

# Altum™ Series DATASHEET

2.4 & 5 GHz  
PtP & PtM P | License-Free | All-Outdoor  
*DUAL BAND CONCURRENT WI-FI*



## Altum™ Series Overview

Altum AC is a multi-functional, 2x2 MIMO, long-range, outdoor WiFi router, access point, and client station for wireless Ethernet bridge applications as well as outdoor WiFi / Hotspot deployments. The system provides 5 GHz license-free backhaul and features dual-band concurrent operation for 5 GHz Wireless-AC 802.11ac and 2.4 GHz Wireless-N 802.11b/g/n WiFi transmissions. Users can select between Point-to-Point or Point-to-MultiPoint modes that operate simultaneously with 2.4 GHz WiFi via omni directional or sector antennas.

US models operate in the new 5.15-5.25 GHz band and the 5.725-5.85 GHz band. The International models operate in 5.15-5.25 GHz, 5.4-5.725 GHz, 5.725-5.85 GHz and 5.86-6.1 GHz bands. All Altum AC radios have an integral 2.4 GHz WiFi MIMO radio for Hotspot applications.



A600-25  
25 dBi Antenna



A600-19  
19 dBi Antenna



A600-EXT  
Connectorized Model

### System Features

- 600 Mbps Layer 2 throughput
- Meets 5.15-5.25 GHz FCC rules
- 2x2 MIMO operation up to 256QAM
- Up to +30 dBm transmit power
- Integral 2.4 GHz WiFi radio
- 2 Traffic ports: WAN, LAN with PoE (24Vdc)
- AES128 WPA2 PSK data encryption
- Rugged cast aluminum enclosure

### Software Features

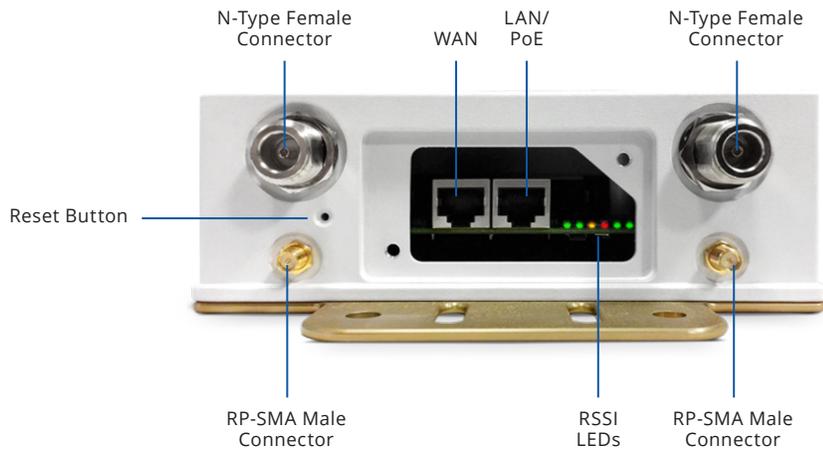
- Web interface (HTTP, HTTPS)
- Peer MAC authentication in PtP mode
- Spectrum/AP survey
- Automatic channel selection
- Auto and Fixed ACK timeout
- NTP client or server
- SNMPv2c or v3
- Web based firmware update
- DDNS (Dynamic DNS)
- Static IP/DHCP client or server/PPPoE
- MAC address filtering
- Real time graphing of traffic, RSSI and signal quality
- VLAN management
- QoS traffic shaping
- Ping watchdog timer
- 802.11ac/a/n and 802.11b/g/n operation
- STP (Spanning Tree Protocol)
- Up to 127 PtmP stations (40 Recommended)

### Hardware Features

- 600 Mbps Layer 2 throughput
- User selectable PtP and PtmP modes
- 2x2 MIMO operation up to 256QAM
- Up to +30 dBm transmit power
- 2 Traffic ports: WAN, LAN with PoE (24Vdc)
- AES128 WPA2 PSK data encryption
- Selectable spectrum bandwidth support: 20, 40 and 80 MHz channel widths
- Rugged die cast aluminum construction
- IP65 weather protection
- RSSI Alignment LEDs

