

## LTE Advanced Carrier Aggregation 600Mbps CAT12 Gateway w/802.11ac

The BulletPlusAC-CAT12 is an industrial strength cellular solution using LTE Advanced Carrier Aggregation technology for critical data applications. The BulletPlusAC-CAT12 provides fast CAT12 LTE connections with download speeds of up to 600 Mbps for today's data intensive applications. The BulletPlusAC-CAT12 features 4x Gigabit LAN Ports, 2x Independent Gigabit WAN Ports, Dual SIM w/Failover, 802.11ac WIFI, RS232/485 Serial Data Ports, 2x Programmable I/O and Standalone GPS.

*CAT12 - 600 Mbps LTE*

*Carrier Aggregation*

*Dual Independent WAN*

*6 Gigabit Ethernet Ports*

*802.11b/g/n/ac WIFI*

*Dual Serial Ports*



## Features

- Ultra Fast CAT12 LTE Operation
- Up to 600 Mbps Downlink / 150 Mbps Uplink Over Air
- Dual SIM Card Support w/Failover & Load Balancing
- Support for 802.11b/g/n/ac devices (Up to 1.3 Gbps)
- Firewall with ACL Security, DMZ & Port Forwarding
- 2x Programmable Analog/Digital Inputs or 2 Digital Outputs
- IPSec, GRE / VPN Tunneling
- RS232/485 Serial Data Port / RS232 Console/Data Port
- 6 - 10/100/1000 Ethernet (PoE), (6LAN/2WAN)
- IPv6 & IPv4 Support
- Standalone 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 NMS Support



