

# CCG-1500 Series

## Industrial private 5G cellular gateways



### Features and Benefits

- Qualcomm® Snapdragon™ X55
- 5G-ready media converter with industrial-grade FCC/UL/NCC/JET/Telec certifications
- Dual SIM slots
- 2 auto-sensing 10/100/1000 Mbps Ethernet ports
- 1 RS-232/422/485 serial port
- LEDs for easy installation and maintenance
- -40 to 70°C wide-temperature design

### Certifications



### Introduction

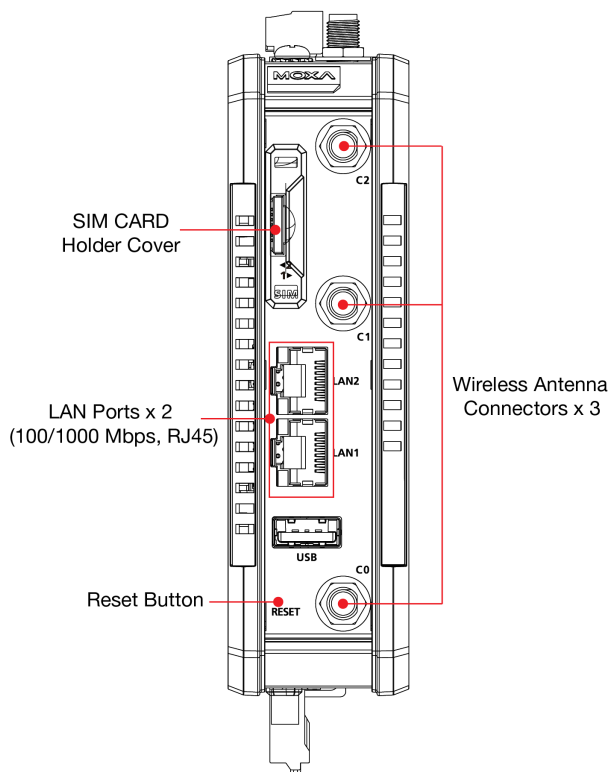
The CCG-1500 Series is designed both as a media converter and a protocol converter. The media converter includes 5G-to-ethernet and 5G-to-serial ports, which can be used for public as well as private networks. The protocol converter is mainly for Modbus TCP/RTU conversion. The 5G interface can use Modbus TCP while the serial interface can process Modbus RTU.

The CCG-1500 is built around a Qualcomm® Snapdragon™ X55 Cortex-A7 processor that has been optimized for use in media-conversion scenarios, and is also widely applicable to a variety of industrial solutions. With flexible interfacing options, this tiny, embedded converter is a reliable and secure gateway for data processing at field sites as well as a useful communications platform for large-scale deployments.

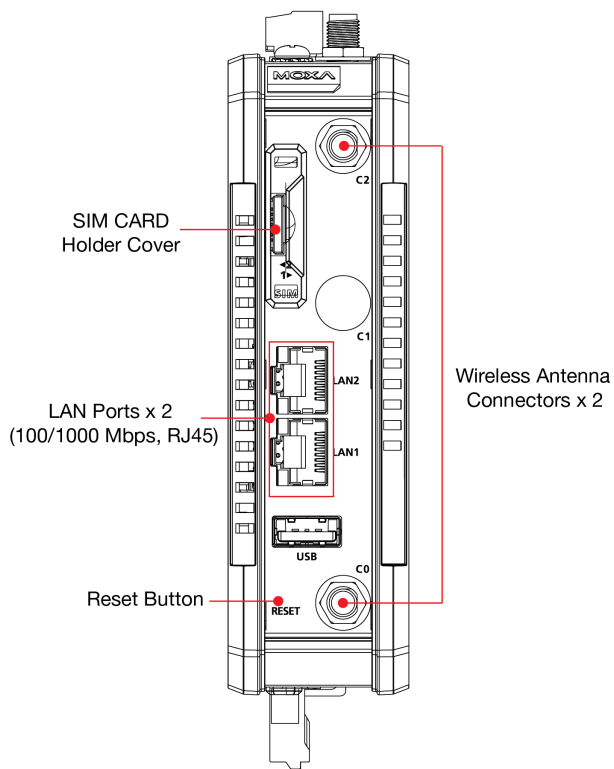
Wide temperature 5G-enabled models are available for extended temperature applications. All units are thoroughly tested in a testing chamber, guaranteeing that the 5G-enabled computing platforms are suitable for wide-temperature applications.

