perform any additional operations on the received frame.   If the security operations have been successfully performed and the frame has been modified appropriately, the device may then continue to process the frame.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.3.2**   *P* **212**   *L* **19**   *#* **738**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Delete extra 's'.

SuggestedRemedy
Change to "DEV chooses to accept this public"...

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.3.3**   *P* **212**   *L* **21**   *#* **577**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
There needs to be an explanation of what keys are used with which commands. clause 9 seems like a good place to put this.

SuggestedRemedy
A table needs to be added to list the usage of the frames and the types of keys used for each frame (the table is in document 02/271r0). The following text should be added at the end of the clause describing secure frame generation: The key used to protect a particular frame depends on the purpose of the frame. In general, all secure commands between the PNC and other devices should be protected with the PNC management key. All secure data frames to or from the PNC, all secure broadcast frames and all secure beacons should be protected with the piconet group data key. For two DEVs that share a peer-to-peer security relationship, peer-to-peer management keys should be used for all secure commands and peer-to-peer data keys should be used for all secure data frames. If two DEVs in a secure piconet do not have a peer-to-peer security relationship, they may use the piconet group data key for secure commands and secure data frames transmitted between them. The following table summarizes which keys should be used for each type of frame

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.4**   *P* **212**   *L* **23**   *#* **570**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
Need some more descriptive text for 9.4

SuggestedRemedy
The following descriptive text should be added to clause 9.4.   The security mode indicates in what manner a DEV shall utilize the entries in the MAC PIB piconet security group parameter and MAC PIB access control list group parameters. The security mode in use is determined by the MACPIB_SecurityOptionImplemented entry in the MAC PIB.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.4.1**   *P* **212**   *L* **27**   *#* **571**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
The description of security mode 0 is not descriptive enough and should refer to a DEV operating in the mode, not a piconet operating in the mode.

SuggestedRemedy
Replacing the first paragraph in 9.4.1 with the following text: A device operating in security mode 0 shall not utilize the ACL entries and shall not perform any security related operations on MAC frames. While in this mode, if the MAC receives a frame with the SEC field set to 1, the MAC shall discard the frame and the MLME shall return an MLME-SECURITY-ERROR.indication to the higher layer with the ReasonCode set to UNAVAILABLE-KEY. If the MAC receives a frame with the SEC field set to 0, the MLME shall set the SecurityUse and ACLEntry fields to FALSE in the indication to the DME.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.4.2**   *P* **212**   *L* **31**   *#* **572**
Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**
The description of security mode 1 is not descriptive enough and should refer to a DEV operating in the mode, not a piconet operating in the mode.

SuggestedRemedy
Replacing the first paragraph in 9.4.2 with the following text: Security mode 1 provides a mechanism for the MLME of a PNC to indicate to the DME if a received frame purportedly originated from a device in the ACL. The PNC may use this information as a criterion for allowing a device into the piconet. A device operating in security mode 1 shall not perform any security related operations on MAC frames. While in this mode, if the MAC receives a frame with the SEC field set to 1, the MAC shall discard the frame and the MLME shall return an MLME-SECURITY-ERROR.indication to the higher layer with the ReasonCode set to UNAVAILABLE-KEY. If the MAC receives a frame with the SEC field set to 0, the MLME shall set the SecurityUse field to FALSE and the ACLEntry field to TRUE or FALSE depending on if the sender is in the ACL in the indication to the higher layer.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.4.3**   *P* **212**   *L* **44**   **#** **573**

Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

The description of security mode 2 is not descriptive enough and should refer to a DEV operating in the mode, not a piconet operating in the mode.

SuggestedRemedy

Replacing the first paragraph in 9.4.3 with the following text: Security mode 2 provides a mechanism for a device to perform cryptographic security on frames transmitted in the piconet. DEVs operating in security mode 2 use public-key cryptography to verify the authenticity of other DEVs in the piconet and symmetric-key cryptography to protect frames using encryption and integrity. The cryptographic operations used for secure frames exchanged with the PNC and with other members of the piconet security group shall be performed as specified by the security suite indicated in the MACPIB_SecuritySuite in the MAC PIB piconet security group parameters. The cryptographic operations performed for secure frames exchanged with a peer DEV shall be performed as specified by the security suite indicated in the MACPIB_SecuritySuite entry associated with that peer security relationship in a MAC PIB access control list group parameters table. While in this mode, the MAC may accept frames with the SEC field in the frame control field set to 1 or 0 and shall set the SecurityUse in the MLME message to the DME to TRUE or FALSE respectively.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.4.4**   *P* **213**   *L* **17**   **#** **574**

Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

The description of security mode 3 is not descriptive enough and should refer to a DEV operating in the mode, not a piconet operating in the mode.

SuggestedRemedy

Replacing the first paragraph in 9.4.4 with the following text: Security mode 3 provides a mechanism for a device to perform cryptographic security on frames transmitted in the piconet. DEVs operating in security mode 3 use public-key cryptography and public-key certificates to verify the authenticity of other DEVs in the piconet and symmetric-key cryptography to protect frames using encryption and integrity. The cryptographic operations used for secure frames exchanged with the PNC and with other members of the piconet security group shall be performed as specified by the security suite indicated in the MACPIB_SecuritySuite in the MAC PIB piconet security group parameters. The cryptographic operations performed for secure frames exchanged with a peer DEV shall be performed as specified by the security suite indicated in the MACPIB_SecuritySuite entry associated with that peer security relationship in a MAC PIB access control list group parameters table. While in this mode, the MAC may accept frames with the SEC field in the frame control field set to 1 or 0 and shall set the SecurityUse in the MLME message to the DME to TRUE or FALSE respectively.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.4.4**   *P* **213**   *L* **19**   **#** **836**

Shvodian, William   XtremeSpectrum

Comment Type **T**   *Comment Status* **X**

Are ACLs never needed for Security Mode 3?

SuggestedRemedy

Add ACL tesxt if needed.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.5.1**   *P* **214**   *L* **4**   **#** **837**

Shvodian, William   XtremeSpectrum

Comment Type **T**   *Comment Status* **X**

subsuites also have unique OIDs

SuggestedRemedy

Change to "Each security sutie and each security sub-suite"

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.5.1**   *P* **214**   *L* **4**   **#** **1132**

Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**

Reference to "arc"

SuggestedRemedy

What is an "arc"? This needs to be added to clause three or clause four (appropriately). Refer to security subcommittee.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.5.2**   *P* **214**   *L* **7**   **#** **838**

Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**

Sub-clause9.5.2-9.5.5 are requirements and doesn't really belong in the standard. Maybe requirements belong in an annex.

SuggestedRemedy

Move to an annex

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause   Page 160 of 185

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *Cl* **09**   *SC* **9.5.2**

Cl **09**   *SC* **9.6**   *P* **215**   *L* **10**   **#** **589**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
The word must is used

SuggestedRemedy
Change "must provide" to "provides" since this is not a technical requirement, but rather is an informative discussion.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.6**   *P* **215**   *L* **7**   **#** **839**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
This does not belong in the standard, maybe in an annex: The protocols in this document have been selected based on: — Time to market: The protocols make use of currently available technology. — Selectable components: The protocol framework must provide flexibility to allow different algorithms to be selected for use in the standard. — Flexibility: The protocols are designed to meet a large range of security requirements. They should support the various security scenarios identified for 802.15.3 piconets. — Market suitability: The protocols have been be reviewed by to ensure that they satisfy the requirements of 802.15.3 applications.

SuggestedRemedy
Remove and maybe move to an annex

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.7**   *P* **216**   *L* **4**   **#** **457**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
There are no ACKs shown in the overview figures.

SuggestedRemedy
Add the ACKs to the figures unless it makes them unnecessarily complicated. Otherwise, leave it as is.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.8**   *P* **220**   *L* **10**   **#** **463**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
The term "network byte order" has not been defined.

