Cl **00** *SC* **0** *P* **130** *L* **41** # 2217
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Agree on terms:
non-excluded subcarriers (102.4.3.5)

SuggestedRemedy

Change all instances (3) of "non-excluded subcarriers" to "active subcarriers"

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **73** *L* **43** # 2260
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Equation numbering style in not per 802.3 template. Should be (CCC-N) where CCC is the clause number and N is a running number in that clause.

SuggestedRemedy

Align equation numbering in all clauses to latest 802.3 template style.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **80** *L* **6** # 2248
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *NCP*

Use of the term NCP is inconcsstent and contradictory. Sometimes it appears as Ncp (subscripted as on pg 80 line 6) and refers to cyclic prefix length. Sometime (see pg line) it appears as NCP (subscripted) and refers to cyclic prefix length. Lastly it sometimes appears as NCP (no subscripting) and refers to Next Codeword Pointer. This is confusing and misleading

SuggestedRemedy

When used to refer to cyclic prefix length use NCP with CP subscripted.
When used to refer to Next Codeword Pointer replace with "FEC Codeword Pointer". (see related comments and remein_3bn_01_0814.pdf).

Proposed Response *Response Status* **O**

Cl **01** *SC* **4.280a** *P* **22** *L* **34** # 2275
Powell, Bill Alcatel-Lucent

Comment Type **T** *Comment Status* **X**

1.4.2.280A OFDM channel (definition TBD) - Proposed definition

SuggestedRemedy

Suggest definition derived from vI01 D3.1 PHY spec:

OFDM channel: A data transmission channel in which a large number of closely-spaced or overlapping very-narrow bandwidth orthogonal QAM signals are transmitted. Each of the QAM signals called subcarriers, carries a small percentage of the total payload at a very low data rate.

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.1.4** *P* **68** *L* **13** # 2257
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

There is a conflict in the use of the term "NCP"; in some cases it refers to cyclic prefix length and at other times it refers to Next Codeword Pointer. Search the draft for the term "NCP"; when it refers to next codeword pointer, replace it with "FEC Codeword Pointer". In figures the abbreviation "FCP" may be used.

SuggestedRemedy

In Figure 100-2 (& 100-3) Replace "NCP ..." with "FCP ..."

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.1.4** *P* **69** *L* **49** # 2244
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Figures 100-2 & 100-3 only illustrate the transmitter side not the entire PCS/PMA & PMD as implied in the figure title.

SuggestedRemedy

Change figure titles from:
"Functional blocks within 10GPASS-XR-D CLT PCS, PMA, and PMD sublayers" &
"Functional blocks within 10GPASS-XR-U CNU PCS, PMA, and PMD sublayers"
To:
"Functional blocks within 10GPASS-XR-D CLT transmit PCS, PMA, and PMD sublayers" &
"Functional blocks within 10GPASS-XR-U CNU transmit PCS, PMA, and PMD sublayers"

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.2.8.1.1** *P* **74** *L* **30** # 2262

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Typo: "MHzchannel"

SuggestedRemedy

Fix with space "MHz channel"
here ^

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.2.8.1.1** *P* **74** *L* **33** # 2261

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

"CLT calculates power for data subcarrier and pilots (using total number of non-zero valued (nonexcluded) subcarriers)"
Everywhere else in the draft we refer to these as active subcarriers

SuggestedRemedy

Change to read:
"CLT calculates power for data subcarrier and pilots (using total number of active subcarriers)"

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.2.8.1.1** *P* **75** *L* **14** # 2256

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X**

Undefined terms
Active Signal Bandwidth (1 instance Pg 75 ln 14) Table 100-1
RF output port muting (1 instance Pg 79 line 12) Table 100-2

SuggestedRemedy

In Table 100-1 Change:
"Minimum Active Signal Bandwidth" to
"Minimum encompassed spectrum"

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.2.8.1.1** *P* **75** *L* **15** # 2255

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X**

Table 100-1 Subcarrier Spacing is known.

SuggestedRemedy

For Subcarrier Spacing in Table 100-1 insert a value of 50 kHz

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.2.8.1.1** *P* **77** *L* **14** # 2243

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Table 100-1 & other tables in Cl 100 include borders around table notes. IEEE table Style has Notes being outside the table border.
This is true for:
Table 100-1
Table 100-3
Table 100-5

SuggestedRemedy

Update Tables using IEEE Table Style

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.2.8.2** *P* **77** *L* **35** # 2263
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X**

The term channel here is ambiguous
"100.2.8.2 Power per channel for CLT"

SuggestedRemedy

Change to:
"100.2.8.2 Power per OFDM channel for CLT"

On line 39 change
"adjusting channel RF power" to
"adjusting OFDM channel RF power"

In Table 100-2 change
"per channel" to
"per OFDM channel" in it's first appearance in each row (6x)

In Table 100-2 change
"adjacent channels" to
"adjacent OFDM channels" (pg 78 ln 15 & 19)

Proposed Response *Response Status* **O**

Cl **100** *SC* **100.2.8.2** *P* **78** *L* **35** # 2264
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X**

"Mode 1: . 50 dB carrier suppression within the occupied bandwidth in any one active channel. CLT shall accomplish this without service impacting discontinuity or detriment to the unsuppressed channels."

