IEEE P802.15
Wireless PANs

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| LB 96 Comment Resolutions #1  |
| Date: 2014-11-6 |
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Abstract

This submission proposes resolutions for

CID 12

CID 13

CID 2 and 3

CID 14 and 34

CID 4, 15 and16

CID 38

CID 5 and 39

CID 6

CID 7

CID 40

CID 18

CID 19

CID 8

CID 20

CID 21 and 22

CID 9

CID 24

CID 10

CID 25 and 35

CID 26

CID 27

CID 29, 30, 31 and 37

CID 5

CID 23, 41 and 42

CID 11 and 32

Note: Above grouping is determined by relationship with each other.

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 TG4n Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TG4n Draft (i.e. they are instructions to the 802.15 editor on how to merge the text with the baseline documents).***

***TG4n Editor: Editing instructions preceded by “TG4n Editor” are instructions to the TG4n editor to modify existing material in the TG4n draft. As a result of adopting the changes, the TG4n editor will execute the instructions rather than copy them to the TG4n Draft.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 12 | 2 | 4.1 | 25 | "restrict" should be "restricts." | Change from "restrict" to "restricts." | Accept |

**Discussion:***.*

The commenter is correct. This is just a typo.

**Instruction to TG4n Editor: Change the word “restrict” on line 25 of page 2 to “restricts” as below.**

China Medical Band (CMB) devices operating within these bands conform to a set of rules specified in 24 China, Ministry of Industry and Information Technology Doc: 423-2005, which restricts use of the band to 25 only medical, non-voice use under direction of a healthcare practitioner, among other requirements.

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| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 13 | 3 | 8.1.1 | 14 | Title of "Symbol rate" in Table 66d is not necessary.And bracket of Modulation index is not necessary. | Delete "Symbol rate" and remove the bracket. | Revise |

**Discussion:***.*

The commenter is correct. Values written in 6th column in Table66d indicate modulation index. These are not symbol rate.

**Instruction to TG4n Editor: Revise Table 66d as below.**

Table 66d— Frequency bands and data rates for CMB GFSK PHY

|  |  |  |  |
| --- | --- | --- | --- |
| Band Identifier (MHz) | Frequency band(MHz) | Spreading parameters | Data parameters |
| Chip rate (kchip/s) | Modulation | Bit rate (kb/s) | ~~Symbol rate~~ ~~(~~Modulation index~~)~~ | Symbols |
| 195 | 174-216 | --- | GFSK (common) | 50 | 1.0 | Binary |
| 174-216 | --- | GFSK (optional) | 100 | 0.5 or 1.0 | Binary |
| 174-216 | --- | GFSK (optional) | 200 | 0.5 or 1.0 | Binary |
| 416 | 407-425 | --- | GFSK (common) | 50 | 1.0 | Binary |
| 407-425 | --- | GFSK (optional) | 100 | 0.5 or 1.0 | Binary |
| 407-425 | --- | GFSK (optional) | 200 | 0.5 or 1.0 | Binary |
| 619 | 608-630 | --- | GFSK (common) | 50 | 1.0 | Binary |
| 608-630 | --- | GFSK (optional) | 100 | 0.5 or 1.0 | Binary |
| 608-630 | --- | GFSK (optional) | 200 | 0.5 or 1.0 | Binary |

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| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 2 | 3 | 8.1.1 | 12 | Are both data rates for each of the bands mandatory, or is one optional as in Table 66d. | Specify which rates are mandatory and which are optinal for Table 66c, similar to what is done for table 66d. | ReviseSee DCN14-615r0 |
| 3 | 3 | 8.1.1 | 14 | We don't specify things as common and optional, but as mandatory and optional. | Change common to mandatory in Table 66d. | ReviseSee DCN14-615r0 |

**Discussion:***.*

These two commenters are correct. To clarify which data rates is mandatory and option, Table 66c and Table 66d are revised as below.

