

HSM110XC TE-B

User Guide

Short-Range Products

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Safety Information

The following safety precautions must be observed during all phases of operation, such as usage, service or repair of any terminal or mobile incorporating the module. Manufacturers of the terminal should notify users and operating personnel of the following safety information by incorporating these guidelines into all manuals of the product. Otherwise, Quectel assumes no liability for customers' failure to comply with these precautions.



Full attention must be paid to driving at all times in order to reduce the risk of an accident. Using a mobile while driving (even with a handsfree kit) causes distraction and can lead to an accident.



Switch off the terminal or mobile before boarding an aircraft. The operation of wireless appliances in an aircraft is forbidden to prevent interference with communication systems. If there is an Airplane Mode, it should be enabled prior to boarding an aircraft. Please consult the airline staff for more restrictions on the use of wireless devices on an aircraft.



Wireless devices may cause interference on sensitive medical equipment, so please be aware of the restrictions on the use of wireless devices when in hospitals, clinics or other healthcare facilities.



The terminal or mobile contains a transmitter and receiver. When it is ON, it receives and transmits radio frequency signals. RF interference can occur if it is used close to TV set, radio, computer or other electric equipment.



In locations with explosive or potentially explosive atmospheres, obey all posted signs and turn off wireless devices such as mobile phone or other terminals. Areas with explosive or potentially explosive atmospheres include fueling areas, below decks on boats, fuel or chemical transfer or storage facilities, and areas where the air contains chemicals or particles such as grain, dust or metal powders.

About the Document

Revision History

Version	Date	Author	Description
-	2026-04-27	Jason Zhao/ Stephen Li	Creation of the document
1.0.0	2026-04-27	Jason Zhao/ Stephen Li	Preliminary

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1 Introduction

For convenient development of applications with Quectel HSM110XC module, Quectel supplies the corresponding development board (HSM110XC-TE-B) to test the module. This document can help you quickly understand HSM110XC-TE-B kit, hardware interface application, mechanical details and know how to use it to test power consumption and burn firmware.

2 General Overview

HSM110XC-TE-B is a development board that supports a series of interfaces and integrates the buzzer, motion sensor, and button cell. It can be used for basic functionalities test and further development of HSM110XC module.

