

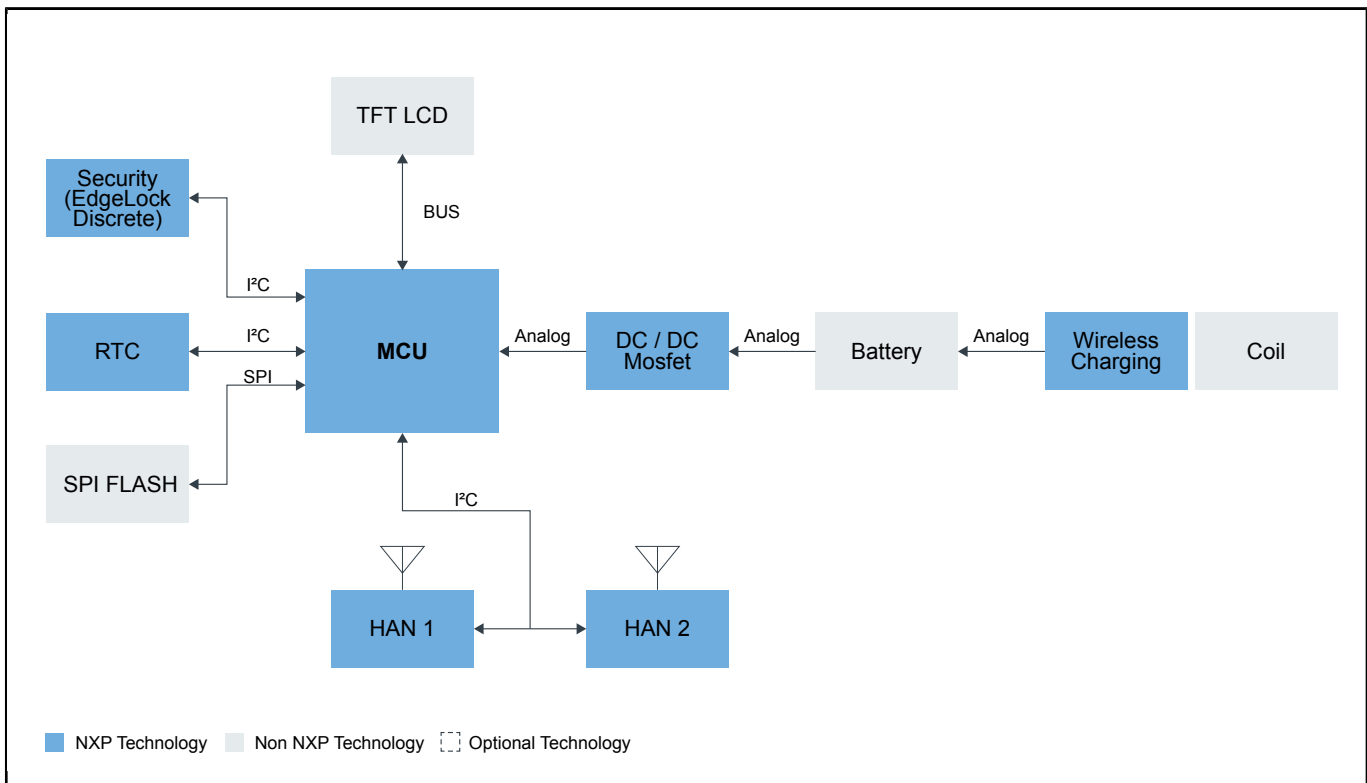


In-Home Energy Display

Last Updated: Dec 30, 2021

In-Home Energy Displays are popular among residents who want to track and manage their energy consumption and costs. These displays are typically user-interactive and allow the operator to access real-time up-to-date information. Therefore, the handheld display must have a processor for system management, wireless connectivity to access consumption and cost data via multiple communication protocols, a real-time clock for time-stamping data and issuing various system alarms, and load switches for effectively managing the power consumption within the display system.

