

# High Efficiency, High Power Wireless Power Receiver and Transmitter

## 1 Feature

- 30V High-efficiency Synchronous Rectifier.
- Integrated Low Dropout LDO to Provide Regulated Output Programmable VOUT from 3.5V to 20V with 8mV Resolution.
- Integrated Full Bridge Inverter and PWM Controller for transmitter.
- 1.8V and 1.2V Reference Voltage Output.
- CoolCoil Technology with low inductance coil.
- Power Supply Path Management: Internal LDO or External VDD.
- Robust and Quick-responsive OVP, OCP, OTP and SCP.
- 8 Channel, 15bit ADC.
- Integrated 16MHz 32Bit MCU Core.
- 400kHz I2C Interface.
- Build-in Bi-directional Communications: ASK/FSK Modulation and ASK/FSK Demodulation.
- Programmable FOD Gain and Offset.
- INT Output.
- 88-WCSP 3.29mm x 4.65mm, 0.4mm pitch.

## 2 Applications

- Qi EPP Compliant Receiver with Maximum 100W Received Power.
- Qi BPP Compliant Transmitter with Maximum 15W Transmit Power.
- Smartphones, Power Bank, Pads.
- Medical, Industrial and Consumer Equipment.

## 3 Descriptions

NU1661 is a highly integrated and efficient wireless power receiver and suitable for up to 100W output power application. It integrates a synchronous rectifier and a programmable low drop-out regulator. The regulator can provide a wide range regulated voltage. NU1661 can conduct bi-directional communication with a transmitter system through

ASK and FSK. The communication is compliant with WPC.

NU1661 can also be operated as a transmitter (Tx) to charge another receiver. Only a few external components are needed and maximum 15W power can be transferred.

NU1661's flexibility is provided by an on-chip 32Bit MCU which can customize and optimize the device for various applications and custom needs. The programmability includes output power, bidirectional communication scheme, system protection, status reporting and error reporting.

NU1661 also includes standard protection functions such as input under-voltage lockout, short-circuit protection, over-voltage protection, over-current protection, over-power protection and over-temperature protection. These protections further enhance the reliability of the system solution.

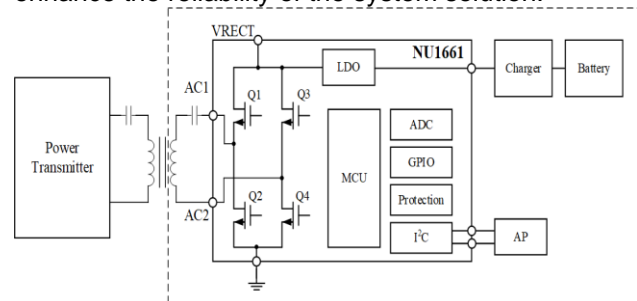


Figure 1. Simplified Application Diagram

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