

USB Power Delivery ENGINEERING CHANGE NOTICE

Title: Clarify PPS Periodic RDO requirements

Applied to: USB Power Delivery Specification Revision 3.0

Version 1.1 + ECNs through 22 September 2017

Brief description of the functional changes proposed:
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Adds a dead band to the specification between the time Sink is required to send an RDO and the time the Source is required to do a Hard Reset if it does not receive the RDO.

Benefits as a result of the proposed changes:
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Prevents the very tiny possibility that a Source will reset just as the Sink sends the RDO.

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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none

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Actual Change Requested

(a). Section 6.6.19, Page 187, Table 6-55

From Text:

Table 6-55 Time Values

Parameter	Value (min)	Value (max)	Units	Reference
<i>tBISTContMode</i>	30	60	ms	Section 6.6.7.2
<i>tBISTMode</i>		300	ms	Section 6.6.7.1
<i>tCableMessage</i>	750		μs	Section 6.6.13
<i>tChunkingNotSupported</i>	40	50	ms	Section 6.6.17.1
<i>tChunkSenderRequest</i>	24	30	ms	Section 6.6.17.2
<i>tChunkSenderResponse</i>	24	30	ms	Section 6.6.17.3
<i>tChunkReceiverRequest</i>		15	ms	Section 6.6.17.2
<i>tChunkReceiverResponse</i>		15	ms	Section 6.6.17.3
<i>tDiscoverIdentity</i>	40	50	ms	Section 6.6.13
<i>tDRSwapHardReset</i>		15	ms	Section 6.6.10.3
<i>tDRSwapWait</i>	100		ms	Section 6.6.4.3
<i>tFirstSourceCap</i>		250	ms	Section 6.6.3.3
<i>tFRSwapInit</i>		15	ms	Section 6.3.17
<i>tHardReset</i>		5	ms	Section 6.3.13
<i>tHardResetComplete</i>	4	5	ms	Section 6.6.9
<i>tNoResponse</i>	4.5	5.5	s	Section 6.6.6
<i>tPPSRequest</i>		10	s	Section 6.6.18.1
<i>tPPSTimeout</i>		15	s	Section 6.6.18.2
<i>tProtErrHardReset</i>		15	ms	Section 6.6.10.4
<i>tProtErrSoftReset</i>		15	ms	Section 6.6.9.2
<i>tPRSwapWait</i>	100		ms	Section 6.6.4.2
<i>tPSHardReset</i>	25	35	ms	Section 6.6.10.2
<i>tPSSourceOff</i>	750	920	ms	Section 6.6.5.2
<i>tPSSourceOn</i>	390	480	ms	Section 6.6.5.3
<i>tPSTransition</i>	450	550	ms	Section 6.6.5.1
<i>tReceive</i>	0.9	1.1	ms	Section 6.6.1
<i>tReceiverResponse</i>		15	ms	Section 6.6.2
<i>tRetry</i>		75	μs	Section 6.6.1
<i>tSenderResponse</i>	24	30	ms	Section 6.6.2
<i>tSinkRequest</i>	100		ms	Section 6.6.4.1
<i>tSinkTx</i>	16	20	ms	Section 6.6.15
<i>tSoftReset</i>		15	ms	Section 6.8.1

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Parameter	Value (min)	Value (max)	Units	Reference
<i>tSwapSinkReady</i>		15	ms	Section 6.6.8.1
<i>tSwapSourceStart</i>	20		ms	Section 6.6.8.1
<i>tTransmit</i>		195	μs	Section 6.6.1
<i>tTypeCSendSourceCap</i>	100	200	ms	Section 6.6.3.1
<i>tTypeCSinkWaitCap</i>	310	620	ms	Section 6.6.3.2

To Text:

Table 6-55 Time Values

Parameter	Value (min)	Value (max)	Units	Reference
<i>tBISTContMode</i>	30	60	ms	Section 6.6.7.2
<i>tBISTMode</i>		300	ms	Section 6.6.7.1
<i>tCableMessage</i>	750		μs	Section 6.6.13
<i>tChunkingNotSupported</i>	40	50	ms	Section 6.6.17.1
<i>tChunkSenderRequest</i>	24	30	ms	Section 6.6.17.2
<i>tChunkSenderResponse</i>	24	30	ms	Section 6.6.17.3
<i>tChunkReceiverRequest</i>		15	ms	Section 6.6.17.2
<i>tChunkReceiverResponse</i>		15	ms	Section 6.6.17.3
<i>tDiscoverIdentity</i>	40	50	ms	Section 6.6.13
<i>tDRSwapHardReset</i>		15	ms	Section 6.6.10.3
<i>tDRSwapWait</i>	100		ms	Section 6.6.4.3
<i>tFirstSourceCap</i>		250	ms	Section 6.6.3.3
<i>tFRSwapInit</i>		15	ms	Section 6.3.17
<i>tHardReset</i>		5	ms	Section 6.3.13
<i>tHardResetComplete</i>	4	5	ms	Section 6.6.9
<i>tNoResponse</i>	4.5	5.5	s	Section 6.6.6
<i>tPPSRequest</i>		10	s	Section 6.6.18.1
<i>tPPSTimeout</i>	12	15	s	Section 6.6.18.2
<i>tProtErrHardReset</i>		15	ms	Section 6.6.10.4
<i>tProtErrSoftReset</i>		15	ms	Section 6.6.9.2
<i>tPRSwapWait</i>	100		ms	Section 6.6.4.2
<i>tPSHardReset</i>	25	35	ms	Section 6.6.10.2
<i>tPSSourceOff</i>	750	920	ms	Section 6.6.5.2
<i>tPSSourceOn</i>	390	480	ms	Section 6.6.5.3
<i>tPSTransition</i>	450	550	ms	Section 6.6.5.1
<i>tReceive</i>	0.9	1.1	ms	Section 6.6.1
<i>tReceiverResponse</i>		15	ms	Section 6.6.2
<i>tRetry</i>		75	μs	Section 6.6.1
<i>tSenderResponse</i>	24	30	ms	Section 6.6.2

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Parameter	Value (min)	Value (max)	Units	Reference
<i>tSinkRequest</i>	100		ms	Section 6.6.4.1
<i>tSinkTx</i>	16	20	ms	Section 6.6.15
<i>tSoftReset</i>		15	ms	Section 6.8.1
<i>tSwapSinkReady</i>		15	ms	Section 6.6.8.1
<i>tSwapSourceStart</i>	20		ms	Section 6.6.8.1
<i>tTransmit</i>		195	μs	Section 6.6.1
<i>tTypeCSourceCap</i>	100	200	ms	Section 6.6.3.1
<i>tTypeCSinkWaitCap</i>	310	620	ms	Section 6.6.3.2