

# TQ6702e GEN2-R

## Outdoor Wi-Fi 6 (802.11ax) Wireless Access Point



The TQ6702e GEN2-R outdoor AP features Wi-Fi 6 with 8 spatial streams delivering a raw capacity of 4.8 Gigabits, and runs the Enterprise-class AlliedWare Plus operating system.

### Overview

The TQ6702e GEN2-R Wi-Fi 6 outdoor AP can be used in a wide variety of outdoor environments, with an operating temperature of -40° C to 65° C, and Ingress Protection (IP66/IP67 rating) ensuring dust and moisture are not a problem. One 4x4 2.4GHz and one 8x8 5GHz radio deliver a raw capacity of 4.8 Gigabits.

The TQ6702e GEN2-R runs the Enterprise-class AlliedWare Plus operating system, for a consistent user-experience across the network with Allied Telesis switches, firewalls, and routers. An Industry standard command-line interface, the preinstalled Device GUI, and centralized administration from the Autonomous Wave Control (AWC) wireless controller built-in to Vista Manager™, provide flexible management options.

Autonomous Management Framework™ Plus (AMF Plus) provides automated backup of firmware, configuration, and licenses to the network master device, enabling plug-and-play recovery—along with other powerful features such as auto-upgrade, and auto-provisioning for zero-touch network roll-out.

For flexible outdoor deployment, a wall/pole mounting kit is included, and power is supplied via Power over Ethernet (802.11bt, PoE++). Eight omni-directional antennas provide excellent wireless performance, and coverage can be extended using patch antennas and extension cables (sold separately) to further increase usage scenarios.

## KEY FEATURES

### Wi-Fi 6

In crowded wireless environments, efficient bandwidth distribution is important, and Wi-Fi 6 offers new features such as OFDMA and bidirectional MU-MIMO that increase the intelligence of the AP in managing multiple client connections at once, providing better throughput, connectivity and overall performance.

With support for increased numbers of clients, and optimization for high-bandwidth and real-time applications, the TQ6702e GEN2-R can easily manage user demand in outdoor public space environments.

### Standalone Management

The TQ6702e GEN2-R can be managed standalone using the AlliedWare Plus industry-standard command line, or the intuitive pre-installed Device GUI.

### Centralized Management

For smaller networks, the Device GUI includes a wireless controller which enables the TQ6702e GEN2-R to manage itself and up to 50 other APs, for an all-in-one Wi-Fi monitoring and management solution.

For larger networks, multiple APs can be centrally managed using the Autonomous Wave Control (AWC) wireless controller built-in to Vista Manager. Enjoy seamless visibility of APs alongside switches, firewalls, third-party, and endpoint devices.

AWC regularly analyses the Wi-Fi network, automatically optimizing wireless settings to reduce interference and minimize coverage gaps—all with no user intervention.

All units are automatically backed-up using Autonomous Management Framework Plus (AMF Plus), and can be restored with plug-and-play simplicity.

Vista Manager, AMF Plus, and AWC provide visual and automated management that greatly reduces the time and cost of managing multiple APs in larger deployments.

### Non-stop Wi-Fi

Even if APs lose connectivity to the AWC wireless controller, they will continue to provide connectivity to user devices and forward traffic, ensuring no interruption to business operation.

### Deep Packet Inspection (DPI) statistics

DPI enables application statistics to be gathered from the wireless edge, showing the most used applications.

Vista Manager displays application statistic with an informative Top-10 applications list and pie-chart, which can be viewed with statistics from the last hour, or up to the last 24-hours.

Selecting multiple APs shows aggregated statistics, useful for monitoring the wireless edge of different areas of the network.

### Captive Portal

Manage user access to outdoor public space Wi-Fi networks with captive portal. New users are taken to a login page to authenticate before gaining online access.

Login options include direct online access, external authentication, or redirection to third party services—for example social media sites like Facebook or Twitter.

### Passpoint® and OpenRoaming

Wi-Fi Alliance certified Passpoint enables auto-detection and connection of client devices, removing the need for users to find and authenticate on wireless networks. This provides a flexible Wi-Fi network with a high level of security.