**Instruction to TG4n Editor: Revise Table 66c and 66d as below respectively. Please note that the following modifications of Table 66dinclude a modification according to CID 13.**

Table 66c— Frequency bands and data rates for CMB O-QPSK PHY

|  |  |  |  |
| --- | --- | --- | --- |
| Band Identifier (MHz) | Frequency band(MHz) | Spreading parameters | Data parameters |
| Chip rate (kchip/s) | Modulation | Bit rate (kb/s) | Symbol rate (ksymbol/s) | Symbols |
| 195 | 174-216 | 1000 | O-QPSK | 250(mandatory) | 62.5 | 16-ary orthogonal |
| 174-216 | 1000 | O-QPSK | 500(optional) | 125 | 8-ary orthogonal |
| 416 | 407-425 | 1000 | O-QPSK | 250(mandatory) | 62.5 | 16-ary orthogonal |
| 407-425 | 1000 | O-QPSK | 500(optional) | 125 | 8-ary orthogonal |
| 619 | 608-630 | 1000 | O-QPSK | 250(mandatory) | 62.5 | 16-ary orthogonal |
| 608-630 | 1000 | O-QPSK | 500(optional) | 125 | 8-ary orthogonal |

Table 66d— Frequency bands and data rates for CMB GFSK PHY

|  |  |  |  |
| --- | --- | --- | --- |
| Band Identifier (MHz) | Frequency band(MHz) | Spreading parameters | Data parameters |
| Chip rate (kchip/s) | Modulation | Bit rate (kb/s) | ~~Symbol rate~~ ~~(~~Modulation index~~)~~ | Symbols |
| 195 | 174-216 | --- | GFSK (~~common~~mandatory) | 50 | 1.0 | Binary |
| 174-216 | --- | GFSK (optional) | 100 | 0.5 or 1.0 | Binary |
| 174-216 | --- | GFSK (optional) | 200 | 0.5 or 1.0 | Binary |
| 416 | 407-425 | --- | GFSK (~~common~~mandatory) | 50 | 1.0 | Binary |
| 407-425 | --- | GFSK (optional) | 100 | 0.5 or 1.0 | Binary |
| 407-425 | --- | GFSK (optional) | 200 | 0.5 or 1.0 | Binary |
| 619 | 608-630 | --- | GFSK (~~common~~mandatory) | 50 | 1.0 | Binary |
| 608-630 | --- | GFSK (optional) | 100 | 0.5 or 1.0 | Binary |
| 608-630 | --- | GFSK (optional) | 200 | 0.5 or 1.0 | Binary |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 14 | 4 | 8.1.2.15 | 7 | Definition of parameter "k" is not clear. Make it clear.And parameter "k" should be written in Italic character. | Add definition of this parameter as below."k" is an integer parameter as shown in Table 68o.And add "(k)" after phyCurrentChannel in the cell of phyCurrent Channel of Table 68o.Change font style of "k" to Italic character. | ReviseSee DCN14-6150 |
| 34 | 4 | 8.1.2.15 | 7 | Not give the definition to k | pls give the k definiation | ReviseSee DCN14-615r0 |

**Discussion:***.*

The pointed out part is the next sentence.

“*phyCurrentChannel* is the designated channel identifier number from 1 to *k*”

Here, “*k*” is just a certain numerical value of *phyCurrentChannel* parameter. Hence, this sentence can be expressed without using the numerical value of *k* as below.

*phyCurrentChannel* is the designated channel identifier shown in Table68o.

**Instruction to TG4n Editor: Revise line 7 of page 4 as below.**

*phyCurrentChannel* is the designated channel identifier number ~~from 1 to~~ *~~k~~* shown in Table68o

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 4 | 4 | 9.3 | 1 | The enumeration column should only contain numbers. | Replace "CMB-O-QPSK CMB-FSK" with "0, 1" in the enumeration column. | ReviseSee DCN14-615r0 |
| 15 | 5 | 9.3 | 1 | Remove unnecessary rows in Table71. | As proposed. | ReviseSee DCN14-615r0 |
| 16 | 5 | 9.3 | 1 | "Ennumeration" is a typo. | Change "Ennumeration" to "Enumeration." | ReviseSee DCN14-615r0 |

**Discussion:***.*

Judging from subclause number and content of comment of the CID 4, page number may not 4 but 5. These all comments are about Table 71 and these are correct. Based on the received proposals, Table 71 should be revised as below.

