Wireless-N 300 + 300Mbps Long Range Ceiling Mount Dual Concurrent Access Point

XR-3

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V1.0

Table of Contents

Introduction

The **XR-3** is a high-powered, long-range dual-band concurrent wireless 802.11a/b/g/n access point with four major functional modes. The XR-3 is designed to operate in numerous environments from large homes, small and medium-sized businesses, multiple-floor offices, hotels and other venues to larger enterprise deployments. Its high-powered, long-range characteristics make it a cost-effective alternative to ordinary access points that don't have the range and reach to connect to a growing number of wireless users who wish to connect to a large home or business network.

The XR-3 supports the 2.4GHz frequency band under 802.11 b/g/n mode while at the same time providing 5GHz band for communicating or transferring files in a less congested network frequency band.

The XR-3 delivers up to 6x faster wireless speeds and 7x extended coverage than legacy 802.11a/b/g wireless devices. Even though the XR-3 has been designed and engineered for traffic heavy and demanding business environments it is also quite at home in larger house scenarios because it efficiently extends the wireless range of an existing home router, especially in very architecturally-challenging structures to provide whole home connectivity.

To protect sensitive data during wireless transmissions, the XR-3 offers different encryption settings for wireless transmissions including industry-standard WPA and WPA2 encryption. The XR-3 also includes MAC address filtering to allow network administrators to offer network access only to known computers and other devices based on their MAC addresses.

1.1 Features and Benefits

Features	Benefits
High Speed Data Rate Up to 300 Mbps for	**Capable of handling heavy data payloads such as HD multimedia**

each band (2.4GHz / 5GHz)	**streaming.**
10/100/1000 Gigabit Ethernet	**Support up to 1000Mbps wired networking speed.**
IEEE 802.11n Compliant and Backwards Compatible with 802.11 a/b/g devices	**Fully compatible with IEEE 802.11 a/b/g/n devices.**
Multi-Function	**Allowing users to select any one of the following modes: Access Point, WDS AP, WDS Bridge, and Repeater depending on their specific networking deployment need.**
Support Multiple SSID in AP mode (up to 8 in each frequency band)	**Allow clients to access different networks through a single access point and assign different policies and functions for each SSID through the built in software.**
WPA/WPA2/IEEE 802.1x Support	**Powerful data security.**
MAC Address Filtering in AP Mode	**For more secure network connections with known users and devices.**
User Isolation Support (AP mode)	**Offers an additional layer of protection within the network by isolating specific client users.**
Power-over-Ethernet (IEEE802.3at/af)	**Allows installers to deploy the access point in locations via a PoE connection (Ethernet cable) where a power outlet may not be available.**
Save User Settings	**Enables network administrators to save their device settings so firmware upgrades do not permanently delete previous device settings.**
SNMP Remote Configuration Management	**Allows remote connection to configure or manage the XR-3 easily.**
QoS (WMM) support	**Prioritizes bandwidth-intensive and sensitive data traffic.**

1.2 Package Contents

The XR-3 package contains the following items (all items must be in package to issue a refund):

- XR-3 Access Point
- 12V/2A 100V~240V Power Adapter
- RJ-45 Ethernet LAN Cable
- Wall Mount Kit
- Quick Installation Guide

1.3 System Requirements

The following are the Minimum System Requirements in order configure the device.

- Computer with an Ethernet interface or wireless network capability
- Windows OS (XP, Vista, 7), Mac OS, or Linux-based operating systems
- Web-Browsing Application (i.e.: Internet Explorer, Firefox, Safari, or another similar browser application)

1.4 Applications

Wireless LAN (WLAN) products are easy to install and highly efficient. The following list describes some of the many applications made possible through the power and flexibility of WLANs:

a) Difficult-to-Wire Environments

There are many situations where wires cannot be installed or deployed easily or cannot be hidden from view. Older buildings, sites with multiple buildings, and/or areas make the installation of a Ethernet-based LAN impossible, impractical or expensive.

b) Temporary Workgroups

Create temporary workgroups/networks in more open areas within a building – auditoriums, amphitheater classrooms, ballrooms, arenas, exhibition centers, temporary offices where one wants either a permanent or

temporary Wireless LAN established.

c) The Ability to Access Real-Time Information

Doctors/Nurses, Point-of-Sale Employees, and/or Warehouse Workers can access real-time information while dealing with patients, serving customers, and/or processing information.

d) Frequently Changing Environments

Set up networks in environments that change frequently (i.e.: Show Rooms, Exhibits, etc.).

e) Small Office and Home Office (SOHO) Networks

SOHO users need a cost-effective, easy and quick installation of a small network.

f) Wireless Extensions to Existing Ethernet-based Networks

Devices like the XR-3 enable network administrators, installers and end-users to extend the range and reach of an existing Ethernet-based network.

g) Training/Educational Facilities

Training sites at corporations or students at universities use wireless connectivity to ease access to information, information exchanges, and learning.

