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.

Wi-Fi 6 CERTIFIED

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-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)[1]

▶ 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 throughout, 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.

TQ6000 GEN2 Series | Hybrid Wi-Fi 6 Wireless Access Points

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
- OFDMA
- Bi-directional Multi-user MIMO
- Spatial Reuse
- Airtime fairness
- Automatic channel selection
- Automatic control of transmission power
- 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[1]
- 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
- Graphical User Interface (HTTP/HTTPS)
- Simple Network Management Protocol (SNMPv1, v2c, v3)
- 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)

- 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
- FCC
- IMDA (For Singapore)[3]
- WPC (For India)[4]
- OFCA (For Hong Kong)
- NBTC (For Thailand)
- MIC (For Vietnam)
- SIRIM (For Malaysia)
- BSMI/MCC (For Taiwan)
- SRRC (For China)

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)[2]
- 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 TQ6702 GEN2 and TQ6602 GEN2)
[2] Using 256 Quadratude Amplitude Modulation
[3] Certificated with firmware release 8.0.2-1.1 or later
[4] TQ6602 GEN2 was certified with firmware release 8.0.2-1.1 or later

NETWORK SMARTER

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 (Windows)	AT-FL-VISTA-CB10-1/5YR-2022[6, 9]	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[8]	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[6, 9]	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[8]	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[6, 9]	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[7]	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	305
SwitchBlade x908 GEN2	AT-SW-CB10-1/5YR-2022[8, 9]	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	300
x950 Series	AT-SW-AWC10-1/5YR[7]	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	185
x950 Series	AT-SW-CB10-1/5YR-2022[8, 9]	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	180
x930 Series	AT-SW-AWC10-1/5YR[7]	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	125
x930 Series	AT-SW-CB10-1/5YR-20228[7, 9]	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	120
x550 Series	AT-SW-AWC10-1/5YR[7]	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x550 Series	AT-SW-CB10-1/5YR-2022[8, 9]	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	40
x530 Series	AT-SW-AWC10-1/5YR[7]	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x530 Series	AT-SW-CB10-1/5YR-2022[8, 9]	Vista Manager AWC-Channel Blanket and AWC-Smart Connect license for managing up to 10 access points	40
AR4050S UTM Firewall	AT-RT-AWC5-1/5YR[7]	Cumulative Autonomous Wave Controller (AWC) license for up to 5 access points	25
AR4050S UTM Firewall	AT-RT-CB5-1/5YR-2022[8, 9]	AWC Channel Blanket and AWC Smart Connect license for up to 5 access points	5

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

[6] 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

[7] 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

[8] 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 AR4050S Firewall.

[9] AWC-SC Supported in a future firmware release

Standards

Ethernet
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

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 =
        03 Regulatory Domain: Canada
  02 Regulatory Domain: Taiwan
  01 Regulatory Domain: United States Reserved
  00 Regulatory Domain: Other countries[10]

[10] 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

Allied Telesis™

617-000697 RevG