

BulletCATM - CATM NBloT LTE Gateway

The BulletCATM was engineered specifically for the small size, low cost, and low power requirements of the IoT & M2M applications that are surging across the globe. The BulletCATM provides robust and reliable LTE Category M/NBLoT connections with speeds up to 375 kbps. The BulletCATM features Ethernet, RS232/485 Serial Data, and Tunneling Capabilities all while retaining low power consumption.

LTE CATM - 375 kbps

Low Power Usage

Low Cost!

Ethernet Port

IPv6 & IPv4 Support

RS232/485 Serial Port



Features

- **Can be 5V USB Powered (5V, 1.5A)**
- **Robust & Reliable LTE CATM Operation**
- **Engineered for IoT Applications**
- **Low Cost & Ultra Low Power Consumption**
- **Up to 375 kbps Download / 375 kbps Upload**
- **Data Usage & Systems Alerts (Email, SMS)**
- **Firewall with ACL Security, DMZ & Port Forwarding**
- **IPSec, GRE / VPN Tunneling**
- **RS232/485 Serial Console/Data Port**
- **10/100 Ethernet w/PoE**
- **Full IPv6 & IPv4 Support**
- **MQTT Support**
- **Wide Operating Temperature (-40°C to +85°C)**
- **User interface via SSH or HTTP/HTTPS web browser**
- **Microhard NMS Support**



Can be USB powered!

BulletCATM

Specifications

Supported Bands	LTE FDD Bands: B12(700), 17(700), 28(700), 13(700), 20(800), 26(850), 5(850), 19(850), 8(900), 4(1700), 3(1800), 2(1900), 25(1900) LTE TDD Bands: 39(1900)	Input Voltage	5 - 30VDC or Passive PoE on LAN Or USB powered: 5V (1.5A) Reverse polarity protection
Cellular Data Features* <small>*Module Standalone Laboratory Performance</small>	LTE Category M1: - up to 375 kbps UL - up to 375 kbps DL LTE Category NB1: - up to 62.5 kbps UL - up to 27.2 kbps DL	Connectors:	Antenna SMA Female Data RJ-45 (Ethernet) 4 PIN Interlock (Vin) DB9 RS232 USB Micro-AB SIM Nano (4FF) 1.8 / 3.0V
Serial Interface	RS232/485 Serial Data Port	Environmental	Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing
Serial Baud Rate	300bps to 921kbps	Weight	Approx. 125 grams
Serial Port Server	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	Dimensions	Approx. 1.75" x 3.25" x 1.0" (45mm x 85mm x 25mm)
Ethernet	10/100 BaseT, Auto - MDI/X IEEE 802.3	Approvals	FCC/IC Carrier Specific Approvals
USB	USB 2.0 Tethering	Order Options	
SMS	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots	MHK117640	BulletCATM
Carrier Connection	ICMP Keep Alive, DDNS	MHK117642	BulletCATM w/Kit
Network Protocols	IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial), MQTT		
Security	VPN, IPSec with IKE/ISAKMP; Multiple tunnel support; 3DES and up to 256-bit AES Encryption, Site to Site Tunneling, L2TP, Open VPN), GRE, HTTPS, RADIUS		
Firewall	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ		
Management	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH		
Diagnostics	RSSI, Ec/No, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow		

Contact Information

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BulletCAT4-GL - 4G/LTE Ethernet/Serial/USB Gateway

The BulletCAT4-GL provides a feature packed, compact industrial strength wireless solution using ultra fast LTE technology for critical data communications. The BulletCAT4-GL provides up to 150 Mbps download and 50 Mbps upload for today's data intensive applications. The BulletCAT4-GL provides features such as Global band support with fallback, Dual SIM, Gigabit Ethernet, RS232/485 Serial Data, 2x Programmable I/O and Standalone GPS.