SuggestedRemedy
Either 1) define network byte order, 2) delete the sequence numbers or 3) leave it up to the MAC to send it correctly.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.8**   *P* **221**   *L* **26**   **#** **1133**
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**
typo

SuggestedRemedy
... as specified in 7.3 or a secure ...

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.9**   *P* **221**   *L*   **#** **852**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
Does SM check ACL after getting association request?

SuggestedRemedy
need a figure showing SM checking ACL after association

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
Page 161 of 185
Cl **09**   *SC* **9.9**

Cl **09**   *SC* **9.9**   *P* **221**   *L*   # **875**

Shvodian, William   XtremeSpectrum

Comment Type **TR**   *Comment Status* **X**

It needs to be made clear that the security manager needs to maintain states separately for each DEV in the piconet. Likewise, DEVS need to maintain stat information with respect to the PNC/SM and any other SM.

SuggestedRemedy

It needs to be made clear that the security manager needs to maintain states separately for each DEV in the piconet. Likewise, DEVS need to maintain stat information with respect to the PNC/SM and any other SM.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.9**   *P* **221**   *L* **52**   # **872**

Shvodian, William   XtremeSpectrum

Comment Type **T**   *Comment Status* **X**

Need to specify that all command and data frame transmissions are sent with immediate ACK unless otherwise specified.

SuggestedRemedy

Specify that all command and data frame transmissions are sent with immediate ACK unless otherwise specified.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.9.1**   *P* **222**   *L* **5**   # **461**

Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**

The setup tables in 9.9 do not have xrefs to them in the text.

SuggestedRemedy

Add text like "The setup required for the blah-blah process is listed in table foo-bar." for all of the setup tables in 9.9.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.9.1**   *P* **226**   *L* **17**   # **458**

Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**

The "authentication error command" has not been defined.

SuggestedRemedy

Change "authentication error" to be "authentication response with reason code set to an error." if that is correct or delete the reference. Make the appropriate change throughout clause 9.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.9.1.1**   *P* **226**   *L* **12**   # **630**

Gilb, James   Appairent Technologie

Comment Type **T**   *Comment Status* **X**

The word "can" is use when it should be "may"

SuggestedRemedy

Change to "may"

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.9.1.3**   *P* **228**   *L* **17**   # **854**

Shvodian, William   XtremeSpectrum

Comment Type **T**   *Comment Status* **X**

The PNC also needs to track association state

SuggestedRemedy

Change test to: The security manager maintains a separate association/authentication state for each of the DEVs it is willing to authenticate with.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.9.1.3**   *P* **228**   *L* **17**   # **1134**

Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**

Rewrite sentence.

SuggestedRemedy

The security manager maintains a separate authentication state for each of the DEVs with which it is willing to authenticate.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **9.9.1.3**   *P* **229**   *L* **15**   **#** **459**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
There is no pending key state in the diagram

SuggestedRemedy
Change "... to is the "pending key" state." to be "... to is the startup mode state or secure mode state."

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.9.2**   *P* **232**   *L*   **#** **863**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
Need to describe what happens if beacon fails authentication check.

SuggestedRemedy
Need to define what happens if the beacon fails integrity check

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.9.3**   *P* **234**   *L* **1**   **#** **460**
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status*   **X**
There is no introductory text to describe this subclause. Text is also missing from 9.9.4 and 9.9.6.

SuggestedRemedy
Add introductory text to 9.9.3, 9.9.4 and 9.9.6.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.9.5.2**   *P* **241**   *L* **35**   **#** **462**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
What is "authentication acknowledgement"?

SuggestedRemedy
Change to "authentication response command" or the correct command in the sequence. This may change figure 159 as well.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.9.5.3**   *P* **244**   *L* **1**   **#** **739**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
Missing text.

SuggestedRemedy
Change to "Table 70 describes the key management security manager states."

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **9.9.5.7**   *P* **247**   *L*   **#** **336**
Heberling, Allen   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
Figure 163 shows PNC handover using PNC information and PNC handover information (renamed to PNC handover CTRB). Non of these contains Authentication state. Consequently the new PNC has no way of knowing if a DEV is only associated, authenticated or in progress of authenticating. /KO

SuggestedRemedy
SEC group needs to clarify. Appropriate information elements needs to be added to PNC information, 7.5.4.2, or a new SEC handover command frame needs to be specified. Since the PNC information can be a response to a DEV inquiry, probably a new frame is the preferred alternative.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 144**   *P* **216**   *L*   **#** **163**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
Non-standard sequence diagram/KO

SuggestedRemedy
Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 144**   *P* **216**   *L*   **#** **840**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   Needs to show association. Looks like it goes right to authentication

SuggestedRemedy
   Show association

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 145**   *P* **217**   *L*   **#** **165**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   Non-standard sequence diagram/KO

SuggestedRemedy
   Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 146**   *P* **217**   *L*   **#** **167**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   Non-standard sequence diagram/KO

SuggestedRemedy
   Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 147**   *P* **218**   *L*   **#** **169**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   Non-standard sequence diagram/KO

SuggestedRemedy
   Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 148**   *P* **218**   *L*   **#** **171**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   Non-standard sequence diagram/KO

SuggestedRemedy
   Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 149**   *P*   *L*   **#** **866**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
   Do any of thes commands use secure command format? If so, they need to indicate the seq_num

SuggestedRemedy
   Indicate if these commands use secure of non secure command frame formats

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 149**   *P* **223**   *L*   **#** **173**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
   Non-standard sequence diagram/KO

SuggestedRemedy
   Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 151**   *P* **225**   *L*   **#** **853**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
   DEV must associate before authentication

SuggestedRemedy
   Modify figure to show association before authentication.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 153**   *P* **231**   *L*   **#** 860
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
    Startup mode should be startup state

SuggestedRemedy
    change from startup mode to startup state

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 153**   *P* **231**   *L*   **#** 859
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
    Need to show association state.

SuggestedRemedy
    Add authentication state

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 153**   *P* **231**   *L*   **#** 175
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
    Non-standard sequence diagram/KO

SuggestedRemedy
    Replace with MSC with state represented as condition

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 154**   *P* **233**   *L*   **#** 314
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
    Non-standard sequence diagram/KO

SuggestedRemedy
    Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 155**   *P* **235**   *L*   **#** 867
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
    Does the SM send new key to all DEVs, then update SECID in beacon and start using the
    new key?

SuggestedRemedy
    Need to explicitly show when the PNC/SM starts using the new key.

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 155**   *P* **235**   *L*   **#** 868
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
    What is the purpose of the distribute Key response command? What does the PNC do if it
    fails? Try again? Disassociate the DEV? If the frame passed CRC the PNC would get an
    ACK and the key should be received correctly.

SuggestedRemedy
    Add text explaining the purpose of the distribute key response command

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 155**   *P* **235**   *L*   **#** 316
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
    Non-standard sequence diagram/KO

SuggestedRemedy
    Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09**   *SC* **Figure 157**   *P* **238**   *L*   **#** 318
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
    Non-standard sequence diagram/KO

SuggestedRemedy
    Replace with MSC

Proposed Response   *Response Status*   **O**

Cl **09** *SC* **Figure 159** *P* **240** *L* **#** 869
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
these states need to show an entry and exit. some only have one or the other.

SuggestedRemedy
Show the state entry and exit.

Proposed Response *Response Status* **O**

Cl **09** *SC* **Figure 160** *P* **243** *L* **#** 871
Shvodian, William XtremeSpectrum

Comment Type **T** *Comment Status* **X**
This is unclear. Should be replaced by an MSC.

SuggestedRemedy
Replace this figure with an MSC.

