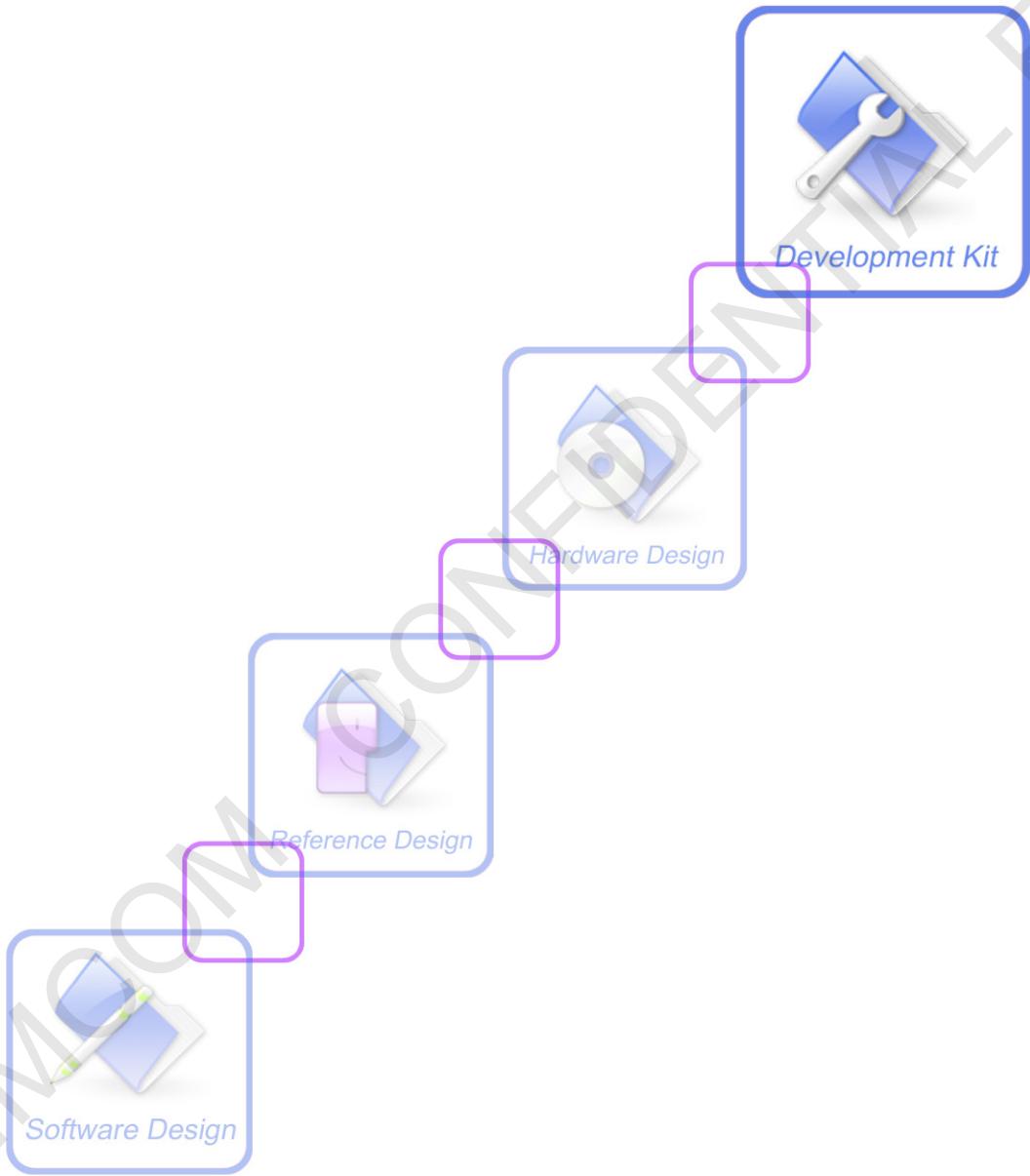




SIM868_TE Kit_User Guide_V1.00



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1 Version History

Data	Version	Description of change	Author
2017-01-04	1.00	Origin	Yanwu.Wang

SCOPE

This document describes how to use SIMCom-TE to do test; user can get useful info about the SIMCom-TE quickly through this document.

This document is subject to change without notice at any time.

1. SIM868-TE Overview

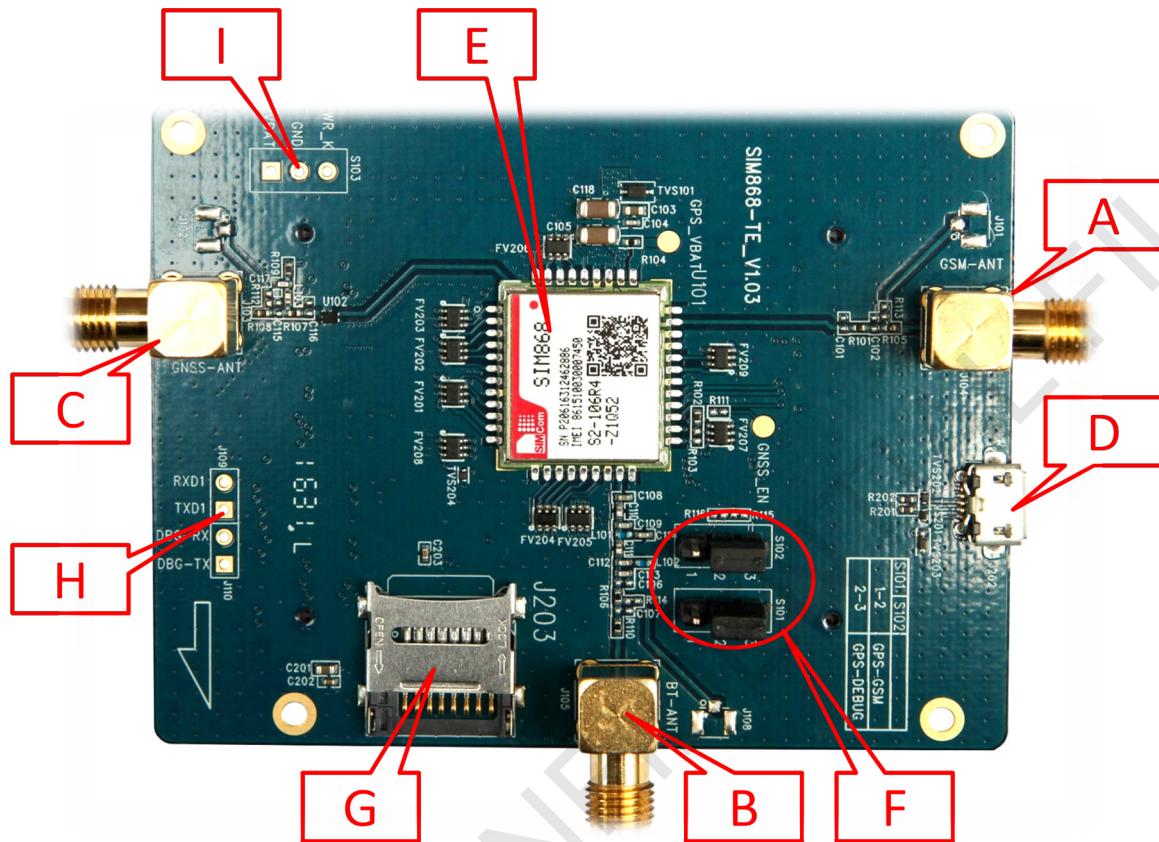


Figure 1: SIM868-TE TOP view

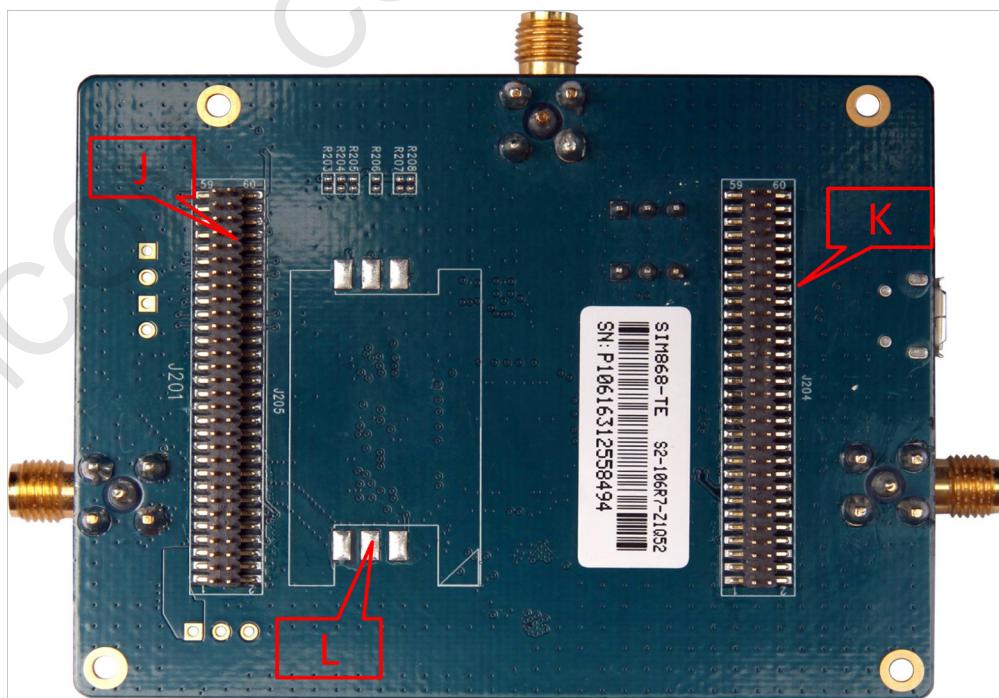


Figure 2: SIM868-TE BOTTOM view

-
- A: GSM-ANT
 - B: BT-ANT
 - C: GNSS-ANT
 - D: USB Jack
 - E: SIM868 Module
 - F: Jumper Cap
 - G: SD Connector
 - H: Test point of UART
 - I: Test point of power supply
 - J: TE Connector
 - K: TE Connector
 - L: SIMcard holder (reserved)

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2. USB Interface of SIMCOM-EVB

SIMCOM-EVB USB interface (A) could be imaged to two virtual ports.

