Flashing Guideline for MGM111A256V2 (ZigBee Module)

Version	1.0
Status	Baselined
Date	11-Jul-2019

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CONTENTS

FIGURES

TABLES

1 DOCUMENT DETAILS

1.1 Document History

Version	Author		Reviewer		Approver	
	Name	**Date (DD-MM-YYYY)**	**Name**	**Date (DD-MMM-YYYY)**	**Name**	**Date (DD-MM-YYYY)**
Version1.0	Richa Prajapati	21-Jun-19	Anirudha Chougule	11-Jul-2019	Anirudha Chougule	11-Jul-2019

Version	Description of Change
Version1.0	ZigBee flashing document created and baselined

Table 1: Document History

1.2 Definition, Acronyms and Abbreviations

Definition/Acronym/Abbreviation	Description
HMI	Human Machine Interface

Table 2: Definition, Acronyms and Abbreviations

2 INTRODUCTION

- This document explains how to flash ZigBee module MGM111A256V2 (U13) of Thor96 Board (17_00666_03)
- This process should be followed before running production script on the board
- J-link plus debugger is used to flash ZigBee. One end of debugger will be connected to host PC and another end will be connected to J11 of HMI board
- We have to make 20 pin to 10 pin cable in-house.

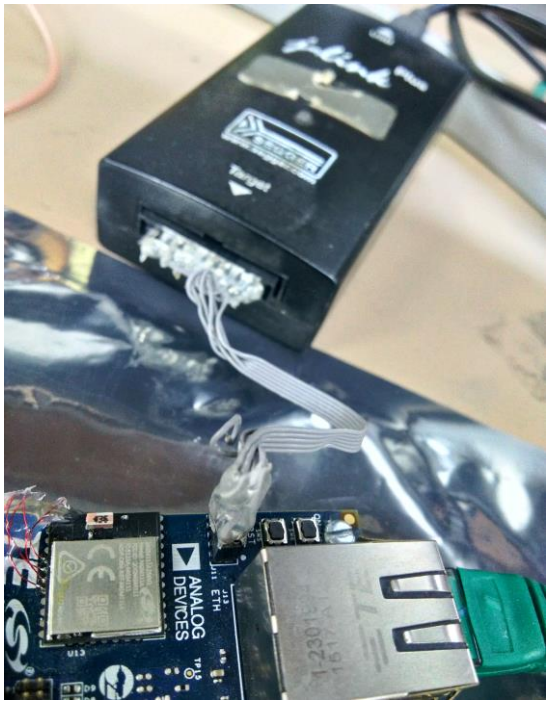


Figure 1: j-link connection

2.1 ZigBee Cable assembly

- J-link debugger has 20 pin connector. Below is the pin connection for ZigBee Flashing Cable Assembly for THOR96 Board.
- 20 pin and 10 pin connectors details is as below.

  20 pin Connector mating Part Number - 1658623-4 (TE Connectivity)
  10 pin Connector mating Part Number - 20021311-00010T4LF (Amphenol ICC (FCI))
- Below is the pin details of Thor96 board and J-link debugger

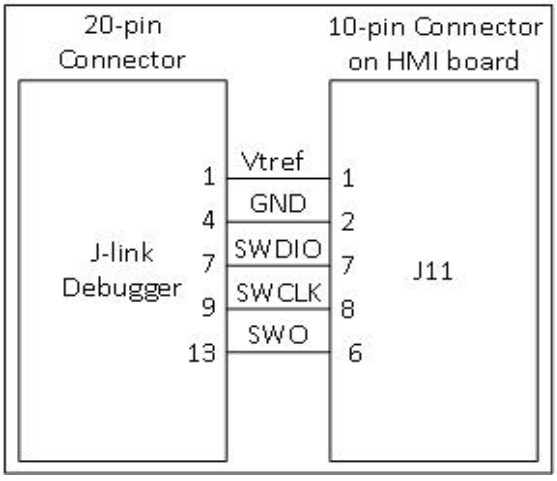


Figure 2: Connection details

2.2 Pre-requisites/Software requirements

Sr.No	Component	Specification
1	Linux Machine	Ubuntu 16.04 LTS Installed
2	Windows machine	Windows 7 64 bit
3	Simplicity studio tool	To flash ZigBee
4	In-house cable 20 pin to 10 pin	To connect Thor96 board
5	J-link flasher utility	https://www.segger.com/downloads/flasher/JLink_Linux_arm.tgz

