

AW-CU480

**Bluetooth Low Energy 5.0 wireless
microcontroller Stamp LGA module**

User Guide

Rev. A

(For Standard)

Revision History

Version	Revision Date	Description	Initials	Approved
A	2020/10/19	● Initial Version	Jeff Kuo	N.C. Chen

1. System Setup

(1) Hardware Requirements

- AW-CU480 Module test board
- Host system need running the Window10 x64 operating system
- Vector Signal Analyzer/WLAN analyzer for transmit measurements.
- WLAN signal generator for receiver measurements.
- RF isolation chamber for receive measurements.
- RF attenuators
- RF cable
- NFC reader

(2) Software Requirements

- PL-2303 GPIO Test (tool)

PL2303HXD_GPIO > PL2303HXD 4 GPIO_bin

名稱	修改日期	類型	大小
 PL-2303 4 GPIOTest.exe	2020/8/11 上午 1...	應用程式	300 KB

- Mbt.exe (please contact FAE)












Note: mbt is our suggestion, you can try any hci tool.

名稱	修改日期	類型	大小
 mbt.exe	2020/7/21 上午 1...	應用程式	50 KB
 mbt_setup.ini	2020/7/21 下午 0...	組態設定	1 KB

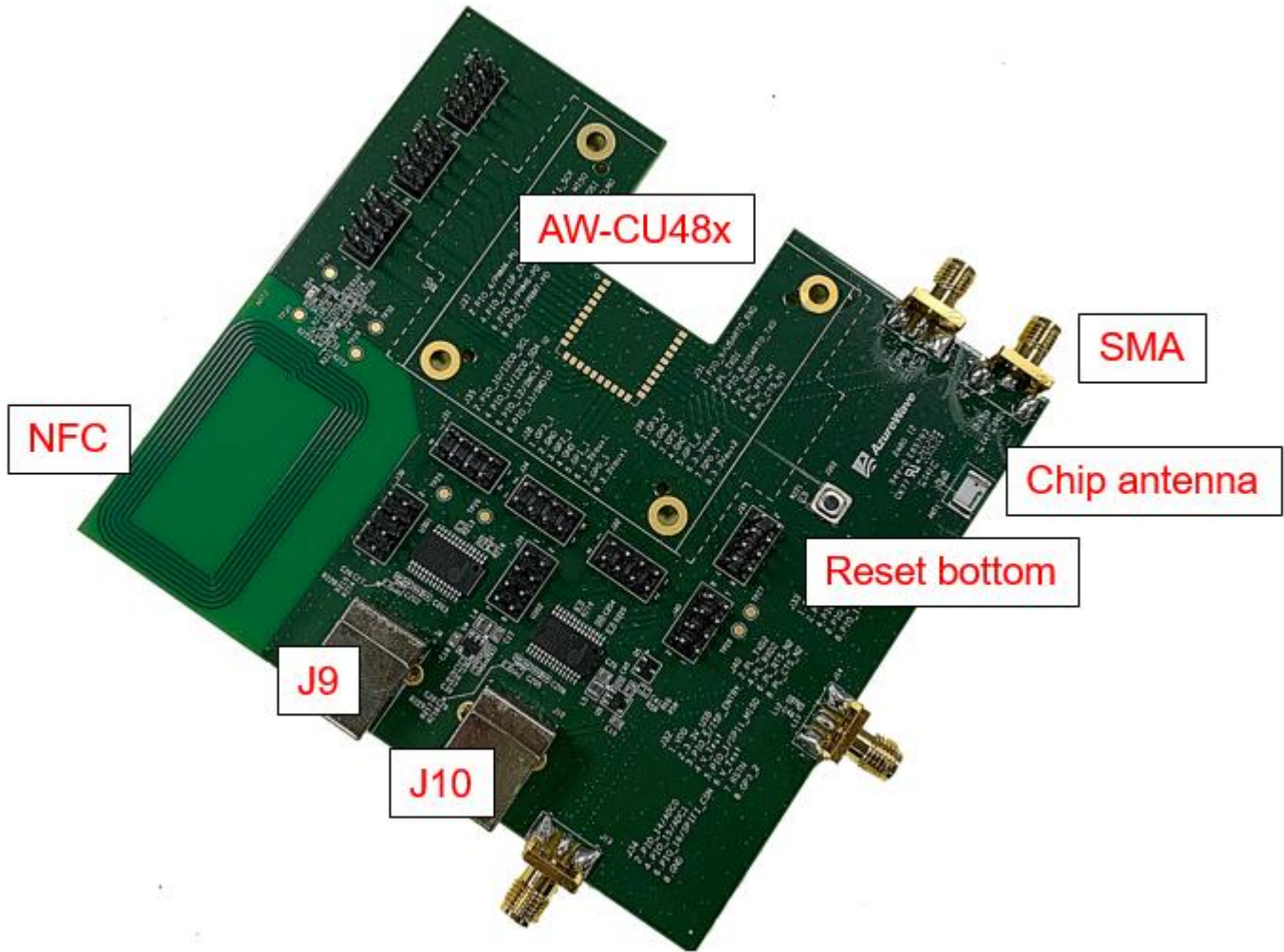
- DK6Production flash programmer folder (please contact FAE)

