TQ3403-R

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

Allied Telesis TQ3403 Wi-Fi 6E wireless access point features a 3 radio design supporting 2.4GHz, 5GHz, and 6GHz bands, and a raw capacity of up to 2.4 Gigabits—and it runs the Enterprise-class AlliedWare Plus operating system.

Overview

The TQ3403 Wi-Fi 6E AP is enhanced by our innovative wireless technology, Autonomous Wave Control (AWC), which automatically optimizes the Wi-Fi network for a superior user experience.

High-performance is assured 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 TQ3403-R runs the Enterprise-class AlliedWare Plus operating system, for a consistent user-experience across the network with Allied Telesis switches, firewalls, and routers. An Industry standard command-line interface, the preinstalled Device GUI, and centralized administration from the Autonomous Wave Control (AWC) wireless controller built-in to Vista Manager™, provide flexible management options.

Autonomous Management Framework™ Plus (AMF Plus) provides automated backup of firmware, configuration, and licenses to the network master device, enabling plug-and-play recovery—along with other powerful features such as auto- upgrade, and auto-provisioning for zero-touch network roll-out.

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 features such as OFDMA and SU-MIMO increase AP intelligence 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 TQ3403 is ideal for education, healthcare, manufacturing, and commercial environments.

Standalone Management

The TQ3403-R can be managed standalone using the AlliedWare Plus industry-standard command line, or the intuitive pre-installed Device GUI.

Centralized Management

For smaller networks, the Device GUI includes a wireless controller which enables the TQ3403-R to manage itself and up to 50 other APs, for an all-in-one Wi-Fi monitoring and management solution.

For larger networks, multiple APs can be centrally managed using the Autonomous Wave Control (AWC) wireless controller built-in to Vista Manager. Enjoy seamless visibility of APs alongside switches, firewalls, third-party, and endpoint devices.

AWC regularly analyses the Wi-Fi network, automatically optimizing wireless settings to reduce interference and minimize coverage gaps—all with no user intervention.

All units are automatically backed-up using Autonomous Management Framework Plus (AMF Plus), and can be restored with plug-and-play simplicity.

Vista Manager, AMF Plus, and AWC provide visual and automated management that greatly reduces the time and cost of managing multiple APs in larger deployments.

Non-stop Wi-Fi

Even if APs lose connectivity to the AWC wireless controller, they will continue to provide connectivity to user devices and forward traffic, ensuing no interruption to business operation.

Deep Packet Inspection (DPI) statistics

DPI enables application statistics to be gathered from the wireless edge, showing the most used applications.

Vista Manager displays application statistic with an informative Top-10 applications list and pie-chart, which can be viewed with statistics from the last hour, or up to the last 24-hours.

Selecting multiple APs shows aggregated statistics, useful for monitoring the wireless edge of different areas of the network.

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.

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.

Passpoint® and OpenRoaming

Wi-Fi Alliance certified Passpoint enables auto-detection and connection of client devices, removing the need for users to find and authenticate on wireless networks. This provides a flexible Wi-Fi network with a high level of security.

OpenRoaming is an international Wi-Fi interoperability standard allowing devices using an applicable profile to automatically connect to OpenRoaming-compliant networks. This ensures ease of use, as well as avoiding security risks such as virus infection and data theft due to misconnection. The TQ3403 can be used to deploy OpenRoaming-compliant Wi-Fi networks in public facilities and event venues.

Virtual APs with Multiple SSIDs

The TQ3403 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.

Wi-Fi Scheduler

Radio signal strength on the AP can be scheduled to suit the time of day, with different levels at different times. For example, turning off radio signals late at night, when the Wi-Fi network may not be in use, can prevent unauthorized access and save power.

AMF-Security and Application Proxy[1]

The AMF-Security (AMF-Sec) solution enables internal LAN threat detection and automatic end-point isolation to protect the network. If a firewall detects suspicious traffic or a threat such as a virus from a wireless device, it informs the AMF-Sec controller, which uses the AMF Application Proxy to communicate and enable to AP to block or quarantine the infected user device. This automatically protects the network from threats.

