

# CCG-1500 Series

## Industrial private 5G cellular gateways



### Features and Benefits

- High-throughput data transmissions (DL: 920 Mbps, UL: 440 Mbps)
- Dual SIM failover and auto connection recovery for reliable cellular connectivity
- Low power consumption (8 W on average)
- Supports private 5G frequency bands: n48, n78, n79

### Certifications



### Introduction

The CCG-1500 Series is a range of private 5G gateways built for high-throughput data transmission, supporting up to 920 Mbps downstream and 440 Mbps upstream speeds. The Keep Alive feature detects disconnections and recovers connections immediately, ensuring reliable cellular connectivity.

The CCG-1500 Series gateways feature power-saving technology, making them ideal for power-constrained remote applications. With support for configurable 5G NSA/SA bands, visible base station data, and VxLAN tunneling technology, these gateways provide comprehensive private 5G network compatibility.

### Specifications

#### Cellular Interface

Cellular Standards	5G Release 15
Data Rate	950 Mbps DL, 450 Mbps UL
Frequency Bands Supported	<p>CCG-1510-TW-T models: 5G: n1 (FDD 2100) MHz / n3 (FDD 1800) MHz / n28 (FDD 700) MHz / n41 (TDD 2500) MHz / n78 (TDD 3500) MHz 4G: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 7 (2600 MHz) / LTE Band 8 (900 MHz) / LTE Band 28 (700 MHz) / LTE Band 38 (2600 MHz)</p> <p>CCG-1510-US-T models: 5G: n48 (TDD 3600) MHz</p> <p>CCG-1510-T models: 5G: n1 (FDD 2100) MHz / n3 (FDD 1800) MHz / n28 (FDD 700) MHz / n41 (TDD 2500) MHz / n48 (TDD 3600) MHz / n77 (TDD 3700) MHz / n78 (TDD 3500) MHz 4G: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 7 (2600 MHz) / LTE Band 8 (900 MHz) / LTE Band 28 (700 MHz) / LTE Band 38 (2600 MHz)</p> <p>CCG-1520-T models: 5G: n79 (TDD 4500) MHz</p>
No. of SIMs	2 Push-eject tray type
SIM Format	Nano SIM
Cellular Antenna Connectors	CCG-1510 models: 6 x SMA female CCG-1520 models: 4 x SMA female

#### Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	2
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X)

#### Input/Output Interface

Buttons	Reset button
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#### USB Interface

No. of USB Ports	1
USB Connector	USB Type A
USB Standards	USB 3.0

#### Serial Interface

No. of Ports	1
Console Port	1 x 3-pin header to DB9 console port
Serial Standards	RS-232/422/485
Data Bits	5, 6, 7, 8
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
Baudrate	9600 bps to 115.2 kbps

#### Serial Signals

RS-232	TxD, RxD, RTS, CTS, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

#### LED Interface

LED Indicators	SIG, P/S, SIM1/2, 4G/5G
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#### Ethernet Software Features

Configuration Options	Web Console (HTTPS)
Management	Account Permission
Network Protocols	LwM2M Client
Routing	IP Passthrough Modbus RTU to TCP
Time Management	NTP Client
Tunneling	VXLAN

#### Wireless Software Features

Management	Keep Alive
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## Firewall

Filter	ICMP IP address DoS
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## NAT

Features	Port forwarding VPN Passthrough
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## Power Parameters

Input Voltage	9 to 24 VDC
Power Consumption	Average: 8 W Peak: 11 W
Input Current	9 to 24 VDC @ 1.33 to 0.5 A min
Power Connector	Terminal block

## Physical Characteristics

Dimensions	100 x 125 x 35.2 mm (3.93 x 4.92 x 1.38 in)
Housing	Metal SECC
Installation	DIN-rail mounting Wall mounting (with optional kit)
IP Rating	IP30 <sup>1</sup>
Weight	750 g (1.65 lb)

## Environmental Limits

Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-20 to 70°C (-4 to 158°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

## Standards and Certifications

EMC	EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 16000-4-2 ESD: Contact:4 kV ; Air: 8 kV <sup>2</sup> IEC 16000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 16000-4-3 RS: 1.8 GHz to 5 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 16000-4-5 Surge: DC: L-G: 2 kV; LAN: L-G: 2 kV; Serial port: 0.5 kV <sup>2</sup> IEC 16000-4-6 CS: 0.15 MHz to 10 MHz: 3 V; 10 MHz to 30 MHz: 3 to 1 V; 30 MHz to 80 MHz: 1 V <sup>2</sup> IEC 61000-4-8 PFMF
Radio Frequency	FCC
Radio	NCC: CCAF235G0270T2 TELEC JATE
Cybersecurity	EN 18031-1

1. The rubber SIM cover and console port cover should be attached. For CCG-1520-T, the SMA protection cover must also be attached.
2. This device demonstrates a capacity that exceeds the requirements set by certification standards.

Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64

#### MTBF

Time	1,036,724 hrs
Standards	Telcordia Standard SR-332

#### Warranty

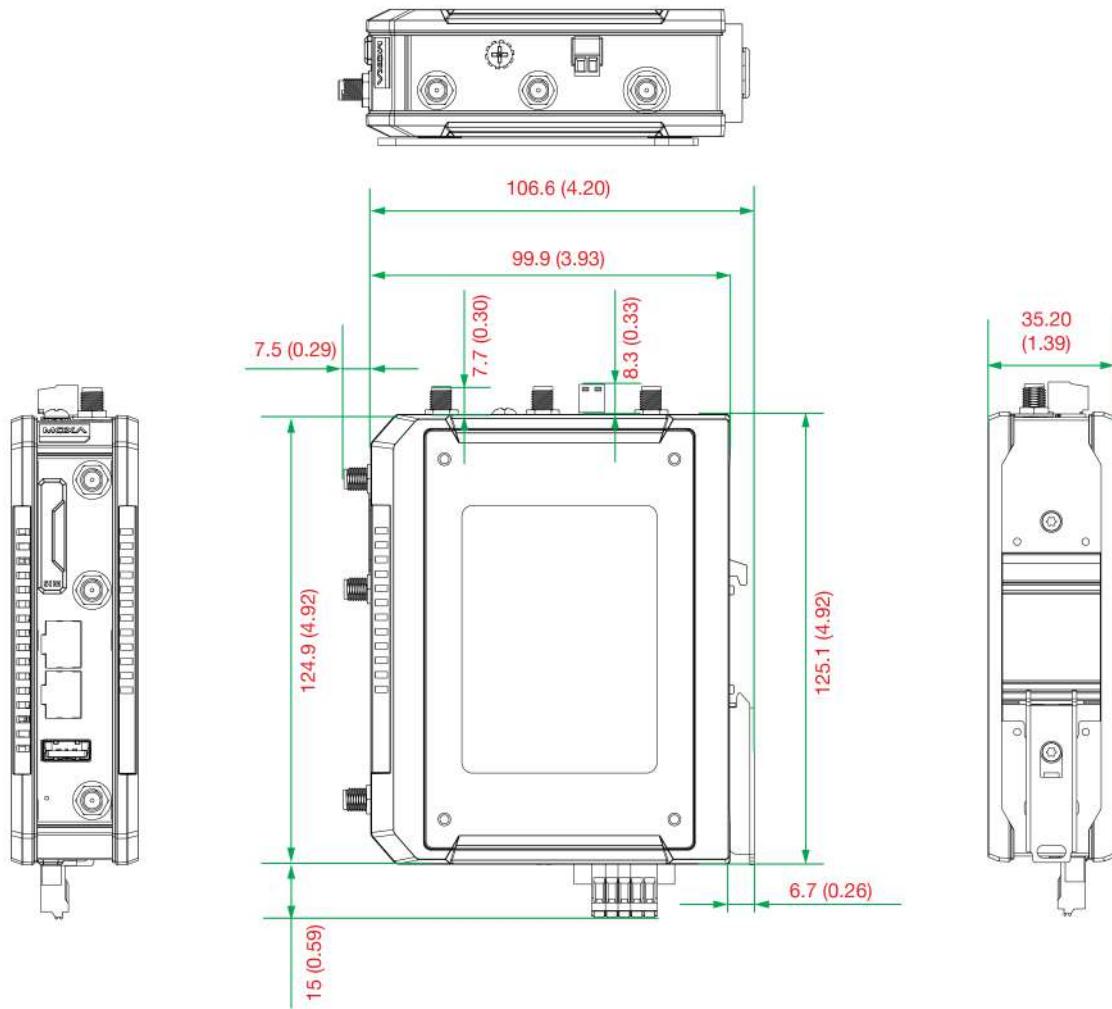
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

#### Package Contents

Device	1 x CCG-1500 Series cellular gateway
Antenna	CCG-1510 models: 6 x antennas CCG-1520 models: 4 x antennas Antenna model: ANT-5G-ASM-02
Installation Kit	1 x DIN-rail kit
Documentation	1 x quick installation guide 1 x warranty card

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	Ethernet Ports	Cellular/Band	Serial Ports
CCG-1510-TW-T	2	5G: n1 / n3 / n28 / n41 / n78 4G: B1 / B3 / B7 / B8 / B28 / B38	1
CCG-1510-US-T	2	5G: n48	1
CCG-1510-T	2	5G: n1 / n3 / n28 / n41 / n48 / n77 / n78 4G: B1 / B3 / B7 / B8 / B28 / B38	1
CCG-1520-T	2	5G: n79	1

## Accessories (sold separately)

### Wall-Mounting Kits

WK-160-02

Wall-mounting kit with 1 plate (160 x 89 x 2.0 mm), 4 screws, gray

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