Cl 30 SC 30.9 Thompson, Geoffrey	.1.1 P 35 Individua	L 8	# i-350	C/ 30 SC 30.9.1. Stewart, Heath	1.4 P 36 Analog Devi	<i>L</i> 15 ces Inc.	# i-262
Comment Type TF	Comment Status X		Management	Comment Type TR	Comment Status X		Pres: Darshan5
It would appear th change to cl. 33. proper to remove.	at all of the strikethrough in t It is easily possible that the a	his clause is incorre iffected text could b	ct as it constitutes a e improved but it is not	It is unclear how the powered and the sec	disparate SISM states will be ondary is searching, what will	described. For ex the returned stat	kample if the primary is e value be?
SuggestedRemedy				Either remove suppo	rt for dual-signature PDs or co	omplete their spe	cification throughout the
Restore stricken to	ext in 30.9.1.1. Consider imp	provements to the te	ext.	standard.	-		-
Proposed Response	Response Status W	,		Proposed Response	Response Status W		
TFTD				TFTD			
This is addressed have satisfied this LDR GT Says we need to r later in the sessio	in a bunch of comments fror comment. evisit, therefore we should din after we are ito things.	n Lennart. Let's rev scuss before a broa	visit and make sure we	TFTD LY The following objects a few others (30.9.1. each pairset. People meeting. TFTD YD	: aPSEPowerDetectionStatus 1.7, 30.9.1.1.8, 30.9.1.1.11) n who care about dual-signatur	s, aPSEPowerCla eed to get dual-s re please to provid	ssification, and maybe ignature equivalents for de baseline at the
Cl 30 SC 30.9 Thompson, Geoffrey	.1.1.1 P 35 Individua	L 21	# i-351	See darshan_05_09	I7.pdf		
Comment Type TR Reference to cont	Comment Status D rol registers in cl. 145 is miss	sing.	Pres: Yseboodt5	WFP			
SuggestedRemedy Add reference to (cl. 145 after the reference to	cl. 33.					
Proposed Response PROPOSED REJ	Response Status W	,					
The reference car clause 145 to poir	not be added as there are no it to.	o comment remedie	s that create a section of				

TFTD

Pa **36** Li **15**

C/ 30 SC 30.9.1.1.7 P 37 L 25 # [i-263	C/ 30 SC 30.9.1.1.8 P 37 L 35 # i-33
Stewart, Heath Analog Devices Inc.	Yseboodt, Lennart Philips Lighting
Comment Type TR Comment Status X Pres: Darshan5 The PSEPowerDeniedCounter is only specified for Type 1 and Type 2 state machine references. It is not clear if this was intention or if references to Type 3 and Type 4 should be added. Currently: Currently: This counter is incremented when the PSE state diagram (Figure 33-9) enters the state POWER_DENIED. SuggestedRemedy Option 1 Change "(Figure 33-9) enters the state POWER_DENIED" to "(Figure 33-9, Figure 145-13, Figure 145-15, or Figure 145-16) enters the state	Comment Type TR Comment Status D Pres: Darshan5 This object was modified to work with Clause 145, but was not updated after the Clause split. "This counter is incremented when the PSE state diagram (Figure 145-13, Figure 145-15, and Figure 145-16) enters the state ERROR_DELAY, ERROR_DELAY_PRI, or ERROR_DELAY_SEC." SuggestedRemedy Replace by: "For Type 1 and Type 2 PSEs, this counter is incremented when the PSE state diagram in Figure 33-9 enters the state ERROR_DELAY. For Type 3 and Type 4 PSEs, this counter is incremented when the PSE state diagram in Figure 145-13, Figure 145-15, and Figure 145-15, and Figure 145-16 enters the state ERROR_DELAY.
POWER_DENIED, POWER_DENIED_PRI, or POWER_DENIED_SEC" Option 2 Change "when the PSE" to "when the Type 1 and Type 2 PSE" Proposed Response Response Status W TFTD I somewhat remember a conversation about not supporting this for Type 3/4, am I remembering correctly?	ERROR_DELAY_PRI, or ERROR_DELAY_SEC." Proposed Response Response Status W TFTD You reference the sisms in this remedy, does that make sense? TFTD DS I recall agreeing Clause 145 support would not be integrated into Clause 30. Why are we adding references to Type 3 and 4 operation for only this attribute? WFP
TFTD LY That is for the aPSEInvalidSignatureCounter WFP	Cl 30 SC 30.9.1.1.8 P 37 L 41 # [-264] Stewart, Heath Analog Devices Inc. Pres: Darshan5 Comment Type E Comment Status X Pres: Darshan5 The reference to Figure 33-9 has been accidentally deleted. SuggestedRemedy Change "(Figure 145-23, " to "(Figure 33-9, Figure 145-13, " Proposed Response Response Status W TFTD TFTD Termon Status Termon Status Termon Status
	see 33

Pa **37** Li **41**

C/ 30 SC 30.9.1.1	.11 P 38 Analog Devic	L 2 es Inc	# i-265	Cl 30 Thompson	SC 30.12.2.	.1	P 40 Individual	L	# i-355
Comment Type TR The PSEMPSAbsent0 references. It is not clibe added. Currently: This counter is increm 15, and Figure 145-16 ERROR_DELAY_SE0	Comment Status X Counter is only specified for Ty ear if this was intention or if re mented when the PSE state dia b) enters the state ERROR_DI	ype 1 and Type eferences to Typ agram (Figure 1 ELAY, ERROR	Pres: Darshan5 2 state machine be 3 and Type 4 should 45-13, Figure 145- _DELAY_PRI, or	Comment I don't Suggestea Please Proposed TFTD	Type E understand why Remedy explain. Response	Comment y each attribute Response	Status X e has a "regular Status W	r" version and a	<i>Management</i> a local LLDP version
SuggestedRemedy Option 1 Change "transitions directly fro tmpdo_timer_done be to "transitions directly fro	om the state POWER_ON to t ing asserted"	he state IDLE o	SEMI PWR SEC	Someo LDR G Find M	one with manag T Ir. Law…	gement expertis	se, please provi	ide a response	
POWER_ON_PRI, or tmpdo_timer_done_pri Option 2 Change "when the PSE" to "when the Type 1 and Proposed Response	POWER_ON_SEC to the sta ri or tmpdo_timer_done_sec b Type 2 PSE" <i>Response Status</i> W	te IDLE due to being asserted"	tmpdo_timer_done,	C/ 30 Law, Davio Comment The al aLldp> map to Suggested	SC 30.12.2. <i>Type</i> TR LdpXdot3LocPo (dot3RemPowe any of the TLV <i>Remedy</i>	1.18i Comment owerClassxA, a erClassxA and a / fields defined	P 42 Hewlett Pack Status X aLldpXdot3LocF aLldpXdot3Ren in subclause 7	<i>L</i> kard Enter PowerClassxB, nPowerClassxE 79.3.2 or its sub	# i-319 Pres: Yseboodt4 B attributes don't seem to b clauses.
WFP				Sugge	st that:			(
Cl 30 SC 30.9.2 Thompson, Geoffrey Comment Type TR Comment is out of the	P 38 Individual Comment Status X e scope of the project.	L 19	# [i-352 Management	[1] Del 22), aL aLldp≯ aLldp≯ [2] Rei	ete attributes al IdpXdot3LocPo (dot3RemPowe (dot3RemPowe move entries for	LldpXdot3LocF owerClassxB (s erClassxA (subo erClassxB (subo r aLldpXdot3Lo	PowerClassxA (subclause 30.12 clause 30.12.3. clause 30.12.3. pcPowerClassx	(subclause 30.7 2.2.1.18j, page .1.18g, page 51 .1.18h, page 51 :A, aLldpXdot3L	12.2.1.18i , page 42, line 42, line 33), I, line 29) and I, line 41). _ocPowerClassxB,
SuggestedRemedy Delete this line in the	draft			aLldpX capabi	(dot3RemPowe ilities' (page 32,	erClassxA and a , line 38).	aLldpXdot3Ren	nPowerClassxE	B from Table 30-7 LLDP
Proposed Response TFTD	Response Status W			Proposed TFTD	Response	Response	Status W		
Lennart to provide full	remedy.			l assur TFTD Should	me these were a LY I be addressed	added for DS by yseboodt 04	4		

Pa **42** Li

C/ 30 S	SC 30.12.2.1.18k	P 42 Hewlett Pack	L 3 kard Enter	# i-322	If the local system is a PD, a read-only for a dual-signature PD, the requested Classification (see 145.3.6). If the local	value that indicates if it is a Class for Mode B during Ph system is a PSE, a read-or
Comment Type There are r	e TR Com	ment Status X d in the subclause 3	80.12.2 'LLDP L	Pres: Yseboodt4 ocal System Group	it has detected a single-signature PD, o assigned Class for Alternative B (see 1-	r if it has detected a dual-si 45.2.7).
managed o class' for th Classx Mor	object class' or subcl he TLV fields 'Dual-s de B'.	ause 30.12.3 'LLDP ignature power Clas	Remote Syster sx Mode A' and	n Group managed object 'Dual-signature power	aLldpXdot3RemDualSigPowerClassxM	odeA
SuggestedRen	nedy				ATTRIBUTE	
Suggest the	nat: owing new attributes	are added in the LL	DP local		APPROPRIATE SYNTAX: The same as used for aLldpXdot3LocD	ualSigPowerClassxModeA.
(aLldpXdot aLldpXdot3 (aLldpXdot3 aLldpXdot3 fields 'Dual	t3LocDualSigPower(3LocDualSigPowerC t3RemDualSigPower 3RemDualSigPower(I-signature power Cla	XassxModeA and IassxModeB) and re ClassxModeA and ClassxModeB) mana assx Mode A' and 'D	emote aged object clas Dual-signature p	s to support the TLV ower Classx Mode B'.	BEHAVIOUR DEFINED AS: If the remote system is a PD, a read-on or if it is a dual-signature PD, its reques Classification (see 145.3.6). If the remo if it has detected a single-signature PD, assigned Class for Alternative A (see 1-	ly value that indicates if it is ted Class for Mode A durin te system is a PSE, a read or if it has detected a dual- 45.2.7).
aLldpXdot3	3LocDualSigPowerC	lassxModeA				
ATTRIBUT	ΓE				aLldpXdot3RemDualSigPowerClassxM	odeB
APPROPR An ENUME singleSigna	RIATE SYNTAX: ERATED value list th ature Single-signatu	at has the following ire PD	entries:		ATTRIBUTE APPROPRIATE SYNTAX: The same as used for aLldpXdot3LocD	ualSigPowerClassxModeA.
class4 class3 class2 class1	Class 4 Class 3 Class 2 Class 1				BEHAVIOUR DEFINED AS: If the remote system is a PD, a read-on or if it is a dual-signature PD, its reques Classification (see 145.3.6). If the remo if it has detected a single-signature PD	ly value that indicates if it is ted Class for Mode B durin te system is a PSE, a read or if it has detected a dual
BEHAVIOL If the local	UR DEFINED AS: system is a PD, a re	ad-only value that ir	ndicates if it is a	single-signature PD, or	assigned Class for Alternative B (see 1-	45.2.7).
Classification it has detection assigned C	ion (see 145.3.6). If t cted a single-signatu Class for Alternative /	he local system is a ire PD, or if it has de A (see 145.2.7).	PSE, a read-ou etected a dual-s	ignature PD, the	[2] Mappings for two of the new attribute Organizationally Specific TLV/LLDP Lor references'. Suggest that the following f power pairx' 'aLldpXdot3LocPowerPairs	es are added in Table 79-9 cal System Group managed wo new entries are inserted x' and the row 'Power class
aLldpXdot3	3LocDualSigPowerC	lassxModeB			aLidpXdot3LocPowerClassx".	
ATTRIBUT	E				'Dual-signature power Classx Mode A' 'Dual-signature power Classx Mode B'	'aLldpXdot3LocDualSigPov 'aLldpXdot3LocDualSigPov
APPROPR The same	RIATE SYNTAX: as used for aLldpXd	ot3LocDualSigPowe	erClassxModeA.		[3] Mappings for two of the new attribute	es are added in Table 79-10
BEHAVIOL	UR DEFINED AS:				Organizationally Specific TLV/LLDP Re references'. Suggest that the following the foll	mote System Group manages wo new entries are inserted
TYPE: TR/tech COMMENT ST SORT ORDER	nical required ER/e ATUS: D/dispatched : Page, Line	ditorial required GR	/general require	ed T/technical E/editorial G/g NSE STATUS: O/open W/wri	eneral ten C/closed U/unsatisfied Z/withdrawn	Pa 42 Li 3

a single-signature PD, or nysical Layer inly value that indicates if signature PD, the

s a single-signature PD, ng Physical Layer d-only value that indicates I-signature PD, its

is a single-signature PD, ng Physical Layer J-only value that indicates I-signature PD, its

'IEEE 802.3 d object class cross d between the row 'PSE sx'

werClassxModeA' verClassxModeB'

0 'IEEE 802.3 ged object class cross d between the row 'PSE

Page 4 of 4	41
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C/ 33

SC 33.4.9.1.2

power pairx' 'aLldpXdot3RemPowerPairsx' and the row 'Power classx' 'aLldpXdot3RemPowerClassx' in both tables.

'Dual-signature power Classx Mode A' 'aLldpXdot3RemDualSigPowerClassxModeA' 'Dual-signature power Classx Mode B' 'aLldpXdot3RemDualSigPowerClassxModeB'

Proposed Response Response Status W

TFTD

WFP

C/ 33	SC 33.4.6	P 64	L 34	# i-2	27
Mcclellan, Brett		Marvell Semi	iconducto		
Comment Ty	pe TR	Comment Status D			AES

E_d_out is a time domain peak to peak voltage but the formula defines E_d_out as varying across frequency. E_d_out isn't measured at individual frequencies.

SuggestedRemedy

delete formula (33-17a) and the text defining f and fmax

change text on line 31 from:

"shall not exceed the requirements Equation (33-17a)" (note the missing 'of') to "shall not exceed 10 mV peak-to-peak when measured in the band from 1 MHz to 10 MHz and shall not exceed 1mV peak-to-peak when measured in the band from 10 MHz to 100 MHz for 2.5GBASE-T, 10 MHz to 250 MHz for 5GBASE-T, and 10 MHz to 500 MHz for 10GBASE-T"

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD GZ

Reason: i-219 is already TFTD and these are the same comment/issue. We are double checking on the level and test method as to whether we can just do an accept on both of these.

Aquantia, ADI, Comm Zimmerman, George Comment Type **TR** Comment Status D AFS Missing requirement for 10GBASE-T in clause 33 (this one is OK in clause 145, just missed in clause 33) SuggestedRemedy Insert new equation 33-19a identical to 33-19 except 0.040 is changed to 0.020. Add text "For 10GBASE-T capable midspans, insertion loss for Midspan PSE devices shall meet the values determined by Equation (33-19) when measured for the transmit and receive pairs from 1 MHz to 500 MHz." Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. OBE by 209 TFTD YD Need to check C/ 33 SC 33.4.9.1.2 P 66 L 10 # i-209 Mcclellan, Brett Marvell Semiconducto Comment Type TR Comment Status D Pres: Zimmerman1 missing a requirement for 10GBASE-T SuggestedRemedy insert new equation 33-19 identical to 33-19 except 0.040 is changed to 0.020. Add text " For 10GBASE-T capable midspans, insertion loss for Midspan PSE devices shall meet the values determined by Equation (33-19) when measured for the transmit and receive pairs from 1 MHz to 500 MHz." Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. TFTD GZ WFP insert new equation 33-19a identical to 33-19 except 0.040 is changed to 0.020. Add text " For 10GBASE-T capable midspans, insertion loss for Midspan PSE devices shall meet the values determined by Equation (33-19a) when measured for the transmit and receive pairs from 1 MHz to 500 MHz."

P 66

L 10

i-238

TFTD YD

Too tight. Channel has sufficient margin. No need to tighten Midspan connector.