1 Before you Begin

This section will guide you through the installation process. Placement of the XR-3 is essential to maximize the access point's performance. Avoid placing the XR-3 in an enclosed space such as a closet, cabinet, or stairwell.

1.1 Considerations for Wireless Installation

The operating distance of all wireless devices cannot be pre-determined due to a number of unknown obstacles in the environment that the device is deployed in. These could be the number, thickness, and location of walls, ceilings, or other objects that the XR-3's wireless signals must pass through. Here are some key guidelines to allow the XR-3 to have optimal wireless range.

- Keep the number of walls and/or ceilings between the XR-3 and other network devices to a minimum. Each wall and/or ceiling can reduce the signal strength, resulting in lower signal strength.

- Building materials makes a difference. A solid metal door and/or aluminum stubs may have a significant negative effect on the signal strength of the XR-3. Locate your wireless devices carefully so the signal can pass through a drywall and/or open doorways. Materials such as glass, steel, metal, concrete, water (example: fish tanks), mirrors, file cabinets and/or brick can also diminish wireless signal strength.

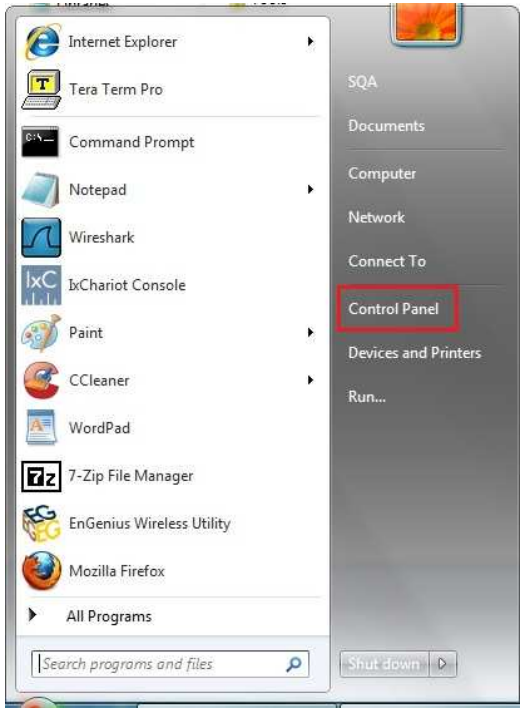
- Interference from your other electrical devices and/or appliances that generate RF noise can also diminish the XR-3's signal strength. The most common types of devices are microwaves or cordless phones.

1.2 Computer Settings (in Windows XP/Windows 7)

In order to use the XR-3, you must first configure the TCP/IPv4 connection of your Windows OS computer system.

- Click **Start** button and open **Control Panel**.

Windows XP

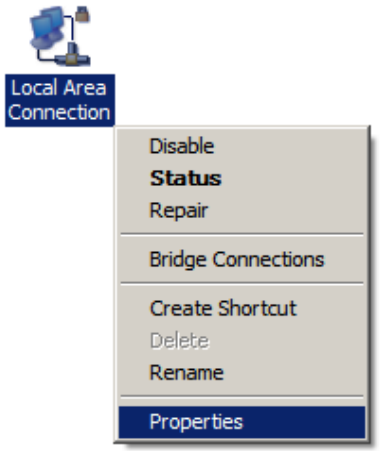


Windows 7

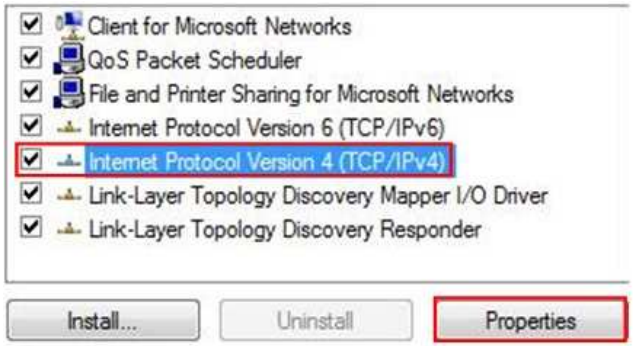
- In **Windows XP**, click **Network Connections**

