ADLINK Technical Document

Abstract	How to install Linux drivers for the PCIS-DASK/X		
OS	Linux		
Keyword	Linux, PCIS-DASK/X		
Related Products	PCI-6202, PCI-6208A, PCI-6208V, PCI-6216V, PCI-6308A, PCI-6308V, PCI-7200/cPCI-7200, PCI-7230, cPCI-7230, PCI-7233/PCI-7233H, PCI-7234, PCI-7248, cPCI-7248, PCI-7224, cPCI-7249R, PCI-7250, cPCI-7252, PCI-7256, PCI-7258, PCI-7260, PCI-7296, PCI-7300A, cPCI-7300A, PCIe-7300A_RevC, PCIe-7350, PCIe-7360, PCI-7396/PCI-7348, PCI-7432, cPCI-7432, cPCI-7432R, PCI-7433, cPCI-7433, cPCI-7433R, PCI-7434, cPCI-7434, cPCI-7434R, PCI-7433C, PCI-7434C, PCI-7442, PCI-7443, PCI-7444, cPCI-7452, PCI-8554, PCI-9111, PCI-9112, cPCI-9112, PCI-9113, PCI-9114, PCI-9114A, cPCI-9116, PCI-9118, PCI-9221, PCI-9222, PCI-9223, PCI-9524, PCI-9812, PCI-9810		
Date	2021-09-10	No.	202110003

- Issue Details:

To build a Linux software application to operate an ADLINK DAQ card (e.g., PCI-9222), download the Linux drivers and install them. The steps for downloading and installing the Linux drivers are detailed in this document.

- More information:

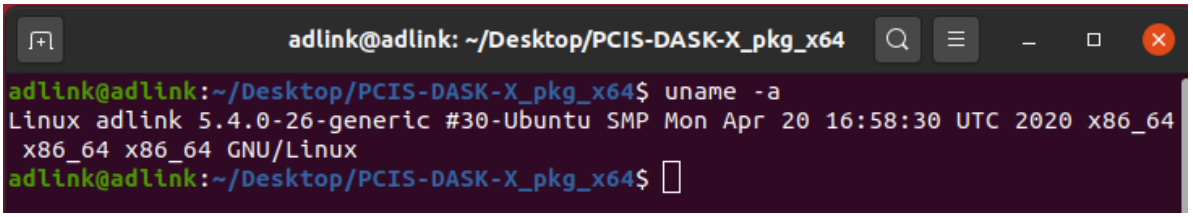
ADLINK provides pre-built driver binaries for Ubuntu LTS Linux kernels. These binaries are regularly updated and officially supported to work with specific Linux kernels indicated in this document and on the ADLINK website. If you want to use another Linux OS or Linux Kernel, you need to sign the NDA to get the driver source code and build the Linux driver by yourself.

- Solution:

Step 1:

Find out the system kernel version. Go to the terminal and type “uname -a”

NOTE: ADLINK only supports Linux Kernel version 4.15.0-20-generic, 5.4.0-26-generic, and 5.4.0-47-generic.

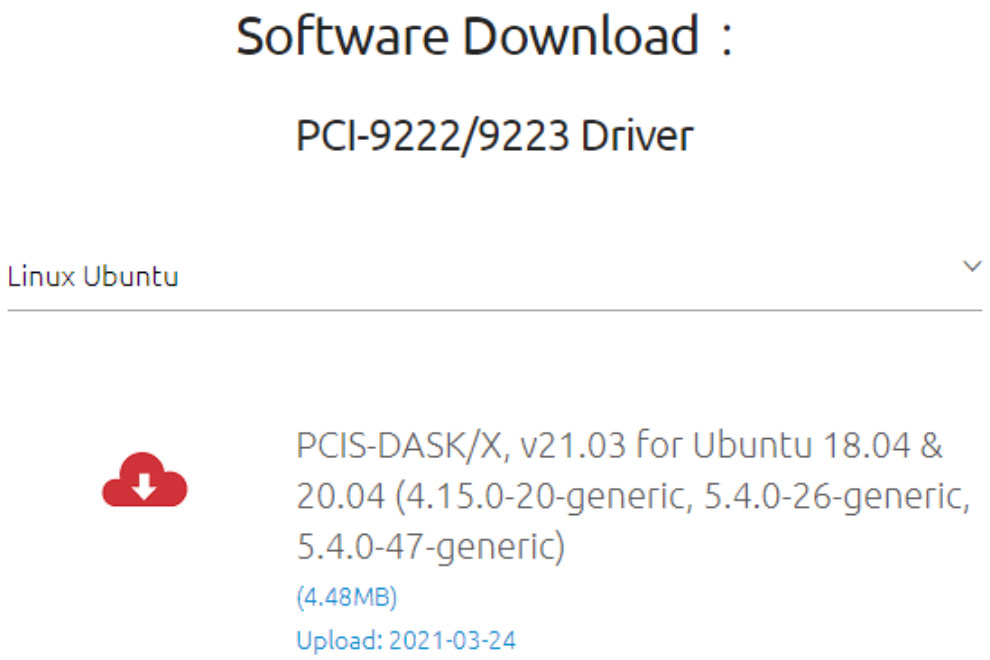


Step 2:

Go to the official ADLINK website, search for “PCIS-DASK/X”, and download the driver corresponding to your OS and kernel version.

