| Project | **IEEE 802.20 Working Group on Mobile Broadband Wireless Access** <br> **<http://grouper.ieee.org/groups/802/20/>** |
|---|---|
| Title | **Meeting Minutes,  Revision #1, 802.20 Session #6, Vancouver, BC, Canada, January 12-16, 2004** |
| Date Submitted | **2004-1-28** |
| Source(s) | Rao Yallapragada         Voice: +1 858 658 4540 <br> QUALCOMM, Incorporated    Fax: +1 858 651 2880 <br> 5775 Morehouse Drive       Email: rao@qualcomm.com <br> San Diego, CA, 92121 |
| Re: | **802.20 Session#6** |
| Abstract | Minutes of the Session; Revised version #1 of the original draft |
| Purpose | Minutes of the Session. |
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# Draft - Meeting Minutes of the 802.20 Session #6

January 12-16, 2004
Vancouver, BC, Canada

Rao Yallapragada
Secretary

The sixth session of 802.20 was held at the January 2004 interim meeting of IEEE 802 in Vancouver, Canada.

The 802.20 WG had a joint opening interim session with 802.11, 802.15, 802.16, 802.18, 802.19 from 8:00 AM to 11:00 PM on Monday January 12, 2004.

Contributions and WG documents referenced in these minutes may be found at the 802.20 website, http://www.ieee802.org/20/

See Appendix A for the attendance list.

## Minutes of 802.20 Monday January 12, 2004

**Meeting started at 11:00 am.**
.
The Chair opened the meeting. The Chair stated there is no quorum for this session.
The chair asked if there were any objections to not having a quorum call.
No objections were raised.

Therefore, all votes will be non-quorum votes and require re-confirmation at the March Plenary.

Since there is no quorum for this session, approval of 'meeting minutes' for Session #5 was postponed to the next Plenary Session to be held in March 2004.

The Chair presented the IEEE IPR Rules and Meeting Conduct rules which were also presented in the Joint opening this morning.
The Chair referred all participants to the posted 802.20 Working Group Policies and Procedures Version 1.0. Chair discussed the logistics with respect to Electronic Sign-in, local website and other WG information. The new procedure for Affiliation Statements was reviewed. All attendees were requested to make affiliation statements in books provided by Gang Wu, Procedural Vice Chair.

The Chair reviewed the proposed agenda for the current session

Following discussion, changes were made to the agenda

Modified agenda (Appendix B) was approved by unanimous consent

Time: 12:00 pm

Lunch Break between12:05 pm to 1:00 pm

Presentation by Robert Love on "802.20 Schedule Considerations" (C802.20-04/07)

Proposed a schedule for the 802.20 work

Presentation by John Humbert on "System Requirements Update" (C802.20-04/15) – Presenter: Robert Love substituting for John Humbert

Completion of Systems Requirements document targeted for March 2004 Meeting

Presentation by John Humbert on "Detailed Discussion of SRD Issues" (C802.20-04/16) – Presenter: Robert Love substituting for John Humbert

Break between 2:45pm to 3:00 pm

The chair reviewed the status of the unresolved issues of the requirements document.

The chair proposed topics for adhoc groups to study, discuss and resolve several open issues listed in the system requirements document.

Volunteers were solicited to lead Ad-hoc drafting groups.

The following are the various ad-hoc group assignments and corresponding group leaders:

Systems Requirements Document, Section 4.1.7 – Mark Klerer
Systems Requirements Document, Section 4.5.2 – Michael Youssefmir
Multi-Carrier Support – Bob Love
Systems Requirements Document, Section 4.5.4 – John Humbert

Discussion on drafting the motions for the current session in the absence of a quorum

It was decided to draft the motions that arise in the current session, take non-quorum votes and present motions that pass formally in the March Plenary.

It was agreed to recess and have the Ad-hoc drafting groups start work.

 **Meeting recessed at 3:40 pm**


**Minutes of 802.20 Tuesday January 13, 2004**

**Meeting started at 8:00 am.**

Chair started the day by reviewing the working agenda (Appendix B) for the day.

**Presentation by Eshwar Pittampalli on "Performance Requirements for Mobile Broadband Wireless Access System" (C802.20-04/14)**

The presentation recommended delivering a standard that provides performance gains over existing wireless access systems by a considerable margin.

The contribution suggested that the PAR should substantially exceed the current 3G standards performance targets.

Following there was discussion on what should be 802.20 standard performance targets.

