

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.

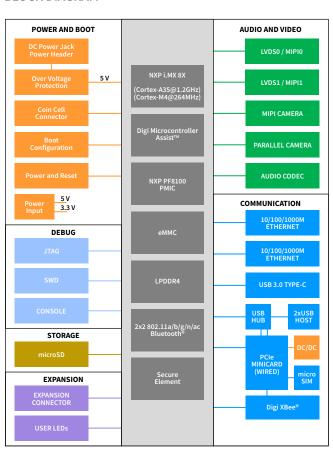
Digi ConnectCore 8X SBC Pro offers significantly reduced time-to-market by virtually eliminating the traditional risk, effort, and complexity of custom board designs without sacrificing flexibility or capabilities.

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<sup>®</sup> 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**











re" ConnectCore" ConnectCo 8X SBC Express 6+ SBC

e° ConnectCore° 6UL SBC Express

onnecCore° 8X Kits

• 1x Cortex — M4F at 264 MHz core for real-time processing • 1x Tensilica* Hi-Fi 4 DSP  MEMORY  Up to 16 GB eMMC, up to 2 GB LPDDR4 (32-bit)  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  DISPLAYS  2x LVDS/MIPI with backlight control and I2C touch interface  CAMERA  1x 8-bit parallel camera interface, 1x MIPI camera 2x lanes  AUDIO  2x line-in, 1 x line-out, 1x mic-ln, 1x headset on 3.5 mm audio jack  UART/CONSOLE  4-pin header (console), 2x UARTs on expansion connector  Digi TrustFence*, TRNG, TrustZone, ciphers, security control, secure RTC, secure JTAG, eFuses (OTP)  ETHERNET  2x MIMO 802 11a/h/g/n/ac; 2 412 - 2 484 GHz 4 900 - 5 850 GHz	SPECIFICATIONS	Digi ConnectCore® 8X SBC Pro
Multi-stream capable ND video engine with H.265 (4Kp.30), H.264 (1080p60), VPG/VPB (1080p60), MPEG-2 (1080p60), MPEG-4 (1080pf), MPEG-4 (1080p	APPLICATION PROCESSOR	<ul> <li>4x Cortex – A35 cores at 1.2 GHz</li> <li>1x Cortex – M4F at 264 MHz core for real-time processing</li> </ul>
ReAPHICS ReapHicS performance and Hz.Qs 1,000,000 encode; 30 video playback in HD in high performance families; superior 30 graphics performance with up to 4 shades?  2x LVDS/MIPI with backlight control and IZC touch interface  CAMERA  1x 8-bit parallel camera interface, 1x MIPI camera 2x lanes  AUDIO  2x line-in, 1x line-out, 1x mic-in, 1x headset on 3.5 mm audio jack  UART/CONSOLE  4-pin header (console), 2x UARTs on expansion connector  SECURITY  Digi TrustFence*, TRNS, TrustZenc, ciphers, security control, secure RTC, secure JTAG, effuses (OTP)  ETHERNET  2x Gigabit tchemet 10/100/1000M with AVB on RJ-45, with 2x LDD for link/speed/activity  ETHERNET  2x Gigabit tchemet 10/100/1000M with AVB on RJ-45, with 2x LDD for link/speed/activity  ETHERNET  3x MURL SECURITY  Bluetooth 5  ANTENNA CONNECTORS  2x U.F.L on module  Bluetooth 5  ANTENNA CONNECTORS  2x U.F.L on module  DIGI XBEE RF  Sandard Digi XBee socket  USB  2x U.BB 2.0 Host, 1x U.BB 3.0 on Type-C connector  Full-size card support, with on-board micro SIM slot support - dedicated 3 A power supply  OTHER CONNECTIVITY  2x CAN, 1x SPI, 1x IZC, 1x expansion connector  EXTERNAL STORAGE  MicroSD  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  BUTTONS  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER SUPPLY CONNECTOR  Main power supply via 2 min locking barrel connector or dedicated power connector (2-pin header)  POWER SUPPLY CONNECTOR  Alia power supply via 2 min locking barrel connector or dedicated power connector (2-pin header)  POWER TUPLY Selection (1x Selection 15.247 and 15.407 fc)  Relative humility 5% to 95% (non condensing)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand	MEMORY	Up to 16 GB eMMC, up to 2 GB LPDDR4 (32-bit)
Lx 8-bit parallel camera interface, 1x MIPI camera 2x lanes  AUDIO 2x line-in, 1x line-out, 1x mic-in, 1x headset on 3.5 mm audio jack  UART/CONSOLE 4-pin header (console), 2x UARTs on expansion connector  SECURITY Digi TrustFence*, TRNG, TrustZone, ciphers, security control, secure RTC, secure JTAG, eFuses (OTP)  ETHERNET 2x Gigabit Ethernet 10/100/1000M with AVB on RJ-45, with 2 LEDs for link/speed/activity  WI-FI 2c2 MIMO 302 11a/bit/gr/acz -24.12 - 2484 GHz, 4.900 - 5.850 GHz  SECURITY BluetoOTH BluetoOTH BluetoOTh 5  ANTENNA CONNECTORS 2x U.F. on module  DIGI XBEE RF Standard Digi XBee socket  USB 2x USB 2.0 Host, 1x USB 3.0 on Type-C connector  PCI EXPRESS MINI CARD* Full-size card support, with on-board micro SIM slot support - dedicated 3 A power supply  OTHER CONNECTIVITY 2x CAN, 1x SPI, 1x I2C, 1x expansion connector  EXTERNAL STORAGE MicroSD  BOOT CONFIGURATION On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG 1x JTAG for I.MX 8X (Tag Connect), 1x SWD for MCA (Tag Connect and header)  BUTTONS 1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS 2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS 3x 43.