UMC-A21LG User Manual

Revision History

Issue Date	Version	Description
2017/06/29	1.0	Initial Issued

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
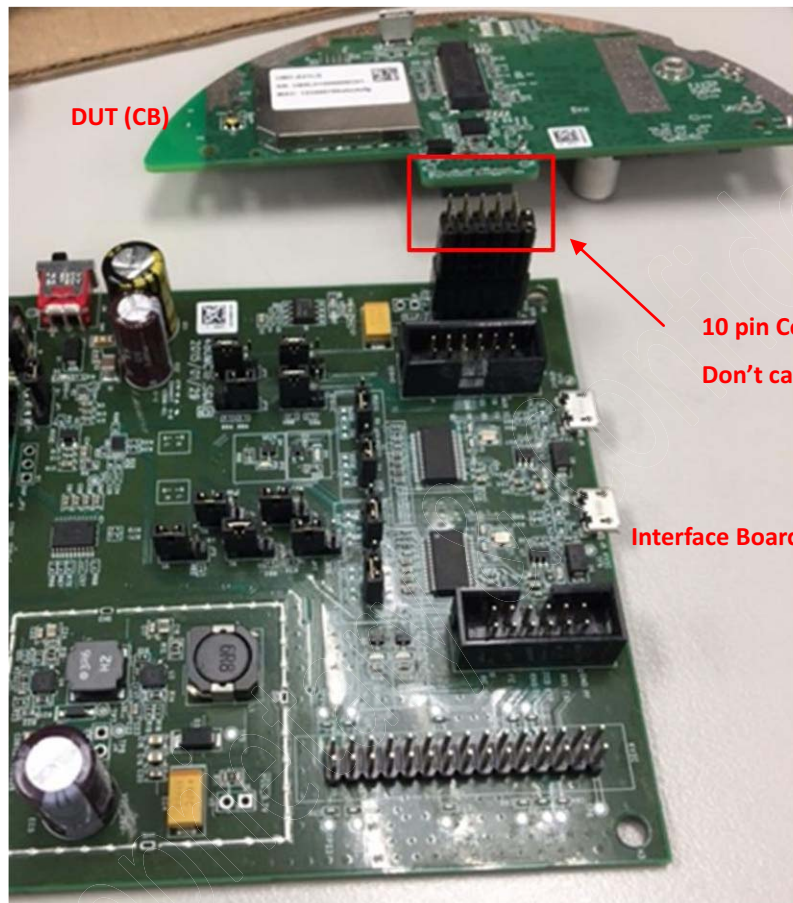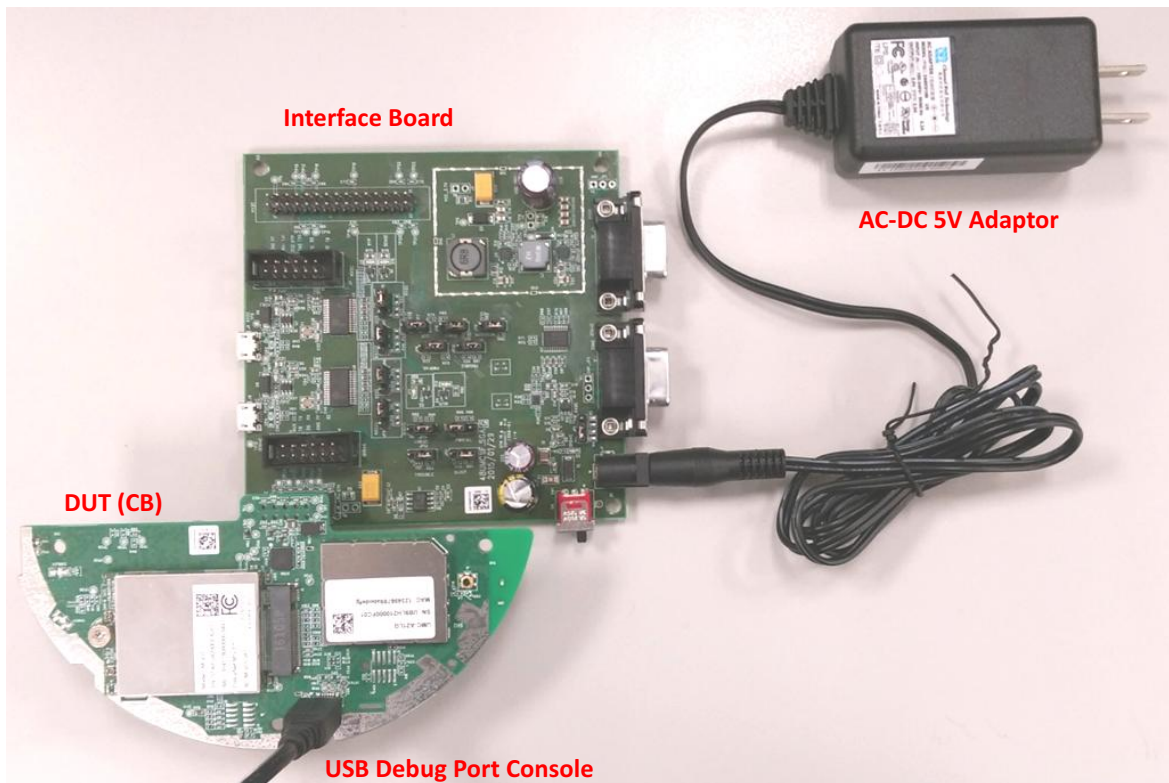
Power on Sequence:

I.   Connect DUT to interface board

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

III. Wait for 20 seconds when system ready (See Note 1)

IV.   Plug-in Console Port cable

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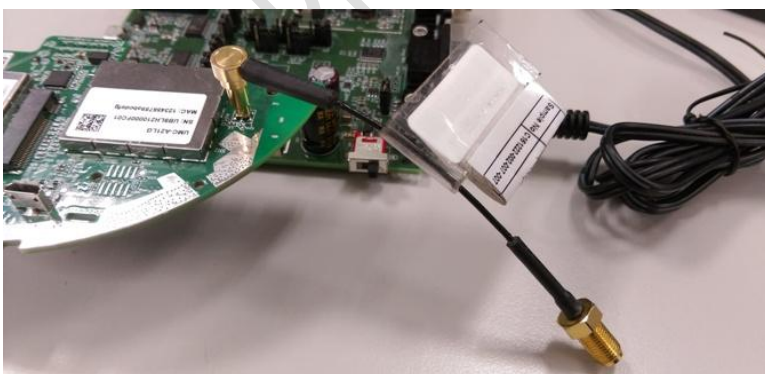
2.2   Antenna Connection

Connect to LTE primary antenna

Connect to LTE diversity antenna

Connect to Zigbee antenna

2.3 Hardware Component Introduction

AC-DC 5V Adaptor

Interface Board

Victor CB

3. Zigbee Test

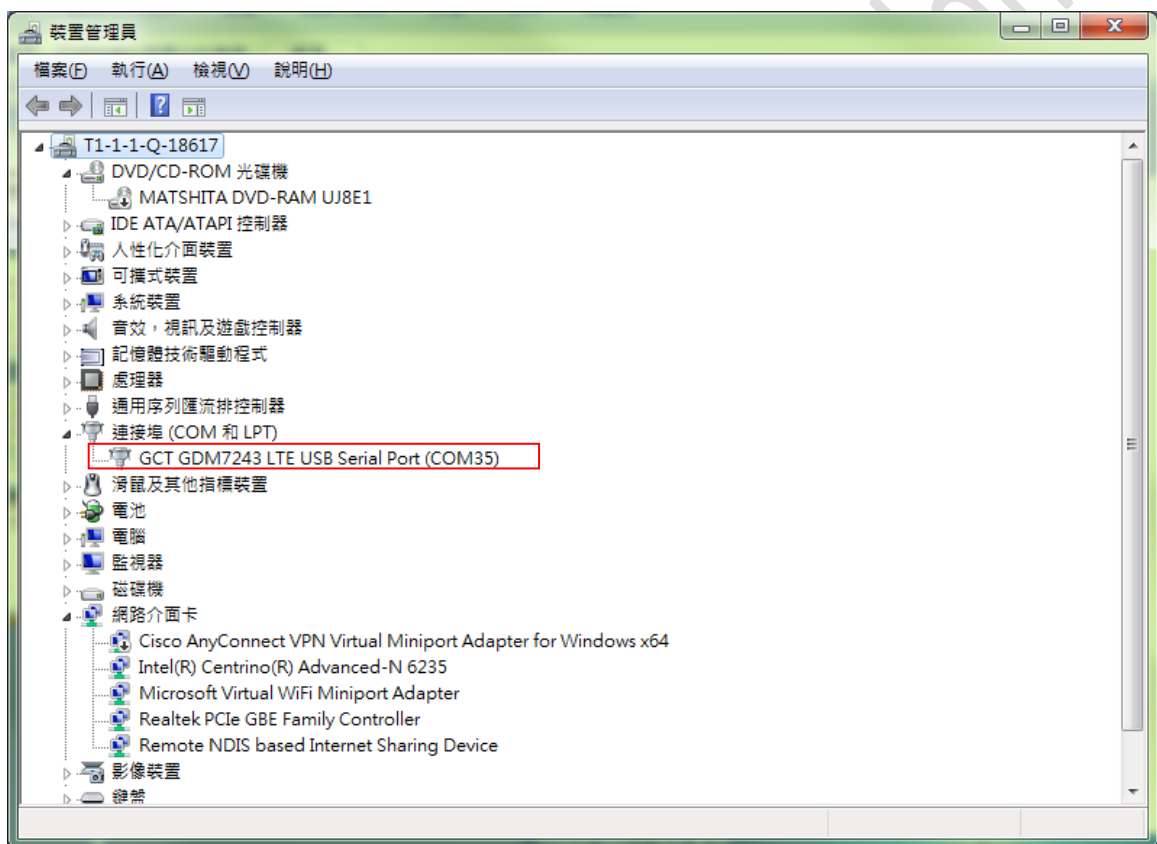## 3.1 Install GDM7243 Driver

Install the GDM7243 driver "GDM7243_windows_acm_drivers_installer_v1.1.0.0.zip"

