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N25

EVK User Guide

Issue 1.0 Date 2019-12-23

Notice

This document provides guide for users to use N25.

This document is intended for system engineers (SEs), development engineers, and test engineers.

THIS GUIDE PROVIDES INSTRUCTIONS FOR CUSTOMERS TO DESIGN THEIR APPLICATIONS. PLEASE FOLLOW THE RULES AND PARAMETERS IN THIS GUIDE TO DESIGN AND COMMISSION. NEOWAY WILL NOT TAKE ANY RESPONSIBILITY OF BODILY HURT OR ASSET LOSS CAUSED BY IMPROPER OPERATIONS.

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Contents

About This Document

Scope

This document is applicable to N25 series.

Audience

This document is intended for system engineers (SEs), development engineers, and test engineers.

Change History

Issue	Date	Change	Changed By
1.0	2019-06	Initial draft	Cenny

Conventions

Symbol	Indication
	This warning symbol means danger. You are in a situation that could cause fatal device damage or even bodily damage.
	Means reader be careful. In this situation, you might perform an action that could result in module or product damages.
	Means note or tips for readers to use the module

Related Documents

Neoway_N25_Datasheet

Neoway_N25_Product_Specifications

Neoway_N25_HW_User_Guide

Neoway_N25_AT_Command_Manual

1 Overview

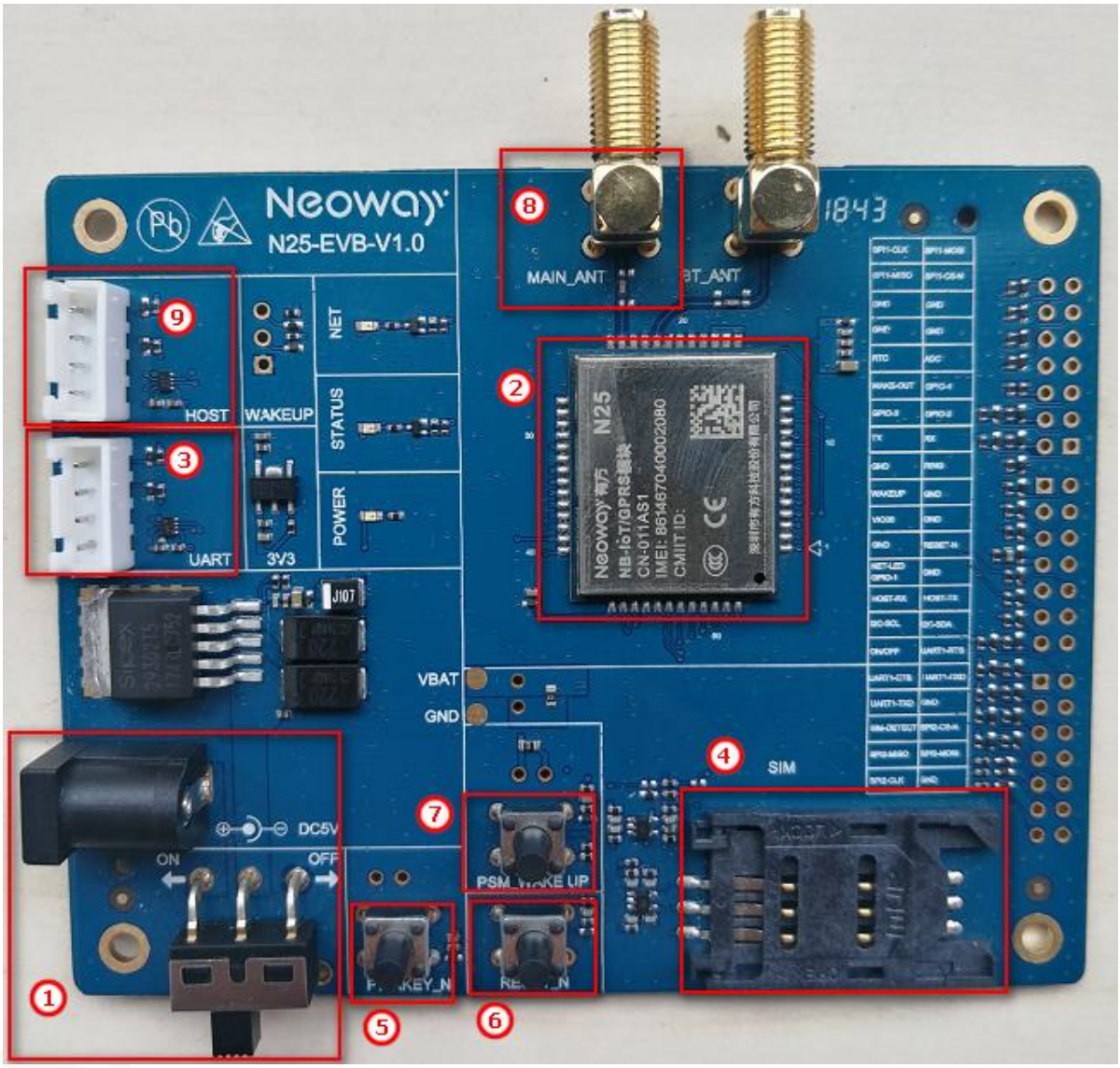
N25 Evaluation Board (EVB) is designed to commission and test the N25 module. It provides various peripheral interfaces, including power supply interface, UART interface, SIM card connector, PWRKEY button, RESET_N button, PSM_WAKE UP button, antenna interface, and HOST interface. You can connect it to a power supply and a computer through the USB cable or serial-to-USB cable to commission the functions of the module.

