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DESIGN DOCUMENT

Software Programming Manual

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Authorised Signatory

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1. INTRODUCTION

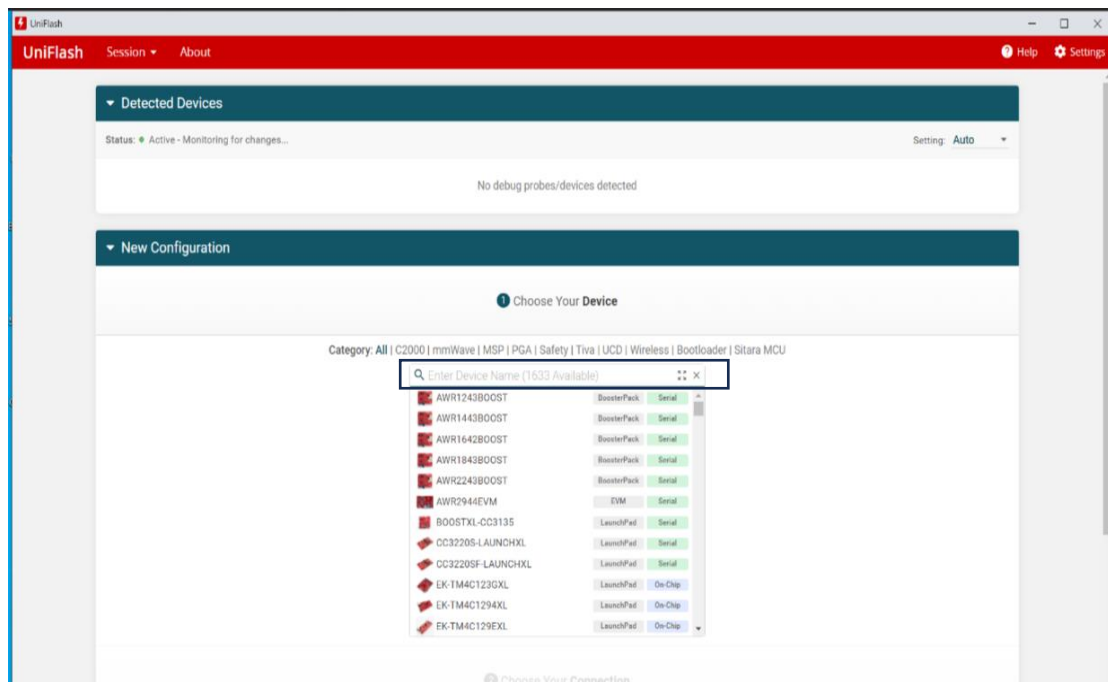
The purpose of this document is to give a brief overview of the software that will be used for programming the PCB card used in propulsion system. The following tools are required for using the software:

1. Uni-Flash (latest version) Software Programming tool by TI (is a freeware & can be downloaded from internet) installed on windows laptop.
2. TMS320-XDS100-V3 emulator from Olimex having mini-USB interface with laptop.
3. 14 Pin FRC cable that connects PCB card to Olimex emulator.
4. USB cable connects emulator (mini-USB interface) with laptop (USB Type A).

