Fortinet AP Series
Controller-Managed Access Points

Fortinet AP series Access Points (APs) provide a high-performance, premise-managed WiFi network with a broad range of 802.11ac Wave 1 and Wave 2 APs that ease deployment and scaling and offer a number of compelling quality-of-experience advantages. They also provide a complete portfolio of security services that offer additional means of protection to combat the ever-evolving threat landscape. Fortinet also offers an RF technology that uniquely manages the spectrum utilization, allowing it to dramatically simplify deployment vs competing solutions.

**Application Control**
Provides administrators with Application Visibility to prioritize applications to improve the user experience by guaranteeing more capacity to select groups, such as mission-critical applications or mobile point-of-sale (mPoS) devices.

**Air Traffic Control**
Provides sophisticated air traffic control mechanisms to govern station airtime so every client gets a fair turn on-air, which prevents the slowest, or the fastest, devices from hogging resources.

**Single Channel Technology**
Unique technology that manages spectrum utilization to overcome the interference-related deployment barriers commonly encountered in high density environments.

**Product Offerings**

- **AP822i**
  - APs with Dual 2.4 GHz and 5 GHz radios, 2x2 MIMO

- **AP822e**
  - APs with Dual 2.4 GHz and 5 GHz radios, 2x2 MIMO

- **AP832i**
  - APs with Dual 2.4 GHz and 5 GHz radios, 3x3 MIMO

- **AP832e**
  - APs with Dual 2.4 GHz and 5 GHz radios, 3x3 MIMO

- **OAP832e**
  - Outdoor AP with Dual 2.4 GHz and 5 GHz radios, 3x3 MIMO

- **AP122**
  - Wall Plate AP with Dual 2.4 GHz and 5 GHz radios
HIGHLIGHTS

Fortinet AP822i and AP822e

The AP822 catalyzes the migration to Gigabit WiFi by bringing the power of enterprise-wide, full channel 802.11ac to more customers. The AP822 is a cost-effective solution designed to meet the mid-range performance requirements of offices, schools, universities, hospitals, hotels, and retail stores, and it supports up to an aggregate 1.17 Gbps data rate for the most demanding business applications such as video and voice.

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

Up to 300 + 867 Mbps

The AP822 is positioned to accelerate the adoption of 802.11ac into more cost-sensitive market segments. For schools, this provides a very cost-effective solution which can be deployed to meet the growing throughput demand from on-campus wireless devices. Hotels can more easily offer a richer WiFi experience where availability of high-quality wireless services is often the primary criterion — above other amenities — for making reservations. Providing high-speed, high-capacity wireless LAN services for the small and medium business is now more attainable with the AP822.

The AP822 access point allows administrators to prioritize applications to improve the user experience based on Fortinet’s unique ability to associate specific applications with deployed channel layers. For schools, this means Learning Management System applications can be assigned to one dedicated channel layer, while online classroom video feeds can be dedicated to another channel layer. For healthcare, life-critical applications such as patient monitoring can be assigned to one channel layer, doctor and nursing applications can be assigned to a second layer, and patient applications can be placed on a third channel layer.

Fortinet’s single-channel option uniquely allows the AP822 to support wide WiFi channels in real-world deployments, effectively doubling the data rate over 802.11n and dramatically increasing throughput for Fortinet customers. The AP822 also provides unique roaming support. Fortinet’s patented Air Traffic Control® technology enables the network to control client roams, resulting in the industry’s lowest roaming latency figures — a true zero-handoff.

Benefits

- Provides an optimized 802.11ac experience, with VHT capabilities
- Only vendor to recommend one or two 80 MHz channel usage for maximum 802.11ac throughput
- No channel planning, and delivers seamless mobility
- Offers flexible deployment options for diverse customer requirements
**SPECIFICATIONS FOR AP822i AND AP822e**

### Operating Modes
- Centralized deployment mode
- Distributed deployment mode
- MNT-SET-X5 (metal enclosure)
- Remote VPN tunnel mode

### Security
- WEP, WPA-PSK, WPA-THP, WPAP-2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-SIM, EAP-AKA, and EAP-MD5)
- 802.1X and captive portal authentication against local database on the controller, RADIUS, and Active Directory
- RADIUS-assisted per-user and per-ESSID access control via MAC filtering
- Concurrent Clients Per Radio (Maximum / Recommended): 128 / 60

### Management
- Centrally managed by any Fortinet controller running System Director 6.1 or later
- Upgrades and management via System Director / Network Manager
- Automatically discovers controllers and downloads configuration settings for plug-and-play deployment
- Support for SNMP
- Upgrades and management via System Director / Network Manager
- Centrally managed by any Fortinet controller running System Director 6.1 or later
- Support for SNMP
- Upgrades and management via System Director / Network Manager

### Wireless Specifications
#### Model Introduction
- AP822i dual-radio, single-band IEEE Std 802.11bg/n for 2.4 GHz band and IEEE Std 802.11i/n/ac for 5 GHz band access point with four internal omnidirectional antennas
- AP822e dual-radio, single-band IEEE Std 802.11b/g/n for 2.4 GHz band and IEEE Std 802.11a/n/ac for 5.x GHz band access point with four RP-SMA connectors and four external omnidirectional antennas

#### Supported Radio Technologies
- Dual-radio access point for indoor environment
- 2x2:2SS (two spatial streams)
- Dual-radio access point for indoor environment
- 2x2:2SS (two spatial streams)
- Dual-radio access point for indoor environment
- 2x2:2SS (two spatial streams)

#### Supported Modulation
- IEEE Std 802.11n: MCS0–MCS15 for IEEE Std 802.11n
- IEEE Std 802.11ac: MCS0–MCS9 for IEEE Std 802.11ac (NSS=1–2)