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER ONLY S 3x 4x (Tag Connect, 1x SWD for MCA (Tag Connect and header)  STORAGE TEMPERATURE -90° Ct 0x 85° C -40° Ft ox 85° Tc -70° Tc 1x power led (3.3V)  OPERATING TEMPERATURE -90° Ct 0x 125° C -88° Ft ox 257° F;  RELATIVE HUMIDITY Relative humidity 5% to 50% (non-condensing)  EMISSIONS/IMMUNITY/SAFETY FC Cert 15 Class 8, EN 55024, EN 55022 Class 8, ICCS-003 Class 8, VCCI Class 1I, FCC Part 15 Subpart C Section 15.247 and 15.407, IC.	GRAPHICS	RealVideo (1080p) decode and H.264 (1080p30) encode; 3D video playback in HD in high-performance families; superior 3D graphics
AUDIO 2x line-in, 1x line-out, 1x mic-in, 1x headset on 3.5 mm audio jack  UART/CONSOLE 4-pin header (console), 2x UARTs on expansion connector  SECURITY Digi TrustFence*, TRNG, TrustZone, ciphers, security control, secure RTC, secure JTAG, eFuses (OTP)  ETHERNET 2x Gigabit Ethernet 10/100/1000M with AVB on RJ-45, with 2 LEDs for link/speed/activity  WIL-FI 2x2 MIMO 802.11a/b/g/n/ac: 2.412 - 2.484 GHz, 4,990 - 5.850 GHz Security; WEP, WPA-PSK/WPA2-personal, WPA/WPA2-enterprise, 802.11i, soft access point mode (up to 10 clients)  BLUETOOTH Bluetooth 5  BLUETOOTH Bluetooth 5  ANTENNA CONNECTORS 2x U.F.L on module  SUSB 2x USB 2.0 Host, 1x USB 3.0 on Type-C connector  Full size card support, with on-board micro SIM slot support - dedicated 3 A power supply  OTHER CONNECTIVITY 2x CAN, 1x SPI, 1x 12C, 1x expansion connector  EXTERNAL STORAGE MicroSD  BOOT CONFIGURATION On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG 1x JTAG for LMX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS 1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS 2x user LEDs (1x yellow, 1x green), 1x power LED (33V)  POWER INPUTS 5v at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS 3.3 V Out (2-pin header), 5 V Out (2-pin header)  OPERATING TEMPERATURE -0°C to 8°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)  RADIO APPROVALS (PENDING) U.S. Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY FC Cert 15 Class B, EN 55024 (Ens 55022 Class B, VCCI Clas	DISPLAYS	2x LVDS/MIPI with backlight control and I2C touch interface
4-pin header (console), 2x UARTs on expansion connector  SECURITY  Digit TrustFence*, TRNG, TrustZone, ciphers, security control, secure RTC, secure JTAG, eFuses (OTP)  2x Gigabit Ethernet 10/100/1000M with AVB on RJ-45, with 2 LEDs for link/speed/activity  Wil-Fi  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)  BILUETOOTH  Canned Digit XBee socket  2x USB 2.0 Host, 1x USB 3.0 on Type-C connector  FULL-size card support, with on-board micro SIM slot support – dedicated 3 A power supply  OTHER CONNECTIVITY  2x CAN, 1x SPI, 1x I2C, 1x expansion connector  BILUETOON  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDS (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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 59s to 90% (non-condensing)  EMISSIONS/IMMUNITY/SAFETY  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	CAMERA	1x 8-bit parallel camera interface, 1x MIPI camera 2x lanes
SECURITY  Digi TrustFence*, TRNG, TrustZone, ciphers, security control, secure RTC, secure JTAG, eFuses (OTP)  ETHERNET  2x Gigabit Ethernet 10/100/1000M with AVB on RJ-45, with 2 LEDs for link/speed/activity  WI-FI  2z 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, 802.111, soft access point mode (up to 10 clients)  BLUETOOTH  Bluetooth 5  ANTENNA CONNECTORS  2x U.F.L on module  DIGI XBEE RF  Standard Digi XBee socket  USB  2x U.SB 2.0 Host, 1x USB 3.0 on Type-C connector  PCI EXPRESS MINI CARD*  Full-size card support, with on-board micro SIM slot support - dedicated 3A power supply  OTHER CONNECTIVITY  2x CAN, 1x SP1, 1x 12C, 1x expansion connector  EXTERNAL STORAGE  MicroSD  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS  1x power button (power on, power off, sleep,, wake-up), 1x reset button  LEDS  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  EMISSIONS/IMMUNITY/SAFETY  FCC Part 15 Class B, EN 55024, EN 55022 Class B, ICES-003 Class B, VCCI Class II, FCC Part 15 Subpart C Section 15.247 and 15.407, IC	AUDIO	2x line-in, 1 x line-out, 1x mic-ln, 1x headset on 3.5 mm audio jack
