IEEE P802.11
Wireless LANs

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| IEEE 802.11 NG60 SGSeptember 2014 Athens Meeting Minutes |
| Date: 2014-09-17 |
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Abstract

NG60 SG meeting minutes from the IEEE 802.11 Athens session, September 15th–19th, 2014.

**IEEE 802.11 Next Generation 60 GHz (NG60) Study Group**

**September 2014Athens Meeting**

**September15th–19th, 2014**

**Monday, September 15th, 2014,PM1 Session (13:30-15:30)**

1. The meeting called to order by Carlos Cordeiro (Intel), the pro tem chairperson of the NG60 SG, @13:30
	1. Room is completely full. About 60 people.
2. Agenda Doc.11-14/1025r2 on the server.
	1. Chair asked to state name and affiliation when speaking for the first time.
	2. Chair reminded attendance.
3. The chair reviewed the mandatory 5 slides of P&P.
	1. Call for potentially essential patents
		1. Chair asked if anyone is aware of potentially essential patents.
		2. No potentially essential patents reported
4. Agenda items for the week
	1. Elections for study group officers
	2. Presentations to inform the SG in its effort to develop PAR & CSD, such as: Use cases, Problems statements, Scope and purpose and Draft PAR and CSD proposals
	3. NG60 press release
	4. SG timeline
5. General flow of the meeting
	1. There are 3 meeting slots for NG60 SG as contained in slide 15 of 14/1025r2
6. Agenda for the week
	1. Proposed Agenda reviewed in slide 16
	2. Chair asked if there are any other items – no new items proposed. Meeting will be conducted based on this order.
	3. Approve the NG60 Agenda as shown on slide 16
		1. Move: James Gilb (Tensorcom)
		2. Second: Jeorge Hurtarte (Teradyne)
		3. Result: Passes by unanimous consent
7. Call for submissions: the following presentations so far this week
	1. Adrian Stephens (Intel), 11-14/1023r1, “NG60 press release”
	2. Takuma Takada (NTT), 11-14/1166r0, “NG60 Use Cases”
	3. Lei Huang (Panasonic), 11-14/1160r0, “Ultra Short Range Communications Usage models”
	4. Rob Sun (Huawei), 11-14/1185r0, “NG60 usage models”
	5. Alecsander Eitan (QCOM), 11-14/1202r0, “NG60 channel model”
	6. Monisha Ghosh (InterDigital), 11-14/1249r0, “Use Cases”
	7. Carlos Cordeiro (Intel), 11-14/1151r0, Proposed PAR
	8. Carlos Cordeiro (Intel), 11-14/1152r0, Proposed CSD
8. Agenda approval and NG60 introduction
	1. Motion to approve the agenda in slide 16
	2. Approve the NG60 Agenda as shown on slide 16
		1. Move: James Gilb (Tensorcom)
		2. Second: JeorgeHurtarte (Teradyne)
		3. Result: Passes by unanimous consent
	3. Carlos discusses the background of creating the SG, including document 11-14/606r0 which was previously presented to the 802.11 WNG SC.
9. NG60 officer election
	1. The election process is described, including the proposal for the SG to have a Chair and Secretary
	2. Chair asks if there any objections to this structure – no objections raised
	3. Edward Au (Marvell) has volunteered for Chair. Jeorge Hurtarte(Teradyne) volunteers for Secretary.
	4. Chair states that nominations are open until the time of the election, which will be on Tuesday PM2 session.
10. Presentations:
	1. Carlos (Intel) presents 11-14/1023r1, “NG60 press release”
		1. Discussion in the SG centered around two items: i) comment from 802.11 Chair on highlighting performance in NLOS scenarios; ii) “30 Gbps” figure
		2. Several comments made by participants
		3. Consensus in the room is not to address comment (i). Participants believe that it would be too technical for readers of press release.
		4. Different views expressed, in favor and opposed, regarding (ii). Rakesh Taori (Samsung) will work offline with other interested participants and will bring a revision of the press release for review on Tue PM2. Press release needs to be approved this week.
	2. Takuma Takada (NTT) presents 11-14/1166r0, “NG60 Use Cases”
		1. Proposes use cases for NG60
		2. There is discussion in the room
		3. Authors will bring revised presentation in a future NG60 meeting
	3. Lei Huang (Panasonic) presents 11-14/1160r0, “Ultra Short Range Communications Usage models”
		1. Proposes the use of NG60 for very short range (< 10cm) applications
		2. There is discussion in the room
	4. Rob Sun (Huawei) presents 11-14/1185r0, “NG60 usage models”
		1. Several use cases presented
		2. There is discussion in the room
11. Recessed at 15:30 until TuesdayPM2.

