Simple procedure for installing ADALM1000 Software:

These steps assume the use of a 64 bit Windows 10 computer. It is also assumed that the user will not be writing (or developing) their own software applications for the ADALM1000. It is suggested that you read through this entire document before installing any software.

The first thing that needs to be installed to use the ADALM1000 on a Windows computer is to install the USB drivers. **Do not plug the ADALM1000 into a USB port until you have installed the device USB drivers.**

There are two ways to obtain the proper drivers.

Option 1: Is best option if you intend to install the ALICE desktop tools through the Windows installer executable.

Download the 64 Bit Libsmu software library installer package that contains the 64 Bit USB drivers for the ALM1000:

https://github.com/analogdevicesinc/libsmu/releases/download/v1.0.4/libsmu-1.0.4-setup-x64.exe

Now we will install the USB drivers.

Run the libsmu-1.0.4-setup-x64.exe program you just downloaded. Windows may warn you that the software is from an unknown publisher. Say Yes anyway. You will first be prompted to select a Setup Language:
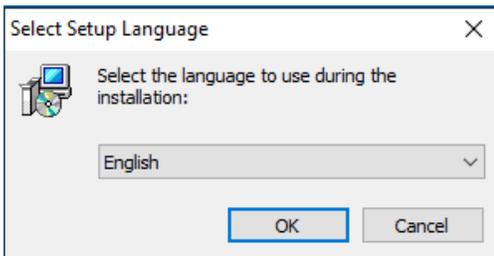
Next you will be asked to accept the License Agreement. Click on I Accept and Next:
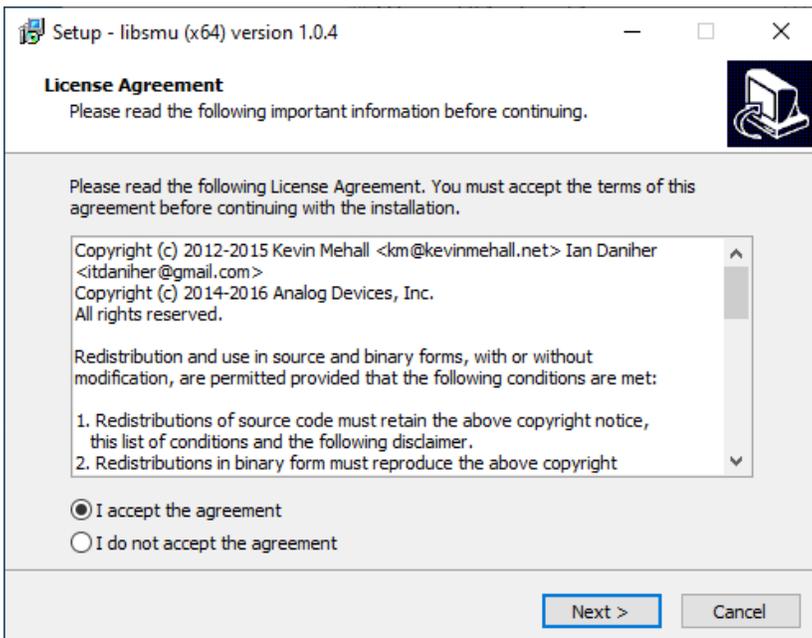
Next you will be asked to select a Destination Location. The default is fine. Click on Next.
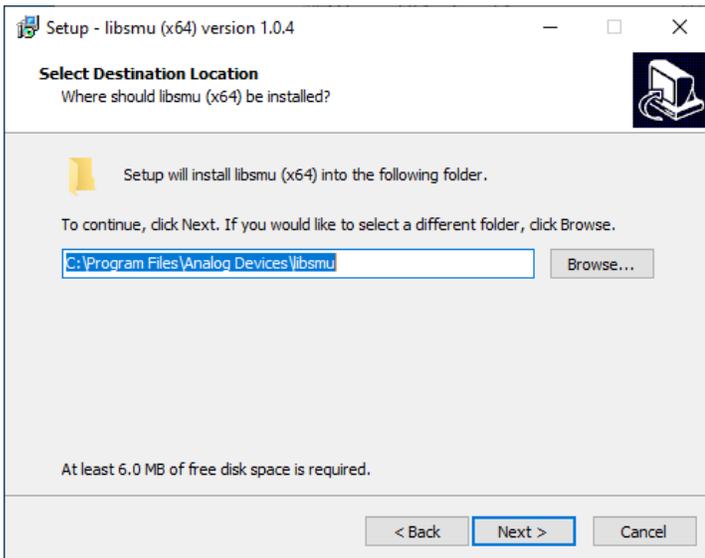