**Presentation by Marianna Goldhammer on "802.20 SRD: data rates, spectral efficiency and frequency assignments" (C802.20-04/08)**

This contribution highlighted the need for 802.20 SRD to define the channel bandwidth essential for interoperability and roaming of mobile systems.

This contribution proposes improvements to the 802.20SRD, by introducing the multi-carrier concept with flexibility on data rates and spectral efficiency with TDD/FDD, according to the actual channel bandwidth allocations.

**Presentation by John Humbert on "Performance targets of 802.20" (C802.20-04/17)**
John Humbert withdrew his contribution since E. Pittampalli presented a similar contribution.

Break between 9:40 am to 10:15 am

**Presentation by Dan Gal on "Channel Bandwidth, Frequency Block Assignment and Spectral Efficiency Definitions" (C802.20-04/11)**

This contribution was targeted to clarify the ambiguity associated with the definitions for 'channel BW' and 'Block Assignment' in the current text of the systems requirements document.

Also discussed was the issue of taking account of 'in-channel guard-band' in calculating spectrum-efficiency in the requirements document.

In the discussion following the presentation, it was suggested that we define terms in such a manner so that they will be well defined in the evaluation criteria.

After discussion, the Chair requested that the following item be considered for incorporation into the requirements document using appropriate process and consensus agreement.

- The 802.20 standard should support 1.25 MHz and 5 MHz channel bandwidths. Additional, wider channel bandwidths may be proposed.

No consensus was reached on this point. There was discussion on considering channel bandwidths vs. block spectrum allocations for evaluating a proposed technology.

Lunch Break between 12:20 pm to 1: 30 pm

**Presentation by Anna Tee on "Proposed text on latency and packet error rate, and performance under mobility requirements - section 4.1.8, 4.1.9 and 4.2.3 of 802.20 requirements document rev. 10" (C802.20-04/18)**

This contribution proposes alternative text on latency and packet error rate, and performance under mobility requirements based on the comments received from Nov 2003 meeting and email reflector.

There was considerable discussion on sections 4.1.8 & 4.1.9 but there wasn't much agreement on the proposed text.

Break between 3:20 pm to 3:50 pm

Discussion followed on Section 4.2.3 "Performance under mobility and Delay Spread"

The following text was agreed upon consensus:

"The system shall work in dense urban suburban rural outdoor-indoor, pedestrian and vehicular environments and the relevant channel models shall be applicable. The system shall NOT be designed for indoor only and outdoor only scenarios."

**Presentation by William A. Arbaugh & Paul Nguyen on " U.S. Department of Defense Wireless Security Requirements for Sensitive but Unclassified Information" (C802.20-04/09)**

This contribution provides a brief review of the DOD requirements for the use of wireless products with sensitive but UNCLASSIFIED information

**Presentation by Hao Hu on "Comments on 802.20 Requirements Document Ver. 10" (C802.20-04/03)**

This contribution provides some comments on 802.20 Requirements Document Ver. 10. This contribution focuses on the change in Section 4.4.1 "Quality of Service and MAC" section and on a new requirement for Layer 2 MAC (Media Access Control)

The contribution also proposed one MAC protocol should have the ability of supporting several Duplexing techniques and different assignments of system bandwidth.
No consensus was reached on the proposal.

The Chair reviewed potential topics for Ad-hoc drafting groups. Volunteers were solicited to lead the Ad-hocs.

The following are the Ad-hoc drafting groups topics and corresponding leaders:

Systems Requirements Document, Section 4.1.8 – Anna Tee
Systems Requirements Document, Section 4.1.3 – Dan Gal

**Given all agenda items had been covered, the Chair asked the group if they following item could be addressed before the recess.**
**Sept. Interim and Future Interim Session Planning**

Bob Heile, Chair of 802.15, requested the following straw polls form 802.20 to help in the future planning for the interim sessions.

Poll to "approve that the IEEE wireless groups should hold at least one Interim per year in a non-North American venue"

**Results**:
For: 43 votes
Against: None
Abstentions: None

Poll to select a non-North American venue for the September 2004 interim session
The following are the choices for non-North American venues:

1. Berlin for a possible registration fee of $750-800 during the week of Sept 13
2. Sydney for a possible registration fee of $700-$750 during the week of Sept 20
3. Non US venue with registration fee less than $500
4. Need more information

Results of the Poll:
      In favor of Choice 1 - Berlin : 17
      In favor of Choice 2 - Sydney: 29
      In favor of Choice 3 - Non US venue for less than $500: None
      In favor for Choice 4 - Need more information: 3

The results of the straw polls were sent to Bob Heile after the recess.

