

LABRADOR

Installation Instructions

Parsec's Labrador is a compact two-in one MIMO LTE external antenna. This unobtrusive omnidirectional antenna works on all the common North American LTE bands with high efficiency. The Labrador is optimized for attachment to a sheetrock wall in an office environment. It is ideally suited to indoor applications where a higher performance alternative to screw on antennas is required. The Labrador has an IP65 ingress protection rating and may also be mounted outdoors.



CHOOSING THE BEST METHOD AND LOCATION FOR INSTALLATION

To get the best signal, your antenna must be mounted in an isolated area. It is important to stay away from any interference including existing antennas, cluttered areas, or other situations that might interrupt network.



Labrador Pole Mounted



Labrador Wall Mounted

CAUTION:

Make sure the antenna is at least 2 feet away from other antennas. Other Antennas typically need to be 5 feet away. **Antennas MUST be away from Outlets, AC or Heating units, or anything with an electrical motor.** All of these items can cause radio interference and reduce antenna performance.

REQUIRED TOOLS

Hammer / Rubber Mallet

Phillips Screwdriver

Drill

Assembling the Antenna

Assemble the mounting bracket on the antenna using the four plastic thread forming screws. (Figure 1)

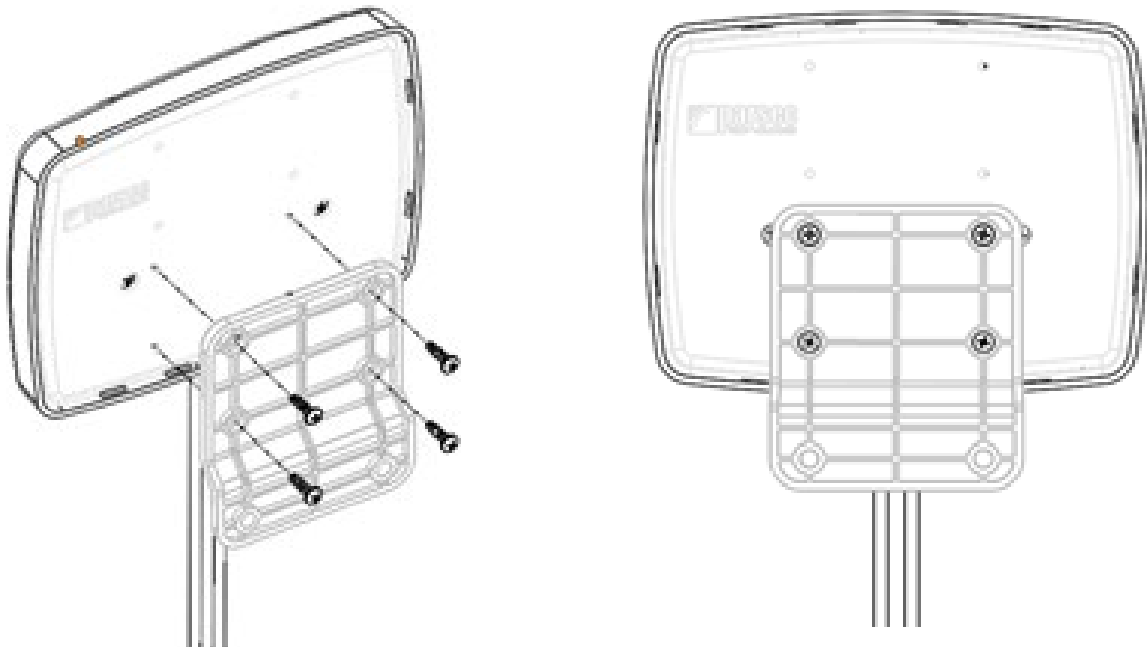


FIGURE 1

Mounting Options

Step 1.

For best performance it's important that the antenna be mounted at least 2 feet away from other objects with a clear view of the horizon in as many directions as possible. Non-penetrating roof mounts allow the antenna to be moved away from other objects and a mast height of about 6 ft. puts the mounting hardware and RF connections near eye level during installation. Select a mounting location away from air conditioning units and other large metal objects.

Step 2.

Select one of the mounting option below, depending on your use.

- Wall Mounting (Included)

Using the 2 anchors and included screws the antenna can be mounted on a panel or a wall.

- Mast Mounting (Included)

Using the included clamp saddle, v clamp bolt, and nuts and washers you can mount the Labrador on a pole for better isolation.

Wall Mounting Instructions

Step 1.

Mark the position of the screw holes on the wall to mount the antenna on the wall. (Figure 2)

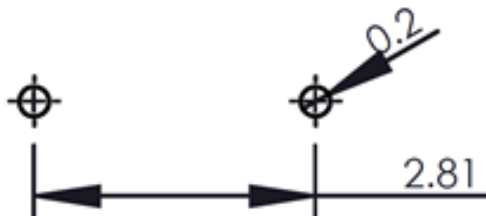


FIGURE 2

Step 2.

