IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IEEE 802.11aj January Meeting Minutes | | | | |
| Date: 2014-01-08 | | | | |
| Authors | | | | |
| Name | Company | Address | Phone | Email |
| Haiming Wang | Southeast University (SEU) | 2 Sipailou, Nanjing 210096, China | 86-25-5209 1653-301(ext.) | hmwang@seu.edu.cn |
| Xiaoming Peng | Institute for Infocomm Research | 1 Fusionopolis Way, #21-01 Connexis, Singapore | 65-6408-2429 | pengxm@i2r.a-star.edu.sg |
| Eldad Perahia | Intel Cooperaiton |  |  | eldad.perahia@intel.com |

**ABSTRACT**

This document contains minutes of the Januray 2014 IEEE 802.11aj interim meeting in Sanya, Hainan, China.

**MINUTES**

**New Contributions/Submissions:**

* 11-14/014r0 Proposal of RoF Relay Transmission Usage Model
* 11-13/1293r3 Update on Opportunistic Transmissions in Multiple Alternative Channels in 802.11aj (60GHz NT)
* 11-14/0009r1 Update on Spatial Sharing Mechanism in 802.11aj (NT)
* 11-13/1301r2 Update on TGaj Complete Proposal Presentation (CP)
* 11-13/1301r2 Continue to discussion on update on TGaj ( 60GHz) Complete Proposal Presentation (CP)
* 11-13/1302r1 TGaj (60 GHz) Complete Proposal Text
* 11-14/0015r1 Large-Scale Characteristics of 45 GHz Based on Channel Measurement

**Wednesday (10:30-12:30) – IEEE 802.11aj meeting**

**IEEE 802.11 TGaj Chair, Xiaoming Peng (I2R)**

Chair called the meeting in order.

Meeting Agenda (doc: [IEEE 802.11-14/0002r0](https://mentor.ieee.org/802.11/dcn/14/11-14-0002-00-00aj-ieee-802-11aj-task-group-january-2014-report.ppt))

Chair ran through the IEEE 802 policies and procedures, IEEE 802 operations manual, patents related policies, call for potentially essential patents, IEEE LOA database, and information on essential patents, patent claims, and pending patent applications and called for letters of assurance. No response to LOA request.

**No objection to the Patent Policy.**

**Chair discussed the agenda for the week as follows,**

Agenda items for the week**（**doc: [IEEE 802.11-14/0002r](https://mentor.ieee.org/802.11/dcn/14/11-14-0002-00-00aj-ieee-802-11aj-task-group-january-2014-report.ppt)0**）**

* Set agenda for the week
* Review from November meeting
* Approve the meeting minutes for November meeting
* Proposal Presentation
* New Submission
* Planning for March 2014 Meeting

**IEEE 802.11aj Agenda for the Week**

* **Wednesday Jan 8, 2014 10:30 – 12:30**
  + - * Review IEEE 802 & IEEE 802.11 Policies and Procedures
      * Set agenda for the week
      * Review from last meeting
      * Approved the meeting minute in January meeting
      * Proposal Presentation
        + Proposal of RoF Relay Transmission Usage Model – Ogawa-San
        + Update on Opportunistic Transmissions in Multiple Alternative Channels in 802.11aj (60GHz NT) - 11-13/1293r2
        + Update on Spatial Sharing Mechanism in 802.11aj (NT) – 11-13/1292r2
        + Update on TGaj Complete Proposal Presentation (CP) 11-13/1301r2
        + Update on TGaj Complete Proposal Text 11-13/1302r1
* **Wednesday Jan 8, 2014 13:30 – 15:30**
  + - * Continue to discussion on update on TGaj Complete Proposal Presentation (CP) 11-13/1301r2 and TGaj Complete Proposal Text 11-13/1302r1
* **Wednesday Jan 8, 2014 16:00 – 18:30**
  + - * Continue to discuss the update on TGaj Complete Proposal Presentation (CP) 11-13/1301r2 and TGaj Complete Proposal Text 11-13/1302r1
      * Motion to approve the baseline proposal
      * Large-Scale Characteristics of 45 GHz Based on Channel Measurement – 11-14/0015r0
* **Thursday Jan 8, 2014 9:00 – 10:30**
  + - * Plan for March Meeting

