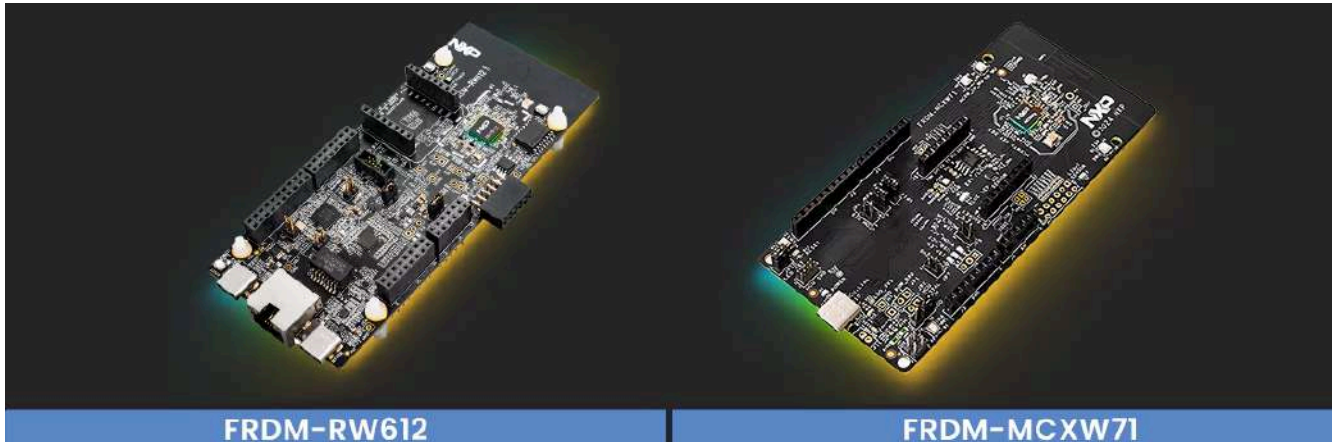
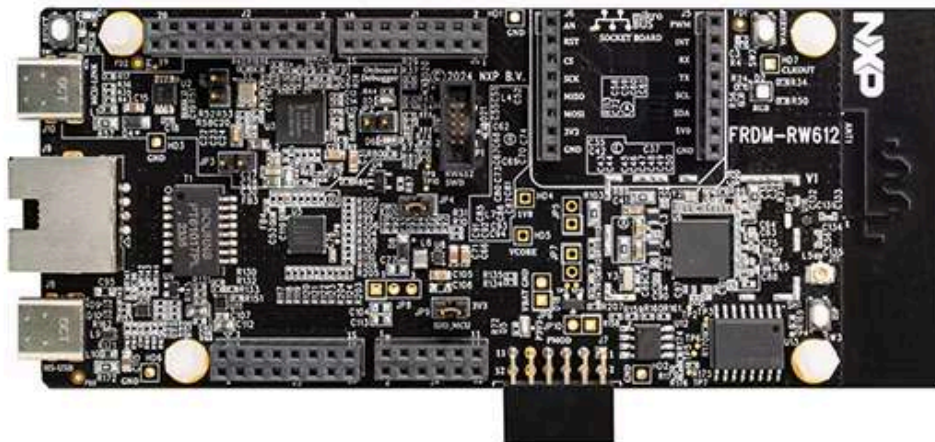


