NORTHERN MICHIGAN UNIVERSITY

EAN Setup Guide

Global Telecom Indoor/Outdoor Unit

SUPPORT: 1(888)458-8668 OR EANSUPPORT@NMU.EDU

NORTHERN MICHIGAN UNIVERSITY

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For help or support please contact EAN Support at (888) 458-8668 or eansupport@nmu.edu

Box Contents

In The Box

1 x Global Telecom Indoor/Outdoor antenna
1 x Power adapter
1 x Power line cable
1 x Ethernet cable
1 x Mounting kit (mounting brackets, bolts, U-bolts, nuts)

------------- **Mounting Kit**--------------
Mounting brackets   Bolts   Ethernet cable

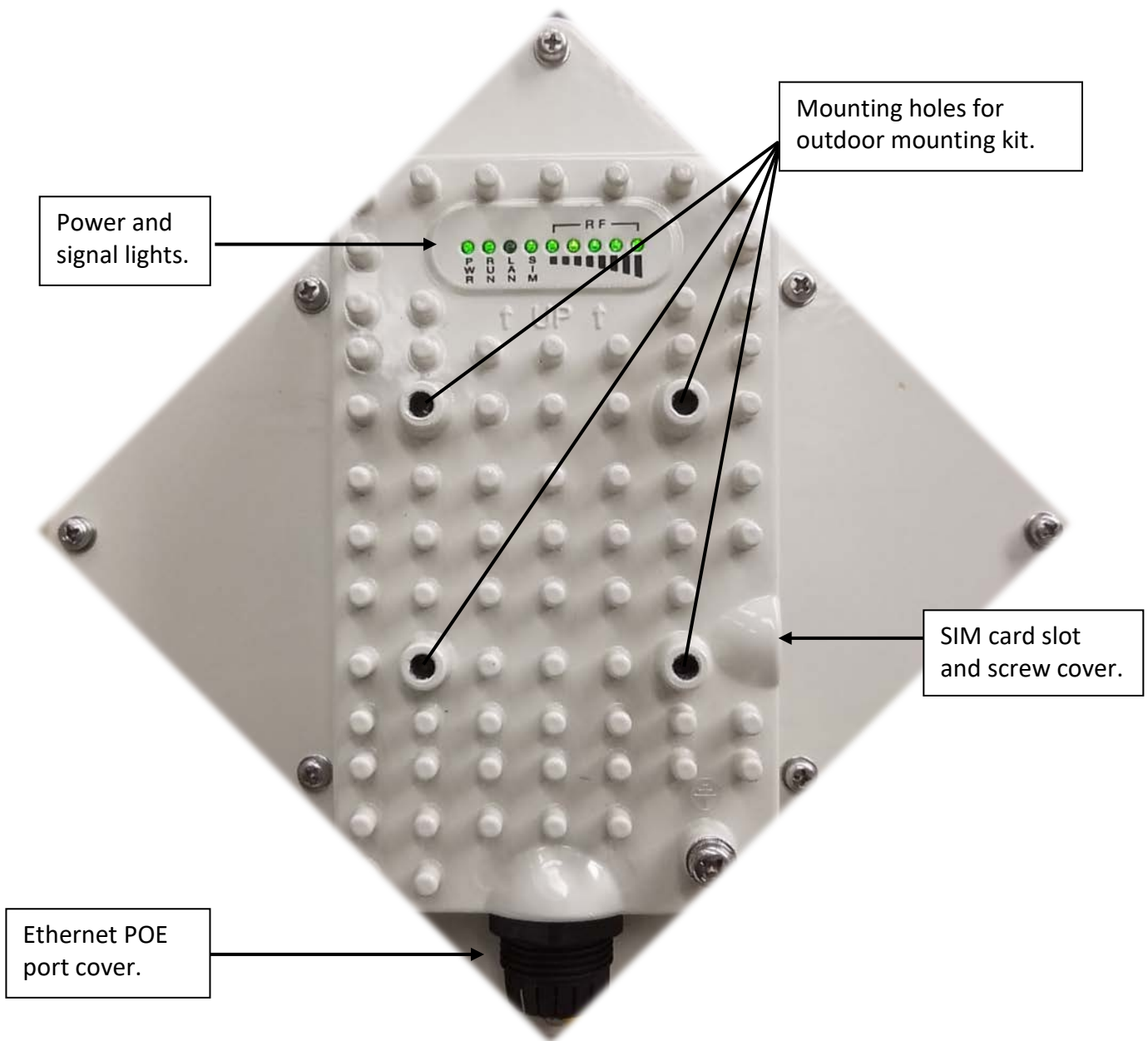Power adapter   Power line cable   Global Telecom antenna
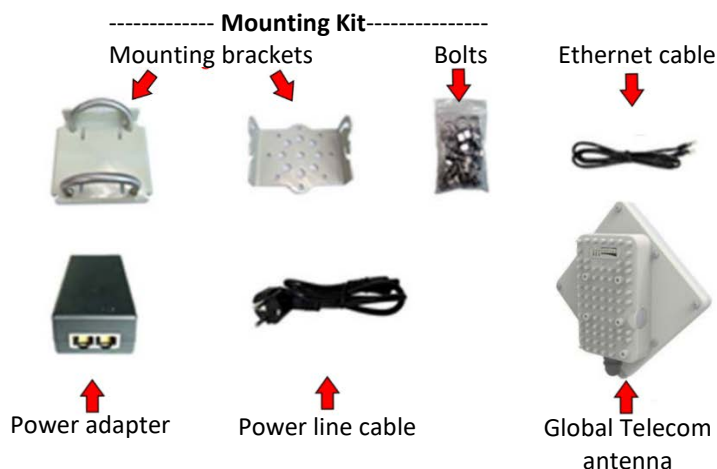
Important Information

