THIS SPEC IS OBSOLETE

Spec No: 002-14870

Spec Title: AN214870 - BLUETOOTH LOW-ENERGY RF TESTING USING BLUETOOL(TM)

Replaced by: NONE

AN214870

Bluetooth Low-Energy RF Testing Using BlueTool™

Associated Part Family: CYW20734

This document contains detailed information on using BlueTool to perform RF testing on Bluetooth Low Energy (BLE) devices.

1 About This Document

1.1 Purpose and Audience

This document contains detailed information on using BlueTool to perform RF testing on Bluetooth Low Energy (BLE) devices.

1.2 Cypress Part Numbering Scheme

Cypress is converting the acquired IoT part numbers from Broadcom to the Cypress part numbering scheme. Due to this conversion, there is no change in form, fit, or function as a result of offering the device with Cypress part number marking. The table provides Cypress ordering part number that matches an existing IoT part number.

Table 1. Mapping Table for Part Number between Broadcom and Cypress

Broadcom Part Number	Cypress Part Number
BCM20734	CYW20734

2 IoT Resources

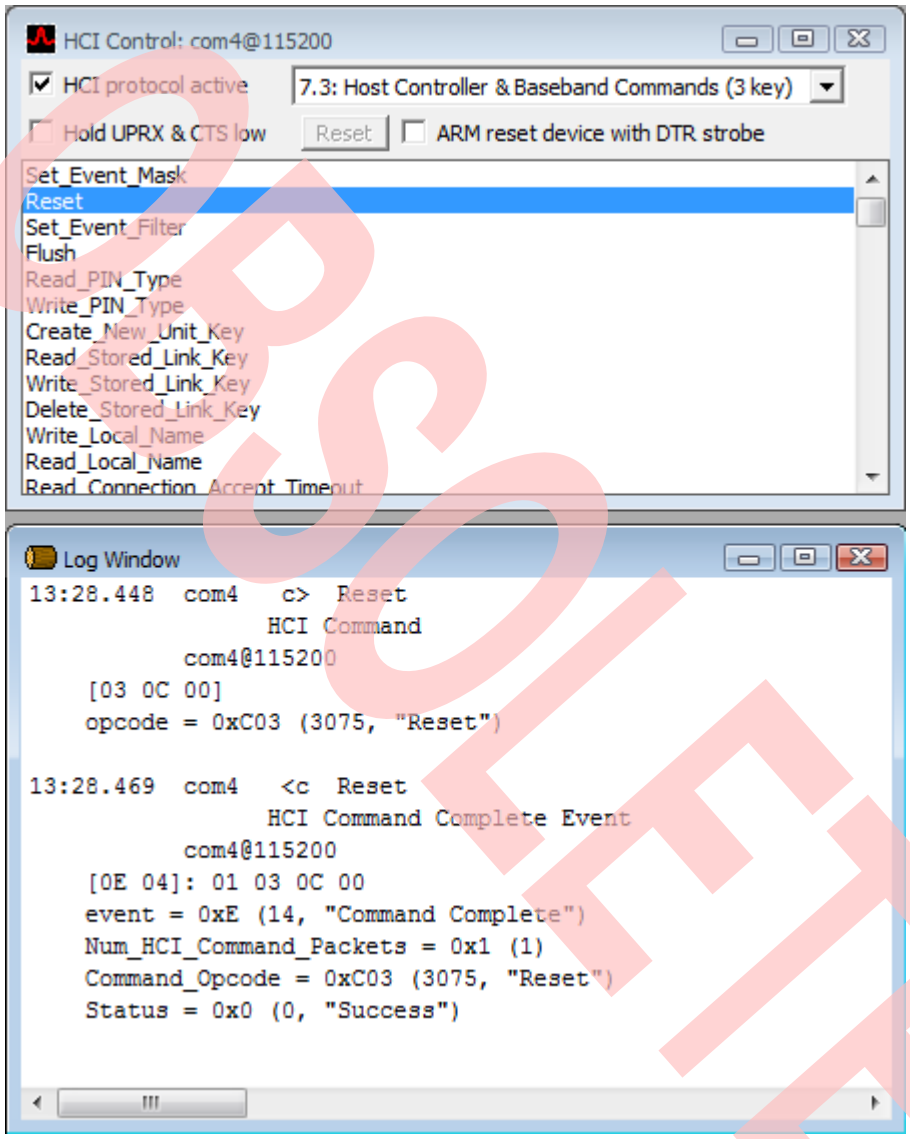
Cypress provides a wealth of data at http://www.cypress.com/internet-things-iot to help you to select the right IoT device for your design, and quickly and effectively integrate the device into your design. Cypress provides customer access to a wide range of information, including technical documentation, schematic diagrams, product bill of materials, PCB layout information, and software updates. Customers can acquire technical documentation and software from the Cypress Support Community website (http://community.cypress.com/).

