

ThinkNode M7



User Manual

Powered by
Meshtastic

Version No.: V1.0
2026/09/08

Model: CM01
FCC ID: 2BDNA-TNM7



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Overview

ThinkNode M7 uses an ESP32-S3 module as its main controller, equipped with a high-performance dual-core Xtensa 32-bit LX7 processor running at up to 240 MHz. The module features an integrated wireless antenna and supports 802.11 b/g/n 2.4 GHz Wi-Fi, Bluetooth Low Energy (BLE), and Bluetooth 5.0. LoRa communication is enabled by the LR1110 LoRa transceiver, which supports the US915 MHz and EU868 MHz frequency bands.

The product features a clean and compact design with a fixed base. In terms of connectivity, it is equipped with a USB power port and a 100 Mbps Ethernet port, with optional PoE support. It also comes with an external rubber-duck antenna to further improve signal coverage.

ThinkNode M7 is an ideal choice for indoor Meshtastic applications, offering high-performance processing, extensive signal coverage, and convenient Internet access.

Features

Deeply Adapted for Meshtastic

The hardware and software are specifically optimized for the Meshtastic communication protocol and use cases, ensuring stable and efficient signal transmission and reception.

High-Performance Dual-Core Processor

Powered by an ESP32-S3 module with a dual-core Xtensa 32-bit LX7 processor running at up to 240 MHz, it provides ample computing power for complex communications and data processing.

Dual-Mode Wireless Communication

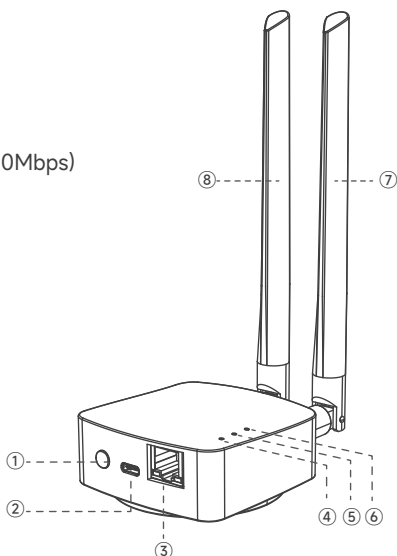
Integrates 2.4 GHz Wi-Fi and Low Energy Bluetooth/Bluetooth 5.0, supporting flexible device networking and local connectivity. It also enables LoRa wide-area communication in the US915/EU868 frequency bands through the LR1110 chip.

Flexible Power Supply and Networking Options

Equipped with a USB power port and a 100 Mbps Ethernet port, it supports optional PoE power to accommodate various indoor deployment scenarios. It can also access the Internet through a wired network.

Hardware Overview

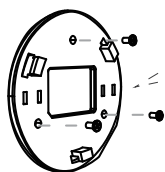
- ① Reload Button
- ② USB-5V (Console)
- ③ Ethernet Port (10Mbps/100Mbps)
- ④ LINK Status LED
- ⑤ BT/LoRa Status LED
- ⑥ PWR Status LED
- ⑦ WLAN/BT Antenna
- ⑧ LoRa Antenna



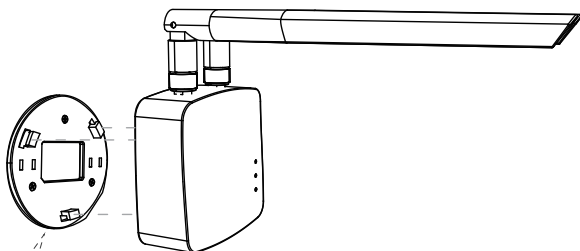
Main Specifications

Product Name	ThinkNode M7
Power Supply	5V/1A (USB-C); PoE (IEEE 802.3af), 37V-57V DC
Weight	108 g
Dimensions	75*75*30mm (Excluding antenna)
Interfaces	USB-C, RP-SMA (LoRa&WLAN/BT), RJ45 (WAN/LAN)
LoRa Sensitivity	-125dBm @125K/SF7, -139dBm @125K/SF12
LoRa TX Power	22dBm
WiFi	Support 2.4 GHz 802.11 b/g/n
Bluetooth	Bluetooth LE 5.0
Antenna Gain	LoRa: 4dBi External Antenna, WLAN/BT: 4dBi External Antenna

