NXP NFC controllers with customizable firmware PN7462 family

All-in-one NFC controller solutions

These state-of-the-art devices are single-chip solutions for contact, contactless, and NFC operation, and can be loaded with fully-custom applications. Optimized antenna operation and low-power modes enable best-in-class performance.

KEY FEATURES

- 20-MHz Cortex-M0 core
  - 80/160 kB Flash, 12 kB RAM, 4 kB EEPROM
- State-of-the-art RF interface: Full NFC Forum and EMVCo 2.6 compliant
  - Read/Write, Card Emulation & Peer-to-Peer Modes
  - Transmitter current up to 250 mA with Dynamic Power Control for optimized antenna performance
  - Full MIFARE family support and ISO/IEC 14443 Type A&B licensed
- Extensive master, host and peripheral interfaces
  - Master interfaces: I^2C, SPI
  - Host interfaces: I^2C, SPI, USB, HSUART
  - Optional contact interface (PN7462AU, PN7412AU) EMVCo 4.3c compliant and ISO/IEC 7816 UART
  - 12 to 21 GPIOs
- Advanced power management
- Extensive support tools, including sample source code
- HVQFN64 (9 x 9 x 0.85 mm) and VFBGA64 (4.5 x 4.5 x 0.8 mm) packages

KEY BENEFITS

- Quick development of complete applications
- Compact designs thanks to highest integration
- One HW and SW platform fits multi-application needs

APPLICATIONS

- Access control
- Home banking and Point of Sales terminals
- Multi-market USB readers

Bringing together NXP's industry-leading expertise in contactless, and contact interface, the PN7462 family integrates a low-power Cortex-M0 MCU equipped with a Flash for customer software and numerous host and master interfaces with a full NFC frontend with MIFARE compatibility and/or a contact frontend with enhanced ESD protection.

The family includes highly integrated yet highly customizable solutions that increase design flexibility while shrinking the design footprint, lowering the system BoM, and reducing time-to-commercialization.

The PN7462AU offers 160 kB of Flash and is available with a contactless and a contact interface; the PN7412AU has only a contact interface. The PN7362AU is equipped with a contactless interface and 160 kB of Flash; the PN7360AU has only 80 kB of Flash.

DYNAMIC POWER CONTROL

The exclusive Dynamic Power Control (DPC) feature automatically optimizes the antenna for better performance in the presence of metal, other cards, and mobile phones. DPC also lowers power consumption, enables best output power, and provides long read ranges to create a low-power setup that easily meets EMVCo requirements.

ADVANCED CUSTOMIZATION

The extensive set of hardware interfaces, supported by a comprehensive set of scalable and pre-certified support tools, offers the widest range of options for functionality while saving time and effort during development and certification. Firmware can be downloaded using the SWD interface and the USB mass storage, and there's also support for in-field firmware upgrades. Furthermore, the extended temperature range (-40 to +85 °C) creates new opportunities in difficult operating environments.

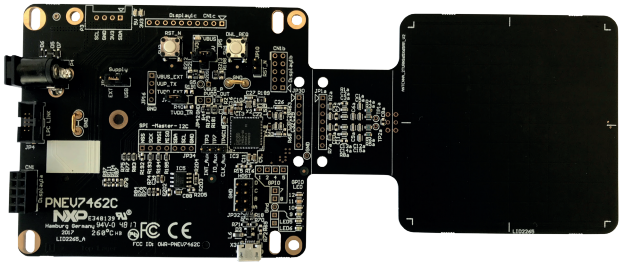
COMPACT, LOWER-COST DESIGNS

Housed in HVQFN64 (9 x 9 mm) or smaller VFBGA64 (4.5 x 4.5 mm) packages, the PN4762 family needs fewer external components and requires less PCB space than other implementations. The final design is more compact with a lower BoM.

FAST COMPLETION

For easy design-in and certification, the PN7462 family is supplied with a complete development kit OM27462CDKP and libraries that are validated and pre-certified for EMVCo (contact and contactless). Furthermore the PN7462 family is compliable with the NFC Forum guidelines for NFC analog and digital and compatible with the MIFARE card family.

The NFC Reader Library has built-in MCU support and yields highly compact and efficient codes. The NFC Cockpit is an intuitive tool for configuring and modifying IC settings without writing a single code line, and developers are supported every step of the way with tutorials, software examples, webinars, an extensive online community, and access to independent experts.



PN7462 family	PN7412AU	PN7462AU		PN7362AU		PN7360AU	
Item reference	PN7412AUHN	PN7462AUHN	PN7462AUEV	PN7462AUHN	PN7462AUEV	PN7362AUHN	PN7362AUEV
Package type	HVQFN64	HVQFN64	VFBGA64	HVQFN64	VFBGA64	HVQFN64	VFBGA64
Contactless interface	no	NFC Forum compliant					
Available flash memory	160KB					80KB	
General purposes I/O	12 up-to 21		14 up-to 21				
Contact interface	Class A,B,C		no				
IOS/IEC 7816-3&4 UART	yes		no				
12NC single tray delivery	9353 684 76551	9353 076 92551	9353 613 42551	9353 084 36551	9353 613 41551	9353 077 96551	9353 613 43551
12NC reel delivery	9353 684 76518	9353 076 92518	9353 613 42518	9353 084 36518	9353 613 41518	9353 077 96518	9353 613 43518
Development kit	OM27462CDKP (12NC 9353 639 45598)						
Development board	PNEV7462C (12NC 9353 635 25598)						

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