

MAMOS – UPGRADE OF ANALYSER'S FIRMWARE

Service manual

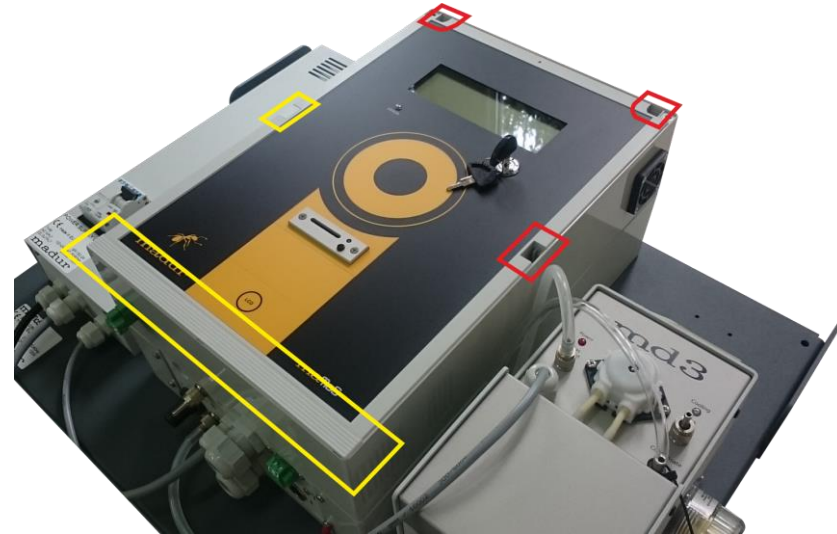
Version: 1.2
12/2022

madur
E L E C T R O N I C S

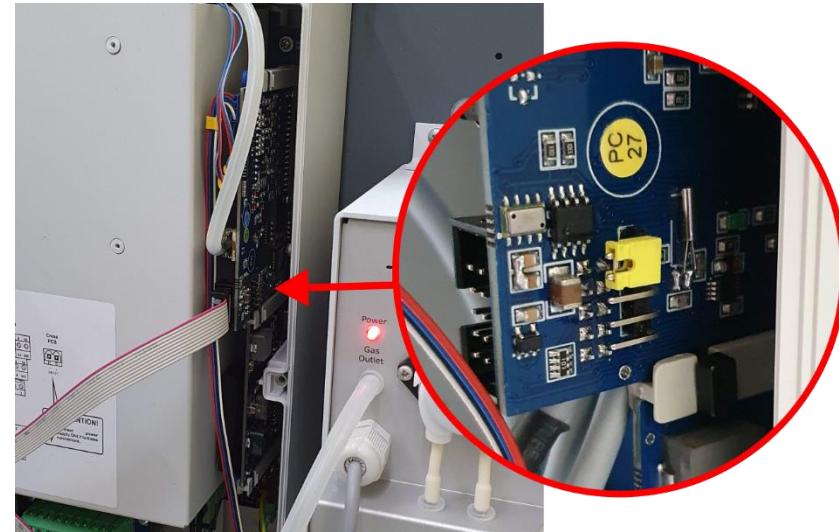
1. PROCEDURE OF FIRMWARE UPGRADE - CPU

1. Turn OFF the analyser and disconnect from mains

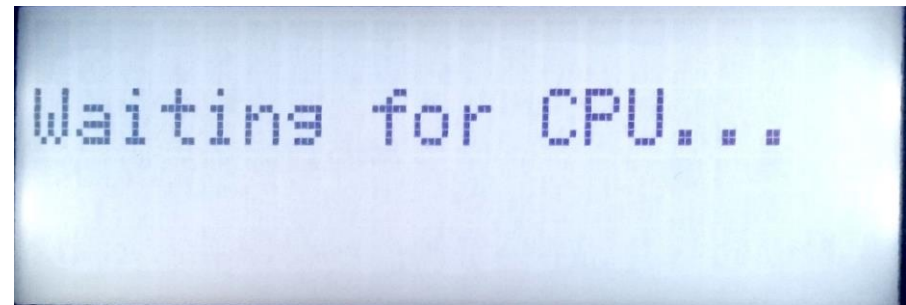
2. Open the analyser's casing – remove 6x blanks and unscrew 6x Pozidriv PZ2 screws.



