



# 3715i/e Indoor Access Point

High Performance, Enterprise-Grade for Mission Critical Deployments



## Product Overview

The AP3715 is a high-performance 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. Redundant data ports and multiple power options ensure that the 3715 provides always-on connectivity. This high-performance AP is equally adept at serving high-bandwidth video applications as well as low-latency voice applications. The AP3715i comes with an integrated six antenna array for ease of installation. The AP3715e requires professional installation and includes six RP-SMA antenna connectors supporting both 2.4GHz and 5GHz band antennas. This power efficient access point uses 802.3af Power over Ethernet or an optional external power supply.

The AP3715 comes packed with the latest in Wi-Fi technology including dynamic radio management, spectrum analysis with interference classification, beamforming, self-forming and self-healing meshing, security, role-based authentication, authorization, and access control. The 3x3:3 platforms are capable of delivering 900Mbps over-the-air-performance and up to 60,000 packets per second on the wire port. Multiple antenna offerings (e.g., omni, sector, and panel) ensure that the AP3715e deployment can be optimized to meet any coverage or capacity need.

# Specifications

Product features	AP3715i/e
<b>General</b>	
High performance enterprise class AP	✓
Number of radios	2
MIMO implementation for high performance 11n throughputs	3x3
Number of spatial streams	3
Maximum Throughput Per Radio / Total	450Mbps / 900Mbps
Wired performance in packets per second (pps)	60,000 pps
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
<b>Multiple operating modes</b>	
Clients serving access points	✓
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 session	✓
Simultaneous RF monitoring and client services	✓
In-channel WIDS	✓
In-channel WIPS	✓
Dedicated multi-channel WIDS (Guardian mode)	✓
Dedicated multi-channel WIPS (Guardian mode)	✓
Dedicated multi-channel RF spectrum analysis and fingerprinting	✓
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	✓
<b>Hybrid operation</b>	
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	✓
<b>Radio characteristics</b>	
<b>Max transmit power</b>	
Radio 1 (5GHz)	28 dBm
Radio 2 (2.4GHz)	24 dBm
<b>Max antenna gain (integrated antenna)</b>	
Radio 1 (5GHz)	5 dBi (AP3715i)
Radio 2 (2.4GHz)	5 dBi (AP3715i)
<b>Adaptive Radio Management</b>	
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	✓
<b>QoS for Applications</b>	
Quality of Service (WMM, 802.11e)	✓
Call Admission Control (TSPEC)	✓
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	✓
<b>Multicast Rate Control</b>	
Multicast to unicast Conversion	✓
Adaptable rate multicast	✓
Power save mode optimization for multicast	✓
<b>Wireless Services</b>	
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
Frequency Bands	802.11a/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 2.4835 GHz (FCC / IC / ETSI)
Wireless Modulation	802.11a: OFDM 802.11b: DSSS 802.11g: DSSS and OFDM 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
<b>Interfaces</b>	
# 10/100/1000 Base T Ethernet autosensing link	2
Console port for the ease of installation and management	✓
<b>Mounting</b>	
Direct wall installation	✓
Drop-ceiling mounting bracket (15/16" rail)	✓
Environmental	Plenum rated (EN/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)
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

	<ul style="list-style-type: none"> <li>•EN 50385</li> <li>•EN 55011 (CISPR 11) Class B Group 1 ISM</li> <li>•EN 55022 (CISPR 22)</li> <li>•EN 60601-1-2</li> <li>•AS/NZS3548 (CISPR22)</li> </ul> <p>International (including China)</p> <ul style="list-style-type: none"> <li>•IEC 60950-1</li> <li>•IEC 60825</li> </ul> <p>Europe</p> <ul style="list-style-type: none"> <li>•EN 60950-1</li> <li>•EN 60825</li> </ul> <p>USA / Canada / Mexico (NAFTA)</p> <ul style="list-style-type: none"> <li>•UL 60950-1</li> <li>•CSA 22.2 No.60950-1-03</li> </ul> <p>Australia</p> <ul style="list-style-type: none"> <li>•AS/NZS 60950.1</li> </ul>
<b>Mechanical</b>	
Dimensions (W x H x L)	6.56" x 1.34" x 6.56" (AP3715i) 7.12" x 1.34" x 6.56" (AP3715e)
Weight	567g
Max power consumption	12.8W
Warranty	Lifetime