For the detail, please refer to [SIMCOM EVB KIT User Guide V1.01](#).

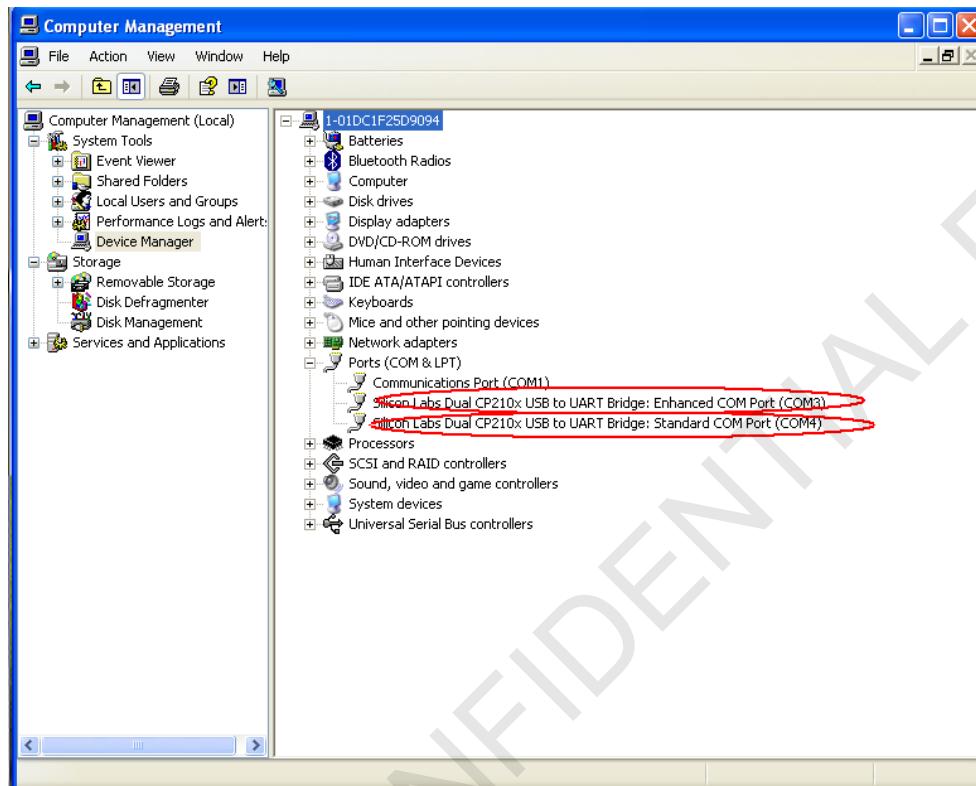


Figure 3: Virtualserial port

Enhanced COM port: AT communication and FW upgrading (SIM868 UART1)

Standard COM port: NMEA output and GNSS FW upgrading (SIM868 GPS_RXD/GPS_TXD)

CP2105 driver is available here:

<http://www.silabs.com/products/interface/usb-bridges/Pages/usb-bridges.aspx>

3. Stand-alone mode of SIM868-TE

3.1 Connection of Stand-alone Mode

In stand-alone mode, GSM and GNSS's FW could be upgraded through UART1 and GPS_UART seperately. And GSM part could also be upgraded through USB port (J202) of the TE board.

Driver for SIM868 USB interface : [MS_USB_ComPort_Driver_exe_v1.1032.1](#)



MS_USB_ComPort_Driver_exe_v1.1032.1.rar

As Figure 4 and Figure 5 shown the connection of stand-alone mode:

- Keep location R103 open (NM) and location R102 10K resistor.
- Pin2 and Pin3 of S101 & S102 should be connected together.

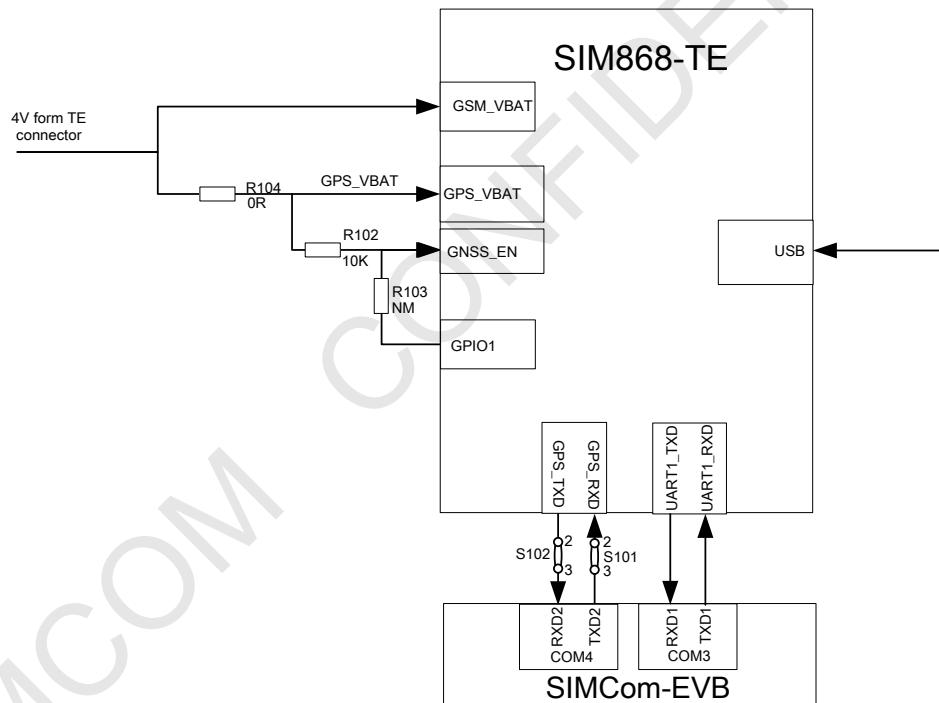


Figure 4: Stand-alone Mode Diagram

As the Figure 5, in Stand-alone mode, we should paste 10K resistor to location **R102** and keep location **R103 open (NM)**. For jumper cap **S101 & S102**, please keep pin2 connect to pin3.

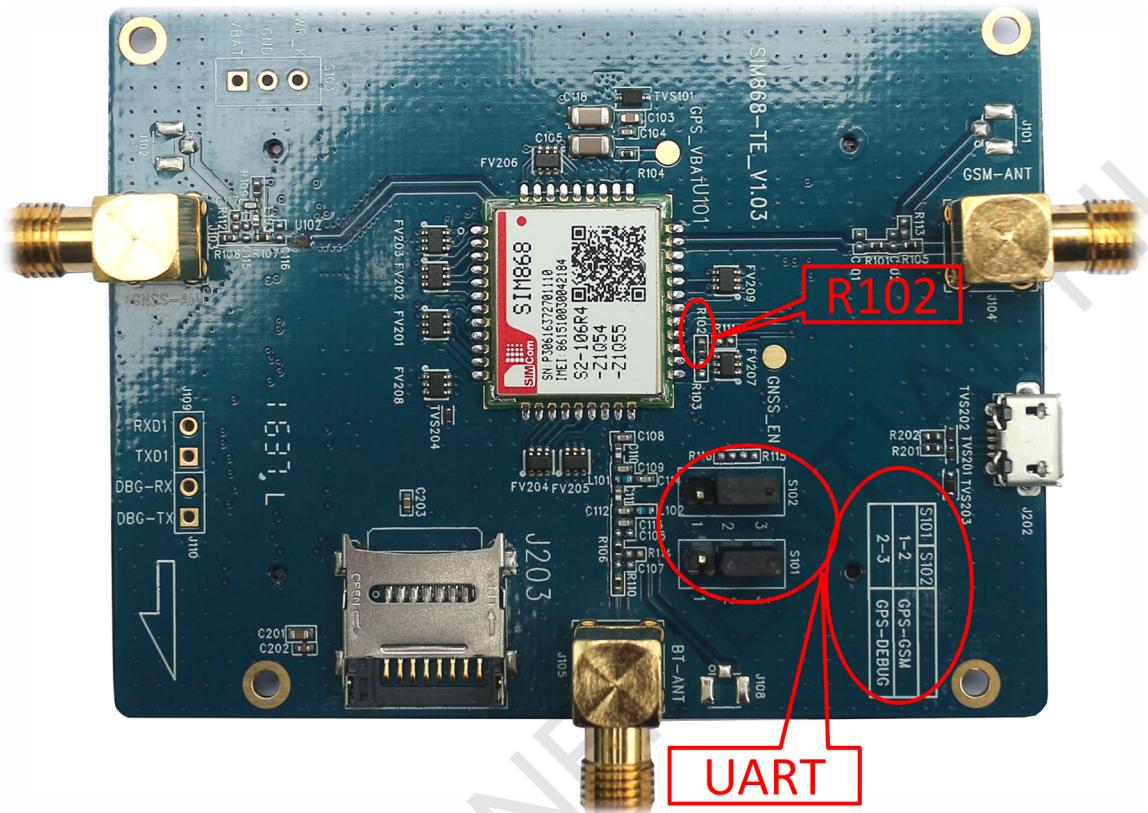


Figure 5: Stand-alone Mode Diagram of TE Board

3.2 FW upgrading for Stand-alone Mode

3.2.1 FW upgrading for GSM

The following are the procedure of FW upgrading for the GSM part.

