3825i/e Indoor Access Point

High Performance, Enterprise-Grade for Mission Critical Deployments

Product Overview

The AP3825 is a high-performance 802.11ac and 802.11abgn indoor access point purpose built for high-density deployments. This access point is designed to operate in heavy-user and mission critical environments such as healthcare facilities, universities, conference centers, arenas, and stadiums. Active/active data ports and multiple power options ensure that the AP3825 provides always-on connectivity. This high-performance access point is equally adept at serving high-bandwidth video applications as well as low-latency voice applications. The AP3825i comes with an integrated six antenna array for ease of installation. The AP3825e requires professional installation and includes six RP-SMA antenna connectors supporting both 2.4GHz and 5GHz band antennas. Unique to this class of access point, the power efficient AP3825 uses 802.3af Power over Ethernet (PoE) without reducing its performance nor degrading its enterprise-grade capabilities. An optional external power supply is available for deployments that do not support Power over Ethernet.

The AP3825 is built on the newest Wi-Fi technology including 802.11ac, dynamic radio management, and spectrum analysis with interference classification, beam forming, self-forming and self-healing meshing, security, role-based authentication, authorization, and access control. The 3x3:3 platform is capable of delivering 1.75Gbps over-the-air-performance and up to 75,000 packets per second on the wire port. The use of a dual core CPU and a network co-processor for offloading frame processing ensures that there are no bottlenecks in the data path when packets are processed through the slow path from the air-to-the wire. Multiple antenna offerings (e.g., omni, sector, and panel) ensure that the AP3825e deployment can be optimized to meet any coverage or capacity need.

Security

- Authentication and authorization functions include role-based access control (using 802.1X, MAC, and captive portal) and authentication at the AP

- Wireless Intrusion Prevention (WIPS) functions provide continuous scanning, threat classification, rogue AP detection, and countermeasures against possible attacks

- Integration of security policies (NAC, IPS) across the wired/ wireless networks enables quick diagnosing and resolution of security threats

- Integration of Policy Manager across the wired/ wireless networks dynamically oversees user access at the wireless network point of entry

Support and Service

- Industry-leading customer satisfaction and first call resolution rates

- Lifetime warranty for indoor access points

- Personalized services, including site surveys, network design, installation, and training

Specifications

PRODUCT FEATURES	AP3825I/E
GENERAL	
High performance enterprise class AP	√
Number of radios	2
MIMO implementation for high performance 11ac & 11n throughputs	3x3
Number of spatial streams	3
Maximum Throughput 2.4GHz Radio	450Mbps
Maximum Throughput 5GHz Radio	1.3Gbps
Maximum Throughput per AP	1.75Gbps
RFC2285 Wire/Wireless Forwarding Rate	75,000 packets per second
Number of SSIDs supported per radio / total	8 / 16
Simultaneous users per radio / total	127 / 254
Simultaneous Voice calls (802.11b, G711, R>80)	12 or greater
Mode of operation	Semi-autonomous
Plug and play operation/Zero touch deployment	√
Security and Standards	WPA, WPA2 (AES), 802.11i, 802.1x, IPSec, IKEv2, PKCS #10, X509 DER / PKCS #12
Multiple operating modes	
Intelligent thin AP	Encryption, Security, QoS and RF management done on AP
Distributed and centralized data paths within same SSID	√
Application based distributed and centralized data paths within same user/device session	√
Simultaneous RF monitoring and client services	√
In-channel WIDS	√
In-channel WIPS	√
Dedicated multi-channel WIDS (Guardian mode)	9.01.02
Dedicated multi-channel WIPS (Guardian mode)	9.01.02
Dedicated multi-channel RF spectrum analysis and fingerprinting	9.01.02
Locates devices and threats via RF triangulation	√
Self-forming and self-healing meshing	√
Remote access point	√
Hardware-based, end-to-end data and control plane encryption	√
Private and public cloud deployments	√
Hybrid operation	
Security scanning and serve clients on same radio	√
Security scanning and spectrum analysis on same radio	√
Spectrum analysis and serve clients on same radio	√
Multi-channel dedicated security scanning and spectrum analysis	9.01.02
Radio characteristics	
Max radiated power	
Radio 1 (5GHz)	26 dBm
Radio 2 (2.4GHz)	26 dBm
Max antenna gain (integrated antenna)	
Radio 1 (5GHz)	4 dBi (AP3825i)
Radio 2 (2.4GHz)	3 dBi (AP3825i)

