

USB PD CTS ENGINEERING CHANGE NOTICE FORM

NOTICE: Any Company or Companies submitting a USB Power Delivery ECN proposal must be one of the following: a Promoter or Contributor of the USB 3.0 and 2.0 Specifications who have completed the USB Power Delivery addendum. If a group of Companies is submitting an ECR proposal, each company must be either a Promoter or Contributor of the USB 3.0 and 2.0 Specifications who have completed the USB Power Delivery addendum.

SPECIFICATION REVISIONS AND ADDENDA: At any point in time, there shall only be one current version of the USB PD CTS, termed the production version. At the same time, there may also be proposed revisions to the specification's design which are not yet approved and shall be held confidential as deemed necessary by the USB 3.0 and USB 2.0 Promoters and within the Group of Working Committee(s).

PROCEDURES FOR SUBMITTING PROPOSALS: Both members of the USB Implementers Forum as a whole and members of the USB 3.0 and USB 2.0 Promoters may submit requests to revise the USB PD CTS Specification. Such a request may be rejected or may result in a USB PD Engineering Change Notice (ECN), which is the official way USB specifications may be changed.

FORMAT OF PROPOSAL: The originator of a request to alter the USB PD CTS Specification may do so by posting this to the USB Power Delivery Compliance working group for review. Once the proposal has been reviewed by the working group it will be passed to the USB 3.0 and 2.0 Promoters for approval to publish.

RESUBMISSION AND APPEAL: The originator of a request that was not approved can redraft the original request. Rewritten proposal will be treated as a new proposal and will be evaluated using the procedures described above. The originator of a request that was not approved can also submit an appeal to the USB 3.0 and 2.0 Promoters. The appeal must be made in writing and addressed to the Secretary of the USB Implementers Forum.

ABOUT THE ENGINEERING CHANGE REQUEST FORM:

The Purpose of this Engineering Change Request Form is to expedite the review process of the proposal by providing explanations, background information, and examples of the proposed changes at a high level. This form serves as an executive summary to the actual proposal.

STEPS ON HOW TO SUBMIT A USB PD ENGINEERING CHANGE REQUEST:

- 1) Please fill out the Engineering Change Request Form on the following pages completely:
 - a) Detail the names and contact details for each of the ECR contributors
 - b) Update the ECR Title
 - c) Give a minimum of 2-3 sentences for each description on the form outlining the background to the ECR
- 2) For each section/table/figure to be updated:
 - a) Detail the section number, starting page and figure/table number to be updated as appropriate.
 - b) Detail existing text under "From Text"
 - c) Detail changed text under "To Text"
- 3) Save the file as "USB PD CTS 1.0 R 1" followed by the ECR Title as per step 1)b)

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- 4) Post the ECR in the USB PD CTS Documents section under “ECR | New ECRs”.
- a) This ECR will then be reviewed by the Power Delivery Compliance Working Group.
 - b) Revisions to the ECR originating from the review should be submitted as document revision of the original ECR using “Add new document”.

Name: Pat Crowe _____ Email: _____

Company: MQP _____ Mailstop: _____

Address: _____

City: _____ State/Province: _____

Country: _____ Zip/Postal Code: _____

Phone: _____ FAX: _____

Name: _____ Email: _____

Company: _____ Mailstop: _____

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City: _____ State/Province: _____

Country: _____ Zip/Postal Code: _____

Phone: _____ FAX: _____

Name: _____ Email: _____

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Address: _____

City: _____ State/Province: _____

Country: _____ Zip/Postal Code: _____

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USB PD CTS ENGINEERING CHANGE NOTICE FORM

Title: Rework TEST.PD.PROT.SNK3.8

Applied to: USB PD CTS Specification r1.p4 v6

Brief description of the functional changes proposed:

Rework TEST.PD.PROT.SNK3.8 to make it implementable

Issues:

1. The test name should be TEST.PD.PROT.SNK3.8
2. To allow a better check against the VIF we should run the test regardless of the VIF GiveBack_May_Be_Set parameter.
3. The PDOs offered need to be sufficient to encourage a possible Giveback situation.
4. [TEST.PD.PROT.SNK.8#1] checks need to be changed so that they can PASS or FAIL.
5. Check in Step 4 i is already done in COMMON.CHECK.PD.3.
6. The formatting and language in step 4 makes it meaningless.
7. The GoToMin procedure requires the Tester to reply with PS_RDY. It seems wrong to perform the operation incorrectly by omitting this, and makes it less useful to the developer.

