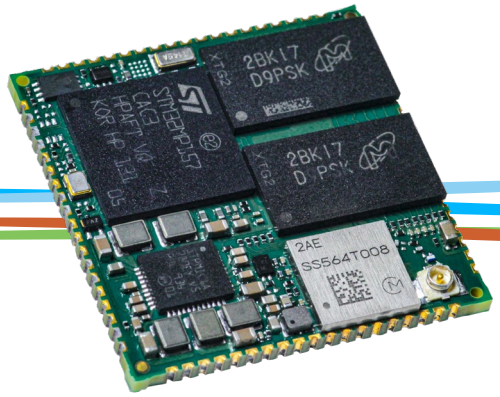


Digi ConnectCore MP1

Intelligent, wireless and secure embedded system-on-module family based on the STM32MP1 MPU with turnkey Linux support in the Digi SMTplus standard form factor

Digi ConnectCore® MP1 modules deliver a highly integrated and secure connected system-on-module solution. The Digi SMTplus® surface-mount form factor provides simplified design integration, efficiency and reliability.

Built on the STM32MP13 and STM32MP15 microprocessors, Digi ConnectCore MP1 modules are the intelligent communication engine for today's secure connected devices with pre-certified dual-band Wi-Fi 5 (802.11a/b/g/n/ac), Bluetooth® 5.2 and Gigabit Ethernet connectivity.

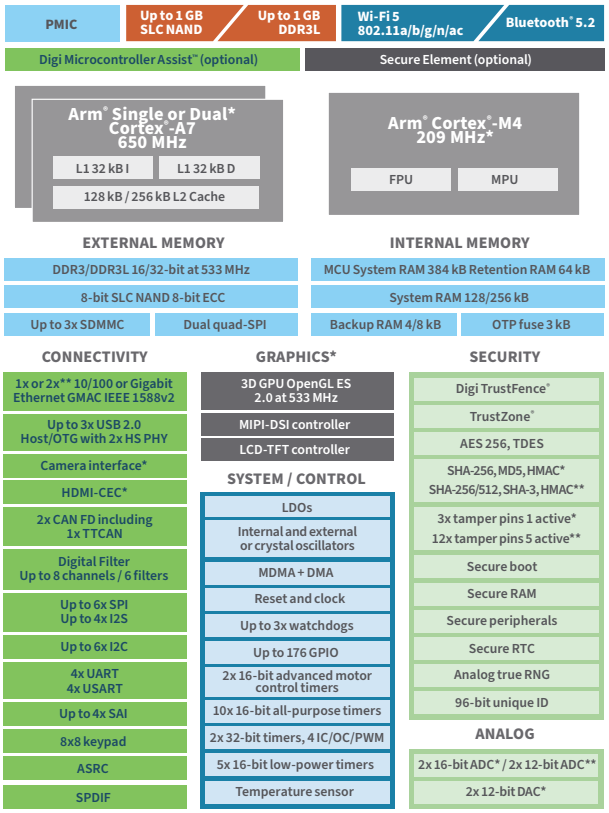
The scalable Digi ConnectCore MP1 module family provides ideal options for headless gateway products with rich connectivity requirements and display devices with advanced HMIs powered by a 3D graphics processing unit (GPU) and camera support. Digi ConnectCore MP1 system-on-modules are designed for industrial and medical use with high levels of security, reliability, performance and 10+ year longevity.

Embedded device security is a critical design aspect for the growing number of connected IoT applications. **Digi ConnectCore SOM solutions** provide built-in security with **Digi TrustFence®**, a fully integrated device-security framework simplifying the process of securing connected devices.

Digi ConnectCore Cloud Services, **Digi ConnectCore Security Services** and **Expert Support** provide additional capabilities for development, deployment and maintenance.

Digi Embedded Yocto®, Digi's feature-rich Linux distribution with many extensions for embedded product design provides a fully tested, validated and maintained turnkey Linux software platform.

With over 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 Wireless Design Services** (WDS) offer additional cellular integration support, certification assistance, and custom design and build services to get your products to market smarter and faster.



*Digi ConnectCore MP15 only **Digi ConnectCore MP13 only

Key features, benefits and applications

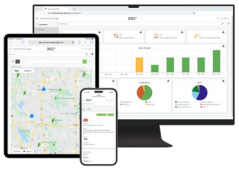
- Industrial-grade, scalable, embedded SOM platform
- Pre-certified dual-band Wi-Fi 5 (802.11ac) and Bluetooth 5.2
- Power management with hardware and software support
- Digi SMTplus form factor (29 x 29 mm) for ultimate reliability
- High level of pin-compatibility with **ConnectCore 6UL SOMs**
- Seamless cellular modem and **Digi XBee®** integration
- **Digi ConnectCore Cloud Services** remote monitoring, device management and IoT application enablement
- **Digi Embedded Yocto** Linux support
- Turnkey development services available from **Digi WDS**

