

# 5GHz Broadband Wireless Ethernet

## Technical Specifications

### GENERAL REQUIREMENTS

The Broadband 5GHz Wireless Ethernet product family must meet FCC part 15 and IC RSS-210 rules/regulations.

Support and provide the following wireless protocols.

- IEEE 802.11a (Orthogonal Frequency Division Multiplexing)
- Proprietary Wireless Protocol

Available as an Integrated Panel Antenna, Access Point Cluster (4 radio modules), Dual (2 radio modules) and Stand-Alone Enclosure (1 or 2 radio modules).

Configurable as an Access Point, Remote Station, Repeater and Mesh Node.

Include Adaptive Modulation, Dynamic Frequency Selection, Automatic Transmit Power Control – RF link is monitored to automatically adjust the data rate to optimize the maximum link performance.

Provide a complete software toolset to assist in design, configure, monitor and optimize your wireless network. Additional management support provide by Telnet, SSH and SNMP.

Manufacturing of radios will be in the United States of America with performance testing over operating temperatures of -40° to +85 C. Shall be IP67 and NEMA exceeding environmental specifications.

Radios will be powered by a Power-over-Ethernet (PoE) Injector with surge protection. This will include 160 ft of outdoor-rated Ethernet cable.

### DETAILED REQUIREMENTS

#### Operating Frequency:

- 5.150 – 5.825 GHz

#### RF Data Rate:

- Up to 108Mbps (*per radio module*)

#### Receiver Sensitivity:

- -74 to -94 dBm

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**Radio Output Power:**

- Up to 28dBm

**Channel Width:**

- 5, 10, 20, 40 MHz

**Typical Range:**

- Range at 54Mbps-Up to 20 miles-LOS

**Power-over-Ethernet (PoE) Injector:**

- Input Voltage: 100 to 240VAC
- Output Voltage: 18 or 48VDC (*model dependent*)
- Surge protection included in Injector

**Antenna Type:**

- Type N(F) - Stand-Alone Solution
- 23dBi - Integrated Panel Solution
- 19dBi - Sector Solution

**Network Operating Modes:**

- Point to Point
- Point to Multipoint
- Mesh

**Support the following IEEE Networking Features:**

- 802.11e (WMM & QoS)
- 802.11h (DFS & TPC)
- 802.1d (Ethernet Bridging)
- 802.1p (Traffic Prioritization)
- 802.1q (VLAN)
- 802.1s (Spanning Tree)

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- 802.1w (Rapid Spanning Tree)
- 802.3ab (Gigabit Ethernet -AP Cluster Radios)
- 802.3ac (802.1q & 802p support)
- 802.3ad (Link Aggregation)
- 802.3i (10Mbps Ethernet)
- 802.3u (100Mbps Ethernet & Auto-Negotiation)
- 802.3x (Full Duplex and Flow Control)

#### **Broadband Radio Software**

- IP Discovery Tool
- Local and Remote Configuration
- Network-Wide Diagnostics
- Bandwidth Test Tool
- Spectrum Analysis / AP Scan Tool
- Real Time RSSI
- Client Connection Quality (CCQ)
- Audio Aiming Tool
- Configuration File Management (PDF version)

#### **Compliance:**

- FCC Part 15, Industry Canada RSS-210

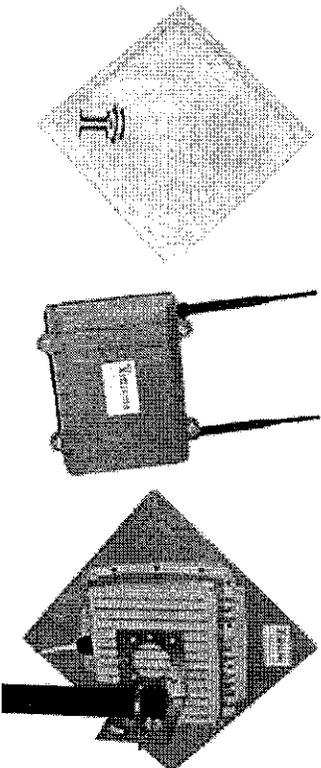
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# EB-58™ Broadband

5.8 GHZ BROADBAND CONNECTIVITY



**Intuicom's EB-58 Broadband provides the highest data rates along with the most robust industry-established security features. Designed for high bandwidth, long range industrial applications, the EB-58 Broadband utilizes the 5.8 GHz frequency band to provide a full-featured, enterprise class transceiver.**

#### FUNCTIONALITY AND FLEXIBILITY

Simple to operate, the EB-58 offers a single solution for a broad range of applications. Each unit is universally configurable as either an access point or endpoint, and each unit can operate within either point-to-point or point-to-multipoint topologies. With up to 108 Mbps of available bandwidth, the EB-58 Broadband is capable of meeting the highest bandwidths supported within the 802.11a standard.

