CodeZoo CATM1 Hands-On

- Raspberry Pi (with PPP)-

version 1.0

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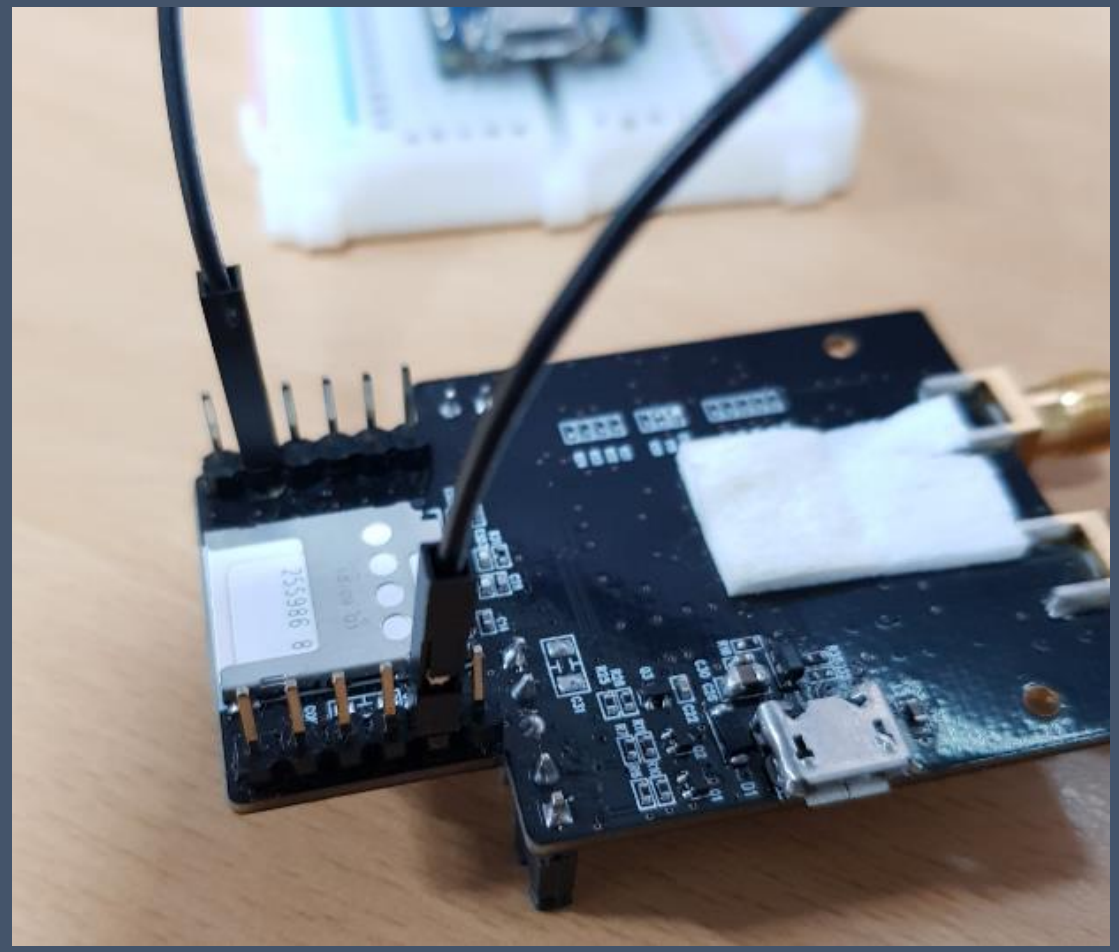
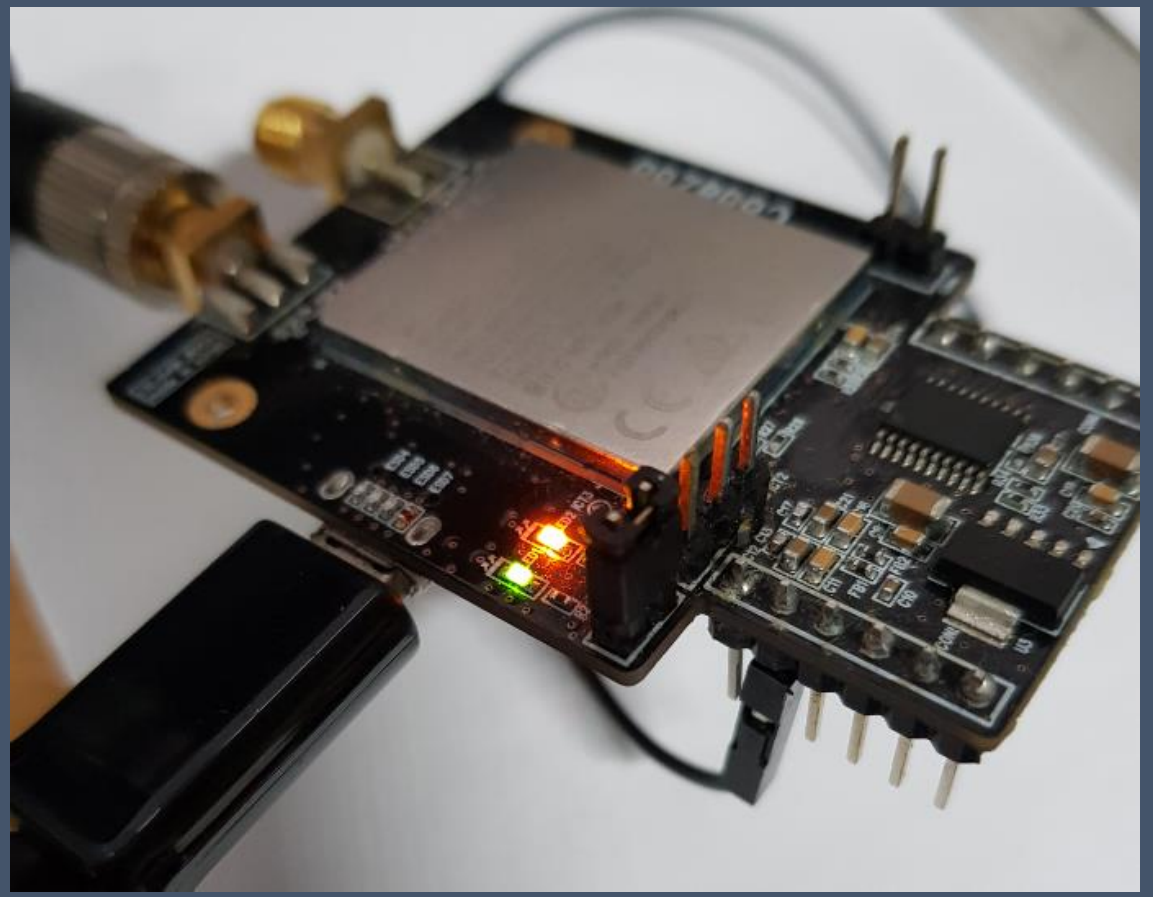
1. CAT.M1 Hardware 준비

