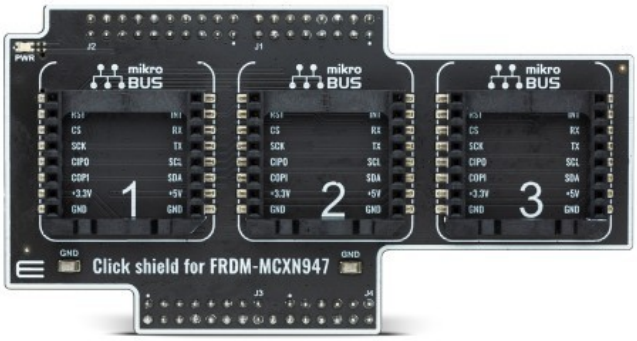
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Click shield for FRDM-MCXN947



PID: MIKROE-6291

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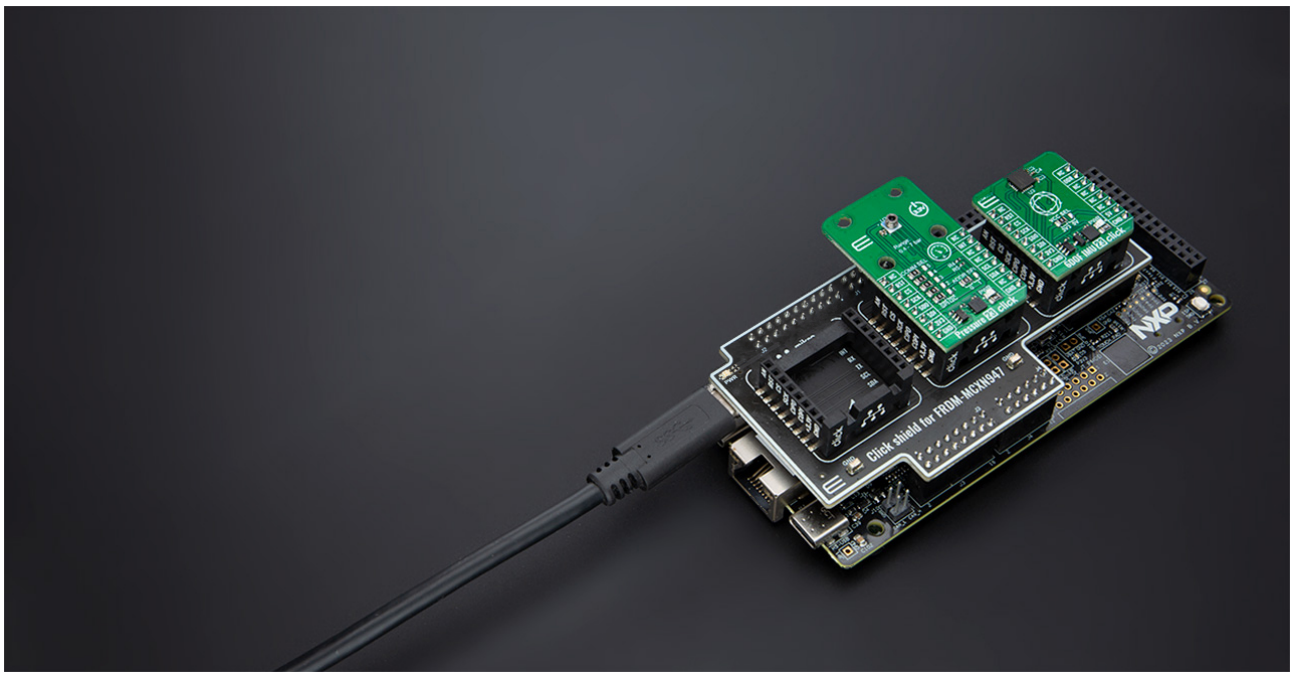
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Overview

Click Shield for FRDM-MCXN947 is the perfect solution for quickly and easily expanding the capabilities of the FRDM-MCXN947 host board with many Click boards™, enabling the creation of complex and unique projects. The Click Shield for FRDM-MCXN947 provides three mikroBUS™ sockets to add any functionality from our ever-growing range of Click boards™. We are fully stocked with everything, from sensors and WiFi transceivers to motor control and audio amplifiers.

The FRDM-MCXN947 is a powerful microcontroller board based on the MCX N947 microcontroller. It integrates the Arm Cortex-M33 TrustZone® core, CoolFlux BSP32, and PowerQuad DSP Co-processor, operating at 150MHz. Ideal for consumer IoT, smart appliances, industrial control, and automotive accessories, it features Hi-Speed USB, CAN 2.0, and 10/100 Ethernet. The board includes an on-board MCU-Link debugger, FlexI/O for LCD control, and dual-bank flash for read-while-write operations, supporting large external serial memory configurations.

