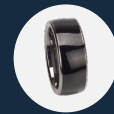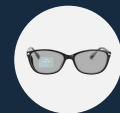# PTX130W: NFC WIRELESS CHARGING IC

Next generation of industry's most efficient NFC transmitter for wireless charging applications

- Industry best output power, harvesting 1W on the listener, enabling fast charging

- Improved on-chip efficiency by 18% compared to previous generation

- Power negotiation for power dissipation optimization

- Data exchange between poller and listener allowing additional functionalities

- Simple antenna structure using standard single layer FPC technology

Applications:

- Stylus
- Smart ring
- Smart glasses
- Wearable devices
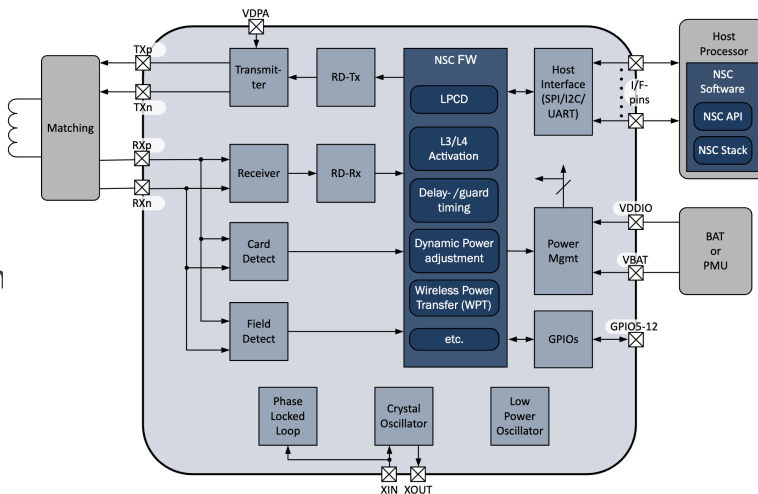- Hearing aid
- Medical sensors

Panthronics

PTX130W is a new generation of a powerful and efficient NFC controller for NFC wireless charging of battery powered devices. It not only provides wireless charging capabilities, but also serves as a complete NFC reader, complying with all NFC standards.

Panthronics provides turnkey NFC wireless charging solution, combining PTX130W NFC wireless charging poller with NFC wireless charging listener.

Features

- Low Power Detection with 100µA current consumption (2Hz polling)

- On impedance change detection

- Operation according to NFC Forum Wireless charging

Block diagram labels:

VDPA · TXp · TXn · RXp · RXn · Matching · Transmitter · RD-Tx · Receiver · RD-Rx · Card Detect · Field Detect · NSC FW · LPCD · L3/L4 Activation · Delay- /guard timing · Dynamic Power adjustment · Wireless Power Transfer (WPT) · etc. · Host Interface (SPI/I2C/UART) · I/F-pins · Power Mgmt · GPIOs · GPIO5-12 · VDDIO · VBAT · Host Processor · NSC Software · NSC API · NSC Stack · BAT or PMU · Phase Locked Loop · Crystal Oscillator · Low Power Oscillator · XIN · XOUT

Market Requirements	Panthronics Differentiator	Customer Benefits
High harvesting power capability	Able to harvest up to 1W on the listener Twice more than best competitor solution	Allows **fast charging** and charging of batteries with higher **capacity**
More flexibility in positioning Poller and Listener	**Direct antenna connection** with removal of EMI filters enable constant system matching	• More placement flexibility between charger and device antennas • Allows to **remove bulky magnets**
Simple integration **Consistent manufacturing:** Same performance across devices	DiRAC: **Direct antenna connection reducing the** BoM count and area	• **50% less effort for RF matching** and certification of a device • Less components allow to **assure marginal NFC performance variation** between devices **during production**
Compliant with **international regulations**	NFC WLC is based on NFC, globally adopted standard PTX architecture rely on patented Sinewave PA (removing EMI filters)	• NFC is compliant with international regulation • Faster time through certification enabled by signal's 3rd harmonics reduction due to PTX NFC architecture
FW upgrade via NFC	• Data exchange based on globally adopted standard • Transparent data channel between Poller and Listener based on globally adopted NFC standards.	**Enabling additional use cases:** • **FW upgrade through NFC** on non BLE/WiFi connected device (either on poller or listener side) • General data exchange between Poller and Listener