

OnCell G4302-LTE4 Series

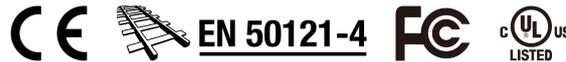
2-port industrial LTE Cat. 4 secure cellular routers



Features and Benefits

- Integrated LTE Cat. 4 module with US/EU/APAC band support
- Cellular link redundancy with dual-SIM GuaranLink support
- Supports WAN redundancy between cellular and Ethernet
- Support MRC Quick Link Ultra for centralized monitoring and remote access to the on-site devices
- Visualize OT security with the MXsecurity management software
- Power management support for wake-up time scheduling or digital input signals, suitable for vehicle ignition systems
- Examine industrial protocol data with Deep Packet Inspection (DPI) technology
- Developed according to IEC 62443-4-2 with Secure Boot
- Rugged and compact design for harsh environments

Certifications



Introduction

The OnCell G4302-LTE4 Series is a reliable and powerful secure cellular router with global LTE coverage. This router provides reliable data transfers from serial and Ethernet to a cellular interface that can be easily integrated into legacy and modern applications. WAN redundancy between the cellular and Ethernet interfaces guarantees minimal downtime, while also providing extra flexibility. To enhance cellular connection reliability and availability, the OnCell G4302-LTE4 Series features GuaranLink with dual SIM cards. Moreover, the OnCell G4302-LTE4 Series features dual power inputs, high-level EMS, and a wide operating temperature for deployment in demanding environments. Through the power management function, administrators can set up schedules to fully control the OnCell G4302-LTE4 Series' power usage and minimize power consumption when idle to save cost.

Designed for robust security, the OnCell G4302-LTE4 Series supports Secure Boot to ensure system integrity, multi-layer firewall policies for managing network access and traffic filtering, and VPN for secure remote communications. The OnCell G4302-LTE4 Series complies with the internationally recognized IEC 62443-4-2 standard, making it easy to integrate these secure cellular routers into OT network security systems.

Highly Integrated Industrial Cellular Routers

- Support for global cellular bands including America, Australia, Europe, Asia, and Japan
- 2 Gigabit ports with managed Layer 2 switch functions
- Supports serial devices with the 3-in-1 RS232/422/485 port
- Supports MRC Quick Link Ultra for remote access and is easy to configure. For more information, please visit Secure Remote Access (<https://www.moxa.com/en/products/industrial-network-infrastructure/secure-remote-access/moxa-remote-connect-suite>).
- Supports MXsecurity and MXview One for distributed system and local site management

Defend Against Malicious Threats With Advanced Cybersecurity Features

- Secure boot for system integrity and to protect against tampering attacks
- VPN functionality for secure and encrypted data communication
- Firewall policies to protect the internal network from unauthorized access and DoS attacks
- Network Address Translation (NAT) provides IP privacy between trusted and untrusted networks
- Deep Packet Inspection (DPI) examine the data portion of network packets for various OT-specific protocols
- Cybersecurity features based on IEC 62443-4-2

Industrial-grade Reliability

- Dual power inputs for power redundancy
- GuaranLink and dual SIM card support for reliable cellular connectivity
- -30 to 70°C wide operating temperature
- Rugged hardware design suitable for hazardous locations and various industrial applications

MX-ROS Addresses Growing Cybersecurity Threats

Moxa's MX-ROS (<https://www.moxa.com/en/spotlight/portfolio/mx-ros/index>) is a software platform for industrial security routers and firewalls. The platform supports the robust security and user-friendly operation of secure routers through simplified web and CLI interfaces. In addition to adhering to IEC 62443-4-2, MX-ROS devices offer a wealth of the latest cross-industry Operational Technology (OT) network management features with each release to safeguard hardware and software.