**Meeting recessed at 5:40 pm**

**Minutes of 802.20 Wednesday January 14, 2004**
**Meeting started at 8:08 am.**

The chair presented the Working agenda for the day. Based upon requests from the members of the Ad-hoc groups, a modified the working agenda for the day was created.

Modified working agenda (Appendix C) is approved by unanimous consent.

**Presentation by Quiang Guo on "Status of 802.20 Channel Models" (C802.20-04/01)**

This contribution provided the current status of the ongoing work on 802.20 Channel models.

The contribution discussed the following key working items:
1. Indoor Pico-cell to the MBWA channel environments
2. The MIMO nature of Outdoor-to-Indoor model
3. The reference values of spatial channel model parameters

**Presentation by Robert Love on "Proposed Error Rates for 802.20" (C802.20-04/24)**

The presentation was intended to provide information requested earlier in the week. Discussion occurred regarding whether an error rate was needed in the requirements document. No consensus reached.

**Presentation by Farooq Khan on "802.20 Traffic Models Update" (C802.20-04/20)**
Status regarding the traffic models documents.

**Presentation by Farooq Khan on "VoIP Models for 802.20 systems performance Evaluation" (C802.20-04/12)**

It was meant to be a tutorial and not a recommendation.
The contribution provided an overview of the different existing VoIP models.  The presentation underscored the need for proposals on this subject.

Break between 10:00am to 10:30am.

**Presentation by Farooq Khan on "802.20 Evaluation Criteria Update" (C.802.20-4/13)**

This contribution provided an update on the activities of the Evaluation Criteria group. An update was provided on the ongoing discussion of the following items:
   – Interface between link and system simulations
   – System simulation calibration
   – Simulation of various channel bandwidths
   – Fairness criteria
   – Phased approach for technology evaluation
The Chair asked queried Farooq regarding plans for closing some of the issues. A discussion followed on areas of focus for closure.

**Presentation by Bingyu Qu on "Clarification on Link Level Simulations" (C802.20-4/02)**

This contribution was intended to provide clarification on link level simulation for 802.20 Evaluation Criteria Version 6.  Suggestions were made as to what can be provided by link level simulation and what needs to be simulated by link level simulation. Also, the presentation clarified some concepts of the link-system interface.

Lunch Break between11:50 am to1:00 pm

**Presentation by Mike Youssefmir on "Evaluation Criteria: Fairness Criteria" (C802.20-04/4)**

**Dan Gal withdrew his presentation (C.802.20-4/xx)**

Chair proposed recessing for the day and then having the Ad-hoc Groups work on their assigned items.
On request from the participants, it was decided not to recess. The Ad-hoc group leaders were asked to share the rest of day in resolving the outstanding issues with group meeting as a whole.

**Ad-hoc Group Discussion, Lead: Dan Gal, Subject: section 2.2 of document C802.20-04/11r1**

There was considerable discussion but no resolution was reached.

Break from 2:50 pm to 3:30 pm

**Ad-hoc Group Discussion, Lead: Anna Tee, Subject: Section 4.18 of Requirements document**

Anna Tee resumed the discussion on section 4.1.8
Chair requested clarification of the different positions.

It was the discussion should continue outside this session and on the email reflector as there was not a clear consensus on the proposed text.

A discussion occurred regarding how to reach closure on open items given on consensus in Ad-Hoc discussions. The chair suggested capturing all the alternatives and working consensus with the proponents of the alternatives. It was agreed the group would take Non-Quorum votes on the potential areas of agreement. All passed motions/positive agreements would then be presented at the March Plenary for confirming votes.

**Ad-hoc Group Discussion, Lead: Farooq Khan, Subject: Evaluation Criteria**

No resolution reached on several options of deciding the fairness criteria.

It was agreed that the proponents of the alternatives should have a further discussion over night and bring forward a potential resolution on Thursday.

**Meeting recessed at 5:10 pm**


**Minutes of 802.20 Thursday January 15, 2004**

**Meeting started at 8:04 am.**

The chair presented the Working agenda for the day.
Upon requests from the members, the chair modified the working agenda for the day.
Modified agenda (Appendix D) is approved by unanimous consent.

Voting tokens were passed out to members. It was noted that all votes are Non-Quorum and would need confirming votes at the March Plenary.

## Requirements Ad-hoc Drafting Teams Readouts

**Section 4.1.7: 'Number of Simultaneous Active Users' readout led by Mark Klerer**

The following is the text considered for approval.