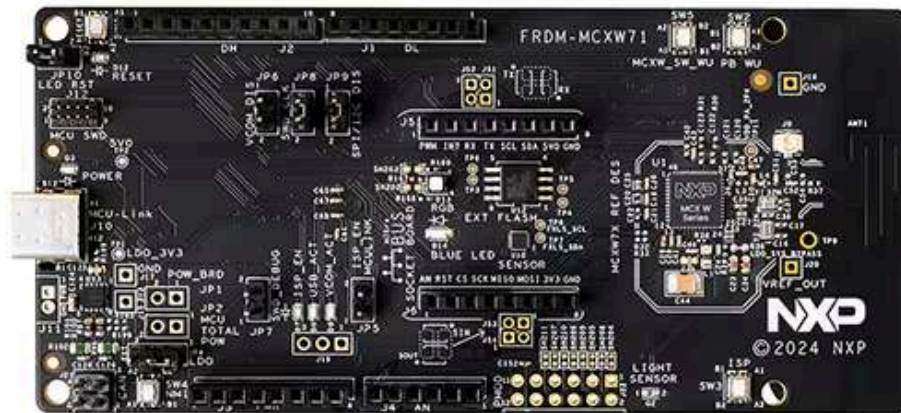
Go Wireless with the NXP FRDM Platform



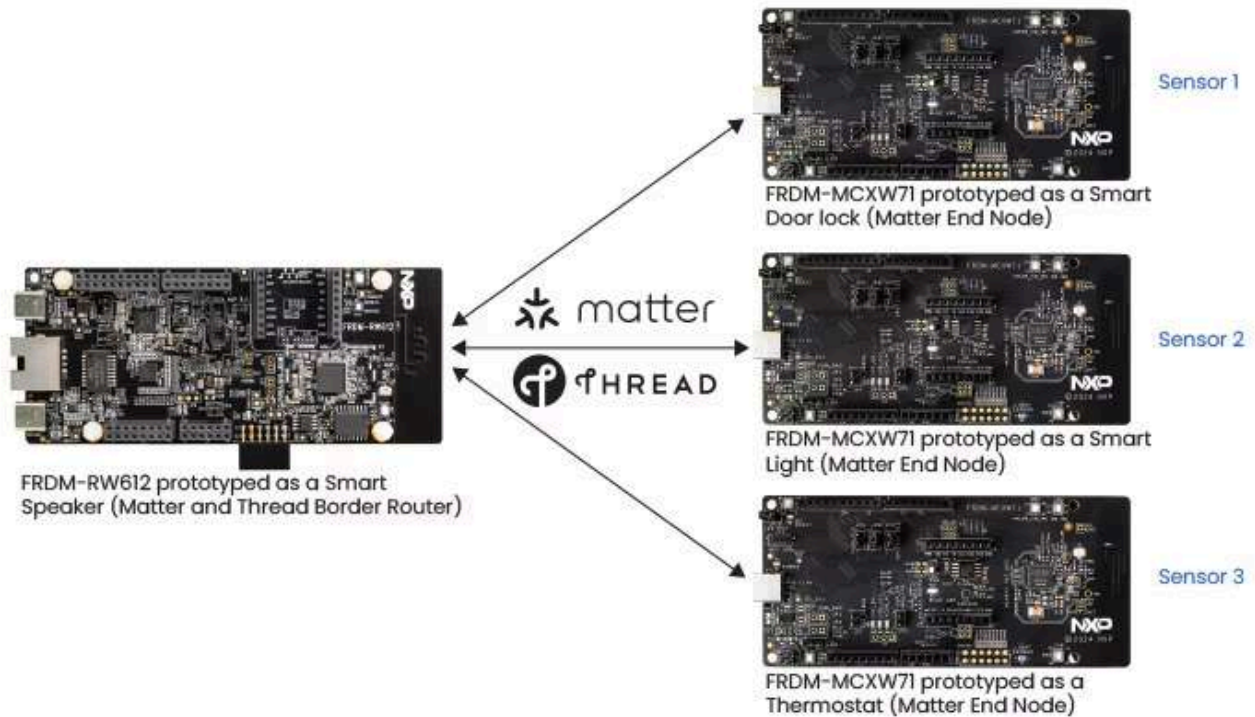
Developers face more challenges than ever before, designing complex software for a range of products, often with different processors. NXP's MCUXpresso Developer Experience solves many of these challenges with a common framework across MCU platforms. NXP is expanding this to include wireless connectivity with our new Wireless FRDM boards.

