Locomarine

ADD-ON MODULE

WIFI BOOSTER
SERIES 5

The easiest way to stay online.

Installation Manual

version 1.0

Read carefully.

For better understanding check video tutorials on our website.

Register your product for software update notifications.

Thank you.

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RoHS COMPLIANT

All devices in the Yacht Router series comply with the Restriction of Hazardous Materials (RoHS) Directive. This means that all components used to build Yacht Router and add-on modules are RoHS compliant. The RoHS Directive bans placing on the EU market new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

INTRODUCING YACHT ROUTER SOLUTION

Yacht Router with add-on modules is a complete network infrastructure solution for yacht or boat of any size. Yacht Router devices with add-on modules will help you to easily install, setup and control Internet connection on your yacht. The most important part of Yacht Router solution is the software which controls complete system. It is designed by professionals specialized in yacht communication systems in collaboration with experienced yacht captains. The result is a system that is simple to operate, maintain and control. Underneath simple touch user interface, Yacht Router with add-on modules is a solution with an industry level of reliability, performance and unprecedented level of security.

DISCLAIMER AND WARNING

The contents of this manual are well prepared by Locomarine Networks d.o.o.
While we try to improve our equipment at all times, Locomarine Networks d.o.o. shall incur no liability based on contents, updates or modification of the contents, or the lack of contents in this manual.

Because of the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e, have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Yacht Router are used in a normal manner with a well-constructed network, the Yacht Router device and additional modules should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Locomarine Networks d.o.o. and its affiliates accept no responsibility for damage of any kind resulting from delays or errors in data transmitted or received using the Yacht Router device, or for failure of the Yacht Router device to transmit or receive such data.

The equipment said in this manual must only be used for what it was designed.

Improper operation or installation may cause damage to the equipment or personal injury. Locomarine Networks d.o.o. will not incur any liability of equipment damage or personal injury due to improper use or installation of the equipment. It is strongly recommended to read this manual and the following safety instructions before proceeding to installation or operation.

SAFETY AND HAZARD

Do not operate your Yacht Router and/or add-on modules:

- In areas where blasting is in progress.
- Where explosive atmospheres may be present including refuelling points, fuel depots, and chemical plants.
- Near medical equipment, life support equipment, or any equipment which may be susceptible to any form of radio interference.

In such areas, Yacht Router and add-on modules **MUST BE POWERED OFF**. Otherwise, they can transmit signals that could interfere with this equipment.

In an aircraft, the Yacht Router and add-on modules **MUST BE POWERED OFF**. Otherwise, the Yacht Router and addon modules can transmit signals that could interfere with various on-board systems and may be dangerous to the operation of the aircraft or disrupt the cellular network. Use of cellular and WIFI equipment in an aircraft is illegal in some jurisdictions. Failure to observe this instruction may lead to suspension or denial of cellular services to the offender, or legal action or both.

IMPORTANT: It is solely on end-user to set transmitting power value for WIFI Booster to comply with regulations of country where product will be used. Regulations and online WIFI power calculators (EIRP - Equivalent Isotropically Radiated Power) are widely available on the Internet. Locomarine Networks d.o.o. cannot by responsible by any means for improper setup. Transmittion power is set and regulated via Yacht Router Control software.

IMPORTANT: Exposure to Radio Frequency Radiation.
63 cm minimum distance has to be maintained between the antenna and the occupational user and 142 cm to general public. Under such configuration, the FCC radiation exposure limits set forth for an population/uncontrolled environment can be satisfied.

List of approved antennas:
Omni Directional (pole), model Locomarine MOB 7

ANTENNA INSTALLATION: antennas from other products MUST NOT BE CO-LOCATED within 20 cm range to each other to satisfy FCC regulations.

WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

SAFETY INSTRUCTIONS

ELECTRICAL SHOCK HAZARD: Do not open enclosure of the equipment if you are not qualified to do it.

TURN OFF THE POWER IMMEDIATELY IF WATER LEAKS INTO THE EQUIPMENT OR AN OBJECT DROPS INTO THE EQUIPMENT:
Continue operating the equipment could cause electrical shock or fire. Contact your nearest distributor or dealer for service.

DO NOT DISASSEMBLE THE EQUIPMENT OR MODIFY THE EQUIPMENT: Improper disassemble or modification could cause electrical shock, fire, or personal injury.

AVOID OPERATING THE EQUIPMENT WITH WET HANDS: Electrical shocks could be resulted if operating with wet hands.
USE PROPER FUSE: Damage to the equipment or fire could be resulted if using improper fuse.

