

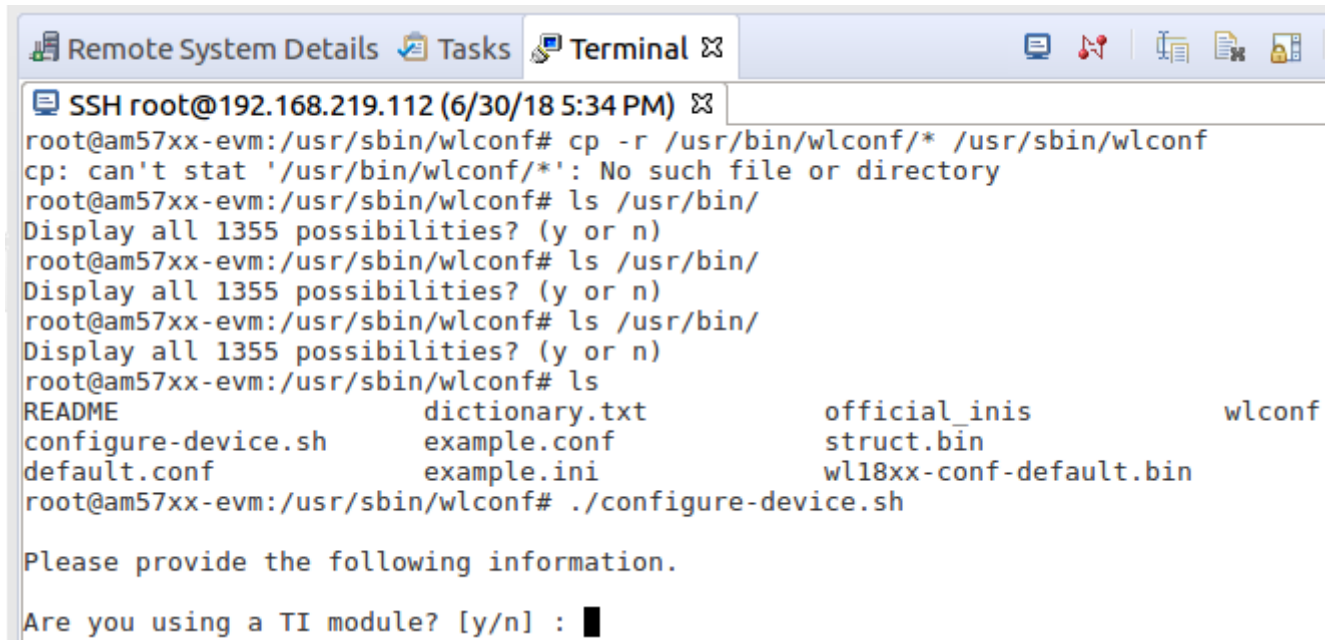
AM5728 Wi-Fi Lab

Innova Lee(이상훈)
gcccompil3r@gmail.com

보드를 부팅시키기 이전에 아래와 같이 WL1837 모듈을 부착시킨다.



부팅 시킨 이후 아래 콘솔 명령을 진행하도록 한다.
(현재 위치를 잘 확인하도록 함)

