

# **BM70 - BLEDK3 Application Note**

Advanced Info

## **Revision History**

| Date       | Revision Content | Version |
|------------|------------------|---------|
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|            |                  |         |
|            |                  |         |

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## Content

## 1. Overview

This document describes the general application information of BM70 module and it's BLEDK3 application.

Users can read this document to familiar with the test environment of tools and the related document. Some application examples also illustrated. Some notifications about mass production also listed.

## 2. EVB and BLEDK3 test environment

## 2.1. BM70BLES1FC2 EVB

BM70BLES1FC2 EVB(Figure 1) is the default evaluation board with module BM70BLES1FC2 (IS1870SF BLE chip, antenna and shielding case) implemented on the EVB. Test interfaces supported for all application function are connected out. The supported test interface is listed in Table 1. For more detail usage please see

#### "BM70BLES1FC2\_EVB User Guide" and "BM70\_BM71 Data Sheet"





#### Table-1 Application Interface of BM70BLES1FC2 EVB

| 1.Power Source Input Select(PICTAIL/USB/BAT) | 7. Test buttons(include reset)/LEDs interface      |
|--|--|
| 2.UART interface with flow control           | 8. I2C interface                                   |
| 3.Module test interface                      | 9. DIP switch for mode select                      |
| 4.USB GPIO test interface                    | 10. USB to UART converter with micro usb connector |
| 5. Power switch test buttons                 | 11. CR2032 button cell battery jack                |
| 6. Serial flash interface                    | 12. PICTAIL Interface                              |

Figure 1: BM70BLES1FC2 EVB

#### 2.2. BLEDK3 Tools and Materials

BLEDK3 is one of the IS1870SF BLE application firmware which support the following features:

- BLE UART Transparent
- BLE GATT Based Transceiver
- Beacon

#### 2.2.1 BLEDK3 Release Note

Read first "BLEDK3 Release Note ", it describes supported software features for the BLEDK3.

#### 2.2.2 Flash Download Tool

If necessary, new BLEDK3 firmware can be updated with the **"ISupdate Firmware Update Tool**". The download procedure is described in **"BM70BLES1FC2\_EVB User Guide**".

| ISupdate Firmware Update tool v4.0.0.201  |             | • X    |
|---|-------------|--------|
| Access Port<br>port COM33   baudrate 115200   type/subtype flash   / Embedd   addre | ess 0000 Co | nnect  |
| Flash Update/Dump   |             |        |
| Images Prepare: Load all images   | Browse PSR  | AM_Run |
|   | Update V    | erify  |
| Images 🖉 👻 bank num 🔍   | Browse      | Oump   |
| Flash/EEPRom/MCU/AHB Access   |             |        |
| Address Length(Hex) Data(Hex)   | Read        | Vrite  |
|   |             |        |
|   |             |        |
|   |             |        |

Figure 2: ISupdate Firmware Update Tool

**Note:** Verify BLEDK3 device features in the "Release Note" Document. If an update to newer firmware version is necessary, then the flash code should be downloaded first, before the UI parameters are loaded. As the flash update process could overwrite the UI parameter configuration.

#### 2.2.3 UI Tool

Configure the UI parameter by UI tool, then download the UI table to flash in BM70 module.

- UI tool user guide: "User Guide of BLEDK3 UI Tool"
- UI table download procedure: "BM70BLES1FC2\_EVB User Guide"
- UI table for mass production: Save UI table, the \*.hex file is for mass production.

| Figure       | 3: ISupdate Firmware Update Tool |   |
|--------------|----------------------------------|---|
| #IS187x_102  | _BLEDK3_UI_Configuration_T 👂     | < |
| -Version & D | evice                            |   |
| Version:     | IS1870S_102A                     |   |
| Device Typ   | e: BLEDK3                        |   |
| Source:      | Factory UI                       |   |
|              | Edit                             |   |
| Save         | Export Load Write Flash          |   |

#### 2.2.4 UART Command Tool

UART command set of BLEDK3 is described in "BLEDK3 UART command set" document.

BLEDK3 uart command tool (windows based) operates on either auto pattern or manual pattern.

