

I. Preface

This guide is for Isuna6000S firmware upgrade

II Preparation before upgrading

Preparation of tools: computer, Upgrade tool (see appendix for tool description)

Software preparation: UniFlash and GD-Link Programmer should be installed on the computer, and The firmware list is as follows

serial number	descriptive
1	Isuna6000S_DCAC_Bootloader.out
2	Isuna6000S_DCAC_App.out
3	Isuna6000S_DCDC_Bootloader.out
4	Isuna6000S_DCDC_App.out
5	Isuna6000S_ARM_Bootloader.bin
6	Isuna6000S_ARM_App.bin

Note: Please download the program locally, and the local path where the program is located cannot contain Chinese names.

III Firmware upgrade

3.1 DCAC Firmware upgrade

1. Insert the female connector of the DSP upgrade tool into the position shown in the following figure (pay attention to prevent reverse insertion).



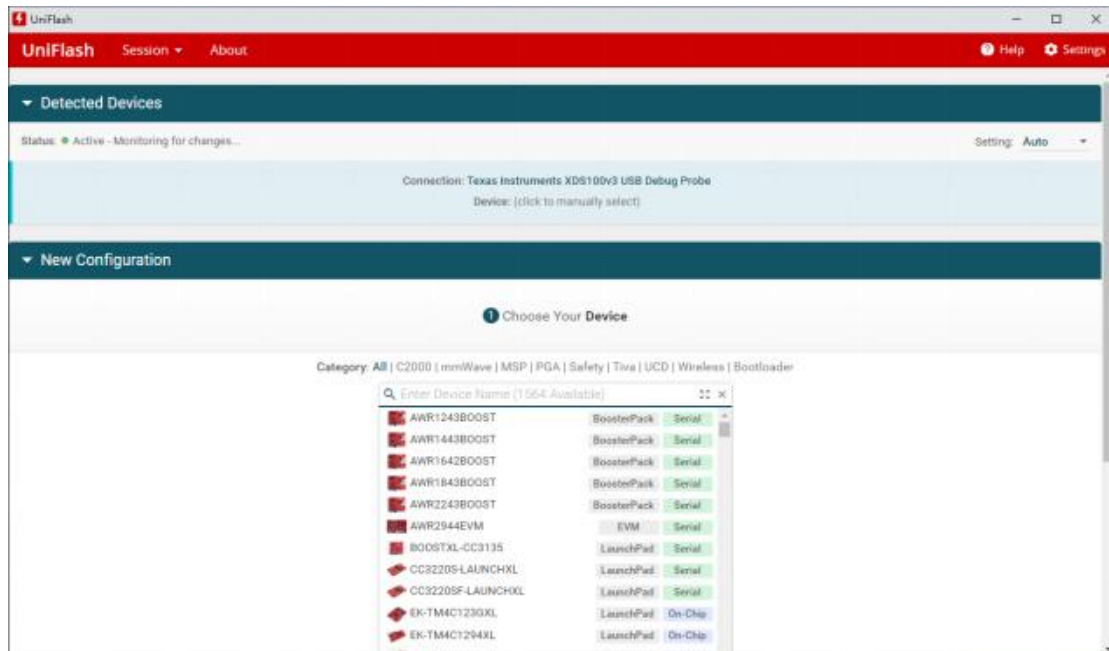
2. Plug the two USB ports of the upgrade tool into the USB port of your computer.



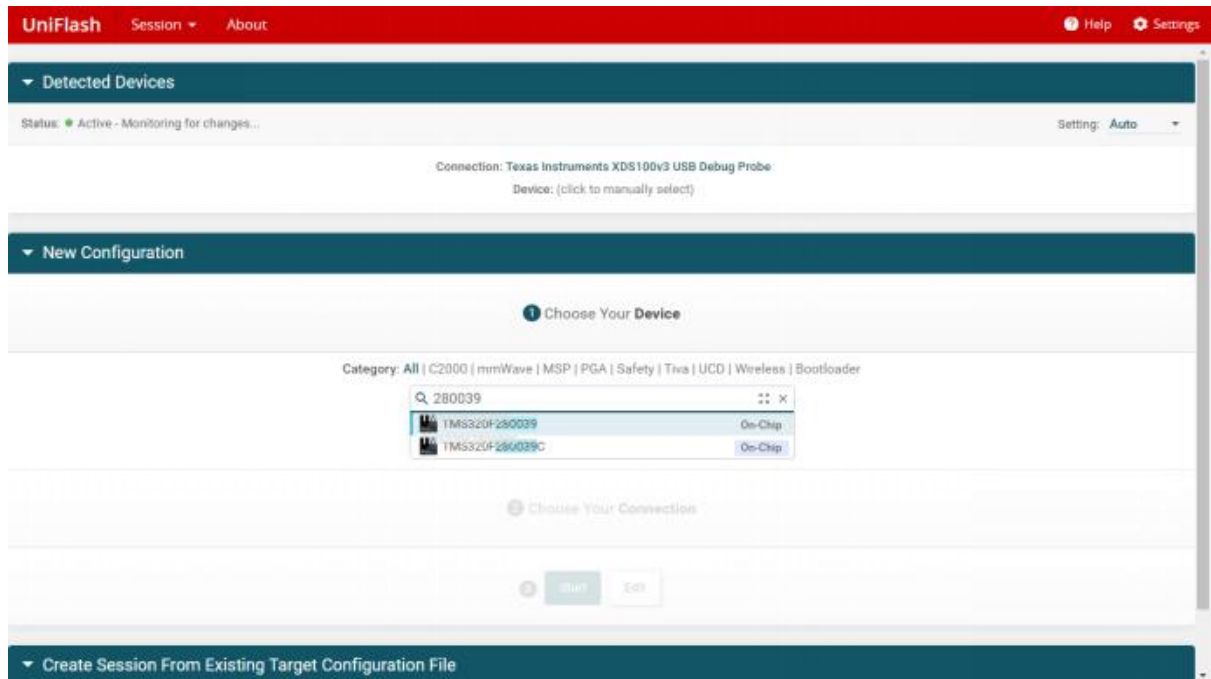
3. At this point, the red light of the emulator's POWER in the upgrade tool is on.



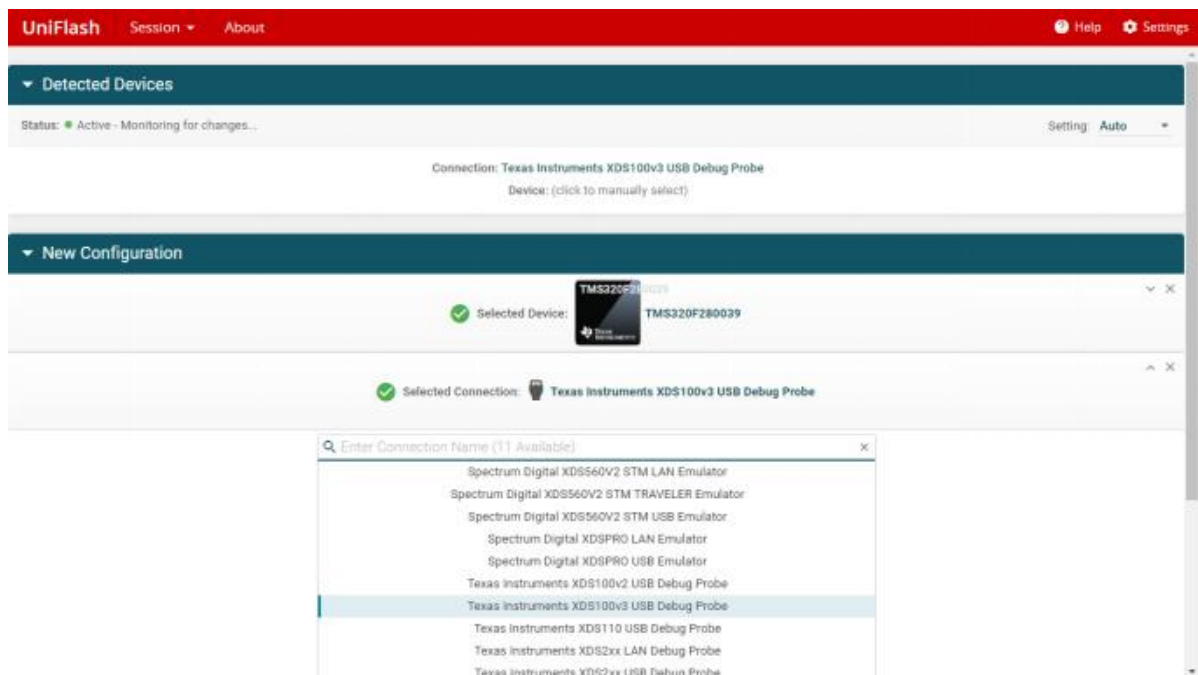
4. Double-click to open "Uniflash" (version 8.1.1 and above) on your computer as shown below.



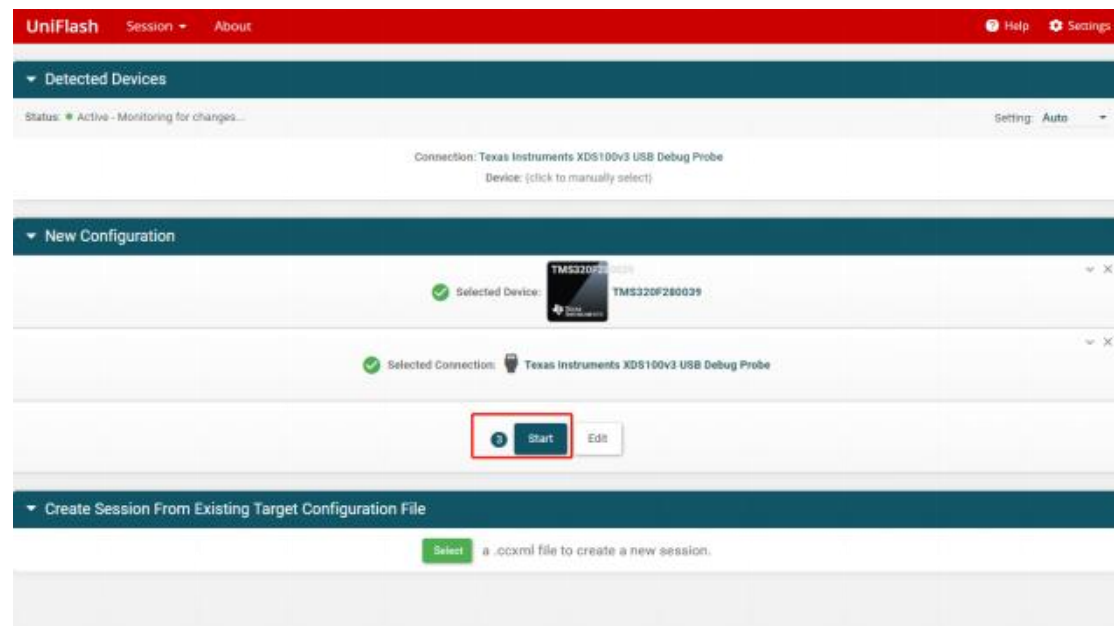
5. In New Configuration, enter "280039" in the "Choose Your Device" dialog box, and select the "TMS320F280039" option.



