

## BulletPlus - 4G/LTE Ethernet/Serial/USB Gateway w/WiFi

The all new BulletPlus provides a feature packed, compact industrial strength wireless solution using ultra fast 4G LTE technology for critical data applications. The BulletPlus features three 10/100 Ethernet Ports, Dual SIM support, 802.11b/g/n WiFi, RS232 Serial Data, 2x Programmable I/O and Standalone GPS.

*4G LTE w/Fallback*

*Dual SIM*

*Standalone GPS*

*3x Ethernet Ports*

*Low Power*

*RS232 Serial Port*



## Features

- Low Power Consumption
- Ultra Fast 4G/LTE Operation
- Up to 100Mbps Downlink / 50 Mbps Uplink Over Air
- Dual SIM Card Support w/Failover
- Support for 802.11b/g/n devices (Up to 150 Mbps)
- IP Pass-through Mode
- Firewall with ACL Security, DMZ & Port Forwarding
- 2x Programmable Analog/Digital Inputs or 2 Digital Outputs
- IPSec, GRE / VPN Tunneling
- RS232 Serial Data/Console Port
- 3 - 10/100 Ethernet (PoE), (3x LAN or 1x WAN/2xLAN)
- USB Host Port
- Standalone GPS (TCP Server, UDP Reporting, SMTP)
- Wide Operating Temperature (-40°C to +85°C)
- Data Usage Alerts (Email, SMS)
- User interface via telnet or web browser
- Microhard NMS Support



# BulletPlus

# Specifications

<b>Cellular Supported Bands</b> North America LTE FDD (Bands 1-5,7,8,13,17,18,19,20) UMTS   DC-HSPA+ (Bands 1,2,4,5,8) GSM   GPRS   EDGE (Bands 2,3,5,8) 3GPP Protocol Stack Release 9  China LTE FDD: Band 1, 3, 8, all bands with diversity LTE TDD: Band 39, 40, 41(38), all bands with diversity DC-HSPA+/HSPA+/HSPA/UMTS: Band 1, 5, 8, 9, all bands with diversity TD-SCDMA: Band 34, 39, all bands with diversity GSM/GPRS/EDGE: 1800 MHz/900 MHz		<b>SMS</b> SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Control																																				
<b>Cellular Data Features*</b> North America LTE: DL 100 Mbps, UL 50 Mbps HSPA+: DL 42 Mbps, UL 5.7 Mbps HSPA+: DL 21 Mbps, UL 5.7 Mbps WCDMA: DL/UL 384 kbps EDGE Class 33: DL/UL 236.8 kbps GPRS Class 33: DL/UL 85.6 kbps  China LTE FDD: UL 50Mbit/s, DL 150Mbit/s @20M BW cat4 LTE TDD: UL 10Mbit/s; DL 112Mbit/s @20M BW cat4 TD-SCDMA PS: UL 384 kbit/s; DL 384 kbit/s TD-HSPA+: UL 2.2 Mbit/s; DL 4.2 Mbit/s DC-HSPA+: UL 5.76 Mbit/s; DL 42 Mbit/s HSPA+: UL 5.76 Mbit/s; DL 21.6 Mbit/s WCDMA PS: UL 384 kbit/s; DL 384 kbit/s WCDMA CS: UL 64 kbit/s; DL 64 kbit/s EDGE: UL 236.8 kbit/s; DL 236.8 kbit/s GPRS: UL 85.6 kbit/s; DL 85.6 kbit/s  <i>*Module Standalone Laboratory Performance</i>		<b>Carrier Connection</b> PAP, CHAP, ICMP Keep Alive, Traffic Watchdog, DDNS, IP pass-through.  <b>Network Protocols</b> TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial)  <b>Security</b> VPN, IPsec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, VPN Tunneling L2TP, GRE, HTTPS, RADIUS  <b>Firewall</b> NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists, DMZ  <b>Management</b> Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH  <b>Diagnostics</b> RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, UDP Event Reporting, SMS Alerts, Netflow  <b>Input Voltage</b> 7 - 30VDC or Passive PoE on WAN Reverse polarity protection  <b>Current Consumption (@12VDC)</b> Idle (LTE Connected): 120 mA WiFi (AP mode+LTE): 170 mA  <b>Connectors:</b> Antenna 3x SMA Female (Cell, Div, GPS) 1x RPSMA Female (WiFi) Data 3x RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O)) DB9 RS232 USB Type A SIM 2x 1.8 / 3.0V (2FF)																																				
<b>WiFi Features</b>	802.11b/g/n (2.4GHz)	<b>Environmental</b> Operating Temperature -40°C to +85°C Humidity 5-95%, non-condensing Vibration MIL-STD-810G																																				
<b>WiFi Performance</b>	<table border="1"> <thead> <tr> <th>Rate</th> <th>Mode</th> <th>Tx (dBm)</th> <th>Rx (dBm)</th> </tr> </thead> <tbody> <tr> <td>1 Mbps</td> <td>b</td> <td>30</td> <td>-97 ± 1</td> </tr> <tr> <td>11 Mbps</td> <td>b</td> <td>30</td> <td>-92 ± 1</td> </tr> <tr> <td>6 Mbps</td> <td>g</td> <td>30</td> <td>-94 ± 1</td> </tr> <tr> <td>54 Mbps</td> <td>g</td> <td>26</td> <td>-75 ± 1</td> </tr> <tr> <td>MCS0</td> <td>n (HT20)</td> <td>30</td> <td>-96 ± 1</td> </tr> <tr> <td>MCS7</td> <td>n (HT20)</td> <td>26</td> <td>-75 ± 1</td> </tr> <tr> <td>MCS0</td> <td>n (HT40)</td> <td>30</td> <td>-94 ± 1</td> </tr> <tr> <td>MCS7</td> <td>n (HT40)</td> <td>26</td> <td>-73 ± 1</td> </tr> </tbody> </table>	Rate	Mode	Tx (dBm)	Rx (dBm)	1 Mbps	b	30	-97 ± 1	11 Mbps	b	30	-92 ± 1	6 Mbps	g	30	-94 ± 1	54 Mbps	g	26	-75 ± 1	MCS0	n (HT20)	30	-96 ± 1	MCS7	n (HT20)	26	-75 ± 1	MCS0	n (HT40)	30	-94 ± 1	MCS7	n (HT40)	26	-73 ± 1	<b>Weight</b> Approx. 175 grams
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<b>Serial Interface</b>	RS232 Serial Data Port	<b>Dimensions</b> Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)																																				
<b>Serial Baud Rate</b>	300bps to 921kbps	<b>Approvals</b> FCC / IC PTCRB Carrier Specific Approvals																																				
<b>Serial Port Service</b>	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	<h2>Order Options</h2>																																				
<b>Ethernet</b>	2x LAN 10/100, Auto - MDI/X IEEE 802.3 1x WAN 10/100, Auto - MDI/X IEEE 802.3	<b>MHS117500</b> BulletPlus (North America) <b>MHS117550</b> BulletPlus-CN (China)																																				
<b>I/O</b>	2x Programmable Analog/Digital Inputs or 2x Digital Outputs																																					
<b>USB</b>	Host Type A USB 2.0																																					
<b>GPS</b>	TCP Server, UDP/Email Reporting, GpsGate GPS, GNSS, GLONASS, BeiDou  Navigation Update Rate Up to 5 Hz Accuracy Position: 2.5 m CEP SBAS: 2.0 m CEP Sensitivity* Tracking: -160 dBm (Active/Passive Antenna) Cold Starts: -145 dBm Hot Starts: -155 dBm *Sensitivities are typical and may vary																																					

## Contact Information

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