- Auto pattern, **BLEDK3** will be executed base on internal state machine that can be configured by UI tool, it only supports BLE Slave and build-in services.
- Manual pattern, **BLEDK3** will be executed base on MCU command totally, it supports both BLE Master and BLE slave by using UART protocol with MCU. And appended services only can operate in manual pattern.

#### Supported tools and user menu:

- Auto Pattern: "BLEDK3 Auto Pattern Test Tool.exe", "User Guide of BLEDK3 Auto Pattern Tool"

- Manual Pattern: "BLEDK3 Manual Test Tool.exe", "User Guide of BLEDK3 Manual Pattern Tool" Please read the "BM70BLES1FC2\_EVB User Guide" for set up the test environment.

#### Figure 4: BLEDK3 test connection between PC and smart phone



In the connection diagram, PC and the tool is acted as a MCU role to communicate with BM70 module by UART command set.

## 3. Auto/Manual Pattern Tool vs EVB Connection Setup

This chapter demonstrates the EVB GPIO connection when setup the UI and UART command tool. Both auto pattern and manual pattern tool are described.

## 3.1 EVB Connection vs. Auto Pattern Tool and UI Tool Setup

- a. Set up UI tool => Flow Control/RX\_IND/Auto Pattern/GPIO Configuration. Download the UI table to EVB.
- i. UI Tool: in system setup page, enable Flow Control, RX\_IND and select auto pattern mode

| Uart Setting           |     |                            |              |              |      |
|------------------------|-----|----------------------------|--------------|--------------|------|
| HCI Baud Rate Index    |     | 0x03:115200                |              | •            | Help |
| H/W Flow Control       |     | Enable                     |              | •            |      |
| Check Rx Data Interval | 0x  | 00                         |              |              |      |
|                        |     | (unit: 0.625ms)            | total : 0.00 | 00 ms        |      |
| UART RX_IND            |     | Enable                     |              | •            |      |
|                        |     |                            |              |              |      |
| Operation Mode Setting |     |                            |              |              |      |
| Operation Pattern      |     | Auto Pattern               |              | •            | Help |
| Configure Mode Timeout | 0x  | 00                         |              |              |      |
|                        | (0: | Disable Configure Mode, ur | nit: 640ms)  | total : 0 ms |      |
|                        |     |                            |              |              |      |

ii. UI Tool: in system setup2 page, configure the GPIO vs function mapping

|                 |     |     |     |     |     |     |     |     |          | Help |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|----------|------|-----|-----|
| NO USE          | P36 | P10 | P00 | P31 | P32 | P33 | P34 | P07 | P11<br>@ | P22  | P24 | P35 |
| UART_RTS        | ۲   |     |     |     |     |     |     |     |          |      |     |     |
| LOW_BATTERY_IND | C   | C   | 0   | С   | C   | C   | C   | ۲   | C        | C    | C   | с   |
| RSSI_IND        | C   | C   | C   | ۲   | 0   | С   | C   | C   | c        | C    | C   | с   |
| UART_CTS        |     |     | ()  |     |     |     |     |     |          |      |     |     |
| LINK_DROP       | C   | C   | C   | 0   | ۲   | C   | C   | 0   | c        | C    | C   | с   |
| UART_RX_IND     | С   | С   | C   | C   | 0   | ()  | С   | 0   | C        | C    | C   | с   |
| PAIRING_KEY     | C   | C   | C   | C   | 0   | C   | ()  | 0   | C        | C    | 0   | C   |
| RF_ACTIVE_IND   | C   | 0   | C   | 0   | C   | C   | C   | 0   | C        | C    | C   | с   |
| STATUS1_IND     | С   | С   | 0   | C   | 0   | С   | С   | 0   | с        | С    | С   | ۲   |
| STATSU2 IND     | C   | ()  | C   | C   | C   | C   | С   | 0   | С        | С    | С   | C   |

#### b. Mapping the USB GPIO setting to functions in Auto Pattern Test Tool

| 😹 BLE    | DK3 Auto Patt          | ern Test Tool v1.0_00          | 6 📃 🗆 🔀    |
|----------|------------------------|--------------------------------|------------|
| Raw Data | i Page Pass Key Page C | Configure Mode   ADV / SR Data |            |
|          |                        |                                |            |
| COM      | Port : COM1            | ▼ BaudRate : 115200            | Connect    |
| GPIO     | 3: RTS_STATUS          | ▼ H/W CTS Flow Control         |            |
| GPIO     | 4 : LOW_BATT_IN        | D ▼ Rx_Ind delay Time : 20     | ) (0.1 ms) |
| GPIO     | 5 : Monitor RSSI       | •                              |            |

c. Connect the configured module GPIO pin to USB GPIO pin as below.



