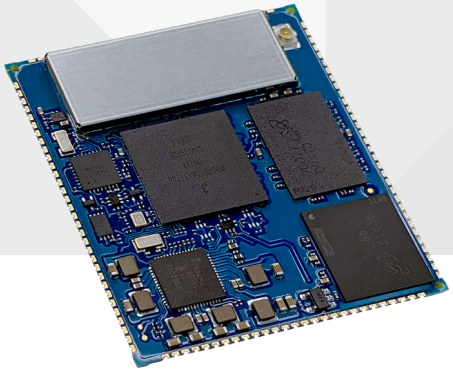




Connect this device with
Digi ConnectCore Cloud Services.
Create. Configure. Deploy. Manage.

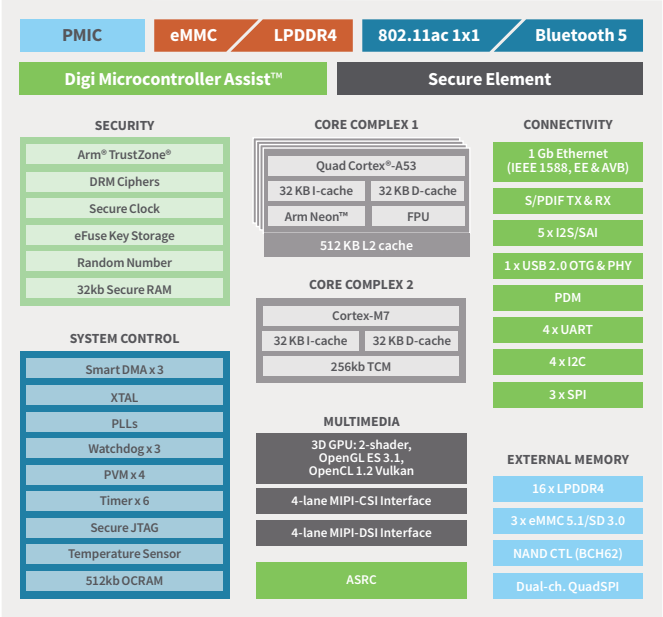
DIGI CONNECTCORE 8M NANO

Embedded system-on-module based on the NXP i.MX 8M Nano processor; designed for longevity and scalability in industrial IoT applications

Digi ConnectCore® 8M Nano, based on the NXP® i.MX 8M Nano application processor, is an integrated system-on-module (SOM) platform. The Nano is designed for a wide range of industrial, medical, agricultural and transportation applications, including Internet of Things (IoT), human-machine interface (HMI), equipment monitoring, audio/voice, edge computing and machine learning (e.g. anomaly detection).

Digi ConnectCore 8M Nano features up to 4x power-efficient Arm® Cortex®-A53 cores and 1x Cortex-M7 core, which allow it to minimize power consumption while maintaining a high standard of performance. This SOM is designed for industrial reliability and the 10+ year product lifecycles of embedded devices. It helps OEMs lower their R&D and development costs and realize a lower total cost of ownership by leveraging pre-certified wireless connectivity, remote management, cloud integration and a complete Linux software platform based on Yocto Project®. In addition, built in Digi TrustFence® enables OEM developers to integrate critical security and data privacy capabilities into their products.

BLOCK DIAGRAM



BENEFITS

- Industrial i.MX 8M Nano single/quad-core system-on-module
- Digi SMTplus® form factor (40 mm x 45 mm) for ultimate reliability and design freedom
- Power management with both hardware and software support for low-power designs
- Display and camera capabilities with hardware acceleration
- Pre-certified dual-band 802.11a/b/g/n/ac 1x1 and Bluetooth® 5 connectivity
- Seamless cellular modem and Digi XBee® integration
- Cloud and edge-compute services integration
- Built-in device security, identity and privacy with Digi TrustFence®
- Remote management with Digi ConnectCore® Cloud Services
- Digi Embedded Yocto Linux® support

