

FortiAP™ Series

Integrated 802.11ac Access Points

FortiAP access points are managed centrally by the integrated WLAN controller of any FortiGate® security appliance or can be managed through the FortiCloud provisioning and management portal. With the integration of the wireless controller functionality into the market leading FortiGate appliance, Fortinet delivers a true Unified Access Layer. This enables you to easily manage wired and wireless security from a Single-pane-of-glass management console and protects your network from the latest security threats.



Unified Management

Unified management console simplifies operations, ensuring consistent and effective policy enforcement and compliance.



Advanced Security Protection

Wireless LAN security done right, from the leader in network security. Integrated Firewall, IPS, Application Control, and Web Filtering protect the wireless LAN from the latest security threats.



Built-in WiFi Security

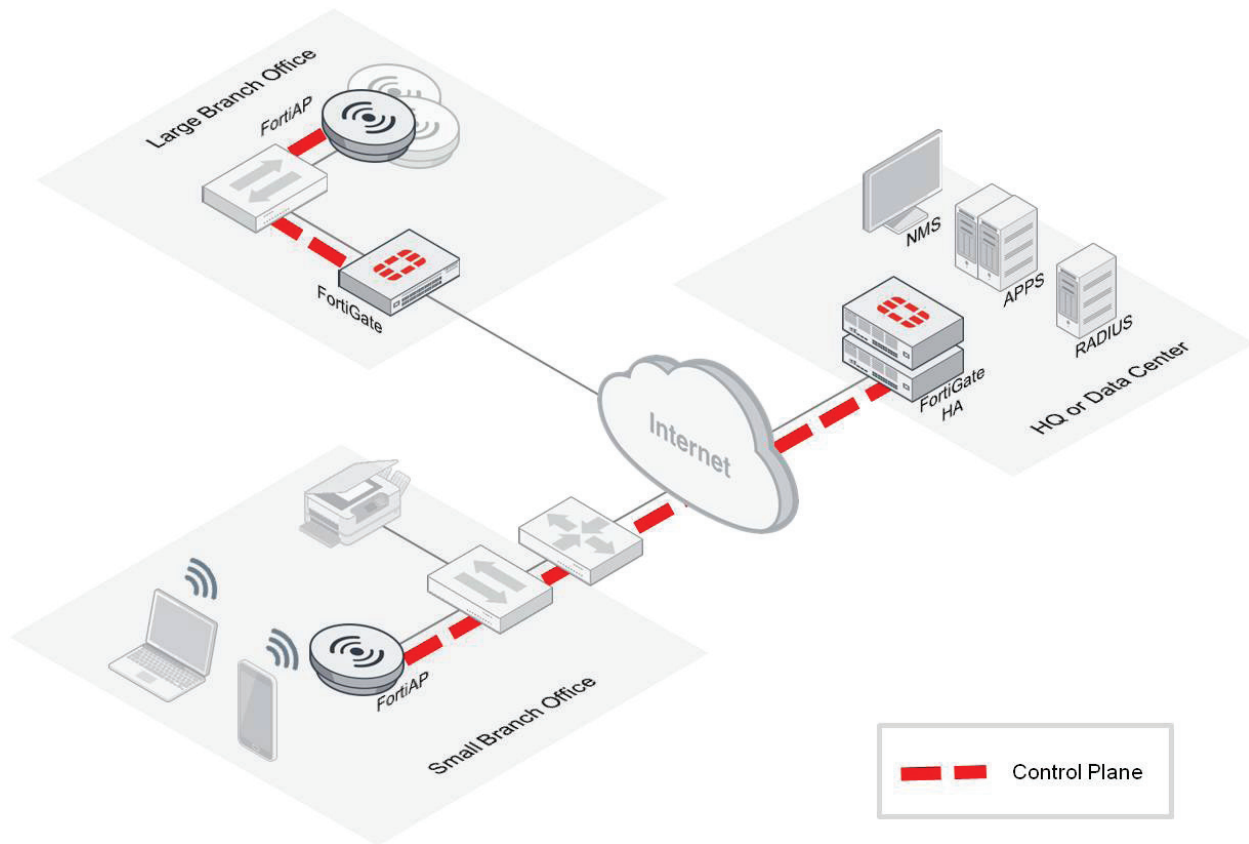
Protects the network from advanced wireless threats and satisfies PCI DSS compliance.

Product Offerings

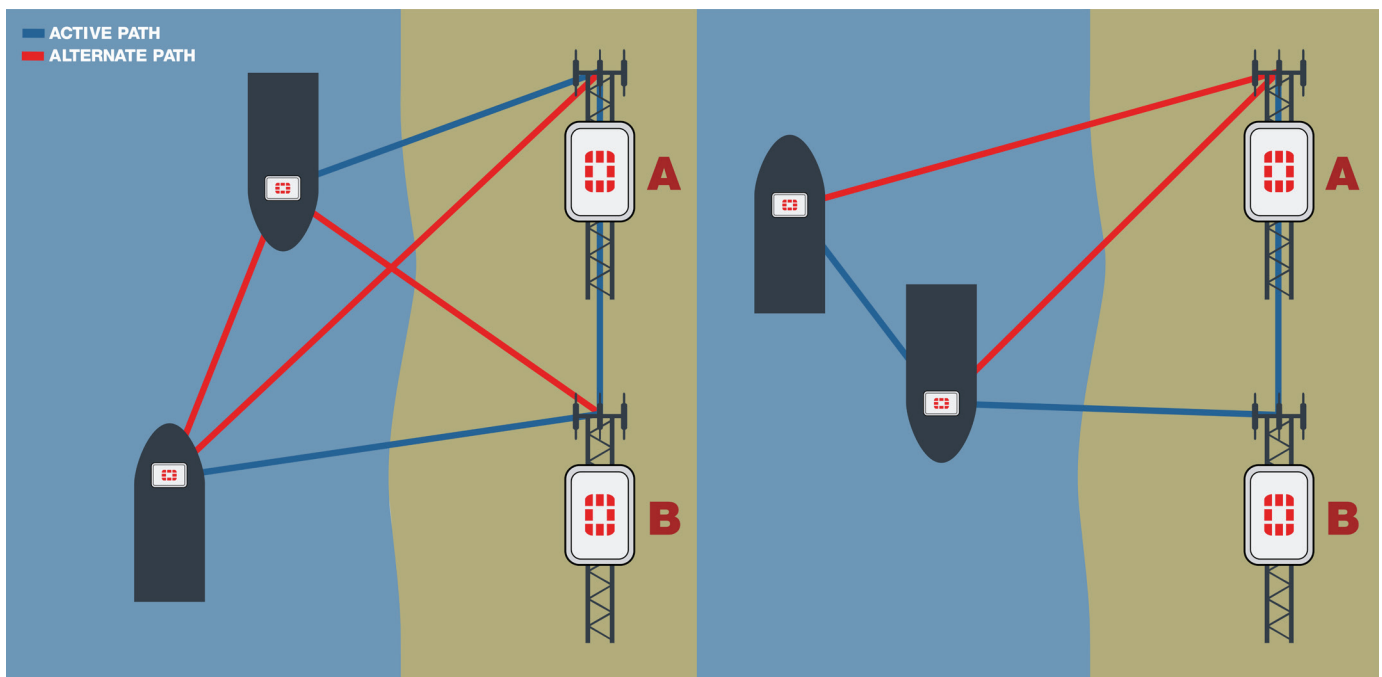
802.11ac Wave 1	FAP-221C FAP-223C	2x2 MIMO APs with dual radio
	FAP-320C	3x3 MIMO AP with dual radio
	FAP-321C	3x3 MIMO AP with dual radio
	FAP-222C	Outdoor, IP67 rated AP, 2x2 MIMO with dual radio with a variety of external antenna options
	FAP-221E FAP-223E	2x2 MU-MIMO APs with dual radio
802.11ac Wave 2	FAP-222E	Outdoor, IP67 rated AP, 2x2 MU-MIMO with dual radio with a variety of external antenna options
	FAP-421E FAP-423E	4x4 MU-MIMO APs with dual radio

