



# Smart Lock

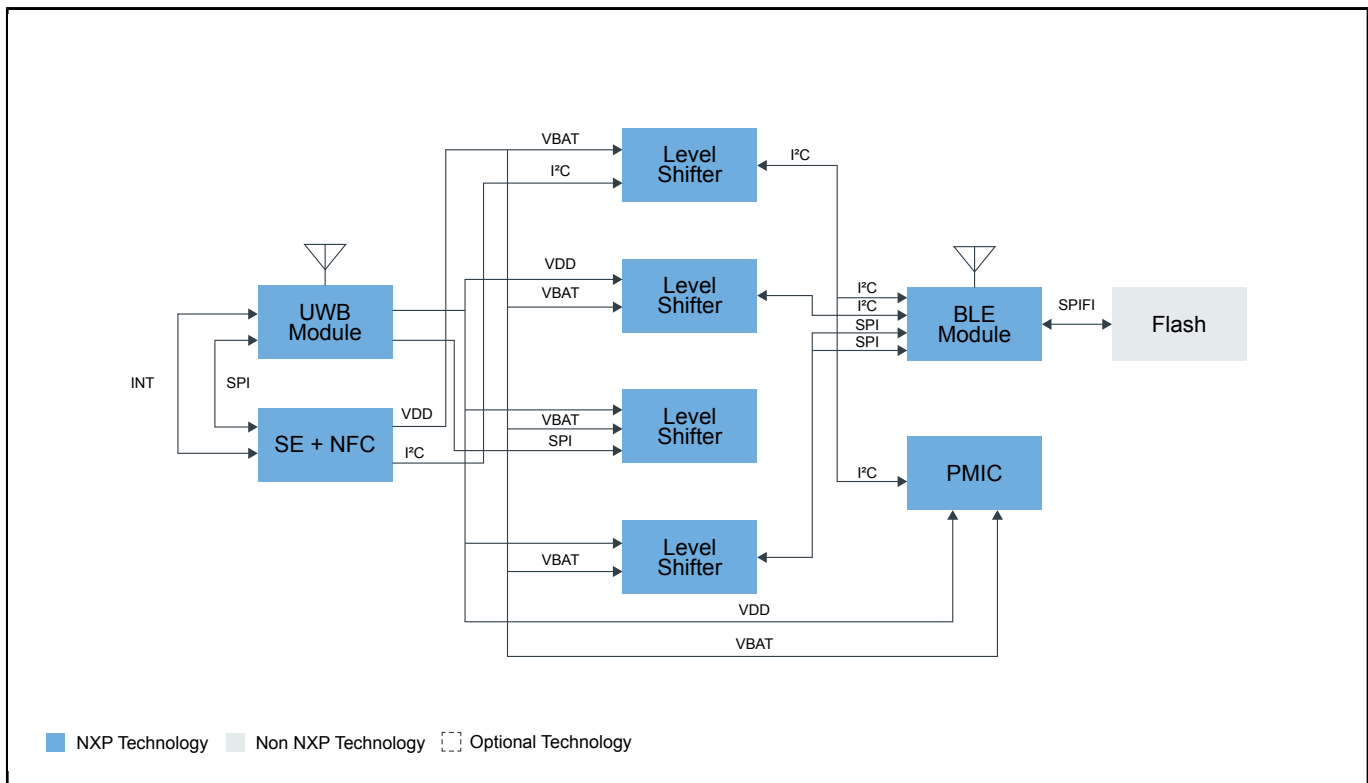
Last Updated: Apr 8, 2025

Physical and information security is a growing concern in the connected world. Smart locks are one piece of the puzzle in controlling access to both information and physical spaces.

A smart lock can be accessed via NFC contact or contactless technology and use Bluetooth® low energy or ultra-wide band(UWB) to communicate with a user's smartphone, adding an additional level of security. Interaction with smart locks can range from something as simple as status LEDs to LCD panels with touchscreen control.

NXP provides a variety of connectivity options like low-power NFC, Bluetooth Low Energy or UWB. We also have analog components to complete the design of the smart lock.

