LoRa Evaluation Kits
NL-D1T2
User Manual

V1.1

Introduction

NL-D1T2 LoRa Evaluation Kits contains one LD-20 LoRa dongle and 2 PCS of NL-T212 LoRa trackers. NL-T212 LoRa tracker is built-in GPS module and LoRa module. It is capable to get GPS fix and transmit the GPS data via LoRa technology. LD-20 LoRa dongle is used as a gateway for receiving data from NL-T212 LoRa trackers via LoRa technology and then transmit the GPS data to 'ezfinder for showing the GPS position through "M.O.S.T. Evaluation & Testing Tool" via Internet. For sending the GPS data to 'ezfinder, the PC that used to install with LD-20 LoRa dongle must be internet available. LD-20 LoRa dongle can also work with "M.O.S.T. Evaluation & Testing Tool" to ping NL-T212 LoRa trackers or cyclically ping the NL-T212 LoRa trackers and then send the GPS data to 'ezfinder.

Setup the NL-D1T2 LoRa Evaluation Kits

1. Please open the evaluation kits' box.
2. Please separately install the LoRa antennas to the 2 PCS of LoRa trackers and the LoRa dongle.
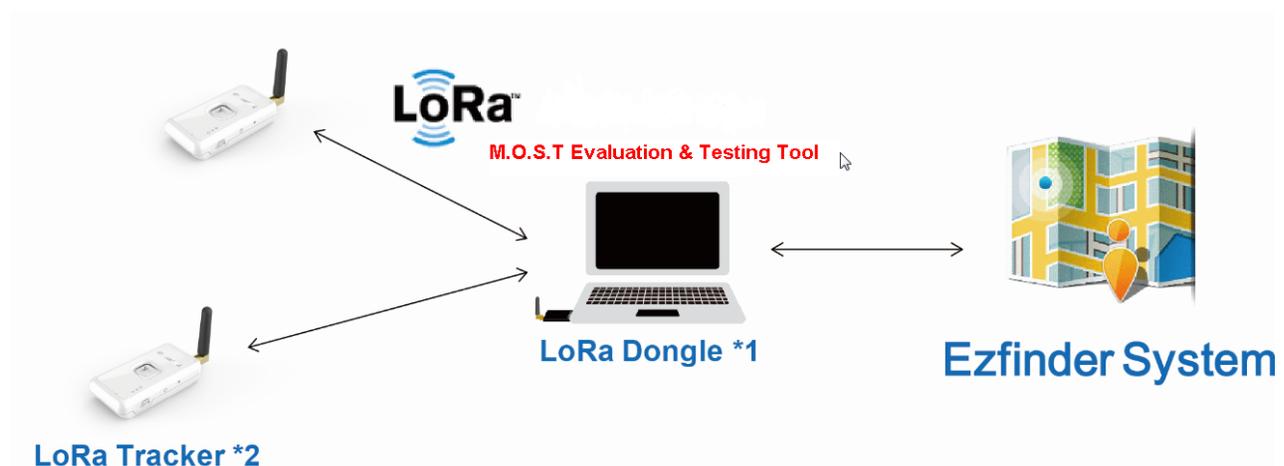
3. Please refer to the document of "LoRa Config Tool" to install USB driver
4. Please install LD-20 LoRa dongle on COM port of PC.
5. Please fully charge NL-T212 LoRa trackers.