CAT4 LTE w/Fallback

Dual SIM w/Failover

Standalone GPS

Gigabit Ethernet

Programmable I/O

RS232/485 Serial Port



Features

- Ultra Fast 4G/LTE Operation
- Up to 150 Mbps Downlink / 50 Mbps Uplink Over Air
- Global Band Support w/Fallback
- IP Pass-through Mode
- Data Usage 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 Data/Console Port
- 10/100/1000 Ethernet (PoE)
- Standalone GPS (TCP Server, UDP Reporting, SMTP)
- SMS Support: Ethernet (Telnet), Alerts
- Wide Operating Temperature (-40°C to +85°C)
- User interface via telnet or web browser
- Microhard NMS Support



BulletCAT4-GL Specifications

Supported Bands	LTE FDD: B1,B2,B3,B4,B5,B7,B8,B12,B13, B18,B19,B20,B26,B28 TDD: B38,B39,B40,B41 WCDMA: B1,B2,B4,B5,B8,B6,B19 GSM: B2/B3/B5/B8	Firewall	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ
Cellular Data Features*	LTE FDD: Up to 150 Mbps DL, 50 Mbps UL LTE TDD: Up to 130 Mbps DL, 35 Mbps UL DC-HSPA+: Up to 42 Mbps DL, 5.7 Mbps UL WCDMA: Up to 384 Kbps DL, 384 Kbps UL EDGE: Up to 296 Kbps DL, 236.8 Kbps UL GSM: Up to 107 Kbps DL, 85.6 Kbps UL	Management	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH
<small>*Module Standalone Laboratory Performance</small>		Diagnostics	RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow
Serial Interface	RS232/485 Serial Data Port	Input Voltage	5 - 30VDC or Passive PoE on LAN Reverse polarity protection
Serial Baud Rate	300bps to 921kbps	Connectors:	Antenna 3x SMA Female (Cell, Cell Div, GPS) Data RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O) DB9 RS232/485 USB Micro-AB SIM Dual Sim Tray 1.8 / 3.0V (Nano (4FF))
Serial Port Server	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	Environmental	Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing
Ethernet	10/100/1000 BaseT, Auto-MDI/X IEEE 802.3	Weight	Approx. 150 grams
I/O	2x Programmable Analog/Digital Inputs or 2x Digital Outputs	Dimensions	Approx. 1.75" x 3.25" x 1.0" (45mm x 85mm x 25mm)
USB (OTG)	USB 2.0 USB (Device)	Approvals	FCC/IC PTCRB UL Hazloc (C1D2) CE EN301908-1, EN301908-2, EN301908-13 EN303413, EN301489-1, EN301489-52 EN 62311, EN55032, EN55035, EN62368 RCM: Australia & New Zealand Carrier Specific Approvals
GPS	TCP/UDP/Email Reporting, GpsGate, TAIP	Order Options	
GNSS Systems	GLONASS, BeiDou & Galileo	Model	BulletCAT4-GL
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		
SMS	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots		
Carrier Connection	Dial on Demand, PAP, CHAP, Idle Time, ICMP Keep Alive, DDNS IP pass-through, Wireless Connection Timeout.		
Network Protocols	TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial)		
Security	VPN, IPSec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, Site to Site Tunneling L2TP, GRE, HTTPS, RADIUS		

Contact Information

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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 Dual SIM (Failover), Gigabit Ethernet, RS232/485 Serial Data, 2x Programmable I/O and GPS.

CAT9 - 450 Mbps LTE

Carrier Aggregation

Standalone GPS

Gigabit Ethernet

Dual SIM (Failover)

RS232/485 Serial Port



Features

- **Input Voltage:** 5-30V_{DC} (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

Supported Bands	LTE FDD Bands: 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 17, 18, 19, 20, 21, 26, 28, 29, 30, 66 LTE TDD Bands: 38, 39, 40, 41 HSPA+ Bands: 1, 2, 4, 5, 8 LTE 2DL carrier aggregation combinations 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 LTE 3DL carrier aggregation combinations North America 2+2+5,2+2+13,3+3+7,3+7+7,3+3+20,4+4+5,4+4+1,3,5+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	Security 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				
Cellular Data Features* <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	Firewall NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ				
Serial Interface	RS232/485 Serial Data Port	Management Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH				
Serial Baud Rate	300bps to 921kbps	Diagnostics RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow				
Serial Port Server	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	Input Voltage 5 - 30VDC or Passive PoE on LAN Reverse polarity protection				
Ethernet	10/100/1000 BaseT, Auto - MDI/X IEEE 802.3	Connectors: Antenna 3x SMA Female (Cell, Diversity, GPS) Data RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O) DB9 RS232 USB Micro-AB SIM Dual Nano (4FF)				
I/O	2x Programmable Analog/Digital Inputs or 2x Digital Outputs	Environmental Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing				
USB	USB 2.0 USB (Device)	Weight Approx. 150 grams				
GPS	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	Dimensions Approx. 1.75" x 3.25" x 1.0" (45mm x 85mm x 25mm)				
SMS	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots	Approvals FCC/IC PTCRB UL HazLoc (C1D2) Carrier Specific Approvals				
Carrier Connection	ICMP Keep Alive, DDNS	<h2>Order Options</h2>				
Network Protocols	IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial), MQTT	<table border="0"> <tr> <td style="vertical-align: top;">MHK117720</td> <td>BulletCAT9 Serial/Ethernet Gateway</td> </tr> <tr> <td style="vertical-align: top;">MHK117722</td> <td>BulletCAT9 Serial/Ethernet Gateway w/Kit</td> </tr> </table>	MHK117720	BulletCAT9 Serial/Ethernet Gateway	MHK117722	BulletCAT9 Serial/Ethernet Gateway w/Kit
MHK117720	BulletCAT9 Serial/Ethernet Gateway					
MHK117722	BulletCAT9 Serial/Ethernet Gateway w/Kit					