ADAPTIVE RADIO MANAGEMENT	
Dynamic Channel Control	802.11h: DFS & TPC support (ETSI)
Efficient use of the spectrum with a multi-channel architecture	√
Automatic transmit power and channel control	√
Self-healing with coverage gap detection	√
Band steering with multiple steering modes	√
Spectrum load balancing of clients	√
Airtime fairness	√
Performance protection in congested RF environments	√
Mitigates co-channel interference with coordinated access	√
Mitigates adjacent channel interference with optimized receive sensitivity	√
Efficient reuse of channels at shorter intervals	√
Mitigates non 802.11 interference without dedicated radios	√
QOS FOR APPLICATIONS	
Quality of Service (WMM, 802.11e)	√
Power Save (U-APSD)	√
Fast secure roaming and handover between APs	√
Pre-Authentication (Pre-Auth)	√
Opportunistic Key Caching (OKC)	√
Bonjour/LLMNR/UPnP identification, containment and control	√
Supports voice, video and data using the same SSID	√
Prioritizes voice over data for both tagged and untagged traffic	√
Rate limiting (rule and user-based)	√
Rule and role based QoS processing	√
MULTICAST RATE CONTROL	
Multicast to unicast Conversion	√
Adaptable rate multicast	√
Power save mode optimization for multicast	√
WIRELESS SERVICES	
Media Access Protocol	CSMA/CA with ACK
Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps 802.11n: See 802.11n Performance Table below 802.11ac: See 802.11ac Performance Table below Receiver Sensitivity 802.11a: • -92dBm @ 6Mbps • -76dBm @ 54Mbps 802.11g: • -92dBm @ 6Mbps • -76dBm @ 54Mbps 802.11b: • -93dBm @ 1Mbps • -90dBm @ 11Mbps 802.11n: See 802.11n Receiver Sensitivity Table below 802.11ac: See 802.11ac Receiver Sensitivity Table below

Frequency Bands	802.11ac/a/n: • 5.15 to 5.25 GHz (FCC / IC / ETSI) • 5.25 to 5.35 GHz (FCC / IC / ETSI)* • 5.47 to 5.725 GHz (FCC / IC / ETSI)* • 5.725 to 5.850 GHz (FCC / IC) 802.11b/g/n: • 2.400 to 2.4720 GHz (FCC / IC) • 2.400 to 2.4835 GHz (ETSI) *FCC/IC DFS certification in progress
Wireless Modulation	802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM 802.11ac Packet aggregation: A-MPDU, A-MSDU 802.11ac Very High-Throughput (VHT): VHT20/40/80 802.11ac Advanced Features: LDPC, STBC, Maximum Likelihood (ML) Detection 802.11n: BPSK, QPSK, 16QAM, 64QAM with OFDM 802.11n High-throughput (HT) support: HT 20/40 802.11n Packet aggregation: A-MPDU, A-MSDU 802.11n Advanced Features: LDPC, STBC and TxBF 802.11a: BPSK, QPSK, 16QAM, 64QAM with OFDM 802.11g: DSSS and OFDM 802.11b: DSSS

INTERFACES

# 10/100/1000 Base T Ethernet autosensing link	2
Active/active and active/passive with dynamic LAG support (LACP)	√
Console port for the ease of installation and management	√

MOUNTING

Wall mounting	√
Drop-ceiling mounting bracket (15/16" included, 9/16" optional)	√

ENVIRONMENTAL

Environmental	Plenum rated (UL 2043) Operating: Temperature 0° C to +50° C (+32° F to +122° F) Humidity 0%-95% (noncondensing) Storage: Temperature -5° C to +50° C (+23° F to +122° F) Transportation: Temperature -40° C to +70° C (-40° F to +158° F)

