



FortiAP™
802.11ac Wave 2 Indoor Access Points



FortiAP 802.11ac Wave 2 Series

FortiAP 421E and 423E

Thin Wireless LAN Access Points

FortiAPs are thin access points, delivering secure, identity-driven WiFi access for your enterprise network, managed centrally by the integrated WLAN controller of any FortiGate® security appliance. They can also be managed by FortiCloud. 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.

High Performance 802.11ac Wave 2

The FortiAP 421E and 423E access points support the latest 802.11ac Wave 2 standard, with a client association rate of up to 1.733 Gbps when using 80 Mhz channels. Additional features include 802.11ac explicit transmit beamforming (TxBF), multi-user MIMO (MU-MIMO), and more. The combination of the 802.11ac Wave 2 standard and these advanced features means better client data rates over greater distances, and ultimately a better user experience.

Key Features & Benefits

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.
Integrated WIDS and Rogue AP Suppression	Protects the network from advanced wireless threats and satisfy PCI DSS compliance with the integrated Wireless Intrusion Detection System and Rogue AP detection and suppression features.
Deep Application Control	Fortinet goes above Wireless Multimedia Extensions (WME) by offering deep Layer 7 inspection to precisely control applications and bandwidth usage.

Highlights

- Supports latest 802.11ac Wave 2 technology with association rate of up to 1.733 Gbps
- 4x4 MU-MIMO technology improves client throughput and range
- 802.11ac transmit beamforming (TxBF)
- Modulation up to 256 QAM
- Leverage existing FortiGate or FortiWiFi platforms as controllers for low TCO
- Integration with FortiManager and FortiAnalyzer for centralized management and reporting
- Automatic Radio Resource Provisioning (ARRP) for optimized throughput



HARDWARE

FortiAP 421E

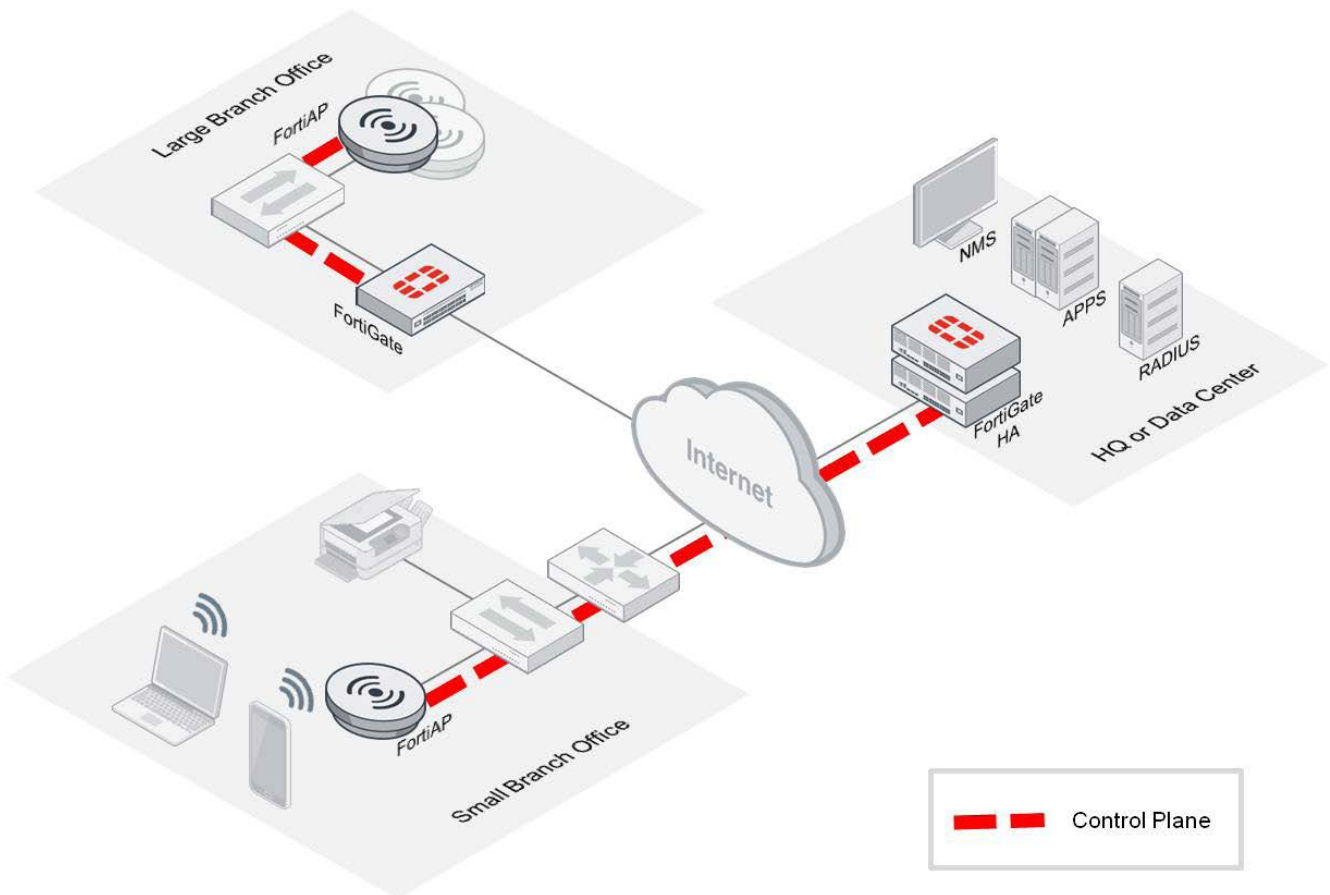


FortiAP 423E



DEPLOYMENT

Centralized or Local Wireless Controller



RF RX/TX PERFORMANCE TABLE

FortiAP 421E, 423E				
802.11 a/g	Radio 1 2.4 GHz		Radio 2 5 GHz	
	MAX TX Power per transmit chain (dBm)	RX Sensitivity per receiver chain (dBm)	MAX TX Power per transmit chain (dBm)	RX Sensitivity per receiver chain (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	TX Power (dBm)	RX Sensitivity (dBm)	TX Power (dBm)	RX Sensitivity (dBm)
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	TX Power (dBm)	RX Sensitivity (dBm)	TX Power (dBm)	RX Sensitivity (dBm)
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	-64	15	-65
MSC 9/17/25 (256-QAM)	15	-63	15	-63
802.11 HT80	TX Power (dBm)	RX Sensitivity (dBm)	TX Power (dBm)	RX Sensitivity (dBm)
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

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	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.851
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 600 Mbps Radio 2: up to 1.733 Gbps	Radio 1: up to 600 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)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)
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	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	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	19 dBm (80 mW)*	19 dBm (80 mW)*
Physical Security	Kensington Lock	Kensington Lock
IEEE Standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.11ac, 802.3at, 802.3az, 802.3ad (LACP support)	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.11ac, 802.3at, 802.3az, 802.3ad (LACP support)
FortiPresence Capable	Yes	Yes
Wireless Mesh Capable	Yes	Yes
Concurrent Clients Per Radio (Maximum / Minimum)	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
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)	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	No
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 separately)	Ceiling, T-Rail and wall mount kit and 8 dipole antennas (AC power adapter sold separately)

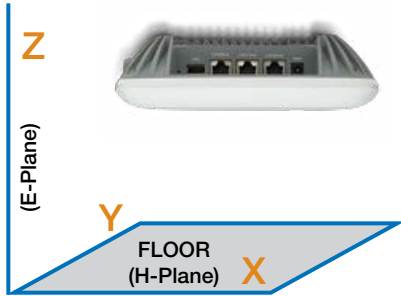
SPECIFICATIONS

	FortiAP 421E	FortiAP 423E
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 (Average)	20 W	20 W
Power Consumption (Maximum)	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	In Process	In Process
DFS Certified	In Process	In Process
Warranty		
Limited Lifetime Warranty	Yes	Yes

