simsquare Cat.M1 module Hands-On Guide

- Raspberry Pi (with PPP) -

version 1.0

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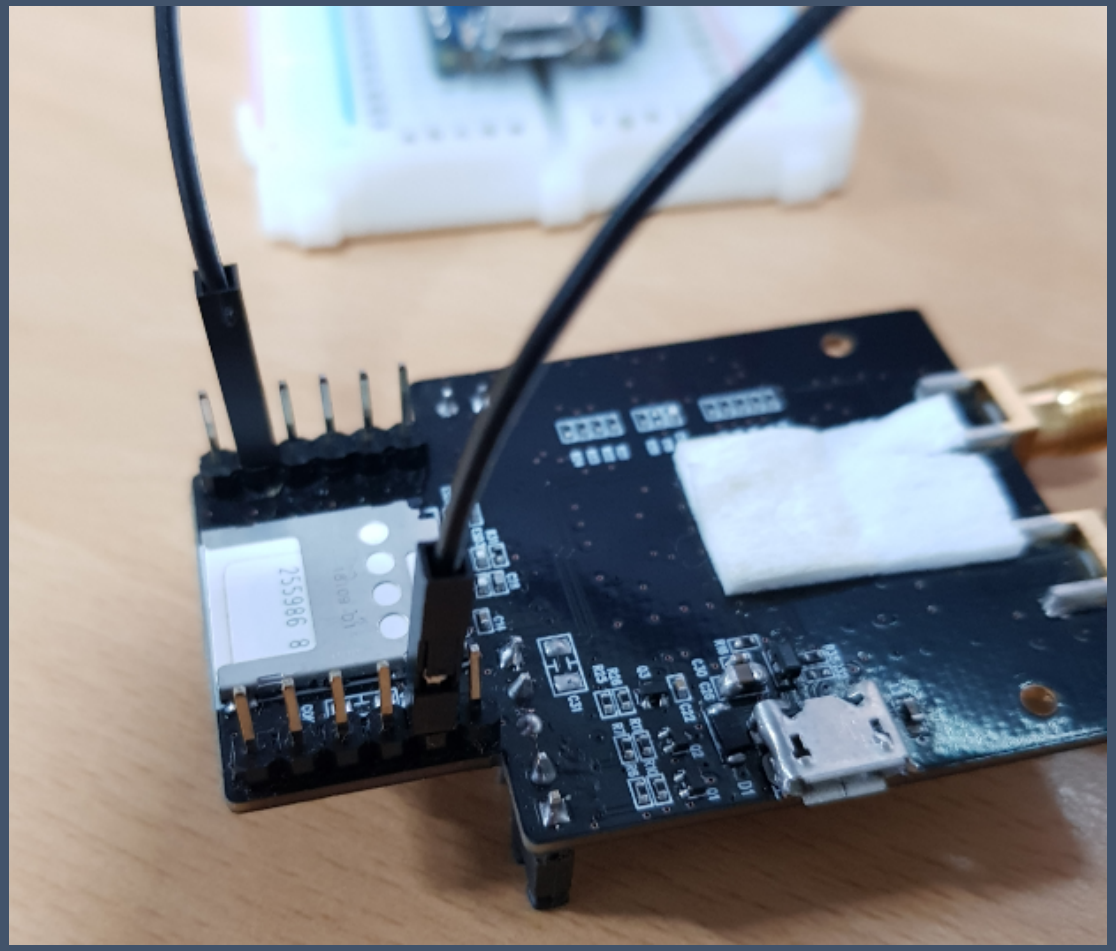
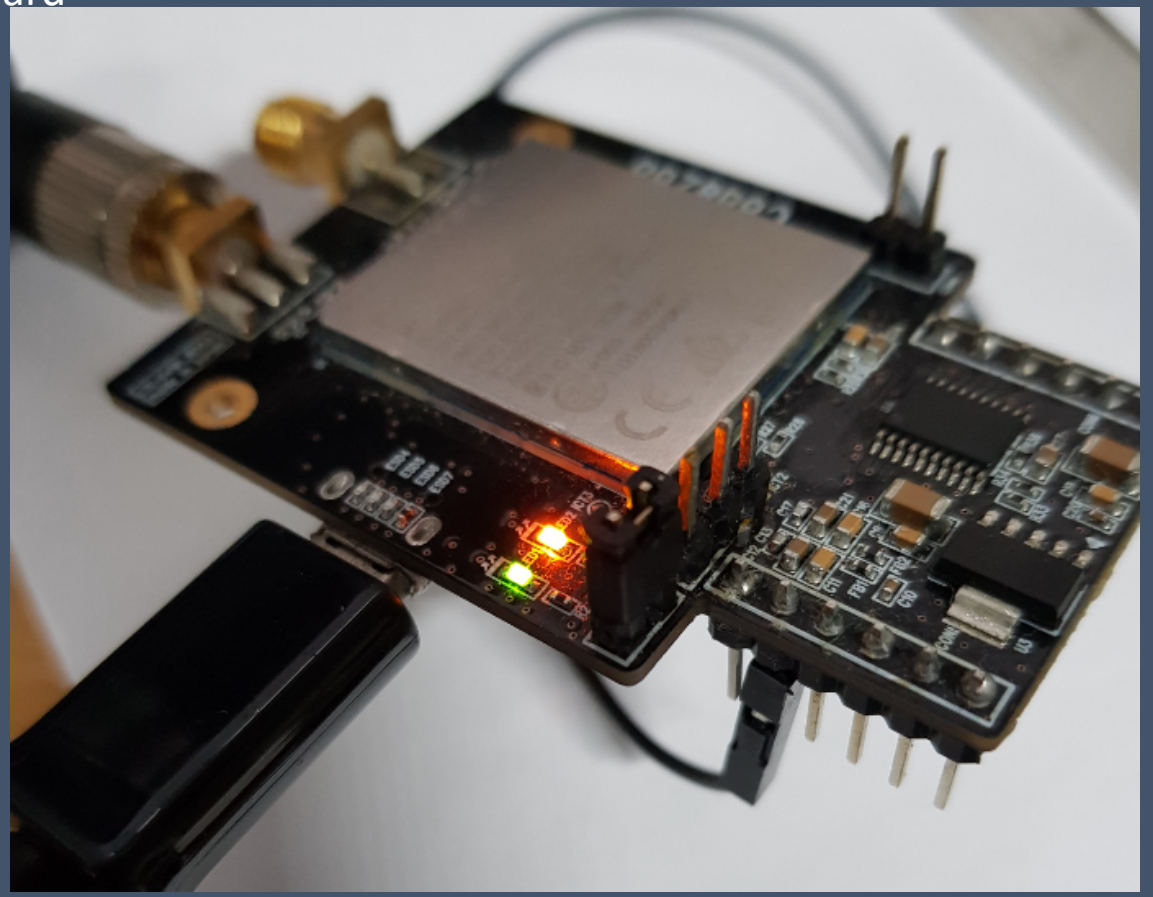
1. CAT.M1 Hardware

