Highly integrated RFID reader modules

Delivering unprecedented integration, these modules combine the functionality of multiple discrete ICs in a single package and enable the development of compact, cost-effective contactless reader systems for access and industrial applications. They include microcontroller functionality and support multiple contactless reader protocols based on 13.56 MHz. The PRH601 also allows communication at 125 kHz.

Key features

▸ Fully compliant with ISO/IEC 14443 A&B, ISO/IEC 15693, and FeliCa
▸ NFC-IP1 peer-to-peer support (Passive Initiator Mode)
▸ Multi-frequency support: 13.56 MHz and 125 kHz (PRH601)
▸ Integrated LPC1227 ARM Cortex-M0 microcontroller
▸ Support for MIFARE™ and HITAG™ technology
▸ Support for SAM AV2.6 interface
▸ Compact, single-package: LQFP100
▸ PR601 combines functionality of LPC1227 and CLRC663
▸ PRH601 combines functionality of LPC1227, CRLC663, and HTRC110

Key benefits

▸ Fast design-in of highly integrated contactless reader systems
▸ Integrating multiple functions in a single package
▸ Reduced PCB size for development of systems with small physical dimensions
▸ Compatibility with all established smartcard ICs, smart tags, and label technologies
▸ Small footprint with LQFP100

▸ Fast design-in with supplied firmware
▸ Dedicated support for multi-frequency readers available worldwide

Applications

▸ Highly integrated access systems
▸ Industrial devices requiring high-performance RF
▸ Multi-frequency applications that support 125 kHz and 13.56 MHz (e.g. migration of access management systems)

NXP's industry-leading portfolio for RFID reader modules reaches new levels of integration with the PRH601 and PR601. Both modules implement a 32-bit LPC1227 ARM Cortex-M0 and a CLRC663 contactless reader IC for communication at 13.56 MHz. The PRH601 adds a third component, the HTRC110 HITAG reader IC, to support communication at 125 kHz. Both modules are single-package solutions housed in a compact LQFP100 package.

Key technical data

Product features	PRH601	PR601
HTRC110	Yes	-
CLRC663	Yes	Yes
LPC1227	Yes	Yes
Operating distance [mm] [1]	120 / 160 [2]	120 / 160 [2]
FIFO depth (byte)	512	512
Host interface	SPI, I²C, RS-232	SPI, I²C, RS-232
RF interface		
Analog interface	Fully integrated	Fully integrated
Carrier frequency [MHz]	13.56 and 0.125	13.56
Modulation	10% and 100% ASK	10% and 100% ASK
Baudrate ISO 14443 [kbit/s]	106 / 212 / 424 / 848	106 / 212 / 424 / 848
Baudrate ISO 15693 [kbit/s]	26.5 / 53	26.5 / 53
Baudrate FeliCa [kbit/s]	212 / 424	212 / 424
Standards and protocols		
NFC Tag Type Reader	Tag 1, 2, 3, and 4	Tag 1, 2, 3, and 4
ISO 14443 A	Yes	Yes
ISO 14443 B	Yes	Yes
ISO 15693	Yes	Yes
MIFARE Classic support	Yes	Yes
FeliCa	Yes	Yes
EPC Class-1 HF/ ISO 18000-3M3	Yes	Yes
ISO 18092 (NFC)	Yes [3]	Yes [3]
EMVCo	Yes	Yes
Security features		
SAM support in X-Mode	MIFARE SAM AV2.6	MIFARE SAM AV2.6
Additional product information		
Supply voltage digital [V]	3.3 to 5.0 and 5.0 [4]	3.3 to 5.0
Supply voltage analog [V]	3.3 to 5.0	3.3 to 5.0
Temperature range [°C]	-25 to +70	-25 to +70
Package	LQFP100	LQFP100
Software support	NXP Reader Library	NXP Reader Library

(1) Depends on antenna, coil size, tuning, andenvironment   (2) For ISO15693   (3) Passive Initiator Mode   (4) For 125kHz operation

Ordering information

Type number		PRH601HL/C1	
Orderable part number	Package	LQFP100	
	Status	Available	
Sales description	12 NC	9352 985 83557	MOQ=450 (single tray)
Type number		PR601HL/C1	
Orderable part number	Package	LQFP100	
	Status	Available	
Sales description	12 NC	9352 985 84557	MOQ=450 (single tray)

Support and design-in material

To order samples or design kits, please contact your local NXP distributor or access the NXP distributor portal (https://extranet.nxp.com).

HITAG pedigree

HITAG is a well-established brand in the low-frequency (LF) RFID segment. It is optimized for applications that operate in harsh environments and require data transmissions that are highly reliable, robust, and safe.

MIFARE pedigree

NXP MIFARE is the leading technology platform for contactless ticket, card, and reader solutions. With more than 50 million core reader components, over five billion cards and ticket ICs sold, MIFARE is a proven and reliable technology that represents the largest installed base worldwide.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for nxp *manufacturer:*

Other Similar products are found below :

MC13211R2 PCA9518PW,112 LFSTBEB865X MC33399PEFR2 PCA9551PW,112 MC34825EPR2 CBTW28DD14AETJ PCF8583P MC68340AB16E MC8640DTVJ1250HE EVBCRTOUCH MC9S08PT16AVLC MC9S08PT8AVTG MC9S08SH32CTL MCF54415CMJ250 MCIMX6Q-SDB MCIMX6SX-SDB 74ALVC125BQ,115 74HC4050N 74HC4514N MK21FN1M0AVLQ12 MKV30F128VFM10 FRDM-K66F FRDM-KW40Z FRDM-MC-LVBLDC PESD18VF1BSFYL PMF63UNEX PSMN4R0-60YS,115 HEF4028BPN RAPPID-567XFSW MPC565MVR56 MPC574XG-176DS MPC860PCVR66D4 BT137-600E BT139X-600.127 BUK7628-100A118 BUK765R0-100E.118 BZT52H-B9V1.115 BZV85-C3V9.113 BZX79-C47.113 P5020NSE7VNB S12ZVML12EVBLIN SCC2692AC1N40 LPC1785FBD208K LPC2124FBD64/01 LS1020ASN7KQB LS1020AXN7HNB LS1020AXN7KQB LS1043ASE7PQA T1023RDB-PC