

FortiAP-S Series

Smart Access Points

The FortiAP-S Series are the first Access Points of their kind to have a Next Generation Firewall built in. They are equipped with extra memory and a powerful processor that enables them to perform real-time security processing on the AP, providing complete protection against all manner of WiFi and cyber-threats at the network edge. **With Fortinet's award-winning security technology, the FortiAP-S series provides the most compact solution for complete content and application security in a WiFi architecture.**



Cloud Management

Combines the low CAPEX and convenience of cloud management, with cloud-provided threat protection, delivered through regular FortiGuard updates.



Advanced Security Protection

On-board IPS, antivirus scanning, web-filtering and application control, protects all users and devices from the latest security threats.



Built-in WiFi Security

Protects the network from advanced wireless threats to satisfy PCI DSS compliance. PCI-DSS compliance reports available through FortiCloud.

Product Offerings

FAP-S311C 802.11ac Wave 1 APs with a single dual-band 2.4 GHz/5 GHz radio

FAP-S313C

FAP-S321C

FAP-S321CR 802.11ac Wave 1 APs with dual 2.4 GHz and 5 GHz radios

FAP-S323C

FAP-S323CR

FAP-S322C Outdoor 802.11ac Wave 1 APs, dual radios with a variety of external antenna options

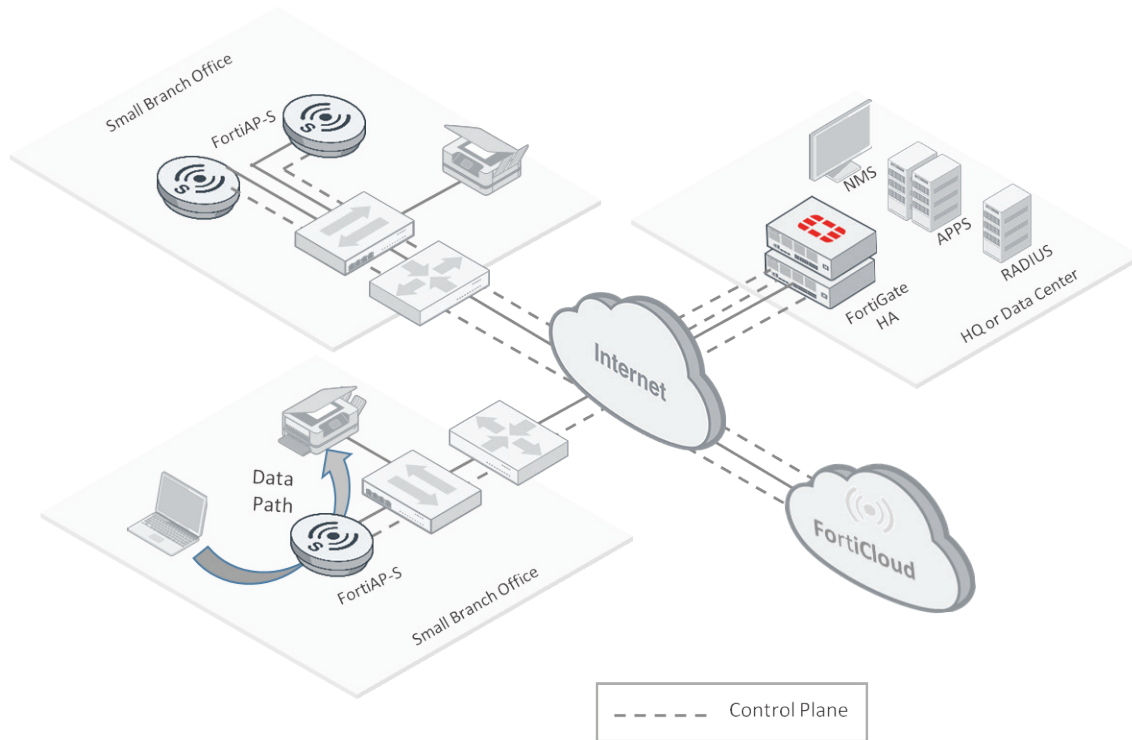
FAP-S322CR

FAP-S421E 802.11ac Wave 2 APs with dual 2.4 GHz and 5 GHz radios

FAP-S423E

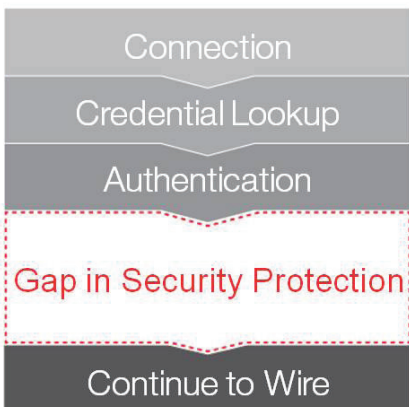
FAP-S422E Outdoor 802.11ac Wave 2 APs with dual 2.4 GHz and 5 GHz radios with a variety of external antenna options

DEPLOYMENT

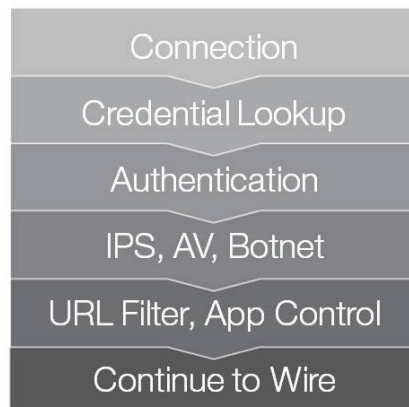


Cloud-managed and FortiGate-managed FAP-S series at remote sites

Traditional Cloud Solution



Fortinet Cloud Solution



1. Initial WiFi Connection
2. Lookup user in FortiCloud or RADIUS
3. Auth via Captive Portal, 802.1X, PSK
4. Scan with IPS, AV and botnet engine
5. Allow/block URLs and apps
6. Only clean traffic continues to wire

Fortinet approach to secure cloud-managed WiFi

HIGHLIGHTS

FortiAP S311C and S313C

The FAP-S311C and FAP-S313C are 802.11ac Wave 1 access points. These access points have security built in and offer flexible management options by FortiCloud or FortiGate. They have a single dual-band radio meant for low density environments; ideal for small remote sites.



802.11ac Wave 1 | Single Radio 2.4/5 GHz | 3 Internal/External Antennas



Up to 1,300 Mbps



SPECIFICATIONS

	FORTIAP S311C	FORTIAP S313C
Hardware		
Hardware Type	Indoor	Indoor
Number of Radios	1	1
Number of Antennas	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
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
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
Frequency of Radio 2	—	—
Throughput	Up to 1300 Mbps	Up to 1300 Mbps
Tx/Rx Streams	3x3 MIMO with 3 spatial streams	3x3 MIMO with 3 spatial streams
Ethernet Ports	1x GE RJ45	1x GE RJ45
USB Port	1x Type A	1x Type A
Serial Console Port	1x RJ45	1x RJ45
Power over Ethernet (PoE)	IEEE 802.3af (12.9 W), 802.3at (for USB)	
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	
Simultaneous SSIDs	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	
User/Device Authentication	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)*
Physical Security	Kensington Lock	Kensington Lock
Mean Time Between Failures	>20 Years	>20 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	
802.11ac 80MHz Channel	Yes	Yes
802.11n Features	<ul style="list-style-type: none"> • 20 MHz and 40 MHz 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:	<ul style="list-style-type: none"> • Low-density parity check (LDPC) encoding • Maximum likelihood demodulation • Maximum Ratio Combining (MRC) for improved receiver performance 	
Mounting Options	Ceiling, T-Rail and wall	Ceiling, T-Rail and wall

	FORTIAP S311C	FORTIAP S313C
Included Accessories	Ceiling, T-Rail and wall mount kit	Ceiling, T-Rail and wall mount kit
FortiPresence Capable	Yes	Yes
Wireless Monitoring Capabilities		
Frequencies scanned	2.4 and 5 GHz	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes	Yes
Full-time scan as dedicated monitor	Yes	Yes
Full-time scan with client access on 5G GHz	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)
Weight	1.02 lb (0.46 kg)	1.02 lb (0.46 kg)
Package (shipping) Weight	1.94 lb (0.88 kg)	1.94 lb (0.88 kg)
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
Power Consumption (Average / Maximum)	3.72 W / 18 W	3.72 / 18 W
Humidity	5–90% non condensing	5–90% non condensing
Operating Temperature	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)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
Warranty		
Limited Lifetime Warranty	Yes	Yes

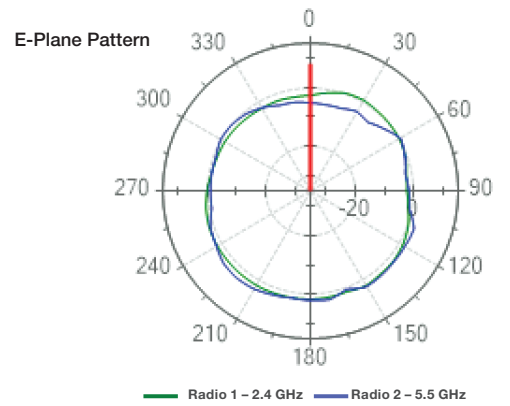
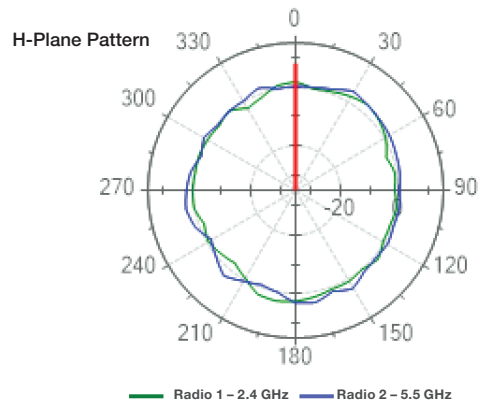
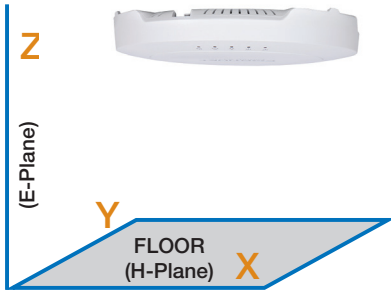
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

