

# TQ6000 GEN2 Series

## Hybrid Wi-Fi 6 (802.11ax) Wireless Access Points

Allied Telesis Enterprise-class TQ6000 GEN2 Series access points feature Wi-Fi 6 technology, with up to 8 spatial streams delivering a raw capacity of up to 4.8 Gigabits.

### Overview

The TQ6000 GEN2 Series Wi-Fi 6 APs support multi-channel, single-channel (Channel Blanket) and hybrid operation (the simultaneous use of multi-channel and Channel Blanket). This powerful solution combines maximum performance and seamless roaming to enable the most flexible wireless networks available, and the best possible user experience.

The TQ6702 GEN2 has one 4x4 2.4GHz and one 8x8 or 4x4 5GHz Wi-Fi 6 (802.11ax) radio, delivering a raw capacity of 4.8 Gigabits.

The TQ6602 GEN2 has one 4x4 2.4GHz and one 4x4 5GHz Wi-Fi 6 (802.11ax) radio, delivering a raw capacity of 3.55 Gigabits.

The power and efficiency of Wi-Fi 6, and Allied Telesis smart hybrid technologies, enable a wireless Multi-Dimensional Exchange (MDX). This allows user devices to be managed and tracked as they move not only around the building floor, but between floors too. The innovative MDX wireless solution enables user device tracking in real-time as well as historically for security and auditing purposes - and also supports restoring the wireless network to a past operational configuration if required.

The TQ6000 GEN2 Series support Multi-User Multiple Input and Multiple Output (MU-MIMO), allowing multiple clients to send and receive data at the same time, substantially increasing throughput. A comprehensive feature-set provides a superior solution for Enterprise businesses.

Flexible deployment options include desktop use, and wall or ceiling mounting. Power can be supplied by Power over Ethernet, or by an optional AC power adapter.

## KEY FEATURES

### Flexible Management

The TQ6000 GEN2 Series can be managed in standalone mode using an intuitive web-based interface.

Autonomous Wave Control (AWC) provide centralized management, and regularly analyses the wireless network, automatically optimizing AP settings to reduce interference and minimize coverage gaps—all with no user intervention.

AWC wireless management is available on our Vista Manager EX network management platform, and from Vista Manager mini running on a number of switch and firewall products.

### Channel Blanket Hybrid Operation

The TQ6000 GEN2 Series support operation in multi-channel, single-channel (Channel Blanket) and hybrid (multi-channel and Channel Blanket) modes, for the most flexible wireless solution available.

Multi-channel operation provides maximum throughput for high-bandwidth clients, while Channel Blanket operation supports seamless roaming for dynamic environments like warehouses and hospitals, as all APs appear as a single virtual AP.

Hybrid mode combines the best of both architectures, enabling an innovative wireless solution that maximizes performance for a superior user experience.

The high throughput of Wi-Fi 6 further increases the performance wireless networks, and with AWC

Channel Blanket, the TQ6602 GEN2 and TQ6702 GEN2 can combine their radio signals to create a powerful single virtual AP environment for user devices.

### AWC-SC (Smart Connect)

AWC-SC enables plug-and-play wireless network growth, as new APs only need a power connection, and will then automatically create resilient wireless uplink connections to other APs.

AWC-SC supports dynamic environments with multi-path uplinks, and provides an ideal solution for one-time deployments like conferences

### Captive Portal

Manage user access to the Wi-Fi network with captive portal. New users are taken to a login page to authenticate before gaining access to any online resources and applications.

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

### 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.

### Wi-Fi 6

IEEE 802.11ax Wi-Fi 6 wireless connectivity delivers performance and throughput that is four times faster than 802.11ac devices. In crowded wireless environments, efficient bandwidth distribution is important.

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 like streaming video, the TQ6000 GEN2 Series is ideal for education, healthcare, manufacturing, and busy commercial environments.

Wi-Fi 6 increases the power and flexibility of AWC-CB and AWC-SC wireless solutions. With AWC-CB, a high-capacity single wireless blanket can connect all devices in a building without any interference or capacity issues, for truly seamless roaming. With AWC-SC, no additional data cables are required, and a fully resilient wireless topology can be deployed with plug-and-play simplicity.

### 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 TQ6000 GEN2 can be used to deploy OpenRoaming-compliant Wi-Fi networks in public facilities and event venues.

### Virtual APs with Multiple SSIDs

The TQ6000 GEN2 Series support Virtual AP (VAP) functionality, with the assignment of different SSIDs and security policies for each VAP on the physical 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.

