MULTITECH

Conduit® AP

MTCAP3 Hardware Guide

Conduit AP MTCAP3 Hardware Guide

This document applies to all models and regions on the device overview page. Go to https://multitech.com/all-products/cellular/cellular-gateways/conduit-ap-300-series/#models.

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Contents

1 About the Conduit AP 300

Conduit AP 300 Series (MTCAP3) securely connects thousands of LoRaWAN® wireless IoT sensors to the cloud using the LoRaWAN® protocol. The Conduit AP Access Point packet forwarding gateway offers Ethernet and Cellular Wide Area Networks seamless connectivity options to connect to Cloud based applications in centrally located data centers.

Intended Use

The Conduit AP is designed for indoor use and industrial applications, such as smart buildings, retail spaces, agricultural environments, and other deployments where reliability and secure long-range data communication is essential.

In the Box

Some options don't include all of the items shown below. Go to https://multitech.com/all-products/cellular/cellular-gateways/conduit-ap-300-series/#models.

Item	Description	Quantity
1	Conduit AP Access Point	1
2	RJ45 Ethernet cable	1
3	5 Volt, 2.5 Amp power supply	1
4	Mounting bracket	1
5	LoRa antenna *(models with external antenna only)*	1
6	Mounting feet set (not shown)	1
7	Quick-start guide (not shown)	1

Important: Contact MultiTech Systems if a replacement power supply is needed. Using a different power supply may damage the device and voids the warranty.

MTCAP3 Ordering Options

To find information about ordering options, go to https://multitech.com/all-products/cellular/cellular-gateways/conduit-ap-300-series/#models.

Required Tools

The following tools are only required if mounting the device:

- Four #6 (3.5mm) screws with anchors (not provided)
- Screwdriver
- Drill

2 Safety Instructions

Operation Safety

CAUTION: Read all instructions and safety information before installing or using this device.

ATTENTION: Lisez toutes les instructions et consignes de sécurité avant d'installer ou d'utiliser cet appareil.

- Follow all local laws, regulations, and rules for operating a wireless device.
- Use the device security features to block unauthorized use and theft.
- Unless otherwise noted, antennas are not approved for outdoor use. Do not extend any antenna outside of any building, dwelling, or campus.
- Do not attempt to disassemble the device. There are no user-serviceable parts inside.
- Do not misuse the device. Follow instructions on proper operation and only use as intended. Misuse could make the device inoperable, damage the device 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 an explosion or fire that may result in property damage, severe injury, or death.
- Do not expose the device to any extreme environment where the temperature or humidity is high. Such exposure could result in damage to the device or cause a fire. See the device specifications for recommended operating temperature and humidity.
- Do not expose the device to water, rain, or other liquids. It is not waterproof. Exposure to liquids could result in damage to the device.
- Using accessories, such as antennas, that MultiTech has not authorized or that are not compliant with the device accessory specifications may invalidate the warranty.

If the device is not working properly, contact MultiTech technical support.

Ethernet Ports

CAUTION: Ethernet ports and command ports are not designed to be connected to a public telecommunication network or used outside the building.

ATTENTION: Les ports Ethernet et de commande ne sont pas conçus pour être raccordés à un réseau de télécommunications public ou utilisé à l'extérieur du bâtiment.

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.

ATTENTION: 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.

VORSICHT: Ersetzen Sie das Netzteil nicht durch ein Netzteil, das für ein anderes Produkt vorgesehen ist. Andernfalls kann das Modem beschädigt werden und Ihre Garantie erlischt. Der Adapter muss in der Nähe des Geräts installiert und leicht zugänglich sein.

UL Notice

UL Listed at 40° C, limited by power supply. UL Certification does not apply or extend to an ambient above 40° C and has not been evaluated by UL for ambient greater than 40° C. "UL has evaluated this device for use in ordinary locations only. Installation in a vehicle or other outdoor locations has not been evaluated by UL. UL Certification does not apply or extend to use in vehicles or outdoor applications or in ambient above 40° C."

Spécifications UL

Listé UL à 40° C, limité par l'alimentation. La certification UL ne s'applique pas ou ne s'étend pas à des températures dépassant 40° C, et le produit n'a pas été évalué par UL pour une température ambiante dépassant 40° C. « UL a évalué cet appareil pour une utilisation en zone ordinaire uniquement. Le produit n'a pas été évalué par UL pour une installation dans un véhicule ou en extérieur. La certification UL ne s'applique pas ou ne s'étend pas aux applications dans un véhicule, en extérieur ou en présence d'une température ambiante supérieure à 40° C ».

