

USB Type-C ENGINEERING CHANGE NOTICE

Title: Assign Cable SOP State Clarification

Applied to: USB Type-C Specification Release 1.0, August 11, 2014

Brief description of the functional changes proposed:
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Section 4.5.2.4.2 Assign Cable SOP* State is incorrect. Passive cables never respond on SOP” per USB PD. The change is to remove the sentence “If two eMarkers are powered at the same time in a passive cable, then one shall respond to a pre-set SOP’ and the other to SOP’.” and to remove the “Typically” in the first sentence.

Benefits as a result of the proposed changes:
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The change makes the USB Type-C specification match the USB PD specification.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
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There is no impact on existing passive cables as they do not behave as currently defined in the USB-C specification. They behave as this change states.

An analysis of the hardware implications:
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None

An analysis of the software implications:
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None

An analysis of the compliance testing implications:
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None

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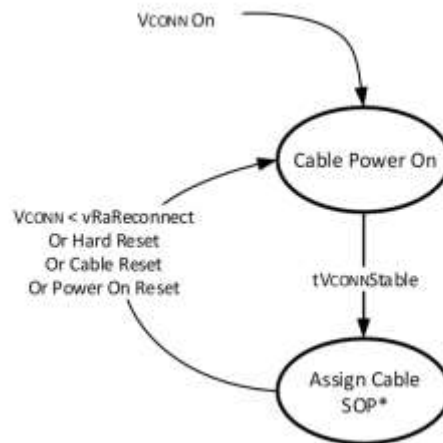
Actual Change Requested

a). Section 4.5.2.4, Figure 4-20, Page 194

From Text:

Figure 4-20 illustrates the cable eMarker connection state diagram.

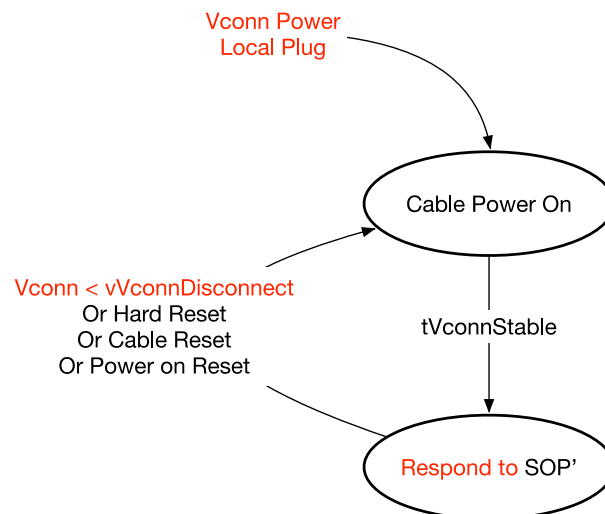
Figure 4-20 Cable eMarker State Diagram



To Text:

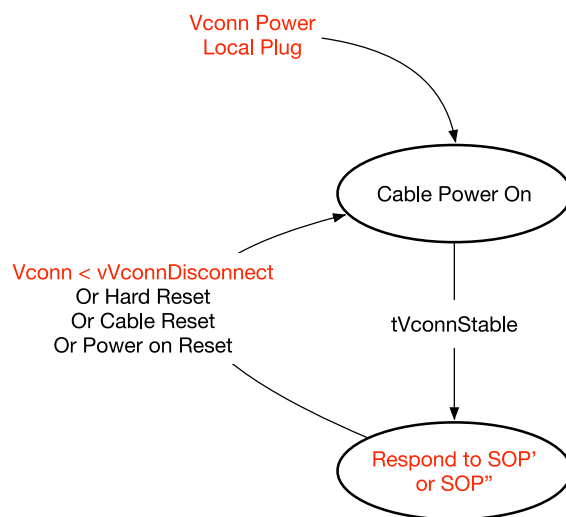
Figure 4-20 illustrates the cable eMarker connection state diagram.

Figure 4-20 Passive Cable eMarker State Diagram



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Figure 4-X Active Cable eMarker State Diagram



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(a). Section 4.5.2.4.2 Assign Cable SOP* State, Page 194

From Text:

This state appears in Figure 4-20.

Typically, a passive cable has only one eMarker powered at a time. This cable eMarker in a passive cable shall respond to SOP' in this state. If two eMarkers are powered at the same time in a passive cable, then one shall respond to a pre-set SOP' and the other to SOP''.

Each cable eMarker in an active cable shall respond to a pre-set SOP' or SOP''. If only one eMarker exists in the cable, it shall only respond to SOP'.

To Text:

4.5.2.4.2 ~~Assign Cable Respond to~~ SOP'/'* State

This state appears in Figure 4-20.

~~Typically, a A~~ passive cable has only one eMarker powered at a time. This cable eMarker in a passive cable shall respond to SOP' in this state. ~~If two eMarkers are powered at the same time in a passive cable, then one shall respond to a pre-set SOP' and the other to SOP''.~~

Each cable eMarker in an active cable shall respond to a pre-set SOP' or SOP''. If only one eMarker exists in the cable, it shall only respond to SOP'.

~~Cable designers shall ensure that the eMarker works correctly in the presence of ground and VCONN maximum IR drop.~~

(b). Section 4.5.2.4.2.1 Assign Cable SOP* State Requirements, Page 195

From Text:

To Text:

Section 4.5.2.4.2.1 ~~Assign Cable Respond to~~ SOP'/'* State Requirements, Page 195

(c). Section 4.5.2.4.2.2 Exiting from Assign Cable SOP* State, Page 195

From Text:

To Text:

Section 4.5.2.4.2.2 Exiting from ~~Assign Cable Respond to~~ SOP'/'* State, Page 195