# BulletPlusAC-CAT12

# Specification s

<b>Cellular Supported Bands</b>  LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B9/B12/B13/B14/B17/B18/B19/B20/B21/B25/B26/B28/B29/B30/B32/B66; LTE-TDD: B38/39/B40/B41  DL 2xCA: B1+3/5/18/19/20/26; B2+2/4/5/12/13/17/29/30/66; B3+3/5/7/8/19/20/28; B4+4/5/12/13/17/29/30; B5+7/30/66; B7+7/20/28; B12+30; B13+66; B19+21; B20+B32; B29+30; B38+38; B39+39; B39+39; B39+41; B40+40; B41+41; B66+66; 12,29,30,5; B2+B14; B14+B30; B14+B66;  DL 3xCA: DL inter-band 3CA: B1+3+5/7/8/19/20/28; B1+7+20; B2+4+5; B2+4+13, B2+5+30; B2+12+30; B2+29+30, B3+7+20, B3+7+28, B3+7+8, B4+5+30, B4+12+30, B4+29+30, B5+66+2, B13+66+2, B66+12+30, B66+29+30, B66+5+30; B2+B14+B66; DL 2 intra-band plus inter-band 3CA: B2+2+5, B2+2+13, B3+3+7, B3+7+7, B3+3+20, B3+3+28, B3+3+1, B4+4+5, B4+4+13, B7+7+28, B5+66+66, B13+66+66, B66+66+2, B39+B39+B41; B39+B41+B41; B14+B66+B66 DL 3 intra-band 3CA: B40+40+40, B41+41+41, B66+66+66	<b>GPS</b>  GNSS Systems GPS Protocols Acquisition Sensitivity Tracking Sensitivity Accuracy Standalone time to first fix Total number of SVs  <b>Carrier Connection</b>  <b>Network Protocols</b>  <b>Security</b>  <b>Firewall</b>  <b>Management</b>  <b>Diagnostics</b>	TCP/UDP/Email Reporting, GpsGate, TAIP GLONASS, BeiDou & Galileo NMEA 0183 V3.0 -145 dBm (Cold-start) -160 dBm (Open Sky/Active-patch Antenna) <2m CEP-50 (Open sky, 1 Hz tracking) 1s/29s/32s (hot/warm/cold) ~55 SVs  ICMP Keep Alive, Traffic Watchdog, DDNS, Failover  IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial), Load Balancer  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  NAT, NAT-T VPN Tunneling, Port Forwarding, VPN/GRE pass-through; Access Control Lists, DMZ  Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH  RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, UDP Event Reporting, SMS Alerts, Netflow																																																																								
<b>Cellular Data Features*</b> <i>*Module Standalone Laboratory Performance</i>  LTE-FDD: Max 600Mbps (DL), Max 150Mbps (UL) LTE-TDD: Max 430Mbps (DL), Max 30Mbps (UL) UMTS: DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL), Max 384Kbps (UL)	802.11b/g/n (2.4GHz), 802.11a/n/ac (5.8 GHz)	<b>Input Voltage</b>  <b>Connectors:</b>																																																																								
<b>WiFi Features</b>  <b>WiFi Performance (3X3 MIMO)</b> <table border="1" data-bbox="397 1039 841 1375"> <thead> <tr> <th>Rate</th> <th>Mode</th> <th>Tx(dBm)*</th> <th>Rx(dBm)</th> </tr> </thead> <tbody> <tr><td>6 Mbps</td><td>a</td><td>26 a</td><td>-94 ± 2</td></tr> <tr><td>54 Mbps</td><td></td><td>26 b</td><td>-80 ± 2 -95</td></tr> <tr><td>1 Mbps</td><td></td><td>26 b</td><td>± 2</td></tr> <tr><td>11 Mbps</td><td></td><td>26 g</td><td>-90 ± 2 -94</td></tr> <tr><td>6 Mbps</td><td></td><td>26 g</td><td>± 2</td></tr> <tr><td>54 Mbps</td><td></td><td>26 n</td><td>-80 ± 2 -94</td></tr> <tr><td>MCS0</td><td>(HT20)</td><td>26 n</td><td>± 2 -76 ± 2</td></tr> <tr><td>MCS7</td><td>(HT20)</td><td>26 n</td><td>-92 ± 2</td></tr> <tr><td>MCS0</td><td>(HT40)</td><td>26 n</td><td>2 -73 ± 2 ±</td></tr> <tr><td>MCS7</td><td>(HT40)</td><td>26 ac</td><td>-93 ± 2</td></tr> <tr><td>MCS0</td><td>(VHT20)</td><td>26 ac</td><td>2 -71 ± 2 ±</td></tr> <tr><td>MCS0</td><td>(VHT20)</td><td>26 ac</td><td>-90 ± 2 -67</td></tr> <tr><td>MCS8</td><td>(VHT20)</td><td>26 ac</td><td>± 2 -88 ± 2</td></tr> <tr><td>MCS0</td><td>(VHT40)</td><td>26 ac</td><td>-66 ± 2</td></tr> <tr><td>MCS9</td><td>(VHT40)</td><td>26 ac</td><td></td></tr> <tr><td>MCS0</td><td>(VHT80)</td><td>26 ac</td><td></td></tr> <tr><td>MCS9</td><td>(VHT80)</td><td>26</td><td></td></tr> </tbody> </table>	Rate	Mode	Tx(dBm)*	Rx(dBm)	6 Mbps	a	26 a	-94 ± 2	54 Mbps		26 b	-80 ± 2 -95	1 Mbps		26 b	± 2	11 Mbps		26 g	-90 ± 2 -94	6 Mbps		26 g	± 2	54 Mbps		26 n	-80 ± 2 -94	MCS0	(HT20)	26 n	± 2 -76 ± 2	MCS7	(HT20)	26 n	-92 ± 2	MCS0	(HT40)	26 n	2 -73 ± 2 ±	MCS7	(HT40)	26 ac	-93 ± 2	MCS0	(VHT20)	26 ac	2 -71 ± 2 ±	MCS0	(VHT20)	26 ac	-90 ± 2 -67	MCS8	(VHT20)	26 ac	± 2 -88 ± 2	MCS0	(VHT40)	26 ac	-66 ± 2	MCS9	(VHT40)	26 ac		MCS0	(VHT80)	26 ac		MCS9	(VHT80)	26		7 - 30VDC Passive PoE on WAN (optional) Reverse polarity protection  Antenna 2x SMA Female (Cell, Diversity/GPS) 3x RPSMA Female (WiFi) Data 6x RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O)) 2x DB9 RS232 Type A Dual Nano (4FF) SIM (Failover)  USB SIM  <b>Environmental</b> Operating Temperature Humidity	-40°C to +85°C 5-95%, non-condensing  <b>Weight</b> Approx. 350 grams  <b>Dimensions</b> Approx. 5.05" x 3.0" x 1.2" (128mm x 76mm x 30mm)  <b>Approvals</b> FCC / IC PTCRB UL Hazloc (C1D2) Carrier Specific Approvals
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<b>Serial Baud Rate</b>	300bps to 921kbps																																																																									
<b>Serial Port Service</b>	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP																																																																									
<b>Ethernet</b>	4x LAN 10/100/1000, Auto - MDI/X IEEE 802.3 2x WAN 10/100/1000, Auto - MDI/X IEEE 802.3																																																																									
<b>I/O</b>	2x Programmable Analog/Digital Inputs or 2x Digital Outputs																																																																									
<b>USB</b>	Type A USB 2.0	<h2 style="text-align: center;">Order Options</h2>																																																																								
<b>SMS</b>	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Control		<b>Model</b> BulletPlusAC-CAT12																																																																							

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