MPS Baseline

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PD DC Maintain Power Signature - Table 33–19a

Item	Parameter	Symbol	Units	Min	Max	PD Type	Conditions
1	Input current	I_{Port_MPS}		0.01		1-4	• Single Signature PD • Pclass_PD ≤ PD class -4 power limit. • Total current sum of both pair-sets
				0.016		3-4	• Single Signature PD • Pclass_PD > PD class -4 power limit. • Total current sum of both pair-sets
				0.008		1-4	• Dual Signature PD • Current value for each powered pair-set

Add to 33.3.8 (after 2nd paragraph):

PDs using Auto class shall use the Iport_MPS associated with the PD class advertised during physical layer classification.

PSE DC Maintain Power Signature - Table 33–11

Item	Parameter	Symbol	Units	Min	Max	PSE Type	Additional Information
17	DC MPS current when measured over a pair-set[1] connected to Single Signature PDs	I_{Hold}	A	0.005	0.01	1, 2	
				0.002	0.005	3,4	Pclass ≤ Pclass(4). The pair-set with highest current.
				0.002	0.007	3,4	Pclass_PD ≥Pclass(5) The pair-set with highest current.
17a	DC MPS current when measured over a pair-set[1] connected to Dual Signature PDs			0.002	0.007	3,4	MPS need to be detected over each pair-set.
17b	DC MPS current when total sum of both pairs with the same polarity is measured connected to Single Signature PDs[2]			0.004	0.009	3,4	Pclass 0-4.
				0.004	0.014		Pclass 5-8.

Notes:
1. Item 17 and 17a apply to PSEs that implement MPS detection measuring each pair-set.
2. Item 17b applies to PSEs that implement MPS detection measuring the sum of the pair-set currents of the same polarity.

33.2.9.1.2 : PSE DC MPS Component Requirements

A PSE shall consider the DC MPS component to be present if $I_{port\text{-}2P}$ or the sum of $I_{port\text{-}2P}$ of both pair-sets of the same polarity is greater than or equal to I_{Hold} max for a minimum of T_{MPS}.

A PSE shall consider the DC MPS component to be absent if $I_{port\text{-}2P}$ or the sum of $I_{port\text{-}2P}$ of both pair-sets of the same polarity is less than or equal to I_{Hold} min.

A PSE may consider the DC MPS component to be either present or absent if $I_{port\text{-}2P}$ or the sum of $I_{port\text{-}2P}$ of both pair-sets of the same polarity is in the range of I_{Hold} .

The values of-$I_{port\text{-}2P}$ or the sum of $I_{port\text{-}2P}$ of both pair-sets of the same polarity and the corresponding values of I_{Hold} shall meet the conditions specified in Table 33-11.

A Type 3 or 4 PSE, when connected to a single signature PD, shall monitor either the sum of $I_{port\text{-}2P}$ of both pair-sets of the same polarity or the pair-set with the highest $I_{port\text{-}2P}$ current value and use the appropriate I_{Hold} level shown in Table 33-11. Power shall be removed from the PI when DC MPS has been absent for a duration greater than T_{MPDO}.

A Type 3 or 4 PSE, when connected to a dual signature PD shall monitor each pair-set and use the appropriate I_{Hold} level shown in Table 33-11. The PSE shall remove power from any pair-set on which the DC MPS has been absent for a duration greater than T_{MPDO}. The PSE may remove power from both pair sets if the DC MPS has been absent for duration greater than T_{MPDO} on either pair set.

The specification for T_{MPS} in Table 33–11 applies only to the DC MPS component. The PSE shall not remove power from the port when $I_{port\text{-}2P}$ or the sum of $I_{port\text{-}2P}$ of both pair-sets of the same polarity is greater than or equal to I_{Hold} max continuously for at least T_{MPS} every T_{MPS} + T_{MPDO}, as defined in Table 33–11 and 33-11a. This allows a PD to minimize its power consumption.