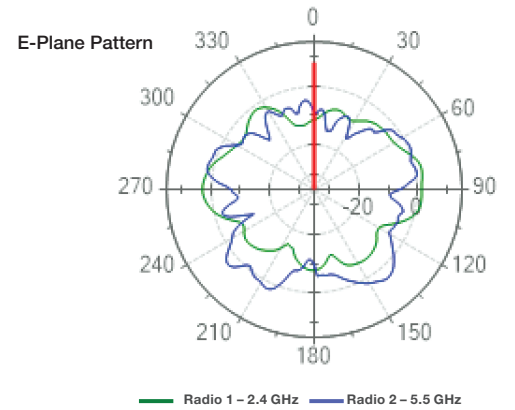
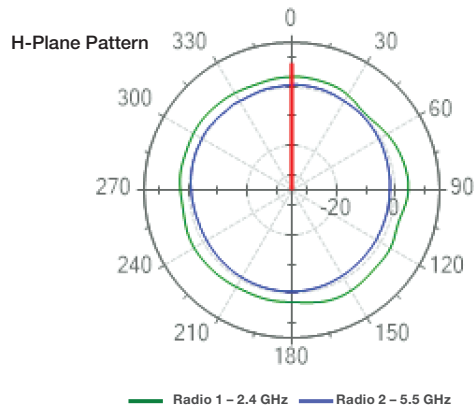
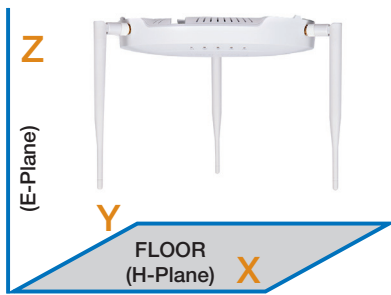
	FORTIAP S311C				FORTIAP S313C			
	RADIO 1		RADIO 2		RADIO 1		RADIO 2	
802.11 a/g	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	19	-88	15	-88	19	-88	15	-88
9 Mbps	19	-85	15	-85	19	-85	15	-85
12 Mbps	19	-83	15	-83	19	-83	15	-83
18 Mbps	19	-81	15	-81	19	-81	15	-81
24 Mbps	19	-79	15	-79	19	-79	15	-79
36 Mbps	17.5	-77	15	-77	17.5	-77	15	-77
48 Mbps	16.5	-75	15	-75	16.5	-75	15	-75
54 Mbps	14	-73	14	-73	14	-73	14	-73
802.11n HT20								
MCS 0/8/16	19	-89	15	-89	19	-90	15	-89
MCS 1/9/17	19	-89	15	-89	19	-87	15	-89
MCS 2/10/18	19	-86	15	-86	19	-85	15	-86
MCS 3/11/19	18	-83	15	-83	18	-83	15	-83
MCS 4/12/20	18	-80	15	-80	18	-79	15	-80
MCS 5/13/21	18	-77	14	-77	18	-74	14	-77
MCS 6/14/22	15	-74	13	-74	15	-73	13	-74
MCS 7/15/23	13	-71	13	-71	13	-72	13	-71
802.11n HT40								
MCS 0/8/16	15	-85	14.5	-85	12	-85	16.5	-85
MCS 1/9/17	15	-83	14.5	-83	12	-83	16.5	-83
MCS 2/10/18	15	-81	14.5	-81	12	-81	16.5	-81
MCS 3/11/19	15	-79	14.5	-79	12	-79	16	-79
MCS 4/12/20	15	-76	14.5	-76	12	-76	16	-76
MCS 5/13/21	15	-74	13	-74	12	-74	13	-74
MCS 6/14/22	15	-71	12	-71	12	-71	12	-71
MCS 7/15/23	13	-69	12	-69	12	-69	12	-69
802.11 ac VHT20								
MCS 0			15	-90			15	-90
MCS 1			15	-87			15	-87
MCS 2			15	-87			15	-87
MCS 3			15	-84			15	-84
MCS 4			15	-81			15	-81
MCS 5			14	-77			14	-77
MCS 6			13	-74			13	-74
MCS 7			13	-71			13	-71
MCS 8			12	-67			12	-67
802.11 ac VHT40								
MCS 0			14.5	-85			16.5	-85
MCS 1			14.5	-83			16.5	-83
MCS 2			14.5	-80			16.5	-80
MCS 3			14.5	-77			16	-77
MCS 4			14.5	-75			16	-75
MCS 5			13	-72			13	-72
MCS 6			12	-70			12	-70
MCS 7			12	-68			12	-68
MCS 8			11	-65			11	-65
MCS 9			11	-63			11	-63
802.11 ac VHT80								
MCS 0			14.5	-83			16	-83
MCS 1			14.5	-80			16	-80
MCS 2			14.5	-78			16	-78
MCS 3			14.5	-76			15	-76
MCS 4			14.5	-73			15	-73
MCS 5			12	-70			12	-70
MCS 6			11	-68			11	-68
MCS 7			11	-66			11	-66
MCS 8			10	-63			10	-63
MCS 9			10	-61			10	-61

ANTENNA RADIATION PATTERNS

FAP-S311C



FAP-S313C



HIGHLIGHTS

FortiAP S321C and S321CR

The FAP-S321C and S321CR are excellent mid-range access points with security built in. The FAP-S321CR has 2 GE ports that can be used to connect another device like an IP camera to the network. These 802.11ac Wave 1 access points have 2 radios that are 2.4 GHz and 5 GHz. These access points are ideal for mid-density environments such as classrooms or mid-size remote locations.



 **802.11ac Wave 1 | Dual Radio 2.4 and 5 GHz | 3 Internal Antennas**

 **Up to 450 + 1,300 Mbps**

SPECIFICATIONS

	FORTIAP S321C	FORTIAP S321CR
Hardware		
Hardware Type	Indoor	Indoor
Number of Radios	2	2
Number of Antennas	3 internal	3 internal
Peak Antenna Gain	3.5 dBi for 2.4 GHz, 6 dBi for 5 GHz	3.5 dBi for 2.4 GHz, 6 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
Frequency of Radio 1	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	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
Ethernet Ports	1x GE RJ45	2x GE RJ45
USB Port	1x Type A	1x Type A
Serial Console Port	1x RJ45	1x RJ45
Power over Ethernet (PoE)	IEEE 802.3at (25.5W)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	
Simultaneous SSIDs	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	
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Pre-shared key, WEP and Web Captive Portal, MAC blacklist & whitelist	
Maximum Tx Power	20 dBm (100 mW)*	20 dBm (100 mW)*
Physical Security	Kensington Lock	Kensington Lock
Mean Time Between Failures	>20 Years	
IEEE Specifications	802.11a, 802.11ac, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.3af	
802.11ac 80MHz Channel	Yes	
802.11n Features	<ul style="list-style-type: none"> • 20 MHz and 40 MHz 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:	<ul style="list-style-type: none"> • Low-density parity check (LDPC) encoding • Maximum likelihood demodulation • Maximum Ratio Combining (MRC) for improved receiver performance 	

	FORTIAP S321C	FORTIAP S321CR
Mounting Options	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
FortiPresence Capable	Yes	Yes
Wireless Monitoring Capabilities		
Frequencies scanned	2.4 and 5 GHz	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes	Yes
Full-time scan as dedicated monitor	Yes	Yes
Full-time scan with client access on 5G GHz	Yes	Yes
Dimensions		
Length x Width x Height	8.5 x 8.5 x 1.38 inches (21.6 x 21.6 x 3.5 cm)	7.68 x 7.68 x 1.09 inches (19.5 x 19.5 x 3.78 cm)
Weight	1.02 lb (0.46 kg)	1.43 lb (0.65 kg)
Package (shipping) Weight	1.94 lb (0.88 kg)	2.43 lb (1.1 kg)
Environment		
Power Supply	Adapter input: 100–240 V, 50/60Hz, 0.9A. Max output: 12V DC, 3A	Adapter input: 100–240 V, 50/60Hz, 0.9A. Max output: 12V DC, 3A
Power Consumption (Average / Maximum)	3.72 W / 18 W	18.13 W / 21.3 W
Humidity	5–90% non condensing	5–90% non condensing
Operating Temperature	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)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
Certifications		
WiFi Alliance Certified	Yes	No
DFS Certified	Yes	No
Warranty		
Limited Lifetime Warranty	Yes	Yes