#### d. In this example, the mapping table between module and USB GPIO is as below:

| BM70 GPIO Pin | USB GPIO   | BLEDK3 Configured IO Function |
|---------------|------------|-------------------------------|
| P00           | RTS        | CTS                           |
| P07           | GP4        | LOW_BATTERY_IND               |
| P31           | GP5        | RSSI_IND                      |
| P36           | GP3 or CTS | RTS                           |

#### 3.2 EVB Connection vs. Manual Pattern Tool and UI Tool Setup

a. Set up UI tool => Flow Control/RX\_IND/Manual Pattern/GPIO Configuration. Download the UI table to EVB.

i. UI Tool: in system setup page, enable Flow Control, RX\_IND and select Manual pattern mode

| 0x03 : 115200                | •  | Help  |
|------------------------------|--|---|
| Disable                      | <b>v</b>   |   |
| 0x 00                        |  |   |
| (unit: 0.625ms)              | total : 0.000 ms   |   |
| Enable                       | •  |   |
|                              |  |   |
| Manual Pattern               | <b>~</b>   | Help  |
| 0x 00                        |  |   |
| (0:Disable Configure Mode, u | init: 640ms) total : 0 ms  |   |
|                              | 0x03 : 115200         Disable         0x         00         (unit: 0.625ms)         Enable         Manual Pattern         0x         00         (0)         (0)         (0)         0x         00         (0)         (0)         (0)         (0)         (0)         (0)         (0)         (0)         (0)         (0)         (0)         (0)         Disable Configure Mode, unit | 0x03 : 115200   Disable   0x   00   (unit: 0.625ms)   total : 0.000 ms   Enable     Manual Pattern   0x   00   (0:Disable Configure Mode, unit: 640ms)   total : 0 ms |

ii. UI Tool: in system setup2 page, configure the GPIO vs function mapping. In manual pattern tool, only RX\_IND configuration is valid.

| stem Setup System Setup2  LE Mode Setup  GATT Service Table   LED Setup   Beacon Setup  <br>H |     |        |     |     |      |     |     |     |     | Help  | ^   |     |   |
|---|-----|--------|-----|-----|------|-----|-----|-----|-----|-------|-----|-----|---|
| NO LISE   | P36 | P10    | P00 | P31 | P32  | P33 | P34 | P07 | P11 | P22   | P24 | P35 |   |
| UART RTS  | ē   |        |     |     |      |     |     |     |     |       |     |     |   |
| LOW_BATTERY_IND   | c   | C      | C   | C   | C    | C   | C   | ۲   | C   | C     | C   | c   |   |
| RSSI_IND  | c   | C      | C   | ۲   | c    | C   | C   | 0   | C   | 0     | C   | c   |   |
| UART_CTS  |     |        | ۲   |     |      |     |     |     |     |       |     |     |   |
| LINK_DROP   | C   | C      | C   | С   | ۲    | C   | 0   | 0   | С   | C     | C   | C   |   |
| UART_RX_IND   | C   | 0      | C   | C   | 0    | ۲   | 0   | C   | С   | C     | C   | С   |   |
| PAIRING_KEY   | C   | 0      | 0   | C   | 0    | C   | ۲   | C   | C   | 0     | 0   | C   |   |
| RF_ACTIVE_IND   | C   | 0      | 0   | C   | 0    | С   | C   | 0   | С   | 0     | 0   | 0   |   |
| STATUS1_IND   | C   | С      | 0   | С   | 0    | С   | 0   | 0   | С   | С     | С   | ۲   | э |
| STATSU2_IND   | C   | (      | 0   | 0   | 0    | C   | 0   | 0   | С   | 0     | 0   | С   |   |
| RF Active IND Setting   |     |        |     |     |      |     |     |     |     |       |     |     | ~ |
|   | Pr  | evious | 5   |     | Next |     |     |     | F   | inish |     |     |   |

