

PTX130W NFC WIRELESS CHARGING IC

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



PTX130W is 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.

- Industry best output power, harvesting 1W on the listener, enabling fast charging
- Power negotiation for power dissipation optimization
- Data exchange between poller and listener allowing additional functionalities
- Simple antenna structure using standard single layer FPC technology

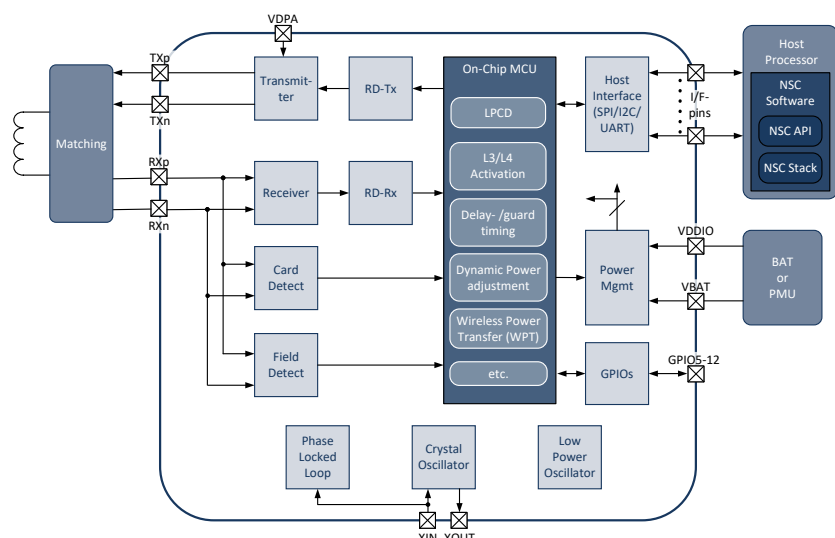


Features and Benefits

Market Requirement	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	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ NFC WLC is based on NFC globally adopted standard ■ Architecture relies on patented Sinewave PA (removing EMI filters) 	<ul style="list-style-type: none"> ■ NFC is compliant with international regulation ■ Faster time through certification enabled by signal's 3rd harmonics reduction due to NFC architecture
FW upgrade via NFC	<ul style="list-style-type: none"> ■ Data exchange based on globally adopted standard ■ Transparent data channel between Poller and Listener based on globally adopted NFC standards 	Enabling additional use cases: <ul style="list-style-type: none"> ■ FW upgrade through NFC on non BLE/WiFi connected device (either on poller or listener side) ■ General data exchange between Poller and Listener

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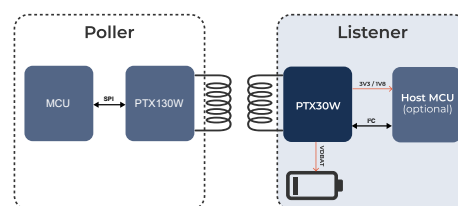
PTX130W Block Diagram



Features:

- Low Power Detection with 100μA current consumption (2Hz polling)
- On impedance change detection
- Operation according to NFC Forum Wireless charging

Renesas Electronics provides turnkey NFC wireless charging solution, combining PTX130W NFC wireless charging poller with PTX30W NFC wireless charging listener.

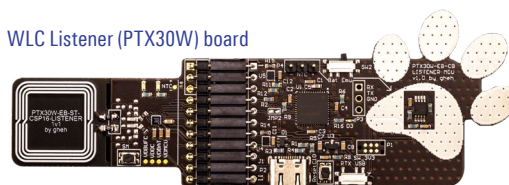


PTX130W/PTX30W NFC WLC Evaluation Kit

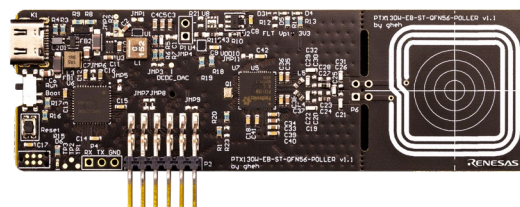
Evaluation Kit Development Features

- NFC Wireless Charging evaluation kit for high-efficiency, high-power PTX130W NFC WLC IC
- Fully integrated high-power harvesting WLC Listener (PTX30W) with integrated PMIC and LDO
- Support of NFC Forum NFC Wireless Charging protocol
- Easy-to-use, ready-to-go SW integration
- Reader functions supporting all type of NFC and standard protocols
- Bi-directional transparent data channel
- EMI filter less (DiRAC®) for high-power end-application
- RF-design supported with Config Tool and SDKs

WLC Listener (PTX30W) board



PTX130W NFC board



Typical Applications

- [Personal safety tracker](#)
- Stylus
- Smart Ring
- Smart Glasses
- Wearable Devices
- Hearing Aid
- Medical Sensors

WINNING COMBINATIONS

Renesas' complementary product portfolios of Analog + Power + Embedded Processing + Connectivity work together to deliver comprehensive solutions.

For a complete list, visit [renesas.com/win](https://www.renesas.com/win)



For more details, please visit: [renesas.com/PTX130W](https://www.renesas.com/PTX130W)

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