Note: You must have below files

機磁碟 (C:) > nxp > DK6ProductionFlashProgrammer

名稱	修改日期	類型	大小
 DK6Programmer.exe	2019/11/16 上午 02:02	應用程式	588 KB
 ftd2xx.dll	2019/5/28 下午 07:15	應用程式擴充	215 KB
 jn5189dk6_hello_world.bin	2020/4/15 上午 10:11	BIN 檔案	17 KB
 JN-AN-1242-JN518x-Customer-Module-Evaluation-Tool.bin	2020/2/28 下午 05:23	BIN 檔案	69 KB
 JN-AN-1242-K32W061-Customer-Module-Evaluation-Tool.bin	2020/5/1 下午 09:52	BIN 檔案	56 KB
 libgcc_s_dw2-1.dll	2019/5/28 下午 07:15	應用程式擴充	110 KB
 pdcurses.dll	2019/5/28 下午 07:15	應用程式擴充	116 KB
 programmer.dll	2019/11/16 上午 02:02	應用程式擴充	972 KB
 qn9090dk6_hci_black_box_bm.bin	2020/3/3 下午 02:03	BIN 檔案	149 KB
 qn9090dk6_hello_world.bin	2020/2/20 上午 10:53	BIN 檔案	21 KB
 uninstall.exe	2020/2/13 下午 02:22	應用程式	323 KB