#### Supported Frequency Bands
- IEEE Std 802.11a 18.0 24.0 22.0 -77
- IEEE Std 802.11g 19.0 23.0 22.0 -77
- IEEE Std 802.11b 20.0 24.0 23.0 -91

### Physical Specifications
#### Power
- Operated at IEEE Std 802.3af power, powered by IEEE Std 802.3at or 802.3 at PoE (Power over Ethernet)
- Inject or switch
- Operated at IEEE Std 802.3af power, powered by IEEE Std 802.3af or 802.3 at PoE (Power over Ethernet)

#### Other Interfaces
- Networks: One 10/100/1000 BASE-T Ethernet RJ45 uplink (G1), one 10/100/1000 BASE-T Ethernet RJ45 (G2) (disabled when powered with 802.3af, auto-sensing link speed and MDI/MDIX)
- One USB 2.0 port (Type A) (disabled when powered with 802.3af)
- One console port
- One reset button
- One Kensington security slot

#### LED Indicators
- One tri-color LED for AP status
- Additional LEDs for Ethernet activity over two RJ45 ports (G1 & G2)

### Mounting
- Wall mount: junction box wall mount bracket included
- Three mounting kits included with access point
- Three mounting kits included with access point

### Additional accessories
- 665-00126, Wall Mount Hardware Kit (including to 669-00004 space, 665-00085 M3x10 screws, & Flat-surface wall mount bracket used with 665-00026)
- 665-00125, Wall Mount Hardware Kit (including to 669-00004 space, 665-00085 M3x10 screws, & 665-00102-Mbid Adapter)
- MNT-FEET-SET-X5, rubber feet for desktop staging
- MNT-FEET-SET-X5, rubber feet for desktop staging

### Installation in the Air-Handling Space
- AP822e metal enclosure only by removing plastic façade

### Dimensions
- AP822i: 6.3 x 6.3 x 2.7 inches (16.1 x 16.0 x 5.2 cm)
- AP822e: 6.3 x 6.3 x 2.1 inches (16.1 x 16.0 x 5.2 cm)

### Weight
- AP822i (with mounting bracket): 1.1 lbs (0.5 kg)
- AP822e (with mounting bracket): 1.9 lbs (0.9 kg)
- AP822e (without façade and mounting bracket): 1.5 lbs (0.7 kg)
SPECIFICATIONS FOR AP822i AND AP822e

Environmental
- Operating temperature: 32–122°F (0–50°C)
- Operating humidity: 5–95% non-condensing
- Storage temperature: -40–158°F (-40–70°C) ambient
- Storage humidity: 5–95% non-condensing

REGULATORY APPROVAL
- FCC (United States of America)
- CE Mark (European Community)
- Industry Canada (Canada)
- TELEC (Japan)
- Safety Approval (worldwide)
  For more country-specific regulatory approval, please contact your Fortinet representative

CERTIFICATIONS
- WiFi CERTIFIED™
- EU RoHS
- CB Report

WARRANTY
- Limited lifetime warranty

PART NUMBERS

AP822i
- Four integrated dual-band omnidirectional metal PIFA antennas

AP822e
- Four reverse polarity SMA connectors; shipment comes with four omnidirectional antennas

SPECIFICATION OF DEFAULT ANTENNA

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT-01ABGN-0406-0</td>
<td>External antenna (Default in AP822e): 2.4/5 GHz 3.3/6 dBi omnidirectional antenna with a single RP-SMA jack</td>
</tr>
</tbody>
</table>

SPECIFICATION OF OPTIONAL EXTERNAL ANTENNAS (SOLD SEPARATELY)

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT-ABGN23O-W</td>
<td>2.4/5 GHz 2/3 dBi omnidirectional rubber ducky antenna with a single RP-SMA jack</td>
</tr>
<tr>
<td>ANT-ABGN-47O</td>
<td>2.4/5 GHz 4.7/4.7 dBi omnidirectional rubber ducky antenna with a single RP-SMA jack</td>
</tr>
<tr>
<td>ANT-02ABGN-0304-O</td>
<td>2.4/5 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36-inch external coaxial cables and 2x RP-SMA jacks</td>
</tr>
</tbody>
</table>
# ANTENNA MODEL

## AP822i

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2.4–2.5 GHz</th>
<th>4.9–6.9 GHz</th>
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</thead>
<tbody>
<tr>
<td>Internal Antenna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Antenna Gain</td>
<td>3.3 dBi</td>
<td>6.0 dBi</td>
</tr>
<tr>
<td>Polarization</td>
<td>Linear</td>
<td>Linear</td>
</tr>
<tr>
<td>Azimuth Beam-width</td>
<td>360°</td>
<td>360°</td>
</tr>
<tr>
<td>Elevation Beam-width</td>
<td>75°</td>
<td>55°</td>
</tr>
<tr>
<td>VSWR</td>
<td>1:1.5</td>
<td>1:1.5</td>
</tr>
</tbody>
</table>

![2.4 GHz H-plane](image1)

![2.4 GHz E-plane](image2)

![5 GHz H-plane](image3)

![5 GHz E-plane](image4)
## ANTENNA MODEL

### AP822e

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2.4–2.5 GHz</th>
<th>4.9–5.9 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Antenna</td>
<td>2.4–2.5 GHz</td>
<td>4.9–5.9 GHz</td>
</tr>
<tr>
<td>Average Antenna Gain</td>
<td>3.3 dBi</td>
<td>6.0 dBi</td>
</tr>
<tr>
<td>Polarization</td>
<td>Linear</td>
<td>Linear</td>
</tr>
<tr>
<td>Azimuth Beam-width</td>
<td>360°</td>
<td>360°</td>
</tr>
<tr>
<td>Elevation Beam-width</td>
<td>75°</td>
<td>55°</td>
</tr>
<tr>
<td>VSWR</td>
<td>1:1.5</td>
<td>1:1.5</td>
</tr>
</tbody>
</table>

### Diagrams

- **2.4 GHz H-plane**
  - **E-plane**
  - **H-plane**

- **5 GHz H-plane**
  - **E-plane**
Fortinet AP Series

**HIGHLIGHTS**

**Fortinet AP832i and AP832e**

The AP832 is the industry's first 802.11ac access point capable of supporting two concurrent 5 GHz 3x3:3 radios. It is designed for high-density deployments in large offices, schools, universities, hospitals, hotels, and large retail stores. The AP832 supports an aggregate 2.6 Gbps data rate for the most demanding business applications like video and voice.

