

# **FortiAP<sup>™</sup> Universal Access Point Series**

FAP-U421EV and FAP-U423EV

Enterprise WiFi has transformed from a transient network to a permanent fixture within all organizations. The data transported on our wireless networks span from classroom video conferencing to healthcare patient monitoring traffic to financial Point-of-Sale transactions. Expectations continue to rise for this always on, always everywhere network. Today, WiFi is no longer a convenience but a mission critical utility.



#### **Universal Access Points**

Fortinet offers the industry's largest enterprise-class WiFi portfolio and blazing fast 802.11ac Wave 2 access points. The Fortinet Universal AP offer the ability to support all deployment options from on-premise to cloud management. This ability by our Universal Access Points to intelligently support stand-alone dedicated controllers (FortiWLC), integrated security controllers (FortiGate) and cloud management (FortiCloud) options, establish a new benchmark in flexibility, performance and security in the enterprise WLAN market. When paired with our industry-leading FortiGuard services, this next generation enterprise-class WLAN solution can protect your network from the latest cybersecurity threats while at the same time providing unmatched wireless performance.



- Supports Universal Access Management from on-premise to cloud management
- 802.11ac Wave 2 technology with data rates of up to 3.5 Gbps
- 4x4 4-spatial stream multi-user MIMO (MU-MIMO) improves client throughput and range
- 802.11ac transmit beamforming (TxBF)
- Modulation up to 256 QAM
- Integrated with Fortinet Security Fabric
- Virtual Cell enabled deployments segment traffic at RF layer
- Hit-less PoE Failover

#### **Key Features and Benefits**

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Universal Access Management	Supports ALL wireless deployment types from on-premise controllers to cloud management.
Highest Gigabit WiFi Performance	Incorporates the highest WiFi standards available today — 802.11ac Wave 2, 3.5 Gbps, 4x4, MU-MIMO.
Unmatched Security Protection	Integrates with Fortinet's Security Fabric providing unparalleled cybersecurity protection at the network edge.
Multi-User MIMO	Simultaneous transmission to Multiple devices to achieve higher throughputs.

# HIGHLIGHTS

Fortinet Universal access points are designed to support medium to large offices, schools, universities, hospitals, hotels, and large retail stores.

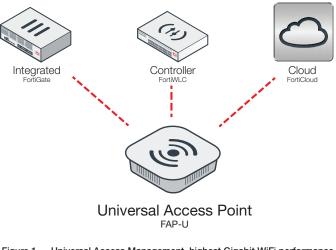


Figure 1 — Universal Access Management, highest Gigabit WiFi performance and unmatched security protection.

### Education

Deployment of large scale WiFi requires site surveys, channel planning and worries over cell sizes and transmit power. Fortinet's Universal access points ,when paired with our dedicated wireless controllers (FortiWLC and MC), eliminates this work. This enables school administrators to simplify initial deployment or the adding of APs to support more students throughout the campus or in classrooms without the headaches of more wireless network planning.

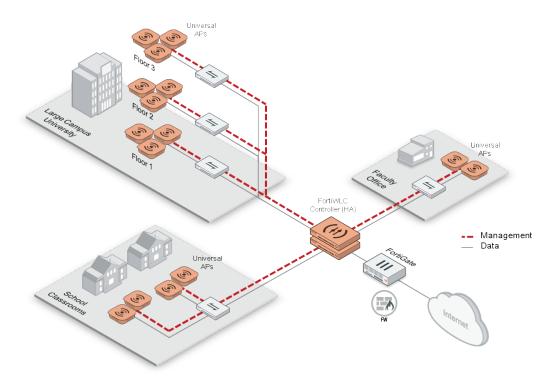


Figure 2 - Educational organizations with Universal APs managed by on-premise FortiWLC controllers.

### HIGHLIGHTS

#### Healthcare

Patient safety is priority one. Fortinet Universal APs empower hospitals to improve patient safety by enabling life-critical applications such as telemetry requiring low bandwidth but exceptionally high reliability. Our Integrated secure wireless controllers (FortiGate) connected to our Universal access points ensures patient safety remains paramount.

