Allied Telesis™

AT-TQ5403

Wireless Access Point

Installation Guide

613-002569 Rev. C

Electrical Safety and Emissions Standards

This product meets the following standards:

Federal Communications Commission Interference Statement

Declaration of Conformity

Manufacturer Name: **Allied Telesis**
Declares that the product: **802.11ac wave2 2x2 Tri-radio 2.4G/5G/5G wireless AP**
Model Number: **AT-TQ5403**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution
FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. E80

Avertissement
Avertissement de la FCC: Les changements ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorité de l'utilisateur à utiliser cet équipement. E80

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

European Union Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment

This Allied Telesis RoHS-compliant product conforms to the European Union Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment. Allied Telesis ensures RoHS conformance by requiring supplier Declarations of Conformity, monitoring incoming materials, and maintaining manufacturing process controls.

Note
For additional regulatory statements, refer to Appendix B, ”Regulatory Statements” on page 53.

Safety and Electromagnetic Emissions

Standard Compliance

- RoHs compliant
- European Union RoHS (Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.)

Wire Communication

- IEEE 802.1
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x
- IEEE 802.3at
- ITU-T G.993.1

Wireless Communication

- IEEE 802.11 DSSS
- IEEE 802.11a OFDM
- IEEE 802.11b DSSS/FHSS
- IEEE 802.11g OFDM
- IEEE 802.11n OFDM
- IEEE 802.11ac OFDM
- ARIB STD-T66
- ARIB STD-T71

Safety

- CB/UL
  - UL/IEC 60950-1: 2005+A1:2009+A2:2013 and EN60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
  - UL/IEC 62368-1:2014 and EN62368-1:2014
  - UL 60950-1, 2nd Edition, 2014-10-14/CSA C22.1 NO. 60950-1-07, 2nd Edition, 2014-10
- TUV
  - EN60950-1+EN62368-1
- AEL
  - Class I, US FDA/CDRH
  - EN(IEC) 60825-1:1994+a11,
  - EN(IEC) 60825-2:1994
  - EN(IEC) 60950: 1992+A1+A2+A3

Electro Magnetic Interference EMI

- FCC part15 Subpart B/ Class B
- EN55032 Class B
- CISPR 32
- VCCI Class B
- VCCI 32-1
- AS/NZS CISPR 32

Electro Magnetic Susceptibility - EN55024

- IEC 61000-3-2:2014
- IEC 61000-3-3:2013
- IEC 61000-4-2:2008
- IEC 61000-4-3: 2006+A1:2007+A2:2010
- IEC 61000-4-4:2012
- IEC 61000-4-5:2017
- IEC 61000-4-6:2013
- (IEC 61000-4-8:2009)
- IEC 61000-4-11:2017
- IEC 61000-3-2:2014
- IEC 61000-3-3:2013

FCC

- 47 CFR Part15, subpart C
- 47 CFR Part15, subpart E

CE

- RED Directive 2014.53.EU
- European Council Directive 2014/30/EU
- EN55032:2015+AC:2016
  (CISPR32:2015/COR1:2016)
- EN 55024:2010+A1:2015
- EN 301489-1 V2.1.1
- EN 301489-17 V3.1.1
- EN 300328 V2.1.1
- EN 301893 V2.1.1
- EN 62311: 2008
- EN 50385: 2017

RCM

- AS/NZS CISPR 32: 2015
- AS/NZS 4268: 2017

Translated Safety Statements

Important: The ⍾ indicates that a translation of the safety statement is available in a PDF document titled *Translated Safety Statements* on the Allied Telesis website at **www.alliedtelesis.com/support**.

Table of Contents

Contents

List of Figures

List of Figures

List of Tables

List of Tables

Preface

This guide contains the hardware installation instructions for the AT-TQ5403 Wireless Access Point. This preface contains the following sections:

Safety Symbols Used in this Document

This document uses the following conventions.

Note
Notes provide additional information.

Caution
Cautions inform you that performing or omitting a specific action may result in equipment damage or loss of data.

Warning
Warnings inform you that performing or omitting a specific action may result in bodily injury.

Contacting Allied Telesis

If you need assistance with this product, you may contact Allied Telesis technical support by going to the Support & Services section of the Allied Telesis web site at **www.alliedtelesis.com/support**. You can find links for the following services on this page:

- 24/7 Online Support — Enter our interactive support center to search for answers to your product questions in our knowledge database, check support tickets, learn about Return Merchandise Authorizations (RMAs), and contact Allied Telesis technical experts.
- USA and EMEA phone support — Select the phone number that best fits your location and customer type.
- Hardware warranty information — Learn about Allied Telesis warranties and register your product online.
- Replacement Services — Submit an RMA request via our interactive support center.
- Documentation — View the most recent installation and user guides, software release notes, white papers, and data sheets for your products.
- Software Downloads — Download the latest software releases for your managed products.

For sales or corporate information, go to **www.alliedtelesis.com/purchase**.

Chapter 1

Product Description

This chapter describes the hardware components of the AT-TQ5403 Wireless Access Point. This chapter contains the following sections:

Overview

The AT-TQ5403 Access Point is a Tri-band access point designed to connect wireless devices to your local area network.

It is equipped with one PoE+ capable Ethernet port, a second Ethernet LAN port. a DC IN jack for an external power supply with a DC Power switch and a console port for manufacturing purposes only. This device can be mounted on a ceiling or wall or tabletop. A Kensington lock port is provided for physical security in your installation environment.

The top view of the AT-TQ5403 is illustrated in Figure 1.

Figure 1. Top View

The front edge view of the AT-TQ5403 is illustrated in Figure 2.

