USB4 1.0 ENGINEERING CHANGE NOTICE FORM

Title: Clarify AC Coupling Requirements
Applied to: USB4 Specification Version 1.0

Brief description of the functional changes:
Clarifies that only Lane0/Lane1 lines shall be AC coupled whereas SBTX/SBRX lines shall not be AC coupled (no functional changes to Rev1.0 but only clarifying the existing state)

Benefits as a result of the changes:
Explicitly emphasizes that SBTX/SBRX shall not be AC coupled for avoiding mistakes

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
No issue (only clarifying the existing state, no functional changes)

An analysis of the hardware implications:
NA

An analysis of the software implications:
NA

An analysis of the compliance testing implications:
NA

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Actual Change

(a). Section 3.3.2

All of the ~~USB4~~ Lane 0 and Lane 1 electrical interfaces of a Router Assembly shall be AC-coupled. The SBTX and SBRX lines shall not be AC-coupled. All Lane 0 and Lane 1 transmit paths of a Router Assembly shall include AC-coupling capacitance between 135 nF and 265 nF. All Lane 0 and Lane 1 receive paths of a Router Assembly that are directly connected to a USB Type-C connector shall include AC-coupling capacitance between 300 nF and 363 nF. When AC-coupling capacitors are placed at the receive path, discharge resistors between 200 KΩ and 242 KΩ shall also be placed at the receive path. AC-coupling capacitors (with discharge resistors) may be also placed at the receive paths of a Router Assembly that are not directly connected to USB Type-C connector.