General Safety

The device is designed for and intended to be used in fixed and mobile applications. Fixed means the device is physically secured at one location and cannot be easily moved to another location. Mobile means the device is used in other than fixed locations.

CAUTION: Maintain a separation distance of at least 23 cm (9 inches) between the transmitter's antenna and the body of the user or nearby persons. The device is not designed for or intended to be used in portable applications within 23 cm (9 inches) of the user's body.

ATTENTION: Maintenir une distance d'au moins 23 cm (9 po) entre l'antenne du récepteur et le corps de l'utilisateur ou à proximité de personnes. Le modem n'est pas conçu pour, ou destinés à être utilisés dans les applications portables, moins de 23 cm (9 po) du corps de l'utilisateur.

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.

- Turn off your wireless device when in an aircraft. Using portable electronic devices in an aircraft may endanger aircraft operation, disrupt the cellular network, and may be illegal. Failing to observe this restriction may lead to suspension or denial of cellular services to the offender, legal action, or both.
- Turn off your wireless device when around gasoline or diesel-fuel pumps and before filling your vehicle with fuel.
- Turn off your wireless device in hospitals and any other place where medical equipment may be in use.

Sécurité relative aux appareils à radiofréquence (RF)

À cause du risque d'interférences de radiofréquence (RF), il est important de respecter toutes les réglementations spéciales relatives aux équipements radio. Suivez les conseils de sécurité ci-dessous.

- Utiliser l'appareil à proximité d'autres équipements électroniques peut causer des interférences si les équipements ne sont pas bien protégés. Respectez tous les panneaux d'avertissement et les recommandations du fabricant.
- Certains secteurs industriels et certaines entreprises limitent l'utilisation des appareils cellulaires. Respectez ces restrictions relatives aux équipements radio dans les dépôts de carburant, dans les usines de produits chimiques, ou dans les zones où des dynamitages sont en cours. Suivez les restrictions relatives à chaque type d'environnement où vous utiliserez l'appareil.
- Ne placez pas l'antenne en extérieur.
- Éteignez votre appareil sans fil dans les avions. L'utilisation d'appareils électroniques portables en avion est illégale: elle peut fortement perturber le fonctionnement de l'appareil et désactiver le réseau cellulaires. S'il ne respecte pas cette consigne, le responsable peut voir son accès aux services cellulaires suspendu ou interdit, peut être poursuivi en justice, ou les deux.
- Éteignez votre appareil sans fil à proximité des pompes à essence ou de diesel avant de remplir le réservoir de votre véhicule de carburant.
- Éteignez votre appareil sans fil dans les hôpitaux ou dans toutes les zones où des appareils médicaux sont susceptibles d'être utilisés.

Interference with Pacemakers and Other Medical Devices

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 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).

3 Specifications

Specifications for 915 MHz Models

Category	Description
General	
Standards	LoRaWAN 1.0.4 specifications
	LTE FDD Cat 4, 3GPP release 11 compliant
	WCDMA/GSM fallback
LoRa radio frequency	915 MHz ISM band
Cell radio frequency bands (MHz) for L4G2D	4G LTE FDD (Europe): B3 (1800), B7 (2600), B8 (900), B20 (800)
	2G (Europe fallback): B2 (1900), B3 (1800), B5 (850), B8 (900)
	4G LTE FDD (AT&T): B2 (1900), B4 (AWS1700), B12 (700), B14 (700)
	4G LTE FDD (Verizon): B2 (1900), B4 (AWS1700), B13 (700)
	4G LTE FDD (Anterix): B8-US (900)
	4G LTE FDD (APAC): B1 (2100), B9 (1800), B18 (800), B19 (850), B26 (850), B28 (700)
	3G: B1 (2100), B2 (1900), B4 (AWS1700), B5 (850), B6, B8 (900), B19 (850)
	2G: B2 (1900), B3 (1800), B5 (850), B8 (900)
	4G LTE FDD bands: B25 (1900)
Cell radio frequency bands (MHz) for LNA7D	LTE FDD: B2 (1900), B4 (AWS1700), B5 (850), B12 (700), B13 (700), B25 (1900), B26 (850)
	WCDMA: B2 (1900), B4 (AWS1700), B5 (850)
Physical Description	
Dimensions	165 (6.5) × 135 (5.3) × 36 (1.4) mm (in)
Weight	0.11 kg (0.24 lb) without antenna
Chassis	PC-ABS
Power Requirements	
Operating voltage	5 VDC @ 2.5A
AC power requirement	Ethernet active, cellular connection established, LoRa RX: 2W
	Ethernet active, cellular connection at maximum transmit power, LoRa RX+TX: 5W