Next you will be asked to select what you want to install. By default just the install WinUSB drivers will be selected. Click on Add application… if is not already. If you are not intending to develop your own software applications for the ALM1000 then that will be all you need to select. Python support is now provided through the Conda Packages. (https://wiki.analog.com/university/tools/conda?s[]=libsmu)
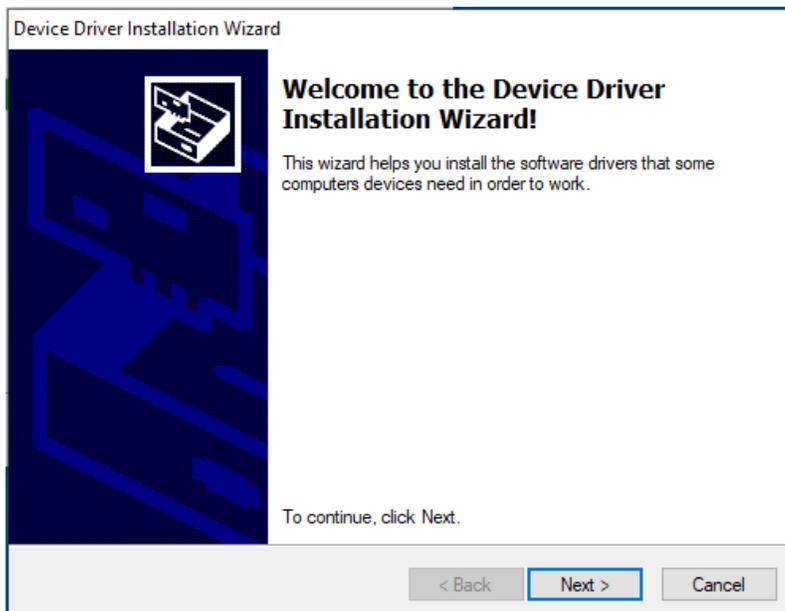
Click on Next.
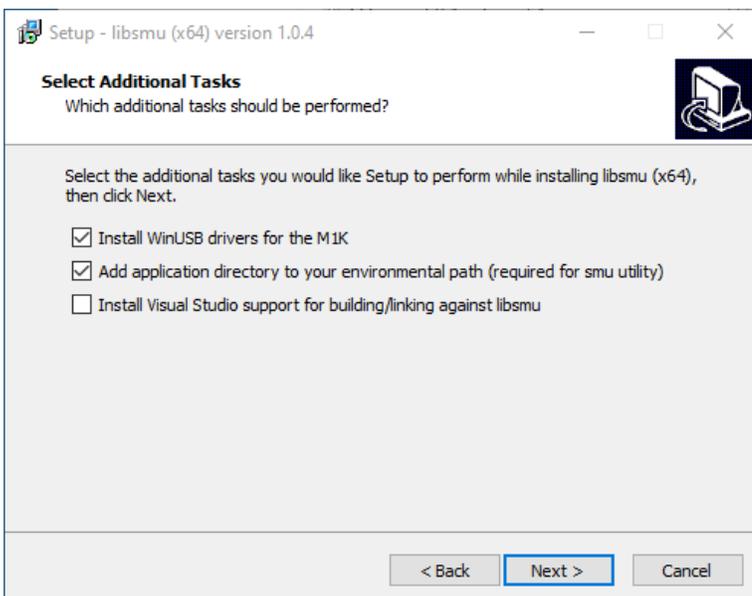
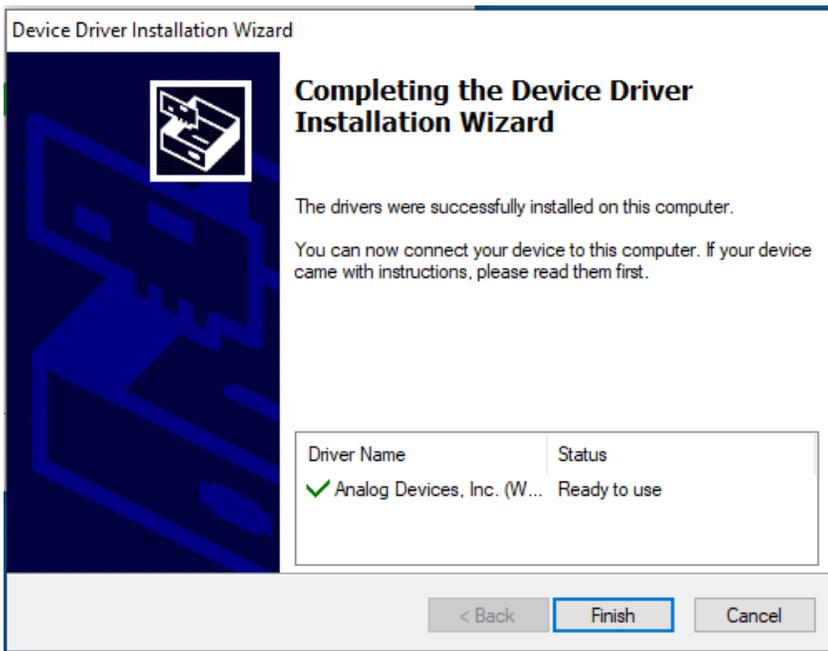The next thing to pop up is just to confirm that you wish to install the software:
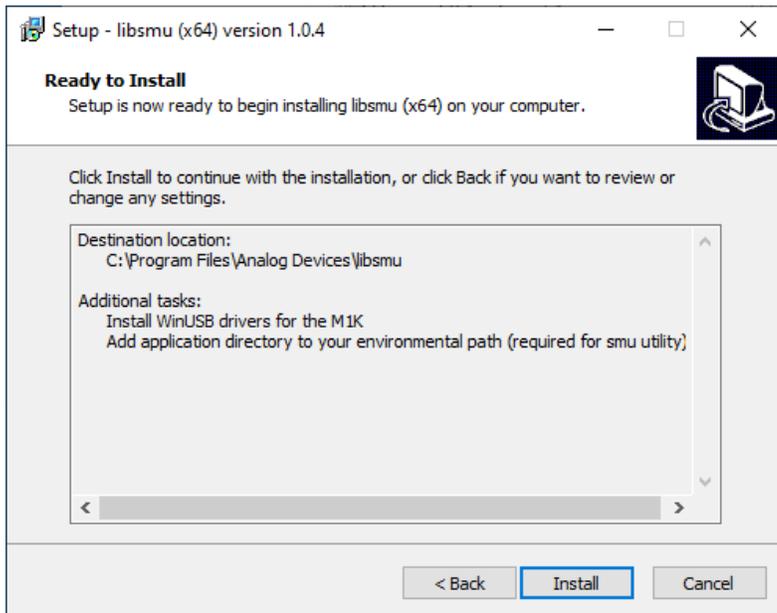
Click on Install.

The Windows Driver install dialog box will now pop up.
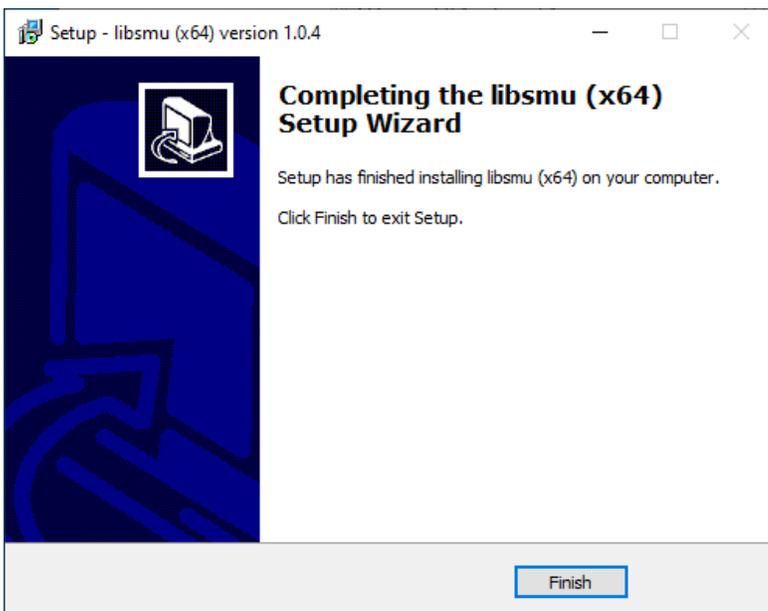
Click Next.

