Cl **79** *SC* **79** *P* **19** *L* **23** # 1

Tremblay, David — Hewlett Packard Enterprise

Comment Type **ER** *Comment Status* **D** *DLL*

Provide guidance to users on how to resolve Type 1-2 and Type 3-4 sending differnet length TLVs

SuggestedRemedy

Include the following table:

Power Entity A	Power Entity B	Power Entity A Transmits	Power Entity B Transmits	Resolution
Type 1-2	Type 1-2	12 octet TLV	12 octet TLV	12 octet TLV
Type 3-4	Type 1-2	29 octet TLV	12 octet TLV	12 octet TLV
Type 1-2	Type 3-4	12 octet TLV	29 octet TLV	12 octet TLV
Type 3-4	Type 3-4	29 octet TLV	29 octet TLV	29 octet TLV

Proposed Response *Response Status* **W**

TFTD

See comment 8 for Lennart's proposal

Cl **79** *SC* **79.3.8.1** *P* **20** *L* **53** # 2

Yseboodt, Lennart — Signify

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

There is missing underline in the Table 79-8a note, "33.3.7.1" needs underlining as well.

SuggestedRemedy

Fix per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.2.5.7** *P* **23** *L* **40** # 3

Yseboodt, Lennart — Signify

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

"Figure 145-3 "Primary Alternative dual-signature semi-independent PSE state diagram" should be Figure 145-15.

SuggestedRemedy

Change the Figure number, also in the editorial instruction on p23/line 3.
Note: I see you have Figure 145-15 in two locations in the document: on page 23, in the correct location, but wrong Figure number;
and on page 26, wrong location, but correct Figure number. They do seem the be identical otherwise.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.3.3.3.5** *P* **25** *L* **4** # 4

Yseboodt, Lennart — Signify

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

This Figure 145-14 should reside in 145.2.5.7 as it is part of the PSE state diagram.

SuggestedRemedy

Move this to 145.2.5.7.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.3.3.3.5** *P* **28** *L* **1** # 5

Yseboodt, Lennart — Signify

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

There is a double editing instruction.

SuggestedRemedy

Replace line 1 by: "Modify Figure 145-25 as follows:"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.5.3.2.5** *P* **34** *L* **3** # 6

Yseboodt, Lennart Signify

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

There are typos in the editing instruction:
"Modify Figure 145-41 to add assignement of ac_measeurement_completed as follows:"

SuggestedRemedy

"Modify Figure 145-41 to add assignment of ac_measurement_completed as follows:"

Also, that entire line added in IDLE should be underlined.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.7** *P* **37** *L* **12** # 7

Yseboodt, Lennart Signify

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

The following PICS are missing, or changes to existing PICS are missing:
- Missing PIC for "If P Autoclass is less than or equal to 4 W then the minimum supported output power shall be P Class per the assigned Class." on page 23
- Missing PIC (comes after PSE51) for "If the PSE returns to IDLE_PRI or IDLE_SEC, it shall maintain the PI voltage on the corresponding pairset in the range of V Reset for a period of at least T Reset min before starting a new detection cycle."

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **79** *SC* **79.3.2** *P* **19** *L* **23** # 8

Yseboodt, Lennart Signify

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

The Editor's Note asks for a clarifying note.

SuggestedRemedy

Insert the following in stead of the note:
"Note: some implementations of the Power VIA MDI TLV in Type 1 and Type 2 devices ignore TLVs that have greater than 12 octets.
In order to be interoperable with these implementations, Type 3 and Type 4 are permitted to send either 29 octet TLVs (including the Type 3 and Type 4 extension) or
12 octet TLVs (without the Type 3 and Type 4 extension). Type 3 and Type 4 PD devices can determine the PSE Type based on the length of the first classification event (see 145.3.7).
Type 3 and Type 4 PSEs can determine the PD Type based on the PDs requested Class (see 145.2.8 and 145.3.6.1) or based on the length of a received Power via MDI TLV."

Proposed Response *Response Status* **W**

TFTD

See comment 1 for Dave T.'s proposal

Cl **145** *SC* **145.2.5.4** *P* **21** *L* **43** # 9

Yseboodt, Lennart Signify

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

The variable 'ac_measurement_done' lacks a description for the values.

SuggestedRemedy

Add the following to ac_measurement_done:
FALSE: The Autoclass measurement is not active and the Autoclass mechanism is IDLE
TRUE: An Autoclass measurement is in progress or the state diagrams are synchronising back to an Autoclass IDLE state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Apply following values to the variable "ac_measurement_completed".

FALSE: The Autoclass measurement has not completed.
TRUE: An Autoclass measurement has been completed and the state diagrams are synchronising back to an Autoclass IDLE state

Cl **145** *SC* **145.2.5.6** *P* **22** *L* **23** # 10

Yseboodt, Lennart Signify

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

See AUTOCLASS_CANCEL comment.

If that comment is adopted, we will be using "P_Autoclass" in the state diagram.
While it is referenced by the do_autoclass_measure function in 145.2.5.6, it isn't acutally returned by that function.

SuggestedRemedy

1. Pull 'do_autoclass_measure' into the draft.
2. Add the following:
"The function returns the following variable:
P_Autoclass: is the power measured by the PSE during Physical Layer Classification as defined in 145.2.8.2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.3.3.3.5** *P* **25** *L* **19** # 11

Yseboodt, Lennart Signify

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

Label: AUTOCLASS_CANCEL

When a PD cancels Autoclass (by drawing <4W during the measurement period), the PSE needs to
allocate power per the assigned Class and also with regard to DLL treat the PD as if it never requested Autoclass.

