# LGE KCC FCC CE Manual - 2012

# Contents

- RF Receiver KCC /FCC/CE Test Configuration
  - Install KCC/FCC/CE tool
  - KCC /FCC/CE Tool PC  Setup
  - KCC /FCC/CE Tool Setup
  - KCC /FCC/CE  Window Tool  Explain
    -- Reset
    -- Receive Test
    -- Transmit Mode ( Single Freq-Non Hopping )
    -- Transmit Mode ( Hopping across all 79ch Freq )
    -- Unmodulated mode ( CW )
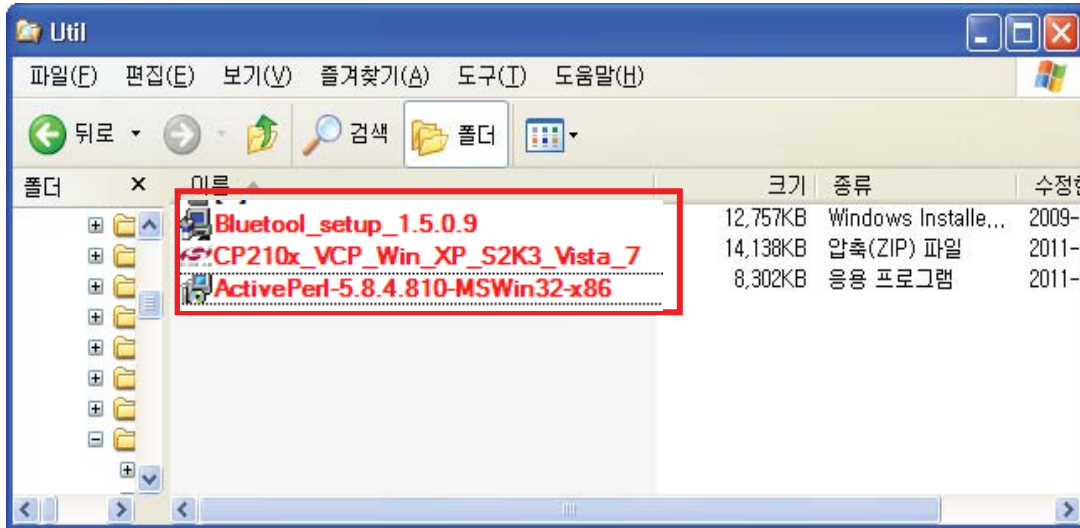    -- FCC Dwell Time Testing Mode
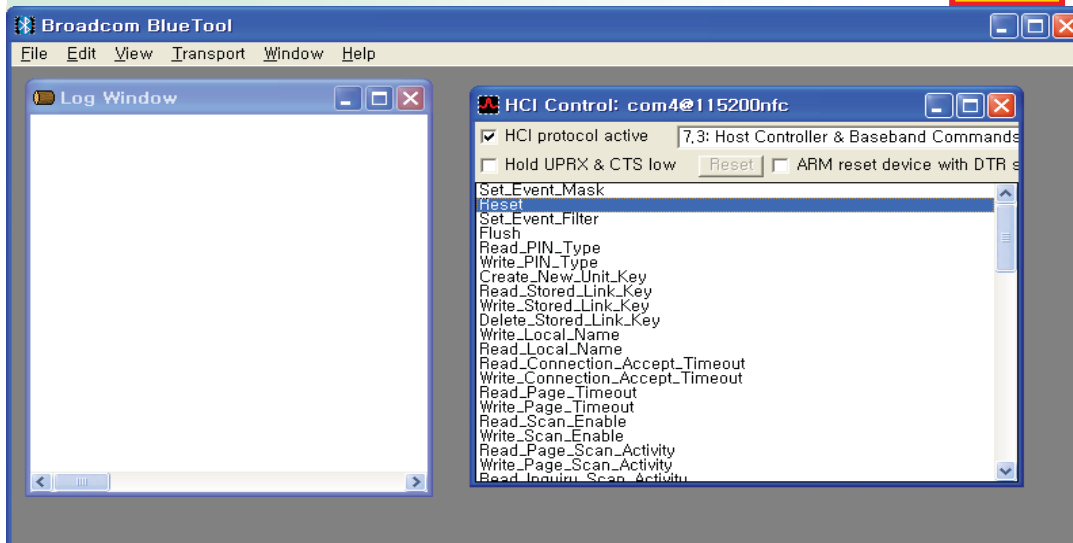
# Install KCC/FCC/CE Tool



