Doc. Title	User Guide for UNA Module and Socket EVB (V23)
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Date	2012/09/07
Version	DVT V23

Revision Record

Version	Revise content	Date
1.0	New release	2012-08-10
1.1	1.Add EVB test point pin define 2. Identification of PCB version	2012-09-07

Content

1. <u>FCC Regulations</u>

● This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

● This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

  ■ Reorient or relocate the receiving antenna.
  ■ Increase the separation between the equipment and receiver.
  ■ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  ■ Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. <u>RF Exposure Information</u>

This Modular Approval is limited to OEM installation for mobile and fixed applications only. The antenna installation and operating configurations of this transmitter, including any applicable source-based time-averaging duty factor, antenna gain and cable loss must satisfy MPE categorical Exclusion Requirements of §2.1091.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons, must not be collocated or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.

The end user has no manual instructions to remove or install the device and a separate approval is required for all other operating configurations, including portable configurations with respect to 2.1093 and different antenna configurations.

Maximum antenna gain allowed for use with this device is 2 dBi.
When the module is installed in the host device, the FCC ID label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily re-moved. If not, a second label must be placed on the outside of the final device that contains the following text: "Contains FCC ID: IXM-UNA850".

3. Information of Installed Module

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Module Name	UNA_850
FCC ID	IXM-UNA850
HW Version	V2.3
SW Version	V3.1a
GSM Band	GSM 850, E-GSM 900, DCS 1800, PCS 1900
UMTS Band	FDD I, FDD V
GSM Feature	Release 99
GPRS	Release 6, Multi-slot class 12
EDGE	Release 6, Multi-slot class 12
UMTS Feature	HSDPA, HSUPA (UMTS Release 6)
AT Command	3GPP TS 27.007, 27.005
SIM/USIM	Support 3V and 1.8V
Interface	USB 2.0 high speed
Operating Temperature	Frequency Stability covers operating temperature range of -20° to +50℃
Operating Voltage	3.3 ~ 4.2V

4. Guide to Use

1) Function of Socket EVB V23 and **Identification of PCB version**
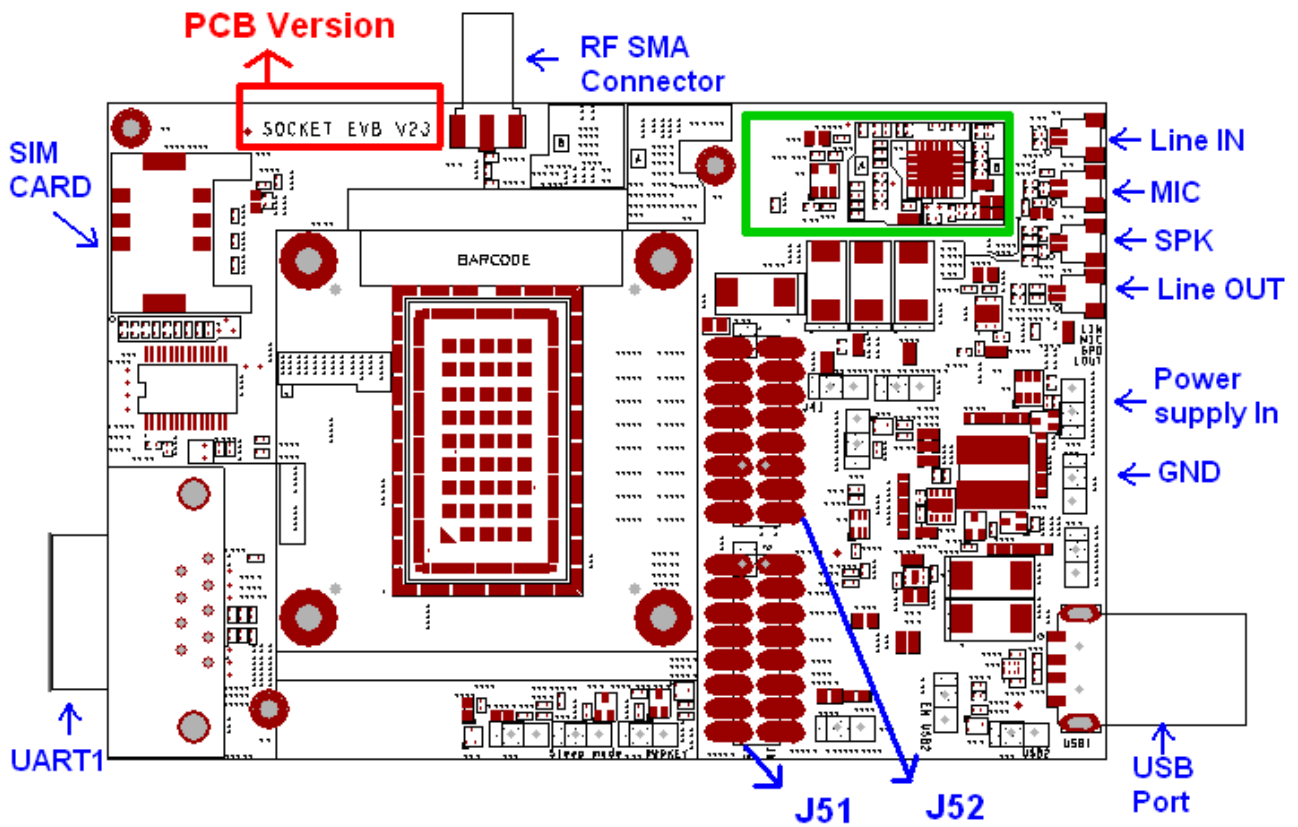
Function	Description	Available	Unavailable
USB PORT	Connect to Host PC and Download Firmware	V	
Power supply IN	Optional Connect to external Power supply input	V	
UART1	Download Firmware	V	
RF SMA connector	Connect to external Antenna	V	
SIM card	Connect to SIM card	V	
LINE IN	Connect to Line in	V	
LINE OUT	Connect to Line out	V	
J51	MP test connector	V	
J52	MP test connector	V	

