
# 2G / 4G – StarLink TrackerSF

## Installation Manual

Release 1.1



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# 1. The StarLink 2G / 4G

This guide provides information about the StarLink 2G / 4G with internal eSafe and CAN, and describes its recommended installation procedures.

# 2. Safety Instructions

*Personal safety is of paramount importance. Please follow all safety instructions when installing ERM products*

- Always disconnect power when performing installation by removing the negative connection of the vehicle battery. Never work when power is connected.
- Always connect the positive wire using a 3A fuse.
- Reconnect the battery only after the installation is fully completed, making sure all wires are safely insulated.
- Use appropriate work tools.
- Maintain good ventilation and lighting in the work area.
- Never leave bared wires. Trim all wires not in use in such a way that no bare conductors remain, and fix them securely in place.
- Perform installation in a dry environment.

*ERM devices are not water-tight.*

- Install ERM devices away from any heat sources.
- Do not install ERM devices in the engine compartment or on the vehicle's exterior.
- Install ERM devices away from large metallic bodies and never install them in small gaps between metallic objects.

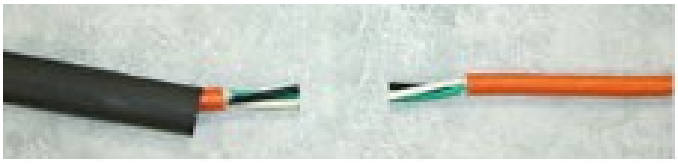
# 3. General Instructions

- Install the device with the THIS SIDE UP label facing upwards.

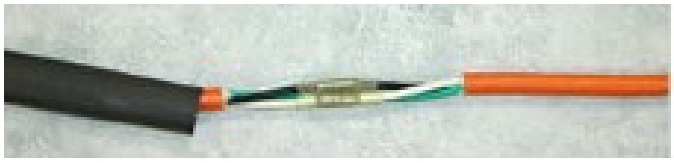

- Make sure no metal objects obstruct the device.
- Use cable ties to hold wires in place and create tidy wire bundles.

- Double-sided adhesive stickers could be used for securing the device in its selected location.

- Instructions for soldering wires:
  a. Strip the ends of the wires to be soldered together.
  b. Slide an appropriate length of heat-shrink insulation tubing on to one of the wires.



  c. Solder the wires.



  d. Slide the heat-shrink insulation over the solder joint.

e. Use a heater-gun to heat the insulation. The insulation shrinks until it sits snugly on the solder joint.

f. Tie the wire with a cable tie in such a way as to relieve stress from the new solder joint.

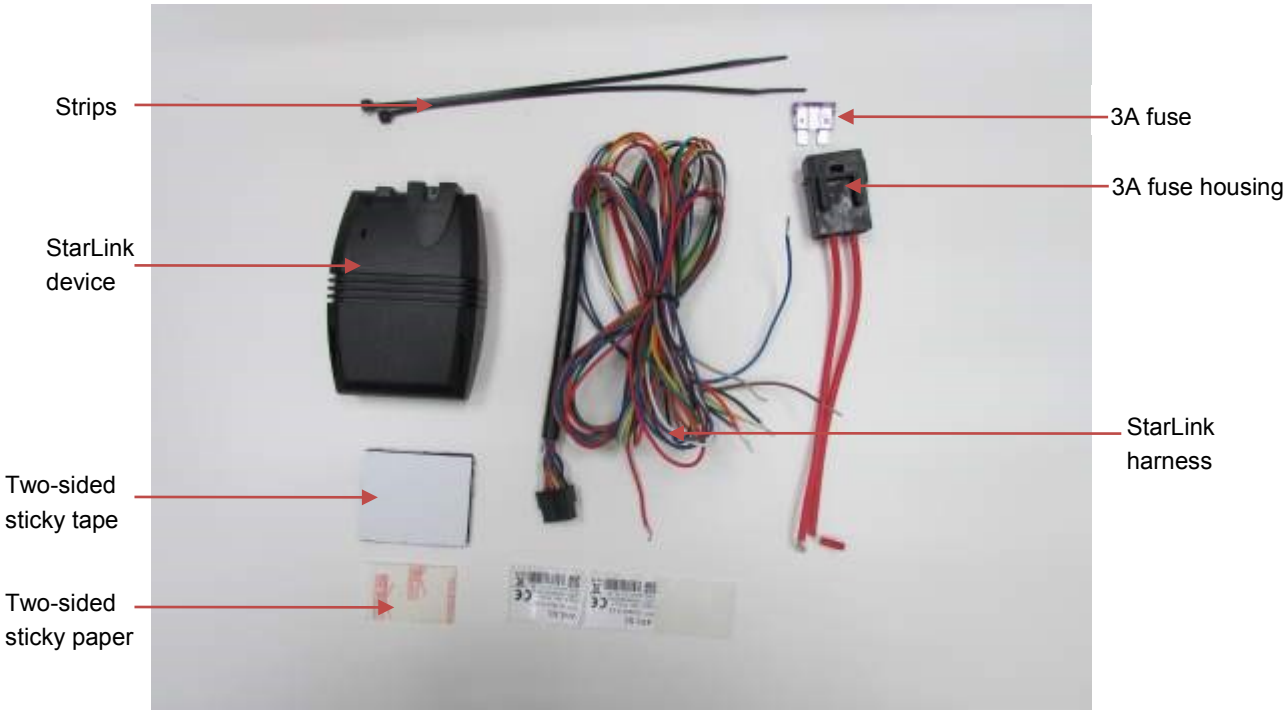
# 4. Tools and Equipment/Materials Required