Category	Description
LoRa tx power	Australia and North America: 29.1 dBm maximum EIRP *(includes external LoRa antenna)*
	Japan: 14 dBm maximum EIRP *(includes external LoRa antenna)*
	New Zealand: 29.9 dBm maximum EIRP *(includes external LoRa antenna)*
Environment	
Operating temperature[1]	0 °C to 70 °C (32 °F to 158 °F)
Storage temperature	-40 °C to 85 °C (–40 °F to 185 °F)
Humidity	20%-90%, RH non-condensing
Certifications	
EMC and radio compliance	FCC Part 15 Class B
	FCC Part 15.247 (LoRa)
	FCC 22H, 24E, 27, 90
	RSS130,RSS133, RSS139
	RSS210 (LoRa)
	ASNZ 4268
Safety compliance	UL 62368-1 2nd Edition
	UL / IEC 62368-1

Specifications for 868 MHz Models

Category	Description
General	
Standards	LoRaWAN 1.0.4 specifications
	LTE FDD Cat 4, 3GPP release 11 compliant *(LEU7 models only)*
	WCDMA/GSM fallback
LoRa radio frequency	868 MHz ISM

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1 UL listed at 40 °C, limited by AC power supply. Product has been tested to 70 °C excluding power supply.

Category	Description
Cell radio frequency bands (MHz) for L4G2D	4G LTE FDD (Europe): B3 (1800), B7 (2600), B8 (900), B20 (800)
	2G (Europe fallback): B2 (1900), B3 (1800), B5 (850), B8 (900)
	4G LTE FDD (AT&T): B2 (1900), B4 (AWS1700), B12 (700), B14 (700)
	4G LTE FDD (Verizon): B2 (1900), B4 (AWS1700), B13 (700)
	4G LTE FDD (Anterix): B8-US (900)
	4G LTE FDD (APAC): B1 (2100), B9 (1800), B18 (800), B19 (850), B26 (850), B28 (700)
	3G: B1 (2100), B2 (1900), B4 (AWS1700), B5 (850), B6, B8 (900), B19 (850)
	2G: B2 (1900), B3 (1800), B5 (850), B8 (900)
	4G LTE FDD bands: B25 (1900)
Cell radio frequency bands (MHz) for LEU7	LTE FDD: B1 (2100), B3 (1800), B7 (2600), B8 (900), B20 (800), B28A (700)
	WCDMA: B1 (2100), B8 (900)
	GSM: B3 (1800), B8 (900)
Physical Description	
Dimensions	165 (6.5) × 135 (5.3) × 36 (1.4) mm (in)
Weight	0.11 kg (0.24 lb) without antenna
Chassis	PC-ABS
Power Requirements	
Operating voltage	5 VDC @ 2.5A
AC power requirement	Ethernet active, cellular connection established, LoRa RX: 2W
	Ethernet active, cellular connection at maximum transmit power, LoRa RX+TX: 5W
LoRa tx power[2]	Internal antenna models: 12.3–24.8 dBm maximum ERP; maximum ERP is 12.3 dBm for whole band, except 24.8 dBm at 869.525 MHz
	External antenna models: 13.0–25.5 dBm maximum ERP; maximum ERP is 13.0 dBm for whole band, except 25.5 dBm at 869.525 MHz
Environment	
Operating temperature[3]	0 °C to 70 °C (32 °F to 158 °F)
Storage temperature	-40 °C to 85 °C (–40 °F to 185 °F)
Humidity	20%-90% RH, non-condensing
Certifications	

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2 ERP = EIRP – 2.15 dB

3 UL listed at 40 °C, limited by AC power supply. Product has been tested to 70 °C excluding power supply.

Category	Description
EMC and radio compliance	CE Mark, RED (EU)
	EN 300 220-1 / EN 301 489-1 / EN 301 908-1 (see Declaration of Conformity for details)
Safety compliance	UL/IEC 62368-1

