Feature 13: switches and buttons

Table 9: switches and buttons

| Number	Name	Description
SW101	POWER_KEY	EVB power switch
SW102	RESET	Module reset button
SW103	WAKEUP	Module wake-up button
SW1	DOWNLOAD	Firmware upgrade switch

※ Note

1. When the serial port baud rate is less than or equal to 9600bps, there is no need to use the WAKEUP button of EVB to wake up, and the module can be directly awakened by sending AT commands through UART1. When the baud rate is greater than 9600bps, you need to use the WAKEUP button to pull down WAKEUP to wake up the module. For details, please refer to the document [1].
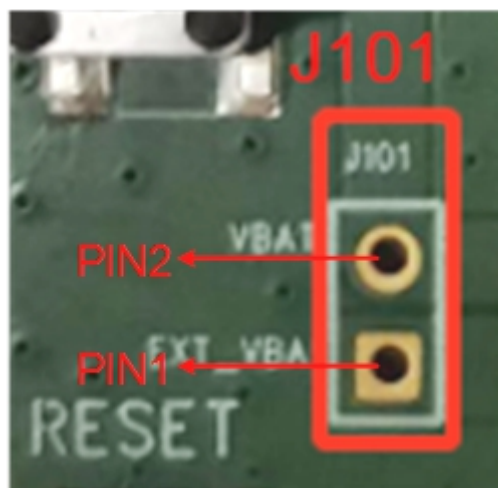
2.6 Test Points

There are four sets of test points J101, J105, J106, J107 on SIM7022 EVB. The details of the test points are

as follows.
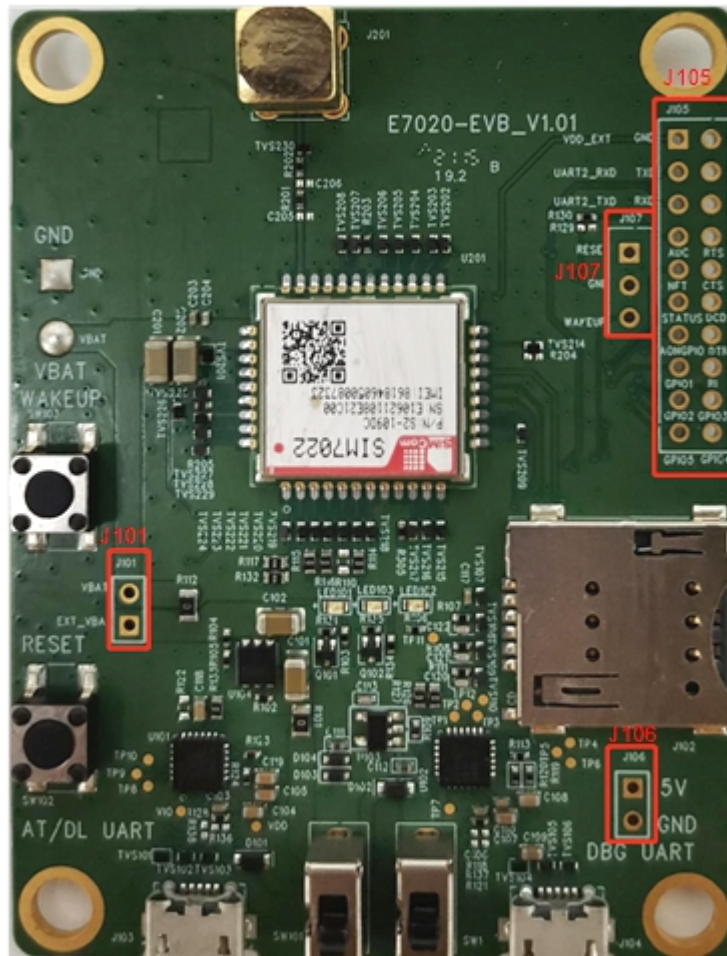
Feature 14: Test point location

