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.

<table>
<thead>
<tr>
<th><strong>Product Offerings</strong></th>
<th></th>
</tr>
</thead>
<tbody>
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<td><strong>AP822i</strong></td>
<td>802.11ac APs with Dual 2.4 GHz and 5 GHz radios, 2x2 MIMO</td>
</tr>
<tr>
<td><strong>AP822e</strong></td>
<td>802.11ac APs with Dual 2.4 GHz and 5 GHz radios, 3x3 MIMO</td>
</tr>
<tr>
<td><strong>AP832i</strong></td>
<td>Outdoor 802.11ac AP with Dual 2.4 GHz and 5 GHz radios, 3x3 MIMO</td>
</tr>
<tr>
<td><strong>AP832e</strong></td>
<td>Wall Plate 802.11ac AP with Dual 2.4 GHz and 5 GHz radios</td>
</tr>
<tr>
<td><strong>OAP832e</strong></td>
<td>802.11n APs with a single dual-band 2.4 GHz/5 GHz radio</td>
</tr>
<tr>
<td><strong>AP1010i</strong></td>
<td>802.11n APs with Dual 2.4 GHz and 5 GHz radios</td>
</tr>
<tr>
<td><strong>AP1010e</strong></td>
<td>802.11n APs with Dual 2.4 GHz and 5 GHz radios</td>
</tr>
</tbody>
</table>
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-MODE
- Bridge mode
- Remote VPN tunnel mode

SECURITY

- WEP, WPA-PSK, WPA-2PSK, WPA2-IEEE 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

MANAGEMENT

- Centrally managed by any Fortinet controller running System Director 6.1 or later
- 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

WIRELESS SPECIFICATIONS

Model Introduction

AP822i: dual radio, single-band IEEE Std 802.11b/g/n for 2.4 GHz band and IEEE Std 802.11a/n/ac for 5 GHz band access point with four internal omnidirectional antennas and four external 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 GHz band access point with four RP-SMA connectors and four external omnidirectional antennas

Supported Radio Technologies

- Dual radio access point for indoor environment
- 2x2:2000 Mbps dual spatial stream (DSSS, DSSS, OFDM, OFDM)
- Support for 802.11ac, 5 GHz, VHT80 16.0 22.0 20.0 -63
- Support for 802.11ac, 5 GHz, HT40 16.0 22.0 20.0 -65
- Support for 802.11ac, 5 GHz, HT20 17.0 23.0 21.0 -71
- Support for 802.11n, 5 GHz, HT20 17.0 23.0 21.0 -73
- Support for 802.11a 18.0 24.0 22.0 -77
- Support for 802.11n, 2.4 GHz HT40 18.0 21.3 21.0 -71
- Support for 802.11n, 2.4 GHz HT20 18.0 22.0 21.0 -73
- Support for 802.11g 19.0 23.0 22.0 -77
- Support for 802.11b 20.0 24.0 23.0 -91

Data Rates Supported (Mbps)

- 802.11b: 1, 2, 5.5, and 11 Mbps
- 802.11g: 6, 11, 12, 18, 24, 36, 48, and 54 Mbps
- 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps
- 802.11n: 60, 90, 120, 180, 300, and 450 Mbps
- 802.11ac: 13.0–866.7 Mbps (MCS0-HT20@800 nS to MCS9-VHT80@400 nS)

TRANSMIT POWER (TX) AND RECEIVE SENSITIVITY (RX) PER STREAM

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Maximum Conducive Power Transmit (DBM)</th>
<th>Maximum EIRP Per Stream (DBM)</th>
<th>Maximum EIRP Per Stream (DBM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Antenna SKU</td>
<td>802.11b</td>
<td>802.11g</td>
</tr>
<tr>
<td>AP822i</td>
<td>Internal</td>
<td>20.0</td>
<td>19.0</td>
</tr>
<tr>
<td>AP822e</td>
<td>External</td>
<td>24.0</td>
<td>23.0</td>
</tr>
</tbody>
</table>

