



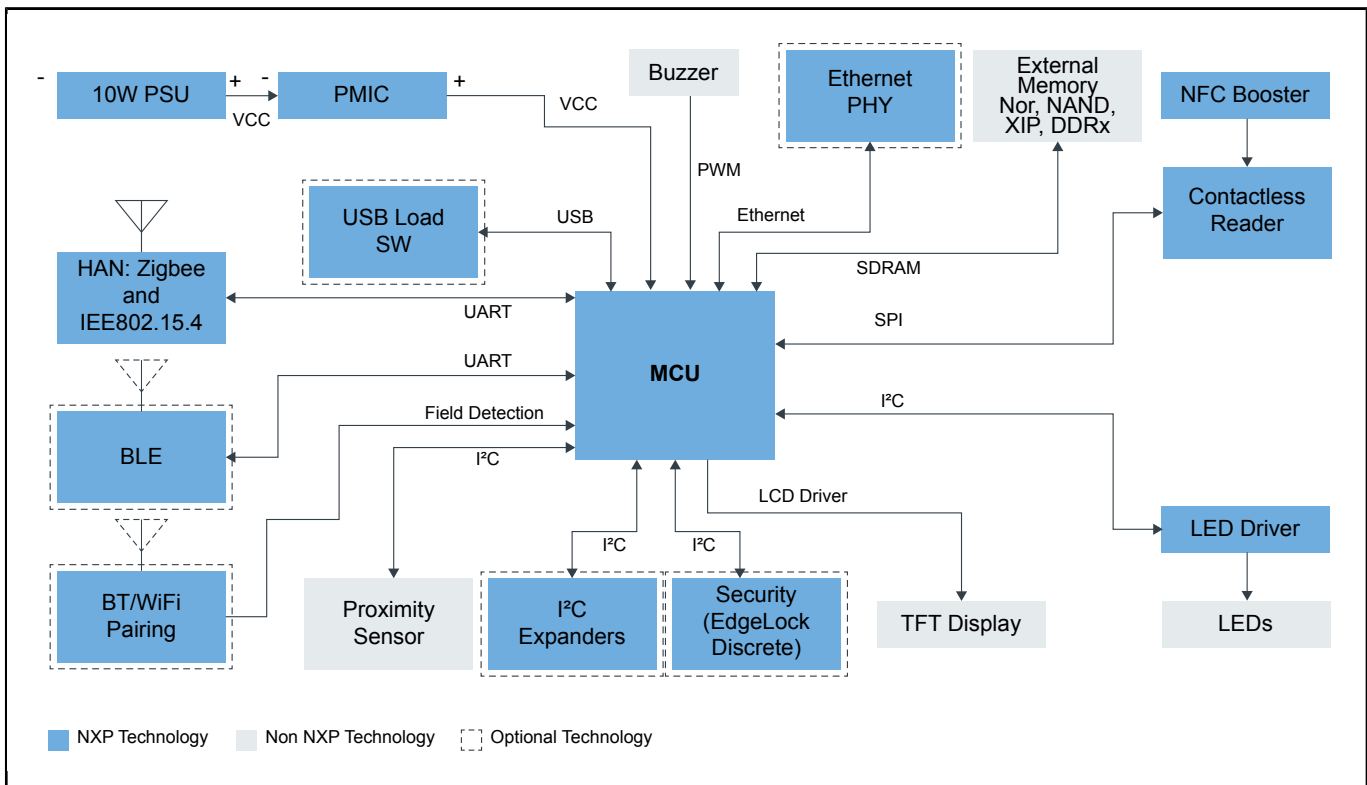
Energy Manager (Building Management System)

Last Updated: Oct 4, 2024

To achieve better service and smarter, streamlined processes, energy providers require reliable, real-time access to data. NXP® products help data concentrators or energy gateways create the necessary infrastructure to gather data from different sensors and utility meters, upload it to the central utility server, and show it to the user. The energy gateway synchronizes time and date data of utility meters to the central utility server and enables secure data transfer of user authentication and encryption information.

Communication to sensors uses RF technology such as ZigBee and Bluetooth Low Energy.