## UWB Smart Lock Block Diagram

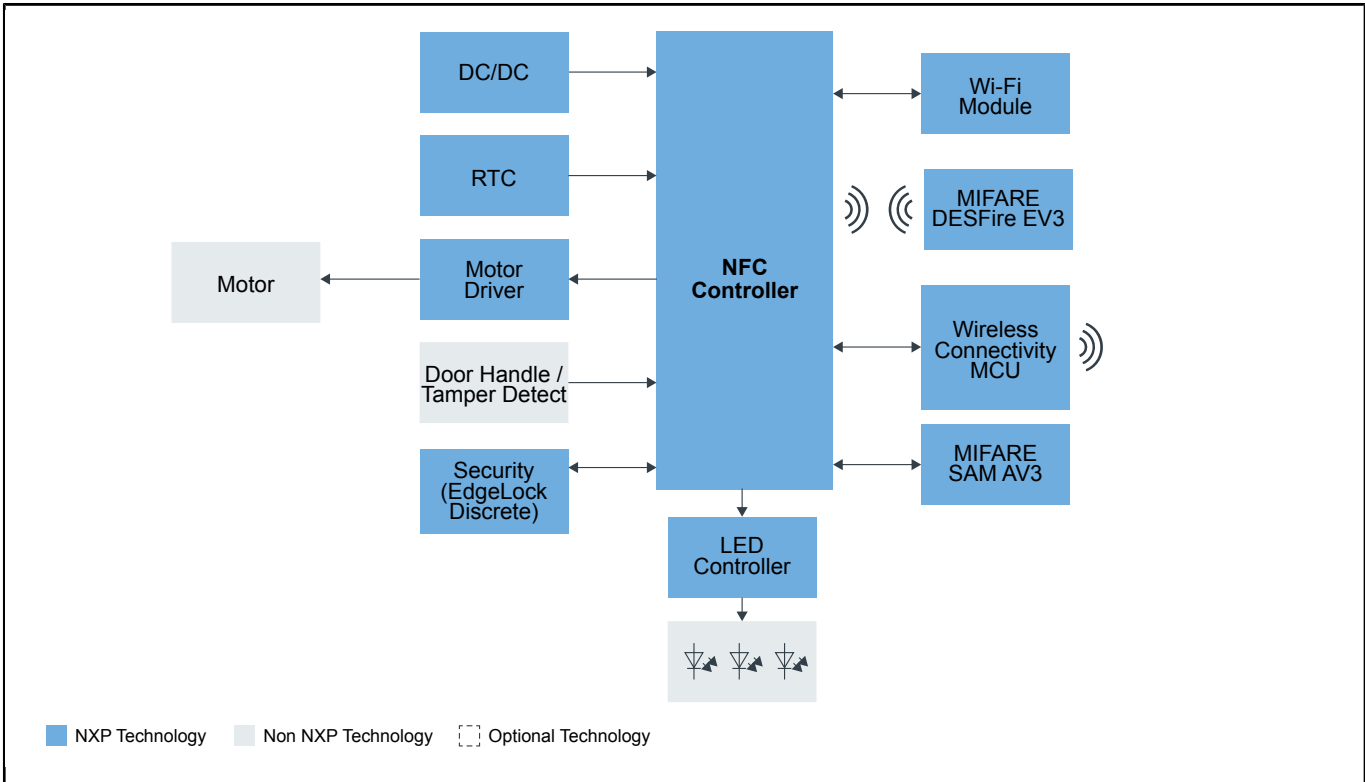


### Recommended Products for UWB Smart Lock

UWB Module	<ul style="list-style-type: none"><li>• <a href="#">SR150</a>: Trimension™ SR150: Secure UWB Solution for IoT Devices</li></ul>
Level Shifter	<ul style="list-style-type: none"><li>• <a href="#">NTS0102</a>: Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing)</li><li>• <a href="#">NTB0104</a>: Dual-Supply Translating Transceiver (Auto-Direction Sensing, Three-State)</li></ul>
BLE Module	<ul style="list-style-type: none"><li>• <a href="#">QN9090-30</a>: QN9090/30: Bluetooth Low-Energy MCU with Arm®Cortex®-M4 CPU, Energy Efficiency, Analog and Digital Peripherals and NFC Tag Option</li></ul>