2.1. Top and Bottom Views

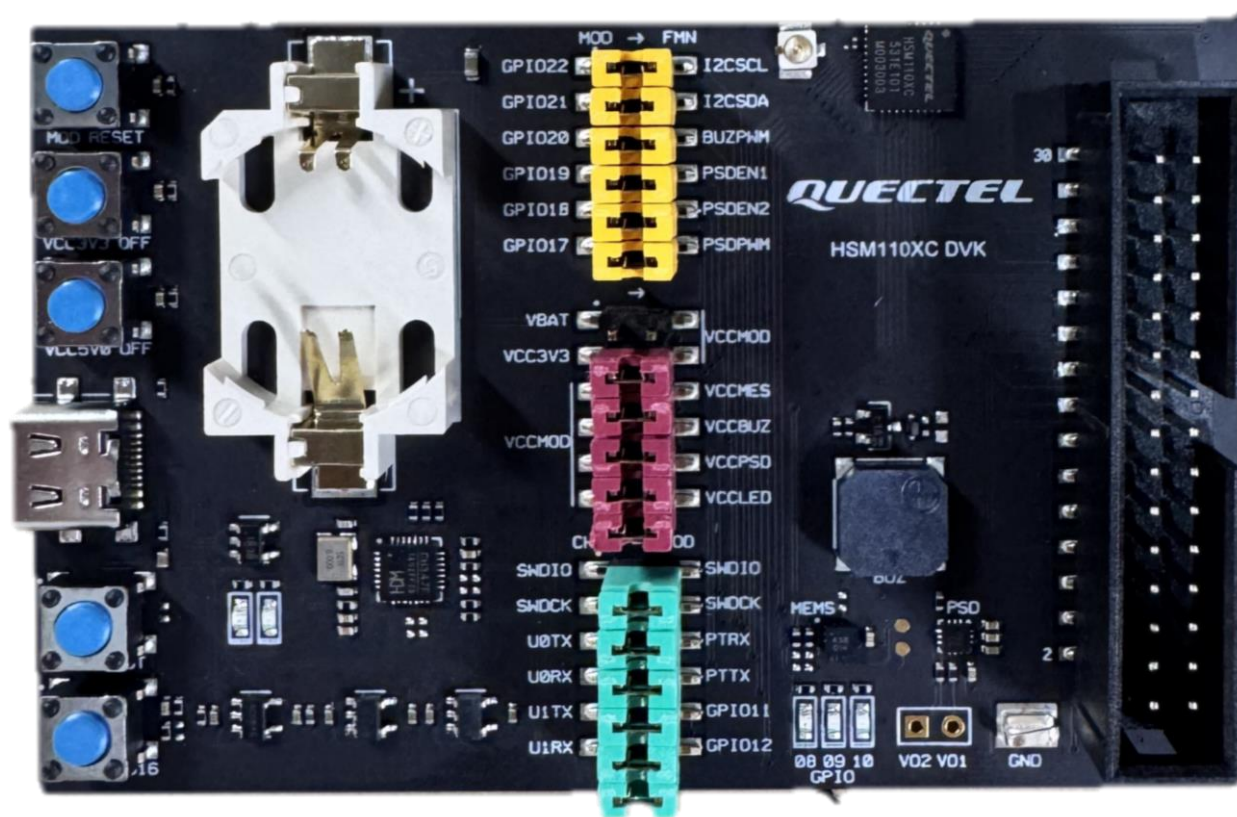


Figure 1: Top View

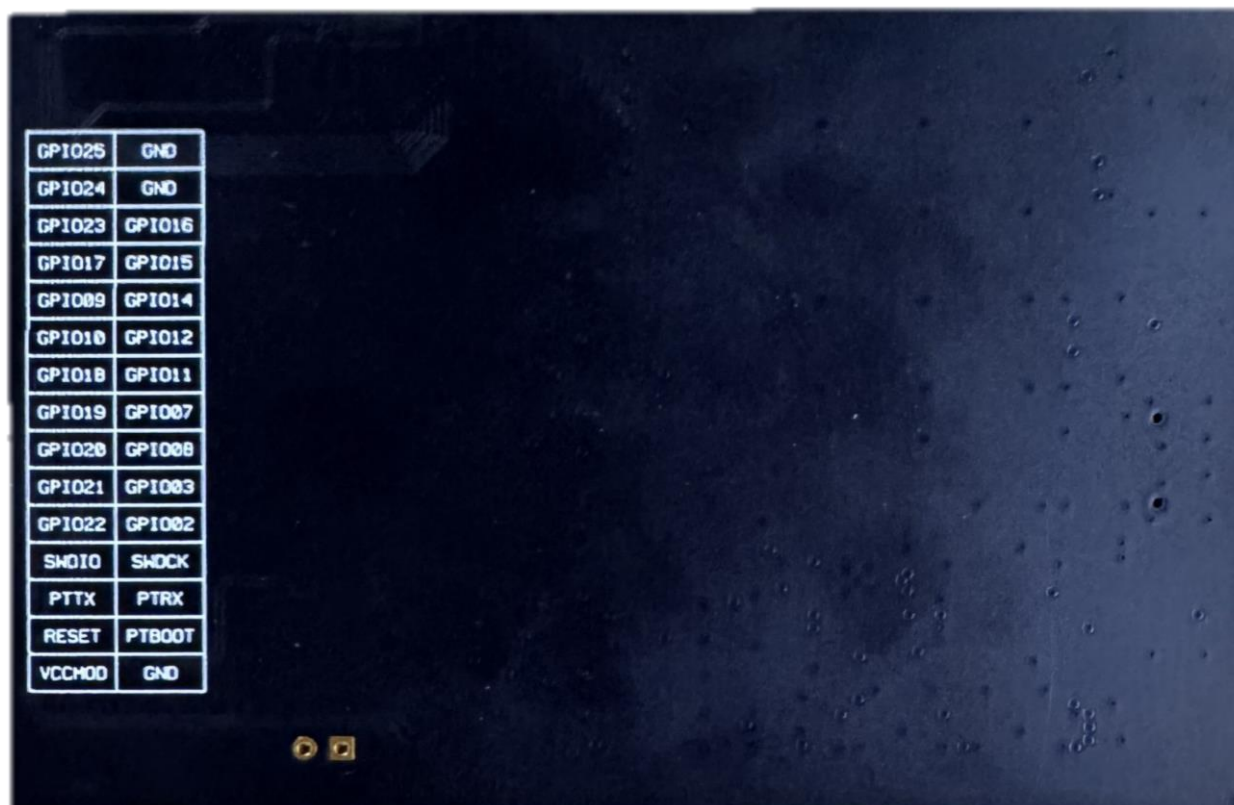


Figure 2: Bottom View

2.2. TE-B Component Placement

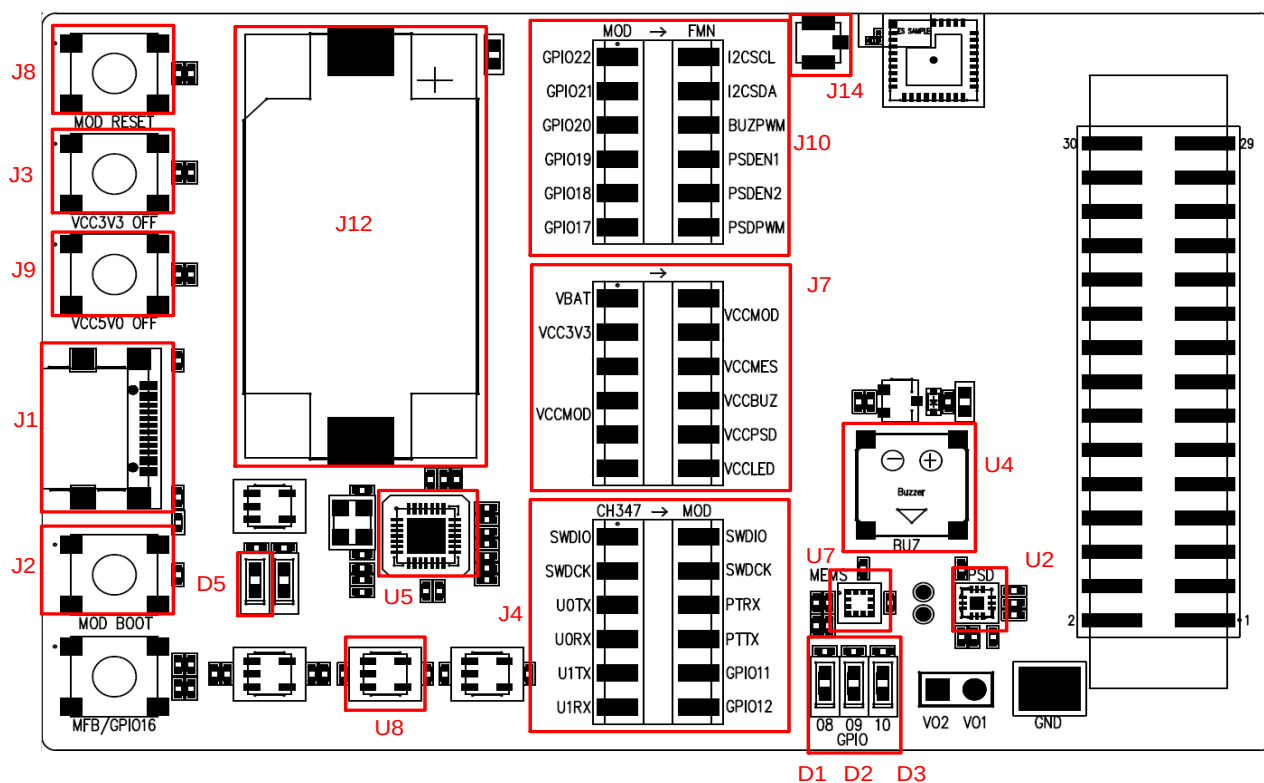


Figure 3: Component Placement

Table 1: Component Information

Component	Ref.Des.	Description
PSD	U2	Buzzer element PA
CH347	U5	Dual high-speed USB to multipurpose UART/FIFO IC
LDO	U8	LDO 250 mA 3.3 V
Power Supply Interfaces	J1	USB Type-C power supply interface
	J12	Button cell power supply interface
USB-to-UART Interface	J1	Connected to UART0 interface of the module
RF Connector	J14	IPEX Gen1 connector
BOOT Button	J2	Controls the module into the download mode