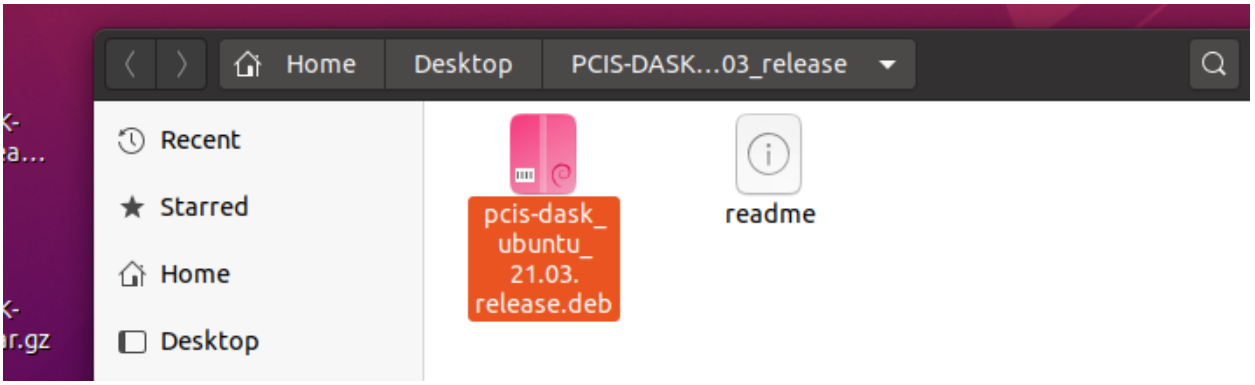
Direct link (login required):

https://www.adlinktech.com/Products/Data_Acquisition/SoftwareandDrivers/PCIS-DASK_X



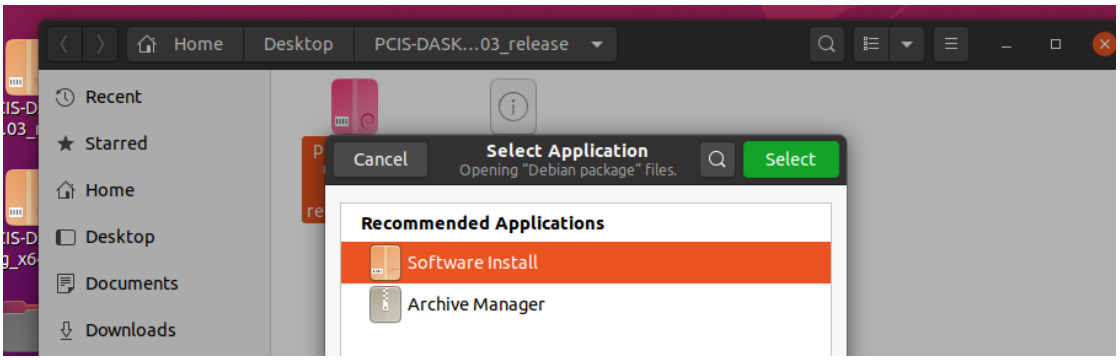
Step 3:

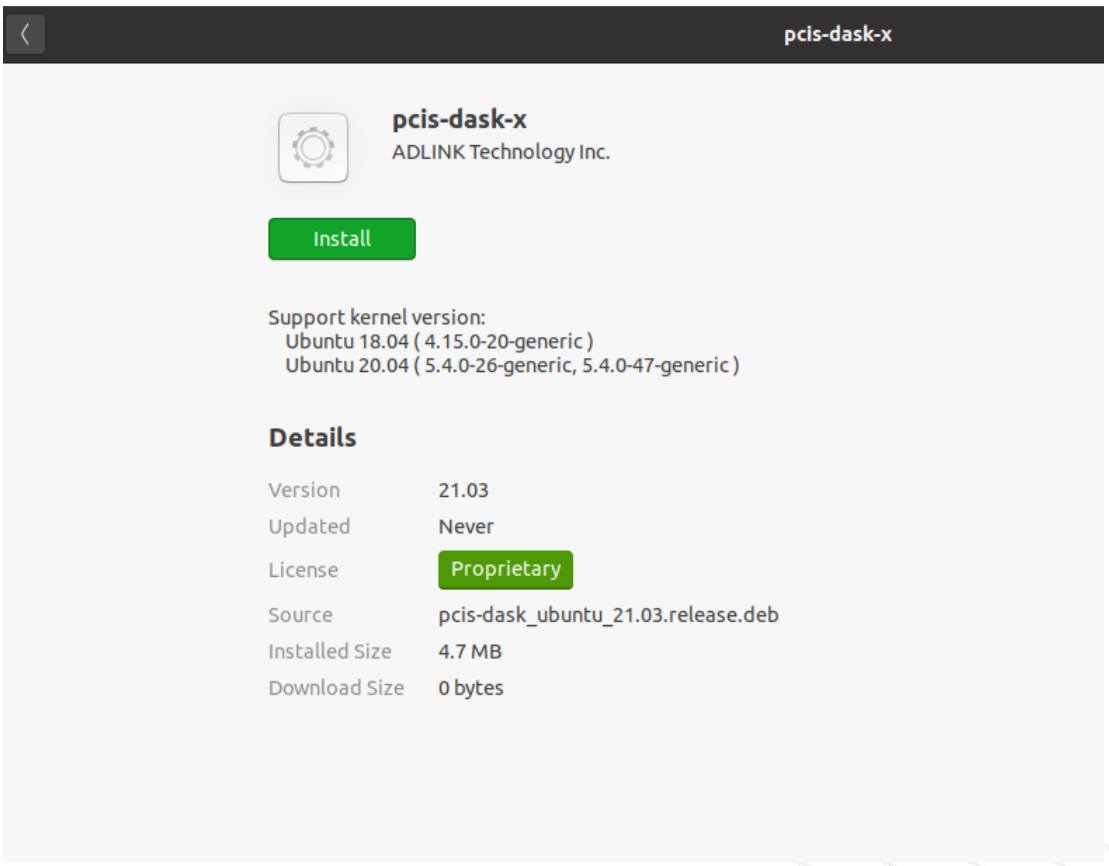
Unpack the .gz file downloaded in the step above. There are two files in the target folder.



Step 4:

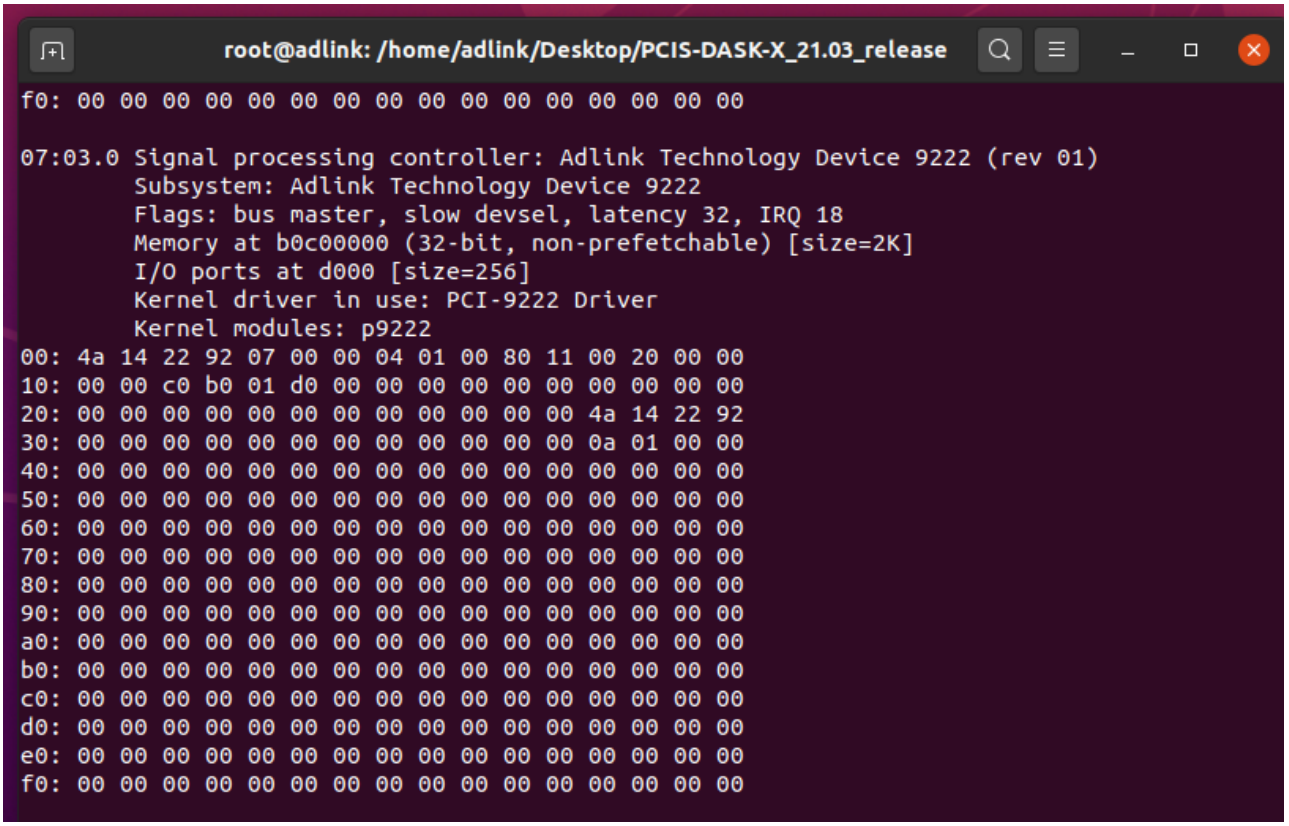
Double-click the .deb file in the graphical user interface. If prompted to select an application, select “Software Install”. Follow the prompts until installation is complete. Reboot when done.





