# GL551MG User Manual

## LTE Cat M1/NB2/BLE/GNSS Tracker

| | |
|---|---|
| **Version** | 1.1 |
| **Date** | 2026-3-30 |
| **Status** | Released |





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# Contents

1. Introduction ..... 5
1.1. GL551MG Product ..... 5
1.2. Reference ..... 5
1.3. Terms and Abbreviations ..... 5
2. Product Overview ..... 6
2.1. Device Appearance ..... 6
2.2. Buttons Description ..... 6
2.3. LED Indicator Description ..... 7
2.4. Accessory List ..... 8
3. Getting Started ..... 9
3.1 Quick Start ..... 9
3.1.1 Basic Operation ..... 9
3.1.2 PC Manage Tool Quick Start ..... 9
3.2 Replace the battery ..... 10
3.3 Turning On/Off the Device ..... 10
3.4 Firmware Upgrades Introduction ..... 10
3.5 Installing the Device ..... 11
3.5.1 Screw-fixed installation ..... 11
3.5.2 Cable ties installation ..... 12
3.5.3 Magnetic attachment installation ..... 12
3.6 Installation Precautions ..... 12
3.7 Product Specifications ..... 14
4. Troubleshooting ..... 16
5. Safety Information ..... 17
6. Certification Information ..... 17
7. Warranty Information ..... 18
8. Appendix: Supported Accessories ..... 18
9.FCC regulatory Conformance ..... 19

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# Revision History

| Version | Date | Author | Description of Change |
|---|---|---|---|
| 1.0 | 2026-3-23 | Cicily Xu | Initial release |
| 1.1 | 2026-3-30 | Yolanda Zhou | Modify the format and add the FCC conformance |

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# 1. Introduction

The GL551MG is an easy-to-deploy asset tracker built on Queclink's innovative power management technology. Product positioning: ultra-low power consumption and extremely long standby time. The built-in light sensors make the product sensitive to tamper attempts and its waterproof design allows it to be used in harsh environments. With internal temperature and light sensors, the product is ideal for a wide range of environmental monitoring applications such as cold chain logistics, warehouse management, cargo trucking, high value static asset monitoring and more. The GL551MG supports multiple installation methods, including magnetic attachment (requiring an additional magnetic mounting bracket), cable ties, and screws. It enables the device to be securely installed on any asset.

## 1.1. GL551MG Series Product

Table 1. GL551MG Product

| Model No | Region | Technology | LTE Category | Operating Bands |
|---|---|---|---|---|
| GL551MG | Global | LTE | LTE-M(Cat-M1)、NB-IoT(Cat-NB1/NB2) | LTE-M(Cat-M1): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66 NB-IoT(Cat-NB1/NB2): B1/B2/B3/B4/B5/B8/B12/B13/B17/B19/B20/B25/B26/B28/B66 |

## 1.2. Reference

Table 2. GL551MG Protocol Reference

| SN | Document Name | Remark |
|---|---|---|
| [1] | GL551MG-7A00 @Track Protocol Pro | The air interface protocol between GL55 1MG and backend server. |

## 1.3. Terms and Abbreviations

Table 3. GL551MG Terms and Abbreviations

| Abbreviation | Descriptions |
|---|---|
| GNSS | Global Navigation Satellite System |
| Cell | Cellular |
| RXD | Receive Data |
| TXD | Transmit Data |
| BLE | Bluetooth Low Energy |
| PSM | Power Saving Mode |
| OTA | Over-The-Air |
| FOTA | Firmware Over-The-Air |

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# 2. Product Overview

## 2.1. Device Appearance




Figure 1. GL551MG Product View

## 2.2. Buttons Description

Table 4. GL551MG Button

| | |
|---|---|
| **Power Key** | l Long - press for 3 seconds to power on.<br>l When the device is powered on, long - press for 3 seconds to trigger the reporting of SOS 10H message, and wake up the green LED indicator at the same time.<br>l When the device is powered on, short - press once (within 200ms - 2000ms) to wake up two LED indicators.<br>l If the operation is held for more than 15 seconds, it is considered an illegal action and will not trigger any subsequent events.<br>l During the pressing of the button, both LED lights remain on continuously for a maximum of 15 seconds. |

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## 2.3. LED Indicator Description




Figure 2. GL551MG LED Indicator

There are two LED indicators on GL551MG. For details, please see the table below.