OpenRoaming is an international Wi-Fi interoperability standard allowing devices using an applicable profile to automatically connect to OpenRoaming-compliant networks. This ensures ease of use, as well as avoiding security risks such as virus infection and data theft due to misconnection. The TQ6702e GEN2-R can be used to deploy OpenRoaming-compliant Wi-Fi networks in public facilities and event venues.

### QR codes simplify wireless connectivity

Generate a QR code on the AP that can be scanned by smartphones and other wireless devices to enable quick and easy connection to the Wi-Fi network, eliminating the need to enter SSIDs and passwords.

### Virtual APs with Multiple SSIDs

The TQ6702e GEN2-R support Virtual AP (VAP) functionality, with the assignment of different SSIDs and security policies for each VAP on the device.

VAPs can be mapped to VLANs for logical network separation and improved throughput. Enable communication by application, function or users.

### Fast Roaming

Fast roaming 802.11k, 802.11v, and 802.11r optimize discovering and selecting the best available AP in a Wi-Fi network. It establishes rapid connectivity for



users to seamlessly move between APs, as the APs exchange security keys, so the client device does not need to re-authenticate on the RADIUS server as they roam.

### Weather Resistant Enclosure

The TQ6702e GEN2-R is equipped with lightning arresters and surge protector supporting outdoor installation, and the metal enclosure and plastic cover repel ultraviolet (UV) radiation.

These protective measures, the extended operating temperature (-40°C to 65°C), and venting for internal pressure equalization, ensure the TQ6702e GEN2-R is ideal for any location including resorts, sports arenas, college and corporate campuses, and indoor industrial environments.

Provide great wireless connectivity for all users, even if your business is located in snowy, rainy, or arid climates.

### Mounting and Antennas

The TQ6702e GEN2-R comes with wall/pole mounting kit, and an external antenna kit with four detachable antenna each for the 2.4GHz and 5GHz radios. QR codes simplify wireless connectivity

### Wi-Fi Scheduler

Radio signal strength on the AP can be scheduled to suit the time of day, with different levels at different times. For example, turning off radio signals late at

night, when the Wi-Fi network may not be in use, can prevent unauthorized access and save power.

### AMF-Security and Application Proxy<sup>1</sup>

The AMF-Security (AMF-Sec) solution enables internal LAN threat detection and automatic end-point isolation to protect the network. If a firewall detects suspicious traffic or a threat such as a virus from a wireless device, it informs the AMF-Sec controller, which uses the AMF Application Proxy to communicate and enable to AP to block or quarantine the infected user device. This automatically protects the network from threats.

<sup>1</sup> An AMF-Security controller, and Vista Manager AWC wireless management are required

## SPECIFICATIONS

### Physical Specifications

	Width	Depth	Height		Weight	100M/1G/2.5G/5G (RJ-45) copper ports
<b>TQ6702e-GEN2-R</b>	257 mm (10.12 in)	227 mm (8.94 in)	99 mm (3.54 in)	4 x 4 (2.4GHz) + 8 x 8 (5GHz)	4.4 kg (9.70 lb)*	1 (PoE-in port)

\* With default antennas and a surge protector, without cables and mount kit

### Power Characteristics

	Power Supply	Average Power Consumption	Maximum Power Consumption	Max Heat Dissipation
<b>TQ6702e-GEN2-R</b>	PoE*	15.00W	26.3W	100.00 KJ/h

\* IEEE 802.3bt (Class 5) required

### Wireless

- Airtime fairness
- Automatic channel selection
- Automatic control of transmission power
- Band Steering
- Bi-directional Multi-user MIMO
- ECO-LED
- Fast roaming
- OFDMA
- Passpoint (Hotspot 2.0)
- RF load balancing
- Spatial Reuse
- VLAN (VAP (recommended 5 or less for 2.4GHz/5GHz respectively)/Dynamic VLAN)
- WDS
- Wi-Fi Multimedia (WMM) for traffic prioritization
- Wi-Fi Scheduler
- Wireless Distribution System (WDS)
- Zero Wait DFS

### Operational Modes

- Centrally managed by Vista Manager EX (up to 3,000 APs)
- Centrally managed by Vista Manager Network Appliance (VST-APL) (up to 500 APs)
- Standalone (supports up to 500 clients per radio)

### Management

- Autonomous Management Framework Plus (AMF Plus) automates network administration, with powerful features like zero-touch device installation and recovery.