In-home energy display Block Diagram

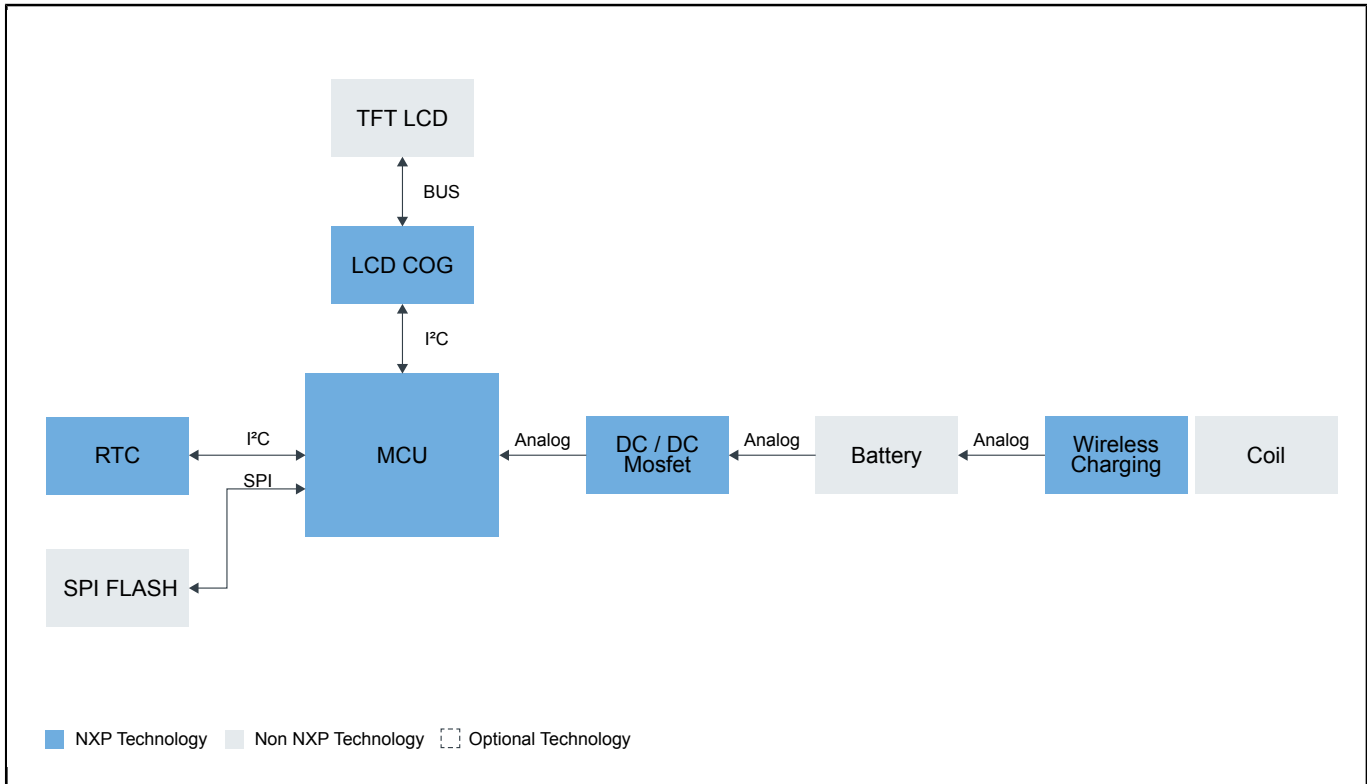


Recommended Products for In-home energy display

MCU	<ul style="list-style-type: none"> • LPC546XX: Power-Efficient Microcontrollers (MCUs) With Advanced Peripherals Based on Arm® Cortex®-M4 Core
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Security (EdgeLock Discrete)	<ul style="list-style-type: none"> • EdgeLock® SE050: Plug & Trust Secure Element Family – Enhanced IoT security with high flexibility
RTC	<ul style="list-style-type: none"> • PCF2129: Accurate RTC with Battery Backup – Selectable I²C-Bus or SPI
HAN	<ul style="list-style-type: none"> • JN5169: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM • OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform
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DC/DC	<ul style="list-style-type: none"> • PCA9410_9410A: 3.0 MHz, 500 MA, DC-to-DC Boost Converter
Wireless Charging	<ul style="list-style-type: none"> • Wireless Power: Wireless Power

