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Bluetooth Test Setup

SaBLE-x-R2 Module

Version 1.0

LSR
a Laird Business

REVISION HISTORY

Version	Date	Notes	Approver
1.0	04/12/2017	Initial Release	RG

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Europe: +44-1628-858-940
Hong Kong: +852 2923 0610

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1 HARDWARE TEST SET-UP

1.1. PCBA Preparation

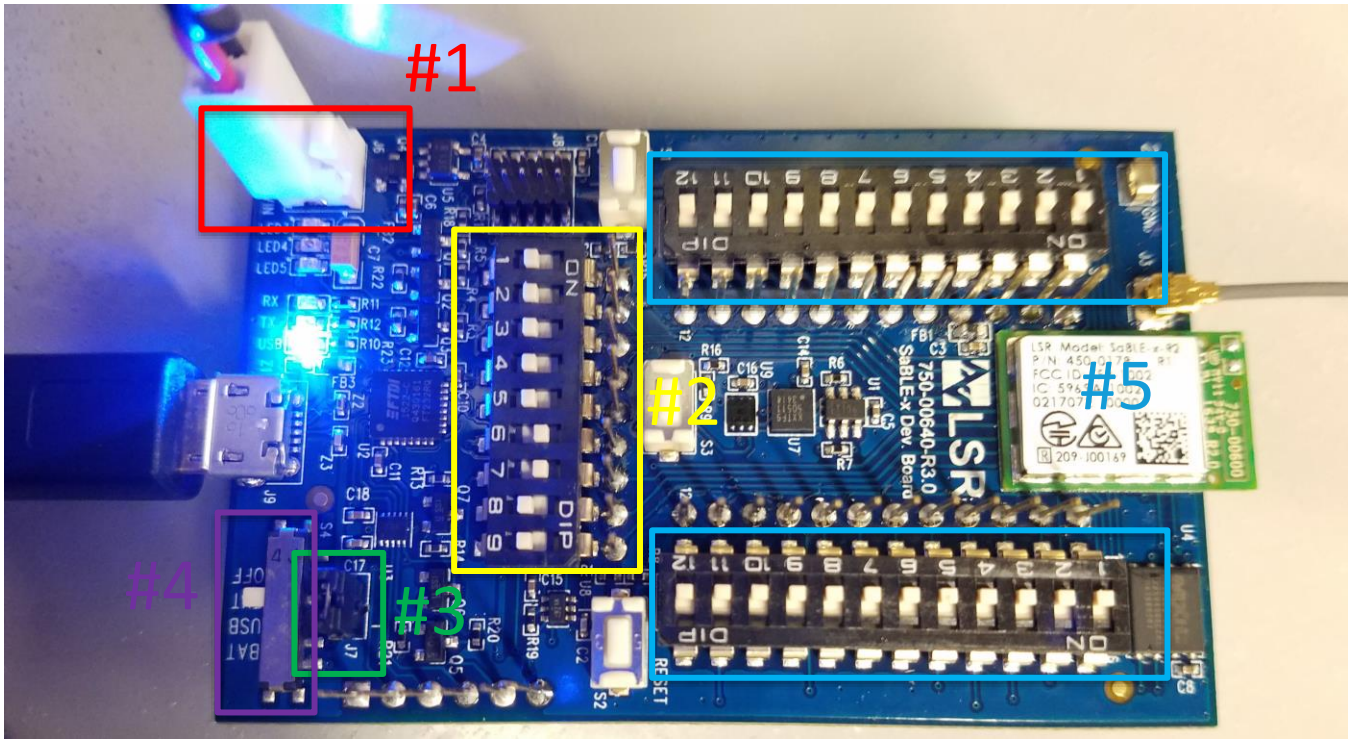

Figure 1: SaBLE-x-R2 Dev Board PCBA

Note: #1 Keyed Power Connector: Red (+), **Black (-)**;

- V_{MIN} = 1.8V, V_{NOM} = 3.3V, V_{MAX} = 3.8V
- $Temp_{MIN}$ = -40C, $Temp_{NOM}$ = 25C, $Temp_{MAX}$ = 85C

#2 Switch 6 and 7 Set High to Enable UART communication (S7 Switch)

#3 Current sense jumper must be in place (J7 Header)

#4 Switch set to **EXT** to supply external power from #1 (S4 Switch)

#5 All switches set to off position (S5 and S6 Switch)

