USB Type-C ENGINEERING CHANGE NOTICE

Title: Power Delivery Rp Values
Applied to: USB Type-C Specification Release 1.2, March 25, 2016

Brief description of the functional changes proposed:

Define Rp value for USB Power Delivery Sources when not in an Explicit Contract.
Distinguish between Revision 2 and Revision 3 USB Power Delivery usage of Rp values in an Explicit Contract.

Benefits as a result of the proposed changes:

Ensures that usage of Rp by USB Power Delivery Sources is properly defined.

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

Should be no impact.

An analysis of the hardware implications:

None

An analysis of the software implications:

An analysis of the compliance testing implications:

Need to test Rp values outside of USB Power Delivery Explicit Contract.

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Actual Change Requested

(a). Section 4.6.2.4, Page 171
From Text:

While an *USB PD* Explicit Contract is in place, the Source shall advertise a USB Type-C Current of either 1.5 A or 3.0 A. The Source upon entry into an Explicit Contract shall advertise an Rp value of 1.5 A or 3.0 A after it receives the GoodCRC in response to the first PS_RDY Message and before it sends any other messages. Refer to Section 1.6 of the *USB Power Delivery* specification for a definition of an Explicit Contract.

To Text:

When not in an Explicit Contract USB PD Sources that are, based on their PDP, capable of supplying:
- 5V at 3 A or greater shall advertise USB Type-C Current at the 3 A level
- 5V at 1.5A or greater but less than 3 A shall advertise USB Type-C Current at the 1.5 A level
- 5V at less than 1.5A shall advertise USB Type-C Current at the Default USB Power level
within tVbusOn of entering the Attached.SRC state. During USB Suspend a USB PD Source may set its Rp value to default to indicate that the Sink shall only draw USB suspend current as defined in Section 4.6.1.1.

While an *USB PD* Explicit Contract is in place, a Source compliant with USB PD Revision 2 shall advertise a USB Type-C Current of either 1.5 A or 3.0 A. The Revision 2 Source upon entry into an Explicit Contract shall advertise an Rp value of 1.5 A or 3.0 A after it receives the GoodCRC in response to the first PS_RDY Message.

While an *USB PD* Explicit Contract is in place, a Source compliant with USB PD Revision 3 shall set the Rp value according to the collision avoidance scheme defined in Section 5.7 of the USB Power Delivery specification Revision 3. The Revision 3 Source upon entry into an Explicit Contract shall advertise an Rp value consistent with the Revision 3 collision avoidance scheme ~~after it receives the GoodCRC in response to the first PS_RDY Message~~.

Refer to Section 1.6 of the *USB Power Delivery* specification for a definition of an Explicit Contract.