

Akida 1000 and 1500 PCIe Reference Board *User Guide*



Table of contents

1	INTRODUCTION	3
2	INSTALLATION STEPS	4
2.1	PREREQUISITE	4
2.2	CONNECT THE BOARD	4
2.3	INSTALL THE DRIVER	5
2.4	INSTALL AKIDA	5
3	TROUBLESHOOTING	6
3.1	RUNNING ISSUE	6
3.2	COMMAND “LSPCI” GIVES NO RESULTS	6
3.3	META TF VERSION COMPATIBILITY	6

Version 1.0

1 INTRODUCTION

The Akida Evaluation Board is a single-lane PCIe board for Akida technology assessment. It includes either the AKD1000 or AKD1500 Akida processor from Brainchip. For the Akida M.2 board, please see the separate user guide.

Note: Power measurement is not available on the M.2 boards. Power measurement is supported only on the AKD1000 & AKD1500 PCIe boards, which include onboard current-monitoring hardware.



Figure1.1: Akida1000 PCIe Card



Figure1.2: Akida1500 PCIe Card

Akida Board Evaluation Kit content and description:

- Akida 1000 or 1500 PCI express Reference Board
- Bracket and Screw

2 INSTALLATION STEPS

2.1 PREREQUISITE

Computer

An x86-64 PC architecture, such as any intel, i5, i7, i9 based computer.
Or an aarch64 machine architecture such as a Raspberry Pi Compute Module 4/5 with IO Board.

OS

Linux Ubuntu 16.04, 18.04 and 20.04, 22.04, 22.04

Note: Check the [drivers](#) section for more information on OS support.

Slots

A one-lane PCIe slot available

2.2 CONNECT THE BOARD

Depending on your computer, you may need to prepare the board, screwing the bracket onto the board.

Important: Power down your computer before installing the board.

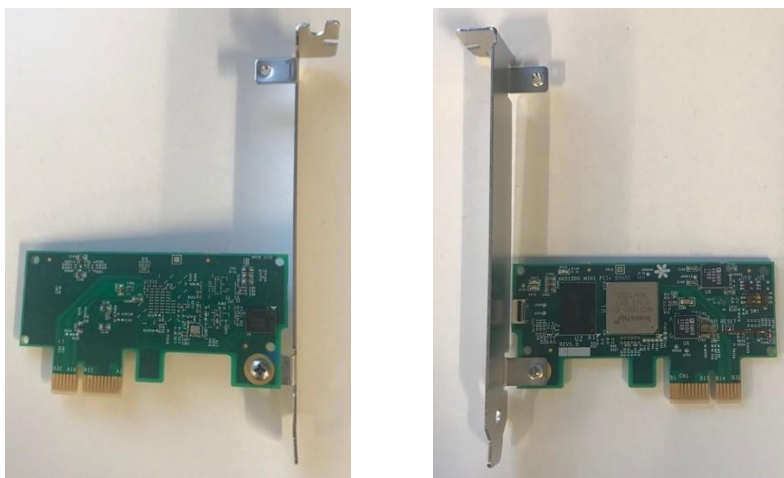


Figure 2: A board with its bracket

Then insert the board in the PCIe slot



Figure 3: A board plugged on a x86 PC and on a Raspberry Pi

Note

- The Akida PCIe board is one-lane; it can fit into a 2-, 4-, or 8-line slot. Therefore, it is important to pay careful attention when installing it. If it is improperly installed, the board could be damaged.
- The Akida PCIe board is small, and it may appear that the 'front' part of the board is wider than the 'back' part, but it is not. See figure 3; notice the board 'back' part extends past the PCIe connector. This is the proper way to insert the board.

2.3 INSTALL THE DRIVER

For instructions on installing the Akida PCIe driver, please see the relevant documentation [here](#).

Alternatively, you can download the drivers directly from the BrainChip GitHub page.
https://github.com/BrainchipInc/akida_dw_edma

2.4 INSTALL AKIDA

MetaTF development details can be found at <https://doc.brainchipinc.com/index.html>

3 TROUBLESHOOTING

3.1 RUNNING ISSUE

If the system is stuck or if your applications do not run after performing the required steps in this user guide, reboot the system.

3.2 COMMAND “*lspci*” GIVES NO RESULTS

If, when entering: `lspci`
at the command prompt, nothing is displayed.

Your Akida board may be wrongly inserted into bus slot.
Do the following

- Turn your machine totally off.
- Unplug and then plug back your Akida board into the PCI bus.
- Restart your machine.

3.3 META TF VERSION COMPATIBILITY

If you have installed the new PCIe driver from our GitHub with no main issues, but Akida refuses to ‘see’ the board (when entering `akida devices` at the command prompt, nothing is displayed).

It’s likely because you’re using an old version of MetaTF. You must upgrade your MetaTF version to any greater version or equal to 2.2.0. We recommend that you update MetaTF to the last released one: <https://pypi.org/project/akida/>