**Instruction to TG4n Editor: Remove the first 3 rows of Table 71 and revise Table 71 as below.**

1. —PHY PIB attributes

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute | Type | Range | Description |
| *phyCMBModulation* | ~~Ennumeration~~Enumeration | ~~CMB O-QPSK~~ ,~~CMB GFSK~~ 0,1 | The selected modulation type.This attribute is only valid for the CMB PHY.0: CMB O-QPSK1: CMB GFSK |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 38 | 5 | 22.1.1.2 | 1 | Table 220 is not referenced anywhere. The 22.1.1.2 refers to the table 162 and gives reference to 18.3.1.2, but I am not sure if that is correct, or whether it should refer to table 220 | Either make sure table 220 is used or remove it. | ReviseSee DCN14-615r0 |

**Discussion:***.*

Line 14 of page 5 clearly addresses Table 162 is used as SFD for CMB O-QPSK. From this point of view, Table 220 is not needed.

**Instruction to TG4n Editor: Remove Table 220 shown in below from the draft. And assign corrects table numbers to left tables in the draft.**

~~Table 220—Format of the SFD field for CMB O-QPSK PHY~~

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ~~Bit: 0~~ | ~~1~~ | ~~2~~ | ~~3~~ | ~~4~~ | ~~5~~ | ~~6~~ | ~~7~~ | ~~8~~ | ~~9~~ | ~~10~~ | ~~11~~ | ~~12~~ | ~~13~~ | ~~14~~ | ~~15~~ |
| ~~1~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~0~~ | ~~0~~ | ~~1~~ | ~~0~~ |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 5 | 6 | 12.1.1.3 | 0 | The bit string index numbering in Figure 194 is a diffferent from standard 802.15 convention. See Figure 195 for an example of standard 802.15 convention. | Change to standard 802.15 convention. | ReviseSee DCN14-615r0 |
| 39 | 6 | 22.1.1.3 | 1 | The 8-2, 15-9, 23-16 looks funny in the header. In normal case we do use 2-8, 9-15 and 16-23 in pictures, for example P802.15.4-REVb-DF1 figure 86. Is there reason why the start and end bits numbers are in that kind of order? Especially as the figure 195 has the bit numbers in different order... | Change to match normally used method. | ReviseSee DCN14-615r0 |

**Discussion:***.*

Subclause number of CID 5 may be 22.1.1.3 judging from content of this comment.

**Instruction to TG4n Editor: Revise the Figure 194 as below**.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bit string index |  0 | 1 | ~~8~~2 – ~~2~~8 | ~~15~~9 – ~~9~~15 | ~~23~~16 - ~~16~~23 |
| Field name | Spreading Mode | Rate Mode | Reserved | Frame Length | HCS |

Figure 194—Format of the PHR for CMB O-QPSK PHY

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 6 | 6 | 12.1.1.3 | 2 | "618" should be "619". | Make it so. | Accept |

**Discussion:***.*

Subclause number of this commet may be 22.1.1.3 judging from content of this comment.

**Instruction to TG4n Editor: Repalce “618” of line 2 of page 6 with “619” as below.**

For the 195 MHz, 416 MHz, and ~~618~~619 MHz frequency bands,

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 7 | 6 | 12.1.1.3 | 4 | "on" should be "one". | Make it so. | Accept |

**Discussion:***.*

Subclause number of this commet may be 22.1.1.3 judging from content of this comment.

**Instruction to TG4n Editor: Repalce “on” of line 4 of page 6 with “one” as below.**

The Rate Mode field indicates the Rate Mode used to encode the packet, and shall contain ~~on~~one of the values

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 40 | 6 | 22.1.1.3 | 12-22 | The text at line 11 says HCS is as defined in 18.3.1.3, and then it goes to explain in detail how it is calculated. Isn't the reference not enough? I think the HCS crc 8 is explained in multiple places already, is there really difference, or should we just put reference and remove this text? | Make sure the reference is correct and remove extra description of how to calculate HCS. | ReviseSee DCN 14-615r0 |
| 18 | 14 | 22.1.1.3 | 6 | "OQPSK" should be "O-QPSK" to align with other parts. | Revise from OQPSK to O-QPSK. | ReviseSee DCN 14-615r0 |

**Discussion:***.*

As the commenter of CID 40 says, subclause 18.3.1.3 is resused for HCS of CMB O-QPSK PHY. Hence, sentences from line 12 to line 22 are not necessary. By removing these unnecessary sentences, CID 18 is resolved. (Line and page number of CID should be 6 and 14 respectively judging from the content.)