"The MAC layer should be able to control > 100 simultaneous active sessions per sector. An active session is a time duration during which a user can receive and/or transmit data with potentially only minimal delay (i.e. in the absence of service level controls, e.g., QoS constraints).   In this state the user should have a radio bearer channel available with a delay of less than 25 ms.

Note that certain applications will have to be given preferential treatment with respect to delay in order to work, e.g. VoIP.

This requirement shall be met even if the sessions are all on different terminals.

This requirement applies to an FDD 2x1.25 MHz or TDD 2.5 MHz system. This parameter scales linearly with system bandwidth if the same application mixes are assumed.

Note: Depending on traffic mix within a cell the control capacity may not be the limiting system parameter."

Time: 8:48 am
**Motion #1 (without Quorum)**

Motion to incorporate the above text on Section 4.1.7 in the Requirements document

Moved: Joanne Wilson
Second: Mark Klerer
Results: Approved by Unanimous consent
(Motion requires a confirming vote at the March Plenary.)

Time: 8:51 am

**Ad-hoc Group Readout by Mike Youssefmir on Section 4.5.2: Q Tagging**

It was decided this issue would require further discussion on the correspondence reflector before March Plenary meeting.

**Ad-hoc Group Readout by Bob Love on Multi-Carrier Support**

The text under consideration is as follows:

"The AI shall have the ability to support multiple carriers within the same system so that carriers can be stacked within sectors and shall allow flexible augmentation of capacity."

Time: 9:00 am
**Motion #2(without Quorum)**
Motion to incorporate the above statement in the Requirements document in an appropriate section by the document editor.

Moved: Marianna Goldhammer
Second: Ho-In Jeon
Discussion followed.

Time: 8:51 am
**Motion #3(without Quorum)**
Motion to "Call the Question"
Moved: Joanne Wilson
Second: None
Discussion followed.

Time: 9:05
**Motion #4(without Quorum)**

Motion to "Call the Question"
Moved: Mark Klerer
Second: Joanne Wilson

Objections raised.
Results of Vote:
For: 15
Against:  6
Abstentions: 3
Motion to "Call the question" passes.

Time: 9:10
Vote for the Motion to include the text on 'Multi Carrier Support'
In favor: 17 yes
Against: 15 no
Abstentions: 1
Motion fails, given this was a technical vote requiring 75% approval.

**Adhoc Group Readout by John Humbert on Section 4.5.4: OA&M**
John Humbert was not present. Therefore the item was deferred to CG email reflector or if time allows for later in the day.


**Presentation by Marianna Goldhammer "Proposed Text Changes to FDD and TDD Assignments and Preferred Channel bandwidths"**

Chair requested Mariana provided the changes to the Ad-hoc Drafting Group working on a related topic led by Dan Gal.

**Presentation by Marianna Goldhammer on "User Data Rates"**

It was decided to reopen the issue/section after considerable discussion. However, a clear proposal on text and rationale is required for continued discussion.

**Ad-hoc Group Readout by Dan Gal (C802.20-04/11rb)**

Dan presented multiple definitions of "Channel Bandwidth" in Section 4.5.2 of requirements document. Presentation and discussion was incomplete in the allotted time.

It was agreed the presentation and discussion would continue later in the afternoon, if time permitted, and if the was reason to believe consensus could be reached.

There was again discussion on Marianna Goldhammer proposal on the preferred channel bandwidths (1.25 MHz and 5 MHz). Marianna was requested to provide a written rationale for her proposed text on the email reflector.

Lunch Break between 12:10 pm and 1:05 pm

**Ad-hoc Group Readout by Anna Tee on Section 4.1.8**

Three options to the content were presented.
There was discussion, but there was no consensus on the various options presented.

Given the time left in the day, it was agreed the discussion should go back on the CG email reflector.

**Ad-hoc Group Readout by Farooq Khan on "Fairness Criteria – Evaluation Criteria"**

The following text was presented to be included in the fairness criteria document:

"In the evaluation of spectral efficiency, it is important that systems be compared at operating points that provide users with equitable levels of throughput.  For best effort traffic (HTTP, FTP and full buffers) the cumulative distribution function of the normalized user throughput shall meet the predetermined function given in the Table below.

| Normalized Throughput w.r.t average user throughput | CDF |
|:---:|:---:|
| 0.1 | 0.1 |
| 0.2 | 0.2 |
| 0.5 | 0.5 |

For applications other than best effort, application specific outage criteria are defined.

The proposals will also be evaluated on the basis of additional fairness metrics. The details of the additional fairness metrics are TBD."

