

The problem of AI deck unable to release WiFi signal

I bought AI deck and used it on crazyflie, but it didn't automatically send out a WiFi signal as expected. According to the description of the webpage ^[1], I think I need to refresh the firmware of AI deck myself.



Obviously, I need to work on two modules, one is gap8, the other is Nina.

For gap8:

Referring to the web information ^[2], I executed the following commands and ensured that there was no error in the process:

Ubuntu 18.04

These instructions were developed using a fresh Ubuntu 18.04 Bionic Beaver 64-Bit virtual machine from <https://www.osboxes.org/ubuntu/#ubuntu-1804-info>

The following packages needed to be installed:

```
sudo apt-get install -y build-essential git libftdi-dev libftdi1 doxygen python3-pip libsdl2-dev curl cmake li
```

An openocd build for gap8 should be cloned and installed:

```
git clone https://github.com/GreenWaves-Technologies/gap8_openocd.git
cd gap8_openocd
./bootstrap
./configure --program-prefix=gap8- --prefix=/usr --datarootdir=/usr/share/gap8-openocd
make -j
sudo make -j install

#Finally, copy openocd udev rules and reload udev rules
sudo cp /usr/share/gap8-openocd/openocd/contrib/60-openocd.rules /etc/udev/rules.d
sudo udevadm control --reload-rules && sudo udevadm trigger
```

Now, add your user to dialout group.

```
sudo usermod -a -G dialout <username>
# This will require a logout / login to take effect
```

Download and install the toolchain:

Now clone the GAP8 SDK and the GAP8/RISC-V toolchain:

```
git clone https://github.com/GreenWaves-Technologies/gap_riscv_toolchain_ubuntu_18.git
```

After installing the above environment, I download the gap_sdk:

Finally, clone the sdk (adapt gap_sdk path according to your needs)

```
git clone https://github.com/GreenWaves-Technologies/gap_sdk.git
cd ~/gap_sdk
```

Then configure the SDK with the following command:

To start out, first write this in the terminal:

```
source (YOUR GAP SDK FOLDER)/configs/ai_deck.sh
export GAPY_OPENOCD_CABLE=interface/ftdi/olimex-arm-usb-tiny-h.cfg (or which jtag programmer appl
```

Then it's installation:

When installing the gap sdk (3.8.1), make sure that you have installed everything:

```
make all
make openocd
make gap_tools
make pulp_tools
```

Under the directory gap_sdk, I run the "make all" and it generate error:

```
zjh@ubuntu:~$ cd gap_sdk/
zjh@ubuntu:~/gap_sdk$ make all
Makefile:29: *** Please run 'source sourceme.sh' in gap_sdk first. Stop.
zjh@ubuntu:~/gap_sdk$ source configs/ai_deck.sh
zjh@ubuntu:~/gap_sdk$ export GAPY_OPENOCD_CABLE=interface/ftdi/olimex-arm-usb-tiny-h.cfg
zjh@ubuntu:~/gap_sdk$ make all
```

```
make[2]: Leaving directory '/home/zjh/gap_sdk/tools/pulp_tools/pulp-configs'
if [ -e archi_pulp ]; then \
    cd archi_pulp && \
        export INSTALL_DIR=/home/zjh/gap_sdk/rtos/pulp/archi/workstation && \
        export TARGET_INSTALL_DIR=/home/zjh/gap_sdk/rtos/pulp/archi/target && \
        make build; \
fi
make[2]: Entering directory '/home/zjh/gap_sdk/rtos/pulp/archi_pulp'
scons
scons: Reading SConscript files ...
ImportError: No module named configparser:
  File "/home/zjh/gap_sdk/rtos/pulp/archi_pulp/SConstruct", line 4:
    import pulp_config as plpconfig
  File "/home/zjh/gap_sdk/tools/gap-configs/python/pulp_config.py", line 19:
    import json_tools as js
  File "/home/zjh/gap_sdk/tools/gapy/json_tools.py", line 23:
    import configparser
Makefile:2: recipe for target 'build' failed
make[2]: *** [build] Error 2
make[2]: Leaving directory '/home/zjh/gap_sdk/rtos/pulp/archi_pulp'
Makefile:7: recipe for target 'do.archi' failed
make[1]: *** [do.archi] Error 2
make[1]: Leaving directory '/home/zjh/gap_sdk/rtos/pulp'
Makefile:97: recipe for target 'pulp-os' failed
make: *** [pulp-os] Error 2
```

