FortiAP™-221B Wireless Access Point

Integrated Wireless Security and Access

DATASHEET

The Need for a Fortified Wireless LAN

Enterprises are looking to increase productivity through uninterrupted access to applications and resources, without compromising security and agility. You want to increase visibility and control of your wireless network traffic by enforcing the same policies as your wired network and eliminate potential blind spots. You also need a solution that helps you meet compliance by proactively blocking unauthorized access all while providing tools for business continuity by following industry best practices.

Integrated Wireless Security and Access Solution

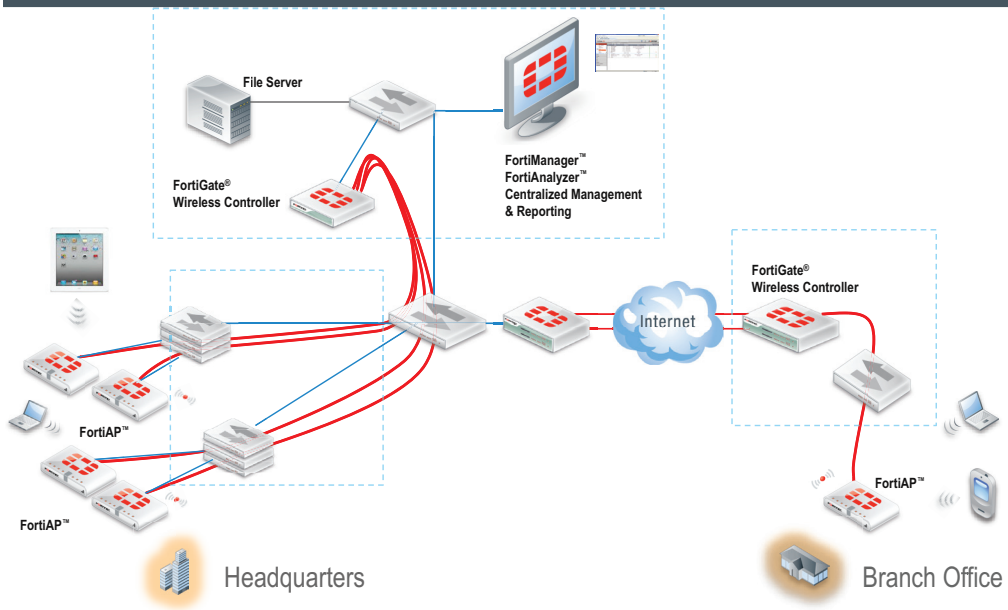
Fortinet's FortiAP-221B wireless thin access point delivers secure, identity-driven WiFi client access that creates a fortified WLAN network. Centrally managed by a FortiGate® or FortiWiFi™ platform with its integrated Wireless Controller, FortiAPs allow you to deploy a comprehensive, integrated security solution for your wireless and wired networks. By acting as a Wireless Controller, FortiGate or FortiWiFi security platforms enable you to deploy comprehensive unified threat management (UTM) protection over your wireless network.

Industry-Leading Wireless Technology

The FAP-221B sports the latest generation of wireless hardware with encompasses a set of advanced technologies and features enabled by 802.11n. This includes Low-density parity check (LDPC) encoding, Maximum likelihood demodulation/Maximum Ratio Combining (MRC)/(MLD), and Transmit beamforming (TxBF). The end result is an impressive increase performance and coverage of ~+100% at short range, ~+50% at mid range and ~+25% at long range.

The FortiAP-221B is IEEE 802.11a/b/g/n standards-based, and operates on both 2.4 GHz b/g/n and 5 GHz a/n spectrums. It utilizes industry leading wireless chip technology that takes advantage of 2x2 MIMO (multiple input multiple output) with dual transmit streams. This MIMO technology allows the FortiAP-221B to reach wireless association rates as high as 300Mbps per radio and enables the coverage to extend more than twice as far as legacy 802.11a/b/g. The FortiAP-221B can support up to eight SSIDs per radio--seven for client access and one for scanning for rogue access points, uses multiple discovery techniques to find available FortiGate controllers over L2 or L3 networks.