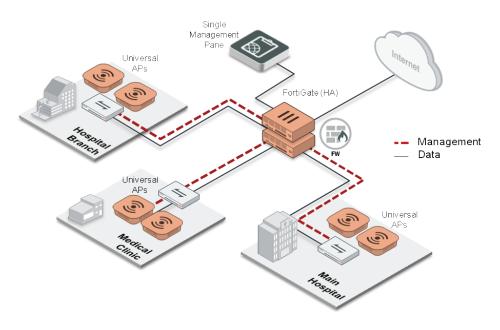


Figure 3 - Healthcare organizations with Universal APs managed by on-premise FortiGate controllers.

### Retail

The retail sector continues to be a top target for cyber criminals. To protect themselves and their customers, while also providing robust wireless services to their customers and employees, retailers need a cost-effective wireless solution. Retailers can streamline WiFi store deployments through the combination of Universal APs and FortiCloud. This, in combination with FortiGuard services, provides cybersecurity protection to mitigate risk to retailers from damage created by a data breach.

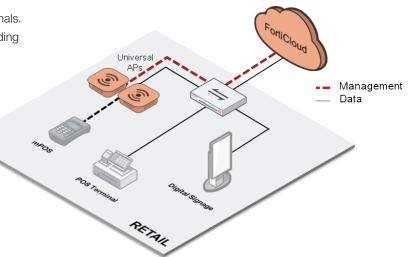


Figure 4 — Retail store with Universal APs managed by FortiCloud.



# HIGHLIGHTS

#### Highest Gigabit WiFi Performance - 802.11ac Wave 2

The FortiAP U421EV and U423EV access points support the latest 802.11ac Wave 2 standard, with a client association rate of up to 3.5 Gbps. Additional features include 802.11ac explicit transmit beamforming (TxBF), multi-user MIMO (MU-MIMO) and more.

The combination of the 802.11ac Wave 2 standard and these advanced features means better client data rates over greater distances, and ultimately a better user experience.

# FAP-U421EV / FAP-U423EV RF RX/TX PERFORMANCE TABLE

			Radio 2 5 GHz		
802.11 a/g	MAX TX Power per transmit chain (dBm)	RX Sensitivity per receiver chain (dBm)	MAX TX Power per transmit chain (dBm)	RX Sensitivity per receiver chain (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	
18 Mbps	22	-77	19	-74	
54 Mbps	19	-76	18	-73	
302.11 HT20	TX Power (dBm)	RX Sensitivity (dBm)	TX Power (dBm)	RX Sensitivity (dBm)	
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	TX Power (dBm)	RX Sensitivity (dBm)	TX Power (dBm)	RX Sensitivity (dBm)	
MSC 0/8/16 (BPSK)	21	-89	20	-86	
/ISC 1/9/17 (QPSK)	20	-87	19	-84	
/ISC 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	
302.11 HT80	TX Power (dBm)	RX Sensitivity (dBm)	TX Power (dBm)	RX Sensitivity (dBm)	
MSC 0 (BPSK)		-	18	-83	
MSC 1 (QPSK)		-		-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)