The content of the error report is that the configparser model cannot be found, but it has been used requirements.txt

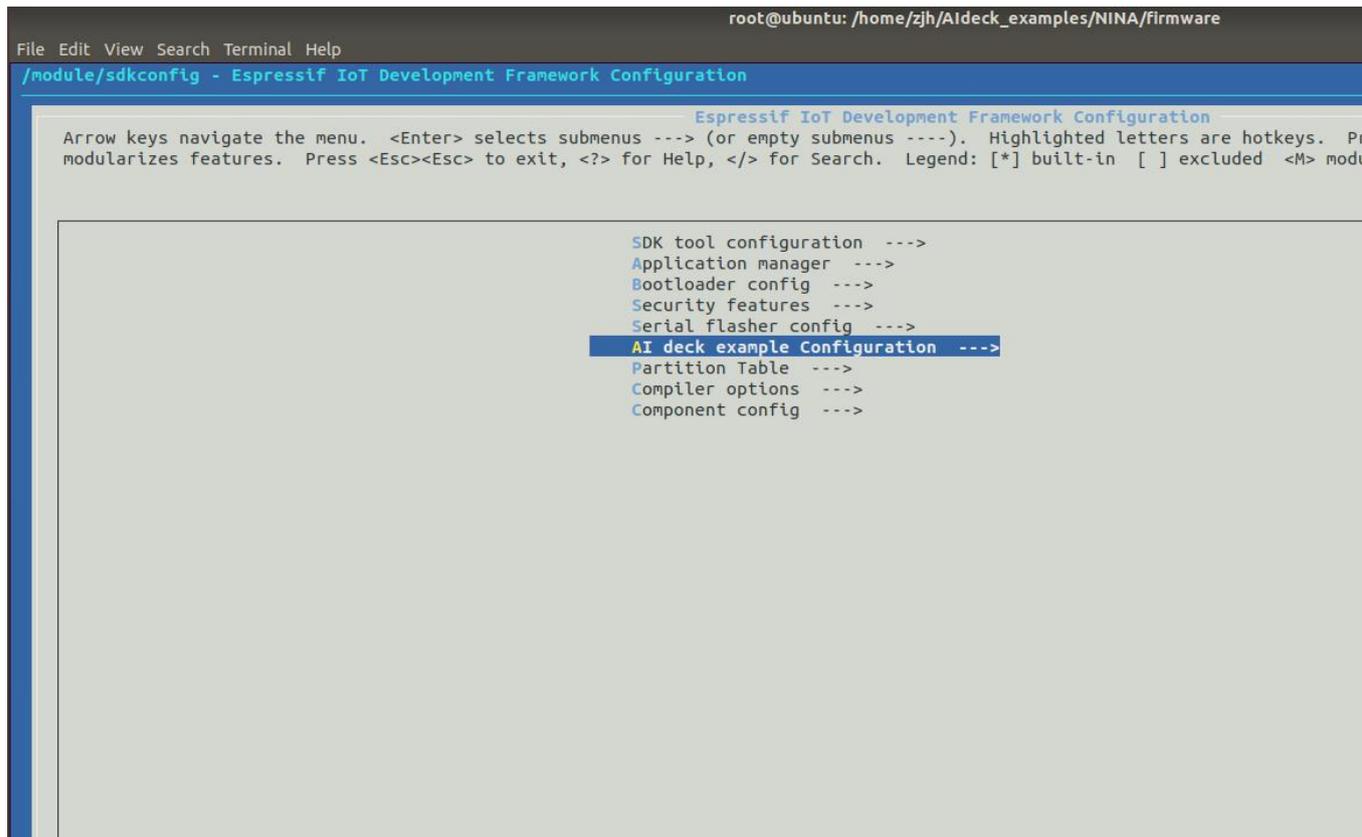
The required pyhton library is installed, and you can check that:

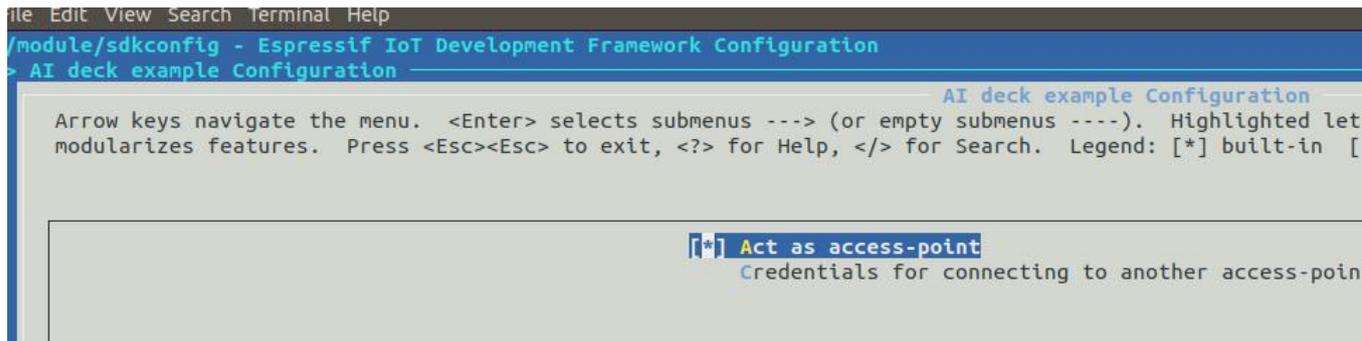
```
zjh@ubuntu:~/gap_sdk$ pip3 list
DEPRECATION: The default format will
ction) to disable this warning.
apturl (0.5.2)
argcomplete (1.12.2)
asn1crypto (0.24.0)
Brlapi (0.6.6)
certifi (2020.12.5)
chardet (4.0.0)
colorama (0.4.4)
command-not-found (0.3)
configparser (5.0.1)
cryptography (2.1.4)
```

So the flash of gap8 can't go on.

About the flash of Nina:

According to the web page ^[3], use docker to flash. After entering “menuconfig”, I don't know how to operate, and I find that AP (access point) has been selected in menu “Ai deck example configuration”.





Besides, I don't know what the make in this place means:

Enter your credentials

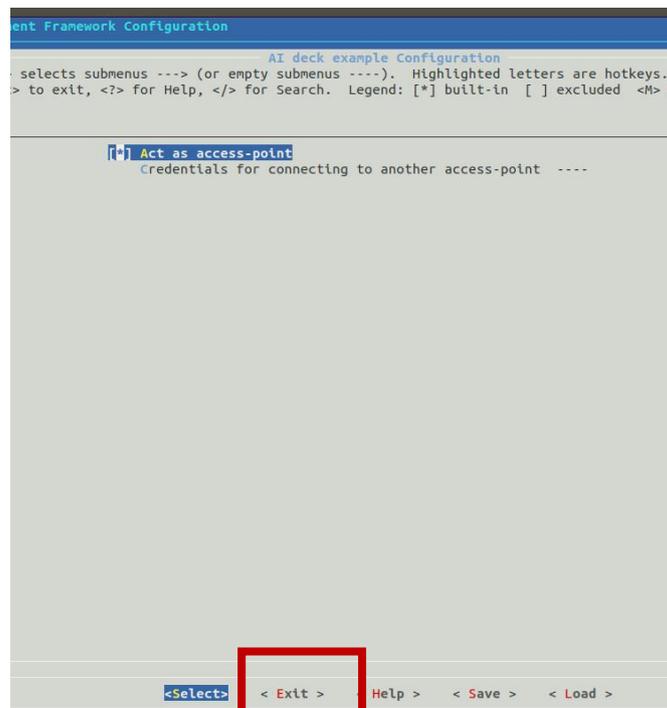
By default, the Nina will act as an access-point where you can connect your host. If you would like the NINA to connect to an access-point instead do the following:

```
cd NINA/firmware
make menuconfig
```