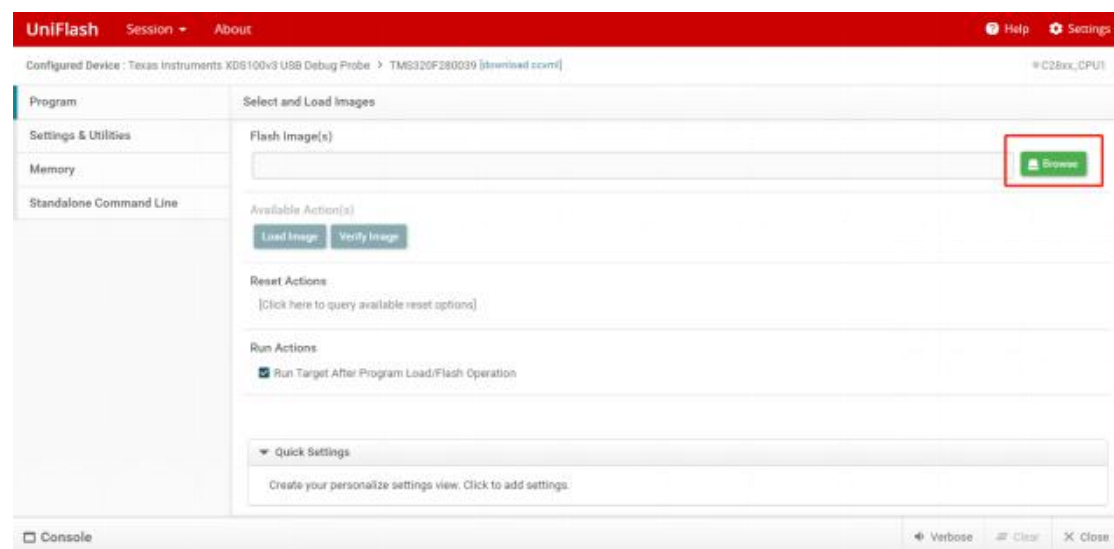
6. Select "Texas Instruments XDS100v3 USB Debug Prob" in the dialog box.



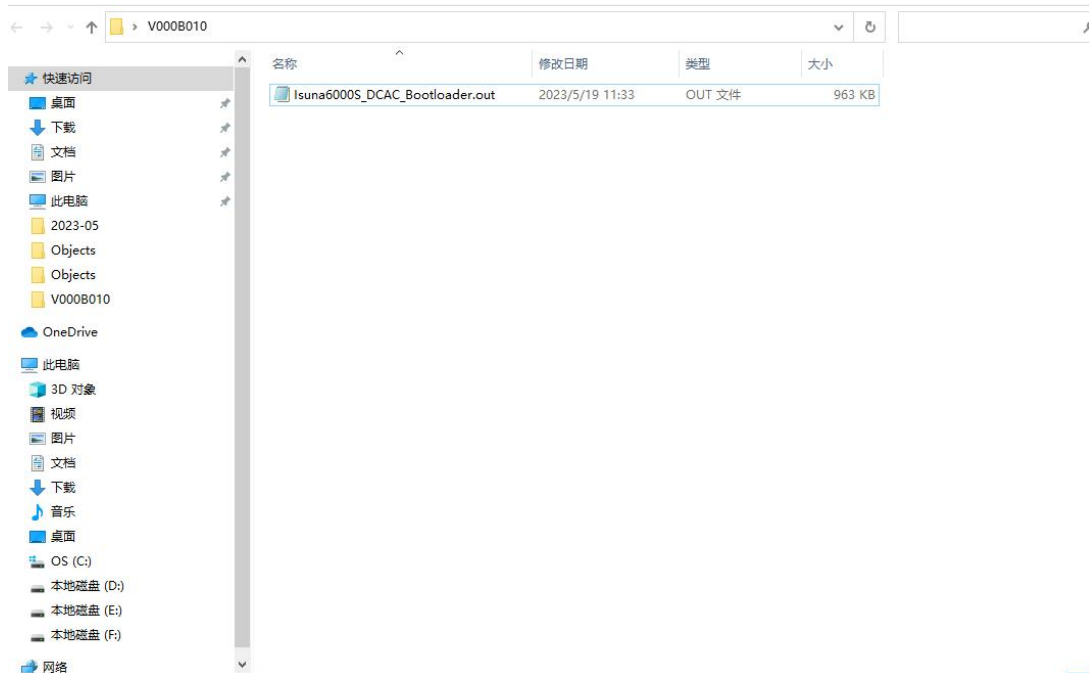
7. Click the "Start" button.



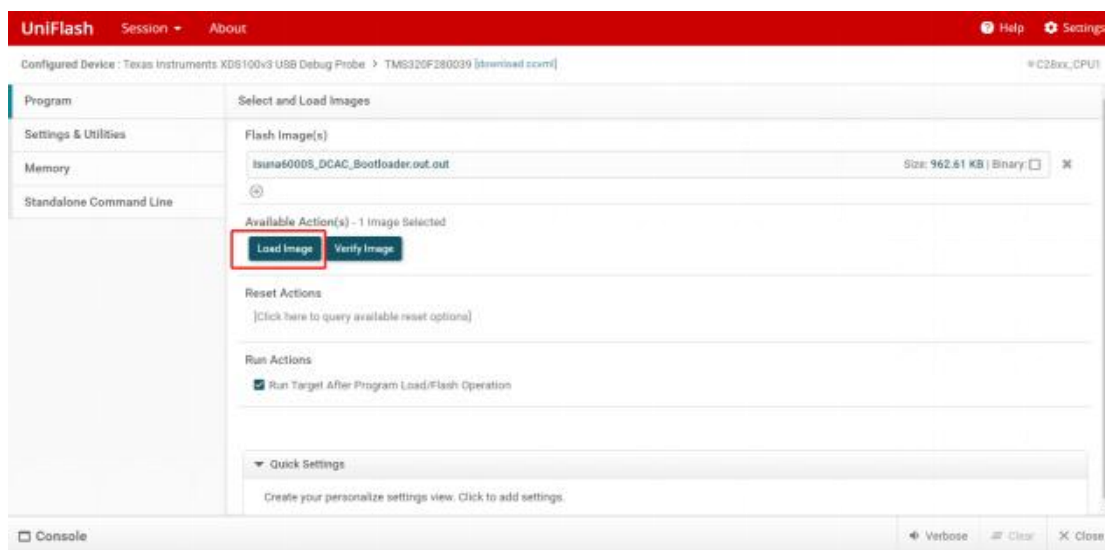
8. Click on "Program" on the left and then click on the "Browse" button next to the dialog box on the right.



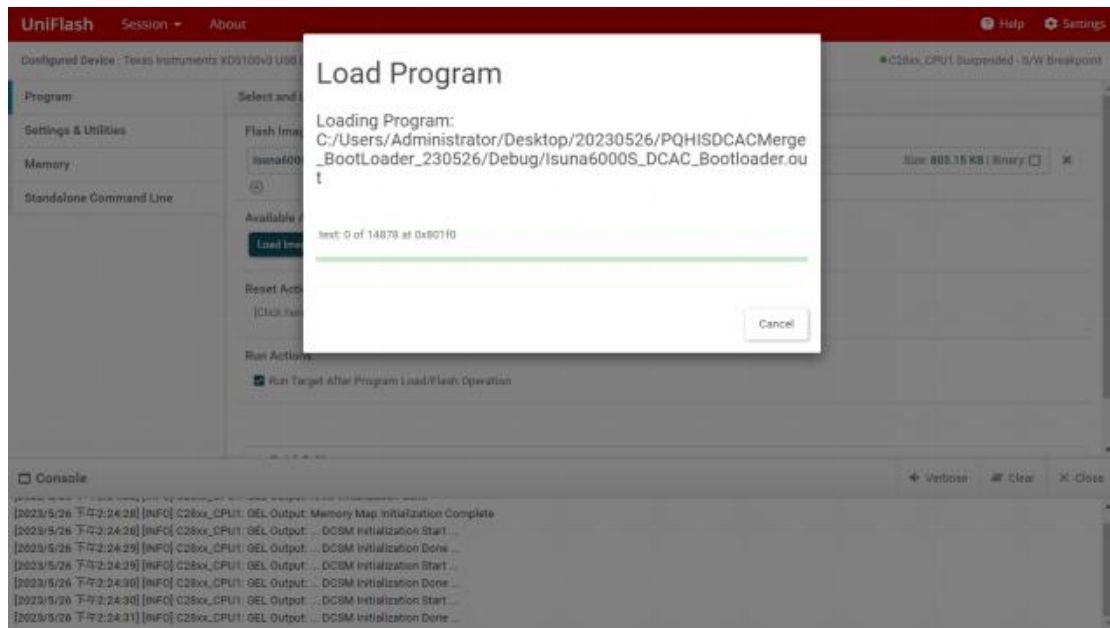
9. Select "Isuna6000S_DCAC_Bootloader.out" in the pop-up dialog box.



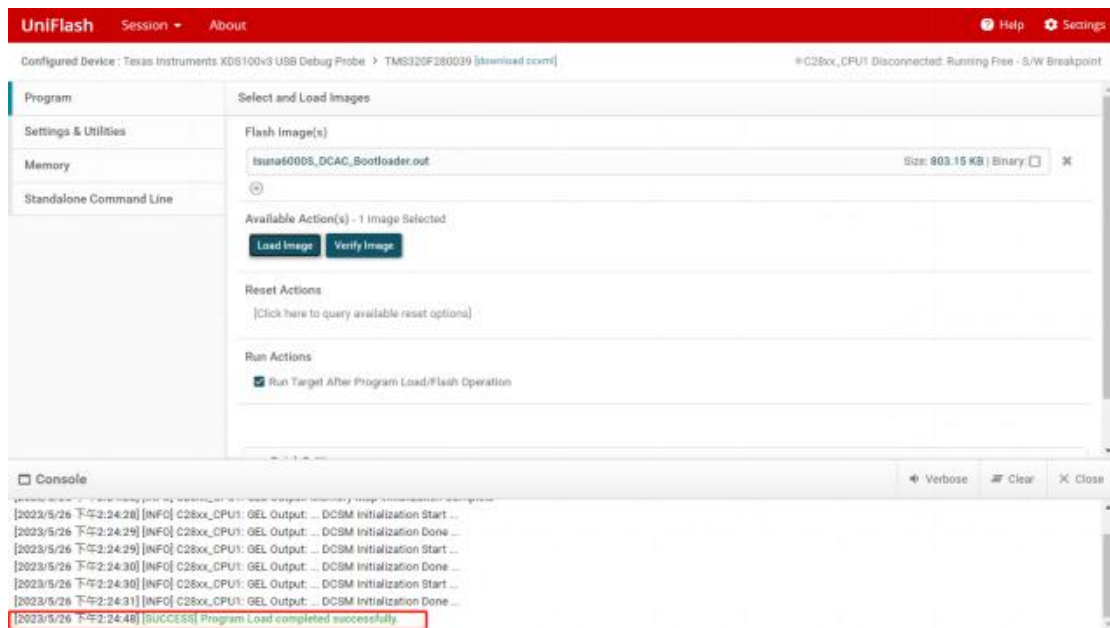
10. Click the "Load Image" button to upgrade.



