

FortiAP™ Series



FortiGate, FortiEdge Cloud, or SASE-managed access points

FortiAP™ access points are managed centrally by the integrated WLAN controller of any FortiGate® security appliance or through the FortiEdge Cloud provisioning and management portal. With the integration of the wireless controller functionality into the market-leading FortiGate appliance, these APs are perfect for campus and branch deployments. Fortinet’s Security Fabric 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.

Highlights

- Unified management console simplifies operations, ensuring consistency in effective policy enforcement and compliance
- Built-in foundation for zero-trust network access (ZTNA) and secure access service edge (SASE), allowing you the flexibility to easily deploy microbranches with the security you need at the edge of your network
- 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 and satisfies industry compliance such as PCI DSS

| HARDWARE OFFERINGS | | ANTENNA TYPE | INDOOR USE | OUTDOOR USE |
|----------------------------------|---|--------------|------------|-------------|
| 802.11be Wi-Fi 7 | | | | |
| FAP-441K | 4×4 Indoor quad-radio 11be 6Ghz Capable APs | Internal | ☑ | |
| FAP-443K | 4×4 Indoor quad-radio 11be 6Ghz Capable APs | External | ☑ | |
| FAP-241K | 2×2 Indoor quad-radio 11be 6Ghz Capable APs | Internal | ☑ | |
| FAP-243K | 2×2 Indoor quad-radio 11be 6Ghz Capable APs | External | ☑ | |
| 802.11ax Wi-Fi 6E | | | | |
| FAP-431G | 4×4 Indoor tri-radio 11ax 6Ghz Capable APs | Internal | ☑ | |
| FAP-432G | 4×4 Ruggedized Tri-radio indoor/outdoor 11ax (6Ghz) Capable APs | External | ☑ | ☑ |
| FAP-433G | 4×4 Indoor tri-radio 11ax 6Ghz Capable APs | External | ☑ | |
| FAP-231G | 2×2 Indoor tri-radio 11ax 6Ghz Capable APs | Internal | ☑ | |
| FAP-233G | 2×2 Indoor tri-radio 11ax 6Ghz Capable APs | External | ☑ | |
| FAP-234G | 2×2 Ruggedized Tri-radio indoor/outdoor 11ax (6Ghz) Capable APs | Internal | ☑ | ☑ |
| 802.11ax Wi-Fi 6 | | | | |
| FAP-831F | 8×8 Indoor tri-radio 11ax AP | Internal | ☑ | |
| FAP-433F | 4×4 Indoor tri-radio 11ax APs | External | ☑ | |
| FAP-432F | 4×4 Ruggedized indoor/outdoor tri-radio 11ax AP | External | ☑ | ☑ |
| FAP-432FR | 4×4 C1D2 Certified tri-radio 11ax AP | External | ☑ | ☑ |
| FAP-431F | 4×4 Indoor tri-radio 11ax APs | Internal | ☑ | |
| FAP-234F | 2×2 Ruggedized indoor/outdoor tri-radio 11ax AP | Internal | ☑ | ☑ |
| FAP-23JF | 2×2 Wall-mount tri-radio AP | Internal | ☑ | |
| 802.11ac (Wave 2) Wi-Fi 5 | | | | |
| FAP-223E | 2×2 Indoor dual-radio APs | External | ☑ | |
| FAP-221E | 2×2 Indoor dual-radio APs | Internal | ☑ | |

Use Cases

FortiAPs allow for a versatile collection of installation topologies with options to fit any enterprise.



Campus

A single building with multiple floors, or a corporate or education campus with a group of large buildings.

- High-capacity designs including Dual 5GHz and tri-band with Wi-Fi 6E allow a maximal number of client devices to attach to the network at the same time without over-air congestion
- Complete NOC functionality with network visibility and AIOps simplify a complex network deployment into a solution manageable by IT teams of any size



Branch Office / SD-Branch

A highly distributed number of small sites, often with no on-site IT.

- Built in NAC functions* allow secure onboarding of devices at remote locations where IT doesn't have reliable visibility
- Management orchestration with zero-touch deployment allows for quick and easy rollouts without the need for skilled installers at each site



Micro Branch

Ultra small sites that still fall under IT's responsibility.

- Can act as a SASE endpoint as a foundation for zero-trust network access (ZTNA)
- Simple management and provisioning through FortiSASE interface



Remote Workers

A remote AP installed at a worker's home or at micro-branch office space.

- Split tunneling allows local traffic to remain local while sending other traffic to the data center for inspection when needed
- Desktop mounting options for wall-plate models allow the use of Ethernet as well as Wi-Fi connectivity while leveraging the same secure tunnel



SMB

Single site or small collection of sites with limited IT resources.


- Built-in NAC functions* bring security to the wireless network with no need to install and manage additional products
- Network and security convergence decreases management overhead while keeping the network secure

*FortiGate-managed installations only.

Highlights

FortiAP 443K and 441K

These high performance enterprise class Wi-Fi 7 indoor APs provide four radios and four spatial streams. These access points support the 6 GHz band and have 10 Gigabit Ethernet ports. The APs can provide 24/7 scanning across all bands while still providing access on 2.4 GHz, 5 GHz, and 6 GHz bands. The integrated BLE/ ZigBee radio can be used for beacons and locationing applications.

 **Wi-Fi 7 | Four-Radio 2.4GHz + 5GHz + 6GHz + Scan | 10 Internal Antennas / (4 External RPSMA dual band Connectors + 4 External RPSMA 6Ghz connectors + 2 Tri-band RPSMA connectors) + 1 BLE/Zigbee internal antenna**

 **4x4 MU-MIMO | Up to 1.148 Gbps + 8.648 Gbps + 11.53 Gbps**



FAP-441K



FAP-443K

Specifications

| | FortiAP 441K | FortiAP 443K | FortiAP 441K | FortiAP 443K |
|---|--|--|--------------|--------------|
| Hardware | | | | |
| Type | Indoor AP | | | |
| Number of Radios | 4 + 1 BLE | | | |
| Number of Antennas | Internal: x4 dual band WIFI + x4 6GHz WIFI + x2 Tri-band scanning + x1 2.4GHz BLE/ ZigBee + x1 GPS | External: x4 dual band WIFI + x4 6GHz WIFI + x2 Tri-band scanning Internal: x1 2.4GHz BLE/ ZigBee + x1 GPS | | |
| Antenna Type Support | RP-SMA (10 total): Dual Band Antenna (4) 6Ghz Antenna (4) Triband Antenna (2) | | | |
| Antenna Type and Peak Gain | Omni Directional Antenna Dual band antenna: 4.0 dBi for 2.4GHz 5.6 dBi for 5 GHz 6GHz antenna: 5.4dBi for 6GHz band Tri-band antenna: 4.0 dBi for 2.4 GHz, 6.0 dBi for 5 GHz and 5.7 dBi for 6 GHz band BLE antenna: 5.1 dBi for 2.4GHz GPS active antenna: 2.2 dBi antenna | Omni Directional Antenna Dual band antenna: 5.0 dBi for 2.4GHz 5.0 dBi for 5 GHz 6GHz antenna: 5.8dBi for 6GHz band Tri-band antenna: 5.0 dBi for 2.4 GHz, 5.0 dBi for 5 GHz and 4.0 dBi for 6 GHz band BLE antenna: 5.1 dBi for 2.4GHz GPS active antenna: 2.2 dBi antenna | | |
| Frequency Bands (GHz) | . ISM 2.4-2.484 GHz . U-NII-1 5.15-5.25 GHz . U-NII-2A 5.25-5.35 GHz . U-NII-2C 5.47-5.725 GHz . U-NII-3 5.725-5.85 GHz | . U-NII-4 5.850-5.925 GHz . U-NII-5 5.925-6.425 GHz . U-NII-6 6.425-6.525 GHz . U-NII-7 6.525-6.875 GHz . U-NII-8 6.875-7.125 GHz | | |
| Radio 1 Capabilities | Frequency band: 2.4GHz Channel width: 20/40MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 4x4 Service | | | |
| Radio 2 Capabilities | Frequency band: 5.0GHz UNII-1 to UNII-4 Channel width: 20/40/80/160/240MHz Modulation: BPSK, QPSK, 64/256/1024/4096 QAM MIMO Chains: 4x4 Service | | | |
| Radio 3 Capabilities | Frequency band: 6.0GHz UNII-5 to UNII-8 Channel width: 20/40/80/160/320MHz Modulation: BPSK, QPSK, 64/256/1024/4096 QAM MIMO Chains: 4x4 Service | | | |
| Radio 4 Capabilities | Frequency band: 2.4/5.0/6.0GHz Channel width: 20/40/80/160MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 2x2 Scanning | | | |
| Maximum Data Rate | 2.4GHz band: up to 1.148 Gbps 5.0GHz band: up to 8.648 Gbps 6.0GHz band: up to 11.530 Gbps | | | |
| Bluetooth Low Energy (BT/BLE) Radio | Bluetooth scanning and iBeacon advertisement @10 dBm max TX power | | | |
| GNSS | . Supported Bands . Default constallations . Number of Tracking Channels . Number of Concurrent GNSS . SBAS . Sensitivity (@ Default Constallations) | GPS L1 C/A, QZSS L1 C/A: 1575.42 MHz, GLONASS L1: 1598.0625-1605.375 MHz BDS B11 : 1561.098 MHz, Galileo E1: 1575.42 MHz GPS + GLONASS + BDS + Galileo + QZSS 47 5 WAAS, EGNOS, MSAS and GAGAN -147dBm | | |
| Interfaces | x2 100M/1000M/2.5G/5.0G/10G Multigigabit Ethernet (RJ45) x1 Type 3.0 USB at 4.5W, x1 RS-232 RJ45 Serial Port | | | |
| Power over Ethernet (PoE) | x1 802.3bt PoE default or x2 802.3at PoE (Dual PoE current sharing) | | | |
| Simultaneous SSIDs | Up to 24 | | | |
| 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 and whitelist | | | | |
| Maximum Tx Power (Conducted) | | | | |
| 2.4GHz band: 29 dBm / 794 mW (4 chains combined)* 5.0GHz band: 27.8 dBm / 602 mW (4 chains combined)* 6.0GHz band: 23 dBm / 200 mW (4 chains combined @ 160MHz BW)* | | | | |
| Kensington Lock | | | | |
| Yes | | | | |
| IEEE Standards | | | | |
| 802.11a, 802.11b, 802.11be, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11ac, 802.11ax, 802.1X, 802.3ad, 802.3at, 802.3bt, 802.3az | | | | |
| SSID Types Supported | | | | |
| Local-Bridge, Mesh, and Tunnel | | | | |
| Per Radio Client Capacity | | | | |
| Up to 512 clients per radio (Radio1, Radio2 and Radio3) | | | | |
| Cellular Co-existence | | | | |
| Yes | | | | |
| LED Off Mode | | | | |
| Yes | | | | |
| Advanced 802.11 Features | | | | |
| OFDMA | | | | |
| Yes | | | | |
| Spatial Reuse (BSS Coloring) | | | | |
| Yes | | | | |
| UL MU-MIMO | | | | |
| Yes | | | | |
| DL- MU-MIMO | | | | |
| Yes | | | | |
| Enhanced Target Wake Time (TWT) | | | | |
| Yes | | | | |
| ZeroWait DFS | | | | |
| No | | | | |
| Onboard Security Functions | | | | |
| UTP Capable | | | | |
| No | | | | |
| UTP Features | | | | |
| N/A | | | | |
| 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 | | | | |
| 9.84 × 9.84 × 2.26 inches (250 × 250 × 57.5 mm) | | | | |
| Weight | | | | |
| 4.36 lbs (1.98 kg) | | | | |
| Package (shipping) Weight | | | | |
| 6.9 lbs (3.13 kg) | | | | |
| Mounting Options | | | | |
| Ceiling, T-Rail, and Wall | | | | |
| Included Accessories | | | | |
| Standard Mounting Kit for Ceiling, T-Rail, and Wall | | | | |
| Environment | | | | |
| Power Supply | | | | |
| GPI-145 or SP-FAP250-PA-10 | | | | |
| Power Consumption (Max) | | | | |
| 41.7 W | | | | |
| PoE Mode | | | | |
| Full - 802.3bt or 2x802.3at or DC : Tx Power - Maximum (all radios); # of Chains - 4x4 ; USB - Enabled High - 802.3at or 2x802.3af : R1(2.4GHz), R2(5GHz) and R3 (6GHz) Operation in Low Tx Power 17 dBm, # of Chains - 2x2; R4 operational ; USB - Disabled | | | | |
| Humidity | | | | |
| 5% to 90% non-condensing | | | | |
| Operating/Storage Temp. | | | | |
| 32°F to 122°F (0°C to 50°C)/-22°F to 158°F (-30°C to 70°C) | | | | |
| Directives | | | | |
| Low Voltage Directive * RoHS | | | | |
| UL2043 Plenum Material | | | | |
| Yes | | | | |
| Mean Time Between Failures | | | | |
| >10 Years | | | | |
| IP Rating | | | | |
| N/A | | | | |
| Surge Protection Built In | | | | |
| Yes | | | | |
| Hit-less PoE Failover | | | | |
| Yes | | | | |
| Certifications | | | | |
| Wi-Fi Alliance Certified | | | | |
| Certified (Wi-Fi 7 in progress) | | | | |
| DFS | | | | |
| No | | | | |
| Warranty | | | | |
| Limited Lifetime Warranty | | | | |
| Yes | | | | |



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

RF Rx/Tx Performance Table

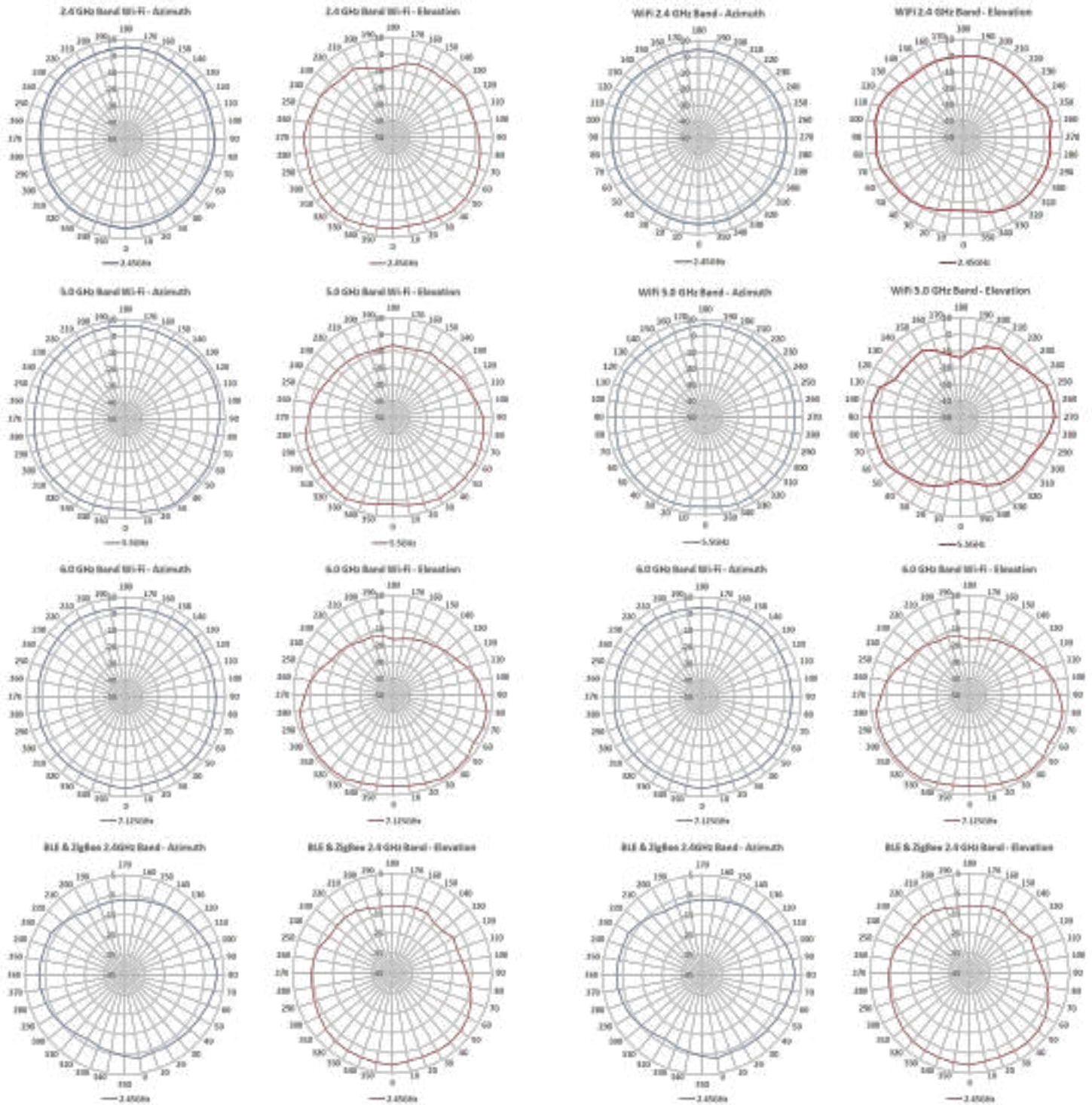
| FORTIAP 441K / 443K | | | | | | |
|---------------------|----------------------|----------------------|--------------------------------|----------------------|--------------------------------|----------------------|
| Data rate | 2.4 GHz Band | | 5.0 GHz Band | | 6.0 GHz Band | |
| | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) |
| | 802.11b | | | | | |
| 1 Mbps | 23 | -96 | | | | |
| 11 Mbps | 23 | -99 | | | | |
| | 802.11g | | 802.11a | | | |
| 6 Mbps | 23 | -94 | 23 | -90 | | |
| 54 Mbps | 22 | -77 | 20 | -73 | | |
| | 802.11n HT20 | | | | | |
| MCS0 | 23 | -94 | 23 | -90 | | |
| MCS7 | 21 | -77 | 20 | -72 | | |
| | 802.11n HT40 | | | | | |
| MCS0 | 23 | -93 | 23 | -89 | | |
| MCS7 | 21 | -74 | 20 | -70 | | |
| | 802.11ac VHT20 | | | | | |
| MCS0 | 23 | -95 | 22 | -88 | | |
| MCS9 | 21 | -73 | 19 | -69 | | |
| | 802.11ac VHT40 | | | | | |
| MCS0 | 22 | -92 | 22 | -87 | | |
| MCS9 | 19 | -70 | 19 | -64 | | |
| | 802.11ac VHT80 | | | | | |
| MCS0 | | | 21 | -85 | | |
| MCS9 | | | 18 | -62 | | |
| | 802.11ax HE20 | | 802.11ax HE20 / 802.11be EHT20 | | | |
| MCS0 | 23 | -92 | 22 | -88 | 22 | -87 |
| MCS11 | 18 | -70 | 19 | -65 | 19 | -65 |
| | 802.11ax HE40 | | 802.11ax HE40 / 802.11be EHT40 | | | |
| MCS0 | 22 | -90 | 22 | -87 | 20 | -85 |
| MCS11 | 17 | -61 | 19 | -63 | 18 | -62 |
| | | | 802.11ax HE80 / 802.11be EHT80 | | | |
| MCS0 | | | 21 | -85 | 19 | -82 |
| MCS13 | | | 18 | -61 | 17 | -59 |
| | | | 802.11be EHT160 | | 802.11ax HE80 / 802.11be EHT80 | |
| MCS0 | | | 19 | -79 | 18 | -81 |
| MCS13 | | | 17 | -56 | 16 | -58 |
| | | | 802.11be EHT240 | | | |
| MCS0 | | | 17 | -79 | | |
| MCS13 | | | 16 | -56 | | |
| | | | | | 802.11be EHT320 | |
| MCS0 | | | | | 19 | -80 |
| MCS13 | | | | | 15 | -58 |



Antenna Radiation Patterns

FAP-441K


FAP-443K



Highlights

FortiAP 241K and 243K

These enterprise class Wi-Fi 7 indoor APs provide four radios and two spatial streams. These access points support the 6 GHz band and have one 10 Gigabit Ethernet and one 1 Gigabit Ethernet port. The APs can provide 24/7 scanning across all bands while still providing access on 2.4 GHz, 5 GHz, and 6 GHz bands. The integrated BLE/ ZigBee radio can be used for beacons and locationing applications.