Proposed Response *Response Status* **O**

Cl **09** *SC* **Figure 161** *P* **245** *L* **#** 320
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
Non-standard sequence diagram/KO

SuggestedRemedy
Replace with MSC with state represented as condition

Proposed Response *Response Status* **O**

Cl **09** *SC* **Figure 162** *P* **246** *L* **#** 322
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
Non-standard sequence diagram/KO

SuggestedRemedy
Replace with MSC with state represented as condition

Proposed Response *Response Status* **O**

Cl **09** *SC* **Figure 163** *P* **247** *L* **#** 324
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
Non-standard sequence diagram/KO

SuggestedRemedy
Replace with MSC with state represented as condition

Proposed Response *Response Status* **O**

Cl **09** *SC* **Figure 165** *P* **248** *L* **#** 326
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
Non-standard sequence diagram/KO

SuggestedRemedy
Replace with MSC with state represented as condition

Proposed Response *Response Status* **O**

Cl **09** *SC* **Figure 165** *P* **248** *L* **#** 334
Heberling, Allen XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
What is a deauthentication acknowledgement? /KO

SuggestedRemedy
Replace with Imm-ACK, unless a real frame is intended but missing in the frame formats.
In that case insert that frame into clause 7.

Proposed Response *Response Status* **O**

Cl **09** *SC* **Figure 166** *P* **250** *L* **#** 328
Heberling, Allen XtremeSpectrum

Comment Type **E** *Comment Status* **X**
Non-standard sequence diagram/KO

SuggestedRemedy
Replace with MSC

Proposed Response *Response Status* **O**

Cl **09**   *SC* **Figure 167**   *P* **250**   *L*   **#** **330**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   Non-standard sequence diagram/KO

SuggestedRemedy
   Replace with MSC with state represented as condition

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Figure 168**   *P* **252**   *L*   **#** **332**
Heberling, Allen   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   Non-standard sequence diagram/KO

SuggestedRemedy
   Replace with MSC with state represented as condition

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Figure144**   *P* **216**   *L*   **#** **841**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   Security is included in the beacon. The top right says no security is included in the beacon.

SuggestedRemedy
   It must be clear that the new DEV ignores the integrity check in the beacon.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 55**   *P* **218**   *L*   **#** **844**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
   ID_D is not correct notation. ID refers to the 8 bit DEV ID. AD should be used when referring to a 48 bit address.

SuggestedRemedy
   change ID_D and ID_SM to AD_D and AD_SM

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 55**   *P* **218**   *L* **34**   **#** **846**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
   SECIDs can't be unique in the piconet unless they are either centrally managed or the SM is identified with each frame.   How does a dev know if the key is the group key assigned by the PNC or a group key assigned by another SM. Also, the receiver needs to decode command frame types to know which key is used for commands.

SuggestedRemedy
   Security Editors need to come up with a way to let the recreiving DEV identify which key is being used.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 55**   *P* **220**   *L*   **#** **850**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**
   Are the sequence counters and secure frame counters reset to zero every superframe or do they keep incrementing till they roll over?

SuggestedRemedy
   Clarify if these are reset every superframe or if they roll over.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 55**   *P* **220**   *L*   **#** **942**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
   Do we really need a separate sequence number counter for mangement frames and one for data frames? Management frames should be relatively rare compared to data frames. Why don't we just have a single frame counter.

SuggestedRemedy
   Use a single frame sequence counter regardless of frame type (data, command, beacon)

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 55**   *P* **220**   *L* **11**   **#** **847**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
What is "network byte order"

SuggestedRemedy
define network byte order or remove this.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 55**   *P* **2201**   *L*   **#** **851**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
add H to the end of all protocol notations for headers to be consistent.

SuggestedRemedy
add H to the end of all protocol notations for headers to be consistent.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 58**   *P* **9**   *L*   **#** **864**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**
all of these states need to specify that the DEV ignores Beacon integrity

SuggestedRemedy
all of these states need to specify that the DEV ignores Beacon integrity

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 60**   *P* **229**   *L*   **#** **855**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**
PNC/SM should ignore all commands in startup state, not just security related commands

SuggestedRemedy
Change to: The security manager has not yet sent keys Security manager ignores all commands from the DEV except the following:

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 60**   *P* **229**   *L*   **#** **857**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
SM0.0 is a security state, not mode

SuggestedRemedy
Change to startup state

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 60**   *P* **229**   *L* **14**   **#** **856**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**
Add association to the list of commands that the SM handles in startup state

SuggestedRemedy
add association to the list of commands that the SM handles in startup state.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **table 61**   *P* **230**   *L*   **#** **858**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**
these transitions are states, not modes.

SuggestedRemedy
change from modes to states

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 62**   *P* **232**   *L* **12**   **#** **862**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**
Initial Owner needs a definition

SuggestedRemedy
Definine initial owner

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 69**   *P*   *L*   # **870**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

What does a DEV do when it sees a new SECID in the beacon? Does it stop tranmitting?
If it keeps transmitting with the old SECID can/shall another DEV use the old key?

SuggestedRemedy

Need to clarify

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 74**   *P* **251**   *L*   # **873**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

It is not clear why the DEV would reject all commands while checking a message. Why
wouldn't they be queued?

SuggestedRemedy

Need to explain why commands are rejected.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table 76**   *P* **252**   *L*   # **874**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

Need to explain why SM rejects all commands while checking a message instead of
queuing them.

SuggestedRemedy

Need to explain why SM rejects all commands while checking a message instead of
queuing them.

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Table55**   *P*   *L*   # **845**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

Pub and Pr would be clearer if they were PubK and PrK

SuggestedRemedy

change Pub_D, Pr_D, Pub_SM and Pr_SM to PubK_D, PrK_D, PubK_SM and PrK_SM

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Taqble 55**   *P* **220**   *L*   # **849**

Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status* **X**

More definition is needed to clarify the difference between SFC__D, SGF_SM, and
SFC_S. what is the difference between a data frame and a secure frame?

SuggestedRemedy

Clarify the difference between SFC__D, SGF_SM, and SFC_S. and the differece between
a data frame and a secure frame

Proposed Response   *Response Status* **O**

Cl **09**   *SC* **Tsable 55**   *P* **220**   *L*   # **848**

Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status* **X**

Why are the seq_nums 4 octets and SFDs 2 octets? Is it because management is more
important than data? Many more data frames should be tranmitted than management

SuggestedRemedy

Prefer 2 octet for management sequence counter for overhead reasons if it is not a security
problem.

Proposed Response   *Response Status* **O**

Cl **10**   *SC*   *P*   *L*   # **935**

Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status* **X**

I have been told that everything in the frame but the FCS is covered by the integrity check.
There are some problems with this: HCS is not known during encryption so it cannot be
part of integrity check. I recommended dropping HCS from the MAC andyway and keeping
it in the PHY.   A security wrapper is required to pad to a multiple of 16 octets. The
calculation for this would have to include MAC overhead.   Most of the important fields
are protected by the nonce (SrcID, DestID, Fragmentation field,

SuggestedRemedy

If possible, I think it is better if the integrity code does not cover the header. If it needs to,
the covered fields need to made clear. HCS cannot be covered since it is generated at the
PHY.

Proposed Response   *Response Status* **O**

Cl **10**　　　*SC* **10**　　　　　　　　*P*　　　　*L*　　　　# **930**
Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**T**　　　*Comment Status*　**X**

Need to make sure that all fields specified as (a || b || c) are msb to the left, first bit transmitted to the right.

SuggestedRemedy

Make sure this is consistent with the rest of the draft.

Proposed Response　　　　*Response Status*　**O**

Cl **10**　　　*SC* **10**　　　　　　　　*P*　　　　*L*　　　　# **934**
Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**TR**　　　*Comment Status*　**X**

Does the DEV attempting to authenticate maintain an ACL? Does it olnoly try to associate with DEVs in it's ACL? Does it need to do something "out of scope" to get the new PNC/SM on its ACL before it even tries to associate? It is very important that a DEV does not accidentally join the wrong piconet by a ccident.