Time:2:26 pm
**Motion #5(without Quorum):**

Motion to incorporate the above text into the "Evaluation Criteria" document
Moved: Joanne Wilson
Second: Eshwar Pittampalli

Requested Vote by Acclamation
No objections
Motion Passes (This motion will require a confirming vote at the March Plenary.)

Time: 2:29 pm
**Ad-hoc Readout by John Humbert on Section 4.5.4: OA&M**

As the text proposed was relatively new and not much discussion has taken place, there were requests to put the text back on the email reflector
John also agreed to provide a rationale for adding the new text into Section 4.5.4 to facilitate the resolution.

Time: 2:45
Chair reviewed the remainder of the working agenda

**Presentation by Liaison Co-chair on "Liaison relationships and external relationships" (C802.20-04/25)**

Chair requested comments on priorities. Volunteers were solicited to provide further inputs to the Liaison Vice Chair.

Break between 3:10 pm to 3:40 pm

**Dan Gal resumed Ad-hoc Group Readout (C802.20-04/11rb)**

Discussion ensued on the various definitions.
Consensus reached on various definitions. The following text was agreed upon.

**Section 4.1.2  Support for Different Block Assignments**

*channel bandwidth* is defined as the spectrum required by one channel and contains the *occupied bandwidth* plus buffer spectrum [which may be] necessary to meet the radio performance specifications in same-technology, adjacent channels deployment. The concept is depicted in the following figure.
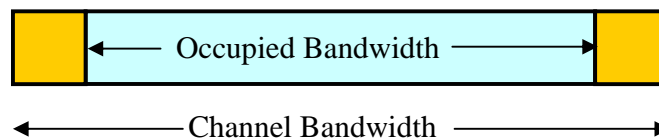


Note: In this document, the extra buffer spectrum included in a radio channel bandwidth is referred to as "in-channel guard-bands".

*A **block assignment**,* which may consist of paired or unpaired spectrum, is the block of *licensed spectrum* assigned to an individual operator. It is assumed here that the spectrum adjacent to the block assignment is assigned to a different network operator. At the edges of the block assignment the applicable out of band emission limits shall apply (for example, the limits defined in 47 CFR 24.238 for PCS).

The AI shall support deployment in at least one of the following block assignment sizes.

| FDD Assignments | 2 x 1.25 MHz |
| | 2 x 5 MHz |
| | 2 x 10 MHz |
| | 2x15 MHz |
| | 2 x 20 MHz |
| TDD Assignments | 2.5 MHz |
| | 5 MHz |
| | 10 MHz |
| | 20 MHz |
| | 30 MHz |
| | 40 MHz |

This section is not intended to specify a particular channel bandwidth. Proposals do not need to fit into all block assignments.
The individual 802.20 technology proposals may optimize their MAC and PHY designs for specific bandwidth and Duplexing schemes.

**Motion #6(without Quorum):**
Motion to include the above text into the requirements document

Moved: Joanne Wilson
Second: Alfred Wieczoreik

A friendly amendment was accepted and the change is incorporated in the above text.
Mark Klerer called the question
Seconded by Eshwar Pittampalli
Vote passes by acclamation (This motion requires a confirming vote at March Plenary)
Time: 4:20

Bob Love proposed the following schedule to be adopted by the IEEE 802.20 working group:

Finalize requirements Document March 2004
Call for proposals issued following March Meeting (Proposals to be submitted in May and July)
Cutoff for new proposals July 2004
First round evaluation and simulation of proposals through September 2004 interim meeting
Second round evaluation Sept – Nov2004
Choose proposals to be incorporated November 2004
1$^{st}$ draft out for 30 day comment January 31, 2005 (assumes January 10-14 interim meeting with two weeks to prepare the draft).

**Motion #7(without Quorum):**
Motion to adopt the above schedule within 802.20
Moved: Mark Klerer
Second: Scot Migaldi

Discussion and debate followed.
Friendly amendment suggested delaying the schedule by one session.
Mark Klerer did not accept/approve.

**Motion #8(without Quorum):**
Amendment to move all dates out by two months:
Moved: Marianna Goldhammer
Second: None
Amendment not accepted.