- In **Windows 7**, click **View Network Status and Tasks** in the **Network and Internet** section, then select **Change adapter settings**

- Right click on **Local Area Connection** and select **Properties**



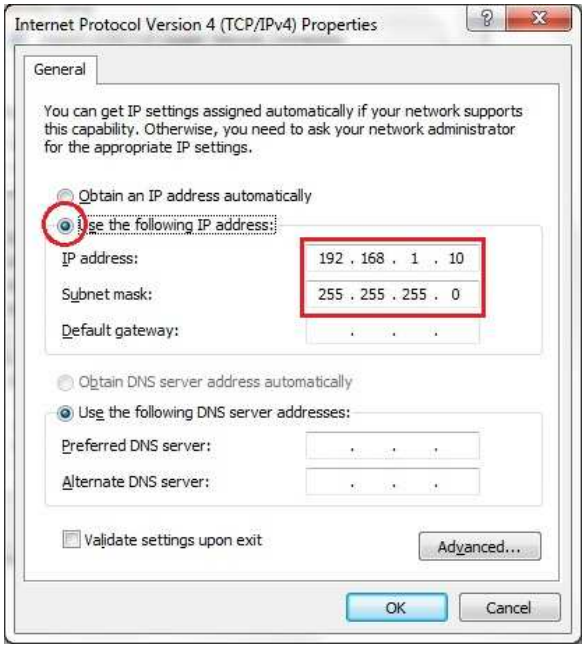
- Select "**Internet Protocol Version 4 (TCP/IPv4)**" and then select **Properties**



- Select **Use the following IP address** and enter an IP address that is different from the XR-3 and subnet mask then click **OK**.

Note: Ensure that the IP address and subnet mask are on the same subnet as the device.

For example: XR-3 IP address: 192.168.1.1
PC IP address: 192.168.1.2 – 192.168.1.255
PC subnet mask: 255.255.255.0



1.3 Computer Settings in Apple Mac OS X

- Go to **System Preferences** (can be opened in the **Applications** folder or selecting it in the Apple Menu)
- Select **Network** in the **Internet & Network** section
- Highlight **Ethernet**
- In **Configure IPv4**, select **Manually**
- Enter an IP address that is different from the XR-3 and subnet mask then press **OK**

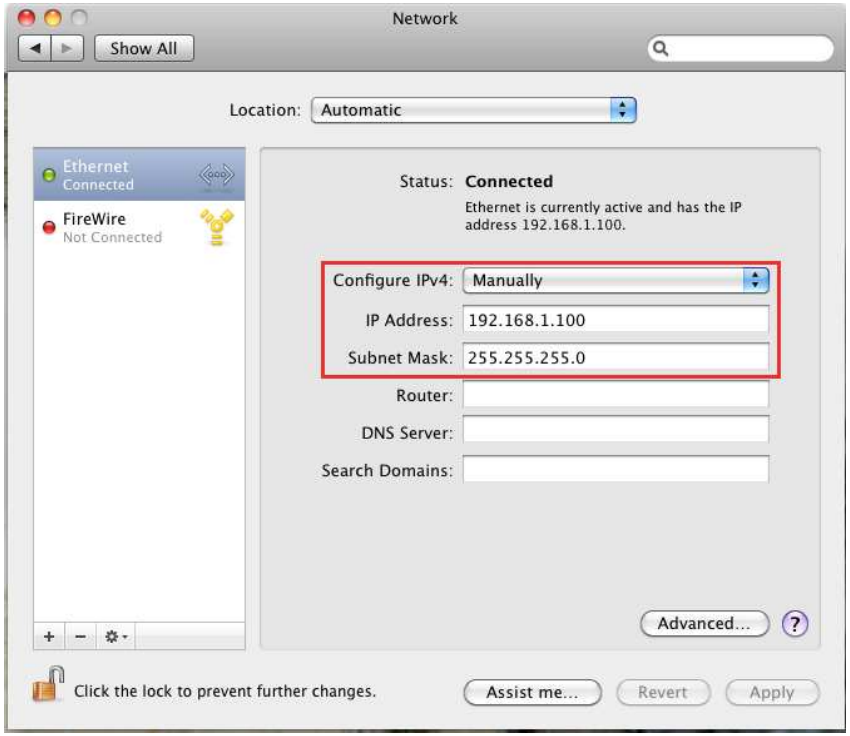
Note: Ensure that the IP address and subnet mask are on the same subnet as the device.

