In thinking about this, OFDMA is a modulation method that is output by the IDFT and not really the 2D frame component that is the input to the IDFT, which is where the PMA is doing all of its work. The IDFT input is the output of the interleaver which is a two dimensional structure of resource blocks by subcarriers where the QAM bin values are filled in by the symbol mapper and pilot insertion. The suggestion is that the term for these structures should be consistent throughout the clauses. Also, it might be appropriate to add a definition in either Clause 1 or Clause 100/101 for Resource Block Frame (RB Frame), or the accepted consistent term. Looks like "OFDMA Frame" is used inconsistently. Where it is referring to one symbol, need to change to "OFDMA symbol".

Suggested Remedy

Change "OFDMA Column" and "OFDMA Frame" to "RB Frame".
Change "OFDMA superframe" to "superframe" or "US superframe" as appropriate.

Page 169, Line 45 change "OFDMA frame" to "OFDMA Superframe"

Page 169, Line 47. Change "256 OFDMA frames" to "256 OFDMA symbols"

Page 169, Line 48. Replace "An OFDMA frame is one Resource Block column (i.e., one column of Resource Blocks over the entire upstream OFDM channel)." with "A Resource Block Frame (RB Frame) is composed of one column of Resource Blocks over the upstream OFDM channel."

Page 215, Line 36, Change "OFDMA Frame" to "superframe configuration"

Page 98, Line 38. Remove "OFDMA frame length," (superframe length is now well known and fixed). Also change "size pilot" to "size, pilot".

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE.
I don't think introducing a new term at this point is a good idea.
Change "OFDMA Column" to "OFDMA Frame".
Change "OFDMA superframe" to "superframe" or "US superframe".

Page 169, Line 45 change "OFDMA frame" to "upstream Superframe"

Page 169, Line 47. Change "256 OFDMA frames" to "256 OFDMA symbols"

Page 169, Line 48. As is "An OFDMA frame is one Resource Block column (i.e., one column of Resource Blocks over the entire upstream spectrum)."

Page 215, Line 36, Change "OFDMA Frame" to "superframe configuration" (per comment)

Page 98, Line 38. Remove "OFDMA frame length," (superframe length is now well known and fixed). Also change "size pilot" to "size, pilot".

Proposed Responses
No longer need 4 bits to specify US time interleaver.

In Table 45-78d
change 1.1907.15:11 to 1.1907.15:8
change 1.1907.10:7 to 1.1907.7

Register bits 1.1907.10 through 1.1907.7 indicate the integer number of time interleaved OFDM symbols in the upstream direction. The number is either 8 or 16; where bit 1.1907.7 is the LSB and bit 1.1907.11 is the MSB. All other values are reserved.

In Table 101-1
Change 1.1907.10:7 to 1.1907.7 and in the same row 10:7 to 7

EDITORS NOTE (to be removed prior to publication): need a good reference for the UQ2.14 notation (other than Wiki) or need to include a good description; here is a synopsis of wiki.

The Qm.n number format is a fixed point number format where the number of fractional bits is specified by n and optionally the number of integer bits is specified by m. For example, a Q14 number has 14 fractional bits; a Q2.14 number has 2 integer bits and 14 fractional bits. Preceding the "Q" with a "U" indicates an unsigned number.

Remove note and add text to the draft per remain_3bn_13_0115.pdf

In each clause using ceiling or floor function include the definitions (see pg 80 line 44 for ceiling and pg 90 line 26 for floor) in the conventions section for that clause. There are 19 instances of ceiling and 14 instances of floor functions

PROPOSED ACCEPT IN PRINCIPLE.

In some uses, ceiling rounds to 1.0, in others ceiling rounds to 0.5 as noted. While agreeing in principle, the rounding needs to be clear for the intended function use and not inferred accidentally from a prior use if the NOTE was not present.
**Draft 1.1**

IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

**Proposed Responses**

<table>
<thead>
<tr>
<th>Cl 00</th>
<th>SC 101.3.2.5.2</th>
<th>P 125</th>
<th>L 28</th>
<th># 2771</th>
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Comment Type | ER | Comment Status | D |
---|---|---|---|
"see section 101.3.2.5.2" - we do not use word "section" anywhere 

**Suggested Remedy**
strike the word "section". Scrub the whole draft for instances of section and subsection - there are at least 25 hits to be replaced.

**Proposed Response** | Response Status | W |
---|---|---|
PROPOSED ACCEPT. Use care as many instances of this word are OK. Changed to Cl 00 as the request is to apply this to the entire draft.

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<th>P 136</th>
<th>L 34</th>
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Comment Type | ER | Comment Status | D |
---|---|---|---|
The names of variables / parameters are very inconsistent right now, especially in terms of their capitalization.

**Suggested Remedy**
It would be much simpler to read and figure out what is the name of a variable and what is regular text if the names of all variables / parameters in the draft observed the following naming convention: word1Word2Word3... , where the word1 is always written in lower caps, Word2 and the wording Words have first letter capitalized. dataInSize is a prime example here. fecCodeWordFail should be fecCodeWordFail, FecCodeWordSuccess should be fecCodeWordSuccess, FIFO_FEC_RX should be fifoFecRx, PMA_CLK should be pmaClk etc. There is no need to use underlines, or any other special characters and variables become more compact, simpler to read, and isolate from the main text without the use of any special formatting.

Please apply consistently in the whole draft! The same applies to names of functions, messages, constants, etc. unless they are defined already elsewhere in the standard and we just reference them verbatim.

**Proposed Response** | Response Status | W |
---|---|---|
PROPOSED REJECT. Changed to Clause 00 as the requested change is against the entire draft.

<table>
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<th>L 28</th>
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Comment Type | T | Comment Status | D |
---|---|---|---|
The variable "M" is used in several places in the draft for different things
1) Cl 100 pg 95 ln 42 - US time interleaver period (RB size)
2) Cl 101 pg 152 In 45, 46, 48, 50 ... - a scaling factor for continuous pilots
3) Cl 101 pg 157 In 12, 16 - DS time interleaver period
4) Cl 101 pg 161 In 33, 30, 35 - DS time interleaver period (?) Should also refer to variables not Cl 45

**Suggested Remedy**
Change "M" in this section and pg 157 with "DS_TmIntrlv" Change "M" to US_TmIntrlv" pg 95
Add US_TmIntrlv to table 101-1
US time interleaving | US OFDM control | 1.1901.11.7 | US_TmIntrlv | 1 | 11:7
Add definition for US_TmIntrlv
US_TmIntrlv
TYPE: Integer
This variable determines the number of symbols in the upstream time interleaver (and thus the size of a resource block) to either 8 or 16.

**Proposed Response** | Response Status | W |
---|---|---|
PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

Cl  00 SC 102.4.2.9 P 227 L 10 # 3129
Remien, Duane Huawei Technologies

Comment Type T Comment Status D
In Fig 102-28 exit statement for WAIT FOR PROBE SYM "PrbID" should be "ActPrbID"

SuggestedRemedy per comment

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl  01 SC 1.4 P 24 L 12 # 5131
Remien, Duane Huawei Technologies

Comment Type T Comment Status D
Due to changes introduced in 802.3bk para numbering is incorrect and inconsistencies exist between Editing Instructions and para numbers.

SuggestedRemedy
Change section 1 per remain_3bn_12_0115.pdf
changes shown in remain_3bn_12_0115 CMP.pdf

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl  01 SC 1.5 P 24 L 51 # 2763
Remien, Duane Huawei Technologies

Comment Type E Comment Status D
Is there any specific reason why all abbreviations start with a capital letter? Compare with 802.3-2012

SuggestedRemedy
I believe only expansion of EPoC should start with capital "EPON" - the rest should start with lower caps.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl  100 SC 100 P 70 L 1 # 2735
Remien, Duane Huawei Technologies

Comment Type ER Comment Status D
There are many cross-references in Clause 100 are either dead (hyperlink is there, but it is empty) or there are no hyperlinks at all. These are cross-references internal to Clause 100 and external (leading to other Clauses in this draft).

SuggestedRemedy
Please fix all cross-references in Clause 100 to make them clickable and work between Clauses.

Proposed Response Response Status W
PROPOSED ACCEPT.

This does need to be done before WG ballot. We'll have to catch up with this as we can. This should actually be a "00".

Cl  01 SC 1.4.160a P 24 L 29 # 2764
Hajduczenia, Marek Bright House Network

Comment Type ER Comment Status D
This is confusing: editorial instruction says "Insert the following definition after 1.4.161:“, but the actual assigned number says "1.4.160a". Either fix the number or fix the editorial instruction.

SuggestedRemedy
Per comment. Also, insert the editorial note to update the list of definitions once 802.3-2015 moves to Sponsor Ballot - draft D2.0 is now in WG ballot and 802.3bn will be published as amendment to 802.3-2015 and not 802.3-2012 ;)

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Change Clause 1 per remain_3bn_12_0115.pdf
changes shown in remain_3bn_12_0115 CMP.pdf

Cl  01 SC 1.5 P 24 L 51 # 2763
Hajduczenia, Marek Bright House Network

Comment Type E Comment Status D
Is there any specific reason why all abbreviations start with a capital letter? Compare with 802.3-2012

SuggestedRemedy
I believe only expansion of EPoC should start with capital "EPON" - the rest should start with lower caps.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl  100 SC 100 P 70 L 1 # 2735
Hajduczenia, Marek Bright House Network

Comment Type ER Comment Status D
There are many cross-references in Clause 100 are either dead (hyperlink is there, but it is empty) or there are no hyperlinks at all. These are cross-references internal to Clause 100 and external (leading to other Clauses in this draft).

SuggestedRemedy
Please fix all cross-references in Clause 100 to make them clickable and work between Clauses.

Proposed Response Response Status W
PROPOSED ACCEPT.

This does need to be done before WG ballot. We'll have to catch up with this as we can. This should actually be a "00".
<table>
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<td>Remove block from Fig 100-3</td>
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<td>Suggest removing &quot;All&quot;</td>
</tr>
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</table>
The PMD service interface needs to be updated to conform to OFDM/OFDMA signal processing - it is not a bit serial interface.

Note: the best place in the path where it is known that there will be non-null output from the IDFT is at the input to the IDFT as received from pilot insertion or from probe insertion functions for PMD_SIGNAL_request

SuggestedRemedy

Line 27: Change "The PMD service interface supports the exchange of a continuous stream of bits between the PMA and PMD entities. Bits exchanged across the PMD service interface are organized in TBD." To: "The PMDF service interface supports the exchange of a continuous stream of OFDM/OFDMA modulation symbols between the PMA and PMD entities. The modulation symbols are encoded as I / Q value pairs."

Page 77, Line 39. Remove subsection "100.2.1.1 Delay constraints"

Page 76, Line 51. Change "This primitive defines the transfer of 1 bit of data from the Clause 101 PMA to the Clause 100 PMD." To: "This primitive defines the transfer of one symbol encoded as an I / Q value pair from the Clause 100 PMA to the Clause 100 PMD."

Page 77, Line 1. Change "The semantics of the service primitive are PMD_UNITDATA.request(tx_unit). The data conveyed by PMD_UNITDATA.request is a continuous stream of bits. The tx_bit parameter can take one of two values: ONE or ZERO." To: "The semantics of the service primitive are PMD_UNITDATA.request(I_value, Q_value). The data conveyed by PMD_UNITDATA.request is a continuous stream of I / Q value pairs. Both I_value and Q_value are encoded as 32-bit signed integers."

Page 77, Line 4: Change "The Clause 101 PMA continuously sends the appropriately formatted stream of bits to the Clause 100 PMD for transmission on the medium, at the nominal speed in the function of the aggregate OFDM channel capacity, as defined by TBD (see [ref]). Upon the receipt of this primitive, the PMD converts the received appropriately formatted stream of bits into the appropriate signals at the MDI, effectively sending data across the coaxial media." To: "The Clause 101 PMA continuously sends the appropriately formatted stream of I / Q value pairs to the Clause 100 PMD for transmission on the medium, at the nominal speed of 204.8 MHz. Upon the receipt of this primitive, the PMD converts the received appropriately formatted I / Q value pairs into the appropriate signals at the MDI, effectively sending data across the coaxial media."

Page 77, Line 10. Remove Editor's note.

Page 77, Line 15. Change "TBD" to "I / Q value pair"
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<td>Comment Status</td>
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<tr>
<td>as defined by TBD (see [ref]). Need to mark ref in color for better visibility. Also, remove double &quot;.&quot;</td>
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<tr>
<td>PMD_UNITDATA.request and PMD_UNITDATA.indication are complementary messages and there should be little doubt as to what kind of data .indication provides to PHY - 1 bit at a time.</td>
<td></td>
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<tr>
<td>Suggested Remedy</td>
<td>Change TBD in this section to &quot;1 bit&quot;</td>
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<tr>
<td>We have a defined variable TxEnable that is mapped to mdio register 10GPASS-XR control. I believe this tx_enable is the same parameter.</td>
<td></td>
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<tr>
<td>Suggested Remedy</td>
<td>Replace 9 instance of tx_enable with TxEnable. Add to CI 45 mapping table.</td>
<td></td>
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<td>Response Status</td>
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<tr>
<td>Misguided requirement: &quot;shall operate with an average input signal level, including ingress and noise to the upstream demodulator, up to 31 dBmV.&quot; So then at 31.1 dBmV and higher the CNU must not operate?</td>
<td></td>
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<tr>
<td>Suggested Remedy</td>
<td>Change &quot;up to 31 dBmV&quot; To &quot;of 31 dBmV or better&quot;</td>
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<tr>
<td>Proposed Response</td>
<td>Response Status</td>
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<tr>
<td>PROPOSED REJECT. &quot;or better&quot; is subjective. Need objective requirement.</td>
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<tr>
<td>&quot;The CLT shall be settable according to Table 100-11 for intended received power normalized to 6.4 MHz of bandwidth.&quot; This &quot;set-ability&quot; should have an associated variable and register in CI 45.</td>
<td></td>
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<tr>
<td>Suggested Remedy</td>
<td>Change &quot;settable according to&quot; to &quot;provisionable per&quot; Add Editors note that a variable and CI 45 Register are required for this provisioning. (or define such a variable).</td>
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<tr>
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<td>W</td>
</tr>
<tr>
<td>PROPOSED ACCEPT IN PRINCIPLE. &quot;settable&quot; to &quot;configured&quot;. The spec is using &quot;configure.&quot; much more than &quot;provision..&quot;</td>
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<tr>
<td>We have no Table 7-12 &quot;When using the modulation formats shown in Table 100-11, the CLT Upstream demodulator shall operate within its defined performance specifications with received bursts within the ranges defined in Table 7-12 of the set power.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suggested Remedy</td>
<td>Change to read &quot;When using the modulation formats and power set points shown, the CLT Upstream demodulator shall operate within its defined performance specifications when received bursts are within the ranges specified in Table 100-11.&quot;</td>
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<tr>
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</table>
**Comment Type** E  Comment Status D
Misplaced footnote for table 100-11. Same issue with note to Table 100-12.

