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

AP1010i **AP1010e**	802.11n APs with a single dual-band 2.4 GHz/5 GHz radio
AP1020i **AP1020e**	802.11n APs with Dual 2.4 GHz and 5 GHz radios
AP822i **AP822e**	802.11ac APs with Dual 2.4 GHz and 5 GHz radios, 2x2 MIMO
AP832i **AP832e**	802.11ac APs with Dual 2.4 GHz and 5 GHz radios, 3x3 MIMO
OAP832e	Outdoor 802.11ac AP with Dual 2.4 GHz and 5 GHz radios, 3x3 MIMO
AP122	Wall Plate 802.11ac 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 2.4/5 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 means a more cost-effective solution 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

OPERATING MODES

Centralized deployment mode

Distributed deployment mode

MESH mode

Bridge 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-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

Upgrades and management via System Director / Network Manager

Support for SNMP

Concurrent Clients Per Radio (Maximum / Recommended) — 128 / 40

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.x 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)

Supported 2.4 GHz and 5.x GHz for single-band, dual-radio operation; data rate up to 1167 Mbps

IEEE Std 802.11n/a/g/ac with Orthogonal Frequency Division Multiplexing (OFDM)

IEEE Std 802.11b with 5 MHz channels and Direct Sequence Spread Spectrum (DSSS)

IEEE Std 802.11ac WAVE1 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–MCS9 for IEEE Std 802.11ac (NSS=1–2)

Supported MCS0–MCS15 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

Data Rates Supported (Mbps)

IEEE Std 802.11ac two streams: 13.0–866.7 Mbps (MCS0-HT20 @ 800 nS to MCS9-VHT80 @ 400 nS)

IEEE Std 802.11ac per stream: 6.5–433.3 Mbps (MCS0-HT20 @ 800 nS to MCS9-VHT80 @ 400 nS)

IEEE Std 802.11n Two streams: 13.0–300.0 Mbps (MCS8-HT20@800nS to MCS15-HT40@400nS)

IEEE Std 802.11n per stream: 6.5–150.0 Mbps (MCS0-HT20 @ 800nS to MCS7-HT40@400nS)

IEEE Std 802.11a/g: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps

IEEE Std 802.11b: 1, 2, 5.5, and 11 Mbps

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

Antennas

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 dBi in 5 GHz. Antennas are optimized for vertical wall-mounted orientation of the AP.

CONFIGURATION	MAXIMUM CONDUCTIVE POINT TRANSMIT POWER PER STREAM (DBM)	MAXIMUM EIRP PER STREAM (DBM), EXTERNAL ANTENNA SKU	MAXIMUM EIRP PER STREAM (DBM), INTERNAL ANTENNA SKU	RX (DBM)
802.11b	20.0	24.0	23.0	-91
802.11g	19.0	23.0	22.0	-77
802.11n, 2.4 GHz HT20	18.0	22.0	21.0	-73
802.11n, 2.4 GHz HT40	18.0	21.3	21.0	-71
802.11a	18.0	24.0	22.0	-77
802.11n, 5 GHz, HT20	17.0	23.0	21.0	-73
802.11n, 5 GHz, HT40	17.0	23.0	21.0	-70
802.11ac, 5 GHz, HT20	17.0	23.0	21.0	-71
802.11ac, 5 GHz, HT40	16.0	22.0	20.0	-65
802.11ac, 5 GHz, VHT80	16.0	22.0	20.0	-63

PHYSICAL SPECIFICATIONS

Power

Operated at IEEE Std 802.3af power, powered by IEEE Std 802.3af or at PoE (Power over Ethernet) injector or switch

12V external power adapter (sold separately)

Other Interfaces

Networks: One 10/100/1000 BASE-T Ethernet RJ45 uplink (G1), one 10/100/1000 BASE-T Ethernet RJ45 (G2) (disabled), auto-sensing link speed and MDI/MDX

Four RPSMA RF connectors (For AP822e, external antenna SKU)

One RJ45 port (G1) support IEEE Std 802.3af or at PoE

One USB 2.0 port (Type-A) (disabled)

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:

650-00232, 15/16" T-bar & wall-mount combo adapter

650-00233, 9/16" T-bar adapter

Flat-surface wall-mount bracket (used with 650-00232)

840-00126, Wall Mount Hardware Kit (including to 669-00004 space, 665-00085 M3x10 screws, & 665-00102-M3x30 screws)

Option (ordered separately)

