UMC-SKV2C User Manual

Revision History

Issue Date	Version	Description
2016/03/25	0.1	Initial Issued
2016/03/28	0.2	Add LTE P/D switch and appendix I
2016/03/30	0.3	Add assemble pictures including SMCC/Honey board/external antenna connection
2016/04/08	0.4	Update the control command for Zigbee
2016/04/26	0.5	Add warning messages and some notes

Contents

1. Introduction

This User Manual of Victor CB (Communication Board) module is to describe how to use the following sections for lab test by specific qualified engineers or technicians. Furthermore, this module is NOT intended for commercial use but designed as part of Smart Meter product which mainly provides 4G LTE WAN access and/or Zigbee HAN access capabilities. For the procedure of CB installation into electric meter and the operation of CB in assembly factory, that information is described in assembly instruction document.

FCC Interference Statement

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

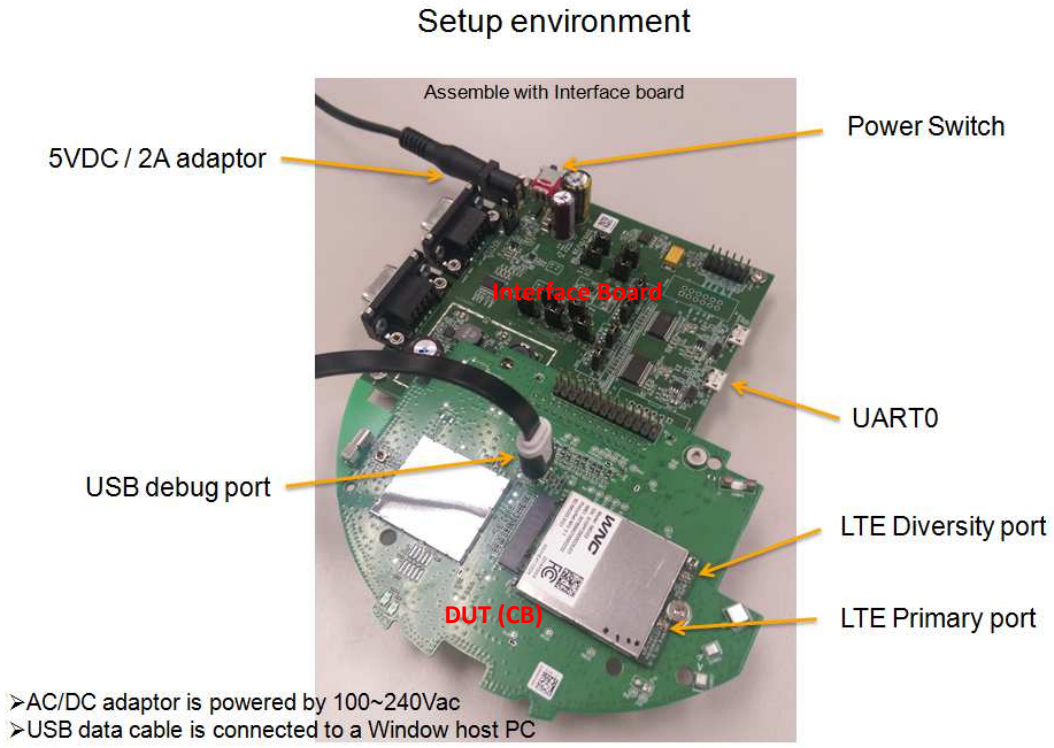
Radiation Exposure Statement

This module complies with FCC radiation exposure limits set forth for an uncontrolled environment. This module should be installed and operated with minimum distance of 20cm between radiator and human body.

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

2. Test Setup Configuration

2.1 Power Supply and Debug Console Connection



Power on Sequence:

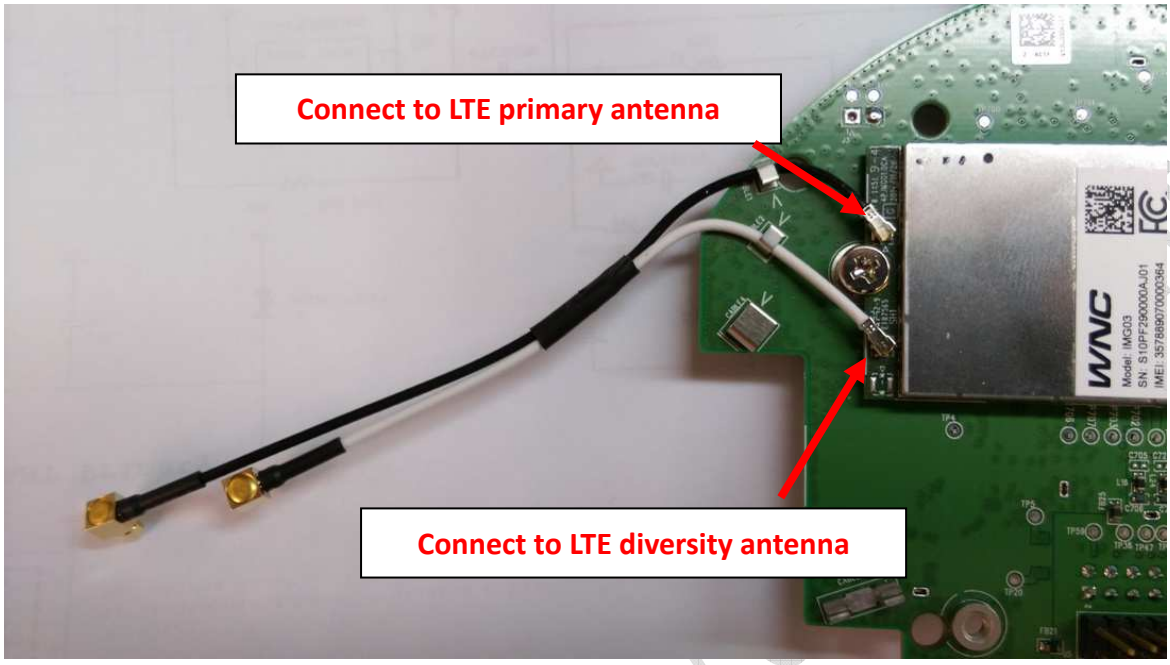
I. Connect 30-pin-to-Jig-baord cable

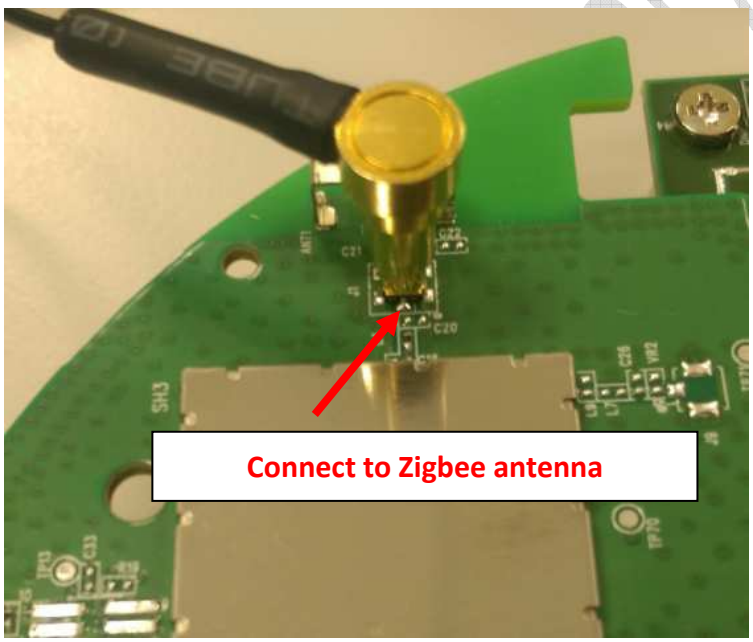
II. Attach AC-DC Adaptor & USB Debug Port Cable

III. Wait for 20 seconds when system ready

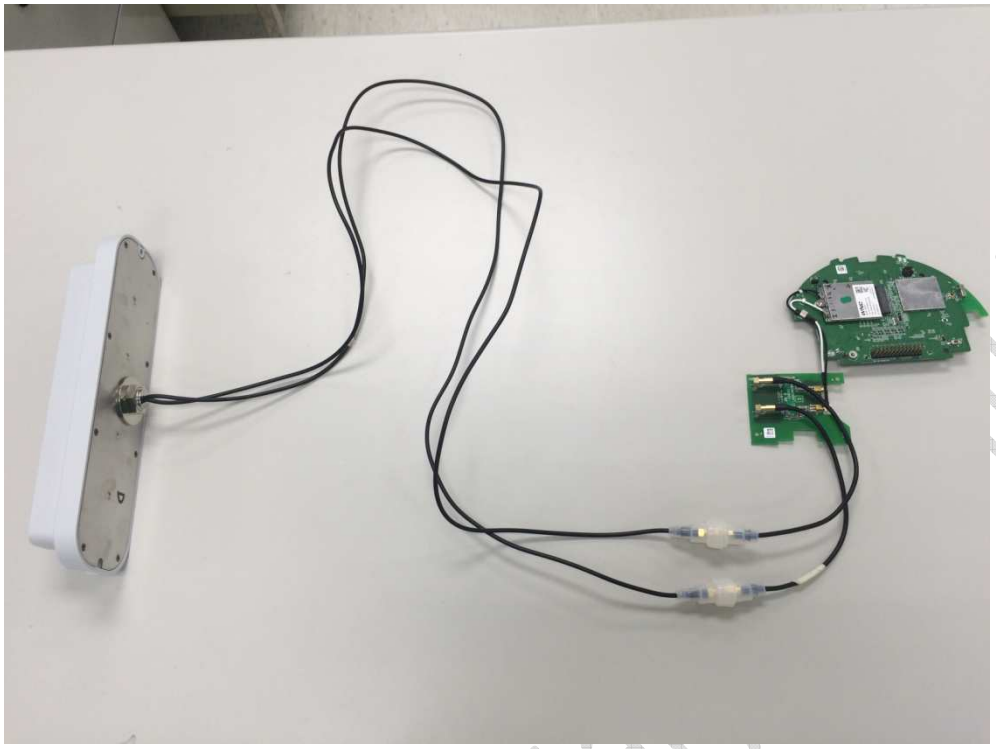
[Caution] Improper power on sequence might lead to system boot-up failure!