**Suggested Remedy**
Footnotes should be part of the table.
In Table 100-11 add Footnote Ref 1 to Min set point.

**Proposed Response**  
This was an editor's mistake to correct on both points.

**Comment Type** T  Comment Status D
Range of what? How about a units to this number?

**Suggested Remedy**
Change "Range" to "Input power range (dBmV)"

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.
Need to ask the experts what the units are.

**Comment Type** E  Comment Status D
No need to define a TLA for something that is only used once in the draft. Also 10-6 should not break across a line.

**Suggested Remedy**
Replace "PER (packet error ratio)" with "packet error ratio"
Can make 10-6 not breaking by using ESC n s to designate the "word" as non-breaking changing ":-6" to superscript may also work.

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.
Should be frame loss ratio to meet wording in objective.

**Comment Type** T  Comment Status D
Table 100-13 mixes receiver characteristic and input signal characteristics. These should be in separate tables.
It is also not at all clear to me why there are three rows for Return Loss.
Lastly I don't think we go to 6754 MHz

**Suggested Remedy**
Split into two tables
1) Electrical input signal requirements (Total power, Input Level Range and Max Avg power)
2) CNU receiver requirements (Input Impedance, Return Loss).
Combine Return Loss into a single row of 108 MHz - 1794 MHz  | > 6 | dB and remove notes 1 & 2
Change row 3 from "6754 MHz to 1218 MHz OR From 258 MHz to 1.794 GHz" to "108 MHz to 1218 MHz OR From 258 MHz to 1794 MHz"
Add Table Continuation variable to title.
Change at line 27
"The CNU receiver shall meet electrical parameters per Table 100-13."
to
"The CNU shall meet all performance specification when receiving a signal conformant to the parameters shown in Table 100-13(1). The CNU receiver shall meet electrical parameters per Table 100-13(2)." with appropriate table references

**Proposed Response**  
PROPOSED REJECT.
As written here and in DOCSIS, this are intended to go together, but will differ to experts and TF decision.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

---

**Comment Type**: T  **Comment Status**: D  **Proposed Response**

Well at least we use the TLA FLR twice :-)
But we should be consistent

**Suggested Remedy**

Change “10-6 FLR (frame loss ratio)” to “10-6 packet error ratio when operating at a CNR as shown in Table 100-14, under input load and channel conditions as follows” (observe superscripting).
At line 18 change “CNU FLR shall be less than or equal to the required loss ratio” to “CNU packet error ratio shall be less than or equal that shown in when operating at a CNR as shown in Table 100-14, under input load and channel conditions as follows”

**PROPOSED ACCEPT IN PRINCIPLE.**

Should be frame loss ratio to meet wording in objective.

---

**Comment Type**: T  **Comment Status**: D

These subsections can be removed as most of their intended material is covered in the tables and other sections. If we need a particular subsection, we can bring it back later.

**Suggested Remedy**

100.2.11.3 Image rejection performance
100.2.11.4 Multi-channel receiver operation
100.2.11.5 Reconfiguration of CNU receiver
100.2.12 CLT Receive requirements
100.2.12.1 Input signal characteristics at CLT receiver
100.2.12.2 Input return loss
100.2.12.3 Input impedance
100.2.12.4 Image rejection performance
100.2.12.5 Multi-channel receiver operation

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT.**

---

**Comment Type**: TR  **Comment Status**: D

It is useful to have QPSK through 32-QAM available for upstream data transmission due to having to adjust bit loading in the 5-20MHz region as well as in subcarriers adjacent to exclusion bands.

**Suggested Remedy**

Lines 19 through 24, remove "c" superscript. Line 40, remove table note "C".

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT.**

---

**Comment Type**: T  **Comment Status**: D

"This modulation format is require only for low density pilots" - likely should be "This modulation format is required only for low density pilots"

This note is also creating a conditional requirement. Note that the table itself is mandatory, and this note creates an exception of some sort.

**Suggested Remedy**

Per comment

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT IN PRINCIPLE.**

The "c" and table note are removed in a comment submitted late. If accepted, this comment no longer applies. Otherwise, accept.

---

**Comment Type**: E  **Comment Status**: D

"Modulation format for PHY Link is specified in102.2.1.2 and 102.3.1.2" should be "Modulation format for PHY Link is specified in>><< only for low density pilots"

**Suggested Remedy**

Per comment

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT.**
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Draft 1.1

Proposed Responses

<table>
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<tr>
<th>CI 100</th>
<th>SC 100.2.6.1</th>
<th>P 79</th>
<th>L 2</th>
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</table>

**Comment Type**: T  **Comment Status**: D

Should not include a ref to CI 45 in a normative statement nor refer to CL 45 registers as variables. "the CLT shall update the value of the variable DS_DataRate (see 45.x.x.x.)."

**Same issue in ln 33**

**Suggested Remedy**: remove cl 45 ref.

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT.**

<table>
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<tr>
<th>CI 100</th>
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</table>

**Comment Type**: T  **Comment Status**: D

"variable DS_DataRate (see 45.x.x.x.)"

a) it is not a variable, it is a register if it is in Clause 45
b) insert the reference correctly
c) since when we started using italics for names of variables?

**Similar issue in 100.2.6.2 for US_DataRate**

**Suggested Remedy**: Please address three issues per comment

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT IN PRINCIPLE.**

See other comment responses for variables in italics. Will adjust as decided in comment resolution. This is really an E comment as it is remedying referential notation.

<table>
<thead>
<tr>
<th>CI 100</th>
<th>SC 100.2.6.1</th>
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</table>

**Comment Type**: T  **Comment Status**: D

There are several numbered equations, but they are not referenced anywhere in the text. It seems that they could be easily replaced with a pseudo-code without any reference, and it would avoid the complexity of showing multiple equations.

**Suggested Remedy**: Replace equations with pseudo-code in a single block. Define all variables if they are needed for calculation purposes. The same applies to 100.2.6.2

**Proposed Response**  **Response Status**: W  **PROPOSED REJECT.**

This is a T but there is no technical comment or remedy. Should be an E. Based on previous editor input, most calculations should be in FM equation format. Can change to unnumbered equations if desired by the TF.

<table>
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<td>Broadcom</td>
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</table>

**Comment Type**: T  **Comment Status**: D

It says: "The upstream PMA OFDMA superframe repeats every 256 + Probe region is 6 symbols. The superframe length is determined using the Extended_OFDM_Symbol based on size of the selected Cyclic Prefix size (usec)." This sentence is not constructed correctly and is confusing.

**Suggested Remedy**: Suggested fix: The upstream PMA OFDMA superframe repeats every 256 + 6 symbols, where the Probe region is 6 symbols in length. The superframe length is determined using the Extended_OFDM_Symbol based on size of the selected Cyclic Prefix size (?sec)."

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT.**

<table>
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<tr>
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</table>

**Comment Type**: T  **Comment Status**: D

"Equipment conforming to this standard shall clearly mark downstream frequency ranges." - probably, "Equipment conforming to this standard shall clearly mark supported downstream frequency ranges." - probably, "Equipment conforming to this standard shall clearly mark supported downstream frequency ranges."

**Suggested Remedy**: Per comment. Same in 100.2.7.2

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT.**

<table>
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<th>CI 100</th>
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</tr>
</tbody>
</table>

**Comment Type**: T  **Comment Status**: D

"defined in Table 100-XXX" - should it be 100-4 here as well?

**Suggested Remedy**: Either change that to 100-4 if that is the correct table, or mark as TBD.

**Proposed Response**  **Response Status**: W  **PROPOSED ACCEPT IN PRINCIPLE.**

The upstream electrical was added for D1.2 and this reference was not updated. Should be "Table 100-10".

**TYPE**: TR/technical required  **ER**: editorial required  **GR**: general required  **T**: technical  **E**: editorial  **G**: general

**COMMENT STATUS**: D/dispatched  A/accepted  R/rejected  **RESPONSE STATUS**: O/open  W/written  C/closed  Z/withdrawn

**SORT ORDER**: Clause, Subclause, page, line

**DATE**: 1/7/2015 5:14:01 PM
It says ".the encompassed spectrum is equal to 789.05 - 600.00 + 0.050 = 190.00 MHz." The context of this calculation seems to be missing, in particular where 789.05 or 600.0 MHz comes from.

Suggested Remedy

Suggested fix: Explain or show additional context to this computation.

PROPOSED ACCEPT IN PRINCIPLE.

Suggested remedy is that that example can be removed without altering the technical understanding of the first sentence. Therefore remove "For example,.." to the end of the paragraph. As well as the double period at the end of the first sentence on line 48.

Related comments: 2745, 3181, 3139

The example "For example, provided the OFDM channel of 204.8 MHz, subcarrier spacing of 50 kHz and 148 lower band edge subcarriers and 148 upper band edge subcarriers (a total of 302 subcarriers in two band edge exclusion sub-bands), the encompassed spectrum is equal to 789.05 - 600.00 + 0.050 = 190.00 MHz. " to be clear should also show where numbers 789.05, 600 and 0.050 come from and what they mean. Otherwise, it is just arithemtics with little sense

Suggested Remedy

Please expand the example to demonstrate where 789.05, 600 and 0.050 come from

PROPOSED ACCEPT IN PRINCIPLE.

Suggested remedy is that that example can be removed without altering the technical understanding of the first sentence. Therefore remove "For example,.." to the end of the paragraph. As well as the double period at the end of the first sentence on line 48.

Related comments: 2745, 3181, 3139

Duplicate text (see 1st sentence in same para):

"The encompassed spectrum is also equal to the center frequency of the highest frequency modulated subcarrier minus the center frequency of the lowest frequency modulated subcarrier in an OFDM channel, plus the subcarrier spacing."

Suggested Remedy

Strike last sentence.

Move para to just alter the NOTE on pg 80 in 44 (better text flow).

PROPOSED ACCEPT IN PRINCIPLE.

Suggested remedy is that that example can be removed without altering the technical understanding of the first sentence. Therefore remove "For example,.." to the end of the paragraph. As well as the double period at the end of the first sentence on line 48.

Related comments: 2745, 3181, 3139

This note has been here long enough.

EDITORS NOTE (to be removed prior to publication): 802.3 prefers spectrum, and where bandwidth means data capacity. Do we need to change bandwidth to spectrum? Note that in cable industry bandwidth = RF spectrum.

Suggested Remedy

Strike the note.

Change all (20) instances of occupied bandwidth to occupied spectrum

Change all (2) instances of Occupiedbandwidth to Occupiedspectrum

PROPOSED ACCEPT.

Related comments: 2745, 3181, 3139
Comment Type: TR  Comment Status: D

The bullet points in lines 24 - 33 are hardly requirements that are testable. These describe the process under which specific parameters are described, and the process of calculating parameter cannot be mandatory - values for specific parameter can.

Suggested Remedy
Remove the requirement in line 23, making the text descriptive. The testable requirement is already included in line 34. Anything before describes just the way parameters are calculated. None of these are testable externally at defined test points.

Proposed Response  Response Status: W
PROPOSED ACCEPT IN PRINCIPLE.

Remove the word "shall" in line 23.

Note that there is no MUST in the same corresponding sentence of text in D3.1 PHY I04 7.5.9.1.

Comment Type: T  Comment Status: D

"CLT power is configured by power per 6 MHz channel and number of occupied 6 MHz channels for each OFDM channel" - this statement reads funny when you read it without knowing what the author really meant.

Suggested Remedy
Suggest to reword as follows: "CLT transmit power level is configured independently for each 6 MHz channel in the function of the number of 6 MHz channels per OFDM channel" - this statement reads funny when you read it without knowing what the author really meant.

Proposed Response  Response Status: W
PROPOSED REJECT.
The remedy is more confusing to this Editor. Also the power level is not configured independently for each occupied 6 MHz channel. Ask the experts for better wording?

Comment Type: T  Comment Status: D

"For each OFDM channel, the total power is Power per 6 MHz channel + 10log10(Number of occupied 6 MHz channels) for that OFDM channel." - this seems like a perfect place where equation should be created, and placed within the text and then referenced.

Suggested Remedy
Insert equation that describes total power (100-X) and then reword the text to read: "For each OFDM channel, the total power is given by Equation (100-X)."

Proposed Response  Response Status: W
PROPOSED ACCEPT IN PRINCIPLE.

Could also create an unnumbered equation without the text reference as use is usually contextual.

Comment Type: T  Comment Status: D

"These requirements are all tested under the condition where all Neq' [channels] are commanded to the same average power," - [] square brackets are not a standard convention for inserting additional information. Likely () need to be used. It is more likely that "channels" can be inserted without additional markup.
Also, we were to avoid the use of word "commanded" and use "configure" instead.

Suggested Remedy
Per comment

Proposed Response  Response Status: W
PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

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Comment Type: T, Comment Status: D

It seems odd that the CLT & CNT RF output requirements tables (100-2 & 100-10) are so different in their description of the OFDM/A parameters. See related comment on Table 101-12

Suggested Remedy

Restructure the first 11 rows of these to table per remein_3bn_18_0115.pdf (avail in framemaker). Summary of changes:

Table 100-2
Row 1 - mod wording
Row 2 - add Signal Type
Row 5 - add Occupied spectrum
Row 6 - add Active spectrum (was row7 Max Num of data SC per FFT)
Row 7 - wording (was OFDM Symbol rate FFT Duration)
Row 10 - added Sampling rate
Row 11 - was row 9

Table 100-10
Row 1 - wording
Row 3 - was Max OFDMA channel BW
Row 4 - add Encompassed spectrum
Row 5 - was Min occupied spectrum
Row 6 - added Active spectrum (was part of FFT size)
Row 7 - was Subcarrier Channel spacing
Row 9 - was FFT Size, 3800 Maximum active SC
Row 10 - was 204 instead of 204.8

Proposed Response: W

PROPOSED ACCEPT IN PRINCIPLE.

Rejct adding new rows for: “occupied spectrum” and “active spectrum” as not sure why these are needed. Also “SC” is not a well known unit. If these rows are retained by TF for this comment, should be “subcarriers”.

Rejct adding row for “sampling rate”. This row was remove in prior table edit and shouldn’t be bring back in. That is, unless the TF wants to bring the row back.

Comment Type: E, Comment Status: D

A lot of descriptive text from Table 100-2 should be really part of test setup description. Examples include: “528 MHz total occupied bandwidth, 6 MHz gap (Internal Excluded subcarriers) 88 equivalent 6 MHz channels, ”528 MHz total occupied bandwidth, 88 equivalent 6 MHz channels”, “single OFDM channel only, 24 MHz total occupied bandwidth” - these are specific for the measurement conditions for the given parameter and not for the parameter itself.

Suggested Remedy

Move these details into the measurement section for the given parameter and not cram them into table that is supposed to be listing just the values. This goes in line with the Editors’ Note on page 83, line 27.

PROPOSED REJECT.