Pa **66** Li **10** Page 5 of 41 9/12/2017 9:06:17 PM

Cl 79	SC 79	P 73	L 1	# i-38	Cl 79	SC 79.	3.2.6f	P 82	L 21	# i-460
r sedoodt,	Lennart	Philips Lightin	g		Darsnan, Y	air				
Comment	Type TR	Comment Status X		Pres: Yseboodt4	Comment 7	уре Т		Comment Status X		Pres: Yseboodt7
Dual-si	Dual-signature LLDP is incompletely and incorrectly defined.					'9-6f desc	ribes au	utoclass field. Per the draft, au	utoclass can b	be requested any time
Suggested Adopt	<i>IRemedy</i> yseboodt_04_0	917_LLDP.pdf			Includir The are In the c	e some iss ase PD is	e physic sues that and PS	cal layer autoclass after transi at appear to be not closed. SE supporting LLDP: Why PD	will ask for a	WER_ON.
Proposed I TFTD	Response	Response Status W			if he can do similar task by LLDP? I am asking this question since if PD eventually it add a level of complexity (that can be resolved) that yet is not addressed in the for example: a) There is no syncing or handshake mechanism defined to verify that the PD wo to consume more power than the PSE allows it to draw, before the PSE is ready for					
WFP										
<i>Cl 79 Darshan, Y</i>	SC 79.3.2 ′air	P 81	L 33	# <u>i-395</u>	from ID To reso	LE_ACS	to MEA	SURE_ACS. I at least to add new variable '	'dll_autoclass	_pd_pse_ready". This
Comment The 4F	<i>Type</i> T PID bit need to r	Comment Status X nove to legacy TLV field in ord	ler to support	Pres: Yseboodt4 egacy PDs.	variable and the overloa	e will indic PSE has d/llim 2p	ate that the ava conditio	t PD has set it's requested por ailable power to measure the m.	wer level for t PD requested	he PSE to be measure I power without going to
This wi	ill resolve also o	comment #130 from D2.4.			Suggested	Remedy				
Suggested	lRemedy				1. add	new varial	ole "dll	autoclass pd pse readv" to	the variable li	st in 145.2.5.4 with the
In Tabl bits. M	le 79-6d PD 4P ake the PD 4PI	D bit: Move this bit to Table 7 D bit as the reserved bits.	9-4 to bit 3:2 i	nstead of the reserve	followir "dll_au	g definitio	n: d_pse_i	ready		
Proposed I	Response	Response Status W			This v	ariable ind	icates t	hat PD has set it's requested	power level f	or the PSE to be
TFTD					the PD	re and the requested	PSE n power	as the available power in order without going to overload/llim	a 2p condition	ered and to measure
Can we TLVs a	e add to the leg as long as some	acy fields? I thought a Type 1 fields were 0.	/2 PD can use	the fields of the new	change "Mirror To: "Mi	e state ma from: edPDAuto	classRe	equest"	nse ready"	US IO MEASORE_AUS,
TFTD I	LY				Dranaad P		1000101		psc_ready	
OBE to	o yseboodt 04					response		Response Status W		
TETD	YD				IFID					
See ys	seboodt_04_091	7.pdf for LLDP adhoc propose	ed baseline		I thoug	ht Lennar	added	(or was planning to add LLDF	P support for A	Autoclass)
					TFTD I WFP y	DS seboodt_(07_0917	7_pdautoclassfix.pdf		

Pa **82** Li **21**

Cl 145 SC 145.1 Thompson, Geoffrey	P 95 Individual	L 7	# i-364	Cl 145 Diminico, C	SC 145.1.3 hristopher		P 97	L 38	#	i-394
Thompson, Geoffrey <i>Comment Type</i> ER There is no clear state a statement is essentireader to figure out ho <i>SuggestedRemedy</i> See proposed text in state the start of the list at I <i>Proposed Response</i> TFTD	Individual <i>Comment Status</i> X ement of the top level model of ial for someone reading the sta ow to structure his thinking and submitted file GOT - Proposed ine 27. <i>Response Status</i> W	a PoE syster andard for the to parse the p text.txt. Pick	Pres: Thompson?? n in clause 145.1. such first time in order for the problem. existing text back up at	Diminico, C Comment 1 For a c depend parame highest restista of 4-pa (length) cables Suggested/	hristopher <i>Type</i> TR onstant power lent on the loc ater used to line current per pa- ince (RCh), as ir cables in a t) for all cabling in a cable bur <i>Remedy</i> p informative <i>a</i>	Comment load and a wo p resistance (e nit the number air (ICable, A) o sociated with 1 bundle for all ca g topologies lead dle.	Status X rse case PSE tl quation 145-2). of 4-pair cables derived by assu 00 meters of ca abling lengths (I ds to overly per cterize the curre	he current per part The current per in a cable bund ming the worse abling, is being u DCR). Assuming ssimistic limits o ent as a function	air (ICabl pair/con le. The 8 case DC ised to lin g the wor n the nur of DCR	Pres: Diminico e, A) is ductor is a 02.3bt nominal loop nit the number se case DCR nber of 4-pair (length) for
Cl 145 SC 145.1 Yseboodt, Lennart Comment Type E "This clause defines the enhancement of the F	P 95 Philips Lightin Comment Status X he functional and electrical cha Power over Ethernet (PoE) syst pood twinted pair ophilics "	L 9 g aracteristics fo eem defined in	# <u>i-43</u> <i>Pres: Thompson</i> r providing an Clause 33 for	constar Annex Proposed F TFTD WFP Cl. 145	nt power loads to be provided Response	and worse cas Response	Status W	ion 145-2). Pres	ention of	proposed
deployment over bala Makes it seem that Cl standalone PoE Claus SuggestedRemedy "This clause defines to over Ethernet (PoE) s twisted-pair cabling." Proposed Response TFTD	nced twisted-pair cabling." lause 145 is an 'add-on' to Clar se. he functional and electrical cha system originally defined in Cla <i>Response Status</i> W	use 33. It isn't aracteristics of use 33 for dep	it is a complete, an enhanced Power loyment over balanced	Cr 145 Thompson, Comment 7 The pla Cabling Cabling own su Suggested Move th level cla	Geoffrey Fype ER accement of the g is not a "syst g is a full elem b-clause at a Remedy he specification ause, presuma	Comment cabling specifi em parameter" ent of the the s beer level with n (whether it be ably cl. 145.4 w	Individual <i>Status</i> D <i>ications in 145.</i> . Placement th pecified 3 elem 145.2 PSE and by reference of which would burn	1.3 System Para ere is organizati ent system. The 145.3 PD. or local) for cabli op the rest of the	# ameters is onally co cabling : ng to its o e clause f	Pres: Yseboodt9 s wrong. nfusing. should have its
This new text makes i TFTD LY True Maybe split up an enhanced Power o cabling. The original F TFTD CJ Surprised you just did and electrical characte Clause 33 for deploym	it seem that an "enhanced PoE :: "This clause defines the func over Ethernet (PoE) system for PoE system is defined in Claus In't suggest this as the remedy eristics of a Power over Ethern nent over balanced twisted-pai	system" was tional and elec deployment o e 33". "This clause et (PoE) syste r cabling."	defined in Clause 33. ctrical characteristics of ver balanced twisted-pair defines the functional em originally defined in	Proposed F PROPC Move c 145.1.4 TFTD WFP -	Response DSED ACCEP lause 145.1.3 and increment Lennart to atte	Response T IN PRINCIPI 1 (which now h at all further cla empt to remove	Status W LE. has what used to uses. e SHALLS after	o be 145.1.3.2 ir 145.1.1.	n it) to ne	w clause

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Page, Line

Pa **98** Li **28** Page 7 of 41 9/12/2017 9:06:17 PM

Pres: Darshan12

C/ 145	SC 145.2.4	P 107	L 40	# i-49
Yseboodt, L	ennart	Philips Lighting		

Comment Type TR Comment Status X

A PD's diode bridge is the dominant, and most unpredicatable, contributor to pair-to-pair current unbalance.

Diode specifications generally do not include information or guarantees about the maximum spread in forward voltage between samples.

This makes it hard to get to a provable correct design that will always meet the current unbalance spec.

It is however not impossible, analysis over the course of this project has shown that diode forward voltage differences of more than 60mV are extremely rare. This number has been used to calculate the unbalance budget for the PD.

What isn't taken into account is diode aging. As diodes are exposed to current and temperature, their forward voltage will begin to drift.

A pair of parallel diodes exposed to roughly the same current may be expected to age in the same way (this is uncertain, but let's accept it for the moment).

If 4-pair PSEs are allowed to provide power in polarity configurations that can result in ONE pairset having the other polarity between two PSEs,

this would mean that a PD that has been exposed to a certain current configuration, would find itself powered in a way that has one 'aged' diode conduct, and another 'new' diode in parallel. By 'new' I refer to a diode that has not seen any significant current over it's lifetime.

At the moment of writing this comment, it is unknown what the magnitude of this issue is. Test to determine this are planned.

SuggestedRemedy

1. Quantify this issue for the November meeting

2. Appropriate solition, if needed to be presented then

Proposed Response Response Status W

TFTD

TFTD YD See darshan_12_0917.pdf

WFP

TFTD DS

The PD designer has multiple options to circumvent this issue: Request greater Class, utilize less of P_Class_PD, or take active control of PD contribution to system unbalance. The TF have specified unbalance numbers that compromise between substantial PD unbalance contributions and burden on other system objects to 'ballast' PD contributions. PD designers with marginal designs and high P_Class_PD utilization should be cautioned to consider unbalance effects (perhaps a note in PD unbalance section).

TFTD CJ

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Page, Line

Proposed reject. The comment has served its purpose. We reject, he says unsatisfied, it remains in scope for November. Incidentally, I did some measurements of 'used' diodes versus unused and found indistinguishable difference in Vf.

C/ 145	SC 145.2.	5.4 <i>P</i> 111	L 36	# i-457
Darshan, '	Yair			
Comment	Туре Е	Comment Status	2	Pres: Yseboodt4
In the and P it doe	In the variable description dll_4PIC and PD have negotiated 2-pair or 4 it doesn't say with what they were		A variable that ind r." etc.	dicates whether the PSE
Suggestee	dRemedy			
Chano	ae from "dll 4F	PID		

A variable that indicates whether the PSE and PD have negotiated 2-pair or 4-pair power." To: "dll_4PID

A variable that indicates whether the PSE and PD have negotiated 2-pair or 4-pair power capability via the Data Link Layer."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change to "dll_4PID: A variable indicating the state of the PD 4PID bit in the Power type/source/priority field, as defined in Table 79-4."

TFTD

<i>CI</i> 145 Stewart, Hea	SC 145.2.5.4 th	P 1 ² Analog	13 g Devices Ind	L 24 c.	# i-2	69
Comment Ty option_c increase See stew	pe T lass_probe can b classification flea vart_0917_01.	Comment Status be utilized to both re xibility.	X educe dissap	pated heat during	classifi	PSE SD cation and
SuggestedRe Adopt ste	e <i>medy</i> ewart_0917_01.					
Proposed Re TFTD	esponse	Response Status	W			
WFP						
TFTD YE See also) darshan_04_09	17.pdf				

Pa 113

li 24

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C/ 145 SC 145.2.5.7	P 125	L 1	# i-66	C/ 145	SC 145.2.5.	7 P 128	L 46	# i-459
Yseboodt, Lennart	Philips Lighting			Darshan, Y	′air			
Comment Type TR Con The PSE state diagram curre within Tpon referenced at the Another option is to 'renew' T This flexibility has a number of http://www.ieee802.org/3/bt/p	nment Status X ntly requires a PSE to eit end of detection. pon by checking is the P of use cases as explained ublic/may17/lukacs_01_c	ther turn on, or D is drawing a d in D517_Mark&Ho	Pres: Yseboodt6 r go back to IDLE correct mark current. old_rev1.0.pdf	Comment In the *(pd_c the "+ intent I definiti	Type T exit from CLASS lass_sig ? 4) *((" in pd_class_si nere is to used a on or add anoth	Comment Status X 5_EV3 MARK_EV3 "tcle3_tin pse_avail_pwr ? pd_class_s g+5 is (according to page 10 as mathematical sum. There her symbol for mathematical	ner_done * (pse ig+5) +(pse_avai)9 line 22) "a Boc is a need to eith summation.	PSE SD _alternative = both) il_pwr > 5))", lean OR" while in the er update the '+'
SuggestedRemedy				Suggested	Remedy			
Adopt yseboodt_06_0917_ma	arkhold.pdf			1. add	'++' symbol to	table in page 109 and define	this symbol as r	nathematical
Proposed Response Response Response	ponse Status W			summa 2. Cha 3. Fix	ation. nge from "pd_c the same proble	lass_sig+5)" to "pd_class_s em in P128, l46 in MARK_E [\]	ig++5)" √3 state.	
				Proposed I	Response	Response Status W		
TFTD LY Also see lukacs 01 on reliabil	ty testing.			TFTD This is additio Remec – repla EV3 – repla +" in the a TFTD The te CLASS tcle3_t ((pd_c CLASS tcle3_t + ((pd_ Review	LY really a probler n as well. dy: uce "pd req pwr ace "((pse avail p arc from CLASS DS rm in question is 5 PD. evision to transit S_EV3 -> MARF imer_done * (ps lass_sig = 0) + 1 S_EV3 -> MARF imer_done * ((p _class_sig != 0) v DS's logic!!!!!	n. The "+" operator is use for = pd class sig+5" by "pd req pwr >= pd class sig+5) +" by & EV3 to MARK EV3 s trying to allow PSE w/ Class ion logic does not make use <_EV3 se_alternative = both) * (pd_c (pse_avail_pwr > 5)) <_EV_LAST sse_alternative != both) + (pd * (pse_avail_pwr <= 5)))	 logical OR, and pwr = sum(pd cla "((pse avail pwr : s 5 power availa of math operatio class_sig != 4) * I_class_sig = 4) - 	in these statements for ass sig, 5)" in MARK >= sum(pd class sig, 5)) ble, to negotiate w/ ns: (pse_avail_pwr > 4) * + (pse_avail_pwr <= 4)

Pa **128** Li **46**

Cl 145 Darshan,	SC 145 Yair	. 2.5. 7 F	128	L 46	# <u>i-458</u>	Cl 145 Darshan, V	SC Yair	145.2.5.7	P 131	L 39	# i-404	1
Comment	Tvpe T	Comment Statu	ıs X		PSE S	D Comment	Tvpe	т	Comment Status X		Pres: Yseboodt7	,
In the *(pd_o missir	exit from C class_sig ? ng parenthe	LASS_EV3 MARK_EV3 4) *((pse_avail_pwr ? po sis in pd_class_sig+5.	"tcle3_timer_c l_class_sig+5)	lone * (pse_alter +(pse_avail_pw	native = both) r > 5))",	In the pd_au (tinrus It look	Exit fro toclass h_time s that v	om IDLE_ACS s * !tpon_time r_sec_done * ve have two i	S to WAIT_ACS we have the r_done *tinrush_timer_pri_d * pwr_app_sec)) ssues here:	following col one * pwr_ap	nditions: pp_pri *(!alt_pwrd_sec +	
Chang *((pse To: "t (pd_c	ge from: " "t e_avail_pwr tcle3_timer_ lass_sig+5)	cle3_timer_done * (pse_ ? pd_class_sig+5) +(pse_ done * (pse_alternative) +(pse_avail_pwr > 5))"	_alternative = b e_avail_pwr > 5 = both) *(pd_c	ooth) *(pd_class_ 5))"" lass_sig ? 4) *((p	sig?4) pse_avail_pwr?	1) red means 2) the - alt_r Altern	undanc s that ti term (! owrd_s ative. "	y in the term nrush_timer_ alt_pwrd_sec ec in false m	" tinrush_timer_pri_done * p .pri_done is TRUE as well. c + (tinrush_timer_sec_done eaning that "The PSE is not	wr_app_pri. I * pwr_app_s to apply powe	If pwr_app_pri is true, it ec)) is always TRUE. er to the Primary	
Proposed	Response	Response Statu	s W			- tirnus	sh_time	er_sec_done	*pwr_app_pri indicates that	we POWER (up secondary pair and	
TFTD						So. we	e have	a condition the	ndary. nat if we power up/or not pow	/er up.		
Wait f	for outcome	So, we It's like compl In orde equiva a) pd_ b) pd_ *tinrus I belie signat There In part If pwr_ As a re to "pw "pd_a	 So, we have a condition that if we power up/or not power up. It's like doing (X or not X) that is always true, which requires to remove this term completely In order to find what we really need here, let's expand the whole original term. It is equivalent to the following two parts: a) pd_autoclass * !tpon_timer_done *tinrush_timer_pri_done * pwr_app_pri*!alt_pwrd_sec + b) pd_autoclass * !tpon_timer_done *tinrush_timer_pri_done * pwr_app_pri *tinrush_timer_sec_done * pwr_app_sec I believe that our intent is to allow Autoclass for Type 3 and 4 PSEs supporting single-signature PDs over 4-pairs or Type 3 PSE supporting SS-PD over 2-pairs. There are few issues: In part (a), redundancy in the term " tinrush_timer_pri_done * pwr_app_pri ". If pwr_app_pri is true, it means that tinrush_timer_pri_done is TRUE as well. As a result, it is sufficient to reduce this term from " tinrush_timer_pri_done * pwr_app_pri " to "pwr_app_pri", resulting with term (a): 									
						In part pwr_a well. As a r "pd_au The n pd_au !tpon_ pd_au Suggested	t (b), th pp_sec esult, w utoclas het resu toclass timer_o toclass	e same conc ; i.e. If pwr_a we can reduce s * !tpon_tim it is: ; * !tpon_time done * pwr_a ; * !tpon_time dy	ept as in part (a) applies to t pp_sec is true, it means that e term (b) to: er_done * pwr_app_pri * pwr er_done * pwr_app_pri*!alt_p pp_pri * pwr_app_sec = er_done * pwr_app_pri*(!alt_p	tinrush_timer tinrush_time app_sec" wrd_sec + pc pwrd_sec + p	'_sec_done * r_sec_done is TRUE as d_autoclass * owr_app_sec)	
						Chang "pd_aı (tinrus To: "pd_a	ge from utoclas h_time autoclas	: s * !tpon_tim r_sec_done ⁻ ss * !tpon_tim	er_done *tinrush_timer_pri_‹ * pwr_app_sec))" ner_done * pwr_app_pri*(!alt	done * pwr_a _pwrd_sec +	pp_pri *(!alt_pwrd_sec + pwr_app_sec)"	