Fig.1

1. Check
   "ActivePerl-5.8.4.810-MSWin32-x86.msi",
   "Bluetool_setup_1.5.0.9.exe",
   "CP210x_VCP_Win_XP_S2K3_Vista_7.exe"
   as Fig.1

2. Excute"ActivePerl-5.8.4.810-MSWin32-x86.msi"
   will install Active perl.

3. Excute"CP210x_VCP_Win2K_XP_S2K3.exe"
   will install USB Driver.

4. Excute "Bluetool_setup_1.5.0.9.exe"
   will install Blue Tool

5. Execute "BlueTool.exe" will run Blue Tool
   as Fig.2



Fig.2

# KCC/FCC/CE PC Config Setup
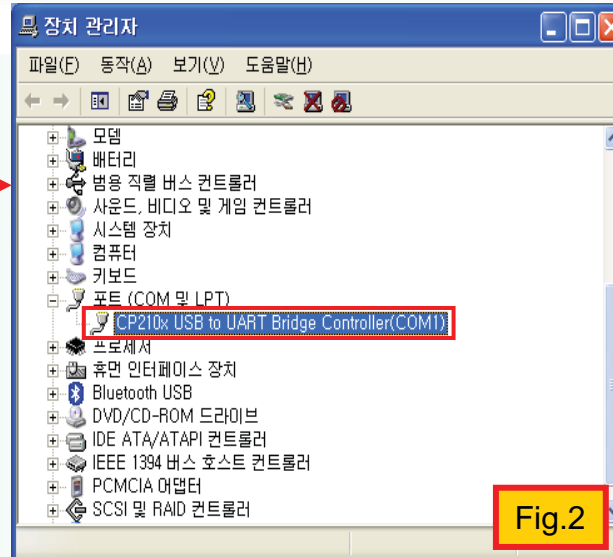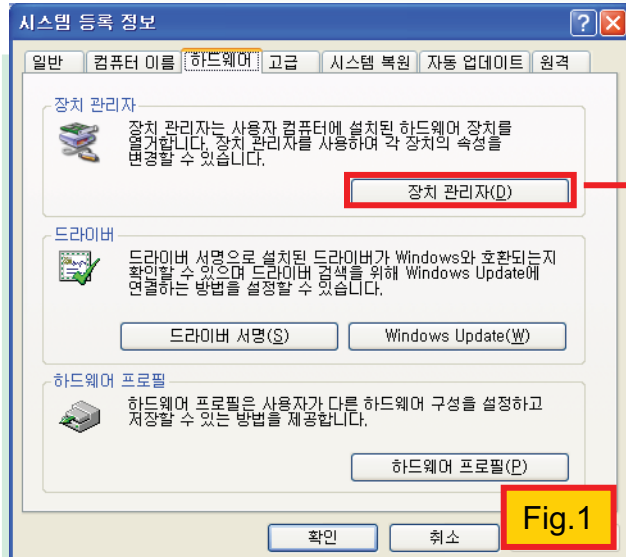


Fig.1



Fig.2

1. Connect USB Jig and PC USB Port using USB Cable

2. Select "시작→설정→제어판→ 시스템" in PC [Fig.1] and Device Manager[Fig.2] to see if the driver is successfully installed by activating its port.