If the USB driver Install completes you will get the last pop up screen:

Click on Finish. The final pop-up should appear.

Click on Finish.

You now have the device driver and libsmu library installed on your system. You can now skip over option 2.
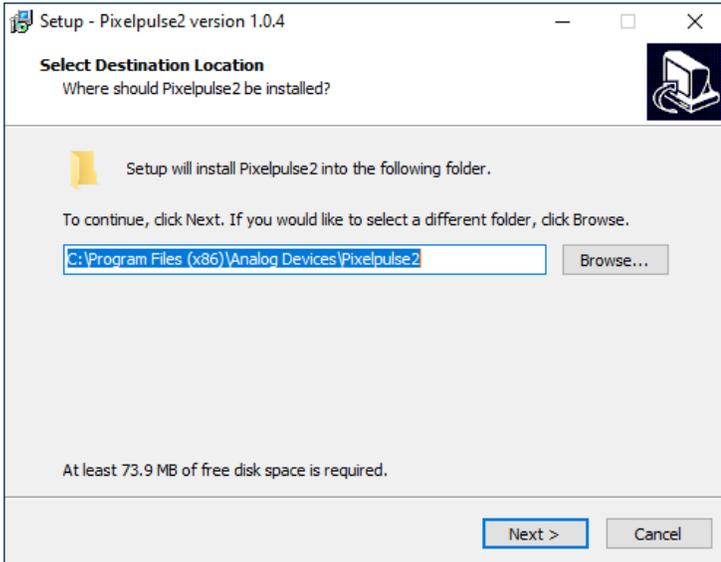
Option 2: Pixepulse2

Download this link for the Pixelpulse2 installer that contains the 64 Bit USB drivers for the ALM1000:

https://github.com/analogdevicesinc/Pixelpulse2/releases/download/v1.0.4/Pixelpulse2_win_setup.exe
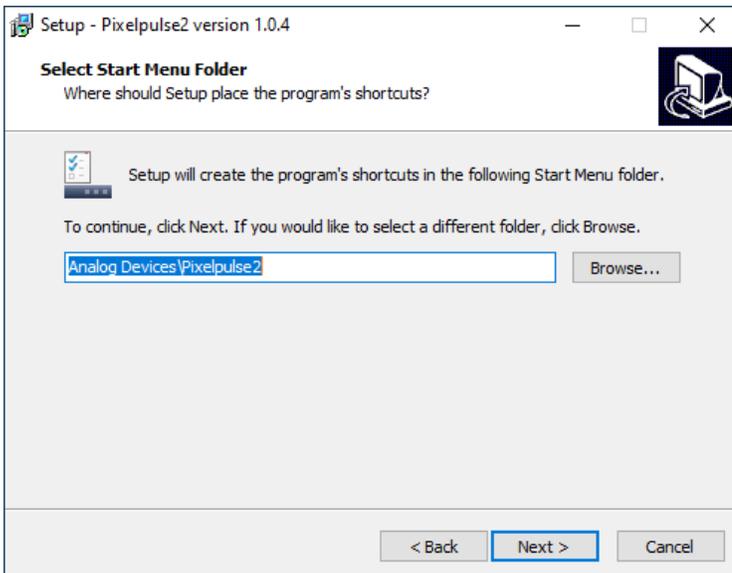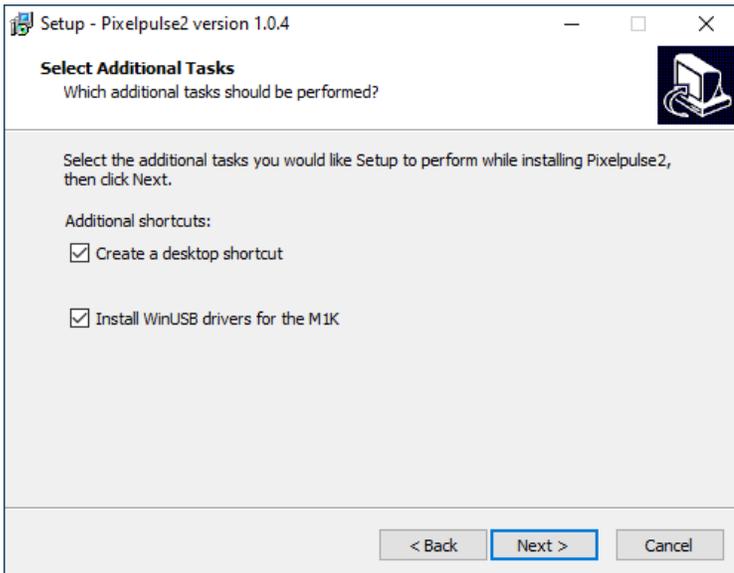
Run the Pixelpulse2 setup program.
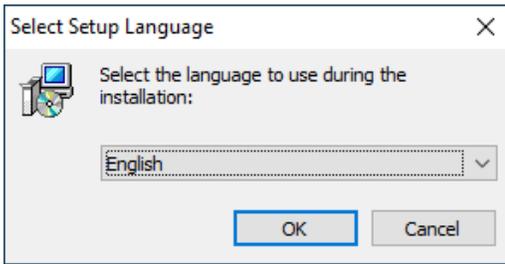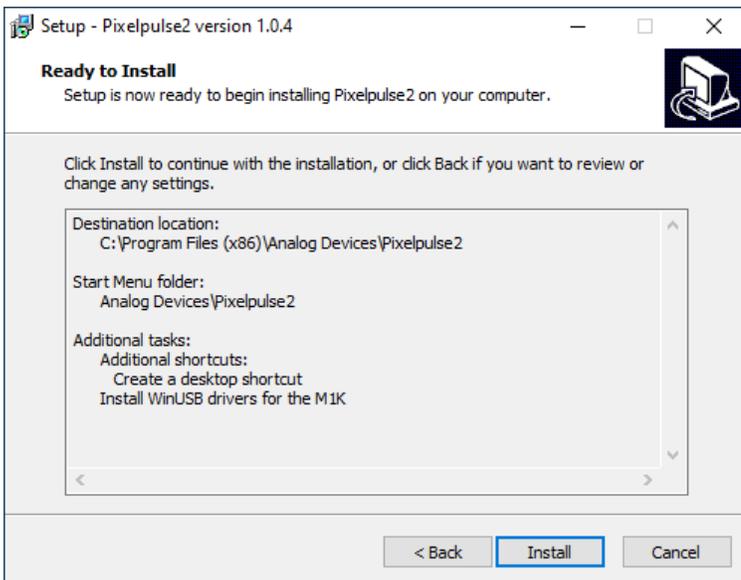
Click on OK.