It is not at all clear to me how loss of one OFDM channel can not be service impacting.

SuggestedRemedy

At a minimum add an editors note:
"EDITORS NOTE (to be removed prior to publication): additional details on how Mode 1 Diagnostic carrier suppression can not be service impacting is require."

Proposed Response *Response Status* **O**

Cl **100** *SC* **2.11.1** *P* **84** *L* **29** # 2288
Leo, Montreuil Broadcom

Comment Type **T** *Comment Status* **X**

I do not understand this section. What is Bremond, Bno-demod?

SuggestedRemedy

Add definitions of terms used in equation.

Proposed Response *Response Status* **O**

Cl **100** *SC* **2.8.1** *P* **73** *L* **51** # 2212
Leo, Montreuil Broadcom

Comment Type **ER** *Comment Status* **X**

In the following text "... subcarrier spacing of and 150", it seem there are something missing after OF.

SuggestedRemedy

Add missing text.

Proposed Response *Response Status* **O**

Cl **100** *SC* **2.8.1** *P* **74** *L* **12** # 2215
Leo, Montreuil Broadcom

Comment Type **TR** *Comment Status* **X**

I think the encompassed spectrum of 189.7 MHz is wrong. It was agreed before that we can have up to 3800 active subcarriers. This is 190 MHz of subcarrier or 190+0.05 = 190.05 MHz of RF bandwidth for a 192 MHz channel.

For the 24 MHz, it is 22 MHz of active subcarriers

SuggestedRemedy

Use active subcarriers definition, 190 MHz of active subcarriers for 192 MHz.

Proposed Response *Response Status* **O**

Cl **100** *SC* **2.8.1.1** *P* **75** *L* **12** # 2214

Leo, Montreuil Broadcom

Comment Type **T** *Comment Status* **X**

Table 100.1, "Single FFT block BW" is 192 MHz, I am assuming this is 192 MHz of signal BW with 190 MHz of active subcarriers. The line just below "Min Active Signal BW" is 24 MHz. I assume here that we have 24 MHz of signal BW and 22 MHz of active subcarriers

SuggestedRemedy

We should clarify signal BW and avoid using "Active" in this table as it can be confused with Active Subcarriers.

Proposed Response *Response Status* **O**

Cl **100** *SC* **73** *P* **28** *L* # 2259

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Do we null carriers or mute them? Certainly we shouldn't refer to the same action with two different terms. We should use either null / nulling / nulled to mute / muted / muting
Distribution in draft
null 4
nulled 3
nulling 0

mute 0
muted 3
muting 2

SuggestedRemedy

Use null / nulling / nulled (these terms are the most prevalent in the current draft). If we dedide to use mute then change this comment to Cl 00.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.2.1** *P* **89** *L* **45** # 2218

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Fig 101-1*

Figure 101-1 referenced but not present.

SuggestedRemedy

Add figure by copying Figure 100-1 and making appropriate changes to highlight RS, PCS & PMA sections. Fix all cross references.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.2.4.3.2** *P* **94** *L* **9** # 2252

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Ref to Table 101-4 is misdirective. Should be to Table 76-4
"A number of LLIDs have been reserved (see Table 101–4) for various purposes, including downstream broadcast, discovery messages, and upstream registration request messages."

SuggestedRemedy

Change ref and link to 76-4

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.3.2.4** *P* **103** *L* **13** # 2219

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X** *Table 101-4/5*

There is no reason not to combine Tables 101-4 & 101-5

SuggestedRemedy

Combine tables by adding a column for US/DS. Update all cross references.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.3.2.4** *P* **103** *L* **8** # 2226

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *LDPC code sel*

There is no proposed register to select the LDPC code at the CNU. "The CNU 10GPASS-XR PCS operating on CCDN shall encode the transmitted data using one of the LDPC (FC, FP) codes per Table 101–5, as selected using register TBD."

SuggestedRemedy

Strike the phrase ", as selected using register TBD"

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.3.2.5.2** *P* **106** *L* **40** # 2245

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

The following sentence needs some grammatical fixes:
"These 66-bit blocks are converted to 65-bit block by removing the redundant first bit (i.e., sync header bit <0>) in each 66-bit block received from the 64B/66B These 66-bit blocks are converted to 65-bit block by removing the redundant first bit (i.e., sync header bit <0>) in each 66-bit block received from the 64B/66B encoder, which are delivered to the FEC encode and Data Detector input process.to the FEC encode and Data Detector input process."

