Cl **28D** *SC* **28D.6** *P* **12** *L* **25** **#** **30**

McClellan, Brett SolarFlare

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

802.3ae has no autonegotiation for Pause.
This line is not needed.

SuggestedRemedy

Remove the line.

Proposed Response *Response Status* **O**

Cl **55** *SC* *P* **16** *L* **#** **31**

McClellan, Brett SolarFlare

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

TX_EN, occurs on pgs. 16, 26,41,47 & 86 has no definition.

SuggestedRemedy

Provide a definition in 5.2

Proposed Response *Response Status* **O**

Cl **55** *SC* **5.1.3.1** *P* **17** *L* **11** **#** **32**

McClellan, Brett SolarFlare

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

Also pg 55.3.4 on pg 28 and figure 55-6 on pg. 29.

Descriptions and figure suggest that all bits are LDPC encoded. However, only a subset of
the bits are LDPC encoded.

SuggestedRemedy

Include a description of uncoded vs. coded bits and 12dB partition mapping. These are
common to all of the proposals.

Proposed Response *Response Status* **O**

Cl **55** *SC* **55.1** *P* **13** *L* **16** **#** **15**

Marris, Arthur Cadence

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

Grammar 'Fully'

SuggestedRemedy

Change 'Fully' to 'Full', also delete comma after 'electrical'

Proposed Response *Response Status* **O**

Cl **55** *SC* **55.1** *P* **13** *L* **7** **#** **14**

Marris, Arthur Cadence

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

Missing word '10'

SuggestedRemedy

Change "is one of the Gigabit Ethernet" to "is one of the 10 Gigabit Ethernet"

Proposed Response *Response Status* **O**

Cl **55** *SC* **55.1.1** *P* **13** *L* **25** **#** **16**

Marris, Arthur Cadence

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

The word 'connector' is confusing in this context

SuggestedRemedy

Change "over four connector, twisted-pair copper cabling" to "over four twisted-pairs of
copper cabling"

Proposed Response *Response Status* **O**

Cl **55** *SC* **55.1.1** *P* **13** *L* **27** **#** **1**

Alan Flatman LAN Technologies

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

ISO/IEC 11801 specifies balanced cabling channels with a maximum length of 100m. "At
least 100m" is therefore incorrect.

SuggestedRemedy

Delete "At least" in objective a1.

Proposed Response *Response Status* **O**

Cl **55**   *SC* **55.1.1**   *P* **13**   *L* **27-28**   # **2**
Alan Flatman   LAN Technologies

Comment Type   **TR**   *Comment Status* **X**
Class F cabling requires additional specification of PSANEXT, which is not currently specified by ISO/IEC 11801.

SuggestedRemedy
Add at end of objective a1 "(with additional requirements specified in Clause 55.7)".

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.1**   *P* **13**   *L* **29**   # **3**
Alan Flatman   LAN Technologies

Comment Type   **TR**   *Comment Status* **X**
ISO/IEC 11801 specifies balanced cabling channels with a maximum length of 100m. "At least 55m" is confusing. It is possible to support a minimum length of 55m of Cat 6 UTP and up to 100m screened Class E cabling. This objective should be re-worded to accurately reflect this.

SuggestedRemedy
Replace "At least 55m" with "55m to 100m" in objective a2.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.1**   *P* **13**   *L* **29-30**   # **4**
Alan Flatman   LAN Technologies

Comment Type   **TR**   *Comment Status* **X**
Class E cabling also requires additional specification of PSANEXT is addition to frequency extended parameters currently specified in ISO/IEC 11801. This is all covered in Clause 55.7, hence a simple pointer to it is quite adequate in this set of distance objectives.

SuggestedRemedy
Add at end of objective a2 "(with additional requirements specified in Clause 55.7)".

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.1**   *P* **13**   *L* **31-32**   # **5**
Alan Flatman   LAN Technologies

Comment Type   **TR**   *Comment Status* **X**
It is not necessary to have a separate objective to cover 100m operation over enhanced Cat 6 UTP. This is more efficiently captured by amending objective a2 to state "55m to 100m".