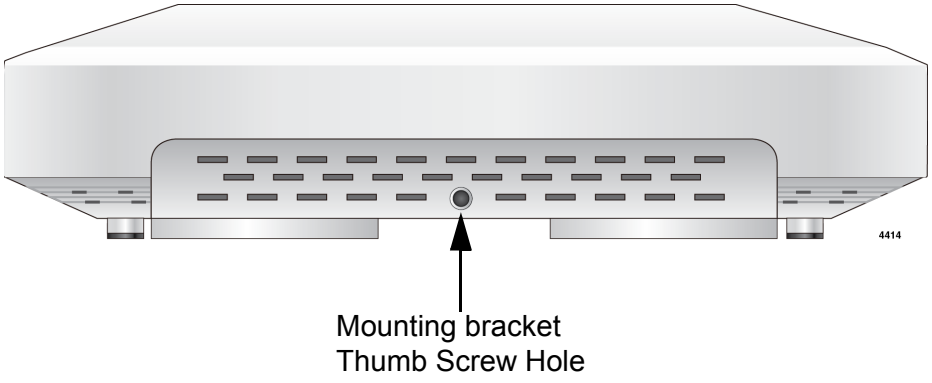


Figure 2. Front Edge View

The back edge view of the AT-TQ5403 is illustrated in Figure 3.

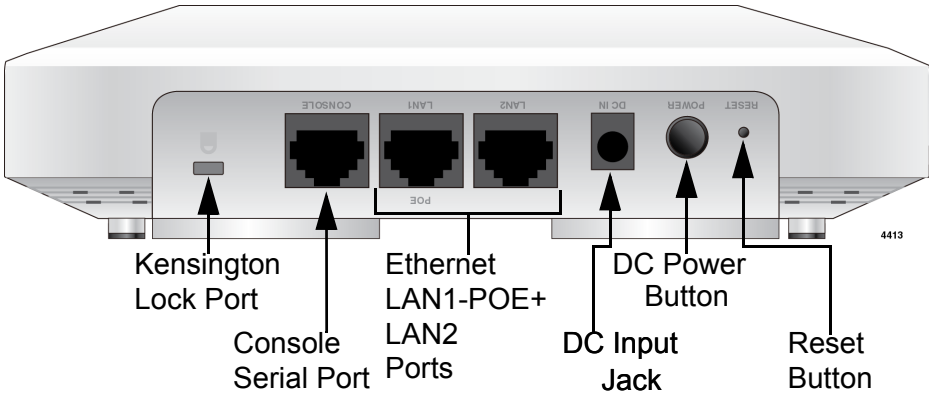


Figure 3. Back Edge View

Note
The DC Power Button only controls power into the DC-IN jack only. PoE+ power provided on the LAN1 port is not affected by this button.

Features

This section lists the main features of the AT-TQ5403 Wireless Access Point.

Hardware Features

The hardware features are as follows:

- Triple radio is supported. The supported frequency ranges may vary depending on the region's regulations. For example:
  - USA:
    2.4GHz (2412-2462 MHz)
    5GHz (5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz, 5725-5850 MHz)
  - Japan:
    2.4GHz (2400-2483.5 MHz)
    5GHz (5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz)
  - Europe:
    2.4GHz (2412-2472 MHz)
    5GHz (5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz)
  - AS/NZS:
    2.4GHz (2412-2472 MHz)
    5GHz (5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz, 5725-5850 MHz)
- LAN 1 Port - one fixed 10/100/1000Base-T RJ-45 port receiving Class 4 PD PoE+ power and transmitting/receiving Ethernet data.
- LAN 2 Port - one fixed 10/100/1000Base-T RJ-45 port.
- Each port auto-negotiates wire speed, duplex, and MDI / MDIX settings.
- IEEE 802.3 (10Base-T)
- IEEE 802.3u (100Base-TX)
- IEEE 802.3ab (1000Base-T) compliance on the Ethernet port
- IEEE 802.3at
- IEEE 802.3x
- IEEE 802.3z
- IEEE802.11a/b/g/n/ac (2x2 MIMO) support
- One RS232 RJ-45 port for software management console function.
- One DC Power Jack for external DC power supply.
- One DC Power ON/OFF switch for external DC power supply only.
- One Reset Button for Device Reset to Default functions.

- Five single color LED's:
  - LAN1
  - LAN2
  - 2.4 GHz
  - 5 GHz[1]
  - 5 GHz[2]
- One dual color LED (i.e. Power LED)
- Kensington lock port
- Ceiling, Wall, or table top installation

Management Access

Access to manage the software features of the access point are:

- Standalone
- HTTPS

LAN Port

The AT-TQ5403 Access Point is equipped with two Ethernet ports - LAN1 and LAN2. The LAN1 port is capable of receiving PoE+ power (PD port) as the primary power or standing by as the backup power source for an external power supply unit.

Note
For more information, see "Redundant Power Supply" on page 25.

Both LAN1 and LAN2 ports are capable of transmitting and receiving Ethernet traffic and are typically connected to an Ethernet switch.

Power over Ethernet Plus (PoE+)

The AT-TQ5403 Access Point supports Power over Ethernet Plus (PoE+) on the LAN1 port. The access point is a PoE+ Class 4 powered device and its maximum power consumption is 25.5 watts. When the LAN1 port is connected to a PoE+ Ethernet power source and no external power supply is connected, the access point receives its power over the same LAN1 network cable that carries the network traffic.

Connector Type

Both LAN ports have an eight-pin RJ45 connector. The port uses four pins of the connector at 10/100 Mbps and all eight pins at 1000 Mbps. Refer to the tables in "Port Pinouts" on page 51 for the pin assignments.

Speed

The LAN port can operate at 10/100 Mbps or 1000 Mbps. The speed is set automatically with Auto-Negotiation. You cannot disable Auto-Negotiation on the port.

Note
The LAN port should be connected to a network device that also adjusts its speed with Auto-Negotiation. If the network device does not support Auto-Negotiation, the LAN port operates at 10 Mbps, which may reduce network performance.

Duplex Mode

The LAN port can operate in either half- or full-duplex mode at 10/100 Mbps, and full-duplex mode at 1000 Mbps. The port is IEEE 802.3u-compliant and uses Auto-Negotiation to set the duplex mode. (You cannot disable Auto-Negotiation on the port.)

Note
The LAN port should be connected to a network device that also sets its duplex mode with Auto-Negotiation. If the network device does not support Auto-Negotiation, the LAN port operates at half-duplex mode. This may result in a duplex mode mismatch if the network device is operating at full duplex.

Automatic MDIX Detection

The 10/100/1000 Mbps twisted-pair port is IEEE 802.3ab compliant and features automatic MDIX detection when operating at 10/100 Mbps. (Automatic MDIX detection does not apply to 1000 Mbps.) This feature automatically configures the port to MDI or MDI-X depending on the wiring configuration of the port on the Ethernet switch.

