

### Overview

## Aruba 200 Series Access Points

Bringing 802.11ac to the masses



### Product overview

Multifunctional and affordable Aruba 200 series 802.11ac wireless APs maximize mobile device performance in medium-densit enterprise Wi-Fi environments.

These compact and cost-effective dual-radio APs deliver wireless data rates of up to 867 Mbps to 5-GHz devices with 802.11ac technology leveraging two spatial MIMO streams while simultaneously supporting 2.4-GHz 802.11n clients with data rates of up to 300 Mbps.

The AP-205 and IAP-205 models feature four integrated omni-directional downtilt antennas, while the AP-204 and IAP-204 support external detachable dual-band antennas using two RP-SMA antenna connectors.

### Features and Benefits

#### Unique Benefits

- Wi-Fi client optimization
  - To eliminate sticky client behavior while users roam, 200 series APs feature patented ClientMatch technology, which continuously gathers session performance metrics from mobile devices.
  - If a mobile device moves away from an AP or if RF interference impedes performance, ClientMatch automatically steers the device to a better AP.
- Advanced Cellular Coexistence (ACC)
  - ACC lets WLANs perform at peak efficiency by minimizing interference from 3G/4G LTE networks, distributed antenna systems and commercial small cell/femtocell equipment.
- Quality of service for unified communication apps
  - The 200 series APs support priority handling and policy enforcement for unified communication apps, including Microsoft Lync with encrypted videoconferencing, voice, chat and desktop sharing.

#### Choose your Operating Mode



### Overview

The 200 series APs offer a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed AP or Remote AP (RAP) running ArubaOS.  
When managed by Aruba Mobility Controllers, 200 series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding. Please refer to the [Aruba Mobility Controller](#) data sheets for more details.
- Aruba Instant AP running InstantOS.  
In Aruba Instant mode, a single AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up on Instant AP, configure it over the air, and plug in the other APs - the entire process takes about five minutes.

For large installations across multiple sites, the Aruba Activate™ service significantly reduces deployment time by automating device provisioning, firmware upgrades, and inventory management. With Aruba Activate, Instant APs are factory-shipped to any site and configure themselves when powered up. If WLAN requirements change, a built-in migration path allows 200 series Instant APs to become part of a WLAN that is managed by a Mobility Controller.

### AP 200 Series Specifications

- AP-205 and IAP-205
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and four integrated omni-directional downtilt antennas.
- AP-204 and IAP-204
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and two combined, diplexed external RP-SMA antenna connectors.

### Advanced Features

- RF management
  - Adaptive Radio Management (ARM) technology automatically assigns channel and power settings, provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs.
  - The 200 Series APs can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.
- Spectrum analysis
  - Capable of part-time or dedicated air monitoring, the spectrum analyzer remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference.
- Security
  - Integrated wireless intrusion protection offers threat protection and mitigation, and eliminates the need for separate RF sensors and security appliances
  - IP reputation and security services identify, classify, and block malicious files, URL and IPs, providing comprehensive protection against advanced online threats
  - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys
  - SecureJack-capable for secure tunneling of wired Ethernet traffic.

### Operating Modes

- Aruba Instant AP
- Mobility Controller-managed AP
- Remote AP (RAP) for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer, dedicated or hybrid
- Secure enterprise mesh

### Overview

#### Wireless Radio Specifications

- AP type: Indoor, dual radio, 5-GHz 802.11ac and 2.4-GHz 802.11n 2x2:2
- Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 2x2 MIMO with two spatial streams and up to 867 Mbps wireless data rate
- Support for up to 255 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +21 dBm (18 dBm per chain)
  - 5-GHz band: +21 dBm (18 dBm per chain)
- Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance
- Short guard interval for 20-MHz, 40-MHz and 80-MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Transmit beamforming (TxBF) for increased reliability in signal delivery
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 300 (MCS0 to MCS15)
  - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

#### Antennas

- AP-204/IAP-204: Two RP-SMA connectors for external dual band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 1.5 dB in 2.4 GHz and 3.0 dB in 5 GHz.
- AP-205/IAP-205: Four integrated downtilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 4.0 dBi in 2.4 GHz and 6.0 dBi in 5 GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is approximately 30 degrees.