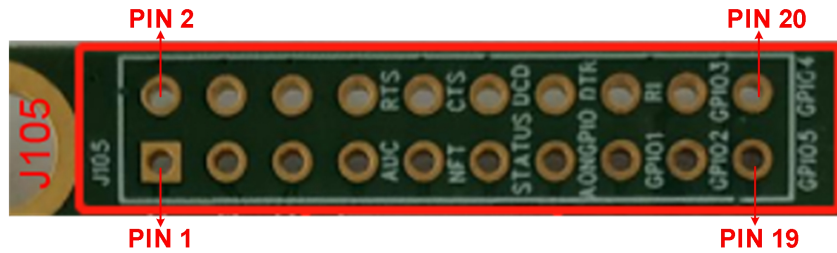The pin definition of position J101 is shown in the figure below.

Feature 15: The pin definition of position J101 on EVB

Table 10: Test point description of J101 on EVB

Position			
J101	J101_PIN1	EXT_VBAT	EVB LDO power supply output voltage test point
	J101_PIN2	VBAT	Module power input voltage test point

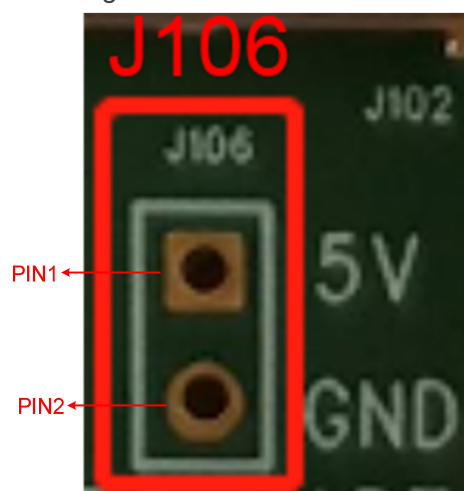The pin definition of position J105 is shown in the figure below.

Feature 16: Pin definition of location J105 on EVB

Table 11: Pin description of location J105 on EVB

Position	Test point	Signal description	Pin number	Pin name
J105	J105_PIN1	VEXT	24	VDD_EXT
	J105_PIN2	SWD_CLK	25	IIC_SDA
	J105_PIN3	GND	-	-
	J105_PIN4	SWD_DIO	26	IIC_SCL
	J105_PIN5	ADC	9	ADC0
	J105_PIN6	GND	-	-
	J105_PIN7	RI	20	RI
	J105_PIN8	TXD	18	UART1_TX
	J105_PIN9	NET	16	NETLIGHT
	J105_PIN10	RXD	17	UART1_RX
	J105_PIN11	GND	-	-
	J105_PIN12	UART2_RX	28	UART2_RX
	J105_PIN13	MISO	3	SPI_MISO
	J105_PIN14	UART2_TX	29	UART2_TX
	J105_PIN15	MOSI	4	SPI_MOSI
	J105_PIN16	GND	-	-
	J105_PIN17	SCLK	5	SPI_SCLK
	J105_PIN18	DBG_TX	39	DBG_TXD
	J105_PIN19	CS	6	SPI_CS
	J105_PIN20	DBG_RX	38	DBG_RXD

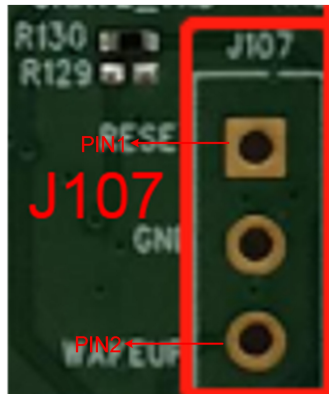The pin definition of J106 is shown in the figure below.

Feature 17: The pin definition of J106 on EVB

Table 12: The pin description of J106 on EVB

Position	Test point	Signal name	Description
J106	J106_PIN1	5V	EVB 5V power supply test point
	J106_PIN2	GND	GND

The pin definition of J107 is shown in the figure below.