2. AW-CU480 EVB

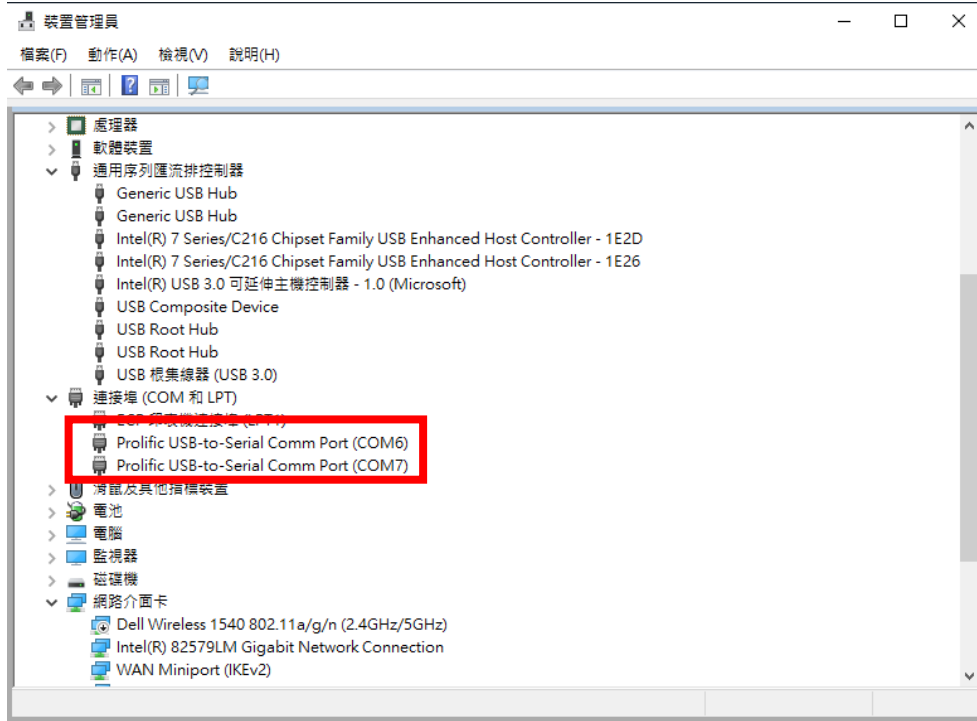


3. How to download the image

1. You must check the COM number (can check the value by the following picture)

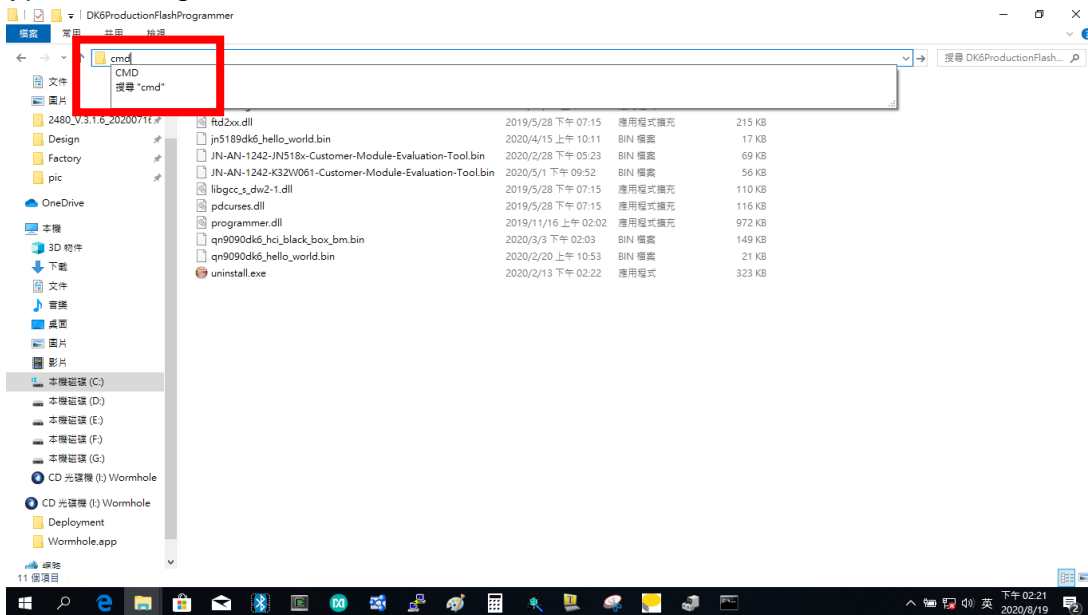
Note: J9 for DUT COM port

J10 for PL2303 control Test/Normal mode.



2. Find the folder of DK6ProductionFlashProgrammer.

And type cmd to get into the Dos window.



- key in **DK6Programmer.exe -s com3 -p qn9090dk6_hci_black_box_bm.bin**
Note: The DUT COM port value (COM"3") depending on your environment and the above is for the example.
To open the tool and download the image file (com3 is your DUT J9 Com port)