**Instruction to TG4n Editor: Delete whole senteces from line 12 to line 22, including Figure 195, of page 6 as below.**

~~The HCS field is given by the coefficients of the remainder polynomial~~ *~~x~~~~8~~ ~~+ x~~~~2~~ ~~+ x + 1~~*~~. An example HCS is shown in Figure 195.~~

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ~~Bit string index~~ | ~~0~~ | ~~1~~ | ~~2 - 8~~ | ~~9-15~~ | ~~16-23~~ |
| ~~Example value~~ | ~~1~~ | ~~1~~ | ~~000000~~ | ~~0101010~~ | ~~01111000~~ |

1. ~~—Example HCS for CMB OQPSK~~

~~A typical implementation is depicted in Figure 196.~~

~~CRC-8 Generator Polynomial ~~

~~~~

* 1. ~~Initialize the remainder register (~~*~~r~~*~~0~~~~,~~ *~~r~~*~~1~~~~,…,~~ *~~r~~*~~6~~~~,~~ *~~r~~*~~7~~~~) to zero.~~
	2. ~~Shift the sequence~~ *~~b~~*~~0~~~~,~~ *~~b~~*~~1~~~~,…,~~ *~~b~~*~~15~~ ~~into the divider beginning with~~ *~~b~~*~~0~~ ~~.~~
	3. ~~After the last bit,~~ *~~b~~*~~15~~~~, is shifted into the divider, the remainder register contains the HCS:~~

~~~~

~~—Typical HCS implementation for CMB O-QPSK~~

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 19 | 3 | 22.1.2.1 | 7 | Remove unnecessary correction history. | As proposed. | Accept |

**Discussion:***.*

Line and page number of this CID should be 3 and 7 respectively judging from the content. The current draft includes unnecessary correction history of word “Figure 193” on line 3 of page 7. This must be removed from the dart.

**Instruction to TG4n Editor: Delete unnecessary history on line 3 of page 7 as below.**

Before

Figure 197~~Figure 193~~ shows a reference modulator diagram for the CMB O-QPSK PHY.

After

Figure 197 shows a reference modulator diagram for the CMB O-QPSK PHY.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 8 | 7 | 21.1.2.2 | 9 | Change "The spreading is (16, 4) DSSS bit-to-chip mapping. The parameters are shown in Table 223. Table 222 9 defines the bits-to-chip mapping for (8,4) spreading and Table 223 defines bits-to-chip mapping fro the 10 (16,4) spreading" to "The SHR spreading is (16, 4) DSSS bit-to-chip mapping. The parameters are shown in Table 223." | Make it so. | Revise |

**Discussion:***.*

Subclause number of this CID should be 22.1.2.2 judging from the content. And this commenter mentions, the second sentence “Table 222 9 defines the bits-to-chip mapping for (8,4) spreading and Table 223 defines bits-to-chip mapping fro the 10 (16,4) spreading” is redundant. Hence, this second sentence should be revised as below considering that Table 223 is replaced with already existing table 177 in 18.3.2.9.

The same thing should be done for 22.1.2.3 PHR coding and spreading.

**Instruction to TG4n Editor: Add “SHR” prior to “spreading” in the first sentence of line 9 of page 7 and replace the second sentese with “The parameters are shown in Table 177 in 18.3.2.9.”**

The SHR spreading is (16, 4) DSSS bit-to-chip mapping. The parameters are shown in ~~Table 223~~ Table 177 in 18.3.2.9. ~~Table 222 defines the bits-to-chip mapping for (8,4) spreading and Table 223 defines bits-to-chip mapping fro the 10 (16,4) spreading.~~

**Instruction to TG4n Editor: Replace the second sentese of line 13 of page 7 with “The parameters are shown in Table 177 in 18.3.2.9.”**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 20 | 15 | 22.1.2.1 | 7 | Remove unnecessary correction history. | As proposed. | Accept |

Line and page number of this CID should be 15 and 7 respectively judging from the content. The current draft includes unnecessary correction history of word “Figure 193” on line 15 of page 7. This must be removed from the dart.