## Appearance

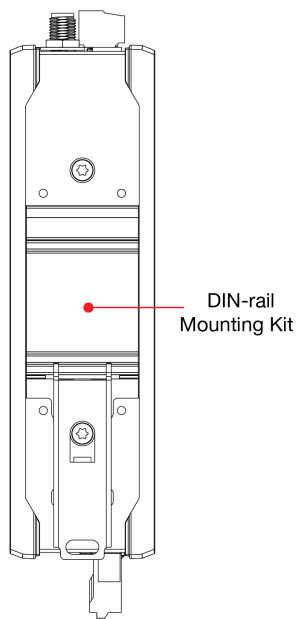
### CCG-1510 Front View



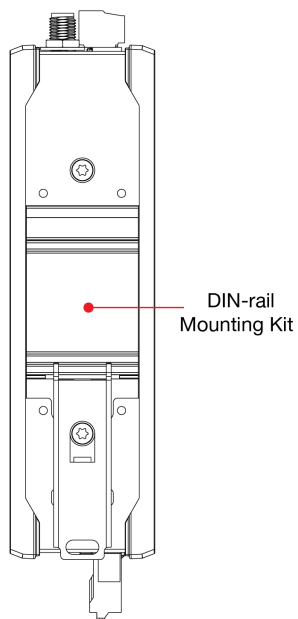
### CCG-1520 Front View



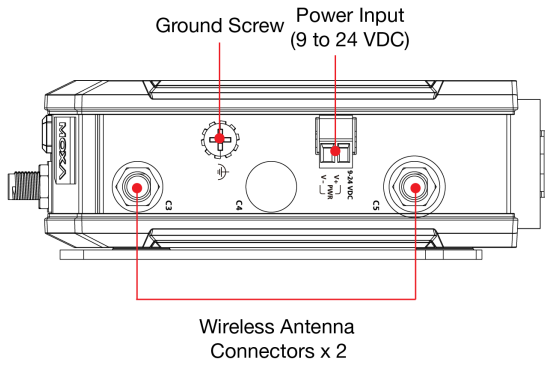
### CCG-1510 Rear View



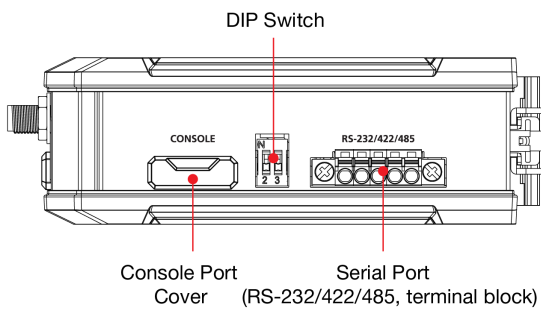
### CCG-1520 Rear View



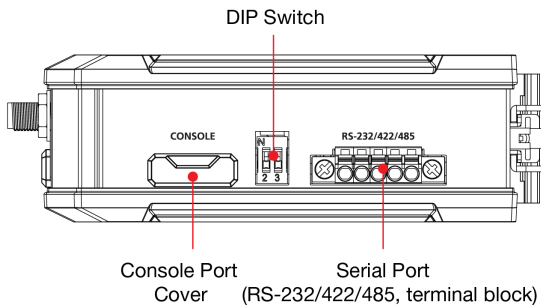
## Top View



## CCG-1510 Bottom View



## CCG-1520 Bottom View



## Specifications

### Media Converter Interface

|                                       |  |
|---------------------------------------|--|
| Ethernet Ports                        | Auto sensing 10/100/1000 Mbps ports (RJ45 connector) x 2 |
| Serial Ports                          | RS-232/422/485 ports x 1 (5-pin terminal block)          |
| Cellular Antenna Connector (with GPS) | CCG-1510 models: SMA x 6<br>CCG-1520 models: SMA x 4     |
| SIM Format                            | Nano   |
| Number of SIMs                        | 2  |