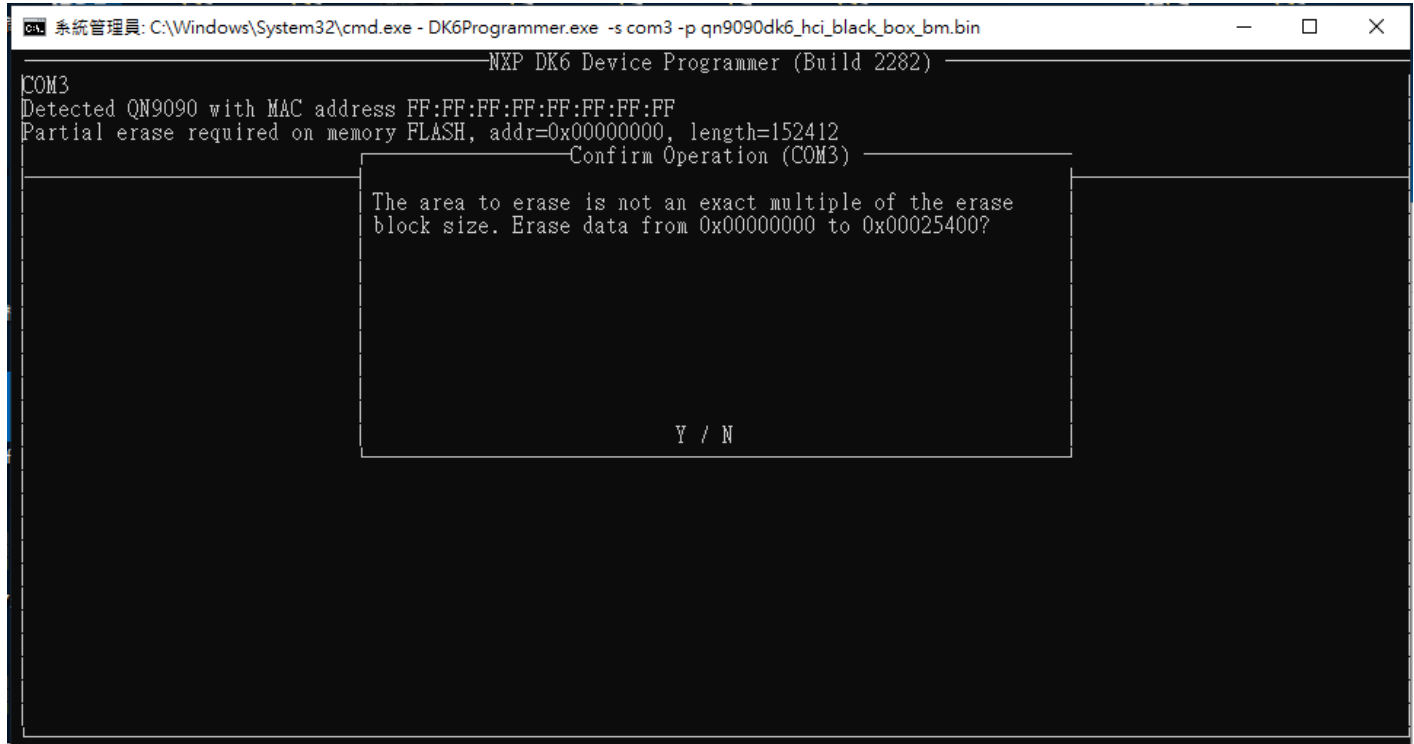


```
系統管理員: C:\Windows\System32\cmd.exe

C:\nxp\DK6ProductionFlashProgrammer>
C:\nxp\DK6ProductionFlashProgrammer>
C:\nxp\DK6ProductionFlashProgrammer>DK6Programmer.exe -s com3 -p qn9090dk6_hci_black_box_bm.bin
```

