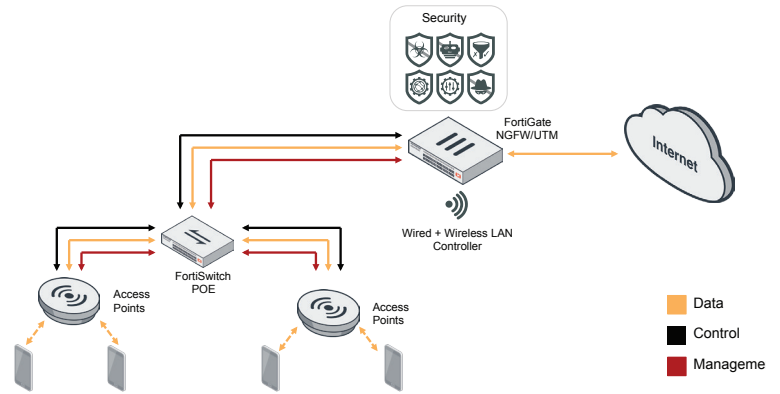


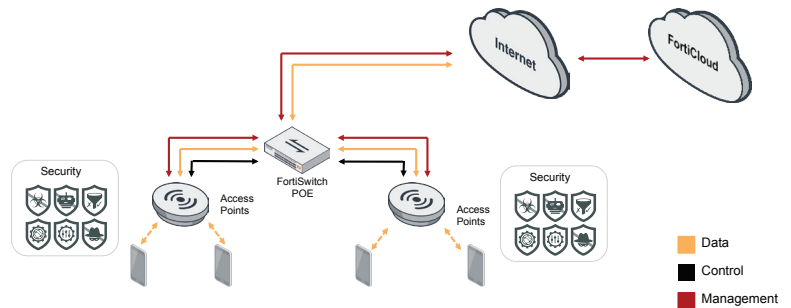
## Integrated - FortiGate-Managed

Our Integrated offering leverages the wireless controller built into our FortiOS operating system. It features a family of controller-managed access points which function in cooperation with a FortiGate, our industry leading enterprise firewall. In addition to consolidating all the functions of a network firewall, IPS, anti-malware, VPN, WAN optimization, Web filtering, and application control in a single platform, FortiGate also has an integrated Wi-Fi controller. Wi-Fi is either integrated directly into the FortiGate (FortiWiFi) or connected as an access point (FortiAP) directly to a FortiGate to provide comprehensive wireless coverage.



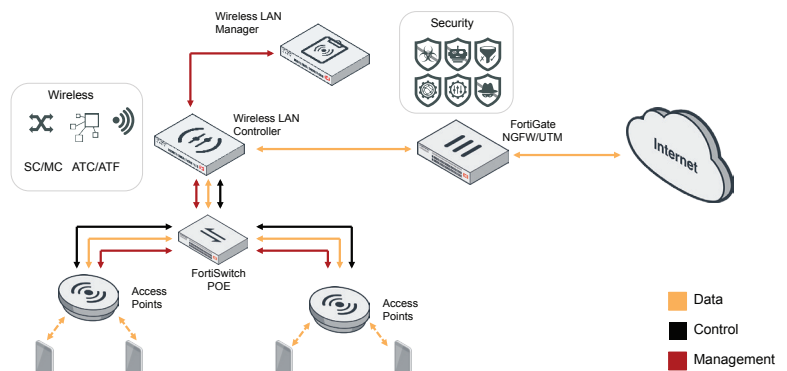
## Cloud-Managed

Our cloud managed WLAN option contains capabilities unlike any other cloud Wi-Fi offering in the industry. This includes the FortiAP-S series which combines the elements of UTM protection at the network edge with the simplicity and convenience of cloud management through our FortiCloud service. FortiCloud management capabilities also extend beyond the management of Wi-Fi, to FortiGate and more.







## Controller-Managed







Our Infrastructure wireless offering, formerly Meru Networks, combines on-premises controller-based management, open application appliances, and a range of high-performance indoor and outdoor access points. This is the ideal solution for large scale complex RF environment, or when an organization needs to separate the access infrastructure from the underlying network's security infrastructure. With network controlled roaming, users benefit from the best possible mobility experience. The Infrastructure solution offers multiple channel configuration options and layering to simplify deployment while increasing performance, traffic segmentation, and capacity. This solution scales for implementation in small, medium, and large enterprises of all types.