PMIC	<ul style="list-style-type: none"> <li>• <a href="#">PF1510</a>: Power Management Integrated Circuit (PMIC) for Low Power Application Processors</li> </ul>
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## Smart Lock PN7362 Block Diagram

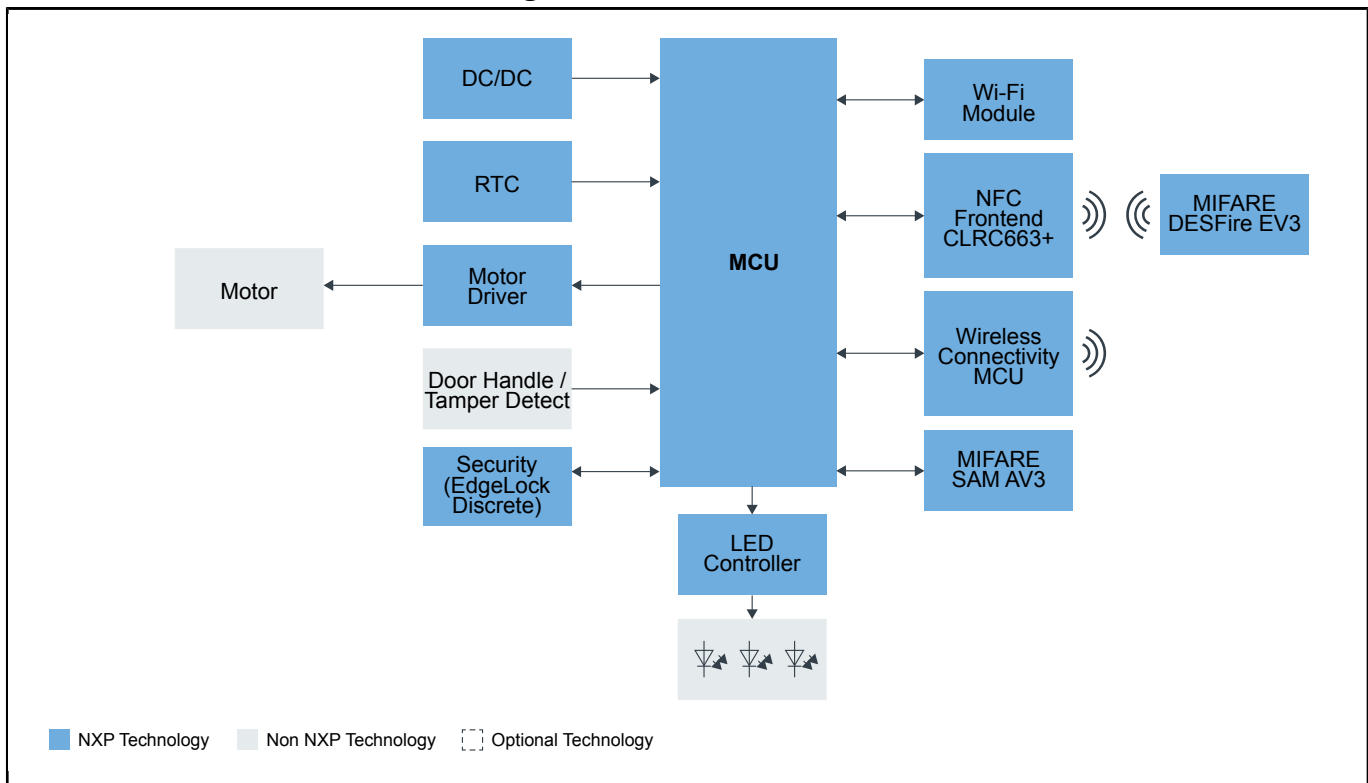


### Recommended Products for Smart Lock PN7362

NFC Controller	<ul style="list-style-type: none"> <li>• <a href="#">PN736X</a>: NFC Cortex-M0 Microcontroller</li> <li>• <a href="#">PN5190</a>: NFC Frontend supporting challenging RF environment for payment, physical access control</li> <li>• <a href="#">CLRC66303HN</a>: CLRC663 plus Family: High-Performance NFC Frontends</li> </ul>
Wireless Connectivity MCU	<ul style="list-style-type: none"> <li>• <a href="#">KW31Z</a>: Kinetis® KW31Z-2.4 GHz Bluetooth Low Energy Wireless Radio Microcontroller (MCU) based on Arm® Cortex®-M0+ Core</li> </ul>
DC-DC	<ul style="list-style-type: none"> <li>• <a href="#">PCA9410_9410A</a>: 3.0 MHz, 500 MA, DC-to-DC Boost Converter</li> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCF8523</a>: 100 NA Real-Time Clock/Calendar with Battery Backup</li> </ul>
LED Controller	<ul style="list-style-type: none"> <li>• <a href="#">PCA9956BTW</a>: 24-Channel Fm+ I²C-Bus 57 MA/20 V Constant-Current LED Driver</li> </ul>
