

Clause 104 Maintenance Requests #2

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Overview

Item	Updated?
Post-sleep Classification Hook	Yes, review last meeting
T_{PDL} VS T_{PDLOW}	New, editorial
Backfeed	New
PD Current During Disconnect	No

[04/27/21] Post-sleep Classification

Technical, 802.3bu, Page 53, Figure 104-8

Comment

The PD state machine, as written, does not allow a PD to respond to SCCP classification on PD_SLEEP exit.

Suggested Remedy

Change wakeup

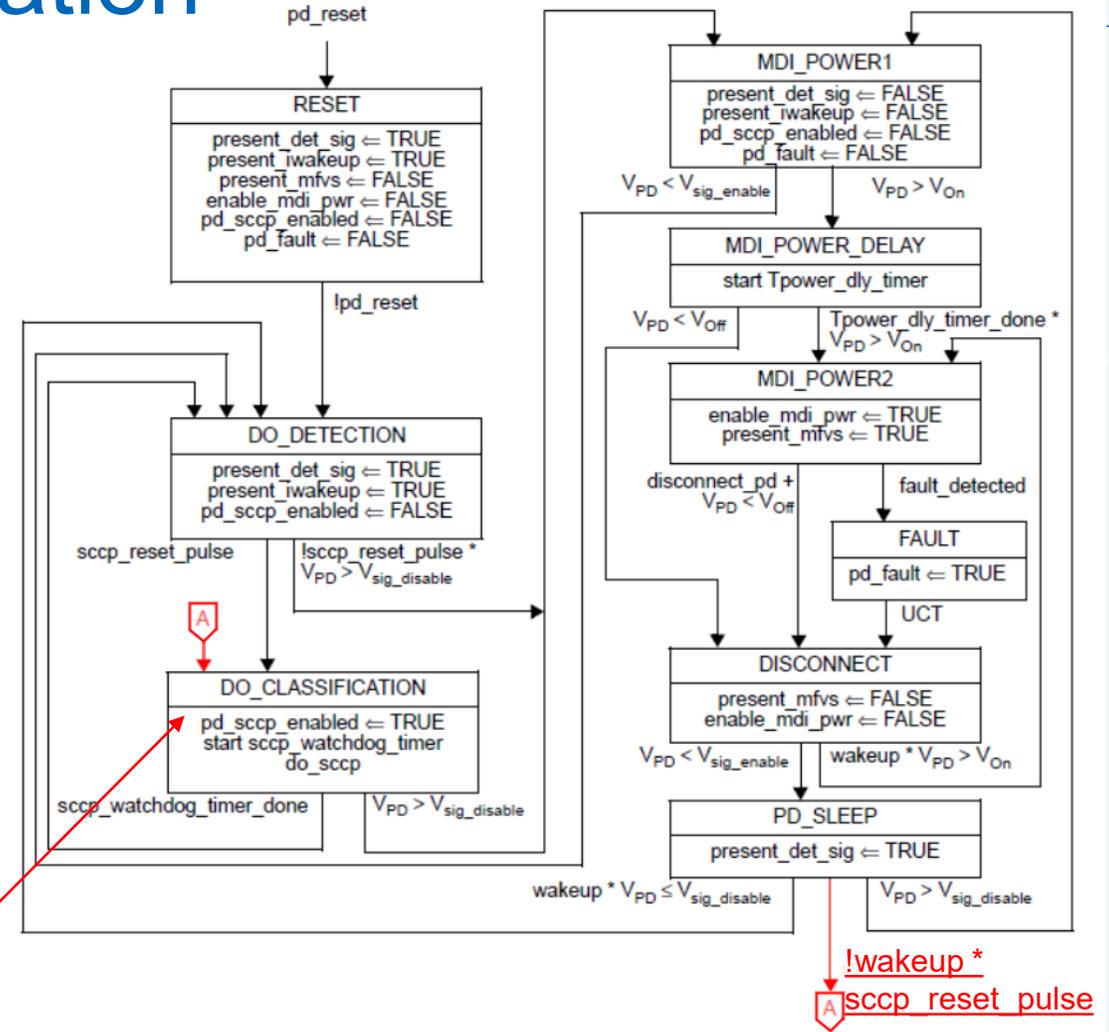
TRUE: the PD requires the full operating voltage at the PI.
 FALSE: the PD is ready to go to sleep.