3. On the CPU board → install jumper – short-circuit the two top pins.



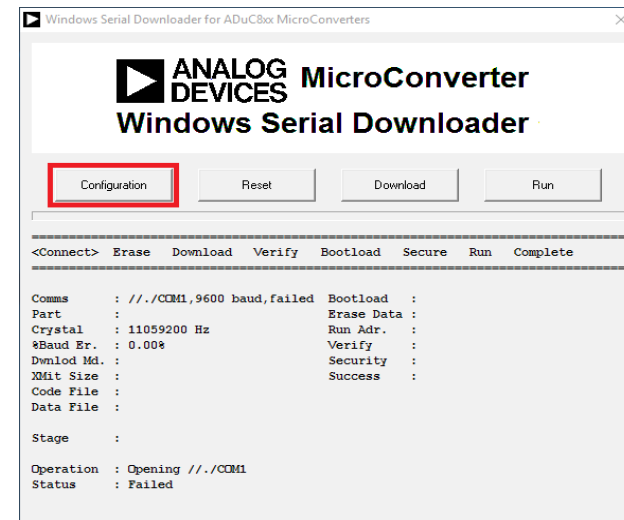
4. Turn ON the analyser. Analyser will start in programming mode. Display will show "Waiting for CPU..."



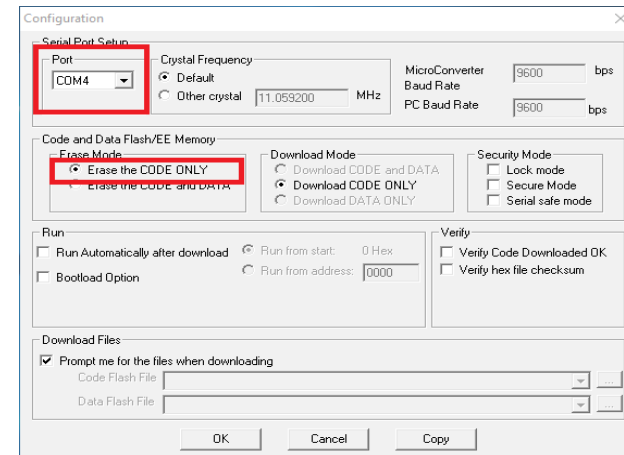
5. Download WSD program from Analog Devices and install it on your PC:

[WSD 7.0.5](#)

6. Press *Configuration* button

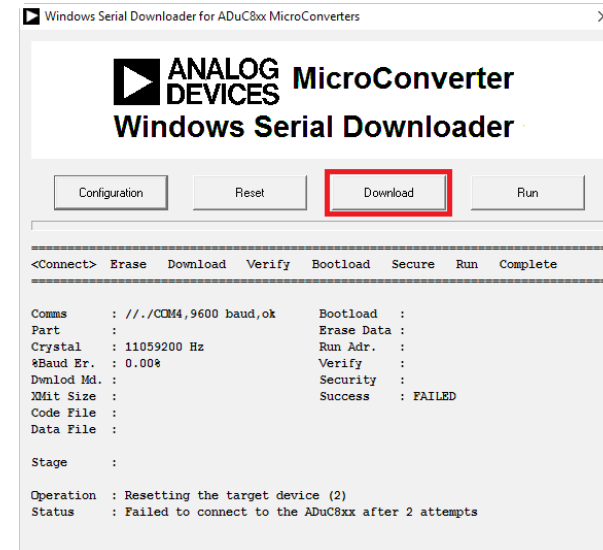


7. Select the communication port (the one you use to communicate with mamos via PC). **Connect PC ↔ mamos using USB cable.**
8. **Select *Erase the CODE ONLY* option (otherwise all mamos settings will be lost)**
9. Confirm settings by hitting *OK*