Step1, Ready for GSM FW package.

GSM FW package

名称	大小	类型	修改日期
1418B02SIM868M32.CFG	4 KB	CFG 文件	2016-12-2 15:17
BPLGInfoCustomAppSrcP_MT6261_S00_1418B02SIM868M32	3,517 KB	文件	2016-10-20 10:01
EXT_BOOTLOADER	32 KB	文件	2016-10-20 9:49
ROM	370 KB	文件	2016-10-20 10:00
ROM_VIVA	2,438 KB	文件	2016-10-20 10:01
SIM868M32_BOOTLOADER_V005_MT6261_1418B02SIM868M32	7 KB	BIN 文件	2016-10-20 9:49
SIM868M32_PCB01_gprs_MT6261_S00.elf	41,389 KB	ELF 文件	2016-10-20 10:00
VIVA	2,067 KB	文件	2016-10-20 10:00

Figure 6: GSM FW Package

Step2, The flash tool is **SIM800_Series_download_Tools_Customer_v1.19** as show in Figure 7 and open the flash tool.

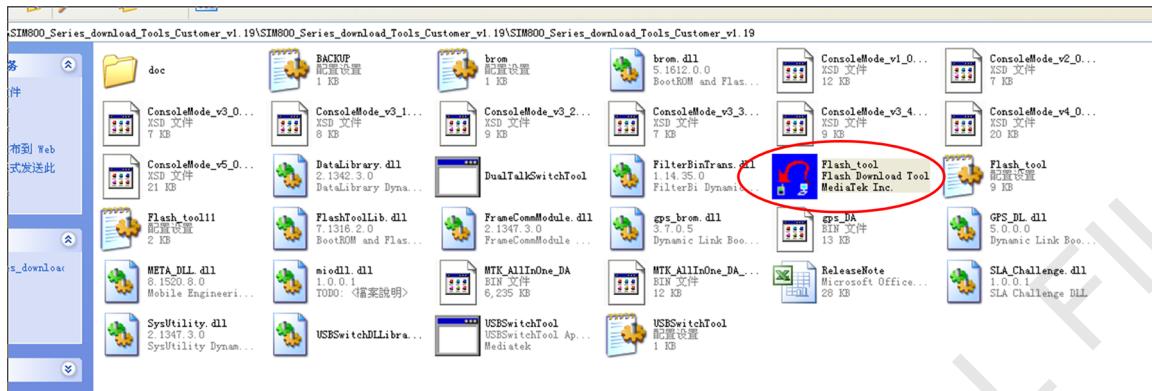


Figure 7: Download Tool

Step3, Both UART1 port (J204 Enhanced COM port on SIMCOM-EVB) and USB port (J202 on SIM868-TE) of SIM868 are supported to do the GSM FW upgrading.

Figure 8: take UART port for example.

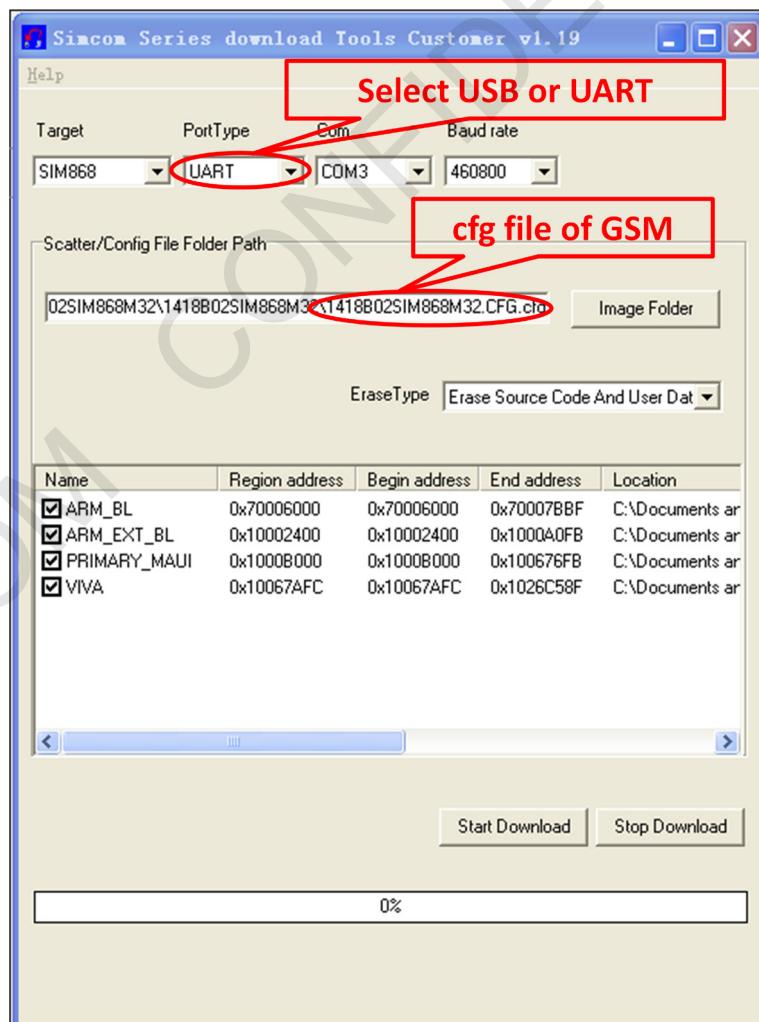


Figure 8: GSM CFG File Select

Step5, Press “Start Download” button

Start Download

, press the “POWER_ON” key



for 10 seconds

(SW401 on SIMCOM-EVB) after switching Power (S201 on the SIMCOM-EVB) from OFF to ON.

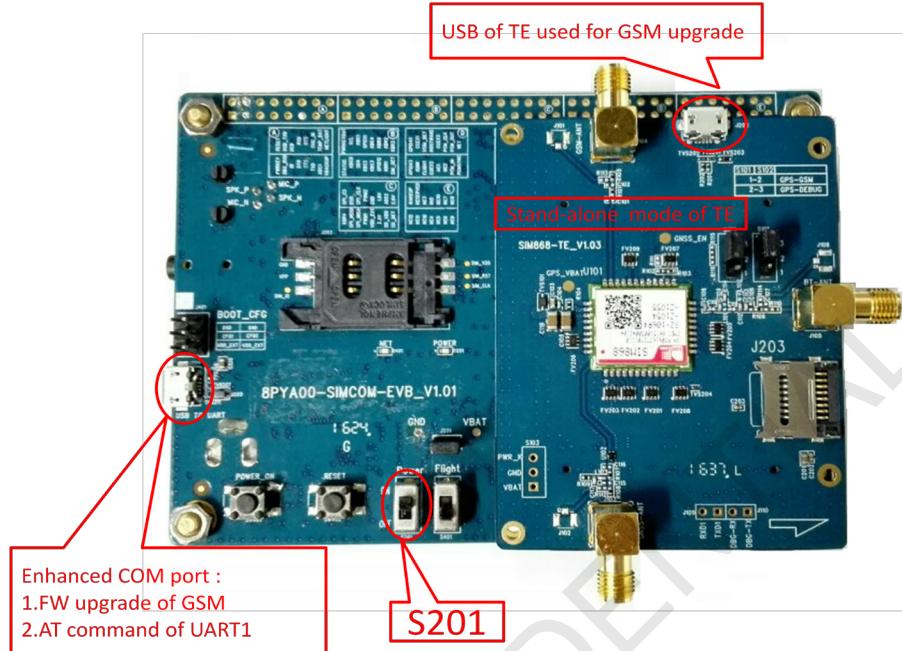


Figure 9: EVB Interface for GSM FW Upgrade

Step6, FW upgrading for GSM automatically. Figure 10 shown the FW upgrading is in processing and Figure 11 shown wait until the Green O (OK), which indicates Download has been finished.