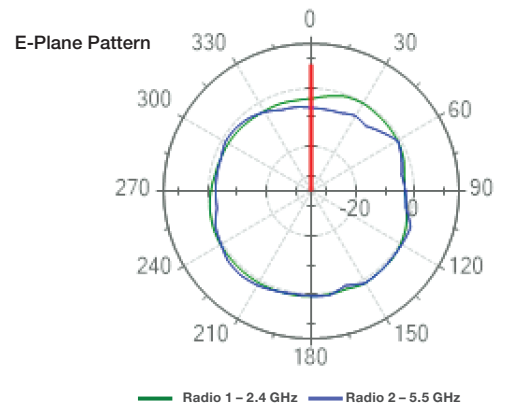
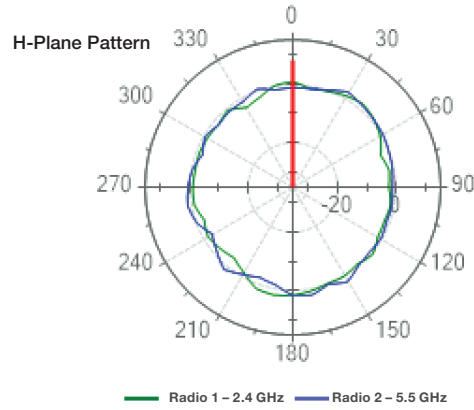
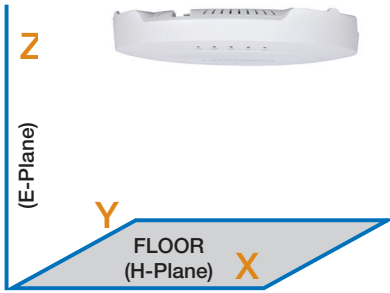
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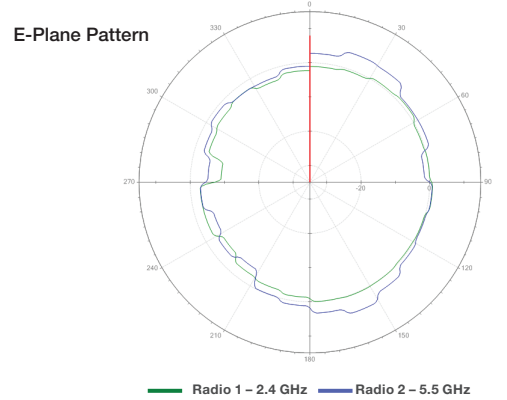
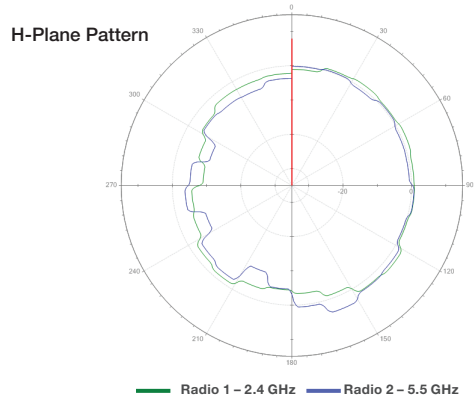
FORTIAP S321C RADIO 1					FORTIAP S321CR RADIO 1				
2.4 GHz			RADIO 2		2.4 GHz			RADIO 2	
802.11 a/g	Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	
6 Mbps	17.5	-90	20	-92	25	-90	25	-93	
9 Mbps	17.5	-89	20	-91	24	-90	24	-91	
12 Mbps	17.5	-87	20	-89	23	-89	23	-89	
18 Mbps	17.5	-85	20	-87	22	-87	22	-87	
24 Mbps	17.5	-82	20	-83	21	-84	21	-84	
36 Mbps	17.5	-79	20	-79	21	-80	21	-80	
48 Mbps	17.5	-75	20	-76	21	-76	21	-76	
54 Mbps	17.5	-74	18	-75	21	-75	21	-75	
802.11n HT20									
MCS 0/8/16	17.5	-90	20	-92	25	-90	25	-93	
MCS 1/9/17	17.5	-87	20	-89	24	-87	24	-87	
MCS 2/10/18	17.5	-85	20	-86	23	-85	23	-85	
MCS 3/11/19	17.5	-83	20	-82	22	-82	22	-82	
MCS 4/12/20	17.5	-79	20	-78	21	-78	21	-78	
MCS 5/13/21	17.5	-74	20	-74	21	-74	21	-74	
MCS 6/14/22	17.5	-73	20	-73	21	-73	21	-73	
MCS 7/15/23	17.5	-72	18	-72	21	-72	21	-72	
802.11n HT40									
MCS 0/8/16	16.5	-87	19	-89	25	-87	24	-90	
MCS 1/9/17	16.5	-84	19	-86	24	-84	23	-84	
MCS 2/10/18	16.5	-82	19	-83	23	-82	22	-82	
MCS 3/11/19	16.5	-79	19	-80	22	-79	21	-79	
MCS 4/12/20	16.5	-76	19	-76	21	-75	20	-75	
MCS 5/13/21	16.5	-71	19	-72	21	-71	20	-71	
MCS 6/14/22	16.5	-70	19	-71	21	-70	20	-70	
MCS 7/15/23	16.5	-69	18	-70	21	-69	20	-69	
802.11 ac VHT20									
MCS 0			20	-92			23	-93	
MCS 1			20	-89			22	-87	
MCS 2			20	-86			21	-85	
MCS 3			20	-82			20	-82	
MCS 4			20	-78			20	-78	
MCS 5			20	-74			20	-74	
MCS 6			20	-73			19	-73	
MCS 7			18	-72			19	-72	
MCS 8			16	-67			19	-68	
802.11 ac VHT40									
MCS 0			19	-89			23	-90	
MCS 1			19	-86			22	-84	
MCS 2			19	-83			21	-82	
MCS 3			19	-80			20	-79	
MCS 4			19	-76			20	-75	
MCS 5			19	-72			20	-71	
MCS 6			19	-71			19	-70	
MCS 7			18	-70			19	-69	
MCS 8			16	-65			19	-65	
MCS 9			15	-63			19	-63	
802.11 ac VHT80									
MCS 0			19	-86			23	-87	
MCS 1			19	-83			22	-81	
MCS 2			19	-80			21	-79	
MCS 3			19	-77			20	-76	
MCS 4			19	-73			20	-72	
MCS 5			19	-69			20	-68	
MCS 6			19	-68			19	-67	
MCS 7			18	-66			19	-66	
MCS 8			16	-62			19	-62	
MCS 9			15	-60			19	-60	

ANTENNA RADIATION PATTERNS

FAP-S321C



FAP-S321CR



HIGHLIGHTS

FortiAP S323C and S323CR

The FAP-S323C and S323CR are excellent mid-range access points with security built in. The FAP-S323CR has 2 GE ports that can be used to connect another device like an IP camera to the network. These 802.11ac Wave 1 access points have 2 radios that are 2.4 GHz and 5 GHz. These access points are ideal for mid-density environments such as classrooms or mid-size remote locations.

 **802.11ac Wave 1 | Dual Radio 2.4 and 5 GHz | 3 External Antennas**

 **Up to 450 + 1,300 Mbps**



SPECIFICATIONS

	FORTIAP S323C	FORTIAP S323CR
Hardware		
Hardware Type	Indoor	Indoor
Number of Radios	2	2
Number of Antennas	3 RP-SMA External	3 RP-SMA External
Peak Antenna Gain	3 dBi for 2.4 GHz, 3 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
Frequency of Radio 1	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	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
Ethernet Ports	1x GE RJ45	2x GE RJ45
USB Port	1x Type A	1x Type A
Serial Console Port	1x RJ45	1x RJ45
Power over Ethernet (PoE)	IEEE 802.3at (25.5 W)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	
Simultaneous SSIDs	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	
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist	
Maximum Tx Power	20 dBm (100 mW)*	20 dBm (100 mW)*
Physical Security	Kensington Lock	Kensington Lock
Mean Time Between Failures	>20 Years	>20 Years
IEEE Specifications	802.11a, 802.11ac, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.3af	
802.11ac 80MHz Channel	Yes	Yes
802.11n Features	<ul style="list-style-type: none"> • 20 MHz and 40 MHz 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:	<ul style="list-style-type: none"> • Low-density parity check (LDPC) encoding • Maximum likelihood demodulation • Maximum Ratio Combining (MRC) for improved receiver performance 	

	FORTIAP S323C	FORTIAP S323CR
Mounting Options	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
FortiPresence Capable	Yes	Yes
Wireless Monitoring Capabilities		
Frequencies scanned	2.4 and 5 GHz	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes	Yes
Full-time scan as dedicated monitor	Yes	Yes
Full-time scan with client access on 5G GHz	No	Yes
Dimensions		
Length x Width x Height	8.5 x 8.5 x 1.38 inches (21.6 x 21.6 x 3.5 cm)	7.68 x 7.68 x 1.09 inches (19.5 x 19.5 x 3.78 cm)
Weight	1.06 lb (0.48 kg)	1.43 lb (0.65 kg)
Package (shipping) Weight	2.05 lb (0.93 kg)	2.6 lb (1.18 kg)
Environment		
Power Supply	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)	4.56 W / 23.5 W	18.13 W / 21.3 W
Humidity	5–90% non condensing	5–90% non condensing
Operating Temperature	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)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
Certifications		
WiFi Alliance Certified	Yes	No
DFS Certified	Yes	No
Warranty		
Limited Lifetime Warranty	Yes	Yes