# FortiAP™ Integrated Indoor or Cloud Managed Indoor (802.11ac Wave 2) Access Points

	FAP-221E	FAP-223E	FAP-421E	FAP-423E
				
Suggested Use Case	Medium density 802.11ac indoor	Medium density 802.11ac indoor	High density, high performance 802.11ac indoor	High density, high performance 802.11ac indoor
<b>Hardware</b>				
Number of Radios	2	2	2	2
Number of Antennas	4 Internal	4 External (RP-SMA)	8 Internal	8 External (RP-SMA)
Antenna Type and Peak Gain	Patch: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz	Dipole: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz	PIFA: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz	Dipole: 3 dBi for 2.4 GHz, 3 dBi for 5 GHz
Radio 1 Capabilities	2.4 GHz b/g/n (2x2:2) 20/40 MHz (256 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (256 QAM)	2.4 GHz b/g/n (4x4:4) 20/40 MHz (256 QAM)	2.4 GHz b/g/n (4x4:4) 20/40 MHz (256 QAM)
Radio 2 Capabilities	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (4x4:4) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (4x4:4) 20/40/80 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 400 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 400 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 800 Mbps Radio 2: up to 1,733 Mbps	Radio 1: up to 800 Mbps Radio 2: up to 1,733 Mbps
Bluetooth (BT/BLE)				
Interfaces	1x GE RJ45	1x GE RJ45	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	IEEE 802.3af	IEEE 802.3af	Dual redundant PoE power ports, IEEE 802.3at or 2x2 operation with 802.3af	Dual redundant PoE power ports, IEEE 802.3at or 2x2 operation with 802.3af
Power Consumption (Max.)	12.36 W	12.36 W	23 W max power draw in 802.3at mode, 12.95 W max power draw when in 802.3af power mode	23 W max power draw in 802.3at mode, 12.95 W max power draw when in 802.3af power mode
Simultaneous SSIDs	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)
Maximum Tx Power	2.4 GHz: 23 dBm / 200 mW (2 chains combined)** 5 GHz: 24 dBm / 251 mW (2 chains combined)**	2.4 GHz: 23 dBm / 200 mW (2 chains combined)** 5 GHz: 24 dBm / 251 mW (2 chains combined)**	2.4 GHz: 24 dBm / 251 mW (4 chains combined)* 5 GHz: 25 dBm / 316 mW (4 chains combined)*	2.4 GHz: 24 dBm / 251 mW (4 chains combined)* 5 GHz: 25 dBm / 316 mW (4 chains combined)*
Kensington Lock	•	•	•	•
SSID Types Supported	Local-Bridge, Tunnel, Mesh	Local-Bridge, Tunnel, Mesh	Local-Bridge, Tunnel, Mesh	Local-Bridge, Tunnel, Mesh
Per Radio Client Capacity	Up to 512	Up to 512	Up to 512	Up to 512
UL2043 Plenum Material	•	•	•	•
Mounting Options	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall
Cellular Coexistence**	•	•	•	•
LED Off Mode	•	•	•	•
<b>Advanced 802.11 Features</b>				
802.11ac Wave 2 MU-MIMO	•	•	•	•
Transmit Beam Forming (TxBF)	•	•	•	•
Low-Density Parity Check (LDPC) Encoding	•	•	•	•
Max Likelihood Demodulation (MLD)	•	•	•	•
Max Ratio Combining (MRC)	•	•	•	•
802.11ac 20/40/80 MHz Channel	•	•	•	•
A-MPDU and A-MSDU Packet Aggregation	•	•	•	•
MIMO Power Save	•	•	•	•
Short Guard Interval	•	•	•	•
<b>Wireless Monitoring Capabilities</b>				
Rogue Scan Radio Modes	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time
WIPS / WIDS Radio Modes	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time
Packet Sniffer Mode	•	•	•	•
Spectrum Analyzer	•	•	•	•
<b>Certifications</b>				
Wi-Fi Alliance Certified	•	•	•	•
DFS Certified	FCC, IC, CE, Japan, Taiwan	FCC, IC, CE, Japan, Taiwan	FCC, IC, CE, Japan, Taiwan, Korea	FCC, IC, CE, Japan, Taiwan, Korea







