FUSB15200 Dual Port USB TYPE-C/PD Controller Flash Programming Guide

FUSB15200EVBFPG

Introduction

The FUSB15200 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 FUSB15200.

Required Hardware and Setup Instructions

A. FUSB15200 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

- Use (C) the 9−Pin Adapter to connect (B) the J−Link Pro to the SWD connector (J15) on the socket EVB

- Connect (D) the Power Supply GND to the GND pin of (A) the EVB

- Setup (D) the Power Supply to 12 V (~200 mA) and connect to VBAT pin of (A) the EVB

Required Software

A. SEGGER J−Link Tools

Please download and install the SEGGER J−Link utility

Note: We recommend using version 7.92d. Please make sure SEGGER J−Flash is installed.

B. FUSB15200 Flash Loader

Please download the FUSB15200 Flash Loader used by J−Link to flash the EVB.
Search for file FUSB15200_FLASH_LOADER.ELF
Further instructions on where to place this file will be indicated in the subsequent paragraph.

C. FUSB15200 Device List AddOn

Please download the FUSB15200 Device AddOn to add the FUSB15200 to the device list xml.
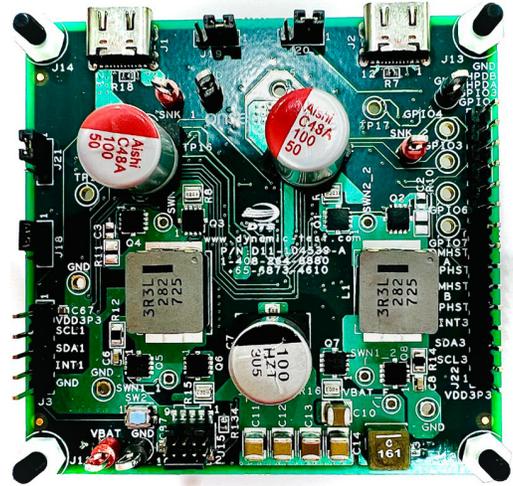Search for file FUSB15200_XML_ADDON.TXT

Figure 1. FUSB15200 DUAL PORT 60 W EVB

Adding FUSB15200 Support to J–Link

There is a need to add the FUSB15200 to the list of J–Link supported devices.

J–Link requires a device support to be added in xml format as follow:

- Create a directory named onsemi\FUSB15200 as follow:
  C:\Users\<USER_NAME>\AppData\Roaming\SEGGER\JLinkDevices\onsemi\FUSB15200\

- Rename the file (C) FUSB15200_XML_ADDON.TXT to Devices.xml and place it in the following directory:
  C:\Users\<USER_NAME>\AppData\Roaming\SEGGER\JLinkDevices\onsemi\FUSB15200\

- Copy the file (B) from section "Required Software" into
  C:\Users\<USER_NAME>\AppData\Roaming\SEGGER\JLinkDevices\onsemi\FUSB15200\

Programming the FSUB15200 Flash

Complete the following 4 steps:

      a. Connect J–Link to the EVB
      b. Erase the Flash Content
      c. Program the Flash Content
      d. Validate Flash Content

a) Connect J–Link to the EVB

- Open the SEGGER J–Flash and select "Create new project" then "Start J–Flash"
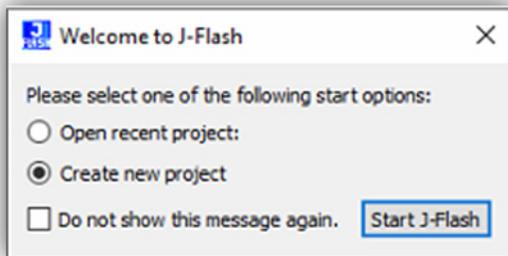
- Click on the selection box
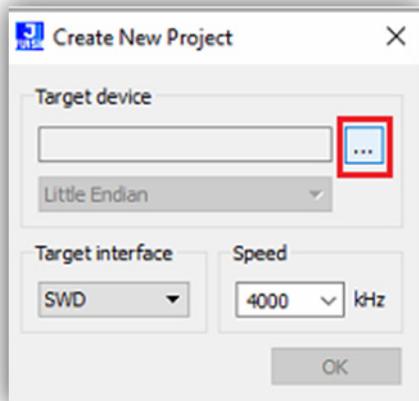
- Select FUSB15200
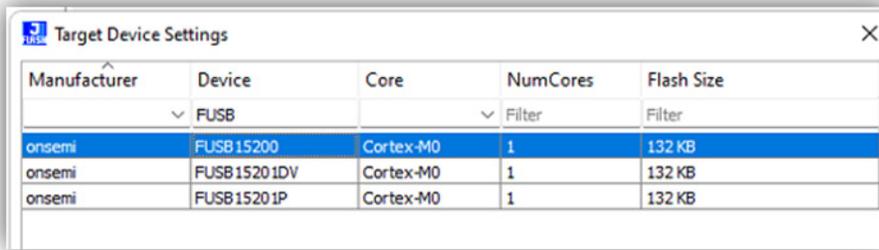
- Select Target interface: SWD
- Select Speed: 4000 kHz
- Click OK for the new project to be created
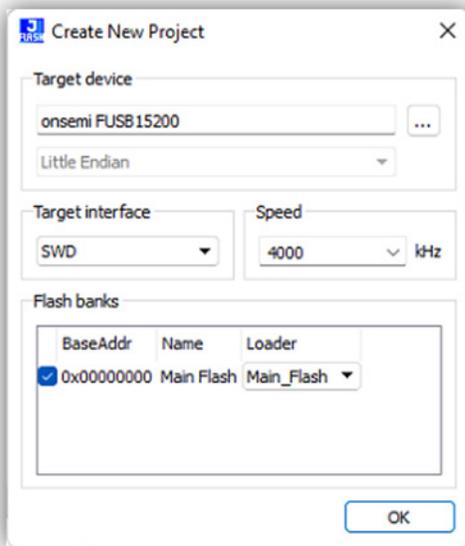
- From the menu go to Target
- Then go to Connect
 If the connection is established, you should see a message on the Log indicating a successful connection.
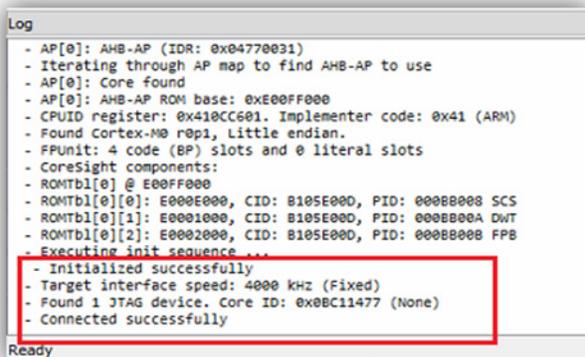
b) Erase the Flash Content

