

Merge below into “33.2.4.3 Constants”

CC_DET_SEQ

A constant indicating the sequence in which the PSE performs Connection Check and Detection.

Values:

- 0: Connection Check is followed by Detection
- 1: Detection on a pairset is followed by Connection Check and then Detection on the other pairset.
- 2: Connection Check and Detection on both pairsets are performed within a single Tdet window.

Merge below into “33.2.4.4 Variables”

alt_a_pwr

A variable that controls the circuitry that the PSE uses to power the PD over Alternative A.

Values:

- FALSE: The PSE is not to apply power to Alternative A.
- TRUE: The PSE has detected, classified, and will power a PD on Alternative A; or power is being forced on Alternative A in TEST_MODE.

alt_b_pwr

A variable that controls the circuitry that the PSE uses to power the PD over Alternative B.

Values:

- FALSE: The PSE is not to apply power to Alternative B.
- TRUE: The PSE has detected, classified, and will power a PD on Alternative B; or power is being forced on Alternative B in TEST_MODE.

det_temp

A temporary variable that indicates whether a 4-pair PSE has completed Detection on only one alternative.

Values:

- 0: The PSE has not completed a Detection on only one alternative.
- 1: The PSE has completed a Detection on only one alternative.

dll_4PID

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

Values:

- 0: 2-pair power negotiated.
- 1: 4-pair power negotiated.

mr_pse_ss_mode

A variable that controls whether the PSE 4-pair or 2-pair powers a single-signature PD.

- 0: Single-signature PD is 2-pair powered
- 1: Single-signature PD is 4-pair powered

ovld_det_a

A variable indicating if the PSE output current over Alternative A has been in an overload condition (see 33.2.7.6) for at least T_{CUT} of a one second sliding time.

Values:

- FALSE: The PSE has not detected an overload condition on Alternative A.
- TRUE: The PSE has detected an overload condition on Alternative A.

ovld_det_b

A variable indicating if the PSE output current over Alternative B has been in an overload condition (see 33.2.7.6) for at least T_{CUT} of a one second sliding time.

Values:

FALSE: The PSE has not detected an overload condition on Alternative B.

TRUE: The PSE has detected an overload condition on Alternative B.

PD_4pair_cand

This variable is used by the PSE to indicate that a connected PD is a candidate to receive power on both Modes. This variable is a function of the results of Detection, Connection Check, and 4PID.

Values:

FALSE: The PD is not a candidate to receive power on both Modes.

TRUE: The PD is a candidate to receive power on both Modes.

pse_avail_pwr

This variable indicates the highest power PD Class that could be supported. The value is determined in an implementation-specific manner.

Values:

0: Class 1

1: Class 2

2: Class 0 or Class 3

3: Class 4

4: Class 5

5: Class 6

6: Class 7

7: Class 8

pwr_app_a

A variable indicating that the PSE has begun steady state operation on Alternative A by having asserted alt_a_pwr, completed the ramp of voltage, is not in a current limiting mode, and is operating beyond the POWER_UP requirements of 33.2.7.5.

Values:

FALSE: The PSE is either not applying power or has begun applying power but is still in POWER_UP on Alternative A.

TRUE: The PSE has begun steady state operation on Alternative A.

pwr_app_b

A variable indicating that the PSE has begun steady state operation on Alternative B by having asserted alt_b_pwr, completed the ramp of voltage, is not in a current limiting mode, and is operating beyond the POWER_UP requirements of 33.2.7.5.

Values:

FALSE: The PSE is either not applying power or has begun applying power but is still in POWER_UP on Alternative B.

TRUE: The PSE has begun steady state operation on Alternative B.

short_det_a

A variable indicating if the PSE output current has been in a short circuit condition on Alternative A.

Values:

FALSE: The PSE has not detected a short circuit condition on Alternative A.

TRUE: The PSE has detected qualified short circuit condition on Alternative A.

short_det_b

A variable indicating if the PSE output current has been in a short circuit condition on Alternative B.

Values:

FALSE: The PSE has not detected a short circuit condition on Alternative B.

TRUE: The PSE has detected qualified short circuit condition on Alternative B.

det_start(a)

A variable that indicates to Alternative B that Alternative A is between START_DETECT[A] and POWER_UP[A].

