PTX30W

NFC Wireless Charging Listener IC

The PTX30W is a powerful and efficient NFC Listener system-on-chip for NFC wireless charging applications together with data communication. The PTX30W features a single-chip solution for NFC-based wireless charging systems which harvest power, handle wireless charging protocol, and charge a Lithium-ion battery. While eliminating external discrete components. The superior RF performance of the PTX30W enables small antenna design, fast charging and allows flexible placement of Poller and Listener antennas.

Applications

- Smartwatches, fitness trackers, wristbands
- Smart rings
- Smart and audio glasses
- Earbuds, headphones, and hearing aids
- Stylus pens and computer mouses
- Industrial and medical devices

Features

- Highly integrated NFC Wireless Charging Listener device
  - Highly efficient Active Rectifier
  - Up to 1W harvesting power
  - RF interface according to NFC-Forum Type 2 Tag
  - Li-Ion battery charger with charging current from 6mA to 251mA
  - MCU LDO with 1.8V or 3.3V output, up to 50mA
  - Embedded power negotiation logic
- Designed according to NFC Forum Wireless Charging standard
- Custom NFC NDEF feature
- Standalone operation (optional external Host MCU)
- I^2C slave interface
- On-chip overvoltage limiter circuit
- Configurable GPOs

System

The NFC wireless charging system consists of:

- WLC Poller (power transmitter and communication initiator)
- WLC Listener (power receiver)

The NFC wireless charging solution is based on well-established NFC technology operating at 13.56MHz.

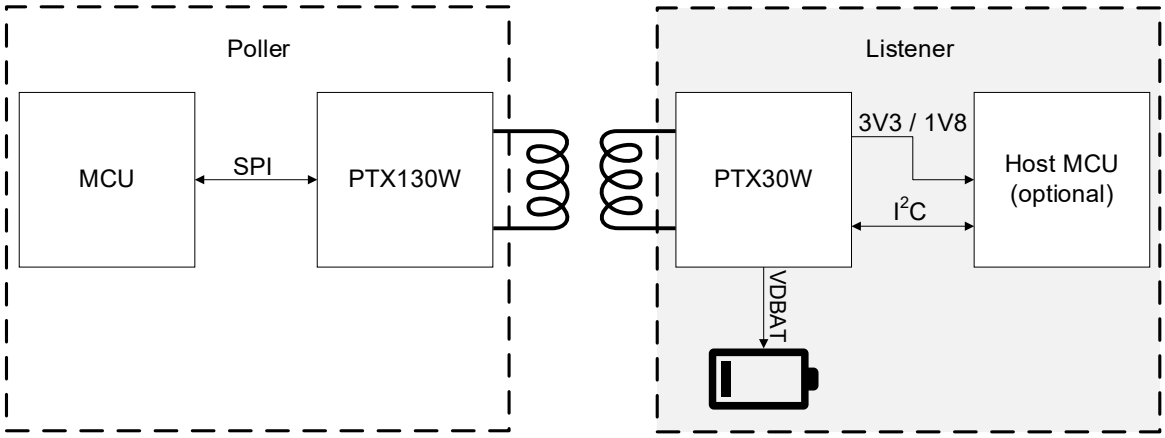

Figure 1. System Block Diagram

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