- **802.11ac Wave 1 | Dual Radio 2.4 and 5 GHz | 6 Internal/External Antennas**
- **Up to 1,300 + 1,300 Mbps**

The AP832 access point allows administrators with Application Visibility to prioritize applications to improve the user experience. For schools, Learning Management System applications can be assigned to one dedicated channel layer, while online classroom video feeds can be dedicated to another channel layer, with Fortinet's unique Virtual Cell channel layering technology. For healthcare, life-critical applications such as patient monitoring can be dynamically assigned to one channel layer, doctor and nursing applications can be assigned to a second layer, and patient applications can be placed on a third channel layer.

The AP832 also provides unique roaming support because Fortinet enables the network (not the client) to control AP client hand-off, resulting in the industry's lowest roaming latency figures — a true zero-handoff.

Additionally, Fortinet's Virtual Cell, single-channel technology allows the AP832 to leverage the 802.11ac design for pervasive, real-world deployments of 80 MHz channels, effectively doubling the available data rate and dramatically increasing throughput availability for Fortinet customers.

Like other Fortinet access points, the AP832 integrates seamlessly with our FortiConnect, Spectrum Manager, and other application solutions to bring intelligent management and resilient wireless services to your network.

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**Benefits**

- Provides an optimized 802.11ac experience with very high throughput capabilities
- Delivers seamless mobility, while minimizing channel planning
- Offers flexible deployment options for different customer requirements
- Offers full management and security assurances
- Provides a choice of two models to suit your needs
# SPECIFICATIONS FOR AP832i AND AP832e

## QoS
- 802.11E support (including WMM)
- Dynamic WMM rate adaptation
- Configurable QoS rates per user and application

## Operating Modes
- Centralized deployment mode
- Distributed deployment mode
- Remote VPN tunnel mode
- MESH mode
- Bridge mode

## Security
- WEP, WPA-PSK, WPA-TKIP, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-AKA, and EAP-MD5)
- 802.1X and captive portal authentication against local database on the controller, RADIUS, and Active Directory
- RADIUS-assisted per-user and per-ESSID access control via MAC filtering

## Management
- Centrally managed by any Fortinet controller running System Director
- Automatically discovers controllers and downloads configuration settings for plug-and-play deployment
- Upgrades and management using System Director/Network Manager
- Support for SNMP

## Concurrent Clients Per Radio (Maximum / Recommended)
- 128 / 40

## Wireless Specifications

### Model Introduction
- AP832i dual-radio, dual-band IEEE Std 802.11a/b/g/n/ac access point with six internal omnidirectional antennas
- AP832e dual-radio, dual-band IEEE Std 802.11a/b/g/n/ac access point with six RP-SMA connectors and six external omnidirectional antennas

### Supported Radio Technologies
- Dual-band, dual-radio access point
- 3x3:3S (three spatial streams)
- Indoor application
- Supported 2.4 GHz (TurboQAM Mode) and 5 x GHz for dual-band, dual-radio operation, data rate up to 1.9 Gbps
- Support dual 5 x GHz IEEE Std 802.11ac operation with RF collocation (FCC Permit by Ask permission), data rate up to 2.6 Gbps
- Support transmit beam-forming (TxBF)
- IEEE Std 802.11a/b/g/n/ac
- IEEE Std 802.11a/b/g with Orthogonal Frequency Division Multiplexing (OFDM)
- IEEE Std 802.11b with Direct Sequence Spread Spectrum (DSSS)
- IEEE Std 802.11n with 20/40/80 MHz (VHT20/40/80) channel width
- IEEE Std 802.11n with 40 MHz (HT40) channel width
- IEEE Std 802.11n with 20 MHz channel
- IEEE Std 802.11b with 22 MHz channel

### Supported Modulation
- IEEE Std 802.11a/c: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- IEEE Std 802.11n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- 3x3 TurboQAM modulation for 2.4 GHz and 5 GHz operations

### Supported MCS Index
- Supported MCS0–MCS9 (NSS=1-3) for IEEE Std 802.11ac
- Supported MCS0–MCS7 for IEEE Std 802.11n

## Transmit Power (TX) and Receive Sensitivity (RX) Aggregate ERP

### Supported Frequency Bands
- 2.400–2.4835 GHz (ISM)
- 5.150–5.350 GHz (ISM-2)
- 5.725–5.825 GHz (ISM-3)

### Operating Channels
- 2.4 GHz Channels
- CH-11 for U.S., Canada
- CH-13 for Japan, Europe, rest of world
- 5 GHz HT20 Channel
- 5 GHz HT40 Channel
- 5 GHz HT80 Channel (30 MHz Center Channel)

### Supported Data Rate (Mbps)
- IEEE Std 802.11a/c three streams: 19.5–1300 Mbps (MCS0-HT20/800/0 to MCS9-HT40/800/0)
- IEEE Std 802.11a/c per stream: 6.5–433.3 Mbps (MCS0-HT20/800/0 to MCS9-HT40/800/0)
- IEEE Std 802.11n Three streams: 13–450 Mbps (MCS0-HT20/800/0 to MCS3-HT23/800/0)
- IEEE Std 802.11n Per stream: 6.5–150 Mbps (MCS0-HT20/800/0 to MCS7-HT40/800/0)
- IEEE Std 802.11n Per stream: 6.5–150 Mbps (MCS0-HT20/800/0 to MCS7-HT40/800/0)
- IEEE Std 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- IEEE Std 802.11a: 1, 2, 5.5, 11 Mbps