- Autonomous Wave Control (AWC) provides centralized AP management, as well as automated wireless network optimization for a superior user experience.
- NETCONF/RESTCONF northbound interface with YANG data modelling
- Industry-standard CLI with context-sensitive help
- Built-in Device GUI
- Simple Network Management Protocol (SNMPv1, v2c, v3)
- Firmware upgrade
- Backup/restore settings
- Syslog notification
- Built-in packet capture
- DHCP client
- NTP client
- Event-based triggers allow user-defined scripts to be executed upon selected system events
- Comprehensive logging to local memory and syslog
- Compatible with AMF-Security, and AT-RADGate (Allied Telesis RADIUS server)

### Security

- Authentication and Accounting
- IEEE 802.1X Authentication and Accounting
- IEEE 802.1X RADIUS support
- Shared Key Authentication
- WPA (Enterprise, Personal)
- WPA2 (Enterprise, Personal)
- WPA3 (Enterprise, Personal)
- Captive Portal (External RADIUS, Click-Through, Redirection Page, Virtual IP Address, RADIUS Accounting, Walled Garden)

- Encryption
- WEP: 64/128 bit (IEEE 802.11a/b/g only)
- WPA/WPA2: CCMP (AES), TKIP
- WPA3: CCMP/GCMP (AES/CNSA)
- MAC address filtering (Up to 3072 MAC address)
- SSID hiding/ignoring
- Client isolation
- Neighbor AP detection
- Simple Certificate Enrollment Protocol (SCEP) supports secure management

### Compliance

#### Certificate

- Wi-Fi certified
- RCM
- IC
- FCC
- WPC (For India)
- OFCA (For Hong Kong)
- NBTC (For Thailand)
- MIC (For Vietnam)
- SIRIM (For Malaysia)
- NCC (For Taiwan)
- IDA (For Singapore)
- NOM-208 (Mexico)

#### Safety

- EN 62368-1
- UL 62368-1
- UL 2043
- UL 60950-22
- EN 60950-22
- CB 62368-1

- CB 90950-1
- IEC 60950-22

#### ElectroMagnetic Compatibility

- EN 301 489-1
- EN 301 489-17
- EN 55024
- EN 55032, Class B
- EN 55035
- EN 60601-1-2
- EN 61000-3-2, Class A
- EN 61000-3-3
- EN 61000-4-2
- EN 61000-4-3
- EN 61000-4-4
- EN 61000-4-5
- EN 61000-4-6
- EN 61000-4-8
- EN 61000-4-11
- VCCI Class B
- FCC Part 15 Subpart B Class B
- RCM AS/NZS CISPR 32

#### Outdoor Enclosure approvals

- IEC 60068-2-52 (Salt Mist test)
- IEC 60068-2-5 (Solar Radiation (Sunshine) test / Ultraviolet test)
- IEC 60068-2-5 (Sun Exposure test)
- IEC 60529 (IP66/IP67 test)

#### Radio equipment

- ARIB STD-T66
- ARIB STD-T71
- AS/NZS 4268
- EN 300 328
- EN 301 893
- FCC 47 CFR Part 15, Subpart C
- FCC 47 CFR Part 15, Subpart E

#### Environmental Specifications

- Operating temperature range: -40°C to 65°C (-40°F to 149°F)
- Storage temperature range: -40°C to 80°C (-40°F to 176°F)
- Operating relative humidity range: 5% to 95% non-condensing
- Storage relative humidity range: 5% to 95% non-condensing
- Operating altitude range: Up to 3,048 meters maximum (10,000 ft)

#### Embedded Antennas

##### Omni-directional

- Frequency band: 2.4 GHz
- Max. peak gain: 2.92 dBi<sup>2</sup>

##### Omni-directional

- Frequency band: 5 GHz
- Max. peak gain: 6.22 dBi<sup>2</sup>

#### Radio Characteristics

##### Supported frequencies:

- 2.412 ~ 2.472 GHz
- 5.150 ~ 5.250 GHz
- 5.250 ~ 5.350 GHz

<sup>2</sup> Values listed for gain and data rate are maximums, and the actual values will vary depending on use.