# FortiAP™ Integrated or Cloud Managed Indoor, Outdoor and Wall Plate Access Points

	FAP-320C	FAP-321C	FAP-222C	FAP-222E	FAP-224E	FAP-C24JE
						
<b>Suggested Use Case</b>	High density, high performance 802.11ac indoor	Medium density 802.11ac indoor	IP67 High density 802.11ac outdoor	IP67 High density 802.11ac (wave2) outdoor	IP67 High density 802.11ac (wave2) outdoor	Indoor Wall Plate AP for hotel and dorm rooms
<b>Hardware</b>						
<b>Number of Radios</b>	2	2	2	2 + 1 BT/BLE	2 + 1 BT/BLE	2
<b>Number of Antennas</b>	6 Internal	6 Internal	4 External (Type N)	4 External (Type N) + 1 BT/BLE External (RP-SMA)	4 Internal + 1 BT/BLE Internal	4 Internal
<b>Antenna Type and Peak Gain</b>	PIFA: 5 dBi for 2.4 GHz, 6 dBi for 5 GHz	PIFA: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz	Dipole: 3.5 dBi for 2.4 GHz, 6 dBi for 5 GHz	Dipole: 5 dBi for 2.4 GHz, 7 dBi for 5 GHz	Dipole: 6 dBi for 2.4 GHz, 8 dBi for 5 GHz	Chip: 1.5 dBi for 2.4 GHz, 2 dBi for 5 GHz
<b>Radio 1 Capabilities</b>	2.4 GHz b/g/n (3x3:3) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (3x3:3) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (256 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (256 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (64 QAM)
<b>Radio 2 Capabilities</b>	5 GHz a/n/ac (3x3:3) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (3x3:3) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)
<b>Maximum Data Rate</b>	Radio 1: Up to 450 Mbps Radio 2: Up to 1300 Mbps	Radio 1: up to 450 Mbps Radio 2: up to 1,300 Mbps	Radio 1: Up to 300 Mbps Radio 2: Up to 867 Mbps	Radio 1: up to 400 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 400 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 300 Mbps Radio 2: up to 867 Mbps
<b>Bluetooth (BT/BLE)</b>				•	•	
<b>Interfaces</b>	2x GE RJ45, 1x Type A USB, 1x RJ45 Serial Port	1x GE RJ45	1x GE RJ45	1x GE RJ45	1x GE RJ45, 1x GE RJ45 (PoE), 1x SFP slot	2 + 6x GE RJ45 Ports (1x 802.3at PoE (PD), 1x 802.3af PoE (PSE), 1x pass-thru in, 1x pass-thru out), 1x RS-232 RJ45 Serial Port
<b>Power over Ethernet (PoE)</b>	Dual redundant PoE power ports, IEEE 802.3af	IEEE 802.3af	IEEE 802.3at or proprietary PoE injector	IEEE 802.3af/at	IEEE 802.3af/at	802.3af (max PSE output of 4W) or 802.3at (full 802.3af PSE output)
<b>Power Consumption (Max.)</b>	12.08 W	12.6 W	18.4 W	12.95 W	12.95 W	Depends on PoE connected
<b>Simultaneous SSIDs</b>	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	4
<b>Maximum Tx Power</b>	2.4 GHz: 23.7 dBm / 234 mW (3 chains combined)* 5 GHz: 24.7 dBm / 295 mW (3 chains combined)*	2.4 GHz: 24 dBm / 251 mW (3 chains combined)* 5 GHz: 25 dBm / 316 mW (3 chains combined)*	2.4 GHz: 30 dBm / 1 W (2 chains combined)* 5 GHz: 27 dBm / 501 mW (2 chains combined)*	2.4 GHz: 27.2 dBm / 525 mW (2 chains combined)* 5 GHz: 29.5 dBm / 891 mW (2 chains combined)*	2.4 GHz: 24 dBm / 251 mW (2 chains combined)* 5 GHz: 24 dBm / 251 mW (2 chains combined)*	23 dBm / 100mW (2 chains combined)*
<b>Kensington Lock</b>	•	•	•	•	•	•
<b>SSID Types Supported</b>	Local-Bridge, Tunnel, Mesh	Local-Bridge, Tunnel, Mesh	Local-Bridge, Tunnel, Mesh	Local-Bridge, Tunnel & Mesh (when managed by controller)	Local-Bridge, Tunnel & Mesh (when managed by controller)	Local-Bridge, Tunnel
<b>Per Radio Client Capacity</b>	Up to 128	Up to 128	Up to 128	Up to 512	Up to 512	Up to 64
<b>UL2043 Plenum Material</b>	•	•	•	•	•	•
<b>Mounting Options</b>	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall	Wall Mount or Pole Mount	Wall Mount or Pole Mount	Wall Mount or Pole Mount	Wall Plate
<b>Cellular Coexistence**</b>				•	•	•
<b>LED Off Mode</b>	•	•	•	•	•	•
<b>Advanced 802.11 Features</b>						
<b>802.11ac Wave 2 MU-MIMO</b>				•	•	•
<b>Transmit Beam Forming (TxBF)</b>				•	•	•
<b>Low-Density Parity Check (LDPC) Encoding</b>	•	•	•	•	•	•
<b>Maxi Likelihood Demodulation (MLD)</b>	•	•	•	•	•	•
<b>Maxi Ratio Combining (MRC)</b>	•	•	•	•	•	•
<b>802.11ac 20/40/80 MHz Channel</b>	•	•	•	•	•	•
<b>A-MPDU and A-MSDU Packet Aggregation</b>	•	•	•	•	•	•
<b>MIMO Power Save</b>	•	•	•	•	•	•
<b>Short Guard Interval</b>	•	•	•	•	•	•
<b>Wireless Monitoring Capabilities</b>						
<b>Rogue Scan Radio Modes</b>	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time
<b>WIPS / WIDS Radio Modes</b>	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time
<b>Packet Sniffer Mode</b>	•	•	•	•	•	•
<b>Spectrum Analyzer</b>	•	•	•	•	•	•
<b>Certifications</b>						
<b>Wi-Fi Alliance Certified</b>	•	•	•	•	•	•
<b>DFS Certified</b>	CE, Japan	CE, Japan	CE, Japan, Korea	FCC, IC, CE	CE	In Process



# FortiAP-S Integrated or Cloud Managed Smart (802.11ac Wave 2) Access Points

	FAP-S221E	FAP-S223E			
					
Suggested Use Case	High density, high performance 802.11ac indoor	High density, high performance 802.11ac indoor			
<b>Hardware</b>					
Number of Radios	2 + 1 BLE	2 + 1 BLE			
Number of Antennas	4 Internal + 1 BT/BLE internal	4 External (RP-SMA) + 1 BT/BLE internal			
Antenna Type and Peak Gain	PIFA: 3 dBi for 2.4 GHz, 5 dBi for 5 GHz	Dipole: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz			
Radio 1 Capabilities	2.4 GHz b/g/n (2x2:2) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (64 QAM)			
Radio 2 Capabilities	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)			
Maximum Data Rate	Radio 1: up to 300 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 300 Mbps Radio 2: up to 867 Mbps			
Bluetooth (BT/BLE)	•	•			
Interfaces	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port			
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at			
Power Consumption (Max.)	24 W	24 W			
Simultaneous SSIDs	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)			
Maximum Tx Power	2.4 GHz: 23 dBm / 200 mW (2 chains combined)* 5 GHz: 22 dBm / 158 mW (2 chains combined)*	2.4 GHz: 23 dBm / 200 mW (2 chains combined)* 5 GHz: 22 dBm / 158 mW (2 chains combined)*			
Kensington Lock	•	•			
SSID Types Supported	Local-Bridge, Tunnel & Mesh (when managed by controller)	Local-Bridge, Tunnel & Mesh (when managed by controller)			
Per Radio Client Capacity	Up to 512	Up to 512			
UL2043 Plenum Material					
Mounting Options	Ceiling, T-Rail, and Wall	Ceiling, T-Rail, and Wall			
Cellular Coexistence**	•	•			
LED Off Mode	•	•			
<b>Advanced 802.11 Features</b>					
802.11ac Wave 2 MU-MIMO	•	•			
Transmit Beam Forming (TxBF)	•	•			
Low-Density Parity Check (LDPC) Encoding	•	•			
Max Likelihood Demodulation (MLD)	•	•			
Max Ratio Combining (MRC)	•	•			
802.11ac 20/40/80 MHz Channel	•	•			
A-MPDU and A-MSDU Packet Aggregation	•	•			
MIMO Power Save	•	•			
Short Guard Interval	•	•			
<b>Wireless Monitoring Capabilities</b>					
Rogue Scan Radio Modes	Background, Full-time	Background, Full-time			
WIPS / WIDS Radio Modes	Background, Full-time	Background, Full-time			
Packet Sniffer Mode	•	•			
Spectrum Analyzer	•	•			
<b>Certifications</b>					
Wi-Fi Alliance Certified	•	•			
DFS Certified	FCC, IC, CE, Japan	FCC, IC, CE, Japan			



