

FUSB15201 Dual Port USB Type-C/PD Controller Flash Programming Guide

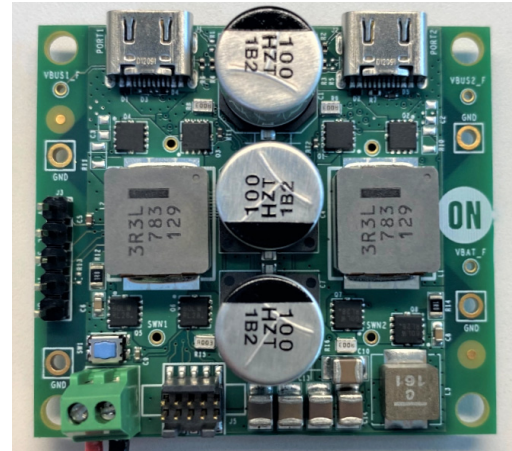
FUSB15201EVBFPG

Introduction

The FUSB15201 EVB along with the firmware binary provided in the release package will allow customer a complete evaluation of the Type-C/PD solution as stand-alone controller.

Description

This document should be used in conjunction with the Start-Up Guide for firmware binary download to the FUSB15201 EVB.



Tool Installation Guide

1. Install SEGGER J-LINK if not yet installed.
 - Download J-Link Software and Documentation Pack from https://www.segger.com/downloads/jlink/JLink_Windows.exe
 - Install the binary to default location
2. Download the JLINK support files from **onsemi** website and copy files under **C:\Program Files (x86)\SEGGER\JLink\Devices\ON Semiconductor\FUSB15200**. If directory **FUSB15200** does not exist create it.



FUSB15200_Flash_Loader.elf



FUSB15200_NVR_Loader.elf

3. Open the file **C:\Program Files (x86)\SEGGER\JLink\JLinkDevices.xml** in text editor and add the following lines as shown below.

```
JLinkDevices.xml
<Device>
  <ChipInfo Vendor="ON Semiconductor" Name="FUSB15200" Core="JLINK_CORE_CORTEX_M0" WorkRAMAddr="0x20000000" WorkRAMSize="0x1800" />
  <FlashBankInfo Name="Main Flash" BaseAddr="0x00000000" MaxSize="0x21000" Loader="Devices\ON Semiconductor\FUSB15200\FUSB15200_Flash_Loader.elf" LoaderType="FLASH_ALGO_TYPE_OPEN" AlwaysPresent="1" />
  <!-- <FlashBankInfo Name="NVR Flash" BaseAddr="0x08000000" MaxSize="0x800" Loader="Devices\ON Semiconductor\FUSB15200\FUSB15200_NVR_Loader.elf" LoaderType="FLASH_ALGO_TYPE_OPEN" /> -->
</Device>
```