 **Four-Radio 2.4GHz + 5GHz + 6GHz + Scan | 6 Internal Antennas / (2 External RPSMA dual band Connectors + 2 Tri-band External RPSMA connectors + 2 6GHz External RPSMA antennas) + 1 BLE/Zigbee internal antenna**

 **2x2 MU-MIMO | Up to 688 Mbps + 2.88 Gbps + 5.76 Gbps**



FAP-241K



FAP-243K

Specifications

| | FortiAP 241K | FortiAP 243K | FortiAP 241K | FortiAP 243K |
|---|--|---|--------------|--------------|
| Hardware | | | | |
| Type | Indoor AP | | | |
| Number of Radios | 4-Radio 2.4GHz + 5.0GHz + 6GHz + Tri-band scan | | | |
| Number of Antennas | 6 Internal Wi-Fi antennas: x2 Dual band + x2 6GHz band + x2 Tri-band Scanning 1 Internal 2.4GHz band BLE/ ZigBee antenna | 6 External RPSMA antenna connector: x2 Dual band + x2 6GHz band + x2 Tri-band Scanning 1 Internal 2.4GHz band BLE/ZigBee antenna | | |
| Antenna Type Support | RP-SMA (6 total): Dual Band Antenna (2), 6Ghz Antenna (2), Triband Antenna (2) | | | |
| Antenna Type and Peak Gain | PIFA 2.4/5GHz dual band antenna: 4.7 dBi for 2.4GHz, 5.4 dBi for 5 GHz Alford loop 6GHz antenna: 5.7 dBi for 6GHz band PIFA Tri-band antenna: 5.0 dBi for 2.4GHz, 5.7 dBi for 5.0GHz, and 5.35 dBi for 6GHz band PFA BLE antenna: 4.6 dBi for 2.4GHz | Omni Directional Dual band antenna: 4.5 dBi for 2.4GHz, 5.7 dBi for 5 GHz Omni Directional 6GHz band antenna: 5.25 dBi for 6GHz band Tr-band Omni directional antenna: 3.3 dBi for 2.4GHz, 5.6 dBi for 5GHz, and 5.3 dBi for 6GHz band PIFA BLE antenna: 5.2 dBi for 2.4GHz | | |
| Frequency Bands (GHz) | 2.4GHz Band: ISM 2.4-2.484GHz 5.0GHz Band: UNII-1 5.15-5.25GHz UNII-2A 5.25-5.35GHz UNII-2C 5.47-5.73GHz UNII-3 5.725-5.85GHz UNII-4 5.85-6.895GHz | 6GHz Band: UNII-5 5.925-6.425GHz UNII-6 6.425-6.525GHz UNII-7 6.525-6.875GHz UNII-8 6.875-7.125GHz | | |
| 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 UNII-1 to UNII-4 Channel width: 20/40/80/160/240MHz Modulation: BPSK, QPSK, 64/256/1024/4096 QAM MIMO Chains: 2x2 Service | | | |
| Radio 3 Capabilities | Frequency band: 6.0GHz UNII-5 to UNII-8 Channel width: 20/40/80/160/320MHz Modulation: BPSK, QPSK, 64/256/1024/4096 QAM MIMO Chains: 2x2 Service | | | |
| Radio 4 Capabilities | Frequency band: 2.4/5.0/6.0GHz Channel width: 20/40/80/160MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 2x2 Scanning | | | |
| Maximum Data Rate | 2.4GHz band: up to 688 Mbps 5.0GHz band: up to 4.324 Gbps 6.0GHz band: up to 5.765 Gbps | | | |
| Bluetooth Low Energy (BT/BLE) Radio | Bluetooth scanning and iBeacon advertisement @10 dBm max TX power | | | |
| GNSS | | | | |
| Interfaces | x1 100M/1000M/2.5G/5.0G/10G Multigigabit Ethernet (RJ45) x1 10M/100M/1000M/Ethernet (RJ45) x1 Type 2.0 USB at 2.5W x1 RS-232 RJ45 Serial Port | | | |
| Power over Ethernet (PoE) | x1 802.3bt PoE default | | | |
| Simultaneous SSIDs | Up to 24 | | | |
| EAP Type(s) | EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/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 and whitelist | | | |
| Maximum Tx Power (Conducted) | 2.4GHz band: 25 dBm/316 mW (2 chains combined)* 5.0GHz band: 26 dBm/400 mW (2 chains combined)* 6.0GHz band: 23 dBm/200 mW (2 chains combined@320MHz BW)* | | | |
| Kensington Lock | Yes | | | |
| IEEE Standards | 802.11a, 802.11b, 802.11be, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11ac, 802.11ax, 802.1X, 802.3ad, 802.3at, 802.3bt, 802.3az | | | |
| SSID Types Supported | Local-Bridge, Mesh, and Tunnel | | | |
| Per Radio Client Capacity | Up to 512 clients per radio (Radio1, Radio2, and Radio3) | | | |
| Cellular Co-existence | Yes | | | |
| LED Off Mode | Yes | | | |
| Advanced 802.11 Features | | | | |
| OFDMA | Yes | | | |
| Spatial Reuse (BSS Coloring) | Yes | | | |
| UL MU-MIMO | Yes | | | |
| DL- MU-MIMO | Yes | | | |
| Enhanced Target Wake Time (TWT) | Yes | | | |
| ZeroWait DFS | No | | | |
| Onboard Security Functions | | | | |
| UTP Capable | No | | | |
| UTP Features | N/A | | | |
| 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 | 7.48 x 7.48 x 2.01 inches (190 x 190 x 51 mm) | | | |
| Weight | 2.4 lbs (1.09 kg) | 2.6 lbs (1.18 kg) | | |
| Package (shipping) Weight | 4.4 lbs (2.0 kg) | 4.6 lbs (2.09 kg) | | |
| Mounting Options | Ceiling, T-Rail, and Wall | | | |
| Included Accessories | Standard Mounting Kit for Ceiling, T-Rail, and Wall | | | |
| Environment | | | | |
| Power Supply | 802.3bt PoE: GPI-145 or 802.3at PoE: GPI-130 with USB disabled or 12V, 3A, 36 Watt DC power supply SP-FAP400-PA-XX | | | |
| Power Consumption (Max) | 26.1 W | | | |
| PoE Mode | | | | |
| Humidity | 5% to 90% non-condensing | | | |
| Operating/Storage Temp. | 32°F to 122°F (0°C to 50°C)/ -22°F to 158°F (-30°C to 70°C) | | | |
| Directives | Low Voltage Directive * RoHS | | | |
| UL2043 Plenum Material | Yes | | | |
| Mean Time Between Failures | >10 Years | | | |
| IP Rating | N/A | | | |
| Surge Protection Built In | Yes | | | |
| Hit-less PoE Failover | N/A | | | |
| Certifications | | | | |
| Wi-Fi Alliance Certified | No | | | |
| DFS | No | | | |
| Warranty | | | | |
| Limited Lifetime Warranty | Yes | | | |

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



RF Rx/Tx Performance Table

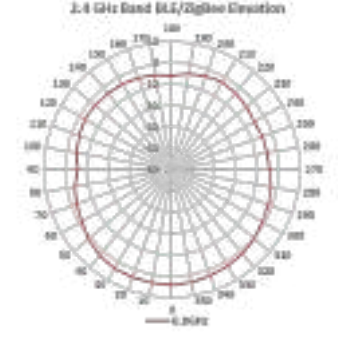
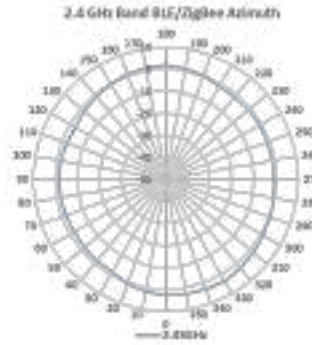
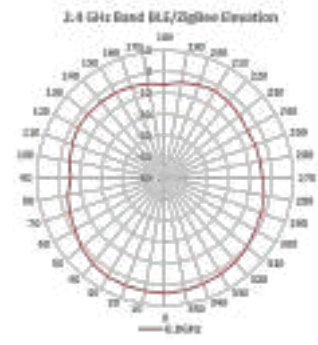
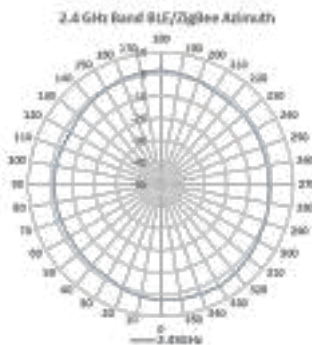
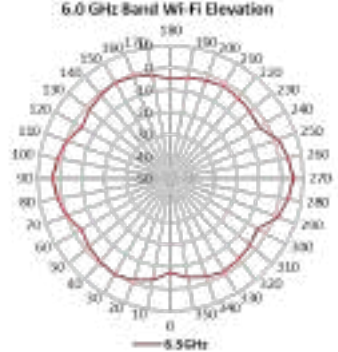
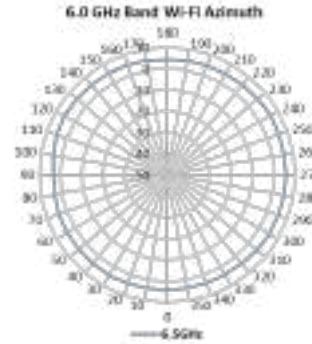
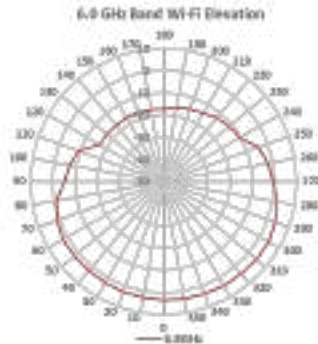
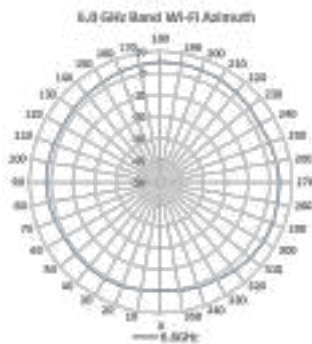
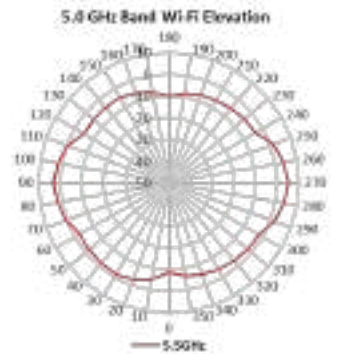
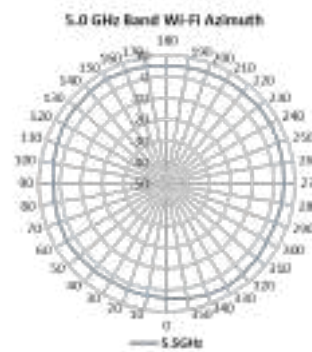
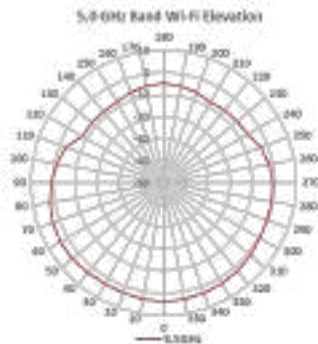
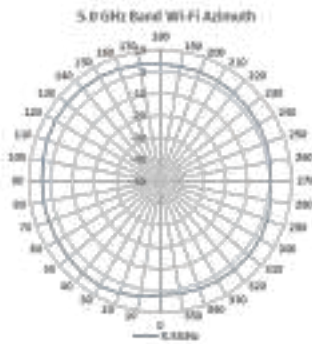
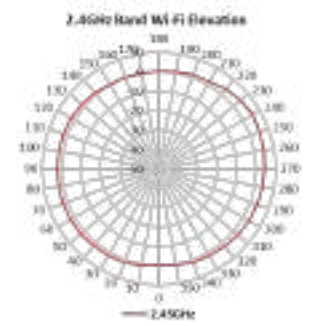
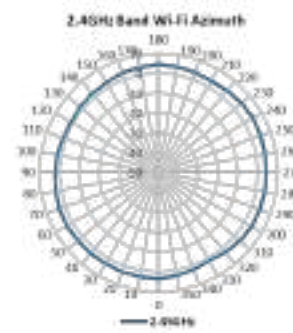
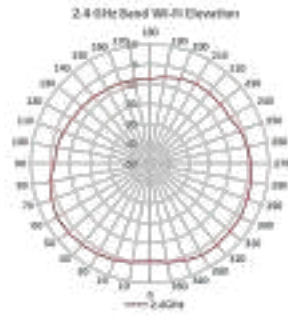
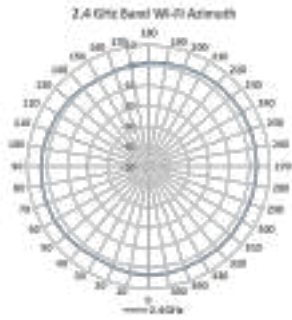
| FORTIAP 241K / 243K | | | | | | |
|---------------------|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Data rate | 2.4 GHz Band | | 5.0 GHz Band | | 6.0 GHz Band | |
| | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) |
| | 802.11b | | | | | |
| 1 Mbps | 22 | -99 | | | | |
| 11 Mbps | 22 | -91 | | | | |
| | 802.11g | | 802.11a | | | |
| 6 Mbps | 22 | -94 | 22 | -92 | | |
| 54 Mbps | 21 | -78 | 20 | -75 | | |
| | 802.11n HT20 | | | | | |
| MCS0 | 22 | -94 | 22 | -91 | | |
| MCS7 | 21 | -77 | 20 | -73 | | |
| | 802.11n HT40 | | | | | |
| MCS0 | 21 | -93 | 22 | -89 | | |
| MCS7 | 20 | -74 | 20 | -70 | | |
| | 802.11ac VHT20 | | | | | |
| MCS0 | 22 | -95 | 22 | -91 | | |
| MCS9 | 22 | -73 | 20 | -70 | | |
| | 802.11ac VHT40 | | | | | |
| MCS0 | 22 | -92 | 22 | -89 | | |
| MCS9 | 21 | -70 | 19 | -67 | | |
| | 802.11ac VHT80 | | | | | |
| MCS0 | | | 21 | -85 | | |
| MCS9 | | | 19 | -62 | | |
| | 802.11ax/802.11be HE20 | | | | | |
| MCS0 | 22 | -94 | 21 | -93 | 20 | -94 |
| MCS11 | 21 | -65 | 19 | -59 | 20 | -60 |
| | 802.11ax/802.11be HE40 | | | | | |
| MCS0 | 21 | -92 | 21 | -91 | 20 | -91 |
| MCS11 | 20 | -62 | 18 | -59 | 19 | -56 |
| | 802.11ax HE80 / 802.11be EHT80 | | | | | |
| MCS0 | | | 21 | -88 | 19 | -86 |
| MCS13 | | | 18 | -56 | 18 | -58 |
| | 802.11be EHT160 | | | | | |
| MCS0 | | | 19 | -87 | 17 | -86 |
| MCS13 | | | 16 | -55 | 16 | -56 |
| | 802.11be EHT240 | | | | | |
| MCS0 | | | 19 | -86 | | |
| MCS13 | | | 16 | -54 | | |
| | 802.11be EHT360 | | | | | |
| MCS0 | | | | | 17 | -83 |
| MCS13 | | | | | 15 | -55 |



Antenna Radiation Patterns

FAP-241K


FAP-243K



Highlights

FortiAP 431G and 433G

These high performing enterprise class extended frequency band Wi-Fi 6E indoor APs provide three radios and four spatial streams. These access points support the 6 GHz band, OFDMA, and a 5 Gigabit Ethernet port. The APs can provide 24/7 scanning across all bands while still providing access on both the 2.4 GHz and 5 GHz bands or 2.4 GHz and dual 5 GHz service or the AP can be configured to provide simultaneous access on 2.4 GHz, 5 GHz, and the 6 GHz bands. The integrated BLE/ ZigBee radio can be used for beacons and locationing applications.

 **Wi-Fi 6E | Tri-Radio 2.4 + 5GHz + 5GHz / 6GHz / Scanning | 8 Internal Antennas / 4 External RPSMA Connectors + 4 External Permanently attached Antennas**

 **4x4 MU-MIMO | Up to 1148 Mbps + 2402 Mbps + 4804 Mbps**



FAP-431G



FAP-433G

Specifications

| | FortiAP 431G | FortiAP 433G |
|--------------------------------------|---|--|
| Hardware | | |
| Hardware Type | Indoor AP | Indoor AP |
| Number of Radios | 3 + 1 BLE | 3 + 1 BLE |
| Number of Antennas | Internal: x4 Dual band Wi-Fi + x4 Tri-band Wi-Fi and Scanning + 1 2.4GHz BLE/ ZigBee + 1 GPS antenna | External: x4 Dual band Wi-Fi + x4 Tri-band Wi-Fi and Scanning (permanently attached) Internal: 1 2.4GHz BLE/ ZigBee + 1 GPS antenna |
| Antenna Type Support | | RP-SMA (4 total): Dual Band Antenna (4) |
| Antenna Type and Peak Gain | Omni Directional antenna. Dual band: 4.0 dBi for 2.4GHz, 5.6 dBi for 5 GHz Tr-band: 4.0 dBi for 2.4GHz, 6.0 dBi for 5 GHz and 5.7dBi for 6GHz band BLE antenna: 5.1dBi for 2.4Ghz | Omni Directional antenna. Dual band: 5.0 dBi for 2.4GHz, 5.0 dBi for 5 GHz Tr-band: 5.0 dBi for 2.4GHz, 5.0 dBi for 5 GHz and 4.0dBi for 6GHz band BLE Omni Directional antenna Single band: 4.0dBi for 2.4GHz |
| Frequency Bands (GHz)* | 2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.350–5.470m 5.470–5.725, 5.725–5.850, 5.925–6.425, 6.425–6.525, 6.525–7, 5.925–6.875, 6.875–7.125 | |
| Radio 1 Capabilities | Frequency band: 2.4GHz Channel width: 20/40MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 4x4 Service | |
| Radio 2 Capabilities | Frequency band: 5.0GHz Channel width: 20/40/80/80+80MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 4x4 Service | |
| Radio 3 Capabilities | Frequency band: 2.4GHz, 5.0GHz, and 6.0GHz Channel width: 20/40/80/160MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 4X4 Service (2x2 when Scanning) | |
| Maximum Data Rate | Radio 1: up to 1148 Mbps Radio 2: up to 2402 Mbps Radio 3: Up to 4804 Mbps | |
| Bluetooth Low Energy Radio | Bluetooth scanning and iBeacon advertisement @10 dBm max TX power | |
| Trusted Platform Module (TPM) | Yes | Yes |
| Interfaces | x2 100/1000/2500/5000 Base-T RJ45, 1 Type 3.0 USB, 1 RS-232 RJ45 Serial Port | |
| MDI/MDIX | Supported | Supported |
| Power over Ethernet (PoE) | 1 802.3bt PoE default or x2 802.3at PoE (Dual PoE current sharing) | |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 | Radio 1: 2.4GHz: 27 dBm / 501 mW (4 chains combined)* Radio 2: 5GHz: 26 dBm / 400 mW (4 chains combined)* Radio 3: 5GHz: 26 dBm / 400 mW (4 chains combined)* 6GHz: 24 dBm 251 mW (4 chains combined @ 160MHz BW)* | |
| 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, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax, 802.1Q, 802.1X, 802.3ad, 802.3at, 802.3bt, 802.3az, 802.3bz | |
| SSID Types Supported | Local-Bridge, Mesh, and Tunnel | |
| Per Radio Client Capacity | Up to 512 clients per radio (Radio1, Radio2 and Radio3) | |
| Cellular Co-existence | Yes | Yes |
| LED Off Mode | Yes | Yes |

| | FortiAP 431G | FortiAP 433G |
|---|--|--------------------------|
| Advanced 802.11 Features | | |
| OFDMA | Yes | Yes |
| Spatial Reuse (BSS Coloring) | Yes | Yes |
| UL MU-MIMO | Yes | Yes |
| DL- MU-MIMO | Yes | Yes |
| Enhanced Target Wake Time (TWT) | Yes | Yes |
| ZeroWait DFS | No | No |
| Onboard Security Functions | | |
| UTP Capable | Yes | Yes |
| UTP Features | Application control and Web filtering | |
| Wireless Monitoring Capabilities | | |
| Rogue Scan Radio Modes | Background, Dedicated | |
| WIPS / WIDS Radio Modes | Background, Dedicated (recommended) | |
| Packet Sniffer Mode | Yes | Yes |
| Spectrum Analyzer | Yes | Yes |
| Dimensions | | |
| Length x Width x Height | 8.85× 8.85 × 2.12 inches (225.0× 225.0 × 54.0 mm) | |
| Weight | 3.05 lbs (1.4 kg) | |
| Package (shipping) Weight | 5.25 lbs (2.4 kg) | |
| Accessories | | |
| Mounting Options | Ceiling, T-Rail, and Wall | |
| Included Accessories | Standard Mounting kit for Ceiling, T-Rail and Wall | |
| Power Supply | SP-FAP250-PA-10 or SP-FAP400-PA-XX or 802.3bt PoE(GPI-145) | |
| Environment | | |
| Power Consumption (Max) | 31.7 Watts | 31.7 Watts |
| PoE Mode | Full - 802.3bt or 2x802.3at or DC : Tx Power - Full ; Chain 4x4 ; USB - Enabled High - 802.3at or 2x802.3af : All Radio Operation in Low Tx Power 17 dBm ; Chain 4x4 ; USB - Disabled | |
| Humidity | 5% to 90% non-condensing | |
| Operating / Storage Temperature | 32°F to 122°F (0°C to 50°C) / -22°F to 158°F (-30°C to 70°C) | |
| Directives | Low Voltage Directive • RoHS | |
| UL2043 Plenum Material | Yes | Yes |
| Mean Time Between Failures | >10 Years | >10 Years |
| IP Rating | N/A | N/A |
| Surge Protection Built In | No | No |
| Hit-less PoE Failover | Yes | Yes |
| Certifications | | |
| Wi-Fi Alliance Certified | Yes (includes Passpoint) | Yes (includes Passpoint) |
| DFS | CE, FCC, Singapore | CE, FCC, Singapore |
| Warranty | | |
| Limited Lifetime Warranty | Yes | Yes |