# Ordering Information

Part Number	Description
<b>Access Points</b>	
WS-AP3715i	Dual Radio 802.11a/b/g/n, 3x3:3, indoor access point with six internal antenna array and redundant E/N data ports
WS-AP3715e	Dual Radio 802.11a/b/g/n, 3x3:3, indoor access point with six reverse polarity SMA connectors for external antennas and redundant E/N data ports (antennas must be ordered separately)
<b>Antennas (Required for AP3715e)</b>	
WS-ANT-2DIP-3	2.4GHz Indoor Dipole Antenna for 3715e only (3 pack)
WS-ANT-5DIP-3	5GHz Indoor Dipole Antenna for 3715e only (3 pack)
WS-AI-DT04360	Indoor, 2.4GHz / 5GHz, Triple-feed, 3/4 dBi, Omni, Ceiling (Sept 2013)
WS-AI-DT05120	Indoor, 2.4GHz / 5GHz, Triple-feed, 5 dBi, 120 deg, Sector (Sept 2013)
WS-AI-DX02360	Indoor, 2.4GHz / 5GHz, Six-feed, 2 dBi, Omni, Ceiling (Sept 2013)
WS-AI-DX07025	Indoor, 2.4GHz / 5GHz, Six-feed, 7 dBi, 25 deg, Sector (Sept 2013)
<b>Cables / Connectors</b>	
WS-CAB-6DBATTN	6db attenuator with RSMA connectors
WS-CAB-10DBATTN	10db attenuator with RSMA connectors
<b>Accessories</b>	
WS-PS3X12-AU	12V External Power Supply for 3715 Indoor Access Points - Australia
WS-PS3X12-BR	12V External Power Supply for 3715 Indoor Access Points - Brazil
WS-PS3X12-CN	12V External Power Supply for 3715 Indoor Access Points - China
WS-PS3X12-EU	12V External Power Supply for 3715 Indoor Access Points - EU (not for UK)
WS-PS3X12-NAM	12V External Power Supply for 3715 Indoor Access Points - Americas (not for Brazil)
WS-PS3X12-UK	12V External Power Supply for 3715 Indoor Access Points - United Kingdom
<b>Mid-Span PoE Devices</b>	
PD-3501G-ENT	Single port, 1 Gigabit 802.3af PoE Midspan

# 802.11n Performance

## Data Rates (Mbps)

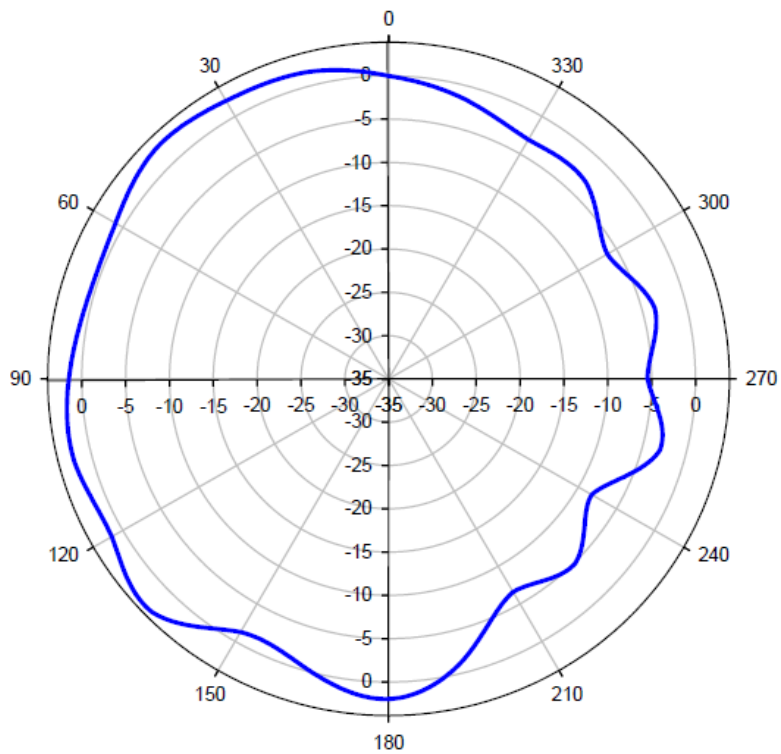
	Spatial Streams	2.4GHz		5GHz	
		HT20 Normal GI	HT20 Short GI	HT40 Normal GI	HT40 Short GI
MCS0	1	6.5	7.2	13.5	15
MCS1	1	13	14.4	27	30
MCS2	1	19.5	21.7	40.5	45
MCS3	1	26	28.9	54	60
MCS4	1	39	43.3	81	90
MCS5	1	52	57.8	108	120
MCS6	1	58.5	65	121.5	135
MCS7	1	65	72.2	135	150
MCS8	2	13	14.4	27	30
MCS9	2	26	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