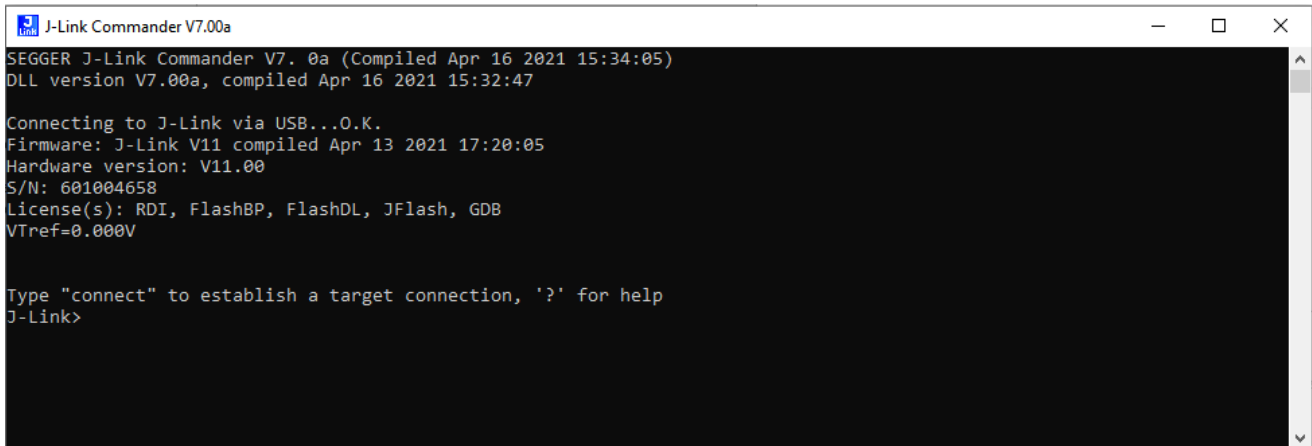
Add below text as a new entry in the XML device XML file.

```
<Device>
  <ChipInfo Vendor="ON Semiconductor" Name="FUSB15200" Core="JLINK_CORE_CORTEX_M0" WorkRAMAddr="0x20000000" WorkRAMSize="0x1800" />
  <FlashBankInfo Name="Main Flash" BaseAddr="0x00000000" MaxSize="0x21000" Loader="Devices\ON Semiconductor\FUSB15200\FUSB15200_Flash_Loader.elf" LoaderType="FLASH_ALGO_TYPE_OPEN" AlwaysPresent="1" />
  <!-- <FlashBankInfo Name="NVR Flash" BaseAddr="0x08000000" MaxSize="0x800" Loader="Devices\ON Semiconductor\FUSB15200\FUSB15200_NVR_Loader.elf" LoaderType="FLASH_ALGO_TYPE_OPEN" /> -->
</Device>
```

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Running JLink Commander

1. Open JLink Commander and from search bar and launch

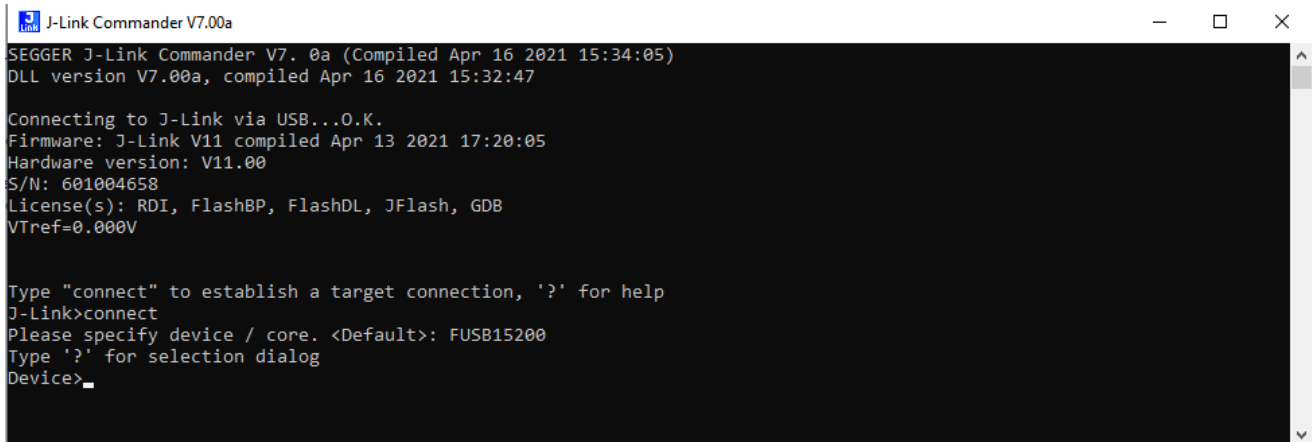


```
J-Link Commander V7.00a
SEGGER J-Link Commander V7. 0a (Compiled Apr 16 2021 15:34:05)
DLL version V7.00a, compiled Apr 16 2021 15:32:47

Connecting to J-Link via USB...O.K.
Firmware: J-Link V11 compiled Apr 13 2021 17:20:05
Hardware version: V11.00
S/N: 601004658
License(s): RDI, FlashBP, FlashDL, JFlash, GDB
VTref=0.000V

Type "connect" to establish a target connection, '?' for help
J-Link>
```

