

Project	<b>IEEE 802.20 Working Group on Mobile Broadband Wireless Access</b> < <a href="http://grouper.ieee.org/groups/802/20/">http://grouper.ieee.org/groups/802/20/</a> >	
Title	<b>Revised Draft Meeting Minutes, 802.20 Plenary Meeting - Session #23, Orlando, Florida 12-15 March 2007</b>	
Date Submitted	<b>2007-06-01</b>	
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Re:	802.20 Session #23	
Abstract	Draft minutes of Session #23	
Purpose	Record actions of the session	
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## **Draft Minutes: IEEE 802.20 Meeting #23**

**Caribe Royale Hotel, Orlando  
March 12-15, 2007**

### **Monday afternoon, March 12**

At 1:30 the IEEE 802.20 meeting was opened by the chair, Arnie Greenspan. He began with the usual opening formality of reading the patent policy and list of inappropriate discussion topics.

#### **Introductions and affiliations**

Attendees introduced themselves and indicated their affiliations. Attendance and affiliations are provided in Appendices 1 and 2.

#### **Work plan**

Greenspan reviewed the work plan and the events of the London meeting. There was no quorum there but he felt that a lot had been accomplished nonetheless. The text of a systems integration PAR was drafted, but it has not yet been submitted to the Executive Committee. All but a dozen comments from letter ballots 1 and 2 were resolved; of these 10 were non-specific, leaving only two unresolved.

The chair expects to constitute a new letter balloting group shortly.

#### **Election of vice-chairs**

Before the meeting, Mark Klerer and Jim Mollenauer volunteered to serve as vice chairs. The membership approved by a vote of 57 yes, 0 no, 2 abstain: passed. This result will be taken to the Oversight Committee for their approval.

There were no volunteers for the position of permanent recording secretary, which remains open.

#### **Report on London meeting**

The chair read his report on the London meeting, in which he was gratified by the level of technical discussion that took place. Some question was raised in the Executive Committee about the need for a second PAR in that the first version of the standard should be sufficiently complete to enable implementation and operation.

#### **Agenda**

A request was made to change the published agenda to reflect individual contributions and reissue the agenda; this was approved by the chair.

#### **Work plan**

Greenspan presented the work plan from the London meeting. It was noted that the plan was changed to allow proposals by March 7 rather than 30 days before the plenary. Also, the work plan needed to list a WG letter ballot, between April and June of 2007; this was inserted. There was no one opposed, but there were several abstentions. Passed.

#### **Minutes of the Dallas meeting**

The minutes had been approved in London but there was no quorum, so it was revoted here; no dissenting votes, but one abstention. Passed.

### **Approval of the London comment resolutions**

There was an objection to calling the action on Letter Ballots 1 and 2 a re-affirmation on the grounds that there had never been an overall affirmation of the resolutions, just individual approvals.

*Motion: the WG affirms the resolution of comments for Letter Ballots 1 and 2 as posted on the IEEE 802.20 web site as of March 12, 2007. An affirmative vote does not imply agreement with all resolutions.*

Moved: Jerry Upton; seconded: Lynne Dorward.

The chair explained that the motion indicated the end of discussion on this topic and the working group should go on. It was pointed out that this approval could be misconstrued as an endorsement of these ballots, since the balloting group for letter ballots is being reconstituted.

### **Revote**

After the break the chair indicated that the previous motions should have been taken as full roll calls and therefore they would have to be revoted. He read the voting members list, recording votes from those present. The results of the revote were:

To approve the amended work plan: 56 yes, 0 no, 10 abstain: passed. (VOTE 1)

To approve the Dallas minutes: 58 yes, 0 no, 2 abstain: passed. (VOTE 2)

To approve the comment resolutions from the London meeting: 45 yes, 4 no, 11 abstain: passed. (VOTE 3)

Details of roll-call votes are available from the chair on request.

### **Channel model**

Editorial changes were made to the channel model document at the London meeting. The modified version was posted on the web site as 802.20-07/05. Motion to approve this and make it a permanent document by Nancy Bravin, seconded by Ayman Naguib. 49 yes, 1 no, 8 abstain: passed. (VOTE 4)

The new version of the channel model document will be permanent document PD-08r1.

A comment was made that although the changes appeared to be 'editorial', there were technical implications regarding how the channel coefficients should be generated.

### **London minutes**

Motion by Jerry Upton to approve the London minutes, seconded by Ayman Naguib. Several changes to the minutes were requested; most of these were adopted. The motion was amended to accept the new version of the minutes. Results: 46 yes, 0 no, 15 abstain: passed. (VOTE 5)

The revised minutes are on the web site as 802.20 - 07/04r1.

### **January 2008 meeting:**

This is planned to be a joint meeting with other wireless groups in Taipei in January 2008.

## **Monday evening**

The evening session was reconvened at 8:30.

### **IMT-Advanced**

The IEEE 802.18 TAG has requested input with respect to IMT-Advanced. In response, there was a presentation submitted.

**C802.20-07/21 Proposed inputs to 802.18 for IMT-Advanced** Jim Tomcik and Tom Wasilewski, Qualcomm.

This presentation proposed that 802.20 submit its approved Systems Requirements document to 802.18, since there is not yet an official set of IMT-Advanced requirements. It was also proposed that the 802.20 Channel Models document be submitted as well, since it handles both SISO and MIMO systems.

Information was brought to the working group's attention from a 3GPP document released today which indicated that a spatial channel model was needed. It was noted that this type of model has not been used by 802.20.

The chair felt that there was no downside to providing our document to IMT-Advanced. Arguments in favor of sending our current model pointed out that the MIMO material in the working group document does in fact address spatial issues. However, concern was expressed that additional wording needed to be added to the documents, lest 802.20 appear at a disadvantage with respect to possible submissions to 802.18 from other 802 working groups.

***Motion:** Approve submitting PD-06r1, noting it is not a proposal for IMT Advanced requirements values but as an input for the framework and definitions development; and submitting PD-08r1 as an approach to modeling both SISO and MIMO channels, and proposes a methodology to relate the two types of channel models.*

Moved: Jerry Upton; seconded, Jim Tomcik. Results: 41 yes, 0 no, 5 abstain: passed. (VOTE 6)

## **Tuesday morning, March 13**

Arnie Greenspan opened the meeting at 8:30 with a review of last evening's session on a contribution to 802.18 re IMT-Advanced.

### **UMBFDD proposal**

Al Jette introduced the proposal, going over the presentations to be made this morning.

The various presentations are briefly summarized in these minutes; for more details, please consult the relevant documents.

**C802.20 –07/07 UMBFDD Summary Classification and Package Overview** Al Jette, Shirish Nagaraj, and Val Opreescu, Motorola

This contribution indicated the type of proposal: FDD only, a complete proposal, compliant with the 802.20 requirements.

**C802.20 –07/10 UMBFDD Draft Technology Overview** Al Jette, Shirish Nagaraj, and Val Opreescu, Motorola

This presentation provided an extensive set of slides with an overview of UMBFDD, which stands for Ultra Mobile Broadband Frequency-Division Duplex. The proposal is based on recent work in 3GPP2, which has taken place over the last 14 months with contributions from many companies. In its present form in 3GPP2 it is in 10 documents, all of which are in Stage 3, which specifies detailed protocols and procedures.

The architecture shown involved PHY and MAC layers topped by a radio link layer and an application layer above that. Several control planes with different functionality were included.

**Physical layer**, presented by Shirish Nagaraj:

The physical layer on the downlink (forward link) is based on adaptive coding and modulation with resource-adaptive hybrid ARQ and turbo coding. Modulations up to 64-QAM are used, with OFDMA and MIMO. The uplink (reverse link) is also based on OFDMA, but with parts operating in pre-coded CDMA. Detailed descriptions of the various control channels and data channel were provided. Broadcast channels are also allowed for.

**MAC layer**, presented by Val Oprescu:

Oprescu provided a description of the MAC layer, including the mandatory 8-way interlace and how it operates with respect to HARQ.

**Break:** from 10:35 to 11:05 AM; Oprescu's presentation resumed afterward.

Descriptions of the broadcast channel operation and the security protocols followed. Encryption is done with AES using a 128-bit key. The stream protocol can handle up to 32 streams. The route control protocol activates and deactivates protocol stacks in both AN and AT. Other protocols such as initialization were also discussed. The Connected state has a Semi-Connected substate in which the AT can receive but not transmit.