2) Configure the Socket EVB
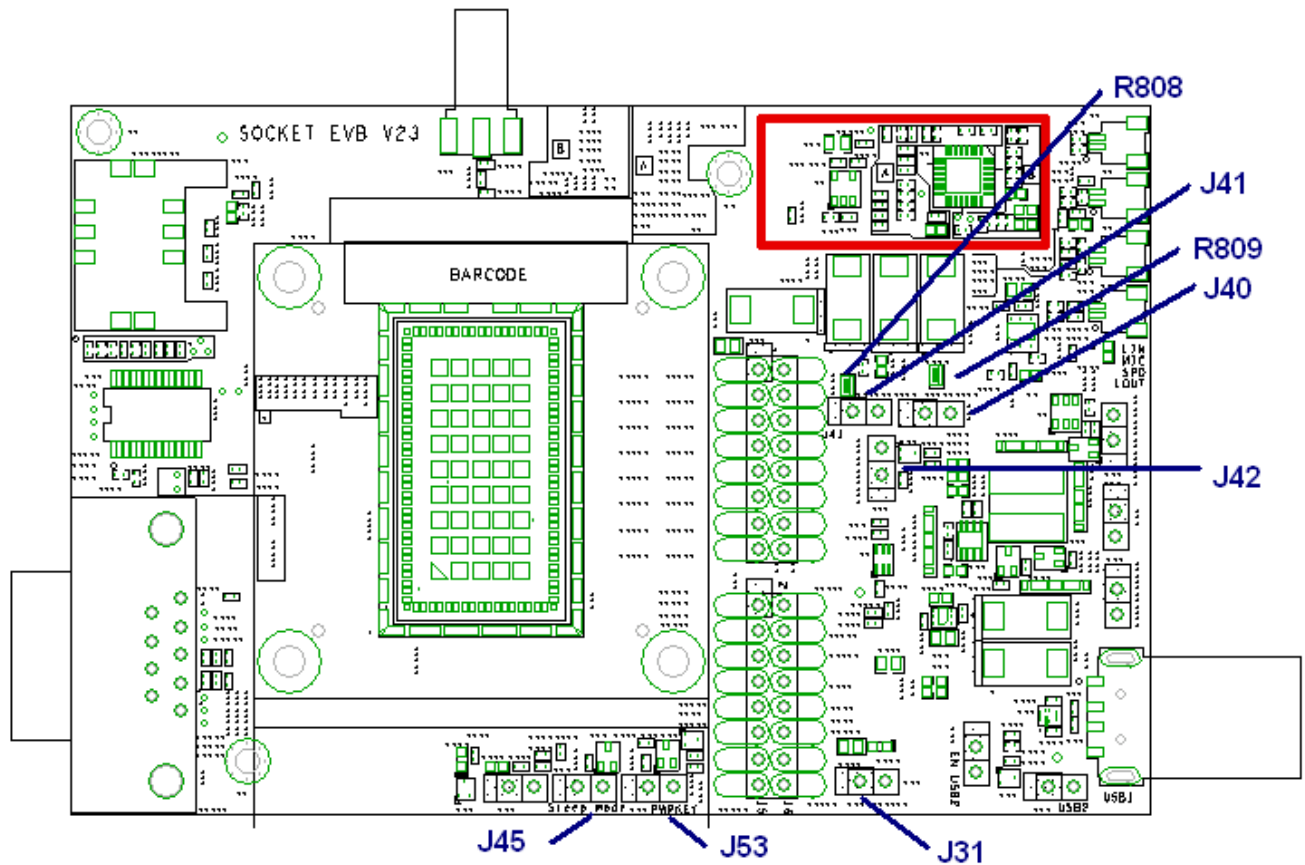
Default JUMP Setting :

Component reference	Function	Jump 1-2
J40	Enable VBAT_M. **(Default) R808 short.**	No, Note1
J41	Enable VBAT_M1.**(Default) R809 short.**	No, Note2

Note1 :For current measurement of VBAT_M: de-solder R808. Close J40

Note2 :For current measurement of VBAT_M1: de-solder R809. Close J41

Component reference	Function	Jump 1-2
J42	(Default) Output +3.3V for module	No
	Output +4.2V for module	Yes

Component reference	Function	Jump 1-2
J45	USB_EN high level input to turn on Module	No
J53	PWRKEY high level input to turn on Module	No

Download Key :