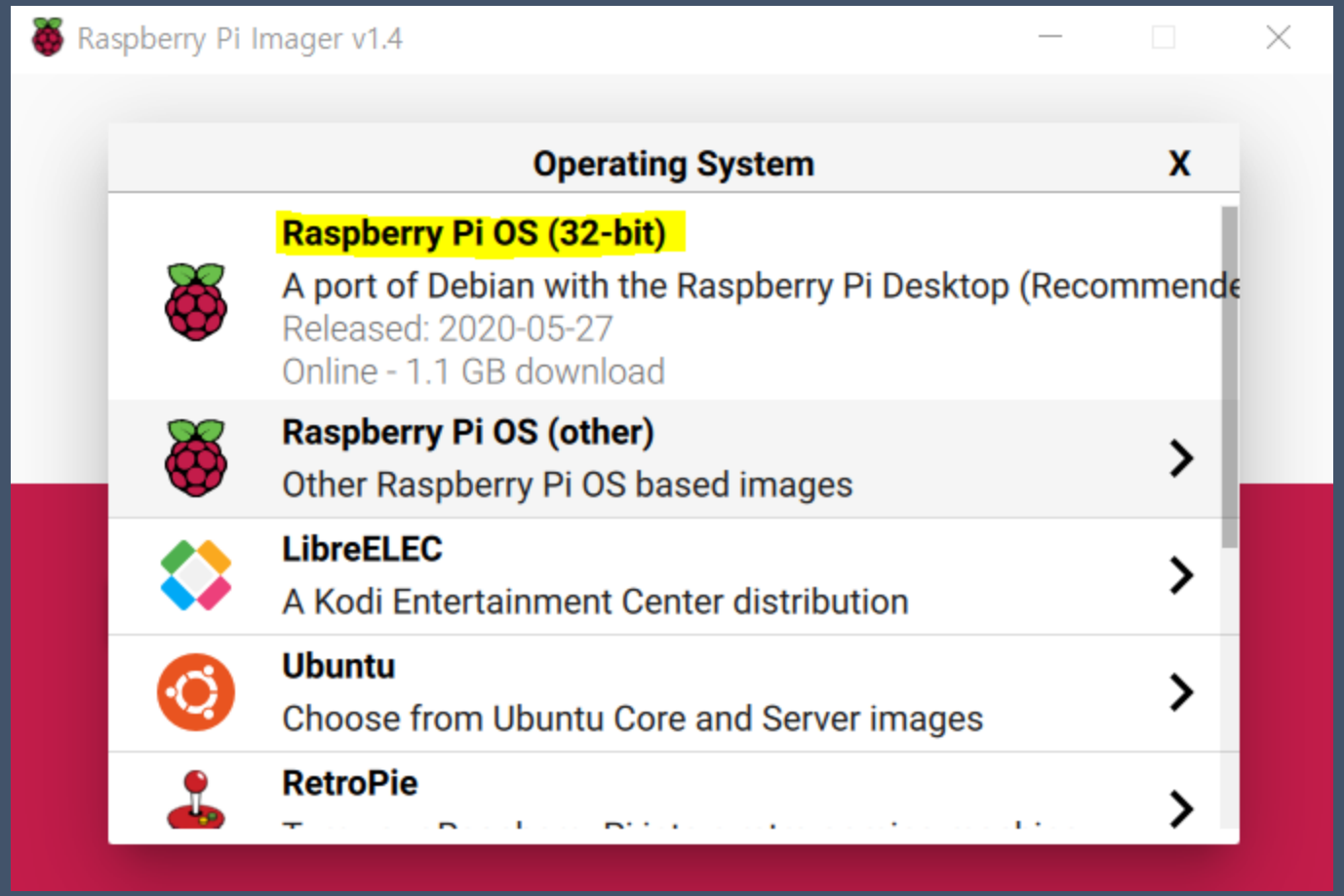
AT Command test procedures once it’s connected via USB

