FortiAP-S™ Series
Indoor Access Points
Secure Cloud-managed
Wireless LAN Access Points

FortiAP-S Series Indoor Access Points

FortiAP S311C, S313C, S321C and S323C

Secure Cloud-managed Wireless LAN Access Points

The FortiAP-S series are cloud-managed access points designed for deployment in SMBs and distributed enterprise remote sites. Managed through the free FortiCloud provisioning and management portal, they eliminate the CAPEX and complexity of deploying WLAN controllers and management servers. Two models come with 3x3 internal antennas, and two are equipped with connectors for use with external directional or panel antennas.

Cloud WiFi with Comprehensive Threat Protection

Unlike any other access points on the market, they are equipped with extra memory and a powerful dual-core processor, which enable them to perform real-time security processing on the AP itself, providing complete protection against all manner of WiFi and cyber-threats at the network edge. With Fortinet's award winning security technology embedded in the AP, the FortiAP-S series provides the most compact solution for complete content and application security in a Cloud WiFi architecture. This has significant implications for ease-of-deployment, operational efficiency and total cost of ownership.

Key Features & Benefits

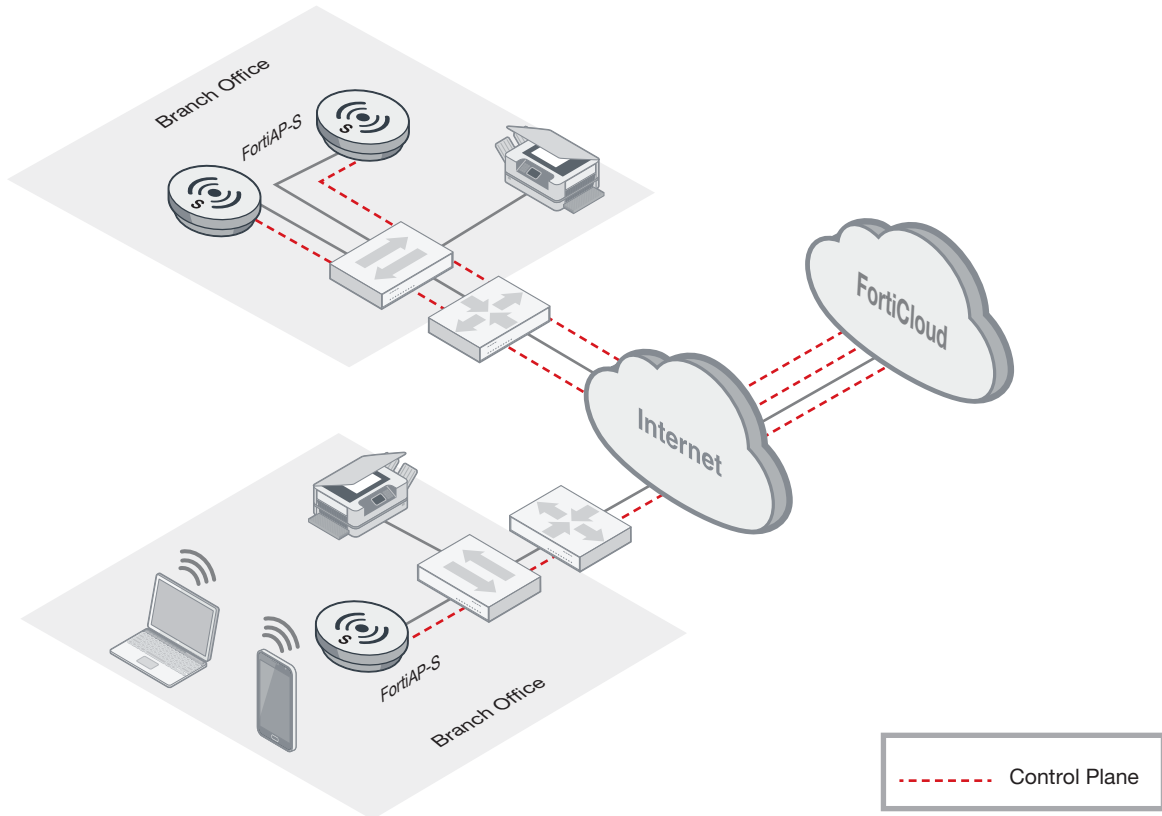|	
Benefits of Cloud Management Without Sacrificing Security	Combines the low CAPEX and convenience of cloud management, with cloud-provided threat protection, delivered through regular FortiGuard updates.
Advanced Security Protection Embedded in the AP	On-board IPS, antivirus scanning, web-filtering and application control, protects all users and devices from the latest security threats.
Integrated WIDS and Rogue AP Suppression	Protects the network from advanced wireless threats to satisfy PCI DSS compliance. PCI-DSS compliance reports available through FortiCloud.

