TQ5403

Enterprise-Class 802.11ac Wave 2 Wireless Access Point

The Allied Telesis TQ5403 Enterprise-Class Wireless Access Point features IEEE 802.11ac Wave 2 technology with two spatial streams to deliver a raw capacity of 2.133 Gigabits.

WiFi CERTIFIED®

Overview

The TQ5403 is based on IEEE 802.11ac Wave 2 technology and benefits from multi-user MIMO to communicate with multiple devices simultaneously. With 2 spatial streams, it can deliver three times the performance of an IEEE 802.11n access point (AP).

This power efficient AP provides two 5GHz and one 2.4GHz radio, embedded antennas, and a comprehensive feature set in a small form factor. The TQ5403 is suitable for a wide range of applications, providing superior wireless connectivity for customers from SMBs to large Enterprises.

Smaller businesses can operate the TQ5403 in standalone mode, using its intuitive web-based user interface. For larger installations it can be managed by the innovative Allied Telesis Autonomous Wave Control (AWC). With AWC, the wireless network is regularly analyzed, and APs are dynamically updated to reduce interference, minimize coverage gaps, and optimize performance—all with no user intervention. Allied Telesis' network management platform, Vista Manager EX, has an AWC wireless management plugin that supports up to 3,000 APs.

Flexible deployment options enable easy installation in all environments, with the TQ5403 able to be used on the desktop, or mounted on a wall or ceiling. Power may be supplied by Power over Ethernet, for the simplicity of having the Ethernet network connect and power the APs, or by an optional AC power adapter.

Key Features

IEEE 802.11ac Wave 2

▶ IEEE 802.11ac Wave 2 wireless connectivity delivers Gigabit performance, with a superior user experience than traditional Wi-Fi technologies. In crowded wireless environments, it is important that bandwidth is distributed in the most efficient way; IEEE 802.11ac Wave 2 achieves efficiency and robustness, using Multi-user MIMO technology.

▶ Unlike traditional Single-user MIMO networks where devices are served sequentially, Multi-user MIMO simultaneously communicates to multiple clients at once, reducing network contention and improving capacity and throughput by up to three times.

▶ Multi-user MIMO uses beamforming, where the AP focuses wireless signal towards connected devices, rather than simply radiating the signal evenly. This improves range and speed for each user, and also reduces interference for the best possible connection.

Link Aggregation

▶ The TQ5403 features two 10/100/1000T Ethernet ports. These can be combined into a single virtual connection using static link aggregation, to double the bandwidth from the AP back to the wired network.

Tri-radio, with Band Steering*

▶ The TQ5403 contains three IEEE 802.11 2ss radios to enable concurrent Wi-Fi communications: one at 2.4GHz band, and two at 5GHz band. This alleviates network congestion and isolates any legacy client devices affecting network performance.

▶ Band steering prompts newly connecting devices to use a band with little current congestion to distribute wireless traffic, provide maximum throughput, and the best user experience.

*Band Steering available in a future software release.

Virtual APs with Multiple SSIDs

▶ The TQ5403 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 user community.

Dynamic VLANs

▶ Dynamic VLANs simplify management by enabling users to be separated on different VLANs according to rules defined in a centralized user database. When a user connects, their credentials checked and the VLAN assigned automatically to the AP. An external RADIUS server is supported and a secondary RADIUS server can also be specified for redundancy.

Graphical User Interface

▶ The web-based user interface is user friendly and intuitive, minimizing training needs, and allowing easy management and monitoring of a single AP. AWC enables management of multiple APs, and automatic wireless network optimization.

Airtime Fairness

▶ 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.

Fast Roaming

▶ Fast Roaming with 802.11k, 802.11v, and 802.11r optimizes the process of discovering and selecting the best available AP in a Wi-Fi network, and establishes rapid connectivity for users to seamlessly move between APs.

▶ Users will experience a consistent wireless connection as the APs exchange security keys, so the client device does not need to re-authenticate on the RADIUS server as they roam.