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2 Software Test Setup

2.1. Dev Board Setup with PC

- Apply external power via J6 on the PCBA (#1)
- Make sure all switches on S5 and S6 are set **OFF** on the PCBA (#5)
- Set switch 5 and 6 **ON** on S7 (#2)
- Set Switch to **EXT** (#4)

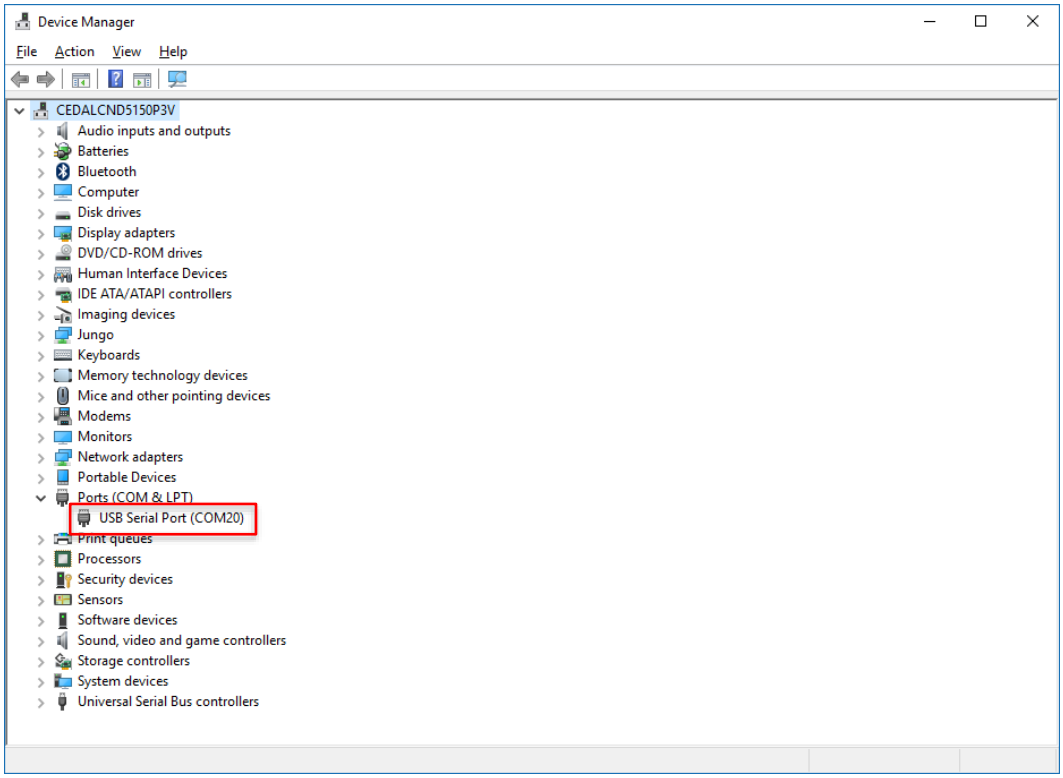

Figure 2: COM Identifier

- Run Bluetooth RF Eval Tool Version 8.7.0.0 (Provided by LSR)

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2.2. Bluetooth RF Eval Tool Software

- Pick the appropriate COM port from Device Manager. Choose the appropriate Chipset which in this example is **CC26XXR2F**.

- Connect the device. The output will be displayed in the log window.