Your Global Telecom Antenna is not a wireless router. You may connect one computer to the internet using an Ethernet cable from the antenna to the computer following the instructions in this guide. If you want wireless internet, you will need to connect a wireless router to the Global Telecom Antenna following the instructions in this guide.

Questions or concerns? Contact EAN support at 888-458-8668 or email eansupport@nmu.edu.

Getting Started

Hardware Overview

Power and signal lights.

Mounting holes for outdoor mounting kit.

SIM card slot and screw cover.

Ethernet POE port cover.

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Indoor Setup

Use this setup if you will be placing the Global Telecom antenna inside of your home.. Please point your unit out through a solid surface and not through a window or glass.

Step 1: Unpack the unit and all of the components from the box. Verify that you have all components. Refer to page 2 for full list.

Step 2: Locate the best position for the Global Telecom Antenna inside of your home. You've been provided with a signal area map that shows you the proximity of the tower from your home. Please face the unit in the direction of the tower for the best-possible service.

Step 3: Plug the Ethernet cable into the bottom of the Global Telecom antenna.

Step 4: Connect the Ethernet cable connected to the antenna to the POE port on the power adapter. Make sure to use the correct port. Connecting the POE port to anything other than the Global Telecom antenna can result in damage to the device. *(see Figure 1).*
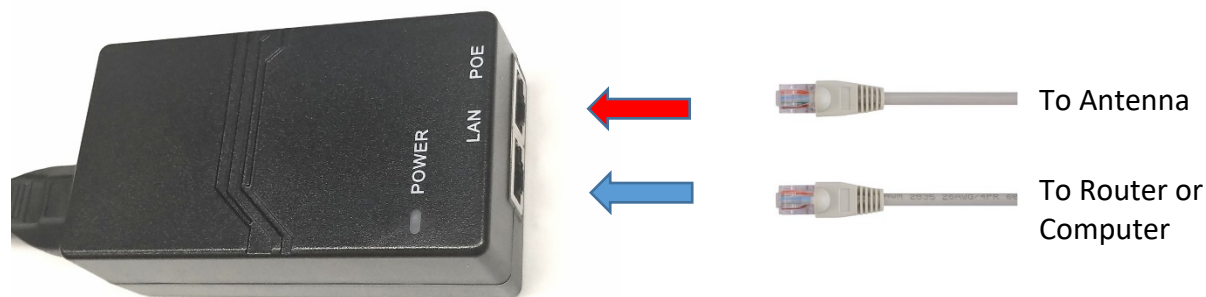

To Antenna

To Router or Computer

Figure 1 – POE power adapter with Ethernet cables

Step 5: Plug a different Ethernet cable into the Internet or WAN port on your home router or the Ethernet port on your computer, and then plug the other end of the Ethernet cable into the LAN port on the POE power adapter.

Step 6: Plug the POE power adapter into an electrical outlet using the power cable provided.

Step 7: If necessary, follow the instructions in your router's manual to connect to the router and finish setting up your connection. If you do not have a router, we recommend the Linksys AC1750 (available online or at your local technology store).

Outdoor Setup

Use this setup if you will be placing the Global Telecom antenna outside. Please ensure you read and understand these instructions before mounting your antenna outside. The elevation recommendation given to you is a minimum requirement in order to have access to the EAN internet service.

