

DIGI CONNECTCORE 6

NXP i.MX6 based surface-mount module solution with scalable, single-/multi-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.MX6 Cortex-A9 processor family.

With processor speeds up to 1.2 GHz and fully pin-compatible single-/dual-/quad-core variants, the ConnectCore 6 offers a truly future-proof platform solution with scalable performance and pre-certified wireless 802.11 a/b/g/n and Bluetooth® 4.0, including Bluetooth Low Energy, connectivity.

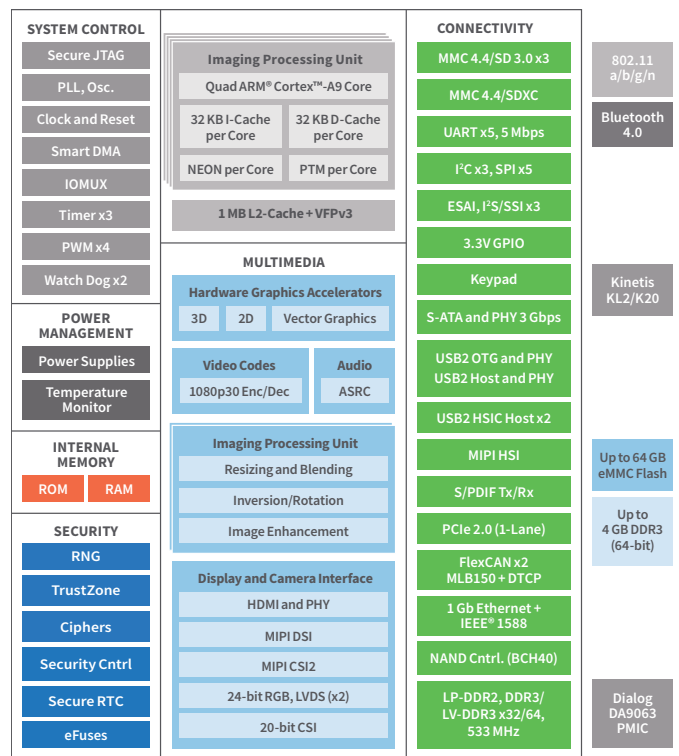
Its low-profile, surface-mount design maximizes integration flexibility and significantly reduces design risk in a highly cost-effective, reliable form factor with optimized heat dissipation capabilities even in the most demanding quad-core system configurations.

The ConnectCore 6 comes with a complete Board Support Package (BSP) for both Linux and Android platforms supporting secure remote management and web services through 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 and Bluetooth 4.0
- Smart Power Management Architecture with PMIC
- Android, Yocto Project Linux and Windows Embedded Compact software platform support
- Reliable design with IEC 60068 and HALT verification
- Designed for long-term availability