Table 3: Pre-requisites

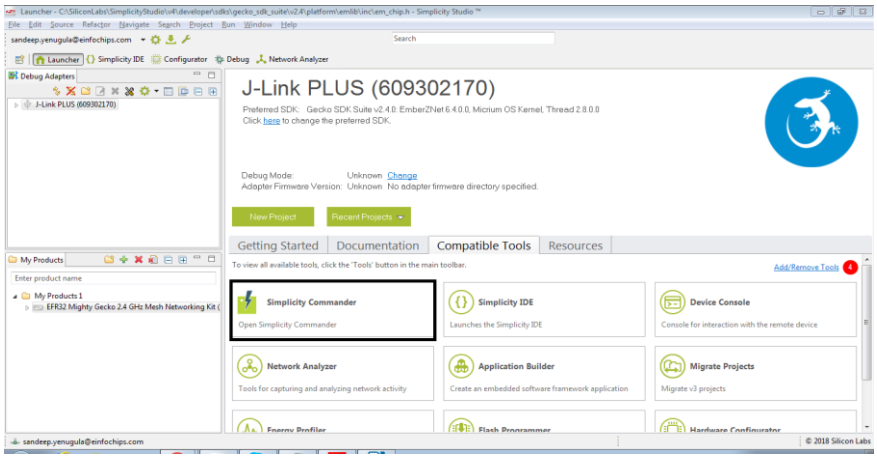
3 ZIGBEE FLASHING

- ZigBee flashing can be done with two software.

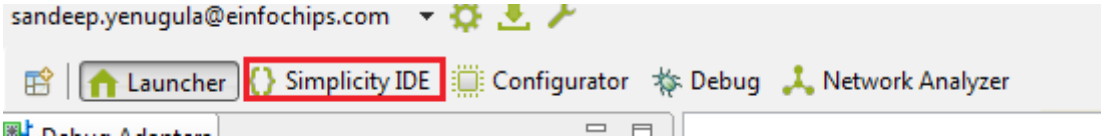
  1. Simplicity studio by silicon labs
  2. J-link flasher by J-link segger

3.1 ZigBee flashing with simplicity studio

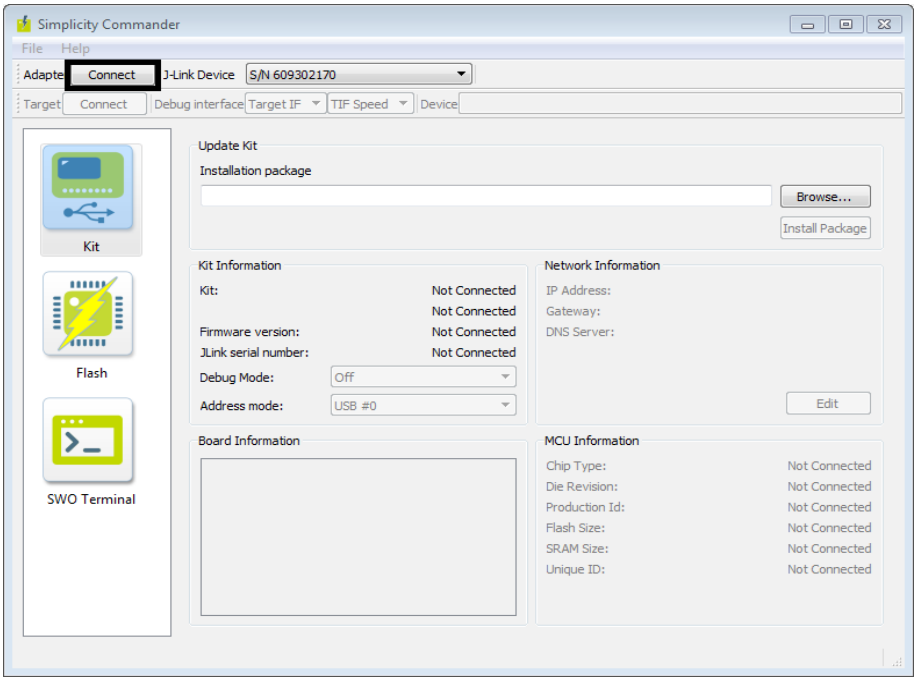
Step 1: Open Simplicity studio and select Simplicity Commander. Connect Target Device using simplicity Commander. Windows PC is mandatory for if you are flashing through simplicity studio.