**C802.20 –07/11 UMBFDD Draft Technology Specification** Al Jette, Shirish Nagaraj, and Val Oprescu, Motorola; presented by Al Jette:

This contribution provided references to the relevant documents in 3GPP2. UMBFDD is currently in the approval process within 3GPP2. Revision 1 of this document corrects an error in the original submission.

**C802.20 –07/12 UMBFDD Evaluation Report 1** Al Jette, Shirish Nagaraj, and Val Oprescu, Motorola; presented by Shirish Nagaraj:

This presentation dealt with simulation results for the UMBFDD proposal. Simulations were done at pedestrian speed (3 km/hr) and vehicular speed (120 km/hr) and with modulations up to 64-QAM. The simulated antenna system included different numbers of elements in a linear array.

The meeting was adjourned for lunch at 1:00 PM.

## **Tuesday afternoon**

### **March 2008 site**

Discussion of preferences for March 2008 meeting site. Voting for preferred locations (voting for more than one was permitted): Vancouver 31, Chicago 8, San Francisco 29, Chicago O'Hare 2, Orlando 13, Dallas airport 0.

Returning to technical proposals:

**C802.20-07/15 LDPC Code Proposal – Technology Overview** Sung-Eun Park, Seunghoon Choi, Thierry Lestable, and Anna Tee, Samsung

This proposal discussed the benefits of using LDPC as the coding method. Considerations for various types of LDPC codes were presented; interaction with incremental-redundancy HARQ was taken into account. The proposal called for the LDPC to be used for values of  $k$  larger than 512, while keeping the rate 1/5 turbo code for values of  $k$  larger than 128.

**C802.20-07/19 Partial proposal on channel multiplexing** Anna Tee, Zhouyue Pi, Jiann-an Tsai, Cornelius van Rensburg, Yinong Ding, and Farooq Khan, Samsung

This proposal dealt with multiplexing several user data streams in OFDMA, supporting DRCH (symbol hopping) or BRCH (block hopping) channel users simultaneously. The goal is to optimize the system performance through frequency-selective scheduling and frequency diversity.. A new file structure which is flexible in size with lower pilot overhead was also described in the contribution.

**C802.20-07/19 LG Electronics Components Proposal for 802.20 MBWA** Young C. Yoon, LG Electronics

This presentation called for a number of individual components in the standard, including:

- RL Frame Design Enhancement during Silence Periods
- Shared Signaling Control Assignment Channel (FSSACH)
- Acknowledgement Channel for Shared Signaling Channel (R-SSCH ACKCH)
- Flexible LDPC Code
- MIMO
- Interlace switching

The interlace-switching algorithm is similar to that used in the **UMBFDD** presentation.

**C802.20-07/21r1 Proposed Resolution to 802.20 Ballot Comment on Minimum Performance Parameters** Jim Tomcik, Qualcomm

This proposal was in response to a ballot comment that the draft provided insufficient information in the area of minimum performance. The requirements proposed here were drawn from IEEE 802.16 (OFDMA option) and 802.16e. This contribution covered interoperability requirements and left regulatory and equipment performance considerations for the new PAR proposed in London.

The session adjourned at 6:00 PM.

### **Wednesday morning, March 14**

Arnie Greenspan opened the meeting at 8:10 with a review of the 802.18 session last night in which submission to IMT-Advanced was discussed. He requested volunteers for a task group that would work with IMT-Advanced on a continuing basis.

Returning to contributions:

**C802.20-07/18 Partial proposal to support flexible, spectrally efficient multi-carrier Mode** Anna Tee, Zhouyue Pi, Jiann-an Tsai, Cornelius van Rensburg, Yinong Ding, Farooq Khan, Samsung Telecommunications

This contribution pointed out that in multi-carrier (OFDM and OFDMA) transmission, the need for guard bands is reduced.

### **C802.20-07/20 Irregular Repeat-Accumulate LDPC Code Proposal – Technology Overview**

Thierry Lestable, Joseph Cleveland, and Anna Tee, Samsung

This presentation proposed using irregular repeat-accumulate LDPC codes for small packets. Simulations showed a gain of 0.5 to 1.0 dB relative to convolutional coding.

Comments were made that under some conditions the gain from such coding is only ¼ dB. In the discussion of the morning's contributions that followed, the presenters said that they had contributed the material in their presentations to 3GPP2.

A question was also asked about the rate compatible design and the performance of IRA-LDPC codes in fading channels. Proponents responded that results on fading channels would be made available as soon as verified with colleagues. A request was made for written questions and answers on technical details of these proposals, which could be provided via the email reflector. The chair replied that he expected that issues would be resolved at this meeting.

Discussion continued on the advisability of issuing performance requirements under a separate PAR. The following comments were made:

- Equipment built before the availability of such requirements had sometimes caused network problems.
- Such network problems were very unlikely in licensed wireless systems.
- All the people needed for a full discussion of performance issues were not at this meeting.

### **C802.20-07/14 UMBFDD Draft Technology Overview** Al Jette, Shirish Nagaraj, and Val Opreescu, Motorola

This contribution compared the UMBFDD proposal with the MBFDD proposal. Al Jette introduced the topic; then Val Opreescu reviewed the correspondences between the two at the MAC layer. There are differences in the transmission modes and control messages used under various circumstances, and there are also differences in the superframe structure.

### **Summary of 802.20 Proposals and Relationships** Jim Tomcik, Qualcomm

Following a short break, Jim Tomcik provided a summary with a Venn diagram of the various proposals and how they relate to each other. He felt that many of the points were compatible with the UMBFDD proposal. Some, concerning LDPC, were involved in harmonization discussions elsewhere. A final set of contributions was distinct from the UMBFDD proposal.

Tomcik felt that there was considerable overlap of the UMBFDD proposal with the current 802.20 draft. He recommended harmonizing the UMBFDD proposal with the current draft, which should satisfy a number of the proposals; other proposals could be dealt with later. Ultimately, only the irregular-repeat-accumulate LDPC material would not be accommodated.

It was noted with thanks that this presentation had moved the work of the committee forward substantially. However, the following objection was requested to appear in the minutes:

*The motion is to adopt some decisions on the new proposals presented yesterday and this morning: (1) The decision that Proposal "Tee-4" not to be included currently, because there were no performance results on fading channels, was unfair. The proposal has provided simulation results that show the performance gain over the current design in the standard draft. Additional simulation data for performance on fading channels has been requested by WG members during the discussion just about 3 hours prior to the decision. Thus, it was unfair to make a decision at this time, to exclude Proposal "Tee-4" based on the reasons stated in Contribution C802.20-07/27; (2) Details of the design in "Tee-1" are significantly different from those in "Jette-1". They should also be considered for adoption in 802.20. Furthermore, further data has been re-*

*quested from WG members regarding the details on some operation scenarios. The decision on this proposal should be deferred pending further data.'*

It was countered that the guard channel functionality was actually there, though implemented differently. It was also noted that the need for harmonization with the existing TDD material should be emphasized more strongly.

Additional comments noted that LDPC was being harmonized elsewhere, and implementers should need to deal with only one version of LDPC in their products. It should not be addressed here until after such harmonization is complete. Modifications to the overlap diagram with respect to how it showed LDPC was requested.

The chair announced that copyright permission had been received from TIA, the body representing 3GPP2.

The group broke for lunch at 12:00.

### **Wednesday afternoon**

When 802.20 resumed at 1:00, the chair called once more for volunteers to serve on an IMT-Advanced task group under 802.18. It will meet tomorrow morning.

Discussion on the overlap diagram in Appendix 3 continued. The diagram showed harmonization of the QFDD proposal with Jette's 3GPP2-based proposal, with QTDD, Best Wine, and the last two of Anna Tee's proposals left outside. The following opinions were voiced:

- The minimum mandatory set of elements should be determined, redundant elements should be dropped out, and then completeness and conformity verified before a letter ballot.
- There was objection to some features and terminology in the revised diagram.
- A preference was expressed for the original version of the diagram prior to changes. Objections to other features of the revised diagram were stated.

A recommendation was made that the steps spelled out in text should be considered without concentrating attention on the terminology used in the diagram.

The chair asked for motions on where the group should go next.