<sup>3</sup> Using 256 Quadrature Amplitude Modulation

- 5.500 ~ 5.720 GHz
- 5.745 ~ 5.825 GHz (Not supported in EMEA)

#### Modulation Technique

- 802.11a/g/n/ac: OFDM
- 802.11 ax: OFDMA
- 802.11b: DSSS, CCK, DQPSK, DBPSK
- 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
- 802.11a/g/n: BPSK, QPSK, 16QAM, 64QAM, 256QAM
- 802.11 ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM

#### Data Rate

- IEEE802.11b 11/5.5/2./1Mbps
- IEEE802.11a/g 54/48/36/24/18/12/9/6Mbps
- IEEE802.11g/n 6.5-600Mbps (MCS0-31)
- IEEE802.11g/n 6.5-800Mbps (MCS0-31)<sup>3</sup>
- IEEE802.11a/ac 6.5-1733.3Mbps (MCS0-9)
- IEEE802.11a/ax 6.5-2401.9Mbps (MCS0-11)

#### Media Access

- CSMA/CA + Ack with RTS/CTS

#### Diversity

- Spatial diversity

#### Diagnostic Tools

- Automatic link flap detection and port shutdown
- Ping polling for IPv4 and IPv6
- TraceRoute for IPv4 and IPv6

#### Authentication

- Strong password security and encryption
- Local RADIUS server for up to 100 users
- TACACS+ authentication and authorization
- IEEE 802.1x authentication on LAN ports

## STANDARDS & PROTOCOLS

#### Ethernet Standards

- IEEE 802.3u 100BASE-TX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3bz 2.5GBASE-T/5GBASE-T
- IEEE 802.3an 10GBASE-T
- IEEE 802.3x Flow Control
- IEEE 802.3bt Power over Ethernet++
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1AX-2008 Link Aggregation (static and dynamic)

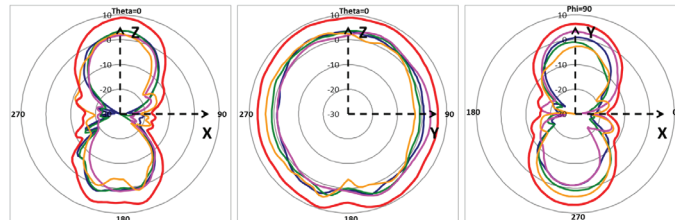
#### Wireless

- IEEE 802.11 a/b/g/n/ac/ax/be 4x4:4ss MU-MIMO
- IEEE 802.11k Radio Resource Measurement of Wireless LANs
- IEEE 802.11v Basic Service Set Transition Management Frames
- IEEE 802.11r Fast Basic Service Set Transition

### Radiation Patterns for 2.4/5GHz Dual (2.4GHz)

#### 2.4/5GHz Dual (2.4GHz)

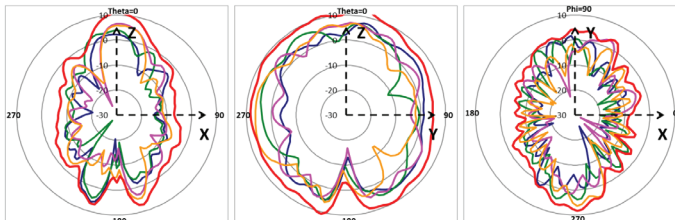
- Directional Gain
- 2.4/5GHz Dual 1
- 2.4/5GHz Dual 2
- 2.4/5GHz Dual 3
- 2.4/5GHz Dual 4



### Radiation Patterns for 2.4/5GHz Dual (5GHz)

#### 2.4/5GHz Dual (5GHz)

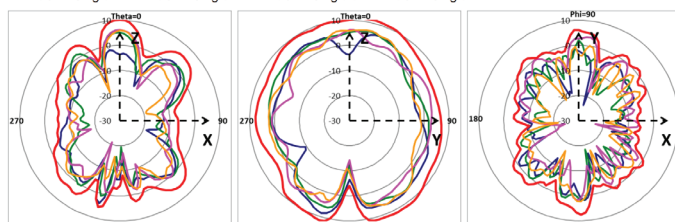
- Directional Gain
- 2.4/5GHz Dual 1
- 2.4/5GHz Dual 2
- 2.4/5GHz Dual 3
- 2.4/5GHz Dual 4



