

# IoT Embedded Device Firmware Upgrade

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## Flashing firmware to the Signal Capture Board

Download and install PSoC Programmer from:

<https://drive.google.com/drive/folders/1s4ri5X9oUGjGBjXRwOY64fujf1A4Nsc-?usp=sharing>  
Windows is required for this!!!

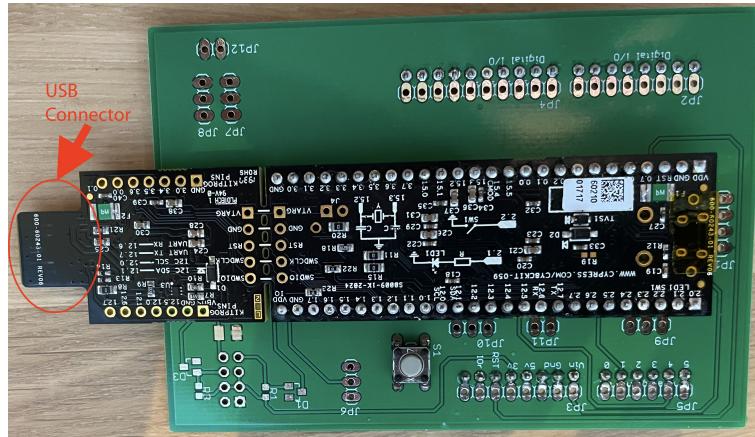


Figure 1: PSoC based signal capture board

Plug in the circled USB connector to a USB drive(circled in Figure 1.) and open PSoC Programmer application on your PC.

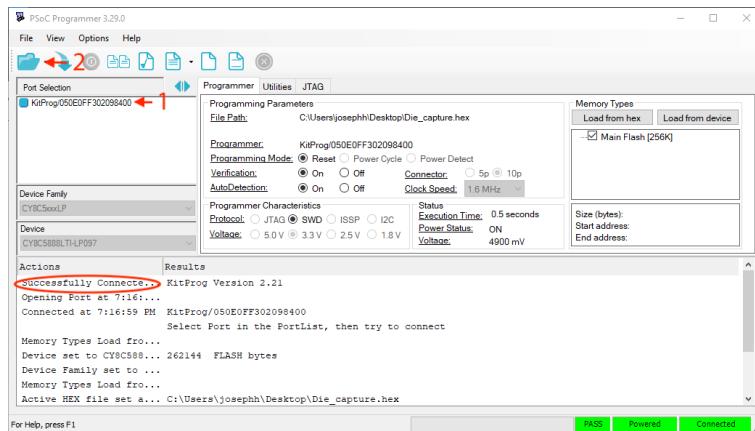


Figure 2: PSoC Programmer Window

Step 1: Make sure that your Signal Capture Board is connected to the Programmer. You will see a small blue square to the left of your device in the port selection window. Additionally you will see that it says that it is connected in the actions window(demonstrated by the red circle in the lower portion of the image).

Step 2: Browse and find the appropriate .HEX file. In this case it is the Hex file shown in Figure 3.



Figure 3: HEX file located in Windows Explorer

Step 3: Once the appropriate file is selected, you can press the program button (Shown in Figure 4)

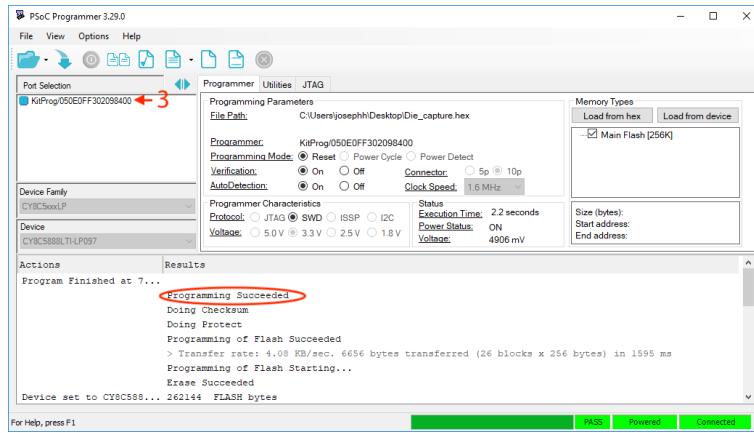


Figure 4: Programmer window after successful flashing

## Flashing LPCXpresso

Download and install Flash Magic from:

<https://drive.google.com/drive/folders/1s4ri5X9oUGjGBjXRw0Y64fujf1A4Nsc-?usp=sharing>

If you do not have LPC drivers installed, please make sure to install them when asked.

Open the Flash Magic application on your Windows PC. Click on the change button to select your device.

