

NXP® NFC and Contactless Reader Solutions

NFC CONTROLLER SOLUTIONS																
PRODUCT	PN7120		PN7150		PN7360AU		PN7362AU		PN7462AU							
Product description	NFC controller, supporting all NFC Forum modes, with integrated firmware and NCI interface		High performance NFC controller, supporting all NFC Forum modes, with integrated firmware and NCI interface		Full NFC open microcontroller - Cortex M0 - with 80KB Flash for user's application		Full NFC open microcontroller - Cortex M0 - with 160K Flash for user's application		Full NFC open microcontroller - Cortex M0 - with contact smartcard interface and 160K Flash for user's application							
Contactless / NFC functionality	NFC reader/writer, P2P		NFC reader/writer, P2P, card emulation		NFC reader/writer, P2P, card emulation		NFC reader/writer, P2P, card emulation		NFC reader/writer, P2P, card emulation							
Microcontroller features																
Integrated microcontroller	Integrated FW		Integrated FW		Open microcontroller Cortex M0 core		Open microcontroller Cortex M0 core		Open microcontroller Cortex M0 core							
Master interface	I ² C		I ² C		SPI, I ² C		SPI, I ² C		SPI, I ² C							
Contact interface	-		-		-		-		Class A, B, C, EMVCo (only in HVQFN64)							
Available memory (kB)	-		-		80		160		160							
Standards & protocols																
NFC Forum compliance	No		No		Yes		Yes		Yes							
Reader/writer	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 18000-3 mode 3		ISO/IEC 18092, ISO/IEC 14443 A/B, FeliCa, ISO/IEC 15693, ISO/IEC 18000-3 mode 3		ISO/IEC 18092, ISO/IEC 14443 A/B, FeliCa, ISO/IEC 15693, ISO/IEC 18000-3 mode 3							
Carrier frequency [MHz]	13.56		13.56		13.56		13.56		13.56							
NFC tag type support	1, 2, 3, 4, 5		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							
FeliCa baudrate [kbit/s]	212/424		212/424		212/424		212/424		212/424							
MIFARE Classic® support (license incl.)	Yes		Yes		Yes		Yes		Yes							
ISO/IEC 15693 baudrate [kbit/s]	26.5		26.5		26.5/53		26.5/53		26.5/53							
EPC class-1 HF / ISO/IEC 18000-3M3	-		-		Yes		Yes		Yes							
EMVCo compliance	No		No		Yes		Yes		Yes							
Card emulation	Yes		Yes		Yes		Yes		Yes							
NFC tag type emulation	4		3, 4		4A		4A		4A							
NFC tag type baudrate [kbit/s]	Up to 424		Up to 424		Up to 848		Up to 848		Up to 848							
Peer-to-peer (ISO/IEC 18092)	Yes		Yes		Yes		Yes		Yes							
Passive communication	Initiator/target		Initiator/target		Initiator/target		Initiator/target		Initiator/target							
Active communication	Initiator/target		Initiator/target		Initiator/target		Initiator/target		Initiator/target							
Product features																
Operating distance up to [mm] ⁽¹⁾	70		120/160 ⁽²⁾		120/160 ⁽³⁾		120/160 ⁽³⁾		120/160 ⁽³⁾							
RF transmitter supply voltage [V]	3.1		2.7 to 4.75		3 to 5.5		3 to 5.5		3 to 5.5							
Transmitter supply current, max [mA]	150		180/250 ⁽⁴⁾		250		250		250							
Dynamic Power Control (DPC), Adaptive Waveform Control (AWC)	-		-		Yes		Yes		Yes							
Host interface	I ² C		I ² C		USB, HSUART, SPI, I ² C		USB, HSUART, SPI, I ² C		USB, HSUART, SPI, I ² C							
Supply voltage host interface [V]	1.8 or 3.3		1.8 or 3.3		1.8 or 3.3		1.8 or 3.3		1.8 or 3.3							
Standby mode current, typ [µA]	20		20		18		18		18							
Power-down mode current, typ [µA]	10.5		10.5		12		12		12							
Low-power card detection mode [µA]	150 ⁽⁷⁾		150 ⁽⁷⁾		95 ⁽⁷⁾		95 ⁽⁷⁾		95 ⁽⁷⁾							
Available packages	VFPGA49		HVQFN40, WLCSP42		HVQFN64, VFPGA64		HVQFN64, VFPGA64		HVQFN64, VFPGA64							
Temperature range [°C]	-30 to +85		-30 to +85		-40 to +85		-40 to +85		-40 to +85							
Field-detection signal output	IRQ		IRQ		Internal interrupt		Internal interrupt		Internal interrupt							
Security features																
MIFARE® SAM support	-		-		-		-		Yes							
MIFARE Classic® security (CRYPTO1 HW)	Yes		Yes		Yes		Yes		Yes							
Authentication via ECC	-		-		-		-		-							
32-bit password protection	-		-		-		-		-							
Product support & ordering information																
Product type	PN7120A0EV/C10801		PN7150B0HN/C11002		PN7360AUHN/C300		PN7360AUEV/C300		PN7362AUHN/C300		PN7362AUEV/C300		PN7462AUHN/C300		PN7462AUEV/C300	
12NC single tray	9353 056 17551		9353 090 65551		9353 076 92551		9353 613 42551		9353 084 36551		9353 613 41551		9353 077 96551		9353 613 43551	
12NC Reel	9353 056 17518		9353 090 65518, 9353 608 07012		9353 076 92518		9353 613 42518		9353 084 36518		9353 613 41518		9353 077 96518		9353 613 43518	
Development boards	OM5577/PN7120ARD 9353 089 04699		OM5578/PN7150ARD 9353 090 78699				OM27462CDKP 9353 639 45598				PNEV7462C 9353 635 25598					
	OM5577/PN7120S 9353 063 52699		OM5578/PN7150BBB 9353 090 77699													
Software	Android™, Linux®, Windows®, RTOS, Bare metal (MCU without OS)		Android™, Linux®, Windows® RTOS, Bare metal (MCU without OS)		NFC Reader Library, NFC Cockpit, examples for all interfaces and protocols, EMVCo L1 compliant; EMVCo Loopback application, SAM management example, CCID example											

