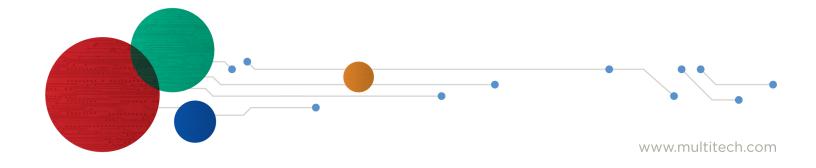




# MultiConnect<sup>®</sup> CBRS Wi-Fi AP Guide

MTCAPW Guide



#### **MTCAPW Regulatory Information**

Models: MTCAPW-L12G2-A600VA-CUA

#### Copyright

This publication may not be reproduced, in whole or in part, without the specific and express prior written permission signed by an executive officer of Multi-Tech Systems, Inc. All rights reserved. **Copyright © 2021 by Multi-Tech Systems, Inc.** 

Multi-Tech Systems, Inc. makes no representations or warranties, whether express, implied or by estoppels, with respect to the content, information, material and recommendations herein and specifically disclaims any implied warranties of merchantability, fitness for any particular purpose and non-infringement.

Multi-Tech Systems, Inc. reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of Multi-Tech Systems, Inc. to notify any person or organization of such revisions or changes.

#### **Trademarks and Registered Trademarks**

MultiTech, Conduit, and the MultiTech logo are registered trademarks and mPower is a trademark of Multi-Tech Systems, Inc. All other products and technologies are the trademarks or registered trademarks of their respective holders.

#### **Legal Notices**

The MultiTech products are not designed, manufactured or intended for use, and should not be used, or sold or re-sold for use, in connection with applications requiring fail-safe performance or in applications where the failure of the products would reasonably be expected to result in personal injury or death, significant property damage, or serious physical or environmental damage. Examples of such use include life support machines or other life preserving medical devices or systems, air traffic control or aircraft navigation or communications systems, control equipment for nuclear facilities, or missile, nuclear, biological or chemical weapons or other military applications ("Restricted Applications"). Use of the products in such Restricted Applications is at the user's sole risk and liability.

MULTITECH DOES NOT WARRANT THAT THE TRANSMISSION OF DATA BY A PRODUCT OVER A CELLULAR COMMUNICATIONS NETWORK WILL BE UNINTERRUPTED, TIMELY, SECURE OR ERROR FREE, NOR DOES MULTITECH WARRANT ANY CONNECTION OR ACCESSIBILITY TO ANY CELLULAR COMMUNICATIONS NETWORK MULTITECH WILL HAVE NO LIABILITY FOR ANY LOSSES, DAMAGES, OBLIGATIONS, PENALTIES, DEFICIENCIES, LIABILITIES, COSTS OR EXPENSES (INCLUDING WITHOUT LIMITATION REASONABLE ATTORNEYS FEES) RELATED TO TEMPORARY INABILITY TO ACCESS A CELLULAR COMMUNICATIONS NETWORK USING THE PRODUCTS.

The MultiTech products and the final application of the MultiTech products should be thoroughly tested to ensure the functionality of the MultiTech products as used in the final application. The designer, manufacturer and reseller has the sole responsibility of ensuring that any end user product into which the MultiTech product is integrated operates as intended and meets its requirements or the requirements of its direct or indirect customers. MultiTech has no responsibility whatsoever for the integration, configuration, testing, validation, verification, installation, upgrade, support or maintenance of such end user product, or for any liabilities, damages, costs or expenses associated therewith, except to the extent agreed upon in a signed written document. To the extent MultiTech provides any comments or suggested changes related to the application of its products, such comments or suggested changes is performed only as a courtesy and without any representation or warranty whatsoever.

#### **Contacting MultiTech**

#### **Knowledge Base**

The Knowledge Base provides immediate access to support information and resolutions for all MultiTech products. Visit <a href="http://www.multitech.com/kb.go">http://www.multitech.com/kb.go</a>.

#### **Support Portal**

To create an account and submit a support case directly to our technical support team, visit: https://support.multitech.com.

#### Support

Business Hours: M-F, 8am to 5pm CT

Country	By Email	By Phone
Europe, Middle East, Africa:	support@multitech.co.uk	+(44) 118 959 7774
U.S., Canada, all others:	support@multitech.com	(800) 972-2439 or (763) 717-5863

#### Warranty

To read the warranty statement for your product, visit <a href="https://www.multitech.com/legal/warranty">https://www.multitech.com/legal/warranty</a>. For other warranty options, visit <a href="https://www.multitech.com/legal/warranty">www.multitech.com/legal/warranty</a>. For other warranty options of the state of the stat

#### **World Headquarters**

Multi-Tech Systems, Inc.