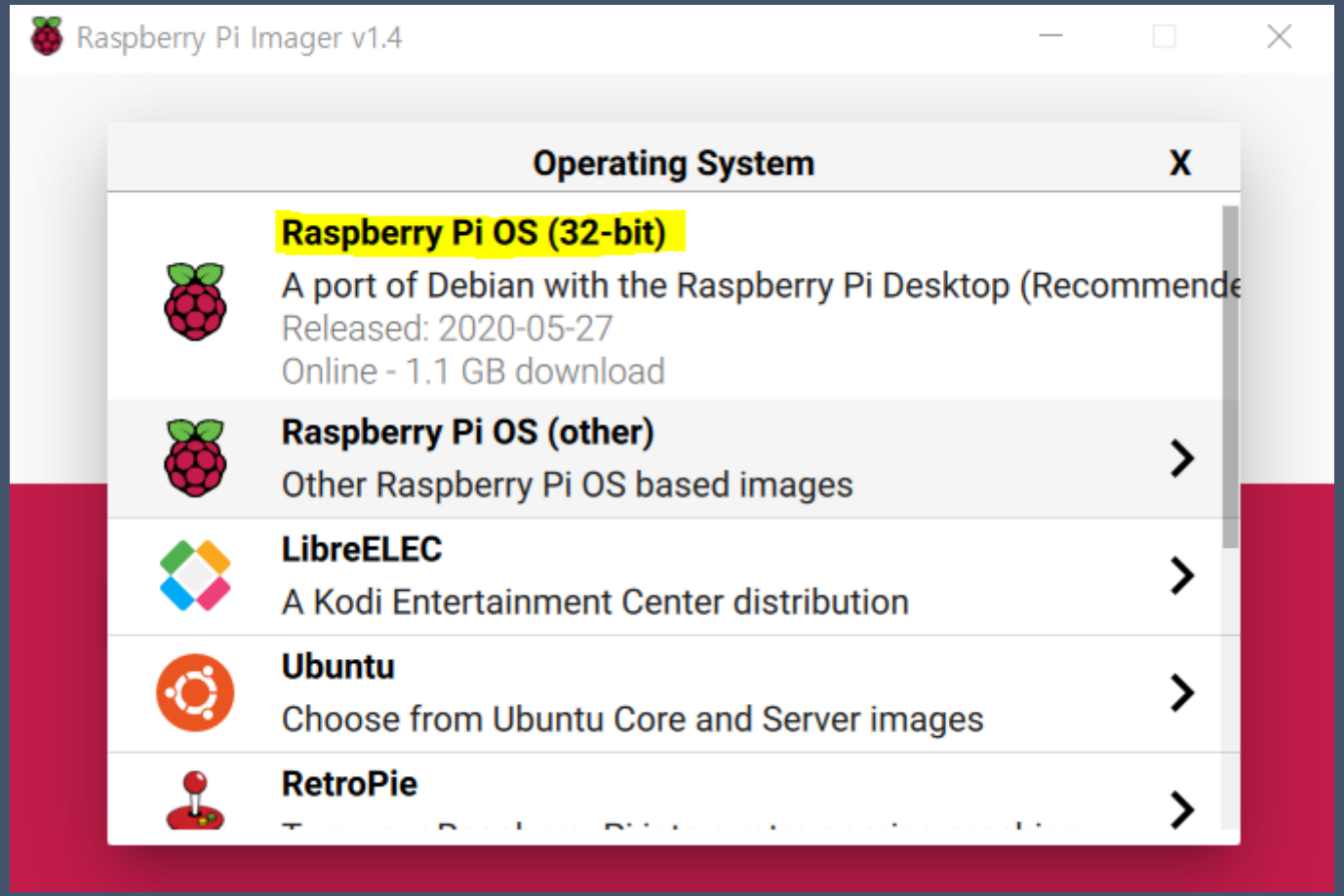
USB 연결 후 AT Command 테스트 절차

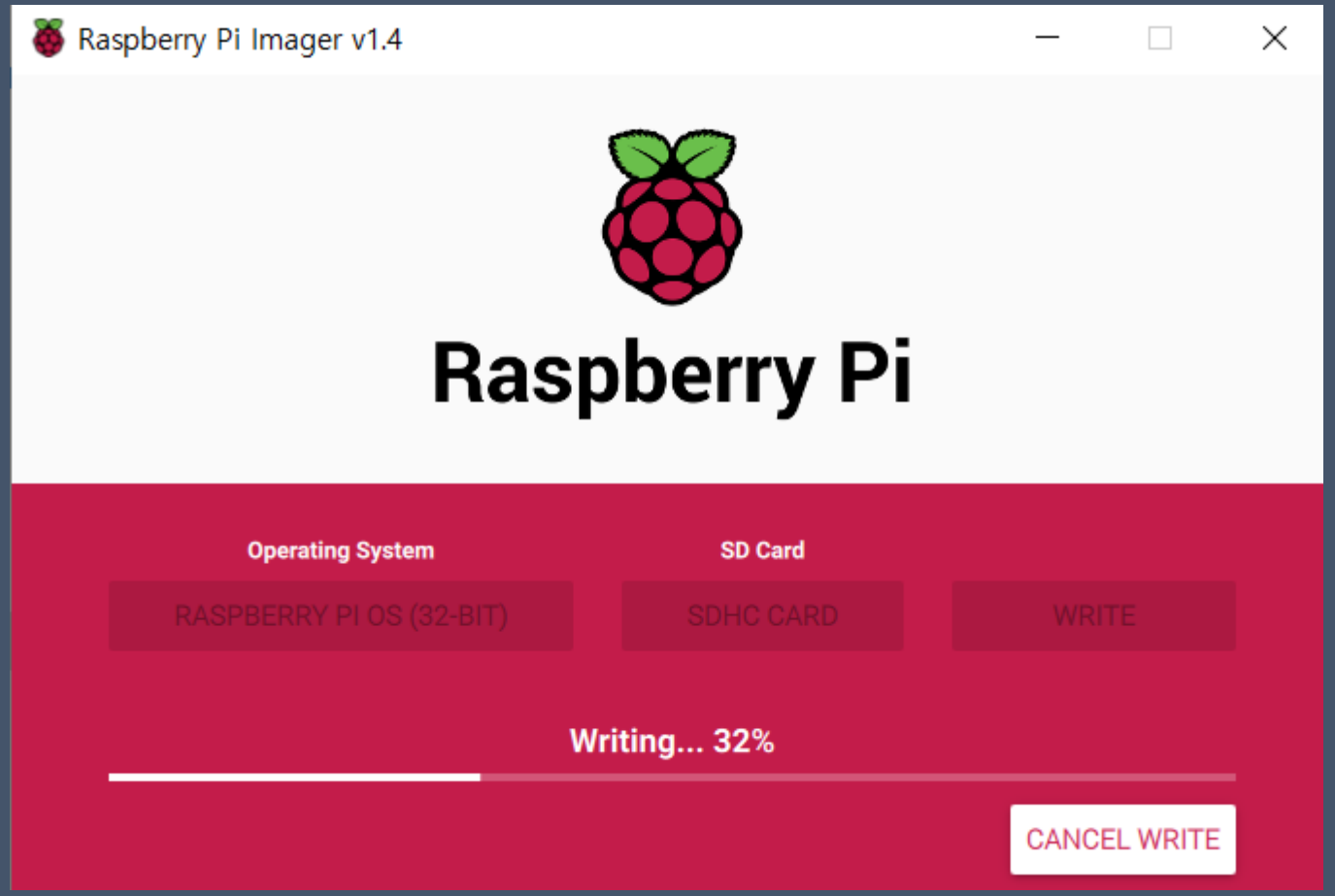
1. 후면 좌측 5번과 우측 2번을 점퍼선으로 연결
2. Micro USB 케이블을 라즈베리파이 USB 포트에 연결