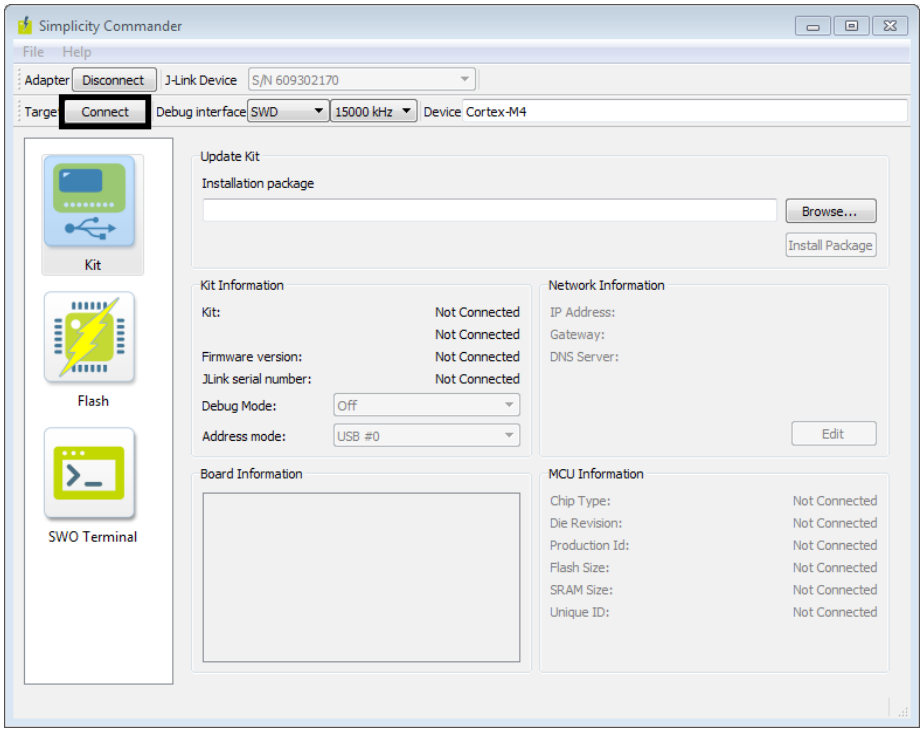
Step 2: For Program to target device, press flash button.



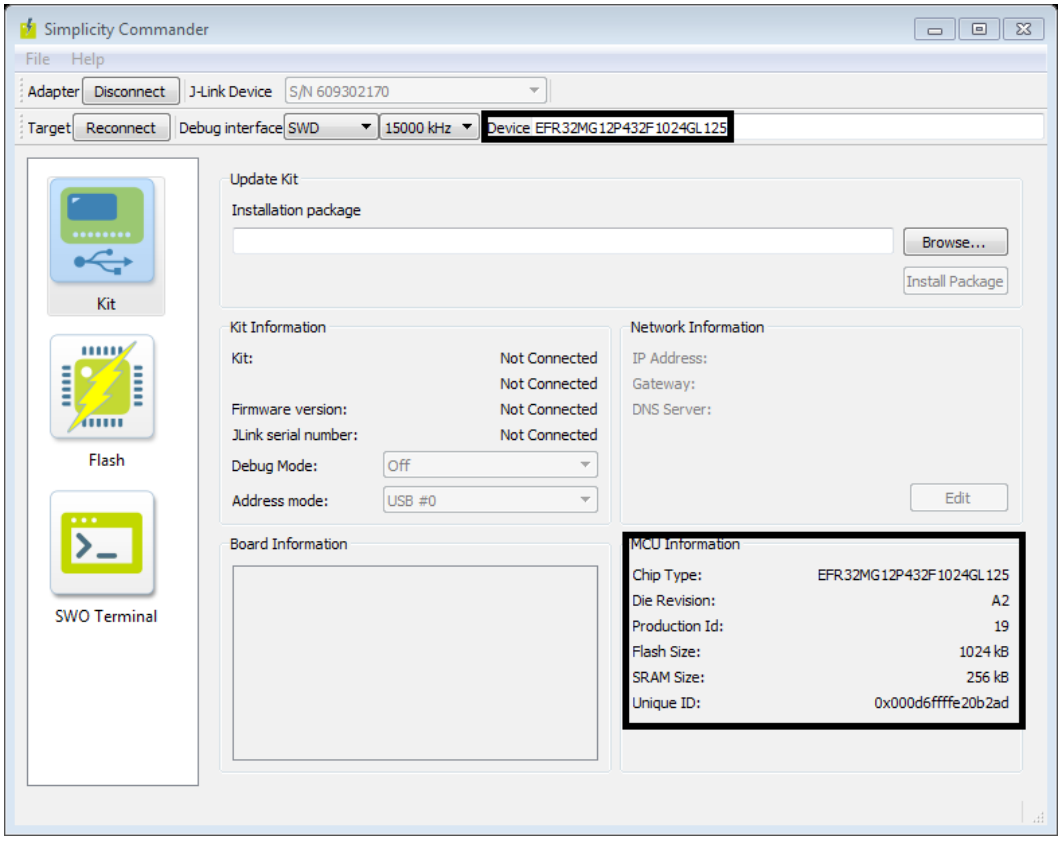
Step 3: Press Connect target device as below.



