

## 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
<b>Hardware</b>		
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	
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"> <li>• 20 MHz and 40 MHz High-Throughput (HT) Support</li> <li>• Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation</li> <li>• Conserve power via Dynamic MIMO power save</li> </ul>	
Advanced 802.11n to enhance rate-over-range including:	<ul style="list-style-type: none"> <li>• Low-density parity check (LDPC) encoding</li> <li>• Maximum likelihood demodulation</li> <li>• Maximum Ratio Combining (MRC) for improved receiver performance</li> </ul>	

	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
<b>Wireless Monitoring Capabilities</b>		
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
<b>Dimensions</b>		
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)
<b>Environment</b>		
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
<b>Certifications</b>		
WiFi Alliance Certified	Yes	No
DFS Certified	Yes	No
<b>Warranty</b>		
Limited Lifetime Warranty	Yes	Yes

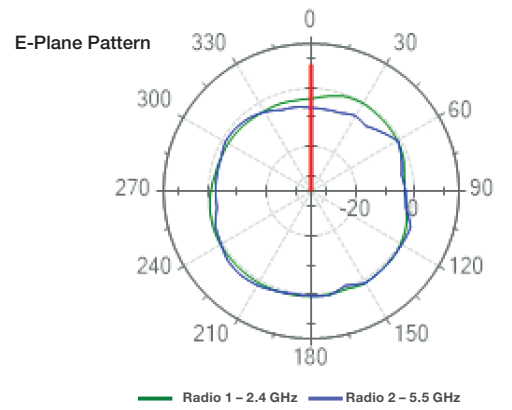
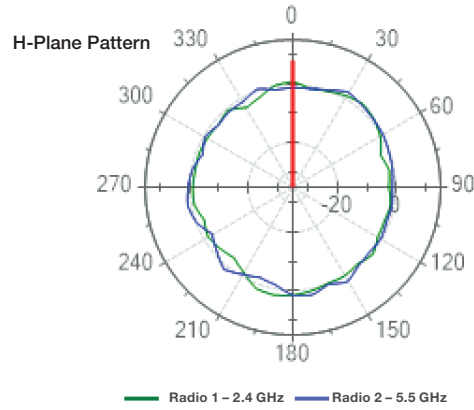
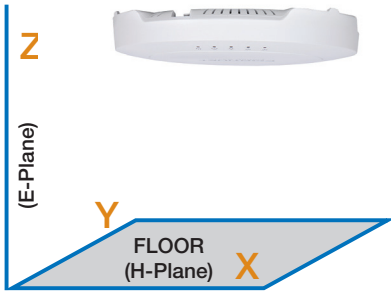
\* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