MIFARE DESFire EV3	<ul style="list-style-type: none"> <li>• <a href="#">MF3DHx3</a>: MIFARE® DESFire® EV3: High-Security IC for Contactless Smart City Services</li> </ul>
Motor Driver	<ul style="list-style-type: none"> <li>• <a href="#">MC33926</a>: H-Bridge, Brushed DC Motor Driver, 5-28 V, 5 A, 20 kHz</li> </ul>
Secure Element	<ul style="list-style-type: none"> <li>• <a href="#">MIFSAMAV3</a>: MIFARE SAM AV3</li> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility</li> </ul>

Wi-Fi	<ul style="list-style-type: none"> <li>• <a href="#">IW416</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® 5.2 Solution</li> <li>• <a href="#">RW610</a>: Wireless MCU with Integrated Radio: 1x1 Wi-Fi® 6 + Bluetooth® Low Energy 5.4 Radios</li> <li>• <a href="#">RW612</a>: Wireless MCU with Integrated Tri-radio: 1x1 Wi-Fi® 6 + Bluetooth® Low Energy 5.4 / 802.15.4</li> <li>• <a href="#">IW610</a>: 2.4/5GHz Dual-Band 1x1 Wi-Fi® 6 + Bluetooth Low Energy 5.4 + 802.15.4 Tri-Radio Solution</li> </ul>
Security (EdgeLock Discrete)	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility</li> <li>• <a href="#">SE051</a>: EdgeLock® SE051: Proven, Easy-to-Use IoT Security Solution with Support for Updatability and Custom Applets</li> <li>• <a href="#">EDGELOCK-A5000</a>: EdgeLock® A5000 Plug and Trust Secure Authenticator: Authentication Made Secure, Scalable and Easy</li> </ul>