11. The upgrade process is shown below.

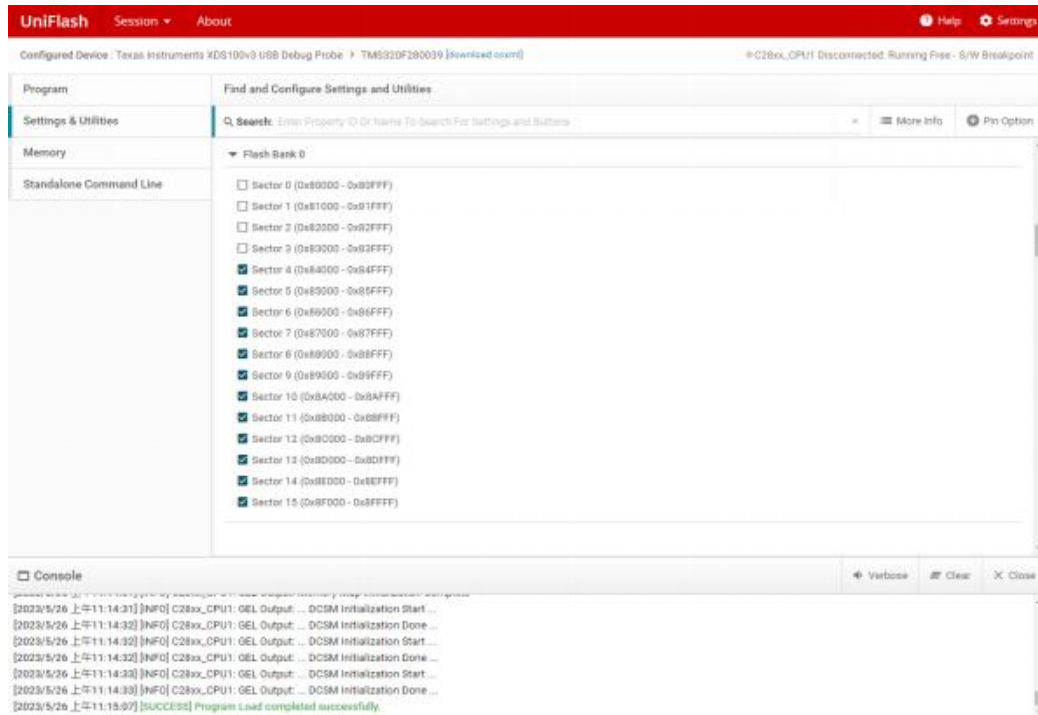


12. The program upgrade is completed, as shown below.

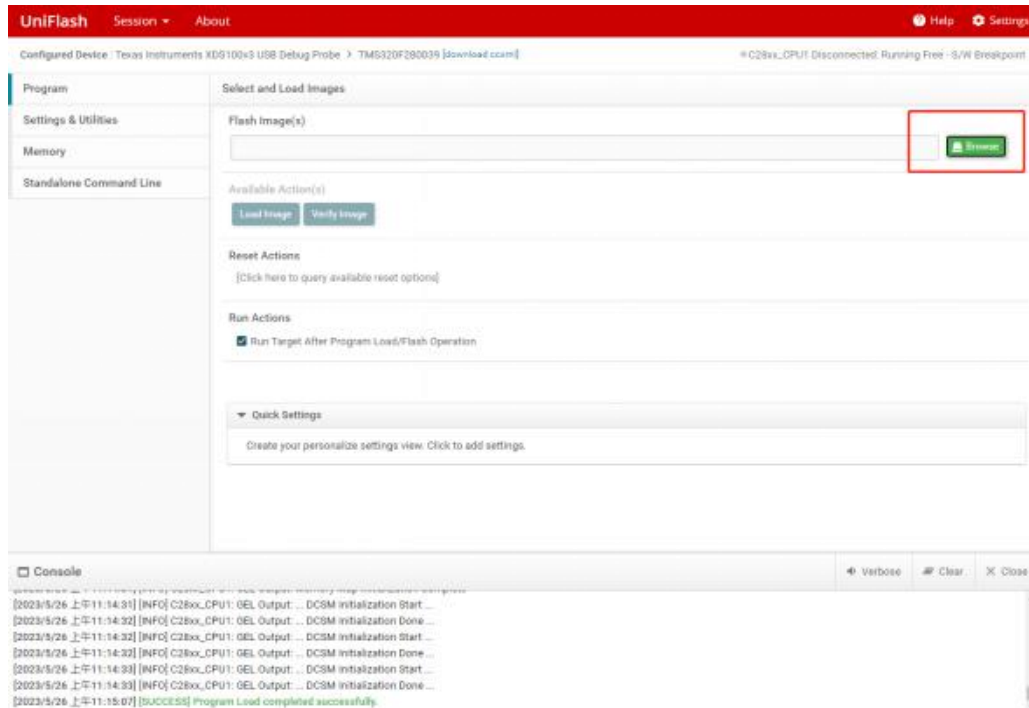


13. Next, click on "Settings & Utilities" on the left side.

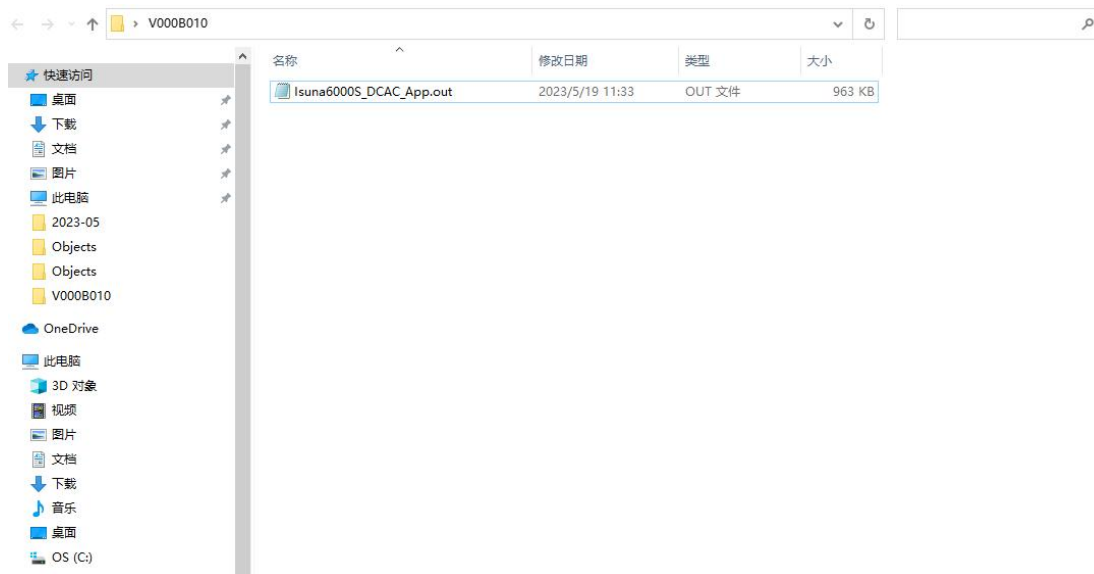
14. Select "Selected Sectors Only" in "Erase Settings" and uncheck Sector 0 to Sector 3 in "Flash Bank 0"



15. Click on "Program" on the left and then click on the "Browse" button next to the dialog box on the right.

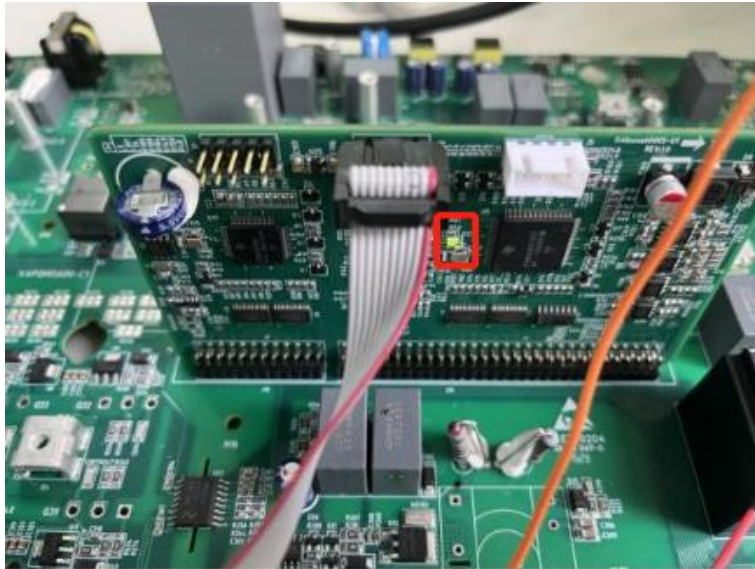


16. Select "Isuna6000S_DCAC_App.out" in the pop-up dialog box.



17. Repeat steps 10-12 for the upgrade.

18. Disconnect the upgrade tool power supply USB port and then re-inserted, the single board LED D22 first fast flash about 10S after the slow flash that the program upgrade success.



19. Disconnect the upgrade tool from the power supply USB.

3.2 DCDC Firmware upgrade

1. Connect the female connector of the upgrade tool to the position as shown in the figure (pay attention to prevent reverse plugging)



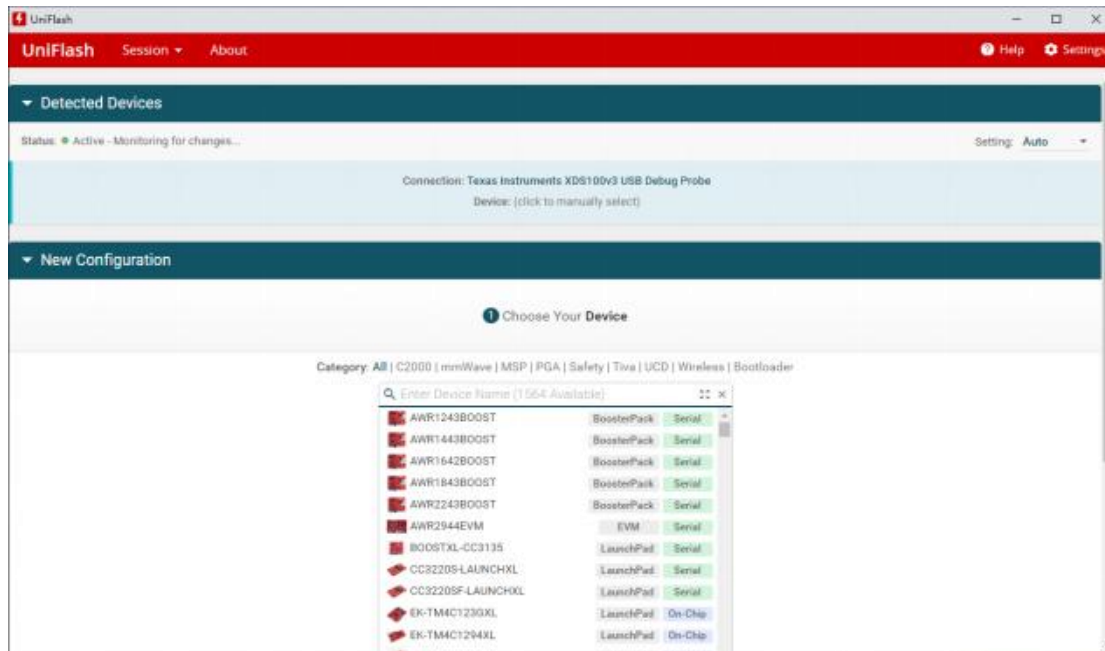
2. Re-insert the upgrade tool power supply USB port into the computer.



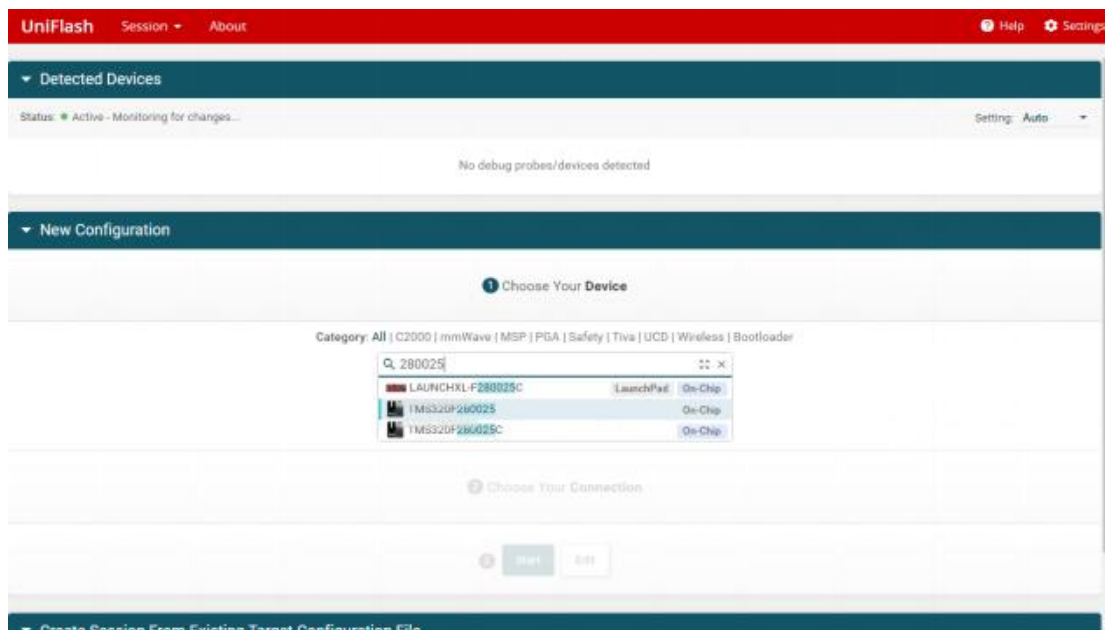
3. At this point, the red light of the emulator's POWER in the upgrade tool is on.