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BulletCAT12 - LTE Advanced Carrier Aggregation 600 Mbps CAT12 Gateway

The BulletCAT12 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 CAT12 LTE connections with speeds of up to 600 Mbps for today's data intensive applications. The BulletCAT12 features Dual SIM (Failover), Gigabit Ethernet, RS232/485 Serial Data, 2x Programmable I/O and GPS.

CAT12 - 600 Mbps LTE

Carrier Aggregation

Standalone GPS

Gigabit Ethernet

Dual SIM (Failover)

RS232/485 Serial Port



Features

- **Input Voltage:** 5-30V_{DC} (5V @ 2.0A)
- **Ultra Fast CAT12 LTE Operation**
- **Up to 600 Mbps Downlink / 150 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**



BulletCAT12

Specifications

Supported Bands	<p>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 WCDMA: B1/B2/B3/B4/B5/B8/B9/B19</p> <p>DL 2×CA: 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;</p> <p>DL 3×CA: 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</p> <p>UL 2×CA: B3+3; B41+41</p>	Network Protocols	IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial), MQTT
		Security	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
		Firewall	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ
		Management	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH
		Diagnostics	RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow
		Input Voltage	5 - 30VDC or Passive PoE on LAN Reverse polarity protection
Cellular Data Features*	<p>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)</p>	Connectors:	<p>Antenna 3x SMA Female (Cell, Diversity, GPS) Data RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O)) DB9 RS232 USB Micro-AB SIM Dual Nano (4FF)</p>
<small>*Module Standalone Laboratory Performance</small>		Environmental	<p>Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing</p>
Serial Interface	RS232/485 Serial Data Port	Weight	Approx. 150 grams
Serial Baud Rate	300bps to 921kbps	Dimensions	Approx. 1.75" x 3.25" x 1.0" (45mm x 85mm x 25mm)
Serial Port Server	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	Approvals	FCC/IC PTCRB CE EN301908-1, EN301908-2, EN301908-13 EN303413, EN301489-1, EN301489-52 EN 62311, EN55032, EN55035, EN62368 RoHS 2 2011/65/EU Compliant REACH EC1907/2006 Compliant UL Hazloc (C1D2) Carrier Specific Approvals
Ethernet	10/100/1000 BaseT, Auto - MDI/X IEEE 802.3		
I/O	2x Programmable Analog/Digital Inputs or 2x Digital Outputs		
USB	USB 2.0 USB (Device)		
GPS	TCP/UDP/Email Reporting, GpsGate, TAIP		
	<p>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</p>		
SMS	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots		
Carrier Connection	ICMP Keep Alive, DDNS		

Order Options

Model BulletCAT12

Contact Information

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BulletCAT11 - LTE Advanced Carrier Aggregation 600Mbps CAT11 Gateway

The BulletCAT11 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 CAT11 LTE connections with speeds of up to 600 Mbps for today's data intensive applications. The BulletCAT11 features Gigabit Ethernet, RS232/485 Serial Data, 2x Programmable I/O and GPS.