SuggestedRemedy

This needs to be spelled out clearly.

Proposed Response　　　　*Response Status*　**O**

Cl **10**　　　*SC* **10**　　　　　　*P* **255**　　*L* **4**　　# **876**
Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**E**　　　*Comment Status*　**X**

Should be "security suite specifications" not "security suites specifications"

SuggestedRemedy

change to: "security suite specifications"

Proposed Response　　　　*Response Status*　**O**

Cl **10**　　　*SC* **10**　　　　　*P* **259**　　*L* **48**　　# **576**
Gilb, James　　　　　　　Appairent Technologie

Comment Type　**TR**　　　*Comment Status*　**X**

The secure frame counter has not been established yet when the authentication process begins.

SuggestedRemedy

The challenge response generation entry and the authentication response generation entry should add the following sentence at the end:　The secure frame counter used in the CCM nonce shall be the 2-byte string 0x0000

Proposed Response　　　　*Response Status*　**O**

Cl **10**　　　*SC* **10.1.1**　　　*P* **255**　　*L* **23**　　# **877**
Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**TR**　　　*Comment Status*　**X**

Need to explain why the security manager "may" send the desired OID, and not "shall"

SuggestedRemedy

Explain why this is a may and not a shall or change to a shall.

Proposed Response　　　　*Response Status*　**O**

Cl **10**　　　*SC* **10.1.1**　　　*P* **255**　　*L* **28**　　# **878**
Shvodian, William　　　　　　　XtremeSpectrum

Comment Type　**TR**　　　*Comment Status*　**X**

In a peer to peer authentication, there is no association response. How does the authenticating DEV know what OID the other SM is using?

SuggestedRemedy

Explain how one DEV knows what OID to use for authenticating with a Peer since there is not association response here.

Proposed Response　　　　*Response Status*　**O**

Cl **10**　　　*SC* **10.1.3**　　　*P* **255**　　*L* **46**　　# **631**
Gilb, James　　　　　　　Appairent Technologie

Comment Type　**T**　　　*Comment Status*　**X**

The word "can" is used when it should be "may"

SuggestedRemedy

Change "can" to "may"

Proposed Response　　　　*Response Status*　**O**

Cl **10** *SC* **10.2.1** *P* **256** *L* **42** *#* **1135**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Reference to DER

SuggestedRemedy
What is DER ... add to clause 4. Refer to Security Subcommittee.

Proposed Response   *Response Status* **O**

Cl **10** *SC* **10.2.1** *P* **256** *L* **7** *#* **879**
Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
arc needs a definition

SuggestedRemedy
define arc

Proposed Response   *Response Status* **O**

Cl **10** *SC* **10.2.1** *P* **256** *L* **9** *#* **880**
Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
This should be put in the diagram format as Clause 7 format

SuggestedRemedy
Put this into a diagram like those in clause 7

Proposed Response   *Response Status* **O**

Cl **10** *SC* **10.2.2** *P* **265** *L* **47** *#* **575**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
The mandatory to implement sub-suite should be less expensive and easier to implement than the current mandatory to implement sub-suite (ECIES-prime-256 raw 1).

SuggestedRemedy
Change the mandatory security suite to one based on the RSA algorithm. The RSA-OAEP based security suite proposed in document 02/228r1 should be inserted into the draft and made the mandatory to implement algorithm.

Proposed Response   *Response Status* **O**

Cl **10** *SC* **10.2.4** *P* **257** *L* **33** *#* **493**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
The IC needs to be recalculated if the frame is re-tried.

SuggestedRemedy
Declare the retry bit to be a mutable field, i.e. that before calculating the IC, set this bit to a known value, say one. This is both for transmission and reception.

Proposed Response   *Response Status* **O**

Cl **10** *SC* **10.2.4** *P* **257** *L* **34** *#* **497**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
Add the text required to implement 2 key CCM, indicating that it is an option. That way, if an attack is found, the standardized implementation is already written and implementers simply need to switch over to it.

SuggestedRemedy
Change as indicated.

Proposed Response   *Response Status* **O**

Cl **10** *SC* **10.2.4.1** *P* **257** *L* **39** *#* **884**
Shvodian, William   XtremeSpectrum

Comment Type **E**   *Comment Status* **X**
The following is unnecessary: In this clause a bit is defined to be an element of the set {0, 1}.

SuggestedRemedy
Delete: In this clause a bit is defined to be an element of the set {0, 1}.

Proposed Response   *Response Status* **O**

Cl **10** *SC* **10.2.4.1** *P* **257** *L* **42** *#* **885**
Shvodian, William   XtremeSpectrum

Comment Type **T**   *Comment Status* **X**
Bit ordering needs to be made consistent with the rest of 802.15.3 - msb is transmitted last.

SuggestedRemedy
Change the sentence to: (first, rightmost and least significant are equivalent; last, leftmost, most significant are equivalent).

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 171 of 185
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Cl **10** *SC* **10.2.4.1**

Cl **10** *SC* **10.2.4.1** *P* **257** *L* **43** **#** **886**

Shvodian, William XtremeSpectrum

Comment Type **T** *Comment Status* **X**

byte order needs to be consistent with the rest of 802.15.3

SuggestedRemedy

Change sentence to: Additionally, within an octet, high-order is equivalent to last and low-order is equivalent to first.

Proposed Response *Response Status* **O**

Cl **10** *SC* **10.2.4.1** *P* **257** *L* **46** **#** **887**

Shvodian, William XtremeSpectrum

Comment Type **T** *Comment Status* **X**

The bit order needs to be made consistent with the rest of 802.15.3

SuggestedRemedy

Change text to: Note that when a string is represented as a sequence, it may be indexed from left to right or from right to left, starting with any index. For example, consider the octet string of two octets: 0x2A 0x1B. This corresponds to the bit string 0010 1010 0001 1011. No matter what indexing system is used, the first octet transmitted is still 0x1B, the first bit transmitted is still 1, the last octet transmitted is still 0x2A, and the last bit transmitted is still 0. The high-order bit of the second octet transmitted is 0; the low-order bit of the second octet transmitted is 0.

Proposed Response *Response Status* **O**

Cl **10** *SC* **10.2.4.3** *P* **258** *L* **13** **#** **1136**

Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**

Reference to CBC

SuggestedRemedy

I don't know what a CBC is ... refer to security committee and add to clause 4.

Proposed Response *Response Status* **O**

Cl **10** *SC* **10.2.4.5** *P* **258** *L* **31** **#** **1137**

Roberts, Richard Xtremespectrum

Comment Type **E** *Comment Status* **X**

Add nonce to clause 3

SuggestedRemedy

Nonce: a parameter that varies with time. A nonce can be a time stamp, a counter, or a special marker intended to prevent the unauthorized replay or reproduction of a file.

Proposed Response *Response Status* **O**

Cl **10** *SC* **10.2.4.5** *P* **258** *L* **35** **#** **891**

Shvodian, William XtremeSpectrum

Comment Type **T** *Comment Status* **X**

Can one secure frame counter be used for all transmission or is a separate on needed for all groups?

SuggestedRemedy

Clarify if it is acceptible for one secure frame counter to be used for alll frames.

Proposed Response *Response Status* **O**

Cl **10** *SC* **10.2.4.5** *P* **258** *L* **35** **#** **888**

Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**

Is the secure frame counter 2 octets or 4? It looks like it is currently 2 octets in the data frames and 4 in the command frames. If this is the case, then a separate nonce is needed for command frames.

SuggestedRemedy

Clarify the number of octets in the data, command and beacon secure frame counters.