N25 Evaluation Kits (EVK) provides the following items:

- N25 EVB (including the N25 module)
- 5V power adapter
- M5X0-PWR USB-to-Serial cable
- Others (antennas)

2 About N25 EVB

Figure 2-1 N25 EVB



This chapter describes the hardware layout of the N25 EVB.

In Figure 2-1, each interface and key of N25 is marked in red rectangles. Read this user guide carefully before using N25 EVB. If necessary, please refer to the schematic diagram and PCB file of the board.

Table 2-1 lists each interface or button and their functions.

Table 2-1 Interfaces and buttons of N25 EVB

No.	Interface/Button	Description
1	5V DC power port	The LDO of the EVB transfers the input voltage to 3.8 V to supply power for the module.
2	N25 module	/
3	UART port	Used to send data and commission the module. Do NOT use it to supply power to the module.
4	SIM connector	/
5	PWRKEY button	Hold this button for more than 2 seconds to start the module after supplying power to the module. Hold this button for more than 2.5 seconds to turn off the module.
6	RESET_N button	Hold this button for more than 1 second to reset the module.
7	PSM_WAKE UP button	Hold this button for more than 1 second to wake up from PSM mode.
8	MAIN_ANT antenna connector	Connect it to an antenna that covers the operating frequencies of N25 when commissioning the EVB.
9	HOST port	Used for firmware upgrade and logs capturing.

3 Power and Connection

3.1 Power Supply

N25 EVB can be supplied power by a 5V DC adapter.

Plug the output end of the adapter into the DC5V connector of the EVB.

Push the power supply switch to the ON side.

The following figure shows a 5V adapter. You can also choose another adapter that supports 5V output voltage and 1A or larger output current.

Figure 3-1 5V power adapter

3.2 M5X0-PWR Board

The M5X0-PWR board is developed on PL2303 chipset by Neoway and used to convert USB to UART. You can also choose another USB-to-UART cable/board based on FT2232, CP210X, and other chipsets.