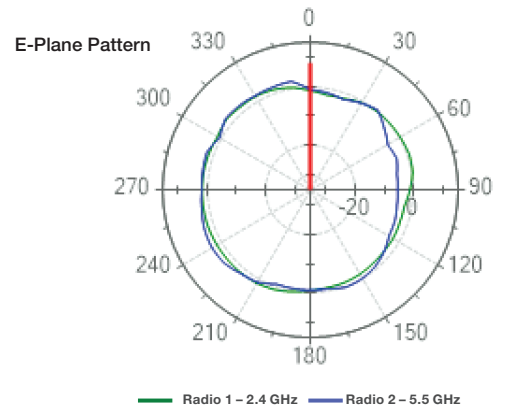
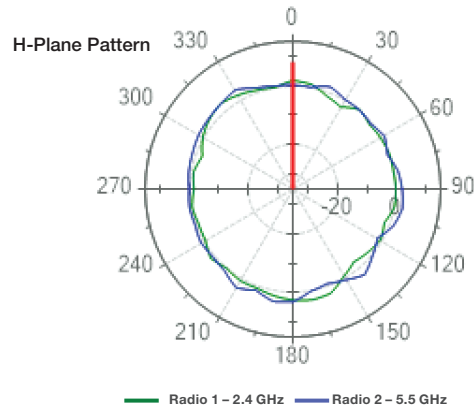
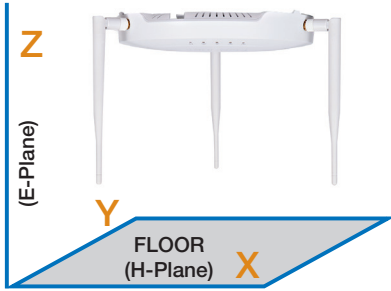
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

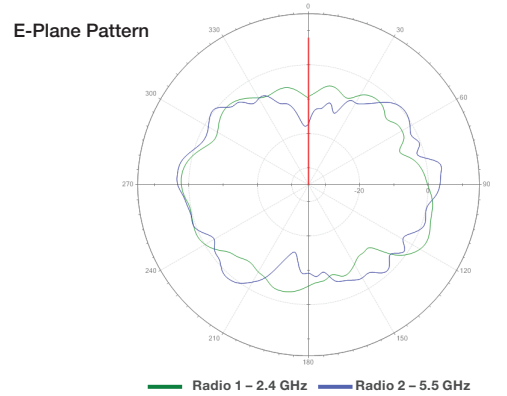
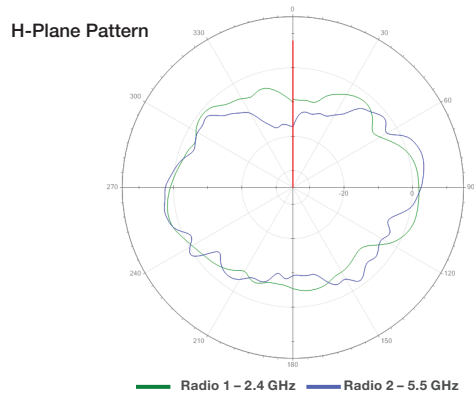
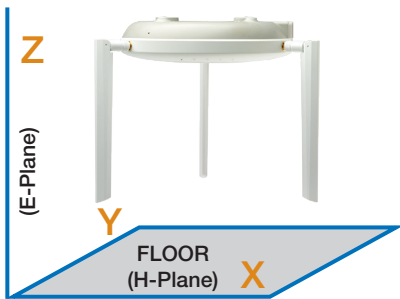
	FORTIAP S323C				FORTIAP S323CR			
	RADIO 1		RADIO 2		RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
802.11 a/g								
6 Mbps	17.5	-90	20	-92	25	-90	25	-93
9 Mbps	17.5	-89	20	-91	24	-90	24	-91
12 Mbps	17.5	-87	20	-89	23	-89	23	-89
18 Mbps	17.5	-85	20	-87	22	-87	22	-87
24 Mbps	17.5	-82	20	-83	21	-84	21	-84
36 Mbps	17.5	-79	20	-79	21	-80	21	-80
48 Mbps	17.5	-75	20	-76	21	-76	21	-76
54 Mbps	17.5	-74	18	-75	21	-75	21	-75
802.11n HT20								
MCS 0/8/16	17.5	-90	20	-92	25	-90	25	-93
MCS 1/9/17	17.5	-87	20	-89	24	-87	24	-87
MCS 2/10/18	17.5	-85	20	-86	23	-85	23	-85
MCS 3/11/19	17.5	-83	20	-82	22	-82	22	-82
MCS 4/12/20	17.5	-79	20	-78	21	-78	21	-78
MCS 5/13/21	17.5	-74	20	-74	21	-74	21	-74
MCS 6/14/22	17.5	-73	20	-73	21	-73	21	-73
MCS 7/15/23	17.5	-72	18	-72	21	-72	21	-72
802.11n HT40								
MCS 0/8/16	14.5	-87	19	-89	25	-87	24	-90
MCS 1/9/17	14.5	-84	19	-86	24	-84	23	-84
MCS 2/10/18	14.5	-82	19	-83	23	-82	22	-82
MCS 3/11/19	14.5	-79	19	-80	22	-79	21	-79
MCS 4/12/20	14.5	-76	19	-76	21	-75	20	-75
MCS 5/13/21	14.5	-71	19	-72	21	-71	20	-71
MCS 6/14/22	14.5	-70	19	-71	21	-70	20	-70
MCS 7/15/23	14.5	-69	18	-70	21	-69	20	-69
802.11 ac VHT20								
MCS 0			20	-92			23	-93
MCS 1			20	-89			22	-87
MCS 2			20	-86			21	-85
MCS 3			20	-82			20	-82
MCS 4			20	-78			20	-78
MCS 5			20	-74			20	-74
MCS 6			20	-73			19	-73
MCS 7			18	-72			19	-72
MCS 8			16	-67			19	-68
802.11 ac VHT40								
MCS 0			19	-89			23	-90
MCS 1			19	-86			22	-84
MCS 2			19	-83			21	-82
MCS 3			19	-80			20	-79
MCS 4			19	-76			20	-75
MCS 5			19	-72			20	-71
MCS 6			19	-71			19	-70
MCS 7			18	-70			19	-69
MCS 8			16	-65			19	-65
MCS 9			15	-63			19	-63
802.11 ac VHT80								
MCS 0			19	-86			23	-87
MCS 1			19	-83			22	-81
MCS 2			19	-80			21	-79
MCS 3			19	-77			20	-76
MCS 4			19	-73			20	-72
MCS 5			19	-69			20	-68
MCS 6			19	-68			19	-67
MCS 7			18	-66			19	-66
MCS 8			16	-62			19	-62
MCS 9			15	-60			19	-60

ANTENNA RADIATION PATTERNS

FAP-S323C



FAP-S323CR



HIGHLIGHTS

FortiAP S322C and S322CR

The FAP-S322C and S322CR are 802.11ac Wave 1 outdoor access points. They offer great performance of throughput up to 1.3 GHz. They support a variety of external antenna options to best fit your coverage needs. The FAP-S322CR has 2 GE ports that support PoE and LAG. You can use the second port to power and connect another device to the network.



 **802.11ac Wave 1 | Dual Radio 2.4 and 5 GHz | 3 External Antennas**

 **Up to 450 + 1,300 Mbps**

SPECIFICATIONS

	FORTIAP S322C	FORTIAP S322CR
Hardware		
Hardware Type	Outdoor	Outdoor
Number of Radios	2	2
Number of Antennas	6 N-type external	6 N-type 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
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
Frequency of Radio 1	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	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 with 3 spatial streams	3x3 MIMO with 3 spatial streams
Ethernet Ports	1x GE RJ45	2x GE RJ45
USB Port	—	—
Serial Console Port	1x RJ45	—
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	—
Simultaneous SSIDs	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	—
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Pre-shared key, WEP and Web Captive Portal, MAC blacklist & whitelist	—
Maximum Tx Power	20 dBm (100 mW)*	20 dBm (100 mW)*
Physical Security	Kensington Lock	Kensington Lock
Mean Time Between Failures	>20 years	>20 years
IEEE Specifications	802.11a, 802.11ac, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.3af	—
802.11ac 80MHz Channel	Yes	Yes
802.11n Features	<ul style="list-style-type: none"> • 20 MHz and 40 MHz 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:	<ul style="list-style-type: none"> • Low-density parity check (LDPC) encoding • Maximum likelihood demodulation • Maximum Ratio Combining (MRC) for improved receiver performance 	—

	FORTIAP S322C	FORTIAP S322CR
Mounting Options	Wall or Pole Mounting	Wall or Pole Mounting
Included Accessories	Ceiling, T-Rail and wall mount kit	Ceiling, T-Rail and wall mount kit
FortiPresence Capable	Yes	Yes
Wireless Monitoring Capabilities		
Frequencies scanned	2.4 and 5 GHz	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes	Yes
Full-time scan as dedicated monitor	Yes	Yes
Full-time scan with client access on 5G GHz	Yes	Yes
Dimensions		
Length x Width x Height	11.65 x 8.9 x 5.08 inches (29.6 x 22.6 x 12.9 cm)	9.8 x 8.66 x 2.09 inches (24.9 x 22 x 5.3 cm)
Weight	7.23 lb (3.28 kg)	2.43 lb (1.1 kg)
Package (shipping) Weight	7.36 kg (16.23 lb)	8.09 lb (3.67 kg)
Environment		
Power Supply	PoE 48V DC, 0.8A	PoE 48V DC, 0.8A
Power Consumption (Average / Maximum)	4.56 W / 25.2 W	19.68 W / 20.16 W
Humidity	5–90% non condensing	5–90% non condensing
Operating Temperature	-22–140°F (-30–60°C)	-22–140°F (-30–60°C)
Storage Temperature	-40–158°F (-40–70°C)	-40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
Warranty		
Limited Lifetime Warranty	Yes	Yes

