NXP Near Field Communication (NFC) controller PN532 for embedded devices

Easy, secure connectivity

Offering proximity connectivity for 13.56 MHz reader/writer applications in embedded devices, this highly integrated transmission module includes a microcontroller that reduces processing overhead on the host controller.

Key features

▸ Reader/writer functionality compatible with ISO/IEC 14443 A&B, MIFARE™, FeliCa and NFC Forum tag types (Jewel, MIFARE Ultralight™, FeliCa, MIFARE DESFire™)
▸ Full peer-to-peer functionality (ISO/IEC 18092 NFC IP1)
▸ Card emulation functionality
▸ Operating distance up to 70 mm*
▸ Integrated microcontroller with embedded firmware in ROM
▸ Multiple interfaces (UART, SPI, I^{2}C)
▸ Integrated MIFARE reader support

Key benefits

▸ Fast design-in time
▸ Real-time processing of integrated microcontroller
▸ Supports the most widely deployed contactless card protocols (ISO 14443 A&B and Felica)
▸ Small footprint (HVQFN40 6 x 6 x 1 mm)

▸ Application notes to optimize antenna and software design
▸ Excellent design-in support available worldwide
▸ Easy access to NFC technology, built with NXP's expertise and experience with major device manufacturers

Target markets and applications

▸ Embedded devices
▸ Industrial and medical applications
▸ Gaming and entertainment systems

*Depends on antenna device and device integration

NXP

Key technical data

Product features	
Host interfaces	SPI up to 5 Mbit/s Serial UART up to 1228 kbit/s I²C up to 400k bit/s
Microcontroller	80C51 core with 40 kbyte ROM and 1 kbyte RAM

RF interface	
Analog interface	Fully integrated
Carrier frequency	13.56 MHz
Baud rates	up to 424 kbit/s

Contactless protocols	
Reader / writer	ISO/IEC 14443 A&B MIFARE NFC Forum Tag Type support FeliCa
Peer-to-peer	ISO/IEC 18092 (active and passive)
Card emulation	ISO 14443 A & Mifare

Additional product information	
Supply voltage	2.7 - 5.5 V
Power-down mode	12 µA
Typical RF current	60 mA
Temperature range	-25 to +85 °C
Package	HVQFN40 (6 x 6 x 1 mm)
Software	NFC Forum Reference implementation

Ordering information

Part number			PN5321A3HN/C106	
Sales description	Package		HVQFN40	
	Status		Available	
Ordering information	12NC	9352 852 23518	MOQ=4000 (5trays with dry pack)	
		9352 852 23551	MOQ=490 (Rail with dry pack)	
		9352 852 23557	MOQ=2450 (simple tray with dry pack)	

Design-in kit

To support product development and enable easy access to PN532 and NFC technology, NXP offers the OM5581/N5322S02 design-in kit. Equipped with all the necessary hardware, software sources, and documentation, it includes two reference PN532 boards, two cables, and two power supplies. A reference implementation for the NFC Forum's protocol stack is also available.

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

MIFARE pedigree

NXP MIFARE is the leading technology platform for contactless ticket, card, and reader solutions. With more than 40 million core reader components, two billion cards, and one billion smart ticket ICs sold, MIFARE is a proven and reliable technology that represents the largest installed base worldwide.

MIFARE, MIFARE Ultralight, MIFARE DESFire, FeliCa, Topaz are registered trademarks of NXP, Sony Corporation and Innovision Research and Technology plc. respectively

MIFARE.net

www.nxp.com