

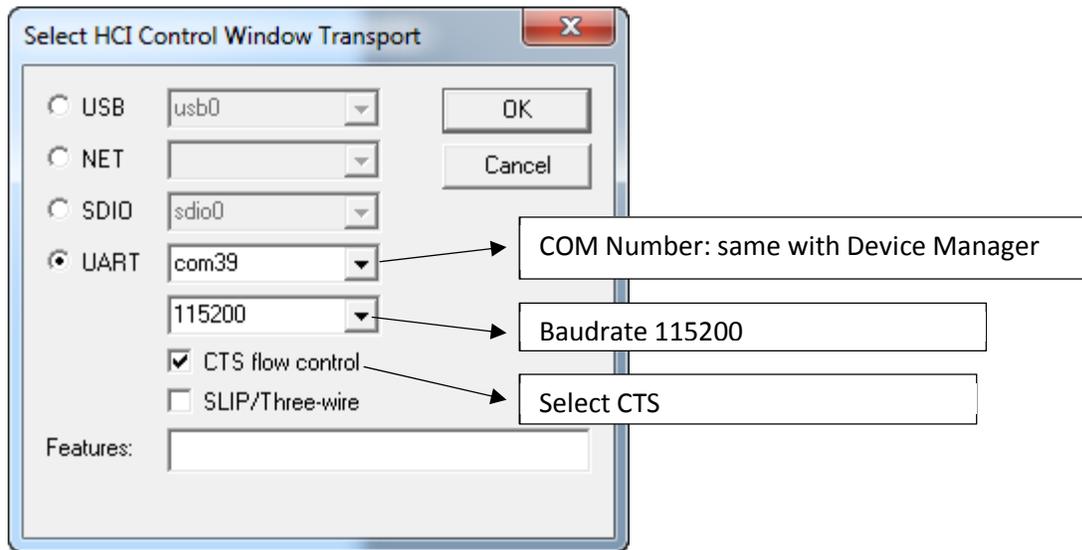
Regulatory Test with Bluetool

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**, and verify that **CTS flow control** is selected.

3. Click **OK**.

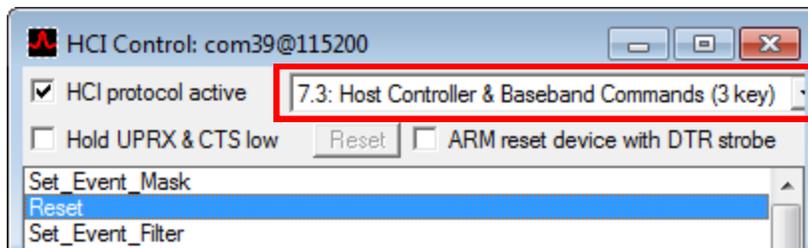


Reset the DUT

The device under test (DUT) should be reset before each command.

In the **HCI Control...** window:

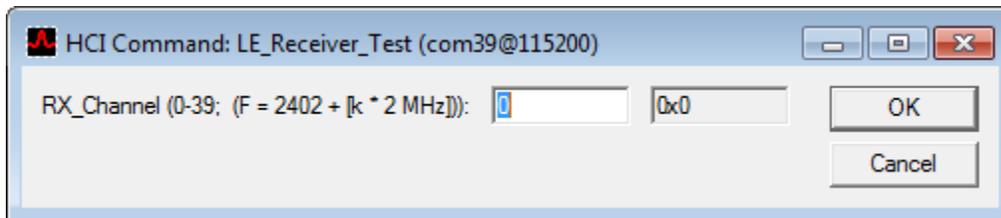
1. Clear (uncheck) and then reselect the HCI protocol active option.
2. From the shortcut menu, select **7.3: Host Controller & Baseband Commands (3 key)**.
3. In the main body of the window, double-click **Reset** to reset the DUT.



