Application Note : User Guide for Telink TLSR8266 Debugging Dongle

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Brief:

This document is the user guide for Telink TLSR8266 debugging dongle board.

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Revision History

Version	Major Changes	Date	Author
1.0.0	Initial release	2016/10	H.Z.F., Cynthia

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1 Function Brief

This document presents guide on how to use Telink TLSR8266 debugging dongle board.

The debugging dongle which is included in the TLSR8266 development kit can be used for SDK development along with the TLSR8266 debugging EVK board. The debugging dongle also supports independent development.

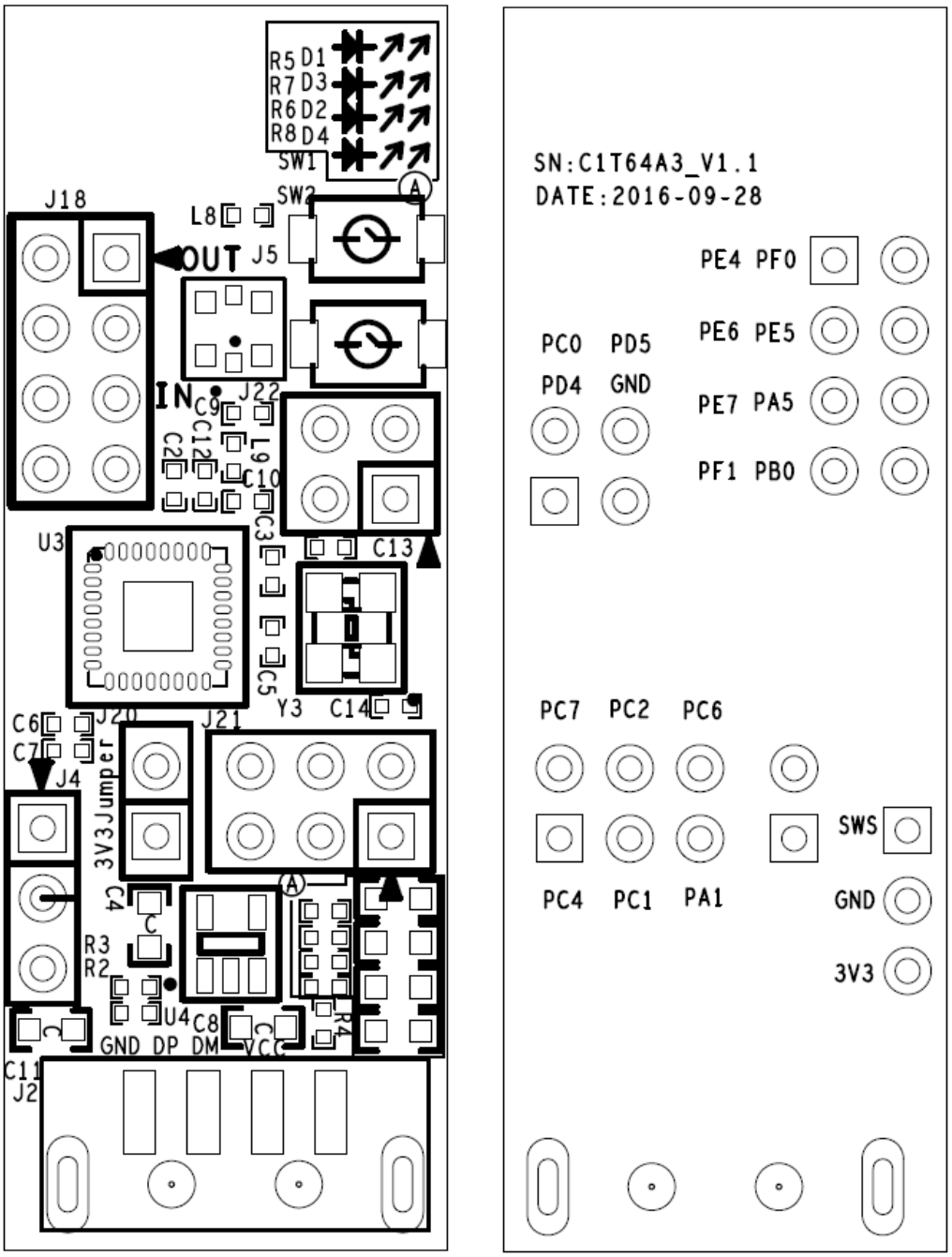

Figure 1 Dongle silkscreen (Left: Top view, Right: Bottom view)

