9W Wireless Power Receiver IC for inductive and resonant Wireless Power Transfer Systems

DESCRIPTION

The MAP7501 is a Wireless Power Receiver IC which supports AirFuel resonant, WPC(1) and PMA(2) compliant wireless charging systems. The device receives an AC power signal from wireless power transmitter and converts it into a regulated output voltage which can be 5.3V or 9V and used to supply external devices or charger input in portable application.

It integrates an active rectifier which can operate for an AirFuel resonant, PMA and WPC (Qi) system, synchronous buck converter with an adjustable output voltage, low-dropout regulator for external devices, 10-bit ADC, antenna voltage protection, NFC protection circuit and digital communication (I^2C) to show which kinds of wireless power transfer systems can be used, to control the output of buck converter and to report temperature, the voltage and current of rectifier and buck converter.

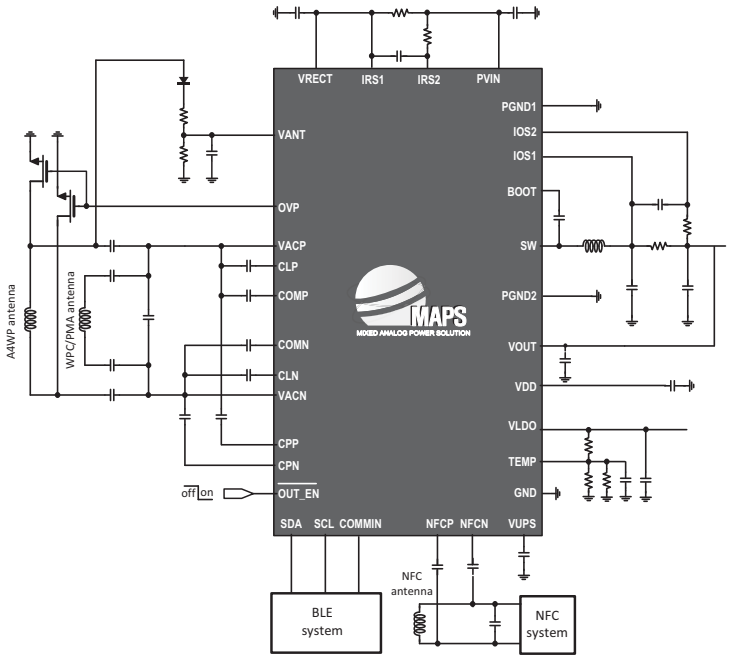
APPLICATIONS

- *Mobile phone, handsets & accessories*
- *Game console, STB, audio systems*
- *Furniture and intelligence kitchen system*

FEATURES

- ***High Efficiency Wireless Power Receiver***
- ***All Integrated Single Chip Solution***
  - *100kHz ~ 6.78MHz AC rectifier*
  - *Synchronous buck converter*
  - *3.3V Low dropout regulator for external devices*
  - *NFC protection*
  - *10 bit ADC and I^2C protocol*
- ***Synchronous Buck Converter***
  - *Selectable output voltage 5.3V or 9V*
  - *Internal compensation filter*
  - *Programmable constant input current control*
  - *Thermal Shutdown protection*
- ***Low Dropout Regulator***
  - *3.3V LDO for BLE*
  - *LDO short circuit current protection*
- ***Voltage & Current Sensing***
  - *Rectifier and buck output voltage*
  - *Rectifier and buck output current*
- ***NTC for Temperature Monitoring Available***
- ***I^2C Interface***
- ***Over-Voltage / Current Protection***
  - *Over voltage protection for rectifier*
  - *Antenna over-voltage protection*
  - *Over voltage protection for buck*
- ***NFC Chip Protection***
- ***TQFN Assembly***
  - *40L QFN 5x5mm^2, 0.75T available*
- ***Green & RoHS***

TYPICAL APPLICATION



NOTE1) WPC v1.1.

NOTE2) PMA v1.1