CAT11 - 600 Mbps LTE

Carrier Aggregation

Quad Constellation GPS

Gigabit Ethernet

Industrial Temperature

RS232/485 Serial Port



Features

- Ultra Fast CAT 11 LTE Operation
- Up to 600 Mbps Downlink / 75 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
- Quad Constellation GPS (TCP/UDP/SMTP)
- Wide Operating Temperature (-40°C to +85°C)
- User interface via SSH or HTTP/HTTPS web browser
- Microhard NMS Support



BulletCAT11

Specifications

Supported Bands	<p>LTE FDD Bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 20, 25, 26, 28, 29, 30, 66</p> <p>LTE TDD Bands: 38, 40, 41</p> <p>HSPA+ Bands: 1, 2, 4, 5, 8</p> <p>LTE 2DL carrier aggregation combinations North America B2+B2, B2+B4, B2+B5, B2+B12, B2+B13, B2+B17, B2+B29, B2+B30, B4+B4, B4+B5, B4+B7, B4+B12, B4+B13, B4+B17, B4+B29, B4+B30, B5+B30, B12+B12, B12+B30, B25+B25, B25+B26, B25+B41, B26+B41, B29+B30, B41+B41</p> <p>LTE 3DL carrier aggregation combinations North America B2+B2+B12/17, B2+B2+B13, B2+B2+B4, B2+B4+B5, B2+B4+B12, B2+B4+B13, B2+B4+B29, B2+B5+B30, B2+B12+B12, B2+B12+B30, B2+B29+B30, B4+B4+B5, B4+B4+B7, B4+B4+B12, B4+B4+B13, B4+B5+B30, B4+B12+B12, B4+B12+B30, B4+B29+B30, B25+B26+B41, B25+B41+B41, B26+B41+B41, B41+B41+B41</p>	Security	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
Cellular Data Features*	<p>LTE: Up to 600 Mbps DL w/3x CA DL, 256QAM DL Up to 75 Mbps UL w/UL 64 QAM HSPA+ Rel. 8: DL/UL up to 42/11,5 Mbps</p> <p><small>*Module Standalone Laboratory Performance</small></p>	Firewall	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ
Serial Interface	RS232/485 Serial Data Port	Management	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH
Serial Baud Rate	300bps to 921kbps	Diagnostics	RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow
Serial Port Server	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	Input Voltage	7 - 30VDC or Passive PoE on LAN Reverse polarity protection
Ethernet	10/100/1000 BaseT, Auto - MDI/X IEEE 802.3	Connectors:	<p>Antenna 3x SMA Female (Cell, Cell Div, GPS)</p> <p>Data RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O) DB9 RS232</p> <p>USB Micro-AB</p> <p>SIM 1.8 / 3.0V</p>
I/O	2x Programmable Analog/Digital Inputs or 2x Digital Outputs	Environmental	<p>Operating Temperature -40°C to +85°C -40°F to +185°F</p> <p>Humidity 5-95%, non-condensing</p>
USB	USB 2.0 USB (Device)	Weight	Approx. 150 grams
GPS	TCP/UDP/Email Reporting, GpsGate, TAIP	Dimensions	Approx. 1.75" x 3.25" x 1.0" (45mm x 85mm x 25mm)
<p>GNSS Systems GLONASS, BeiDou & Galileo</p> <p>GPS Protocols NMEA 0183 V3.0</p> <p>Acquisition Sensitivity -145 dBm (Cold-start)</p> <p>Tracking Sensitivity -160 dBm (Open Sky/Active-patch Antenna)</p> <p>Accuracy <2m CEP-50 (Open sky, 1 Hz tracking)</p> <p>Standalone time to first fix 1s/29s/32s (hot/warm/cold)</p> <p>Total number of SVs ~55 SVs</p>		Approvals	FCC / IC PTCRB Carrier Specific Approvals
SMS	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots	Order Options	
Carrier Connection	ICMP Keep Alive, DDNS	Model	BulletCAT11
Network Protocols	IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial), MQTT		

Contact Information

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BulletLTE-NA2 - 4G/LTE Ethernet/Serial/USB Gateway

The BulletLTE-NA2 provides a feature packed, compact industrial strength wireless solution using the ultra fast 4G LTE technology for critical data communications. Supporting commonly used North America Bands the BulletLTE-NA2 provides up to 150 Mbps for today's data intensive applications. The BulletLTE-NA2 provides features such as Ethernet, RS232 Serial Data, 2x Programmable I/O and Standalone GPS.