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

NFC FRONTEND SOLUTIONS											
PRODUCT	SLRC610	MFRC630	SLRC610 plus	MFRC630 plus	MFRC631 plus	CLRC663 plus	PN512		PN5180		
Product description	Frontend for ICODE ISO15693 and ISO18000-3M3	Frontend for MIFARE®/NTAG product family	High-performance frontend for ICODE ISO15693 and ISO18000-3M3	High-performance frontend for MIFARE®/NTAG product family	High-performance ISO/IEC 14443 A/B frontend	High-performance multi-protocol NFC frontend	Full NFC Forum-compliant frontend, HVQFN32		High-performance multi-protocol full NFC Forum-compliant frontend		
Contactless/NFC functionality	NFC reader/writer						NFC reader/writer, P2P, card emulation		NFC reader/writer, P2P, card emulation		
Standards & Protocols											
NFC Forum compliance	-	-	-	-	-	-	Yes		Yes		
Reader/writer	ISO/IEC 15693, ISO18000-3M3, ICODE ILT	ISO/IEC 14443 A	ISO/IEC 15693, ISO/IEC 18000-3M3, ICODE ILT	ISO/IEC 14443 A	ISO/IEC 14443 A/B	ISO/IEC 18092, ISO/IEC 14443 A/B, SO/IEC 18000-3M3, ISO/IEC 15693, FeliCa	ISO/IEC 18092, ISO/IEC 14443 A/B, FeliCa		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	13.56	13.56		13.56		
NFC Forum tag type support	5	1, 2, 4A	5	1, 2, 4A	1, 2, 4	1, 2, 3, 4, 5	1, 2, 3, 4		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		106/212/424/848		
FeliCa baudrate [kbit/s]	-	-	-	-	-	212/424	212/424		212/424		
MIFARE Classic® support (license included)	-	Yes	-	Yes	Yes	Yes	Yes		Yes		
ISO/IEC 15693 baudrate [kbit/s]	26.5/53	-	26.5/53	26.5/53	26.5/53	26.5/53	-		26.5/53		
EPC class-1 HF / ISO/IEC 18000-3M3	Yes	-	Yes	Yes	-	Yes	-		Yes		
EMVCo compliance	-	-	-	-	Yes	Yes	Yes (external RF booster required)		Yes		
Card emulation	-	-	-	-	-	-	Yes		Yes		
NFC tag type emulation	-	-	-	-	-	-	2, 3, 4 ⁽²⁾		4A		
NFC tag type baudrate [kbit/s]	-	-	-	-	-	-	up to 424		Up to 848		
Peer-to-peer (ISO/IEC 18092)	-	-	-	-	-	Yes	Yes		Yes		
Passive communication	-	-	-	-	-	-	Initiator		Initiator/target		
Active communication	-	-	-	-	-	-	Initiator/target		Initiator/target		
Product features											
Operating distance up to [mm] ⁽¹⁾	160 ⁽³⁾	120	160 ⁽³⁾	120	120	120/160 ⁽³⁾	70		120/160 ⁽³⁾		
RF transmitter supply voltage [V]	3.0 to 5.5	3.0 to 5.5	2.5 to 5.5	2.5 to 5.5	2.5 to 5.5	2.5 to 5.5	2.5 to 3.6		2.7 to 5.5		
Transmitter supply current, max [mA]	250	250	350 ⁽⁵⁾	350 ⁽⁵⁾	350 ⁽⁵⁾	350 ⁽⁵⁾	100		250		
Dynamic power control (DPC), Adaptive waveform control (AWC), Adaptive Receiver Control (ARC)	-	-	-	-	-	-	-		Yes		