For example: XR-3 IP address: 192.168.1.1

PC IP address: 192.168.1.2 – 192.168.1.255

PC subnet mask: 255.255.255.0

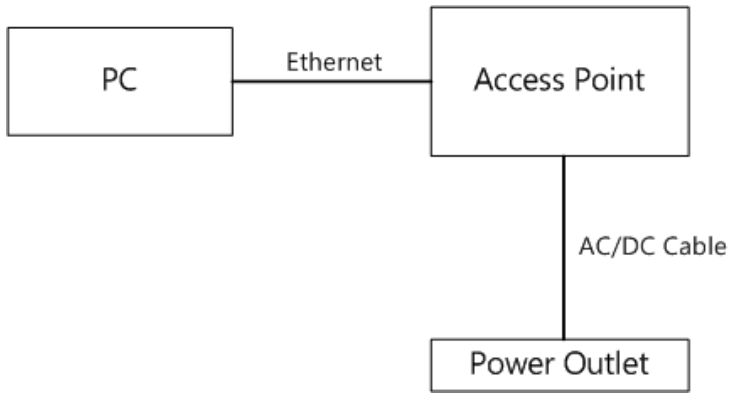
- Click **Apply** when done.



1.4 Hardware Installation

1. Ensure that the computer in use has an Ethernet Controller (RJ-45 Ethernet Port). For more information, verify with your computer's user manual.
2. Connect one end of the Category 5e Ethernet cable into the RJ-45 port of the XR-3 and the other end to the RJ-45 port of the computer. Ensure that the cable is securely connected to both the XR-3 and the computer.
3. Connect the Power Adapter DC connector to the DC-IN port of the XR-3 and the Power Adapter to an available electrical outlet. Once both connections are secure, verify the following:
    a) Ensure that the **POWER** light is on (it will be orange).
    b) Ensure that the **2.4GHz/5GHz WLAN** light is on (it will be green for 5G, blue for 2.4G).
    c) Ensure that the **LAN (Computer/XR-3 Connection)** light is on (it will be blue).
    d) Once all three lights are on, proceed to set up the access point using the computer.

This diagram depicts the hardware configuration.



Mounting the XR-3

Using the provided hardware, the XR-3 can be attached to a ceiling.

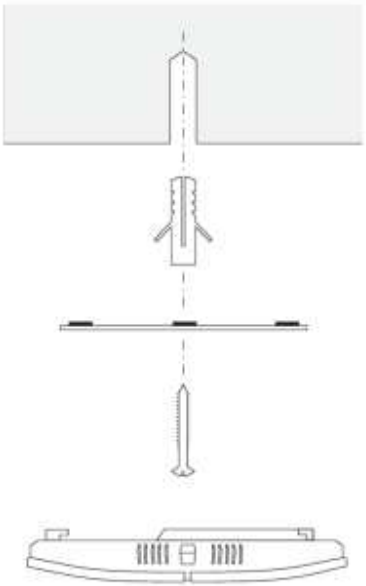
To attach the XR-3 to a ceiling or wall using the mounting bracket:

1) Attach the mounting bracket to the wall or ceiling using the provided ceiling mounting hardware kit.
2) Insert the provided short screws into the bottom cover of the XR-3.

Leave enough of the screws exposed to ensure that the unit can be attached to the mounting bracket.

If extra space is required, use the provided spacers and long screws from the T-Rail mounting hardware kit to increase the space between the unit and the mounting bracket.

3) Mount the XR-3 on the mounting bracket.



Note: To protect your XR-3, use the Kensington security slot to attach a cable lock (cable lock is not included).

Front Panel	
Reset Button	One click for reset the device. Press over 10 seconds for reset to factory default.
LED Lights	LED lights for WPS, WLAN 5G, WLAN 2.4G, Ethernet port and Power.
Rear Panel	
Power	DC IN for Power.
Ethernet Port	Ethernet port for RJ-45 cable.
Ceiling (Wall) Mount Hole	Using the provided hardware, the XR-3 can be attached to a ceiling or wall.
Kensington Security Slot	To protect your XR-3, use the Kensington security slot to attach a cable lock.

2 Configuring Your Access Point

This section will show you how to configure the device using the web-based configuration interface.

2.1 Default Settings

Please use your Ethernet port or wireless network adapter to connect the Access Point.