SuggestedRemedy

Change from:
"... encoder, which are delivered to ..."
to:
"... encoder, and are then delivered to ..."
So the entire sentence reads:
"These 66-bit blocks are converted to 65-bit block by removing the redundant first bit (i.e., sync header bit <0>) in each 66-bit block received from the 64B/66B encoder, and are then delivered to the FEC encode and Data Detector input process.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.3.2.5.2** *P* **106** *L* **51** # 2278

Laubach, Mark Broadcom

Comment Type **TR** *Comment Status* **X**

Figure 101–6—10GPASS-XR PCS transmit path processing and associated text were ambiguous with respect to where 65-bit blocking occurs in the downstream TX LDPC encoder (CLT) and decoder (CNU) processing and the intent of the original contribution. These changes fix those ambiguities. Summary: remove 65-bit blocking context covering CRC40, Fp pad bits, and FEC Parity regions.

SuggestedRemedy

1) Update figure 101-6 as per laubach_3bn_10_0914.vsd (PDF, wmf).
2) Page 103 Line 13, Table 101-4 and Table 101-5. Remove the three right columns from the table covering C(Q), C(PL), and C(P). These values are no longer needed.
4) Page 106, line 51 replace paragraph as per laubach_3bn_11_0914.fm (PDF).
5) Add a new subsection in an appropriate place to document a system constant for the fixed downstream codeword size, also as in laubach_3bn_11_0914.fm (PDF).
6) Page 107, line 33 replace paragraph also as in laubach_3bn_11_0914.fm (PDF)
7) Page 108, line 2 Update figure 101-10 as per laubach_3bn_12_0914.vsd (PDF, wmf) as well as change "PMA" text label in lower block to "(DE)SCRAMBLER".
8) Page 110, line 1, replace paragraph as in laubach_3bn_11_0914.fm (PDF)
9) Page 110, line 42 through 51. Delete C(P) and C(Q) variables.
10) Page 110, line 6, delete text "+ C(P)"
11) Page 111, line 3 and line 6, delete text "+C(P)" in both places
12) Page 111, line 34, change "<64:0>" to "<F(C)-1:0>", change TYPE to "Bit array", change "This 65-bit block" to "This bit array", change "<64>" to "<F(C)-1>".
13) Page 111, line 44, change function to add length as per laubach_3bn_11_0914.fm (PDF)
14) Page 113, line 2, replace figure 101-8 with laubach_3bn_13_0914.vsd (PDF, wmf)
15) Page 115, line 13 through 23 replace paragraphs as per laubach_3bn_11_0914.fm (PDF).
16) Page 117, line 13, remove definition for C(Q)
17) Page 117, line 17, update dataInSize VALUE from "(BQ + 1 + CQ) × 65 + BP" to "(BQ + 1) * 65 + CRC bits + B(P)"
18) Page 118, line 31, update decodeFec() definition as per laubach_3bn_11_0914.fm (PDF).
19) Page 119, line 2, replace Figure 101-11 with laubach_3bn_14_0914.vsd (PDF, wmf)

Note for Editors figure file management:
Original vsd file for 101-6: "Figure 101-PCS Transmit bit ordering within CLT (downstream).vsd" sheet R04.
Original vsd file for 101-10: "Figure 101-PCS Receive bit ordering within CNU (downstream).vsd" sheet R03.
Original vsd file for 101-8: "Figure 101-PCS FEC encoding output process CLT.vsd" sheet R04
Original vsd file for 101-11: "Figure 101-PCS FEC decoding input process CNU.vsd" sheet "Page 1"

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.3.2.5.5** *P* **109** *L* **21** # 2227

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *FIFO_FEC_TX buffer*

We now have a good idea of what "additional burst elements" are needed.

SuggestedRemedy

Change:
"The length of the FIFO_FEC_TX buffer at the 10GPASS-XR CNU PCS shall be set such that the delay introduced by the FIFO_FEC_TX buffer together with any delay introduced by the PMA sublayer is long enough to turn the transmitter on and to allow transmission of any additional burst elements, such as TBD."
To read:
"The length of the FIFO_FEC_TX buffer at the 10GPASS-XR CNU PCS shall be set such that the delay introduced by the FIFO_FEC_TX buffer together with delay introduced by the Start Marker (see 101.4.3.8) is long enough to turn the transmitter on."

