## **USB Type-C ENGINEERING CHANGE NOTICE**

### Title: Receptacle shell length Applied to: USB Type-C Specification Release 1.0, August 11, 2014

#### Brief description of the functional changes:

Change the 6.20  $\pm$ 0.02 receptacle shell dimension to REF. Many applications require shorter shells to be used in combination with other device hardware (e.g., exterior wall surfaces) to achieve an equivalent 6.20  $\pm$ 0.02 dimension or special design enhancements as mentioned in section 3.10.3.

#### Benefits as a result of the changes:

Allows certification of short shell receptacles and provides design flexibility of hardware at the application level while still allowing full engagement of the plug to the receptacle.

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

No impact.

#### An analysis of the hardware implications:

Allows certification of receptacles needed for specific implementations.

#### An analysis of the software implications:

N/A

#### An analysis of the compliance testing implications:

Compliance specification already has a note defining this critical dimension as reference. Additional changes will be made to the compliance specification regarding this change. Impact includes the wrenching test.

## **Actual Change**

# (a). Section 3.2.1, Pages 26 - 27 and Figure 3-1, Page 28 From Text:

7. This specification defines the USB Type-C receptacle shell length. To be certified at the connector level, a USB Type-C receptacle connector shall have features that comply with the defined shell dimensions. The shell length is not applicable when the USB Type-C receptacle certification is done at the system level instead of the component level. If a USB Type-C receptacle connector is certified at the system level, then the connector mounted in the associated system hardware shall pass all applicable electrical and mechanical compliance tests.



Figure 3-1 USB Type-C Receptacle Interface Dimensions

SECTION A-A

#### To Text:

7. This specification defines the USB Type-C receptacle shell length\_(6.20 ±0.02 mm) as a reference dimension. The receptacle shell length of 6.2 mm provides proper mechanical and electrical mating of the plug to the receptacle in addition to providing both the plug and receptacle a defined configuration to design to for the wrenching and contact mating requirements. The effective shell length of the USB Type-C receptacle at the system level shall be implemented such that the Type-C receptacle connector mounted in the associated system hardware shall pass all applicable electrical and mechanical compliance tests and shall not cause a compliant Type-C plug connector to fail the wrenching test if it passes the wrenching test with a second receptacle connector having the reference shell length.

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#### Figure 3-1 USB Type-C Receptacle Interface Dimensions