# FortiAP-U Universally Manageable Indoor Access Points

	FAP-U221EV	FAP-U223EV	FAP-U321EV	FAP-U323EV	FAP-U421EV	FAP-U423EV
						
Suggested Use Case	Medium Density, 802.11ac indoor	Medium Density, 802.11ac indoor	High density, high performance 802.11ac W2 indoor	High density, high performance 802.11ac W2 indoor	High density, high performance 802.11ac W2 indoor	High density, high performance 802.11ac W2 indoor
<b>Hardware</b>						
Number of Radios	2 + 1 BT/BLE	2 + 1 BT/BLE	2 + 1 BT/BLE	2 + 1 BT/BLE	2 + 1 BT/BLE	2 + 1 BT/BLE
Number of Antennas	4 Internal + 1 BT/BLE Internal	4 External (RP-SMA) + 1 BT/BLE Internal	6 Internal + 1 BT/BLE Internal	6 External (RP-SMA) + 1 BT/BLE Internal	8 Internal + 1 BT/BLE Internal	8 External (RP-SMA) + 1 BT/BLE Internal
Antenna Type and Peak Gain	Patch: 3 dBi for 2.4 GHz, 4 dBi for 5 GHz	Dipole: 3 dBi for 2.4 GHz, 4 dBi for 5 GHz	Patch: 4.5 dBi for 2.4 GHz, 6.5 dBi for 5 GHz	Dipole: 3.5 dBi for 2.4 GHz, 5 dBi for 5 GHz	Patch: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz	Dipole: 3 dBi for 2.4 GHz, 3 dBi for 5 GHz
Radio 1 Capabilities	2.4 GHz b/g/n (2x2:2) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (3x3:3) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (3x3:3) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (4x4:4) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (4x4:4) 20/40 MHz (64 QAM)
Radio 2 Capabilities	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (3x3:3) 20/40/80 MHz (256/1024 QAM)	5 GHz a/n/ac (3x3:3) 20/40/80 MHz (256/1024 QAM)	5 GHz a/n/ac (4x4:4) 20/40/80/160 MHz (256/1024 QAM)	5 GHz a/n/ac (4x4:4) 20/40/80/160 MHz (256/1024 QAM)
Maximum Data Rate	Radio 1: up to 300 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 300 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 450 Mbps Radio 2: up to 2,600 Mbps	Radio 1: up to 450 Mbps Radio 2: up to 2,600 Mbps	Radio 1: up to 600 Mbps Radio 2: up to 3,466 Mbps	Radio 1: up to 600 Mbps Radio 2: up to 3,466 Mbps
Bluetooth (BT/BLE)	•	•	•	•	•	•
Interfaces	1x GE RJ45, 1x Type A USB	1x GE RJ45, 1x Type A USB	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	2x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	IEEE 802.3af or 802.3at	IEEE 802.3af or 802.3at	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at
Power Consumption (Max.)	12.5 W	12.5 W	15 W when supplied by 802.3at power and 12.8 W when in 802.3af power mode	15 W when supplied by 802.3at power and 12.8 W when in 802.3af power mode	24.5 W when supplied by 802.3at power and 12.5 W when in 802.3af power mode	24.5 W when supplied by 802.3at power and 12.5 W when in 802.3af power mode
Simultaneous SSIDs	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)
Maximum Tx Power	2.4 GHz: 25 dBm / 316 mW (2 chains combined)* 5 GHz: 23 dBm / 200 mW (2 chains combined)*	2.4 GHz: 25 dBm / 316 mW (2 chains combined)* 5 GHz: 23 dBm / 200 mW (2 chains combined)*	2.4 GHz: 26.7 dBm / 468 mW (3 chains combined)* 5 GHz: 24.7 dBm / 295 mW (3 chains combined)*	2.4 GHz: 26.7 dBm / 468 mW (3 chains combined)* 5 GHz: 24.7 dBm / 295 mW (3 chains combined)*	2.4 GHz: 28 dBm / 631 mW (4 chains combined)* 5 GHz: 26 dBm / 398 mW (4 chains combined)*	2.4 GHz: 28 dBm / 631 mW (4 chains combined)* 5 GHz: 26 dBm / 398 mW (4 chains combined)*
Kensington Lock	•	•	•	•	•	•
SSID Types Supported	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh
Per Radio Client Capacity	Up to 128	Up to 128	Up to 256	Up to 256	Up to 256	Up to 256
UL2043 Plenum Material					•	•
Mounting Options	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall
Cellular Coexistence**	•	•	•	•	•	•
LED Off Mode	•	•	•	•	•	•
<b>Advanced 802.11 Features</b>						
802.11ac Wave 2 MU-MIMO			•	•	•	•
Transmit Beam Forming (TxBF)	•	•	•	•	•	•
Low-Density Parity Check (LDPC) Encoding	•	•	•	•	•	•
Max Likelihood Demodulation (MLD)	•	•	•	•	•	•
Max Ratio Combining (MRC)	•	•	•	•	•	•
802.11ac 20/40/80 MHz Channel	•	•	•	•	•	•
A-MPDU and A-MSDU Packet Aggregation	•	•	•	•	•	•
MIMO Power Save	•	•	•	•	•	•
Short Guard Interval	•	•	•	•	•	•
<b>Wireless Monitoring Capabilities</b>						
Rogue Scan Radio Modes	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time
WIPS / WIDS Radio Modes	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time	Background, Full-time
Packet Sniffer Mode	•	•	•	•	•	•
Spectrum Analyzer	•	•	•	•	•	•
<b>Certifications</b>						
Wi-Fi Alliance Certified	•	•	•	•	•	•
DFS Certified	FCC, CE, Japan	FCC, CE, Japan	FCC, CE, IC, Japan	FCC, CE, IC, Japan	FCC, CE, IC, Japan, Taiwan, Korea	FCC, CE, IC, Japan, Taiwan, Korea



