IEEE P802.11
Wireless LANs

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| LB 207 Comment Resolution for Clause 24 and Annex E sections |
| Date: 2015-02-24 |
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Abstract

This submission proposes resolutions for comments in Clause 24 and Annex E of TGah Draft 4.0 with the following CIDs:

 Clause 24 CIDs: 6048, 6049, 6050, 6051, 6055, 6056, 6149, 6174, 6231

Annex E CIDs: 6054

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.***

## Comment Resolutions for Clause 24 CIDs

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 6048 | 442.11 | 24.3.8.2.2.1.4 | When the Aggregation bit is set to 0, --> here, setting the Aggregation bit is not the focus but testing / checking if the Aggregation bit has a value of01. | Change "When the Aggregation bit is set to 0," to "When the Aggregation bit is equalt to 0" | Accepted.Instruction to Editor: Please change the sentence on P.L. 442.11 from “When the Aggregation bit is set to 0” to “When the Aggregation bit is equal to 0”. Make the same change to P.L. 434.12 for 2MHz Short SIG. |
| 6049 | 442.13 | 24.3.8.2.2.1.4 | When the Aggregation bit is set to 1, --> here, setting the Aggregation bit is not the focus but testing / checking if the Aggregation bit has a value of 1. | Change "When the Aggregation bit is set to 1," to "When the Aggregation bit is equalt to 1" | Accepted.Instruction to Editor: Please change the sentence on P.L. 442.11 from “When the Aggregation bit is set to 1” to “When the Aggregation bit is equal to 1”. Make the same change to P.L. 434.14 for 2MHz Short SIG. |
| 6050 | 455.43 | 24.3.8.3.4 | When the Aggregation bit is set to 0, --> here, setting the Aggregation bit is not the focus but testing / checking if the Aggregation bit has a value of01. | Change "When the Aggregation bit is set to 0," to "When the Aggregation bit is equalt to 0" | Accepted.Instruction to Editor: Please change the sentence on P.L. 455.43 from “When the Aggregation bit is set to 0” to “When the Aggregation bit is equal to 0”.  |
| 6051 | 455.46 | 24.3.8.3.4 | When the Aggregation bit is set to 1, --> here, setting the Aggregation bit is not the focus but testing / checking if the Aggregation bit has a value of 1. | Change "When the Aggregation bit is set to 1," to "When the Aggregation bit is equalt to 1" | Accepted.Instruction to Editor: Please change the sentence on P.L. 455.46 from “When the Aggregation bit is set to 1” to “When the Aggregation bit is equal to 1”.  |
| 6054 | 587.1 | E.1 | China has available spectrum in 600MHz that is usable for 11ah | Consider adding operating class and channelization to Annex E for 600 MHz portion of Chinese spectrum | Rejected.It is not entirely clear what the regulatory status of 600MHz bands within China is at the current moment. 11ah channelization can be added and Annex E tables can be updated once regulations become more clear. |
| 6055 | 469.47 | 24.3.9.12.2 | PHY clauses describe how to construct DUPed long preambles, even though MAC does not allow for them or have use for them. | Remove PHY descriptions for constructing 4, 8, 16MHz DUPed transmissions using 2MHz Long preamble | Accepted.Instruction to Editor:Please see editing instructions for CID 6055 in 11-15/0270r1. |
| 6056 | 406.19 | 24.3.4.2 | The term LONG\_GI is undefined and should not be used to describe the regular 8us GI | Remove term LONG\_GI when describing a regular 8us GI, or a 2x8us double GI (for LTF) | Accepted. Instruction to Editor:Please remove/strikeout the phrase “(LONG\_GI)” from P.L. 406.19 and all other instances in 24.3.4.2.Additionally, on P.L. 406.45, change sentence “Prepend a GI (2 x LONG\_GI)” to “Prepend a GI of 16us in duration”. Repeat this change for P.L. 409.63, P.L. 412.7  |
| 6149 | 485.40 | 24.3.17.5.2 | These channels which are classified to Type 2 would be used as a part of Type 1 CCA channel set as well, in case where no higher bandwidth BSS are expected to exist, e.g. for scheduled channel of TWT SP, or for enabled channel of SST. | Modify as below:"Likewise, if the BSS is set up on channels classified as Type 2, the AP and non-AP STA devices should use Type 2 specific CCA levels, unless Type 1 specific CCA levels is required to use because the bitmap in TWT Channel field indicates to use that channels or SST enabled channel bitmap specifies that channels as enabled. | Revised.Accept in principle that if an SST BW spans both Type 1 and Type 2 channels, the device should adhere to either the CCA level (Type 1 or Type 2) of the channel to be accessed.Instruction to Editor: Please see editing instructions for CID 6149 in 11-15/0270r1. |
| 6174 | 403.2 | 24.3.2 | I do not agree with resolution of CID 5496. CID 5496 was rejected on the following ground "For S1G, the naming convention was decided as to not place any implied requirements for beamforming on the "Data Portion", hence that name was chosen over "Directional Portion". S1G is not required to interoperate with any previous .11 specifications and hence should be able to choose its own independent nomenclature". In my view if a frame is divided into two portions, one is omni-directional, and the other part would be naturally directional, particularlly when that portion is not only data, but also includes training fields. Though 11ah operates on a separate band, it still needs to follow the same naming convention .11 as it is all the same specification document and 11ah is an integral part of the text, not a seprate document with its own naming conventions. | rename "data portion" to "directional portions" | Rejected.The second part of the S1G\_LONG frame is not necessarily or naturally directional, unless the transmitter chooses to apply steering or beamforming weights (via the Q-matrix in the transmitter diagram). The decision to name it “Data portion” was intentional and agreed upon after group discussion on whether the second portion should or should not imply that beamforming is to be done. To not imply any preference for whether beamforming as a feature should be supported in devices, the name “Data portion” was agreed upon. |
| 6231 | 403.2 | 24.3.2 | I do not agree with resolution of CID 5496. CID 5496 was rejected on the following ground "For S1G, the naming convention was decided as to not place any implied requirements for beamforming on the “Data Portion”, hence that name was chosen over “Directional Portion”. S1G is not required to interoperate with any previous .11 specifications and hence should be able to choose its own independent nomenclature". In my view if a frame is divided into two portions, one is omni-directional, and the other part would be naturally directional, particularlly when that portion is not only data, but also includes training fields. Though 11ah operates on a separate band, it still needs to follow the same naming convention .11 as it is all the same specification document and 11ah is an integral part of the text, not a seprate document with its own naming conventions.  | rename "data portion" to "directional portions" | Rejected.The second part of the S1G\_LONG frame is not necessarily or naturally directional, unless the transmitter chooses to apply steering or beamforming weights (via the Q-matrix in the transmitter diagram). The decision to name it “Data portion” was intentional and agreed upon after group discussion on whether the second portion should or should not imply that beamforming is to be done. To not imply any preference for whether beamforming as a feature should be supported in devices, the name “Data portion” was agreed upon. |