#### b. Manual Pattern Test Tool

|   | BLED        | K3 Manual Test Tool v0.26 |
|---|-------------|---------------------------|
| [ | COM Port:   | COM1   Baudrate: 115200   |
|   | Parity Bit: | None  Stop Bit: 1         |
|   | GPIO Ctrl:  | MCP2200                   |
|   |             |                           |

c. Connect the P33(configured as RX\_IND) to USB GPIO GP0 as below



## 4. Current Consumption Test Example

This chapter demonstrates how to measure the current consumption of BLEDK3 in BM70BLES1FC2 EVB. The current consumption of standby, connected, connected TX/RX and shutdown mode will be measured.

## 4.1 Test Condition:

Test EVB: BM70BLES1FC2 EVB Flash code: BLEDK3 V1.03 UI Tool: IS187x\_001\_BLEDK3\_UI v100.123 Test Phone: iPhone 6+ with iOS 9.02 Test APP: BLEDK3 V1.2 VBAT=3.3V, UI: LED turn off (JP8 Jumper Off)

## 4.2 Standby Mode Current

## -Test Procedure:

- a. Set UI to required test configuration (Beacon Mode) and download UI table to flash.
- b. Set EVB in application mode and power on
- c. Measure the current at J1 jumper

## -UI setting: Beacon only, ADV Interval: 100ms or 500ms

| Main Feature |         |        | × |
|--------------|---------|--------|---|
| Feature      | C BLEDK | Beacon |   |
|              | Cancel  | ОК     |   |

|                         |   | Enable   | Help   |
|-------------------------|---|--|--|
|                         |   | Enable   | ]  |
|                         | 0x                                      | 00   |  |
| 00A0:100m<br>0320:500ms | s<br>s 🔨                                | (0:disable,0x01~0xFF, Unit:640ms)     Stop Beacon Advertising  | total : 0 ms<br>]  |
| val                     | 0x                                      | 00A0   |  |
| l                       |   | (0x0020 ~ 0x4000, Unit: 0.625ms)                               | total : 100.000 ms   |
| Length                  |   | 3  | ( Max: 31)   |
|                         | 0x                                      | 020106   |  |
|                         | 0x                                      | 0000000000   | (6 Bytes)  |
|                         |   |  |  |
|                         |   |  |  |
|                         |   |  |  |
|                         | 00A0:100m<br>0320:500m<br>val<br>Length | 0x<br>00A0:100ms<br>0320:500ms<br>val 0x<br>Length<br>0x<br>0x | Image: period constraints     Image: period constraints       0x     00       00A0:100ms     (0:disable,0x01~0xFF, Unit:640ms)       0320:500ms     Stop Beacon Advertising       val     0x       0x     00A0        (0x0020 ~ 0x4000, Unit: 0.625ms)       Length     3       0x     020106       0x     00000000000 |

#### - Test Connection:



## 4.3 Connected Mode Current

#### -Test Procedure:

- a. Set UI to required test configuration (as below) and download UI table to flash.
- b. Set EVB in application mode and power on
- c. Connect to Smart phone BLEDK app and get into connect mode in transparent page
- d. Measure the current at J1 jumper
- -UI setting: Select BLEDK Mode, set connection interval 500ms, Latency=2

| Main Feature                                 |   |
|--|---|
| _ Feature                                    |   |
| ● BLEDK<br>□ BeaconThings                    | C Beacon  |
| Cancel                                       | ОК  |
|  |   |
| System Setup System Setup2 LE Mode Setup GAT | T Service Table   LED Setup   Beacon Setup        |
| LE Connection Setting                        |   |
| LE Connection Parameter Update Request       | Enable Help                                       |
| Min LE Connection Interval 0x                | 0010  |
|  | ( 0x0008~0x0C80, Unit:1.25ms) total : 20.00 ms    |
| Max LE Connection Interval 0x                | 0190  |
|  | ( 0x0010 ~ 0x0C80, Unit:1.25ms) total : 500.00 ms |
| LE Slave Latency 0x                          | 0002  |
|  | (0x0000~0x03E8)                                   |
| LE Supervision Timeout 0x                    | 0200  |
|  | (0x000A~0x0C80, Unit: 10ms) total : 5120 ms       |