Default location is generally OK if you have enough space on that drive. Click Next.
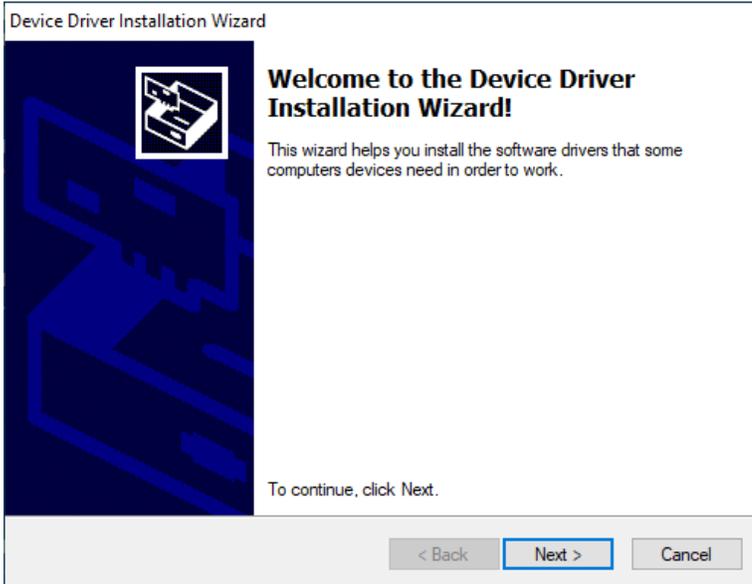
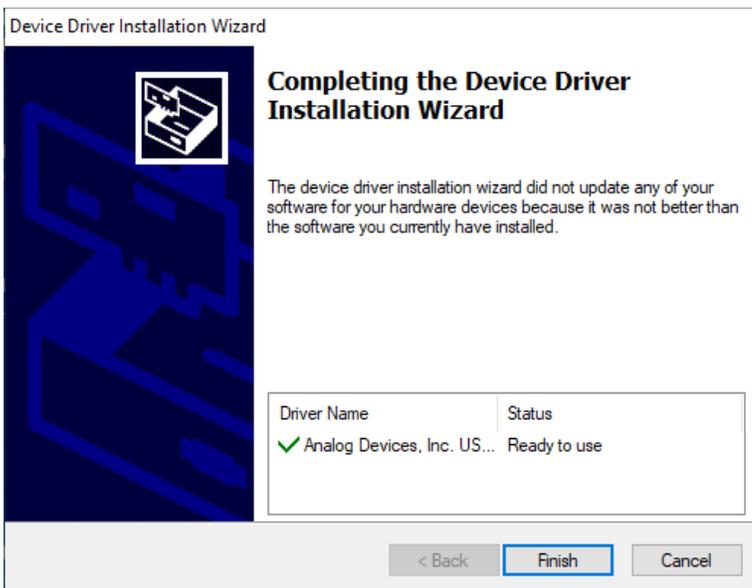

Default shortcut name is OK. Click Next.

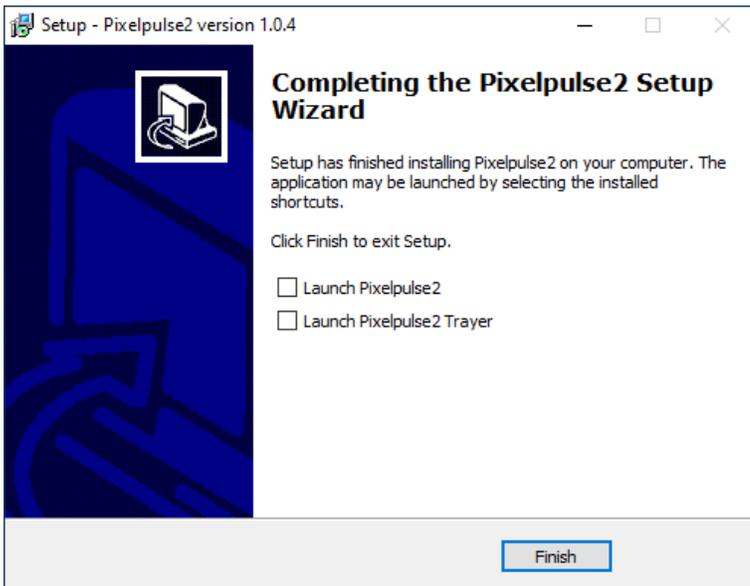Be sure the Install WinUSB drivers option is selected. Click Next


Click Install.

Click Next.

Click Finish.

Un check Launch Pixelpulse2 Trayer. Click Finish.

With the ADALM1000 plugged into a USB port Run Pixelpulse2. It may take Windows a few seconds to recognize the board the first time and load the driver. The Pixelpulse2 Trayer may launch Pixelpulse2 automatically whenever the board is plugged in.