1. Connect No. 5 from left on bottom to No.2 from right on top as in the photo below
2. Connect Micro USB cable to the USB port of Raspberry Pi board





2. CAT.M1 practice - Raspberry Pi OS install

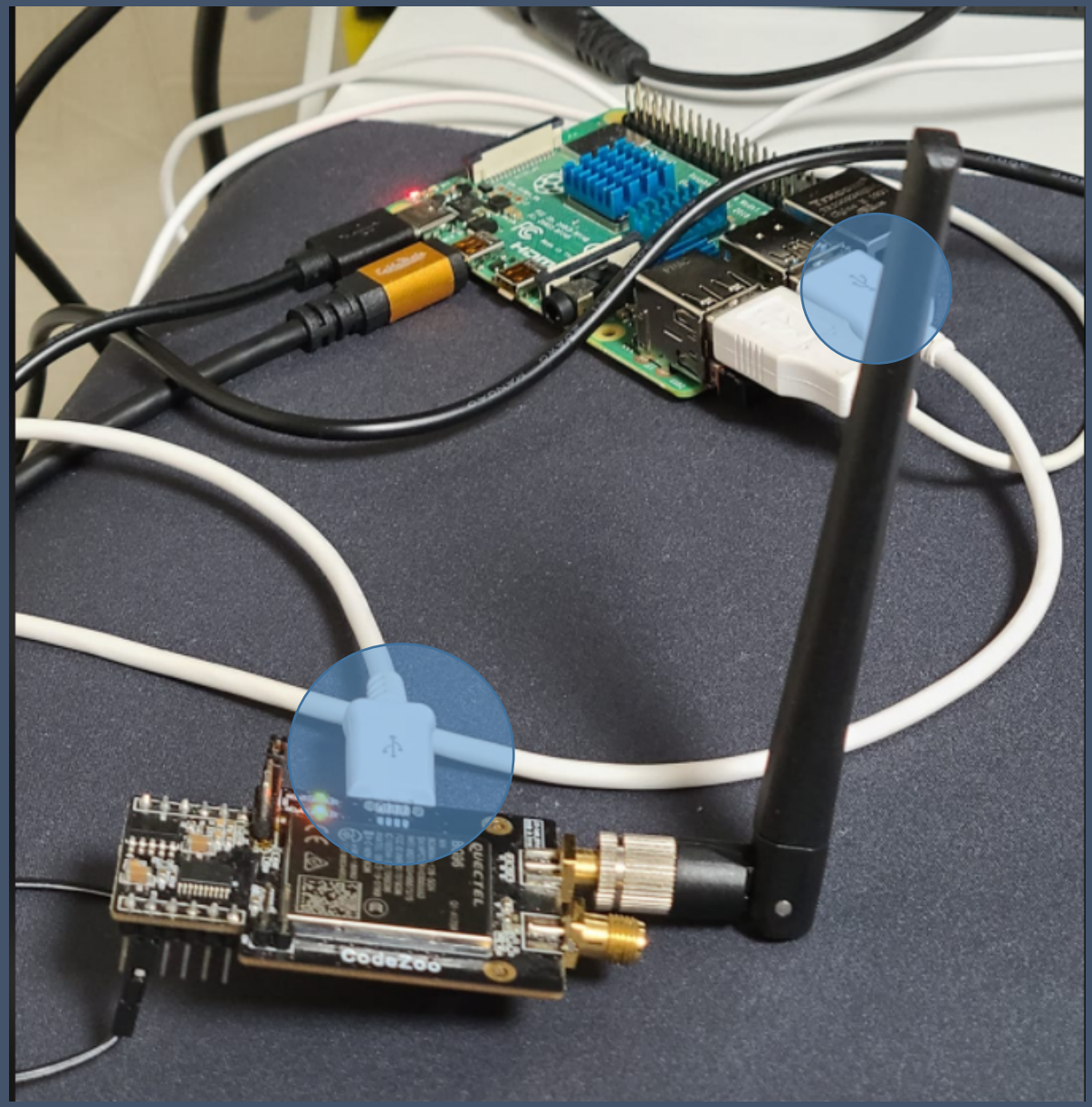



Raspberry Pi Imager v1.4
Raspberry Pi
Operating System
RASPBERRY PI OS (32-BIT)
SD Card
SDHC CARD
WRITE


Raspberry Pi Imager v1.4
Raspberry Pi
Operating System
SD Card
RASPBERRY PI OS (32-BIT)
SDHC CARD
WRITE
Writing... 32%
CANCEL WRITE

3. CAT.M1 Connect

Connect Micro USB cable to the USB port of Raspberry board



4. CAT.M1 PPP install

1. Run Raspberry Pi Terminal and download the installer file.
wget https://raw.githubusercontent.com/sixfab/Sixfab_PPP_Installer/master/ppp_install_standalone.sh

