NABE5-BL2 User Manual

Version: 1.01

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Contents

0. Revision History

Version	Date	Author	Description of Change
1.01	2024-01-05	Martin	Initial

1. Introduction

The NABE5-BL2 product is an IoT that supports 4G and dual band positioning. It serves as a vehicle networking module for operating vehicles in shared business scenarios, with network communication and positioning as the main functions, enabling remote control of vehicles and uploading of vehicle end data. The NABE5-BL2 product is embedded in the vertical pipe of the scooter, and has many features such as waterproof design and anti-theft alarm.

1.1. Product Network

Table 1. NABE5-BL2 Product

Model No.	Region	Technology	Operating Band (MHz)
NABE5-BL2	North America	LTE-FDD GSM	GSM850:/GSM1900: LTE Band 2/ Band 4/Band 5 /Band 12/Band 13

1.2. Reference

Table 2. NABE5-BL2 Protocol Reference

SN	Document Name	Remark
[1]	NABE5-BL2 IoT Server Standard Protocol	The air protocol interface between **NABE5-BL2** and **Backend Server**.

1.3. Terms and Abbreviations

Table 3. Terms and Abbreviations

Abbreviation	Description
PWR	Power
GND	Ground
CAN-H	CAN High Signal
CAN-L	CAN Low Signal
TX	Transmit Data
RX	Receive Data

2. Product Overview

2.1. Product Appearance

Figure 1. NABE5-BL2 Products View

2.2. Parts List

Table 4. NABE5-BL2 Parts List

Name	Picture	Description
NABE5-BL2 IoT Device		LTE Cat.M1 /NB2 / GNSS Tracker 187.04*43.4*79.7mm

3. Interface Definition

The NABE5-BL2 has a 4-pin interface connector which contains the connections for Power, GND, TX, RX. The sequence and definition of the 4-pin connector are shown in the following figure:

Table 5. Description of 4-pin Connections

Index	Description	Color	Comment
PIN 1	POWER	Red	DC36V
PIN 2	TX	Green	Transmit data
PIN 3	RX	Yellow	Receive data
PIN 4	GND	Black	Ground