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



RF Rx/Tx Performance Table

| FORTIAP 431G / 433G | | | | | | | |
|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|-------------------------|--|
| Data rate | Radio 1 802.11ax 4x4 | | Radio 2 802.11ax 4x4 | | Radio3 4x4 Tri band Service and 2x2 Scanning radio | | |
| | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) | |
| 2.4GHz, 802.11b | | | | | | | |
| 1 Mbps | 21 | -99 | | | | -99 | |
| 11 Mbps | 21 | -91 | | | | -91 | |
| 2.4GHz, 802.11g | | | | | | | |
| 6 Mbps | 21 | -93 | | | | -95 | |
| 54 Mbps | 21 | -77 | | | | -78 | |
| 2.4GHz, 802.11n HT20 | | | | | | | |
| MCS0 | 21 | -95 | | | | -92 | |
| MCS7 | 19 | -77 | | | | -74 | |
| 2.4GHz, 802.11n HT40 | | | | | | | |
| MCS0 | 20 | -92 | | | | -90 | |
| MCS7 | 18 | -74 | | | | -72 | |
| 2.4GHz, 802.11ax HE20 | | | | | | | |
| MCS0 | 21 | -94 | | | | -90 | |
| MCS11 | 19 | -64 | | | | -71 | |
| 2.4GHz, 802.11ax HE40 | | | | | | | |
| MCS0 | 21 | -91 | | | | -91 | |
| MCS11 | 19 | -62 | | | | -72 | |
| 5.0GHz, 802.11a | | | | | | | |
| 6 Mbps | | | 23 | -93 | 22 | -93 | |
| 54 Mbps | | | 21 | -76 | 21 | -76 | |
| 5.0GHz, 802.11n HT20 | | | | | | | |
| MCS0 | | | 22 | -93 | 21 | -93 | |
| MCS7 | | | 20 | -75 | 18 | -73 | |
| 5.0GHz, 802.11n HT40 | | | | | | | |
| MCS0 | | | 21 | -93 | 21 | -90 | |
| MCS7 | | | 18 | -78 | 18 | -71 | |
| 5.0GHz, 802.11ac VHT20 | | | | | | | |
| MCS0 | | | 22 | -93 | 21 | -93 | |
| MCS9 | | | 20 | -72 | 18 | -69 | |
| 5.0GHz, 802.11ac VHT40 | | | | | | | |
| MCS0 | | | 22 | -91 | 21 | -90 | |
| MCS9 | | | 19 | -70 | 18 | -64 | |
| 5.0GHz, 802.11ac VHT80 | | | | | | | |
| MCS0 | | | 20 | -86 | 19 | -88 | |
| MCS9 | | | 18 | -65 | 16 | -61 | |
| 5.0GHz, 802.11ax HE20 | | | | | | | |
| MCS0 | | | 22 | -93 | 22 | -92 | |
| MCS11 | | | 19 | -63 | 19 | -65 | |
| 5.0GHz, 802.11ax HE40 | | | | | | | |
| MCS0 | | | 21 | -90 | 22 | -88 | |
| MCS11 | | | 19 | -70 | 19 | -61 | |
| 5.0GHz, 802.11ax HE80 | | | | | | | |
| MCS0 | | | 18 | -86 | 20 | -85 | |
| MCS11 | | | 16 | -59 | 17 | -58 | |
| 5.0GHz, 802.11ax HE160 | | | | | | | |
| MCS0 | | | | | 19 | -82 | |
| MCS11 | | | | | 16 | -57 | |
| 6.0GHz, 802.11ax HE160 | | | | | | | |
| MCS0 | | | | | 17 | -82 | |
| MCS11 | | | | | 14 | -56 | |

Maximum capability of the Hardware provided (Excluding antenna gain)

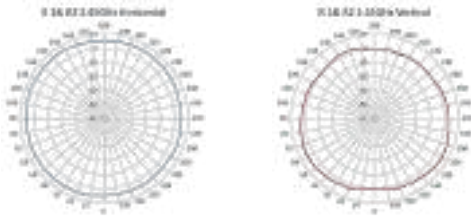


Antenna Radiation Patterns

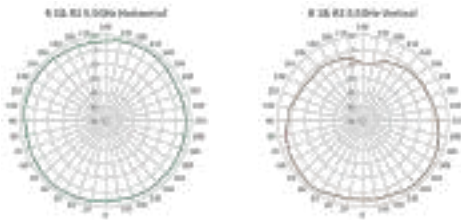
FAP-431G

FAP-433G

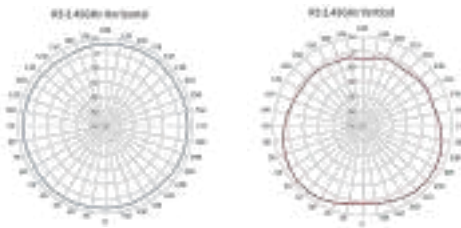
Radio1 and Radio2 2.45GHz plots



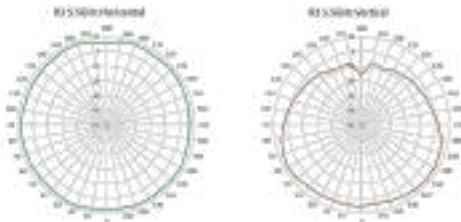
Radio1 and Radio2 5.5GHz plots



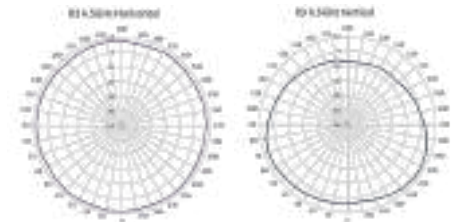
Radio3 2.45GHz plots



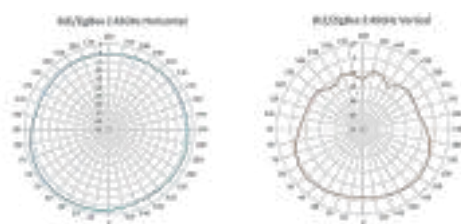
Radio3 5.5GHz plots



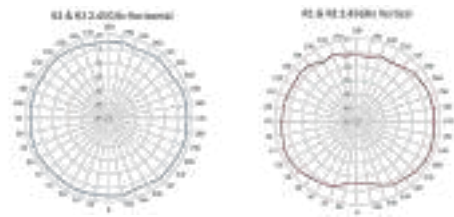
Radio3 6.5GHz plots



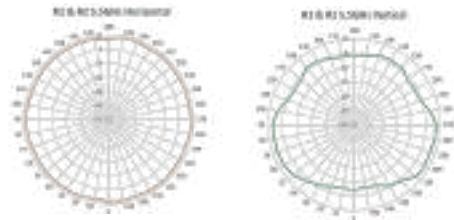
BLE/ZigBee 2.45GHz plots



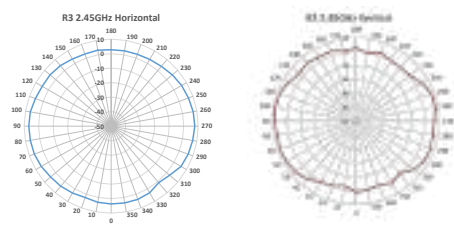
FAP-433G Radio1&2 antenna plots



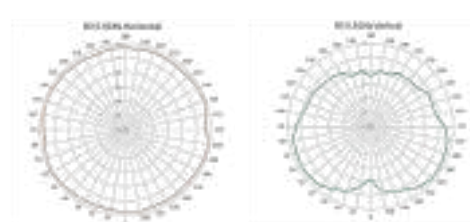
FAP-433G Radio1&2 antenna plots



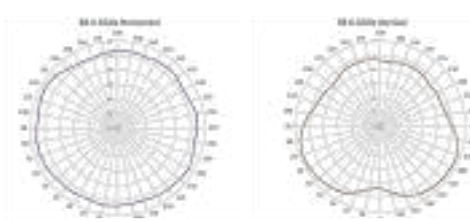
FAP-433G Radio3 antenna plots



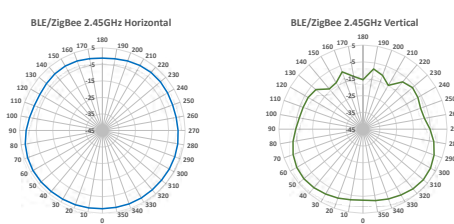
FAP-433G Radio3 antenna plots



FAP-433G Radio3 antenna plots




FAP-433G BLE/ZigBee antenna plots



Highlights

FortiAP 432G

This enterprise class 802.11ax ruggedized indoor/outdoor AP provides three radios for tri-band access on radio capable of four spatial streams. As a Wi-Fi 6E access point it provides 6GHz band operation, OFDMA, a 10 Gigabit Ethernet port, plus an additional 1 Gbps Ethernet port with PoE out. The integrated BLE radio can be used for beacons and locationing applications.

 802.11ax | Tri-Radio 2.4 GHz + 5 GHz + 6 GHz | 8 External Antennas

 4x4 MU-MIMO | Up to 1148 Mbps + 2402 Mbps + 4804 Mbps



FAP-432G



FAP-432G
Pole/Wall Mounting

Specifications

| FortiAP 432G | |
|---|---|
| Hardware | |
| Hardware Type | Wi-Fi 6E 4x4 MIMO Outdoor AP |
| Number of Radios | 3 + 1 BLE |
| Number of Antennas | External: x4 Dual band WiFi + x4 Tri-band WiFi and Scanning + x1 2.4GHz band BLE/ZigBee |
| Antenna Type and Peak Gain | Omni Directional antenna. Dual band: 5.1 dBi for 2.4GHz, 6.4 dBi for 5 GHz Tr-band: 4.9 dBi for 2.4GHz, 5.8 dBi for 5 GHz, and 6.0dBi for 6GHz band BLE Antenna: 4.7dBi for 2.4GHz GPS Antenna: ceramic patch circular polarized: 3.0dBi Peak gain |
| Antenna Beam width | Wi-Fi: 2.4GHz Band: 360° Horizontal and 65° Vertical 5.0GHz Band: 360° Horizontal and 50° Vertical 6.0GHz Band: 360° Horizontal and 65° Vertical BLE: 2.4GHz Band: 225° Horizontal and 55° Vertical GPS: 1.5-1.6GHz Band: 360° Horizontal and 98° Vertical |
| Supported Frequency Bands (GHz)* | 2.4-2.484GHz 5.925-6.425GHz 5.15-5.25GHz 6.425-6.525GHz 5.25-5.35GHz 6.525-6.875GHz 5.47-5.725GHz 6.875-7.125GHz 5.725-5.85GHz |
| Radio 1 Capabilities | Frequency band: 2.4GHz Channel width: 20/40MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 4x4 Service |
| Radio 2 Capabilities | Frequency band: 5.0GHz Channel width: 20/40/80MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 4x4 Service |
| Radio 3 Capabilities | Frequency band: 2.4GHz, 5.0GHz, and 6.0GHz Channel width: 20/40/80/160MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 4X4 Service (2x2 when Scanning) |
| Maximum Data Rate | Radio 1: up to 1182 Mbps Radio 2: up to 2475 Mbps Radio 3: Up to 4804 Mbps |
| Bluetooth Low Energy Radio | Bluetooth scanning and iBeacon advertisement @10 dBm max TX power |
| GNSS | |
| Supported Bands | GPS L1 C/A, QZSS L1 C/A: 1575.42 MHz, GLONASS L1: 1598.0625-1605.375 MHz BDS B1I : 1561.098 MHz, Galileo E1: 1575.42 MHz |
| Default constallations | GPS + GLONASS + BDS + Galileo + QZSS |
| Tracking channels | 47 |
| Concurrent GNSS | 5 |
| SBAS | WAAS, EGNOS, MSAS and GAGAN |
| Sensitivity (@ default constallations) | Acquisition: -147 dBm Tracking: -166 dBm Reacquisition: -159 |
| Interfaces | x1 10GBASE-T/5GBASE-T/2.5GBASE-T/1000BASE-T/100BASE-TX/10BASE-T RJ45, x1 10/100/1000 Base-T RJ45, x1 RS-232 RJ45 Serial Port |
| MDI/MDIX | Supported |
| Power over Ethernet (PoE) | 802.3bt PoE on LAN1/10G PoE port |
| PSE OUT | 802.3af power on LAN2/1G PSE port |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 and whitelist |
| Maximum Tx Power | Radio 1: 2.4GHz: 29.8 dBm / 955 mW (4 chains combined)* Radio 2: 5GHz: 29.8 dBm / 955 mW (4 chains combined)* Radio 3: 6GHz: 26 dBm / 400 mW (4 chains combined @ 160MHz BW)* |
| Kensington Lock | No |

| FortiAP 432G | |
|---|--|
| IEEE Standards | 802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11ac, 802.11ax, 802.1X, 802.3ad, 802.3at, 802.3bt, 802.3az |
| SSID Types Supported | Local-Bridge, Mesh, and Tunnel |
| Per Radio Client Capacity | Up to 512 clients per radio (Radio1, Radio2, and Radio3) |
| Cellular Co-existence | Yes |
| LED Off Mode | Yes |
| Advanced 802.11 Features | |
| OFDMA | Yes |
| Spatial Reuse (BSS Coloring) | Yes |
| UL MU-MIMO | Yes |
| DL- MU-MIMO | Yes |
| Enhanced Target Wake Time (TWT) | Yes |
| ZeroWait DFS | No |
| Onboard Security Functions | |
| UTP Capable | Yes |
| UTP Features | Application control and Web filtering |
| Wireless Monitoring Capabilities | |
| Rogue Scan Radio Modes | Background, Dedicated |
| WIPS / WIDS Radio Modes | Background, Dedicated (recommended) |
| Packet Sniffer Mode | Yes |
| Spectrum Analyzer | Yes |
| Power source and power consumption | |
| PoE | PIN060-54PR 60W PoE with reset switch shipped with the AP |
| Power Consumption (Maximum) | 41.2 Watts (Including PSE out of 12.9 watts) |
| PoE Mode | Full - 802.3bt or Passive (Shipped with unit) : Tx Power - Full ; Chain 4x4 ; PSE - Enabled High - 802.3at or 2x802.3af : All Radio Operation in Low Tx Power 17 dBm ; Chain 4x4 ; PSE - Disabled |
| Hit-less PoE Failover | N/A |
| Surge Protection Built In | No |
| Dimensions | |
| Length x Width x Height | 9.45 x 9.45 x 2.74 inches (240.0 x 240.0 x 69.6 mm) |
| Weight | 7.05 lbs (3.2 kg) |
| Package (shipping) Weight | 13.2 lbs (6.0 kg) |
| Accessories (included) | |
| Mounting Accessories | Wall and Pole installation brackets with mounting kits |
| PoE | PIN060-54PR 60W PoE with reset switch or IEEE 802.3bt PoE |
| Environment | |
| Humidity | 5% to 90% non-condensing |
| Operating / Storage Temperature | -40°F to 140°F (-40°C to 60°C) / -58°F to 158°F (-50°C to 70°C) |
| Directives | Low Voltage Directive • RoHS |
| UL2043 Plenum Material | No |
| Mean Time Between Failures | >10 Years |
| IP Rating | IP67 |
| Certifications | |
| Wi-Fi Alliance Certified | No |
| DFS | No |
| Warranty | |
| Limited Lifetime Warranty | Yes |

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



RF Rx/Tx Performance Table

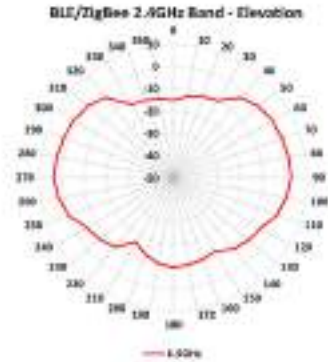
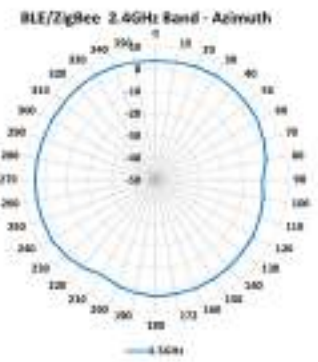
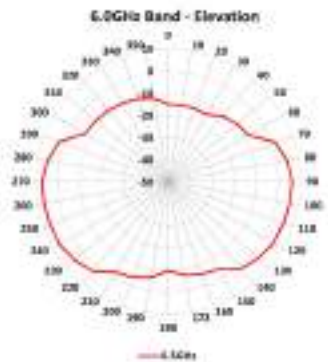
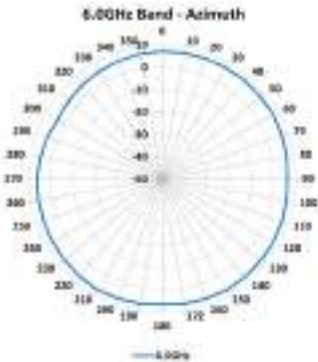
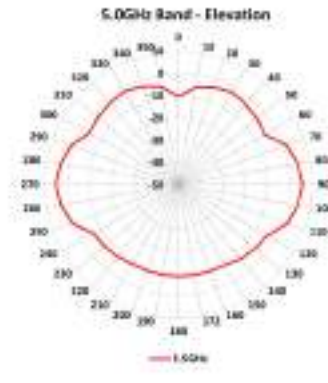
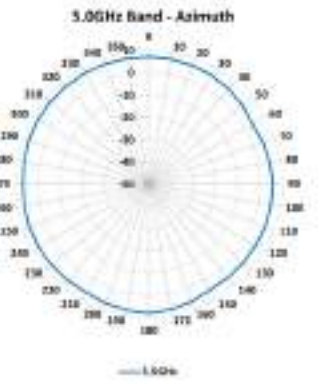
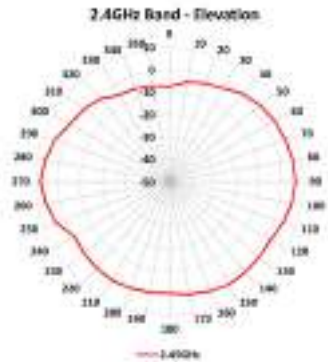
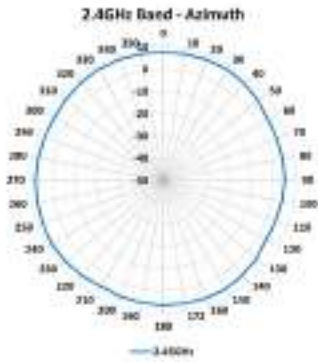
| FORTIAP 432G | | | | | | | |
|----------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--|
| Data rate | 2.4 GHz Band | | 5.0 GHz Band | | 6 GHz Band | | |
| | Tx power/chain (dBm) | Rz Sensitivity (dBm) | Tx power/chain (dBm) | Rz Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) | |
| 802.11b | | | | | | | |
| 1 Mbps | 27 | -99 | | | | -99 | |
| 11 Mbps | 27 | -91 | | | | -91 | |
| 802.11g/a | | | | | | | |
| | 802.11g | | | 802.11a | | | |
| 6 Mbps | 27 | -94 | 25 | -92 | 22 | -94 | |
| 54 Mbps | 27 | -78 | 23 | -75 | 21 | -77 | |
| 802.11n HT20 | | | | | | | |
| MCS0 | 26 | -94 | 25 | -91 | | | |
| MCS7 | 26 | -77 | 22 | -73 | | | |
| 802.11n HT40 | | | | | | | |
| MCS0 | 25 | -93 | 25 | -89 | | | |
| MCS7 | 25 | -74 | 22 | -70 | | | |
| 802.11ac VHT20 | | | | | | | |
| MCS0 | 23 | -95 | 25 | -91 | | | |
| MCS9 | 21 | -73 | 22 | -70 | | | |
| 802.11ac VHT40 | | | | | | | |
| MCS0 | 23 | -92 | 23 | -89 | | | |
| MCS9 | 20 | -70 | 21 | -67 | | | |
| 802.11ac VHT80 | | | | | | | |
| MCS0 | | | 23 | -85 | | | |
| MCS9 | | | 21 | -62 | | | |
| 802.11ax HE20 | | | | | | | |
| MCS0 | 26 | -94 | 23 | -91 | 22 | -91 | |
| MCS11 | 24 | -71 | 21 | -63 | 19 | -65 | |
| 802.11ax HE40 | | | | | | | |
| MCS0 | 25 | -92 | 22 | -88 | 21 | -89 | |
| MCS11 | 23 | -63 | 20 | -60 | 19 | -61 | |
| 802.11ax HE80 | | | | | | | |
| MCS0 | | | 22 | -85 | 21 | -85 | |
| MCS11 | | | 20 | -57 | 18 | -60 | |
| 802.11ax HE160 | | | | | | | |
| MCS0 | | | | | 20 | -85 | |
| MCS11 | | | | | 17 | -56 | |

Maximum capability of the Hardware provided (Excluding antenna gain)



Antenna Radiation Patterns

FAP-432G



Highlights

FortiAP 231G and 233G

These enterprise class extended frequency band Wi-Fi 6E indoor APs provide three radios and two spatial streams. These access points support the 6 GHz band, OFDMA, and a 2.5 Gigabit Ethernet port. The APs can provide 24/7 scanning across all bands while still providing access on both the 2.4 GHz and 5 GHz bands or 2.4 GHz and dual 5 GHz service or the AP can be configured to provide simultaneous access on 2.4 GHz, 5 GHz, and the 6 GHz bands. The integrated BLE/ ZigBee radio can be used for beacons and locationing applications.