Step 4: Press button to connect Target device.

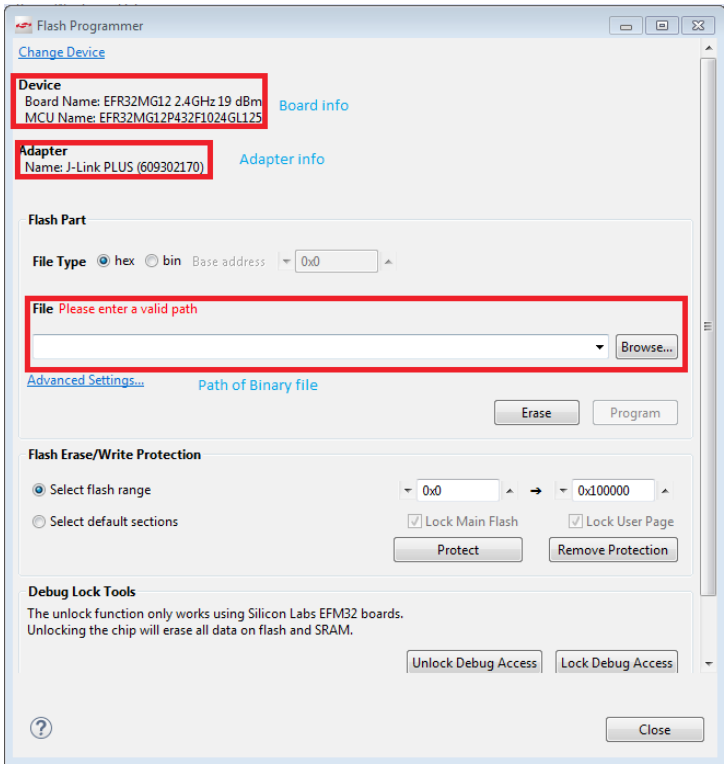


Step 5: Get information of Device which is connected.



Step 6: After device is detected, first erase the chip. And Flash below two files in sequence.