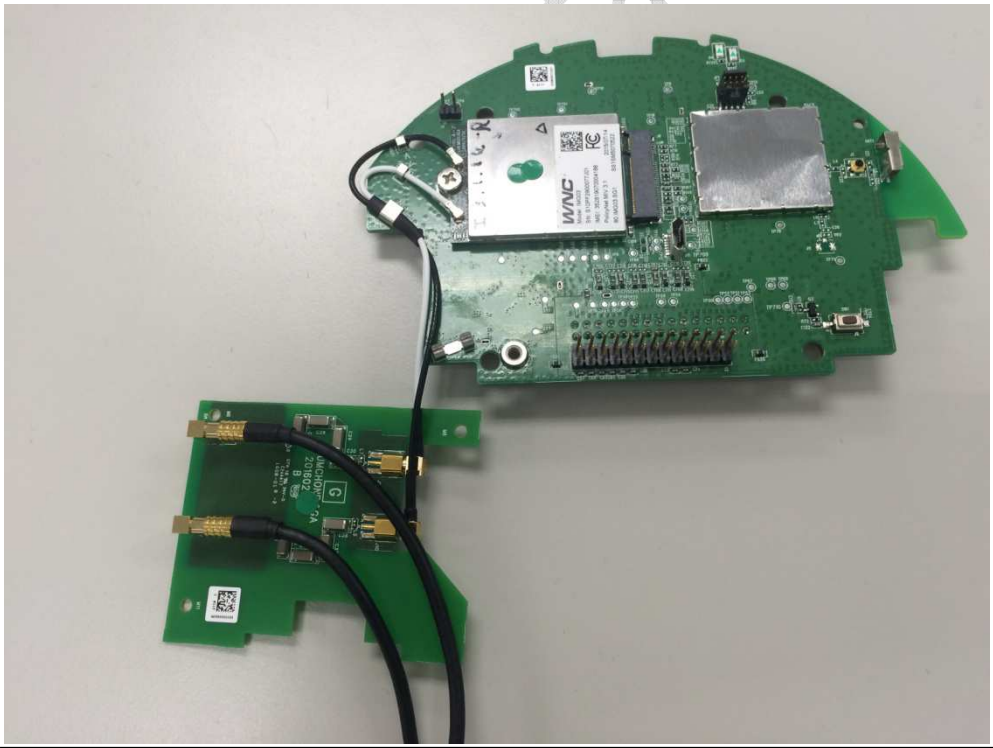
2.2 Antenna Connection





2.3 Whole DUT connection



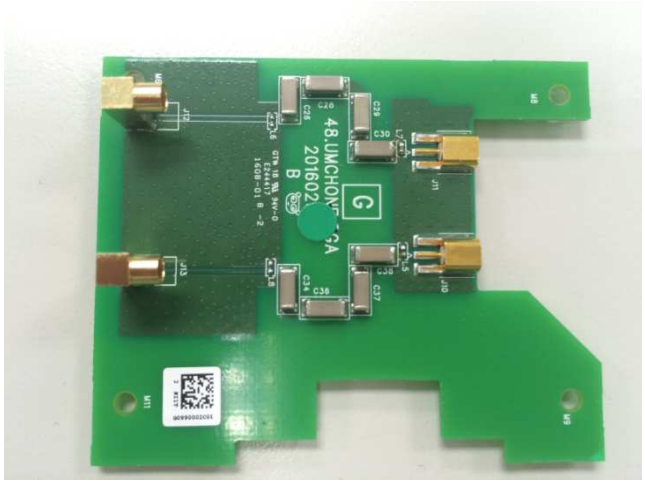


2.4 Hardware Component Introduction

AC-DC 5V Adaptor

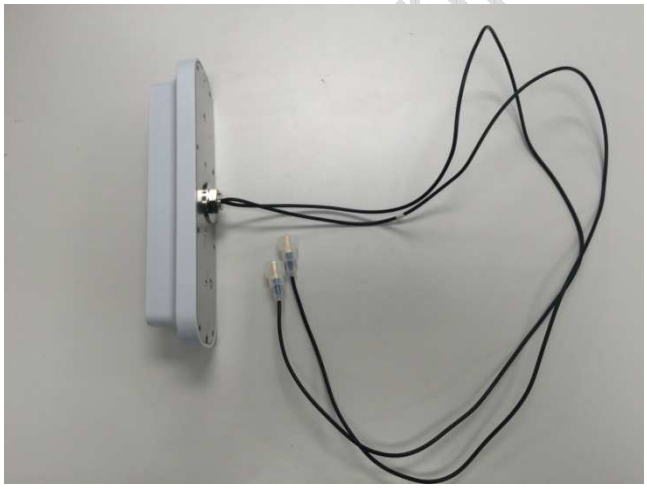
Interface Board

Victor CB



Honey Board

Extension Cable

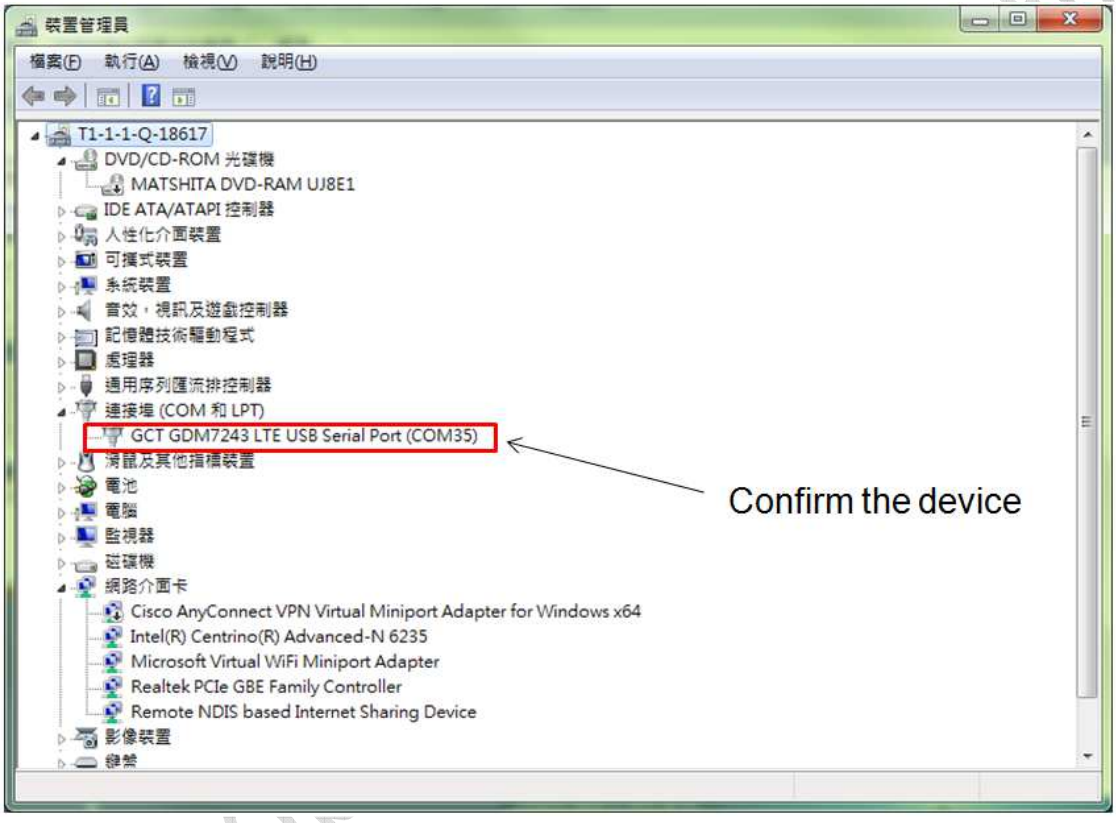


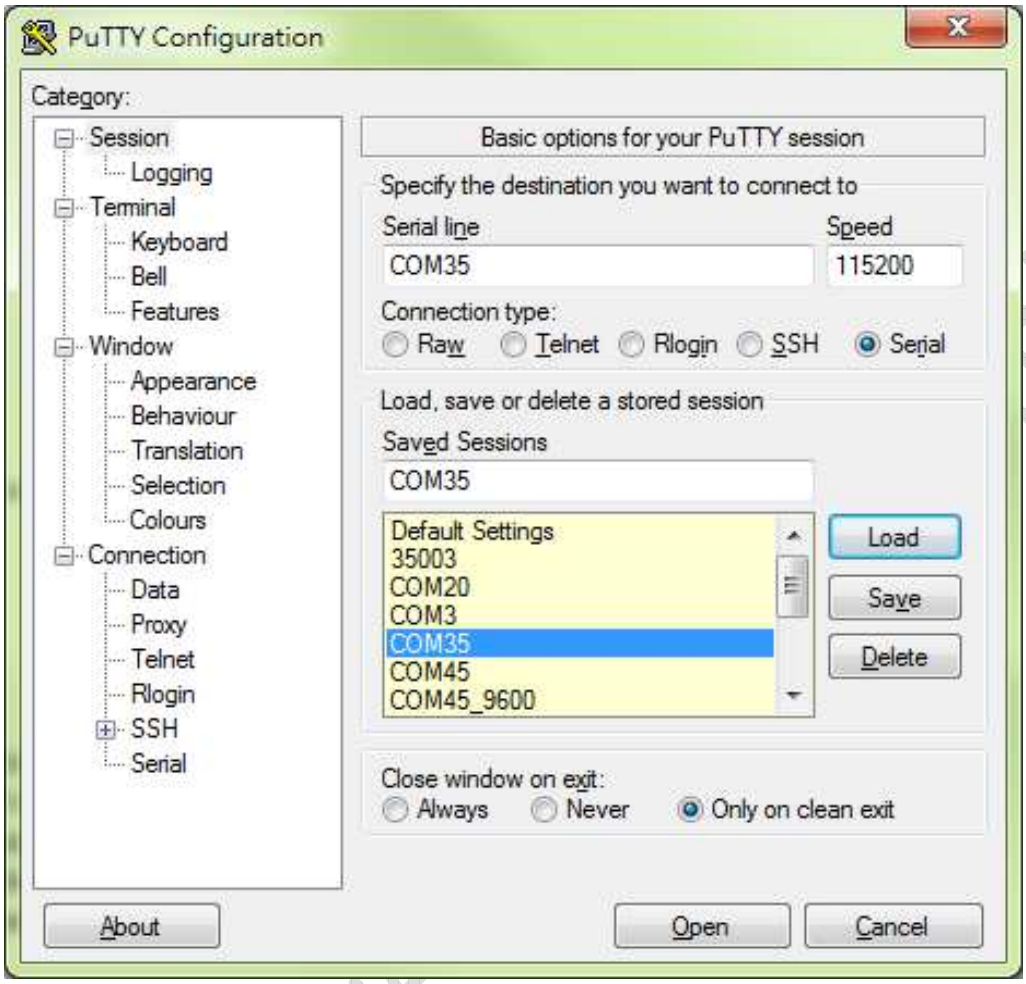
External Antenna

3. Zigbee Test

3.1 COM port Setup in a Windows Host PC