 **Wi-Fi 6E | Tri-Radio 2.4 GHz + 5 GHz + 5 GHz / 6 GHz / scanning | 4 Internal Antennas / 2 External RPSMA Connectors + 2 External Permanently attached Antennas**

 **2x2 MU-MIMO | Up to 574 Mbps + 1201 Mbps + 2402 Mbps**



FAP-231G



FAP-233G

Specifications

| | FortiAP 231G | FortiAP 233G |
|--------------------------------------|--|--|
| Hardware | | |
| Hardware Type | Indoor AP | Indoor AP |
| Number of Radios | 3 + 1 BLE | 3 + 1 BLE |
| Number of Antennas | Internal x2 Dual band Wi-Fi + x2 Tri-band Wi-Fi and Scanning + 1 Single band 2.4GHz BLE/ZigBee | External x2 Dual band Wi-Fi + x2 Tri-band Wi-Fi and Scanning (permanently attached) + Internal 1 Single band 2.4GHz BLE/ZigBee |
| Antenna Type Support | | RP-SMA (2 total): Dual Band Antenna (2) |
| Antenna Type and Peak Gain | Omni Directional antenna. Dual band: 4.5 dBi for 2.4GHz, 5.5 dBi for 5 GHz Tr-band: 4.5 dBi for 2.4GHz, 5.5 dBi for 5 GHz and 5.5dBi for 6GHz band BLE antenna: 4.0dBi for 2.4Ghz | Omni Directional antenna. Dual band: 4.5 dBi for 2.4GHz, 4.5 dBi for 5 GHz. Tr-band: 4.5 dBi for 2.4GHz, 4.5 dBi for 5 GHz and 4.5dBi for 6GHz band BLE Omni Directional antenna. Single band: 4.0dBi for 2.4GHz |
| Frequency Bands (GHz)* | 2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850, 5.925–6.425, 6.425–6.525, 6.525–7, 5.925– 6.875, 6.875–7.125 | |
| 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 band: 2.4GHz, 5.0GHz, and 6.0GHz Channel width: 20/40/80/160MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 2x2 Service and Scanning | |
| Maximum Data Rate | Radio 1: up to 574 Mbps Radio 2: up to 1201 Mbps Radio 3: Up to 2401 Mbps | |
| Bluetooth Low Energy Radio | Bluetooth scanning and iBeacon advertisement @10 dBm max TX power | |
| Trusted Platform Module (TPM) | Yes | Yes |
| Interfaces | 1 100/1000/2500 Base-T RJ45, 1 10/100/1000 Base-T RJ45, 1x Type 3.0 USB, 1 RS-232 RJ45 Serial Port | |
| MDI/MDIX | Supported | Supported |
| Power over Ethernet (PoE) | 1 x 802.3at PoE default | |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 and allowlist | |
| Maximum Tx Power | Radio 1: 2.4GHz: 23 dBm / 200 mW (2 chains combined)* Radio 2: 5GHz: 23 dBm / 200 mW (2 chains combined)* Radio 3: 5GHz: 23 dBm / 200 mW (2 chains combined)* 6GHz: 21 dBm 126 mW (2 chains combined @ 160MHz BW)* | |
| 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, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax, 802.11Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.3bz | |
| SSID Types Supported | Local-Bridge, Mesh, and Tunnel | |
| Per Radio Client Capacity | Up to 512 clients per radio (Radio1, Radio2 and Radio3) | |
| Cellular Co-existence | Yes | Yes |
| LED Off Mode | Yes | Yes |

| | FortiAP 231G | FortiAP 233G |
|---|--|--|
| Advanced 802.11 Features | | |
| OFDMA | Yes | Yes |
| Spatial Reuse (BSS Coloring) | Yes | Yes |
| UL MU-MIMO | Yes | Yes |
| DL- MU-MIMO | Yes | Yes |
| Enhanced Target Wake Time (TWT) | Yes | Yes |
| ZeroWait DFS | No | No |
| Onboard Security Functions | | |
| UTP Capable | Yes | Yes |
| UTP Features | Application control and Web filtering | |
| Wireless Monitoring Capabilities | | |
| Rogue Scan Radio Modes | Background, Dedicated | |
| WIPS / WIDS Radio Modes | Background, Dedicated (recommended) | |
| Packet Sniffer Mode | Yes | Yes |
| Spectrum Analyzer | Yes | Yes |
| Dimensions | | |
| Length x Width x Height | 7.18 x 7.18 x 2.12 inches (182.4 x 182.4 x 54.0 mm) | |
| Weight | 1.75 lbs (0.8 kg) | 1.95 lbs (0.88 kg) |
| Package (shipping) Weight | 3.05 lbs (1.4 kg) | 3.35 lbs (1.51 kg) |
| Accessories | | |
| Mounting Options | Ceiling, T-Rail, and Wall | |
| Included Accessories | Standard Mounting kit for Ceiling, T-Rail and Wall | |
| Power Supply | SP-FAP200-PA-XX or 802.3at PoE (GPI-130) | |
| Environment | | |
| Power Consumption (Maximum) | Based on the PoE standard. 802.3af = 15.4W max 802.3at = 25.5W max | |
| PoE Mode | Full - 802.3at or 2x802.3af or DC : Tx Power - Full ; Chain 2x2 ; USB - Enabled Low - 802.3af : R1(2.4GHz) and R2(5GHz) Operation in Low Tx Power 17 dBm ; Radio3 - Disabled ; USB - Disabled | |
| Humidity | 5% to 90% non-condensing | |
| Operating / Storage Temperature | 32°F to 122°F (0°C to 50°C)/-22°F to 158°F (-30°C to 70°C) | |
| Directives | Low Voltage Directive • RoHS | |
| UL2043 Plenum Material | Yes | Yes |
| Mean Time Between Failures | >10 Years | >10 Years |
| IP Rating | N/A | N/A |
| Surge Protection Built In | No | No |
| Hit-less PoE Failover | N/A | N/A |
| Certifications | | |
| Wi-Fi Alliance Certified | Yes (includes Passpoint) | Yes (includes Passpoint) |
| DFS | CE, FCC, JP, Indonesia, Korea, Taiwan | CE, FCC, JP, Indonesia, Korea, Taiwan |
| Warranty | | |
| Limited Lifetime Warranty | Yes | Yes |

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



RF Rx/Tx Performance Table

| FORTIAP 231G / 233G | | | | | | |
|-------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|-------------------------|
| Data rate | Radio 1 802.11ax 4x4 | | Radio 2 802.11ax 4x4 | | Radio3 Tri band Service and Scanning radio | |
| | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) |
| 2.4GHz, 802.11b | | | | | | |
| 1 Mbps | 23 | -99 | | | | -92 |
| 11 Mbps | 23 | -91 | | | | -91 |
| 2.4GHz, 802.11g | | | | | | |
| 6 Mbps | 23 | -94 | | | | -92 |
| 54 Mbps | 23 | -78 | | | | -77 |
| 2.4GHz, 802.11n HT20 | | | | | | |
| MCS0 | 23 | -94 | | | | -92 |
| MCS7 | 21 | -75 | | | | -74 |
| 2.4GHz, 802.11n HT40 | | | | | | |
| MCS0 | 22 | -92 | | | | -90 |
| MCS7 | 20 | -73 | | | | -72 |
| 2.4GHz, 802.11ax HE20 | | | | | | |
| MCS0 | 23 | -90 | | | | -90 |
| MCS11 | 21 | -71 | | | | -71 |
| 2.4GHz, 802.11ax HE40 | | | | | | |
| MCS0 | 22 | -91 | | | | -91 |
| MCS11 | 20 | -72 | | | | -72 |
| 5.0GHz, 802.11a | | | | | | |
| 6 Mbps | | | 23 | -92 | 19 | -93 |
| 54 Mbps | | | 23 | -76 | 19 | -76 |
| 5.0GHz, 802.11n HT20 | | | | | | |
| MCS0 | | | 23 | -93 | 19 | -93 |
| MCS7 | | | 21 | -74 | 18 | -73 |
| 5.0GHz, 802.11n HT40 | | | | | | |
| MCS0 | | | 22 | -91 | 21 | -90 |
| MCS7 | | | 21 | -72 | 18 | -71 |
| 5.0GHz, 802.11ac VHT20 | | | | | | |
| MCS0 | | | 23 | -91 | 21 | -93 |
| MCS9 | | | 21 | -72 | 18 | -69 |
| 5.0GHz, 802.11ac VHT40 | | | | | | |
| MCS0 | | | 22 | -91 | 21 | -90 |
| MCS9 | | | 19 | -72 | 18 | -64 |
| 5.0GHz, 802.11ac VHT80 | | | | | | |
| MCS0 | | | 21 | -86 | 20 | -88 |
| MCS9 | | | 18 | -62 | 17 | -61 |
| 5.0GHz, 802.11ax HE20 | | | | | | |
| MCS0 | | | 23 | -91 | 19 | -91 |
| MCS11 | | | 20 | -72 | 17 | -72 |
| 5.0GHz, 802.11ax HE40 | | | | | | |
| MCS0 | | | 22 | -91 | 21 | -91 |
| MCS11 | | | 19 | -72 | 18 | -72 |
| 5.0GHz, 802.11ax HE80 | | | | | | |
| MCS0 | | | 21 | -87 | 21 | -87 |
| MCS11 | | | 18 | -58 | 17 | -58 |
| 6.0GHz, 802.11ax HE160 | | | | | | |
| MCS0 | | | | | 18 | -87 |
| MCS11 | | | | | 16 | -57 |

Maximum capability of the Hardware provided (Excluding antenna gain)

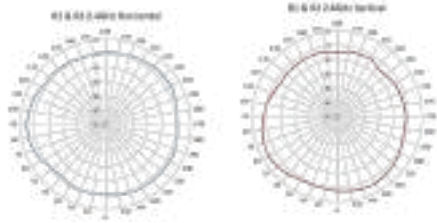


Antenna Radiation Patterns

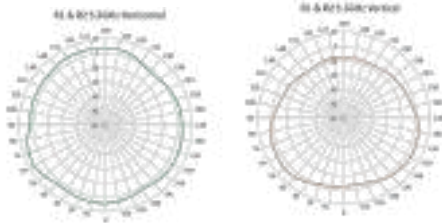
FAP-231G

FAP-233G

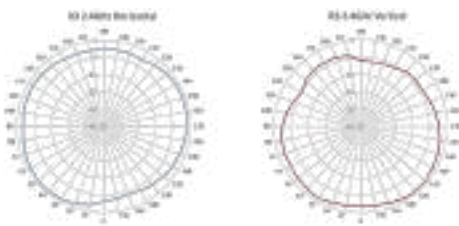
Radio1 and Radio2 2.45GHz plots



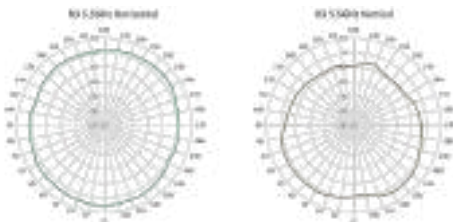
Radio1 and Radio2 5.5GHz plots



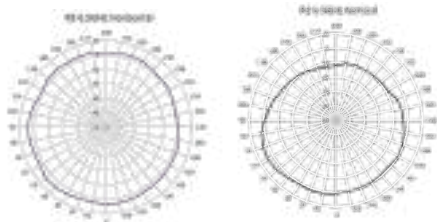
Radio3 2.45GHz plots



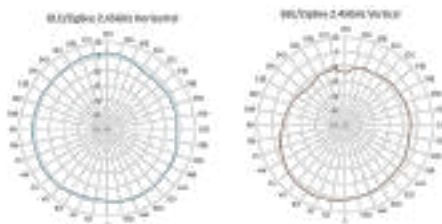
Radio3 5.5GHz plots



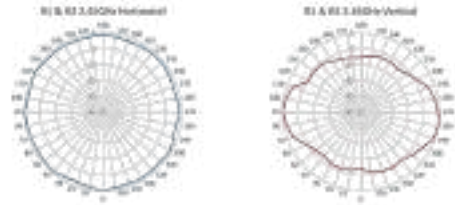
Radio3 6.5GHz plots



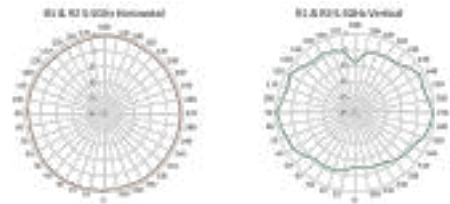
BLE/ZigBee 2.45GHz plots



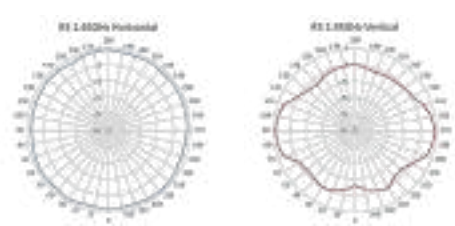
FAP-233G Radio 1&2 antenna plots



FAP-233G Radio 1&2 antenna plots



FAP-233G Radio3 antenna plots



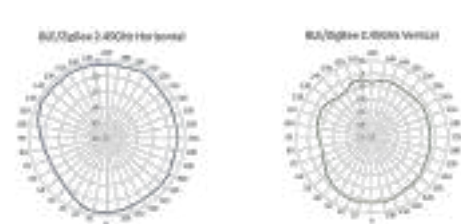
FAP-233G Radio3 antenna plots



FAP-233G Radio3 antenna plots



FAP-233G BLE/ZigBee antenna plots



Highlights

FortiAP 234G

This enterprise class Wi-Fi 6E ruggedized indoor/outdoor AP provides three radios with internal antennas and two spatial streams. This access point supports the 6 GHz band, OFDMA, a 2.5 Gigabit Ethernet port, plus an additional 1 Gbps Ethernet port for PoE diversity. The AP can provide 24/7 scanning across all bands while still providing access on both the 2.4 GHz and 5 GHz bands or 2.4 GHz and dual 5 GHz service or the AP can be configured to provide simultaneous access on 2.4 GHz, 5 GHz, and the 6 GHz bands. The integrated BLE radio can be used for beacons and locationing applications.

 **Wi-Fi 6E | Tri-Radio 2.4 GHz + 5 GHz + 5 GHz / 6 GHz / scanning | 8 Internal Antennas**

 **2x2 MU-MIMO | Up to 574 Mbps + 1201 Mbps + 2402 Mbps**



FAP-234G

Specifications

| FortiAP 234G | |
|---|--|
| Hardware | |
| Hardware Type | Outdoor AP |
| Number of Radios | 3 + 1 BLE |
| Number of Antennas | 10 2*2.4GHz WiFi + 2*5GHz band WiFi + 2*5/6GHz dual band + 2*Tri-band Scanning + 1*Single band 2.4GHz BLE/ ZigBee + 1*GPS antenna |
| Antenna Type and Peak Gain | Cross dipole 2.4GHz band: 6.8dBi Cross dipole 5.0GHz band: 8.4dBi Cross dipole Dual band: 8.1 dBi for 5.0GHz, 5.5 dBi for 6 GHz Tr-band: 4.5 dBi for 2.4GHz, 5.5 dBi for 5 GHz and 8.4 dBi for 6GHz band BLE antenna: 4.4dBi for 2.4Ghz GPS Circular polarized patch antenna 5.0dBi |
| Antenna Beam width | Wi-Fi: 2.4GHz Band: 305° Horizontal and 97° Vertical 5.0GHz Band: 337° Horizontal and 122° Vertical 6.0GHz Band: 283° Horizontal and 94° Vertical BLE: 2.4GHz Band: 196° Horizontal and 133° Vertical GPS: 1.5-1.6GHz Band: 360° Horizontal and 98° Vertical |
| Frequency Bands (GHz)* | 2.4GHz Band: 2.400–2.4835 5.0GHz Band: 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850, 6.0GHz Band: 5.925–6.425, 6.425–6.525, 6.525–7, 5.925–6.875, 6.875–7.125 |
| 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: 20/40/80/80+80MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 2x2 Service |
| Radio 3 Capabilities | Frequency band: 2.4GHz, 5.0GHz, and 6.0GHz Channel width: 20/40/80/160MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 2x2 Service and Scanning |
| Maximum Data Rate | Radio 1: up to 574 Mbps Radio 2: up to 1201 Mbps Radio 3: Up to 2401 Mbps |
| Bluetooth Low Energy Radio | Bluetooth scanning and iBeacon advertisement @10 dBm max TX power |
| GNSS | |
| Supported Bands | GPS L1 C/A, QZSS L1 C/A: 1575.42 MHz, GLONASS L1: 1598.0625–1605.375 MHz BDS B1I : 1561.098 MHz, Galileo E1: 1575.42 MHz |
| Default constallations | GPS + GLONASS + BDS + Galileo + QZSS |
| Tracking channels | 47 |
| Concurrent GNSS | 5 |
| SBAS | WAAS, EGNOS, MSAS and GAGAN |
| Sensitivity (@ default constallations) | Acquisition: -147 dBm Tracking: -166 dBm Reacquisition: -159 |
| Interfaces | 1*100/1000/2500 Base-T RJ45, 1*10/100/1000 Base-T RJ45, 1*RS-232 RJ45 Serial Port |
| MDI/MDIX | Supported |
| Power over Ethernet (PoE) | IEEE 802.3bt |
| Simultaneous SSIDs | Up to 24 |
| 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 and allowlist |
| Maximum Tx Power | Radio 1: 2.4GHz: 26 dBm / 398 mW (2 chains combined)* Radio 2: 5GHz: 26 dBm / 398 mW (2 chains combined)* Radio 3: 5GHz: 26 dBm / 398 mW (2 chains combined)*, 6GHz: 26dBm/398 mW (2 chains combined EIRP)* |

| FortiAP 234G | |
|---|--|
| IEEE Standards | 802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11k, 802.11n, 802.11r, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax, 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.3bz |
| SSID Types Supported | Local-Bridge, Mesh, and Tunnel |
| Per Radio Client Capacity | Up to 512 clients per radio (Radio1, Radio2 and Radio3) |
| Cellular Co-existence | Yes |
| LED Off Mode | Yes |
| Advanced 802.11 Features | |
| OFDMA | Yes |
| Spatial Reuse (BSS Coloring) | Yes |
| UL MU-MIMO | Yes |
| DL- MU-MIMO | Yes |
| Enhanced Target Wake Time (TWT) | Yes |
| ZeroWait DFS | No |
| Onboard Security Functions | |
| UTP Capable | Yes |
| UTP Features | Application control and Web filtering |
| Wireless Monitoring Capabilities | |
| Rogue Scan Radio Modes | Background, Dedicated |
| WIPS / WIDS Radio Modes | Background, Dedicated (recommended) |
| Packet Sniffer Mode | Yes |
| Spectrum Analyzer | Yes |
| Power source and power consumption | |
| PoE | PIN060-54PR 60W PoE with reset switch shipped with the AP |
| Power Consumption (Max) | 28 Watts |
| PoE Mode | Full - 802.3at or passive(Shipped with unit) : Tx Power - Full ; Chain 2x2 Low - 802.3af : R1(2.4GHz) and R2(5GHz) Operation in Low Tx Power 17 dBm ; Radio3 - Disabled |
| Hit-less PoE Failover | Yes |
| Surge Protection Built In | No |
| Dimensions | |
| Length x Width x Height | 10.15 × 8.50 × 2.26 inches (258 × 216 × 57.3 mm) |
| Weight | 3.05 lbs (1.38 kg) |
| Package (shipping) Weight | 8.15 lbs (3.7 kg) |
| Accessories (included) | |
| Mounting Accessories | Wall and Pole installation brackets with mounting kits |
| PoE | PIN060-54PR 60W PoE with reset switch or IEEE 802.3bt PoE |
| Environment | |
| Humidity | 5% to 90% non-condensing |
| Operating / Storage Temperature | -40°F to 140°F (-40°C to 60°C) / -58°F to 158°F (-50°C to 70°C) |
| Directives | Low Voltage Directive • RoHS |
| UL2043 Plenum Material | Yes |
| Mean Time Between Failures | > 10 Years |
| IP Rating | IP67 |
| Certifications | |
| Wi-Fi Alliance Certified | No |
| DFS | Yes |
| Warranty | |
| Limited Lifetime Warranty | Yes |