Device Dimensions
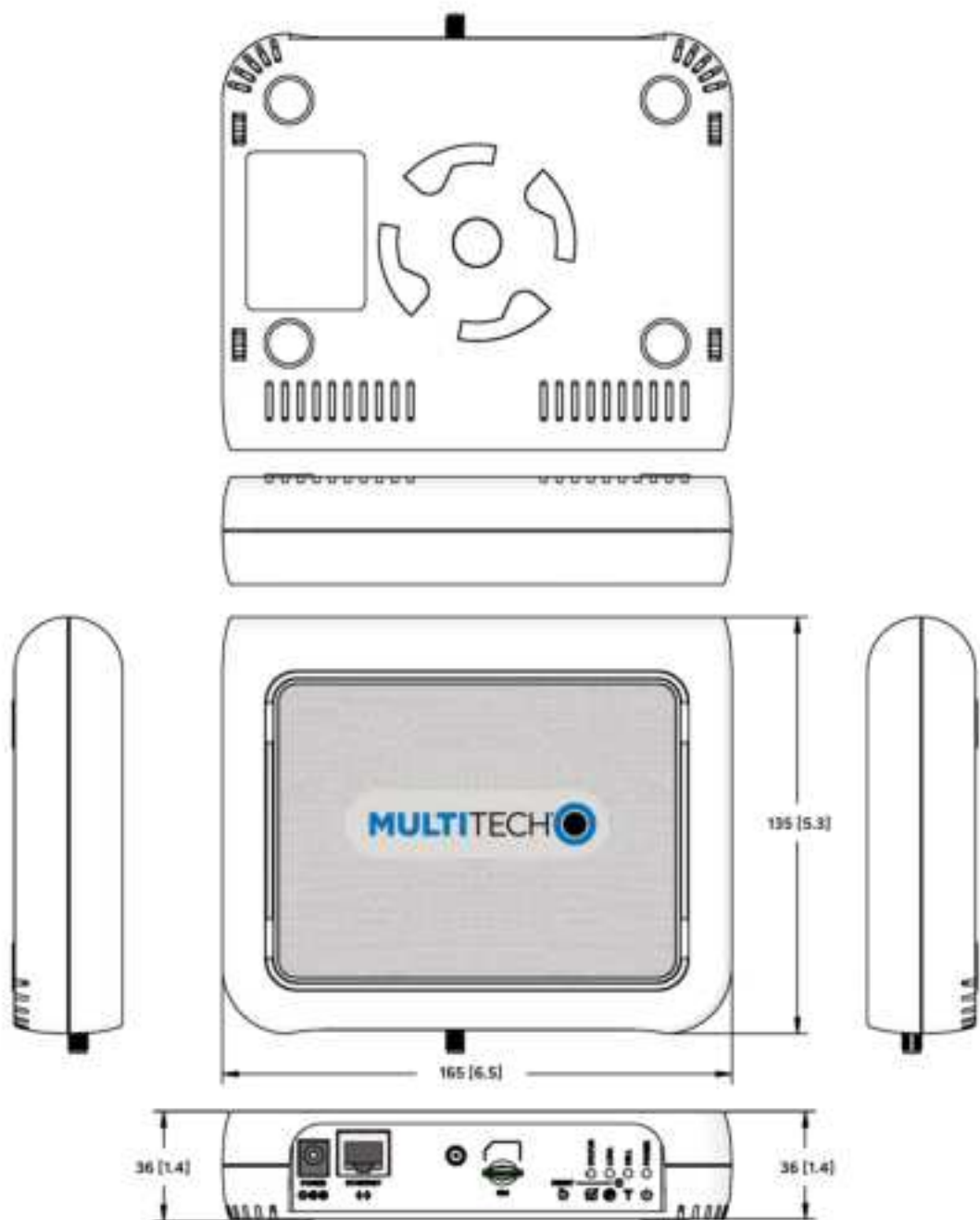
MTCAP3 Labels

These are example labels. Actual labels vary depending on the regulatory approval markings and device model.