### Applications

- Point-to-Point (PtP) Wireless Ethernet Bridge
- PtP with integral 2.4 GHz WiFi Hotspot
- Point-to-MultiPoint (PtmP)
- Campus connectivity
- Security and surveillance cameras



## System Specifications

### Operating Frequency

Operating Frequency	5.15-5.25, 5.725-5.85 GHz (-US models) 5.15-5.25, 5.4-5.725, 5.725-5.85, 5.86-6.1 GHz (-OE models for export only)
Output Power	Up to +30 dBm (2 Streams)

### Physical / Electrical / Environmental Information

Dimensions (Height x Width x Length)	A600-EXT 9.25 x 6.6 x 2.25 in. 23.5 x 16.7 x 5.7 cm	A600-19 7.63 x 8.43 x 3.6 in. 19.4 x 21.4 x 9.1 cm	A600-25 14.6 x 14.6 x 3.13 in. 37 x 37 x 8 cm
Weight	A600-EXT 2 lbs / 0.9 kg	A600-19 2.5 lbs / 1.1 kg	A600-25 4.5 lbs / 2 kg
Enclosure	Die Cast Aluminum Alloy, Powder Coated, NPT 3/4" Conduit Interface		
Network Interface	2x 10/100/1000 BaseT (LAN+WAN) Auto MDI/MDIX		
RF Connections	2x RP-SMA (5 GHz), 2x N-Female (2.4 GHz)		
LEDs	RSSI (4), Link (1), Ethernet (1)		
Max Power Consumption	12 Watts		
Power Supply	24Vdc, 800mA Gigabit PoE Adapter (100-240Vac)		
Power Method	PoE with LAN or WAN Port		
Operating Temperature	-40° to 149° F / -40° to +65° C		
Operating Humidity	5° to 95° Non-condensing		
Mounting	Pole or Wall Mount		
Max Range	15 Miles / 24 Kilometers (A+N mode) Up to 30 Miles / 48 Kilometers using Altum N200-EXT model		

### Compliance

Wireless Approvals	FCC, CE
RoHS Compliance	Yes

Regions	Models	Integral Panel Antenna		External Omni Antenna	External Sector Panel Antenna (Dual-Pol)		External Parabolic Dish Antenna (Dual-Pol)	
		5.x GHz 19 dBi	5.x GHz 25 dBi	2.4 GHz 9 dBi	5.x GHz 90° 19 dBi	5.x GHz 120° 16 dBi	5.x GHz 30 dBi	5.x GHz 34 dBi
USA Models (FCC)	A600-19-US	Included	-	Optional	-	-	-	-
	A600-25-US	-	Included	Optional	-	-	-	-
	A600-EXT-US	-	-	Optional	Optional	Optional	-	-
International Models (OE)	A600-19-OE	Included	-	Optional	-	-	-	-
	A600-25-OE	-	Included	Optional	-	-	-	-
	A600-EXT-OE	-	-	Optional	Optional	Optional	Optional	Optional

## Radio Specifications

Modulation	Bandwidth (MHz)	Max Throughput (Mbps)	Rx Sensitivity (dBm)	Latency (ms)
256QAM 5/6 (MCS9)	80	616	-68	1
256QAM 5/6 (MCS9)	40	370	-71	1
256QAM 5/6 (MCS9)	20	166	-74	1
BPSK 1/2 (MCS0)	80	25	-89	1
BPSK 1/2 (MCS0)	40	25	-92	1
BPSK 1/2 (MCS0)	20	10	-95	1