Drill 0.2" holes on the wall and install the anchors on the wall. (Figure 3)

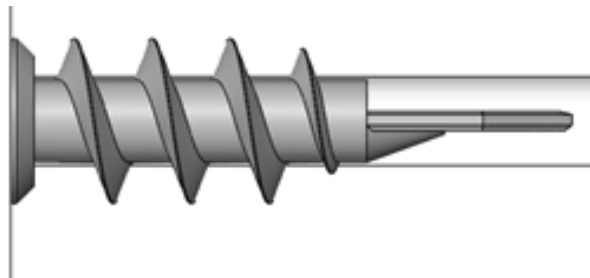


FIGURE 3

Step 3.

Align the mounting hole on the antenna to the wall mounting holes and fasten it to the wall using two screws provided in the kit. (Figure 4)

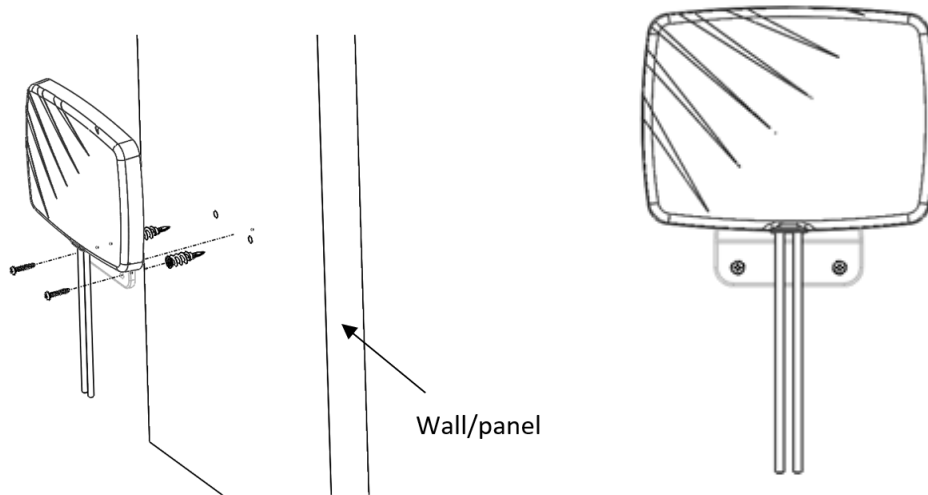


FIGURE 4

Pole Mounting Instructions

Step 1.

The mast/pole should be a diameter of between 1 and 2.5" to mount the antenna. (Figure 5)

Step 2.

Mount the antenna on the pole leaving at least one inch of mast above the clamp. (Figure 6)

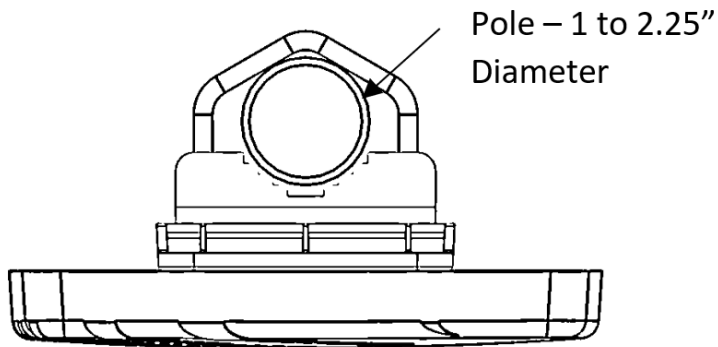


FIGURE 5

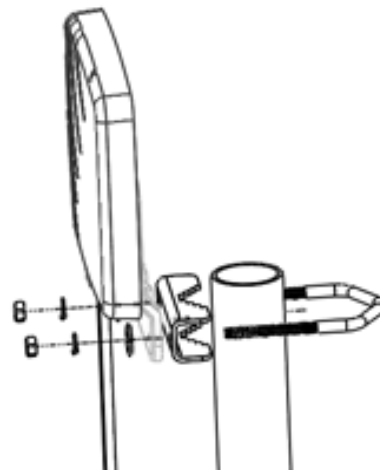


FIGURE 6

Step 3.

Tighten the 2 nuts with your fingers, making sure equal lengths of threads extend past the nuts.

Step 4.

Use a 7/16 in. wrench to tighten each nut one full turn beyond finger tight to compress the lock washers. (Figure 7)

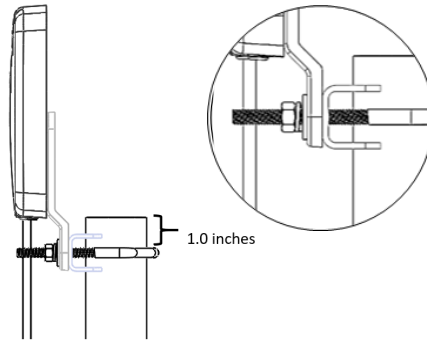


FIGURE 7

Step 5.

