

## WPC Qi Certified

- Single chip wireless power transmitter solution
- Tx-A1

## Multilingual (Multi-Mode)

Multi-mode (multi-protocol) capability with dynamic switching

## Industry-Leading Efficiency

- Integrated high efficiency half-bridge inverter
- 95% DC-AC efficiency

## OTHER FEATURES

- Wide operating input voltage range
  - 18 to 20V WPC mode
  - 12 to 20V IDT proprietary mode
- Embedded MCU, ADC, program and data memories
- Closed loop power transfer control between base station and mobile device
- Demodulates and decodes WPC compliant message packets
- Proprietary base to mobile communication for authentication
- Programmable option for added security and encryption up to 64 bit for 2-way authentication
- Power good status pin
- Master and Slave I<sup>2</sup>C interface
- Compact 6 x 6 48-pin TQFN package
- Conforms to WPC specification version 1.1

## SAFETY FEATURES

- Advanced Multi-layered Foreign Object Detection (FOD)
- Over temperature/voltage/current protection
- GPIOs for various status/alarm indication
- Thermal loop control

## TARGET WIRELESS POWER APPS

- Wireless power charging pads or mats
- Office/airport/residential furniture
- Automotive consoles
- Tools and medical instruments
- Airports, coffee shops, or other public places



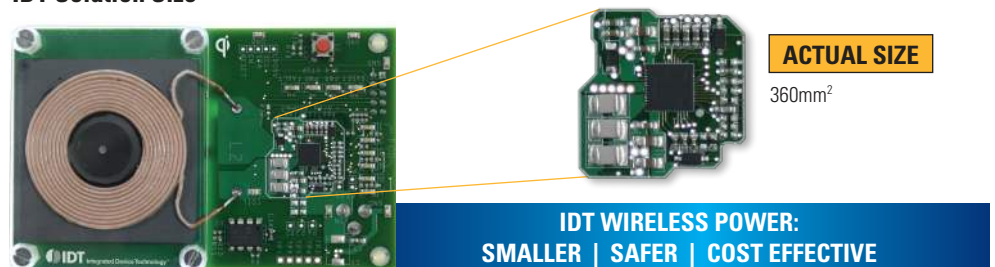
IDTP9030 is a highly integrated single-chip WPC compliant wireless power transmitter solution. The device integrates a variable frequency half-bridge power inverter for DC-AC conversion, capable of operating through a wide range of DC input voltages. As specified by the WPC transmitter specification, the power transferred to the device under charge is controlled by varying the switching frequency of the half bridge inverter from 110kHz to 205kHz. All the logic and other circuitry needed to receive and decode WPC compliant packets from the mobile device and to execute the requested power adjustments are also fully integrated into the IDTP9030. It contains logic circuits required to demodulate and decode WPC compliant message packets sent by the mobile device to adjust transferred power.

## VALUE ADDED BEYOND WPC "Qi"

- Supports back channel communication
  - Transmitter communicates with Receiver
- 2-way secure authentication
- On-board microcontroller and high performance ADC for complex calculations
- GPIOs for various status/alarms indication
- Up to 7.5W power transfer in proprietary mode

IDTP9030 also may be operated in proprietary modes where it employs additional proprietary functions such as two extra levels of Foreign Object Detection (FOD), 2-way secure authentication between base and mobile, and IDT proprietary control algorithms for higher efficiency.

## IDT Solution Size



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# WIRELESS POWER

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Transmitter (TX) IDTP9030 Receiver (RX) IDTP9020