Note: 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.
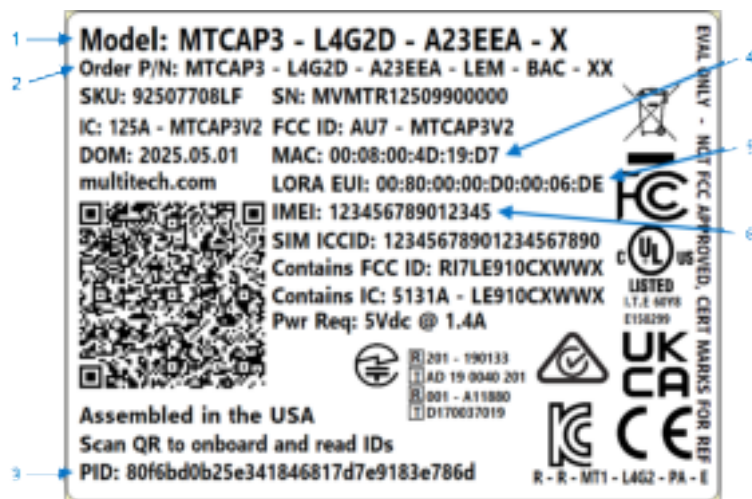
1. MultiTech model identification
2. MultiTech ordering part number
3. PID (provisioning ID)
4. Ethernet MAC address
5. Device node number
6. IMEI (international mobile equipment identity) *(cellular models only)*

Connectors and LEDs

LoRa only models
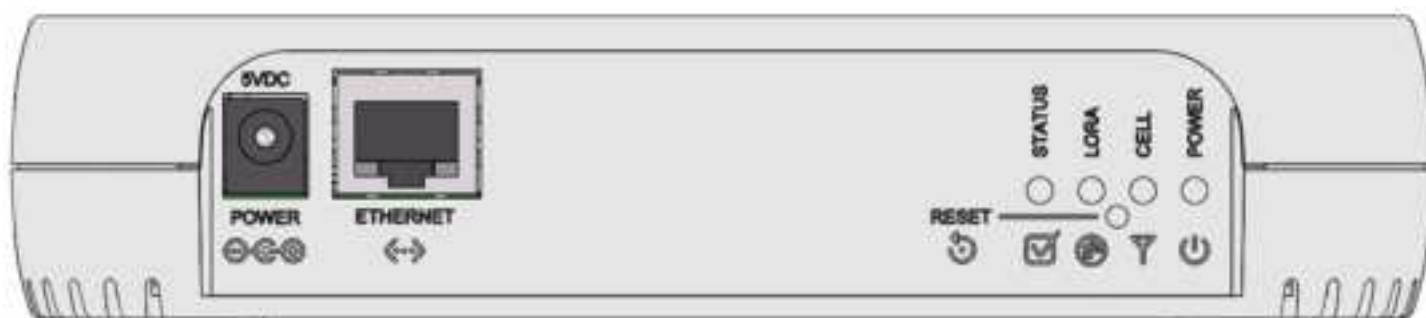
LoRa and cellular radio models

LoRa only models with external LoRa antenna

LoRa and cellular radio models with external LoRa antenna

Note: Some features are available only on select models.

Item	Description
Connectors	
Power	5 Volt power jack.
Ethernet	RJ45 Ethernet jack.
Reset	Reset button. Reboots device or restores factory defaults. Refer to *Reset the Device* for details.
LORA	RP-SMA connector for external LoRa antenna. *(Select models)*
SIM	*Cellular models only.* Micro (3FF) SIM slot. Refer to *Installing SIM Card* for details.

Item	Description
LEDs	
STATUS	**On (Solid):** Firmware is booting.
	Flashing: Blinks when operating system is fully loaded.
	Off: If this LED remains off one minute after power is applied, troubleshoot the device.
LORA	**On:** Lights when LoRa software is active.
	Flashing: Firmware upgrade mode.
	Off: LoRa services stopped.
CELL	*Cellular models only.*
	On: Firmware is booting.
	Fast flashing: Data transfer is ongoing.
	Slow flashing: Idle or network searching. If Power and LoRA LED are also flashing, firmware upgrade mode.
	Off: No cellular signal. Stays off if device does not have a radio.
Power	**On:** Powered up, normal operation.
	Slow Flashing: Firmware upgrade mode.
	Off: No power, either device disconnected from power or powered off.
Ethernet Link (left LED on the Ethernet connector)	**On:** There is a valid Ethernet connection.
	Flashing: Data is being sent or received on the Ethernet link.
Ethernet Speed (right LED on the Ethernet connector)	**On:** The Ethernet is linked at 100 Mbps.
	Off: The Ethernet is linked at 10 Mbps.