Component reference	Function	Jump 1-2
J31	Enable Download through USB	No, Note3

Note 3: To enable download mode, Please close J31 and refer to " Use Data Card Tool To Update Image File Steps-V1.1-2012.07.18.pdf"
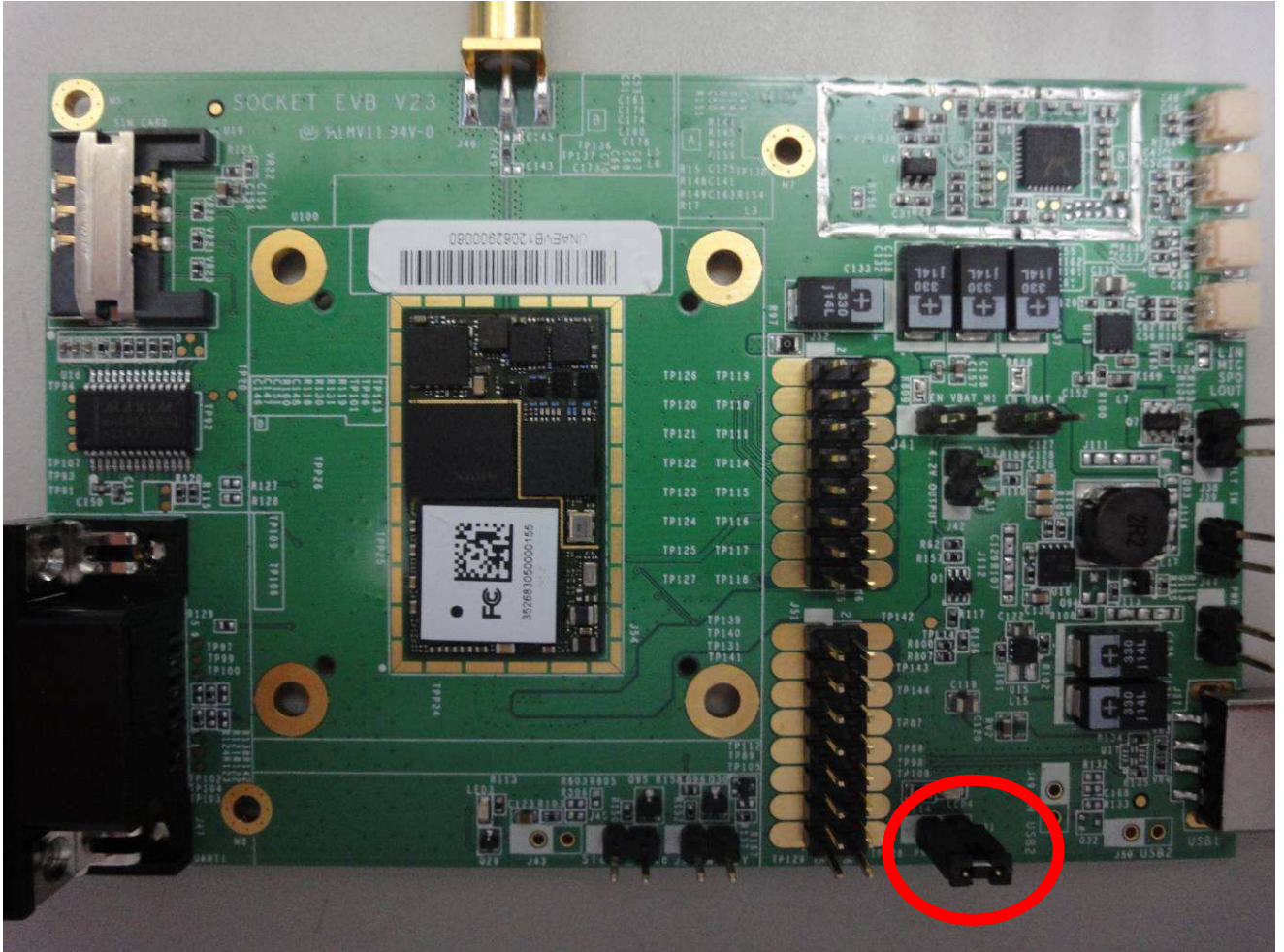
Jump setting for normal mode .
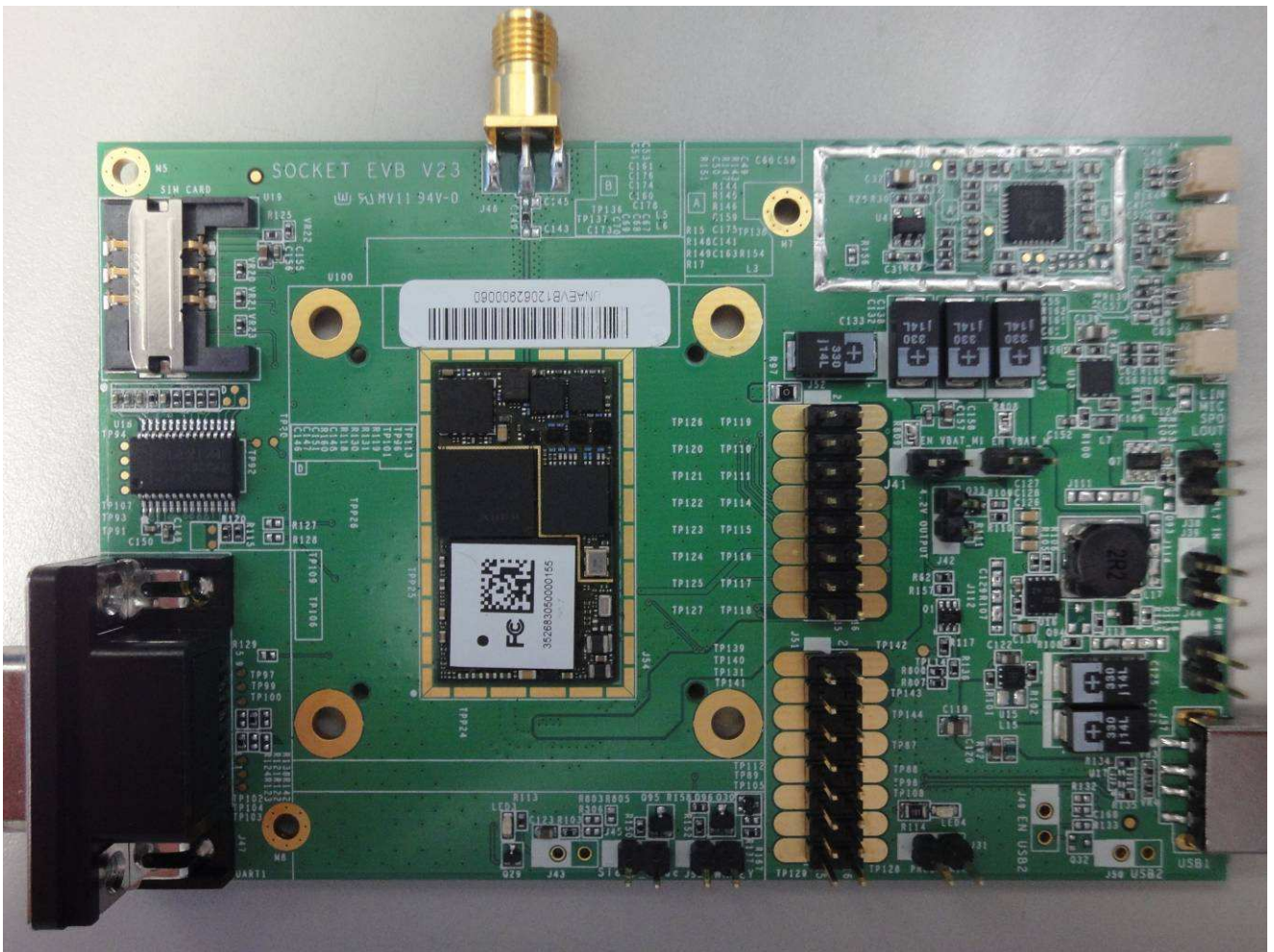
Component reference	JUMP 1-2
J40	NO
J41	NO
J42	NO
J31	NO
J45	NO

