IEEE P802.19
Wireless Coexistence

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| Jan 2011 TG1 Minutes |
|  Date: 16th to 21th Jan. 2011  |
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The document records the IEEE 802.19 TG1 minutes of 802 Wireless Interim Session in Los Angeles, CA, USA during Jan 13-17, 2011

IEEE 802.19 TG1 Chair: Tuncer Baykas
IEEE 802.19 TG1 Vice Chair: Mika Kasslin
IEEE 802.19 TG1 Secretary: Junyi Wang

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# MEETING MINUTES

First session of the meeting was called to order on Monday 17 Jan. 2011 at 10.35 AM.

### APPROVE AGENDA

The Chairman opened the meeting and presented the agenda in Document 802.19-11/7r0.

There were some discussions on when to have the down selection and when to make presentation on merged proposals. The group decided that down selection process would start from AM1 or AM2 Thursday, and the updated proposal or merged proposal shall be presented before it in this week.

The agenda is updated into Doc 802.19-11/7r1 and was approved by unanimous consensus. 10:37 AM

### APPROVAL OF MINUTES FROM NOVEMBER MEETING

The sectary listed out all minutes from November meeting in the mentor and shows the recent changes.

**Motion**

To approve the 802.19 TG1 minutes in Doc 174r0, and teleconference minutes in Doc 176r0, 178r0 and 4r2.

Moved by Junyi Wang

Seconded By S. Shellhammer

Motion Passed

### IEEE IPR STATEMENT

The TG Chair informed the TAG about the IEEE patent policy and showed the set of 5 slides identified as “Highlights of the *IEEE-SA Standards Board Bylaws* on Patents in Standards” available at the IEEE PATCOM web site (<http://standards.ieee.org/board/pat/pat-slideset.ppt>). He directed the secretary to record the fact that this presentation was made in the minutes for the meeting.

* 10:40 AM - The WG Chair made a call for essential patterns: none made.

### 802.19 TG1 Opening Report

The chair presented opening report in Doc 8r0.

The meeting recessed 11:15 AM

# Main Body

Note: The italic indented text is copied directly from the presented documents.

### Monday PM1

The session called to order 8:00AM

**UPDATED PROPOSAL PRESENTATIONS**

**IEEE 802.19-11/11r0 Coexistence System Description**

Presented by H. Kang, ETRI

The presentation is the joint proposal of ETRI, LG and NICT.

**IEEE 802.19-11/12r1 Proposal for Reference Model**

Presented by J. Wang, NICT

S. Shellhammer: What is the TVWS management entity in Figure 5-7? J. Wang: The management entity inside TVBD

S. Shellhammer: Is the Coexistence system entity in Figure 5-6 and Figure 5-7 the same with CE in Figure 5-5? J. Wang : YES, they are the same, and we should make the names consistent to each other.

M. Kasslin: In Figure 5-7, does it mean 802.11 need to change their model. J. Wang: This is just an example, if 802.11 would like to change for coexistence, then 802.19 system can talk with MAC and PHY, if not, we can directly talk with their management entity.

P. Kafle: In COEX\_TR\_SAP, there should be a response primitive. J. Wang: YES.

J. Kwak: The different examples illustrated how 802.19.1 system can be implemented with different systems. These may be some proposals by the authors. Junyi Wang agreed.

**IEEE 802.19-11/9r1 Coexistence Procedures and Protocols**

Presented by J. Lee, LGE

J. Kwak: Is there any reason that some procedure repeat several times. J. Lee: It is the result of the merge.

J. Kwak: Which procedure addresses coexistence problems? S. Filin: Basicly, this is addressed in Chapter 7.

**IEEE 802.19-11/10r0 Coexistence Mechanisms and Algorithms**

Presented by S. Filin, NICT

J. Kwak: Where is the procedure to address the coexistence problem, S. Filin: You can find in CM operation.

There are some algorithms such as channel classification algorithm and channel selection algorithm.

J. Kwak : How to select the channel. H. Kang: Depend on the situation. If you register information service, 802.19 just provides information for you to do channel selection, TVBD may decide it by their own. If you register management service, 802.19 may command you on the operation channels

J. Kwak: What selection algorithm are you using; the algorithm shall explain how to make selection. H. Kang: we have provided some algorithm for channel selection, while neighbour discovery algorithm and interference analysis algorithm from Nokia , InterDigital and AmeriSys can also be used here.

H. Kang: you cannot provide the exact location of TVBD, but from definition of interference and service area, you can solve the coexistence problem.

P. Ruuska: Does CM not exchange the location of TVBD. H. Kang: Due to the privacy, they cannot exchange the exact location.

M. Kasslin: Do you describe negotiation between CMs. H. Kang: The figure describe the case after negotiation, CM may decide the operating channels. We may provide some polices for negotiation.

P. Kafle: How is the available channel described when two networks are overlapping. H. Kang: The network shall share the same operation channel called coexistence channel in this figure.

I.Reede: Is the channel classification derived from 802.22. H. Kang: Channel classification is used anywhere, such as 3GPP and 802.22.

S. Shellhammer: How to share channels between two difference types of networks. S. Filin: If they can support time scheduling, they can share. The synchronization is done by GPS.

P. Kafle: Does your algorithm go into the details into the algorithm? H. Kang: does not.

I.Reede: What do you do on side band? H. Kang: we do not consider at this moment.

