

FUSB15201DV Dual Port USB TYPE-C®/PD Controller Flash Programming Guide

UM70093/D

INTRODUCTION

The FUSB15201DV Evaluation Board (EVB), together with the firmware binary provided in the release package, permits a customer to program the flash memory and non-volatile memory (NVM) of the FUSB15201DV.

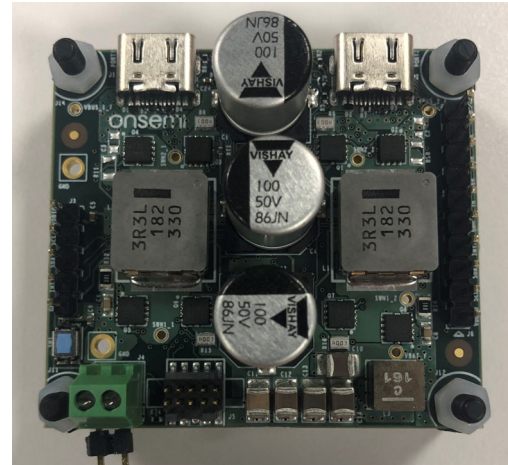
REQUIRED HARDWARE AND SETUP INSTRUCTIONS

The following hardware is required:

- A. FUSB15201DV Evaluation Board (EVB)
- B. [SEGGER J-Link Pro](#) JTAG/SWD programming and debug probe
- C. [9-Pin Cortex-M Adapter](#) to connect (A) the EVB to (B) J-Link Pro
- D. External Power Supply

To set up the hardware, refer to the itemized hardware list above and perform these steps:

1. Make sure the EVB is configured for SWD. Install R48 (0 Ω) resistor on the board.
2. Use (C) the 9-pin adapter to connect (B) the J-Link Pro to the SWD connector (J5) on the socket EVB, as shown in Figure 1.
3. Setup (D) the power supply to 12 V (~200 mA) and connect the positive and negative jumpers to the board.



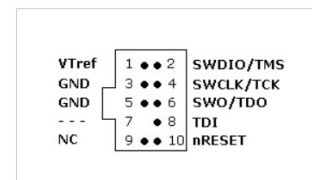
FUSB15201DUAL60WGEVB



Figure 1.



9-Pin Cortex-M Adapter with cable



9-Pin Cortex-M Adapter Pinout

Figure 2.

REQUIRED SOFTWARE

The following software items are required:

A. SEGGER J-Link Tools

Download and install the [J-Link Software and Documentation Pack](#)

Note: Please make sure SEGGER J-Flash is installed.

B. FUSB15201 Flash Loader

Go to the [FUSB15201](#) website and Click **Design Tools**.

Download the [FUSB15201DV Flash Loader](#) used by J-Link to flash the EVB.

Search for file *FUSB15201DV_FLASH_LOADER.ELF*.

Further instructions on where to place this file are indicated in the subsequent paragraph.

C. FUSB15201DV NVR Loader

Go to the [FUSB15201](#) website and Click **Design Tools**.

Download the [FUSB15201DV NVR Loader](#) used by J-Link to load data onto the EVB.

Search for file *FUSB15201DV_NVR_LOADER.ELF*.

Further instructions on where to place this file are indicated in the subsequent paragraph.

D. FUSB15201DV Device List AddOn

Go to the [FUSB15201](#) website and Click **Design Tools**.

Download the [FUSB15201DV XML AddOn](#) to add the FUSB15201DV to the J-Link device list.

Search for file *FUSB15201DV_XML_ADDON.TXT*.

ADDING FUSB15201 SUPPORT TO J-LINK

To allow FUSB15201DV to support J-Link, add the FUSB15201 to the list of J-Link supported devices. J-Link provides a device list in xml format. Add the FUSB15201 to this list, as follows:

1. Create a directory named **onsemi\FUSB15201DV** here:
`C:\Users\<USER_NAME>\AppData\Roaming\SEGGER\JLinkDevices\onsemi\FUSB15201DV.`
2. Copy the two files (B) and (C) show in section Required Software, above, into
`C:\Users\<USER_NAME>\AppData\Roaming\SEGGER\JLinkDevices\onsemi\FUSB15201DV.`
3. Rename file (D) to Devices.xml and copy into
`C:\Users\<USER_NAME>\AppData\Roaming\SEGGER\JLinkDevices\onsemi\FUSB15201DV.`

PROGRAMMING THE EVB

Complete the following steps to program the EVB:

1. Connect J-Link to the EVB:

- ◆ Open the SEGGER J-Flash and select **Create new project**, then select **Start J-Flash**.