Install PuTTy for connection to DUT, refer to http://www.putty.org/

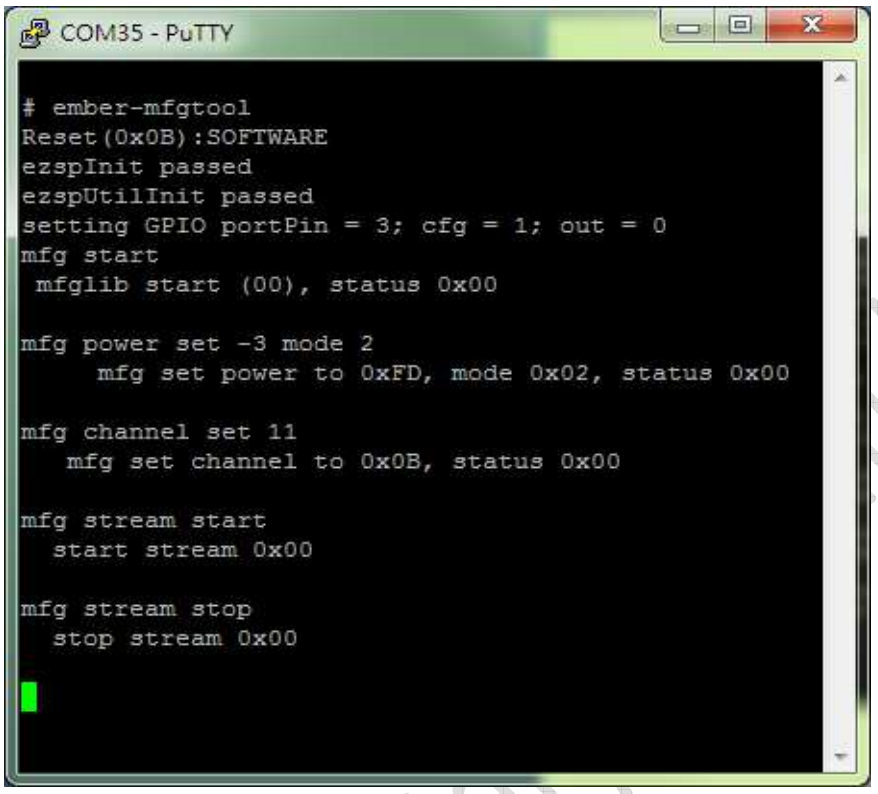




Serial Line: COMxx ; Speed: 115200 ; Connection Type: Serial

Note: If there is no response when typing anything in the com port, please see the appendix I.

3.2 Enter Zigbee Control mode



Enter Zigbee control mode: ember-mfgtool

3.3 Zigbee Test Command

Freq. channel setting: ***mfg channel set 11***

- **Channel Low : 11 -> CH11**
- **Channel Mid : 18 -> CH18**
- **Channel High : 25 -> CH25**

Power level/mode setting: ***mfg power set -3 mode 2***
Enable callback: ***mfg start 1***
Single tone output: ***mfg tone start***
Single tone output stop: ***mfg tone stop***
Modulation signal output: ***mfg stream start***
Modulation signal output stop : ***mfg stream stop***

4. LTE B4/B13 Test

It is suggested to use Anritsu MT8820C for RF conductive test

For LTE radiation tests, the LTE antenna gain lists below.

