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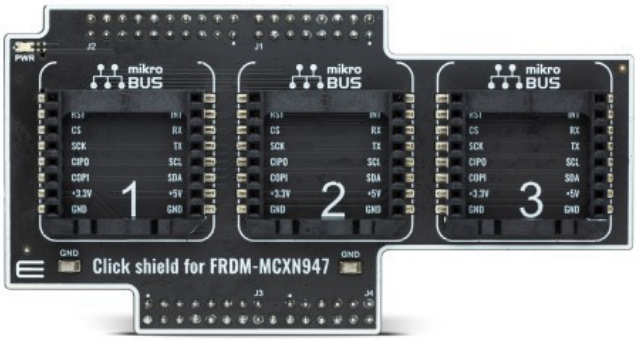
Click shield for FRDM-MCXN947



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Click Shield for FRDM-MCXN947

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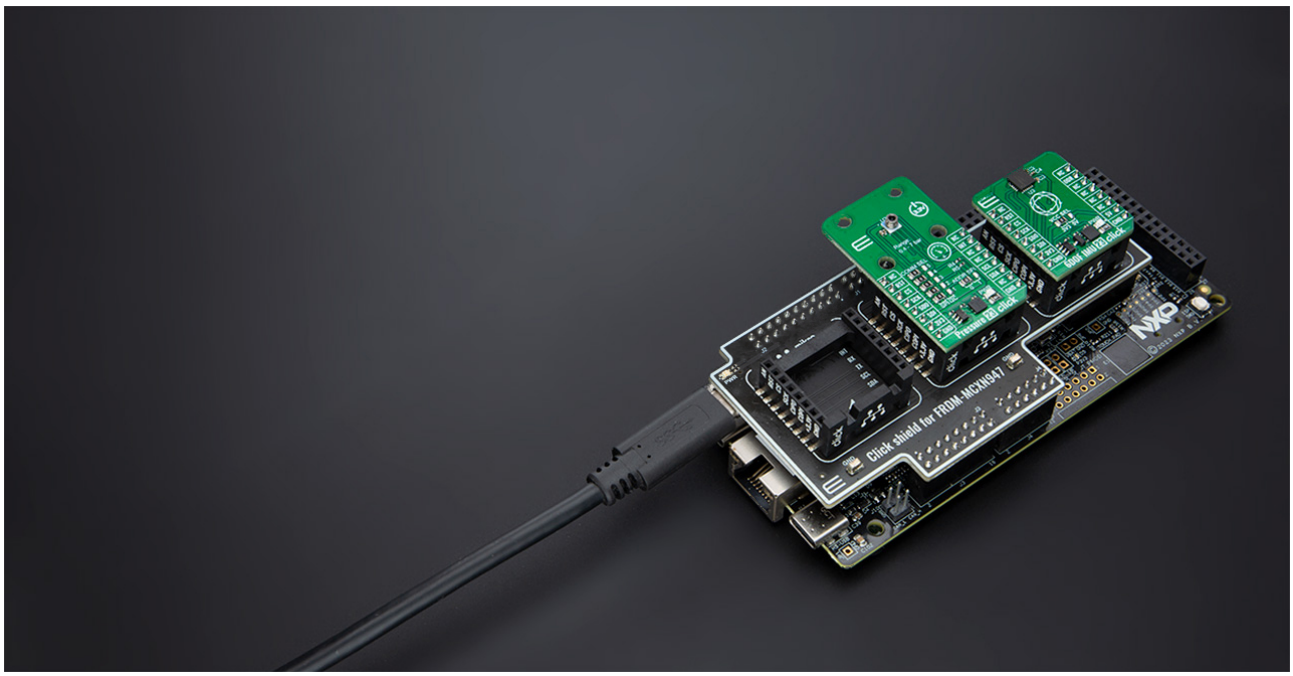

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
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OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).