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3 Low-Energy RF Testing

3.1 Performing a Low-Energy Transmit Test

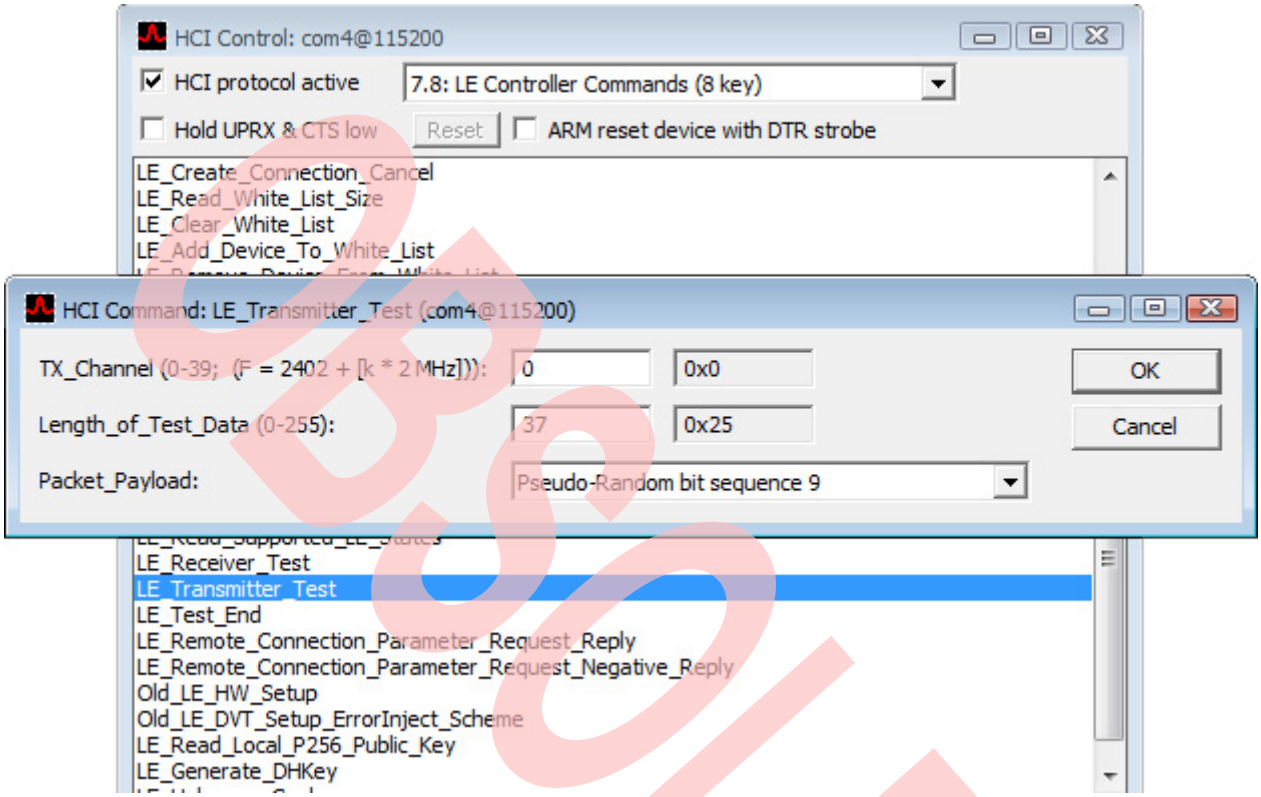
1. Under HCI Control, select **7.3: Host Controller & Baseband Commands (3 key)**, and then double-click **Reset** to reset the DUT.



2. Select **7.8: LE Controller Commands (8 key)**, and then double-click **LE_Transmitter_Test**.

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3. In HCI Command: LE_Receiver_Test window, enter the channel number (k) as indicated by TX_Channel
(0-39; (F=2402+[k*2MHz])).