Highlights

- Industry's most compact solution for WiFi access with layer 7 security

- Provisioned and managed remotely from the cloud through FortiCloud

- No recurring per AP licenses for full-featured cloud-management

- No hidden feature licenses for enterprise-grade WiFi capabilities

- Layer 7 application control to optimize bandwidth utilization

- Rogue AP detection and mitigation to satisfy PCI DSS compliance

- Latest 802.11ac technology with association rate of up to 1.3 Gbps

a b g n ac

FortiCare Worldwide 24x7 Support
support.fortinet.com

FortiGuard Security Services
www.fortiguard.com

DEPLOYMENT

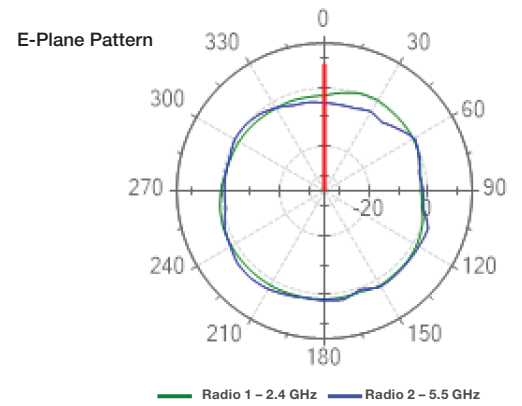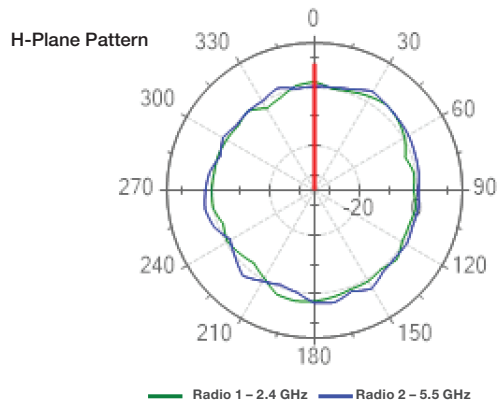**Cloud-managed FortiAP-S deployed at remote sites**
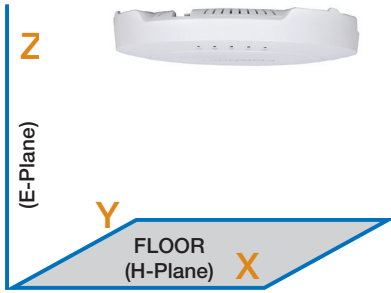

------- Control Plane

Fortinet approach to secure cloud-managed WiFi

Traditional Cloud Solution	Fortinet Cloud Solution	
Connection	Connection	1. Initial WiFi Connection
Credential Lookup	Credential Lookup	2. Lookup user in FortiCloud or RADIUS
Authentication	Authentication	3. Auth via Captive Portal, 802.1X, PSK
Gap in Security Protection	IPS, AV, Botnet	4. Scan with IPS, AV and botnet engine
	URL Filter, App Control	5. Allow/block URLs and apps
Continue to Wire	Continue to Wire	6. Only clean traffic continues to wire