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.3.2.6** *P* **114** *L* **21** # 2241

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Scrambler*

For the PHY link we removed the provisionable seed, can we do this for the MAC data scrambler also?
"The scrambler is initialized to the hexadecimal value of 0x4732BA or other value as provisioned. "

SuggestedRemedy

Remove the phrase "or other value as provisioned"
Replace "Seed" with "0x4732BA" in figure 101-9
Editors note at the beginning of this section can be removed.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.2.10** *P* **140** *L* **34** # 2240

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *NRP*

In the following statement "RP" should be "NRP" (with RP subscripted).

"Window size (RP) options are selected from the DS windowing parameter for the CLT (see 45.2.1.108.1). CP and Window sizes shall be selected such that the RP value is less than the CP value."

"Window" in 2nd sentence should be lower case

SuggestedRemedy

Change "RP" to "NRP" with RP subscripted.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.2.2** *P* **124** *L* **46** # 2253

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Table ref should be live link.
"In addition to meeting the clock jitter requirements given above, the CLT is required to meet the phase noise specifications defined in Table 100-1."

SuggestedRemedy

make link live.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.2.3** *P* **125** *L* **1** # 2269

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *exclusion rules*

Proposed exclusion rule text.

SuggestedRemedy

see remein_3bn_01b_0814.pdf Specifically include text for:
101.4.2.3 Subcarrier configuration and bit loading
In Table 101-x Downstream subcarrier configuration rules: remove line with notes 1 and 3
101.4.2.3.1 thru 101.4.2.3.3
101.4.2.3.4 (allowing individually excluded SC)
101.4.3.3 OFDMA frame configuration and burst transmission
101.4.3.4 Subcarrier configuration and bit loading
In Table 201-y Upstream subcarrier configuration rules: remove line with notes 1 and 3
101.4.3.4.1 thru 101.4.3.4.2
101.4.2.3.4 (allowing individually excluded SC)

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.2.5.1** *P* **125** *L* **20** # 2221

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Scattered Pilot*

Section 102.2.3 states:
"The downstream PHY Link uses a fixed frame format, that shall be aligned with the 128 symbol staggered pilot pattern as described in 101.4.2.5.1."
Section 101.4.2.5.1 states:
"The scattered pilot pattern is synchronized to the PHY Link as shown in Figure 101–14."
Sounds like the proverbial tail chasing dog.

SuggestedRemedy

Change from:
"The scattered pilot pattern is synchronized to the PHY Link as shown in Figure 101–14."
to:
"The scattered pilot pattern shall be synchronized to the PHY Link as shown in Figure 101–14."

A separate comments address fixes to Cl 102

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.2.5.4** *P* **129** *L* **16** # 2265

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

The following statements can be more precise.
"eight predefined pilots" (ln 16)
"eight predefined continuous pilots" (ln 19)

SuggestedRemedy

Change to:
"eight continuous pilots around the PHY Link."

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.2.7.3** *P* **136** *L* **1** # 2277

Laubach, Mark Broadcom

Comment Type **TR** *Comment Status* **X**

This section is to be updated as per presentation prodan_3bn_01_0914 made at the San Diego meeting.

SuggestedRemedy

Replace the entire content of this section with the material in prodan_3bn_10_0914.docx (PDF).

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.2.9** *P* **140** *L* **3** # 2239

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Table 101-11
Header in first column should be "Direction" not "OFDM Active Channel Bandwidth" which is the name of the table.

SuggestedRemedy

Change first column header to "Direction"

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.3.3** *P* **144** *L* **24** # 2266
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Fig 101-22*
dimension line in Figure 100-22 "256 symbols" should not include the Probe

SuggestedRemedy
Shift start of arrow to right.

Proposed Response *Response Status* **O**

Cl **101** *SC* **101.4.3.7** *P* **145** *L* **36** # 2228
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *US Pilot Pattern*
Need variables and registers to set US Pilot Pattern

SuggestedRemedy
See remein_3bn_05_0814.

Proposed Response *Response Status* **O**

Cl **101** *SC* **4.2.10** *P* **142** *L* **23** # 2280
Leo, Montreuil Broadcom

Comment Type **E** *Comment Status* **X**
In table 101-13, would it be better to have the OFDM window units in us like Ncp instead of ns?

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **101** *SC* **4.2.9** *P* **140** *L* **8** # 2286
Leo, Montreuil Broadcom

Comment Type **ER** *Comment Status* **X**
TBD should be replaced by 6.4 MHz

SuggestedRemedy
TBD should be replaced by 6.4 MHz

Proposed Response *Response Status* **O**

Cl **101** *SC* **4.3.13** *P* **152** *L* **4** # 2279
Leo, Montreuil Broadcom

Comment Type **T** *Comment Status* **X**
In table 101-17, would it be better to have the OFDM window units in us like Ncp instead of ns?