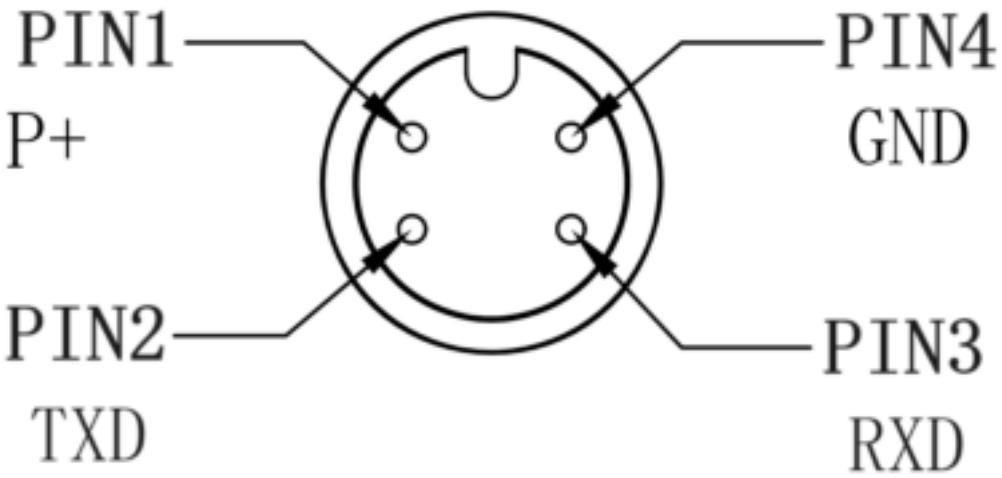

Figure 2. The 4-pin Connector on the NABE5-BL2

4. Getting Started

4.1. Install the SIM card

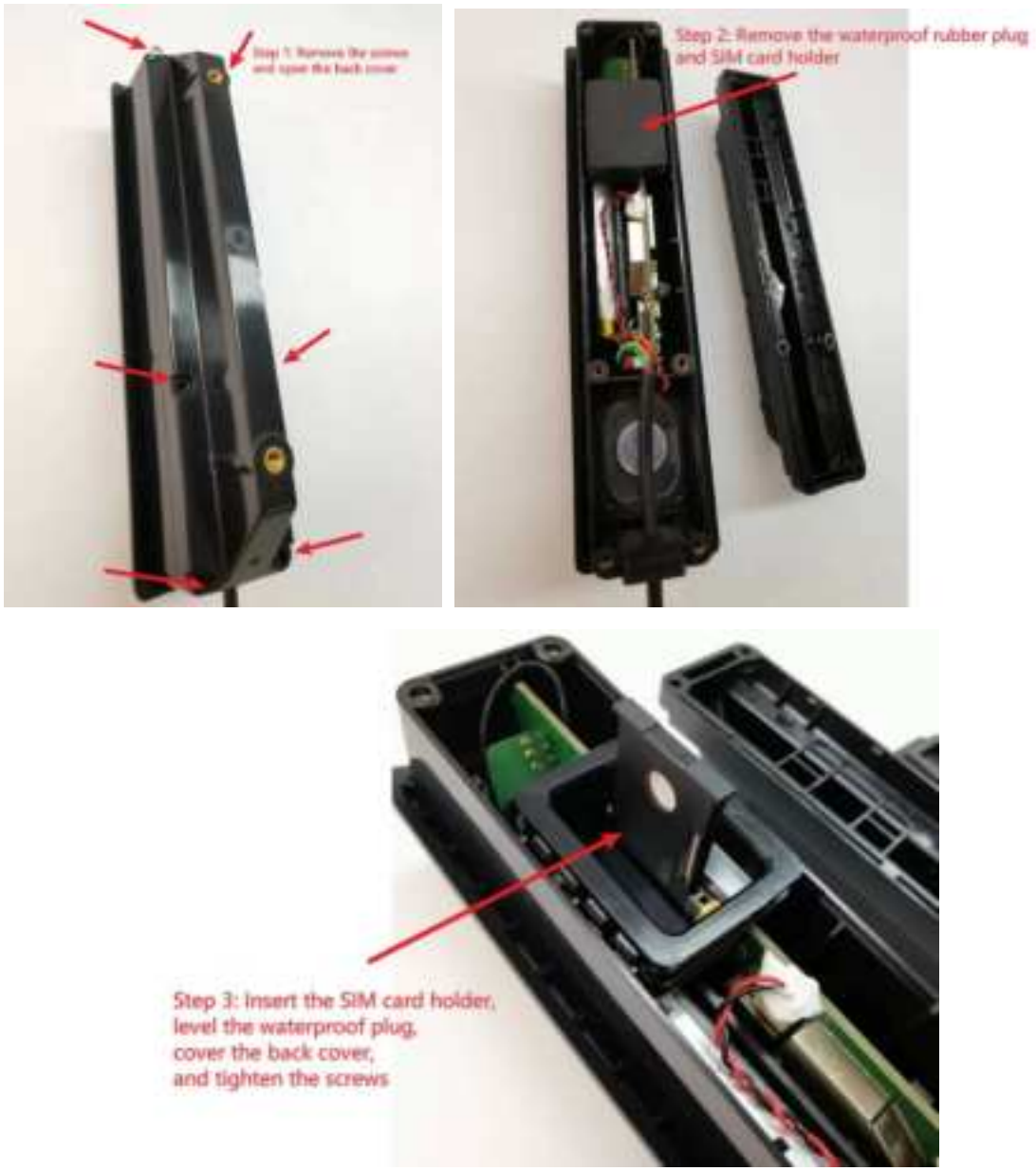

Figure 3. Use the Case

Step 1: Remove the screws and open the back cover.

Step 2: Remove the waterproof rubber plug and SIM car holder.

Step 3: Insert the SIM card holder, level the waterproof plug, cover the back cover, and tighten the screws.

4.2. Install the IoT device

Please install the IoT device into a dedicated Scooter or use the corresponding connector to connect to the IoT device.

Figure 4. Install the IoT device

4.3. LED Indicator

The LED indicator light of NABE5-BL2 is a Two colour light (Red and White). Red mean an error, Green mean normal.

Table 6. Description of LED Indicator

Name	Description	Colour	Comment
Two Colour	WHITE	Breathing	Working normal
	RED	Flashing quickly	Network Error
		Flashing slowly	GPS Error
	Light Off		Transport Mode/Low power Mode/Power Off

4.4. Installation reference

The equipment of NABE-BL2 is placed in the riser of the scooter and locked with screws from behind the riser.

5. Installation Precautions

- Make the side with antenna face sky to have better signal reception.
- Do not install the device under metal surface or in enclosed environments having difficulty in getting GPS and network signal.
- Install the device in places away from rain water or water may be ponded, otherwise water may seep into the connector to damage the device.
- Installation Direction: Keep the connector downside if the device is installed vertically, otherwise water (dust) will be held up in the connector to damage the device.
- Please pay attention to environmental parameters:
  - Charge Temperature: 10~45℃
  - Working Temperature: -10℃~+55℃

6. Troubleshooting and Safety Info

6.1. Troubleshooting

Table 7. NABE5-BL2 Troubleshooting List

Problem	Possible Reason	Solution
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.
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.
The device can't get GPS fix.	The GPS signal is weak.	Move the device to a place under open sky.
		It is better to make the side with antenna face the sky.

6.2. Safety Info

- 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 the device on the airplane or near medical equipment.

FCC Statement

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

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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

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.

SED RSS Warning/ISED RF Exposure Statement

ISED RSS Warning:

This device complies with Innovation, Science and Economic Development Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ISED RF exposure statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your

body.This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Le rayonnement de la classe b repecte ISED fixaient un environnement non contrôlés.Installation et mise en

œuvre de ce matériel devrait avec échangeur distance minimale entre 20 cm ton corps.Lanceurs ou ne peuvent

pas coexister cette antenne ou capteurs avec d'autres.

ISED RF exposure statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment.The device has been evaluated to meet general RF exposure requirement.

Le matériel est conforme aux limites de dose d'exposition aux rayonnements énoncés pour fac un autre environnement.ce dispositif a été évalué à satisfaire l'exigence générale de l'exposition aux rf.