**About Meshtastic LoRa**

Meshtastic LoRa is an open-source software initiative designed to provide affordable text messaging (SMS) solutions for emergency communications. Utilizing LoRa radio technology, this device operates with minimal electricity and is tailored for activities like hiking and skiing in locations with limited or no traditional communication services. Its primary goal is to create a mesh network, connecting users and allowing communication across distances without dependence on conventional communication systems. https://meshtastic.org/
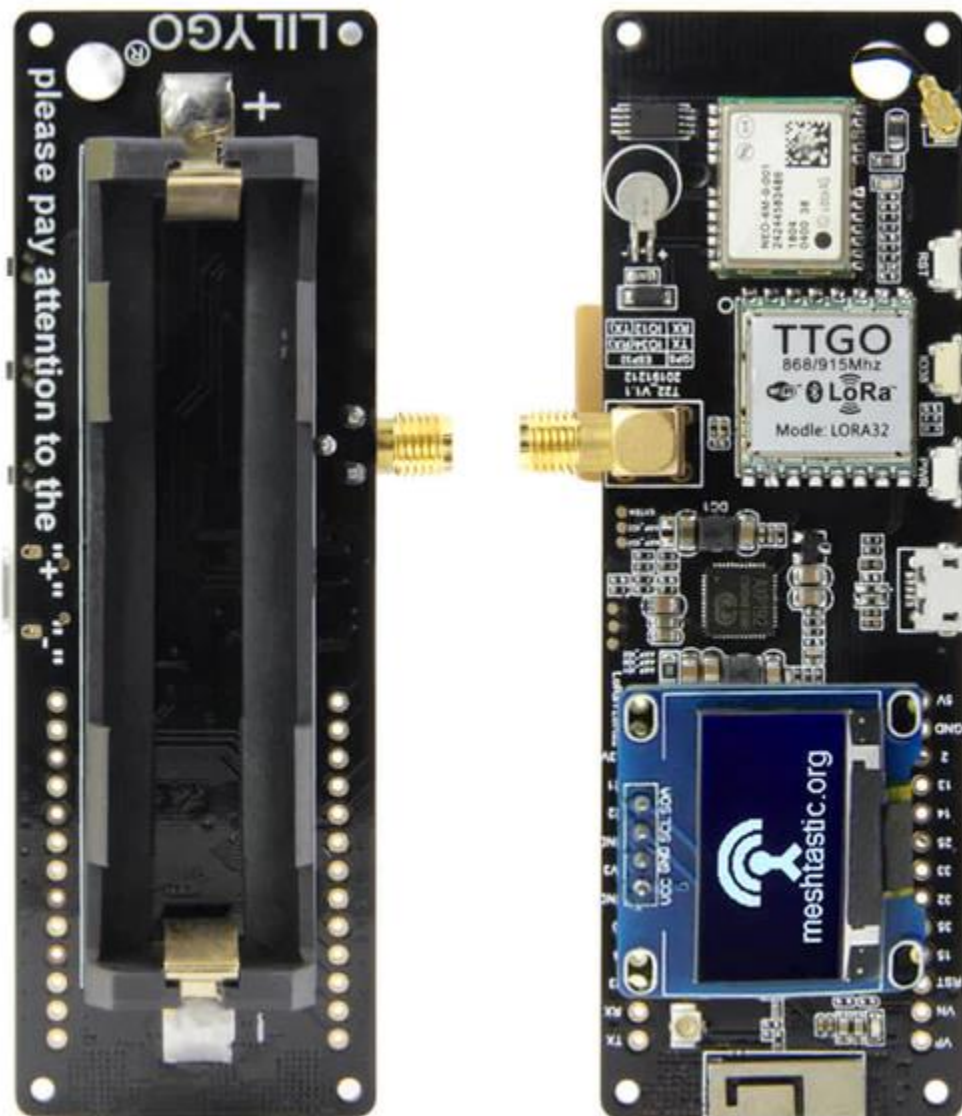
The key features of Meshtastic include:

Meshtastic is an open-source initiative that bridges software developers with individuals requiring the specified communication system. Together, they develop and refine the project.

