**How to enable WiFi/Bluetooth with AIW-169**

**Prerequisite**

* RSB-4810 with Android 12 (Linux kernel v4.19.232) on it
* Extract “AIW-169\_RSB4810\_Android\_FW.zip” and copy files to one USB stick and plugged into any one USB port of RSB-4810 platform and follows WiFi/ Bluetooth test steps next.

“*AIW-169\_RSB4810\_Android\_FW.zip*” includes following files:

1. WiFi driver files:

* rtkm.ko
* 8852ce.ko

*[\* Notes ] WiFi 6GHz is only supported if RSB-4810 kernel 5.4 or above*

**Test WiFi**

1. **Bring up WiFi driver** :

* Bring up WiFi driver with 8852ce.ko if mount USB stick underlying /run/media/sda1 on RSB-4810

# cp /run/media/sda1/\*.ko /tmp

# insmod rtkm.ko

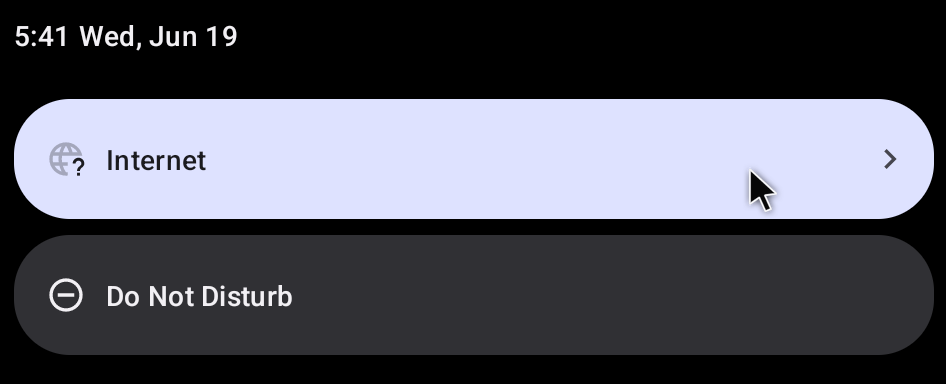
# insmod 8852ce.ko

*Note: you will see the interface wlan0 by “ifconfig –a” command*

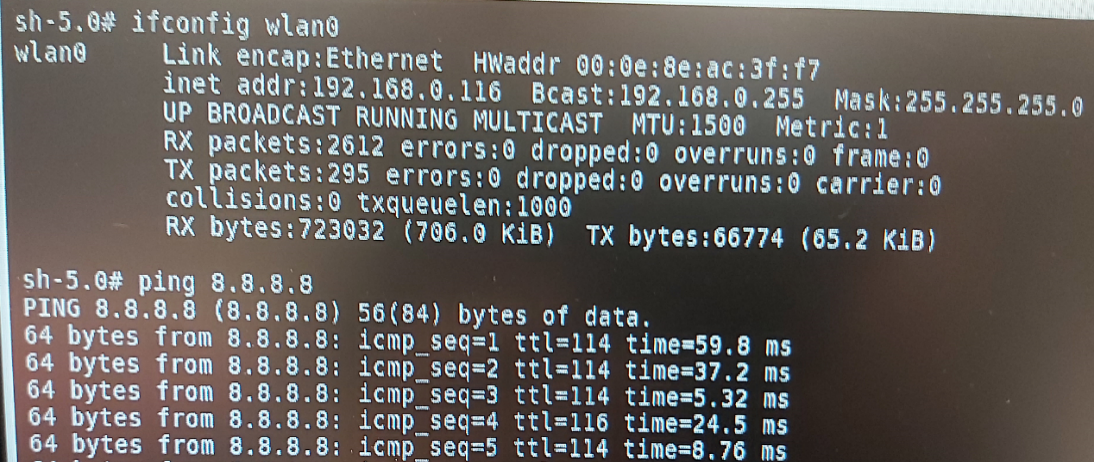
# ifconfig wlan0 up

1. **Test with WiFi AP**

* Using GUI with HDMI display for “Internet” as follows to link with your AP



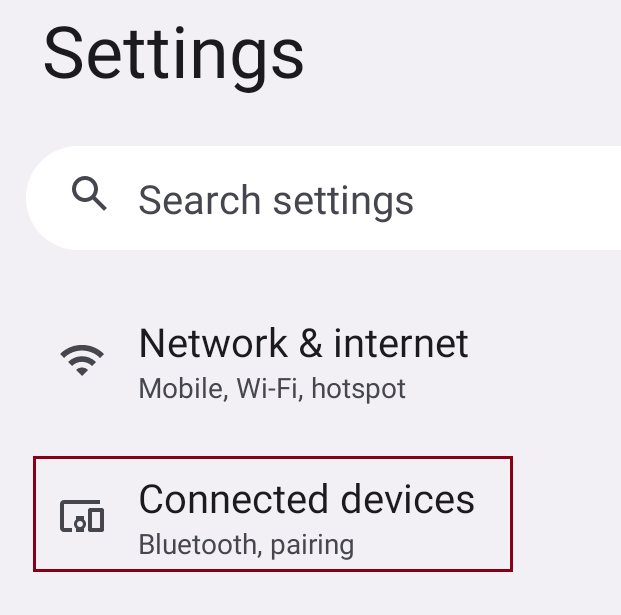
* If AP is configured with internet connection, user can use ping to check the internet availability as follows.
  + Check network connection after obtained IP address

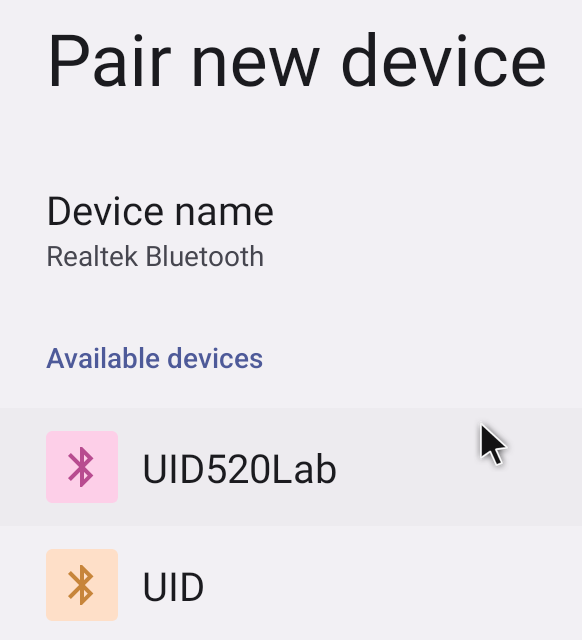
# ping 8.8.8.8****

**Test Bluetooth**

1. **Test Bluetooth Interface**