To correctly install the devices and accessories, the following equipment and tools are required:

| Item | Name | Picture | Item | Name | Picture |
|---|---|---|---|---|---|
| **1** | *Phillips and flat Screwdrivers* |  | *2* | *Panel removal tool, hard plastic* |  |
| **3** | *Cutter* |  | *4* | *Wire stripper* |  |
| **5** | *Combination plier* |  | *6* | *Terminal crimper* |  |
| **7** | *Digital multi-meter* |  | *8* | *Hand torch* |  |
| **9** | *Cordless drill* |  | *10* | *Gas soldering iron* |  |
| **11** | *Long-nosed plier* |  | *12* | *Solder* |  |
| **13** | *Utility knife* |  | *14* | *Wire lugs with star washers* |  |
| **15** | *T-type nut drivers* |  | *16* | *Plastic tubing* |  |
| **17** | *Isolation shrink wrap tubing* |  | *18* | *Insulation tape* |  |
| **19** | *Screwdriver bits* |  | | | |

# 5. Installing StarLink Devices

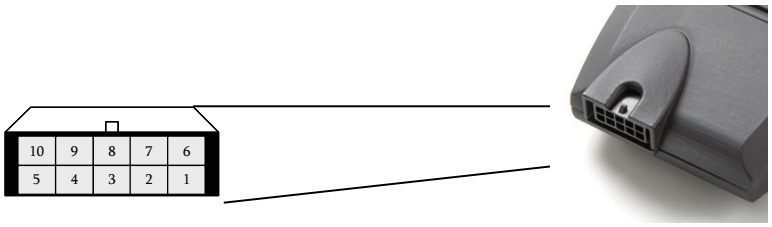
Before beginning installation, make sure your package includes all the following:




This procedure describes the standard connections required to operate StarLink devices.

## 5.1 Know the StarLink Family of Tracking Devices

1. Unwrap the device wire harness but do not connect it to the device yet. Refer to the following wiring/color diagram of the StarLink connector when performing connections in the subsequent steps of this procedure.

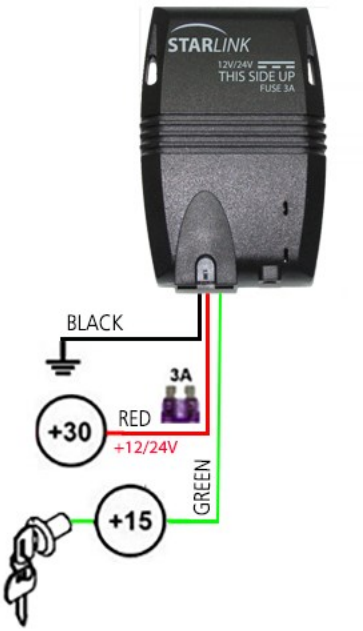



| Brown wire \| 10 | Yellow wire \| 9 | Orange wire \| 8 | Purple wire \| 7 | White wire \| 6 |
|---|---|---|---|---|
| CAN Low | Port B / Out 2 General output | Port C / Out 3 / In 1 eNet2 (pull-up) | Port D / Out 4 / In 2 Dallas iButton (pull-up) | CAN High |
| Ground (-) | Port F / In 4 VSS (pull-down) | PC Communication LIN | Ignition input (pull-down) | +12/24V |
| Black wire \| 5 | Blue wire \| 4 | Grey wire \| 3 | Green wire \| 2 | Red wire \| 1 |