## RF RX/TX PERFORMANCE TABLE

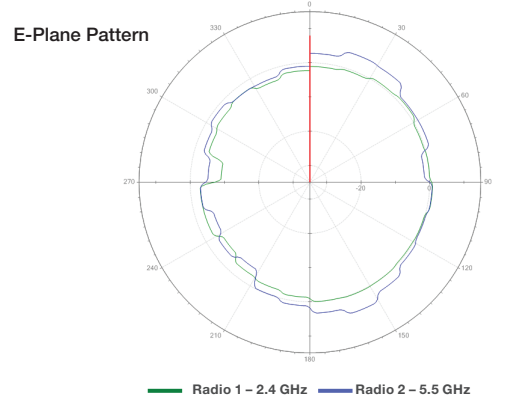
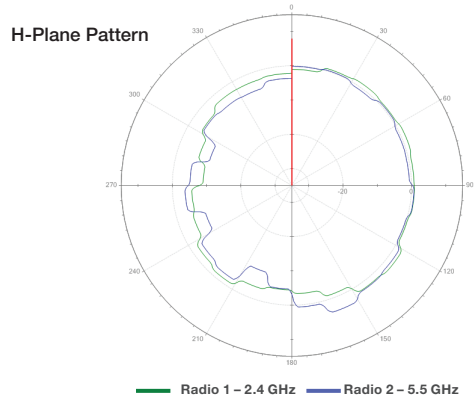
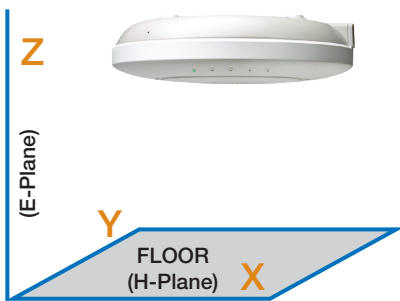
FORTIAP S321C RADIO 1					FORTIAP S321CR RADIO 1				
2.4 GHz			RADIO 2		2.4 GHz			RADIO 2	
802.11 a/g	Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)	5 GHz Tx Power (dBm)	Rx Sensitivity (dBm)	
6 Mbps	17.5	-90	20	-92	25	-90	25	-93	
9 Mbps	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	
<b>802.11n HT20</b>									
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	
<b>802.11n HT40</b>									
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	
<b>802.11 ac VHT20</b>									
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	
<b>802.11 ac VHT40</b>									
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	
<b>802.11 ac VHT80</b>									
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
<b>Hardware</b>		
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 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	
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"> <li>• 20 MHz and 40 MHz High-Throughput (HT) Support</li> <li>• Increased maximum frame transmission by incorporating A-MPDU and A-MSDU Packet Aggregation</li> <li>• Conserve power via Dynamic MIMO power save</li> </ul>	
Advanced 802.11n to enhance rate-over-range including:	<ul style="list-style-type: none"> <li>• Low-density parity check (LDPC) encoding</li> <li>• Maximum likelihood demodulation</li> <li>• Maximum Ratio Combining (MRC) for improved receiver performance</li> </ul>	

	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
<b>Wireless Monitoring Capabilities</b>		
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
<b>Dimensions</b>		
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)
<b>Environment</b>		
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
<b>Certifications</b>		
WiFi Alliance Certified	Yes	No
DFS Certified	Yes	No
<b>Warranty</b>		
Limited Lifetime Warranty	Yes	Yes

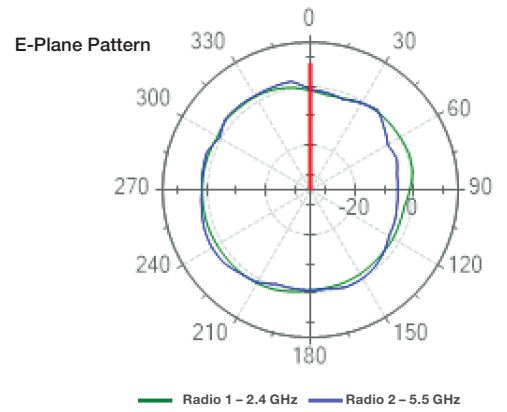
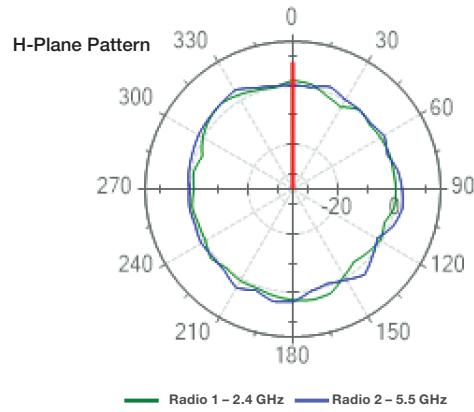
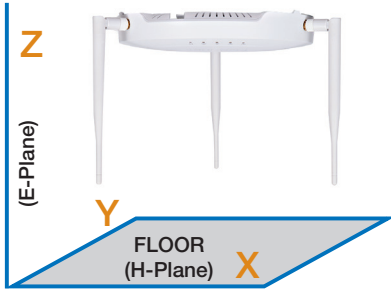
\* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

## 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)
<b>802.11 a/g</b>								
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
<b>802.11n HT20</b>								
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
<b>802.11n HT40</b>								
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
<b>802.11 ac VHT20</b>								
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
<b>802.11 ac VHT40</b>								
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
<b>802.11 ac VHT80</b>								
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