Values:

FALSE: Alternative A is not between START_DETECT[A] and POWER_UP[A].

TRUE: Alternative A is between START_DETECT[A] and POWER_UP[A].

det_start(b)

A variable that indicates to Alternative A that Alternative B is between START_DETECT[B] and POWER_UP[B].

Values:

FALSE: Alternative B is not between START_DETECT[B] and POWER_UP[B].

TRUE: Alternative B is between START_DETECT[B] and POWER_UP[B].

Merge below into "33.2.4.5 Timers"

tcc_timer

A timer use to monitor the duration of Connection Check.

tcc2det_timer

A timer used to limit the time between Connection Check and Detection when CC_DET_SEQ = 0. See Table 33-3a.

tdet2det_timer

A timer used to limit the time between the completion of a detection on one pairset and the beginning of a detection on the other. See Table 33-3a.

tinrush_a_timer

A timer used to monitor the duration of the inrush event on Alternate A; see $T_{Inrush-2P}$ in Table 33-11.

tinrush_b_timer

A timer used to monitor the duration of the inrush event on Alternate B; see $T_{Inrush-2P}$ in Table 33-11.

Merge below into "33.2.4.6 Functions"

do_cxn_chk

This function initiates the Connection Check in Section 33.2.5.0a. This function returns the following variables:

sig_type: This variable indicates the type of PD signature connected to the PI, with respect to 4-pair operation.

Values:

open_circ: The PSE has detected an open circuit on both pairsets.

single: The PSE has determined there is a single-signature PD configuration connected to the PI.

dual: The PSE has determined there is a dual-signature PD configuration connected to the PI.

do_classification

This function returns the following variables:

pd_cls_4PID: This variable indicates that 4PID has been established.

Values:

- FALSE: PD is not a candidate for 4-pair power.
- TRUE: PD is a candidate for 4-pair power.

pd_req_pwr: This variable indicates the power class requested by the PD. A Type 1 PSE that measures a Class 4 signature assigns that PD to Class 0. When a PD requests a higher class than a PSE can support, the PSE shall assign the PD Class 3, 4, or 6, whichever is the highest that it can support. See Section 33.2.6.

Values:

- 0: Class 1
- 1: Class 2
- 2: Class 0 or Class 3
- 3: Class 4
- 4: Class 5 (mr_pd_class_detected will have a value of 4 for the first two class events and a value of 0 for any subsequent class events.)
- 5: Class 6 (mr_pd_class_detected will have a value of 4 for the first two class events and a value of 1 for any subsequent class events.)
- 6: Class 7 (mr_pd_class_detected will have a value of 4 for the first two class events and a value of 2 for any subsequent class events.)
- 7: Class 8 (mr_pd_class_detected will have a value of 4 for the first two class events and a value of 3 for any subsequent class events.)

mr_pd_class_detected: The PD classification signature seen during a classification event; see Table 33-7 and 33.2.6.

Values:

- 0: Class 0
- 1: Class 1
- 2: Class 2
- 3: Class 3
- 4: Class 4

do_detect_a

This function returns the following variables (see 33.2.5):

sig_a: This variable indicates the presence or absence of a valid PD detection signature on Alternative A.

Values:

- open_circuit: The PSE has detected an open circuit.
- valid: The PSE has detected a PD requesting power.
- invalid: Neither open circuit nor valid PD detection signature has been found.

mr_valid_signature: This variable indicates that the PSE has detected a valid signature.

Values:

- FALSE: No valid signature detected.
- TRUE: Valid signature detected.

do_detect_b

This function returns the following variables (see 33.2.5):

sig_b: This variable indicates the presence or absence of a valid PD detection signature on Alternative A.

Values:

open_circuit: The PSE has detected an open circuit. This value is optionally returned by a PSE performing detection using Alternative B.

valid: The PSE has detected a PD requesting power.

invalid: Neither open circuit nor valid PD detection signature has been found.

mr_valid_signature: This variable indicates that the PSE has detected a valid signature.

Values:

FALSE: No valid signature detected.

TRUE: Valid signature detected.

Remove Figure 33-9a, Figure 33-9b, Figure 33-9c, Figure 33-9d, Figure 33-9e, and Figure 33-9f.

Replace with the following figures.