Proposed Response Response Status W	Cl 145 SC 145.2.5.7 P 133 L 5 # i-198
IFID	Peker, Arkadiy Microsemi Corporation
Can someone confirm this logic?	Comment Type TR Comment Status X Pres: Darsh
TFTD LY It is not fully equivalent and introduces a difference in timing. Probably OBE by yseboodt 07 WFP	Figure 145-15 doesn't have the option of using short class event when doing "class probe functionality as we have in single-signature class probe case. This cost with more time to complete process and more power dissipation. The same applies to the secondary part ir page 137. It is suggested to replicate CLASSIFICATION pre-state and CLASS_PROBE from page Figure 145-13 page 128 in primary and secondary state machines with the relevant modifications.
TFTD DS Reject	SuggestedRemedy
Addressing the commentor's points:	Adopt darshan 04 0917 pdf
1) This is a straight copy-paste of transition logic from POWER_UP to POWER_ON, as	Proposed Response Response Status W
evaluate inrush timer.	TFTD
2) Disagree. If the PSE is applying power on alt_sec and inrush is not completed on	
suggested remedy maintains the logic "!alt_pwrd_sec + pwr_app_sec".	WFP
C/ 145 SC 145.2.5.7 P 132 L 4 # [i-195	
Peker, Arkadiy Microsemi Corporation	
Comment Type TR Comment Status X Pres: Stewart1	
Missing error_condition_pri at the input to the state IDLE_PRI at the condition iclass_lim_det_pri.	
SuggestedRemedy	
 Change from: "iclass_lim_det_pri" to "iclass_lim_det_pri + error_condition_pri" Add new variable to 145.2.5.4: "error_condition_pri A variable indicating the status of implementation-specific fault conditions or optionally other system faults that prevent the PSE from meeting the specifications in Table 145-16 and that require the PSE not to source power over the Primary Alternative. Values: FALSE: No fault indication. TRUE: A fault indication exists. 	
Proposed Response Response Status W	
TFTD	
Do we want to create pri and sec versions of error_condition?	
WFP	

Pa **133** Li **5**

C/ 145 Peker, Arl	SC kadiy	145.2.5.7		P 133 Microsemi Co	L 13 rporation	# i-22	29	C/ 145 Peker, Ark	SC 1 adiy	45.2.5.8	P 133 Microsemi Co	L 18 prporation	# i-230	
Comment "In the in the tcle2_ +(pse It nee	<i>Type</i> e exit fro conditio timer_p _avail_ ds to be	TR om CLASS on: ori_done *(p pwr_pri > 4 e the same	Comment 5_EV2_PRI to pd_class_sig 4)). e concept as	Status D o MARK_EV2_F g_pri = temp_val in the single-sig	PRI, the variable r_pri) * (class_4l nature case."	option_2ev is PID_mult_eve	PSE SD s missing ents_pri	Comment "In the missin "tcle2_ pse_av It need	<i>Type</i> exit fron g in the timer_pr vail_pwr_ ds to be	TR n CLASS_ condition: ri_done * (_pri = 4". the same	Comment Status X _EV2_PRI to MARK_EV_LA (pd_class_sig_pri = temp_v concept as in the single-sig	\ST_PRI, the v ar_pri) * !class gnature case."	PSE SD variable option_2ev is s_4PID_mult_events_pri *	
SuggestedRemedy Change from: "tcle2_timer_pri_done *(pd_class_sig_pri = temp_var_pri) * (class_4PID_mult_events_pri +(pse_avail_pwr_pri > 4))" To: "tcle2_timer_pri_done * (pd_class_sig_pri = temp_var_pri) * ((class_4PID_mult_events_pri * !option_2ev)+ (pse_avail_pwr_pri > 4)) "						ents_pri	SuggestedRemedy "Change from: "tcle2_timer_pri_done * (pd_class_sig_pri = temp_var_pri) * !class_4PID_mult_events_pri * pse_avail_pwr_pri = 4" To: "tcle2_timer_pri_done * option_2ev * (pd_class_sig_pri = temp_var_pri) * lclass_4PID_mult_events_pri * pse_avail_pwr_pri = 4"							
Proposed TFTD Do we	Respoi	nse o use the s	Response same variabl	Status W	6?			Proposed I TFTD Do we	Respons want to	se use same	Response Status W			
TFTD This k "TFTD "1. Th (pd_c (pse_ 2. And both \$ and s	LY ogic is v YD eere is a lass_siq avail_pr d the ar SS and econda	wrong. To n n error in tl g_pri = tem wr_pri > 4)) nswer for cc DS"" is YE: ry."	make sure w the proposed np_var_pri) *) "" comment edit S since not t	e adopt the corr f remedy: It shou ((class_4PID_n or question ""Do need to seperate	ected version (Y uld be:""tcle2_tir nult_events_pri - o we want to use e within a port th	′air has it). ner_pri_done + !option_2ev the same vai e option for p	* + rible for rimary	TFTD This lo TFTD Setting We do Yair to	_Y gic is wr DS class_4 not nee check E	ong. To m 1PID_mult d an optio DS's comn	nake sure we adopt the corr t_events_x FALSE already n_ev2 for dual-signature dia nent.	ected version enables PSE to agrams.	(Yair has it). o limit to 2 class events.	
TFTD Settin We de Yair te	DS g class o not ne o check	_4PID_mul eed an optio DS's comr	It_events_x on_ev2 for d ment.	FALSE already dual-signature dia	enables PSE to agrams.	limit to 2 clas	s events.							

Pa **133** Li **18**

C/ 145	SC	145.2.5.7	P 1 :	36	L 4	# i-199		/ 145	SC ·	145.2.5.7		P 136	L 11	# i-254	
Peker, Arka	diy		Micro	semi Corporat	tion		P	eker, Arkad	liy			Microsemi C	orporation		
Comment T	ype	TR	Comment Status	х		Pres: Stewart1	1 C	Comment Ty	(pe	TR	Comment S	Status X		Pres: Darshar	113
Missing iclass_li	error_ im_de	_condition_ t_sec.	_sec at the input to t	he state IDLE	_SEC at the con	dition		In the ex "(!pwr_ap !det_star	tit fron pp_se rt_pri	n IDLE_SE ec * pwr_ap * !det_onc	EC to START_ pp_pri) + ((CC e_sec)"	_DETECT_SI C_DET_SEQ=	EC we have the for =3) * option_probe	ollowing condition: e_alt_sec *	
IClass_II SuggestedF "1. Cha 2. Add r ""error_ A variab other sy and tha Values: FALSE: TRUE: / Proposed R TFTD Do we v WFP	Im_de Remea nge fra hew va condit ble ind /stem t requi No fa A fault <i>besport</i> want p	t_sec. by om: ""iclass ariable to 1 iion_sec licating the faults that ire the PSI oult indication ose ri and sec	s_lim_det_sec"" to " 45.2.5.4: e status of implemen prevent the PSE fro = not to source powe ion. e exists." <i>Response Status</i> versions of error_cc	"iclass_lim_de tation-specific m meeting the er over the Ser W ondition?	et_sec + error_co fault conditions e specifications in condary Alternat	ondition_sec"" or optionally n Table 145-16 ive.		"(!pwr_a; ldet_star Based or CC_DET detection (The ana commen The stag the prima on (optio Option 1 covered Option 2 the 1st p Option 3 and the s !det_star The currr The state power up The prop finished i additiona The prop a) The b b) Previo In additic detection darshan The addi + (class_ In order t side (sim	pp_se pp_se rt_pri n the [_SEC alysis its and gerece ary de is no by the is no by the is no secon rt_pri ent st e diag po, and posed its 1s' al mis posed its 1s' al mis posed pos posed posed posed pos posed	ec * pwr_a; * !det_onc description Q=3 for dua and simula d most of t d detection etection (op This cover ormally use e state ma mally use e state ma rmally use i the condit overs the c ndary didn't * !det_onc t detection sing possil changes i t detection sing possil changes of i or of other ate diagram e proposed sisfication of 0917.pdf). I missing p 0_mult_ever polement the rariable is a	pp_pr) + ((CC pp_pr) + ((CC pr) + ((CC pr) + ((CC pr) + (CC pr) +	CUT with star doing the sec for other seq ccur with star doing the sec e of possibilit _4PID_mult p_sec * pwr_: primary return once: ((CC_E on 2 and 3, a ered detectio e that class agram will all ting the previo). EQ NE 3" flo s. o required to ides to power povered by add _DET_SEQ= e need to add or the second	=3) * option_probe exclon check is fol- uences 0, 1 and 2 ting the secondar ondary detection ties. events_sec=FALS app_pri). to IDLE_PRI due DET_SEQ=3) * op nd does not cove n before Primary 4PID_mult_events bow staggered detection on the port (which ding the following 3) * !det_once_section tary):	a_alt_sec * and specifically, lowed by staggered 2 are covered by other ry detection after doing only if the primary is E. This currently is no SE and it is covered in a to various reasons tion_probe_alt_sec * r option 1! power up, after primar s_sec is set to FALSE ection after Primary and flow, by oring the cles of h is covered by part: to * det_once_pri) able for the primary	g t i
								This varia	able i to DE	indicates if	the PSE has /AL_PRI.	probed the P	rimary Alternative	e at least once, when	
								Values: FALSE: Alternativ	The F ve sta	PSE has no ate diagram	ot probed on t n.	he Primary A	Iternative since e	ntering the Primary	
TYPE: TR/te COMMENT SORT ORD	echnic STAT ER: P	al required US: D/disp age, Line	d ER/editorial requir patched A/accepted	ed GR/genera I R/rejected	al required T/teo RESPONSE S ⁻	chnical E/editorial FATUS: O/open V	I G/gener W/written	al C/closed l	U/uns	atisfied Z	/withdrawn	Pa 1 Li 1	36 1	Page 13 of 4 9/12/2017 9:	1 06:17 PM

TRUE: The PSE has probed the Primary Alternative at least once since entering the Primary Alternative state diagram."	C/ 145 Peker, Arkad	SC 145.2.5.7	P 136 Microsemi C	L 20 orporation	# i-251
In the above proposed change, det_once_pri is used as a condition for starting detection in the secondary any time until power up, after primary was detected at least once. det_once_pri is set to FALSE when sism = FALSE at ENTRY_PRI. det_once_pri is set to TRUE when Primary state diagram reaches to "DETECT_EVAL_PRI", to clearly indicate that detection on primary has ended before tdet_timer_pri expired." SuggestedRemedy	Comment Ty In Figure CC_DET machine pwr_app sism * (!!	pe TR 145-16, in the e SEQ 0 or 1, ar allows to move pri = TRUE per class_4PID_mu SEQ=0 + CC	Comment Status X exit from ENTRY_SEC to S nd class_4PID_multi_even from ENTRY_SEC state to r the existing condition: ult_events_sec * pwr_app_ DET_SE0=1)	START_DET_S t_sec = FALSE START_DETE pri) + class_4Pl	Pres: Darshan13 EC, when selecting , the secondary state ECT_SEC only if D_mult_events_sec) *
1. Change from: "(!pwr_app_sec *pwr_app_pri) + ((CC_DET_SEQ=3) * option_probe_alt_sec * !det_start_pri * !det_once_sec)"" To: "([pwr_app_sec *pwr_app_pri) + ((CC_DET_SEQ=3) * option_probe_alt_sec * !det_start_pri * !det_once_sec) + (class_4PID_mult_events_sec*(CC_DET_SEQ=3) * !det_once_sec * det_once_pri) 2. Add the following variable to the variable list: det_once_pri This variable indicates if the PSE has probed the Primary Alternative at least once, when entering to DETECT_EVAL_PRI. Values: FALSE: The PSE has not probed on the Primary Alternative since entering the Primary Alternative state diagram. TRUE: The PSE has probed the Primary Alternative at least once since entering the Primary Alternative state diagram. " <i>Proposed Response</i> Response Status W TFTD WFP	If Primar result, py be able t The easy ENTRY_ state whi variable other cor SuggestedRe See dars including secondar 1) Add th det_once This varia entering FALSE: Alternativ TRUE: T Primary 2 2) Chang "sism *(((CC_DE To: sism * ((!	y fails to poweru wr_app_pri varia o exit from ENT / way to handle i SEC, also if prir ich prevents stud det_once_pri (th mments that all in emedy shan_04_0917.p the possibility to ry with the option to DETECT_EV The PSE has pro Alternative state ge from: Iclass_4PID_mu T_SEQ=0 + CC_ Iclass_4PID_mu PID_mult_events	up, the Primary state mach ble will remain in FALSE, a RY_SEC i.e. will be stuck is this problem is to enable in mary performed detection a ck at ENTRY_SEC. This s be current draft has only de related to each other and c df for how the following ch o do cycles of detection + in to go to IDLE_PRI/SEC a able: the PSE has probed the P AL_PRI. Values: the pobed on the Primary A h. bed the Primary Alternativ diagram. JIt_events_sec * pwr_app_ _DET_SEQ=1)" Jt_events_sec * (pwr_app_	ine returns back and the second there. hoving to STAR at least once an olution requires t_once_sec) wh can be see in da ange is also ad class_probe eve and WAIT_PRI/ rimary Alternati Iternative since e at least once pri) + class_4P _pri + det_once_ + CC_DET_SE	<pre>x to IDLE_PRI. As a ary state machine won't T_DETECT_SEC from d is now in IDLE_PRI the addition of new nich is required also by urshan_04_0917.pdf. " dresses other issues ents on primary and SEC. ve at least once, when entering the Primary since entering the ID_mult_events_sec) * _pri * !det_start_pri)) + EQ=1)."</pre>
	Proposed Re TFTD	esponse	Response Status W		

