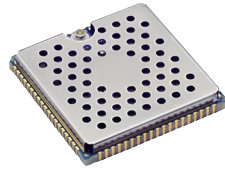# Digi ConnectCore Product Comparison
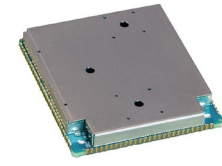
Digi ConnectCore® system-on-module (SOM) embedded product feature comparison chart

	ConnectCore 6UL	ConnectCore MP133	ConnectCore MP157	ConnectCore MP255
Form Factor **L x W x H**	SMTplus® 29 mm x 29 mm x 3.5 mm, 76-pad castellated vias, or LGA-245	SMTplus® 29 mm x 29 mm x 3 mm, 76-pad castellated vias, or LGA-245	SMTplus® 29 mm x 29 mm x 3 mm, 76-pad castellated vias, or LGA-245	SMTplus® 30 mm x 30 mm x 3 mm, LGA 333 pads
CPU	NXP® i.MX6UL 1x Cortex®-A7 at 528 MHz	STMicroelectronics® STM32MP133C 1x Cortex®-A7 at 650 MHz	STMicroelectronics® STM32MP157C 2x Cortex®-A7 at 650 MHz, Cortex® M4 at 209 MHz with FPU/MPU	STMicroelectronics® STM32MP255C 2x Cortex®-A35 at 1.2 GHz, Cortex® M33 at 400 MHz with FPU/MPU, Cortex® M0+ at 200 MHz in SmartRun
Network Connectivity	Wi-Fi 5 802.11 a/b/g/n/ac (1x1), Bluetooth® 5.0, 2x 10/100 Ethernet	Wi-Fi 5 802.11 a/b/g/n/ac (1x1), Bluetooth® 5.2, 2x Gigabit Ethernet	Wi-Fi 5 802.11 a/b/g/n/ac (1x1), Bluetooth® 5.2, 1x Gigabit Ethernet	Wi-Fi 6 dual-band 802.11 a/b/g/n/ac/ax (1x1), Bluetooth® 5.4, 2x Gigabit Ethernet, optional 3x Gigabit Ethernet with GMAC interfaces and 2+1 switch
Memory	Up to 1 GB SLC NAND flash, up to 1 GB DDR3	Up to 1 GB SLC NAND flash, up to 1 GB DDR3L	Up to 1 GB SLC NAND flash, up to 1 GB DDR3L	Up to 128 GB flash (eMMC™), up to 2 GB DDR4
Artificial Intelligence				Neural Processing Unit (NPU) VeriSilicon® at 800 MHz, 1.2 TOPS
Graphics	2D Pixel Processing Pipeline (PXP), 8/10/16/24-bit parallel LCD display	Not supported	3D GPU at up to 533 MHz, parallel LCD-TFT controller, 24-bit digital RGB888, WXGA at 60 fps or HD at 30 fps, MIPI DSI 2 data lanes up to 1 Gbps each, 8- to 14-bit camera	3D GPU — VeriSilicon at 800 MHz; OpenGL® ES 3.2.8 — Vulkan 1.2; Open CL™ 3.0, OpenVX™ 1.3; up to 138 Mtriangle/s, 900 Mpixel/s; LCD-TFT controller, high-resolution MIPI, LVDS or parallel display interfaces, MIPI camera port with ISP
OS Support	Digi Embedded Yocto Linux®	Digi Embedded Yocto Linux®	Digi Embedded Yocto Linux®	Digi Embedded Yocto Linux®
Wireless Certifications	US, Canada, EU, Japan, Australia, New Zealand, Brazil	US, Canada, EU, Japan, Australia, New Zealand, Brazil, Mexico	US, Canada, EU, Japan, Australia, New Zealand, Brazil, Mexico	US, Canada, EU, Japan, Australia, New Zealand, Brazil, Mexico
Environmental	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	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	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	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
Operating Temperature	−40 °C to 85 °C (−40 °F to 185 °F)	−40 °C to 85 °C (−40 °F to 185 °F)	−40 °C to 85 °C (−40 °F to 185 °F)	−40 °C to 85 °C (−40 °F to 185 °F)
Development Kits	CC-WMX6UL-KIT Optional LCD kit — CC-ACC-LCDH-10	CC-WMP133-KIT	CC-WMP157-KIT Optional LCD kit — CC-ACC-LCDH-10	CC-WMP255-KIT Optional LCD kit — CC-ACC-LCDH-10

DIGI®

Digi ConnectCore Product Comparison

Digi ConnectCore system-on-module (SOM) embedded product feature comparison chart