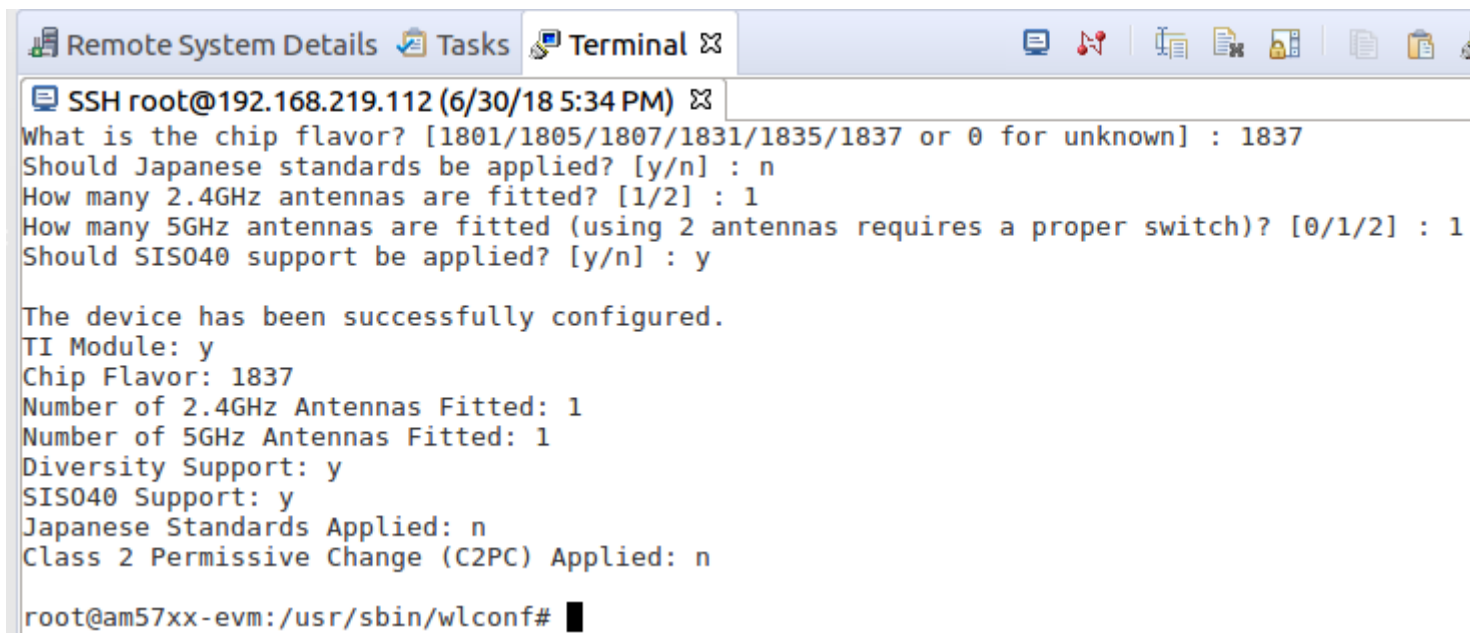


```
SSH root@192.168.219.112 (6/30/18 5:34 PM)
root@am57xx-evm:/usr/sbin/wlconf# cp -r /usr/bin/wlconf/* /usr/sbin/wlconf
cp: can't stat '/usr/bin/wlconf/*': No such file or directory
root@am57xx-evm:/usr/sbin/wlconf# ls /usr/bin/
Display all 1355 possibilities? (y or n)
root@am57xx-evm:/usr/sbin/wlconf# ls /usr/bin/
Display all 1355 possibilities? (y or n)
root@am57xx-evm:/usr/sbin/wlconf# ls /usr/bin/
Display all 1355 possibilities? (y or n)
root@am57xx-evm:/usr/sbin/wlconf# ls
README          dictionary.txt    official_inis    wlconf
configure-device.sh  example.conf     struct.bin
default.conf      example.ini      wl18xx-conf-default.bin
root@am57xx-evm:/usr/sbin/wlconf# ./configure-device.sh

Please provide the following information.

Are you using a TI module? [y/n] : █
```

안테나 설정은 아래와 같이 해준다.

