USB Type-C ENGINEERING CHANGE NOTIFICATION

Title: USB PD Power Port Type Clarifications
Applied to: USB Type-C Specification Release 2.1, May 2021

Brief description of the functional changes proposed:
Aligns USB Type-C with the USB PD R3.1, V1.3 specification with regard to the definition of power port types. Maps USB Type-C multi-port charger definition based on Assured and Shared Capacity ports to USB PD's definition for Guaranteed and Managed Capability port types.

Benefits as a result of the proposed changes:
Alignment with the revised USB PD spec regarding port types for power behaviors.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
No impact to existing solutions which will map to the prior definitions in the USB PD spec and remain compatible with the new definitions.

An analysis of the hardware implications:
USB PD's updated power port type definitions allow for describing port behavior more clearly which could be beneficial to newer designs.

An analysis of the software implications:
USB PD's updated power port type definitions allow for describing port behavior more clearly which could be beneficial to newer designs.

An analysis of the compliance testing implications:
Necessary compliance testing updates relate to USB PD requirements, no additional USB Type-C-specific updates needed.

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Actual Change Requested

Changes highlighted in modified text and figures

1 Introduction

1.3 Related Documents

USB PD *USB Power Delivery Specification, Revision 2.0, Version 1.3, January 12, 2017*
USB Power Delivery Specification, Revision 3.1, Version 1.~~0~~4, ~~May~~ April ~~2021~~ 2022 (including posted errata and ECNs)

4.8.6 USB Type-C Multi-Port Chargers

A USB Type-C Multi-Port Charger is a product that exposes multiple USB Type-C Source ports for the purpose of charging multiple connected devices. A compliant USB Type-C charger may offer on each of its ports a mix of power options as defined in Section 4.6.

Multi-Port Chargers will generally fall into two categories as defined by the following.

1. Assured Capacity Chargers: a multi-port charger where the sum of the maximum capabilities of all of the exposed ports, as indicated to the user, is equal to the total power delivery capacity of the charger. A port in an Assured Capacity group has a fixed allocated amount of power and is either a Guaranteed Capability port or Managed Capability port as defined in the *USB PD* specification.
2. Shared Capacity Chargers: a multi-port charger where the sum of the maximum capabilities of all of the exposed ports, as indicated to the user, is less than the total power delivery capacity of the charger. A port in a Shared Capacity group does not have a fixed allocated amount of power and is a Managed Capability port as defined in the *USB PD* specification.

A Multi-Port Charger may offer in a single product separate visually identifiable groupings of charging ports. In this case, each group can independently offer either one of the two charging categories, either an Assured Capacity Charger or a Shared Capacity Charger.

This section defines the requirements and provides guidelines for the operation and behavior of a USB Type-C Multi-Port Charger.