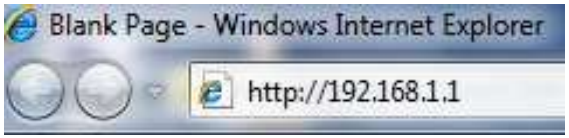
Default Settings

IP Address	192.168.1.1
Username / Password	admin / admin
Operation Mode	AP / AP

2.2 Web Configuration

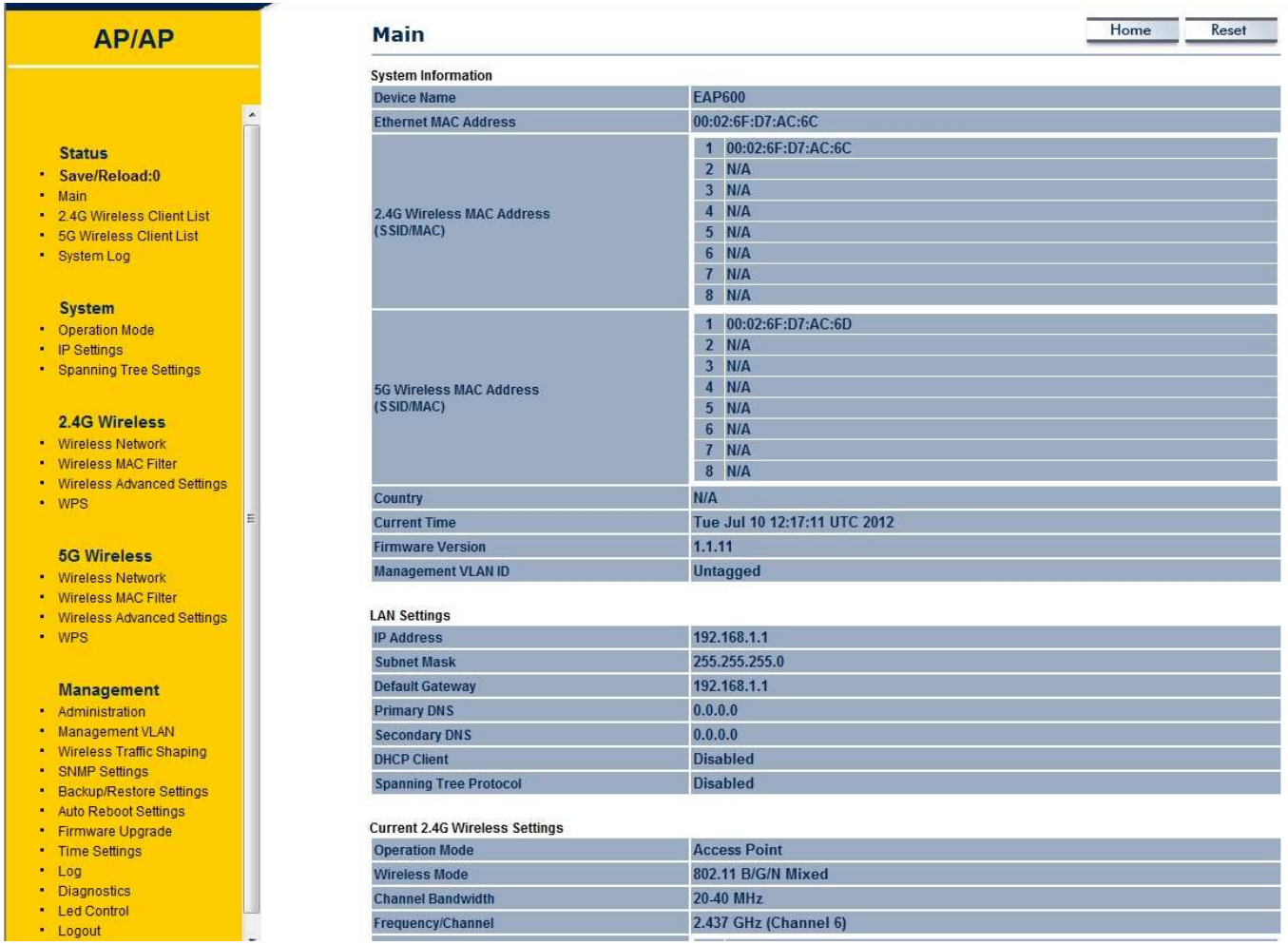
- Open a web browser (Internet Explorer/Firefox/Safari) and enter the IP Address **http://192.168.1.1**

Note: If you have changed the default LAN IP Address of the Access Point, ensure you enter the correct IP Address.



