WatchGuard®

AP420 INDOOR ACCESS POINT

Tri-radio 4x4:4 MU-MIMO, 802.11ac Wave 2 support

10 integrated antennas, 2 GbE ports, full operational capacity with PoE+

The AP420 is the fastest indoor access point from WatchGuard, offering blazing fast wireless speeds with its 4x4 802.11ac Wave 2 chipset and comes equipped with multi-user MIMO (MU-MIMO) technology allowing many smartphones, laptops and tablets to be served by the AP420 at the same time – no more waiting to connect to Wi-Fi. With a third 2x2 MIMO dual band radio for dedicated Wireless Intrusion Prevention System (WIPS) when the WatchGuard Wi-Fi Cloud is enabled, so you don't have to sacrifice performance for security. Best for tradeshow floors, auditoriums, meeting rooms, and shopping malls.

"For customers, high-performance Wi-Fi means fast, reliable connectivity. But for us, it means much more. We need to provide the access, secure it, and be able to get intelligent information from it to help us optimize our business operations and offering. The new AP420 with Wi-Fi Cloud gives us all of that by combining performance and security into a solution that's simple to deploy and manage. We get reliable high-speed Wi-Fi that's not only secure, but also delivers an immersive guest experience, which is good for the customer and good for our brand."

~ Stuart Rowbotham, Founder at Bromleynet Limited

FLEXIBLE MANAGEMENT OPTIONS

You can manage AP420 access points with either a Firebox®, via the Gateway Wireless Controller with lightweight feature set, or with WatchGuard's Wi-Fi Cloud. And with the Wi-Fi Cloud you get an expanded set of features including strong WIPS security, marketing tools, and location-based analytics for optimal business insights.

PERFORMANCE WITHOUT COMPROMISE

Incorporating the latest 802.11ac Wave 2 standards, you'll have speeds of up to 1.73 Gbps over the air, without sacrificing security. When managed by the Wi-Fi Cloud, the AP420 comes equipped with a third 2x2 MIMO dual band radio for dedicated WIPS, RF optimization, spectrum monitoring, and troubleshooting built in.

UNIQUELY EFFECTIVE APPROACH TO SECURITY

Using patented Marker Packet technology, WatchGuard's cloud-managed WIPS defends your airspace from unauthorized devices, man-in-the-middle and denial-of-service attacks, rogue APs and more. Now with a dedicated WIPS sensor included, the AP420 can be added to any existing Wi-Fi network for a powerful layer of patented security features simply unavailable in most APs.

ADVANTAGES OF CLOUD-BASED MANAGEMENT

WatchGuard's secure Cloud-managed APs deliver the most comprehensive set of features for the price – including marketing tools for customizable user engagement and location-based analytics for enhanced business insights. With the WatchGuard Wi-Fi Cloud, IT pros can enjoy an entirely controller-less Wi-Fi management experience including setup, configuration, monitoring, troubleshooting, and improving corporate and guest Wi-Fi access, without worrying about the limitations of legacy controller infrastructure. Wi-Fi Cloud environments easily scale from one to an unlimited number of APs across multiple locations. APs can be grouped in many ways, including location, building, floor, and customer to maintain consistent policies.

FEATURES & BENEFITS

- Wave 2 chipset offers the latest MU-MIMO technology to serve today's toughest high-density environments

- AP420 takes less than two minutes to activate and configure after connecting to the Wi-Fi Cloud

- Smart steering automatically pushes clients with low speeds to a closer access point*

- Band steering manages spectrum efficiency, pushing clients to 5GHz channels for optimal throughput

- Third 2x2 MIMO dual band radio used as a dedicated WIPS sensor for 24x7x365 security and performance scanning*

- AP420 continues to scan for wireless threats and enforces security policy even if the connection with the Wi-Fi Cloud is interrupted*

*Must be Wi-Fi Cloud enabled

WatchGuard®

PHYSICAL SPECIFICATIONS

Property	Specification
Physical Dimensions	8.66" x 8.66" x 2.24" (220 mm x 220 mm x 57 mm)
Weight	2.86 lb. (13 kg)
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-25°C to 75°C (-13°F to 167°F)
Humidity	0% to 95% non-condensing
Max power consumption	21.5W (802.3at) | 14.5W (802.3af)
	19.5 (DC plug) | 8W (idle)
Chipset	Qualcomm QCA9994
Processor and RAM	Qualcomm IPQ8064 1.4GHz dual core ARM processor with 256 MB RAM and 128 MB Flash
Max Associated Clients per AP*	510
Recommended Concurrent Active Clients per AP*	150