Reset Button	J8	Resets the module
VCC3V3 OFF Button	J3	Turns off 3.3 V power supply
VCC5V0 OFF Button	J9	Turns off 5 V power supply
GPIO Jumper Interface	J10	GPIO jumper interface
Power Supply Jumper Interface	J7	Power supply jumper interface
Debug Signal Jumper Interface	J4	Debug signal jumper interface
Status LEDs	D5	Power on/off indicator
	D1	Module's GPIO_8 indicator
	D2	Module's GPIO_9 indicator
	D3	Module's GPIO_10 indicator
Buzzer	U4	Buzzer
Motion Sensor	U7	Motion sensor

2.3. Key Features

Table 2: TE-B Key Features

Parameter	Description
Power Supply	USB Power Supply: 4.75–5.25 V - Typ.: 5 V Button Cell Power Supply: - Typ.: 3 V
Transmitting Power	3 dBm ± 2 dB
Temperature Range	- Operating temperature range ¹: -40 °C to +85 °C - Storage temperature: -40 °C to +95 °C
USB-to-UART Interfaces	UART0: - Used for AT command communication, firmware burning and Bluetooth signaling test. - Supports 115200 bps by default and 921600 bps at maximum.

¹ Within this range, the product's indicators comply with Bluetooth specification requirements.

Size	(85 ±0.15) mm × (55 ±0.15) mm × (1.6 ±0.2) mm
Firmware Burning	Firmware burning via UART0 for the module
RF Connector	50 Ω characteristic impedance

2.4. Functional Diagram

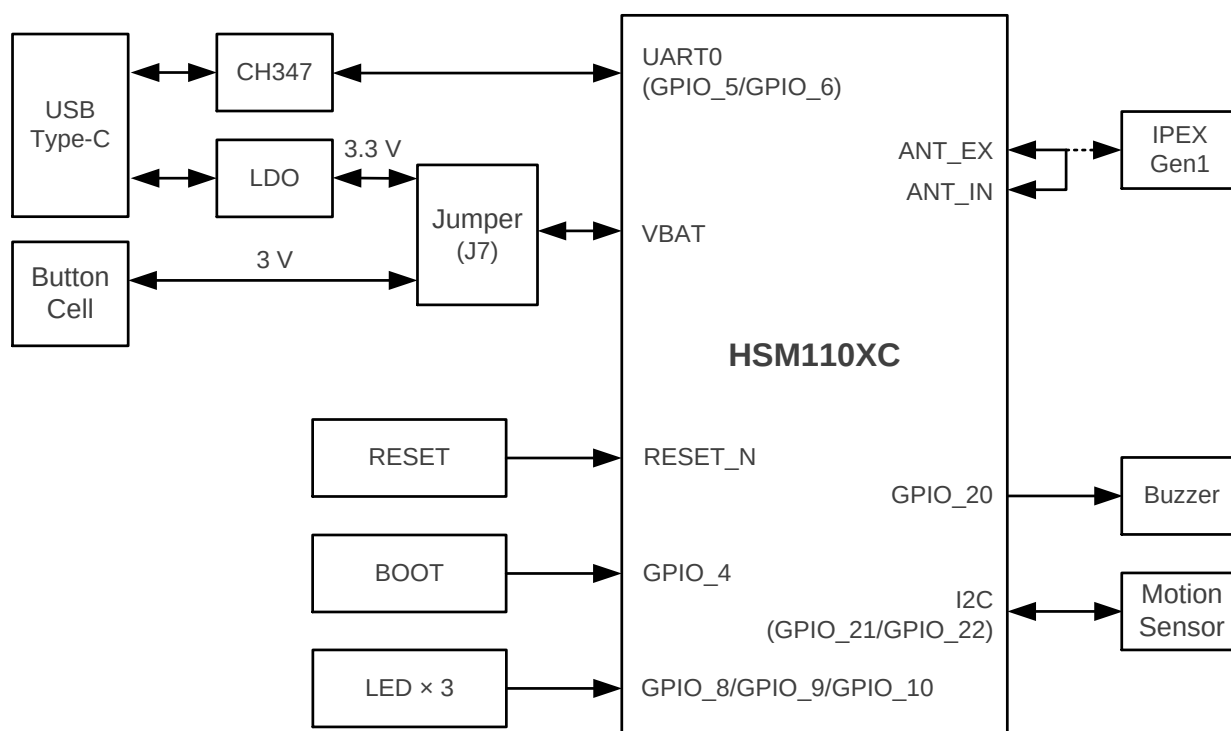


Figure 4: Functional Diagram

3 Kit Accessory & Assembly

3.1. Kit Accessory

Table 3: Accessory List

Item	Description	Quantity (pcs)
Cable	USB Type-C Cable	1

3.2. Kit Assembly

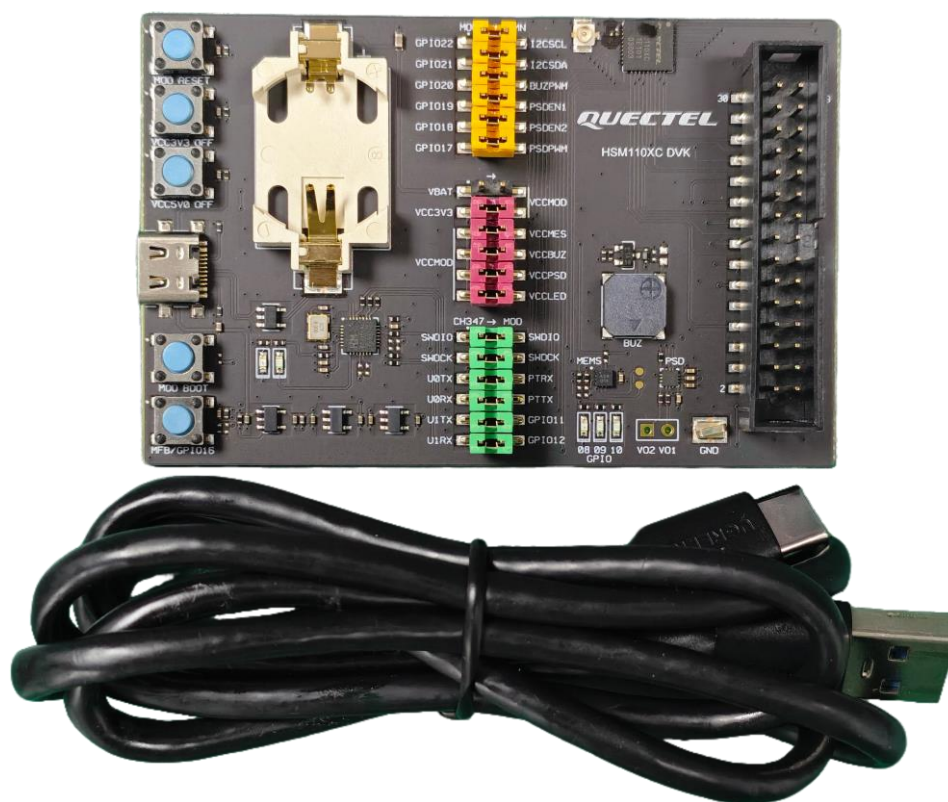


Figure 5: Kit Accessory

4 Interface Application

This chapter outlines the information and applications of some hardware interfaces of HSM110XC-TE-B.

