Autoclass reference time v102

Info (not part of baseline)

The Autoclass measurement period for the PSE (defined by T_{AUTO_PSE1} and T_{AUTO_PSE2}) and the Autoclass maximum power draw period for the PD (defined by T_{AUTO_PD1} and T_{AUTO_PD2}) is referenced from two different points in time. The reference time for the PSE is "the transition of POWER_UP to POWER_ON", where that for the PD is "measured when V_{PD} rises above $V_{Port\_PD\text{-}2P}$ min". The PSE's time reference is not readily observable at the PI. This is unnecessarily complicated.

This baseline proposes to change both reference times to when V_{PSE} or V_{PD} crosses 30V(the initial crossing after classification). Regardless of what inrush scheme is used[a], this point in time occurs near simultaneous for both devices and is observable at the PI. Timings can remain as-is.

A final issue is that currently the PD state diagram does not agree with the PD Autoclass text. While the text uses $V_{Port\_PD\text{-}2P}$ min as reference, the state diagram uses $V_{PD} > V_{Off\_PD}$ as the reference point.

[a] In case of a PD that relies on PSE inrush, the voltage will collapse back down, but this does not affect the time reference. It is the initial crossing of 30V that counts.

145.2.5.7 State diagrams

Change Figure 145–14 as follows:

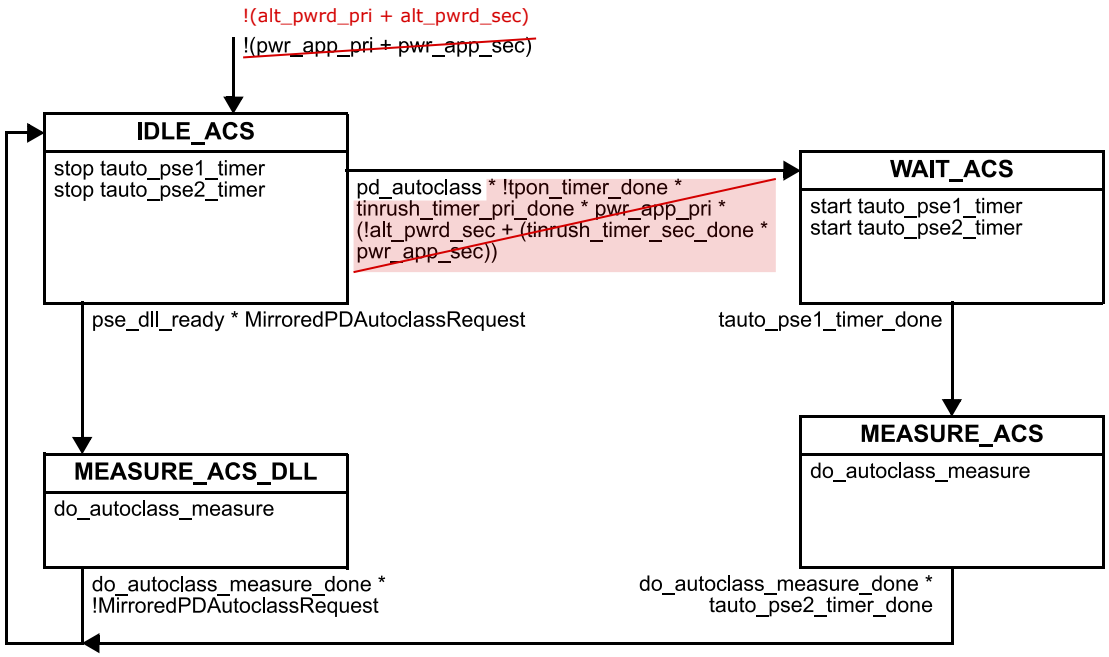

Figure 145–14—PSE Autoclass state diagram

145.2.7.2 Autoclass (optional)

. . .

T_{AUTO_PSE1} 1 and T_{AUTO_PSE2} timing is referenced from ~~the transition of the POWER_UP state to the POWER_ON state~~ when V_{PSE} exceeds 30 V.

. . .

In Table 145–15, change the 'Additional information' for Item 1 to read:

Measured from when V_{PSE} exceeds 30 V.

145.3.3.3.5 State diagrams

Change Figure 145–26 as follows:

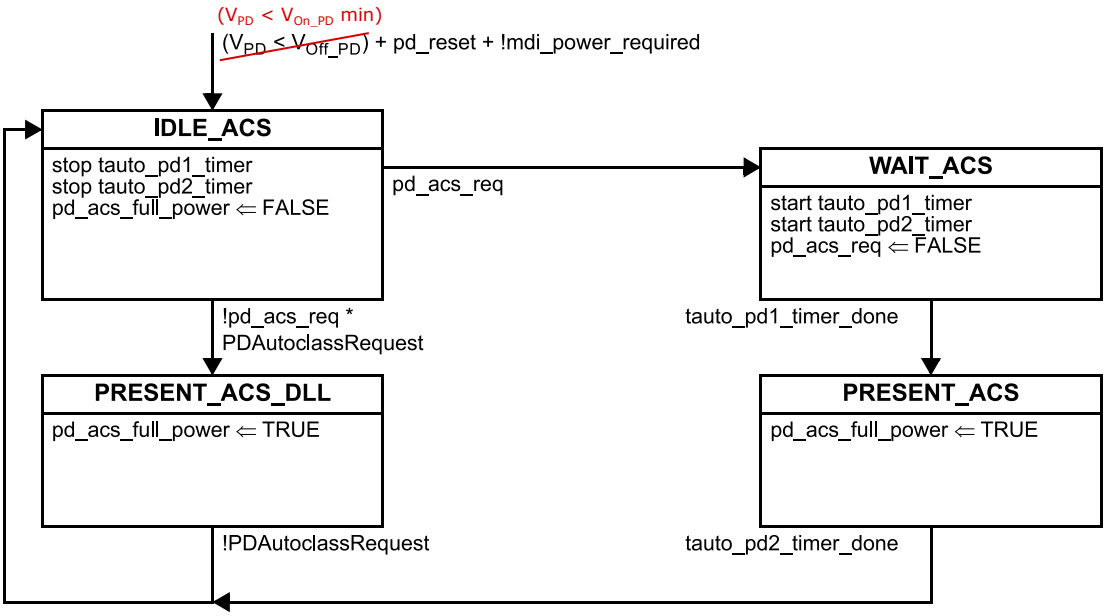

Figure 145–26—Single-signature PD Autoclass state diagram

145.3.6.2 Autoclass (optional)

. . .

After power up, a PD that implements Autoclass shall draw its highest required power, $P_{Autoclass\_PD}$, subject to the requirements on P_{Class_PD} in 145.3.8.2, throughout the period bounded by T_{AUTO_PD1} and T_{AUTO_PD2}, measured from when V_{PD} rises above ~~V_{Port_PD-2P} min~~ V_{On_PD} min.

. . .

In Table 145–28, change the 'Additional information' for Item 2 and 3 to read (merged):

Measured from when V_{PD} rises above V_{On_PD} min.