**Tuesday, September 16th 2014, PM2 Session (16:00-18:00)**

1. The meeting called to order by Carlos Cordeiro (Intel), the *pro tem* chairperson of the NG60 SG, @16:04
	1. About 40 people present.
2. Agenda Doc.11-14/1025r2 on the server. Two changes from Monday’s PM1 session agenda and will post r3.
3. The chair reminded audience key points of the mandatory 5 slides of P&P.
4. Agenda items for the week
	1. Elections for study group officers held
	2. Edward Au elected Chair – no objections. See slide 23 of Doc.11-14/1025r3
		1. Move: George Calcev (Huawei)
		2. Second: Sai Shankar (Tensorcom)
		3. Result: motion passes by unanimous consent
	3. Jeorge Hurtarte elected Secretary – no objections. See slide 23 of Doc.11-14/1025r3
		1. Move: James Gilb (Tensorcom)
		2. Second: Rob Sun (Huawei)
		3. Result: motion passes by unanimous consent
5. Discussion on the proposed NG60 Press release. Two straw polls for voting. Floor opened for discussion.
	1. Approve issuing a NG60 press release?
		1. Move: Yan Xin (Huawei)
		2. Second: Rob Sun (Huawei)
		3. Result: 11 Y, 10 N, 10 A
		4. Motion does not pass
	2. Do you approve the NG60 press release as documented in 11-14/1023r2?
		1. Not discussed/voted because previous motion did not pass.
6. Presentations followed next:
	1. Doc. 802.11-14/1202r0 by Qualcomm, “NG60 Channel Model.”
		1. Channel bonding
		2. MIMO in mmWave
		3. Simulation Example
		4. Channel model for MIMO @ NG60
		5. Should full duplex mode be addressed in NG60?
		6. Discussion ensued by some seven or so individuals.
	2. Doc. 802.11-14/1249r1 by Monisha Ghosh from InterDigital, “Backhaul Support in NG 60”
		1. Small Cells driving the use model.
		2. Expecting higher data rates even beyond those supported by current 802-11ad
		3. Discussion ensued by some nine or so individuals.
		4. A suggestion made by one individual to have the presenters get together and collect a good set of requirements for NG60
	3. Review the upcoming agenda for the Wednesday AM meeting.
	4. Asked the audience for anything else to discuss? Nothing else.
7. Recessed meeting until Wednesday AM 1.

**Wednesday, September 17th 2014, AM1 Session (8:00-10:00)**

1. The meeting called to order by Carlos Cordeiro (Intel), the *pro tem* chairperson of the NG60 SG, @08:02
	1. About 60 people present.
2. Agenda Doc.11-14/1025r3, page 16.
	1. Reviewed today’s agenda and asked if anyone else had anything else to add. Nothing else.
	2. Any objections to the agenda? None. Agenda approved.
3. Presentations followed next:
	1. Doc. 802.11-14/1151r0 by Carlos Cordeiro, Intel, “802.11 NG60 SG Proposed PAR”
		1. PAR proposal by Carlos Cordeiro, Intel for Enhancements to Ultra High Throughput in the 60 GHz band.
		2. Reviewed and discussed Doc. 802.11-14/1151r0
		3. Opened for questions and a few individuals asked questions or provided feedback.
		4. Some specific technical detail inputs provided by audience but audience reminded that the PAR should not include specific technical solutions at this stage of the process as these would be the scope of the Study Group.
		5. A few edits were made to the document and entered as a red-lined edit.
	2. Doc. 802.11-14/1152r0 by Carlos Cordeiro, Intel, “IEEE 802.11 NG60 SG Proposed CSD”
		1. Reviewed and discussed Doc. 802.11-14/1152r0
		2. Opened for questions and a few individuals asked questions or provided feedback.
		3. A few edits were made to the document and entered as a red-lined edit.
		4. Some TBDs still need to be filled out. Requested submissions from the audience for future inclusion.
		5. Discussion on this document adjourned
	3. Reviewed the Study Group timeline. No questions.
		1. September 2014 through January 2015: develop PAR and CSD
		2. January 2015: submit PAR and CSD for WG approval.
	4. Reviewed the goals for the November 2014 meeting. See slide 27 of the Doc.11-14/1025r3
		1. No need for interim conference calls before the next meeting. There were no objections to not having conference calls.
		2. Will use the IEEE reflector for the NG60 SG for communications.
	5. Meeting adjourned at 09:10