

# **RF Certification Test Tool User Manual**

**V1.0**

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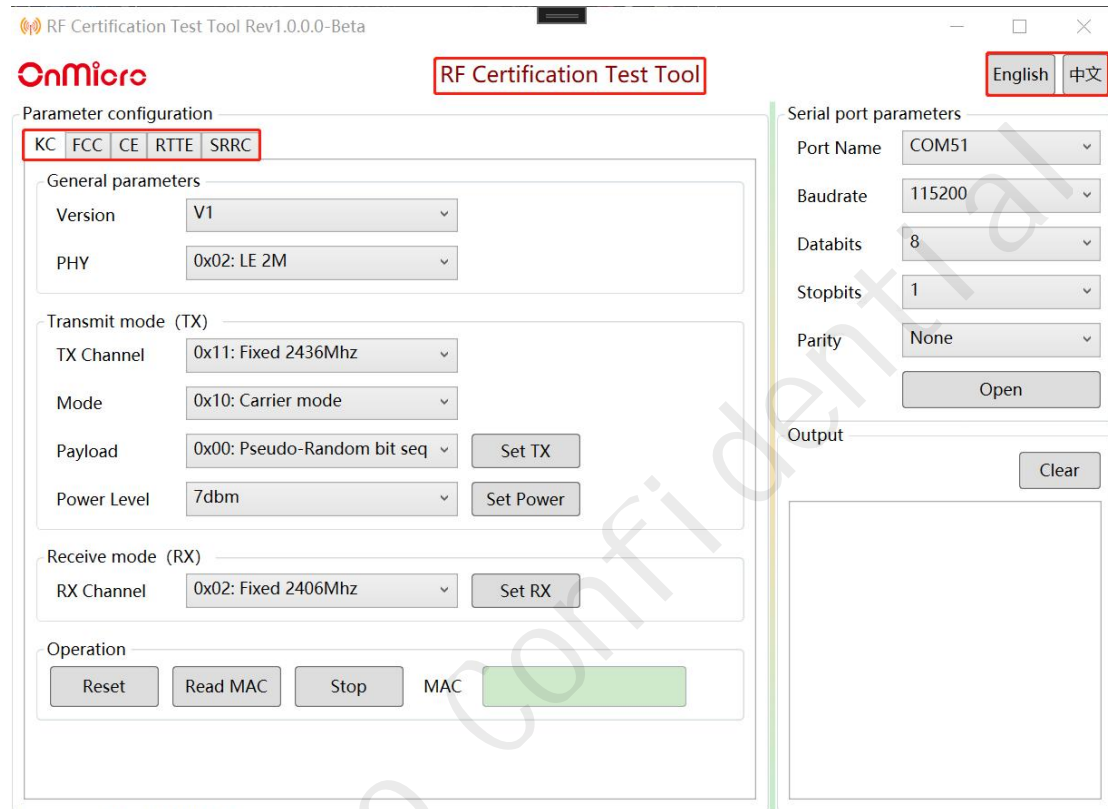
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## Version History

Version	Description	Date	Author	Reviewer
V1.0	Initial version	2023/08/31	Zhuj	

## 1 Overview

The RF certification test tool is an application running on PC for RF certification of OnMicro 6621 series chips. It mainly supporting KC, FCC, CE, RTTE, SRRC certification. The software supports switching between Chinese and English and the software interface is shown as follows:



**Figure 1.1 RF Certification Test Tool Interface Diagram**

The 6621 series chip supports two RF test interfaces specified in the BT specification: HCI and DTM 2-wire UART. The HCI test interface is connected as follows:

- The TX on the EVB connects to the serial port RX;
- The RX on the EVB connects to the serial port TX;
- The GND on the EVB connects to the serial port GND;
- The GND on the EVB connects to the negative terminal of the power supply;
- The VABT on the EVB connects to the positive terminal of the power supply.

**Note:** VBAT = 3.3V (First connect the serial port to the computer, and then power on the chip through a power supply, so in order to prevent the serial port will reverse current to the chip).

