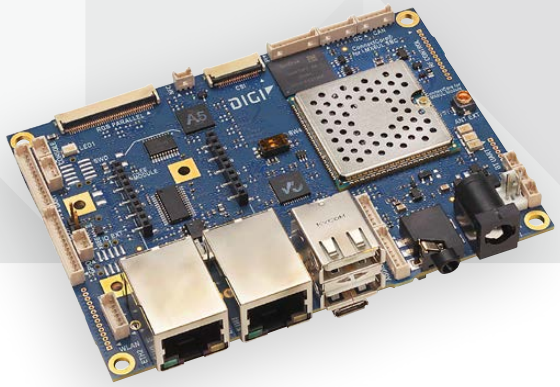
PRE-CERTIFIED
CONNECTIVITY WITH
DESIGN FLEXIBILITY.



DIGI CONNECTCORE 6UL SBC PRO

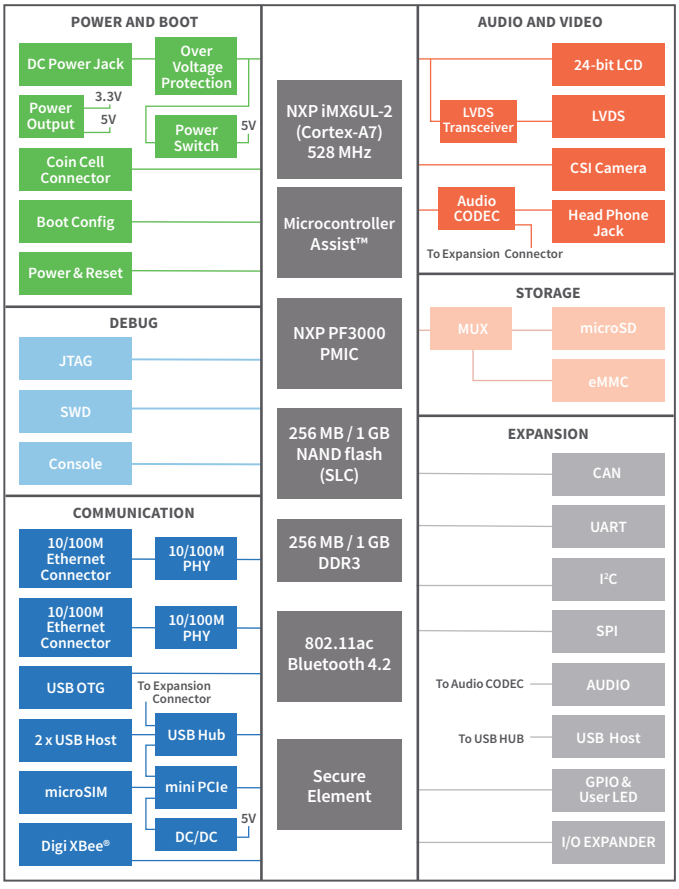
Secure and pre-certified Single Board Computer for total design flexibility and connectivity in industrial applications

Digi ConnectCore® 6UL SBC Pro delivers the ultimate connected off-the-shelf NXP i.MX6UL single board computer in standard form factor for unparalleled design flexibility.

Its unique pre-certified wireless connectivity options offer 802.11a/b/g/n/ac Wi-Fi and Bluetooth 5, including Bluetooth Low Energy. Out-of-box cellular integration options using the pre-certified Digi XBee® Cellular module or third-party PCI Express Mini Card modem allows you to integrate cellular connectivity with less cost and complexity.

Digi Linux support includes TrustFence® device security framework with secure boot, encrypted file systems, protected ports and more.

BLOCK DIAGRAM



FEATURES AND BENEFITS

- Powerful and flexible off-the-shelf solution in Pico-ITX form factor
- Production-ready with minimal hardware design effort
- Rugged design with industrial operating temperature range
- Pre-certified dual-band 802.11ac Wi-Fi connectivity
- Bluetooth 5, with Bluetooth Low Energy support
- Out-of-box support for cellular connectivity
- On-board NFC Forum Type 2 compliant tag
- Dual 10/100 Mbit Ethernet networking
- Integrated display and camera capabilities
- Rich interface and peripheral support
- Complete Yocto Project Linux BSP with source code
- Digi TrustFence® device security framework

