

# 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

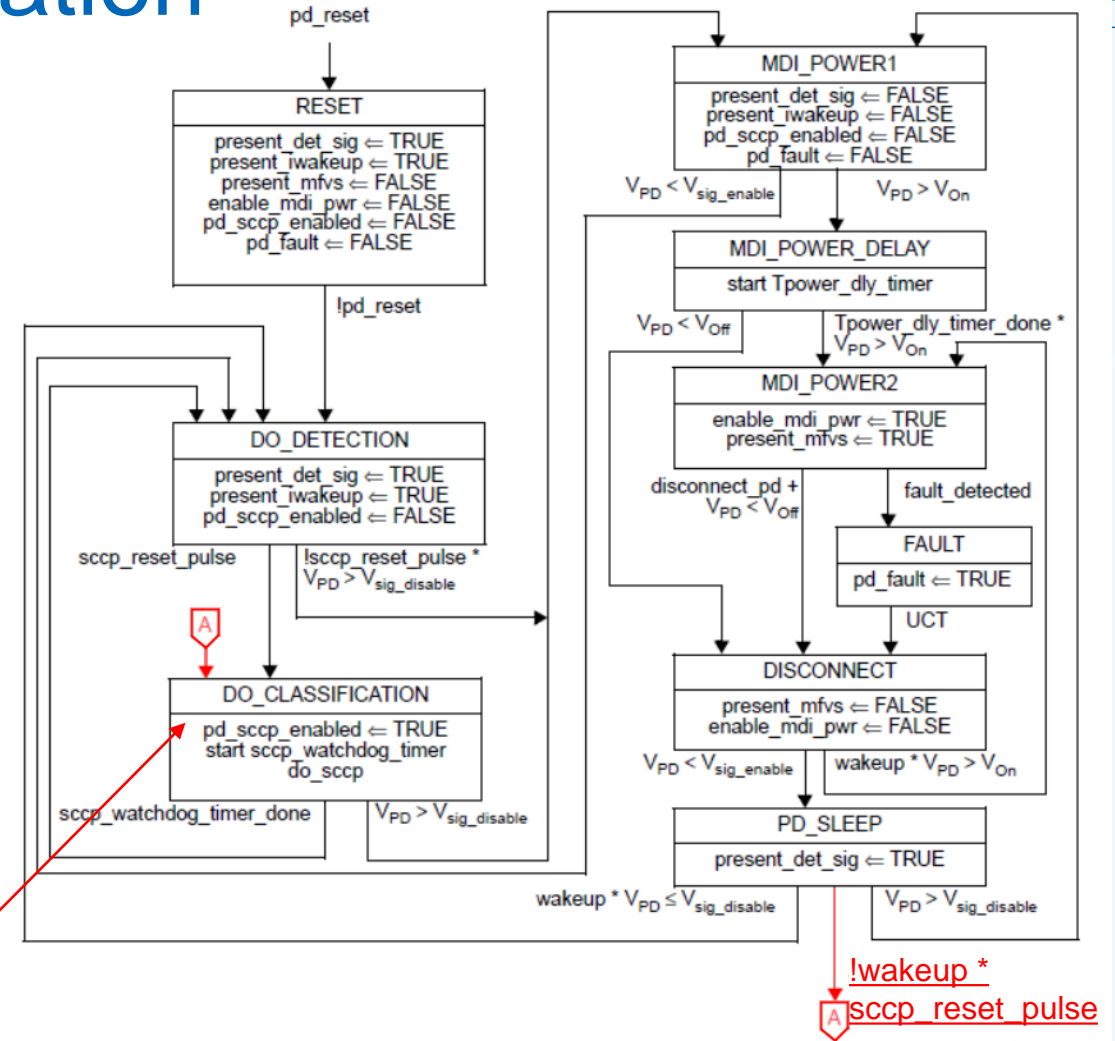
Change wakeup

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: Consensus

Solution Details: Consensus

# $t_{PDL}$ 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	<del><math>t_{PDLOW}</math></del>	ms	2.5	7.5	<u>A, B, C,</u> <u>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</u> <u>support link</u> <u>segment</u> <u>resistance</u> <u>measurement</u>

Need to Address: Consensus

Solution Form: Consensus

Solution Details: Consensus

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  $\mu$ 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 PD discharge

When either there is no PSE or the PSE is not sourcing power, the PD backfeeds presents 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 $\Omega$  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: Consensus

Solution Details: Consensus

# PD Current During Disconnect

Need to Address: Consensus

Solution Form: Consensus

Solution Details: Consensus

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.