SuggestedRemedy

Proposed Response *Response Status* **W**
Editor classified comment as technical (was blank)

Cl **101** *SC* **4.3.3.2** *P* **145** *L* **12** # 2281
Leo, Montreuil Broadcom

Comment Type **E** *Comment Status* **X**
In sentence "burst start and stop TIMES straddle an exclusion band or ...", should we remove the word TIMES as it can be confusing. The process of placing the burst into OFDM subcarriers and symbol is the 2-D process.

SuggestedRemedy
Remove TIMES

Proposed Response *Response Status* **O**

Cl **101** *SC* **4.3.3.2** *P* **145** *L* **14** # 2282
Leo, Montreuil Broadcom

Comment Type **E** *Comment Status* **X**
"crosses a band edge, the ..."

SuggestedRemedy
We should add "crosses a band edge or an exclusion band, the ..."

Proposed Response *Response Status* **O**

Cl **101** *SC* **4.3.7** *P* **145** *L* **31** # 2287
Leo, Montreuil Broadcom

Comment Type **ER** *Comment Status* **X**

"two pilots in the first and SECOND resource element" is not correct

SuggestedRemedy

Intead: "two pilots in the first and THIRD resource element"

Proposed Response *Response Status* **O**

Cl **101** *SC* **4.3.7** *P* **146** *L* **5** # 2283
Leo, Montreuil Broadcom

Comment Type **E** *Comment Status* **X**

Figure 101-23 show RB with some bold vertical line.

SuggestedRemedy

Diagram need to be fix. Arbitrary bold vertical divider line between RE may confuse the reader.

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.1** *P* **160** *L* **26** # 2270
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Variables*

In Fig 102-1 and elsewhere throughout this clause we say that the PHY Link uses MDIO regesters. However, MDIO registers are optional in 802.3 so we should instead refer to variables. Because the PHY Link frame structure relies on 16 bit blocks of data we will also need to create groups of variables that total 16 bits or less.

SuggestedRemedy

A proposal for variables and variable group is included in remein_3bn_06_0814.pdf (available in framemaker). Note that all variables and variaable groups in this proposal map directly to MDIO registers in terms of bit position within the variable group.

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.1.1** *P* **160** *L* **21** # 2258
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

There is a conflict in the use of the term "NCP"; in some cases it refers to cyclic prefix length and at other times it refers to Next Codeword Pointer. Search the draft for the term "NCP"; when it refers to next codeword pointer, replace it with "FEC Codeword Pointer". In figures the abbreviation "FCP" may be used.

SuggestedRemedy

In Figures 102-1, 102-4 * 102-5 replace "NCP" with "FCP"

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.1.1** *P* **160** *L* **28** # 2251
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Fig 102-1/2*

DS EMB length should be 64-560b not 65-560b (fig 102-1)
US EMB length should be 64-560b not 32-528b (fig 102-2)

SuggestedRemedy

Change to as indicate in both figures

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.1.1** *P* **161** *L* **34** # 2236
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Fig 102-3*

Figure 102–3 is not referenced from the text and should either be removed or references

SuggestedRemedy

Remove the figure.

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.1.1** *P* **161** *L* **8** # 2225
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X**

The sentence "This fixes the distance to the most distant CNU ..." is no longer true as this distance is now determined by the OFDMA Frame size

SuggestedRemedy

Strike the sentence.

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.1.3** *P* **163** *L* **35** # 2237
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Figure 102–6 is inconsistent with our agree conventions that time increases from left to right.

SuggestedRemedy

Redraw figure so time marches on (not back).

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.1.5** *P* **167** *L* **39** # 2242
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Scrambler*

The identical scrambler is used in the MAC data channel. Rather than duplicate the figure here in Cl 102 we should reference the figure in Cl 101 (Fig 101-9)

SuggestedRemedy

Remove Figure 102-10 and reference Figure 101-9.
Strike the Phrase "The scrambler is defined by the following polynomial." and reference section 101.3.2.6 Scrambler

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.2.1.3** *P* **170** *L* **17** # 2238
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Fgiure 102-12 is fuzzy

SuggestedRemedy

Redraw figure in framemaker native format

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.2.1.3** *P* **170** *L* **23** # 2231
Remein, Duane Huawei Technologies,

Comment Type **ER** *Comment Status* **X**

This para begins: "The Phy uses an (8x12) array" which implies some implementation and give no reason for this array.

SuggestedRemedy

Change the sentence to read:
"Conceptually, the Phy uses an 8x12 array to perform interleaving."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.2.3** *P* **173** *L* **2** # 2220
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Scattered Pilot*

this section states:
"The downstream PHY Link uses a fixed frame format, that shall be aligned with the 128 symbol staggered pilot pattern as described in 101.4.2.5.1."
Section 101.4.2.5.1 states:
"The scattered pilot pattern is synchronized to the PHY Link as shown in Figure 101–14."
Sounds like the proverbial tail chasing dog.