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DIGI CONNECTCORE MP1

Specifications



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

SPECIFICATIONS	DIGI CONNECTCORE MP157 SOM	DIGI CONNECTCORE MP133 SOM
FEATURES		
APPLICATION PROCESSOR	STMicroelectronics STM32MP157C, Arm® dual Cortex®-A7 at 650 MHz, Cortex-M4 at 209 MHz, FPU/MPU, 3D GPU, secure boot, crypto engine	STMicroelectronics STM32MP133C, Arm Cortex-A7 at 650 MHz, secure boot, crypto engine
MEMORY	Up at 1 GB SLC NAND flash, up to 1 GB DDR3L	256 MB SLC NAND flash, 256 MB DDR3L
PMIC	STMicroelectronics Power Management IC — STPMIC1	
VIDEO / GRAPHICS	3D GPU (Vivante® — OpenGL® ES 2.0) running at up to 533 MHz, with performance up to 26 Mtriangle/s, 133 Mpixel/s Parallel LCD-TFT controller, up to 24-bit digital RGB888, up to WXGA (1366 × 768) at 60 fps or up to Full HD (1920 × 1080) at 30 fps MIPI® DSI 2 data lanes up to 1 Gbps each, up to WXGA at 60 fps (63 M pixels/s) or up to Full HD (1920 × 1080) at 30 fps	
CAMERA	8- to 14-bit camera	
SECURITY	Secure boot, TrustZone® peripherals, 3x tamper pins including 1x active tamper, 2x TRNG (6 triple oscillators), 2x CRC calculation units; 2x cryptographic processors, hardware acceleration with DMA support; encryption/decryption: DES/TDES: ECB (electronic codebook) and CBC (cipher block chaining) 64-, 128- or 192-bit key; AES: ECB, CBC, GCM, CCM, and CTR (counter mode) chaining algorithms, 128-, 192- or 256-bit key; Universal HASH: SHA-1, SHA-224 and SHA-256 (secure HASH algorithms), MD5, HMAC; Cortex-M4 resources isolation; **Digi TrustFence** embedded security framework	Secure boot, TrustZone 12x tamper pins incl. 5x active tamper, 1x TRNG (6 triple oscillators), 1x CRC calc. unit, 1x cryptographic processor, hardware acceleration with DMA support; encryption/decryption: DES/TDES: ECB (electronic codebook)and CBC (cipher block chaining) 64-, 128- or 192-bit key; AES: ECB, CBC, GCM, CCM, and CTR (counter mode) chaining algorithms, 128-, 192- or 256-bit key; Universal HASH: SHA-1, SHA-224 and SHA-256, SHA-384, SHA-512, SHA-3, HMAC; **Digi TrustFence** embedded security framework
PERIPHERALS / INTERFACES	6x I2C, 4x UART + 4x USART, 6x SPI (3 with full duplex I2S); 4x SAI (stereo audio: I2S, PDM, SPDIF Tx), SPDIF Rx (4 inputs); HDMI-CEC; 3x SDMMC up to 8-bit (SD / eMMC™ / SDIO); 2x CAN FD (including 1x TTCAN); 2x USB 2.0 high-speed host + 1x USB 2.0 full-speed OTG; Up to 176 I/O ports with interrupt capability; 2x ADCs (up to 16-bit); 1x temperature sensor; 2x 12-bit D/A converters (1 MHz); 1x Digital Filter for Sigma Delta Modulator (DFSDM) with 8 channels/6 filters, internal or external ADC/DAC reference VREF+; 2x 32-bit timers with up to 4 IC/OC/PWM or pulse counter and quadrature (incremental) encoder input; 2x 16-bit advanced motor control timers; 10x 16-bit general-purpose timers (including 2 basic timers without PWM); 5x 16-bit low-power timers; Secure RTC; 2x 4 Cortex-A7 system timers (secure, nonsecure, virtual, hypervisor); 1x SysTick M4 timer; 3x watchdogs (2x independent and window)	5x I2C, 4x UART + 4x USART, 5x SPI (4 with full duplex I2S); 2x SAI (stereo audio: I2S, PDM, SPDIF Tx), SPDIF Rx (4 inputs); 2x SDMMC up to 8-bit (SD / eMMC / SDIO); 2x CAN FD (including 1x TTCAN); 2x USB 2.0 high-speed host or 1x USB 2.0 high-speed host + 1x USB 2.0 full-speed OTG, up to 135 I/O ports with interrupt capability; 2x ADCs (up to 12-bit), 1x temperature sensor, 1x DFSDM (4 channels/2 filters), internal or external ADC reference VREF+; 2x 32-bit timers with up to 4 IC/OC/PWM or pulse counter and quadrature (incremental) encoder input; 2x 16-bit advanced timers, 10x 16-bit general-purpose timers (including 2 basic timers without PWM); 5x 16-bit low-power timers, Secure RTC; 4 Cortex-A7 system timers (secure, nonsecure, virtual, hypervisor); 2x independent watchdogs
ETHERNET	10/100 M or Gigabit Ethernet GMAC IEEE 1588v2, MII/RMII/GMII/RGMII	2x 10/100 M or Gigabit Ethernet GMAC IEEE 1588v2, MII/RMII/RGMII
WIRELESS	Wi-Fi 5 dual-band 802.11a/b/g/n/ac 1x1 radio (up to 433.3 Mbps) with strong WPA3-Enterprise authentication/encryption −40 °C to 85 °C (−40 °F to 185 °F) full temperature range; Bluetooth 5.2 (Basic Rate, Enhanced Data Rate and Bluetooth Low Energy)	
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, Brazil, Mexico	
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); visit **digi.com/resources/certifications** for latest updates	
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	
MOUNTING / PIN COUNT	Common Digi SMTplus surface mount footprint using 76-pad edge castellated pads (1.27 mm pitch) or 245-pad LGA (1.27 mm pitch) option	
MECHANICAL DIMENSIONS	29 mm x 29 mm x 3 mm (1.14 in x 1.14 in x 0.12 in)	
PRODUCT WARRANTY	3-year	