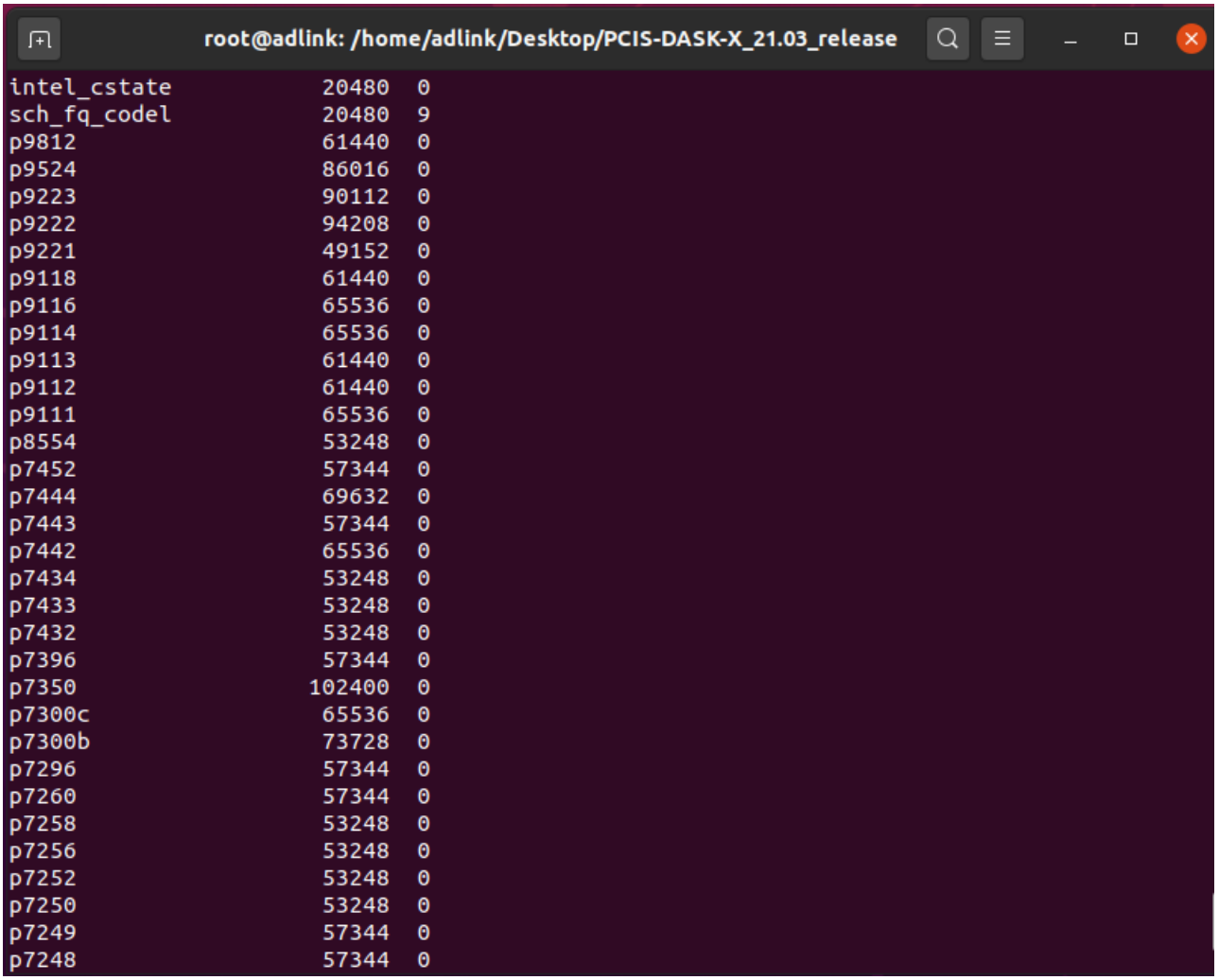
Step 5:

After reboot, go to the terminal and type “lspci -vxxx” to check if the system detected and allocated resources for ADLINK devices.