DUT COM PORT J9

- Select Y



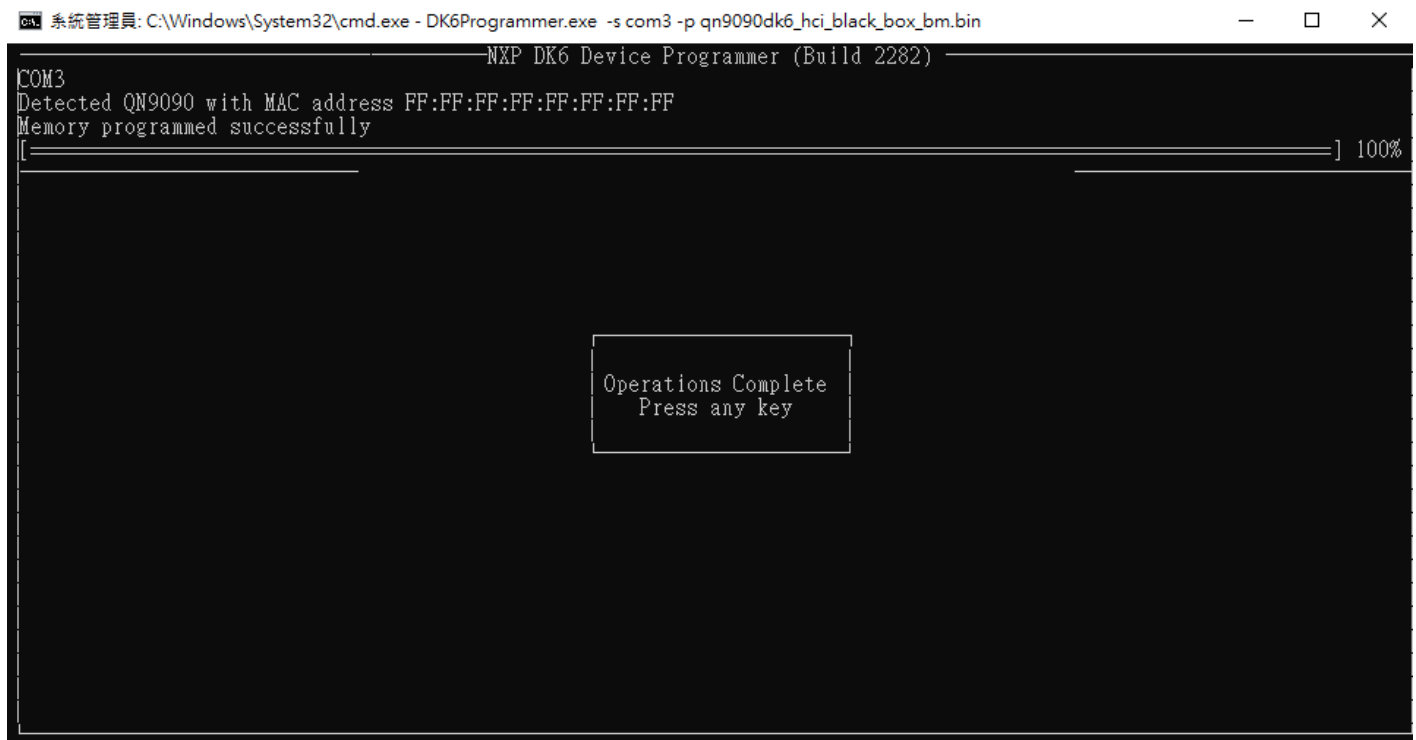
```
系統管理員: C:\Windows\System32\cmd.exe - DK6Programmer.exe -s com3 -p qn9090dk6_hci_black_box_bm.bin

-----NXP DK6 Device Programmer (Build 2282)-----
COM3
Detected QN9090 with MAC address FF:FF:FF:FF:FF:FF:FF:FF
Partial erase required on memory FLASH, addr=0x00000000, length=152412
-----Confirm Operation (COM3)-----

The area to erase is not an exact multiple of the erase
block size. Erase data from 0x00000000 to 0x00025400?

Y / N
```

5. Finish

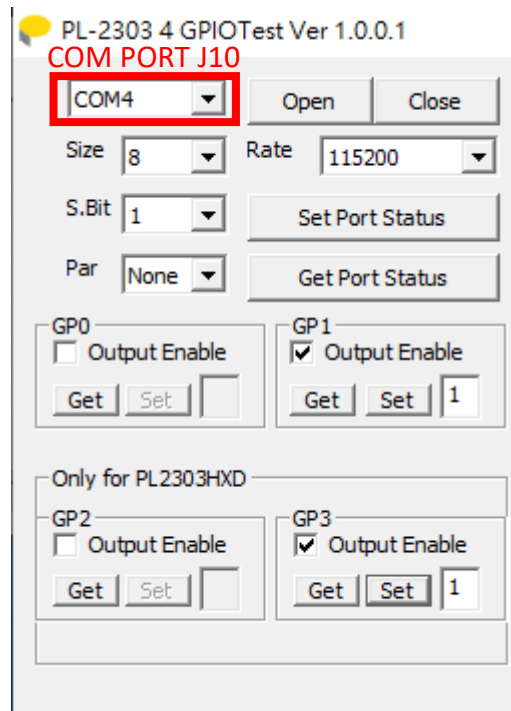


```
系統管理員: C:\Windows\System32\cmd.exe - DK6Programmer.exe -s com3 -p qn9090dk6_hci_black_box_bm.bin
NXP DK6 Device Programmer (Build 2282)
COM3
Detected QN9090 with MAC address FF:FF:FF:FF:FF:FF:FF:FF
Memory programmed successfully
] 100%

Operations Complete
Press any key
```