WFP

Pa **136** Li **20**

C/ 145 Peker, Ark	SC 145	.2.5.7	P 136 Microsemi C	L 20 orporation	# i-250	<i>Cl</i> 145 Peker, Arka	SC 145.2.5.7 adiy	P 136 Microsemi	L 21 Corporation	# i-252
Comment	Type El	R Co	mment Status X		Pres: Darshan4	Comment	ype TR	Comment Status X		Pres: Darshan13
Peker, Ark Comment There "sism (CC_L in the Suggested Chang "sism (CC_L To: "sism (CC_L To: "sism (CC_L See di comm	adiy Type EI is redundai *((!class_4I DET_SEQ=I part: (!class_4I ge from: *((!class_4I DET_SEQ=I *(!class_4F DET_SEQ=I arshan_04_ ents." Response	R Co nt parenthes PID_mult_e 0 + CC_DE s_4PID_mult_e 0 + CC_DE PID_mult_ev 0 + CC_DE _0917.pdf fo <i>Res</i>	Microsemi C mment Status X is in the exit from EN '_SEQ=1)" t_events_sec * pwr_app_ '_SEQ=1)" ents_sec * pwr_app_ '_SEQ=1)" ents_sec * pwr_app_ '_SEQ=1)" r additional changes ponse Status W	orporation TRY_SEC to ST, pri) + class_4PII pp_pri). " pri) + class_4PII pri + class_4PID proposed to this o	Pres: Darshan4 ART_DETECT_SEC: D_mult_events_sec) * D_mult_events_sec) * _mult_events_sec) * condition due to other	Peker, Arka Comment 7 In the t conditia "sism * (CC_D In this If STAI remain and the The pro- 1) To a tdet_tir DETEC tdet_tir the usa ENTRY 2. To a	adiy <i>Type</i> TR ransition betwee on: ((!class_4PID_) ET_SEQ=0 + CC condition, when RT_DET_PRI ex in FALSE which e secondary stat oposed solution dd stop_tdet_tim ner_pri_done wi CT_EVAL_PRI. ner_pri is expire age of tdet_timer; _SEC to STAR dd ""tdet_timer;	Microsemi Comment Status X en ENTRY_SEC to START mult_events_sec * pwr_ap C_DET_SEQ=1)" class_4PID_mult_events_ it to IDLE_PRI due to tdet n won't allow exiting from F e machine remain stuck ir for this problem is: ner_pri in the DETECT_E' II remain FALSE when mo This modification is required d, we will get tdet_timer_p '_pri_done in the seconda T_DETECT_SEC when w _pri_done to the condition	Corporation '_DET_SEC we h p_pri) + class_4f sec=FALSE, and _timer_pri_done, NTRY_SEC to S NTRY_SEC. /AL_PRI state. T ving from STAR ad since even if w ri_done anyway. ry state machine will add this vai of the exit from E	Pres: Darshan13 nave the following PID_mult_events_sec) * CC_DET_SEQ=0 OR 1, the pwr_app_pri will TART_DETECT_SEC This action ensures that T_DETECT_PRI to re did detection before This action will enables at the exit from riable in (2). ENTRY_SEC to
WFP TFTD By ren precen	LY noving thes ndence and	e parens we	e both reduce clarity, Something we said w	and we now depe e would avoid.	end on operator	START ""sism class_ will allo START Suggested	DETECT_SEC *((!class_4PID_ 4PID_mult_even w to move to ST DETECT_PRI Remedy	C as follows: mult_events_sec * (pwr_a tts_sec) * (CC_DET_SEQ FART_DETECT_SEC in c to IDLE_PRI due to tdet_	Ipp_pri + tdet_tim =0 + CC_DET_SI ase that we move timer_pri expiratio	ter_pri_done)) + EQ=1)"" . This change ∋ from on."
TFTD "This i preser propos	YD is no longer ntation.Dele sed to this o	in darshan_ etete the tex condition du	_04 and the prposed ""See darshan_04_(e to othercomments."	emedy is comple 917.pdf for addit ""	ete without the need for ional changes	1. Add 2. Add START Chang "sism * (CC_D To: "sism * class_4	"stop_tdet_time "tdet_timer_pri_ _DETECT_SEC e from: ((!class_4PID_n ET_SEQ=0 + Cl ((!class_4PID_n 4PID_mult_even	r_pri ⁱ " to the DETECT_EV done to the condition of th C by performing the followinult_events_sec * pwr_ap C_DET_SEQ=1)" nult_events_sec * (pwr_a tts_sec) * (CC_DET_SEQ	AL_PRI state. e exit from ENTF ng change: o_pri) + class_4F pp_pri + tdet_tim =0 + CC_DET_S	<y_sec to<br="">'ID_mult_events_sec) * er_pri_done)) + EQ=1)"</y_sec>
						Due to meet th here bu darsha possibi the opt	the fact that iter ne requirement t ut may cause ed n_04_0917.pdf f lity to do cycles ion to go to IDLE	n 2 need additional chang hat we need single indepe itor confusion of how to ap for how the above change of detection + class_probe E_PRI/SEC and WAIT_PF	es due to other condent comment for ply the remedies is combined with events on primat/SEC."	omments, and in order to or each issue which I did of other comments, See other changes i.e. the ary and secondary with
						Proposed I TFTD	Response	Response Status W		
						WFP				

Pa **136** Li **21**

C/ 145 SC 145.2.5.8 P 137 L 13 # [i-231 Peker, Arkadiy Microsemi Corporation Microsemi Corporation Microsemi Corporation Microsemi Corporation	C/ 145 SC 145.2.5.8 P 137 L 18 # i-232 Peker, Arkadiy Microsemi Corporation
Comment Type TR Comment Status X PSE "In the exit from CLASS_EV2_SEC to MARK_EV2_SEC, the variable option_2ev is missing in the condition: ""tcle2_timer_sec_done *(pd_class_sig_sec = temp_var_sec) * (class_4PID_mult_events_sec +(pse_avail_pwr_sec > 4))"". It needs to be the same concept as in the single-signature case."	SD Comment Type TR Comment Status X PSE SD In the exit from CLASS_EV2_SEC to MARK_EV_LAST_SEC, the variable option_2ev is missing in the condition: "tcle2_timer_sec_done * (pd_class_sig_sec = temp_var_sec) * !class_4PID_mult_events_sec * pse_avail_pwr_sec = 4". It needs to be the same concept as in the single-signature case."
SuggestedRemedy Change from:"tcle2_timer_sec_done *(pd_class_sig_sec = temp_var_sec) * (class_4PID_mult_events_sec +(pse_avail_pwr_sec > 4))" To: "tcle2_timer_sec_done *(pd_class_sig_sec = temp_var_sec) * ((class_4PID_mult_events_sec * !option_2ev) + (pse_avail_pwr_sec > 4))"	SuggestedRemedy Change from: "tcle2_timer_sec_done * (pd_class_sig_sec = temp_var_sec) * !class_4PID_mult_events_sec * pse_avail_pwr_sec = 4" To:
Proposed Response Response Status W TFTD Do we want to use the same varible for both SS and DS?	"tcle2_timer_sec_done * option_2ev* (pd_class_sig_sec = temp_var_sec) * !class_4PID_mult_events_sec * pse_avail_pwr_sec = 4" Proposed Response Response Status W TFTD
TFTD LY This logic is wrong. To make sure we adopt the corrected version (Yair has it). TFTD YD "1. There is an error in the proposed remedy: It should be:""tcle2_timer_sec_done *(pd_class_sig_sec = temp_var_sec) * ((class_4PID_mult_events_sec + !option_2ev + (pse_avail_pwr_sec > 4))"".2. And the answer for comment editor question ""Do we wan to use the same varible for both SS and DS"" is YES since not need to seperate within a port the option for primary and secondary." TFTD DS Setting class_4PID_mult_events_x FALSE already enables PSE to limit to 2 class even We do not need an option_ev2 for dual-signature diagrams. Yair to review DS's suggestion.	Do we want to use the same varible for both SS and DS? TFTD LY This logic is wrong. To make sure we adopt the corrected version (Yair has it). TFTD DS t Setting class_4PID_mult_events_x FALSE already enables PSE to limit to 2 class events. We do not need an option_ev2 for dual-signature diagrams. Yair to review DS's suggestion. S.

Pa **137** Li **18**

C/ 145 SC 145.2.6 P 141 L 20 # i-73 Yseboodt, Lennart Philips Lighting Philips Ligh	C/ 145 SC 145 P 142 L 10 # i-1 Anslow, Peter Ciena Corporation Ciena Corporation Ciena Corporation Ciena Corporation
Comment Type T Comment Status D PSE Detection	Comment Type TR Comment Status D Editorial
 "In any operational state, the PSE shall not apply operating power to a pairset until the PSE has successfully detected a valid signature over that pairset." A PSE does not apply power, it applies voltage and the PD draws current, causing power to be sourced. The term 'operating power' is not defined either. "In any operation state" are 4 redundant words. 	The IEEE-SA Standards Style Manual 13.3.2 says "An em dash () should be used to indicate the lack of data for a particular cell in a table." Comment #29 against P802.3bt D2.4 was: "Several tables in Clause 145 have blank cells in the min or max columns, which should contain an em-dash", but this was rejected with the rebuttal: "The lack of em-dashes is intentional. The em-dash would convey that there is no relevant information, while the lack of the em-dash conveys that there is no specific number."
SuggestedRemedy "The PSE shall not apply operating voltage to a pairset until the PSE has successfully detected a valid signature over that pairset."	This makes no sense. The first example of this issue is in Table 145-7. "Connection check to detection time" Tcc2det has a maximum value of 0.4 s, but the min column is blank. According to the IEEE style manual the cell should contain an em dash, which would indicate that there is
Proposed Response Response Status W PROPOSED ACCEPT.	no minimum requirement for this time. If there is some requirement on the minimum (not just a number) then an indication of this should be made via an entry in the cell such as "See 145.x.x". If this is not the case, then the cell should contain an em dash.
TFTD YD Change to: "The PSE shall not apply operating voltage to a pairset until the PSE has successfully detected a valid signature over that pairset, with the exception of operating in a test mode "	SuggestedRemedy Make sure all tables have an entry of em-dash or pointer to the requirement in currently blank min or max columns. In particular, Tables 145-7, 145-8, 145-9, 145-10, 145-14, 145-16, 145-20, 145-27, 145-28,
TFTD DS The state diagram and the other normative statements in the PSE detection section make this a redundant requirement. Repairing this statement would require a lot of nuance (considerations for TEST_MODE states, "greater than v_valid" vs "operating voltage"). Delete redundant requirement. "In any operational state, the PSE shall not apply operating voltage to a pairset until the PSE has successfully detected a valid signature over that pairset." Heath to propose removal of test modes.	 Proposed Response Response Status W PROPOSED REJECT. TFTD (talk to Katherine) There is a distinction between an em-dash, which indicates 'a lack of data', and leaving a cell blank. Eg. For parameters that convey a range, having a blank 'Min' cell, does NOT indicate there is lack of data, rather that the minimum value is open-ended. An em-dash would convey an incorrect message. Em-dashes have been put in all cells where it is appropriate. This seems consistent with other Clauses, I found many tables with empty cells: Table 78–4, 80–2, 80–3, 80–4, 82–1, 85–1, 85–5, 85–7, 86–2, 86–6, 86–7, 88–9, 89–6, 91–1, 92–8, 94–16, 94–17, 95–6, 95–7.

Pa **142** Li **10**

Cl 145 SC Yseboodt, Lenna	745.2.7 art	P 146 Philips Lighting	L 41	#	i-79		C/ 145 Darshan, `	SC Yair	145.2.8	P 152	L 46	# li-463
Comment Type	TR	Comment Status X	,		F	SE Power	Comment	Type	т	Comment Status	(Pres: Darshan12
Topic: SLIDI "Measu This se section is inf - Why i - Measu - The a	ING urements sh entence follo formative in is this a sho urements of uctual power	nould be averaged using any s ows after the definition of PCIa nature. ould ? f what ? PCIass is a capability requirement of a PSE is enc	sliding window ass and PClas /. oded in ICon∹	with a w s-2P. Th 2P.	ridth of at who	1 s." le	The fc that af Backg Our sp 2P_ur PD_V the sy The fc	Illowing fect unl round: bec defi b and f diff=60r stem cu Illowing	question I balance. ines unbala for the PD mV max m urrent/resis use case	has been asked regard ance requirements for in terms of Icon-2P_ur leasured at 1-10mA rai stance unbalance. has been investigated	the PSE in terms b and inexplicit nge. The PD_Vdi	and its affect on PD_Vdiff s of VPort_PSE-2P, Icon- design requirement to keep iff has the highest effect on
SuggestedReme	ədy						A PD i resulti	is conn ng with	ected to a 1,2 and 7.	PSE over 4-pairs. The 8 are positive and 3.6	PSE is using Alf and 4,5 are nega	t A (MDI) and Alt B (X) ative. It runs this wav for
Remove quo	oted senten	ce.					MANY	' years.	The PD fr	ront end is not an activ	e bridge, it is a d	iode bridge. The PSE has
Proposed Respo TFTD	onse	Response Status W					been r and 7, with di	eplace 8 are n odes th	d and it us egative. No nat have no vitching fro	es Alt A (MDI) and Alt ow we have diodes that ever have current through the old diodes to the	B (S). Now, 1,2 a at have been age ugh them (the one a new ones, its m	and 4,5 are positive and 3,6 d (1,2 and 3,6) in parallel es in 4,5 and 7,8). This is
I believe this	s is the only	mention of the window for Po	class. Is it ok	to remove	e it?		questi	ons are	:			
Lennart's ho	mework						1. If th in para	e aging allel lea	g has an ef ding to hig	ifect on Vf, then we ma pher unbalance.	ay have higher mi	ismatch between the diodes
Cl 145 SC Darshan, Yair	345.2.8	P 152	L 46	#	i-41	9	2. In a power Answe	n extre and he ers:	me case, v eats more t	we may have a runawa than the 'new' diode.	ay situation as th	e aged diode drops more
Comment Type Icon-2P_unt to fit the test	T o in Table 14 t verification	Comment Status X 45-16 item 5 needs some upo models accuracy.	dates to sync	with lates	Pres: t chan	<i>Darshan3</i> ges and	1. All o permu 2. Silio after d	diodes i Itations con doe liode er	in the diod of each tw esn't have a nd of life tir	e bridge has to have 6 vo diodes. a memory. The perforr me period due to mech	0mV maximum \ nance characteri anical constructi	/diff between any stics change may changed on and other issues that are
SuggestedReme Adopt the ch	edy nanges prop	oosed in darshan_03_0917.pc	lf				functio 3. Dio other	on of cu des tha	irrent cond it are at the iters will ex	luction. eir end of life will introd	uce higher leaka	ge current, higher VF, and
Proposed Respo TFTD	onse	Response Status W					4. As l signific 5. Life	ong as cantly d	the diode luring the o f a diode o	is kept with their allow diode defined life time f reliable vendor can b	ed operating con with or without cu e 20 years. The l	ditions, VF will not change urrent conduction. lowest life time value of
WFP							reliabl 6. As a time w 7. If ve other p	e vendo a result hich ex endor fo parame	ors is 10 ye of the abo cceed the p ollow the al eter).	ears. The typical is sor ove, any component in product life time like ar bove rules, the effect o	newhere between the PD or PSE n ny other designs. of aging should no	n these ranges. eed to be selected with life ot be a problem for VF (or
							Suggested	Remed	dy			
							See d	arshan_	_12_0917.	pdf for details		
							Proposed TFTD	Respor	nse	Response Status	v	
							WFP					

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Page, Line Pa **152** Li **46**

C/ 145 SC 145.2.8 P 153 L 16 # i-92 Yseboodt, Lennart Philips Lighting Philips Ligh	C/ 145 SC 145.2.8 P 153 L 16 # [i-290] Stover, David Analog Devices Inc. Image: Contract of the state of the
Comment Type TR Comment Status X PSE Inrush	Comment Type T Comment Status X PSE Inrush
Table 145-16, linrush (item 6) lists minimum values for dual-signature PDs. Dual-signature PDs may be started up in a staggered fashion, making this parameter meaningless. In general, dual-sig PDs are specified exclusively on a per pairset basis only, this needs to be the same here.	Item 6 specifies "Total output currentin the POWER_UP state per the assigned Class", but includes rows for "Type 3" and "Type 4" dual-signature PDs. SuggestedRemedy
SuggestedRemedy	Change from "Type 3 dual-signature PD" to "Dual-signature PD, Class 1 to 4"; Change from "Type 4 dual-signature PD" to "Dual-signature PD, Class 5"
 Remove the two rows for dual-signature PDs in Item 6 of Table 145-16 Remove the two rows for dual-signature PDs in Item 4 of Table 145-28 	Proposed Response Response Status W
Proposed Response Response Status W	Wait for outocme of 92
Remove minimum values in Item 6 of Table 145-16.	C/ 145 SC 145.2.8 P 153 L 31 # i-485 Johnson, Peter
IFID	Comment Type T Comment Status X PSE Inrush
Inrush group to discuss Cl 145 SC 145.2.8 P 153 L 16 # i-291 Stover, David Analog Devices Inc. Analog Devices Inc. PSE Inrush Comment Type TR Comment Status X PSE Inrush The PSE inrush requirements "I_Inrush" and "I_Inrush-2P" always apply. However, dual-signature PDs may be powered over one or both pairs. For this reason, specifying total output current (I_Inrush) for dual-signature PDs is problematic. For example: When a single pairset of a Type 4/Class 5 dual-signature PD is inrushed, the PSE shall provide an I_Inrush of at least 0.65A and shall not provide an I_Inrush-2P of more than 0.6A. For dual-signature PDs, output current during inrush should only be specified per-pairset.	Dual Signature Class 5 Minimum I_Inrush-2P is specified as 325 mA. Class 5 Dual Signature PD's are specified in 145.3.8.3 as allowing up to 180uF for C_Port-2P without PD current limiting. Is there a rationale why 325mA current limiting meets the needs of a Class 5 Dual Signature but we require 400mA for all other cases where C_Port or C_Port-2P can go up to 180uF ? SuggestedRemedy Unless there is a justifiable reason, I_Inrush should be 800mA and I_Inrush-2P 400mA for the Type-4 Dual Signature case. Proposed Response Response Status W TFTD
SuggestedRemedy	That is a very good question Pete.
Remove I_Inrush entries for dual-signature PDs. <i>Proposed Response Response Status</i> W TFTD	TFTD YD "1. The rational was to allow foldback current limit that will start with 325mA.
OBE by 92	minimum current will be 325mA minimum after unbalance effect. This was proven by
TFTD YD "-The remedy doesn't make sense with the commentwhich rows to remove? We can't remove any rowYou may want to remove only the minimum value of the total current for dual-sig row in item 6."	the rest."
TFTD DS Comment i-92 presents a superior remedy.	