Table 5. GL551MG LED Description

| LED | Device Status | LED Status |
|---|---|---|
| Green LED | SOS | Alternate between staying lit for 2s and flashing quickly for 1s |
| | Searching network | Fast flash |
| | The device has been registered on network | Slow flash |
| | Network modem off | Dark |
| Blue LED | GNSS is in the process of fixing | Fast flash |
| | GNSS is on and GNSS gets fix | Slow flash |
| | GNSS off | Dark |

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## 2.4. Accessory List

Table 6. GL551MG Accessory List

| Name | Picture | Descriptions |
|---|---|---|
| GL551MG Tracker |  | LTE Cat-M1/Cat-NB1/Cat-NB2/ BLE/GNSS Tracker |
| Magnetic bracket （Needs to be purchased separately） |  | Used to magnetic attachment and fixation |
| GL551MG Data Cable (Optional) |  | USB data cable which can be used for firmware upgrade and device configuration |

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# 3. Getting Started

## 3.1. Quick Start

Put the Quick Start Guide contents here to show customer how to get started quickly.

### 3.1.1 Basic Operation

After unboxing the device, long press the button for more than 3s and then release it, the device will power on: The Green Status LED will start flashing first and then the Blue GNSS LED flashes.

**Note:** If it is seen both LEDs are flashing, the device is activated successfully. Check the platform several minutes later to see the reports sent by the device. And to check the status of the device locally, short press the button, if both the LEDs are on, this indicates the device is in powered-on working status.

### 3.1.2 PC Manage Tool Quick Start



After completing the above configuration steps, the GL551MG will support basic tracking functions including fixed-time reporting. For additional advanced features of the GL551MG, please refer to the document “GL551MG-7A00@Track Protocol Pro” or visit our official website at https://www.queclink.com.

## 3.2 Replace the battery

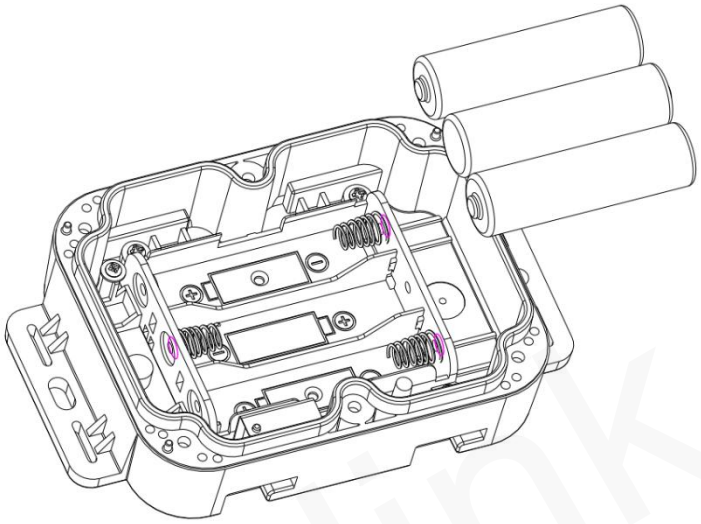


Figure 3.GL551MG Battery Installation

1. Unscrew the screws and open the device.
2. Remove the old battery and replace it with a new one. Please insert the positive and negative poles of the new battery to correspond with those of the battery slot.
3. Press and hold the power key for at least 3 seconds, then release to turn on the device. It is recommended to send AT@RTO command with a subcommand of 17 to reset the coulometer using a serial cable.
4. Close the device and tighten the screws. Please tighten the screws in a diagonal pattern with a torque of 4.5 kg to ensure the device retains an IP67 rating.