OTHER INTERFACES

- One RJ45 Console
- One tri-color LED for AP status
- Additional LEDs for Ethernet activity over two RJ45 ports (G1 & G2)
- One reset button
- One Kensington security slot
- One USB 2.0 port (Type-A) (disabled when powered with 802.3af)
- One RJ45 port (G1) support IEEE Std 802.3af or 802.3 at PoE
- Four RPSMA RF connectors (For AP822e, external antenna SKU)
- One RJ45 port (G2) (disabled when powered with 802.3af), auto-sensing link speed and MDI/MDX
- 12V external power adapter (sold separately)
- Four integrated and external single-band omnidirectional antennas for 2x2 MIMO with maximum antenna gain of 3.3 dBi in 2.4 GHz and 6 dB in 5 GHz. Internal antennas on the 823 are optimized for vertical wall-mounted orientation of the AP.
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
- CE 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>1 ANT-01ABGN-0406-0</td>
<td>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>1 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>2 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>3 ANT-02ABGN-0304-0</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>Internal Antenna</th>
<th>2.4–2.5 GHz</th>
<th>4.9–6.9 GHz</th>
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<tbody>
<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

2.4 GHz E-plane

5 GHz H-plane

5 GHz E-plane
Antenna Model

AP822e

<table>
<thead>
<tr>
<th>Feature</th>
<th>2.4–2.5 GHz</th>
<th>4.9–5.9 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Antenna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Antenna Gain</td>
<td>3.3 dBi</td>
<td>6.0 dBi</td>
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<tr>
<td>VSWR</td>
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</table>

2.4 GHz H-plane

2.4 GHz E-plane

5 GHz H-plane

5 GHz E-plane
**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.

**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
- 3x3:3SS (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
- Supported dual 5.x GHz IEEE 802.11ac operation with RF collocation (FCC Permit by Ask provision), data rate up to 2.6 Gbps
- Supported transmit beam-forming (TxBF)
- IEEE Std 802.11ac standard
- IEEE Std 802.11n/ac with Orthogonal Frequency Division Multiplexing (OFDM)
- EEE Std 802.11n with Direct Sequence Spread Spectrum (DSSS)
- IEEE Std 802.11a/b with 20/40 MHz (HT20/40) channel widths
- IEEE Std 802.11a with 20 MHz channel
- IEEE Std 802.11b with 22 MHz channel

**Supported Modulation**
- IEEE Std 802.11a: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- IEEE Std 802.11g: BPSK, QPSK, 64-QAM, 256-QAM
- IEEE Std 802.11n: BPSK, QPSK, 16-QAM, 64-QAM
- IEEE Std 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM
- IEEE Std 802.11ac: 256-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–MCS3 for IEEE Std 802.11n

**Supported Data Rate (Mbps)**
- IEEE Std 802.11ac three streams: 19.5–1300 Mbps (MCS0-HT20@800nS to MCS9-HT40@400nS)
- IEEE Std 802.11ac per stream: 6.5–433.3 Mbps (MCS0-HT20@800nS to MCS9-HT40@400nS)
- IEEE Std 802.11n Three streams: 13–540 Mbps (MCS0-HT20@800nS to MCS9-HT40@400nS)
- IEEE Std 802.11n Per stream: 6.5–150 Mbps (MCS0-HT20 @ 800nS to MCS7-HT40@400nS)
- IEEE Std 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- IEEE Std 802.11a: 1, 2, 5.5, 11 Mbps

