External LTE Antenna Indoor Installation

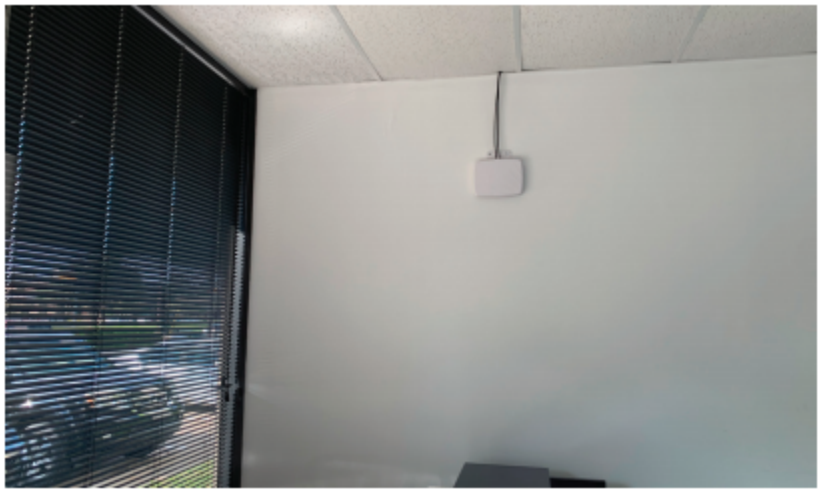
The Parsec Labrador(TM) antenna is a compact two-in-one MIMO LTE external antenna that works on all common North American LTE bands with high efficiency. You can attach a Labrador indoor antenna to a sheetrock wall in an office environment, which is optimal for indoor applications that require a higher performance alternative to screw-on antennas. The Labrador antenna has an IP65 ingress protection rating and can be mounted outdoors.

This article provides instructions about how to install a Labrador antenna indoors.

Installation Location

Position the antenna high up on a wall, facing or close to a window, to get the maximum signal. You can mount the antenna right-side up or upside down if you want to hide the cable. Figure 1 shows an antenna mounted upside down.

Figure 1: Installation Location



Use the following guidelines to determine where to install the antenna:

- Ensure the antenna is at least 2 to 5 feet away from other antennas.
- Antennas must be away from outlets, AC or heating units, or anything with an electrical motor because these things can cause radio interference and reduce antenna performance.

Tool Requirements

To install the antenna, you need the following tools:

- Hammer or rubber mallet
- Philips screwdriver
- Drill

Assemble the Antenna

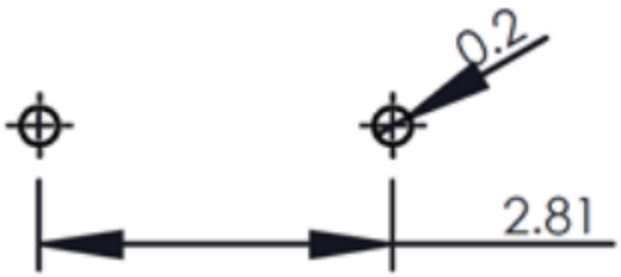
Assemble the mounting bracket on the antenna using the four plastic thread forming screws as shown in Figure 2. You must mount the antenna at least 2 to 5 feet away from other objects with a clear view of the horizon in as many directions as possible. Non-penetrating roof mounts allow you to move the antenna away from other objects, and a mast height of about 6 feet puts the mounting hardware and RF connections near eye level during installation.

Figure 2: Assemble the Mounting Bracket

Mount the Antenna to the Wall

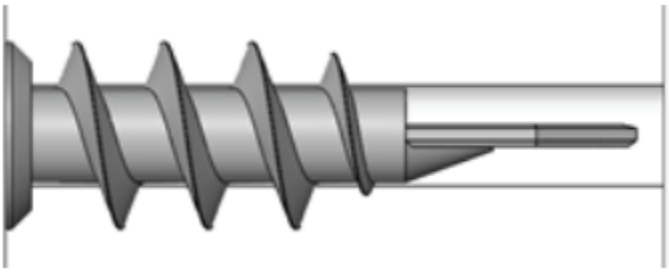
1. Mark the position of the screw holes on the wall, as shown in Figure 3.

Figure 3: Position of the Screw Holes



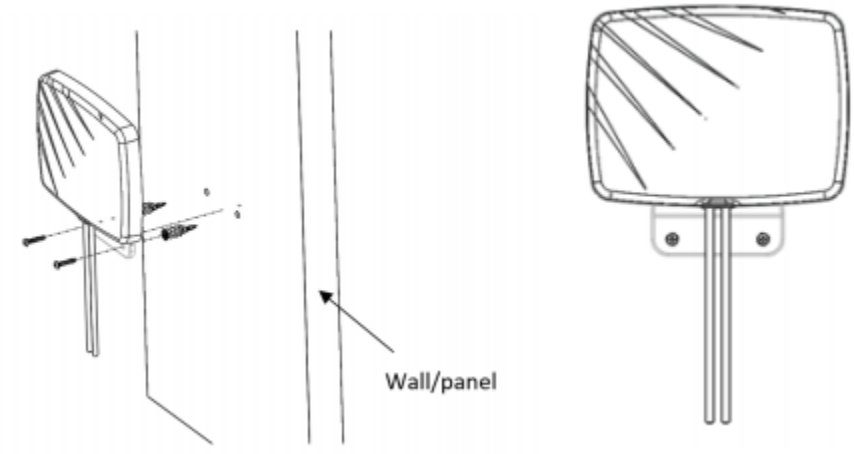
2. Drill 0.2 inch holes on the wall, and then install the anchors on the wall, as shown in Figure 4.

