Altitude 4022

HIGH PERFORMANCE DUAL RADIO 802.11 ABGN WIRELESS ACCESS POINT

PERFORMANCE

- 2x2 MIMO
- 802.11 abgn (2.4/5GHz)
- 24 dBm Max Output Power
- GigE Uplink with PoE

FORM FACTOR

- Dual Radio
- Dependent AP (requires controller)
- Wall or Ceiling Mount

FEATURES

- Compact
- Cost Effective
- Layer 2-7 Stateful Packet Filtering Firewall
- Wireless IPS
- VPN Gateway
- SMART RF
- Internal and External Antenna Options

The Extreme Networks© Altitude™ 4022 is a cost-effective access point (AP). As a dual radio dependent AP, the Altitude 4022 is dependent upon working with a Summit® WM3000 series wireless controller, an approach which reduces cost by minimizing hardware components and memory needed in the AP. This access point is targeted to Enterprise and Campus deployments that are looking to lower the cost of deploying and operating a secure, reliable 802.11n wireless LAN (WLAN). The Altitude 4022 is equipped with a 2x2 MIMO 802.11 abgn (2.4 and 5Ghz) band unlocked radio with a combined output power of a maximum 24 dBm. The 4022 supports local bridging and has a single Gigabit Ethernet uplink port. The device has a small form factor and is easily mounted on a wall or ceiling with included hardware. The Altitude 4022 can be powered via the Gigabit Ethernet uplink port with standard 802.3af PoE.

Security: The AP includes a layer 2-7 stateful packet filtering firewall. AAA Radius client services, built in wireless IPS, VPN Gateway, and location based access control are also included.

Deployment: The Altitude 4022 supports wireless controller auto discovery. Upon activation it communicates with the controller and automatically downloads configuration parameters and firmware. This reduces installation, maintenance and troubleshooting costs for layer 2 and layer 3 deployments.

Intelligence: The Altitude 4022 uses SMART RF to adjust power and channel selection to prevent channel overlap or co-channel interference. This is done automatically, which reduces the chance of human error or interference. SMART RF is a standard feature on the Altitude 4022.

Direct Forwarding: The Altitude 4022 allows for direct forwarding of data traffic to reduce the bottleneck at the wireless controller, which can reduce latency and jitter issues for voice and video applications. An SSID is easily mapped to a VLAN with direct forwarding, separating the control and data planes.

Flexible Antenna options: The Altitude 4022 is available in versions with either internal or external antennas. The internal antenna model has a white plastic facia. The external antenna model uses the same plastic facia but has extended antenna connectors. Both versions support both wall and ceiling mounting, for maximum deployment flexibility.

Wireless Mobility OS: The Altitude 4022 is controlled by the WM 3000 series wireless controllers and uses the advanced Wireless Mobility OS wireless operating system for configuration, management and monitoring

Altitude 4022 Specifications Chart

PHYSICAL CHARACTERISTICS	INTERNAL ANTENNA	EXTERNAL ANTENNA
Dimensions:	9.5 in. L x 7.5 in. W x 1.1 in. H 24.13 cm L x 19.5 cm W x 2.78 cm H	7.8 in. L x 5.0 in. W x 1.0 in. H 19.82 cm L x 12.7 cm W x 2.54 cm H
Weight:	0.85 lbs./0.385 kg	1.75 lbs./0.794 kg
Available mounting configurations:	Ceiling-mount (to suspended ceiling T-bars, below tile); wall mount	Ceiling-mount (above tile); wall-mount
Plenum rated:		Yes, certified to UL 2043
LED indicators:	2 LED indicators with multiple modes indicating 2.4GHz/5 GHz Activity Power, Adoption and Errors	

Wireless Data Communications and Networking

Data rates supported:	802.11b/g: 1,2,5.5,11,6,9,12,18,24,36,48, and 54Mbps 802.11a: 6,9,12,18,24,36,48, and 54Mbps 802.11n: MCS 0-15 up to 300Mbps
Network Standard:	802.11a, 802.11b, 802.11g, 802.11n
Wireless Medium:	Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM), and Spatial Multiplexing (MIMO)
VLANs/WLANs supported:	VLANs and WLANs are controller-Dependent
Uplink:	Auto-sensing 10/100/1000Base-T ETHERNET