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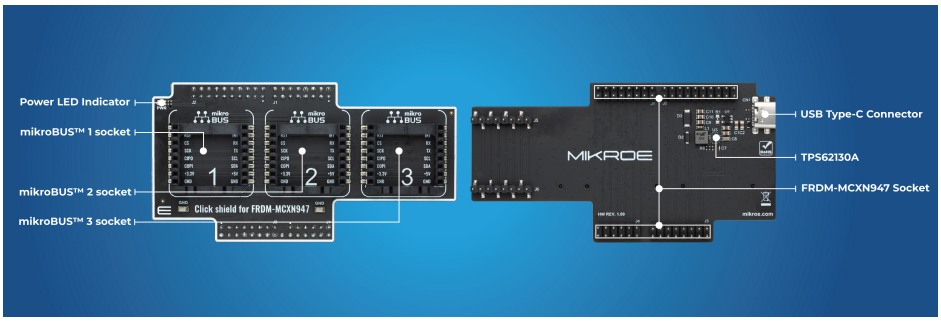
way, MIKROE allows its users to add any functionality from our ever-growing range of Click boards™, such as WiFi, GSM, GPS, Bluetooth, ZigBee, environmental sensors, LEDs, speech recognition, motor control, movement sensors, and many more. More than 1600 Click boards™, which can be stacked and integrated,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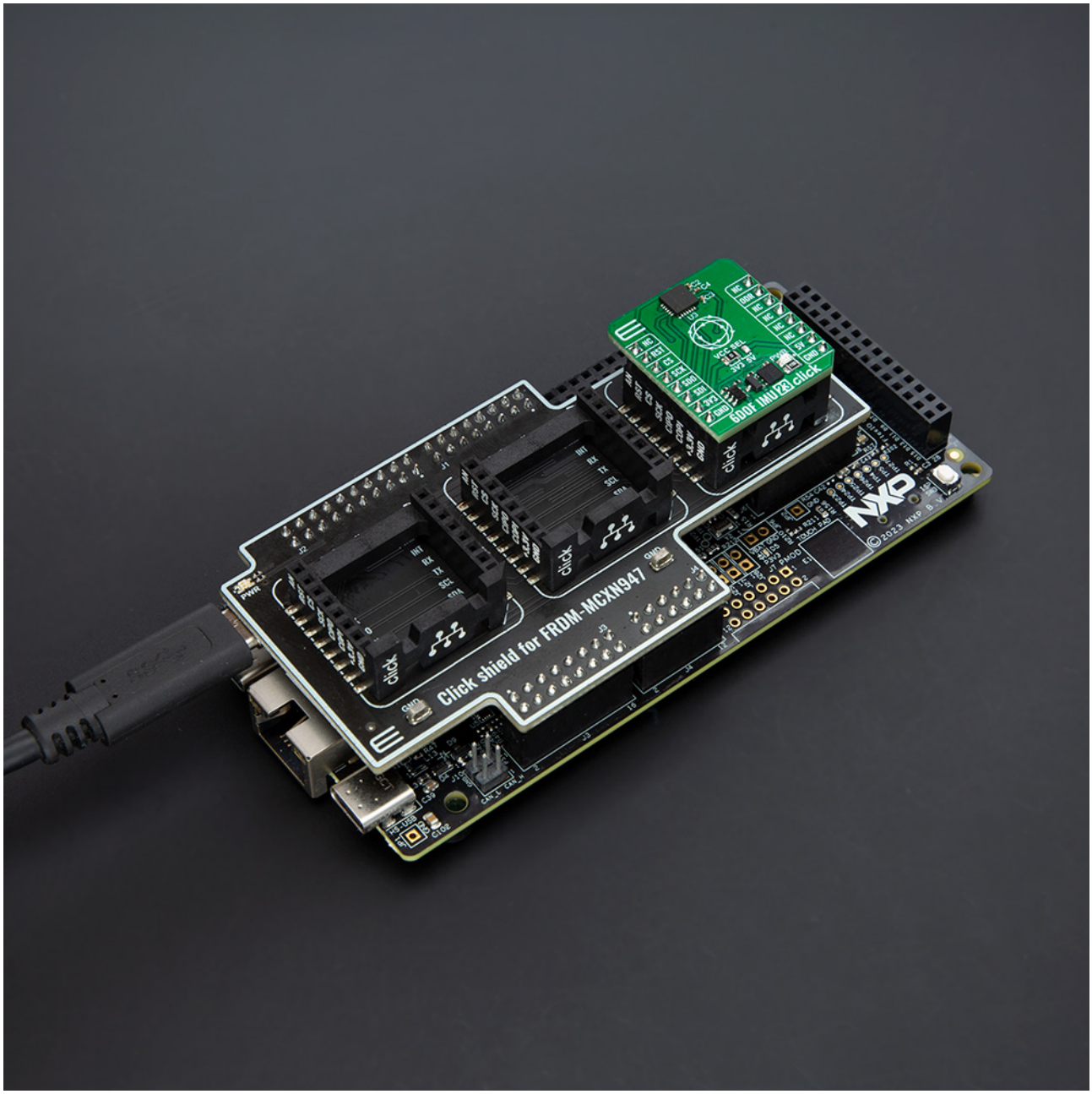

When the USB type C is connected to the Click Shield, the PWR diode will glow Blue, and at this setup, the connected FRDM-MCXN947 host board and all mikroBUS™ sockets will be powered from it.