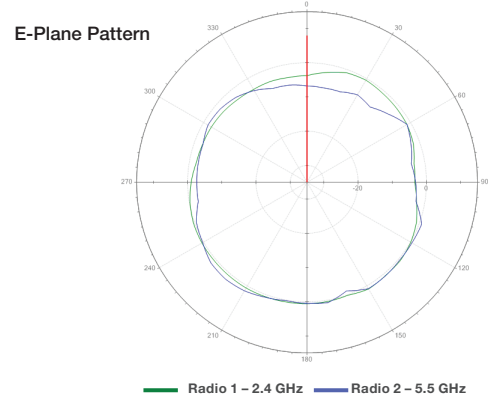
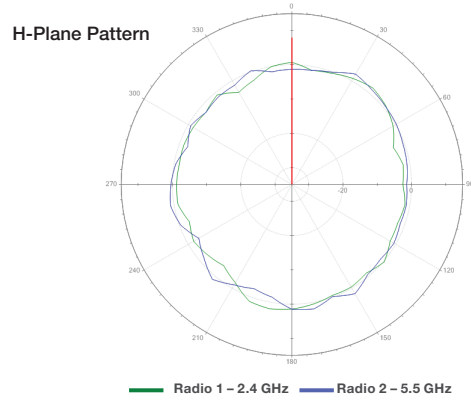
* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

RF RX/TX PERFORMANCE TABLE

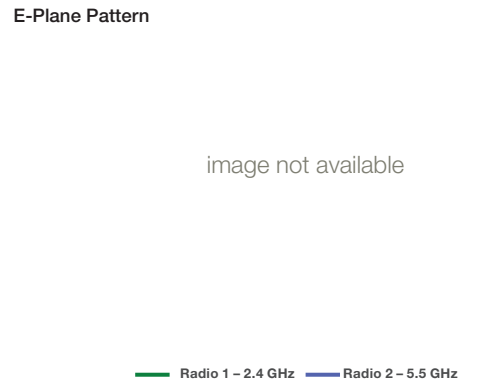
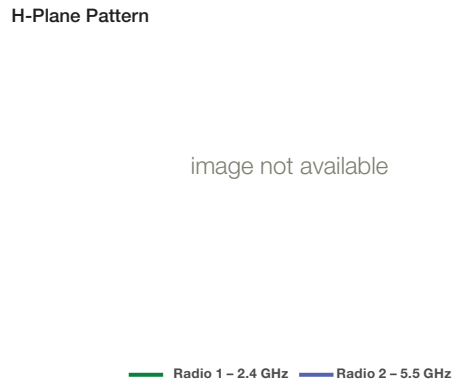
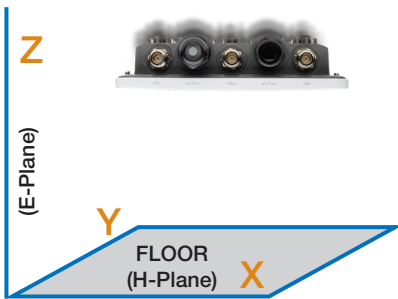
	FORTIAP S322C RADIO 1				FORTIAP S322CR RADIO 1			
	RADIO 2		RADIO 2		RADIO 2		RADIO 2	
802.11 a/g	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	17.5	-90	21	-92	25	-90	25	-93
9 Mbps	17.5	-89	21	-91	24	-90	24	-91
12 Mbps	17.5	-87	21	-89	23	-89	23	-89
18 Mbps	17.5	-85	21	-87	22	-87	22	-87
24 Mbps	17.5	-82	21	-83	21	-84	21	-84
36 Mbps	17.5	-79	21	-79	21	-80	21	-80
48 Mbps	17.5	-75	20	-76	21	-76	21	-76
54 Mbps	17.5	-74	18	-75	21	-75	21	-75
802.11n HT20								
MCS 0/8/16	17.5	-90	21	-92	25	-90	25	-93
MCS 1/9/17	17.5	-87	21	-89	24	-87	24	-87
MCS 2/10/18	17.5	-85	21	-86	23	-85	23	-85
MCS 3/11/19	17.5	-83	21	-82	22	-82	22	-82
MCS 4/12/20	17.5	-79	21	-78	21	-78	21	-78
MCS 5/13/21	17.5	-74	21	-74	21	-74	21	-74
MCS 6/14/22	17.5	-73	20	-73	21	-73	21	-73
MCS 7/15/23	17.5	-72	18	-72	21	-72	21	-72
802.11n HT40								
MCS 0/8/16	13.5	-87	20	-89	25	-87	25	-90
MCS 1/9/17	13.5	-84	20	-86	24	-84	24	-84
MCS 2/10/18	13.5	-82	20	-83	23	-82	23	-82
MCS 3/11/19	13.5	-79	20	-80	22	-79	22	-79
MCS 4/12/20	13.5	-76	20	-76	21	-75	21	-75
MCS 5/13/21	13.5	-71	20	-72	21	-71	21	-71
MCS 6/14/22	13.5	-70	20	-71	21	-70	21	-70
MCS 7/15/23	13.5	-69	18	-70	21	-69	21	-69
802.11 ac VHT20								
MCS 0			21	-92			25	-93
MCS 1			21	-89			24	-87
MCS 2			21	-86			23	-85
MCS 3			21	-82			22	-82
MCS 4			21	-78			21	-78
MCS 5			21	-74			21	-74
MCS 6			20	-73			21	-73
MCS 7			18	-72			21	-72
MCS 8			16	-67			20	-68
802.11 ac VHT40								
MCS 0			20	-89			25	-90
MCS 1			20	-86			24	-84
MCS 2			20	-83			23	-82
MCS 3			20	-80			22	-79
MCS 4			20	-76			21	-75
MCS 5			20	-72			21	-71
MCS 6			20	-71			21	-70
MCS 7			18	-70			21	-69
MCS 8			16	-65			20	-65
MCS 9			15	-63			19	-63
802.11 ac VHT80								
MCS 0			20	-86			25	-87
MCS 1			20	-83			24	-81
MCS 2			20	-80			23	-79
MCS 3			20	-77			22	-76
MCS 4			20	-73			21	-72
MCS 5			20	-69			21	-68
MCS 6			20	-68			21	-67
MCS 7			18	-66			21	-66
MCS 8			16	-62			20	-62
MCS 9			15	-60			19	-60

ANTENNA RADIATION PATTERNS

FAP-S322C



FAP-S322CR



HIGHLIGHTS

FortiAP S421E

The FAP-S421E is our high-density 802.11ac Wave 2 access point. This enterprise class access point is ideal for large high-density environments such as a large office or classroom. The S421E supports MU-MiMO giving excellent performance throughput of up to 1.733 GHz and the ability to support 3 simultaneous devices.



 **802.11ac Wave 2 | Dual Radio 2.4 and 5 GHz | 3 External Antennas**

 **Up to 800 + 1,733 Mbps**

SPECIFICATIONS

FORTIAP S421E	
Hardware	
Hardware Type	Indoor Smart AP
Number of Radios	2
Number of Antennas	8 Internal
Peak Antenna Gain	4 dBi for 2.4 GHz, 5 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
Frequency of Radio 1	2.4 GHz b/g/n (4x4:4 stream), 20/40 Mhz (256 QAM)
Frequency of Radio 2	5 GHz a/n/ac (4x4:4 stream), 20/40/80 Mhz (256 QAM), MU-MIMO 3 simultaneous devices
Throughput	Radio 1: up to 800 Mbps, Radio 2: up to 1.733 Gbps
Ethernet Ports	2x GE RJ45
USB Port	1x Type A
Serial Console Port	1 RS-232 x RJ45
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)
Simultaneous SSIDs	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
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Pre-shared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	19 dBm (80 mW)*
Physical Security	Kensington Lock
Mean Time Between Failures	>30 Years
IEEE Specifications	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.11x, 802.11ac, 802.3af, 802.3at, 802.3az
Mounting Options	Ceiling, T-Rail and wall
Included Accessories	Ceiling, T-Rail and wall mount kit (AC power adapter sold separately)
FortiPresence Capable	Yes
Wireless Mesh Capable	Yes
Modes of Operation	FortiGate or FortiCloud management
SSID Types Supported	Local-Bridge, Tunnel & Mesh (when managed by FortiGate)
FortiDeploy and FortiCloud Key	Yes
Concurrent Clients Per Radio (Maximum / Recommended)	512 / 128
LED Off Mode	Yes
Onboard Security Features when Managed from FortiCloud	
Application Control	Yes
Block Botnet	Yes
Antivirus	Yes
Intrusion Prevention	Yes
URL Filtering	Yes
FortiGuard Security Feed	Subscription available through FortiCloud