2. Change the permission
sudo chmod +x ppp_install_standalone.sh

3. Run ppp_install_standalone.sh
sudo ./ppp_install_standalone.sh

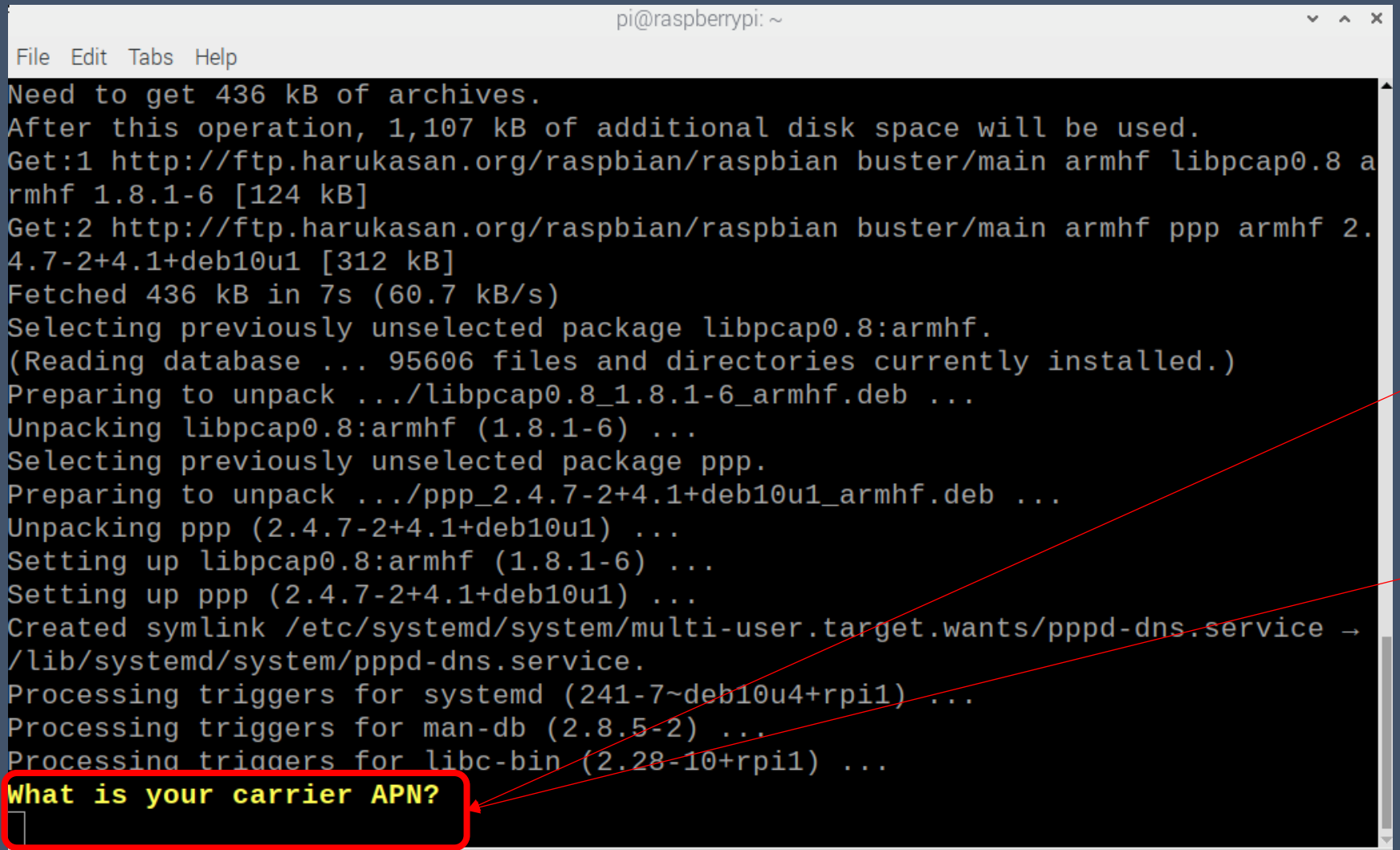
4. CAT.M1 PPP install

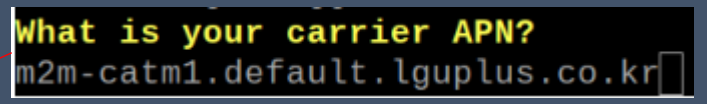
4. Select 6: 3G/4G Base HAT.
   6 (Enter)

```
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.Enter APN
internet.lte.cxn





4. CAT.M1 PPP install

6. Enter other configurations
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
```