### Transmit Power (TX) and Receive Sensitivity (RX) Aggregate ERP

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Maximum Radiated Power Per Stream (dBm)</th>
<th>Maximum Aggregate ERP (dBm), External Antenna SKU</th>
<th>Maximum Aggregate ERP (dBm), Internal Antenna SKU</th>
<th>RX (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>802.11b</td>
<td>21.0</td>
<td>25.0</td>
<td>24.0</td>
<td>85</td>
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<tr>
<td>802.11g</td>
<td>20.0</td>
<td>24.0</td>
<td>23.0</td>
<td>70</td>
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<tr>
<td>802.11n</td>
<td>19.0</td>
<td>23.0</td>
<td>22.0</td>
<td>65</td>
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<tr>
<td>802.11n, 2.4 GHz HT20</td>
<td>18.0</td>
<td>22.0</td>
<td>21.0</td>
<td>64</td>
</tr>
<tr>
<td>802.11n, 2.4 GHz HT40</td>
<td>18.0</td>
<td>22.0</td>
<td>21.0</td>
<td>64</td>
</tr>
<tr>
<td>802.11a</td>
<td>18.0</td>
<td>24.0</td>
<td>22.0</td>
<td>69</td>
</tr>
<tr>
<td>802.11a, 5 GHz HT20</td>
<td>17.0</td>
<td>23.0</td>
<td>21.0</td>
<td>67</td>
</tr>
<tr>
<td>802.11a, 5 GHz HT40</td>
<td>16.0</td>
<td>22.0</td>
<td>20.0</td>
<td>64</td>
</tr>
<tr>
<td>802.11ac, 5 GHz HT20</td>
<td>17.0</td>
<td>23.0</td>
<td>21.0</td>
<td>69</td>
</tr>
<tr>
<td>802.11ac, 5 GHz HT40</td>
<td>16.0</td>
<td>22.0</td>
<td>20.0</td>
<td>64</td>
</tr>
</tbody>
</table>

## Frequency Bands
- 2.400–2.4835 GHz (ISM)
- 5.150–5.350 GHz (ISM-2)
- 5.725–5.825 GHz (ISM-3)

### Country-specific restrictions apply, adjusted by controller upon approval
### SPECIFICATIONS FOR AP832i AND AP832e

#### PHYSICAL SPECIFICATIONS

**Power**
- Operates at IEEE 802.3af power
- Powered by IEEE Std 802.3af or 802.3at PoE (Power over Ethernet) injector or switch
- 12V external power adapter (sold separately)

**Other Interfaces**
- Networks:
  - One 10/100/1000 Mbps Base-T Ethernet RJ-45 port for Data uplink (G1) supports only 802.3af PoE.
  - One 10/100/1000 Mbps Base-T Ethernet RJ-45 port for Data uplink (G2) requires 802.3at PoE.
- Six RP-SMA RF connectors for external antenna SKU (AP832e)
- One console port
- One reset button
- One Kensington security slot

**LED Indicators**
- One tri-color LED over facade for AP status
- Additional LEDs for Ethernet activity over two RJ45 ports (G1 and G2)

**Mounting**
- Wall, desktop, or ceiling mount
- Three mounting kits included with access point:
  - 650-00232, 15/16" T-bar and wall-mount combo adapter
  - 650-00233, 9/16" T-bar adapter
  - Flat-surface wall-mount bracket (used with 650-00232)
- Option (ordered separately)
  - CBL-SERIAL-DB9-35, DB9-stereo console cable
  - CBL-RJ45-ADAPT-X5, GE extension adapter
  - MNT-Feet-Set-X5, rubber feet for desktop staging

**Installation in the Air-Handling Space**
- AP832e metal enclosure only by removing plastic façade

**Dimensions**
- AP832i or AP832e (with mounting bracket): 7.1 x 7.1 x 2.7 inches (18.0 x 18.0 x 6.8 cm)
- AP832e without plastic façade: 6.3 x 6.3 x 2.1 inches (16.1 x 16.0 x 5.2 cm)

**Weight**
- AP832i (with mounting bracket): 2.3 lbs (1.1 kg)
- AP832e (with mounting bracket): 1.9 lbs (0.9 kg)
- AP832e without façade and mounting bracket: 1.5 lbs (0.7 kg)

**Environmental**
- Operating temperature: 32–122°F (0–50°C)
- Operating humidity: 5–95% non-condensing
- Storage temperature: -40–158°F (-40–70°C) ambient
- Storage humidity: 2–95% non-condensing

#### REGULATORY APPROVAL
- FCC (United States of America)
- CE Mark (European Community)
- Industry Canada (Canada)
- TÜV (Japan)
- Safety Approval (worldwide)
- EU RoHS

For more country-specific regulatory approval, please contact your Fortinet representative.