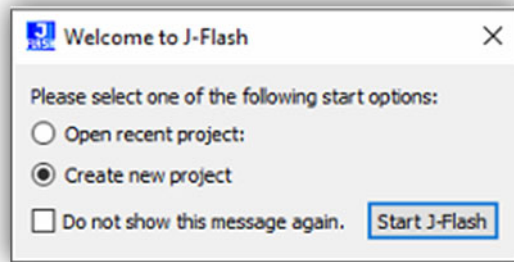


Figure 3.

- ◆ Click on the selection box (shown with a red outline below).

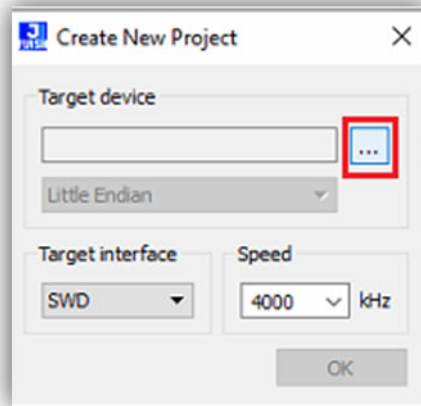


Figure 4.

- ◆ Select **FUSB15201DV**.

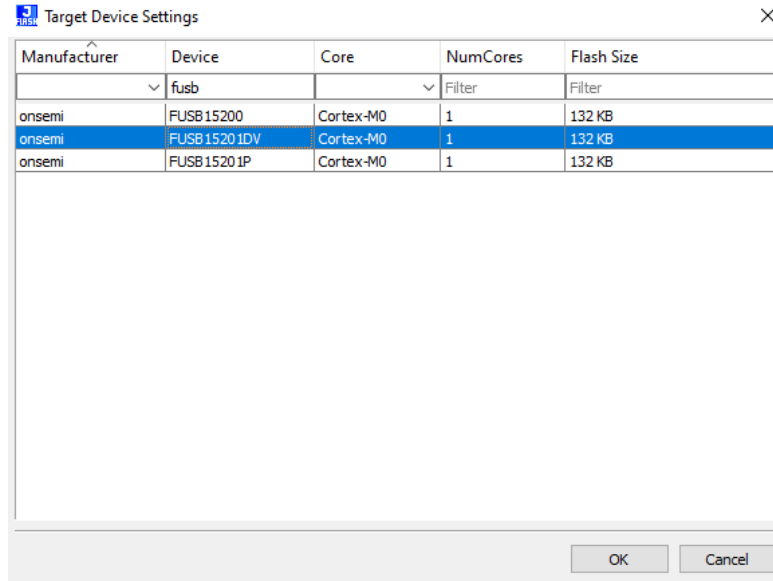


Figure 5.

- ◆ Select **Target interface: SWD**.
- ◆ Select **Speed: 4000 kHz**.
- ◆ Click **OK** for the new project to be created.

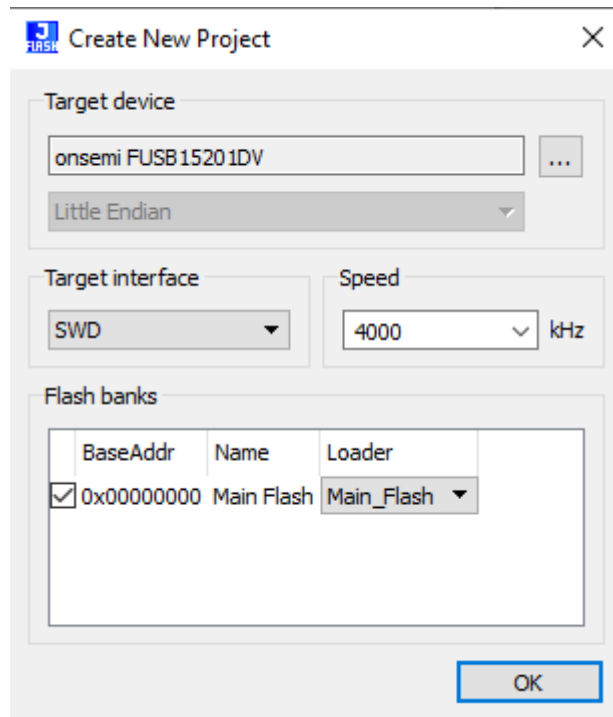


Figure 6.

- ◆ From the menu, choose **Target**.

- ◆ From the resulting window, choose **Connect**.
- If the connection is established, the log shows a message indicating a successful connection.