The firmware on the board should be the lasted version loaded from the factory but might be one revision behind the newest version. The screen below should pop up with the device listed on the right side reminding you that the version is 2.16 and asking you to update the firmware. Click on the Update Firmware button in the lower right corner. It may take a few seconds to complete (as the software downloads the binary file over the Web).
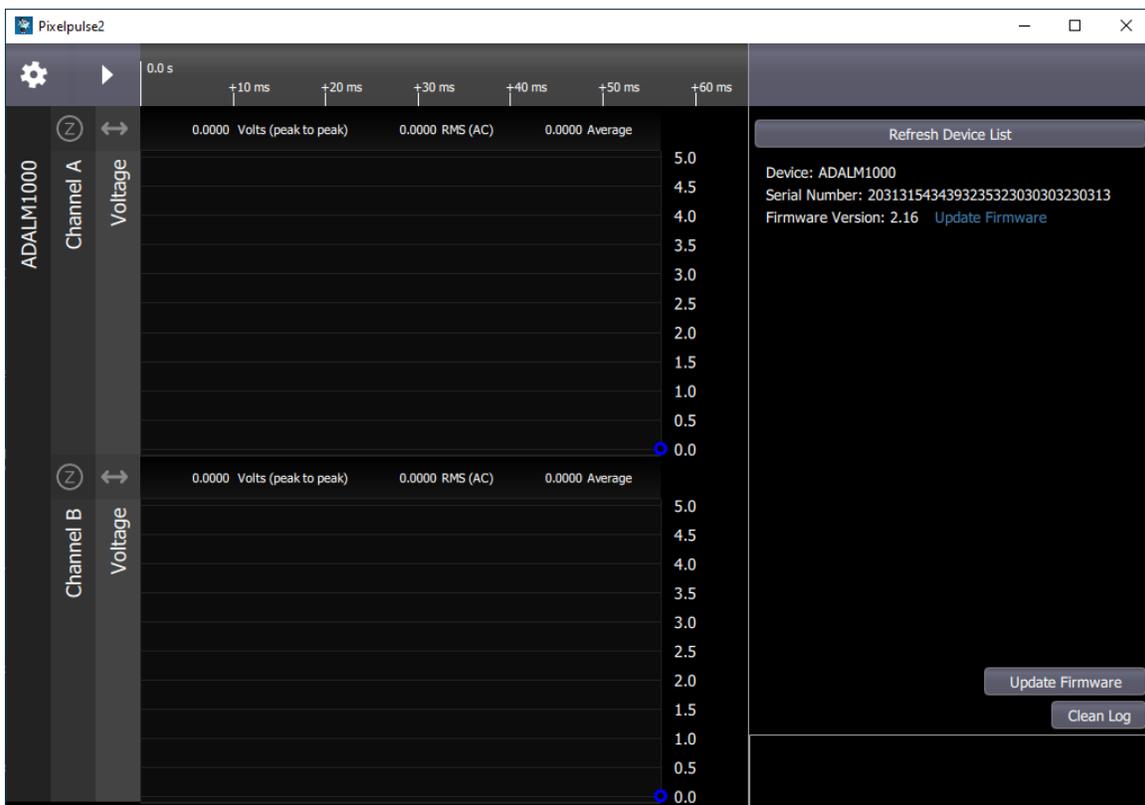
When it completes you will need to cycle the power to the board by un plugging from the USB port and plugging it back in to complete the process (note in lower right corner to disconnect device).
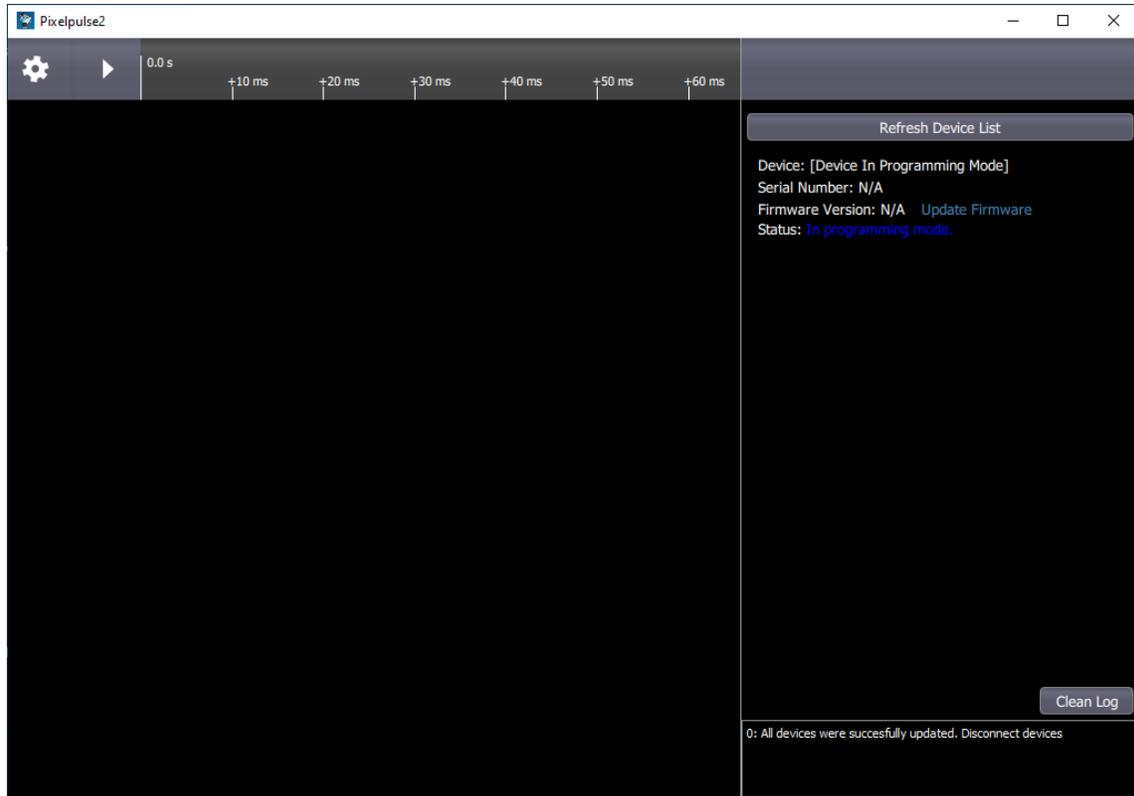
After cycling power the screen should look like this:
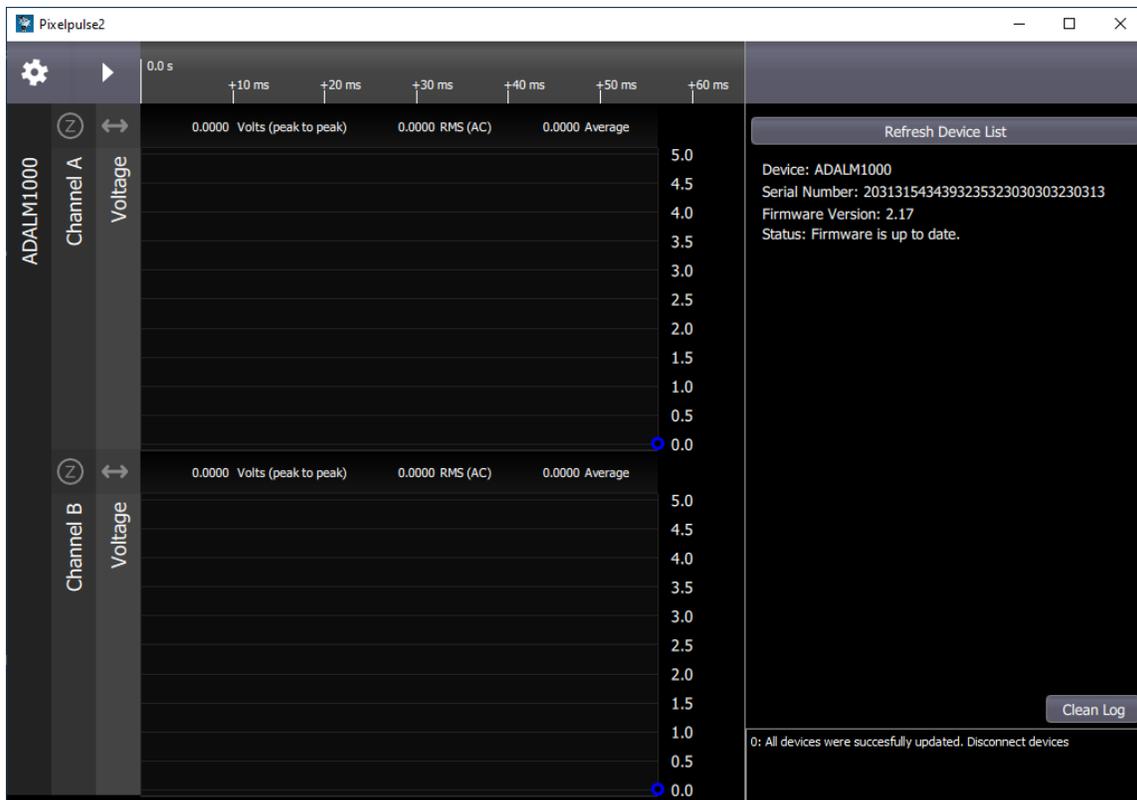
Now showing firmware version 2.17 (newest) and up to date.

