

# 65W 1C+1A PD3.0 Adapter EVB1 User Guide

## General Description

The 65W 1C+1A PD 3.0 Adaptor EVB1 is designed to support two main objectives. First, it meets the requirements of energy efficiency regulations for efficiency and standby power, and has acceptable thermal performance. Secondly, the Type C PD port and a USB A port support the power sharing scheme between the two charging ports.

The design is a two-stage flyback+DC/DC step-down power supply topology, supporting two independent charging ports, AC to DC input stage and DC to DC USB-A step-down stage. The system configuration organization is Type C port supports PD, USB A port supports handshake protocol fast charge. The AC-DC power stage is composed of two main PREMA parts -1) Primary side CCM/QR flyback controller—PP5200, providing DCM/CCM PWM switch, 2) 650V/200mohm GaN transistor—PP6262, 3) Second side SR MOSFET controller—PP6008.

## Key Features

The 65W 1C+1A PD GaN-based adapter reference design provides a cased turn-key solution with the following key features:

- Compact 51.8mm\*51.8mm\*29.9mm Dimensions Size.
- High power density up to 13.1 W/inch<sup>3</sup> and high efficiency above 90%;
- Dual Type-C port and one Type-A port output, sharing power;
- USB Type-C1 Port support maximum output of 65W(20V/3.25A) with PD3 Function;
- USB Type-A Port support maximum output of 12W(5V/2.4A);
- Cost effective topologies with QR Flyback+DC/DC;
- Support most PD protocols including PD2.0/PD3.0;
- Comprehensive system protections such as OVP, OCP, SCP, OLP and OTP;
- Average efficiency meet CoC Ver5 requirement;
- Meets FCC/EN55032 Class B Conducted EMI standard;



L=46.98mm

W=45.92mm

H=21.34mm