

USB4 2.0 ENGINEERING CHANGE NOTICE FORM

Title: Adding Two-Single Lane Link as an Active Link
Applied to: USB4 Specification Version 2.0

Brief description of the functional changes:

Adds an Active State in Gen 2 and Gen 3 where Lane Initialization ended and Bonding hasn't started yet. During this time the Link is Active and Transport Layer Packets should be transmitted over it.
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Benefits as a result of the changes:

Allows Transport Layer Packets during Two Single-Lane Link.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
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None.

An analysis of the hardware implications:
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None.

An analysis of the software implications:
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None.

An analysis of the compliance testing implications:
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None.

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Actual Change

(a). 4.2.3 – Logical Layer Link State

To Text:

The Transport Layer sees a Link in one of three states: Active, Low Power, or Inactive. Adapter states are mapped into Transport Layer Link States as follows:

- For a Single-Lane Link, the Link is in Active state when its Lane 0 Adapter is in CL0 state.
- For a Gen 2 or Gen 3 Two Single-Lane Link, the Link is in Active state when its Lane 0 Adapter is in CL0 state. This is a transient Link configuration that occurs between successful completion of Lane Initialization and successful completion Lane Bonding.
- For a Gen 2 or Gen 3 Aggregated Link, the Link is in Active state after its Lanes are successfully bonded, both Adapters transition from either the Lane Bonding State or Training State to CL0 state, and the Adapters stop transmitting TS2 Ordered Sets.
- For Gen 4 Aggregated Link, the Link is in Active state when its Lane 0 Adapter is in CL0 state.
- A Link is in Low Power state when its Adapters are in CL2, CL1, or CL0s states.
- A Link is otherwise in Inactive state.