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Page, Line Pa **153** Li **31** Page 19 of 41 9/12/2017 9:06:17 PM

C/ 145 Peker, Ark	SC 145.2.8 adiy	P 153 Microsemi C	L 33 orporation	# i-205	C/ 145 Lemahieu,	SC 145.2 Joris	.8.3	P 156 ON Semicon	L 8 ductor	# i-337
Comment "Table Tinrus which discus To cor increa: reliabil 802.3a Suggested Increa Proposed TFTD	Type TR 145-16, item 8 h. It means tha needs to cover s if it sufficient sider if Tpon r se in the 1st lo ity etc. since w af experiments <i>Remedy</i> se Tpon from 4 <i>Response</i>	Comment Status X 3, Tinrush: It is clear from the at effective Tpon is (400-50) m r long 1st class events, + 4 cla for their designs and applicat iseed to be increased by appro- ng class events to keep our m re had so far 200msec margin and the actual spec numbers. 400msec to 450msec or to wh <i>Response Status</i> W	 Input Voltage drop to 0V is excessive. Drop to 0V during 30us spec seems to be written for (theoretical) diode bridge at Pl Have diode reverse recovery and cable inductance effects (peak reverse recovery been taken into account here? Active bridges seem very popular in 802.3bt PD solutions to reduce dissipation in the rectifier stage. An immediate short at the input would significantly discharge Cport as it takes time off the mosfet. SuggestedRemedy Increase minimum voltage level during first 30us and make spec compliant with ac bridges at the PD input. 							
wait fo Adding 95ms - (1st fir = 188r There TFTD	r outcome of s g up the class of + 4*12ms + 5* iger, 4 short cla ns seems to be p YD	taggered presentation events you get: 9ms ass events, 5 mark events) lenty of margin.			Proposed I TFTD See 24	Response 8	Respons	e Status W		
TFTD Respo with ty TFTD I think	nse to David's pical numbers. CJ worst case nu	calculations: If we want to por If we power_on in staggered mbers are 105+4*20+5*12 = 2	wer on at the sa manar, then the 255.	me time it is marginal re is no issue.						

Response DNA: The PSE can choose not use worst case numbers...

Pa **156** Li **8**

C/ 145 SC 145.2.8.3	P 156	L 8	# i-248	C/ 145	SC 145.2	8.5	P 156	L 51	# i-204
Picard, Jean	Texas Instrum	nents Inc		Peker, Ark	adiy		Microsemi Co	orporation	
Comment Type TR Com	ment Status X		PSE Power	Comment	Type TR	Comm	ent Status X		Pres: Darshan9
The following sentence does n voltage, all it can do is tempora 0.1uF cap). "The minimum PD input capac allows a PD to operate for inpu lasting less than 30 us as spec SuggestedRemedy	ot make sense. In rea arily turn off its port (it itance CPort min or C it voltage transients w ified in 145.3.8.6."	ality the PSE ca 's only a low sid Port-2P min de /hich cause VPI	nnot really short the PI de switch after all, with a fined in Table 145-28, D to drop as low as 0 V,	"Equat operat Howey Equati operat -Icon is -Icon-2 There	tion 145-8 con ing over 2-pa ver, for the mo on 145-8 con ing over 4-pa s defined in E 2P_unb is def is no informa	ntains the part irs and for the ost important tains the part irs. quation 145- ined in Table tion to find th	ts that allow us to de dual-signature ca use case which is ""Icon-2P=min(Ico 9. 145-16 item 5. e value of Icon-2P_	calculate the val se. operating over 4 n - IPort-2P-oth _other in order to	ue of Icon-2P in case of -pairs. er, ICon-2P-unb) when o calculate the value of
Use similar wording to the "at"	standard, removing "	which cause VF	PD to drop as low as 0	Icon-2	P. As a result	, the spec is	broken."		
V".	-			Suggested	Remedy	0047			
"The minimum PD input capac	itance CPort min or C	Port-2P min de	fined in Table 145-28,	Adopt	darsnan_09_	0917.pdi	a		
allows a PD to operate for inpute 145.3.8.6"	t voltage transients la	asting less than	30 us as specified in	TFTD	Response	Respor	ise Status W		
Proposed Response Resp	onse Status W			WFP					
TFTD				CI 145	SC 145 2	85	P 157	/ 13	# 1-101
Delete sentence. Put somethin	ng in PD section			Yseboodt,	Lennart	0.5	Philips Lightir	ng	# 1-101
include limit for PSE transients	less than 30us.			Comment	Type TR	Comm	ent Status X		Pres: Yseboodt3
TFTD YD This is at the PD PI not at the I to voltage changes in the PSE meant to protect ideal diode br	PSE PI. At the PD the You have LCR circu idges.	e voltage can ge it on the way fro	et to 0 or negative due om PSE to PD. This was	"A min maxim The ur - It is t - It is t cable - - It is t cable - That m Suggested Adopt introdu must s Proposed TFTD WFP	Imum curren Imum unbalance he minimum he maximum + PD he maximum + PSE nakes it that t <i>IRemedy</i> yseboodt_03 ucing a new p support on a p <i>Response</i>	t of I Con-2P- e condition (s current a PSF current a PS current a PD here is ZERC _0917_unbal arameter tha pairset. <i>Respor</i>	unb over one of the see 145.2.8.5.1) in Ed together by ICor E must be able to s E may source when may draw when co 0 margin between F ancemargin.pdf wh t takes the role of s ase Status W	e pairs of the sai the POWER_OI n-2P-unb which s upply on a pairs in connected to a wo ponnected to a wo PSE minimum ar sich aims to crea pecifying the mi	me polarity under N state." serves 3 distinct roles: et a worst-case unbalance orst-case unbalance orst-case unbalance nd PD maximum. te margin by nimum current a PSE

Pa **157** Li **13**

C/ 145	SC 145.2.8.5	5 P 1	58	L 10	# i-104	when	tested l	by some no	n-PD circuit.					
Yseboodt,	, Lennart	Philips	s Lighting			C/ 145	SC	145.2.8.5.1	P 158	L 45	#	i-424		
Comment	Type TR	Comment Status	D		Pres: Darshan15	Darshan, N	Yair							
"I Pea effect: What IPeak	ak-2P-unb , define s that a PSE sup follows is a set o c (which in turns c	ed in Equation (145-1 ports on a pairset who f equations that defin lepends on VPSE and	2), is the mi en powering e the value d RChan) ai	nimum curre a single-sig of IPeak-2P nd RChan-2l	ent due to unbalance inature PD over 4 pairs." -unb as function of 5.	Comment Icon-2 Equati 17 and	<i>Type</i> P_unb ion 145 d Rsou	T values need -26 (Rpd_m rce_min/ma	Comment Status X d to be verified when usir in/max) with the test veri x requirements with their	ng Equation 145-1 fication models do defined accuració	5 (Rpse_ escribed i es (+1/-%)	Pres: Darshan3 min/max) and n Table 145-).		
			, , , , , , , , , , , , , , , , , , , ,			Suggested	dReme	dy	I.					
See: F The v suppo 2P-un	http://www.ieee80 alue of IPeak-2P ort ICon-2P-unb, s b.	J2.org/3/bt/public/mar -unb is often lower tha so this has the effect	1 //ysebooc an that of IC of 'clipping'	lt_02_0317_ con-2P-unb. IPeak-2P-ur	ipeak2punb.pdf The PSE needs to ib to be at least ICon-	Adopt Proposed TFTD	darsha Respoi	in_03_0917 nse	.pdf Response Status W					
The re	eal issue arises ir	n the PD section, whe	ere we requi	re a PD nev	er to draw more than	WFP								
IPeak If that VPSE	:-2P-unb on any o is a requirement and RChan, bot	given pair. (and it should be), th h parameters the PD	en we can't knows noth	have IPeak ing about.	-2P-unb depend on	C/ 145 Darshan, Y	SC Yair	145.2.8.5.1	P 158	L 46	#	i-425		
Given unb, t	h that there is alm the most effective	ost no gain for PSEs solution is to make I	to be had fr Peak-2P-ur	om being at b a fixed nu	le to tune IPeak-2P- mber.	<i>Comment</i> The ch	<i>Type</i> hanges	T we did whe	Comment Status D	el" to "Link section	" breaks	Pres: Darshan1 some of the		
Suggestee	dRemedy					work v define	ve did f s the e	or pair to pa quipment co	ir resistance unbalance.	To fix it, we need	to add a t when test	text that		
- Repl	lace page 158, lir	nes 12 through 44 by:				pair resistance unbalance for compliance. In this way we don't break the link section								
IPeak	-2P-unb = {ILIM-:	2P - 0.002				definition due to the fact that the PSE load when PSE is tested for compliance and PD voltage source output resistance. Rsource, when PD is tested for compliance include the								
Proposed	Response	Response Status	w			effect	of the e	equivalent p	ortion of the link section.		•			
PROF	POSED ACCEPT	IN PRINCIPLE.				Suggested	dReme	dy						
Lenna	art, did this comm	nent get imported corr	ectly?			Adopt	darsha	in_01_0917	.pdf for detailed analysis	and proposed bas	seline.			
тетр		0	,			Proposed	Respoi	nse	Response Status W					
l forgo IPeak	o L Y ot I'm not allowed -2P-unb = {ILIM-2	l to use "fg" in my con 2P - 0.002}A	nment text.	The last line	should be:	WFP								
TFTD See d	YD Iarshan_15_0917	′.pdf.												
WFP														
TFTD I will c to plac actual circuit those the wa	CJ only agree to this ce a worst case F I current. The PD t, the PSE should that don't deeply ay a system reall	comment if we get ag PD unbalance circuit a has to adhere to limi l be treated the same r understand will desig y works should be ab	greement th and not som ts based on . It's great to gn to those le to exploit	at the way to be current sin connection b have the n limits. But th that to their	o test this parameter is hk that checks for the to a worst case PSE umbers in the spec and ose that understand benefit and not fail only									

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Page, Line Pa **158** Li **46**

C/ 145 Thompson	SC 145.2.8.5. , Geoffrey	1 P 158 Individual	L 47	# i-392	C/ 145 Darshan, `	SC 145.2.8 . ′air	.5.1	P 159	L 27	#	i-426
Comment	Type ER	Comment Status X		Pres: Yseboodt2	Comment	Туре Т	Comment Sta	atus D			Pres: Darshan2
This se combin within	eems like an atten ned specifications the PSE spec.	mpt to control the system ir s of the three elements, one	nbalance (which e of which is exte	is controlled by the rnally specified) from	This c of PSI and w	omment is not a resistive elem nen PSE conne	about active current ents to form Rpse ected to the PSE lo	nt balancing _min and R bad specifie	g. This commen Rpse_max that n d in Table 145-	t is about tl neet equat 17, will me	he typical use ion 145-15 et the values
Suggested	lRemedy				Icon-2 In D3	P_unb in Table	145-16. h value of Rose in	nin is not lim	nited Rose may	x is functio	n of
This is should	all valuable tutor be moved (with	ial material that would be v suitable editing) to an inforr	aluable for furthe native annex.	r work on the topic so it	Rpse_ (a) Th	min. If Rpse_m internal PSE	nin maximum value	e is not limit	ted, it will cause ge to significant	the followi	ing issues: in order to
Proposed I	Response	Response Status W			keep t	he PSE voltage	at the PI 50V mir	n or 52V mi	n pending the P	SE Type u	nder load.
TFTD					I his w	ill result with w	orking outside the	e PSE opera	ating voltage ran	.ge. a sansa	
TFTD "Rejec 2. No o been ii clear th	YD t this comment d clear instructions n Spec, Move to a hat what we have	ue to the following:1. No clo what should stay and what Annex, Back to spec severa now is important to have in	ear remedy what should move to al times with man n the standard an	do. annex3. We already y comments until it was id not in the annex."	(c) Pe values contril increa test ve (d) the (e) Th See c	r Equation 145- of Rpse_min (oution of Rpse t se of system ur rification mode re is no practica e above is not r alculation result	15, if Rpse_min is starting at 0.5 ohn o unbalance comp balance at long c l in Table 145-17. al benefit to increa elevant to active c s in darshan_02_(increased, as at Class bared to the able which ase Rpse_m current bala 0917.pdf.	Rpse_max is in 7-8 and 1 ohm a channel and Pl violates Icon-2P nin to any value. ncing.	creased at at class 5-6), resulting '_unb wher	nd at higher 5), the 9 with the 1 tested with
LDR G	1				Suggested	Remedy					
					(See c Chang power same To: "R of the a) 1 ol b) 0.5 The va	alculation resul e from: "RPSE ed pairs of the polarity." PSE_min is the same polarity. mms for class 5 ohm for class 7 alue of Rpse_m	ts in darshan_02_ _min is the lower be lower PSE comm The value of Rpse and 6 7 and 8. in is not limited wh	0917.pdf.) PSE comm non mode e _min shall l	on mode effectiv ffective resistan be limited to: current balancing	/e resistan ce in the p g is used.	ce in the owered pairs
					Proposed	Response	Response Sta	tus W			
					PROF	OSED REJEC	, Г.				
					TFTD						
					WFP						
					There reason values high, t	is no reason to is to specify so of RPSE_min. hey will fail othe	specify this. Rea mething, they are Reason C (and A er specs.	sons a, b, c reasons for A) points ou	l, and e listed in people not to n t that if they try	the comm take a prod to use a va	ent are not duct with high alue that is too
					TFTD Fully a equati	LY gree this canno on produces va	ot be a 'shall', but lid results.	we do have	to specify over	what range	e the RPSE

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
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 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
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TFTD YD

"The main reason that we need to do it is that Equation 145-15 ACCURACY depends on the range of Rpse_min (the arguments used in the comment was the source of the inacuarcies). In other words: Typically, equation, any equation, has a range when it is valid. When the range is minus infity to plus infinity it means that it always correct. Since this equation done based on linear curve fitting, its range of existance is depended on limited value range of its subject parameter, Rpse_min, in this case. As a result, Rpse_min maximum value has to be limited.Change the proposed remedy to:After line 28, add the following text:""Equation 145-15 is valid for R_pse_min up to a value of 1 ohm for Class 5 and Class 6, and 0.5 ohm forClass7 and Class 8."""

C/ 145	SC 145.2	.8.5.1	P 159	L 34	#	i-427
Darshan, Yai	r					
Comment Ty	pe T	Comn	nent Status X			Unbalance

In the text below:

"A PSE shall not source more than ICon-2P-unb min on any pair when connected to a **load** as shown in Figure 145-22, using values of Rload_min and Rload_max as specified in Equation (145-16) and Equation (145-17).", Need to be "PSE load" as in Figure 145-22.

SuggestedRemedy

Change text to "A PSE shall not source more than ICon-2P-unb min on any pair when connected to the PSE load as shown in Figure 145-22, using values of Rload_min and Rload_max as specified in Equation (145-16) and Equation (145-17)."

Proposed Response Response Status W

TFTD

See 107

TFTD YD

Should be OBE by 107 since "PSE load" is impllied in the "test fixture" that Lennart is using in his proposed remedy

C/ 145	SC 14	5.2.8.5.1	P 159	L 34	# i-107
Yseboodt, Le	ennart		Philips Lighting		
Comment Ty	vpe 1	R	Comment Status D		Pres: Yseboodt2

"A PSE shall not source more than I Con-2P-unb min on any pair when connected to a load as shown in Figure 145-22, using values of R load_min and R load_max as defined in Equation (145-16) and Equation (145-17)."

ICon-2P-unb is a minimum, no need to specify I Con-2P-unb min
We should make it obvious that this shall applies when connected to a given test fixture described in the next paragraphs.

SuggestedRemedy

Change quoted text to:

"A PSE shall not source more than I Con-2P-unb on any pair when connected to a test fixture described in Figure 145-22, using values of R load_min and R load_max as defined in Equation (145-16) and Equation (145-17)."

