Altitude 4600 Series

Access Points

The Altitude™ 4600 series high-performance Access Points (APs) enable secure and cost-effective deployment and operation of 802.11n-based enterprise Wireless LANs (WLANs).

Extreme Networks® Altitude 4600 series APs are multipurpose, indoor, thin (dependent) access points designed for secure, resilient and cost-effective deployment of 802.11n WLANs. These high-performance APs can simultaneously support a wide variety of wireless applications including video streaming and high speed data, as well as locationing and voice services. Plug-and-play installation streamlines the configuration and activation of online services. All Altitude APs can be centrally managed by the Summit® WM3000 series controllers (available separately).

The Altitude 4600 series APs help optimize network availability using centralized and pre-emptive intelligence. The SMART RF feature helps ensure uninterrupted mobile user access by dynamically sensing weak or failing signals, securely moving mobile users to alternate APs and automatically boosting signal power to fill in RF holes. All Altitude 4600 series APs support Voice over Wireless LAN (VoWLAN) Quality of Service (QoS) protocols to provide toll-quality clarity and reliability. The APs support location-ing services for device, asset and user tracking. In addition, hotspot and guest access support assures users can only access authorized networks, sites or applications.

All Altitude 4600 series APs come with a built-in mounting bracket that supports wall surface, ceiling surface or drop-down ceiling installation. The Altitude 4610/4611 APs are designed with integrated, omni-directional antennas and dual (4610) or single (4611) band-unlocked radios. The Altitude 4620/4621 APs are designed with detachable, omni-directional antennas and dual (4620) or single (4610) band-unlocked radios. The Altitude 4620/4621 APs are plenum rated, which enables them to be installed out-of-view, above a drop-down ceiling, in addition to wall or ceiling surfaces.

These thin APs can be remotely managed by Summit WM3000 series controllers and Motorola AirDefense Security Platform* management suite (both available separately).

Features Summary

Superior Performance

- Up to six-fold increase in wireless performance
- Fully compliant with 802.3af-standard PoE functionality
- 2x3 MIMO array with spatial diversity
- Band-unlocked, dual-band design

Enterprise-Grade Wireless Services

- QoS, WMM, WMM-PS traffic prioritization
- Broadband voice and video services
- Support for locationing and hotspot services
- Automatic load balancing, preemptive roaming and rate limiting

Comprehensive Security

- IEEE 802.11i compliant security suite includes WPA/WPA2
- Multi-band sensor mode for rogue device detection
- Location-based access control
- Wireless IDS/IPS (available with Motorola AirDefense Services Platform)

Make Your Network Mobile

*Appliance models 1252, 3652 and 4250 are sold separately and are targeted for future availability.

Features and Benefits

Superior Wireless Performance

The Altitude 4600 series APs offer up to a six-fold increase in throughput over existing 802.11a/b/g legacy LANs. The 2x3 MIMO with dual spatial streams, along with Orthogonal Frequency-Division Multiplexing (OFDM) modulation, enables these APs to provide optimal 802.11n transmit and receive communications. Throughputs can be effectively doubled by bonding adjacent 20 MHz channels between an Altitude 4600 AP and 802.11n client to create a single 40 MHz channel. The Gigabit Ethernet LAN port enables full-speed 10/100/1000 access to the wired network.

The powerful 24 dBm radio increases RF coverage, performance and penetration compared to lower dBm radios. Receiver sensitivity increases proportionally in environments of high reflectivity, providing high-performance wireless access through thick doors and walls to users, even while they're on the move.

The Altitude 4600 series APs can help provide a superior return on investment in terms of upfront capital expenditures, upgrades, installation and operation. Built-in mounting brackets enable APs to be quickly attached to walls or ceilings. The APs conform to the 802.3af PoE standard, preserving capital investments in existing infrastructures and eliminating the need to buy, install and maintain separate power supplies for each AP.

Enterprise-Grade Wireless Network Services

The Altitude 4600 series APs support 802.11e standards-based Unscheduled Automatic Power Save Delivery (UAPSD/WMM Power Save), which extends the battery life of handheld client devices such as VoWLAN handsets. Fast, secure roaming is supported via several mechanisms, including pre-authentication, opportunistic key caching, and WPA2-based PMK caching.