**WIRELESS SPECIFICATIONS**

**TRANSMIT POWER (TX) AND RECEIVE SENSITIVITY (RX) AGGREGATE EIRP**

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
<th>MAXIMUM CONDUCTIVE POINT TRANSMIT 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>802.11n</td>
<td>21.0</td>
<td>25.0</td>
<td>24.0</td>
<td>86</td>
</tr>
<tr>
<td>802.11g</td>
<td>20.0</td>
<td>24.0</td>
<td>23.0</td>
<td>70</td>
</tr>
<tr>
<td>802.11a, 2.4 GHz HT20</td>
<td>19.0</td>
<td>23.0</td>
<td>22.0</td>
<td>65</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>802.11n, 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, HT180</td>
<td>16.0</td>
<td>22.0</td>
<td>20.0</td>
<td>64</td>
</tr>
</tbody>
</table>

**Supported Frequency Bands**
- 2.400–2.4835 GHz, ISM
- 2.470–2.725 GHz, ISM-2, Extended, DFS
- 5.725–5.825 GHz, ISM-3

**Operating Channels**
- 2.4 GHz Channels
  - CH1–11 for U.S., Canada
- 5 GHz Channels
  - CH36–46 for Japan, Europe, rest of world
  - CH36–46 for Japan, Europe, rest of world
  - CH36–46 for Japan, Europe, rest of world

Country-specific restrictions apply, adjusted by controller upon approval

**Supported Modulation**
- 802.11b/1a: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- 802.11g: BPSK, QPSK, 64-QAM, 256-QAM
- 802.11n: BPSK, QPSK, 16-QAM, 64-QAM
- 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM
- 256-TurboQAM modulation for 2.4 GHz and 5 GHz operations
- Supported MCS0–MCS9 (NSS=1-3) for IEEE Std 802.11ac
- Supported MCS0–MCS3 for IEEE Std 802.11n
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: 5–95% non-condensing

**REGULATORY APPROVAL**
- FCC (United States of America)
- CE Mark (European Community)
- Industry Canada (Canada)
- TELEC (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 GHz 2.5/4 dBi directional patch wall/pole-mount antenna, with 36-inch external coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>2 ANT-6ABGN-0304</td>
<td>2.4/5 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36-inch external 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>
</thead>
<tbody>
<tr>
<td>1 ANT-6ABGN-24</td>
<td>2.4/5 GHz 2.5/4 dBi directional patch wall/pole-mount antenna, with 36-inch external coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>2 ANT-6ABGN-0304</td>
<td>2.4/5 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36-inch external coaxial cables and 3x RP-SMA male jacks</td>
</tr>
<tr>
<td>3 ANT-6ABGN230-W</td>
<td>2.4/5 GHz 2/3 dBi omnidirectional rubber ducky antenna with 1x RP-SMA male jack</td>
</tr>
<tr>
<td>5 ANT-ABGN47D-01</td>
<td>2.4/5 GHz 4.7/4.7 dBi omnidirectional rubber ducky antenna with 1x RP-SMA male jack</td>
</tr>
<tr>
<td>6 ANT-6ABGN-0304-O</td>
<td>2.4/5 GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36-inch external coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>7 ANT-6ABGN23O-P</td>
<td>2.4/5 GHz 2/3 dBi omnidirectional wall/pole-mount antenna, with 36-inch external coaxial cables and 6x RP-SMA male jacks</td>
</tr>
<tr>
<td>8 ANT-6ABGN-0606-O</td>
<td>2.4/5 GHz 6/6 dBi omnidirectional wall/pole-mount antenna, with 36-inch external 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>Internal 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>3.0 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>

### Diagrams

- **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>Feature</th>
<th>2.4–2.5 GHz</th>
<th>4.9–5.9 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>External 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

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.

- **802.11ac Wave 1 | Dual Radio 2.4 and 5 GHz | 6 External Antennas**
- **Up to 450 + 1,300 Mbps**

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.

