

UCSI ENGINEERING CHANGE NOTIFICATION 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".

Name: Jameson Thies

Email: jthies@google.com

Company:	<u>Google LLC.</u>	Mailstop:	<u></u>
Address:	<u>1600 Amphitheatre Pkwy</u>		
City:	<u>Mountain View</u>	State/Province:	<u>CA</u>
Country:	<u>United States</u>	Zip/Postal Code:	<u>94043</u>
Phone:	<u></u>	FAX:	<u></u>
Name:	<u></u>	Email:	<u></u>
Company:	<u></u>	Mailstop:	<u></u>
Address:	<u></u>		
City:	<u></u>	State/Province:	<u></u>
Country:	<u></u>	Zip/Postal Code:	<u></u>
Phone:	<u></u>	FAX:	<u></u>
Name:	<u></u>	Email:	<u></u>
Company:	<u></u>	Mailstop:	<u></u>
Address:	<u></u>		
City:	<u></u>	State/Province:	<u></u>
Country:	<u></u>	Zip/Postal Code:	<u></u>
Phone:	<u></u>	FAX:	<u></u>
Name:	<u></u>	Email:	<u></u>
Company:	<u></u>	Mailstop:	<u></u>
Address:	<u></u>		
City:	<u></u>	State/Province:	<u></u>
Country:	<u></u>	Zip/Postal Code:	<u></u>
Phone:	<u></u>	FAX:	<u></u>

**Title: Number of Alternate Modes in
GET_CONNECTOR_CAPABILITY
Applied to: UCSI Specification Version 3.0 Revision 1**

Brief description of the functional changes proposed:

Changes GET_CONNECTOR_CAPABILITY data from 32 bits to 64 bits, and adds a *Number of Alternate Modes* field similar to *bNumAltModes* in GET_CAPABILITY.

Benefits as a result of the proposed changes:

Currently there is no way for the OPM to request the number of alternate modes supported by a given connector (LPM).

GET_CAPABILITY returns the number of alternate modes supported by the PPM. But, the number of alternate modes can vary across connectors and the OPM cannot request this information.

Adding a number of alternate modes to GET_CONNECTOR_CAPABILITY allows the OPM to request both the number of alternate modes supported by the system or a single port.

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

This only adds to the UCSI specification, there is no impact to existing systems which conform. If the LPM reports UCSI version ≤ 3.0 the OPM/PPM will know not to expect this data in response to GET_CONNECTOR_CAPABILITY.

An analysis of the hardware implications:

No hardware implication

An analysis of the software implications:

LPM: GET_CONNECTOR_CAPABILITY is a command to the LPM. To support a UCSI version greater than 3.0, the LPM will need to update its response to GET_CONNECTOR_CAPABILITY

OPM/PPM: To support a UCSI version greater than 3.0 and be backwards compatible, the OPM and PPM will need to manage two versions of the GET_CONNECTOR_CAPABILITY response based on the LPM version.

An analysis of the compliance testing implications:

UCSI does not have a compliance test specification, no compliance implications.

Actual Change Requested

(a). Section 6.5.7, Page 41

From Text:

Table 6-17: GET_CONNECTOR_CAPABILITY Data

Offset (Bits)	Field	Size (Bits)	Description
...	...	...	...
29	<i>Reserved</i>	3	Set to zero

To Text:

Table 6-17: GET_CONNECTOR_CAPABILITY Data

Offset (Bits)	Field	Size (Bits)	Description
...	...	...	...
29	<i>Reserved</i>	3	Set to zero
32	<i>Number of Alternate Modes</i>	8	This field indicates the number of Alternate Modes that this LPM supports. A value of zero in this field indicates that the LPM does not support Alternate Modes.
40	<i>Reserved</i>	24	Set to zero