Proposed Response *Response Status* **O**

Cl **10** *SC* **10.2.4.5** *P* **258** *L* **38** **#** **889**

Shvodian, William XtremeSpectrum

Comment Type **T** *Comment Status* **X**

Does the sequence nubmer increment for retransmission? Can it?

SuggestedRemedy

Specify if the sequence number may or shall increment for retransmissions.

Proposed Response *Response Status* **O**

Cl **10**   *SC* **10.2.4.6**   *P* **258**   *L* **48**   # **890**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
Padding needed to round up to 128 bit blocks.

SuggestedRemedy
A mechanism is needed to pad the frame to a multiple of 16 octets and a way to indicate to the receiver how many octets of padding must be removed. May need a pad field in the secure frames.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **10.3.1.4**   *P* **261**   *L* **21**   # **929**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
Are SharedData1 and SharedData2 defined in ANSI X9.63?

SuggestedRemedy
Reference where these come from since they don't appear anywhere in the draft.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **10.3.1.4**   *P* **261**   *L* **22**   # **928**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
"ephemeral public key" needs definition.

SuggestedRemedy
define "ephemeral public key"

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **10.3.1.7**   *P* **261**   *L* **47**   # **468**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
The scheme in Annex B talks about a general elliptic curve, but 802.15.3 has chosen a specific one.

SuggestedRemedy
Add an item here that defines the elliptic curve parameters, D, with a cross reference (xref 10.3.1.2). Also, use the nomenclature of Annex B.2 here (i.e. Hash, UID, VID, CAID, etc.) to better align the definitions with annex B. Probably reformat this as a table as well.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **10.3.2.2**   *P* **263**   *L* **21**   # **740**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
Delete extra hyphen.

SuggestedRemedy
Change to "length of the output is 16 octets and,"...   Make the same change in Table 86, page #264 to "length of the output is 16 octets and,"...

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **10.3.3.2**   *P* **264**   *L* **25**   # **480**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
The operation says that the DEV should perform a CRL check, validity period verification and key use field, but does not specify how to perform these checks or verifications.

SuggestedRemedy
Provide a cross reference to a published standard that defines how to peform these checks. Also indicate how the checks are to be performed in a piconet that is not connected to a WAN or indicate what will be done in this case. Otherwise, delete the "should" statement for these checks. This correction needs to be applied to page 265, line 42, Table 88 as well.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **10.3.4.1**   *P* **265**   *L* **12**   *#* **1138**
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**
Inconsistent spelling of "PublicKeyObjectType"   10.3.4.1 calls it "PublicKeyObjectType"
7.5.2.1 calls it "Public-key object type"

SuggestedRemedy
Technical edit make a choice which way we are to spell it

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **10.3.4.1**   *P* **265**   *L* **2**   *#* **481**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
We need to provide an xref to Annex B.2 in a few appropriate locations in this section since
that is where the operations are defined.

SuggestedRemedy
Add xrefs as appropriate.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **all**   *P*   *L*   *#* **933**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
Change "Length" in all the clause 10 tables to "Length (octets)"

SuggestedRemedy
Change "Length" in all the clause 10 tables to "Length (octets)"

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **Table 58**   *P* **226**   *L* **12**   *#* **936**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
An authenticated DEV can use the probe command. Can an unassociated DEV? If the
PNC is checking the ACL to determine association privliges, a DEV could get refused from
associating.

SuggestedRemedy
Clarify if an associated DEV can do a probe. Split unauthenticated into two columns:
unassociated and associated.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **Table 77**   *P* **256**   *L*   *#* **881**
Shvodian, William   XtremeSpectrum

Comment Type   **E**   *Comment Status*   **X**
DER needs a definition

SuggestedRemedy
Define DER and add to the acronym list.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **Table 78**   *P* **256**   *L*   *#* **882**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
Are suite OIDs ever used, or do we just need subsuite OIDs?

SuggestedRemedy
Eliminate suited OIDs if they serve no purpose.

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **Table 79**   *P* **256**   *L*   *#* **883**
Shvodian, William   XtremeSpectrum

Comment Type   **T**   *Comment Status*   **X**
Why no certs for NTRUEncrypt?

SuggestedRemedy
Certs for NTRUEncrypt, may not be used, but should they be included int he standard for
possible use?

Proposed Response   *Response Status*   **O**

Cl **10**   *SC* **Table 82**   *P* **259**   *L* **44**   *#* **892**
Shvodian, William   XtremeSpectrum

Comment Type   **TR**   *Comment Status*   **X**
Need to be careful when saying "truncation of the result to the first 128 bits." Firs is lsb in
802.15.3

SuggestedRemedy
Clarify if this is msb or lsb and use that instead of "first"

Proposed Response   *Response Status*   **O**

Cl **10** *SC* **Table 82** *P* **260** *L* **14** **#** **927**
Shvodian, William XtremeSpectrum

Comment Type **T** *Comment Status* **X**
Secure ACK is not needed.

SuggestedRemedy
Remove the Secure ACK message authentication generation.

Proposed Response *Response Status* **O**

Cl **10** *SC* **Table 84** *P* **263** *L* **13** **#** **931**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
This raises an interesting question: "If the hash is not in the PIB, the public key is passed to the DME to establish trust by other means." Is the security function in the DME? The MLME_request.indication goes up to the SM's DME. So is the SM part of the DME?

SuggestedRemedy
Need to clarify where the security function resides in the reference model of figure 3. Is it part of the DME?

Proposed Response *Response Status* **O**

Cl **10** *SC* **Table 84** *P* **263** *L* **14** **#** **932**
Shvodian, William XtremeSpectrum

Comment Type **TR** *Comment Status* **X**
Verification of public key. Would the DEV get to authentication if it wan't on the ACL, or would it not be able to associate if it was not on the ACL. DOesn't the "other means" need to take palce, or at least start before authentication?

SuggestedRemedy
Clarify how a DEV gets to authentication if is not on the ACL.

Proposed Response *Response Status* **O**

Cl **11** *SC* **11 -table 112** *P* **310** *L* **19** **#** **943**
Bain, Jay Time Domain

Comment Type **TR** *Comment Status* **X**
The text solution does not match the comment on LB12. The first value is to be the means to return the PHY to a operational state (not in a power save state).

SuggestedRemedy
"Vector number 0 is the entry used by the MAC to instruct the PHY to return from a reduced power state, or off state, to a state where it is ready to receive command. Other values are implementation dependent."

Proposed Response *Response Status* **O**

Cl **11** *SC* **11.2.9** *P* **272** *L* **3** **#** **504**
Gilb, James Appairent Technologie

Comment Type **TR** *Comment Status* **X**
CCIT CRC-16 implementation, the description doesn't say that it needs to be set to all 1s when initialized and the figure doesn't really show how to get the data out.

SuggestedRemedy
Add text that says thea the register shall be set to all 1s before beginning the process and show how the data is xor'ed and shifted out of the registers when it is done.

Proposed Response *Response Status* **O**

Cl **11** *SC* **11.2.9** *P* **272** *L* **46** **#** **580**
Gilb, James Appairent Technologie

Comment Type **TR** *Comment Status* **X**
Errors in 802.11's description of the CRC calculation.

SuggestedRemedy
1. The text states "consider the following 48-bit length sequence" but in fact the sequence is only 32-bits. 2. The text identifies bits as follows "b0......................b48", but it seems that "b0........................b31" would be correct. Again, it is only a 32-bit stream. 3. The text identifies the HCS output sequence as follows "b0.......... ....b16" but in fact, since it is only 16-bits, it should be "b0.......... ....b15".

Proposed Response *Response Status* **O**

Cl **11**   *SC* **11.4.4**   *P* **288**   *L* **18**   # **505**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
> The status of the scrambler with respect to the second PHY header is ambiguous.