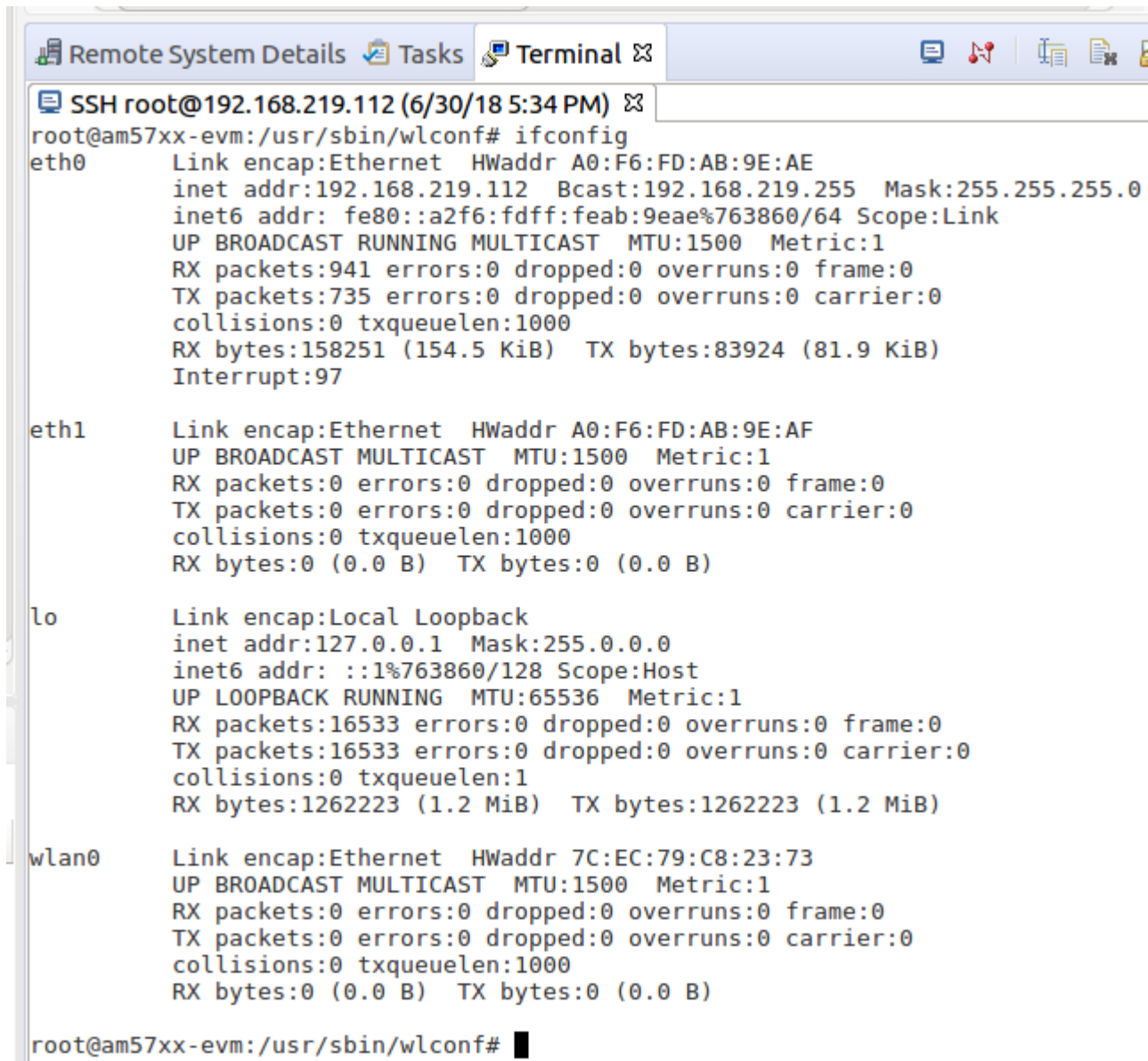


```
SSH root@192.168.219.112 (6/30/18 5:34 PM) ✖
What is the chip flavor? [1801/1805/1807/1831/1835/1837 or 0 for unknown] : 1837
Should Japanese standards be applied? [y/n] : n
How many 2.4GHz antennas are fitted? [1/2] : 1
How many 5GHz antennas are fitted (using 2 antennas requires a proper switch)? [0/1/2] : 1
Should SIS040 support be applied? [y/n] : y

The device has been successfully configured.
TI Module: y
Chip Flavor: 1837
Number of 2.4GHz Antennas Fitted: 1
Number of 5GHz Antennas Fitted: 1
Diversity Support: y
SIS040 Support: y
Japanese Standards Applied: n
Class 2 Permissive Change (C2PC) Applied: n

root@am57xx-evm:/usr/sbin/wlconf#
```

여전히 wlan 은 활성화되지 않았을 것이다.
안테나만 설정했기 때문이다.



```
SSH root@192.168.219.112 (6/30/18 5:34 PM)
root@am57xx-evm:/usr/sbin/wlconf# ifconfig
eth0      Link encap:Ethernet  HWaddr A0:F6:FD:AB:9E:AE
          inet addr:192.168.219.112  Bcast:192.168.219.255  Mask:255.255.255.0
          inet6 addr: fe80::a2f6:fdff:feab:9eae%763860/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:941 errors:0 dropped:0 overruns:0 frame:0
          TX packets:735 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:158251 (154.5 KiB)  TX bytes:83924 (81.9 KiB)
          Interrupt:97

eth1      Link encap:Ethernet  HWaddr A0:F6:FD:AB:9E:AF
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1%763860/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:16533 errors:0 dropped:0 overruns:0 frame:0
          TX packets:16533 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:1262223 (1.2 MiB)  TX bytes:1262223 (1.2 MiB)

wlan0     Link encap:Ethernet  HWaddr 7C:EC:79:C8:23:73
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

root@am57xx-evm:/usr/sbin/wlconf#
```

