

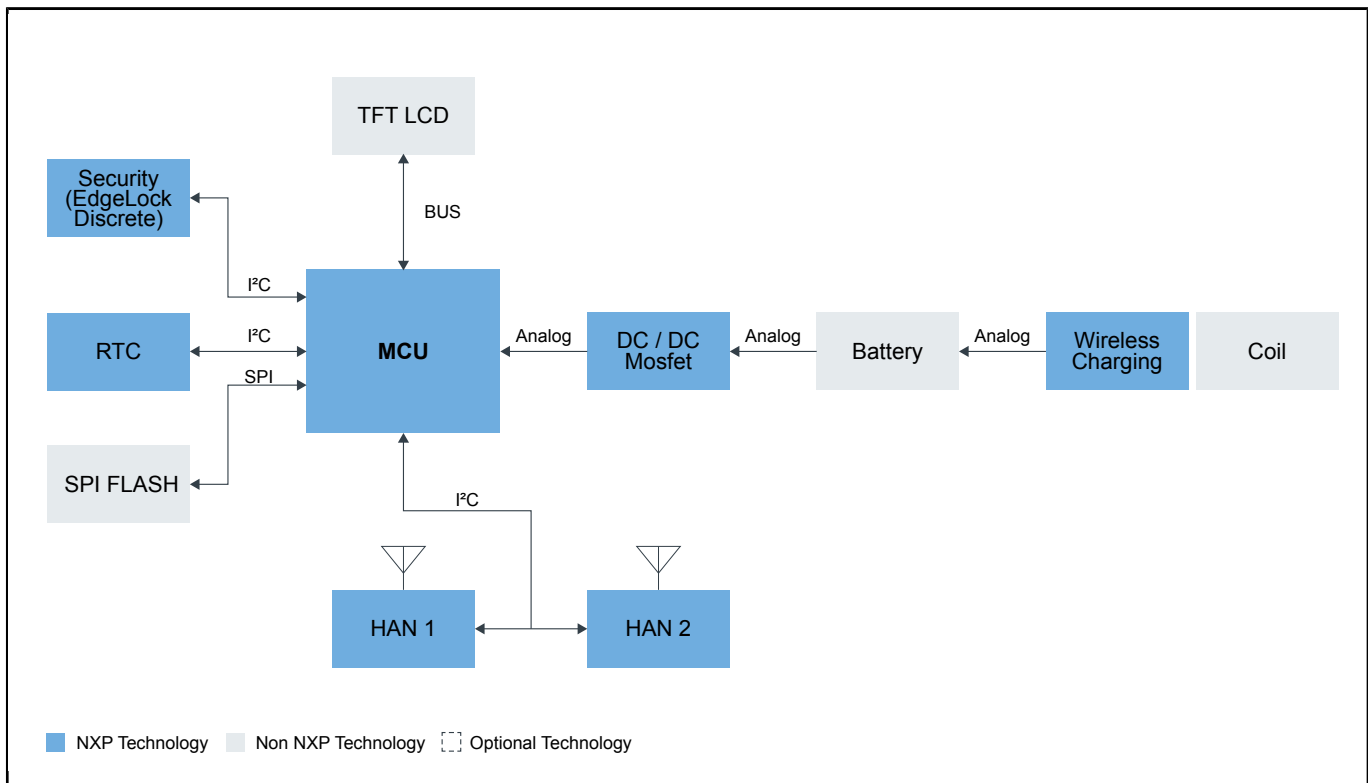


# In-Home Energy Display

Last Updated: Dec 13, 2023

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



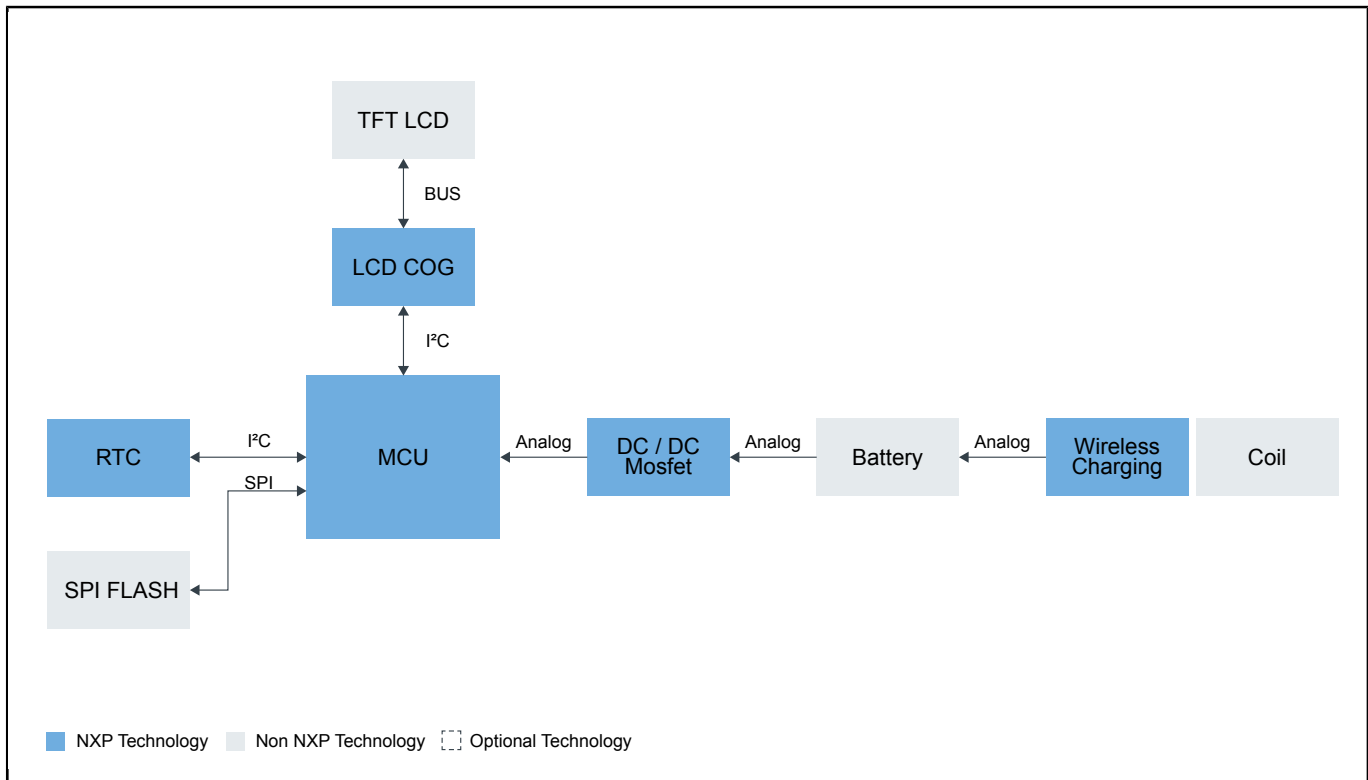
### Recommended Products for In-home energy display

MCU

- [LPC546XX](#): Power-Efficient Microcontrollers (MCUs) With Advanced Peripherals Based on Arm® Cortex®-M4 Core

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> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCA2131</a>: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal for Automotive Applications</li> </ul>
HAN	<ul style="list-style-type: none"> <li>• <a href="#">JN5169</a>: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM</li> <li>• <a href="#">OL2385AHN</a>: Low-Power Multi-Channel UHF RF Wireless Platform</li> </ul>
HAN	<ul style="list-style-type: none"> <li>• <a href="#">JN5169</a>: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM</li> <li>• <a href="#">OL2385AHN</a>: Low-Power Multi-Channel UHF RF Wireless Platform</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>
Wireless Charging	<ul style="list-style-type: none"> <li>• <a href="#">Wireless Power</a>: Wireless Power</li> </ul>