Radio Characteristics

Operating channels:	5GHz: All channels from 5180 MHz to 5825 MHz 2.4GHz: 2412-2472 MHz Actual operating frequencies depend on national regulatory limits
Maximum available transmit power:	24dBm
Transmit power Adjustment:	1dB increments
Antenna configuration:	2x2 MIMO (transmit on two and receive on two antennas)
Operating bands:	2.412 to 2.472 GHz, 5.15 to 5.25 GHz, 5.25 to 5.35 GHz, 5.470 to 5.725 GHZ, 5.725 to 5.850 GHz

USER ENVIRONMENT	INTERNAL ANTENNA	EXTERNAL ANTENNA
Operating temperature:	32°F to 104° F/0°C to 40° C	
Storage temperature:	-40°F to 185° F/-40°C to 85°	
Operating humidity:	5%-95% (non-condensing)	
Operating altitude:	8,000 ft. / 2438 m	
Storage altitude:	30,000 ft. / 9,144 m	
Electrostatic discharge:	+/- 15 kV (Air), +/- 8 kV (contact)	

Power Specifications

Operating voltage:	802.3af supply: 48 VDC @ 12.95W (typical), 36 VDC to 57 VDC (range)
Operating current:	270mA rms at 48V
Integrated Power-over-Ethernet support:	Standards-based IEEE 802.3af
Typical Operational RMS Power Consumption:	12W Max

Maximum Radio Transmit Power

BAND	SINGLE ANTENNA COMPOSITE TRANSMIT POWER	DUAL ANTENNA COMPOSITE TRANSMIT POWER
2400MHZ	+21 dBm	+24 dBm
5200MHZ	+20 dBm	+23 dBm

Antenna Port Specification

Type:	Integrated 2.4 GHz and 5.2 GHz Dual-Antenna Elements Four RP-SMA connectors for external antennas (not included)
Band:	2.4 GHz to 2.5 GHz; 5.180 GHz to 5.850 GHz (actual operating frequencies depend on regulatory rules and certification agency)

Internal Antenna Information

INTERNAL ANTENNA DESCRIPTION	VALUES
Peak gain, 2.4GHz band (Radio 1)	3.9dBi
Peak gain, 5.0GHz band (Radio 2)	7.5dBi

Regulatory

Product safety certifications:	UL 60950, cUL, EU EN 60950, TUV and UL 2043 (external antenna)
Radio approvals:	FCC (USA), Industry Canada, CE (Europe)

Conducted Receiver Sensitivity

2400MHz band (measured at antenna connectors)

RATE/MCS	MODE	SENSITIVITY (DBM)
1	Legacy	-91
2	Legacy	-90
5.5	Legacy	-90
11	Legacy	-88
6	Legacy	-91
9	Legacy	-91
12	Legacy	-91
18	Legacy	-88
24	Legacy	-85
36	Legacy	-81
48	Legacy	-78
54	Legacy	-76
MCS0	HT20	-91
MCS1	HT20	-89
MCS2	HT20	-87
MCS3	HT20	-83
MCS4	HT20	-80
MCS5	HT20	-76
MCS6	HT20	-75
MCS7	HT20	-73
MCS8	HT20	-88
MCS9	HT20	-85
MCS10	HT20	-83
MCS11	HT20	-80
MCS12	HT20	-78
MCS13	HT20	-73
MCS14	HT20	-71
MCS15	HT20	-70
MCS0	HT40	-87
MCS1	HT40	-85
MCS2	HT40	-83
MCS3	HT40	-80
MCS4	HT40	-77

RATE/MCS	MODE	SENSITIVITY (DBM)
MCS5	HT40	-73
MCS6	HT40	-72
MCS7	HT40	-70
MCS8	HT40	-85
MCS9	HT40	-82
MCS10	HT40	-79
MCS11	HT40	-77
MCS12	HT40	-74
MCS13	HT40	-69

Conducted Receiver Sensitivity

5200MHz band (measured at antenna connectors)

