IEEE P802.11  
Wireless LANs

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| Comment resolutions for miscellaneous CIDs part 2 | | | | |
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Abstract

This submission proposes resolutions for multiple comments related to TGba D6.0 with the following CIDs:

7067, 7092, 7100, 7101, 7106

Revisions:

* Rev 0: Initial version of the document.

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 TGba Draft. This introduction is not part of the adopted material.

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

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

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 7067 | 3.2 | 21 | 55 | There is no need for a definition of multicarrier signal. The term is only used in 5 locations in the draft: once in the definition of multicarrier on-off keying symbol, twice in the definition of multicarrier signal, and twice in clause 30.1 where it is defined (133.53) | Delete the definition for multicarrier signal. If there is concern that this will cause confusion with the MC-OOK symbol definition, simply add a reference clause 30.1 in the definition. | Rejected.  Based on the 802.11 comment resolution guide (doc.11/1625r1), this is an invalid comment. The commenter failed to identify issue.  Response to the commenter: The definition was added to resolve CID 3027 (The term multicarrier signal is not defined) in 11-19/1016r10 and the group reached consensus to add the definition. |
| 7092 | 3.2 | 21 | 51 | The MC-OOK symbol definition is confusing. Is the definition here to exclude any other generation methods for OOK symbols? Assuming that other type of OOK symbols are also allowed, it would make sense to remove the MC-OOK definition. | remove MC-OOK definition | Rejected.  Based on the 802.11 comment resolution guide (doc.11/1625r1), this is an invalid comment. The commenter failed to identify technical issue. The comment is asking a question.  Response to the commenter: “Clause 3.2 Definitions specific to IEEE Std 802.11” defines terms used in the IEEE std 802.11 and the clause is there to help readers to find definitions of the terms when they read the standard. Normative behavior of the generation of the MC-OOK symbol is defined in Clause 30 WUR PHY. |
| 7100 | 30.1 | 133 | 51 | The term "multicarrier on-off keying (MC-OOK) modulation" is very confusing and technically incorrect. In general, "multicarrier modulation" is a type of modulation technique that uses multiple close spaced carriers to carry information, e.g., OFDM. This is certainly not the case in the context of 11ba. The 11ba PHY information resides in On and Off sequences, but not in frequency carriers, although those On and Off sequences may be, but not necessarily, implemented using multicarrier modulation technique. | Define "MC-OOK" as "Manchester Coded on-off keying" for WUR-Data field. For low data rate scenario, although the coding method is not exactly the same as Manchester coding method in the literature, it can be defined clearly without any confusion in the spec.     Use "OOK" for the WUR-Sync field since the sync bits are not coded. | Rejected.  The term “multicarrier on-off keying (OOK) modulation” is not defined as multicarrier modulation but it is clearly defined as on-off keying, modulated with a multicarrier signal.  During the development of the TGba specification, many members have shown simulation results using MC-OOK with different coefficients for multicarrier signal that show good PER and PAPR performance (e.g. 11-20/74r0) and passes the correlation test (30.3.12.5), and the group agreed to include three examples in Appendix AC to help implementers to have an idea how to generate WUR waveforms that performs with known PER, PAPR, and that passes the correlation test (30.3.12.5), instead of leaving it up to the implementers to find a on-off keying waveform. |
| 7101 | 30.1 | 133 | 53 | The following two sentences: "The multicarrier signal should be generated using contiguous 13 subcarriers, centered within a 20 MHz channel, with a subcarrier spacing of 312.5 kHz and the center subcarrier being null.The subcarrier coefficients may take values from the BPSK, QPSK, 16-QAM, 64-QAM, or 256-QAM constellation symbols" are not necessary. They just describe a method to generation OOK waveform. The WUR receiver and any other 802.11 receiver do not need to know these (i.e., what are in the frequencies of those subcarriers). Therefore, there is no need to make those statements. | Delete those sentences. Or change "should be generated" to "may be implemented" in the first sentence. | Rejected.  During the development of the TGba specification, many members have shown simulation results using MC-OOK using the configuration stated in the spec with different coefficients selected from different QAM constellations for multicarrier signal that show good PER, PAPR performance and passes the correlation test (e.g. 11-20/74r0), and the group agreed to include three examples in Appendix AC to help implementers to have an idea how to generate WUR waveforms that performs with known PER, PAPR, and that passes the correlation test (30.3.12.5), instead of leaving it up to the implementers to find a on-off keying waveform. For this reason, the quoted sentences are necessary in the spec for implementers who will be reading the spec. |
| 7106 | 30.3.7 | 148 | 14 | The title of the Table 30-3 is "Timing-related constants", but the first row of the table is subcarrier frequency, which is not timing related constant. In fact, the first three parameters are not parameters of the WUR OOK waveform, but the ones for examples of generating the waveform. They don't belong to this table and a WUR receiver doesn't need to know them. | Move the first three parameters to 30.3.8 (Mathematical description of signals) under Equation (30-3) | Rejected.  The Table 30-3 (Timing-related constants) lists “timing-related” parameters and not necessarily only “time” parameters. The first parameter is used to derive the next parameter T\_{DFT,WUR} and it is related to “timing”. Having all timing related parameters in one place would help readers to understand better instead of having parameters defined in different places in the spec. This is also following other amendments structure and readers who are used to this format will be easy to understand Clause 30 WUR PHY. |