# FortiAP-U Universally Manageable Wi-Fi 6 (802.11ax) Access Points

	FAP-U431F	FAP-U433F
		
Suggested Use Case	High performance 802.11ax indoor	High performance 802.11ax indoor
<b>Hardware</b>		
Number of Radios	3 + 1 BT/BLE	3 + 1 BT/BLE
Number of Antennas	10 Internal + 1 BT/BLE Internal	10 External (RP-SMA) + 1 BT/BLE Internal
Antenna Type and Peak Gain	PIFA: 4 dBi for 2.4 GHz, 6 dBi for 5 GHz	Dipole: 3.5 dBi for 2.4 GHz, 5 dBi for 5 GHz
Radio 1 Capabilities	5.0 GHz a/n/ac/ax (4x4:4) 20/40/80/160 MHz (64, 1024 QAM)	5.0 GHz a/n/ac/ax (4x4:4) 20/40/80/160 MHz (64, 1024 QAM)
Radio 2 Capabilities	2.4/5.0 GHz a/b/g/n/ac/ax (4x4:4) 20/40/80/160 MHz (64, 1024 QAM)	2.4/5.0 GHz a/b/g/n/ac/ax (4x4:4) 20/40/80/160 MHz (64, 1024 QAM)
Radio 3 Capabilities	2.4/5.0 GHz b/g/n/ac (2x2:2) 20/40 MHz (64 QAM)	2.4/5.0 GHz b/g/n/ac (2x2:2) 20/40 MHz (64 QAM)
Maximum Data Rate	Radio 1: up to 4,804 Mbps Radio 2: up to 4,804 Mbps Radio 3: up to 300 Mbps	Radio 1: up to 4,804 Mbps Radio 2: up to 4,804 Mbps Radio 3: up to 300 Mbps
Bluetooth (BT/BLE)	•	•
Interfaces	1x 2.5GE RJ45, 1x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	1x 2.5GE RJ45, 1x GE RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at	Dual redundant PoE power ports with support for IEEE 802.3af & 802.3at
Power Consumption (Max.)	24.5 W	24.5 W
Simultaneous SSIDs	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)
Maximum Tx Power	Radio 1: 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 2: 2.4 GHz: 26 dBm / 398 mW (4 chains combined)* 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 3: 2.4 GHz: 22 dBm / 158 mW (2 chains combined)*	Radio 1: 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 2: 2.4 GHz: 26 dBm / 398 mW (4 chains combined)* 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 3: 2.4 GHz: 22 dBm / 158 mW (2 chains combined)*
Kensington Lock	•	•
SSID Types Supported	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh
Per Radio Client Capacity	Up to 512	Up to 512
UL2043 Plenum Material	•	•
Mounting Options	Wall Mount or Pole Mount	Wall plate or desk stand
Cellular Coexistence**	•	•
LED Off Mode	•	•
<b>Advanced 802.11 Features</b>		
802.11ac Wave 2 MU-MIMO	•	•
Transmit Beam Forming (TxBF)	•	•
Low-Density Parity Check (LDPC) Encoding	•	•
Max Likelihood Demodulation (MLD)	•	•
Max Ratio Combining (MRC)	•	•
802.11ac 20/40/80 MHz Channel	•	•
A-MPDU and A-MSDU Packet Aggregation	•	•
MIMO Power Save	•	•
Short Guard Interval	•	•
<b>Wireless Monitoring Capabilities</b>		
Rogue Scan Radio Modes	Background, Full-time	Background, Full-time
WIPS / WIDS Radio Modes	Background, Full-time	Background, Full-time
Packet Sniffer Mode	•	•
Spectrum Analyzer	•	•
<b>Certifications</b>		
Wi-Fi Alliance Certified		
DFS Certified		