	ConnectCore 93	ConnectCore 8M Nano	ConnectCore 8M Mini	ConnectCore 8X
Form Factor L x W x H	SMTplus® 40 mm x 45 mm x 3.5 mm, 118-pad castellated vias, or LGA-474	SMTplus® 40 mm x 45 mm x 3.5 mm, 118-pad castellated vias, or LGA-474		SMTplus® 40 mm x 45 mm x 3.5 mm, 118-pad castellated vias, or LGA-474
CPU	NXP® i.MX 93 1-2x Cortex®-A55 at 1.7 GHz, 1x Cortex®-M33 core at 250 MHz, AI/ML Arm Ethos U65 micro NPU	NXP® i.MX 8M Nano 1-4x Cortex®-A53 cores at 1.4 GHz, 1x Cortex®-M7 core at 600 MHz	NXP® i.MX 8M Mini 4x Cortex®-A53 cores at 1.6 GHz, 1x Cortex®-M4 core at 400 MHz	NXP® i.MX 8X 2-4x Cortex®-A35 cores at 1.0 GHz, 1x Cortex®-M4F core at 264 MHz
Network Connectivity	Wi-Fi 6 802.11 a/b/g/n/ac/ax (1x1), Bluetooth® 5.3, 2x Gigabit Ethernet (1 x TSN)	Wi-Fi 5 802.11 a/b/g/n/ac (1x1), Bluetooth® 5.0, 1x Gigabit Ethernet		Wi-Fi 5 802.11 a/b/g/n/ac (2x2), Bluetooth® 5.0, 2x Gigabit Ethernet
Memory	Up to 32 GB eMMC flash, up to 2 GB LPDDR4	Up to 8 GB eMMC flash, up to 2 GB LPDDR4		Up to 16 GB eMMC flash, up to 2 GB LPDDR4
Artificial Intelligence	Arm® Ethos U65 micro NPU at 1.0 GHz, 1.0 TOPS			
Graphics	LVDS, MIPI display port and parallel RGB, MIPI camera port and parallel YUV/RGB, 2D Engine	One display, LCDIF display controller, 1080p display through MIPI DSI, GPU available — GC7000UL (2-shader), OpenGL/CL, ext. LVDS ref, design	One display, LCDIF display controller, 1080p display through MIPI DSI, GPU-GC NanoUltra 3D (1-shader) + GC320 2D, VPU-1080p60 HEVC H.265 (decode), VP9, H.264, VP8 (encode/decode)	Up to two displays, 1080p, MIPI-DSI/LVDS, 2D/3D acceleration, GPU-GC7000Lite (2-/4-shader), OpenGL/CL VPU available — encode/decode 1080p
OS Support	Digi Embedded Yocto Linux®	Digi Embedded Yocto Linux®	Digi Embedded Yocto Linux® Digi Embedded Android™	Digi Embedded Yocto Linux® Digi Embedded Android™
Wireless Certifications	US, Canada, EU, Japan, Australia, New Zealand, Brazil, Mexico	US, Canada, EU, Japan, Australia, New Zealand		US, Canada, EU, Japan, Australia, New Zealand
Environmental	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	Temperature: EC 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		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
Operating Temperature	−40 °C to 85 °C (−40 °F to 185 °F)	−40 °C to 85 °C (−40 °F to 185 °F)		−40 °C to 85 °C (−40 °F to 185 °F)
Development Kits	CC-WMX93-KIT Optional LCD kit — CC-ACC-LCDH-10	CC-WMX8MN-KIT Optional LCD kit — CC-ACC-LCDH-10	CC-WMX8MM-KIT Optional LCD kit — CC-ACC-LCDH-10	CC-WMX8-KIT Optional LCD kit — CC-ACC-LCDH-10

Digi ConnectCore Value

Digi offers a selection of ultra-compact and highly integrated embedded **system-on-modules** (SOMs) and **single board computers** (SBCs) for building intelligent and secure connected devices that require long-term availability. Develop and deploy diagnostics, logging, monitoring and control applications within a variety of demanding industries, including medical device, transportation, industrial, energy and smart cities. **Digi TrustFence**® is a complete device security framework that simplifies building secure connected products.

HOW TO DECIDE WHEN TO BUY VS. BUILD

Using a system-on-module (SOM) or single board computer (SBC) is a common way to connect a product to the Internet of Things (IoT). Digi ConnectCore SOMs and SBCs, combined with the major benefit of Digi's extensive development and wireless connectivity expertise, reduce design complexity and accelerate time-to-market.