You may not disable automatic MDIX detection. For automatic MDIX detection to work properly, it must also be present on the Ethernet switch. The LAN port defaults to MDIX if it is connected to a network device that does not support automatic MDIX detection.

Port Pinouts

Refer to Table 12 on page 52 for the port pinouts of the LAN port when it is operating at 10/100 Mbps in the MDI configuration and Table 12 on page 52 for the MDI-X configuration. Refer to Table 13 on page 52 for the port pinouts when the port is operating at 1000 Mbps.

Redundant Power Supply

The AT-TQ5403 Access Point offers a redundant power supply system. In addition to the power supply through the DC IN jack, the access point has one PoE+ capable LAN port (LAN1). The external power supply connected to the DC IN jack is the primary power source for the unit. If the power supply unit on the access point fails, power is supplied to the access point via the PoE+ port. Table 1 shows power source for the AT-TQ5403 Access Point under specific conditions.

Table 1. Primary Port for Power Source

Case	Power Supply		Primary Port - Power Source
	DC IN jack	LAN1	
1	On	On	The access point is supplied power via the DC IN jack. The PoE+ (LAN1) port function is in standby mode.
2	On	-	The access point is supplied power via the DC IN jack. No redundancy is provided.
3	-	On	The access point is supplied power through the LAN1 port. No redundancy is provided.

LEDs

The LEDs on the AT-TQ5403 Access Point top panel display the status information. This LED display status information is given in Table 2.

Table 2. LED Status Information

LED	State	Description
Power	GREEN	AT-TQ5403 is powered ON and operating normally.
	RED	• If during system boot up, RED solid on. • If a fault condition has been detected, RED solid on. • If FW upgrading, RED blinking.
	OFF	AT-TQ5403 is *not* receiving power.
LAN1	GREEN	A valid link is established on the port.
	BLINKING GREEN	Data is being transmitted and received.
	OFF	No link is established.
LAN2	GREEN	A valid link is established on the port.
	BLINKING GREEN	Data is being transmitted and received.
	OFF	No link is established.
2.4GHz Wi-Fi	GREEN	The 2.4GHz Wi-Fi interface is enabled.
	OFF	The 2.4GHz Wi-Fi interface is disabled.
5 GHz[1] Wi-Fi	GREEN	The 5GHz Wi-Fi interface is enabled.
	OFF	The 5GHz Wi-Fi interface is disabled.
5 GHz[2] Wi-Fi	GREEN	The 5GHz Wi-Fi interface is enabled.
	OFF	The 5GHz Wi-Fi interface is disabled.

Cable Specifications

The AT-TQ5403 Access Point is connected to your local area network with Ethernet cables from Ethernet ports LAN1 and LAN2. Refer to “Cable Specifications” on page 50 for the specifications of these cables.

Chapter 2

AT-TQ5403 Wireless Access Point Installation

This chapter describes how to install the AT-TQ5403 access point. It contains the following sections:

Review Safety Precautions

Please review the following safety precautions before you begin to install the access point.

Note
The ✍ indicates that a translation of the safety statement is available in a PDF document titled *Translated Safety Statements* on the Allied Telesis website at **www.alliedtelesis.com/support**.

Warning
To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the LAN cables. ✍ **E1**

Warning
Do not work on equipment or cables during periods of lightning activity. ✍ **E2**

Note
All Countries: Install product in accordance with local and National Electrical Codes. ✍ **E8**

Warning
Only trained and qualified personnel are allowed to install or to replace this equipment. ✍ **E14**

Warning
To reduce the risk of electric shock, the PoE ports on this product must not connect to cabling that is routed outside the building where this device is located. ✍ **E40**

Warning
This equipment shall be installed in a Restricted Access location. ✍ **E45**

Warning
FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. ✍ **E80**

Warning

Operating Temperature. This product is designed for a maximum ambient temperature of 45 degrees C when powered by an external AC/DC power supply and a maximum ambient temperature of 50 degrees C when powered by a PoE power source. **E117**

Note

The AT-TQ5403 must be supplied by:

1. A UL Listed external AC/DC power supply suitable for use at Tma 45 ^{o}C, a maximum operating altitude of 3000 m or higher, and whose output meets SELV and is rated 12VDC, 2.0A,

OR

2. By Power over Ethernet through an UL Listed ITE. Refer to Table 7, “External Power Supply Specifications” on page 48.

Unpack the Shipping Box Contents

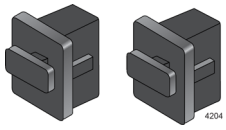
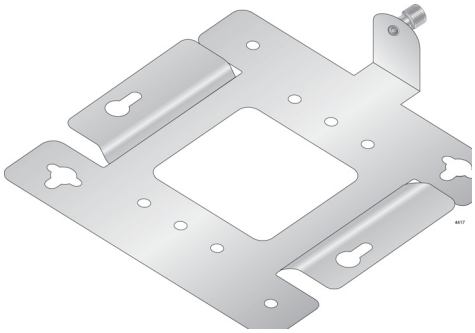
To unpack the AT-TQ5403 access point from the shipping box, perform the following procedure:

1. Remove all components from the shipping box.

   Note
   Store the packaging material in a safe location so that if you need to return the unit to Allied Telesis, you will have the original shipping material available.

2. Verify that all components listed in Table 3 are included in your shipping box. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.

Table 3. Shipping Box Components

Name	Component
AT-TQ5403 Access Point	
2 ea RJ-45 Dust Caps	
1 ea Mounting Bracket	
2 ea Screws for the Chassis (M5 x 8mm, Pan-head)	

Installation Guidelines

Review the following guidelines before installing the access point:

- The ceiling or wall mounting surface must be of proper material to accommodate the screws and strong enough to support the weight of the access point and cables. (Refer to Table 4 on page 47 for the product weight.)
- Connect the Ethernet cable(s) and power cord to the access point before installing the access point on the ceiling or wall. These are physically difficult to install after the chassis is installed on the mounting bracket.
- Ensure the Ethernet cable(s) is long enough to connect to its destination point(s) before installing the access point. Once the installation is complete, it is physically difficult to change the cables.
- If the primary power for the access point is to be the external power supply (not provided with the AT-TQ5403 Access Point), ensure that an AC power outlet is within six feet of the planned installation site. (Refer to Table 6 on page 48 for the power supply AC power specifications.)
- Refer to Figure 4 for the acceptable orientations for the table top, wall and ceiling installations.

