

OnCell G4302-LTE4 Series

2-port industrial LTE Cat. 4 secure cellular routers

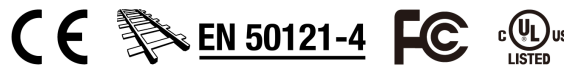
Preliminary



Features and Benefits

- Integrated LTE Cat. 4 module with US/EU/APAC band support
- Power management support for wake-up time scheduling
- Cellular link redundancy with dual-SIM GuaranLink support
- Supports WAN redundancy between cellular and Ethernet
- Precise GNSS for location-based applications
- Rugged and compact design for harsh environments
- Compact size and smart LED design for easier installation and troubleshooting
- Developed according to IEC 62443-4-2 with Secure Boot
- Visualize OT security with the MXsecurity management software

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 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
- 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

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
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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

Alarm Contact Channels	Resistive load: 1 A @ 24 VDC
Analog 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)

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
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LED Interface

LED Indicators	PWR1, PWR2, STATE, USB, SIM1, SIM2, CELL, LTE, GNSS, SERIAL, VPN
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Ethernet Software Features

Management	GuaranLink Power Management Back Pressure Flow Control LLDP Syslog Wireless Search Utility MXview One MXconfig MXsecurity ¹ MRC Quick Link ¹
Broadcast Forwarding	IP directed broadcast, broadcast forwarding
Configuration Options	Serial Console Web Console (HTTP/HTTPS) Command Line Interface (CLI) through Serial/Telnet/SSH
Network Protocols	DDNS DHCP Server/Client SMTP SNMPv1/v2c/v3 ARP Telnet TCP/IP UDP Remote SMS Control

1. Available in Q4, 2023.

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

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

Firewall

Filter	DDoS Ethernet protocols ICMP IP address MAC address Ports
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NAT

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

Housing	Metal IP40 ²
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)

Environmental Limits

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

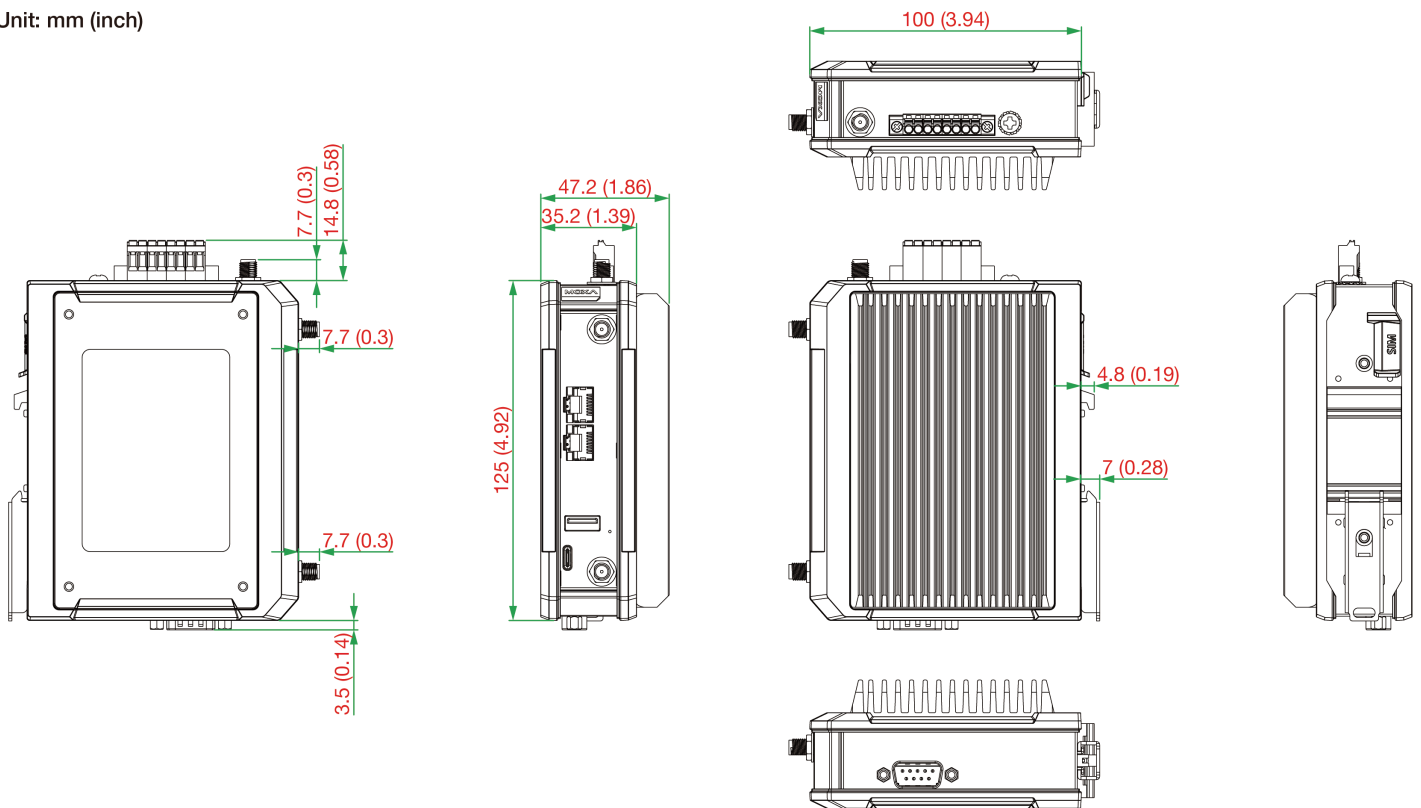
EMC	EN 55032/35 EN 61000-6-2/-6-4
EMI	CISPR 22, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV, Signal: 2 kV IEC 61000-4-6 CS: 10 V; 150 kHz to 80 MHz IEC 61000-4-8: 30 A/m
Freefall	IEC 60068-2-32
Hazardous Locations	CCCEX ³ IECEX ³ ATEX ³ Class I Division 2 ³
Railway	EN 50121-4
Traffic Control	NEMA TS2 ³
Road Vehicles	E mark E1 ³
Radio Frequency	FCC PTCRB ³ EN 303 413
Radio	NCC ³ TELEC RCM KC ICID UKCA Anatel ³
Carrier Approvals	Verizon ³ AT&T ³
Cellular Standards	EN 301 489-1/-19 EN 301 489-1/-52 EN 301511 EN 301908-1/-2/-13

2. With the rubber SIM slot cover closed.
3. Available in Q4, 2023.

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

Model Name	LTE Band	Operating Temp.
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

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

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)

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