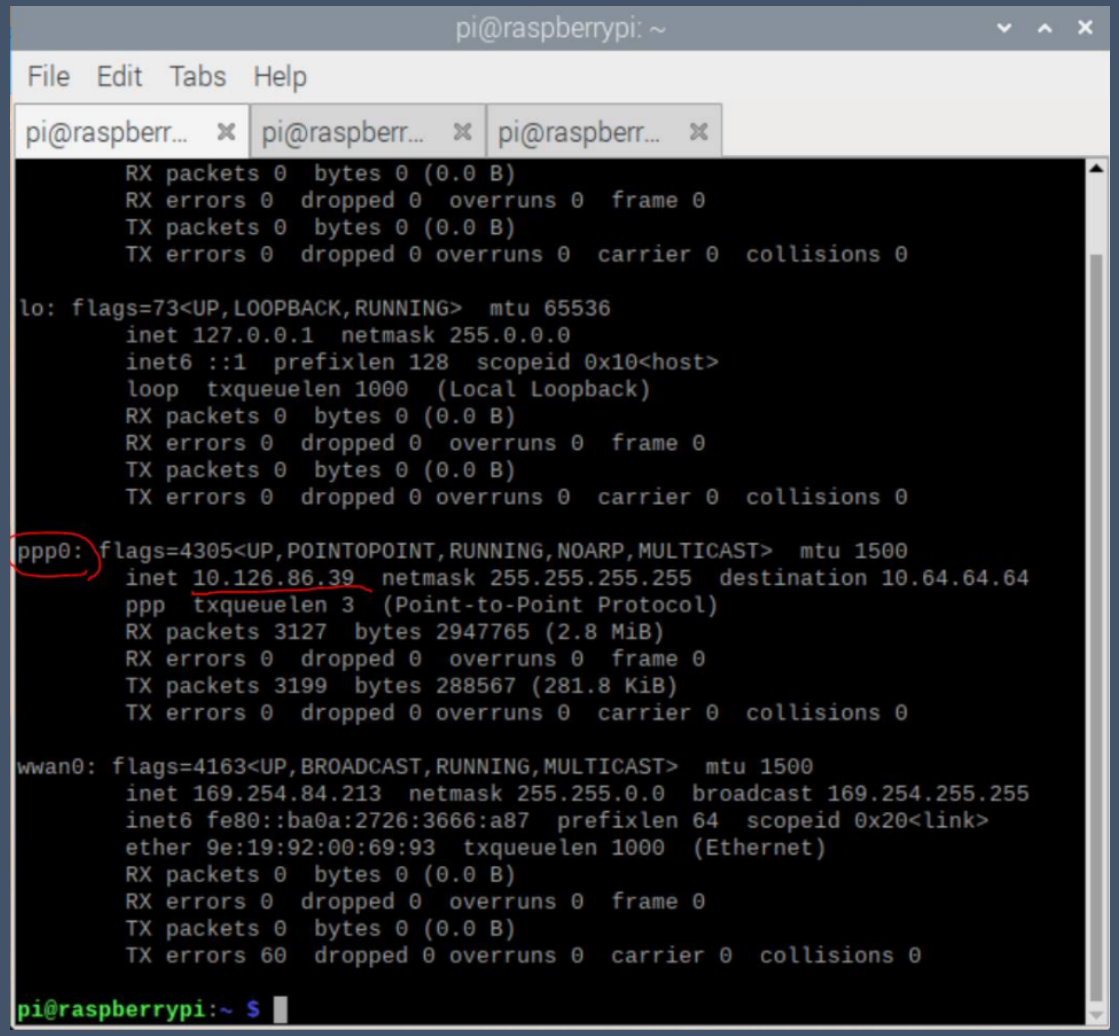
4. CAT.M1 PPP install

7. Hit ENTER and re-run Raspberry Pi and then PPP will be applied.

```
--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
```