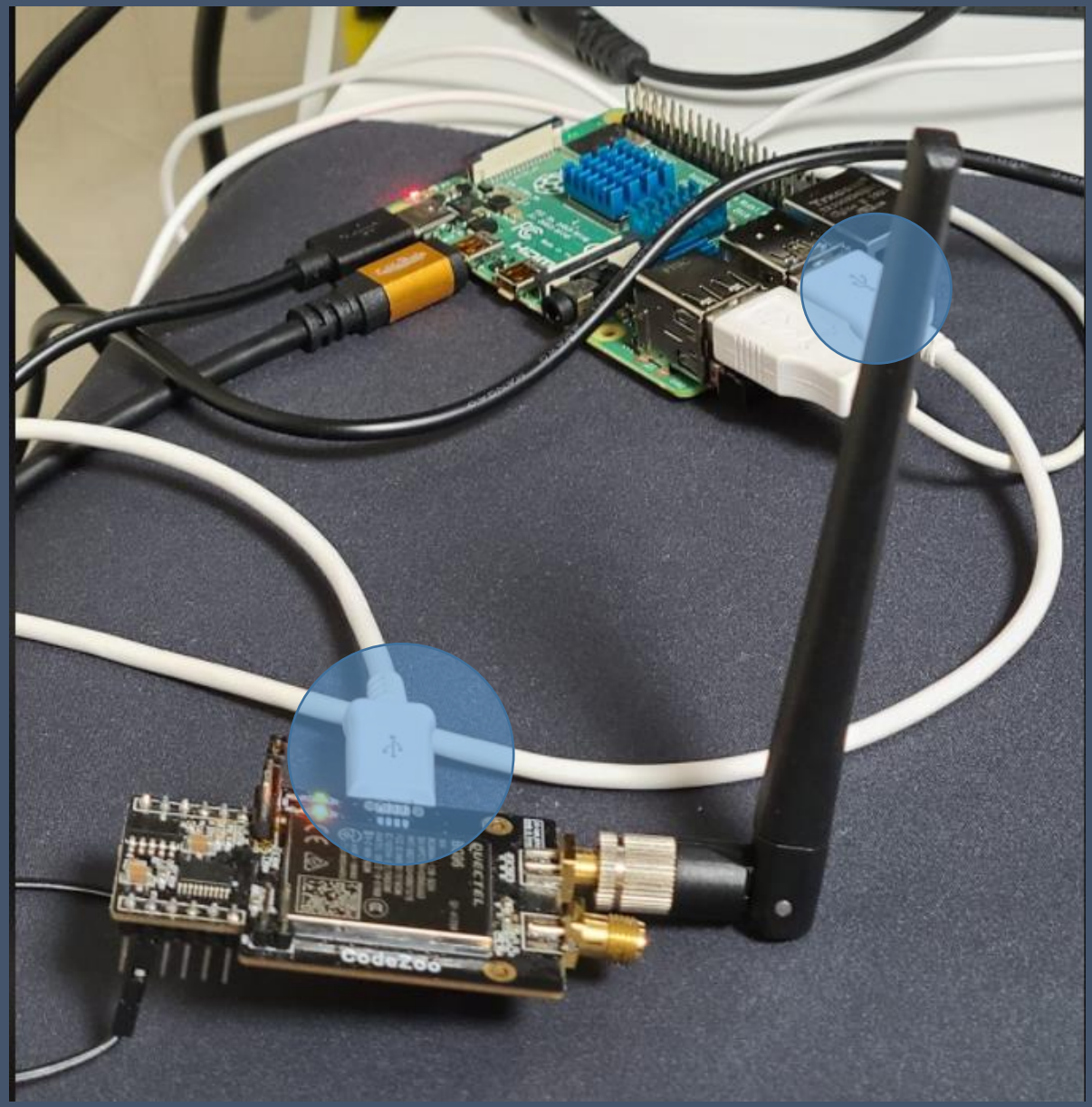
2. CAT.M1 실습 (Raspberry Pi OS install)