3. Check the number of com port in Device manager (com4)

4. Check the number of Baudrate in Device manager ( 115200 )
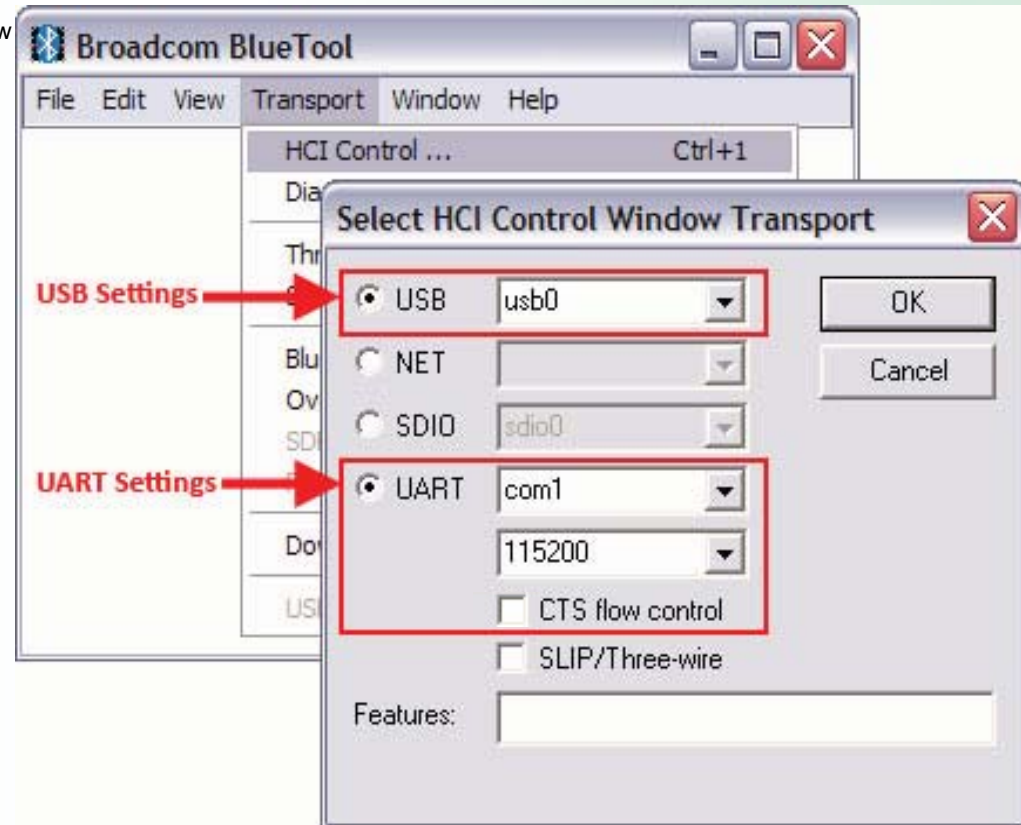
# KCC/FCC/CE PC Setup

## BLUETOOL SETUP

### START BLUETOOL

BlueTool Version 1.5.0.9 was used for these procedures.
1. Start BlueTool (**Programs** > **Broadcom BlueTool** > **BlueTool**).

2. Enable the BlueTool log window (**View > Log Window**). The log window

### TRANSPORT SETUP

1. From the BlueTool **Transport** menu, select **HCI Control**.

2. In the **Select HCI Control Window Transport** window:
   **UART setup**—Enable the **UART** option, select the appropriate
   **com port**, set the **baud rate to 115200**
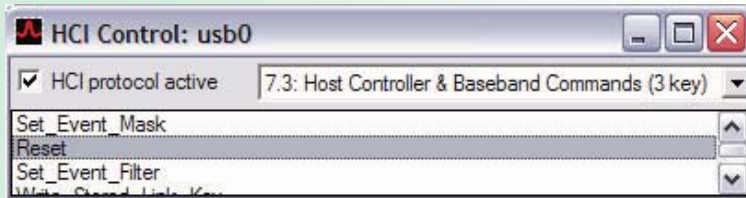
3. Click **OK**

# KCC/FCC/CE PC Setup

## RESET THE DEVICE UNDER TEST

The device under test (DUT) should be reset before each procedure. In the **HCI Control**… window:

1. Clear (uncheck) and then reselect the **HCI protocol active** option.
2. From the shortcut menu, select **7.3: Host Controller & Baseband Commands (3 key)**.
3. In the main body of the window, double-click **Reset** to reset the DUT.

# RECEIVE TEST

This is a non-hopping, write receive only test. To put the DUT in receive mode:
1. In the **HCI Control** window, from the shortcut menu, select **0: Vendor Specific Command (0 key)**.
2. In the main body of the window, double-click **Write_Receive_Only**.
3. In the **HCI Command: Write_Recieve_Only** window, enter the **desired frequency** (Low: 2402 MHz,  Mid: 2441 MHz, High: 2480 MHz).
The last line of the BlueTool log window will read **Status = 0x0 (0, "Success")**.
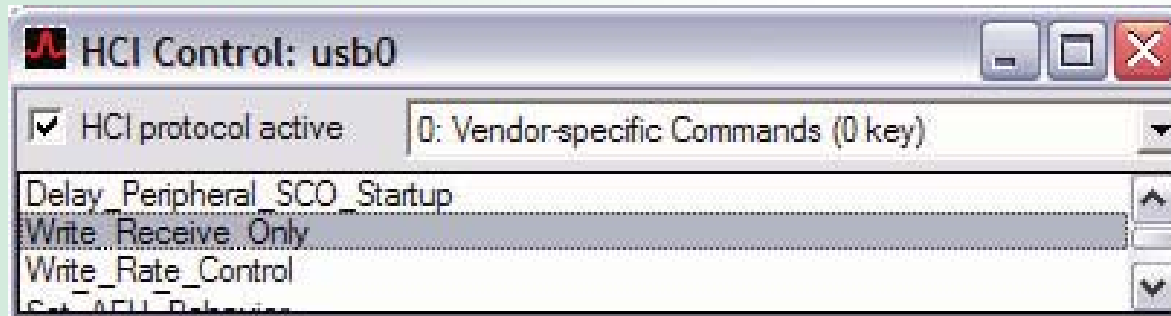
# Transmit Mode(Single Freq-Non Hopping)