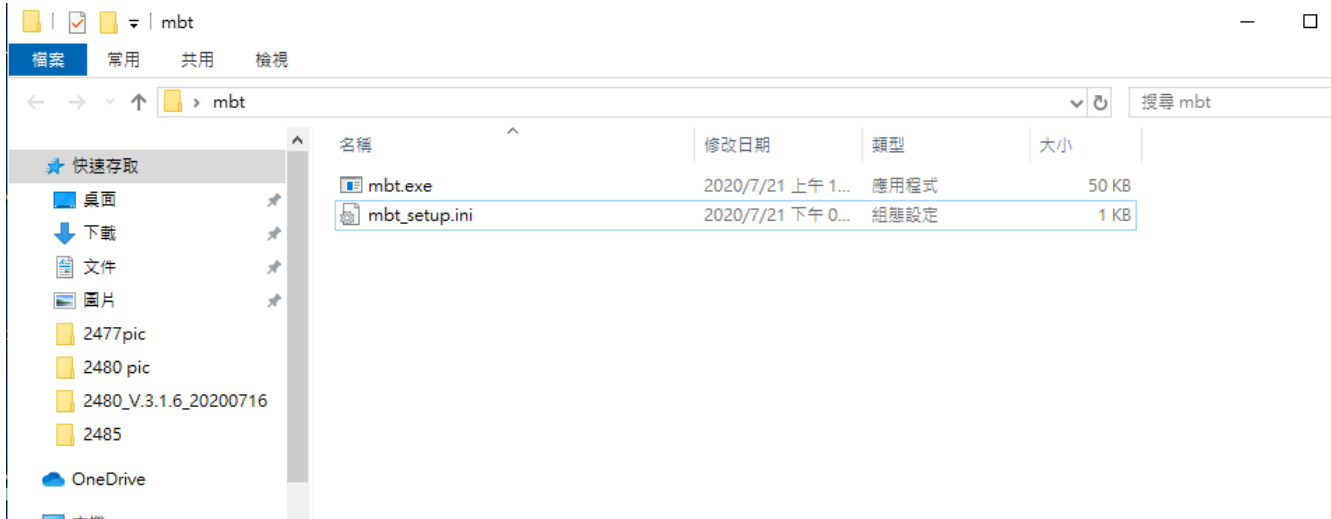

4. How to get into the test mode

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



5. Test mode

1. Open the folder of mbt

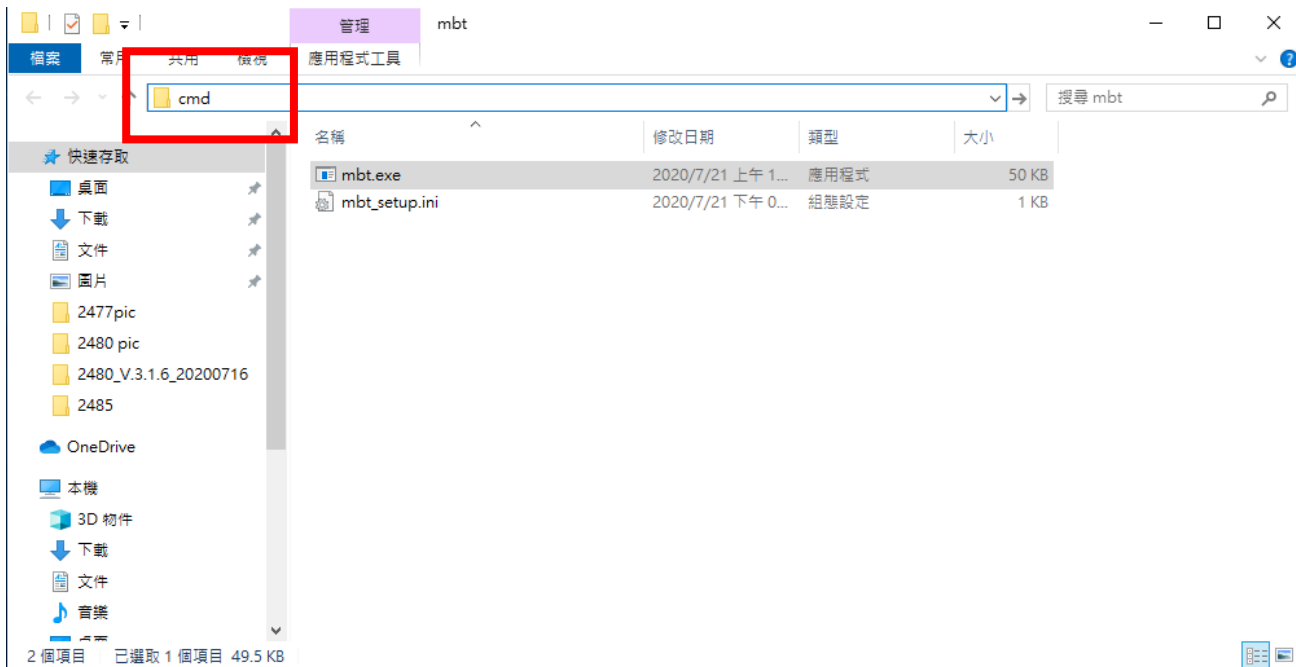


2. Open the mbt_setup.ini