Antenna

Your device ships with the following antenna. Contact MultiTech if you need a replacement antenna.

Antenna Compliance

This radio transmitter [IC: 125A-MTCAP3V2] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [IC: 125A-MTCAP3V2] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

LoRa Antenna

Manufacturer:	Quectel
Description:	868-928 MHz RP-SMA Antenna, 8"
Model Number:	YEIN002AA

MultiTech Ordering Part Numbers

Ordering Part Number	Quantity
AN868-915A-1HRA	1
AN868-915A-10HRA	10
AN868-915A-50HRA	50

Specifications

Category	Description
Frequency Range	868-928 MHz
Impedance	50 Ohms
VSWR	≤ 2.0
Gain	2.5 dBi
Radiation	Omni
Polarization	Vertical

4 Before Installation

Installing a SIM Card

Models with cellular capability have a micro SIM slot, you'll need a micro (3FF) SIM card from your network provider.

Note: -LNA3 models work on both Verizon and AT&T networks. The device detects the carrier based on your SIM card.

Note: -LNA7D models work on both Verizon and AT&T networks. The device detects the carrier based on your SIM card.

To install the SIM card:

- With the contact side facing down, align the notched edge as shown and slide the SIM card completely into the SIM holder.

Removing a SIM Card

To remove the SIM card, push the SIM card in. The device ejects the SIM card.

Attaching the Antenna

(Models with external antenna only)

To connect the antenna:

- Finger-tighten the antenna to the antenna connector on your device.

Cabling the Device

To cable the device:

1. For Ethernet only models, connect the Ethernet cable to the Ethernet port on the device and to your computer.

2. Attach the plug for your country to the power supply.

3. Connect the power supply to the device's power jack and plug it into an electrical outlet. When the operating system is fully loaded, the STATUS LED blinks.

> **Important:** The power supply is 5V at the connector. Verify you are connecting the power supply that shipped with the device. Using a power supply with higher voltage damages the device.

Ethernet only models with external LoRa antenna

Ethernet only models, all internal antennas

Cellular models with external LoRa antenna

Cellular models, all internal antennas

Mounting the Device

The device ships with a mounting bracket.

You will need

- Device
- Mounting bracket
- Four #6 (3.5mm) screws with anchors (not provided)
- Screwdriver
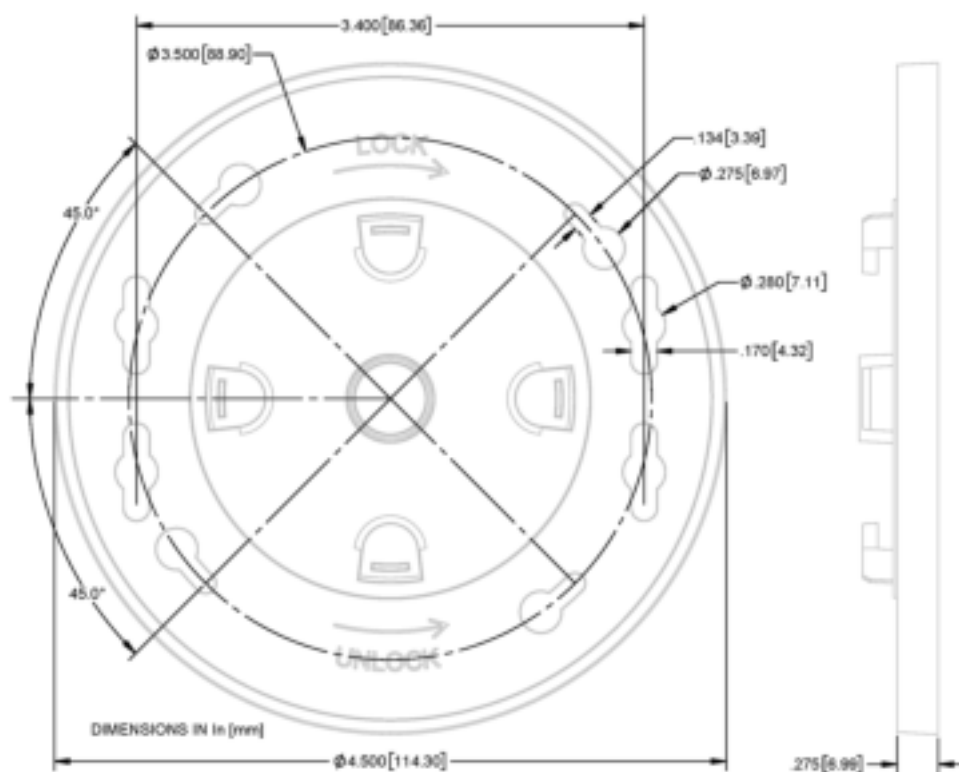- Drill

