Comment

This comment is marked "Iinrush_mess".

1. The baselines approved on Table 33-31 items Iirush_PD and Iirush_PD-2P was not implemented correctly:

(a) March 2016, http://www.ieee802.org/3/bt/public/mar16/darshan_09_0316R6.pdf
Approved remedy #201 in D1.6 comments file.

(b) May 2016, http://www.ieee802.org/3/bt/public/may16/darshan_01_0516_Rev006.pdf
Approved remedy #29 in D1.7 comments file.

2. Lennart's comment #523 while trying to make it correct in D2.1 by changing the "PD Type" column are creating new problem that will cause Type 3 and Type 4 PDs to be noncompliant.
3. See in Table 33-31 below the diffrences from March 2016 approved baseline to D2.1 including proposal for D2.2.

The new problem is the use of the "assigned class" in Iirush_PD and Iinrush_PD-2P parameters and the new PD Type columns numbers to support it:

Example: Type 4 single-signature class 7-8. As a result, it was designed with Iinrush circuitry and capacitance size to consume Iinrush for advertised class 7-8. But if it gets power demoted to Class 6, according to D2.1 it shall change its Iinrush circuitry and capacitor size so it can work with Class 6 Iinrush capability.
This is impossible and no PD will switch Iinrush circuitry per the assigned class.

The facts are:

1. PDs of higher power Type/class, when connected to PSEs with lower Type/class are not required to work. The may work but doesn't have to. (Type 2 PD connected to Type 1 PSE doesn't have to work. Same Type_N PD connected to Type_(N+1) PSE.
2. Only PDs that was designed to support power demotion will work successfully during Iinrush and power_on.
3. The current spec requires all PDs to switch inrush circuitry as function of the assigned class.
4. The current spec required all PDs to support power demotion.
5. This is only about PD Iinrush requirements as function of the assigned class. It is not about PSE Iinrush as function of the assigned class that remain unchanged.

See two options for suggested remedy below.

Suggested Remedy (Option 1): See below Table 33-31 column PD Type and column D2.2.

1. Change PD Type column as shown for PD Type column and D2.2 column.
2. Change the parameter text for item 6 and 7 as shown below (deleting the assigned class related text).
3. Add the following text to 33.3.7.3 (Editor to find the suitable location).
   "Iinrush_PD and Iinrush_PD-2P are typically designed according to their advertised class.
   PDs that support power demotion may need to support Iinrush_PD and Iinrush_PD-2P as function of the assigned class."
   [Editor to verify that power demotion is defined. If not defined, Editor to suggest one for D2.2]
4.

Item	Parameter	Symbol	Unit	Min	Max	PD Type					Additional Information
Input Inrush current [D2.2:]~~as function of the assigned class,~~ when the PD is limiting the current during inrush period per 33.3.7.3.											
					Base Line March/May 2016		D1.7	D1.8 , D2.0	D2.1	D2.2	
6	Single-signature PD Class 0 to 6.	Inrush-PD	**A**		**0.400**	**All**	**All**	**All**	**All**	~~**All**~~ **1,2,3**	Peak value see 33.3.7.3
	Single-signature PDs Class 7 to 8.				**0.800**	**4**	**4**	**4**	**4**	**4**	
	Dual-signature PD class 1 to 4				**0.500**	**3**	**3**	**3**	**3,4**	~~**3,4**~~ **3**	
	Dual-signature PD class 5				**0.650**	**4**	**4**	**4**	**4**	**4**	
Input Inrush current per pairset [D2.2] ~~as function of the assigned class and~~ when the PD is limiting the current during inrush period per 33.3.7.3.											
7	Single-signature PD Class 0 to 6.	Inrush-PD-2P	**A**		**0.400**	**All**	**3**	**3**	**3,4**	~~**3,4**~~ **3**	Peak value see 33.3.7.3
	Single-signature PDs Class 7 to 8.				**0.600**	**4**	**3,4**	**3,4**	**4**	**4**	
	Dual signature PD Class 1 to 4				**0.250**	**3**	**4**	**4**	**3,4**	~~**3,4**~~ **3**	
	Dual signature PD Class 5				**0.325**	**4**			**4**	**4**	

Baseline from March and May 2016. *As you can see PD Type column was designed according to advertised class only as normal PD would be designed for (except for class 0-6 row that it's PD Type was changed during the meeting(David A.) and "assigned class" (Jean) in the parameter title without giving it much thoughts at the meeting).*

Proposed corrections for D2.2

Baseline from March and May 2016 was not implemented correctly.

