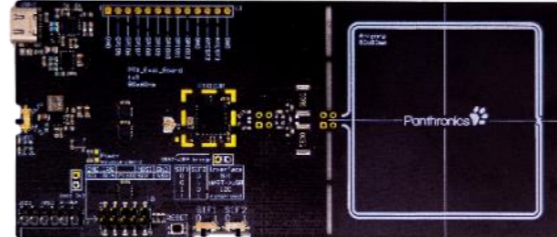
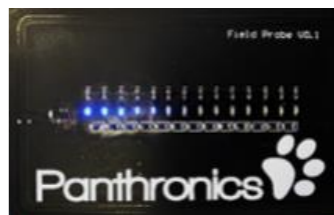


NFC READER SOLUTIONS	
PRODUCT	PTX100R
Product description	High-performance, high-power multi-protocol NFC Forum reader. Universal SW device integration.
Availability	✓
Technology	180nm
Standards & Protocols	
Reader / Writer	ISO/IEC 14443 A/B, EMVCo 3.0/3.1 ISO/IEC 18092, FeliCa™ ISO/IEC 15693 ISO/IEC 18000-3 M1
Carrier frequency [MHz]	13,56 MHz
NFC Forum Tag-Type support	2, 3, 4, 5
ISO/IEC 14443 bitrate [kbit/s]	106/212/424/848 kbit/s
ISO/IEC 18092 / FeliCa™ 1, bitrate [kbit/s]	212/424 kbit/s
MIFARE Classic® 2 CRYPTO 1 support (MFCC)	✓
ISO/IEC 15693 bitrate [kbit/s]	26.5 kbit/s
ISO/IEC 18000-3 M1	✓
EMVCo compliance	✓ (3.0), (3.1 ready)
EMVCo High Power behind Display Compliance (HPDC)	✓
Card emulation (HCE)	✓
NFC Tag-Type emulation @ bitrate [kbit/s]	4A @ [106 kbit/s]
Peer-to-peer (ISO/IEC 18092)	✓
Passive communication	Initiator
Special Protocols & Features	China ID
Product features	
Ultra-low power RISC µC with integrated Firmware	✓
High power digital conversion sine wave RF frontend	✓
DIRAC®: EMI filter-less solution	✓
Phase Accurate Active Load-Modulation HCE	✓
Digital dynamic power control (DDPC)	✓
High receiver/LMA sensitivity [dBc]	-80 dBc
Very High Dynamic Range Receiver (VHRR)	✓
Operating distance up to [mm], ISO 14443 ³ / ISO 15693 ⁴	140 mm / 320 mm
RF transmitter supply voltage [V]	2.5 V – 5.5 V
Transmitter supply current, max. [mA]	650 mA
Power Output, max. [W]	2.0 W
Host interface	SPI, I2C, UART
Supply voltage host interface [V]	1.8V, 3.3V, 5.0V
Power-down mode current, typ. [µA]	3 µA
Standby current with LPFD ⁵ @ HCE, typ. [µA]	16,5 µA
Standby current with LPFD and Host event, typ. [µA]	16,5 µA
Low power card detection mode (LPCD), typ. [µA], @ 2 Hz	100 µA
Temperature range [°C]	-40 to +70
Field-detection signal output	IRQ
Product support and ordering information	
Product packages	QFN56
Product type	PTX100RDQ56
Order code single tray (dry pack)	PTX100RDQ56B
Order code reel (TR dry reel 7")	PTX100RDQ56D7
Evaluation boards	
Name of evaluation kit	PTX100R NFC Reader Eval Kit
Order number of evaluation board	10009100
Software	NFC reader libraries for PoS (EMVCo 3.1 ready) and IoT in Non_OS and OS versions. Easy SW integration into MCUs, Linux & RTOS systems. Config Tool GUI for RF optimization Tag reading and HCE.

For further details, please visit: www.panthronics.com Order your evaluation kit at: sales@panthronics.com

¹ FeliCa™ is a registered trademark of Sony Group Corporation
² MIFARE Classic® is a registered trademark of NXP B.V.
³ 6,5 x 6,5 cm coil @ 3,5V supply voltage
⁴ 19 x 19 cm coil @ 3,5V supply voltage
⁵ Low Power Field Detection (LPFD)

EVALUATION KIT	NFC Reader Solutions
Development Kit / Board	PTX100R NFC Reader Eval Kit
Name	PTX100R PoS and IoT Evaluation Kit v1.0
Ordering number	○ 10009100
Supported products	○ PTX100R for PoS and IoT
Contents	On the shelf already ○ 1 PTX100R EB v1.3 ○ 1 PTX H-Field Detector Card v1.0 ○ 1 USB-A to USB-C cable ○ w/o Design-box Target: Nov 2021 with launch of SDK 6.0: ○ 1 PTX100R EB v1.4 ○ 1 PTX H-Field Detector Card v1.0 ○ Pre-matched antenna set v1.1: • EMVCo (standard) 50x50 mm • IoT NFC Forum Compliance: 50x25mm ○ 1 USB-A to USB-C cable ○ GUI 6.x.x: GUI update with manual selector for pre-matched antennas ○ Design-box
Key features	○ Reader SDKs for high-power, high-performance PTX100R universal reader hardware platform. ○ Easy-to-use, ready-to-go SW integration into any terminal/device host MCU architecture supporting all types of NFC protocols, standards and Tag protocols (ISO14443 A/B, ISO18092, ISO15693, FeliCa and others). ○ EMI filter less (DIRAC®) high-power end-application RF-design supported with Config Tool SDKs ○ Full NFC compliant reader modes. ○ EMVCo 3.0 compliant (with PoS SDK) ○ Compliant to NFC P2P and Host Card Emulation (HCE)
Software and tools	○ SDK "Non-OS" PoS and IoT: PoS (EMVCo 3.0 compliant) and IoT reader libraries in C source code with compact code size. Applicable for any host MCU integration. ○ SDK "OS" PoS and IoT: PoS (EMVCo 3.0 compliant) and IoT reader libraries in C source code including extended SW functions for OS' s: • Linux® (e.g.: Raspbian OS) • RTOS (e.g.: Maxim 32555 ARM Cortex M3) • any Multi-Tasking OS (e.g.: Windows IoT) ○ Config and Tag Demo Tool GUI (Windows 10 and Linux) • Config Tool for RF/antenna optimization and Tag read (via USB) • 'Tunneling-SDK' s': Add-on for finalized customer product evaluation in C Source. Providing direct connect to PTX100 to optimize RF/coil design, bypassing host-controller MCU. Pre-compiled example libraries for MCUs ARM Cortex: M3, M33, M4 available. • Antenna design support with open-source tool Qucs Studio.
Target applications	High-power universal multi-market reader solutions: - EMVCo PoS, SmartPoS terminals (antenna behind display), Chip&Sign small POS, ATM POS modules - Transportation Reader - High-end Readers, access control, door lock, - Accessories Identification, Brand Protection - e-Government, eMRTD, home eID • Small FF NFC Reader
Application team support for registered customers	○ SW integration support into your target system ○ Excellent support for RF and antenna design for your end application • Retrofit support: Customer antenna retrofitted with customer antenna • End form factor RF optimization and verification with 'Tunneling SDKs' EMVCo L1 certification support
For registration, ordering of boards and SDK's please contact sales@panthronics.com	  <p>PTX100R EB v1.3</p> <p>PTX Field Detector Card v1.0</p>

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