2. Connect the red wire (pin #1) via a 3A fuse to the vehicle battery (+12V/+24V). Make sure this positive feed remains live even when the Ignition switch is turned to OFF and when starting the engine. The fuse must be removed from the fuse housing during installation.
3. Connect the black wire (pin #5) to the vehicle chassis or any grounded part of the vehicle (GND).

*Make sure the connection is free of paint or dirt to assure a good conductive ground connection*

4. Connect the green wire (pin #2) to the vehicle Ignition switch (IGN).



Reconnect the vehicle battery and test the ignition (green) wire – you should measure 0V when the ignition switch is set to OFF and 12V (or 24V) when it is set to ON

5. Gather together all the unused wires and tie them neatly so they do not interfere with any other parts or systems.

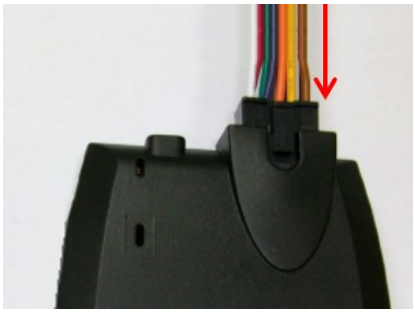
Keep in mind that you may need to use some of the wires in the future

6. Insert the SIM card, as follows:
   - Using a small, flat screwdriver, remove the cover of the SIM slot on the device side.

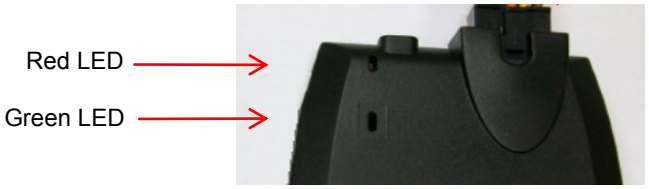
   - Slide the SIM card into the SIM slot and gently push it in (note the SIM polarity).

   - Use a screwdriver to push and lock the SIM card in place.
   - Replace the cover of the SIM slot.

7. Plug the harness connector into the device socket.



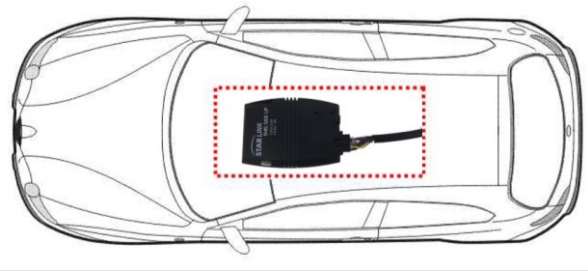
9. Approximately 10 seconds after powering up the device, both the red and green LEDs should start blinking.




*The green LED indicates GPS reception.*
*The RED LED indicates communication with the GSM and a connection with the server.*
*Before finally fixing the device in place, make sure it is properly registered on your server and data has been transmitted as expected*

10. To finalize the installation, fix the device in place – Opposite to driving direction (note the THIS SIDE UP label) with a double-sided adhesive sticker or with the cable ties threaded through the device side slits. (as shown on the next page).
11. Reassemble any vehicle components you may have dismantled.

fix the device Opposite to driving direction:



## 5.2 Positioning StarLink Devices in the vehicle

### 5.2.1 General Installation Instructions

- Install the StarLink device in a dry environment where there is no possibility of water penetration.
- Affix the StarLink device firmly to the vehicle with cable ties or double-sided adhesive.
- Place the StarLink device away from heat sources.
- Place the StarLink device away from vehicle computers.