Host interface	SPI, I²C, UART	SPI, I²C, UART	SPI, I²C, UART	SPI, I²C, UART	SPI, I²C, UART	SPI, I²C, UART	SPI, I²C, UART		SPI		
Supply voltage host interface [V]	3.0 to 5.5	3.0 to 5.5	2.5 to 5.5	2.5 to 5.5	2.5 to 5.5	2.5 to 5.5	2.5 to 3.6		1.8 and 3.3		
Standby mode current, typ [µA]	3	3	3	3	3	3	-		15		
Power-down mode current, typ [µA]	0.008	0.008	0.008	0.008	0.008	0.008	5		10		
Power-down mode with RF level detector on [µA]	-	-	-	-	-	-	10		-		
Low-power card detection mode	Yes	Yes	Yes	Yes	Yes	Yes	-		Yes		
Available packages	HVQFN32	HVQFN32	HVQFN32	HVQFN32	HVQFN32	HVQFN32	HVQFN32, TFBGA64		HVQFN40, TFBGA64		
Temperature range [°C]	-25 to +85	-25 to +85	-40 to +105	-40 to +105	-40 to +105	-40 to +105	-30 to +85		-30 to +85		
Field-detection signal output	-	-	-	-	-	-	IRQ		IRQ		
Security features											
MIFARE SAM support	Yes	Yes	Yes	Yes	Yes	Yes	Yes		-		
MIFARE Classic security (CRYPTO1 HW)	-	Yes	--	Yes	Yes	Yes	Yes		Yes		
Product support and ordering information							HVQFN32	TFBGA64	HVQFN40	TFBGA64	
Product type	SLRC61002HN	MFRC63002HN	SLRC61003HN	MFRC63003HN	MFRC63103HN	CLRC66303HN	PN5120A0HN1	PN5120A0ET	PN5180A0HN	PN5180A0ET	
12NC single tray	9352 973 35151	9352 973 34151	9353 062 19551	9353 062 17551	9353 062 14551	9353 062 08551	9352 921 15151	9352 998 52151	⁽⁴⁾	⁽⁴⁾	
12NC multiple tray	9352 973 35157	9352 973 34157	-	-	-	-	9352 921 15157	9352 998 52157	-	-	
12NC reel	9352 973 35118	9352 973 34118	9353 062 19518	9353 062 17518	9353 062 14518	9353 062 08518	9352 921 15118	9352 998 52118	⁽⁴⁾	⁽⁴⁾	
Development boards	CLEV6630A 9353 391 48699		OM26630FDK 9353 391 51699				PNEV512B 9352 981 99699		OM25180FDK 9353 073 19699		
			CLEV6630B 9353 391 49699						OM25180TWR 9353 083 06699		
			OM29263ADK 9353 615 98598				OM5597 9352 949 09699 RD2612,699		SLN-POS-RDR ⁽⁸⁾ 9353 266 15598		
Software	NFC Reader Library with prepared support for RTOS & Linux®, NFC Cockpit		NFC Reader Library with prepared support for RTOS & Linux®, NFC Cockpit		NFC Reader Library with prepared support for RTOS & Linux®, NFC Cockpit, EMVCo L1 compliant; EMVCo Loopback application		NFC Reader Library with prepared support for RTOS & Linux®, EMVCo L1 compliant; EMVCo Loopback application, card emulation example		NFC Cockpit; NFC Reader Library with prepared support for RTOS & Linux®, EMVCo L1 compliant; EMVCo Loopback application, card emulation example		