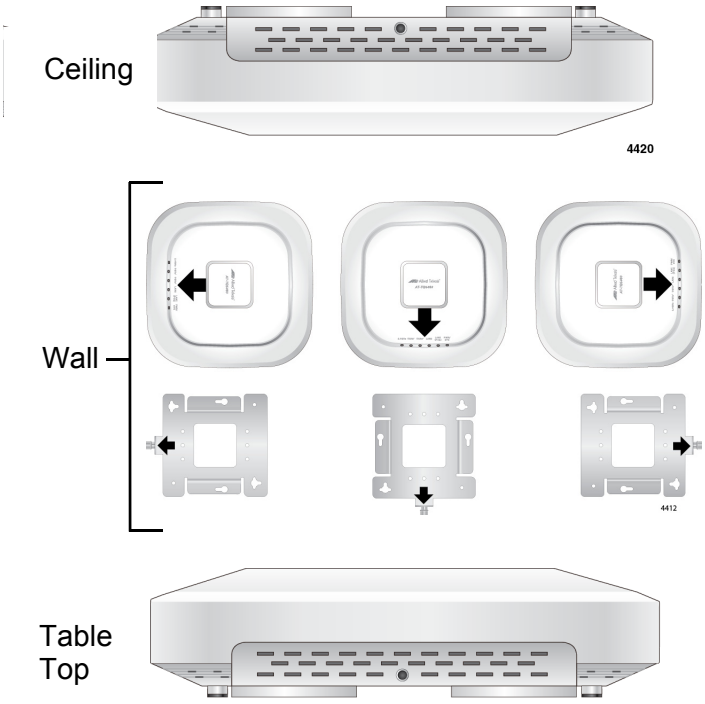


Figure 4. Acceptable Orientations on a Tabletop, Wall and Ceiling Installation

Install the Access Point

This section contains the following topics:

General Installation Guidelines

The AT-TQ5403 access point can be mounted on a table, wall, or hard-surface celling. The general installation guidelines are as follows:

- Read “Review Safety Precautions” on page 30.
- Review “Installation Guidelines” on page 33.
- Select a location where both the power and Ethernet cables will reach the power source and the partner Ethernet device(s).

Table Top Installation

This section outlines the table top installation procedure.

Preparation for Table Top Installation

You need the following items to install the access point on a table top:

- AT-TQ5403 access point
- One or two Ethernet cables - See “Cable Specifications” on page 50
- External AC/DC power supply (optional and not provided - Allied Telesis recommends the AT-MWS0091 AC/DC Power Adapter.)
- Kensington Lock (optional and not provided)

Table Top Installation Procedure

Perform the following steps for the table top installation:

1. Go to “Install Ethernet Cables and External DC Power Supply” on page 40.
2. If you choose to install a security cable to the AT-TQ5403, go to “Install Anti-theft Device” on page 42.
3. The installation of your AT-TQ5403 Access Point on the table top surface is now complete.

Ceiling or Wall - Mounting Bracket Installation

This section explains how to install the access point on a ceiling or wall that consists of a hard surface. The following topics are included:

Preparation for Ceiling or Wall Installation

You need the following items to install the access point on a ceiling or wall:

- ❒ AT-TQ5403 access point
- ❒ Two screws to attach to the access point to mounting bracket
- ❒ Mounting bracket
- ❒ Four (4) M4, 25.0 mm flat-head wood screws and optional anchors (not provided) for fastening the mounting bracket
- ❒ Phillips head screwdriver (not provided)
- ❒ Pencil (not provided)
- ❒ External AC/DC power supply (optional and not provided - Allied Telesis recommends the AT-MWS0091 AC/DC Power Adapter.)
- ❒ Kensington Lock (optional and not provided)

Note
The four Phillips head M4 screws/anchors, the Phillips head screwdriver, pencil, external AC/DC power supply and Kensington Lock are *not* included in the shipping box.

Pre-Fitting Mounting Bracket on AT-TQ5403 Access Point

To pre-fit the access point on the mounting bracket, perform the following procedure:

1. Install the two screws (provided) in the bottom side of the access point chassis. Refer to Figure 5.

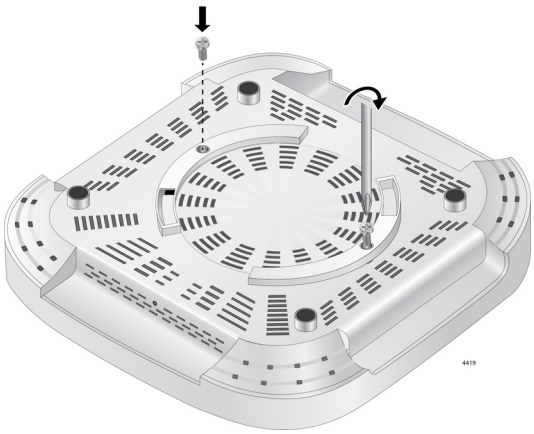


Figure 5. Attaching the Screws to the Access Point Chassis

2. Align and insert the two screws installed in Step 1 into the mounting bracket keyholes. Refer to Figure 6.

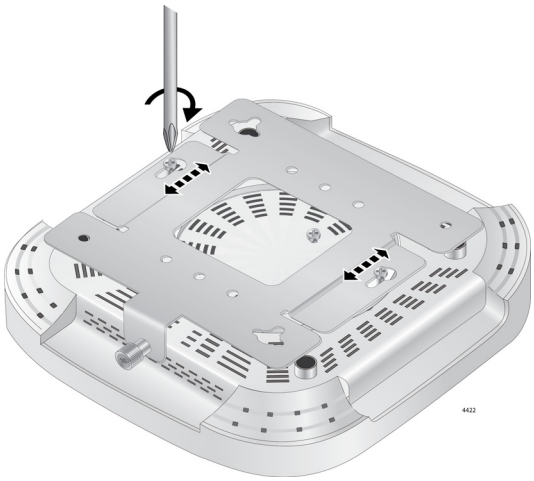


Figure 6. Adjusting the Screws on the Access Point

3. Tighten the screws so that they touch the mounting bracket plate and then loosen them by approximately 1/4 turn.

> **Note**
> Adjust the access point chassis screws so they are loose enough to slide into the narrow end of the mounting bracket keyhole, but tight enough to be hold the access point close without rattling against the mounting bracket.