Step 1: Unpack the unit and all of the components from the box. Verify that you have all components. Refer to page 2 for full list.

Step 2: Locate the best position for the antenna on the outside of your home. You've been provided with a signal area map that shows you the proximity of the tower from your home. Please face the antenna toward the tower for the best-possible service. If you are unable to get service please call the technical support line at (888) 458-8668

Step 3: Mount the antenna to the outside of your home. For more detailed directions, see the section titled "**Mounting the Outdoor Antenna**" contained in this guide.

Step 4: Slide the weather shield over the Ethernet cable, then slide the rubber gasket over the Ethernet cable.

Step 5: Plug the cable into the unit then slide the rubber gasket into the threaded cable guide (*see Figure 2*).

Rubber gasket   Ethernet cable

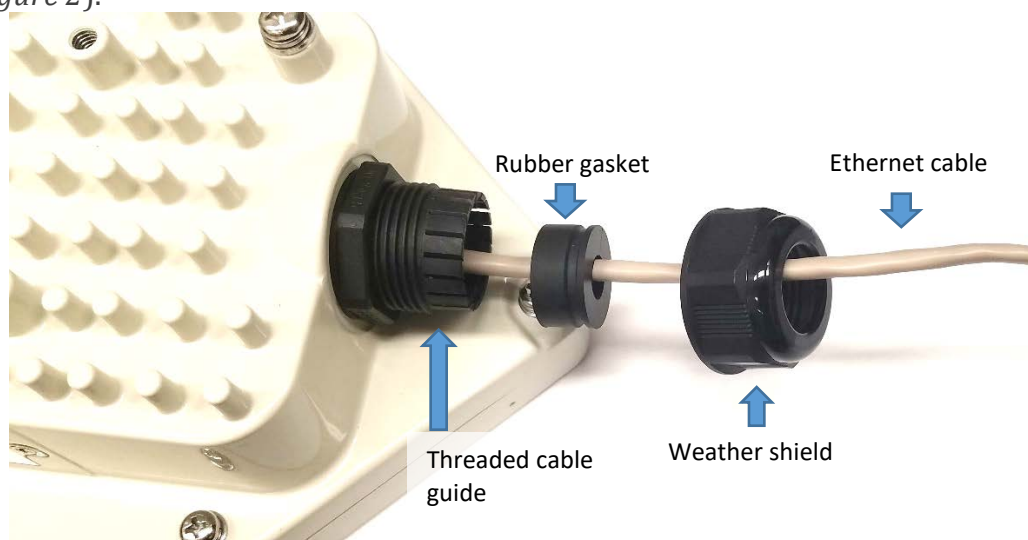Threaded cable guide   Weather shield

Figure 2 – Ethernet cable connected to Global Telecom antenna with rubber gasket and weather shield.

Step 6: Screw the weather shield onto the threaded cable guide to secure the Ethernet cable and protect it from the weather.

Step 7: Run the outdoor Ethernet cable from the Global Telecom Antenna into your house.

Step 8: Connect the outdoor Ethernet cable to the POE port on the power adapter. Make sure to use the correct port *(see Figure 3)*. Connecting the POE port to anything other than the Global Telecom antenna can result in damage to the device.
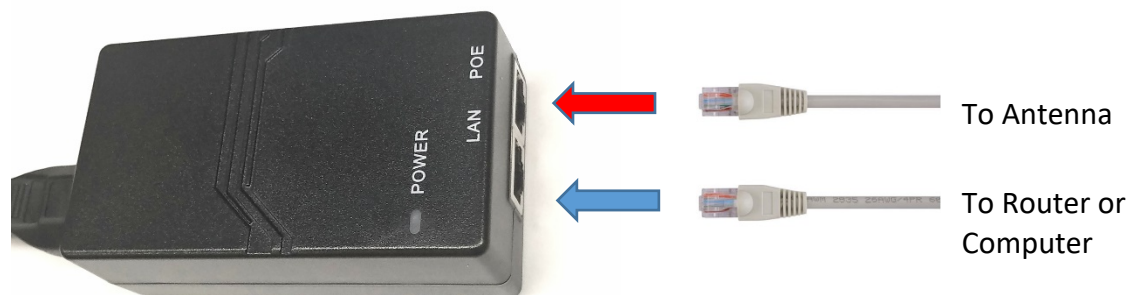

Figure 3 – POE power adapter with Ethernet cables

Step 9: Plug a different Ethernet cable into the Internet or WAN port on your home router or the Ethernet port on your computer, and then plug the other end of the Ethernet cable into the LAN port on the POE power adapter.