1) bootloader-spi-ezsp_MGM111A256V2-combined.s37
2) ncp-spi_MGM111A256V2_NEW.hex

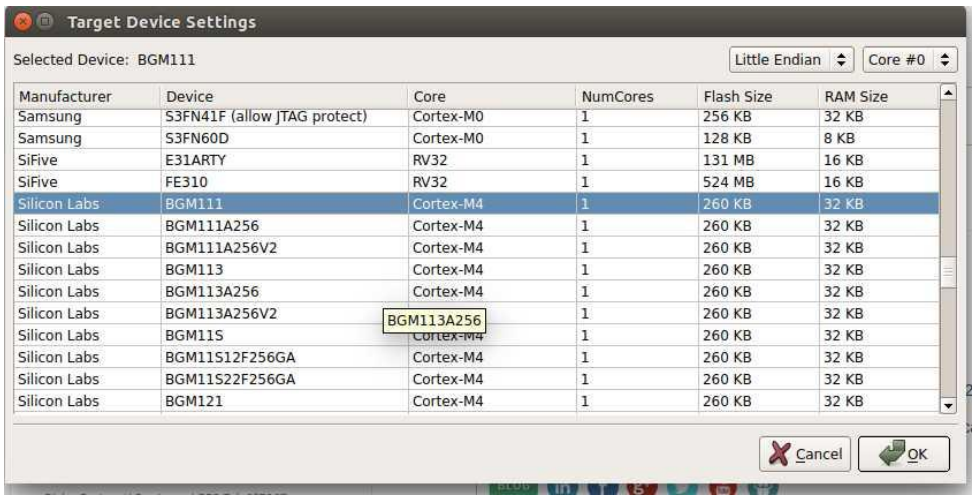


3.2 ZigBee flashing with J-Link flasher

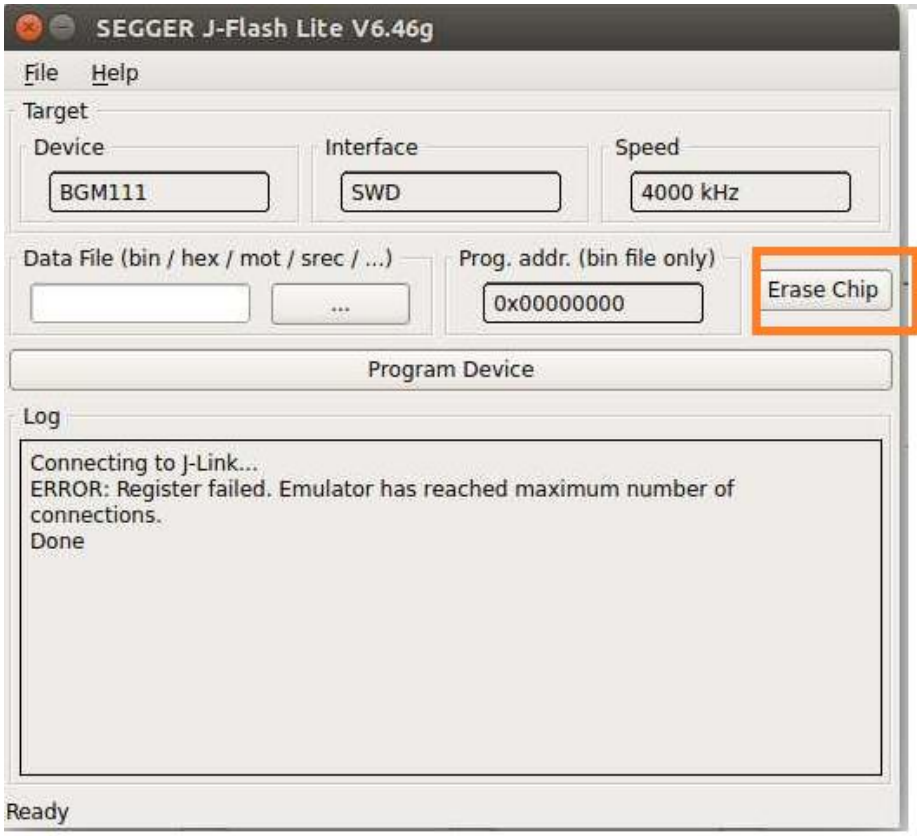
Step 1: Download the utility from below link. This utility is for Linux only.

https://www.segger.com/downloads/flasher/JLink_Linux_arm.tgz

Step 1: Download the utility from below link. Open the J-link segger lite from the folder which is plug and play application. Select the device from silicon labs “BGM111”