3. CAT.M1 연결

마이크로 USB 케이블로 CATM1과
라즈베리파이 연결



4. CAT.M1 PPP install

1. 라즈베리파이 터미널을 실행해서 installer file 을 다운로드 받습니다.
wget https://raw.githubusercontent.com/sixfab/Sixfab_PPP_Installer/master/ppp_install_standalone.sh

2. 파일의 퍼미션을 변경합니다.
sudo chmod +x ppp_install_standalone.sh

3. ppp_install_standalone.sh 을 실행 합니다.
sudo ./ppp_install_standalone.sh

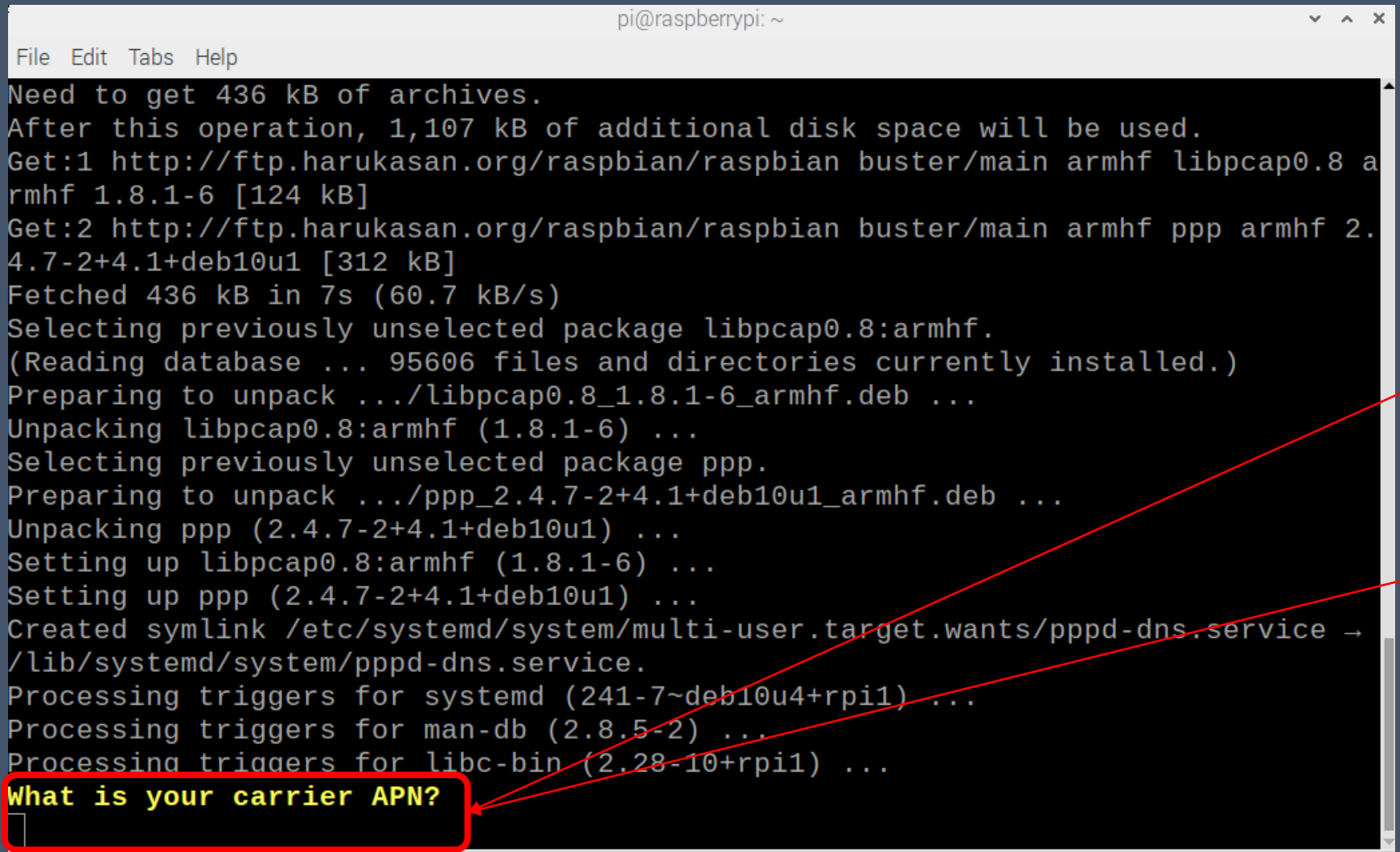
4. CAT.M1 PPP install

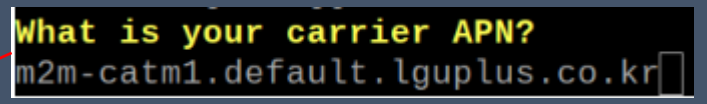
4. 6: 3G/4G Base HAT 을 선택 합니다.
6 (Enter)

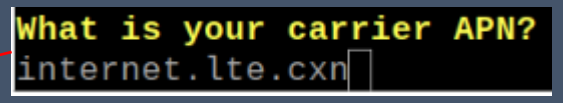
```
Please choose your Sixfab Shield/HAT:
1: GSM/GPRS Shield
2: 3G, 4G/LTE Base Shield
3: Cellular IoT App Shield
4: Cellular IoT HAT
5: Tracker HAT
6: 3G/4G Base HAT
6
```

4. CAT.M1 PPP install

5. APN 을 입력 합니다.
유플러스 유심 사용시 : m2m-catm1.default.lguplus.co.kr
텔레노어 유심 사용시 : internet.lte.cxn







4. CAT.M1 PPP install

6. 기타 설정을 입력 합니다.
1) username and password : n
2) device communication port : ttyUSB3
3) activate auto connect/reconnect service at R.Pi boot up : y

```
Does your carrier need username and password? [Y/n]
n
What is your device communication PORT? (ttyS0/ttyUSB3/etc.)
ttyUSB3
Do you want to activate auto connect/reconnect service at R.Pi boot up? [Y/n]
y
```

