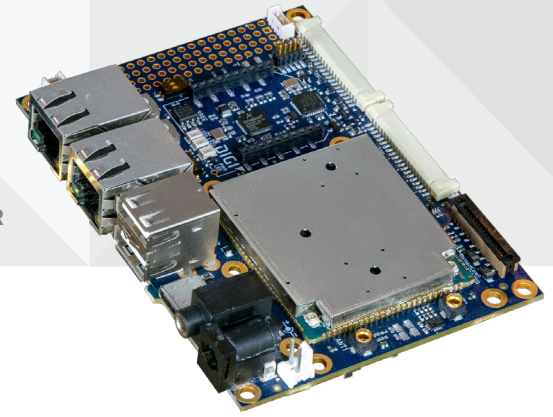




SECURE, CONNECTED  
SINGLE BOARD COMPUTER



# DIGI CONNECTCORE 8X SBC PRO

Intelligent and connected single board computer based on the NXP i.MX 8X; with scalable dual/quad-core performance for industrial IoT applications

Digi ConnectCore® 8X SBC Pro delivers a powerful, secure and cost effective off-the-shelf single board computer with complete support for Linux® and Android. It includes Digi TrustFence® security framework with out-of-box features such as secure boot, encrypted filesystems, protected ports, and more.

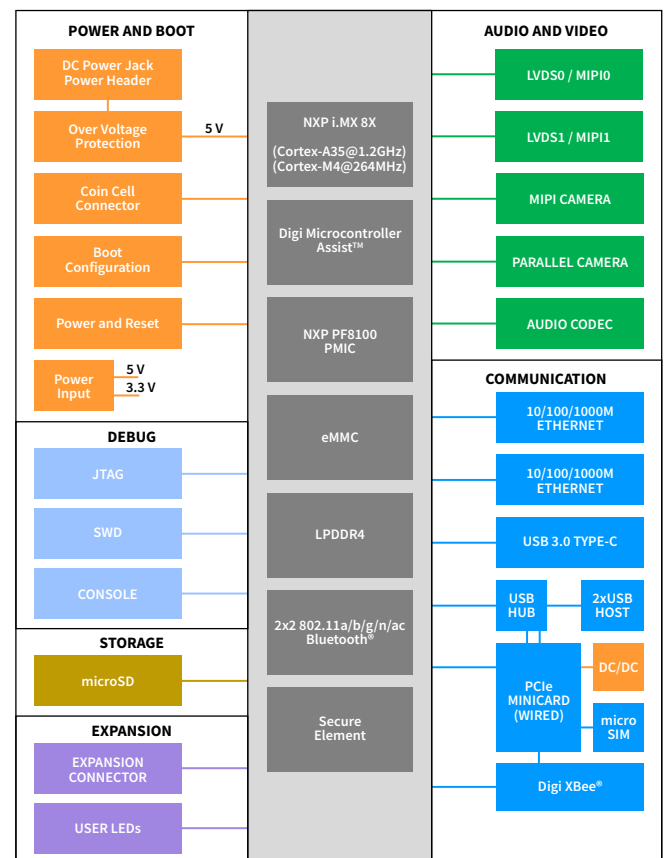
Digi ConnectCore 8X SBC Pro offers significantly reduced time-to-market by virtually eliminating the traditional risk, effort, and complexity of custom board designs without sacrificing flexibility or capabilities.

The compact form factor integrates an on-board dual-band antenna option, USB connectivity, Digi XBee® RF connector and cellular connectivity options, multi-display/camera and audio support, external storage and expansion connectors. Digi ConnectCore 8X SBC Pro is highly flexible and can be used in a wide range of industrial applications and use cases, including those with harsh environments.

