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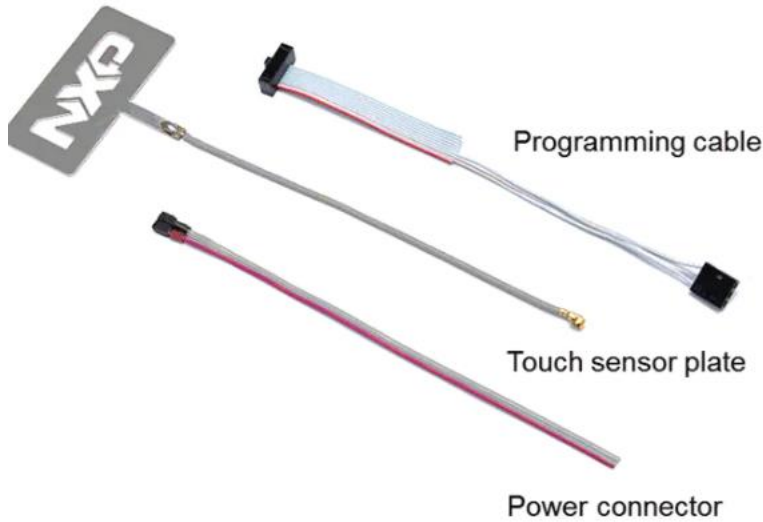
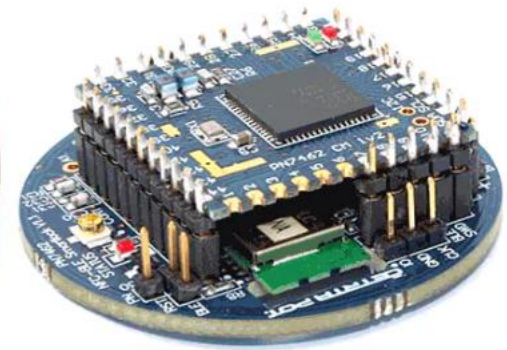
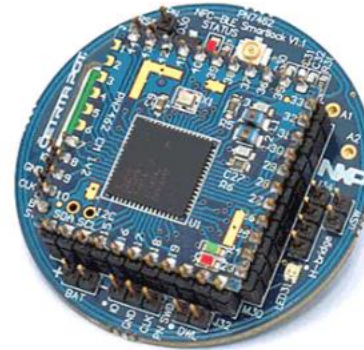
智能電子鎖方案

SACG Hata Huang

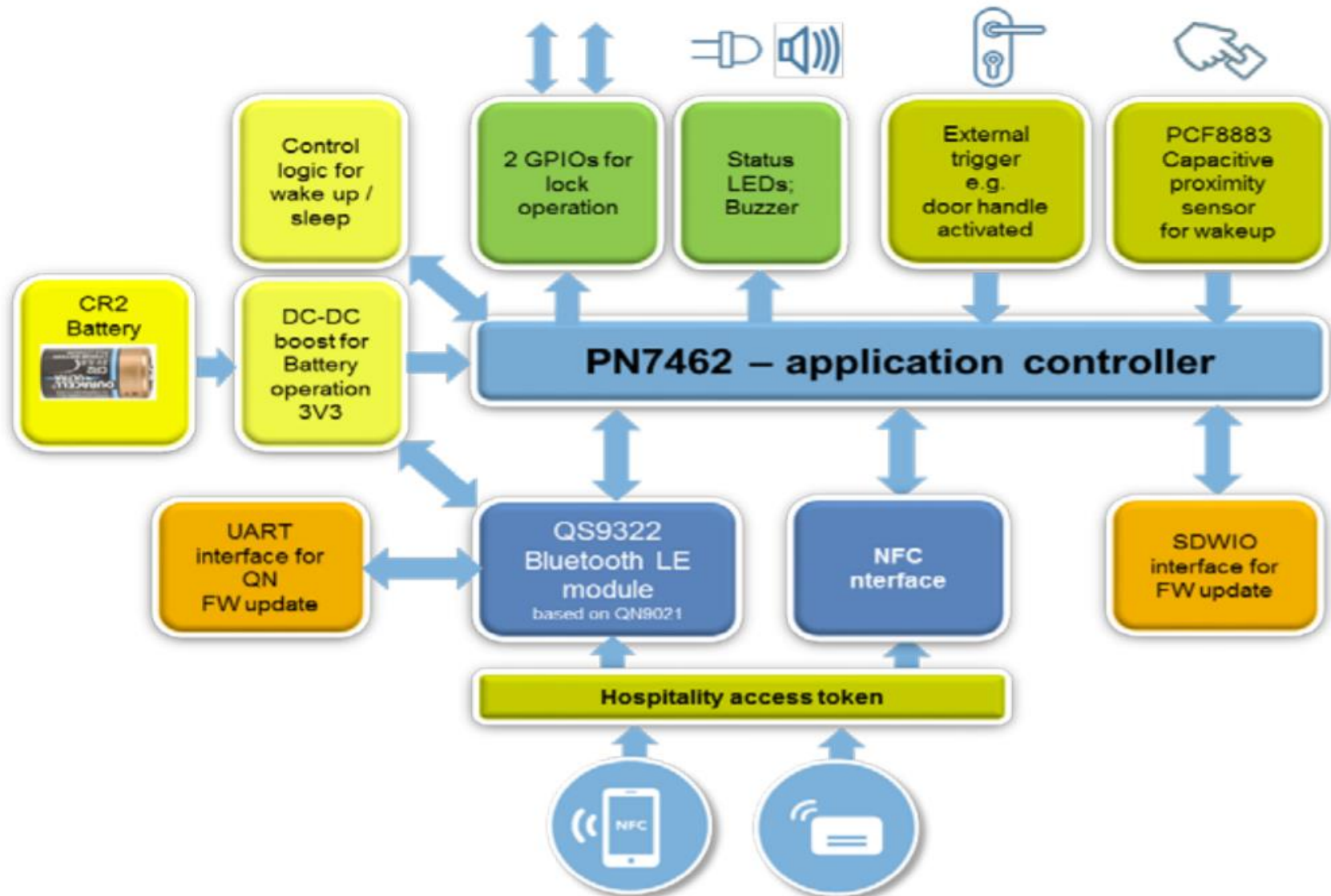
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0963-058-836