The [FRDM-RW612](#) and [FRDM-MCXW71](#) boards, shown below, allow developers to easily add Matter, Wi-Fi, Thread, Zigbee or Bluetooth LE connectivity to smart home and industrial applications, as shown in Figure 3. Both boards feature Arduino, Mikrobús, and PMOD headers for rapid prototyping, with add-on boards available from NXP's [expansion board hub](#). The MCUXpresso SDK and [application code hub](#) provide a wide range of software examples, while support for [multiple IDEs](#) allows developers to pick the right development environment. The combination of expandable hardware, extensive software and a rich [community](#) make the Wireless FRDM boards the platform of choice for developers to quickly experiment, design and prototype innovative wireless solutions.





FRDM-MCXW71 based on the multiprotocol, secure and ultra-low power wireless MCX W71x MCU



FRDM boards used to create an IoT device portfolio

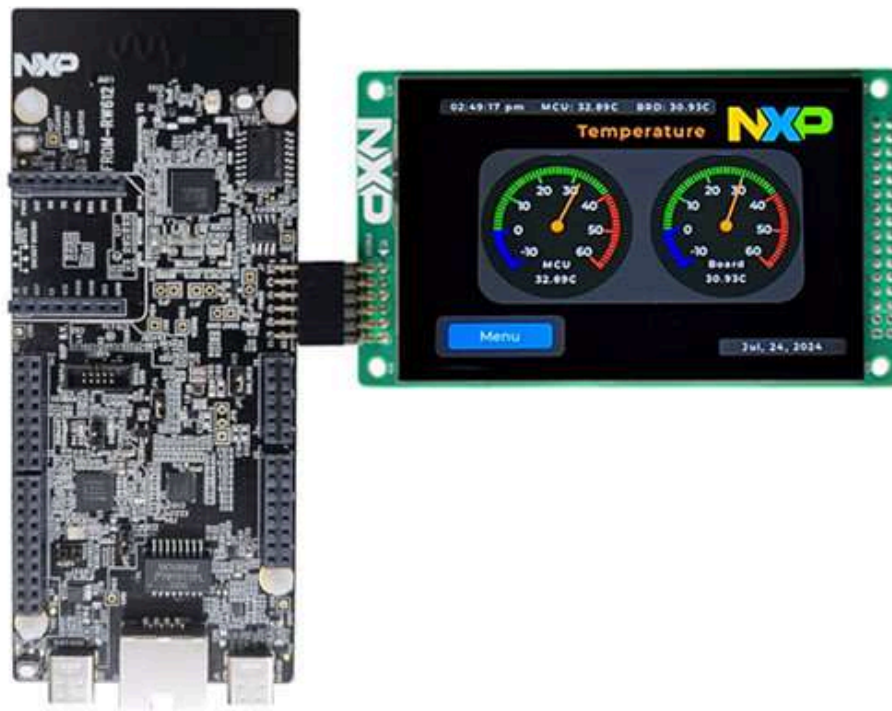
FRDM-RW612: Rich HMI and Wi-Fi, Thread, Zigbee and Bluetooth LE Connectivity Using a Single RW61x MCU

FRDM-RW612 enables rapid, flexible development and prototyping for the RW61x series of MCUs. Based on a 260 MHz Arm Cortex-M33, the RW61x tri-radio MCU series combines the processing performance of i.MX RT crossover MCUs and peripherals with advanced Matter, Wi-Fi, Thread,

Zigbee, Bluetooth LE and Ethernet connectivity to enable compact and robust designs. The high-performance core and connectivity of the RW612 makes it an ideal solution for embedding Thread Border Router functionality (to connect Thread networks to the internet through Wi-Fi or Ethernet) into a range of always-on powered IoT devices, from gateways and hubs to small form factor smart plugs and wall switches. With an integrated LCD interface, support for LVGL graphics, and voice to intent (VIT), the RW61x series is a single-chip solution for many smart home and industrial IoT devices, such as thermostats, home displays, smart plugs, smart speakers and control panels.

Start planning your next connectivity design. Learn more about our wireless FRDM development boards [FRDM-RW612](#) and [FRDM-MCXW71](#).

The FRDM-RW612 board allows developers to easily prototype applications using the RW61x's HMI peripherals and connectivity. For example, the LCD-PAR-S035 display, available from the expansion board hub, can be easily connected to the FRDM-RW612 board using the PMOD connector. The RW61x's integrated LCD interface then directly drives the display, without needing an external driver, saving cost, board space and development time.