***Motion:*** *The 802.20 Working Group adopts the following principles for revising the current baseline draft for the next Letter Ballot.1. Harmonize the wideband FDD baseline with the UMB proposal presented in Contributions C802.20-07/09-07/11.2. Adopt the other changes as shown in document number C802.20-07/27.3. Harmonize the wideband TDD with the revised and harmonized FDD draft.*

Moved by Jerry Upton; seconded by Al Jette.

Jerry Upton moved to call the question, seconded by Nancy Bravin. 48 yes, 10 no, 2 abstain: passed.

A roll call vote on the main motion resulted in 56 yes, 8 no, 3 abstain: passed. (VOTE 7)

**Patent disclosure** The chair indicated that information on patents disclosed as relevant to IEEE 802 standards was available on a web site: [http://standards.ieee.org/db/patents/pat802\\_17.html](http://standards.ieee.org/db/patents/pat802_17.html).



The chair then constituted a small editing group consisting of representatives of companies with proposals, along with the technical editor, to put together a new draft. A schedule for producing this draft was discussed and a proposal was made for a letter ballot starting on April 9. Members of the editing group include Val Oprescu, Anna Tee, Radhakrishna Canchi, and Young Yoon.

It was pointed out that there is a 4-hour rule in the 802.20 Policies and Procedures with respect to motions that affect the draft. The chair responded that he had considerable flexibility to ignore the 802.20 P&P based on the trust placed in him by the IEEE Standards Board. It was then indicated that the motion was presented at 1:22 and voted on at approximately 2:00 PM.

It was also noted that the rule had never been applied in the past with perhaps one exception.

The chair asked for a vote of the group on whether we should revote after waiting for the 4-hour interval. 6 yes, 51 no, 1 abstain: failed.

A question was asked about how the task group would operate. The response from the technical editor noted that it would be by consensus, with the final judgement resting with himself as editor. He expected that there would be no technical changes. A question was asked as to whether the existing TDD material could be harmonized with new FDD material without making technical changes. The technical editor agreed that it would be difficult, but any technical changes would be discussed subsequently in the full 802.20 meeting.

It was then pointed out that going to letter ballot in the past without a working group vote had caused problems.

The following motion was then proposed:

***Motion:*** *The working group empowers the editing group to create a revised draft for an April 11<sup>th</sup> letter ballot, subject to the SASB approving a letter ballot pool.*

Moved: Jerry Upton; seconded, Radhakrishna Canchi.

In response to a question, the chair indicated that the Standards Board reserved the right to approve the voting membership pool when the 802.20 PAR was extended.

It was noted that this motion did not allow for approval of a completed draft before sending it out for letter ballot. It was pointed out that the 802.20 P&P specify that a task group's output should be approved by the WG before it goes out to letter ballot. It was pointed out that the group was an editing group, not a task group.

Arnie Greenspan indicated that voting on this motion could be deferred until tomorrow; he would consult with others on this issue in the meanwhile. He felt that it was more important to get the standard done in an expeditious way than to admit delays due to a legalistic approach to the rules.

Arguments were submitted noting that the letter ballot process was a formal and onerous one, and that going to letter ballot prematurely could actually lengthen the standard development process. It was also pointed out that a letter ballot starting on April 11 could not be concluded by the May meeting.

Adjourned at 4:40.

## Thursday morning, March 15

Arnie Greenspan opened the meeting at 9:10, indicating that the draft would be progressed by using a “practice ballot” which has been used in other groups for drafts that are not quite ready to go to an official letter ballot. The procedures will be the same as a regular letter ballot, but without recirculation. The working group must vote to go to an official letter ballot; comments received during the practice ballot go into a database and will be circulated with the draft.

Greenspan indicated that the WG will hold a vote today to authorize the editor to create Draft 3.0. Comments will be resolved at the May meeting, at which time a second practice ballot can be authorized. In the best case, at the July meeting it will be decided by the WG whether to hold an official letter ballot or another practice ballot.

***Motion:** It is moved that the WG authorize the commencement of a 30-day practice ballot. This practice ballot will address the revised draft assembled by the working group’s editing group. The revised draft will include the submissions identified in presentation C802.20-07/27 and approved by roll call vote by the WG on Wednesday 3/14/07; details of the Chair’s proposal are included in the minutes. (See Appendix 4.)*

Moved: Jerry Upton; seconded: Nancy Bravin.

An objection was submitted that the Thierry Lestable, Joseph Cleveland, and Anna Tee proposals had not been given adequate attention and a request was made for an opportunity to make an additional presentation. The chair responded that there was still opportunity to get the material included. In response to questions, the technical editor stated that he expected that there would be so many changes in the document that redlining them would not be useful, but perhaps unchanged sections could be so indicated.

Al Jette moved to call the question; Nancy Bravin seconded. No objection. The chair explained that the motion was intended to invoke the editing tasks approved by motion yesterday. The chair also pointed out that in effect this motion will also constitute an endorsement and implicit revote of the Vote 7 that had an objection to require a 4 hour waiting period since this motion specifically mentions the editing plan that was subject of roll call vote 7.

Voting on the main motion: 49 yes, 5 no, 3 abstain: passed. (VOTE 8)

The chair announced that the IMT-Advanced meeting with 802.18 would take place at 1:00. He congratulated the group on the amount that had been accomplished.

A request was made by Anna Tee for additional time to make a presentation with additional material. The chair invited an informal presentation without waiting for slides to be posted. It will be posted as **C802.20-07/26r1**. She presented simulation results for irregular-repeat-accumulate LDPC with Algorithm B, at pedestrian speed. These showed that IRA outperformed convolutional coding by 1 to 2 dB at an error rate of  $3 \times 10^{-2}$ .

Comments from the floor requested more extensive simulations, using a wider range of conditions.

Following the morning break, the chair brought up the work plan, which will be document **802.20-07/03r2** after this revision. He noted that in some cases references to letter ballots should be changed to practice ballots. A few other changes were made, following suggestions from the floor.

The chair described the IEEE sponsor ballot process, which is now administered by the IEEE-SA with its My Ballot computer system.

The revised work plan was approved by show of hands with 51 yes, 0 no, and 2 abstaining. The meeting was adjourned at 11:05.

## **Appendix 1**

### **Overall Session Attendance and Participation Credit**

	A	B	J	K	R	S	T	U	W	X	Y
1	Last Name	First Name	Jan07 Voters	Mar07 Voters*	Nov05	Jan06	Mar06	May06	Nov 06	Jan07	Mar 07
2	Agis	Edward	M	M	1	1	1	1	1		
3	Agrawal	Avneesh	M	M	1	1	1				
4	Ahmadi	Sassan	M	M	1		1	1	1		
5	Ahn	Jae Young	M	M	1	1	1	1			
6	Alamouti	Siavash	M	M	1	1	1	1			
7	Ali	Murtaza	M	M	1	1	1				
8	Alphonse	Jean	M	M	1	1	1				
9	Arefi	Reza	M	M	1	1	1	1			
10	Bajaj	Rashmi	M New	M New			1		1		
11	Barriac	Gwen	M	M	1	1	1			1	1
12	Bavafa	Moussa	M	M			1	1	1		
13	Bernstein	Jeffrey	M	M	1	1	1		1	1	1
14	Bims	Harry	No	No							
15	Bravin	Nancy	M	M	1	1	1		1	1	1
16	Budianu	Petru	No	No							
17	Bussey	Chris	M	M	1	1	1		1	1	1
18	Cai	Sean	M	No	1	1	1				
19	Canchi	Radhakrishna	M	M	1	1	1	1	1	1	1
20	Carlo	Jim	M	M	1	1	1				
21	Carneiro	Edson	M	No		1	1				1
22	Carson	Peter	M	M	1	1	1			1	1
23	Castell	Harold P.	M	M	1	1	1		1		1
24	Chae	Suchang	M New	M New			1	1			
25	Chen	Yao	No	No				1			
26	Cho	Juphil	M	M		1	1		1		
27	Choi	Hyoungjin	M New	M New		1	1				
28	Choi	Yang-Seok	M	M	1	1	1	1			
29	Chong	Chia-Chin	M New	M New	1	1		1		1	
30	Chun	Jin Young	M	M	1	1	1				
31	Chung	Jaeho	M	M		1	1		1		
32	Cleveland	Joseph	M	M	1	1			1		
33	Collins	Robert	No	No							
34	Comstock	David	M New	M New		1	1	1			
35	Dean	Chris	M	M	1	1	1		1	1	1
36	Dhaliwal	Upkar	No	No							1
37	Dodd	Donald	M	M	1		1				
38	Dorward	Lynne	M	M	1	1	1				1
39	Dunn	Doug	M	M	1	1	1		1	1	1
40	Eilts	Henry	M	M	1	1	1	1	1		
41	Epstein	Mark	M	M	1	1	1	1	1	1	1
42	Feder	Peretz	M	M	1	1	1				
43	Ferguson	Alistair	M	M	1		1				
44	Fong	Mo-Han	No	No	1						
45	Freeland	Graham	M	M	1	1	1		1	1	1
46	Gal	Dan	M	M	1	1	1				
47	Garcia-Alis	Daniel	M	M	1	1	1		1	1	1
48	Garg	Deepshikha	M	M	1	1	1		1		1