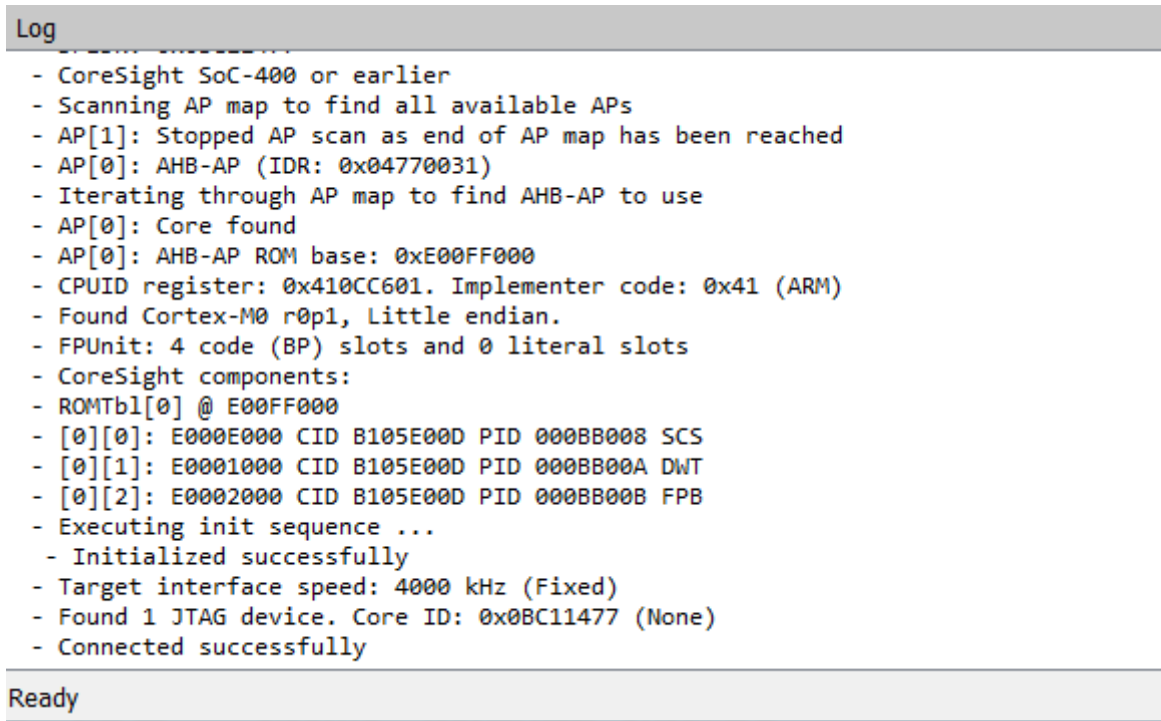


Figure 7.

2. Erase the chip:
- ◆ From the menu, choose **Target**.
 - ◆ From the resulting window, choose **Manual Programming**.
 - ◆ Select **Erase Chip**. J-Flash erases the chip and reports a successful Erase operation.

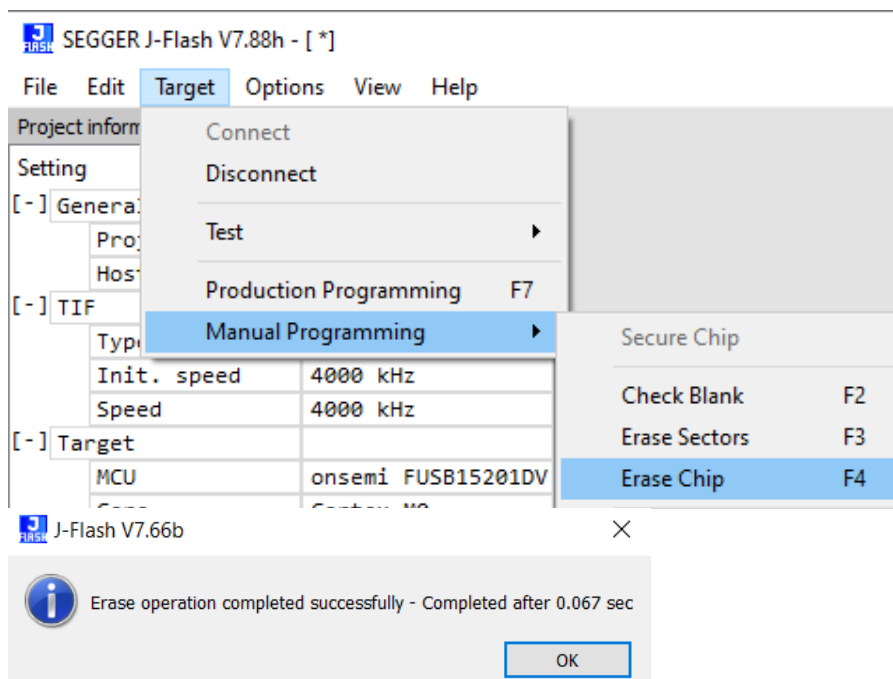


Figure 8.

