

TQ7403

Hybrid Wi-Fi 6E (802.11ax) Wireless Access Point

Allied Telesis Enterprise-class TQ7403 hybrid wireless access point features Wi-Fi 6E technology, a 3 radio design supporting 2.4GHz, 5GHz, and 6GHz bands, and a raw capacity of up to 2.4 Gigabits.



Overview

Allied Telesis TQ7403 Wi-Fi 6E AP partnered with our innovative wireless technologies, Autonomous Wave Control (AWC) and AWC-Channel Blanket¹, enables flexible operation and a superior wireless user experience in all environments.

High-performance is ensured with a 3 radio design (2x2 2.4GHz, 2x2 5GHz, and 2x2 6GHz), with simultaneous use of each of the 3 bands for high capacity and speed up to 2.4 Gigabits.

The 6GHz band² uses an internal antenna and provides increased radio efficiency and throughput. The 2.4GHz and 5GHz bands use an external antenna, which is removable and can be replaced with an optional extension cable and patch antenna to extend wireless range, expanding deployment options and usage scenarios.

The power and efficiency of Wi-Fi 6E, 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 TQ7403 supports 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 installation 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

Wi-Fi 6E

- ▶ IEEE 802.11ax Wi-Fi 6E connectivity delivers fast performance and efficient bandwidth distribution in crowded wireless environments. Use of the 6GHz band (up to 1200 MHz) allows more devices to connect and provides stable high throughput.
- ▶ Wi-Fi 6E offers 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 TQ7403 is ideal for education, healthcare, manufacturing, and commercial environments.
- ▶ Wi-Fi 6E 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.

Channel Blanket¹ Hybrid Operation

- ▶ The TQ7403 supports 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.

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.

Flexible Management

- ▶ The TQ7403 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.

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 Wi-Fi 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 TQ7403 supports 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.

¹ Available in a future firmware release

² Note that outdoor use of the 6GHz radio band is not permitted

Specifications

Physical Specifications

PRODUCT	WIDTH X DEPTH X HEIGHT		WEIGHT	100M/1G/2.5G (RJ-45) COPPER PORTS
TQ7403	200 x 210 x 45 mm (7.87 x 8.23 x 1.78 in) With protrusion antenna: 290 x 210 x 160 mm (11.42 x 8.23 x 6.30 in)	2 x 2 (2.4GHz) + 2 x 2 (5GHz) + 2 x 2 (6GHz)	1.2 kg (2.64 lb)	2 (PoE-in port)

Power Characteristics

PRODUCT	POWER SUPPLY	AVERAGE POWER CONSUMPTION	MAXIMUM POWER CONSUMPTION	MAX HEAT DISSIPATION
TQ7403	100-240VAC	14W	18W	61.4 BTHu
	PoE	15W	19.4W	66.15 BTHu

Wireless

- ▶ Multi-channel, single-channel, or hybrid operation
- ▶ OFDMA
- ▶ Bi-directional Multi-user MIMO
- ▶ 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

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 EX³
- ▶ 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)³
- ▶ Centrally managed in multi-channel mode by Vista Manager mini (up to 305 APs)³
- ▶ Centrally managed in single-channel or hybrid mode (multi-channel and single-channel) by Vista Manager mini³
- ▶ Standalone (supports up to 500 clients per radio for 2.4GHz/5GHz, up to 256 clients per radio for 6GHz)

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
- ▶ Neighbor AP detection
- ▶ Kensington lock

Compliance

- Certificate
- ▶ Wi-Fi certified
- ▶ CE
- ▶ RCM
- ▶ FCC
- ▶ IMDA (For Singapore)⁴
- ▶ OFCA (For Hong Kong)⁴
- ▶ NBTC (For Thailand)⁴
- ▶ SIRIM (For Malaysia)⁴

Safety

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

ElectroMagnetic Compatibility

- ▶ EN 301 489-1
- ▶ EN 301 489-17
- ▶ EN 303 687
- ▶ 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: 2.83 dBi
- Omni-directional
- ▶ Frequency band: 5 GHz
- ▶ Max. peak gain: 3.85 dBi
- Omni-directional
- ▶ Frequency band: 6 GHz
- ▶ Max. peak gain: 5.93 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)
- ▶ 5.925 ~ 6.425 GHz
- ▶ 6.425 ~ 7.125 GHz (US and Canada)
- 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)⁵
- ▶ 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

Operational Interface

- ▶ Bluetooth Low Energy³

³ Available in a future firmware release

⁴ Certificated with firmware release 10.0.4-0.1 or later

⁵ Using 256 Quadrature Amplitude Modulation

Wireless Management Licenses⁶

Wireless management of the TQ7403 is from the Vista Manager EX network management platform, and from Vista Manager mini⁷ 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 ⁸	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 ^{9, 11}	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 ¹¹	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 ^{9, 11}	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 ¹¹	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 ^{9, 11}	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 ¹⁰	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	305
SwitchBlade x908 GEN2	AT-SW-CB10-1/5YR-2022 ¹¹	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 ¹⁰	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	185
x950 Series	AT-SW-CB10-1/5YR-2022 ¹¹	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 ¹⁰	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	125
x930 Series	AT-SW-CB10-1/5YR-2022 ¹¹	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 ¹⁰	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x550 Series	AT-SW-CB10-1/5YR-2022 ¹¹	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 ¹⁰	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x530 Series	AT-SW-CB10-1/5YR-2022 ¹¹	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 ¹⁰	Cumulative Autonomous Wave Controller (AWC) license for up to 5 access points	25
AR4050S UTM Firewall	AT-RT-CB5-1/5YR-2022 ¹¹	AWC Channel Blanket and AWC Smart Connect license for up to 5 access points	5

⁶ AWC-CB and AWC-SC will be available in a future firmware release

⁷ Wireless management from Vista Manager mini will be available in a future firmware release

⁸ The AWC plug-in requires an AWC license, and a Vista Manager EX base license to operate on Vista Manager EX

⁹ 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

¹⁰ 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

¹¹ 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.

Standards

Ethernet

- IEEE 802.1AX-2008 Link Aggregation (static and dynamic)
- IEEE 802.3u 100BASE-TX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3bz 2.5GBASE-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 2x2:2ss 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-TQ7403-xx

Enterprise-Class hybrid Wi-Fi 6E AP with 3 radios (2x2 2.4GHZ and 2x2 5GHz and 2x2 6GHZ), embedded and external antenna

Where xx =

- 05 Other countries¹²
- 02 Taiwan
- 01 United States Reserved
- 00 EMEA

¹² Please check the Compliance section on page 2 to see which countries are certified to use these access points

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

Related Products

AT-TQ0301

Patch antenna for 2.4G/5G
One required per TQ7403

AT-TQ0064

Antenna extension cable of 10 m
At least two units required per TQ7403

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