Make sure the antenna is mounted in the correct direction and tighten the mounting hardware. Waterproof the RF connectors using electrical tape or a heat shrink tube.

Routing the Cables

Step 1.

Properly route the cables making sure there is no sharp bends. Clamp the cables to the wall at about 6 inches away from the antenna if the cables are being hung straight from the wall. (Figure 8)

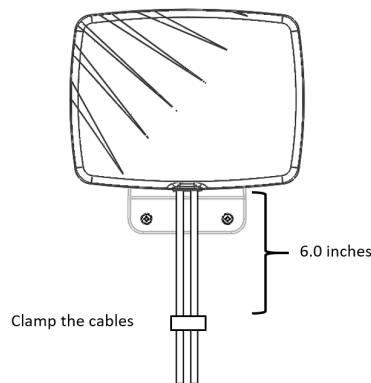


FIGURE 8

Step 2.

Attach the two RF cables to the mast roughly 1ft. below the RF connectors to provide strain relief. Vinyl electrical tape works well for this without risk of deforming the RF cables. Black UV resistant zip-ties can also be used if used carefully, but tan Nylon zip-ties rapidly deteriorate when exposed to the sun.

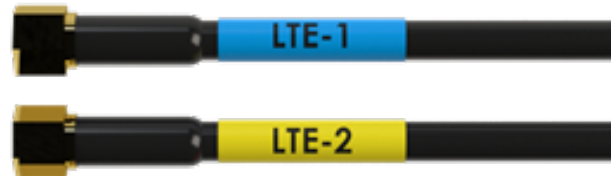
Cable Connection Instructions

Note: SMA connectors have a **maximum** torque of 3-5 inch lbs.

Cables on the antenna are labeled as follows, LTE-1 & LTE-2



N-Type



SMA Type

Step 1.

Clean the connectors such that there is no dust in the terminals.

Step 2.

Connect the cables from the antenna to the similar labeled cables of "Cable Kit" (Figure 9)



FIGURE 9

Step 3.

Carefully screw the N male connectors of the coaxial cable onto the N female connectors on the antenna. If the connectors do not screw on easily using fingers, stop. The connector may be cross threaded. Unscrew the connector and try again. Tighten the N connector firmly to compress the water-tight gasket inside the connector and to keep the connector from working loose. Channellock 412 small V-Jaw pliers may be useful for getting a grip on the connector. The required torque is only 15 inch-pounds so be careful when using this or other tools to tighten the RF connectors.

Step 4.

Connect the cables from the antenna to the designated connector on the router using a SMA torque wrench with a torque limit of 3 to 5 inch-pounds is recommended. If a torque wrench is not available, it is possible to carefully tighten SMA connectors a 5/16 in. wrench if you use one finger no farther than 2 inches up the wrench to limit torque.

S. NO	CABLE FROM ANTENNA	CONNECTOR ON ROUTER
1	LTE1	MAIN0
2	LTE2	AUX0

Commission and Test

Step 1.

Check each coaxial cable connector and confirm it can't be easily unscrewed with two fingers. Visually inspect coaxial cable run for proper mechanical support.

Step 2.

Confirm the connection to a cellular network. Use a cellular device's built in diagnostics to confirm RSSI better than -75dB. Confirm the cellular connection supporting communication at required data rates. Carry out VSWR check, should measure. Connect Cellular/ LTE & WLAN cables or stow unused pigtails.

Part Number and Included Hardware

Cable Kit: PC2402L40NFSM (REQUIRED - PURCHASED SEPARATELY)

Mounting Hardware:


S. No	Description	Qty
1	Drill Anchors	2
2	Anchor screws	2
3	Mounting bracket	1
4	Clamp saddle	1
5	V Clamp bolt	1
6	HEX Nut	2
7	Washer	2
8	Split washer	2
9	Plastic Thread forming screws	4


Cable Type: LMR200


Connectors : N-Type or SMA


Cable Labels: LTE-1 & LTE-2

Notices:

	CAUTION To comply with FCC RF Exposure requirements in section 1.1310 of the FCC Rules, antennas used with this device must be installed to provide a separation distance of at least 20 cm from all persons to satisfy RF exposure compliance.
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	DO NOT <ul style="list-style-type: none">Operate the transmitter when someone is within 20 cm of the antenna.Install antenna or mast assembly on a windy day
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	WARNING Watch out for overhead power lines. Check the distance to the power lines before starting installation.
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	WARNING This document gives the detailed instructions to install an antenna to the best of our knowledge. This document is for general information only. It cannot be used as a warranty. Parsec Technologies, Inc. will not accept any liability for any damage caused by an antenna due to unknown variables.
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