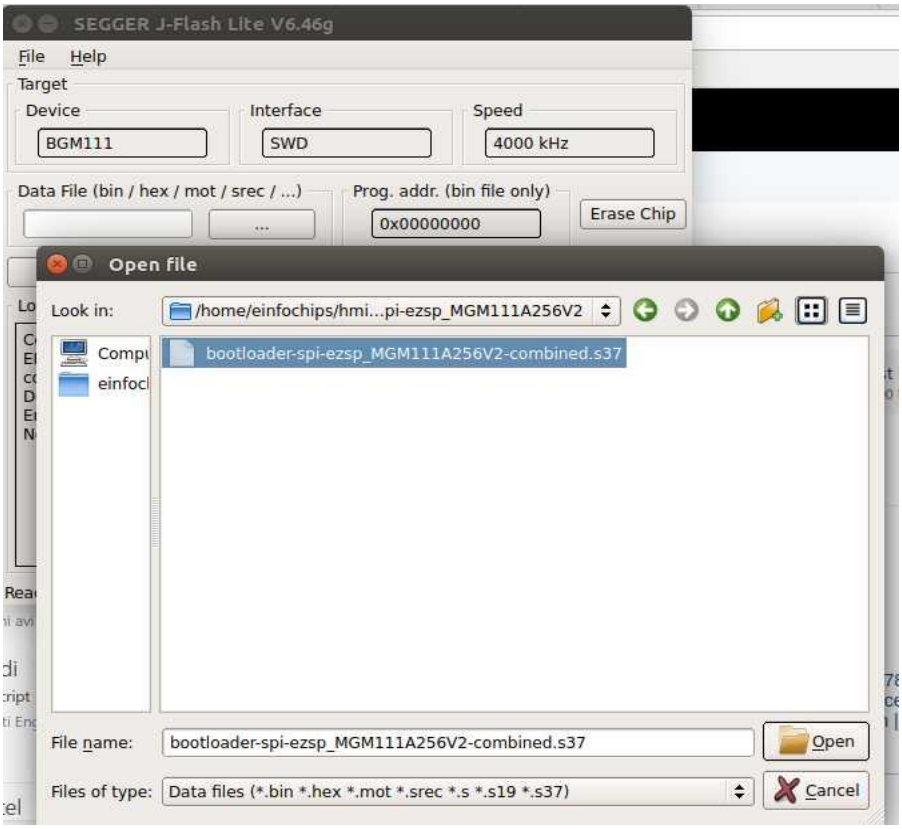


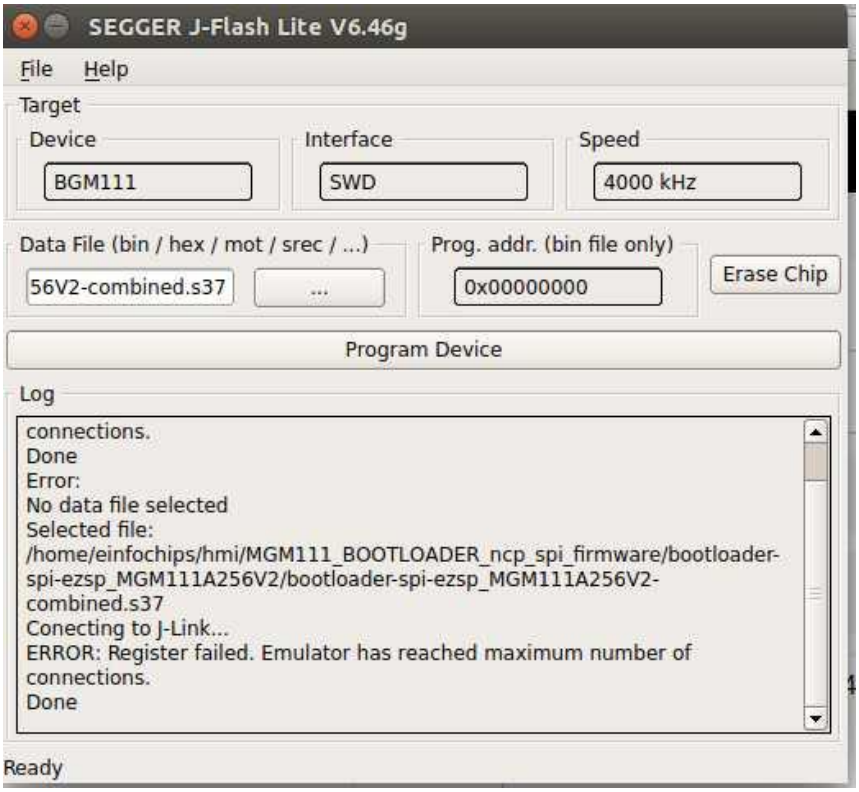
Step 2: After selecting the device, erase the chip



