



EMBEDDED INDUSTRIAL
DEVELOPMENT PLATFORM



DIGI CONNECTCORE 8M NANO DEVELOPMENT KIT

Complete development platform for embedded industrial product designs

The Digi ConnectCore® 8M Nano development kit is a cohesive and cost-effective System-on-Module (SOM) platform built on the NXP® i.MX 8M Nano applications processor. It integrates memory, Digi Microcontroller Assist™ power management, a pre-certified wireless connectivity and advanced Digi TrustFence® device security with a complete, open-source Linux® software platform based on the Yocto Project®.

The SOM platform simplifies embedded product development by eliminating the complexity and risk of custom board designs. The Digi ConnectCore 8M Nano development kit provides multiple display interfaces, camera, audio, Digi XBee® modules and other hardware options for optimal flexibility and user experience.

Digi ConnectCore 8M Nano strikes an optimal balance of performance, power and cost. It's suitable for a wide range of industrial, medical, transportation and agricultural products, and features scalable, power-efficient ARM® Cortex®-A53 and Cortex-M7 processors, rich multimedia and advanced connectivity. Digi ConnectCore 8M Nano is ideal for Internet of Things (IoT) applications such as Human Machine Interface (HMI), equipment monitoring, audio/voice, edge compute and machine learning. The development board includes two Digi XBee connectors to enable cellular, short- and long-range connectivity.

With twenty years of embedded SOM experience enabling millions of globally connected products, Digi is a trusted embedded and IoT solutions provider, simplifying the way customers design, build and deploy connected applications. Digi also offers cellular integration support, certification assistance, and custom design and build services to get your products to market smarter and faster.

THE KIT INCLUDES:

- ✓ Digi ConnectCore® 8M Nano development board
- ✓ Console port cable
- ✓ Dual-band antenna
- ✓ Power supply and accessories
- ✓ Reference designs for LVDS, HDMI and CAN-FD

PART NUMBER	DESCRIPTION
CC-WMX8MN-KIT	Digi ConnectCore 8M Nano development kit

FEATURES AND BENEFITS

- Industrial i.MX 8M Nano quad-core System-on-Module (SOM)
- Digi Embedded Yocto (Linux®) providing full Yocto Project® support
- Digi TrustFence®, a complete IoT device security framework
- Digi Microcontroller Assist™ for advanced power management, security, peripheral support and system reliability operations
- Pre-certified dual-band 802.11a/b/g/n/ac and Bluetooth® 5 connectivity
- Cloud and edge compute services integration
- Dev board includes on-board interfaces for:
 - HDMI or LVDS displays
 - Digi XBee® integration to extend wireless connectivity to a global family of modules spanning popular IoT protocols

SPECIFICATIONS

Digi ConnectCore® 8M Nano Development Board

PERFORMANCE

APPLICATION PROCESSOR NXP i.MX 8M Nano Quad GPU Industrial (4) Cortex-A53 cores up to 1.4 GHz; (1) Cortex-M7 up to 750 MHz

MEMORY Up to 8 GB eMMC, up to 1 GB LPDDR4 (32-bit)

WIRED NETWORK CONNECTIVITY

ETHERNET (1) Gigabit Ethernet 10/100/1000 with RJ-45 connector

WIRELESS NETWORK CONNECTIVITY

WI-FI 802.11a/b/g/n/ac 1x1 (MCS 0-9) with strong WPA2-enterprise authentication/encryption for Wi-Fi connections

BLUETOOTH Bluetooth® 5 with Bluetooth Low Energy support

ANTENNAS (1) SMA antenna connector

DIGI XBEE® RF (2) Digi XBee sockets, one supporting Digi XBee Cellular

PERIPHERALS/INTERFACES

USB (2) USB host (dual Type A)

GPIO (5) GPIOs

UART / CONSOLE USB console

OTHER CONNECTIVITY (1) CAN-FD; (1) RS-485

PCI EXPRESS MINI CARD (1) Full-size card support with USB connection and on-board micro-SIM slot support

EXTERNAL STORAGE (1) MicroSD connector

AUDIO (1) 3.5 mm headphone jack; (1) 3.5 mm microphone jack; (2) speaker output; (1) line-out output; (2) line-in input

BUTTONS / SWITCHES (1) Reset button; (1) on/off button (supporting power-on/off and suspend/resume functionality); (2) user button

DEBUG (1) SW for MCA (Tag-connect); (1) JTAG for i.MX 8M Nano CPU; USB for System-on-Module recovery

LEDS (3) User LEDs

MULTIMEDIA

DISPLAY (1) HDMI; (1) LVDS with backlight control and I2C touch interface; (1) MIPI-DSI; Note: only one display interface can work at a time

CAMERA (1) MIPI-CSI camera connector supporting 2x data lanes (two additional data lanes available in expansion connector)

POWER REQUIREMENTS

SUPPLY VOLTAGE 5 VDC

POWER CONNECTORS (1) 5 V input power jack connector; (1) supercap populated in development board supporting RTC applications; (1) coin-cell/supercap connector; (1) battery connector

ENVIRONMENTAL

OPERATING TEMPERATURE -40° C to 85° C (-40° F to 185° F)

STORAGE TEMPERATURE -50° C to 125° C (-58° F to 257° F)

RELATIVE HUMIDITY 5% to 90% (non-condensing)

MECHANICAL DIMENSIONS 130 mm x 210 mm (5.12 in x 8.27 in)