TURN OFF THE POWER IMMEDIATELY IF THE EQUIPMENT IS EMITTING SMOKE OR FIRE: Continue operating the equipment could cause electrical shock or fire. Contact your nearest distributor or dealer for service.

DO NOT PLACE ANY LIQUID-FILLED CONTAINER ON TOP OF THE EQUIPMENT.

1.1. ABOUT WIFI BOOSTER

WIFI Booster s5 (*WIFI Booster* in further text) is Add-on module compatible with every Yacht Router models. It will give you ability to connect Yacht Router to shore WIFI network (e.g. hotspot in marina). WIFI Booster is waterproof device that you can install outdoor (e.g. on the mast). It is very powerful WIFI device and with high-gain WIFI antenna you will be able to establish long distance WIFI connection, with normal connectivity of 7-10 NM, in good conditions even more.

WIFI Booster is not self-standing device, it cannot operate without Yacht Router.

1.2. WHAT IS IN THE PACKAGE

When shipped, all devices are wrapped in plastic bags that protect them from humidity. Devices are then placed into a cardboard box. A bag containing accessory items is placed inside the box too. List of all included components is enclosed in the package.

1 - WIFI Booster, WB-S05, 1 pcs
2 - Locomarine WIFI 6 antenna, WLAN-A-06, 1 pcs
3 - CAT5 cable (with connectors, 1m), CAT5-02, 2 pcs
4 - WIFI Booster fixing tie, RFT-01, 2 pcs
5 - Gigabit PoE injector (female), CAT5P-03, 1 pcs
6 - N-type male to female right angle adapter, NTA-01, 1 pcs
7 - WIFI Booster fixing clamp, RFT-02, 2 pcs
8 - Manuals & control software (on USB stick), QIG-00, 1 pcs

1.3. PORTS

WIFI Booster is equipped with one Power-over-Ethernet (PoE) gigabit Ethernet port that is used both for data and power.

1.4. INDICATORS

Yacht Router Standard is equipped with multiple LED indicators.

LAN - indicate successful connection with WIFI Booster over Ethernet cable

WIFI signal strength - indicate current signal strength to connected WIFI network

2.1. CONNECTING ETHERNET CABLE

Yacht Router is Power-over-Ehternet device (PoE) and it uses single network cable (CAT5, CAT6 or similar) for data and power. If you are using CAT6 cable you can install WIFI Booster up to 100 meters away from the Yacht Router.

IMPORTANT We strongly recommend usage of high-quality CAT6 cable. CAT5 cables are not recommended on installation where cable is longer than 10 meters.

You will receive one Ethernet cable with connectors in WIFI Booster package.
Splice one side of rubber gasket with a cutter as it is shown on the following photo.

Once you slice the gasket, insert Ethernet cable and insert it as it is shown on the following photo.

If you want to use longer Ethernet cable without pre-terminated connectors you can easily pull it through the rubber gasket on the bottom of WIFI Booster as it is shown on the following photo.

2.2. CONNECTING ANTENNA

WIFI Booster arrives with waterproof outdoor antenna.

You can connect supplied antenna directly to the WIFI Booster as it is shown on the following photo.

You can also use antenna extension cable (not supplied with a package) as it is shown on the following photo.

If you plan to use extension cable be sure to use high-quality coax cable to minimize signal loss. As a general rule, for distances longer than 10 meters use cables like LMR400 or better.

You can compensate coax cable loss with high-gain antenna.

For more information visit www.yachtrouter.com or contact us.

2.3. CONNECTING WIFI BOOSTER TO YACHT ROUTER MICRO

On a following photo you can see how to connect WIFI Booster to Yacht Router Micro using PoE injector and power cable splitter received inside a package with Yacht Router Micro.


If you purchase WIFI Booster together with Yacht Router Micro then Ethernet port on Yacht Router Micro is already set as Backbone port. There is not need for addition setup.

If you purchased WIFI Booster separately from Yacht Router Micro you must reconfigure LAN port to become part of Backbone network. Backbone Network is dedicated propriety network for communication between various Yacht Router devices (e.g. WIFI Booster, WIFI Extender, LAN Expander etc.). **Backbone Network does not have Internet access.** It means that any device connected to this port while it is Backbone mode will not have Internet access. You can always revert LAN port back to Vessel Network.

IMPORTANT | To reconfigure Ethernet LAN port from Backbone to Vessel Network port or opposite, you must connect router to Support Network and contact our Support team. They will do it remotely for you.

If you want to connect mulƟple devices (e.g. computers) using Ethernet cable to your Yacht Route Micro you must add **LAN Expander** to the system.