FORTIAP S421E	
Advanced 802.11 Features	
802.11ac Wave2 MU-MIMO	Yes
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes
MIMO Power Save	Yes
Short Guard Interval	Yes
Wireless Monitoring Capabilities	
Frequencies scanned	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes
Full-time scan as dedicated monitor	Yes
Full-time scan with client access	No
Packet sniffer mode	Yes
Spectrum analyzer	Yes
Dimensions	
Length x Width x Height	8.46 x 8.46 x 2.2 inches (21.5 x 21.5 x 5.6 cm)
Weight	3.31 lb (1.5 kg)
Package (shipping) Weight	5.09 lb (2.31 kg)
Environment	
Power Supply	Adapter input: 100–240V, 50/60Hz, 0.9A, Max output: 12V DC, 3A
Power Consumption (Average / Maximum)	22.87 W / 24 W
Humidity	5–90% non condensing
Operating Temperature	–4–122°F (-20–50°C)
Storage Temperature	–40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes
IP Rating	—
Certifications	
WiFi Alliance Certified	Yes
DFS Certified	In Process
Warranty	
Limited Lifetime Warranty	Yes

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

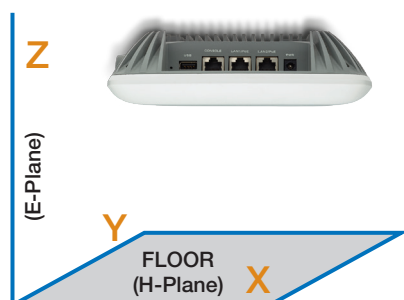
RF RX/TX PERFORMANCE TABLE

802.11 a/g	FORTIAP S421E RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	22	-94	20	-91
9 Mbps	22	-92	20	-89
12 Mbps	22	-89	20	-86
18 Mbps	22	-88	20	-85
24 Mbps	22	-83	20	-80
36 Mbps	22	-78	19	-75
48 Mbps	22	-77	19	-74
54 Mbps	19	-76	18	-73
802.11 HT20				
MSC 0/8/16 (BPSK)	22	-91	20	-89
MSC 1/9/17 (QPSK)	21	-89	19	-87
MSC 2/10/18 (QPSK)	20	-86	19	-84
MSC 3/11/19 (16-QAM)	19	-85	18	-83
MSC 4/12/20 (16-QAM)	19	-80	17	-78
MSC 5/13/21 (64-QAM)	18	-75	17	-73
MSC 6/14/22 (64-QAM)	18	-74	17	-72
MSC 7/15/23 (64-QAM)	18	-73	17	-71
802.11 HT40				
MSC 0/8/16 (BPSK)	21	-89	20	-86
MSC 1/9/17 (QPSK)	20	-87	19	-84
MSC 2/10/18 (QPSK)	20	-84	19	-81
MSC 3/11/19 (16-QAM)	19	-83	18	-80
MSC 4/12/20 (16-QAM)	19	-78	18	-75
MSC 5/13/21 (64-QAM)	18	-73	17	-70
MSC 6/14/22 (64-QAM)	18	-72	17	-69
MSC 7/15/23 (64-QAM)	18	-71	17	-68
MSC 8/16/24 (256-QAM)	15	-66	14	-65
MSC 9/17/25 (256-QAM)	15	-65	14	-63
802.11 HT80				
MSC 0 (BPSK)			18	-83
MSC 1 (QPSK)			17	-80
MSC 2 (QPSK)			17	-78
MSC 3 (16-QAM)			16	-75
MSC 4 (16-QAM)			16	-73
MSC 5 (64-QAM)			15	-72
MSC 6 (64-QAM)			15	-70
MSC 7 (64-QAM)			15	-69
MSC 8 (256-QAM)			15	-65
MSC 9 (256-QAM)			15	-59

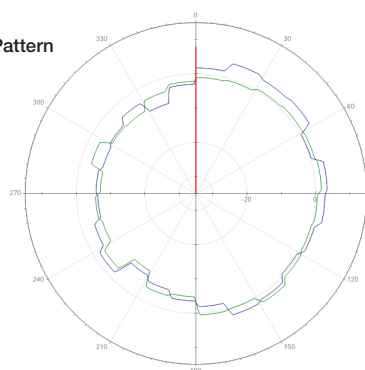
Maximum capability of the Hardware provided (Excluding antenna gain)

ANTENNA RADIATION PATTERNS

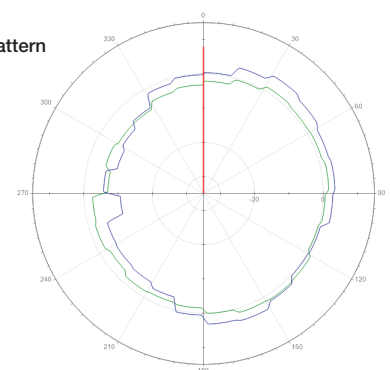
FAP-S421E



H-Plane Pattern



E-Plane Pattern



HIGHLIGHTS

FortiAP S423E

The FAP-423E is our high-density 802.11ac Wave 2 access point. This enterprise class access point is ideal for large high-density environments such as a large office or classroom. The S423E supports MU-MiMO giving excellent performance throughput of up to 1.733 GHz and the ability to support 3 simultaneous devices.



 **802.11ac Wave 2 | Dual Radio 2.4 and 5 GHz | 8 External Antennas**

 **Up to 800 + 1,733 Mbps**

SPECIFICATIONS

FORTIAP S423E	
Hardware	
Hardware Type	Indoor Smart AP
Number of Radios	2
Number of Antennas	8 RP-SMA External
Peak Antenna Gain	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, 5.725–5.851
Frequency of Radio 1	2.4 GHz b/g/n (4x4:4 stream), 20/40 Mhz (256 QAM)
Frequency of Radio 2	5 GHz a/n/ac (4x4:4 stream), 20/40/80 Mhz (256 QAM), MU-MIMO 3 simultaneous devices
Throughput	Radio 1: up to 800 Mbps, Radio 2: up to 1.733 Gbps
Ethernet Ports	2x GE RJ45
USB Port	1x Type A
Serial Console Port	1 RS-232 x RJ45
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)
Simultaneous SSIDs	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
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	19 dBm (80 mW)*
Physical Security	Kensington Lock
Mean Time Between Failures	>30 Years
IEEE Specifications	802.11a, 802.11ac, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.3af, 802.3at, 802.3az
Mounting Options	Ceiling, T-Rail and wall
Included Accessories	Ceiling, T-Rail and wall mount kit and 8 dipole antennas (AC power adaptor sold separately)
FortiPresence Capable	Yes
Wireless Mesh Capable	Yes
Modes of Operation	FortiGate or FortiCloud management
SSID Types Supported	Local-Bridge, Tunnel & Mesh (when managed by FortiGate)
FortiDeploy and FortiCloud Key	Yes
Concurrent Clients Per Radio (Maximum / Recommended)	512 / 128
LED Off Mode	Yes
Onboard Security Features when Managed from FortiCloud	
Application Control	Yes
Block Botnet	Yes
Antivirus	Yes
Intrusion Prevention	Yes
URL Filtering	Yes
FortiGuard Security Feed	Subscription available through FortiCloud

FORTIAP S423E	
Advanced 802.11 Features	
802.11ac Wave2 MU-MIMO	Yes
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes
MIMO Power Save	Yes
Short Guard Interval	Yes
Wireless Monitoring Capabilities	
Frequencies scanned	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes
Full-time scan as dedicated monitor	Yes
Full-time scan with client access	No
Packet sniffer mode	Yes
Spectrum analyzer	Yes
Dimensions	
Length x Width x Height	8.46 x 8.46 x 2.2 inches (21.5 x 21.5 x 5.6 cm)
Weight	3.35 lb (1.52 kg)
Package (shipping) Weight	5.31 lb (2.41 kg)
Environment	
Power Supply	Adapter input: 100–240V, 50/60Hz, 0.9A, Max output: 12V DC, 3A
Power Consumption (Average / Maximum)	22.87 W / 24 W
Humidity	5–90% non condensing
Operating Temperature	-4–122°F (-20–50°C)
Storage Temperature	-40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes
IP Rating	—
Certifications	
WiFi Alliance Certified	Yes
DFS Certified	In Process
Warranty	
Limited Lifetime Warranty	Yes

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

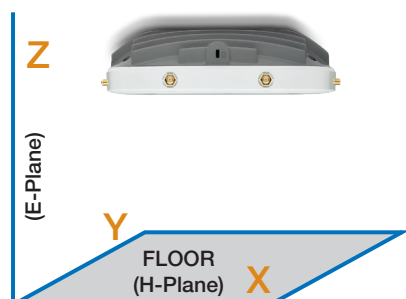
RF RX/TX PERFORMANCE TABLE

802.11 a/g	FORTIAP S423E RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	22	-94	20	-91
9 Mbps	22	-92	20	-89
12 Mbps	22	-89	20	-86
18 Mbps	22	-88	20	-85
24 Mbps	22	-83	20	-80
36 Mbps	22	-78	19	-75
48 Mbps	22	-77	19	-74
54 Mbps	19	-76	18	-73
802.11HT20				
MSC 0/8/16 (BPSK)	22	-91	20	-89
MSC 1/9/17 (QPSK)	21	-89	19	-87
MSC 2/10/18 (QPSK)	20	-86	19	-84
MSC 3/11/19 (16-QAM)	19	-85	18	-83
MSC 4/12/20 (16-QAM)	19	-80	17	-78
MSC 5/13/21 (64-QAM)	18	-75	17	-73
MSC 6/14/22 (64-QAM)	18	-74	17	-72
MSC 7/15/23 (64-QAM)	18	-73	17	-71
802.11HT40				
MSC 0/8/16 (BPSK)	21	-89	20	-86
MSC 1/9/17 (QPSK)	20	-87	19	-84
MSC 2/10/18 (QPSK)	20	-84	19	-81
MSC 3/11/19 (16-QAM)	19	-83	18	-80
MSC 4/12/20 (16-QAM)	19	-78	18	-75
MSC 5/13/21 (64-QAM)	18	-73	17	-70
MSC 6/14/22 (64-QAM)	18	-72	17	-69
MSC 7/15/23 (64-QAM)	18	-71	17	-68
MSC 8/16/24 (256-QAM)	15	-66	14	-65
MSC 9/17/25 (256-QAM)	15	-65	14	-63
802.11 HT80				
MSC 0 (BPSK)			18	-83
MSC 1 (QPSK)			17	-80
MSC 2 (QPSK)			17	-78
MSC 3 (16-QAM)			16	-75
MSC 4 (16-QAM)			16	-73
MSC 5 (64-QAM)			15	-72
MSC 6 (64-QAM)			15	-70
MSC 7 (64-QAM)			15	-69
MSC 8 (256-QAM)			15	-65
MSC 9 (256-QAM)			15	-59