ANTENNA RADIATION PATTERNS

FAP-S311C

H-Plane Pattern

E-Plane Pattern

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

FAP-S313C

H-Plane Pattern

E-Plane Pattern

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

FAP-S321C

H-Plane Pattern

E-Plane Pattern

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

FAP-S323C

H-Plane Pattern

E-Plane Pattern

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz

Radio 1 – 2.4 GHz Radio 2 – 5.5 GHz
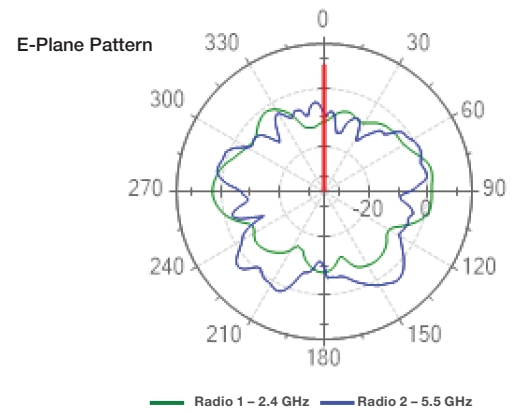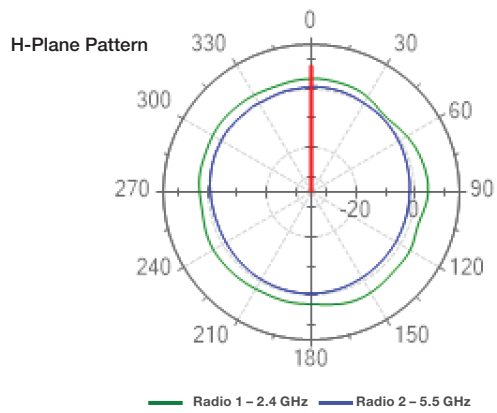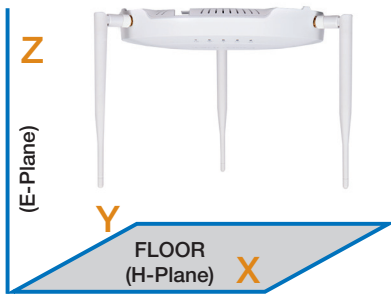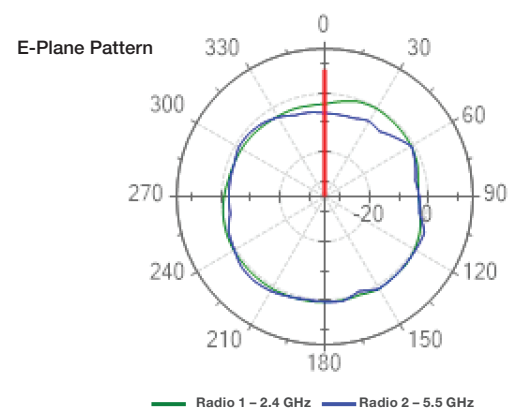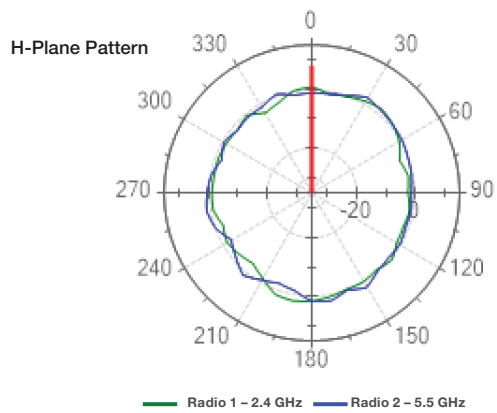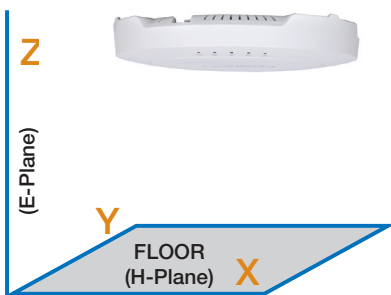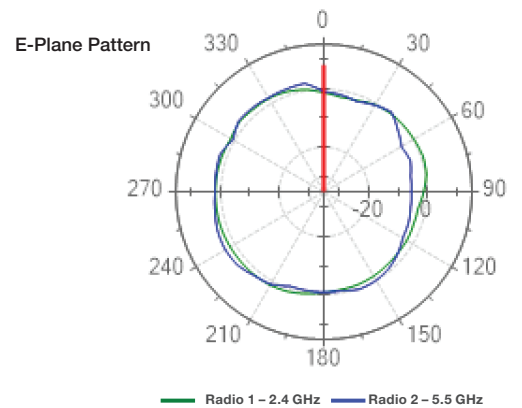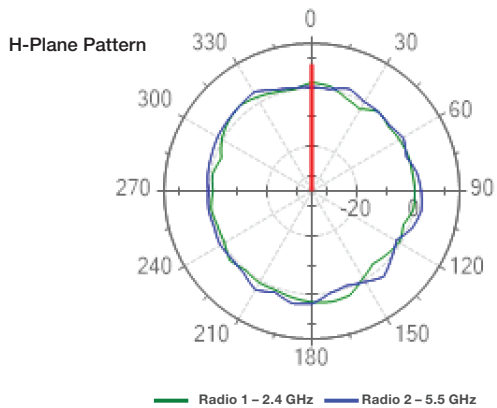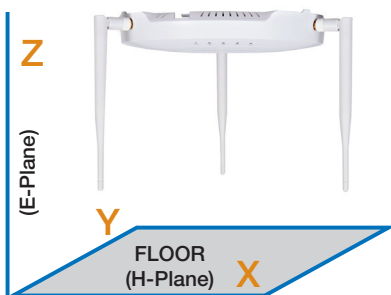
RF RX/TX PERFORMANCE TABLE