D2.1 changes based on Editorial comment #522 and #523.

See Suggested Remedy (Option 2) below.

Suggested Remedy (Option 2): See below Table 33-31 column PD Type and column D2.1.

1. Keep PD Type column as shown for PD Type and D2.1
2. Add the following text to 33.3.7.3 (Editor to find the suitable location).

"Iinrush_PD and Iinrush_PD-2P are typically designed according to their advertised class.

PDs that support power demotion may need to support Iinrush_PD and Iinrush_PD-2P as function of the assigned class. PDs are not required to support power demotion."

[Editor to verify that power demotion is defined. If not defined, Editor to suggest one for D2.2]

Item	Parameter	Symbol	Unit	Min	Max	PD Type					Additional Information
Input Inrush current as function of the assigned class, when the PD is limiting the current during inrush period per 33.3.7.3.											
					Base Line March/May 2016		D1.7	D1.8, D2.0	D2.1	D2.2	
6	Single-signature PD Class 0 to 6.	Inrush-PD	**A**		**0.400**	**All**	**All**	**All**	**All**	**All**	Peak value see 33.3.7.3
	Single-signature PDs Class 7 to 8.				**0.800**	**4**	**4**	**4**	**4**	**4**	
	Dual-signature PD class 1 to 4				**0.500**	**3**	**3**	**3**	**3,4**	**3,4**	
	Dual-signature PD class 5				**0.650**	**4**	**4**	**4**	**4**	**4**	
Input Inrush current per pairset as function of the assigned class and when the PD is limiting the current during inrush period per 33.3.7.3.											
7	Single-signature PD Class 0 to 6.	Inrush-PD-2P	**A**		**0.400**	**All**	**3**	**3**	**3,4**	**3,4**	Peak value see 33.3.7.3
	Single-signature PDs Class 7 to 8.				**0.600**	**4**	**3,4**	**3,4**	**4**	**4**	
	Dual signature PD Class 1 to 4				**0.250**	**3**	**4**	**4**	**3,4**	**3,4**	
	Dual signature PD Class 5				**0.325**	**4**			**4**	**4**	

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#	Parameter	Symbol	Units	Min	Max	PSE Type	Additional Information
6	Total output current of both pairsets of the same polarity in the POWER_UP state as function of assigned Class						
	Single-signature PD Class 0 to 4.	Iinrush	A	0.400	0.450	All	See 33.2.8.5 and maximum value definition in Figure 33–26. For Type 4 PSEs, see 33.2.8.5.1
	Single-signature PD Class 5 to 6.			0.400	0.900	3,4	
	Single-signature PD Class 7 to 8.			0.800	0.900	4	
	Dual-signature PD Class 1 to 4.			0.500	0.900	3,4	
	Dual-signature PD, Class 5.			0.650	0.900	4	
7	Output current per pairset in POWER_UP state as function of the assigned class.						
	Single-signature PD Class 0 to 4.	Iinrush-2P	A		0.450	3,4	See 33.2.8.5 and maximum value definition in Figure 33–26. For Type 4 PSEs, see 33.2.8.5.1
	Single-signature PD class 5 to 6.				0.600	3,4	
	Single-signature PD Class 7 to 8.				0.600	4	
	Dual-signature PD Class 1 to 4.			0.250	0.600	3,4	
	Dual-signature PD, Class 5.			0.325	0.600	4	

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