LAN Expander is a device with mulƟple LAN ports where you can set each LAN port to be part of Vessel Network or Backbone Network. This is very useful soluƟon if you want to connect WIFI Booster to the system while keeping few LAN ports free to connect computer or other IP based devices.
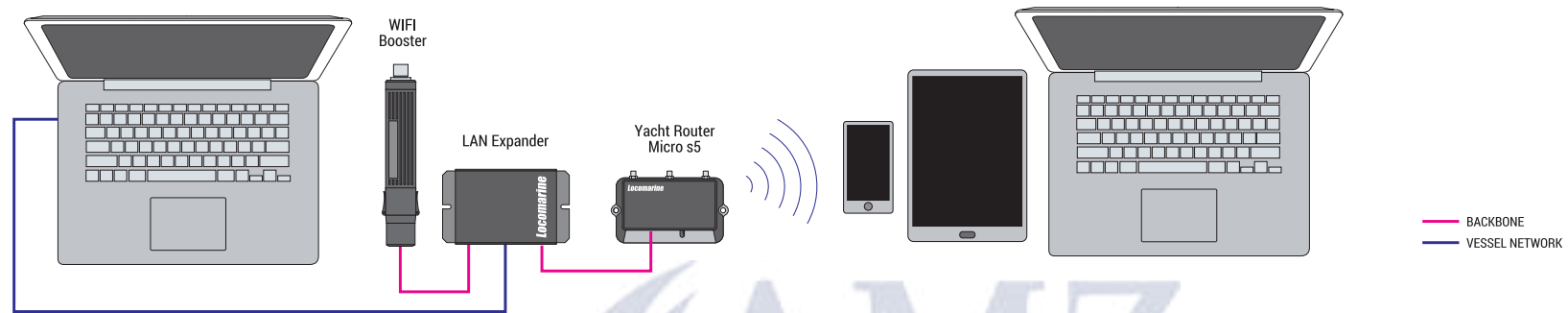
For more informaƟon check LAN Expander manual on our website www.yachtroute.com

2.4. CONNECTING WIFI BOOSTER TO YACHT ROUTER STANDARD

On a following photo you can see how to connect WIFI Booster to Yacht Router Standard using PoE injector.

IMPORTANT | WIFI Booster will only work when connected to Backbone port (any) on the Yacht Router Standard.

If you have larger system installed on your vessel you can connect WIFI Booster to any Backbone port on any device in the system. Here is example of larger system where WIFI Booster is connected to Backbone port on LAN Expander.
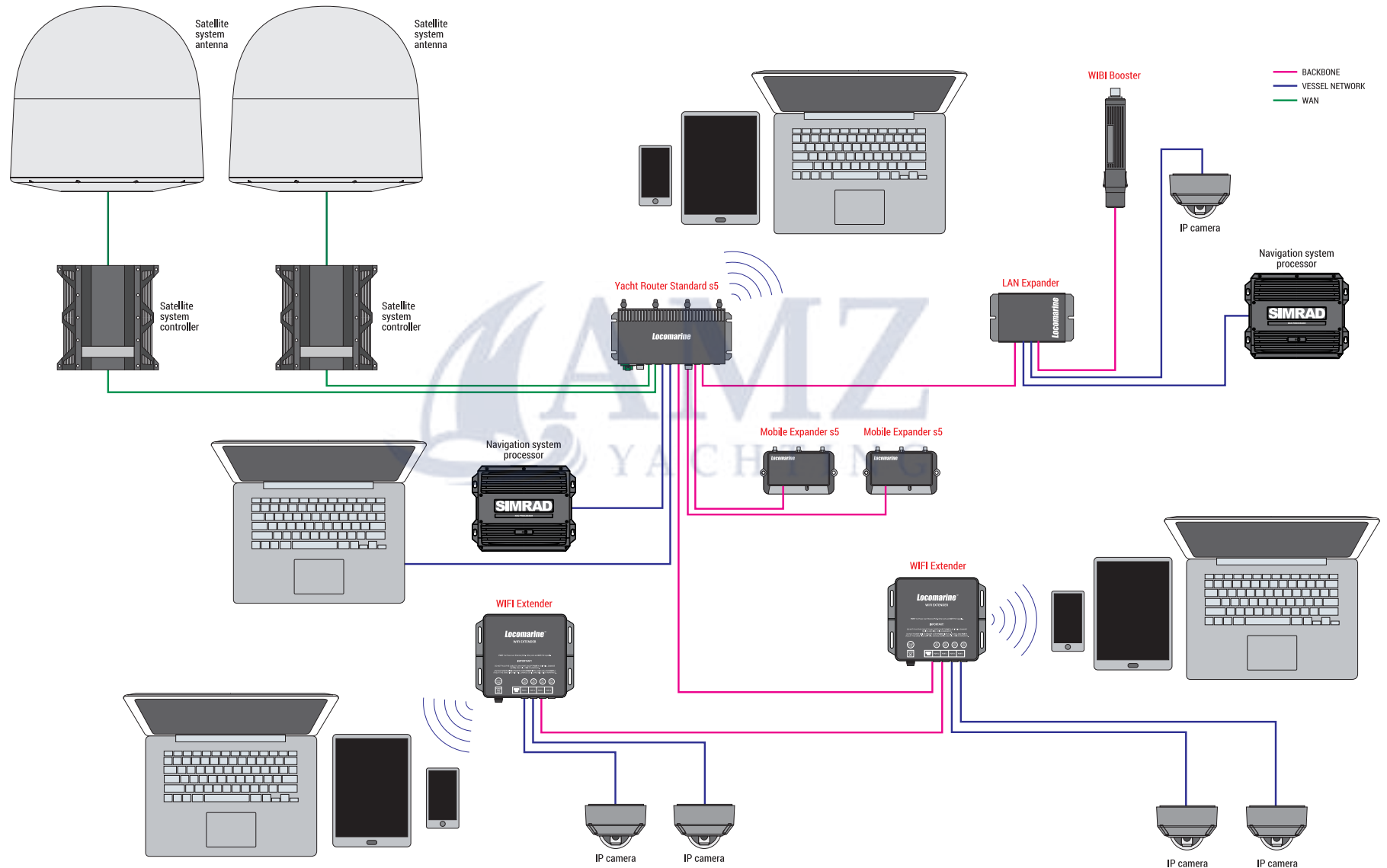
2.5. SETUP