	FORTIAP S321 RADIO 1		RADIO 2		FORTIAP S323 RADIO 1		RADIO 2		FORTIAP S311 RADIO 1		RADIO 2		FORTIAP S313 RADIO 1		RADIO 2	
802.11 a/g	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	17.5	-90	20	-92	17.5	-90	20	-92	19	-88	15	-88	19	-88	15	-88
9 Mbps	17.5	-89	20	-91	17.5	-89	20	-91	19	-85	15	-85	19	-85	15	-85
12 Mbps	17.5	-87	20	-89	17.5	-87	20	-89	19	-83	15	-83	19	-83	15	-83
18 Mbps	17.5	-85	20	-87	17.5	-85	20	-87	19	-81	15	-81	19	-81	15	-81
24 Mbps	17.5	-82	20	-83	17.5	-82	20	-83	19	-79	15	-79	19	-79	15	-79
36 Mbps	17.5	-79	20	-79	17.5	-79	20	-79	17.5	-77	15	-77	17.5	-77	15	-77
48 Mbps	17.5	-75	20	-76	17.5	-75	20	-76	16.5	-75	15	-75	16.5	-75	15	-75
54 Mbps	17.5	-74	18	-75	17.5	-74	18	-75	14	-73	14	-73	14	-73	14	-73
802.11n HT20																
MCS 0/8/16	17.5	-90	20	-92	17.5	-90	20	-92	19	-89	15	-89	19	-90	15	-89
MCS 1/9/17	17.5	-87	20	-89	17.5	-87	20	-89	19	-89	15	-89	19	-87	15	-89
MCS 2/10/18	17.5	-85	20	-86	17.5	-85	20	-86	19	-86	15	-86	19	-85	15	-86
MCS 3/11/19	17.5	-83	20	-82	17.5	-83	20	-82	18	-83	15	-83	18	-83	15	-83
MCS 4/12/20	17.5	-79	20	-78	17.5	-79	20	-78	18	-80	15	-80	18	-79	15	-80
MCS 5/13/21	17.5	-74	20	-74	17.5	-74	20	-74	18	-77	14	-77	18	-74	14	-77
MCS 6/14/22	17.5	-73	20	-73	17.5	-73	20	-73	15	-74	13	-74	15	-73	13	-74
MCS 7/15/23	17.5	-72	18	-72	17.5	-72	18	-72	13	-71	13	-71	13	-72	13	-71
802.11n HT40																
MCS 0/8/16	16.5	-87	19	-89	14.5	-87	19	-89	15	-85	14.5	-85	12	-85	16.5	-85
MCS 1/9/17	16.5	-84	19	-86	14.5	-84	19	-86	15	-83	14.5	-83	12	-83	16.5	-83
MCS 2/10/18	16.5	-82	19	-83	14.5	-82	19	-83	15	-81	14.5	-81	12	-81	16.5	-81
MCS 3/11/19	16.5	-79	19	-80	14.5	-79	19	-80	15	-79	14.5	-79	12	-79	16	-79
MCS 4/12/20	16.5	-76	19	-76	14.5	-76	19	-76	15	-76	14.5	-76	12	-76	16	-76
MCS 5/13/21	16.5	-71	19	-72	14.5	-71	19	-72	15	-74	13	-74	12	-74	13	-74
MCS 6/14/22	16.5	-70	19	-71	14.5	-70	19	-71	15	-71	12	-71	12	-71	12	-71
MCS 7/15/23	16.5	-69	18	-70	14.5	-69	18	-70	13	-69	12	-69	12	-69	12	-69
802.11 ac VHT20																
MCS 0			20	-92			20	-92			15	-90			15	-90
MCS 1			20	-89			20	-89			15	-87			15	-87
MCS 2			20	-86			20	-86			15	-87			15	-87
MCS 3			20	-82			20	-82			15	-84			15	-84
MCS 4			20	-78			20	-78			15	-81			15	-81
MCS 5			20	-74			20	-74			14	-77			14	-77
MCS 6			20	-73			20	-73			13	-74			13	-74
MCS 7			18	-72			18	-72			13	-71			13	-71
MCS 8			16	-67			16	-67			12	-67			12	-67
802.11 ac VHT40																
MCS 0			19	-89			19	-89			14.5	-85			16.5	-85
MCS 1			19	-86			19	-86			14.5	-83			16.5	-83
MCS 2			19	-83			19	-83			14.5	-80			16.5	-80
MCS 3			19	-80			19	-80			14.5	-77			16	-77
MCS 4			19	-76			19	-76			14.5	-75			16	-75
MCS 5			19	-72			19	-72			13	-72			13	-72
MCS 6			19	-71			19	-71			12	-70			12	-70
MCS 7			18	-70			18	-70			12	-68			12	-68
MCS 8			16	-65			16	-65			11	-65			11	-65
MCS 9			15	-63			15	-63			11	-63			11	-63
802.11 ac VHT80																
MCS 0			19	-86			19	-86			14.5	-83			16	-83
MCS 1			19	-83			19	-83			14.5	-80			16	-80
MCS 2			19	-80			19	-80			14.5	-78			16	-78
MCS 3			19	-77			19	-77			14.5	-76			15	-76
MCS 4			19	-73			19	-73			14.5	-73			15	-73
MCS 5			19	-69			19	-69			12	-70			12	-70
MCS 6			19	-68			19	-68			11	-68			11	-68
MCS 7			18	-66			18	-66			11	-66			11	-66
MCS 8			16	-62			16	-62			10	-63			10	-63
MCS 9			15	-60			15	-60			10	-61			10	-61