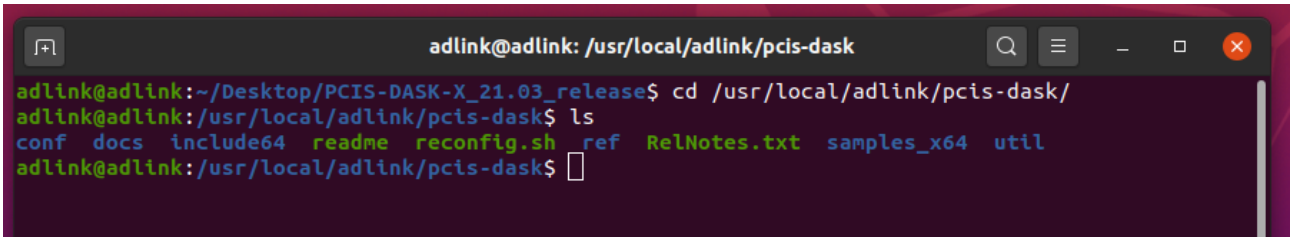
Step 6:

Go to the terminal and type “lsmod” to check the driver service is activated and running in the Linux kernel.



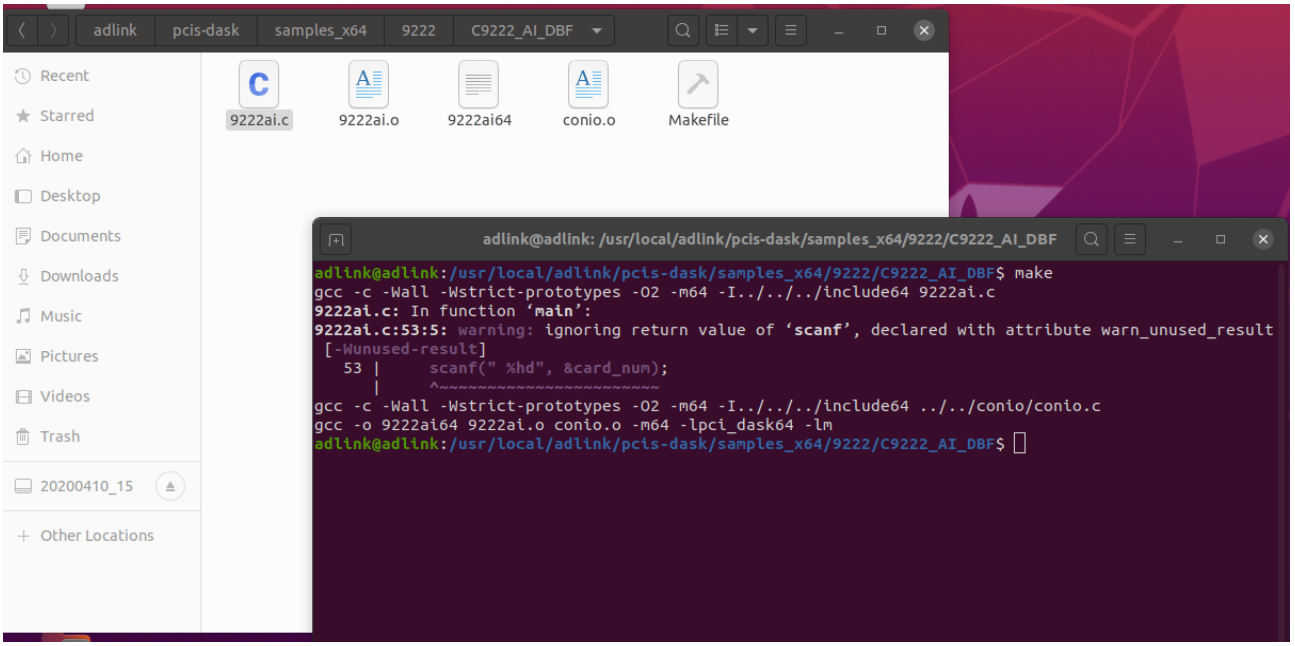
Step 7:

The ADLINK software package deploys files such as documents, utilities, and samples to the following folder: *//usr/local/adlink/pcis-dask/*