The DLL behavior is controlled per the "pd_autoclass" variable, which is set during the first class event.

SuggestedRemedy

(note to editor, even though this comment is 'located' in 145.3.3.3.5, all the changes are actually in the PSE section 145.2.*.)

1. Create a new variable "pd_autoclass_canceled" in 145.2.5.4, with description:
"A variable that indicates whether the PD cancelled Autoclass by drawing less than Class 1 power during the Autoclass measurement period.
Values: FALSE: The PD did not cancel Autoclass or did not request Autoclass.
TRUE: The PD requested Physical Layer Autoclass and cancelled."

2. Add "pd_autoclass_canceled <= FALSE" in the CLASS_EV1_LCE state (Figure 145-13).

3. Insert a new state "EVAL_ACS" between MEASURE_ACS and MEASURE_ACS_DONE; with
a) Content of "EVAL_ACS" is
"IF PAutoclass <= 4.0 THEN
pd_autoclass_canceled <= TRUE
END"
b) Condition from EVAL_ACS to MEASURE_ACS_DONE is "UCT"

4. Pull in the variable "pse_initial_value" from 145.5.3.2.2 into the draft.
a) Change the first sentence to read:
"The value of this variable is valid after classification and is derived from the pse_allocated_pwr, pd_autoclass, and pd_autoclass_canceled variables (145.2.5.4), which is used in the PSE state diagrams in 145.2.5.7."
b) In the 'values' change "pd_autoclass" to "pd_autoclass * !pd_autoclass_canceled"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.3.3.3** *P* **30** *L* **14** # 12

Yseboodt, Lennart Signify

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

(See AUTOCLASS_CANCEL as main comment.)

When a PD cancels Autoclass (using pd_acs_cancel), it should also follow the rules of a non-Autoclass PD with regards to DLL.
Currently a PD would send 0xACAC as PDRequestedPowerValue and confusion on the PSE side would ensue.

SuggestedRemedy

- Add the variable "pd_initial_value" in sublclause 145.5.3.3.1 to the draft.
- For that variable, change the first sentence to read:
"The value of this variable is valid after classification and is derived from the pd_max_power, pd_acs_cancel,
and pd_autoclass_enable variables (145.3.3.3.2) used in the PD state diagrams; defined in Figure 145-25."
- In the values, change "pd_autoclass_enable" to "pd_autoclass_enable * !pd_acs_cancel"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **145** *SC* **145.3.8.4** *P* **32** *L* **1** # 13

Yseboodt, Lennart Signify

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

Equations 145-24 and 145-25 are off by a factor 10 in the BT spec.
They refer to PDMaxPowerValue in an equation that results in "Watts", but fails to take into account that
the unit of PDMaxPowerValue is in deciwatts.

SuggestedRemedy

Bring those equations into the 802.3cv draft.

Divide each instance of PDMaxPowerValue and PDMaxPowerValue_mode(X) by 10.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

(although this seems odd when the value is multiplied by a random decimal number…for example 0.129 * PDMPV / 10 can be reduced…)

Cl **145** *SC* **145.3.8.4.1** *P* **32** *L* **36** # 14

Yseboodt, Lennart Signify

Comment Type **T** *Comment Status* **X** *Extended Power*

"Editors note: Extended power requirements need to be reviewed and fixed if necessary."

The extended power requirement should follow the same format as the ext. power rule for PClass_PD.

SuggestedRemedy

Replace the text in 145.3.8.4.1 by the following:

"For single-signature PDs assigned to Class 8 and for dual-signature PDs assigned to Class 5, when additional information is available to the PD regarding actual link section DC resistance between the PSE PI and the PD PI, in any operating condition with any static voltage at the PI, the peak power shall not exceed P Port_PD max for single-signature PDs and P Port_PD-2P max for dual-signature PDs for more than T CUT min, as defined in Table 145-16 and with 5% duty cycle. Peak operating power shall not exceed 1.05 X P Port_PD max for single-signature PDs and shall not exceed 1.05 X P Port_PD-2P max for dual-signature PDs on each pairset. P Port_PD max and P Port_PD-2P max refers to the maximum power draw as permitted by 145.3.8.2.1."

Remove the editor's note.

Update PICS PD56 and PD57.

Proposed Response *Response Status* **W**

TFTD

(note to editor: be careful if copying text as there are many symbols contained within)

Cl **145** *SC* **145.5.3.2.5** *P* **34** *L* **16** # 15

Yseboodt, Lennart Signify

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

We did not actually fix the issue indicated by Comment #8 against 802.3bt.
The race condition is still there, all we did was add a variable that get's written but is never read.

SuggestedRemedy

1. In Figure 145-41, change the arc from MEASURE to AUTOCLASS to read "ac_measurement_completed".
2. Change the arc in Figure 145-14 between IDLE_ACS and MEASURE_ACS_DLL to read: "pse_dll_ready * MirroredPDAutoclassRequest * !ac_measurement_completed"

This has the effect of waiting for Figure 145-14 to have progressed from MEASURE_ACS_DLL to MEASURE_ACS_DONE before proceeding to AUTOCLASS in Fig. 145-41.
We also make it wait in IDLE_ACS until Fig 145-41 has returned to IDLE.

Note: this requires simulation to fully verify.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD