

LAN services

Secure WiFi & Analytics from Fortinet

Centralized cloud management



The cloud management architecture provides powerful and intuitive centralized management, while eliminating the cost and complexity of traditional on-site wireless controllers. Seamlessly manage campus-wide WiFi deployments and distributed multisite networks with network-wide visibility and control, cloud-based RF optimization, seamless firmware updates and more. There's no need to train additional staff to monitor or manage the remote networks, as the cloud-management dashboard allows for centralized management of all locations.

Rapid deployment and scalability

Built from the ground up, for multisite networks, LAN Services access points have revolutionized distributed branch wireless networking. Multi-site visibility and control and automated alerts make deploying, securing and centrally managing branch networks a breeze.

LAN Services cloud-managed architecture enables plug-and-play branch deployments and provides centralized visibility and control across any number of distributed locations. Since APs are managed entirely through a cloud-based dashboard, configuration and diagnostics can be performed remotely just as easily as onsite, eliminating costly field visits. Each device downloads its configuration via the cloud, applying your network and security policies automatically so you don't have to provision them onsite.

Product offerings

802.11ax WiFi 6

FAP-431F, FAP-433F

4x4 Indoor triradio 11ax APs

FAP-432F

4x4 ruggedized indoor/outdoor tri-radio 11ax AP, external antennas

FAP-231F

2x2 Indoor triradio 11ax AP, internal antennas

FAP-234F

2x2 ruggedized indoor/outdoor tri-radio 11ax AP, internal antennas



Unified management console via WE Connect simplifies operations, ensuring consistency in effective policy enforcement.



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



Protects the network from advanced wireless threats.

WE Connect highlights

Dashboards for ease of management

Multiple monitor dashboards offer a view of key statistics for all APs in your environment. Click to drill down on a particular AP to see details on specific devices in a category. There is no need to change screens or hunt through the UI to find information.

Simple configuration

We Connect features a simple and intuitive UI workflow that helps you set up your network quickly and easily. Set your VLANS, SSID and security settings and let WE Connect take care of the rest. Need a Captive Portal for your guests? It can be set up in a few clicks of the mouse.

Troubleshooting tools

A full suite of troubleshooting tools is provided to dig into problems that arise. Get visibility into the RF at your locations with Spectrum Analysis, use the included iPerf tool to test wired or wireless throughput in the environment, or test VLAN availability with the VLAN Probe.

Reporting

Run reports on current status and past information or run a PCI Compliance report.

Highlights

FortiAP 431F and 433F

These enterprise class 802.11ax indoor APs provide three radios. These top-of-the-line access points provide OFDMA, a 2.5 Gigabit Ethernet port, plus an additional 1 Gbps Ethernet port for PoE diversity. The APs can provide 24/7 scanning across both bands while still providing access on both the 2.4 GHz and 5 GHz bands. The integrated BLE radio can be used for beacons and locationing applications.

- + 802.11ax I Tri-Radio 2.4 GHz + 5 GHz + scanning I 5 internal/external antennas
- + 4x4 MU-MIMO I Up to 1,147 Mbps + 2,402 Mbps



Specifications

	FORTIAP 431F	FORTIAP 433F
Hardware		
Hardware type	Indoor AP	Indoor AP
Number of radios	3 + 1 BLE	3 + 1 BLE
Number of antennas	5 Internal + 1 BLE Internal	5 External (RP-SMA) + 1 BLE Internal
Antenna type and peak gain	PIFA: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz	Omni directional rubber duck antenna: 4 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	
Radio 1 capabilities	Frequency band: 2.4 GHz / channel width: 4x4 20/40 MHz / modulation: BPSK, QPSK, QAM64, QAM256 and QAM1024 / MIMO chains: 4x4 service	
Radio 2 capabilities	Frequency band: 5.0 GHz / channel width: 4x4 20/40/80MHz and 2x2 160MHz contiguous / modulation: BPSK, QPSK, QAM64, QAM256 and QAM1024 / Mimo chains: 4x4 service	
Radio 3 capabilities	Frequency band: 2.4/5.0 GHz / MIMO chains: 1x1 frequency scanning	
Maximum data rate	Radio 1: up to 1147 Mbps Radio 2: up to 2402 Mbps Radio 3: scan only	Radio 1: up to 1147 Mbps Radio 2: up to 2402 Mbps Radio 3: scan only
Bluetooth low energy radio	Bluetooth scanning and iBeacon advertisement @ 6 dBm max Tx power	
Interfaces	1x 100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	
Power over Ethernet (PoE)	+ 802.3at PoE default + 1 port powered by 802.3at or 2 ports powered by 802.3af – Full-system functionality + USB support + 1 port is connected to 802.3af - No USB support, Operate in 2x2 mode with reduced power R1/R2 17dBm(Tx power)	
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)	
EAP type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST	
User/device authentication	WPA™, WPA2™ and WPA3™ with 802.1x or preshared key, WEP, web captive portal, MAC blocklist and allowlist	
Maximum Tx power (conducted)	Radio 1: 2.4 GHz 24 dBm / 251 mW (4 chains combined)* Radio 2: 5 GHz 23 dBm / 200 mW (4 chains combined)* Radio 3: NA	
Kensington lock	Yes	Yes
IEEE standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11w, 802.11ac, 802.11ax (WiFi 6), 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.3bz	
SSID types supported	Local-bridge, mesh, tunnel	Local-bridge, mesh, tunnel
Per radio client capacity	512 per Radio1 and Radio2	512 per Radio1 and Radio2
Cellular co-existence	Yes	Yes

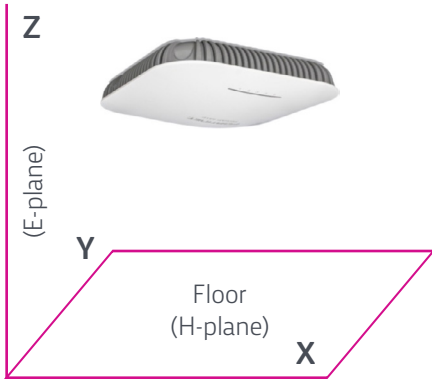
	FORTIAP 431F	FORTIAP 433F
Reset button	Yes	Yes
LED off mode	Yes	Yes
Advanced 802.11 features		
OFDMA	Yes (UL and DL)	Yes (UL and DL)
2.4 GHz OFDMA	Yes	Yes
Spatial reuse (BSS coloring)	Yes	Yes
HE-MU-MIMO	Yes	Yes
UL-MU-MIMO 802.11ax mode	Yes	Yes
DL-MU-MIMO	Yes	Yes
Enhanced target wake time (TWT)	Yes	Yes
ZeroWait DFS /Agile DFS	No	No
Wireless monitoring capabilities		
Rogue scan radio mode	Background, dedicated	Background, dedicated
WIPS / WIDS Radio Modes	Background, dedicated (recommended)	
Packet sniffer mode	Yes	Yes
Spectrum analyzer	Yes	Yes
Dimensions		
Length x width x height	8.27 x 8.27 x 2.22 inches (210 x 210 x 56.5 mm)	
Weight	2.16 lbs (0.98 kg)	2.19 lbs (0.995 kg)
Package (shipping) weight	3.97 lbs (1.8 kg)	4.4 lbs (2 kg)
Mounting options	Ceiling, t-rail and wall	Ceiling, t-rail and wall
Included accessories	Mount kit for ceiling, t-rail and wall	Mount kit for ceiling, t-rail and wall. 5 RP-SMA male dual-band dipole antenna
Environment		
Power supply	SP-FAP400-PA-XX or GPI-130	SP-FAP400-PA-XX or GPI-130
Power consumption (max)	24.5 W	24.5 W
Humidity	5–90% Non-Condensing	5–90% Non-Condensing
Operating / storage temperature	32–113°F (0–45°C) / -31–94°F (-35–70°C)	
Directives	Low Voltage Directive / RoHS	Low Voltage Directive / RoHS
UL2043 Plenum material	No	No
Mean time between failures	>10 Years	>10 Years
IP rating	—	—
Surge protection built in	Yes	Yes
Hit-less PoE failover	Yes	Yes
Certifications		
WiFi alliance certified	Yes	Yes
DFS	FCC, IC, CE, Japan, Korea, Taiwan	FCC, IC, CE, Japan, Korea, Taiwan
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

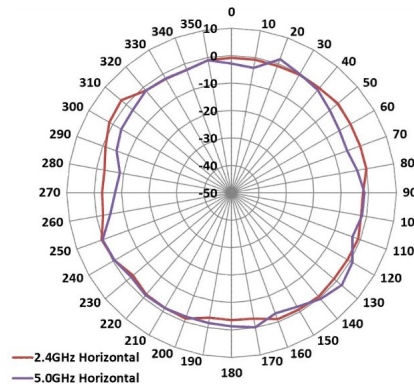
FORTIAP 431F / 433F								
	Radio 1		Radio 2			Radio 3		
	2.4 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)	5 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)	2.4 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)	5 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)
802.11b								
1 Mbps	23	-98	—	—	20	-96	—	—
11 Mbps	23	-89	—	—	18	-87	—	—
802.11g								
6 Mbps	23	-94	—	—	20	-92	—	—
54 Mbps	22	-75	—	—	18	-73	—	—
802.11n HT20								
MCS0	22	-93	—	—	20	-91	—	—
MCS7	20	-74	—	—	17	-72	—	—
802.11n HT40								
MCS0	20	-92	—	—	19	-90	—	—
MCS7	18	-73	—	—	17	-71	—	—
802.11ax HE20								
MCS0	22	-90	—	—	—	—	—	—
MCS11	17	-71	—	—	—	—	—	—
802.11ax HE40								
MCS0	19	-88	—	—	—	—	—	—
MCS11	17	-68	—	—	—	—	—	—
802.11a								
6 Mbps	—	—	20	-92	—	—	20	-90
54 Mbps	—	—	20	-72	—	—	17.5	—
802.11n HT20								
MCS0	—	—	20	-91	—	—	20	-90
MCS7	—	—	19	-72	—	—	17.5	-71
802.11n HT40								
MCS0	—	—	20	-88	—	—	19	-88
MCS7	—	—	18	-69	—	—	16.5	-69
802.11ac VHT20								
MCS0	—	—	20	-91	—	—	19	-90
MCS9	—	—	19	-67	—	—	17.5	-67
802.11ac VHT40								
MCS0	—	—	20	-88	—	—	19	-88
MCS9	—	—	18	-62	—	—	16	-62
802.11ac VHT80								
MCS0	—	—	18	-85	—	—	18	-85
MCS9	—	—	17	-59	—	—	16	-58
802.11ax HE20								
MCS0	—	—	20	-90	—	—	—	—
MCS11	—	—	18	-66	—	—	—	—
802.11ac HE40								
MCS0	—	—	20	-87	—	—	—	—
MCS11	—	—	18	-61	—	—	—	—
802.11ac HE80								
MCS0	—	—	18	-94	—	—	—	—
MCS11	—	—	17	-58	—	—	—	—

Antenna radiation patterns

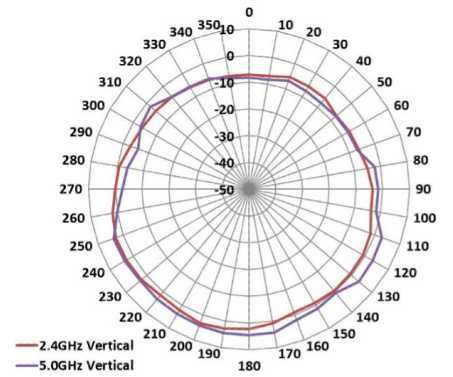
FAP-431F



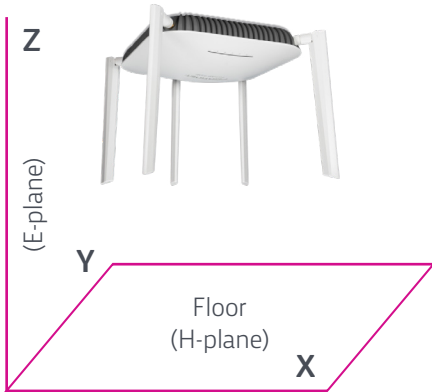
H-plane pattern



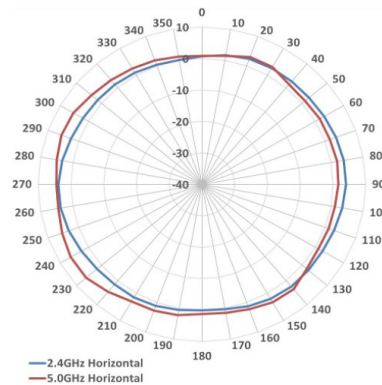
E-plane pattern



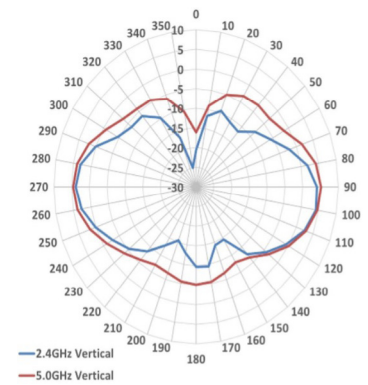
FAP-433F



H-plane pattern



E-plane pattern



Highlights

FortiAP 432F

This enterprise class 802.11ax ruggedized indoor/outdoor AP provides three radios. As a top-of-the-line WiFi 6 access point it provides OFDMA, a 2.5 Gigabit Ethernet port, plus an additional 1 Gbps Ethernet port with PoE out. The AP can provide 24/7 scanning across both bands while still providing access on both the 2.4 GHz and 5 GHz bands. The integrated BLE radio can be used for beacons and locationing applications.

- + 802.11ax I Tri-Radio 2.4 GHz + 5 GHz + scanning I 6 external antennas
- + 4x4 MU-MIMO I Up to 1,147 Mbps + 2,402 Mbps



Specifications

FORTIAP 432F	
Hardware	
Hardware type	Ruggedized indoor/outdoor AP
Number of radios	3 + 1 BLE
Number of antennas	4 dual band WiFi + 1 dual band scanning + 1 single band / 2.4 GHz BLE/ZigBee
Antenna type and peak gain	WiFi and scanning radio dual band antenna: 5.5 dBi in 2.4 GHz and 7.2 dBi in 5 GHz band / BLE antenna: 5.0 dBi in 2.4 GHz band
Frequency bands (GHz)*	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Radio 1 capabilities	Frequency band: 2.4 GHz / channel width: 20/40MHz / modulation: BPSK, QPSK, 64/256/1024 QAM / MIMO chains: 4x4 service
Radio 2 capabilities	Frequency band: 5.0 GHz / channel width: 4x4 20/40/80MHz and 2x2 160 MHz contiguous / modulation: BPSK, QPSK, QAM64, QAM256 and QAM1024 / MIMO Chains: 4x4 Service
Radio 3 capabilities	Frequency bands: 2.4 GHz and 5.0 GHz MIMO Chains: 1x1 Frequency Scanning
Maximum data rate	Radio 1: up to 1147 Mbps Radio 2: up to 2402 Mbps Radio 3: Frequency scanning only
Bluetooth low energy radio	Bluetooth scanning and iBeacon advertisement @ 10 dBm max Tx power
Interfaces	1x 100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45 (802.3af PoE PSE), 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	+ 802.3bt PoE default (ships with Passive PoE injector) + Powered by 802.3at PoE - Operate in 4x4 mode with reduced Tx power Radio1/R2 17dBm + This product only supports PSE functionality when it is powered by PoE injector that ships with the product.
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)
EAP type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST
User/device authentication	WPA™, WPA2™ and WPA3™ with 802.1x or preshared key, WEP, web captive portal, MAC blacklist & allowlist
Maximum Tx power (conducted)	Radio 1: 2.4 GHz 30 dBm / 1000 mW (4 chains combined)* Radio 2: 5 GHz 26 dBm / 398 mW (4 chains combined)* Radio 3: N/A
Kensington lock	Yes
IEEE standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11w, 802.11ac, 802.11ax (WiFi 6), 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.3bt, 802.3bz
SSIDs Supported	Local-bridge, tunnel and mesh
Per radio client capacity	Up to 512 clients per radio (Radio1 and Radio2)
Cellular co-existence*	Yes
LED off mode	Yes

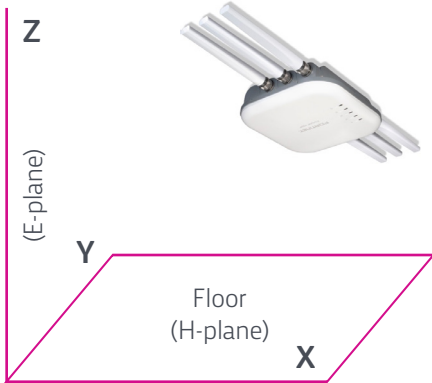
FORTIAP 432F	
Advanced 802.11 features	
OFDMA	Yes (UL and DL)
Spatial reuse (BSS coloring)	Yes
UL MU-MIMO	Yes
DL-MU-MIMO	Yes
Enhanced target wake time (TWT)	Yes
ZeroWait DFS	No
Wireless monitoring capabilities	
Rogue scan radio modes	Background, dedicated
WIPS / WIDS radio modes	Background, dedicated (recommended)
Packet sniffer mode	Yes
Spectrum analyzer	Yes
Dimensions	
Length x width x height	8.23 x 8.23 x 2.38 inches (209 x 209 x 60.5 mm)
Weight	5.12 lbs (2.325 kg)
Package (shipping) weight	12.56.93 lbs (5.7 kg)
Mounting options	Ceiling, t-rail and wall
Included accessories	Standard mount kit for ceiling, t-rail and wall
Environment	
Power supply	802.3bt PoE, ships with PoE injector (reset functionality)
PSE functionality	Yes (while powered by PoE injector shipped with product)
Power consumption (maximum)	25 W without PSE out and 37.9 W with PSE out
Humidity	10 - 90% non condensing
Operating / storage temperature	-22–140°F (-40 - 60°C) / -40–176°F (-40–80°C)
Directives	Low Voltage Directive / RoHS
UL2043 Plenum material	No
Mean time between failures	> 10 Years
IP rating	IP67
Surge protection built in	Yes
Hit-less PoE failover	N/A
Certifications	
WiFi alliance certified	Yes
DFS	CE, A
Warranty	
Limited lifetime warranty	Yes
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.	

RF RX/TX performance table

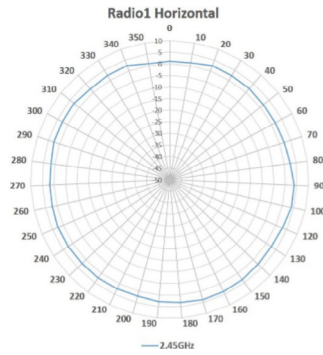
FORTIAP 432F							
	Radio 1		Radio 2		Radio 3 scanning		
	2.4 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)	5 GHz Tx power per Chain (dBm)	Rx sensitivity (dBm)	2.4 GHz Tx power per chain (dBm)	5 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)
802.11b							
1 Mbps	24	-99	—	—	20	—	-92
11 Mbps	24	-91	—	—	18	—	-91
802.11g							
6 Mbps	24	-94	—	—	20	—	-92
54 Mbps	23	-78	—	—	18	—	-77
802.11n HT20							
MCS0	24	-94	—	—	20	—	-92
MCS7	23	-75	—	—	17	—	-74
802.11n HT40							
MCS0	23	-92	—	—	19	—	-90
MCS7	22	-73	—	—	17	—	-72
802.11ax HE20							
MCS0	23	-90	—	—	—	—	—
MCS11	21	-71	—	—	—	—	—
802.11ax HE40							
MCS0	21	-91	—	—	—	—	—
MCS11	19	-72	—	—	—	—	—
802.11a							
6 Mbps	—	—	22	-92	—	20	-93
54 Mbps	—	—	22	-76	—	19	-76
802.11n HT20							
MCS0	—	—	22	-93	—	20	-93
MCS7	—	—	21	-74	—	19	-73
802.11n HT40							
MCS0	—	—	22	-91	—	19	-90
MCS7	—	—	21	-72	—	18	-71
802.11ac VHT20							
MCS0	—	—	22	-91	—	19	-93
MCS9	—	—	20	-72	—	18	-69
802.11ac VHT40							
MCS0	—	—	22	-91	—	19	-90
MCS9	—	—	19	-72	—	16	-64
802.11ac VHT80							
MCS0	—	—	20	-86	—	17	-88
MCS9	—	—	17	-62	—	17	-61
802.11ax HE20							
MCS0	—	—	22	-91	—	—	—
MCS11	—	—	19	-72	—	—	—
802.11ac HE40							
MCS0	—	—	22	-91	—	—	—
MCS11	—	—	19	-72	—	—	—
802.11ac HE80							
MCS0	—	—	20	-87	—	—	—
MCS11	—	—	18	-58	—	—	—

Antenna radiation patterns

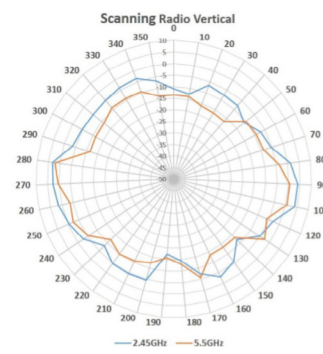
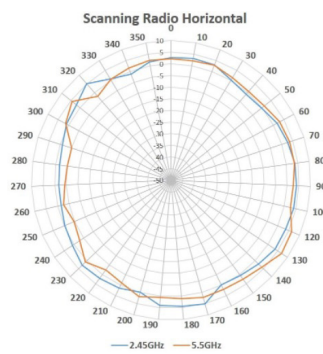
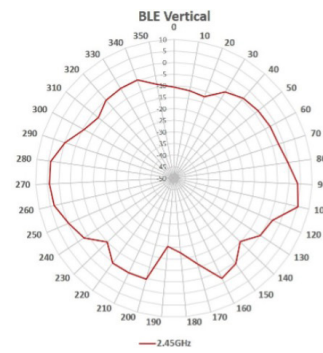
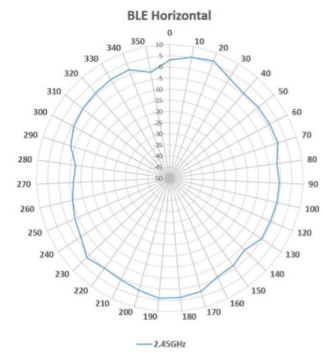
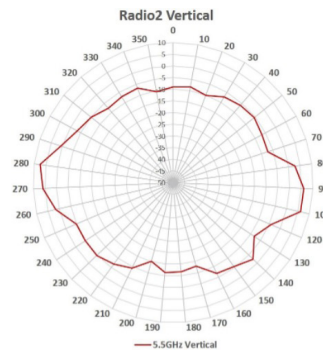
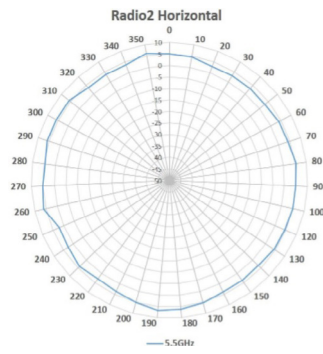
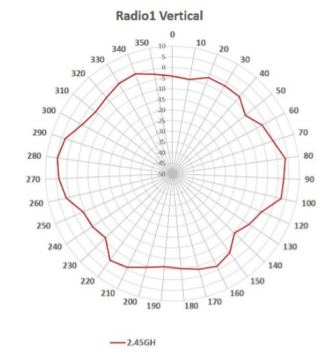
FAP-432F



H-plane pattern



E-plane pattern



Highlights

FortiAP 231F

This enterprise class WiFi 6 indoor AP provides three radios as well as features such as OFDMA and dual 1 Gbps Ethernet ports. The AP can provide 24/7 scanning across both bands while still providing access on both the 2.4 GHz and 5 GHz bands. The integrated BLE radio can be used for beacons and locationing applications.

- + 802.11ax | Tri-Radio 5 GHz + 2.4 GHz + scanning | 3 Antennas
- + 2x2 MU-MIMO | Up to 574 Mbps + 1,201 Mbps + scanning



Specifications

FORTIAP 231F	
Hardware	
Hardware type	Indoor AP
Number of radios	3 + 1 BLE
Number of antennas	3 Dual band Internal WiFi + 1 BLE/ZigBee
Antenna type and peak gain	PIFA antenna Dual band: 4.5dBi for 2.4GHz and 5.5dBi for 5GHz BLE antenna 4.0dBi at 2.4GHz band
Frequency bands (GHz)*	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Radio 1 capabilities	Frequency band: 2.4GHz / channel width: 20/40MHz / modulation: BPSK, QPSK, 64/256/1024 QAM / MIMO Chains: 2x2 Service
Radio 2 capabilities	Frequency band: 5.0GHz / channel width: 20/40/80MHz / modulation: BPSK, QPSK, 64/256/1024 QAM / MIMO Chains: 2x2 Service
Radio 3 capabilities	Frequency bands: 2.4GHz and 5.0GHz / MIMO Chains: 1x1 Frequency Scanning
Maximum data rate	Radio 1: up to 574 Mbps Radio 2: up to 1201 Mbps Radio 3: Frequency scanning only
Bluetooth low energy radio	Bluetooth scanning and iBeacon advertisement @ 10 dBm max Tx power
Interfaces	2x 10/100/1000 Base-T RJ45, 1x Type 2.0 USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	+ 802.3at PoE default + 1 port powered by 802.3at - full-system functionality – USB support + 1 port is connected to 802.3af - no USB support
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)
EAP type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST
User/device authentication	WPA™, WPA2™ and WPA3™ with 802.1x or preshared key, WEP, web captive portal, MAC blocklist & allowlist
Maximum Tx power (conducted)	Radio 1: 2.4GHz: 23 dBm / 200 mW (2 chains combined)* Radio 2: 5GHz: 22 dBm / 158 mW (2 chains combined)* Radio 3: NA
Kensington lock	Yes
IEEE standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11w, 802.11ac, 802.11ax, 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az
SSID types supported	Local-bridge, tunnel and mesh
Per radio client capacity	Up to 512 clients per radio (Radio1 and Radio2)
Cellular co-existence*	Yes
Reset button	Yes
LED off mode	Yes

FORTIAP 231F

Advanced 802.11 features

OFDMA	Yes (UL and DL)
Spatial reuse (BSS coloring)	Yes
UL MU-MIMO 802.11ax mode	Yes
DL-MU-MIMO	Yes
Enhanced target wake time (TWT)	Yes
ZeroWait DFS/Agile DFS	No

Wireless monitoring capabilities

Rogue scan radio modes	Background, dedicated
WIPS / WIDS radio modes	Background, dedicated (recommended)
Packet sniffer mode	Yes
Spectrum analyzer	Yes

Dimensions

Length x width x height	6.0 x 6.0 x 2.86 inches (153.2 x 153.2 x 53.0 mm)
Weight	1.0 lbs (0.543 kg)
Package (shipping) weight	2.1lbs (0.95 kg)
Mounting options	Ceiling, t-rail and wall
Included accessories	Standard mount kit for ceiling, t-rail and wall

Environment

Power supply	802.3at PoE GPI-130
Power consumption (maximum)	17W
Humidity	5 - 90% non condensing
Operating / storage temperature	32–122°F (0 - 50°C) / -22–158°F (-30–70°C)
Directives	Low Voltage Directive / RoHS
UL2043 Plenum material	No
Mean time between failures	> 10 Years
IP rating	N/A
Surge protection built in	Yes
Hit-less PoE failover	N/A

Certifications

WiFi alliance certified	Yes
DFS	CE, FCC, IC, Taiwan

Warranty

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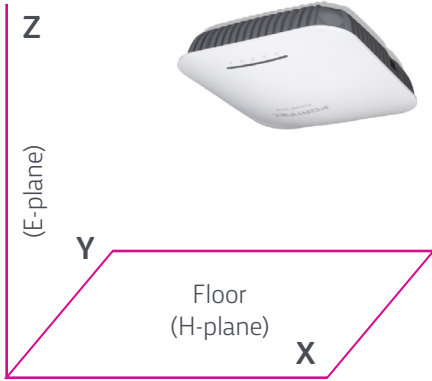
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX performance table

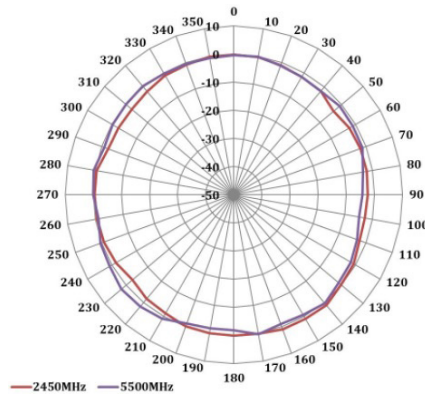
FORTIAP 231F				
	Radio 1		Radio 2	
	2.4 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)	5 GHz Tx power per Chain (dBm)	Rx sensitivity (dBm)
802.11b				
1 Mbps	21	-99	—	—
11 Mbps	21	-90	—	—
802.11g				
6 Mbps	20	-94	—	—
54 Mbps	20	-77	—	—
802.11n HT20				
MCS0	19	-94	—	—
MCS7	18	-76	—	—
802.11n HT40				
MCS0	19	-92	—	—
MCS7	19	-73	—	—
802.11ax HE20				
MCS0	19	-94	—	—
MCS11	17	-65	—	—
802.11ax HE40				
MCS0	19	-91	—	—
MCS11	16	-63	—	—
802.11a				
6 Mbps	—	—	22	-94
54 Mbps	—	—	21	-77
802.11n HT20				
MCS0	—	—	21	-94
MCS7	—	—	19	-76
802.11n HT40				
MCS0	—	—	21	-91
MCS7	—	—	19	-73
802.11ac VHT20				
MCS0	—	—	21	-94
MCS9	—	—	18	-72
802.11ac VHT40				
MCS0	—	—	21	-91
MCS9	—	—	18	-68
802.11ac VHT80				
MCS0	—	—	19	-88
MCS9	—	—	17	-64
802.11ax HE20				
MCS0	—	—	21	-94
MCS11	—	—	17	-64
802.11ac HE40				
MCS0	—	—	21	-91
MCS11	—	—	17	-62
802.11ac HE80				
MCS0	—	—	19	-88
MCS11	—	—	16	-58

Antenna radiation patterns

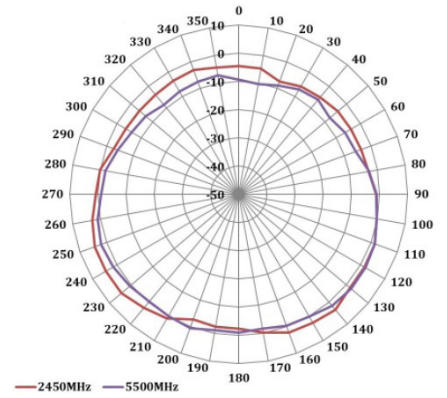
FAP-231F



H-plane pattern



E-plane pattern



Highlights

FortiAP 234F

This enterprise class WiFi 6 ruggedized indoor/outdoor AP provides three radios with internal antennas as well as features such as OFDMA and dual 1 Gbps Ethernet ports. The AP can provide 24/7 scanning across both bands while still providing access on both the 2.4 GHz and 5 GHz bands. The integrated BLE radio can be used for beacons and locationing applications.

- + 802.11ax | Tri-Radio 5 GHz + 2.4 GHz + scanning | 2 5G antenna + 2 2.4G antenna + 1 dual band antenna + 1 single band 2.4 Ghz BLE/Zigbee
- + 2x2 MU-MIMO | Up to 574 Mbps + 1,201 Mbps + scanning



Specifications

FORTIAP 234F	
Hardware	
Hardware type	Ruggedized indoor/outdoor AP
Number of radios	3 + 1 BLE
Number of antennas	2 dual band WiFi + 1 dual band scanning + 1 single band / 2.4 GHz BLE/ZigBee
Antenna type and peak gain	Directional patch antenna Single band antennas: 10 dBi in 2.4 GHz band, 10 dBi in 5.0 GHz band Scanning radio: 3.5 dBi in 2.4 GHz band and 4.5 dBi in 5 GHz band BLE antenna: 3.5 dBi in 2.4 GHz band
Antenna Beam Width	2.4GHz Horizontal BW 70 degree Vertical BW 30 degree 5.0GHz Horizontal BW 78 degree Vertical BW 25 degree
Frequency bands (GHz)*	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Radio 1 capabilities	Frequency band: 2.4GHz / channel width: 20/40MHz / modulation: BPSK, QPSK, 64/256/1024 QAM / MIMO Chains: 2x2 Service
Radio 2 capabilities	Frequency band: 5.0GHz / channel width: 20/40/80MHz / modulation: BPSK, QPSK, 64/256/1024 QAM / MIMO Chains: 2x2 Service
Radio 3 capabilities	Frequency bands: 2.4 GHz and 5.0 GHz / MIMO Chains: 1x1 Frequency Scanning
Maximum data rate	Radio 1: up to 574 Mbps Radio 2: up to 1200 Mbps Radio 3: Frequency scanning only
Bluetooth low energy radio	Bluetooth scanning and iBeacon advertisement @ 10 dBm max Tx power
Interfaces	2x 10/100/1000 Base-T RJ45, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	+ 802.3at PoE default(Ships with Passive PoE injector) + 1 port powered by 802.3at or 2 ports powered by 802.3af - Full-system functionality + 1 port is connected to 802.3af - No USB support, Operate in 2x2 mode with reduced Tx power R1/R2 17dBm
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)
EAP type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST
User/device authentication	WPA™, WPA2™ and WPA3™ with 802.1x or preshared key, WEP, web captive portal, MAC blacklist & allowlist
Maximum Tx power (conducted)	Radio 1: 2.4 GHz: 27 dBm / 500 mW (2 chains combined)* Radio 2: 5 GHz: 25.5 dBm / 354 mW (2 chains combined)* Radio 3: N/A
Kensington lock	Yes
IEEE standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11w, 802.11ac, 802.11ax (WiFi 6), 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.3bz
SSID types supported	Local-bridge, tunnel and mesh
Per radio client capacity	Up to 512 clients per radio (Radio1 and Radio2)
Cellular co-existence*	Yes
LED off mode	Yes

FORTIAP 234F

Advanced 802.11 features

OFDMA	Yes (UL and DL)
Spatial reuse (BSS coloring)	Yes
UL MU-MIMO	Yes
DL-MU-MIMO	Yes
Enhanced target wake time (TWT)	Yes
ZeroWait DFS	No

Wireless monitoring capabilities

Rogue scan radio modes	Background, dedicated
WIPS / WIDS radio modes	Background, dedicated (recommended)
Packet sniffer mode	Yes
Spectrum analyzer	Yes

Dimensions

Length x width x height	12.45 x 8.6 x 1.66 inches (316 x 218 x 42 mm)
Weight	2.88 lbs (1.307 kg)
Package (shipping) weight	7.93 lbs (3.6 kg)
Mounting options	Ceiling, t-rail and wall
Included accessories	Standard mount kit for ceiling, t-rail and wall

Environment

Power supply	802.3at PoE: GPI-130 ; ships with PoE Injector (reset functionality)
PSE functionality	No
Power consumption (maximum)	15.5 W
Humidity	10 - 90% non condensing
Operating / storage temperature	-22–140°F (-40 - 60°C) / -40–176°F (-40–80°C)
Directives	Low Voltage Directive / RoHS
UL2043 Plenum material	No
Mean time between failures	> 10 Years
IP rating	IP67
Surge protection built in	Yes
Hit-less PoE failover	N/A

Certifications

WiFi alliance certified	Yes
DFS	CE, A

Warranty

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

RF RX/TX performance table

FORTIAP 432F							
	Radio 1		Radio 2		Radio 3 scanning		
	2.4 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)	5 GHz Tx power per Chain (dBm)	Rx sensitivity (dBm)	2.4 GHz Tx power per chain (dBm)	5 GHz Tx power per chain (dBm)	Rx sensitivity (dBm)
802.11b							
1 Mbps	24	-99	—	—	20	—	-92
11 Mbps	24	-91	—	—	18	—	-91
802.11g							
6 Mbps	24	-95	—	—	20	—	-92
54 Mbps	23	-78	—	—	18	—	-77
802.11n HT20							
MCS0	24	-94	—	—	20	—	-92
MCS7	23	-78	—	—	17	—	-74
802.11n HT40							
MCS0	23	-92	—	—	19	—	-90
MCS7	22	-74	—	—	17	—	-72
802.11ax HE20							
MCS0	23	-90	—	—	—	—	—
MCS11	21	-71	—	—	—	—	—
802.11ax HE40							
MCS0	21	-91	—	—	—	—	—
MCS11	19	-72	—	—	—	—	—
802.11a							
6 Mbps	—	—	21	-93	—	20	-93
54 Mbps	—	—	21	-77	—	19	-76
802.11n HT20							
MCS0	—	—	21	-91	—	20	-93
MCS7	—	—	20	-72	—	19	-73
802.11n HT40							
MCS0	—	—	21	-91	—	19	-90
MCS7	—	—	20	-72	—	18	-71
802.11ac VHT20							
MCS0	—	—	20	-91	—	19	-93
MCS9	—	—	18	-72	—	18	-69
802.11ac VHT40							
MCS0	—	—	19	-87	—	19	-90
MCS9	—	—	17	-64	—	16	-64
802.11ac VHT80							
MCS0	—	—	22	-91	—	17	-88
MCS9	—	—	19	-72	—	17	-61
802.11ax HE20							
MCS0	—	—	22	-91	—	—	—
MCS11	—	—	19	-72	—	—	—
802.11ac HE40							
MCS0	—	—	22	-91	—	—	—
MCS11	—	—	19	-72	—	—	—
802.11ac HE80							
MCS0	—	—	20	-89	—	—	—
MCS11	—	—	18	-59	—	—	—

Windstream Enterprise's LAN Services Secure WiFi & Analytics is an enterprise-grade line of cloud-managed WiFi 6 technologies using best-of-breed industry hardware and software to deliver the highly secure and reliable coverage required by demanding business applications.

Cloud-enabled connectivity, communications and security—guaranteed.

Windstream Enterprise drives business transformation through the convergence of our proprietary software solutions and cloud-optimized network to unlock our clients' revenue and profitability potential. Our managed services streamline operations, enhance productivity and elevate the experience of our clients and their end users while securing their critical data and brand reputation. Analysts certify Windstream Enterprise as a market leader for our product innovation, and clients rely on our unrivaled service guarantees and best-in-class management portal. Businesses trust Windstream Enterprise as their single-source for a high-performance network and award-winning suite of connectivity, collaboration and security solutions—delivered by a team of technology experts whose success is directly tied to our clients' complete satisfaction.

To learn more about Windstream Enterprise, visit windstreamenterprise.com

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