### **SPECIFICATIONS**

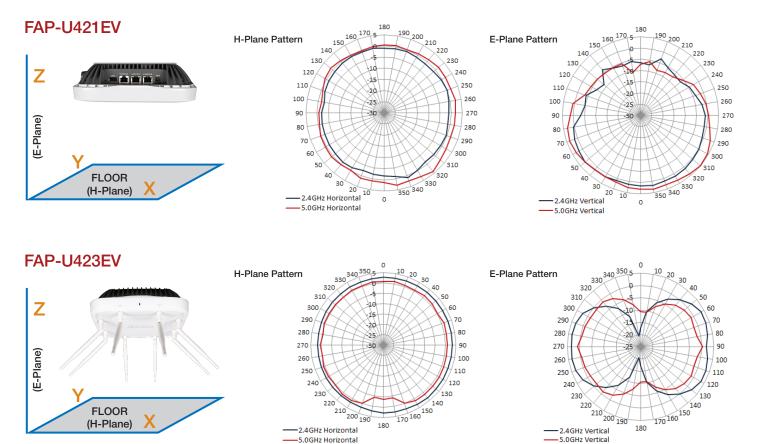
	FORTIAP U421EV	FORTIAP U423EV		
Hardware				
Hardware Type	Indoor Universal AP	Indoor Universal AP		
Number of Radios	2	2		
Number of Antennas	9 Internal (8 WiFi + 1 Bluetooth/BLE)	8 RP-SMA External and 1 Bluetooth/BLE Internal		
Peak Antenna Gain	4 dBi for 2.4 GHz,	3 dBi for 2.4 GHz,		
	5 dBi for 5 GHz	3 dBi for 5 GHz		
Frequency Bands (GHz) *	2.400-2.4835,	2.400-2.4835,		
Enclosed of De Port	5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	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 20/40 MHz (256 QAM)	2.4 GHz b/g/n 20/40 MHz (256 QAM)		
Frequency of Radio 2	5 GHz a/n/ac	5 GHz a/n/ac		
	20/40/80/160 MHz (256 QAM)	20/40/80/160 MHz (256 QAM)		
Maximum Data Rate	Radio 1: up to 800 Mbps	Radio 1: up to 800 Mbps		
	Radio 2: up to 3.46 Gbps	Radio 2: up to 3.46 Gbps		
Radio Chains / Streams	4x4 / spatial streams	4x4 / spatial streams		
Bluetooth Low Energy (BT/BLE) Radio	4 dBm Transmit Power (class 2)	4 dBm Transmit Power (class 2)		
	-94 dBm Receive Sensitivity	-94dBm Receive Sensitivity		
Ethernet Ports	2x GE RJ45	2x GE RJ45		
USB Port	1х Туре А	1x Type A		
Serial Console Port	1 RS-232 x RJ45	1 RS-232 x 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)		
Simultaneous SSIDs	16 (14 if background scanning enabled)	16 (14 if background scanning enabled)		
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/ EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/ EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST		
User/Device Authentication	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist	WPA™ and WPA2™ with 802.1x or Preshared key, WEP and Web Captive Portal, MAC blacklist & whitelist		
Maximum Tx Power	2.4 GHz band – 22.0 dBm* 5.0 GHz band – 20.0 dBm*	2.4 GHz band – 22.0 dBm* 5.0 GHz band – 20.0 dBm*		
Physical Security	Kensington Lock	Kensington Lock		
IEEE Standards	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	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		
FortiPresence Capable	Yes	Yes		
Wireless Mesh Capable	Yes	Yes		
Modes of Operation	MC with SD 8.2, FWLM, Future FortiGate or FortiCloud support	MC with SD 8.2, FWLM, FortiGate or FortiCloud management		
SSID Types Supported	Local-Bridge, Tunnel & Mesh (when managed by controller)	Local-Bridge, Tunnel & Mesh (when managed by controller)		
FortiDeploy and FortiCloud Key	Yes	Yes		
Concurrent Clients Per Radio (Maximum / Recommended)	512 / 128	512 / 128		
LED Off Mode	Yes	Yes		
Advanced 802.11 Features				
802.11ac Wave2 MU-MIMO	Yes	Yes		
Transmit Beam Forming (TxBF)	Yes	Yes		
Low-Density Parity Check (LDPC) Encoding	Yes	Yes		
Maximum Likelihood Demodulation (MLD)	Yes	Yes		
Maximum Ratio Combining (MRC)	Yes	Yes		
A-MPDU and A-MSDU Packet Aggregation	Yes	Yes		
MIMO Power Save	Yes	Yes		
Short Guard Interval	Yes	Yes		
WME Multimedia Extensions	Yes (4 priority queues for voice, video, data and background traffic)	Yes (4 priority queues for voice, video, data and background traffic)		
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		
Packet Sniffer Mode	Yes	Yes		
Spectrum Analyzer	Yes — Dedicated chipset	Yes — Dedicated chipset		