**Note:** ER14505 $LiSOCl_2$ (1.5 V) batteries are common standard industrial batteries and are also easily available on platforms such as Amazon.

## 3.3. Turning On the Device

To turn on the device:
Method: Press the Power key for at least 3 seconds, then release it to power on the GL551MG.At the same time, the STATUS/GPS LED will also light up.

## 3.4. Device Driver Installation

Please follow the step-by-step installation procedure to install Driver “CH340_Cable_ Driver_Installer_vx.x.exe”Upon successful installation, restart your computer before proceeding to use the device.

## 3.5. Firmware Upgrades Introduction

**Local Upgrade:** Please refer to "GL551MG-7A00 Local Upgrade User Guide Vx.xx.pdf".
**FOTA Upgrade:** Please refer to "UPD (Upgrade Firmware)" in Document " GL551MG-7A00 @Track Protocol Pro Vx.pdf".

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## 3.6 Installing the Device

### 3.6.1 Screw-fixed installation

As shown in the figure, the GL551MG can be fixed using two screws.

Note: The screws and screwdriver are not included in the accessory list.



Figure 4. Screw-fixed installation

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### 3.6.2 Cable ties installation

As shown in the figure, the GL551MG can be fixed by two cable ties.Note:

The cable ties are not included in the accessory list.

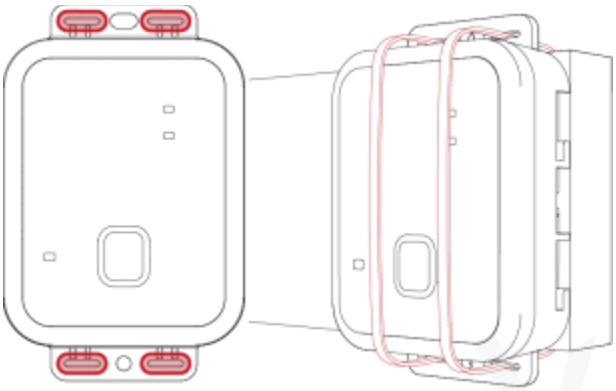


Figure 5. Cable ties installation

### 3.6.3 Magnetic attachment installation

Please install the magnetic bracket at the back of the device and further fasten it with the screw sent long with it so that the device can be tagged on the iron/metal surface to finish the installation easily.

Note: The magnetic bracket needs to be purchased separately.