J53	**NO**

Jump setting for Download mode :

Component reference	JUMP 1-2
J40	**NO**
J41	**NO**
J42	**NO**
J31	**YES**
J45	**NO**
J53	**NO**

3) Insert the SIM card

To use a UNA module, you need to install:

a. A live SIM card (with an active account), or

b. A test SIM card for use with call box (for example ,an Agilent 8960 ..)

To install the SIM card:

a. Place the Socket EVB face-up(as shown) – the SIM slot is on right side.

b. Note the location of the notched corner of the card in the following image.
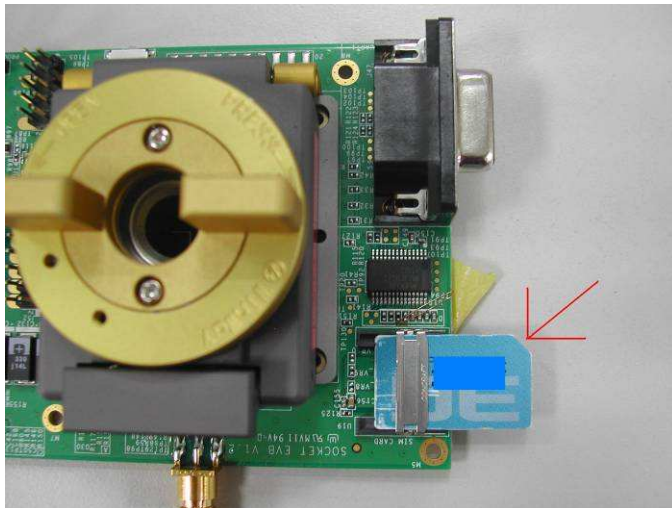
c. Inset the SIM card into the slot.

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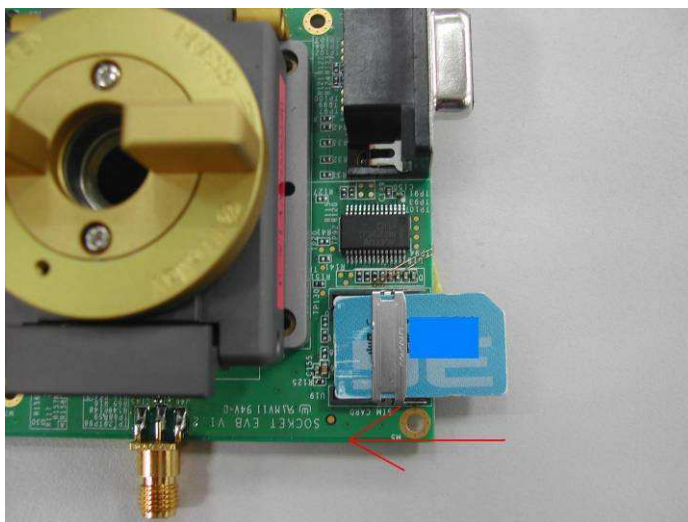
4) Place the Module