Specifications

Cellular Interface

| | |
|-----------------------------|--|
| Cellular Standards | LTE CAT 4, HSPA, UMTS, EDGE, GPRS, GSM |
| LTE Data Rate | 20 MHz bandwidth: 150 Mbps DL, 50 Mbps UL |
| Band Options (EU) | -EU(-T) models: LTE B1 (2100 MHz) / B3 (1800 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B20 (800 MHz) / B28 (700 MHz) UMTS/HSPA B1 (2100 MHz) / B8 (900 MHz) GSM/GPRS/EDGE 900 MHz / 1800 MHz |
| Band Options (AU) | -AU(-T) models: LTE B1 (2100 MHz) / B3 (1800 MHz) / B5 (850 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B28 (700 MHz) UMTS/HSPA B1 (2100 MHz) / B5 (850 MHz) / B8 (900 MHz) GSM/GPRS/EDGE 900 MHz / 1800 MHz |
| Band Options (US) | -US(-T) models: LTE B2 (1900 MHz) / B4 (1700/2100 MHz (AWS)) / B5 (850 MHz) / B12 (700 MHz) / B13 (700 MHz) / B14 (700 MHz) / B66 (1700 MHz) / B25 (1900 MHz) / B26 (850 MHz) / B71 (600 MHz) UMTS/HSPA B2 (1900 MHz) / B4 (1700 MHz (AWS)) / B5 (850 MHz) |
| Band Options (JP) | -JP(-T) models: LTE B1 (2100 MHz) / B3 (1800 MHz) / B8 (900 MHz) / B11 (1500 MHz) / B18 (800 MHz) / B19 (800 MHz) / B21 (1500 MHz) UMTS/HSPA B1 (2100 MHz) / B19 (800 MHz) |
| No. of SIMs | 2 Push-eject tray type |
| SIM Format | Nano SIM |
| Cellular Antenna Connectors | 2 SMA female |

Ethernet Interface

| | |
|--|---|
| 10/100/1000BaseT(X) Ports (RJ45 connector) | 2 |
|--|---|

GNSS Interface

| | |
|-------------------------|--|
| GNSS Bands | GPS (1575.42 MHz) GLONASS (1597.52 MHz) Galileo (1575.42 MHz) BeiDou (1561.098 MHz) |
| GNSS Antenna Connectors | 1 SMA female |

Input/Output Interface

| | |
|-------------------------|--|
| Digital Output Channels | 1 Relay output with current carrying capacity of 1 A @ 24 VDC |
| Digital Input Channels | 1 |
| Digital Inputs | -30 to +3 V for state 0 +13 to +30 V for state 1 |
| Buttons | Reset button |

USB Interface

| | |
|------------------|------------|
| No. of USB Ports | 1 |
| USB Connector | USB Type A |
| USB Standards | USB 2.0 |

Serial Interface

| | |
|------------------|---|
| No. of Ports | 1 |
| Connector | DB9 male |
| Serial Standards | RS-232/422/485 |
| Data Bits | 5, 6, 7, 8 |
| Stop Bits | 1, 1.5, 2 |
| Parity | None Even Odd |
| Baudrate | 300 bps to 921.6 kbps |
| Console Port | RS-232 (TxD, RxD, GND), USB type-C (115200, n, 8, 1) ¹ |

Serial Signals

| | |
|-----------|--|
| RS-232 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND |
| RS-422 | Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-2w | Data+, Data-, GND |
| RS-485-4w | Tx+, Tx-, Rx+, Rx-, GND |

Operation Modes

| | |
|-----------|---|
| Standards | Real COM mode RFC2217 mode TCP Client mode TCP Server mode UDP mode |
|-----------|---|

LED Interface

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| LED Indicators | PWR1, PWR2, STATE, USB, SIM1, SIM2, CELL, LTE, GNSS, SERIAL, VPN |
|----------------|--|

Ethernet Software Features

| | |
|-----------------------|--|
| Management | GuaranLink Power Management Back Pressure Flow Control LLDP Syslog Wireless Search Utility MXview One MXconfig MXsecurity Moxa Remote Connect (MRC) |
| Broadcast Forwarding | IP directed broadcast, broadcast forwarding |
| Configuration Options | Serial Console ¹ Web Console (HTTP/HTTPS) Command Line Interface (CLI) through Serial/Telnet/SSH |