2. Type connect and hit enter



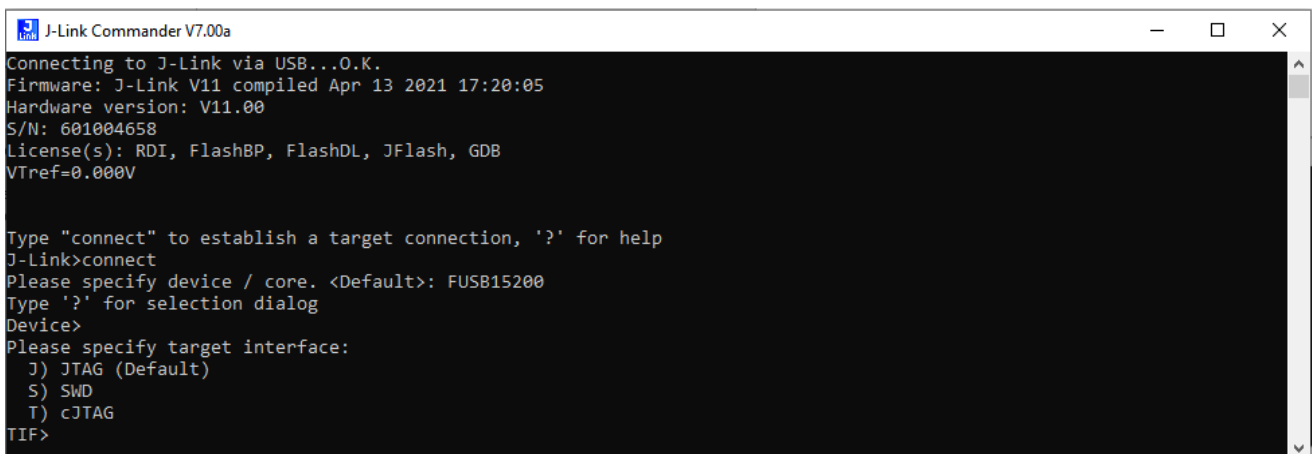
```
J-Link Commander V7.00a
SEGGER J-Link Commander V7. 0a (Compiled Apr 16 2021 15:34:05)
DLL version V7.00a, compiled Apr 16 2021 15:32:47

Connecting to J-Link via USB...O.K.
Firmware: J-Link V11 compiled Apr 13 2021 17:20:05
Hardware version: V11.00
S/N: 601004658
License(s): RDI, FlashBP, FlashDL, JFlash, GDB
VTref=0.000V

Type "connect" to establish a target connection, '?' for help
J-Link>connect
Please specify device / core. <Default>: FUSB15200
Type '?' for selection dialog
Device>
```

If text entry in Step #3 in Tools installation guide is added correctly, you should see FUSB15200 as device default.

3. Press the Enter key to accept the default of FUSB15200



```
J-Link Commander V7.00a
Connecting to J-Link via USB...O.K.
Firmware: J-Link V11 compiled Apr 13 2021 17:20:05
Hardware version: V11.00
S/N: 601004658
License(s): RDI, FlashBP, FlashDL, JFlash, GDB
VTref=0.000V

Type "connect" to establish a target connection, '?' for help
J-Link>connect
Please specify device / core. <Default>: FUSB15200
Type '?' for selection dialog
Device>
Please specify target interface:
J) JTAG (Default)
S) SWD
T) cJTAG
TIF>
```

4. From selection above, type S and press enter for default connection speed @ 4000 KHz.

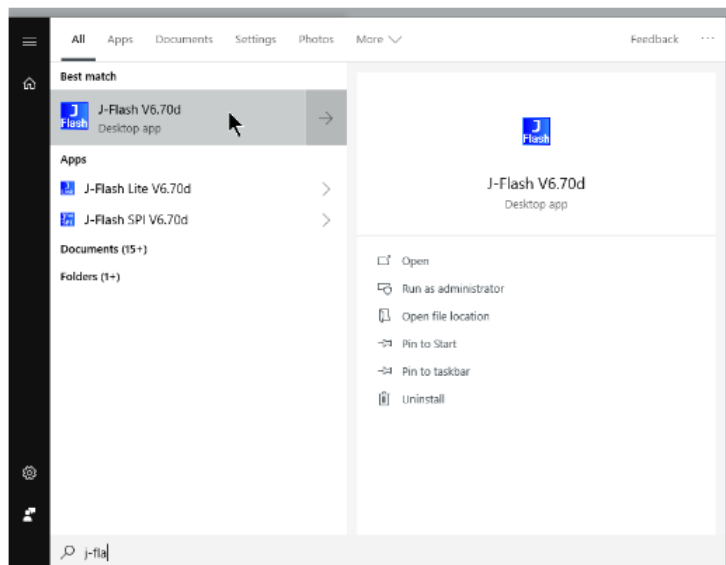
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Your JLink connection should display like what is shown below.