## Smart Lock w/CLRC663 Block Diagram

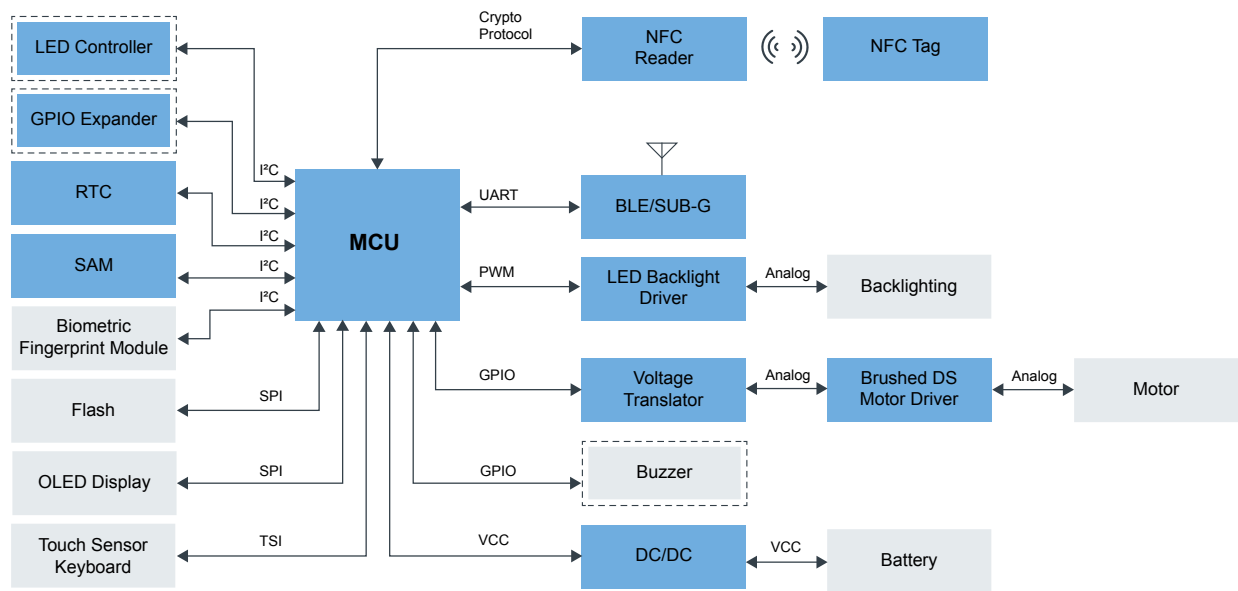


### Recommended Products for Smart Lock w/CLRC663

MCU	<ul style="list-style-type: none"> <li>• <a href="#">CLRC66303HN</a>: CLRC663 plus Family: High-Performance NFC Frontends</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">CLRC66303HN</a>: CLRC663 plus Family: High-Performance NFC Frontends</li> <li>• <a href="#">PN736X</a>: NFC Cortex-M0 Microcontroller</li> <li>• <a href="#">PN5190</a>: NFC Frontend supporting challenging RF environment for payment, physical access control</li> </ul>
Wireless Connectivity MCU	<ul style="list-style-type: none"> <li>• <a href="#">KW31Z</a>: Kinetis® KW31Z-2.4 GHz Bluetooth Low Energy Wireless Radio Microcontroller (MCU) based on Arm® Cortex®-M0+ Core</li> </ul>
DC-DC	<ul style="list-style-type: none"> <li>• <a href="#">PCA9410_9410A</a>: 3.0 MHz, 500 MA, DC-to-DC Boost Converter</li> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCF8523</a>: 100 NA Real-Time Clock/Calendar with Battery Backup</li> </ul>
LED Controller	<ul style="list-style-type: none"> <li>• <a href="#">PCA9956BTW</a>: 24-Channel Fm+ I²C-Bus 57 MA/20 V Constant-Current LED Driver</li> </ul>

MIFARE DESFire EV3	<ul style="list-style-type: none"> <li>• <a href="#">MF3DHx3</a>: MIFARE® DESFire® EV3: High-Security IC for Contactless Smart City Services</li> </ul>
Motor Driver	<ul style="list-style-type: none"> <li>• <a href="#">MC33926</a>: H-Bridge, Brushed DC Motor Driver, 5-28 V, 5 A, 20 kHz</li> </ul>
Secure Element	<ul style="list-style-type: none"> <li>• <a href="#">MIFSAMAV3</a>: MIFARE SAM AV3</li> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility</li> </ul>
Wi-Fi	<ul style="list-style-type: none"> <li>• <a href="#">IW416</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® 5.2 Solution</li> <li>• <a href="#">RW610</a>: Wireless MCU with Integrated Radio: 1x1 Wi-Fi® 6 + Bluetooth® Low Energy 5.4 Radios</li> <li>• <a href="#">RW612</a>: Wireless MCU with Integrated Tri-radio: 1x1 Wi-Fi® 6 + Bluetooth® Low Energy 5.4 / 802.15.4</li> <li>• <a href="#">IW610</a>: 2.4/5GHz Dual-Band 1x1 Wi-Fi® 6 + Bluetooth Low Energy 5.4 + 802.15.4 Tri-Radio Solution</li> </ul>
Security (EdgeLock Discrete)	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility</li> <li>• <a href="#">SE051</a>: EdgeLock® SE051: Proven, Easy-to-Use IoT Security Solution with Support for Updatability and Custom Applets</li> <li>• <a href="#">EDGELOCK-A5000</a>: EdgeLock® A5000 Plug and Trust Secure Authenticator: Authentication Made Secure, Scalable and Easy</li> </ul>