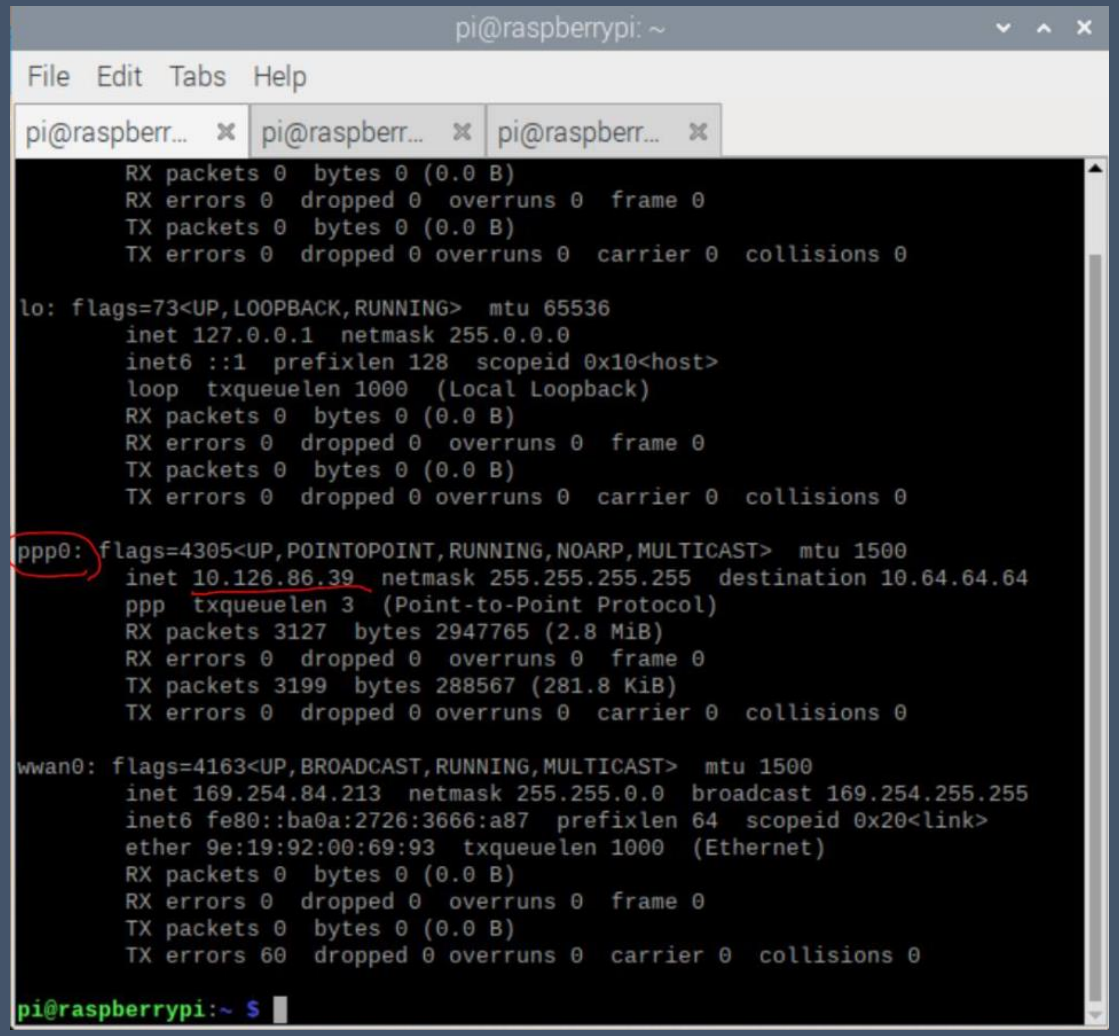
4. CAT.M1 PPP install

7. ENTER key 를 누르고 라즈베리파이를 재실행 시키면 PPP 서비스가 적용됩니다.

```
--2020-09-01 05:37:39--  https://raw.githubusercontent.com/sixfab/Sixfab_PPP_In
staller/master/ppp_installer/reconnect_basehat
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 151.101.76.1
33
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|151.101.76.
133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 314 [text/plain]
Saving to: ‘reconnect.sh’

reconnect.sh        100%[===================>]     314  --.-KB/s    in 0s

2020-09-01 05:37:39 (4.50 MB/s) - ‘reconnect.sh’ saved [314/314]

Created symlink /etc/systemd/system/multi-user.target.wants/reconnect.service →
 /etc/systemd/system/reconnect.service.
Press ENTER key to reboot
```