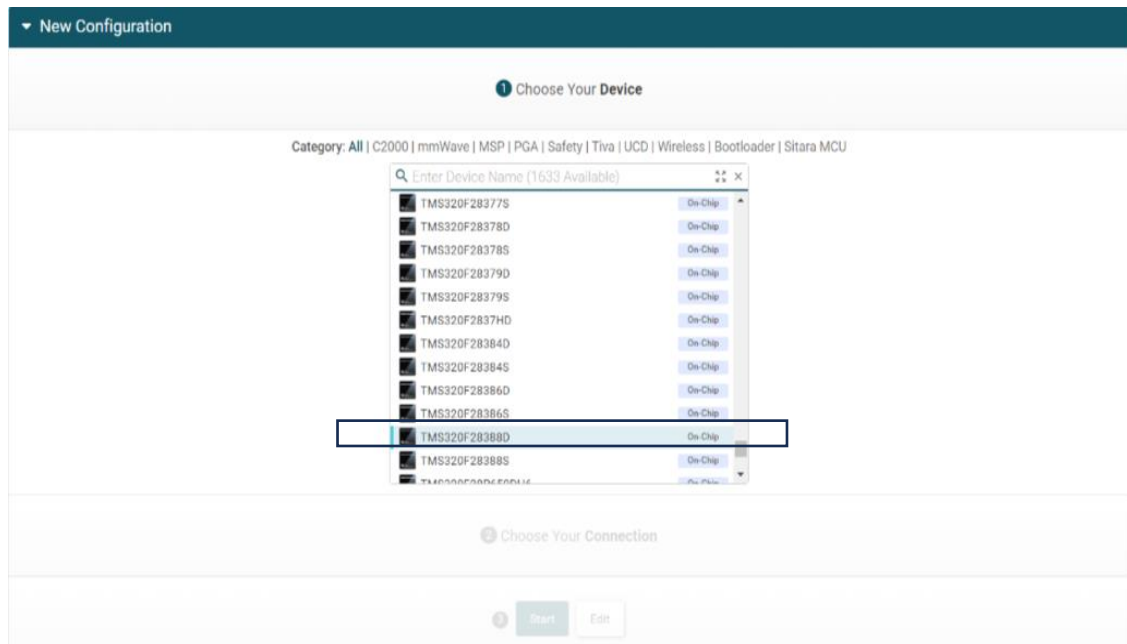
Below clause explains the procedure to use the Uni-Flash.

1.1 Procedure

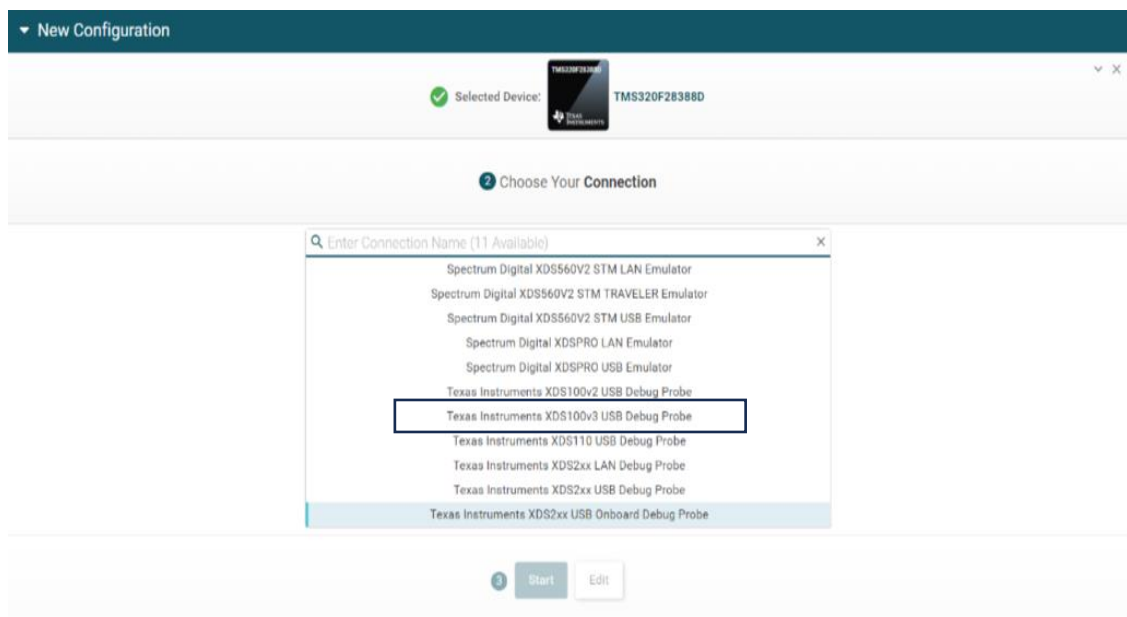
1. Open the UNIFLASH tool on laptop. Select the device that is to be programmed under New Configuration.