As WIFI Booster is add-on module to the Yacht Router it is controlled by same software you use for your Yacht Router. If you did not already installed Yacht Router Control software you can download it here:

Once you install the software refer to USER MANUAL how to use it. It is available for download on our website www.yachtrouter.com

You can also check VIDEO TUTORIALS on our website www.yachtrouter.com

3.1. HARDWARE DETAILS

Backbone network

Ethernet Backbone ports: 1
Max. data rate on Backbone port: 1 Gbps

WIFI network

Supported standard: 2.4 GHz (b/g/n), 5 GHz (a/n/ac)
Max. WIFI data rates on 2.4 GHz: 120 Mbps
Max. WIFI data rates on 5 GHz: 433 Mbps
Max. WIFI transmit power on 2.4 GHz: 32/1600 dBm/mW
Max. WIFI transmit power on 5 GHz: 32/1600 dBm/mW
Sensitivity of integrated antenna (2.4/5 GHz): 6/8 dB

Power, environment and dimensions

PoE in: 8-30 V
Max. power consumption: 11 W
Operating temperature range for internal unit: -40 to +70 °C
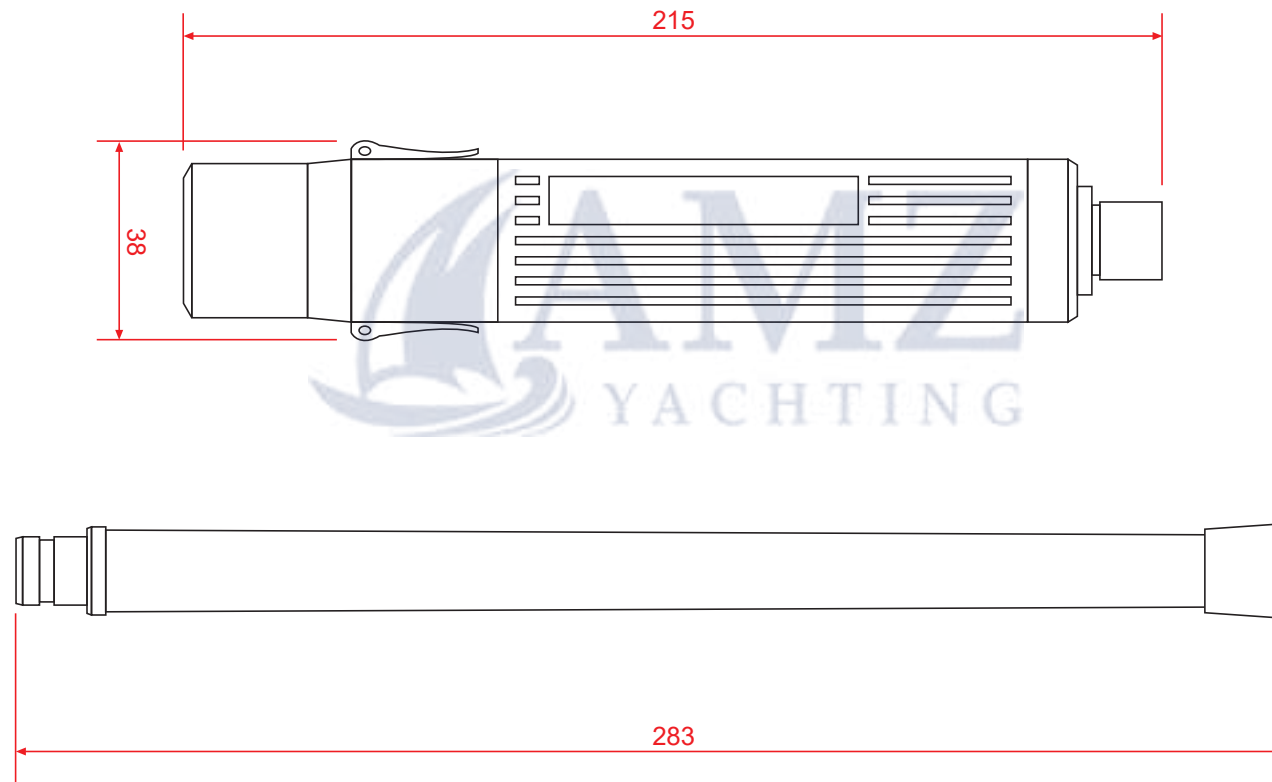Operating humidity range: 5-95 % non-condensing
IP Protection: IP66
Dimension (WxDxH, without antennas): 215 x 60 x 38 mm

3.2. OUTLINE DRAWINGS

All dimensions in mm.

LOCOMARINE NETWORKS d.o.o. LIMITED FACTORY WARRANTY

Locomarine Networks d.o.o. manufactures marine electronic products which are marketed and supported worldwide via the Locomarine Networks d.o.o. distributor, dealer and partner network. Each and every Locomarine Networks d.o.o. distributor, dealer and partner is committed to service and support the products in accordance with the market's needs and requirements. In addition, the Locomarine Networks d.o.o. distributor, dealer and partner networks are obliged to support the products irrespective of who sold and installed the product. Locomarine Networks d.o.o. Limited Factory Warranty for Yacht Router products can be downloaded from www.yachtrouter.com under Support/Download section.

DECLARATION OF CONFORMITY

Hereby, Locomarine Networks d.o.o. declares that this Yacht Routers and add-on modules are is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC. Declaration of Conformity is available for download on www.yachtrouter.com .