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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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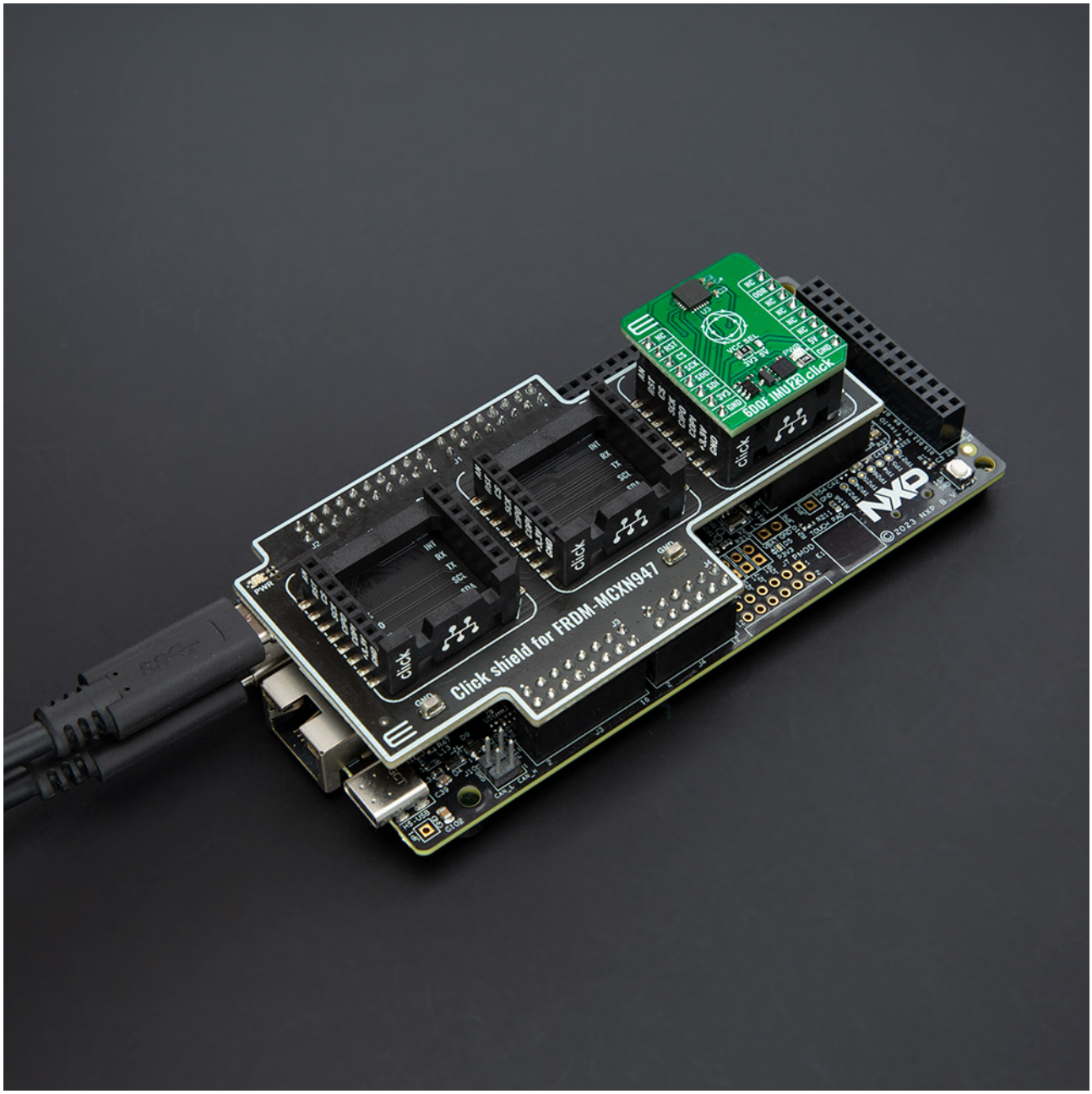

When the USB type C is connected to the Click Shield and the other USB is connected to the FRDM-MCXN947 board, the PWR diode will glow Cyan, and at this setup, the mikroBUS™ sockets are powered from the Click Shield.

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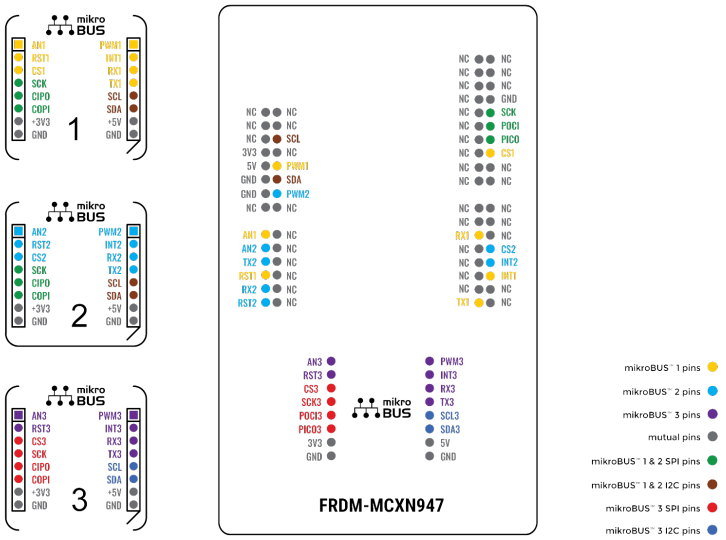
FRDM-MCXN947 TO MIKROBUS™ PINOUT



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