EVKT-MP2731 Product Brief

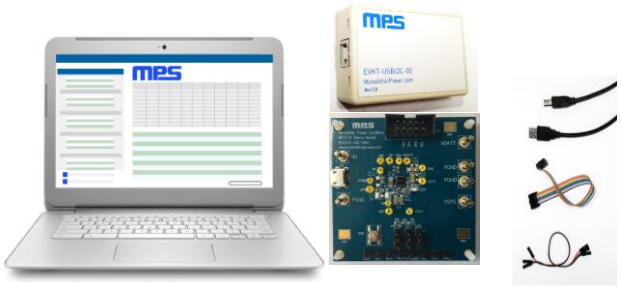
MP2731 Evaluation Kit

Wide-Input, I²C-Controlled, 4.5A, Single-Cell USB/Adapter Charger with NVDC Power Path Management and USB-OTG

The MP2731 is a 4.5A, highly integrated, switch-mode battery charger IC for single-cell Li-ion or Li-polymer batteries. This device supports NVDC architecture with power path management. It is suitable for portable applications such as tablets, MID, and smartphones. Its low-impedance power path optimizes efficiency, reduces charging time, and extends battery life. The I²C serial interface provides charging and system settings, which allow the device to be flexibly controlled.

The MP2731 supports a wide range of input sources, including standard USB host ports and higher power wall adapters with fast-charge capability. The MP2731 supports USB on-the-go operation by supplying 5V with 3.0A.

The power path management regulates the system voltage slightly above the maximum voltage, between the battery voltage and the lowest voltage level configured by the I²C (about 3.6V). This feature allows the system to operate even when the battery is completely depleted or removed. When the input source current or voltage limit is reached, the power path management automatically reduces the charge current to meet the priority of the system power requirement. If the system current continues increasing even when the charge current is reduced to zero, supplement mode allows the battery to power the system with the input power supply.



*Laptop not included

Feature	Specification
Supply for Board	3.7V to 16V
Operating Input Voltage	3.7V to 16V
Charge-Full Voltage	4.2V, I²C-Configurable
Charge Current	1.84A, I²C-Configurable
OTG Voltage Regulation	5.0V, I²C-Configurable
OTG Current Limit	0.5A, I²C-Configurable
Operating Systems Supported	Windows XP, 7, or later
System Requirements	Minimum 22.2MB free
GUI Software	MP2731 V1.0
EVB Size (LxW)	6.3cmx6.3cm

Kit Contents

- EV2731 evaluation board (EV2731-QC-00A)
- Communication interface with accessories (EVKT-USBI2C-02)
  - USB to I²C communication interface
  - Ribbon cable
  - The GUI installation file and supplemental documents can be downloaded from the MPS website.

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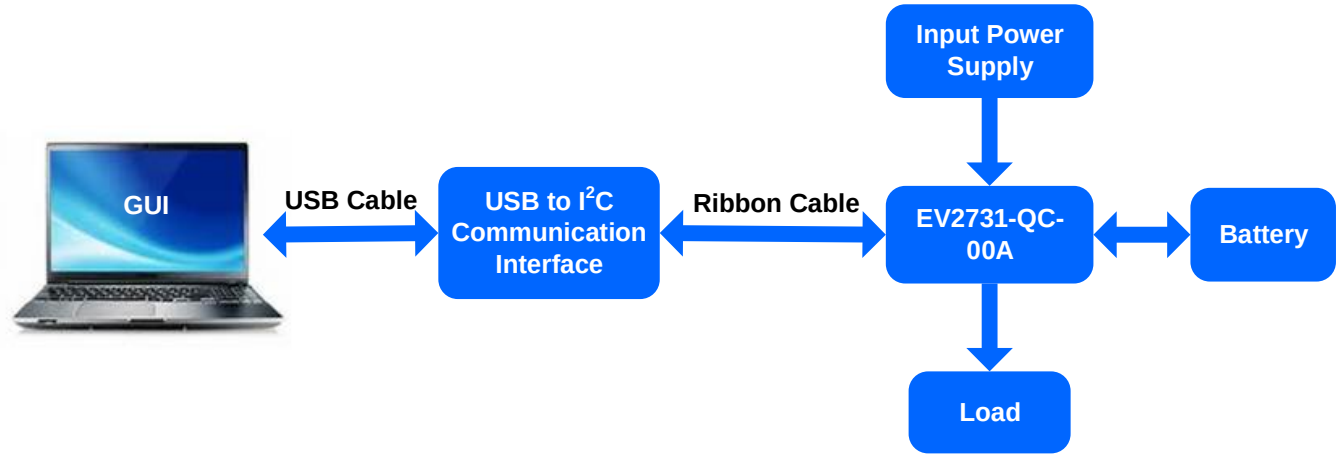
Quick Start (Refer to user guide for more details.)

1. Install the GUI software.
2. Use the provided ribbon cable to connect the EVB and the USB to the I²C communication interface.
3. Preset the power supply output between 3.7V and 16V, then connect the EVB.
4. Connect the communication interface to the PC and turn the power supply on.
5. Open the GUI software, and program as needed.

* *Kit offers rapid application assessment and requires minimal external components.*



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