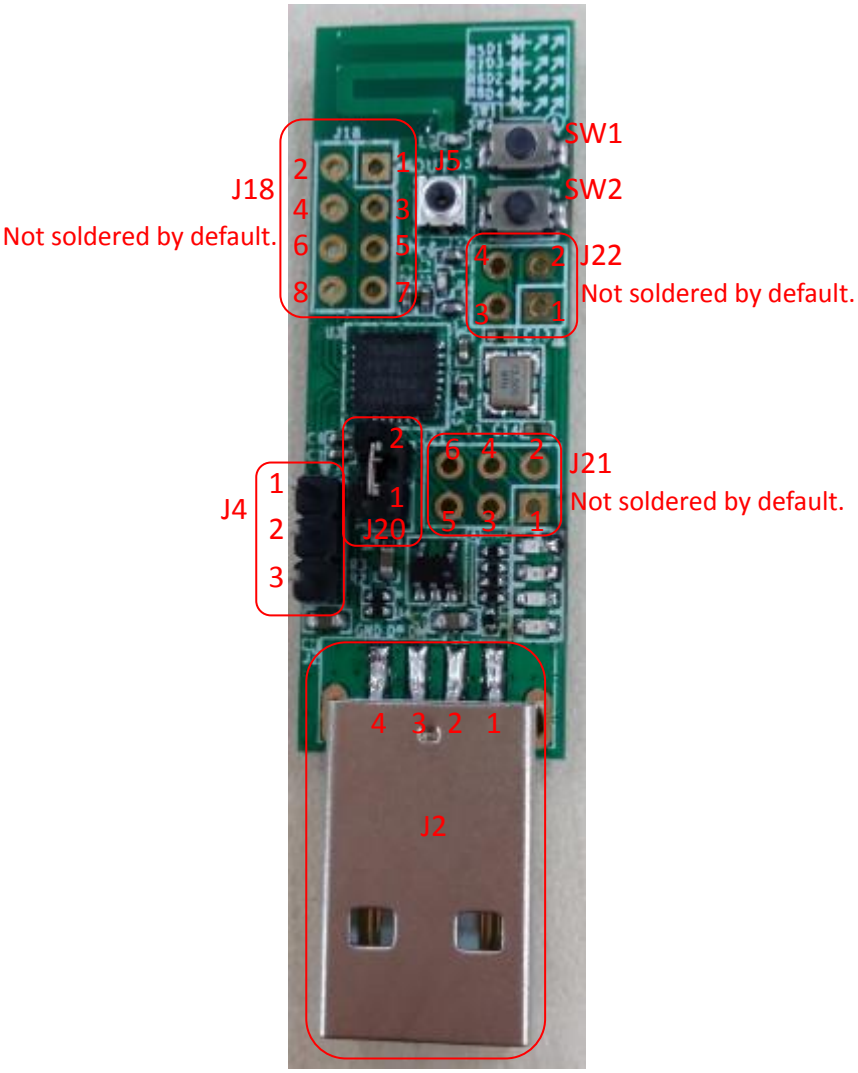

Figure 2 Dongle photo

For schematic (C1T64A3_V1.1) of TLSR8266 debugging dongle board, please refer to **Appendix**.