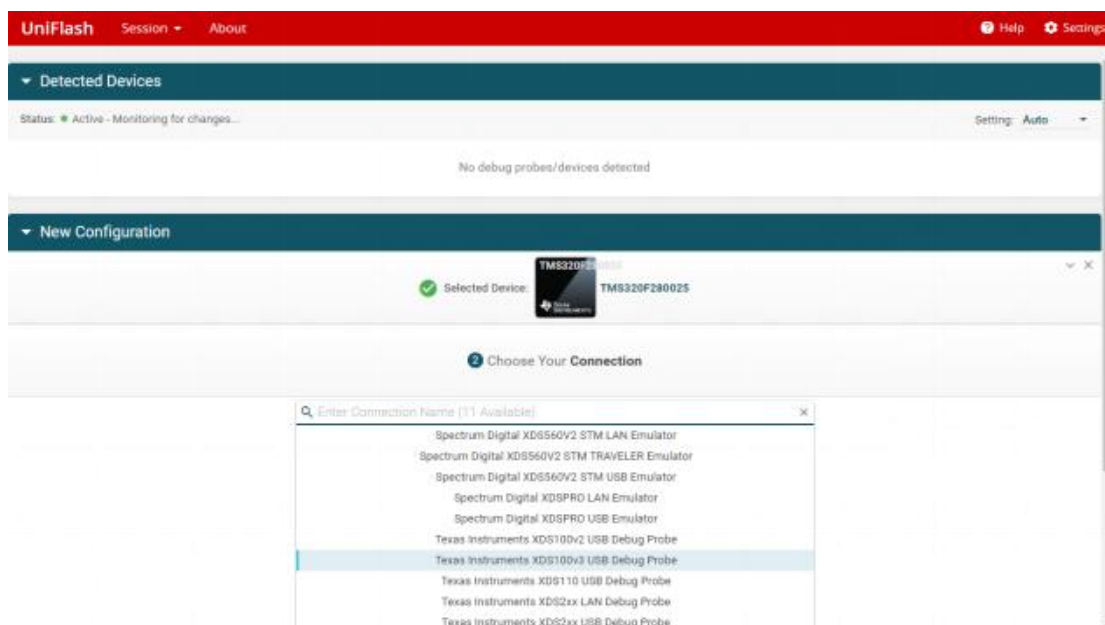
4. Double-click on the computer to open "Uniflash" (version 8.1.1 and above), as shown below.



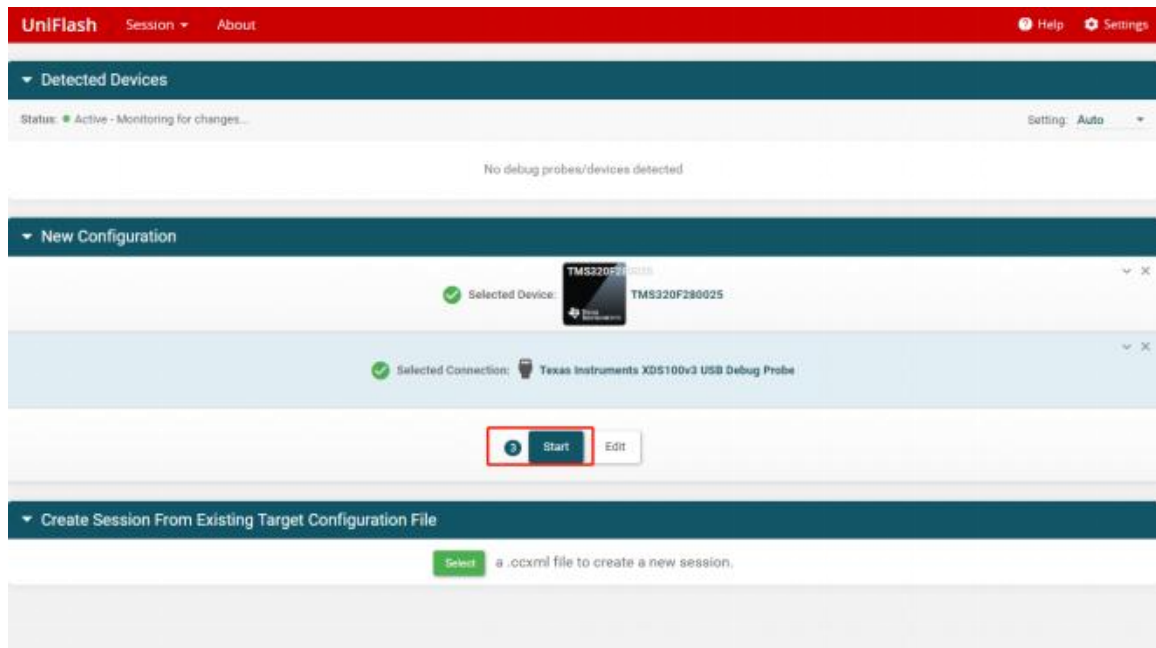
5. In New Configuration, enter "280025" in the "Choose Your Device" dialog box, and select the "TMS320F280025" option.



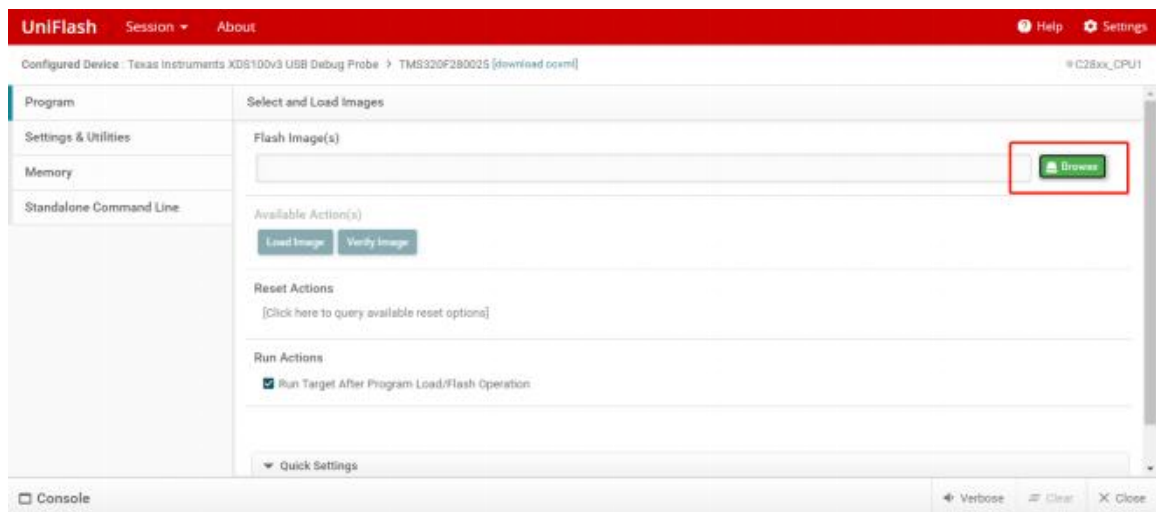
6. Select "Texas Instruments XDS100v3 USB Debug Prob" in the dialog box.



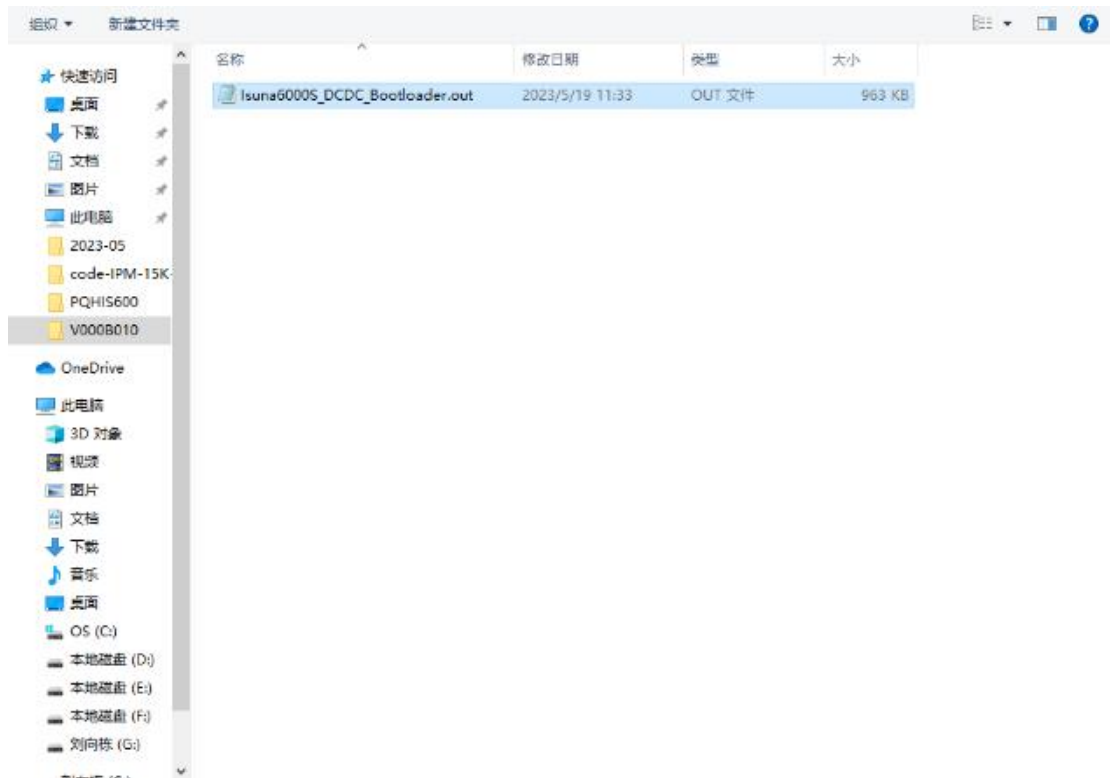
7. Click the "Start" button.



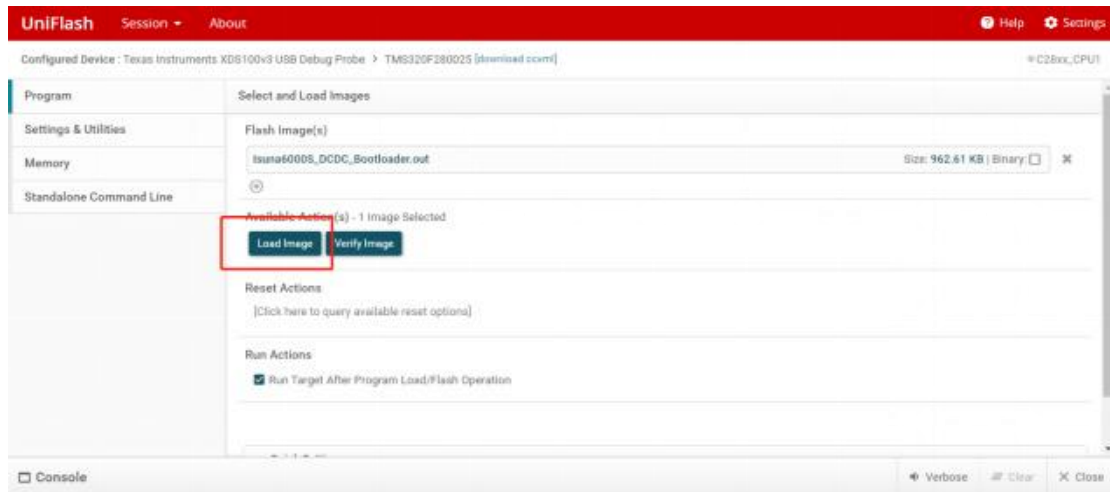
8. Click on "Program" on the left and then click on the "Browse" button next to the dialog box on the right.



