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 builds 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	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) CCG-1510-US-T models: 5G: n48 (TDD 3600) MHz 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) CCG-1520-T models: 5G: n79 (TDD 4500) MHz
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

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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

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

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

NAT

Features	Port forwarding VPN Passthrough

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[1]
Weight	750 g (1.65 lb)

Environmental Limits

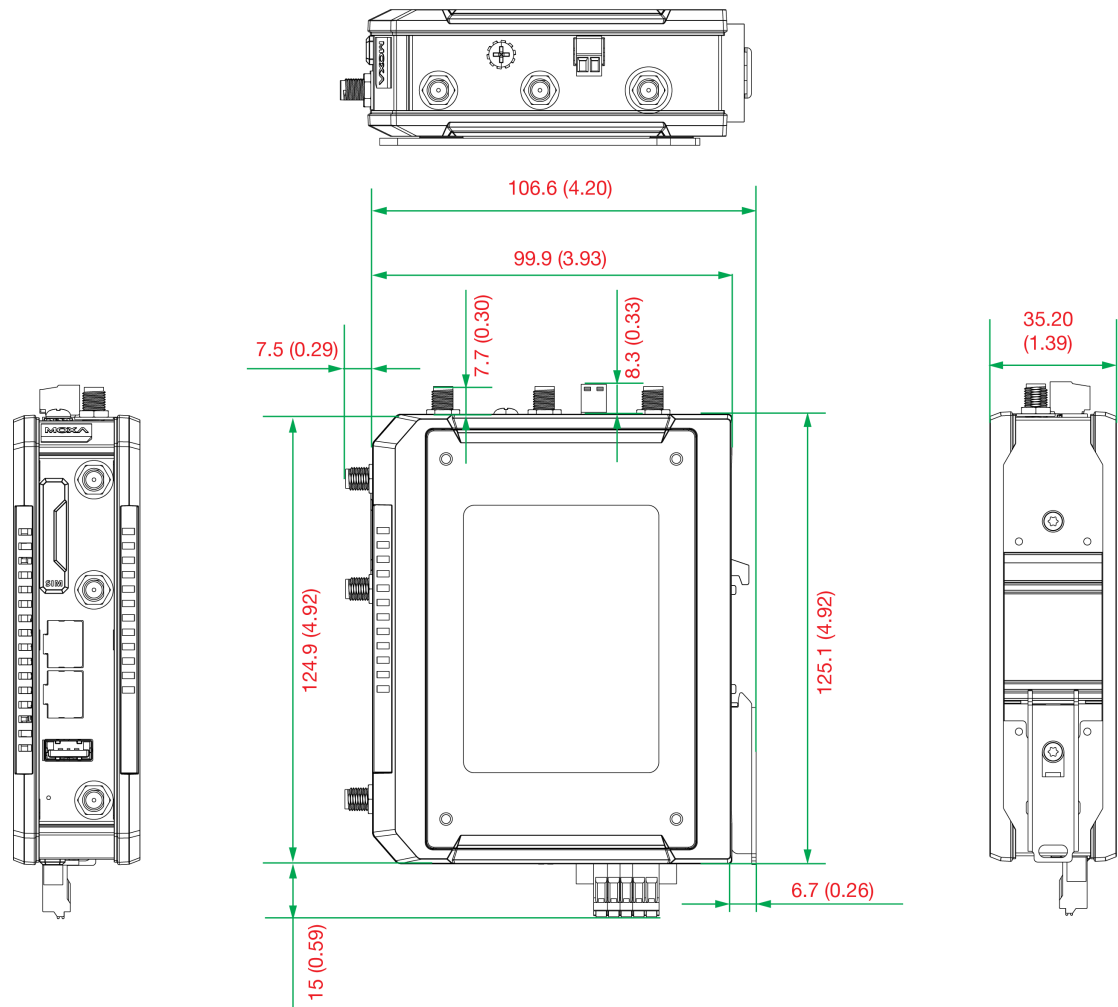|	
Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-20 to 70°C (-4 to 158°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

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[2] IEC 61000-4-3 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[2] 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[2] IEC 61000-4-8 PFMF
Radio Frequency	FCC
Radio	NCC: CCAF235G0270T2 TELEC JATE
Cybersecurity	EN 18031-1

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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 www.moxa.com/warranty

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

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Dimensions

Unit: mm (inch)

106.6 (4.20)
99.9 (3.93)
7.5 (0.29)
7.7 (0.30)
8.3 (0.33)
35.20 (1.39)
124.9 (4.92)
125.1 (4.92)
6.7 (0.26)
15 (0.59)

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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