Cl **FM** *SC* **FM** *P* **1** *L* **10** # I-1

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *EZ*

We now have 9 approved amendments and this is the only project in SA ballot. I believe this could now be safely labled Amendment 10

SuggestedRemedy

Conditional on Mr. Law assigning the number, change "Amendment" to "Amendment 10:". If done, also add amendment number to p. 9, l. 3. and p. 11, Line 30 (Amendment 10).

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **1** *L* **23** # I-2

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *EZ*

Both P802.3ch and P802.3ca are now approved. Though neither was approved with an amendment number, the list of previous amendments in approved draft P802.3ca/D3.1 includes IEEE Std 802.3ch-20xx.

SuggestedRemedy

Change "and IEEE Std 802.3cm-2020." to "IEEE Std 802.3cm-2020, IEEE Std 802.3ch-20xx, and IEEE Std 802.3ca-20xx."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "and IEEE Std 802.3cm-2020." to "IEEE Std 802.3cm-2020, IEEE Std 802.3ch-2020, and IEEE Std 802.3ca-2020."

Cl **FM** *SC* **FM** *P* **1** *L* **23** # I-4

Anslow, Peter Self

Comment Type **E** *Comment Status* **A**

There are now 9 approved amendments.

SuggestedRemedy

Change "and IEEE Std 802.3cm-2020." to "IEEE Std 802.3cm-2020, IEEE Std 802.3ch-2020, and IEEE Std 802.3ca-2020."

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **7** *L* **7** # I-3

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *EZ*

The WG people that voted is now known.

SuggestedRemedy

Please fill in the 802.3 list of those that voted.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Populate with Working Group members as detailed in the remedy for comment I-5.
The remedy for comment I-5 is "Populate the list of Working Group ballot members."

Cl **FM** *SC* **FM** *P* **7** *L* **15** # I-5

Anslow, Peter Self

Comment Type **E** *Comment Status* **A**

Please populate the list of Working Group ballot members.

SuggestedRemedy

Populate the list of Working Group ballot members.

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **11** *L* **19** # I-21

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

802.3ch was approved by the standards board.

SuggestedRemedy

Change 20xx to 2020

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **11** *L* **21** # I-20

Wienckowski, Natalie — General Motors Company

Comment Type **E** *Comment Status* **A**

Change to match update made to ch description for publication.

SuggestedRemedy

Change: Clause 149 and Annex 149A
To: Clause 149, Annex 149A

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **11** *L* **26** # I-22

Wienckowski, Natalie — General Motors Company

Comment Type **E** *Comment Status* **A**

802.3ca was approved by the standards board.

SuggestedRemedy

Change 20xx to 2020

Response *Response Status* **C**

ACCEPT.

Cl **0** *SC* **0** *P* *L* # I-11

Maytum, Michael — Retired,Retired/Unemployed

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

There are various classes of insulation used in IEC 62368-1:2018. These are basic, double, functional, reinforced, solid or supplementary. Functional insulation and the treatment thereof is uniquely handled by IEC 62368-1 in clause B.4.4 Functional insulation

SuggestedRemedy

Add functional insulation definition from IEC 62368-1:2018
functional insulation: insulation between conductive parts which is necessary only for the proper functioning of the equipment
NOTE: In IEEE 802.3 isolation is synonymous to functional insulation

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* *L* # I-19

Maytum, Michael — Retired,Retired/Unemployed

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

IEEE 802.3cg, 146.3.5 PCS Loopback, simply says “Additionally, the PHY receive circuitry shall be isolated from the network medium”. For PoDL, IEEE Std 802.3-2018 has clause 104.6.1 Isolation. Clause states:
“In order to prevent the formation of a ground loop, a PD shall provide at least 1 MΩ DC isolation between all accessible external conductors, including frame ground (if any), and all MDI leads, when measured using at least a 5V source voltage. Any equipment that can be connected to a PD through a non-MDI connector that is not isolated from the MDI leads must provide isolation between all accessible external conductors, including frame ground (if any), and the non-MDI connector, so as not to negate the DC isolation provided by the PD.”
For IEEE 802.3cg 10BASE-T1L can run up to 1 km and is highly likely to pick up transient voltages of many kV. Further the PSE may be earthed with powering voltages up to ±60 V. This makes the 5 V insulation resistance measurement inadequate and it is more appropriate to use the standard 2-pair and 4 pair isolation requirements.