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



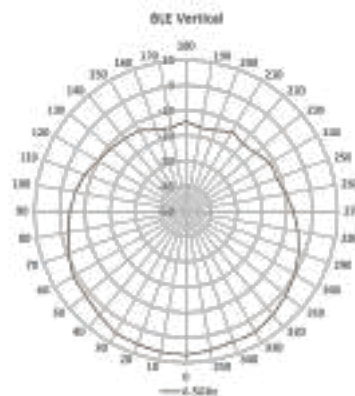
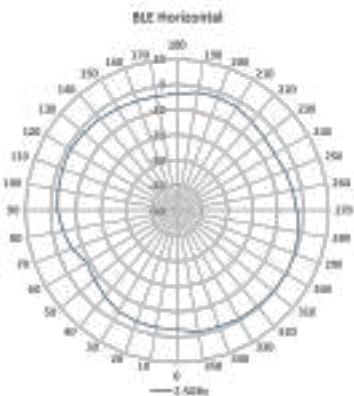
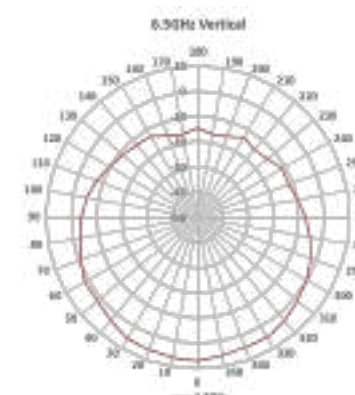
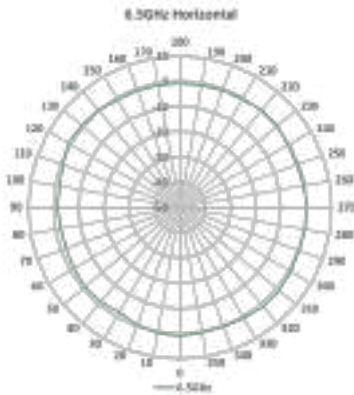
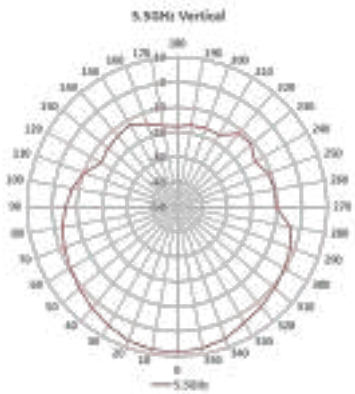
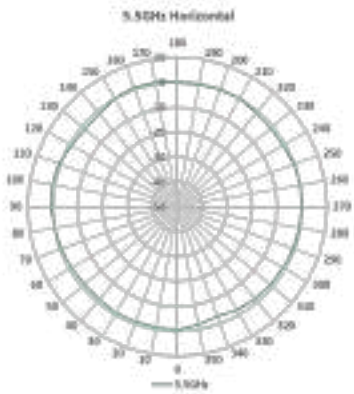
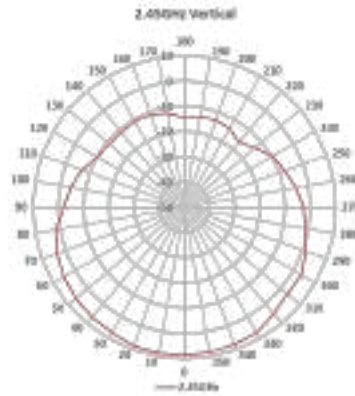
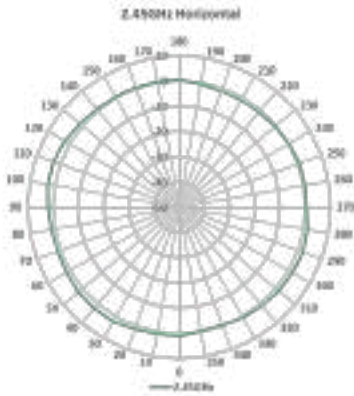
RF Rx/Tx Performance Table

| FORTIAP 234G | | | | | | |
|----------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Data rate | Radio1 2.4GHz Band | | Radio2 5.0GHz Band | | Radio3 6GHz Band | |
| | Tx power/chain (dBm) | Rz Sensitivity (dBm) | Tx power/chain (dBm) | Rz Sensitivity (dBm) | Tx power/chain (dBm) | Rx Sensitivity (dBm) |
| 802.11b | | | | | | |
| 1 Mbps | 23 | -99 | | | | |
| 11 Mbps | 23 | -91 | | | | |
| 802.11g/a | 802.11g | | 802.11a | | | |
| 6 Mbps | 23 | -94 | 23 | -92 | 17 | -94 |
| 54 Mbps | 23 | -78 | 22 | -75 | 17 | -77 |
| 802.11n HT20 | | | | | | |
| MCS0 | 23 | -94 | 23 | -91 | | |
| MCS7 | 21 | -77 | 21 | -73 | | |
| 802.11n HT40 | | | | | | |
| MCS0 | 23 | -93 | 23 | -89 | | |
| MCS7 | 21 | -74 | 21 | -70 | | |
| 802.11ac VHT20 | | | | | | |
| MCS0 | 23 | -95 | 23 | -91 | | |
| MCS9 | 21 | -73 | 21 | -70 | | |
| 802.11ac VHT40 | | | | | | |
| MCS0 | 23 | -92 | 23 | -89 | | |
| MCS9 | 20 | -70 | 20 | -67 | | |
| 802.11ac VHT80 | | | | | | |
| MCS0 | | | 22 | -85 | | |
| MCS9 | | | 19 | -62 | | |
| 802.11ax HE20 | | | | | | |
| MCS0 | 23 | -94 | 22 | -91 | 17 | -94 |
| MCS11 | 20 | -71 | 19 | -63 | 15 | -67 |
| 802.11ax HE40 | | | | | | |
| MCS0 | 20 | -92 | 22 | -88 | 16 | -91 |
| MCS11 | 17 | -63 | 19 | -60 | 14 | -63 |
| 802.11ax HE80 | | | | | | |
| MCS0 | | | 21 | -85 | 16 | -88 |
| MCS11 | | | 18 | -57 | 13 | -61 |
| 802.11ax HE160 | | | | | | |
| MCS0 | | | | | 15 | -85 |
| MCS11 | | | | | 12 | -58 |



Antenna Radiation Patterns

FAP-234G




Highlights

FortiAP 831F

This high throughput enterprise class 802.11ax indoor AP provides three radios and 8 spatial streams. This top-of-the line access point supports OFDMA, a 5.0 Gigabit Ethernet port, plus an additional 1 Gbps Ethernet port for PoE diversity. 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 2.4 GHz + 5 GHz + scanning | 13 Internal Antennas

 8x8 MU-MIMO | Up to 1147 Mbps + 4804 Mbps



FAP-831F

Specifications

| FortiAP 831F | |
|------------------------------|--|
| Hardware | |
| Hardware Type | Indoor AP |
| Number of Radios | 3 + 1 BLE |
| Number of Antennas | 4 2.4GHz band WiFi + 8 5GHz band WiFi + 1 Dual band Scanning + 1 2.4GHz band BLE |
| Antenna Type and Peak Gain | PIFA: 4.0 dBi for 2.4 GHz band WiFi antennas 6.0 dBi for 5.0 GHz band WiFi antennas 4.0 dBi for dual band Scanning radio antenna 4.5 dBi for 2.4 GHz band BLE antenna |
| 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: 20/40 MHz Modulation: BPSK, QPSK, QAM64 MIMO chains: 4x4 service |
| Radio 2 Capabilities | Frequency Band: 5.0 GHz Channel width: 20/40/80/80+80/160MHz Modulation: BPSK, QPSK, QAM64, QAM256, and QAM1024 Mimo chains: 8x8 service in mode 1 or 4x4+4x4 service in mode 2 |
| Radio 3 Capabilities | Frequency band: 2.4/5.0 GHz MIMO chains: 1x1 frequency scanning |
| Maximum Data Rate | Radio 1: up to 1147.5 Mbps Radio 2: up to 4.804 Gbps in 8x8 MIMO and in 4x4 + 4x4 MIMO modes |
| Bluetooth Low Energy Radio | Bluetooth scanning and iBeacon advertisement @ 10 dBm max TX power |
| Interfaces | 1x 100/1000/2500/5000 Base-T RJ45 1x 10/100/1000 Base-T RJ45 1x Type 3.0 USB, 1x RS-232 RJ45 Serial Port |
| MDI/MDIX | Supported Supported |
| Power over Ethernet (PoE) | 2x 802.3at/bt/30W Passive PoE in (Full function) 1x 802.3at PoE in (USB3.1 disabled) |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 and allowlist |
| Maximum Tx Power (Conducted) | Radio 1: 2.4 GHz 27 dBm / 500 mW (4 chains combined)* Radio 2: 5 GHz 25.5 dBm / 354 mW (4 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, 802.11u, 802.11v, 802.11ac, 802.11ax (Wi-Fi 6), 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.3bz |
| SSID Types Supported | Local-Bridge, Mesh, Tunnel |
| Per Radio Client Capacity | up to 512 clients per radio (Radio1 and Radio2) |
| Cellular Co-existence | Yes |
| LED Off Mode | Yes |

| FortiAP-831F | |
|---|---|
| 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 |
| Onboard Security Functions | |
| UTP Capable | No |
| UTP Features | N/A |
| Wireless Monitoring Capabilities | |
| Rogue Scan Radio Mode | Dedicated |
| WIPS / WIDS RAdio Modes | Dedicated |
| Packet Sniffer Mode | Yes |
| Spectrum Analyzer | Yes |
| Dimensions | |
| Length x Width x Height | 9.05 × 89.05 × 2.15 inches (230 × 230 × 55 mm) |
| Weight | 2.25 lbs (1.02 kg) |
| Package (shipping) Weight | 4.2 lbs (1.9 kg) |
| Accessories | |
| Mounting Options | Ceiling, T-Rail, and Wall |
| Included Accessories | Mount kit for Ceiling, T-Rail, and Wall |
| Power Supply | SP-FAP400-PA-XX or GPI-130 |
| Environment | |
| PSE Functionality | No |
| Power Consumption (Max) | 33 W |
| PoE Mode | |
| Single 5G | DC/2at → Full Mode ; Radios will be in (8x8 4x4) and USB Enabled 1at/2af → High Mode ; Radios will be in (8x8 4x4) and USB Disabled 1af → Low Mode ; Radios will be [2x2 2x2], Tx Power 10 dBm and USB Disabled |
| Dual 5G | DC/2at → Full Mode ; Radios will be in [4x4 4x4 4x4] and USB Enabled 1at/2af → High Mode ; Radios will be in [4x4 4x4 4x4] and USB Disabled 1af → Low Mode ; Radios will be [2x2 2x2 2x2], Tx Power 10 dBm and USB Disabled |
| Humidity | 5% to 90% Non-Condensing |
| Operating / Storage Temp. | 32°F to 122°F(0°C to 50°C) / -22°F to 158°F(-30°C to 70°C) |
| Directives | Low Voltage Directive • RoHS |
| UL2043 Plenum Material | No |
| Mean Time Betw. Failures | >10 Years |
| Surge Protection Built In | No |
| Certifications | |
| Wi-Fi Alliance Certified | Yes (includes Passpoint) |
| DFS | FCC, IC, CE, Brazil and Taiwan |
| Warranty | |
| Limited Lifetime Warranty | Yes |

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

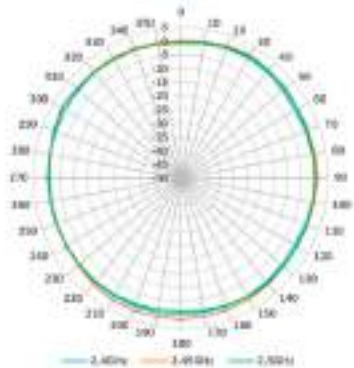


RF Rx/Tx Performance Table

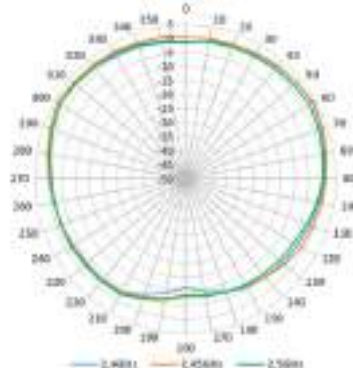
| FortiAP 831F | | | | | | | | |
|-----------------------|----------------------------------|----------------------|--------------------------------|----------------------|----------------------------------|----------------------|--------------------------------|----------------------|
| Data rate | 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 | 21 | -98 | — | — | 21 | -96 | — | — |
| 11 Mbps | 23 | -89 | — | — | 18 | -87 | — | — |
| 802.11g | | | | | | | | |
| 6 Mbps | 20 | -94 | — | — | 20 | -92 | — | — |
| 54 Mbps | 22 | -75 | — | — | 18 | -73 | — | — |
| 802.11n HT20 | | | | | | | | |
| MCS0 | 20 | -93 | — | — | 20 | -91 | — | — |
| MCS7 | 20 | -74 | — | — | 17 | -72 | — | — |
| 802.11n HT40 | | | | | | | | |
| MCS0 | 17 | -92 | — | — | 19 | -90 | — | — |
| MCS7 | 18 | -73 | — | — | 17 | -71 | — | — |
| 802.11ax HE20 | | | | | | | | |
| MCS0 | 21 | -90 | — | — | — | — | — | — |
| MCS11 | 17 | -71 | — | — | — | — | — | — |
| 802.11ax HE40 | | | | | | | | |
| MCS0 | 17 | -88 | — | — | — | — | — | — |
| MCS11 | 17 | -68 | — | — | — | — | — | — |
| 802.11a | | | | | | | | |
| 6 Mbps | — | — | 20 | -92 | — | — | 20 | -90 |
| 54 Mbps | — | — | 20 | -72 | — | — | 17.5 | -72 |
| 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 | — | — | — | — |
| 802.11ax HE40 | | | | | | | | |
| MCS0 | — | — | 20 | -87 | — | — | — | — |
| MCS11 | — | — | 18 | -61 | — | — | — | — |
| 802.11ax HE80 | | | | | | | | |
| MCS0 | — | — | 18 | -94 | — | — | — | — |
| MCS11 | — | — | 17 | -58 | — | — | — | — |



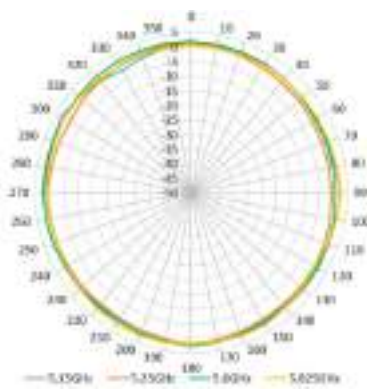
FAP 831F Antenna Radiation Patterns



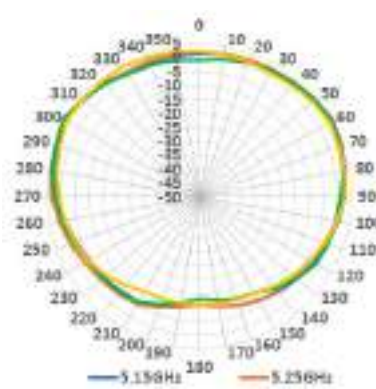
Radio1 2.4 GHz Horizontal



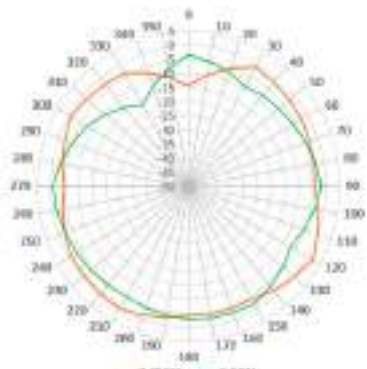
Radio1 2.4 GHz Vertical



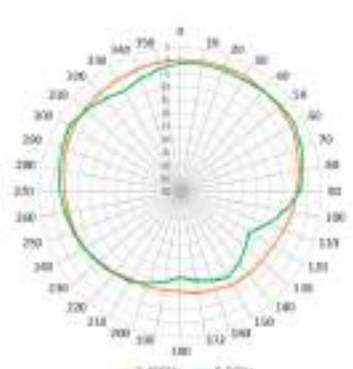
Radio2 5.0 GHz Horizontal



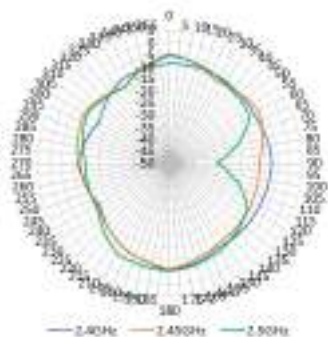
Radio2 5.0 GHz Vertical



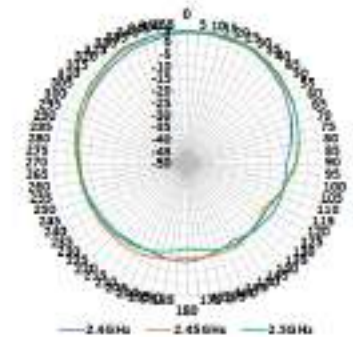
Scanning Radio Horizontal



Scanning Radio Vertical



BLE Radio Horizontal




BLE Radio Vertical



Highlights

FortiAP 431F and 433F

These enterprise class 802.11ax indoor APs provide three radios and four spatial streams. 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 | Tri-Radio 2.4 GHz + 5 GHz + scanning | 5 Internal/External Antennas

 4x4 MU-MIMO | Up to 1147 Mbps + 2402 Mbps



FAP-433F



FAP-431F

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 Support | | RP-SMA (5 total): Dual Band Antenna (5) |
| 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 | |
| MDI/MDIX | Supported | Supported |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 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, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax (Wi-Fi 6), 802.11q, 802.11x, 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 |
| 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 |

| | FortiAP-431F | FortiAP-433F |
|---|---|--|
| Onboard Security Functions | | |
| UTP Capable | No | No |
| UTP Features | N/A | N/A |
| 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 × 8.27 × 2.22 inches (210 × 210 × 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) |
| Accessories | | |
| 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 |
| Power Supply | SP-FAP400-PA-XX or GPI-130 | SP-FAP400-PA-XX or GPI-130 |
| Optional Antennas** (Professional Installer Required for FCC domains) | N/A | FANT-04ABGN-0606-O-R FANT-04ABGN-0606-P-R |
| Environment | | |
| Power Consumption (Max) | 24.5 W | 24.5 W |
| PoE Mode | 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) | |
| Humidity | 5% to 90% Non-Condensing | 5% to 90% Non-Condensing |
| Operating / Storage Temperature | 32°F to 113°F (0°C to 45°C) / -31°F to 94°F (-35°C to 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 | No | No |
| Hit-less PoE Failover | Yes | Yes |
| Certifications | | |
| Wi-Fi Alliance Certified | Yes (includes Passpoint) | Yes (includes Passpoint) |
| DFS | FCC, IC, CE, Japan, Brazil and Taiwan | FCC, IC, CE, Japan, Brazil and Taiwan |
| Warranty | | |
| Limited Lifetime Warranty | Yes | Yes |

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

** Refer to the Fortinet Antenna datasheet [here](#).



RF Rx/Tx Performance Table

| FortiAP 431F / 433F | | | | | | | | |
|-----------------------|----------------------------------|----------------------|--------------------------------|----------------------|----------------------------------|----------------------|--------------------------------|----------------------|
| Data rate | 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 | — | — | — | — |
| 802.11ax HE40 | | | | | | | | |
| MCS0 | — | — | 20 | -87 | — | — | — | — |
| MCS11 | — | — | 18 | -61 | — | — | — | — |
| 802.11ax HE80 | | | | | | | | |
| MCS0 | — | — | 18 | -94 | — | — | — | — |
| MCS11 | — | — | 17 | -58 | — | — | — | — |

