Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	Text Clarification and Clean-up for the Feedback Header
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Source(s)	Hang Zhang, Mo-Han Fong, Peiying Zhu, Wen Tong mhfong@nortelnetworks.com Nortel Networks Yongseok Jin jayjay@lge.com LG Electronics
Re:	IEEE P802.16e/D6-2004
Abstract	This contribution provides text clarification and clean-up regarding the Feedback header
Purpose	Review and Adopt the suggested changes into P802.16e/D6
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1   Introduction

This contribution provides clarification and clean up text related to the Feedback header section 6.3.2.1.4.

2   Proposed Solution

[Add some clarification text to describe Feedback header operation in page 18, line 46, below section 6.3.2.1.4]

6.3.2.1.4 Feedback header

The Feedback header is sent by a MS either as a response to the Feedback Polling IE (see 8.4.5.3.20), or the Feedback request extended subheader (see 6.3.2.2.7.4) or as an unsolicited feedback. When sent as a response to the Feedback Polling IE or the Feedback request extended subheader, the MS shall send a Feedback header using the assigned resource indicated in the Feedback Polling IE. When sent as an unsolicited feedback, the MS can either send the Feedback header on currently allocated UL resource, or request additional UL resource by sending Indication flag on the Fast-feedback channel or enhanced Fast-feedback channel (refer to 8.4.5.4.11) or sending BW request ranging code.

[Correct errors in Figure 20d]

Change the CII field of Figure 20d, a) to: CII = 1 (1). Change the CII field of Figure 20d, b) to: CII = 0 (1)

[Correct typo in page 21, line 6]

… the Mini Feedback header shall be duplicated.

[Correct typo in page 20, line 2]

… for the header without CID field.

[clean up Table 7d, re-order the feedback types to allow mini Feedback header to use the feedback types of 0b0000 to 0b0111]

Table 7d – Feedback type and feedback content

Feedback Type	Feedback contents	Description
0b0000	Set as described in Table 296d MIMO feedback type (3 bit) + feedback payload (6 bits)	MIMO mode and permutation feedback CQI and MIMO feedback. The definition of MIMO feedback type (3 bit) and the corresponding feedback payload (6 bits) are the same as that defined in Table 302a and sections 8.4.5.4.10.4, 8.4.5.4.10.5, 8.4.5.4.10.6, 8.4.5.4.10.7, 8.4.5.4.10.8, 8.4.5.4.10.9, 8.4.5.4.10.10 for the Enhanced Fast-feedback channel.
0b0001	Combined DL average CQI of Active BSs (5 bits)	Combined CQI value of all Active BSs within the Active set 5 bits CQI feedback
0b0010	Number of index, L (2 bits) + L occurances of Antenna index (2 bits) + MIMO coefficients (5 bits, see definition in 8.4.5.4.10.6)	MIMO coefficients feedback for up to 4 antennas.
0b0011	Preferred-DIUC (4 bits)	Preferred DL channel DIUC feedback
0b0100	UL-TX-Power (78 bits) (see Table 7a)	UL transmission power

0b0101	P~~referred~~REFERRED-DIUC(4 bits) + UL-TX-P~~ower~~OWER(7 bits) + UL-HEADROOM~~headroom~~ (6 bits) (see Table 7~~ca~~ for definitions)	PHY channel feedback
0b0110	~~Number of bands, *N* (2 bits) + *N*occur-ances of 'band index (6 bits) + CQI (5 bits)'~~ AMC band indication bitmap (12 bits, see 6.3.17.5) + *N* CQI (5 bits) *N* is the number of '1's in the AMC band indication bitmap.	CQIs of up to 4 best reception DL ~~multiple~~ AMC bands
0b0111	Life span of short term precoding feed-back (4 bits) according to Table Z2.	The recommended number of frames the short term precoding feedback can be used for.
0b~~1000~~0111	Number of feedback types, *0*(2 bits) + *0*occurances of 'feedback type (4 bits) + feedback content (variable)'	Multiple types of feedback
0b0100~~10~~	Feedback of index to long term precod-ing matrix in code book (6 bits), rank of precoding code book (2 bits) and FEC and QAM feedback (6 bits) according to Table Z.	Long term precoding feedback
~~0b01001~~	~~Life span of short term precoding feed-back (4 bits) according to Table Z2.~~	~~The recommended number of frames the short term precoding feedback can be used for.~~
~~0b1000~~	~~Combined CQI of Active BSs (5 bits).~~	~~Combined CQI value of all Active BSs within the Active Set.~~
0b~~1011~~ 1010	MIMO channel feedback (see Table 7~~ee~~)	MIMO mode channel condition feedback
0b~~1100~~1011-0b1111	Reserved for future use	

[Insert the following text and Table in Page 20, line 14 of p802.16e/D6]

The field of Feedback header are defined in Table x.

Table x – Description of the fields of Feedback header

Name	**Length (bits)**	**Description**
HT	1	Header type = 1
EC	1	EC = 1
N/M flag	1	Normal feedback header/mini feedback header indication. Shall be set to 0 to indicate that this is a normal size Feedback header
CII	1	CID Inclusion indication. Set to 1 for a Feedback header with CID field; set to 0 for a Feedback header without CID field
Feedback Type	4	Set according to Table 7d
Feedback Content	16 or 32	Set according to Table 7d. Length of 16 bits for a Feedback header with CID field and length of 32 bits for a Feedback header without CID field.
HCS	8	Header Check Sequence (same usage as HCS entry in Table 5)

[Insert the following text and Table in page 21, line 40 of p802.16e/D6]

The field of Mini Feedback header are defined in Table y.

Table y – Description of the fields of Mini Feedback header

Name	Length (bits)	Description
HT	1	Header type = 1
EC	1	EC = 1
N/M flag	1	Normal feedback header/mini feedback header indication. Set to 1 to indicate that this is a half-sized Mini Feedback header
Feedback Type	4	Set according to Table 7d
Feedback Content	8	Set according to Table 7d.
HCS	8	Header Check Sequence

[Modify page 31, line 30]

j) The feedback Type field shall be set according to Table 7d, except that the feedback types of 0b1111 shall not be used, such that the first byte of a MAC header shall never have the value of 0xFX. This prevents false detection.

[Remove page 31, line 33]

~~The feedback type is defined in Table 7d.~~

[Remove page 31, line 39]

~~For the Min feedback header, the feedback type of 0b1111 shall not be used.~~