#### Other Interfaces

- 10/100/1000BASE-T Ethernet network interface (RJ-45)

### Overview

- Auto-sensing link speed and MDI/MDX
- 802.3az Energy Efficient Ethernet (EEE)
- PoE-PD: 48 Vdc (nominal) 802.3af PoE
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (ENET)
  - Radio status (two; RAD0, RAD1)
- Reset button: factory reset (during device power up)
- Serial console interface (RJ-45)
- Kensington security slot

### Power

- Maximum (worst-case) power consumption: 12.5 watts (PoE) or 11.7 watts (DC)
- Maximum (worst-case) power consumption in idle mode: 8.4 watts (PoE) or 7.7 watts (DC)
- Direct DC source: 12 Vdc nominal, +/- 5%
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af-compliant source
- Power sources sold separately
- When both power sources are available, DC power takes priority

### Mounting

- Included with AP:
  - Mounting brackets (2) for attaching to 9/16-inch or 15/16-inch T-bar drop-tile ceiling
- Spare mounting kit:
  - AP-220-MNT-C1: Aruba AP mount kit contains two ceiling-grid rail adapters for flat rails
- Optional mounting kits:
  - AP-220-MNT-C2: Aruba AP mount kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
  - AP-220-MNT-W1: Aruba AP mount kit contains one basic flat-surface wall/ceiling mount bracket
  - AP-200-MNT-W2: Aruba AP mount kit contains one secure flat-surface wall/ceiling mount cradle

### Mechanical

- Dimensions/weight (unit, excluding mount accessories):
  - 150 mm x 150 mm x 41.5 mm (W x D x H)
  - 380 g
- Dimensions/weight (shipping):
  - 190 mm x 187 mm x 57 mm (W x D x H)
  - 550 g

### Environmental

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

### Regulatory

- FCC/Industry of Canada

### Overview

- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

For more country-specific regulatory information and approvals, please see your Aruba representative

### Reliability

MTBF: 711,187 hours (81.2 years) at +25° C operating temperature

### Regulatory Model Number

- AP-204 and IAP-204: APIN0204
- AP-205 and IAP-205: APIN0205

### Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac

### Warranty

- **Aruba Limited lifetime warranty**

### Minimum software Versions

- ArubaOS 6.4.1.0
- Aruba InstantOS 4.1.1.0

### Configuration

## Ordering Guide

### Step 1: Select AP Model

Description	Part Number	Configuration Impact
<b>Controller-based Access Points</b>		
Aruba AP-204 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP	JW162A	Add optional PoE injector or AC adapter, antennas
Aruba AP-205 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP	JW164A	Add optional PoE injector or AC adapter
Aruba AP-205-MP10 802.11n/ac 2x2:2 Dual Radio Integrated Antenna Qty 10 AP Multi-pack	JX962A	
Aruba AP-204 FIPS/TAA-compliant 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP	JW163A	Add optional PoE injector or AC adapter, antennas
Aruba AP-205 FIPS/TAA-compliant 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP	JW165A	Add optional PoE injector or AC adapter
<b>Instant Access Points</b>		
Aruba Instant IAP-204 (RW) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP	JW206A	Add PoE injector or AC adapter, antennas
Aruba Instant IAP-204 (US) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP	JW207A	Add PoE injector or AC adapter, antennas
Aruba Instant IAP-204 (JP) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP	JW205A	Add PoE injector or AC adapter, antennas
Aruba Instant IAP-204 (IL) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP	JW204A	Add PoE injector or AC adapter, antennas
Aruba Instant IAP-205 (RW) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP	JW212A	Add PoE injector or AC adapter
Aruba Instant IAP-205 (US) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP	JW213A	Add PoE injector or AC adapter
Aruba Instant IAP-205 (JP) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP	JW211A	Add PoE injector or AC adapter
Aruba Instant IAP-205 (IL) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP	JW210A	Add PoE injector or AC adapter

**NOTE:** All models ship with ceiling-rail adapters (for flat rails) in the box.

### Step 2: Add Powering Accessories (Optional)

Description	Part Number	Configuration Impact
<b>Select one of the following per access point:</b>		
PD-3510G-AC 15.4W 802.3af PoE 10/100/1000Base-T Ethernet Midspan Injector	JW627A	Add AC power cable
AP-AC-12V30A 12V/30W AC/DC Desktop Style 1.7/4.0/9.5mm Circular 90 Deg Plug DoE Level VI Adapter	JX989A	Add AC power cable
AP-AC-12V18 12V/18W Indoor AP AC Power Adapter without Power Cord	JW622A	Add AC power cable
AP-AC-12V18HT 12Vdc/18W High Temp AC Power Adapter	JW623A	Add AC power cable

### Configuration

AP-AC-UN 12V/18W Indoor AP AC Universal Power Adapter	JW621A	
AP-DC-CAR 12V/18W Indoor AP Car Power US Only Adapter Kit	JW631A	For US and Japan only