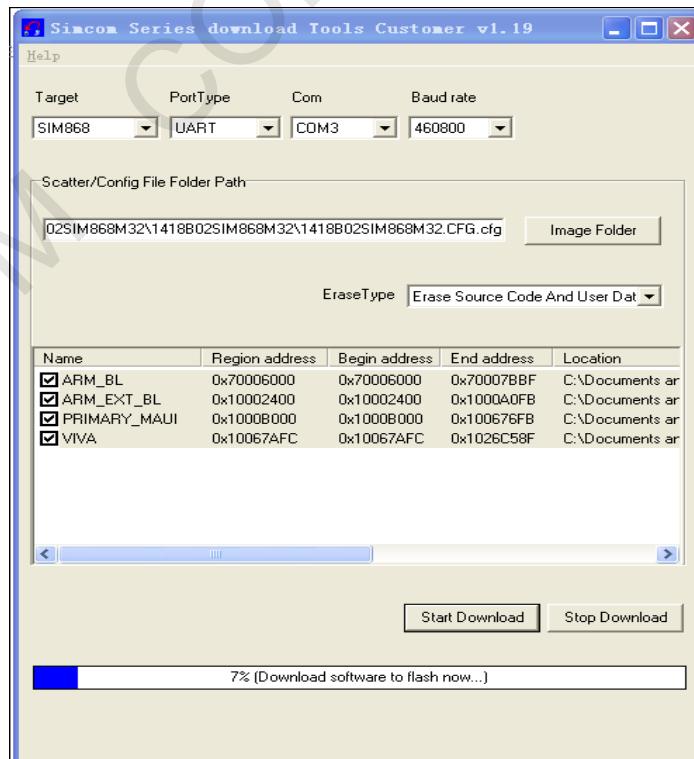


Figure 10: GSM FW Upgrading

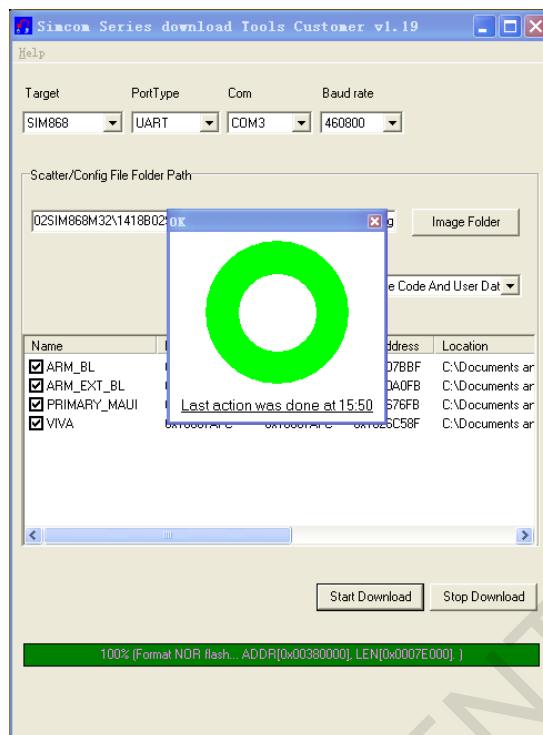


Figure 11: GSM FW Upgrading Complete

3.2.2 FW upgrading for GNSS

The following are the procedure of FW upgrading for GNSS part.

Step1, Ready for GNSS FW package.

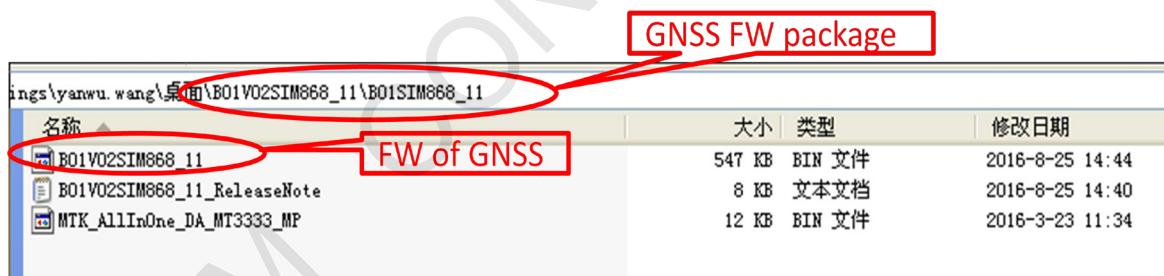


Figure 12: GNSS FW Package

Step2, the **PowerFlash_Simcom** flash tool as shown in Figure 13 and open the PowerFlash_Simcom.



Figure 13: Power Flash Tool

Step3, Open the PowerFlash_Simcom tool and press (Ctr+Alt+T) then input 123456;

Select ComPort (J204 Standard COM port on SIMCOM-EVB) and Update Baudrate 460800bps.

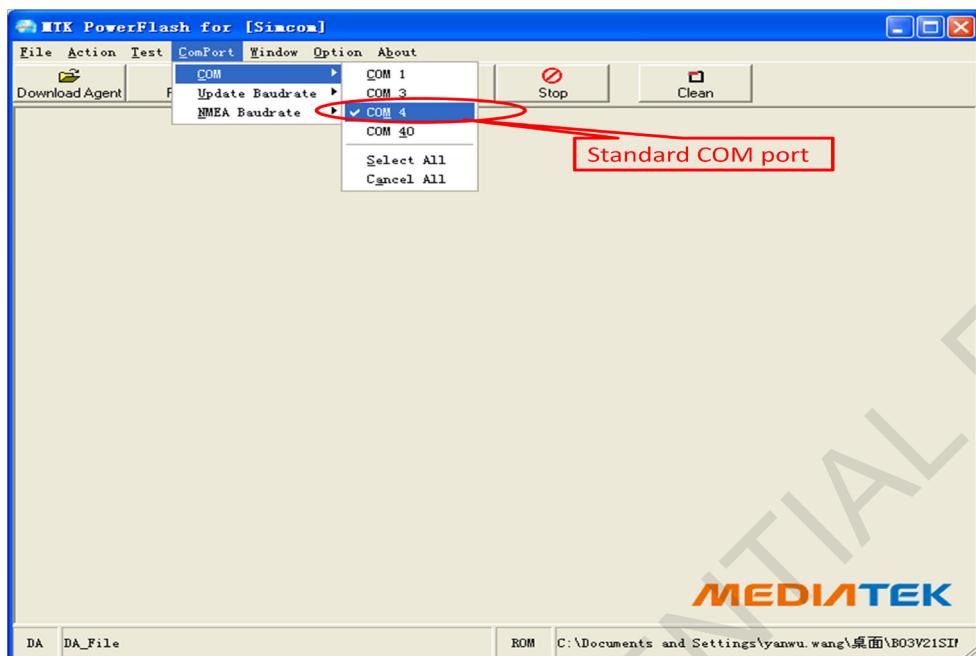


Figure 14: COM Port Select

Step4, as Figure 15 shown, select Download Agent and ROM.

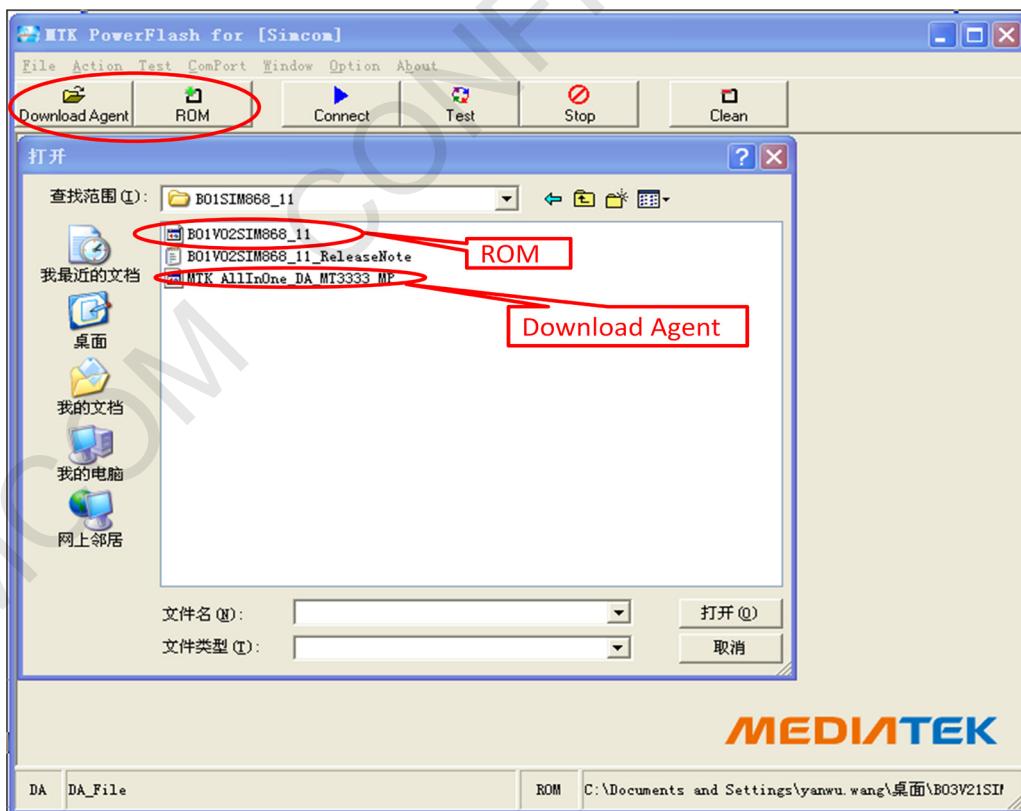


Figure 15: FW of GNSS Select

Step5, Switch Power (S201 on the SIMCOM-EVB) from OFF to ON and press SW401 for 2 second to power up