2 Pin Description

Table 1 Pin description

J2	
1	VBUS
2	TL_DM (PB5)
3	TL_DP (PB6)
4	GND
S1	GND
S2	GND
J4	
1	TL_SWS (PA0)
2	GND
3	3V3
J18	
1	TL_PE4
2	TL_PF0
3	TL_PE6
4	TL_PE5
5	TL_PE7
6	TL_PA5
7	TL_PF1
8	TL_PB0
J20	
1	VDDO3
2	3V3
J21	
1	TL_PC4
2	TL_PC7
3	TL_PC1
4	TL_PC2
5	TL_PA1
6	TL_PC6
J22	
1	TL_PD4
2	TL_PC0
3	GND
4	TL_PD5
SW1	
	TL_PD5
SW2	
	TL_PD4

3 Pin Connection Guide

3.1 Supply power for 8266 Dongle

There are two connection methods to supply power for Telink TLSR8266 debugging dongle board.

1. **Method 1:**

   Make sure a jumper cap is connected on J20 of 8266 Dongle.

   Then connect J2 (USB interface) with PC USB.

2. **Method 2:**

   Connect PIN2 and PIN3 of J4 with GND and 3.3V, respectively.

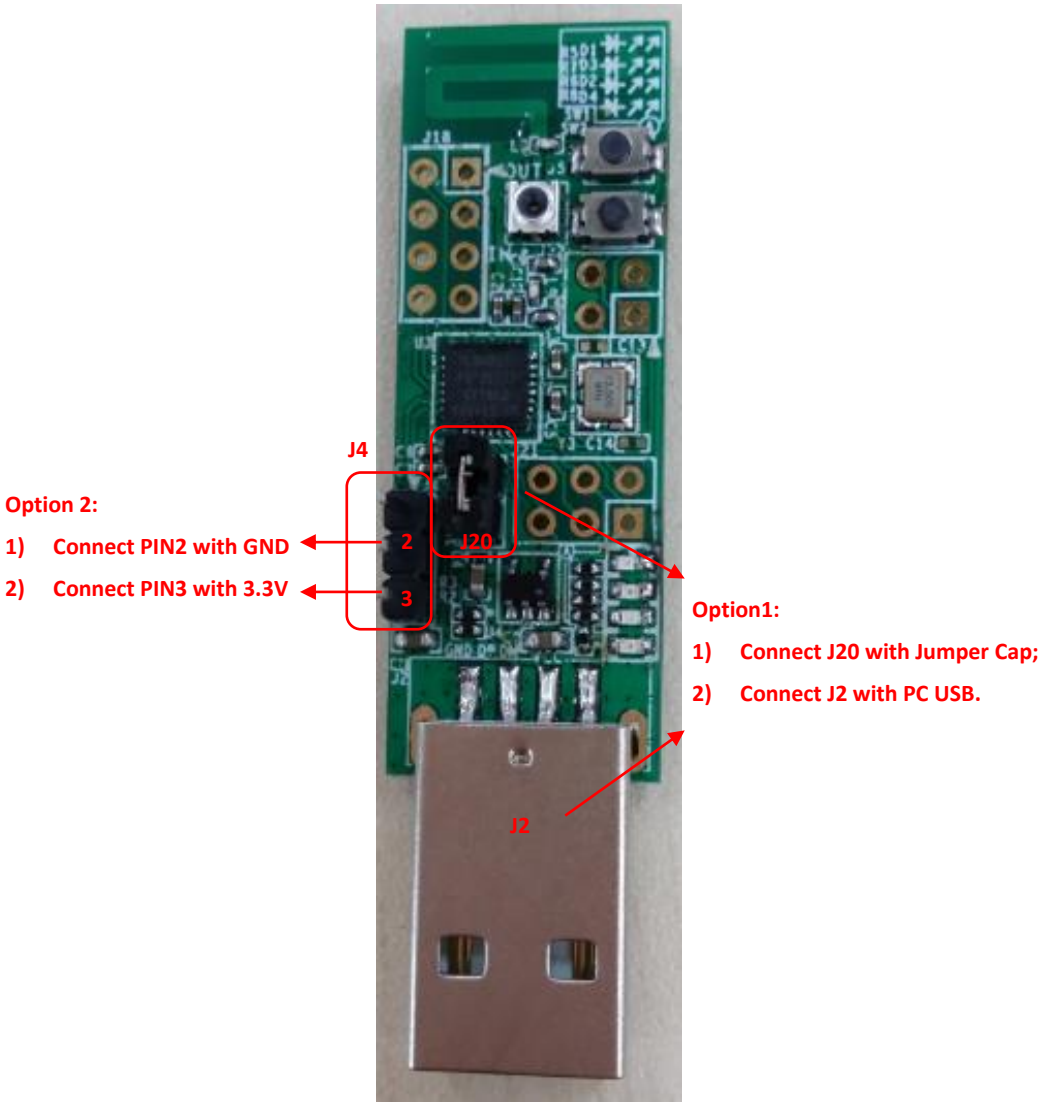

Figure 3 Connection chart to supply power

3.2 Download Firmware into 8266 Dongle

There are two connection methods to download firmware into Telink TLSR8266 debugging dongle board.

1. **Method 1: Connect via USB**

   Make sure a jumper cap is connected on J20 of 8266 Dongle.

   Connect J2 (USB interface) with the USB interface of a burning EVK board. The miniUSB interface of the burning EVK is connected with PC USB via an USB cable.

2. **Method 2: Connect via Swire**

   Connect PIN1, PIN2 and PIN3 of J4 with SWM, GND and 3.3V of a burning EVK, respectively.