Remote System Details Tasks Terminal

SSH root@192.168.219.112 (6/30/18 5:34 PM)

RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

```
root@am57xx-evm:/usr/sbin/wlconf# ls
README                dictionary.txt         official_inis         wlconf
configure-device.sh   example.conf          struct.bin
default.conf          example.ini           wl18xx-conf-default.bin
root@am57xx-evm:/usr/sbin/wlconf# cd /usr/share/wl18xx/
root@am57xx-evm:/usr/share/wl18xx# ls
ap_start.sh           p2p_cli.sh           sta_stop.sh
ap_stop.sh            p2p_start.sh         testing-boot.sh
applypatch-msg.sample p2p_stop.sh          testing.ini
calibrate.sh          post-update.sample   testing_set_wlcore.sh
commit-msg.sample     pre-applypatch.sample udhcpd.conf
dynamic-debug.sh      pre-commit.sample    udhcpd.leases
hostapd.conf          pre-push.sample      udhcpd2.conf
load_wlcore.sh        pre-rebase.sample    udhcpd_mesh.conf
mesh_bridge.sh        prepare-commit-msg.sample unload_wlcore.sh
mesh_join.sh          print_stat.sh         update.sample
mesh_start.sh         ps_lock.sh           wlconf-toggle-set.sh
mesh_stop.sh          set_cmd_silence.sh   wlcore-print-fw-stat.sh
mesh_supPLICANT.conf sta_connect-ex-dhcp.sh wpa_supPLICANT.conf
mod_start.sh          sta_connect-ex.sh
mod_stop.sh           sta_start.sh
root@am57xx-evm:/usr/share/wl18xx# ./load_wlcore.sh
root@am57xx-evm:/usr/share/wl18xx# ./sta_start.sh
root@am57xx-evm:/usr/share/wl18xx# Successfully initialized wpa_suplicant
p2p-dev-wlan0: CTRL-Event-REGDOM-CHANGE init=USER type=COUNTRY alpha2=US

root@am57xx-evm:/usr/share/wl18xx# ./sta_connect-ex.sh AM5728
netid=0
=====
OK
OK
OK
root@am57xx-evm:/usr/share/wl18xx#
```


