

THIS SPEC IS OBSOLETE

Spec No: 002-15042

Spec Title: AN215042 - DOWNLOADING FIRMWARE TO CYW20732 MODULES USING BLUETOOL(TM)

Replaced by: None

AN215042

Downloading Firmware to CYW20732 Modules Using BlueTool™

Associated Part Family: CYW20732

This document describes the step-by-step process of downloading firmware to CYW20732 modules using BlueTool™ software. It is intended for developers who are using the CYW20732.

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1 About this Document

1.1 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
BCM20732	CYW20732

1.2 Acronyms and Abbreviations

In most cases, acronyms and abbreviations are defined on first use.

For a comprehensive list of acronyms and other terms used in Cypress documents, go to: http://www.cypress.com/glossary

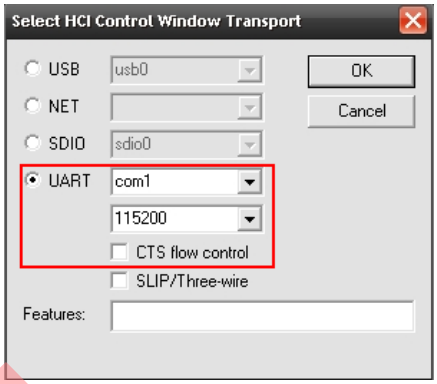
2 IoT Resources

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/).

3 Using BlueTool™ to Download Firmware

3.1 Establish Communications

1. Connect the CYW20732 reference board(s) to the computer with a UART cable and power up the device.
2. Open BlueTool™, and then, from the **View** menu, select **Log Window** to display an empty log window.
3. From the **Transport** menu, Select **HCI Control**.
4. In the Select HCI Control Window Transport window:
   a. Select **UART**, **com1**, and **115200**.
   b. Verify that **CTS flow control** is *not* selected.
   c. Click **OK** to save the changes and return to the HCI Control command window.



5. In the HCI Control Command window:
   a. Enable **HCI protocol active**.
   b. From the top-right list box, select **7.3: Host Controller & Baseband Commands** (3 key).
   c. In the main pane, double-click **Reset**.

   Note: After a successful reset, the last line in the log window will read:
   `Status = 0x0 (0, "Success")`.



3.2 Download the Firmware

1. From the BlueTool **Transport** menu, select **Download Firmware/Config**.
2. In the Select Download Firmware/Config Transport window (different title bar, but the window is the same as that shown in Step 4 on page 1):
   a. Select **UART**, **com1**, and **115200**.
   b. Verify that **CTS flow control** is *not* selected.
   c. Click **OK** to display the Download window
3. In the **Download** window, make the settings shown in the table below.

	EEPROM Settings (see Figure)	**Serial Flash Settings (see Figure)**
From the **Device configuration** drop-down list box (upper-left corner), select:		
	64-Byte	**4-KByte**
In the group near the upper-right corner:		
From the drop-down list boxes:	Select: ■ **Cortex M3 HCI** ■ **Write and verify** ■ **Chip erase**	Select: ■ **ARM HCI** ■ **Write and verify** ■ **Chip erase**
In the **Max write size** field, enter:	**16**	**48**
In the **Download minidriver** group:		
	■ Enable **Download minidriver.** ■ Click **Locate**, then **navigate** to and **select** the uart.hex file.	
In the **Download configuration record** group:		
	■ Enable **Download configuration record** ■ Click **Locate**, then **navigate** to and **select** the desired cgs/cgr file.	

