

## High Performance 5G Cellular Ethernet/Serial Gateway w/ Dual SIM

The Bullet5G is a high performance, industrial strength, multi-network router for fixed and mobile applications. The Bullet5G rugged 5G router/gateway features a Qualcomm Snapdragon Chipset and is capable of up to 3.4 Gbps download<sup>1</sup> and 900 Mbps upload<sup>1</sup>, ideal for data hungry applications! The Bullet5G features Gigabit Ethernet, Dual SIM w/Failover, RS232/485 Serial, 2x Programmable I/O and Integrated GPS.

# 5G



5G Cellular

Gigabit Ethernet

Integrated GPS

Dual SIM w/Failover

RS232/485 Serial

## Features

- Ultra Fast 5G Operation with 4G/LTE Fallback
- Up to 3.4 Gbps Download / 900 Mbps Upload<sup>1</sup>
- Dual SIM Card Support w/Failover & Load Balancing
- Firewall with ACL Security, DMZ & Port Forwarding
- 2x Programmable I/O
- IPSec, GRE / VPN Tunneling
- RS232/485 Serial Console/Data Port
- Gigabit Ethernet
- IPv6 & IPv4 Support
- Integrated GPS (TCP/UDP/SMTP)
- Wide Operating Temperature (-40°C to +85°C)
- Data Usage Alerts (Email, SMS)
- User interface via SSH or HTTP/HTTPS web browser
- Microhard NMS2 & Microhard IoT Portal Support



# Bullet5G Specifications



| Cellular Data Rate (Max.) <sup>1</sup> |  |
|--|--|
| <b>5G SA Sub-6</b>                     | DL 2.4 Gbps; UL 900 Mbps   |
| <b>5G NSA Sub-6</b>                    | DL 3.4 Gbps; UL 550 Mbps   |
| <b>LTE CAT19</b>                       | DL 1.6 Gbps; UL 200 Mbps   |
| <b>WCDMA</b>                           | DL 42 Mbps; UL 5.76 Mbps   |
| Cellular Frequency Bands               |  |
| <b>5G NR</b>                           | <b>NSA</b> n1/ 2/ 3/ 5/ 7/ 8/ 12/ 13/ 14/ 18/ 20/ 25/ 26/ 28/ 29/ 30/ 38/ 40/ 41/ 48/ 66/ 70/ 71/ 75/ 76/ 77/ 78/ 79                                       |
|  | <b>SA</b> n1/ 2/ 3/ 5/ 7/ 8/ 12/ 13/ 14/ 18/ 20/ 25/ 26/ 28/ 29/ 30/ 38/ 40/ 41/ 48/ 66/ 70/ 71/ 75/ 76/ 77/ 78/ 79  |
| <b>LTE</b>                             | <b>FDD</b> B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 29/ 30/ 32/ 66/ 71  |
|  | <b>TDD</b> B34/ 38/ 39/ 40/ 41/ 42/ 43/ 48   |
|  | <b>LAA</b> B46   |
| <b>UMTS</b>                            | <b>WCDMA</b> B1/ 2/ 4/ 5/ 8/ 19  |
| Network                                |  |
| <b>Carrier Connection</b>              | ICMP Keep Alive, Traffic Watchdog, DDNS, Failover  |
| <b>Network Protocols</b>               | IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial), Load Balancer                              |
| <b>Security</b>                        | VPN, IPsec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, VPN Tunneling L2TP, GRE, Open VPN, HTTPS, RADIUS          |
| <b>Management</b>                      | Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), AT Command Interface (Serial/Telnet), Microhard NMS2 & IoT Portal Support, Data Usage Alerts, SSH |
| <b>Diagnostics</b>                     | RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, UDP Event Reporting, SMS Alerts, Netflow  |
| Serial                                 |  |
| <b>Serial Interface</b>                | RS232/485 Console/Data Port<br>Baud Rate: 300bps to 230kbps<br>TCP Server/Client / UDP Server/Client / Modbus / SMTP                                       |
| Ethernet                               |  |
| <b>LAN</b>                             | 1x RJ45 Ethernet Ports (10/100/1000 Gbps)  |
| I/O                                    |  |
|  | 2x Programmable I/O  |
| USB                                    |  |
|  | 1x USB Type-C  |

| GPS                                 |   |
|-------------------------------------|---|
| <b>Reporting</b>                    | TCP/UDP/Email, GpsGate, TAIP  |
| <b>GNSS</b>                         | GPS, GLONASS, BDS, Galileo, QZSS                                      |
| <b>GPS Protocols</b>                | NMEA 0183 V3.0  |
| <b>Acquisition Sensitivity</b>      | -145 dBm (Cold-start)   |
| <b>Tracking Sensitivity</b>         | -160 dBm (Open Sky/Active-patch Antenna)                              |
| <b>Accuracy</b>                     | <2m CEP-50 (Open sky, 1 Hz tracking)                                  |
| <b>Standalone time to first fix</b> | 1s/29s/32s (hot/warm/cold)  |
| <b>Total number of SVs</b>          | ~55 SVs   |
| Host Interfaces                     |   |
| <b>Antenna</b>                      | 4x SMA Female (Main, DIV, MIMO1/2)                                    |
| <b>Data</b>                         | Ethernet: RJ45<br>Serial: DE9 Female<br>USB Type-C                    |
| <b>SIM</b>                          | 2x Nano (4FF), Optional eSIM  |
| <b>Power, I/O</b>                   | 4 PIN Interlock   |
| Input Voltage                       |   |
|                                     | 7 - 58V <sub>DC</sub><br>PoE (802.3af)<br>Reverse Polarity Protection |
| Environmental                       |   |
| <b>Operating Temperature</b>        | -40°C to +85°C  |
| <b>Humidity</b>                     | 5-95%, non-condensing   |
| Dimensions                          |   |
| <b>Size</b>                         | ~50 mm (W) x 85 mm (L) x 34 mm (H)                                    |
| <b>Weight</b>                       | ~ 200 grams   |
| Approvals                           |   |
| <b>Regulatory</b>                   | FCC, IC/ISED, PTCRB (Pending)   |
| <b>Carrier</b>                      | TBA   |
| <b>UL Hazloc (C1Div2)</b>           | Pending   |
| Order Options                       |   |
| <b>MHK120100</b>                    | Bullet5G  |
| <b>MHK120102</b>                    | Bullet5G + Antenna AC Kit   |

1. Chipset rated speeds



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