**Text for Clause 104 to implement new PSE/PD type for 100BASE-T1L**

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**SUMMARY:**

Adds Type G for 100BASE-T1L. Proposed Ripple & Transient requirements mirror types A & C (for 100BASE-T1) due to bandwidth similarities.

Note – changes do not include 104.6.2 Fault Tolerance, which is the subject of a different comment, and needs to be discussed.

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Add the following to the draft (with editorial license to conform to clause 104 and editing instruction style):

**104.1.3 PoDL system types**

*Insert the following after the last sentence of the second paragraph of 104.1.3 (as part of the same paragraph):*

A Type G PSE and Type G PD are compatible with 100BASE-T1L PHYs.

**104.4 Power Sourcing Equipment (PSE)**

**104.4.1 PSE types**

*Change 104.4.1 as follows:*

For PoDL systems there are multiple types of PSEs—Type A, Type B, Type C, Type D, Type E, ~~and~~ Type F<u>, and Type G</u> consistent with 104.1.3.

**104.4.7 PSE output requirements**

**104.4.7.3 Power feeding ripple and transients**

*Change the first sentence of the third paragraph of 104.4.7.3 as shown:*

When measuring the ripple voltages for a Type A ~~or,~~ Type C<u>, or Type G</u> PSE as specified by Table 104–7 item (4b), the voltage observed at the MDI/PI with the differential probe where

$f_1$ = 31.8 kHz ± 1% is post-processed with transfer function $H_2(f)$ specified in Equation (104–3) where $f_2$ = 1 MHz ± 1%.

*Change third sentence of the 2nd paragraph of 104.4.7.3 as shown:*

When measuring the ripple voltage for a Type A ~~or,~~ Type C, or Type G PSE as specified by Table 104-7 item (4a), $f_1$ = 31.8 kHz ± 1%.

**104.5 Powered Device (PD)**

**104.5.1 PD types**

*Change 104.5.1 as shown:*

For PoDL systems there are six types of PDs—Type A, Type B, Type C, Type D, Type E, ~~and,~~ Type F, and Type G consistent with 104.1.3.

**104.5.7 PD power**

**104.5.7.4 PD ripple and transients**

*Insert the following new last sentence to the second paragraph of 104.5.7.4:*

The ripple and transient specifications for a Type G PD shall be met for all operating voltages in the range of $V_{PD}$ sourced through a dc bias coupling network with MDI return loss as specified by Clause 190 and over the range of $P_{PD}$.

*Change the third sentence of the third paragraph of 104.5.7.4 as shown:*

When measuring the ripple voltage for a Type A ~~or,~~ Type C, or Type G PD as specified by Table 104–11 item (3a), $f_1$ = 31.8 kHz ± 1%.

*Change the first sentence of the fourth paragraph of 104.5.7.4 as follows:*

When measuring the ripple voltages for a Type A ~~or,~~ Type C, or Type G PD as specified by Table 104–11 item (3b), the voltage observed at the MDI/PI with the differential probe where $f_1$ = 31.8 kHz ± 1% shall be post-processed with transfer function $H_2(f)$ specified in Equation (104–3) where $f_2$ = 1 MHz ± 1%.

### 104.7 Serial communication classification protocol (SCCP)

### 104.7.2 Serial communication classification protocols

#### 104.7.2.4 Read_Scratchpad function command [0xAA]

(Add Table 104-13 - CLASS_TYPE_INFO register table to the draft, with editing instruction)

*Change first row of Table 104-13 as shown (unchanged rows not shown):*

Table 104–13—CLASS_TYPE_INFO register table

| Bit(s) | Name | Description | R/W |
|---|---|---|---|
| b[15:12] | Type | 15 14 13 12<br>1 1 1 0 = Type A<br>1 1 0 1 = Type B<br>1 0 1 1 = Type C<br>0 1 1 1 = Type D<br>1 1 0 0 = Type E<br>0 0 1 1 = Type F<br>0 0 1 0 = Type G | RO |

### 104.9 Protocol implementation conformance statement (PICS) proforma for Clause 104, Power over Data Lines (PoDL) of Single-Pair Ethernet

#### 104.9.3 Major capabilities/options

*Change table to add rows for Type G PSE and Type G PD functionality, after rows for Type F PSE and PD functionality, respectively (unchanged rows not shown) as shown:*

| Item | Feature | Subclause | Value/Comment | Status | Support |
|---|---|---|---|---|---|
| *PSETG | Implements PSE Type G functionality | 104.1.3 | Provides support for requirements of Type G Power Sourcing Equipment | O | Yes[]<br>No[] |
| | | | ... | | |
| *PDTG | Implements PD Type G functionality | 104.1.3 | Provides support for requirements of Type G Powered Device Equipment | O | Yes[]<br>No[] |

#### 104.9.4.3 Powered Device (PD)

*Insert new PICS row PD20a after PD20 (Type A or Type C PD ripple and transients) as shown (unchanged rows not shown):*

| Item | Feature | Subclause | Value/Comment | Status | Support |
|---|---|---|---|---|---|
| PD20a | Type G PD ripple and transients | 104.1.3 | In accordance with specifications shown in Table 104–11 for all operating voltages in the range of $V_{PD}$ sourced through a dc bias coupling network with MDI return loss as specified by Clause 190, and over the range of $P_{PD}$ Power Sourcing Equipment | PDTG:M | Yes[]<br>N/A[] |