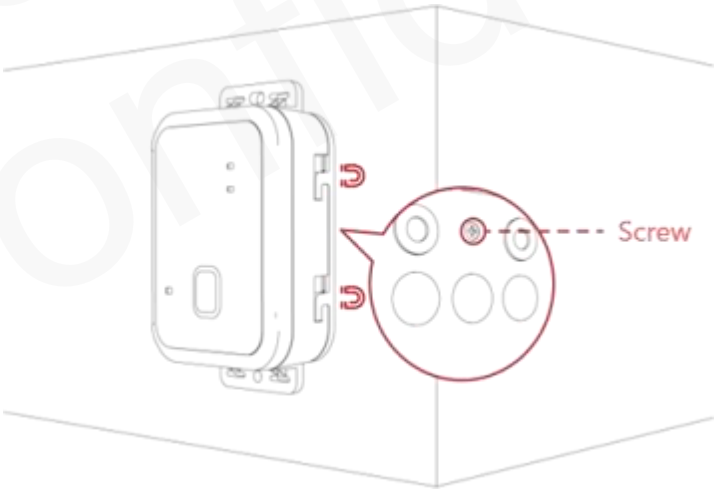



Figure 6. Magnetic attachment installation

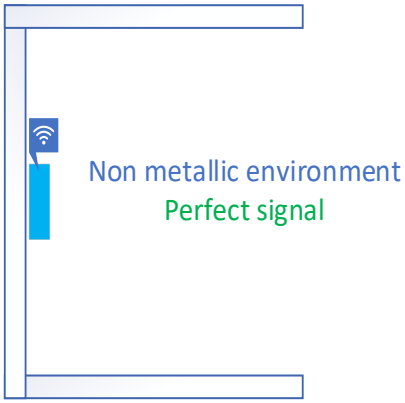
## 3.7 Installation Precautions

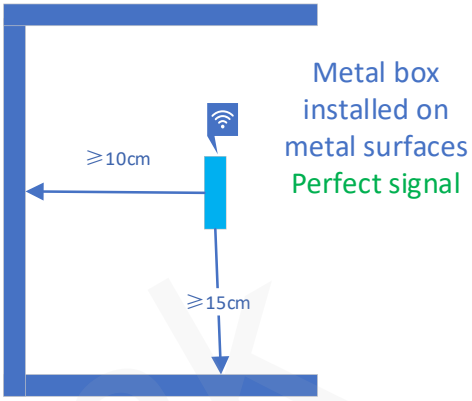
√ Firmly install the device to a reliable surface to prevent falling off.

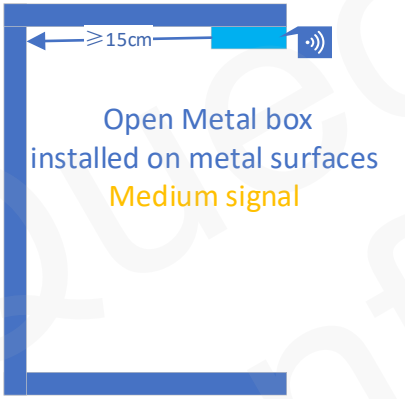
√ Make the side with antenna （On the same side as the LED Indicator）face sky to have better signal reception.

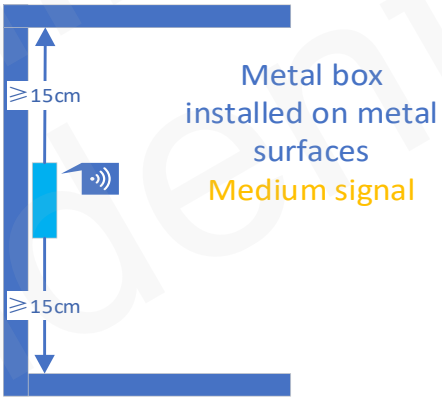
√ Keep the installation surface of the equipment away from the metal at least 15cm

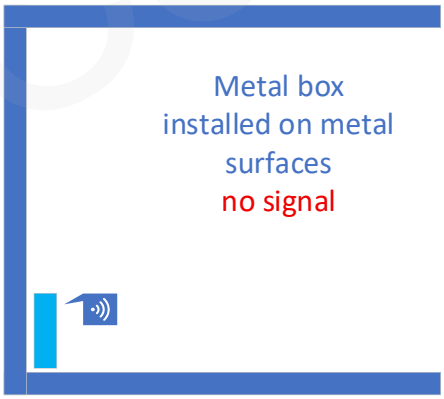
⚠ Do not install the device under metal surface or in enclosed environments having difficulty in getting GNSS and network signal.

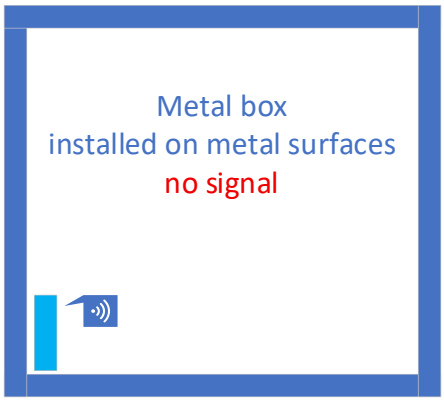



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# 4. Product Specifications

Queclink | Asset Tracker

Learn more here!