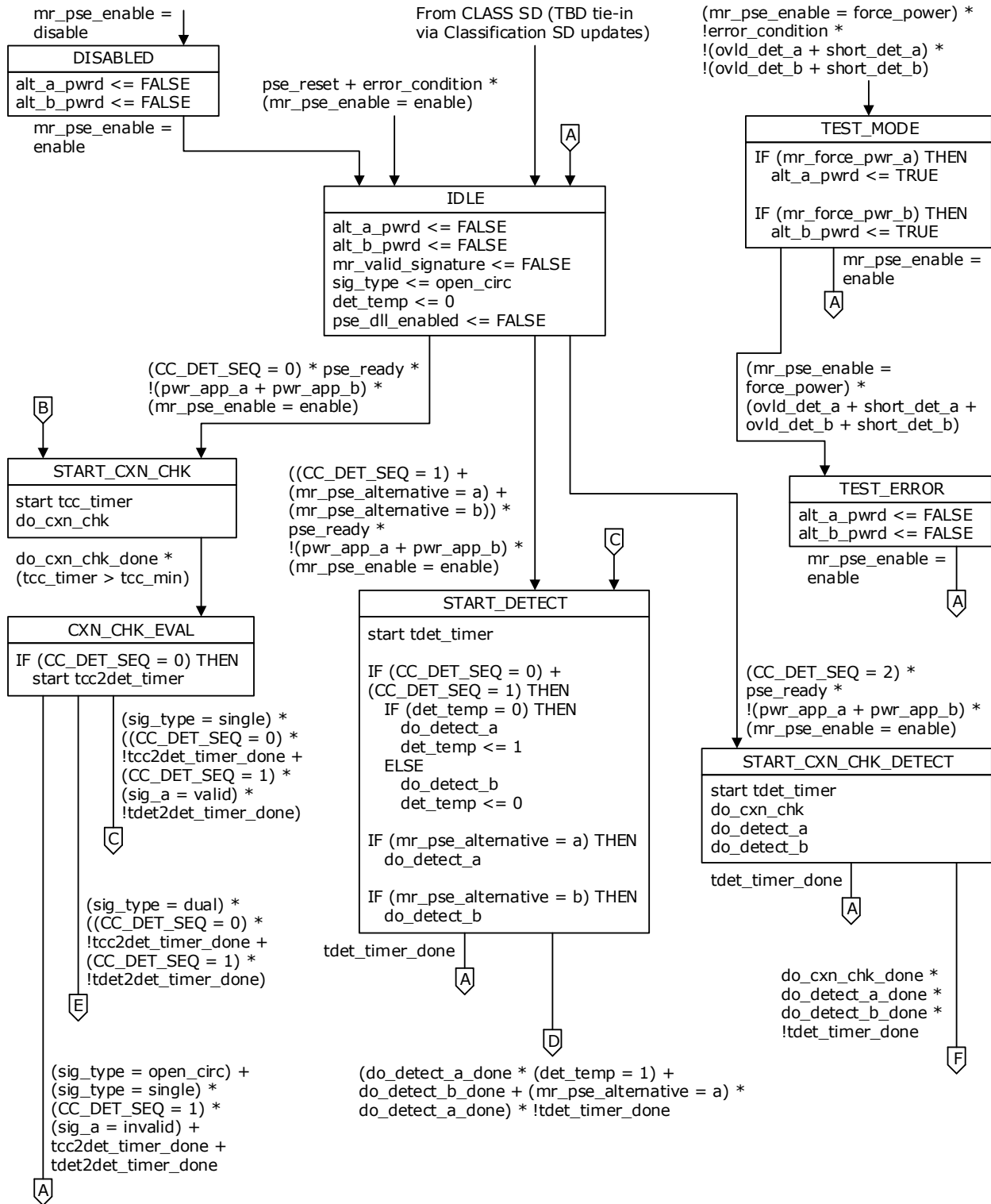


Figure 33-9a – Type 3/Type 4 Top Level PSE State Diagram (Part 1)