The [LCD-PAR-S035](#) display easily connects to the FRDM-RW612 using the PMOD connector

FRDM-MCXW71: Expanding the IoT with Low Power Matter, Thread, Zigbee and Bluetooth LE End Nodes

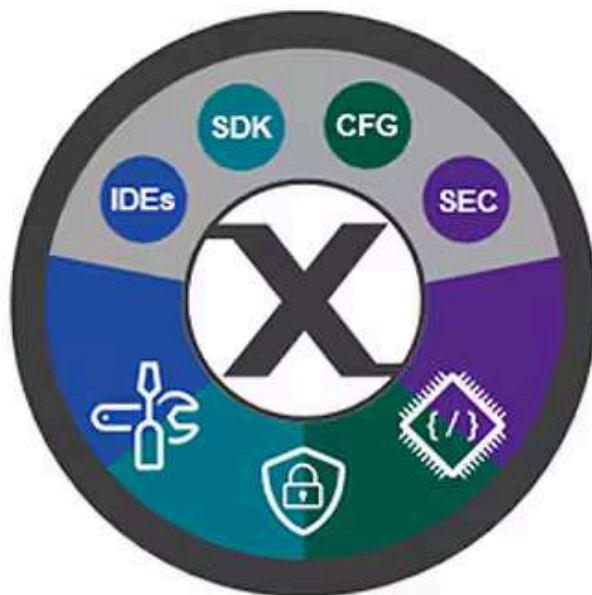
While the RW61x provides a rich HMI experience and tri-radio connectivity, the MCX W71x MCU family provides a single-chip solution for secure, low power IoT end nodes. Powered by a 96 MHz Arm Cortex-M33, the MCX W71x uses an ultra-low power architecture and energy efficient radio to provide Matter, Thread, Zigbee, and Bluetooth LE connectivity. Designed for end nodes such as temperature sensors, smart window coverings, smart plugs and door locks, the MCX W71x provides secure wireless connections, while maximizing battery life. The upgradable radio subsystem ensures that devices in the field can be upgraded to the latest wireless standards for years to come.

With the FRDM-MCXW71 board, developers can quickly prototype low power end nodes that need Thread, Zigbee and/or Bluetooth LE connectivity. The integrated PCB trace antenna allows developers to quickly build and test a wireless network, such as Matter. Using add-on boards, the designer can then quickly create a prototype to prove out the end device functionality and network connectivity.

Enhanced Developer Experience with MCUXpresso: Unmatched Software, Tools and Community Support

At the heart of the RW61x and MCX W71 development experience is the [MCUXpresso suite of software and tools](#), which accelerates software development on the FRDM boards. A single SDK supports both the MCX W71x and RW61x families and includes support for multiple IDEs, including:

- Visual Studio Code (VS Code): VS Code extension from NXP enables fast, flexible development.
- MCUXpresso IDE: Customized, Eclipse-based IDE for NXP MCUs, optimized for ease-of-use.
- IAR Embedded Workbench: Safety certified, highly optimizing compiler and development environment for C/C++.



Wide range of support for your developer experience

Simplify and Accelerate with NXP's Runtime Software

In addition, MCUXpresso SDK includes open-source examples based on FreeRTOS, with options to connect via Ethernet and LWIP or Wi-Fi to the Amazon AWS Cloud using MQTT.

- MCUXpresso SDK includes driver download support directly from an IDE, SDK Builder or GitHub.
- Open-CMSIS-Packs for access to middleware using an open standard delivery mechanism.
- Zephyr platform support and FreeRTOS examples.

- Wide range of application software available from NXP's [Application Code Hub](#) .

NXP's Top Notch Community Support

NXP Community forums provide a platform for engineers, enthusiasts and developers to collaborate, learn and discuss NXP products and solutions.

Please visit [FRDM-RW612](#) and [FRDM-MCXW71](#) on NXP.com to get more information and the latest updates so you can start planning your next connectivity prototype.

Learn more about FRDM-RW612 and FRDM-MCXW71 on [NXP's Community](#) .