BLOCK DIAGRAM



KEY APPLICATIONS



ConnectCore® 6 SBC

ConnectCore® i.MX53/Wi-i.MX53

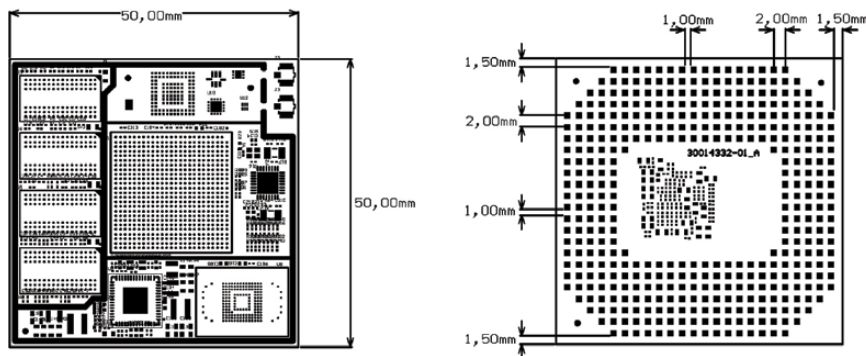
ConnectCard® for i.MX28

ConnectCore® 6 LCD Kit

Digi XBee® ZigBee

FEATURES

APPLICATION PROCESSOR	NXP i.MX6Solo/DualLite/Dual/Quad with up to four Cortex-A9 cores; Industrial (800/850 MHz), Commercial (1/1.2 GHz) i.MX6 variants; 32 KB I-Cache/32 KB D-Cache, up to 1 MB L2-Cache
MEMORY	Up to 64 GB eMMC flash, up to 2 GB DDR3 (64-bit)
PMIC	Dialog DA9063
GRAPHICS	Multi-stream-capable HD video engine with 1080p60 decode, 1080p30 encode and 3D video playback in HD in high-performance families; Superior 3D graphics performance with up to 4 shaders at 200 Mt/s w/OpenCL support; Separate 2D and/or Vertex acceleration engines for UI support; Stereoscopic image sensor support for 3D imaging
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 Gbit Ethernet + IEEE 1588 (MII10, MII100, RMII, RGMII)
WI-FI	802.11 a/b/g/n: 2.412 - 2.484 GHz, 4.900 - 5.850 GHz 802.11 b: 1, 2, 5.5, 11 Mbps (17 dBm typical ±2 dBm) 802.11 a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps (15 dBm typical ±2 dBm) 802.11 n: 15, 30, 45, 60, 90, 120, 135, 150 Mbps (12 dBm typical ±2 dBm) HT40, MCS 0-7 Security: WEP, WPA-PSK/WPA2-Personal, WPA/WPA2 Enterprise, 802.11i, Access Point Mode (up to 10 clients), Wi-Fi Direct Industry certifications: Wi-Fi Alliance Logo Certification Ready, CCXv4 ASD Ready*
BLUETOOTH	Profiles: GAP, SPP, FTP, PAN, OPP, HID, A2DP, AVRCP, HDP
ON-MODULE MICROCONTROLLER ASSIST	Kinetis L: MKL14Z32VFT4, MKL14Z64VFT4, MKL15Z128VFT4, MKL15Z32VFT4, MKL15Z64VFT4, MKL24Z32VFT4, MKL24Z64VFT4, MKL25Z128VFT4, MKL25Z32VFT4, MKL25Z64VFT4, MKL26Z128VFT4, MKL26Z64VFT4, MKL26Z32VFT4 Kinetis K: K10P48M50SF0, K20P48M50SF0 Internal interconnect to i.MX6 via SPI, Kinetis interfaces available on module pads
OPERATING TEMPERATURE	Industrial: -40° C to 85° C (-40° F to 185° F) / Commercial: 0° C to 70° C (32° F to 158° F); depending on use case and enclosure/system design
STORAGE TEMPERATURE	-50° C to 125° C (-58° F to 257° F)
RELATIVE HUMIDITY	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 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
KITS	
CC-WMX6-KIT	ConnectCore 6 SBC Development Kit: ConnectCore 6 Development Kit with SBC baseboard, UART console cable, power supply and accessories (Linux, Android)
CC-ACC-LCDW-10	LCD Application Kit, including 10" WXGA (1280x800) LCD panel with PCAP touch
CONNECTCORE 6 - ETHERNET ONLY MODULES	
CC-MX-L76C-Z1	ConnectCore 6 module, i.MX6DualLite, Industrial, 800 MHz, -40 to 85° C, 4 GB flash, 512 MB DDR3, Ethernet
CC-MX-L86C-Z1	ConnectCore 6 module, i.MX6Dual, Industrial, 800 MHz, -40 to 85° C, 4 GB flash, 512 MB DDR3, Ethernet
CC-MX-L96C-Z1	ConnectCore 6 module, i.MX6Quad, Industrial, 800 MHz, -40 to 85° C, 4 GB flash, 512 MB DDR3, Ethernet
CONNECTCORE 6 - WIRELESS MODULES	
CC-WMX-L76C-TE	ConnectCore 6 module, i.MX6DualLite, Industrial, 800 MHz, -40 to 85° C, 4 GB flash, 512 MB DDR3, 802.11a/b/g/n, Bluetooth 4.0, Ethernet
CC-WMX-L87C-TE	ConnectCore 6 module, i.MX6Dual, Industrial, 800 MHz, -40 to 85° C, 4 GB flash, 1 GB DDR3, 802.11a/b/g/n, Bluetooth 4.0, Ethernet
CC-WMX-L96C-TE	ConnectCore 6 module, i.MX6Quad, Industrial, 800 MHz, -40 to 85° C, 4 GB flash, 512 MB DDR3, 802.11a/b/g/n, Bluetooth 4.0, Ethernet
CC-WMX-J97C-TN	ConnectCore 6 module, i.MX6Quad, Ext Commercial, 1.2 GHz, 0 to 70° C, 4 GB flash, 1 GB DDR3, Microcontroller Assist (MKL14Z32VFT4), 802.11a/b/g/n, Bluetooth 4.0, Ethernet

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