# FortiAP-U Universally Manageable Outdoor and Wall Plate Access Points

	FAP-U422EV	FAPU24JEV
		
Suggested Use Case	High performance 802.11ac W2 outdoor	Low cost, compact 802.11ac wallplug/wall plate
<b>Hardware</b>		
Number of Radios	2 + 1 BT/BLE	1 or 2 + 1 BT/BLE
Number of Antennas	8 External (Type N) + 1 BT/BLE Internal	2 Internal + 1 BT/BLE Internal
Antenna Type and Peak Gain	Dipole: 5 dBi for 2.4 GHz, 7 dBi for 5 GHz	Patch: 3 dBi for 2.4 GHz, 4 dBi for 5 GHz
Radio 1 Capabilities	2.4 GHz b/g/n (4x4:4) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (2x2:2) 20/40 MHz (64 QAM) or 5 GHz a/n/ac (2x2:2) 20/40/80 MHz (256 QAM)
Radio 2 Capabilities	5 GHz a/n/ac (4x4:4) 20/40/80/160 MHz (256/1024 QAM)	or 2.4 GHz b/g/n (1x1:1) 20/40 MHz (64 QAM) & 5 GHz a/n/ac (1x1:1) 20/40/80 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 600 Mbps Radio 2: up to 3,466 Mbps	up to 867 Mbps
Bluetooth (BT/BLE)	•	•
Interfaces	2x GE RJ45, 1x RS-232 RJ45 Serial Port	2 + 4x GE RJ45 Ports (1x 802.3at PoE (PD), 1x 802.3af PoE (PSE), 1x pass-thru in, 1x pass-thru out)
Power over Ethernet (PoE)	Proprietary or 802.3at	802.3af (max PSE output of 4W) or 802.3at (full 802.3af PSE output)
Power Consumption (Max.)	22 W	24W (Depends on PoE connected and USB power consumed)
Simultaneous SSIDs	16 (14 client, 2 monitor)	16 (14 client, 2 monitor)
Maximum Tx Power	2.4 GHz: 24 dBm / 251 mW (4 chains combined)* 5 GHz: 24 dBm / 251 mW (4 chains combined)*	2.4 GHz: 23 dBm / 200 mW (2 chains combined)* 5 GHz: 21 dBm / 126 mW (2 chains combined)*
Kensington Lock		
SSID Types Supported	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel
Per Radio Client Capacity	Up to 256	Up to 128
UL2043 Plenum Material		
Mounting Options	Wall Mount or Pole Mount	Wall plate or desk stand
Cellular Coexistence**	•	•
LED Off Mode	•	•
<b>Advanced 802.11 Features</b>		
802.11ac Wave 2 MU-MIMO	•	•
Transmit Beam Forming (TxBF)	•	•
Low-Density Parity Check (LDPC) Encoding	•	•
Max Likelihood Demodulation (MLD)	•	•
Max Ratio Combining (MRC)	•	•
802.11ac 20/40/80 MHz Channel	•	•
A-MPDU and A-MSDU Packet Aggregation	•	•
MIMO Power Save	•	•
Short Guard Interval	•	•
<b>Wireless Monitoring Capabilities</b>		
Rogue Scan Radio Modes	Background, Full-time	Background, Full-time
WIPS / WIDS Radio Modes	Background, Full-time	Background, Full-time
Packet Sniffer Mode	•	•
Spectrum Analyzer	•	•
<b>Certifications</b>		
Wi-Fi Alliance Certified	•	•
DFS Certified	FCC, IC, CE, Japan	CE, Japan

# FortiWiFi™ Firewall and WiFi Gateway

	FWF-30E	FWF-50E	FWF-50E-2R	FWF-60E
				
<b>Suggested Deployment</b>	Home/small office	Home/small office	Distributed office	Distributed office
<b>Hardware</b>				
<b>Form Factor</b>	Desktop, wall mountable	Desktop, wall mountable	Desktop, wall mountable	Desktop, wall mountable
<b>Dimension</b>	1.61 x 8.27 x 5.24 in	1.44 x 5.5 x 8.52	1.44 x 5.5 x 8.52	1.5 x 8.5 x 6.3 in
<b>Kensington Lock</b>				
<b>Ethernet Interfaces</b>	1 x GE RJ45 WAN, 4 x GE RJ45 Switch ports	2 x GE RJ45 WAN, 5 x GE RJ45 Switch ports	2 x GE RJ45 WAN, 5 x GE RJ45 Switch ports	3 x GE RJ45 WAN/DMZ, 7 x GE RJ45 Switch ports
<b>Mesh Root</b>		•		
<b>Other WiFi Variants</b>	—	+ Storage (FWF-51E)	—	—
<b>Wireless</b>				
<b>IEEE Standard</b>	802.11 a/b/g/n	802.11 a/b/g/n	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac
<b>Number of Radios</b>	1	1	2	1
<b>Radio 1 Band (association rate)</b>	2.4GHz / 5GHz (300Mbps)	2.4GHz / 5GHz (300Mbps)	2.4GHz (300Mbps)	2.4GHz / 5GHz (300Mbps)
<b>Radio 2 Band (association rate)</b>	—	—	5GHz (867 Mbps)	—
<b>MIMO</b>	2x2	2x2	2x2	2x2
<b>Max / recommended number of concurrent clients</b>	128 / 30	128 / 30	128 / 30	128 / 30
<b>Antenna Type and Count</b>	2 F-type antennas (RP-SMA)	2 F-type antennas (RP-SMA)	2 F-type antennas (RP-SMA)	2 di-pole antennas (RP-SMA)
<b>Antenna Gain</b>	3 dBi/(3dBi-5GHz)	3 dBi/(3dBi-5GHz)	3 dBi/(6dBi-5GHz)	3 dBi/(6dBi-5GHz)
<b>Max TX Power</b>	17dBm	17dBm	2.4G:20.5 dBm, 5G:16.5dBm	17dBm
<b>Number of SSIDs</b>	8 (7 client, 1 monitor)	8 (7 client, 1 monitor)	8 (7 client, 1 monitor)	8 (7 client, 1 monitor)
<b>Traffic Queues</b>	4 queues	4 queues	4 queues	4 queues
<b>802.11n 20/40MHz HT</b>	•	•	•	•
<b>Short Guard</b>	•	•	•	•
<b>802.11ac 80 MHz channel</b>				
<b>MAC Service Data Unit (MSDU) aggregation and MAC Protocol Data Unit (MPDU) frame aggregation</b>	•	•	•	•
<b>Cyclic-delay diversity (CDD)</b>	•	•	•	•
<b>Power Save (WME-PS)</b>	•	•	•	•
<b>802.11n Max ratio combining (MRC)</b>	•	•	•	•
<b>Transmit Beam Forming (TxBF)</b>	•	•	•	•
<b>Low Density Parity Check encoding (LDPC)</b>	•	•	•	•
<b>802.11n Maximum Likelihood Detection (MLD)</b>	•	•	•	•
<b>Rogue AP scanning</b>				
<b>Dual Band Scanning</b>	•	•	•	•
<b>Background Scan</b>	•	•	•	•
<b>Full-time dedicated monitor</b>	•	•	•	•
<b>Single Radio Dual band scanning</b>	•	•	•	•
<b>Management</b>				
<b>WebUI &amp; CLI</b>	•	•	•	•
<b>Max managed APs</b>	2	10	10	20
<b>Cloud deployment support</b>	•	•	•	•
<b>Certifications</b>				
<b>Wi-Fi Alliance Certified</b>				
<b>DFS Certified</b>				

