USB Type-C ENGINEERING CHANGE NOTICE

Title: Alt Mode Port Expansion
Applied to: USB Type-C Specification Release 1.2

Brief description of the functional changes proposed:
Clarify the requirements for Alt Mode devices with downstream facing USB Type-C connectors.

Benefits as a result of the proposed changes:
Ensures great user experiences using the USB Type-C connector.

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:
Depends on the Alt Mode architecture.

An analysis of the software implications:
None.

An analysis of the compliance testing implications:
This provides clarity for Compliance Testing.

USB Type-C ENGINEERING CHANGE NOTICE

Actual Change Requested

From Text:

5.1 Alternate Modes

All hosts and devices (except chargers) using a USB Type-C™ receptacle shall expose a USB interface. In the case where the host or device optionally supports Alternate Modes:

- The host and device shall use *USB Power Delivery* Structured Vendor Defined Messages (Structure) to discover, configure and enter/exit modes to enable Alternate Modes.
- The device is strongly encouraged to provide equivalent USB functionality where such exists for best user experience.
- Where no equivalent USB functionality is implemented, the device shall provide a USB interface exposing a *USB Billboard Device Class* used to provide information needed to identify the device. A device is not required to provide a USB interface exposing a *USB Billboard Device Class* for non-user facing modes (e.g., diagnostic modes).

As Alternate Modes do not traverse the USB hub topology, they shall only be used between a directly connected host and device.

To Text:

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All hosts and devices (except chargers and clearly marked charge-through ports) using a USB Type-C™ receptacle shall expose a USB interface. In the case where the host or device optionally supports Alternate Modes:

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As Alternate Modes do not traverse the USB hub topology, they shall only be used between a directly connected host and device.

There are Alternate Mode devices that look like a USB hub. Their downstream facing ports are USB Type-C™ receptacles that support Alternate Modes. They are referred to as Alternate Mode port expanders or docks:

- The Alternate Mode port expander's downstream facing USB Type-C™ receptacles shall expose a USB 2.0 interface.
- ~~If the~~An Alternate Mode port expander ~~has~~with the capability to pass USB SuperSpeed through its upstream facing port~~, it~~ ~~shall~~ <u>should</u> expose USB SuperSpeed on its downstream facing USB Type-C™ receptacles.