

USB Power Delivery ENGINEERING CHANGE NOTICE

Title: Clarify use of retries

Applied to: USB Power Delivery Specification Revision 3.1

Version 1.1

Brief description of the functional changes proposed:
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No functional changes are proposed. Clarification of the allowable use of the retry mechanism in the PD protocol.

This ECR is the result of having seen some devices using the retry mechanism to extend the time they use for processing by not responding to the first transmitted message but instead waiting for retries before responding. This behavior uses the margin designed for reliable operation of the system to make up for bad design that cannot respond in a timely manner.

Benefits as a result of the proposed changes:
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Enhancing the failure tolerance of the message exchange by preventing misuse of the retry mechanism.
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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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None

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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Allowing compliance to fail devices that misuse the retry mechanism.
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Actual Change Requested

(a). Section 6.3.1, p133

From Text:

The **GoodCRC** Message *Shall* be sent by the receiver to acknowledge that the previous Message was correctly received (i.e., had a good CRC). The **GoodCRC** Message *Shall* return the Message's **MessageID** so the transmitter can determine that the correct Message is being acknowledged. The first bit of the **GoodCRC** Message *Shall* be returned within **tTransmit** after receipt of the last bit of the previous Message.
BIST does not send the **GoodCRC** Message while in a Continuous BIST Mode (see Section 6.4.3).

To Text:

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The retry mechanism is triggered when the Message sender fails to receive a **GoodCRC** Message before the **CRCReceiveTimer** expires. It is used by the message sender to detect that the Message was not correctly received by the Message recipient due to noise or other disturbance on the Configuration Channel (CC). The retry mechanism **Shall Not** be used for any other purpose such as a means of gaining time for processing the required response to the received message.