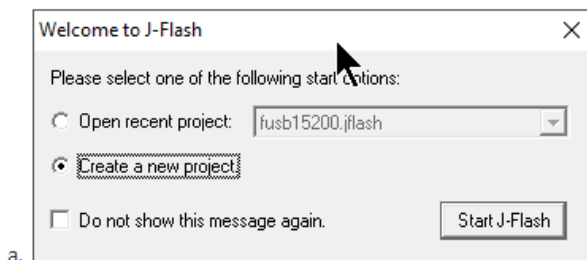
```
J-Link Commander V7.00a
DPIDR: 0x08C11477
Scanning AP map to find all available APs
AP[1]: Stopped AP scan as end of AP map has been reached
AP[0]: AHB-AP (IDR: 0x04770031)
Iterating through AP map to find AHB-AP to use
AP[0]: Core found
AP[0]: AHB-AP ROM base: 0xE00FF000
CPUID register: 0x410CC601. Implementer code: 0x41 (ARM)
Found Cortex-M0 r0p1, Little endian.
FPUnit: 4 code (BP) slots and 0 literal slots
CoreSight components:
ROMTbl[0] @ E00FF000
ROMTbl[0][0]: E000E000, CID: B105E00D, PID: 000BB008 SCS
ROMTbl[0][1]: E0001000, CID: B105E00D, PID: 000BB00A DWT
ROMTbl[0][2]: E0002000, CID: B105E00D, PID: 000BB00B FPB
Cortex-M0 identified.
J-Link>
```