One RJ45 Console

CBL-RJ45-ADAPT-X5, GbE extension adapter

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 or AP822e (with mounting bracket): 7.1 x 7.1 x 2.7 inches (18.0 x 18.0 x 6.8 cm)

AP822e without plastic façade: 6.3 x 6.3 x 2.1 inches (16.1 x 16.0 x 5.2 cm)

Weight

AP822i (with mounting bracket): 2.3 lbs (1.1 kg)

AP822e (with mounting bracket): 1.9 lbs (0.9 kg)

AP822e without façade and mounting bracket: 1.5 lbs (0.7 kg)

SPECIFICATIONS

Environmental

Operating temperature: 32–122°F (0–50°C)

Operating humidity: 5–95% non-condensing

Storage temperature: -40–185°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

	MODEL NUMBER	DESCRIPTION
1	MERU-P1633	Internal antenna (Default in AP822i): MERU-P1633 2.4/5.x GHz 3/4 dBi dual-band omnidirectional antenna
2	ANT-01ABGN-0406-O	External antenna (Default in AP822e): ANT-01ABGN-0406-O, 2.4/5 GHz 3.3/6 dBi omnidirectional antenna with a single RP-SMA jack

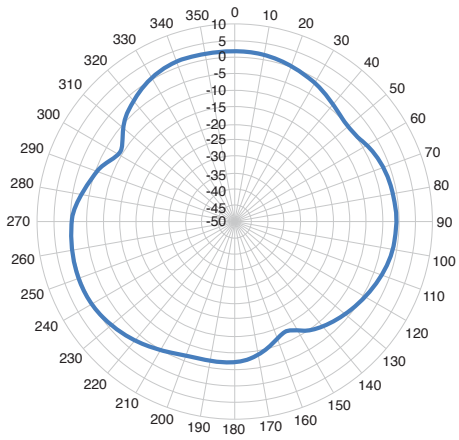
SPECIFICATION OF OPTIONAL EXTERNAL ANTENNAS (SOLD SEPARATELY)

	MODEL NUMBER	DESCRIPTION
1	ANT-ABNG230-W	2.4/5.x GHz 2/3 dBi omnidirectional rubber ducky antenna with a single RP-SMA jack
2	ANT-ABGN-470	2.4/5.x GHz 4.7/4.7 dBi omnidirectional rubber ducky antenna with a single RP-SMA jack
3	ANT-I2ABGN-0304-O	2.4/5.x GHz 3/4 dBi omnidirectional ceiling mount antenna, with 36-inch external coaxial cables and 2x RP-SMA jacks
4	ANT-O4ABGN-0607-PT	2.4/5.x GHz 6/7 dBi directional patch wall/pole-mount antenna, with 36-inch external coaxial cables and 4x RP-SMA jacks

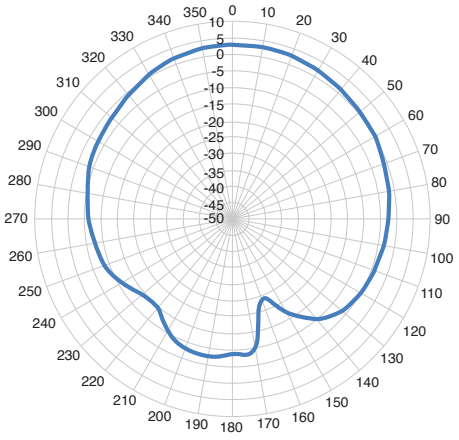
ANTENNA MODEL

AP822i

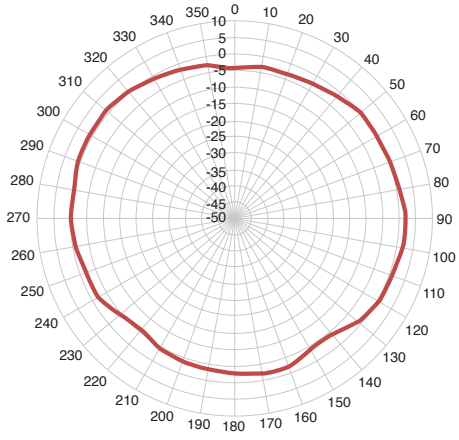
Internal Antenna	2.4–2.5 GHz	4.9–5.9 GHz
Average Antenna Gain	3.3 dBi	6 .0 dBi
Polarization	Linear	Linear
Azimuth Beam-width	360°	360°
Elevation Beam-width	75°	55°
VSWR	1:1.5	1:1.5



