

PSE Type identification v101

Info (not part of baseline)

With the change from `pse_power_type` (Type 1+2) to `pse_power_level` (Type 3+4) the requirements in 33.3.7 PSE Type identification broke. For Type 1+2 there was a requirement to “identify the Type” of the connected PSE. The purpose of this was to make sure the PD knew how much power it could take. The legacy text has become broken. For Type 3+4 there is no real requirement to identify the Type of the PSE, but we should rather specify it needs to count the class events to know what the allocated power is. Type 3+4 PDs only need to determine the PSE Type if they want to make use of short MPS.

Info (not part of baseline)

The function `do_class_timing` in the PD state diagram returns a variable ‘`short_mps`’ which really tells us if the PD saw a long first class event or not. We can use this variable to help determine the Type of the PSE, but the name is unfortunate. We generalize this variable into ‘`long_class_event`’ to indicate if a long first class event was seen.

33.3.3.9 Type 3 and Type 4 single-signature functions

Make changes to `do_class_timing` as follows:

`do_class_timing`

This function is used by a Type 3 or Type 4 PD to evaluate the Type of PSE connected to the link by measuring the length of the class event. The class event timing requirements are defined in Table 33–26. This function returns the following variable:

~~`short_mps`~~ `long_class_event`: A control variable that indicates to the PD the Type of PSE to which it is connected. This variable is used to indicate which MPS timing requirements (see 33.3.9) the PD should use.
Values:

FALSE: ~~The PSE uses Type 1, 2 MPS requirements~~ The PSE is identified as Type 1 or Type 2
TRUE: ~~The PSE uses Type 3, 4 MPS requirements~~ The PSE is identified as Type 3 or Type 4

Make compatible changes to the dual-signature `short_mps_modeA` and `short_mps_modeB`.

Rename `short_mps` to `long_class_event` throughout the draft.

Info (not part of baseline)

We’re going to put the text that deals with ‘`pse_power_level`’ here in the classification section.

33.3.6.2 PD Multiple-Event class signature

Info (not part of baseline)

For Type 3 and Type 4, the equivalent text to the Type 2 requirements in 33.3.7, is really about identifying assigned Class. Therefore it better fits in this section.

~~Type 3 and Type 4 PDs may determine if the PSE they are connected to supports short MPS by measuring the length of the first class event. The default value for `short_mps` is FALSE. If it chooses to implement short MPS, a PD may set `short_mps` to TRUE if the first class event is longer than $T_{LCE_PD\ min}$ and shall set `short_mps` to TRUE if the first class event is longer than $T_{LCE_PD\ max}$.~~

Append the following at the end of 33.3.6.2:

A Type 3 and Type 4 single-signature PD shall identify the PSEs assigned Class, as defined in Table 33–12. The default value of `pse_power_level` is 3, which corresponds with one class event. After a successful Multiple-Event Physical Layer classification has completed, the `pse_power_level` variable is set to either 3, 4, 6 or 8. Based on the value of `pse_power_level` and the PDs requested Class, `pd_req_class`, the assigned Class is derived in the variable `pd_max_power`.

A Type 3 and Type 4 dual-signature PD shall identify the PSEs assigned Class, as defined in Table 33–13. The default value of `pse_power_level_modeA` and `pse_power_level_modeB` is 3, which corresponds with one class event. After a successful Multiple-Event Physical Layer classification has completed, the `pse_power_level_modeA` and `pse_power_level_modeB` variable is set to either 3, 4, or 5. Based on the value of `pse_power_level` and the PDs requested Class, `pd_req_class_modeA` and `pd_req_class_modeB`, the assigned Class is derived in the variable `pd_max_power_modeA` and `pd_max_power_modeB`.

33.3.7 PSE Type identification

Info (not part of baseline)

The legacy Type requirements are restored in this section.

~~A PD shall identify a PSE Type as a Type lower or equal to its own Type. A PD connected to a higher PSE Type than its own may identify that PSE as its own Type.~~

~~The default value of `pse_power_level` is 3. After a successful Multiple-Event Physical Layer classification has completed the `pse_power_level` is set to either 3, 4, 6, or 8. After a successful Data Link Layer classification has completed, the `pse_power_level` is set to either 3, 4, 6 or 8.~~

~~A Type 2 PD shall identify the PSE Type as either Type 1 or Type 2 as shown in Figure 33–31). The default value of `pse_power_type` is 1. After a successful Multiple-Event Physical Layer classification or Data Link Layer classification has completed, the `pse_power_type` is set to 2. The PD resets the ~~`pse_power_level`~~ `pse_power_type` to 1 when the PD enters the DO_DETECTION state.~~

~~Type 3 and Type 4 PDs may determine the Type of the PSE they are connected to by measuring the length of the first class event. The default value for `long_class_event` is FALSE, which indicates the PSE is Type 1 or Type 2. Such a PD may set `long_class_event` to TRUE if the first class event is longer than T_{LCE_PD} min and shall set `long_class_event` to TRUE if the first class event is longer than T_{LCE_PD} max. This indicates the PSE is Type 3 or Type 4. This determination allows the PD to make use of short MPS to reduce standby power.~~