## Transmit Power by Modulation - US Models (-EXT, -25, -19)

Modulation	Max Tx Power FCC UNII 1 (5.15 - 5.25 GHz)	Max Tx Power FCC UNII 3 (5.725 - 5.85 GHz)
BPSK 1/2 (MCS0)	15 dBm	30 dBm
QPSK 1/2 (MCS1)	15 dBm	29 dBm
QPSK 3/4 (MCS2)	15 dBm	29 dBm
16QAM 1/2 (MCS3)	15 dBm	28 dBm
16QAM 3/4 (MCS4)	15 dBm	28 dBm
64QAM 2/3 (MCS5)	15 dBm	28 dBm
64QAM 3/4 (MCS6)	15 dBm	27 dBm
64QAM 5/6 (MCS7)	15 dBm	26 dBm
256QAM 3/4 (MCS8)	15 dBm	26 dBm
256QAM 3/4 (MCS9)	15 dBm	25 dBm

Note: Power is two streams total.

## Transmit Power by Modulation - OE Models (-EXT, -25, -19)

Modulation	Max Tx Power 5 GHz RLAN Bands (5.15 - 5.25 GHz, 5.4 - 5.725 GHz, 5.725 - 5.85 GHz, 5.86 - 6.1 GHz)
BPSK 1/2 (MCS0)	30 dBm
QPSK 1/2 (MCS1)	29 dBm
QPSK 3/4 (MCS2)	29 dBm
16QAM 1/2 (MCS3)	28 dBm
16QAM 3/4 (MCS4)	28 dBm
64QAM 2/3 (MCS5)	28 dBm
64QAM 3/4 (MCS6)	27 dBm
64QAM 5/6 (MCS7)	26 dBm
256QAM 3/4 (MCS8)	26 dBm
256QAM 3/4 (MCS9)	25 dBm

Note: Power is two streams total. For OE models EIRP can be limited for CE compliance.