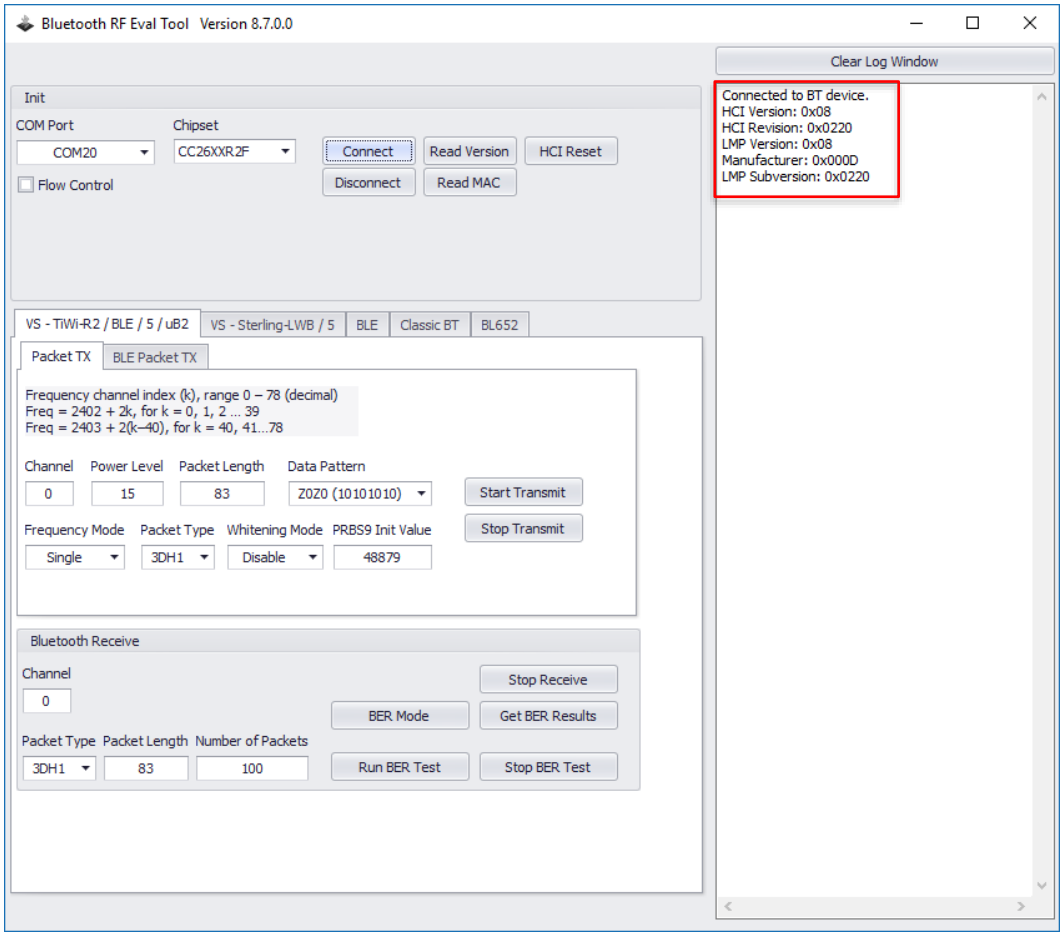

Figure 3: Device Setup and Initial Output Reading

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2.2.1. BLE Transmit & Receive

- The channel index is determined by:

  Freq (MHz) = 2402 + 2k, for k = 0, 1, 2 … 39 (decimal)

  Ex: k = 0, Freq = 2402MHz; k = 19, Freq = 2440MHz; k = 39, Freq = 2480MHz

- Select the **BLE 5.0** Option under the BLE Tab.