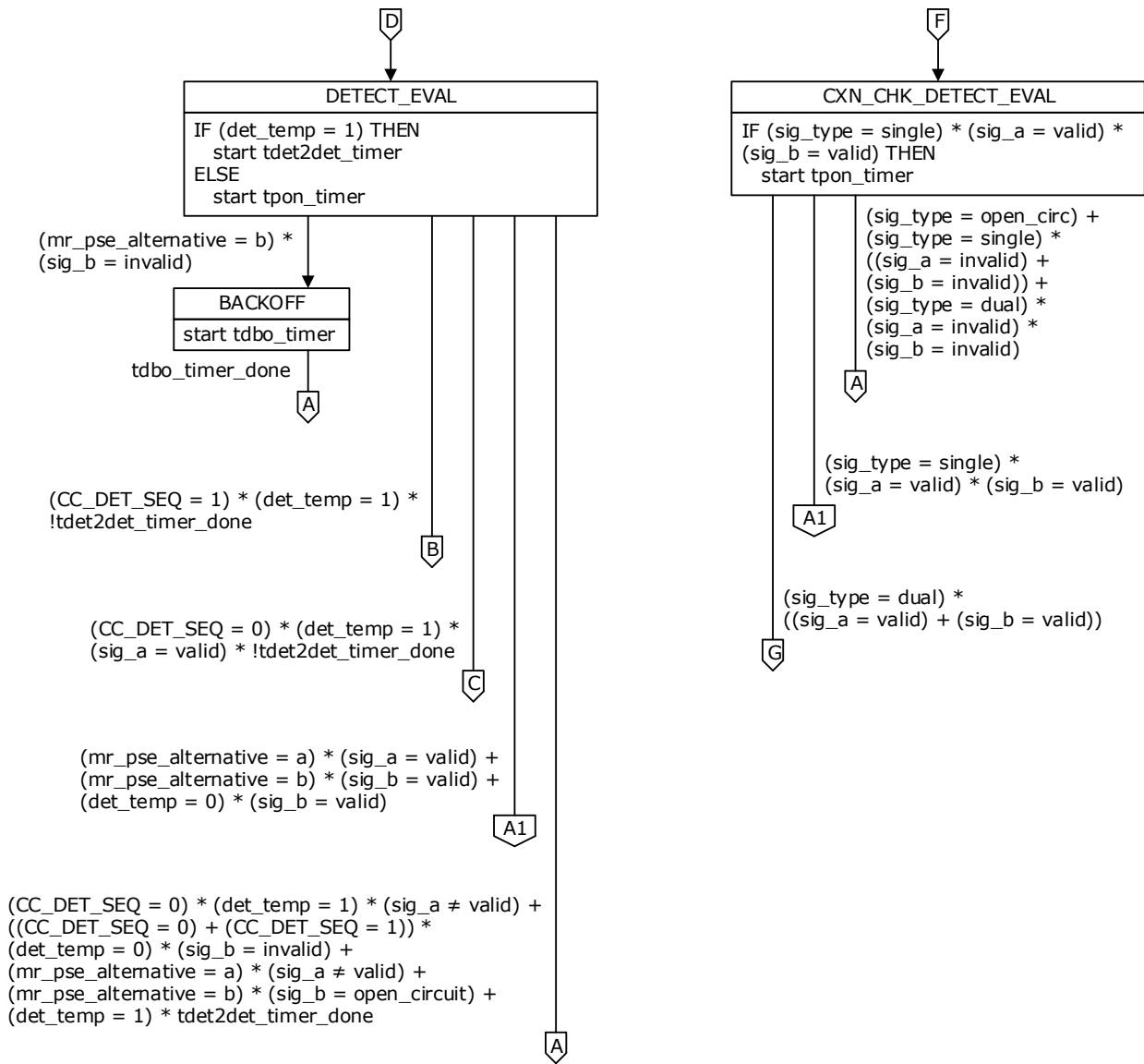


Figure 33-9a – Type 3/Type 4 Top Level PSE State Diagram (Part 2)