SuggestedRemedy

For IEEE 802.3 clause 104.6.1 Isolation add.
"The electrical isolation of 10BASE-T1L PDs shall conform to J.1."

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **2** *L* **4** # I-10

Maytum, Michael — Retired,Retired/Unemployed

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

Keywords: Ethernet; IEC 60950; IEC 62368; Isolation; safety.
IEC 62368-1:2018 only uses isolation in the context of mains Interlock circuits, mains disconnect device and Touch current from coaxial cables (galvanic isolation, which usually consists of series capacitors). IEC 62368-1 uses the term "functional insulation" for the IEEE 802.3 term "isolation".

SuggestedRemedy

Add the term "functional insulation" to key words

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **2** *L* **5** # I-46

Bustos Heredia, Jairo — Wurth Elektronik eiSos

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

The word "Isolation" is capitalized whereas the next word "safety" is not.

SuggestedRemedy

Change "Isolation" with "isolation".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **0** *SC* **0** *P* **22** *L* **3** # I-45

Bustos Heredia, Jairo — Wurth Elektronik eiSos

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

Inconsistencies found throughout the draft when writing "Electrical isolation".
Inconsistencies have also been found in following pages and lines: Page 31 Line 7 (in Table 14.10.4.5.11)
Page 45 Line 14 (in Table 40.12.7)
Page 119 Line 14

SuggestedRemedy

Change "Electrical Isolation" with "Electrical isolation".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **0** *SC* **0** *P* **22** *L* **12** # I-48

Bustos Heredia, Jairo — Wurth Elektronik eiSos

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

"Electrical" is capitalized. The same occurrency on page 121 line 13.

SuggestedRemedy

Change "Electrical" with "electrical".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **0** *SC* **0** *P* **25** *L* **13** # I-12

Maytum, Michael — Retired,Retired/Unemployed

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

"Isolation impedance between", but J1 doesn't mention impedance

SuggestedRemedy

Delete "impedance"

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **39** *L* **40** # I-47

Bustos Heredia, Jairo — Wurth Elektronik eiSos

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

The superscript to reference the foot note is missing. Another inconsistency has been found on page 41 line 9.

SuggestedRemedy

Insert superscript to have: "IEC 60950-1^1".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **0** *SC* **0** *P* **39** *L* **40** # I-49

Bustos Heredia, Jairo — Wurth Elektronik eiSos

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

Reference to IEC 60950-1. Not sure why there are still some references to IEC 60950-1 in the standard. Another reference has been found on page 41 line 9 and line 12 (Table 33.8.3.9), page 111 line 17,

SuggestedRemedy

Remove reference to IEC 60950-1.

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **119** *L* **18** # I-16

Maytum, Michael Retired,Retired/Unemployed

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

"a)1500 V rms at 50 Hz to 60 Hz, applied as specified in Section 5.4.9.1 of IEC 62368-1:2018." is not matching the IEC 62368-1:2018 requirement. Section 5.4.9.1 of IEC 62368-1:2018 states basic insulation is subjected to Table 12 impulse values and the highest test voltage from Table 25, 26 or 27, impulse values which, for 230 V mains, IEC 62368-1 tests with a 2500 V peak AC or DC voltage. IEC 62368-1:2018 totally ignors the IEC 60664-1:2020, Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests, recommendation that an impulse voltage, not AC or DC voltages, is most appropriate test approach for coupled transients.

SuggestedRemedy

Change AC voltage to "AC 2500 V peak at 50 Hz to 60 Hz" to match IEC 62368-1

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **119** *L* **19** # I-17

Maytum, Michael Retired,Retired/Unemployed

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

"2250 V dc, applied as specified in Section 5.4.9.1 of IEC 62368-1:2018." is not matching the IEC 62368-1:2018 requirement. Section 5.4.9.1 of IEC 62368-1:2018 states basic insulation is subjected to Table 12 values and the highest test voltage from Table 25, 26 or 27, which for 230 V mains is 2.5 kV peak AC or DC voltage. IEC 62368-1:2018 totally ignors the IEC 60664-1:2020, Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests, recommendation that an impulse voltage, not AC or DC voltages, is most appropriate test approach for coupled transients.