After inserting the SIM card, insert the module:

a. Place the Socket EVB face-up(as shown) – the socket is in the center.
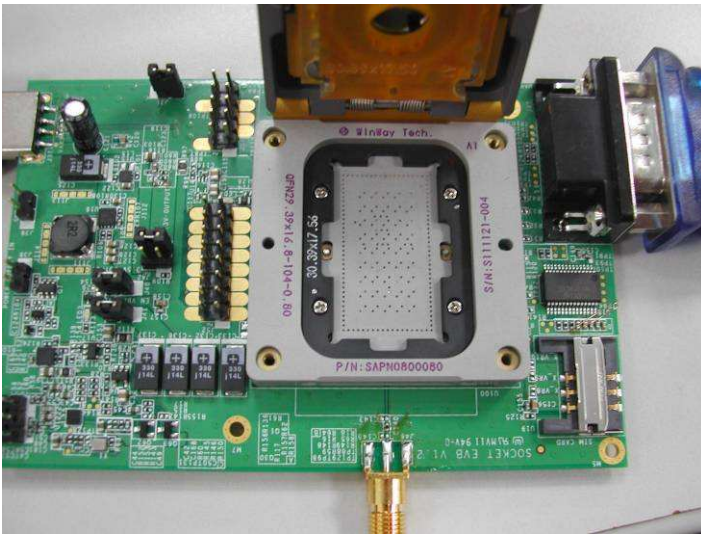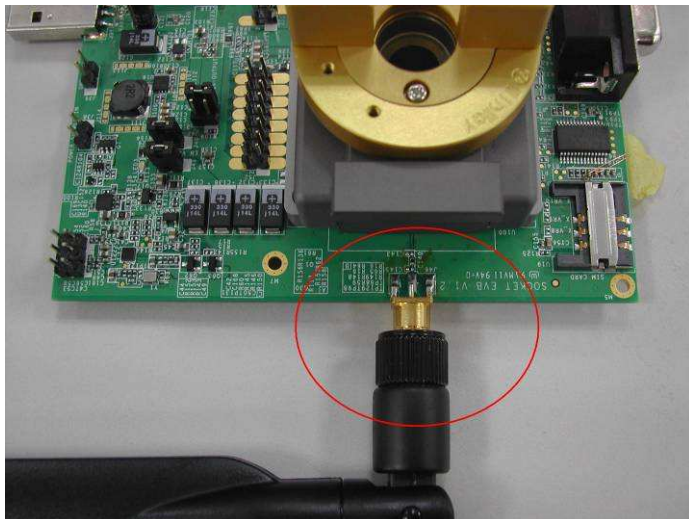

b. Notice the pin 1 location on the socket.
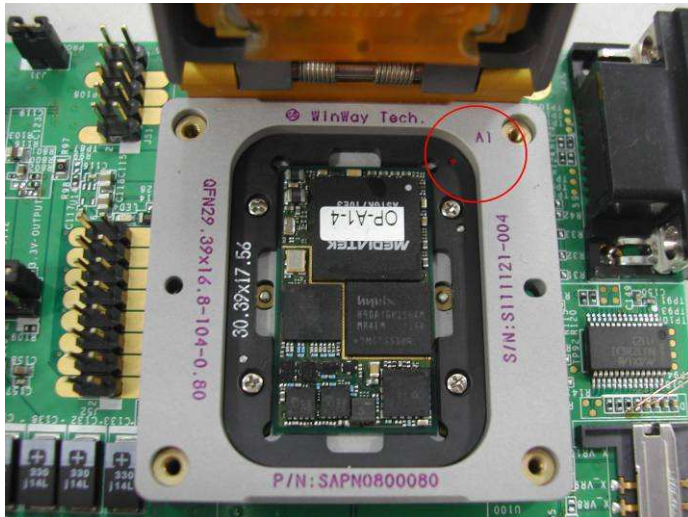
5) Connect the antenna

After installing the Module ,connect the supplied antenna to the EVB
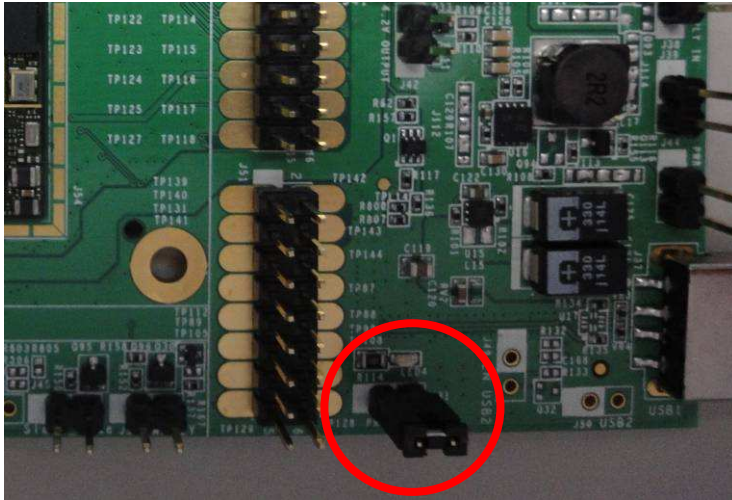a. Place the Socket EVB face-up. The antenna connector on the bottom side.
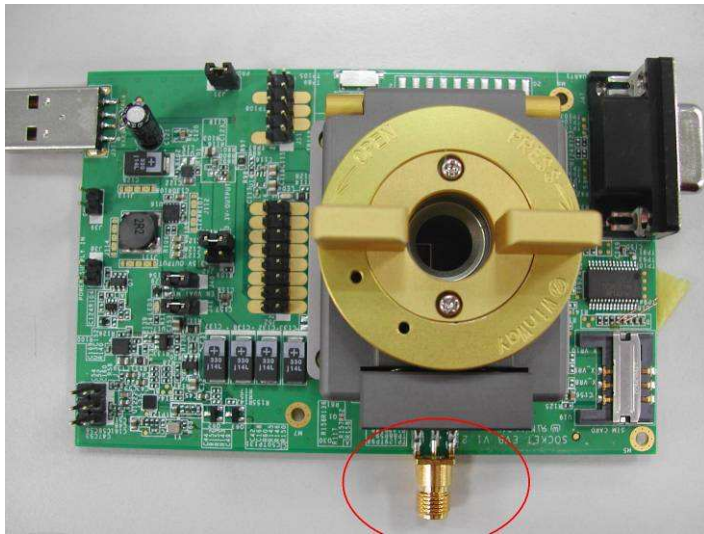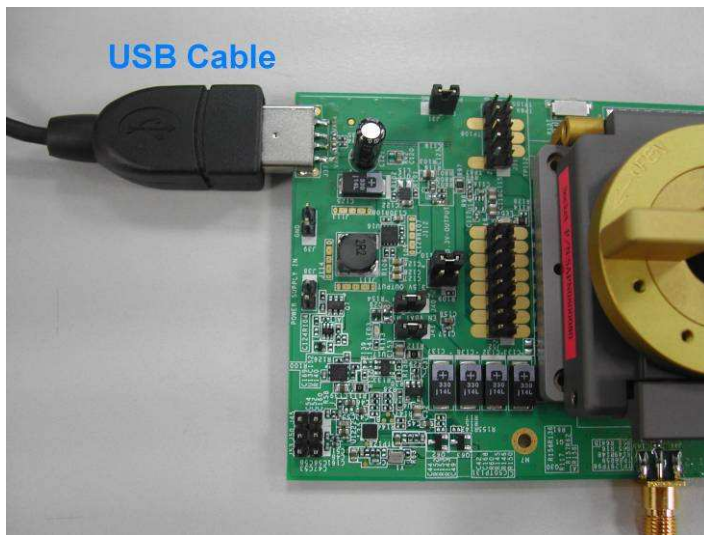