## Receive Sensitivity (dBm)

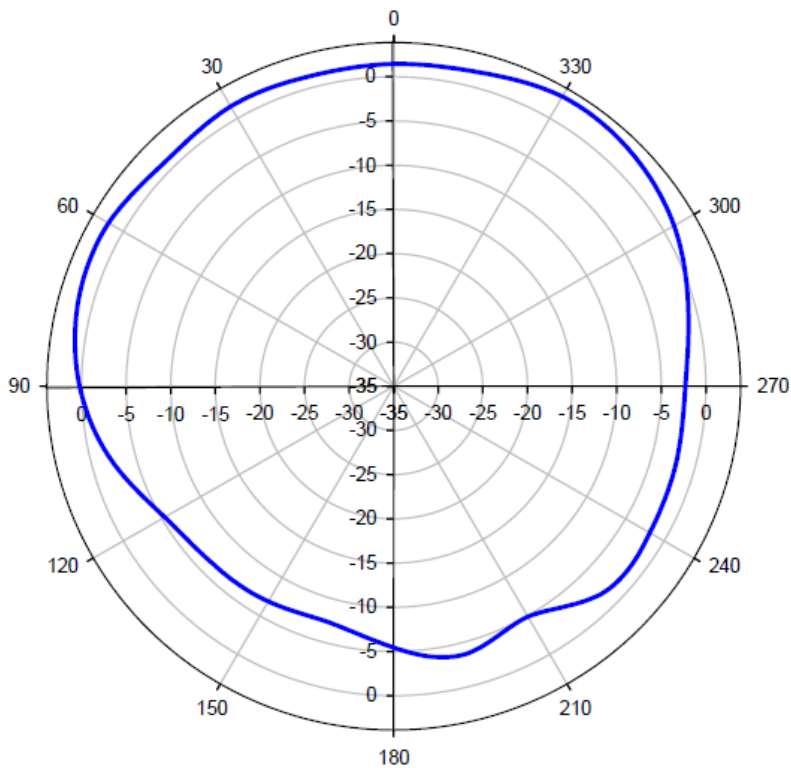
		2.4GHz		5GHz	
	Spatial Streams	HT20 Normal GI	HT40 Short GI	HT20 Normal GI	HT40 Short GI
MCS0	1	-85	-82	-90.5	-86.5
MCS1	1	-86	-83	-88	-85
MCS2	1	-86.5	-82.5	-85.5	-82
MCS3	1	-85	-82	-83	-80
MCS4	1	-81	-78	-79	-76
MCS5	1	-73	-70	-71.5	-68
MCS6	1	-71	-68	-70	-67
MCS7	1	-70.5	-67.5	-68	-64
MCS8	2	-82.5	-80	-88.5	-79
MCS9	2	-86	-83	-86	-83
MCS10	2	-86.5	-83.5	-85	-82
MCS11	2	-82	-79	-86	-83
MCS12	2	-79.5	-77	-78	-75.5
MCS13	2	-78	-75	-74	-72
MCS14	2	-75	-72	-72	-69
MCS15	2	-74	-71.5	-70	-66
MCS16	3	-93	-90.5	-93	-90
MCS17	3	-86	-83	-87	-84
MCS18	3	-87	-84.5	-88	-85
MCS19	3	-82	-79	-89	-86
MCS20	3	-80.5	-78	-81	-78.5
MCS21	3	-81	-78	-77	-74
MCS22	3	-74	-71	-71	-68
MCS23	3	-71	-68.5	-69	-64

