



SECURE,  
CONNECTED  
SYSTEM-ON-MODULE



# CONNECTCORE® for i.MX6UL

Intelligent and connected embedded module based on the NXP i.MX6UL, with turnkey Linux software support in a stamp-sized form factor.

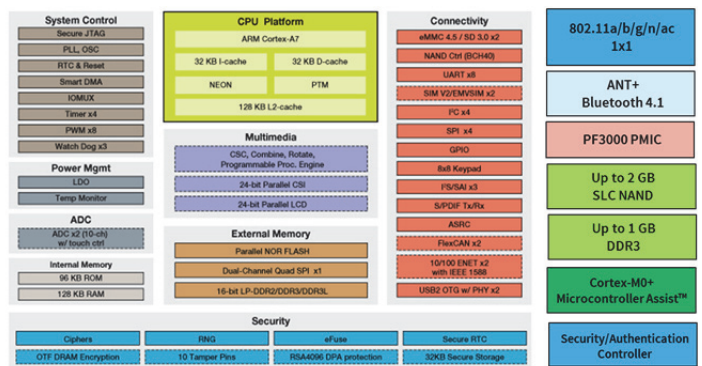
The ConnectCore® for i.MX6UL module delivers a secure and extremely cost-effective connected System-on-Module platform that is slightly bigger than a postage stamp.

Its innovative Digi SMTplus™ surface mount form factor allows you to choose simplified design integration leveraging the proven edge-castellated technology of the XBee® SMT module, or a versatile LGA option for ultimate design flexibility with access to virtually all interfaces.

Built on the NXP i.MX6UL application processor, the module is the intelligent communication engine for today's secure connected devices. It seamlessly integrates dual-Ethernet and pre-certified dual-band Wi-Fi (802.11a/b/g/n/ac) with Bluetooth 4.1 connectivity.

Embedded device security is a critical design aspect for the growing number of connected applications ("IoT") and the ConnectCore for i.MX6UL removes the implementation barriers by providing you with a fully integrated, secure module platform with complete Linux software support.

## BLOCK DIAGRAM



## BENEFITS

- Secure, connected, highly cost-effective system-on-module
  - o NXP i.MX6UL-2, Cortex-A7 @ 528 MHz
  - o Up to 2 GB NAND flash, up to 1 GB DDR3
- Stamp-sized and flexible Digi SMTplus™ form factor
- Pre-certified 802.11a/b/g/n/ac + Bluetooth 4.1 option
- Integrated dual 10/100 Ethernet connectivity
- Dedicated on-module security + authentication controller
- Unique ultra-low power and wake-up state management
- Turnkey embedded Linux software platform
- Digi TrustFence™ embedded device security
- Long-term availability and 5-year warranty



## RELATED PRODUCTS



ConnectCard® for i.MX28

ConnectCore® 6

Digi Connect®

Rabbit®

XBee®

## SPECIFICATIONS

## ConnectCore® for i.MX6UL

### FEATURES

<b>APPLICATION PROCESSOR</b>	NXP i.MX6UL-2, ARM® Cortex®-A7 @ 528 MHz, 32 KB I/D cache, 128 KB L2 cache, with NEON™ MPE (Media Processor Engine) co-processor and programmable smart DMA (SDMA) controller
<b>MEMORY</b>	Up to 2 GB NAND flash (SLC), up to 1 GB DDR3
<b>PMIC</b>	NXP PF3000
<b>VIDEO/GRAPHICS</b>	2D Pixel Processing Pipeline (PXP, up to 150 MPixel/s) 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>	AIS-31 compliant TRNG, ECC/AES256/TDES/ RSA encryption/decryption co-processor, SHA-1/224/256, FAMEXE PKI co-processor with 4096-bit RSA, 544-bit ECC/ ECDSA support, Secure RTC, Secure JTAG, Secure Storage, Secure RAM, Secure NVRAM, Secure Key Management, SPA/DPA/DFA (power/timing/fault attack protection), Tamper Monitor, 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 I <sup>2</sup> C, 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>	Up to 16-bit address / up to 16-bit data
<b>ETHERNET</b>	Dual 10/100 Mbit Ethernet MAC + IEEE 1588
<b>WIRELESS</b>	802.11a/b/g/n/ac 1x1 (MCS 0-9), ANT+, Bluetooth 4.1
<b>MCA™ MICROCONTROLLER ASSIST</b>	Ultra-low power ARM® Cortex®-M0+
<b>POWER MANAGEMENT</b>	i.MX (Standard): Suspend, i.MX System idle, i.MX LP idle, ARM DVFS, ARM Power/Clock Gating MCA (Advanced): Low-power RTC wake-up, Low-power Bluetooth LE wake-up, Ultra-low power gating (sub-mA)
<b>OPERATING TEMPERATURE</b>	-40° C to +85° C
<b>STORAGE TEMPERATURE</b>	-50° C to +125° C
<b>RELATIVE HUMIDITY</b>	Relative Humidity 5% to 90% (non-condensing)
<b>ALTITUDE</b>	Altitude 12,000 feet (3,658 meters)
<b>RADIO APPROVALS</b>	US, Canada, EU, Japan, Australia/New Zealand
<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 with 80-pad edge castellated pads (1.27 mm pitch) or 196-pad LGA (1.27 mm pitch)
<b>MECHANICAL DIMENSIONS</b>	29 mm x 29 mm x 5 mm

## PART NUMBERS

## DESCRIPTION

<b>KITS</b>	
<b>CC-WMX6UL-KIT</b>	Linux development kit with ConnectCore 6UL SBC/development board (ConnectCore for i.MX6UL-2, 528 MHz, Industrial Temp, 256 MB SLC NAND, 256 MB DDR3, Dual 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 4.1, ANT+), power supply, and accessories
<b>CONNECTCORE 6UL – SECURE WIRELESS MODULE</b>	
<b>CC-WMX-JN58-NE</b>	ConnectCore for i.MX6UL-2, 528 MHz, Industrial Temp, 256 MB SLC NAND, 256 MB DDR3, Dual 10/100 Ethernet, 802.11a/b/g/n/ac, Bluetooth 4.1, ANT+
<b>CONNECTCORE 6UL – SECURE ETHERNET MODULE</b>	
<b>CC-MX-JN58-Z1</b>	ConnectCore for i.MX6UL-2, 528 MHz, Industrial Temp, 256 MB SLC NAND, 256 MB DDR3, Dual 10/100 Ethernet



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Rev 01-0116

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