ETHERNET  2x Gigabit Ethernet 10/100/1000M with AVB on R.1-45, with 2 LEDs for link/speed/activity  WI-FI  2x2 MIMO 802.11a/b/g/n/sc 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)  BLUETOOTH  Bluetooth 5  ANTENNA CONNECTORS  2x U.F.L on module  DIGI XBEE RF  Standard Digi XBee socket  USB  2x USB 2.0 Host, 1x USB 3.0 on Type-C connector  PCI EXPRESS MINI CARD*  Full-size card support, with on-board micro SIM slot support – dedicated 3 A power supply  OTHER CONNECTIVITY  2x CAN, 1x SPI, 1x 12C, 1x expansion connector  EXTERNAL STORAGE  MicroSD  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5v at 3, 2A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  OPERATING TEMPERATURE  -40° C to 85°C (-40°E to 185°F)  STORAGE TEMPERATURE  -50°C to 125°C (-58°E to 257°F)  RELATIVE HUMIDITY  Relative humidity 5% to 90% (non-condensing)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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 15.447, IC	UART/CONSOLE	4-pin header (console), 2x UARTs on expansion connector
### BLUETOOTH Bluetooth 5  ### Standard Digi XBee socket  ###	SECURITY	Digi TrustFence®, TRNG, TrustZone, ciphers, security control, secure RTC, secure JTAG, eFuses (OTP)
BLUETOOTH Bluetooth 5  ANTENNA CONNECTORS 2x U.FL on module  DIGI XBEE RF Standard Digi XBee socket  USB 2x USB 2.0 Host, 1x USB 3.0 on Type-C connector  PCI EXPRESS MINI CARD* Full-size card support, with on-board micro SIM slot support - dedicated 3 A power supply  OTHER CONNECTIVITY 2x CAN, 1x SPI, 1x I2C, 1x expansion connector  EXTERNAL STORAGE MicroSD  BOOT CONFIGURATION On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG 1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS 1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS 2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS 5V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS 3.3 V Out (2-pin header), 5 V Out (2-pin header)  OPERATING TEMPERATURE -60° C to 125° C (-58° Ft to 257° F)  RELATIVE HUMIDITY Relative humidity 5% to 90% (non-condensing)  EMISSIONS/IMMUNITY/SAFETY 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	ETHERNET	2x Gigabit Ethernet 10/100/1000M with AVB on RJ-45, with 2 LEDs for link/speed/activity
ANTENNA CONNECTORS  2x U.F.L on module  Standard Digi XBee socket  USB  2x U.SB 2.0 Host, 1x U.SB 3.0 on Type-C connector  PCI EXPRESS MINI CARD*  Full-size card support, with on-board micro SIM slot support - dedicated 3 A power supply  OTHER CONNECTIVITY  2x CAN, 1x SPI, 1x 12C, 1x expansion connector  EXTERNAL STORAGE  MicroSD  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  FCC Part 15 Class B, EN 55024, EN 55032 Class B, VCCI Class B, VCCI Class II, FCC Part 15 Subpart C Section 15.247 and 15.407, IC	WI-FI	
DIGI XBEE RF  Standard Digi XBee socket  USB  2x USB 2.0 Host, 1x USB 3.0 on Type-C connector  PCI EXPRESS MINI CARD*  Full-size card support, with on-board micro SIM slot support – dedicated 3 A power supply  OTHER CONNECTIVITY  2x CAN, 1x SPI, 1x 12C, 1x expansion connector  EXTERNAL STORAGE  MicroSD  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDS (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  EMISSIONS/IMMUNITY/SAFETY  FCC Part 15 Class B, EN 55024, EN S5032 class B, ICES-003 Class B, VCCI Class II, FCC Part 15 Subpart C Section 15.247 and 15.407, IC	BLUETOOTH	Bluetooth 5
2x USB 2.0 Host, 1x USB 3.0 on Type-C connector  PCI EXPRESS MINI CARD* Full-size card support, with on-board micro SIM slot support – dedicated 3 A power supply  OTHER CONNECTIVITY 2x CAN, 1x SPI, 1x I2C, 1x expansion connector  EXTERNAL STORAGE MicroSD  BOOT CONFIGURATION On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG 1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS 1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS 2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS 5V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  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)  RADIO APPROVALS (PENDING) US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY 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	ANTENNA CONNECTORS	2x U.FL on module