The Altitude 4600 series APs provide low latency support for the industry-leading VoWLAN devices. They also support over-the-air QoS protocols based on 802.11e/WMM specifications, such as SpectraLink Voice Priority (SVP). Traffic priorities can be set according to SSID, allowing critical real-time voice traffic to be assigned to a distinct high-priority queue. Interoperability with wired network traffic prioritization ensures end-to-end QoS as the traffic traverses across wired and wireless segments the network.

802.11 locationing services provide the ability to locate and track users or assets, control access to the network or applications and provide hotspot and guest access to help ensure all users can access only authorized networks, sites or applications.

Common problems such as building attenuation, electronic interference or sub-optimal AP placement are minimized by the SMART RF feature, which automatically optimizes power and channel selection so that each user receives reliable, high-quality access and mobility.

Comprehensive Security

The Altitude 4600 series APs offer a high level of security for wired and wireless connectivity. The APs support standards-based, over-the-air encryption schemes to protect the integrity of user data. The APs participate in wireless client authentication using 802.11i standards-based WPA or WPA2 mechanisms, as well as port-based authentication using the 802.1X specification. An onboard hardware-accelerated encryption engine supports WEP, TKIP and AES security standards. Unique security profiles can be configured on a per SSID basis, or based on a specific application.

Motorola AirDefense Services Platform (available separately) provides centralized administration across the entire WLAN, as well as security features such as wireless IDS/IPS, forensic reporting and vulnerability testing.

Product Specifications

	Altitude 4610/4611	Altitude 4620/4621
Physical Specifications		
Unit Dimensions	9.5 in L x 7.5 in W x 1.7 in H 241.3 mm L x 190.5 mm W x 43.2 mm H	8.5 in L x 5.6 in W x 1.5 in H 215.9 mm L x 142.2 mm W x 38.1 mm H
Unit Weight	2.0 lbs/.91 kg	2.5 lbs/1.14 kg
Mounting Options	Ceiling-mount (to suspended ceiling T-bars, below tile); wall mount	Ceiling-mount (above tile); wall-mount. Comes with LED light pipe
Plenum Rated	No	Yes – certified to UL2043
LEDs	2 LED indicators with multiple modes indicating 2.4 GHz/5 GHz Activity, Power, Adoption and Errors	
Ports	1x auto-sensing 10/100/1000 Base-T PoE, fully 802.3af compliant	
Power Specifications		
Input Voltage	802.3af supply: 48 VDC @ 12.95W (typical), 36 VDC to 57 VDC (range)	
Operating Current	270 mA (typical)	
Integrated PoE Support	Standards-based IEEE 802.3af	
Radio Specifications		
Number of Radios	4610/4620: 2 radios, concurrent, dual-band (2.4GHz/5GHz), band-unlocked 4611/4621: 1 radio, concurrent, dual-band (2.4GHz/5GHz), band-unlocked	
Number of SSIDs	16	
Antenna Configuration	2x3 MIMO (transmit on two and receive on all three antennas)	
Wireless Standards	802.11a, 802.11b, 802.11g, 802.11n	
Wireless Modulation	Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency-Division Multiplexing (OFDM), and Spatial Multiplexing (MIMO)	
Operating Bands	FCC/EU ‖ Japan	

	FCC/EU		Japan
	2.412 to 2.462 GHz 2.412 to 2.472 GHz 5.150 to 5.250 (UNII -1) 5.150 to 5.250 GHz 5.725 to 5.825 (UNII -3)	5.150 to 5.350 GHz 5.725 to 5.850 (ISM) 5.470 to 5.725 GHz (Country Specific)	2.412 to 2.484 GHz 4.900 to 5.000 GHz 5.150 to 5.250 GHz

	Altitude 4610/4611 & Altitude 4620/4621
Data Rates Supported	802.11b/g: 1, 2, 5.5, 11, 6, 9, 12, 18, 24, 36, 48, and 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps 802.11n: MCS 0-15 up to 300 Mbps
Operating Channels	5 GHz: All channels from 4920 MHz to 5825 MHz 2.4 GHz: Chan 1-13 (2412-2472 MHz), Chan 14 (2484 MHz) Japan only Actual operating frequencies depend on national regulatory limits
Data Rates (Mbps)	802.11b/g: 1, 2, 5.5, 11, 6, 9, 12, 18, 24, 36, 48, and 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps 802.11n: MCS 0-15 up to 300 Mbps
Available Transmit Power Settings	24 dBm
Transmit Power Adjustment	1 dB increments