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3. Flash the converted firmware image onto the chip:

- ◆ Once the firmware image has been converted successfully, you can program the chip by loading a *.bin* or *.hex* file onto the chip, as follows:
 - ◆ Drag an appropriate *.bin* or *.hex* file into the J-Flash window. For *.bin* files, J-Flash asks for a start address.

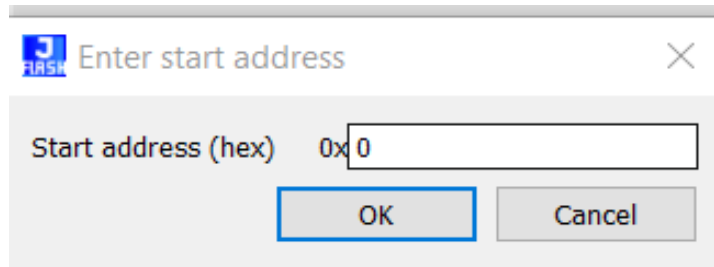


Figure 9.

- ◆ After you select a start address for a *.bin* or load a *.hex* file, J-Flash shows the file in HEX format.

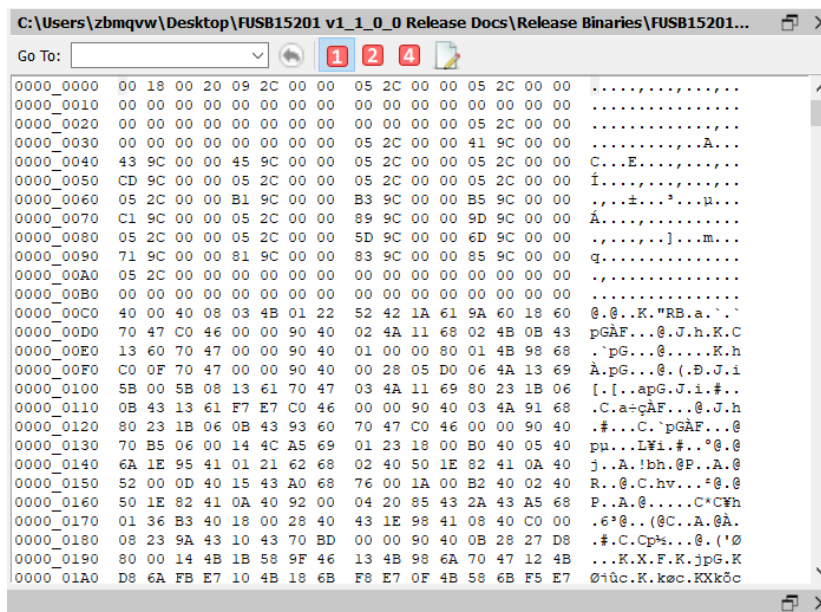


Figure 10.

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- ◆ Once you have confirmed that the file is correct, the file can be flashed, either by pressing F6 or by using the **Target** context menu to **Program & Verify** the chip.

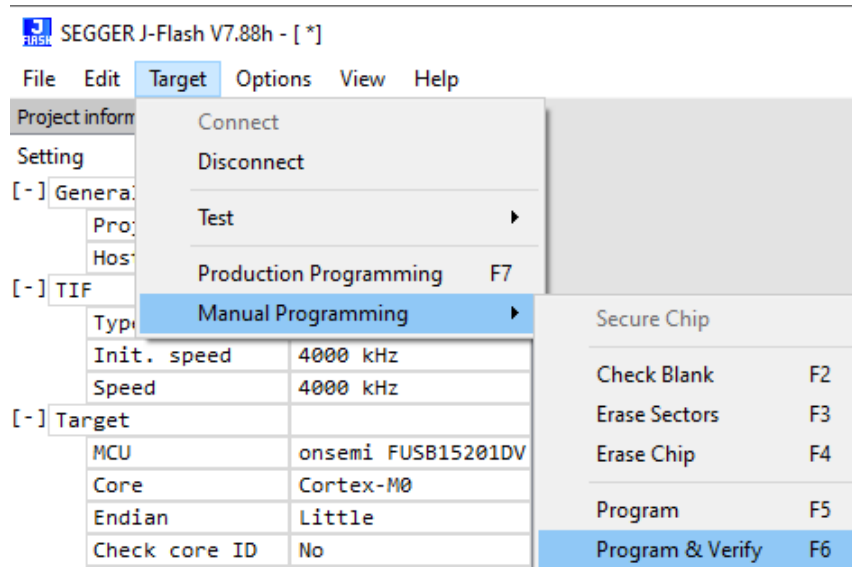


Figure 11.

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