

# YX2865-Bidirectional Buck-Boost Controller EVB Manual

## 1、Description and Features

This EVB is built to evaluate the performance of YX2865, which is a bidirectional buck-boost controller. It has wide input and output range, compatible to drive GaN or Si FET. This is extremely suitable for wide input voltage range system such as battery powered system and bidirectional USB PD system. The main features of YX2865 is listed in bellow and can be evaluated on the demo board:

- Wide  $V_{IN}$ : 4V to 65V, Wide  $V_{OUT}$ : 2V to 65V
- Programmable soft start time
- Adjustable switching frequency and dead time
- Programmable input and output current limits
- 5V Driver supply voltage for Si FET or GaN FET
- Bidirectional power path control

## 2、Board Specifications

The YX2865 EVB features a four-switch buck-boost converter based on YX2865 Wide VIN buck-boost controller. This converter is designed to operate at input voltage from 24 V to 33.6 V (8s Battery) and provide a 5V to 48V regulated output (PD port) with a load current of up to 5A in forward and reverse direction. The board specifications are listed in Table 1.

**Table 1 Board specification**

Parameter	Value	Unite
Input Voltage (Battery side)	24 to 33.6	V
Output Voltage(PD side)	5 to 48	V
Maximum Output Current	5	A
Maximum Efficiency	96.9	%
Default Switching frequency	400	kHz
Board Size	65X83	mm