1. *The StarLink GPS antenna is located on the top surface of the device (see the markings on the device). Do not cover this area with metallic parts.*

### 5.2.2 StarLink Location for Optimal Reception Quality

1. Identify the desired location in which to install the device. This location should be concealed (inaccessible to unauthorized personnel), clean, and free of water, heat, and large metallic objects. For the best reception install the StarLink device on the top part of the front dashboard.

   *Make sure that the GPS side faces upwards.*

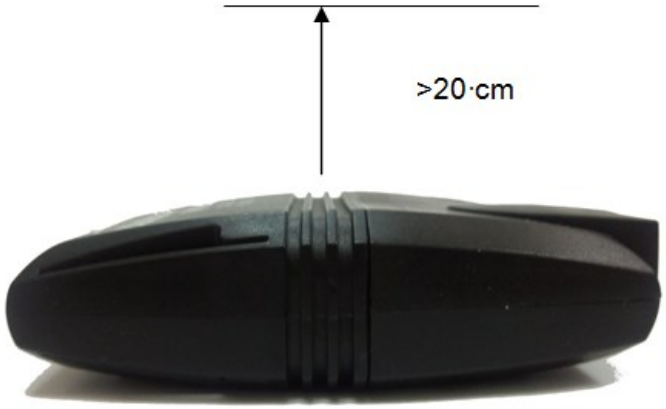
   *Make sure that there is no metallic surface above the StarLink device.*

   *If necessary, dismantle vehicle components to gain access to the selected concealed location.*

2. Place the device in the selected location but do not affix it yet.
3. The StarLink device should be installed horizontally, with its LEDs facing towards the sky.

*Do not install the StarLink device in close proximity to a metallic surface.*

4. If the vehicle's windows are metallic tempered the angle should be 0 º (completely flat) toward the vehicle window.
5. When installing the unit in the vehicle pay close attention to the upper space between the unit and the other components in the vehicle, the unit should be in 20 cm away from any metal plate or metal components that might block the GPS signal.
6. Make sure that the component / metal plate does not cover the entire upper surface of the StarLink.




Please note for the following remarks while installing the StarLink:

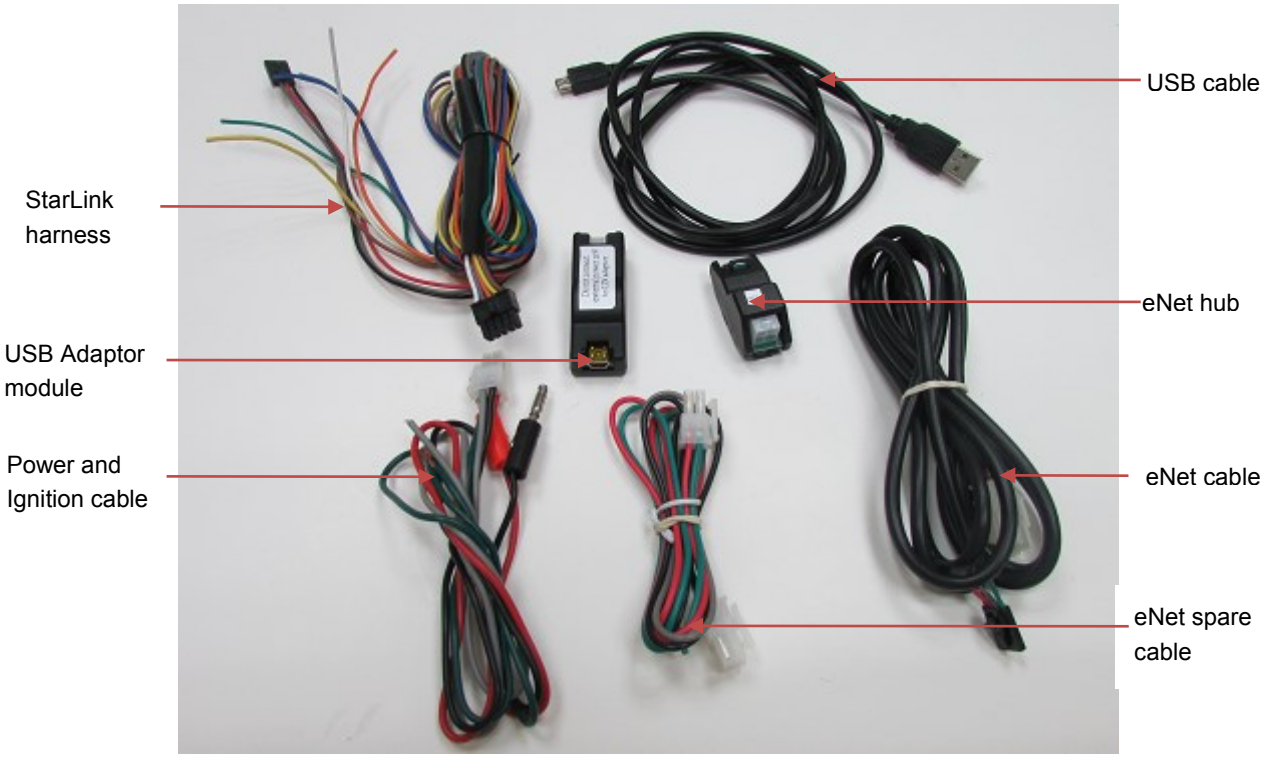
- The StarLink device must not be installed next to heat sources or moving parts.
- The installation position must be water proof.
- The StarLink device should be installed in the cabin or the trunk.
- The StarLink device should not be installed behind the fuse box.
- The StarLink device should be facing upwards to enable good GPS reception.
- Never install the StarLink device with the antenna side next to metal objects.
- The StarLink device must be installed by qualified service personnel only.
- All wires must be isolated after installation.
- The following figure shows an example of a good installation position:

# 6. StarLink Configuration

## 6.1 USB Adapter

Configuring StarLink devices is performed with your computer. To connect the device to the computer, use the USB adapter as described in the following procedure.

1. Verify that the USB adapter kit contains all the items as described in the following diagram:




2. Using the eNet cable, connect the eNet hub to the USB Adapter, then connect the other end to the eNet hub:

*If the eNet cable includes four wires (some only have three), cut the red strand to prevent supplying 12V directly to the USB adapter.*

*You can use any port on the eNet hub to connect any of the cables.*

3. Connect the StarLink device and the USB cable:

Connect the StarLink harness to the eNet hub

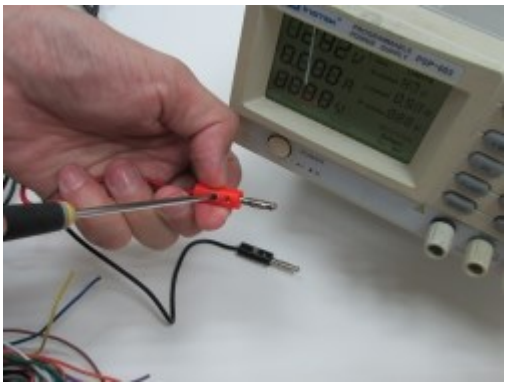
Connect the USB cable to the USB Adapter

4. Connect the power supply:

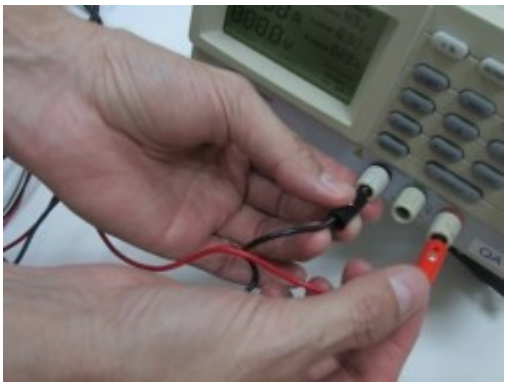
Connect one side of the power cable to the eNet hub

Use the red and black wires for the power supply (see section 5)

5. Connect the power supply cable to a 12V power supply. you can use the red and black connectors as described in the pictures below:

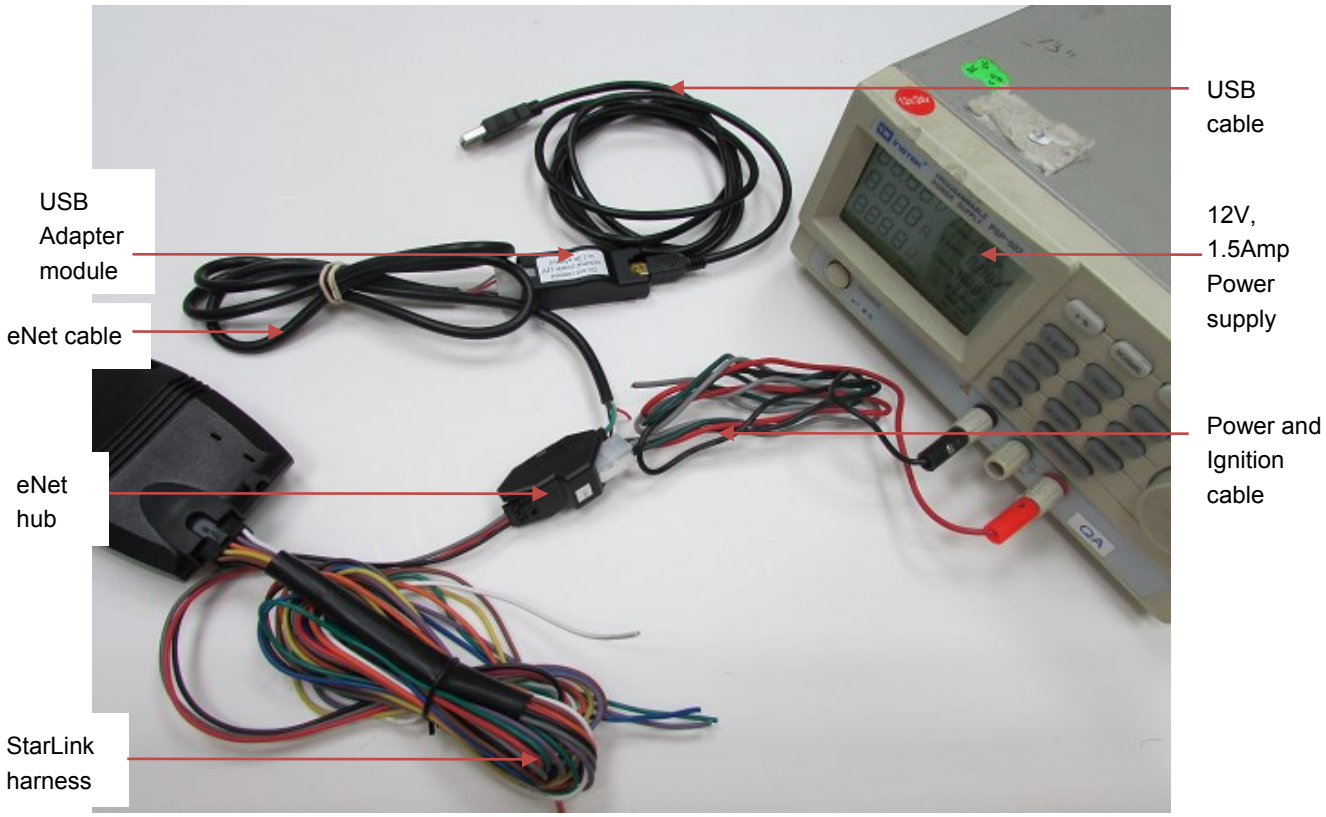


Use a screwdriver to connect the two RED and BLACK connectors to the red and black cables



Connect the connectors to the power supply, remember to use 12V 1.5Amp power supply

6. The final assembly is shown in the following figure.




7. Turn “on” the power supply and verify that the StarLink red LED begins blinking after a few seconds.
8. You are now ready to configure your StarLink device. Connect the USB cable to your PC and install the USB DRIVER as described in the following paragraph:

## 6.2 USB Driver

1. Use your ERM username (given by ERM support) and password to enter the ERM Portal at: http://erm.co.il/protocol
2. Go to the Tools link at the lower left.
3. Click the USB Driver link, download the tool to your computer and install it.


For the full installation instructions please refer to the tutorials session on ERM's YouTube Channel using the following link: http://www.youtube.com/ermtelematics

# 7. ERM Contact Information

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## FCC Statement

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.

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

NOTE: 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.

Radiation Exposure Statement

To comply with FCC RF exposure compliance requirements, this grant is applicable to only mobile configurations. The antennas used for this transmitter must be installed to provide a separation di stance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.