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

NFC TAG IC SOLUTIONS						
NFC Forum compliance	Type 2 Tag		Type 4 Tag	Type 5 Tag	Type 2 Tag	
Carrier frequency [MHz]	13.56					
Input capacitance [pF]	50	50	70	23.5	50	50
NFC tag type baudrate [kbit/s]	106			26.5 (up to 53)	106	
PRODUCT	NTAG®	NTAG F	NTAG 413 DNA	ICODE	NTAG I²C plus	
Product description	Passive NFC tag for smart inlays, labels and tags	Passive NFC tag with field-detection output signal	Passive NFC tag with AES authentication and SUN feature	Passive NFC tag for smart inlays, labels and tags	Passive NFC tag with I²C interface, energy harvesting, password protection, originality check and high pass-through mode	
	NTAG 213/215/216	NTAG 213F/216F	NTAG 413 DNA	ICODE SLIX 2	NTAG I²C plus 1k	NTAG I²C plus 2k
User memory [Bytes]	144/504/888	144/888	160	316	888	1912
Operating distance up to [mm] ⁽¹⁾	100	100	100	1500	100	
Package	Wafer, M0A8	Wafer, HXSON4	Wafer	Wafer, SOT1122, MOA8	Wafer, XQFN8, TSSOP8, SO8	
Temperature range [°C]	-25 to +70	-25 to +70	-25 to +70	-40 to +85	-40 to +105	
Energy harvesting	-	-	-	-	up to 15 mW	
RF Silence	-	via FD pin	-	-	via config bit	
Field-detection signal output	-	Yes	-	-	Yes	
Pass-through mode (64-byte SRAM)	-	-	-	-	Yes	
Host interface	-	-	-	-	I²C	
Supply voltage host interface [V]	-	-	-	-	1.67 to 3.6	
Standby mode current, typ. [µA]	-	-	-	-	150	
Security features						
UID ASCII mirror & NFC counter ASCII mirror	Yes	Yes	Yes, plus CMAC	-	-	
Authentication via ECC	Yes	Yes	Yes	Yes	Yes	
Access keys	32 bit	32 bit	3 x AES 128 bit	32 bit	32 bit	
Read/Write protection	NFC	NFC	NFC	NFC	I²C/NFC	
Password authentication counter	Yes	Yes	Yes	-	Yes	
Product support & ordering information						
Product type	NT2H1311G NT2H1511G NT2H1611G	NT2H1311F NT2H1611F	NT4H1321G	SL2S2602	NT3H2111	NT3H2211
12NC	Wafer 120µ: 9352 999 12005 9352 999 27005 9352 999 29005	HXSON4: 9353 015 88125 9353 000 51125	Wafer 75µ: 9353 515 45005	Wafer 120µ: 9353 073 26003	XQFN8: 9353 069 39125	XQFN8: 9353 069 43125
	MOA8: 9353 046 24118 9353 046 25118 9353 046 26118		Wafer 120µ: 9353 473 47005	SOT1122: 9353 080 29115	MOA8: 9353 083 52118	TSSOP8: 9353 069 32118
Development boards					OM5569/NT322E 9353 078 49699	
					OM5569/NT322ER 9353 078 48699	
					OM5569/NT322F 9353 078 51699	
					OM23221ARD 9353 393 71598	
Software	Android™: TapLinx iOS: NXP TagInfo PC: TagXplorer	Android™: TapLinx	Android™: TapLinx iOS: NXP TagInfo PC: TagXplorer	Android™: TapLinx iOS: NXP TagInfo PC: TagXplorer	Binaries and source code for Windows® and Android™ applications, peek & poke GUI, LPCpresso controller FW example, Bluetooth pairing example based on NXP KW41Z, TapLinx, Android™ app and PC application.	

For the complete portfolio of NFC Tag ICs please visit www.nxp.com/nfc

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

Overall annotations:

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

(2) No software available for NFC tag type 2 and 3 emulation

(3) 160 for ISO/IEC 15693

(4) Please search for the product on www.nxp.com to find the latest ordering part numbers. Ordering part numbers can change due to regular firmware updates.

