USB Type-C ENGINEERING CHANGE NOTICE

Title: Extraction force reduction
Applied to: USB Type-C Specification Release 1.0, August 11, 2014

Brief description of the functional changes:
Reduce the requirement for extraction force at 10,000 cycle count to 6N.

Benefits as a result of the changes:
Reduce the wear of the plug and increase the possibility of compliance of the plug manufacturer's with the specification.

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:
A larger range for extraction force after 10K cycle which should enable existing parts to pass the specification. The impact depends on tooling status of individual connector suppliers. At this early stage we would expect that the change can be made without significant impact to overall plug tooling. And because no significant (if any) Rev 1.0 production shipments have been made of Type C plug, there should be minimal issues controlling product iteration.

An analysis of the software implications:
N/A

An analysis of the compliance testing implications:
The requirement for passing the extraction force is relaxed at the 10K cycle count.

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Actual Change

(a). Section 3.8.1.2, Page 92

From Text:

3.8.1.2 Extraction Force (EIA 364-13)

The connector extraction force shall be within the range of 8 N to 20 N before and after the specified insertion/extraction or durability cycles (at a maximum rate of 12.5 mm (0.492") per minute). This requirement does not apply when the connectors are used in a mechanical docking application.

It is recommended to use a non-silicone based lubricant on the latching mechanism to reduce wear. The effects of lubricants should be restricted to insertion and extraction characteristics and should not increase the resistance of the mated connection.

To Text:

3.8.1.2 Extraction Force (EIA 364-13)

The connector extraction force shall be within the range of 8 N to 20 N ~~before~~ up to 10,000 mating cycles and within the range of 6 N to 20 N after the specified insertion/extraction or durability cycles (at a maximum rate of 12.5 mm (0.492") per minute). This requirement does not apply when the connectors are used in a mechanical docking application.

It is recommended to use a non-silicone based lubricant on the latching mechanism to reduce wear. The effects of lubricants should be restricted to insertion and extraction characteristics and should not increase the resistance of the mated connection.