RATE/MCS	MODE	SENSITIVITY (DBM)
6	Legacy	-91
9	Legacy	-91
12	Legacy	-91
18	Legacy	-88
24	Legacy	-85
36	Legacy	-81
48	Legacy	-78
54	Legacy	-76
MCS0	HT20	-91
MCS1	HT20	-89
MCS2	HT20	-88
MCS3	HT20	-83
MCS4	HT20	-80
MCS5	HT20	-76
MCS6	HT20	-75
MCS7	HT20	-73
MCS8	HT20	-88
MCS9	HT20	-85
MCS10	HT20	-83
MCS11	HT20	-80
MCS12	HT20	-78
MCS13	HT20	-73
MCS14	HT20	-71
MCS15	HT20	-70
MCS0	HT40	-87
MCS1	HT40	-85
MCS2	HT40	-83
MCS3	HT40	-80
MCS4	HT40	-78
MCS5	HT40	-73
MCS6	HT40	-72
MCS7	HT40	-70
MCS8	HT40	-85
MCS9	HT40	-82
MCS10	HT40	-79

Conducted Receiver Sensitivity

5200MHz band (measured at antenna connectors) (Cont.)

RATE/MCS	MODE	SENSITIVITY (DBM)
MCS11	HT40	-77
MCS12	HT40	-74
MCS13	HT40	-72
MCS14	HT40	-671
MCS15	HT40	-66

Conducted Receiver Sensitivity

PART NUMBER	DESCRIPTION	INFORMATION
15911	AP4022i int ant US	Altitude AP4022i dual-radio thin (dependent) indoor Access Point for US regulatory domain, 802.11a/b/g/n, 2x2 MIMO, Includes internal omni-directional antennas. Powered by 802.3af/at PoE or by use of a PoE injector.
15912	AP4022i int ant ROW	Altitude AP4022i dual-radio thin (dependent) indoor Access Point for Rest of World regulatory domain, 802.11a/b/g/n, 2x2 MIMO, Includes internal omni-directional antennas. Powered by 802.3af/at PoE or by use of a PoE injector.
15813	AP4022i int ant EU	Altitude AP4022i dual-radio thin (dependent) indoor Access Point for European Union regulatory domain, 802.11a/b/g/n, 2x2 MIMO, Includes internal omni-directional antennas. Powered by 802.3af/at PoE or by use of a PoE injector.
15913	AP4022e ext ant US	Altitude AP4022e dual-radio thin (dependent) indoor Access Point for US regulatory domain, 802.11a/b/g/n, 2x2 MIMO, External antennas not included-must order separately up to 4 paddle antennas. Powered by 802.3af/at PoE or by use of a PoE injector.
15916	AP4022e ext ant ROW	Altitude AP4022e dual-radio thin (dependent) indoor Access Point for Rest of World regulatory domain, 802.11a/b/g/n, 2x2 MIMO, External antennas not included-must order separately up to 4 paddle antennas. Powered by 802.3af/at PoE or by use of a PoE injector.
15814	AP4022e ext ant EU	Altitude AP4022e dual-radio thin (dependent) indoor Access Point for European Union regulatory domain, 802.11a/b/g/n, 2x2 MIMO, External antennas not included-must order separately up to 4 paddle antennas. Powered by 802.3af/at PoE or by use of a PoE injector.

Third Party Accessories

Accessories for the Altitude 4022 include external power supplies, PoE injectors and external antennas for the external antenna model. Ordering information can be found below.

PART NUMBER	DESCRIPTION	INFORMATION
PWRS-14000-148R	AP4022 external PSU	External Power Supply for Altitude 4022 access points
ML-2452-APA2-01	AP4022e external antenna, black	External antenna for Altitude 4021/4022, black
ML-2452-APAG2A1-02	AP4022e external antenna, white	External antenna for Altitude 4021/4022, white
KT-135628-01	Altitude AP 4022/4522 Mounting Kit	Mounting Kit for WLAN AP 4022/4522

Warranty

- Limited Lifetime Warranty for Hardware (for products shipped from Extreme Networks on or after January 1, 2013).

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