Figure 3-2 M5X0-PWR Board

M5X0-PWR is connected to the N25 EVB through 4-pin cables, which have been soldered to the power board in a sequence of red, black, yellow, and green at one end and should be inserted into the plug of the EVB at the other end. Among the 4-pin cables:

- Green
  Module TXD, outputs 2.85V CMOS level
- Yellow
  Module RXD, inputs maximum 3.3 V CMOS level
- Black
  Ground
- Red
  VBAT, main power input, 3.6V to 4.5V, 3.8 V recommended

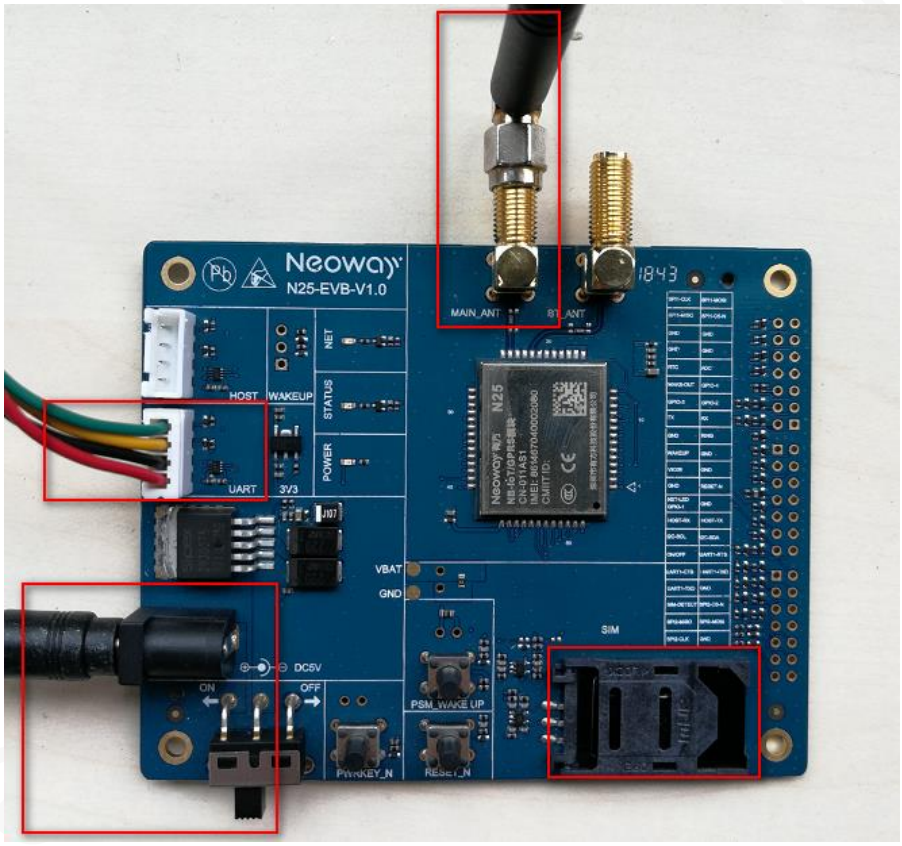
4 Commissioning

This chapter describes how to connect the module and how to implement commissioning through the UART port.

Step 1: Install an antenna on the EVB and insert a valid SIM card.

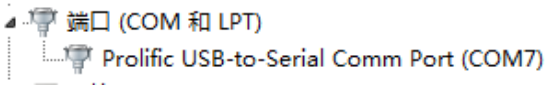
Step 2: Use the 5V adapter to supply power, power up the N25 EVB and connect it to the computer through the M5X0-PWR board.

Hold the PWR_KEY button for 2 seconds, and the module starts up.