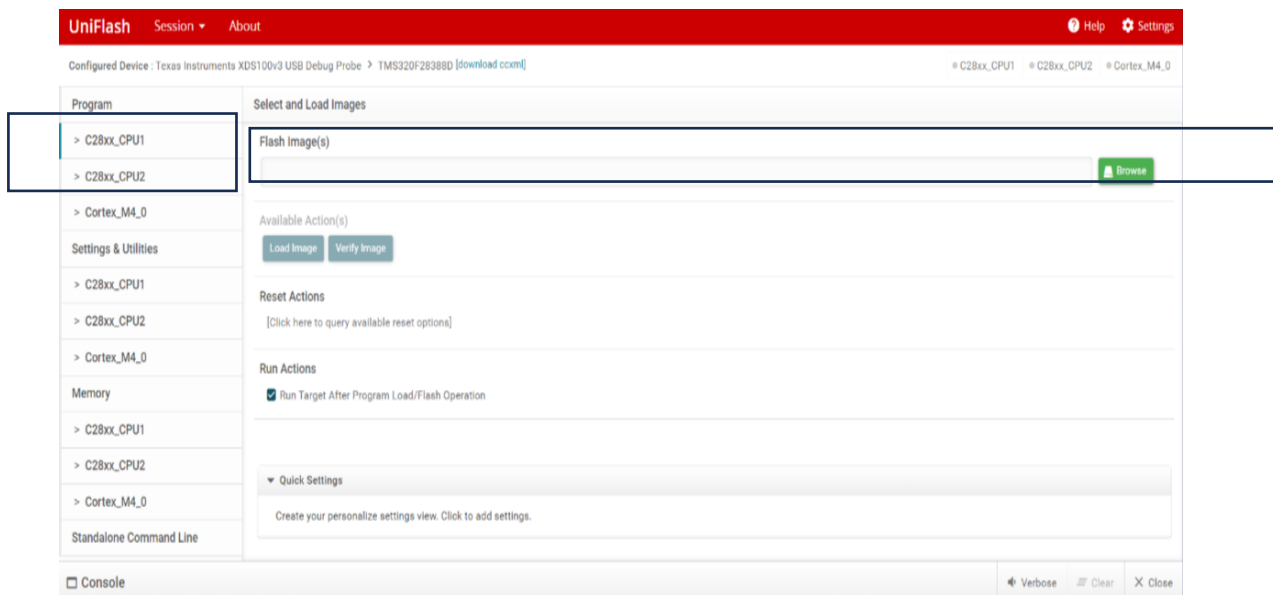
2. Enter the device name that is to be programmed in New Configuration pan i.e.: TMS320F28388D is selected in screenshot.



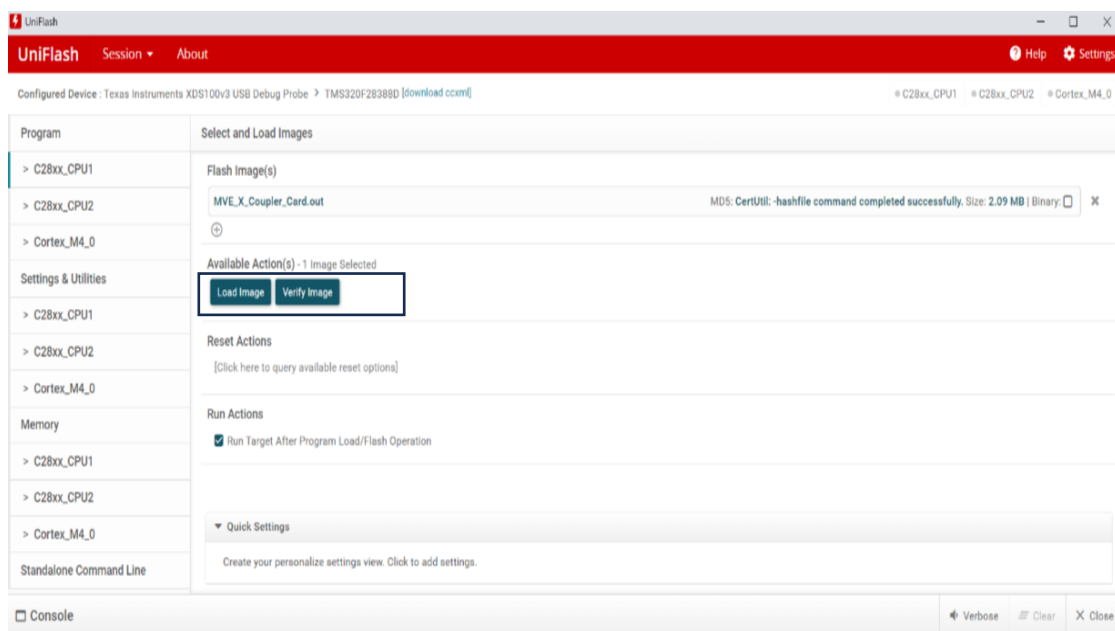
3. After selecting the Device, choose the type of connection between the device and the tool i.e.: Texas instruments XDS100v3 Debug Probe and click on “Start” to choose the file to be programmed.