## - Test Connection:



- BLEDK3 APP Setup: Make link and click to transparent page to test current in connected Transparent Page



## 4.4 Connected TX Mode Current

## -Test Procedure:

a. Set UI to required test configuration (with two Tx data throughput setting as below) and download UI table to flash.

b. Set EVB in application mode and power on

c. Connect to Smart phone BLEDK app and get into connect mode in transparent page, click compare and select 100k.txt to compare received data

d. Open auto pattern tool, set flow control and make connection. Click Load File and select 100K.txt file. Click Tx start and start TX test.

e. Measure the current at J1 jumper

- **UI setting:** Select BLEDK Mode, Enable Flow Control, RX\_IND and set Auto Pattern. Set Max throughput Setting

| Main Feature |                       |          | × |
|--------------|-----------------------|----------|---|
| Feature      | BLEDK<br>BeaconThings | ⊂ Beacon |   |
|              | Cancel                | ОК       |   |

| Uart Setting           |  |      |
|------------------------|--|------|
| HCI Baud Rate Index    | 0x03 : 115200 💌                                      | Help |
| H/W Flow Control       | Enable   |      |
| Check Rx Data Interval | 0x 00  |      |
|                        | (unit: 0.625ms) total : 0.000 ms                     |      |
| UART RX_IND            | Enable   |      |
| Operation Mode Setting |  |      |
| operation mode Setting |  | -    |
| Operation Pattern      | Auto Pattern   | Help |
| Configure Mode Timeout | 0x 00  |      |
|                        | (0:Disable Configure Mode, unit: 640ms) total : 0 ms |      |

| /stem Setup System Setup2 LE Mode Setup                        | GATT | Service Table LED Setup Beacon Setup                                  |
|--|------|---|
| LE Connection Setting<br>LE Connection Parameter Update Reques | t    | Test Interval:<br>Enable a. 0010 (max Throughput) Help                |
| Min LE Connection Interval                                     | 0x   | 0008 <u>b. 0020</u><br>( 0x0008~0x0€80, Unit:1.25ms) total : 10.00 ms |
| Max LE Connection Interval                                     | 0x   | 0010<br>( 0x0010 ~ 0x0C80, Unit:1.25ms) total : 20.00 ms              |
| LE Slave Latency   | 0x   | 0000<br>(0x0000~0x03E8)   |
| LE Supervision Timeout   | 0x   | 0200  |
|  |      | (0x000A~0x0C80, Unit: 10ms) total : 5120 ms                           |

## - Test Connection:



- BLEDK3 APP Setup for TX test : refer to 4.3 connected mode test, connect to smart phone BLEDK3 APP and get into transparent mode. Click compare and select 100k.txt for TX test.

| ●●○○○中華電信 4G 15:57 米 ■           | Þ |
|----------------------------------|---|
| Back ISSC                        |   |
|                                  |   |
|                                  |   |
|                                  |   |
| Select a file to compare         |   |
| 100k tyt                         |   |
| TOOK.LAL                         |   |
| 10k txt                          |   |
| Tokka                            |   |
| 1k.txt                           |   |
|                                  |   |
| 200k.txt                         |   |
| Dealtheannan                     |   |
| Don't compare                    |   |
|                                  |   |
|                                  |   |
|                                  |   |
| Compare TX File Write Type Clear |   |

- Auto Pattern Test Tool for TX test: Make connect to EVB, Load File and select 100K.txt. Click TX start and measure the TX current.

## 4.5 Connected RX Mode Current

Following the test connection and UI setting as in chapter 4.4 and set the test as follows:

- BLEDK3 APP Setup for RX test : connect to smart phone BLEDK3 APP and get into transparent mode.

Transmit 100K.txt file in "Write with Reliable Burst Transmit" or "Write with Response" mode.