**Select three-prong AC power cord for each injector or AC adapter (no power cable needed for universal adapter):**

PC-AC-ARG Argentina 220V AC 10A 2-meter AC Power Cord	JW113A
PC-AC-AUS Australian AC Power Cord	JW114A
PC-AC-BR Brazil AC Power Cord	JW115A
PC-AC-CHN China AC Power Cord	JW116A
PC-AC-DEN Denmark 220V AC 10A 2-meter AC Power Cord	JW117A
PC-AC-EC Continental European/Schuko AC Power Cord	JW118A
PC-AC-IN India AC Power Cord	JW119A
PC-AC-IL Israel 250V AC 10A 2-meter AC Power Cord	JW120A
PC-AC-IT Italian AC Power Cord	JW121A
PC-AC-JP Japanese AC Power Cord	JW122A
PC-AC-KOR Korea AC Power Cord	JW123A
PC-AC-NA North America AC Power Cord	JW124A
PC-AC-SWI Switzerland 220V AC 10A 2-meter AC Power Cord	JW125A
PC-AC-TW Taiwan AC Power Cord	JW126A
PC-AC-UK UK AC Power Cord	JW127A
PC-AC-ZA South Africa 250V AC 10A 2-meter AC Power Cord	JW128A

### Step 3: Add Mount Accessories (Optional)

Description	Part Number
AP-220-MNT-W1 Flat Surface Wall/Ceiling Black AP Basic Flat Surface Mount Kit	JW046A
AP-220-MNT-W1W Flat Surface Wall/Ceiling White AP Basic Flat Surface Mount Kit	JW047A
AP-200-MNT-W2 AP AP-200 Series Flat Surface Mount Kit	JW038A
AP-200-MNT-W3 White Low Profile Box Style Secure Small AP Flat Surface Mount Kit	JY705A
AP-200-MNT-W3 White Low Profile Box Style Secure Small AP Flat Surface Mount Kit	JY705A
AP-200-MNT-T AP Ceiling Tile with Mount Material and Install Guide Mount Kit	JW039A
AP-220-MNT-C2 2x Ceiling Grid Rail Adapter for Interlude and Silhouette Mt Kit	JW045A
AP-MNT-CM1 Industrial Grade Indoor Access Point Metal Suspended Ceiling Rail Mount Kit	JX961A
AP-CBL-SER AP Proprietary DB9 Female Serial Adapter Cable for AP-205H	JW071A

### Step 4: Select Antennas (AP-204 Only)

Description	Part Number	Qty	Interface(s)	Target Environment	Mounting
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### Configuration

#### AP-204 antenna interface: 2x RP-SMA female, concurrent dual-band

AP-ANT-1W 2.4-2.5GHz (4dBi)/4.9-5.875GHz (6dBi) Hi Gain Dual-band Omni-Dir Indoor Antenna	JW009A	2	1x RP-SMA male connector	Indoor	Direct-mount
AP-ANT-13B 2.4-2.5GHz (4.4dBi)/4.9-5.9GHz (3.3dBi) Downtilt Smallest Omni-Dir Single Antenna	JW001A	2	1x RP-SMA male pigtail	Indoor	Direct, using pigtails
AP-ANT-16 2.4-2.5GHz (3.9dBi)/4.9-5.9GHz (4.7dBi) 3 Elmt MIMO Ant w/Downtilt Omni-Dir Antenna	JW003A	1	3x RP-SMA male pigtail	Indoor	Direct, using pigtails
AP-ANT-19 2.4/5G Dual Band Omni-Dir 3dBi/6dBi Indr/Otdr RPSMA Cnctr Ant w/36in Intgrtd Cable	JW004A	2	1x RP-SMA male pigtail	Indoor/outdoor	Direct, using pigtails
AP-ANT-20W 2.4-2.5GHz (2dBi)/4.9-5.875GHz (2dBi) Compact Omni-Dir DMt Indr White Antenna	JW011A	2	1x RP-SMA male connector	Indoor	Direct-mount
AP-ANT-25A Dual Band 90x90deg 5dBi +/- 45 Pol 2 Element MIMO 2xRPSMA Pigtail Antenna	JW012A	1	2x RP-SMA male pigtail	Indoor/outdoor	Direct, using pigtails
AP-ANT-28 Dual Band 60x60deg 8dBi +/- 45 Pol 2 Element MIMO 2xRPSMA Pigtail Antenna	JW013A	1	2x RP-SMA male pigtail	Indoor/outdoor	Direct, using pigtails

#### Step 5: Add Antenna Mount Kit (Optional)

Description	Part Number	Comments
AP-ANT-MNT-3 AP-ANT-25A/28/35A/38 Azimuth and Elevation Adjustable Mount Kit	JW020A	Compatible with AP-ANT-25A, AP-ANT-28, AP-ANT-35A and AP-ANT-38

