

N715

EVK User Guide

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Notice

This document provides guide for users to use N715 series modules.

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

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About This Document

Scope

This document is applicable to N715 series modules.




Audience

This document is intended for [system engineers \(SEs\)](#), [development engineers](#), and [test engineers](#).

Change History

Issue	Date	Change	Changed By
1.0	2023-03	Initial draft	Liam Fan

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

1 Product Description

1.1 Overview

N715 is a 4G industrial-grade cellular module developed based on UIS8910DM.

This document describes how to set up the N715 evaluation kit and provides information for evaluating and testing the N715 module using the SSCOM tool.

1.2 Kit Includes

- N715-EA_EVB_V1.0 evaluation board (including an N715 module)
- M5X0-PWR cable
- Others (power adapter and 4G antenna)

1.3 Buttons and Connectors

The available buttons and connectors of the N715-EA_EVB_V1.0 are shown in Figure 1-1.

Figure 1-1 N715-EA_EVB_V1.0 connectors and pin assignment

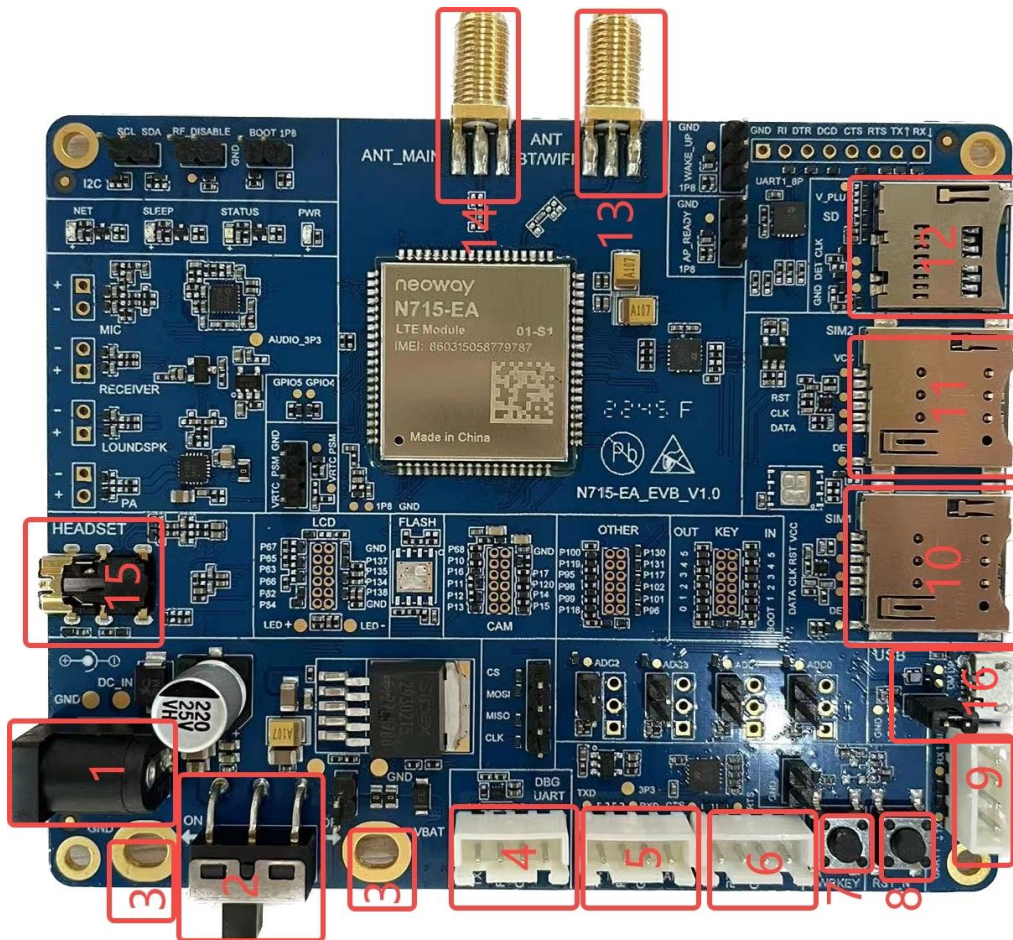


Table 1-1 EVB connectors and pin assignment:

No.	Button/connector	Function Description
1	5 V power supply connector	5V DC power input
2	Power switch	“ON” indicates the module is powered. “OFF” indicates the module is not powered.
3	Test point of the module power	A test point for the main power supply of the module. You can connect the test point to a voltage source for module’s power supply.
4	DBG_UART	Used for module debug
5	UART2	Used for data transmission
6	UART2	Used for flow control

7	PWRKEY	Pressing the PWRKEY button for 2s can trigger a power on of the module (If the module performs data communication via USB, the module will start automatically upon a power up.).
8	RST	Pressing the RST button for 1s triggers the module to execute a forced module reset.
9	UART1	<ul style="list-style-type: none">• Firmware in standard version: for AT communications.• Firmware in open version: used for data communications.
10	SIM1	SIM 1 micro card slot
11	SIM2	SIM 2 micro card slot
12	SD	SD card slot
13	ANT_BT/WIFI	Bluetooth / Wi-Fi antenna interface
14	ANT_MAIN	Main antenna interface
15	HEADSET	3.5 mm headphone interface
16	USB	Used to upgrade module firmware and capture module log.

2 Getting Started

To communicate with the module, you can connect a M5X0-PWR serial board (UART) or Micro-USB cable (USB). The following introduces the power supply mode and communication mode of the EVB.

2.1 Powering up the EVB

The N715 EVB can be powered up via different methods depending on the actual scenarios:

- Connecting via a 5V/3A power adapter
- Directly connecting (by cables) to an external stable power source.

To power up the N715 EVB (N715-EA_EVB_V1.0), plug in a 5 V/3 A power adapter (or directly connect the power supply test point to an external DC power source) and turn the EVB power switch to the “ON” side. Then power LED (PWR) will be solid on.

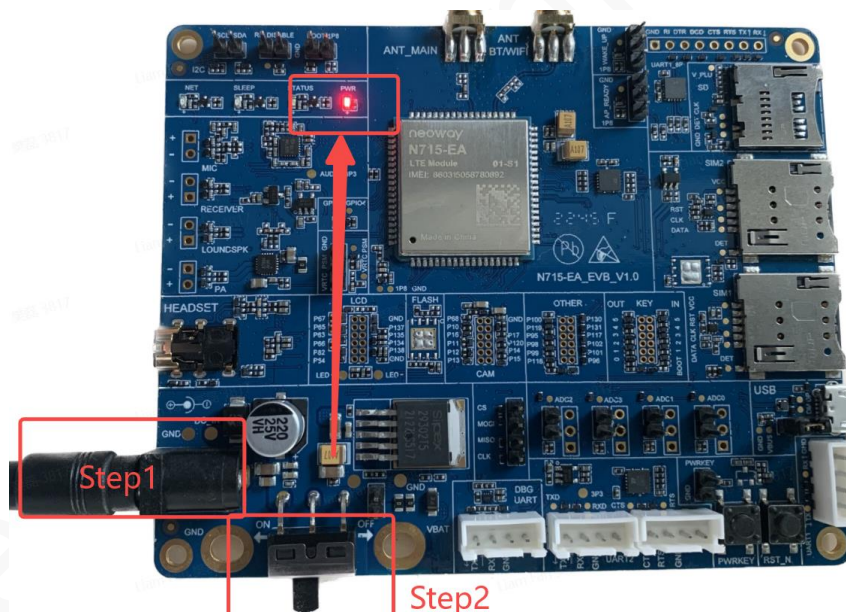


Figure 2-1 5V/3A power adapter



Figure 2-2 Directly connect the power supply test point to an external DC power source



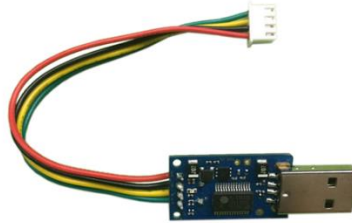
If the positive and negative poles of the power supply are reversely connected or the voltage exceeds the voltage range of the module, the module may be burnt out and difficult to repair.