6. Please refer to the 'ezfinder registration guide to create the 'ezfinder account for the NL-T212 LoRa trackers.

7. For adding the second NL-T212 LoRa tracker in the account, please click on the Trackers icon and then click on "**Add New Tracker**" button to add the second LoRa tracker.
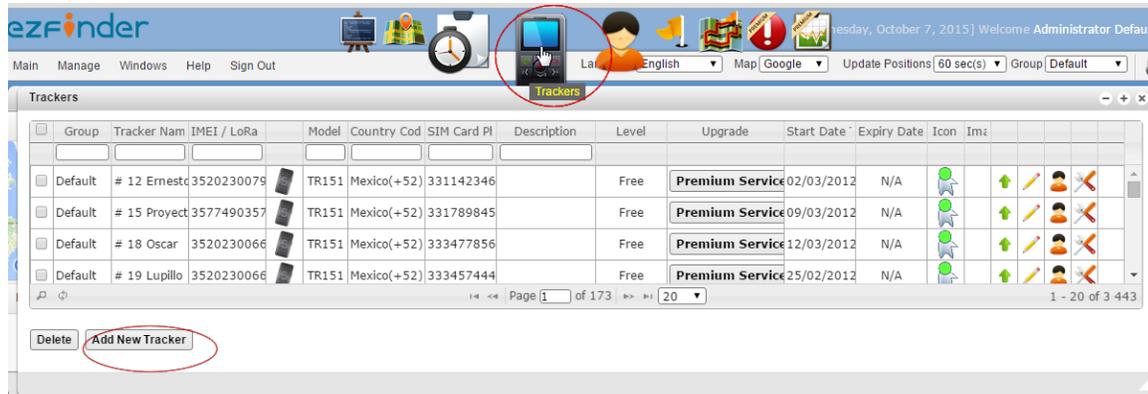
Please enter the necessary information of the LoRa tracker.

Please skip the mode setting. The operation mode of LoRa tracker is set by M.O.S.T. Evaluation & Testing Tool.

Preparation for Communication between LD-20 LoRa dongle and NL-T212 LoRa trackers

Before starting communication between LD-20 LoRa dongle and NL-T212 LoRa trackers, please refer to the document of "LoRa Config Tool" set LD-20 LoRa dongle. Please refer to the document of "NL-T212 Config Tool" to set NL-T212 LoRa trackers. For proper communication between LD-20 LoRa dongle and NL-T212 LoRa trackers, please make sure the respective value must be the same on the items of **Group ID**, **RF frequency**, **RF TRx rate** and **Wakeup time** on both LoRa dongle and LoRa trackers. Otherwise, the communication would fail. For example, both LoRa dongle and LoRa tracker's RF frequency is set to be 915.466 MHz.

After setting LD-20 LoRa dongle and NL-T212 LoRa trackers, please turn on "M.O.S.T. Evaluation & Testing Tool".

Please enter the MAC address of the 2 LoRa trackers in the ini file, "group_list". Then you can display LoRa trackers under the **Tracker List** on "M.O.S.T. Evaluation & Testing Tool".

For instruction of "M.O.S.T. Evaluation & Testing Tool", please refer to the document of "M.O.S.T. Evaluation & Testing Tool."

Please set LD-20 LoRa dongle to be **Wakeup mode** by clicking the buttons to show "**P1 Low**" and "**P2 High**"on M.O.S.T. Evaluation & Testing Tool.

Set NL-T212 LoRa Trackers to send reports to 'ezfinder

For transmitting the NL-T212's data to ezfinder, please click on "**Send to Server**" button on M.O.S.T. Evaluation & Testing Tool.

There are two operation mode of NL-T212 LoRa trackers, Active mode and Passive mode.

Active mode:

In Active mode, NL-T212 would periodically send reports to "M.O.S.T. Evaluation & Testing Tool".

1. Please select the tracker you'd like to change operation mode at the pull-down menu of **Tracker List**.
2. Please select "**Active Mode**" at the pull-down menu of **Tracker Mode**.
3. Please enter the report interval at the field under Tracker Mode. The range of interval is 10~86,400 seconds. You could also turn on GPS of LoRa tracker by clicking "**Enable GPS**" checkbox and enter the GPS pre-on time at the field of **GPS Pre-on**. The range is 10~120 seconds.
4. Please click on **Set Mode** button.