SuggestedRemedy
> In order to ensure that the FER of the 11 Mb/s mode remains low, the scrambler will need to be reset so that losing one of the first two bits does not cause an FER failure.   Add text that states that the PHY header of the second repetition of the PHY + MAC header + HCS is unscrambled and that the scambler is re-initialized with the same seed used for the first header when it begins scrambling the second header. The scrambler continues for the frame body following the second header structure as normal.

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.4.4**   *P* **289**   *L* **30**   # **506**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
> HCS needs to be scrambled as well.

SuggestedRemedy
> Change "... MAC header and frame body." to be "... MAC header, HCS and frame body."

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.5.2**   *P* **294**   *L* **41**   # **1139**
Roberts, Richard   Xtremespectrum

Comment Type   **TR**   *Comment Status*   **X**
> I missed this on the first letter ballot but specification of the EVM test seems to be incomplete. Below is suggested text to complete the specification.

SuggestedRemedy
> 11.5.2 EVM Calculated Values   A compliant transmitter shall have EVM values of less than those given in Table 104 for all of the modulation levels supported by the PHY when measured for 1000 symbols. The error vector measurement shall be made on baseband I and Q data after recovery through an ideal reference receiver system.The ideal reference receiver shall perform carrier lock, symbol timing recovery and amplitude adjustment while making the measurements. The ideal reference receiver shall have a data filter impulse response whose cross-correlation is within 0.5 dB referenced to the impulse response of an ideal root raised cosine, 35% excess bandwidth, Fc=5.5 MHz (3 dB point) filter.

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.6.1**   *P* **297**   *L* **9**   # **507**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
> Need to add HCS to list of things in the frame.

SuggestedRemedy
> Change "... PHY preamble, PHY header, MAC header and the FCS." to be "... PHY preamble, PHY header, MAC header, HCS and FCS."

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.6.5**   *P* **298**   *L* **45**   # **508**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
> The CCA only detects the CAZAC, but doesn't tell you to keep signalling busy until the end of the frame, up to the max frame length.

SuggestedRemedy
> Add text that says the CCA shall be maintained as busy until the end of the frame for which the inverted CAZAC was detected.

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.6.7**   *P* **299**   *L* **11**   # **210**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
> The LQI gives better information if it is for the entire frame rather than for just the last CAZAC. In fact, the results for the CAZAC are not that good relative to checking the results of the TCM demodulator.

SuggestedRemedy
> Change "The LQI SNR shall be measured in the last CAZAC sequence of the PHY preamble, 11.4.2." to be "The LQI SNR shall be reported as the value for the received frame after the FCS for frames that have a frame length longer than 100 octets."

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.7.1**   *P* **299**   *L* **46**   **#** **741**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "The characteristics group, Table 111, contains information that is common to most 2.4 GHz implementations."

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.7.1**   *P* **300**   *L* **3**   **#** **945**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**
common to for most editorial.

SuggestedRemedy
remove either to or for

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.7.1**   *P* **300**   *L* **32**   **#** **209**
Gilb, James   Appairent Technologie

Comment Type **TR**   *Comment Status* **X**
PHYPIB_CCAThreshold is an 802.11 holdover and is not used in this standard.

SuggestedRemedy
Delete this PIB entry. If it stays, however, it should be -55 dBm, but better still, just xref where it is defined.

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.7.2**   *P* **300**   *L* **22**   **#** **742**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change entry for PHYPIB_RSSIVector to "Numeric value that indicates the current RSSI level. The range is 0-7."   Also add a period after the description for PHYPIB_LQIVector. Also add a period in Table 112, after the description for PHYPIB_NumPSLevels.

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **11.7.2**   *P* **300**   *L* **38**   **#** **944**
Bain, Jay   Time Domain

Comment Type **E**   *Comment Status* **X**
spelling of implementation

SuggestedRemedy
change to implementation

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **2.3**   *P* **154**   *L* **52**   **#** **1178**
Allen, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Alloate is spelled wrong

SuggestedRemedy
Change to Allocate

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **2.6**   *P* **159**   *L* **15**   **#** **1184**
Allen, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
"...wants to end either a child a parent PNC...." is missing words.

SuggestedRemedy
Correct the Grammar

Proposed Response   *Response Status* **O**

Cl **11**   *SC* **2.9**   *P* **272**   *L* **43**   **#** **1175**
Allen, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Table 169 does not appear to be correct.

SuggestedRemedy
It needs to be redrawn or deleted. Label G(x), and show parallelism into the ones complement block.

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.1**   *P* **304**   *L* **4**   # **1140**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Figure A.2

SuggestedRemedy
Change SSCS SAP to FCSL SAP. The sublayer name is FCSL, which can contain one or more SSCS.

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.1.1**   *P* **305**   *L* **9**   # **1141**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Figure A.3

SuggestedRemedy
Change SSCS-SAP to FCSL SAP. The FCSL contains one or more SSCS.

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.1.1**   *P* **306**   *L* **29**   # **743**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change all "frame based" occurrences in these paragraphs to "frame-based".

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.1.2**   *P* **307**   *L* **38**   # **744**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Extra comma.

SuggestedRemedy
Change to "1) Destination address"   Or add commas after each subsequent entry in this list.

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.1.2.1**   *P* **307**   *L* **53**   # **745**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to "All 802.2 PDUs are handled the same (i.e., no QoS guarantees are provided regarding delivery of the received PDU."

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.1.2.2**   *P* **307**   *L* **10**   # **1142**
Roberts, Richard   Xtremespectrum

Comment Type **E**   *Comment Status* **X**
Figure A.4

SuggestedRemedy
Change SSCS-SAP to FCSL SAP. The SSCS is contained within the FCSL.

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.2.1**   *P* **310**   *L* **24**   # **746**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Missing hyphen.

SuggestedRemedy
Change to "The stream-based"...

Proposed Response   *Response Status* **O**

Cl **A**   *SC* **A.2.1.2**   *P* **310**   *L* **44**   # **747**
Gilb, James   Appairent Technologie

Comment Type **E**   *Comment Status* **X**
Syntax.

SuggestedRemedy
Change to ..."with TranmissionStatus set to 0 ("success")."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 178 of 185

Cl **A**   *SC* **A.2.1.2**

Cl **A** *SC* **A.2.3** *P* **312** *L* **23** # **748**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Change period to semicolon.

SuggestedRemedy
Change to "to transmit the frame);"...

Proposed Response *Response Status* **O**

Cl **B** *SC* **B.1** *P* **311** *L* **17** # **636**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Change "can" to "will"

SuggestedRemedy
Change as indicated

Proposed Response *Response Status* **O**

Cl **B** *SC* **B.1** *P* **312** *L* **11** # **632**
Gilb, James   Appairent Technologie

Comment Type **T** *Comment Status* **X**
Delete the word "can"

SuggestedRemedy
Change as indicated.

Proposed Response *Response Status* **O**

Cl **B** *SC* **B.1.3** *P* **316** *L* **24** # **749**
Gilb, James   Appairent Technologie

Comment Type **E** *Comment Status* **X**
Delete extra word.

SuggestedRemedy
Change to "block, but this bit is not used here."

Proposed Response *Response Status* **O**

Cl **B** *SC* **B.2** *P* **316** *L* **1** # **465**
Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**
The implicit certificate scheme is incompletely specified and has not been submitted to a cryptographic standard for review. 802.15.3 is the first group to which this scheme has been proposed. As such it should be submitted to IEEE P1363, which standardizes cryptographic "toolboxes" first.

SuggestedRemedy
Remove the implicit certificate scheme. It can be added back in once it has been completely specified and reviewed by a cryptographic standards group.