DEPLOYMENT

Centralized or Local Wireless Controller

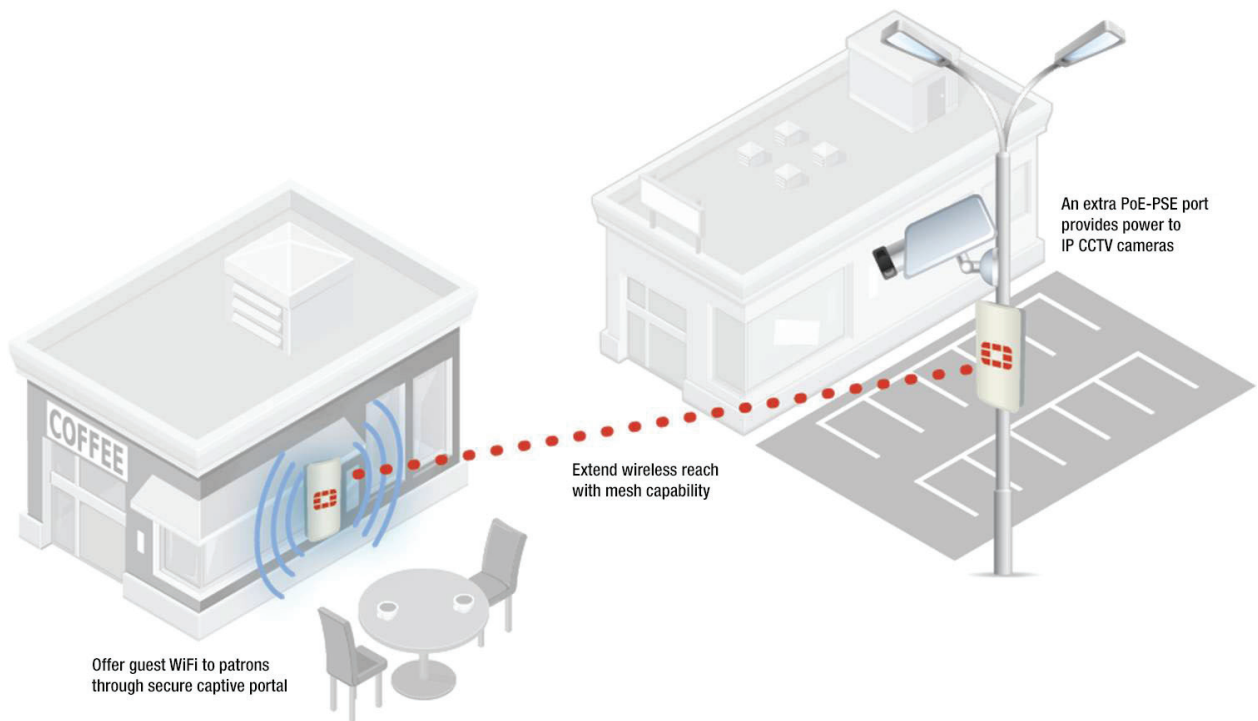


Outdoor Point-to-Point Bridging or Multipoint Mesh Deployment



DEPLOYMENT

Outdoor Mesh and PoE Pass-Through Deployment



HIGHLIGHTS

FortiAP 221C and 223C

The FortiAP 221C and FortiAP 223C are dual-radio 802.11ac APs, designed for medium density indoor environments, including hotspot and guest or social WiFi deployments. The smoke detector form factor is perfect where discreet installation is required, like school classrooms and retail stores.



802.11ac Wave 1 | 2.4/5 GHz and 5 GHz Radios | 4 Internal/External Antennas



2x2 MIMO | Up to 300 + 867 Mbps

SPECIFICATIONS

	FORTIAP 221C	FORTIAP 223C
Hardware		
Hardware Type	Indoor	Indoor
Number of Radios	2	2
Number of Antennas	4 internal	4 RP-SMA External
Peak Antenna Gain	3.5 dBi for 2.4 GHz, 6 dBi for 5 GHz	3 dBi for 2.4 GHz, 3 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	
Frequency of Radio 1	2.4 GHz b/g/n or 5 GHz a/n	2.4 GHz b/g/n or 5 GHz a/n
Frequency of Radio 2	5 GHz a/n/ac	5 GHz a/n/ac
Maximum Data Rate	Radio 1: Up to 300 Mbps, Radio 2: Up to 867 Mbps	Radio 1: Up to 300 Mbps, Radio 2: Up to 867 Mbps
Tx/Rx Streams	2x2 MIMO 2 spatial stream	2x2 MIMO 2 spatial stream
Ethernet Ports	1x GE RJ45	1x GE RJ45
USB Port	—	—
Serial Console Port	—	—
Power over Ethernet (PoE)	IEEE 802.3af (12.9 W)	IEEE 802.3af (12.9 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	
Simultaneous SSIDs	16 (14 if background scanning enabled)	16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist	
Maximum Tx Power	20 dBm (100 mW) *	20 dBm (100 mW) *
Physical Security	Kensington Lock	Kensington Lock
Mean Time Between Failures	> 10 years	> 10 years
IEEE Specifications	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.1x, 802.3af, 802.11ac	
802.11ac 80 MHz Channel	Yes	Yes
Mounting Options	Ceiling, T-Rail and wall	Ceiling, T-Rail and wall
Included Accessories	Ceiling, T-Rail and wall mount kit	Ceiling, T-Rail and wall mount kit
FortiPresence Capable	Yes	Yes
802.11n Features	20 MHz and 40 MHz High-Throughput (HT) Support Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation Conserve power via Dynamic MIMO power save	

	FORTIAP 221C	FORTIAP 223C
Advanced 802.11n to enhance rate-over-range including:	Low-density parity check (LDPC) encoding	
	Maximum likelihood demodulation (MLD)	
	Maximum Ratio Combining (MRC) for improved receiver performance	
Wireless Monitoring Capabilities		
Frequencies scanned	2.4 and 5 GHz	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes	Yes
Full-time scan as dedicated monitor	Yes	Yes
Full-time scan with client access on 5G GHz	No in AP mode	No in AP mode
Dimensions		
Diameter x Height	6.3 x 1.5 inches (16.0 x 3.8 cm)	6.3 x 1.5 inches (16.0 x 3.8 cm)
Weight	0.64 lb (0.3 kg)	0.64 lb (0.3 kg)
Package (shipping) Weight	1.21 lb (0.55 kg)	1.37 lb (0.62 kg)
Environment		
Power Supply	Adapter Input: 100–240V, 50/60Hz, 0.4A Output: 12V DC, 2A	Adapter Input: 100–240V, 50/60Hz, 0.4A Output: 12V DC, 2A
Power Consumption (Avg.)	7.8 W	7.8 W
Power Consumption (Max.)	12 W	12 W
Humidity	5–90% non condensing	5–90% non condensing
Operating Temperature	32–104°F (0–40°C)	32–104°F (0–40°C)
Storage Temperature	-4–140°F (-20–60°C)	-4–140°F (-20–60°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
Certifications		
WiFi Alliance Certified	Yes	No
DFS Certified for Europe and Japan	Yes	Yes
Warranty		
Limited Lifetime Warranty	Yes	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

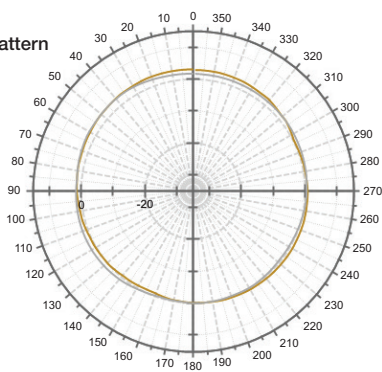
FORTIAP 221C / 223C						
RADIO 1				RADIO 2		
802.11 a/g	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	20	-86	—	-86	18	-86
9 Mbps	20	-85	—	-85	18	-85
12 Mbps	20	-83	—	-83	17	-83
18 Mbps	20	-81	—	-81	17	-81
24 Mbps	20	-78	—	-78	17	-78
36 Mbps	20	-75	—	-75	16	-75
48 Mbps	19	-74	—	-74	15	-74
54 Mbps	17	-73	—	-73	15	-73
802.11n HT20						
MCS 0/8	18	-86	—	-86	18	-86
MCS 1/9	18	-83	—	-83	18	-83
MCS 2/10	18	-81	—	-81	18	-81
MCS 3/11	18	-78	—	-78	18	-78
MCS 4/12	18	-76	—	-76	17	-76
MCS 5/13	18	-72	—	-74	16	-74
MCS 6/14	17	-71	—	-73	15	-73
MCS 7/15	16	-70	—	-72	14	-72
802.11n HT40						
MCS 0/8	18	-83	—	-83	18	-83
MCS 1/9	18	-80	—	-80	18	-80
MCS 2/10	18	-78	—	-78	18	-78
MCS 3/11	18	-75	—	-75	18	-75
MCS 4/12	18	-73	—	-73	16	-73
MCS 5/13	18	-72	—	-72	15	-72
MCS 6/14	17	-71	—	-70	14	-70
MCS 7/15	16	-70	—	-69	13	-69
802.11ac VHT20						
MCS 0	—	—	—	—	18	-90
MCS 1	—	—	—	—	17	-86
MCS 2	—	—	—	—	17	-82
MCS 3	—	—	—	—	17	-78
MCS 4	—	—	—	—	17	-74
MCS 5	—	—	—	—	16	-70
MCS 6	—	—	—	—	15	-69
MCS 7	—	—	—	—	14	-68
MCS 8	—	—	—	—	13	-67
802.11 ac VHT40						
MCS 0	—	—	—	—	18	-86
MCS 1	—	—	—	—	16	-82
MCS 2	—	—	—	—	16	-78
MCS 3	—	—	—	—	16	-74
MCS 4	—	—	—	—	16	-70
MCS 5	—	—	—	—	15	-69
MCS 6	—	—	—	—	14	-68
MCS 7	—	—	—	—	13	-66
MCS 8	—	—	—	—	13	-64
MCS 9	—	—	—	—	12	-62
802.11ac VHT80						
MCS 0	—	—	—	—	18	-81
MCS 1	—	—	—	—	16	-78
MCS 2	—	—	—	—	16	-74
MCS 3	—	—	—	—	16	-70
MCS 4	—	—	—	—	16	-69
MCS 5	—	—	—	—	15	-68
MCS 6	—	—	—	—	14	-66
MCS 7	—	—	—	—	13	-64
MCS 8	—	—	—	—	13	-62
MCS 9	—	—	—	—	12	-60

ANTENNA RADIATION PATTERNS

FAP-221C

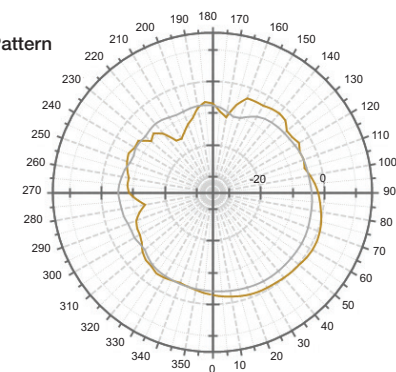


H-Plane Pattern



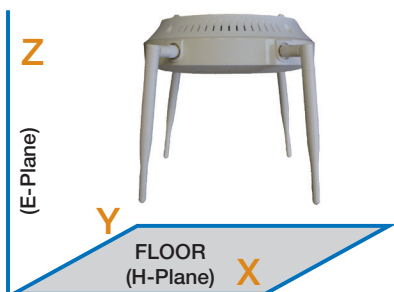
Radio 1 - 2.4 GHz Radio 2 - 5.5 GHz

E-Plane Pattern

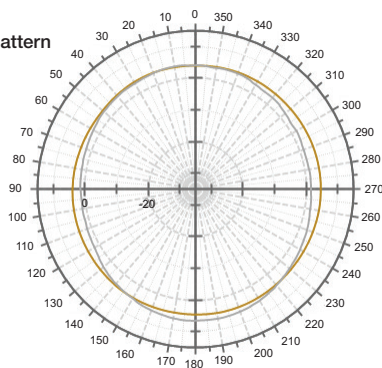


Radio 1 - 2.4 GHz Radio 2 - 5.5 GHz

FAP-223C

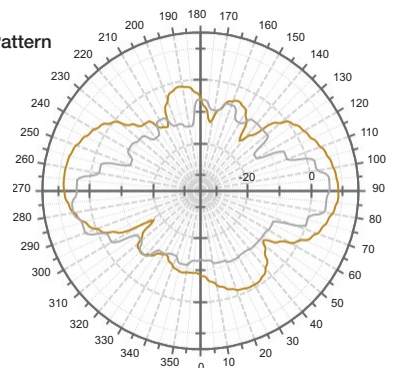


H-Plane Pattern



Radio 1 - 2.4 GHz Radio 2 - 5.5 GHz

E-Plane Pattern



Radio 1 - 2.4 GHz Radio 2 - 5.5 GHz

HIGHLIGHTS

FortiAP 320C

The FortiAP 320C is a dual-radio 802.11ac AP for high density environments. Designed with dual redundant PoE Ethernet ports to provide maximum resiliency, this AP is ideal for mission-critical environments such as hospitals and manufacturing facilities. The plenum-rated enclosure and extended temperature range also allows deployment in non-temperature controlled warehouses.



