

# TQm6000 GEN2 Series

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

Allied Telesis Enterprise-class TQm6000 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 Allied Telesis TQm6000 Series wireless APs support Wi-Fi 6 (802.11ax) and are ideal for small to medium enterprise networks, providing a high-value and easily deployed wireless solution.

The TQm6702 GEN2 has one 4x4 2.4GHz and one 8x8 5GHz Wi-Fi 6 (802.11ax) radio, delivering a raw capacity of 4.8 Gigabits.

The TQm6602 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 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 TQm6000 GEN2 Series support Multi-User Multiple Input and Multiple Output (MU-MIMO<sup>1</sup>), 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)<sup>1</sup> 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<sup>1</sup> 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.

### AWC-SC (Smart Connect)<sup>2</sup>

- ▶ 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
- ▶ The TQm6000 GEN2 Series can be deployed at the edge of an AWC-SC network as terminator APs.
- ▶ The high throughput of Wi-Fi 6 further increases the performance wireless networks, and with AWC Smart Connect, the TQm6602 GEN2 and TQm6702 GEN2 can work together to create a powerful fully wireless network architecture.

### 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<sup>2</sup> and bidirectional MU-MIMO<sup>2</sup> 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 TQm6000 GEN2 Series is ideal for education, healthcare, manufacturing, and busy commercial environments.

### Captive Portal<sup>2</sup>

- ▶ 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.

### 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.

### Airtime Fairness<sup>2</sup>

- ▶ Airtime Fairness equally assigns airtime to each connected client, to ensure fair and predictable sharing of bandwidth. This feature prevents any client from monopolizing the bandwidth when transferring a large amount of data, and ensures consistent performance for all users.

### Cascade Mode<sup>2</sup>

- ▶ Adding deployment flexibility, one of the Ethernet ports may be used in cascade mode to connect an additional wired network device. This may be an end device such as a PC or printer, or a networking device, such as a switch or router.

<sup>1</sup> Supported in a future firmware release (on TQm6602 GEN2)

<sup>2</sup> Supported in a future firmware release (on TQm6702 GEN2 and TQm6602 GEN2)

## Specifications

### Physical Specifications

PRODUCT	WIDTH X DEPTH X HEIGHT		WEIGHT	100M/1G/2.5G/5G (RJ-45) COPPER PORTS
TQm6602 GEN2	200 x 240 x 45 mm (7.88 x 9.45 x 1.78 in)	4 x 4 (2.4GHz) + 4 x 4 (5GHz)	1.2 kg (2.64 lb)	2 (PoE-in port)
TQm6702 GEN2	200 x 240 x 45 mm (7.88 x 9.45 x 1.78 in)	4 x 4 (2.4GHz) + 8 x 8 (5GHz)	1.2 kg (2.64 lb)	2 (PoE-in port)

### Power Characteristics

PRODUCT	POWER SUPPLY	AVERAGE POWER CONSUMPTION	MAXIMUM POWER CONSUMPTION	MAX HEAT DISSIPATION
TQm6602 GEN2	100-240VAC	15W	19W	64.79 BTHu
	PoE	13W	16.9W	57.62 BTHu
TQm6702 GEN2	100-240VAC	19W	24W	81.84 BTHu
	PoE	17W	22.03W	75.12 BTHu

### Wireless

- ▶ Multi-channel operation
- ▶ OFDMA<sup>2</sup>
- ▶ Bi-directional Multi-user MIMO<sup>2</sup>
- ▶ Spatial Reuse
- ▶ Airtime fairness<sup>2</sup>
- ▶ Automatic channel selection<sup>1</sup>
- ▶ Automatic control of transmission power<sup>1</sup>
- ▶ Band Steering
- ▶ Fast roaming
- ▶ RF load balancing
- ▶ Wireless Distribution System (WDS)
- ▶ Wi-Fi Multimedia (WMM) for traffic prioritization
- ▶ Deploy with no data cables using AWC-SC<sup>2</sup>

### Operational Modes

- ▶ Centrally managed by Vista Manager EX (up to 100 APs)
- ▶ Centrally managed by Vista Manager Network Appliance (VST-APL) (up to 100 APs)
- ▶ Centrally managed by Vista Manager mini (up to 100 APs)
- ▶ Standalone (up to 500 clients)

