

# USB4 1.0 ENGINEERING CHANGE NOTICE FORM

**Title: Alignment Error Event**

**Applied to: USB4 Specification Version 1.0**

**Brief description of the functional changes:**

Changes the event that causes an Alignment Error (ALE) to a more general case

**Benefits as a result of the changes:**

Allows for more robust error notification

**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:**

None

**An analysis of the software implications:**

None

**An analysis of the compliance testing implications:**

ALE should be tested with different numbers of errors.

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## Actual Change

(a). Table 4-38, page 178

### From Text:

Error	Event	Response	Reporting
Alignment Lock Error (ALE)	Adapter received a Symbol with illegal Sync Bits value.	Go to Training.LOCK1 sub-state.	An Adapter shall set the <i>ALE</i> bit in the <i>Logical Errors</i> field to 1b. If the <i>ALE</i> bit in the <i>Logical Layer Errors Enable</i> field is 1b, the Router shall send a Notification Packet with Event Code = ERR_LINK to the Connection Manager (see Section 6.5). If the <i>ALE</i> bit in the <i>Logical Layer Errors Enable</i> field is 0b, the Router shall not send a Notification Packet.

### To Text:

Error	Event	Response	Reporting
Alignment Lock Error (ALE)	Adapter received <del>a-N</del> <u>number of Symbols in a row</u> with illegal Sync Bits values, <u>where N is a number between 1 and 8 (inclusive) that is chosen by the implementation.</u>	Go to Training.LOCK1 sub-state.	An Adapter shall set the <i>ALE</i> bit in the <i>Logical Errors</i> field to 1b. If the <i>ALE</i> bit in the <i>Logical Layer Errors Enable</i> field is 1b, the Router shall send a Notification Packet with Event Code = ERR_LINK to the Connection Manager (see Section 6.5). If the <i>ALE</i> bit in the <i>Logical Layer Errors Enable</i> field is 0b, the Router shall not send a Notification Packet.