A600-25  
Mounted View



A600-19  
Mounted View

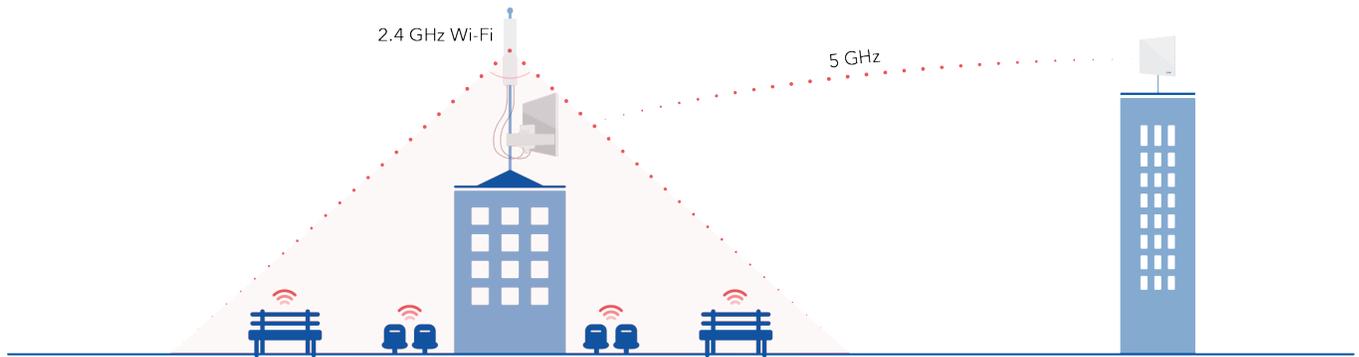


A600-EXT  
Mounted View

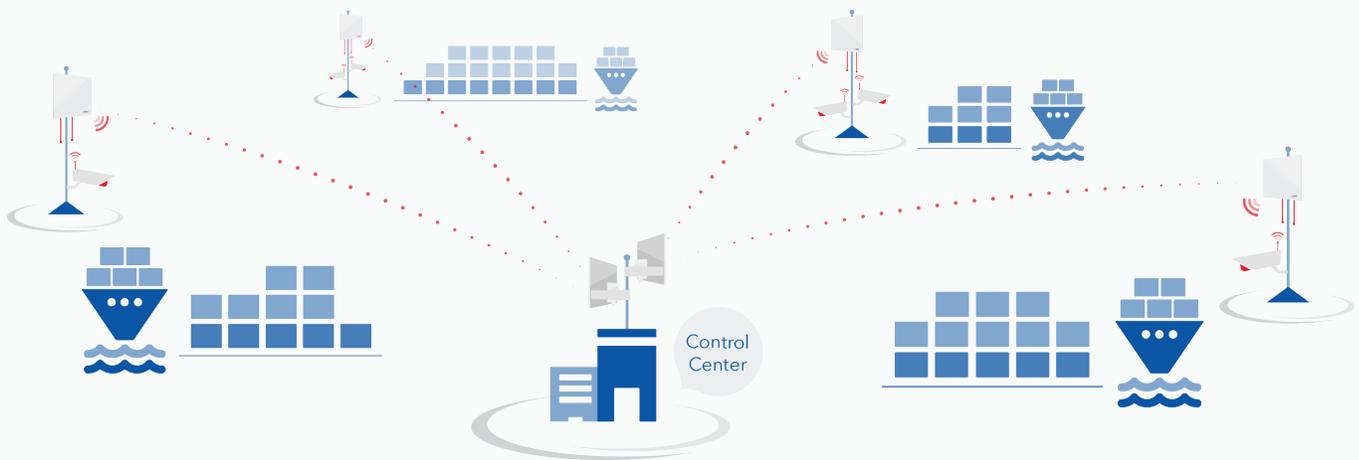


# Application Diagrams

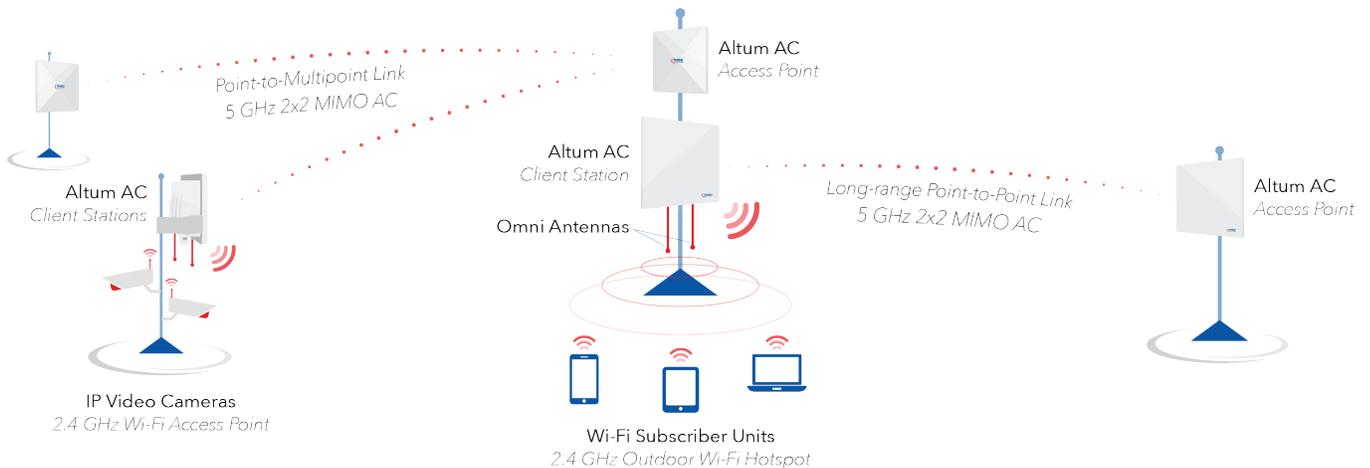
## Point-to-Point (PtP) with WiFi Hotspot



## Point-to-MultiPoint (PtM)



## Point-to-Point (PtP), Point-to-MultiPoint (PtM) with WiFi Hotspot



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