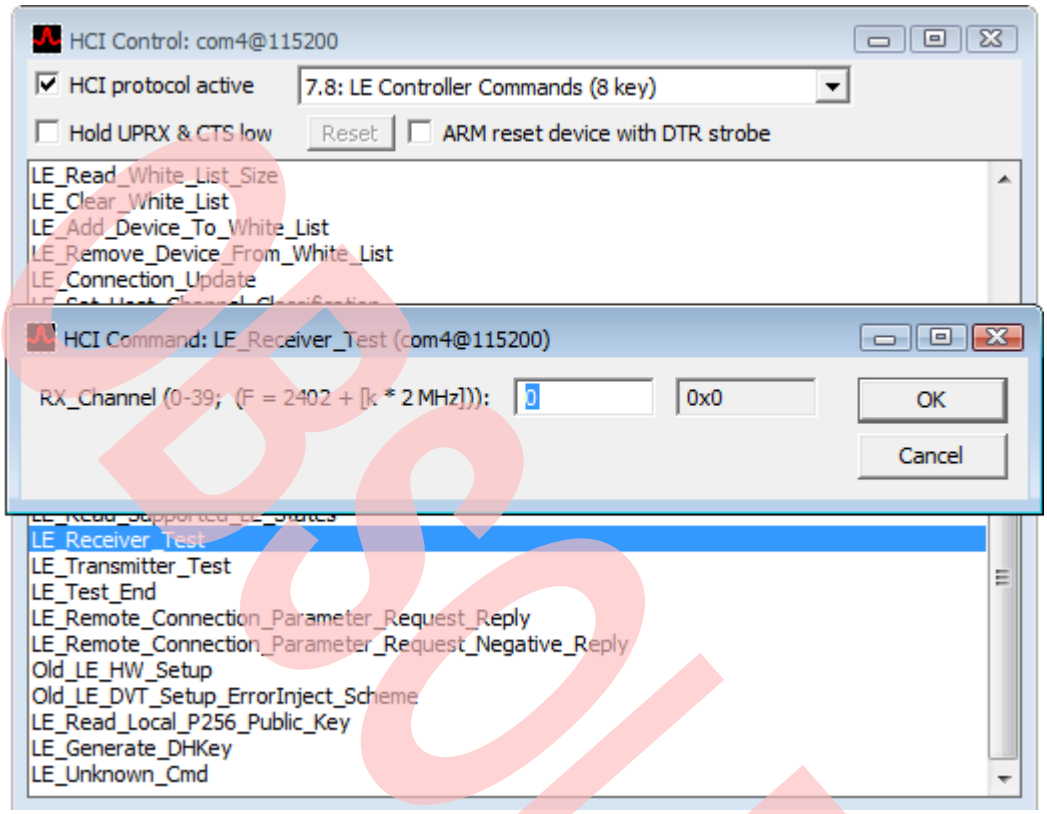
4. Enter number of bytes (37) per packet as indicated by Length_of_Test_Data (0-37).
5. In the Packet_Payload field, select the packet type.
6. Click **OK**.
The tester analyzes the data, and then outputs the results.
7. Repeat Step 1 through Step 6 to make the next transmit test measurement.

3.2 Perform a Low-Energy Receive Test

1. Under HCI Control, select **7.3: Host Controller & Baseband Commands (3 key)**, and then double-click **Reset** to reset the DUT.

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2. Select **7.8: LE Controller Commands (8 key)**, and then double-click select **LE_Receiver_Test**.
3. Enter the channel number (k) as indicated by TX_Channel (0-39; (F=2402+[k*2MHz])).

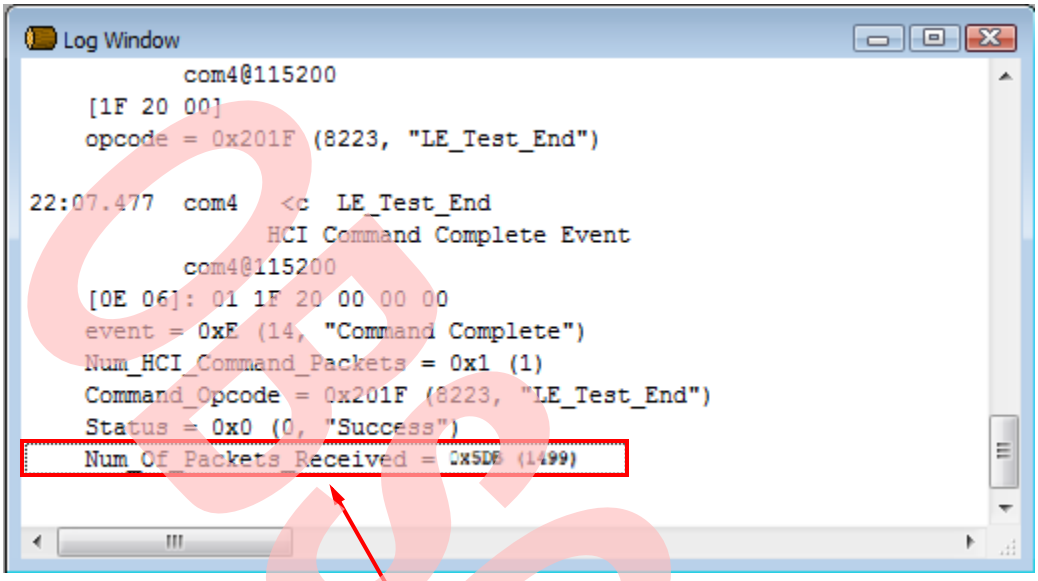


4. Click **OK**.

Note: Make sure the tester transmits the number of packets (1500 packets as specified) and the level appropriately.

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5. After the test completes the transmission, under HCI Control, select **7.8: LE Controller Commands (8 key)**, and then double-click **LE_Test_End**.
   The number of good packets received is reported in the log window.



Good Packets Received

6. Repeat Step 1 through Step 5 to make the next receive test measurement.

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Document History Page

Document Title: AN214870 - Bluetooth Low-Energy RF Testing Using BlueTool™ Document Number: 002-14870				
Rev.	**ECN No.**	**Orig. of Change**	**Submission Date**	**Description of Change**
**	–	–	01/09/2015	Initial release.
*A	5449478	UTSV	09/26/2016	Updated About This Document on page 1: Added Cypress Part Numbering Scheme on page 1. Updated to Cypress template.
*B	5883986	AESATMP9	09/14/2017	Updated logo and copyright.
*C	6439100	SELE	01/11/2019	Obsolete document. Completing Sunset Review.

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