4.1. Power Supply Interfaces

HSM110XC-TE-B can be powered by USB Type-C power supply interface (J1) and button cell power supply (J12).

The USB Type-C power interface outputs 5 V, which is transferred to 3.3 V by LDO (U8), and power supply to the module through J7 (power supply jumper interface).

4.2. Jumper Interfaces

HSM110XC-TE-B includes 3 jumper interfaces (J10, J4, J7).

J10 is used for the connection between the peripheral and the signal of HSM110XC module.

- Put jumpers on rows 1 and 2 is for the connection between the motion sensor and the I2C interface of the module;
- Put the jumper on row 3 is for the connection between the buzzer and the PWM interface of the module;
- Put jumpers on rows 4 and 5 is for the connection between the buzzer element PA and the enable interface of the module;
- Put the jumper on row 6 is for the connection between the buzzer element PA and the PWM interface of the module.

J7 is used for the connection between the peripheral and the power supply of HSM110XC module.

- Put jumpers on rows 1 and 2 to connect to the module. Select the button cell power supply by putting the jumper on row 1; Select the USB Type-C power supply by putting the jumper on row 2.
- Put the jumper on row 3 is for the connection between the motion sensor and the power supply of the module;
- Put the jumper on row 4 is for the connection between the buzzer and the power supply of the module;
- Put the jumper on row 5 is for the connection between the buzzer element PA and the power supply

of the module;

- Put the jumper on row 6 is for the connection between the LED and the power supply of the module.

J4 is used for the connection to the debug signal (UART interface and SWD interface) of the module.

- Put jumpers on rows 1 and 2 is for the connection to the SWD interface of the module;
- Put jumpers on rows 3 and 4 is for the connection to the UART0 interface of the module.

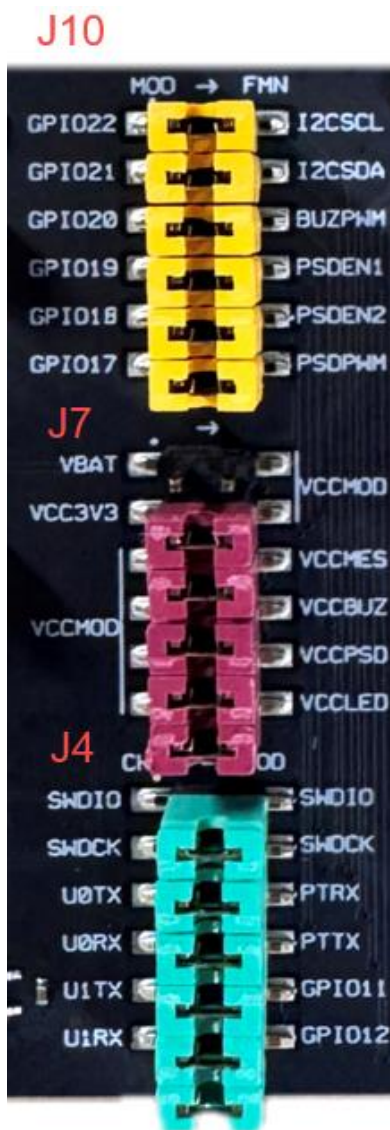


Figure 6: Jumper Interfaces

NOTE

For J7, jumpers cannot be inserted simultaneously in row 1 and row 2.

4.3. RF Connector Options

HSM110XC-TE-B supports 2 RF antenna options by mounting different resistors as shown below. Mount R35 for ANT_IN of the module, and mount R36 for IPEX Gen1 connector.

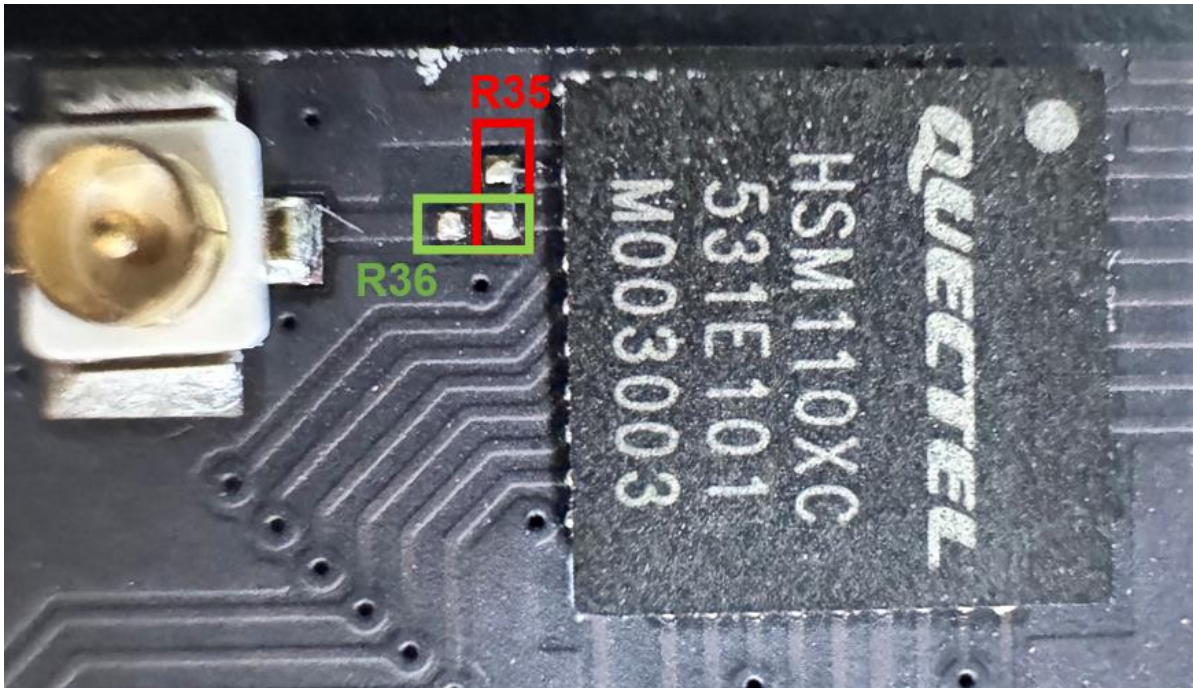


Figure 7: RF Connector Options

5 Power Consumption Test

The power consumption of the module can be tested by connecting the external precision digital power supply to any VCCMOD pin of J7 (power supply jumper interface) or connecting the precision ammeter to VCC3V3 pin and VCCMOD pin on the row 2 of J7 in series.