This extension board allows users to combine the FRDM-MCXN947 footprint-compatible board with their favorite Click boards™ in their upcoming projects.

Note: The FRDM-MCXN947 board is not included in the package.

CLICK BOARD
COMBINATIONS

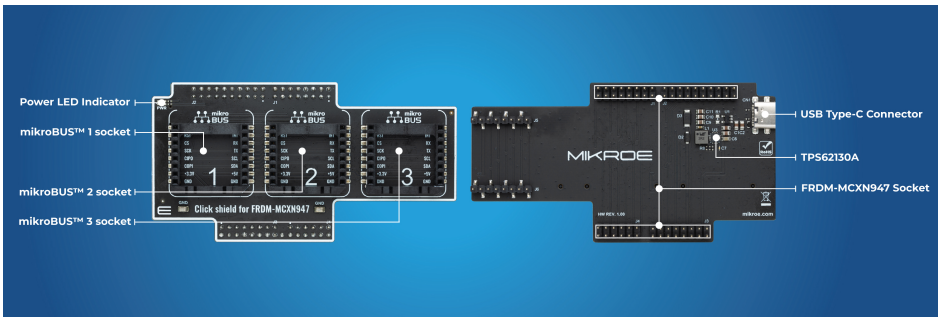
Main features

Click Shield for FRDM-MCXN947 comes equipped with three mikroBUS™ sockets, allowing all the Click boards™ to be interfaced with the FRDM-MCXN947 host board with no effort. This

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way, MIKROE allows its users to add any functionality from our ever-growing range of Click boards™, such as WiFi, GSM, GPS, Bluetooth, ZigBee, environmental sensors, LEDs, speech recognition, motor control, movement sensors, and many more. More than 1600 Click boards™, which can be stacked and integrated, are now available.



The FRDM-MCXN947 is a compact development board designed to prototype the MCX N947 series microcontroller rapidly. This board uses the powerful MCX N947 microcontroller, which integrates the Arm Cortex-M33 TrustZone® core, a CoolFlux BSP32, and a PowerQuad DSP Co-processor, operating at a high speed of 150MHz. The MCX N947 stands out with its comprehensive support for various applications, such as consumer IoT and computing products, energy-efficient smart appliances, industrial control, automotive aftermarket accessories, secure communication hubs, and smart IoT gateways. It offers integration of CPU and DSP with advanced serial connectivity, high-precision analog features, and high-speed connectivity options, including Hi-Speed USB, CAN 2.0, and 10/100 Ethernet. Additionally, it features an onboard MCU-Link debugger and FlexI/O, which can be programmed as an LCD controller. The microcontroller's dual-bank flash supports read-while-write operations from internal flash and accommodates large external serial memory configurations.

As mentioned, the Click Shield for FRDM-MCXN947 features three mikroBUS™ sockets, with the third socket being a mirrored mikroBUS™ from the FRDM-MCXN947 board. The functionality of this third mikroBUS™ is enabled by two SMD 1x8 headers on the underside of the Click Shield, which perfectly align and fit into the mikroBUS™ socket on the FRDM-MCXN947 board, thereby enabling its functionality. Additionally, the shield includes a GND hook for testing purposes, providing users with a convenient and reliable way to perform necessary diagnostics and tests.