The software required to run ALICE for ADALM1000 on Windows.

Starting with Release 1.3.14 ALICE is built using a 64 bit version of Python. The older version for 32 bit systems will no longer be supported after v1.3.14. To use the x32 bit version of ALICE you must also install the 32 bit version of libsmu. **Skip this step if you have a x64 bit system.**

Download this link for the 32 bit libsmu library required to run ALICE1.3 for Windows:

https://github.com/analogdevicesinc/libsmu/releases/download/v1.0.2/libsmu-1.0.2-setup-x86.exe

(Note that there are two different lib smu installers different by x64 vs x86 in the file names!)

Run the libsmu-1.0.4-setup-x86.exe program you just downloaded. Use the same procedure you just did installing the WinUSB driver. By default just the install WinUSB drivers will be selected, but this time un-check that box and check the one below it to Add application directory to your environment path.

Complete the installation by clicking the various next boxes as before. This should now have installed the required libsmu for the x32 version of ALICE to run.

Run the Windows Installer

From this link download the latest version of the Windows executable installer, alice-desktop-1.3-x64-setup.exe, for the 64 bit version of ALICE 1.3 for the ALM1000 (alice-desktop-1.3-x32-setup.exe, for the 32 bit version):

https://github.com/analogdevicesinc/alice/releases

Next we will run the ALICE 1.3 Windows executable installer. Run the alice-desktop-1.3-x64-setup.exe program you just down loaded. The first dialog to pop up asks you to select where you want to install the software. The default location is C:\ALM Software\M1K. This is the best choice because the software writes certain files to the location where it runs so it needs to be somewhere that is not write protected.
