
EBC10293 Evaluation Board

EPR Design, GaN Ecosystem, 240W PD3.2

Introduction

This document explains how to set up the EBC10293 evaluation board.

Target Device

EBC10293 – 240W PD3.2 EPR design.

Notice

The EBC10293 evaluation board is powered by AC main voltage. When powered, this board generates non-insulated high voltages which may produce electrical shock, burn, and/or fire hazards, resulting in risk of property damage, personal injury, and/or death.

When the board is powered, never touch it or its electrical circuits because they may cause electrical shock.

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1. Overview

The EBC10293 evaluation board supports the PD3.2 protocol for various voltage levels according to the setting in the voltage adjustable USB PD trigger.

The USB PD tester can trigger the different PD protocols (48V 5A, 36V 5A, 28V 5A, 20V 5A, ..., 5V 3A).

The current and power can be adjusted by USB electric load.

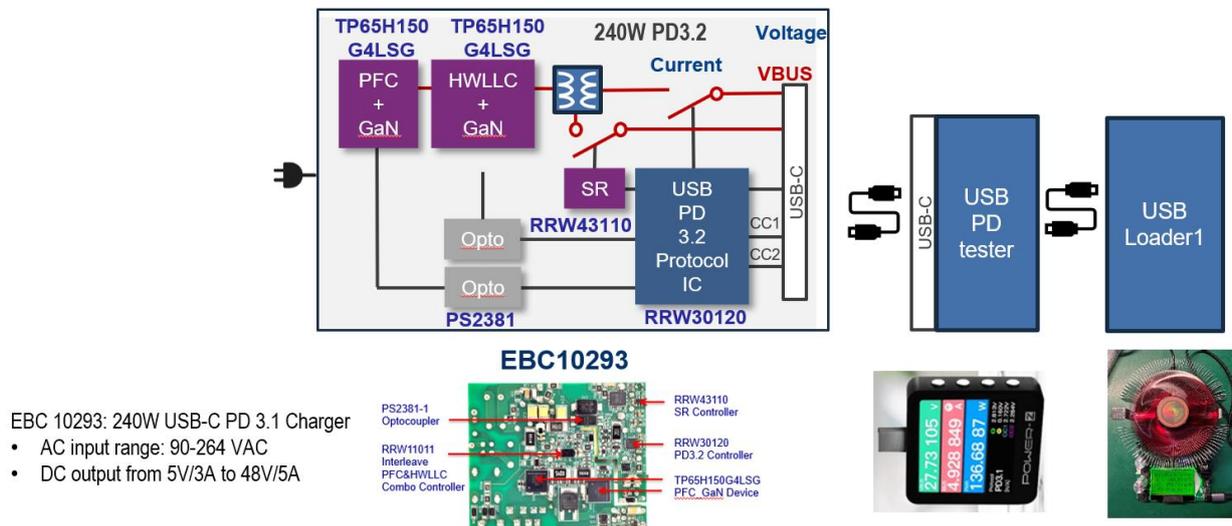


Figure 1. EBC10293 Evaluation Board

2. Equipment and Setup

2.1 Recommended Equipment

- An AC Power supply capable of generating AC voltage from 90V to 264V at 60Hz/50Hz, with at least 4A output current capability.
- An E-load or a load resistor box with an adjustable value of 9.6 Ω and up or an electronic load that can emulate a resistor load or current load up to 5A for 48V output. A load resistor box with an adjustable value of 1.7 Ω and up or an electronic load that can emulate a resistor load or current load up to 3A for 5V output.
- Multimeters to measure the output voltage and current.
- Power meter to measure the AC input power.
- Power-Z tester: for more information about Power-Z tester, see [ChargerLAB POWER-Z KM003C](#).

2.2 Setup and Operation

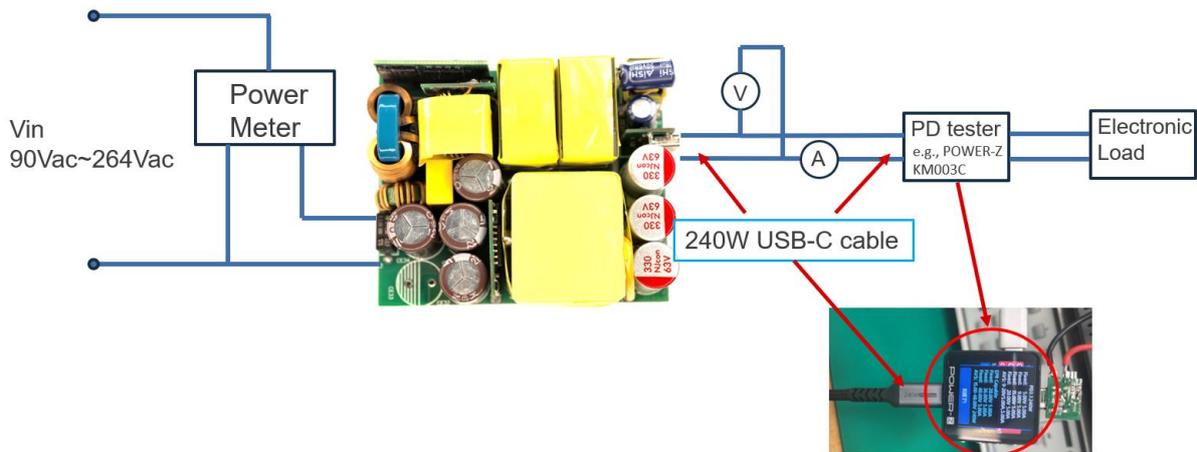


Figure 2. EBC10293 Connection Diagram

1. Program the AC power supply with a voltage between 90V and 264V at the corresponding frequency of 60Hz or 50Hz.
2. While the AC power supply is off, connect the output cables of the AC power supply to the L and N terminal of the EBC10293 board. An optional power meter can be added in between the AC power supply output and input of the board.
3. Connect the EBC10293 board to PD tester (for example, Power-Z KM003C) using a 240W USB-C cable, and the corresponding load to the output terminal of PD tester.
4. Connect a voltage meter to VOUT and GND, and connect a current meter between the board outputs and the load.
5. Turn on the AC power supply. When a successful connection is established, POWER-Z KM003C performs a PDO discovery, the solution kit is pre-configured with corresponding PDOs.

3. System Power Off

Before powering off the system, read the following important operational note.

Important: Due to large capacitors in the EBC10293 board, the board requires a long time to power off. Do not take out the module from the box and touch it.



Figure 3. EBC10293 Board Capacitors

4. Revision History

Revision	Date	Description
1.00	Mar 13, 2026	Initial release.