OM27642 Smart Lock KIT



Main building blocks



NFC Reader: PN7462 family



Characteristics

Key features

- › 20 MHz Cortex M0 core with 12 kB RAM and 4 kB EEPROM
- › 160/80 kB user Flash
- › 250mA maximum operating transmitter current with Dynamic Power Control
- › Power supply from 2.7 to 5.5V
- › GPIOs, master/slave SPI and I²C, host USB and HSUART
- › Protected firmware download in flash
- › Extended operating temperature range: -40 to +85°C

Ease of integration

- › Multiple SW examples provided for several use cases
- › EMVCo validated and NFC Forum compliant libraries
- › Usage of standard development tools

Optional Contact Reader (PN7462AU)

- › Class A, B, C cards supported (PN7462AUHN only)
- › Fully integrated ISO/IEC 7816-3&4 UART
- › Baud rate up to 1 Mbit/s
- › Capability to drive external contact reader frontends for SAMs

Supported RF protocols

Reader and Writer mode

- › ISO/IEC 14443A/MIFARE
- › ISO/IEC 14443B
- › JIS X 6319-4 (comparable with FeliCa1 scheme)
- › ISO/IEC 15693 (ICODE-SLIX/SLIX2, ICODE-DNA)
- › ISO/IEC 18000-3 mode 3/ EPC Class-1 HF (ICODE-ILT)

Card emulation

- › ISO/IEC 14443-4 with Active and Passive load modulation support

Peer to Peer mode

- › Active and passive initiator and target according to ISO/IEC 18092

Allows to read and write

- › Complete MIFARE® and DESFIRE® families
- › Complete NTAG® family e.g. NTAG I²C *plus*
- › Complete ICODE® family and SmartMX® family

Packages

- › HVQFN64 (9x9 mm²)
- › VFBGA64 (4.5x4.5 mm²)

BLE: QN902x



● CPU

- 32 MHz ARM Cortex-M0 core
- 128 kB Flash & 64 kB RAM & 96kB ROM

● 2.4 GHz radio transceiver

- Bluetooth 4.0 LE single mode
- Support master and slave roles
- Programmable output power :
-20 to +4 dBm
- -95 dBmRX sensitivity (Bluetooth Smart)
- Peak typical current w/ MCU:
8.8mA TX @+0dBm
9.25mA RX with DC/DC activated

