

4G Antenna Enhancement Kit

Overview

When a homeowner chooses to use 4G as the communications method, and the aGate's signal is poor, an external high gain antenna may be purchased to extend the 4G signal range to ensure the quality and stability of network communications.

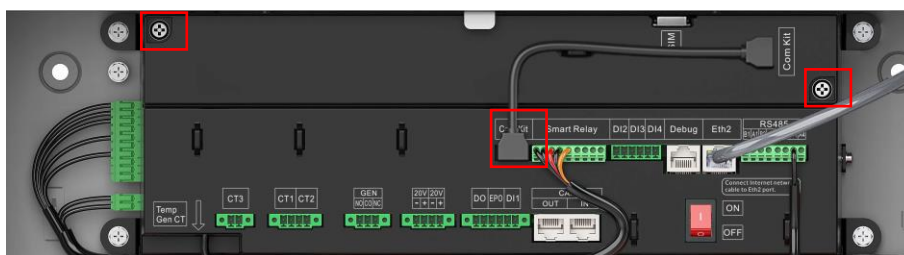
This bulletin recommends either of two external high gain antenna models and introduces the installation procedures. These two external high gain antennas have been verified by the FranklinWH test team and can effectively enhance the 4G signal strength. The test results indicate that both antennas have RSRP values greater than -90dBm (this is the main evaluation index for 4G signals).

Supported Models for Antenna Enhancement Kit

Make	Gain	Impedance	Frequency	Connector Type
eifagur	10 dBi	50 ohm	698 - 2700 MHz	SMA male
Zopsc	18 dBi	50 ohm	700 – 2700MHz	SMA male

Installation

Step 1 Unplug the USB cable from the Com Kit (4G & Wifi) port on the wireless module and use a Phillips screwdriver to loosen the two M5 captive screws on the protective cover. Remove the protective cover and safely store it.



Step 2 Use a Phillips screwdriver to remove two M4 captive screws. Remove the original antenna.



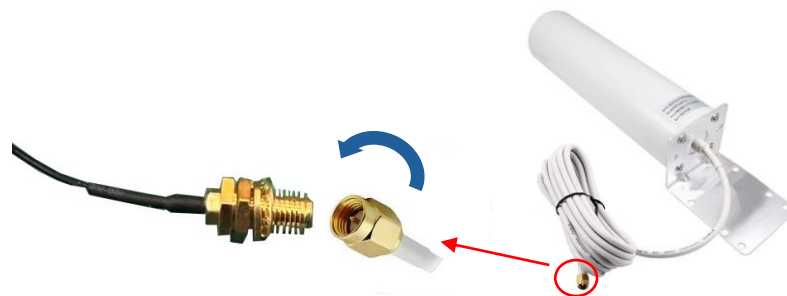
- Step 3 Use pliers to clamp the nut in center of the SMA female connector and unscrew the nut to loosen the connector. Unscrew the threads at the SMA male connector and remove the original antenna.



- Step 4 Drill a hole in the aGate case at a suitable position and thread the cable of the external antenna enhancement kit through the drilled hole and then through the U-port on the wireless module.

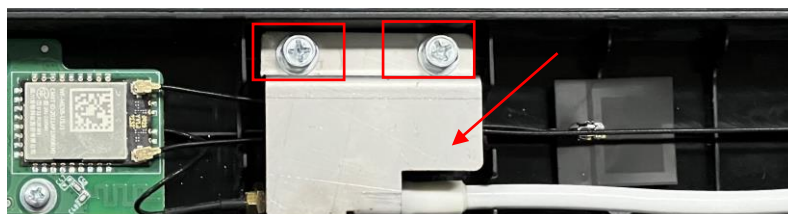


- Step 5 Connect the SMA Male connector of the antenna enhancement kit to the SMA female connector on the aGate and tighten the connection.



***Note:** Maintain the SMA male connector stationary as possible and connect to it by turning the SMA female connector.

- Step 6 Use a Phillips screwdriver to re-install the two M4 captive screws and secure the antenna cable with the antenna clamp tabs.



- Step 7 Re-install the protective cover onto the EMS module, use a Phillips screwdriver to fasten the two M5 captive screws on the cover and plug in the USB cable at the "Com Kit (4G & Wifi)" port.
- Step 8 Place the antenna in the pre-mounted position and use appropriate fasteners (e.g., screws or clamps) to securely mount the antenna to it. Water-proof sealant should be used on the edges of the hole where the antenna cable threads into the aGate case to enhance the watertightness.