Benefits as a result of the proposed changes:

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:

An analysis of the hardware implications:

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An analysis of the software implications:

An analysis of the compliance testing implications:

An analysis of the Vendor Info File (VIF) implications:

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From:

TEST.PD.PROT.SNK.8 GotoMin Message

Description: As a Source, the Tester verifies that the UUT behaves properly when it receives *GotoMin* Message.

Test Specific Tester Behavior: N/A

Test Conditions:

- The test is applicable if VIF field GiveBack_May_Be_Set is set to Yes
- The Power Contract is established where the Tester accepted to provide power with current equal to Operating Current.

	Consumer Only, DRP, P/C, C/P	Provider Only
<i>Rev3ChkdSrc</i>	✓	
<i>Rev3UnchkdSrc</i>	✓	

Test Procedures:

1. There are 2 possible bring-up procedures:
 - i. 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
 - ii. 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 pre-checks conditions: *[TEST.PD.PROT.SNK.8#1]*
 - i. The Request Data Object has the GiveBack flag (B27) set
 - ii. The Operating Current (B19..10) is higher than Minimum Operating Current (B9..0)
If any of the checks is not true, the Tester passes the test, and the test stops here.
3. The Tester sends the *GotoMin* Message to the UUT.
4. The Tester checks: *[TEST.PD.PROT.SNK.8#2]*
 - i. The UUT replies with the *GoodCRC* Message

The UUT transition to the new power consumption level with the current equal to the Minimum Operating Power within *tSrcTransition* (25ms)

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To:

TEST.PD.PROT.SNK.3.8 GotoMin Message

Description: As a Source, the Tester verifies that the UUT behaves properly when it receives *GotoMin* Message.

Test Specific Tester Behavior: N/A

Test Conditions:

- ~~The test is applicable if VIF field GiveBack_May_Be_Set is set to Yes~~
- ~~The Power Contract is established where the Tester accepted to provide power with current equal to Operating Current During Bring-up the Tester shall offer Fixed PDOs equivalent to those required for a 100W PDP.~~

	Consumer Only, DRP, P/C, C/P	Provider Only
<i>Rev3ChkdSrc</i>	✓	
<i>Rev3UnchkdSrc</i>	✓	

Test Procedures:

- There are 2 possible bring-up procedures:
 - 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
 - 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
- ~~The tester pre-checks conditions: [TEST.PD.PROT.SNK.8#1]~~
 - ~~The Request Data Object has the GiveBack flag (B27) set~~
 - ~~The Operating Current (B19..10) is higher than Minimum Operating Current (B9..0)~~
~~If any of the checks is not true, the Tester passes the test, and the test stops here.~~
- If the Request Data Object has the GiveBack flag (B27) set to 1, perform the following checks: [TEST.PD.PROT.SNK.8#1]
 - Check that the VIF parameter GiveBack_May_Be_Set is set to Yes
 - Check that the Operating Current (B19..10) is higher than Minimum Operating Current (B9..0). If it does not, the test ends here.If the Request Data Object has the GiveBack flag (B27) set to 0, the test ends here.
- The Tester sends the *GotoMin* Message to the UUT.
- ~~The Tester checks: [TEST.PD.PROT.SNK.8#2]~~
 - ~~The UUT replies with the *GoodCRC* Message~~

~~The UUT transition to the new power consumption level with the current equal to the Minimum Operating Power within *tSrcTransition* (25mS)~~

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4. The Tester checks that the UUT transitions to the new power consumption level with the current **less than or** equal to the Minimum Operating ~~Power~~**Current** within tSrcTransition **min** [TEST.PD.PROT.SNK.8#2]
5. The Tester sends the *PS_RDY* Message to the UUT after tSrcTransition **min**, but before tSrcTransition max plus tSrcReady max.