**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
SPECIFICATIONS FOR OAP832e

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

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

SECURITY
- WEP, WPA-PSK, WPA2-PSK, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-AAA, 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
- 2.4 GHz and 5 GHz radio access point
- 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 802.11b with Direct Sequence Spread Spectrum (DSSS)
- IEEE Std 802.11g with 20 MHz channel
- 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 802.11a with 20 MHz channel

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

Supported MCS Index
- Supported MCS0–MCS39 (MCS=1–3) for IEEE Std 802.11ac
- Supported MCS0–MCS23 for IEEE Std 802.11n

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

Country-specific restrictions apply; adjusted by controller upon approval

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</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, 80 MHz</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 in 2.4 GHz and 7 dBi in 5 GHz
SPECIFICATIONS FOR OAP832e

PHYSICAL SPECIFICATIONS

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

Other Interfaces
Networks: One 10/100/1000 Base-T Ethernet RJ45 uplink (G1), one 10/100/1000 Base-T Ethernet RJ45 (G2) for downlink and future expansion purposes, auto-sensing link speed and MDI/MDX
Six N-type connectors for external antenna SKU (AP832e)
One RJ45 port (G1) support IEEE Std 802.3at or 802.3af PoE
One USB 2.0 port (type-A) for future feature
One reset button
One 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 humiity: 5–95% non-condensing
Storage temperature: -40–158˚F  (-40–70°C) ambient
Storage humidity: 5–95% non-condensing

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.

Regulatory Approval
FCC (United States of America)
CE Mark (European Community)
IC (Industry Canada (Canada))
TELEC (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)
IP67
CB Report

Warranty
One year hardware warranty

Part Number
OAP832e
Six extended Type N female connectors

SPECIFICATION OF OPTIONAL EXTERNAL ANTENNAS (SOLD SEPARATELY)

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ANT-OGABON-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-OGABON-0607-PT</td>
<td>2.4/5.x GHz 6/7 dBi directional patch wall/pole-mount antenna, with 36-inch external coaxial cables and 6x RP-SMA male connector</td>
</tr>
<tr>
<td>3 ANT-BG08O-NM</td>
<td>2.4 GHz 8 dBi omni-directional outdoor antenna with 1 N-type male connector</td>
</tr>
<tr>
<td>4 ANT-ABO8O-NM-2</td>
<td>5.0 GHz UNII-2 &amp; 3 Band 8 dBi omni-directional outdoor antenna with 1 N-type male connector</td>
</tr>
<tr>
<td>5 ANT-OGABON-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>
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.

**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, WPA-TKIP, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-MD5, 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
- Automatically discovers controllers and downloads configuration settings for plug-and-play deployment
- Upgrades and management using System Director/E(z)RF® Network Manager
- Support for SNMP

WIRELESS SPECIFICATIONS

Model Introduction
AP122 is a 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 transmission beam-forming (TxBF)
- IEEE Std 802.11b with Direct Sequence Spread Spectrum (DSSS)
- IEEE Std 802.11ac with 20/40/80 MHz (HT20/HT40/VHT80) 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 5.350 MHz (UNII-1)
- 5.250 to 5.550 MHz (VHT80 channel width)
- 5.470 to 5.725 GHz (UNII-2 Extends, DFS)

DEFAULT TRANSMIT POWER
- Default transmit power per antenna: 2.4 GHz: 10 dBm, 5.2 GHz: 13 dBm
- Maximum available transmit power per antenna: 2.4 GHz: 20 dBm, 5.2 GHz: 20 dBm
- Transmit power adjustment: 1 dBm increments
- 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></td>
<td></td>
</tr>
<tr>
<td>2.4 GHz, IEEE 802.11g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 GHz, IEEE 802.11n HT20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 GHz, IEEE 802.11n HT40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11a</td>
<td>0</td>
<td>92</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11n HT20</td>
<td>8</td>
<td>90</td>
</tr>
<tr>
<td>5 GHz, IEEE 802.11n HT40</td>
<td>11</td>
<td>90</td>
</tr>
</tbody>
</table>

Analogues
- Four integrated single band omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.6 dBi in 2.4 GHz and 5 dB 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