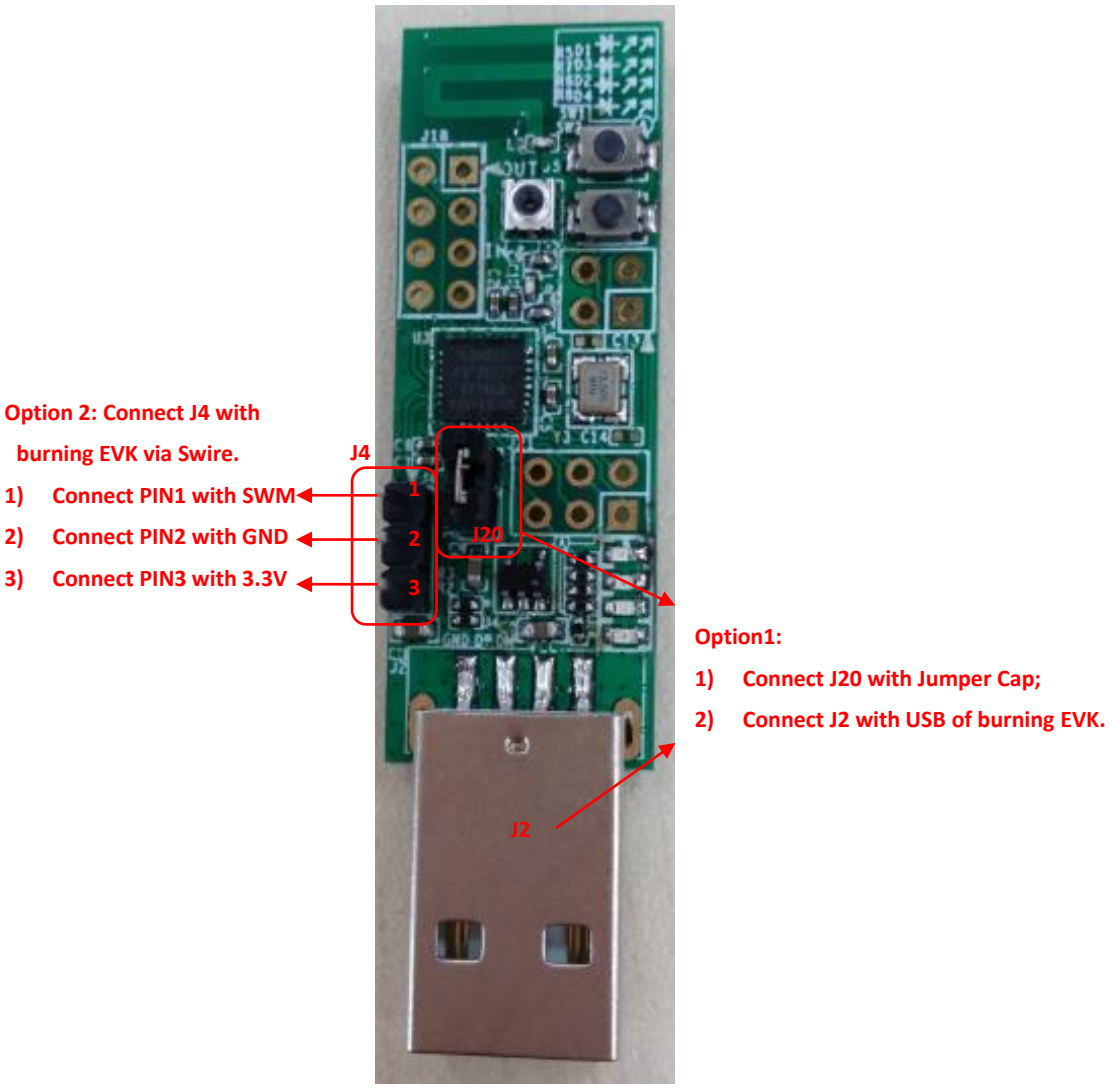

Figure 4 Connection chart to download FW

3.3 Measure power-saving mode current for 8266 Dongle

To measure current consumption of Telink TLSR8266 debugging dongle board in deep sleep or suspend mode, please follow the connection steps below:

1) Remove jumper cap from J20 of 8266 dongle, as shown in Figure 5.
2) Connect anode (+) and cathode (-) of an amperemeter with anode (+) of 3.3V power supply and PIN3 of J4, respectively.
3) Connect cathode (-) of the 3.3V power supply with PIN2 of J4.