Step 10: Plug the POE power adapter into an electrical outlet using the power cable provided.

Step 11: If necessary, follow the instructions in your router's manual to connect to the router and finish setting up your connection. If you do not have a router, we recommend the Linksys AC1750 (available online or locally at your local technology store).

Mounting the Outdoor Antenna

To connect the pole mount assembly, perform the following steps:

Step 1: Attach the mounting bracket to the back of the Global Telecom antenna and screw into place. (*see Figure 4*)
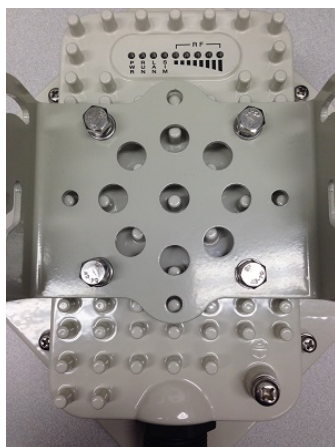

Figure 4   *Figure 5*

Step 2: Take the mounting bracket and place it against your mounting post. Secure the bracket using the two U shaped bolts from the mounting kit and screw them into place as shown (*see Figure 5*)

Step 3: Secure the Global Telecom antenna to the mounting bracket attached to your mounting post using the remaining bolts from the mounting kit. A visual guide has been included below.

--------------------------Step 1------------------------   ---Step 2---   ---Step 3---
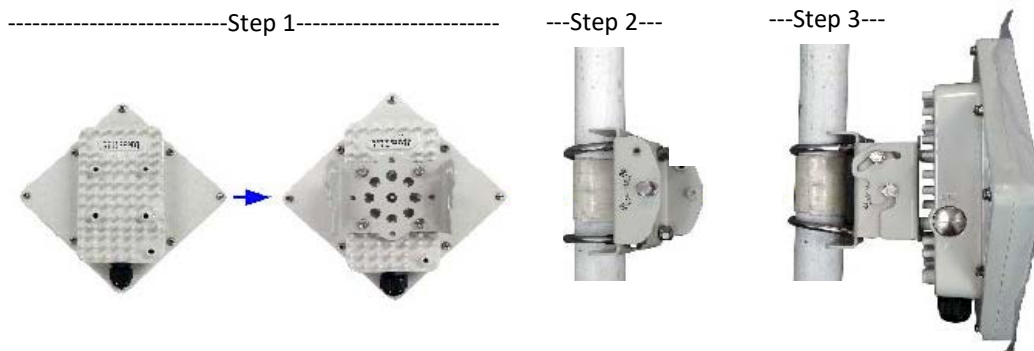
Antenna Tuning and Signal

Checking Signal Strength

The quickest way to check signal strength is to look on the back of the unit. The Global Telecom antenna will show you what the current signal strength is with indicator lights under the RF section (*see Figure 6*):

Figure 6: Antenna lights on the back of the device.