Running JFlash Utility

1. Run the J-Flash Utility

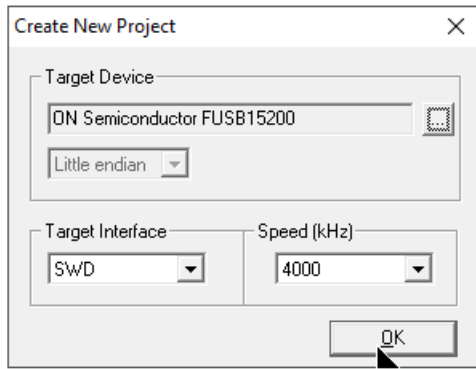


2. Select **Create a new project** if you are running the J-Flash first time.



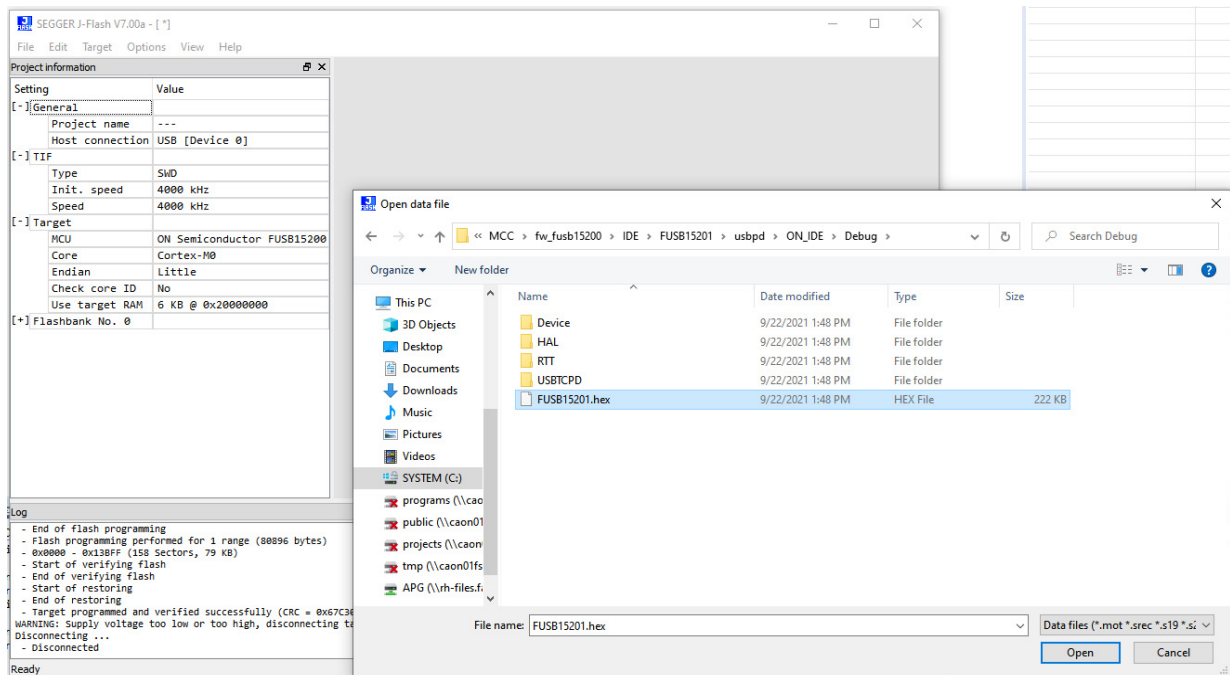
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3. Select the Target Device to use.



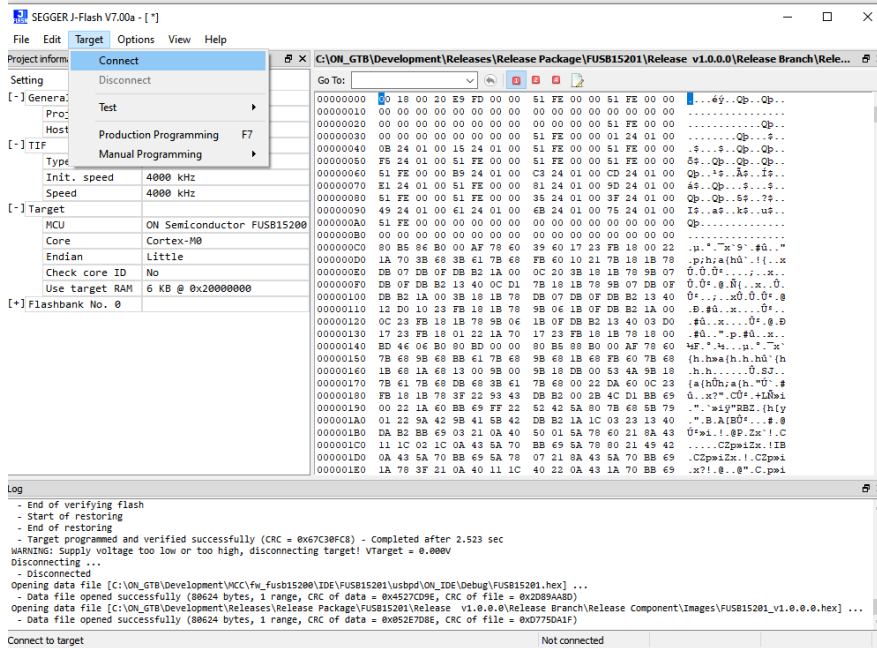
a.