- Auto Pattern Test Tool for TX test: Make connect to EVB. Start TX transmit in BLEDK3 APP of smart phone, the received byte number and transmit time will show on the screen.

| BLEDK3                | Auto Pattern Tes  | st Tool v1.0_0                      | 06                            |             |
|-----------------------|---|-------------------------------------|-------------------------------|-------------|
| aw Data Page          | Pass Key Page   Configure Mo                            | xde   ADV / SR Data                 |                               |             |
| COM Port :<br>GPIO3 : | COM60 B   | audRate : 115200                    |                               | Disconnect  |
| GPIO4 :<br>GPIO5 :    | LOW_BATT_IND R<br>RSSI_IND                              | x_Ind delay Time :                  | 20                            | (0.1 ms)    |
| Tx Control            |   |                                     |                               |             |
| Block Size: (         | oyte) Delta Time :(ms) Cha                              | nnel ID:<br>01                      | Load File                     | Tx Start    |
| Repeat:               | Tx Number Rx I  | Number                              |                               | Stop        |
| Compare               | Enable Compare Result :<br>t\Bluetooth SPP\BT5505\5505! | Total Tir<br>MP_102\System Test\Cur | ne : 00:09.62<br>rrent Consum | Reset Timer |

## 4.6 Tested Current Table

| C               | ondition              | Average Current Consumption          | Note                   |
|-----------------|-----------------------|--------------------------------------|------------------------|
| Standby Mode    | ADV Interval: 100ms   | 0.23mA                               | UI: Set as Beacon      |
|                 | ADV Interval: 500ms   | 0.077mA                              | UI: Set as Beacon      |
| Connected Mode  | Con Interval: 500ms   | 0.08mA                               | *Measured when         |
| (Transparent    | Slave Latency: 2      |                                      | transparent page is    |
| Service Enable) |                       |                                      | open on BLETK3 APP.    |
| TX data         | Con Interval: 18.75ms | 3.87mA                               | Max TX data            |
| (Transparent    | Slave Latency: 0      | Throughput: 9.863KB/s                | throughput setting     |
| Service Enable) |                       |                                      | Tested File size: 100K |
| TX data         | Con Interval: 40ms    | 2.77mA                               | Tested File size: 100K |
| (Transparent    | Slave Latency: 0      | Throughput: 4.676KB/s                |                        |
| Service Enable) |                       |                                      |                        |
| RX data         | Con Interval: 18.75ms | 3.06mA                               | Max TX data            |
| (Transparent    | Slave Latency: 0      | Throughput::4.956kB/S                | throughput setting     |
| Service Enable) |                       | (Write with response)                | Tested File size: 100K |
|                 |                       | 3.9mA                                |                        |
|                 |                       | Throughput::9.382kB/S                |                        |
|                 |                       | (Write with reliable Burst Transmit) |                        |
| RX data         | Con Interval: 40ms    | 2.14mA                               | Tested File size: 100K |
| (Transparent    | Slave Latency: 0      | Throughput::2.494kB/S                |                        |
| Service Enable) |                       | (Write with response)                |                        |

|               | 3.03mA                               |  |
|---------------|--------------------------------------|--|
|               | Throughput::5.056kB/S                |  |
|               | (Write with reliable Burst Transmit) |  |
| Shutdown Mode | 1.44uA                               |  |

## 5. MP Test Additional Remark

## 5.1 MPBT Test environment setting

## 5.1.1 Victoria Level Shift Board

For MP (Mass Production) test of BM70BLES1FC2 or IS1870SF-102, an adapter board named "Victoria Level Shift" (Shown in figure 4-1) is required to add on the CON1 connector of the Victoria test board. This board provides the function of bypassing the UART TX/RX voltage level to VBAT during voltage calibration.





## 5.1.2 Test Connection

For Bluetooth BLE RF tester on Anrithu 8852, an UART cable needs to be connected from Anrithu 8852 and PC. Also make sure first the tester has provide the BLE test option.

Detail user guide please check the release package of MP tool.

Figure 4-2: Bluetooth BLE test connection with Anrithu 8852.