SuggestedRemedy
Delete objective a3.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.1**   *P* **13**   *L* **37**   # **6**
Alan Flatman   LAN Technologies

Comment Type   **E**   *Comment Status* **X**
EMC requirements are a set of limits, not a defined operation.

SuggestedRemedy
Change "operation" to "EMC limits".

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.1**   *P* **13**   *L* **38**   # **10**
Powell, Scott   Broadcom

Comment Type   **T**   *Comment Status* **X**
A more appropriate metric for a frame-based communications system is block error rate.

SuggestedRemedy
Replace bit error rate requirement with LDPC block error rate requirement.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.3**   *P* **14**   *L* **59**   **#** 11
Powell, Scott   Broadcom

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

The task force has not seen contributions supporting loop timing or describing alternative approaches. Although this was the approach adopted in 1000BT, there can be implementation advantages to removing the requirement that the SLAVE transmit with its recovered clock. Many places in the document make this assumption.

SuggestedRemedy

Rather than adopt the 1000BT loop timing approach without question, review contributions on alternative approaches and perform further study to make an informed decision on the best approach for 10GBASE-T.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.3.1**   *P* **17**   *L* **18**   **#** 33
McClellan, Brett   SolarFlare

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

"TBD bit blocks" should be "TBD baud blocks"

PMA processes samples as baud, not bits.

SuggestedRemedy

Replace text as indicated.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.3.1**   *P* **17**   *L* **41**   **#** 34
McClellan, Brett   SolarFlare

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

typo: quasi-continuous

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.3.1**   *P* **17**   *L* **8**   **#** 17
Marris, Arthur   Cadence

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

Change "transfers of XGMII service interface" to "transfers on the XGMII service interface"

SuggestedRemedy

Change "transfers of XGMII service interface" to "transfers on the XGMII service interface"

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.3.1**   *P* **17**   *L* **9**   **#** 18
Marris, Arthur   Cadence

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

Surely the 64-bit blocks can only align with the XGMII start of packet boundary?

SuggestedRemedy

Change "64-bit block boundaries aligned with the XGMII packet boundaries as indicated by the XGMII transmit control signals (TXCn = 1)." to "64-bit block boundaries aligned with the XGMII start of packet boundary as indicated by the XGMII transmit control signals (TXCn = 1)."

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.3.2**   *P* **17**   *L* **38**   **#** 19
Marris, Arthur   Cadence

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

Punctuation, delete comma after BI_DC. Also line 50.

SuggestedRemedy

as above

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.1.3.2**   *P* **17**   *L* **41**   **#** 20
Marris, Arthur   Cadence

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

Spelling 'continuos'

SuggestedRemedy

Change 'continuos' to 'continuous'

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.2**   *P* **19**   *L* **11**   # **21**
Marris, Arthur   Cadence

Comment Type **T**   *Comment Status* **X**
Is the management interface really specified in Clause 28?

SuggestedRemedy
Consider changing "the Management Function Interface is specified in Clause 28." to "the Management Function Interface is specified in Clause 45."
If the Clause 45 register interface is not going to be used then explain why not.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.2.3.1**   *P* **22**   *L* **3**   # **35**
McClellan, Brett   SolarFlare

Comment Type **E**   *Comment Status* **X**
Sentence Fragment:
"or idle mode is to take place"

SuggestedRemedy
Remove the fragment.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.2.5.1**   *P* **23**   *L* **41**   # **36**
McClellan, Brett   SolarFlare

Comment Type **E**   *Comment Status* **X**
"A vector of 4 symbols that is the receivers best estimate of the information bits that were sent by the remote transmitter."
would be more clear if restated as:
"A vector of the four 1-D symbols that is the receivers best estimate of the information bits that were sent by the remote transmitter across the four pairs."

SuggestedRemedy
Replace sentence as suggested

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.10**   *P* **35**   *L* **57**   # **38**
McClellan, Brett   SolarFlare

Comment Type **E**   *Comment Status* **X**
"10GBTreceive": also found in Fig 55-3 pg 16, Fig 55-5 on pg 26, and line 6 on pg. 37. 10GBTreceive is used several times, but not defined. Furthermore it appears to be used for different purposes on pgs 35 and 37.