Beyond the capabilities of the non-expert editors to carry forth.

This is best a question for the experts on this as to whether such changes would impair proper understanding, by those skilled in this art. Reminder that the format of these tables came from those skilled in the art of complicated OFDM and RF modulation on cable networks.

It would be helpful to provide draft text change examples for consideration by the TF to avoid differing visualizations of the result.

Proposed Response: W

PROPOSED REJECT.

Unclear as per comment and reading of Style guide what the comment is referring to.
In Table 100-2, the "1.5" and "dB" have been found to be erroneous entries when going back and comparing to the latest DOCSIS I04 specification.

**Suggested Remedy**

Remove "1.5" and "dB" from this row.

**Proposed Response**

PROPOSED ACCEPT.

---

**Comment Type**

T

**Comment Status**

D

**Proposed Response**

PROPOSED ACCEPT.

---

**Comment Type**

T

**Comment Status**

D

MER is not defined in the whole draft, but used heavily (38 hits in the whole draft)

**Suggested Remedy**

Add definition of what it is and consider adding definition to Clause 1 if it is handy in a more global fashion.

**Proposed Response**

PROPOSED ACCEPT.

---

**Comment Type**

T

**Comment Status**

D

Editorial mistakes when converting the columns for this table for Draft 1.2

**Suggested Remedy**

Line 20: change subscripts to be "1,2,4,5,6,7,11"

Lines 23 through 34, remove the "11" superscript

Lines 32 through 34, remove the "7,11" superscript

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE.

Make the suggested changes.

However, due to this Editor’s mistakes in the copy and paste from DOCSIS table formats with respect to the IEEE 2012 style guide, change "1" to "a", "2" to "b", etc. in this table.

**Proposed Response**

PROPOSED ACCEPT.
Multiple issues with Table 100-4:

- a) most of the parameters are really whole definitions crammed into the table - details of the definitions should be inserted into the section on their measurement conditions and not table intended to list just their numeric values
- b) notes to parameters in tables have wrong format - see 802.3-2012, Table 75-5 for formatting reference
- c) Note 1 should be described as an informative text in the section describing the measurement itself - also, 0.5 dBc seems to be the tolerance here and it should not be hidden in a note to a table.
- d) relaxation parameters are not typically listed as informative notes to parameters - these need to be part of mandatory parameters, likely part of the measurement conditions for individual parameters
- e) Neq' is not defined anywhere. Neq is

Suggested Remedy

- Address individual comments.

Proposed Response: Address individual comments.

PROPOSED ACCEPT IN PRINCIPLE.

- a) R: New table and sections not provided.
  As per Style guide Section 14: "Tables provide a clear and concise way of presenting large amounts of data in a small space." This goes beyond numeric values.
- b) AiP: Following 2012 Style guide, and other comments, all numerals table footnote designation should have been changed to alpha in the original draft text under consideration that was ported from D3.1 PHY.
- c) AiP: need to ask the experts if this should be designated as a table note (informative), otherwise, leave as normative.
- d) R: table footnotes are normative
- e) AiP: Neq' is defined on page 85, line 49. Agree that this is not clearly defined and needs to be part of cleanup as per Editor's note page 80, line 29.

Suggested Remedy

- Add an Editors note at the minimum that the wording in this section needs cleaning up and clarifying.

Proposed Response: Add an Editors note at the minimum that the wording in this section needs cleaning up and clarifying.

PROPOSED ACCEPT IN PRINCIPLE.

Page 80, Line 29. Move editor's note to be under 100.2.8 and not under 100.2.8.1. Was put in the wrong place for D1.2.
Comment Type: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

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---

**Comment**

"When commanded to the same power level, dBc should be interpreted as the average OFDM channel power, averaged over the active OFDM channels, to mitigate the variation in OFDM channel power across the active OFDM channels (see Table 100-4), which is allowed with all OFDM channels commanded to the same power." - is this intended to be an optional requirement?

**Suggested Remedy**

Change to read: "When commanded to the same power level, dBc denotes the average OFDM channel power, averaged over the active OFDM channels, to mitigate the variation in OFDM channel power across the active OFDM channels (see Table 100-4), which is allowed with all OFDM channels commanded to the same power.

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE.

As per individual's earlier comments "commanded" should be "configured".

A question is not a remedy. In this case, need to ask the experts for a better wording.

---

**Comment**

"in measurements with 603 MHz <= center frequency <= 999 MHz" - typically, I would expect to see statement like this: "in measurements for center frequency from 603 MHz to 999 MHz, inclusive."  

**Suggested Remedy**

Consider moving the said definition of "active OFDM channel" to the beginning of 100.2.8.5. Also, remove "modulated OFDM channel" - it is not used in the draft right now at all. No need to add new terms that are not used in the draft.

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE.

Agree, this would be per the general cleanup needed for 100.2.8 as per leading editor's note.
<table>
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<th>Cl 100</th>
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<td><strong>T</strong></td>
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</tr>
<tr>
<td>Hajduczenia, Marek</td>
<td>Bright House Network</td>
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<td></td>
<td>#</td>
<td>Term &quot;sub-block&quot; is introduced in 100.2.8.5 and used exclusively in this subclause and without definition.</td>
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<tr>
<td><strong>SuggestedRemedy</strong></td>
<td>This term is introduced in this subclause without definition. Could we use a simpler term &quot;sub-set&quot; that does not require definition?</td>
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<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td>Need to ask experts for precise clarification on what is meant by a sub-block.</td>
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<td>Remine, Duane</td>
<td>Huawei Technologies</td>
<td></td>
<td></td>
<td></td>
<td>This ref can be provided and we should probably refer to the proper variable name.</td>
<td></td>
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<tr>
<td><strong>SuggestedRemedy</strong></td>
<td>Change to: 32 8-symbol Resource Blocks, or 16 16-symbol Resource Blocks, as configured by US_TmIntrlv (see 101.4.4.3).</td>
<td></td>
<td></td>
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<td></td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td>Need to ask experts for precise clarification on what is meant by a sub-block.</td>
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<tr>
<td><strong>Proposed Response</strong></td>
<td>Response Status</td>
<td><strong>W</strong></td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td>Acknowledged that &quot;US_TmIntrlv&quot; was introduced earlier, but is confusing to get the . Should really be US_RBLength or similar for clarity, or US_RB FrmSize.</td>
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<td>Remine, Duane</td>
<td>Huawei Technologies</td>
<td></td>
<td></td>
<td></td>
<td>&quot;The parameter NFFT refers to the length&quot; - this parameter is shown as N&gt;&gt;FFT&lt;&lt; (subscript) in Figure 100-6. Are these the same?</td>
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<td>Please align the name of the parameter between the text and the figure The same applies to &quot;NCP&quot;</td>
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<td>Refer to resolution in comment 3145.</td>
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</tr>
<tr>
<td>Hajduczenia, Marek</td>
<td>Bright House Network</td>
<td></td>
<td></td>
<td></td>
<td>&quot;pointed to by the dashed arrow of Figure 100-6&quot; - there are three dashed arrows in Figure 100-6 - which one do you mean? Any of these? Any specific one?</td>
<td></td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
</tr>
<tr>
<td><strong>SuggestedRemedy</strong></td>
<td>Either show just one dashed arrow in Figure 100-6 or reference which of the dashed arrows you mean. The same in line 27 on the same page.</td>
<td></td>
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<td>Need to ask experts for precise clarification on what is meant by a sub-block.</td>
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<td>Dimension arrow for NFFT missing</td>
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<td>Suggestion: put NFFD inside the box centered under &quot;(useful symbol period)&quot;. This avoids putting more arrow eye-clutter in the figure.</td>
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<td>100.2.9.2</td>
<td>88</td>
<td>51</td>
<td>T</td>
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<td>What is meant by &quot;fully Granted&quot;?</td>
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<td>Change from: The channel power is defined as the average power when the channel is fully granted. to The channel power is defined as the average power that would be measured if an entire OFDMA symbol were granted to a single CNU.</td>
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<td>However, fully granted also applies to using 3800 subcarriers. Clarify with experts and adjust remedy text accordingly, if needed.</td>
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<td>100</td>
<td>100.2.9.3</td>
<td>89</td>
<td>9</td>
<td>E</td>
<td>D</td>
<td>Font size for Eq 100-13 &amp; 100-14 looks small. Check to make sure these are med size equations and not small.</td>
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<td>100</td>
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<td>T</td>
<td>D</td>
<td>The CNU only has one &quot;mode&quot;: In OFDMA mode the CNU</td>
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<td>Strike the phrase.</td>
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<td>Remedy not completely clear. Suggest changing sentence read &quot;The CNU determines its target transmit normalized channel power P1.6t, as follows:&quot;</td>
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<tr>
<td>100</td>
<td>100.2.9.4</td>
<td>89</td>
<td>39</td>
<td>T</td>
<td>D</td>
<td>&quot;The CLT SHOULD ensure the following&quot; - is this intended to be an optional requirement?</td>
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<td><strong>SuggestedRemedy</strong></td>
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<td>Change this statement to read: &quot;The CLT observes the following limits&quot; if the OLT really has a way to enforce these limits on the CNU. It seems more like something CNU would have to comply with.</td>
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<td>The CLT performs the power calculation in what it commands to each CNU, it doesn't necessarily observe in this context. Let's ask the experts for clarification in the wording.</td>
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<td>100</td>
<td>100.2.9.5.1</td>
<td>90</td>
<td>10</td>
<td>E</td>
<td>D</td>
<td>Do we have two Table 100-7's? &quot;in Table 100-6, Table 100-7, and Table 100-7&quot;</td>
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<td>Perhaps this should be &quot;in Table 100-6, Table 100-7, and Table 100-8&quot;.</td>
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</table>
IEEE 802.3bn EPON Protocol over Coax (EPOC) TF 2nd Task Force review comments

Draft 1.1

Proposed Responses

Cl 100 SC 100.2.9.5.1 P90 L15 #2775
Hajduczenia, Marek Bright House Network

Comment Type T Comment Status D
"SpurFloor is related to the ratio of the number of subcarriers" - it is not clear what SpurFloor is until a few lines below.

SuggestedRemedy
Change to "The parameter SpurFloor is related to the ratio of the number of subcarriers" Simiarl comment for line 29, and line 33, same page.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 100 SC 100.2.9.5.1 P90 L33 #3168
Remein, Duane Huawei Technologies

Comment Type E Comment Status D
Stray DOCSISisms "modem" in 3 places

SuggestedRemedy
change to CNU

Proposed Response Response Status W
PROPOSED ACCEPT.
Editor self comment: "oops!"

Cl 100 SC 100.2.9.5.1 P90 L46 #2776
Hajduczenia, Marek Bright House Network

Comment Type E Comment Status D
DOCSIS 3.1 references? "Section 7.4.13.5"

SuggestedRemedy
Mark these as TBD and insert Editor's Note with the source reference from DOCSIS.

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
This editor forgot to clean these up in the text before consideration by the TF for D1.2.
Suggested remedies:
Line 46: remove "as described in Section 7.4.13.5,"
Line 52: change "Section 7.4.13.3" to "see 100.2.9.4."

Cl 100 SC 100.2.9.5.1 P90 L49 #3169
Remein, Duane Huawei Technologies

Comment Type E Comment Status D
We do not do specs (little bits of things). We do specifications

SuggestedRemedy
Change specs to specifications in 4 places.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 100 SC 100.2.9.5.1 P91 L14 #3149
Remein, Duane Huawei Technologies

Comment Type T Comment Status D
This sentence starting with "Spurious emissions requirements for transmission ..." and ending on line 20 with "specified in Table 100-7 for Table 100-7" is rather clumsy.

SuggestedRemedy
Reword as follow to avoid the split across Eq 100-20
The spurious emissions requirements over the entire upstream spectrum given in Table 100-7 for transmission of NS_Max / 10 or fewer subcarriers may be relaxed by 2 dB in an amount of spectrum equal to:

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Editor's typo for D1.2. Should have read "Table 100-7 for Table 100-8."

Cl 100 SC 100.2.9.5.1 P91 L8 #3153
Remein, Duane Huawei Technologies

Comment Type T Comment Status D
definition of "granted burst"
"For the purpose of spurious emissions definitions, a granted burst refers to a burst of resource blocks to be transmitted at the same time from the same CNU;"
So successively transmitted OFDM symbols are not part of the same burst?
Note that the term is only used twice in the draft here and in 100.2.9.5.1 MER Requirements.

SuggestedRemedy
Remove "granted" from definition in both cases

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Not sure how removing the word "granted" remedies the question in the comment.
Firstly it should be noted that Table 100-7 is different than Table 100-7.

**Suggested Remedy**

Check all xrefs in para and correct as necessary. In order should probably be Table 100-8, Table 100-7, Table 100-8, Table 100-7.

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE.

Editors oops from text considered for D1.2. The first "Table 100-7" should read "Table 100-8" to produce: "Firstly, it should be noted that the measurement bandwidth for Table 100-8 is less than the measurement bandwidths in Table 100-7."

---

The CNU shall control spurious emissions prior to and during ramp-up, during and following ramp-down, and before and after a burst.

**Suggested Remedy**

Change to:

The CNU shall control spurious emissions at all times.

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE.

Make sure this is ok with the experts.

---

"TxMER or just MER"

Given that TxMER only appears here do we even need to mention it?

**Suggested Remedy**

Strike "TxMER or just "

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE.

There will be added sections for RxMER so don't want to confused MER in this section with MER used elsewhere. Suggest changing the subsection title to add "Transmit". And then add some text that says that MER in this subsection refers to Transmit modulation error ratio. 

"(TxMER or just MER)" to "(expressed as MER in this subsection)".

---

Remove "(dB)" from both equations in 3 places)
At line 23 change
"MER per RB is computed as follows:"
to
"MER per RB (RBMER, in dB) is computed as follows:"
(MER in RBMER is subscripted)
In line 31 change
"MER per burst is computed as follows:"
to
MER per burst (BURSTMER, in dB) is computed as follows:"
(MER in BURSTMER is subscripted)
Change font in both equations as some portions (10log10 and 1/) look to be in a different font.

**Proposed Response**

PROPOSED ACCEPT.

---

Para style incorrect; should use an indented para style (appears to use T,text.

**Suggested Remedy**

Use same indented para style (suggest H,HangingIndent) for all eq parameter definitions in 39-48.

**Proposed Response**

PROPOSED ACCEPT.
Comment Type: **T**  Comment Status: **D**  
Normative statements should not be left up to the test tech.  
"A sufficient number of OFDMA symbols shall be included in the time average so that ..."

**Suggested Remedy**
Change to  
"A sufficient number of OFDMA symbols should be included in the time average so that ...

**Proposed Response**  
**Response Status**: **W**  
PROPOSED ACCEPT.

Comment Type: **E**  Comment Status: **D**  
Table style should be per IEEE style.

**Suggested Remedy**
Separate into 3 col; Parameter | Value | Units  
all words in parameter  
numbers in value  
units in units  
notes per IEEE Style in template

**Proposed Response**  
**Response Status**: **W**  
PROPOSED ACCEPT.

Comment Type: **T**  Comment Status: **D**  
I believe the "following MER limits" are those in Table 100-9. Should ref the table.

**Suggested Remedy**
Change to  
"MER limits in Table 100-9"

**Proposed Response**  
**Response Status**: **W**  
PROPOSED ACCEPT.

Comment Type: **T**  Comment Status: **D**  
PICS for 100A

**Suggested Remedy**
See remain_3bn_10_0115.pdf

**Proposed Response**  
**Response Status**: **W**  
PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

**Comment Type** T  **Comment Status** D

These are passive or amplified multipoint coaxial cable distribution networks (CCDN) that connect multiple DTEs using a single shared coaxial link. The architecture is asymmetric, based on a tree and branch topology utilizing coaxial taps and splitters. " - it is not clear whether details of CCDN (passive / amplified) really belong to Clause 101 - they should be moved to Clause 100 Introduction, where CCDN has any meaning. From PCS perspective, CCDN does not matter at all.

**Suggested Remedy**

Per comment

**Proposed Response**  **Response Status** W

PROPOSED REJECT.

This wording is complementary to that found in CL 75 which describes the ODN in similar detail. "These are passive optical multipoint networks (PONs) that connect multiple DTEs using a single shared fiber."

---

**Comment Type** T  **Comment Status** D

Table 101-1 contains redundant information: register name and register number. Since there is a lot of information and table is crowded, I suggest you drop second column and leave just register number. Rather than register name, it would be more helpful to provide active cross-reference link to specific table to allow reader to jump directly where it is defined.

**Suggested Remedy**

Per comment

**Proposed Response**  **Response Status** W

PROPOSED REJECT.

All tables on which this is modeled include both name and number. See Table 82–6, Table 83–2, Table 84–3, Table 85–2, Table 86–3, Table 87–3, Table 88–4, and Table 89–3. Granted our tables have two additional columns to include index and bits but these are needed for PHY Link.

---

**Comment Type** E  **Comment Status** D

"PLS_DATA.indication and PLS_-DATA_VALID.indication primitives." - primitive name is broken across lines. Either force line break manually or exclude "_" from list of characters that are allowed to break across lines.

**Suggested Remedy**

Per comment

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT IN PRINCIPLE.

Check for auto hyphen locations and, where "_" breaks a line, set the word to non-hyphenating (Esc n s).
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IEEE 802.3bn EPON Protocol over Coax (EPOC) TF 2nd Task Force review comments

**Proposed Responses**

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<td>Zhang, Jin</td>
<td>Marvell Semiconductor</td>
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</table>

**Comment Type** T  **Comment Status** D
In accordance with the modified CLT idle deletion diagram, the constant and variable definitions also need to be modified.

**Suggested Remedy**
Please see the attached file zhang_3bn_05_0115.pdf (also available in .docx format)

**Proposed Response**  **Response Status** W
PROPOSED ACCEPT IN PRINCIPLE.
As proposed with the following changes.
TYPE: Fraction number replaced by
TYPE: Real number
For each number of this type include -
EDITORS NOTE (to be removed prior to publication): we should specify a minimum precision for this number.

Eq 101-01 remains as is

PLCTotalBits and PLCTotalCycles need clarification or formal definition.

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<td>Marvell Semiconductor</td>
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</table>

**Comment Type** T  **Comment Status** D
The two separate processes of idle deletion need to be consolidated into a single process.
The idle deletion output data rate has to match the PMD rate exactly in the long run.

**Suggested Remedy**
Consolidate the idle deletion process as attached file zhang_3bn_04_0115.pdf (also available in vsd format). Basically, the idea is to use accResidue to track the residual difference between the PMD rate and the idle deletion output rate. If accResidue exceeds 1, an extra idle block needs to be deleted.

**Proposed Response**  **Response Status** W
PROPOSED ACCEPT IN PRINCIPLE.
Need to clarify meaning of "&&" in exit criteria for CLASSIFY VECTOR_TYPE
**IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments**

**Proposed Responses**

**Cl 101 SC 101.3.2.5.13 P 131 L 28 # 2729**
Hajduczenia, Marek  Bright House Network

Comment Type  
T  
Comment Status  
D  
Review  

"The CNU PCS shall implement the FEC encode and Data Detector process, comprising the input process as shown in Figure 101–8 and the output process as shown in Figure 101–9. EDITORS NOTE (to be removed prior to publication): a transfer to PMA process is needed for the CNU." - this is incorrect. CNU cannot use Figure 101-9, which assumes no Data Detector and PHY enable/disable signal.

**SuggestedRemedy**  
The editorial note should be expanded to indicate that also "FEC encode and Data Detector output process" for CNU is missing right now, not just "transfer to PMA process".

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.

**Cl 101 SC 101.3.2.5.15 P 133 L 28 # 3018**
Remein, Duane  Huawei Technologies

Comment Type  
E  
Comment Status  
D  

Figure 101–10—CLT transfer to PMA process  
From where; PMD or PCS?  
Similar issue on Fig 101-12 CLT transfer from PMA process

**SuggestedRemedy**  
change title to Downstream CLT transfer to PMA process and Upstream CLT transfer from PMA process

**Proposed Response**  
PROPOSED ACCEPT.

**Cl 101 SC 101.3.2.5.2 P 125 L 24 # 2769**
Hajduczenia, Marek  Bright House Network

Comment Type  
E  
Comment Status  
D  

"This resulting FP bits of data is then passed" ... given that we speak of plural bits, the statement should read "This resulting FP data bits are then passed" in both cases.

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.

**Cl 101 SC 101.3.2.4.1 P 122 L 44 # 2768**
Hajduczenia, Marek  Bright House Network

Comment Type  
E  
Comment Status  
D  

"Table 101–6 presents a 5 × 45 base matrix of the low-density parity-check matrix H for LDPC (16200, 14400) code listed in Table 101–5 for downstream and upstream. The lifting factor of the matrix is L=360." - if possible, break the line manually before the name of the FEC code - avoid code name breaking across lines for improved readability.

**SuggestedRemedy**  
Per comment.

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.

**Cl 101 SC 101.3.2.5.10 P 129 L 25 # 2728**
Hajduczenia, Marek  Bright House Network

Comment Type  
T  
Comment Status  
D  

"VALUE: see Table 101–5" - said Table contains multiple values. How do I select the right value?

**SuggestedRemedy**  
Add a selector (FEC code type) to allow to pick the right value from Table 101-5.  
Otherwise, one has to assume which code is used in state diagram

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.

Define new variable  
fecTyp  
TYPE: integer  
This variable indicates the FEC type (see Table 101-5)

Add new 1st column to Table 101-5 labeled fecTyp with row values of 1, 2, & 3

For all instances of variables FC, FP, FR, FT, BQ and BP add selector "(fecTyp)". In all definitions of these variables include a phrase that fecTyp indicates the specific FEC type per Table 101-5.

**Cl 101 SC 101.3.2.5.13 P 131 L 28 # 2729**
Hajduczenia, Marek  Bright House Network

Comment Type  
T  
Comment Status  
D  
Review  

"Table 101–6 presents a 5 × 45 base matrix of the low-density parity-check matrix H for LDPC (16200, 14400) code listed in Table 101–5 for downstream and upstream. The lifting factor of the matrix is L=360." - if possible, break the line manually before the name of the FEC code - avoid code name breaking across lines for improved readability.

**SuggestedRemedy**  
Per comment.

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.

Manual line breaks cause the first part of the sentence to be difficult to read due to large spacing. Reword to "The 5 × 45 base matrix of the low-density parity-check matrix H for LDPC (16200, 14400) code listed in Table 101–5 for downstream and upstream is shown in Table 101–6."

**Cl 101 SC 101.3.2.5.15 P 133 L 28 # 3018**
Remein, Duane  Huawei Technologies

Comment Type  
E  
Comment Status  
D  

"The CNU PCS shall implement the FEC encode and Data Detector process, comprising the input process as shown in Figure 101–8 and the output process as shown in Figure 101–9. EDITORS NOTE (to be removed prior to publication): a transfer to PMA process is needed for the CNU." - this is incorrect. CNU cannot use Figure 101-9, which assumes no Data Detector and PHY enable/disable signal.

**SuggestedRemedy**  
The editorial note should be expanded to indicate that also "FEC encode and Data Detector output process" for CNU is missing right now, not just "transfer to PMA process".

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.

Define new variable  
fecTyp  
TYPE: integer  
This variable indicates the FEC type (see Table 101-5)

Add new 1st column to Table 101-5 labeled fecTyp with row values of 1, 2, & 3

For all instances of variables FC, FP, FR, FT, BQ and BP add selector "(fecTyp)". In all definitions of these variables include a phrase that fecTyp indicates the specific FEC type per Table 101-5.

**Cl 101 SC 101.3.2.5.2 P 125 L 24 # 2769**
Hajduczenia, Marek  Bright House Network

Comment Type  
E  
Comment Status  
D  

"This resulting FP bits of data is then passed" ... given that we speak of plural bits, the statement should read "This resulting FP data bits are then passed" in both cases.

**Proposed Response**  
PROPOSED ACCEPT IN PRINCIPLE.
### Proposed Responses

<table>
<thead>
<tr>
<th>CI</th>
<th>SC</th>
<th>P</th>
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<th>#</th>
<th>Comment Type</th>
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<th>Comment</th>
<th>Suggested Remedy</th>
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<tbody>
<tr>
<td>101</td>
<td>101.3.2.5.2</td>
<td>125</td>
<td>27</td>
<td>2770</td>
<td>T</td>
<td>D</td>
<td>What is this: “For downstream TX processing,”? Is this supposed to mean “In the downstream direction” ???</td>
<td>Change per comment</td>
<td>PROPOSED ACCEPT.</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>101.3.2.5.5</td>
<td>126</td>
<td>51</td>
<td>2772</td>
<td>TR</td>
<td>D</td>
<td>Subclause 101.3.2.5.5 contains plenty of details on the CNU burst structure, yet it is not clear how the sizes of individual burst markers play with FIFO. Recall that FIFO operates on whole 66-bit codewords, but the size of burst markers is not a multiple of 66-bit symbols, requiring proper calculations in Data Detection in CNU to make sure that there is enough space to insert burst markers. The text does not account for that right now.</td>
<td>Text needs to be updated to account for disparity between burst marker size and the codeword size within Data Detector. State diagram is needee urgently to describe the said process in mode detail and show calculations.</td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>101.3.2.5.6</td>
<td>128</td>
<td>4</td>
<td>2720</td>
<td>TR</td>
<td>D</td>
<td>&quot;is passed to the scrambler.&quot; - likely, &quot;the Scrambler&quot;. Also, where is the said Scrambler described? There is reference to it 101.3.2.5.6 as well as in 101.3.2.5.3, but there is no definition of what type of Scrambler is used.</td>
<td>Insert subclause in 101.3.2 covering the operation of Scrambler for the transmit path. There is a descrambler in the receive path (101.3.3.2 Descrambler - kind of empty), but there is no sign of Scrambler right now.</td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>101.3.2.5.8</td>
<td>128</td>
<td>12</td>
<td>2721</td>
<td>T</td>
<td>D</td>
<td>Cut down the fluff: “Upstream bursts are necessarily variable in length and as EPON can concatenate in the upstream, an EPoC upstream burst may contain more than one MAC frame.” &gt; &quot;Upstream bursts in EPoC are variable in length and may contain more than one MAC frame.”</td>
<td>Add to 101.4.3.1 Overview EDITORS NOTE (to be removed prior to publication): a description of the scrambler is needed” (unless such a description is added in this comment round).</td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
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<th>Comment Status</th>
<th>Comment</th>
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<tr>
<td>101</td>
<td>101.3.2.5.5</td>
<td>127</td>
<td>23</td>
<td>3074</td>
<td>T</td>
<td>D</td>
<td>Figure 101-XX illustrates the details of the 10GPASS-XR CNU burst structure. In particular, this figure shows the details of the necessary burst elements and the FEC protected portions of the burst transmission, explicitly showing each FEC codeword (FEC CW). Editor's Note (to be removed prior to publication): Figure is currently missing</td>
<td>see remein_3bn_15_0115.pdf for figure. Update reference and remove Ed Note.</td>
<td>PROPOSED ACCEPT.</td>
<td></td>
</tr>
</tbody>
</table>

**Type:** TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

**Comment Status:** D/dispatched A/accepted R/rejected

**Response Status:** O/open W/written C/closed Z/withdrawn
Wrong font format: "Note that this is overview is presented in an abstract manner and does not imply any particular implementation."

Suggested Remedy
- Apply T, Text style.

PROPOSED ACCEPT IN PRINCIPLE.
- Strike the note; this is always the case for 802.3 standards

Lists need to be numbered / lettered only when we plan to reference individual items within the said lists. Here, it is not the case.

Suggested Remedy
- Convert lists in lines 20-33 and 43-51 to bulleted lists instead.

PROPOSED REJECT.
- There is no harm with a numbered list and that reflects the submitted text.

Text in lines 20-32 is intended to describe the filling operation. This is what we typically have state diagrams for.

Suggested Remedy
- Either convert into a state diagram OR a pseudo code description to eliminate lengthy textual descriptions and avoid differences in interpretation.

PROPOSED REJECT.
- The description is clear and technically correct. Per David Law this is sufficient. If the commentor submits a SD or pseudo code it will be considered.

"Every codeword in the burst will have a length of determined by the number B of 65-bit blocks encoded." - we do not use the word "will" too often.

Suggested Remedy
- Change "will have" to "has"

PROPOSED ACCEPT.
- Change the use of "will" to "has" (in the sentence at line 34).

Quite convoluted statement "B can be from 1 to B blocks maximum, where BQ is 220, 76, and 12 and FR is 1800, 900, and 280 for 16200, 5940, 1120 LDPC codewords sizes respectively (see Table 101–4)."

Suggested Remedy
- Suggest to simplify to read:
  a) B ranges from 1 to BQ blocks,
  b) BQ is equal to 220 for LDPC (x, y), 76 for LDPC (x, y), and 12 for LDPC (x, y), and
  b) FR is equal to 1800 for LDPC (x, y), 900 for LDPC (x, y), and 280 for LDPC (x, y)

Replace (x, y) with proper code designations. Reference to Table 101-4 is then not needed.

PROPOSED ACCEPT IN PRINCIPLE.
- Given the evils of specifying something in two different places change (using appropriate symbols) to read:
  where:
  1 <= B <= BQ
  BQ and FR are set per Table 101-5 based on FC.

Editors notes here and on line 10 seem to have served their purpose.

Suggested Remedy
- remove.

PROPOSED ACCEPT.
Cl 101 SC 101.3.2.5.9 P 129 L 5 # 2727
Hajduczenia, Marek Bright House Network

Comment Type T Comment Status D
FEC_DS_CodeWordSize does not need to represent negative values.

Suggested Remedy
Change "16-bit integer" to "16-bit unsigned integer"

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 101 SC 101.3.3.1.1 P 134 L 4 # 2829
Hajduczenia, Marek Bright House Network

Comment Type TR Comment Status D
The process described in lines 4 through 25 describes the process of decoding FEC codewords in the upstream direction. We usually use state diagrams or pseudo-code in this case, and not descriptive text to avoid problems with differing interpretations.

Suggested Remedy
Replace the text in lines 4 through 25 with pseudo-code or state diagram.

Proposed Response Response Status W
PROPOSED REJECT.
Per David Law clear descriptive text is acceptable. Should the commenter submit a state diagram or pseudo-code it will be considered.

Cl 101 SC 101.3.3.1.3 P 136 L 16 # 2831
Hajduczenia, Marek Bright House Network

Comment Type ER Comment Status D
"The FEC decoder in the CNU shall provide a user-configurable option (variable CRC40ErrCtrl)" - there are references to variables peppered in the text, but it never says where they are defined.

Suggested Remedy
Please insert references to location where specific variables / parameters are defined, unless it is the very same subclause and the reader does not have to jump a few pages to find this location.

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Editors will cross reference variables in Table 101-1 and include reference to definition. If a definition does not exist an entry in an appropriate location will be created with TBDs for all normally populated text.

Cl 101 SC 101.3.3.1.3 P 136 L 18 # 2832
Hajduczenia, Marek Bright House Network

Comment Type E Comment Status D
"If CRC40ErrCtrl is enabled" - the variable cannot be "enabled" or "disabled"

Suggested Remedy
Change to "If CRC40ErrCtrl is set to enable". Similarly, for disable. Changes limited to 101.3.3.1.3

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
There is no disable in 101.3.3.1.3
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

---

**Draft 1.1**

<table>
<thead>
<tr>
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<th>Comment Status</th>
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<th>Response Status</th>
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<tr>
<td>101</td>
<td>101.3.3.1.3</td>
<td>136</td>
<td>26</td>
<td>3019</td>
<td>E</td>
<td>D</td>
<td>Editor's Note (to be removed prior to publication): this subclause was at 101.3.3.2. The editor move it here as it really is part of FEC decoding and is included in SD's below. Has served it's purpose.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

**Hajduczenia, Marek**

**Proposed Response**

- Change to "(BQ + 1) x 65 + 40 + BP" when is it reset?
- "Length" needs a proper style applied

- PROPOSED ACCEPT.

---

**Remein, Duane**

**Proposed Response**

- PROPOSED ACCEPT IN PRINCIPLE.

---

**Hajduczenia, Marek**

**Proposed Response**

- PROPOSED ACCEPT.

---

**Remein, Duane**

**Proposed Response**

- PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

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<th>L 41</th>
<th># 2839</th>
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<td>Bright House Network</td>
<td></td>
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Comment Type: TR  Comment Status: D

There are no requirements for CNU implementing PMA process. Is this not needed?
There are no requirements for CLT decoding process. Is this not needed?

Suggested Remedy:
Insert at least editorial note to indicate that the CNU PMA process and CLT FEC decoding process state diagrams are missing and needed to be added.

Proposed Response: RESPONSE STATUS: W
PROPOSED ACCEPT.

<table>
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<th>P 139</th>
<th>L 1</th>
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<td>Bright House Network</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comment Type: T  Comment Status: D

A few issues with Figure 101–12:
- names of states should use the following convention: WORD1_WORD2_WORD3
- rxCount is not used for anything

Suggested Remedy:
Fix the name of state "WAIT FOR CALL" to "WAIT_FOR_CALL". Remove "rxCount"

Proposed Response: RESPONSE STATUS: W
PROPOSED ACCEPT IN PRINCIPLE.
Correct state title per comment. The counter rxCount increments the bit array for rx_code_in, for each received bit of the received burst. It cannot be removed.

<table>
<thead>
<tr>
<th>Cl 101 SC 101.3.3.1.8</th>
<th>P 140</th>
<th>L 28</th>
<th># 2786</th>
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<td>Bright House Network</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comment Type: TR  Comment Status: D
Review
To address the editorial note in Figure 101-13, the following changes in state diagram are needed:
- change "dataCrcA != dataCrcB" to "dataCrcA != dataCrcB * CRC40ErrCtrl = TRUE"
- change "dataCrcA = dataCrcB" to "dataCrcA = dataCrcB + CRC40ErrCtrl = FALSE"

Effectively, if CRC40ErrCtrl is enabled (errors are to be reported to upper layers), SyncHeader is invalidated when CRC40 does not match. Otherwise, when CRC40ErrCtrl is disabled, data is always treated as decoded correctly and passed along.

Suggested Remedy:
Per comment

Proposed Response: RESPONSE STATUS: W
PROPOSED ACCEPT IN PRINCIPLE.
As proposed this would invalidate FecCodeWord counts.

As an alternative we could change UTC exiting INCREMENT_FAIL to CRC40ErrCtrl = TRUE and add an additional exit path CRC40ErrCtrl = FALSE connecting to DECODE_SUCCESS.

We should also remove "decodeFailure ++" from DECODE_FAIL state as it is a carryover from a previous version and was replaced by FecCodeWordFail++ in the INCREMENT_FAIL state.

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<tr>
<th>Cl 101 SC 101.3.3.2</th>
<th>P 141</th>
<th>L 23</th>
<th># 2787</th>
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<tr>
<td>Hajduczenia, Marek</td>
<td>Bright House Network</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comment Type: T  Comment Status: D
Review
Section 101.3.3.2 has no content today

Suggested Remedy:
Insert at least an editorial note indicating that content is missing

Proposed Response: RESPONSE STATUS: W
PROPOSED ACCEPT.
(assuming none is accepted this during meeting)
The PMA converts data-groups into bits and passes these to the PMD, and vice versa. It also generates an additional status indication for use by its client.* looking at figure Figure 100–3 (example), PMA performs many other functions, which are not described in this introduction.

Proposed Remedy
Either add the high level description of other functions provided by PMA or remove the summary of PMA functions as is right now - it is very incomplete at best.

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.
See Response to Cmt #2788

---

This primitive defines the transfer of data (in the form of data bits) from the PMA client to the PMA. - not only, you are also transferring markers for start and end of the burst.

Proposed Remedy
Revise to read: "This primitive defines the transfer of data (in the form of data bits) from the PMA client to the PMA and notifies the PMA on the start and the end of the data burst."

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.

---

In the downstream direction, the CLT transmission burst is always a single FEC codeword of size FEC_DS_CodeWordSize bits, and the CLT is continually sending bursts.

Proposed Remedy
Per comment  
Similar comment on 101.4.2.2.1

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.

---

"The PMA converts data-groups into bits and passes these to the PMD, and vice versa. It also generates an additional status indication for use by its client." looking at figure Figure 100–3 (example).

Proposed Remedy
Either add the high level description of other functions provided by PMA or remove the summary of PMA functions as is right now - it is very incomplete at best.

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.
See Response to Cmt #2788

---

"The PMA converts data-groups into bits and passes these to the PMD: a) what are data groups? this is the only location in the whole draft where such a term is used ...

Proposed Remedy
Consider revising to read: "The PMA converts data vectors into bits and passes then these data bits to the PMD"

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.

---

In the downstream direction, is there really any need to mark burst start and end? If there is really no need, burstStart and burstEnd should also have one more value of "NA" used in downstream, where burst marking is really not needed.

Proposed Remedy
Per comment  
Similar comment on 101.4.2.2.1

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.

---

The PMA now uses a bit oriented service interface so it no longer inputs data-groups per say.

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.
The PMA now uses a bit oriented service interface so it no longer inputs data-groups per say.

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.

---

In the downstream direction, the continuous data stream received by the CNU is always a single FEC codeword of size FEC_DS_CodeWordSize bits.

Proposed Response  
PROPOSED ACCEPT IN PRINCIPLE.
Page 145 in 16 change
"is continually sending bursts" to
"transmits continuously, thus both burstStart and burstEnd are FALSE."

Wording in 101.4.2.2.1 is correct: "In the downstream direction, the continuous data stream received by the CNU is always a single FEC codeword of size FEC_DS_CodeWordSize bits."

---
Comment Type: T  Comment Status: D
"In the upstream direction, the CNU transmission burst is
scheduled by MPCP, is variable in size and may be composed of one or more
concatenated FEC codewords." this is very little to do with the definition of the primitive
itself. Remove.

Suggested Remedy
Per comment
Similarly, the last statement in 101.4.2.2.1 is not needed.

Proposed Response    Response Status: W
PROPOSED ACCEPT.

Comment Type: T  Comment Status: D
"Both DS_DataRate and US_DataRate are expressed in bits per second (bps)* - irrelevant
in this subclause - this definition needs to be included where the said two variables are first
defined (101.x.x.x.x)
Similarly, text of two notes in lines 24-31 is out of place.

Suggested Remedy
Remove the highlighted text
Move the text from notes into definition of individual variables, if there is any value in this
text at all.
Similar changes in 101.4.2.2.2

Proposed Response    Response Status: W
PROPOSED ACCEPT IN PRINCIPLE.
Remove text.
In 101.3.2.5.10 add variables DS_DataRate and US_DataRate referencing the definitions
in 100.2.6.1 & 100.2.6.2 resp.
<table>
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<tr>
<th>Comment</th>
<th>Type</th>
<th>Status</th>
<th>Suggested Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;OFDM channel 1 is always enabled.&quot; - this seems like a hard requirement, while the following sentence seems like an optional requirement.</td>
<td>T</td>
<td>D</td>
<td>Change &quot;OFDM channel 1 shall always be enabled. Optional OFDM channels 2, 3, 4, and 5 are enabled when configured for operation.&quot;</td>
</tr>
<tr>
<td>&quot;The PMA supports five channels where each channel is a 190 MHz OFDM channel (3800 subcarriers)&quot; - why do we need to complicate statements without any need?</td>
<td>T</td>
<td>D</td>
<td>Revise to read: &quot;The PMA supports five 190 MHz wide OFDM channels each containing 3800 subcarriers&quot;</td>
</tr>
<tr>
<td>&quot;Each OFDM channel is comprised of the following processing functions&quot; - I am confused how an RF spectrum can be composed of processing functions ...</td>
<td>T</td>
<td>D</td>
<td>Revise to read: &quot;Each OFDM channel is associated with the following processing functions&quot;</td>
</tr>
</tbody>
</table>

Proposed Response | Response Status | W | PROPOSED ACCEPT IN PRINCIPLE. |

Comment | Type | Status | Suggested Remedy |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>&quot;The Symbol Mapper multiplexes PCS data over all active subcarriers&quot; - multiplexes seems like a very bad word here.</td>
<td>T</td>
<td>W</td>
<td>Revise to read: &quot;The Symbol Mapper maps PCS data into active subcarriers&quot; - alternatively, &quot;spreads&quot; or &quot;distributes&quot; would be also fine, but &quot;maps&quot; seems to be the most appropriate given the name of the functional block itself.</td>
</tr>
</tbody>
</table>

Proposed Response | Response Status | W | PROPOSED ACCEPT IN PRINCIPLE. |

Comment | Type | Status | Suggested Remedy |
<table>
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<th></th>
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</tr>
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<tbody>
<tr>
<td>&quot;of the coax cable distribution network&quot;</td>
<td>T</td>
<td>D</td>
<td>Yes &quot;of the coax cable distribution network&quot;</td>
</tr>
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</table>

Proposed Response | Response Status | W | PROPOSED ACCEPT IN PRINCIPLE. |

Comment | Type | Status | Suggested Remedy |
<table>
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</thead>
<tbody>
<tr>
<td>&quot;The variable DSNrp represents the samples at the start of this N-point IDFT are copied and appended to the end of the IDFT output to give a sequence of length (N+DSNcp+DSNrp):&quot;</td>
<td>T</td>
<td>W</td>
<td>&quot;The variable DSNrp represents the provisioned duration, in OFDM clocks, of the DS windowing parameter (see Table 101-14) for the CLT. The DSNrp samples at the start of the N-point IDFT are copied and appended to the end of the IDFT output to give a sequence of length (N+DSNcp+DSNrp):&quot;</td>
</tr>
</tbody>
</table>

Proposed Response | Response Status | W | PROPOSED ACCEPT. |
Comment Type: T  Comment Status: D  Review
Table 101–15 is normative, don't need double normatives.
A larger question is why this table is in Cl 101 and not Cl 100.

SuggestedRemedy
row 1 change "shall always be" to "is always"
row 2 change "should be" to "is"
row 7 change "shall not" to "does not"
row 8 change "shall permit" to "permits"

Do we want to move this Table to Cl 100?

Proposed Response  Response Status: W  PROPOSED ACCEPT.
In addition to meeting the clock jitter requirements given above, the CLT is required to meet the phase noise specifications defined in Figure 100–1. In the event of a conflict between the clock jitter and the phase noise requirement, the CLT shall meet the more stringent requirement.

The first statement is a repetition of a requirement already existing in Clause 100 next to Table 100-1. Remove the first statement.

The second statement is not testable. Under what conditions would this be really required? If such conflicts are known to exist, they need to be spelled out and proper requirements need to be listed.

Suggested Remedy

Per comment

PROPOSED ACCEPT IN PRINCIPLE.

While I'm sympathetic to this argument I will leave the decision up to those more expert in RF than I.

If we leave the statement in it should point to Table 100-3 not Fig 100-1.

Table 101–9 contains a lot of descriptive text, which pertains to measurement subclause and not normative table itself.

Suggested Remedy

Move the following text to subclause to describe the measurement process for specific values:

The maximum transmission time skew between any two OFDM channels
The downstream clock timing is defined with respect to downstream PHY Link frame.
The CNU adjusts its clock to synchronize its own clock timing with PHY Link frame for proper operation.
The CNU acquires downstream clock timing from the downstream signal (pilots, preambles, or mixed pilots, preambles, and data).
The CNU achieves downstream signal acquisition (frequency and time lock) in .. for a device with no previous network frequency plan knowledge

The CNU has a timing acquisition accuracy

Remove the following parameters from the table - they have no numeric values. These should become hard requirements in the text itself:

Carrier Frequency Acquisition
Sampling rate
OFDM RF Transmission Synchronization

PROPOSED ACCEPT IN PRINCIPLE.

I agree these are mostly definitions and should be in the section text not a table. I don't see any as being part of testing.

See remein_3bn_21_0115.pdf
<table>
<thead>
<tr>
<th>CI 101 SC 101.4.3.3</th>
<th>P 147 L 46</th>
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<td>Hajduczenia, Marek</td>
<td>Bright House Network</td>
<td></td>
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</table>

**Comment Type** T  **Comment Status** D

"Each subcarrier in an OFDM channel is configured using the DS_ModTypeSC(n) variables" - I believe these are registers in Clause 45.