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD

See 427

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C/ 145 SC 14	5.2.8.5.1	P 160 Philips Lightin	L 1	# i-108	C/ 145	SC 145.2.8	.5.1	P 160	L 39	# i-422
Comment Type		r minps Lightin	ig	Pros. Darshan?	Comment	типе т	Comme	nt Status Y		Pros. Veehoode
Table 145-17 co PSE unbalance Calculations sho ICon-2P-unb. Eg, with an RPS Class 7, low cha	intains the val is checked. ow that when p E_min=0.3 IC	ues needed to determ olugging in these num con-2P-unb for Class 7	nine Rload, which bers, some of t 7 (low channel 4/0.412/0.784/0	ch is the load with which he Classes fail to meet conditions) is not met:	This c In the "ICon- resista PSEs than 0 (Rload	omment is mar following text: 2P-unb and Ec ance RChan-2P that support ch that support ch that support so that support so that support of the that support so that so	ked as LOW uation (145-1 from 0.2 ? to annel commo hould meet I Chan-2P) and	ER02. 15) are specified 5 12.5 ? and wors 5 n mode resistan Con-2P-unb requ 4 (Rload max - 0	for total channel st-case unbalan ice less than 0.2 irements when .5 * RChan-2P).	common mode pair ce contribution by a PD. ?, or if RChan is less connected to This can be achieved
VPSEPI=52.003 RPSE_min = PPD = 62.0, \ FAILS to mee	6 0.250 and RP /Load = 51.08 et ICon-2P-unt	SE_max = 0.446 8, Vpd[1-4] = 52.11 52 5 of 0.781	2.14 0.26 0.23 =	51.92	by usi Lower RPSE	ng a lower RPS RPSE _max va _min in Equatio	E_max or hig alues may be on (145-15) in	gher RPSE_min t obtained by usir the form of RPS	than required by ng smaller const SE_max = ? * RF	PEquation (145-15). ant ? or higher PSE_min + ?."
Other values of	RPSE cause i	more errors, but all in	Class 7.		The fo 1. The	llowing may be "total" is not re	improved: auired.			
SuggestedRemedy		, ,			2. To s	simplify and cla	rify the text th	nat explains what	to do when sho	rter cabling than 0.2
Either we need t Input Yair is nee	o update ICor ded.	n-2P-unb, or we need	to update the v	alues in Table 145-17.	3. To :	simplify the use	of " RPSE_r	max = ? * RPSE_	_min + ?"	
Proposed Response	e Resp	oonse Status W			Suggested	Remedy	out text with			
TFTD WFP TFTD YD The problem wa	s resolved by	accepting comment i-	-420. See full u	pdate for Icon-2P_unb	"The v (Equa ? and RChai Rload a redu	ralues for ICon- tion (145-15)) a that the PD me n is less than 0 _min and Rload iction in the rati	2P-unb and t ire valid giver ets 145.3.8.1 .1 ?, PSE cor d_max both re o of RPSE_m	he relationship b h that RChan-2P 0. In cases wher npliance with ICc educed by 0.5 * F nax to RPSE_mir	etween RPSE_r (see 145.1.3) ra re RChan-2P is I on-2P-unb can b RChan-2P. This n presented by E	nax and RPSE_min nges from 0.2 ? to 12.5 ess than 0.2 ?, or e evaluated using compliance will require Equation (145-15). "
tor all classes in to 419. It will sav	darshan_03_ /e time.	0917.pdf for commen	it 419. In fact, n	hake 420 and 108, OBE	Proposed	Response	Respons	e Status W		
					TFTD					
					DS wa	ants this open p	ending outco	me of yseboodt2	!	
					See 4	28, 109				
					TFTD This te	YD ext was discuss	ed with Ken,	Pete and Yair ar	nd agreed as be	tter than the current text
					TFTD The re guaran the red PSE r case v Propo	DS ofference text can be that PSEs erenced text ac equirements m vith extremely I se this paragra	Ils into questi will provide ir dds uncertain ight apply to t ow resistance ph be deletec	ion the accuracy nteroperability, w ty for all PSE des them; in actuality connections be d or moved to An	of the PSE unba hich must not be signers by sugg , this refers to a tween PSE and nex 145A.	alance test as a de-facto e the case. Furthermore, esting a stricter set of n application-specific PD.

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C/ 145	SC 145.2.8	.5.1	P 160	L 39	# i-428	C/ 145	SC 145.2.8	5.1	P 160	L 45	# i-109
Jarshan,								0		ig	
Comment This c In the mode	<i>Type</i> T comment will be text "ICon-2P- pair resistance	OBE by comment Stat OBE by comment unb and Equation (RChan-2P" the wo	us X marked LO\ 145-15) are s rd "total" is n	NER02 if LOW specified for tot ot required. Re	Pres: Yseboodt2 ER02 will be accepted. al channel common move it.	Comment I "This c Equatio a or hig	<i>Type</i> T an be achieved on (145-15). Lo gher R PSE_m	Common by using a wer R PSE in in Equation	ent Status X lower R PSE_max _max values may on (145-15) in the f	c or higher R PS be obtained by form of R PSE_r	Pres: Yseboodt2 E_min than required by using smaller constant nax = a x R PSE_min +
Suggested	dRemedy					D.					
Chang mode	ge from "ICon-2 pair resistance	P-unb and Equation RChan-2P" the wo	n (145-15) ar rd "total" is n	e specified for ot required."	total channel common	Ve betwee	ery long/compl en Rpsemin an	cated way t d Rpsemax.	o say that it can be	e achieved by de	ecreasing the difference
resista	ance RChan-2F	d Equation (145-15) " the word "total" is	not required	d for channel c I."	ommon mode pair	Suggested	Remedy				
Proposed TFTD	Response	Response Stat	us W			Change "This c as defi	e to: an be achieved ned in Equation	l by decreas n 145-15."	sing the difference	between R_PSI	E_min and R_PSE_max
See 4	22, 109					Proposed F	Response	Respon	se Status W		
						TFTD					
TFTD Shoul	YD d be OBE to 42	2 if 422 will be acce	epted.			See 42	2, 428				
						TFTD The pro also to correct	YD oposed remedy uches the abso and clearer.	v cant be ac lute values	ccepted as is. This of Rpse_min/max.	is not just to deo Instead, adopt	crease the difference it 422 which is technically
						TFTD I The ref guaran	DS ference text ca tee that PSEs	ls into ques will provide	tion the accuracy of interoperability, wh	of the PSE unba hich must not be	lance test as a de-facto the case. Furthermore,

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the referenced text adds uncertainty for all PSE designers by suggesting a stricter set of PSE requirements might apply to them; in actuality, this refers to an application-specific case with extremely low resistance connections between PSE and PD.

Propose this paragraph be deleted or moved to Annex 145A.

Cl 145 Yseboodt.	SC 145.2.8.5	5.1 P 161 Philips Lightin	<i>L</i> 1	# i-110	C/ 145 Darshan. Y	SC ′air	145.2.8.5.	2	P 161	L 18		# i-434
Comment	Type TR	Comment Status X	5	Pres: Yseboodt2	Comment	Type	Е	Comment S	Status X			Pres: Yseboodt2
Comp of deta	paring Figure 145 ail which is not re	-22 with it's PD counterpart (F elevant to the evaluation of Ico	Fig. 145-31), it on-2P-unb.	contains a large amount	In the l resista	bottom	n of Figure ?	145-22, there	is an arrow wit	th a text "End-to	o-end pa	air-to-pair
Suggestee	dRemedy				a) It is	ext nee End-to	o to be acc b-end pair to	o pair effective	ect the followir e resistance ar	ng: nd not iust resis	stance.	
Adopt	t yseboodt_02_09	917_Figure_145_22.pdf			b) It is	the bo	oundaries of	f where the sy	stem unbalan	ce is defined. T	his help	s to understand
Proposed	Response	Response Status W			the bo	undarie e same	es of the PS e for the PC	SE PI to the P) and the link	SE power sup	ply elements th	hat affec	t the unbalance
TFTD	1				c) The	term	End to End	l effective resi	stance unbala	nce is describe	in 145.2	2.8.5.1 e.g.
WFP					P.158	L48 ar	nd many oth	ner places in t	he spec.			
00					Suggested	Reme	dy					
See 3	93				Chang To: "Ei	e from nd-to-e	end pair-to-er	nd pair-to-pair pair effective i	resistance" esistance unb	alance bounda	ries"	
C/ 145	SC 145.2.8.5	5.1 <i>P</i> 161	L 2	# i-393	Proposed I	Respo	nse	Response S	tatus W			
Thompsor	n, Geoffrey	Individual			TFTD							
Comment	Type ER	Comment Status X		Pres: Yseboodt2								
Figure	e 145-22. This fig	gure is very valuable in unders	standing the ov	verall problem of	These	terms	are becom	ing very confu	ising and need	d simplifing.		
desigr	ning a PSE when	n a PoE system, nowever it a	cesh t help with	e PD.	C/ 145	SC	145.2.8.5.	1	P 161	L 20		# i-429
Suggester	dRemedy				Darshan, Y	'air						
Tutori	al material that w	ould be valuable for further w	ork on the topi	c. It should be moved to	Comment	Туре	Е	Comment S	Status X			Pres: Yseboodt2
an info	ormative annex.		·		The tit	le of fig	gure 145-22	2 is good but r	not sufficiently	accurate. It is s	system e	effective
Proposed	Response	Response Status W			resista title of	nce ur	nbalance ar מוגם "145 2	nd not just sys	tem resistance	e unbalance. Th	nis is in	sync with the
TFTD	I				unbala	ince" a	and the text	all over claus	se 145.2.8.5.1	and 145.3.8.10) (44 occ	currences).
See 1	10				Suggested	Reme	dy					
000					Chang	e from	Figure 145	5-22PSE PI	unbalance spe	cification and s	system r	esistance
TFTD	YD	due to the following:1 Figure	145 22 is noo	dad for the space. No	unbala	ince"	45 00 000		o oppositiontion	and avatam of	faativar	agiatanag
clear	remedy what to d	lo instead.	145-22 13 11660	ded for the spec. No	unbala	ince"	40-22630		e specification	and system er	lective i	esistance
2. No	clear instructions	what should stay and what s	hould move to	the informative annex	Proposed I	Respo	nse	Response S	tatus W			
comm	nents until it was	clear that what we have now i	is important to	have in the standard and	TFTD							
not in	the annex."				TETO							
TETD	DS				OBE to	∟ĭ ovsebo	oodt 02 (do	not adopt bo	th. creates cor	nflict)		
The n These	ormative stateme e items should like	ent in this section is tied to Fig ely stay in the section.	gure 145-22; eo	quations 145-16, 145-17.	WFP	,	(11		,	- /		
	ЭT											

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Page, Line Pa **161** Li **20** Page 27 of 41 9/12/2017 9:06:17 PM

C/ 145 SC 145.2.8.5	.2 P 161	L 26	# i-431	C/ 145	SC 145.2.8.	5.1	P 161	L 28	# i-113
Darsnan, Yair				Y SEDOODT,	Lennart	_			
Comment Type E	Comment Status D		Pres: Yseboodt2	Comment	Туре Т	Comment	Status D		Pres: Yseboodt2
In the text "With the PS PI"	E powered on, adjust the load	to PClass_PD.", n	nissing "at the PD	In the Rload	evaluation meth _min/max excha	nod for Figure 1 ange.	145-22, step 'e' (cl	heck the curre	nt), comes after the
SuggestedRemedy				Suggested	dRemedy				
Change to: "With the P	SE powered on, adjust the PS	E load to PClass_F	PD at the PD PI."	Swap	steps d) and e)	and adjust labe	els accordingly.		
Proposed Response TFTD	Response Status W			Proposed PROP	Response POSED ACCEPT	Response : T.	Status W		
This instruction doesn't What are they suppose in the small box that sa	make sense. The PSE Load in the adjust? I assume this ready set of the second s	s the entire box in Ily means to adjus	Figure 145-22. t the current draw	TFTD The re	YD emedy is incorre	ct. The order o	f d and e are corr	ect	
			ai.	C/ 145	SC 145.2.8.	6	P 161	L 45	# i-116
See 431				Yseboodt,	Lennart		Philips Lighting		
WFP				Comment	Type TR	Comment	Status D		PSE Inrush
TFTD YD "1."" See 431""? This is 2. I agree the remedy is power of Pclass-PD is o	s 431. s not clear. Change the remedy consumed at the PD PI."". See	/ to: ""Adjust to loa i-112."	d such that a	"The F Table Nowhe each c	PSE shall limit I 145-16." ere in this subcla other.	Inrush-2P and ause do we exp	I Inrush during PC	OWER_UP pe	er the requirements of e and how they relate to
C/ 145 SC 145 2 8 5	1 P 161	/ 26	# i-112	Suggested	Remedy				
Yseboodt, Lennart	Philips Lighting	- 20	" 1112	Insert	the following tex	kt after the para	agraph containing	g the quoted te	ext:
Comment Type TR	Comment Status X		Pres: Yseboodt2	"IInrus POWF	sh-2P is the curr	ent to which th	e PSE limits it's p	airset output o	current while in
In the evaluation metho	od for Figure 145-22, item b) sa	IVS:		POWE	ER_UP. When c	connected to a	single-signature F	PD, IInrush is t	the total inrush current
"With the PSE powered	on, adjust the load to P Class	_PD ."		limit, a	and IInrush-2P s	erves as the lir	nit for 2-pair inrus	h, or as the in	rush unbalance limit
Which is wrong since the	ne PSE load also comprises of	the R Ch unb res	sistors.	When	connected to a	dual-signature	PD, only IInrush-	2P is specified	d and serves as the
SuggestedRemedv	·			inrush	limit for each pa	airset independ	dently."		
Replace by:				Proposed	Response	Response	Status W		
"Adjust to load such that	at a power of PClass-PD is con	sumed at the PD I	ין."	PROP	OSED ACCEPT	Г.			
Note: text may need ad	ljustment based on yseboodt_(02_0917_Figure_1	45_22.pdf	TFTD.	Need to make	sure DS lines	get deleted for lin	rush for this te	ext to be accurate.
Proposed Response	Response Status W			TFTD	YD				
TFTD				The te	ext is correct with	nout deleting th	e lines suggested	by Lennart ir	other comment. I
WFP				the ma	aximum current	to 0.9A instead	d of 1.2A.)	Since there is	a raeson for it (iimits

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C/ 145	SC 145.2.8.6	P 162	L 1	# i-301	C/ 145	SC 14	5.2.8.8	P 164	L 32	# <u>i-1</u>	23
Stover, Dav	vid	Analog D	evices Inc.		Yseboodt,	ennart		Philips Lighting			
Comment	Туре Т	Comment Status X		PSE Inrush	Comment	Гуре Т	R	Comment Status D			Sliding
Figure 2P and linrush limited	145-23 specifies I lport as shown ,max while lport- to the lesser of t	the PSE inrush upperb apply simultaneously. In 2P may load step up to hese requirements: Inru	ound template; requi Figure 145-23, lport 50A (>>linrush,max) ush,max.	rements for both Iport- t is limited to . As drawn, Iport-2p is	Topic: Issue: comme A	SLIDING we use the ents try to m: get ev	e concep make th erything	ot of 'sliding windows' in our d e whole bunch consistent. in the form "measure xxx usi	lraft very incongrament	onsistently, the sliding window	SLIDING ".
Suggested	Remedy				ר"	he PSE s	hall limit	a pairset current to I LIM-2P	for a duration	on of up to T LI	M-2P in
Remov	e IPort axis from	Figure 145-23 or speci	fy IPort behavior dur	ing load step.	order t	o account	for PSE	dV/dt transients at the pairse	et.		
Proposed I	Response	Response Status W			I	ne cumula	itive dura	ation of 1 LIM-2P may be me	asured with	a sliding windo	<i>N</i> ."
TFTD					0	h joy, a sl	iding win	ndow without any limitation on	the width.		
Delete	Iport axis from fi	gure.			Suggested	Remedy					
Add se	entence "				Replac ר" least 1	e the last he cumul second w	quoted s ative dur ridth."	sentence by: ration of T LIM-2P may be me	easured usin	ıg sliding windo	w of at
inrush	group to discuss				Proposed I	Response		Response Status W			
I don't	follow your interp	pretation of the drawing.			PROP	DSED AC	CEPT IN	N PRINCIPLE.			
TFTD I What is shows during	DS s the upper boun an 'exception' to this event.	d of Iport during the 50/ the Iport-2P requiremer	A Iport-2P load step e ht without guidance c	event? Figure 145-23 on Iport requirements	Replac "1 most 1	e the last he cumul second w	quoted s ative dur ridth."	sentence by: ration of T LIM-2P may be me	easured usin	ıg sliding windo	w of at
C/ 145	SC 145.2.8.5	3 P 162	L 10	# i-433	IFID						
Darshan, Y	'air				homew	ork					
Comment	Туре Т	Comment Status X		Pres: Darshan10							
The sh consta sink	ape of the load r nt power sink. Al	eed to be circle and not l our spec is based on th	t rectangular since it he fact that the PD lo	is ad is constant power							
Suggested	Remedy										
Adopt	the changes prop	bosed in darshan_10_0	917.pdf marked in BL	UE.							
Proposed I TFTD	Response	Response Status W									
WFP											