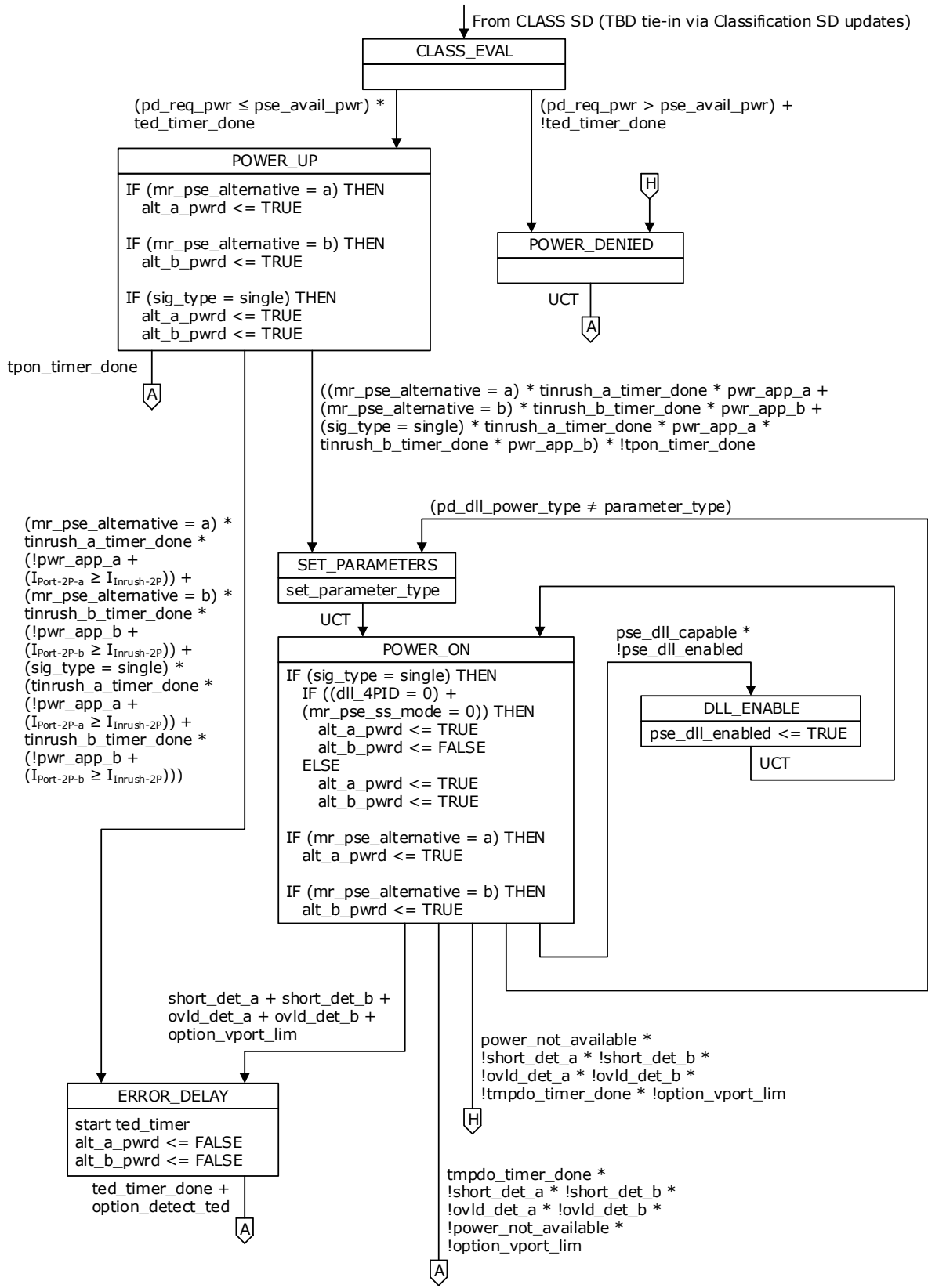


Figure 33-9a – Type 3/Type 4 Top Level PSE State Diagram (Part 3)