Results of the Non-Quorum vote:

For: 13
Against: 15
Abstentions: 2
Motion Fails
Time: 4:56 pm

**Presentation by Gang Wu on "Some Comments on Procedure" (C802.20-04/27)**
**Presentation by "Key objectives for the Next Meeting" (Appendix E)**

**Session adjourned          Time: 5:03 pm**

# Appendix A  Attendance List of Session #6

| Last Name | First Name | Middle Initial | Organization/Affiliation | Gain (%) | Credit (Y: >75%) |
|---|---|---|---|---|---|
| Ansari | Arif | | Nextel | 62 | N |
| Arunachalam | Vaidhyanathan | | Skyworks Solutions, Inc. | 93 | Y |
| Bajaj | Rashmi | | France Telecom R&D | 81 | Y |
| Chauvin | Todd | H | Arraycomm | 100 | Y |
| Cheng | Hong | | Panasonic Singapore | 37 | N |
| Choi | Hyoung-Jin | | TTA | 93 | Y |
| Choo Eng | Yap | | Panasonic Singapore | 100 | Y |
| Cleveland | Joseph | R | Samsung | 93 | Y |
| Crowley | Steven | | DoCoMo USA Labs | 87 | Y |
| Dang | Wenshuan | | Huawei | 18 | N |
| Das | Arnab | | Flarion | 100 | Y |
| Davis | Chantal | | Industry Canada | 93 | Y |
| Demel | Sabine | | T-Mobile International | 93 | Y |
| Eilts | Henry | S | TI | 87 | Y |
| Epstein | Mark | | Qualcomm | 81 | Y |
| Flintstone | Frederic | | IDEAL Technology Co. | 6 | N |
| Gal | Dan | | Lucent | 100 | Y |
| Ganti | Hari | V | Flarion | 100 | Y |
| Guo | Qiang | | Motorola | 93 | Y |
| He | Haixiang | | Nortel Networks | 100 | Y |
| Hirose | Toshiyuki | | Siemens | 31 | N |
| Hoymann | Christian | P | Aachen University | 81 | Y |
| Hu | Hao | | Huawei | 100 | Y |
| Humbert | John | | Sprint | 81 | Y |
| Hwang | Sang Woo | | Hanaro Telecom | 93 | Y |
| Ibbetson | Luke | | Vodafone | 93 | Y |
| Imamura | Kimihiko | | Sharp | 93 | Y |
| James | David | S | Oak Global BV | 100 | Y |
| Jeong | Moo Ryong | | DoCoMo USA Labs | 12 | N |
| Kasapi | Athos | | Arraycomm | 6 | N |
| Kerr | Adam | B | Arraycomm | 6 | N |
| Khan | Farooq | null | Lucent | 93 | Y |
| Kim | JaeHeung | | ETRI | 100 | Y |
| Kitamura | Takuya | | Fujitsu | 100 | Y |
| Klerer | Mark | | Flarion | 81 | Y |
| Kuroda | Masahiro | | CRL | 100 | Y |
| Kwon | Jae Kyun | | ETRI | 87 | Y |
| LEE | YEHOON | | Samsung | 100 | Y |
| Laihonen | Kari | A | TeliaSonera | 100 | Y |
| Lee | Heesoo | | ETRI | 93 | Y |
| Lee | Kyoung Seok | | ETRI | 93 | Y |
| Lee | Seong-Choon | | KT | 100 | Y |
| Liu | Ping | | Sierra Wireless | 75 | Y |
| Love | Robert | D | LAN Connect Consultants | 100 | Y |
| Maez | Dave | | Navini | 6 | N |
| Malik | Rahul | | Panasonic Singapore | 75 | Y |
| Migaldi | Scott | F | Motorola | 43 | N |
| Mollenauer | James | F. | Technical Strategy Associates | 12 | N |
| Murakami | Kazuhiro | | Kyocera | 100 | Y |