The N715 EVB power input ranges from 3.4 V to 4.2 V. It is recommended to connect the power supply test point to a 3.6 V regulated power source. Ensure that the output current of the regulated power source is at least 2.5 A.

If you directly connect the N715 EVB to a DC power source via its power supply test point, do not reversely connect the positive and negative poles of the power supply. As shown in the following figure, use the black alligator clip (negative pole of the power source) to connect the GND test point of the power supply, and the red alligator clip (positive pole) to connect the VBAT test point of the power supply.

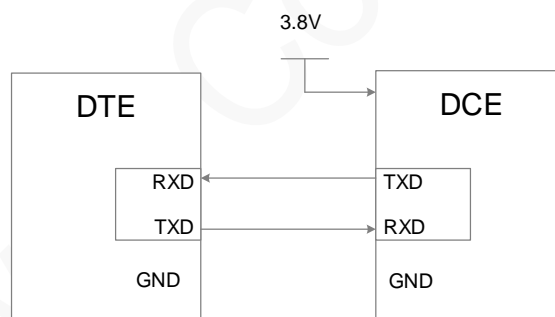
2.2 Communicating with the Module

Figure 2-3 M5X0-PWR serial port board



The figure above shows the M5X0-PWR serial port board. The board is used to output 3.3 V COMS level through a USB-to-serial-port chip and realize communication between the module and the PC serial port tool through TXD/RXD. The M5X0-PWR serial port board is designed, produced and used by Neoway based on the PL2303 chip. The driver of the PL2303 chip needs to be installed before the board is used. You can also select another USB serial port conversion cable or board based on chips such as FT2232 and CP210X and install the corresponding driver.

When an MCU is used to control this module, three wires need to be connected. The following figure shows the connection block diagram.



The following figure shows a micro-USB cable, which is connected to the USB interface of the N715 EVB and can be used for software upgrade, USB communication and capturing of module logs.

Figure 2-4 Micro-USB Cable



3 Evaluating/Testing N715

You can evaluate or test the module via the UART port or USB port.

3.1 Communicating via UART Port

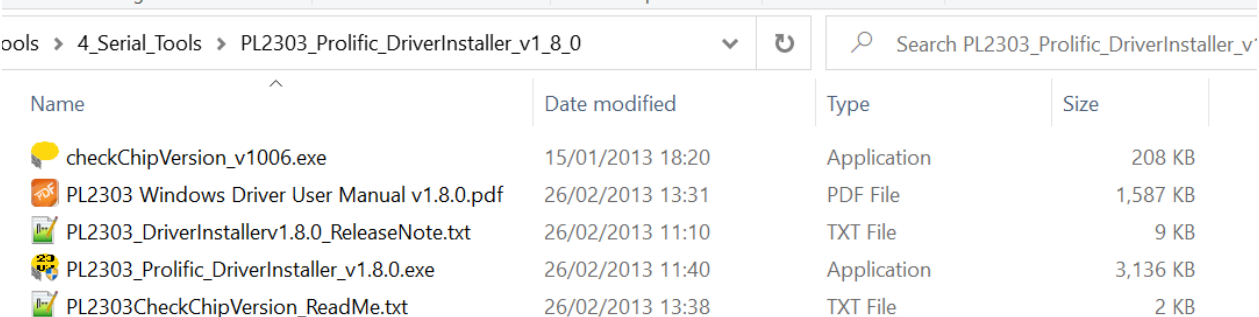
Step 1: Connect the N715 EVB to your computer through a M5X0-PWR cable.

Step 2: Power up the EVB (see section 2.1).

Step 3: Switch the N715 EVB on and then press the PWRKEY button for 2s to start the module.

Step 4: Install the serial port driver (of PL2303) and read the serial port.