Base Installation

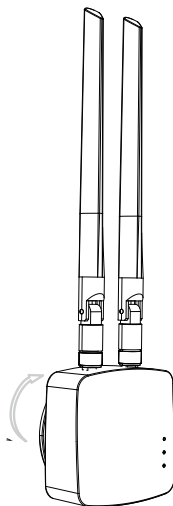


1. Secure the base to the wall or other target installation area using screws



2. Align the bottom slots of the ThinkNode M7 with the mounting pegs on the base

3. Rotate the ThinkNode M7 clockwise until it locks securely into position



Buttons and Indicator LEDs

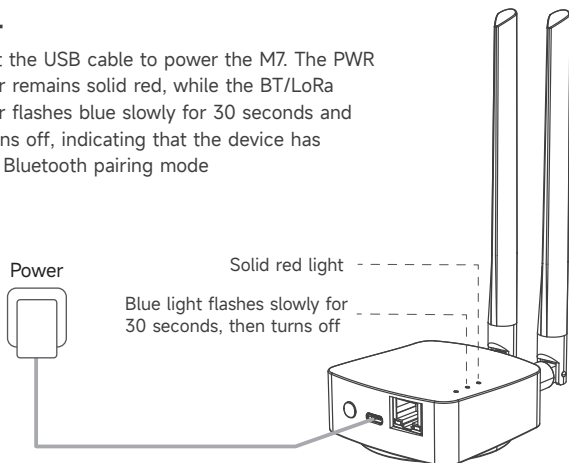
Status / Function	Operation	Indicator Status
Powered	-	The PWR indicator remains solid red.
Bluetooth Pairing	Enter pairing mode	When powered on, the device starts automatically. The BT/LoRa indicator flashes blue slowly for 30 seconds, then turns off, indicating that the device has entered Bluetooth configuration mode.
	Pairing in progress	The BT/LoRa indicator flashes blue slowly for 30 seconds, then turns off.
	Pairing successful	The BT/LoRa indicator remains solid blue for 30 seconds, then turns off.
	Connection disconnected	The BT/LoRa indicator flashes blue slowly for 30 seconds, then turns off.
LoRa Data Transmission and Reception	Data transmission	The BT/LoRa indicator flashes blue once.
	Data reception	No change in the BT/LoRa indicator.
Wi-Fi Connection	Connection successful	The LINK indicator remains solid green.
Restore Factory Settings	Press and hold the Reload button for 15 seconds.	After resetting, the BT/LoRa indicator flashes blue slowly for 30 seconds, then turns off.

Operation and Use

1. Bluetooth Connection

Step 1.

Connect the USB cable to power the M7. The PWR indicator remains solid red, while the BT/LoRa indicator flashes blue slowly for 30 seconds and then turns off, indicating that the device has entered Bluetooth pairing mode