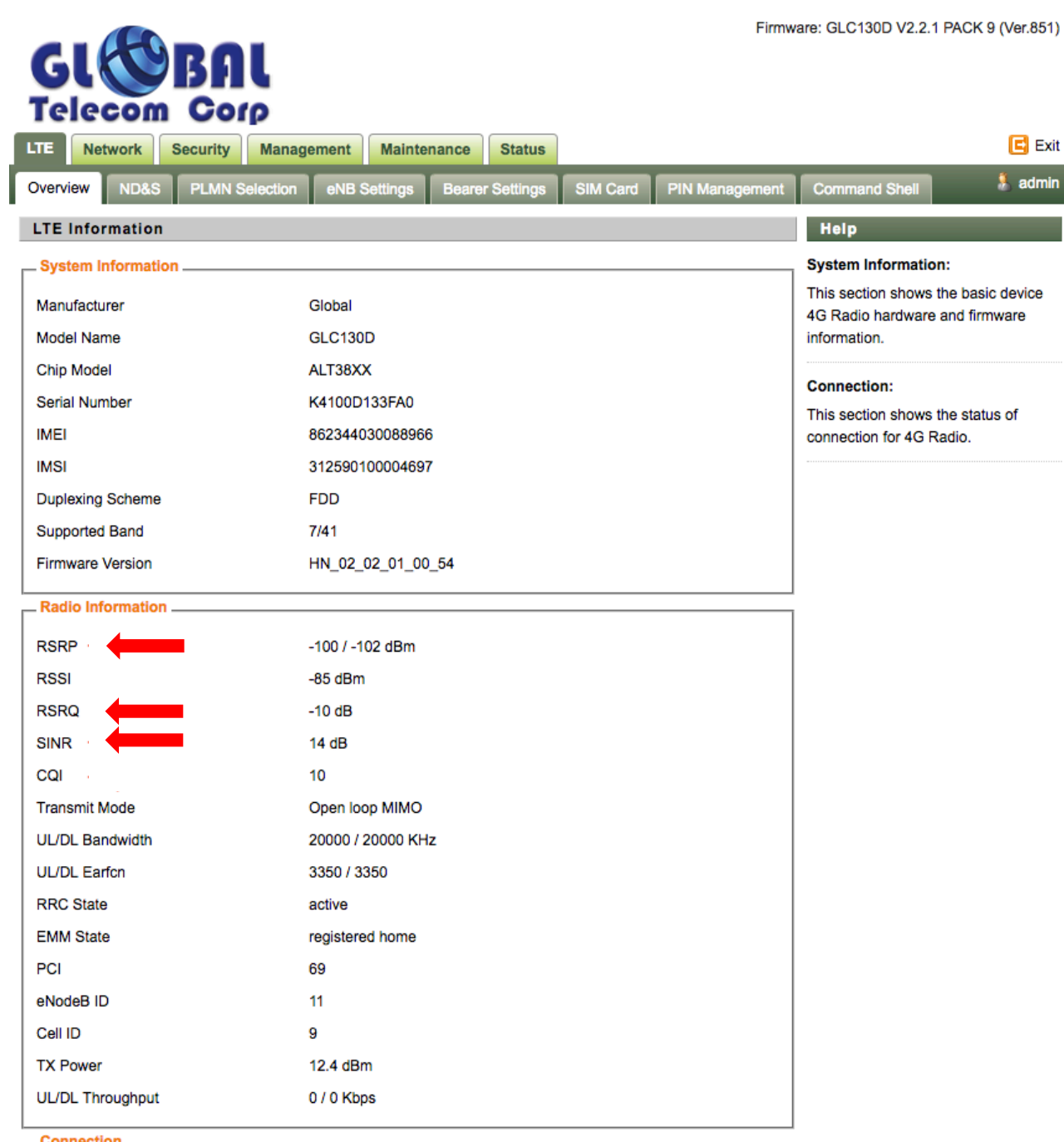If you are unable to see the back of the Global Telecom antenna, you can log into it using the web interface. To access the web interface, you will need to do the following:

1. Wait for the unit to fully power on. (3-5 minutes)
2. Make sure you are connected to the Global Telecom Antenna (either via Ethernet or through a wireless router)
3. Open a web browser on your device connected to the antenna.
4. Enter **http://10.1.1.1** in the address bar.
5. Enter **Global_system** when prompted for the password
6. Click **Login**

Once you are logged in, you are presented with a screen titled **LTE Information**. This screen contains all the detailed information about your LTE device. See **"LTE Information Page"** in this guide for more information.

LTE Information Page

Below is an example of the information page. Please note the RSRP, RSRQ, and SINR sections (*red arrows*). You are going to use these values to determine the best position for the Global Telecom antenna. These sections are described in detail on page 10 of this guide.

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RSRP:

The RSRP is the measurement of your received signal strength. Your service speeds will be impacted if your RSRP value is in the fair or poor category. For example, -128 dBm means your signal is poor and not usable. Use the chart below for RSRP value reference.

RSRP	Signal Strength
> -90 dBm	Excellent
-90 dBm to -105 dBm	Good
-106 dBm to -120 dBm	Fair
< -120 dBm	Poor

RSRQ:

The RSRQ is a measurement that represents the quality of the received signal. You want to be sure your signal levels are measured at excellent or good quality or your speeds will be impacted. For Example, if your RSRQ value is -15 dB your service is unusable. Use the chart below for RSRQ value reference.

RSRQ	Signal Quality
> -9 dB	Excellent
-9 dB to -12 dB	Good
< -13 dB	Fair to Poor

SINR:

The SINR is a value used to measure the quality of the connection between the antenna and the EAN cell tower. It represents any interference in the LTE connection. You want to keep this number above 6. Use the chart below for SINR value reference.

SINR Value	Throughput
> 10	Excellent
6 to 10	Good
0 to 5	Fair
< 0	Poor

EAN Support Contact Information

Phone

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Open:
Monday – Friday
8:00AM – 5:00PM EST

Closed on holidays*

*Closed whenever Northern Michigan University is closed.