

USB Type-C ENGINEERING CHANGE NOTICE

Title: Power-Only Receptacle

Applied to: USB Type-C Specification Release 2.3, Oct 2023

Brief description of the functional changes proposed:
Introduce the Power-Only receptacle option in the USB-C spec. This allows for full power functionality with a simplified design.

Benefits as a result of the proposed changes:
The proposed design option allows for a simpler and lower cost power only receptacle that can be beneficial to a wide range of products in the market.

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:
This proposal will not affect the current receptacles or plugs in the market but will provide an additional simplified option that can be used across a range of products.

An analysis of the software implications:
None

An analysis of the compliance testing implications:
None

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Actual Change Requested

(a). Section 2.2

To Text:

2.2 USB Type-C Receptacles, Plugs and Cables

Cables and connectors, including USB Type-C to USB legacy cables and adapters, are explicitly defined within this specification. These are the only connectors and cables that are authorized by the licensing terms of this specification. All licensed cables and connectors are required to comply with the compliance and certification requirements that are developed and maintained by the **USB-IF**.

The following USB Type-C receptacles and plugs are defined.

- USB Full-Featured Type-C receptacle for **USB 2.0**, **USB 3.2**, **USB4** and full-featured platforms and devices.
- **USB 2.0** Type-C receptacle for **USB 2.0** platforms and devices.
- USB Type-C Power-Only receptacle.
- USB Full-Featured Type-C plug.
- **USB 2.0** Type-C plug.
- USB Type-C Power-Only plug.

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(b). Section 3.1.1

To Text:

3.1.1 Compliant Connectors

The USB Type-C specification defines the following standard connectors:

- USB Full-Featured Type-C receptacle,
- **USB 2.0** Type-C receptacle,
- USB Type-C Power-Only receptacle.
- USB Full-Featured Type-C plug,
- **USB 2.0** Type-C plug, and
- USB Type-C Power-Only plug.

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(c). Section 3.2.1, Page 45

To Text:

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16. The USB Type-C Power-Only plug is a depopulated version of the USB Full-Featured Type-C plug or the **USB 2.0** Type-C plug. The interface dimensions **shall** conform to Figure 3 3 or Figure 3 11. Contacts for CC, VBUS, and GND (i.e., A1, A4, A5, A9, A12, B1, B4, B9, and B12) **shall** be present. Physical presence of contacts in the other 15 contact locations is **optional**. The USB Type-C Power-Only plug **shall** only be used on a non-charger captive cable application. Implementation of **Rd** or CC communication on pin A5 is required in the application.

17. The USB Type-C Power-Only receptacle is a depopulated version of the USB Full-Featured Type-C receptacle. The interface dimensions **shall** conform to Figure 3.1. Contacts for CC, D+/D-, VBUS, and GND (i.e., A1, A4, A5, A6, A7, A9, A12, B1, B4, B5, B6, B7, B9, and B12) **shall** be present. The physical presence of SBU contacts (i.e. A8 and B8) are **optional**. The other 8 contact locations **shall not** be present. The D+ and D- contacts (i.e. A6, A7, B6, and B7) **shall** be shorted together inside the receptacle and not terminated to the board. The USB Type-C Power-Only receptacle EMC provisions highlighted in previous notes are optional normative (i.e., grounding points on the shell or EMC pads). The design of the USB Type-C Power-Only receptacle **shall** be compliant with maximum power specified by **USB PD** and **USB 2.0**. The USB Type-C Power-Only receptacle **may** be used on power source or sink applications but when used on a sink, it will not support implementing USB BC 1.2.

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(c). Section 3.2.1, Page 60

To Text:

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This specification requires that all contacts be present in the mating interface of the USB Full-Featured Type-C receptacle connector ~~and~~, all contacts except the **USB 3.2** or **USB4** signals (i.e., A2, A3, A10, A11, B2, B3, B10 and B11) be present in the mating interface of the **USB 2.0** Type-C receptacle connector; and all contacts except the **USB 3.2** or **USB4** signals (i.e., A2, A3, A10, A11, B2, B3, B10 and B11) and SBU contacts (i.e., A8, and B8) be present in the mating interface of the USB Type-C Power-Only receptacle connector, but allows the plug to include only the contacts required for **USB PD** and **USB 2.0** functionality for applications that only support **USB 2.0**. The **USB 2.0** Type-C plug is shown in Figure 3-11. The following design simplifications **may** be made when only **USB 2.0** is supported:

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