RELATED PRODUCTS

Digi ConnectCore® 6UL SBC Express

Digi ConnectCore® 6 SBC

Digi ConnectCore® 6UL Development Kit

Digi XBee® Modules

Digi Wireless Design Services

SPECIFICATIONS	Digi ConnectCore® 6UL SBC PRO
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 NAND flash, 256 MB DDR3 (CC-SBP-WMX-JN58); 1 GB NAND flash, 1 GB DDR (CC-SBP-WMX-JN7A)
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 5, 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
DIGI 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	1 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, on-board 4 GB eMMC flash for data storage
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	3.3 V out (2-pin header), 5 V 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	5 VDC @ 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 (-40° F to 185° F)
STORAGE TEMPERATURE	-50° C to 125° C (-58° F to 257° F)
RELATIVE HUMIDITY	Relative humidity 5% to 90% (non-condensing)
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 mm x 72 mm (3.9 in x 2.8 in)
WARRANTY	
PRODUCT WARRANTY	1-year

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

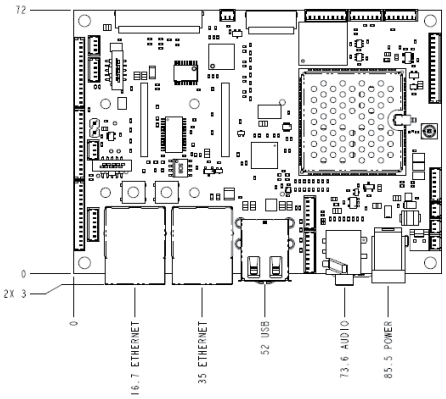
DIGI CONNECTCORE® SBC SELECTION GUIDE

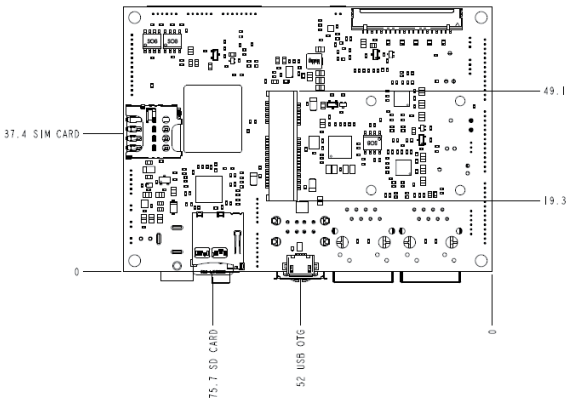
		Digi ConnectCore 6UL SBC Express	Digi ConnectCore 6UL SBC Pro	Digi ConnectCore 6 SBC for i.MX6Quad	Digi ConnectCore 6 SBC for i.MX6Dual	Digi ConnectCore 6 SBC for i.MX6DualLite
PERFORMANCE	Processor	NXP i.MX6UL-2 (Cortex-A7)	NXP i.MX6UL-2 (Cortex-A7)	NXP i.MX6Quad (Cortex-A9)	NXP i.MX6Dual (Cortex-A9)	NXP i.MX6DualLite (Cortex-A9)
	Clock speed	528 MHz	528 MHz	1.2 GHz	800 MHz	800 MHz
	Microcontroller Assist™	✓	✓	✓	-	-
MEMORY	Flash	256 MB NAND (SLC)	256 MB / 1 GB NAND SLC 4 GB eMMC[1,7]	4 GB eMMC[1]	4 GB eMMC[1]	4 GB eMMC[1]
	RAM	256 MB DDR3	256 MB / 1 GB DDR3	1 GB DDR3	1GB DDR3	512 MB DDR3
NETWORKING	Ethernet	1 x 10/100 Mbit	2 x 10/100 Mbit	1 x Gigabit	1 x Gigabit	1 x Gigabit
	Wi-Fi	802.11a/b/g/n/ac 1x1	802.11a/b/g/n/ac 1x1	802.11a/b/g/n 1x1	802.11a/b/g/n 1x1	802.11a/b/g/n 1x1
	Bluetooth	5	5	4.0	4.0	4.0
	Wi-Fi / Bluetooth antenna	On-board/U.FL	U.FL/MMCX[6]	U.FL	U.FL	U.FL
	NFC Forum Type 2 Tag	-	✓	-	-	-
	NFC antenna	-	External	-	-	-
	XBee® socket	-	✓	✓	✓	✓
SECURITY	Digi TrustFence®	✓	✓	✓	✓	✓
CELLULAR[2]	Micro SIM card slot	-	✓	✓	✓	-
COMMUNICATION	USB 2.0 host	1	3	3	3	2
	USB 2.0 OTG	1	1	1	1	1
	PCI Express Mini Card 2.1	-	✓ (USB 2.0 host)	✓ (USB host 2.0/x1 PCIe)	✓ (USB host 2.0/x1 PCIe)	-
	RS232/TTL	-/2[4]	2/1	2/1	2/1	2/1
	Console	✓[5]	✓	✓	✓	✓
	I²C	✓[4]	✓	✓	✓	-
	SPI	✓[4]	✓	✓	✓	-
	GPIO	✓[4]	✓	✓	✓	✓
	Dual CAN	-	✓	✓	✓	-
	Grove	3	-	-	-	-
	Expansion connector[4]	✓[4]	-	-	-	-
GRAPHICS	2D/3D hardware acceleration (GPU)	-	-	✓	✓	✓
	Hardware video encoding/decoding	-	-	✓	✓	✓
	Resolution	Up to 1366 x 768		Up to 1920 x 1080		
DISPLAY	HDMI	-	-	✓	✓	✓
	LVDS[3]	-	1	2	1	-
	MIPI DSI[3]	-	-	✓	✓	-
	RGB parallel	8-bit[4]	18-/24-bit	24-bit	24-bit	24-bit
CAMERA	MIPI CSI	-	-	✓	✓	-
	8-Bit parallel	-	✓	2	1	-
AUDIO	Headphone jack	-	✓	✓	✓	-
	Line-in / line-out / microphone header	-	✓	✓	✓	-
STORAGE	microSD	✓	✓	✓	✓	✓
	SATA 3.0	-	-	✓	-	-
OTHER	Power / reset buttons	✓	✓	✓	✓	✓
	Power / reset header	✓	✓	✓	✓	✓
	Coin cell battery header	✓	✓	✓	✓	✓
	Power / user LEDs	✓	✓	✓	✓	✓
	Boot configuration switch	Population options	Population options	✓	✓	✓
	JTAG (via Tag-Connect)	✓	✓	✓	✓	✓
	SWD (via Tag-Connect)	✓	✓	✓	✓	✓
ENVIRONMENTAL	Operating temperature	-40° C to 85° C (-40° F to 185° F)	-40° C to 85° C (-40° F to 185° F)	-20° C to 70°C (-4° F to 158° F)	-40° C to 85° C (-40° F to 185° F)	-40° C to 85° C (-40° F to 185° F)
MECHANICAL	Dimensions	87 mm x 63 mm (3.4 in x 2.5 in)	100 x 72 mm (3.9 in x 2.8 in)			
	Form factor	SBC	Pico-ITX			
DIGI SKUS		CC-SBE-WMX-JN58	CC-SBP-WMX-JN58 CC-SBP-WMX-JN&A	CC-SB-WMX-J97C-1	CC-SB-WMX-L87C-1	CC-SB-WMX-L76C-1