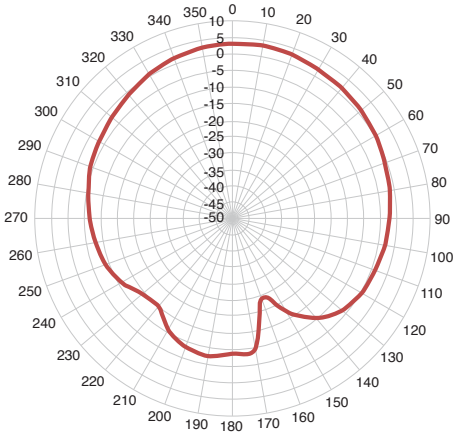
2.4 GHz H-plane



2.4 GHz E-plane



5 GHz H-plane

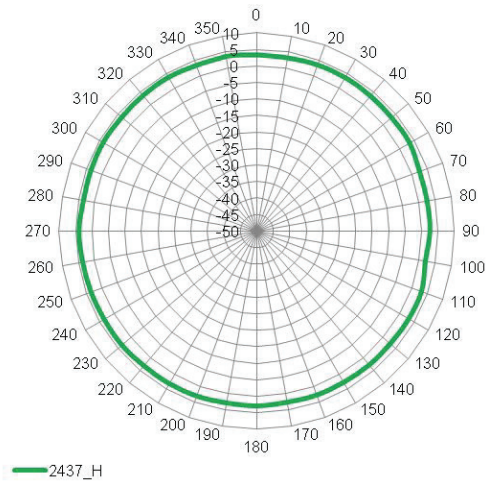


5 GHz E-plane

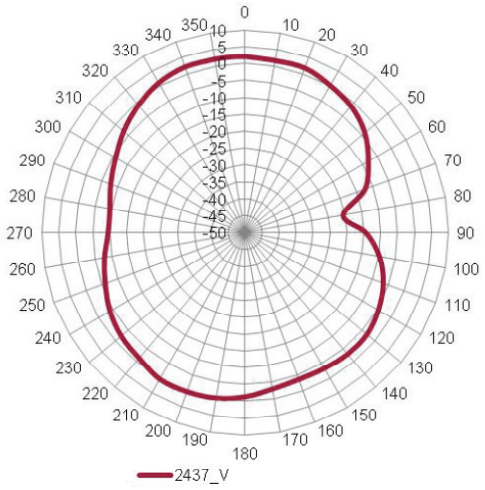
ANTENNA MODEL

AP822e

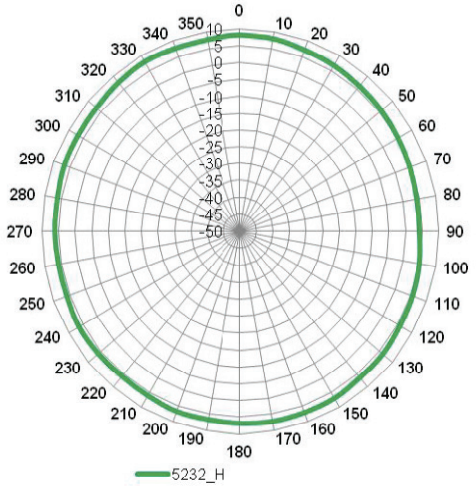
External Antenna	2.4–2.5 GHz	4.9–5.9 GHz
Average Antenna Gain	3.3 dBi	6.0 dBi
Polarization	Linear	Linear
Azimuth Beam-width	360°	360°
Elevation Beam-width	75°	55°
VSWR	1:1.5	1:1.5



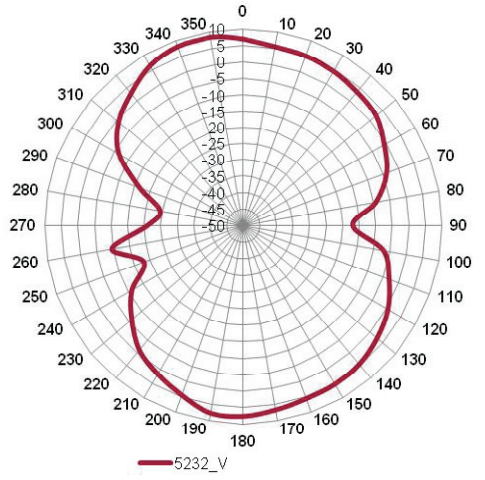
2.4 GHz H-plane



2.4 GHz E-plane



5 GHz H-plane



5 GHz E-plane