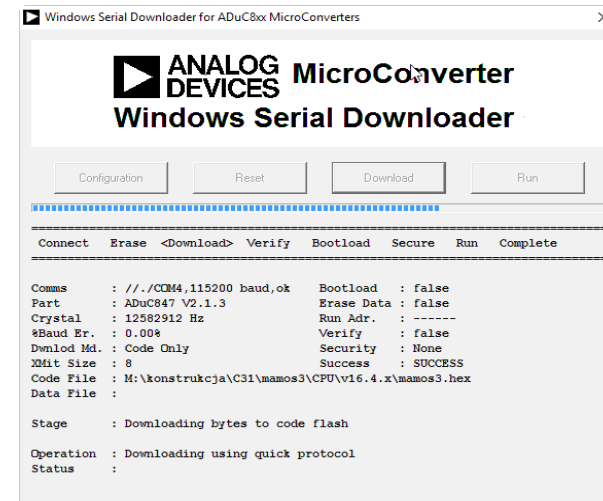


10. Press *Download* button to select a file with firmware – mamos3.hex

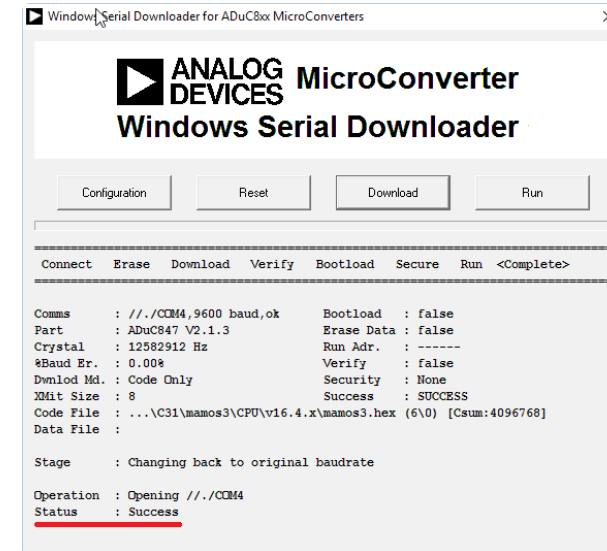
Firmware must match the analyser's hardware configuration – loading inappropriate hex file can (in the best case scenario) disable analyser. Please consult every firmware update with madur technical support: service@madur.com