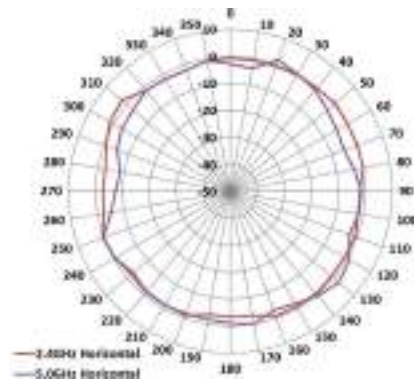


Antenna Radiation Patterns

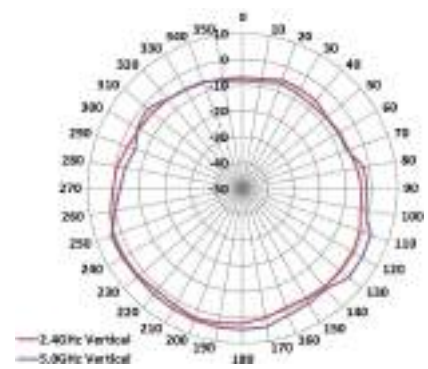
FAP-431F



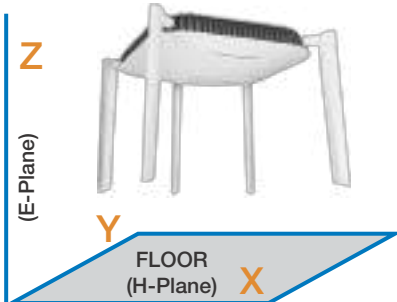
H-Plane Pattern



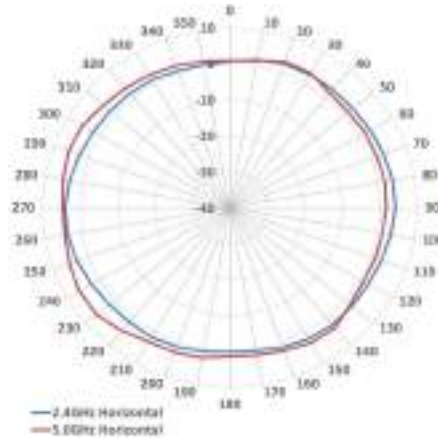
E-Plane Pattern



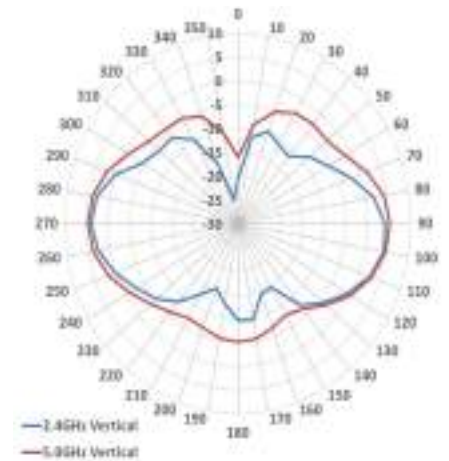
FAP-433F



H-Plane Pattern



E-Plane Pattern



Highlights

FortiAP 432F

This enterprise class 802.11ax ruggedized indoor/outdoor AP provides three radios and four spacial streams. As a top-of-the-line Wi-Fi 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 | Tri-Radio 2.4 GHz + 5 GHz + scanning | 6 External Antennas

 4x4 MU-MIMO | Up to 1147 Mbps + 2402 Mbps



FAP-432F

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 Support | N-Type (5 total): Dual Band Antenna (5) |
| 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: 4×4 Service |
| Radio 2 Capabilities | Frequency band: 5.0 GHz Channel width: 4×4 20/40/80MHz and 2×2 160 MHz contiguous Modulation: BPSK, QPSK, QAM64, QAM256, and QAM1024 MIMO Chains: 4×4 Service |
| Radio 3 Capabilities | Frequency bands: 2.4 GHz and 5.0 GHz MIMO Chains: 1×1 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 | 1× 100/1000/2500 Base-T RJ45, 1 × 10/100/1000 Base-T RJ45 (802.3af PoE PSE), 1x RS-232 RJ45 Serial Port |
| MDI/MDIX | Supported Supported |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 30 dBm / 1000 mW (4 chains combined)* Radio 2: 5 GHz 26 dBm / 398 mW (4 chains combined)* Radio 3: N/A |
| Kensington Lock | No |
| IEEE Standards | 802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax (Wi-Fi 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 |
| 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 |

| FortiAP 432F | |
|---|---|
| Onboard Security Functions | |
| UTP Capable | No |
| UTP Features | N/A |
| 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 × 8.23 × 2.38 inches (209 × 209 × 60.5 mm) |
| Weight | 5.12 lbs (2.325 kg) |
| Package (shipping) Weight | 12.56.93 lbs (5.7 kg) |
| Accessories | |
| Mounting Options | Wall and Pole |
| Included Accessories | Wall and Pole mounting kit |
| Power Supply | 802.3bt PoE, ships with PoE injector (reset functionality) |
| Optional Antennas** (Professional Installer Required for FCC domains) | FANT-04ABGN-0606-O-N FANT-04ABGN-1414-P-N FANT-04ABGN-8065-P-N |
| Environment | |
| 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 |
| PoE Mode | 802.3bt PoE default (ships with Passive PoE injector Powered by 802.3at PoE - Operate in 4×4 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. |
| Humidity | 10% to 90% non condensing |
| Operating / Storage Temperature | -40°F to 140°F (-40°C to 60°C) / -40°F to 176°F (-40°C to 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 (includes Passpoint) |
| DFS | FCC, IC, CE, Japan, Brazil and Taiwan |
| Warranty | |
| Limited Lifetime Warranty | Yes |

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

** Refer to the Fortinet Antenna datasheet [here](#).



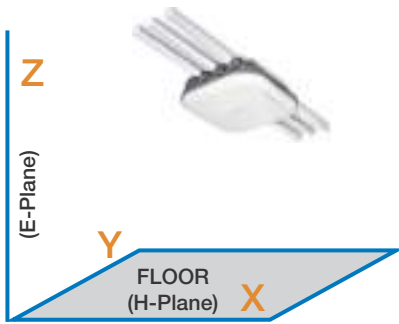
RF Rx/Tx Performance Table

| FortiAP 432F | | | | | | | |
|-----------------------|----------------------------------|----------------------|--------------------------------|----------------------|----------------------------------|--------------------------------|----------------------|
| Data rate | 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 | — | — | — |
| 802.11ax HE40 | | | | | | | |
| MCS0 | — | — | 22 | -91 | — | — | — |
| MCS11 | — | — | 19 | -72 | — | — | — |
| 802.11ax HE80 | | | | | | | |
| MCS0 | — | — | 20 | -87 | — | — | — |
| MCS11 | — | — | 18 | -58 | — | — | — |

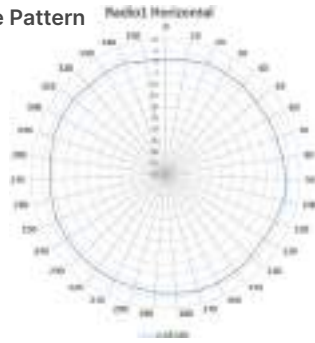


Antenna Radiation Patterns

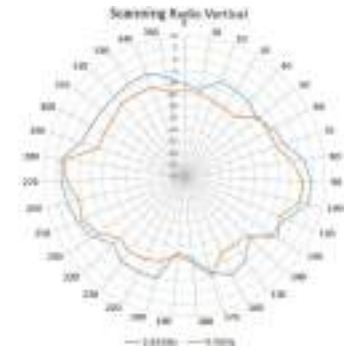
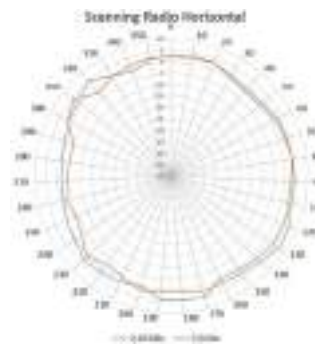
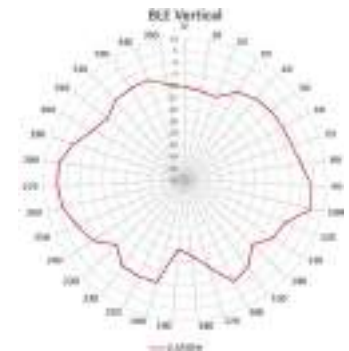
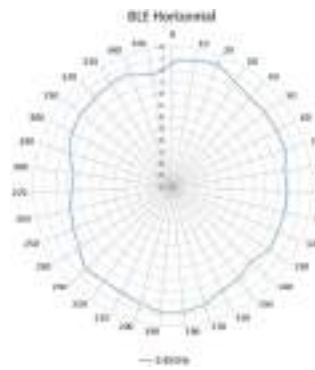
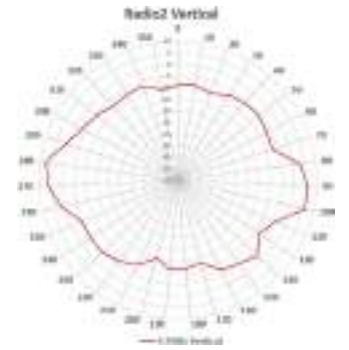
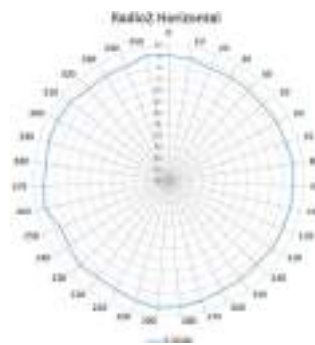
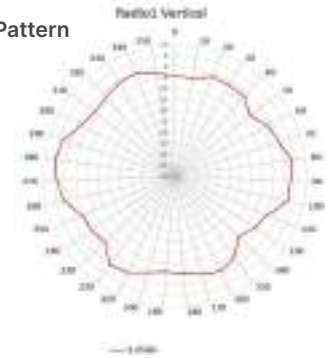
FAP-432F



H-Plane Pattern



E-Plane Pattern




Highlights

FortiAP 432FR

This enterprise class 802.11ax ruggedized indoor/outdoor/industrial AP provides three radios and four spatial streams. As a top-of-the-line Wi-Fi 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.

FAP-432FR is ideal for hazardous environments such as oil rigs, industrial manufacturing, and transportation sites.

 802.11ax | Tri-Radio 2.4 GHz + 5 GHz + scanning | 6 External Antennas

 4x4 MU-MIMO | Up to 1147 Mbps + 2402 Mbps



FAP-432FR



FAP-432FR

Specifications

| FortiAP 432FR | |
|---------------------------------|--|
| Hardware | |
| Hardware Type | Indoor / Outdoor / Industrial 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 Support | N-Type (5 total): Dual Band Antenna (5) |
| 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: 4×4 Service |
| Radio 2 Capabilities | Frequency band: 5.0 GHz Channel width: 4×4 20/40/80MHz and 2×2 160 MHz contiguous Modulation: BPSK, QPSK, QAM64, QAM256, and QAM1024 MIMO Chains: 4×4 Service |
| Radio 3 Capabilities | Frequency bands: 2.4 GHz and 5.0 GHz MIMO Chains: 1×1 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 | 1× 100/1000/2500 Base-T RJ45, 1× 10/100/1000 Base-T RJ45 (802.3af PoE PSE), 1x RS-232 RJ45 Serial Port |
| MDI/MDIX | Supported Supported |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 and allowlist |
| Maximum Tx Power (Conducted) | Indoor / Outdoor / Industrial: Radio 1: 2.4 GHz 29 dBm / 794 mW (4 chains combined)* Radio 2: 5 GHz 28 dBm / 630 mW (4 chains combined)* Radio 3: N/A |
| Kensington Lock | No |
| IEEE Standards | 802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax (Wi-Fi 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 |
| 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 |

| FortiAP 432FR | |
|---|---|
| Onboard Security Functions | |
| UTP Capable | No |
| UTP Features | N/A |
| 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 × 8.23 × 2.38 inches (209 × 209 × 60.5 mm) |
| Weight | 5.12 lbs (2.325 kg) |
| Package (shipping) Weight | 12.56.93 lbs (5.7 kg) |
| Accessories | |
| Mounting Options | Wall and Pole |
| Included Accessories | Wall and Pole mounting kit |
| Power Supply | 802.3bt PoE, ships with PoE injector (reset functionality) |
| Optional Antennas** (Professional Installer Required for FCC domains) | FANT-04ABGN-0606-O-N FANT-04ABGN-1414-P-N FANT-04ABGN-8065-P-N |
| Environment | |
| 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 |
| PoE Mode | 802.3bt PoE default (ships with Passive PoE injector Powered by 802.3at PoE - Operate in 4×4 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. |
| Humidity | 10% to 90% non condensing |
| Operating / Storage Temperature | -40°F to 140°F (-40°C to 60°C) / -50°F to 176°F (-58°C to 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 | |
| | FCC/ISED CE Marked UKCA Marked AS/NZS Radio Equipment Directive (RED) 2014/53/EU UL/IEC/EN 62368-1 IEC 60529 Class I Division 2 (CID2) EN 50385 EN 62311 |
| Radio Equipment Directive (RED) | 2014/53/EU |
| WiFi Alliance Certified | Yes (includes Pass point) |
| DFS | In Process |
| Warranty | |
| Limited Lifetime Warranty | Yes |

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

** Refer to the Fortinet Antenna datasheet [here](#).



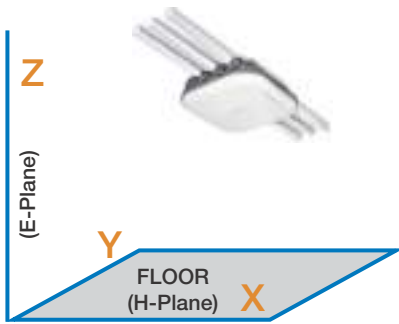
RF Rx/Tx Performance Table

| FortiAP 432FR | | | | | | | |
|-----------------------|----------------------------------|----------------------|--------------------------------|----------------------|----------------------------------|--------------------------------|----------------------|
| Data rate | 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 | — | — | — |
| 802.11ax HE40 | | | | | | | |
| MCS0 | — | — | 22 | -91 | — | — | — |
| MCS11 | — | — | 19 | -72 | — | — | — |
| 802.11ax HE80 | | | | | | | |
| MCS0 | — | — | 20 | -87 | — | — | — |
| MCS11 | — | — | 18 | -58 | — | — | — |

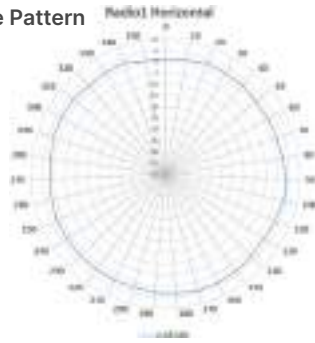


Antenna Radiation Patterns

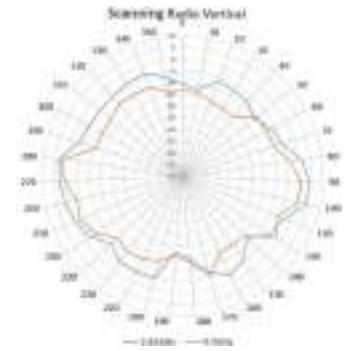
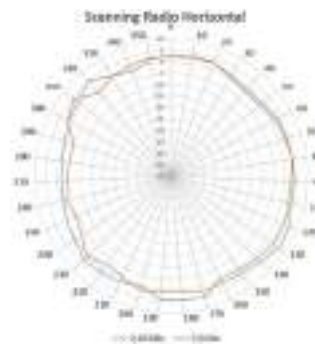
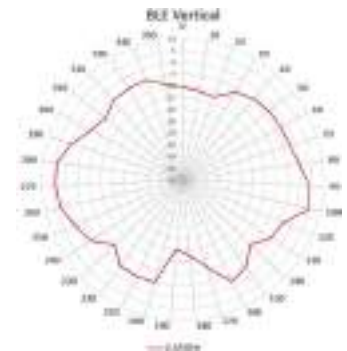
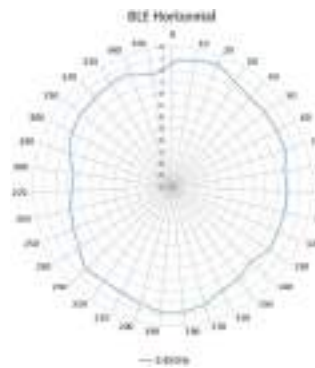
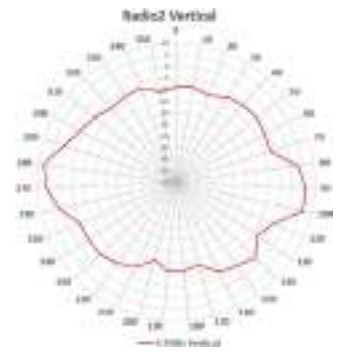
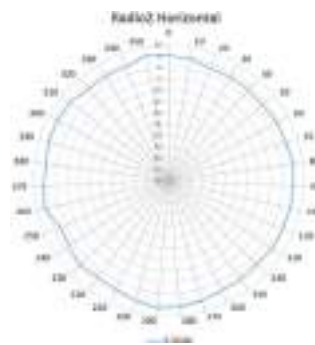
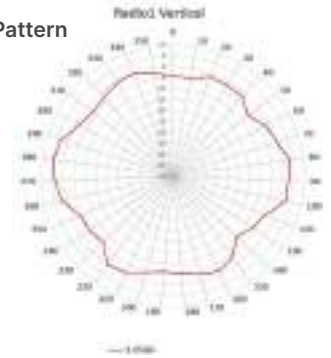
FAP-432FR



H-Plane Pattern




E-Plane Pattern



Highlights

FortiAP 234F

This enterprise class Wi-Fi 6 ruggedized indoor/outdoor AP provides three radios with internal antennas and two spacial streams, 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 + 1201 Mbps + scanning



FAP-234F

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 Dual band antenna 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 |
| MDI/MDIX | Supported Supported |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 and 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 | No |
| IEEE Standards | 802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax (Wi-Fi 6), 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 |
| 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 |
| Onboard Security Functions | |
| UTP Capable | No |
| UTP Features | N/A |
| 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) |
| Accessories | |
| Mounting Options | Wall and Pole |
| Included Accessories | Wall and Pole mounting kit |
| Power Supply | 802.3at PoE: GPI-130 ; ships with PoE Injector (reset functionality) |
| Environment | |
| PSE functionality | No |
| Power Consumption (Maximum) | 15.5 W |
| PoE Mode | 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 |
| Humidity | 10% to 90% non condensing |
| Operating / Storage Temperature | -40°F to 140°F (-40°C to 60°C) / -40°F to 176°F (-40°C to 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 (includes Passpoint) |
| DFS | FCC, IC, CE, Japan, Brazil, Taiwan and Korea |
| Warranty | |
| Limited Lifetime Warranty | Yes |

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



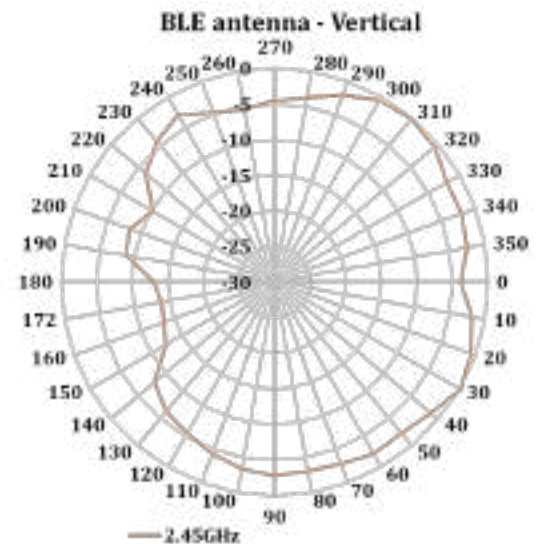
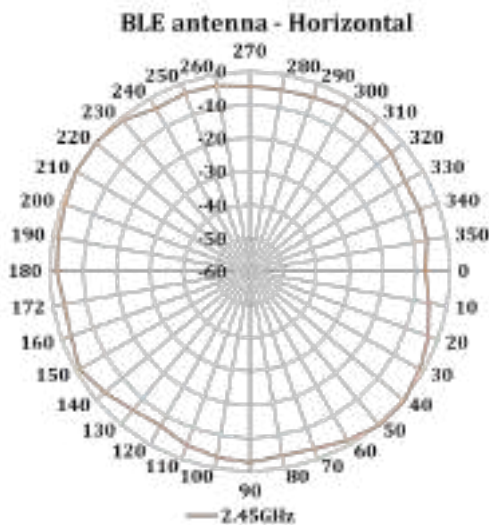
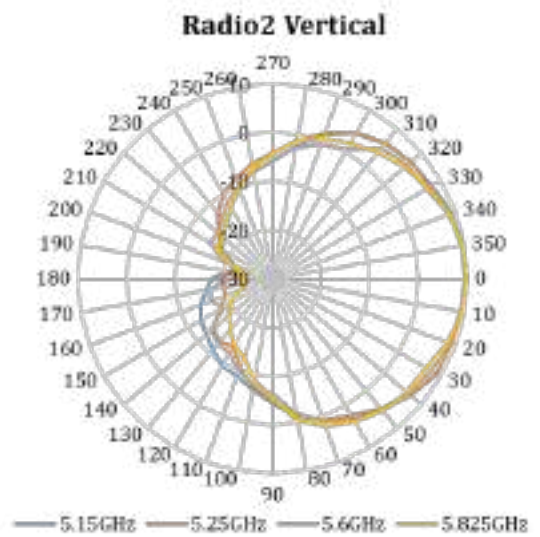
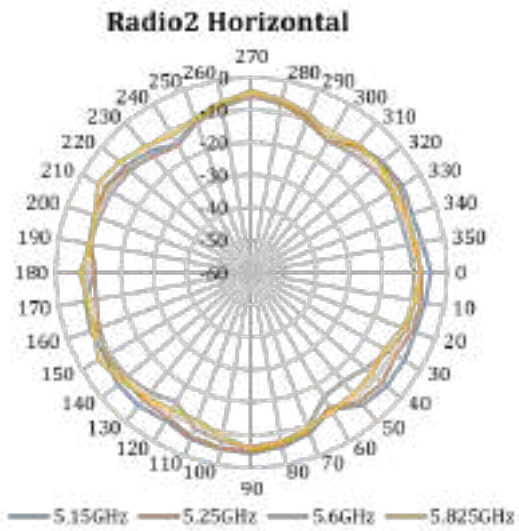
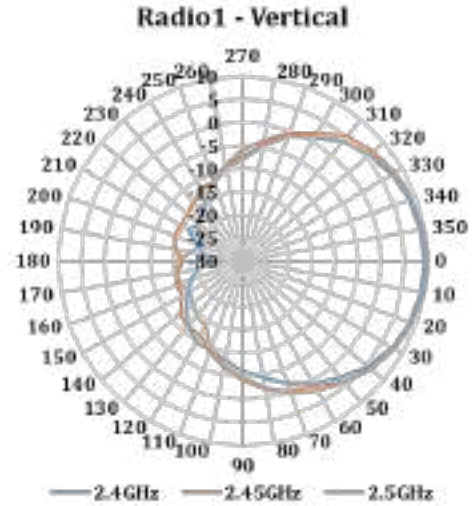
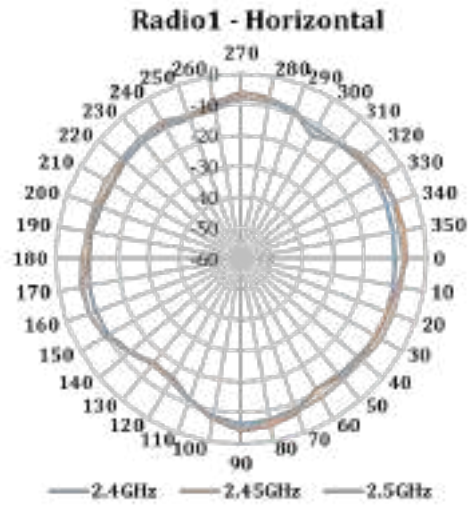
RF Rx/Tx Performance Table

| FortiAP 234F | | | | | | | |
|-----------------------|----------------------------------|----------------------|--------------------------------|----------------------|----------------------------------|--------------------------------|----------------------|
| Data rate | 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 | — | — | — |
| 802.11ax HE40 | | | | | | | |
| MCS0 | — | — | 22 | -91 | — | — | — |
| MCS11 | — | — | 19 | -72 | — | — | — |
| 802.11ax HE80 | | | | | | | |
| MCS0 | — | — | 20 | -89 | — | — | — |
| MCS11 | — | — | 18 | -59 | — | — | — |