	A	B	J	K	R	S	T	U	W	X	Y
49	Gillies	Donald	No	No							1
50	Gomes	Eladio	M	M		1	1		1		1
51	Gore	Dhananjay	M	M		1	1		1	1	
52	Gorodetsky	Svetlana	M	M	1	1	1		1		1
53	Gowaikar	Radhika	No	No							
54	Gorokhov	Alexei	M	M	1	1	1		1	1	
55	Greenspan	Arnie	M	M					1	1	1
56	Guo	Qiang	M	M	1	1	1	1			
57	Haug	John	No	No						1	
58	Hou	Victor	M	M	1	1	1	1	1	1	1
59	Hu	Rose	M	M		1	1	1	1		
60	Hu	Teck	M	No			1	1			
61	Humbert	John	M New	M New	1	1					
62	Huo	David	M	M	1	1	1			1	
63	Hur	Yerang	M New	M New			1	1			
64	Ibbetson	Luke	M	M	1		1		1		
65	Iimuro	Kazuyoshi	M	M	1	1	1		1	1	
66	Ikeda	Yutaka	No	No					1		
67	Ishida	Kazuhito	No	No						1	1
68	Jeong	Byung-Jang	M	M	1	1	1		1		
69	Jette	Alan	M	M	1	1	1	1	1	1	1
70	Ji	Baowei	M	M			1	1	1		
71	Ji	Tingfang	M	M	1	1	1		1	1	1
72	Jones	Dennis	M	M	1	1	1				1
73	Joo	Pan Yuh	No	No		1		1			
74	Kadous	Tamer	M	M	1	1	1		1	1	
75	Kalhan	Amit	M	M	1	1	1		1	1	1
76	Kanai	Takeo	No	No					1		
77	Kang	Hyunjeong	M New	M New		1	1				
78	Katayama	Masahide	No	No					1		
79	Khademi	Majid	M	M	1	1	1		1		
80	Khandekar	Aamod	M	M	1	1	1		1	1	1
81	Khatibi	Farrokh	M	M	1	1	1		1	1	1
82	Kiernan	Brian	M	M	1	1	1	1			
83	Kim	Hyeon Soo	M	M			1	1	1		
84	Kim	Jae-Ho	M New	M New			1	1			
85	Kim	Peter J.W.	M New	M New		1	1				
86	Kim	Tae Young	M	M			1	1	1	1	
87	Kim	Yong Ho	M	M	1	1	1		1		
88	Kim	Young-Ho	M New	M New		1	1	1		1	
89	Kim	Young Kyun	M	No		1	1				
90	Kim	Youngsoo	M	M			1	1	1		
91	Kimura	Shigeru	M	M	1	1	1		1		
92	Kitahara	Minako	M	M	1	1	1		1	1	1
93	Kitamura	Takuya	M New	M New	1	1		1			
94	Klerer	Mark	M	M	1	1	1	1	1	1	1
95	Knisely	Douglas	M	M	1	1	1	1	1		1
96	Kolze	Tom	M	M			1	1	1		1

	A	B	J	K	R	S	T	U	W	X	Y
97	Koo	Changhoi	M	M	1	1	1	1	1		
98	Koplyay	Ferenc	M New	M New			1	1			
99	Kujawski	Fred E.	No	No					1		
100	Kwon	Dong Seung	M New	M New	1	1		1			
101	Kwon	Young Hyoun	M	M	1	1	1				
102	Lalaguna	Pablo	M	M	1	1	1		1		
103	Lawrence	Lisa	M	M	1	1	1				1
104	Lee	Heesoo	M	M	1	1	1	1	1	1	1
105	Lee	Jungwon	M New	M New		1	1				
106	Lee	Mihyun	M	M		1	1		1	1	
107	Lee	Sungjin	M New	M New		1	1				
108	Lee	Wook-Bong	M	M	1	1	1	1			
109	Li	Jun	M New	M New	1			1			
110	Li	Thomas	No	No		1		1			
111	Li	Yingyang	M	M			1	1	1		
112	Li	Yong	No	No							1
113	Lim	Hyoung Kyu	M	M	1	1	1	1			
114	Lin	Jiezhen	M	M	1	1	1	1			
115	Liu	Walter	M New	M New			1	1			
116	Lu	Jianmin	No	M New	1	1		1			
117	Ma	Steven	M	M	1	1	1	1			
118	Maez	Dave	No	No							
119	Martynov	Irina	M	M	1	1	1		1	1	1
120	Martynov	Michael	M	M	1	1	1		1	1	1
121	McGinniss	David	M New	M New		1	1				
122	McMahon	Anthony	M	M	1	1	1		1	1	1
123	McMillan	Donald	M	M	1	1	1		1		
124	Miyazono	Max	M	M	1		1		1		1
125	Mollenauer	James	M	M	1	1	1	1	1		1
126	Murakami	Kazuhiro	M	M	1	1	1		1		1
127	Murphy	Peter	M	M	1	1	1				
128	Naaman	Laith	M New	M New		1	1				
129	Nabar	Rohit	M	M		1	1		1		
130	Nagai	Yukimasa	M New	M New	1		1				
131	Nagaraj	Shirish	No	No							1
132	Naguib	Ayman	M	M	1	1	1			1	
133	Naidu	Mullaguru	M	M	1	1	1		1	1	1
134	Nakamura	Kenichi	M	M		1	1		1		
135	Nakamura	Tetsuya	M	M	1	1	1		1	1	
136	Nakano	Shinji	M	M	1	1	1		1	1	
137	Nguyen	Nha	M	M	1	1	1		1	1	1
138	Noh	Taegyun	M	M			1	1	1		
139	Novick	Fred	M	M	1	1	1		1		1
140	O'Brien	Francis	M New	M	1	1				1	1
141	Odlyzko	Paul	M	M	1	1	1	1			
142	Oguma	Hiroshi	M	M	1		1	1	1		
143	Oh	Changyoon	M New	M New			1	1			
144	Panicker	John	M New	M New			1	1			

	A	B	J	K	R	S	T	U	W	X	Y
145	Park	Chul	M	M		1	1	1	1		
146	Park	DS	M	M			1	1	1		
147	Park	Jeongho	M	M			1	1	1		
148	Park	Sung-Eun	No	No							1
149	Park	Won-Hyoung	M	M	1	1	1	1			
150	Patel	Chirag	No	No							
151	Patzer	Steve	M	M	1	1	1	1			
152	Pfann	Eugen	M	M	1	1	1		1	1	1
153	Pirhonen	Riku	M	M	1	1	1	1	1		1
154	Pittampalli	Eshwar	M New	M New	1	1					
155	Poisson	Sebastien	M	M	1	1	1		1		1
156	Prakash	Rajat	M	M	1	1	1	1	1	1	
157	Preece	Rob	M	M	1	1	1		1	1	1
158	Puthenkulam	Jose	M	M	1	1	1	1			
159	Qian	Xiaoshu	M	M	1	1	1	1			
160	Ragsdale	James	M	M	1	1	1	1	1		1
161	Rajadurai	Rajavelsamy	M New	M New			1	1			
162	Rajkumar	Ajay	M	M	1	1	1	1			
163	Sampath	Hemanth	M	M	1	1	1		1	1	
164	Sano	Masato	M	M	1	1	1		1	1	
165	Santhanakrishnan	Anand	M New	M New			1	1			
166	Sasaki	Shigenobu	M	M			1	1	1		
167	Seo	Bangwon	M	M			1	1	1		
168	Shields	Judy	M	M	1	1	1				1
169	Shively	David	M	M	1		1		1		1
170	Shono	Takashi	M	M		1	1	1	1		
171	Sihn	Gyung Chul	M	M			1	1	1		
172	Sivanesan	Kathiravetpillai	M	M		1	1		1		
173	Song	Young Seog	M	M			1	1	1		
174	Sorensen	Henrik	M New	M New		1	1				
175	Springer	Warren	M	M	1		1				
176	Srinivasan	Roshni	M	M			1	1	1	1	
177	Staver	Doug	M	M	1		1				1
178	Stuby	Richard	M	M		1	1	1	1		1
179	Suh	Mark	M	M			1	1	1	1	1
180	Sun	Jing	No	No							1
181	Surcobe	Valentin	M	M			1	1	1		1
182	Suzuki	Tomohiro	M	M	1	1	1		1	1	1
183	Tan	Teik-Kheong	No	No					1		
184	Teague	Harris	M	M	1	1	1		1	1	1
185	Tee	Lai-King Anna	M	M	1	1	1	1	1	1	1
186	Tomcik	James	M	M	1	1	1	1	1	1	1
187	Ulupinar	Fatih	M	M	1	1	1				
188	Upton	Jerry	M	M	1	1	1	1	1	1	1
189	Vaidya	Rahul	M New	M New			1	1			
190	Valbonesi	Lucia	M	M	1	1	1	1			