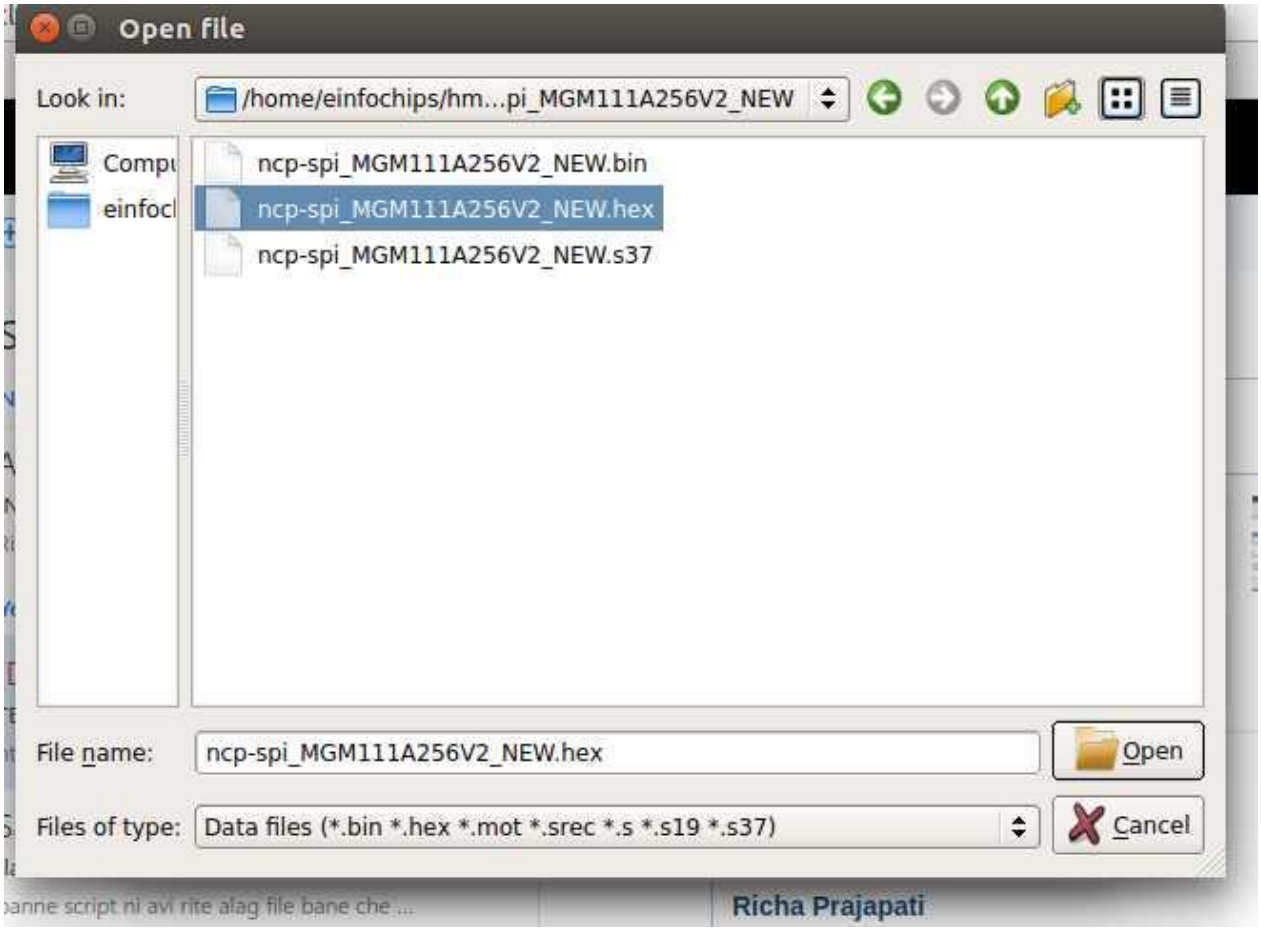
Step 3: After erasing the chip successfully, flash below two files in sequence.