SIM868. And then press Connect and Test sequence of Figure 15

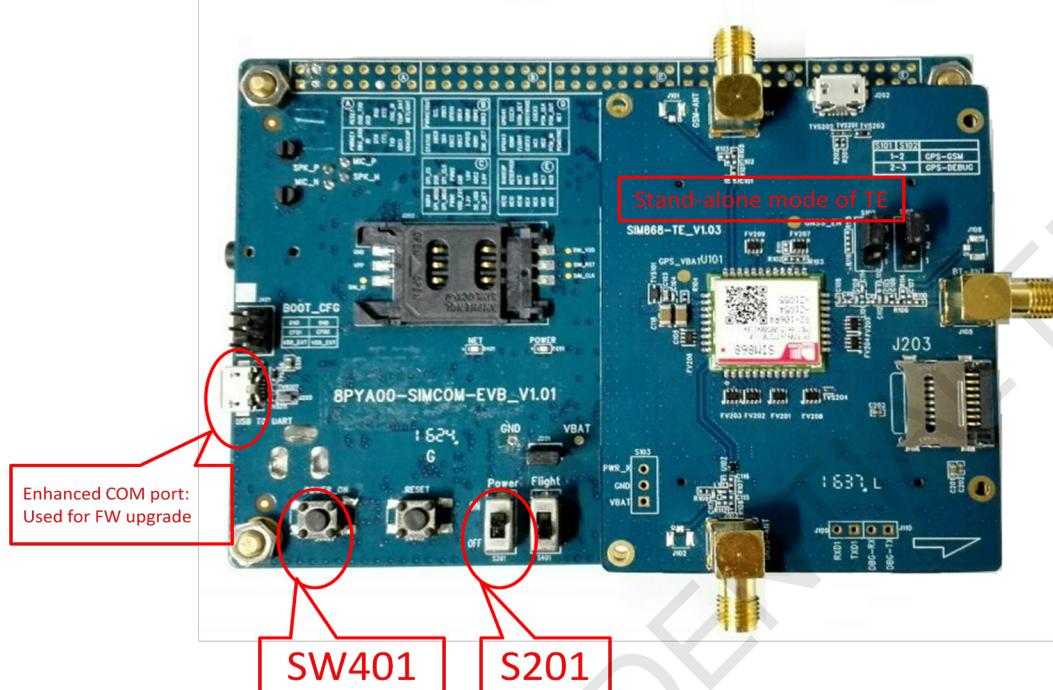


Figure 16: EVB Interface for GNSS FW Upgrade

Step6, FW upgrading for GNSS automatically. Figure 17 shown the FW upgrading is in processing and Figure 18 shown wait until the rate of progress 100%, which indicates Download has been finished.

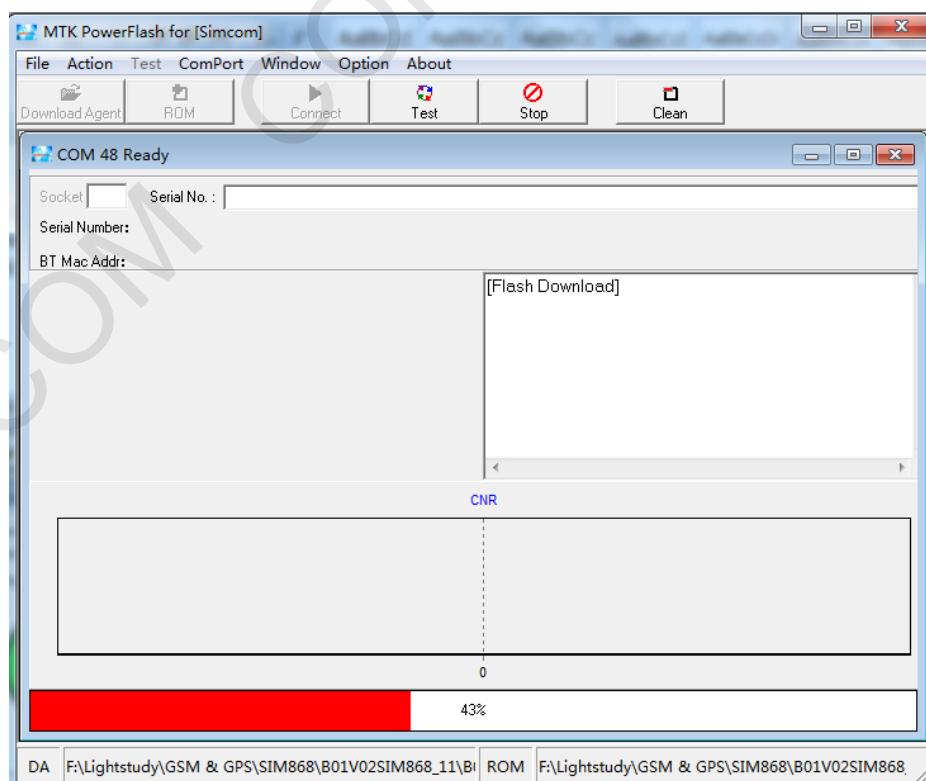


Figure 17: GNSS FW Upgrading

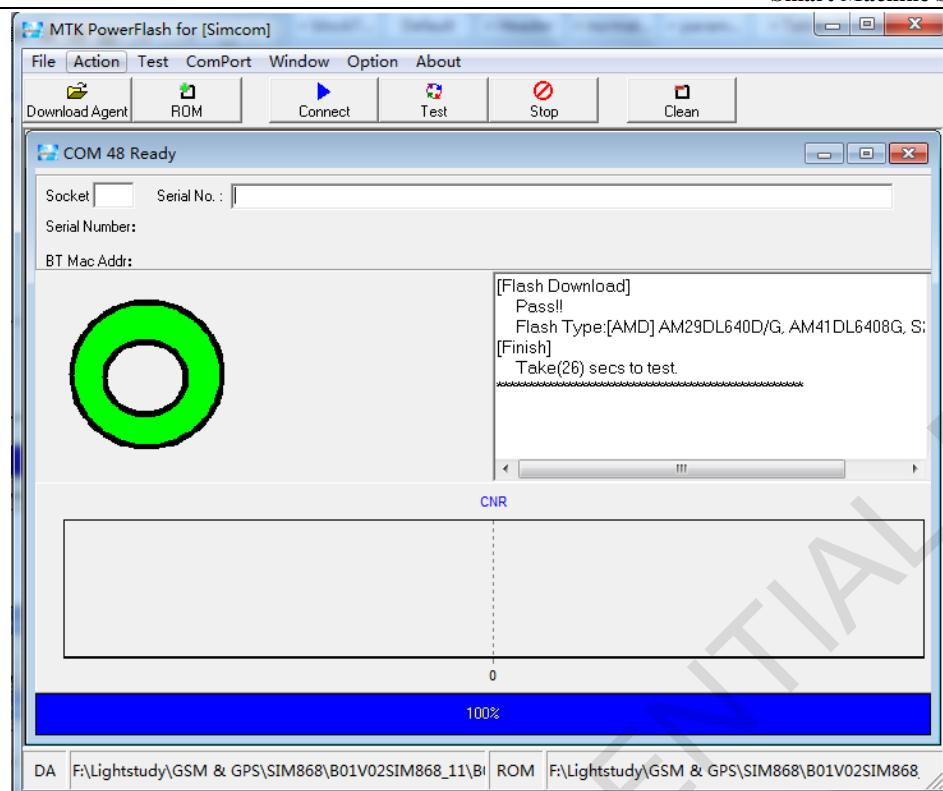


Figure 18: GNSS FW Upgrading Complete

3.3 Application of Stand-alone mode

As shown in Figure 19, switch S201 (on SIMCOM-EVB) to "ON" and then press SW401 (on SIMCOM-EVB) for 2 seconds to power up SIM868 module. Flight mode control S401 ("ON" is equal to AT+CFUN=1).

- Enhanced COM port: used for AT communication for GSM part.
- Standard COM port: used for GNSS NMEA output for GNSS part.