#### CERTIFICATIONS
- WiFi certified IEEE Std 802.11a/b/g/n (ac)

#### WARRANTY
- Limited lifetime warranty

#### PART NUMBERS
- **AP832i**
  - Six integrated dual-band omnidirectional PIFA antennas optimized for vertical wall-mounted orientation of the AP.
- **AP832e**
  - Six extended reverse polarity SMA connectors; shipment comes with six omnidirectional rubber ducky antennas

#### SPECIFICATION OF DEFAULT ANTENNA

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ANT-6ABGN-24</td>
<td>2.4/5.0 GHz 2.5/4.0 dBi directional patch wall/pole mount antenna, with 36 inch coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>2 ANT-1GABGN-0304</td>
<td>2.4/5.0 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36 inch coaxial cables and 3x RP-SMA male jacks</td>
</tr>
</tbody>
</table>

#### SPECIFICATION OF OPTIONAL EXTERNAL ANTENNAS (SOLD SEPARATELY)

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>1 ANT-6ABGN-24</td>
<td>2.4/5.0 GHz 2.5/4.0 dBi directional patch wall/pole mount antenna, with 36 inch coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>2 ANT-1GABGN-0304</td>
<td>2.4/5.0 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36 inch coaxial cables and 3x RP-SMA male jacks</td>
</tr>
<tr>
<td>3 ANT-ABGN-23</td>
<td>2.4/5.0 GHz 3/4 dBi directional patch wall/pole mount antenna, with 60 inch coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>4 ANT-ABGN230-W</td>
<td>2.4/5.0 GHz 2/3 dBi omnidirectional rubber ducky antenna with 1x RP-SMA male jack</td>
</tr>
<tr>
<td>5 ANT-ABGN47O</td>
<td>2.4/5.0 GHz 4/4.7 dBi omnidirectional rubber ducky antenna with 1x RP-SMA male jack</td>
</tr>
<tr>
<td>6 ANT-06ABGN-0607-O</td>
<td>2.4/5.0 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36 inch coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>7 ANT-06ABGN-0606-O</td>
<td>2.4/5.0 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36 inch coaxial cables and 6x RP-SMA male jacks</td>
</tr>
</tbody>
</table>

Please note the range of Fortinet controller-managed access points are supported by a combination of specific controller firmware and hardware and are not designed to function with third-party controllers. Specific supported access point and controller combinations will change from time to time and such changes are detailed in the respective firmware release notes. The Fortinet range of controllers, whether they are standalone or integrated into FortiOS, only support Fortinet provided access points. Note that not all access points are supported by all controller types.
ANTENNA MODEL

AP832i

<table>
<thead>
<tr>
<th>Feature</th>
<th>2.4–2.5 GHz</th>
<th>4.9–5.9 GHz</th>
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</thead>
<tbody>
<tr>
<td>Internal Antenna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Antenna Gain</td>
<td>3.0 dBi</td>
<td>4.0 dBi</td>
</tr>
<tr>
<td>Polarization</td>
<td>Linear</td>
<td>Linear</td>
</tr>
<tr>
<td>Azimuth Beam-width</td>
<td>195°</td>
<td>190°</td>
</tr>
<tr>
<td>Elevation Beam-width</td>
<td>98°</td>
<td>100°</td>
</tr>
<tr>
<td>VSWR</td>
<td>1:2.0</td>
<td>1:2.0</td>
</tr>
</tbody>
</table>

- **2.4 GHz H-plane**
- **2.4 GHz E-plane**
- **5 GHz H-plane**
- **5 GHz E-plane**
ANTENNA MODEL

AP832e

<table>
<thead>
<tr>
<th>External Antenna</th>
<th>2.4–2.5 GHz</th>
<th>4.9–5.9 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Antenna Gain</td>
<td>3.3 dBi</td>
<td>6.0 dBi</td>
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<tr>
<td>Polarization</td>
<td>Linear</td>
<td>Linear</td>
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<tr>
<td>Azimuth Beam-width</td>
<td>360°</td>
<td>360°</td>
</tr>
<tr>
<td>Elevation Beam-width</td>
<td>75°</td>
<td>55°</td>
</tr>
<tr>
<td>VSWR</td>
<td>1:1.5</td>
<td>1:1.5</td>
</tr>
</tbody>
</table>

2.4 GHz H-plane

2.4 GHz E-plane

5 GHz H-plane

5 GHz E-plane
The OAP832e is an 802.11ac outdoor access point (AP) capable of supporting a variety of external antennas. Designed for high-density deployments such as stadiums, arenas, university campuses, hospitals, convention centers, and warehouses. The OAP832e supports an aggregate 1.75 Gbps data rate for demanding business applications like video and voice.

### Benefits
- Provides an optimized 802.11ac experience with Very High Throughput (VHT) capabilities
- Delivers seamless mobility, with no channel planning
- Offers flexible deployment options for different customer requirements
- Offers full management and security assurances

The OAP832e access point allows administrators to prioritize applications with Fortinet’s unique channel-layering technology to improve the user experience. For schools, this means Learning Management System applications can be assigned to a dedicated channel layer, while online classroom video feeds can be carried on another channel layer. For healthcare, life-critical applications such as patient monitoring can be dynamically assigned to one channel layer, doctor and nursing applications to a second layer, and patient applications to a third.

The OAP832e also provides unique roaming support because Fortinet enables the network (not the client) to control AP client hand-off via our Air Traffic Control® technology, resulting in the industry’s lowest roaming latency figures — a true zero-handoff.

Additionally, Fortinet’s single-channel technology allows the OAP832e to leverage the 802.11ac design for pervasive, real-world deployments of 80 MHz channels, effectively doubling the available data rate and dramatically increasing throughput. It should be noted that all the Fortinet APs in this document can operate in multi channel mode as well as virtual cell mode.