Physical Specifications

Antenna	Internal PIFA x10
Ethernet Ports	2 Gigabit Ethernet ports with RJ45 connector type. One port to connect to the wired LAN and communicate with the Wi-Fi Cloud. This port can also be used to power the device using the 802.3at Power over Ethernet (PoE+) standard/802.3af Power over Ethernet(PoE). Using PoE results in limited feature functionality of the AP. Second port can be used for aggregation or wired extension of an SSID.
USB	1 USB 2.0 port
Reset	Pinhole push button
Console	RS - 232 Serial
LEDs	Ethernet, 2.4Ghz, 5GHz, Scanning

Operational Specifications

Input Power	12V DC (6.3mm connector)/802.3af (PoE)/802.3at (PoE+)
Number of Radios	3 radios; One 2.4GHz and 5GHz radio each for simultaneous dual band client access. Dual band 2x2 third radio for smart scanning, for both WIPS and RF Optimization
MIMO	4 X 4 for 2.4/5GHz Radios, 2 X 2 for Scanning Radio
Number of Spatial Streams	4 for 2.4/5GHz Radios, 2 for Scanning Radio
RF Transmit Power	27dBm per radio (max); Actual power for Tx will depend on Country Regulatory Domain
80+80MHz Non-Contiguous Channel Bonding	Yes
Simultaneous MU-MIMO Clients	64
Users in a MU-MIMO group with a 2x2 client	3
Bandwidth Agility	Yes
Small Cells Interference Mitigation (picocells, femtocells, microcells)	Supported
Frequency Bands	2.4-2.4835 GHz, 4.9-5.0GHz, 5.15-5.25 GHz; (UNII-1), 5.25-5.35 GHz, 5.47-5.6 GHz, 5.650-5.725 GHz (UNII-2), 5.725-5.85 GHz (UNII-3)
Dynamic Frequency Selection	Supported in compliance to all latest amendments from FCC, CE, IC, CB, TELEC, KCC regarding certifications.

*Knowledge Base Article: https://watchguardsupport.secure.force.com/publicKB?type=KBArticle&SFDCID=kA22A000000HQObSAO&lang=en_US

WI-FI SPECIFICATIONS – Frequency, Modulation, and Data Rates

IEEE 802.11a/n/ac			
	Scanning	Transmission	
	All regions	USA & Canada (FCC/IC)	Europe (ETSI)
Frequency Band	4.92 ~ 5.08 GHz 5.15 ~ 5.25 GHz 5.25 ~ 5.35 GHz 5.47~ 5.725 GHz 5.725~ 5.825 GHz	5.15 ~ 5.25 GHz 5.25 ~ 5.35 GHz 5.725~ 5.825 GHz	5.15 ~ 5.25 GHz 5.25 ~ 5.35 GHz 5.47~ 5.725 GHz
Dynamic Frequency Selection	DFS and DFS2		
Modulation Type	OFDM		
Peak Data Rates	Up to 1.7 Gbps (MCS 0-31)		
Antenna	Integrated modular high efficiency PIFA antenna x8 (x4 per band)		

IEEE 802.11b/g/n			
Frequency Band	Scanning	Transmission	
	All regions	USA & Canada (FCC/IC)	Europe (ETSI)
	2400 ~ 2483.5 MHz	2400 ~ 2473.5 MHz	2400 ~ 2483.5 MHz
Modulation Type	DSSS, OFDM		
Peak Data Rates	Up to 800 Mbps (MCS 0-31)		
Antenna	Integrated modular high efficiency PIFA antenna x8 (x4 per band)		

COUNTRY-WISE MAX TRANSMIT POWERS (DBM)

Countries	2.4GHz	5Ghz
Australia	20	23
Canada	30	23
India	20	20
Israel	20	20
Japan	20	20
UAE	20	17
USA	20	23