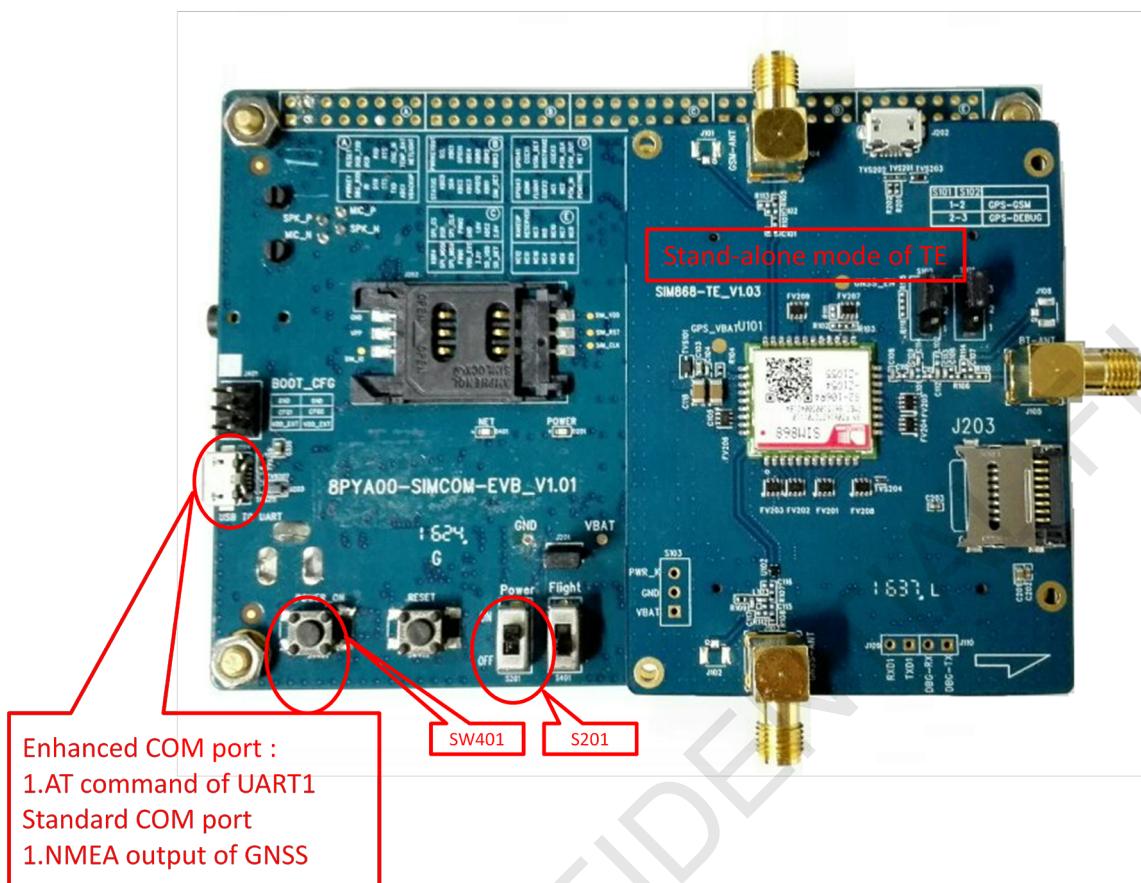


Figure 19: SIMCOM-EVB Interface for GSM and GNSS Commucation

4. All-in-one mode of SIM868-TE

4.1 Connection of all-in-one Mode

In all-in-one mode, GNSS part can be enabled through AT command “**AT+CGNSPWR=1**” and disabled through AT command “**AT+CGNSPWR=0**”. GSM and GNSS’s FW could be upgraded through USB port (J202 on SIM868-TE) or UART1 of GSM part (Enhanded COM port) together.

Driver for SIM868 USB : **MS_USB_ComPort_Driver_exe_v1.1032.1**



[MS_USB_ComPort_Driver_exe_v1.1032.1.rar](#)

Figure 20 and Figure 21 show the connection of all-in-one mode:

- Keep location **R102 open (NM)** and location **R103 10K** resistor.
- **Pin1 and Pin2** of S101 & S102 should be connected together.

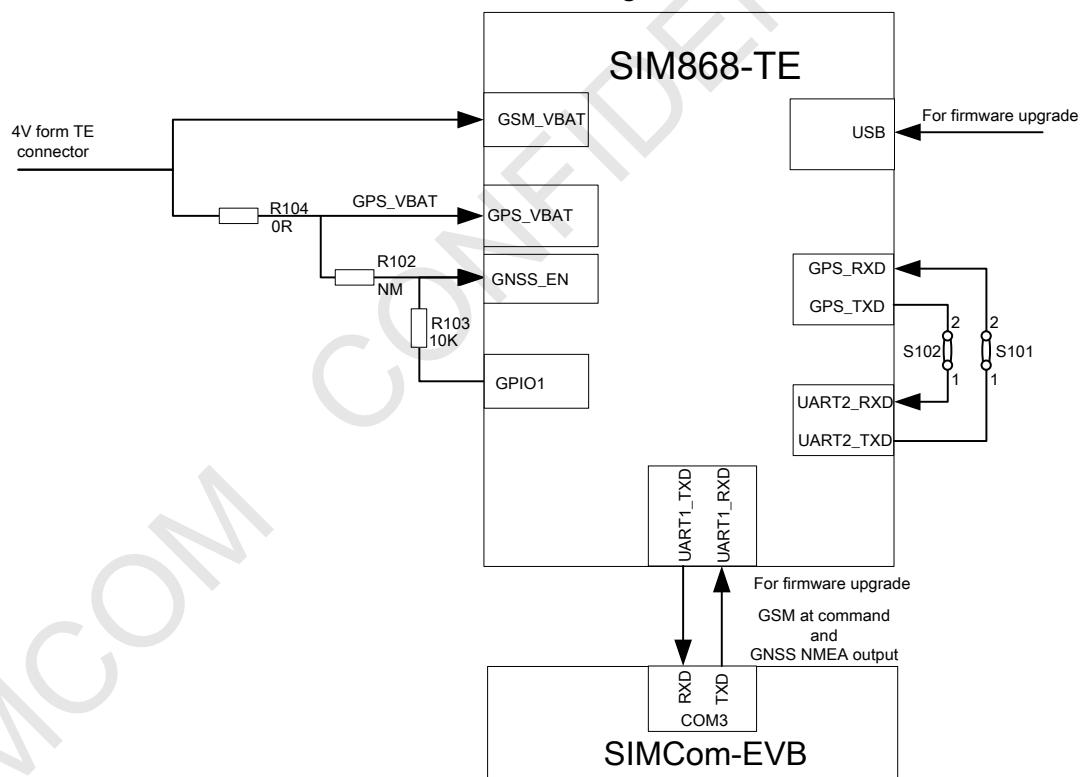


Figure 20: All-in-one Diagram

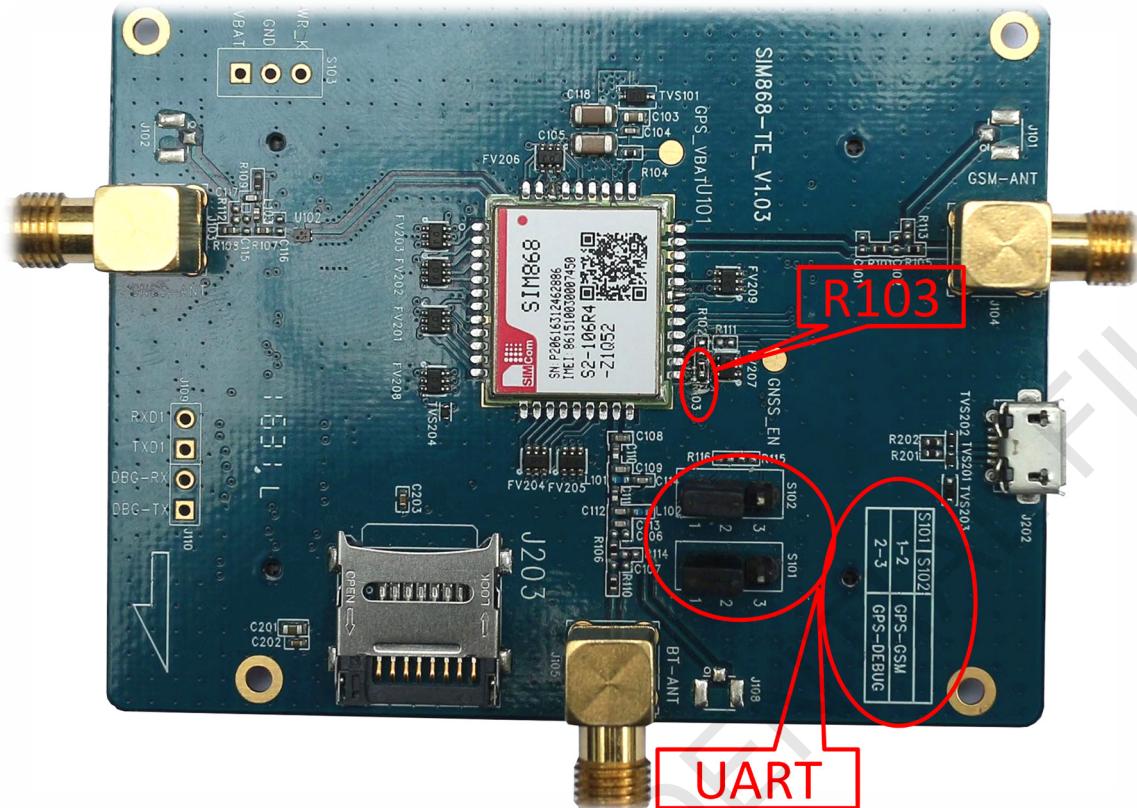


Figure 21: All-in-one Diagram of TE Board

4.2 FW Upgrading for All-in-one Mode

The following are the procedure of FW upgrading for all-in-one mode.

Take GSM FW "1418B02SIM868M32" and GNSS FW "B01V02SIM868_11" for example.

Step1, Copy the B01V02SIM868_11.bin into the GSM FW package.