b. Connect the antenna to the adapter.
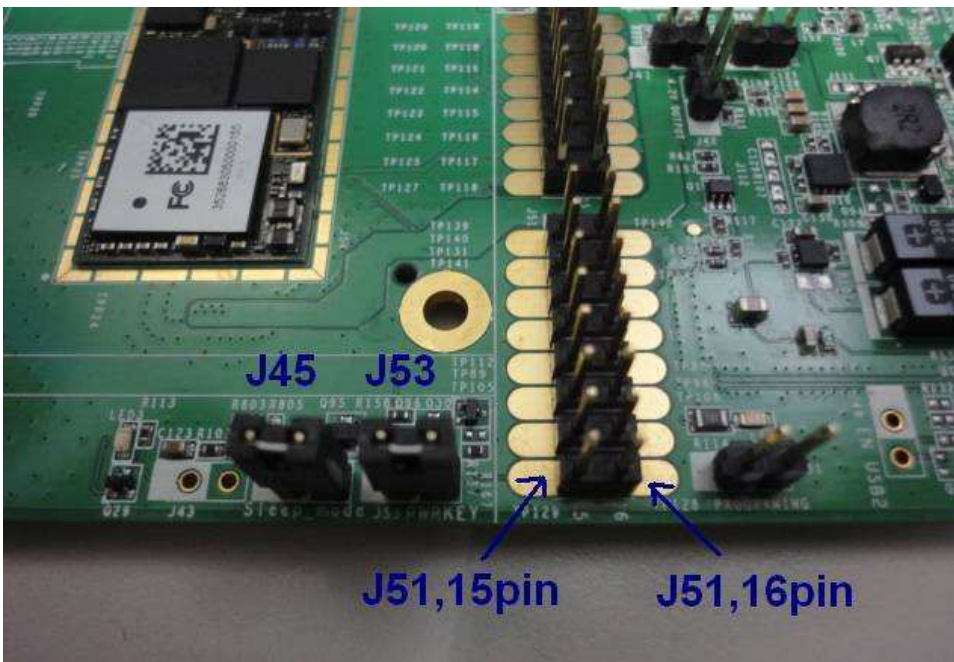
6) Download setting

a. Plug in the Jump.

b.Connect the USB cable between EVB & PC.

7) Manual control module sleep mode:

Component reference	Function
J45	USB_EN input for sleep / normal mode

a. Follow UNA IO application design notes
b. Plug in the Jump from J45 before use manual control.
c. Connect   J51,16pin to control module .

J51,16pin:

      Hi(3.3~5.0V): Normal mode ;

      Low(0~0.3V): Sleep mode

8) Apply External power to module

To use external power for module, please follow the steps to setting.