Note:
The actual transmit power will be the lowest of:
- Value specified in the Device Template
- Maximum value allowed in the regulatory domain
- Maximum power supported by the radio

Maximum Aggregate Transmit Power

For 5GHz	
MCS Index	Transmit Power(dBm)
802.11a (legacy)	
6Mbps	27
36Mbps	25
48Mbps	24
54Mbps	24
802.11n HT20 (legacy)	
MCS 0,1,8,9,16,17, 24,25	27
MCS 2,3,10,11,18,19,26,27	26
MCS 4, 5, 12, 13, 20, 21, 28, 29	25
MCS 6, 14, 22, 30	24
MCS 7, 15, 23, 31	23
802.11n HT40	
MCS 0,1,8,9,16,17,24,25	25
MCS 2,3,10,11,18,19,26,27	24
MCS 4,5,12,13,20,21,28,29	23
MCS 6,7,14,15,22,23,30,31	22
802.11ac 256QAM VHT80	
3/4 Code Rate	21
5/6 Code Rate	20

For 2.4GHz	
MCS Index	Transmit Power(dBm)
802.11b (legacy)	
1Mbps - 11Mbps	27
802.11g (legacy)	
6Mbps	27
54Mbps	24
802.11n HT20 (legacy)	
MCS 0,1,8,9,16,17, 24,25	27
MCS 2,3,10,11,18,19,26,27	26
MCS 4, 5, 12, 13, 20, 21, 28, 29	25
MCS 6, 14, 22, 30	24
MCS 7, 15, 23, 31	23
802.11n HT40	
MCS 0,1,8,9,16,17,24,25	25
MCS 2,3,10,11,18,19,26,27	24
MCS 4,5,12,13,20,21,28,29	23
MCS 6,7,14,15,22,23,30,31	22

Receive Sensitivity

For 5GHz	
MCS Index	Receive Sensitivity
802.11a (legacy)	
6Mbps	-91
36Mbps	-78
48Mbps	-75
54Mbps	-73
802.11n HT20 (legacy)	
MCS 0,8	-91
MCS 1,9	-88
MCS 2,10	-85
MCS 3,11	-81
MCS 4,12	-77
MCS 5,13	-74
MCS 6,14	-72
MCS 7,15	-71
802.11n HT40	
MCS 0,8	-87
MCS 1,9	-85
MCS 2 ,10	-82
MCS 3,11	-78
MCS 4,12	-74
MCS 5,13	-70
MCS 6,14	-69
MCS 7,15	-68
802.11ac 256QAM VHT80	
MCS 0	-84
MCS 1	-82
MCS 2	-79
MCS 3	-75
MCS 4	-71
MCS 5	-67
MCS 6	-66
MCS 7	-65
MCS 8	-60
MCS 9	-58

For 2.4GHz	
MCS Index	Receive Sensitivity
802.11b	
1Mbps	-94
11Mbps	-86
802.11g	
6Mbps	-90
24Mbps	-81
36Mbps	-78
48Mbps	-74
54Mbps	-73
802.11n HT20	
MCS 0,8	-90
MCS 1,9	-87
MCS 2 ,10	-84
MCS 3,11	-80
MCS 4,12	-77
MCS 5,13	-73
MCS 6,14	-71
MCS 7,15	-69
802.11n HT40	
MCS 0,8	-86
MCS 1,9	-84
MCS 2,10	-81
MCS 3,11	-77
MCS 4,12	-74
MCS 5,13	-70
MCS 6,14	-68
MCS 7,15	-66

INTERNAL ANTENNA RADIATION PATTERNS

Radiation Pattern for 2G antennas (Ant 1,2,3,4)