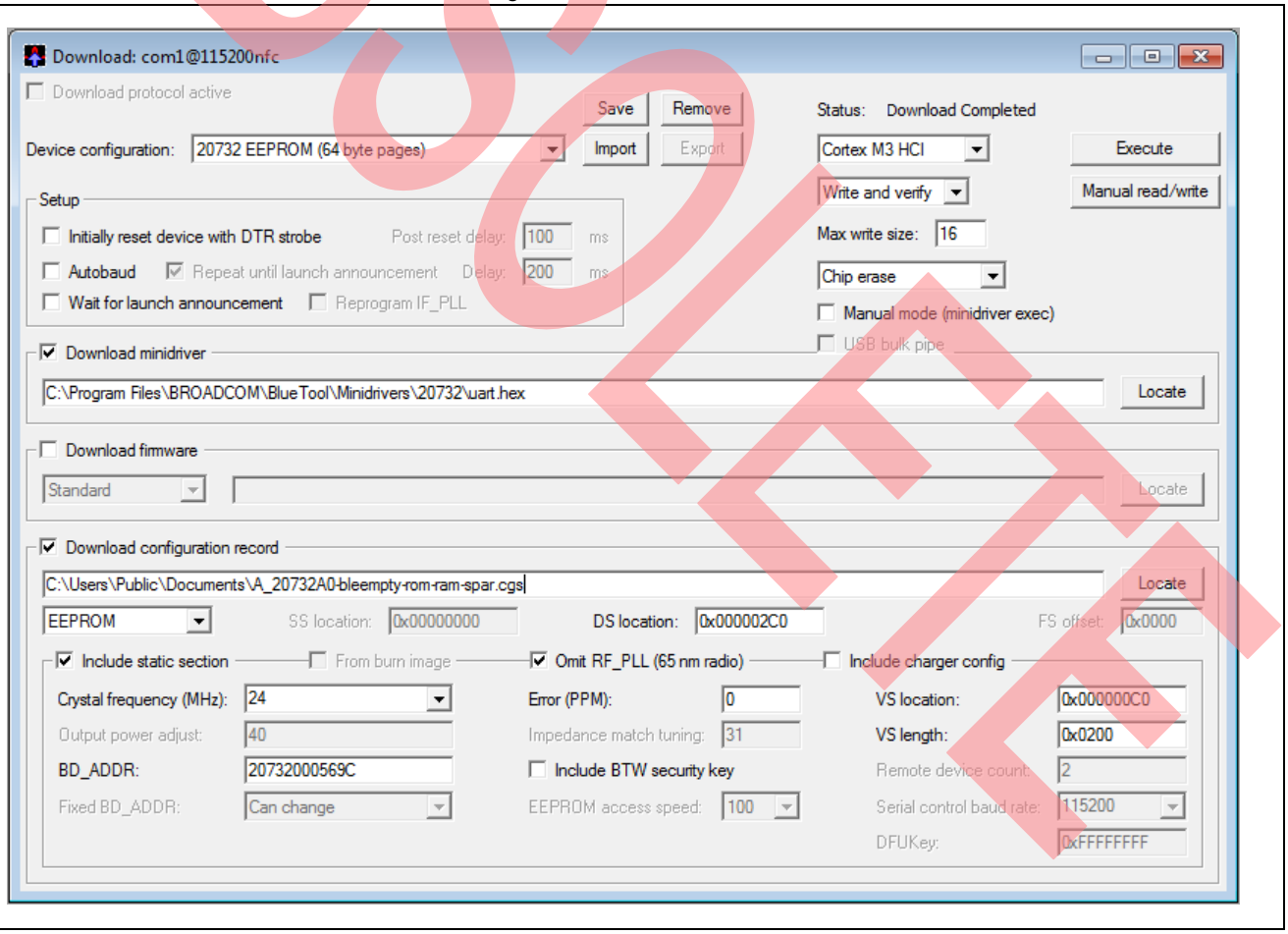
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	EEPROM Settings (see Figure)	Serial Flash Settings (see Figure)
From the drop-down list box, select:	**EEPROM** as the memory.	
In the **DS location** field, enter:	**0x000002C0**	**0x00003000**
Enable **Include static section**.		
From the **Crystal frequency (MHz)** drop-down list box, select:	**24 MHz**	**24 MHz preset**
In the **BD_ADDR field**, enter:	The desired **Bluetooth device address**.	
Enable **Omit RF_PLL (65 nm radio)**		
In the **VS Location** field, enter:	**0x000000C0**	**0x00001000**
In the **VS length** field, enter:	**0x0200**	**0x1000**
In the upper-right corner of the window, click **Execute** to begin the firmware download.		

When the download is complete, **Status** (upper-right area of the download window) will change from **Idle** to **Download completed**.