BLE

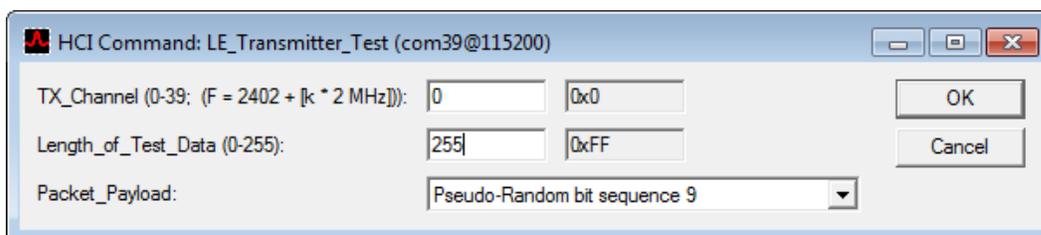
Receive Tests

1. Reset the DUT.
2. In the **HCI Control** window, from the shortcut menu, select **7.8: LE Controller Commands (8 key)**, and then double-click **LE_Receiver_Test**.
3. In HCI Command: **LE_Receiver_Test** window:
 - a. In the **Tx_Channel** field, enter the **channel number (k)** as indicated by TX_Channel (0-39; $F=2402+[k*2\text{MHz}]$).
4. Click **OK**.



Transmit Tests

1. Reset the DUT.
2. In the **HCI Control** window, from the shortcut menu, select **7.8: LE Controller Commands (8 key)**, and then double-click **LE_Transmitter_Test**.
3. In HCI Command: **LE_Transmitter_Test** window:
 - a. In the **Tx_Channel** field, enter the **channel number (k)** as indicated by TX_Channel (0-39; $F=2402+[k*2\text{MHz}]$).
 - c. In the **Length_of_Test_Data** field, enter **number of bytes (255)** per packet.
 - d. In the **Packet_Payload** field, select the packet type **PBR9**.
4. Click **OK**.



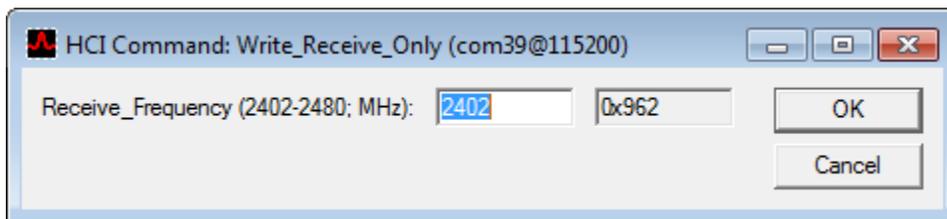
BT Classic

Receive Tests

This is a non-hopping, write receive only test.

To put the DUT in receive mode:

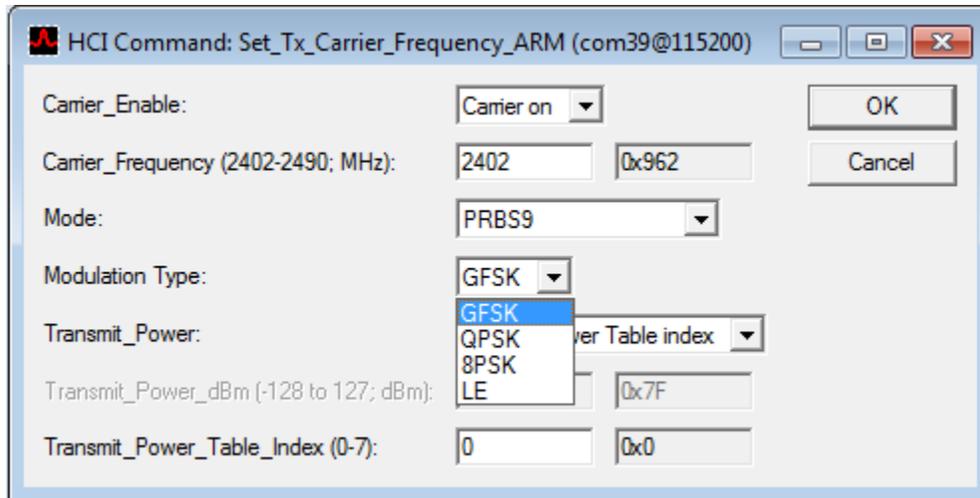
1. Reset the DUT.
2. In the **HCI Control** window, from the shortcut menu, select **0: Vendor Specific Command (0 key)**.
3. In the main body of the window, double-click **Write_Receive_Only**.
4. In the **HCI Command: Write_Receive_Only** window, enter the **desired frequency** (Low: 2402 MHz, Mid: 2440 MHz, High: 2480 MHz).