The RF certification test tool should communicate using the same setting of the UART as the chip. The UART port parameters are as follows:

- Baud rate: 115200
- Data bit: 8
- Stop bit: 1
- Parity bit: None

## 2 Instrument Connection Instruction

The connection of RF certification test tool, 6621 series chip and RF test instrument is shown in the following figure.

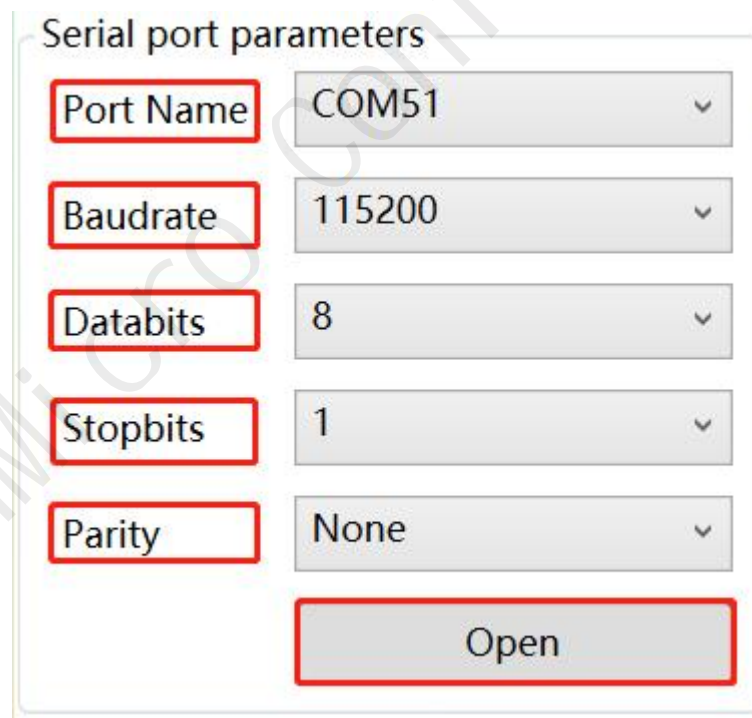
The RF test instrument port is connected to the RF IO of 6621 series chip through the RF cable, and the UART of the application running on PC (RF certification test tool) is connected to the UART of the 6621 series chip.



Figure 2.1 Instrument Connection Diagram

## 3 Software Operation Instruction

### 3.1 Serial Port Connection



Serial port parameters

Port Name	COM51
Baudrate	115200
Databits	8
Stopbits	1
Parity	None
Open	

Figure 3.1 Serial Port Parameters

Set serial port parameters (port name, baud rate: 115200, data bit: 8, stop bit: 1, parity: None), as shown in the figure above. And then click the “Open” button for serial port connection.

