

Comment (#321 AND #164, #88, #396):

#164 (Yair) #88 (Ken) : 145.3.8.2 , Page 184, L11.

#396 (Lennart) : 145.3.8 Page 182, L1.

In the text "PClass_PD and PClass_PD-2P in Table 145–28 are determined per the assigned Class. PClass_PD values for each Class are shown in Table 145–24, PClass_PD-2P values for each Class are shown in Table 145–25."

(1) Yair: PClass_PD and PClass_PD-2P are not defined in Table 145-28.

(2) Ken in #88: Pport_PD, Pport_PD-2P were previously used in the table as symbols to describe a PD's input average power, with corresponding maximum limits of PClass_PD, PClass_PD-2P. The elimination of the Pport variables caused PClass_PD and PClass_PD-2P to be removed from table 145-28.

So he suggests restore Pport_PD, Pport_PD-2P back to Table 145-28

(3) Lennart in #396 suggests the same as Ken proposal.

(4) Yair: In addition some information regarding the conditions that PClass_PD and PClass_PD-2P should be met are missing and are in 145.3.8.10.

#321 (Lennart) : 145.3.8.10, Page 191, L20.

In the text: "Under all operating states, dual-signature PDs shall not exceed I Con-2P as defined in Equation (145-8) for longer than T CUT-2P min as defined in Table 145-16 on any pair when PD PI pairs of the same polarity are connected to all possible common source voltage in the range of V Port_PSE-2P through two common mode resistances, Rsource_min and R source_max, as defined in Equation (145-32) and shown in Figure 145-34."

This is a troublesome statement for a few reasons:

- dual-sig PDs are already required not to exceed PClass_PD-2P (which equates to Icon-2P) under any circumstance.

- Icon-2P is a PSE parameter, unknowable to the PD.

-Yair: If you test it under the conditions of 145.3.8.10 i.e. with a voltage source and Rsource that then the current will be Icon-2P which is a common parameter for the PD and PSE due to the fact that it is current – the same current: $I_{con-2P} = P_{class} / V_{pse} = P_{class_PD} / V_{pd}$ + the conditions of 145.3.8.10.

-Looking at your remedy options Lennart, in my opinion, results with the following;

Option1: Is no good. In this case the conditions to meet Icon-2P are not specified.

Option 2: Is no good. Missing "shall" for the conditions to meet Icon-2P.

Option 3:

-Yes, you can replace it with P_{class_PD} / V_{pd} but not all relevant parameters are specified in Table 124-25 e.g. V_{pd} .

- P_{class_PD-2P} / V_{PD} is accurate but kind of odd description It is better $I_{con-2P} = \{P_{class_PD-2P} / V_{PD}\}_A$

- What this really tries to do is qualify that PClass_PD-2P shall to only apply to PDs connected to a channel with acceptable unbalance. Yair: Correct.

Proposed Remedy:

[Baseline starts here]

- 1. Restore PPort_PD and PPort_PD-2P as they were in Table 33-30 in D2.2.*
- 2. Make the following changes below.*

145.3.8.2 Input average power

PClass_PD and PClass_PD-2P in Table 145–28 are determined per the assigned Class. PClass_PD values for each Class are shown in Table 145–24, PClass_PD-2P values for each Class are shown in Table 145–25. The assigned PSE Class is determined by the number of class events and the requested Class by the PD, as shown in Table 145–11. PClass_PD is the maximum average PI power and applies to single-signature PDs. PClass_PD-2P is the maximum average power on a pairset and applies to dual-signature PDs.

The maximum average power, PClass_PD or PClass_PD-2P in Table 145–24, Table 145–25, and Table 145–28 or PDMaxPowerValue in 145.5.3.3, is calculated over a 1 second interval [under the conditions specified in 145.3.8.10](#). PDs may dynamically adjust their maximum required operating power below PClass_PD or PClass_PD-2P as described in 145.5. PDs may also adjust their maximum required operating power below PClass_PD or PClass_PD-2P by using Autoclass (see 145.3.6.2). PDs that have successfully completed DLL classification, shall not exceed a power consumption of PDMaxPowerValue as defined in 145.5.3.3.

- 1. For the following proposed changes see complete remedy in: [yseboodt_08_0317_peakunbalance](#) and include the changes made to Icon-2P in Equation 145-XZ as shown in this proposal.*

145.3.8.10 PD pair-to-pair current unbalance

Under all operating states, single-signature PDs shall not.....

Under all operating states, dual-signature PDs shall not exceed ICon-2P as defined in Equation ~~(145-8)~~ [145-XZ1](#) for longer than TCUT-2P min as defined in Table 145–16 on any pair when PD PI pairs of the same polarity are connected to all possible common source voltage in the range of VPort_PSE-2P through two common mode resistances, Rsource_min and Rsource_max, as defined in Equation (145–32) and shown in Figure 145–34.

$$I_{con-2P} = \left\{ \frac{P_{Class_PD-2P}}{V_{pd}} \right\}_A \tag{145-XZ1}$$

where

[PClass_PD-2P](#) is the maximum power at the PD PI for a pairset per the PDs assigned Class as defined in Table 145–25.

[VPort_PD-2P](#) is the input voltage at a PD pairset as specified by Table 145-28.

[Baseline ends here]