SuggestedRemedy

Change from:
"The downstream PHY Link uses a fixed frame format, that shall be aligned with the 128 symbol staggered pilot pattern as described in 101.4.2.5.1."
to:
"The downstream PHY Link uses a fixed frame format, that the 128 symbol staggered pilot pattern is aligned with, as described in 101.4.2.5.1."

A separate comments address fixes to Cl 101

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.2.3.1.1** *P* **174** *L* **3** # 2229

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *US ConfigID*

The para on Pg 173 and Figure 102-14 adequately describe the DS_Config_ID bits, their usage and when a new profile takes effect. However the same cannot be said for the US_ConfigID.
We can tie affectivity of the new US profile conveyed by the US_ConfigID bit to the Return Frame ID.

SuggestedRemedy

Change the last sentence of this para from:
"In the Upstream direction the new profile is activated at TBD."
To:
"In the Upstream direction the new profile is activated in the frame identified by the Return Frame ID field."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.2.3.1.2** *P* **175** *L* **21** # 2272

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *timestamp*

Surely we don't want to reset the local timestamp in the CNU with every PHY Link reception as stated in the following sentence
"When the CNU PHY receives a PHY Frame addressed to it or to the broadcast address it shall reset it's local clock to the value in the Timestamp plus the value in it's Offset register (see ref)."

SuggestedRemedy

Change to read:
"When a CNU PHY that has TxEnable equal to False receives a PHY Frame addressed to it or to the broadcast address it shall reset it's local timestamp to the value in the Timestamp."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.1.3** *P* **181** *L* **24** # 2235

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Defined msgs*

Expand Table 102-9 to cover all "special" messages such as PHY Discovery and CNU_ID Assignment

SuggestedRemedy

See suggestion in remein_3bn_06_0914.pdf

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.1.3♂** *P* **181** *L* **40** # 2233

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *PHY Disc*

This statement is no longer needed as the PHY Disc Resp does not conflict with the PHY Link.
"Once the PHY Discovery window is open the CLT shall refrain from sending PHY Instructions to any single CNU over the downstream PHY Link, which would elicit a Response (i.e., read and write/verify instructions) from a CNU for the duration of the PHY Discovery window, to allow sufficient time for joining CNUs to respond."

SuggestedRemedy

Strike the sentence.

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.1.4** *P* **182** *L* **11** # 2216

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Table 102-11*

The following sentence should reference Table 102-11.
"The CNU PHY Discovery Response is only allowed after a CNU has completed the PHY Discovery prerequisites (see ref.)."

SuggestedRemedy

Add Ref to Table 102-11

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.1.4** *P* **182** *L* **12** # 2234

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *PHY Disc*

This was written assuming the PHY Discovery would be a type of EMB, that is no longer a reasonable assumption.
"In the PHY Discovery Response message:
the preamble used is the special PHY Discovery Preamble (see 102.4.1.5)
the SA field is set to 0x00
the CNU MAC address is carried in the MDIO Data fields."

SuggestedRemedy

Change the statement to read:
"In the PHY Discovery Response message the preamble used is the PHY Discovery Preamble (see 102.4.1.5) and the only data included is the CNU MAC address."
Note this change is included in remein_3bn_06_0914.pdf

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.1.4** *P* **182** *L* **2** # 2232

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *PHY Disc*

We need to refine what is included in the PHY Discovery Response.

SuggestedRemedy

Should only include CNU Mac Address. Change from:
"Included in the PHY Discovery Response is a preamble (see 102.4.1.5), the CNU's MAC address and {list of other parameters}."
to:
"Included in the PHY Discovery Response is a preamble (see 102.4.1.5) and the CNU's MAC address."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.1.5** *P* **183** *L* **21** # 2268

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *PHY Disc*

This statement is now incorrect based on decissions made in San Diego.
"The second four symbols of the PHY Discovery preamble shall be a duplicate copy of the first four symbols."

SuggestedRemedy

Change the sentence to read:
"The second symbol of the PHY Discovery preamble shall be a duplicate copy of the first symbol."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.12.5** *P* **183** *L* **15** # 2222

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *PHY Disc*

In San Diego we decided that the PHY Response was 128 SC x 4 symbols, so it's probably unreasonable that the preamble take the first 8 symbols.
"The PHY Discovery preamble is transmitted in the first eight symbols of the PHY Discovery Response. The first four symbols of the preamble shall be populated with a BPSK mapped 128 bit sequence generated by a pseudo-random sequence generator defined by the polynomial seeded with a fixed bit pattern of 0x55 (see Figure 102–18) at the beginning of the PHY Discovery Response (illustrated in Figure 102–22). The output of the sequence generator is mapped using BPSK modulation (see Figure 101.4.4.2) where a bit value of 0 is mapped to a BPSK value of plus 1 and a bit value of 1 is mapped to a BPSK value of minus 1. The second four symbols of the PHY Discovery preamble shall be a duplicate copy of the first four symbols."

