AW-CU478

IEEE802.15.4 Wireless Microcontroller Zigbee 3.0 Stamp LGA Module (M03)

RF Tool Guide

Rev. A

(For Standard)

Revision History

Version	Revision Date	Description	Initials	Approved
A	2020/8/18	● Initial Version	Jeff Kuo	N.C. Chen

1. System Setup

(1) Hardware Requirements

- AW-CU478 Module on test board
- Host system need running the Window10 x64 operating system
- Vector Signal Analyzer analyzer for transmit measurements.
- Signal generator for receiver measurements.
- RF isolation chamber for receive measurements.
- RF attenuators
- RF cable

(2) Software Requirements

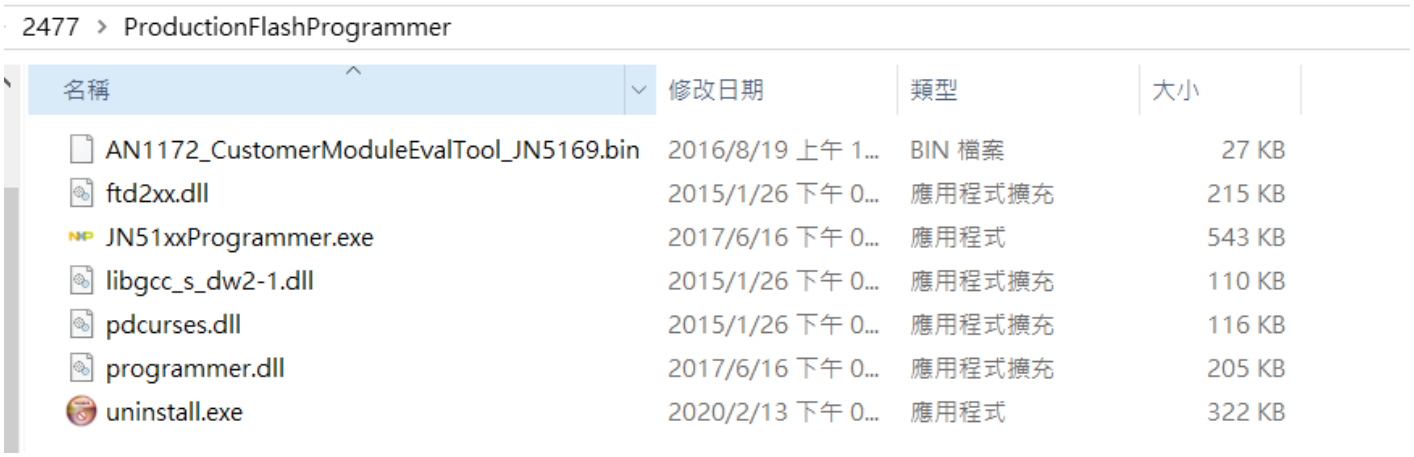
- PL-2303 GPIO Test (tool)

- Tera Term (tool)

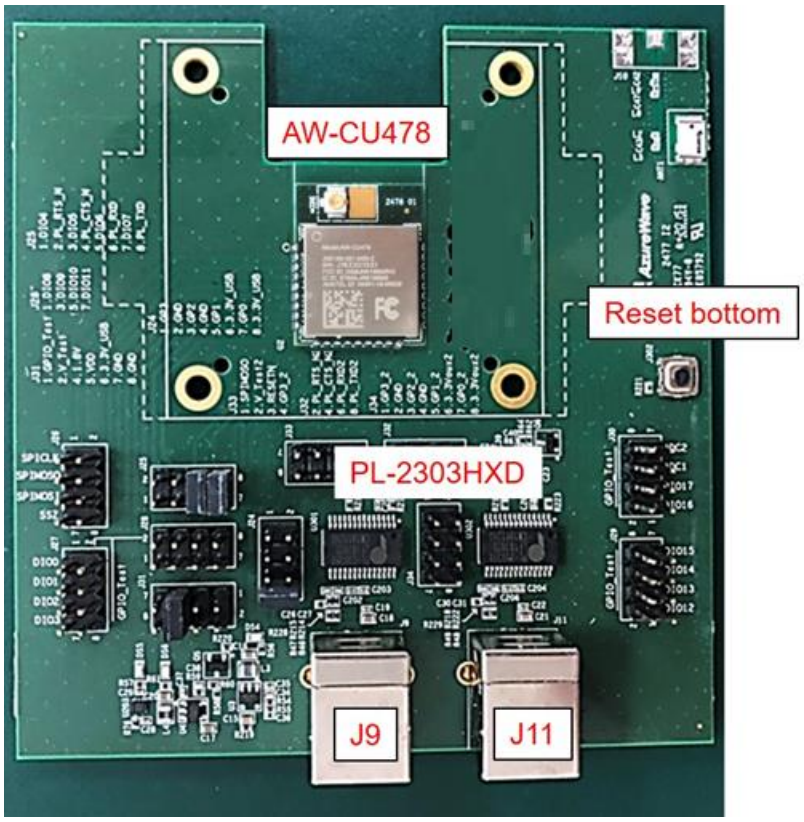
Note: Tera Term is our suggestion, you can try any terminal tool.