	A	B	J	K	R	S	T	U	W	X	Y
191	Valls	Juan Carlos	M	M	1	1	1		1	1	1
192	Vijayan	Rajiv	M	M	1	1	1		1	1	1
193	Vivanco	Silvia	M	M	1		1		1	1	1
194	Wasilewski	Thomas	M	M		1	1		1		1
195	Watanabe	Fujio	M New	M New	1						1
196	Wieczorek	Alfred	M	M	1	1		1			1
197	Wilson	Joanne	M	M	1	1	1	1	1	1	
198	Wu	Geng	M New	M New	1		1	1			
199	Yaghoobi	Hassan	M	M	1	1	1	1			
200	Yallapragada	Rao	M	M	1	1	1		1	1	1
201	Yeh	Choongil	M	M	1	1	1	1	1		
202	Yin	Hujun	M	M	1	1	1	1			
203	Yoon	Young	No	No							1
204	Youssefmir	Michael	M	M	1	1	1		1		
205	Yuda	Tetsuya	M	M	1	1	1				
206	Yun	Jungnam	M New	M New			1	1			
207	Yuza	Masaaki	M	M	1				1		
208	Zhang	Xin	No	No							1
209	Zhou	Yan	No	No							
210	Zhu	Peiyang	M New	M New	1		1				
211					Affiliation needed before attendance for March 07 meeting can be granted						

## **Appendix 2**

### **Affiliation of attendees**

### 802.20 Declarations of Affiliation

0	Last Name	First Name	Employer	Affiliation	Ultimate Parent of Employer	Ultimate Parent of Affiliation	URL1
1	Agis	Ed	Intel Corporation	Same	Not Applicable	Not Applicable	www.intel.com
2	Agrawal	Avneesh	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	www.qualcomm.com
3	Ahmadi	Sassan	Intel Corporation	Intel Corporation	Intel Corporation	Intel Corporation	www.intel.com
4	Ahn	Jae Young	ETRI	Same	N/A	N/A	www.etri.re.kr
5	Alamouti	Siavash M.	Intel Inc.	Same	N/A	N/A	www.intel.com
6	Ali	Murtaza	Texas Instruments, Inc.	Same	Not Applicable	Not Applicable	www.ti.com
7	Alphonse	Jean R.	Lucent Technologies	Same	Not Applicable	Not Applicable	www.alcatel-lucent.com
8	Alsaleh	Haggar	Consultant	Same	Not Applicable	Not Applicable	
9	Arefi	Reza	Intel Corporation	same	same	same	www.intel.com
10	Bajaj	Rashmi	France Telecom R&D	same	Orange Ftgroup	OrangeFTGroup	<a href="http://www.francetelecom.com/en">www.francetelecom.com/en</a>
11	Barriac	Gwen	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	www.qualcomm.com
12	Bavafa	Moussa	Broadcom Corporation	Same	Not Applicable	Not Applicable	www.broadcom.com
13	Bernstein	Jeff	Telecommunications Management Group, Inc.	QUALCOMM, Incorporated	Not Applicable	Not Applicable	www.tmgtelecom.com
14	Bravin	Nancy	Self	Qualcomm	Not Applicable	Qualcomm	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
15	Bussey	Chris J.	Bussey Consulting Services, Inc.	Qualcomm	Chris J Bussey	Not Applicable	www.qualcomm.com
16	Cai	Sean	ZTE USA Inc.	Same	ZTE Corp	Not Applicable	www.zteusa.com
17	Canchi	Radhakrishna	Kyocera Telecommunications Research Corporation.	Same	Kyocera Corporation.	Kyocera Corporation	www.ktrc-na.com
18	Carlo	Jim	J.Carlo Consulting LLC	Huawei Technology	Not Applicable	Not Applicable	www.huawei.com
19	Carneiro	Edson	EPEC Solutions Inc.	Qualcomm Brazil	Not Applicable	Qualcomm	www.epecsolutions.com
20	Carson	Peter	Qualcomm, Inc.	Same	Not Applicable	Not Applicable	
21	Castell	Harold P.	Bussey Consulting Services, Inc.	Qualcomm	Chris J Bussey	Not Applicable	www.qualcomm.com

22	Chae	Suchang	ETRI(Electronics and Telecommunications Research Institute)	Same	Not Applicable	Not Applicable	www.etri.re.kr
23	Chen	Yao	Beijing Samsung Telecommunication	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
24	Cho	Juphil	Kunsan National University	Same	Not Applicable	Not Applicable	www.kunsan.ac.kr
25	Choi	Hyoungjin	TTA	same	Not Applicable	Not Applicable	<a href="http://www.tta.or.kr">www.tta.or.kr</a>
26	Choi	Yang-Seok	Intel Corporation	Same	NA	NA	www.intel.com
27	Chong	Chia-Chin	DoCoMo USA Labs	Same	NTT DoCoMo	N/A	www.docomolabs-usa.com
28	Chun	Jin Young	LGE	Same	Not Applicable	Not Applicable	www.lge.com
29	Chung	Jaeho	KT Corporation	Same	Not Applicable	Not Applicable	www.kt.co.kr
30	Cleveland	Joseph	Samsung Telecommunications America, LLP	Same	Samsung Electronics Company	Not Applicable	www.samsungtelecom.com
31	Comstock	David	Huawei Technologies Co,Ltd	Same	Not Applicable	Not Applicable	www.huawei.com
32	Crozier	Eugene	SR Telecom Inc	Same	Not Applicable	Not Applicable	www.srtelecom.com
33	Dean	Christopher	Telecommunications Management Group, Inc. (TMG)	Qualcomm, Inc.	Not applicable	Not applicable	www.tmgtelecom.com
34	Dhaliwal	Upkar	Future Wireless Technologies, L.P.	Same	Not Applicable	Not Applicable	<a href="http://www.futurewirelesstech.com">www.futurewirelesstech.com</a>
35	Dodd	Don	Morningstar Mergers	same	N/a	N/a	<a href="mailto:Mstarmgt@aol.com">Mstarmgt@aol.com</a>
36	Dorward	Lynne	TMG Inc./LADCOMM Corporation	Qualcomm, Inc.	Not applicable	Not applicable	www.ladcomm.com*
37	Dunn	Doug	Kyocera Telecommunications Research Corporation	Same	Kyocera Corporation	Kyocera Corporation	www.ktrc-na.com
38	Eilts	Hank	Texas Instruments, Inc.	Same	Not Applicable	Not Applicable	www.ti.com
39	Epstein	Mark	Qualcomm	same	NA	NA	www.qualcomm.com
40	Feder	Peretz	Lucent Technologies	Bell Laboratories	Lucent Technologies	NA	www.lucent.com
41	Ferguson	Alistair	Selbourne Associates	Same	Not Applicable	Not Applicable	
42	Fong	Mo Han	Nortel	Same	Not Applicable	Not Applicable	www.nortel.com
43	Freeland	Graham	Steepest Ascent Ltd	same	Not Applicable	Not Applicable	www.steepestascent.com
44	Gal	Dan	Lucent Technologies	same	Not Applicable	Not Applicable	www.lucent.com