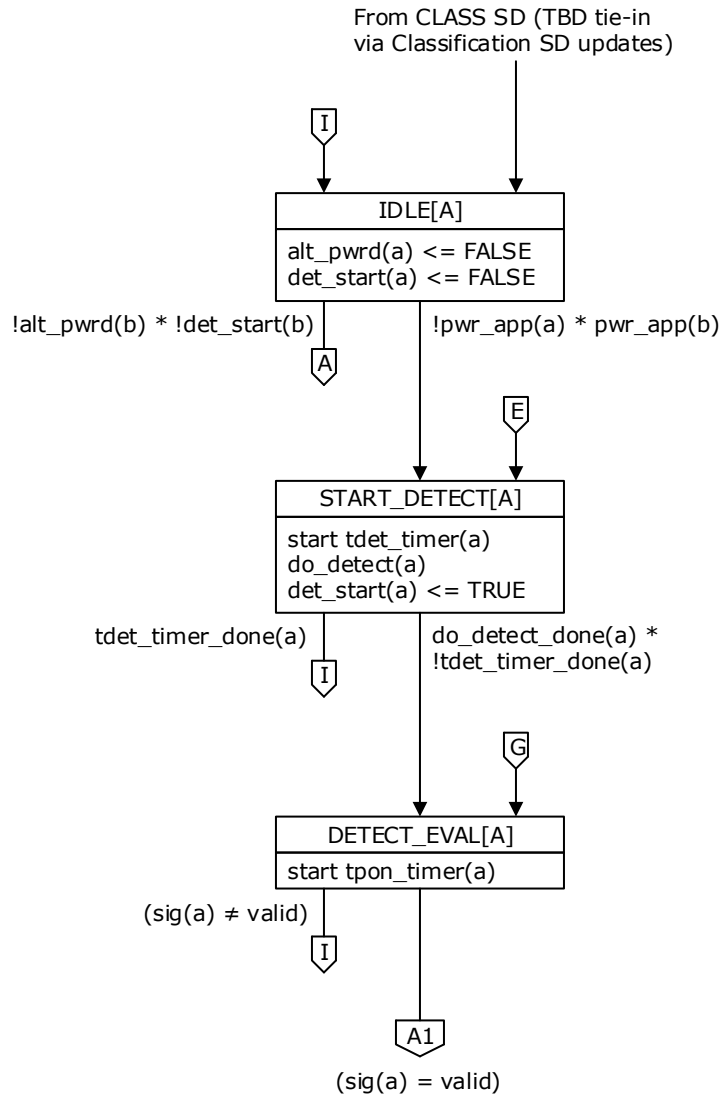


Figure 33-9b – Type 3/Type 4 ALT_A Dual-Signature Pseudo-Independent PSE State Diagram (Part 1)