- Production flash programmer folder (please contact FAE)

Note: You must be have below files



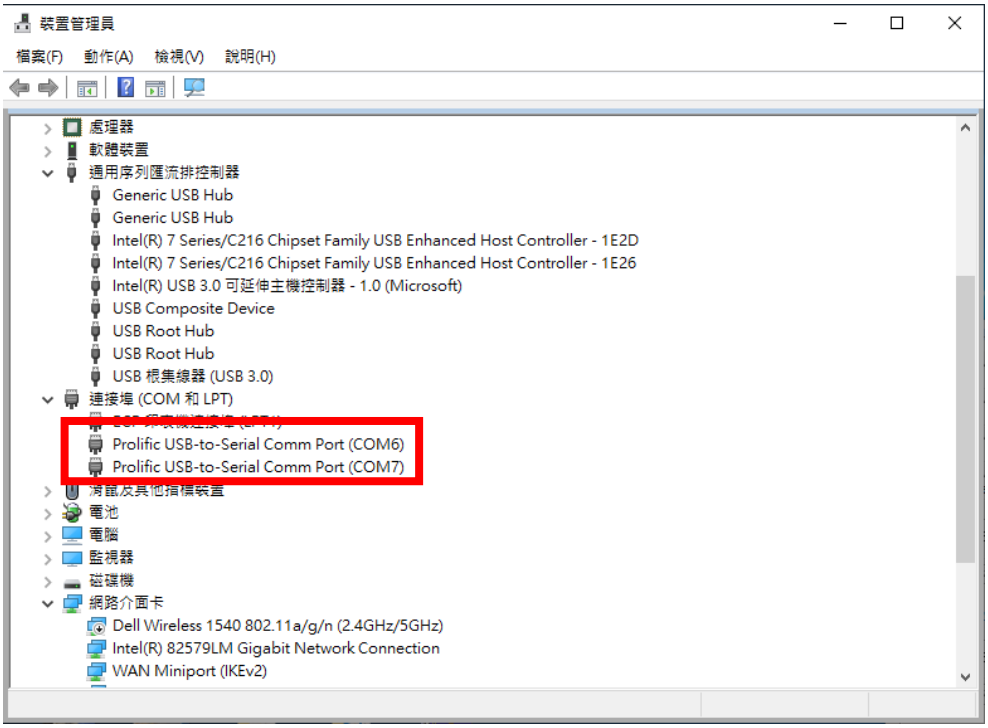
2. AW-CU478 EVB



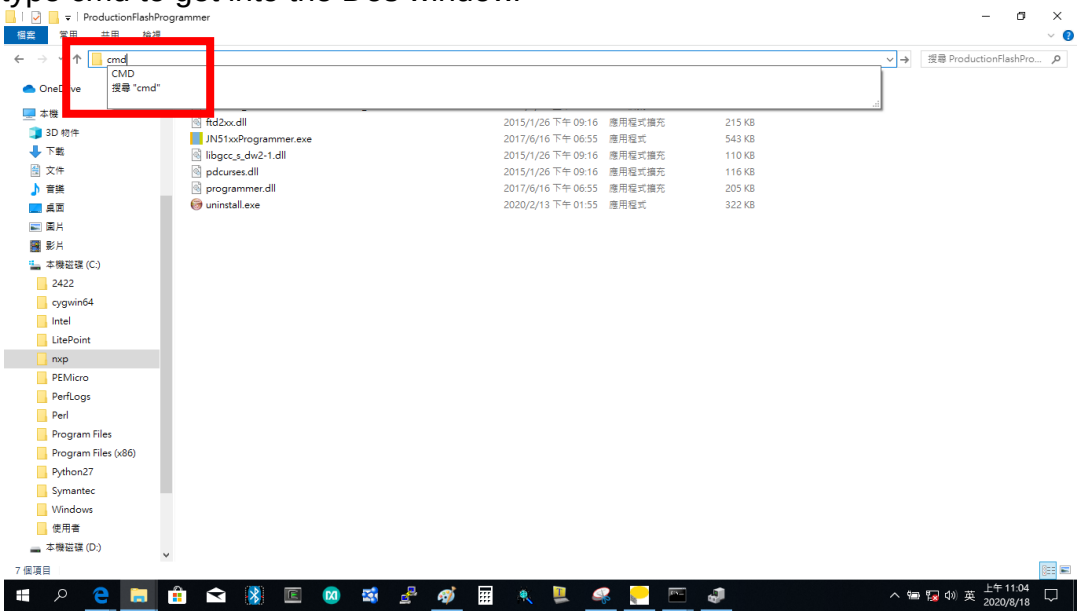
3. How to download the image