SuggestedRemedy

Change DC voltage to "DC 2500 V" to match IEC 62368-1

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **119** *L* **20** # I-18

Maytum, Michael Retired,Retired/Unemployed

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

"A sequence of ten 2400 V impulses of alternating polarity". There are two problems with this voltage level:
2400 V is not a preferred IEC voltage level - see IEC 60664-1:2020, Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests, which uses 2500 V. IEC 62368-1:2018 also has a preferred value of 2500 V.
2500 V is used in ITU-T K.20, K,21 and K.45 for Ethernet port testing along with other regional standards such as ATIS 0600012.05:2017, Electrical Protection for Ethernet Systems.

SuggestedRemedy

Harmonize by changing to "A sequence of ten 2500 V impulses of alternating polarity"

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **119** *L* **21** # I-14

Maytum, Michael Retired,Retired/Unemployed

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

The IEC (see IEC 60099 series) defines the impulse designation of an impulse shape: combination of two numbers, the first representing the virtual front time (T1) and the second the virtual time to half-value on the tail (T2)
Note 1 to entry: It is written as T1/T2, both in microseconds, the sign "/ " having no mathematical meaning.
So the impulse designation of 1.2/50 µs doesn't need the µs.

SuggestedRemedy

Change "The shape of the impulses is 1.2/50 µs " to "The shape of the impulses is 1.2/50"

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **119** *L* **22** # I-13

Maytum, Michael — Retired,Retired/Unemployed

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

"defined in Annex D of IEC 62368-1:2018." This generator is hardy ever used or available. IEC 62368-1 specifies the use of this circuit 2 D.1 generator in G.10.3 Resistor test, G.16 IC that includes a capacitor discharge function (ICX) and to simulate transients in AC and DC mains power distribution systems. It is not used for testing functional insulation. The generator that is specified for insulation testing in IEC 60664-1:2020 is the 1.2/50-8/20 combination generator as described in IEC 61000-4-5:2014 Table 2 .

SuggestedRemedy

Change text to "defined in Table 2 of IEC61000-4-5:2014"

Proposed Response *Response Status* **W**

TFTD

Cl **0** *SC* **0** *P* **119** *L* **27** # I-15

Maytum, Michael — Retired,Retired/Unemployed

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

A major omission in Annex J is the requirements of IEC 62368-1 clause B.4.4 Functional insulation. What this clause says is if any of the following items are NOT met then the isolation/functional insulation is shorted. These items are; clearance and creepage distance for basic insulation, clearance and creepage distance for basic insulation under pollution degree 1 or pollution degree 2 and electric strength test of 5.4.9.1 for basic insulation. Shorting the functional insulation shall not create an equipment safety hazard.

SuggestedRemedy

Add text to the effect "Should insulation breakdown occur in isolation testing IEC 62368-1:2018 requires proof that an electrical hazard will not be created. IEC 62368-1:2018 B.4.4. applies a short across the isolation followed by a measurents and observations for safety hazards."

Proposed Response *Response Status* **W**

TFTD

Cl **1** *SC* **1.3** *P* **23** *L* **34** # I-23

Wienckowski, Natalie — General Motors Company

Comment Type **E** *Comment Status* **A**

IEC 62368 is not found in IEEE802.3-2018.

SuggestedRemedy

Remove Subclause 1.3 and all content or change the editing instruction if an ammendment to IEEE802.3-2018 added this reference.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:
"Change the reference for IEC 62368-1 as follows:"
to:
Change the reference for IEC 62368-1 (as inserted by IEEE Std 802.3cg-2019) as follows:"

Cl **8** *SC* **8.7.1** *P* **24** *L* **40** # I-24

Wienckowski, Natalie — General Motors Company

Comment Type **E** *Comment Status* **A**

802.3-2018 has different text than that quoted in this draft.

SuggestedRemedy

Change: All Physical Layer MDI
To: All stations

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "All Physical Layer MDI meeting this standard …" to
"<All stations><<All Physical Layer MDI>> meeting this standard …"
Where <All stations> is strikethrough text and <All Physical Layer MDI> is underlined

Cl **14** *SC* **14.3.1.1** *P* **30** *L* **10** # I-25

Wienckowski, Natalie — General Motors Company

Comment Type **E** *Comment Status* **A**

802.3-2018 has different text than that quoted in this draft. It has the text as modified by 802.3bt.