SuggestedRemedy
Provide a definition for 10GBTreceive, and resolve the conflict between pg 35 and 37.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.11.3**   *P* **37**   *L* **13**   # **40**
McClellan, Brett   SolarFlare

Comment Type **E**   *Comment Status* **X**
"checks that the" should be "checks the"

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.11.3**   *P* **37**   *L* **5**   # **39**
McClellan, Brett   SolarFlare

Comment Type **E**   *Comment Status* **X**
"encoding rule" is vague.
Does it mean LDPC encoding or 64/65 encoding?

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.12.2.3**   *P* **39**   *L* **46**   # **41**
McClellan, Brett   SolarFlare

Comment Type **E**   *Comment Status* **X**
"all possible bit positions" should be "all possible baud positions".

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.12.2.4**   *P* **40**   *L* **25**   **#** **42**
McClellan, Brett   SolarFlare

Comment Type **T**   *Comment Status* **X**
    sh_cnt and sh_invalid_cnt are useless. There are no invalid sync header values.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.13.3**   *P* **44**   *L* **54**   **#** **43**
McClellan, Brett   SolarFlare

Comment Type **T**   *Comment Status* **X**
    What is a continuous stream of 0x00FF data words?
    The value has no meaning.
    Perhaps this can be rewritten using PAM levels?

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.2.2**   *P* **27**   *L* **20**   **#** **23**
Marris, Arthur   Cadence

Comment Type **T**   *Comment Status* **X**
    Define 64B and 65B the first time they are used. I assume the 'B' refers to bits rather than
    bytes.

SuggestedRemedy
    Change 'Alignment to 64B/65B block' to '64-bit to 65-bit (64B/65B) block alignment'.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.2.2**   *P* **27**   *L* **21**   **#** **22**
Marris, Arthur   Cadence

Comment Type **E**   *Comment Status* **X**
    Grammar, change 'operate independent' to 'operates independently'

SuggestedRemedy
    Grammar, change 'operate independent' to 'operates independently'

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.4.2**   *P* **30**   *L* **40**   **#** **12**
Powell, Scott   Broadcom

Comment Type **E**   *Comment Status* **X**
    Figure 55-7. Box marked "Binary to 4D-M-ary PAM" is mislabeled.

SuggestedRemedy
    Change label to "4D-M-ary PAM to Binary"

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.3.8**   *P* **35**   *L* **18**   **#** **37**
McClellan, Brett   SolarFlare

Comment Type **T**   *Comment Status* **X**
    This paragraph is confusing. Can it be rewritten more descriptively?

    Also line 22 refers to using the frame sync headers from the 65-bit blocks. The 65th bit is
    no longer a sync header it is a data/control header. The framing is not recovered from the
    location of this bit.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.4.4.1**   *P* **51**   *L* **32**   **#** **44**
McClellan, Brett   SolarFlare

Comment Type **E**   *Comment Status* **X**
    Fig 55-18 is missing the XOR gate. This may just be a PDF issue.

SuggestedRemedy

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 5 of 8
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
Cl **55**   *SC* **55.4.4.1**

Cl **55**   *SC* **55.5.2**   *P*   *L*   # **47**

Takatori, Hiroshi   KeyEye

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

55.5.2 Test modes
In order to make accurate tests with a simpler test procedure, one test mode is proposed instead of four independent test modes. Also, this method reduces test time and reduce additional PHY cost.

The following sequence is repeated continuously without breaks. (THP of off)
[(+M and -M alternate pattern) for 1024 symbols followed by (all-symbol random pattern) for 4096 symbols]

The data acquisition module captures all signals across 100ohm (described in Figure 55-24). The software analyzes a) Waveform, b) Jitter, and c) Transmit distortion.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.5.2**   *P*   *L*   # **48**

Takatori, Hiroshi   KeyEye

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

55.8.3.1 MDI return loss

a)
The formula: 16 - 20*log10(f/40) at f=500 gives negative result.

Should probably read 16 - 10*log10(f/40).

b)
It would be preferred to have a ref. impedance for the test equal, 100 Ohm, but not +/- 15%.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.5.2**   *P* **57**   *L* **1**   # **45**

McClellan, Brett   SolarFlare

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

The +/- M and M/2 levels in this test mode are not valid PAM levels for 8 or 12 PAM.