11. Upgrade process is shown with progress bar



12. After upgrade program will report the status

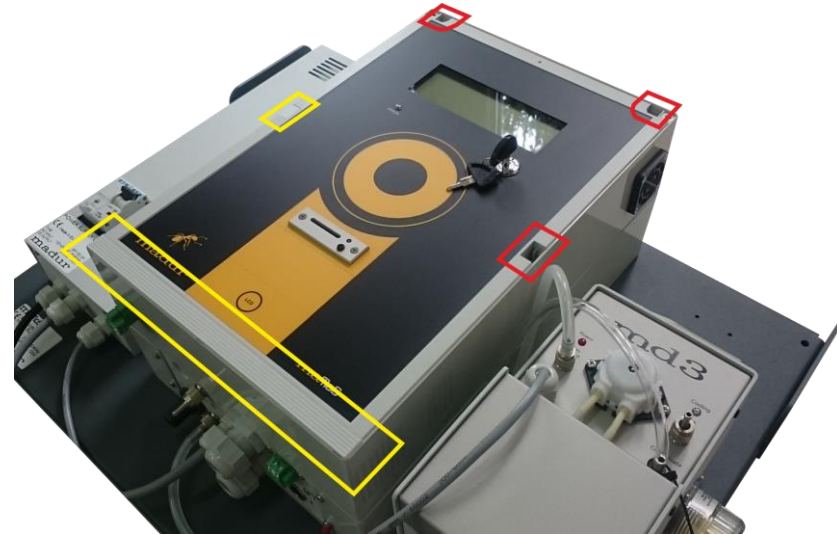


13. Turn the analyser OFF

14. Remove the jumper (3) and turn the device ON

2. PROCEDURE OF FIRMWARE UPGRADE – DISPLAY

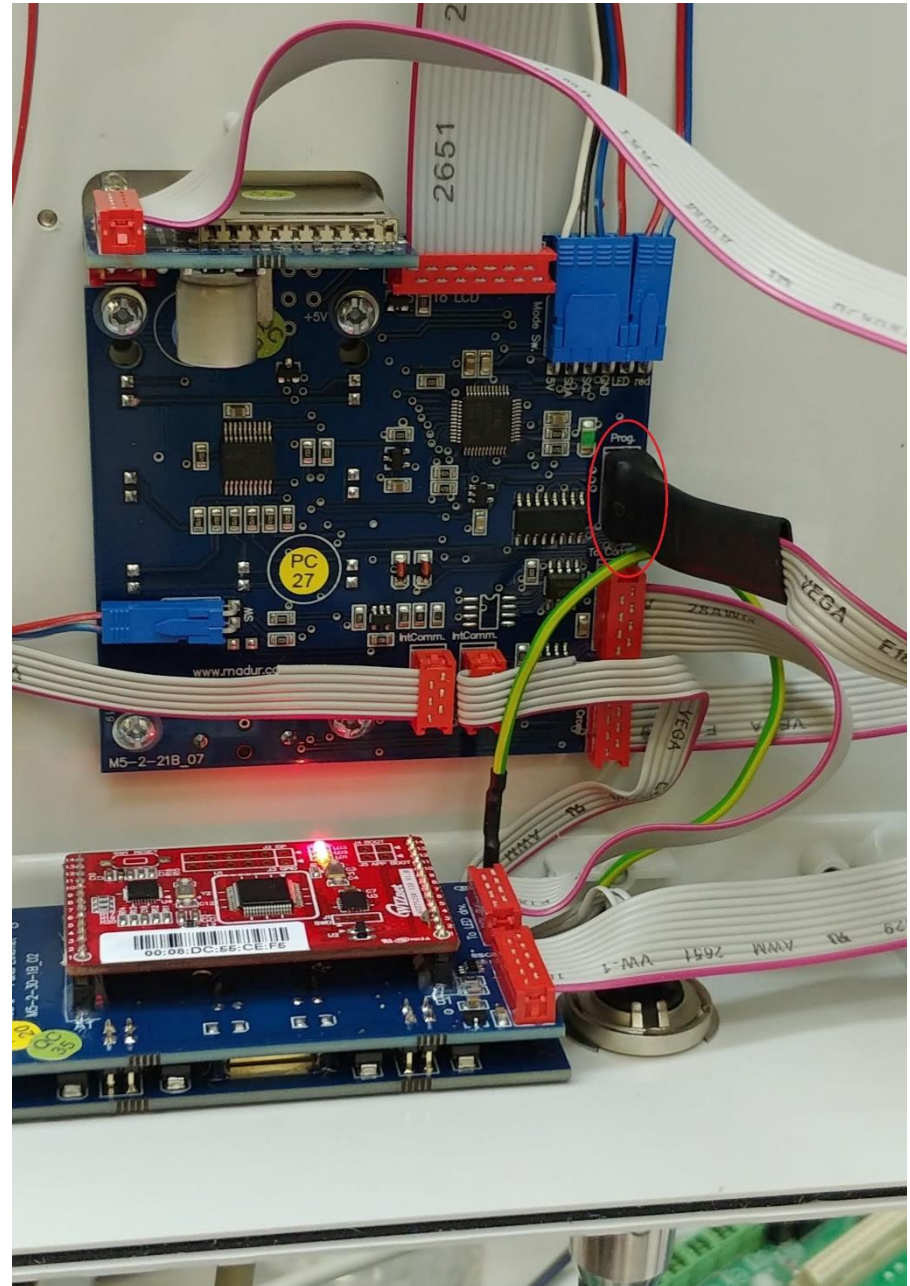
1. Turn OFF the analyser and disconnect from mains
2. Open the analyser's casing – remove 6x blanks and unscrew 6x Pozidriv PZ2 screws.