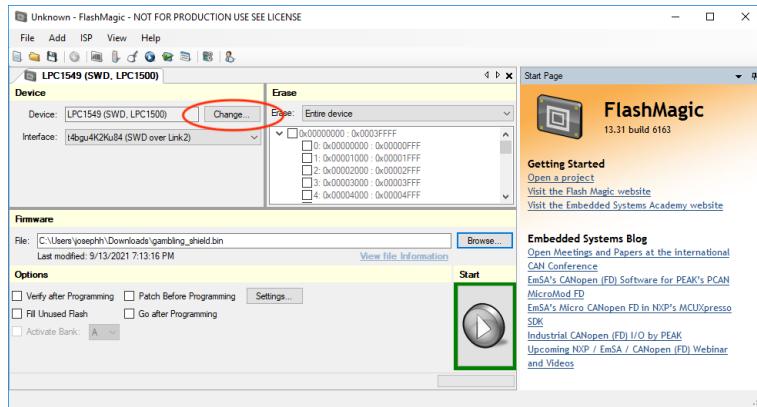


Figure 5: Flash Magic Application

This will open a device selection window.

Select **LPC1500** → **SWD** → **LPC1549**

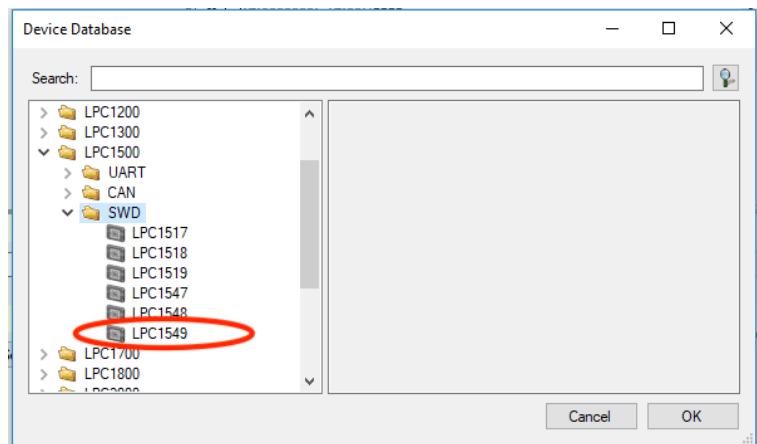


Figure 6: Flash Magic device selection

Once your device is selected then you can plug in the USB to the dev board as pictured in Figure 7. and plug the USB A end into your PC.



Figure 7: LPCxpresso 1549 development board

The Interface should be automatically recognized. If not, make sure that you have plugged into the correct micro USB port on the LPCxpresso. If no interface still, unplug and re-plug. If you still have no interface detected, please close the application and re-install. Make sure that you install the LPC Drivers. If you have everything working correctly, you will see that the interface is recognized as shown in Figure 9

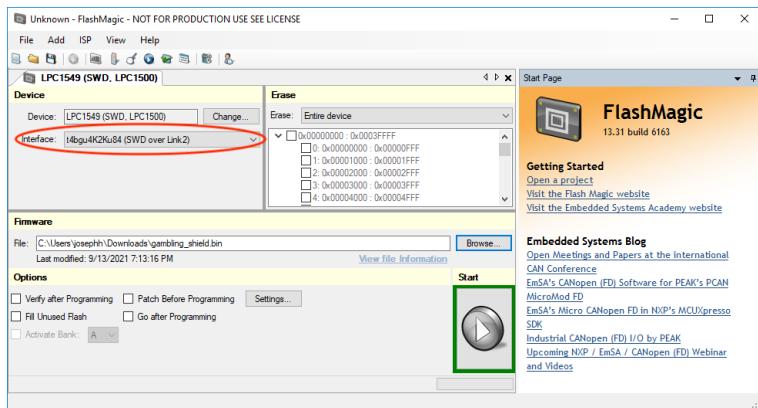


Figure 8: Flash Magic with interface shown

Then select your .bin file by clicking on the browse button. Navigate to the folder where you saved your file. You will need to make sure that you choose to show all files or bin files in the lower right hand side of the explorer window. as shown below.

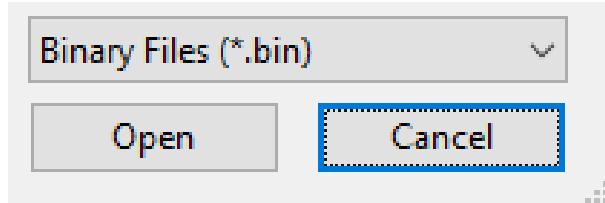


Figure 9: File type select

Afterwards you should now be able to see your .bin file in the window. Select your .bin file and then open.



Figure 10: Bin file

Once finished select Start from the Flash Magic application and wait until programming has completed. Both boards should be ready for primetime. Connect them and then plug the signal capture board into your USB port and continue with your exercise.