| Naguib | Ayman | F | Qualcomm | 87 | Y |
|---|---|---|---|---|---|
| Nakamura | Michiharu | | Fujitsu | 12 | N |
| Ngo | Chiu | | Samsung | 50 | N |
| Nguyen | Tuan | P | DISA | 62 | N |
| Nishio | Akihiko | | Panasonic | 93 | Y |
| O'Brien | Francis | E | Lucent | 81 | Y |
| O'Connor | Jim | | IPWireless | 93 | Y |
| Okubo | Akira | | Mitsubishi | 100 | Y |
| PARK | SOON-JOON | | LG | 93 | Y |
| Park | PS | | Hanaro Telecom | 93 | Y |
| Petre | Frederik | G | IMEC | 37 | N |
| Pittampalli | Eshwar | | Lucent | 100 | Y |
| Poisson | Sebastien | | Oasis Wireless | 87 | Y |
| Qi | Emily | H | Intel | 12 | N |
| Qu | Bingyu | | Huawei | 93 | Y |
| Ragsdale | James | H | Ericsson | 100 | Y |
| Rajkumar | Ajay | | Lucent | 87 | Y |
| Rudolf | Marian | X | Interdigital Canada | 100 | Y |
| Sakakura | Takashi | | Mitsubishi | 100 | Y |
| Shaver | Donald | P | TI | 43 | N |
| Sher | Sharon | | Radwin | 37 | N |
| Shively | David | | Cingular Wireless | 93 | Y |
| Sutivong | Arak | | Qualcomm | 81 | Y |
| Tee | Lai-King Anna | | Samsung | 81 | Y |
| Tokuyama | Katsumi | | Key Stream | 6 | N |
| Tomcik | James | D. | Qualcomm | 12 | N |
| Tong | Wen | | Nortel Networks | 6 | N |
| Upton | Jerry | | J. Upton Consulting/ M Verify and Qualcomm for the week | 100 | Y |
| Ward | Robert | | SciCom | 100 | Y |
| Watanabe | Fujio | | DoCoMo USA Labs | 37 | N |
| Wieczorek | Alfred | | Motorola | 87 | Y |
| Wilson | Joanne | C | Arraycomm | 100 | Y |
| Wong | Jin Kue | | Nortel Networks | 81 | Y |
| Wu | Gang | | DoCoMo USA Labs | 100 | Y |
| Wu | Geng | | Nortel Networks | 75 | Y |
| Yallapragada | Rao | V | Qualcomm | 93 | Y |
| Yano | Takashi | | Hitachi | 100 | Y |
| Yong | Kit | C | Mimix Broadband | 43 | N |
| Youssefmir | Mike | | Arraycomm | 93 | Y |
| Yuza | Masaaki | | NEC | 75 | Y |
| carlton | alan | | Interdigital | 43 | N |
| li | yungang | | Huawei | 25 | N |

**APPENDIX B**
**802.20 Working Group Session #6, January 12–15, 2004 Interim**
**Proposed Agenda – Approved Jan. 12 AM**
**Monday, January 12, 2004**
**8:00AM - 10:00AM**
**Joint Opening Plenary 802.11/15/18/19/20 (Attendance Mandatory)**
**Review of Proposed Agenda for 802.20**
**IEEE IPR rules and conduct**
**Logistics for the session**
**WG Policies & Procedures**

**11:00AM – 12:00PM**
**Opening Session of 802.20 (Regency F)**
**Approval of Agenda including modifications**
**Review and approve Minutes**
**WG Policies and Procedures**                          C802.20-PD-05
                                        (C802.20-04/19, Proposed Revs.)
**Other Session Logistics**

**1:00PM – 6:00PM**
**Objectives for interim session - discussion**
**Schedule Considerations**                             C802.20-04/07
**Requirements Contributions and Discussion**
**Review Current Status of Requirements Document**      C802.20-04/15
Detail discussion of SRD Issues                         C802.20-04/16
Break 3:00 – 3:30PM
**Cont. Status Review & Proposed Topics for Drafting Ad-Hocs**

**7:30PM – 9:30 PM Drafting Ad-Hoc meetings(Optional- Regency F & Oxford)**

**Tuesday, January 13, 2004**
**8:00AM – 12:00PM**

**Requirements Contributions**
**Performance Requirements for MBWA**                   C802.20-04/14
**Propose Performance Targets for 802.20**              C802.20-04/17
Break 10:00 – 10:30AM
**Data Rates, Spectral Efficiency & Frequency Assignments**  C802.20-04/08
**Channel Bandwidth, Block Assignments & Spectral Efficiency**  C802.20-
04/11
**Latency, Packet Error Rate, Performance under Mobility**   C802.20-04/18

**1:00PM – 6:00PM**
**Requirements Contributions continued**
**Comments on Requirements, QoS and MAC**               C802.20-04/03
**Wireless Security Requirements, US DoD**              C802.20-04/09

**Report out from Requirements Ad-Hocs**
**Review of New Proposed Topics for Ad-Hocs**
Break 3:00 – 3:30 PM


**Channel Modeling**
      Status review of Document                           C802.20-04/01
      Review of Proposed Topics for Ad-Hocs


7:30PM– 9:30PM Drafting Ad-Hoc meetings (Optional- Regency F & Oxford)