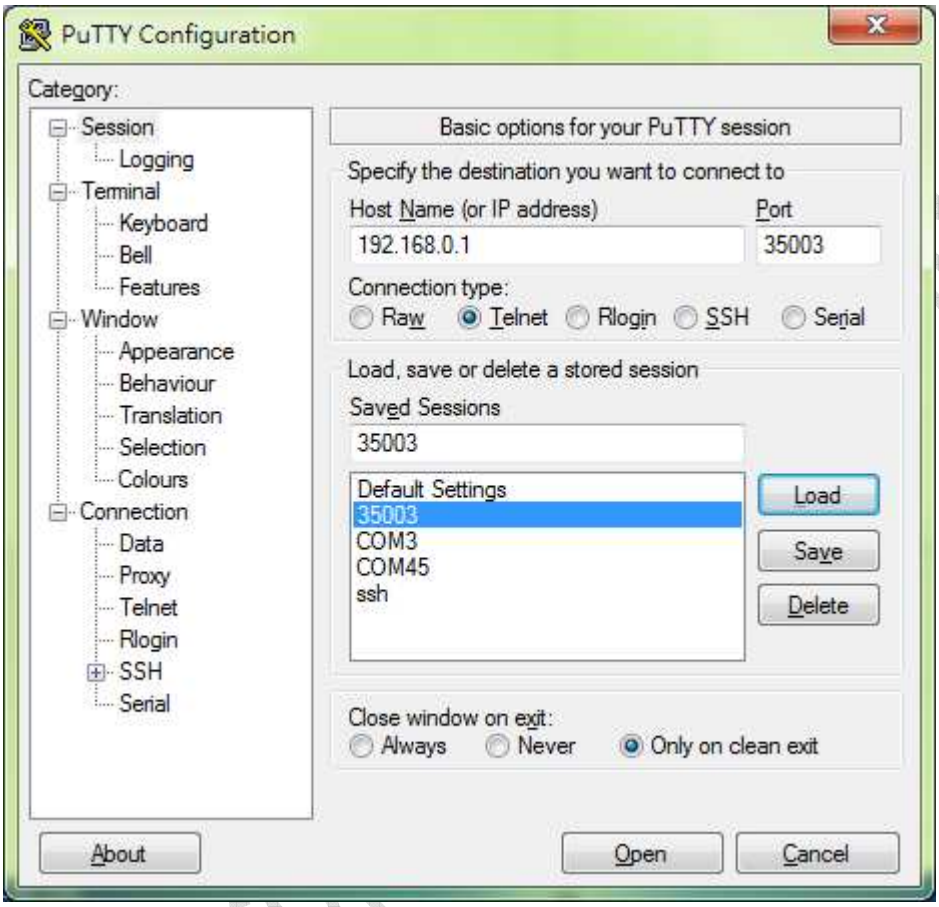
- LTE Main Antenna
  - Band 13 Peak Gain: 2.0 dBi ~ 2.5 dBi
  - Band 4 Peak Gain: 4.5 dBi ~ 5.0 dBi
- LTE Diversity Antenna
  - Band 13 Peak Gain: 2.0 dBi ~ 2.5 dBi
  - Band 4 Peak Gain: 2.5 dBi ~ 3.0 dBi

4.1 For LTE connection to Test Equipment

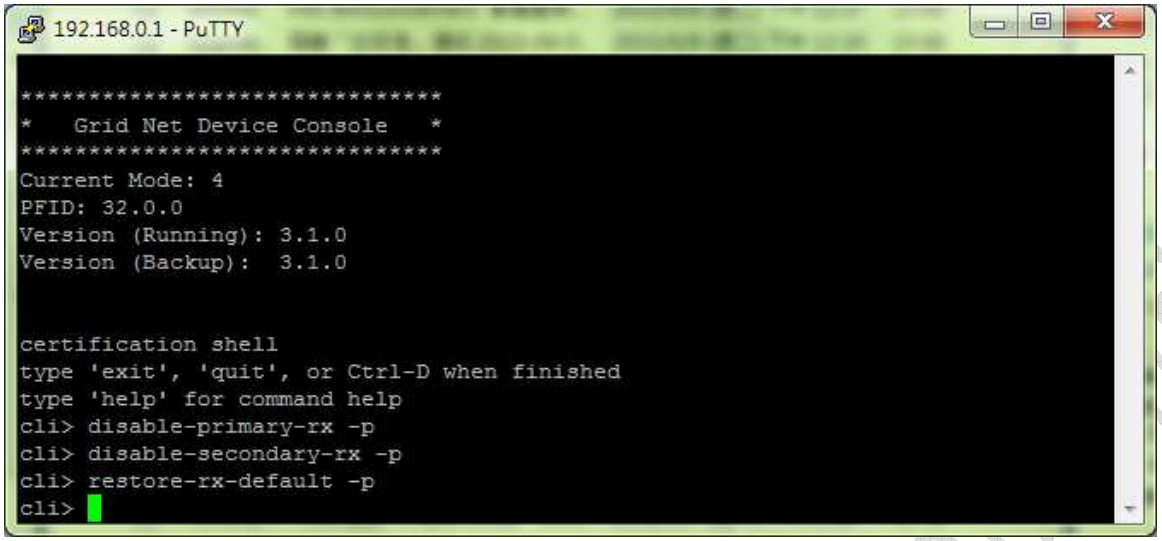
When UMC-I210C is installed with test SIM, it can automatically connect to tester, such as Anritsu 8820C.