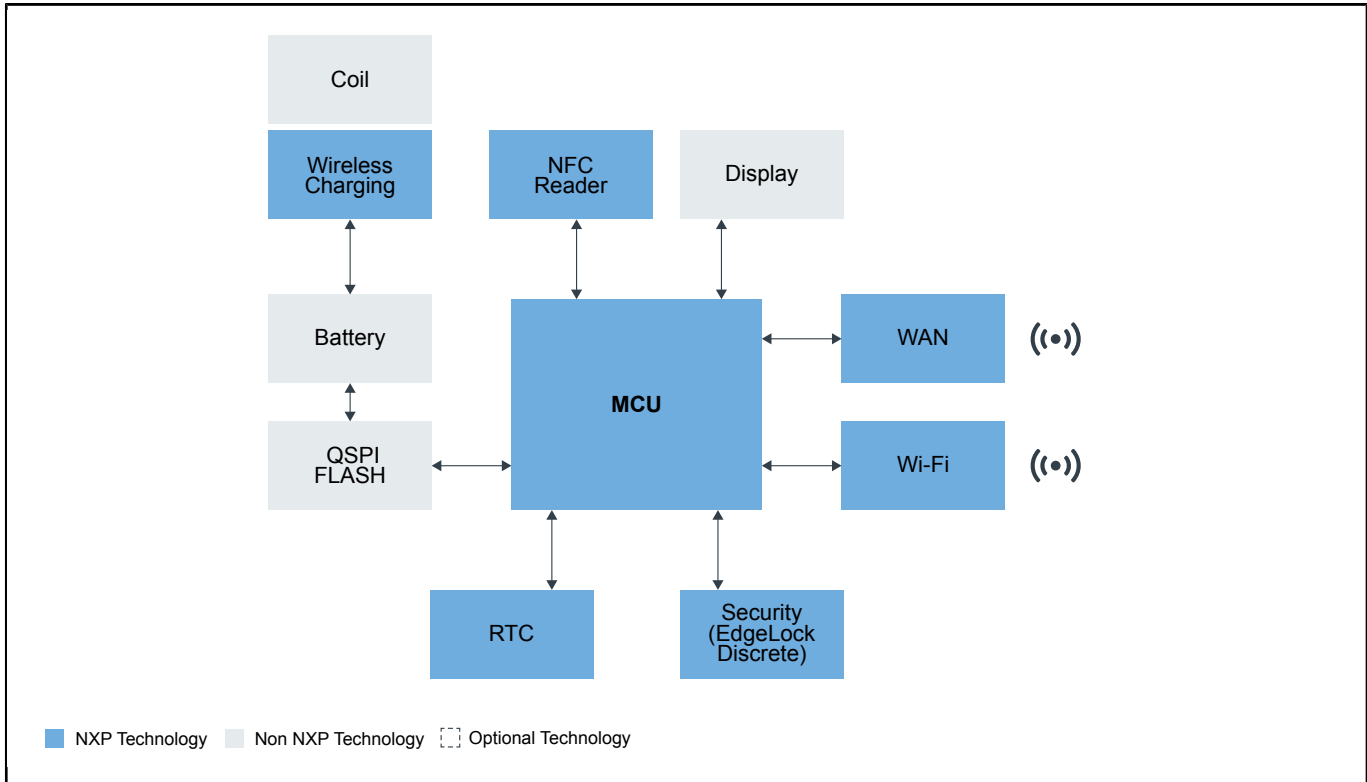
Entry-level Block Diagram



Recommended Products for Entry-level	
MCU	<ul style="list-style-type: none"> • JN5169: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM
DC/DC	<ul style="list-style-type: none"> • PCA9410_9410A: 3.0 MHz, 500 MA, DC-to-DC Boost Converter

LCD COG	<ul style="list-style-type: none"> • PCF85133U: Universal LCD Driver for Low Multiplex Rates
RTC	<ul style="list-style-type: none"> • PCF2127: Accurate RTC with 512 B RAM and Battery Backup – Selectable I²C-Bus Or SPI
Wireless Charging	<ul style="list-style-type: none"> • Wireless Power: Wireless Power

High-end Block Diagram



Recommended Products for High-end

MCU/MPU	<ul style="list-style-type: none"> • i.MX RT1050 Crossover MCU with Arm[®] Cortex[®]-M7 Core • i.MX6UL: i.MX 6UltraLite Processor - Low-Power, Secure, Arm[®] Cortex[®]-A7 Core
Connectivity	<ul style="list-style-type: none"> • OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform • 88W9068: 2.4/5 GHz Dual-Band 8x8 Wi-Fi[®] 6 (802.11ax) Access Solution • 88W9064: 2.4/5 GHz Dual-Band 4x4 Wi-Fi[®] 6 (802.11ax) Access Solution
Connectivity	<ul style="list-style-type: none"> • OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform • 88W9068: 2.4/5 GHz Dual-Band 8x8 Wi-Fi[®] 6 (802.11ax) Access Solution • 88W9064: 2.4/5 GHz Dual-Band 4x4 Wi-Fi[®] 6 (802.11ax) Access Solution
Wireless Charging	<ul style="list-style-type: none"> • Wireless Power: Wireless Power
RTC	<ul style="list-style-type: none"> • PCF2123: SPI Real-Time Clock/Calendar

Security (EdgeLock Discrete)	<ul style="list-style-type: none">• EdgeLock® SE050: Plug & Trust Secure Element Family – Enhanced IoT security with high flexibility
NFC Reader	<ul style="list-style-type: none">• PN7160: NFC Plug and Play Controller with Integrated Firmware and NCI Interface

View our complete solution for [In-Home Energy Display](#).

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

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