SPECIFICATIONS

	FortiAP-S311C	FortiAP-S313C	FortiAP-S321C	FortiAP-S323C
Hardware				
Hardware Type	Indoor	Indoor	Indoor	Indoor
Number of Radios	1	1	2	2
Number of Antennas	3 internal	3 RP-SMA External	3 internal	3 RP-SMA External
Peak Antenna Gain	3.5 dBi for 2.4 GHz, 6 dBi for 5 GHz	3 dBi for 2.4 GHz, 3 dBi for 5 GHz	3.5 dBi for 2.4 GHz, 6 dBi for 5 GHz	3 dBi for 2.4 GHz, 3 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	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/ac	2.4 GHz b/g/n or 5 GHz a/n/ac	2.4 GHz b/g/n	2.4 GHz b/g/n
Frequency of Radio 2	—	—	5 GHz a/n/ac	5 GHz a/n/ac
Throughput	Up to 1300 Mbps	Up to 1300 Mbps	Radio 1: Up to 450 Mbps, Radio 2: Up to 1300 Mbps	Radio 1: Up to 450 Mbps, Radio 2: Up to 1300 Mbps
Tx/Rx Streams	3x3 MIMO with 3 spatial streams	3x3 MIMO with 3 spatial streams	3x3 MIMO with 3 spatial streams	3x3 MIMO with 3 spatial streams
Ethernet Ports	1x GE RJ45	1x GE RJ45	1x GE RJ45	1x GE RJ45
USB Port	1x Type A	1x Type A	1x Type A	1x Type A
Serial Console Port	1x RJ45	1x RJ45	1x RJ45	1x RJ45
Power over Ethernet (PoE)	IEEE 802.3at (25.5 W)	IEEE 802.3at (25.5 W)	IEEE 802.3at (25.5 W)	IEEE 802.3at (25.5 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	Yes (4 priority queues for voice, video, data and background traffic)	Yes (4 priority queues for voice, video, data and background traffic)	Yes (4 priority queues for voice, video, data and background traffic)
Simultaneous SSIDs	16 (14 if background scanning enabled)	16 (14 if background scanning enabled)	16 (14 if background scanning enabled)	16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	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	WPA™ and WPA2™ with 802.1X or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist	WPA™ and WPA2™ with 802.1X or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist	WPA™ and WPA2™ with 802.1X or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	19 dBm (80 mW)*	19 dBm (80 mW)*	20 dBm (100 mW)*	20 dBm (100 mW)*
Physical Security	Kensington Lock	Kensington Lock	Kensington Lock	Kensington Lock
Mean Time Between Failures	>10 Years	>10 Years	>10 Years	>10 Years
IEEE Specifications	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1X, 802.3af, 802.11ac	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1X, 802.3af, 802.11ac	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1X, 802.3af, 802.11ac	802.11a, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1X, 802.3af, 802.11ac
802.11ac 80MHz Channel	Yes	Yes	Yes	Yes
802.11n Features	20 MHz and 40 MHz High-Throughput (HT) Support	20 MHz and 40 MHz High-Throughput (HT) Support	20 MHz and 40 MHz High-Throughput (HT) Support	20 MHz and 40 MHz High-Throughput (HT) Support
	Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation	Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation	Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation	Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation
	Conserve power via Dynamic MIMO power save	Conserve power via Dynamic MIMO power save	Conserve power via Dynamic MIMO power save	Conserve power via Dynamic MIMO power save
Advanced 802.11n to enhance rate-over-range including:	Low-density parity check (LDPC) encoding	Low-density parity check (LDPC) encoding	Low-density parity check (LDPC) encoding	Low-density parity check (LDPC) encoding
	Maximum likelihood demodulation	Maximum likelihood demodulation	Maximum likelihood demodulation	Maximum likelihood demodulation
	Maximum Ratio Combining (MRC) for improved receiver performance	Maximum Ratio Combining (MRC) for improved receiver performance	Maximum Ratio Combining (MRC) for improved receiver performance	Maximum Ratio Combining (MRC) for improved receiver performance
Mounting Options	Ceiling, T-Rail and wall	Ceiling, T-Rail and wall	Ceiling, T-Rail and wall	Ceiling, T-Rail and wall
Included Accessories	Ceiling, T-Rail and wall mount kit	Ceiling, T-Rail and wall mount kit	Ceiling, T-Rail and wall mount kit	Ceiling, T-Rail and wall mount kit
FortiPresence Capable	No	No	No	No
Wireless Mesh Capable	No	No	No	No
Wireless Monitoring Capabilities				
Frequencies scanned	2.4 and 5 GHz	2.4 and 5 GHz	2.4 and 5 GHz	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes	Yes	Yes	Yes
Full-time scan as dedicated monitor	Yes	Yes	Yes	Yes
Full-time scan with client access on 5G GHz	No	No	No	No
Dimensions				
Length x Width x Height	8.5 x 8.5 x 1.38 inches (21.6 x 21.6 x 3.5 cm)	8.5 x 8.5 x 1.38 inches (21.6 x 21.6 x 3.5 cm)	8.5 x 8.5 x 1.38 inches (21.6 x 21.6 x 3.5 cm)	8.5 x 8.5 x 1.38 inches (21.6 x 21.6 x 3.5 cm)
Weight	1.02 lb (0.46 kg)	1.02 lb (0.46 kg)	1.06 lb (0.48 kg)	1.06 lb (0.48 kg)
Package (shipping) Weight	1.94 lb (0.88 kg)	1.94 lb (0.88 kg)	2.05 lb (0.93 kg)	2.05 lb (0.93 kg)

