

USB Type-C ENGINEERING CHANGE NOTICE

Title: FSM AttachWait.SNK exit clarification

Applied to: USB Type-C Specification Release 1.1.

Brief description of the functional changes:
Make it clear that tCCDebounce timer for entering Attached.SNK from AttachWait.SNK runs independently of tPDDebounce for possible disconnect. The “exactly” qualifier implied that the tCCDebounce timer would reset whenever both CC pins are SNK.Open.
The same sort of change applies to TryWait.SNK too.

Benefits as a result of the changes:
Possibly reduce connect time by sink not restarting tCCDebounce if Source starts PD communication before VBUS is seen by Sink.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
none.

An analysis of the hardware implications:
There is no impact unless it was unclear.

An analysis of the software implications:
None

An analysis of the compliance testing implications:
Depends on whether the design has a short tVBUSon delay. If it does, there is no impact. Otherwise, it depends on how the compliance test interprets the timer delay.

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Actual Change

Section 4.5.2.2.4.2 Exiting from AttachWait.SNK State

From Text:

The port shall transition to Attached.SNK if the state of exactly one CC pin has been SNK.Open for at least tCCDebounce and VBUS is detected.

To Text:

The port shall transition to Attached.SNK after tCCDebounce if or when VBUS is detected.

From Text:

A DRP that strongly prefers the Source role may optionally transition to Try.SRC instead of Attached.SNK when the state of one CC pin has been SNK.Rp for at least tCCDebounce and VBUS is detected..

To Text:

A DRP that strongly prefers the Source role may optionally transition to Try.SRC instead of Attached.SNK after tCCDebounce if or when VBUS is detected.

Section 4.5.2.2.10.2 Exiting from TryWait.SNK State

From Text:

The port shall transition to Attached.SNK if the state of exactly one CC pin has been SNK.Open for at least tCCDebounce and VBUS is detected.

To Text:

The port shall transition to Attached.SNK after tCCDebounce if or when VBUS is detected.