4. Slide the mounting bracket forward and temporarily remove it from the access point chassis so the bracket can be independently mounted on the ceiling or wall in the next steps. Refer to Figure 7.

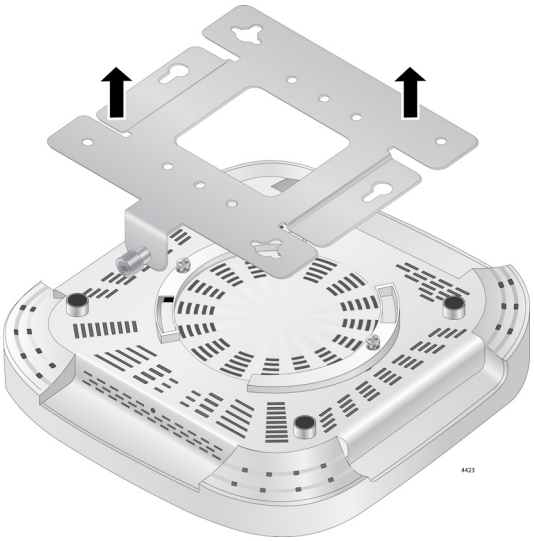


Figure 7. Removing Mounting Bracket From Access Point

Installing Mounting Bracket on Ceiling or Wall

1. Choose an allowable orientation of the access point from the examples shown in Figure 4 on page 33.

   Ensure that the thumb screw on the mounting bracket is oriented in the same direction as the front of the access point chassis so that the intended orientation of the chassis is achieved after installation.

2. Using the mounting bracket as a template, mark the two key-hole slots with a pencil in the location and orientation where you want to install the access point. Refer to the arrows in Figure 8.

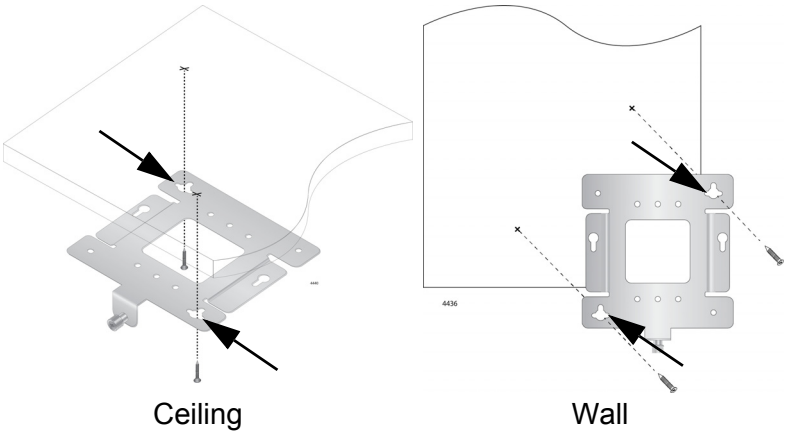


Figure 8. Marking/Pre-Drilling Holes for Key-Hole Slots

3. Pre-drill the two marked locations for the keyhole slots on the hard-surface ceiling or wall and install two M4 screws and anchors (if required). Leave the screws loose enough so that the bracket can slide under the screw head in Step 4.

> **Note**
> For a wooden wall or ceiling, use M4, 25.0 mm flat-head wood screws and anchors if required. The screws and anchors are not provided.

4. Insert the openings of the bracket key-hole slots under the two screw heads and slide the bracket into narrow end of the key-hole slot opening. Refer to arrows in Figure 9. Tighten the screws snugly onto the bracket.

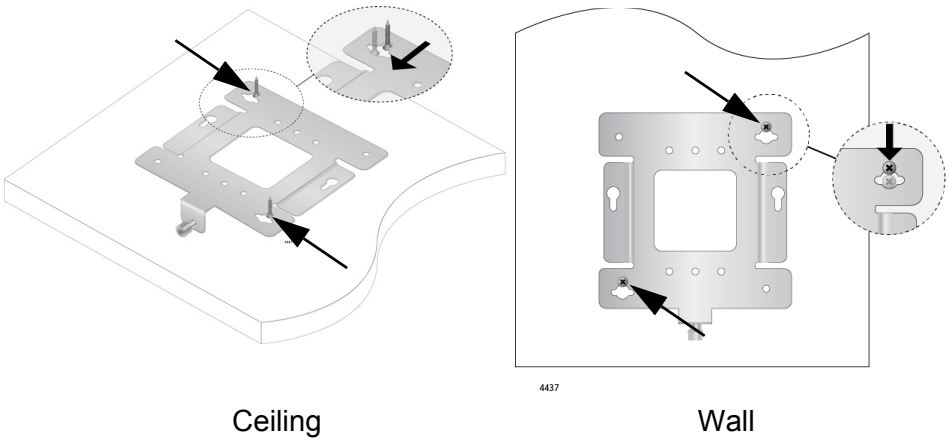


Figure 9. Mount Bracket On Screws Using Key-Hole Slots

5. Secure the physical position of the mounting bracket by pre-drilling holes through the two existing open bracket mounting holes in the opposite corners from the key-hole slots. Refer to the arrows in Figure 10.

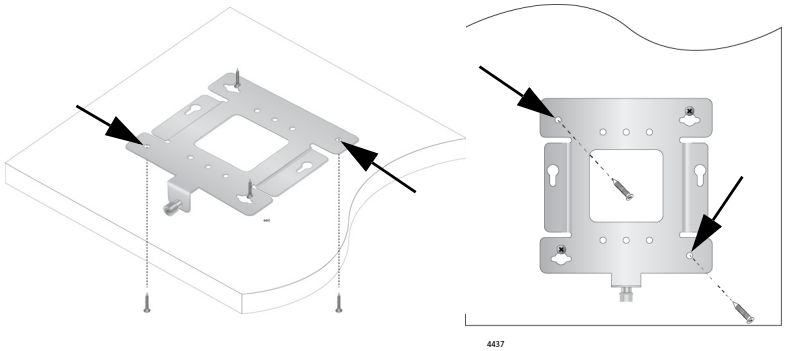


Figure 10. Pre-Drilling Holes on Mounting Bracket

6. Install and tighten two M4 screws (not provided) in the holes prepared in Step 5. The physical position of the bracket is now stationary. Refer to Figure 11.