### 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.

### Uplink Aggregation

The two wired LAN uplink ports can be aggregated for link resiliency and increased bandwidth using static

link aggregation or the dynamic Link Aggregation Control Protocol (LACP), doubling uplink capacity to 5 Gbps.

### 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	Radios	Weight	100M/1G/2.5G/5G (RJ-45) copper ports
<b>TQ6602 GEN2</b>	200 mm (7.88 in)	240 mm (9.45 in)	45 mm (1.78 in)	4 x 4 (2.4GHz) + 4 x 4 (5GHz)	1.2 kg (2.64 lb)	2 (PoE-in port)
<b>TQ6702 GEN2</b>	200 mm (7.88 in)	240 mm (9.45 in)	45 mm (1.78 in)	4 x 4 (2.4GHz) + 4 x 4 or 8 x 8 (5GHz)	1.2 kg (2.64 lb)	2 (PoE-in port)

### Power Characteristics

	Power Supply	Average Power Consumption	Maximum Power Consumption	Max Heat Dissipation
<b>TQ6602 GEN2</b>	100-240VAC	15W	19W	64.79 BTHu
	PoE	13W	16.9W	57.62 BTHu
<b>TQ6702 GEN2</b>	100-240VAC	19W	24W	81.84 BTHu
	PoE	17W	22.03W	75.12 BTHu

### Wireless

- Airtime fairness
- Automatic channel selection
- Automatic control of transmission power
- Band Steering
- Bi-directional Multi-user MIMO
- Deploy with no data cables using AWC-SC
- ECO-LED
- Fast roaming
- Multi-channel, single-channel, or hybrid operation
- 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 in multi-channel mode by Vista Manager EX (up to 3,000 APs)
- Centrally managed in single-channel or hybrid mode (multi-channel and single-channel) by Vista Manager EX
- Centrally managed in multi-channel mode by Vista Manager Network Appliance (VST-APL) (up to 500 APs)
- Centrally managed in single-channel or hybrid mode (multi-channel and single-channel) by Vista Manager Network Appliance (VST-APL)
- Centrally managed in multi-channel mode by Vista Manager mini (up to 305 APs)
- Centrally managed in single-channel or hybrid mode (multi-channel and single-channel) by Vista Manager mini
- Standalone (supports up to 500 clients per radio)

### Management

- Automatic Channel Management
- Backup/restore settings
- DHCP client
- External RADIUS server for RADIUS Accounting
- Firmware upgrade
- Graphical User Interface (HTTP/HTTPS)

- Load-balancing
- NTP client
- Secondary RADIUS server
- Simple Network Management Protocol (SNMPv1, v2c, v3)
- Statistics Display
- Syslog notification

### 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
- Kensington lock

## Compliance

### Certificate

- Wi-Fi certified
- RCM
- IC
- FCC
- IMDA (For Singapore)<sup>2</sup>
- WPC (For India)<sup>3</sup>
- OFCA (For Hong Kong)
- NBTC (For Thailand)
- MIC (For Vietnam)
- SIRIM (For Malaysia)
- BSMI/MCC (For Taiwan)
- NOM-208 (Mexico)

### Safety

- EN 62368-1
- UL 62368-1
- UL 2043

### 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

### Radio equipment

- AS/NZS 4268
- EN 300 328
- EN 301 893
- FCC 47 CFR Part 15, Subpart C
- FCC 47 CFR Part 15, Subpart E5

## Environmental Specifications

- Operating temperature range: 0°C to 50°C (32°F to 122°F)
- Storage temperature range: -25°C to 70°C (-13°F to 158°F)
- Operating relative humidity range: 5% to 90% 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: 4.38 dBi

### Omni-directional

- Frequency band: 5 GHz
- Max. peak gain: TQ6702 GEN2: 5.93 dBi TQ6602 GEN2: 5.92 dBi

## Radio Characteristics

### Supported frequencies:

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

<sup>2</sup> Certificated with firmware release 8.0.2-1.1 or later

<sup>3</sup> TQ6602 GEN2 was certified with firmware release 8.0.2-1.1 or later

# LICENSES

## Wireless Management Licenses

Wireless management of APs is available from the Vista Manager EX network management platform, and from Vista Manager mini running 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 (Windows)	AT-FL-VISTA-CB10-1/5YR-2022 <sup>5</sup>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect 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 (Virtual (VRT))	AT-FL-VISTA-CB10-1/5YR-2022 <sup>5</sup>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect 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
Vista Manager EX (Network Appliance)	AT-FL-VISTA-CB10-1/5YR-2022 <sup>5</sup>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	500
SwitchBlade x908 GEN2	AT-SW-AWC10-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	305
SwitchBlade x908 GEN2	AT-SW-CB10-1/5YR-2022 <sup>7</sup>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	300