Feature 18: The pin definition of J107 on EVB

Table 13: The pin description of J107 on EVB

Position	Test point	Signal name	Description
J107	J107_PIN1	RESET	Module reset signal
	J107_PIN2	GND	GND
	J107_PIN3	WAKEUP	Module wake-up signal

※ Note

1. For the related functions of each pin of the module, please refer to document [1].

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3 Operation Method

3.1 Module Boot

3.1.1 Module Power-on Operation

The module boot method is as follows：

1. Insert the Micro USB into the USB connector J103 (or J104)。

2. Turn the switch SW101 up to the on state, and LED101, LED102, and LED103 will light up.

3. If the module is successfully registered to the network, the flashing frequency of LED101 will slow down, otherwise LED101 will keep flashing fast. When the module enters PSM mode or the module is in shutdown state, LED101 will go out.

The module shutdown method is as follows:

1. Turn the switch SW101 down to the off state, the module will automatically shut down, and LED101, LED102, and LED103 will go out.

2. The module can be powered off by the AT command. When the module is in the power-on state, input the AT command "AT+CPOF" and the module will automatically power off. More details. Please refer to SIM7022 series _AT command.
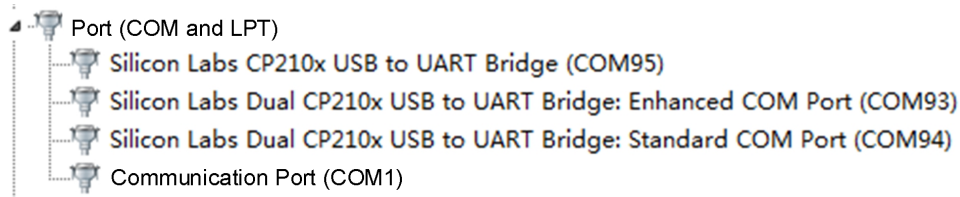
3.2 Driver Installation

3.2.1 USB-to-UART Driver Installation

The following connection can get the USB to UART driver.

https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers

After the driver is successfully installed, the following virtual serial port will appear,COM95/COM93/COM94。

Feature 19: USB to UART ports

Table 14: USB to UART ports

Reference Number	Interface type	Port number	Serial port	Function description
J103	ECI	COM93	Enhance UART	Used for AT communication, data transmission and firmware upgrade
	SCI	COM94	Standard UART	/
J104	/	COM95	USB TO UART Bridge	Used for software DEBUG

3.3 Firmware Upgrade Process

Before updating the firmware, please contact the SIMCom technical support team and the supplier to obtain the correct download tool and firmware upgrade file.

The firmware update method of the module is shown below.

1. Insert the Micro USB into the USB connector J103 (AT/DL UART), turn up SW101, SW1 to ON state.
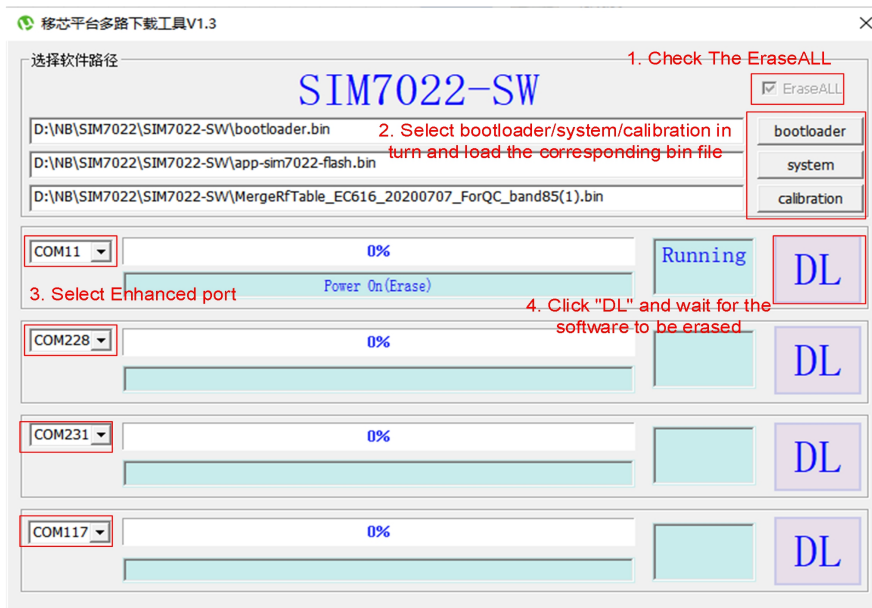
Feature 20: Power switch and download switch status