45	Garcia-Alis	Daniel	Steepest Ascent Ltd	same	Not Applicable	Not Applicable	<a href="http://www.steepestascent.com">www.steepestascent.com</a>
46	Garg	Deepshikha	Kyocera Telecommunications Research Corporation.	Same	Kyocera Corporation.	Kyocera Corporation	<a href="http://www.ktrc-na.com">www.ktrc-na.com</a>
47	Gil	Gye-Tae	KT	Same	Not Applicable	Not Applicable	<a href="http://www.kt.co.kr/kthome/eng/index.jsp">www.kt.co.kr/kthome/eng/index.jsp</a>
48	Gillies	Donald	Qualcomm Incorporated	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
49	Gomes	Eladio Rodrigues	EPEC Solutions Inc.	Qualcomm Brazil		Qualcomm	<a href="http://www.epecsolutions.com">www.epecsolutions.com</a>
50	Gore	Dhananjay	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
51	Gorodetsky	Svetlana	Gorodetsky Consulting	Qualcomm Inc.	Not applicable	Not applicable	
52	Gorokhov	Alex	Qualcomm Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
53	Gowaikar	Radhika	Qualcomm Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
54	Greenspan	Arnie	AROSCO Inc.	Same	Not Applicable	Not Applicable	
55	Guo	Qiang	Motorola, Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.motorola.com">www.motorola.com</a>
56	Haug	John	Motorola, Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.motorola.com">www.motorola.com</a>
57	Hou	Victor	Broadcom Corporation	Same	Not Applicable	Not Applicable	<a href="http://www.broadcom.com">www.broadcom.com</a>
58	Hu	Rose	Nortel Networks	Same	Not Applicable	Not Applicable	<a href="http://www.nortel.com">www.nortel.com</a>
59	Hu	Teck	Siemens Network LLC	Same	Siemens AG	Siemens AG	<a href="http://www.siemens.com">www.siemens.com</a>
60	Humbert	John	Sprint Corporation	Same	Not Applicable	Not Applicable	<a href="http://www.sprint.com">www.sprint.com</a>
61	Huo	David	Lucent Technologies	Same	Not Applicable	Not Applicable	<a href="http://www.lucent.com">www.lucent.com</a>
62	Hur	Yerang	POSDATA Co. Ltd.,	Same	Not Applicable	Not Applicable	<a href="http://www.posdata.co.kr">www.posdata.co.kr</a>
63	Ibbetson	Luke	Vodafone Group Services Limited	same	not applicable	Not Applicable	<a href="http://www.vodafone.com">www.vodafone.com</a>
64	Iimuro	Kazuyoshi	Kyocera corporation	Same	Not Applicable	Not Applicable	<a href="http://www.kyocera.co.jp">www.kyocera.co.jp</a>
65	Ikeda	Yutaka	Sharp Corp	same	not applicable	not applicable	<a href="http://www.sharp-world.com">www.sharp-world.com</a>
66	Ishida	Kazuhito	Qualcomm Inc.	same	Not applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
67	Jeong	Byung Jang	ETRI	Same	Not Applicable	Not Applicable	<a href="http://www.etri.re.kr">www.etri.re.kr</a>
68	Jette	Al	Motorola, Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.motorola.com">www.motorola.com</a>
69	Ji	Baowei	Samsung Telecommunications America, LLP	Same	Samsung Electronics Company	Not Applicable	<a href="http://www.samsungtelecom.com/">www.samsungtelecom.com/</a>

70	Ji	Tingfang	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	www.qualcomm.com
71	Jones	Dennis	Taliesen North Consulting	Same	Not Applicable	Not Applicable	
72	Joo	Panyuh	Samsung Electronics	Same	Samsung Electronics	Not Applicable	www.samsung.com
73	Kadous	Tamer	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	www.qualcomm.com
74	Kalhan	Amit	Kyocera Telecommunications Research Corporation	Same	Kyocera Corporation	Kyocera Corporation	www.ktrc-na.com
75	Kanai	Takeo	Symbies, Inc.	Softbank BB Corp.	N/A	N/A	www.symbies.com/
76	Kang	Hyunjeong	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
77	Katayama	Masahide	Kyocera Corp	same	not applicable	Not Applicable	<a href="http://www.kyocera.co.jp">www.kyocera.co.jp</a>
78	Kawabata	Hiro	Qualcomm	Same	not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
79	Khademi	Majid	Khademi Consulting	Khademi Consulting	Not Applicable	Not Applicable	
80	Khandekar	Aamod	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	www.qualcomm.com
81	Khatibi	Farrokh	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	www.qualcomm.com
82	Kiernan	Brian	Interdigital Communications Corp	same	not applicable	Not Applicable	<a href="http://www.interdigital.com">www.interdigital.com</a>
83	Kim	Hyeon Soo	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
84	Kim	Jae-Ho	ETRI	Same	Not Applicable	Not Applicable	www.etri.re.kr
85	Kim	Peter	TTA	same	Not Applicable	Not Applicable	www.tta.or.kr
86	Kim	Taeyoung	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
87	Kim	Yong Ho	LGE	Same	Not Applicable	Not Applicable	www.lge.com
88	Kim	Young Ho	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
89	Kim	Young Kyun	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
90	Kim	Youngsoo	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
91	Kimura	Shigeru	Kyocera Corp.	Same	Not Applicable	Not Applicable	www.kyocera.co.jp
92	Kitahara	Minako	Kyocera Corp.	Same	Not Applicable	Not Applicable	www.kyocera.co.jp

93	Kitamura	Takuya	Fujitsu Limited	Same	Not Applicable	Not Applicable	www.fujitsu.com
94	Klerer	Mark	QUALCOMM Flarion Technologies	Same	QUALCOMM, Incorporated	Not Applicable	www.qualcomm.com/qft/
95	Knisely	Douglas	Airvana, Inc.	Same	Not Applicable	Not Applicable	www.airvana.com
96	Kolze	Tom	Broadcom	same	Not applicable	Not applicable	www.broadcom.com
97	Koo	Changhoi	Samsung Telecommunications America, LLP	Samsung Electronics	Same	Same	www.samsungtelecom.com
98	Koplyay	Ferenc	Freescale Semiconductor	Same	N/A	N/A	www.freescale.com
99	Kujawski	Fred	AirCell Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.aircell.com">www.aircell.com</a>
100	Kwon	Dong-Seung	ETRI	same	Not applicable	Not applicable	www.etri.re.kr
101	Kwon	Young-Hyoun	LGE	Same	Not Applicable	Not Applicable	www.lge.com
102	Lalaguna	Pablo	MedStar Systems, LLC	Qualcomm		Qualcomm	<a href="http://www.medstarsystems.com">www.medstarsystems.com</a>
103	Lawrence	Lisa	CTCI	Qualcomm	Same	Same	www.ctci.ca
104	Lee	Heesoo	ETRI	Same	Not Applicable	Not Applicable	www.etri.re.kr
105	Lee	Jungwon	Marvell Semiconductor Inc	Same	Marvell Technology Group, Ltd	Not Applicable	www.marvell.com
106	Lee	Mihyun	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
107	Lee	Sungjin	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
108	Lee	Wook-Bong	LGE	Same	Not Applicable	Not Applicable	www.lge.com
109	Li	Jun	Nortel Networks, Inc.	Same	Nortel Networks, Inc.	Not Applicable	www.nortel.com
110	Li	Thomas	Huawei Technologies Co,Ltd	Same	not applicable	Not Applicable	<a href="http://www.huawei.com">www.huawei.com</a>
111	Li	Yingyang	Beijing Samsung Telecommunication	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
112	Li	Yong	Qualcomm Inc	Same	Not Applicable	Not Applicable	www.qualcomm.com
113	Lim	Hyoung Kyu	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
114	Lin	Jiezhen	Siemens Network Ltd, Beijing	Siemens Ltd., China	Siemens AG	Siemens AG	www.siemens.com.cn
115	Liu	Walter	FutureWei Technologies, Inc	Same	Huawei Technologies Co.,Ltd	N/A	www.futurewei.com
116	Lo	Titus	Neocific, Inc.	Same	N/A	N/A	
117	Lu	Jianmin	FutureWei Technologies, Inc	Same	Huawei Technologies Co.,Ltd	N/A	www.futurewei.com