To set the transmit carrier frequency arm:

**1.** Reset the device (page 6).

**2.** In the **HCI Control** window, from the shortcut menu, select **0: Vendor Specific Command (0 key)**

**3.** In the main body of the window, double-click **Set Tx Carrier Frequency Arm**

**4.** In the **HCI Command…** window:

a. From the **Carrier_Enable** shortcut menu, select **Carrier on**.

b. In the **Carrier_Frequency**… field, enter the **desired output frequency**.   ( Low: 2402 , Mid : 2441 , High:2480 )

c. From the **Mode** shortcut menu, select **PRBS9**.

d. From the **Modulation Type** shortcut menu, select **GFSK**, **8PSK**, or **QPSK**.

   **Note:** Only one modulation type can be selected for a specific test instance, but all three types must be tested for FCC compliance.

e. From the **Transmit_Power** shortcut menu, select **Specify Power Table index**. f.

   In the **Transmit_Power_Table_Index Transmit_Power** field, enter **0**.
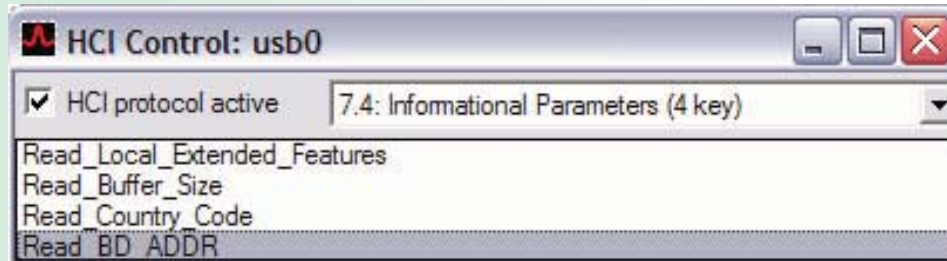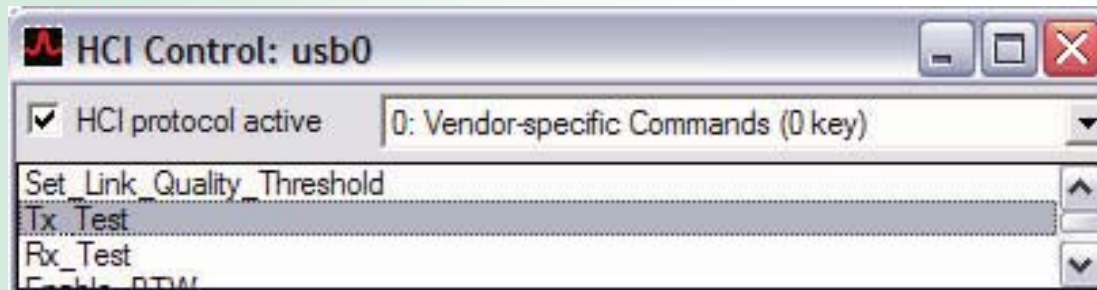
**5.** Click **OK**.

# Transmit Mode(Hopping across all 79ch Freq)

**ACL Basic**

**1.** Reset the device (page 6).

**2.** In the **HCI Control** window, from the shortcut menu, select **7.4: Informational Parameters (4 key)**.

**3.** In the main body of the window, double-click **Read BD ADDR**.
The last line of the BlueTool **log window** will contain the **Bluetooth device address** of the DUT.



**4.** In the **HCI Control** window, from the shortcut menu, select **0: Vendor-specific Commands (0 key)**.

**5.** In the main body of the window, double-click **Tx_Test**.

# Transmit Mode(Hopping across all 79ch Freq)

**6.** In the **HCI Command**… window

a.  From the **Local_Device_BD_ADDR** shortcut menu, select the **Bluetooth device address** of the DUT.

b.  From the **Hopping_Mode** shortcut menu, select **79 channel**.

c.  From the **Modulation_Type** shortcut menu, select **PRBS9 Pattern**.

d.  From the **Logical_Channel** shortcut menu, select **ACL Basic**.

e.  From the **BB_Packet_Type** shortcut menu, select **DH5/3-DH5**, **DH3/3-DH3**, or **DH1/2-DH1**.
> **Note:** Only one packet type can be selected for a specific test instance,
> but all three types must be tested for FCC compliance.

f.   In the **BB_Packet_Length** field, enter **65535**

g.  From the Tx_Power_Level shortcut menu, select **Specify Power Table index**.