Setting MBT_TRANSPORT=COM3 (your DUT COM port J9)

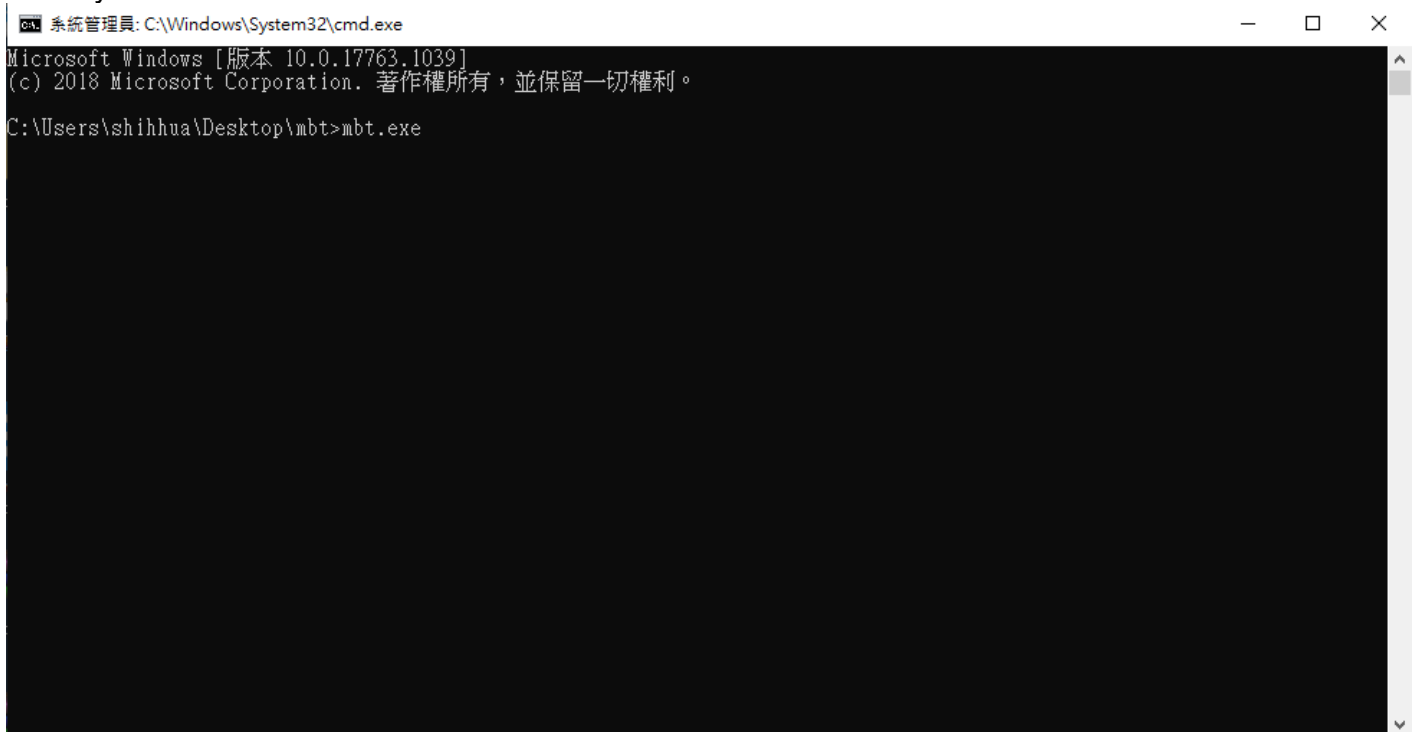
```
-----  
DOWNLOAD_BAUDRATE=115200  
APPLICATION_BAUDRATE=115200  
Enable_Debug_Message=1  
DOWNLOAD_DELAY = 50  
[Solution]  
Type=2  
-----
```