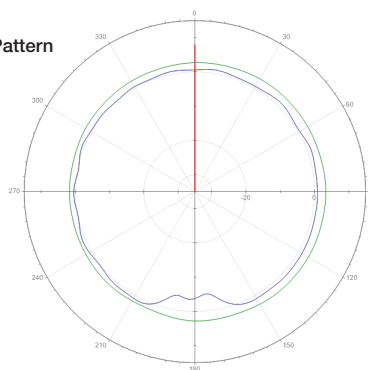
Maximum capability of the Hardware provided (Excluding antenna gain)

ANTENNA RADIATION PATTERNS

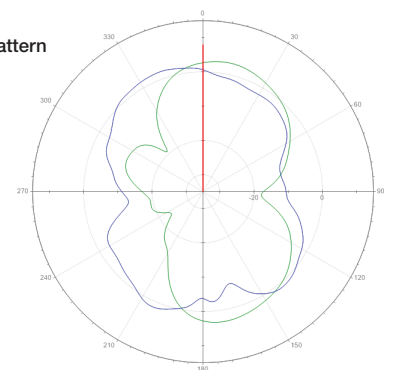
FAP-S423E



H-Plane Pattern



E-Plane Pattern



HIGHLIGHTS

FortiAP S422E

The FAP-422E is our high-density 802.11ac Wave 2 outdoor access point. This enterprise class access point is ideal for large high-density outdoor environments such as an outside office building or recreation area. It supports MU-MiMO giving excellent performance throughput and the ability to support 3 simultaneous devices.

 **802.11ac Wave 2 | Dual Radio 2.4 and 5 GHz | 8 External Antennas**

 **Up to 800 + 1,733 Mbps**



SPECIFICATIONS

FORTIAP S422E	
Hardware	
Hardware Type	Outdoor Smart AP
Number of Radios	2
Number of Antennas	8 N-type External
Peak Antenna Gain	5 dBi for 2.4 GHz, 7 dBi for 5 GHz
Frequency Bands (GHz) *	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.851
Frequency of Radio 1	2.4 GHz b/g/n (4x4:4 stream), 20/40 Mhz (256 QAM)
Frequency of Radio 2	5 GHz a/n/ac (4x4:4 stream), 20/40/80 Mhz (256 QAM), MU-MIMO 3 simultaneous devices
Throughput	Radio 1: up to 800 Mbps, Radio 2: up to 1.733 Gbps
Ethernet Ports	2x GE RJ45
USB Port	—
Serial Console Port	1 RS-232 x RJ45
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at (25.5 W)
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)
Simultaneous SSIDs	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
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist
Maximum Tx Power	19 dBm (80 mW)*
Physical Security	Kensington Lock
Mean Time Between Failures	>30 Years
IEEE Specifications	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n, 802.1x, 802.3af, 802.11ac, 802.3at, 802.3az
Mounting Options	Wall or Pole Mounting
Included Accessories	8x Dipole Antennas, power adapter and proprietary injector, pole mount bracket, grounding cable, surge protector
FortiPresence Capable	Yes
Wireless Mesh Capable	Yes
Modes of Operation	FortiGate or FortiCloud management
SSID Types Supported	Local-Bridge, Tunnel & Mesh (when managed by FortiGate)
FortiDeploy and FortiCloud Key	Yes
Concurrent Clients Per Radio (Maximum / Recommended)	512 / 128
LED Off Mode	Yes
Onboard Security Features when Managed from FortiCloud	
Application Control	Yes
Block Botnet	Yes
Antivirus	Yes
Intrusion Prevention	Yes
URL Filtering	Yes
FortiGuard Security Feed	Subscription available through FortiCloud

FORTIAP S422E	
Advanced 802.11 Features	
802.11ac Wave2 MU-MIMO	Yes
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes
MIMO Power Save	Yes
Short Guard Interval	Yes
Wireless Monitoring Capabilities	
Frequencies scanned	2.4 and 5 GHz
Background scan with client access on 2.4 and 5 GHz	Yes
Full-time scan as dedicated monitor	Yes
Full-time scan with client access	No
Packet sniffer mode	Yes
Spectrum analyzer	Yes
Dimensions	
Length x Width x Height	8.23 x 8.23 x 2.36 inches (20.9 x 20.9 x 6.0 cm)
Weight	4.08 lb (1.85 kg)
Package (shipping) Weight	11.42 lb (5.18 kg)
Environment	
Power Supply	PoE input: 48V DV, 0.8A
Power Consumption (Average / Maximum)	18.83 W / 22 W
Humidity	5–95% non condensing
Operating Temperature	-40–140°F (-40–60°C)
Storage Temperature	-40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes
IP Rating	IP67
Certifications	
WiFi Alliance Certified	In Process
DFS Certified	In Process

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

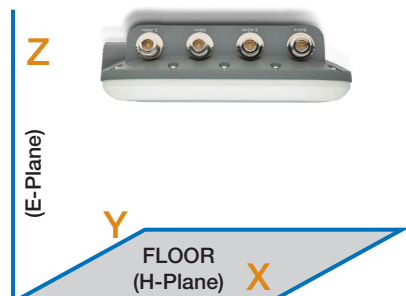
RF RX/TX PERFORMANCE TABLE

802.11 a/g	FORTIAP S422E RADIO 1		RADIO 2	
	2.4 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)
6 Mbps	21	-94	20	-90
9 Mbps	21	-92	20	-89
12 Mbps	21	-89	20	-86
18 Mbps	21	-88	20	-85
24 Mbps	21	-83	20	-80
36 Mbps	21	-78	18	-75
48 Mbps	21	-77	18	-74
54 Mbps	19	-76	17	-73
802.11 HT20				
MSC 0/8/16 (BPSK)	19	-91	19	-90
MSC 1/9/17 (QPSK)	19	-89	19	-87
MSC 2/10/18 (QPSK)	19	-86	19	-84
MSC 3/11/19 (16-QAM)	19	-85	18	-82
MSC 4/12/20 (16-QAM)	19	-80	17	-77
MSC 5/13/21 (64-QAM)	18	-75	16	-72
MSC 6/14/22 (64-QAM)	18	-74	16	-71
MSC 7/15/23 (64-QAM)	18	-73	16	-70
802.11 HT40				
MSC 0/8/16 (BPSK)	19	-89	19	-87
MSC 1/9/17 (QPSK)	19	-87	18	-85
MSC 2/10/18 (QPSK)	19	-84	18	-82
MSC 3/11/19 (16-QAM)	18	-83	17	-81
MSC 4/12/20 (16-QAM)	18	-78	17	-76
MSC 5/13/21 (64-QAM)	17	-73	17	-71
MSC 6/14/22 (64-QAM)	17	-72	17	-70
MSC 7/15/23 (64-QAM)	17	-71	17	-69
MSC 8/16/24 (256-QAM)	15	-66	13	-63
MSC 9/17/25 (256-QAM)	15	-65	13	-62
802.11 HT80				
MSC 0 (BPSK)			18	-84
MSC 1 (QPSK)			17	-81
MSC 2 (QPSK)			17	-79
MSC 3 (16-QAM)			16	-76
MSC 4 (16-QAM)			16	-74
MSC 5 (64-QAM)			15	-73
MSC 6 (64-QAM)			15	-71
MSC 7 (64-QAM)			15	-70
MSC 8 (256-QAM)			14	-66
MSC 9 (256-QAM)			14	-59

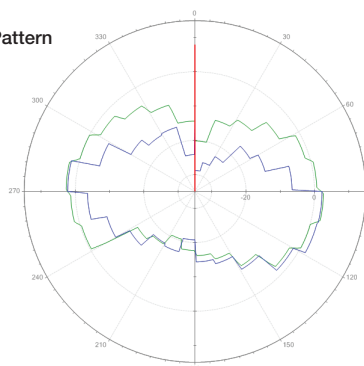
Maximum capability of the Hardware provided (Excluding antenna gain)

