Baselinetext for dual signature classification, version 120

33.2.6 PSE classification of PDs and mutual identification

Mutual identification is the mechanism that allows a Type 2, Type 3 or Type 4 PD to differentiate between Type 1, Type 2, Type 3 and Type 4 PSEs. Additionally, mutual identification allows Type 2, Type 3 or Type 4 PSEs to differentiate between Type 1, Type 2, Type 3 and Type 4 single signature PDs (abbreviated Type 3/SS and Type 4/SS respectively) and Type 3 and Type 4 dual signature PDs (abbreviated Type 3/DS and Type 4/DS respectively). PDs or PSEs that do not implement classification will not be able to complete mutual identification and can only perform as Type 1 devices.

33.2.6.2 PSE Multiple-Event Physical Layer classification

Change the following paragraph:

PSEs that implement CLASS_EV1_LCF shall transition directly from CLASS_EV1_LCF to MARK_EV_LAST if they implement only one class event.

To:

PSEs connected to single signature PDs that implement CLASS_EV1_LCF shall transition directly from CLASS_EV1_LCF to MARK_EV_LAST if they implement only one class event.

Change the following paragraph:

If the result of the first class event is any of Classes 0, 1, 2, or 3, the a Type 2 PSE treats the PD as a Type 1 PD and may omit the subsequent mark and class events and classify the PD according to the result of the first class event. If the result of the first class event is any of Classes 0, 1, 2, or 3, a Type 3 or Type 4 PSE treats the PD as a Type 1 PD and shall omit the subsequent mark and class events and classify the PD according to the result of the first class event.

To:

If the result of the first class event is any of Classes 0, 1, 2, or 3, a Type 2 PSE treats the PD as a Type 1 PD and may omit the subsequent mark and class events and classify the PD according to the result of the first class event. If the result of the first class event is any of Classes 0, 1, 2, or 3, a Type 3 or Type 4 PSE treats a single-signature PD as a Type 1 PD and shall omit the subsequent mark and class events and classify the PD according to the result of the first class event. If the class signature detected during CLASS_EV1 or CLASS_EV1_LCF is 0, a Type 3 or Type 4 PSE treats a dual-signature PD as a Type 1 PD and shall omit the subsequent mark and class events and classify the PD according to the result of the first class event.

Change the following paragraph:

A Type 3 or Type 4 PSE shall skip all subsequent class events and transition directly to Mark_EV_LAST if the class signature detected during CLASS_EV3 is 4. A Type 4 PSE shall skip MARK_EV_4 and CLASS_EV5 and transition directly to Mark_EV_LAST if the class signature detected during CLASS_EV4 is 0 or 1. When connected to a single-signature PD, a PSE shall classify the PD only once or both of the pair sets.

To:

A Type 3 or Type 4 PSE connected to a single-signature PD shall skip all subsequent class events and transition directly to Mark_EV_LAST if the class signature detected during CLASS_EV3 is 4. A Type 4 PSE shall skip MARK_EV_4 and CLASS_EV5 and transition directly to Mark_EV_LAST if the class signature detected during CLASS_EV4 is 0 or 1. ~~When connected to a single-signature PD, a~~ The PSE shall classify the PD only once on both of the pair sets. A Type 3 or Type 4 PSE connected to a dual signature PD shall skip all subsequent class events and transition directly to Mark_EV_LAST if the class signature detected during CLASS_EV3 is 0, 1, 2 or 4.

33.3.2 PD **T**ype description *(Note to editor: Type capitalized vs D1.1)*

PDs can be categorized as either Type 1, Type 2, Type 3/SS, Type 3/DS, Type 4/SS or Type 4/DS. Table 33–13a shows the permissible PD types along with supported parameters.

PD Type	PD Class	4-Pair capable	Maintain Power Signature[1]	Physical Layer Classification	Data Link Layer Classification	Optional Features
Type 1	0-3	Optional	High	1-Event	Optional	
Type 2	4	Optional	High	Multiple-Event	Mandatory	
Type 3/SS	0-3	Mandatory	Low and High[2]	1-Event	Optional	Autoclass
Type 3/SS	4-6	Mandatory	Low and High[2]	Multiple-Event	Mandatory	Autoclass
Type 3/DS	0-4	Mandatory	Low and High[2]	Multiple-Event	Mandatory	Autoclass
Type 4/SS	7-8	Mandatory	Low and High[2]	Multiple-Event	Mandatory	Autoclass
Type 4/DS	5	Mandatory	Low and High[2]	Multiple-Event	Mandatory	Autoclass

Change the following paragraph:

Type 3 PDs operating up to a maximum power draw corresponding to Class 3 or less implement a minimum of 1-Event Physical Layer Classification and advertise a 1-Event class signature of 0,1,2, or 3.

Type 3 and Type 4 PDs operating with a maximum power draw corresponding to Class 4 or greater

implement both Multiple-Event Physical Layer classification (see 33.3.5.2) and Data Link Layer classification (see 33.6). Type 3 PDs advertise a class signature of 4, 5, or 6, while Type 4 PDs advertise a class signature of 7 or 8.

To:

Type 3/SS PDs operating up to a maximum power draw corresponding to Class 3 or less implement a minimum of 1-Event Physical Layer Classification and advertise a 1-Event class signature of 0,1,2, or 3.

Type 3/SS and Type 4/SS PDs operating with a maximum power draw corresponding to Class 4 or greater implement both Multiple-Event Physical Layer classification (see 33.3.5.2) and Data Link Layer classification (see 33.6). Type 3 PDs advertise a class signature of 4, 5, or 6, while Type 4 PDs advertise a class signature of 7 or 8.

Type 3/DS and Type 4/DS PDs implement a minimum of Multiple-Event Physical Layer classification and Data Link Layer classification (see 33.6). Type 3/DS PDs advertise a class signature of 0, 1, 2, 3 or 4 on each pair set, while Type 4/DS PDs advertise a class signature of 5 on at least one pair set.

33.3.5.2 PD Multiple-Event class signature

Table 33-16a – Multiple-Event Physical Layer Classification Responses

PD Type	PD Signature	Class	class_sig_A	class_sig_B
1		0	0	0
		1	1	1
		2	2	2
		3	3	3
2		4	4	4
3	Single-signature	0	0	0
		1	1	1
		2	2	2
		3	3	3
		4	4	4
		5	4	0
		6	4	1
	Dual-signature	1	1	0
		2	2	0
		3	3	0
		4	4	0
4	Single-signature	7	4	2
		8	4	3

33.3.7 PD Power

Table 33-18 – PD power supply limits (modifications only)

Item	Parameter	Symbol	Unit	Min	Max	PD Type	Additional Information
1	Input voltage per pair set, Class 5, single signature	Vport_PD-2P	V	44.3	57	3	See 33.3.7.1, Table 33-1
	Input voltage per pair set, Class 5, dual signature			41.1		4	
4	Input average power, Class 5, single signature	Pclass_PD	W		40	3	See 33.3.7.2, Table 33-1
	Input average power, Class 5, dual signature				35.5	4	