CONNECTCORE® FOR i.MX6UL DEVELOPMENT KIT

Design and build your connected products on an industrial and productization-ready Single Board Computer platform.

The ConnectCore for i.MX6UL Development Kit delivers a complete off-the-shelf Single Board Computer (SBC) built on the ConnectCore 6UL System-on-Module (SOM).

The SBC is a proven reference design for ConnectCore 6UL module-based development, suited for rapid prototyping; as a productization-ready product platform, it requires little to no hardware development effort. Its standard form factor is the ideal solution for connected applications demanding professional reliability and flexibility in medical/healthcare, transportation, energy, utility, agriculture, building automation and industrial markets.

FOCUS ON YOUR CORE COMPETENCY.

The SBC is built on the ConnectCore 6UL SOM with a low-power NXP i.MX6UL application processor, 256 MB flash, 256 MB RAM, dual 10/100 Mbit Ethernet, pre-certified dual-band 802.11ac wireless LAN, Bluetooth 4.2 connectivity, NFC tag capabilities, and complete set of available peripherals.

Digi tests, integrates and maintains complete Yocto Project Linux BSP and software support for the ConnectCore 6UL module and SBC platform. This includes software components such as the Digi TrustFence™ Device Security Framework, wireless connectivity stacks, and drivers for relevant industry leading cellular modems. We also offer optional services, including antenna design/selection guidance, cellular integration support, certification assistance, or custom design services, to get you to market faster and smarter.

THE KIT INCLUDES:

✓ 1 ConnectCore for i.MX6UL SBC w/dual-Ethernet, 802.11a/b/g/n/ac, and Bluetooth 4.2
✓ 1 Console Port cable
✓ 1 Dual-band antenna
✓ Power supply and accessories

NUMBER	DESCRIPTION
CC-WMX6UL-KIT	ConnectCore for i.MX6UL Development Kit

FEATURES AND BENEFITS

– Compact Pico-ITX form factor (100 mm x 72 mm)
– NXP i.MX6UL with 256 MB NAND flash and 256 MB DDR3
– Pre-certified dual-band 802.11ac Wi-Fi connectivity
– Bluetooth 4.2, with Bluetooth Low Energy support
– NFC Forum Type 2 Tag compliant capabilities
– Dual-10/100 Mbit Ethernet networking
– Ready for cellular connectivity and XBee RF integration
– Full and customizable set of peripherals and interfaces
– Off-the-shelf and productization-ready SBC platform
– Industrial operating temperature range
– Complete Yocto Project Linux BSP with source code

SPECIFICATIONS	ConnectCore® for i.MX6UL Single Board Computer
PERFORMANCE*	
APPLICATION PROCESSOR	NXP i.MX6UL-2, ARM® Cortex®-A7 @ 528 MHz, 128 KB L2 cache, with NEON™ MPE (Media Processor Engine) co-processor
MEMORY	256 MB high-reliability NAND flash (SLC), 256 MB DDR3
WIRED NETWORK CONNECTIVITY	
ETHERNET	2 x 10/100 Mbit Ethernet
WIRELESS NETWORK CONNECTIVITY	
WI-FI	Dual-band 802.11a/b/g/n/ac 1x1 (MCS 0-9)
BLUETOOTH	Bluetooth 4.2, with Bluetooth Low Energy support
ANTENNAS	On-module U.FL or on-board MMCX antenna connector for Wi-Fi and Bluetooth, external NFC antenna option
NFC	Energy-harvesting NXP NTAG, field detection trigger, ISO 14443A and NFC Forum Type 2 Tag compliant
XBEE® RF	Standard Digi XBee socket
PERIHPERALS/INTERFACES	
ETHERNET	2 x RJ-45 (10/100 Mbit)
USB	2 x USB Host (Dual Type-A), 1 x USB Host (6-pin header), 1 x USB OTG (Micro-USB)
DISPLAY	24-bit Parallel RGB (40-pin header), and 18-bit LVDS (20-pin header)
CAMERA	8-bit Parallel CSI (20-pin header)
GPIO	14-pin header (8 x GPIO, 1 x Touch)
UART / CONSOLE	14-pin header (1 x two-wire, 2 x four-wire, one shared with XBee socket), 3-pin header (Console)
OTHER CONNECTIVITY	2 x I2C (6-pin header), 1 x SPI (8-pin header), 2 x CAN (6-pin header)
PCI EXPRESS MINI CARD	Half-size and full-size card support, with on-board Micro SIM slot support
RF CONTROL	14-pin header (Wi-Fi Enable/Disable, Bluetooth Enable/Disable, Wakeup, PCM, LTE Control, GPS Co-Existence)
EXTERNAL STORAGE	microSD , optional on-board eMMC population option
AUDIO	3.5 mm headphone jack, 6-pin header (speaker), 8-pin header (line-in, microphone, line-out)
BUTTONS / SWITCHES	Power, Reset, User, Boot Select (NAND/microSD), RF (Wi-Fi Enable, Bluetooth Enable), Antenna Select (U.FL on-module/MMCX on-board)
DEBUG	Tag-Connect for JTAG and SWD
POWER	3.3V Out (2-pin header), 5V Out (2-pin header), Battery (2-pin header)
LEDS	Power, 3 x User
CERTIFICATIONS* *	
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/UL equivalent)
POWER REQUIREMENTS	
SUPPLY VOLTAGE	5VDC @ 300 mA (typical); See ConnectCore 6UL module product brief for module-only power consumption guidance.
POWER CONNECTORS	Locking barrel connector (2 mm), or dedicated power connector (3-pin header)
ENVIRONMENTAL	
OPERATING TEMPERATURE	-40° C to 85° C
STORAGE TEMPERATURE	-50° C to +125° C
RELATIVE HUMIDITY	Relative humidity 5% to 90% (non-condensing)
ALTITUDE	Altitude 12,000 feet (3,658 meters)
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	100 x 72 mm

* Populates ConnectCore 6UL module P/N CC-WMX-JN58-NE (LGA mounting). **Final certifications pending .

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