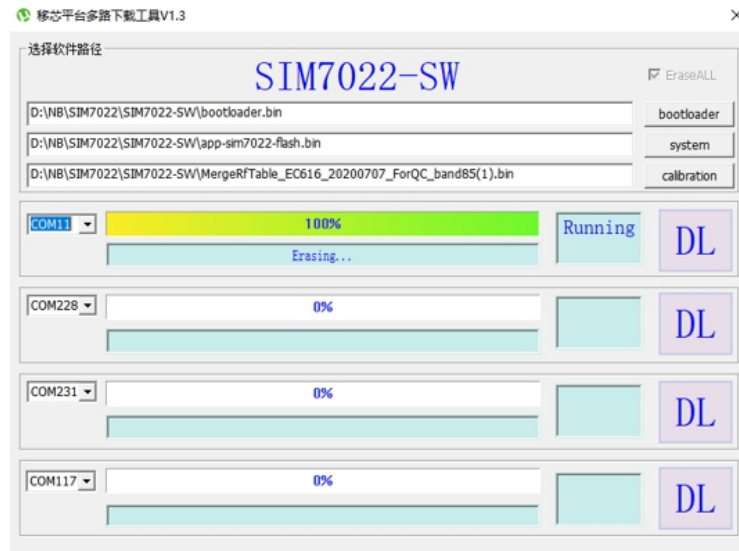2. Open the EiGENCOMM_MultiDownload tool and follow the steps.

(1) Check the "EraseALL" option.

(2) Select bootloader/system/calibration in turn and load the corresponding bin file.

(3) Select Enhanced port.

(4) Click "DL" and wait for the software to be erased.
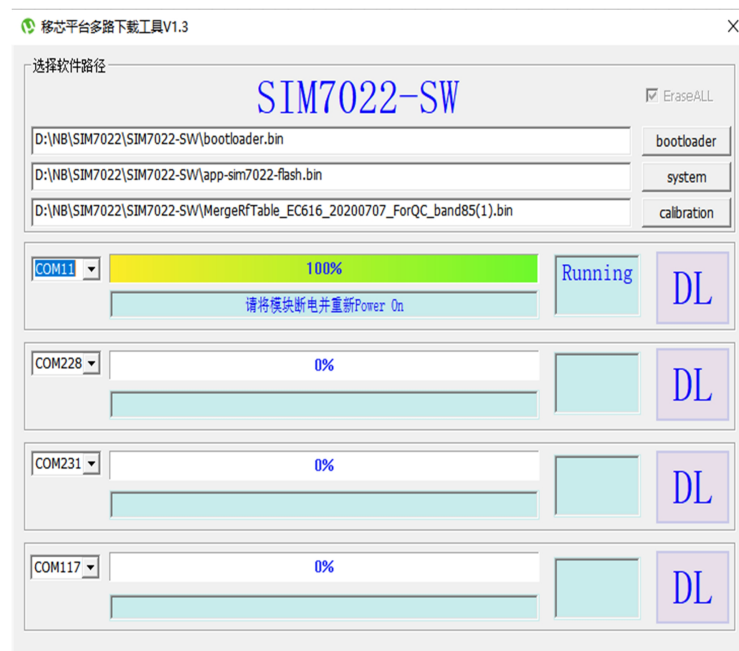

Feature 21: Download interface

3. Erased the software.

Feature 22: Erased the software

4. After completing the software erasing, enter the software download interface.

Feature 23: the software download interface

5. After entering the software download interface, press the "SW102" button and wait for the software to download.