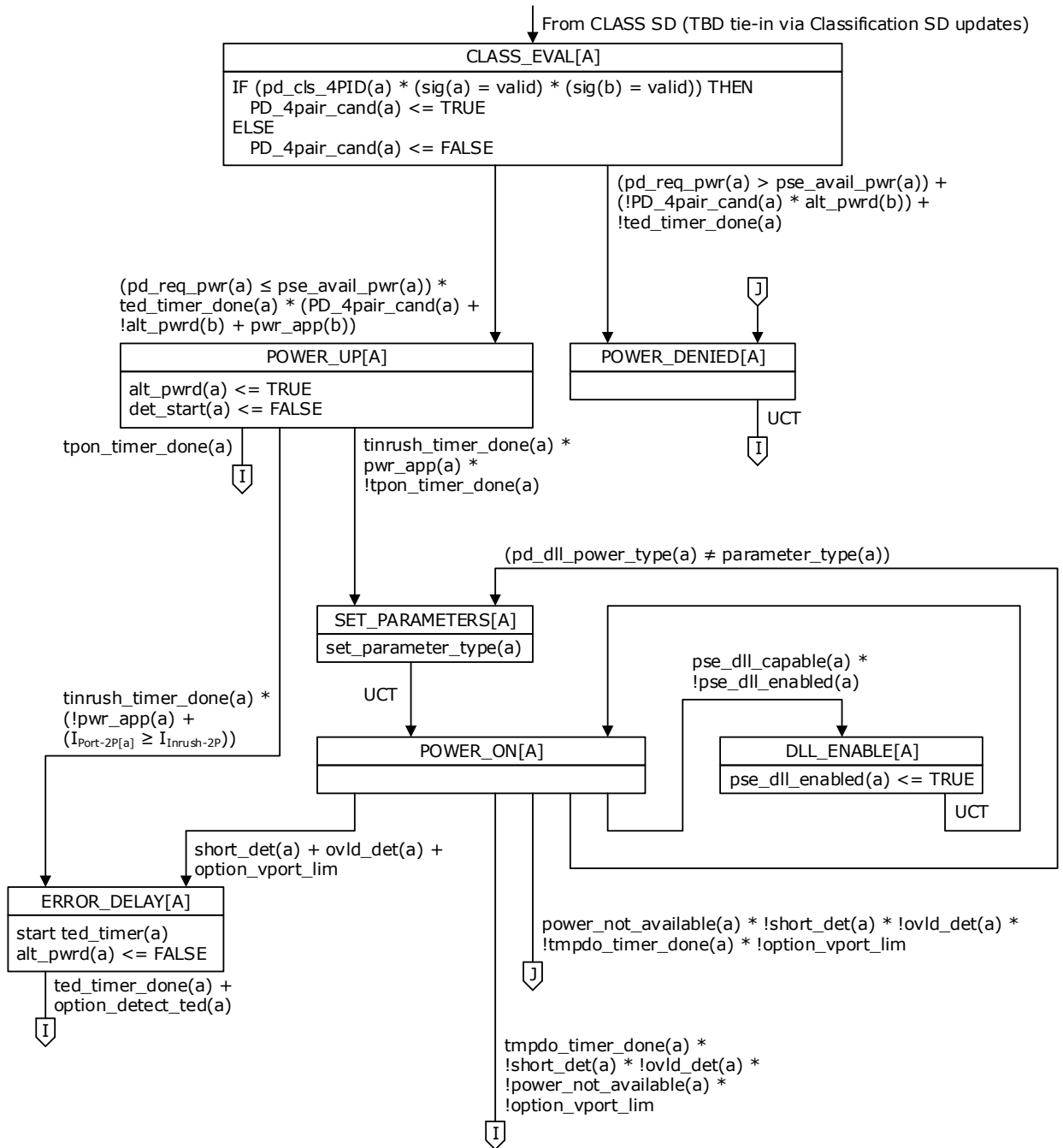


Figure 33-9b – Type 3/Type 4 ALT_A Dual-Signature Pseudo-Independent PSE State Diagram (Part 2)

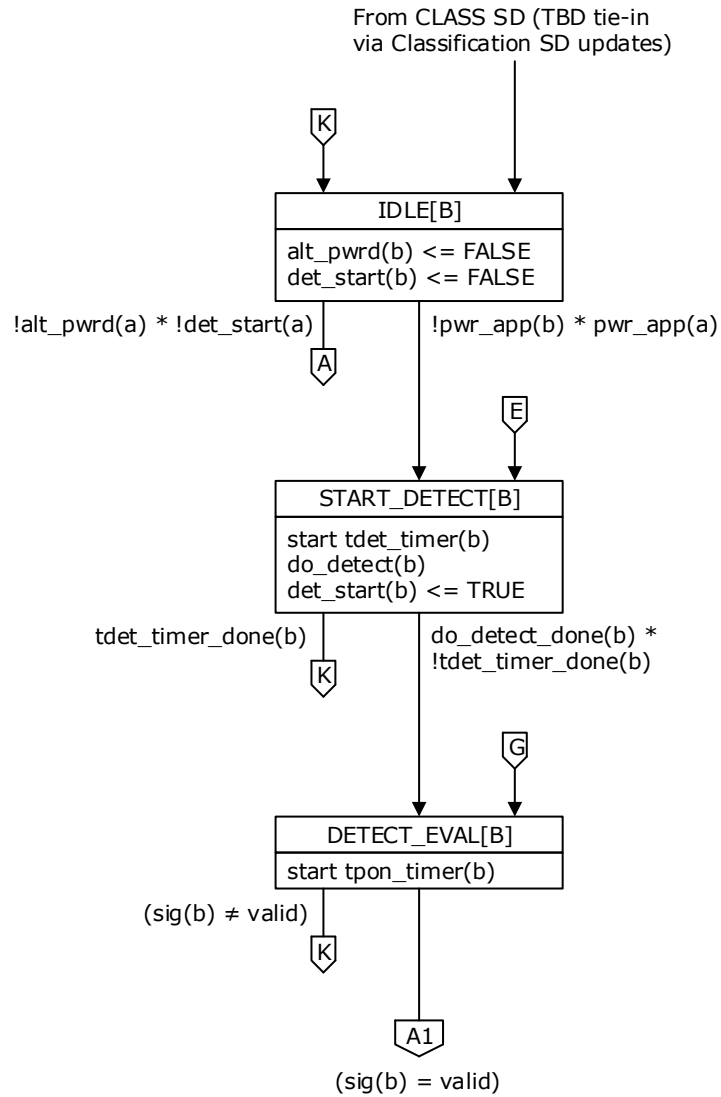


Figure 33-9c – Type 3/Type 4 ALT_B Dual-Signature Pseudo-Independent PSE State Diagram (Part 1)