1. Decompress the serial port driver package.



Name	Date modified	Type	Size
checkChipVersion_v1006.exe	15/01/2013 18:20	Application	208 KB
PL2303 Windows Driver User Manual v1.8.0.pdf	26/02/2013 13:31	PDF File	1,587 KB
PL2303_DriverInstallerv1.8.0_ReleaseNote.txt	26/02/2013 11:10	TXT File	9 KB
PL2303_Prolific_DriverInstaller_v1.8.0.exe	26/02/2013 11:40	Application	3,136 KB
PL2303CheckChipVersion_ReadMe.txt	26/02/2013 13:38	TXT File	2 KB

2. Double-click **PL2303_Prolific_DriverInstaller_v1.8.0** and install the serial port driver according to the setup wizard.

After the driver is installed, if the M5X0-PWR power board is inserted and the device manager port (COM and LPT) displays **Profile USB-to-Serial Comm Port**, then you can communicate with the module.



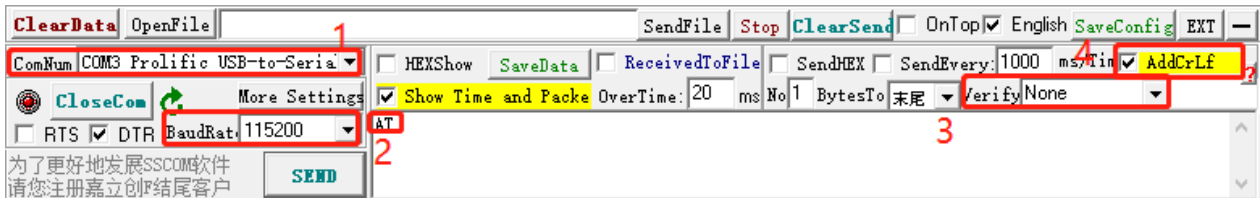
If you use the M5X0-PWR serial port board provided by Neoway, please contact Neoway FAEs or download the PL2303 driver by yourself.

Step 5: Start the serial port tool and perform corresponding settings. Assume the serial port tool is sscm (you can also use other serial port tools).

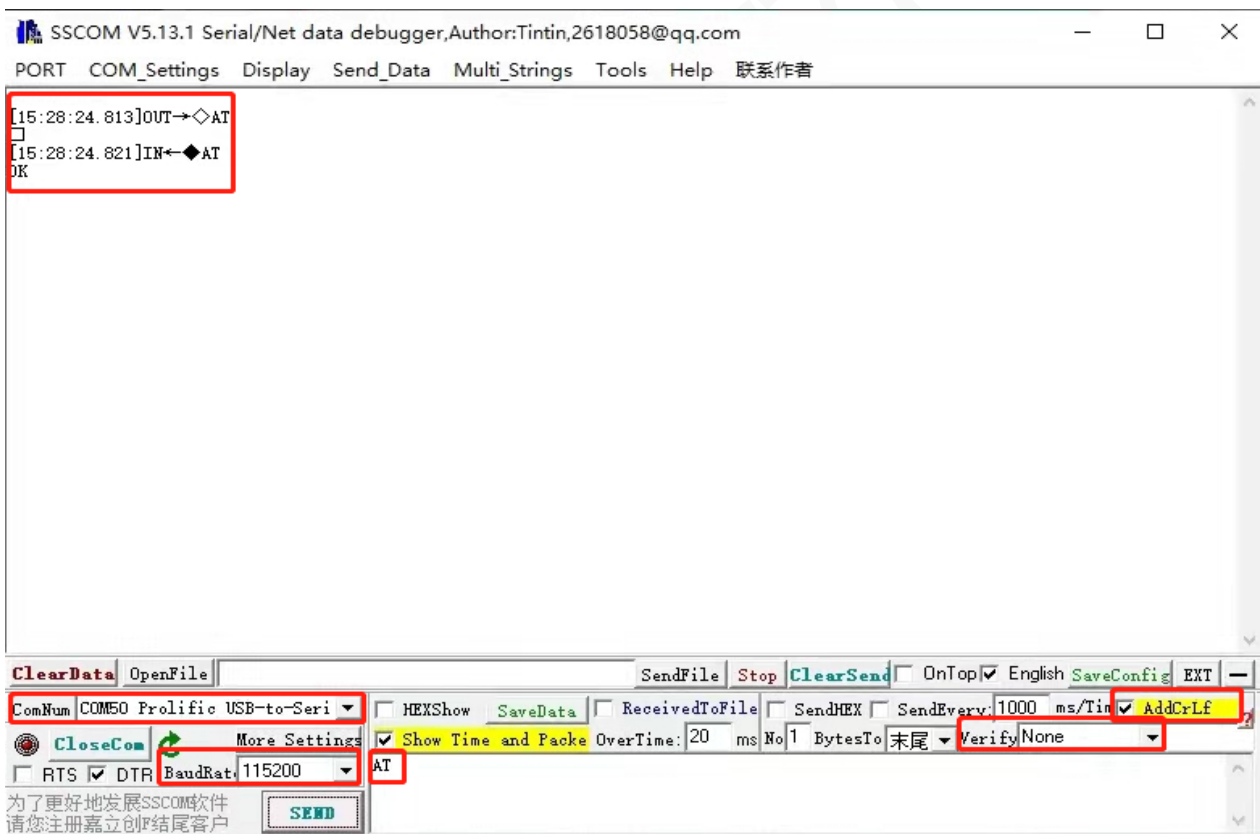
1. Select **ComNum** (corresponding to the **USB-to-Serial** port number displayed on the device manager interface).