SuggestedRemedy

Change editor's instruction to: Change text in 14.3.1.1 (as modified by IEEE Std 802.3bt-2018) as follows:

Response *Response Status* **C**

ACCEPT.

Cl **27** *SC* **27.5.1** *P* **37** *L* **11** # I-26

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

A new note is being added. There is no existing note to change.

SuggestedRemedy

Replace "Change" with "Insert". Also, remove underlining as it is not needed as the only text being shown is the text to insert.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.7.1** *P* **39** *L* **39** # I-27

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

Not all new text is underlined.

SuggestedRemedy

Underline "the general safety requirements as specified in J.2 or"

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.8.3.4** *P* **40** *L* **10** # I-28

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

Editor's note needs to include instruction to renumber the remaining items in the table.

SuggestedRemedy

Update editor's instruction to add "and renumber items EL6 through EL19 to EL3 through EL13.

Response *Response Status* **C**

ACCEPT.

Cl **38** *SC* **38.7.1** *P* **42** *L* **12** # I-29

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

Not all new text is underlined.

SuggestedRemedy

Underline "subject to this clause".

Response *Response Status* **C**

ACCEPT.

Cl **38** *SC* **38.12.4.1** *P* **43** *L* **13** # I-30

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

OR30 is in subclause 38.12.4.5. The title used in the draft is for 38.12.4.5.

SuggestedRemedy

Change 38.12.4.1 to 38.12.4.5.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 38.12.4.1 to 38.12.4.5 in title and editors instruction.

Cl **40** *SC* **40.12.7** *P* **45** *L* **8** # I-31

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

Editor's note needs to include instruction to renumber the remaining items in the table.

SuggestedRemedy

Update editor's instruction to add "and renumber items PME6 through PME64 to PME3 through PME61.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.5.1** *P* **52** *L* **9** # I-32

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

Referenced ammendment should be in parenthesis.

SuggestedRemedy

Put this text in parenthesis: as modified by IEEE Std 802.3bt-2018.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.9.1** *P* **52** *L* **33** # I-33

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

Not all new text is underlined.

SuggestedRemedy

Underline "to the general safety requirements as specified in"

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.12.6** *P* **53** *L* **7** # I-34

Wienckowski, Natalie General Motors Company

Comment Type **E** *Comment Status* **A**

Editor's note needs to include instruction to renumber the remaining items in the table.

SuggestedRemedy

Add at the end of the editor's instruction "and renumber all of the items in the table accordingly.

Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.9.1** *P* **60** *L* **11** # I-35

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolate requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **71** *SC* **71.9.1** *P* **61** *L* **11** # I-36

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolate requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **72** *SC* **72.9.1** *P* **63** *L* **11** # I-37

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolate requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **83A** SC **83A.6.1** P **122** L **17** # I-41

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolation requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **83B** SC **83B.4.1** P **124** L **17** # I-42

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolation requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **84** SC **84.10.1** P **67** L **11** # I-38

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolation requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **93** SC **93.10.1** P **77** L **11** # I-39

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolation requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **94** SC **94.5.1** P **79** L **11** # I-40

Wienckowski, Natalie General Motors Company

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

Add reference to J.1 as well since the original text included "including isolation requirements".

SuggestedRemedy

Add the following text after "conform to the": isolation requirements as specified in J.1 and Add change PICS ES1 to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **138** SC **138** P **103** L **1** # I-6

Anslow, Peter Self

Comment Type **E** *Comment Status* **A**

Clause 138 was added by IEEE Std 802.3cd-2018. Clause 138 was modified by IEEE Std 802.3cn-2019, but none of the changes made affect the changes being made here. Clause 138 was also modified by IEEE Std 802.3cm-2020, which changed the title of the clause.

SuggestedRemedy

At the top of Page 103 change "Clause 138 was added by IEEE Std 802.3cn-2019" to "Clause 138 was added by IEEE Std 802.3cd-2018 and changed by IEEE Std 802.3cm-2020" Change the title of Clause 138 and the titles of 138.11 and 138.11.4 to reflect the changes made by IEEE Std 802.3cm-2020.