1. you must check the COM number (J9 and J11) (can check the value by the following picture)

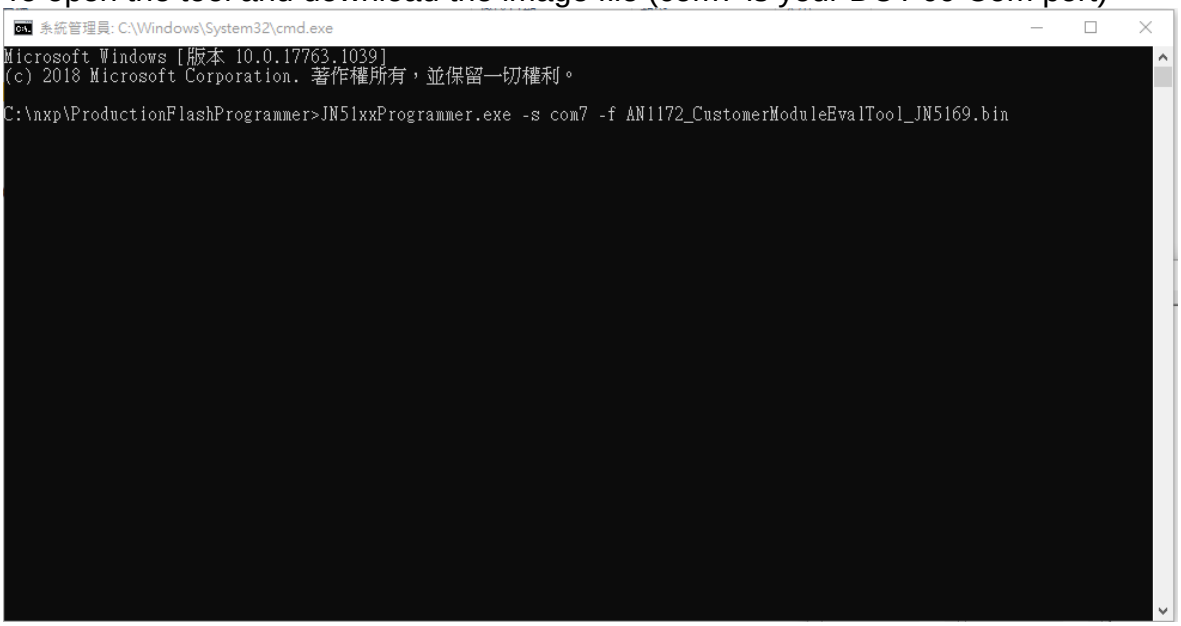
Note: J9 for DUT COM port
J11 for PL2303 control Test/Normal mode.