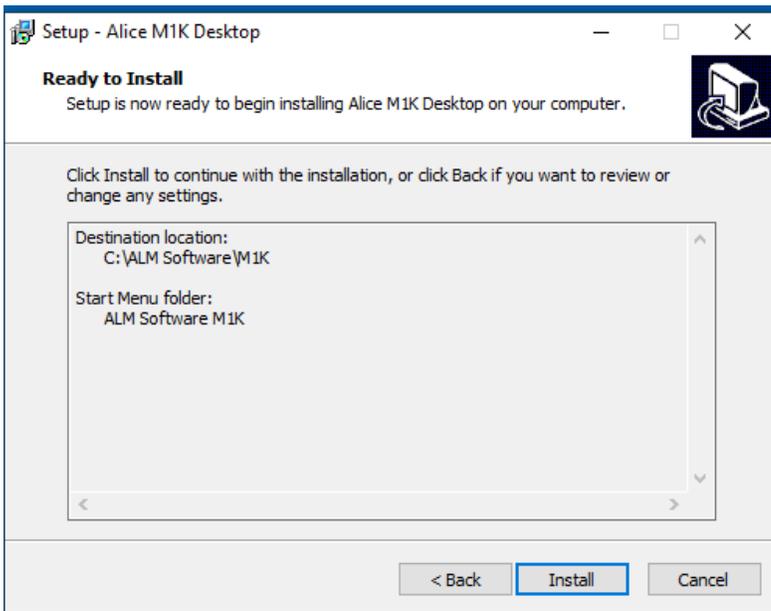
Click on Next.
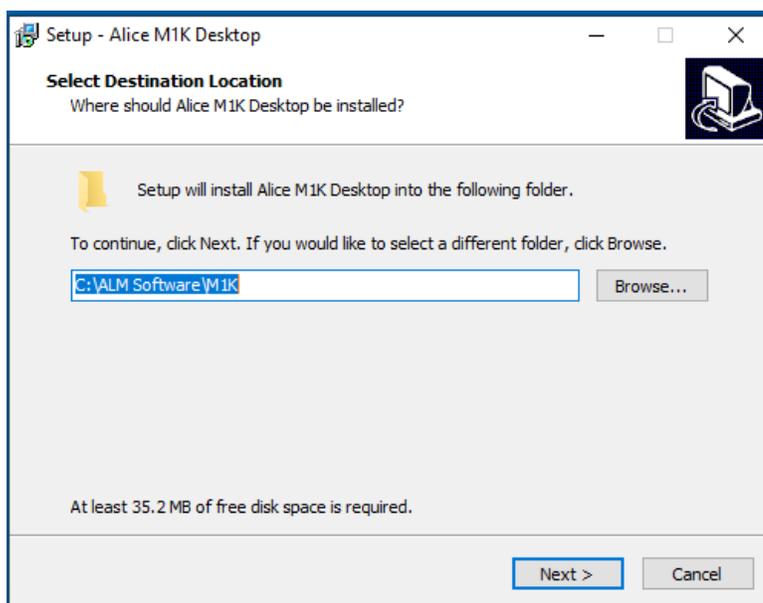
The next pop-up asks you to select the Start Menu Folder. The default location is fine.
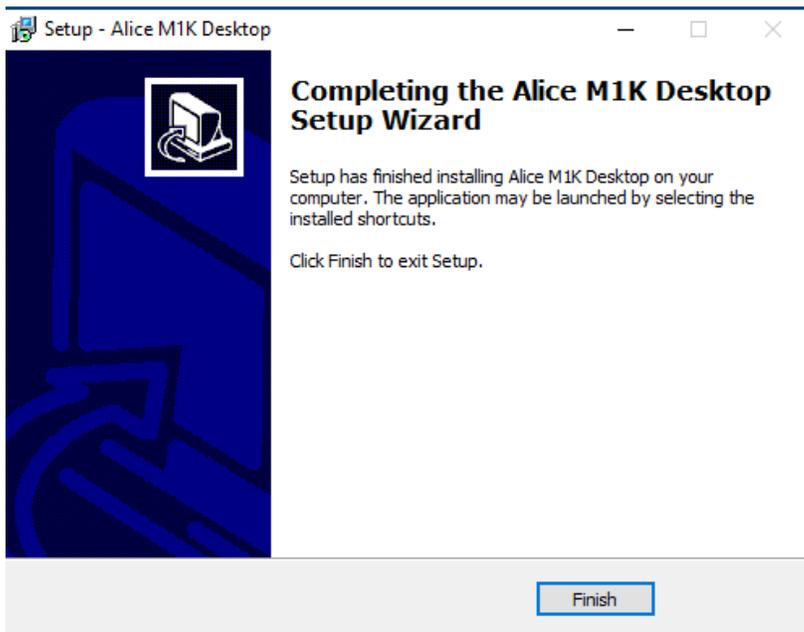
Click on Next.
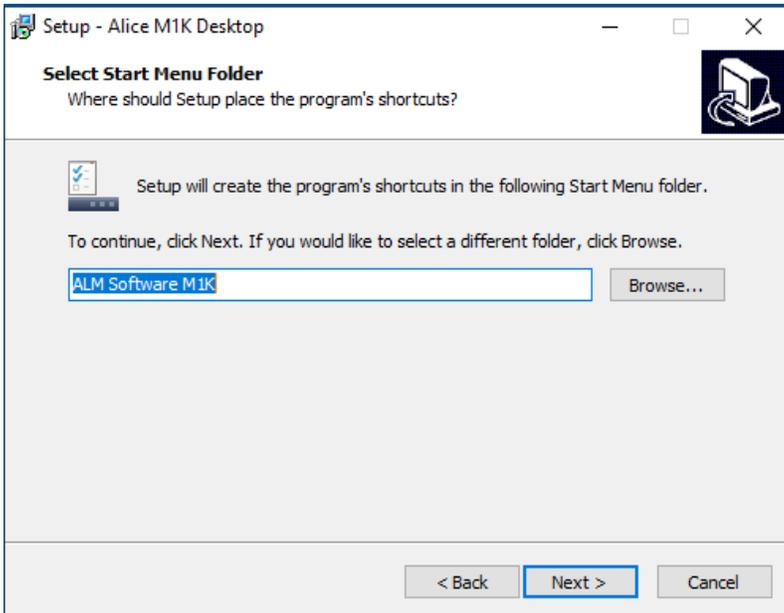
The next pop-up just asks you to confirm that you want to install the software.

Click on Next.

When the installation completes this final dialog should appear.

Click on Finish.

After the software is installed a number of desktop icons should appear. You should now be able to plug-in your ADALM1000 to a USB port. Windows should recognize the new hardware and find the appropriate driver.

You are now ready to run ALICE 1.3. Start ALICE by double clicking on the desktop Icon.

Most likely your ADALM1000 has firmware version 2.17 installed from the factory. ALICE will run with older versions of the firmware but a couple of advanced capabilities of the hardware will not be available. Starting ALICE 1.3 with 2.16 firmware may give you this screen at start-up:
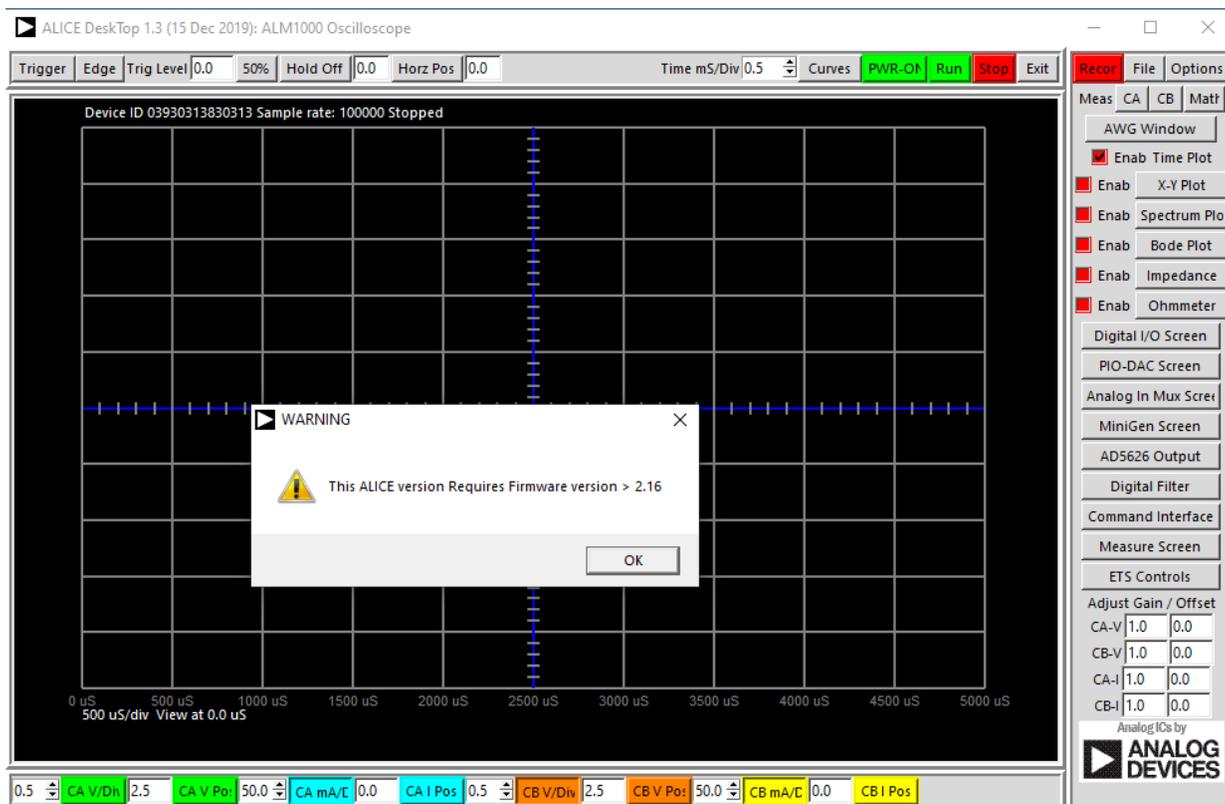
You can press OK to continue. This will happen each time ALICE starts until the new version 2.17 or higher of the firmware is flashed to the hardware. ALICE may then ask if you want to update the current firmware. Again you can skip this by saying No to use as is. This will happen each time ALICE starts until newer firmware is loaded. This firmware checking can be set to ignore by changing this line in the alice_init.ini file:

IgnoreFirmwareCheck = 0 # change 0 to 1 to ignore firmware rev level.

To confirm which firmware revision is installed on your hardware click on About under the File drop down menu.

Another way to check the state of your hardware is the SMU command line interface. Using the Windows command prompt screen navigate to the directory where ALICE was installed C:\ALM Software\M1K and type smu. If the library was properly installed this should appear:


You can do the various functions listed such as getting the libsmu version. Using the –f command line option for smu will flash new firmware onto the board in all cases. You may need to cycle the power to the board before it can be recognized and in be in the right mode to be flashed.

Further Trouble Shooting:

If for some reason things go terribly wrong the LED on the ALM1000 board does not light up when plugged into the USB port it is likely stuck in the Bootloader mode. Open the Device Manager in

Windows and look under Universal Serial Bus devices as below. There should be a device listed as ADALM1000 SAM-BA WinUSB driver.
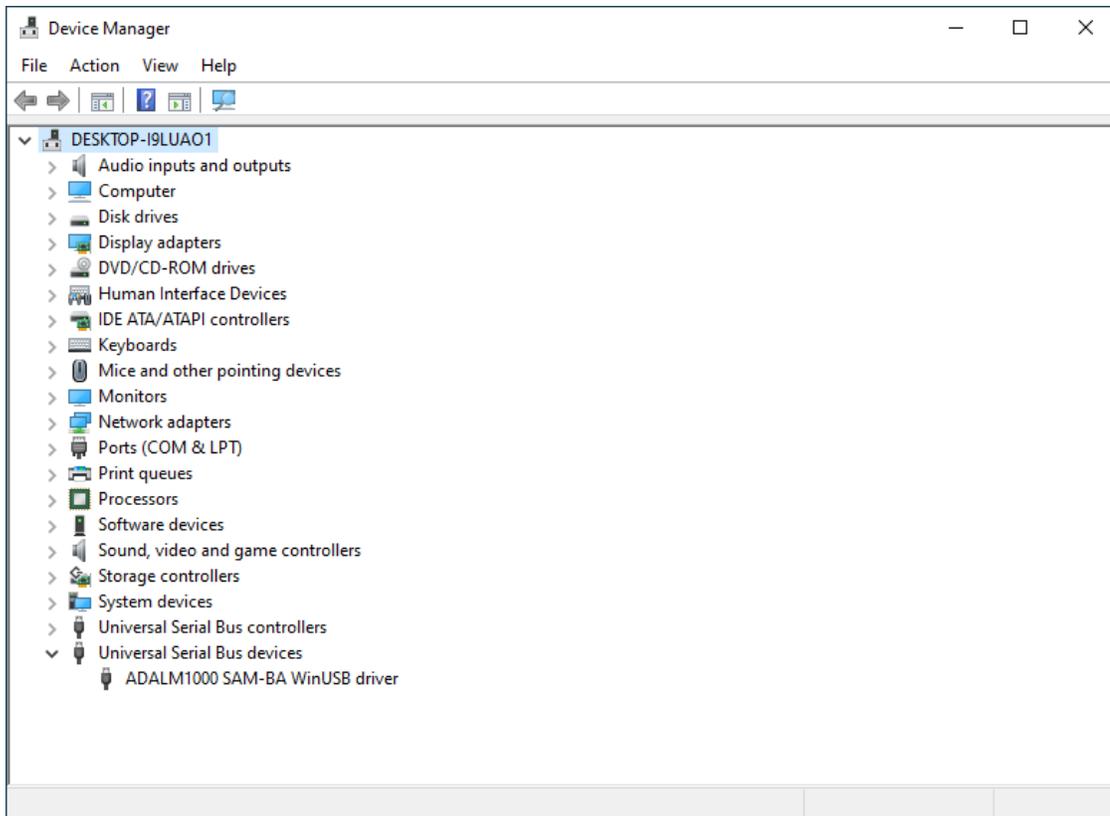
If there, then either Pixelpulse2 or the smu command line utility should be able to flash the new firmware binary. If you do not have the ADALM1000 SAM-BA WinUSB driver device in the list then you probably have the wrong or a corrupted device driver installed. Go back and try to reinstall only the drivers from:

https://github.com/analogdevicesinc/libsmu/releases/download/v1.0.2/libsmu-1.0.4-setup-x64.exe

or the Pixelpulse2 installer.

(Links good as of 2020, always best to look for latest releases at:
https://github.com/analogdevicesinc/libsmu/releases   and
https://github.com/analogdevicesinc/alice/releases)