XY-cut   XZ-cut   YZ-cut

━━ Directional Gain   ━━ 2G-1   ━━ 2G-2   ━━ 2G-3   ━━ 2G-4
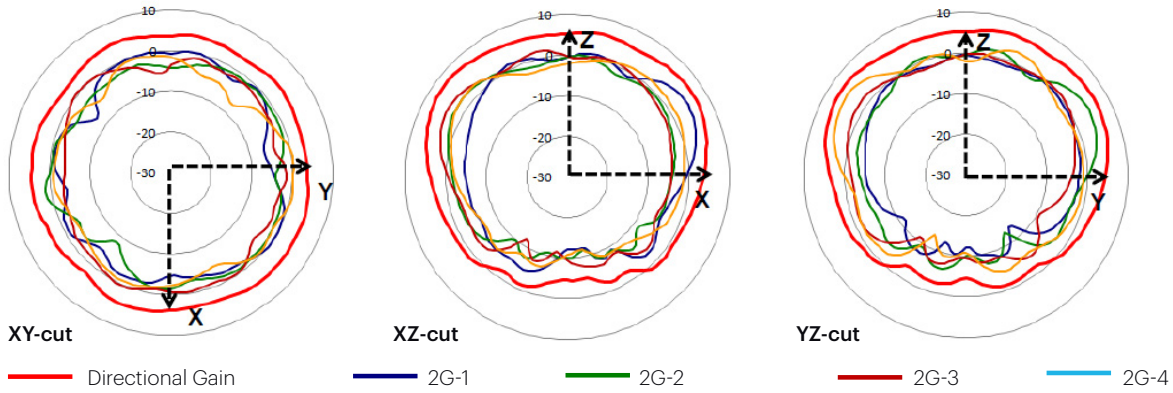
Radiation Pattern for 5G antennas (Ant 5,6,7,8)

XY-cut   XZ-cut   YZ-cut

Radiation Pattern for 2G antennas (Ant 9,10)

XY-cut   XZ-cut   YZ-cut
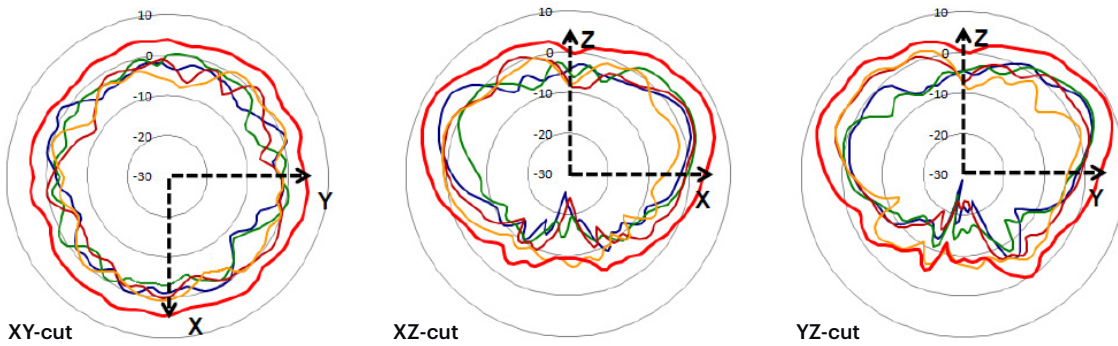
━━ Directional Gain   ━━ 2G-9   ━━ 2G-10
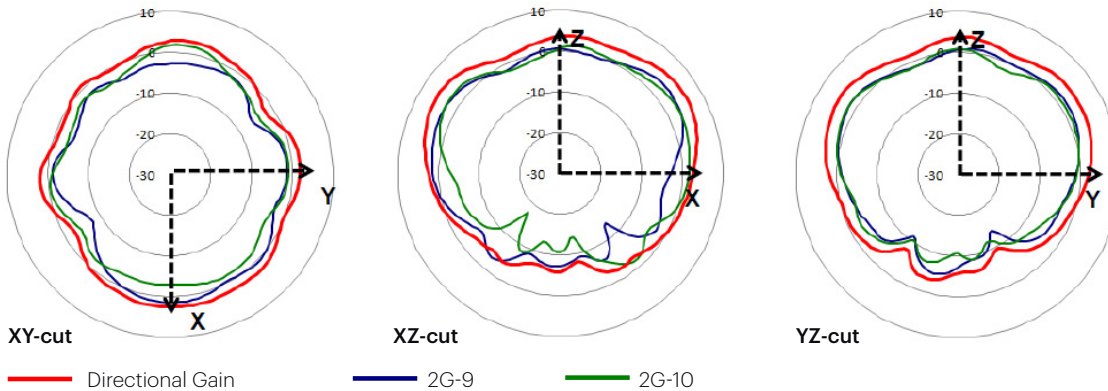
Radiation Pattern for 5G antennas (Ant 9,10)