### Radiation Patterns for 5GHz Single (5GHz)

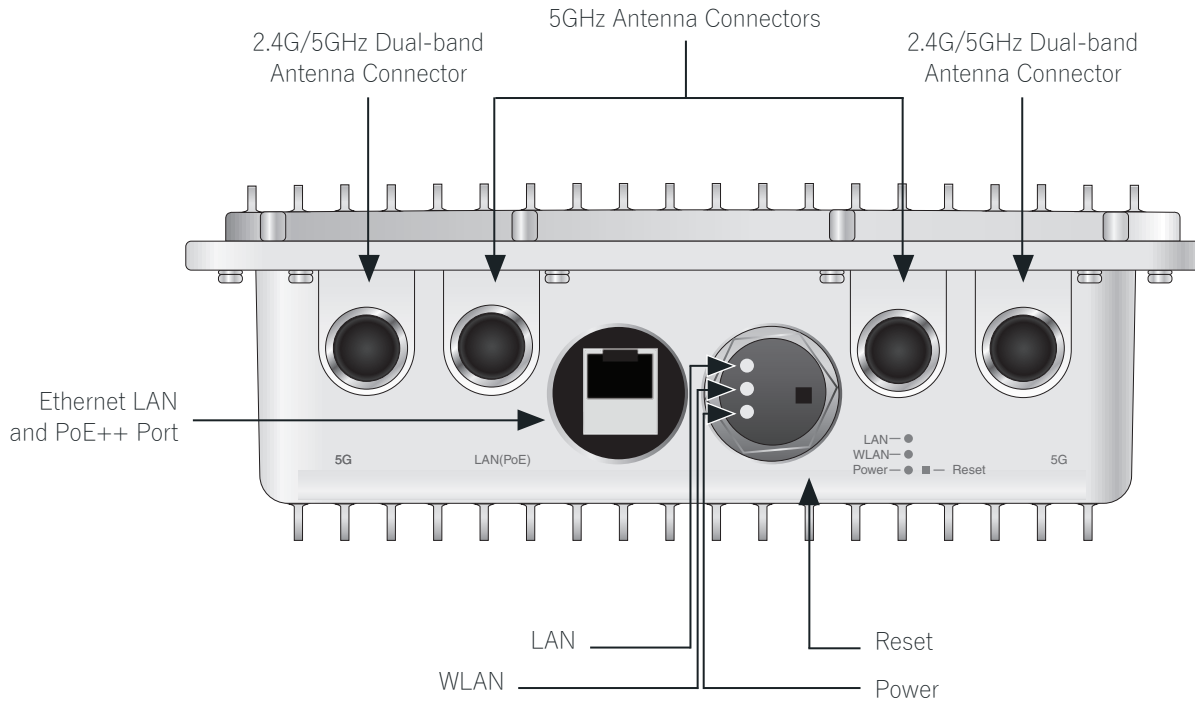
#### 5GHz Single (5GHz)

- Directional Gain
- 5GHz Single 1
- 5GHz Single 2
- 5GHz Single 3
- 5GHz Single 4