名称	大小	类型	修改日期
1418B02SIM868M32.cfg	4 KB	CFG 文件	2016-11-21 15:48
B01V02SIM868_11	547 KB	BIN 文件	2016-8-25 14:44
BPLGUInfoCustomAppSrcP_MT6261_SO0_1418B02SIM868M32	3,517 KB	文件	2016-10-20 10:01
EXT_BOOTLOADER	32 KB	文件	2016-10-20 9:49
ROM	370 KB	文件	2016-10-20 10:00
ROM_VIVA	2,438 KB	文件	2016-10-20 10:01
SIM868M32_BOOTLOADER_V005_MT6261_1418B02SIM868M32	7 KB	BIN 文件	2016-10-20 9:49
SIM868M32_PCB01_gprs_MT6261_SO0.elf	41,389 KB	ELF 文件	2016-10-20 10:00
VIVA	2,067 KB	文件	2016-10-20 10:00

Figure 22: FW Package of SIM868

Step2, Modify the CFG file (1418B02SIM868M32.cfg) as shown in Figure 23. As procedure A,B and C shown, the cfg file change from (-file :MT3333.bin) to (-file :B01V02SIM868_11.bin)

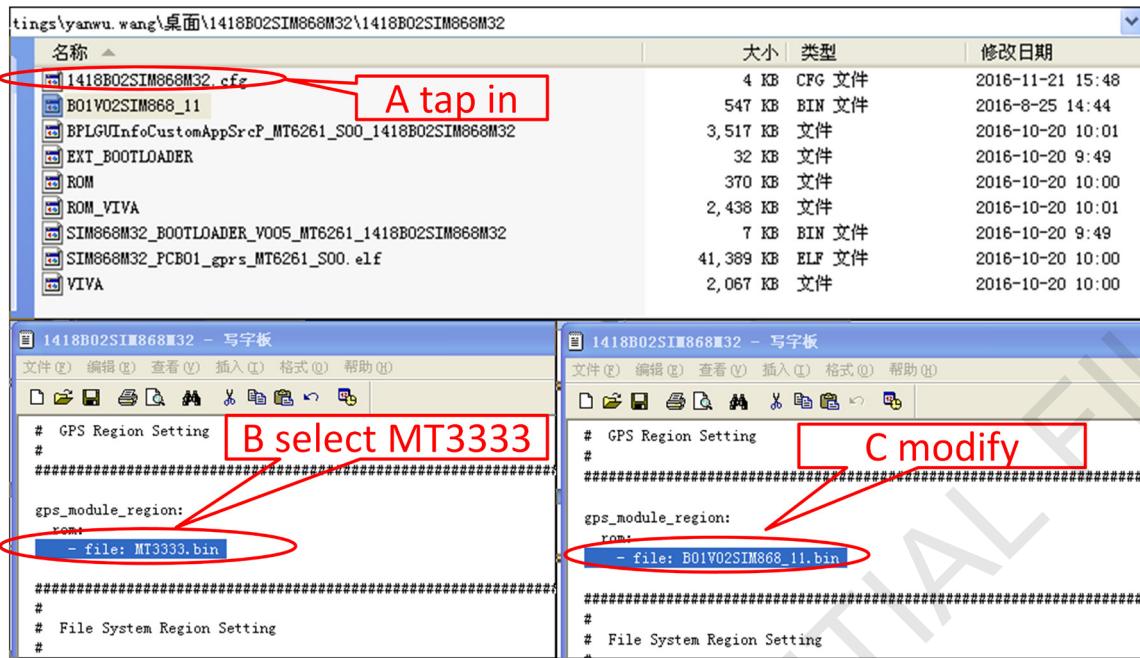


Figure 23: Modify cfg File

Step3, The flash tool is **SIM800_Series_download_Tools_Customer_v1.19** as show in Figure 24 and open the flash tool.

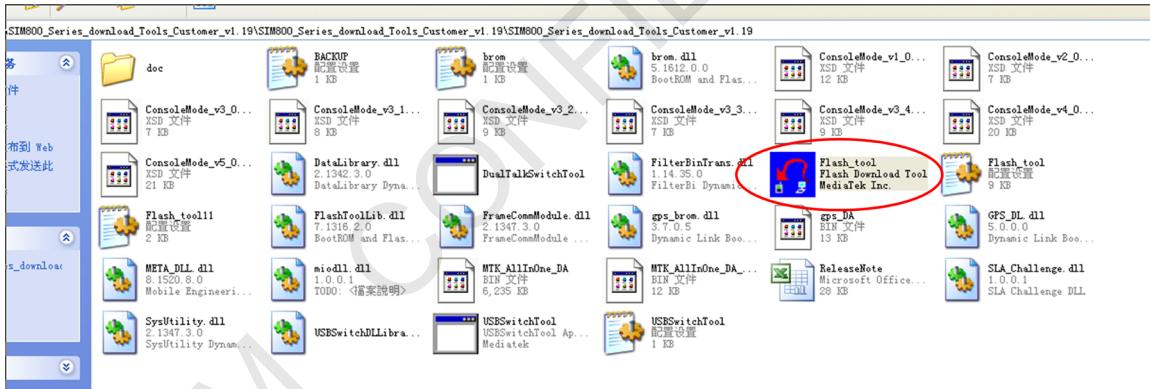


Figure 24: Download Tool

Step4, Both UART1 port and USB port of SIM868 are supported to do the FW upgrading.
Figure 25 take USB port for example.

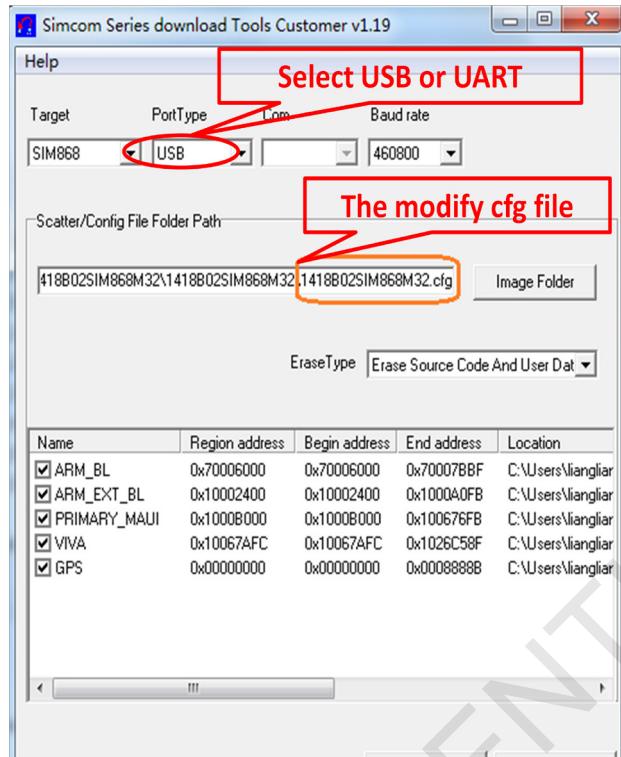


Figure 25: CFG File Select

Step5, Press “Start Download” button , and then switch Power (S201 on the SIMCOM-EVB) from OFF to ON.

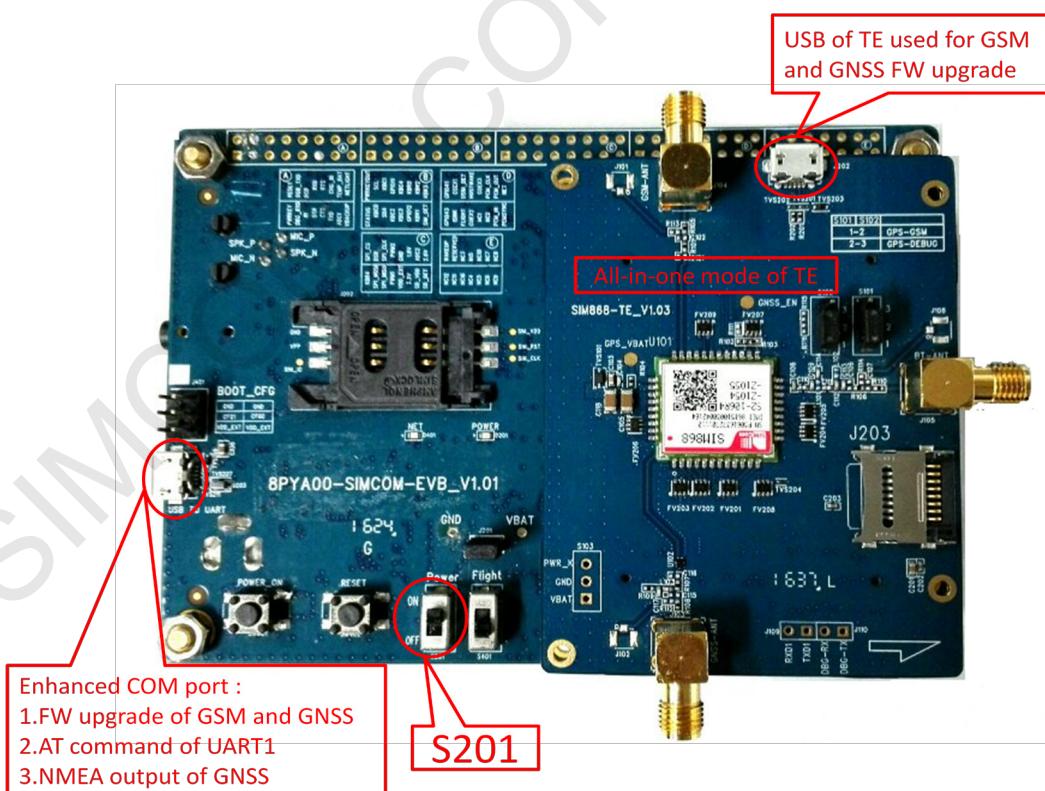


Figure 26: EVB Interface for FW Upgrade

Step6, FW upgrading for both GSM and GNSS automatically. Figure 27 shown the FW upgrading is in processing and Figure 28 shown wait until the Green O (OK), which indicates Download has been finished.