Before the test, remove jumpers from rows 3 to 6 on J7.

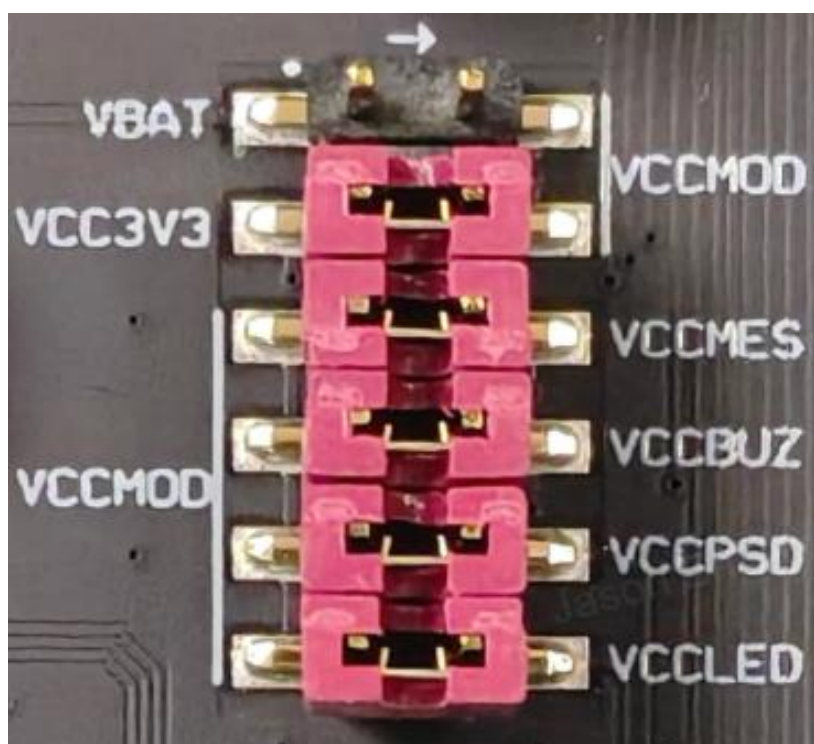


Figure 8: J7 Placement

6 Firmware Burning

6.1. Firmware Burning Preparation

The hardware devices needed is as shown in the following table.

Table 4: Hardware Devices

Device	Quantity
HSM110XC-TE-B	1
USB Type-C Cable	1

Connect J1 (USB Type-C power supply interfaces) to PC through the USB Type-C cable as shown below.

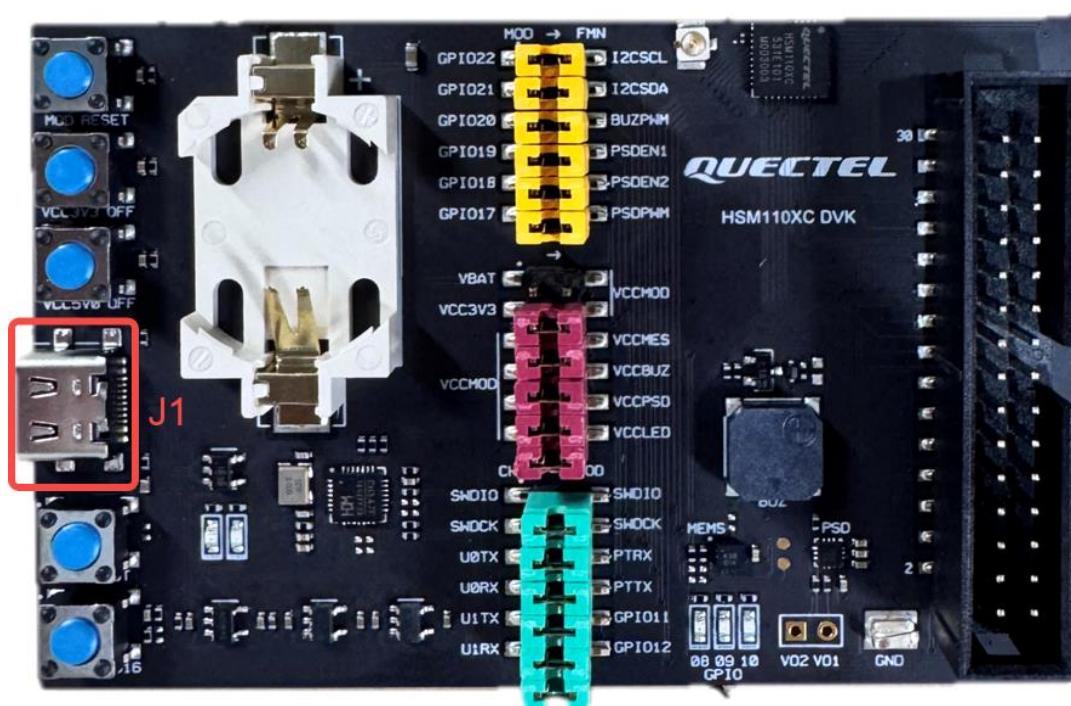


Figure 9: Burning Interface

6.2. Firmware Burning Procedures

Firmware burning need to use the tool provided by the vendor. For the acquisition of the tool, please contact Quectel Technical Support.

1. Firstly, click the tool as shown below:

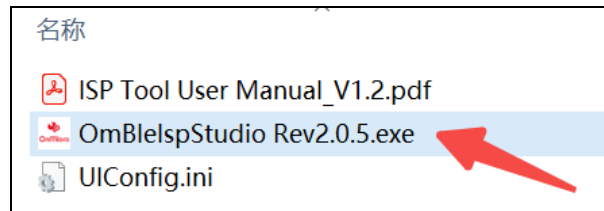


Figure 10: Burning tool

2. After opening the tool, the web will display as shown below. Select “**COM Port**” and “**Baudrate**” in sequence, and click “**Connect**”.

