

NXP NFC and contactless reader solutions

NFC frontend solutions				NFC controller solutions	
Product	MFRC630	CLRC663 <i>plus</i>	PN5180	PN7150	PN7462
Product description	High-performance MIFARE frontend	High-performance multi-protocol NFC frontend	High-performance multi-protocol full NFC Forum-compliant frontend	Full NFC Forum-compliant controller with integrated FW and NCI interface	Full NFC open microcontroller - Cortex M0 - with contact smartcard interface and 160K Flash for user's application
Contactless / NFC functionality	Reader/writer	NFC reader/writer	NFC reader/writer, P2P, card emulation	NFC reader/writer, P2P	NFC reader/writer, P2P, card emulation
Integrated microcontroller	-	-	-	Integrated FW	Open microcontroller Cortex M0
Standards & protocols					
Reader/writer	ISO/IEC 14443 A	ISO/IEC 18092, ISO/IEC 14443 A/B, FeliCa, ISO/IEC 15693	ISO/IEC 18092, ISO/IEC 14443 A/B, FeliCa, ISO/IEC 15693	ISO/IEC 18092, ISO/IEC 14443 A/B, FeliCa, ISO/IEC 15693	ISO/IEC 18092, ISO/IEC 14443 A/B, FeliCa, ISO/IEC 15693
Carrier frequency [MHz]	13.56	13.56	13.56	13.56	13.56
NFC Forum tag type support	1, 2, 4 type A	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1, 2, 3, 4, 5
ISO/IEC 14443 baudrate [kbit/s]	106/212/424/848	106/212/424/848	106/212/424/848	106/212/424/848	106/212/424/848
MIFARE Classic support (license included)	Yes	Yes	Yes	Yes	Yes
ISO/IEC 15693 baudrate [kbit/s]	-	26.5/53	26.5/53	26.5	26.5/53
EPC class-1 HF / ISO/IEC 18000-3M3	-	Yes	Yes	-	Yes
NFC tag type emulation	-	-	4, Type A	3, 4	4 type A
Peer-to-peer (ISO/IEC 18092)	-	Yes	Yes	Yes	Yes
Passive communication	-	Initiator	Initiator/target	Initiator/target	Initiator/target
Active communication	-	-	Initiator/target	Initiator/target	Initiator/target



Product features	MFRC630	CLRC663 plus	PN5180	PN7150	PN7462
Operating distance up to [mm] ⁽²⁾	120	120/160 ⁽³⁾	120/160 ⁽³⁾	120/160 ⁽³⁾	120/160 ⁽³⁾
RF transmitter supply voltage [V]	3.0 to 5.5	2.5 to 5.5	2.7 to 5.5	2.7 to 4.75	3 to 5.5
Transmitter supply current, max [mA]	250	350 ⁽⁵⁾	250	150 / 250 ⁽⁶⁾	250
Dynamic power control (DPC), Adaptive waveform control (AWC), Adaptive Receiver Control (ARC)	-	-	Yes	-	Yes
Host interface	SPI, I ² C, UART	SPI, I ² C, UART	SPI	I ² C	USB, HSUART, SPI, I ² C
Supply voltage host interface [V]	3.0 to 5.5	2.5 to 5.5	1.8 and 3.3	1.8 or 3.3	1.8 and 3.3
Standby mode current, typ [μA]	3	3	15	20	18
Low-power card detection mode	Yes	Yes	Yes	Yes	Yes
Temperature range [°C]	-25 to +85	-40 to +105	-30 to +85	-30 to +85	-40 to +85
Energy harvesting	-	-	Yes	-	-
Field-detection signal output	-	-	IRQ	IRQ	Internal interrupt
Security features					
MIFARE SAM support	in X-mode	in X-mode	-	-	via UART ISO 7816
MIFARE Classic security (CRYPTO1 HW)	Yes	Yes	Yes	Yes	Yes

Packages, Product support & ordering information	HVQFN32	HVQFN32	HVQFN40	TFBGA64	HVQFN40	HVQFN64
Product type	MFRC63002HN	CLRC66303HN	PN5180A0HN	PN5180A0ET	PN7150B0HN/C11002	PN7462AUHN/C300
Development Boards	CLEV6630A	OM26630FDK	OM25180FDK		OM5578/PN7150ARD	OM27462CDK
		CLEV6630B	OM25180TWR		OM5578/PN7150BBB 9353 090 77699	PNEV7462B
					OM5578/PN7150RPI 9353 090 76699	
Software		NFC Cockpit; NFC Reader Library	NFC Cockpit; NFC Reader Library, EMVCo L1 compliant; EMVCo Loopback application, card emulation example		Android, Linux, Windows, RTOS, Bare metal (MCU without OS)	NFC Cockpit; NFC Reader Library

Explanations:

Samples and development boards and kits are available by request, please contact a local NXP distributor.

(2) Depending on antenna, coil size, tuning, and environment

(3) 160 for ISO/IEC 15693

(5) Can reach up to 500 mA depending on design

(6) The integrated limiter can be disabled by a FW configuration. The maximum current is then 250mA.