3. And type cmd to get into the Dos window.



4. Key in mbt.exe



5. Main menu

If you need more information, please key in mbt help.

```
系统管理员: C:\Windows\System32\cmd.exe
Send HCI Success
Success
** mbt command finish **

C:\Users\shihhua\Desktop\mbt>mbt help
MBT_TRANSPORT: COM3
DOWNLOAD_BAUDRATE: 115200
APPLICATION_BAUDRATE: 115200
Usage: mbt help
Usage: mbt reset
Usage: mbt le_receiver_test <rx_channel>
Usage: mbt le_transmitter_test <tx_channel> <data_length> <packet_payload>
Usage: mbt le_test_end
Usage: mbt set_tx_frequency_arm <carrier on/off> <tx_frequency> <tx_mode> <tx_modulation_type> <tx_power>
Usage: mbt receive_only <rx_frequency>
Usage: mbt read_bd_addr
Usage: mbt write_bd_addr <bd_addr>
Usage: mbt radio_tx_test <bd_addr> <frequency> <modulation_type> <logical_channel> <bb_packet_type> <packet_length> <tx_power>
Usage: mbt radio_rx_test <bd_addr> <frequency> <modulation_type> <logical_channel> <bb_packet_type> <packet_length>
Usage: mbt connectionless_dut_loopback_mode
Usage: mbt download <hcd_pathname>

Check Bluetooth Core 4.1 spec vol. 2 Sections 7.8.28-7.2.30
for details of LE Transmitter and Receiver tests
** mbt command finish **

C:\Users\shihhua\Desktop\mbt>
```

6. Key in mbt reset

Make sure the DUT have been reset.

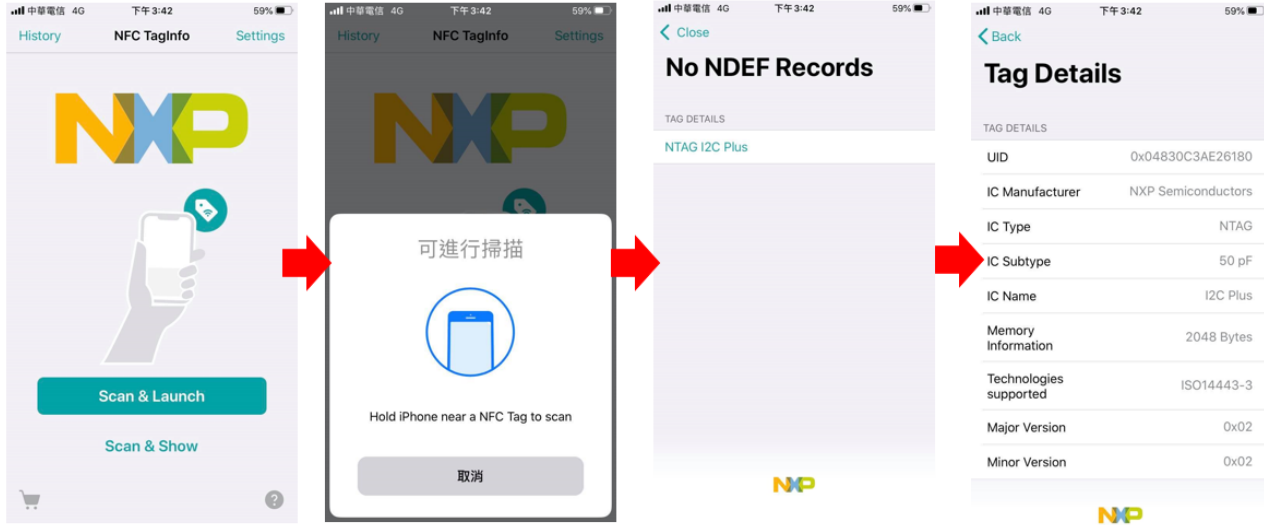
```
C:\Users\shihhua\Desktop\mbt>mbt reset
MBT_TRANSPORT: COM3
DOWNLOAD_BAUDRATE: 115200
APPLICATION_BAUDRATE: 115200
Sending HCI Command:
0000 < 03 0C 00 >
Received HCI Event:
0000 < 0E 04 05 03 0C 00 >
Send HCI Success
Success
** mbt command finish **

C:\Users\shihhua\Desktop\mbt>
```

7. Read the NFC tag

Open the NFC Taginfo in you smart phone, and scan the NFC

Then you will get the information from NFC



If you want to check UID in DUT, please download Zigbee image into your DUT.