● Security

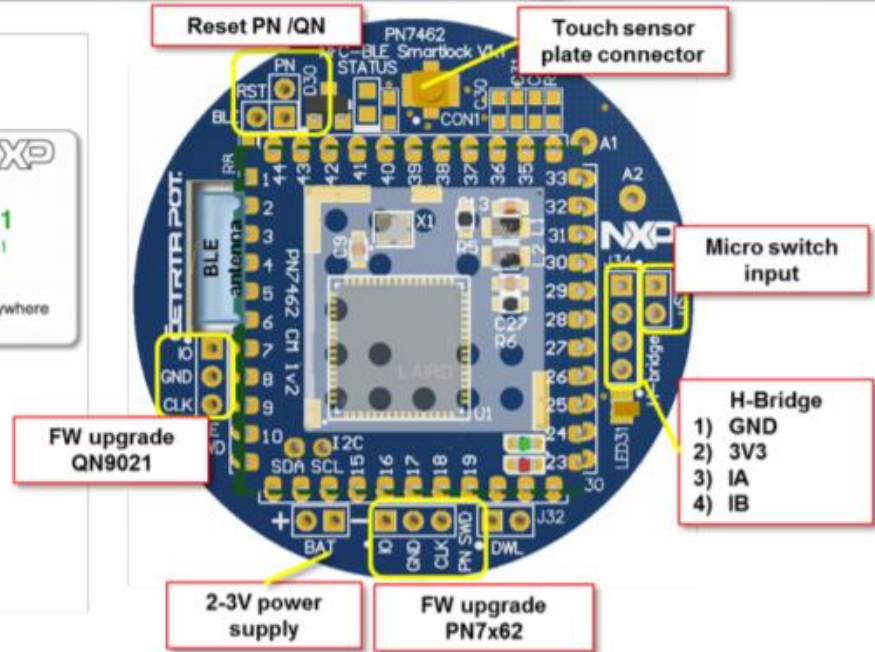
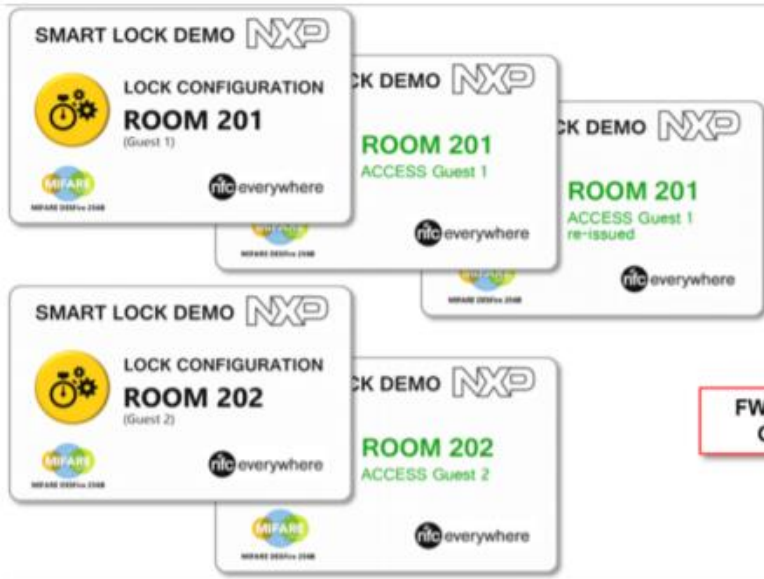
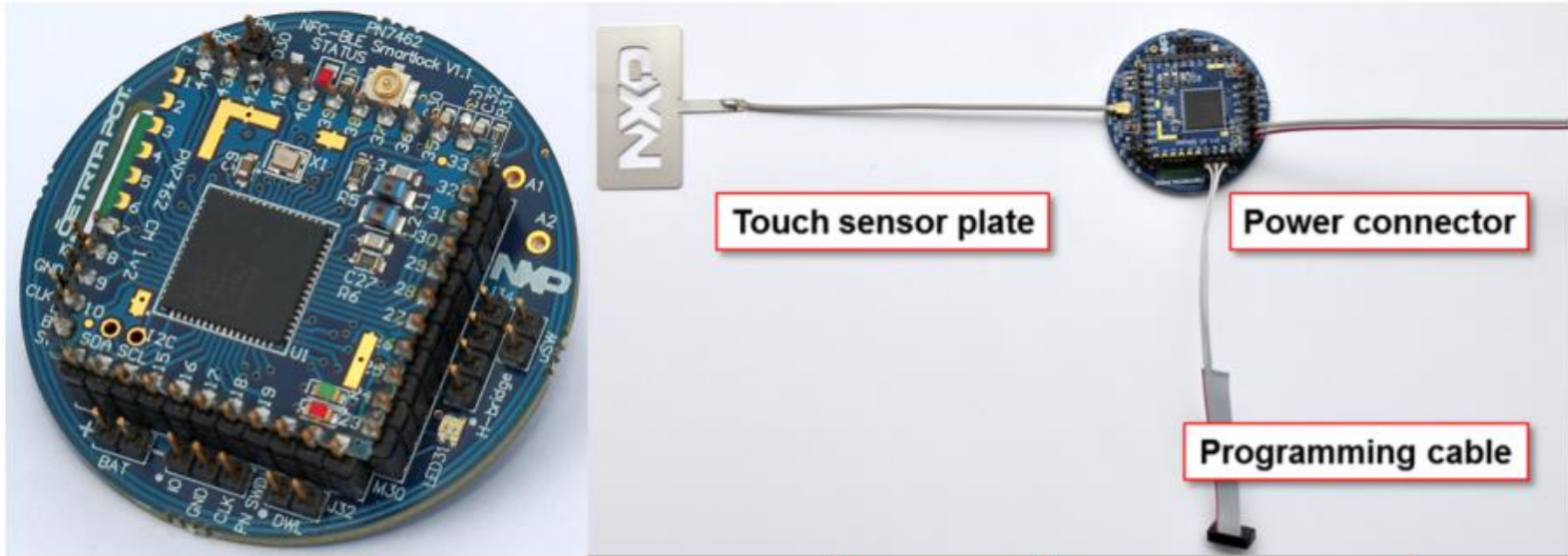
- Cryptoengine: AES-128, RNG

