



USB Type-C 28V EPR Port Protector for CC and SBU Pins

EVAL Kit Physical Contents

Item #	Description	Quantity
1	KTU1128 EVAL fully assembled PCB	1
2	Anti-static bag	1
3	Quick Start Guide, printed 1 page (A4 or US Letter, this document)	1
4	EVAL Kit box	1

QR Links for Documents

IC Landing Page	EVAL Kit Landing Page
 https://www.kinet-ic.com/KTU1128/	 https://www.kinet-ic.com/KTU1128euaj-mmev01

User-Supplied Equipment

1. Bench Power Supply for VCC: 3.0V with 0.5A current limit.
2. Digital Current Meter for VCC: set range for 0.001mA or 0.0001mA resolution.
3. Bench Power Supply for CC1: adjustable 0 to 9V with 0.5A current limit.
4. Digital Current Meter for CC1: set range for 0.001mA or 0.0001mA resolution.
5. Digital Voltmeter for CC1S: set range for 0.001V or 0.0001V resolution.
6. Test Leads:
 - a. VCC/GND Input Power: 1x (red) banana-to-banana & pair (red/black) banana-to-clip
 - b. CC1/GND Input Voltage/Current: 1x (red) banana-to-banana & pair (red/black) banana-to-clip
 - c. CC1S/GND Output Voltage: pair (red/black) banana-to-clip

Quick Start Procedures

1. Before connecting the EVAL Kit to the Bench Power Supplies, turn on the supplies and adjust their voltages as close to 0V as possible. Also set both current limits to 0.5A.
2. Using the Test Leads, wire up the two Bench Supplies, two Current Meters, and one Voltage Meter as indicated in the *Typical Test Setup Diagram* section of this document.
3. Start slowly ramping the VCC Bench Supply to $V_{CC} = 3.0V$ while monitoring the VCC Current Meter. If the current becomes high, quickly reduce the voltage to prevent damage. Then inspect the setup for any wiring errors.
4. Test the No-Load Supply Current at $V_{CC} = 3.0V$. It should measure about 0.040mA.
5. Keep VCC at 3.0V. Start slowly ramping the CC1 Bench Supply to $V_{CC1} = V_{CC1S} = 5.0V$ while monitoring the CC1 Current Meter. If the current becomes high, quickly reduce the voltage to prevent damage. Then inspect the setup for any wiring errors. Observe the CC1 Switch is ON by checking that the CC1S voltage is 5.0V.

6. Adjust the CC1 Bench Supply to $V_{CC1} > 6V$. Observe the CC1 Switch turns OFF due to OVP fault by checking that the CC1S voltage falls to 0V.
7. Adjust the CC1 Bench Supply to $V_{CC1} = 2.6V$. Observe the CC1 Switch is ON after OVP Recovery by checking that the CC1S voltage is also 2.6V.
8. Keep CC1 at 2.6V. Adjust the VCC Bench Supply as close to 0V as possible. Observe the CC1 Switch is OFF due to VCC in UVLO by checking that the CC1S voltage falls to 0V.
9. Check the CC1 Dead Battery Pull-Down Current. With CC1 voltage between 2.5V and 2.7V, the CC1 input current is 0.41mA minimum, 0.51mA typical, and 0.66mA maximum.

Typical Test Setup Diagram