802.11ac Wave 1 | Dual Radio 2.4 and 5 GHz | 6 Internal Antennas



3x3 MIMO | Up to 450 + 1,300 Mbps

SPECIFICATIONS

FORTIAP 320C	
Hardware	
Hardware Type	Indoor Plenum Rated
Number of Radios	2
Number of Antennas	6 Internal
Peak Antenna Gain	5 dBi for 2.4 GHz, 6 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Frequency of Radio 1	2.4 GHz b/g/n
Frequency of Radio 2	5 GHz a/n/ac
Maximum Data Rate	Radio 1: Up to 450 Mbps, Radio 2: Up to 1300 Mbps
Tx/Rx Streams	3x3 MIMO with 3 spatial streams
Ethernet Ports	2x GE RJ45
USB Port	1x Type A
Serial Console Port	Yes
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3af (12.9 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)
Simultaneous SSIDs	16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	21 dBm (126 mW) *
Physical Security	Kensington Lock
Mean Time Between Failures	> 10 years
IEEE Specifications	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11n, 802.1x, 802.3af, 802.11ac
802.11ac 80MHz Channel	Yes
802.11n Features	20 MHz and 40 MHz High-Throughput (HT) Support Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation Conserve power via Dynamic MIMO power save

FORTIAP 320C	
Advanced 802.11n to enhance rate-over-range including:	Low-density parity check (LDPC) encoding Maximum likelihood demodulation (MLD) Maximum Ratio Combining (MRC) for improved receiver performance
Mounting Options	Ceiling, T-Rail and wall
Included Accessories	Ceiling, T-Rail and wall mount kit
FortiPresence Capable	Yes
Wireless Monitoring Capabilities	
Frequencies scanned	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes
Full-time scan as dedicated monitor	Yes
Full-time scan with client access on 5G GHz	No in AP mode
Dimensions	
Length x Width x Height	6.5 x 6.5 x 1.4 inches (16.5 x 16.5 x 3.5 cm)
Weight	1.33 lb (0.6 kg)
Package (shipping) Weight	1.79 lb (0.81 kg)
Environment	
Power Supply	Adapter Input: 100–240V, 50/60Hz, 0.4A Output: 12V DC, 2A
Power Consumption (Average)	10.5 W
Power Consumption (Maximum)	12.08 W
Humidity	5–90% non condensing
Operating Temperature	–4–122°F (–20–50°C)
Storage Temperature	–40–158°F (–40–70°C)
Directives	Low Voltage Directive • RoHS
Certifications	
WiFi Alliance Certified	Yes
DFS Certified for Europe	Yes
Warranty	
Limited Lifetime Warranty	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

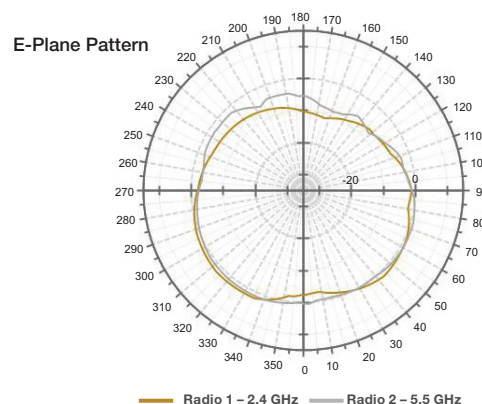
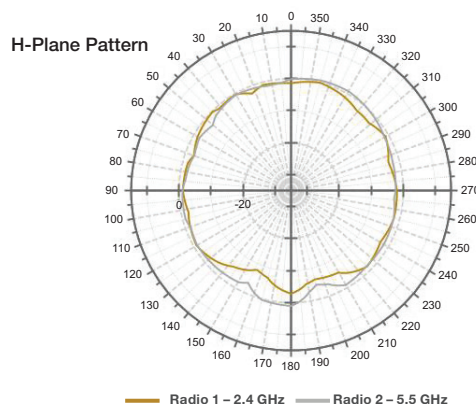
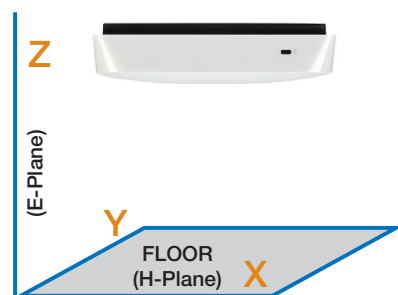
RF RX/TX PERFORMANCE TABLE

FORTIAP 320C				
	RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
802.11 a/g				
6 Mbps	19	-85	21	-89
9 Mbps	19	-84	21	-88
12 Mbps	19	-83	21	-87
18 Mbps	19	-81	21	-85
24 Mbps	19	-78	20	-84
36 Mbps	16	-74	19	-83
48 Mbps	16	-70	18	-79
54 Mbps	16	-69	17	-76
802.11n HT20				
MCS 0/8	18	-85	20	-89
MCS 1/9	18	-83	20	-88
MCS 2/10	18	-81	20	-87
MCS 3/11	18	-78	19	-85
MCS 4/12	16	-74	19	-84
MCS 5/13	16	-70	18	-83
MCS 6/14	15	-69	17	-79
MCS 7/15	15	-68	16	-73
802.11n HT40				
MCS 0/8	17	-82	18	-91
MCS 1/9	17	-80	18	-85
MCS 2/10	17	-78	18	-85
MCS 3/11	17	-75	18	-80
MCS 4/12	15	-71	18	-78
MCS 5/13	15	-67	17	-76
MCS 6/14	14	-66	16	-74
MCS 7/15	14	-65	15	-71

FORTIAP 320C				
	RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
802.11ac VHT20				
MCS 0	—	—	20	-85
MCS 1	—	—	20	-84
MCS 2	—	—	20	-83
MCS 3	—	—	19	-82
MCS 4	—	—	19	-81
MCS 5	—	—	18	-78
MCS 6	—	—	17	-74
MCS 7	—	—	16	-70
MCS 8	—	—	15	-69
802.11ac VHT40				
MCS 0	—	—	18	-85
MCS 1	—	—	18	-84
MCS 2	—	—	18	-83
MCS 3	—	—	18	-82
MCS 4	—	—	18	-81
MCS 5	—	—	17	-78
MCS 6	—	—	16	-74
MCS 7	—	—	15	-70
MCS 8	—	—	14	-69
MCS 9	—	—	14	-68
802.11ac VHT80				
MCS 0	—	—	18	-78
MCS 1	—	—	18	-75
MCS 2	—	—	18	-73
MCS 3	—	—	18	-70
MCS 4	—	—	18	-67
MCS 5	—	—	17	-65
MCS 6	—	—	16	-62
MCS 7	—	—	15	-60
MCS 8	—	—	14	-58
MCS 9	—	—	14	-56

ANTENNA RADIATION PATTERNS

FAP-320C



HIGHLIGHTS

FortiAP 321C

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Serial Console Port	—
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Maximum Tx Power	20 (100 mW) *
Physical Security	Kensington Lock
Mean Time Between Failures	> 10 years
IEEE Specifications	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.1x, 802.3af, 802.11ac
802.11ac 80 MHz Channel	Yes
802.11n Features	20 MHz and 40 MHz High-Throughput (HT) Support Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation Conserve power via Dynamic MIMO power save

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Included Accessories	Ceiling, T-Rail and wall mount kit
FortiPresence Capable	Yes
Wireless Monitoring Capabilities	
Frequencies scanned	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes
Full-time scan as dedicated monitor	Yes
Full-time scan with client access on 5G GHz	No in AP mode
Dimensions	
Diameter x Height	6.3 x 1.66 inches (16.2 x 4.2 cm)
Weight	0.77 lb (0.35 kg)
Package (shipping) Weight	1.33 lb (0.6 kg)
Environment	
Power Supply	Adapter Input: 100–240V, 50/60Hz, 0.4A Output: 12V DC, 2A
Power Consumption (Average)	4.9 W
Power Consumption (Maximum)	12 W, 12.6 W (with PoE)
Humidity	5–90% non condensing
Operating Temperature	32–113°F (0–45°C)
Storage Temperature	-4–140°F (-20–60°C)
Directives	Low Voltage Directive • RoHS
Certifications	
WiFi Alliance Certified	Yes
DFS Certified for Europe	Yes
Warranty	
Limited Lifetime Warranty	Yes