2205 Woodale Drive, Mounds View, MN 55112

Phone: (800) 328-9717 or (763) 785-3500

Fax (763) 785-9874

# **Contents**

Chapter 1 – MultiConnect	4
About this document	
Chapter 2 – Specifications and Related Information	5
MTCAPW Specifications	
All Models	5
Chapter 3 – Antennas	6
Antenna	
Antenna Specifications	6
Chapter 4 – Safety Notices	7
User Responsibility	
Power Supply Caution	7
Device Maintenance	7
Vehicle Safety	7
Radio Frequency (RF) Safety	8
Interference with Pacemakers and Other Medical Devices	8
Potential interference	8
Precautions for pacemaker wearers	8
MultiConnect FCC Interference Statement	9
	9
	9

# **Chapter 1 – MultiConnect**

This Admin Guide provides information on the MultiConnect \*\* CBRS Wi-Fi AP. The Multiconnect CBRS Wi-Fi AP is a 4G/LTE CBRS Ethernet / Wi-Fi to Cellular access point used to enable devices with internet service. It is an alternative to cellular routers in applications where there is a need for remote access without using local wired networks.

# **About this document**

This document contains regulatory, and safety notices only for the following MultiConnect CBRS Wi-Fi AP models.

MTCAPW-L12G2-A600VA-CUA

# **Chapter 2 – Specifications and Related Information**

# **MTCAPW Specifications**

MTCAPW specifications depend on the hardware configuration for your model.

#### **All Models**

Performance			
Standards	CBRS 4G LTE Cat 12		
	TDD LTE Bands 42, 43, and 48 for CBRS/private LTE		
	2xCA (UL) B42+B42		
	2xCA (DL) B42+B42, B48+B48		
	3xCA (DL) B42+B42+B42; B48+B48+B48		
	DL 256QAM: Y		
	3FF Micro SIM		
Wi-Fi (2 - Internal Antennas)	2.4GHz 802.11bgn		
Physical Description			
Dimensions	5.3 x 6.5 x 1.4 (in)		
Weight	3 lbs		
Connectors			
Connectors	1 RJ-45 Ethernet port		
	2 LTE antenna connectors		
Power Requirements			
Input Voltage	12V DC (2.5mm connector)		
Environment	·		
Operating Environment	0° to +50° C*		
Storage Environment	-40° to +85° C		
Relative Humidity	20 to 90% non-condensing		
Certifications	·		
EMC Radio Compliance	FCC Part 15 Class B		
	OnGo FCC Part 96 CBRS		

UL listed at 40° C, limited by AC power supply. Product has been tested to +50° C excluding power supply.

# **Chapter 3 – Antennas**

## **Antenna**

Devices were approved with the following antenna:

Manufacturer: Wieson

Description: LTE Antenna with SMA-Male Connector

Model Number GY115IE002-001

#### MultiTech ordering information:

Model	Quantity
ANLTE4-1HRA	1
ANLTE4-2HRA	2
ANLTE4-10HRA	10
ANLTE4-50HRA	50

## **Antenna Specifications**

Category	Description
Frequency Range	3.5 - 3.8 GHz
VSWR	3:1 maximum
Gain	1.27 dBi
Impedance	50Ω nominal
Radiation	Omni-directional
Polarization	Linear, vertical

# **Chapter 4 – Safety Notices**

# **User Responsibility**

Respect all local regulations for operating your wireless device. Use the security features to block unauthorized use and theft.

# **Power Supply Caution**

**CAUTION:** Do not replace the power supply with one designed for another product; doing so can damage the modem and void your warranty. Adapter shall be installed near the equipment and shall be easily accessible. **CAUTION:** Pour garantir une protection continue contre les risques d'incendie, remplacez les fusibles uniquement par des fusibles du même type et du même calibre. L'adaptateur doit être installé à proximité de l'appareil et doit être facilement accessible.

#### **Device Maintenance**

Do not attempt to disassemble the device. There are no user serviceable parts inside.