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

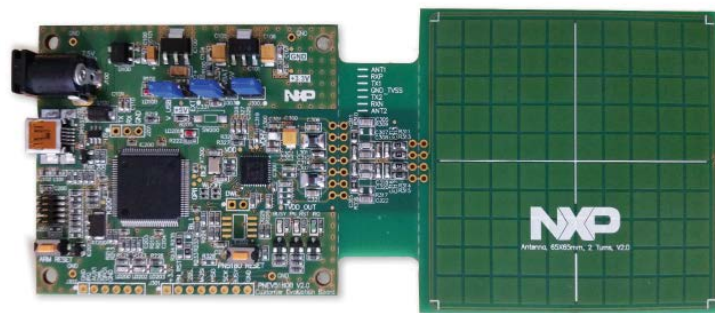
(6) The integrated limiter can be disabled by a FW configuration. The maximum current is then 250mA

(7) Low power card detection current consumption strongly depends on polling cycle and detection distance

(8) POS reference design: <https://www.nxp.com/support/developer-resources/reference-designs/point-of-sale-pos-reader-solution:SLN-POS-RDR>

DEVELOPMENT BOARDS

Name	CONNECTED NFC TAGS			NFC FRONTENDS					NFC CONTROLLERS					
	NTAG® I²C plus Explorer Kit	NTAG I²C plus Flex Kit (Add-on Kit)	NTAG I²C plus Kit for Arduino® pinout	PN5180 NFC Frontend Development Kit	MFRC630/SLRC610 Frontend Development Board	CLRC663 plus Frontend Development Kit	NFC Antenna Development Kit	PN512 NFC Frontend Development Board	PN7120 NFC Controller SBC ⁽¹⁾ Kit	PN7120 NFC Controller SBC ⁽¹⁾ Kit for Arduino®	PN7150 NFC Controller SBC ⁽¹⁾ Kit for Arduino®	PN7150 NFC Controller SBC ⁽¹⁾ Kit for BeagleBone® Black	PN7150 NFC Controller SBC ⁽¹⁾ Kit for Raspberry Pi®	PN7462 Controller Development Kit plus
Ordering number	OM5569/NT322E, OM5569/NT322ER (with external reader)	OM5569/NT322F	OM23221ARD	OM25180FDK PNEV5180B	CLEV6630A	OM26630FDK CLEV6630B	OM29263ADK	PNEV512B	OM5577/PN7120S	OM5577/PN7120ARD	OM5578/PN7150ARD	OM5578/PN7150BBB	OM5578/PN7150RPI	OM27462CDKP PNEV7462C
12NC	9353 078 49699 9353 078 48699	9353 078 51699	9353 393 71598	9353 073 19699 9353 073 21699	9353 391 48699	9353 391 51699 9353 391 49699	9353 615 98598	9352 981 99699	9353 063 52699	9353 089 04699	9353 090 78699	9353 090 77699	9353 090 76699	9353 639 45598 9353 635 25598
Supported products	NTAG I²C plus	NTAG I²C plus	NTAG I²C plus	PN5180	CLRC663, MFRC630, MFRC631, SLRC610	CLRC663 plus, MFRC631 plus, MFRC630 plus, SLRC610 plus	CLRC663 family	PN512	PN7120	PN7120	PN7150	PN7150	PN7150	PN7462, PN7362, PN7360
Contents	<ul style="list-style-type: none"> Explorer board PCB antenna board Flex antenna board Field detector board 10 NTAG I²C plus SO8 samples USB reader (OM5569/NT322ER only) 	<ul style="list-style-type: none"> Class 4 flex antenna Class 5 flex antenna Class 6 flex antenna 10 NTAG I²C plus SO8 samples 	<ul style="list-style-type: none"> NTAG I²C plus antenna board Arduino®-compatible header 	<ul style="list-style-type: none"> PNEV5180B development board with 65*65mm antenna 30*50mm antenna with matching component 3 PCBs for individual antenna matching NTAG216F NFC sample card 10 PN5180 samples in HVQFN package 	<ul style="list-style-type: none"> CLRC663 development board 	<ul style="list-style-type: none"> CLEV6630B development board with 65*65mm antenna 30*50mm antenna with matching components 3 PCBs for individual antenna matching NTAG216F and MIFARE DESFire EV2 NFC sample cards 10 CLRC663 plus samples in HVQFN package 	<ul style="list-style-type: none"> 2 Antennas (20x20 mm and 77x113 mm), matched to work with the CLRC663 family Matching boards, not assembled for own antenna matching development 	<ul style="list-style-type: none"> PNEV512B development board 	<ul style="list-style-type: none"> PN7120 NFC controller board Raspberry Pi® interface board BeagleBone® interface board NTAG216 NFC sample card 	<ul style="list-style-type: none"> PN7120 NFC controller board Arduino® interface board NTAG216 NFC sample card 	<ul style="list-style-type: none"> PN7150 NFC controller board Arduino® interface board NTAG216 NFC sample card 	<ul style="list-style-type: none"> PN7150 NFC controller board BeagleBone® interface board NTAG216 NFC sample card 	<ul style="list-style-type: none"> PN7150 NFC controller board Raspberry Pi® interface board NTAG216 NFC sample card 	<ul style="list-style-type: none"> PNEV7462C development board including 65 x 65 mm antenna 30 x 50 mm antenna with matching components 3 PCBs for individual antenna matching Sample cards and tags 2 USB cables 5 PN7462AU samples OM13054 LPC-Link2 debug adapter
Key features	<ul style="list-style-type: none"> Demo, evaluation and development board NFC Forum type 2 tag compliant Energy harvesting – up to 15 mW Pass-through mode – up to 40 kbit/s 32-Bit password authentication ECC-based originality check 	<ul style="list-style-type: none"> Add-on to Explorer kits Easy prototyping 	<ul style="list-style-type: none"> Suitable for any boards featuring an Arduino®-compatible header, including LPCXpresso, Kinetis and i.MX boards 	<ul style="list-style-type: none"> Full compliance with all standards relevant to NFC, contactless operation and EMVCo Onboard dynamic power control (DPC) Active load modulation Low-power card detection Artificial damping of the RF field in the middle