IEEE P802.11
Wireless LANs

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| LB 200 clause 4.47.4 comment resolution |
| Date: 2014-01-20 |
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Abstract

This submission proposes comment resolutions of the clause 4.47.4 from TGah Draft 1.0.

* CIDs: 1059-1069, 2921

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Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGah Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGah Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGah Editor: Editing instructions preceded by “TGah Editor” are instructions to the TGah editor to modify existing material in the TGah draft. As a result of adopting the changes, the TGah editor will execute the instructions rather than copy them to the TGah Draft.***

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 1059 | 9.47.4 | 198 | "The switching between the omni-direcctional beamand the sectorization beam occurs during theinterframe spacing between two consecutive packets or in-between the omni preamble and thebeamformed preamble of a long preamble."The MAC knows nothing about preambles. | Reword this to relate to TXVECTOR parameters. | Counter |
| 1060 | 9.47.4 | 198 | "When an AP is aware of the sector in which a station is in, AP may transmit to or receive fromthe station using the sectorized beam either during the scheduled transmission such as RAW orwithin a TXOP. Otherwise, AP transmits or receives through omni directional beam to a station"Relate all normative requirements to TXVECTOR parameters. | As in comment. Do this throughout the subclause. | Counter |
| 1061 | 9.47.4 | 198 | The description seems to shift from sectorizaton to spatially orthogonal at this point, without relating the two. Are these intended to be synonyms, or is on a specialization of the other. | Explicitly relate these terms. | Counter |
| 1062 | 9.47.4 | 199 | "AP employing sectorized beam" - grammar | "AP employing sectorization" or "AP emplying sectorized beam forming" | Accept |
| 1063 | 9.47.4 | 199 | "AP can reset its NAV to initiate a new spatially orthogonal exchange" -- I believe this should be a normative statement, i.e., it is not summarizing rules specified elsewhere. | "AP may reset.." | Accept |
| 1064 | 9.47.4 | 199 | "but not the subsequent the sectorized beam transmission" - grammar | "but not the subsequent sectorized beam transmission" | Accept |
| 1065 | 9.47.4 | 199 | The list items a)-d) are at the limit of what can be read and it still make sense. | Recommend breaking them into a second level list of steps. | Counter |
| 1066 | 9.47.4 | 199 | "Following PPDU with long format, AP switches to the sectorized beam transmissionstarting with the beamformed preamble of the long preamble." -- I don't know what this is trying to say. But it's not English. | Reword into something that makes sense. | Counter |
| 1067 | 9.47.4 | 199 | " detecting the SO condition. SO condition is confirmed by an OBSS station " - grammar | " detecting an SO condition. An SO condition is confirmed by an OBSS station " | Accept |
| 1068 | 9.47.4 | 199 | "Note that an OBSSstation or OBSS AP infers its spatial orthogonality with the AP by observing the first omni-beampacket and the omni-preamble of the long preamble but not observing the subsequent sectorizedbeam transmission and with the station by observing a gap of no transmission between the firstomni-beam packet and the omni-preamble of the long preamble"Try as I may, I can't parse this sentence. | Rewrite into shorter sentences. | Reject. |
| 1069 | 9.47.4 | 199 | The figures use a serif font. | Please change to use Arial. Ditto throughout this subclause. | Accept |
| 2921 | 9.47.4 | 198 | an AP can make sectorized beam not only based on (i) phycially sectored antenna but by (ii) multiplying appropriate weight vector to multiple antennas. And at least for the (ii) case, how to form a sectorized beam for RX is totally implementation issue and is out of the scope of this standard. | Delete the sentence of "Once AP transmits to a station through a sectorized beam, it shall use the same sectorized beam to receive from the station within the same TXOP.". | Reject |

**CID1059**

**Discussion:**

Commenter indicates that the statement P199L39 should be reworded by relating to TXVECTOR parameter.

**Propose:**

Counter.

*Instruct the editor to insert the following row into Table 24-1 (P243) after the row Aggregation.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SECTOR\_ID | Format is S1G and preamble type is S1G\_LONG\_PREAMBLE | Indicates which sectorized beam of the available sectorized beams are used in the transmission. The length of the parameter is 8 bits. A 1 in bit position *n,* relative to the LSB, indicates that Sector *n* is used. This parameter is present only if sectorization is applied. | O | NO |
| Otherwise | Not Present | N | N |

*Instruct the editor to make the following changes in P198L39.*

The switching from an omni-directional beam transmission to a sectorization beam transmission occurs when the bit position corresponding to the sector set to 1 in the TXVECTOR parameter SECTOR\_ID.

*Instruct the editor to insert the following note at the end of P198.*

Note that a possible realization of an omni directional beam is by settting bit positions of all available sectors to 0. Another possible realization of omni directional beam is by setting all bit positions to 1 in the TXVECTOR parameter SECTOR\_ID and the CSD are inserted to different sectorized beams to avoid unintentional beamforming.

