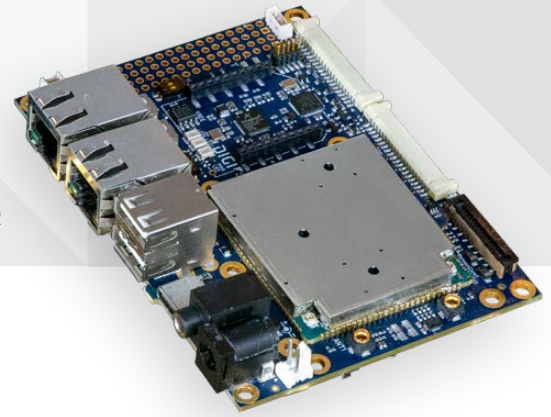




SECURE, CONNECTED  
SINGLE BOARD COMPUTER



# 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.

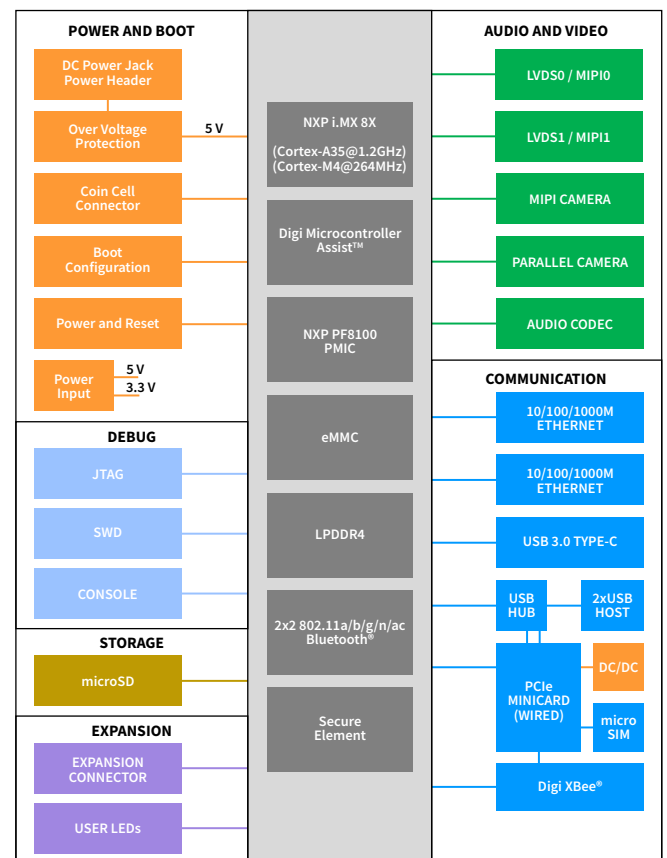
Digi ConnectCore 8X SBC Pro offers significantly reduced time-to-market by virtually eliminating the traditional risk, effort, and complexity of custom board designs without sacrificing flexibility or capabilities.

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, even 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



ConnectCore®  
8X



ConnectCore®  
8X SBC Express



ConnectCore®  
6+ SBC



ConnectCore®  
6UL SBC Express



ConnectCore® 8X  
Kits

## 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 @ 1.2 GHz</li> <li>• 1x Cortex-M4F @ 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 @ 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	DESCRIPTION
<b>DIGI CONNECTCORE® 8X DEVELOPMENT KITS</b>	
CC-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, 2GB 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™
<b>DIGI CONNECTCORE 8X SBC PRO</b>	
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
<b>DIGI CONNECTCORE 8X SOMS</b>	
CC-MX-JQ6D-ZN	Digi ConnectCore 8X SOM - Digi ConnectCore 8X SOM DualXZ 1.2 GHz, 8 GB eMMC, 512 MB LPDDR4, -40° C to 85° C (-40° F to 185° F)
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)
CC-WMX-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), 802.11a/b/g/n/ac 2x2, Bluetooth 5
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

ACCESSORIES	DESCRIPTION
CC-ACC-LCDW-10	LCD application kit, including 10 in WXGA (1280x800) LCD panel with PCAP touch

FOR MORE INFORMATION  
PLEASE VISIT [DIGI.COM](http://DIGI.COM)



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