● System

- DC/DC working from 2.4V to 3.6V
- Ambient temperature: -40°C to +85°C
- QFN48 6x6mm, QFN32 5x5mm



Smart Lock KIT Content



Application screenshots



The screenshots show the following steps in the application:

- Screenshot 1:** The 'LOCK CONFIG' menu is highlighted. The screen shows 'Click to configure: SMARTLOCK 0201', a date/time selector for '6.10.2016 21:22', and buttons for 'CONFIGURE ROOM 201' and 'CONFIGURE ROOM 202'.
- Screenshot 2:** The 'OPEN DOOR' menu is highlighted. It shows 'Current reserved room' for 'Room 201' with reservation dates from 6.10.2016 21:00 to 9.10.2016 13:00. A key icon is shown with the instruction 'Click the Key to unlock: SMARTLOCK 0201'. A red circle highlights the room icon in the bottom right corner.
- Screenshot 3:** The 'Available Rooms' list is shown with 'Room 201', 'Room 202', and 'Room 201 re.'. A red arrow points to the room icon in the bottom right corner of the 'Room 202' entry.
- Screenshot 4:** The 'Reserve Room 202' screen is shown. It displays reservation details: 'Reserved from 7 October 2016 14:00' and 'Reserved till 10 October 2016 13:00'. A 'BUY NOW' button is visible. Below the main screen, two smaller screens show the date and time selection process.
- Screenshot 5:** The 'Current reserved room' screen is updated to show 'Room 202' with reservation dates from 07/10/2016 15:00 to 10/10/2016 13:00. A key icon is shown with the instruction 'TAP HANDSET ON TO LOCK'.

Click LOCK CONFIG to set
1) room number
2) date and time

Lock will optically and acoustically confirm the modifications.

OPEN DOOR menu (start screen)
After starting the app the above menu shows the reserved room.
Open the door by
1) NFC: present mobile phone to NFC antenna even when the key is greyed out.
2) Bluetooth® Low Energy: Click on the key button once it appears green and the Lock number is displayed underneath the key symbol
Reserve another available room by pressing room symbol in the right down corner.

Reserve another available room by pressing the room symbol in the right down corner of the Reserved room menu.

By clicking on the displayed **dates** or **times** respective screens for the both will appear and can be easily adapted. **BUY NOW** will create a new key token on the mobile device. Press **CONTINUE** after successful purchase.

The Room is now changed to **Room 202** with the date/time stamp set upon purchased.

Support Resource



Website: [OM27462NBR: NFC-Bluetooth® Low Energy smart lock kit](#)

Embedded Software (3)

Code Snippets (3)



[OM27462NBR Base Board V1.1 manufacturing data \(REV 1\)](#)

This file contains relevant PCB manufacturing data for the Smart LOCK base board inclusive Gerber file, BOM and pick and place data.

2016-11-23 00:00:00 zip 2.2 MB SW4077

Download



[PN7462 Core module 1v2 manufacturing data \(REV 1\)](#)

This file contains relevant PCB manufacturing data for the Smart LOCK base board inclusive Gerber file, BOM and pick and place data.

2016-11-23 00:00:00 zip 327.4 kB SW4078

Download



[NXP Smartlock \(REV 1.2.0\)](#)

Demo APP for NXP Smartlock Kit OM27462NBR

2016-10-24 00:00:00 html 150 B NXP-SMARTLOCK

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Thank you

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