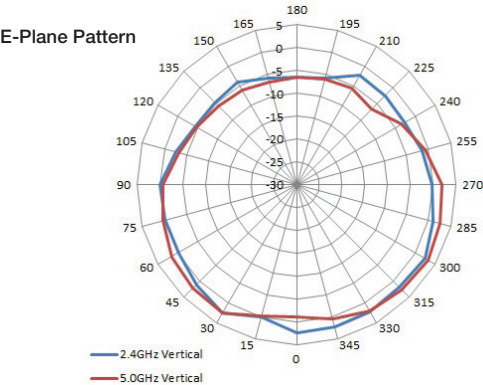
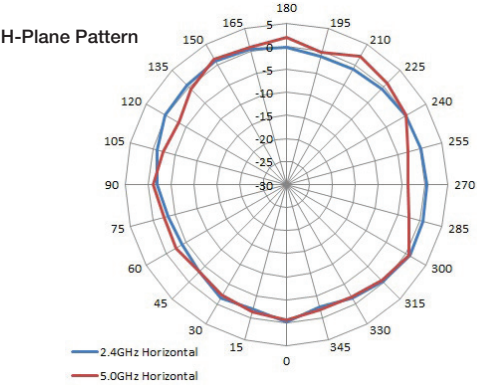
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

FORTIAP 321C				
RADIO 1			RADIO 2	
802.11 a/g	2.4 GHz Tx Power (dBm) (Total)	RX Sensitivity (dBm) (Combined)	5 GHz Tx Power (dBm) (Total)	RX Sensitivity (dBm) (Combined)
6 Mbps	24	-90	25	-93
9 Mbps	24	-90	25	-91
12 Mbps	24	-89	25	-89
18 Mbps	24	-87	25	-87
24 Mbps	24	-84	25	-84
36 Mbps	21	-80	25	-80
48 Mbps	21	-76	19	-78
54 Mbps	21	-75	19	-77
802.11 n HT20				
MCS 0/8/16	23	-90	25	-93
MCS 1/9/17	23	-87	25	-87
MCS 2/10/18	23	-85	25	-85
MCS 3/11/19	23	-82	25	-82
MCS 4/12/20	21	-78	25	-78
MCS 5/13/21	21	-76	25	-77
MCS 6/14/22	20	-75	25	-76
MCS 7/15/23	20	-74	24	-75
802.11 n HT40				
MCS 0/8/16	22	-87	25	-90
MCS 1/9/17	22	-84	25	-84
MCS 2/10/18	22	-82	25	-82
MCS 3/11/19	22	-79	25	-79
MCS 4/12/20	20	-75	25	-76
MCS 5/13/21	20	-73	25	-75
MCS 6/14/22	19	-72	25	-74
MCS 7/15/23	19	-71	24	-73
802.11 ac VHT20				
MCS 0	—	—	25	-93
MCS 1	—	—	25	-87
MCS 2	—	—	25	-85
MCS 3	—	—	25	-82
MCS 4	—	—	25	-78
MCS 5	—	—	25	-77
MCS 6	—	—	25	-76
MCS 7	—	—	24	-75
MCS 8	—	—	22	-71
802.11 ac VHT40				
MCS 0	—	—	25	-90
MCS 1	—	—	25	-84
MCS 2	—	—	25	-82
MCS 3	—	—	25	-79
MCS 4	—	—	25	-76
MCS 5	—	—	25	-75
MCS 6	—	—	25	-74
MCS 7	—	—	24	-73
MCS 8	—	—	22	-67
MCS 9	—	—	20	-65
802.11 ac VHT80				
MCS 0	—	—	25	-88
MCS 1	—	—	25	-81
MCS 2	—	—	25	-79
MCS 3	—	—	25	-76
MCS 4	—	—	25	-72
MCS 5	—	—	25	-69
MCS 6	—	—	25	-68
MCS 7	—	—	24	-67
MCS 8	—	—	22	-65
MCS 9	—	—	20	-63

ANTENNA RADIATION PATTERNS

FAP-321C



HIGHLIGHTS

FortiAP 222C

The FortiAP 222C is a high-performance dual-band 2x2 MIMO 802.11ac AP. Designed in a ruggedized IP67-rated enclosure and capable of withstanding extended temperature ranges, this AP is suitable for deployment in the harsh conditions. The AP uses high-quality external antennas for long-distance and mission-critical bridging or mesh deployments.



802.11ac Wave 1 | Dual Radio 2.4 and 5 GHz | 4 External Antennas



2x2 MIMO | Up to 300 + 867 Mbps



SPECIFICATIONS

FORTIAP 222C	
Hardware	
Hardware Type	Outdoor IP67 rated, status LEDs, gore vent for pressure equalization
Number of Radios	2
Number of Antennas	4 external N-Type
Peak Antenna Gain	3.5 dBi for 2.4 GHz, 6 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Frequency of Radio 1	2.4 GHz a/n/ac
Frequency of Radio 2	5 GHz b/g/n
Maximum Data Rate	Radio 1: Up to 300 Mbps, Radio 2: Up to 867 Mbps
Tx/Rx Streams	2x2 MIMO with 2 spatial streams
Ethernet Ports	1x GE RJ45
USB Port	—
Serial Console Port	—
Power over Ethernet (PoE)	IEEE 802.3at or included PoE injector
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)
Simultaneous SSIDs	16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	26 dBm (398 mW) *
Physical Security	Concrete and pole mount
Mean Time Between Failures	> 7 years
IEEE Specifications	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.1x, 802.3af, 802.11ac
802.11ac 80 MHz Channel	Yes
802.11n Features	20 MHz and 40 MHz High-Throughput (HT) Support Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation Conserve power via Dynamic MIMO power save

FORTIAP 222C	
Advanced 802.11n to enhance rate-over-range including:	Low-density parity check (LDPC) encoding Maximum likelihood demodulation (MLD) Maximum Ratio Combining (MRC) for improved receiver
Mounting Options	Wall or pole
Included Accessories	PoE injector with AC power adapter, pole mount kit, wall mount kit, grounding cable, surge protector, 4x dipole antennas
FortiPresence Capable	Yes
Wireless Monitoring Capabilities	
Frequencies scanned	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes
Full-time scan as dedicated monitor	No in AP mode
Dimensions	
Length x Width x Height	9.8 x 8.7 x 2.1 inches (249 x 220 x 53 mm)
Weight	3.68 lbs (1.67 kg)
Package (shipping) Weight	9.1 lbs (4.31 kg)
Environment	
Power Supply	Proprietary PoE Injector Adapter Input: 100–240V AC, 50–60 Hz
Power Consumption (Average)	16 W
Power Consumption (Maximum)	18.4 W
Humidity	5–90% non-condensing
Operating Temperature	–40–140°F (–40–60°C)
Storage Temperature	–40–158°F (–40–70°C)
Directives	Low Voltage Directive • RoHS
Certifications	
WiFi Alliance Certified	Yes
DFS Certified for Europe	Yes

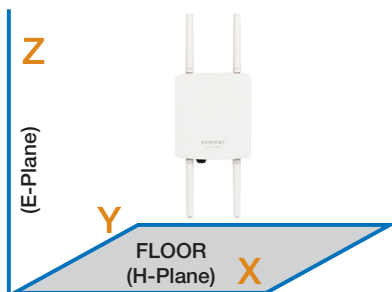
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

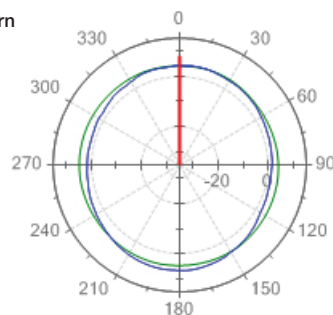
	FORTIAP 222C RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	27	-92	24	-93
54 Mbps	25	-75	20	-77
802.11n HT20				
MCS 0/8	27	-91	24	-93
MCS 1/9	27	-89	24	-91
MCS 2/10	27	-88	24	-87
MCS 3/11	27	-85	23	-84
MCS 4/12	26	-81	23	-81
MCS 5/13	25	-78	21	-77
MCS 6/14	25	-76	20	-76
MCS 7/15	24	-73	20	-74
802.11n HT40				
MCS 0/8	27	-86	24	-89
MCS 1/9	27	-87	24	-86
MCS 2/10	27	-86	24	-84
MCS 3/11	27	-83	24	-81
MCS 4/12	26	-79	24	-78
MCS 5/13	24	-77	22	-76
MCS 6/14	24	-72	20	-75
MCS 7/15	24	-71	20	-73
802.11ac HT80				
MCS 0	—	—	24	-87
MCS 1	—	—	24	-85
MCS 2	—	—	24	-83
MCS 3	—	—	24	-79
MCS 4	—	—	24	-77
MCS 5	—	—	22	-76
MCS 6	—	—	21	-75
MCS 7	—	—	20	-73
MCS 8	—	—	18	-65
MCS 9	—	—	17	-61

ANTENNA RADIATION PATTERNS

FAP-222C

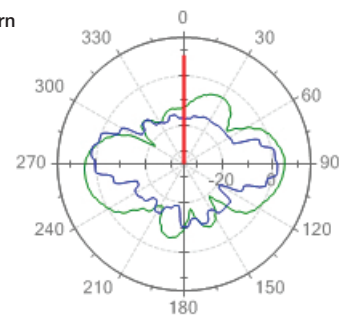


H-Plane Pattern



— Radio 1 – 2.4 GHz — Radio 2 – 5.5 GHz

E-Plane Pattern



— Radio 1 – 2.4 GHz — Radio 2 – 5.5 GHz

HIGHLIGHTS

FortiAP 221E and 223E

The FortiAP 221E and 223E are medium-density 802.11ac Wave 2 access points. These Enterprise-class access points are ideal for medium-density environments such as office or classroom with Performance Throughput of up to 867 Mbps.