RELATED PRODUCTS


ConnectCore 8M Nano Dev Kit


ConnectCore 8X


ConnectCore 6UL


Digi XBee® Modules


ConnectCore 8X SBC Pro Dev Kit

SPECIFICATIONS	DIGI CONNECTCORE 8M NANO
APPLICATION PROCESSOR	NXP® i.MX8 Nano • Up to 4x Cortex®-A53 cores at 1.4 GHz • 1x Cortex-M7 core at 600 MHz core for real-time processing
MEMORY	Up to 8 GB eMMC, up to 1 GB of LPDDR4 (16-bit)
PMIC	NXP PCA9450A
GRAPHICS	Graphic Processing Unit: • GC7000UL with OpenCL and Vulkan support • 2 shader • 123 million triangles / sec • 0.8 giga pixel / sec • 12.8 GFLOPs 32-bit / 12.8 GFLOPs 16-bit • Supports OpenGL ES 1.1, 2.0, 3.0, OpenCL • Shader clock frequency of 500 MHz LCDIF display controller, supporting up to 1080p 60fps display through MIPI DSI MIPI DSI (4-lane) with PHY (display interface) MIPI CSI (4-lane) with PHY (camera interface)
SECURITY	Digi TrustFence®, TRNG, TrustZone, Secure RTC, Secure JTAG, Secure Element
PERIPHERALS/ INTERFACES	1x USB 2.0 OTG controllers with integrated PHY interfaces 3x Ultra Secure Digital Host Controller (uSDHC) interfaces 4x Universal Asynchronous Receiver / Transmitter (UART) modules 4x I2C modules 3x SPI modules 1x Quad SPI 10x PWM channels 1x 16-bit ADC module with accurate internal voltage reference, up to 20 channels 5x Synchronous Audio Interface (SAI) modules supporting I2S, AC97, TDM, codec/DSP and DSD interfaces 1x S/PDIF input and output, including a raw capture input mode 8-channel Pulse Density Modulation (PDM) input Up to 112 GPIOs
ETHERNET	1x 10/100/1000M Ethernet + AVB
WI-FI	1x1 802.11a/b/g/n/ac dual-band wireless
BLUETOOTH	Bluetooth® 5
ON-MODULE MICROCONTROLLER ASSIST	Digi Microcontroller Assist™ • Independent Cortex-M0+ microcontroller subsystem • Supporting ultra-low power modes at <3 µA
OPERATING TEMPERATURE	Industrial: -40 °C to 85 °C (-40 °F to 185 °F), depending on use case and enclosure/system design
STORAGE TEMPERATURE	-50 °C to 125 °C (-58 °F to 257 °F)
RELATIVE HUMIDITY	5% to 90% (non-condensing)
RADIO APPROVALS	US, Canada, EU, Japan, Australia/New Zealand
EMISSIONS/ IMMUNITY/ SAFETY	FCC Part 15 Class B, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, ICES- 003 Class B, VCCI Class II, AS 3548, FCC Part 15 Subpart C Section 15.247, IC (Industry Canada), RSS-210 Issue 5 Section 6.2.2(o), EN 300 328, EN 301 489-17, EN 55024, EN 301 489-3, Safety (IEC 62368-1)
DESIGN VERIFICATION	Temperature: IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-78 Vibration/shock: IEC 60068-2-6, IEC 60068-2-64, IEC 60068-2-27, HALT
MECHANICAL DIMENSIONS	118 castellated vias, LGA-474, 1.27 mm pitch, 40 mm x 45 mm x 3.5 mm (1.6 in x 1.8 in x 0.1 in)
PRODUCT WARRANTY	3-year

PART NUMBERS	DIGI CONNECTCORE 8M NANO DEVELOPMENT KITS
CC-WMX8MN-KIT	Digi ConnectCore 8M Nano development kit with development board, Quad Core, 8 GB eMMC, 1 GB LPDDR4 wireless

PART NUMBERS	DIGI CONNECTCORE 8M NANO SYSTEM-ON-MODULES
DIGI CONNECTCORE 8M NANO WIRELESS SOMS	
CC-WMX-FS7D-NN	Digi ConnectCore 8M Nano, Quad Core, 8 GB eMMC, 1 GB LPDDR4 wireless
CC-WMX-FR6D-NN	Digi ConnectCore 8M Nano, SoloLite Core, 8 GB eMMC, 512 MB LPDDR4 wireless
DIGI CONNECTCORE 8M NANO ETHERNET SOMS	
CC-MX-FS7D-ZN	Digi ConnectCore 8M Nano, Quad Core, 8 GB eMMC, 1 GB LPDDR4 Ethernet
CC-MX-FR6D-ZN	Digi ConnectCore 8M Nano, SoloLite Core, 8 GB eMMC, 512 MB LPDDR4 Ethernet

PART NUMBERS	DIGI CONNECTCORE CLOUD SERVICES
CC-CS-ESS-1-1YR	Digi ConnectCore Cloud Services — Essential 1-year (1 device)
CC-CS-ESS-100-1YR	Digi ConnectCore Cloud Services — Essential 1-year (100 devices)
CC-CS-ESS-100-3YR	Digi ConnectCore Cloud Services — Essential 3-year (100 devices)
CC-CS-ESS-100-5YR	Digi ConnectCore Cloud Services — Essential 5-year (100 devices)
CC-CS-PRM-1-1YR	Digi ConnectCore Cloud Services — Premium 1-year (1 device)
CC-CS-PRM-100-1YR	Digi ConnectCore Cloud Services — Premium 1-year (100 devices)
CC-CS-PRM-100-3YR	Digi ConnectCore Cloud Services — Premium 3-year (100 devices)
CC-CS-PRM-100-5YR	Digi ConnectCore Cloud Services — Premium 5-year (100 devices)

PART NUMBERS	DIGI CONNECTCORE SECURITY SERVICES
CC-SEC-ESS	Digi ConnectCore Security Services — Essential 1-year
CC-SEC-PRM	Digi ConnectCore Security Services — Premium 1-year
CC-SEC-ENT	Digi ConnectCore Security Services — Enterprise 1-year
CC-SEC-ENT-ADD	Digi ConnectCore Security Services — Additional product (same duration as main contract)

PART NUMBERS	EXPERT SUPPORT
DG-EXPE-12	Expert 12x5 support for end users
DG-EXPE-24	Expert 24x7 support for end users

DIGI SERVICE AND SUPPORT / You can purchase with confidence knowing that Digi is always available to serve you with expert technical support and our industry leading warranty. For detailed information visit www.digi.com/support.

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