FORTINET

DATA SHEET

AP1010 and AP1020

802.11n Wireless Access Points

Fortinet AP1010 and AP1020

Dual-stream 802.11n Wireless Access Points

General purpose, enterprise-class wireless LAN performance

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.

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.

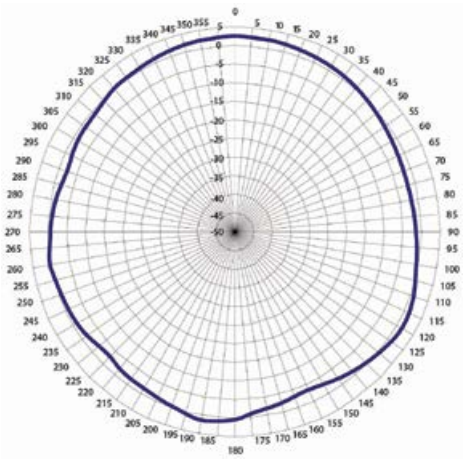
Features

- 802.11a/b/g/n enterprise wireless connectivity
- Radio frequency virtualization
- Choice of single- or dual-radio models, each with internal or external antennas
- Multiple operating modes: centralized, distributed and mesh modes
- Integration with System Director operating system

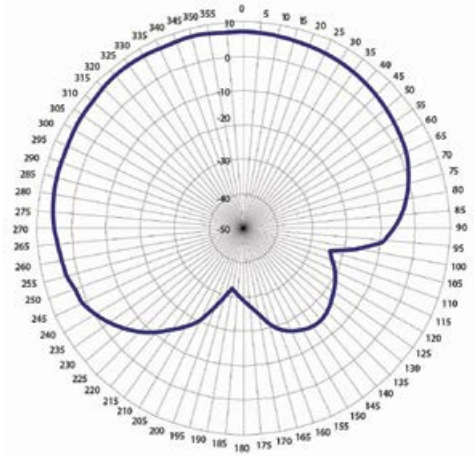
Benefits

- 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

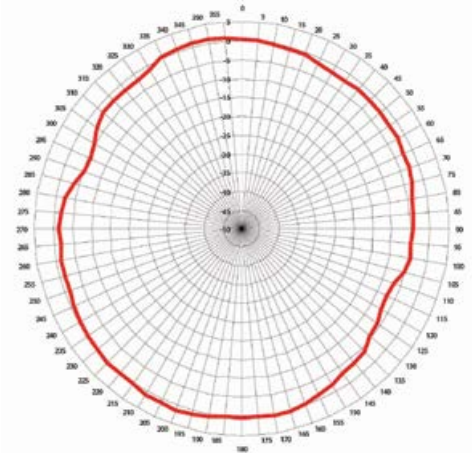
ANTENNA RADIATION PATTERNS (INTERNAL ANTENNA MODEL)



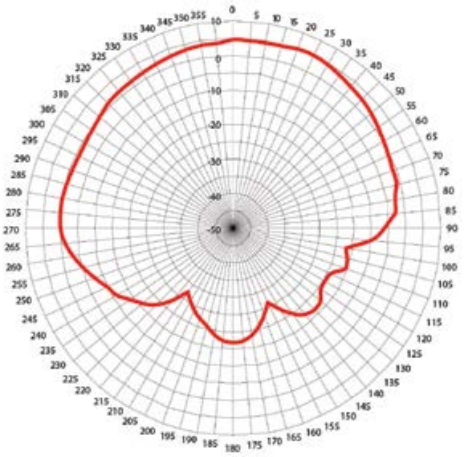
2.4 GHz H-plane



2.4 GHz E-plane



5 GHz H-plane



5 GHz E-plane

SPECIFICATIONS

QOS

WMM support

Dynamic WMM rate adaptation

Configurable QoS rules 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)

802.1X 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

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:

802.11b: Direct-sequence spread-spectrum (DSSS)

802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)

802.11n: 2x2 MIMO with two spatial streams

Modulation

Supported modulation types: 802.11b: BPSK, QPSK, CCK
802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM

Supported Frequency Bands

2.400–2.485 GHz

5.150–5.250 GHz

5.250–5.350 GHz

5.470–5.725 GHz

5.725–5.875 GHz

Country-specific restrictions apply; adjusted by controller upon approval

Platform supports Dynamic Frequency Selection (DFS)

Supported Data Rate (Mbps)

802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54

802.11b: 1, 2, 5.5, 11

802.11n: 6.5–300 (MCS0 to MCS15)

Configurable Transmission Power

Transmission power configurable in 1.0 dBm increments

TRANSMIT POWER AND RECEIVE SENSITIVITY (INTERNAL ANTENNA MODEL)