Product Specifications

	Altitude 4610/4611		Altitude 4620/4621	
Radio Specifications				
Maximum Radio Transmit Power				
Single Antenna Composite	2400 MHz: +21 dBm, 5200 MHz: +19 dBM			
Dual Antenna Composite	2400 MHz: +24 dBm, 5200 MHz: +22 dBM			
Typical RMS Power Consumption				
Option	**DC Voltage**	**DC Amps**	**DC Power Consumption**	
1	48V	270mA	12.95W	
2	48V	209mA	10.00W	
Antenna Specifications				
Type	Integrated 2.4 GHz/5.2 GHz dual-antenna elements 4611: 3x external dipole 4610: 6x external dipole		Detachable 2.4 GHz/5.2 GHz dual-antenna elements 4621: 3x external dipole 4620: 6x external dipole	
Band	2.4 GHz to 2.5 GHz; 4.9 GHz to 5.850 GHz (actual operating frequencies depend on regulatory rules and certification agency)			
VSWR	<2.1		Antenna specific	
Gain	2.0 dBi (2.4 GHz), 4.8 dBi (5 GHz)		Antenna specific	

Product Specifications

Receiver Sensitivity					
2400 MHz Band			5200 MHz Band		
Rate/MCS	Mode	Average (dBm)	Rate/MCS	Mode	Average (dBm)
1	Legacy	-95	6	Legacy	-93
2	Legacy	-94	9	Legacy	-93
5.5	Legacy	-93	12	Legacy	-93
11	Legacy	-90	18	Legacy	-92
6	Legacy	-94	24	Legacy	-89
9	Legacy	-94	36	Legacy	-86
12	Legacy	-94	48	Legacy	-82
18	Legacy	-94	54	Legacy	-81
24	Legacy	-90	MCS0	HT20	-93
36	Legacy	-87	MCS1	HT20	-92
48	Legacy	-83	MCS2	HT20	-90
54	Legacy	-82	MCS3	HT20	-86
MCS0	HT20	-94	MCS4	HT20	-83
MCS1	HT20	-93	MCS5	HT20	-79
MCS2	HT20	-91	MCS6	HT20	-78
MCS3	HT20	-87	MCS7	HT20	-76
MCS4	HT20	-84	MCS8	HT20	-93
MCS5	HT20	-80	MCS9	HT20	-90
MCS6	HT20	-79	MCS10	HT20	-87
MCS7	HT20	-77	MCS11	HT20	-84
MCS8	HT20	-94	MCS12	HT20	-81
MCS9	HT20	-91	MCS13	HT20	-77
MCS10	HT20	-88	MCS14	HT20	-75
MCS11	HT20	-85	MCS15	HT20	-74
MCS12	HT20	-82	MCS0	HT40	-90
MCS13	HT20	-78	MCS1	HT40	-88
MCS14	HT20	-77	MCS2	HT40	-86
MCS15	HT20	-75	MCS3	HT40	-83
MCS0	HT40	-88	MCS4	HT40	-80
MCS1	HT40	-88	MCS5	HT40	-76
MCS2	HT40	-87	MCS6	HT40	-74
MCS3	HT40	-84	MCS7	HT40	-73
MCS4	HT40	-82	MCS8	HT40	-89
MCS5	HT40	-77	MCS9	HT40	-86
MCS6	HT40	-76	MCS10	HT40	-84
MCS7	HT40	-74	MCS11	HT40	-81
MCS8	HT40	-88	MCS12	HT40	-78
MCS9	HT40	-87	MCS13	HT40	-74
MCS10	HT40	-85	MCS14	HT40	-72
MCS11	HT40	-82	MCS15	HT40	-71
MCS12	HT40	-79			
MCS13	HT40	-75			
MCS14	HT40	-73			
MCS15	HT40	-71			