of the antenna simulating real conditions LPC1769 MCU on board SPI interface accessible for connection of other MCU 	<ul style="list-style-type: none"> Artificial damping of the RF field in the middle of the antenna simulating real conditions LPC1769 MCU on board Antenna can be separated from reader section SPI interface accessible for connection of other MCU 	<ul style="list-style-type: none"> Highest RF performance Full EMVCo compliance Low-power card detection Artificial damping of the RF field in the middle of the antenna simulating real conditions LPC1769 MCU on board SPI interface accessible for connection of other MCU 	<ul style="list-style-type: none"> Plug and play matched antennas for the CLRC663 family 	<ul style="list-style-type: none"> Supports full development environment of LPCXpresso Supported by NXP® Reader Library incl. examples for fast development supporting LPC1769 development board MIFARE® support Exemplary implementation of a tag 4 type emulation and peer-to-peer communication with a phone 	<ul style="list-style-type: none"> Optimized for BeagleBone® and Raspberry Pi® platforms PCB integrated NFC antenna Enabling the development of an NFC solution based on PN7120 in a Linux®, Android or Windows® IoT environment 	<ul style="list-style-type: none"> Optimized for Arduino® platforms NFC Integration including many LPCXpresso, Kinetis® and i.MX boards 	<ul style="list-style-type: none"> Full NFC-compliant expansion board with Arduino®-compatible Interface platforms Compliance with reader mode, P2P mode and card emulation mode standards NFC integration with LPCXpresso, Kinetis and i.MX boards 	<ul style="list-style-type: none"> Full NFC-compliant expansion board for BeagleBone® Black Compliance with reader mode, P2P mode and card emulation mode standards Integrated high-performance RF antenna 	<ul style="list-style-type: none"> Full NFC-compliant board for Raspberry Pi® Compliance with reader mode, P2P mode and card emulation mode standards Integrated high-performance RF antenna 	<ul style="list-style-type: none"> Easy antenna design with NFC Cockpit SW PCBs adaptors for antenna matching Easy application development with full NFC Forum compliant and contact software libraries Smartcard reader
Certification	CE, FCC ⁽³⁾		CE, FCC ⁽³⁾	CE, FCC ⁽³⁾	CE, FCC ⁽³⁾ , MIC	CE, FCC ⁽³⁾ , MIC		CE	CE, FCC ⁽³⁾	CE, FCC ⁽³⁾	CE, FCC ⁽³⁾	CE, FCC ⁽³⁾	CE, FCC ⁽³⁾	CE, FCC ⁽³⁾
Software and tools	<ul style="list-style-type: none"> Binaries and source code for Windows® and Android™ applications Peek & poke GUI LPCXpresso controller FW example TapLinX Schematics and BoM of all boards 		<ul style="list-style-type: none"> Bluetooth pairing example based on NXP KW41Z Projects available on Explorer Kit moved to Kinetis platform (e.g. pass-through mechanism) Library for NTAG I2C Plus available through MCUXpresso for FRDM-KW41Z 	<ul style="list-style-type: none"> NFC Reader Library NFC Cockpit 	<ul style="list-style-type: none"> NFC Reader Library NFC Cockpit 	<ul style="list-style-type: none"> NFC Reader Library NFC Cockpit 		<ul style="list-style-type: none"> NFC Reader Library 	<ul style="list-style-type: none"> Linux® driver support Android driver support Windows® IoT driver support 	<ul style="list-style-type: none"> Linux® driver support Android driver support RTOS and Null OS support 	<ul style="list-style-type: none"> Linux® Software Stack Android driver support Windows® IoT driver RTOS and Null OS support 	<ul style="list-style-type: none"> Linux® Software Stack Android driver support 	<ul style="list-style-type: none"> Linux® Software Stack Windows® IoT driver 	<ul style="list-style-type: none"> NFC Reader Library NFC Cockpit PN7462AU FW and software example
Target applications	NFC pairing, industrial calibration, smart meter, logistics, IoT, healthcare, consumer electronics, smart media		NFC pairing, industrial calibration, smart meter, logistics, IoT, healthcare, consumer electronics, smart media	Payment, POS & mPOS terminals, access control, industrial and e-Gov	Industrial, single protocol reader, public transport, gaming	Access control, payment, gaming	NFC pairing, industrial calibration, smart meter, logistics, IoT, healthcare, consumer electronics, smart media, gaming	NFC reader applications requiring full P2P functionality	Set-top boxes, gateways, routers, wireless access points, TV, blu-ray decoders, remote, audio devices, home appliances, printers, IP phones, healthcare and fitness, gaming consoles					Multi-market USB reader solutions, access control, e-Gov, EMVCo, simple POS terminals, USB readers, home banking, home eID, gaming console accessories