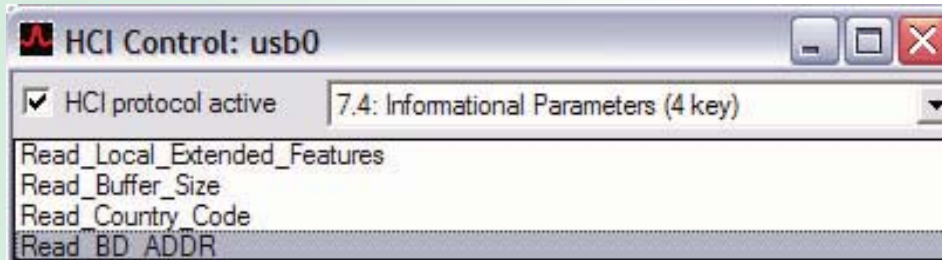h.  In the **Transmit_Power_Table_Index field**, enter **0**.
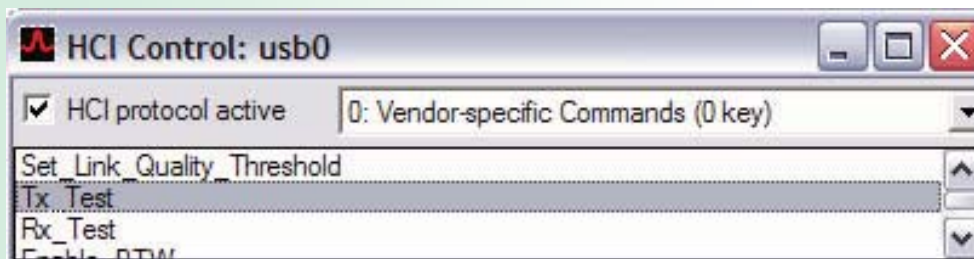


**7.** Click **OK**.

# Transmit Mode(Hopping across all 79ch Freq)

**ACL EDR**

**1.** Reset the device (page 6).

**2.** In the **HCI Control** window, from the shortcut menu, select **7.4: Informational Parameters (4 key)**.

**3.** In the main body of the window, double-click **Read BD ADDR**.
The last line of the BlueTool **log window** will contain the **Bluetooth device address** of the DUT.



**4.** In the **HCI Control** window, from the shortcut menu, select **0: Vendor-specific Commands (0 key)**.

**5.** In the main body of the window, double-click **Tx_Test**.

# Transmit Mode(Hopping across all 79ch Freq)

**6.** In the **HCI Command**… window

a. From the **Local_Device_BD_ADDR** shortcut menu, select the **Bluetooth device address** of the DUT.

b. From the **Hopping_Mode** shortcut menu, select **79 channel**.

c. From the **Modulation_Type** shortcut menu, select **PRBS9 Pattern**.

d. From the **Logical_Channel** shortcut menu, select **ACL EDR**.

e. From the **BB_Packet_Type** shortcut menu, select **DH5/3-DH5**, **DH3/3-DH3**, or **DH1/2-DH1**.

   **Note:** Only one packet type can be selected for a specific test instance,
   but all three types must be tested for FCC compliance.

f. In the **BB_Packet_Length** field, enter **65535**.

g. From the Tx_Power_Level shortcut menu, select **Specify Power Table index**.

h. In the **Transmit_Power_Table_Index field**, enter **0**.



**7.** Click **OK.**

# Unmodulated mode(CW)

To set the transmit carrier frequency arm:

**1.** Reset the device (page 6).

**2.** In the **HCI Control** window, from the shortcut menu, select **0: Vendor Specific Command (0 key)**

**3.** In the main body of the window, double-click **Set Tx Carrier Frequency Arm**

**4.** In the **HCI Command…** window:

a. From the **Carrier_Enable** shortcut menu, select **Carrier on**.

b.  In the **Carrier_Frequency**… field, enter the **desired output frequency**. ( Low: 2402 , Mid : 2441 , High:2480 )

c.  From the **Mode** shortcut menu, select **PRBS9**.

d.  From the **Modulation Type** shortcut menu, select **Unmodulated**.

e.  From the **Transmit_Power** shortcut menu, select **Specify Power Table index**. f.
    In the **Transmit_Power_Table_Index Transmit_Power** field, enter **0**.