\* Certification covers following specifications: - 802.11a/b/g/n, Short Guard Interval, TX A-MPDU, STBC, 40 MHz operation in 5 GHz/WPA™ Personal, WPA™ Enterprise / Personal, WPA2™ , Enterprise / Personal, WMM™, EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST, 802.11 d/h, WMM Power Save.




\*\* Additional filtration added to reduce interference in 2.4GHz band from nearby cellular equipment.








## FortiGate/FortiWiFi® Wireless Controller (with FortiOS 6.2)

	FortiGate/FortiWiFi 30E, 50E & 60E Series	FortiGate/FortiWiFi 80D, 80E, 90E, 92D Series	FortiGate 100D, 100/101E/F Series	FortiGate 200E Series	FortiGate 300D, 300/301E, 400D, 400/401E & 500D, 500/501E
<b>Hardware</b>					
Product Range / Form Factor	Entry / Desktop	Entry / Desktop-2 RU	Mid Range / 1 RU	Mid Range / 1 RU	Mid Range / 1 RU
GE Interfaces	5-10	4 - 78	8 - 40	18	10 - 18
GE PoE/PoE+ Interfaces	- / 8 (FG-60E-POE)	- / 12 (FG80/81E-POE)	16 (FG-140D-POE)	-	-
10 GE Interfaces	-	-	2 (FG-100/101F)	-	2 (500E & 600E Series)
40 GE Interfaces	-	-	-	-	-
<b>Capacity</b>					
Maximum Supported APs (Tunnel Mode)	2 - 10	16	32	64	256
Maximum Supported APs (Total)	2 - 30	32	64	128	512
Max number of SSIDs	32	32	256	256	256
Max CAPWAP throughput	250 Mbps - 1.9 Gbps	260 Mbps - 2.2 Gbps	1.2 - 15 Gbps	1.5 Gbps	5.4 - 18 Gbps
Max Concurrent Sessions	500 K - 1.8 Mil	1.5 - 2 Mil	2Mill - 3 Mil	2 Mil	5.5 - 8 Mil
	<b>FortiGate 600D, 600/601E 800D &amp; 900D</b>	<b>FortiGate 1000,2000 &amp; 3000 Series</b>	<b>FG-5000 Series</b>	<b>FG-VM Series</b>	
<b>Hardware</b>					
Product Range / Form Factor	Mid Range / 1 RU	High End / 2-3 RU	High End / 3-13 RU	-	
GE Interfaces	16-34	2 - 34	2 - 28	Refer to Data Sheet	
GE PoE/PoE+ Interfaces	-	-	-	-	
10 GE Interfaces	0 - 2	2 - 48	2 - 112	Refer to Data Sheet	
40 GE Interfaces	-	up to 10	-	-	
100 GE Interfaces	-	up to 10	2	-	
<b>Capacity</b>					
Maximum Supported APs (Tunnel Mode)	512	1,024	Up to 14,336 (1,024/blade)	32 - 2,048	
Maximum Supported APs (Total)	1,024	4,096	Up to 57,344 (4,096/blade)	64 - 4,096	
Max number of SSIDs	256	1,024	Up to 14,336 (1,024/blade)	32 - 1,024	
Max CAPWAP throughput	5.5 Gbps - 18 Gbps	11 Gbps - 57 Gbps	Refer to Datasheet	Refer to Data Sheet	
Max Concurrent Sessions	3 - 11 Mil	11 - 160 Mil	10 - 100 Mil	Refer to Data Sheet	