Enter the menu "AI deck example Configuration", use as AP and enter the credentials. Now rebuild it and flash.

```
make
```

After selecting exit in the previous interface, an error is reported as follows:



```
Activities Terminal Tue 20:43
root@ubuntu: /home/zjh/Aldeck_examples/NINA/firmware
File Edit View Search Terminal Help
Generating libprotocomm.a.sections_info
Generating libpthread.a.sections_info
Generating libsdmmc.a.sections_info
Generating libsmartconfig_ack.a.sections_info
Generating libsoc.a.sections_info
Generating libspi_flash.a.sections_info
Generating libspiiffs.a.sections_info
Generating libtcp_transport.a.sections_info
Generating libtcpip_adapter.a.sections_info
Generating libulp.a.sections_info
Generating libunity.a.sections_info
Generating libvfs.a.sections_info
Generating libwear_levelling.a.sections_info
Generating libwifi_provisioning.a.sections_info
Generating libwpa_supplicant.a.sections_info
Generating libxtensa-debug-module.a.sections_info
Generating esp32.project.ld
LD build/ai-deck-jpeg-streamer-demo.elf
esptool.py v2.8
To flash all build output, run 'make flash' or:
python /esp-idf/components/esptool_py/esptool/esptool.py --chip esp32 --port /dev/ttyUSB0 --baud 115200 --before default
lash_freq 40m --flash_size detect 0x1000 /module/build/bootloader/bootloader.bin 0x10000 /module/build/ai-deck-jpeg-stre
Open On-Chip Debugger v0.10.0-esp32-20190313 (2019-03-13-09:52)
Licensed under GNU GPL v2
For bug reports, read
    http://openocd.org/doc/doxygen/bugs.html
adapter speed: 20000 kHz
Info : Configured 2 cores
esp32 interrupt mask on
Info : ftdi: if you experience problems at higher adapter clocks, try the command "ftdi_tdo_sample_edge falling"
Info : clock speed 20000 kHz
Error: JTAG scan chain interrogation failed: all zeroes
Error: Check JTAG interface, timings, target power, etc.
Error: Trying to use configured scan chain anyway...
Error: esp32.cpu0: IR capture error; saw 0x00 not 0x01
Warn : Bypassing JTAG setup events due to errors
Info : Listening on port 3333 for gdb connections
Error: JTAG scan chain interrogation failed: all zeroes
Error: Check JTAG interface, timings, target power, etc.
Error: Trying to use configured scan chain anyway...
Error: esp32.cpu0: IR capture error; saw 0x00 not 0x01
Warn : Bypassing JTAG setup events due to errors
/bin/bash: line 1: 6286 Segmentation fault (core dumped) /openocd-esp32/bin/openocd -f interface/ftdi/olimex-arm-u
ld/partitions_singleapp.bin 0x8000 verify' -c 'program_esp32 build/bootloader/bootloader.bin 0x1000 verify' -c 'program
et exit'
root@ubuntu: /home/zjh/Aldeck_examples/NINA/firmware#
```

Does it mean that the problem happens on the JTAG?

Because AI deck can't release WiFi signal, the following steps can't go on. I've been in this card for a long time. I hope I can get your help! Thanks!

Sincerely
2021/1/13

[1] https://github.com/bitcraze/Aldeck_examples/blob/master/docs/getting-started/tryout.md

[2] https://github.com/GreenWaves-Technologies/gap_sdk.

[3] https://github.com/bitcraze/Aldeck_examples/blob/master/docs/nina-instruction/docker-nina.md