SuggestedRemedy

Replace with the max valid PAM levels.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.6.1**   *P* **71**   *L* **4**   # **46**

McClellan, Brett   SolarFlare

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

In table 55-6 LP 1000T HD, half duplex is not a valid mode for 10GBASE-T.

SuggestedRemedy

Remove this entry.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.1**   *P* **75**   *L* **14**   # **25**

Koeman, Henriecus ("Henri" or "Riekus   Fluke Networks

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

The "W" in "100 W" is incorrect. This problem occurs throughout the entire clause and should be corrected in many places.

SuggestedRemedy

The "W" in "100 W" should be replaced by the Ohms symbol.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.1**   *P* **75**   *L* **28**   # **26**

Koeman, Henriecus ("Henri" or "Riekus   Fluke Networks

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

"Characteristic impedance" is a property applicable to homogeneous media only. In order words, applicable to cable only and NOT assemblies with connectors (channel). The return loss requirements cover the true requirement. "Nominal characteristic impedance" is only a number and not a requirement.

SuggestedRemedy

Delete "characteristic impedance" from the list of requirements.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.2**   *P* **75**   *L* **27**   # **7**

Alan Flatman   LAN Technologies

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

"At least 55 to 100m" is confusing and "at least 100m" is incorrect.

SuggestedRemedy

Delete "At least" (twice).

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.2.3**   *P* **76**   *L* **11**   # **27**

Koeman, Henriecus ("Henri" or "Riekus   Fluke Networks

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

The symbol for "less or equal" in the equations is incorrect. This problem occurs throughout the entire clause and should be corrected in many places.

SuggestedRemedy

The symbol should be the correct one ("<=").

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.2.3**   *P* **76**   *L* **11**   # **28**

Koeman, Henriecus ("Henri" or "Riekus   Fluke Networks

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

The formulation of the requirements that involves the curly brackets is confusing. The same comment applies throughout the entire clause and this should be corrected in many places.

SuggestedRemedy

Remove the brackets and include "Return_Loss(f)" on every line.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.2.3**   *P* **76**   *L* **16**   # **29**

Koeman, Henriecus ("Henri" or "Riekus   Fluke Networks

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

The cross-over point between the 6 dB and the formula is not exactly at 400 MHz and causes a discontinuity.

SuggestedRemedy

Specify the requirement on line 15 as: "Return_Loss(f) <= 32-10log10(f), 6 dB min." Remove the entry on line 16.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.3.2.1.2**   *P* **80**   *L* **49**   # **13**

Powell, Scott   Broadcom

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

The text states "The PS ANEXT limits for both Class F and Class E are the minimum requirements for 100m operation ...". The task force agreed to these limit lines under the assumption of a 2.5dB "margin". The document lists the peak limit lines. Simulations should assume X1 to be increased by 2.5dB from what is listed in the document.

SuggestedRemedy

Differentiate between X1 values to be used for cable certification (currently in text) and the values to be used for simulation (increased by 2.5dB from what is in text).

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.3.2.2**   *P* **81**   *L* **10-12**   # **9**

Alan Flatman   LAN Technologies

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

Need to insert PSAFEXT limit and possibly test method by Nov 2004 802.3 plenary meeting.

SuggestedRemedy

Request proposals from cabling system manufacturers and cabling standards groups.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **55.7.5**   *P* **84**   *L* **20**   # **8**

Alan Flatman   LAN Technologies

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

Several presenters have stated/suggested that -150dBm/Hz is too low for BGN. -140dBm/Hz has been proposed.

SuggestedRemedy

Adopt a more realistic BGN limit.

Proposed Response   *Response Status* **O**

Cl **55**   *SC* **Table 55-10**   *P* **90**   *L* **19**   **#** **24**

Marris, Arthur   Cadence

Comment Type   **E**   *Comment Status* **X**
    Change 'GMII' to 'XGMII'

SuggestedRemedy
    Change 'GMII' to 'XGMII'

Proposed Response   *Response Status* **O**

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 8 of 8

RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

Cl **55**   *SC* **Table 55-10**