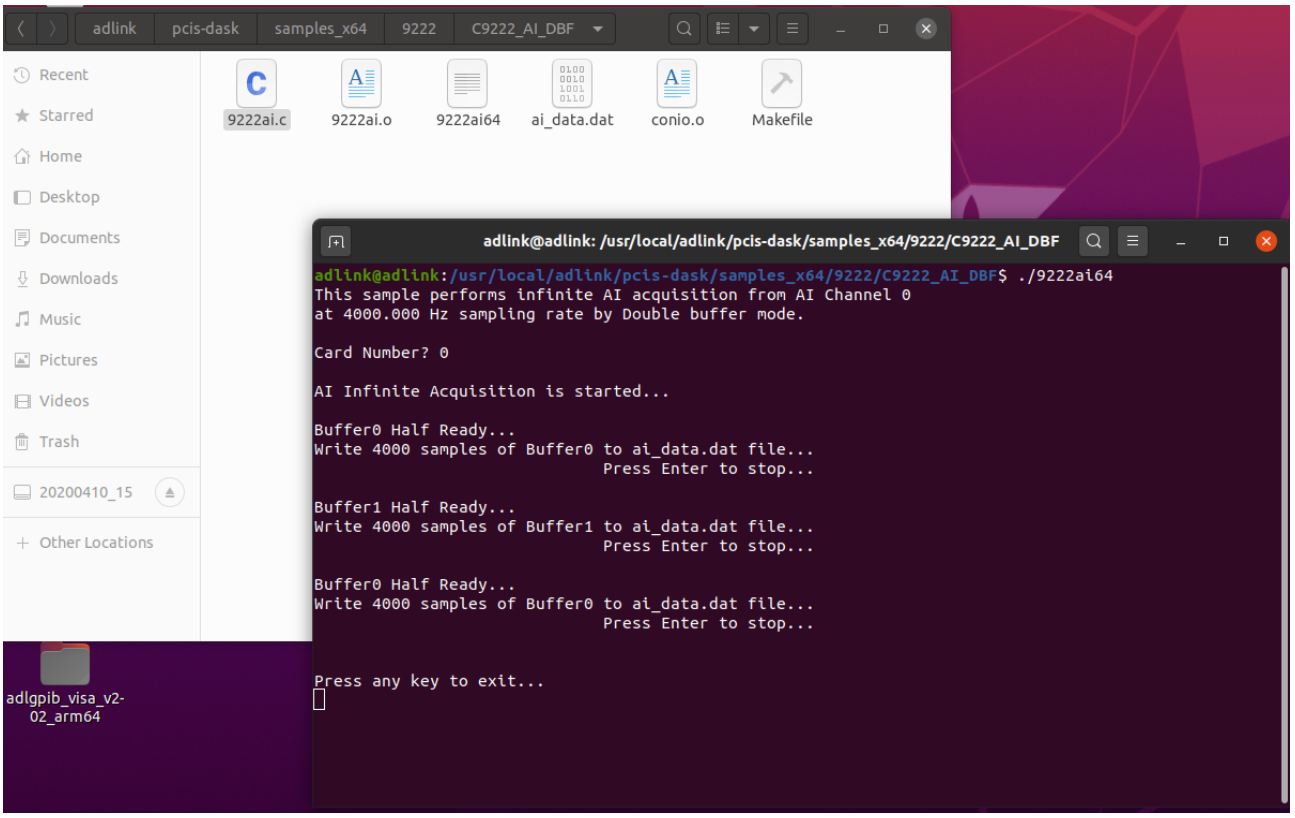
Step 8:

Choose a sample program (e.g., *//usr/local/adlink/pcis-dask/samples_x64/9222/c9222_AI_DBF*). Users can modify the sample program as needed and type “make” to build the executable.



Step 9:

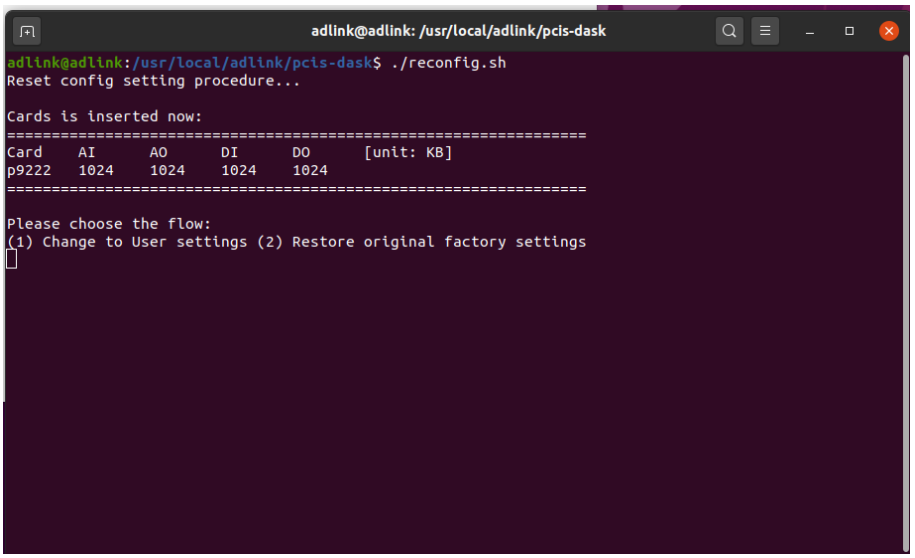
Launch the executable and check the output. The image below shows a successful execution of the ADLINK DAQ and the acquired data output to a .dat file.