3. To perform Display upgrade special cable is needed:
 - Silicon Labs USB Debbuger (DEBUGADPTR1-USB)
 - Madur adapter cable (in the picture on the right, the upper element)



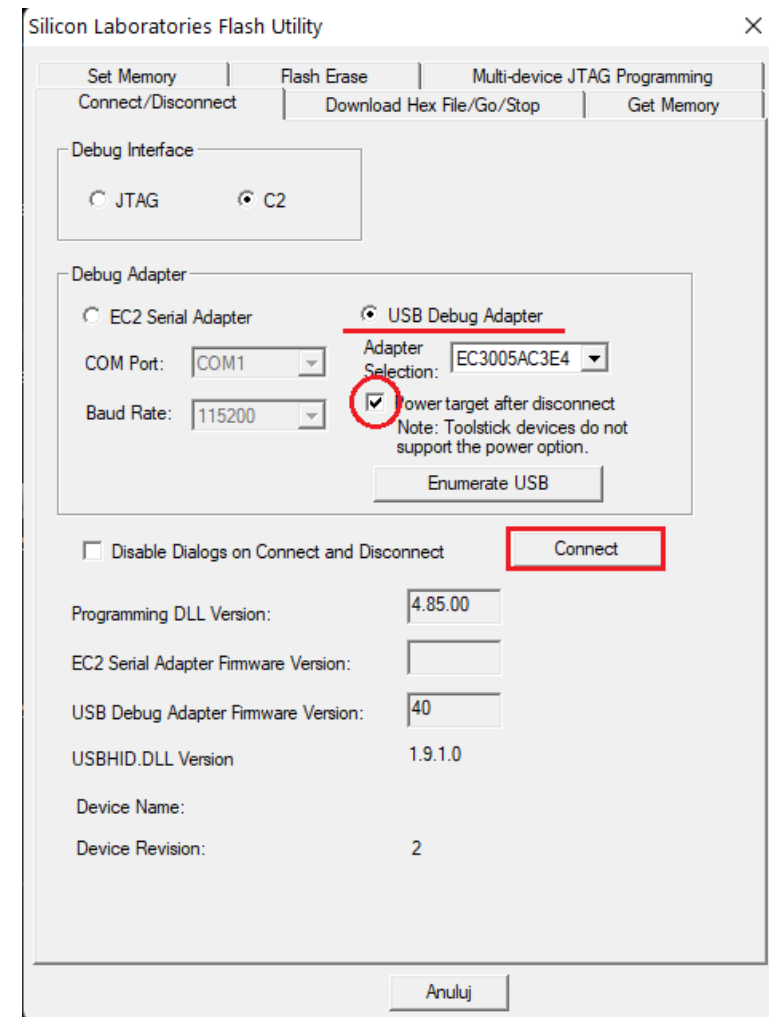
4. Connect adapter to display PCB, to connector called *Prog*.