Energy Gateway i.MX Block Diagram

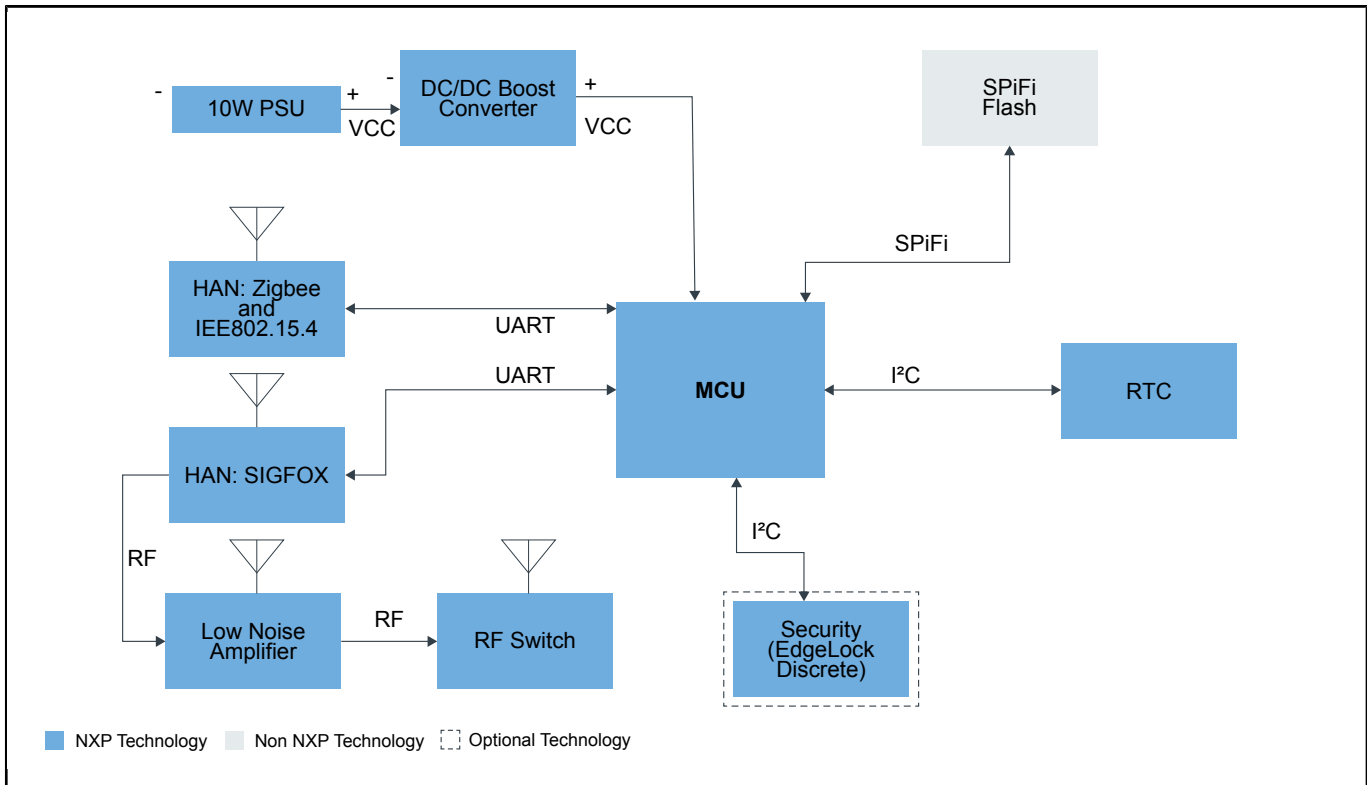


Recommended Products for Energy Gateway i.MX

MCU	<ul style="list-style-type: none"> • i.MX6UL: i.MX 6UltraLite Processor - Low-Power, Secure, Arm® Cortex®-A7 Core • i.MX6S: i.MX 6Solo Processors – Single-Core, Multimedia, 3D Graphics, Arm® Cortex®-A9 Core
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Power Management	<ul style="list-style-type: none"> • TEA1721DT: HV Start-up Flyback Controller with Integrated MOSFET for 5 W Applications, F~Burst = 1270 Hz • PF3001: 10-Channel Configurable PMIC for i.MX6 and i.MX7 Application Processors
Wireless	<ul style="list-style-type: none"> • JN5169: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM • NTAG213F_216F: NTAG213F, NTAG216F: NFC Forum Type 2 Tag Compliant IC with 144/888 B User Memory and Field Detection • QN9080: QN908x: Ultra-Low-Power Bluetooth Low Energy System on Chip Solution • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 4 (802.11n) + Bluetooth[®] 5.2 Solution • IW611: 2.4/5GHz Dual-band 1x1 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.4 Solution • IW612: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.4 + 802.15.4 Tri-Radio Solution
Drivers	<ul style="list-style-type: none"> • NX5P3290UK: USB PD and Type-C Current-Limited Power Switch • PCA9550: 2-Bit I²C-Bus LED Driver with Programmable Blink Rates • PCAL6408A: Low-Voltage Translating, 8-Bit I²C-Bus/SMBus I/O Expander
