

NU6801 High Efficiency Buck Charger With 19V Reverse Boost and 3 Ports Management

1 Feature

- Buck Charger with 95.5% efficiency @9V/2A supporting wide range VBUS from **4.4V to 16V**, including trickle charging, CC charging, CV charging and termination.
- Reverse Boost with 95% efficiency @9V/2A supporting wide range VBUS from **4.4V to 19V**, which is compatible with PD3.1 PPS and QI2.0 MPP TX requirements.
- Integrated **high accuracy IBUS and IBAT current** sampling without external sampling resistor for power management and gauge scenario.
- Integrated path control and power management for 3 VAC ports, which support single/dual direction N_MOS driving, sink/source input detection and kelvin sense for output small current monitoring.
- Multiple high accuracy AMUX channels for IAC/IBUS/IBAT, VAC/VBUS/VBAT and NTC1/NTC2 monitoring by MCU.
- Integrated 2 NTC monitor for battery JEITA control and USB/Wireless coil thermal control.
- Integrated 4.5V/5V LDO for 50mA external supply.
- Programmable cable drop and battery drop compensation.
- Wide switching frequency from 300k to 1.1Mhz
- Over voltage/current/ temperature protection, VIN_DPM, under voltage protection, VAC/VBAT short protection.
- Ultra-Low quiescent current in sleep mode: 25uA

- 4mm x 4mm QFN-30 package with enhanced thermal pad

2 Applications

- Power Bank
- TWS BOX
- Li-ion Battery Charger

3 Descriptions

The NU6801 is a power management IC that features charging and discharging functions along with 3-port path management. It supports a wide range of VBUS voltage. When configured in charging mode, it can support a maximum input charging voltage of up to 16V. In discharging mode, it can support maximum output discharge voltage of up to 19V. It also integrates IBUS, IBAT, IAC, VBUS, VBAT and NTC signal sampling function. These features make the chip achieve highly customizable configurations and good compatibility. The NU6801 significantly reduces the number of external components and the layout area while maintaining high performance. The device is available in a thermally enhanced 4mm × 4mm QFN package.

Device Information

PART NUMBER	package	Package size
NU6801	QFN30	4mm×4mm