PNEV5180B



OM5569/NT322ER



OM5577/PN7120ARD

All development kits come with quick start guides and user manuals.

Please go to www.nxp.com, type the part number into the search bar and find community discussions, videos, and a rich set of documentation on the dedicated development kit page.

CONTACT SMARTCARD READER ICs										
									Analog, UART, and CPU	
Product features	TDA8023TT	TDA8024	TDA8026ET	TDA8034HN	TDA8034T	TDA8035HN	TDA8037	TDA8029HL		
Analog interfaces	1	1	5	1	1	1	1	1		
ISO/IEC 7816 UART	-	-	-	-	-	-	-	Yes		
ISO/IEC 7816 dedicated timers	-	-	-	-	-	-	-	Yes		
Microcontroller core	-	-	-	-	-	-	-	80C51RB+		
ROM [kbyte] / RAM [byte]	-	-	-	-	-	-	-	16/768		
Host interface	I ² C	I/O lines	I ² C	I/O lines	I/O lines	I/O lines	I/O lines	Serial or I ² C		
ESD protection on ISO/IEC 7816 pins [kV]	6	6	7	8	8	10	8	6		
Auxiliary protected lines for C4 and C8 contacts	2	2	2 ⁽²⁾	2	-	2	2	-		
VCC card power supply [V]	1.8, 3, and 5	3 and 5	1.8, 3, and 5	1.8, 3, and 5	3 and 5	1.8, 3, and 5	3	1.8, 3, and 5		
Card supply current @ 5 V VCC [mA]	55	80	55	65	65	65	-	65		
Card supply current @ 3 V VCC [mA]	55	65	55	65	65	65	65	50		
Card supply current @ 1.8 V VCC [mA]	35	-	35	65	-	35	-	30		
Card supply voltage @ 1.2 V VCC [mA]	-	-	-	-	-	-	-	-		
Card clock frequency max. [MHz]	20	26	20	26	26	26	20	20		
Card activation time max. [μs]	135	225	135	3500	3500	3400	554	225		
Card deactivation time max. [μs]	110	100	100	250	250	250	250	100		
Protocol support										
Synchronous card management	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes		
Asynchronous protocol T=0 and T=1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Security features										
Voltage supervisor and over-current detection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Current protection on VCC, I/O, RST, CLK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Additional product information										
Power-supply interface VDDI (V)	1.5 to 6.5	-	1.6 to 3.6	1.6 to 3.6	1.6 to 3.6	1.6 to 3.6	-	-		
Power-supply (VDD)	2.7 to 6.5	2.7 to 6.5	2.7 to 5.5	2.7 to 5.5	2.7 to 5.5	2.7 to 5.5	3.0 to 3.6	2.7 to 6.0		
Power-down current max. (μA)	10	100	15	5	5	3	400	20		
Temperature range (°C)	-40 to +85	-40 to +85	-25 to +85	-25 to +85	-25 to +85	-25 to +85	-25 to +85	-25 to +85		
EMVCo 4.3 compliance	Yes	-	Yes	Yes	Yes	Yes	Yes (3 V only)	Yes		
CISCO compliance	-	Yes	-	Yes	-	Yes	Yes	Yes		
Product support & ordering information										
Product type	TDA8023TT	TDA8024T	TDA8024TT	TDA8026ET/C3	TDA8034HN/C2	TDA8034T	TDA8035HN/C2/S1	TDA8037T	TDA8037TT	TDA8029HL