Questions to consider:

- What are the development costs and risks?
- What certifications and approvals are required (testing and validation)?
- How much does is cost to maintain and stay current (Moore's Law)?
- What are the production and supply chain cost?
- What is the core competency of your organization?

TIME-TO-MARKET

06 Months — SBC

12 Months — SOM

30 Months — Chip Down

Using an SBC can reduce average deployment times by 80%

*Source: Digi International

Embedded SOMs and SBCs enable original equipment manufacturers to achieve:

Faster time-to-market — Wireless connectivity and certification hurdles lengthen product-development cycles. Smart, connected device makers want proven components so they can bring products to market faster.

Connected — Smart devices need to be connected — in most cases wirelessly. Connectivity enables OEMs to access and manage devices remotely. Digi offers a wide array of short- and long-range wireless connectivity options that integrate with our SOMs and SBCs.

Simplicity — Sophisticated devices require simpler interfaces. Arcane codes and keypads are shifting to visual displays and touchscreens — requiring greater computing power.

Reliability and longevity — Embedded devices must withstand daily intensive use in critical situations over a period of years. Manufacturers need robust components and long-term availability of parts to ensure a lengthy product lifecycle.

Digi International has many ready to deploy embedded solutions, and **Digi Wireless Design Services** has years of experience and a library of proven IP to build exactly to your specifications.

Digi TrustFence built-in security with a full range of production-ready features

Designed for the long product life cycles of embedded devices, **Digi TrustFence** allows you to easily integrate device security, device identity and data privacy capabilities.

- ✓ Secure boot ensures only signed software images can run on a device
- ✓ Local file system encryption keeps internal device data safe
- ✓ Access-controlled internal and external ports prevent unwanted "back doors"
- ✓ Tamper detection detects unauthorized attempts to access the system
- ✓ Best practices and guidelines for properly securing a device, security threat monitoring, alerts and notifications
- ✓ Secure remote firmware updates of devices with signed firmware images

Digi ConnectCore Applications and Services

Digi ConnectCore® Cloud Services provide integrated edge-to-cloud connectivity to enable over-the-air software updates, remotely manage deployments, improve product quality and ease-of-use, automate processes and reduce costs. **Digi ConnectCore Security Services** provide additional services and tools to maintain the security of your devices throughout the entire product lifecycle. **Digi Wireless Design Services** helps companies integrate wireless technologies with engineering and support from concept to certification and manufacturing.

DEFINITION   DEVELOPMENT

CERTIFICATION   MANUFACTURING

Manage your network and connected devices from edge-to-cloud

Digi ConnectCore Cloud Services enable OEMs in a wide range of industries to create connected devices with remote-dashboard, -service and -application capabilities using Digi ConnectCore system-on-modules (SOMs).

✓ Industry-leading cloud and edge tools for rapid device deployment, and easier asset management

✓ Automate mass firmware and software updates to enhance functionality, stay in compliance and scale your deployment

✓ Access data from edge devices that were previously out of reach

✓ Integrate device data through open APIs for greater insights and control with third-party applications

✓ Monitor network, device, and asset performance and security with bi-directional communications

✓ Receive real-time alerts and detailed network reports

Keep your product secure during the entire product lifecycle

Maintaining the security for connected devices after product release is challenging. **Digi ConnectCore Security Services** enable customers to keep products secure.

✓ Make security easier and more accessible by providing a curated security analysis

✓ Provide visibility on the Digi Embedded Yocto (DEY) security status with available vulnerability reports

✓ Identify security issues in Digi ConnectCore DEY-based customer products

✓ Monitor and maintain security in devices throughout the entire product lifecycle

✓ Utilize Digi engineering and consulting services to help resolve security issues

✓ Take advantage of SBOM analysis and CVE monitoring

✓ Review binary image scans for additional vulnerability insights

Digi Wireless Design Services (WDS)

Digi WDS helps companies solve business problems and create innovative IoT products with embedded SOMs, wireless technologies, a library of proven IP and a dedicated team of creative designers and engineers.

✓ World-class engineering expertise

✓ Technological and regulatory certification

✓ Consulting, concept, architecture and design

✓ Prototype build and manufacturing support

Global deployment and connectivity

✓ Pre-certified for use in various global regions

✓ Optional dual-band 802.11a/b/g/n/ac/ax Wi-Fi, Bluetooth 5.3 and dual 10/100/1000M Gigabit Ethernet connectivity

✓ Seamless **Digi XBee®** integration to extend wireless connectivity to a variety of popular IoT protocols including cellular