EVKT-MP2797-000x Product Brief

MP2797 Evaluation Kit

7-Cell to 16-Cell, High-Accuracy Battery Monitor and Protector with Coulomb Counting

The MP2797 is a robust battery management device that provides a complete analog front-end (AFE) monitoring and protection solution. It is designed for 7-cell to 16-cell series battery packs, with an absolute maximum voltage exceeding 80V on particular pins.

The MP2797DFP-0000 supports I²C communication, and the MP2797DFP-0002 supports SPI communication.

The device integrates two separate analog-to-digital converters (ADCs). The first ADC measures each channel's differential cell voltage (up to 16 channels), die temperature, and 4-channel temperature via an external NTC thermistor. The second ADC measures the charge and discharge currents via an external current-sense resistor. The MP2797 also features high-side MOSFETs (HS-FETs).

Full protection features include over-current protection (OCP), short-circuit protection (SCP), battery under-voltage protection (UVP), battery over-voltage protection (OVP), and high/low-temperature protection. All of the protections have configurable thresholds.

The MP2797 also integrates balancing MOSFETs to equalize mismatched cells, with the option to drive the external transistors.

The MP2797 has an optimized baseline current consumption that is determined by the operating mode.

*Laptop not included

Feature	Specifications
Battery Pack Voltage	18V to 75.2V
Cell Voltage	0V to 5V
Operating Systems Supported	Windows 7, or later
System Requirements	Minimum 25.6MB free
GUI Software	Programming tool MP2797 V1.1.0.3
EVB Size (LxW)	14cmx9.6cm

Kit Contents

- MP2797 evaluation board (EV2797-0000-FP-00B or EV2797-0002-FP-00B)
- Communication Interface with Accessories (EVKT-USBI2C-02 or EVKT-USBSPI-00)
  - USB to I²C/SPI Communication Interface
  - Ribbon Cable
  - USB cable
- GUI installation file and supplemental documents available online

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Quick Start (Refer to the user guide for more details.) (1) (2)

1. Install the GUI software.
2. Connect the communication interface to the evaluation board with the ribbon cable and ensure they are connected.
3. Connect the communication interface to the computer.
4. Turn on the power supply of the evaluation board, then start the GUI software. It should check the connection automatically. If the connection is not successful, “Disconnected” will appear at the bottom. Otherwise, “Connected” will appear at the bottom.
5. The monitor and control register information can be seen in the Monitor and Control bar.

Notes:

1) It is important to adhere to the order of steps 1 and 2. Failing to do so may cause damage to the communication pins during a hot plug event.
2) Kit offers rapid application assessment and requires minimal external components.

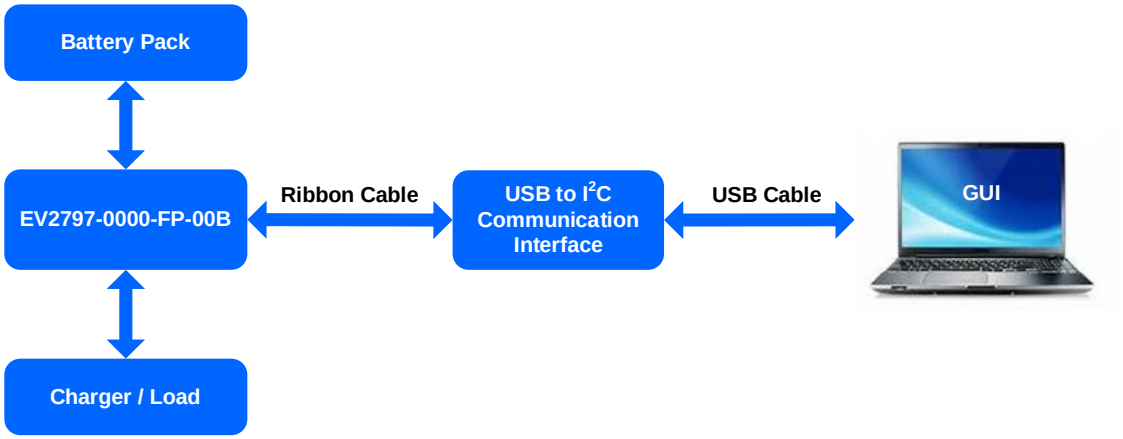

Figure 1: EVKT-MP2797-0000 Evaluation Kit Set-Up

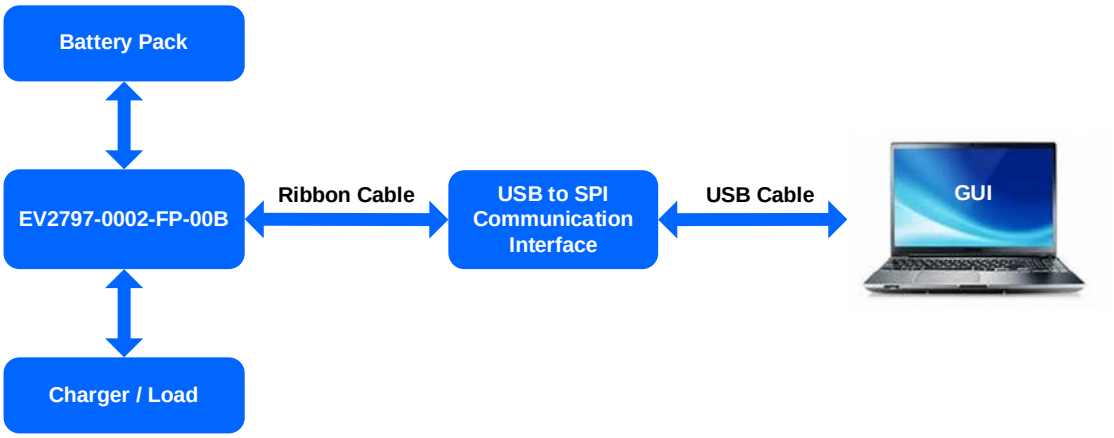

Figure 2: EVKT-MP2797-0002 Evaluation Kit Set-Up

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REVISION HISTORY

Revision #	Revision Date	Description	Pages Updated
1.0	3/17/2023	Initial Release	-

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