It's designed for LoRa IoT devices, which are energy-efficient. In areas without easy access to electricity, solar panels can recharge these devices using solar energy.

It employs permitted line sequences for IMS research activities, eliminating the need for a communication license. The Low Power Long Range (LoRa) technology enables seamless information transmission between distant locations.

If two devices within a 100-mile radius can't connect directly, intermediary devices will automatically establish a communication link.

The integrated GPS technology lets users log their location and securely share it with others in their network.

Additionally, the Meshtastic Android and iPhone apps are available, simplifying device configuration and enabling the easy exchange of user data and location details.

An open source, off-grid, decentralized, mesh network built to run on affordable, low-power devices

Use Meshtastic LoRa

● TTGO T-Beam v1.1 LoRa Device - Out of the box, this device is compatible with Meshtastic firmware and the Meshtastic App.
View Product Details: https://www.lilygo.cc/products/t-beam-v1-1-esp32-lora-module

● If your LoRa device isn't pre-installed with Meshtastic firmware, you'll need to update it. Comprehensive instructions are available on the project's official GitHub page.
Installation Guide: https://flasher.meshtastic.org/

● To control the LoRa device using the Meshtastic Android and iPhone Apps, users must first install the app on their smartphones. You can download it directly from the Google Play and Apple Stores. Once installed, the Meshtastic LoRa can connect to your phone via   Bluetooth.

Download App from Play Store:
https://play.google.com/store/apps/details?id=com.geeksville.mesh&pli=1
Download App from Apple Store:
https://apps.apple.com/us/app/meshtastic/id1586432531?ign-itscg=30200&ign-itsct=apps_box_promote_link
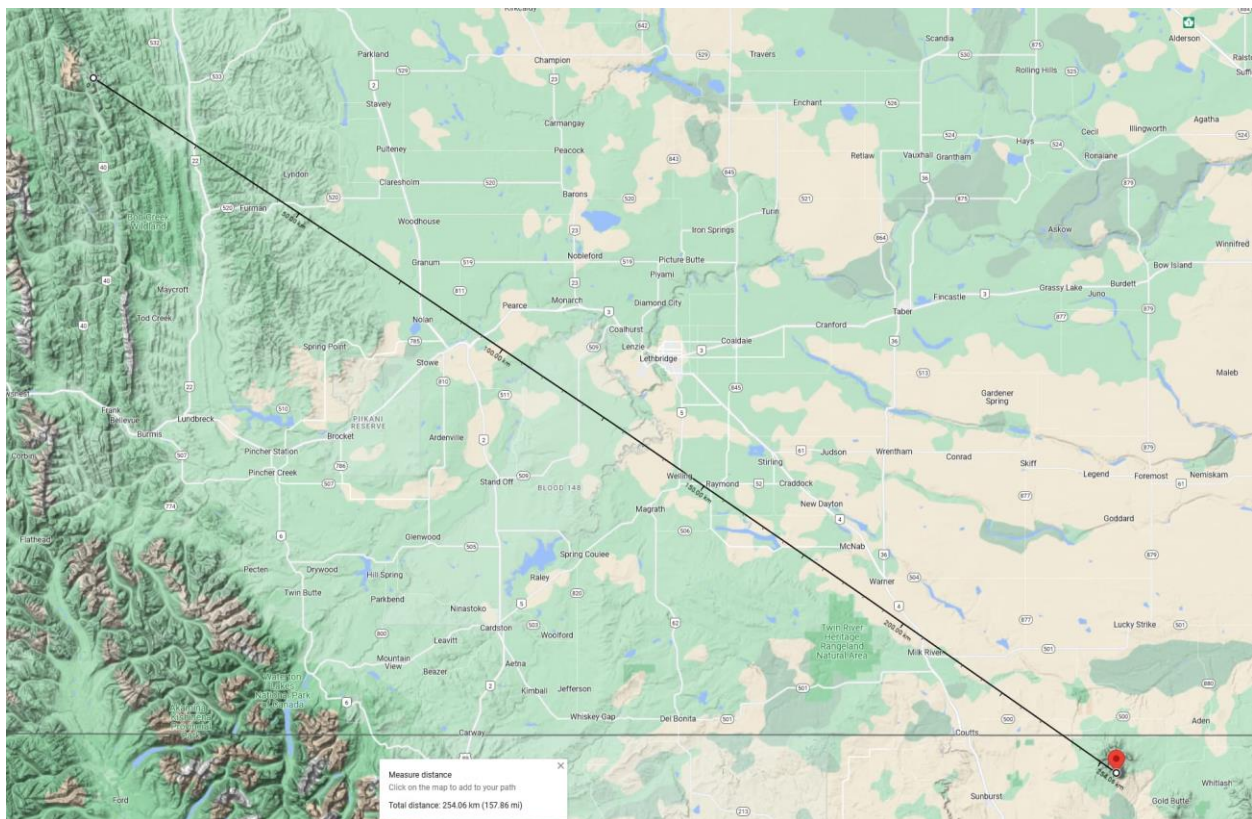
The condition for usage