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

## **SPECIFICATIONS**

Langh x Widh x Height (mohe)8.46 x 8.46 x 2.28.46 x 8.46 x 2.2Langh x Widh x Height (mohe)215 x 15 x 56215 x 215 x 56Langh x Widh x Height (mohe)3.18 L 1.5 x [.]3.40 L 1.5 x [.]Package rehipping/ Weight5.05 b. 2.43 kg5.85 b. 2.43 kgMounting OptionsCaling, Fhal and WilCaling, Fhal and WilInclude AccessoriesCaling, Fhal and WilCaling, Fhal and WilProcessoriesCaling, Fhal and WilCaling, Fhal and WilPower Stopp was disper sold separately)VCC power adapter sold separately)Power Stopp was disper sold separately)VCC power adapter sold separatelyPower Stopp was disper sold separately)VCC Stop VDC, StaPower Stopp was disper sold separately)VCC Stop VDC, StaPower Stopp was disper sold separately)VCC StaPower Stopp was disper sold separatelyVCC StaPower Stopp was disper sold separatelyVCS Sta		FORTIAP U421EV	FORTIAP U423EV
Length XWdh X Height (mm)215 x 215 x 56215 x 215 x 56Weight3.31 h (1.5 kg)3.4 h (1.53 kg)Rackage (kinpling) Weight5.08 h (2.31 kg)5.58 h (2.43 kg)Mouring OptionsCaling, T-Rai and WallCaling, T-Rai and WallIncluded AccessoriesCaling, T-Rai and Wall mourt KitCaling, T-Rai and WallEnvironmentAdapter input: 100-2401/50400 Hz, 0.9AMax output: 124 DD, 3APower Consumption (Maximum)24.58 W24.58 WPower Consumption (Maximum)24.58 W24.58 WConsumption (Maximum)24.58 W24.58 WPower Consumption (Maximum)24.58 W24.58 WConsump	Dimensions		
Length XWdh X Height (mm)215 x 215 x 56215 x 215 x 56Weight3.31 h (1.5 kg)3.4 h (1.53 kg)Rackage (kinpling) Weight5.08 h (2.31 kg)5.58 h (2.43 kg)Mouring OptionsCaling, T-Rai and WallCaling, T-Rai and WallIncluded AccessoriesCaling, T-Rai and Wall mourt KitCaling, T-Rai and WallEnvironmentAdapter input: 100-2401/50400 Hz, 0.9AMax output: 124 DD, 3APower Consumption (Maximum)24.58 W24.58 WPower Consumption (Maximum)24.58 W24.58 WConsumption (Maximum)24.58 W24.58 WPower Consumption (Maximum)24.58 W24.58 WConsump	Length x Width x Height (inches)	8.46 x 8.46 x 2.2	8.46 x 8.46 x 2.2
Weight3.31 b. (1,5 kg)3.4 b. (1,5 kg)Package (shoping) Weight5.09 b. (2.43 kg)5.30 b. (2.43 kg)Mounting OptionsCaling, T-Ral and WallCaling, T-Ral and WallIncluded AccessoriesCaling, T-Ral and WallCaling, T-Ral and WallCeling, T-Ral and WallCaling, T-Ral and WallCaling, T-Ral and WallEnvironmentCaling, T-Ral and WallCaling, T-Ral and WallPower SupplyAdapter input: 100-2401, 500-60 Hz, 0.9AAdapter input: 100-2404, 500-60 Hz, 0.9AMax output: T2V DC, 3AMax output: T2V DC, 3AMax output: T2V DC, 3APower Consumption (Maximum)5-50% non condensing5-90% non condensingOperating Temperature4-122F (20-50C)4-122F (20-50C)Uited Vietage Directive + Output: Directive + PolisLow Voltage Directive + PolisUited Vietage Directive + PolisLow Voltage Directive + PolisUited Vietage Directive + PolisLow Voltage Directive + PolisUited Vietage Directive + PolisVeitage Directive + PolisVietage Teal and WallYesVietage Teal and WallYes	Length x Width x Height (mm)	215 x 215 x 56	215 x 215 x 56
Package (shipping) Weight         5.09 ib (2.31 kg)         5.39 ib (2.43 kg)           Mounting Options         Ceing, T-Pail and Weil         Ceing, T-Pail and Weil           Included Accessories         Ceing, T-Pail and Weil         Ceing, T-Pail and Weil           Environment	Weight		3.4 lb (1.53 kg)
Included Accessories         Coling, TFell and well mount kit (AC power adapter soid separately)         Coling, TFell and well mount kit and 8 dipole anternas (AC power adapter soid separately)           Environment	Package (shipping) Weight		
(AC power adapter sold separately)         (AC power adapter sold separately)           Environment	Mounting Options	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall
Power Supply         Adapter Input: 100-2400, 50/60 Hz, 0.9A Max output: 12V DC, 3A         Adapter Input: 100-2400, 50/60 Hz, 0.9A Max output: 12V DC, 3A           Power Consumption (Maximum)         24.58 W         24.58 W           Humidity         5-90% non condensing         5-90% non condensing           Operating Temperature         -40-122F (-20-5070)         -4-122F (-20-5070)           Storage Temperature         -40-158F (-40-700)         -40-158F (-40-700)           Directives         Low Voltage Directive - RoHS         Low Voltage Directive - RoHS           UL2043 Plenum Material         Yes         Yes           Visa         Yes         Yes           Compliance         -300 Years         >300 Years           Steriety         Yes         Yes           FCC         Yes         Yes           FCC         Yes         Yes           FCC         Yes         Yes           CE         Yes         Yes           VCO         Yes         Yes           VCO         Yes         Yes           FF         IC         Yes           CE + ROM         Yes         Yes           WFA         Yes (FortWLC and MC image only)         Yes (FortWLC and MC image only)           WFA	Included Accessories		
Max output: 12V DC, 3A         Max output: 12V DC, 3A           Power Consumption (Maximum)         24.58 W         24.58 W           Power Consumption (Maximum)         24.58 W         24.58 W           Pomer Consumption (Maximum)         5-90% non condensing         5-90% non condensing           Operating Temperature         4-122 Tr (20-507)         4-122 Tr (20-507)           Storage Temperature         -40-158 F (40-70 C)         -40-158 F (40-70 C)           Directives         Low Voltage Directive • Rold S         Low Voltage Directive • Rold S           Max Time Between Failures         >30 Years         >30 Years           Max Time Between Failures         >30 Years         >30 Years           Max Time Between Failures         >30 Years         Yes           Compliance         Yes         Yes           SFCC         Yes         Yes           FCC         Yes         Yes           RCM         Yes         Yes           RCM         Yes         Yes           RCM         Yes         Yes           CC         Yes         Yes           VCCI         Yes         Yes           CE         Yes         Yes           CE         Yes         Yes	Environment		
Humidity         590% non condensing         590% non condensing           Operating Temperature         -4-122F (-20-50%)         -4-122F (-20-50%)         -4-122F (-20-50%)           Storage Temperature         -40-158F (-40-70%)         -40-158F (-40-70%)         -40-158F (-40-70%)           Directives         Low Voltage Directive • PoHS         Low Voltage Directive • PoHS         U2043 Pienum Material         Yes           U2043 Pienum Material         Yes         >30 Years         >30 Years         >30 Years           Mean Time Between Failures         >30 Years         >30 Years         >30 Years         Yes           Mean Time Between Failures         >30 Years         >30 Years         >30 Years         Yes           SAFETY         Yes         Yes         Yes         Yes         Yes           CE         Yes         Yes         Yes         Yes         Yes           RCM         Yes         Yes         Yes         Yes         Yes         Yes           RF         IC         Yes	Power Supply		
Operating Temperature         -4-122F (-20-50°C)         -4-122F (-20-50°C)           Storage Temperature         -40-158F (-40-70°C)         -40-158F (-40-70°C)           Directives         Low Voltage Directive • RoHS         Low Voltage Directive • RoHS           UL2043 Plenum Material         Yes         Yes           Mean Time Between Failures         >30 Years         >30 Years           Mean Time Between Failures         >30 Years         >30 Years           Hit-less PoE Failover         Yes         Yes           Compliance         Yes         Yes           SAFETY         Yes         Yes           FCC         Yes         Yes           CE         Yes         Yes           CE         Yes         Yes           CC         Yes         Yes           CC         Yes         Yes           CC         Yes         Yes           RCM         Yes         Yes           RCM         Yes         Yes           RF         IC         Yes           IC         Yes         Yes           RF         IC         Yes           IC         Yes (FortiWLC and MC Image onty)         Yes (FortiWLC and MC Image onty)      <	Power Consumption (Maximum)	24.58 W	24.58 W
