

UCSI ENGINEERING CHANGE NOTICE FORM

NOTICE: Any Company or Companies submitting a UCSI ECR proposal must be one of the following: a Promoter or Contributor of the UCSI 3.0 Specifications who have completed the UCSI addendum. If a group of Companies is submitting an ECR proposal, each company must be either a Promoter or Contributor of the UCSI 3.0 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 UCSI specification, 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 UCSI 3.0 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 UCSI 3.0 Promoters may submit requests to revise the UCSI Specification. Such a request may be rejected or may result in a UCSI 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 UCSI Specification may do so by posting this to the USB Newark Software UCSI working group for review. Once the proposal has been reviewed by the working group it will be passed to the UCSI 3.0 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 UCSI 3.0 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 "UCSI 3.x R 1" followed by the ECR Title as per step 1)b)
- 4) Post the ECR in the UCSI Documents section under "ECR | New ECRs".
 - a) This ECR will then be reviewed by the USB Newark Software 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".

UCSI ENGINEERING CHANGE NOTICE FORM

Name: Chris Tsongas Email: Chris_tsongas@ti.com

Company: Texas Instruments Mailstop:

Address 12500 TI Blvd
:

City: Dallas State/Province: TX

Country: USA Zip/Postal Code: 75243

Phone FAX:
:

Name: Kasthuri Annamalai Email: kashtrui@ti.com

Company: Texas Instruments Mailstop:

Address 12500 TI Blvd
:

City: Dallas State/Province: TX

Country: USA Zip/Postal Code: 75243

Phone FAX:
:

Name: Email:

Company: Mailstop:

Address
:

City: State/Province:

Country: Zip/Postal Code:

Phone FAX:
:

Name: Email:

Company: Mailstop:

Address
:

UCSI ENGINEERING CHANGE NOTICE FORM

City: _____ State/Province: _____
Country: _____ Zip/Postal Code: _____
Phone _____ FAX: _____
: _____

UCSI ENGINEERING CHANGE NOTICE FORM

Title: Read Power Level Clarification

Applied to: UCSI Specification Version 3.0 Revision 1

Brief description of the functional changes proposed:
This ECR clarifies the expectations of the GET_CONNECTOR_STATUS fields affected by READ_POWER_LEVEL

Benefits as a result of the proposed changes:
Explicitly states READ_POWER_LEVEL fields in GET_CONNECTOR_STATUS should always be updated on connection regardless of READ_POWER_LEVEL command being sent.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
Potential impact to current systems as this is a change from the normal operation in previous systems which required READ_POWER_LEVEL to be sent first before the GET_CONNECTOR_STATUS fields were updated.

An analysis of the hardware implications:
Could be more power consumption as power reading can be done on all new connections.

An analysis of the software implications:
Some changes to existing UCSI software that required READ_POWER_LEVEL to be sent before GT_CONNECTOR_STATUS fields were updated.

An analysis of the compliance testing implications:
UCSI Testing may need to ignore the Power Reading, Scale, Peak Current, Average Current, Scale, and Voltage Reading fields of GET_CONNECTOR_STATUS as these will be constantly changing and not predictable in tests.

UCSI ENGINEERING CHANGE NOTICE FORM

Actual Change Requested

(a). Section 6.5.32 Page 92: READ_POWER_LEVEL

From Text:

Table Error! No text of specified style in document.-1 READ_POWER_LEVEL Command

Offset (Bits)	Field	Size (Bits)	Description
0	<i>Command</i>	8	This field shall be set to READ_POWER_LEVEL.
8	<i>Data Length</i>	8	Set to 0x00.
16	<i>Connector or Number</i>	7	This field shall be set to the connector being queried.
23	<i>Time to Read Power</i>	5	This field shall be set to the time interval during which the measurement happens. 1 bit matches to 100ms. If the field is set to 0 – 100ms, 1 – 200ms, etc.
28	<i>Reserved</i>	3	Shall be set to zero.
31	<i>Time Interval between readings</i>	2	This field shall be set to the time interval between measurements. 1 bit matches to 5mS.
33	<i>Reserved</i>	31	Reserved and shall be set to zero.

On successful completion of the command the PPM shall set the CCI Data Structure as described below.

To Text:

Table Error! No text of specified style in document.-2 READ_POWER_LEVEL Command

Offset (Bits)	Field	Size (Bits)	Description
0	<i>Command</i>	8	This field shall be set to READ_POWER_LEVEL.
8	<i>Data Length</i>	8	Set to 0x00.
16	<i>Connector Number</i>	7	This field shall be set to the connector being queried.
23	<i>Time to Read Power</i>	5	This field shall be set to the time interval during which the measurement happens. 1 bit matches to 100ms. If the field is set to 0 – 100ms, 1 – 200ms, etc.
28	<i>Reserved</i>	3	Shall be set to zero.
31	<i>Time Interval</i>	2	This field shall be set to the time interval between measurements. 1 bit matches to 5mS.

UCSI ENGINEERING CHANGE NOTICE FORM

	<i>between readings</i>		
33	<i>Continuous Measurements</i>	1	If set to 1b, the Power, Current and Voltage measurements will be updated continuously in the GET_CONNECTOR_STATUS without resending the READ_POWER_LEVEL command, and the CCI indicator will be issued once upon "Time To Read Power" expiration. If set to 0b, the Power, Current and Voltage measurements will be valid only once upon "Time To Read Power" expiration at the time when the CCI indicator corresponding to READ_POWER_LEVEL is set. The measurements could be retrieved with GET_CONNECTOR_STATUS command. To read updated measurements the new READ_POWER_LEVEL command shall be issued. Default: 0b
34	<i>Reserved</i>	30	Reserved and shall be set to zero.

On successful completion of the command the PPM shall set the CCI Data Structure as described below.

(b). Section 6.5.17, Page 63: Get Connector Status

From Text:

When a device got connected, the Power Reading Ready field in GET_CONNECTOR_STATUS shall be set initially to 0b and set to 1b only after the default Time To Read elapsed (no alarm raised) unless the new command READ_POWER_LEVEL command is issued.

The Power Reading Ready field shall be set to 1b for the first measurement only after device connection or the READ_POWER_LEVEL command is issued. On the consequent GET_CONNECTOR_STATUS without the READ_POWER_LEVEL command the field shall be reset to 0b.

The LPM shall continuously update the current and voltage fields and provide the latest measurements upon the GET_CONNECTOR_STATUS command either using the default values of *Time to Read* and *Time Interval* fields or specified in the READ_POWER_LEVEL command if it has been issued.

To Text:

~~When a device got connected~~ Once a valid connection is made and READ_POWER_LEVEL command is issued, the Power Reading Ready field in GET_CONNECTOR_STATUS shall be set initially to 0b and set to 1b only after the Time To Read elapsed (no alarm raised) unless the new command READ_POWER_LEVEL command is issued.

The Power Reading Ready field shall be set to 1b for the first measurement only after device connection or the READ_POWER_LEVEL command is issued. On the consequent GET_CONNECTOR_STATUS without the READ_POWER_LEVEL command the field shall be reset to 0b.

~~The LPM shall continuously~~ After READ_POWER_LEVEL is sent, the LPM shall update the current and voltage fields and provide the latest measurements in accordance to the Continuous Measurement field is set.