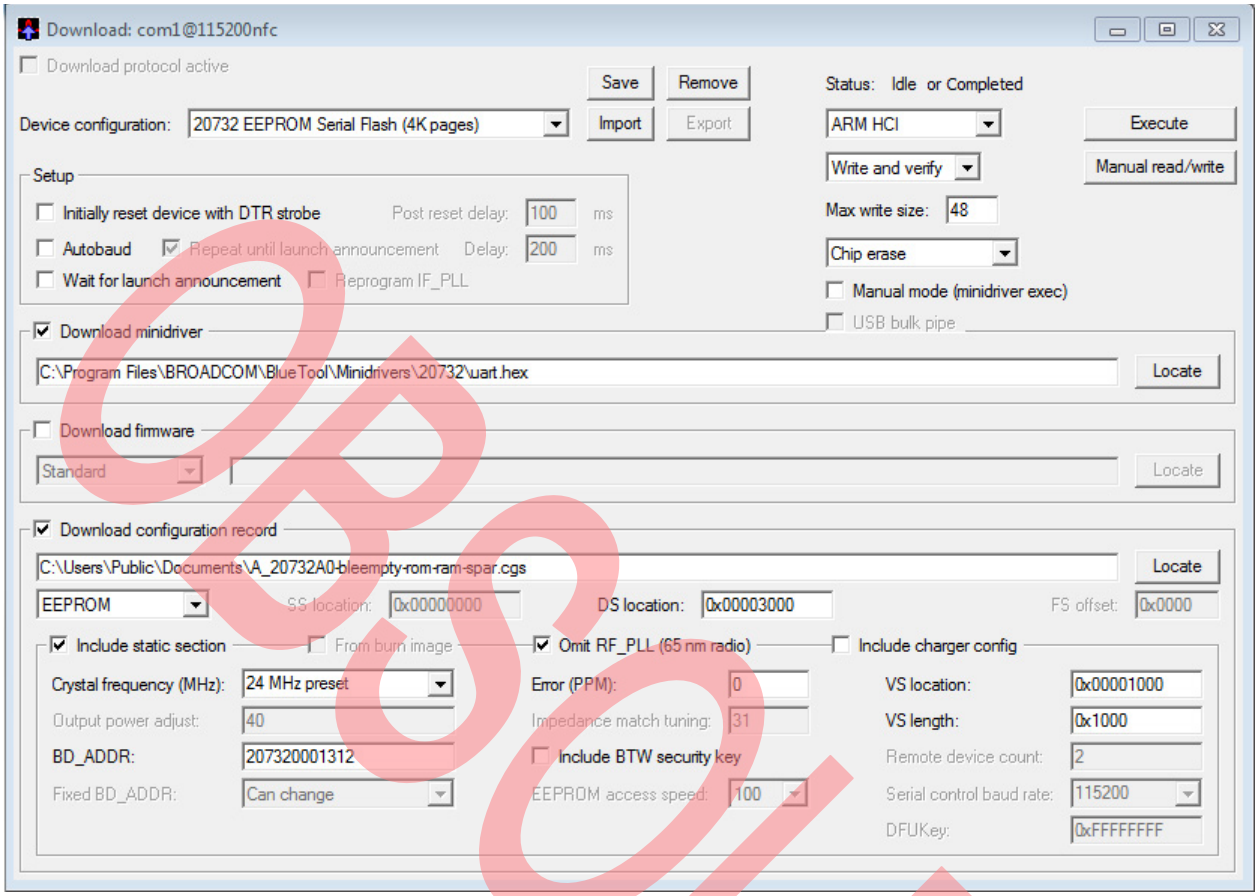
After power to the device is cycled, the CYW20732 is ready for normal operation.

Figure 1. 20732 EEPROM



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Figure 2. 20732 Serial Flash



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Document History Page

Document Title: AN215042 - Downloading Firmware to CYW20732 Modules Using BlueTool™ Document Number: 002-15042				
Rev.	**ECN No.**	**Orig. of Change**	**Submission Date**	**Description of Change**
**	–	–	02/09/2012	20732-AN100-R Initial release.
*A	5473213	UTSV	10/13/2016	Updated About this Document on page 1: Added Cypress Part Numbering Scheme on page 1. Updated to Cypress template.
*B	5881018	AESATMP8	09/12/2017	Updated logo and Copyright.
*C	6439118	SELE	01/11/2019	Obsolete document. Completing Sunset Review.

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Cypress Semiconductor
198 Champion Court
San Jose, CA 95134-1709

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