Meshtastic is a revolutionary off-grid communication solution, allowing seamless interactions without the need for conventional communication networks. Tailored for varied terrains and settings, it requires minimal technical expertise from its users.

With Meshtastic LoRa, users can transmit messages (SMS) across distances of up to 100 miles under clear skies. If two users are separated by towering mountains, establishing communication is as simple as positioning an intermediary device on a visible peak.

Safety is paramount for Meshtastic. The device boasts encryption features to protect user data, guaranteeing the utmost confidentiality of every conversation.

Cost-effectiveness sets Meshtastic apart. The primary hardware is affordably priced, making it accessible to a broad audience. Moreover, the necessary firmware for device connectivity is freely available online, removing any licensing fee burdens. Various models cater to distinct needs, with the TTGO T-Beam v1.1 by LILYGO being a notable product. Available for approximately US $30, this battery-free, coverless device is sourced directly from a Chinese factory.

The in-built Meshtastic firmware connector boasts a compact design ideal for travel and outdoor adventures. It's versatile, compatible with solar charging, and connectable to phone power banks for portability.

Meshtastic LoRa's resilience further distinguishes it. With an active user community and developer support, the system sees regular enhancements based on user feedback. Updates, however, can't be fetched online.

Meshtastic LoRa emerges as a trusted communication ally for mountaineers, skiers, jungle campers, and those in off-grid settings. In scenarios where traditional networks falter or fail entirely, such as natural disasters or political upheavals, Meshtastic proves invaluable for emergency outreach.

In summary, Meshtastic LoRa presents a user-friendly, secure, and robust off-grid communication method. Its solar compatibility ensures continuous operation. It embodies