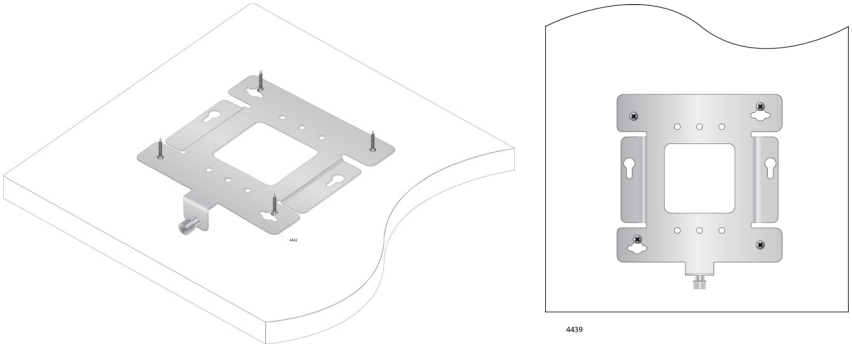


Figure 11. Stationary Bracket Position

7. Go to the next procedure - ”Install Ethernet Cables and External DC Power Supply”.

Install Ethernet Cables and External DC Power Supply

The Ethernet and power cables need to be connected before attaching the access point to the mounting bracket.

Note
Refer to “Cable Specifications” on page 50 when selecting Ethernet cables.

1. Connect one Ethernet cable into the RJ-45 LAN1 port. Refer to Figure 12. This is the primary Ethernet port, which also capable of receiving PoE power.

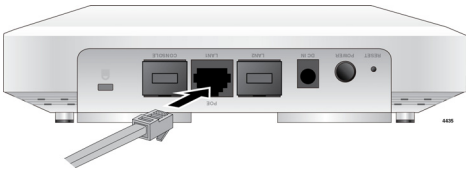


Figure 12. Connecting the Ethernet Cables to LAN1 Port

2. If you choose to have more than one Ethernet LAN connection:

   a. Remove the dust plug on the LAN2 port. Refer to Figure 13.

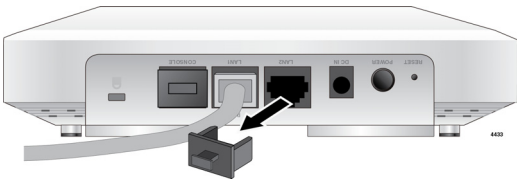


Figure 13. Removing Dust Plug from LAN2 Port

   b. Connect the second Ethernet cable into the RJ-45 LAN2 port. Refer to Figure 14

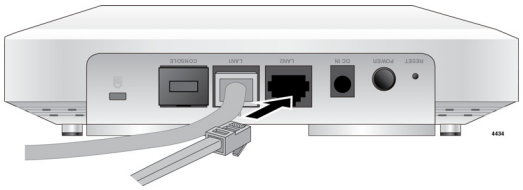


Figure 14. Connecting the Ethernet Cables to LAN2 Port

3. Connect the opposite ends of the Ethernet cable(s) to your network Ethernet device(s).

> **Note**
> If you plan to use PoE+ power as the primary or redundant power source, then the Ethernet device connected to the LAN1 port needs to be capable of providing PoE+ power. For the PoE+ input power specifications, refer to “PoE+ Power Requirements” on page 49.

4. Depending on the primary power source for the AT-TQ5403 Access Point, perform one of the following steps:

   a. If the access point is to be powered with the PoE+ feature only, then the PoE+ power source is already connected via the Ethernet cable connected to LAN1. Go to “Install Anti-theft Device” on page 42.

   b. If the primary power for the access point is to be an external AC/DC power supply, proceed to ”External AC/DC Power Adapter Installation”.

External AC/DC Power Adapter Installation

If you choose to use an external AC/DC power supply, Allied Telesis recommends that you procure an AT-MWS0091 Power Adapter by contacting your local Allied Telesis representative.

Perform the following procedure to install the external power supply:

1. Check the AC plug on the external power supply and verify that it is the correct plug for your region. If it is not, follow the instructions provided with the external power supply to install the correct AC plug that is compatible with your region.

2. Plug the DC plug of the Power Adapter into the DC-IN jack on the access point. Refer to Figure 15.

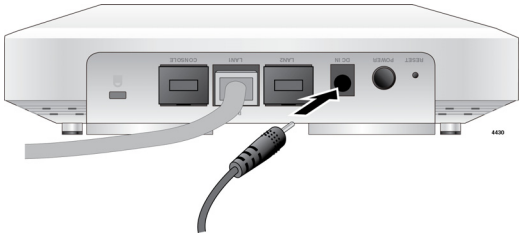


Figure 15. Connecting the External AC/DC Power Adapter Cable

3. Connect the external power supply AC plug to an appropriate AC power source.

4. On the AT-TQ5403 chassis, push the DC Power Button to the “IN” position to turn ON the power supply at the chassis.

Note
The DC Power Button only controls power into the DC-IN jack only. PoE+ power provided on the LAN1 port is not affected by this button.

5. Go to the ”Install Anti-theft Device” section.

Install Anti-theft Device

Installation of an anti-theft cable/lock is optional. If you choose to install a physical security device, the AT-TQ5403 has a lock port that is compatible with a Kensington lock. The lock port can be used to physically secure the device when it is installed on a table, wall, or a ceiling.

Note
Anti-theft devices including a Kensington lock are not available from Allied Telesis.

1. Follow the instructions provided with the vendor’s anti-theft device packaging for the installation. Refer to Figure 16 for the Kensington lock port’s location.

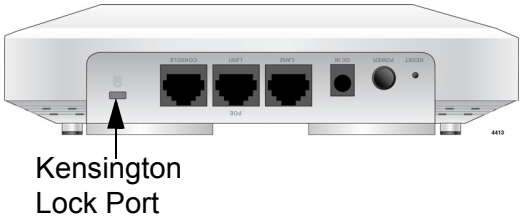


Figure 16. Kensington Lock Port Location

2. If you are installing your AT-TQ5403 on a table top surface, your unit is now ready for use.

3. If you are installing your AT-TQ5403 on the ceiling or wall installation, go to “Ceiling or Wall - Attach Chassis to Mounting Bracket” on page 43 section.