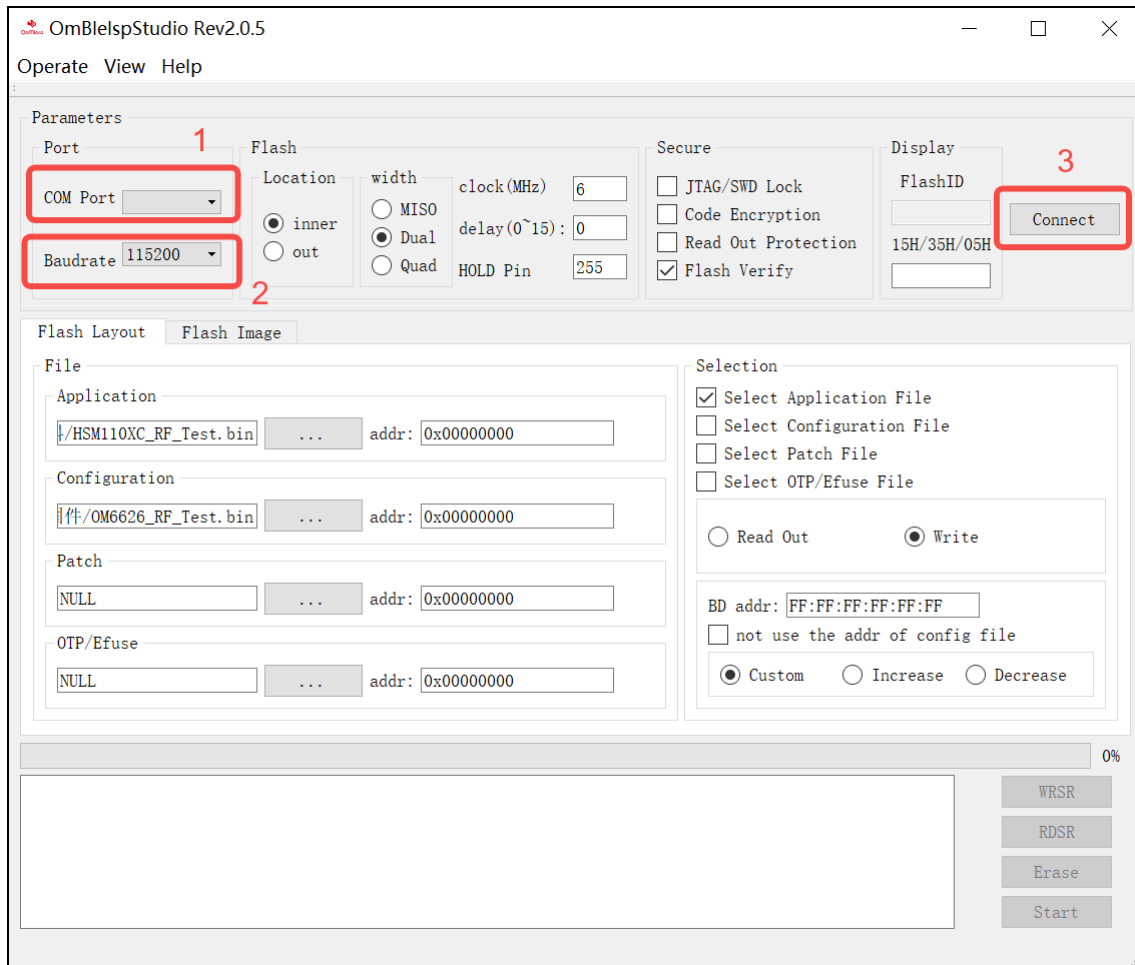


Figure 11: Connection Setup

- 1) After connecting J1 (USB Type-C power supply interface) to PC with the USB Type-C cable, the PC will map out 2 ports. Select **"USB-HiSpeed-SERIAL-A CH347F (COM232)"** as the download port.

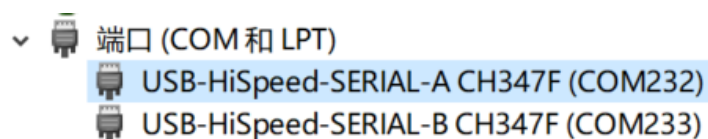


Figure 12: COM Port Selection

- 2) Select **"Baudrate"** to **"115200"**.
- 3) Before clicking **"Connect"**, press J2 (BOOT button) and do not release it. Then press J9 (VCC5V0 OFF button) and release the two buttons.