Mounting Bracket

Determining Location

Follow these guidelines for best performance:

- The LoRa antenna is omnidirectional, but for best results, mount the device so the LoRa antenna is in a vertical position as shown in this section.
- For optimal performance, place the device at a level higher than the end devices.
- Select a location central to all devices to be connected to this device.
- Avoid obstructions.

  Important: Thick walls and reflective surfaces, such as metal, weaken the signal between the device and other devices.
- We recommend conducting a site survey to test the signal strength in different locations before you mount the device.

Mounting the Device

1. Determine where you want to mount the device.
2. Mark where you want the screws to go.

3. Drill holes for the screws and insert anchors.

4. Place the mounting bracket and secure it with screws.

5. Attach the device to the bracket and rotate until it locks into place.

Models with Internal LoRa Antenna Only   Models with External LoRa Antenna

5 Installation

Getting Started

Setting Up Your Credentials (Commissioning) for mPower

The first time the device powers up, it goes into commissioning mode. The system requires you to set up an administrative user. To do this:

Note: MultiTech recommends using Firefox.

1. Open a browser on your computer and enter the default IP address in the URL field, **192.168.2.1**. Most browsers display a warning about HTTP addresses being unsafe because of a self-signed certificate:

   - For Edge, click **Advanced** and then **Continue** to **192.168.2.1**.
   - For Firefox, click **Advanced** and then click **Accept the Risk and Continue**.
   - For Chrome, click **Advanced** and then **Continue** to **192.168.2.1** (unsafe).

2. Enter a username for the administrative user. Click **OK**. Follow on screen instructions for usernames.

3. Enter a password and click **OK.** Follow on screen instructions for a secure password.

4. Enter the password again to confirm. Click **OK**.

5. Log into the device using the new username and password.

The First-Time Setup Wizard appears.

mPower Models First-Time Setup

If your device uses the mPower platform, refer to First-Time Setup in mPower Software Guide (S000727) for details. It is available through your model's page at https://multitech.com/all-products/cellular/cellular-gateways/conduit-ap-300-series/.

Connecting with LoRaWAN End Devices

For help connecting your device with LoRaWAN end devices, refer to Application Notes at https://multitech.com/all-products/cellular/cellular-gateways/conduit-ap-300-series/.

Commissioning an Ethernet-Only MTCAP3

Network Configuration

The Ethernet interface on MTCAP3 (without cellular) operates as a DHCP client, meaning it does not use a predictable static IP (such as 192.168.2.1). Upon connection to a network, the device will request an IP from a DHCP server.

Locating the Device's IP Address

The assigned IP can typically be found using one of the following methods:

- DHCP Server Logs - most IT departments can retrieve the IP via MAC address or hostname (mtcap3-<serial_number>).
- Network Scanning Tools - utilities such as ARP, nmap, or similar tools may help identify the device's IP.

Connecting to the Device

Once you've identified the assigned IP, you can access the device API or Web UI through that IP address in a browser.

6 Operation

Reset the Device

Prerequisite: A pin, paperclip, or similar thin object that can fit into the reset hole.

To reset the device:

1. Find the hole labeled RESET. The Reset button is recessed into the case.

2. Use the pin to press and release the Reset button as follows:

    - To reboot, press Reset for less than 3 seconds.

        a. The device restarts in commissioning mode. The system automatically removes all user accounts.

        b. Enter a new username and password to create your new administrative account. See *User Accounts* in the appropriate software guide for details on username and password requirements.

7 Maintenance

Firmware Over the Air (FOTA) Script

Verizon Requirement: Firmware Upgrade Over The Air (FUOTA)

At times, your device may require a critical update to radio firmware for devices connecting to the network. To stay compliant to Verizon's requirements you must implement FOTA. Failure to perform a critical update could result in losing access to the Verizon network. Refer to *Cellular Radio Firmware Upgrade* in the *mPower Conduit AEP Software Guide*.

If using DeviceHQ to manage your device, refer to *Upgrading Cellular Firmware Using DeviceHQ (Remote Management)* in the software guide.