WIRELESS AND EMC

Compliance	•FCC CFR 47 Part 15, Class B •ICES-003 Class B •FCC Subpart C 15.247 •FCC Subpart E 15.407 •RSS-210 •EN 301 893 •EN 300 328 •EN 301 489 1 & 17 •EN 62311 •EN 55022 (CISPR 22) •EN 60601-1-2 •AS/NZS4268 + CISPR22
Safety	•IEC 60950-1 •EN 60950-1 •UL 60950-1 •CSA 22.2 No.60950-1-03 •AS/NZS 60950.1
Mechanical	6.56" x 1.34" x 6.56" (AP3825i)
Dimensions (W x H x L)	7.12" x 1.34" x 6.56" (AP3825e)
Weight	1.35lbs (0.6 kg)
Max power consumption	12.95W
Warranty	Lifetime

Extreme® networks

Ordering Information

PART NUMBER	DESCRIPTION
ACCESS POINTS	
WS-AP3825i	Dual Radio 802.11ac/an/bgn, 3x3:3, indoor access point with six internal antenna array and active/active E/N data ports (requires V9 or higher)
WS-AP3825e	Dual Radio 802.11ac/an/bgn, 3x3:3, indoor access point with six reverse polarity SMA connectors for external antennas and active/active E/N data ports (requires V9 or higher, and antennas must be ordered separately)
ANTENNAS (REQUIRED FOR AP3825E)	
WS-ANT-2DIP-3	2.4GHz Indoor Dipole Antenna for 3715e/3825e only (3 pack)
WS-ANT-5DIP-3	5GHz Indoor Dipole Antenna for 3715e/3825e only (3 pack)
WS-AI-DT05120	Indoor, 2.4GHz / 5GHz, Triple-feed, 5/5 dBi, 120 deg, Sector
WS-AI-DX02360	Indoor, 2.4GHz / 5GHz, Six-feed, 2/2 dBi, Omni, Ceiling
WS-AI-DX07025	Indoor, 2.4GHz / 5GHz, Six-feed, 6.5/5.5 dBi, 25 deg, Sector
WS-AI-DX10055	Indoor, 2.4GHz / 5GHz, Six-feed, 10 / 6 dBi, 55 deg, Sector
CABLES / CONNECTORS	
WS-CAB-6DBATT	6db attenuator with RSMA connectors
WS-CAB-10DBATT	10db attenuator with RSMA connectors
ACCESSORIES	
WS-MBDC916	Mounting brackets for flushed and protruded 9/16" drop ceiling rails
WS-PS3X12-AU	12V External Power Supply for 3715/3825 Indoor Access Points - Australia
WS-PS3X12-BR	12V External Power Supply for 3715/3825 Indoor Access Points - Brazil
WS-PS3X12-CN	12V External Power Supply for 3715/3825 Indoor Access Points - China
WS-PS3X12-EU	12V External Power Supply for 3715/3825 Indoor Access Points - EU (not for UK)
WS-PS3X12-NAM	12V External Power Supply for 3715/3825 Indoor Access Points - Americas (not for Brazil)
WS-PS3X12-UK	12V External Power Supply for 3715/3825 Indoor Access Points - United Kingdom
MID-SPAN POE DEVICES	
PD-3501G-ENT	Single port, 1 Gigabit 802.3af PoE Midspan

802.11ac Performance

DATA RATES (MBPS)