4. Open .hex or .bin file to program by selecting **File → Open Data File**

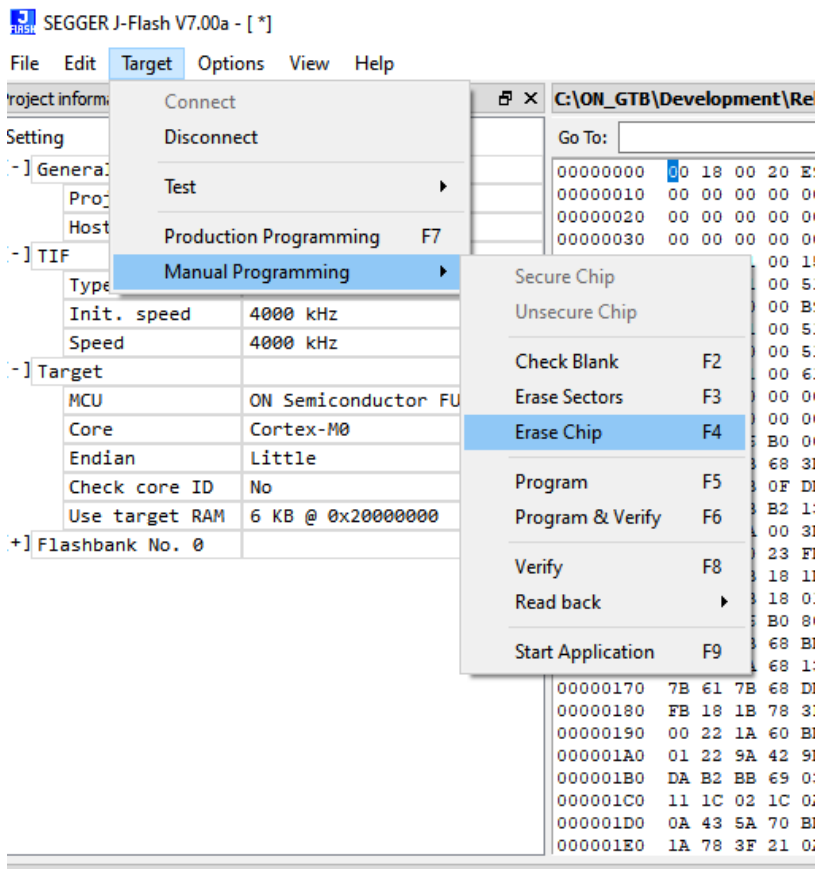


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5. Select **Target** → **Connect**

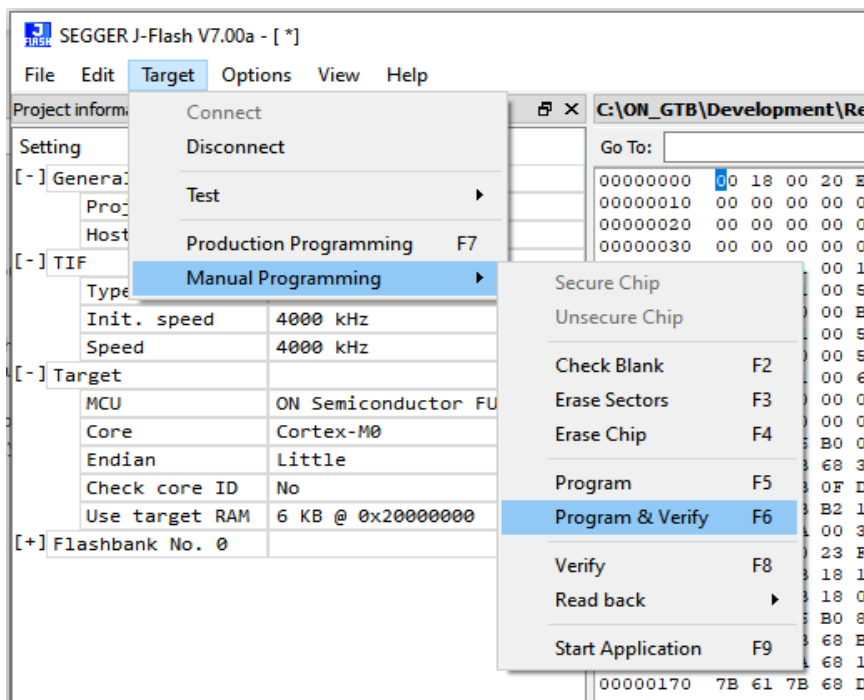


6. To erase flash content, **Target** → **Manual Programming** → **Erase Chips**



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7. To program Flash, **Target → Manual Programming → Program & Verify**



8. To start application, run **Target → Manual Programming → Start Application** or F9

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