SSH root@192.168.219.112 (6/30/18 5:34 PM)

```
root@am57xx-evm:/usr/share/wl18xx# ifconfig wlan0 up
root@am57xx-evm:/usr/share/wl18xx# ifconfig
eth0      Link encap:Ethernet  HWaddr A0:F6:FD:AB:9E:AE
          inet addr:192.168.219.112  Bcast:192.168.219.255  Mask:255.255.255.0
          inet6 addr: fe80::a2f6:fdff:feab:9eae%763860/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:1389 errors:0 dropped:0 overruns:0 frame:0
          TX packets:998 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:205479 (200.6 KiB)  TX bytes:123038 (120.1 KiB)
          Interrupt:97

eth1      Link encap:Ethernet  HWaddr A0:F6:FD:AB:9E:AF
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

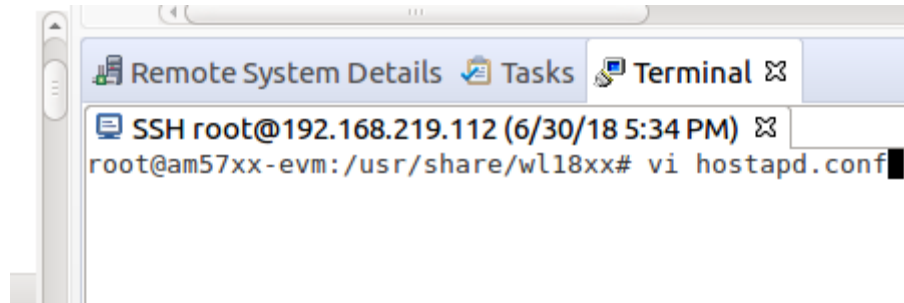
lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1%763860/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:18007 errors:0 dropped:0 overruns:0 frame:0
          TX packets:18007 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:1379640 (1.3 MiB)  TX bytes:1379640 (1.3 MiB)

wlan0     Link encap:Ethernet  HWaddr 7C:EC:79:C8:23:73
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

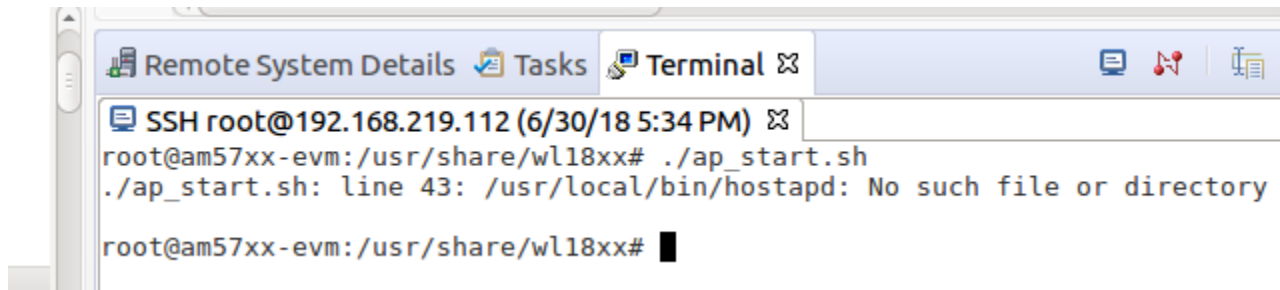
wlan1     Link encap:Ethernet  HWaddr 7E:EC:79:C8:23:73
          inet addr:192.168.43.1  Bcast:192.168.43.255  Mask:255.255.255.0
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

root@am57xx-evm:/usr/share/wl18xx#
```

hostapd.conf 는 특별히 신경 쓸 부분이 없다.



./ap_start.sh 를 수행하면 아래와 같은 메시지가 나타날텐데 경로 수정을 해줘야 한다.



SSH root@192.168.219.112 (6/30/18 5:34 PM)

#!/bin/sh

variables

WLAN=wlan1

WLAN2=wlan2

HOSTAPD_PROC=/var/run/hostapd

HOSTAPD_CONF=/usr/share/wl18xx/hostapd.conf

#HOSTAPD_BIN_DIR=/usr/local/bin

HOSTAPD_BIN_DIR=/usr/sbin

IP_ADDR=192.168.43.1

IP_ADDR2=192.168.53.1

DHCP_CONF=udhcpd.conf

DHCP_CONF2=udhcpd2.conf

DHCP_CONF_PROC=u[d]hcpd.conf

DHCP_CONF_PROC2=u[d]hcpd2.conf

body

check for configuration file

if [! -f \$HOSTAPD_CONF]; then

if [! -f /etc/hostapd.conf]

then

echo "error - no default hostapd.conf file"

exit 1

fi

cp /etc/hostapd.conf \$HOSTAPD_CONF

chmod 777 \$HOSTAPD_CONF

fi

configure ip forwarding

echo 1 > /proc/sys/net/ipv4/ip_forward

add WLAN interface, if not present

if [! -d /sys/class/net/\$WLAN]

then

echo "adding \$WLAN interface"

iw phy `ls /sys/class/ieee80211/` interface add \$WLAN type managed

fi

start a hostapd interface, if not present

if [! -r \$HOSTAPD_PROC]

then

root@am57xx-evm:/usr/share/wl18xx#

Remote System Details Tasks Terminal

SSH root@192.168.219.112 (6/30/18 5:34 PM)

```
root@am57xx-evm:/usr/share/wl18xx# iw dev wlan1 info
```

```
Interface wlan1
```

```
    ifindex 7
```

```
    wdev 0x1000000003
```

```
    addr 7e:ec:79:c8:23:73
```

```
    ssid SitaraAP
```

```
    type AP
```

```
    wiphy 1
```

```
    channel 11 (2462 MHz), width: 20 MHz, center1: 2462 MHz
```

```
    txpower 25.00 dBm
```

```
root@am57xx-evm:/usr/share/wl18xx#
```

아래와 같이 AP 가 활성화되는 것을 볼 수 있을 것이다.