#### "BEST-IN-CLASS" PERFORMANCE

Utilizing best-in-class OFDM-based technology along with the 802.11a Industry standard, the EB-58 Broadband leads the marketplace in performance and efficiency.

Utilizing dynamic modulation techniques and auto-optimizing bandwidth allocation, the EB-58 is inherently resistant to interference from other RF equipment. With robust environmental specifications and security that includes, WPA2, AES encryption and RADIUS authentication, the EB-58 Broadband provides superior "real world" throughput and performance.

#### EASE OF USE

Set-up has never been easier. Intuicom's set-up makes getting operational a straight-forward and simple process. The EB-58 includes utilities for site survey, antenna alignment, and auto discovery. The EB-58's ruggedized and weather-proof enclosures and Power-over-Ethernet (PoE) to ensure easy installation and quick deployment. Integrated antenna or external antennas options offer the flexibility to support a variety of installation requirements.

With proven performance in dense RF environments, Intuicom's wireless networks power through the congestion to provide reliable data transport where other technologies fall short.

#### FEATURES

- Up to 108 Mbps data rates
- 20+ mile range (LOS)
- Extensive Security options including AES encryption, and RADIUS authentication
- 802.11a compatible
- OFDM technology
- Single Unit Operation™: any unit may serve as an access point or an endpoint
- Low power consumption
- Auto-crossover switching
- IP67 and NEMA exceeding environment specifications
- Complete Utility Suite to simplify set-up and operation

#### APPLICATIONS

Security Systems  
Video Surveillance/Monitoring  
High Speed Backbones  
T1/E1 Replacement  
Mobile Data & Remote Access  
Remote Sensor Data Collection  
Backhaul connectivity to legacy networks

*To learn more about enabling wireless networking for your applications, please contact us at: [info@intuicom.com](mailto:info@intuicom.com) or call (303) 449-4330*

**Intuicom**



# EB-58™ Broadband

5.8 GHZ BROADBAND CONNECTIVITY

## GENERAL SPECIFICATIONS

Pole Mount with External Antenna	Integrated Antenna
Enclosure	Ruggedized Extruded Aluminum with polycarbonate radome (UV shielded)
Size	8.25" x 5.95" x 2.30" 13.3" x 13.3" x 1.7" 9.85" x 10.25" x 2.7"
Weight	3.75 lbs. 5.15 lbs.
Environmental	MEMA 67 RoHS compliant
Operating Temperature	-40° C to +85° C (optimized for lo/hi-temp) -40° C to +85° C (optimized for lo/hi-temp)
Antenna	Omni Sector or Panel Integrated flat panel, 23 dBi gain
Power Requirements	Input: 100 to 240 VAC, Power over Ethernet (POE) injector with surge protection Consumption: 7 W maximum
Interface	RJ45, 10/100 Base-T Ethernet
Mode	Access Point, End Point

## WIRELESS TRANSCIVER

Transmit Power	26 dBm maximum	
Data Rates	1 Mbps to 108 Mbps	
Receive Specifications	1 Mbps	-98 dBm
	6 Mbps	-95 dBm
	9 Mbps	-93 dBm
	12 Mbps	-91 dBm
	18 Mbps	-90 dBm
	24 Mbps	-86 dBm
	36 Mbps	-83 dBm
	48 Mbps	-77 dBm
	54 Mbps	-74 dBm
Security	WEP Encryption, WPA, WPA2, (including AES CCMP, TKIP), MAC/RADIUS Authentication	
Networking Features	Spanning Tree Protocol, DHCP, NTP, SNMP, VLAN, Routing, QoS (802.11e/WMM), VPN	
Channel Size	5 MHz, 10 MHz, 20 MHz, 40 MHz	
Modulation	OFDM, Adaptive modulation	
Wireless Protocol	802.11a, Intuicom Proprietary	
Utilities	Site Survey Tool, Antenna Alignment Tool, Discovery Utility	
Wireless Approvals	FCC Part 15, IC RS210	

## INTUICOM TURN KEY KITS

All Intuicom Broadband units include	POE Injector with surge protection 160 feet of Cat.5 or better Industrial Outdoor rated cable Pole Mounting Hardware Intuicom's highly recognized support
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Note: Specifications subject to change without notice

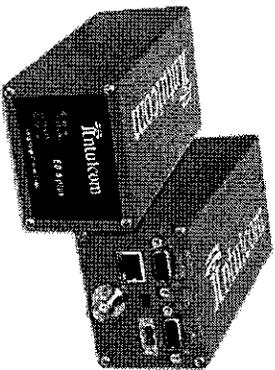
INTUICOM RADIOS REQUIRE PROFESSIONAL INSTALLATION

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# EB-6 PLUS™ Transceiver

HIGH SPEED IP/ETHERNET DATALINK



Intuicom's EB-6 PLUS is a long-range, high-speed industrial wireless transceiver enabling both IP and serial connectivity. The EB-6 PLUS provides remote serial and IP data connectivity to IP based networks, enabling high performance data transport, positioning and access for fixed or mobile operations.