IMPORTANT: It is solely on end-user to set transmitting power value for all Yacht Router WIFI components to comply with regulations of country where product will be used. Regulations and online WIFI power calculators (EIRP - Equivalent Isotopically Radiated Power) are widely available on the Internet. It is solely up to user to comply with country regulations and Locomarine Networks d.o.o. cannot by responsible by any means for improper setup. Transmitting power is set and regulated via Yacht Router Control software.

FCC INTERFERENCE STATEMENT

This FCC statement is related to WIFI Booster model WB-S05 for USA/Canada market.

This device contains FCC ID: TV7MTLG52SHPN. 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 device and its antennas must not be co-located or operated in conjunction with any other antenna or transmitter.

IMPORTANT: Exposure to Radio Frequency Radiation.

63 cm minimum distance has to be maintained between the antenna and the occupational user and 142 cm to general public. Under such configuration, the FCC radiation exposure limits set forth for a population/uncontrolled environment can be satisfied.

List of approved antennas:
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ANTENNA INSTALLATION: antennas from other products MUST NOT BE CO-LOCATED within 20 cm range to each other to satisfy FCC regulations.

Antenna Installation. WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

INDUSTRY CANADA NOTICE TO USERS

Notice: To satisfy IC RF exposure requirements for mobile and base station transmission devices, a separation distance of 63 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Avis: Pour répondre à la IC d'exposition pour les besoins de base et mobiles dispositifs de transmission de la station, sur une distance de séparation de 63 cm ou plus doit être maintenue entre l'antenne de cet appareil et les personnes en cours de fonctionnement. Pour assurer le respect, l'exploitation de plus près à cette distance n'est pas recommandée. L'antenne (s) utilisé pour cet émetteur ne doit pas être co-localisés ou fonctionner conjointement avec une autre antenne ou transmetteur.