FortiAP Deployment Example



High Performance Secure Thin Access Points

- Leverage existing FortiGate or FortiWiFi platforms as controllers for low TCO
- Simultaneous security monitoring and client services
- Supports new directional beam forming for higher performance at extended range
- Full range of authentications and access for all use cases
- Integration with FortiManager and FortiAnalyzer for unified control and reporting
- Fast Roaming for uninterrupted data access
- Automatic Radio Resource Provisioning (ARRP) for optimized throughput
- Flexible deployment options with simple per device pricing
- Layer 7 application QoS for maximum business productivity
- Rogue AP control for PCI DSS compliance

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MEMBER WiFi ALLIANCE™

Differentiating Feature	Benefit
Enterprise Unified Threat Management	Protects your network with the widest range of security and networking technologies seamlessly integrated into a single device: Firewall, IPS, Application Control, VPN, Web Filtering, and many others.
Application-Layer Quality of Service	Going above and beyond Wireless Multimedia Extensions (WME) by offering layer 7 traffic shaping and application use control.
Robust rogue AP control	Industry's most comprehensive monitoring, detection and suppression of rogue APs for PCI DSS compliance.
'Single Pane of Glass' Management Console	Unmatched visibility and control of all wired and wireless network traffic that eliminates blindspots in your security infrastructure and ensures consistent and effective policy enforcement and compliance.
One Access Point, Many Uses	Software reconfiguration allows one radio to be dedicated to wireless air monitoring while the other provides full AP functionality to client; software license allows simultaneous mesh backhaul and remote AP functionality.
TX Beam Forming (TxBF) and Maximal Ratio Combining (MRC)	Leads to wider coverage and optimum performance due to extended Rate over a longer range.

Technical Specifications	FortiAP-221B
Hardware Specifications	
Indoor/Outdoor Deployment	Indoor
Number of Radios	2
Number of Antennas	4 internal
Peak Antenna Gain	3dBi for 2.4Ghz, 4dBi for 5Ghz
Frequency Bands (GHz) *	2.400 - 2.4835, 5.150 - 5.250, 5.250 - 5.350, 5.470 - 5.725, 5.725 - 5.850
Frequency of Radio 1	2.4 GHz b/g/n or 5 GHz a/n (Selectable)
Frequency of Radio 2	2.4GHz IEEE b/g/n
Tx/Rx Streams (802.11n mode)	2x2 MIMO dual spatial stream – 300 Mbps/Radio
Ethernet Port	1 x 10/100/1000
Serial Console Port	None
Power over Ethernet (PoE)	IEEE 802.3af (15.4W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)
Simultaneous SSIDs	16 (14 for client access, 2 for monitoring)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/ EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	17dBm (50mW)
Physical Security	Kensington Lock
Mean Time Between Failures	595,548 hours (68 years)
IEEE Specifications	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1X, 802.3af
802.11n Features	· 20Mhz and 40Mhz High-Throughput (HT) Support · Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation · Conserve power via Dynamic MIMO power save
Advanced 802.11n to enhance rate-over-range including:	· Low-density parity check (LDPC) encoding · Maximum likelihood demodulation (MLD) · Transmit beamforming (TxBF) · Maximum Ratio Combining (MRC) for improved receiver performance

