IEEE P802.11
Wireless LANs

|  |
| --- |
| Minutes of the IEEE 802.11ax Spatial Reuse ad hoc group meeting |
| Date: 2015-07-14 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Guido R. Hiertz | Ericsson | Ericsson Allee 152314 HerzogenrathGermany | +49-2407-575-5575 | hiertz@ieee.org |

Abstract

This document contains the minutes of the July 2015 meeting of the IEEE 802.11ax Spatial Reuse ad hoc group.

At 2015-07-14T13:31-10:00 the Chairman calls the meeting of the IEEE 802.11ax Spatial Reuse (SR) ad hoc group to order. IEEE 802.11ax SR ad hoc group co-chairman Jason Lee acts as Chairman, IEEE 802.11ax SR ad hoc group co-chairman Laurent Cariou acts as Vice-Chairman, and IEEE 802.11ax SR ad hoc group co-chairman Guido R. Hiertz acts as Secretary during this meeting.

The co-chairmen identify themselves and ask all attendees to introduce themselves when they address the ad hoc group for the first time.

At 2015-07-14T13:33-10:00 the Chairman reviews the patent policy. At 2015-07-14T13:34-10:00 the Chairman asks for potentially essential patent claims. There is no response to his question.

The Chairman reviews the agenda contained in 11-15/911r0. There are seven presentations and one late presentation for this session. The Chairman asks for approval of the agenda. Nobody objects to the agenda. The agenda is approved by unanimous consent.

At 2015-07-14T13:36-10:00 Yongho Seok presents 11-15/797r0

COMMENT: RTS/CTS is used to receive protection. The proposal is reverting the idea of RTS/CTS. Here the 10th percentile users achieve even worse performance.
RESPONSE: The proposal is increasing the overall performance.
COMMENT: Figure on page 8 is not correct. Must consider full RTS reception to read MAC address. Only then the station can decide to ignore RTS and to proceed with decremting the backoff counter.
RESPONSE: Yes, that’s right. Figure is incorrect. However, simulation does consider correct behaviour.
COMMENT: Do you need to change the current RTS/CTS frame format?
RESPONSE: We can use the current format.

**Straw Poll R20150714001**
Do you agree to add to the TGax Specification Framework:
“5.1 Features for operation in dense environments [802.11ax SFD]
HE STA has different NAV update rules depending on whether a received RTS/CTS is transmitted from an OBSS HE STA”

Result: 15/14/17 (Yes/No/Abstain)

At 2015-07-14T14:03-10:00 Graham Smith presents 11-15/804r0.

At 2015-07-14T14:20-10:00 Graham Smith presents 11-15/807r2.

COMMENT: How to adjust the sensitivity?
RESPONSE: If you just adjust sensitivity you don’t need to listen to the preamble. In concept there is no difference. Basically you are making yourself deaf.
COMMENT: In your previous presentation are your considereing the SINR?
RESPONSE: Yes.
COMMENT: I support this straw poll. It leaves many options open. We should go forward here. It allows for all possible combinations.
COMMENT: Do you want to combine a frequency reuse mechanism with DSC?
RESPONSE: DSC is the foundation to do a channel reuse. This is solely to improve frequency reuse.
COMMENT: You are thinking about inceasing the frequency reuse parameter?
RESPONSE: Yes, spatial frequency reuse is increased.
COMMENT: Need to be more specific here. Don’t you need to specify a range?
RESPONSE: DSC does not go below -82 dBm. Don’t want to set a range here.

**Straw Poll R20150714002**
Do you agree to add to the TGax Specification Framework Document:
Frequency Re-Use: “The amendment shall include one or more mechanisms to improve frequency re-use by adjustment of the sensitivity and/or CCA threshold levels.”

Result: 19/9/12 (Yes/No/Abstain)

At 2015-07-14T14:42-10:00 Masahito Mori presents 11-15/801/r0.

At 2015-07-14T14:48-10:00 Xiaofei Wang presents 11-15/811r0.

COMMENT: How do you do OBSS-Interference based frequency reuse?
RESPONSE: Please see 11-13/0871r0 referenced in the presentation. The AP would assign STAs to different frequency reuses.
COMMENT: It would be good to provide more specific data. This is a high level overview. However, we need specific proposals.
RESPONSE: The group seemed to be interested in one solution only. Therefore we ask if there is interest in other solutions too.
COMMENT: In my opinion the 802.11ad spatial reuse mechanism cannot be easily be reused because of the properties of 60 GHz spectrum.
RESPONSE: I agree. However, we want to present alternatives.
COMMENT: We want to see more details to decide if alternatives should be included in 802.11ax.

**Straw Poll A20150714001**
Should spatial sharing methods, othern than sensitivity and TPC adjustment, be considered in 802.11ax to improve spatial reuse?

Result: 12/0/many (Yes/No/Abstain)

**Straw poll A20150714002**
Do you agree more investigation is needed of any of the spatial sharing techniques in the following categories in 802.11ax to improve spatial reuse?

1. OBSS-interference based frequency reuse design

Result: 10/0/many (Yes/No/Abstain)

 No other straw polls of 11-15/811r0 are asked.

At 2015-07-14T15:16-10:00 Eduard Garcia-Villegas presents 11-15/882r1.

COMMENT: FER changes over time. How to use FER therefore?
RESPONSE: AP has an estimation. Assumed that the AP has this knowledge.
COMMENT: It’s only three channels and we still saw an increase. Is that uplink or downlink?
RESPONSE: It’s only uplink traffic.

The chairman adjourns the meeting at 2015-07-14T15:34-10:00.