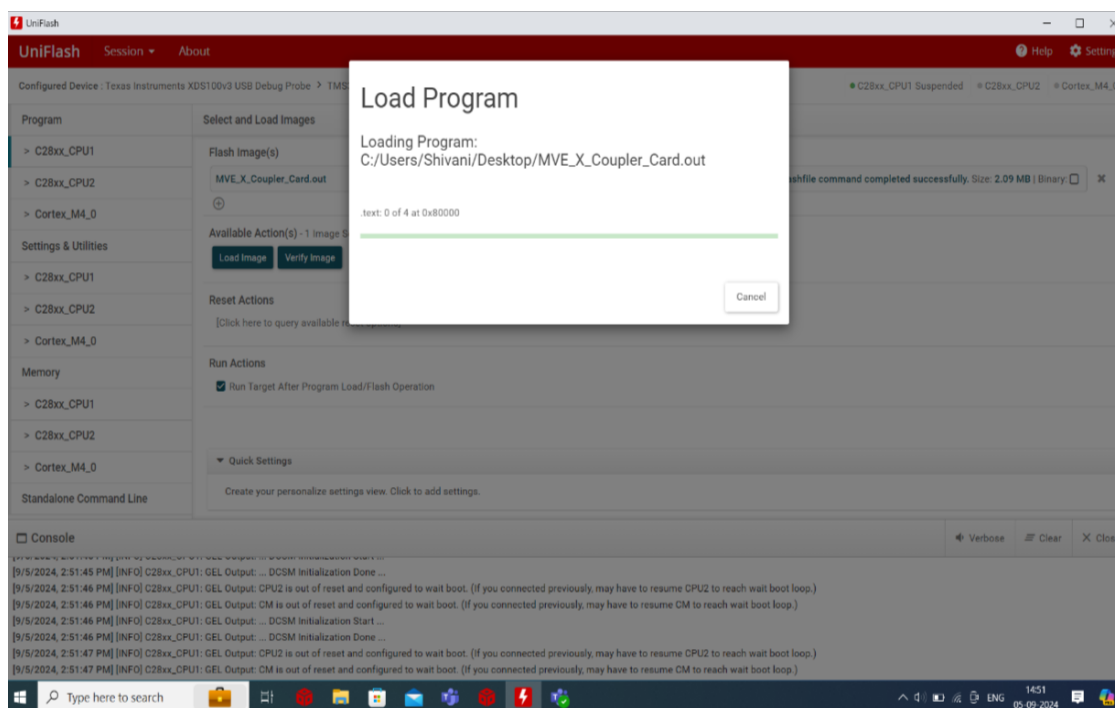
4. Choose from Browse option & select the .OUT file format for programming. Here it is to be checked whether CPU1 or CPU2 is to be programmed under Program pan.