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C/ 145 SC 145.2.8.4 Yseboodt, Lennart	13 P 166 L 6 Philips Lighting	# [i-130	C/ 145 SC 145.3.3 Yseboodt, Lennart	3.4 P 170 Philips Lighting	L 48	# i-136
Comment Type E	Comment Status D	Pres: Stewart1	Comment Type T	Comment Status D		PD SD
"PSEs, when connecte Tpon after completing PD, PSEs shall reach detection on the same Statename should not	ed to a single-signature PD, shall reac detection on the last pairset. When co the POWER_ON state for a pairset wi pairset." be using word "state".	n the POWER_ON state within nnected to a dual-signature thin T pon after completing	Variable pd_current_ The description of Ti What this is really at	limit in the PD state diagram. RUE/FALSE says "The PD is (not yout is _limiting_ the input current) required to control	I the input current."
SuggestedRemedy	C C		SuggesteaRemedy Replace 'control' in t	he text with the TRUE/FALSE val	ues by 'limit'	
Change to: "PSEs, when connecte after completing detec PSEs shall reach POV same pairset."	ed to a single-signature PD, shall reac tion on the last pairset. When connect VER_ON for a pairset within Tpon afte	n POWER_ON within Tpon ed to a dual-signature PD, r completing detection on the	Proposed Response PROPOSED ACCER	Response Status W	ues by mmr.	
Proposed Response	Response Status W		Delete pd_current_li	mit. In all cases pd_current_limit i	s either redundant o	or misleading to
PROPOSED ACCEPT	IN PRINCIPLE.		In INRUSH:	Je.		
Change to: "PSEs, when connecte after completing detec PSEs shall reach the r detection on the same TFTD HS	ed to a single-signature PD, shall reac tion on the last pairset. When connect respective power on state for a pairset pairset."	n POWER_ON within Tpon ed to a dual-signature PD, within Tpon after completing	pd_max_power <= pd_current_limit <= In POWER_DELAY: pd_max_power <= pd_current_limit <= in POWERED: pd_max_power <= pd_current_limit <=	inrush (no limit) false (no limit) min(3,pd_req_class) true (limit to I_Inrush_PD(-2P)) min(pse_assigned_class, pd_req false (no limit)	_class)	
Second, this brings up 499ms. This creates th	another deficiency in this text. A inval ne opportunity for a new PD to be inse	id detect can take up to rted. I'm still working on a fix	C/ 145 SC 145.3.3	B.7 P 174 Philips Lighting	L 23	# i-138
for this. Tpon should o pairset. Tpon should b	nly be restarted based on completion e stopped when either pairset is in a p	of a _valid_ detection on either ower on state. A new	Comment Type TR	Comment Status X		Pres: Yseboodt7
C/ 145 SC 145.3.2	P 168 L 3	ed if tpon has expired. 1 # i-131	The variable pd_acs This variable's descr because we can use	_req indicates if a PD saw a long iption is very misleading in 145.3. "long_class_event * pd_autoclas	class event and mu 3.4, moreover, we o s_enabled" to get th	ist do Autoclass. don't need it ne same effect.
Commont Type TP		Pros. Vachaodt1	I now also notice that	t Figure 145-27 doesn't work (eg.	pd_acs_req is set t	o FALSE in
This subclause deals	with what kind of input power configura	itions a PD must be able to	IDLE_ACS, preventi	ng it from being true in the arc fro	m IDLE_ACS to WA	AIT_ACS).
handle and operate ur	nder.		SuggestedRemedy			
It does not properly co	over all of the compliant configurations	a PSE can have.	Adopt yseboodt_07_	0917_pdautoclassfix.pdf		
SuggestedRemedy	017 ndinnutnower ndf		Proposed Response	Response Status W		
			IFID			
TFTD	Response Status W		WFP			
WFP						
TYPE: TR/technical requir	ed ER/editorial required GR/general i	equired T/technical E/editorial G/g	general ritten C/closed U/unsatisfie	Pa 174		Page 30 of 41

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Page, Line

30 of 41 9/12/2017 9:06:17 PM

<i>Cl</i> 145 Yseboodt,	SC 1 Lennart	45.3.5		P 183 Philips Lightin	L 22 Ig	# i-143	<i>Cl</i> 145 Darshan, `	SC 145.3. ⁄air	5	P 183	L 24	# i-436
Comment	Tvpe	TR	Commer	nt Status X		Pres: Yseboodt8	Comment	<i>Туре</i> т	Commer	nt Status X		Pres: Yseboodt8
"A sing 20, on preser 57 V is	gle-signa a given nt an inva s appliec	ature PD s Mode whe alid detect I to the oth	shall preser en no volta tion signatu her Mode.	nt a valid detection ige or current is a ure on that Mode These requireme	on signature, as applied to the of when any volta nts apply to bo	defined in Table 145- ther Mode, and shall the between 10.1 V and th Mode A and Mode B."	In the Table when detect that M	text "A single- 145-20, on a g no voltage or d ion signature o ode when any	signature PD s given Mode current is applie on voltage betwe	hall present a viet ad to the other N en 10.1 V and 5	alid detection sign fode, and shall p 7 V is applied to	nature, as defined in resent an invalid the other Mode. These
check See ht proble	entirely ttp://wwv m descr	operates l v.ieee802. iption.	below 10.1 .org/3/bt/pt	V. V. ublic/may17/yseb	oodt_09_0517_	_signature.pdf for	apply The p	to both Mode	A and Mode B.	" lid detection sia	nature on that Mo	ode when any voltage
Suggester	Remed	/					betwe	en 10.1 V and	57 V is applied	to the other Mo	ode. These requir	ements apply to both
Chang "A sing 20, on	ge first pa gle-signa a given	aragraph o ature PD s Mode whe	of 145.3.5 shall preser en no volta	to read: nt a valid detectio ige or current is a	on signature, as	defined in Table 145- ther Mode, and shall not	Mode any vo V fron signat	A and Mode E Itage X in the the voltage a ure in the pair	a." doesn't guar range of 2.7V pplied to the 21 that is being do	antee (especial to 57V that is a nd pair that is be etected.	y "between 10.1 pplied to the 1st p ping detected, will	V and 57 V") that for pair and is higher by 1 I be result with invalid
preser is appl	nt a valid	e other M	ode. These	on that Mode wh	en any voltage	de A and Mode B.	Suggestee	IRemedy				
NOTE entire	- A dete PD dete	ction sign	nature is on age range o	lly considered val of 2.7 V to 10.1 V	lid when it mee	ts Table 145-20 over the	Chang in Tab	le from: "A sin le 145-20, on	gle-signature F a given Mode	PD shall present	a valid detection	signature, as defined
Proposed	Respons	se	Response	e Status W			when	no voltage or o	current is applie	ed to the other N	lode, and shall p	resent an invalid
TFTD	·						detect that M requir apply	on signature o ode when any ements to both Mode /	on voltage betwe A and Mode B.	en 10.1 V and 5 "	7 V is applied to	the other Mode. These
							To: "A 145-2 prese V is a the ot	single-signati), on a given M at an invalid de oplied to the o her mode. The	are PD shall pro Node when no etection signatu ther Mode whe se requiremen	esent a valid de voltage or curre ure on that Mode n Vx is greater t ts apply to both	tection signature, nt is applied to th when any voltage of at least 1V fror Mode A and Mode	as defined in Table e other Mode, and shall ge between Vx and 57 n the voltage applied to le B."
							Proposed	Response	Response	e Status W		
							TFTD					

Pa **183** Li **24**

C/ 145 SC 145.3.6.1 P 186 L 32 # [i-153] Yseboodt, Lennart Philips Lighting Philips Lighting Philips Lighting Philips Lighting	C/ 145 SC 145.3.8 P 188 L 21 # i-156 Yseboodt, Lennart Philips Lighting
Yeeboodt, Lennart Philips Lighting Comment Type TR Comment Status X PD Reset In Table 145-26, Item 6, we find V_Reset_PD which is a range between 0V and 2.81V. The additional information points to 145.3.8.1, which says nothing about this parameter. VReset_PD isn't mentioned abywhere in the document, with the exception that it is used in the state diagram. Specifically, there is a global arc into IDLE with VPD < V_Reset_PD * other_conditions.	Or 143 So 143.3.0 F 100 L 21 # [1156] Yseboodt, Lennart Philips Lighting Comment Type ER Comment Status D PD Power Table 145-28, item 2, V_Tran_lo-2P says in the additional information "For time duration defined in 145.2.8.3". It is not immediately apparant that this applies to transients of no more than 250 microseconds. In general pointing to the PSE section inside of the PD section for parameters is bad. SuggestedRemedy - Replace add. info by: "See 145.3.8.1." - Add the following to 145.3.8.1." - Add the following to 145.3.8.1." - Add the following to 145.3.8.1." - Mote: if the other comment on KTran/VTran is accepted, the parameter name is VTran_PD-2P rather than VTran_lo-2P. Proposed Response Response Status W
 "VReset_PD max: The maximum PD reset voltage (see Table 145-26). Change all occurences of "VReset_PD" to "VReset_PD max" in the state diagrams in 145.3.3.7 Change the additional information in Table 145-26, item 6 to read "See 145.3.6.1" (PD Multiple-Event class signature) Append a paragraph to 145.3.6.1 that reads as follows: "V_Reset_PD, as defined in Table 145-26, is the voltage range in which the PD transitions to IDLE, thereby resetting the class event count." Make the same changes for dual-signature as appropriate. 	PROPOSED ACCEPT. TFTD Wait for outcome of 337
Proposed Response Response Status W	
TFTD	
HS to check.	
 Change the definition of Vreset_PD in 145.3.3.3 to read as follows: "Vreset_PD max: The maximum PD reset voltage (see Table 145-26). Change all occurences of "Vreset_PD" to "Vreset_PD max" in the state diagrams in 145.3.3.7 Change the additional information in Table 145-26, item 6 to read "See 145.3.6.1" (PD Multiple-Event class signature) Append a paragraph to 145.3.6.1 that reads as follows: "V_Reset_PD, as defined in Table 145-26, is the voltage range in which the PD remains in IDLE." Make the same changes for dual-signature as appropriate. Editor to make sure Vreset_PD Max is in the constants list (overrides any comment that suggests otherwise). 	

Pa **188** Li **21**

C/ 145	SC 145.3.8.2	P 191	L 27	# i-341	C/ 145	SC 145.3.8.	2 <i>P</i> 191	L 27	# i-330			
Jones, Ch	nad	Cisco System	ns, Inc.		Abramson	n, David	Texas Instru	ments Inc				
Comment	Type ER	Comment Status D			Comment	tType TR	Comment Status X		PD Power			
missi incluc secor	ng comma in this ling any peak pow nd sliding	text: er drawn per 145.3.8.4 [com	ıma] shall be ca	lculated over a 1	"The r PDMa calcul	maximum averag axPowerValue in lated over a 1 se	ge power, PClass_PD or PCla 145.5.3.3.3, including any pe cond sliding window."	ass_PD-2P in Ta ak power drawr	able 145-28 or) per 145.3.8.4 shall be			
Suggeste	dRemedy				W/bat/	///ho is this a rea	nuirement on? The PSE? T	he auv in the lat	who is measuring it			
chang	ge to: including an	y peak power drawn per 145	5.3.8.4 shall be c	calculated over a 1	during	g QC?		le guy in the lab	who is measuring it			
Dranaaad					Suggestee	dRemedy						
TFTD	(Response	Response Status w			Change to: "The maximum average power, PClass_PD or PClass_PD-2P in Table 145-28 or PDMaxPowerValue in 145.5.3.3.3, including any peak power drawn per 145.3.8.4 is calculated over a 1 second sliding window."							
wait fo	or 330, 159				Proposed	l Response	Response Status W					
TFTD	CJ				TFTD)						
l negl Assur	ected to actually in ming we will accept	nclude the comma in my sug ot 159 (because 330 remove	ggested remedy s the shall) the s	 sentence should read:	HS ha	as homework to	split Pport into averaged and	instantaneous.				
The n	naximum average axPowerValue in 1	power, P Class_PD or P Class_P	ass_PD-2P in Ta	able 145-28 or per 145.3.8.4 shall be	See 1	159						
meas	ured using a 1 sec	cond sliding window.			TFTD	DS						
					The b	est of both world	ls:					
					"The r PDMa measi	maximum averag axPowerValue in sured using a slid	ge power, Pclass_PD or Pcla 145.5.3.3.3, including any pe ing window with a width of 1	ss_PD-2P in Tal eak power drawr second."	ble 145-28 or) per 145.3.8.4, is			

Change to: "The average power, Pport_PD or Pport_PD-2P in Table 145-28 or PDMaxPowerValue in 145.5.3.3.3, including any peak power drawn per 145.3.8.4, is averaged over a 1 second sliding window."

Pa **191** Li **27**

C/ 145	SC ·	145.3.8.2 •		P	191 no Lighting	L 27	#	i-159		C/ 145 Bonnot Kor	SC	145.3.8.4.1	1	P 193	L 41	#	i-483	
Comment	Type	EP	Commer	riiii t Statu					Slidina	Comment 1		т	Comment St	atus D			PD Power	
Topic: Issue: comm	SLIDING we use ents try tim: get	G the conce to make th everything	pt of 'slidin ne whole b in the forr	n windo unch co n "meas	ows' in our d onsistent. sure xxx usir	raft very incor ng a xx time s	nsistently liding wir	r, the SL ndow".	IDING	"This co Pport_f ""Pport_ input av	omme PD-2P _PD"" verage	ent addresse P). One exa is the input power to b	es all statemen ample is: ""the p t average powe be correct. "	ts in this par beak power s r. The state	agraph that refe shall not exceed ments should re	rence Pport PPort_PD	t_PD (and for"".	
PDMa calcula	The max xPower ated ove	ximum ave Value in 14 er a 1 seco	rage powe 15.5.3.3.3, nd sliding	er, P Cla includir window	ass_PD or P ng any peak ."	Class_PD-2F power drawn	in Table per 145.	e 145-28 3.8.4 sh	3 or all be	Suggestedl For eac	Reme	dy currence of l	Pport_PD and I	Pport_PD-2F	P, either preceed	l it with "me	aximum", or	
Suggested	Remed	'y								add a	_max	SUMX.						
"The n PDMa measu	naximur xPower' ured usii	m average Value in 14 ng a 1 seco	power, P (I5.5.3.3.3, ond sliding	Class_F includir windov	PD or P Clas ng any peak v."	s_PD-2P in T power drawn	able 145 per 145.	-28 or 3.8.4 sh	all be	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.								
Proposed	Respon	se	Response	e Status	w					TFTD P	Ken ar	nd Lennart I	have homework	κ.				
TFTD										Editoria	al licer	nse given to	make sure ma	iximum is ap	porpriate for eac	ch occurand	ce.	
See 3: TFTD The be "The n PDMa measu	30 DS est of bo naximur xPower' ured usin	oth worlds: n average Value in 14 ng a sliding	power, PC I5.5.3.3.3, g window w	lass_P includir vith a w	D or PClass ng any peak idth of 1 sec	_PD-2P in Ta power drawn ond."	ble 145-2 per 145.	28 or 3.8.4, is		TFTD L Agree v instruct	_Y with pr tions.	repending w	vith word "maxi	mum". Ken -	please provide	specific edi	ting	
TFTD I negle Assum	CJ ected to ning we	actually in will accept	clude the c 159 (beca	comma ause 33	in my sugge 0 removes tl	ested remedy. he shall) the s	 entence	should	read:									
The m PDMa measu	aximum xPower ured usi	n average p Value in 14 ng a 1 seco	oower, P C I5.5.3.3.3, ond sliding	lass_Pl includir windov	D or P Class ng any peak v.	s_PD-2P in Ta power drawn	ble 145- per 145.	28 or 3.8.4, sl	hall be									

Pa **193** Li **41**

C/ 145	SC 145.3.8	.6 P	194	L 4	# i-484	C/ 145	SC	145.3.8.6	P 194		L 30	#	i-315	
Bennett, I	Ken					Stover, Da	vid		Analog	Devices I	nc.			
Comment	t Type T	Comment Status	5 X		PD Power	Comment	Туре	TR	Comment Status)			PD Power	
"The of PD subcl 1) A t Type 2) It's fault i Suggeste Delet	sentence startin Types and Cp ause"". These type 4 PD with 3 3 limit is 180uF conceivable fo in a PD for reas todRemedy e the text startin	ng with ""A single-sign port values that ""Intrins are informative staten 660uF can be assigne , so the Type 4 limit c r any of the cases tha ons other than just Cp ng at line 4 ("A single	ature PD includ sically meet the nents, and are r d a class corres f 360uF is not t t a transient cor port."	des CPort"" lea requirements in not entirely corre sponding to Typ rue in this case. uld cause a pow cludes") and e	ads into a listing n this ect: e 3 limits. The ver surge and/or ending at line 17,	*** Co Math f attach for ass Suggested Modify Proposed PROP	mment or TR3 ment fr igned <i>Reme</i> I_TR3 Respon OSED	t submitted 3 doesn't pe or simulatio Class >= 5 dy 3,max for sin nse 9 ACCEPT II	with the file 94179800 ncil out given the inpu n showcasing the prot needs slightly increas ngle-signature PDs as <i>Response Status</i> V N PRINCIPLE.	003-i_tr_ t cap required state ed. signed C	3.png attach uirements lis ement. As a i lass >= 5 froi	ed *** ted in this result, I_T m "3" to ":	section. See 'R_LIM,max 3.1"	
just a Proposed TFTE Shou Issue list do list do		Change sentence from: When transient TR3 is applied, the peak current shall not exceed ITR_LIM, as defined in Table 145–30, and the PD shall meet the operating power limits after 4 ms. To: When transient TR3 is applied, the PD shall meet the operating power limits within 4 ms.												
							50	145 2 9 6	D 404		/ 27	#	[: 000 -	
						Lemahieu,	Joris	145.3.6.0	ON Sen	niconduct	L SI tor	#	1-338	
						Comment	Туре	TR	Comment Status)			PD Power	
						The Pl POWE (pd_cu	D state RED s irrent_	e diagram st state. limit <= FAL	ates that does not nee _SE)	ed to imp	lement a curi	rent limit i	n the	
						This n	ew ITR	R_LIM spec	now seems to indicate	e the opp	osite.			
						Suggested	Reme	dy						
							Suppress the ITR_LIM requirement: - Delete "the peak current shall not exceed ITR_LIM, as defined in Table 145-30, and" - Delete Table 145-30							
						Proposed	Respo	nse	Response Status V	v				
						PROP	OSED	ACCEPT II	N PRINCIPLE.					
						OBE b	y 315							
						TFTD								