FORTINET

SPECIFICATIONS

	FortiAP-S311C	FortiAP-S313C	FortiAP-S321C	FortiAP-S323C
Environment				
Power Supply	Adapter input: 100–240 V, 50/60Hz, 0.9A. Max output: 12V DC, 3A	Adapter input: 100–240V, 50/60Hz, 0.9A. Max output: 12V DC, 3A	Adapter input: 100–240V, 50/60Hz, 0.9A. Max output: 12V DC, 3A	Adapter input: 100–240V, 50/60Hz, 0.9A. Max output: 12V DC, 3A
Power Consumption (Average / Maximum)	3.72 W / 18 W	3.72 / 18 W	4.56 W / 25.2 W	4.56 W / 25.2 W
Humidity	5–90% non condensing	5–90% non condensing	5–90% non condensing	5–90% non condensing
Operating Temperature	32–104°F (0–40°C)	32–104°F (0–40°C)	32–104°F (0–40°C)	32–104°F (0–40°C)
Storage Temperature	-4–158°F (-20–70°C)	-4–158°F (-20–70°C)	-4–158°F (-20–70°C)	-4–158°F (-20–70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
Certifications				
WiFi Alliance Certified	No	No	No	No
Warranty				
Limited Lifetime Warranty	Yes	Yes	Yes	Yes

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

ORDER INFORMATION

Product	SKU	Description
FortiAP-S311C	FAP-S311C	Indoor Cloud Managed Wireless AP — 1x GE RJ45 LAN port, single radio with internal antennas (802.11 a/b/g/n/ac, 3x3 MIMO), ceiling/wall mount kit included, power adapter not included. Includes FortiCloud AP Management License and Limited Lifetime Warranty. For Gigabit PoE injector order: GPI-130. For AC power adapter order: SP-FG20C-PA.
	FC-10-P0311-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P0311-311-02-DD	8x5 FortiCare Contract
	FC-10-P0311-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-S311C
FortiAP-S313C	FAP-S313C	Indoor Cloud Managed Wireless AP — 1x GE RJ45 LAN port, single radio with external antennas (802.11 a/b/g/n/ac, 3x3 MIMO), ceiling/wall mount kit included, power adapter not included. Includes FortiCloud AP Management License and Limited Lifetime Warranty. For Gigabit PoE injector order: GPI-130. For AC power adapter order: SP-FG20C-PA.
	FC-10-P0313-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P0313-311-02-DD	8x5 FortiCare Contract
	FC-10-P0313-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-S313C
FortiAP-S321C	FAP-S321C	Indoor Cloud Managed Wireless AP — 1x GE RJ45 LAN port, dual radio with internal antennas (802.11 a/n/ac and 802.11 b/g/n, 3x3 MIMO), ceiling/wall mount kit included, power adapter not included. Includes FortiCloud AP Management License and Limited Lifetime Warranty. For Gigabit PoE injector order: GPI-130. For AC power adapter order: SP-FG20C-PA. Region Code A.
	FC-10-P0323-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P0323-311-02-DD	8x5 FortiCare Contract
	FC-10-P0323-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-S321C
FortiAP-S323C	FAP-S323C	Indoor Cloud Managed Wireless AP — 1x GE RJ45 LAN port, dual radio with external antennas (802.11 a/n/ac and 802.11 b/g/n, 3x3 MIMO), ceiling/wall mount kit included, power adapter not included. Includes FortiCloud AP Management License and Limited Lifetime Warranty. For Gigabit PoE injector order: GPI-130. For AC power adapter order: SP-FG20C-PA.
	FC-10-P0324-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P0324-311-02-DD	8x5 FortiCare Contract
	FC-10-P0324-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-S323C
Gigabit PoE Injector	GPI-130	1-Port Gigabit PoE Power Injector, 802.3at up to 30W.
FortiAP-FPL	FAP-FPL-PRO	FortiPlanner Wireless AP Deployment Planning Utility — Pro upgrade license unlocks FortiPlanner Lite (free version) to support more than 50 Access Points and includes site survey tool. Requires Windows 7.

REGION/COUNTRY SKU SUFFIX*								
Americas-FCC	Europe ETSI	International	Japan	Korea	Non-FFCA	Singapore	Taiwan	World 2.4G
-A	-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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