NFC WIRELESS CHARGING SOLUTIONS

![RENESAS]

NFC WLC POLLER SOLUTIONS	Released
PRODUCT	**PTX130W**
Product description	High-efficiency, high-performance, high-power NFC Wireless Charging (WLC) Poller solution with multi-protocol reader functionality. Universal SW device integration.
NFC WIRELESS CHARGING STANDARDS & FEATURES	
NFC Wireless charging	
NFC Forum WLC Poller protocol	✓
NFC WLC static charging protocol	✓
NFC WLC negotiated charging protocol	✓
Symmetric transparent data channel	✓
Data-exchange via NFC protocols	✓
FOD (Foreign object detection)	Background FOD, Poll FOD
Power regulation in steps [no. of steps]	100
Low Power Listener Detection current, typ. [µA], @ 2 Hz	<100 µA
READER STANDARDS	
Reader / Writer	ISO/IEC 14443 A/B up to 848 kbit/s, ISO/IEC 15693 up to 26,5 kbit/s ISO/IEC 18000-3 M1
Carrier frequency [MHz]	13,56 MHz
NFC Forum tag type support	2, 3, 4, 5
PRODUCT FEATURES	
Ultra-low power on-chip MCU with integrated Firmware	✓
High power digital conversion sine wave RF frontend	✓
DIRAC®: EMI filter-less solution	✓
High receiver/LMA sensitivity [dBc]	-80dBc
Very High Dynamic Range Receiver (VHDRR)	✓
RF transmitter supply voltage [V]	2.7 V – 5.5 V
Transmitter supply current, max. [mA]	650 mA
Host interface	SPI only
Supply voltage host interface [V]	1.8 V, 3.3 V, 5.0 V
Power-down mode current, typ. [µA]	3 µA
Available packages	QFN56
Temperature range [°C]	-40 to +70
Field-detection signal output	IRQ
PRODUCT SUPPORT AND ORDERING INFORMATION	
Product packages	QFN56
Product type	PTX130WDQ56
Order code single tray (dry pack)	PTX130WDQ56B
Order code reel (TR dry reel 13")	PTX130WDQ56D13
EVALUATION BOARDS	
Name of evaluation kit	PTX130W/30W NFC WLC Eval Kit
SOFTWARE / SDKS / GUI	NFC WLC reader libraries for easy integration into MCUs and RTOS. SDK´s for WLC for Non-OS. WLC Config Tool GUI for evaluation of IC features, power transfer and RF optimization, NFC Tag reading (Windows® and Linux).

NFC WLC LISTENER SOLUTIONS	Released
PRODUCT	**PTX30W**
Product description	Highly integrated, scalable NFC WLC Listener with I2C interface and on-board PMIC and LDO. Operating devices with or without battery using standalone or MCU controlled operation.
STANDARDS & PROTOCOLS	
Wireless charging (WLC Listener)	
NFC Forum WLC static charging protocol	✓
NFC Forum WLC negotiated charging protocol	✓
Operating frequency [MHz]	13,56 MHz
NFC Forum tag type support	Type 2 Tag
ISO/IEC 14443-3A bitrate [kbit/s]	106 kbit/s
Host interface	I2C Slave
PRODUCT FEATURES	
Ultra-low power on-chip MCU with integrated Firmware	✓
Ultra-low power on-chip embedded core	✓
Integrated PMIC solution	✓
Integrated flexible battery charger with reverse current limiter	✓
Integrated highly efficient active rectifier	✓
Standalone mode of operation (without Host MCU)	✓
Embedded power regulation control	✓
Required PCB integration area (est.)	less than 20mm²
Rectification efficiency (AC to DC)	up to 92%
Energy harvesting [W]	up to 1W
Charging current range [mA]	5-250 mA
Li-Ion and Li-Polymer batteries support	✓
Charge status monitor	✓
On-chip over-temperature detection/protection	✓
Transparent data exchange channel	✓
Shipping mode (support for battery protection)	✓
System MCU supply output voltage, typ. [V]	1.8, 3.3 V
Battery-less power supply output	✓
JEITA support	✓
Shipping mode current consumption, max. [nA]	100nA
I2C clock frequency [kHz]	Up to 1 MHz
Temperature range [°C]	-40 to +70
PRODUCT SUPPORT AND ORDERING INFORMATION	
Product packages	WL-CSP16
Order code reel (TR dry reel 7")	VDMCU as input: PTX30WCC16D7A2 VDMCU as output 1.8V: PTX30WCC16D7B2 VDMCU as output 3.3V: PTX30WCC16D7C2
EVALUATION KITS AND BOARDS	
Name of evaluation kit	PTX130W/30W NFC WLC Eval Kit
SOFTWARE / SDKS / GUI	PTX30W SDK for host MCU. Supports flexible porting to different MCU.