Antenna Radiation Patterns


FAP-234F



Highlights

FortiAP 23JF

This enterprise class Wi-Fi 6 wall plate AP provides three radios with internal antennas and two spatial streams, as well as features such as OFDMA and is PSE-capable. 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. Additional features include PoE out for downstream devices and RJ45 passthrough. This access point can be installed in minutes, right over the existing wall plate, or with the optional desk mount, makes a perfect remote / work from home AP.

 802.11ax | Tri-Radio 5 GHz + 2.4 GHz + scanning | 3 Antennas

 2x2 MU-MIMO | Up to 574 Mbps + 1200 Mbps + scanning



FAP-23JF

Specifications

| FortiAP 23JF | |
|------------------------------|--|
| Hardware | |
| Hardware Type | Indoor walljack/desktop AP |
| Number of Radios | 3 + 1 BLE |
| Number of Antennas | 3 dual band internal Wi-Fi + 1 single band 2.4 GHz BLE/ZigBee |
| Antenna Type and Peak Gain | PCB antenna Dual band: 4.0 dBi in 2.4 GHz band and 4.0 dBi in 5 GHz band BLE antenna: 3.5 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: 20/40 MHz Modulation: BPSK, QPSK, 64/256/1024 QAM MIMO Chains: 2x2 Service |
| Radio 2 Capabilities | Frequency band: 5.0 GHz Channel width: 20/40/80 MHz 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 | 4x 10/100/1000 Base-T RJ45 Ports (1x 802.3at PoE(PD), 1x 802.3af PoE (PSE), 2x Non-PoE Ports) 3 RJ-45 Ports (1xPass-through in, 1x Pass-through out, 1x RS-232 Serial Port) |
| MDI/MDIX | Supported Supported |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 and allowlist |
| Maximum Tx Power (Conducted) | Radio 1: 2.4 GHz: 25 dBm / 158 mW (2 chains combined)* Radio 2: 5 GHz: 21 dBm / 158 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, 802.11u, 802.11v, 802.11w, 802.11ac, 802.11ax (Wi-Fi 6), 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 |
| LED Off Mode | Yes |

| FortiAP 23JF | |
|---|--|
| 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 |
| Onboard Security Functions | |
| UTP Capable | No |
| UTP Features | N/A |
| 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 | 6.6 × 4.6 × 1.1 inches (168 × 117 × 28 mm) |
| Weight | 0.99 lbs (0.45 kg) |
| Package (shipping) Weight | 1.54 lbs (0.7 kg) |
| Accessories | |
| Mounting Options | Wall Plate, Optional Desk Mount FAP-MNT-WJ-20 |
| Included Accessories | Standard Mount kit for Ceiling, T-Rail, and Wall |
| Power Supply | 802.3at PoE: GPI-130 Optional DC power adaptor SP-FAP23J-PA-10 |
| Environment | |
| PSE functionality | Yes |
| Power Consumption (Maximum) | 17.5W without PSE out and 31W with PSE out |
| PoE Mode | 802.3at PoE default (optional DC adaptor) Powered via DC power supply - Full System functionality + USB + PSE (8023af 15.4W) Powered by 802.3af - Only Radio functionality is operational (No USB/PSE supported) Powered by 802.3at - Full System functionality+ PSE(7w) |
| Humidity | 10% to 90% non condensing |
| Operating / Storage Temperature | 32°F to 122°F (0°C to 50°C) / -22°F to 158°F (-30°C to 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 | No |
| Hit-less PoE Failover | N/A |
| Certifications | |
| WiFi Alliance Certified | Yes (includes Passpoint) |
| DFS | FCC, IC, CE, Japan, Brazil, Taiwan and Korea |
| Warranty | |
| Limited Lifetime Warranty | Yes |

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



RF Rx/Tx Performance Table

| FortiAP 23JF | | | | | | | |
|-----------------------|----------------------------------|----------------------|--------------------------------|----------------------|----------------------------------|--------------------------------|----------------------|
| Data rate | 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 | 22 | -98 | — | — | 20 | — | -92 |
| 11 Mbps | 20 | -90 | — | — | 18 | — | -91 |
| 802.11g | | | | | | | |
| 6 Mbps | 22 | -93 | — | — | 20 | — | -92 |
| 54 Mbps | 20 | -77 | — | — | 18 | — | -77 |
| 802.11n HT20 | | | | | | | |
| MCS0 | 22 | -94 | — | — | 20 | — | -92 |
| MCS7 | 20 | -76 | — | — | 17 | — | -74 |
| 802.11n HT40 | | | | | | | |
| MCS0 | 22 | -92 | — | — | 19 | — | -90 |
| MCS7 | 20 | -73 | — | — | 17 | — | -72 |
| 802.11ax HE20 | | | | | | | |
| MCS0 | 22 | -90 | — | — | — | — | — |
| MCS11 | 20 | -71 | — | — | — | — | — |
| 802.11ax HE40 | | | | | | | |
| MCS0 | 20 | -90 | — | — | — | — | — |
| MCS11 | 18 | -70 | — | — | — | — | — |
| 802.11a | | | | | | | |
| 6 Mbps | — | — | 18 | -93 | — | 20 | -91 |
| 54 Mbps | — | — | 18 | -77 | — | 19 | -75 |
| 802.11n HT20 | | | | | | | |
| MCS0 | — | — | 19 | -94 | — | 20 | -90 |
| MCS7 | — | — | 19 | -75 | — | 19 | -72 |
| 802.11n HT40 | | | | | | | |
| MCS0 | — | — | 21 | -91 | — | 19 | -90 |
| MCS7 | — | — | 20 | -72 | — | 18 | -71 |
| 802.11ac VHT20 | | | | | | | |
| MCS0 | — | — | 21 | -91 | — | 19 | -93 |
| MCS9 | — | — | 20 | -72 | — | 18 | -69 |
| 802.11ac VHT40 | | | | | | | |
| MCS0 | — | — | 20 | -91 | — | 19 | -90 |
| MCS9 | — | — | 18 | -72 | — | 16 | -64 |
| 802.11ac VHT80 | | | | | | | |
| MCS0 | — | — | 19 | -87 | — | 17 | -88 |
| MCS9 | — | — | 17 | -64 | — | 17 | -61 |
| 802.11ax HE20 | | | | | | | |
| MCS0 | — | — | 20 | -91 | — | — | — |
| MCS11 | — | — | 18 | -72 | — | — | — |
| 802.11ax HE40 | | | | | | | |
| MCS0 | — | — | 19 | -91 | — | — | — |
| MCS11 | — | — | 17 | -62 | — | — | — |
| 802.11ax HE80 | | | | | | | |
| MCS0 | — | — | 18 | -89 | — | — | — |
| MCS11 | — | — | 16 | -60 | — | — | — |

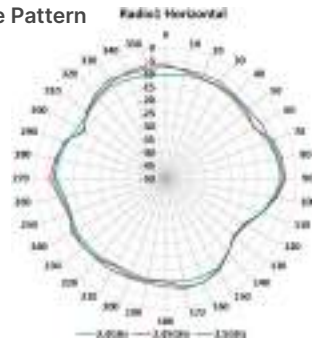


Antenna Radiation Patterns

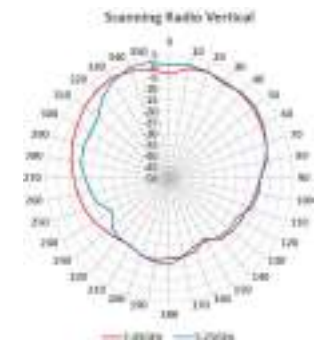
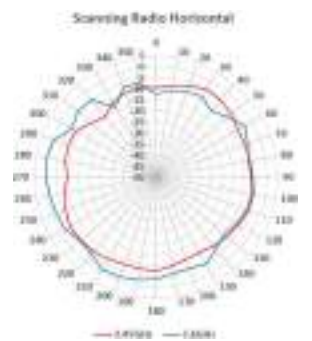
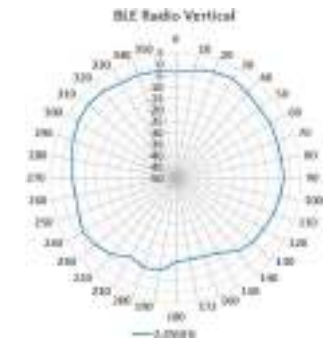
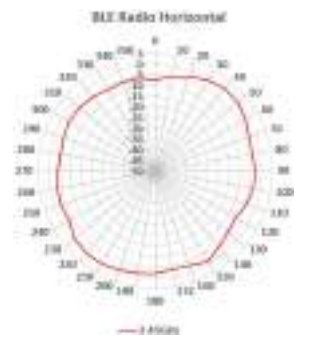
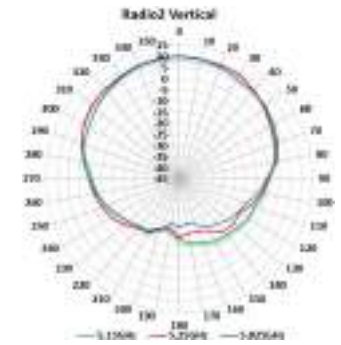
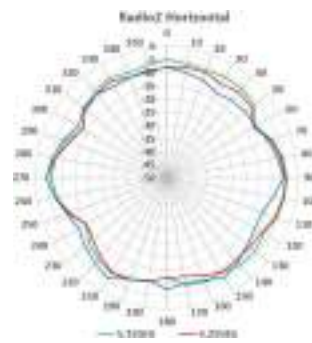
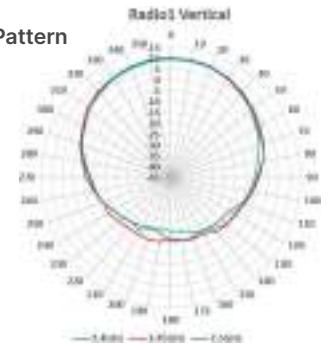
FAP-23JF



H-Plane Pattern



E-Plane Pattern



Highlights

FortiAP 221E and 223E

The FortiAP 221E and 223E are medium-density 802.11ac Wave 2 access points and provides two radio and two spacial streams. These enterprise-class access points are ideal for medium-density environments such as an 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



FAP-221E



FAP-223E

Specifications

| | FortiAP 221E | FortiAP 223E |
|--|--|--|
| Hardware | | |
| Hardware Type | Indoor AP | Indoor AP |
| Number of Radios | 2 + 1 BLE | 2 + 1 BLE |
| Number of Antennas | 4 Internal + 1 Internal BLE | 4 External + 1 Internal BLE |
| Antenna Type Support | | RP-SMA (4 total): Dual Band Antenna (4) |
| Antenna Type and Peak Gain | Patch: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz | Dipole: 4 dBi for 2.4 GHz, 5 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 | 2.4 GHz b/g/n (2×2:2 stream) 20/40 MHz (256 QAM) | 2.4 GHz b/g/n (2×2:2 stream) 20/40 MHz (256 QAM) |
| Radio 2 Capabilities | 5 GHz a/n/ac (2×2:2 stream) 20/40/80 MHz (256 QAM) | 5 GHz a/n/ac (2×2:2 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 |
| Bluetooth Low Energy Radio | Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power | |
| Interfaces | 1× 10/100/1000 Base-T RJ45 | 1× 10/100/1000 Base-T RJ45 |
| MDI/MDIX | Supported | Supported |
| Power over Ethernet (PoE) | IEEE 802.3af | IEEE 802.3af |
| Simultaneous SSIDs | Up to 8 per client serving radio (7 if background scanning is 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 | 2.4 GHz: 23 dBm / 200 mW (2 chains combined)* 5 GHz: 24 dBm / 251 mW (2 chains combined)* | |
| 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, 802.11u, 802.11v, 802.11w, 802.11ac, 802.1Q, 802.1X, 802.3af, 802.3az | |
| SSID Types Supported | Local-Bridge, Tunnel, Mesh | Local-Bridge, Tunnel, Mesh |
| Per Radio Client Capacity | Up to 512 | Up to 512 |
| Cellular Co-existence | Yes | Yes |
| Reset Button | Yes | Yes |
| LED Off Mode | Yes | Yes |
| 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 |
| A-MPDU and A-MSDU Packet Aggregation | Yes | Yes |
| MIMO Power Save | Yes | Yes |
| Short Guard Interval | Yes | Yes |

| | FortiAP 221E | FortiAP 223E |
|---|---|--|
| Onboard Security Functions | | |
| UTP Capable | No | No |
| UTP Features | N/A | N/A |
| Wireless Monitoring Capabilities | | |
| Rogue Scan Radio Modes | Background, Dedicated | Background, Dedicated |
| WIPS / WIDS Radio Modes | Background, Dedicated | Background, Dedicated |
| Packet Sniffer Mode | Yes | Yes |
| Spectrum Analyzer | Yes | Yes |
| Dimensions | | |
| Length x Width x Height | 6.3 × 6.3 × 1.85 inches (160 × 160 × 47 mm) | |
| Weight | 1.1 lbs (0.5 kg) | 1.1 lbs (0.5 kg) |
| Package (shipping) Weight | 4.95 lbs (2.2 kg) | 5.3 lbs (2.4 kg) |
| Accessories | | |
| Mounting Options | Ceiling, T-Rail, and Wall | Ceiling, T-Rail, and Wall |
| Included Accessories | Mount kits for Ceiling, T-Rail, and Wall | Mount kits for Ceiling, T-Rail, and Wall, 4 dipole antennas |
| Power Supply | SP-FAP200-PA-XX, GPI-115, or GPI-130 | |
| Environment | | |
| Power Consumption (Max.) | 12.36 W | 12.36 W |
| Humidity | 5% to 90% non-condensing | 5% to 90% non-condensing |
| Operating / Storage Temperature | -4°F to 113°F (-20°C to 45°C) / -40°F to 158°F (-40°C to 70°C) | |
| Directives | Low Voltage Directive • RoHS | Low Voltage Directive • RoHS |
| UL2043 Plenum Material | No | No |
| Mean Time Between Failures | >30 Years | >30 Years |
| IP Rating | — | — |
| Surge Protection Built In | — | — |
| Hit-less PoE Failover | No | No |
| Certifications | | |
| Wi-Fi Alliance Certified | Yes (includes Passpoint) | Yes (includes Passpoint) |
| DFS | FCC, IC, CE, Japan, Taiwan, Korea | FCC, IC, CE, Japan, Taiwan, Korea |
| Warranty | | |
| Limited Lifetime Warranty | Yes | Yes |

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



RF Rx/Tx Performance Table

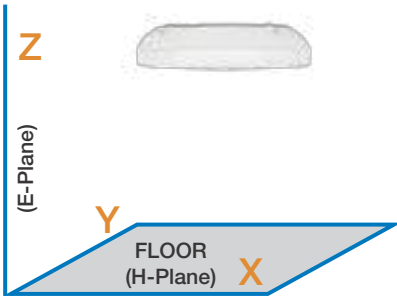
| FortiAP 221E / 223E | | | | |
|-----------------------|------------------------|----------------------|----------------------|----------------------|
| Data rate | RADIO 1 | | RADIO 2 | |
| | 2.4 GHz Tx Power (dBm) | Rx Sensitivity (dBm) | 5 GHz Tx Power (dBm) | Rx Sensitivity (dBm) |
| 802.11 a/g | | | | |
| 6 Mbps | 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 |
| 802.11n 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 |
| 802.11n 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 |
| 802.11ac 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 |

| FortiAP 221E / 223E | | | | |
|-----------------------|------------------------|----------------------|----------------------|----------------------|
| Data rate | RADIO 1 | | RADIO 2 | |
| | 2.4 GHz Tx Power (dBm) | Rx Sensitivity (dBm) | 5 GHz Tx Power (dBm) | Rx Sensitivity (dBm) |
| 802.11ac 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 |
| 802.11ac 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 |
| 802.11acVHT80 | | | | |
| MCS 7 | — | — | 18 | -68 |
| MCS 8 | — | — | 17 | -63 |
| MCS 9 | — | — | 17 | -61 |

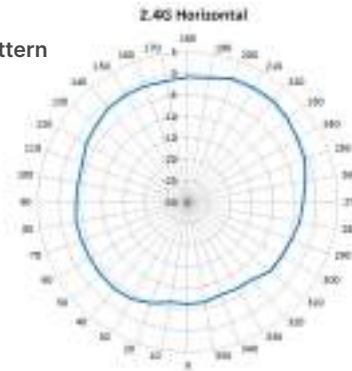


Antenna Radiation Patterns

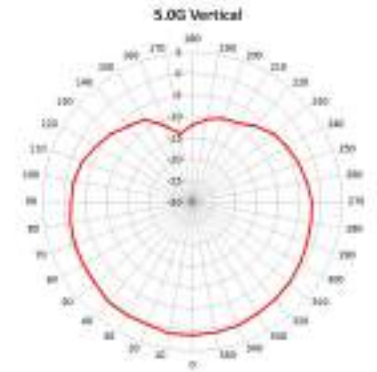
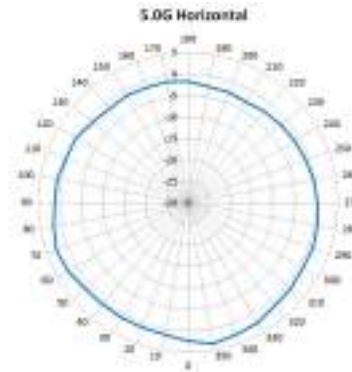
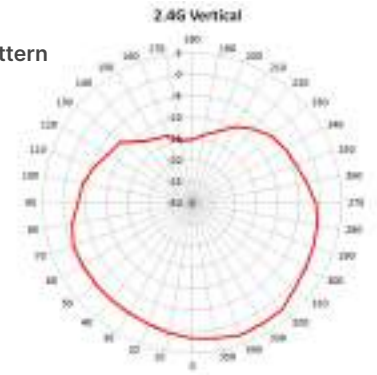
FAP-221E