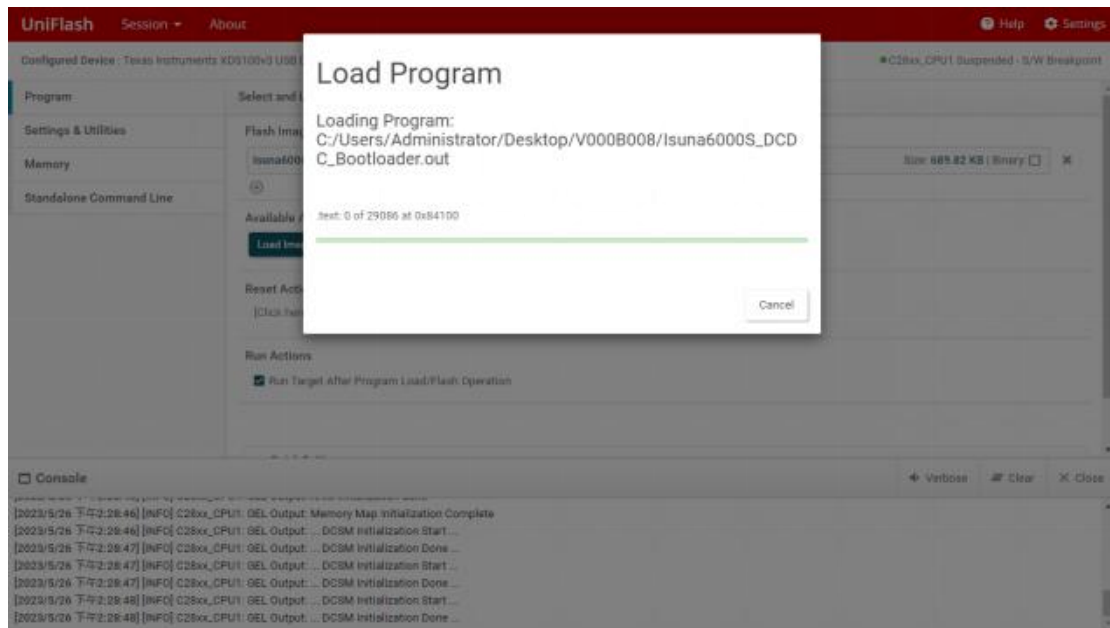
9. In the pop-up dialog box select, "Isuna6000S_DCDC_Bootloader.out"



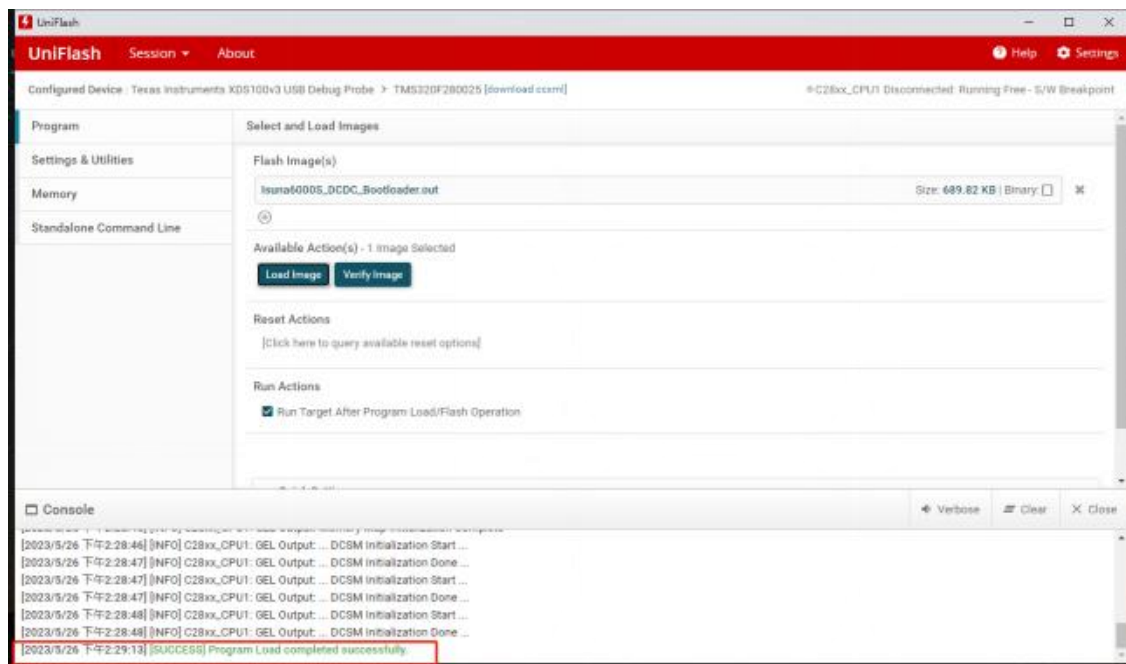
10. Click the "Load Image" button to upgrade.



11. The upgrade process is shown below.

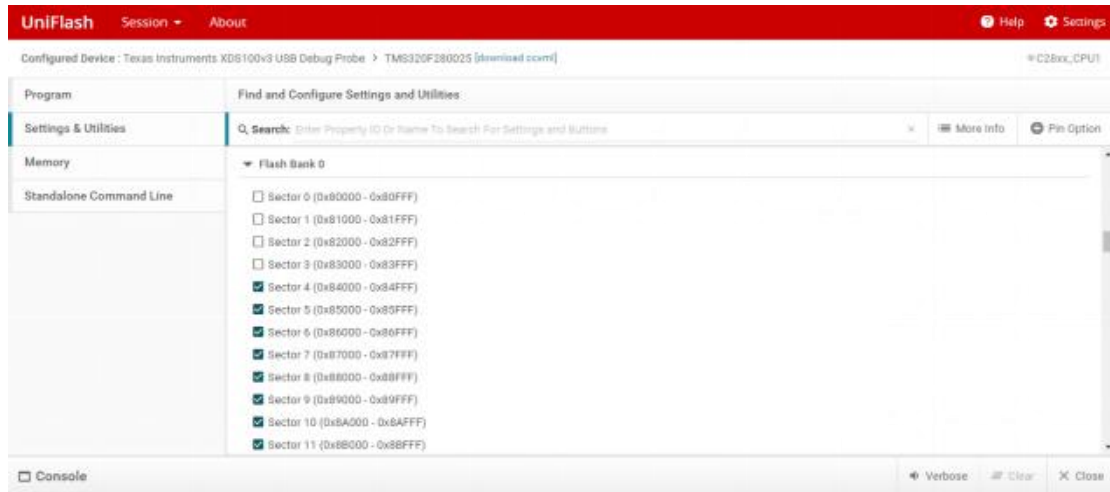


12. The program upgrade is completed, as shown below.

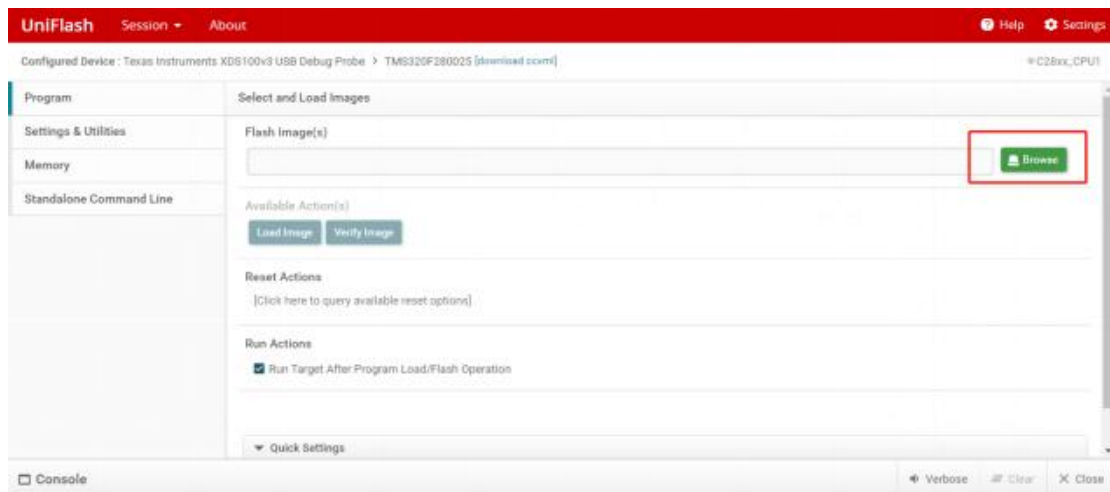


13. Next, click on "Settings & Utilities" on the left side.

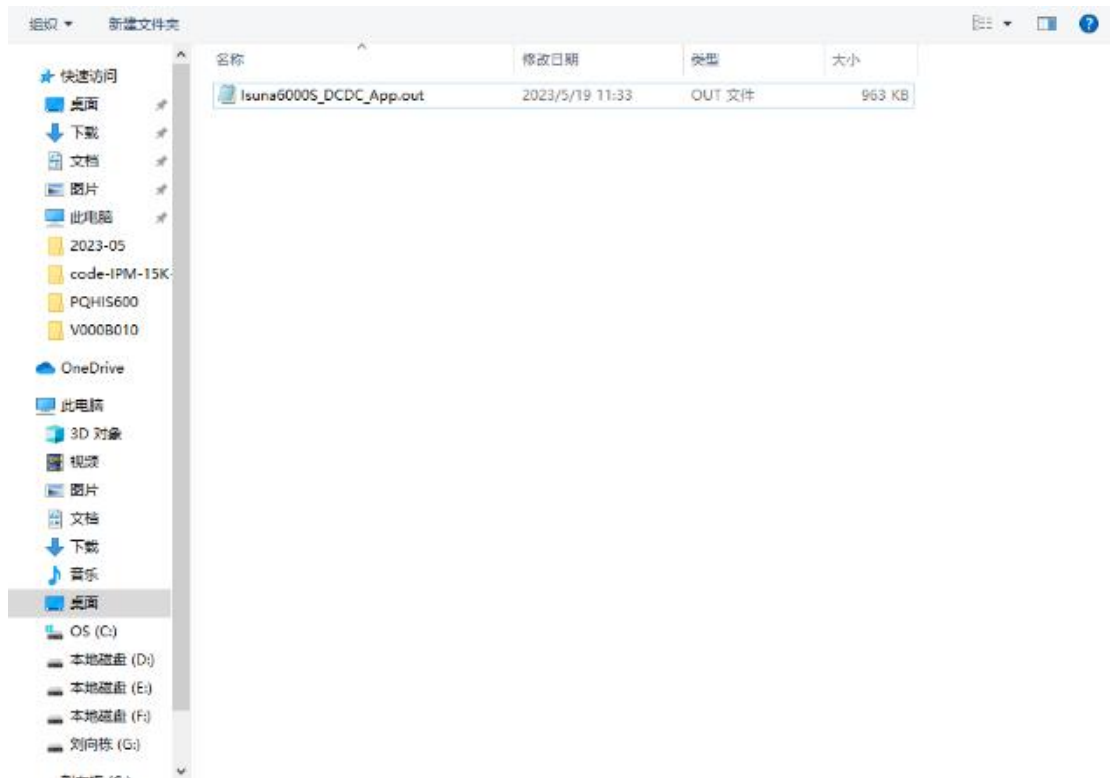
14. Select "Selected Sectors Only" in "Erase Settings" and uncheck Sector 0 to Sector 3 in "Flash Bank 0"



15. Click on "Program" on the left and then click on the "Browse" button next to the dialog box on the right.



16. Select "Isuna6000S_DCDC_App.out" in the pop-up dialog box.



17. Repeat steps 10-12.

18. Disconnect the upgrade tool power supply USB after re-insertion, single board LED D23 first fast flash about 10S after the slow flash program upgrade success.