**Instruction to TG4n Editor: Delete unnecessary history on line 15 of page 7 as below.**

Before

Figure 197~~Figure 193~~ shows the signal flow when DSSS is applied to the PSDU, i.e.,

After

Figure 197 s shows the signal flow when DSSS is applied to the PSDU, i.e.,

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 21 | 17 | 22.1.2.4 | 7 | "RateMode" should be "Rate Mode." | As proposed.Other parts where "RateMode" is used in spec and co-existence documents must be fixed in the same way. | Accept |
| 22 | 20 | 22.1.2.4 | 7 | "DataRate" should be "Data Rate." | As proposed.Other parts where "DataRate" is used in spec and co-existence documents must be fixed in the same way. | Accept |

**Discussion:***.*

Page number of these two CIDs should be 7 and line numbers of these two CIDs should be 17 and 20 respectively judging from contents. As commented, these words should be relaced with “Rate Mode” and “Data Rate” to consist with other parts of this draft.

**Instruction to TG4n Editor: Replace “RateMode” with “Rate Mode” and “DataRate” with “Data Rate” in this draft as below. These words are used in line 17 and 19 of page 7 and line 1 of page 9.**

**Page 7, line 17**

Depending on the frequency band and ~~RateMode~~ Rate Mode,

Page7, line 19

The relationship between the ~~RateMode~~ Rate Mode and the ~~DataRate~~ Data Rate parameters of the MCPS-DATA.request

Page9, line1

Table72—Chip Whitening for DSSS

|  |  |
| --- | --- |
| Frequency band (MHz) | ~~RateMode~~Rate Mode |
| 176-214 | 1 |
| 407-425 | 1 |
| 608-630 | 1 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 9 | 9 | 22.1.2.6 | 5 | "…described by" what? | Fill in missing text. |  |

**Discussion:***.*

As commented a certain word(s) is needed after “by.” The word must be added is subcause number 18.3.2.11 judging from meaning of subclause 22.1.2.6.

**Instruction to TG4n Editor: Add subclause number “18.3.2.11” and period “.” after “by” in line 5 of page 9 as below.**

described by 18.3.2.11.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 24 | 9 | 22.1.2.7 | 9 | Parameter "r" should be written in Italic character. | As proposed. | Accept |

**Discussion:***.*

In a specification document, all parameters are written in Italic character. Hence, this parameter “r” should be written in the same manner as this commenter says.

**Instruction to TG4n Editor: Change parameter “r” in line 9 of page 9 to Italic character as below.**

In the 195 MHz, 416 MHz, and 619 MHz bands, the raised cosine pulse shape with roll-off factor of r*r* = 0.8

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 10 | 9 | 21.1.3.2 | 20 | "176 MHz, 407MHz and 608MHz" should be "195 MHz, 416 MHz, and 619 MHz". | Make it so. | Accept |

**Discussion:***.*

CID 10 is correct according to Table 66c and 66d.

**Instruction to TG4n Editor: Replace the pharse “176MHz, 407MHz and 608MHz” with “195MHz, 416MHz and 619MHz.” in line 20 of page 9 as below.**

In general, when operating in the ~~176~~195MHz, ~~407~~416MHz and ~~608~~619MHz bands, the transmitted spectral products

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 25 | 21 | 22.1.3.2 | 9 | Sentence is broken. Fix t it. | Before Table 75, there is an unnecessary space character. Remove it.And insert "and" between Table 75(10.3.2) and Table 225. | Revise |
| 35 | 9 | 22.1.3.5 | 21 | Table 75(10,3,2) Table 225 are listed parallel | Only keep Table 225 | Revise |

**Discussion:***.*

Line and page number of CID 25 should be 21 and 9 respectively judging from comment. As written in the proposal, word “and” should be inserted between “Table 75 (10.3.2)” and “Table225.” Besides this, there is an unnecessary space prior to the word “Table 75.”