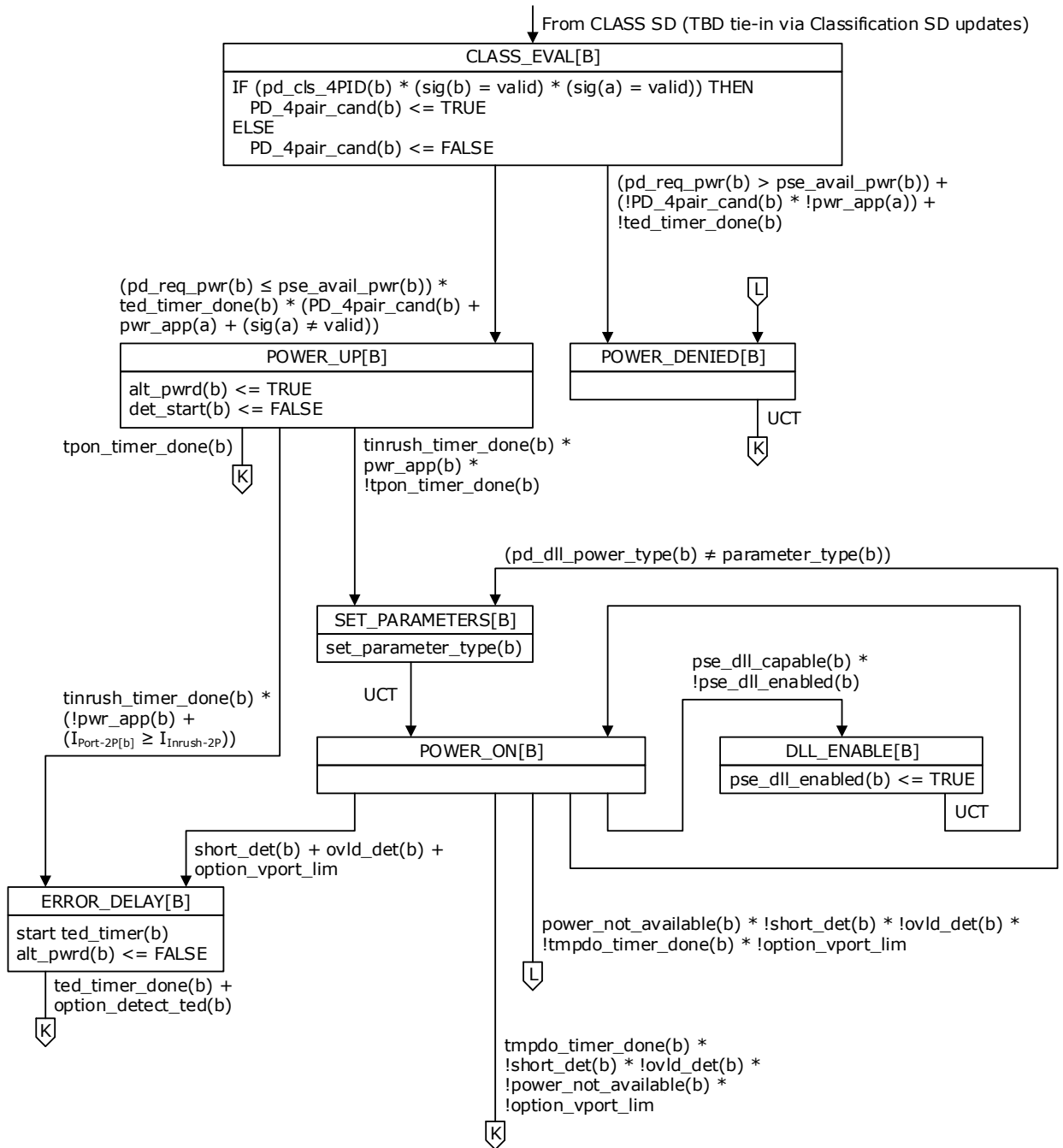


Figure 33-9c – Type 3/Type 4 ALT_B Dual-Signature Pseudo-Independent PSE State Diagram (Part 2)