*Visit **digi.com/resources/certifications** for latest updates.

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DIGI CONNECTCORE MP1

Part Numbers

PART NUMBERS	DIGI CONNECTCORE MP1 DEVELOPMENT KITS
DIGI CONNECTCORE MP157 DEVELOPMENT KIT	
CC-WMP157-KIT	Digi ConnectCore MP157 Development Kit with development board and Digi ConnectCore MP157 dual 512 MB/512 MB wireless SOM including Digi ConnectCore Cloud Services Premium 1-year license
DIGI CONNECTCORE MP133 DEVELOPMENT KIT	
CC-WMP133-KIT	Digi ConnectCore MP133 Development Kit with development board and Digi ConnectCore MP133 256 MB/256 MB wireless SOM including Digi ConnectCore Cloud Services Premium 1-year license

PART NUMBERS	DIGI CONNECTCORE MP157 SYSTEM-ON-MODULES
DIGI CONNECTCORE MP157 — SECURE WIRELESS MODULES	
CC-WST-DW69-NM	Digi ConnectCore MP157 dual 650 MHz, M4, GPU, 512 MB DDR3L, 512 MB SLC NAND flash, secure boot, −40 to 85 °C (−40 to 185 °F), Wi-Fi 5, Bluetooth 5.2
CC-WST-DW7A-NM	Digi ConnectCore MP157 dual 650 MHz, M4, GPU, 1 GB DDR3L, 1 GB SLC NAND flash, secure boot, −40 to 85 °C (−40 to 185 °F), Wi-Fi 5, Bluetooth 5.2
DIGI CONNECTCORE MP157 — SECURE ETHERNET MODULES	
CC-ST-DW69-ZM	Digi ConnectCore MP157 dual 650 MHz, M4, GPU, 512 MB DDR3L, 512 MB SLC NAND flash, secure boot, −40 to 85 °C (−40 to 185 °F)
CC-ST-DW7A-ZM	Digi ConnectCore MP157 dual 650 MHz, M4, GPU, 1 GB DDR3L, 1 GB SLC NAND flash, secure boot, −40 to 85 °C (−40 to 185 °F)

PART NUMBERS	DIGI CONNECTCORE MP133 SYSTEM-ON-MODULES
DIGI CONNECTCORE MP133 — SECURE WIRELESS MODULE	
CC-WST-DX58-NK	Digi ConnectCore MP133 single 650 MHz, 256 MB DDR3L, 256 MB SLC NAND flash, secure boot, 2x Gbe, −40 to 85 °C (−40 to 185 °F), Wi-Fi 5, Bluetooth 5.2
DIGI CONNECTCORE MP133 — SECURE ETHERNET MODULE	
CC-ST-DX58-ZK	Digi ConnectCore MP133 single 650 MHz, 256 MB DDR3L, 256 MB SLC NAND flash, secure boot, 2x Gbe, −40 to 85 °C (−40 to 185 °F)

PART NUMBERS	DIGI CONNECTCORE MP1 ACCESSORIES
ACCESSORIES	
CC-ACC-LCDH-10	LCD application kit, including 10 in WXGA (high resolution) LCD panel

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DIGI CONNECTCORE MP1

Part Numbers, Services and Support

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-24-15HRS	Expert support agreement — 1-year

For more information, please visit digi.com.

For more information about Digi ConnectCore MP1, visit digi.com/ccmp1.

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