## E-Lock KL1x Block Diagram



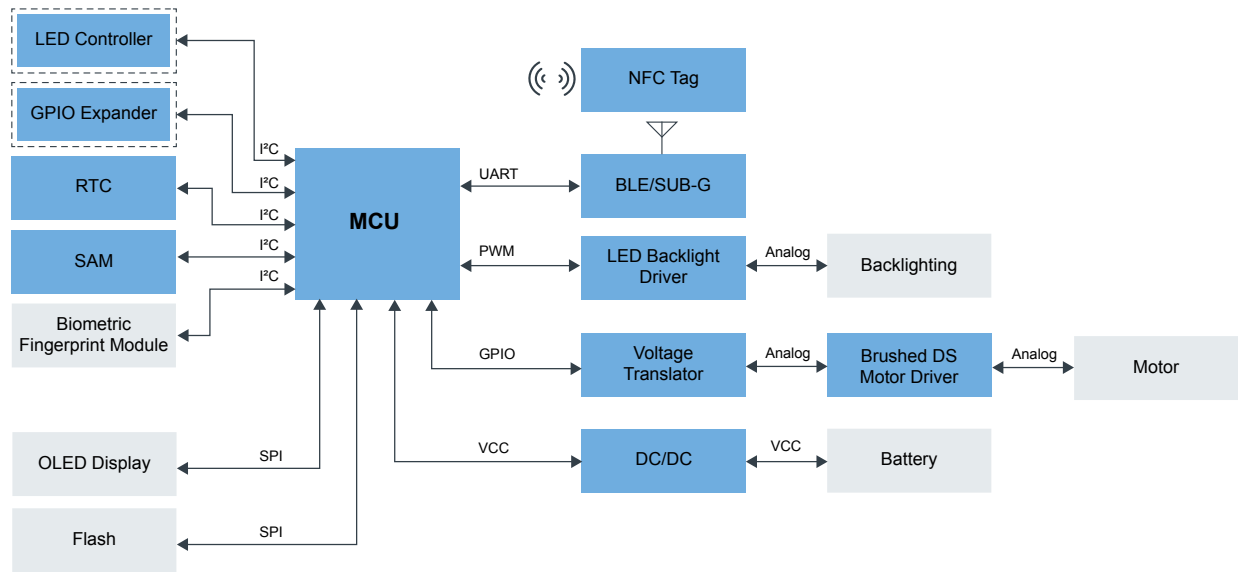
■ NXP Technology    ■ Non NXP Technology    □ Optional Technology

#### Recommended Products for E-Lock KL1x

LED Controller	<ul style="list-style-type: none"> <li>• <a href="#">PCA9685</a>: 16-Channel, 12-bit PWM Fm+ I<sup>2</sup>C-Bus LED Driver</li> </ul>
GPIO Expander	<ul style="list-style-type: none"> <li>• <a href="#">PCAL6416A</a>: Low-Voltage Translating 16-Bit I<sup>2</sup>C-Bus/SMBus I/O Expander</li> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCF85263A</a>: Tiny Real-Time Clock/Calendar with Alarm Function, Battery Switch-Over, Time Stamp Input and I<sup>2</sup>C-Bus</li> </ul>
SAM	<ul style="list-style-type: none"> <li>• <a href="#">MIFSAMAV3</a>: MIFARE SAM AV3</li> </ul>