Step 2. Download the Meshtastic App

Download the **Meshtastic** APP for Mobile

Meshtastic

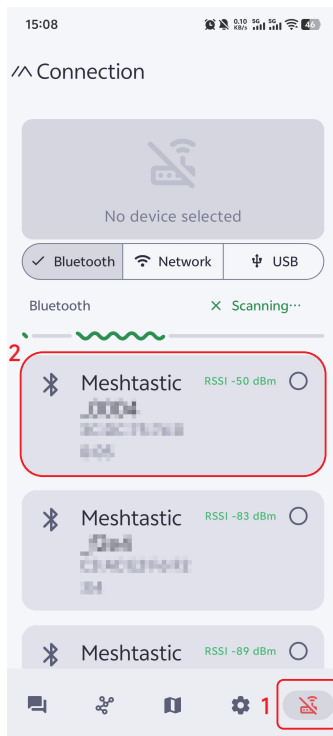


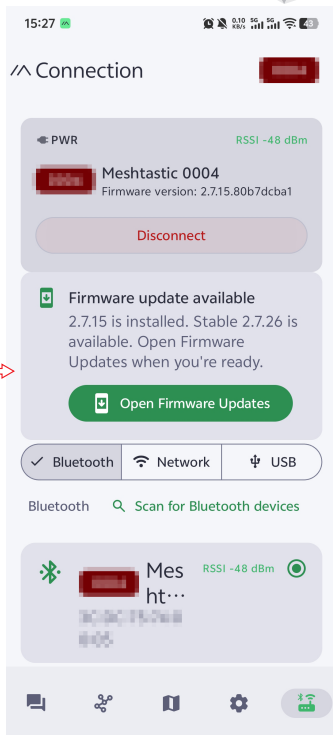
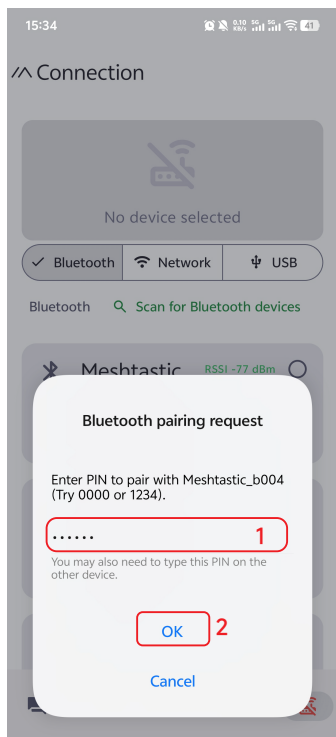
Available on iOS and Android



Step 3. Turn on Bluetooth on your phone, open the Meshtastic app, tap the icon in the lower-right corner, select the Bluetooth name corresponding to your device, and tap it to connect. Enter the password 123456, then tap “OK.” The BT/LoRa indicator remains solid blue for 30 seconds and then turns off, indicating that the Bluetooth connection has been established successfully.

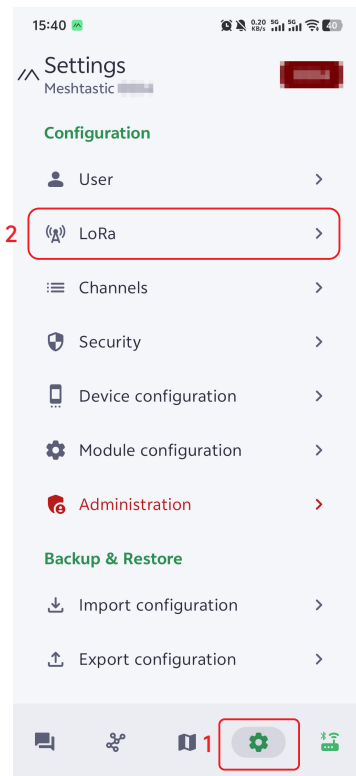
(The Bluetooth name is generated by reversing the first four characters of the MAC address. For example, if the first four characters of the MAC address are AB:CD, the last four characters of the Bluetooth name will be CD:AB.)





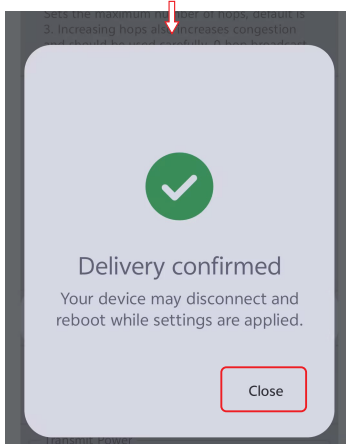
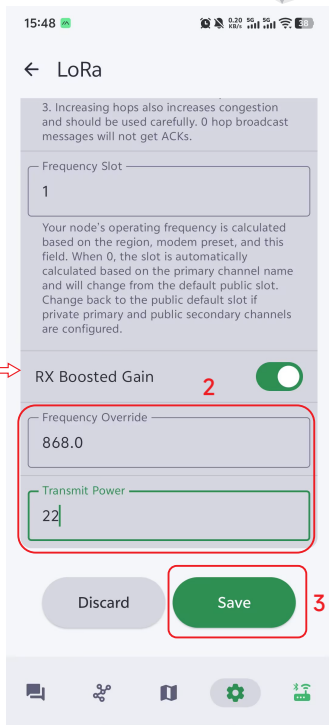
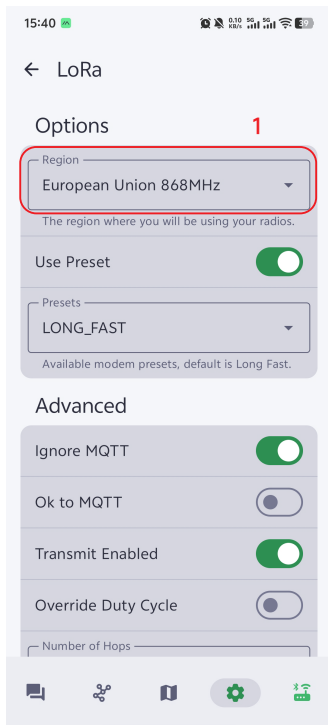
Step 4.

