

ECN USB Power Delivery Specification Revision 3.2

Version 1.1, 2024-10

Title: Source power rule

Brief description of the functional changes proposed:
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<p>Power Rule does not give any requirement between TypeC power and first source_cap PDP content. On compliance tester, tool sometimes set Rp at 1.5A or 3A but provides source_cap with only 5V/0.5A. Situation is not seen actually in 'real life' This would mean that Sink would get more power in TypeC than after first explicit contract which is unlikely situation. ECR is to never set Rp with PDP greater than 1st source capability PDP offer</p>
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Benefits as a result of the proposed changes:
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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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An analysis of the hardware implications:
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An analysis of the software implications:
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An analysis of the compliance testing implications:
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Actual Change Requested

(a). Section 3.2.1, Page 36, Table

From Text:

3.2.1. General Source Port Requirements

The following are general Requirements for every Source Port.

1. The Maximum current for a Fixed or Variable Supply PDO is based on the Port Present PDP ($x/voltage$). The Maximum current May be RoundUp or RoundDown to the nearest 10mA.
2. A Source Shall Not advertise a current for a Fixed Supply PDO that would result in the maximum power for that PDO ($Voltage \times Maximum\ Current$) > maximum power of a higher voltage Fixed Supply PDO.
3. Maximum power for Battery Supply PDOs Shall be \leq PDP Rating and the value can be rounded down.
4. The Maximum current for the SPR Programmable Power Supply (PPS) APDO Shall be as defined in Table 3.4.
 - a. Note, when the PPS Power Limited bit is set in the PPS APDO, the output current is as defined in Table 3.4. However, the programmable power supply May limit its output current so that the product of its actual output voltage times the output current does not exceed the Port Present PDP.
 - b. If a 9V Prog, 15V Prog or 20V Prog Programmable Power Supply APDO is advertised, the maximum current Shall be RoundDown ($x/Prog\ Voltage$) to the nearest 50mA. When the PPS Power Limited bit is clear, the Source Shall provide this current at Maximum Voltage

To Text:

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- b. If a 9V Prog, 15V Prog or 20V Prog Programmable Power Supply APDO is advertised, the maximum current Shall be RoundDown ($x/\text{Prog Voltage}$) to the nearest 50mA. When the PPS Power Limited bit is clear, the Source Shall provide this current at Maximum Voltage
- 5. The first Source Capabilities, when in a Default or Implicit Contract, Shall set the Maximum Current of the 5V Fixed PDO \geq the USB Type-C Current advertised by Rp.