USB4 2.0 ENGINEERING CHANGE NOTICE FORM

Title: CPS Default Value to VD
Applied to: USB4 Specification Version 2.0

Brief description of the functional changes:
Changing the default value of the CLx Protocol Support (CPS) bit to Vendor defined and add a note saying that its value is relevant only when there is Link.

Benefits as a result of the changes:
Describes the behavior of the bit in a more accurate way.

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:
No need to check the value of the bit when there is no Link.

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Actual Change

(a). Table 8-13 – USB4 Port Capability Fields

To Text:

DW	Register Name	Bit(s)	**Field Name and Description**	Type	Default Value
18	PORT_CS_18	7:0	**Cable USB4 Version** This field shall identify which version of the USB4 specification is supported by the USB Type-C® Cable where: Bits 7:4 identify the major version Bits 3:0 identify the minor version Allocated values: 0.x – Reserved for TBT3 1.0 – Version 1.0 2.0 – Version 2.0 All other encodings are reserved.	RO	10h
		8	**Bonding Enabled (BE)** An Adapter shall set this bit to 1b when the conditions for Lane bonding are met (See Section 4.1.2.3). Otherwise, this bit shall be set to 0b. This bit shall be set to 1b for a Gen 4 Link.	RO	0
		9	**TBT3-Compatible Mode (TCM)** An Adapter shall set this bit to 1b when the Link is operating in TBT3-Compatible Mode. This bit is set to 0b otherwise.	RO	0
		10	**CLx Protocol Support (CPS)** This bit indicates that the Router and connected Cable support the Low Power protocol. When a Router supports the Low Power protocol, it either accepts or rejects entry to a Low Power (CLx) state as defined in Section 4.2.1.6. A Router shall set this bit to 0b if a Cable that does not support CLx states is connected to the Port. Otherwise, Router shall set this bit to 1b. The value of this bit is applicable when the Adapter is not in CLd nor Disabled state.	RO	~~1~~Vendor Defined

(b). Table 13-19 – USB4 Port Region Fields

To Text:

DW	Register Name	Bit(s)	Field Name and Description	Type	Default Value
151	LINK_ATTR	18	**CLx Protocol Support (CPS)** This bit indicates that the Router and the Cable support the Low Power protocol. When a Router supports the Low Power protocol, it either accepts or rejects entry to a CLx state as defined in Section 4.2.1.6. A Router shall set this bit to 1b if the Sideband Channel operates as a USB4 Sideband Channel and the Cable supports CLx states. Otherwise, Router shall set this bit to 0b. The value of this bit is applicable when the Adapter is not in CLd nor Disabled state.	RO	~~0~~Vendor Defined