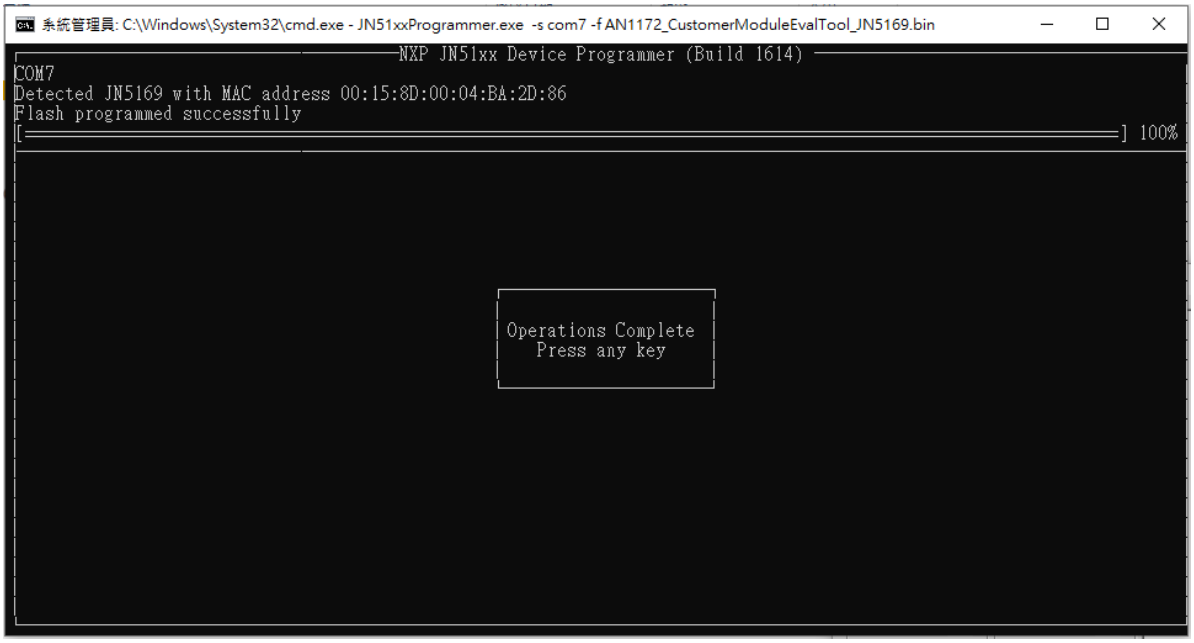
2. Find the folder of production flash programmer.
And type cmd to get into the Dos window.



3. key in JN51xxProgrammer.exe –s com7 –f AN1172_CustomerModuleEvaTOOL_JN169.bin
   To open the tool and download the image file (com7 is your DUT J9 Com port)