Enter the Settings interface and tap **“LoRa”** to configure the parameters.



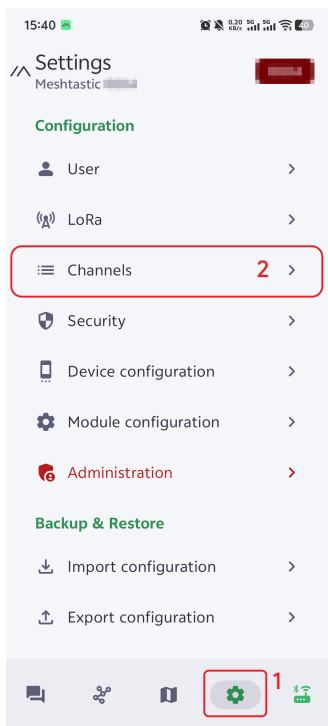
Step 5.

Select “**Region**” and “**Frequency Override**” according to the actual requirements. In this example, EU868 is selected. Set “**Transmit Power**” to 22, leave the other settings at their default values, and tap “**Save**”, followed by “**Close**.” Wait for the device to restart. Once it has restarted, the Meshtastic app will automatically connect to the device via Bluetooth.



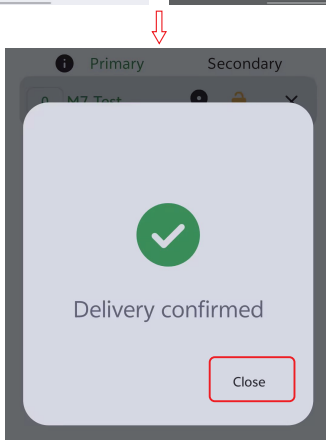
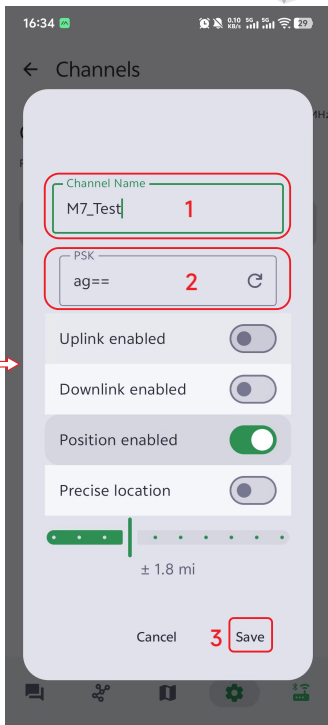
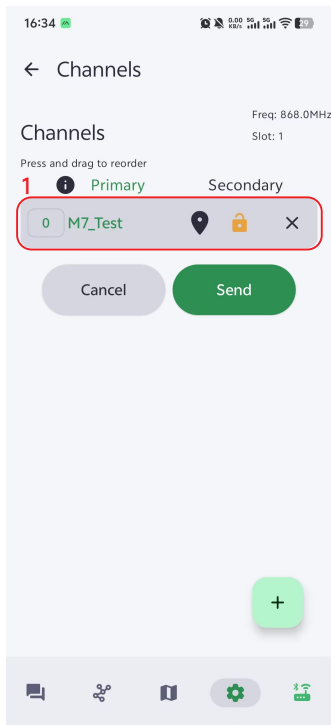
Step 6.

Go to the Settings page and tap “**Channels**” to create a channel.