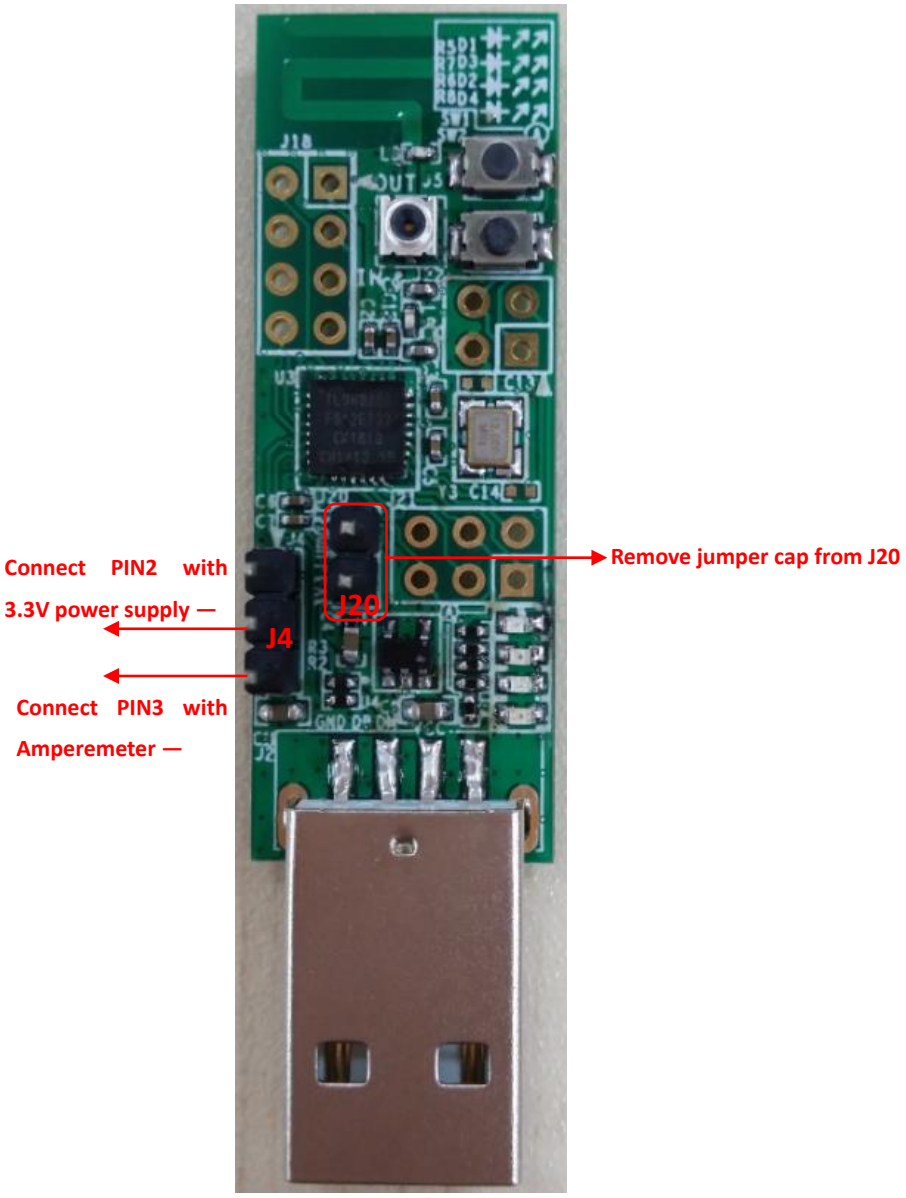

Figure 5 Connection chart to test sleep current

3.4 Test RF signal for 8266 Dongle

To test RF signal for Telink TLSR8266 debugging dongle board, the J5 should be connected with a spectrum analyzer via a RF cable (supplied by Telink).