## 3.2 RF Test

### 3.2.1 RF Power Setting

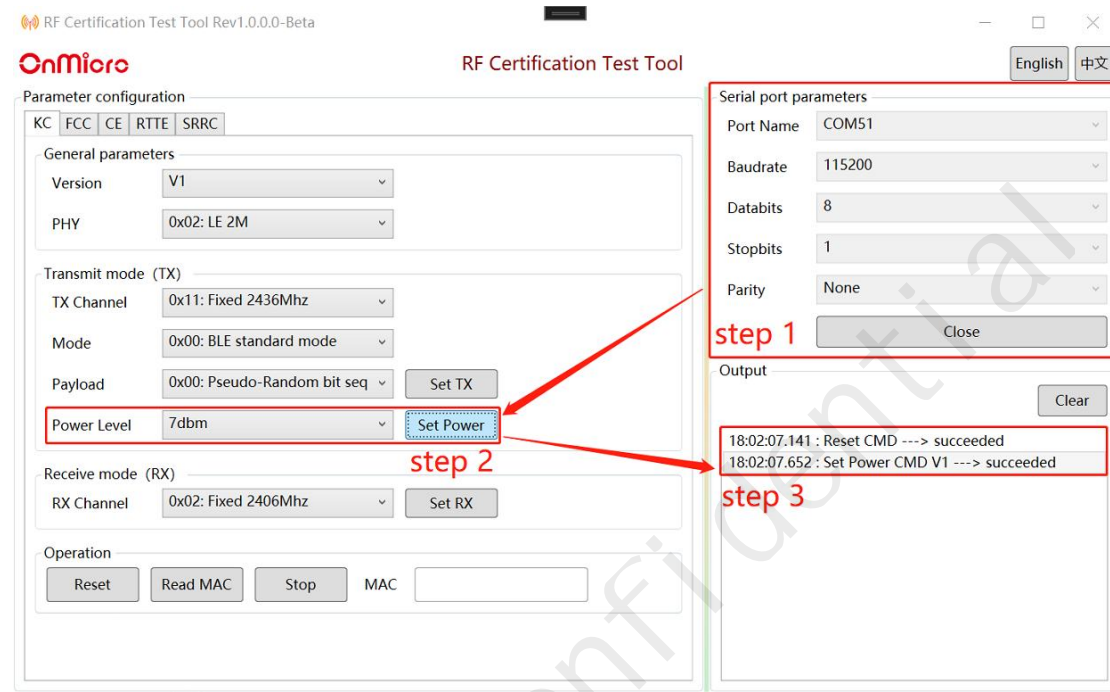
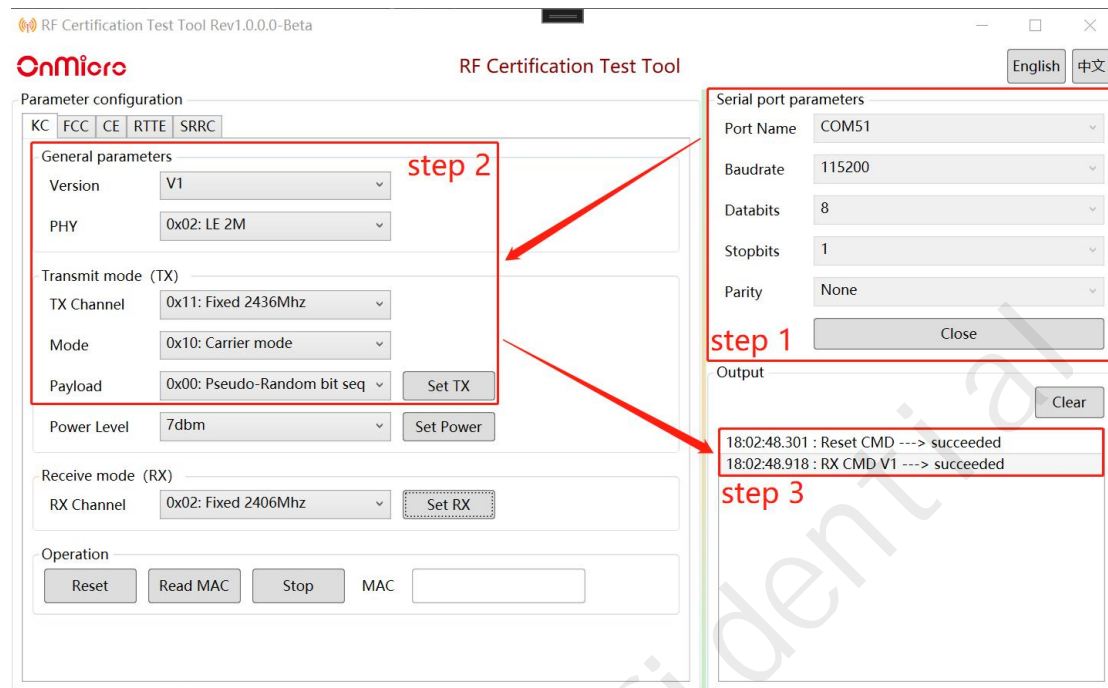