ANTENNA RADIATION PATTERNS

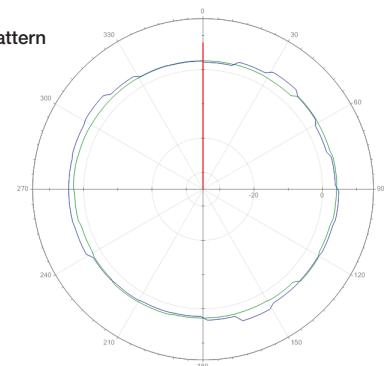
FAP-S422E



H-Plane Pattern



E-Plane Pattern



PERFORMANCE MATRIX

802.11AC PERFORMANCE — DATA RATES (MBPS)								
Descriptor	Data Streams	VHT20		VHT40		VHT80		
		Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short GI	
MCS 0	1	6.5	7.2	13.5	15	29.3	32.5	
MCS 1	1	13	14.4	27	30	58.5	65.0	
MCS 2	1	19.5	21.7	40.5	45	87.8	97.5	
MCS 3	1	26	28.9	54	60	117.0	130.0	
MCS 4	1	39	43.3	81	90	175.5	195.0	
MCS 5	1	52	57.8	108	120	234.0	260.0	
MCS 6	1	58.5	65	121.5	135	263.3	292.5	
MCS 7	1	65	72.2	135	150	292.5	325.0	
MCS 8	1	78.0	86.7	162.0	180.0	351.0	390.0	
MCS 9	1	NA	NA	180.0	200.0	390.0	433.3	
MCS 0	2	13	14.4	27	30	58.5	65.0	
MCS 1	2	26	28.9	54	60	117.0	130.0	
MCS 2	2	39	43.3	81	90	175.5	195.0	
MCS 3	2	52	57.8	108	120	234.0	260.0	
MCS 4	2	78	86.7	162	180	351.0	390.0	
MCS 5	2	104	115.6	216	240	468.0	520.0	
MCS 6	2	117	130	243	270	526.5	585.0	
MCS 7	2	130	144.4	270	300	585.0	650.0	
MCS 8	2	156.0	173.3	324.0	360.0	702.0	780.0	
MCS 9	2	NA	NA	360.0	400.0	780.0	866.7	
MCS 0	3	19.5	21.7	40.5	45	87.8	97.5	
MCS 1	3	39	43.3	81	90	175.5	195.0	
MCS 2	3	58.5	65	121.5	135	263.3	292.5	
MCS 3	3	78	86.7	162	180	351.0	390.0	
MCS 4	3	117	130	243	270	526.5	585.0	
MCS 5	3	156	173.3	324	360	702.0	780.0	
MCS 6	3	175.5	195	364.5	405	NA	NA	
MCS 7	3	195	216.7	405	450	877.5	975.0	
MCS 8	3	234.0	260.0	486.0	540.0	1053.0	1170.0	
MCS 9	3	260.0	288.9	540.0	600.0	1170.0	1300.0	
MCS 0	4	26	28.9	54	60	117	130	
MCS 1	4	52	57.8	108	120	234	260	
MCS 2	4	78	86.7	162	180	351	390	
MCS 3	4	104	115.6	216	240	468	520	
MCS 4	4	156	173.3	324	360	702	780	
MCS 5	4	208	231.1	432	480	936	1040	
MCS 6	4	234	260	486	540	1053	1170	
MCS 7	4	260	288.9	540	600	1170	1300	
MCS 8	4	312	346.7	648	720	1404	1560	
MCS 9	4	NA	NA	720	800	1560	1733.3	

PERFORMANCE MATRIX

802.11N PERFORMANCE — DATA RATES (MBPS)						
Descriptor	Spatial Streams	HT20		HT40		
		Normal GI	Short GI	Normal GI	Short GI	
MCS 0	1	6.5	7.2	13.5	15	
MCS 1	1	13	14.4	27	30	
MCS 2	1	19.5	21.7	40.5	45	
MCS 3	1	26	28.9	54	60	
MCS 4	1	39	43.3	81	90	
MCS 5	1	52	57.8	108	120	
MCS 6	1	58.5	65	121.5	135	
MCS 7	1	65	72.2	135	150	
MCS8	2	13	14.4	27	30	
MCS9	2	26	28.9	54	60	
MCS10	2	39	43.3	81	90	
MCS11	2	52	57.8	108	120	
MCS12	2	78	86.7	162	180	
MCS13	2	104	115.6	216	240	
MCS14	2	117	130	243	270	
MCS15	2	130	144.4	270	300	
MCS16	3	19.5	21.7	40.5	45	
MCS17	3	39	43.3	81	90	
MCS18	3	58.5	65	121.5	135	
MCS19	3	78	86.7	162	180	
MCS20	3	117	130	243	270	
MCS21	3	156	173.3	324	360	
MCS22	3	175.5	195	364.5	405	
MCS23	3	195	216.7	405	450	

ORDER INFORMATION

Product	SKU	Description
FortiAP S311C	FAP-S311C	Indoor Cloud or FortiGate Managed Wireless Smart 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-115 (GPI-130 to enable USB). 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 or FortiGate Managed Wireless Smart 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-115 (GPI-130 to enable USB). 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.
	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 S321CR	FAP-S321CR	Indoor Cloud or FortiGate Managed Wireless AP — 2x 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.
	FC-10-P321C-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P321C-311-02-DD	8x5 FortiCare Contract
	FC-10-P321C-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-S321CR
FortiAP S322C	FAP-S322C-A	Outdoor Cloud or FortiGate Managed Wireless AP — 1x GE RJ45 port, dual radio (802.11 a/n/ac and 802.11 b/g/n, 3x3 MIMO), external antennas, ceiling/wall mount kit included. AC adapter and proprietary PoE injector, outdoor kit, surge protector, 6x dipole antennas included.
	FC-10-P0325-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P0325-311-02-DD	8x5 FortiCare Contract
	FC-10-P0325-247-02-DD	24x7 FortiCare Contract
FortiAP S322CR	FAP-S322CR	Outdoor Cloud or FortiGate Managed Wireless AP — 2x GE RJ45 port, dual radio (802.11 a/n/ac and 802.11 b/g/n, 3x3 MIMO), external antennas, ceiling/wall mount kit included. AC adapter and proprietary PoE injector, outdoor kit, surge protector, 6x dipole antennas included.
	FC-10-P322R-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P322R-311-02-DD	8x5 FortiCare Contract
	FC-10-P322R-247-02-DD	24x7 FortiCare Contract
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. Ceiling, T-Rail and wall mount kit, antennas included.
	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
FortiAP S323CR	FAP-S323CR	Indoor Cloud or FortiGate Managed Wireless AP — 2x 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. Ceiling, T-Rail and wall mount kit, antennas included.
	FC-10-P323R-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-P323R-311-02-DD	8x5 FortiCare Contract
	FC-10-P323R-247-02-DD	24x7 FortiCare Contract
	SP-FG20C-PA	AC Power Adapter for FAP-S323CR
FortiAP S421E	FAP-S421E	Indoor Cloud or FortiGate Managed Wireless AP — 2x GE RJ45 port, 802.11 a/b/g/n/ac WAVE 2, dual concurrent dual band (2.4 GHz/5 GHz), 4x4 MIMO, ceiling/wall mount kit included, power adapter not included.
	FC-10-PS421-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-PS421-311-02-DD	8x5 FortiCare Contract
	FC-10-PS421-247-02-DD	24x7 FortiCare Contract

ORDER INFORMATION

Product	SKU	Description
FortiAP S422E	FAP-S422E	Outdoor Cloud or FortiGate Managed Wireless AP — 2x GE RJ45 port, 802.11 a/b/g/n/ac WAVE 2, dual concurrent dual band (2.4 GHz/5 GHz), 4x4 MIMO, external antennas, ceiling/wall mount kit included. Proprietary PoE injector with AC power adapter included.
	FC-10-PS422-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-PS422-311-02-DD	8x5 FortiCare Contract
	FC-10-PS422-247-02-DD	24x7 FortiCare Contract
FortiAP S423E	FAP-S423E	Indoor Cloud or FortiGate Managed Wireless AP — 2x GE RJ45 port, 802.11 a/b/g/n/ac WAVE 2, dual concurrent dual band (2.4 GHz/5 GHz), 4x4 MIMO. Ceiling, T-Rail and wall mount kit, antennas included. Power adapter not included.
	FC-10-PS423-905-02-12	FortiAP-S Security and Support Bundle (24x7 FortiCare plus IPS, App Control, AV and Web Filtering)
	FC-10-PS423-311-02-DD	8x5 FortiCare Contract
	FC-10-PS423-247-02-DD	24x7 FortiCare Contract
Gigabit PoE Injector	GPI-115	1-Port Gigabit PoE Power Injector, 802.3af 15.4 W, 10/100/1000.
	GPI-130	1-Port Gigabit PoE Power Injector, 802.3at up to 30 W.
FortiAP-FPL	FAP-FPL-PRO	FortiPlanner Wireless AP Deployment Planning Utility — Pro upgrade license unlocks FortiPlanner lite (free version) to support more than 10 Access Points and includes site survey tool. Requires Windows 7/8/10.
Power Adapter	SP-FAP400-PA	AC Power Adapter for FAP-U421EV, FAP-U423EV, FAP-S421E, FAP-S423E, FAP-421E and FAP-423E.
FortiCloud FortiAP FAP-S Enterprise Management License	FC-10-90APS-170-02-DD	FortiAP-S Enterprise License adds/includes a subscription to FortiGuard services, Bonjour relaying, intra-SSID isolation of specific clients, 1 year log retention and FortiCare 8x5 Support.

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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