As with other Fortinet APs, the OAP832e integrates seamlessly with FortiConnect and other applications to bring intelligent management and resilient wireless services to your network.
SPECIFICATIONS FOR OAP832e

QOS
- 802.11E support (including WMM)
- Dynamic WMM rate adaptation
- Configurable QoS rules per user and application

OPERATING MODES
- Centralized deployment mode
- Distributed deployment mode
- Remote VPN tunnel mode

SECURITY
- WEP, WPA-PSK, WPA-TKIP, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-AAAA, and EAP-MD5)
- 802.1X and captive portal authentication against local database on the controller, RADIUS, and Active Directory
- RADIUS-assisted per-user and per-ESSID access control via MAC filtering

MANAGEMENT
- Centrally managed by any Fortinet controller running System Director
- Automatically discovers controllers and downloads configuration settings for plug-and-play deployment
- Upgrades and management using System Director / Network Manager
- Support for SNMP

WIRELESS SPECIFICATIONS

Model Introduction
OAP832e IEEE802.11a/b/g/n/ac access point, dual radio with six N-type connectors for external antennas

Supported Radio Technologies
- 5GHz TurboQAM Mode
- 3x3:3SS (three spatial streams)
- Outdoor application
- Supported 2.4 GHz (TurboQAM Mode)
- Supported transmit beam-forming (TxBF)
- IEEE Std 802.11ac standard
- IEEE Std 802.11n/ac with Orthogonal Frequency Division Multiplexing (OFDM)
- IEEE Std 802.11a/g with 20 MHz channel
- IEEE Std 802.11b with 22 MHz channel

Supported Modulation
- IEEE Std 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- IEEE Std 802.11g: BPSK, QPSK, CCK
- IEEE Std 802.11n: 40 MHz (HT40)
- IEEE Std 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

Supported MCS Index
- IEEE Std 802.11ac: MCS0–MCS23
- IEEE Std 802.11n: MCS9–MCS23

Supported Frequency Bands
- 2.400–2.4835 GHz (ISM)
- 5.150–5.250 GHz (UNI-1)
- 5.250–5.350 GHz (UNI-2, DFS)
- 5.470–5.725 GHz (UNI-2 Extended, DFS)
- 5.725–5.825 GHz (UNI-3)

Operating Channels
- 2.4 GHz channels
- 5 GHz HT20 (20 MHz) Channel
- 5 GHz HT40 (40 MHz) Channel

Supported Data Rate (Mbps)
- IEEE Std 802.11a: three streams: 19.5–1300 Mbps
- IEEE Std 802.11n: three streams: 1.5–650 Mbps
- IEEE Std 802.11a: per stream: 6.5–433.3 Mbps
- IEEE Std 802.11n: per stream: 6.5–150 Mbps

Supported Data Rate (Mbps)
- TRANSMIT POWER (TX) AND RECEIVER SENSITIVITY (RX) PER STREAM

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
<th>MAXIMUM CONDUCTIVE POINT TRANSMIT POWER PER STREAM (dBm)</th>
<th>MAXIMUM EIRP WITH EXTERNAL ANTENNAS (dBm)</th>
<th>RECEIVER SENSITIVITY (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>802.11b</td>
<td>25.0</td>
<td>29.0</td>
<td>-90</td>
</tr>
<tr>
<td>802.11g</td>
<td>24.0</td>
<td>28.0</td>
<td>-76</td>
</tr>
<tr>
<td>802.11n, 2.4 GHz HT20</td>
<td>23.0</td>
<td>28.0</td>
<td>-73</td>
</tr>
<tr>
<td>802.11n, 2.4 GHz HT40</td>
<td>23.0</td>
<td>27.0</td>
<td>-70</td>
</tr>
<tr>
<td>802.11a</td>
<td>22.0</td>
<td>23.0</td>
<td>-75</td>
</tr>
<tr>
<td>802.11n, 5 GHz HT20</td>
<td>22.0</td>
<td>23.0</td>
<td>-73</td>
</tr>
<tr>
<td>802.11n, 5 GHz HT40</td>
<td>22.0</td>
<td>23.0</td>
<td>-70</td>
</tr>
<tr>
<td>802.11ac, 5 GHz HT20</td>
<td>22.0</td>
<td>23.0</td>
<td>-69</td>
</tr>
<tr>
<td>802.11ac, 5 GHz HT40</td>
<td>22.0</td>
<td>22.0</td>
<td>-64</td>
</tr>
<tr>
<td>802.11ac, 5 GHz HT80</td>
<td>21.0</td>
<td>21.0</td>
<td>-61</td>
</tr>
</tbody>
</table>

Note: Maximum EIRP is country specific and based on the country regulatory approvals.

Configurable Transmission Power
- Transmission power configurable in 1.0 dBm increments
- Unused radios can be disabled via software for lower power consumption
- Antennas
- 6 external omnidirectional antennas for 3x3 MIMO with maximum antenna gain of 6 dBi at 2.4 GHz and 7 dBi in 5 GHz

Country-specific restrictions apply; adjusted by controller upon approval.
SPECIFICATIONS FOR OAP832e

**PHYSICAL SPECIFICATIONS**

**Power**
- Operates at IEEE 802.3at power
- Powered by IEEE 802.3at PoE (Power over Ethernet) injector or switch

**Other Interfaces**
- Networks: 1x 10/100/1000 Base-T Ethernet RJ45 uplink (G1), 1x 10/100/1000 Base-T Ethernet RJ45 (G2) for downlink and future expansion purposes, auto-sensing link speed and MDIX/MDX
- 6 N-Type connectors for external antennas SKU (AP832e)
- 1 USB 2.0 port (Type-A) for future feature
- 1 Kensington security slot

**LED Indicators**
- 1 LED for AP Power ON status
- 2 LEDs for Ethernet activity over two RJ45 ports (LAN1 & LAN2)
- 2 LEDs for the 2.4 GHz and 5.0 GHz radio status indicator

**Mounting**
- 1.5–1.6 inch (5–7.5 cm) diameter pole-mounting kit (included).
- Wall mounting kit (included).

**Dimensions**
- 11.0 x 8.54 x 2.0 inches (28.0 x 21.7 x 5.0 cm)

**Weight**
- OAP832e (without mounting bracket): 5 lbs (2.27 kg)
- OAP832e (with mounting bracket): 7 lbs (3.18 kg)

**Environmental**
- Operating temperature: -40˚–149°F (-40–65°C)
- Operating humidity: 5–95% non-condensing
- Storage temperature: -40–158˚ F (-40–70°C) ambient
- Storage humidity: 5–95% non-condensing
- Surge protection built in