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

- ICES-003 Class B – issue 4, February 2004
- EN 301 489-1
- EN 301 489-11
- EN50322 Class B – 2006
- EN50024 / AS/NZS CISPR 24 / Immunity
- EN61000-4-2,3,4,5,6
- Japan VCCI Class B
- EN60601-1-2

Radio Compliance Requirements

- RSS-210 Issue 8, December 2010
- EN 300 220 v1.7.1 (2006-05)
- EN 301 908 V1.7.1 (2009-12)
- Japan Radio Law 39-24-1 (Grande) – WW 2.4 GHz band
- Japan Radio Law 39-24-1 (Grande) – WW 5.3 GHz band and YX 5.6 GHz band

Safety Compliance Requirements

- UL 60950-1, 2nd Edition, 2011-12-19
- IEC 60950-1(ed. 2), IEC 60950-1(ed. 2):am1

Environmental Compliance Requirements

- ROHS, Directive 2011/65/EU (RoHS 2)
- WEEE, Directive 2012/19/EU

Ethernet Standards

- Ethernet IEEE 802.3
- Power Over Ethernet IEEE 802.3at PD
- Power Over Ethernet IEEE 802.3af PSE
- Wireless IEEE 802.11a/b/g/htv/ac

CERTIFICATION

- WiFi Certified — IEEE Std 802.11ac/11ac

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.
Fortinet AP Series

HIGHLIGHTS

Fortinet AP1010i, AP1010e, AP1020i and AP1020e

The AP1010 and AP1020 are 802.11a/b/g/n enterprise wireless access points with a 2x2:2 MIMO design. The AP1010 features a single radio and operates on either the 2.4 GHz or 5 GHz band to deliver a maximum data rate of 300 Mbps. The AP1020 features dual radios and operates on the 2.4 GHz and 5 GHz bands to deliver a maximum data rate of 300 Mbps per radio. Both access points offer a choice between internal and external antenna models.

---

802.11n | Single/Dual Radio 2.4/5 GHz | 2 Internal/External Antennas

Up to 300 or 600 Mbps

The AP1010 and AP1020 simultaneously support data, voice, and video applications with superior reliability and predictability in moderate-density environments. They are designed for a broad range of general purpose uses, including classrooms, dormitories, and branch offices.

Radio frequency virtualization delivers plug-and-play deployment, easy capacity expansion, and seamless mobility. Multiple operating modes give you the flexibility to design a wireless network suited to your specific needs. The access points support centralized, distributed and mesh modes.

As key elements of Fortinet’s Virtualized Wireless LAN solution, the AP1010 and AP1020 WiFi access points deliver a superior end-user experience. As with other Fortinet access points, they integrate seamlessly with the System Director wireless operating system and the Fortinet network management suite to bring intelligent management and resilient wireless services to your network.

Benefits

- Supports resource-intensive applications in moderate-density environments
- Simplifies deployment and delivers seamless mobility
- Lets you select from a range of options to suit your needs
- Offers flexible deployment options for diverse uses
- Delivers wireless connectivity with superior reliability and predictability
SPECIFICATIONS FOR AP1010i, AP1010e, AP1020i AND AP1020e

QoS
- WMM support
- 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

SECURITY
- WEP, WPA-PSK, WPA-TKIP, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-SIM, EAP-AKA, and EAP-MD5)
- 802.11a: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 2x2 MIMO with two spatial streams
- 802.11a/g/n: Orthogonal frequency division multiplexing (OFDM) streams; supports both 20 MHz and 40 MHz channel widths

WIRELESS SPECIFICATIONS
Radio Technologies
- AP1010: Single-radio, selectable dual-band 802.11n indoor access point; 2x2 MIMO with two spatial streams; supports both 20 MHz and 40 MHz channel widths
- AP1020: Dual-radio, concurrent dual-band 802.11n indoor access point; 2x2 MIMO with two spatial streams; supports both 20 MHz and 40 MHz channel widths