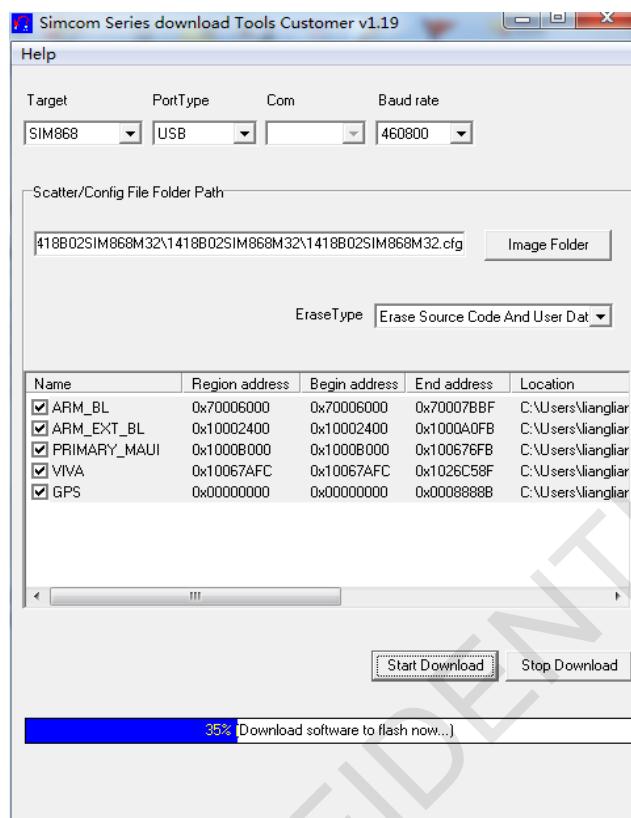


Figure 27: FW Upgrading

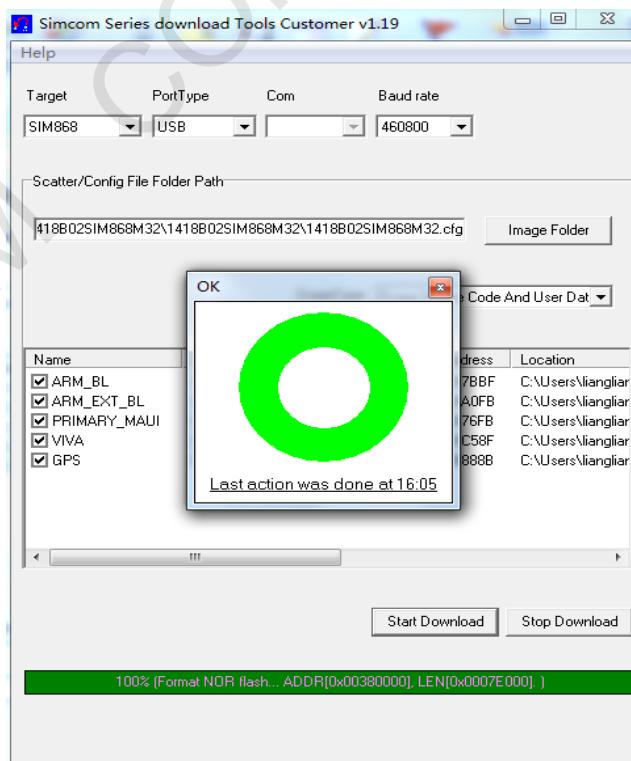


Figure 28: Upgrading Complete

4.3 Application of all-in-one mode

As shown in Figure 19, switch S201 (on SIMCOM-EVB) to "ON" and then press SW401 (on SIMCOM-EVB) for 2 seconds to power up SIM868 module. Flight mode control S401 ("ON" is equal to AT+CFUN=1).

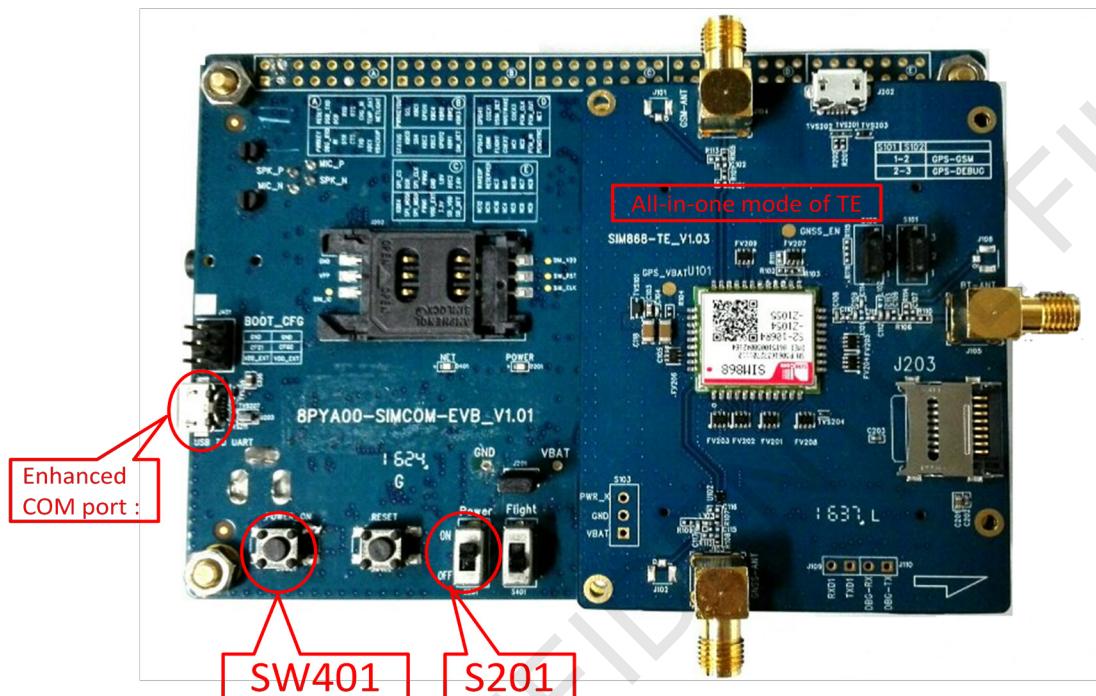


Figure 29: EVB Interface for Commucation

Figure 30 Show AT communication example with UART1 (Enhanded COM port).

- Enhanced COM port: used for AT communication for GSM and GNSS part.
- AT+GMR (check the FW revision)
- AT+CGNSPWR=1 (power on GNSS)
- AT+CGNSTST=1 (Turn on NMEA output)

For the detail, please refer to [SIM800 Series GNSS Application Note V1.00](#).

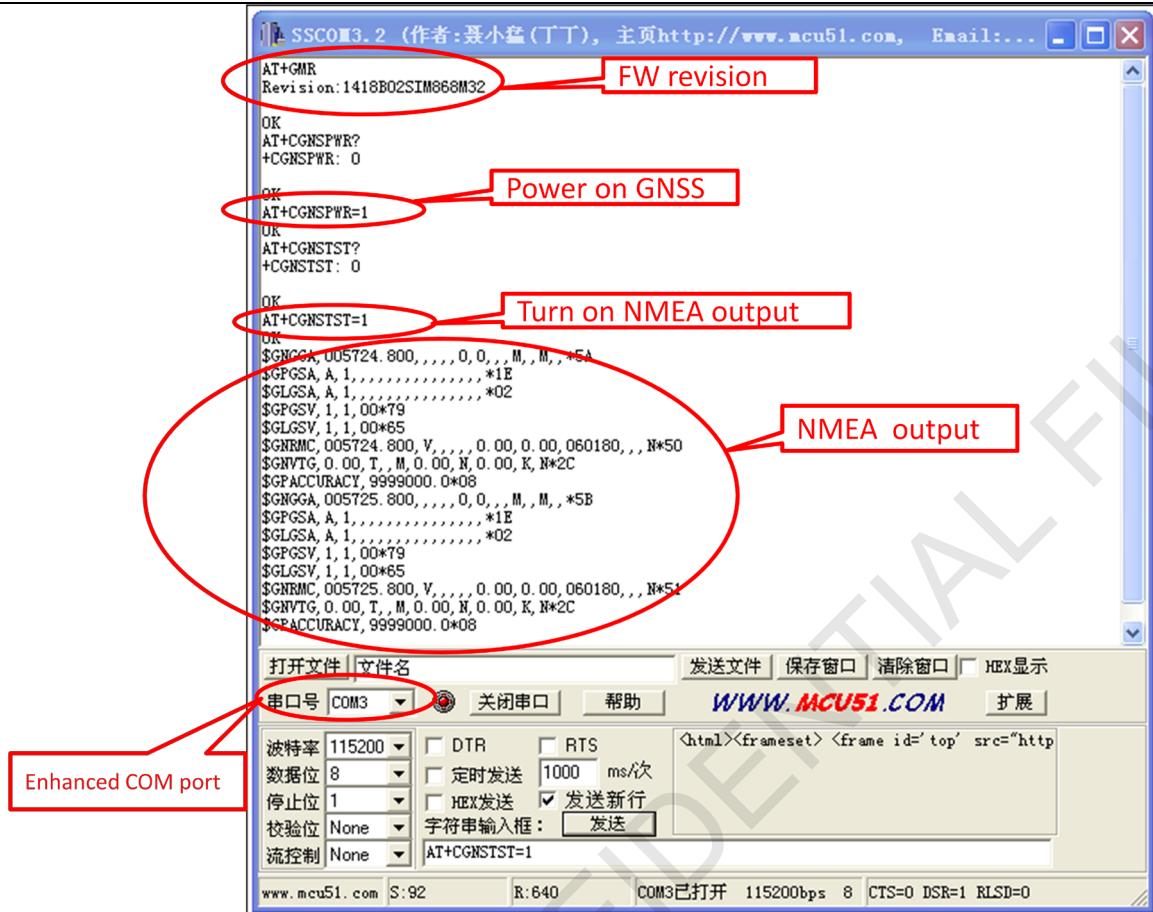


Figure 30: Commucation Information of UART1