Transmit Tests

- **Single Frequency, Non-Hopping**

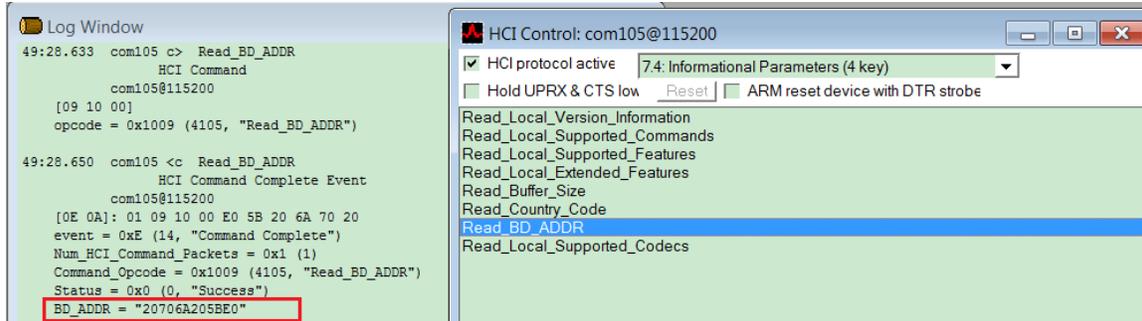
1. Reset the DUT.
2. In the **HCI Control** window, from the shortcut menu, select **0: Vendor Specific Command (0 key)**
3. In the main body of the window, double-click **Set Tx Carrier Frequency Arm**
4. In the **HCI Command...** window:
 - a. From the **Carrier_Enable** shortcut menu, select **Carrier on**.
 - b. In the **Carrier_Frequency...** field, enter the **desired output frequency**.
 - c. From the **Mode** shortcut menu, select **PRBS9**.
 - d. From the **Modulation Type** shortcut menu, select **GFSK, 8PSK, or QPSK**.
 - e. From the **Transmit_Power** shortcut menu, select **Specify Power Table index**.
 - f. In the **Transmit_Power_Table_Index Transmit_Power** field, enter **0** (Maximum).
5. Click **OK**.



- **Frequency Hopping**

1. Reset the DUT.
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**.
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** or **ACL EDR**.

e. From the **BB_Packet_Type** shortcut menu, select **DH5/3-DH5**, **DH3/3-DH3**, or **DH1/2-DH1** for **ACL Basic**, or **DH5/3-DH5** or **DM5-2DH5** for **ACL EDR**.

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**.

HCI Command: Tx_Test (com39@115200)

| | | |
|--|---------------------------|--------|
| Local_Device_BD_ADDR: | 000000000000 | OK |
| Hopping_Mode: | 79 channel | Cancel |
| Frequency: | 2402 MHz | |
| Modulation_Type: | PRBS9 Pattern | |
| Logical_Channel: | ACL Basic | |
| BB_Packet_Type: | DH5 / 3-DH5 | |
| BB_Packet_Length (0-65535; Firmware will limit len to max for BB_Packet_Type): | 65535 | 0xFFFF |
| Tx_Power_Level: | Specify Power Table index | |
| Transmit_Power_dBm (-128 to 127; dBm): | 127 | 0x7F |
| Transmit_Power_Table_Index (0-7): | 0 | 0x0 |

7. Click **OK**.

Carrier wave only for frequency tolerance test

1. Reset the device.

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**.

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

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

e. In the **Transmit_Power_Table_Index** **Transmit_Power** field, enter **0** (Maximum).

5. Click **OK**.

 HCI Command: Set_Tx_Carrier_Frequency_ARM (com39@115200) [Min] [Max] [Close]

| | | |
|--|--|--------|
| Carrier_Enable: | Carrier on ▾ | OK |
| Carrier_Frequency (2402-2490; MHz): | 2402 <input type="text"/> 0x962 <input type="text"/> | Cancel |
| Mode: | Unmodulated ▾ | |
| Modulation Type: | LE ▾ | |
| Transmit_Power: | Specify Power Table index ▾ | |
| Transmit_Power_dBm (-128 to 127; dBm): | 0 <input type="text"/> 0x0 <input type="text"/> | |
| Transmit_Power_Table_Index (0-7): | 0 <input type="text"/> 0x0 <input type="text"/> | |