**5.** Click **OK**.

# FCC Dwell Time Testing Mode

**ACL Basic**

**1.** Reset the device (page 6).

**2.** In the **HCI Control** window, from the shortcut menu, select **7.4: Informational Parameters (4 key)**.

**3.** In the main body of the window, double-click **Read BD ADDR**.
The last line of the BlueTool **log window** will contain the **Bluetooth device address** of the DUT.
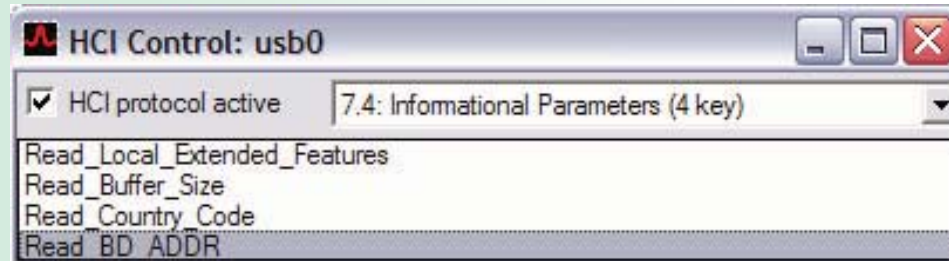


**4.** In the **HCI Control** window, from the shortcut menu, select **0: Vendor-specific Commands (0 key)**.

**5.** In the main body of the window, double-click **Tx_Test**.
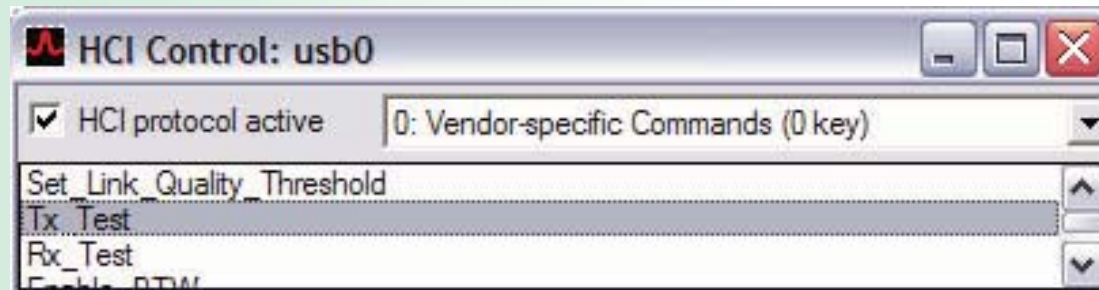
# FCC Dwell Time Testing Mode