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Specifications

Physical Specifications

PRODUCT	WIDTH X DEPTH X HEIGHT	WEIGHT	10/100/1000T (RJ-45) COPPER PORTS
TQ5403	215 x 215 x 48 mm (8.46 x 8.46 x 1.89 in)	700 g (24.69 oz)	2 (1 PoE-in port)

Power Characteristics

PRODUCT	POWER SUPPLY	POWER CONSUMPTION		MAX HEAT DISSIPATION
		AVERAGE	MAXIMUM	
TQ5403	100-240VAC	10W	20W	67 BTU/h
	POE	10W	19W	64 BTU/h

Operational Mode
▶ Centrally controlled and managed by Vista Manager EX for large scale (up to 3,000 APs)
▶ Standalone

Wireless
▶ Airtime fairness
▶ Automatic channel selection
▶ Automatic control of transmission power
▶ Band Steering
▶ Fast roaming
▶ RF load balancing
▶ Wireless Distribution System (WDS)

Management
▶ Graphical User Interface (HTTP/HTTPS)
▶ Simple Network Management Protocol (SNMPv1, v2c)
▶ 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)
▶ Encryption
  WEP: 128 bit (IEEE 802.11a/b/g only)
  WPA/WPA2: CCMP, TKIP
▶ MAC address filtering (Up to 1024 MAC address)
▶ SSID hiding/ignoring
▶ Client isolation
▶ Neighbor AP detection

Compliance
Certificates
▶ FCC
▶ CE
▶ RCM
▶ Wi-Fi certified (ID:WFA75927)

Safety
▶ EN 60950-1
▶ EN 62368-1
▶ UL 60950-1
▶ UL 62368-1

ElectroMagnetic Compatibility
▶ AS/NZS 2772.2
▶ EN 301 489-1
▶ EN 301 489-17
▶ EN 55024
▶ EN 55032, Class B
▶ 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
▶ FCC 47 CFR Part 15, Subpart B
▶ 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 E***
▶ FCC part 2

Environmental Specifications
▶ Operating temperature range:
  PoE: 0°C to 50°C (32°F to 122°F)
  AC adapter: 0°C to 45°C (32°F to 113°F)
▶ Storage temperature range:
  -25°C to 70°C (-13°F to 158°F)
▶ Operating relative humidity range:
  90% non-condensing
▶ Storage relative humidity range:
  95% non-condensing

Embedded Antennas
Omni-directional
▶ Frequency band: 2.4 GHz
▶ Max. peak gain: 3.95dBi

Omni-directional
▶ Frequency band: 5GHz (5.2-5.3GHz)
▶ Max. peak gain: 4.20dBi

Omni-directional
▶ Frequency band: 5GHz (5.6-5.8GHz)
▶ Max. peak gain: 4.83dBi

Radio Characteristics
Supported frequencies:
▶ 2.400 ~ 2.4835 GHz
▶ 5.150 ~ 5.250 GHz
▶ 5.250 ~ 5.350 GHz
▶ 5.470 ~ 5.725 GHz
▶ 5.725 ~ 5.850 GHz

Modulation Technique
▶ 802.11a/g/n/ac: OFDM
▶ 802.11b: DSSS, CCK, DQPSK, DBPSK
▶ 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
▶ 802.11a/g/n: BPSK, QPSK, 16QAM, 64QAM

Data Rate
▶ 802.11a/g: 54/48/36/24/18/12/9/6Mbps
▶ 802.11b: 11/5.5/2/1Mbps
▶ 802.11n: 6.5 - 400Mbps** (MCS 0 - 15)
▶ 802.11n: 6.5 - 300Mbps (MCS 0 - 15)
▶ 802.11ac: 6.5 – 866.7Mbps (MCS 0 - 9, NSS 1 - 2)

Media Access
▶ CSMA/CA + Ack with RTS/CTS

Diversity
▶ Spatial diversity

Standards

Ethernet
IEEE 802.1AX-2008 Link Aggregation (static)
IEEE 802.3 10BASE-T
IEEE 802.3u 100BASE-TX
IEEE 802.3ab 1000BASE-T
IEEE 802.3x Flow Control
IEEE 802.3at Power over Ethernet+
IEEE 802.1Q VLAN Tagging

Wireless
IEEE 802.11 ac 2x2:2ss MU-MIMO
IEEE 802.11 a/b/g/n 2x2:2ss SU-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

** Using 256 Quadrature Amplitude Modulation
*** Supported frequencies: 5.150 ~ 5.250 GHz
                            5.725 ~ 5.850 GHz

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Ordering Information

AT-TQ5403-xx
Enterprise-Class 802.11ac Wave 2 Wireless Access Point with 3 radios and embedded antenna

Where xx = [none] Regulatory Domain: Worldwide (except United States)

01 Regulatory Domain: United States Reserved

Related Products

AT-MWS0091
AC adapter

Feature Licenses

NAME	DESCRIPTION
AT-FL-VISTA-BASE-1/5YR	Vista Manager EX network monitoring and management software
AT-FL-VISTA-AWC10-1/5YR	Autonomous Wireless Controller plug-in for Vista Manager

NETWORK SMARTER