802.11ac Wave 2 | Dual Radio 2.4 and 5 GHz | 4 Internal/External Antennas



2x2 MU-MIMO | Up to 400 + 867 Mbps



SPECIFICATIONS

	FORTIAP 221E	FORTIAP 223E
Hardware		
Hardware Type	Indoor	Indoor
Number of Radios	2	2
Number of Antennas	4 Internal	4 RP-SMA External
Peak Antenna Gain	4 dBi for 2.4 GHz, 5 dBi for 5 GHz	3 dBi for 2.4 GHz, 3 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	
Frequency of Radio 1	2.4 GHz b/g/n (2x2:2 stream) 20/40 MHz (256 QAM)	2.4 GHz b/g/n (2x2:2 stream) 20/40 MHz (256 QAM)
Frequency of Radio 2	5 GHz a/n/ac (2x2:2 stream) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2 stream) 20/40/80 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 400 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 400 Mbps Radio 2: up to 867 Mbps
Ethernet Ports	1x GE RJ45	1x GE RJ45
USB Port	1x Type A	x Type A
Serial Console Port	1 RS-232 x RJ45	1 RS-232 x RJ45
Power over Ethernet (PoE)	IEEE 802.3af	IEEE 802.3af
Simultaneous SSIDs	16 (14 if background scanning enabled)	16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist	
Maximum Tx Power	22 dBm (158 mW)*	22 dBm (158 mW)*
Physical Security	Kensington Lock	Kensington Lock
IEEE Specifications	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.1x, 802.11ac, 802.3af, 802.3az	
FortiPresence Capable	Yes	Yes
Wireless Mesh Capable	Yes	Yes
Concurrent Clients Per Radio (Maximum / Recommended)	512 / 512	512 / 512
Advanced 802.11 Features		
802.11ac Wave 2 MU-MIMO	Yes	Yes
Transmit Beam Forming (TxBF)	Yes	Yes
Low-Density Parity Check (LDPC) Encoding	Yes	Yes
Maximum Likelihood Demodulation (MLD)	Yes	Yes
Maximum Ratio Combining (MRC)	Yes	Yes
802.11ac 20/40/80 MHz Channel	Yes	Yes

	FORTIAP 221E	FORTIAP 223E
A-MPDU and A-MSDU Packet Aggregation	Yes	Yes
MIMO Power Save	Yes	Yes
Short Guard Interval	Yes	Yes
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	
Wireless Monitoring Capabilities		
Frequencies Scanned	2.4 and 5 GHz	2.4 and 5 GHz
Background Scan with Client Access on 2.4 and 5 GHz	Yes	Yes
Full-time Scan as Dedicated Monitor	Yes	Yes
Full-time Scan with Client Access on 5G GHz	No in AP mode	No in AP mode
Dimensions		
Diameter x Height	6.3 x 1.85 inches (160 x 47 mm)	6.3 x 1.85 inches (160 x 47 mm)
Weight	1.1 lb (0.5 kg)	1.1 lb (0.5 kg)
Package (shipping) Weight	4.95 lb (2.2 kg)	5.3 lb (2.4 kg)
Mounting Options	Ceiling, T-Rail and wall	Ceiling, T-Rail and wall
Included Accessories	Ceiling, T-Rail and Wall mount kit (AC power adapter sold separately)	Ceiling, T-Rail and Wall mount kit and 8 dipole antennas (AC power adapter sold separately)
Environment		
Power Supply	Adapter Input: 100–240V, 50/60Hz, 0.9A Maximum Output: 12V DC, 3A	Adapter Input: 100–240V, 50/60Hz, 0.9A Maximum Output: 12V DC, 3A
Power Consumption (Avg.)	10.25 W	10.25 W
Power Consumption (Max.)	12.36 W	12.36 W
Humidity	5–90% non condensing	5–90% non condensing
Operating Temperature	–4–122°F (–20–50°C)	–4–122°F (–20–50°C)
Storage Temperature	–40–158°F (–40–70°C)	–40–158°F (–40–70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes	Yes
Mean Time Between Failures	>30 Years	>30 Years
Certifications		
WiFi Alliance Certified	Yes	Yes
DFS Certified	Yes	Yes
Hotspot 2.0 Certified	Yes	Yes
Warranty		
Limited Lifetime Warranty	Yes	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

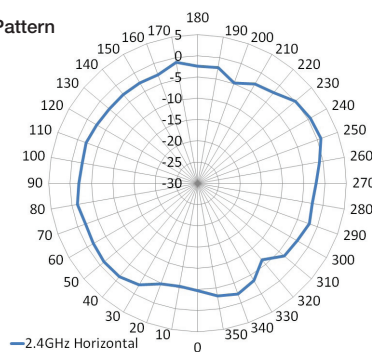
FORTIAP 221E / 223E				
802.11 a/g	RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	RX Sensitivity (dBm)	5 GHz Tx Power (dBm)	RX Sensitivity (dBm)
6 Mbps	20	-93	21	-91
9 Mbps	20	-91	21	-90
12 Mbps	20	-90	21	-89
18 Mbps	19	-88	21	-86
24 Mbps	19	-85	21	-83
36 Mbps	18	-82	21	-80
48 Mbps	18	-77	19	-76
54 Mbps	17	-75	19	-74
802.11 n HT20				
MCS 0/8/16	20	-91	21	-91
MCS 1/9/17	19	-89	21	-88
MCS 2/10/18	19	-86	21	-86
MCS 3/11/19	18	-83	21	-83
MCS 4/12/20	18	-80	21	-79
MCS 5/13/21	17	-75	21	-75
MCS 6/14/22	17	-73	19	-74
MCS 7/15/23	16	-71	19	-72
802.11 n HT40				
MCS 0/8/16	19	-89	20	-88
MCS 1/9/17	19	-86	20	-85
MCS 2/10/18	18	-84	20	-82
MCS 3/11/19	18	-81	20	-79
MCS 4/12/20	17	-77	20	-76
MCS 5/13/21	17	-73	20	-72
MCS 6/14/22	16	-71	19	-70
MCS 7/15/23	16	-69	19	-69
802.11 ac VHT20				
MCS 0	19	-91	21	-91
MCS 1	19	-89	21	-88
MCS 2	19	-86	21	-86
MCS 3	18	-83	21	-83
MCS 4	18	-80	21	-79
MCS 5	18	-76	21	-75
MCS 6	18	-73	19	-74
MCS 7	18	-71	19	-72
MCS 8	18	-68	18	-69
802.11 ac VHT40				
MCS 0	19	-89	20	-88
MCS 1	19	-86	20	-85
MCS 2	19	-84	20	-82
MCS 3	18	-81	20	-79
MCS 4	17	-77	20	-76
MCS 5	17	-73	20	-72
MCS 6	17	-71	19	-70
MCS 7	17	-69	19	-69
MCS 8	17	-68	18	-65
MCS 9	16	-66	17	-64
802.11 ac VHT80				
MCS 0	—	—	19	-85
MCS 1	—	—	19	-83
MCS 2	—	—	19	-80
MCS 3	—	—	19	-77
MCS 4	—	—	19	-74
MCS 5	—	—	19	-71
MCS 6	—	—	18	-69
MCS 7	—	—	18	-68
MCS 8	—	—	17	-63
MCS 9	—	—	17	-61

ANTENNA RADIATION PATTERNS

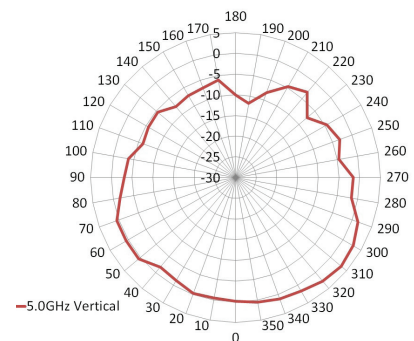
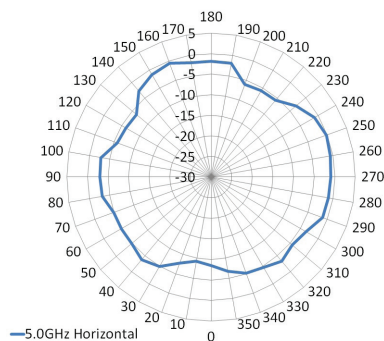
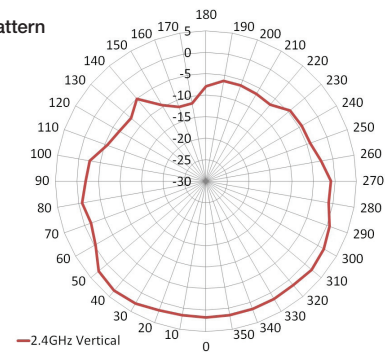
FAP-221E



H-Plane Pattern



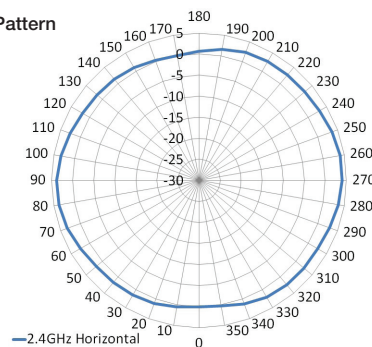
E-Plane Pattern



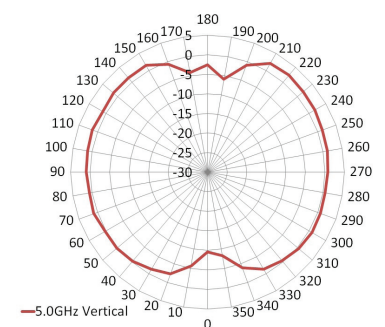
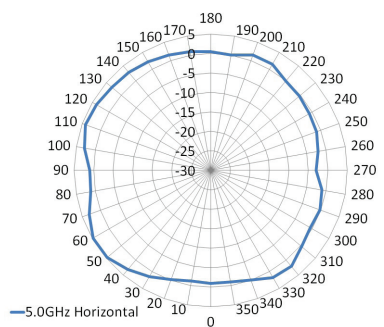
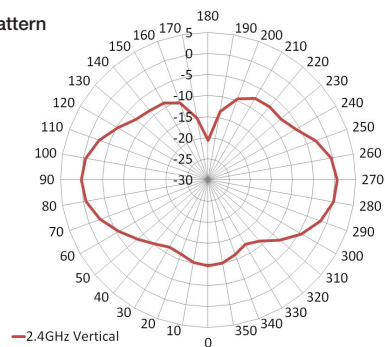
FAP-223E



H-Plane Pattern



E-Plane Pattern



HIGHLIGHTS

FortiAP 222E

The FAP-222E is a new member of our 802.11ac Wave 2 family with MU-MIMO capability and transmit beam forming capable of handling an astounding 512 clients per radio. This high-performance dual-band AP is ruggedized with an Ingress Protection IP67-rated enclosure capable of withstanding extended temperature ranges. The FAP-222E is suitable for deployment in the harsh conditions. It has 4 internal antennas for WiFi and one Bluetooth and is suitable for mission-critical bridging or mesh deployments.