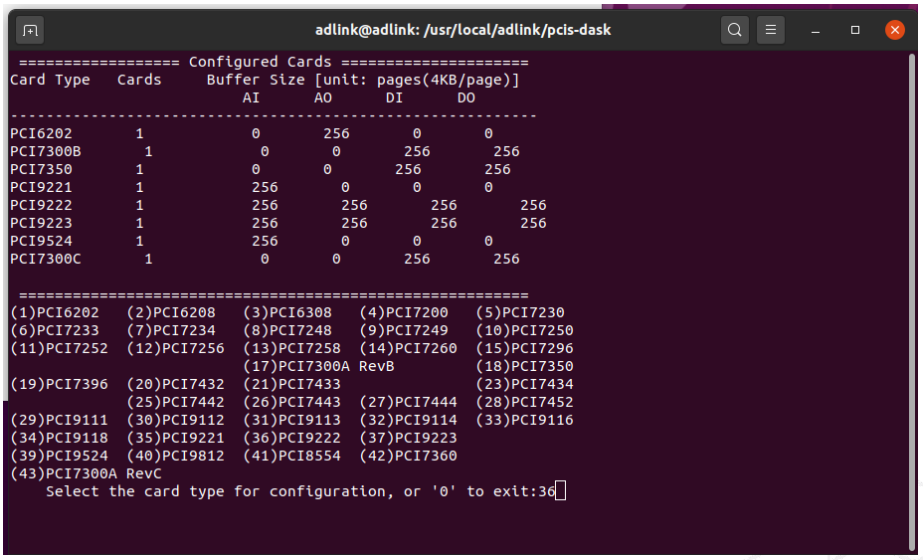
Step 10:

If necessary, adjust the data acquisition settings (default: 1 MB, 256 pages). To change the settings, go to the terminal and type "./reconfig.sh". Refer to the following images for further details.

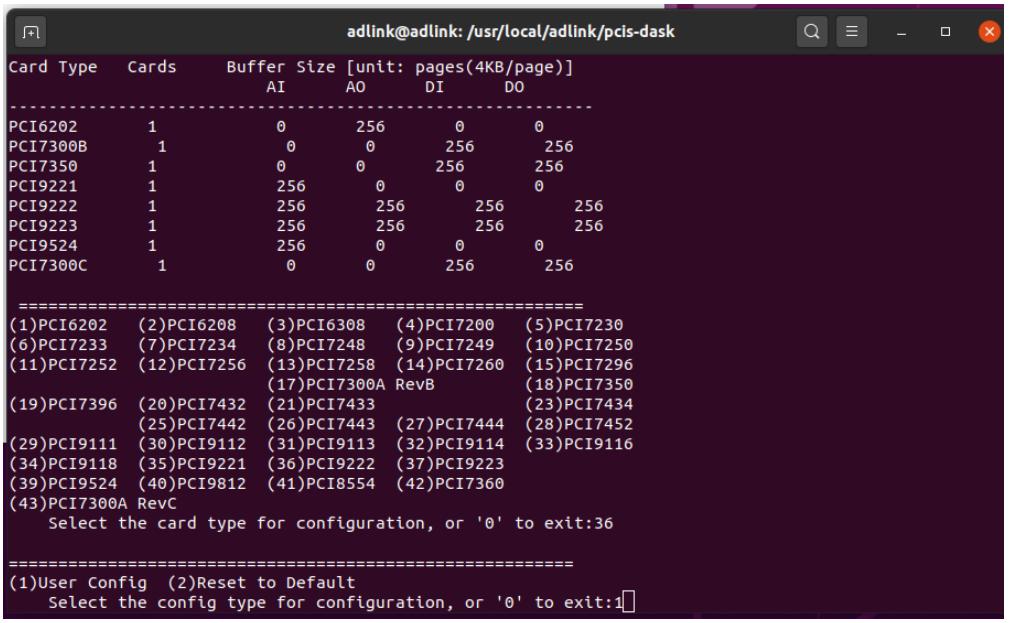
a. Choose "(1) Change to user settings".



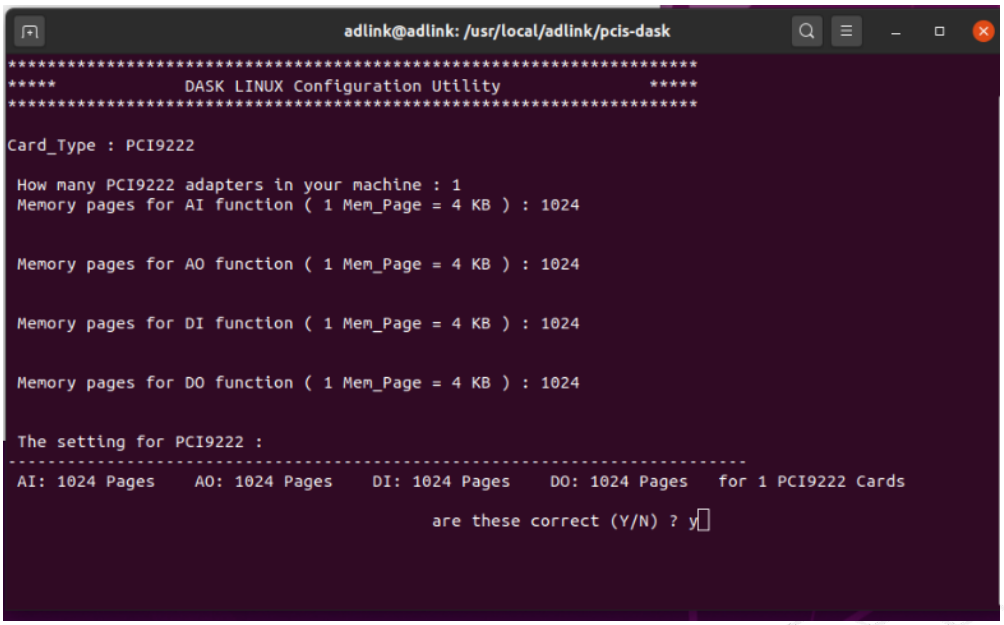
b. Select the card type for configuration.



