- **Purpose**
  - Program images (fip.bin/emmcboot.itb/rootfs.sqsh/gpt.img) to eMMC via USB starting from ROM

- **Preliminaries**
  - Install python3 (Note 1)
    - https://www.python.org/downloads/
  - Install python module
    - python –m pip install pyserial

- **Steps**
  - 1. Copy images to build/cv1835_usb_tool (the path is under build.git)
    - Fip.bin/emmcboot.itb/rootfs.sqsh/gpt.img
  - 2. Lunch USB host tool on PC
    - python cv1835_usb_download.py

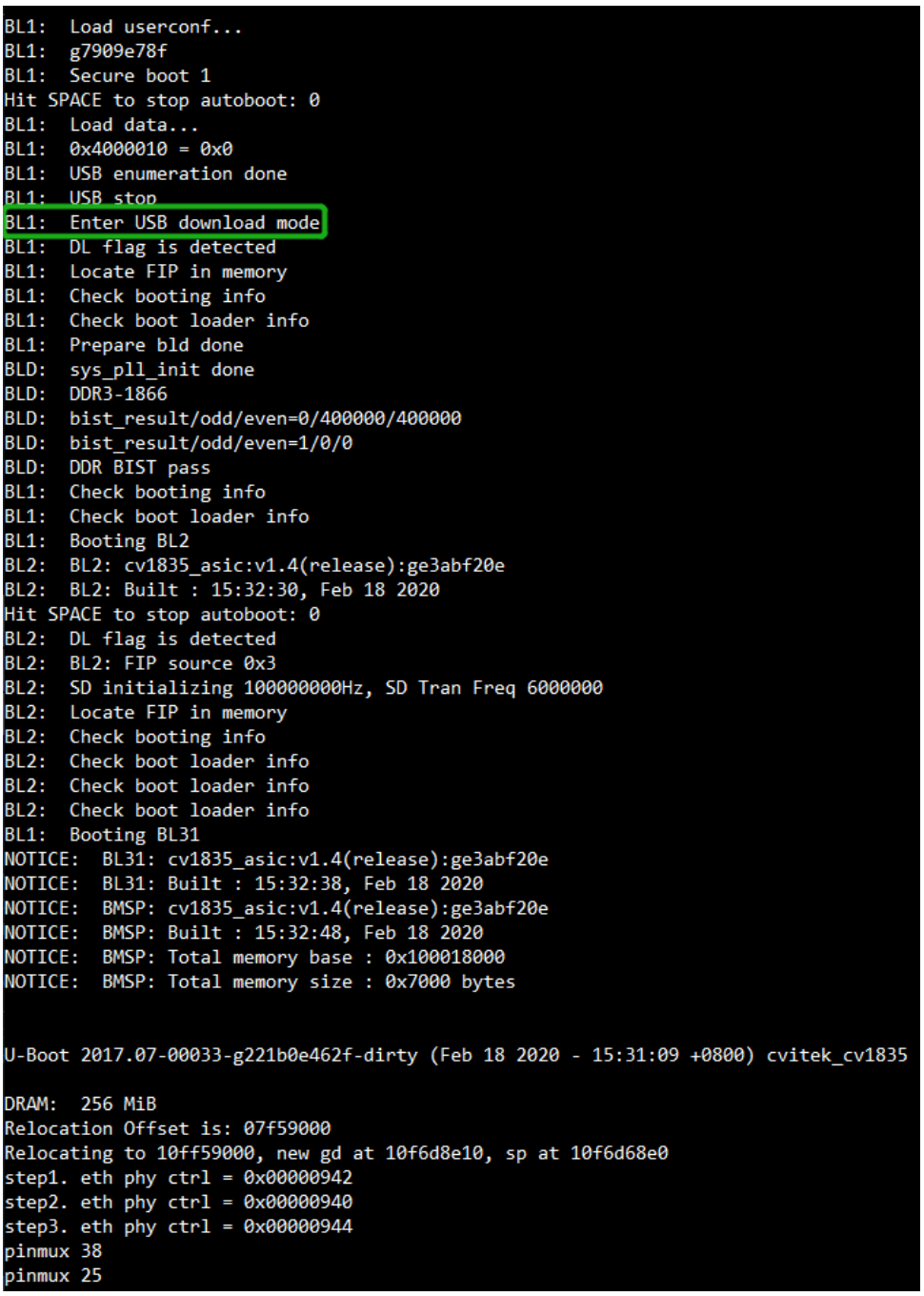
```
Z:\markhsieh\workspace\cvitek\cv1835\build\cv1835_usb_tool (master -> origin)
λ python cv1835_usb_download.py
CV1835 USB download start...
Connecting to ROM code...
Waiting for cv1835 USB port:  /
```

```
Z:\markhsieh\workspace\cvitek\cv1835\build\cv1835_usb_tool (master -> origin)
λ python cv1835_usb_download.py
CV1835 USB download start...
Connecting to ROM code...
Waiting for cv1835 USB port:  /
```

  - 3. Connect device and PC via USB, and then reboot device
  - 4. Wait until PC tool shows message “done”
    - PC log

```
Z:\markhsieh\workspace\cvitek\cv1835\build\cv1835_usb_tool (master -> origin)
λ python cv1835_usb_download.py
CV1835 USB download start...
Connecting to ROM code...
COM19ng for cv1835 USB port:  |
USB VID:PID=30B1:1000 SER=123456789ABC LOCATION=1-2

cv_dl_magic.bin is 128 bytes
Send to address 0x4003000
--- 0.01 Seconds ---
done
Send fip.bin...
fip.bin is 546816 bytes
Send to address 0xc040000
--- 4.68 Seconds ---
done
Send magic number for USB boot...
done
Send magic number for USB download...
done
Connecting to u-boot...
COM14ng for cv1835 USB port:  |
USB VID:PID=30B1:1001 SER=123456789ABC LOCATION=1-2

Send fip.bin
fip.bin is 546816 bytes
Send to address 0x120000000
--- 0.8 Seconds ---
done
Connecting to u-boot...
COM14ng for cv1835 USB port:  \
USB VID:PID=30B1:1001 SER=123456789ABC LOCATION=1-2

Send emmcboot.itb
emmcboot.itb is 6342662 bytes
Send to address 0x120000000
--- 7.76 Seconds ---
done
Connecting to u-boot...
COM14ng for cv1835 USB port:  |
USB VID:PID=30B1:1001 SER=123456789ABC LOCATION=1-2

Send rootfs.sqsh
rootfs.sqsh is 127242240 bytes
Send to address 0x120000000
--- 148.52 Seconds ---
done
Connecting to u-boot...
COM14ng for cv1835 USB port:  \
USB VID:PID=30B1:1001 SER=123456789ABC LOCATION=1-2

Send gpt.img
gpt.img is 17408 bytes
Send to address 0x120000000
--- 0.03 Seconds ---
done
```

- Device log



- 5. Reboot device, now EVB boots from eMMC

Note 1:

- PC python scripts are compatible with python 2.x and 3.x
- No PC USB driver is necessary