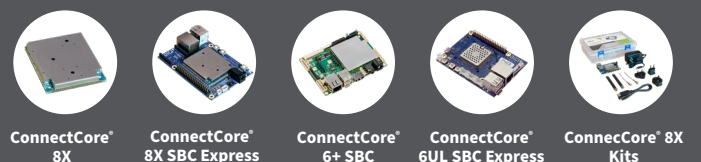
## FEATURES AND BENEFITS

- Industrial i.MX 8X quad/dual-core SOM and SBC platform family
- Compact Pico-ITX form factor (100 mm x 72 mm)
- Power management – both hardware and software support for low-power designs
- Multi-display and camera capabilities with hardware acceleration
- Pre-certified dual-band 802.11a/b/g/n/ac 2x2 and Bluetooth® 5 connectivity
- Seamless cellular modem and Digi XBee® 3 integration
- Cloud and edge-compute services integration
- Built-in Digi TrustFence® device security
- Yocto Project Linux® and Android support

## BLOCK DIAGRAM



## RELATED PRODUCTS



## SPECIFICATIONS

## Digi ConnectCore® 8X SBC Pro

<b>APPLICATION PROCESSOR</b>	NXP® i.MX 8QuadXPlus <ul style="list-style-type: none"> <li>• 4x Cortex™ — A35 cores at 1.2 GHz</li> <li>• 1x Cortex — M4F at 264 MHz core for real-time processing</li> <li>• 1x Tensilica® Hi-Fi 4 DSP</li> </ul>
<b>MEMORY</b>	Up to 16 GB eMMC, up to 2 GB LPDDR4 (32-bit)
<b>GRAPHICS</b>	Multi-stream-capable HD video engine with H.265 (4Kp30), H.264 (1080p60), VP6/VP8 (1080p60), MPEG-2 (1080p60), MPEG4 (1080p), RealVideo (1080p) decode and H.264 (1080p30) encode; 3D video playback in HD in high-performance families; superior 3D graphics performance with up to 4 shaders
<b>DISPLAYS</b>	2x LVDS/MIPI with backlight control and I2C touch interface
<b>CAMERA</b>	1x 8-bit parallel camera interface, 1x MIPI camera 2x lanes
<b>AUDIO</b>	2x line-in, 1 x line-out, 1x mic-In, 1x headset on 3.5 mm audio jack
<b>UART/CONSOLE</b>	4-pin header (console), 2x UARTs on expansion connector
<b>SECURITY</b>	Digi TrustFence®, TRNG, TrustZone, ciphers, security control, secure RTC, secure JTAG, eFuses (OTP)
<b>ETHERNET</b>	2x Gigabit Ethernet 10/100/1000M with AVB on RJ-45, with 2 LEDs for link/speed/activity
<b>WI-FI</b>	2x2 MIMO 802.11a/b/g/n/ac: 2.412 - 2.484 GHz, 4.900 - 5.850 GHz Security: WEP, WPA-PSK/WPA2-personal, WPA/WPA2-enterprise, 802.11i, soft access point mode (up to 10 clients)
<b>BLUETOOTH</b>	Bluetooth 5
<b>ANTENNA CONNECTORS</b>	2x U.FL on module
<b>DIGI XBEE RF</b>	Standard Digi XBee socket
<b>USB</b>	2x USB 2.0 Host, 1x USB 3.0 on Type-C connector
<b>PCI EXPRESS MINI CARD*</b>	Full-size card support, with on-board micro SIM slot support – dedicated 3 A power supply
<b>OTHER CONNECTIVITY</b>	2x CAN, 1x SPI, 1x I2C, 1x expansion connector
<b>EXTERNAL STORAGE</b>	MicroSD
<b>BOOT CONFIGURATION</b>	On module eMMC, on SBC microSD, serial downloader and boot from fuses
<b>DEBUG</b>	1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)
<b>BUTTONS</b>	1x power button (power on, power off, sleep, wake-up), 1x reset button
<b>LEDS</b>	2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)
<b>POWER INPUTS</b>	5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header
<b>POWER SUPPLY CONNECTOR</b>	Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)
<b>POWER OUTPUTS</b>	3.3 V Out (2-pin header), 5 V Out (2-pin header)
<b>OPERATING TEMPERATURE</b>	-40° C to 85° C (-40 °F to 185 °F)
<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 (PENDING)</b>	US, Canada, EU, Japan, Australia/New Zealand
<b>EMISSIONS/IMMUNITY/SAFETY (PENDING)</b>	FCC Part 15 Class B, EN 55024, EN 55032 Class B, ICES-003 Class B, VCCI Class II, FCC Part 15 Subpart C Section 15.247 and 15.407, IC (Industry Canada), EN 300 328, EN 301 893, EN 300 440, EN 301 489-1/-17, EN 55024, EN 301 489-3
<b>DESIGN VERIFICATION (PENDING)</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>MECHANICAL DIMENSIONS</b>	100 mm x 72 mm (3.9 in x 2.8 in)