CONFIGURATION	MAXIMUM TRANSMIT POWER (EIRP)	RECEIVE SENSITIVITY AT LOWEST DATA RATE
IEEE 802.11b	23 dBm	-83 dBm
IEEE 802.11g	20 dBm	-83 dBm
IEEE 802.11a	19 dBm	-86 dBm
2.4 GHz IEEE 802.11n (HT20)	19 dBm	-83 dBm
2.4 GHz IEEE 802.11n (HT40)	19 dBm	-83 dBm
5 GHz IEEE 802.11n (HT20)	17 dBm	-86 dBm
5 GHz IEEE 802.11n (HT40)	16 dBm	-83 dBm

TRANSMIT POWER AND RECEIVE SENSITIVITY (EXTERNAL ANTENNA MODEL)

CONFIGURATION	MAXIMUM TRANSMIT POWER (EIRP)	RECEIVE SENSITIVITY AT LOWEST DATA RATE
IEEE 802.11b	22 dBm	-82 dBm
IEEE 802.11g	19 dBm	-82 dBm
IEEE 802.11a	17 dBm	-84 dBm
2.4 GHz IEEE 802.11n (HT20)	18 dBm	-82 dBm
2.4 GHz IEEE 802.11n (HT40)	18 dBm	-82 dBm
5 GHz IEEE 802.11n (HT20)	15 dBm	-84 dBm
5 GHz IEEE 802.11n (HT40)	14 dBm	-81 dBm

PHYSICAL SPECIFICATIONS

Antenna

AP1010i: Two integrated dual-band omnidirectional antennas with typical gain of 4.0 dBi for 2.4 GHz and 5.0 dBi for 5 GHz

AP1010e: Two extended reverse polarity SMA connectors. Ships with two omnidirectional rubber duck antennas with typical gain of 2.0 dBi for 2.4 GHz and 3.0 dBi for 5 GHz. Other external antenna options are available.

AP1020i: Four integrated dual-band omnidirectional antennas with typical gain of 4.0 dBi for 2.4 GHz and 5.0 dBi for 5 GHz

AP1020e: Four extended reverse polarity SMA connectors. Ships with four omnidirectional rubber duck antennas with typical gain of 2.0 dBi for 2.4 GHz and 3.0 dBi 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 10/100/1000 BASE-T Ethernet (RJ45), auto-sensing link speed and MDI/MDX, with 802.3af PoE

One RJ45 console

One USB 2.0 port (Type-A connector)

One built-in Kensington security slot (included in AP1010e and AP1020e)

AP1010e: Two reverse polarity SMA connectors

AP1020e: Four reverse polarity SMA connectors

Indicators

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

Mounting

Wall or ceiling mount

Access point includes:

Mount over 15/16" T-bar (no tools required)

Lockable wall-mount kit (included in AP1010e and AP1020e)

Lock key to lock the access point to a ceiling (for AP1010i and AP1020i)

Other mounting kits sold separately:

MNT-SCRMKIT-03, mounting adapter for recessed ceiling or narrow T-bars (5-pc package)

MNT-SCRMKIT-04, mounting adapter for Interlude/Silhouette T-bars (5-pc package)

MNT-WMKIT-01, optional lockable wall-mount kit for AP1010i and AP1020i (5-pc package)

Dimensions

AP1010i: 6.75 x 6.50 x 2.50 inches (17.10 x 17.10 x 5.70 cm)

AP1010e: 6.33 x 4.50 x 1.50 inches (16.10 x 11.40 x 3.80 cm)

AP1020i: 6.75 x 6.50 x 2.50 inches (17.10 x 17.10 x 5.70 cm)

AP1020e: 6.50 x 4.50 x 1.50 inches (16.10 x 11.40 x 3.80 cm)

Weight

AP1010i: 0.95 lbs (0.44 kg)

AP1020i: 1.01 lbs (0.46 kg)

AP1010e: 1.08 lbs (0.49 kg)

AP1020e: 1.12 lbs (0.51 kg)

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

SPECIFICATIONS

REGULATORY APPROVAL

FCC

EU R&TTE Directive 1995/5/EC

RS-210

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

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.

GLOBAL HEADQUARTERS
Fortinet Inc.
899 Kifer Road
Sunnyvale, CA 94086
United States
Tel: +1.408.235.7700
www.fortinet.com/sales

EMEA SALES OFFICE
120 rue Albert Caquot
06560, Sophia Antipolis,
France
Tel: +33.4.8987.0510

APAC SALES OFFICE
300 Beach Road 20-01
The Concourse
Singapore 199555
Tel: +65.6513.3730

LATIN AMERICA SALES OFFICE
Prol. Paseo de la Reforma 115 Int. 702
Col. Lomas de Santa Fe,
C.P. 01219
Del. Alvaro Obregón
México D.F.
Tel: 011-52-(55) 5524-8480