Storage Temperature         40–158F (40–70C)         40–158F (40–70C)           Directives         Low Voltage Directive • RoHS         Low Voltage Directive • RoHS           UL2043 Plenum Material         Yes         Yes           Mean Time Between Failures         >30 Years         >30 Years           Storage Temperature         Yes         >30 Years           Mean Time Between Failures         >30 Years         >30 Years           Storage Temperature         Yes         Yes           Compliance         Yes         Yes           SAFETY         Yes         Yes           FCC         Yes         Yes           VCG         Yes         Yes           RCM         Yes         Yes           VCCl         Yes         Yes           VCCl         Yes         Yes           IC         Yes         Yes           RF         Yes         Yes           IC         Yes         Yes           RF         Yes         Yes           IC         Yes         Yes           RF         Yes         Yes           IC         Yes (FortWLC and MC image only)         Yes (FortWLC and MC image only)           WFI Alliance </td <td>Humidity</td> <td>5–90% non condensing</td> <td>5–90% non condensing</td>	Humidity	5–90% non condensing	5–90% non condensing
DirectivesLow Voltage Directive • RoHSLow Voltage Directive • RoHSUL2043 Plenum MaterialYesYesMean Time Between Pailures>30 Years>30 YearsSop FailoverYesYesComplianceYesFCCYesYesFCCYesYesICESYesYesRCMYesYesVCCIYesYesVCCIYesYesVCCIYesYesRFYesICYesYesVCCIYesYes </td <td>Operating Temperature</td> <td>-4-122°F (-20-50°C)</td> <td>-4–122°F (-20–50°C)</td>	Operating Temperature	-4-122°F (-20-50°C)	-4–122°F (-20–50°C)
DirectivesLow Voltage Directive • RoHSLow Voltage Directive • RoHSUL2043 Plenum MaterialYesYesMean Time Between Pailures>30 Years>30 YearsSop FailoverYesYesComplianceYesFCCYesYesFCCYesYesICESYesYesRCMYesYesVCCIYesYesVCCIYesYesVCCIYesYesRFYesICYesYesVCCIYesYes </td <td>Storage Temperature</td> <td>-40–158°F (-40–70°C)</td> <td>-40-158°F (-40-70°C)</td>	Storage Temperature	-40–158°F (-40–70°C)	-40-158°F (-40-70°C)
Mean Time Between Failures>30 Years>30 YearsHit-less PoE FailoverYesYesComplianceSAFETYSAFETYYesYesFCCYesYesICESYesYesRCMYesYesVCCIYesYesVCCIYesYesICYesYesRFICEYesICYesYesVCRYesYesICYesYes<	Directives	Low Voltage Directive   RoHS	Low Voltage Directive • RoHS
Mean Time Between Failures>30 Years>30 YearsHit-less PoE FailoverYesYesComplianceSAFETYFCCYesYesICESYesYesCEYesYesVCCIYesYesVCCIYesYesICYesYesRFYesICYesYesVEAYesYesVESYesYesDynamic Frequency SelectionYes (FortiWLC and MC image only)WarantyYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)WarantyYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)	UL2043 Plenum Material	Yes	Yes
Compliance         SAFETY         FCC       Yes       Yes         FCC       Yes       Yes         ICES       Yes       Yes         CE       Yes       Yes         RCM       Yes       Yes         VCCI       Yes       Yes         RF       Yes       Yes         IC       Yes       Yes         RF       Yes       Yes         VCI       Yes       Yes         RF       Yes       Yes         VFA       Yes (FortiWLC and MC image only)       Yes (FortiWLC and MC image only)         WFA       Yes (FortiWLC and MC image only)       Yes (FortiWLC and MC image only)         Dynamic Frequency Selection       Yes (FortiWLC and MC image only)       Yes (FortiWLC and MC image only)         Warranty       Yes (FortiWLC and MC image only)       Yes (FortiWLC and MC image only)	Mean Time Between Failures		
SAFETY       FCC     Yes       ICES     Yes       CE     Yes       CE     Yes       RCM     Yes       VCCI     Yes       VCCI     Yes       VCCI     Yes       RF       IC     Yes       Ves     Yes       VES     Yes       VCCI     Yes       VCCI     Yes       IC     Yes       VES     Yes       WFA     Yes (FortiWLC and MC image only)       VES     Yes (FortiWLC and MC image only)       VES     Yes (FortiWLC and MC image only)       Warranty     Yes (FortiWLC and MC image only)	Hit-less PoE Failover	Yes	Yes