Ceiling or Wall - Attach Chassis to Mounting Bracket

Perform this procedure to complete the ceiling or wall installation by attaching the chassis to the mounting bracket.

1. Align and insert the two access point chassis screws into the keyhole slots of the mounting bracket. Refer to Figure 17.

> **Note**
> These are the same two access point chassis screws that you previously installed in the procedure “Ceiling or Wall - Mounting Bracket Installation” on page 35.

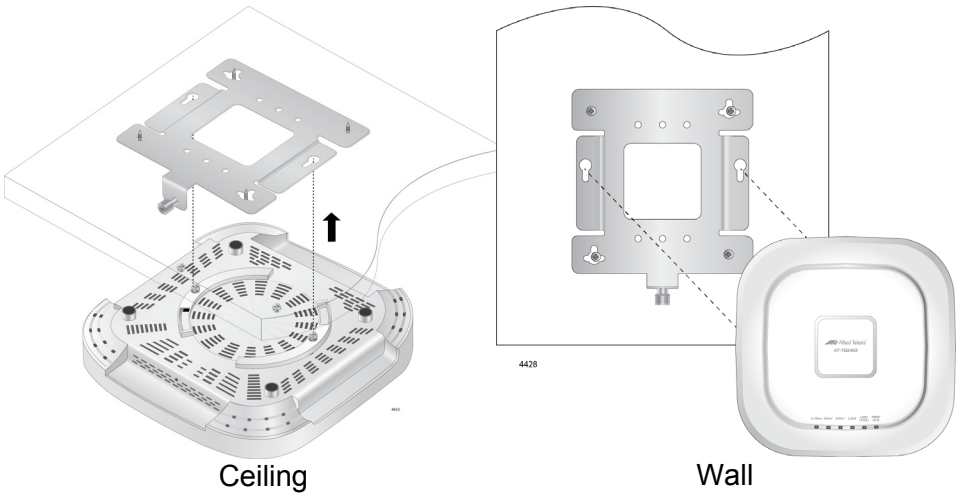


Figure 17. Align/Insert Access Point into Mounting Bracket

2. Slide the chassis forward until seated into the bracket keyhole slot and the bracket thumbscrew is aligned with the screw hole on the front of the chassis. Refer to Figure 18.

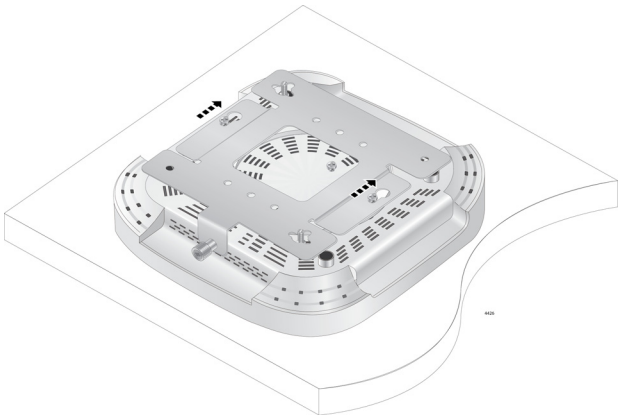


Figure 18. Seat Access Point onto Mounting Bracket

3. Tighten the bracket thumbscrew into the front of the chassis until it is securely fastened. Refer to Figure 19.

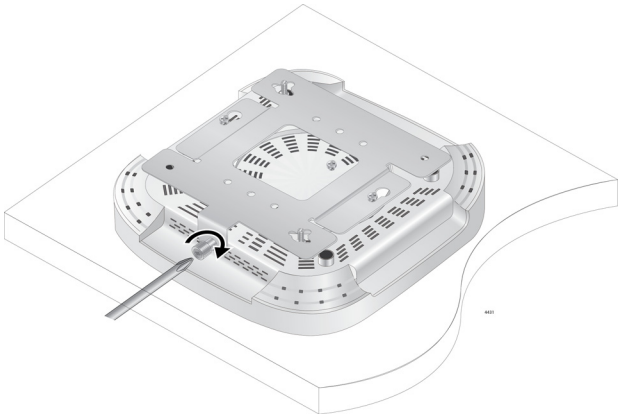


Figure 19. Securely Fasten Chassis to Mounting Bracket with Thumbscrew

4. The ceiling or wall installation is now complete and your AT-TQ5403 Access Point is ready for use.

Starting the Initial Management Session

This section contains an abbreviated version of the procedure for starting the initial management session. For complete instructions, refer to the AT-TQ5403 installation Guide or AT-TQ5403 Wireless Access Point Series User's Guide.

The wireless access point firmware includes a DHCP client. The default setting for the client is enabled. When you power on the access point for the first time, it queries the subnet on the LAN port for a DHCP server. If a DHCP server responds to its query, the unit uses the IP address the server assigns to it. If there is no DHCP server, the access point uses the default IP address 192.168.1.230.

To start the initial management session, perform the following procedure:

1. Start the web browser on your management workstation.
2. Enter the IP address of the wireless access point in the URL field of the web browser. The address is one of the following:
   - If your network does not have a DHCP server, enter the default address 192.168.1.230.
   - If your network has a DHCP server, enter the IP address the DHCP server assigned to the access point.

   The wireless access point displays the logon prompt. Refer to Figure 20.

Figure 20. Logon Prompt

3. Enter "manager" for the username and "friend" for the password. The username and password are case-sensitive.

Appendix A
Technical Specifications

This appendix contains the following sections:

Physical Specifications

Table 4. Physical Specifications

Parameter	Specification
Dimensions (W x D x H)	214.74 mm X 214.37 mm X 48 mm (8.45 in. x 8.44 in. x 1.890 in.)
Weight (AT-TQ5403 with mounting bracket)	.748 Kg (1.65 lbs)

Environmental Specifications

Table 5. Environmental Specifications

Parameter	Specification
Operating Temperature when powered by AC power supply	0° C to 45° C (32° F to 113° F)
Operating Temperature when powered by PoE power source	0° C to 50° C (32° F to 122° F)
Storage Temperature	- 25° C to 70° C (- 13° F to 158° F)
Operating Humidity	0% to 90% non-condensing
Storage Humidity	0% to 95% non-condensing
Maximum Operating Altitude	3000 m (9843 ft)

Power Specifications

Input Power Specifications

The power specifications for the AT-TQ5403 Access Point are given in Table 6.