Proposed Response *Response Status* **O**

Cl **B** *SC* **B.2** *P* **316** *L* **13** # **466**
Gilb, James   Appairent Technologie

Comment Type **TR** *Comment Status* **X**
This paragraph needs to be rewritten. It provides confusing information (should here, shall in the sub-clauses), is missing xrefs to the locations where the procedures are defined and uses IC, which is reserved for the integrity code in the frames.

SuggestedRemedy
Replace the paragraph with the following text: "CA, U, and V use the setup procedure, {xref B.2.1}, to establish which options will be used with the scheme. The CA uses the key deployment procedure, {xref B.2.2} to select a key pair. U and V also need to obtain the CAs public key. The CA and U use the key pair during the certificate generation protocol, {xref B.2.3} while V uses the public key during the certificate processing operation, {xref B.2.4}. When U wants to obtain an implicit certificate, U and CA perform the certificate generation protocol, {xref B.2.3} to obtain a key pair known to U and an implicit certificate ICU. When V wants to obtain Us public key, U conveys ICU to V and V applies the certificate processing operation, {xref B.2.4} to ICU using the CAs public key. If U provides evidence that it possesses the corresponding private key, V concludes that the public key is genuine."   Delete the paragraph starting on line 26 "The setup procedure ... is specified in B.2.4."

Proposed Response *Response Status* **O**

Cl **B** *SC* **B.2** *P* **316** *L* **13** # **1143**
Roberts, Richard   Xtremespectrum

Comment Type **E** *Comment Status* **X**
Sentence Structure

SuggestedRemedy
... establish which options to use with the scheme.

Proposed Response *Response Status* **O**

Cl **B**   *SC* **B.2.1**   *P* **316**   *L* **37**   **#** **467**

Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status* **X**

   Broken xref.

SuggestedRemedy

   Add a bibilography cross reference here the PKIX-X509 document and add the
   corresponding bibligraphy entry.

Proposed Response   *Response Status* **O**

Cl **B**   *SC* **B.2.1**   *P* **316**   *L* **45**   **#** **471**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

   The term "authentic" is not defined.

SuggestedRemedy

   Either define what is meant by authentic or delete it from here and page 317, line 11 and
   page 316, line 38.

Proposed Response   *Response Status* **O**

Cl **B**   *SC* **B.2.1**   *P* **316**   *L* **48**   **#** **472**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

   The identifiers U, V and CA are overloaded. They refer to both the entity and the entities
   identifier.

SuggestedRemedy

   Change U to UID, V to VID and CA to CAID here and everywhere else the ID is used in
   Annex B.2.

Proposed Response   *Response Status* **O**

Cl **B**   *SC* **B.2.1**   *P* **317**   *L* **1**   **#** **473**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

   The setup procedure does not specify the format of the points, but rather gives a list of
   options.

SuggestedRemedy

   Require that the points are sent uncompressed since it makes no difference in the
   overhead.

Proposed Response   *Response Status* **O**

Cl **B**   *SC* **B.2.3**   *P* **317**   *L* **18**   **#** **474**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

   Figure 12 is not in the annex nor is it a valid cross reference.

SuggestedRemedy

   Provide the figure that was intended here and fix the xref. Otherwise, delete the sentence.

Proposed Response   *Response Status* **O**

Cl **B**   *SC* **B.2.3**   *P* **317**   *L* **42**   **#** **475**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

   Step 4 says to validate the content of ICU but does not specify how it is done.

SuggestedRemedy

   Specify how this validation is to be performed. Otherwise, delete the implicit certificate
   scheme.

Proposed Response   *Response Status* **O**

Cl **B**   *SC* **B.2.3**   *P* **317**   *L* **48**   **#** **477**

Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status* **X**

   The equation seems to be wrong, perhaps the . is really supposed to be a multiplication
   symbol?

SuggestedRemedy

   Check the equation to ensure that it is written correctly.

Proposed Response   *Response Status* **O**

Cl **B**   *SC* **B.2.4**   *P* **317**   *L* **44**   **#** **476**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
Two unspecified actions are required in steps 5 and 6.

SuggestedRemedy
Specify how to peform the derivations in steps 5 and 6. Otherwise, delete the implicit certificate scheme.

Proposed Response   *Response Status*   **O**

Cl **B**   *SC* **B.2.4**   *P* **318**   *L* **41**   **#** **479**
Gilb, James   Appairent Technologie

Comment Type   **TR**   *Comment Status*   **X**
Step 1 requires verifying the content of ICU, but does not specify how it is to be accomplished.

SuggestedRemedy
Define the process to verify the content of ICU. Otherwise, delete the implicit certificate scheme.

Proposed Response   *Response Status*   **O**

Cl **B**   *SC* **B.2.4**   *P* **318**   *L* **52**   **#** **521**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
The word "can" is used in appropriately in the draft, e.g. p 318, line 52.

SuggestedRemedy
Change occurance of "can" to more appropriate text.

Proposed Response   *Response Status*   **O**

Cl **C**   *SC* **C.3.1**   *P* **322**   *L* **10**   **#** **578**
Gilb, James   Appairent Technologie

Comment Type   **T**   *Comment Status*   **X**
The comparison with TLS needs to be modified to indicate the use of CCM rather than HMAC with SHA-256 and CBC encryption.

SuggestedRemedy
Change the comment after the first bullet to: The security suite specfication in this document specified the use of AES in CCM mode, which provides an AES CBC-MAC encrypted using AES CTR encryption.

Proposed Response   *Response Status*   **O**

Cl **C**   *SC* **C.3.1**   *P* **322**   *L* **38**   **#** **598**
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**
The word "must" is used.

SuggestedRemedy
Change the word "must" to "need to"

Proposed Response   *Response Status*   **O**

Cl **D**   *SC* **D.1**   *P* **325**   *L* **2728**   **#** **1172**
Cypher, David   NIST

Comment Type   **T**   *Comment Status*   **X**
Since this is an informative annex, a technical requirement is not appropriate, but the statement may is incorrect. These three listed radios are not interoperable. That is an 802.11 IR and an 802.11a radio cannot exchange information for the other to understand. At the MAC sublayer, however, these two system have the same MAC sublayer and at that layer are interoperable. I do not however know if the MAC sublayer of 802.16 is interoperable with 802.11.

SuggestedRemedy
Make it clearer on just what is interoperable (i.e. radio[not], MAC sublayer [maybe?]).

Proposed Response   *Response Status*   **O**

Cl **D** *SC* **D.1** *P* **327** *L* **21** **#** **750**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing word.

SuggestedRemedy
Change to ..."precluded and an implementor could make"...

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.1.1** *P* **325** *L* **3435** **#** **1173**
Cypher, David NIST

Comment Type **T** *Comment Status* **X**
Sharing the same frequency band alone does not make interoperability much easier. If interoperability is to be had at the radio layer, then sharing of the same frequency band and implementing the same transceiver coding/modulation is the only way to achieve interoperability. If interoperability is allowed to be achieved at a higher layer above the radio, then sharing the same frequency band is irrelevant.

SuggestedRemedy
Please clarify what is meant by interoperability. The are multiple definitions of interoper* in IEEE 100 Standards Definitions 7th edition, but I do not see where any of them are applicable the way it is being used in the annex. The closest, I think, is that you are using as radio modules installed in the same system. If this is the case that add the word, modules, when listing 802.11a, 802.11 IR, and 802.16.

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.1.2** *P* **326** *L* **1415** **#** **1174**
Cypher, David NIST

Comment Type **E** *Comment Status* **X**
Including a statement about what companies have announce about interoperable products should not be included, since it is misleading when the term, interoperable, in this case is again different from previously used

SuggestedRemedy
Delete this statement.

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.1** *P* **326** *L* **30** **#** **1163**
Shellhammer, Steve Symbol Technologies

Comment Type **T** *Comment Status* **X**
IEEE 802.11 not only uses CDMA/CA but is also uses a poling mechanism in Point Coordination Function.