1. We recommend using the Moxa CBL-USBCF9-GY-150 console cable, which can be purchased separately.

| | |
|--------------------|---|
| Network Protocols | DDNS DHCP Server/Client SMTP SNMPv1/v2c/v3 ARP Telnet TCP/IP UDP Remote SMS Control |
| Filter | 802.1Q VLAN Port-based VLAN |
| Unicast Routing | Static Route |
| Multicast Routing | Static Route |
| Routing Redundancy | VRRP |
| Time Management | NTP Server/Client SNTP |

Security Functions

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|-------------------------|---|
| Hardware-based Security | Secure Boot |
| Password | User-level password protection |
| Authentication | Local database RADIUS Access Control List |

Firewall

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|--------|--|
| Filter | DDoS Ethernet protocols ICMP IP address MAC address Ports |
|--------|--|

NAT

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|----------|---|
| Features | 1-to-1 N-to-1 PAT NAT loopback Double NAT |
|----------|---|

IPsec VPN

| | |
|------------------------|---|
| Authentication | MD5 and SHA (SHA-256) RSA (key size: 1024-bit, 2048-bit) Pre-shared Key or X.509 v3 certificate |
| Encryption | DES 3DES AES-128 AES-192 AES-256 |
| Concurrent VPN Tunnels | Max. 15 IPsec VPN tunnels |
| Protocols | IPsec |

Power Parameters

| | |
|-----------------------------|---|
| Input Current | 0.96 A @ 12 VDC (max.) 0.63 A @ 12 VDC (average) 0.33 A @ 24 VDC (average) 0.18 A @ 48 VDC (average) |
| Input Voltage | 12 to 48 VDC |
| Power Consumption | 7.6 W (typ.) 11.52 W (max.) |
| Power Connector | Screw-locked terminal block |
| Reverse Polarity Protection | Supported |

Physical Characteristics

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|--------------|--|
| Housing | Metal |
| Dimensions | 125 x 46.2 x 100 mm (4.92 x 1.82 x 3.94 in) |
| Weight | 610 g (1.34 lb) |
| Installation | DIN-rail mounting Wall mounting (with optional kit) |
| IP Rating | IP40 ² |

Environmental Limits

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|--|---|
| Operating Temperature | Standard Models: -10 to 55°C (14 to 131°F) Wide Temp. Models: -30 to 70°C (-22 to 158°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

Standards and Certifications

| | |
|---------------------|---|
| EMC | EN 55032/35 EN 61000-6-2/-6-4 |
| EMI | CISPR 22, FCC Part 15B Class A |
| EMS | IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV, Signal: 2 kV IEC 61000-4-6 CS: 10 V; 150 kHz to 80 MHz IEC 61000-4-8: 30 A/m |
| Freefall | IEC 60068-2-32 |
| Hazardous Locations | IECEX ³ ATEX ³ Class I Division 2 ³ |
| Railway | EN 50121-4 |
| Traffic Control | NEMA TS2 |
| Road Vehicles | E mark E1 |
| Radio Frequency | FCC PTCRB EN 303 413 |

2. With the rubber SIM slot cover closed.
3. Supports for Hardware Rev 1.1.0 and above

| | |
|--------------------|---|
| Radio | NCC TELEC RCM KC ICID UKCA Anatel |
| Carrier Approvals | Verizon AT&T |
| Cellular Standards | EN 301 489-1/-19 EN 301 489-1/-52 EN 301511 EN 301908-1/-2/-13 |
| Safety | UL 62368-1 EN 62368-1 |
| Shock | IEC 60068-2-27 |
| Vibration | IEC 60068-2-6 |

MTBF

| | |
|-----------|--|
| Time | -AU(-T) models: 518,722 hrs -EU(-T) models: 518,722 hrs -JP(-T) models: 522,186 hrs -US(-T) models: 521,746 hrs |
| Standards | Telcordia SR332 |