2. Set **BaudRate** of the serial port tool to **115200** or a smaller value.
3. Set **Verify** to **None**.
4. Check the **AddCrLf** checkbox.

The following figure shows the parameter settings of the serial port tool



5. Send any AT command, for example, **AT**, to the module through the serial port tool to complete a first recognition of autobauding. After the baud rate is detected successfully, the module will work at the fixed baud rate, and characters will be displayed on the serial port tool interface.



Step 6: Use the serial port tool to evaluate or test the module.

3.2 Communicating via USB Port

Step 1: Connect the N715 EVB to your computer through a Micro-USB cable.

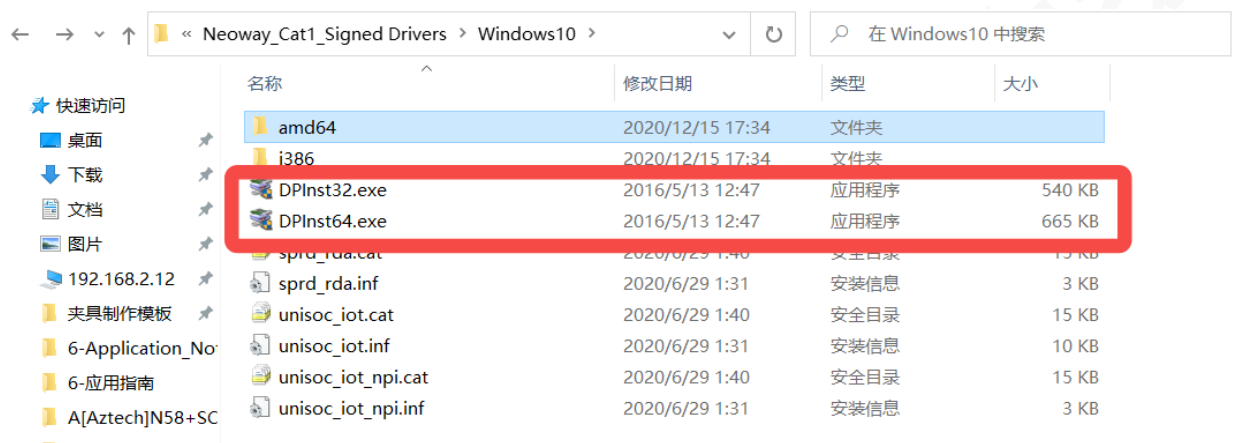
Step 2: Power up the N715 EVB. (see section 2.1)

Step 3: Insert a SIM card and install an antenna.

Step 4: Switch the EVB on and then start the module.