[1] An AMF-Security controller, and Vista Manager AWC wireless management are required

SPECIFICATIONS

Physical Specifications

	Width	Depth	Height		Weight	100M/1G/2.5G (RJ-45) Copper Ports
TQ3403-R	200 mm (7.87 in)	210 mm (8.23 in)	47 mm (1.85 in)	2 x 2 (2.4GHz) + 2 x 2 (5GHz) + 2 x 2 (6GHz)	1.17 kg (2.43 lb)	1 (PoE-in port)

Power Characteristics

	Power Supply	Average Power Consumption	Maximum Power Consumption	Max Heat Dissipation
TQ3403-R	100~240VAC	15W	20W)	61.4 BTHu
	PoE	14W	24W	66.15 BTHu

Wireless

- Airtime fairness
- Automatic channel selection
- Automatic control of transmission power
- Band Steering
- Bi-directional Single-user MIMO
- ECO-LED
- Fast roaming
- OFDMA
- Passpoint (Hotspot 2.0)
- RF load balancing
- VLAN (VAP (recommended 5 or less for 2.4GHz/5GHz/6GHz respectively)/Dynamic VLAN)
- Wi-Fi Multimedia (WMM) for traffic prioritization
- Wi-Fi Scheduler
- Wireless Distribution System (WDS)

Operational Modes

- Centrally managed by Vista Manager EX (up to 3,000 APs)
- Centrally managed by Vista Manager Network Appliance (VST-APL) (up to 500 APs)
- Standalone (supports up to 128 clients per radio for 2.4GHz/5GHz/6GHz)

Management

- Autonomous Management Framework Plus (AMF Plus) automates network administration, with powerful features like zero-touch device installation and recovery.
- Autonomous Wave Control (AWC) provides centralized AP management, as well as automated wireless network optimization for a superior user experience.
- NETCONF/RESTCONF northbound interface with YANG data modelling
- Industry-standard CLI with context-sensitive help
- Built-in Device GUI
- Simple Network Management Protocol (SNMPv1, v2c, v3)
- Firmware upgrade
- Backup/restore settings
- Syslog notification
- Built-in packet capture
- DHCP client
- NTP client
- Event-based triggers allow user-defined scripts to be executed upon selected system events
- Comprehensive logging to local memory and syslog
- Compatible with AMF-Security, and AT-RADGate (Allied Telesis RADIUS server)

Security

- Authentication and Accounting
  - Open System Authentication
  - Enhanced Open Authentication
  - 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, Redirection Page, Virtual IP Address, RADIUS Accounting, Walled Garden)
  - Wi-Fi Alliance certified Passpoint® enables auto-detection and connection of client devices
- Client Isolation
- Encryption
  - WEP: 64/128 bit (IEEE 802.11a/b/g only)
  - WPA/WPA2: CCMP (AES), TKIP
  - WPA3: CCMP/GCMP (AES/CNSA)
- MAC address filtering (Up to 2048 MAC address)
- SSID hiding/ignoring
- Allow, block, and record client connections
- Neighbor AP detection
- Kensington lock
- Simple Certificate Enrollment Protocol (SCEP) supports secure management

Compliance

Certificate

- Wi-Fi certified
- RCM
- FCC
- CE (For European Union)
- FCC (For United States)
- NBTC (For Thailand)
- NCC (For Taiwan)
- OFCA (For Hong Kong)
- IMDA (For Singapore)
- RCM (For Australia)
- RCM (For New Zealand)
- SIRIM (For Malaysia)
- UKCA (For United Kingdom)
- ARIB STD T-66 / T-71
- NCC
- BSMI

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
- EN 303 687
- FCC 47 CFR Part 15, Subpart C
- FCC 47 CFR Part 15, Subpart E5

Environmental Specifications

- Operating temperature range:
  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:
  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)
- 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

Diagnostic Tools

- Automatic link flap detection and port shutdown
- Ping polling for IPv4 and IPv6
- TraceRoute for IPv4 and IPv6

Authentication

- Strong password security and encryption
- Local RADIUS server for up to 100 users
- TACACS+ authentication and authorization
- IEEE 802.1x authentication on LAN ports