#### Step 6: Add Cosmetic Snap-on Cover (AP-205 Only, Optional)

Description	Part Number	Comments
205-CVR-20 20-pk for AP-205 with Holes for LED Indicators White Non-glossy Snap-on Covers	JW073A	1 kit per 20 access points



### RF Performance Table

Maximum transmit power (dBm)  
per transmit chain

Receiver sensitivity (dBm) per  
receive chain

#### 2.4 GHz

##### 802.11b

1 Mbps	18.0	-95.0
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11 Mbps	18.0	-88.0
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##### 802.11g

6 Mbps	18.0	-92.0
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54 Mbps	16.0	-74.0
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##### 802.11n HT20

MCS0/8	18.0	-88.0
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MCS7/15	16.0	-68.0
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##### 802.11n HT40

MCS0/8	18.0	-88.0
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MCS7/15	16.0	-68.0
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#### 5 GHz

##### 802.11a

6 Mbps	18.0	-93.0
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54 Mbps	16.0	-75.0
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##### 802.11n HT20

MCS0/8	18.0	-91.0
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MCS7/15	15.0	-71.0
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##### 802.11n HT40

### Technical Specifications

MCS0/8	18.0	-88.0
MCS7/15	15.0	-68.0

#### 802.11ac VHT20

MCS0	18.0	-91.0
MCS9	12.0	-64.0

#### 802.11ac VHT40

MCS0	18.0	-91.0
MCS9	12.0	-64.0

#### 802.11ac VHT20

MCS0	18.0	-88.0
MCS9	12.0	-61.0

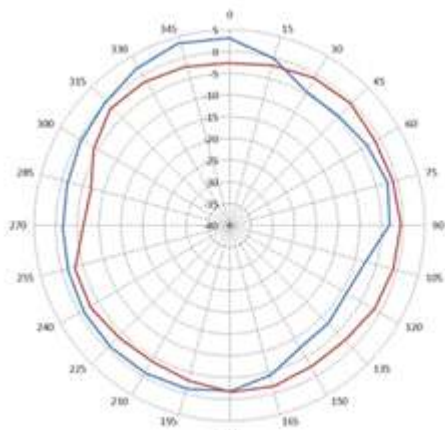
#### 802.11ac VHT80

MCS0	18.0	-85.0
MCS9	12.0	-58.0

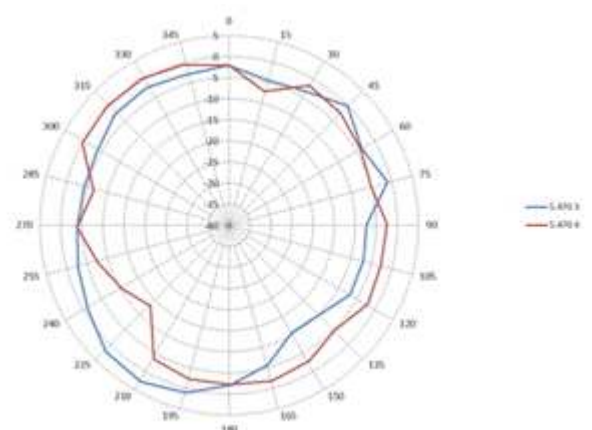
Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings

### Antenna Pattern Plots

Horizontal or azimuth plane (top view), 0 degrees downtilt



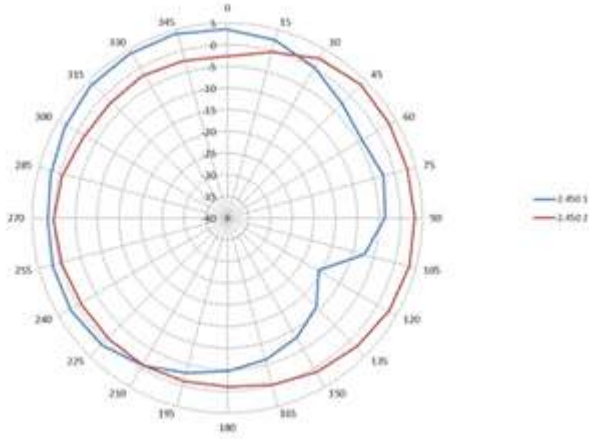
2.450 GHz



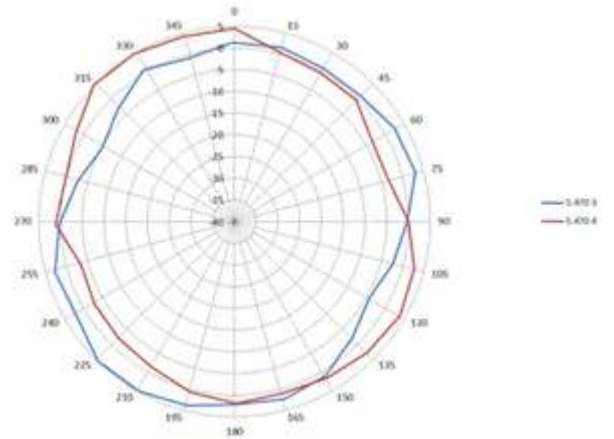
5.470 GHz

Horizontal or azimuth plane (top view), 30 degrees downtilt

### Technical Specifications

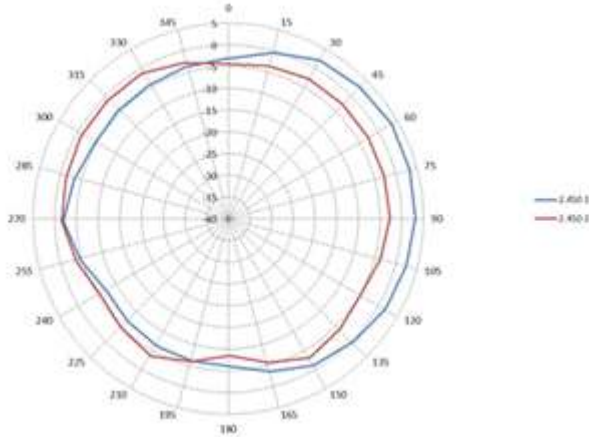


2.450 GHz

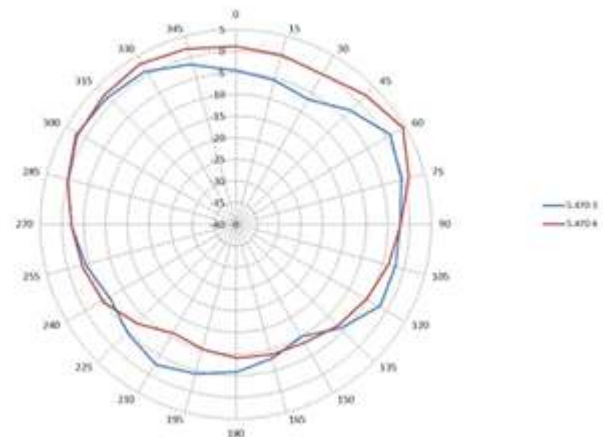


5.470 GHz

### Elevation plane (side view, 0 degrees angle)

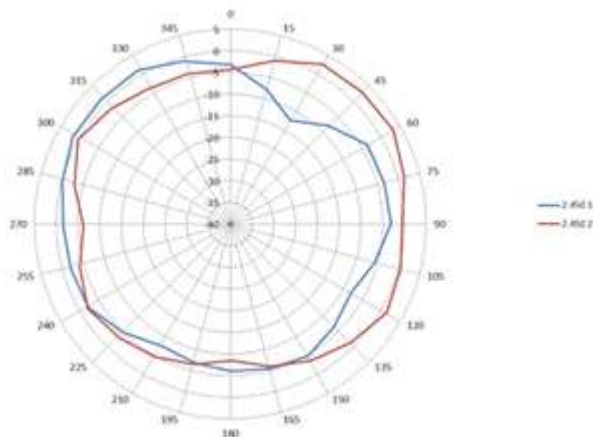


2.450 GHz

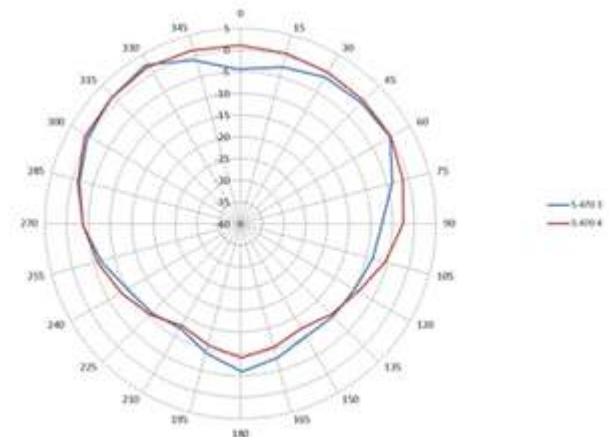


5.470 GHz

### Elevation plane (side view, 90 degrees angle)



2.450 GHz



5.470 GHz

### Summary of Changes

Date	Version History	Action	Description of Change
01-Nov-2016	Version 1	Created	Document creation.



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