\*PCIe is only supported on wired variants

## PART NUMBERS

## DIGI CONNECTCORE 8X DEVELOPMENT KITS

C-WMX8-KIT

Digi ConnectCore 8X SBC Pro development kit — SBC PRO baseboard with Digi ConnectCore 8X module, Pico-ITX (100 x 72 mm), industrial temp, 16 GB eMMC, 2 GB LPDDR4, dual 1 Gbit Ethernet, 802.11a/b/g/n/ac 2x2, Bluetooth 5, Digi XBee socket, cellular connectivity support via PCI Express Mini Card, SIM, microSD, USB Host, USB OTG, UART, DualCAN, SPI, I2 C, LVDS, camera, antenna connector, battery connector, UART console cable, power supply and antennas, software support for Yocto Project Linux and Android, Digi Microcontroller Assist

## PART NUMBERS

## DIGI CONNECTCORE 8X SBC PRO

CC-SBP-WMX-JM8E

Digi ConnectCore 8X SBC Pro — i.MX8QuadXPlus, 1.2 Ghz, -40 °C to 85 °C (-40 °F to 185 °F), 16 GB flash, 2 GB LPDDR4, 802.11a/b/g/n/ac 2x2, Bluetooth 5, dual Gigabit Ethernet

## PART NUMBERS

## DIGI CONNECTCORE 8X SYSTEM-ON-MODULES

## DIGI CONNECTCORE 8X QUAD SOMS

CC-MX-JM7D-ZN

Digi ConnectCore 8X SOM — Digi ConnectCore8X SOM QuadXPlus 1.2 GHz, 8 GB eMMC, 1 GB LPDDR4, -40 °C to 85 °C (-40 °F to 185 °F)

CC-MX-JM8D-ZN

Digi ConnectCore 8X SOM — Digi ConnectCore 8X SOM QuadXPlus 1.2 GHz, 8 GB eMMC, 2 GB LPDDR4, -40 °C to 85 °C (-40 °F to 185 °F)

CC-WMX-JM7D-NN

Digi ConnectCore 8X SOM — Digi ConnectCore 8X SOM QuadXPlus 1.2 GHz, 8 GB eMMC, 1 GB LPDDR4, -40 °C to 85 °C (-40 °F to 185 °F), 802.11a/b/g/n/ac 2x2, Bluetooth 5

CC-WMX-JM8E-NN

Digi ConnectCore 8X SOM — Digi ConnectCore8X SOM QuadXPlus 1.2 GHz, 16 GB eMMC, 2 GB LPDDR4, -40 °C to 85 °C (-40 °F to 185 °F), 802.11a/b/g/n/ac 2x2, Bluetooth 5

## DIGI CONNECTCORE 8X DUAL SOMS

CC-MX-JQ7D-ZN

Digi ConnectCore 8X SOM — Digi ConnectCore 8X SOM DualXZ 1.2 GHz, 8 GB eMMC, 1 GB LPDDR4, -40 °C to 85 °C (-40 °F to 185 °F)

## PART NUMBERS

## DIGI CONNECTCORE 8X ACCESSORIES

CC-ACC-LCDH-10

LCD application kit, including 10 in WXGA (High Resolution)

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

FOR MORE INFORMATION  
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