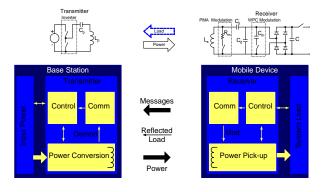
IDTP972X Product Datasheet

### **Features**

- Single Chip Solution for Wireless Power Consortium (WPC) "Qi" Compliant Power Receiver
- Conforms to WPC 1.1 Specification
- Conforms to PMA Type 1 Specification
- Conforms to AirFuel Magnetic Resonance Specification
- Integrated Full-Bridge Synchronous Rectifier
- Integrated Synchronous Buck Converter
- Closed Loop Power Transfer Control between Base Station and Mobile Device
- Security and Encryption up to 64 bit
- Foreign Object Detection (FOD)
- Proprietary Base-to-Mobile Communication Channel for Authentication
- Over Temperature/Voltage/Current Protection
- Thermal Control Loop
- Open-Drain LED Indicator Outputs
- I<sup>2</sup>C Interface

# **Applications**

- WPC and PMA Compliant Wireless Chargers for Mobile Applications
- Non-WPC Compliant Wireless Chargers for Mobile Applications

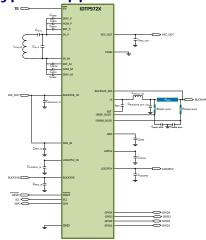


## **Description**

The IDTP972X is a highly integrated single-chip WPC and PMA compliant wireless power receiver IC. The device operates with an AC power signal from a compatible wireless transmitter and converts it into a regulated 5V output voltage, which can be used to power devices or supply the charger input in mobile applications. The IDTP972X integrates a high efficiency Synchronous Full Bridge Rectifier (SFBR), high-efficiency synchronous buck converter, and control circuits used to modulate the load to transmit WPC and PMA compliant message packets to the base station to optimize power delivery.

The device includes over temperature/voltage/current protection and an FOD method to protect the base station and mobile device from overheating in the presence of a metallic foreign object. Fault conditions associated with power transfer are managed by the embedded MCU which also controls status LEDs to indicate operating and fault modes.

# **Typical Application Circuit**



Package: WLCSP-79, 4.095x3.898mm, 0.4mm pitch (See page 26)

Ordering information (See page 27)

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