

## BulletCAT9 - LTE Advanced Carrier Aggregation 450 Mbps CAT9 Gateway

The BulletCAT9 provides a feature packed, compact industrial strength wireless solution using robust LTE Advanced Carrier Aggregation technology for critical data communications. This Bullet provides incredibly fast CAT9 LTE connections with speeds of up to 450 Mbps for today's data intensive applications. The BulletCAT9 features Gigabit Ethernet, RS232/485 Serial Data, 2x Programmable I/O and GPS.

CAT9 - 450 Mbps LTE

Carrier Aggregation

Standalone GPS

Gigabit Ethernet

Industrial Temperature

RS232/485 Serial Port



Diversity and GPS on Single Port



Separate GPS Port

## Features

- **Input Voltage:** 5-30V<sub>DC</sub> (5V @ 2.0A)
- **Ultra Fast CAT 9 LTE Operation**
- **Up to 450 Mbps Downlink / 50 Mbps Uplink Over Air**
- **Increased performance with Carrier Aggregation**
- **Data Usage & Systems Alerts (Email, SMS)**
- **Firewall with ACL Security, DMZ & Port Forwarding**
- **2x Programmable Analog/Digital Inputs or 2 Digital Outputs**
- **IPSec, GRE / VPN Tunneling**
- **RS232/485 Serial Console/Data Port**
- **10/100/1000 Ethernet (PoE)**
- **IPv6 & IPv4 Support**
- **MQTT Support**
- **Standalone GPS (TCP/UDP/SMTP)**
- **Wide Operating Temperature (-40°C to +85°C)**
- **User interface via SSH or HTTP/HTTPS web browser**
- **Microhard NMS Support**



# BulletCAT9

# Specifications

<b>Supported Bands</b>	<b>LTE FDD Bands:</b> 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 17, 18, 19, 20, 21, 26, 28, 29, 30, 66 <b>LTE TDD Bands:</b> 38, 39, 40, 41 <b>HSPA+ Bands:</b> 1, 2, 4, 5, 8  <b>LTE 2DL carrier aggregation combinations</b> North America 1+3,5,8,18,19,20,21,26;2+2;2+4,5,12,13,17,29,30,66;3+3;3+5,7,8,19,20,28;4+4;4+5,12,13,17,29,30;5+7,30,66;7+7;7+20,28;12+30;13+66;29+30;40+40;41+41  <b>LTE 3DL carrier aggregation combinations</b> North America 2+2+5,2+2+13,3+3+7,3+7+7,3+3+20,4+4+5,4+4+13,5+66+66,13+66+66,66+66+2,66+66+66,1+3+7,1+3+19,1+3+20,1+19+21,2+4+5,2+4+13,2+5+30,2+12+30,2+29+30,3+7+20,3+7+28,4+5+30,4+12+30,4+29+30,5+66+2,13+66+2	<b>Security</b>	VPN, IPSec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, Site to Site Tunneling, L2TP, GRE, Open VPN, SSH, HTTPS, RADIUS
<b>Cellular Data Features*</b> <small>*Module Standalone Laboratory Performance</small>	LTE FDD: 450 Mbps DL, 50 Mbps Up LTE TDD: 347 Mbps DL, 30Mbps UL HSPA+: DL/UL 42/5.76 Mbps	<b>Firewall</b>	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ
<b>Serial Interface</b>	RS232/485 Serial Data Port	<b>Management</b>	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH
<b>Serial Baud Rate</b>	300bps to 921kbps	<b>Diagnostics</b>	RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow
<b>Serial Port Server</b>	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	<b>Input Voltage</b>	5 - 30VDC or Passive PoE on LAN Reverse polarity protection
<b>Ethernet</b>	10/100/1000 BaseT, Auto - MDI/X IEEE 802.3	<b>Connectors:</b>	Antenna 2x SMA Female (Cell, Diversity/GPS) Data RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O) DB9 RS232 USB Micro-AB SIM 1.8 / 3.0V (Nano (4FF))
<b>I/O</b>	2x Programmable Analog/Digital Inputs or 2x Digital Outputs	<b>Environmental</b>	Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing
<b>USB</b>	USB 2.0 USB (Device)	<b>Weight</b>	Approx. 150 grams
<b>GPS</b>	TCP/UDP/Email Reporting, GpsGate, TAIP  GNSS Systems GLONASS, BeiDou & Galileo GPS Protocols NMEA 0183 V3.0 Acquisition Sensitivity -145 dBm (Cold-start) Tracking Sensitivity -160 dBm (Open Sky/Active-patch Antenna) Accuracy <2m CEP-50 (Open sky, 1 Hz tracking) Standalone time to first fix 1s/29s/32s (hot/warm/cold) Total number of SVs ~55 SVs	<b>Dimensions</b>	Approx. 1.75" x 3.25" x 1.0" (45mm x 85mm x 25mm)
<b>SMS</b>	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots	<b>Approvals</b>	FCC/IC PTCRB
<b>Carrier Connection</b>	ICMP Keep Alive, DDNS	<b>Order Options</b>	
<b>Network Protocols</b>	IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial), MQTT	<b>MHK117720</b>	BulletCAT9 Serial/Ethernet Gateway
		<b>MHK117722</b>	BulletCAT9 Serial/Ethernet Gateway w/Kit

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