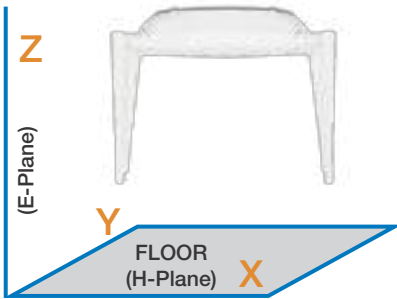
H-Plane Pattern



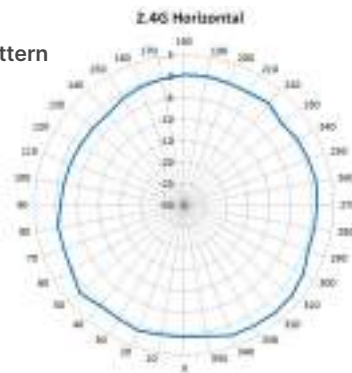
E-Plane Pattern



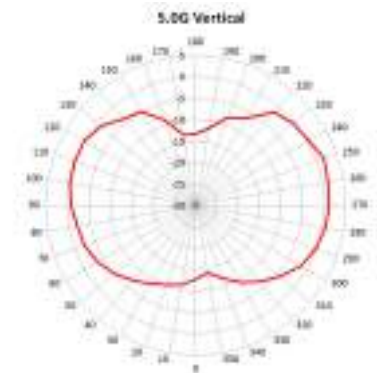
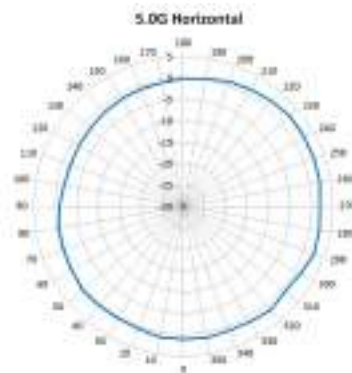
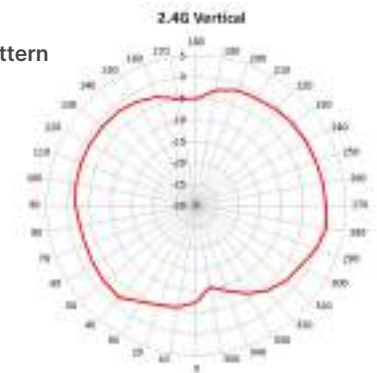
FAP-223E



H-Plane Pattern



E-Plane Pattern



Ordering Information

| Product | SKU | Description |
|--------------|-----------------------|--|
| FortiAP-441K | FAP-441K | Indoor Wireless AP - 4 radios (Wi-Fi-7 Tri-band 2.4/5/6GHz 4+4+4 4 streams 4 radios), internal antennas, 2x 10G Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3bt PoE injector. |
| | FC-10-FP41K-247-02-DD | FortiCare Premium Support. |
| | FC-10-FP41K-284-02-DD | FortiCare Elite Support. |
| | FC-10-FP41K-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP-443K | FAP-443K-A | Indoor Wireless AP - 4 radios (Wi-Fi-7 Tri-band 2.4/5/6GHz 4+4+4 4 streams 4 radios), external antennas, 2x 10G Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3bt PoE injector. Region Code A. |
| | FC-10-FP43K-247-02-DD | FortiCare Premium Support. |
| | FC-10-FP43K-284-02-DD | FortiCare Elite Support. |
| | FC-10-FP43K-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP-241K | FAP-241K-A | Indoor Wireless AP - (Wi-Fi-7 Tri-band 2.4/5/6GHz 2+2+2 2 streams 4 radios), internal antennas, 1x10/100/1000 RJ45, 1x 100/1000/2500/5000/10000 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3at PoE injector GPI-130 or AC adapter SP-FAP400-PA. Region Code A |
| | FC-10-P241K-247-02-DD | FortiCare Premium Support. |
| | FC-10-P241K-284-02-DD | FortiCare Elite Support. |
| | FC-10-P241K-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP-243K | FAP-243K-A | Indoor Wireless AP - (Wi-Fi-7 Tri-band 2.4/5/6GHz 2+2+2 2 streams 4 radios), external antennas, 1x10/100/1000 RJ45, 1x 100/1000/2500/5000/10000 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3at PoE injector GPI-130 or AC adapter SP-FAP400-PA. Region Code A |
| | FC-10-P243K-247-02-DD | FortiCare Premium Support. |
| | FC-10-P243K-284-02-DD | FortiCare Elite Support. |
| | FC-10-P243K-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 431G | FAP-431G | Indoor Wireless AP - Tri radio (Wi-Fi-6E IEEE 802.11ax Tri-band 2.4/5/6GHz and dual 5G operation 4+4+4 4 streams 3 radios), internal antennas, 2x 5G Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3bt PoE injector or AC adapter SP-FAP400-PA. SP-FAP-250-PA. |
| | FC-10-PG431-247-02-DD | FortiCare Premium Support. |
| | FC-10-PG431-284-02-DD | FortiCare Elite Support. |
| | FC-10-PG431-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| FortiAP 432G | FAP-432G-A | Outdoor Wireless FortiAP - Tri radio (1x 802.11b/g/n/ax 4x4 radio, 1x 802.11a/n/ac/ax 4x4 Radio and 1x 802.11 a/b/g/n/ac/ax 6GHz, 2x2), 1x 10/100/1000/2500/10000 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE + Zigbee, 1x RS-232 RJ45 Serial Port. External Dual Band N-Type Omni Directional antennas, Integrated mounting bracket for Antenna included + Wall/Pole Mount mounting kit. Ships with PoE injector. |
| | FC-10-P432G-247-02-DD | FortiCare Premium Support. |
| | FC-10-P432G-284-02-DD | FortiCare Elite Support. |
| | FC-10-P432G-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| FortiAP 433G | FAP-433G | Indoor Wireless AP - Tri radio (Wi-Fi-6E IEEE 802.11ax Tri-band 2.4/5/6GHz and dual 5G operation 4+4+4 4 streams 3 radios), external antennas, 2x 5G Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3bt PoE injector or AC adapter SP-FAP400-PA. SP-FAP-250-PA. Region Code A. |
| | FC-10-PG433-247-02-DD | FortiCare Premium Support. |
| | FC-10-PG433-284-02-DD | FortiCare Elite Support. |
| | FC-10-PG433-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| FortiAP 231G | FAP-231G | Indoor Wireless AP - Tri radio (Wi-Fi-6E IEEE 802.11ax Tri-band 2.4/5/6GHz and dual 5G operation 2+2+2 2 streams 3 radios), internal antennas, 1x10/100/1000 RJ45, 1x 100/1000/2500 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3at PoE injector GPI-130 or AC adapter SP-FAP200-PA. |
| | FC-10-PG231-247-02-DD | FortiCare Premium Support. |
| | FC-10-PG231-284-02-DD | FortiCare Elite Support. |
| | FC-10-PG231-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| FortiAP 233G | FAP-233G | Indoor Wireless AP - Tri radio (Wi-Fi-6E IEEE 802.11ax Tri-band 2.4/5/6GHz and dual 5G operation 2+2+2 2 streams 3 radios), external antennas, 1x10/100/1000 RJ45, 1x 100/1000/2500 Base-T RJ45, BT/BLE, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3at PoE injector GPI-130 or AC adapter SP-FAP200-PA. |
| | FC-10-PG233-247-02-DD | FortiCare Premium Support. |
| | FC-10-PG233-284-02-DD | FortiCare Elite Support. |
| | FC-10-PG233-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| FortiAP 233G | FAP-233G | Indoor Wireless AP - Tri radio (Wi-Fi-6E IEEE 802.11ax Tri-band 2.4/5/6GHz and dual 5G operation 2+2+2 2 streams 3 radios), external antennas, 1x10/100/1000 RJ45, 1x 100/1000/2500 Base-T RJ45, BT/BLE, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3at PoE injector GPI-130 or AC adapter SP-FAP200-PA. |
| | FC-10-PG233-247-02-DD | FortiCare Premium Support. |
| | FC-10-PG233-284-02-DD | FortiCare Elite Support. |
| | FC-10-PG233-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| FortiAP 233G | FAP-233G | Indoor Wireless AP - Tri radio (Wi-Fi-6E IEEE 802.11ax Tri-band 2.4/5/6GHz and dual 5G operation 2+2+2 2 streams 3 radios), external antennas, 1x10/100/1000 RJ45, 1x 100/1000/2500 Base-T RJ45, BT/BLE, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3at PoE injector GPI-130 or AC adapter SP-FAP200-PA. |
| | FC-10-PG233-247-02-DD | FortiCare Premium Support. |
| | FC-10-PG233-284-02-DD | FortiCare Elite Support. |
| | FC-10-PG233-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |



Ordering Information

| Product | SKU | Description |
|---------------|-----------------------|--|
| FortiAP 234G | FAP-234G | Outdoor Wireless AP - Tri radio, WiFi 6E, included, 2x 2.5G RJ45 port, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Pole/wall mount kit included. Region Code A. Ships with PoE injector. |
| | FC-10-PG234-247-02-DD | FortiCare Premium Support. |
| | FC-10-PG234-284-02-DD | FortiCare Elite Support. |
| | FC-10-PG234-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-P234G-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 831F | FAP-831F | Indoor Wireless AP - Tri radio (1x 802.11 a/b/g/n/ac/ax 4x4 MIMO, 1x 802.11 a/b/g/n/ac/ax 8x8 MIMO and 1x 802.11 a/b/g/n/ac Wave 2 1x1 MU-MIMO), internal antennas, 1x 100/1000/5000 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order 802.3at PoE injector GPI-130 or AC adapter SP-FAP400-PA. |
| | FC-10-F831F-247-02-DD | FortiCare Premium Support. |
| | FC-10-P831F-284-02-DD | FortiCare Elite Support. |
| | FC-10-P831F-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-P831F-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 431F | FAP-431F | Indoor Wireless AP - Tri radio (2x 802.11 a/b/g/n/ac/ax, 4x4 MIMO and 1x 802.11 a/b/g/n/ac Wave 2, 1x1 MU-MIMO), internal antennas, 1x 100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order 802.3at PoE injector GPI-130 or AC adapter SP-FAP400-PA. |
| | FC-10-F431F-247-02-DD | FortiCare Premium Support. |
| | FC-10-F431F-284-02-DD | FortiCare Elite Support. |
| | FC-10-F431F-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-F431F-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 433F | FAP-433F | Indoor Wireless AP - Tri radio (2x 802.11 a/b/g/n/ac/ax, 4x4 MIMO and 1x 802.11 a/b/g/n/ac Wave 2, 1x1 MU-MIMO), external antennas included, 1x 100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order 802.3at PoE injector GPI-130 or AC adapter SP-FAP400-PA. |
| | FC-10-F433F-247-02-DD | FortiCare Premium Support. |
| | FC-10-F433F-284-02-DD | FortiCare Elite Support. |
| | FC-10-F433F-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-F433F-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 432F | FAP-432F | Ruggedized indoor/outdoor Wireless FortiAP - Tri radio (1x 802.11b/g/n/ax 4x4 radio, 1x 802.11a/n/ac/ax 4x4 Radio and 1x 802.11 a/b/g/n/ac Wave 2, 2x2), 1x 100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE + Zigbee, 1x RS-232 RJ45 Serial Port. External Dual Band N-Type Omnidirectional antennas, Integrated mounting bracket for Antenna included + Wall/Pole Mount mounting kit. Ships with passive PoE injector. |
| | FC-10-PF432-247-02-DD | FortiCare Premium Support. |
| | FC-10-PF432-284-02-DD | FortiCare Elite Support. |
| | FC-10-PF432-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-PF432-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 432FR | FAP-432FR | UL Class 1, Division 2 .Outdoor Wireless FortiAP - Tri radio (1x 802.11b/g/n/ax 4x4 radio, 1x 802.11a/n/ac/ax 4x4 Radio and 1x 802.11 a/b/g/n/ac Wave 2, 2x2), 1x 10/100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE + Zigbee, 1x RS-232 RJ45 Serial Port. External Dual Band N-Type Omni Directional antennas, Integrated mounting bracket for Antenna included + Wall/Pole Mount mounting kit. Ships with passive PoE injector. |
| | FC-10-FR432-247-02-DD | FortiCare Premium Support. |
| | FC-10-FR432-284-02-DD | FortiCare Elite Support. |
| | FC-10-FR432-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-FR432-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 234F | FAP-234F | Outdoor Wireless AP - Tri radio (802.11 b/g/n/ax 2x2 MU-MIMO, 802.11 a/n/ac/ax 2x2 MU-MIMO and 1x 802.11 a/b/g/n/ac Wave 2, 1x1), internal antennas, 2x 10/100/1000 RJ45 port, BT/BLE, 1x RS-232 RJ45 Serial Port. Pole/wall mount kit and PoE injector included. Region Code A. |
| | FC-10-P234F-247-02-DD | FortiCare Premium Support. |
| | FC-10-P234F-284-02-DD | FortiCare Elite Support. |
| | FC-10-P234F-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-P234F-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |
| FortiAP 23JF | FAP-23JF | Wall Plate AP - Tri radio (802.11 b/g/n/ax 2x2 MU-MIMO, 802.11 a/n/ac/ax 2x2 MU-MIMO and 1x 802.11 a/b/g/n/ac Wave 2, 1x1), internal antennas, 4x 10/100/1000 RJ45 port (1x 802.3at PoE PD, 1x 802.3af PoE PSE, 2x Non-PoE Ports), 2 RJ-45 Ports (1x Pass-through in, 1x Pass-through out), BT / BLE, 1x RS-232 RJ45 Serial Port. Wall plate mounting kit included. For power order 802.3at PoE injector GPI-130. Optional Accessory AC power adapter SP-FAP23J-PAX-10; Desktop stand FAP-MNT-WJ-20. |
| | FC-10-P23JF-247-02-DD | FortiCare Premium Support. |
| | FC-10-P23JF-284-02-DD | FortiCare Elite Support. |
| | FC-10-P23JF-595-02-DD | FortiSASE subscription for cloud managed FortiAP with bandwidth included. |
| | FC-10-P23JF-314-02-DD | Forticare Essential Support for FortiAP. Available only for renewal and not with initial Hardware purchase. |



Ordering Information

| Product | SKU | Description |
|-------------------------|-----------------------|---|
| FortiAP 221E | FAP-221E | Indoor Wireless AP - Dual radio (802.11 b/g/n and 802.11 a/n/ac Wave 2, 2x2 MU-MIMO), internal antennas, 1x 10/100/1000 RJ45 port, BT / BLE. Ceiling/wall mount kit included. For power order 802.3af PoE injector GPI-115 or AC adapter SP-FAP200-PA. |
| | FC-10-PE221-247-02-DD | FortiCare Premium Support. |
| | FC-10-PE221-284-02-DD | FortiCare Elite Support. |
| FortiAP 223E | FAP-223E | Indoor Wireless AP - Dual radio (802.11 b/g/n and 802.11 a/n/ac Wave 2, 2x2 MU-MIMO), external antennas included, 1x 10/100/1000 RJ45 port, BT / BLE. Ceiling/wall mount kit included. For power order 802.3af PoE injector GPI-115 or AC adapter SP-FAP200-PA. |
| | FC-10-PE223-247-02-DD | FortiCare Premium Support. |
| | FC-10-PE223-284-02-DD | FortiCare Elite Support. |
| UTP Services (G Series) | FC-10-APGIS-768-02-DD | FortiAP G Series FortiGuard Universal Threat Protection Subscription Service License for Application control and Web filtering modules. Applicable to FortiGate or FortiCloud managed G-Series or later FortiAP family Access Points. |
| FortiEdge Cloud | FC-10-90AP1-639-02-DD | FortiEdge Cloud FortiAP Management License Includes: Full suite of FortiAP Management Features, 1 year Log Retention, FortiCare Premium (Note, FortiCare only applicable when used with FortiEdge Cloud). |
| 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. |
| | GPI-145 | 1-port Multi-Gigabit PoE power injector, 802.3bt up to 60W. |
| Power Adapter | SP-FAP400-PA | AC power adapter 12v, 3.0A - 36W for FAP-431F, FAP-433F, FAP-431G, FAP-433G, and FAP-831F. |
| | SP-FAP200-PA | AC power adapter 12v, 2.5A - 30W for FAP-221E, FAP-223E, FAP-231G, and FAP-233G. |
| | SP-FAP23J-PA-10 | AC power adapter 48v, 1.04A - 50W without power cord for FAP-23JF. |
| | SP-FAP250-PA-10 | AC power adapter 12v, 4.0A - 48W with Extended operating temp 0°C - 50°C with US and EU plugs for FAP-231G, FAP-233G, FAP-431G, FAP-433G, FAP-441K, and FAP-443K. |
| Desktop Stand | FAP-MNT-WJ-20 | Desktop stand for FAP/FAP-C/FAP-U wall jack style APs. Converts wall mounting hardware included with unit to desktop mounting - 20 pack. |

Notes.

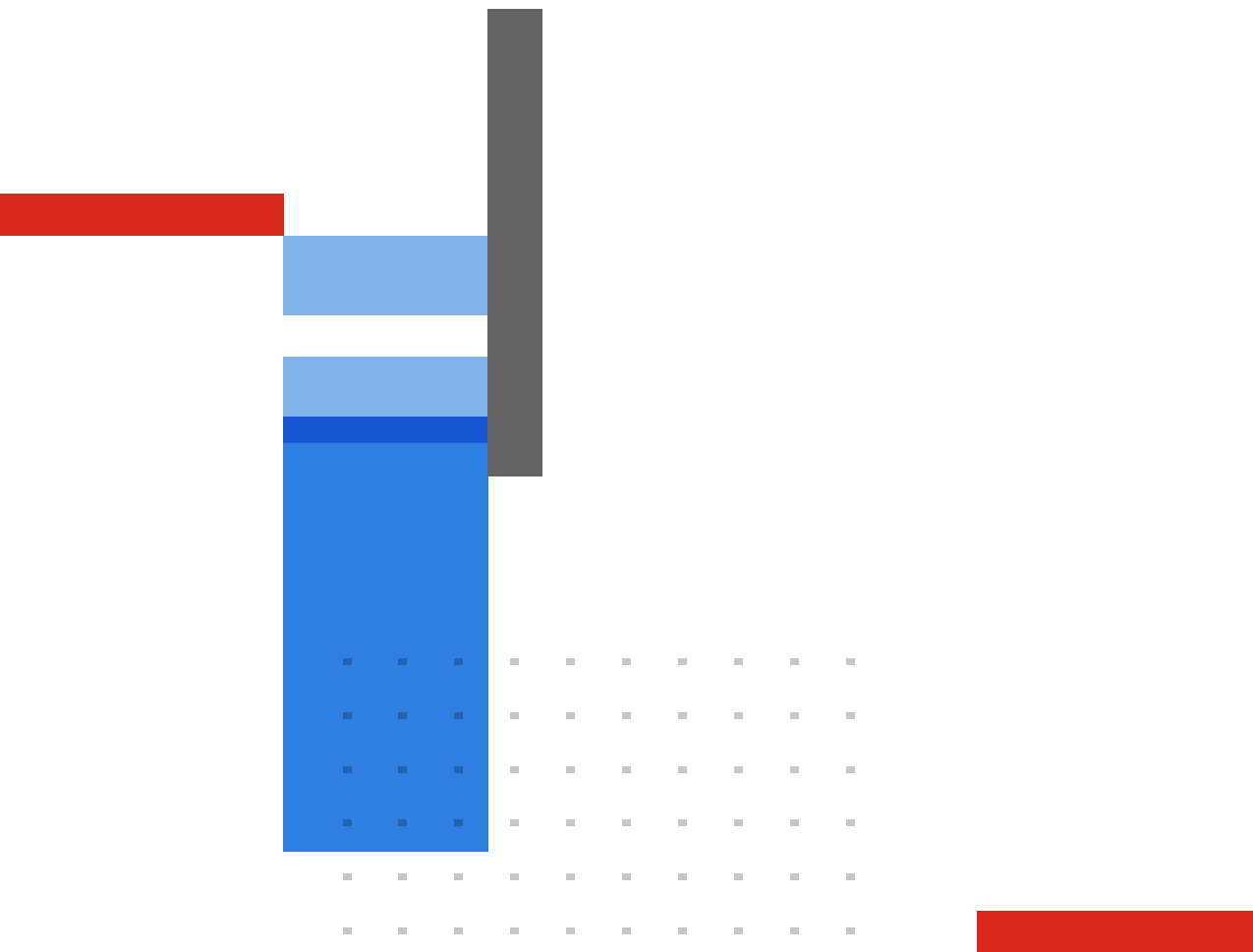
- Additional external antenna options available for some models. See antenna datasheet for details.
 - A country suffix code (-A, -B, -C, -D, -E, -EO, -F, -I, -J, -K, -N, -P, -S, -T, -U, -V, -W, or -Y) applies to all AP models based upon country of deployment. Work with your local supplier for the correct model in your regulatory domain.
 - Access Points mentioned in this datasheet are covered by a Limited Lifetime Hardware Warranty. Terms and conditions can be found in the EULA at <https://www.fortinet.com/content/dam/fortinet/assets/legal/EULA.pdf>
- For more information on Support levels, please reference FortiCare Services [here](#).

Visit <https://www.fortinet.com/resources/ordering-guides> for related ordering guides.



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