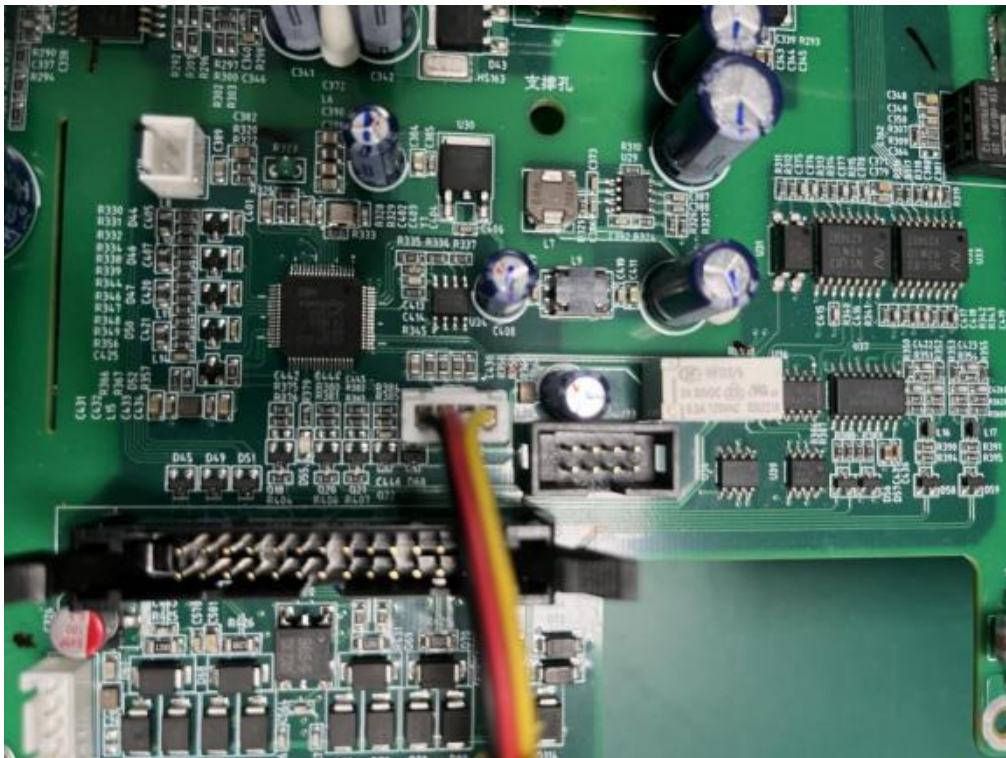


19. Disconnect the upgrade tool from the power supply USB.

20. Disconnect the female connector of the upgrade tool from the U1 control board; DSP firmware upgrade completed.

3.3 ARM firmware upgrade

1. Insert the ARM upgrade tool into J32 of the M1 control board (be careful to prevent reverse insertion).



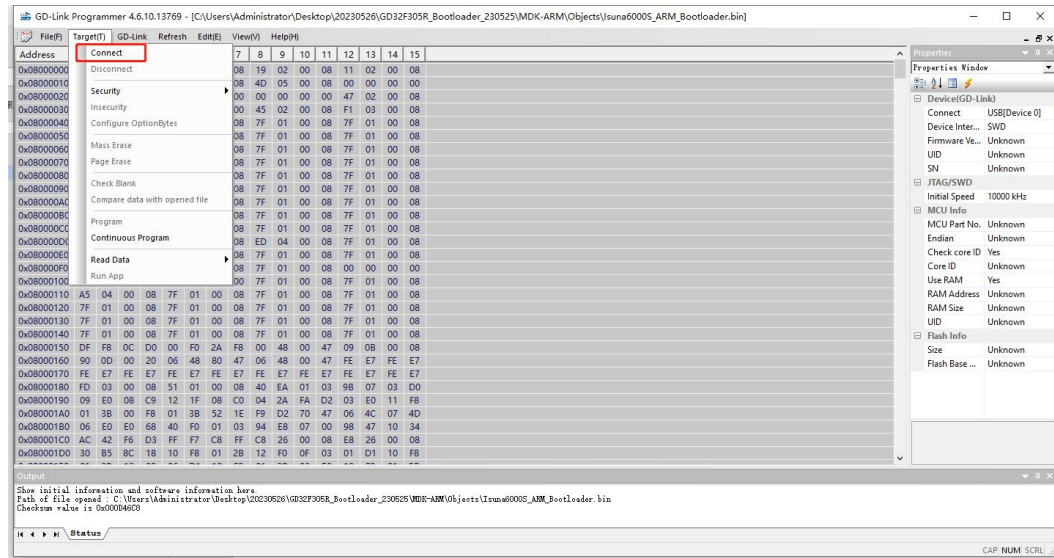
2. Plug the USB port of the ARM upgrade tool into the USB port of your computer.



3. Open the GD-Link Programmer software.



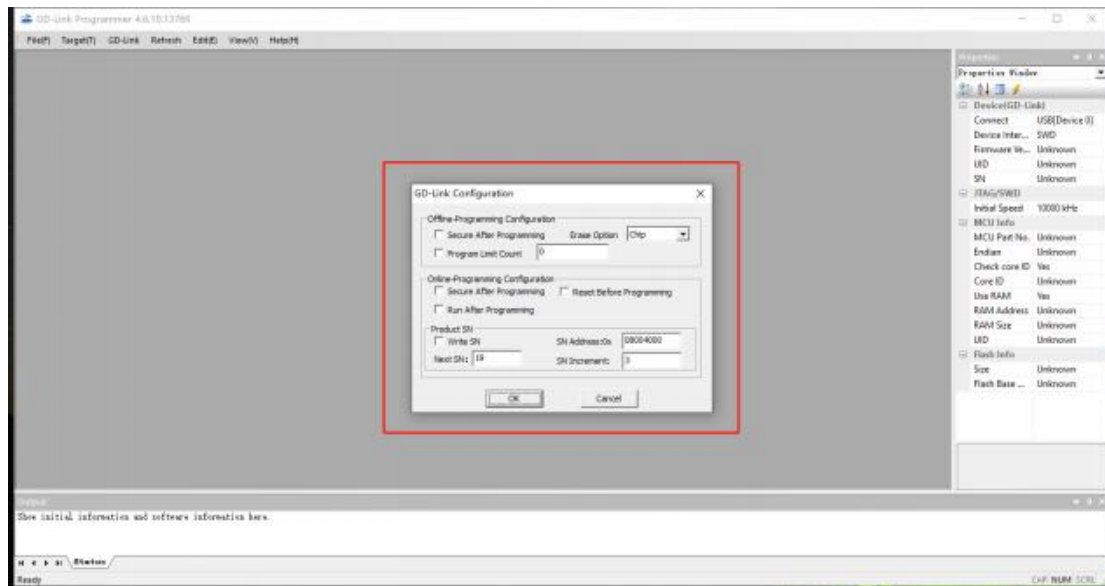
4. Click Target-Connect



5. Click GD-Link --> Configuration.



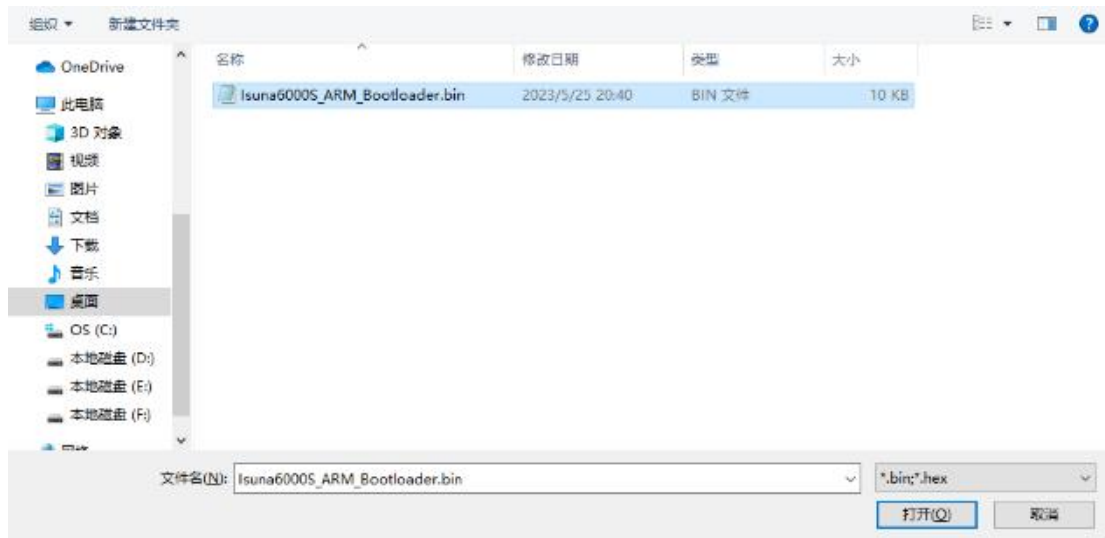
6. Configure the pop-up interface as shown in the figure, and click OK when finished.



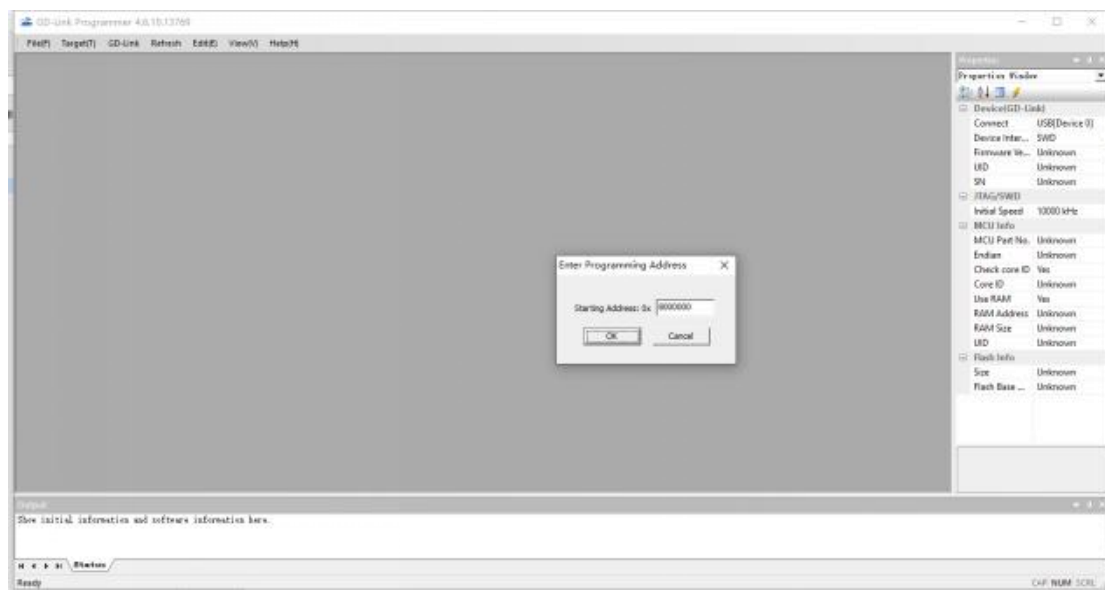
7. Click File -> Open in the upper left corner.