Package	TSSOP28	SO28	TSSOP28	TFBGA64	HVQFN24	SO16	HVQFN32	SO28	TSSOP16	LQFP32
12NC single tray	-	-	-	9353 086 35551	9353 086 34151	-	9353 086 13151	-	-	9352 747 33151
12NC multiple tray	-	-	-	9353 086 35557	9353 086 34157	-	9353 086 13157	-	-	-
12NC reel	9352 988 14118	9352 713 42118	9352 991 52118	-	9353 086 34118	9352 883 49118	9353 086 13118	9353 015 17118	9353 015 01118	9352 747 33118
12NC reel dry pack	-	9352 713 42518	-	9353 086 35518	-	-	-	-	-	-
12NC bulk pack	-	-	-	-	-	9352 883 49112	-	-	-	-
Development boards	-	OM9800/DCT8024T 9353 046 58699	OM9800/DCT8024TT 9353 046 59699	OM9800/DCT8026 9352 931 69599	OM9800/DCT8034 9352 931 71599	CAKE8034_01_D	OM9800/DCT8035 9352 931 72599	CAKE8037_T	CAKE8037_TT	OM9800/DCT8029-11D 9353 046 61699 OM9800/DCT8029-12D (I ² C) 9353 046 62699
Software support	ARMTDA8029 I ² C drivers, TDA8029 demo									

Samples and demo boards are available on request, please contact a local NXP distributor.

MIFARE® SAMs FOR READER SYSTEMS		
Product features	MIFARE® SAM AV2	MIFARE® SAM AV2.6
Memory		
Write endurance [cycles]	100,000	100,000
Data retention [yrs]	10	10
Secure key storage	Up to 128 key entries	Up to 128 key entries
SAM interface		
UART	ISO/IEC 7816, T=1	ISO/IEC 7816, T=1
Frequency [MHz]	1 to 10	1 to 10
Baudrate [kbit/s]	9.6 to 1500	9.6 to 1500
Reader IC support (X-mode)	MFRC52x family	CLRC663 family
Security		
Unique serial number [bytes]	7	7
Random number generator	Yes	Yes
Access keys	128 key entries	128 key entries
Access conditions	Per key entry	Per key entry
MIFARE support	MIFARE DESFire® / MIFARE Plus® / MIFARE Classic / MIFARE Ultralight C®	
DES & DES3 security	MACing/encipherment	MACing/encipherment
AES 128 security	MACing/encipherment	MACing/encipherment
PKI	Signature/encipherment	Signature/encipherment
RSA	Signature/encipherment	Signature/encipherment
Packaging		
PCM1.1 module	P5DF081X0/T1AD2060S	P5DF081X0/T1AR1070S
HVQFN32 package	P5DF081HN/T1AD2060	P5DF081HN/T1AR1070
Product support and ordering information		
Product type	MIFARE SAM AV2	MIFARE SAM AV2.6
12NC Wafer	9352 931 19005	9352 953 67005
12NC PCM1.1	9352 931 25118	9352 968 39118
12NC HVQFN32	9352 931 21118	9352 968 33151
Development boards	MFEV710 9352 941 66599 CLRD710 9352 941 65599	
Software support	17173x NXP reader library, 18663x MIFARE Discover	17173x NXP Reader Library, 18663x MIFARE® Discover

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Samples and demo boards are available on request, please contact a local NXP distributor. Please also note, this linecard provides an overview of NFC focus products. The complete NFC portfolio can be found on www.nxp.com/nfc.