STANDARDS & PROTOCOLS

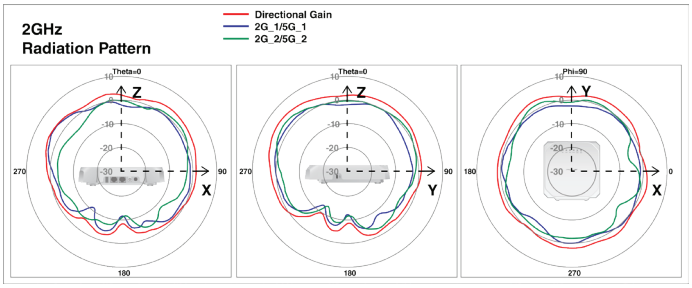
Ethernet Standards

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

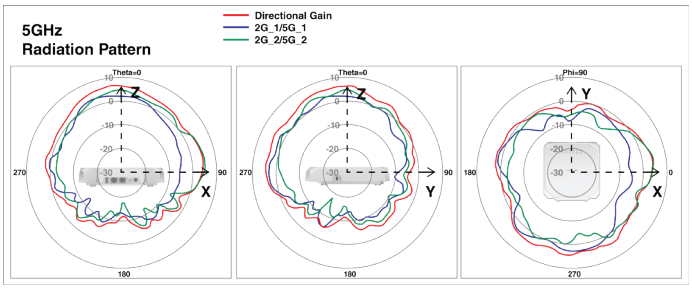
Wireless

IEEE 802.11 a/b/g/n/ac/ax 2x2:2ss 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
IEEE 802.11e WMM for Quality of Service
IEEE 802.11i WPA/WPA2/WPA3 802.1x for Security