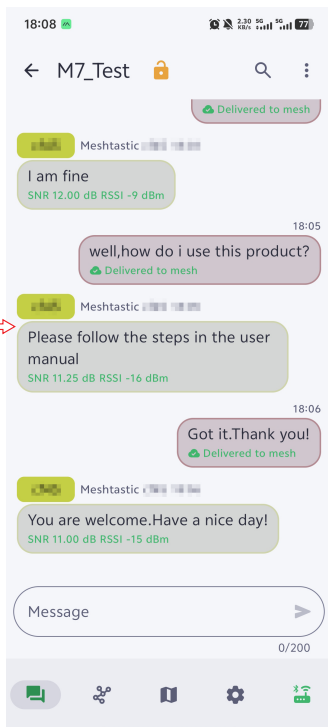
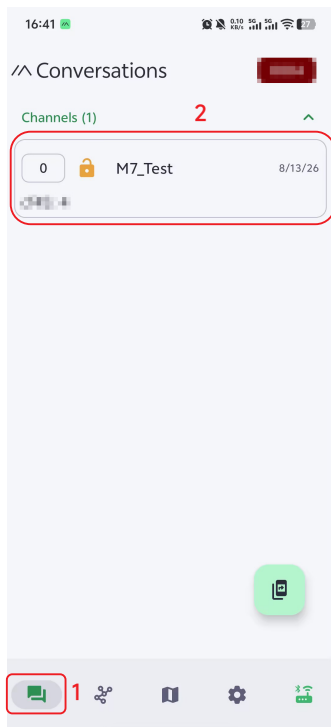
Step 7.

Tap “**Create Channel**”, customize the “**Channel Name**” and “**PSK**” fields, then tap “**Save**” followed by “**Close**.” The channel has been created successfully.



Step 8.

Tap the button shown in the figure, locate the channel you just created, and tap to enter it. **Repeat the steps above on the other M7 device.** The two devices will then be able to send messages to each other.

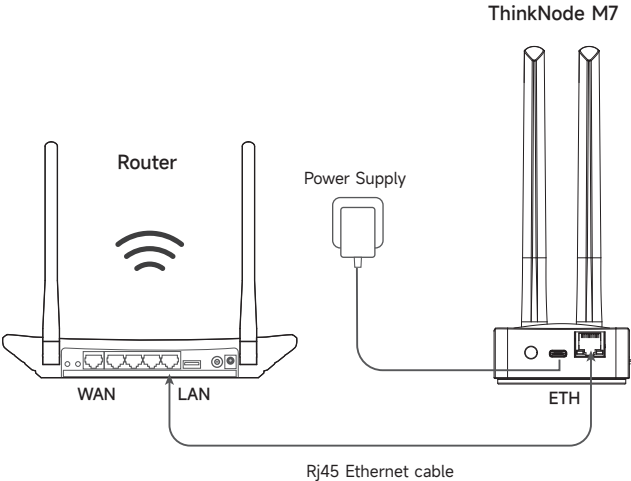


2. Wi-Fi Connection

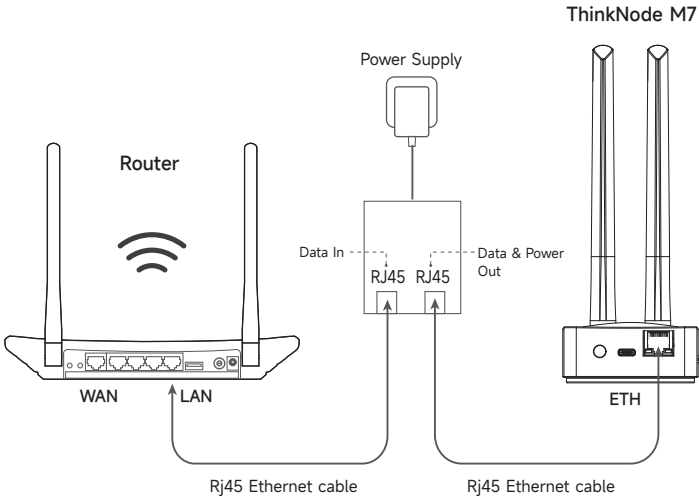
Step 1.

Choose one of the following methods for connecting the data cable, depending on your actual setup.

