Akida PCIe Board
User Guide

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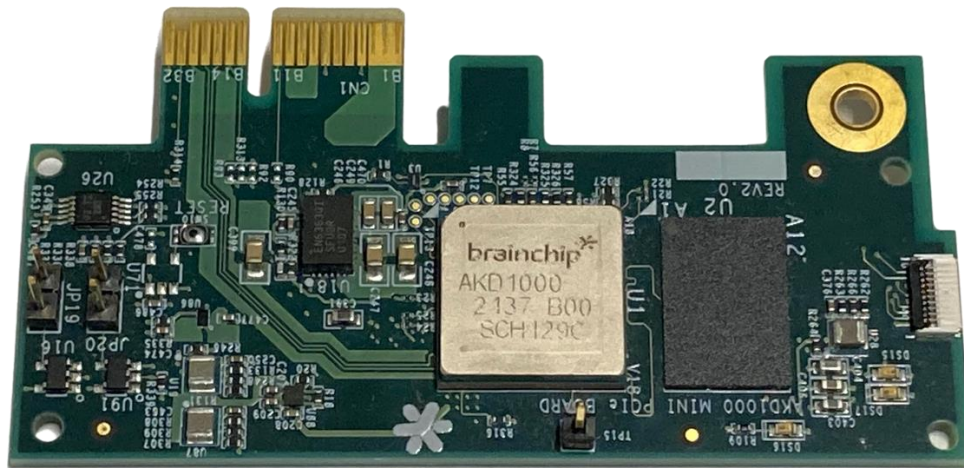
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1 INTRODUCTION

The Akida Board Evaluation Kit is a one-lane PCIe board, for Akida technology assessment. It includes the AKD1000 Akida processor from Brainchip.
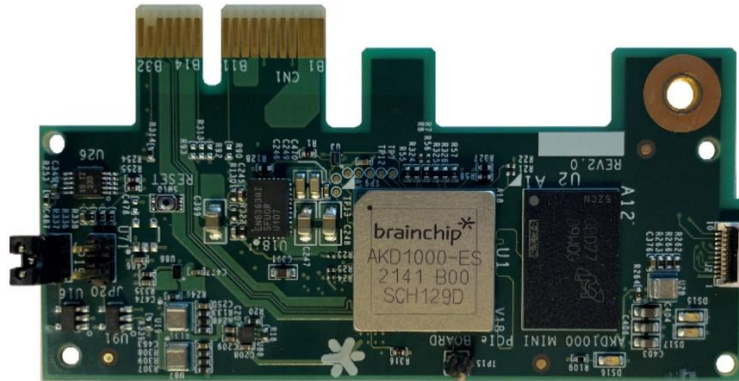

***Figure 1**: Akida PCIe card*

Akida Board Evaluation Kit content and description:
- Akida PCI Express Reference Board
- Bracket and screw

2 INSTALLATION STEPS

2.1 REQUIREMENTS
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 4 (IO mother board + CS daughter board).

OS
> Linux Ubuntu 16.04, 18.04 and 20.04

Slots
> A one-lane PCIe slot available

2.2 INSTALL 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.
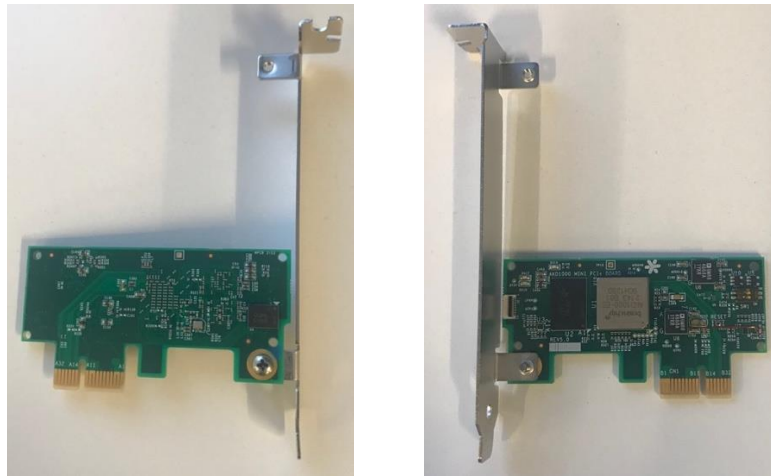

Figure 2: A board with its bracket

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 PCI board is one-lane it can fit into a 2- ,4- or 8-lines slot therefore it is important to pay careful attention when installing it. If it is improperly installed the board could be damaged.
- Brainchip Akida PCIe board is small, and it may appear that the 'front' part of the board is the wider that 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
In order to install Akida board PCIe Driver:
- Get the zipped driver from Brainchip
- Unzip it
- Follow the instruction you will find in the **README.md** file located in the unzipped folder.

2.4   INSTALL AKIDA
MetaTF development details can be found at https://doc.brainchipinc.com/index.html

3 TROUBLESHOOT

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 *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 ERROR WHEN CHECKING THE PCIE BUS

If you experience this error "*RuntimeError: unexpected transfer len: 1 expected: 4*"
when running the command "akida devices" or when running akida demos run the provided "resetpcie.sh" script and retry.