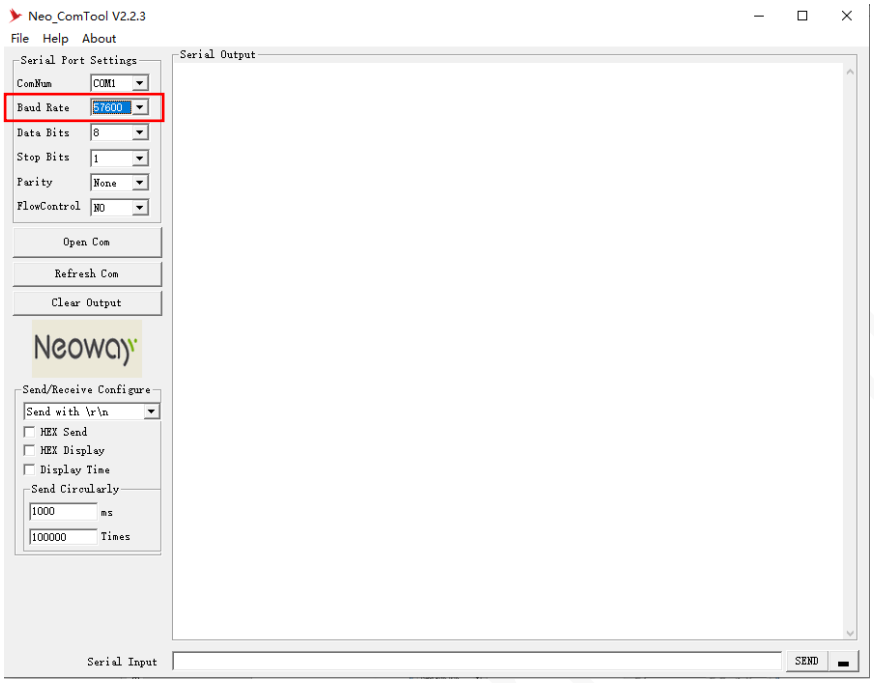
Step 3: Install the PL2303 driver.

Obtain the driver package from Neoway FAE or download it from the Internet if you use the serial-to-USB cable Neoway provided.



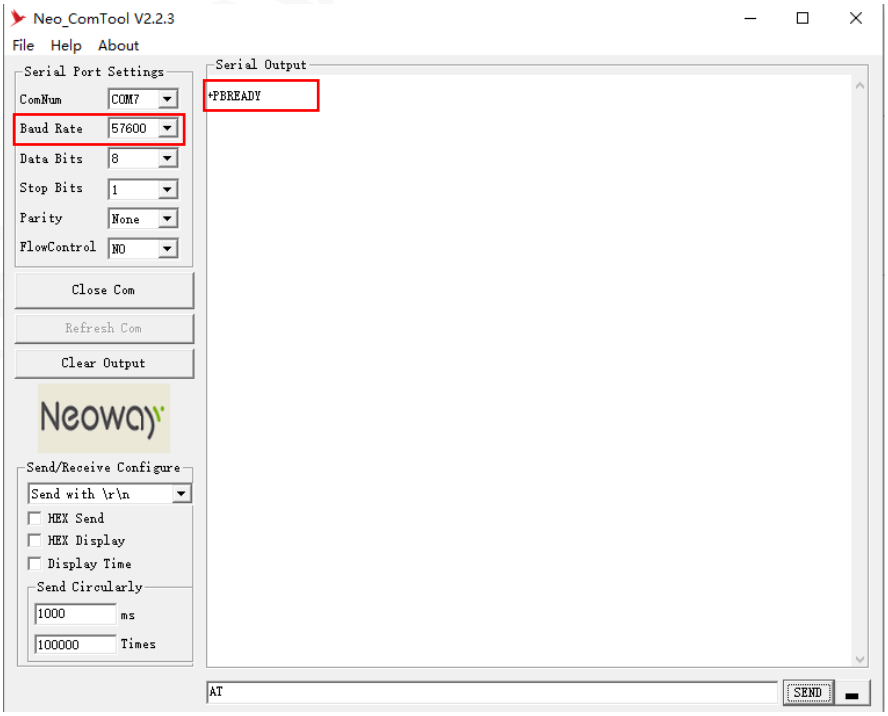
Step 4: Start a serial port tool.

The following figure shows the interface of Neo_COM tool. You should set the baud rate to 57600 or below before sending commands.



Step 5: Send an AT command to detect the baud rate.

The setting is available when value is displayed in the tool interface (indicating data can be transmitted between the module and the tool properly).



Due to the low power consumption configuration, the STATUS indicator and the NET indicator are disabled by default. Send **AT+LEDMODE=1** to enable the two indicators after the module starts.

- The module is running when the STATUS indicator is on in green.
- The module is registered to the network successfully when the NET indicator is on in green.
- The PPP connection is activated successfully when the NET indicator flashes in green.

Step 6: Start to test the functions of N25 according to the product documentation Neoway provides.