a decentralized, secure communication medium, adaptable to varying circumstances and user requirements.
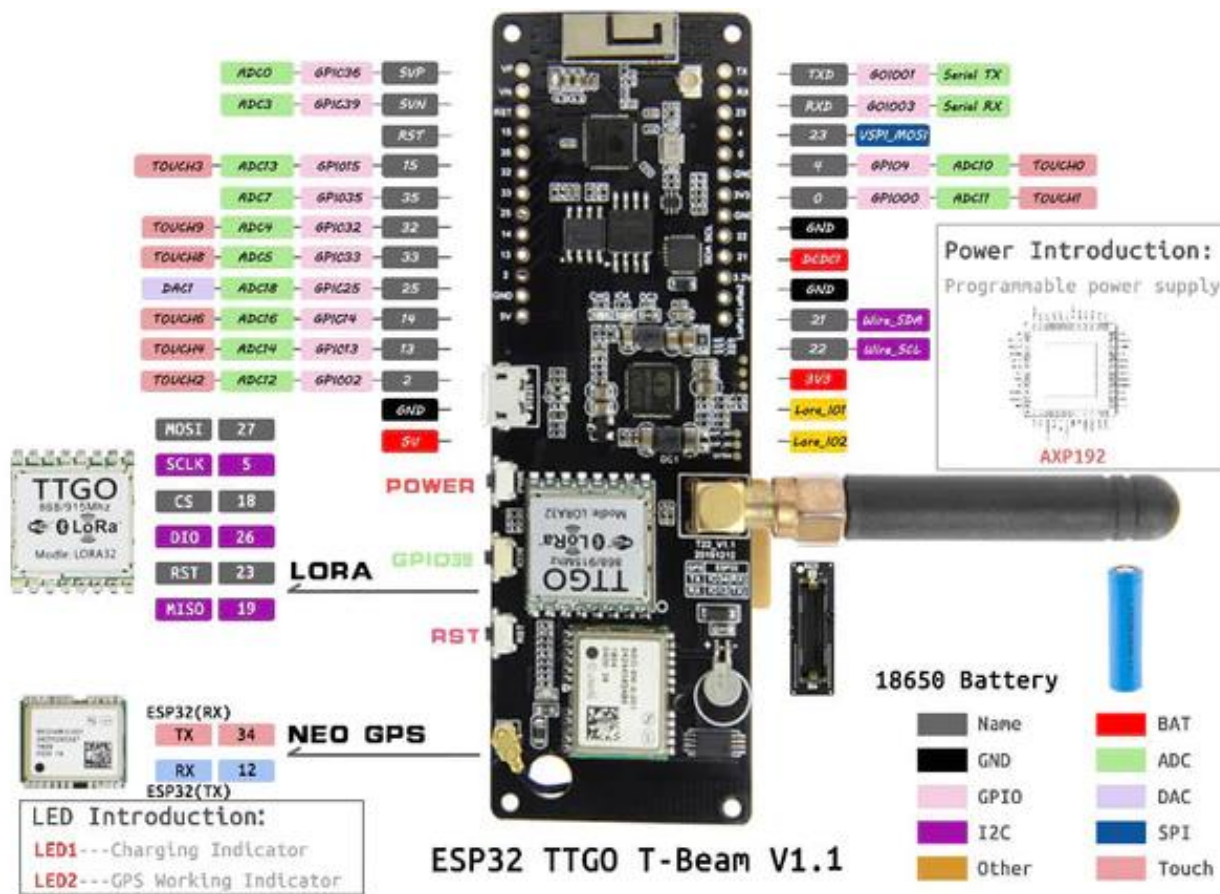
To learn more: https://meshtastic.discourse.group/

Contact:

Michael Suantak (ASORCOM)

+91 700 510 3656 (Signal/WhatsApp)

msuantak@metagov.org

ESP32 TTGO T-Beam V1.1

Power Introduction:
Programmable power supply
AXP192

18650 Battery

LED Introduction:
LED1---Charging Indicator
LED2---GPS Working Indicator

LORA

NEO GPS

POWER

RST

Name	BAT
GND	ADC
GPIO	DAC
I2C	SPI
Other	Touch

Name / Function	T-BEAM V1.1	T-BEAM V1.1 0.96 OLED	T-BEAM V1.1 Meshtastic	T-BEAM V1.1 M8N GNSS	T-BEAM V1.1 SX1262/SX1268	T-BEAM V1.1 M8N GNSS SX1262/SX1268
Product Image						
Serial Chip	CH9102	CH9102	CH9102	CH9102	CH9102	CH9102
Default Firmware (optional)	SoftRF: ① 433Mhz ② 868Mhz ③ 915Mhz ④ 923Mhz	SoftRF: ① 433Mhz ② 868Mhz ③ 915Mhz ④ 923Mhz	Meshtastic ① 433Mhz ② 868Mhz ③ 915Mhz ④ 923Mhz	SoftRF: ① 433Mhz ② 868Mhz ③ 915Mhz ④ 923Mhz	SoftRF: ① 433Mhz ② 868Mhz ③ 915Mhz	SoftRF: ① 433Mhz ② 868Mhz ③ 915Mhz
GNSS Module	NEO-6M GPS Support GPS	NEO-6M GPS Support GPS	NEO-6M GPS Support GPS	NEO-M8N GNSS GPS, GLONASS, BeiDou protocols	NEO-6M GPS Support GPS	NEO-M8N GNSS GPS, GLONASS, BeiDou protocols
LoRa Module (Optional)	SX1278/SX1276	SX1278/SX1276	SX1278/SX1276	SX1278/SX1276	SX1262/SX1268	SX1262/SX1268
Antenna base type	SMA Holder	SMA Holder	SMA Holder	IPEX Holder	SMA Holder	IPEX Holder