### Management

- ▶ Graphical User Interface (HTTP/HTTPS)
- ▶ Simple Network Management Protocol (SNMPv1, v2c, v3)<sup>2</sup>
- ▶ Firmware upgrade
- ▶ Backup/restore settings
- ▶ Syslog notification
- ▶ DHCP client
- ▶ NTP client

### 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)<sup>2</sup>
- ▶ Encryption
  - WEP: 64/128 bit (IEEE 802.11a/b/g only)
  - WPA/WPA2: CCMP (AES), TKIP
  - WPA3: CCMP (AES/CNSA)
- ▶ MAC address filtering (Up to 1024 MAC address)
- ▶ SSID hiding/ignoring
- ▶ Client isolation
- ▶ Neighbor AP detection
- ▶ Kensington lock

### Compliance

- Certificate
  - ▶ Wi-Fi certified
  - ▶ CE
  - ▶ RCM
  - ▶ IC<sup>3</sup>
  - ▶ FCC<sup>3</sup>
- 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: 5.93 dBi
- Omni-directional
  - ▶ Frequency band: 5 GHz
  - ▶ Max. peak gain: TQm6702 GEN2: 5.93 dBi  
TQm6602 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
- 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>4</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>1</sup> Supported in a future firmware release (on TQm6602 GEN2)

<sup>2</sup> Supported in a future firmware release (on TQm6702 GEN2 and TQm6602 GEN2)

<sup>3</sup> Complies with the IC and FCC certifications when not using Dynamic Frequency Selection (DFS)

<sup>4</sup> Using 256 Quadrature Amplitude Modulation

**Wireless Management Licenses**

Wireless management of the TQm6000 GEN2 Series is available from the Vista Manager EX network management platform, and from Vista Manager mini running on our SwitchBlade x908 GEN2, x950, x930, x550, x530 Series switches or AR4050S UTM firewall.

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>5</sup>	Vista Manager AWC plug-in license for managing up to 10 access points	100
Vista Manager EX (Virtual (VRT))	AT-FL-VISTA-AWC10-1/5YR <sup>5</sup>	Vista Manager AWC plug-in license for managing up to 10 access points	100
Vista Manager EX (Network Appliance)	AT-FL-VISTA-AWC10-1/5YR <sup>5</sup>	Vista Manager AWC plug-in license for managing up to 10 access points	100
SwitchBlade x908 GEN2	AT-SW-AWC10-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	100
x950 Series	AT-SW-AWC10-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	100
x930 Series	AT-SW-AWC10-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	100
x550 Series	AT-SW-AWC10-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x530 Series	AT-SW-AWC10-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
AR4050S UTM Firewall	AT-RT-AWC5-1/5YR <sup>6</sup>	Cumulative Autonomous Wave Controller (AWC) license for up to 5 access points	25

<sup>5</sup> The AWC plug-in requires an AWC license, and a Vista Manager EX base license 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

**Standards**

**Ethernet**

- IEEE 802.1AX-2008 Link Aggregation (static and dynamic)<sup>7</sup>
- 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

<sup>7</sup> Supported in a future firmware release

**Ordering Information**

**AT-TQm6702 GEN2-xx**  
 Enterprise-Class Wi-Fi 6 AP with 2 radios (4x4 2.4GHz and 8x8 5GHz) and embedded antenna

**AT-TQm6602 GEN2-xx**  
 Enterprise-Class Wi-Fi 6 AP with 2 radios (4x4 2.4GHz and 4x4 5GHz) and embedded antenna

Where xx =  
 01 Regulatory Domain: United States Reserved  
 00 Regulatory Domain: Other countries<sup>8</sup>

<sup>8</sup> Please check the Compliance section on page 2 to see which countries are certified to use these access points

**Related Products**

- AT-PWRADP-01**  
AC adapter
- AT-6101GP-yy**  
Gigabit Ethernet PoE+ (802.3at) injector
- AT-7101GHTm-yy**  
Multi-Gigabit Ethernet PoE++ (802.3bt) injector
- AT-BRKT-CONV-AP1**  
Replacement bracket converter

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