DESCRIPTOR	DATA STREAMS	VHT20		VHT40		VHT80	
		NORMAL GI	SHORT GI	NORMAL GI	SHORT GI	NORMAL GI	SHORT GI
MCS0	1	6.5	7.2	13.5	15	29.3	32.5
MCS1	1	13	14.4	27	30	58.5	65.0
MCS2	1	19.5	21.7	40.5	45	87.8	97.5
MCS3	1	26	28.9	54	60	117.0	130.0
MCS4	1	39	43.3	81	90	175.5	195.0
MCS5	1	52	57.8	108	120	234.0	260.0
MCS6	1	58.5	65	121.5	135	263.3	292.5
MCS7	1	65	72.2	135	150	292.5	325.0
MCS8	1	78.0	86.7	162.0	180.0	351.0	390.0
MCS9	1	NA	NA	180.0	200.0	390.0	433.3
MCS0	2	13	14.4	27	30	58.5	65.0
MCS1	2	26	28.9	54	60	117.0	130.0
MCS2	2	39	43.3	81	90	175.5	195.0
MCS3	2	52	57.8	108	120	234.0	260.0
MCS4	2	78	86.7	162	180	351.0	390.0
MCS5	2	104	115.6	216	240	468.0	520.0
MCS6	2	117	130	243	270	526.5	585.0
MCS7	2	130	144.4	270	300	585.0	650.0
MCS8	2	156.0	173.3	324.0	360.0	702.0	780.0
MCS9	2	NA	NA	360.0	400.0	780.0	866.7
MCS0	3	19.5	21.7	40.5	45	87.8	97.5
MCS1	3	39	43.3	81	90	175.5	195.0
MCS2	3	58.5	65	121.5	135	263.3	292.5
MCS3	3	78	86.7	162	180	351.0	390.0
MCS4	3	117	130	243	270	526.5	585.0
MCS5	3	156	173.3	324	360	702.0	780.0
MCS6	3	175.5	195	364.5	405	NA	NA
MCS7	3	195	216.7	405	450	877.5	975.0
MCS8	3	234.0	260.0	486.0	540.0	1053.0	1170.0
MCS9	3	260.0	288.9	540.0	600.0	1170.0	1300.0

802.11n Performance

DATA RATES (MBPS)

	DATA STREAMS	2.4GHZ		5GHZ	
		HT20 NORMAL GI	HT20 SHORT GI	HT40 NORMAL GI	HT40 SHORT GI
MCS0	1	6.5	7.2	13.5	15
MCS1	1	13	14.4	27	30
MCS2	1	19.5	21.7	40.5	45
MCS3	1	26	28.9	54	60
MCS4	1	39	43.3	81	90
MCS5	1	52	57.8	108	120
MCS6	1	58.5	65	121.5	135
MCS7	1	65	72.2	135	150
MCS8	2	13	14.4	27	30
MCS9	2	26	28.9	54	60
MCS10	2	39	43.3	81	90
MCS11	2	52	57.8	108	120
MCS12	2	78	86.7	162	180
MCS13	2	104	115.6	216	240
MCS14	2	117	130	243	270
MCS15	2	130	144.4	270	300
MCS16	3	19.5	21.7	40.5	45
MCS17	3	39	43.3	81	90
MCS18	3	58.5	65	121.5	135
MCS19	3	78	86.7	162	180
MCS20	3	117	130	243	270
MCS21	3	156	173.3	324	360
MCS22	3	175.5	195	364.5	405
MCS23	3	195	216.7	405	450

Receiver Sensitivity (dBm)

	RECEIVER SENSITIVITY		
RATE	20 MHZ (DBM)	40MHZ (DBM)	80 MHZ (DBM)
(MCS0, 1)	-92	-90	-87
(MCS1, 1)	-90	-88	-85
(MCS2, 1)	-88	-86	-81
(MCS3, 1)	-85	-82	-79
(MCS4, 1)	-82	-79	-75
(MCS5, 1)	-78	-75	-71
(MCS6, 1)	-76	-74	-69
(MCS7, 1)	-73	-70	-67
(MCS8, 1)	-69	-66	-62
(MCS9, 1)	-66	-64	-60
(MCS0, 2)	-90	-88	-85
(MCS1, 2)	-88	-86	-83
(MCS2, 2)	-86	-84	-79
(MCS3, 2)	-83	-80	-77
(MCS4, 2)	-80	-77	-73
(MCS5, 2)	-76	-73	-69
(MCS6, 2)	-72	-72	-67
(MCS7, 2)	-71	-68	-65
(MCS8, 2)	-67	-64	-60
(MCS9, 2)	-64	-62	-58
(MCS0, 3)	-89	-86	-83
(MCS1, 3)	-86	-84	-81
(MCS2, 3)	-84	-82	-77
(MCS3, 3)	-81	-78	-75
(MCS4, 3)	-78	-75	-71
(MCS5, 3)	-74	-71	-67
(MCS6, 3)	-72	-70	-65
(MCS7, 3)	-69	-66	-63
(MCS8, 3)	-65	-62	-58
(MCS9, 3)	-62	-60	-56