802.11ac Wave 2 | Dual Radio 2.4 and 5 GHz | High Gain Omni-directional Antennas



2x2 MU-MIMO | Up to 400 + 866.7 Mbps

SPECIFICATIONS

FORTIAP 222E	
Hardware	
Hardware Type	Indoor/Outdoor Universal AP
Number of Radios	2
Number of Antennas	4 External
Peak Antenna Gain	5 dBi for 2.4 GHz, 7 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Frequency of Radio 1	2.4 GHz b/g/n (2x2:2 stream) 20/40 MHz (256 QAM)
Frequency of Radio 2	5 GHz a/n/ac (2x2:2 stream) 20/40/80 MHz (256 QAM) MU-MIMO 2 simultaneous devices
Maximum Data Rate	Radio 1: up to 400 Mbps, Radio 2: up to 867 Mbps
Ethernet Ports	1x GE RJ45, 1x GE RJ45 (PoE)
Optical Fiber	1x SFP cage
Serial Console Port	Internal console port
Power over Ethernet (PoE)	IEEE 802.3at/at (12.5 W / 30 W)
Simultaneous SSIDs	16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	22 dBm (158 mW) @ 2.4 GHz per chain* 22 dBm (158 mW) @ 5 GHz per chain*
Physical Security	N/A
IEEE Specifications	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.3af, 802.11ac, 802.3at, 802.3az
FortiPresence Capable	Yes
Wireless Mesh Capable	Yes
Modes of Operation	FortiGate or FortiCloud management
SSID Types Supported	Local-Bridge, Tunnel & Mesh (when managed by controller)
FortiDeploy & FortiCloud Key	Yes
Concurrent Clients Per Radio (Maximum / Recommended)	512/40
LED Off Mode	Yes
Advanced 802.11 Features	
802.11ac Wave2 MU-MIMO	Yes
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes

FORTIAP 222E	
MIMO Power Save	Yes
Short Guard Interval	Yes
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)
Wireless Monitoring Capabilities	
Frequencies Scanned	2.4 and 5 GHz
Background Scan with Client Access on 2.4 and 5 GHz	Yes
Full-time Scan as Dedicated Monitor	Yes
Full-time Scan with Client Access on 5G GHz	No
Packet Sniffer Mode	Yes
Spectrum Analyzer	Yes — Dedicated chipset
Dimensions	
Length x Width x Height	9.8 x 8.66 x 2.08 inches (249 x 220 x 53 mm)
Weight	3.82 lb (1,735 g)
Package (shipping) Weight	5.82 lb (2.64 kg)
Mounting Options	Adjustable Pole mount kit (right/left rotation: 25°, tilt up: -20°, tilt down: 90°)
Included Accessories	Wall/Pole mount kit and 6M grounding cable
Environment	
Power Supply	PSE Device
Power Consumption (Avg. / Max.)	13.5 W / 17.5 W
Humidity	5–90% non-condensing
Operating / Storage Temperature	-4–149°F (-20–65°C) / -4–158°F (-20–70°C)
Directives	Low Voltage Directive • RoHS
UL2043 Plenum Material	N/A (Top Cover)
Mean Time Between Failures	>10 Years
IP Rating	IP67
Certifications	
WiFi Alliance Certified	In Process
DFS Certified	In Process
CB	IEC 60950-1
UL	UL 60950-1, CSA C22.2 No. 60950-1
FCC	FCC Part 15 Subpart B (Class B), Subpart C and Subpart E
IC	RSS-247, RSS-GEN, RSS-102, ICES-003
CE	CE R&TTE Directive 2014/53/EU (EN 300 328, EN 301 893, EN 301 489) EMC Directive 2004/108/EC (EN55032, EN 55024)
Warranty	
Limited Lifetime Warranty	1 Year**

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

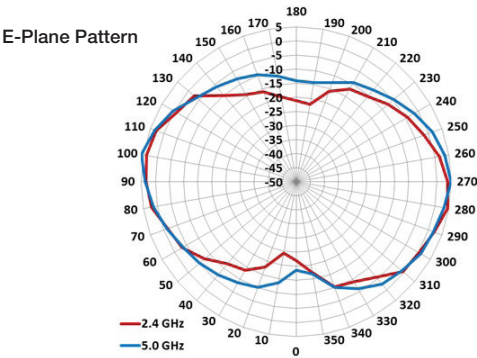
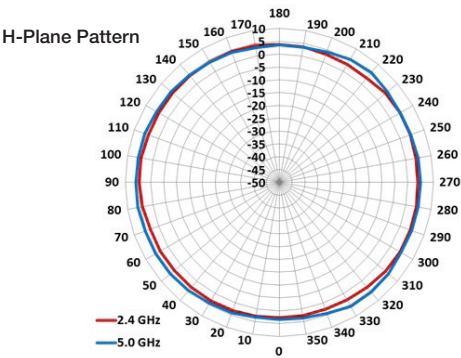
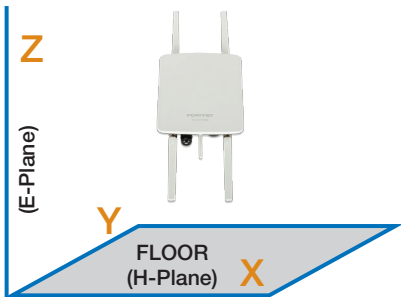
** Warranty from Liteon: 12 months after shipping date from LTC manufacturing facility.

RF RX/TX PERFORMANCE TABLE

FORTIAP 222E				
802.11 a/g	RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm) per Chain	RX Sensitivity (dBm) per Chain	5 GHz Tx Power (dBm) per Chain	RX Sensitivity (dBm) per Chain
6 Mbps	24.2	-91	26.5	-90
9 Mbps	24.2	-90	26.5	-89
12 Mbps	24.2	-88	26.5	-88
18 Mbps	24.1	-86	26.4	-85
24 Mbps	24.1	-83	26.4	-82
36 Mbps	23.5	-79	24.2	-79
48 Mbps	23.5	-75	23.3	-75
54 Mbps	23.5	-74	23.3	-73
802.11 n HT20				
MSC 0/8/16	24.5	-91	26.5	-90
MSC 1/9/17	24.5	-88	26.5	-87
MSC 2/10/18	24.5	-86	26.5	-85
MSC 3/11/19	24.2	-82	26.4	-82
MSC 4/12/20	24.2	-78	26.4	-78
MSC 5/13/21	23.6	-75	24.2	-74
MSC 6/14/22	23.1	-74	23.2	-72
MSC 7/15/23	23.1	-73	23.2	-70
802.11 n HT40				
MCS 0/8/16	23.8	-89	26.4	-87
MCS 1/9/17	23.8	-86	26.4	-84
MCS 2/10/18	23.8	-84	26.4	-82
MCS 3/11/19	23.8	-80	26.3	-79
MCS 4/12/20	23.8	-77	26.3	-75
MCS 5/13/21	23.2	-74	25.4	-71
MCS 6/14/22	22.6	-73	24.5	-69
MCS 7/15/23	22.6	-72	23.5	-68
802.11 ac VHT20				
MCS 0	—	—	26.4	-90
MCS 1	—	—	26.4	-86
MCS 2	—	—	26.4	-84
MCS 3	—	—	26.3	-82
MCS 4	—	—	26.3	-80
MCS 5	—	—	25.3	-75
MCS 6	—	—	23.3	-73
MCS 7	—	—	22.5	-71
MCS 8	—	—	22.4	-68
802.11 ac VHT40				
MCS 0	—	—	26.3	-87
MCS 1	—	—	26.3	-85
MCS 2	—	—	26.3	-83
MCS 3	—	—	26.3	-80
MCS 4	—	—	26.3	-77
MCS 5	—	—	25.3	-73
MCS 6	—	—	23.3	-72
MCS 7	—	—	22.2	-70
MCS 8	—	—	22.1	-66
MCS 9	—	—	21.9	-64
802.11 ac VHT80				
MCS 0	—	—	25.4	-84
MCS 1	—	—	25.4	-81
MCS 2	—	—	25.4	-78
MCS 3	—	—	25.4	-74
MCS 4	—	—	25.3	-70
MCS 5	—	—	24.2	-66
MCS 6	—	—	23.6	-65
MCS 7	—	—	22.3	-64
MCS 8	—	—	22.1	-60
MCS 9	—	—	22.1	-60

ANTENNA RADIATION PATTERNS

FAP-222E



HIGHLIGHTS

FortiAP 421E and 423E

The FortiAP 421E and 423E access points support the latest 802.11ac Wave 2 standard. Additional features include 802.11ac explicit transmit beamforming (TxBF), multi-user MIMO (MU-MIMO), and more.