**SPECIFICATION OF OPTIONAL EXTERNAL ANTENNAS (SOLD SEPARATELY)**

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ANT-OBARON-0606-O</td>
<td>2.4/5.x GHz 6/6 dBi omnidirectional wall/pole-mount antenna, with 36-inch external coaxial cables and 6x RP-SMA male connector</td>
</tr>
<tr>
<td>2 ANT-OBARON-0607-PT</td>
<td>2.4/5.x GHz 6/7 dBi directional panel wall/pole-mount antenna, with 36-inch external coaxial cables and 6x RP-SMA male connector</td>
</tr>
<tr>
<td>3 ANT-OBARON-NM</td>
<td>2.4 GHz 6 dBi omnidirectional outdoor antenna with 1 N-type male connector</td>
</tr>
<tr>
<td>4 ANT-OBARON-NM-2</td>
<td>5.0 GHz UNII-2 &amp; 3 Band 8 dBi omnidirectional outdoor antenna with 1 N-type male connector</td>
</tr>
<tr>
<td>5 ANT-OBARON-0606-PN</td>
<td>Dual band panel 6 lead antenna for MIMO applications. Features 3 integrated 2.4 GHz panel antennas and 3 integrated 5 GHz panel antennas. 6 dBi at 2.4 GHz, 6 dBi at 5 GHz</td>
</tr>
</tbody>
</table>

Please note the range of Fortinet infrastructure access points are supported by a combination of specific controller firmware and hardware and are not designed to function with third-party controllers. Specific supported access point and controller combinations will change from time to time and such changes are detailed in the respective firmware release notes. The Fortinet range of controllers, whether they are infrastructure or integrated into FortiOS, only support Fortinet provided access points. Note that not all access points are supported by all controller types.
HIGHLIGHTS

**Fortinet AP122**
The AP122 is the first wall plate access point specifically designed to meet the ever-increasing mobile data needs of hotel guests and resident college and university students. With gigabit-data rates, the AP122 is perfectly suited for in-room deployment needs of the hotel, cruise line and higher-education residence-hall markets.

![Fortinet AP Series](image)

- **802.11ac Wave 1 | Dual Radio 2.4 GHz and 5 GHz | 4 Internal Antennas**
- **Up to 300 + 867 Mbps**

Designed to be placed in any location flush to a wall, the AP122 can be installed by standard service personnel using existing CAT5/6 cabling connected from a standard wall junction box. For wired connectivity, it features two 10/100 BASE-T switch ports to support a range of in-room IP device and user connectivity options. Additionally, one of the wired ports can operate as an IEEE 802.3af-compliant PoE Out port offering up to 13 watts of power, capable of powering devices such as IP telephones. This reduces costs in additional cabling, switch ports, and power sourcing equipment. An additional pass-through port allows connectivity for digital phones and a USB port offers options for future uses.

Like other Fortinet access points, the AP122 integrates seamlessly with our Network Manager, Fortinet Connect, and other application solutions to bring intelligent management and resilient wireless services to your network. The AP122 is ideal for supporting IP-based services such as VoIP, IPTV, high-speed Internet access and in-room device connectivity.

Additionally, Fortinet’s Virtual Cell, single-channel option uniquely allows the AP122 to support pervasively, full channel 802.11ac in real-world deployments, which more than double the data rate over legacy 802.11n solutions. This architecture also greatly simplifies RF coverage planning and significantly reduces wireless LAN (WLAN) deployment costs.

**Benefits**
- Support for in-room, IP-based services such as VoIP, streaming video, and high-speed Internet access
- Support for in-room IP devices and digital phones with native access to in-house PBX system
- Maximizes full-channel 802.11ac throughout the enterprise
- No infrastructure upgrades
SPECIFICATIONS FOR AP122

OPERATING MODES
- Centralized deployment mode
- Distributed deployment mode
- Remote VPN tunnel mode

SECURITY
- WEP, WPA-PSK, WPA2-PSK, WPA2-802.11i, 802.11x (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-SIM, EAP-FAST, EAP-MD5, EAP-AKA)
- 802.1X and captive portal authentication against local database on the controller, RADIUS, and Active Directory
- RADIUS-assisted per-user and per-ESSID access control via MAC filtering

MANAGEMENT
- Automatically discovers controllers and downloads configuration settings for plug-and-play deployment
- Upgrade and management using System Director/E(z)RF® Network Manager
- Support for SNMP

WIRELESS SPECIFICATIONS

Model Introduction
- AP122 is an dual-radio architecture with:
  - 2.4 GHz Std 802.11b/g/n
  - 5.6 GHz 802.11a/n/ac

Supported radio technologies
- 2x2:2SS (two spatial streams)
- Supported transmit beam-forming (TxBF)
- IEEE Std 802.11b with Direct Sequence Spread Spectrum (DSSS)
- IEEE Std 802.11ac with 20/40/80 MHz (HT20/HT40/HT80) channel width
- IEEE Std 802.11n with 40 MHz (HT40) channel width
- IEEE Std 802.11a/g with 20 MHz channel

Supported Modulation
- IEEE Std 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, and 256-QAM
- IEEE Std 802.11a/g/n: BPSK, QPSK, 16-QAM, and 64-QAM
- IEEE Std 802.11b: BPSK, QPSK, CCK

Supported MCS Index
- Supported MCS0 to MCS9 for IEEE Std 802.11ac (NSS=1 to 2)
- Supported MCS0 to MCS15 for IEEE Std 802.11n