**Instruction to TG4n Editor:** Revise line 21 of page 9 as the next. Add a word “and” between “Table 75 (10.3.2)” and “Table225.” And remove an unnecessary space prior to the word “Table 75.”**.**

shall be less than the limits specified in Table 75 (10.3.2) and Table 225.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 26 | 23 | 22.1.3.7 | 10 | "O-QPSK" should be "CMB O-QPSK." | Add "CMB" before "O-QPSK." | Revise |

**Discussion:***.*

Line and page number of CID 26 should be 23 and 10 respectively judging from comment. As written in the proposal, a word “CMB” should place before a word “O-QPSK” in line 23 of page 10.

**Instruction to TG4n Editor:** Revise line 23 of page 10 as the next. Add “CMB” before “O-QPSK.”**.**

CMB O-QPSK transmitters shall have EVM values of less than 35% when measured for 1000 chips.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 27 | 22 | 22.2.2.1 | 13 | Sub-clause number should be 22.2.4.5. And it may be better to reconsider this sentence from English grammar point of view. | As proposed. | Revise |

**Discussion:***.*

Line and page number of CID 26 should be 22 and 13 respectively judging from comment. As written in this comment, subclause number should not be “22.2.2.4” but “22.2.4.5.” judging from meaning of this subclause 22.2.2.1.

**Instruction to TG4n Editor:** Replace a word “22.2.2.4” in line 22 of page 13 with “22.2.4.5” as below**.**

spectral mask, as defined in ~~22.2.2.4~~ 22.2.4.5 GFSK with a BT value of 0.7 should be used in Mode #1 to Mode #5.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 29 | 21 | 22.2.4.5 | 16 | "Normalize" should be "Normalized." | Revise from "Normalize" to "Normalized." | Accept |
| 30 | 21 | 22.2.4.5 | 16 | "sectram" is typo. This should be "spectral." | Revise from "spectram" to "spectral." | Accept |
| 31 | 21 | 22.2.4.5 | 16 | "dB" should be "dBr." | Revise from "dB" to "dBr." | Accept |
| 37 |  | 22.2.4.5 | 21 | dB or Dbr | This should be "dBr." | See CID31 |

**Discussion:***.*

Line and page number of CID29, 30 and 31 should be 21 and 16 respectively judging from the comments.

Above all comments are about Table 230 and all are acceptable to revise.

**Instruction to TG4n Editor: Change words “Normailze”, “spectram” and “dB” of line 21 of page 16 (Table 230) to “Normalized”, “spectral” and “dBr” respectively as below.**

1. —Transmission spectral mask for CMB GFSK PHY

|  |  |
| --- | --- |
| ~~Normailze~~ Normalized frequency by symbol rate(frequency [Hz]/ symbol rate [b/s]) | Power ~~spectram~~ spectral density[dBr] |
| -2 and below | -35 |
| from -2 to -1.5 | -25 |
| from -1.5 to -1 | -10 |
| from -1 to +1 | 0 |
| from +1 to 1.5 | -10 |
| from +1.5 to +2 | -25 |
| +2 and above | -35 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 23 | 2 | 22.1.2.5 | 8 | (N, 4) is ambiguous. Make it clearer. | Revise this phrase as the next."(8, 4) and (16, 4) DSSS bits-to-chip mapping respectively" | ReviseSee DCN14-615r0 |
| 41 | 9 | 22.1.1.3 |  | What is the difference between this table 222 and the P802.15.4-REVb-DF1 table 286? Perhaps we could just reference the table already there? | Replace table 222 with reference to existing table. | ReviseSee DCN14-615r0 |
| 42 | 8 | 22.1.1.3 |  | What is the difference between this table 223 and the P802.15.4-REVb-DF1 table 287? Perhaps we could just reference the table already there? | Replace table 223 with reference to existing table. | ReviseSee DCN14-615r0 |

**Discussion:***.*

Line and page number of CID 23 should be 2 and 8 respectively judging from the comment.

Subclause number of CID41 should be 8 and 22.1.2.5 judging from the comment.

Subclause number of CID42 should 22.1.2.5 judging from the comment.

As the above commentors mention, Table 222 and 223 do not have a difference from baselinedocument. Hence, cross reference technique should be used instead of preparing new tables for Table 222 and 223.

And description of Table 222 and 223 written in line 2 of page 8 is not clear.

Considering CID23, 41 and 42, subclause 22.1.2.5 should be explained as below.