Step 5: Install the USB driver.

1. Decompress the compressed installation package of the USB drivers.

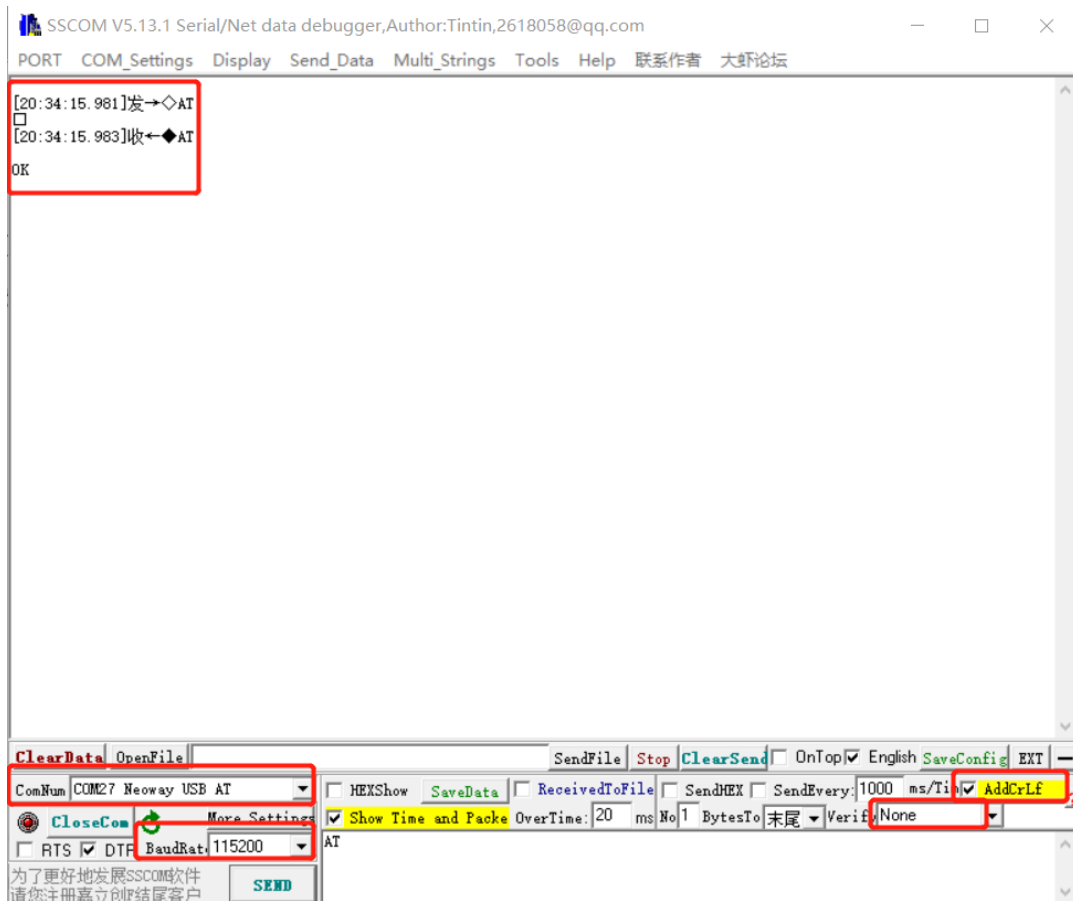


2. Double click DPIInst32 (32-bit executable file) or DPIInst64 (64-bit executable file) according to your computer configuration and follow the prompts to complete the installation.
3. After successful installation, a USB port number will display in the computer's device manager interface, as shown in the following figure.



Step 6: Start the serial port tool (the same as Step 5 in Section 3.1)

Select the port number corresponding to the Neoway USB AT port.



Step 7: Evaluate or test the module through the serial-port tool.



Please contact Neoway FAEs to obtain the latest USB driver file of the N715 module.

You can also upgrade the firmware of the module and capture logs via the USB port of the N715 EVB. In this case, you need to select the diagnostic COM port that is virtualized from the USB interface. For details, see the related documentation.