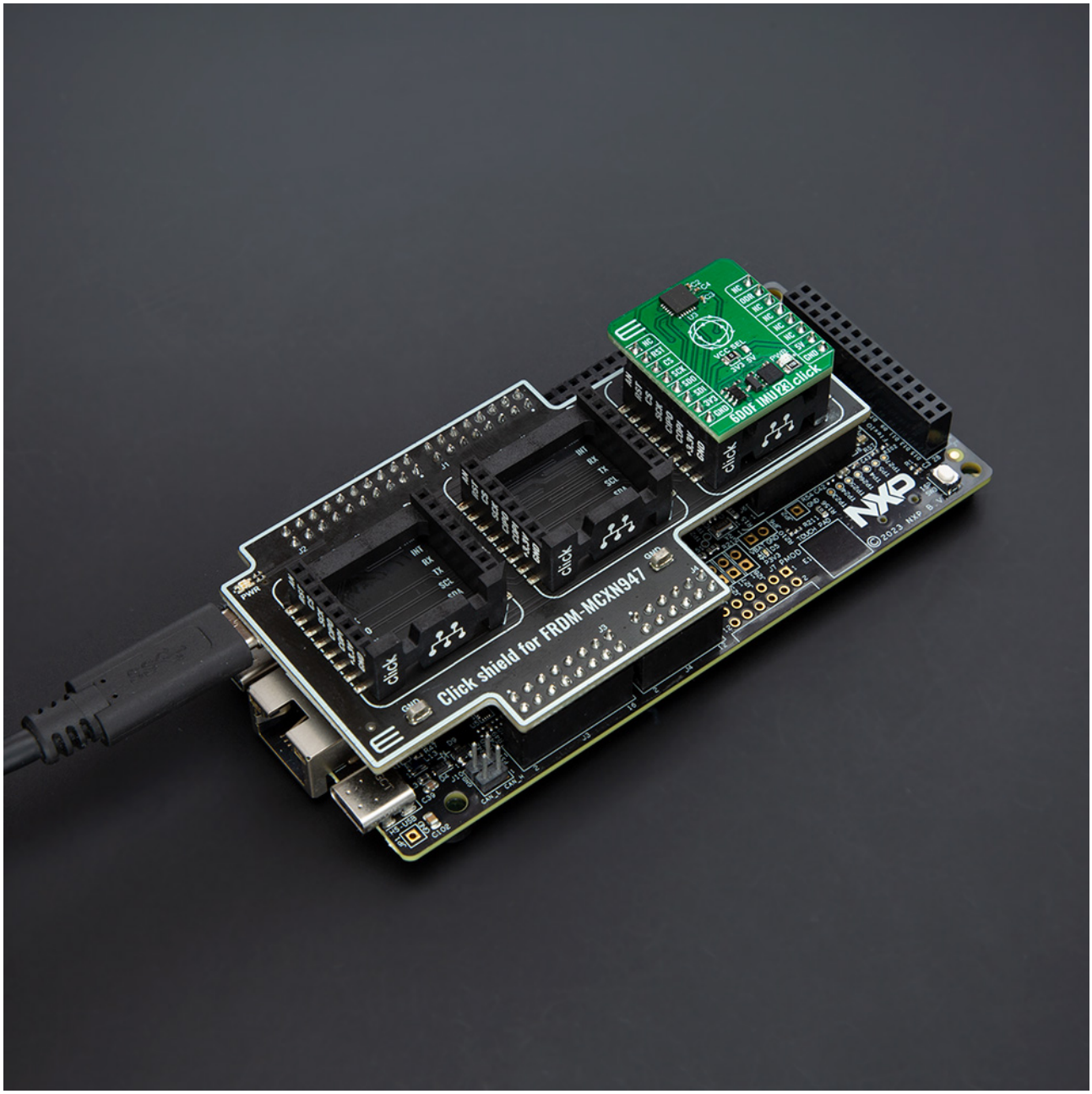
Once you connect the FRDM-MCXN947 host board with our Click Shield for FRDM-MCXN947, you can access hundreds of Click boards™, working with 3.3V or 5V logic voltage levels. Our Click boards™ are also equipped with a library containing functions and example codes for MIKROE compilers available on LibStock, which can be used as a reference for further development.

Power your inventions

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When the USB type C is connected to the Click Shield, the PWR diode will glow Blue, and at this setup, the connected FRDM-MCXN947 host board and all mikroBUS™ sockets will be powered from it.