## FUNCTIONALITY AND FLEXIBILITY

Providing Ethernet and dual serial port connectivity simultaneously, the EB-6 PLUS offers a single solution to a broad range of applications. With up to 867 Kbps of available bandwidth, the EB-6 PLUS is flexible enough to support legacy serials as well as the most current IP devices. Consistent with Intuicom's other transceivers, the EB-6 PLUS is multi-functional and may be operated as the access point, end-point, repeater, or endpoint/repeater in point-to-point and point-to-multipoint communications.

## "BEST-IN-CLASS" RF PERFORMANCE

Employing Intuicom's robust and secure frequency hopping spread spectrum technology, the EB-6 PLUS is inherently resistant to interference from other RF equipment including other spread spectrum radios. Empowered with an ultra sensitive and highly selective RF receiver, the EB-6 PLUS provides real-time, robust data transport. With top performance and security that includes 128-bit AES encryption, the EB-6 PLUS provides superior "real world" throughput and performance over other wireless products.

## EASE OF USE

Intuicom's embedded web-based set-up makes getting up and running a straight-forward and simple process. Not only is the EB-6 PLUS easy to set-up, but Intuicom makes it simple to optimize the performance of each transceiver on the network after it has been installed in the field. An IP addressable embedded server hosts a dynamic web page that provides diagnostics, performance criteria and access to key parameters for on-demand remote configuration.

With proven performance in dense RF environments, Intuicom's wireless networks power through the congestion to provide reliable data transport where other technologies fall short.

*To learn more about enabling wireless networking for your applications, please contact us at: [info@intuicom.com](mailto:info@intuicom.com) or call (303) 449-4330*

## KEY FEATURES

- Ethernet and dual serial port interfaces
- 40+ mile range (LOS)
- Secure, license-free 902-928 MHz FHSS technology
- Single Unit Operation™: any unit may serve as an access point, end point or repeater
- 867 Kbps over the air data rates
- 128-bit AES Encryption
- RADIUS compliant authentication
- Low power consumption
- Auto-crossover switching
- Optional embedded GPS

## APPLICATIONS

- Traffic system controls
- Video surveillance
- Security systems
- High speed backbones
- Mobile data & remote access
- Remote asset management
- AVL/Vehicle tracking
- Remote sensor data collection



# EB-6 PLUS™ Transceiver

HIGH SPEED IP/ETHERNET DATALINK

## GENERAL SPECIFICATIONS

Enclosure	Ruggedized extruded aluminum
Size	H: 56.6 mm x W: 74.4 mm x L: 165.1 mm
Weight	427 g
Operating Temperature	-40° C to +75° C
Connectors	
External Antenna	TNC-F
Data Interface	Ethernet: 10/100 BaseT, RJ45 (auto crossover) COM1: RS232/422/485, DB9-F COM2: RS232/422/485, DB9-F
Power (@ 12 VDC)	< 140 mA Receiver; < 550 mA Transmit; 71 mA Idle
Input Voltage	6-30 VDC
Operating Modes	
Network Configurations	Point-to-Point, Point-to-Multipoint
Unit Operating Modes	Access Point, Repeater, End Point, Repeater/End Point
Unit Configurations	Access Point (Ethernet only), End Point (Ethernet and/or serial)

## WIRELESS TRANSCIEVER

Frequency Range	902 - 928 MHz (FHSS/FCC DTSS)
Transmitter	
Output Power	5 mW to 1 W; Programmable
Range, Line of Sight	40 Miles / 15 Miles dependent on configuration
Modulation	2-level GFSK
Occupied Bandwidth	611.2 KHz
Spreading Method	Frequency Hopping/FCC DTS
Hopping Patterns	15 per band, 105 total, user selectable
Hopping Channels	41
Frequency Zones	16 Zones, 2-3 Channels per Zone
Receiver	
Sensitivity	-102 dbm at 10 <sup>-4</sup> BER at 614 Kbps -100 dbm at 10 <sup>-4</sup> BER at 867 Kbps
Data Transmission	
Error Detection	32 bit CRC, retransmit on error
Data Encryption	128-bit AES, Proprietary Spread Spectrum Technology
Authentication	Central Authentication and RADIUS compliant
Protocol	TCP/IP, UDP, RS232/RS422/RS485
Data Rate* (over the air)	867 Kbps/614 Kbps
Management	HTTP, HTTPS, Locale Console; IP Auto Discover

## OPTIONAL EMBEDDED GPS

contact@intuicom.com for configurations and specifications.

\* Measured assuming 75% frequency availability  
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