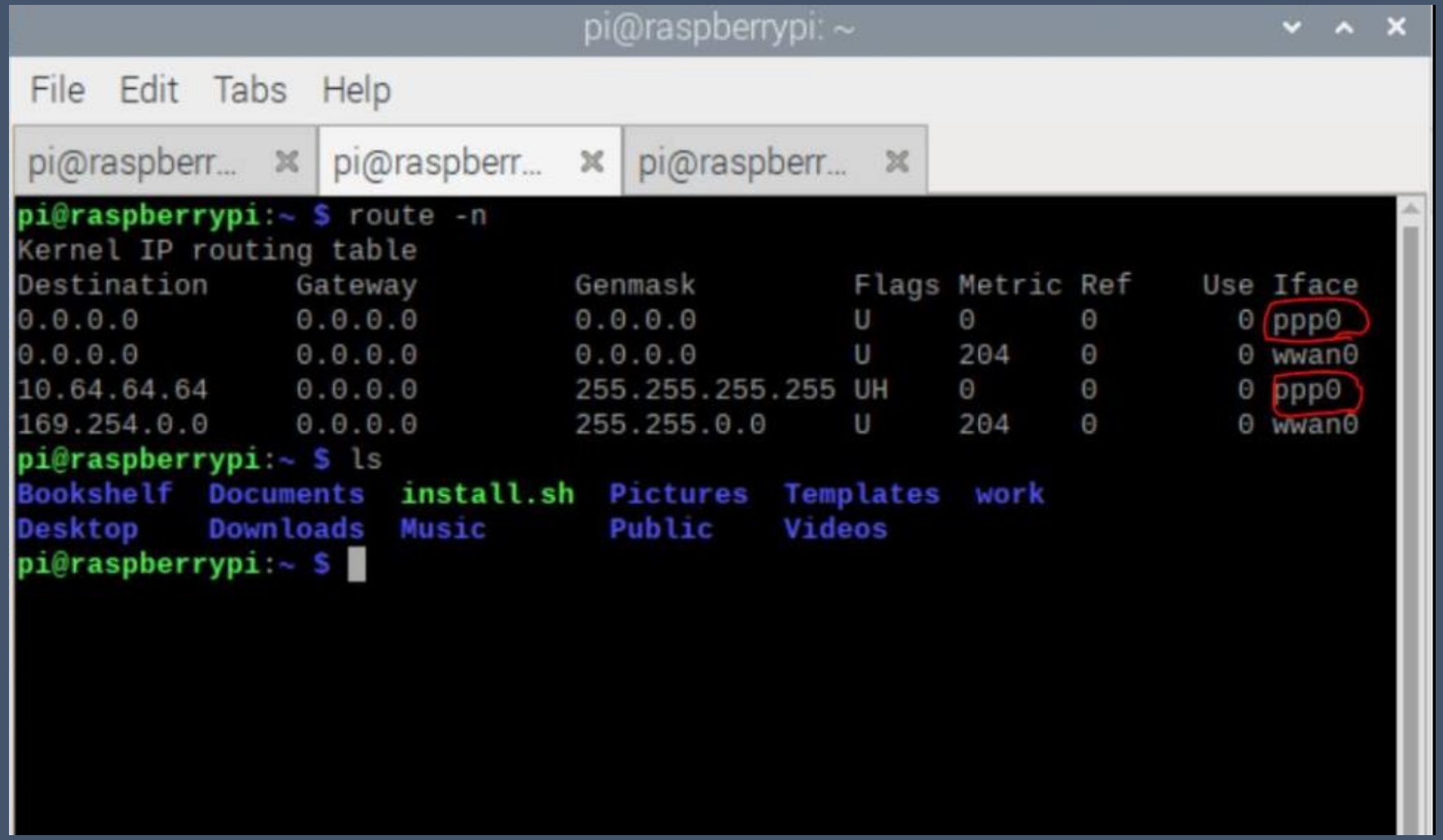
5. CAT.M1 PPP 동작 확인

1. 라즈베리파이 터미널에서 ifconfig 실행, PPP0 디바이스 확인



5. CAT.M1 PPP 동작 확인

2. 라즈베리파이 터미널에서 route -n 실행, PPP0 디바이스 확인



5. CAT.M1 PPP 동작 확인

3. 파이썬 테스트 코드로 통신 테스트

python3 python_echo_client.py

pi@raspberrypi: ~/work/python_echo_client

File Edit Tabs Help

pi@raspberr... pi@raspberr... pi@raspberr...

```
import socket
import sys

#Create a TCP/IP socket
sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)

#Connect the socket to the port where the server is listening
server_address = ('echo.mbedcloudtesting.com', 7)
print('connecting to {}port {}'.format(*server_address))
sock.connect(server_address)

try:

    #Send data
    message = b'This is the message. It will be repeated.'
    print('sending {!r}'.format(message))
    sock.sendall(message)

    #Look for the response
    amount_received = 0
    amount_expected = len(message)

    while amount_received < amount_expected:
        data = sock.recv(16)
        amount_received += len(data)
        print('received {!r}'.format(data))

finally:
    print('closing socket')
    sock.close()
```

33,0-1 Bot

감사합니다.