8 Troubleshooting

To find troubleshooting information for your mPower device, go to https://multitech.com/wp-content/uploads/s000727-mPower-Edge-Intelligence-Conduit-AEP-software-guide.pdf

9 Disposal

Instructions for Disposal of WEEE by Users in the European Union

The symbol shown below is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, contact your local city office, your household waste disposal service or where you purchased the product.

July, 2005

10 Regulatory Information

FCC Notices

FCC 47 CFR Part 15 Regulation Class B Devices

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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Interference Notice

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.

Industry Canada Class B Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

This device complies with Industry Canada license-exempt RSS standard(s). The operation is permitted for the following two conditions:

1. The device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil numérique de la classe B respecte toutes les exigences du Reglement Canadien sur le matériel brouilleur.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage, et

2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

EU EMC, Safety, and Radio Equipment Directive (RED) Compliance

The CE mark is affixed to this product to confirm compliance with the following European Community Directives:

- Council Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment; and

- Council Directive 2014/53/EU on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

MultiTech declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The declaration of conformity may be downloaded at https://multitech.com/product-support/.

Australia Regulatory Compliance Mark (RCM)

This product complies with the requirements of the Regulatory Compliance Mark (RCM) for Electrical Regulatory Authorities Council (ERAC), Electrical Equipment Safety System (EESS), and the Australian Communications and Media Authority (ACMA) for Electromagnetic Compatibility (EMC).

Environmental Notices

EU WEEE Directive

Note: This statement may be used in documentation for your final product applications.

The Waste from Electrical and Electronic Equipment (WEEE) Directive places an obligation on EU-based manufacturers, distributors, retailers, and importers to take back electronics products at the end of their useful life. A sister directive, ROHS (Restriction of Hazardous Substances) complements the WEEE Directive by banning the presence of specific hazardous substances in the products at the design phase. The WEEE Directive covers all MultiTech products imported into the EU as of August 13, 2005. EU-based manufacturers, distributors, retailers and importers are obliged to finance the costs of recovery from municipal collection points, reuse, and recycling of specified percentages per the WEEE requirements.

EU RoHS 3 Directive

MultiTech confirms that all products comply with the chemical concentration limitations set forth in the Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS 3) regulations for CE and UKCA, following the standard EN IEC 63000:2018.

For the current Certificate of Compliance for Hazardous Substances and additional regulatory documents, go to https://multitech.com/approvals-and-certifications/.

EU REACH-SVHC Statement

Multi-Tech Systems, Inc. confirms that none of its products or packaging contain any of the Substances of Very High Concern (SVHC) on the REACH Candidate List, in a concentration above the 0.1% by weight allowable limit.

For the current REACH-SVHC statement and additional regulatory documents, go to https://multitech.com/approvals-and-certifications/.

Accessories

To find information on accessories for your product, go to https://multitech.com/all-products/accessories/.

Warranty

To read the warranty statement for your product, go to https://www.multitech.com/warranty.

Contact Information

General Information	info@multitech.com https://multitech.com/contact-us/
Sales	+1 (763) 785-3500 sales@multitech.com
Technical Support Portal	+1 (763) 717-5863 https://support.multitech.com
Website	www.multitech.com
World Headquarters	2205 Woodale Drive Mounds View, MN 55112 USA

Related Documents

Additional documentation is available at www.multitech.com. Search for the document part number in the website search.

Document	Description	Part Number
mPower Software Guide	*For mPower models only.* Includes steps for configuring and using devices using the mPower platform.	S000727
Conduit AP MTCAP, MTCAP2, and MTCAP3 Quick-start guide	Steps for getting started with hardware. Ships with the device is available online. Go to https://multitech.com/wp-content/uploads/82104753L_MTCAP-MTCAP2-MTCAP3_Quick-Start.pdf.	N/A
Quectel EG9x AT Commands Manual, USB Installation Guides, and other related manuals	Multiple documents listing AT Commands, USB installation guides, and other protocols used to communicate with your LNA7D or LEU7 device. Provided in a zip file.	N/A

Document	Description	Part Number
Application Notes	Steps for connecting end points to the device.	N/A
mPower Developer Information	Go to http://www.multitech.net/developer/software/aep/.	N/A
LoRa Developer Information	Go to http://www.multitech.net/developer/software/lora/.	N/A

Revision History

Revision Number	Description	Revision Date
1.0	Original publication.	June 2025