

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 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-MIMO1), 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)¹ 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.
- ▶ AWC¹ 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 Operation²

- ▶ 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)²

- ▶ 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 Portal²

- ▶ 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.

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 OFDMA² and bidirectional MU-MIMO² 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.

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.

¹ Supported in a future firmware release (on TQ6602 GEN2)

² Supported in a future firmware release (on TQ6702 GEN2 and TQ6602 GEN2)

Specifications

Physical Specifications

| PRODUCT | WIDTH X DEPTH X HEIGHT | | WEIGHT | 100M/1G/2.5G/5G (RJ-45) COPPER PORTS |
|-------------|--|-------------------------------|------------------|--------------------------------------|
| TQ6602 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) |
| TQ6702 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 |
|-------------|--------------|---------------------------|---------------------------|----------------------|
| TQ6602 GEN2 | 100-240VAC | 15W | 19W | 64.79 BTHu |
| | PoE | 13W | 16.9W | 57.62 BTHu |
| TQ6702 GEN2 | 100-240VAC | 19W | 24W | 81.84 BTHu |
| | PoE | 17W | 22.03W | 75.12 BTHu |

Wireless

- ▶ Multi-channel, single-channel, or hybrid operation
- ▶ OFDMA²
- ▶ Bi-directional Multi-user MIMO²
- ▶ Spatial Reuse
- ▶ Airtime fairness²
- ▶ Automatic channel selection¹
- ▶ Automatic control of transmission power¹
- ▶ 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-SC²

Operational Modes

- ▶ Centrally managed in multi-channel mode by Vista Manager EX (up to 3,000 APs)
- ▶ Centrally managed in single-channel² 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-channel² 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-channel² or hybrid mode (multi-channel and single-channel) by Vista Manager mini
- ▶ Standalone (up to 500 clients)

Management

- ▶ Graphical User Interface (HTTP/HTTPS)
- ▶ Simple Network Management Protocol (SNMPv1, v2c, v3)²
- ▶ 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)²

- ▶ 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
 - ▶ IC³
 - ▶ FCC³
- 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
- 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)⁴
 - ▶ 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

¹ Supported in a future firmware release (on TQ6602 GEN2)

² Supported in a future firmware release (on TQ6702 GEN2 and TQ6602 GEN2)

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

⁴ Using 256 Quadrature Amplitude Modulation

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Wireless Management Licenses

Wireless management of the TQ6000 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 ⁵ | 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 ⁵ | 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 ⁵ | Vista Manager AWC plug-in license for managing up to 10 access points | 500 |
| SwitchBlade x908 GEN2 | AT-SW-AWC10-1/5YR ⁶ | Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points | 305 |
| x950 Series | AT-SW-AWC10-1/5YR ⁶ | Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points | 185 |
| x930 Series | AT-SW-AWC10-1/5YR ⁶ | Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points | 125 |
| x550 Series | AT-SW-AWC10-1/5YR ⁶ | Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points | 45 |
| x530 Series | AT-SW-AWC10-1/5YR ⁶ | Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points | 45 |
| AR4050S UTM Firewall | AT-RT-AWC5-1/5YR ⁶ | Cumulative Autonomous Wave Controller (AWC) license for up to 5 access points | 25 |

⁵ The AWC plug-in requires an AWC license, and a Vista Manager EX base license to operate on Vista Manager EX

⁶ 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)⁷
 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

⁷ Supported in a future firmware release

Ordering Information

AT-TQ6702 GEN2-xx

Enterprise-Class hybrid Wi-Fi 6 AP with 2 radios (4x4 2.4GHZ and 8x8 5GHZ) and embedded antenna

AT-TQ6602 GEN2-xx

Enterprise-Class hybrid 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 countries⁸

⁸ 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