Response *Response Status* **C**

ACCEPT.

Cl **139** *SC* **139** *P* **105** *L* **1** # I-7

Anslow, Peter Self

Comment Type **E** *Comment Status* **A**

Clause 139 was added by IEEE Std 802.3cd-2018. Clause 139 was modified by IEEE Std 802.3cn-2019, which changed the title of the clause.

SuggestedRemedy

At the top of Page 105 change "Clause 139 was added by IEEE Std 802.3cn-2019" to "Clause 139 was added by IEEE Std 802.3cd-2018 and changed by IEEE Std 802.3cn-2019" Change the title of Clause 139 and the titles of 139.11 and 139.11.4 to reflect the changes made by IEEE Std 802.3cn-2019.

Response *Response Status* **C**

ACCEPT.

Cl **140** *SC* **140** *P* **107** *L* **1** # I-8

Anslow, Peter Self

Comment Type **E** *Comment Status* **A**

Clause 140 was added by IEEE Std 802.3cd-2018. Clause 140 was modified by IEEE Std 802.3cn-2019, but none of the changes made affect the changes being made here.

SuggestedRemedy

At the top of Page 107 change "Clause 140 was added by IEEE Std 802.3cn-2019" to "Clause 140 was added by IEEE Std 802.3cd-2018"

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141** *P* **109** *L* **1** # I-9

Anslow, Peter Self

Comment Type **E** *Comment Status* **A**

"Clause 141 was added by IEEE P802.3ca" should be "Clause 141 was added by IEEE Std 802.3ca-2020"

SuggestedRemedy

Change "Clause 141 was added by IEEE P802.3ca" to "Clause 141 was added by IEEE Std 802.3ca-2020"

Response *Response Status* **C**

ACCEPT.

Cl **Annex J** *SC* **ex J** *P* **119** *L* **16** # I-44

Wiese, James ADTRAN Inc.

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

*** Comment submitted with the file IEEE_P802d3cr_Jim_Wiese_comment.pdf;IEEE_P802d3cr_Jim_Wiese_suggested_change.pdf attached ***

Please see attached document <IEEE_P802d3cr_Jim_Wiese_comment.pdf> for rationale.

SuggestedRemedy

Please see attached document <IEEE_P802d3cr_Jim_Wiese_suggested_change.pdf> for suggested change.

Proposed Response *Response Status* **W**

TFTD

Cl **J1** *SC* **J1** *P* **119** *L* **27** # I-43

Maytum, Michael Retired,Retired/Unemployed

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

How to handle voltage limiters has never been clearly defined, even back in the IEC 60950-1 days. Yet the approach is obvious to experienced engineers.

Many Ethernet port designs use a voltage limiting function (component) to prevent voltage transients (impulse) from causing the insulation breakdown. Technically the conduction of voltage limiting function is not insulation breakdown, but it will try to mitigate the specified AC, DC and impulse voltages appearing at the Ethernet port. IEC 62368-1 has two approaches when the external circuit port is fitted with voltage limiting. 5.4.9.1 Test procedure for type testing of solid insulation states "Components providing a DC path in parallel with the insulation to be tested, such as discharge resistors for filter capacitors and voltage limiting devices, may be disconnected." Please note "May" not "Shall".
For impulse testing, the Table 28 notes explains some more " Surge suppressors may be removed, provided that such devices pass the impulse test of 5.4.10.2.2 when tested as components outside the equipment." and "During this test, it is allowed for a (fitted) surge suppressor to operate and for a sparkover to occur in a GDT."
For AC and DC testing no source impedance is specified (unlimited current) so voltage limiters must be removed to avoid destroying them. For impulse testing the voltage limiting function may be left in place as this is its intended purpose (mitigate transient voltages).

SuggestedRemedy

Add the following text
"Voltage limiters intended to prevent Ethernet port insulation breakdown shall be removed for AC and DC voltage testing if their limiting voltage is less than the specified AC or DC test voltages applied. For impulse testing, voltage limiters may be left in place to perform their intended function. If removed for impulse testing, the voltage limiter shall pass the impulse test when separately tested."

Proposed Response *Response Status* **W**

TFTD