# 3715i Antenna Radiation Patterns

## Horizontal Radiation Pattern 2.4GHz

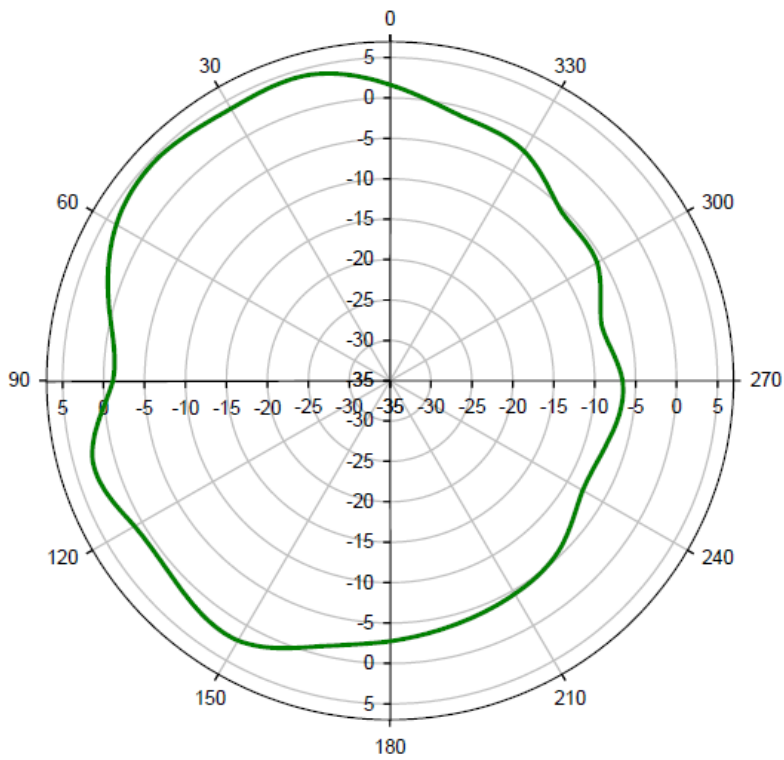


## Vertical Radiation Pattern 2.4GHz

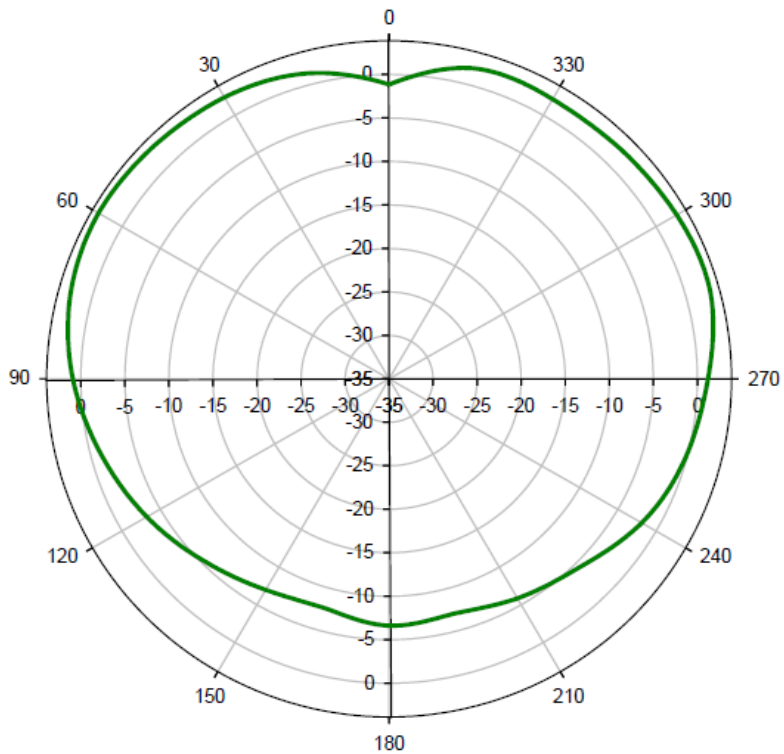




## Horizontal Radiation Pattern 5GHz



## Vertical Radiation Pattern 5GHz



## Warranty

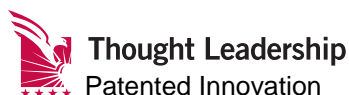
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