

USB PD CTS ENGINEERING CHANGE NOTICE FORM

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Title: Common Check 4 Timing

Applied to: USB PD CTS Specification Version 1.0 Revision 1

Brief description of the functional changes proposed:
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The current test procedure in TEST.PD.VDM.SRC.2 and TEST.PD.VDM.SNK.6 does not follow the CTS definition for “Supports Structured VDMs” in CTS section 1.4.3. The test procedure needs to be updated to be in line with the “Supports Structured VDMs” definition.
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Benefits as a result of the proposed changes:
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The structured VDM test procedure and checks are consistent throughout CTS document and with the USB PD spec definition.
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An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
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These tests should pass the systems designed per the Supports Structured VDMs definition in the CTS section 1.4.3.
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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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The proposed change will enable the structured VDM checks to be done conformant to the “Supports Structured VDMs” definition in CTS section 1.4.3.
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An analysis of the Vendor Info File (VIF) implications:
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None

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Actual Change Requested

From Text:

10.1.1.1 TEST.PD.VDM.SRC.2 Invalid Fields – Discover Identity

Description: The Tester verifies that the UUT responds correctly to a Discover Identity Request sent with invalid fields.

Test Specific Tester Behavior: N/A

Test Conditions:

	Consumer Only	Provider Only, C/P, P/C, DRP
<i>Rev2Src</i>		✓
<i>Rev3ChkdSrc</i>		✓

Test Procedures:

- There are 2 possible bring-up procedures:
 - The UUT has VIF field PD_Port_Type set to Consumer/Provider, the Tester runs bring-up procedure with the UUT as a Source COMMON.PROC.BU.7.
 - The UUT has VIF field PD_Port_Type set to anything else, the Tester runs bring-up procedure with the UUT as a Source COMMON.PROC.BU.1.
- The Tester instead sends Request message with B25 (USB Communication Capable) set to 1b.
- The Tester sends Discover Identity Request message with SVID = 0xEEEE. The Tester checks the response. [TEST.PD.VDM.SRC.2#1]
 - If VIF fields Responds_To_Discov_SOP_UFP and Responds_To_Discov_SOP_DFP are set to NO, then the UUT response shall be Ignore in PD2 and Not_Supported in PD3.
 - Otherwise, the check fails if the UUT does not reply with a “Responder NAK”. The check fails if the SVID is not set to 0xEEEE in the “Responder NAK” message.

Changes in red

To Text:

10.1.1.2 TEST.PD.VDM.SRC.2 Invalid Fields – Discover Identity

Description: The Tester verifies that the UUT responds correctly to a Discover Identity Request sent with invalid fields.

Test Specific Tester Behavior: N/A

Test Conditions:

	Consumer Only	Provider Only, C/P, P/C, DRP
<i>Rev2Src</i>		✓
<i>Rev3ChkdSrc</i>		✓

Test Procedures:

- There are 2 possible bring-up procedures:
 - The UUT has VIF field PD_Port_Type set to Consumer/Provider, the Tester runs bring-up procedure with the UUT as a Source COMMON.PROC.BU.7.

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- b. The UUT has VIF field PD_Port_Type set to anything else, the Tester runs bring-up procedure with the UUT as a Source COMMON.PROC.BU.1.
5. The Tester instead sends Request message with B25 (USB Communication Capable) set to 1b.
6. The Tester sends Discover Identity Request message with SVID = 0xEEEE. The Tester checks the response. [TEST.PD.VDM.SRC.2#1]
 - a. If ~~VIF fields Responds_To_Discov_SOP_UFP and Responds_To_Discov_SOP_DFP are set to NO~~ Supports Structured VDMs is NO, then the UUT response shall be Ignore in PD2 and Not_Supported in PD3.
 - b. Otherwise, the check fails if the UUT does not reply with a “Responder NAK”. The check fails if the SVID is not set to 0xEEEE in the “Responder NAK” message.

From Text:

10.1.1.3 TEST.PD.VDM.SNK.6 Structured VDM Revision Number Test

Description: The Tester verifies that the UUT correctly handles Structured VDM Version higher than supported.

Test Specific Tester Behavior: N/A

Test Conditions:

	Consumer Only, P/C, C/P, DRP	Provider Only
<i>Rev2Snk</i>	✓	
<i>Rev3ChkdSnk</i>	✓	

Test Procedures:

1. There are 2 possible bring-up procedures:
 - a. The UUT has VIF field PD_Port_Type set to Provider/Consumer, the Tester runs bring-up procedure with the UUT as a Sink COMMON.PROC.BU.8
 - b. The UUT has VIF field PD_Port_Type set to anything else, the Tester runs bring-up procedure with the UUT as a Sink COMMON.PROC.BU.2
2. The Tester sends a Discover ID Request to the UUT, using SOP. The Structured VDM Version field in the VDM Header is set to 3.
3. The Tester checks the response [TEST.PD.VDM.SNK.6#1]
 - a. If the UUT responds with either Not_Supported (in PD3 mode) or Ignore (in PD2 mode), the Tester checks that VIF fields Responds_To_Discov_SOP_UFP = NO and Responds_To_Discov_SOP_DFP = NO.
 - b. Otherwise (either VIF fields Responds_To_Discov_SOP_UFP = Yes or Responds_To_Discov_SOP_DFP = Yes), the Tester checks that a response message (ACK, NAK or BUSY) is sent.

Changes in red

To Text:

10.1.1.4 TEST.PD.VDM.SNK.6 Structured VDM Revision Number Test

Description: The Tester verifies that the UUT correctly handles Structured VDM Version higher than supported.

Test Specific Tester Behavior: N/A

Test Conditions:

	Consumer Only, P/C, C/P, DRP	Provider Only
<i>Rev2Snk</i>	✓	

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Rev3ChkdSnk

✓

Test Procedures:

4. There are 2 possible bring-up procedures:
 - a. The UUT has VIF field PD_Port_Type set to Provider/Consumer, the Tester runs bring-up procedure with the UUT as a Sink COMMON.PROC.BU.8
 - b. The UUT has VIF field PD_Port_Type set to anything else, the Tester runs bring-up procedure with the UUT as a Sink COMMON.PROC.BU.2
5. The Tester sends a Discover ID Request to the UUT, using SOP. The Structured VDM Version field in the VDM Header is set to 3.
6. The Tester checks the response [TEST.PD.VDM.SNK.6#1]
 - a. If the UUT responds with either Not_Supported (in PD3 mode) or Ignore (in PD2 mode), the Tester checks that ~~VIF fields Responds_To_Discov_SOP_UFP = NO and Responds_To_Discov_SOP_DFP = NO~~ Supports_Structured_VDMs is NO.
 - b. Otherwise (either VIF fields Responds_To_Discov_SOP_UFP = Yes or Responds_To_Discov_SOP_DFP = Yes), the Tester checks that a response message (ACK, NAK or BUSY) is sent.