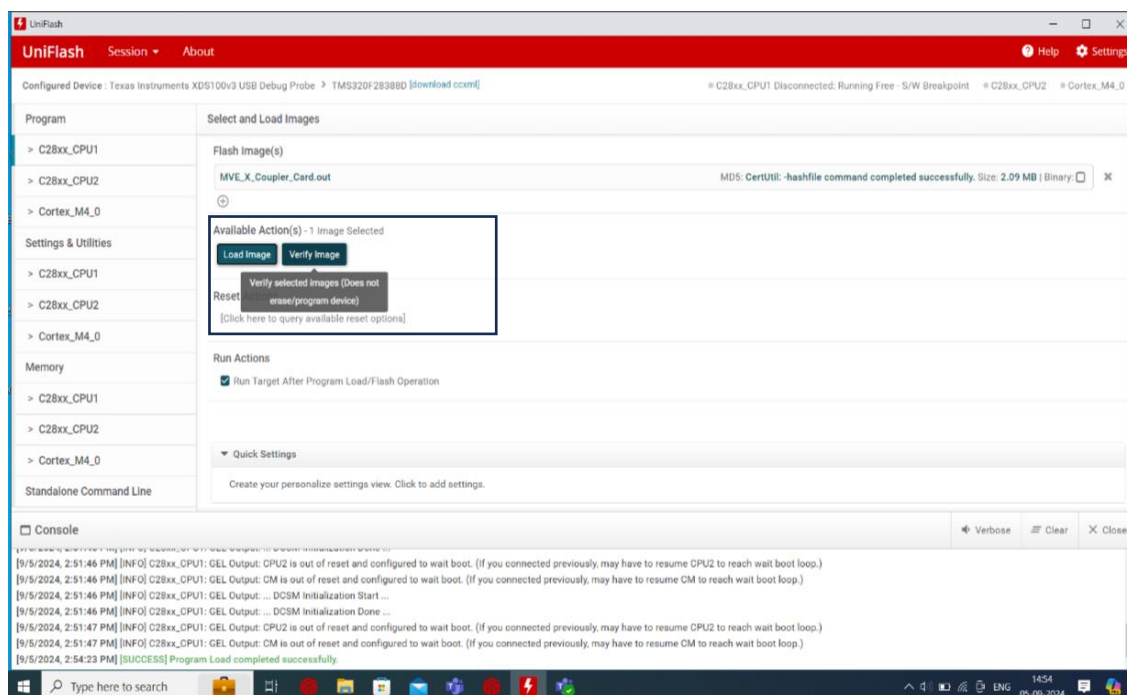
5. After selecting the file, click on “Load Image”.



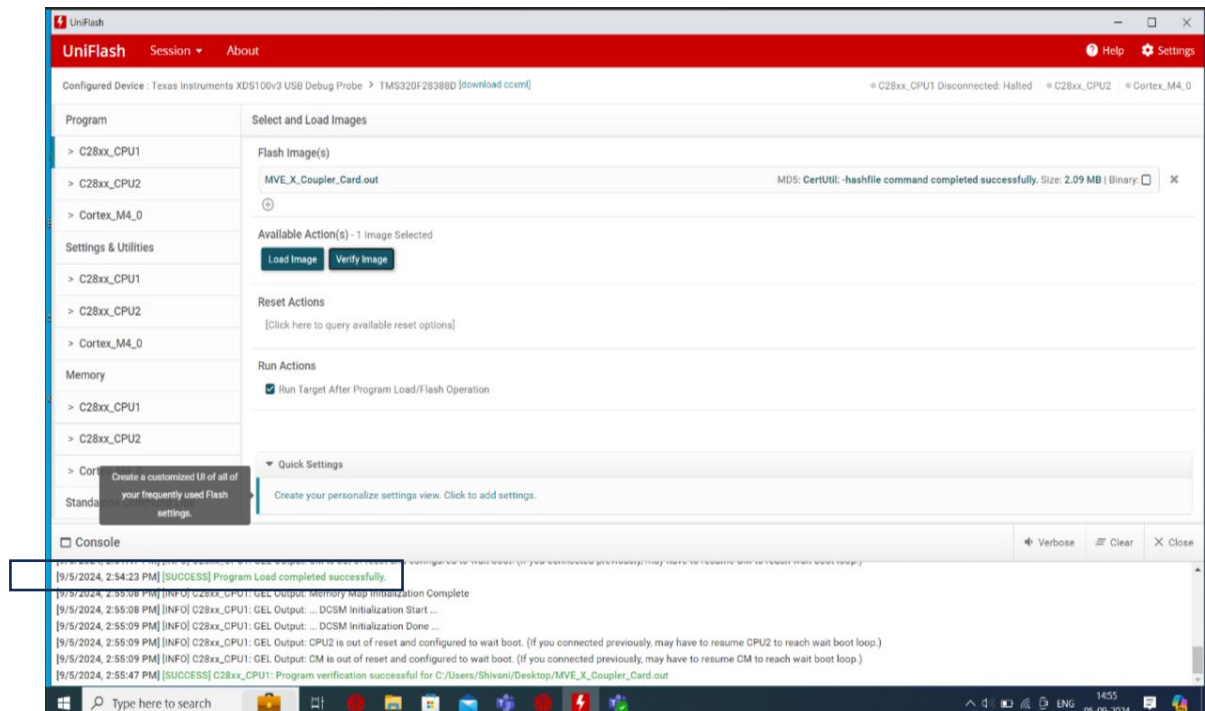
6. The program will start loading on the device as follows.