Product Specifications

Regulatory	
Standards Compliance	802.11a/b/g/n, 802.11i, WPA, WPA2, WMM, UAPSD, RoHS: This product is in compliance with RoHS Directive 2002/95/EEC, WEEE
Product Safety Specifications	IT Equipment: EN 60950-1:2006 / IEC 60950, 2nd Edition: 2005 / UL 2043, 3rd Edition (Plenum) / UL 60950-1, 1st Edition, 2007-10-31, CAN/CSA-C22.2 No 60950-1-03, 1st Edition 2006-07 Specific Absorption Rate (SAR): EN 50385: 2002 RF Exposure: FCC 47CFR2:OET Bulletin 65c RSS 102 Issue 2 TUV
Radio Approvals	FCC (USA), Industry Canada, CE (Europe) and TELEC (Japan) Wideband 2.4 GHz Systems: EN 300 328 V1.7.1 Broadband Radio Access (5 GHz): EN 301 893 V1.5.2
EMC Specifications	Radio Wideband Systems: EN 301 489-1 V1.8.1: EN 301 489-17 V2.1.1 IT Emissions: EN 55022: 2006 + A1: 2007 (Class B) IT Immunity: EN 55024: 1998 + A1: 2001 + A2: 2003 Harmonic Current Emissions: EN 61000-3-2: 2006 (Class B) Voltage Fluctuation & Flicker: EN 61000-3-3: 1995 + A1: 2001 + A2: 2005 Medical Electrical Equipment: IEC 60601-1-2: 2007 Radio Frequency Devices: 47 CFR Part 15, Subpart B, Class B Digital Apparatus: ICES-003 Issue 4, Class B
Environmental	
Operating Temperature	0° C to 50° C (32° F to 122° F)
Storage Temperature	-40° C to 70° C (-40° F to 158° F)
Operating Humidity	5% to 95%, non-condensing
Operating Altitude	8,000 ft (2,438 m)
Storage Altitude	15,000 ft (4,572 m)
Electrostatic Discharge	+/- 15 kV (air), +/- 8 kV (contact)

Warranty

- Limited one-year warranty
- For warranty details, visit www.extremenetworks.com/go/warranty

Ordering Information

Part Number	Description
15724	Altitude 4610-US 802.11a/b/g/n Dual Radio Indoor Access Point with integrated omni-directional antennas. For operation in U.S. Regulatory Domain
15725	Altitude 4610-ROW 802.11a/b/g/n Dual Radio Indoor Access Point with integrated omni-directional antennas. For operation in Rest of the World Regulatory Domain except Israel
15735	Altitude 4611-ROW 802.11a/b/g/n Single Radio Indoor Access Point with integrated omni-directional antennas. For operation in Rest of the World Regulatory Domain except Israel
15757	Altitude 4611-US 802.11a/b/g/n Single Radio Indoor Access Point with integrated omni-directional antennas. For operation in U.S. Regulatory Domain
15730	Altitude 4620-US: 802.11a/b/g/n Dual Radio Indoor Access Point with six detachable omni-directional external antennas. For operation in U.S. Regulatory Domain
15731	Altitude 4620-ROW: 802.11a/b/g/n Dual Radio Indoor Access Point with six detachable omni-directional external antennas. For operation in Rest of the World Regulatory Domain, except Israel
15749	Altitude 4621-ROW: 802.11a/b/g/n Single Radio Indoor Access Point with three detachable omni-directional external antennas. For operation in Rest of the World Regulatory Domain except Israel
15758	Altitude 4620-US: 802.11a/b/g/n Single Radio Indoor Access Point with three detachable omni-directional external antennas. For operation in U.S. Regulatory Domain
ML2452APA201	Omni-directional dual band paddle antenna. Spare antenna for use with Altitude 4620/4621 access points. Antenna gain of 3 dBi/5 dBi for 2.4/5 GHz bands.
APPSBIAS1P3AFR	Midspan PoE injector with GE interface and 802.3at rated. External power source for Altitude 4600 series access points. Does not include power cord, which must be ordered separately.

*Please refer to the Altitude AP Antenna Selection Guide at www.extremenetworks.com/go/antenna for a complete list of external antennas recommended for use with Altitude 4600 series APs.

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