

# 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

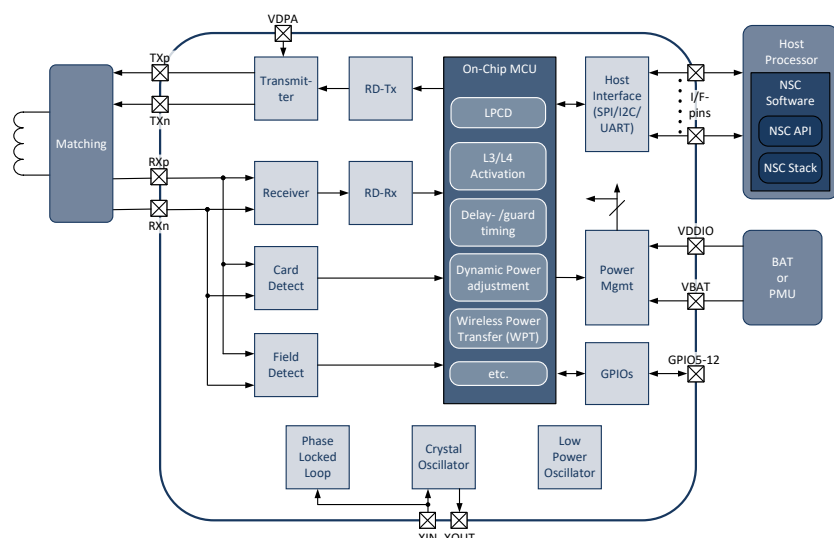


## Features and Benefits

| Market Requirement                                                                 | Differentiator                                                                                                                                                                                               | Customer Benefits                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High harvesting power capability                                                   | Able to harvest up to 1W on the listener<br>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"> <li>■ More placement flexibility between charger and device antennas</li> <li>■ Allows to remove bulky magnets</li> </ul>                                                                                |
| Simple integration<br>Consistent manufacturing:<br>Same performance across devices | DiRAC: Direct antenna connection reducing the BoM count and area                                                                                                                                             | <ul style="list-style-type: none"> <li>■ 50% less effort for RF matching and certification of a device</li> <li>■ Less components allow to assure marginal NFC performance variation between devices during production</li> </ul>           |
| Compliant with international regulations                                           | <ul style="list-style-type: none"> <li>■ NFC WLC is based on NFC globally adopted standard</li> <li>■ Architecture relies on patented Sinewave PA (removing EMI filters)</li> </ul>                          | <ul style="list-style-type: none"> <li>■ NFC is compliant with international regulation</li> <li>■ Faster time through certification enabled by signal's 3rd harmonics reduction due to NFC architecture</li> </ul>                         |
| FW upgrade via NFC                                                                 | <ul style="list-style-type: none"> <li>■ Data exchange based on globally adopted standard</li> <li>■ Transparent data channel between Poller and Listener based on globally adopted NFC standards</li> </ul> | Enabling additional use cases: <ul style="list-style-type: none"> <li>■ FW upgrade through NFC on non BLE/WiFi connected device (either on poller or listener side)</li> <li>■ General data exchange between Poller and Listener</li> </ul> |

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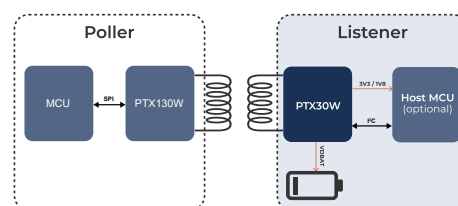
## PTX130W Block Diagram



## 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.

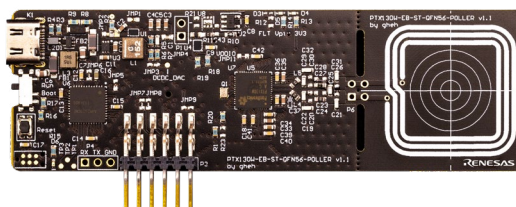
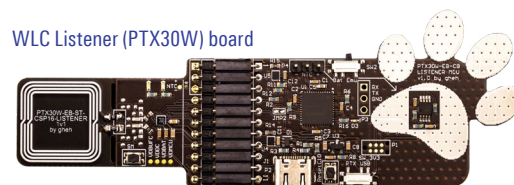


## PTX130W/PTX30W NFC WLC Evaluation Kit

### 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)