4G/LTE

Firewall / ACL / VPN

Standalone GPS

10/100 Ethernet

Programmable I/O

RS232 Serial Port



Features

- Ultra Fast 4G/LTE Operation
- Up to 150 Mbps Downlink / 50 Mbps Uplink Over Air
- IP Pass-through Mode
- Data Usage Alerts (Email, SMS)
- Firewall with ACL Security, DMZ & Port Forwarding
- 2x Programmable Analog/Digital Inputs or 2 Digital Outputs
- IPSec, GRE / VPN Tunneling
- RS232 Serial Data Port
- 10/100 Ethernet (PoE)
- USB OTG Port (Host, Console, NDIS, Serial Data)
- Standalone GPS (TCP Server, UDP Reporting, SMTP)
- SMS Support: Ethernet (Telnet), Alerts
- Wide Operating Temperature (-40°C to +85°C)
- User interface via telnet or web browser
- Microhard NMS Support



BulletLTE-NA2 Specifications

Supported Bands	LTE FDD: B2,B4,B5,B12,B13,B14,B66,B71 WCDMA: B2,B4,B5	Firewall	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ
Cellular Data Features*	LTE FDD: Up to 150 Mbps DL, 50 Mbps UL LTE TDD: Up to 130 Mbps DL, 35 Mbps UL DC-HSPA+: Up to 42 Mbps DL, 5.7 Mbps UL WCDMA: Up to 384 Kbps DL, 384 Kbps UL	Management	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH
<small>*Module Standalone Laboratory Performance</small>		Diagnostics	RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow
Serial Interface	RS232 Serial Data Port	Input Voltage	7 - 30VDC or Passive PoE on LAN Reverse polarity protection
Serial Baud Rate	300bps to 921kbps	Connectors:	Antenna 3x SMA Female (Cell, Cell Div, GPS) Data RJ-45 (Ethernet) 4 PIN Interlock (Vin, I/O) DB9 RS232 USB Micro-AB SIM 1.8 / 3.0V
Serial Port Server	Extensive Serial Port Support: TCP Server/Client / UDP Server/Client / Modbus / SMTP	Environmental	Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing
Ethernet	10/100 BaseT, Auto - MDI/X IEEE 802.3	Weight	Approx. 150 grams
I/O	2x Programmable Analog/Digital Inputs or 2x Digital Outputs	Dimensions	Approx. 1.75" x 3.25" x 1.0" (45mm x 85mm x 25mm)
USB (OTG)	USB 2.0 USB Console Port USB to Serial Data Routing USB to Ethernet Data Routing (NDIS) USB OTG (Host)	Approvals	FCC/IC PTCRB UL Hazloc
GPS	TCP Server, UDP/Email Reporting, GpsGate	Order Options	
Navigation Update Rate	Up to 5 Hz	Model	BulletLTE-NA2
Accuracy	Position: 2.5 m CEP SBAS: 2.0 m CEP		
Acquisition	Cold Starts: 27 seconds Aided Started: 4 seconds Hot Starts: 1 seconds		
Sensitivity (Active/Passive Antenna)	Tracking : -159 dBm Cold Starts: -147 dBm Hot Starts: -156 dBm		
SMS	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots		
Carrier Connection	Dial on Demand, PAP, CHAP, Idle Time, ICMP Keep Alive, DDNS IP pass-through, Wireless Connection Timeout.		
Network Protocols	TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial)		
Security	VPN, IPSec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, Site to Site Tunneling L2TP, GRE, HTTPS, RADIUS		

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LTE CAT 12 600 Mbps Dual Ethernet Bridge/Serial Gateway

The IPn4Gii-CAT12 provides a secure, industrial strength wireless solution that uses LTE Advanced & Carrier Aggregation Technology to deliver fast LTE connections with download speeds of up to 600 Mbps! The IPn4Gii-CAT12 provides features such as Global Band Support, Dual Gigabit Ethernet Ports, 3x Serial ports, Digital I/O and Dual SIM Card slots. Offering enhanced, "Secure Communication" with its integrated Firewall, IPSec VPN Tunneling, IP/MAC Access Control Lists, the IPn4Gii-CAT12 really can do everything!

CAT12 600 Mbps LTE

Firewall / ACL

Multi WAN Failover

Dual Gigabit Ethernet

Programmable I/O

3 - Serial Ports



Features

- Ultra Fast CAT12 LTE Operation w/ Global Band Support
- Up to 600 Mbps Downlink / 150 Mbps Uplink Over Air
- IP Pass-through Mode
- Data Usage Alerts (Email, SMS)
- Firewall with ACL Security, DMZ & Port Forwarding
- Digital I/O - 8 Analog Inputs/Outputs or 8 Digital Outputs
- IPSec, GRE / VPN Tunneling
- 2 x Serial Data/Console Ports (RS232), 1 Data Port (RS485)
- 2 x 10/100/1000 Ethernet Ports (PoE on WAN Port)
- Multi WAN Failover
- USB OTG Port (Host, Console, NDIS, Serial Data)
- Standalone GPS (TCP Server, UDP Reporting, SMTP)
- SMS Support: Serial, Ethernet (Telnet), Alerts
- Wide Operating Temperature (-40°C to +85°C)
- User interface via local console, telnet, web browser
- Microhard NMS Support