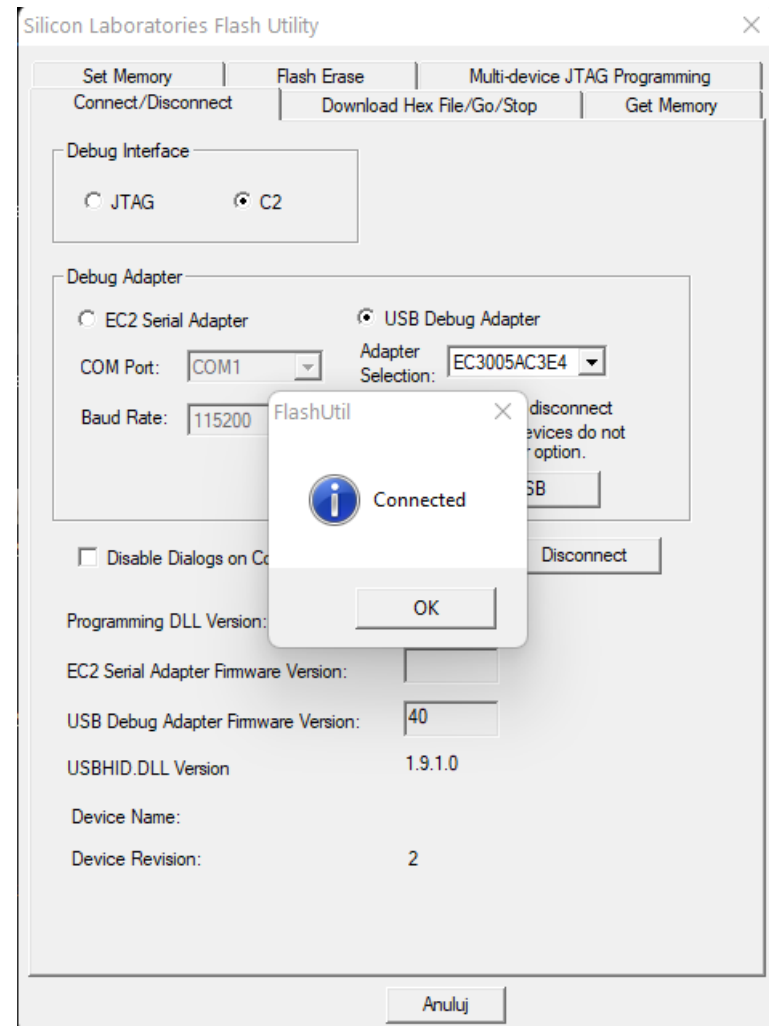
5. Download Silicon Labs Flash Utility

[Silicon Labs Flash Utility](#)

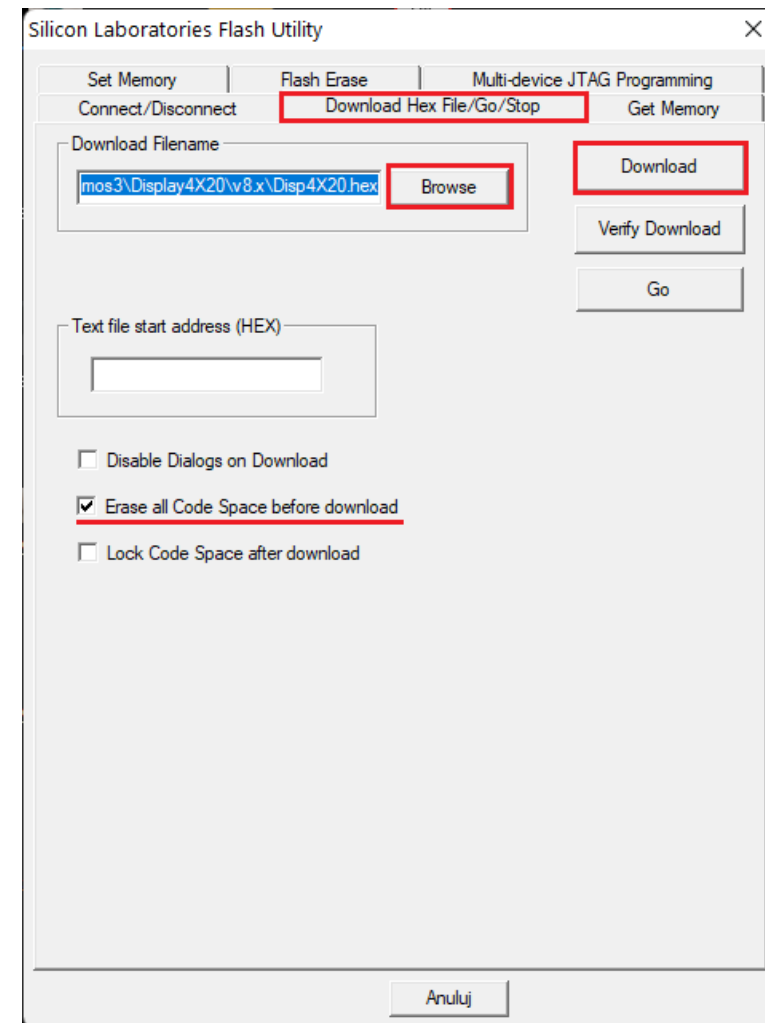
6. Select USB Debug Adapter
7. Check "Power target..." option
8. Press Connect