Supported Frequency Bands
- 2.400 to 2.4835 GHz (ISM)
- 5.150 to 5.250 GHz (UNII-1)
- 5.250 to 5.350 GHz (UNII-2, DFS)
- 5.470 to 5.725 GHz (UNII-2 Extends, DFS)
- 5.725 to 5.825 GHz (UNII-3, DFS)
- 5.725 to 5.825 GHz (UNII-3, DFS)
- 5.150 to 5.150 GHz (UNII-5)

DEFAULT TRANSMIT POWER
- Default transmit power per antenna
- Maximum available transmit power per antenna
- Transmit power adjustment
- Actual Tx power dependent on national regulatory limits

RECEIVER SENSITIVITY

<table>
<thead>
<tr>
<th>Standard</th>
<th>Data rate (Mbps)</th>
<th>Receiver sensitivity (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4 GHz, IEEE 802.11b</td>
<td>11</td>
<td>97</td>
</tr>
<tr>
<td>2.4 GHz, IEEE 802.11g</td>
<td>54</td>
<td>94</td>
</tr>
<tr>
<td>2.4 GHz, IEEE 802.11n HT20</td>
<td>MCS7/15</td>
<td>72</td>
</tr>
<tr>
<td>2.4 GHz, IEEE 802.11n HT40</td>
<td>MCS7/15</td>
<td>70</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11a</td>
<td>54</td>
<td>70</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11n HT20</td>
<td>MCS7/15</td>
<td>66</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11n HT40</td>
<td>MCS7/15</td>
<td>66</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11ac HT20</td>
<td>MCS8/16</td>
<td>62</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11ac HT40</td>
<td>MCS8/16</td>
<td>62</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11ac HT80</td>
<td>MCS8/16</td>
<td>60</td>
</tr>
</tbody>
</table>

Antennas
- Four integrated Single band omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.6 dBi in 2.4 GHz and 5 dBi in 5 GHz. Antennas are optimized for vertical wall-mounted orientation of the AP.

PHYSICAL SPECIFICATIONS

Power
- IEEE PoE (Power over Ethernet) 802.3at/802.3at injector or switch
- 48V external power adapter (sold separately)

Other Interfaces
- One 10/100/1000 Mbps BASE-T Ethernet RJ45 for Data uplink (G1)
- One USB 2.0 port (Type-A)
- One RJ45 Passthrough port: RJ45 to RJ45

LED Indicators
- One tri-color LED for AP status
- One reset button

Mounting
- Wall mount: junction box wall mount bracket included

Dimensions
- 5.51 x 5.35 x 1.18 inches (14.0 x 13.6 x 3.0 cm)

Environmental
- Operating temperature: 32–104°F (0–40°C)
- Operating humidity: 5–95% non-condensing
- Storage temperature: -40–158°F (-40–70°C) ambient
- Storage humidity: 5–95% non-condensing
## SPECIFICATIONS FOR AP122

### REGULATORY COMPLIANCE

#### Unintentional Radiation Compliance Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES-003 Class B – issue 4, February 2004</td>
<td></td>
</tr>
<tr>
<td>EN 301 489-1</td>
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<tr>
<td>EN 301 489-1-2</td>
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<tr>
<td>EN55022 Class B – 2006</td>
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<tr>
<td>EN55024 / AS/NZS CSPR 24 / immunity</td>
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<tr>
<td>EN61000-4-2,3,4,5,6</td>
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<tr>
<td>Japan VCCI Class B</td>
<td>EN60601-1-2</td>
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#### Radio Compliance Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Approach</th>
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<tbody>
<tr>
<td>RSS-210 Issue 6, December 2010</td>
<td></td>
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<tr>
<td>EN 300 328 v1.7.1 (2006-06)</td>
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</tr>
<tr>
<td>EN 301 953 V1.7.1 (2009-12)</td>
<td></td>
</tr>
<tr>
<td>Japan Radio Law 38-24-1 (Nishio) – WW 2.4 GHz band</td>
<td></td>
</tr>
<tr>
<td>Japan Radio Law 38-24-1 (Nishio) – XW 5.3 GHz band</td>
<td></td>
</tr>
<tr>
<td>Japan Radio Law 38-24-1 (Nishio) – YX 5.6 GHz band</td>
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</tr>
</tbody>
</table>

#### Safety Compliance Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Approach</th>
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<tbody>
<tr>
<td>UL 60950-1, 2nd Edition, 2011-12</td>
<td></td>
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<tr>
<td>IEC 60950-1 (ed. 2), IEC 60950-1 (ed. 2);am1</td>
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#### Environmental Compliance Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Approach</th>
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<tbody>
<tr>
<td>ROHS Directive 2011/65/EU (RoHS 2)</td>
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<tr>
<td>WEEE Directive 2012/19/EU</td>
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</tbody>
</table>

#### Ethernet Standards

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet IEEE 802.3</td>
<td></td>
</tr>
<tr>
<td>Power Over Ethernet IEEE 802.3 PDU</td>
<td></td>
</tr>
<tr>
<td>Power Over Ethernet IEEE 802.3 PSE</td>
<td></td>
</tr>
<tr>
<td>Wireless IEEE 802.11a/b/g/n/ac</td>
<td></td>
</tr>
</tbody>
</table>

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### CERTIFICATION

- **WiFi Certified** — IEEE Std 802.11a/b/g/n/ac

### WARRANTY

- Limited lifetime warranty

### PART NUMBER

**AP122**: 802.11ac 2x2/2 dual radio, dual concurrent wall plate access point

Please note the range of Fortinet controller-managed access points are supported by a combination of specific controller firmware and hardware and are not designed to function with third-party controllers. Specific supported access point and controller combinations will change from time to time and such changes are detailed in the respective firmware release notes. The Fortinet range of controllers, whether they are standalone or integrated into FortiOS, only support Fortinet provided access points. Note that not all access points are supported by all controller types.