XY-cut   XZ-cut   YZ-cut
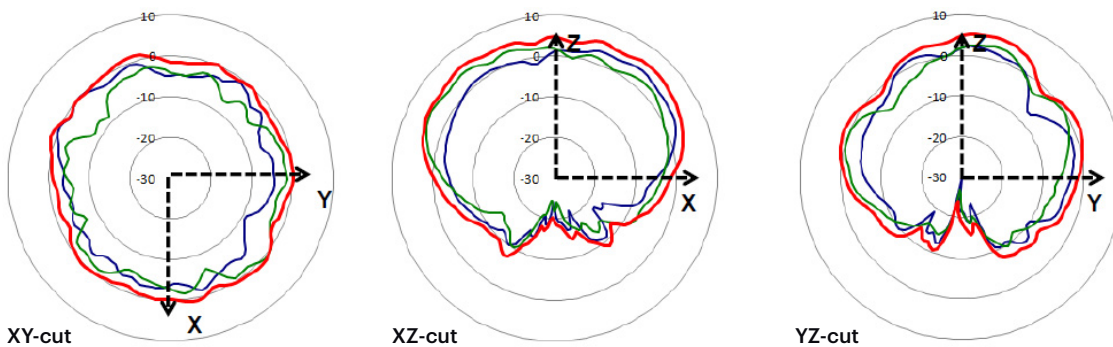
Access Point Security Modes:

- WPA/WPA2 (802.11i) with TKIP or AES-CCMP encryption and PSK or 802.1x authentication

- Integrated WIPS background wireless scanning and Rogue AP prevention

WIPS Sensor Mode:

- Dedicated WIPS sensor scans for 24x7x365 protection from wireless threats

REGULATORY SPECIFICATIONS

RF and Electromagnetic	
Country	**Certification**
USA	FCC Part 15.247, 15.407
Canada	IC
Europe	CE EN300.328, EN301.893 Countries covered under Europe certification: Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Iceland, Luxembourg, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Slovakia, Slovenia, Switzerland, The Czech Republic, UK.

Safety	
Country	**Certification**
USA	UL 60950
Canada	cUL 60950
European Union (EU)	EN 60950, RoHS

WATCHGUARD HAS YOU COVERED, INDOORS AND OUT

Secure, Simple, Intelligent Wi-Fi Solution

Choose from a family of cloud-ready secure wireless access points for delivering blazing fast Wi-Fi, without compromising your network.

The AP420 offers fast speeds and 4x4 MU-MIMO dual radio, connecting a crowded room full of devices simultaneously. A third MIMO dual band radio is dedicated for WIPS and RF optimization, so there is no need to sacrifice performance for security. Ideal for tradeshow floors, auditoriums, meeting rooms, and shopping malls.

The AP322 is the right solution for the outdoors. This access point features a rugged IP67-compliant exterior and delivers broad, fast, and reliable Wi-Fi coverage. Designed to bring Wi-Fi to stadiums, schools, outdoor cafes, shipping docks, warehouses, and more, the AP322 has you covered.

The AP320 is perfect for busy environments with diverse client ecosystem and Wi-Fi requirements. This high-horsepower AP can support critical applications like voice, video, and cloud with ease. Common deployment scenarios include offices, classrooms, and meeting spaces.

The AP120 is built for networks with heavy smartphone and tablet access such as guest or public Wi-Fi environments, or smaller-footprint locations that support limited devices. Common deployment scenarios include branch offices, stores, and small classrooms.

For details, talk to your authorized WatchGuard reseller or visit **www.watchguard.com**.

About WatchGuard Technologies, Inc.

WatchGuard® Technologies, Inc. is a global leader in network security, providing best-in-class Unified Threat Management, Next Generation Firewall, secure Wi-Fi, and network intelligence products and services to more than 80,000 customers worldwide. The company's mission is to make enterprise-grade security accessible to companies of all types and sizes through simplicity, making WatchGuard an ideal solution for distributed enterprises and SMBs. WatchGuard is headquartered in Seattle, Washington, with offices throughout North America, Europe, Asia Pacific, and Latin America. To learn more, visit **watchguard.com**.

AP420

Power / Ethernet · 2.4GHz · 5GHz · Not in use

Console Port · USB Port · Reset Button