**Suggested Remedy**

Change to read "Each subcarrier in an OFDM channel is configured using DS_ModTypeSC(n) registers" - insert also cross reference to Clause 45 where these are defined.

Make sure these are not called "variables" but registers. There are plenty of locations where such terminology is still used and needs to be aligned accordingly.

**Proposed Response**  **Response Status** W

**PROPOSED REJECT.**

A prior comment from the Working Group Secretary specifically requested including a mapping table to Cl 45 (see Table 101-1) and instead of referring to registers refer instead to variable names. This avoids the implication that Cl 45, which is optional, is instead required.

<table>
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<th>CI 101 SC 101.4.3.3</th>
<th>P 147 L 52</th>
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<td>Hajduczenia, Marek</td>
<td>Bright House Network</td>
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</tbody>
</table>

**Comment Type** T  **Comment Status** D

"All devices in an EPoC network" - do you mean "all CNUs" ?

**Suggested Remedy**

Replace "All devices in an EPoC network" to "All CNUs".

**Proposed Response**  **Response Status** W

**PROPOSED ACCEPT IN PRINCIPLE.**

This 22 MHz band

<table>
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<th>P 148 L 27</th>
<th># 2806</th>
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<td>Hajduczenia, Marek</td>
<td>Bright House Network</td>
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**Comment Type** E  **Comment Status** D

"1.Excluded subcarriers" - "1" does not seem to be needed ;)

**Suggested Remedy**

Remove "1".

**Proposed Response**  **Response Status** W

**PROPOSED ACCEPT.**

Correct it should be excluded :)}
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

---

**Comment Type** T  **Comment Status** D

EPoC devices shall not transmit energy into a subcarrier that has been excluded from the OFDM channel (i.e., excluded subcarriers have zero amplitude). Typically there is a band edge Exclusion Band at both the top and bottom of the OFDM channel and there may be up to 14 exclusion bands internal to a single 192 MHz OFDM channel. Exclusion bands are limited to 20% or less of encompassed spectrum (see Table 101–10).

All of these rules call for an illustration of a spectrum with a typical allocation of the channel, exclusion bands, pilots, etc. to demonstrate what it is we are talking about.

**Suggested Remedy**

Insert a new figure showing example of a typical spectrum allocation, with exclusion band, pilots, nulled subcarriers, etc.

**Proposed Response**

PROPOSED REJECT.

Should the commentor submit a figure it will be considered.

---

**Comment Type** T  **Comment Status** D

"EPoC devices shall not transmit energy" - you probably mean "EPoC PHY"

**Suggested Remedy**

Change to "EPoC PHY shall not transmit energy"

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE.

An EPoC PHY shall not transmit energy

---

**Comment Type** T  **Comment Status** D

"The downstream OFDM frame pattern" - what is a "frame pattern"? It is used in just two locations in the whole draft and not defined anywhere.

**Suggested Remedy**

Remove the word "pattern" in this context, since it is meaningless.

**Proposed Response**

PROPOSED ACCEPT.
**Comment Type** T  **Comment Status** D

"This information is conveyed via" - what is "this information"?

**Suggested Remedy**

Suggest to reword "Information about the modulation pattern for downstream pilots is transferred to CNUs via"

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT IN PRINCIPLE.

I believe the intent of the sentence is to point to the block diagram. Statements regarding communication of pilot location are included later in this section.

Change

This information is conveyed via the Pilot Map function (see Figure 100–2) to

The pilot information is inserted via the Pilot Insertion function (see Figure 100–2)

**Comment Type** T  **Comment Status** D

Consistency in capitalization of functional block names: "Pilot insertion follows time and frequency interleaving, before IDFT processing" should be likely "The Pilot Insertion process follows the Time and Frequency Interleaving process and precedes the IDFT Processing"

**Suggested Remedy**

Per comment. Make sure that the names of individual functional blocks are consistent with the names used in Figures 100-2 through 6

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT.
Comment Type T  Comment Status D  Review
Scattered pilots have a nice figure showing how they are spread across different subcarriers. Is there any plan to add a similar figure for continuous pilots?

Suggested Remedy
Insert a new figure, similar to Figure 101–17, showing placement of continuous pilots. Overlapping between scattered and continuous pilots should be also demonstrated.

Proposed Response  Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Add reference to Figure 102-8 in 1)

Comment Type T  Comment Status D
"Table 101–11 provides the values of $d_1$, $d_2$, $d_3$, and $d_4$," - there is no mandatory requirement for continuous pilots placed around PHY Link to follow the placement described in Table 101-11.

Suggested Remedy
Add a "shall" statement making the placement of continuous pilots around PHY Link follow Table 101-11.

Proposed Response  Response Status W
PROPOSED ACCEPT IN PRINCIPLE.

Comment Type T  Comment Status D
"The CLT shall define a set of continuous pilots distributed as uniformly as possible" - now we have to define the precision for "as uniformly as possible".

Suggested Remedy
Change "as uniformly as possible" to "uniformly" and add informative text describing the allowed tolerances for the uniformity or how the placement of individual pilots is transferred to CNU.

Proposed Response  Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Change "as uniformly as possible" to "as uniformly as possible (see below)"

Note that the rest of this section provides a good description of "as uniformly as possible".

Comment Type T  Comment Status D
"The CLT ensures that there are no isolated active OFDM spectral regions that are not covered by continuous pilots." - it would be just sufficient to specify the maximum allowed spacing between neighboring continuous pilots across OFDM spectrum and leave out such imprecise statements out.

Suggested Remedy
Add a requirement on the maximum allowed spacing between neighboring continuous pilots across OFDM spectrum

Proposed Response  Response Status W
PROPOSED REJECT.
Such a requirement would not guarantee that the rule as stated would be fulfilled as there is no firm definition of a minimum size active spectral region.
Comment Type: T  Comment Status: D
"It is not practical to predefine the locations of this set of continuous pilots because of exclusion bands and excluded subcarriers." 0 unnecessary fluff. The standard says what it says and we do not need to explain why it does not say something else.

Suggested Remedy
Remove.

PROPOSED ACCEPT.

Comment Status: D  Response Status: W
Hajduczenia, Marek  Bright House Network

Comment Type: T  Comment Status: D
We should be referring to variables not CI 45 registers. "The CLT provides the continuous pilot placement definition via the 10GPASS-XR DS profile descriptor control registers (see 45.2.7a.1) using the PHY Link messaging formats contained in Clause 102."

Suggested Remedy
Change to "The CLT provides the continuous pilot placement definition via the 10GPASS-XR DS profile descriptor variables DS_ModTypeSC(n) using the PHY Link EPoC message block format contained in 102.2.3.3." use live link

PROPOSED ACCEPT.

Comment Status: D  Response Status: W
Remen, Duane  Huawei Technologies

Comment Type: E  Comment Status: D
EDITORS NOTE (to be removed prior to publication): in the above equation the term Ncp conflicted with an identical term used in the cyclic prefix definition. The Editor substituted the term Npc.

This has served it's purpose

Suggested Remedy
Remove

PROPOSED ACCEPT.
A lot of unnecessary fluff in the text:
In equation 101–4 Fmax refers to frequency in Hz of the highest frequency active subcarrier and Fmin refers to frequency in Hz of the lowest frequency active subcarrier of the OFDM channel. It is observed that the number of continuous pilots is linearly proportional to the frequency range of the OFDM channel. It may also be observed that the minimum number of continuous pilots defined cannot be less than 8, and the maximum number of continuous pilots defined cannot exceed 120. Therefore, the total number of continuous pilots, including the predefined ones, will be in the range 16 to 128, both inclusive.

Which seems to be more appropriate to a scientific paper than a standard.

Suggested Remedy
Revise to read:
"The parameter Fmax in Equation (101–4) describes the frequency (in Hz) of the highest (in frequency) active subcarrier and the parameter Fmin describes the frequency (in Hz) of the lowest (in frequency) active subcarrier of the OFDM channel. The number of continuous pilots ranges from 16 to 126, inclusive, including eight continuous pilots placed around the PHY Link channel."

Proposed Response
PROPOSED ACCEPT.

The value of M in Equation (101–4) is kept as a parameter that can be adjusted by the CLT. Nevertheless, the CLT ensures that M is in the range given by the following equation:
120 ? M 48 (101–5)
The typical value proposed for M is 48."

This is not intended to be a scientific paper - we just need to stick to the facts here.

Suggested Remedy
Revise to read:
"The value of parameter M in Equation (101-4) ranges from 48 to 120, inclusive. CLT has no way to assure that the operator does not configure the said parameter to a different value.

Proposed Response
PROPOSED ACCEPT IN PRINCIPLE.
See remein_3bn_16_0115 and related comment 3077.

The value of M in Equation (101–4) is kept as a parameter that can be adjusted by the CLT. We need to add this as a formal variable and include in CI 45.

Suggested Remedy
Replace "M" with CntPltSF
Add section 101.4.3.5.5 Variables with definition of CntPltSF
Add mapping of variable to Table 101-1
Add mdio variable to register 1.1900.9:3
All changes summarized in remein_3bn_16.pdf

Proposed Response
PROPOSED ACCEPT.
Correct file name is remein_3bn_16_0115.pdf
In Definition of CntPtLS (pg 77 in 9 change 6-bit to 7-bit)
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

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**Comment Type** T  **Comment Status** D

The CLT shall follow Step 1 through Step 6 and Step 8
Should be 1-8

**Suggested Remedy**
Change to read: The CLT shall follow Step 1 through Step 8:

**Proposed Response** Response Status W
PROPOSED ACCEPT.

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**Comment Type** T  **Comment Status** D

This statement is no longer true as we've moved the scrambler into the PMA
"Continually accepts a tx_unit (bit) from the PCS via the PMA_UNITDATA.request"

**Suggested Remedy**
change to read:
"Continually accepts bits from the Scrambler"

**Proposed Response** Response Status W
PROPOSED ACCEPT.

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**Comment Type** E  **Comment Status** D

EDITORS NOTE (to be removed prior to publication): we need a definition of "band edge".
The following is suggested: "(the boundary between an excluded subcarrier and a non-
excluded subcarrier)"

**Suggested Remedy**
Remove note - a definition exists (see 101.4.4.3.2)

**Proposed Response** Response Status W
PROPOSED ACCEPT.

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**Comment Type** E  **Comment Status** D

"Per OFDM symbol, converts bits per subcarrier to an array of QAM constellation points
using a two-dimensional array with an I and Q "bin" value per subcarrier. The bin array is
then passed to the Interleaver per completed OFDM symbol."

**Suggested Remedy**
to:
"Converts tx_unit bits to an array of QAM constellation points using a two-dimensional
array with an I and Q "bin" value for each subcarrier and passes these values to the
Interleaver."

**Proposed Response** Response Status W
PROPOSED ACCEPT.

**TYPE:** TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general

**COMMENT STATUS:** D/dispatched A/accepted R/rejected  RESPONSE STATUS: O/open W/written C/closed Z/withdrawn

**SORT ORDER:** Clause, Subclause, page, line

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SC 101.4.3.6.1 1/7/2015 5:14:02 PM
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**Comment**

- **Comment Type**: T
- **Comment Status**: D

**Comment**

I expect this is done when the current symbol is filled and not when we exhaust the supply of bits:

"When all available data bits are mapped for the current symbol, the Symbol Mapper increments to the lowest active subcarrier of the next OFDM symbol."

**SuggestedRemedy**

To:

"When the last active subcarrier of the current symbol is completed, counter k is reset to 1 and begins processing the next OFDM symbol."

**Proposed Response**

**Response Status**: W

**Review**

Remain, Duane

Hyawei Technologies

**Comment**

- **Comment Type**: T
- **Comment Status**: D

This section is out of place, per block dia (fig 100-2) this should be above the scrambler.

**SuggestedRemedy**

Move to 101.4.3.6 and renumber.

**Proposed Response**

**Response Status**: W

**PROPOSED ACCEPT.**

---

**Comment**

- **Comment Type**: E
- **Comment Status**: D

NI wrong format

**SuggestedRemedy**

italics with i subscripted.

**Proposed Response**

**Response Status**: W

**PROPOSED ACCEPT.**

---

**Comment**

- **Comment Type**: E
- **Comment Status**: D

References typically do not include titles and page number

**SuggestedRemedy**

remove title and page number.

**Proposed Response**

**Response Status**: W

**PROPOSED ACCEPT.**
Comment Type: T  Comment Status: D

How can you time interleave a single symbol?

"The CLT first applies a time interleaver to an OFDM symbol worth of NI (see Equation (101–10)) subcarriers for the single IDFT to get a new set of NI subcarriers. The CLT then subjects these NI subcarriers to frequency interleaving."

Suggested Remedy:

Change to:

The CLT first applies a time interleaver to all NI subcarriers (see Equation (101–10)) in a group of DS_TmIntrlv OFDM symbols. The CLT then subjects these reordered NI x DS_TmIntrlv subcarriers to frequency interleaving.

Add DS_TmIntrlv to table 101-1

DS time interleaving | DS OFDM control | 1.1907.10:7 | DS_TmIntrlv | 7 | 10:7

Add definition for DS_TmIntrlv

TYPE: Integer

This variable determines the number of symbols in the downstream time interleaver. The value of TmIntrlv is between 1 and 32 inclusive.

Proposed Response: PROPOSED ACCEPT.

Comment Type: E  Comment Status: D

Rather than refer to the section we should refer to the equation here.

Change

Where, NI is the number of data subcarriers and scattered pilots in an OFDM symbol. See section 101.4.3.6.2.

Suggested Remedy:

To

Where, NI (see equation 101-10) is the number of data subcarriers and scattered pilots in an OFDM symbol.

Proposed Response: Response Status: W

PROPOSED ACCEPT.

Comment Type: T  Comment Status: D

This statement is not precisely correct as there is a separate time interleaver for the PHY Link.

"There is a single Time and Frequency interleaving function per OFDM channel."

Suggested Remedy:

Change to:

"There is a single Time and Frequency interleaving function per OFDM channel for the MAC data path."

Proposed Response: Response Status: W

PROPOSED ACCEPT.
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</table>

The following statement should only refer to frequency interleaving:
"The CLT shall frequency interleave the OFDM symbols after the OFDM symbols have been time interleaved. The CLT shall not interleave continuous pilots, excluded subcarriers, or the subcarriers of the PHY Link."

Suggested Remedy
Change to read:
"The CLT shall perform frequency interleaving after time interleaving; subcarriers containing continuous pilots, excluded subcarriers, or PHY Link data are not frequency interleaved."

Proposed Response
PROPOSED ACCEPT.

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"m = L" should be in italics

Suggested Remedy
per comment

Proposed Response
PROPOSED ACCEPT.