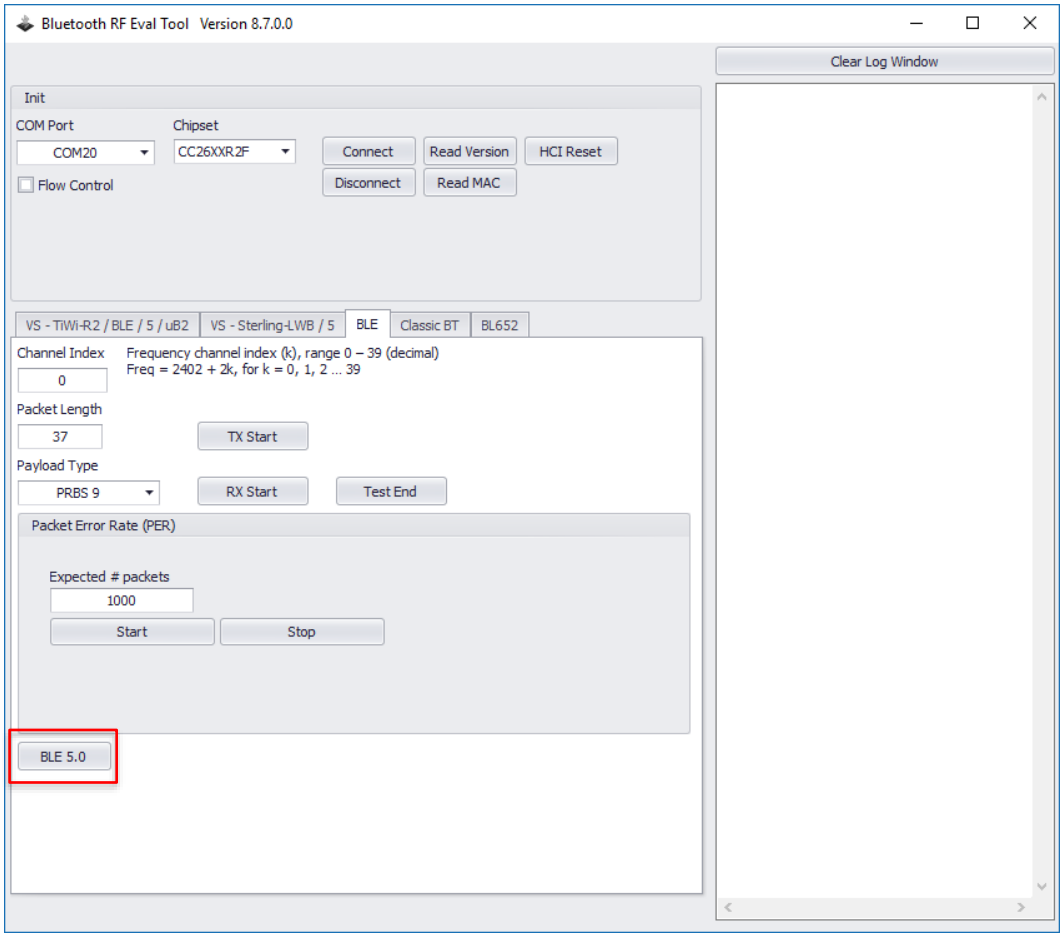

Figure 4: BLE Transmit & Receive Setup

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- Select the necessary data rate options based on what BLE version is being tested for Transmit testing. Click on the **Enhanced Tx Start** button and the **Test End** to start and stop the transmitter.