* Bring up Bluetooth with GUI (with HDMI display) as follows: Click in “Settings-> Connected Devices -> Pair new device (choice your peer device to connect with)” ordering to config your Bluetooth connection.





**How To Build Driver with RSB-4810 BSP**

* Download RSB-4810 BSP ((RK3568\_S12\_AIV12017.xml) with following URL:

<https://ess-wiki.advantech.com.tw/view/Android_BSP_User_Guide_for_rk3568_series_12>

**#** cd kernel-4.19

# make ARCH=arm64 rk3568\_adv\_defconfig

# make ARCH=arm64 rk3568-rsb4810-a2.img

# cd ../

# ./build.sh -A

# ./build.sh -u

Then use generated update.img to upgrade RSB-4810 platform

* Copy driver zipped source file (RTL8852CE\_WiFi\_linux\_v1.19.4.5-0-g285f1de55.20231027\_RSB4810.zip) to your BSP build host with USB stick (assumed USB stick is mounted on /run/media/sda1)

# cp /run/media/sda1/RTL8852CE\_WiFi\_linux\_v1.19.4.5-0-g285f1de55.20231027\_RSB4810.tgz /home/adv/BSP

* To build Wi-Fi driver (rtkm.ko, 8852ce.ko) as following steps:

# cd RTL8852CE\_WiFi\_linux\_v1.19.4.5-0-g285f1de55.20230127

# make ARCH=arm64 –C /home/adv/BSP/rk3568\_android\_S12-rk13/android/kernel-4.19 M=`pwd` modules

* Referring to
* Download “20230424\_BT\_ANDROID\_RTL8852C\_COEX\_v0707\_Adv.tar”
* “*Realtek\_Bluetooth\_Porting\_Guide\_for\_BT\_Android12.0\_English.pdf*”, section 3.2.2 to build Bluetooth driver, and follows the porting instructions to build Bluetooth related settings’ change