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<td>PROPOSED ACCEPT.</td>
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</table>

Wording can be better than "follows the following process"

Suggested Remedy
performs the following

Proposed Response
PROPOSED ACCEPT.
**Comment Type** T | **Comment Status** D | **Review**
---|---|---
Another pesky Cl 45 ref.
"Note that the complex numbers for the update coefficients values are in the form of I+j×Q where I and Q are both using 16-bit fractional two's complement notation -s1.14" (sign bit, integer bit, and 14 fractional bits). See 45.x.x.x."
Number format is Q2.14 not s2.14

**Suggested Remedy**
Combine with previous para and reword to:
"The variables EQ_CoefR(k) and EQ_CoefI(k) are updates to the real and imaginary (respectively) coefficient values in the form of I+j×Q where I and Q are both using 16-bit fractional two's complement notation (Q2.14 format).

**Proposed Response** W
PROPOSED ACCEPT.

---

**Comment Type** E | **Comment Status** D
shall us one?

**Suggested Remedy**
shall use one

**Proposed Response** W
PROPOSED ACCEPT.

---

**Comment Type** T | **Comment Status** D
Per Table 101-10 this TBD s/b 190 MHz

**Suggested Remedy**
Change row to read:
Maximum OFDMA channel encompassed spectrum | 190 MHz

**Proposed Response** W
PROPOSED ACCEPT.
<table>
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<td>L 11</td>
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<td>P 187</td>
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</table>

**Comment Type:** E  **Comment Status:** D

*"modulated per the 10GPASS-XR US profile descriptor control (see 45.2.7a.2)" should be per US_ModTypeSC(n)*

**Suggested Remedy**

- to read:
  - modulated per the US_ModTypeSC(n) variable where n is the subcarrier index.

**Proposed Response**

- Response Status: W
  - PROPOSED ACCEPT.

**Comment Status:** D

*Editor's Note (to be removed prior to publication): the TF has agreed that only one upstream profile is allowed to be in use at a time by all CNUs. Text to support this position is requested from the TF. See 101.4.4.4

**Suggested Remedy**

- strike note.

**Proposed Response**

- Response Status: W
  - PROPOSED ACCEPT.

**Comment Status:** D

*This statement is no longer valid "DP is either data or pilot element."

**Suggested Remedy**

- strike

**Proposed Response**

- Response Status: W
  - PROPOSED ACCEPT.

**Comment Status:** D

*We should introduce the PHY Link frame: *Each frame is composed of message blocks*"

**Suggested Remedy**

- To:
  - Both the US and the DS PHY Link include a frame structure. Each frame is composed of message blocks

**Proposed Response**

- Response Status: W
  - PROPOSED ACCEPT.

**Comment Status:** D

*This statement is no longer valid "DP is either data or pilot element."

**Suggested Remedy**

- strike

**Proposed Response**

- Response Status: W
  - PROPOSED ACCEPT.

**Comment Status:** D

*We should mention Probing in this introduction.

**Suggested Remedy**

- Add:
  - "The upstream superframe (see 101.4.4.3) begins with the Probe Period. CNU PHY Discovery responses and probing are performed during the Probing Period. The discovery response is used for initial CNU bring up and is fully described in 102.2.1.4. Probing is used to perform fine ranging and periodic link maintenance tasks and is described in 102.4.2."

**Proposed Response**

- Response Status: W
  - PROPOSED ACCEPT.

**Comment Status:** D

*Introduce abbreviations: *both the US and the DS directions*"

**Suggested Remedy**

- to
  - "both the upstream (US) and the downstream (DS) directions"

**Proposed Response**

- Response Status: W
  - PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

Comment Type | Comment Status | Suggested Remedy | Proposed Response | Response Status
--- | --- | --- | --- | ---
T | D | This was changed recently: "In a multi OFDM channel PHY each OFDM channel has a PHY Link." | PROPOSED ACCEPT. | W

Comment Type | Comment Status | Suggested Remedy | Proposed Response | Response Status
--- | --- | --- | --- | ---
TR | D | Need a high level requirement that states the CLT and CNU support both US and DS PHY Link. | PROPOSED ACCEPT. | W

Comment Type | Comment Status | Suggested Remedy | Proposed Response | Response Status
--- | --- | --- | --- | ---
T | D | the "Fixed number of symbols" in Figure 102–2 is known. | PROPOSED ACCEPT. | W

Comment Type | Comment Status | Suggested Remedy | Proposed Response | Response Status
--- | --- | --- | --- | ---
T | D | Should we mention Probing as a "signaling type" here? The upstream PHY Link Message Engine also has the one additional PHY to PHY signaling types; PHY Discovery Response. | PROPOSED ACCEPT. | W

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general
COMMENT STATUS: D/dispatched  A/accepted  R/rejected
RESPONSE STATUS: O/open  W/written  C/closed  Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl 102 SC 102.1 P 187 L 9 # 3102
Remain, Duane Huawei Technologies

Cl 102 SC 102.1 P 188 L 24 # 3163
Remain, Duane Huawei Technologies

Cl 102 SC 102.1.1 P 188 L 5 # 3103
Remain, Duane Huawei Technologies

Cl 102 SC 102.1.3 P 190 L 3 # 3157
Remain, Duane Huawei Technologies

Cl 102 SC 102.1.3 P 190 L 32 # 3104
Remain, Duane Huawei Technologies

Cl 102 SC 102.1.3 P 190 L 35 # 3105
Remain, Duane Huawei Technologies

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Comment: Does this bit transmission order also apply to PHY Discovery and Probing signaling types? Once a PHY Link message block has been created the stream of bytes is converted into a stream of bits, MSB first, as illustrated in Figure 102–5.

**Suggested Remedy:**

I don't know.

**Proposed Response:**

PROPOSED REJECT.

No suggested remedy

---

Comment: EDITORS NOTE (to be removed prior to publication): In draft 1.0 the figure above was redrawn in native FrameMaker format and to be consistent with other figures in this series, original authors are advised to review.

By now this should have happened.

**Suggested Remedy:**

Strike EDITORS NOTE.

**Proposed Response:**

PROPOSED ACCEPT.
This statement regarding the preamble should be normative.

The downstream Preamble is a fixed pattern of 64 bits that fill the first eight symbols of the PHY Link frame.

**Suggested Remedy**

Change to:

The downstream Preamble shall be a fixed pattern of 64 bits as illustrated in Table 102–4, modulated using binary phase-shift keying (BPSK), that fill the first eight symbols of the PHY Link frame.

Add to end of para:

Detection of the PHY Link is the first action a CNU must take to join an EPoC network.

Reword next para from:

"The CLT shall modulate the subcarriers in the DS PHY Link preamble (the first eight symbols in the PHY Link frame) using binary phase-shift keying (BPSK), as shown in Table 102–4 and map each of the binary bits shown to a BPSK constellation point in the complex plane using the following transformation;" to:

"The CLT maps each of the binary bits shown in Table 102–4 to a BPSK constellation point in the complex plane using the following transformation;"

**Proposed Response**

PROPOSED ACCEPT.

---

There are at least four instances of the following statement in clause 102 "The contents of the [message block name] is protected by a CRC(32). See 3.2.9 for a description of how this field is calculated". In no case do we describe what action should be taken or not taken if the CRC does not match.

**Suggested Remedy**

Remove existing statements and add the following para at the end of section 102.2.3

The contents of the each message block is protected by a CRC(32). See 3.2.9 for a description of how this field is calculated. The CNU shall calculate a CRC(32) on the data fields within each message block received and, if the calculated CRC(32) does not match the received CRC(32) discard the message and take no action based on it.

Add the following to the end of section 102.3.3.

The contents of the each message block is protected by a CRC(32). See 3.2.9 for a description of how this field is calculated. The CLT shall calculate a CRC(32) on the data fields within each message block received and, if the calculated CRC(32) does not match the received CRC(32) discard the message and take no action based on it.

**Proposed Response**

PROPOSED ACCEPT.

---

Confusion:

"The remaining subfields set per the corresponding"

**Suggested Remedy**

To:

"The remaining subfields set the corresponding"

**Proposed Response**

PROPOSED ACCEPT.
### IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

#### Draft 1.1

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**TYPE:** TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general  
**COMMENT STATUS:** D/dispatched  A/accepted  R/rejected  
**RESPONSE STATUS:** O/open  W/written  C/closed  Z/withdrawn  
**SORT ORDER:** Clause, Subclause, page, line

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1/7/2015 5:14:02 PM
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Proposed Responses

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Comment Type: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general

Comment Status: D/dispatched  A/accepted  R/rejected     RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

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Cl 102 SC 102.4.1.4 P 217 L 21 # 3117
Remen, Duane Huawei Technologies

Comment Type T Comment Status D

The following statement is not quite true. PHY Disc response is contained in 128 SC's.

"The PHY Discovery Response shall include a spectrum of 128 contiguous subcarriers ..."

Suggested Remedy

to

"The PHY Discovery Response shall be contained in a spectrum of 128 contiguous subcarriers ..."

Proposed Response Response Status W

PROPOSED ACCEPT.

---

Cl 102 SC 102.4.1.4 P 217 L 34 # 3099
Remen, Duane Huawei Technologies

Comment Type T Comment Status D

In Figure 102–20 "US Frame" should be US Superframe

Suggested Remedy

per comment

Proposed Response Response Status W

PROPOSED ACCEPT.

---

Cl 102 SC 102.4.1.4 P 217 L 6 # 3050
Remen, Duane Huawei Technologies

Comment Type E Comment Status D

We no longer have a PHY Discovery Instruction

Suggested Remedy

remove phrase

Proposed Response Response Status W

PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

Draft 1.1

Comment Type  T  Comment Status  D

Figure 102–21 NCP & NRP should be US_Rcp & US_Nrp resp.

Suggested Remedy
Update figure

Reword:
"This duplication is accomplished by duplicating the time domain samples at the output of the iFFT in the upstream data path for these signals, and adding cyclic prefix and windowing as illustrated in Figure 102–21."
to:
"This duplication is accomplished by duplicating the time domain samples at the output of the iFFT in the upstream data path for these signals, and adding cyclic prefix and windowing (per variables US_Ncp and US_Nrp respectively) as illustrated in Figure 102–21."

In Table 102-3 add entries for US_Ncp and US_Nrp:

| US time interleaving | US OFDM control | 1.1907.10:7 | US_TmIntrlv | 7 | 10:7
| US windowing | US OFDM control | 1.1907.6:4 | US_Nrp | 7 | 6:4

PROPOSED ACCEPT.

Response Status  W

Comment Type  T  Comment Status  D

Variable names for MAC address are incorrect. Also the way we've specified read instructions they don't include data so the MAC address cannot be included in a read.

Suggested Remedy
Change variable names to NewCNU_MAC0 through NewCNU_MAC2
Change Read to Write

PROPOSED ACCEPT.

Comment Type  T  Comment Status  D

This SD needs to be aligned to the EPCH added in the last round.

Suggested Remedy
See updated text and figure in remain_3bn_19_0115.pdf section 102.4.1.7
Can we get rid of the TBD?

PROPOSED ACCEPT IN PRINCIPLE.

Leave TBD in for now

Comment Type  T  Comment Status  D

EDITORS NOTE (to be removed prior to publication); should we include an item in the above list for fine ranging (or whatever we decide to call it now that we don't have fine ranging)?

Suggested Remedy
Add:
3) Upstream fine tuning. During CNU bring up the CLT can use wideband probing to fine tune the new CNU to the upstream OFDMA frame and superframe.
Remove the note.

PROPOSED ACCEPT.
Comment Type: T  Comment Status: D

It would be better if we used the proper variable names in this statement:
"The CNU uses the start subcarrier and subcarrier skipping parameters"

Suggested Remedy to
"The CNU uses the PrbStrtSC and PrbSkp variable"

Proposed Response  Response Status: W
PROPOSED ACCEPT.

Comment Type: E  Comment Status: D

We should be consistent in our reference to this: "EPoC Probe Control"

Suggested Remedy
Add "Header"

Proposed Response  Response Status: W
PROPOSED ACCEPT.

Comment Type: T  Comment Status: D

In these examples it would be better to include the proper variable names for symbol ID.
*1) Allocate a specific probing symbol to a single CNU.*
*1) Allocate the same probing symbol at any given time to more than one CNU.*

Suggested Remedy
Change to:
*1) Allocate a specific probing symbol to a single CNU using StrtSym and SymNum.* (in 2x)
*1) Allocate the same probing symbol at any given time to more than one CNU using StrtSym and SymNum.*

Proposed Response  Response Status: W
PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

Cl 102 SC 102.4.2.6 P 226 L 9 # 3128
Remeil, Duane Huawei Technologies

Comment Type T Comment Status D
A reasonable restriction on StrtSym & SymNum is that their sum be <= 6

SuggestedRemedy
Add the following to the description of both variables:
"The sum of StrtSym and SymNum is less than or equal to six."

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 102 SC 102.4.3 P 227 L 46 # 3053
Remeil, Duane Huawei Technologies

Comment Type E Comment Status D
EDITORS NOTE has served it's purpose. Ref to Table 102-12 in error

SuggestedRemedy
remove note
add live ref to Table 102-13

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 103 SC 103.2.2.1 P 246 L 11 # 2847
Zhang, Jin Marvell Semiconductor

Comment Type TR Comment Status D
FEC_Payload_SIZE needs to be determined

SuggestedRemedy
The value should be 1760.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 103 SC 103.2.2.1 P 246 L 16 # 2845
Zhang, Jin Marvell Semiconductor

Comment Type T Comment Status D
FEC_CODEWORD_SIZE needs to be determined. In accordance with the
PMD_Overhead function, a fractional number constant FEC_CODEWORD_SIZE_FRAC
should be added.

SuggestedRemedy
The value of FEC_CODEWORD_SIZE is 1987 bytes.

The definition of FEC_CODEWORD_SIZE_FRAC is
FEC_CODEWORD_SIZE_FRAC
TYPE: FRACTIONI
This constant represents the exact size of FEC codeword in fraction of octets, because the
parity bit is not multiple of 65 bits
Value: (1760+2944/13)

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
As proposed for FEC_CODEWORD_SIZE

For FEC_CODEWORD_SIZE_FRAC:
FEC_CODEWORD_SIZE_FRAC
TYPE: real number
This constant represents the exact size of the FEC codeword in octets. The value is
rounded to TBD decimal places.
Value: 1986.461538461538 (1760+2944/13)

It would be good to determine a precision during the meeting
<table>
<thead>
<tr>
<th>Cl 103 SC 103.2.2.3</th>
<th>P 247</th>
<th>L 14</th>
<th>#2846</th>
<th>Comment Type</th>
<th>T</th>
<th>Comment Status</th>
<th>D</th>
<th>Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zhang, Jin</td>
<td></td>
<td></td>
<td></td>
<td>Marvell Semiconductor</td>
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<tr>
<td>Comment Type</td>
<td>T</td>
<td>Comment Status</td>
<td>D</td>
<td>Review</td>
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</tr>
<tr>
<td>fecOffset needs to be modified in accordance with the CLT Control multiplexer diagram.</td>
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<tr>
<td><strong>SuggestedRemedy</strong></td>
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<tr>
<td>fecOffset TYPE: 32 bit unsigned</td>
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<tr>
<td>A variable that advances by 1 after every octet time. After reaching the value of FEC_CODEWORD_SIZE, this variable is on hold for a period of time for PMD derating and then reset to zero. The diagram of fecOffset can be seen at Figure 103-x. (Please see attached file zhang_3bn_03_0115.pdf for diagram, also available in vsd format).</td>
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</tbody>
</table>

**PROPOSED REJECT.**

There is no definition of the following terms:

- Octet_CLK,
- derating_timer,
- initial_derating_delay

<table>
<thead>
<tr>
<th>Cl 103 SC 103.2.2.3</th>
<th>P 249</th>
<th>L 4</th>
<th>#2840</th>
<th>Comment Type</th>
<th>T</th>
<th>Comment Status</th>
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<td>Marvell Semiconductor</td>
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<td><strong>SuggestedRemedy</strong></td>
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</tr>
<tr>
<td>The variable PhyOutDataSize and PhyInDataSize are unclear how to determine their values. It also seems that these two variables are not necessary in equation (103-1). The beta parameter can just be defined with XGMII_rate and PCS_rate.</td>
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**PROPOSED ACCEPT IN PRINCIPLE.**

Need to ID a new home for Eq 103-1. Place under PMD_Overhead definition (see Comment # 2844).