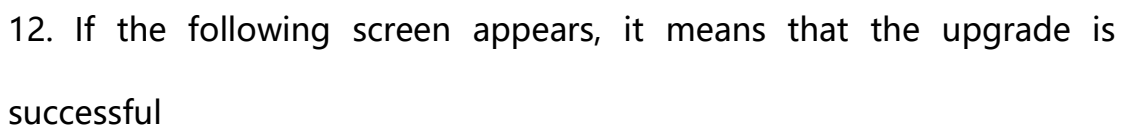
8. Select "Isuna6000S_ARM_Bootloader.bin" in the pop-up dialog box.

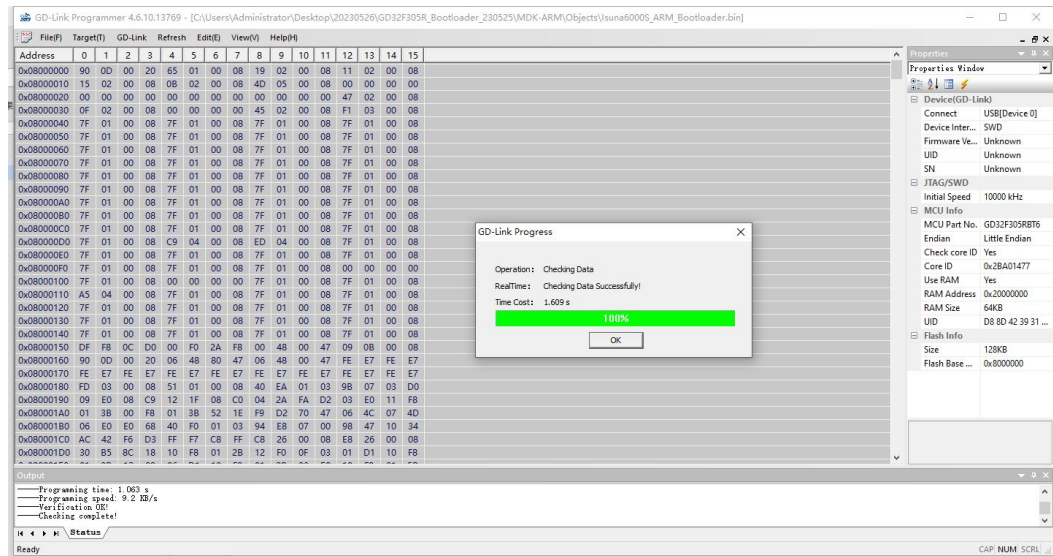


9. In the pop-up dialog box, select: "8000000".

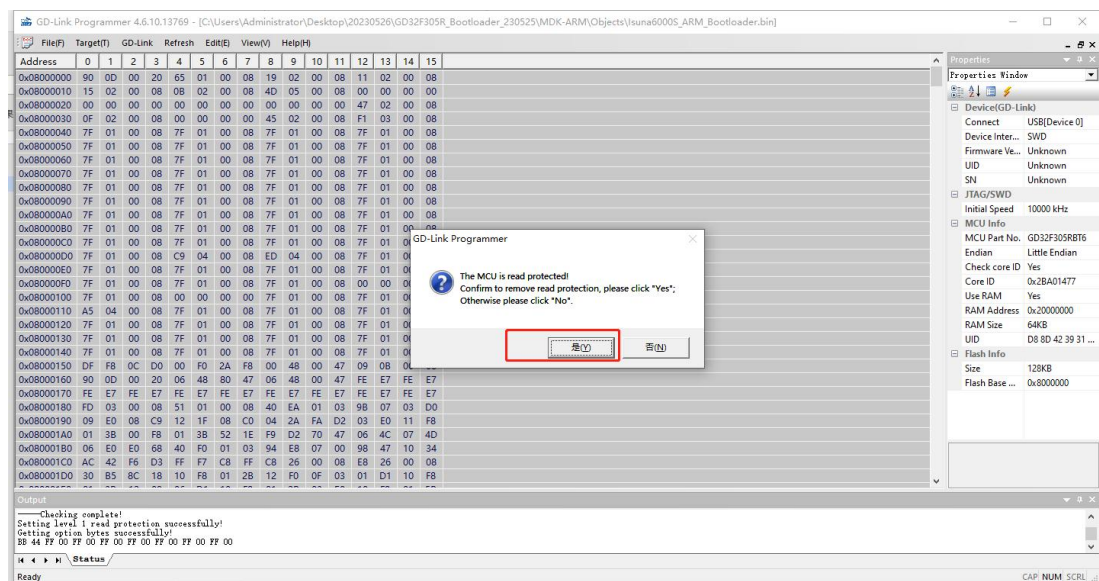


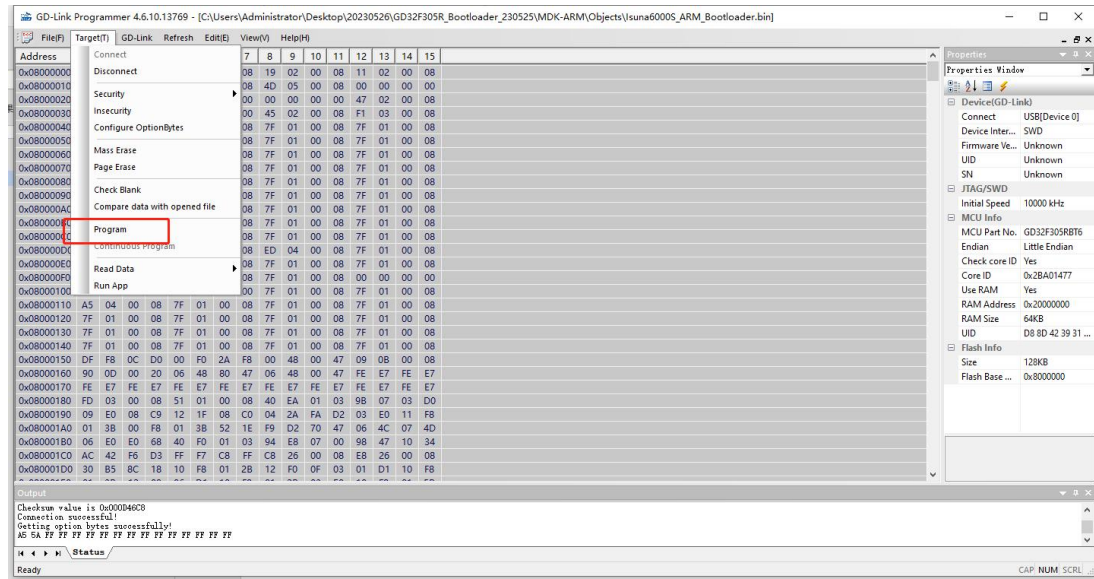
10. Click OK



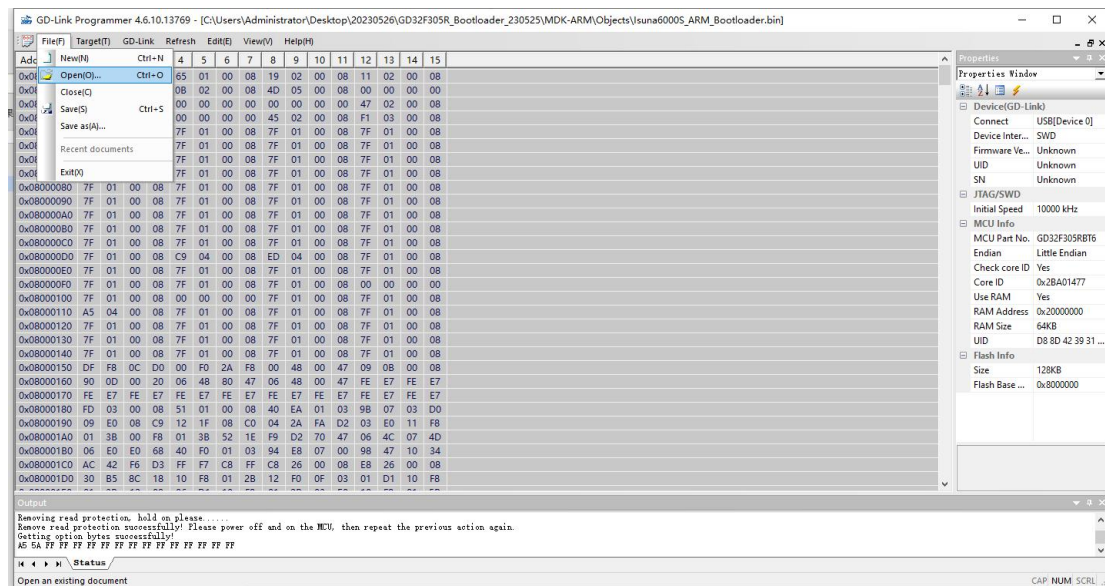


13. If the following screen appears, click "Yes", and then click Target-Program to re-upgrade.

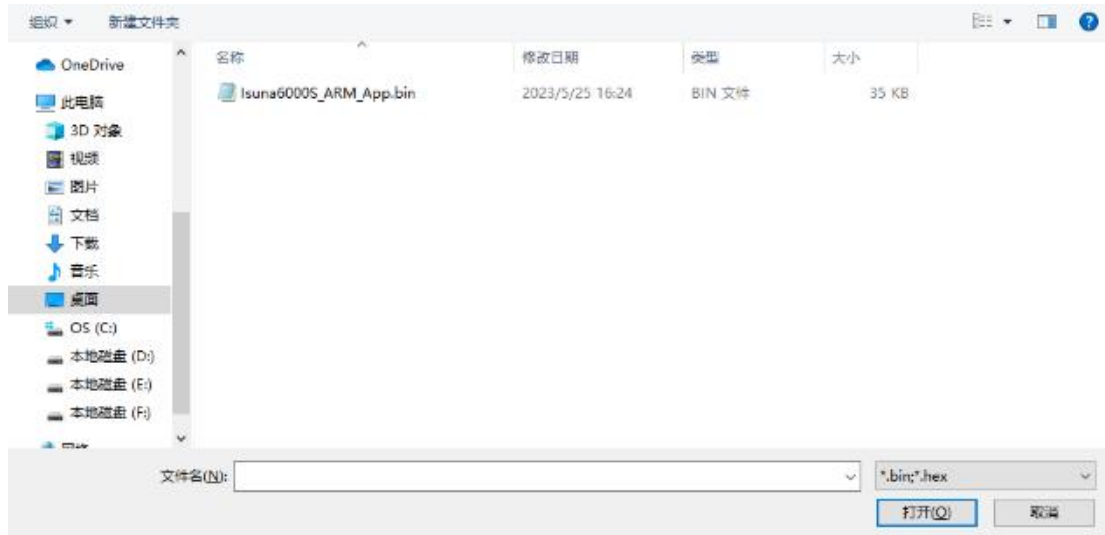




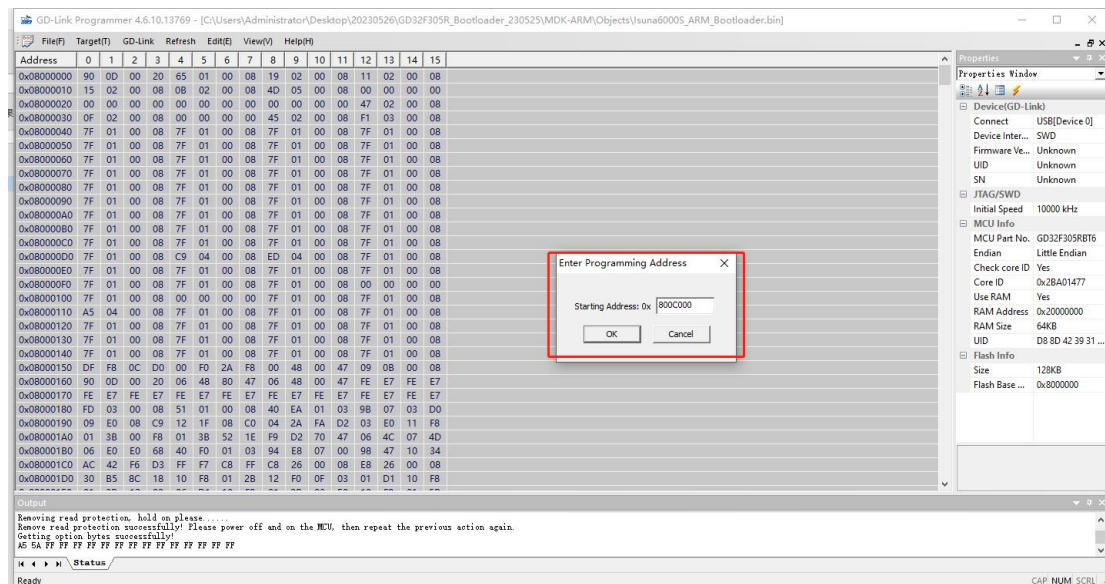
14. After the bootloader has finished upgrade, click File -> Open in the upper left corner again.