## 5.1.3 Test Configuration

In MP tool MPBT configuration page, the UART COM port of device and RF meter page should be set correctly as shown in figure 4.3 and 4.4.

| Configure           |  |  |
|---------------------|--|--|
| SYSTEM              | Site Number 1 V Shielding Box NONE_SBOX V        |  |
| DEVICE              | Access Port<br>COM Port COM29   Baud Rate 115200 |  |
|                     | Information 1<br>Box Port                        |  |
|                     | COM Port COM1 - Bend Rate 9600 -                 |  |
| BT ADDRESS          | Access Fort<br>COM Port COM1                     |  |
| RF METER            | Information 2<br>Box Port                        |  |
| HANDLER             | COM Port COM1 v Bawd Rate 9600 v                 |  |
| MANUFACTURE<br>INFO |  |  |
| APPLY               |  |  |
|                     |  |  |
|                     |  |  |

Figure 4.3: Device COM Port Setting

| Figure 4.4: MT8852 C | COM Port Setting |
|----------------------|------------------|
|----------------------|------------------|

| -RF Instrument :MT8 | 852B             |      |              |       |           |   |
|---------------------|------------------|------|--------------|-------|-----------|---|
| Туре                | Board            |      | Primary      |       | Secondary |   |
| GIB                 |                  |      | <u>er</u>    |       | 0         |   |
| MT8852 RS232        |                  |      |              |       |           |   |
| COM Port            | COM              |      | Pourd Pote 1 | 15000 |           | 1 |
| COMIN               | COMI             | •    | Dauti Kale   | 19200 |           | J |
| PECADLELOSS         |                  |      |              |       |           |   |
| Site                | 1                | 1.00 | dhm          |       |           |   |
| Dia.                | ·                | 1.00 | (, Dini      |       |           |   |
| Site                | 2                | 1.00 | dbm          |       |           |   |
| RFCHANNEL           |                  |      |              |       |           |   |
| - RF Frequency Ca   | dibration        |      |              |       |           |   |
|                     | 📝 Primary Cl     | H    | Second CH    |       | Third CH  |   |
|                     | 2441             | -    | 2402         | -     | 2480      | - |
| DE Ty Douter Ver    | the few iSSC GIL |      |              |       |           |   |
| -KP IX Fower ver    | Primary C        | н    | Second CH    |       | Third CH  |   |
|                     | 2441             | -    | 2402         | -     | 2480      | - |
|                     |                  |      |              |       |           |   |
| RF Rx Sensitivity   | for iSSC GU      |      |              |       |           |   |
|                     | Primary C        | H    | Second CH    |       | Third CH  |   |
|                     | 2441             | ~    | 2441         | -     | 2441      | Ŧ |

## Appendix-1: Document and Tool List

Tool:

| Tool Name                     | Description   |
|-------------------------------|---|
| isupdate                      | Flash download tool   |
| IS187x_102_BLEDK3_UI          | UI configured parameter download tool for IS187xSF BLE chip |
| BLEDK3 Auto Pattern Test Tool | BLEDK3 Auto Pattern Test Tool                               |
| BLEDK3 Manual Test Tool       | BLEDK3 Manual Pattern Test Tool                             |
| MP Tool                       | IS187xSF MP test tool include MPSE,MPBT,MPMF and ISRT       |
| BLEDK3 APP                    | BLEDK3 test APP for iOS/Android                             |

Document:

| File Name (*.pdf)                      | Description  |
|--|--|
| BLEDK3 Release Note                    | Describe supported software features for the BLEDK3  |
| BLEDK3 Command Set                     | Describe how MCU communicates with BLEDK3 and        |
|  | the behavior of BLEDK3                               |
| User Guide of BLEDK3 UI Tool           | User guide of the UI configuration tool              |
| User Guide of BLEDK3 Auto Pattern Tool | BLEDK3 auto pattern test tool is designed to be      |
|  | installed in Microsoft Windows based PC to act as an |
|  | MCU emulator to transmit and receive data through    |
|  | USB interface during Bluetooth LE profiles           |
|  | communications with a cellular phone                 |
| User Guide of BLEDK3 Manual Pattern    | BLEDK3 manual pattern test tool is designed to be    |
| Tool                                   | installed in Microsoft Windows based PC to act as an |
|  | MCU emulator to transmit and receive commands and    |
|  | events through USB interface during Bluetooth LE     |
|  | profiles communications with a cellular phone.       |
| User Guide of MP Tool                  | BLEDK3 MP tool user guide                            |