Figure 4: Install Anchors on the Wall



3. Align the mounting hole on the antenna to the wall mounting holes, and then fasten it to the wall, as shown in Figure 5.

Figure 5: Align Antenna Mounting Hole to the Wall

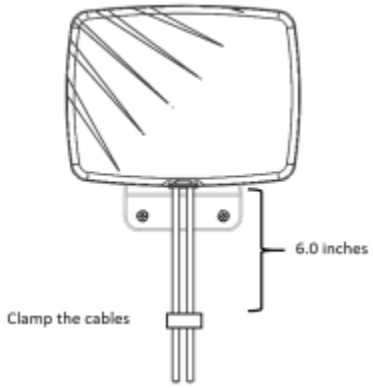


Cable Connection Guidelines

1. Route the cables, ensuring that there are no sharp bends in the cables.

2. Clamp the cables to the wall about 6 inches away from the antenna, if the cables are hung straight from the wall. See Figure 6.

Figure 6: Clamp the Cable to the Wall



3. Attach the two RF cables to the mast at least 1 foot below the RF connectors to provide strain relief.
4. Use vinyl electrical tape for deforming the RF cables. You can also use black UV resistant zip-ties. Avoid using tan nylon zip-ties because they rapidly deteriorate when exposed to the sun.

Connect the Cables

Cables on the antenna are labeled as LTE-1 and LTE-2.

Figure 7: LTE-1 and LTE-2 Cables

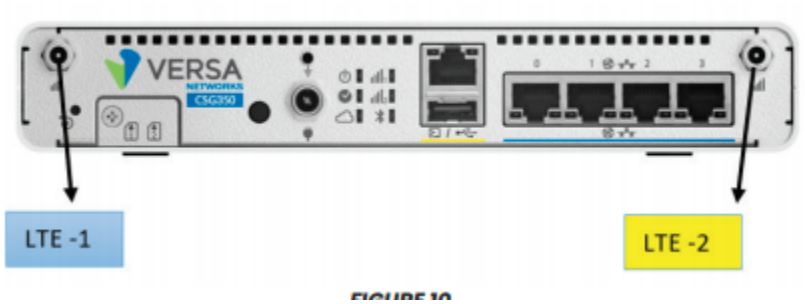
1. Clean the connectors to ensure that there is no dust in the terminals.
2. Connect the cables from the antenna to the designated connector on the appliance.

Note: Use a SMA torque wrench with a torque limit of 3 to 5 inch-pounds to connect the cables. If a torque wrench is not available, you can carefully tighten SMA connectors with a 5/16 inch wrench if you use one finger no farther than 2 inches up the wrench to limit torque.

Connect a Versa CSG300 Series Appliance to an Antenna

For a CSG300 series appliance, connect the LTE-1 and LTE-2 cables from the antenna to the CELL 1 (main) and CELL 2 (aux) terminals on the appliance, as shown in Figure 8.

Figure 8: Connect a CSG300 Series Appliance to Labrador Antenna



Connect a Versa CSG700 Series Appliance to an Antenna

For a CSG700 series appliance, connect the LTE-1 and LTE-2 cables from the antenna to the CELL 1 (main) and CELL 2 (aux) terminals on the appliance, as shown in Figure 9.

Figure 9: Connect a CSG700 Series Appliance to Labrador Antenna

Commission and Test

1. Check each coaxial cable connector and visually inspect the coaxial cable run for proper mechanical support.
2. Confirm the connection to a cellular network. Use the built in diagnostics on the cellular device to confirm that the received signal strength indicator (RSSI) is better than -75 dB.
3. Confirm the cellular connection supports communication at the required data rates. Carry out VSWR check, should measure. Connect Cellular, LTE, and WLAN cables or stow unused pigtails.

Part Number and Hardware

- Part number of Labrador antenna: PTAWM2L15W
- Cable type and length: LMR200 | 15 feet
- Connectors : SMA Male
- Cable labels: LTE-1 and LTE-2

The following table lists the mounting hardware information:

Table 1: Part Number and Hardware Information

Description	Quantity
Drill anchors	2
Anchor screws	2
Mounting bracket	1
Clamp saddle	1
V clamp bolt	1
Hex nut	2
Washer	2
Split washer	2
Plastic thread forming screws	4