- 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.
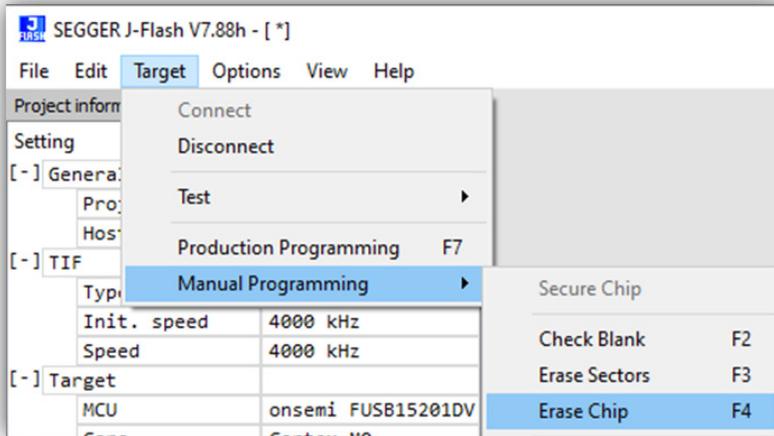
c) Program the Flash Content

- Drag the appropriate .bin file into the J–Flash window.
  J–Flash asks for a start address, please accept the default 0x0 as follow:
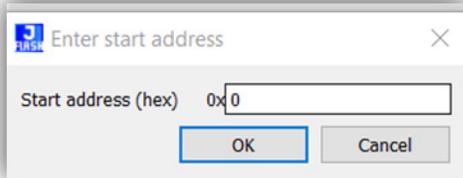
- Once you have confirmed the starting address, the file can be flashed, either by pressing F6 or by using the **Target** context menu to **Program & Verify** the chip.
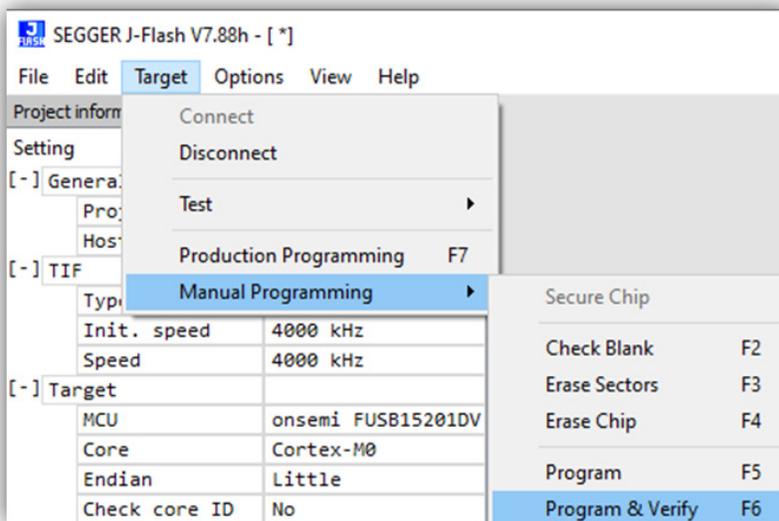
● Upon successful flash programming, J–Flash will display the following:

ADDITIONAL INFORMATION

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