## Ethernet Interface

|  |  |
|--|--|
| 10/100/1000BaseT(X) Ports (RJ45 connector) | 2  |
| Standards                                  | IEEE 802.3 for 10BaseT<br>IEEE 802.3ab for 1000BaseT(X)<br>IEEE 802.3u for 100BaseT(X) |
| Magnetic Isolation Protection              | 1.5 kV (built-in)  |

## Serial Interface

|              |                                      |
|--------------|--------------------------------------|
| Console Port | 1 x 4-pin header to DB9 console port |
| Data Bits    | 5, 6, 7, 8                           |
| Parity       | None, Even, Odd, Space, Mark         |
| Stop Bits    | 1, 1.5, 2                            |
| Baudrate     | 9600 to 115200 bps                   |

## Serial Signals

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

## Cellular Interface

|                           |  |
|---------------------------|--|
| Cellular Standards        | 5G R15   |
| Frequency Bands Supported | CCG-1510-TW-T:<br>NR: N1 / N3 / N28 / N41 / N78<br>LTE: B1 / B3 / B7 / B8 / B28 / B38<br><br>CCG-1510-US-T:<br>NR: N48<br><br>CCG-1510-T:<br>NR: N1 / N3 / N28 / N41 / N48 / N77 / N78<br>LTE: B1 / B3 / B7 / B8 / B28 / B38<br><br>CCG-1520-T:<br>NR: N79 |

## LED Indicators

|                          |   |
|--------------------------|---|
| System                   | Power x 1<br>SIM card indicator x 1<br>5G / LTE indicator x 1 |
| Wireless Signal Strength | Cellular x 3  |