a. Red line VCC connect to J38.
b. Black line GND connect to J39.
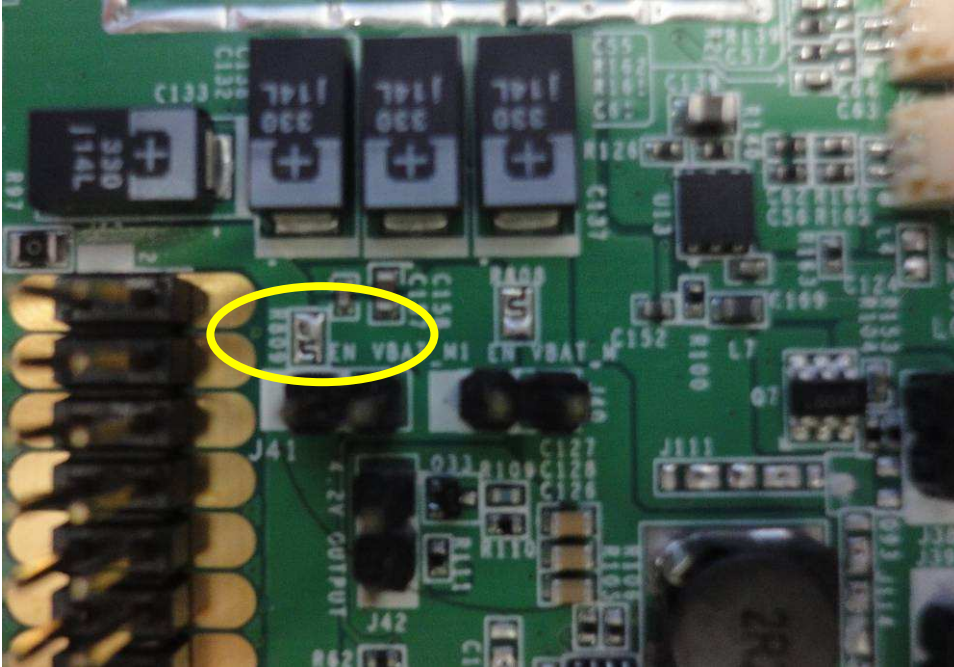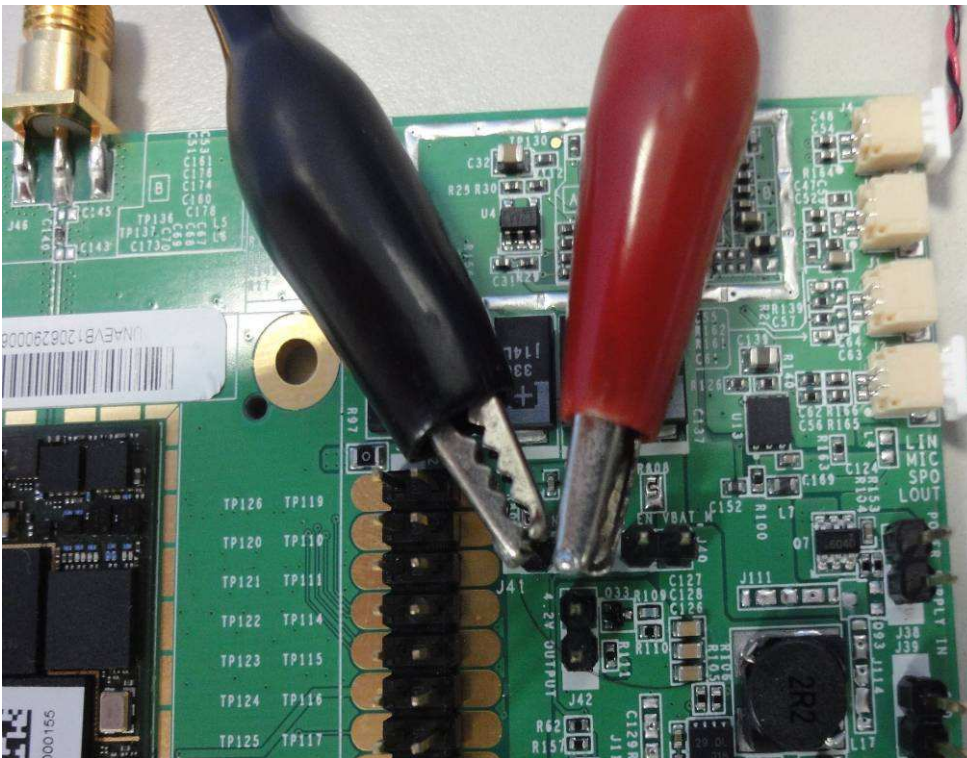c. De-solder the open pad R808.(yellow circle)
d. USB cable connect to Host PC.
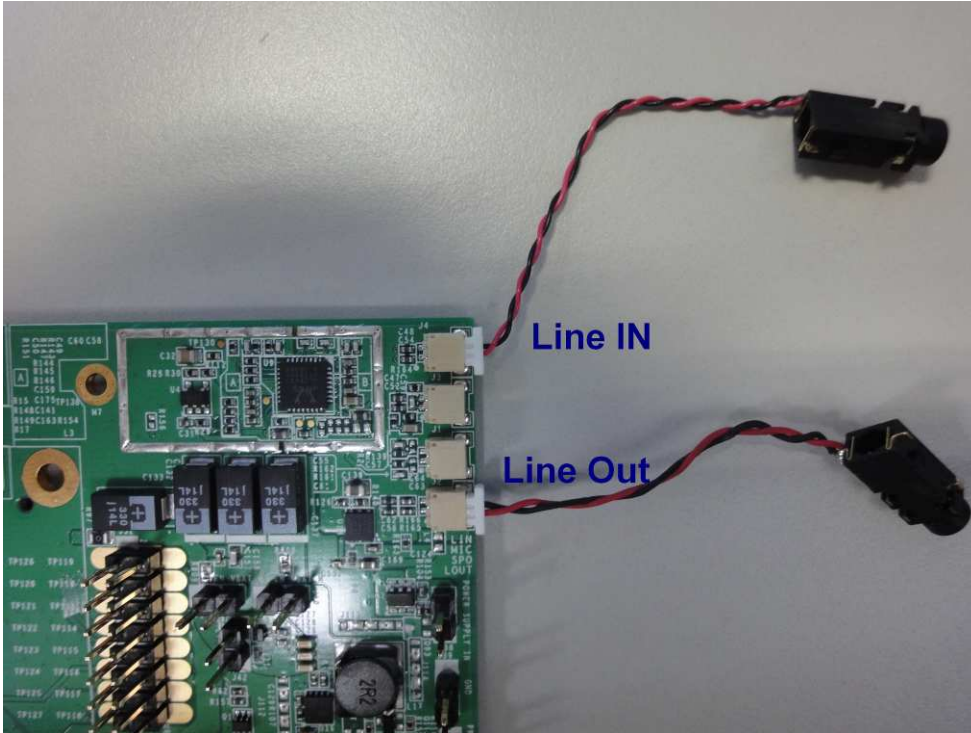
9) Measure current of module setting