Supported radio technologies:
- 802.11a: Direct-sequence spread-spectrum (DSSS)
- 802.11b: 1, 2, 5.5, 11
- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 2x2 MIMO with two spatial streams

Modulation
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11n: 2x2 MIMO with two spatial streams
  - 802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)

Supported Frequency Bands
- 2.400–2.485 GHz
- 5.150–5.250 GHz
- 5.355–5.725 GHz
- 5.725–5.875 GHz

Supported Data Rate (Mbps)
- 802.11a: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11b: 1, 2, 5.5, 11
- 802.11n: 6, 9, 12, 18, 24, 36, 48, 54

Configurable Transmission Power
- Transmission power configurable in 1.0 dBm increments

TRANSMIT POWER AND RECEIVE SENSITIVITY (EXTERNAL ANTENNA MODEL)

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
<th>MAXIMUM TRANSMIT POWER (EIRP)</th>
<th>RECEIVE SENSITIVITY AT LOWEST DATA RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE 802.11b</td>
<td>23 dBm</td>
<td>-83 dBm</td>
</tr>
<tr>
<td>EEE 802.11g</td>
<td>20 dBm</td>
<td>-83 dBm</td>
</tr>
<tr>
<td>EEE 802.11a</td>
<td>19 dBm</td>
<td>-86 dBm</td>
</tr>
<tr>
<td>2.4 GHz EEE 802.11n (HT20)</td>
<td>19 dBm</td>
<td>-83 dBm</td>
</tr>
<tr>
<td>2.4 GHz EEE 802.11n (HT40)</td>
<td>19 dBm</td>
<td>-83 dBm</td>
</tr>
<tr>
<td>5 GHz EEE 802.11n (HT20)</td>
<td>17 dBm</td>
<td>-80 dBm</td>
</tr>
<tr>
<td>5 GHz EEE 802.11n (HT40)</td>
<td>16 dBm</td>
<td>-83 dBm</td>
</tr>
</tbody>
</table>

TRANSMIT POWER AND RECEIVE SENSITIVITY (INTERNAL ANTENNA MODEL)

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
<th>MAXIMUM TRANSMIT POWER (EIRP)</th>
<th>RECEIVE SENSITIVITY AT LOWEST DATA RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE 802.11b</td>
<td>22 dBm</td>
<td>-82 dBm</td>
</tr>
<tr>
<td>EEE 802.11g</td>
<td>19 dBm</td>
<td>-82 dBm</td>
</tr>
<tr>
<td>EEE 802.11a</td>
<td>17 dBm</td>
<td>-84 dBm</td>
</tr>
<tr>
<td>2.4 GHz EEE 802.11n (HT20)</td>
<td>18 dBm</td>
<td>-82 dBm</td>
</tr>
<tr>
<td>2.4 GHz EEE 802.11n (HT40)</td>
<td>18 dBm</td>
<td>-82 dBm</td>
</tr>
<tr>
<td>5 GHz EEE 802.11n (HT20)</td>
<td>15 dBm</td>
<td>-84 dBm</td>
</tr>
<tr>
<td>5 GHz EEE 802.11n (HT40)</td>
<td>14 dBm</td>
<td>-81 dBm</td>
</tr>
</tbody>
</table>

PHYSICAL SPECIFICATIONS

Antenna
- AP1010: Two integrated dual-band omnidirectional antennas with typical gain of 4.0 dB for 2.4 GHz and 5.0 dB for 5 GHz
- AP1010e: Two extended reverse polarity SMA connectors. Ships with two omnidirectional rubber duck antennas with typical gain of 2.0 dB for 2.4 GHz and 3.0 dB for 5 GHz. Other external antenna options are available.
- AP1020: Four integrated dual-band omnidirectional antennas with typical gain of 4.0 dB for 2.4 GHz and 5.0 dB for 5 GHz.
- AP1020e: Four extended reverse polarity SMA connectors. Ships with four omnidirectional rubber duck antennas with typical gain of 2.0 dB for 2.4 GHz and 3.0 dB for 5 GHz. Other external antenna options are available.

