

## 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.

### 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>

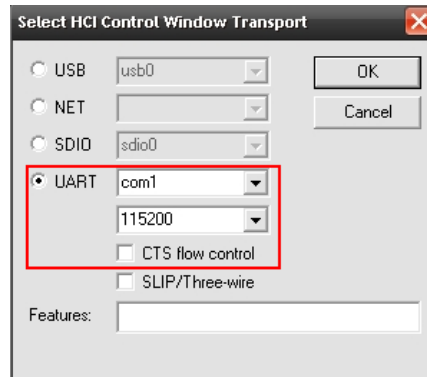
### 2 IoT Resources

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

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

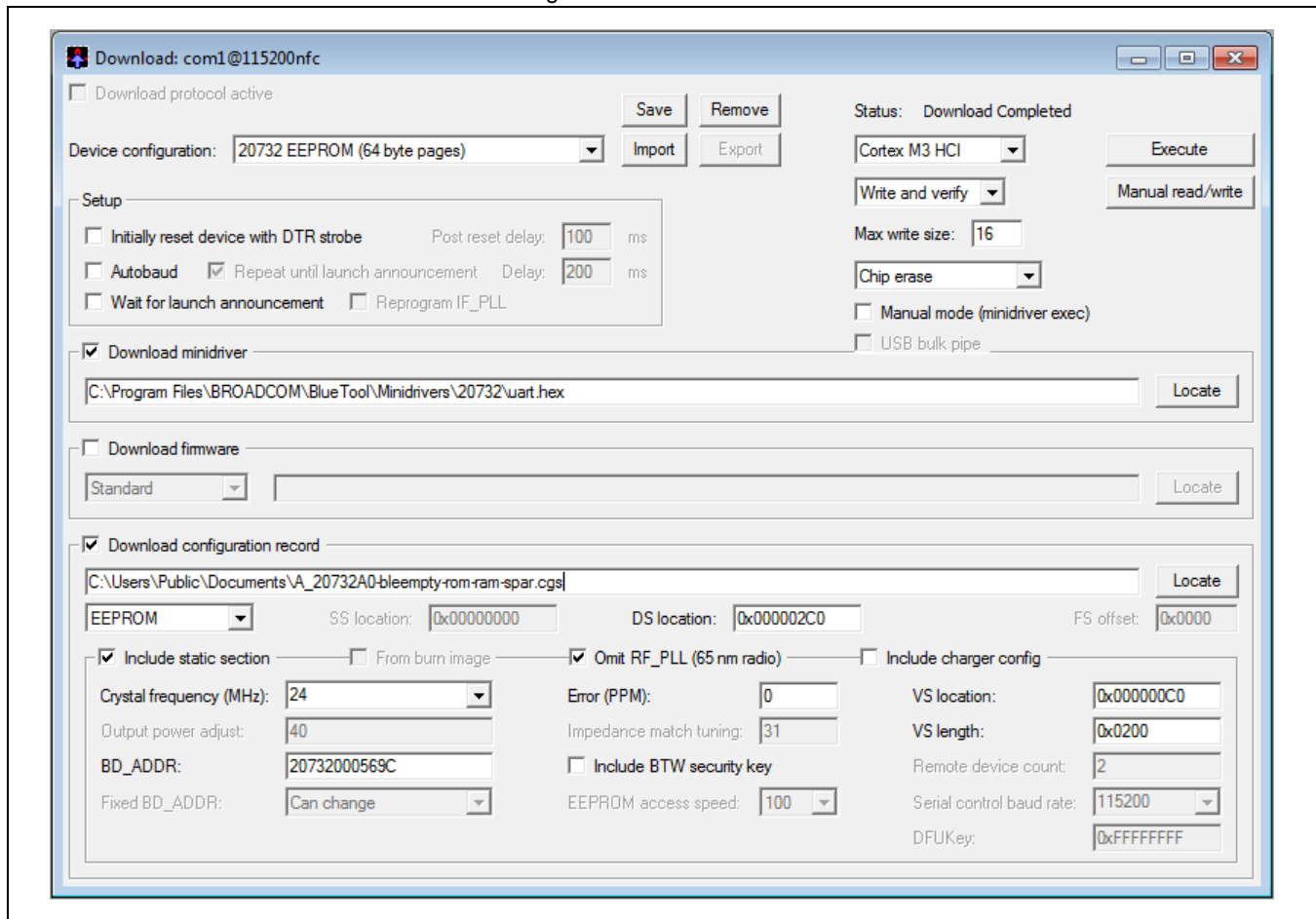
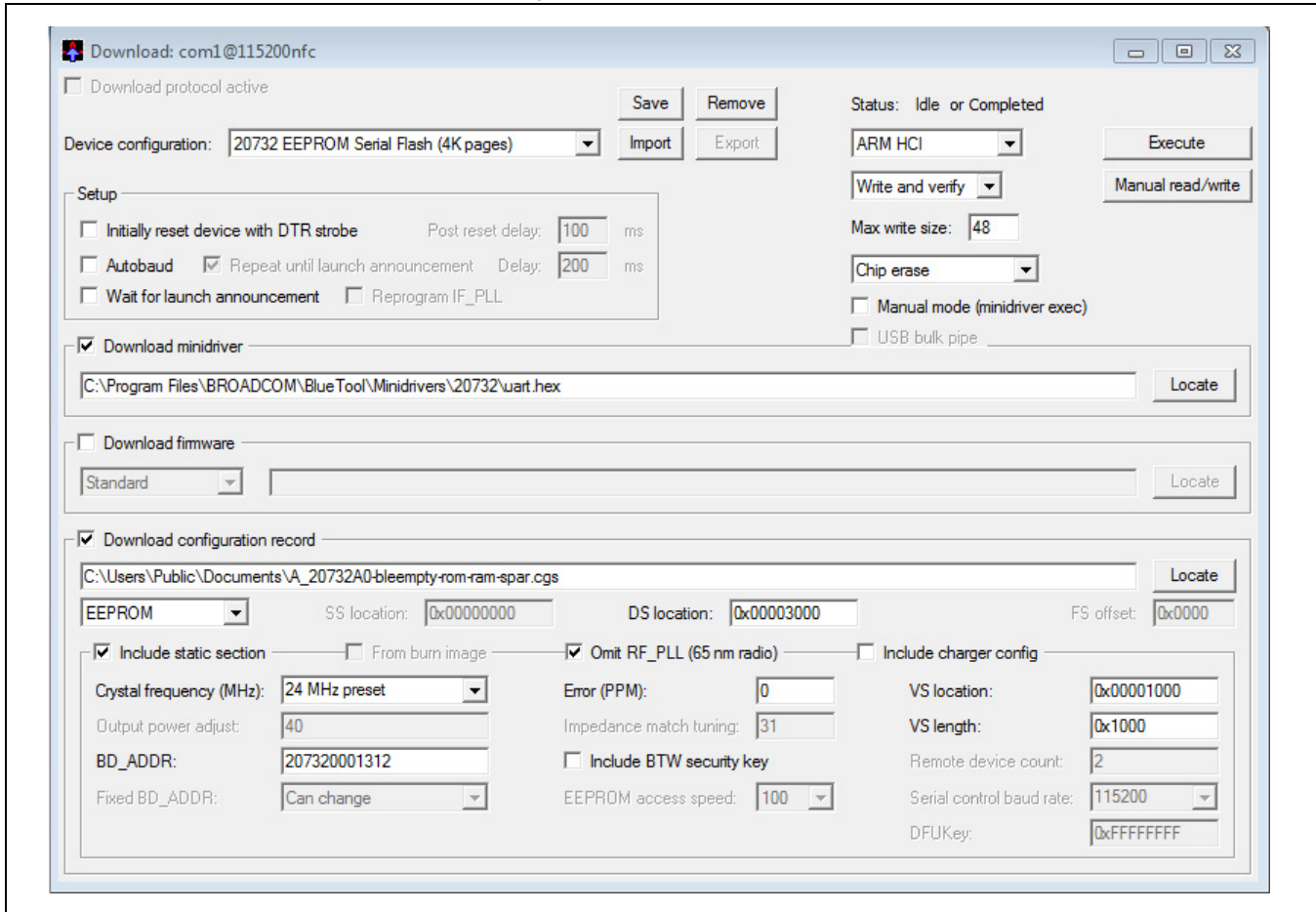


Figure 2. 20732 Serial Flash



## Document History Page

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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 to Cypress template. Added Cypress Part Numbering Scheme.
*B	5881018	AESATMP8	09/12/2017	Updated logo and Copyright.

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