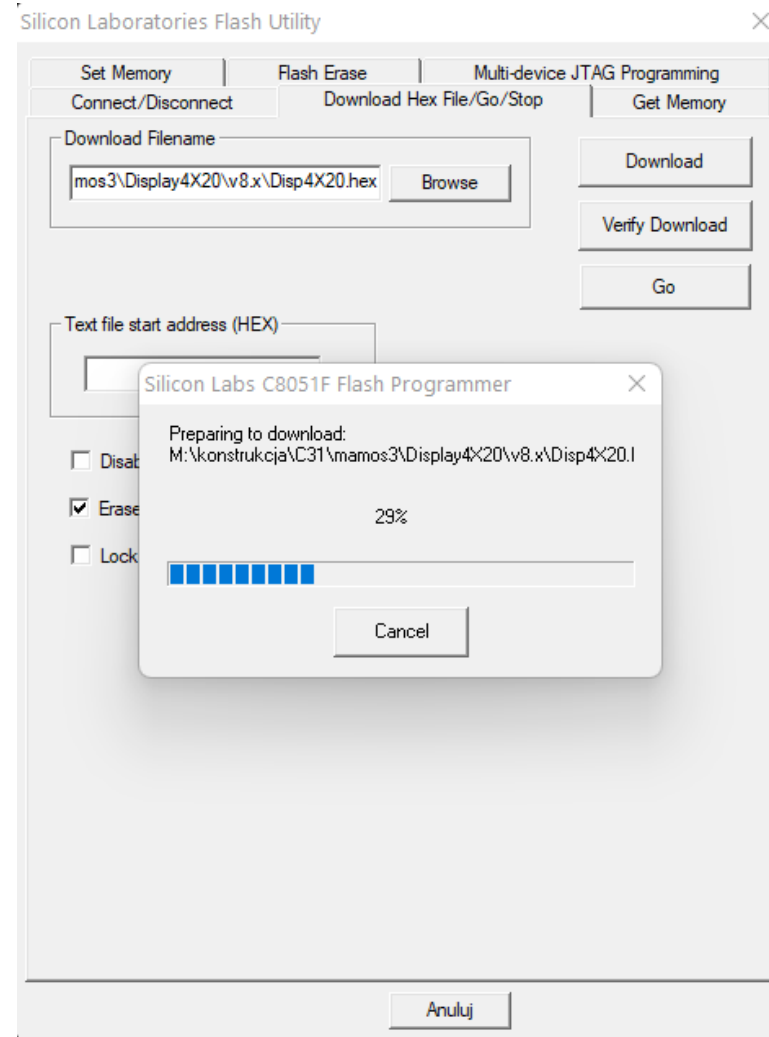
9. Program confirms it has been connected



10. Select tab: *Download Hex File/Go/Stop*
11. Select hex file (usually called *Disp4x20.hex*)
12. Check option *Erase all code...*
13. Press *Download*



14. Firmware is loading



15. Program is successfully loaded

16. Close flashing program
17. Disconnect Silicon Labs debugger
18. Put back the analyser.
19. Turn the analyser ON