SuggestedRemedy
Mention PCF to prevent comments in sponsor ballot

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.1** *P* **326** *L* **33** **#** **1164**
Shellhammer, Steve Symbol Technologies

Comment Type **T** *Comment Status* **X**
Since CSMA/CA is often based on frame detection it is not clear why this is the "best method" of coexistence.

SuggestedRemedy
State that a method of detecting frames from the other standard would be required to use this method for coexistence.

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.1** *P* **328** *L* **34** **#** **751**
Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Delete extra word.

SuggestedRemedy
Change to "CAP is similar to the CSMA/CA algorithm"...

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.1.2** *P* **327** *L* **40** **#** **1165**
Shellhammer, Steve Symbol Technologies

Comment Type **T** *Comment Status* **X**
It is not clear what happens if one Piconet chooses the four-channel plan and another Piconet selects the three-channel plan, since the first Piconet was already established. It looks like you could never effectively use the four-channel plan.

SuggestedRemedy
Explain

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.1.4** *P* **329** *L* **34** # **752**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Spelling.

SuggestedRemedy
Change to ..."cause is low receive power."

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.1.8** *P* **330** *L* **34** # **753**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Wrong word.

SuggestedRemedy
Change to "Once a dual mode 802.11b/802.15.3"...

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.2** *P* **329** *L* **4** # **1166**

Shellhammer, Steve Symbol Technologies

Comment Type **T** *Comment Status* **X**
References to collaborative coexistence mechanism states that "no on-air signaling is required." This is true of PTA, however, AWMA uses signaling over 802.11 to manage the coexistence mechanism.

SuggestedRemedy
Please remove the phase "no on-air signaling is required."

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.2.2.1** *P* **331** *L* **16** # **754**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing text.

SuggestedRemedy
Change to "802.15.2 recommended practice document." Also add a reference to that document here.

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.3.2** *P* **330** *L* **18** # **1167**

Shellhammer, Steve Symbol Technologies

Comment Type **T** *Comment Status* **X**
Receiver sensitivity does not effect coexistence performance. What does effect it is the signal-to-interference ratio (SIR) of the various standards.

SuggestedRemedy
Remove clause D.3.2. section "a" and replace it with a section on SIR.

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.3.2** *P* **331** *L* **3** # **1168**

Shellhammer, Steve Symbol Technologies

Comment Type **T** *Comment Status* **X**
The theoretical BER curves from 802.15.2 need some work

SuggestedRemedy
Modify to new formula once new 802.15.2 draft becomes available. Also, replot figure D.1 so that it is possible to determine which curve is for which system.

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.3.2** *P* **332** *L* # **1169**

Shellhammer, Steve Symbol Technologies

Comment Type **T** *Comment Status* **X**
It is quite common for an 802.11b network to utilize all three channels.

SuggestedRemedy
In addition to the adjacent and alternate channels plot the co-channel FER in figure D.2. Also, add a figure on 802.11b co-channel operation (like figures D.3 and D.4)

Proposed Response *Response Status* **O**

Cl **D** *SC* **D.3.2** *P* **333** *L* **5** # **755**

Gilb, James Appairent Technologie

Comment Type **E** *Comment Status* **X**
Missing period.

SuggestedRemedy
Change to "base rate and 802.15.1."

Proposed Response *Response Status* **O**

Cl **D**   *SC* **D.3.3**   *P*   *L*   # `1170`
Shellhammer, Steve   Symbol Technologies

Comment Type   **T**   *Comment Status*   **X**

In clause D.3.3 it is not clear the separation between the two nodes in the system under evaluation. For example, the separation between the two 802.15.3 nodes is not specified in clause D.3.3.1 as far as I could tell.

SuggestedRemedy

Please add text to state the separation between node of the system under evaluation. Do similar for the other systems under evaluation (i.e. 802.11b and 802.15.1)

Proposed Response   *Response Status*   **O**

Cl **D**   *SC* **D.3.3.1**   *P* **334**   *L* **8**   # `756`
Gilb, James   Appairent Technologie

Comment Type   **E**   *Comment Status*   **X**

Wrong word.

SuggestedRemedy

Change to "that it finds containing 802.11b networks,"... There is a spelling error at the bottom of the page; change to ..."as the receiver with 802.11b as the"...

Proposed Response   *Response Status*   **O**

Cl **E**   *SC* **E - tables all**   *P* **340**   *L* **23**   # `946`
Bain, Jay   Time Domain

Comment Type   **E**   *Comment Status*   **X**

All tables in annex E have "F" instead of "E"

SuggestedRemedy

tell Framemaker the right thing to do!

Proposed Response   *Response Status*   **O**

Cl **E**   *SC* **E.0**   *P* **337**   *L* **1**   # `1171`
Cypher, David   NIST

Comment Type   **TR**   *Comment Status*   **X**

The PICS proforma as per ISO 9646-7, to which E.1.1 refers, states that a PICS Proforma is normative, not informative. It appears that the group has completed the most difficult part, the creation of the PICS Proforma. If the PICS proforma is not normative, then it is my belief that 1) agreement has not been reached as to what is required and what is optional in the draft, as well as that 2) the PICS Proforma has been been closely reviewed to match what is contained in the text and not state requirements or options that are not clearly stated so in the base text.

SuggestedRemedy

Change Informative to Normative   So now if the informative annex is change to a normative annex the group will have satisfied the ISO 9646-7 and convinced me that the draft is complete, stable and reached concensus amoung the members.

Proposed Response   *Response Status*   **O**

Cl **E**   *SC* **E.7**   *P* **342**   *L* **1**   # `1146`
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**

Table number wrong

SuggestedRemedy

Should be table E.3

Proposed Response   *Response Status*   **O**

Cl **E**   *SC* **E.7**   *P* **343**   *L* **1**   # `1147`
Roberts, Richard   Xtremespectrum

Comment Type   **E**   *Comment Status*   **X**

Table number wrong

SuggestedRemedy

Should be table E.3

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
Page 184 of 185
Cl **E**   *SC* **E.7**

Cl **E**　　　*SC* **E.7**　　　　*P* **345**　　*L* **1**　　# **1149**
Roberts, Richard　　　　　　Xtremespectrum

Comment Type　**E**　　*Comment Status*　**X**
　Table number wrong

SuggestedRemedy
　Should be table E.4

Proposed Response　　　*Response Status*　**O**

Cl **E**　　　*SC* **E.7**　　　　*P* **346**　　*L* **1**　　# **1150**
Roberts, Richard　　　　　　Xtremespectrum

Comment Type　**E**　　*Comment Status*　**X**
　Table number wrong

SuggestedRemedy
　Should be table E.4

Proposed Response　　　*Response Status*　**O**

Cl **E**　　　*SC* **E.7**　　　　*P* **347**　　*L* **3**　　# **1151**
Roberts, Richard　　　　　　Xtremespectrum

Comment Type　**E**　　*Comment Status*　**X**
　Table number wrong

SuggestedRemedy
　Should be table E.5

Proposed Response　　　*Response Status*　**O**

Cl **E**　　　*SC* **E.7.1**　　　*P* **340**　　*L* **24**　　# **1144**
Roberts, Richard　　　　　　Xtremespectrum

Comment Type　**E**　　*Comment Status*　**X**
　Table number wrong

SuggestedRemedy
　Should be table E.1

Proposed Response　　　*Response Status*　**O**

Cl **E**　　　*SC* **E.7.2**　　　*P* **341**　　*L* **4**　　# **1145**
Roberts, Richard　　　　　　Xtremespectrum

Comment Type　**E**　　*Comment Status*　**X**
　Table number wrong

SuggestedRemedy
　Should be E.2

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 185 of 185

Cl **E**　　　*SC* **E.7.2**