118	Ma	Steve	Freescale Semiconductor	Same	N/A	N/A	<a href="http://www.freescale.com">www.freescale.com</a>
119	Maez	David	Navini Networks	Same	Not Applicable	Not Applicable	<a href="http://www.navini.com">www.navini.com</a>
120	Martynov	Irina	Belgud International	Qualcomm		Qualcomm	
121	Martynov	Michael	Belgud International	Qualcomm		Qualcomm	
122	McGinniss	David S.	Sprint Nextel	Same	Not Applicable	Not Applicable	<a href="http://www.sprint.com">www.sprint.com</a>
123	McMahon	Anthony	Institute for System Level Integration	Strathclyde University	Not applicable	Not applicable	<a href="http://www.sli-institute.ac.uk">www.sli-institute.ac.uk</a>
124	McMillan III	Donald C.	Advanced Network Technical Solutions, Inc.	Same	N/A	N/A	<a href="http://www.antsinc.com">www.antsinc.com</a>
125	Miyazono	Max	Qualcomm Inc	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
126	Mollenauer	Jim	Technical Strategy Associates	Motorola Inc.	Not applicable	Not Applicable	<a href="http://www.Technicalstrategy.com">www.Technicalstrategy.com</a>
127	Murakami	Kazuhiro	Kyocera Corporation	Same	Not Applicable	Not Applicable	<a href="http://www.kyocera.co.jp">www.kyocera.co.jp</a>
128	Murphy	Peter A.	Intel Corp.	Same	Not applicable	Not applicable	<a href="http://www.intel.com">www.intel.com</a>
129	Naaman	Laith	Intel Corp.	Same	Not Applicable	Not Applicable	<a href="http://www.intel.com">www.intel.com</a>
130	Nabar	Rohit	Marvell Semiconductor Inc	Same			<a href="http://www.marvell.com">www.marvell.com</a>
131	Nagai	Yukimasa	Mitsubishi Electric	Same	Not Applicable	Not Applicable	<a href="http://www.mitsubishielectric.co.jp/">www.mitsubishielectric.co.jp/</a>
132	Nagaraj	Shirish	Motorola	Same	Not Applicable	Not Applicable	<a href="http://www.motorola.com">www.motorola.com</a>
133	Naguib	Ayman	Qualcomm Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
134	Naidu	Mullaguru	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
135	Nakamura	Kenichi	Fujitsu Limited	Same	Not Applicable	Not Applicable	<a href="http://www.fujitsu.com/global/">www.fujitsu.com/global/</a>
136	Nakamura	Tetsuya	NTT MCL Inc.	same	NTT Corp.	Not Applicable	<a href="http://www.nttmcl.com">www.nttmcl.com</a>
137	Nakano	Shinji	Kyocera Corp.	Same	Not Applicable	Not Applicable	<a href="http://www.kyocera.co.jp">www.kyocera.co.jp</a>
138	Navidi	Pierre	XG Stream Ltd	OAK GLOBAL SA	Not Applicable	Not Applicable	
139	Ngo	Chiu	Samsung Electronics	Same	N/A	N/A	<a href="http://www.samsung.com">www.samsung.com</a>
140	Nguyen	Nha	Bussey Consulting Services, Inc.	Qualcomm	Chris J Bussey	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
141	Noh	Taegyun	ETRI	Same	Not Applicable	Not Applicable	<a href="http://www.etri.re.kr">www.etri.re.kr</a>



142	Novick	Fred	Bussey Consulting Services, Inc.	Qualcomm	Chris J Bussey	Not Applicable	www.qualcomm.com
143	O'Brien	Francis E.	Lucent Technologies	Same	Lucent Technologies	Not applicable	www.lucent.com
144	Odlyzko	Paul	Motorola	same	Not Applicable	Not Applicable	
145	Oguma	Hiroshi	Industrial Technology Institute Miyagi Prefecture Government	Tohoku University	Not Applicable	Not Applicable	<a href="http://www.mit.pref.miyagi.jp">www.mit.pref.miyagi.jp</a>
146	Oh	Changyoon	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
147	Oprescu	Val	Motorola, Inc.	Same	Not Applicable	Not Applicable	www.motorola.com
148	Palanivelu	Arul	Marvell Semiconductor Inc	Same			<a href="http://www.marvell.com">www.marvell.com</a>
149	Panicker	John	NORTEL	Same	Not Applicable	Not Applicable	www.nortel.com
150	Park	Chul	ETRI(Electronics and Telecommunications Research Institute)	Same	Not Applicable	Not Applicable	www.etri.re.kr
151	Park	DS	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
152	Park	Jeongho	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
153	Park	Sung-Eun	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
154	Park	Won-Hyoung	SK Telecom	Same	Not Applicable	Not Applicable	www.sktelecom.com
155	Patzer	Steve	Intel Corp.	SAME	Not Applicable	Not Applicable	
156	Pfann	Eugen	University of Strathclyde	same	not applicable	not applicable	www.strath.ac.uk
157	Pirhonen	Riku	Nokia Oyj	Same	Not Applicable	Not Applicable	www.nokia.com
158	Pittampalli	Eshwar	Lucent Technologies	Same	Not Applicable	Not Applicable	www.lucent.com
159	Poisson	Sebastien	Oasis Wireless Inc	Qualcomm	N/A	N/A	www.oasiswireless.net
160	Prakash	Rajat	Qualcomm Inc	Same	Not Applicable	Not Applicable	www.qualcomm.com
161	Preece	Rob	Bussey Consulting Services, Inc.	Qualcomm	Chris J Bussey	Not Applicable	www.qualcomm.com
162	Puthenkulam	Jose	Intel Corporation	Same	Not Applicable	Not Applicable	www.intel.com
163	Qian	Xiaoshu	Intel Corporation	Same	N/A	N/A	www.intel.com

164	Ragsdale	Jim	Ericsson Inc	Telefon AB - L.M. Ericsson	Telefon AB - L.M. Ericsson	same	www.ericsson.com/us
165	Rajadurai	Rajavelsamy	Samsung India Software Operations Private Limited	Same	Samsung Electronics Company	Same	www.samsungindiasoft.com
166	Rajkumar	Ajay	Lucent Technologies Inc.	Same			www.lucent.com
167	Sampath	Hemanth	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	
168	Sano	Masato	Kyocera Corp.	Same	Not Applicable	Not Applicable	www.kyocera.co.jp
169	Santhanakrishnan	Anand	Samsung India Software Operations Private Limited	Same	Samsung Electronics Company	Same	www.samsungindiasoft.com
170	Sasaki	Shigenobu	Niigata University	Same	Not applicable	Not Applicable	<a href="http://www.niigata-u.ac.jp">www.niigata-u.ac.jp</a>
171	Seo	Bangwon	ETRI	Same	Not Applicable	Not Applicable	www.etri.re.kr
172	Shields	Judy	Ladcomm	same	NA	NA	
173	Shively	David	Cingular Wireless	Same	AT&T / BellSouth	Same	www.cingular.com
174	Shono	Takashi	Intel K.K.	Same	Intel Corporation	Same	www.intel.co.jp
175	Sihn	Gyung-Chul	ETRI	Same	Not Applicable	Not Applicable	www.etri.re.kr
176	Sivanesan	Kathiravetpillai	Samsung Electronics Company	Same	Samsung Electronics Company	Not Applicable	www.samsung.com
177	Song	LeiLei	Marvell Semiconductor Inc	Same			<a href="http://www.marvell.com">www.marvell.com</a>
178	Song	Young Seog	ETRI	same	Not applicable	Not applicable	www.etri.re.kr
179	Sorensen	Henrik	Agere Systems	Same	Not applicable	Not Applicable	www.agere.com
180	Springer	Warren	Springer Associates	Same	Not Applicable	Not Applicable	
181	Srinivasan	Roshni	Intel Corporation	Same	Not Applicable	Not Applicable	www.intel.co
182	Staver	Doug	3581969 Canada Inc.	Same	Not Applicable	Not Applicable	
183	Stuby	Rick	Agere Systems	Same	Not Applicable	Not Applicable	www.agere.com
184	Suh	Mark	Samsung Telecommunications America	Same	Samsung Electronics Company	Not Applicable	www.samsungtelecom.com
185	Sun	Jing	Qualcomm	Same	Not applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
186	Surcobe	Valentin	Motorola	same	Not applicable	Not Applicable	<a href="http://www.motorola.com">www.motorola.com</a>