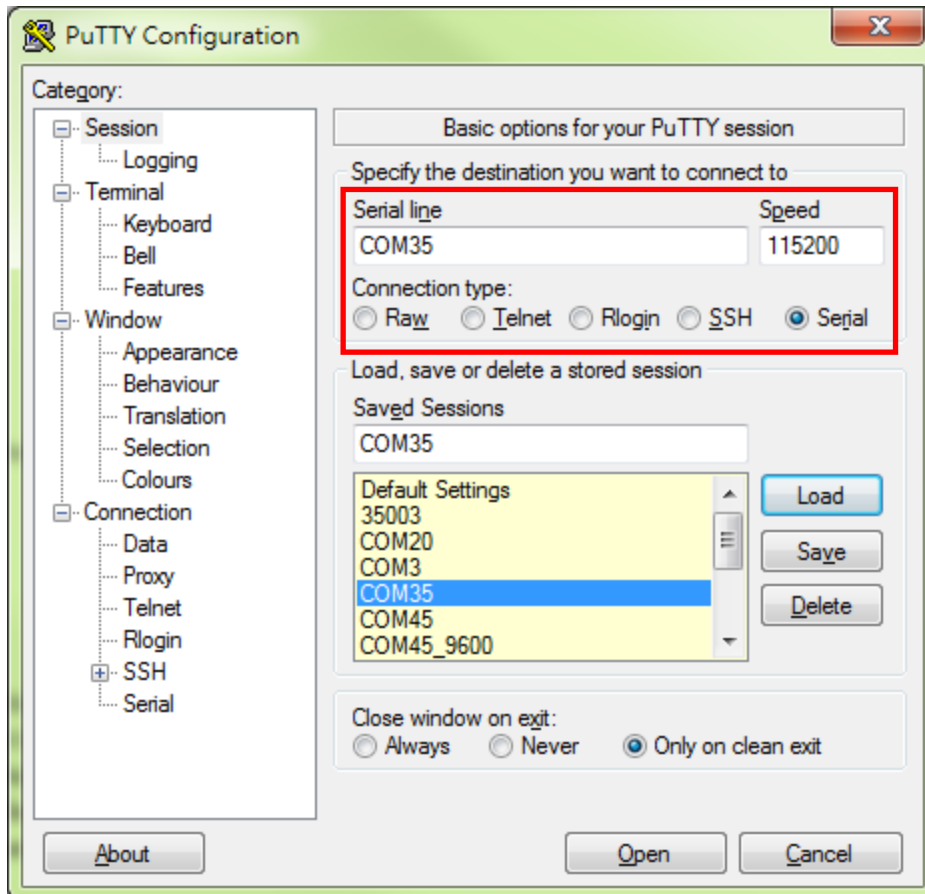## 3.2 Confirm the GDM7243 device

Confirm the com port "GCT GDM7243 LTE USB Serial Port (COMX)" in the Device Manager.

3.3 Open the com port by PuTTy

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

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

3.4 Zigbee Test Command


```
# 
# ember-mfgtool
Reset(0x0B):SOFTWARE
ezspInit passed
ezspUtilInit passed
setting GPIO portPin = 3; cfg = 1; out = 0
mfg start 1
  mfglib start (01), status 0x00


MFG RX 0001 pkts
first packet: lqi FD, rssi B2, len 32
      : 41 88 64 36 12 FF FF BA DC 09 12 FC FF BA DC 01
      : D3 5B A4 09 00 00 A3 22 00 28 71 01 00 00 5B A4
      : 09 00 00 A3 22 00 00 89 F1 97 25 F5 FE 2B CE 62
      : CE 36

MFG RX 0001 pkts
first packet: lqi FF, rssi C2, len 2F
      : 41 88 EF CD CA FF FF 00 00 09 12 FC FF 00 00 01
      : F7 01 90 78 56 34 12 DB 00 28 05 14 00 00 01 90
      : 78 56 34 12 DB 00 00 CC C3 E4 D1 D3 C6 7D DA
mfg channel set 11
    mfg set channel to 0x0B, status 0x00


MFG RX 0007 pkts
first packet: lqi FC, rssi B1, len 33
      : 41 88 65 36 12 FF FF BA DC 09 12 FC FF BA DC 1E
      : D4 5B A4 09 00 00 A3 22 00 28 72 01 00 00 5B A4
      : 09 00 00 A3 22 00 00 16 BA 15 A9 A6 65 DB E2 03
      : AF 3E C4
mfg power set -3 mode 2
      mfg set power to 0xFD, mode 0x02, status 0x00


mfg stream start
  start stream 0x00


mfg stream stop
  stop stream 0x00


MFG RX 0003 pkts
first packet: lqi FF, rssi C2, len 33
      : 41 88 F3 CD CA FF FF 00 00 09 12 FC FF 00 00 1E
      : F9 01 90 78 56 34 12 DB 00 28 09 14 00 00 01 90
      : 78 56 34 12 DB 00 00 A4 7D 57 D2 61 AE A5 BD E9
      : 2C FE 66
^C#
```

Enter Zigbee control mode:
ember-mfgtool
Set mfg start:
mfg start 1
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
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 tests.setc

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