IPn4Gii-CAT12 Specifications

Supported Bands	<p>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 WCDMA: B1/B2/B3/B4/B5/B8/B9/B19</p> <p>DL 2×CA: 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;</p> <p>DL 3×CA: 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</p> <p>UL 2×CA: B3+3; B41+41</p>	Carrier Connection ICMP Keep Alive, DDNS, IP pass-through, Wireless Connection Timeout.																
Cellular Data Features* <small>*Module Standalone Laboratory Performance</small>	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)	Network Protocols TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial)																
Serial Interface	1 x RS232 Data (Full Support) 1 x RS232 Console/Data (TX/RX) 1 x RS485 Data (2/4 wire)	Security VPN, IPSec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, Site to Site Tunneling L2TP, GRE, HTTPS, RADIUS																
Serial Baud Rate	300bps to 921kbps	Firewall NAT, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin/integrity Authentication, DMZ																
Serial Port Server	Extensive Serial Port Support: TCP Server & Client / UDP Server & Client / Modus / PPP / SMS / SMTP / AT command	Management Local Serial Port Console, Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Scheduled Reboots, Microhard NMS Support, Data Usage Alerts, Power Saving Modes																
Ethernet	2x 10/100 BaseT, Auto - MDI/X IEEE 802.3	Diagnostics RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow																
Digital I/O	8x Analog Input/Output or 8x Digital Outputs	Input Voltage 7 - 30VDC or, Passive PoE over WAN port (Optional)																
USB (OTG)	USB 2.0 USB Console Port USB to Serial Data Routing USB to Ethernet Data Routing (NDIS) USB OTG (Host)	Connectors: <table border="0"> <tr> <td>Antenna</td> <td>3x SMA Female (Cell, Cell Div, GPS)</td> </tr> <tr> <td>Data</td> <td>1x RP-SMA Female (Ant3)</td> </tr> <tr> <td></td> <td>2x RJ-45 (Ethernet)</td> </tr> <tr> <td></td> <td>6 PIN Interlock (RS485)</td> </tr> <tr> <td></td> <td>10 PIN Interlock (RS232/Digital I/O)</td> </tr> <tr> <td></td> <td>DB9 RS232</td> </tr> <tr> <td>USB</td> <td>Micro-AB</td> </tr> <tr> <td>SIM</td> <td>2x 1.8 / 3.0V (2FF)</td> </tr> </table>	Antenna	3x SMA Female (Cell, Cell Div, GPS)	Data	1x RP-SMA Female (Ant3)		2x RJ-45 (Ethernet)		6 PIN Interlock (RS485)		10 PIN Interlock (RS232/Digital I/O)		DB9 RS232	USB	Micro-AB	SIM	2x 1.8 / 3.0V (2FF)
Antenna	3x SMA Female (Cell, Cell Div, GPS)																	
Data	1x RP-SMA Female (Ant3)																	
	2x RJ-45 (Ethernet)																	
	6 PIN Interlock (RS485)																	
	10 PIN Interlock (RS232/Digital I/O)																	
	DB9 RS232																	
USB	Micro-AB																	
SIM	2x 1.8 / 3.0V (2FF)																	
GPS	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	Environmental <table border="0"> <tr> <td>Operating Temperature</td> <td>-40°C to +85°C -40°F to +185°F</td> </tr> <tr> <td>Humidity</td> <td>5-95%, non-condensing</td> </tr> </table>	Operating Temperature	-40°C to +85°C -40°F to +185°F	Humidity	5-95%, non-condensing												
Operating Temperature	-40°C to +85°C -40°F to +185°F																	
Humidity	5-95%, non-condensing																	
SMS	SMS to/from Serial RS232/485 SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots	Weight Approx. 225 grams																
		Dimensions Approx. 2.25" x 3.85" x 1.5" (57mm x 98mm x 45mm)																
		Approvals FCC / IC PTCRB UL Hazloc (C1D2) Carrier Specific Approvals																
<h2>Order Options</h2>																		
		Model IPn4Gii-CAT12																

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4G/LTE Dual Ethernet Bridge/Serial Gateway

The IPn4Gii-NA2 provides a secure, industrial strength wireless solution using the ultra fast 4G LTE network infrastructure for critical data communications. The IPn4Gii-NA2 takes things to the next level by providing features such as Dual Ethernet Ports, 3x Serial ports, Digital I/O and Dual SIM Card slots. Offering enhanced, "Secure Communication" with its integrated Firewall, IPsec VPN Tunneling, IP/MAC Access Control Lists, the IPn4Gii-NA2 really can do everything!