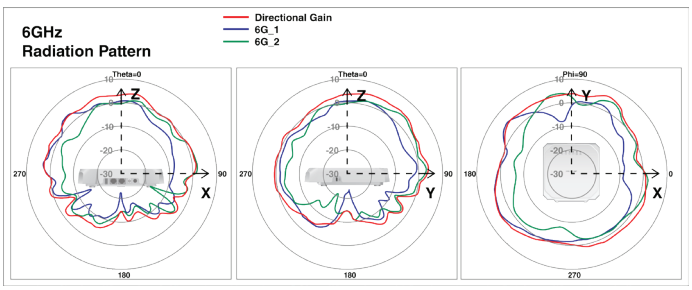
Radiation Patterns for Wi-Fi 2.4GHz



Radiation Patterns for Wi-Fi 5GHz

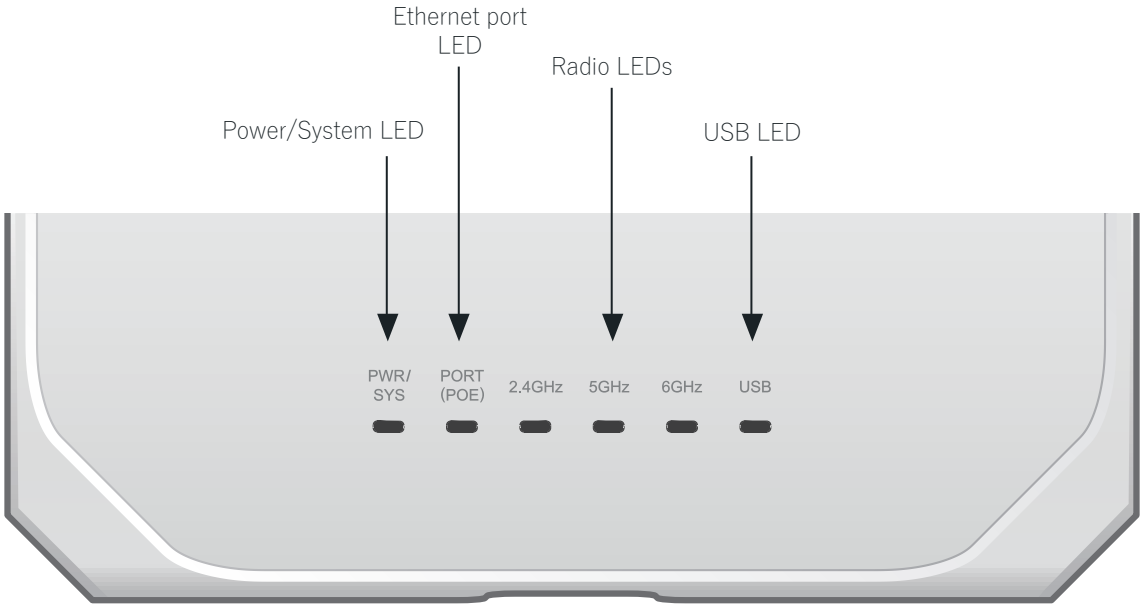


Radiation Patterns for Wi-Fi 6GHz

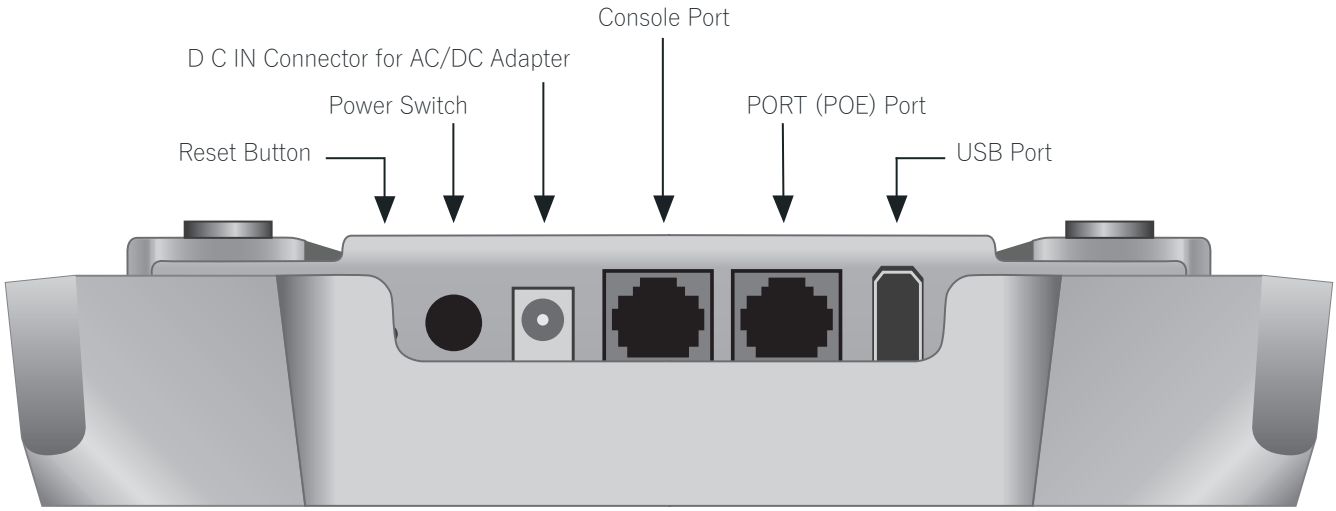


AP LEDs

Informative LEDs provide at-a-glace status of AP activity



AP Connectivity



Wi-Fi PLANNING

Need help planning your wireless network? See our handy Wi-Fi planner.

LICENSES

Wireless Management Licenses

Wireless management of APs is available from the Vista Manager EX network management platform, and from the wireless controller in the Device GUI on the switch and firewall products listed in the following table.

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[2]**	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[2]**	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[2]**	Vista Manager AWC plug-in license for managing up to 10 access points	500
SwitchBlade x908 GEN2	**AT-SW-AWC10-1/5YR[3]**	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	305
x950 Series	**AT-SW-AWC10-1/5YR[3]**	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	185
x930 Series	**AT-SW-AWC10-1/5YR[3]**	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	125
x550 Series	**AT-SW-AWC10-1/5YR[3]**	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x540L Series	**AT-SW-AWC10-1/5YR[3]**	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
x530 Series	**AT-SW-AWC10-1/5YR[3]**	Cumulative Autonomous Wave Controller (AWC) license for up to 10 access points	45
ARX200S-GTX	**AT-RT-AWC10-1/5YR[4]**	Cumulative Autonomous Wave Control (AWC) license for up to 10 access points	50
AR4050S UTM Firewall	**AT-RT-AWC5-1/5YR[3]**	Cumulative Autonomous Wave Controller (AWC) license for up to 5 access points	25

[2] The AWC plug-in requires an AWC license, and a Vista Manager EX base license to operate on Vista Manager EX
[3] 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.
[4] 20 APs can be managed for free on the ARX200S-GTX, and an additional 30 APs with a license.

ORDERING INFORMATION

AT-TQ3403-R-xx	Enterprise-Class Wi-Fi 6E AP with 3 radios (2x2 2.4GHZ and 2x2 5GHz and 2x2 6GHz), and embedded antenna

Where xx = 05 Other countries[5]
02 Taiwan

[5] 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