When maintaining your device:

- Do not misuse the device. Follow instructions on proper operation and only use as intended. Misuse could
  make the device inoperable, damage the device and/or other equipment, or harm users.
- Do not apply excessive pressure or place unnecessary weight on the device. This could result in damage to the device or harm to users.
- Do not use this device in explosive or hazardous environments unless the model is specifically approved for such use. The device may cause sparks. Sparks in explosive areas could cause explosion or fire and may result in property damage, severe injury, and/or death.
- Do not expose your device to any extreme environment where the temperature or humidity is high. Such
  exposure could result in damage to the device or fire. Refer to the device specifications regarding
  recommended operating temperature and humidity.
- Do not expose the device to water, rain, or spilled beverages. It is not waterproof. Exposure to liquids could result in damage to the device.
- Do not place the device alongside computer discs, credit or travel cards, or other magnetic media. The information contained on discs or cards may be affected by the device.
- Using accessories, such as antennas, that MultiTech has not authorized or that are not compliant with MultiTech's accessory specifications may invalidate the warranty.

If the device is not working properly, contact MultiTech Technical Support.

# **Vehicle Safety**

When using your device in a vehicle:

- Do not use this device while driving.
- Respect national regulations on the use of cellular devices in vehicles.

- If incorrectly installed in a vehicle, operating the wireless device could interfere with the vehicle's electronics. To avoid such problems, use qualified personnel to install the device. The installer should verify the vehicle electronics are protected from interference.
- Using an alert device to operate a vehicle's lights or horn is not permitted on public roads.
- UL evaluated this device for use in ordinary locations only. UL did NOT evaluate this device for installation in a vehicle or other outdoor locations. UL Certification does not apply or extend to use in vehicles or outdoor applications.

# Radio Frequency (RF) Safety

Due to the possibility of radio frequency (RF) interference, it is important that you follow any special regulations regarding the use of radio equipment. Follow the safety advice given below.

- Operating your device close to other electronic equipment may cause interference if the equipment is inadequately protected. Observe any warning signs and manufacturers' recommendations.
- Different industries and businesses restrict the use of cellular devices. Respect restrictions on the use of radio equipment in fuel depots, chemical plants, or where blasting operations are in process. Follow restrictions for any environment where you operate the device.
- Do not place the antenna outdoors.
- Switch OFF your wireless device when in an aircraft. Using portable electronic devices in an aircraft may
  endanger aircraft operation, disrupt the cellular network, and is illegal. Failing to observe this restriction
  may lead to suspension or denial of cellular services to the offender, legal action, or both.
- Switch OFF your wireless device when around gasoline or diesel-fuel pumps and before filling your vehicle with fuel.
- Switch OFF your wireless device in hospitals and any other place where medical equipment may be in use.

## **Interference with Pacemakers and Other Medical Devices**

#### **Potential interference**

Radio frequency energy (RF) from cellular devices can interact with some electronic devices. This is electromagnetic interference (EMI). The FDA helped develop a detailed test method to measure EMI of implanted cardiac pacemakers and defibrillators from cellular devices. This test method is part of the Association for the Advancement of Medical Instrumentation (AAMI) standard. This standard allows manufacturers to ensure that cardiac pacemakers and defibrillators are safe from cellular device EMI.

The FDA continues to monitor cellular devices for interactions with other medical devices. If harmful interference occurs, the FDA will assess the interference and work to resolve the problem.

#### **Precautions for pacemaker wearers**

If EMI occurs, it could affect a pacemaker in one of three ways:

- Stop the pacemaker from delivering the stimulating pulses that regulate the heart's rhythm.
- Cause the pacemaker to deliver the pulses irregularly.
- Cause the pacemaker to ignore the heart's own rhythm and deliver pulses at a fixed rate.

Based on current research, cellular devices do not pose a significant health problem for most pacemaker wearers. However, people with pacemakers may want to take simple precautions to be sure that their device doesn't cause a problem.

- Keep the device on the opposite side of the body from the pacemaker to add extra distance between the pacemaker and the device.
- Avoid placing a turned-on device next to the pacemaker (for example, don't carry the device in a shirt or jacket pocket directly over the pacemaker).

### MultiConnect FCC Interference Statement

#### **Federal Communications 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 or more 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**

Any changes or modifications not expressly approved by the grantee of this device void the user's authority to operate the equipment.

#### **RF Exposure warning**

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

This radio transmitter FCCID: AU792U21F04867 has been approved by FCC to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

#### Antenna List

No.1	Manufacturer	Part No.	Antenna Type	Max Antenna Gain
1	WIESON TECHNOLOGIES CO., LTD.	GY115IE002-001	Dipole	1.27 dBi

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