NFC Reader	<ul style="list-style-type: none"> <li>• <a href="#">PN5190</a>: NFC Frontend supporting challenging RF environment for payment, physical access control</li> </ul>
BLE/SUB-G	<ul style="list-style-type: none"> <li>• <a href="#">QN9090-30</a>: QN9090/30: Bluetooth Low-Energy MCU with Arm®Cortex®-M4 CPU, Energy Efficiency, Analog and Digital Peripherals and NFC Tag Option</li> </ul>
LED BacklightDriver	<ul style="list-style-type: none"> <li>• <a href="#">MC34844</a>: 10 Channel LED Backlight Driver with Power Supply</li> </ul>
Voltage Translator	<ul style="list-style-type: none"> <li>• <a href="#">NTS0304E</a>: 4-Bit Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing)</li> </ul>
DC/DC	<ul style="list-style-type: none"> <li>• <a href="#">PCA9410_9410A</a>: 3.0 MHz, 500 MA, DC-to-DC Boost Converter</li> </ul>
NFC Tag	<ul style="list-style-type: none"> <li>• <a href="#">MF3DHx3</a>: MIFARE® DESFire® EV3: High-Security IC for Contactless Smart City Services</li> </ul>
Brushed DS Motor Driver	<ul style="list-style-type: none"> <li>• <a href="#">MC33926</a>: H-Bridge, Brushed DC Motor Driver, 5-28 V, 5 A, 20 kHz</li> </ul>
MCU	<ul style="list-style-type: none"> <li>• <a href="#">KL1x</a>: Kinetis® KL1x-48 MHz, Mainstream Small Ultra-Low Power Microcontrollers (MCUs) based on Arm® Cortex®-M0+ Core</li> </ul>

## E-Lock PN7462 Block Diagram



NXP Technology
  Non NXP Technology
  Optional Technology

### Recommended Products for E-Lock PN7462

MCU	<ul style="list-style-type: none"> <li>• <a href="#">PN7462</a>: NFC Cortex®-M0 All-in-One Microcontroller with Optional Contact Interface for Access Control</li> </ul>
Led Controller	<ul style="list-style-type: none"> <li>• <a href="#">PCA9685</a>: 16-Channel, 12-bit PWM Fm+ I<sup>2</sup>C-Bus LED Driver</li> </ul>
GPIO Expander	<ul style="list-style-type: none"> <li>• <a href="#">PCAL6416A</a>: Low-Voltage Translating 16-Bit I<sup>2</sup>C-Bus/SMBus I/O Expander</li> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCF85263A</a>: Tiny Real-Time Clock/Calendar with Alarm Function, Battery Switch-Over, Time Stamp Input and I<sup>2</sup>C-Bus</li> </ul>

BLE/SUB-G	<ul style="list-style-type: none"> <li>• <a href="#">QN9090-30</a>: QN9090/30: Bluetooth Low-Energy MCU with Arm®Cortex®-M4 CPU, Energy Efficiency, Analog and Digital Peripherals and NFC Tag Option</li> </ul>
NFC Tag	<ul style="list-style-type: none"> <li>• <a href="#">MF3DHx3</a>: MIFARE® DESFire® EV3: High-Security IC for Contactless Smart City Services</li> </ul>
LED BacklightDriver	<ul style="list-style-type: none"> <li>• <a href="#">MC34844</a>: 10 Channel LED Backlight Driver with Power Supply</li> </ul>
DC/DC	<ul style="list-style-type: none"> <li>• <a href="#">PCA9410_9410A</a>: 3.0 MHz, 500 MA, DC-to-DC Boost Converter</li> </ul>
Brushed DSMotor Driver	<ul style="list-style-type: none"> <li>• <a href="#">MC33926</a>: H-Bridge, Brushed DC Motor Driver, 5-28 V, 5 A, 20 kHz</li> </ul>
VoltageTranslator	<ul style="list-style-type: none"> <li>• <a href="#">NTS0304E</a>: 4-Bit Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing)</li> </ul>
SAM	<ul style="list-style-type: none"> <li>• <a href="#">MIFSAMAV3</a>: MIFARE SAM AV3</li> </ul>

View our complete solution for [Smart Lock](#).

**Note:** The information on this document is subject to change without notice.

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