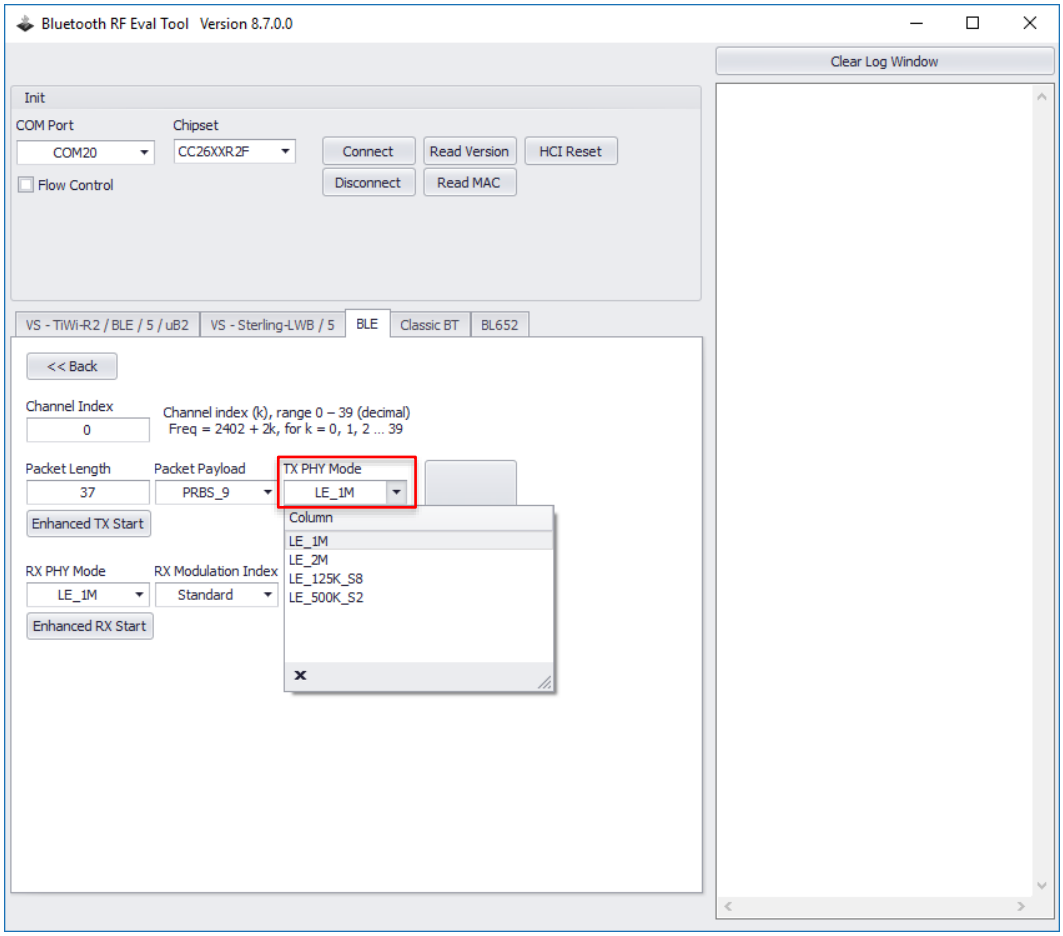

Figure 5: BLE Transmit Testing

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- Select the necessary data rate options based on what BLE version is being tested for Receive testing. Click on the **Enhanced Rx Start** button and the **Test End** to start and stop the transmitter.

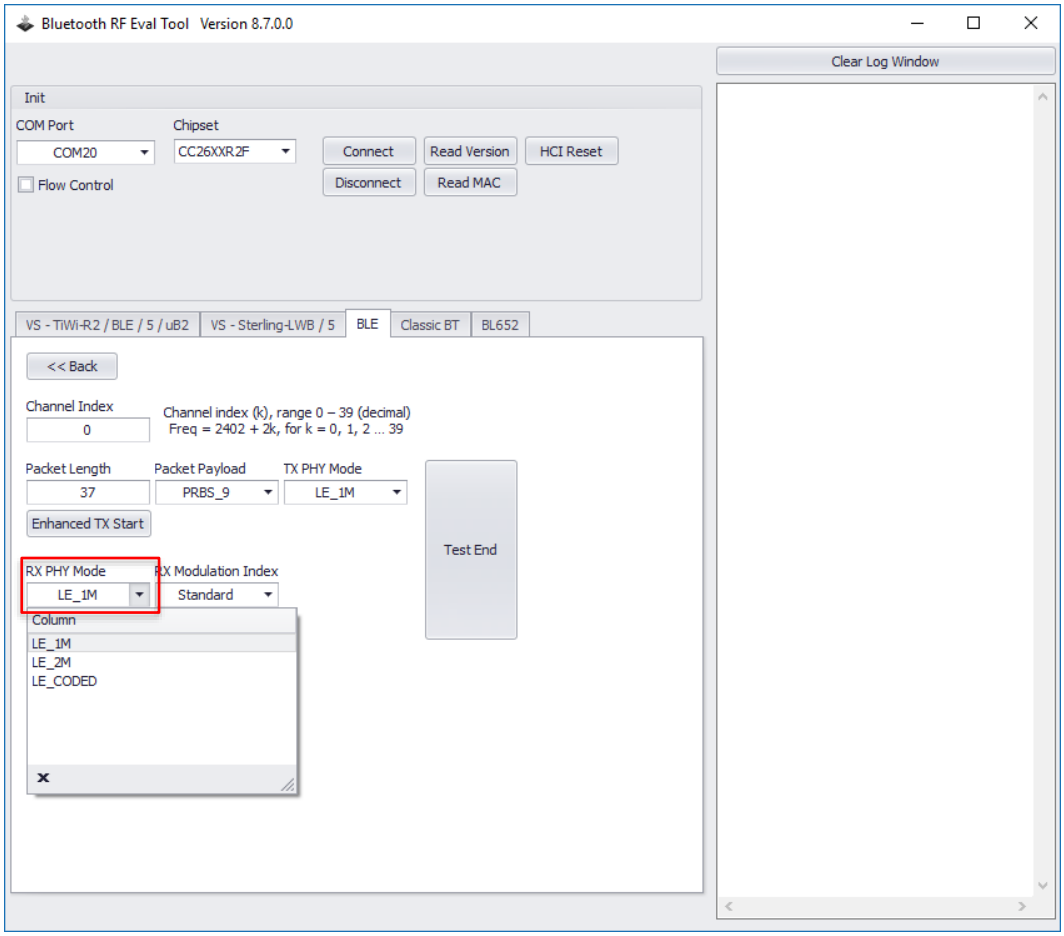

Figure 6: BLE Receive Testing

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Federal Communication Commission Interference Statement

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. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

Industry Canada statement:

This device complies with Industry Canada’s licence-exempt RSSs. 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 the device.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes:

1) l’appareil ne doit pas produire de brouillage;

2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.