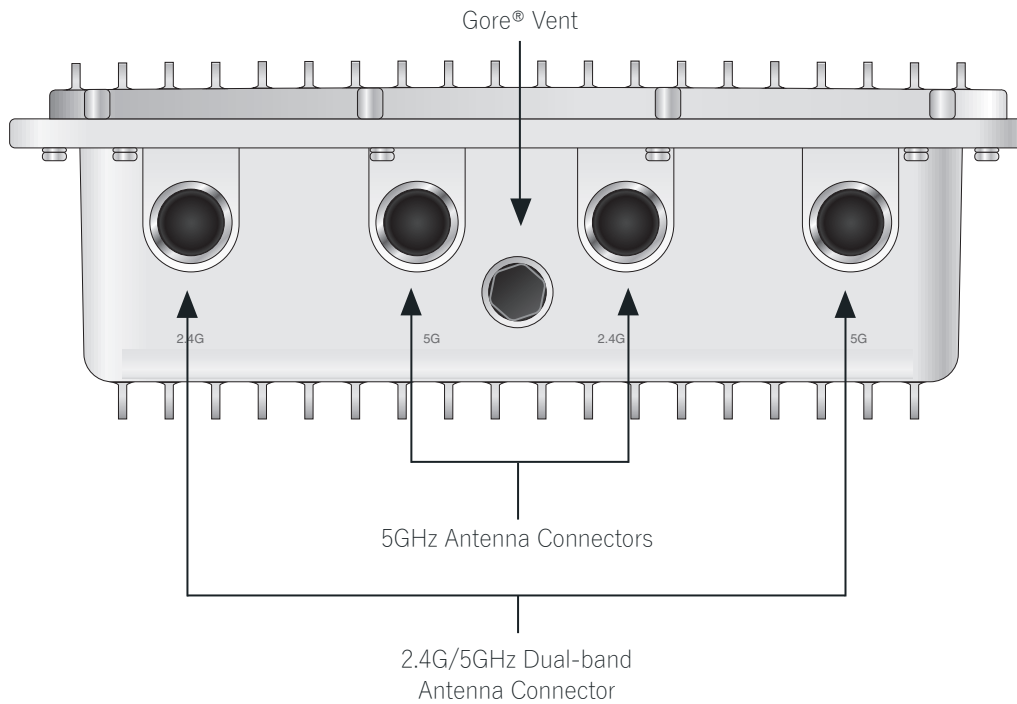


## AP LEDs

The front panel components of the access point



The back panel components of the access point



### Wi-Fi PLANNING

Need help planning your wireless network? See our handy [Wi-Fi planner](#).



# LICENSES

## Wireless Management Licenses

Wireless management of APs is available from the Vista Manager EX network management platform, and from the wireless controller in the Device GUI on the switch and firewall products listed in the following table.

platform	license Name	Description	max supported aps
Vista Manager EX	AT-FL-VISTA-BASE-1/5YR	Vista Manager EX network monitoring and management software license	NA
Vista Manager EX (Windows)	AT-FL-VISTA-AWC10-1/5YR <sup>4</sup>	Vista Manager AWC plug-in license for managing up to 10 access points	3000
Vista Manager EX (Virtual (VRT))	AT-FL-VISTA-AWC10-1/5YR <sup>4</sup>	Vista Manager AWC plug-in license for managing up to 10 access points	500
Vista Manager EX (Network Appliance)	AT-FL-VISTA-AWC10-1/5YR <sup>4</sup>	Vista Manager AWC plug-in license for managing up to 10 access points	500
SwitchBlade x908 GEN2	AT-SW-AWC10-1/5YR <sup>5</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	305
x950 Series	AT-SW-AWC10-1/5YR <sup>5</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	185
x930 Series	AT-SW-AWC10-1/5YR <sup>5</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	125
x550 Series	AT-SW-AWC10-1/5YR <sup>5</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x540L Series	AT-SW-AWC10-1/5YR <sup>5</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x530 Series	AT-SW-AWC10-1/5YR <sup>5</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
ARX200S-GTX	AT-RT-AWC10-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Control (AWC) license for up to 10 access points	50
AR4050S UTM Firewall	AT-RT-AWC5-1/5YR <sup>5</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 5 access points	25

<sup>4</sup> The AWC plug-in requires an AWC license, and a Vista Manager EX base license to operate on Vista Manager EX

<sup>5</sup> 5 APs can be managed for free. Purchase one license per 10 additional APs on switches, or one license per 5 additional APs on the AR4050S Firewall.

<sup>6</sup> 20 APs can be managed for free on the ARX200S-GTX, and an additional 30 APs with a license.

## ORDERING INFORMATION

AT-TQ6702e GEN2-R-xx	Outdoor Wi-Fi 6 AP with 2 radios (4x4 2.4GHZ and 8x8 5GHz) and embedded antenna
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Where xx = 03 Regulatory Domain: Canada  
 02 Regulatory Domain: Taiwan  
 01 Regulatory Domain: United States Reserved  
 00 Regulatory Domain: Other countries<sup>7</sup>

<sup>7</sup> Please check the Compliance section on page 2 to see which countries are certified to use these access point

## Related Products

AT-TQ0301	Patch antenna for 2.4G/5G
AT-TQ0064	Antenna extension cable of 10m
AT-7101GHTm-yy	Multi-Gigabit Ethernet PoE++ (802.3bt) injector

Where yy = 10 for US power cord  
 30 for UK power cord  
 40 for Australian power cord  
 50 for European power cord