Power
- 802.3af PoE and 802.3at PoE
- 5V external power adapter (sold separately)

Interfaces
- One RJ45 auto-sensing 10/100/1000BASE-T Ethernet port
- One 10/100/1000BASE-T Ethernet port
- One USB 2.0 port (Type-A)
- One Universal Serial Bus (USB) port

Indicators
- Two status LEDs (on front cover) for power, Ethernet activity, and wireless activity

Mounting
- Wall or ceiling mount
- Storage temperature: -40–158°F (-40–70°C) ambient
- Mount over 15/16” T-bar (no tools required)
- Lock to the access point to a ceiling (for AP1010i and AP1020e)
- Other mounting kits sold separately

Other features:
- One extended reverse polarity SMA connector
- One built-in Kensington security slot (included in AP1010e and AP1020e)
- Lock key to lock the access point to a ceiling (for AP1010i and AP1020e)
- Mountable wall kit (sold separately)
- MNT-SCRMKIT-04, mounting adapter for Interlude/Silhouette T-bars (5-pc package)
- MNT-SCRMKIT-03, mounting adapter for recessed ceiling or narrow T-bars (5-pc package)
- MNT-WMKIT-01, optional lockable wall-mount kit for AP1010i and AP1020i

Dimensions
- AP1010i: 6.50 x 4.50 x 1.50 inches (16.10 x 11.40 x 3.80 cm)
- AP1010e: 6.50 x 4.50 x 1.50 inches (16.10 x 11.40 x 3.80 cm)

Environmental
- Operating temperature: 32–122°F (0–50°C)
- Storage: 0%–95% non-condensing
**SPECIFICATIONS FOR AP1010i, AP1010e, AP1020i AND AP1020e**

**REGULATORY APPROVAL**
- FCC
- EU R&TTE Directive 1995/5/EC
- ICES-003
- VCCI
- ARIB-STD33 & STD66

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

**CERTIFICATIONS**
- WiFi certified 802.11a/b/g/n
- RoHS Compliant
- WEEE Compliant
- REACH Compliant
- UL2043 Compliant (AP1010e and AP1020e only)

**WARRANTY**
Limited lifetime warranty

**PART NUMBERS**
- **AP1010i**
  - Dual-band, selectable single-radio 802.11a/b/g/n access point; includes integrated dual-band antennas
- **AP1010e**
  - Dual-band, selectable single-radio 802.11a/b/g/n access point with two external RPSMA antenna connectors; includes two dual-band rubber duck antennas
- **AP1020i**
  - Dual-band, concurrent dual-radio 802.11a/b/g/n access point; includes integrated dual-band antennas
- **AP1020e**
  - Dual-band, concurrent dual-radio 802.11a/b/g/n access point with four external RPSMA antenna connectors; includes four dual-band rubber duck antennas

**PART NUMBERS**
- **AP1010i**
  - Dual-band, selectable single-radio 802.11a/b/g/n access point; includes integrated dual-band antennas
- **AP1010e**
  - Dual-band, selectable single-radio 802.11a/b/g/n access point with two external RPSMA antenna connectors; includes two dual-band rubber duck antennas
- **AP1020i**
  - Dual-band, concurrent dual-radio 802.11a/b/g/n access point; includes integrated dual-band antennas
- **AP1020e**
  - Dual-band, concurrent dual-radio 802.11a/b/g/n access point with four external RPSMA antenna connectors; includes four dual-band rubber duck antennas

**ANTENNA MODEL**

**AP1010i and AP1020i**

2.4 GHz H-plane

2.4 GHz E-plane

5 GHz H-plane

5 GHz E-plane