Figure 3.2 Set RF Power Diagram

- After the test environment is set up, select the serial port name set serial port parameters, and then click the "Open" button.
- Select the power value, and then click the "Set Power" button.
- Observe the output result:
  - If "succeeded" is displayed, the serial port connection successful
  - If "failed" is displayed, the serial port connection failure

## 3.2.2 TX Mode

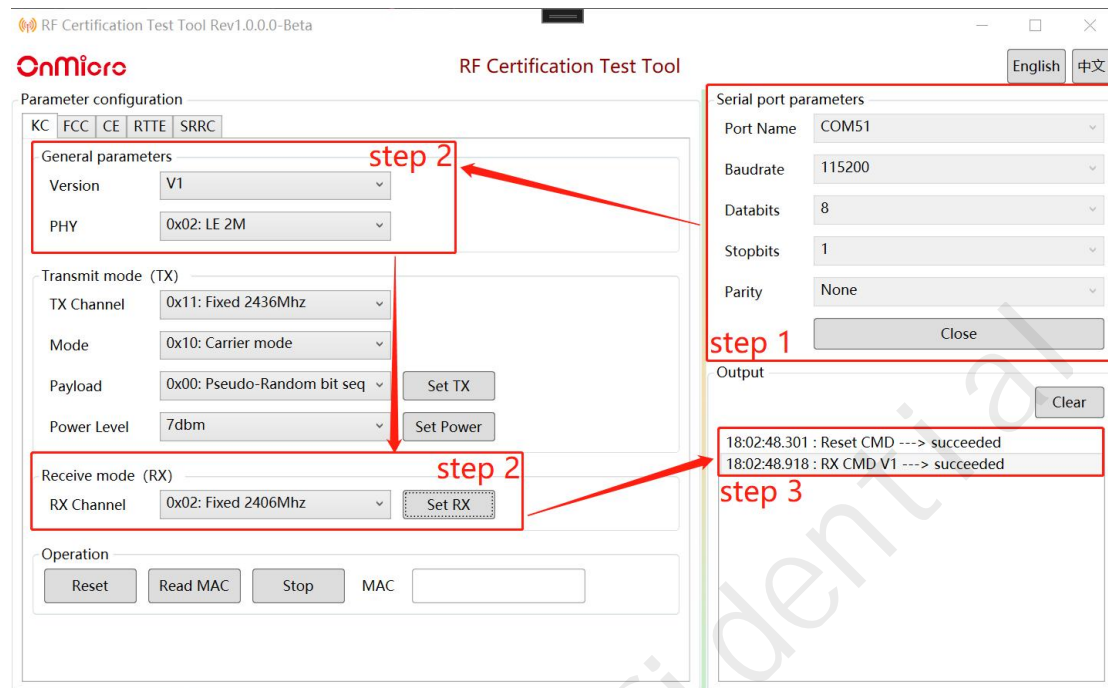


**Figure 3.3 TX Mode Operation Diagram**

- After the test environment is set up, select the serial port name set serial port parameters, and then click the "Open" button.
- Select "Version" and "PHY" of the general parameters, and then select "TX channel", "Mode" and "Payload" of the TX mode, click the "Set TX" button.
- Observe the output result:
  - If "succeeded" is displayed, the serial port connection successful
  - If "failed" is displayed, the serial port connection failure

**Note:** When "BLE standard mode" switch to the "Carrier mode", it is necessary to disconnect the power supply and serial port first, and then operate according to the above steps after reconnecting to the serial port.

## 3.2.3 RX Mode



**Figure 3.4 RX Mode Operation Diagram**

- After the test environment is set up, select the serial port name set serial port parameters, and then click the "Open" button.
- Select "Version" and "PHY" of the general parameters, and then select "RX channel" of the RX mode, click the "Set RX" button.
- Observe the output result:
  - If "succeeded" is displayed, the serial port connection successful
  - If "failed" is displayed, the serial port connection failure