For example, setting NL-T212 to send report by the interval of 60 seconds and pre-on GPS for 10 seconds,

Passive mode:

In Passive mode, LD-20 can ping or cyclically ping NL-T212 via "M.O.S.T. Evaluation & Testing Tool".

Ping NL-T212 LoRa tracker:

1. Please select the tracker you'd like to ping at the pull-down menu of **Tracker List**.
2. Please select "**Passive Mode**" at the pull-down menu of **Tracker Mode**.
3. Please click on "**Set Mode**" button.
4. Click "**Enable GPS**" checkbox and enter the maximum trial time of getting GPS fix at the field of **Max GPS fix time**. The range is 10~120 seconds. LoRa tracker would send out the ping report as soon as it gets GPS fix. If it cannot get GPS fix within the "Max GPS fix time, it would send out the report after the "Max GPS fix time. If "Enable GPS" checkbox is not clicked, LoRa tracker would instantly send report without trying to get GPS fix.
5. Click on **Ping** button.

For example, ping tracker 9B6577162C002D10, and turn on GPS for 10 seconds.
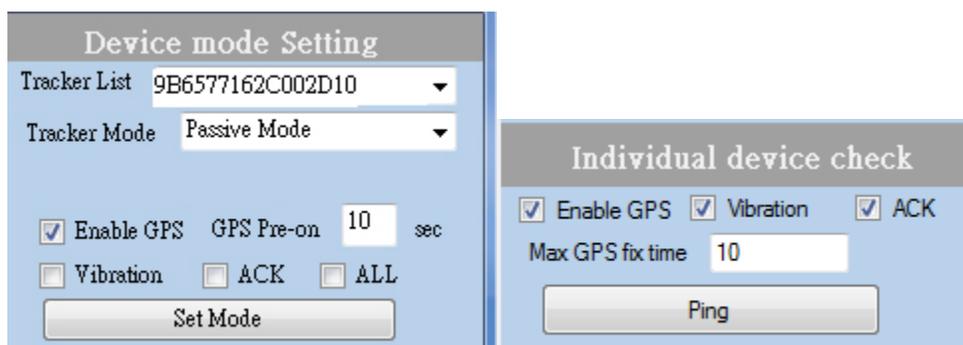
Cyclically ping LoRa trackers

1. Enter the interval at the field of **Scan Interval** and click on **Update** button. The range of interval is 10~ 86,400 seconds.

2. If you'd like NL-T212 LoRa trackers to get GPS fix, please click "**Enable GPS**" checkbox and enter the trial time of getting GPS fix at the field at the field of **Max GPS fix time**. The range is 10~120 seconds.

3. Click on **Scan Start** button to start to cyclically ping trackers under **Tracker List**.

For example, cyclically ping the trackers under "Tracker List" by the interval of 30 seconds.
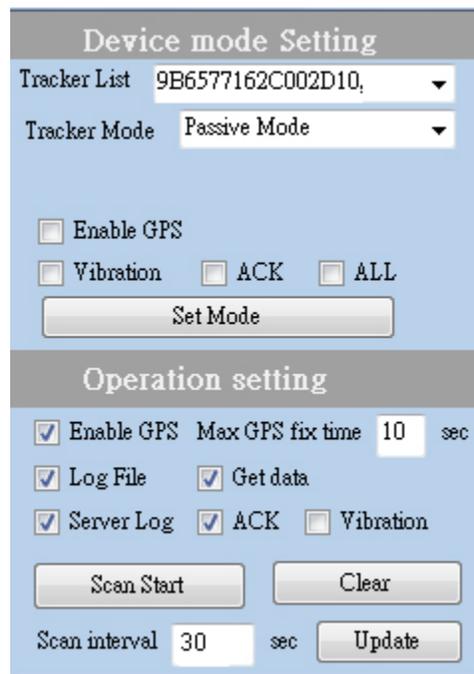
Then you could check the position of LoRa tracker on 'ezfinder.