

CY4534 EZ-PD™ barrel connector replacement-plus (BCR-PLUS) Evaluation kit



The CY4534 EZ-PD™ barrel connector replacement-plus (BCR-PLUS) EVK is an evaluation platform for customers who want to replace an existing barrel/power input connector with a USB-C connector using the CYPD3176 device. Implementing this solution in an end-product allows the system to be powered by any USB-PD compliant power adapter or any USB power adapter that supports legacy charging standards.



Step 1:

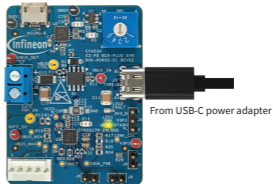
Select the max VBUS voltage using the rotary switch (SW1), which matches the voltage rating of the external load (see [Step 4](#)). The actual voltage is determined by the voltage that the USB-C power adapter can provide on the input side.

Warning: Do not sink current greater than 900mA through this EVK board in its default configuration. The board can support up to a maximum of 5 A using resistor setting changes.

Switch position	Max VBUS requested	DC_OUT voltage*	Minimum current requested**
1	5 V	5 V	900 mA
2	9 V	9 V	900 mA
3	12 V	12 V*	900 mA
4	15 V	15 V	900 mA
5	20 V	20 V	900 mA

Step 2:

Connect a USB-C power adapter (preferably above 30W) to the USB-C connector of the CY4534 EZ-PD™ BCR-PLUS EVK board. Observe the power LED “LED1” (green color) turn ON.

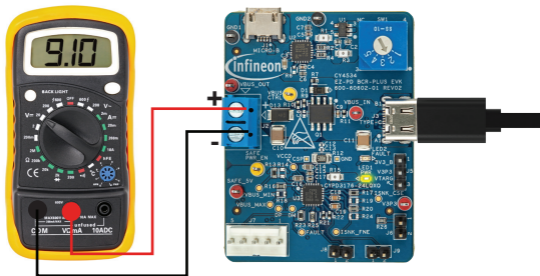


* If you use USB-C power adapters that do not support 12 V PDOs, 9 V will be observed. See the CY4534 kit guide for more details.

** Can be adjusted up to 5 A by changing resistors on the EVK board. See the CY4534 kit guide for more details.

Step 3:

Measure the DC_OUT voltage by connecting a multimeter to the terminal block J2. For example, for position 2 of switch SW1, the measured output voltage will be 9 V.



Step 4

To make a power contract at a different voltage supported by the connected USB-C power adapter, disconnect the USB-C power adapter and repeat steps 1 to 3 to observe the new voltage at terminal block J2. Optionally, steps 1 to 3 can be repeated with an external load connected to DC_OUT.

Warning:

- ▶ Ensure that the voltage setting on SW1 does not exceed the voltage rating of the external load connected to J2.
- ▶ Ensure that the maximum current that can be consumed by an external load does not exceed 900 mA in the default configuration or 5 A with resistor setting changes.

USB micro-B connector (J1) VBUS selector switch (SW1)

USB-I2C bridge (U2)
(CY7C65211-24LTXI)

Terminal block (J2)
(DC_OUT)

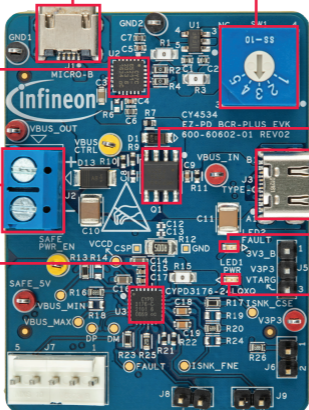
CYPD3176-24LQXQ
(U3)

5 A load switch (Q1)
(IRF9358TRPBF)

USB-C connector
(J3) (VBUS_IN)

Fault LED (LED2)

Power LED (LED1)



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Published by
Infineon Technologies AG
81726 Munich, Germany

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