FCCYesYesICESYesYesCEYesYesRCMYesYesVCCIYesYesVCCIYesYesICYesYesCE + RCMYesYesWiFi AllianceYesYesWFAYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)Dynamic Frequency SelectionYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)WarrantyYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)	Compliance		
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CEYesYesRCMYesYesVCCIYesYesVCCIYesYesRFYesYesICYesYesCE + RCMYesYesWiFi AllianceYesYesWFAYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)Dynamic Frequency SelectionYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)WarrantyYes (FortiWLC and MC image only)Yes (FortiWLC and MC image only)	FCC	Yes	Yes
RCM         Yes         Yes           VCCI         Yes         Yes           RF             IC         Yes         Yes           CE + RCM         Yes         Yes           WiFi Alliance         Yes         Yes           WFA         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Dynamic Frequency Selection         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Warranty         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)	ICES	Yes	Yes
VCCI         Yes         Yes           RF         Yes         Yes           IC         Yes         Yes           CE + RCM         Yes         Yes           WiFi Alliance         Yes         Yes           WFA         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Dynamic Frequency Selection         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Warranty         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)	CE	Yes	Yes
VCCI         Yes         Yes           RF         IC         Yes         Yes           IC         Yes         Yes         Yes           CE + RCM         Yes         Yes         Yes           WFi Alliance         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Dynamic Frequency Selection         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           WER         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Warranty         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)	RCM	Yes	Yes
IC     Yes     Yes       CE + RCM     Yes     Yes       WFA     Yes (FortiWLC and MC image only)     Yes (FortiWLC and MC image only)       Dynamic Frequency Selection     Yes (FortiWLC and MC image only)       CE DFS     Yes (FortiWLC and MC image only)       Warranty     Yes (FortiWLC and MC image only)		Yes	Yes
CE + RCM     Yes     Yes       WFi Alliance     WFA     Yes (FortiWLC and MC image only)     Yes (FortiWLC and MC image only)       Dynamic Frequency Selection     Yes (FortiWLC and MC image only)     Yes (FortiWLC and MC image only)       CE DFS     Yes (FortiWLC and MC image only)     Yes (FortiWLC and MC image only)       Warranty     Yes (FortiWLC and MC image only)     Yes (FortiWLC and MC image only)	RF		
WiFi Alliance         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Dynamic Frequency Selection         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           CE DFS         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Warranty         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)	IC	Yes	Yes
WFA         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Dynamic Frequency Selection         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           CE DFS         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Warranty         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)	CE + RCM	Yes	Yes
Dynamic Frequency Selection           CE DFS         Yes (FortiWLC and MC image only)         Yes (FortiWLC and MC image only)           Warranty         Warranty         Warranty	WiFi Alliance		
CE DFS Yes (FortiWLC and MC image only) Yes (FortiWLC and MC image only) Warranty	WFA	Yes (FortiWLC and MC image only)	Yes (FortiWLC and MC image only)
Warranty	Dynamic Frequency Selection		
•	CE DFS	Yes (FortiWLC and MC image only)	Yes (FortiWLC and MC image only)
Limited Lifetime Warranty Yes Yes	Warranty		
	Limited Lifetime Warranty	Yes	Yes

