Matching PD Classification

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Matching Class for All PDs

- Approved in January: “A single load* PD shall present the same class on each pair-set”
- Extending this to all PDs has several benefits:
  - Makes the PD spec more uniform
  - SS, DS, T1/2 PDs are all the same
  - Type 3 Class 0-4 PDs will work consistently with 2p PSEs over either ALT
- With 8 available classes, there is plenty of power granularity available – mixed class signatures are not needed to extend class table
- This would keep existing non-matched class PDs non-compliant – but would not block interoperability

*now Single Signature

Baseline Text

- Add to 33.3.5, near line 41 (D0.4):
  - A PD shall present one, and only one, physical layer classification signature (single- or multiple-event). This signature shall be presented when probed by a PSE on either Alt-A or Alt-B.
  - Remove similar (now redundant) sentence at 33.3.5.1 line 20

Motion Preview

- All PDs shall present the same class signature at each pair-set
- Adopt Baseline Text on Slide 3

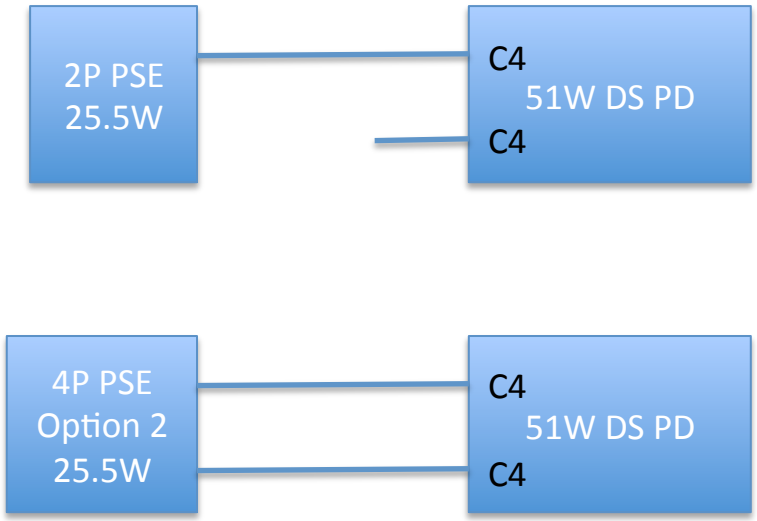
- Y/N/A

Interpreting Dual-Signature Class

- Current PSE Class strategy is:
  - SS PDs: Class measured at each pair = Total PD power
  - DS PDs: Class measured at each pair = Power per pair
    - Total PD power is sum of pair classes, 2x if classes match
- Type 3 Class 0-4 PDs can operate with 2p or 4p PSEs
- **This causes Dual-Signature PDs to be interpreted differently by 2p and 4p PSEs**

Both Strategies Have Flaws

- Option 1: Pair class = DS pair power (DS total power is 2x)
  - Complicated Class table
  - 2p PSEs will provide ½ power and may motorboat
- Option 2: Pair class = total PD power for all PDs
  - Simpler class table
  - Class 0-4 PDs work the same with 2p and 4p PSEs
  - Existing pre-standard per-pair-power PDs may motorboat



Class Mapping Proposal from March Updated with New Classes

PD (PSE) Power	Single-Interface PD Signature (Power per PD)	Dual-Interface PD Signature (Power per pair)
AF	AF	2x AF*
25.5W (30W)	4	2x 3*
40W (45W)	4400	??
51W (60W)	4411	2x 444
62W (75W)	44333	??
71W (99W)	44222	2x 44000

* These may not exist in the field. Note that 2x 13W = 26W

** 44333 is always “max LPS power” regardless of PD type