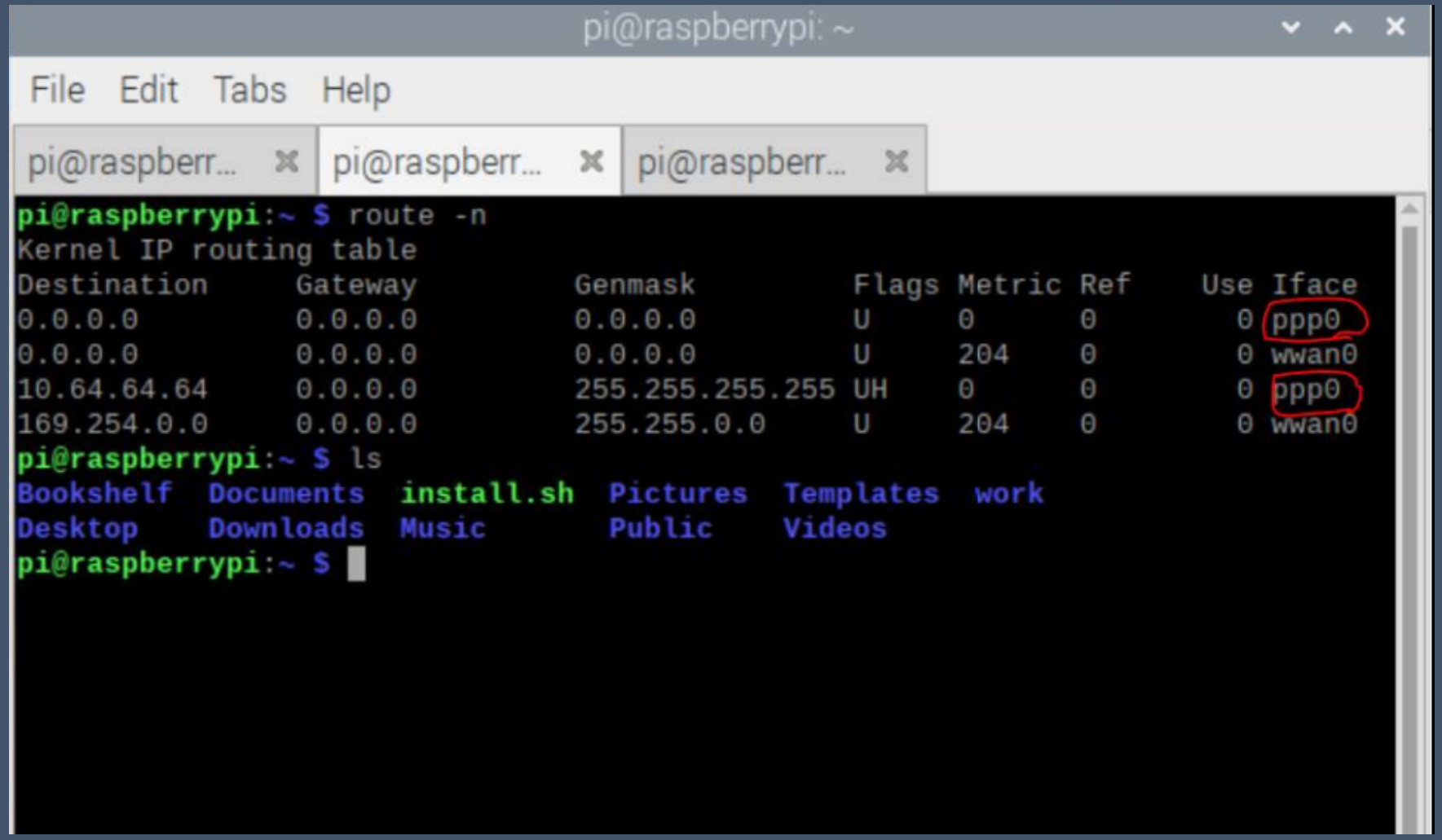
5. CAT.M1 PPP – operability check

1. Run ifconfig in Raspberry Pi Terminal and check PPP0



5. CAT.M1 PPP – operability check

2. Run route -n in Raspberrry Pi Terminal and check PPP0 device.



5. CAT.M1 PPP 동작 확인

3. Use Python test codes and test

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
```

Thank you!