PCI EXPRESS MINI CARD*  Full-size card support, with on-board micro SIM slot support – dedicated 3 A power supply  OTHER CONNECTIVITY  2x CAN, 1x SPI, 1x I2C, 1x expansion connector  EXTERNAL STORAGE  MicroSD  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	DIGI XBEE RF	Standard Digi XBee socket
OTHER CONNECTIVITY  2x CAN, 1x SPI, 1x 12C, 1x expansion connector  EXTERNAL STORAGE  MicroSD  BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  BUTTONS  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDS (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	USB	2x USB 2.0 Host, 1x USB 3.0 on Type-C connector
BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  1x power button (power on, power off, sleep, wake-up), 1x reset button  LEDS  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	PCI EXPRESS MINI CARD*	Full-size card support, with on-board micro SIM slot support – dedicated 3 A power supply
BOOT CONFIGURATION  On module eMMC, on SBC microSD, serial downloader and boot from fuses  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  1x power button (power on, power off, sleep, wake-up), 1x reset button  1x power button (power on, power LED (3.3V)  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	OTHER CONNECTIVITY	2x CAN, 1x SPI, 1x I2C, 1x expansion connector
DEBUG  1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)  1x power button (power on, power off, sleep, wake-up), 1x reset button  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	EXTERNAL STORAGE	MicroSD
BUTTONS  1x power button (power on, power off, sleep, wake-up), 1x reset button  2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	BOOT CONFIGURATION	On module eMMC, on SBC microSD, serial downloader and boot from fuses
2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)  POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	DEBUG	1x JTAG for i.MX 8X (Tag-Connect), 1x SWD for MCA (Tag-Connect and header)
POWER INPUTS  5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	BUTTONS	1x power button (power on, power off, sleep, wake-up), 1x reset button
POWER SUPPLY CONNECTOR  Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)  3.3 V Out (2-pin header), 5 V Out (2-pin header)  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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	LEDS	2x user LEDs (1x yellow, 1x green), 1x power LED (3.3V)
POWER OUTPUTS  3.3 V Out (2-pin header), 5 V Out (2-pin header)  -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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	POWER INPUTS	5 V at 3.2 A (typical, depending on use-case), 1x coin cell 2-pin header
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)  RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	POWER SUPPLY CONNECTOR	Main power supply via 2 mm locking barrel connector or dedicated power connector (2-pin header)
STORAGE TEMPERATURE  -50 °C to 125 °C (-58 °F to 257 °F)  RELATIVE HUMIDITY  Relative humidity 5% to 90% (non-condensing)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	POWER OUTPUTS	3.3 V Out (2-pin header), 5 V Out (2-pin header)
RELATIVE HUMIDITY  Relative humidity 5% to 90% (non-condensing)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	OPERATING TEMPERATURE	-40° C to 85 °C (-40 °F to 185 °F)
RADIO APPROVALS (PENDING)  US, Canada, EU, Japan, Australia/New Zealand  EMISSIONS/IMMUNITY/SAFETY  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	STORAGE TEMPERATURE	−50 °C to 125 °C (−58 °F to 257 °F)
EMISSIONS/IMMUNITY/SAFETY  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	RELATIVE HUMIDITY	Relative humidity 5% to 90% (non-condensing)
	RADIO APPROVALS (PENDING)	US, Canada, EU, Japan, Australia/New Zealand
DESIGN VERIFICATION (PENDING)  Temperature: IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-78; Vibration/Shock: IEC 60068-2-6, IEC 60068-2-64, IEC 60068-2-79, HALT	DESIGN VERIFICATION (PENDING)	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)	MECHANICAL DIMENSIONS	100 mm x 72 mm (3.9 in x 2.8 in)

<sup>\*</sup>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

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