NFC	<ul style="list-style-type: none"> • PCA9410_9410A: 3.0 MHz, 500 MA, DC-to-DC Boost Converter • PN5190: NFC Frontend supporting challenging RF environment for payment, physical access control
Drivers	<ul style="list-style-type: none"> • NX5P3290UK: USB PD and Type-C Current-Limited Power Switch • PCAL9722: 22-Bit SPI I/O Expander with Agile I/O Features • PCAL9714: 14-Bit SPI I/O Expander with Agile I/O Features • PCA9550: 2-Bit I²C-Bus LED Driver with Programmable Blink Rates • PCAL6408A: Low-Voltage Translating, 8-Bit I²C-Bus/SMBus I/O Expander
Wireless	<ul style="list-style-type: none"> • JN5169: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM • NTAG213F_216F: NTAG213F, NTAG216F: NFC Forum Type 2 Tag Compliant IC with 144/888 B User Memory and Field Detection • QN9080: QN908x: Ultra-Low-Power Bluetooth Low Energy System on Chip Solution • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 4 (802.11n) + Bluetooth[®] 5.2 Solution • 88W8977: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 4 (802.11n) + Bluetooth[®] 5.2 Solution
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Transceiver	<ul style="list-style-type: none"> • TJA1101: TJA1101B, IEEE 100BASE-T1 Compliant Automotive Ethernet PHY Transceiver
Security (EdgeLock Discrete)	<ul style="list-style-type: none"> • SE050: EdgeLock[®] SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility

Energy Gateway LPC Block Diagram

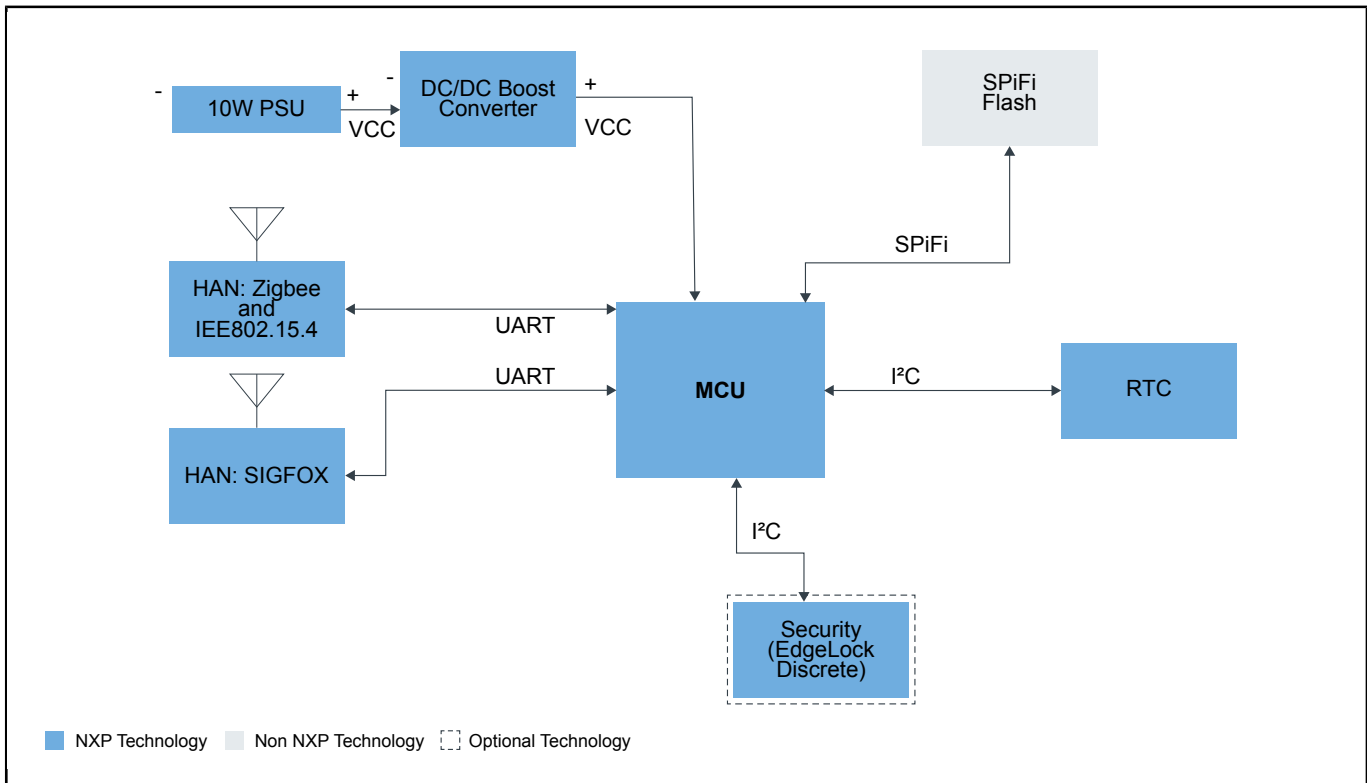


Recommended Products for Energy Gateway LPC

MCU	<ul style="list-style-type: none"> • LPC540XX: Power-Efficient Microcontrollers (MCUs) with Advanced Peripherals Based on Arm[®] Cortex[®]-M4 Core
Power Management	<ul style="list-style-type: none"> • PCA9410_9410A: 3.0 MHz, 500 MA, DC-to-DC Boost Converter • TEA1721DT: HV Start-up Flyback Controller with Integrated MOSFET for 5 W Applications, F~Burst = 1270 Hz
Wireless	<ul style="list-style-type: none"> • OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 4 (802.11n) + Bluetooth[®] 5.2 Solution • JN5169: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM • BGS8H2: SiGe:C Low-Noise Amplifier MMIC with Bypass Switch for LTE • IW611: 2.4/5GHz Dual-band 1x1 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.4 Solution • IW612: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.4 + 802.15.4 Tri-Radio Solution • RW610: Wireless MCU with Integrated Radio: 1x1 Wi-Fi[®] 6 + Bluetooth[®] Low Energy 5.4 Radios • RW612: Wireless MCU with Integrated Tri-radio: 1x1 Wi-Fi[®] 6 + Bluetooth[®] Low Energy 5.4 / 802.15.4
Wireless	<ul style="list-style-type: none"> • OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform • JN5169: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM • BGS8H2: SiGe:C Low-Noise Amplifier MMIC with Bypass Switch for LTE • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 4 (802.11n) + Bluetooth[®] 5.2 Solution • 88W8977: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 4 (802.11n) + Bluetooth[®] 5.2 Solution
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Security (EdgeLock Discrete)	<ul style="list-style-type: none"> • SE050: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility
RTC	<ul style="list-style-type: none"> • PCA2131: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal for Automotive Applications

Energy Gateway LPC Basic Block Diagram



Recommended Products for Energy Gateway LPC Basic

MCU	<ul style="list-style-type: none"> • LPC540XX: Power-Efficient Microcontrollers (MCUs) with Advanced Peripherals Based on Arm® Cortex®-M4 Core
Security (EdgeLock Discrete)	<ul style="list-style-type: none"> • SE050: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility
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ENERGY-GATEWAY-BD3-BNDL2	<ul style="list-style-type: none"> • PCA9410_9410A: 3.0 MHz, 500 MA, DC-to-DC Boost Converter • TEA1721DT: HV Start-up Flyback Controller with Integrated MOSFET for 5 W Applications, F~Burst = 1270 Hz

Power Management	<ul style="list-style-type: none"> • PCA9410_9410A: 3.0 MHz, 500 MA, DC-to-DC Boost Converter • TEA1721DT: HV Start-up Flyback Controller with Integrated MOSFET for 5 W Applications, F~Burst = 1270 Hz
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RTC	<ul style="list-style-type: none"> • PCA2131: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal for Automotive Applications

View our complete solution for [Energy Manager \(Building Management System\)](#).

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