a. De-solder the open pad R809.(yellow circle)
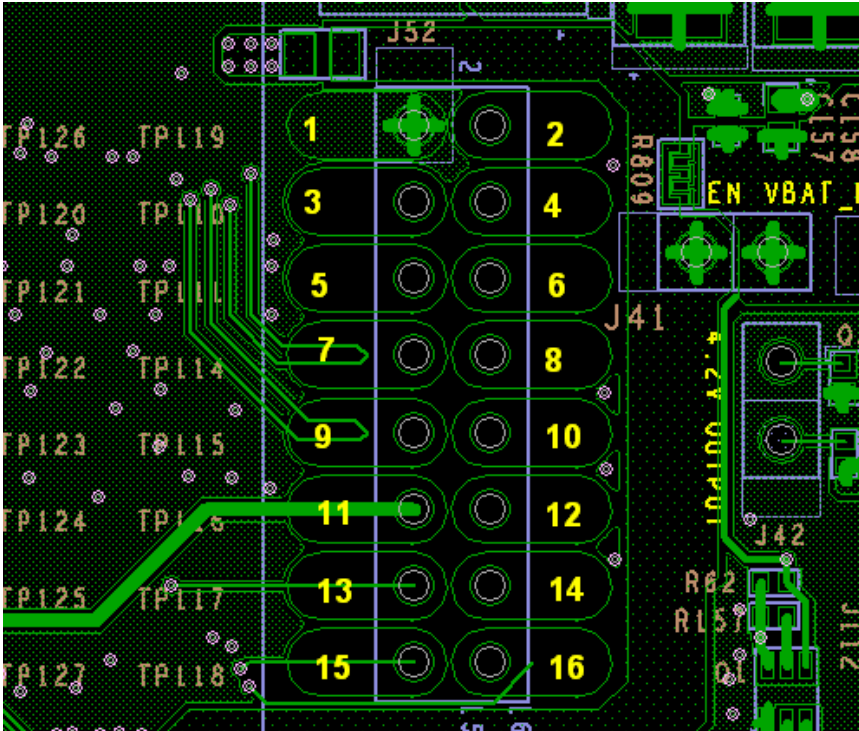

b. Please follow the photo to setup the current meter.

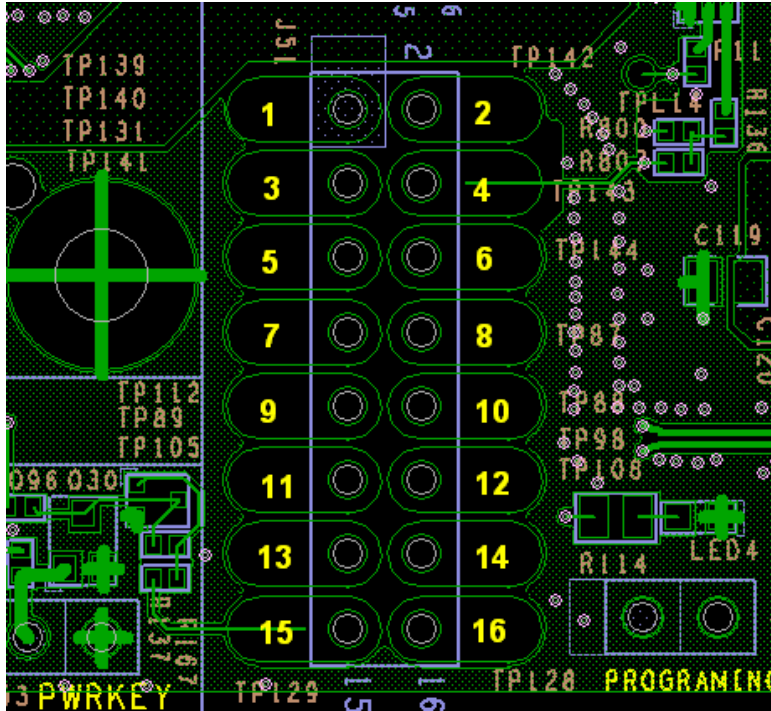# 10)Connect extend cable for line in & line out :

11) EVB test point pin define

1. J52 Pin define

Pin number	Pin name		Pin number	Pin name
1	GND		2	VBAT_M1
3	DAICLK		4	DAISYNC
5	DAIPCMOUT		6	DAIPCMIN
7	SCL		8	DAIRST
9	SDA		10	Reserve Pin
11	Reserve Pin		12	Reserve Pin
13	URXD2		14	UTXD2
15	URXD1		16	UTXD1

2.J51 Pin define

Pin number	Pin name		Pin number	Pin name
1	GND		2	AP_Ready
3	Wake		4	#W_Disable
5	#EINT9		6	ID (Note4)
7	GPIO2		8	GPIO1
9	GPIO0		10	#Sys_config (Note5)
11	Reserve Pin		12	Reserve Pin
13	KROW0		14	KCOL6
15	Reserve Pin		16	Reserve Pin

Note4: Default- open (900 module);If use 850 module, this pin to pull low(1kΩ).

Note5: enable "USB+UART "mode-→Default- open (USB only);If use"USB+UART" mode, this pin to pull low(1kΩ).