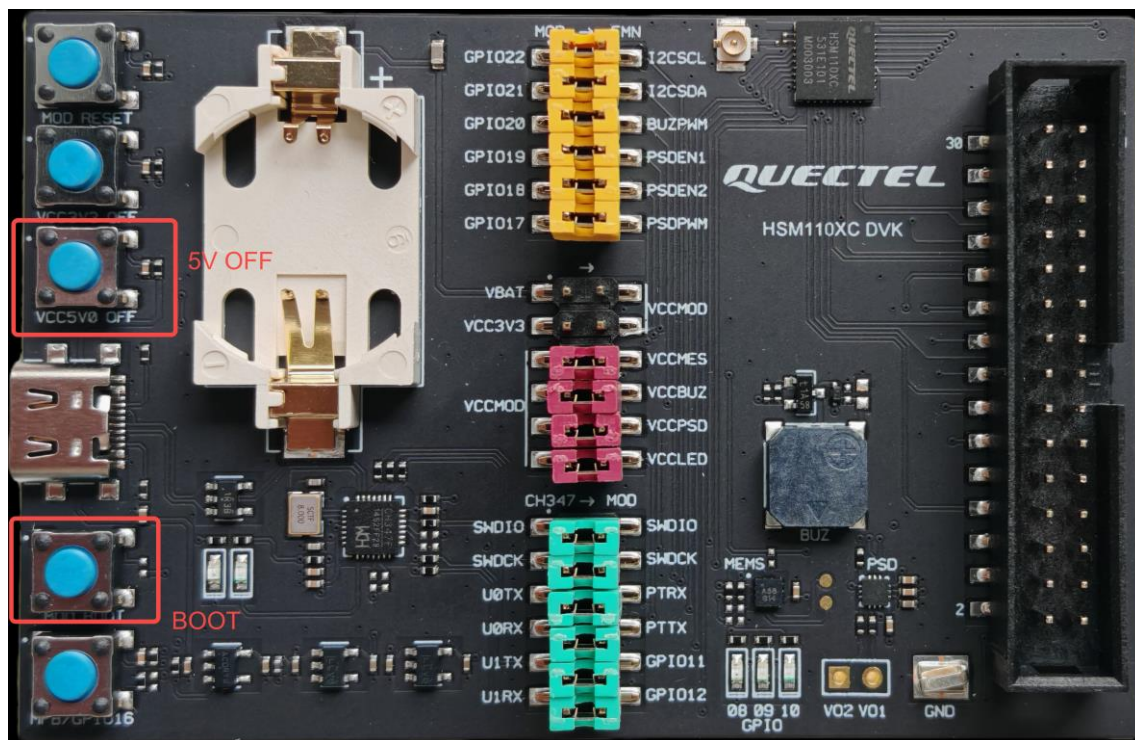


Figure 13: Buttons Placement

3. The connection is established successfully, as shown in the figure below:

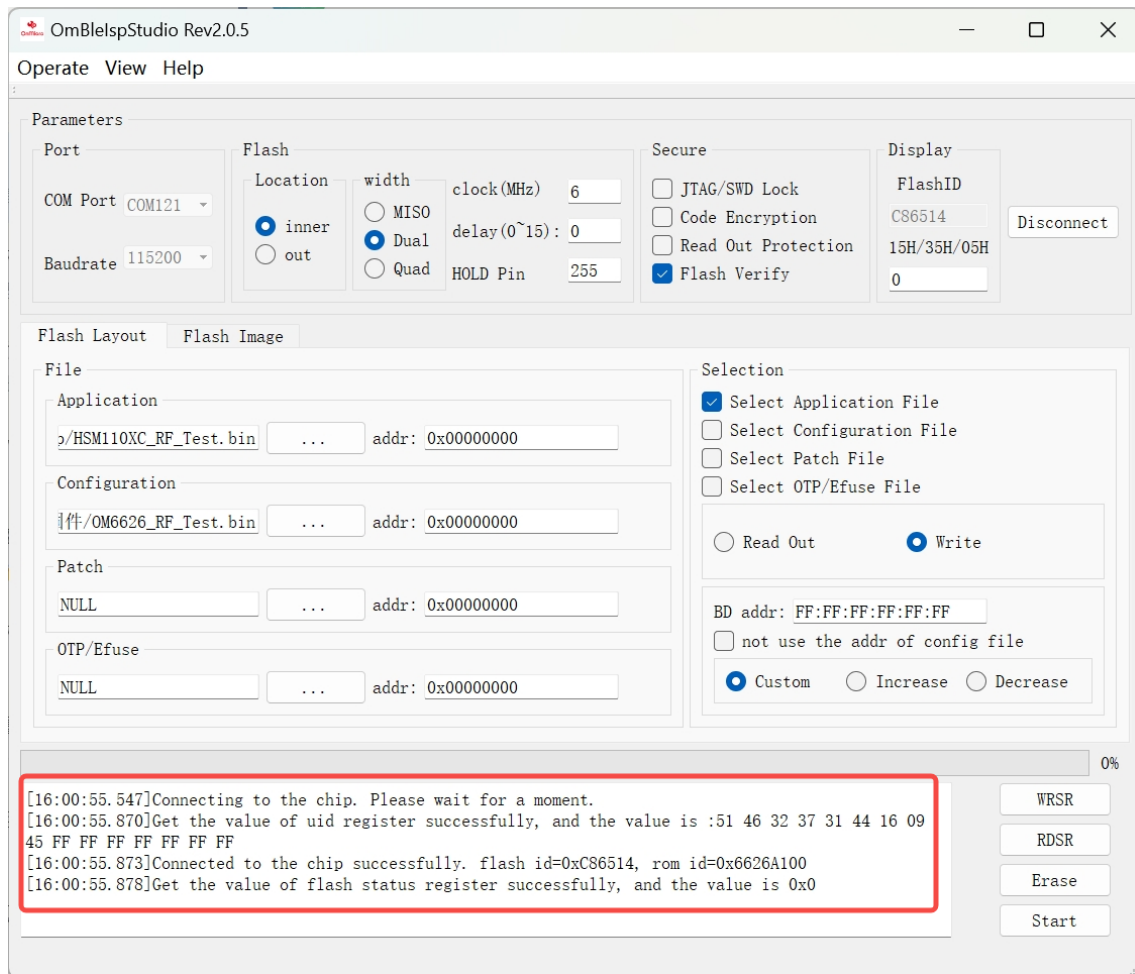


Figure 14: Successful Connection

4. Select the firmware needed to be download, and click “Start”.

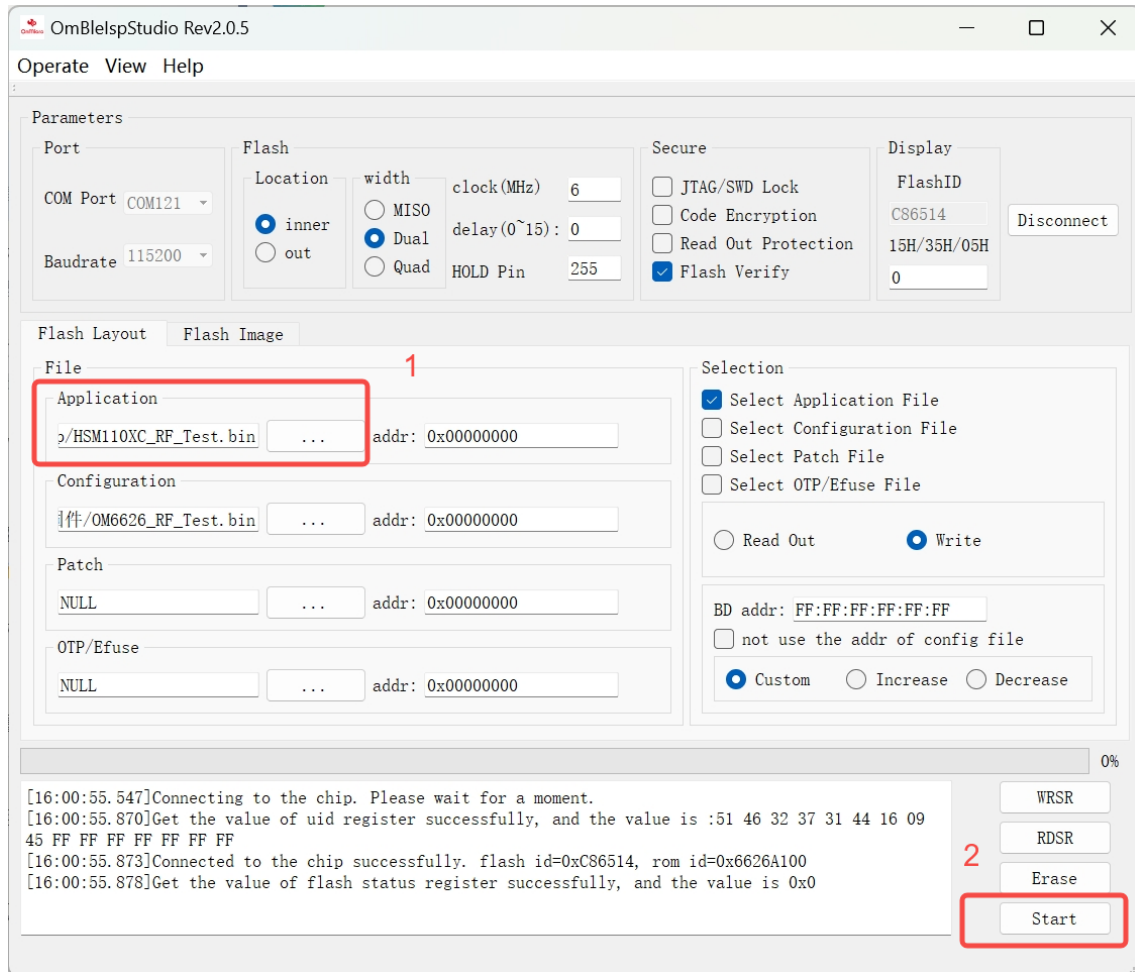


Figure 15: Download Firmware

5. The download is successful, as shown in the following figure. Click “YES” to reset the MCU.

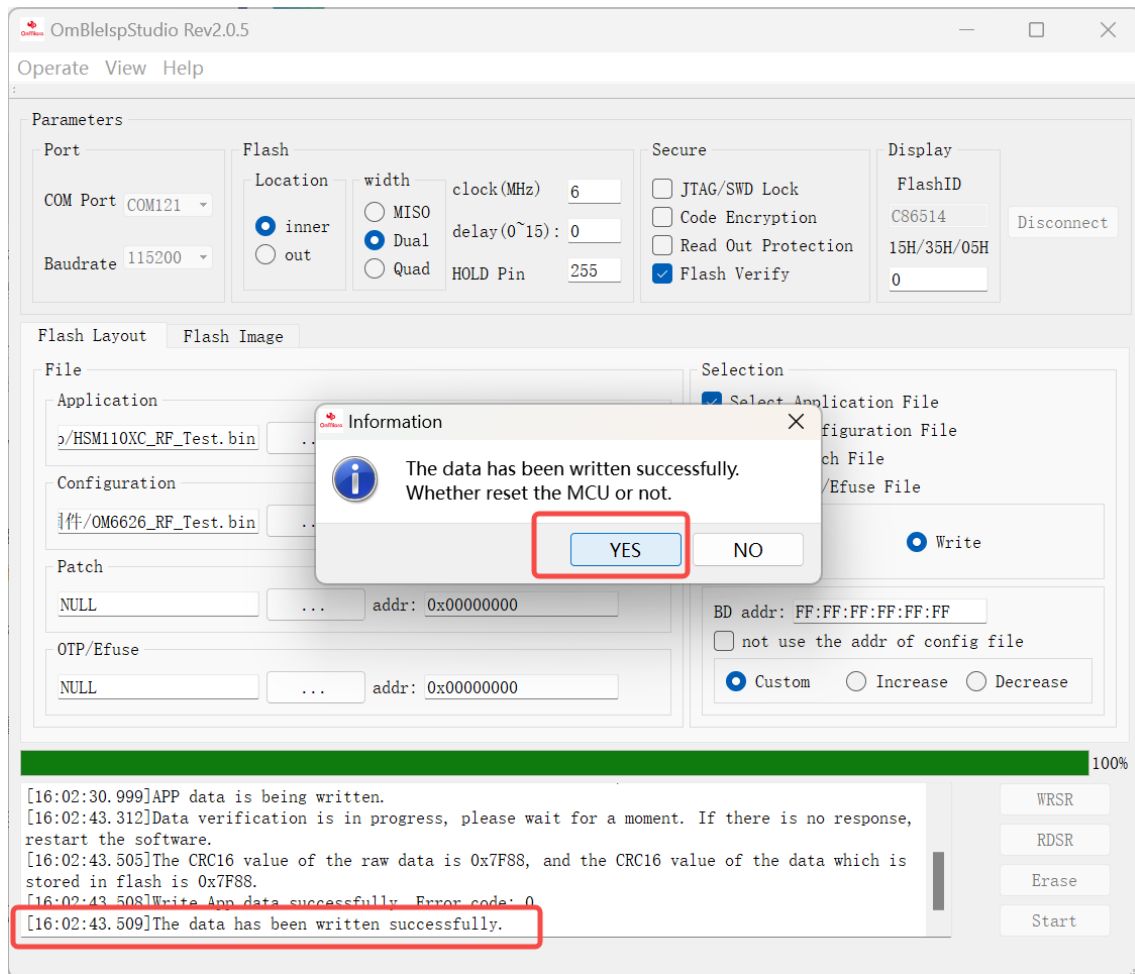


Figure 16: Reset the MCU

7 Appendix Reference

Table 5 : Related Documents

Document Name
[1] Quectel_HSM110XC_Hardware_Design
[2] Quectel_QCOM_User_Guide

Table 6: Terms and Abbreviations

Abbreviation	Description
bps	Bits Per Second
FIFO	First In First Out
LDO	Low-dropout Regulator
LED	Light Emitting Diode
MCU	Microcontroller Unit
GPIO	General Purpose Input/Output
SWD	Serial Wire Debug
RF	Radio Frequency
IPEX	Inverted Push-on External
PC	Personal Computer
UART	Universal Asynchronous Receiver & Transmitter
USB	Universal Serial Bus