SuggestedRemedy

In the first sentence change "eight" to "two" so it reads:
"The PHY Discovery preamble is transmitted in the first >>>two<<< symbols of the PHY Discovery Response.

In the 2nd sentence change "first four symbols" to "first symbol" so it reads:
"The first symbol of the preamble shall be populated with a ..."
In the 4th sentence change in "second four symbols" to "second symbol" and "first four symbols" to "first symbol" so it reads:
"The second symbol of the PHY Discovery preamble shall be a duplicate copy of the first symbol."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.2** *P* **184** *L* **13** # 2273
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *timing offset*

We need to describe what actions the CNU takes upon receiving the timing offset variable; a result of Fine Ranging.

SuggestedRemedy

Add the following text:
"When the CNU receives the PhyTimingOffset variable it shall add the value in the variable to the local timestamp and reset the PhyTimingOffset variable to zero.
EDITORS NOTE (to be remove prior to publication); we may want to specify a maximum response time for this action."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.3.1** *P* **184** *L* **21** # 2271
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *probing*

We have significantly refined our concept of Probing and should update the following sentence "The OFDM symbol which is used for probing shall be defined as a probing symbol."

SuggestedRemedy

Change to:
"Each upstream superframe begins with 5 or 6 symbols, called the Probe Period, designated for probing. Each symbol within the Probe Period is refered to as a probing symbol and the number of symbols in the Probe Period is set via the ProbDur variable (see 45.2.1.110.1)."

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.3.3** *P* **186** *L* **25** # 2223
Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

The visual difference between CNU 1 and CNU 2 is minimum and should be enhanced.

SuggestedRemedy

Use a more visually distinctive pattern for CNU 1.

Proposed Response *Response Status* **O**

Cl **102** *SC* **102.4.4** *P* **188** *L* **1** # 2267
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *link aqu*

Improved definiton of CNU link aquisition, link-up and additions for link-down.

SuggestedRemedy

Incorporate changes in remein_3bn_03_0914.pdf

Proposed Response *Response Status* **O**

Cl **102** *SC* **2.11.1** *P* **84** *L* **27** # 2291
Leo, Montreuil Broadcom

Comment Type **TR** *Comment Status* **X**

Upper level should be +21 dBmV / 24 MHz

SuggestedRemedy

Change -21 to +21

Proposed Response *Response Status* **O**

Cl **102** *SC* **2.2.2** *P* **171** *L* **50** # 2289
Leo, Montreuil Broadcom

Comment Type **T** *Comment Status* **X**

I do not think that section in yellow "The preamble will be .... 2D correlation every time." is applicable.

SuggestedRemedy

Remove text in yellow.

Proposed Response *Response Status* **O**

Cl **102** *SC* **3.1.1** *P* **177** *L* **27** # 2290

Leo, Montreuil Broadcom

Comment Type **T** *Comment Status* **X**

The text with TBD about the placement of the upstream PHY link is not needed.

SuggestedRemedy

In the downstream, the placement must be know by the CNU before there is a link. In the upstream, the placement is dictated by te CLT. It is an implentation decision by the CLT. Does not need to have rule in the spec.

Proposed Response *Response Status* **O**

Cl **102** *SC* **3.3.3** *P* **178** *L* **45** # 2284

Leo, Montreuil Broadcom

Comment Type **E** *Comment Status* **X**

There is a SHALL following a SHOULD.

SuggestedRemedy

Remove one

Proposed Response *Response Status* **O**

Cl **102** *SC* **4.1.3** *P* **181** *L* **31** # 2285

Leo, Montreuil Broadcom

Comment Type **E** *Comment Status* **X**

In table 102-9, "window atart time".

SuggestedRemedy

Should it be: "window at start time?

Proposed Response *Response Status* **O**

Cl **103** *SC* **103.2.2.7** *P* **212** *L* **30** # 2224

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *Fig 103-12*

Way back we added the CHECKSIZE state in the CLT Control Multiplexer state diagram (Figure 103-12) to accommodate TDD. This block is no longer needed and should be removed.

SuggestedRemedy

Remove state, connect all inputs to SEND FRAME
See remein_3bn_02_0914.pdf for modified SD.

Proposed Response *Response Status* **O**

Cl **45** *SC* **2.1.109** *P* **36** *L* **1** # 2276

Powell, Bill Alcatel-Lucent

Comment Type **T** *Comment Status* **X**

45.2.1.109 10GPASS-XR DS OFDM channel center frequency control register 1 through N (Register 1.1902 through 1.19aa)

Title implies center frequency of DS OFDM channels 1-N; Content in Table 45-78c is for subcarrier 0 (lower band-edge) of each DS OFDM channel.

