Single-Chip 5V Wireless Power Transmitter IC for TX-A5 and A11

IDT 5V Wireless Power Transmitter IC

FEATURES

- Conforms with WPC Specification version 1.1
- Operates from 5V (±5%) supplies
- Multi-mode (multi-protocol) capability with dynamic switching
- Uses Full-Bridge Inverter for optimal coil drive (integrated half-bridge plus external half-bridge)
- Demodulates and Decodes communication packets from WPC-compliant Receivers
- Implements closed-loop power transfer control
- Optional 2-way communication security and encryption to 64-bit
- Master/Slave I²C Interface
- Compact 6mm x 6mm 48-lead TQFN package

SAFETY FEATURES

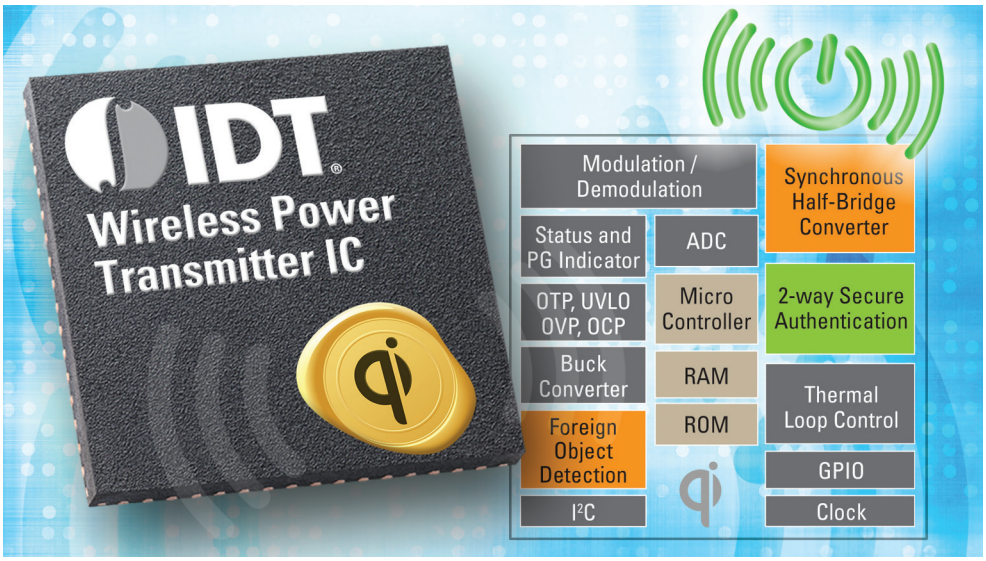
- Over-Current and Over-Temperature Protection
- Programmable Foreign Object Detection (FOD)
- Power Good and Fault Condition Detection with LED Indicator outputs

TARGET WIRELESS POWER APPS

- Charging mats or pads
- Public Facilities – Shops, Libraries, Airports, Schools
- Office Furniture
- Personal Computer Docks
- Portable Instruments
- Medical Devices

VALUE ADDED BEYOND WPC "QI"

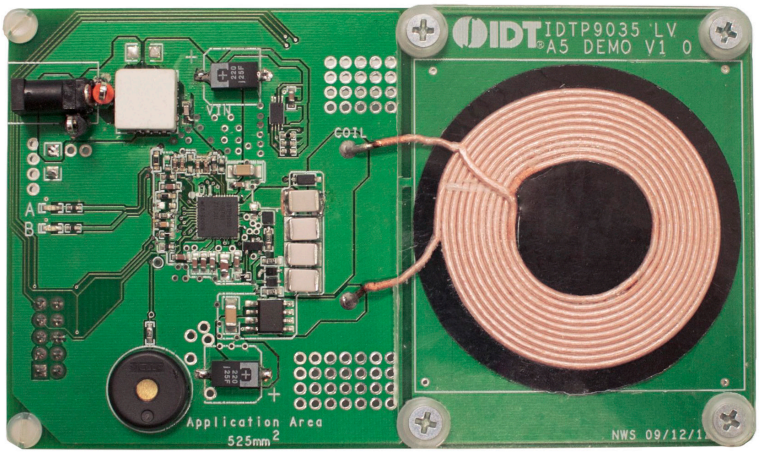
- Delivers industry-leading power to receiver (5W to WPC-compliant receivers, more when using IDTP9020 Receiver)
- Optional, proprietary Back-Channel Communication provides additional levels of encryption and security
- Manages Power Transfer Fault conditions automatically and controls Status indicator LEDs



The IDTP9035 is a highly-integrated WPC-compliant wireless power transmitter IC for power transmitter design A5 and A11. The device operates with a 5V (±5%) adaptor, and utilizes an external half-bridge in addition to its integrated half-bridge inverter to provide a highly-integrated 5V transmitter solution for A5/A11 applications. The device controls the transferred power by modulating the switching frequency of the full-bridge inverter from 110kHz to 205kHz at a fixed 50% duty cycle specified by the WPC specification for an A5/A11 transmitter. It contains logic circuits required to demodulate and decode WPC-compliant message packets sent by the mobile device to adjust the transferred power.

Utilizing the IDTP9020 WPC-compliant Receiver, power transfer greater than 5W can be achieved. In addition to implementing the WPC-specified device identification communication sequence, the IDTP9035 features a proprietary back-channel communication mode compatible with other IDT Wireless Power products which provides additional secure authentication capabilities.

EVALUATION BOARD



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