**No objection to the agenda.**

**Chair presented the work completed in November meeting, as follows,**

* List of Proposals has been responded
* 1 Completed Proposal and 12 New Technique Proposals
* 3 New Technique Proposals being presented in Sept session
* 1 Complete proposal and 8 New Technique Proposals to be presented in November session
* Two new technique proposals have been presented and one new technique proposal has been withdrawn
* Consideration of PHY design for 1.08GHz channel – 11-13/1109r0
* Beam codebook design scheme - 11-13/1110r0
* Two other contributions
* PCP selection considering supported channels capability – 11-13/1183r0
* Back-haul usage model - 11-13/177r4
* Approved a motion of “Call for nomination of TGaj Technical Editor and Election of TGaj Technical Editor in November meeting”

**Chair proposed to approve the IEEE 802.11aj November meeting minutes -11-13/1437r0**

* No objection

**Presentations on Wednesday:**

1. **Ogawa-San (NICT) presented Proposal of RoF Relay Transmission Usage Model (doc. IEEE 802.11-14/0014r0)**

* RoF (Radio on Fiber) relay tramsmission link is proposed as one of usage models of 802.11aj. RoF relay link can extend wireless access area to the different location without additional requirements. RoF relay link has broadband transmission capability due to O/E and E/O broadband conversion characteristics and can transmit RF signals at 45-GHz and 60-GHz bands simultaneously.
* The aim of this contribution is to add a new usage model for IEEE 802.11aj Usage Models Document IEEE 802.11-12/1245r4.
* The contents of this contribution are based on IEEE 802.11-12/0177r4.

**Questions and Comments:**

* Q: Xiaoming Chen (I2R) asked since the MG RT uses the omni antenna to transmit without beamforming training, the transmission range and the date rate may be reduced as compared with the directional antenna. How to solve it?
* A: The MG RT extends the range.
* Q: Bo SUN (ZTE) asked whether RoF relay can support the Beamforming.
* A: yes.
* Q: Qian CHEN (I2R) asked in Slide 26, once the RT-STA starts to transmit, the MG RT will relay the signal and broadcast to PCP/AP, which may interfere the current transmission between STAs without RT-RoF and reduce the spatial sharing.
* A: It needs to do more research.
* C: Bruce (Marvell) comments that this may be useful and is needed to be made to be workable.
* C: Bo SUN (ZTE) comments that 11ad has defined a relay function and corresponding protocol and these materials may be help to solve our discussed problems.

1. **Khiam-Boon Png (I2R) presented Opportunistic Transmissions in Multiple Alternative Channels in 802.11aj (60GHz NT) (doc: IEEE 802.11-13/1293r2)**

* This presentation is part and in support of the complete proposal described in IEEE 802.11-13-1301r1 (slides) and IEEE 802.11-13-1302r0 (text)
* This document is to propose a solution for opportunistic transmission over alternative channels to increase the network throughput;
* In this revision, we highlight the difference between this proposal and the existing Tunneled Direct Link Set-up (TDLS) mechanism in 802.11z standards

**Comments:**

* Q: Bo SUN (ZTE) asked that in slide 5, whether Channel 5 can jump Channel 2.
* A: It depends on the condition.
* Q: Bruce (Marvell) asked whether it is possible for 11aj device to transmit in two channels due to unavailability of two RF channels of 11aj (60GHz)
* A: Two channels should be adjacent.
* C: Xiaoming PENG (I2R) commented that

1. **Qian CHEN (I2R) presented Spatial Sharing Mechanism in 802.11aj (60GHz NT) (doc: IEEE 802.11-14/0009r1)**

* C: Xiaoming PENG (I2R) sugguested that Qian Chen should email this modification to Carlo (Intel) to discuss since this problem was raised by Carlos.

1. **Jiamin Chen (Huawei) presented TGaj Complete Proposal (60GHz) (doc. IEEE 802.11-13/1301r2)**

* This presentation is an overview and in support of the complete proposal described in 802.11-13/1301r2 (slides) and 802.11-13/1302r1 (text) that:
  + Enables the low power/low cost portable/mobile devices and the high performance devices, guaranteeing interoperability and communication between 11aj and 11ad devices
  + Supports dynamic bandwidth operation at 1.08GHz/2.16GHz channel
  + Supports dynamic channel transfer to coordinate the allocation of operating channel
  + Supports opportunistic transmissions and refined spatial sharing
  + Supports enhanced mobile device support mode
  + Supports distortion compensation for I/Q imbalance

**Chair proposed to recess the session.**

**No objection.**

**The meeting recessed at 12:30pm.**

**Wednesday (13:30-16:00) – TGaj meeting**

**IEEE 802.11 TGaj Chair, Xiaoming PENG (I2R)**

Chair called the meeting in order.