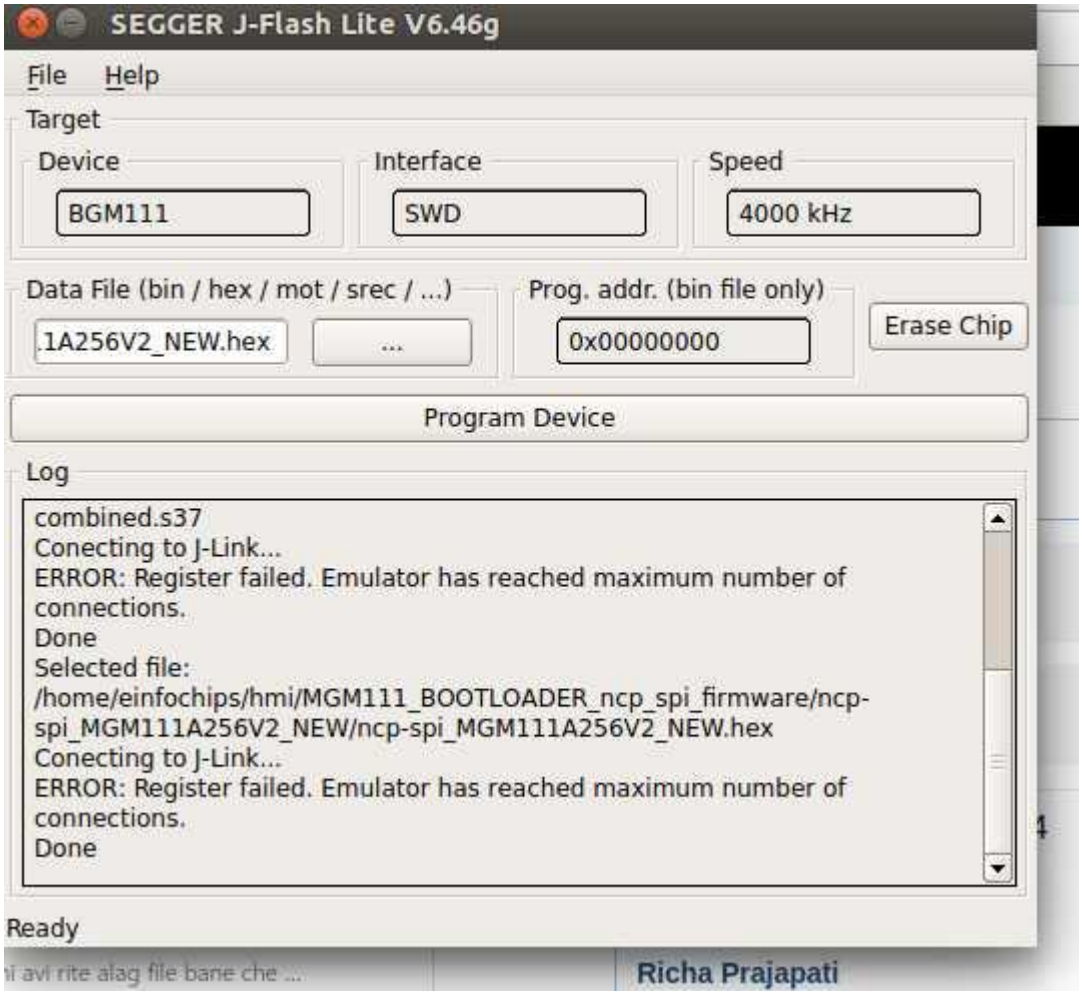
1) bootloader-spi-ezsp_MGM111A256V2-combined.s37
2) ncp-spi_MGM111A256V2_NEW.hex





Step 3: Flash hex file




SEGGER J-Flash Lite V6.46g
File
Help
Target
Device
BGM111
Interface
SWD
Speed
4000 kHz
Data File (bin / hex / mot / srec / ...)
1A256V2_NEW.hex
...
Prog. addr. (bin file only)
0x00000000
Erase Chip
Program Device
Log
combined.s37
Conecting to J-Link...
ERROR: Register failed. Emulator has reached maximum number of connections.
Done
Selected file:
/home/einfochips/hmi/MGM111_BOOTLOADER_ncp_spi_firmware/ncp-spi_MGM111A256V2_NEW/ncp-spi_MGM111A256V2_NEW.hex
Conecting to J-Link...
ERROR: Register failed. Emulator has reached maximum number of connections.
Done
Ready
Richa Prajapati