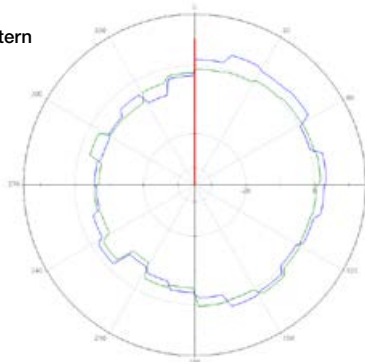
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

ANTENNA RADIATION PATTERNS

FAP-421E

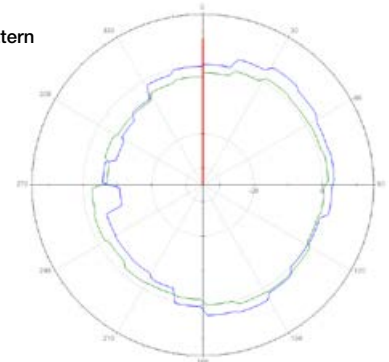


H-Plane Pattern



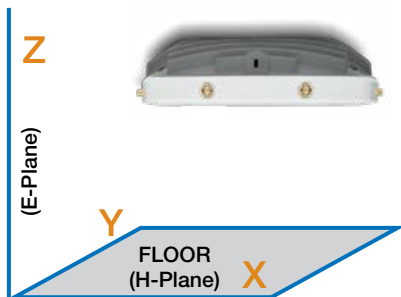
Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

E-Plane Pattern

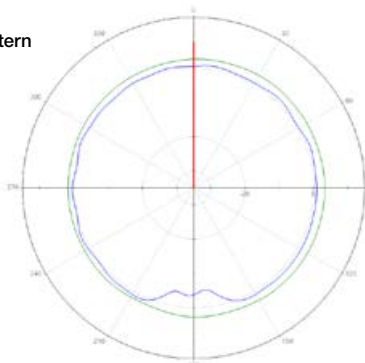


Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

FAP-423E

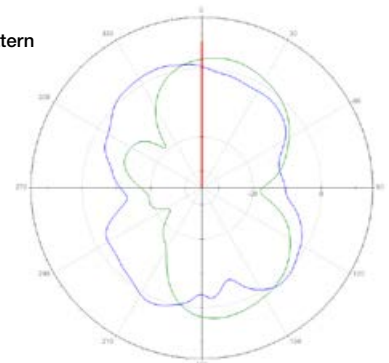


H-Plane Pattern



Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

E-Plane Pattern



Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

ORDER INFORMATION

Product	SKU	Description
FortiAP 421E	FAP-421E	Indoor wireless AP — 2x GE RJ45 port, 802.11 a/b/g/n/ac WAVE 2, dual concurrent dual band (2.4 GHz/5 GHz), 4x4 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 port, 802.11 a/b/g/n/ac WAVE 2, dual concurrent dual band (2.4 GHz/5 GHz), 4x4 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-130	1-Port Gigabit PoE Power Injector, 802.3at up to 30 W.
FortiAP-FPL	FAP-FPL-PRO	FortiPlanner Wireless AP Deployment Planning Utility — Pro upgrade license unlocks FortiPlanner lite (free version) to support more than 10 Access Points and includes site survey tool. Requires Windows 7.
Power Adapter	SP-FAP400-PA	AC Power Adapter for FAP-U421EV, FAP-U423EV, FAP-S421E, FAP-S423E, FAP-421E and FAP-423E.

REGION/COUNTRY SKU SUFFIX*									
Americas-FCC	Europe ETSI	International	Japan	Korea	Non-FFCA	Singapore	Taiwan	World 2.4G	
-A	-E	-I	-J	-K	-N	-S	-T	-W	

* For the complete list of countries and regions, refer to <http://www.fortinet.com/wireless>.



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