Chair showed the agenda for the session as follows,

**Agenda items for the session（doc:** [**IEEE 802.11-14/0002r1**](https://mentor.ieee.org/802.11/dcn/13/11-13-1416-01-00aj-ieee-802-11aj-task-group-nov-2013-report.ppt)**）**

* Continue to discussion on update on TGaj Complete Proposal Presentation (CP) 11-13/1301r2 and TGaj Complete Proposal Text 11-13/1302r1
* Motion to approve the baseline proposal
* 11-13/1408r1 beyond-802-11ad-ultra-high-capacity-and-tpt-wlan

**No objection to the agenda.**

**Presentations:**

1. **Jiamin Chen (Huawei) presented Continue to discussion on update on TGaj Complete Proposal Presentation (CP) 11-13/1301r2 and TGaj Complete Proposal Text 11-13/1302r1**

**Comments:**

* Q: Bo SUN (ZTE) asked whether CDMG is added some postfix to mention 60 GHz
* C: Xiaoming PENG and Bruce commented that it is better to add 60 GHz in the front page.
* C: Bruce suggested that 802.11ac should be added into referece list because it has been published.
* C: Jon commented that only author name should be in the right corner of the page footer.

1. **Xiaoming PENG (I2R) red Beyond 802.11ad – Ultra High Capacity and Throughput WLAN (doc. IEEE 802.11-13/0408r1) which was presented in WNG session in last Dallas November Session.**

**Chair proposed to recess the session.**

**No objection.**

**The meeting recessed at 15:20pm.**

**Wednesday (16:00-18:30) – TGaj meeting**

**IEEE 802.11 TGaj Chair, Xiaoming PENG (I2R)**

Chair called the meeting in order.

Chair showed the agenda for the session as follows,

**Agenda items for the session（doc:** [**IEEE 802.11-14/0002r**](https://mentor.ieee.org/802.11/dcn/13/11-13-1416-02-00aj-ieee-802-11aj-task-group-nov-2013-report.ppt)**1）**

* 11-14/015r1: Large-Scale Characteristics of 45 GHz Based on Channel Measurement – Haiming Wang
* Plan for March 2014 Meeting

**No objection to the agenda.**

**Presentations:**

1. **Haiming Wang (SEU) presented Large-Scale Characteristics of 45 GHz Based on Channel Measurement (doc: IEEE 802.11-14/0015r1)**

* This presentation gives large-scale characteristics of 45 GHz band based on channel measurement.

**Comments:**

Q: Ogawa asked whether more information about Chinese 45 GHz band is avaible.

A: Detailed information of Chinese 45 GHz band has been available in the document (doc. IEEE 802.11-13/1365r2)

Discussion:

1. Xiaoming PENG (I2R) presented the official timeline of TGaj
2. **Plan for March 2014 Meeting**
   1. **Review and process comments from TG review from Draft Specification (60GHz) Ver0.1**
   2. **Issue Call for Proposal (45GHz)**
   3. **New Submissions**

**Chair proposed to recess the session.**

**No objection.**

**The meeting recessed at 17:30pm.**

**Thursday (9:00-10:00) – TGaj meeting**

**IEEE 802.11 TGaj Chair, Xiaoming PENG (I2R)**

Chair called the meeting in order.

Chair showed the agenda for the session as follows,

**Agenda items for the session（doc:** [**IEEE 802.11-14/0002r**](https://mentor.ieee.org/802.11/dcn/13/11-13-1416-02-00aj-ieee-802-11aj-task-group-nov-2013-report.ppt)**1）**

* Motion to approve TGaj specification draft D0.01 as baseline for TGaj technical specification for 60 GHz

**No objection to the agenda.**

**Motion:**

To approve IEEE 802.11aj specification draft D0.01 as baseline

Mover: Bruce Kraemer

Seconded: Chen Qian

Result:

Y: 21; N: 0; A: 0

**Decision:**

* Cancel the TGaj meeting slot in Los Angles Interim Session.

**No objection to the cancellation。**

* **Conference Call times**

1. **Feb 28 2014**

**No objection to the conference call times**

* **Chair proposed to recess the session.**

**No objection.**

**The meeting recessed at 9:40pm.**