**6.** In the **HCI Command…** window

a. From the **Local_Device_BD_ADDR** shortcut menu, select the **Bluetooth device address** of the DUT.
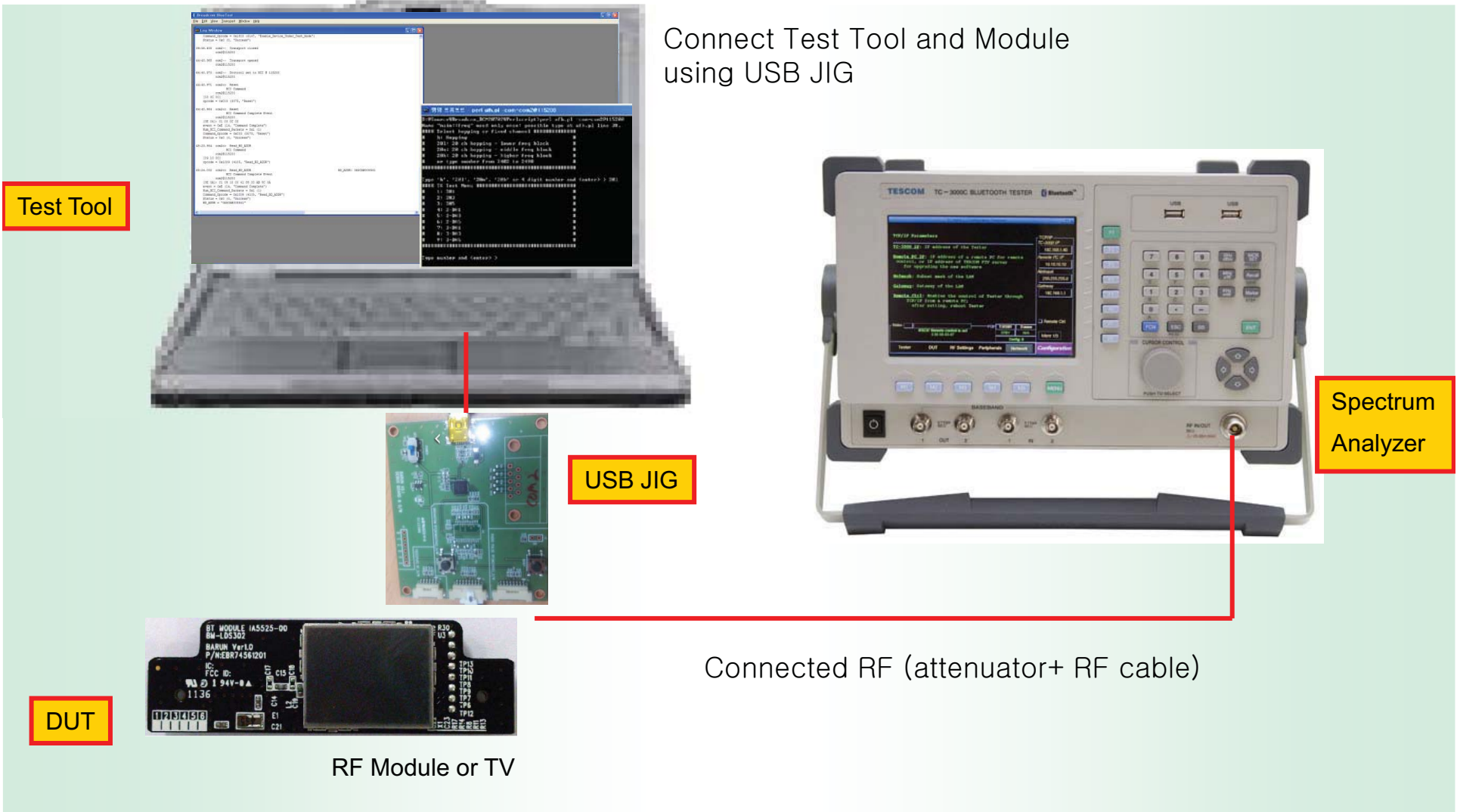
b. From the **Hopping_Mode** shortcut menu, select **Single Frequency**.

c. From the **Modulation_Type** shortcut menu, select **PRBS9 Pattern**.

d. From the **Logical_Channel** shortcut menu, select **ACL Basic or ACL EDR**.

   **"ACL Basic"** to test hopping channel in GFSK modulation mode or,

   **"ACL EDR"** to test hopping channel in 8PSK mode

e. From the **BB_Packet_Type** shortcut menu, select **DH5/3-DH5**.

   **Note:** These are worst case packet duty cycles.

f. From the Tx_Power_Level shortcut menu, select **Specify Power Table index**.

g. In the **Transmit_Power_Table_Index field**, enter **0**.



**7.** Click **OK**.

# KCC/FCC/CE Certification Setup

Connect Test Tool and Module
using USB JIG

Test Tool

USB JIG

Spectrum
Analyzer

DUT

RF Module or TV

Connected RF (attenuator+ RF cable)
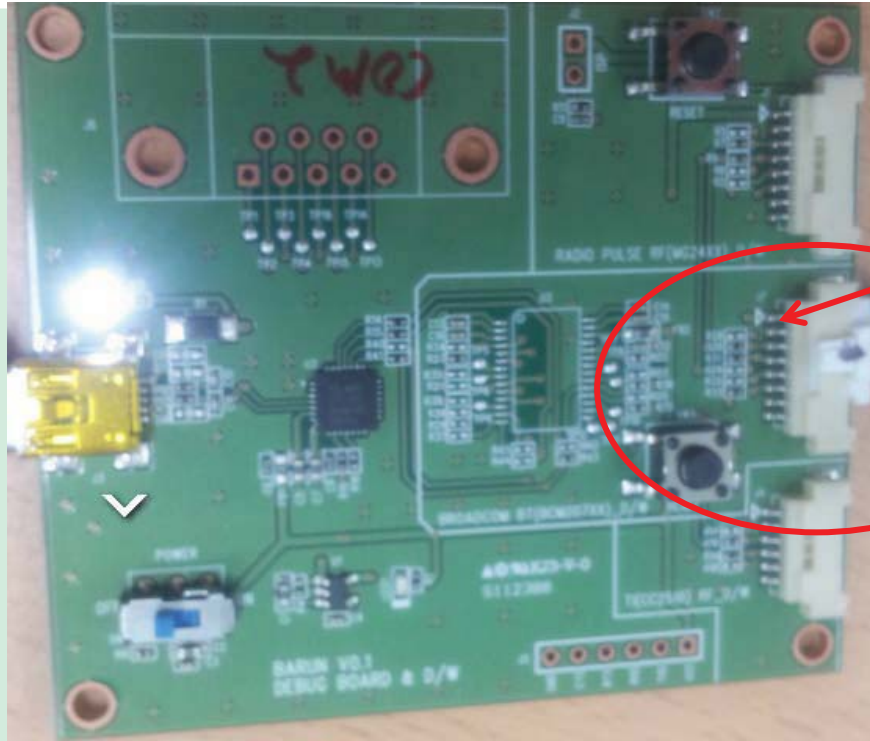
# USB JIG pin map