Pa **194** Li **37**

Cl 145 SC 145.3.8.10 Johnson, Peter	P 196	L 7	# i-487	C/ 145 SC 145.3.8.10 P 197 L 1 # i-173 Yseboodt, Lennart Philips Lighting Philips Lighting Philips Lighting Philips Lighting
Comment TypeTCommentThe text "Single-signature PDs and 5 % duty cycle, and shall n on any pair" fails to account fr and PD class where IPeak-2P_ 	ment Status X shall not exceed ICc ot exceed IPeak-2P- or the fact that there unb is a value LESS han continuous powe nma because IPeak- vhat IPeak-2P_unb o taneous and averag 'Single-signature PD onse Status W	on-2P-unb for lo -unb, as defined are many com than ICon-2P- er. -2P_unb is a fui current is, not th je, must therefor s shall not exce	Pres: Darshan15 inger than TCUT-2P min d in Equation (145-12) binations of PSE voltage unb. It makes no sense inction of V_PSE and he PD. To be universal, re be restricted to Icon- bed ICon-2P-unb on any	Comment Type TR Comment Status Pres: Darshan3 Calculations using the model in Figure 145-31, Equation 145-27, and Equation 145-26 show that pair currents often exceed ICon-2P-unb, even though line 39 on page 195 promises: "PDs that meet Equation (145-26) intrinsically meet unbalance requirements." I guess that changes in earlier drafts to power parameters require us to update the magic numbers in Equation 145-26. SuggestedRemedy Don't know how to fix this Yair ? Proposed Response Response Status TFTD TFTD YD See darshan_03_0917.pdf for remedy
Cl 145 SC 145.3.8.10 Stover, David Comment Type TR Comm Icon-2p-unb has no maximum; 2P-unb for longer than TCUT-2 limitation on the PD. SuggestedRemedy Change "Icon-2p-unb" to "Icon- Proposed Response Response PROPOSED ACCEPT. TFTD LY See yseboodt 03 which makes	P 196 Analog Devic ment Status D this statement ("Sing P min and 5% duty of 2p-unb,min" onse Status W ICon-2P-unb a maxi	<i>L</i> 7 es Inc. gle-signature Pl cycle") does not	# <u>i-313</u> Pres: Yseboodt3 Ds shall not exceed ICon- enforce any current	WFP Cl 145 SC 145.4.6 P 205 L 42 # i-219 Mcclellan, Brett Marvell Semiconducto Marvell Semiconducto Comment Type TR Comment Status D AES E_d_out is a time domain peak to peak voltage but the formula defines E_d_out as varying across frequency. E_d_out isn't measured at individual frequencies. SuggestedRemedy delete formula (145-31) and the text defining f and fmax change text on line 38 from: "shall not exceed 10 mV peak-to-peak when measured in the band from 1 MHz to 10 MHz and shall not exceed 10 mV peak-to-peak when measured in the band from 10 MHz to 100 MHz for 2.5GBASE-T, 10 MHz to 250 MHz for 5GBASE-T, and 10 MHz to 500 MHz for 10GBASE-T" Proposed Response Response Status W PROPOSED ACCEPT. TFTD GZ Same as 227 Same as 227

Pa **205** Li **42**

C/ 145 SC 145.4.7	P 205	L 51	# i-387	C/ 145	SC 145.5.3.6	i.3	P 226	L 2	# i-441
Thompson, Geoffrey	Individual			Darshan, Ya	air				
Comment Type TR	Comment Status X		AES	Comment T	ype T	Comment Sta	atus X		Pres: Yseboodt4
It is unclear whether this have a more complete r Expressing it in terms o not specified nor is wha	s is a spec for the cabling or a equirement and be moved to f the "PHY" and the "MDI" cau t to be done for a midspan sy	l load spec for the PS the PSE or link segn uses further confusion stem.	SE. It needs to nent clause. n as which MDI is	This co In the L change and ps	mment is marke LDP adhoc we s made in the c e_allocated_po	ed LLDP?_ADHC made some char oncept of how to wer_alt(X) fields	DC_1. nges to the P fill in the TL ^V .	PSE DLL state made V values of the pse	chine to reflect the e_allocated_power
SuggestedRemedy				Suggested	Remedy				
Clarify and place as app	propriate.			Adopt y	seboodt_04_09)17_LLDP.pdf			
Proposed Response	Response Status W			Proposed F	lesponse	Response Sta	tus W		
TFTD				TFTD					
LDR GT				WFP					
C/ 145 SC 145.4.9.2	P 210	L 19	# i-336						
Maguire, Valerie	The Siemon Co	ompany							
Comment Type T	Comment Status D		AES						
Support of 2.5GBASE-1 in the case that the cab 802.3bz.	with category 5e and suppor ling meets the additional requ	t of 5GBASE-T with irements specified in	category 6 is only clause 126.7 of						
SuggestedRemedy									
Add a footnote referenc says, "For defined uses ISO/IEC 11801-1 or AN	ing back to the 2.5GBASE-T a cases (refer to IEEE Std 802 SI/TIA-568-C.2 recommended	and 5GBASE-T colur .3bz(TM)-2016). Cate d."	nn rows that egory 6A cord in						
Proposed Response	Response Status W								
PROPOSED ACCEPT.									
GZ has homework now.									
TFTD LY Very terse sentences,,, Use of Category 6A cor	suggest: "For defined use cas d in ISO/IEC 11801-1 or ANS	ses refer to IEEE Std I/TIA-568-C.2 is reco	802.3bz™-2016. mmended."						
TFTD CJ I don't know that we refe docs. At a minimum rep	erence to specific TF docume lace BZ with Clause 126.	nts (802.3bz) nor u	use ™ in our						

Pa **226** Li **2**

Cl 145 SC 145.5.3.6.3 Darshan, Yair	P 226	L 5	# i-442	Cl 145 SC 145.5.3.7.4 P 229 L 2 # i-443 Darshan, Yair
Comment Type T Comm This comment is marked LLDP? This comment and proposed rer recommendations regarding the alternative as currently is or nee pse_dll_ready, see the proposed SuggestedRemedy	nent Status X _ADHOC_2. nedy depend on the o question if pse_dll_re d to be pse_dll_ready d remedy.	Dutcome of the LL eady_alt(X) need y. In case that it is	Pres: Yseboodt4 DP adhoc to be specified per s going to be	Comment Type T Comment Status X Pres: Yseboodt4 This comment is marked LLDP?_ADHOC_3. In the LLDP adhoc we made some changes to the PD DLL state machine to reflect the changes made in the concept of how to fill in the TLV values of the pd_requested_power and pd_requested_power_mode(X) fields. SuggestedRemedy
 Change from: " (!pse_dll_ena To: (!pse_dll_enable_alt(X) + !p In page 224 line 41 to change "pse_dll_ready An implementation-specific cont Link Laver classification. This value 	ble_alt(X) + !pse_dll_ se_dll_ready * (sig_t) the pse_dll_ready_a rol variable that indica	ready_alt(X)) * (s ype = dual) lt(X) variable defi ates that the PSE al.ldpXdot3LocRe	ig_type = dual)" nition to: has initialized Data	Proposed Response Response Status W TFTD WFP
 (30.12.2.1.20). Values: FALSE: Data Link Layer classific TRUE: Data Link Layer classific 3. Delete aLldpXdot3LocReady/ 4) Delete 30.12.2.1.18a aLldpXc 5) Delete 30.12.2.1.18b aLldpXc 6) In Table 145-50 page 222 in 1 "aLldpXdot3LocReady" and from 7) In Table 145-50 page 222 in 1 	cation has not comple ation has completed i \ and aLldpXdot3LocI lot3LocReadyA contri lot3LocReadyB contri he PSE section: Cha n "pse_dll_ready_alt() the PSE section: Del	eted initialization. initialization. ReadyB from Tab ent. ent. ange from "aLldp) X=A)" to "pse_dll_ ete "aLldpXdot3L	version of the second s	C/ 145 SC 145.5.3.7.4 P 229 L 5 # [i-444 Darshan, Yair Comment Type T Comment Status X Pres: Yseboodt4 This comment is marked LLDP?_ADHOC_4. In the condition (!pd_dll_enable_mode(X) + !pd_dll_ready_mode(X)) to the IDLE state the pd_dll_ready_mode(X) need to be pd_dll_ready In order to allow progressing to the INITIALIZE state in case PD want power on the unpowered pairset. SuggestedRemedy 1. Change from: "(!pd_dll_enable_mode(X) + !pd_dll_ready_mode(X))"
Proposed Response Response Status W TFTD Need input from LLDP ad hoc.	 10: (!pd_dll_enable_mode(X) + !pd_dll_ready) 2. In page 228 line 28 to change the pd_dll_ready_mode(X) variable definition to: "pd_dll_ready An implementation-specific control variable that indicates that the PD has initialized Data Link Layer classification. This variable maps into the aLldpXdot3LocReady attribute (30.12.2.1.20). Values: FALSE: Data Link Layer classification has not completed initialization. TRUE: Data Link Layer classification has completed initialization." 3) In Table 145-40 page 222, PD section: Change from "aLldpXdot3LocReadyA" to "aLldpXdot3LocReady" and from "pd_dll_ready_mode(X=A)" to "pd_dll_ready)". 4. In Table 145-40 page 222, PD section delete the row "aLldpXdot3LocReadyB", "pd_dll ready mode(X=B)" 			
				Proposed Response Response Status W TFTD WFP

Pa **229** Li **5**

C/ 145A SC 145A.2 P 261 Yseboodt, Lennart Philips Lighting	L 39	# i-185		Cl 145A3 Darshan, Yair	SC 145A3.2	P 262	L 52	# i-448		
Comment Type E Comment Status D Rdiff is defined in equation 145A-3 but nowhere used.			Annex	Comment Typ The verific is missing	e T cation procedu g from 145A.3	Comment Status X re of the measurements of R	Rpse_min and R	Pres: Darshan7 pse_max		
Remove equation 145A-3 + the sentence above.				SuggestedRe	medy					
Proposed Response Response Status W PROPOSED ACCEPT. TFTD YD Rdiff is required. It is the 100 miliohm. We need to inter be OK	grate Rdiff in the	text and the	en it will	Add the fo "Rpse_mi 1) With th through th PD PI, me 2) Calcula calculating	blowing text af n and RPSE_r e PSE powere the elements sh easure the curr the the RPSE_ g the following	ter line 54 in page 262: max effective resistance verif ed on and connected to a con lown in Figure 145A-2, which rents i1, i2, i3 and i4 and the min and RPSE_max values of :	fication procedun Instant power sind In is set to PClass Voltages Veff1, of each pair of th	re is described below: k in the PD section s_PD measured at the Veff2, Veff3 and Veff4. he same polarity by		
C/ 145A3 SC 145A3.1 P 262	L 51	# i-447		For the po	sitive pairs: min=\/eff1/i1					
Darshan, Yair				R2=RPSE	_max=Veff2/i	2				
Comment Type E Comment Status X In the text: "The effective resistance is the measured w through the path e.g. the effective value of RPSE_min shown in Figure 145A-2.". The effective resistance of w SuggestedRemedy	oltage Veff, divid for i1 is RPSE_m vhat?	Pres: L ed by the cu iin=Veff1 / i1	Darshan7 urrent 1 as	For the negative pairs: R3=RPSE_min=Veff3/i3 R4=RPSE_max=Veff4/i4 3) Verify that on each pair of the same polarity, RPSE_min and RPSE_max meets Equation 145-15. 4) Repeat steps 1 to 3 with the RCh_unb_min, RPD_min swapped location with RCh_uph_max_RPD_max "						
Change the mentioned text to (**): "The effective resistance **Rpse_min or RPSE_max** divided by the current through the path e.g. the effective RPSE_min=Veff1 / i1 as shown in Figure 145A-2.	is the measured e value of RPSE	voltage Vef _min for i1 is	ff, S	Proposed Res TFTD WFP	sponse	Response Status W				
Proposed Response Response Status W TFTD										

WFP

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C/ 145A3 SC 145A3.2 Darshan, Yair	P 263	L 5	# i-449	Cl 145B SC 145B.1. Darshan, Yair	2 P 267	L 11	# i-452			
Comment Type T Co	omment Status X		Pres: Darshan7	Comment Type T	Comment Status X		Pres: Darshan11			
Figure 145A-2 needs some i a) It needs to be in sync with its components in order to a B) To describe the PSE load C) Adding the borders of the d) defining from what Rpse_ e) Clear definition of the mea f) To correct the left border	mprovements and correc Figure 145-22 regarding low setting Pclass_PD at in a clear way. In k section min and Rpse_max cons asurements point of Veff_ of the End to End pair to	tions: the separatior the PD PI. ist of? i pair resistance	n of Rload_min/max to	The title of Figure 145 do_cxn_chk result is staggered power on" of CC_DET_SEQ=1 f Connection check an signature PD, is not the SuggestedRemedy	5B-6 is "Figure 145B-6PSE in dual, which is correct per the drawin or dual-signature in page 109 d detection sequences while if he main issue to emphasis.	nplementing CC_ ng description hov line 43, CC_DET it is staggered po	DET_SEQ=1, vever per the definition _SEQ is about ower on or not in dual-			
SuggestedRemedy				Change the title of Fig "Figure 145B-6PSF	jure 145b-6 from: implementing CC_DET_SEQ	=1 do cxn chku	result is dual			
Replace Figure 145A-2 with	the new proposal in dars	shan_07_0917	.pdf	staggered power on"						
Proposed Response Re	sponse Status W			To : "Figure 145B-6- staggered detection a	PSE implementing CC_DET_3 nd staggered power on"	SEQ=1, do_cxn_	chk result is dual,			
TFTD				Proposed Response	Response Status W					
WFP				TFTD	,					
C/ 145B SC 145B	P 267	L 7	# i-451	WFP						
	and Chattan N		Drees Developed 1	C/ 145B SC 145B.1.	4 P 268	L 46	# i-454			
Eigure 145B 6 for the stage	omment Status X	apoturo for CC		Darshan, Yair						
that the second alternative				Comment Type T	Comment Status X		Pres: Darshan8			
DETECTION starts only after limited just to this use case. alternative. We need show it	r the Power up of the prin The detection can starts by additional drawing (14	nary alternative also after the c 45-6A), or drav	e which is OK but not letection of the primary ving that shows all	The title of Figure 145B-11 is "Figure 145B-11PSE implementing CC_DET_SEQ=3, do_cxn_chk result is dual", missing the remain fact that it is staggered detection per the definition of CC_DET_SEQ=3 for dual-signature in page 109 line 48.						
possibilities.				SuggestedRemedy						
SuggestedRemedy				Change the title of Fig	gure 145B-9 from :					
Adopt darshan_11_0917.pdf				To : "Figure 145B-11PSI	PSE implementing CC_DET_SEC	Q=3, ao_cxn_cnk SEQ=3. do cxn	chk result is dual			
Proposed Response Re	sponse Status W			staggered detection a	nd staggered power on"					
TFTD				Proposed Response	Response Status 🛛 🛛 🛛 🛛 🛛 🖉					
WFP				TFTD						
				WFP						
				The more comments optional behavior or fue followed by staggered	about these figures I see, the i unction results are called out. I detection, so why do we need	more it would ma For example, SE d to call that out in	ke sense for only Q 3 says that CC is n the figure title?			

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<i>Cl</i> 145B Darshan, Yair	SC 145B.1.4	P 2 0	68	L 268	#	i-455]
Comment Typ CC_DET 145B-11 Detection the only p We need classifica show this	DE T _SEQ=3 mean for dual-signatu o of the 2nd pai possibility per (clearly to show tion and power possibility that	Comment Status s: Connection check ure PD shows that C rset starts after Tpo CC_DET_SEQ=3 de v that first we see C _on can be staggerd t shows all possibilit	X c is followed CC_DEC_SE n +Tx of 1st efinition. C, and then s ed or not. We ies.	by staggere Q=3 is only pairset whic staggered d e need to ac	ed detect possible th is poss etection, dd Figure	Pres: Darshan8 ion. Figure when the sible but not and then the 145B-11A to	3
SuggestedRe Adopt da	medy rshan_08_0917	7.pdf					
Proposed Re TFTD	sponse	Response Status	w				

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