<table>
<thead>
<tr>
<th>Cl 103 SC 103.2.2.4</th>
<th>P 250</th>
<th>L 11</th>
<th>#2844</th>
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<tr>
<td><strong>SuggestedRemedy</strong></td>
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<tr>
<td>The definition of PMD_Overhead function needs to be updated in accordance with the diagram of CLT control multiplexer.</td>
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**PROPOSED ACCEPT.**

Please see the attached text zhang_3bn_02_0115.pdf, also available in .docx format.

<table>
<thead>
<tr>
<th>Cl 103 SC 103.2.2.7</th>
<th>P 255</th>
<th>L 1</th>
<th>#2843</th>
<th>Comment Type</th>
<th>T</th>
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<tr>
<td>Zhang, Jin</td>
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<td>Marvell Semiconductor</td>
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<td><strong>SuggestedRemedy</strong></td>
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<tr>
<td>Use the modified CLT control multiplexer diagram as attached in zhang_3bn_01_0115.pdf, also available in .vsd format.</td>
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**PROPOSED ACCEPT.**

<table>
<thead>
<tr>
<th>Cl 103 SC 103.3.3</th>
<th>P 259</th>
<th>L 11</th>
<th>#2160</th>
<th>Comment Type</th>
<th>T</th>
<th>Comment Status</th>
<th>D</th>
<th>Review</th>
</tr>
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<tr>
<td>Remein, Duane</td>
<td></td>
<td></td>
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<tr>
<td><strong>SuggestedRemedy</strong></td>
<td></td>
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</tr>
<tr>
<td>PIC OM3 points to this section but there is no shall in the section. Cl 77 excludes the shall while cl 64 includes it. TEXT: Each CNU waits a random amount of time before transmitting the REGISTER_REQ MPCPDU that is shorter than the length of the discovery window.</td>
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</tbody>
</table>

**PROPOSED ACCEPT.**

<table>
<thead>
<tr>
<th>Cl 103 SC 103.3.3</th>
<th>P 259</th>
<th>L 11</th>
<th>#2160</th>
<th>Comment Type</th>
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<tbody>
<tr>
<td>Remein, Duane</td>
<td></td>
<td></td>
<td></td>
<td>Huawei Technologies</td>
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<tr>
<td><strong>SuggestedRemedy</strong></td>
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</tr>
<tr>
<td>Change to: Each CNU shall wait a random amount of time before transmitting the REGISTER_REQ MPCPDU that is shorter than the length of the discovery window.</td>
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**PROPOSED ACCEPT.**
<table>
<thead>
<tr>
<th>Cl 103</th>
<th>SC 103.3.5 Gate</th>
<th>P 275</th>
<th>L 38</th>
<th># 3159</th>
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<td>Huawei Technologies</td>
<td><strong>Comment Type</strong></td>
<td><strong>Comment Status</strong></td>
<td><strong>SuggestedRemedy</strong></td>
</tr>
<tr>
<td>T</td>
<td>D</td>
<td>I believe this phrase was added to accommodate TDD and should be removed; &quot;and the DA field differs from the local address of the CLT&quot;</td>
<td>remove the phrase</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cl 103</th>
<th>SC 103.3.6.2</th>
<th>P 286</th>
<th>L 16</th>
<th># 3161</th>
</tr>
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<td><strong>Comment Type</strong></td>
<td><strong>Comment Status</strong></td>
<td><strong>SuggestedRemedy</strong></td>
</tr>
<tr>
<td>T</td>
<td>D</td>
<td>PIC MP7 points to this section but there is no shall in the section. Both Cl 77 and 64 exclude the shall. TEXT: CNUs issue REPORT messages periodically in order to maintain link health at the CLT as defined in 103.3.4.</td>
<td>Change to: ONUs shall issue REPORT messages periodically in order to maintain link health at the OLT as defined in 77.3.4.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cl 103</th>
<th>SC 103.3.6.2</th>
<th>P 287</th>
<th>L 2</th>
<th># 3166</th>
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<td>Huawei Technologies</td>
<td><strong>Comment Type</strong></td>
<td><strong>Comment Status</strong></td>
<td><strong>SuggestedRemedy</strong></td>
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<tr>
<td>TR</td>
<td>D</td>
<td>Shall with no PIC statement. The following statement has no PICS statement. TEXT: The reported length shall be adjusted and rounded up to the nearest time_quantum to account for the necessary inter–frame spacing and preamble. FEC parity overhead is not included in the reported length. This problem exists in Cl 77 also.</td>
<td>Editor to coordinate resolution with maintenance and apply a similar resolution as that accepted in P802.3bx. Suggested remedy there is: Add PICS MP8a</td>
<td>77.3.6.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cl 103</th>
<th>SC 103.5.4.2</th>
<th>P 296</th>
<th>L 31</th>
<th># 3162</th>
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<td><strong>Comment Status</strong></td>
<td><strong>SuggestedRemedy</strong></td>
</tr>
<tr>
<td>T</td>
<td>D</td>
<td>OM5 pointing to incorrect section (103.3.3.4) OM6 pointing to incorrect section (103.3.3.5)</td>
<td>Change to 103.3.4 Change to 103.3.5 resp.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Cl 45</th>
<th>SC 45.2</th>
<th>P 27</th>
<th>L 5</th>
<th># 3055</th>
</tr>
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<tr>
<td>Remein, Duane</td>
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<td><strong>Comment Type</strong></td>
<td><strong>Comment Status</strong></td>
<td><strong>SuggestedRemedy</strong></td>
</tr>
<tr>
<td>E</td>
<td>D</td>
<td>Due to changes that will be introduced in 802.3 2015 para and register numbering may become incorrect.</td>
<td>Add editors note: EDITORS NOTE (to be removed prior to publication): Paragraph and register numbering will need to be reviewed and updated after release of 802.3 2015.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>Comment Type</td>
<td>Comment Status</td>
<td>Proposed Response</td>
<td>Comment Status</td>
<td>Proposed Response</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>E</td>
<td>D</td>
<td>W</td>
<td>D</td>
<td>W</td>
</tr>
<tr>
<td>I believe 802.3bj was published in June 2014</td>
<td></td>
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</tr>
<tr>
<td>Change publication date for 802.3bj globally, and make sure it is now part of the frontmatter with the proper scope statement.</td>
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</tr>
<tr>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
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</tr>
<tr>
<td>On pg 27 line 4 add Editors note reading: &quot;EDITORS NOTE (to be removed prior to publication): Paragraph and register numbering will need to be reviewed and updated after release of 802.3 2015.&quot;</td>
<td></td>
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</tr>
<tr>
<td>Change editing instruction pg 30 ln 3 to read: “Change the two identified reserved rows in Table 45-3 and insert new rows as follows:” Add: &quot;EDITORS NOTE (to be removed prior to publication): align Table 45-3 with 802.3 2015 after ballotted.”</td>
<td></td>
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</tr>
<tr>
<td>Change editing instruction pg 32 ln 3 to read: “Change the identified reserved row in Table 45-6 and insert a new row as follows:” Add: &quot;EDITORS NOTE (to be removed prior to publication): align Table 45-6 with 802.3 2015 after ballotted.”</td>
<td></td>
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</tr>
<tr>
<td>Change editing instruction pg 32 ln 45 to read: “Change Table 45-7 as follows:” Add: &quot;EDITORS NOTE (to be removed prior to publication): align Table 45-7 with 802.3 2015 after ballotted.”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change editing instruction pg 33 ln 1 to read: &quot;Insert 45.2.1.13b and Table 45–15b below the last paragraph in 45.2.1.13a” Add: &quot;EDITORS NOTE (to be removed prior to publication): align Editing Instruction above and Table 45-15b with 802.3 2015 after ballotted.”</td>
<td></td>
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</tr>
<tr>
<td>Title of 45.2.1.109.1 reads: “DS OFDM freq ch1” but the register name is “DS OFDM freq ch 1” in Table 45–78c - note the extra space between “ch” and “digit”</td>
<td></td>
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<tr>
<td>Align the subclause heading names with the names of registers</td>
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<tr>
<td>PROPOSED ACCEPT.</td>
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</tr>
<tr>
<td>Errant comma: 1.1902,15:0</td>
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</tr>
<tr>
<td>Changed to 1.1902.15:0</td>
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<tr>
<td>The assignment is not are</td>
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</tr>
<tr>
<td>Changed all “assignment ... are” to “assignment .... is”</td>
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<tr>
<td>The draft still has plenty of empty lines</td>
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<tr>
<td>Exercize the draft and remove unnecessary empty lines</td>
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<tr>
<td>PROPOSED ACCEPT.</td>
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</tbody>
</table>
Comment Type: ER
Comment Status: D
The text of the NOTE does not have a proper style. See 802.3-2012, section 1, page 56, for proper style.

Suggested Remedy
Per comment

Proposed Response: PROPOSED ACCEPT.
s/b pg 39
Replace "Note: " with "NOTE-"

Comment Status: D
Response Status: W

Hajduczenia, Marek
Bright House Network

Comment Type: T
Comment Status: D
"The assignment of bits in the US OFDMA pilot pattern registers are shown in Table 45-78x. " - it is actually shown in "Table 45–78f"

Suggested Remedy
Per comment

Proposed Response: PROPOSED ACCEPT.

Comment Status: D
Response Status: W

Remein, Duane
Huawei Technologies

Comment Type: E
Comment Status: D
(Register should be plural)
same for 45.2.1.123, 45.2.1.124 & 45.2.1.125, 45.2.1.126, 45.2.1.127, 45.2.7a.1, 45.2.7a.2, and 45.2.7a.3

Suggested Remedy
Changed to (Registers)

Proposed Response: PROPOSED ACCEPT.

Comment Status: D
Response Status: W

Remein, Duane
Huawei Technologies

Comment Type: E
Comment Status: D
The CNU_ID assigned flag is used ... should refer to the register number not the name.

Suggested Remedy
Change to:
The value of bit 1.1915:15 is used

Proposed Response: PROPOSED ACCEPT.
The Allowed CNU_ID bits ... should refer to the register number not the name.

**Suggested Remedy**

Change to:

The value of bits 1.1915:14 through 1.1915:0 are used to

**Proposed Response**

Response Status: W

PROPOSED ACCEPT.

---

New CNU Range units need to be defined. We have two obvious options:

- TQ (16 ns or 1047.576 us max)
- OFDM clock (1/204.8 MHz or 319 us max)

Also should refer to register bits not name.

**Suggested Remedy**

use OFDM Clock.

Change from:

The New CNU Range bits are an integer that indicates the range of the CNU corresponding to Allowed CNU_ID (see 102.4) in units of TBD.

to

Register bits 1.1916.15 through 1.1916.0 form an integer indicating range of the CNU corresponding to Allowed CNU_ID (see 102.4) in units of OFDM clock (1/204.8 MHz).

Remove "(in TBD)" from table 45-78I

**Proposed Response**

Response Status: W

PROPOSED ACCEPT.

---

IEEE style guide precludes sub-section with only one section. Combine Sections 45.2.1.119 and 45.2.1.119.1

**Suggested Remedy**

Remove section 45.2.1.119.1 and change section to read

45.2.1.119 DS PHY Link frame counter bit definitions (Register 1.1921)

Register 1.1921.15 through 1.1921.0 represent the DS PHY Link frame count. This counter is incremented at the beginning of the PHY Link frame and, on terminal count, rolls over to zero. The assignment of bits in the DS PHY Link frame counter bit definition is shown in Table 45–78m.

**Proposed Response**

Response Status: W

PROPOSED ACCEPT.
IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 2nd Task Force review comments

Proposed Responses

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**Comment Type** E  
**Comment Status** D  
**SuggestedRemedy**  
Change (1.1922 and 1.1923) to (Registers 1.1922 and 1.1923)

**PROPOSED ACCEPT.**

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**Comment Type** E  
**Comment Status** D  
**SuggestedRemedy**  
Remove section 45.2.1.120.1 and change section to read 45.2.1.120 PHY timing offset (Registers 1.1922 and 1.1923)  
Registers 1.1923 through 1.1922 form a signed 32-bit integer in units of 1/204.8 MHz. Bit 1.1922.0 is the LSB of this parameter and bit 1.1923.15 is the MSB. A negative value causes the timing of the CNU to be delayed. Register 1.1923.14 is the sign bit. 

**PROPOSED ACCEPT IN PRINCIPLE.**

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**Comment Type** E  
**Comment Status** D  
**SuggestedRemedy**  
Remove section 45.2.1.121.1 and change section to read 45.2.1.121 PHY power offset (Register 1.1924)  
Register bits 1.1924:7 through 1.1924:0 represent a signed 8-bit value in units of 1/4 dB. The PHY power offset is used to set the CNU transmitter power by specifying the absolute change in transmission power level the CNU is to make in order that transmissions arrive at the CLT at the desired power level. For more information on the use of this register see 102.4. The assignment of bits in the PHY power offset bit definition is shown in Table 45–78o.

**PROPOSED ACCEPT.**

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**Comment Type** T  
**Comment Status** R  
**SuggestedRemedy**  
My searches come up empty - please add normative reference for the said format.

**PROPOSED ACCEPT IN PRINCIPLE.**

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**Comment Type** T  
**Comment Status** R  
**SuggestedRemedy**  
My searches come up empty - please add normative reference for the said format.

**PROPOSED ACCEPT IN PRINCIPLE.**

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**TYPE:** TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general  
**COMMENT STATUS:** D/dispatched A/accepted R/rejected  
**RESPONSE STATUS:** O/open W/written C/closed Z/withdrawn  
**SORT ORDER:** Clause, Subclause, page, line  
**Page 62 of 63 1/7/2015 5:14:03 PM**
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