

# USB4 1.0 ENGINEERING CHANGE NOTICE FORM

**Title: Sending TS2 After Bonding State**  
**Applied to: USB4 Specification Version 1.0**

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| <b>Brief description of the functional changes:</b> |
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| Changes the condition to stop sending TS2 after Bonding state to describe also an error scenario. |
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| <b>Benefits as a result of the changes:</b> |
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| Better description of current eco-system and a more complete description of the desired behavior. |
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| <b>An assessment of the impact to the existing revision and systems that currently conform to the USB specification:</b> |
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| None |
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| <b>An analysis of the hardware implications:</b> |
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| Change the condition to stop sending TS2 |
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| <b>An analysis of the software implications:</b> |
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| None |
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| <b>An analysis of the compliance testing implications:</b> |
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| None |
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## Actual Change

### (a). Section 4.2.1.5.3 Exit from State, Page 147

#### From Text:

A Lane Adapter that exits this state due to successful completion (i.e . Transition 3 in Table 4-27) shall transition to the CL0 state. A Lane Adapter that transitions to CL0 state shall continue sending TS2 Ordered Sets until the other Adapter in the USB4 Port exits the Lane Bonding state.

#### To Text:

A Lane Adapter that exits this state due to successful completion (i.e . Transition 3 in Table 4-27) shall transition to the CL0 state. A Lane Adapter that transitions to CL0 state shall continue sending TS2 Ordered Sets until the other Adapter in the USB4 Port ~~exits the Lane Bonding~~ enters CL0 state.

### (b). Section 4.2.2.2 Transition from Two Single-Lane Links to Dual-Lane Link, Page 164

#### From Text:

The Logical Layer shall transition to a Dual-Lane Link when the following conditions are met:

- Both Adapters have transitioned successfully to CL0 state tBonding time after entry to Lane Bonding state.
- Link Partner has responded on both Lanes with TS1 and TS2 Ordered Sets that have the *Lane Bonding Target* field set to 001b.

#### To Text:

The Logical Layer shall transition to a Dual-Lane Link when the following conditions are met:

- Both Adapters have transitioned successfully to CL0 state within tBonding time after entry to Lane Bonding state.
- Link Partner has responded on both Lanes with TS1 and TS2 Ordered Sets that have the *Lane Bonding Target* field set to 001b.

Note: If the Lane Adapter transitions from Bonding state to Training state due to an error on the Link and still manages to transition to CL0 state within tBonding time from entry to Bonding state, it is considered a successful transition.