4.2 LTE Rx Primary/Secondary switch for OTA

Login the cli mode (only in service mode 1,4)



Telnet IP:192.168.0.1 Port: 35003



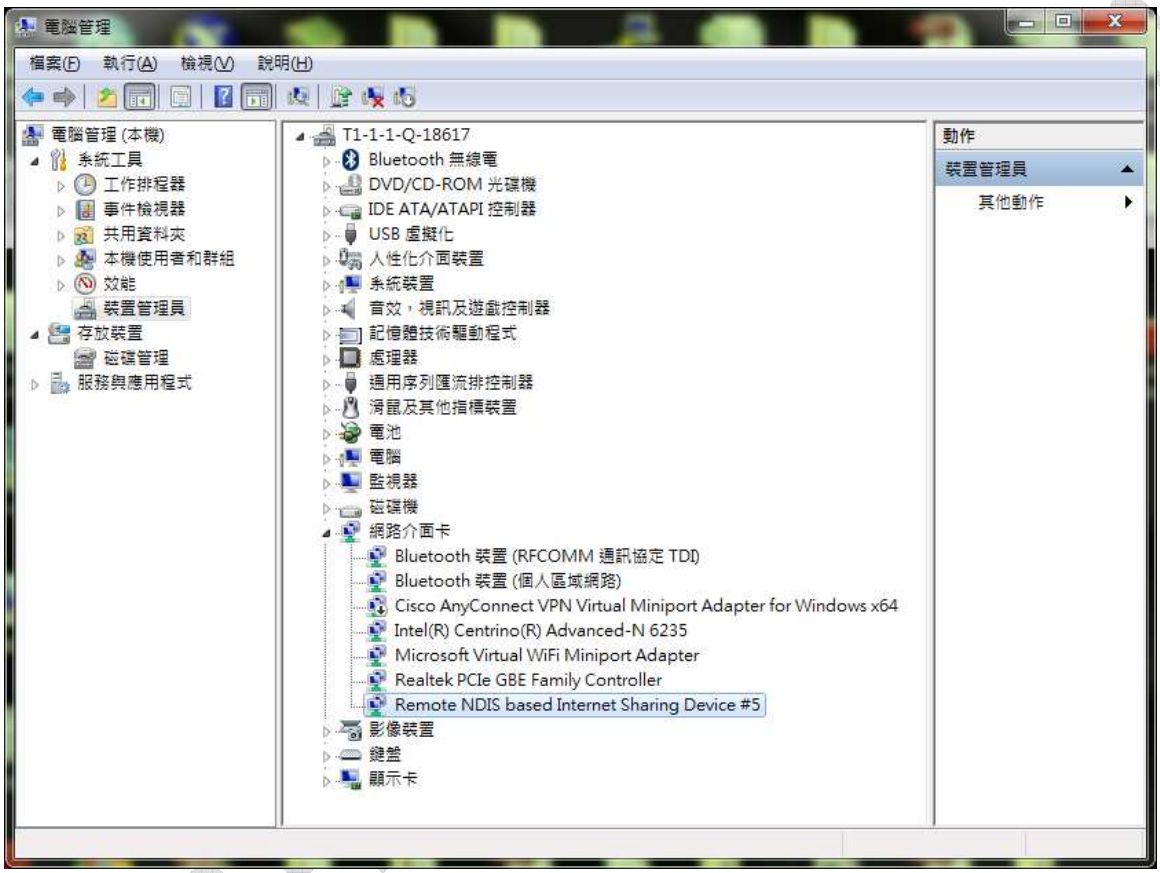
- ***disable-primary-rx -p*** ➔ Disable Primary Rx
- ***disable-secondary-rx -p*** ➔ Disable secondary Rx
- ***restore-rx-default -p*** ➔ Enable Primary/Secondary Rx