DSSS bits-to-chip mapping of (8,4) and (16,4) for CMB O-QPSK PHY shall be specified as Table 176 and Table 177 in subclause 18.3.2.9 of IEEE802.15.4g-2012.

**Instruction to TG4n Editor: Remove whole contents of subclause 22.1.2.5. And add the following new sentence as below.**

~~Table 222 and Table 223 show (N, 4) DSSS bits-to-chip mapping.~~

DSSS bits-to-chip mapping of (8,4) and (16,4) for CMB O-QPSK PHY shall be specified as Table 176 and Table 177 in subclause 18.3.2.9.

~~Table 222—(8, 4) DSSS bit-to-chip mapping~~

|  |  |
| --- | --- |
| ~~Data Symbol~~ | ~~Chip Values for (8,4) DSSS~~~~(c~~~~0~~ ~~c~~~~1~~ ~~… c~~~~6~~ ~~c~~~~7~~~~)~~ |
| ~~0~~ | ~~0000 0001~~ |
| ~~1~~ | ~~1101 0000~~ |
| ~~2~~ | ~~0110 1000~~ |
| ~~3~~ | ~~1011 1001~~ |
| ~~4~~ | ~~1110 0101~~ |
| ~~5~~ | ~~0011 0100~~ |
| ~~6~~ | ~~1000 1100~~ |
| ~~7~~ | ~~0101 1101~~ |
| ~~8~~ | ~~1010 0010~~ |
| ~~9~~ | ~~0111 0011~~ |
| ~~10~~ | ~~1100 1011~~ |
| ~~11~~ | ~~0001 1010~~ |
| ~~12~~ | ~~0100 0110~~ |
| ~~13~~ | ~~1001 0111~~ |
| ~~14~~ | ~~0010 1111~~ |
| ~~15~~ | ~~1111 1110~~ |

~~Table 223—(16, 4) DSSS bit-to-chip mapping~~

|  |  |
| --- | --- |
| ~~Data Symbol~~ | ~~Chip Values for (16,4) DSSS~~~~(c~~~~0~~ ~~c~~~~1~~ ~~… c~~~~14~~ ~~c~~~~15~~~~)~~ |
| ~~0~~ | ~~0011 1110 0010 0101~~ |
| ~~1~~ | ~~0100 1111 1000 1001~~ |
| ~~2~~ | ~~0101 0011 1110 0010~~ |
| ~~3~~ | ~~1001 0100 1111 1000~~ |
| ~~4~~ | ~~0010 0101 0011 1110~~ |
| ~~5~~ | ~~1000 1001 0100 1111~~ |
| ~~6~~ | ~~1110 0010 0101 0011~~ |
| ~~7~~ | ~~1111 1000 1001 0100~~ |
| ~~8~~ | ~~0110 1011 0111 0000~~ |
| ~~9~~ | ~~0001 1010 1101 1100~~ |
| ~~10~~ | ~~0000 0110 1011 0111~~ |
| ~~11~~ | ~~1100 0001 1010 1101~~ |
| ~~12~~ | ~~0111 0000 0110 1011~~ |
| ~~13~~ | ~~1101 1100 0001 1010~~ |
| ~~14~~ | ~~1011 0111 0000 0110~~ |
| ~~15~~ | ~~1010 1101 1100 0001~~ |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Page | Sub-clause | Line | Comment | Proposed Change | Response |
| 11 |  |  |  | Remove unnecessary information of correction history. | Remove unnecessary information of correction history. | ReviseSee DCN14-615r0 |
| 32 |  |  |  | All typos should be fixed before releasing the final draft. | As proposed. | ReviseSee DCN14-615r0 |

**Discussion:***.*

For example, table of contents of page viii includes correction history. Besides this, some of other pages include unnecessary correction history. Those are not necessary for a specification document and must be removed from the draft.

Some typos which are not pointed out by reviewers might be left in the draft. Those typos must be fixed as many as we can when they are found.

**Instruction to TG4n Editor: Remove unnecessary histories which TG4n think they are not needed for the spec when TG4n editor find them in the draft before going to the next process. Besides this, correct typos which might not be pointed out by reviewers when TG4n editor find them in the draft before going to the next process.**