# Fortinet Infrastructure Wi-Fi Access Points

	AP 122	AP 822i/822e	OAP 832e		
					
Suggested Use Case	In-room hotel, hospital, dormitory	Classrooms, Dormitory Common Areas, Moderate Density Enterprise	Parking Lots, Courtyards, University Grounds		
<b>Hardware</b>					
Form Factor	Small, wall mountable	Wall or ceiling wall mountable	Outdoor 67 rated, wall or pole wall mountable		
Dimension	5.51 x 5.35 x 1.18 in	7.1 x 7.1 x 2.7 in	11.0 x 8.54 x 2.0 in		
Ethernet Interfaces	1x GE RJ45 (PD), 1x FE, 1x FE PoE (PSE), 1x pass through RJ45 pair	1x GE RJ45 (PD), 1x GE RJ45 (disabled)	1x GE RJ45 (PD), 1x GE RJ45		
PoE	802.3af, 802.3at	802.3af, 802.3at	802.3at		
Included accessories	Mounting kit	Mounting kits, omnidirectional antennas for AP822e	Mounting kits and omnidirectional antennas		
Mesh capable		•	•		
<b>Wireless</b>					
IEEE Standard	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac		
Number of Radios	2	2	2		
Radio 1 Band (association rate)	2.4 GHz / 5 GHz (300 Mbps)	2.4 GHz / 5 GHz (300 Mbps)	2.4 GHz (450 Mbps)		
Radio 2 Band (association rate)	5 GHz a/n/ac (867 Mbps)	5 GHz a/n/ac (867 Mbps)	5 GHz a/n/ac (1,300 Mbps)		
MIMO	2x2 (dual stream)	2x2 (dual stream)	3x3 (3 stream)		
Max / recommended number of concurrent clients	128 / 20 per radio	128 / 50 per radio	128 / 50 per radio		
Antenna Type and Count	4 - Internal	822i: 4 - Internal 822e: 4 - External	6 N-type External		
Antenna Gain	3.6 dBi / (5 dBi for 5 GHz)	AP 822i :3.3 dBi / (6 dBi for 5 GHz) AP 822e :3.3 dBi / (6 dBi for 5 GHz)	6 dBi / (7dBi for 5 GHz)		
Max TX Power	20 dBm (2.4 GHz) 20 dBm (5 GHz)	AP 822i : 23 & 22 dBm - 2.4/5 GHz AP 822e : 24 & 24 dBm - 2.4/5 GHz	29 dBm (2.4 GHz) 23 dBm (5 GHz)		
Number of SSIDs	64	64	64		
802.11n 20/40MHz HT	•	•	•		
802.11ac 80 MHz channel	•	•	•		
<b>Security</b>					
WEP, WPA-PSK, WPA-TKIP, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-SIM, EAP-AKA, and EAP-MD5)	•	•	•		
802.1X and captive portal authentication against local database on the controller, RADIUS, and Active Directory	•	•	•		
RADIUS-assisted per-user and per-ESSID access control via MAC filtering	•	•	•		
<b>Operation Mode</b>					
Centralized deployment mode	•	•	•		
Distributed deployment mode	•	•	•		
Remote VPN tunnel mode	•	•	•		
<b>Certifications</b>					
Wi-Fi Alliance Certified*	•	•	•		
DFS Certified**	Region A, K, J, E	Region A, K, J, E	Region A, J, E		

## FortiWLC Wireless Controllers

	FWC-50D	FWC-200D	FWC-500D	FWC-1000D	FWC-3000D
					
<b>Suggested Use Case</b>	Small enterprises, remote offices	Medium enterprises, branch offices	Large enterprises, regional offices	Large enterprises	Large enterprises
<b>Hardware</b>					
<b>Form Factor</b>	1 RU	1 RU	1 RU	2 RU	2 RU
<b>Ethernet Interfaces</b>	4x GE RJ45	4x GE RJ45	4x GE RJ45, 4x GE SFP, 2x 10GE SFP+	2x GE RJ45, 4x 10GE SFP+	2x GE RJ45, 8x 10GE SFP+
<b>Capacity</b>					
<b>Max. Access Points</b>	50	200	500	1,000	3,000
<b>Max. Clients</b>	1,500	2,500	7,500	20,000	45,000
	FWC-50D-VM	FWC-200D-VM	FWC-500D-VM	FWC-1000D-VM	FWC-3000D-VM
<b>Suggested Use Case</b>	Small enterprises, remote offices	Medium enterprises, branch offices	Large enterprises, regional offices	Large enterprises	Large enterprises
<b>Hardware</b>					
<b>Max. vCPU</b>	4	4	8	24	48
<b>Max. PAM</b>	4 GB	8 GB	16 GB	32 GB	64 GB
<b>Min. HDD Size</b>	16 GB	16 GB	16 GB	16 GB	16GB
<b>Capacity</b>					
<b>Max. Access Points</b>	50	200	500	1,000	3,000
<b>Max. Clients</b>	1,250	2,500	6,250	10,000	30,000

## FortiWLM Wireless Manager

	FWM-100D	FWM-1000D	FWM-VM
			
<b>Suggested Use Case</b>	Small enterprises	Medium to large enterprises	—
<b>Hardware</b>			
<b>Form Factor</b>	1 RU	1 RU	Supports VMware, Hyper-V, AWS and KVM hypervisors.
<b>Ethernet Interfaces</b>	4x GE RJ45	4x GE RJ45, 4x GE SFP	—
<b>Capacity</b>			
<b>Number of Infrastructure APs</b>	1,000	15,000	15,000
<b>Number of Stations</b>	5,000	75,000	75,000



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This document is provided as a convenient comparison of Fortinet products and services. The datasheet for any product or service can be found on [www.fortinet.com](http://www.fortinet.com) should be consulted for the most updated specifications.

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