Note: The setting will persist across reboots

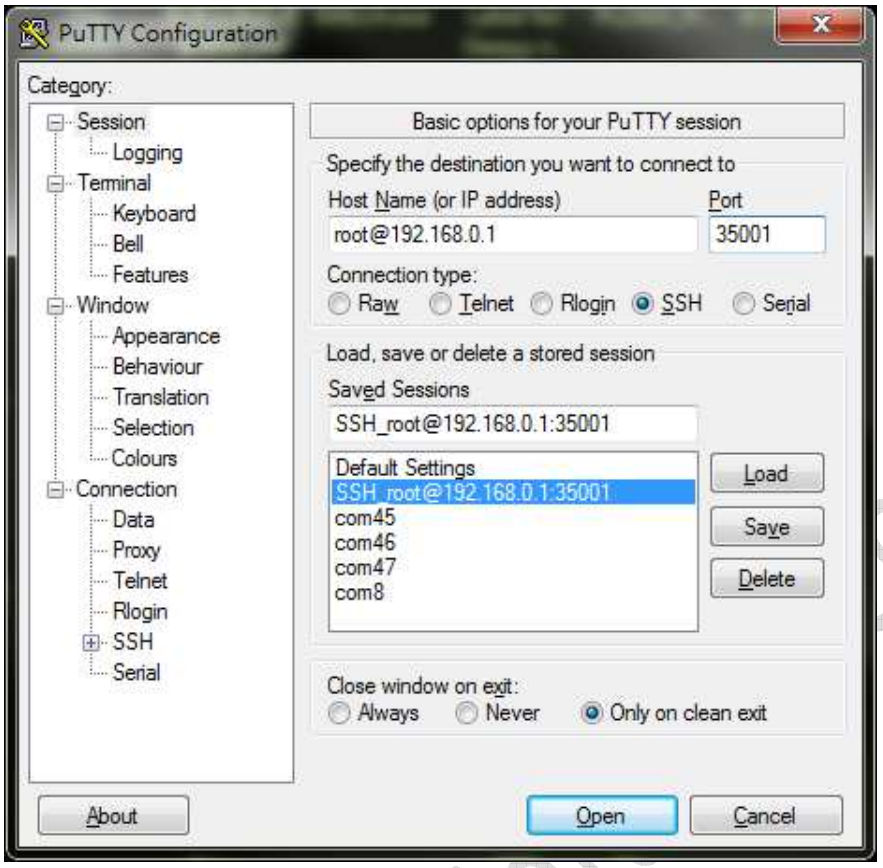
Appendix I

Change System Service Mode for Serial Port Control

Step 1: Confirm windows capture the device

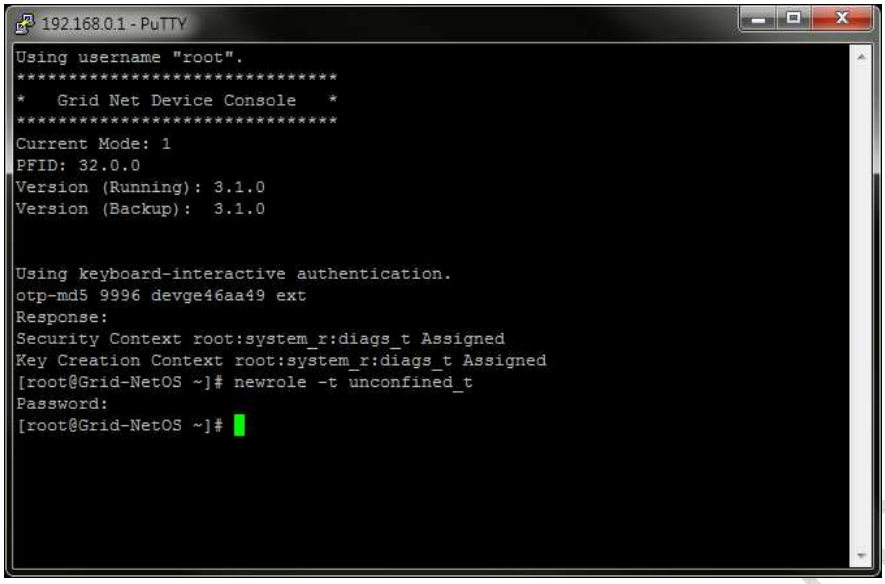


Step 2: Establish SSH connection by Putty in windows



- Hostname: ***root@192.168.0.1*** port: ***35001*** Connection type: ***SSH***
- Click “NO” for continue without saving ssh key

Step 3: Login with one time password.



Login with one time pass word

Look up the corresponding password in the OTP list below.
Ex: 9998 ➔ NOB YET HECK CAKE CUR MALE

Enter command: ***newrole -t unconfined_t***

Look up the corresponding password in the OTP list below.
Ex: 9997 ➔ VOID COON MEET TEST OVER MOD

One Time Password (OTP) List:

9989: ACTS EDGY AMID TAG TREE SLIM
9990: DO SAT HI SOIL A HATE
9991: SOON CUE PEG SAUL LACK IFFY
9992: SALK NAVY ROVE INCA LOON HIT
9993: GULF NOUN HUH TAKE OLIN SILO
9994: WAYS AUNT GAUL IRK TALK ROSE
9995: HAT PRY CLAW CHIC GAP CHIN
9996: MAC OLAF GLOM OVAL SAC LO
9997: VOID COON MEET TEST OVER MOD
9998: NOB YET HECK CAKE CUR MALE

Step 4: Set system service mode

- ***ucfg set config gridnet passedmfg 0***

  prctl setmode 1 Set system service mode to 1

- ***prctl getmode*** Read the system mode