<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> Channel Blanket and Smart Connect require an AWC-CB license, an AWC license, and a Vista Manager EX base licenses to operate on Vista Manager EX

<sup>6</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>7</sup> Channel Blanket and Smart Connect are not available as a free service. Both an AWC-CB license and an AWC license are required for Channel Blanket and Smart Connect to operate. Purchase one AWC-CB license per 10 APs on switches, or one license to manage 5 APs on the ARX200S-GTX UTM Firewall and AR4050S Firewall

platform	license Name	Description	max supported APs
<b>x950 Series</b>	<b>AT-SW-AWC10-1/5YR<sup>6</sup></b>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	185
<b>x950 Series</b>	<b>AT-SW-CB10-1/5YR-2022<sup>7</sup></b>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	180
<b>x930 Series</b>	<b>AT-SW-AWC10-1/5YR<sup>6</sup></b>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	125
<b>x930 Series</b>	<b>AT-SW-CB10-1/5YR-2022<sup>7</sup></b>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	120
<b>x550 Series</b>	<b>AT-SW-AWC10-1/5YR<sup>6</sup></b>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
<b>x550 Series</b>	<b>AT-SW-CB10-1/5YR-2022<sup>7</sup></b>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	40
<b>x540L Series</b>	<b>AT-SW-AWC10-1/5YR<sup>6</sup></b>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
<b>x540L Series</b>	<b>AT-SW-CB10-1/5YR-2022<sup>7</sup></b>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	40
<b>x530 Series</b>	<b>AT-SW-AWC10-1/5YR<sup>6</sup></b>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
<b>x530 Series</b>	<b>AT-SW-CB10-1/5YR-2022<sup>7</sup></b>	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	40
<b>ARX200S-GTX</b>	<b>AT-RT-AWC10-1/5YR<sup>8</sup></b>	Cumulative Autonomous Wave Control (AWC) license for up to 10 access points	50
<b>ARX200S-GTX</b>	<b>AT-RT-CB5-1/5YR-2022<sup>7</sup></b>	AWC Channel Blanket and AWC Smart Connect license for up to 5 access points	5
<b>AR4050S UTM Firewall</b>	<b>AT-RT-AWC5-1/5YR<sup>6</sup></b>	Cumulative Autonomous Wave Controller (AWC) license for up to 5 access points	25
<b>AR4050S UTM Firewall</b>	<b>AT-RT-CB5-1/5YR-2022<sup>7</sup></b>	AWC Channel Blanket and AWC Smart Connect license for up to 5 access points	5

<sup>6</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>7</sup> Channel Blanket and Smart Connect are not available as a free service. Both an AWC-CB license and an AWC license are required for Channel Blanket and Smart Connect to operate. Purchase one AWC-CB license per 10 APs on switches, or one license to manage 5 APs on the ARX200S-GTX UTM Firewall and AR4050S Firewall

<sup>8</sup> 20 APs can be managed for free on the ARX200S-GTX, and an additional 30 APs with a license.

## STANDARDS & PROTOCOLS

### Ethernet Standards

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

### Wireless

IEEE 802.11 a/b/g/n/ac/ax 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  
 IEEE 802.11e WMM for Quality of Service  
 IEEE 802.11i WPA/WPA2/WPA3 802.1x for Security

## ORDERING INFORMATION

<b>AT-TQ6702 GEN2-xx</b>	Enterprise-Class hybrid Wi-Fi 6 AP with 2 radios (4x4 2.4GHZ and 8x8 5GHz) and embedded antenna
<b>AT-TQ6602 GEN2-xx</b>	Enterprise-Class hybrid Wi-Fi 6 AP with 2 radios (4x4 2.4GHz and 4x4 5GHz) and embedded antenna

Where xx = 03 Regulatory Domain: Canada  
02 Regulatory Domain: Taiwan  
01 Regulatory Domain: United States Reserved  
00 Regulatory Domain: Other countries<sup>9</sup>

<sup>9</sup> Please check the Compliance section on page 2 to see which countries are certified to use these access point

## Related Products

<b>AT-PWRADP-01</b>	AC adapter
<b>AT-6101GP-yy</b>	Gigabit Ethernet PoE+ (802.3at) injector
<b>AT-7101GHTm-yy</b>	Multi-Gigabit Ethernet PoE++ (802.3bt) injector
<b>AT-BRKT-CONV-AP1</b>	Replacement <a href="#">bracket converter</a>

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