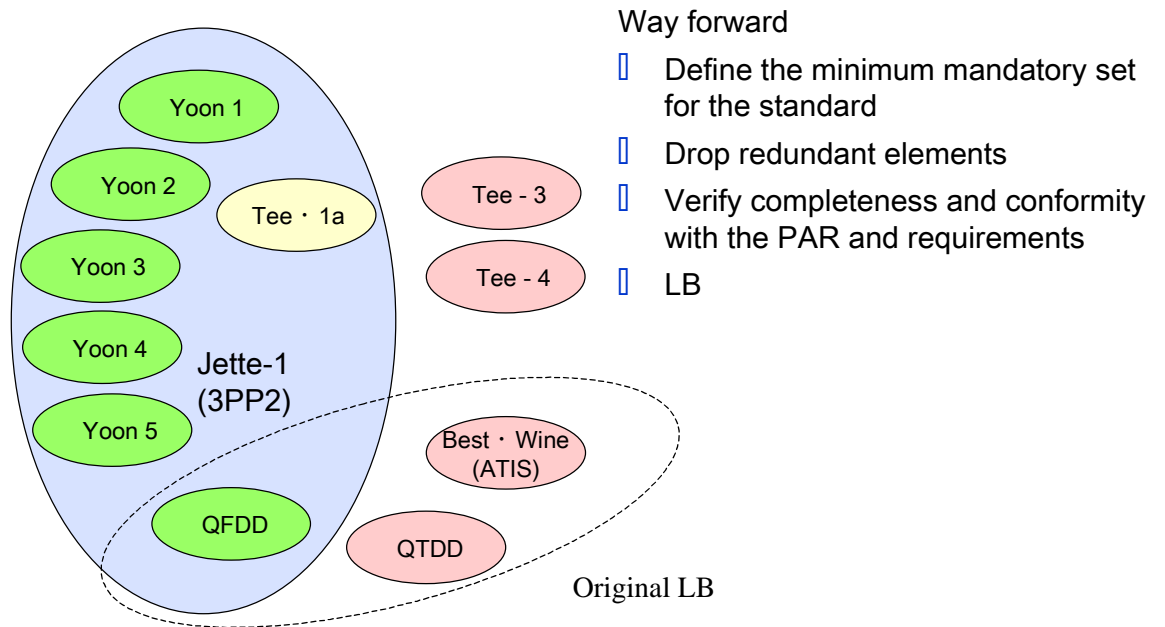
187	Suzuki	Tomohiro	Kyocera Corp.	Same	Not Applicable	Not Applicable	<a href="http://www.kyocera.co.jp">www.kyocera.co.jp</a>
188	Tan	Teik-Kheong (TK)	NXP Semiconductors	Same	Not Applicable	Not Applicable	<a href="http://www.nxp">www.nxp</a>
189	Teague	Harris	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
190	Tee	Anna	Samsung Telecommunications America	Same	Samsung Electronics Co., Ltd.	Not Applicable	<a href="http://www.samsungwireless.com">www.samsungwireless.com</a>
191	Tomcik	Jim	Qualcomm,	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
192	Ulupinar	Fatih	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
193	Upton	Jerry	Self, JUpton Consulting	Qualcomm and Self	NA	Qualcomm, Inc. and Self	
194	Vaidya	Rahul	Samsung India Software Operations Private Limited	Same	Samsung Electronics Company	Same	<a href="http://www.samsungindiasoft.com">www.samsungindiasoft.com</a>
195	Valbonesi	Lucia	Motorola, Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.motorola.com">www.motorola.com</a>
196	Valls	Juan Carlos	Telecommunications Management Group	Qualcomm, Inc.	Not applicable	Not applicable	<a href="http://www.tmgtelecom.com">www.tmgtelecom.com</a>
197	Vijayan	Rajiv	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
198	Vivanco	Silvia	Telecommunications Management Group	Qualcomm	Not applicable	Not applicable	<a href="http://www.tmgtelecom.com">www.tmgtelecom.com</a>
199	Ward Jr	Robert M	Northrop Grumman	Same	N/A	N/A	
200	Wasilewski	Tom	Qualcomm Incorporated	Same	Not Applicable	Not Applicable	<a href="http://www.qualcomm.com">www.qualcomm.com</a>
201	Watanabe	Fujio	DoCoMo Communications Laboratories USA, Inc.	Same	NTT DoCoMo USA, Inc.	Not Applicable	<a href="http://www.docomolabs-usa.com">www.docomolabs-usa.com</a>
202	Wieczorek	Al	Motorola, Inc.	Same	Not Applicable	Not Applicable	<a href="http://www.motorola.com">www.motorola.com</a>
203	Wilson	Joanne	ArrayComm, LLC	Same	Ygomi, LLC	Ygomi, LLC	<a href="http://www.arraycomm.com">www.arraycomm.com</a>
204	Wu	Geng	Nortel Networks.	Same	Not Applicable	Not Applicable	<a href="http://www.nortel.com">www.nortel.com</a>
205	Xiaoshu	Qian	Intel Corp	Same	N/A	N/A	<a href="http://www.intel.com">www.intel.com</a>
206	Yaghoobi	Hassan	Intel Corporation	Same	Not Applicable	Not Applicable	<a href="http://www.intel.com">www.intel.com</a>

207	Yallapragada	Rao	Qualcomm, Incorporated	Same	Not Applicable	Not Applicable	www.qualcomm.com
208	Yeh	Choong il	ETRI	same	Not applicable	Not applicable	www.etri.re.kr
209	Yin	Hujun	Intel Corp.	Same	N/A	N/A	www.intel.com
210	Yoon	Young	LG Electronics Mobile Research LLC	Same	LG Electronics Inc.	Not Applicable	www.lge.com
211	Youssefmir	Michael	Self	ArrayComm		Ygomi Group	www.arraycomm.com
212	Yuda	Tetsuya	Kyocera Corp.	Same	Not Applicable	Not Applicable	www.kyocera.co.jp
213	Yun	Jungnam	POSDATA Co. Ltd.,	Same	Not Applicable	Not Applicable	<a href="http://www.posdata.co.kr">www.posdata.co.kr</a>
214	Yuza	Masaaki	NEC Infrontia Corp.	same	NEC Corp.	Not Applicable	www.necinfrontia.co.jp
215	Zhang	Xin	Qualcomm	Same	Not Applicable	Not Applicable	www.qualcomm.com
216	Zhu	Peiying	Nortel	Same	Not Applicable	Not Applicable	www.nortel.com
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Most recent updates highlighted in yellow

## Appendix 3

### Discussion diagram by Riku Pirhonen



## **Appendix 4**

**Chair's slides from Thursday, March 15**

# Progressing the Draft

- The WG will use “practice ballots” to make progress on the new draft
  - Other groups have used this process to advance a draft that is not quite ready for WG ballot
- A “practice ballot” is a 30-day ballot where voting, comment submission and comment resolution are performed exactly as if it were a WG Ballot

# Progressing the Draft

- A “practice ballot” is not a WG Ballot
  - a passing ballot does not trigger WG ballot
  - the WG must vote to start a WG Ballot
  - there are no recirculation ballots, the entire draft is available for comment in subsequent practice ballots
  - all comments must have proposed resolutions that would satisfy the commenter
  - unresolved negatives and the CR responses are placed into a database that is circulated with the subsequent draft



# Process

- At this meeting the WG will hold a vote to:
  - authorize the editor to create D0.1
  - the chair to conduct a practice ballot on D0.1
  - authorize the WG to resolve comments at the May Interim Session and **to progress the draft**
    - this allows another ballot to occur prior to the July Plenary
- Practice ballots continue until the WG believes the draft is of sufficient quality to start a WG ballot
  - goal is to ensure good progress and quality because of the integration of new content to the current draft

# Best Case Schedule

- March 2007 WG Votes to:
  - Authorize the Editor to create D0.1 based on current draft and motions to accept new content
  - Authorize the Chair to conduct Practice Ballot 0.1
  - Authorize the WG to progress the draft at the May Session
- May 2007
  - Comment Resolution on D0.1
  - Authorize the Editor to create D0.2 based on the current draft and the resolved comments
  - Authorize the Chair to conduct Practice Ballot 0.2
- July 2007
  - Comment Resolution on D0.2
  - Decision point: Is the draft ready for WG Letter Ballot?
    - No: continue with Practice Ballot D0.3
    - Yes: create D1.0 based on D0.2 and resolved comments