Wednesday, January 14, 2004
8:00AM – 12:00PM
      Evaluation Criteria and Traffic Modeling
            Status of Evaluation Criteria Document         C802.20-04/13
            Break 10:00 – 10:30AM
            VoIP Traffic Models                    C802.20-04/12
            Clarification on Link Level Simulation       C802.20-04/02
      1:00PM – 5:00PM
      Evaluation Criteria Continued
            Evaluation Methodology               C802.20-04/04
            Evaluation Metrics                   C802.20-04/05
            Break 3:00 – 3:30PM
            RF Coexistence Evaluation Criteria      C802.20-04/10
      Thursday, January 15, 2004
      8:00AM –12:00PM
            Read out for Drafting Ad-Hoc meetings
            Consensus Agreements based upon Interim for CG Docs.(interim
Attendee Votes)
            Additional Contributions
            Break 10:00 – 10:30AM
            Several Amendments to 802.0 Draft Rules      C802.20-04/06
            Proposed Revisions of Policies and Procedures    C802.20-04/19
            New Business- - Potential Liaison Needs, discussion

      1:00PM – 5:00PM
            New Business
            Next Meeting Planning
            Close of the Meeting
            Adjourn

APPENDIX C Proposed Agenda – Approved----approved Change for Wed.R2

Wednesday, January 14, 2004
8:00AM – 12:00PM
 Channel Modeling(Moved from Tuesday)
         Status review of Document                          C802.20-04/01
Error Rate Information                                      C802.20-04/24
Evaluation Criteria and Traffic Modeling
         Status of Traffic Models Document(C802.20-04/22) C802.20-04/20
         VoIP Traffic Models                               C802.20-04/12
          Break 10:00 – 10:30AM
         Status of Evaluation Criteria Document(C802.20-04/21)C802.20-04/13
         Clarification on Link Level Simulation            C802.20-04/02


1:00PM – 5:00PM
         Evaluation Methodology                            C802.20-04/04
         Evaluation Metrics                                C802.20-04/05
         Break 3:00 – 3:30PM
         RF Coexistence Evaluation Criteria            C802.20-04/10  11r1


Thursday, January 15, 2004
8:00AM –12:00PM
         Read out for Drafting Ad-Hoc meetings
         Consensus Agreements based upon Interim for CG Docs.(interim
Attendee Votes)
         Additional Contributions
         Break 10:00 – 10:30AM
         Several Amendments to 802.0 Draft Rules          C802.20-04/06
         Proposed Revisions of Policies and Procedures    C802.20-04/19
         New Business- - Potential Liaison Needs, discussion
1:00PM – 5:00PM
         New Business
         Next Meeting Planning
         Close of the Meeting  and Adjourn

APPENDIX D
       Approved changes on Thursday, also see Ad-hoc report out list

    Thursday, January 15, 2004
    8:00AM –12:00PM
        Read out for Drafting Ad-Hoc meetings
        Consensus Agreements based upon Interim for CG Docs.(interim
Attendee Votes)
        Additional follow up on Contributions
        Break 10:00 – 10:30AM
        Several Amendments to 802.0 Draft Rules      C802.20-04/06
        Proposed Revisions of Policies and Procedures   C802.20-04/19
        Follow up on Schedule contribution from Monday
        New Business- - Potential Liaison Needs, discussion
    1:00PM – 5:00PM
        New Business
        Next Meeting Planning
        Close of the Meeting  and Adjourn

Drafting Ad Hocs

| | |
|---|---|
| Mark Klerer | 4.1.7 # Active Users(voted and approved) |
| Mike Youssefmir | 4.5.2 Q Tagging(Further discussion before March) |
| Bob Love | Multi Carrier Support(Not Approved)(Place latest text on reflector) |
| John Humbert | 4.5.4 OA&M(CG & March) |
| Dan Gal | 4.1.3 Spectral Efficiency. Channel Bandwidth, Freq. Blocks |
| Anna Tee | 4.1.8 Latency & Error Rate |
| Farooq Khan | Fairness Criteria – Evaluation Criteria |

Marianna Goldhammer request a review of her proposed text changes
(Send to CG reflector to seek support for opening section based upon contribution)

APPENDIX E
                              Next Meeting Planning

Dates and Locations for next meetings:
March 14- 19 Orlando Fla. - - Plenary
May 10-14 Anaheim Cal. - -

March Plenary

Key Objectives:
1.   Re-affirm Jan. Interim decisions
2.   Reach Consensus on Requirements Document
     - vote the sections and resolve written negative comments
3. Evaluation Criteria
4. Channel Models
5. Traffic Models
6. Work Plan Schedule- - New Schedule before end of Plenary
7. Officers Election