Connection Without a PoE Adapter

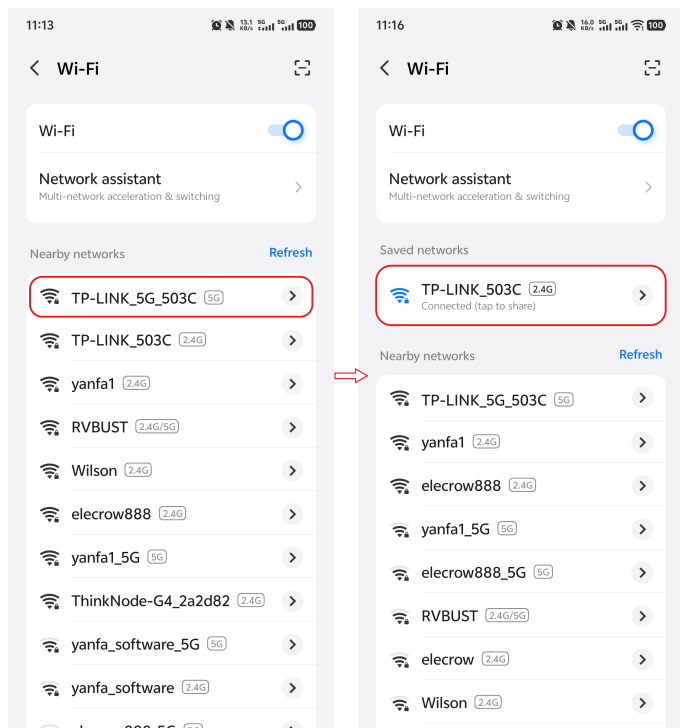


Connection With a PoE Adapter



Step 2.

Turn on Wi-Fi on your phone, find the Wi-Fi network of the router connected to the M7, and enter the password to connect to the Wi-Fi network.



Step 3.

Download Meshtastic APP

Download the **Meshtastic** APP for Mobile

Meshtastic

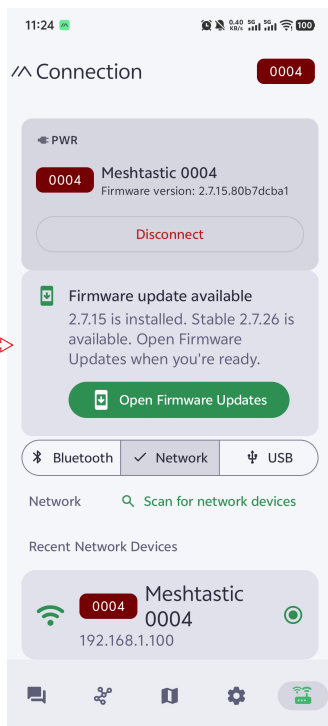
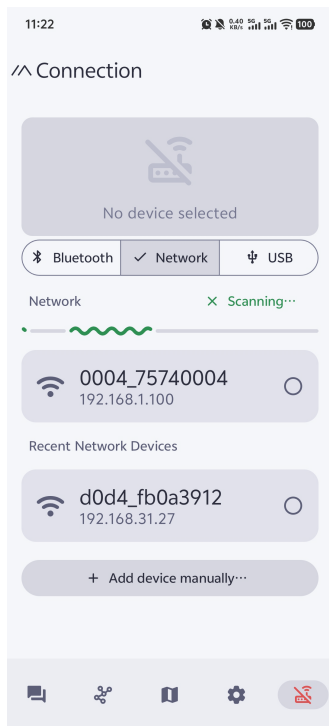


Available on iOS and Android



Step 4.

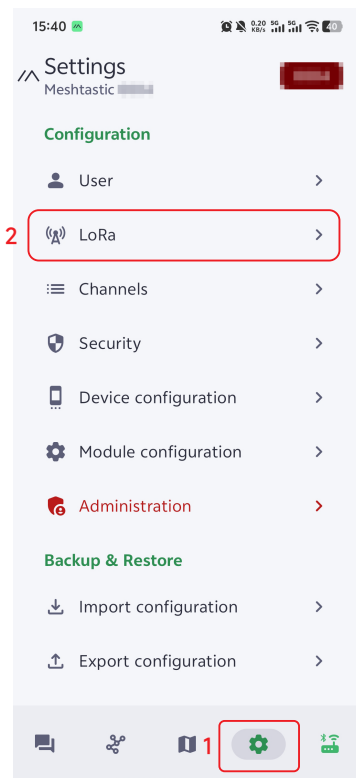
Open the Meshtastic app, tap the icon in the lower-right corner, and select **"Network."** Scan for available networks, find the router's Wi-Fi network connected to the M7 device, then tap it to connect.



Step 5.