Pin No.1

< USB JIG >
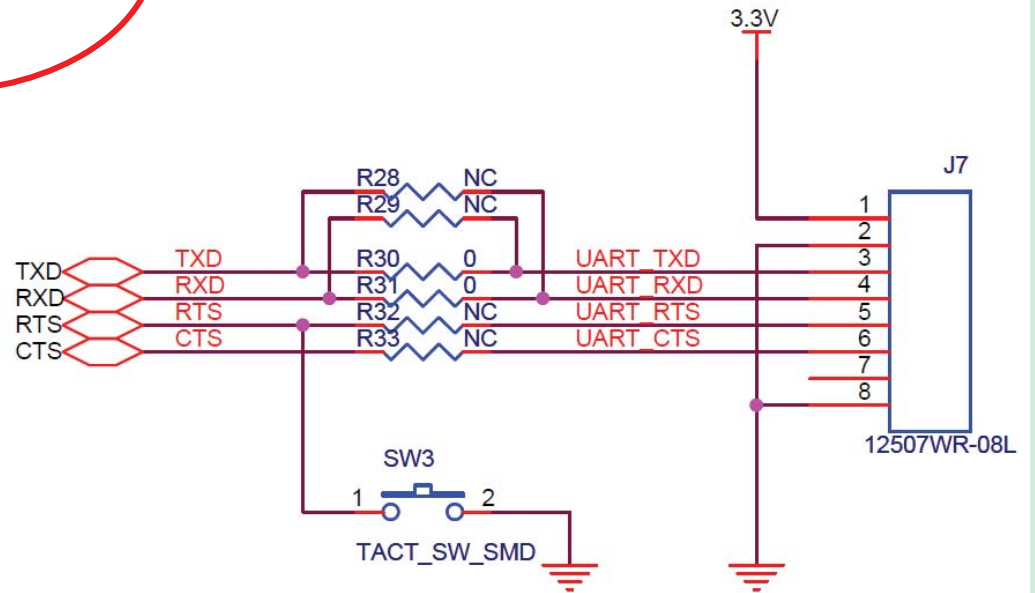
## Federal Communications Commission(FCC) Statement

You are cautioned that changes or modifications not expressly approved by the part responsible

for compliance could void the user's authority to operate the equipment.


This equipment 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 radiate 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.

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 of the device.

**FCC RF Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.
End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

(5) **Industry Canada(IC) Statement**

This device complies with RSS-210 of the Industry Canada Rules.

Operation is subject to the following two conditions:

1) this device may not cause interference and

2) this device must accept any interference. Including interference that may cause undesired operation of device.

This class B digital apparatus complies with Canadian ICES-003

**Avis d'Industrie Canada**

Cet appareil est conforme à norme CNR-210 des règlements d'Industrie Canada. Son fonctionnement est sujet aux deux conditions suivantes:

1) Cet appareil ne doit pas provoquer d'interférences et

2) Cet appareil doit accepter toute les interférences. y compris celles pouvant entraîner son dys-fonctionnement.

Cet appareil numérique de classe B est conforme à la norme NMB-003 du Canada.

**IC Radiation Exposure Statement:**

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

NOTE: THE MANUFACTURERE IS NO T RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.


**Avis d'Industrie Canada sur I'exposition aux rayonnements**

Cet appareil est conforme aux limites d'exposition aux rayonnements d'Industrie Canaca pour unenvironnement non contrôlé.

II doit être installé de façon à garder une distance minimale de 20 centimètres entre la source de rayonnements et votre corps.

REMARQUE: LE FABRICANT N'EST PAS RESPONSIBLE DES INTERFÉRENCES RADIOÉLECTRIQUES   CAUSÉES PAR DES MODIFICATIONS NON AUTORISÉES APPORTÉES APPORTÉES À CET APPAREIL. DE TELLES MODIFICATIONS POURRAIT ANNULER L'AUTORISATION ACCORDÉE À L'UTILISATEUR DE FAIRE FONCTIONNER L'APPAREIL.