To wakeup

An implementation specific variable enabling the PD to request wakeup.

TRUE: the PD requires the full operating voltage at the PI.

FALSE: the PD is ready to go to sleep or is not otherwise requesting full operating voltage.



4/27/21 proposed add:
present_iwakeup <= FALSE

Need to Address: **Consensus**

Solution Form: **Needs Review**

Solution Details: **Needs Review**

T_{PDL} VS T_{PDLOW}

Editorial, 802.3cg, Page 98

Comment

104.7 text and figures reference T_{PDL} while Table 104-8 describes T_{PDLOW}. Harmonize as T_{PDL}, T_{PDLOW} was a typo.

Suggested Remedy

Modify Table 104-8, Row 15

15	Presence-Detect Low Time	t_{PDLOW} —	ms	2.5	7.5	<u>A, B, C, D</u>	
				<u>2.8</u>	<u>5.2</u>	<u>E</u>	
				<u>21</u>	<u>31</u>	<u>E</u>	<u>PDs that support link segment resistance measurement</u>

Need to Address: **Consensus**

Solution Form: Needs Review

Solution Details: Needs Review

Technical, 802.3bu, Page 58

Comment

The existing 802.3bu requirement is only achievable for very low PD bulk cap implementations. New PHYs, e.g. T1L, require significant bulk capacitance. Propose to adopt approach taken in 802.3bt for backfeed requirement.

Suggested Remedy

Replace

~~104.5.6.1 PD discharge~~

~~At a delay of T_{OFF_max} (see Table 104-4) after disconnection from the PSE, PD shall not source greater than 410 μ J out of its PI until V_{PD} drops below $V_{Sleep_PD_max}$.~~

With the following new subclause (145.5.6.1):

104.5.6.1 Backfeed voltage

When either there is no PSE or the PSE is not sourcing power, the PD backfeeds voltage back onto the (unpowered) pair. This can cause a current to flow out of the PD.

In order to constrain this current, the voltage across a 5 k Ω resistor connected across the PD PI shall not exceed V_{PUP} as defined in Table 104-8, at a delay of T_{OFF_max} (see Table 104-4) after the removal of PSE power from the PD PI.

Need to Address:	Consensus
Solution Form:	Needs Review
Solution Details:	Needs Review

PD Current During Disconnect

Need to Address: Consensus

Solution Form: Needs Review

Solution Details: Needs Review

Technical, 802.3bu, Page 56

Comment

Meeting the T_{OFF} requirement when significant bulk capacitance is present requires the PD to pull down with a reasonable discharge current. The existing I_{Sleep_PD} requirement is at odds with the requirement to discharge the PD bulk cap within T_{OFF} .

The PD is not presenting a valid detection signature in the DISCONNECT state and the PSE state diagram has a matching T_{OFF} timer during the PSE's SETTLE_SLEEP state.

Removing the PD I_{Sleep_PD} requirement in the DISCONNECT state allows the PD to discharge itself when disconnected from the PSE. This modification will not affect PSE/PD interoperability.

104.5.6.3 Input Current states:

During operation in the DISCONNECT and PD_SLEEP states, the PD shall not draw current in excess of I_{Sleep_PD} as specified in Table 104-7.

Suggested Remedy

Modify 145.5.6.3

During operation in the ~~DISCONNECT and~~ PD_SLEEP states, the PD shall not draw current in excess of I_{Sleep_PD} as specified in Table 104-7.