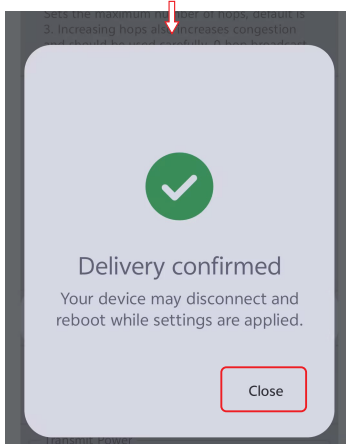
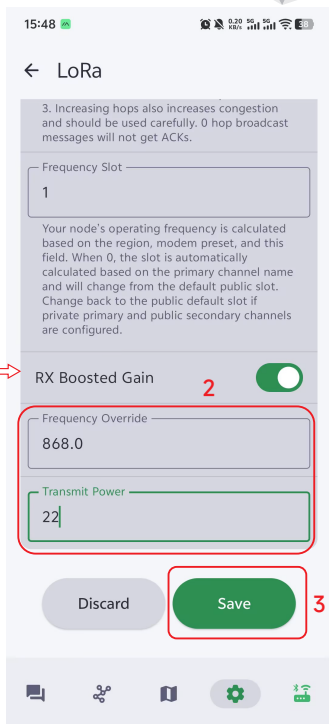
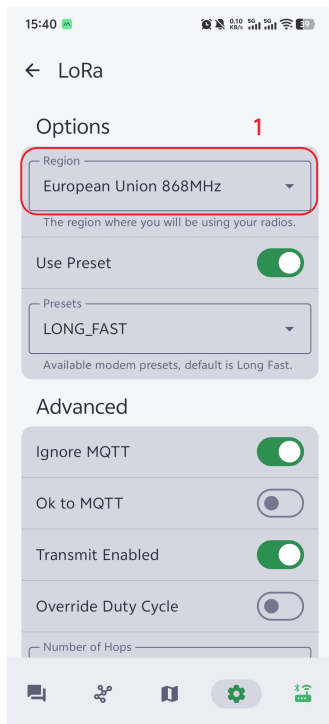
Tap the Settings icon to configure the relevant parameters.

Enter the Settings interface and tap “**LoRa**” to configure the parameters.



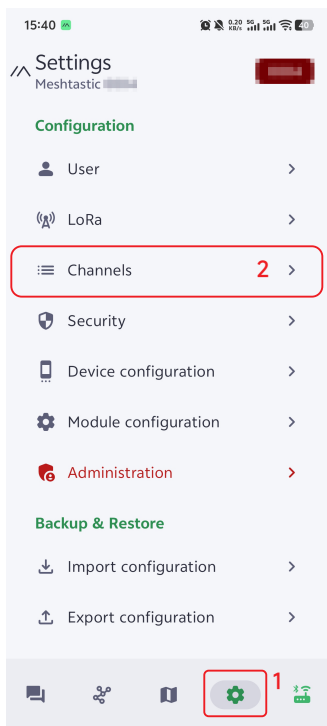
Step 6.

Select “**Region**” and “**Frequency Override**” according to the actual requirements. In this example, EU868 is selected. Set “**Transmit Power**” to 22, leave the other settings at their default values, and tap “**Save**”, followed by “**Close**.” Wait for the device to restart. Once it has restarted, the Meshtastic app will automatically connect to the device via Bluetooth.



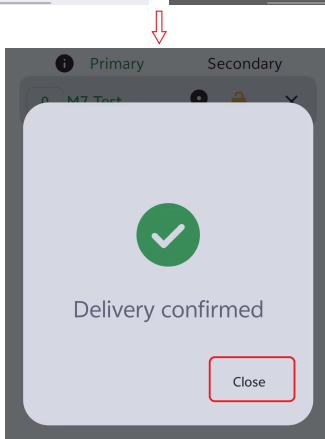
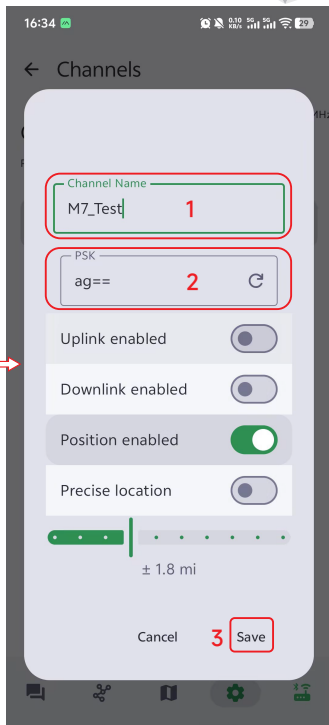
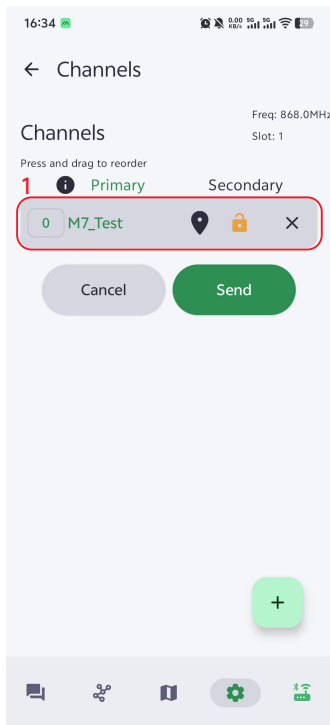
Step 7.