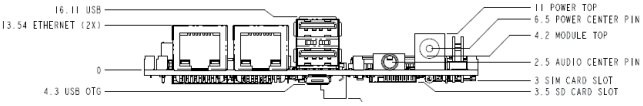
1. pSLC mode option for industrial reliability
2. Via PCI Express Mini Card connector, or Digi XBee® cellular
3. With Touch (I2C) + backlight control
4. Raspberry Pi HAT compatible header (and mounting holes)
5. USB device via USB Type AB connector
6. On-board antenna switch configuration
7. Software-selectable: on-board eMMC or microSD

PART NUMBERS	DESCRIPTION
CC-SBP-WMX-JN58	Digi ConnectCore 6UL SBC Pro, Pico-ITX form factor, i.MX6UL-2, 528 MHz, Secure element, Microcontroller Assist™, 256 MB NAND flash (SLC), 256 MB DDR3, Dual 10/100 Mbit Ethernet, 802.11a/b/g/n/ac, Bluetooth 5, industrial operating temperature
CC-SBP-WMX-JN7A	Digi ConnectCore 6UL SBC Pro, Pico-ITX form factor, i.MX6UL-2, 528 MHz, Secure element, Microcontroller Assist™, 1 GB NAND flash (SLC), 1 GB DDR3, Dual 10/100 Mbit Ethernet, 802.11a/b/g/n/ac, Bluetooth 5, industrial operating temperature
CC-WMX6UL-KIT	Digi 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
CC-ACC-LCD-70WV	7” LCD accessory kit, with projected capacitive touch, WVGA (800 x 480)

MECHANICAL DRAWINGS







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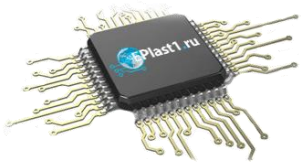
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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