## GL551MG

Waterproof LTE Cat M1 Tracker with Up to 10-Year Battery Life




- LTE Cat.M1, Cat.NB-Iot
- BLE 5.4
- Scheduled Report
- Smart Ping (eDRX Reachability)
- Wi-Fi positioning

- 10 years battery life
- AA user-replaceable batteries
- IP67-compliant

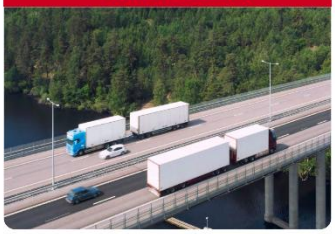
The GL551MG is a rugged, waterproof GNSS tracker designed for diverse asset-tracking applications that require reliable and actionable location visibility. It combines dual-band GNSS with Cell-ID positioning and Wi-Fi fallback, ensuring reliable location coverage across diverse environments. Powered by user-replaceable AA batteries, the GL551MG features a standardized battery design that simplifies field replacement, making it ideal for long-term deployments with minimal maintenance.

With Smart Ping, the device remains reachable even while operating in ultra-low-power eDRX mode, enabling on-demand communication and location requests without significantly impacting battery life.

**Container Tracking**



**Trailer Tracking**



**Asset Tracking**



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## Queclink | SPECIFICATIONS

### General

| | |
|---|---|
| **Dimensions** | 117.65(L) x 75 (W) x 30.15(H) mm<br>4.63"(L) x 2.95 "(W) x 1.19"(H) |
| **Battery** | Cylindrical Primary Lithium, 3500mAh<br>3 x 1.5V AA |
| **Standby Time** | WIFI/BLE/Sensor Off Mode<br>Standby current: <10uA<br>1 Report/Day: 10 years<br>1 Reports/Hour: 180 days<br>*** eMTC, UDP, WIFI & BLE&G-sensor off GPS open sky, LTE Cat M1 CSQ> 15,operation temperature 10°C-25°C* |
| **Waterproof** | IP67 compliant |
| **Operating Temperature** | -20°C ~ +60°C<br>-30°C ~ +60°C for storage |
| **Buffer Messages** | Up to 10000 buffer messages |
| **BLE** | Support BLE 5.4 protocol |
| **Region** | EU & NA |
| **Certification** | FCC/IC/CE/PTCRB<br>US Operators* Planning |

### LTE

| | |
|---|---|
| **Operating Band** | LTE-M(Cat-M1):<br>B1/B2/B3/B4/B5/B8/B12/B13/B18/<br>B19/B20/B25/B26/B28/B66<br>NB-IoT:<br>B1/B2/B3/B4/B5/B8/B12/B13/B17/<br>B19/B20/B25/B26/B28/B66 |
| **Data Transmission** | eMTC (DL) 375kbps /(UL) 300kbps<br>LTE Cat-NB1 (3GPP rel 13)30/60 kbps |

### GNSS

| | |
|---|---|
| **GNSS type** | All-in-One receiver |
| **Constellation Support** | GPS, Beidou, Galileo, GLONASS |
| **Sensitivity** | Cold start: -148 dBm<br>Hot start: -159 dBm<br>Tracking: -165 dBm |
| **Position Accuracy (CEP)** | Autonomous:<1.0m |
| **TTFF (Open Sky)** | Cold start: 28s average<br>Hot start: 1s average |

### Interfaces

| | |
|---|---|
| **Cellular Antenna** | Internal only |
| **GNSS Antenna** | Internal only |
| **BLE Antenna** | Internal only |
| **LED Indicators** | CELL, GNSS |
| **Micro USB Interface** | Used for configuration and debugging (built-in) |

### Connectivity

| | |
|---|---|
| **Model** | BLE |
| **Type** | 2.4GHz |
| **Remark** | BLE 5.4, worked as a BLE gateway to connect accessories like beacon, temperature sensor, door sensor, etc. |
| **Model** | Wi-Fi |
| **Type** | 2.4GHz |
| **Remark** | Wi-Fi scanning for in-door positioning |

