Manage this device with
Digi Remote Manager

DIGI CONNECTCORE 6+

NXP i.MX6Plus based surface-mount module solution with scalable, quad-core performance and integrated wireless

The Digi ConnectCore® 6+ is an ultra-compact and highly integrated system-on-module solution based on the NXP® i.MX6Plus Cortex®-A9 processor family.

With processor speeds up to 800 MHz and fully pin-compatible dual-/quad-core variants, the ConnectCore 6+ offers a truly future-proof platform solution with scalable performance and pre-certified wireless 802.11a/b/g/n/ac and Bluetooth® 5, including Bluetooth Low Energy, connectivity.
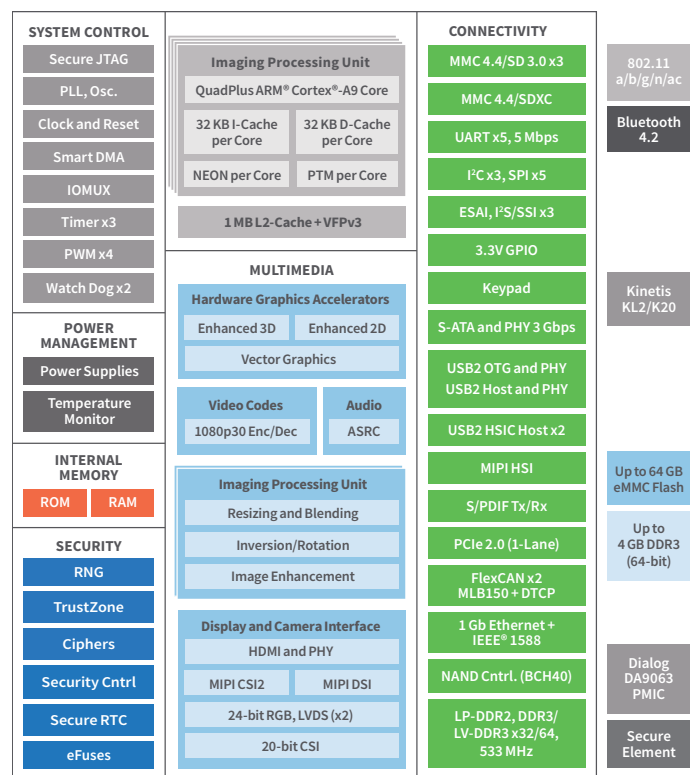
Its low-profile, surface-mount design maximizes integration flexibility and significantly reduces design risk in a highly cost effective, reliable form factor with optimized heat dissipation capabilities even in the most demanding quad-core system configurations.

Integrated cloud integration as part of the Digi Yocto Project Linux software platform support offers secure remote management and web services capabilities through the scalable **Digi Remote Manager®**.

BENEFITS

- Scalable Cortex®-A9 multi-core performance
- Independent Cortex®-M0+/Cortex®-M4 Microcontroller Assist™ subsystem
- Cost-effective, reliable, low-profile surface-mount module form factor
- Pre-certified 802.11a/b/g/n/ac and Bluetooth® 5
- Smart Power Management Architecture with PMIC
- Yocto Project Linux software platform support
- Reliable design with IEC 60068 and HALT verification
- Dedicated on-module security + authentication controller
- Designed for long-term availability

BLOCK DIAGRAM

SYSTEM CONTROL
- Secure JTAG
- PLL, Osc.
- Clock and Reset
- Smart DMA
- IOMUX
- Timer x3
- PWM x4
- Watch Dog x2

Imaging Processing Unit
- QuadPlus ARM® Cortex®-A9 Core
- 32 KB I-Cache per Core
- 32 KB D-Cache per Core
- NEON per Core
- PTM per Core
- 1 MB L2-Cache + VFPv3

MULTIMEDIA

Hardware Graphics Accelerators
- Enhanced 3D
- Enhanced 2D
- Vector Graphics

Video Codes
- 1080p30 Enc/Dec

Audio
- ASRC

Imaging Processing Unit
- Resizing and Blending
- Inversion/Rotation
- Image Enhancement

Display and Camera Interface
- HDMI and PHY
- MIPI CSI2
- MIPI DSI
- 24-bit RGB, LVDS (x2)
- 20-bit CSI