5GHZ, 11AC

RATE	DBM
54Mbps	-76
48Mbps	-77
36Mbps	-81
24Mbps	-84
18Mbps	-88
11Mbps	-89
9Mbps	-91
6Mbps	-92

5GHZ, 11A

RECEIVER SENSITIVITY		
RATE	**20 MHZ (DBM)**	**40MHZ (DBM)**
(MCS0)	-91	-89
(MCS1)	-89	-87
(MCS2)	-87	-85
(MCS3)	-83	-81
(MCS4)	-79	-78
(MCS5)	-76	-74
(MCS6)	-74	-72
(MCS7)	-72	-71
(MCS8)	-89	-87
(MCS9)	-87	-85
(MCS10)	-85	-83
(MCS11)	-81	-79
(MCS12)	-77	-76
(MCS13)	-74	-72
(MCS14)	-72	-70
(MCS15)	-70	-69
(MCS16)	-87	-85
(MCS17)	-85	-83
(MCS18)	-83	-81
(MCS19)	-79	-77
(MCS20)	-75	-74
(MCS21)	-72	-70
(MCS22)	-70	-68
(MCS23)	-68	-67

2.4GHZ, 11N

RATE	**DBM**
54Mbps	-77
48Mbps	-78
36Mbps	-82
24Mbps	-85
18Mbps	-89
11Mbps	-90
9Mbps	-91
6Mbps	-92