### **ANTENNA RADIATION PATTERNS**





# **PERFORMANCE MATRIX**

VHT20 VHT40 VHT80							80	VH16	
Descriptor	Data Streams	Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short G
MCS 0	1	6.5	7.2	13.5	15	29.3	32.5	58.6	65
MCS 1	1	13	14.4	27	30	58.5	65	117	130
MCS 2	1	19.5	21.7	40.5	45	87.8	97.5	175.6	195
MCS 3	1	26	28.9	54	60	117	130	234	260
MCS 4	1	39	43.3	81	90	175.5	195	351	390
MCS 5	1	52	57.8	108	120	234	260	468	
MCS 6	1	58.5	65	121.5	135	263.3	292.5	526.6	520 585
MCS 7	1	65	72.2	135	150	292.5	325	585	650
MCS 8	1	78	86.7	162	180	351	390	702	780
MCS 9	1	NA	NA	180	200	390	433.3	780	866.6
MCS 0	2	13	14.4	27	30	58.5	65	117	130
MCS 1	2	26	28.9	54	60	117	130	234	260
MCS 2	2	39	43.3	81	90	175.5	195	351	390
MCS 3	2	52	57.8	108	120	234	260	468	520
MCS 4	2	78	86.7	162	180	351	390	702	780
MCS 5	2	104	115.6	216	240	468	520	936	1040
MCS 6	2	117	130	243	270	526.5	585	1053	1170
MCS 7	2	130	144.4	270	300	585	650	1170	1300
MCS 8	2	156	173.3	324	360	702	780	1404	1560
MCS 9	2	NA	NA	360	400	780	866.7	1560	1733.4
MCS 0	3	19.5	21.7	40.5	45	87.8	97.5	175.6	195
MCS 1	3	39	43.3	81	90	175.5	195	351	390
MCS 2	3	58.5	65	121.5	135	263.3	292.5	526.6	585
MCS 3	3	78	86.7	162	180	351	390	702	780
MCS 4	3	117	130	243	270	526.5	585	1053	1170
MCS 5	3	156	173.3	324	360	702	780	1404	1560
MCS 6	3	175.5	195	364.5	405	NA	NA	NA	NA
MCS 7	3	195	216.7	405	450	877.5	975	1755	1950
MCS 8	3	234	260	486	540	1053	1170	2106	2340
MCS 9	3	260	288.9	540	600	1170	1300	N/A	N/A
MCS 0	4	26	28.9	54	60	117	130	234	260
MCS 1	4	52	57.8	108	120	234	260	468	520
MCS 2	4	78	86.7	162	180	351	390	702	780
MCS 3	4	104	115.6	216	240	468	520	936	1040
MCS 4	4	156	173.3	324	360	702	780	1404	1560
MCS 5	4	208	231.1	432	480	936	1040	1872	2080
MCS 6	4	234	260	486	540	1053	1170	2106	2340
MCS 7	4	260	288.9	540	600	1170	1300	2340	2600
MCS 8	4	312	346.7	648	720	1404	1560	2808	3120
MCS 9	4	NA	NA	720	800	1560	1733.3	3120	3466.6

### **ORDER INFORMATION**

Product	SKU	Description
FortiAP U421EV	FAP-U421EV	Universal Indoor wireless AP — 4x4 MU-MIMO 802.11 a/b/g/n/ac Wave 2, dual concurrent dual-band (2.4 GHz/5 GHz) radios and 3rd BT/BLE radio, 2x GE RJ45 802.3at PoE ports, Internal antennas, ceiling/wall mount kit included, power adapter not included.
	FC-10-P0421-311-02-DD	8x5 FortiCare Contract
	FC-10-P0421-247-02-DD	24x7 FortiCare Contract
FortiAP U423EV	FAP-U423EV	Universal Indoor wireless AP — 4x4 MU-MIMO 802.11 a/b/g/n/ac Wave 2, dual concurrent dual-band (2.4 GHz/5 GHz) radios and 3rd BT/BLE radio, 2x GE RJ45 802.3at PoE ports, external antennas, ceiling/wall mount kit included, power adapter not included.
	FC-10-P0423-311-02-DD	8x5 FortiCare Contract
	FC-10-P0423-247-02-DD	24x7 FortiCare Contract
Power Adapter	SP-FAP400-PA	AC Power Adapter for FAP-U421EV, FAP-U423EV, FAP-S421E, FAP-S423E, FAP-421E and FAP-423E.

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