802.11ac Wave 2 | Dual Radio 2.4 and 5 GHz | 8 Internal/External Antennas



4x4 MU-MIMO | Up to 800 + 1,733 Mbps



SPECIFICATIONS

	FORTIAP 421E	FORTIAP 423E
Hardware		
Hardware Type	Indoor	Indoor
Number of Radios	2	2
Number of Antennas	8 Internal	8 RP-SMA External
Peak Antenna Gain	4 dBi for 2.4 GHz, 5 dBi for 5 GHz	3 dBi for 2.4 GHz, 3 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	
Frequency of Radio 1	2.4 GHz b/g/n (4x4:4 stream) QCA9980 20/40 MHz (256 QAM)	2.4 GHz b/g/n (4x4:4 stream) QCA9980 20/40 MHz (256 QAM)
Frequency of Radio 2	5 GHz a/n/ac (4x4:4 stream) QCA9980 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (4x4:4 stream) QCA9980 20/40/80 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 800 Mbps Radio 2: up to 1.733 Gbps	Radio 1: up to 800 Mbps Radio 2: up to 1.733 Gbps
Ethernet Ports	2x GE RJ45	2x GE RJ45
USB Port	1x Type A	x Type A
Serial Console Port	1 RS-232 x RJ45	1 RS-232 x RJ45
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W). Also supports 802.1af with reduced functionality. (See FOS 5.6.1 release notes)	
Simultaneous SSIDs	16 (14 if background scanning enabled)	16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist	
Maximum Tx Power	25 dBm (316 mW)*	25 dBm (316 mW)*
Physical Security	Kensington Lock	Kensington Lock
IEEE Specifications	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.1x, 802.11ac, 802.3af, 802.3at, 802.3az, 802.3ad (LACP support)	
FortiPresence Capable	Yes	Yes
Wireless Mesh Capable	Yes	Yes
Concurrent Clients Per Radio (Maximum / Recommended)	512 / 128	512 / 128
Advanced 802.11 Features		
802.11ac Wave2 MU-MIMO	Yes	Yes
Transmit Beam Forming (TxBF)	Yes	Yes
Low-Density Parity Check (LDPC) Encoding	Yes	Yes
Maximum Likelihood Demodulation (MLD)	Yes	Yes
802.11ac 20/40/80 MHz Channel	Yes	Yes

	FORTIAP 421E	FORTIAP 423E
Maximum Ratio Combining (MRC)	Yes	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes	Yes
MIMO Power Save	Yes	Yes
Short Guard Interval	Yes	Yes
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	
Wireless Monitoring Capabilities		
Frequencies Scanned	2.4 and 5 GHz	2.4 and 5 GHz
Background Scan with Client Access on 2.4 and 5 GHz	Yes	Yes
Full-time Scan as Dedicated Monitor	Yes	Yes
Full-time Scan with Client Access on 5G GHz	No in AP mode	No in AP mode
Dimensions		
Length x Width x Height	8.5 x 8.5 x 2.2 inches (215 x 215 x 56 mm)	8.5 x 8.5 x 2.2 inches (215 x 215 x 56 mm)
Weight	3.53 lb (1.6 kg)	3.57 lb (1.62 kg)
Package (shipping) Weight	4.95 lb (2.2 kg)	5.3 lb (2.4 kg)
Mounting Options	Ceiling, T-Rail and wall	Ceiling, T-Rail and wall
Included Accessories	Ceiling, T-Rail and wall mount kit (AC power adapter sold seperately)	Ceiling, T-Rail and wall mount kit and 8 dipole antennas (AC power adapter sold seperately)
Environment		
Power Supply	Adapter Input: 100–240V, 50/60Hz, 0.9A Maximum Output: 12V DC, 3A	Adapter Input: 100–240V, 50/60Hz, 0.9A Maximum Output: 12V DC, 3A
Power Consumption (Avg.)	20 W	20 W
Power Consumption (Max.)	23 W	23 W
Humidity	5–90% non condensing	5–90% non condensing
Operating Temperature	-4–122°F (-20–50°C)	-4–122°F (-20–50°C)
Storage Temperature	-40–158°F (-40–70°C)	-40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes	Yes
Mean Time Between Failures	>30 Years	>30 Years
Certifications		
WiFi Alliance Certified	Yes	Yes
DFS Certified for Europe, Japan and Korea.	Yes	Yes
Hotspot 2.0 Certified	Yes	Yes
Spectralink Certified	Yes	Yes
Warranty		
Limited Lifetime Warranty	Yes	Yes

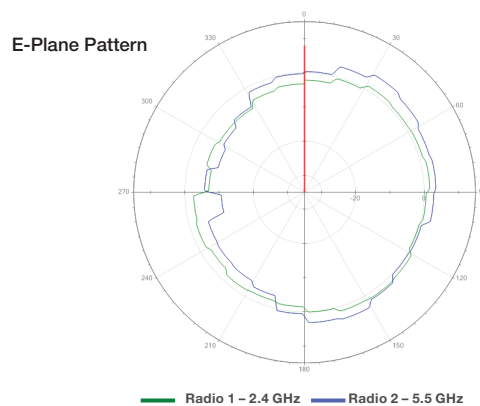
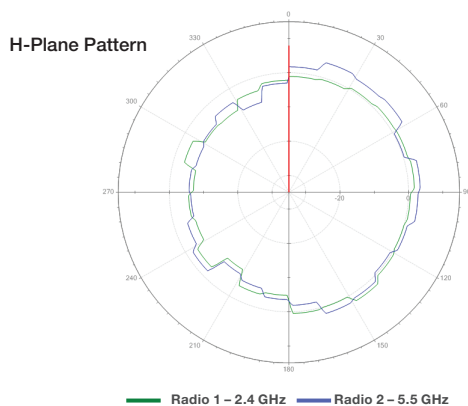
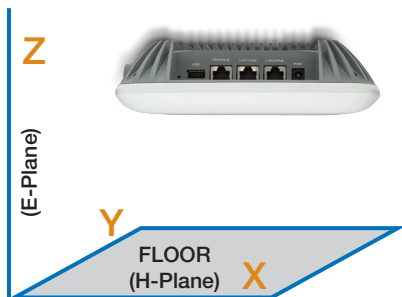
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

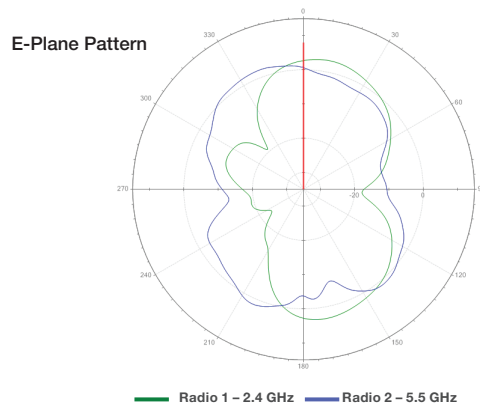
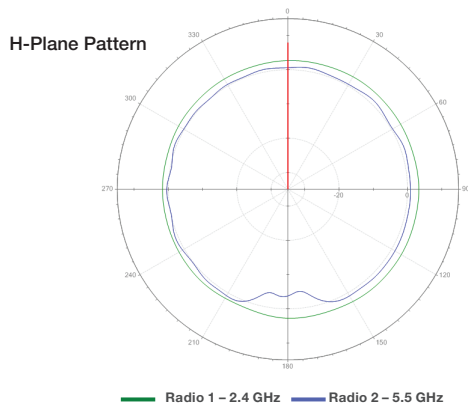
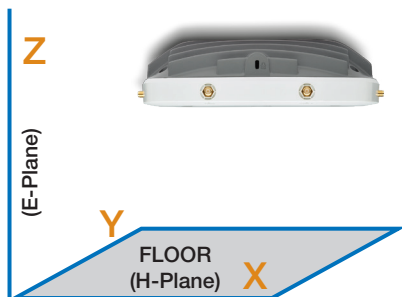
FORTIAP 421E / 423E				
RADIO 1			RADIO 2	
802.11 a/g	2.4 GHz Tx Power per Chain (dBm)	RX Sensitivity (dBm)	5 GHz Tx Power per Chain (dBm)	RX Sensitivity (dBm)
6 Mbps	18	-93	19	-86
9 Mbps	18	-91	19	-83
12 Mbps	18	-88	19	-81
18 Mbps	18	-85	19	-78
24 Mbps	18	-80	19	-76
36 Mbps	18	-77	18	-74
48 Mbps	18	-76	18	-70
54 Mbps	18	-75	16	-66
802.11 HT20				
MSC 0/8/16 (BPSK)	18	-87	18	-84
MSC 1/9/17 (QPSK)	17	-84	17	-81
MSC 2/10/18 (QPSK)	17	-81	17	-79
MSC 3/11/19 (16-QAM)	16	-78	16	-76
MSC 4/12/20 (16-QAM)	16	-73	16	-72
MSC 5/13/21 (64-QAM)	15	-70	15	-68
MSC 6/14/22 (64-QAM)	15	-69	15	-67
MSC 7/15/23 (64-QAM)	15	-67	15	-66
802.11 HT40				
MSC 0/8/16 (BPSK)	18	-84	18	-83
MSC 1/9/17 (QPSK)	17	-80	17	-80
MSC 2/10/18 (QPSK)	17	-77	17	-78
MSC 3/11/19 (16-QAM)	16	-74	16	-75
MSC 4/12/20 (16-QAM)	16	-71	16	-73
MSC 5/13/21 (64-QAM)	15	-67	15	-72
MSC 6/14/22 (64-QAM)	15	-65	15	-70
MSC 7/15/23 (64-QAM)	15	-65	15	-69
MSC 8/16/24 (256-QAM)	—	—	15	-65
MSC 9/17/25 (256-QAM)	—	—	15	-63
802.11 HT80				
MSC 0 (BPSK)	—	—	18	-83
MSC 1 (QPSK)	—	—	17	-80
MSC 2 (QPSK)	—	—	17	-78
MSC 3 (16-QAM)	—	—	16	-75
MSC 4 (16-QAM)	—	—	16	-73
MSC 5 (64-QAM)	—	—	15	-72
MSC 6 (64-QAM)	—	—	15	-70
MSC 7 (64-QAM)	—	—	15	-69
MSC 8 (256-QAM)	—	—	15	-65
MSC 9 (256-QAM)	—	—	15	-63