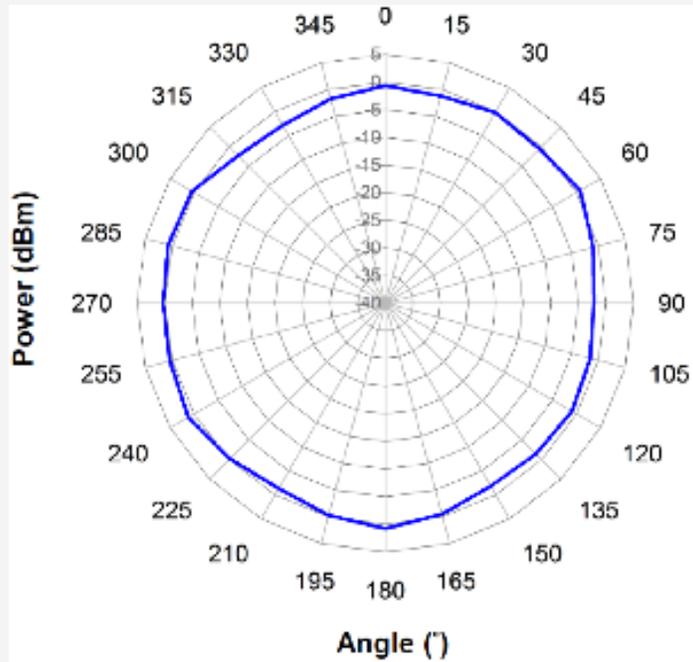**2.4GHZ, 11G**

3825i Antenna Radiation Patterns
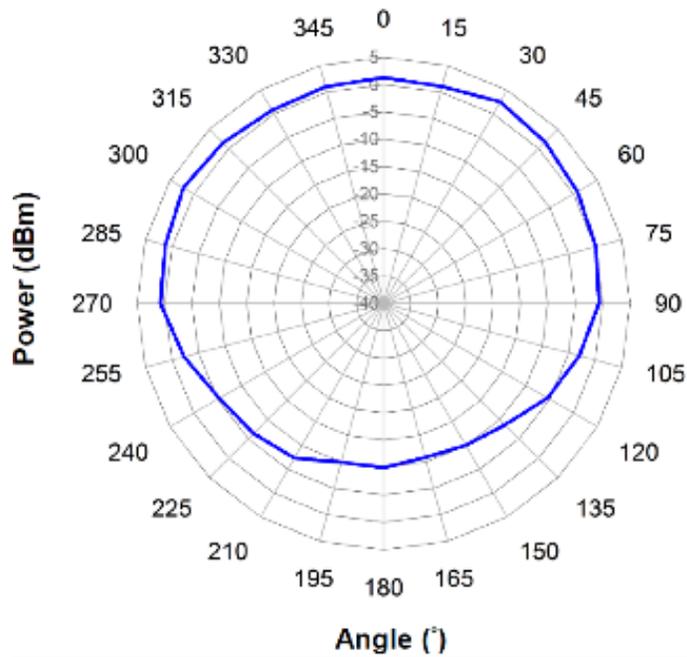
HORIZONTAL RADIATION PATTERN 2.4GHZ
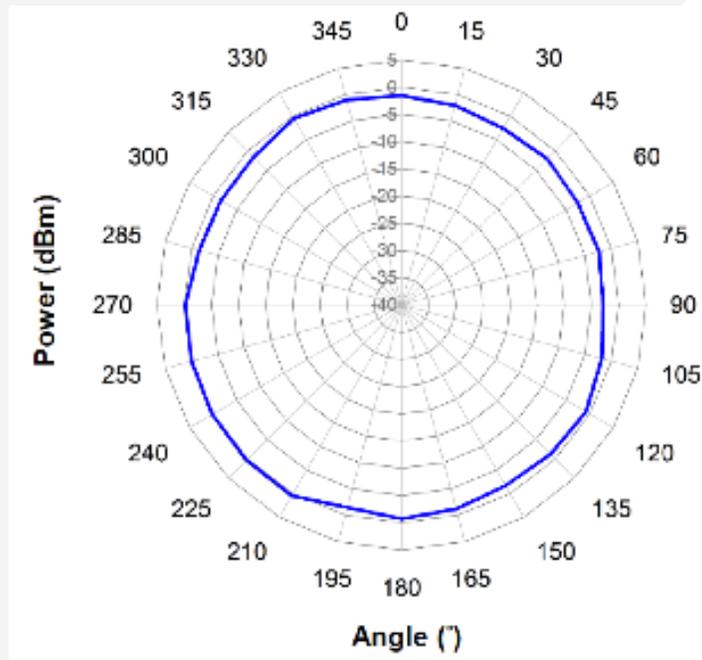
VERTICAL RADIATION PATTERN 2.4GHZ
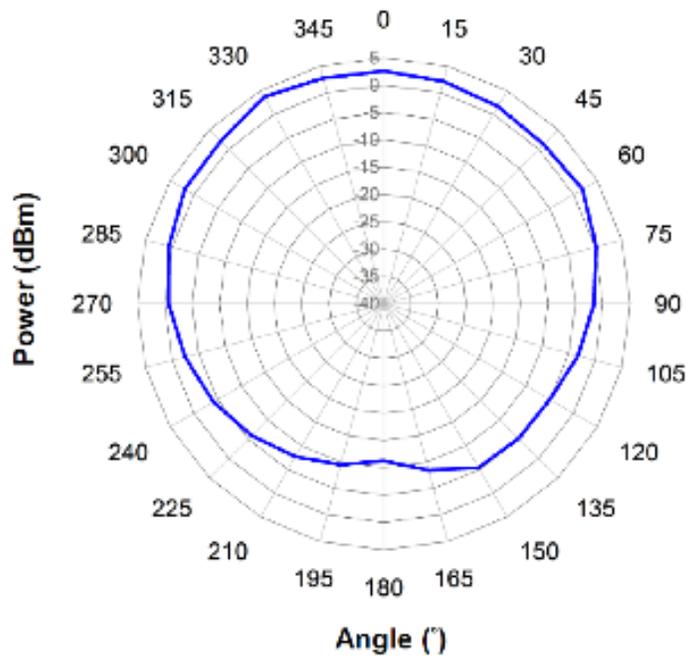
HORIZONTAL RADIATION PATTERN 5GHZ

VERTICAL RADIATION PATTERN 5GHZ

Warranty

As a customer-centric company, Extreme Networks is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible. For full warranty terms and conditions please go to: http://www.extremenetworks.com/support/enterasys-support/how-to/warranty/.

Service & Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimization of customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Extreme Networks account executive for more information about Extreme Networks Service and Support.

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http://www.extremenetworks.com/contact ╱ Phone +1-408-579-2800