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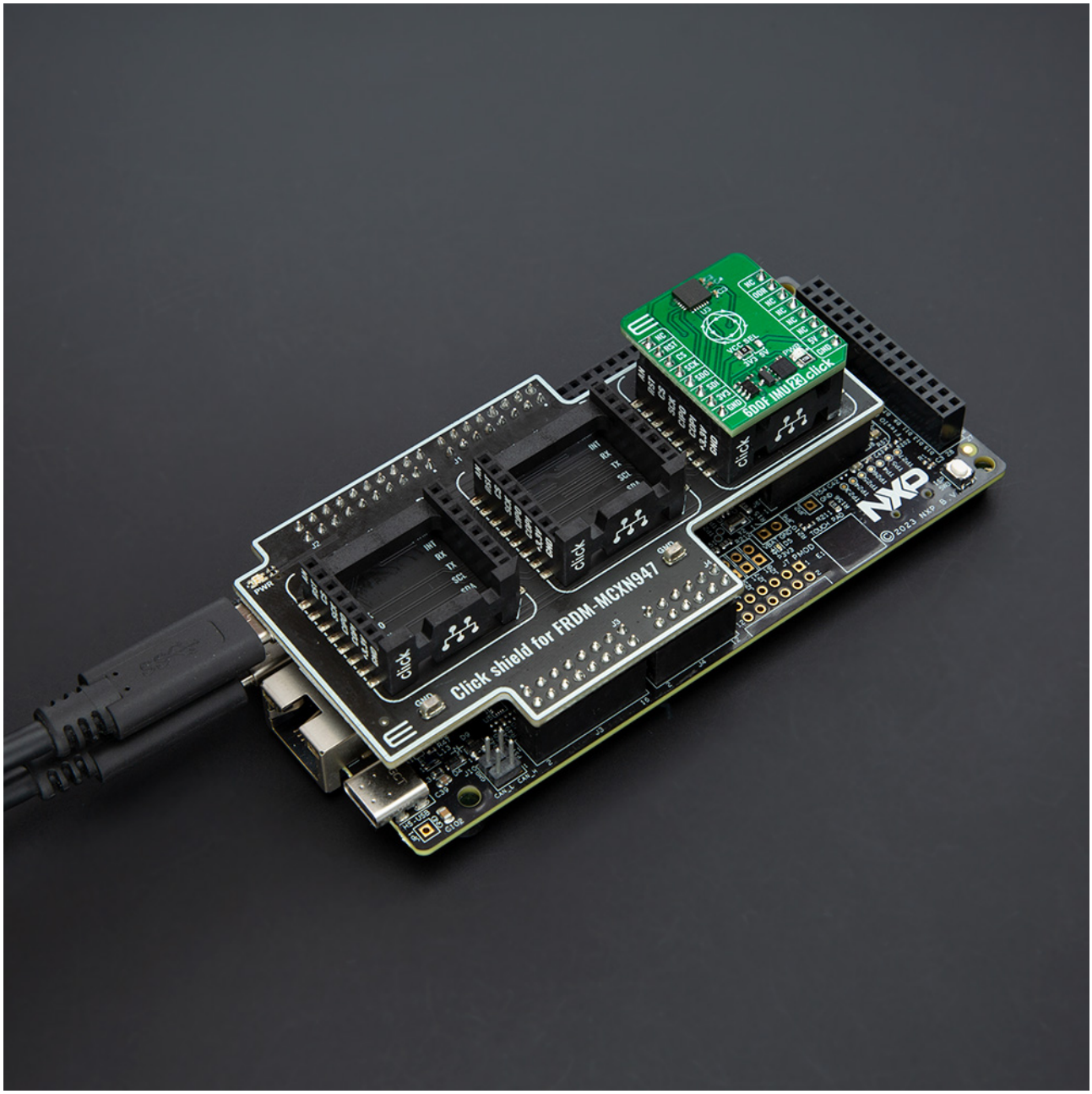
When the USB is connected to the FRDM-MCXN947 board, the PWR diode will glow Green, and at this setup, the FRDM-MCXN947 host board itself will be supplied, and it will provide power to the Click Shield, including all mikroBUS™ sockets.

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When the USB type C is connected to the Click Shield and the other USB is connected to the FRDM-MCXN947 board, the PWR diode will glow Cyan, and at this setup, the mikroBUS™ sockets are powered from the Click Shield.

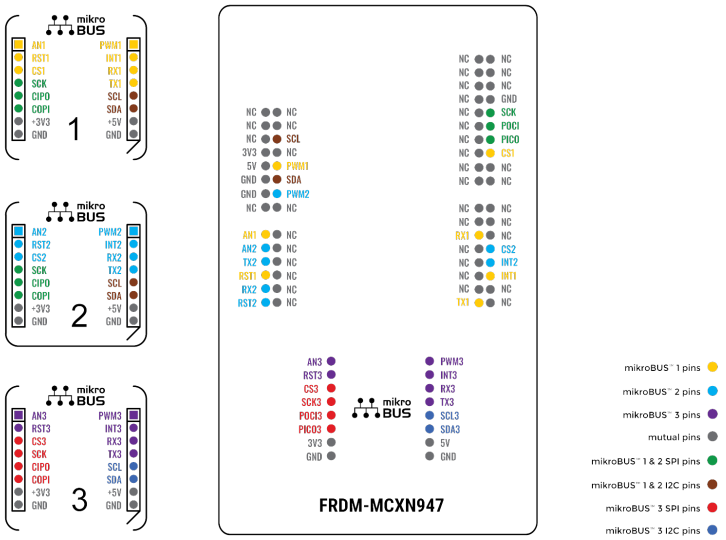
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FRDM-MCXN947 TO MIKROBUS™ PINOUT



Specifications

Type	Shield
Applications	Click Shield for FRDM-MCXN947 allows you to use Click boards™ on your FRDM-MCXN947 board
Key Features	3x mikroBUS™ sockets, a connector for connecting compatible FRDM-MCXN947 board, power part for converting 5V USB to the 3.3V, GND hook for testing purposes, and more
Interface	Analog,GPIO,I2C,PWM,SPI,UART
Compatibility	FRDM-MCX,mikroBUS™
Input Voltage	3.3V,5V,External

Resources

mikroBUS™

mikroSDK

Click board™ Catalog

Click boards™

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Downloads

Click shield for FRDM-MCXN947 2D and 3D files v100

Click shield for FRDM-MCXN947 schematic v100

NXP GitHub Repository

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