7. After loading the device, click on “Verify Image”.



8. After successfully loading of program, console window shows “Program load completed successfully”.

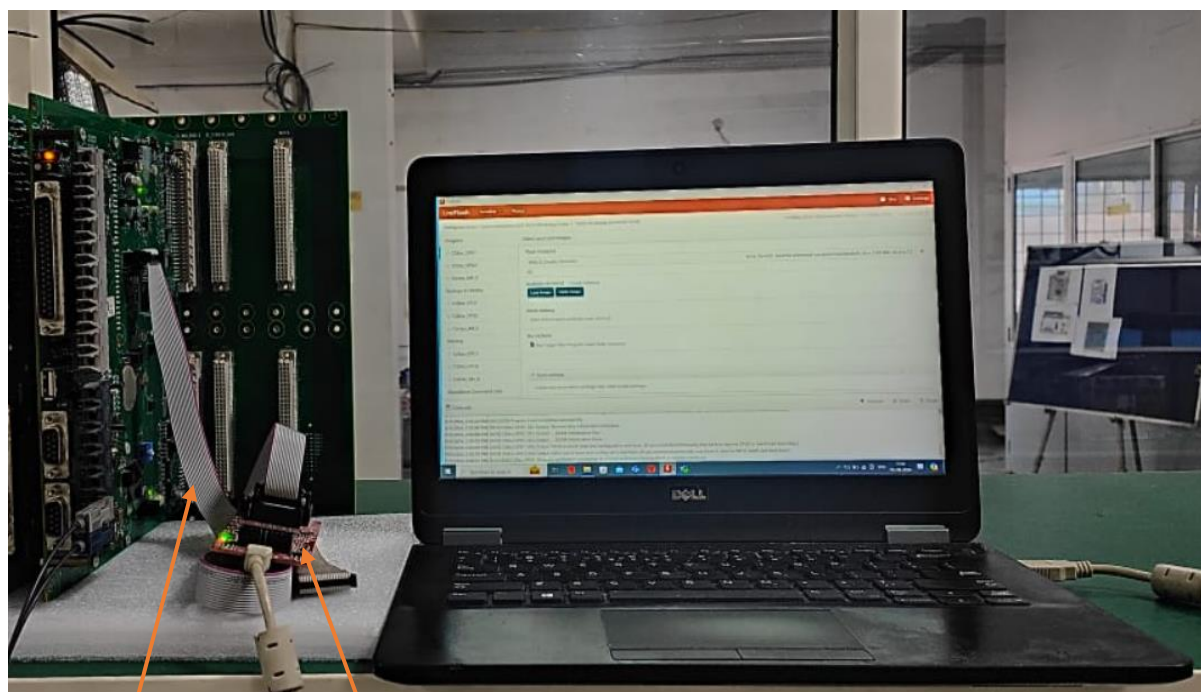


9. After program load, power reset is required.

1.2 Devices used on Processor cards

S. No.	Type Processor card	Device Used
1.	FLG Processor	TMS320F28379D
2.	DI, DO & AIO processor of VCU	TMS320F280045
3.	Optocoupler processor of VCU	TMS320F28388D
4.	NSC processor	TMS320F28379D
5.	ASC processor	TMS320F28379D
6.	BUR processor	TMS320F28379D

1.3 Connection over-view



FRC Cable

Olimex emulator