Go to the Settings page and tap “**Channels**” to create a channel.



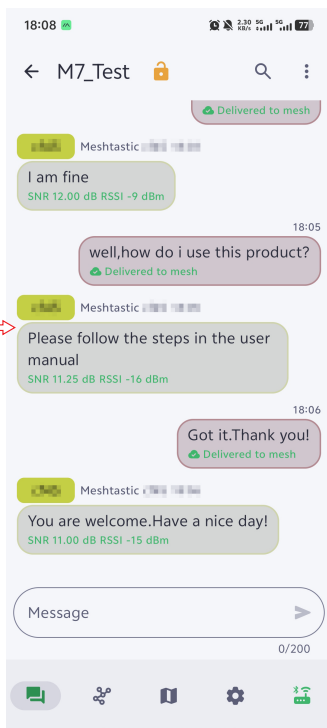
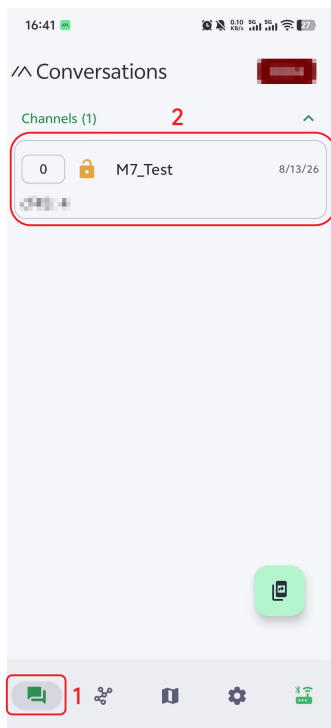
Step 8.

Tap “**Create Channel**”, customize the “**Channel Name**” and “**PSK**” fields, then tap “**Save**” followed by “**Close**.” The channel has been created successfully.



Step 9.

Tap the button shown in the figure, locate the channel you just created, and tap to enter it. Repeat the steps above on the other M7 device. The two devices will then be able to send messages to each other.



Package Contents

- ThinkNode M7 x1
- LoRa Antenna x1
- WLAN/BT Antenna x1
- USB-A to USB-C Data Cable x1
- Base x1
- User Manual x1

FAQ

1. Why can't the device join the Meshtastic network?

Please ensure that the device's Region, frequency band, encryption key, and other parameters are consistent with those of the other nodes on the same network. If the parameters do not match, the device may be unable to discover or communicate with other nodes properly.

2. Why can the device detect other nodes but not communicate with them properly?

Please check that the antenna is connected correctly and confirm that the devices are within the effective communication range of one another. Also, verify that the network configuration is correct.

3. Why do the changes not take effect after modifying the Meshtastic parameters?

After modifying the parameters, make sure that the settings have been saved and synchronized with the device. Some configurations may require the device to be restarted before taking effect. If the device still does not work properly, try restoring the default settings and configuring it again.

4. What should I do if the device cannot power on?

Please ensure that the power supply is connected correctly and that the power source meets the product requirements. If the device still cannot start properly, disconnect the power and reconnect it. If the problem persists, please contact after-sales service.

5. How do I connect the device through the Ethernet port?

Use an Ethernet cable to connect the device to the local area network, and make sure that the device and the configuration terminal are on the same network. If the connection fails, check the Ethernet cable, network equipment, and IP address configuration.

FCC WARNING

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.

Any 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.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.

Service & Support

If you have any questions, customer support is always on standby

✉ info@elecrow.com

✉ techsupport@elecrow.com

Manufacturer: Elecrow Technology Development Co.,Ltd.

Website: <https://www.elecrow.com>