Technical Specifications	FortiAP-221B
Dimensions	
Diameter x Height	6.5 in (16.51 cm) x 1.2 in (3 cm)
Access Point Weight	10.3 oz (300 g)
Package (shipping) Weight	19.5 oz (550 g)
Mounting Options	Drywall Mount anchors, T-Rail Mount and Ceiling mount are included in package
Environment	
Power Adapter **	Adapter Input 100-240V 50/60Hz 0.4A Output: 12V DC 1.25A –center positive
Humidity	10% to 90% non condensing
Operating Temperature	32 – 104 ˚F (0 – 40 ˚C)
Storage Temperature	-4 – 158 ˚F (-20 – 70 ˚C)`
Target Application	Simultaneous AP and dedicated air monitor or concurrent 2.4Ghz and 5Ghz AP with background scan.
Directives	Low Voltage Directive • RoHS

Declaration of Conformity	
Organization	Compliance Identifier
CB	IEC 60950-1:2005
UL	UL 60950-1, CSA C22.2 No. 60950-1-07
FCC	FCC Part 15, Class B and Subpart C &E ICES-003
CE	RR&TTE Directive 1999/5/EC EN 300 328 /EN 301 489/ EN 301 893 EN 50385
	EU Directive 2004/108/EC EMC EU Directive 2006/95/EC LVD EN 55022/ EN 55024/EN 61000
IC	Canada RSS-210 Issue 7 Canada RSS-Gen Issue 2
	RSS102, Issue 4

* Frequency selection may be restricted to abide by regional regulatory compliance laws.

** Sold separately. See price list.

RF RX/TX Performance Table						
	Radio 1				Radio 2	
	2.4 GHz		5GHz		2.4 GHz	
802.11 a/g	Tx Power	Rx Sensitivity	Tx Power	Rx Sensitivity	Tx Power	Rx Sensitivity
6 Mbps	20	-96	20	-94	20	-88
9 Mbps	19	-93	19	-92	20	-88
12 Mbps	19	-90	19	-90	20	-86
18 Mbps	19	-87	19	-83	20	-84
24 Mbps	19	-85	19	-80	20	-80
36 Mbps	18	-82	18	-77	19	-77
48 Mbps	18	-78	18	-76	19	-74
54 Mbps	17	-77	17	-73	18	-72
802.11n HT20						
MCS0	20	-91	20	-92	20	-92
MCS1	19	-91	19	-90	20	-90
MCS2	19	-88	19	-87	20	-87
MCS3	19	-85	19	-85	20	-85
MCS4	19	-83	19	-82	20	-82
MCS5	18	-80	18	-79	19	-78
MCS6	18	-78	18	-76	19	-77
MCS7	17	-76	17	-74	18	-74
802.11n HT40						
MCS0 /8	20	-91	20	-91	20	-92
MCS1 /9	19	-90	19	-88	20	-89
MCS2 /10	19	-87	19	-85	20	-86
MCS3 /11	19	-82	19	-82	20	-83
MCS4 /12	19	-70	19	-79	20	-80
MCS5 /13	18	-76	18	-76	19	-77
MCS6 14	18	-74	18	-74	19	-74
MCS7 /15	17	-71	17	-72	18	-71

All power values are in dBm.

Ordering Information		
Product	**SKU**	**Description**
FortiAP-221B	FAP-221B	Dual Band - Single radio controller-based thin access point - supports 802.11 a/b/g/n. 802.3af PoE power option.
	FC-10-P0223-311-02-DD	8x5 Enhanced FortiCare.
	FC-10-P0223-247-02-DD	24x7 Comprehensive FotiCare.
GPI-115 PoE	GPI-115	Fortinet 1-Port Gigabit POE Power Injector, 802.3af 15.4Watts 10/100/1000 (PD-3501).
FortiPlanner	N/A	Access point deployment planning software. Visit http://wireless.fortinet.com/ for download and further information.
	FAP-FPL-PRO	Unlimited AP placement.

Region/Country SKU Suffix*									
Americas-FCC	China	Europe ETSI	International	Japan	Korea	Non-FFCA	Singapore	Taiwan	World 2.4G
-A	-C	-E	-I	-J	-K	-N	-S	-T	-W

*For the complete list of countries and regions, refer to http://www.fortinet.com/wireless.

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