

USB Power Delivery ENGINEERING CHANGE NOTICE

Title: Sink Standby

Applied to: USB Power Delivery Specification Revision 3.2

Version 1.0

Brief description of the functional changes proposed:
7.2.3 text is not aligned to other part of text: during negative transition, sink can hold its load current

Benefits as a result of the proposed changes:
Align 7.2.3 to other paragraphs

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:

An analysis of the hardware implications:

An analysis of the software implications:

An analysis of the compliance testing implications:
CTS to be updated

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Actual Change Requested

(a). Section 7.2.3

From Text:

7.2.3 Sink Standby

The Sink **shall** transition to Sink Standby before a positive or negative Voltage transition of V_{BUS} . During Sink Standby the Sink **shall** reduce the current drawn to *iSnkStdby*. This allows the Source to manage the Voltage transition as well as supply sufficient operating current to the Sink to maintain PD operation during the transition. The Sink **shall** complete this transition to Sink Standby within *tSnkStdby* after evaluating the **Accept** Message from the Source. The transition when returning to Sink operation from Sink Standby **shall** be completed within *tSnkNewPower*. The *iSnkStdby* requirement **shall** only apply if the Sink current draw is higher than this level.

See Section 7.3 “Transitions” for details of when *iSnkStdby* **shall** be applied for any given transition.

7.2.3.1 Programmable Power Supply Sink Standby

A Sink is not required to transition to Sink Standby when operating within the negotiated PPS APDO. A Sink **may** consume the Operating Current value in the PPS RDO during PPS output Voltage changes. However, prior to operating the SPR PPS in Current Limit, the Sink **shall** program the PPS Operating Voltage to the lowest practical level that satisfies the Sink load requirement. Doing so will minimize the inrush current that occurs when the transition to Current Limit occurs. When operating with an SPR PPS Source that is in Current Limit, the Sink **shall not** change its load in a manner that exceeds *iPpsCLLoadStepRate* or *iPpsCLLoadReleaseRate*. The load change magnitude **shall not** request a change to the Current Limit setpoint that exceeds *iPpsCLLoadStep*.

If the Sink negotiates for a new PPS APDO, then the Sink **shall** transition to Sink Standby while changing between PPS APDOs as described in Section 7.3.1 “Transitions caused by a Request Message”.

To Text:

7.2.3 Sink Standby

The Sink **shall** transition to Sink Standby before a positive-~~or negative~~ Voltage transition of V_{BUS} . During Sink Standby the Sink **shall** reduce the current drawn to *iSnkStdby*. This allows the Source to manage the Voltage transition as well as supply sufficient operating current to the Sink to maintain PD operation during the transition. The Sink **shall** complete this transition to Sink Standby within *tSnkStdby* after evaluating the **Accept** Message from the Source. The transition when returning to Sink operation from Sink Standby **shall** be completed within *tSnkNewPower*. The *iSnkStdby* requirement **shall** only apply if the Sink current draw is higher than this level.

See Section 7.3 “Transitions” for details-~~of when *iSnkStdby* **shall** be applied for any given transition.~~

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If the Sink negotiates for a new PPS APDO **that is expected to increase VBUS voltage**, then the Sink ***Shall*** transition to Sink Standby while changing between PPS APDOs as described in [Section 7.3.1](#) *“Transitions caused by a Request Message”*.