SuggestedRemedy

Change section title to read: "DS OFDM channel frequency control register 1 through N"

On line 4, replace "center frequency" with "lower band edge frequency (subcarrier 0)"

Proposed Response *Response Status* **O**

Cl **45** *SC* **2.1.109.1** *P* **36** *L* **27** # 2274

Powell, Bill Alcatel-Lucent

Comment Type **T** *Comment Status* **X**

45.2.2.209.1 DS OFDM center freq ch1 (1.1902.15:0)

Title implies center frequency of DS OFDM channel 1 instead of frequency of subcarrier 0 for DS channels 1-N (content of clause)

SuggestedRemedy

Change title to read:
DS OFDM channel 1 through N Subcarrier 0 center frequency control register

Line 32 - Replace "TBD" with "54.0 MHz" (per previous Technical Decision 72)

Proposed Response *Response Status* **O**

Cl **45** *SC* **2.1.113** *P* **39** *L* **19** # 2210

Leo, Montreuil Broadcom

Comment Type **E** *Comment Status* **X**

This is a question, not a comment. How do we write these registers that control the PHY Link search? Do we need to have a Link first?

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **2.1.115** *P* **40** *L* **44** # 2213

Leo, Montreuil Broadcom

Comment Type **T** *Comment Status* **X** *PHY Dsic Dur*

What are the units of the PHY Discovery duration?

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **2.7a.1** *P* **45** *L* **13** # 2211

Leo, Montreuil Broadcom

Comment Type **ER** *Comment Status* **X**

Table 45-191b line 13 and 14 has "3 2 1 0" repeated twice.

SuggestedRemedy

Remove duplication.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.110** *P* **37** *L* **11** # 2246

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Typo in Table 45-78d; 1.19bb:11 Probe duration. missing space in "1 = Probe is 6OFDMA symbols in duration"

SuggestedRemedy

Change to
"1 = Probe is 6 OFDMA symbols in duration"
^

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.115** *P* **40** *L* **46** # 2247

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *PHY Dsic Dur*

Phy Link Frame counter will not work for PHY Discovery start as it is asynchronous to the US Frame, use lower 16 bits of DS timestamp.
PHY Discovery duration is no longer needed as it is fixed.

SuggestedRemedy

In table 45-78i Change
"Time of next open PHY Discovery window relative to PHY Frame Counter."
to:
"Time of next open PHY Discovery window relative to Timestamp.

In 45.2.a.115.2 Change
"The PHY Discovery start bits 1.19gg.12:0 determine when the next PHY Discovery window is opened relative to the local PHY Link frame counter."
to:
"The PHY Discovery start bits 1.19gg.15:0 determine when the next PHY Discovery window is opened relative to the Timestamp."

Remove PHY Discovery duration entries in table and descriptive text.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.116** *P* **41** *L* **18** # 2250

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Table 45-78j is mistitled

SuggestedRemedy

Change
"10GPASS-XR new CNU control registers 1-8 bit definitions" to
"10GPASS-XR new CNU control register bit definitions"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.116** *P* **41** *L* **19** # 2249

Remein, Duane Huawei Technologies,

Comment Type **E** *Comment Status* **X**

Typo in table 45-78j title (only have one not 1-8).

SuggestedRemedy

Change to read:
"10GPASS-XR new CNU control register bit definitions"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.7a** *P* **44** *L* **9** # 2254

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *pre-eq*

Motion #9 from San Diego did not get implemented:
Move to: Instruct the Editors to create registers in Clause 45 to specify CNU upstream pre-equalizer coefficients as two 16 bit registers per subcarrier Clause 101.4.3.12.1.
Note for a description see Draft 0.6, Page 143, Line 36

SuggestedRemedy

Implement the motion as registers 12.2046 through 12.10237 moving down existing register 10GPASS-XR US Resource Block type to 10238 through 10749.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.7a.1** *P* **44** *L* **23** # 2230

Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **X** *profile desc*

We need to make it clear that writing to the US/DS profile descriptor only impacts the offline profile and does not affect the active profile.

SuggestedRemedy

On pg 44 line 23 change from:
"The 10GPASS-XR DS profile descriptor control 0 through 1023 registers determine the modulation for the downstream OFDM spectrum".
To:
"The 10GPASS-XR DS profile descriptor control 0 through 1023 registers determine the offline modulation settings for the downstream OFDM spectrum"

On pg 46 line 4 change from:
"The 10GPASS-XR US profile descriptor control 0 through 1023 registers determine the modulation for the upstream OFDMA spectrum"
To:
"The 10GPASS-XR US profile descriptor control 0 through 1023 registers determine the offline modulation settings for the upstream OFDMA spectrum"

Proposed Response *Response Status* **O**