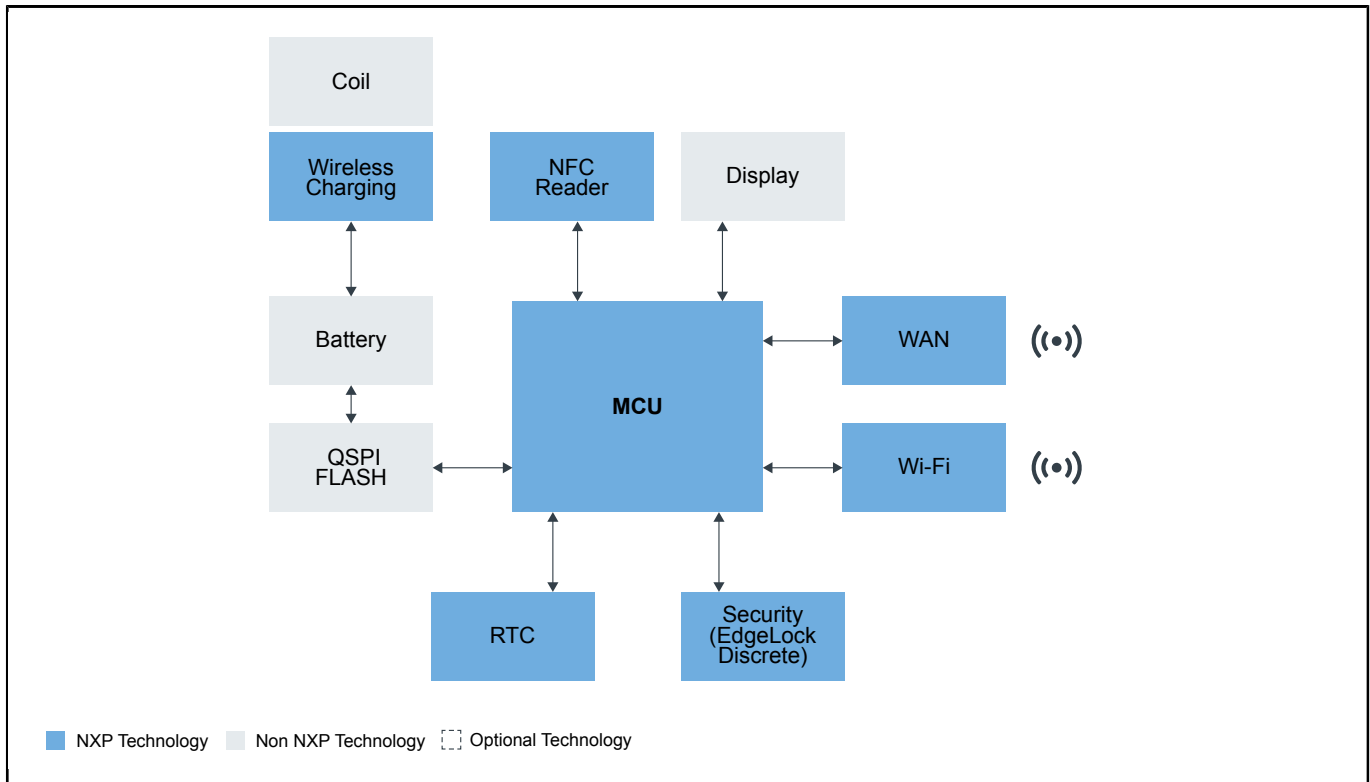
## Entry-level Block Diagram



Recommended Products for Entry-level	
MCU	<ul style="list-style-type: none"> <li>• <a href="#">JN5169</a>: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM</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>

LCD COG	<ul style="list-style-type: none"> <li>• <a href="#">PCF85133U</a>: Universal LCD Driver for Low Multiplex Rates</li> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCA2131</a>: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal for Automotive Applications</li> </ul>
Wireless Charging	<ul style="list-style-type: none"> <li>• <a href="#">Wireless Power</a>: Wireless Power</li> </ul>

## High-end Block Diagram



Recommended Products for High-end	
MCU/MPU	<ul style="list-style-type: none"> <li>• <a href="#">i.MX-RT1050</a>: i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core</li> <li>• <a href="#">i.MX6UL</a>: i.MX 6UltraLite Processor - Low-Power, Secure, Arm® Cortex®-A7 Core</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>• <a href="#">OL2385AHN</a>: Low-Power Multi-Channel UHF RF Wireless Platform</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>• <a href="#">OL2385AHN</a>: Low-Power Multi-Channel UHF RF Wireless Platform</li> </ul>
Wireless Charging	<ul style="list-style-type: none"> <li>• <a href="#">Wireless Power</a>: Wireless Power</li> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCF2123</a>: SPI Real-Time Clock/Calendar</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> </ul>
NFC Reader	<ul style="list-style-type: none"> <li>• <a href="#">PN7160</a>: NFC Plug and Play Controller with Integrated Firmware and NCI Interface</li> </ul>

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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