### Editing Instructions for CID 6055

* 2 MHz duplicate transmission

2 MHz duplicate transmission is used to transmit to S1G STAs that may be present in a part of a 4 MHz, 8 MHz or 16 MHz channel.

In a 2 MHz duplicated PPDU, the S1G\_SHORT preamble and Data field are duplicated in each 2 MHz subchannel(#4102) of the 4 MHz, 8 MHz or 16 MHz channel.

2 MHz NDP sounding shall not be duplicated. Instead, a 4 MHz, 8 MHz or 16 MHz NDP shall be transmitted whenever needed. NDP CMAC(#3027) frames transmitted over a 4 MHz, 8 MHz or 16 MHz channel shall be carried in a 2 MHz duplicated frame.

For 2 MHz duplicated PPDU the Data field signal from transmit chain , , shall be as specified in Equation (24-61). (NOTE TO EDITOR: don’t modify Equation 24-61 in D4.0, and delete Equation 24-62 in D4.0)

,

where

 is defined in 18.3.5.10 (OFDM modulation)

 is defined in 24.3.9.10 (Pilot subcarriers)

 represents the cyclic shift for space-time stream *m* with a value given in Table 24-9 (Cyclic shift values for the S1G\_SHORT preamble PPDU).

 is defined by Equation (24-6) ~ Equation (24-9)

 is defined in Table 24-4 (Timing-related constants)

 is defined in Table 24-6 (Frequently used parameters)

 is defined in Equation 20-27 in 20.3.9.4.6 (HT-LTF definition)

 has the value given in Tone scaling factor and guard interval duration values for PHY fieldsTable 24-7 (Tone scaling factor and guard interval duration values for PHY fields)

 is defined in Equation (24-55)

 is defined in Equation (24-56)

 is defined in Equation (24-58)

  is the number of 2 MHz subchannels(#4102) that are contained within the whole bandwidth of the cur rent PPDU (e.g.,  for a 4 MHz PPDU).

 is defined in Equation (24-19).

### Editing Instructions for CID 6149

* Type 1 and Type 2 channelization for CCA levels

In S1G operation, the CCA sensitivity levels are defined such that they are dependent and specific to country channelization and channel location within the frequency band. For S1G channelizations in all regions of the world, there are to be two available classifications for channels and CCA levels, defined as Type 1 and Type 2.

For BSSs set up on channels classified as using Type 1, the AP and non-AP STA devices are required to use what are referred to in this subclause as Type 1 CCA levels when performing their CCA procedures. Likewise, if the BSS is set up on channels classified as Type 2, the AP and non-AP STA devices are to use Type 2 specific CCA levels. For SST BSS setups (see 9.49 (Subchannel Selective Transmission (SST)) where the SST BSS can include both Type 1 and Type 2 channels, the device in the SST BSS shall use the CCA level (Type 1 or Type 2) that corresponds to the current channel that is being accessed when performing their CCA procedures. The Type 1 and Type 2 channel classification for different operating classes in different regions of the world are denoted by "CCA Level Classification" in Table E-4 (Global operating classes) through Table E-4a (S1G Operating classes)(#4173) in Annex E.