4G LTE

Firewall / ACL

Multi WAN Failover

Dual Ethernet

Programmable I/O

3 - Serial Ports



Features

- Ultra Fast 4G LTE Operation
- Up to 150 Mbps Downlink / 50 Mbps Uplink Over Air
- IP Pass-through Mode
- Data Usage Alerts (Email, SMS)
- Firewall with ACL Security, DMZ & Port Forwarding
- Digital I/O - 8 Analog Inputs/Outputs or 8 Digital Outputs
- IPsec, GRE / VPN Tunneling
- 2 x Serial Data/Console Ports (RS232), 1 Data Port (RS485)
- 2 x 10/100 Ethernet Ports (PoE on WAN Port)
- Multi WAN Failover
- USB OTG Port (Host, Console, NDIS, Serial Data)
- Standalone GPS (TCP Server, UDP Reporting, SMTP)
- SMS Support: Serial, Ethernet (Telnet), Alerts
- Wide Operating Temperature (-40°C to +85°C)
- User interface via local console, telnet, web browser
- Microhard NMS Support



IPn4Gii-NA2

Specifications

Supported Bands	LTE FDD: B2,B4,B5,B12,B13,B14,B66,B71 WCDMA: B2,B4,B5	Firewall	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ
Cellular Data Features*	LTE FDD: Up to 150 Mbps DL, 50 Mbps UL LTE TDD: Up to 130 Mbps DL, 35 Mbps UL DC-HSPA+: Up to 42 Mbps DL, 5.7 Mbps UL WCDMA: Up to 384 Kbps DL, 384 Kbps UL	Management	Local Serial Port Console, Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Serial/Telnet), Scheduled Reboots, Microhard NMS Support, Data Usage Alerts, Power Saving Modes
<small>*Module Standalone Laboratory Performance</small>		Diagnostics	RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow
Serial Interface	1 x RS232 Data (Full Support) 1 x RS232 Console/Data (TX/RX) 1 x RS485 Data (2/4 wire)	Input Voltage	7 - 30VDC or, Passive PoE over WAN port (Optional)
Serial Baud Rate	300bps to 921kbps	Connectors:	Antenna 3x SMA Female (Cell, Cell Div, GPS) 1x RP-SMA Female (Ant3) Data 2x RJ-45 (Ethernet) 6 PIN Interlock (RS485) 10 PIN Interlock (RS232/Digital I/O) DB9 RS232 USB Micro-AB SIM 2x 1.8 / 3.0V (2FF)
Serial Port Server	-Extensive Serial Port Support: TCP Server & Client / UDP Server & Client / Modus / PPP / SMS / SMTP / AT command -(2) Com Ports with Extensive RS232/485/422 support	Environmental	Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing
Ethernet	2x 10/100 BaseT, Auto - MDI/X IEEE 802.3	Weight	Approx. 225 grams
Digital I/O	8x Analog Input/Output or 8x Digital Outputs	Dimensions	Approx. 2.25" x 3.85" x 1.5" (57mm x 98mm x 45mm)
USB (OTG)	USB 2.0 USB Console Port USB to Serial Data Routing USB to Ethernet Data Routing (NDIS) USB OTG (Host)	Approvals	FCC / IC PTCRB UL Hazloc Carrier Specific Approvals
GPS	Standalone GPS GPS Server GPS UDP Reporting GPS SMTP Reporting (Email)	Order Options	
SMS	SMS to/from Serial RS232/485 SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots	Model	IPn4Gii-NA2
Carrier Connection	Dial on Demand, PAP, CHAP, Idle Time, ICMP Keep Alive, DDNS IP pass-through, Wireless Connection Timeout.		
Network Protocols	TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial)		
Security	VPN, IPSec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, Site to Site Tunneling L2TP, GRE, HTTPS, RADIUS		

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