POWER MANAGEMENT
- Power Supplies
- Temperature Monitor

INTERNAL MEMORY
- ROM
- RAM

SECURITY
- RNG
- TrustZone
- Ciphers
- Security Cntrl
- Secure RTC
- eFuses

CONNECTIVITY
- MMC 4.4/SD 3.0 x3
- MMC 4.4/SDXC
- UART x5, 5 Mbps
- I²C x3, SPI x5
- ESAI, I²S/SSI x3
- 3.3V GPIO
- Keypad
- S-ATA and PHY 3 Gbps
- USB2 OTG and PHY USB2 Host and PHY
- USB2 HSIC Host x2
- MIPI HSI
- S/PDIF Tx/Rx
- PCIe 2.0 (1-Lane)
- FlexCAN x2 MLB150 + DTCP
- 1 Gb Ethernet + IEEE® 1588
- NAND Cntrl. (BCH40)
- LP-DDR2, DDR3/ LV-DDR3 x32/64, 533 MHz

- 802.11 a/b/g/n/ac
- Bluetooth 4.2
- Kinetis KL2/K20
- Up to 64 GB eMMC Flash
- Up to 4 GB DDR3 (64-bit)
- Dialog DA9063 PMIC
- Secure Element
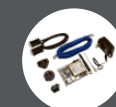
KEY APPLICATIONS

ConnectCore® 6+ SBC

ConnectCore® i.MX53/ Wi-i.MX53

ConnectCard® for i.MX28

ConnectCore® 6 LCD Kit

Digi XBee® ZigBee

SPECIFICATIONS	Digi ConnectCore® 6+
FEATURES	
APPLICATION PROCESSOR	NXP® i.MX6Plus encompasses a dual or quad-core Arm® Cortex®-A9 platform, 800 MHz with 1 MB of L2 cache, and optimized 64-bit DDR3 or 2-ch., 32-bit LPDDR2 support. Integrated FlexCAN, MLB busses, PCI Express®and SATA-2 provide excellent connectivity
MEMORY	8 GB flash, 2 GB DDR3
PMIC	Dialog DA9063
GRAPHICS	LVDS, MIPI display port, MIPI camera port and HDMI v1.4
SECURITY	RNG, TrustZone, Ciphers, Security Cntrl, Secure RTC, Secure JTAG, eFuses (OTP)
PERIPHERALS/INTERFACES	MMC 4.4/SD 3.0 x3MMC 4.4/SDXC, UART x5 (5 Mbps), MIPI HSI, S/PDIF Tx/Rx, I2C x3, SPI x5, ESAI, I2S/SSI x3, FlexCAN x2, MLB150 + DTCP, S-ATA and PHY (3 Gbps), USB2 OTG and PHY, USB 2.0 Host and PHY, USB 2.0 HSIC Host x2, PWM, 3.3V GPIO, Keypad, PCIe 2.0 (x1 lane), HDMI and PHY, MIPI DSI, MIPI CSI2, 20-bit CSI, 24-bit RGB, LVDS (x2), RTC, External address/data bus, Watchdog, Timers, JTAG
EXTERNAL BUS	26-bit address / up to 32-bit data (multiplexed and non-multiplexed modes)
ETHERNET	1 Gigabit Ethernet
WI-FI	802.11a/b/g/n/ac
BLUETOOTH	Bluetooth® 5
ON-MODULE MICROCONTROLLER ASSIST	Microcontroller Assist (MKL14Z32VFT4)
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, 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 UL/UR (or equivalent)
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	LGA-400, 2 mm pitch, fully shielded (heat-spreading)
PRODUCT WARRANTY	3-year

PART NUMBERS	DESCRIPTION
CC-WMX-KK8D-TN	ConnectCore 6+ module, i.MX6QuadPlus, 800 MHz, -40 to 85° C, 8 GB flash, 2 GB DDR3, 802.11a/b/g/n/ac, Bluetooth 5, Ethernet

ACCESSORIES	DESCRIPTION
CC-WMX6P-KIT	ConnectCore 6+ professional development kit

DIGI TRUSTFENCE yocto PROJECT Bluetooth® Wi-Fi ALLIANCE MEMBER GOLD PARTNER NXP powered by aws

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