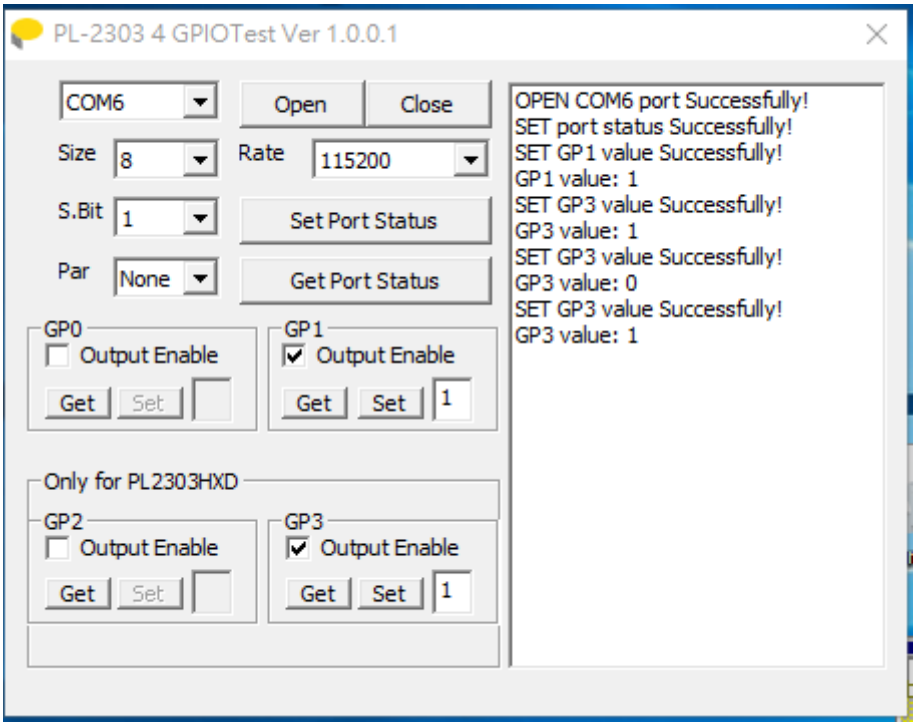


4. Finish



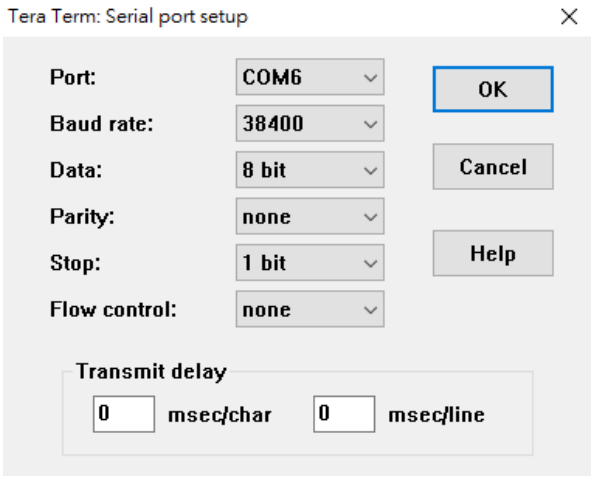
4. How to into the test mode (Default is Download mode)

1. Open the PL-2303 GPIO Test
2. Setting Com port (J11 com port)
3. Baud rate is 115200
4. Setting the GP1
   Keying 1 and Select set button.(open test mode)
5. Setting the GP3
   First Keying 0 and Select set button
   Then Keying 1 and Select set button again. (Reset)



5. Test mode

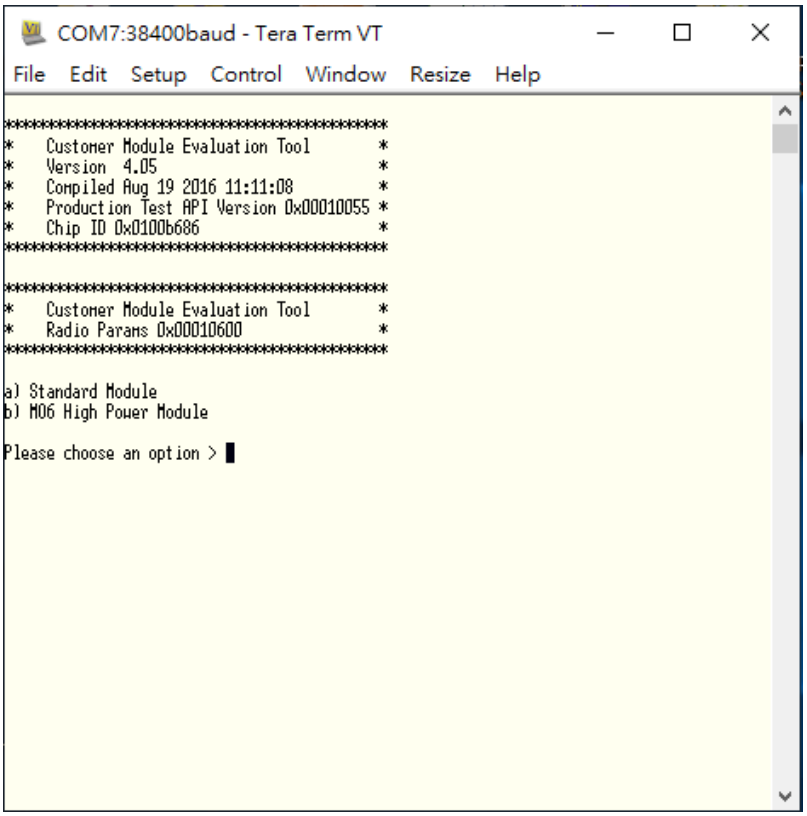
1. Open the Tera Term
   - Setting COM port (J9 com port)
   - Baud rate is 38400



a. standard module (AW-CU477&CU478)

b. M06 High Power Module (AW-CU479)

(Choose what kind of DUT you used)



- Tx power Adjustment.

  Select a

```
*******************************************
*          Tx Power Adjustement           *
*******************************************

a) Default Tx Power
b) Default Tx Power +0,8dB
c) Default Tx Power +1,2dB
d) Default Tx Power +1,6dB

Please choose an option > A Default Tx Power Selected
```

- Tx 2.5dB Attenuator.

  Select a

```
*******************************************
*            TX 2.5dB Attenuator          *
*******************************************

a) 2.5dB Attenuator Off
b) 2.5dB Attenuator On

Please choose an option > A 2.5dB Attenuator Off Selected
```

- RX Maximum Input Level.