Warranty

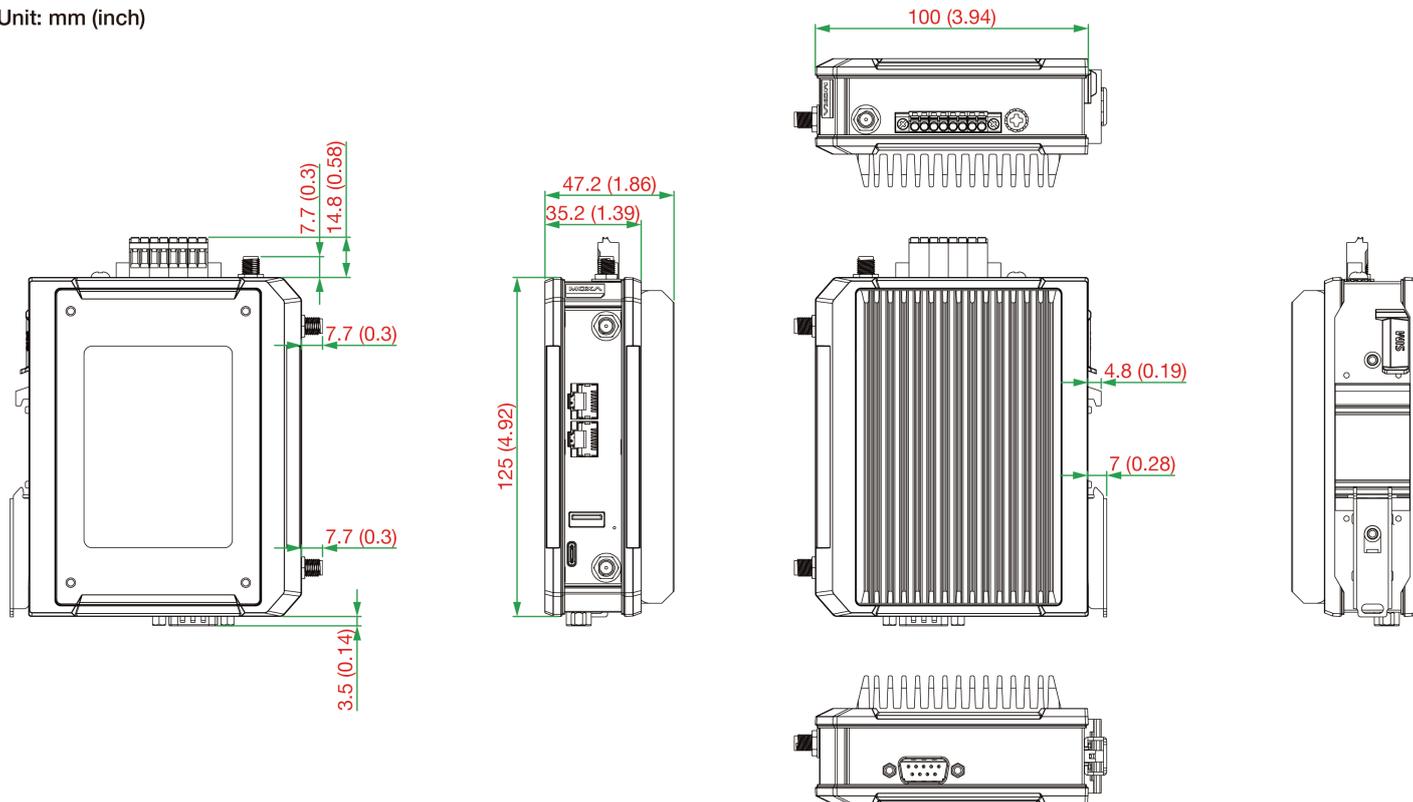
| | |
|-----------------|--|
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |

Package Contents

| | |
|---------------|---|
| Device | 1 x OnCell G4302-LTE4 Series secure cellular router |
| Documentation | 1 x quick installation guide 1 x warranty card |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | LTE Band | Operating Temp. |
|------------------------|---|-----------------|
| OnCell G4302-LTE4-EU | B1 (2100 MHz) / B3 (1800 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B20 (800 MHz) / B28 (700 MHz) | -10 to 55°C |
| OnCell G4302-LTE4-EU-T | B1 (2100 MHz) / B3 (1800 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B20 (800 MHz) / B28 (700 MHz) | -30 to 70°C |
| OnCell G4302-LTE4-AU | B1 (2100 MHz) / B3 (1800 MHz) / B5 (850 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B28 (700 MHz) | -10 to 55°C |
| OnCell G4302-LTE4-AU-T | B1 (2100 MHz) / B3 (1800 MHz) / B5 (850 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B28 (700 MHz) | -30 to 70°C |
| OnCell G4302-LTE4-US | B2 (1900 MHz) / B4 (1700/2100 MHz (AWS)) / B5 (850 MHz) / B12 (700 MHz) / B13 (700 MHz) / B14 (700 MHz) / B66 (1700 MHz) / B25 (1900 MHz) / B26 (850 MHz) / B71 (600 MHz) | -10 to 55°C |
| OnCell G4302-LTE4-US-T | B2 (1900 MHz) / B4 (1700/2100 MHz (AWS)) / B5 (850 MHz) / B12 (700 MHz) / B13 (700 MHz) / B14 (700 MHz) / B66 (1700 MHz) / B25 (1900 MHz) / B26 (850 MHz) / B71 (600 MHz) | -30 to 70°C |
| OnCell G4302-LTE4-JP | B1 (2100 MHz) / B3 (1800 MHz) / B8 (900 MHz) / B11 (1500 MHz) / B18 (800 MHz) / B19 (800 MHz) / B21 (1500 MHz) | -10 to 55°C |
| OnCell G4302-LTE4-JP-T | B1 (2100 MHz) / B3 (1800 MHz) / B8 (900 MHz) / B11 (1500 MHz) / B18 (800 MHz) / B19 (800 MHz) / B21 (1500 MHz) | -30 to 70°C |

Accessories (sold separately)

Antennas

| | |
|----------------------|--|
| ANT-5G-ASM-03 | 3 dBi GSM/UMTS/LTE/5G NR dipole antenna with SMA (male) connector |
| MAT-5G-PA-SM-2-06-3m | 6 dBi MIMO panel antenna with 2 SMA (male) connectors for cellular applications, 3 m cable |

| | |
|----------------------|---|
| MAT-5G-PA-SM-3-06-3m | 6 dBi MIMO panel antenna with 3 SMA (male) connectors for cellular and GNSS applications, 3 m cable |
| ANT-GNSS-CSM-02-3m | 2 dBic GNSS antenna with SMA (male) connector, 3 m cable |

Wireless Antenna Cables

| | |
|-------------------|--|
| A-CRF-SMSF-R3-100 | Wireless antenna cable with SMA (male) to SMA (female) connectors, magnetic base, RG-174 type, 1 m |
| A-CRF-SMSF-L1-300 | Wireless antenna cable with SMA (male) to SMA (female) connectors, magnetic base, LMR195 type, 3 m |
| A-CRF-SMSF-C2-300 | Wireless antenna cable with SMA (male) to SMA (female) connectors, CFD-200 type, 3 m |
| A-CRF-SMSF-C2-500 | Wireless antenna cable with SMA (male) to SMA (female) connectors, CFD-200 type, 5 m |

Mounting Kits

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|-----------|---|
| WK-41-01 | Wall-mounting kit with 1 plate (41 x 144 x 7.5 mm) |
| WK-160-01 | Wall-mounting kit with 1 plate (160 x 89 x 2.0 mm), 4 screws, black |

Software

| | |
|-----------------------------|---|
| LIC-MXviewOne-NEW-XN-SR | MXview One node license with customizable node quantity (minimum 1 node) |
| LIC-MXsecurity-NEW-1Y-XN-SR | 1-year MXsecurity license with customizable node quantity (minimum 1 node) |
| LIC-MRCQL-ADD-1Y-XN-SR | 1-year MRC Quick Link add-on license with customizable node quantity (minimum 1 node) |

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