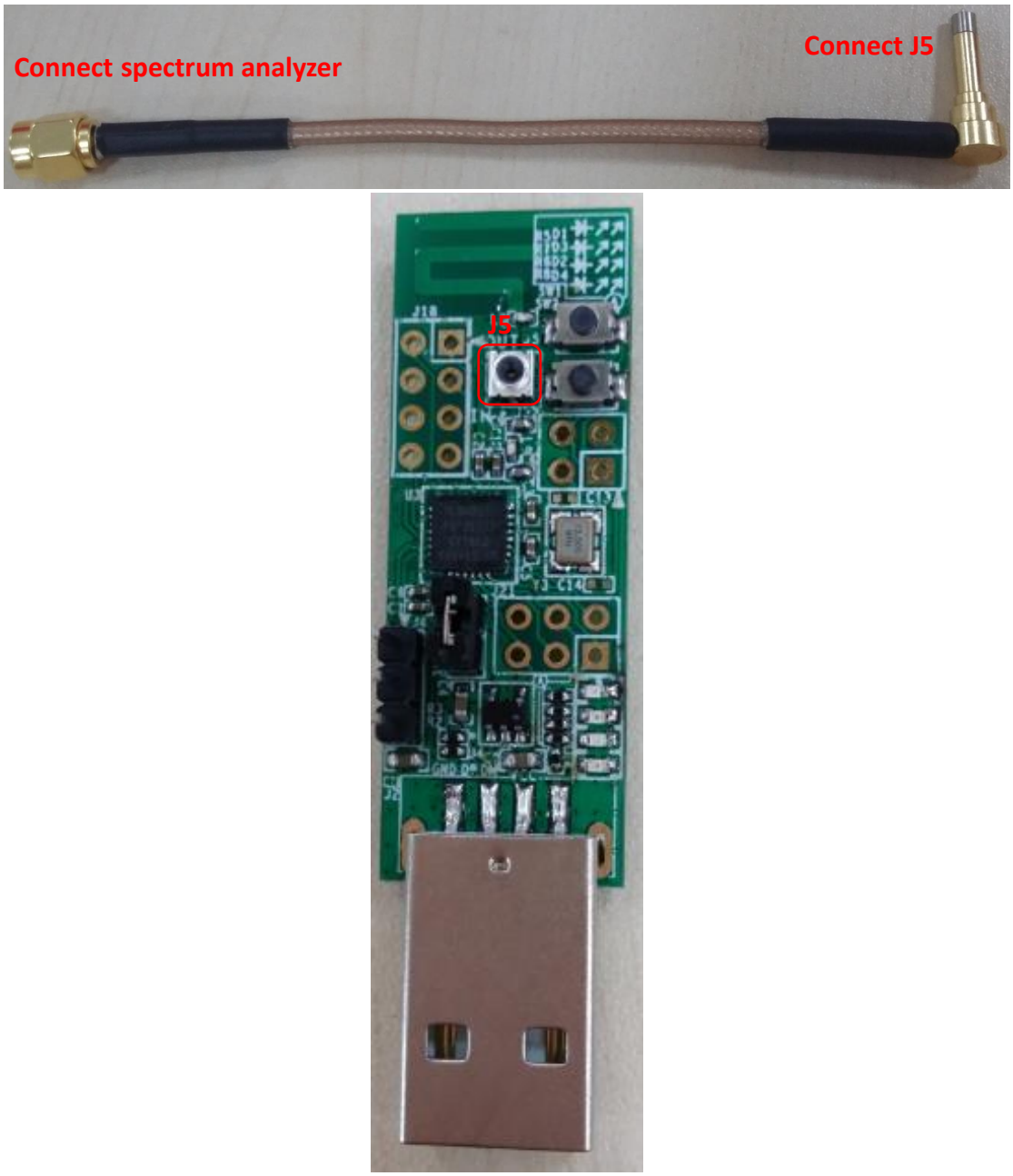

Figure 6 Connection chart to test RF signal

3.5 Test GPIOs for 8266 Dongle

Since all GPIOs of Telink TLSR8266 debugging dongle board are already connected to corresponding pins of headers including J4, J18, J21 and J22, user can directly test GPIO signals on header pins.

Note:

Only J4 and J20 are soldered on 8266 debugging dongle demo board supplied by Telink. User needs to solder J18, J21 and J22 for development purpose.

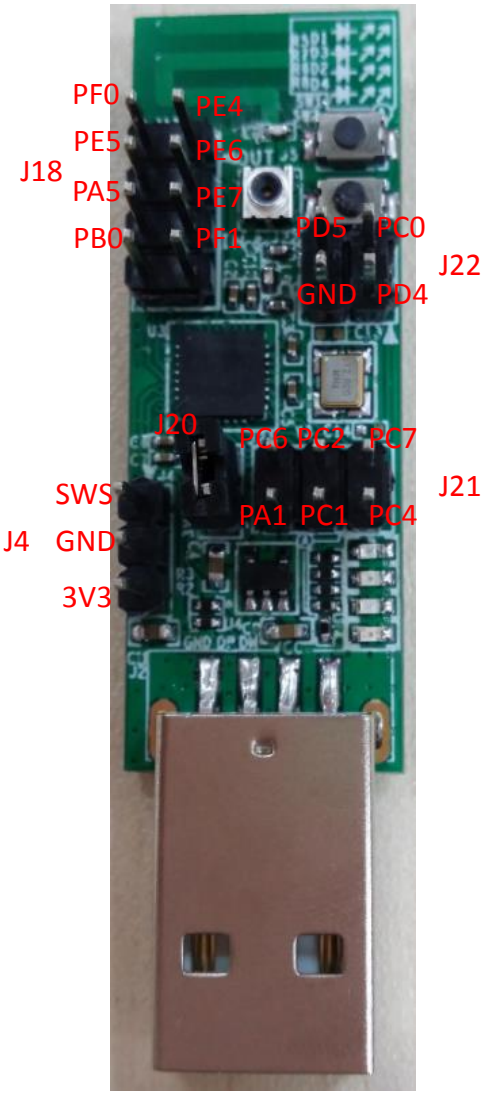

Figure 7 Test GPIO signals on header pins

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.

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