



## SPECIFICATIONS

## DIGI CONNECTCORE 6UL

## FEATURES

<b>APPLICATION PROCESSOR</b>	NXP® i.MX6UL-2, ARM® Cortex®-A7 at 528 MHz, 128 KB L2 cache, with NEON™ MPE (Media Processor Engine) co-processor and programmable smart DMA (SDMA) controller
<b>MEMORY</b>	256 MB / 512 MB / 1 GB NAND flash, 256 MB / 512 MB / 1 GB DDR3
<b>PMIC</b>	NXP® PF3000
<b>VIDEO/GRAPHICS</b>	2D Pixel Processing Pipeline (PXP) for color-space conversion, scaling, alpha-blending, and rotation, 8-/16-/18-/24-bit parallel LCD Display up to WXGA (1366x768), 8- /10- /16- /24-bit Parallel CSI with BT.656 support
<b>SECURITY</b>	Dedicated cryptographic co-processor (Secure Element) with hardware assisted Elliptic Curve support: FIPS 186-4 Elliptic Curve Digital Signature (ECDSA), NIST SP800-56A Elliptic Curve Diffie-Hellman (ECDH), NIST Standard P256 Elliptic Curve, 256-bit SHA/HMAC, X.509 certificate support, Multilevel RNG (NIST SP 800-90A DRBG), Tamper Monitor, 72-bit unique device ID, i.MX6UL Cryptographic Acceleration and Assurance Module (CAAM): AES 128/256, DES/3DES, ARC4, RSA (4096), MD5, SHA-1/224/256, HMAC, AES-CMAC, AES-XCBC-MAC, AES-CCM, TRNG with hardware entropy source (NIST SP-800-90A), Digi TrustFence® Embedded Security Framework
<b>PERIPHERALS/INTERFACES</b>	1 x dedicated MMC 4.5/SD 3.0/SDIO Port (1-/2-4-bit), 2 x USB 2.0 OTG with PHY, 3x I2S/SAI, 1 x S/PDIF Tx/Rx, 2 x FlexCAN (2.0b), 4 x I2C, 4 x SPI, 7 x UART, 4 x Timer, 8 x PWM, 3 x Watchdog, 2 x 12-bit ADC (10 channels) with 4-wire/5-wire touch controller, up to 103 GPIOs
<b>EXTERNAL BUS</b>	16-bit address / up to 16-bit data (multiplexed and non-multiplexed modes)
<b>ETHERNET</b>	Dual 10/100 Mbit Ethernet MAC + IEEE 1588
<b>WIRELESS</b>	Wi-Fi 5 802.11a/b/g/n/ac 1x1 (MCS 0-9), Bluetooth® 5 with strong WPA2-Enterprise authentication/encryption for Wi-Fi connections
<b>MCA™ MICROCONTROLLER ASSIST</b>	Ultra-low power ARM® Cortex®-M0+, up to 48 MHz (NXP Kinetis KL03: KL03P24M48SF0)
<b>OPERATING TEMPERATURE</b>	Industrial: -40 °C to 85 °C (-40 °F to 185 °F); depending on use case and enclosure/system design
<b>STORAGE TEMPERATURE</b>	-50 °C to 125 °C (-58 °F to 257 °F)
<b>RELATIVE HUMIDITY</b>	Relative humidity 5% to 90% (non-condensing)
<b>RADIO APPROVALS***</b>	US, Canada, EU, Japan, Australia/New Zealand, Brazil
<b>EMISSIONS / IMMUNITY / SAFETY</b>	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)
<b>DESIGN VERIFICATION</b>	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
<b>MOUNTING* / PIN COUNT</b>	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
<b>MECHANICAL DIMENSIONS</b>	29 mm x 29 mm x 3.5 mm (1.14 in x 1.14 in x 0.14 in)
<b>POWER CONSUMPTION</b>	Idle Mode (Linux® up, no networking): 100 mA at 5 V Idle Mode (Linux® up, with 25% Wi-Fi transmit): 118 mA at 5 V Standby Mode (with memory refresh): 6 mA at 5 V
<b>ULTRA LOW-POWER MODES</b>	Event Trigger Mode: 2.5 µA at 3 V (i.MX6UL off, MCA LLS w/HS Comparator active)** Scheduled Wake-Up Mode: 25 µA at 3 V (i.MX6UL off, MCA LLS w/HS Comparator active)**
<b>MAXIMUM RADIO-FREQUENCY POWER</b>	63.1 mW
<b>OPERATING FREQUENCY BAND</b>	2402 - 2480 MHz; 5.250 - 5.350 GHz; 5.470 - 5.725 GHz
<b>PRODUCT WARRANTY</b>	3-year

\* Patent-Pending \*\* Estimated, based on use-case \*\*\* Final certifications pending

PART NUMBERS	DIGI CONNECTCORE 6UL KITS
CC-WMX6UL-START	ConnectCore 6UL SBC Express, 87 x 63 mm, Industrial temp, 256 MB SLC NAND, 256 MB DDR3, single 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 5, PCB antenna, USB, UART, microSD, Pi HAT and Grove connectors, power (USB + header), and accessories
CC-WMX6UL-KIT	ConnectCore 6UL SBC Pro, Pico-ITX (100 x 72 mm), Industrial temp, 256 MB SLC NAND, 256 MB DDR3, dual 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 5, XBee socket, cellular connectivity support via PCI Express Mini Card, SIM, NFC, microSD, USB Host, USB OTG, UART, DualCAN, SPI, I2C, LVDS, camera, antenna connector, battery connector, power supply, and accessories

PART NUMBERS	DIGI CONNECTCORE 6UL SYSTEM-ON-MODULES
<b>CONNECTCORE 6UL – SECURE WIRELESS MODULE</b>	
CC-WMX-JN7A-NE	ConnectCore 6UL – 528 MHz, industrial temp, 1 GB SLC NAND, 1 GB DDR3, dual 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 5
CC-WMX-JN69-NN	ConnectCore 6UL – 528 MHz, industrial temp, 512 MB SLC NAND, 512 MB DDR3, dual 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 5
CC-WMX-JN59-NN	ConnectCore 6UL – 528 MHz, industrial temp, 512 MB SLC NAND, 256 MB DDR3, dual 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 5
CC-WMX-JN58-NE	ConnectCore 6UL – 528 MHz, industrial temp, 256 MB SLC NAND, 256 MB DDR3, dual 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 5
<b>CONNECTCORE 6UL – SECURE ETHERNET MODULE</b>	
CC-MX-JN7A-Z1	ConnectCore 6UL – 528 MHz, industrial temp, 1 GB SLC NAND, 1 GB DDR3, dual 10/100 Ethernet
CC-MX-JN69-ZN	ConnectCore 6UL – 528 MHz, industrial temp, 512 MB SLC NAND, 512 MB DDR3, dual 10/100 Ethernet
CC-MX-JN58-Z1	ConnectCore 6UL – 528 MHz, industrial temp, 256 MB SLC NAND, 256 MB DDR3, dual 10/100 Ethernet

PART NUMBERS	DIGI CONNECTCORE 6UL ACCESSORIES
CC-ACC-LCDH-10	LCD Application Kit, including 10 in WXGA (high resolution) LCD panel

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

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