ANTENNA RADIATION PATTERNS

FAP-421E



FAP-423E



PERFORMANCE MATRIX

802.11ac PERFORMANCE — DATA RATES (Mbps)							
Descriptor	Data Streams	VHT20		VHT40		VHT80	
		Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short GI
MCS 0	1	6.5	7.2	13.5	15	29.3	32.5
MCS 1	1	13	14.4	27	30	58.5	65
MCS 2	1	19.5	21.7	40.5	45	87.8	97.5
MCS 3	1	26	28.9	54	60	117	130
MCS 4	1	39	43.3	81	90	175.5	195
MCS 5	1	52	57.8	108	120	234	260
MCS 6	1	58.5	65	121.5	135	263.3	292.5
MCS 7	1	65	72.2	135	150	292.5	325
MCS 8	1	78	86.7	162	180	351	390
MCS 9	1	NA	NA	180	200	390	433.3
MCS 0	2	13	14.4	27	30	58.5	65
MCS 1	2	26	28.9	54	60	117	130
MCS 2	2	39	43.3	81	90	175.5	195
MCS 3	2	52	57.8	108	120	234	260
MCS 4	2	78	86.7	162	180	351	390
MCS 5	2	104	115.6	216	240	468	520
MCS 6	2	117	130	243	270	526.5	585
MCS 7	2	130	144.4	270	300	585	650
MCS 8	2	156	173.3	324	360	702	780
MCS 9	2	NA	NA	360	400	780	866.7
MCS 0	3	19.5	21.7	40.5	45	87.8	97.5
MCS 1	3	39	43.3	81	90	175.5	195
MCS 2	3	58.5	65	121.5	135	263.3	292.5
MCS 3	3	78	86.7	162	180	351	390
MCS 4	3	117	130	243	270	526.5	585
MCS 5	3	156	173.3	324	360	702	780
MCS 6	3	175.5	195	364.5	405	NA	NA
MCS 7	3	195	216.7	405	450	877.5	975
MCS 8	3	234	260	486	540	1053	1170
MCS 9	3	260	288.9	540	600	1170	1300
MCS 0	4	26	28.9	54	60	117	130
MCS 1	4	52	57.8	108	120	234	260
MCS 2	4	78	86.7	162	180	351	390
MCS 3	4	104	115.6	216	240	468	520
MCS 4	4	156	173.3	324	360	702	780
MCS 5	4	208	231.1	432	480	936	1040
MCS 6	4	234	260	486	540	1053	1170
MCS 7	4	260	288.9	540	600	1170	1300
MCS 8	4	312	346.7	648	720	1404	1560
MCS 9	4	NA	NA	720	800	1560	1733.3

PERFORMANCE MATRIX

802.11n PERFORMANCE — DATA RATES (Mbps)						
Descriptor	Spatial Streams	HT20		HT40		
		Normal GI	Short GI	Normal GI	Short GI	
MCS 0	1	6.5	7.2	13.5	15	
MCS 1	1	13	14.4	27	30	
MCS 2	1	19.5	21.7	40.5	45	
MCS 3	1	26	28.9	54	60	
MCS 4	1	39	43.3	81	90	
MCS 5	1	52	57.8	108	120	
MCS 6	1	58.5	65	121.5	135	
MCS 7	1	65	72.2	135	150	
MCS 8	2	13	14.4	27	30	
MCS 9	2	26	28.9	54	60	
MCS10	2	39	43.3	81	90	
MCS 11	2	52	57.8	108	120	
MCS 12	2	78	86.7	162	180	
MCS 13	2	104	115.6	216	240	
MCS 14	2	117	130	243	270	
MCS 15	2	130	144.4	270	300	
MCS 16	3	19.5	21.7	40.5	45	
MCS 17	3	39	43.3	81	90	
MCS 18	3	58.5	65	121.5	135	
MCS 19	3	78	86.7	162	180	
MCS 20	3	117	130	243	270	
MCS 21	3	156	173.3	324	360	
MCS 22	3	175.5	195	364.5	405	
MCS 23	3	195	216.7	405	450	

ORDER INFORMATION

Product	SKU	Description
FortiAP-221C	FAP-221C	Indoor wireless AP — 1x GE RJ45 port, dual radio (802.11 a/n/ac and 802.11 b/g/n, 2x2 MIMO), ceiling/wall mount kit included, power adapter not included. For Gigabit PoE injector order: GPI-115. For AC power adapter order: SP-FG20C-PA.
	FC-10-P0225-311-02-DD	8x5 FortiCare Contract
	FC-10-P0225-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-221C
FortiAP-223C	FortiAP-223C	Indoor wireless AP — 1x GE RJ45 port, dual radio (802.11 b/g/n and 802.11 a/n/ac, 2x2 MIMO), external antennas, ceiling/wall mount kit included, power adapter not included. For Gigabit PoE injector order: GPI-115. For AC power adapter order: SP-FG20C-PA.
	FC-10-P0229-311-02-DD	8x5 Enhanced FortiCare
	FC-10-P0229-247-02-DD	24x7 Comprehensive FortiCare
	SP-FG20C-PA	AC Power Adapter for FAP-223C
FortiAP-320C	FAP-320C	Indoor wireless AP — 2x GE RJ45 ports, dual radio (802.11 a/n/ac and 802.11 b/g/n, 3x3 MIMO), ceiling/wall mount kit included, power adapter not included. For Gigabit PoE injector order: GPI-115. For AC power adapter order: SP-FG20C-PA.
	FC-10-P0321-311-02-DD	8x5 FortiCare Contract
	FC-10-P0321-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-320C
FortiAP-321C	FAP-321C	Indoor wireless AP — 1x GE RJ45 port, dual radio (802.11 b/g/n and 802.11 a/n/ac, 3x3 MIMO), ceiling/wall mount kit included, power adapter not included. For Gigabit PoE injector order: GPI-115. For AC power adapter order: SP-FG20C-PA.
	FC-10-P0322-311-02-DD	8x5 Enhanced FortiCare
	FC-10-P0322-247-02-DD	24x7 Comprehensive FortiCare
	SP-FG20C-PA	AC Power Adapter for FAP-321C

ORDER INFORMATION

Product	SKU	Description
FortiAP 222C	FAP-222C	Outdoor Wireless AP — 1x GE RJ45 port, dual radio (802.11 a/n/ac and 802.11 b/g/n, 2x2 MIMO), external antennas, ceiling/wall mount kit included, proprietary PoE injector with AC power adapter included.
	FC-10-P0226-311-02-DD	8x5 Enhanced FortiCare
	FC-10-P0226-247-02-DD	24x7 Comprehensive FortiCare
	SP-FAP222B-PA	Proprietary PoE injector with AC power adapter for FortiAP 222C
FortiAP 221E	FAP-221E	Indoor Wireless AP — 1x GE RJ45 port, 802.11 a/b/g/n/ac Wave 2, dual radio (2.4 GHz/5 GHz), 2x2 MU-MIMO, ceiling/wall mount kit included, power adapter not included.
	FC-10-PE221-311-02-DD	8x5 Enhanced FortiCare
	FC-10-PE221-247-02-DD	24x7 Comprehensive FortiCare
FortiAP 223E	FAP-223E	Indoor Wireless AP — 1x GE RJ45 port, 802.11 a/b/g/n/ac Wave 2, dual radio (2.4 GHz/5 GHz), 2x2 MU-MIMO, external antennas, ceiling/wall mount kit included, power adapter not included.
	FC-10-PE223-311-02-DD	8x5 Enhanced FortiCare
	FC-10-PE223-247-02-DD	24x7 Comprehensive FortiCare
FortiAP 222E	FAP-222E	Outdoor Wireless Wave 2 AP — dual radio (802.11 a/b/g/n and 802.11 a/n/ac, 2x2 MU-MIMO and Bluetooth/BLE), 1x GE RJ45 port, pole/wall mount kit, lightning protector and PoE injector and 5 antennas included.
	FC-10-PE222-311-02-DD	8x5 Enhanced FortiCare
	FC-10-PE222-247-02-DD	24x7 Comprehensive FortiCare
FortiAP 421E	FAP-421E	Indoor Wireless AP — 2x GE RJ45 ports, 802.11 a/b/g/n/ac Wave 2, dual radio (2.4 GHz/5 GHz), 4x4 MU-MIMO, ceiling/wall mount kit included, power adapter not included. For Gigabit PoE injector order: GPI-130.
	FC-10-P421E-311-02-DD	8x5 FortiCare Contract
	FC-10-P421E-247-02-DD	24x7 FortiCare Contract
FortiAP 423E	FAP-423E	Indoor Wireless AP — 2x GE RJ45 ports, 802.11 a/b/g/n/ac Wave 2, dual radio (2.4 GHz/5 GHz), 4x4 MU-MIMO, external antennas, ceiling/wall mount kit included, power adapter not included. For Gigabit PoE injector order: GPI-130.
	FC-10-P423E-311-02-DD	8x5 FortiCare Contract
	FC-10-P423E-247-02-DD	24x7 FortiCare Contract
Gigabit PoE Injector	GPI-115	1-Port Gigabit PoE Power Injector, 802.3af 15.4 W, 10/100/1000.
	GPI-130	1-Port Gigabit PoE Power Injector, 802.3at up to 30 W.
Power Adapter	SP-FAP400-PA	AC Power Adapter for FAP-U421EV, FAP-U423EV, FAP-S421E, FAP-S423E, FAP-421E and FAP-423E.
FortiAP-FPL	FAP-FPL-PRO	FortiPlanner Wireless AP Deployment Planning Utility — Pro upgrade license unlocks FortiPlanner Lite (free version) to support more than 50 Access Points and includes site survey tool. Requires Windows 7.

REGION/COUNTRY SKU SUFFIX							
Americas-FCC	China	India	Europe ETSI	Indonesia	International	Japan	Korea
-A	-C	-D	-E	-F	-I	-J	-K
Non-FFCA	Russia	Singapore	Taiwan	Ukraine	Vietnam, Thailand	World 2.4G	Egypt
-N	-P	-S	-T	-U	-V	-W	-Y



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