  Select b

```
*******************************************
*          RX Maximum Input Level         *
*******************************************

a) RX Maximum Input Level +10dBm
b) RX Maximum Input Level 0dBm (with reduced power consumption)

Please choose an option > B RX Maximum Input Level 0dBm Selected
```

- Customer Module Evaluation Tool (main menu)

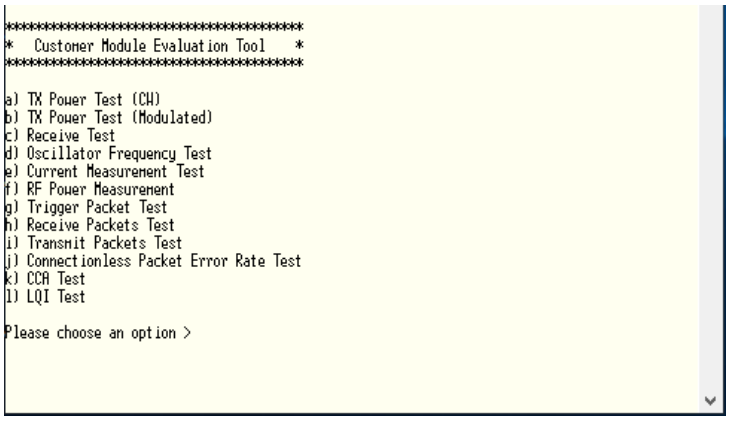
```
*****************************************
*  Customer Module Evaluation Tool    *
*****************************************

a) TX Power Test (CW)
b) TX Power Test (Modulated)
c) Receive Test
d) Oscillator Frequency Test
e) Current Measurement Test
f) RF Power Measurement
g) Trigger Packet Test
h) Receive Packets Test
i) Transmit Packets Test
j) Connectionless Packet Error Rate Test
k) CCA Test
l) LQI Test

Please choose an option >
```

6. Select “g” trigger packet test (Rx test)

   “l” transmit packet test (Tx test)

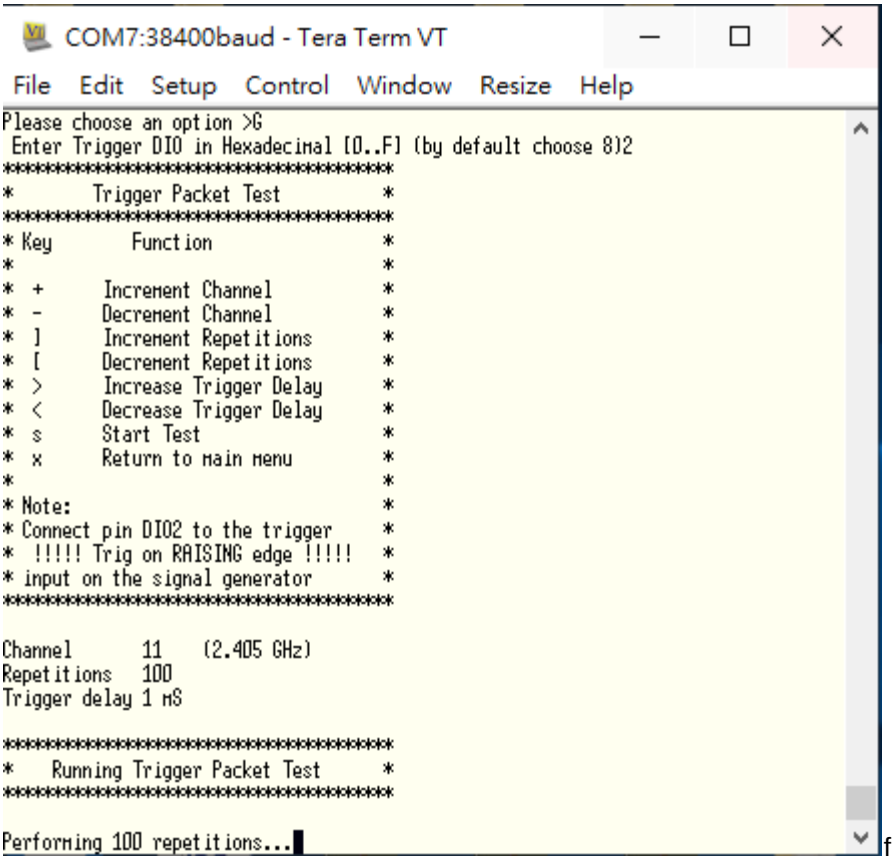


7. RX test (Select g)

   S → start test (start to receive the package)

   +/- → Increment or decrement channel

   X → Return to main menu



f

8. TX test (Select i)

   +/- → can control the channel

   F → fast transmit rate (fast transmit can help modulation to catch signal)

   X → Return to main menu