**CID1060**

**Discussion:**

Commenter suggests to relate the description to the TXVECTOR.

**Propose:**

Counter.

*Instruct the editor to make the following changes:*

P199L43

* When an AP is aware of the sector in which a station is in, AP may select the sectorized beam by setting the bit position corresponding to the sector to 1 in the TXVECTOR parameter SECTOR\_ID when it transmits to or receives from the station. Otherwise, the AP transmits or receives through the omni directional beam to the station.

P199L46

* Once AP transmits to a station through a sectorized beam by setting the bit in the TXVECTOR parameter SECTOR\_ID that corresponds to that sector to 1, it shall use the same sectorized beam to receive from the station within the same TXOP.

**CID1061**

**Discussion:**

Commenter points out the spatial orthogonality has not been defined at this point P198L54. The statement referring to spatial orthogonality should be moved to later part of the text.

**Propose:**

Counter.

*Instruct the editor indent and bullet the two statements and make the following changes in P198L54.*

* An AP shall use the same sectorized beam for transmission after PIFS recovery or back-off recovery in a TXOP.
* TXOP sharing for relaying shall not be used in a TXOP.

*Instruct the editor to move P198L60 statement to P199L10.*

P198L60

…

*P199L10*

….starting with a nonbeamformed RTS/CTS. Within the new spatially orthogonal exchange, an OBSS AP shall use the same antenna setting as the antenna setting used to detect the spatially orthogonal (SO) condition for transmission.

**CID1062**

**Discussion:**

Commenter points out a grammatical error in P199L1.

**Propose:**

Accept

*Instruct the editor to make the following change in P199L1*

between the AP employing sectorized beaming and a station

**CID1063**

**Discussion:**

Commenter indicates that this sentence in P199L8 should be a normative statement. Commenter suggests to change “can” to “may”. Agree with commenter’s suggestion but this comment is addressed in CID 2129 already.

**Propose:**

Reject

Please see resolution for CID2129, no change is needed for this CID.

**CID1064**

**Discussion:**

Commenter points out a grammatical error in P199L13.

**Propose:**

Accept

*Instruct the editor to make the following change in P199L13.*

…omni-directional transmission but not the subsequent sectorized beam transmission from the AP

**CID1065**

**Discussion:**

Commenter indicates that the description is at the limits of what can be read and still make sense.

**Propose:**

Counter

*Instruct the editor to make the following changes:*

**P199L29**

Note that an OBSS station or OBSS AP infers its spatial orthogonality by

* observing the first omni-beam packet and the omni-preamble of the long preamble from the AP
* not observing the subsequent sectorized beam transmission from the AP,
* observing a gap of no transmission between the first omni-beam packet and the omni-preamble of the long preamble by the AP.

**P200L10**

Note that an OBSS station or OBSS AP infers its spatial orthogonality by

* observing the omni-beam transmission by the AP
* not observing the sectorized beam transmission bythe AP
* observing a gap of no transmission between the first two omni-beam packets by the AP.

**P201L42**

Note that in the second diagram in Figure 9-95 (SO frame exchange sequence 4), an OBSS station or OBSS AP infers its spatial orthogonality by

* observing the omni-beam packet of the short format from the AP
* not observing the subsequent sectorized beam transmission by the AP
* observing a gap of no transmission before the first omnibeam packet of the short format by the AP.

**CID1066**

**Discussion:**

The commenter asked to rewrite the sentence in P199L22.

**Propose:**

Counter.

*Instruct the editor to make the following changes:*

P199L22

The second PPDU has a long format, AP switches to the sectorized beam transmission after the omni preamble of the long preamble.

**CID1067**

**Discussion:**

Grammatical error in P199L27

**Propose:**

Accept.

*Instruct the editor to make the following changes:*

P199L27

start an SO frame exchange by detecting an SO condition. An SO condition is confirmed by

**CID1068**

**Discussion:**

The commenter asks to rewrite the sentence in P199L30. Please refer to resolution to CID1065.

**Propose:**

Reject. No change is needed here.

**CID1069**

**Discussion:**

The commenter asks to replace the serif font in the Figure 9-92 to Figure 9-96 to arial font.

**Propose:**

Accept. Instruct the editor to change from serif to arial font in Figure 9-92 to Figure 9-96.

**CID2921**

**Discussion:**

Commenter points out that sectorized beam can be realized by beamforming through multiple antennas and suggests to delete the statement in P199L46.

Note that the statement in P199L46 is to make sure that AP, receiving through the same sectorized beam as the sectorized beam it transmits through, will not be interfered by an OBSS AP or OBSS STA initiating a SO frame exchange.

**Propose:**

Reject. No change is needed here.