## Power Parameters

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

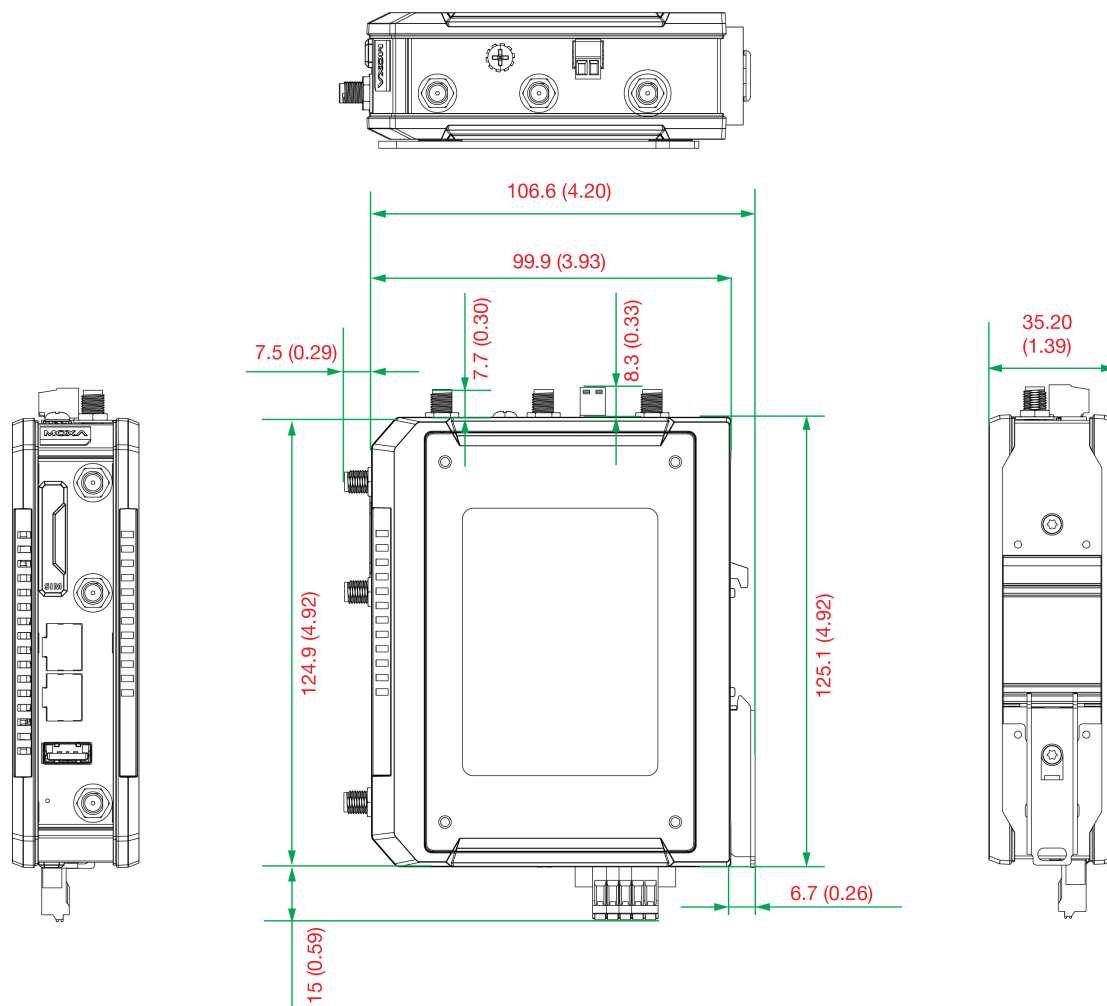
## Physical Characteristics

|            |   |
|------------|---|
| Dimensions | 100 x 125 x 35.2 mm (3.93 x 4.92 x 1.38 in) |
| Housing    | Metal                                       |

|  |   |
|--|---|
|  | SECC  |
| Installation                           | DIN-rail mounting<br>Wall mounting (with optional kit)  |
| IP Rating                              | IP30<br>Note: The rubber SIM cover and console port cover should be attached. For CCG-1520-T, the SMA protection cover must also be attached. |
| Weight                                 | 750 g (1.65 lb)   |
| <b>Environmental Limits</b>            |   |
| 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)   |
| <b>MTBF</b>                            |   |
| Time                                   | 1,036,724 hrs   |
| Standards                              | Telcordia SR332   |
| <b>Warranty</b>                        |   |
| Warranty Period                        | 5 years   |
| Details                                | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>  |
| <b>Package Contents</b>                |   |
| Device                                 | 1 x CCG-1500 Series media and protocol converter  |
| Antenna                                | CCG-1510 models: Antennas x 6<br>CCG-1520 models: Antennas x 4  |
| Installation Kit                       | 1 x DIN-rail kit  |
| Documentation                          | 1 x quick installation guide<br>1 x warranty card   |

## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name    | Ethernet Ports | Cellular/Band   | Serial Ports |
|---------------|----------------|---|--------------|
| CCG-1510-TW-T | 2              | 5G R15/<br>NR: N1 / N3 / N28 / N41 / N78<br>LTE: B1 / B3 / B7 / B8 / B28 / B38                | 1            |
| CCG-1510-US-T | 2              | 5G R15/<br>NR: N48  | 1            |
| CCG-1510-T    | 2              | 5G R15/<br>NR: N1 / N3 / N28 / N41 / N48 / N77 /<br>N78<br>LTE: B1 / B3 / B7 / B8 / B28 / B38 | 1            |
| CCG-1520-T    | 2              | 5G R15/<br>NR: 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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