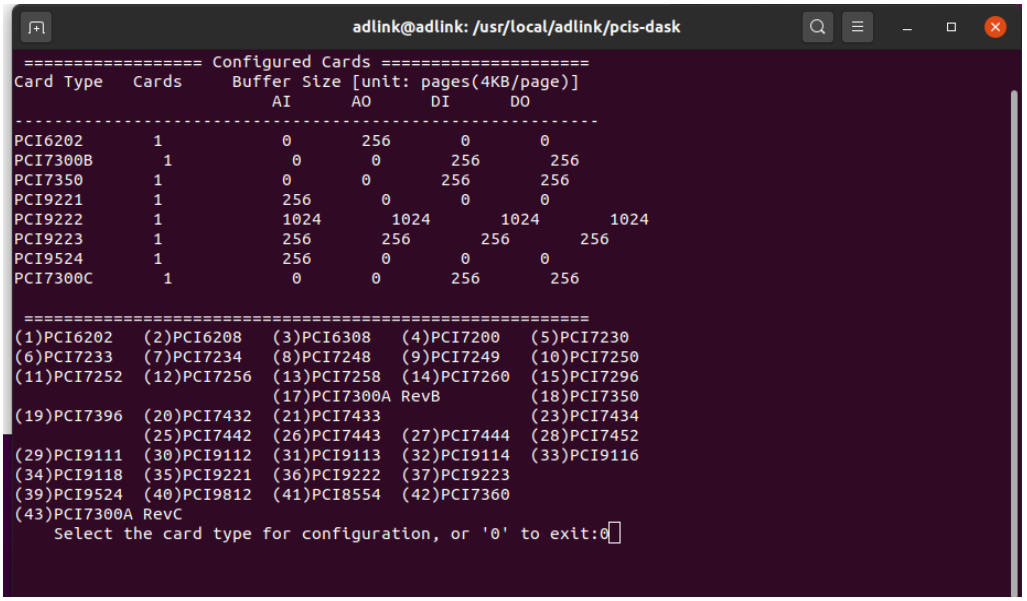
c. Select “(1) User Config” for configuration.



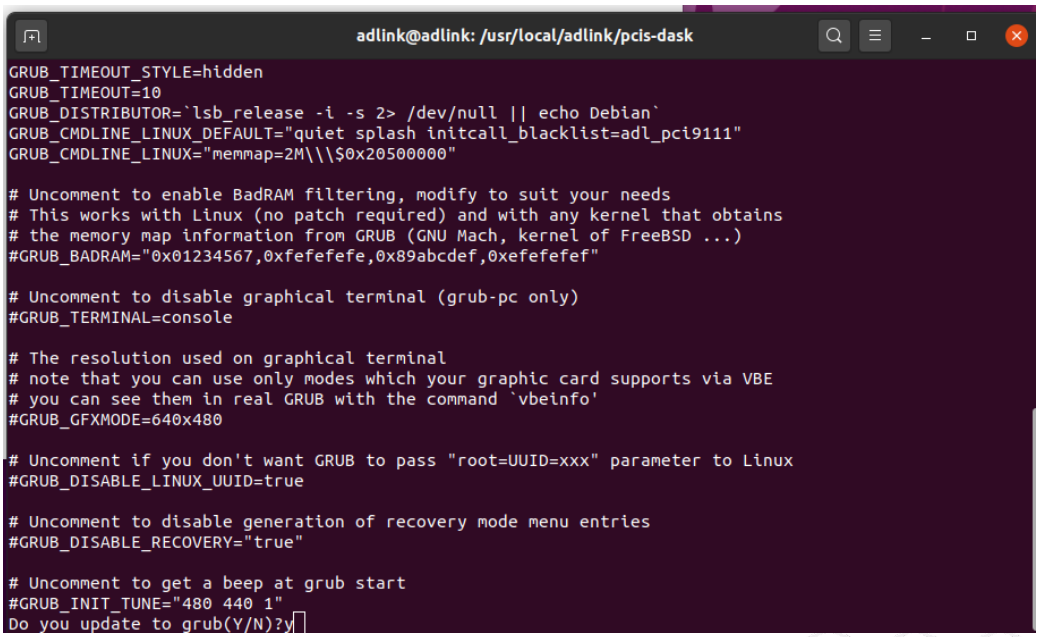
d. Enter memory pages for AI/AO/DI/DO for your device. Confirm the settings are correct.



e. Exit the configuration utility.



f. Update to grub.



g. Reboot the system.