I.Reede: what you got here is the mechanism to class the channel, you are assuming there are a lot of channels and spectrum etiquette is used to select channel. S. Filin: We support 3 cases

1. System can get an operation channel
2. Similar network can share a channel by their self-coexistence algorithm
3. Different network share a channel by using scheduling.

P. Ruuska: you have described coexistence services in the architecture, where do you describe details, and when shall I select to subscribe for information and management services. It is good to have clear session to address it.

The chair made a call for updated proposal presentations. None made. 3.33PM

The session recessed 3:35PM

PM2 was cancelled and agenda was updated accordingly into Doc 802.19-11/7r2 and approved by unanimous consensus.

### Tuesday PM1

The session called to order 1:35PM

**IEEE 802.19-11/2r1 Neighbor setting procedures**

Presented by P. Ruuska, Nokia

S. Shellhammer: How does the neighbour inquiry work? P. Ruuska: CM exchanges capable information and decides the neighbours.

J. Kwak: Could information exchanged between CMs be stored in the CDIS? P. Ruuska: Operation parameters are not stored in CDIS but only exchanges between CMs.

P. Ruuska: Only CDIS knows node location.

P. Ruuska: CM may keep some memory of history; it does not lose information of neighbour.

M. Kasslin: Neighbour should be removed if they are not in the same operation channel.

H. Kang: Unless CMs are operating, there are no way to decide whether they are neighbours or not, it this true? I.Reede: CDIS knows the node location, CDIS can tell candidate neighbours. CM may exchange the operation parameters and decides actual mutual neighbour or one-directional neighbours.

S. Shellhammer: We should have clear definition of neighbour. And we should have fine process of neighbour discovery.

J. Kwak: We should clarify the usefulness of neighbour calculation and channel classification.

J. Kwak: Without getting their location, how can CM decide actual neighbours and what channel to use? CDIS has all information to calculate neighbour list, we don’t see any reason for CM to request CM to exchange TVBD locations.

**IEEE 802.19-11/5r1 Interference Analysis for Channel Selection**

Presented by J. kwak, interdigital

J. Kwak: The chart in slide 18 is only for omni-antenna.

P. Ruuska: Do you think that the TVBD may know channel map of other TVBDs. J. Kwak: This does not consider that. This is only for the resource available case. Otherwise you have to exchange sharing information between CMs.

P. Kafle: How do you get information of all parameters you are used. J.Kwak: During the time CE subscribes to 802.19.1 systems.

P. Kafle: Are you going to mandate that any TVBD shall provide that information. J. Kwak: You have to provide those information if you are 802.19.1 compliant devices.

* **Thursday AM1**

The meeting called to order 8:10AM

The chair made a call for new updated proposals. None made. 8:12AM

The chair made a call for any objection to start down selection. None made. 8:14AM

S. Filin: Currently AmeriSys, Sony, Nokia, LGE, ETRI, and NICT are merging their proposals, but unfortunately not finished yet. Maybe it is beneficial to postpone downselection until March meeting.

**Motion**

To delay the down selection until March meeting, and change Jan meeting agenda accordingly.

Moved by M. Kasslin

Seconded by I. Reede

Motion passed by unanimous consensus.

**Nominations of P802.19.1 Technical Editor**

H. Kang: why do we need to discuss the editor at this time? S. Shellhammer: For someone to prepare it.

H. Kang: It is good to discuss the procedure of how to select sectary, not to select at this time.

The chair made a call for any objection to change the agenda as 7r3. None made

S. Shellhammer: We should have a call for editor and have voting procedure to select the editor.

S. Filin: we should also consider how many editors. S. Shellhammer: Yes.

M. Kasslin recommended one editor then later on if needed, we can have sub editor. Joe agreed and said when we know how large the draft is, we can decide whether we need sub-editor.

S. Filin: It is too early to discuss how many sub-editors we need at this moment. The structure of editor can be decided in the March meeting.

S. Filin: we may have call for editor at this time, and decide in March.

I.Reede: We may have one editor as the document manger, as the editor makes progress, and find a nice way to divide the document; the editor can suggest having the subeditors.

S. Filin: Are you talking about WG or TG editor? Steve: It should be working group editor.

M. Kasslin: It should be TG editor. Joe agreed.

S. Shellhammer: Usually it is TG editor, the document is WG document and the votes are done by WG, and we have no other project, so it should be WG editor. We can just call for P802.19.1 editor for the draft.

The group started to propose the Call for editor document 8:30AM

**Call for Nominations of P802.19.1 Technical Editor**

The call for nominations closes on March 14th during the first working group meeting. All candidates for the position of technical editor must obtain commitment from their employer to commit necessary resources to fulfill his obligation as the technical editor.

There were some discussions about when to have editor election. The final decision is to let chair decide.

T. Baykas: Is there any rule that WG chair decide the technical editor and this one should have 50% approval.

S. Shellhammer: the WG rule changes. In general, it the WG chair decision.

* **Closing Report and Plan for next meeting.**

We have one merged proposal and they are in merging stage. So the down election delayed. We have called for technical editors. In March meeting, we will have editor election. We have two technical proposals presented in this meeting.

J. Kwak: Should we have merging process publicly as a TG job. S. Filin: It is very nice. We have some teleconferences.

J. Kwak: How many teleconferences do we need? S. Filin: Previously we have once per week teleconference, and no reason to change.

* **Motion**

To adjourn the TG meeting

Moved By I. Reede

Seconded by J. Wang

Motion passed.

TG meeting adjourned. 9:05AM