15. Select "Isuna6000S_ARM_App.bin" in the pop-up dialog box.



16. Change "8000000" to "800C000" in the pop-up dialog box.



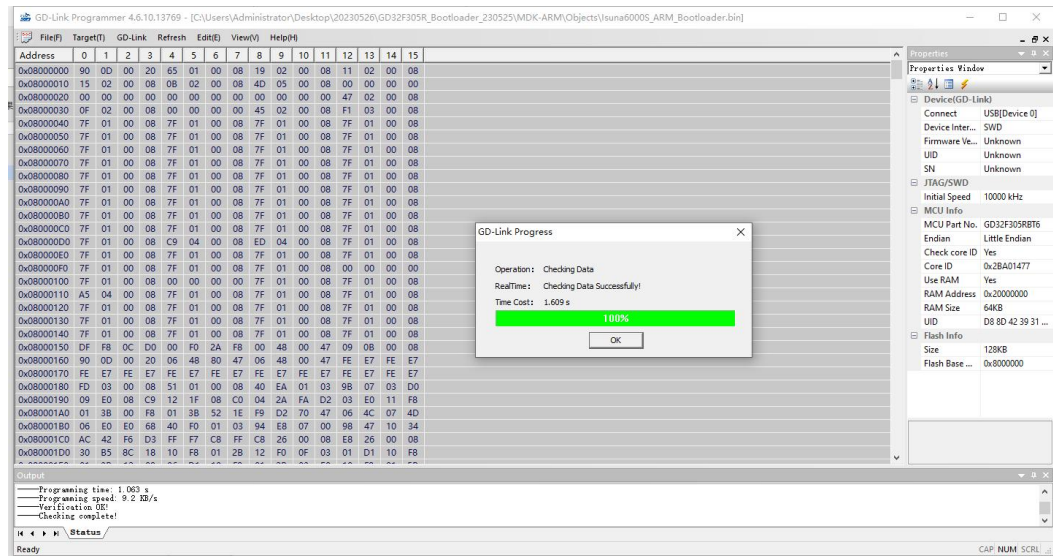
GD-Link Programmer 4.6.10.13769 - C:\Users\Administrator\Desktop\20230526\GD32F305A_Bootloader_230525\MDK-ARM\Objects\Isuma6000S_ARM_Bootloader.bin

Address	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0x08000000	90	00	00	20	65	01	00	08	19	02	00	08	11	02	00	08
0x08000010	15	02	00	08	08	02	00	08	4D	05	00	08	00	00	00	00
0x08000020	00	00	00	00	00	00	00	00	00	00	00	00	47	02	00	08
0x08000030	0F	02	00	08	00	00	00	00	45	02	00	08	F1	03	00	08
0x08000040	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000050	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000060	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000070	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000080	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000090	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x080000A0	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x080000B0	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x080000C0	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x080000D0	7F	01	00	08	C9	04	00	08	ED	04	00	08	7F	01	00	08
0x080000E0	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x080000F0	7F	01	00	08	7F	01	00	08	7F	01	00	08	00	00	00	00
0x08000100	7F	01	00	08	00	00	00	00	7F	01	00	08	7F	01	00	08
0x08000110	A5	04	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000120	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000130	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000140	7F	01	00	08	7F	01	00	08	7F	01	00	08	7F	01	00	08
0x08000150	DF	F8	0C	D0	00	F0	2A	F8	00	48	00	47	09	08	00	08
0x08000160	90	0D	00	20	06	48	80	47	06	48	00	47	FE	E7	FE	E7
0x08000170	FE	E7	FE	E7	FE	E7	FE	E7	FE	E7	FE	E7	FE	E7	FE	E7
0x08000180	FD	03	00	08	51	01	00	08	40	EA	01	03	98	07	03	D0
0x08000190	29	E9	08	C9	12	1F	08	CO	04	2A	FA	D2	03	E0	11	F8
0x080001A0	01	38	00	F8	01	38	52	1E	F9	D2	70	47	06	4C	07	4D
0x080001B0	06	E0	E0	68	40	F0	01	03	94	E8	07	00	98	47	10	34
0x080001C0	AC	42	F6	D3	FF	F7	C8	FF	C8	26	00	08	E8	26	00	08
0x080001D0	30	B5	8C	18	10	F8	01	2B</								

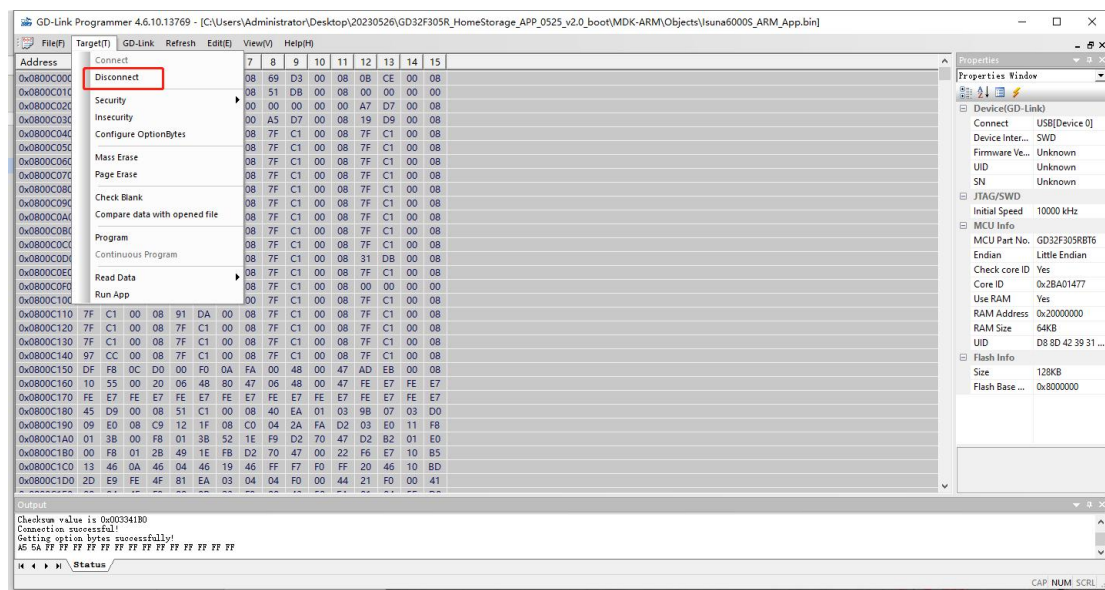
C:\Users\Administrator\Desktop>netstat -an

Address	Target	State	Bytes
0x00000000	0x00000000	0x00000000	0x00000000
0x00000001	0x00000001	0x00000001	0x00000001
0x00000002	0x00000002	0x00000002	0x00000002
0x00000003	0x00000003	0x00000003	0x00000003
0x00000004	0x00000004	0x00000004	0x00000004
0x00000005	0x00000005	0x00000005	0x00000005
0x00000006	0x00000006	0x00000006	0x00000006
0x00000007	0x00000007	0x00000007	0x00000007
0x00000008	0x00000008	0x00000008	0x00000008
0x00000009	0x00000009	0x00000009	0x00000009
0x0000000A	0x0000000A	0x0000000A	0x0000000A
0x0000000B	0x0000000B	0x0000000B	0x0000000B
0x0000000C	0x0000000C	0x0000000C	0x0000000C
0x0000000D	0x0000000D	0x0000000D	0x0000000D
0x0000000E	0x0000000E	0x0000000E	0x0000000E
0x0000000F	0x0000000F	0x0000000F	0x0000000F
0x00000010	0x00000010	0x00000010	0x00000010
0x00000011	0x00000011	0x00000011	0x00000011
0x00000012	0x00000012	0x00000012	0x00000012
0x00000013	0x00000013	0x00000013	0x00000013
0x00000014	0x00000014	0x00000014	0x00000014
0x00000015	0x00000015	0x00000015	0x00000015
0x00000016	0x00000016	0x00000016	0x00000016
0x00000017	0x00000017	0x00000017	0x00000017
0x00000018	0x00000018	0x00000018	0x00000018
0x00000019	0x00000019	0x00000019	0x00000019
0x0000001A	0x0000001A	0x0000001A	0x0000001A
0x0000001B	0x0000001B	0x0000001B	0x0000001B
0x0000001C	0x0000001C	0x0000001C	0x0000001C
0x0000001D	0x0000001D	0x0000001D	0x0000001D
0x0000001E	0x0000001E	0x0000001E	0x0000001E
0x0000001F	0x0000001F	0x0000001F	0x0000001F

19. If the following screen appears, it means that the upgrade is successful



20. Click Target-Disconnect



21. Disconnect the upgrade tool USB interface and reconnect, the single board LED D55 first fast flash about 10S and then slow flash that the program upgrade success.



22. Disconnect the upgrade tool USB port.

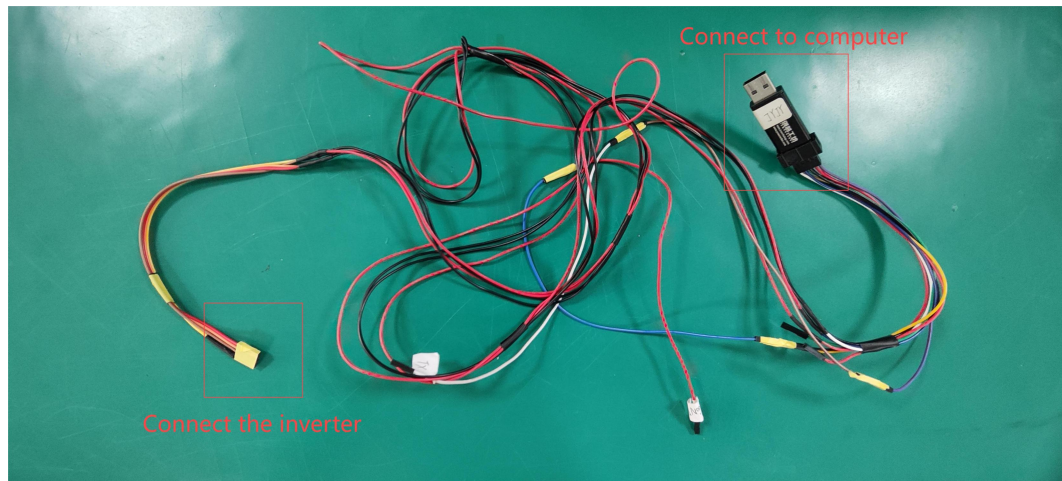
IV Appendix

4.1 Introduction to upgrade Tools

DSP upgrade tool



ARM upgrade tool



4.2 Upgrade Tools Models

1, DSP emulator model: YXDSP-XDS100V3 EMULATOR USB2.0.



2.GD Emulator Model: PWLINK2