Table 6. Input Power Specifications

Parameter	Specification
Rated Input Voltage	12 VDC
Maximum Input Current	.7 A
Average Input Current	.52 A

External Power Supply Specifications

The external power supply must be capable of powering the AT-TQ5403 Access Point by meeting the specifications given in Table 7.

Table 7. External Power Supply Specifications

Parameter	Specification
Input Voltage Range	100~240 VAC
Input Frequency	50 - 60 Hz
Rated Output Voltage	+12 VDC
Rated Output Current	2 A
Temperature Range	0° C to 45° C (32° F to 113° F)
Maximum Operating Altitude	3000 m (9843 ft)

Note
Allied Telesis recommends using the AT-MWS0091 external AC/DC power supply with the AT-TQ5403 Access Point. This power supply is a UL Listed power supply and is fully compatible with the above specifications while meeting the standards of a separated extra-low voltage (SELV).

Note
The AT-MWS0091 external power supply is not supplied or shipped with the AT-TQ5403 Access Point product.

PoE+ Power Requirements

The AT-TQ5403 Access Point power requirements for the LAN1 PoE+ port are given in Table 8.

Table 8. PoE+ Power Requirements

Parameter	Specification
AT-TQ5403	25.5 watts
PoE Device Classification	Class 4 Powered Device

Cable Specifications

The AT-TQ5403 Access Point Ethernet cable requirements for the LAN ports are listed in Table 9.

Table 9. LAN Port Twisted Pair Cable Requirements

Cable Type	10Mbps	100Mbps	1000Mbps
	PoE+	PoE+	PoE+
Standard TIA/EIA 568-A-compliant Category 5 shielded or unshielded cabling with 100 ohm impedance and 100 MHz frequency.	Yes	Yes	No
Standard TIA/EIA 568-B-compliant Enhanced Category 5 (Cat 5e) shielded or unshielded cabling with 100 ohm impedance and 100 MHz frequency.	Yes	Yes	Yes
Standard TIA/EIA 568-B-compliant Category 6 or 6a shielded cabling.	Yes	Yes	Yes

Note
The maximum operating distance of these cables is 100 meters (328 feet).

LAN Port Specifications and Pinouts

Port Specifications

The AT-TQ5403 Access Point port specifications are shown in Table 10.

Table 10. LAN Port Specifications

Connector	Specification
Standards - LAN1 and LAN2	IEEE 802.3 (10Base-T) IEEE 802.3u (100Base-TX) IEEE 802.3ab (1000Base-T)
PoE standard - LAN1 only	IEEE 802.3at (class 4)

Port Pinouts

The pin signal definitions for 10/100 Mbps and 1000 Mbps Ethernet traffic are given below.

Figure 21 illustrates the pin layout of the LAN ports.

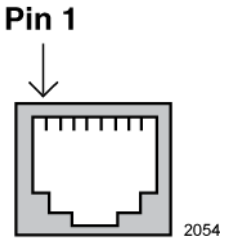


Figure 21. Pin Layout for the RJ45 Connector on the LAN Port

Table 11 lists the pin signals when the port is operating in the MDI configuration at 10/100 Mbps.

Table 11. MDI Pin Signals (10Base-T or 100Base-TX)

Pin	Signal
1	TX+
2	TX-
3	RX+
6	RX-

Table 12 lists the pin signals for the MDI-X configuration at 10/100 Mbps.

Table 12. MDI-X Pin Signals (10Base-T or 100Base-TX)

Pin	Signal
1	RX+
2	RX-
3	TX+
6	TX-

Table 13 lists the pin signals when the LAN port is operating at 1000 Mbps.

Table 13. Connector Pinouts (1000Base-T)

Pin	Pair	Signal
1	1	TX and RX
2	1	TX and RX-
3	2	TX and RX+
4	3	TX and RX+
5	3	TX and RX-
6	2	TX and RX-
7	4	TX and RX+
8	4	TX and RX-

Appendix B

Regulatory Statements

This appendix contains the following regulatory statements:

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- ❒ Reorient or relocate the receiving antenna.
- ❒ Increase the separation between the equipment and receiver.
- ❒ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❒ Consult the dealer or an experienced radio/TV technician for help.

Caution

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. E80

Caution

Avertissement de la FCC: Les changements ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorité de l'utilisateur à utiliser cet équipement. E80

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For operation within 5.15 ~ 5.25GHz / 5.47 ~5.725GHz frequency range, it is restricted to indoor environment. The band from 5600-5650MHz will be disabled by the software during the manufacturing and cannot be changed by the end user. This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Europe - EU Declaration of Conformity

Hereby, Allied Telesis declares that the radio equipment type [AT-TQ5403] is in compliance with Directive 2014/53/EU.

Operating Frequencies and Maximum Transmission Power Levels

The operating frequencies and maximum transmission power levels for wireless devices operated in the EU are listed below:

- 2412-2472 MHz:
  19.23 dBm (Beamforming), 18.79dBm (Non-Beamforming)
- 5150-5250 MHz:
  22.11 dBm (Beamforming), 22.13dBm (Non-Beamforming)
- 5250-5350 MHz:
  22.06 dBm (Beamforming), 21.87dBm (Non-Beamforming)
- 5470-5725 MHz:
  28.97 dBm (Beamforming), 28.70dBm (Non-Beamforming)

Note
Operations in the 5.15 - 5.35 GHz band are restricted to indoor usage only.

Radiation Exposure Statement

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

AT	BE	BG	CH	CY	CZ	DE	DK	EE
EL	ES	FI	FR	HR	HU	IE	IS	IT
LI	LT	LU	LV	MT	NL	NO	PL	PT
RO	SE	SI	SK	TR	UK			

Importer

Allied Telesis International BV

Incheonweg 7, 1437 EK Rozenburg

Note
Contact Allied Telesis for the EU conformity statement. To contact Allied Telesis, visit our web site at **www.alliedtelesis.com/contact**.