- The default username and password are **admin**. Once you have entered the correct username and password, click the **Login** button to open the web-base configuration page.

- If successful, you will be logging in and see the XR-3 User Menu.



3 Building a Wireless Network

The XR-3 has the ability to operate in various modes. This chapter describes the operating modes of the XR-3.

3.1 Access Point Mode

In Access Point Mode, XR-3 behaves likes a central connection for stations or clients that support IEEE 802.11a/b/g/n networks. The stations and clients must be configured to use the same SSID (Service Set Identifier) and security password to associate with the XR-3. The XR-3 supports up to eight SSIDs at the same time for secure access.

3.2 WDS AP Mode

The XR-3 also supports WDS AP mode. This operating mode allows wireless connections to the XR-3 using WDS technology. In this mode, configure the MAC addresses in both Access Points to enlarge the wireless area by enabling WDS Link settings. WDS supports four AP MAC addresses.

3.3 WDS Bridge Mode

In WDS Bridge Mode, the XR-3 can wirelessly connect different LANs by configuring the MAC address and security settings of each XR-3 device. Use this mode when two wired LANs located a small distance apart want to communicate with each other. The best solution is to use the XR-3 to wirelessly connect two wired LANs, as shown in the following figure.

WDS Bridge Mode can establish four WDS links, creating a star-like network.

Note: WDS Bridge Mode does not act as an Access Point. Access Points linked by WDS are using the same frequency channel. More Access Points connected together may lower throughput. This configuration can be susceptible to generate endless network loops in your network, so it is recommended to enable the Spanning Tree function to prevent this from happening.

3.4 Repeater mode

The Repeater mode is used to regenerate or replicate signals from a wireless router or other access point/station that is unable to reach certain areas in a building. When this mode is activated in the XR-3, the XR-3 receives the wireless signal from an existing router or AP and relays it to other devices within its range so they can join the network.

Appendix A – FCC Interference Statement

Federal Communication Commission Interference Statement
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.

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.

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 transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

IMPORTANT NOTE:
FCC 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 20cm between the radiator & your body.

Appendix B – CE Interference Statement

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- EN60950-1
- Safety of Information Technology Equipment

- EN50385
- Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz - 300 GHz)

- EN 300 328
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 893
Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive

EN 301 489-1
Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

- EN 301 489-17
- Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 5GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.
In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.
This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum

authority in France.

CE 0560 !

cs Česky [Czech]	*[Jméno výrobce]* tímto prohlašuje, že tento *[typ zařízení]* je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede *[fabrikantens navn]* erklærer herved, at følgende udstyr *[udstyrets typebetegnelse]* overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt *[Name des Herstellers]*, dass sich das Gerät *[Gerätetyp]* in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab *[tootja nimi = name of manufacturer]* seadme *[seadme tüüp = type of equipment]* vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, *[name of manufacturer]*, declares that this *[type of equipment]* is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente *[nombre del fabricante]* declara que el *[clase de equipo]* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *[name of manufacturer]* ΔΗΛΩΝΕΙ ΟΤΙ *[type of equipment]* ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente *[nom du fabricant]* déclare que l'appareil *[type d'appareil]* est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente *[nome del costruttore]* dichiara che questo *[tipo di apparecchio]* è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *[name of manufacturer / izgatavotāja nosaukums]* deklarē, ka *[type of equipment / iekārtas tips]* atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo *[manufacturer name]* deklaruoja, kad šis *[equipment type]* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart *[naam van de fabrikant]* dat het toestel *[type van toestel]* in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, *[isem tal-manifattur]*, jiddikjara li dan *[il-mudel tal-prodott]* jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

hu Magyar [Hungarian]	Alulírott, *[gyártó neve]* nyilatkozom, hogy a *[... típus]* megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym *[nazwa producenta]* oświadcza, że *[nazwa wyrobu]* jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	*[Nome do fabricante]* declara que este *[tipo de equipamento]* está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	*[Ime proizvajalca]* izjavlja, da je ta *[tip opreme]* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	*[Meno výrobcu]* týmto vyhlasuje, že *[typ zariadenia]* spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	*[Valmistaja = manufacturer]* vakuuttaa täten että *[type of equipment = laitteen tyyppimerkintä]* tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv Svenska [Swedish]	Härmed intygar *[företag]* att denna *[utrustningstyp]* står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.