### Air Interface Protocol

| | |
|---|---|
| **Transmission Protocol** | TCP, UDP, SMS |
| **Scheduled Timing Report** | Report position and status based on preset time intervals |
| **Low Power Alarm** | Alarm when internal battery is low |
| **Power On Report** | Report when the device is powered on |
| **SOS Alarm** | Alarm message report triggered by panic button in emergency situation |
| **Motion Detection** | Motion alarm based on internal 3-axis accelerometer |

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# 4. Troubleshooting

Table 7. GL551MG Troubleshooting List

| Trouble | Possible Reason | Solution |
|---|---|---|
| After the device is turned on, the Green LED always flashes quickly. | The signal is too weak. The device isn't registered to the network. | Move the device to a place with good network coverage. |
| Messages can't be reported to the backend server by network. | APN is not right. | Ask the network operator for the right APN. |
| | The IP address or port of the backend server is wrong. | Make sure the IP address for the backend server is an identified address in the internet. |
| The device cannot be powered off. | The device cannot be powered off by power key. | Through MT RTO-5(deep sleep mode) |
| | | Open the device and Remove the battery. |
| There is no response from UART when the device is configured by using UART. | The port is not ready or the device is not powered on. | Please check the port and the device to ensure they are working properly(Press briefly once and try to reconnect） |
| The device can't get GNSS fix. | The GNSS signal is weak. | Move the device to a place under open sky. |
| | | It is better to make the side with antenna face the sky. |

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# 5. Safety Information

Please read and follow these safety instructions to ensure the proper use of your device and to prevent potential hazards.

1. **Electrical Safety**: Ensure that the power supply and voltage specifications match those required by your device. Do not use damaged cords, and never attempt to repair them yourself.
2. **Ventilation and Heat**: Keep the device in a well-ventilated area and away from heat sources to prevent overheating.
3. **Battery Safety**: Please follow the battery care instructions provided. Do not dispose of batteries in fire, and recycle them properly.
4. **Child Safety**: Keep the device and its accessories out of reach of children to prevent accidental swallowing or injury.
5. **Handling and Storage**: Handle the device with care to avoid dropping or mishandling, which could result in damage. Store the device in a dry, cool place when not in use.
6. **Warranty and Support**: This product is warranted against defects in materials and workmanship. For more information, contact our customer support.

 Please do not disassemble the device by yourself.

 Do not put the device in the overheated or too humid place, and avoid exposure to direct sunlight. Too high temperature will damage the device or even cause battery explosion.

 Do not use GL551MG near medical equipment.

By adhering to these safety guidelines, you can enjoy the full benefits of this device while minimizing the risk of accidents or damage.

# 6. Certification Information

This product has been designed and manufactured in compliance with strict industry standards and has undergone rigorous testing to ensure safety, reliability, and performance. It is certified to meet the following international and regional standards:

. **FCC Certification**: Certifies that the product complies with the Federal Communications Commission's regulations governing electromagnetic interference for devices sold in the United States.

# 7. Warranty Information

We stand behind the quality of our products and offer a limited warranty to the original purchaser. This warranty covers any defects in materials and workmanship under normal use for a period of one year from the date of purchase. The warranty does not apply to damage caused by misuse, accident, modification, unauthorized repair, or normal wear and tear.

To make a claim under this warranty, contact our customer service within the warranty period with proof of purchase. If the product is found to be defective, we will, at our option, repair or replace the product without charge. This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

Our warranty does not cover any external components, such as batteries or accessories, unless specified otherwise. Any implied warranties on this product are limited in duration to the length of this written warranty. Some states or countries do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

# 8. Appendix: Supported Accessories

A magnetic bracket



Figure 7. GL551MG Magnetic Bracket

**Notes**: The magnetic support needs to be fixed to the device with screws.

# 9. FCC regulatory Conformance

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.
(2) This device must accept any interference received, including interference that may cause undesired operation.
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

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment RF Exposure This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co _located or operating in conjunction with any other antenna or transmitter

FCC ID: YQD-GL551MG
Contains FCC: 2ANPO00NRF9160

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