**How to enable WiFi/Bluetooth with EWM-W176H01E**

**Prerequisite**

* MIC-713 and mSATA build-in Jetson Linux R35.1 (Ubuntu Ubuntu 20.04.5 LTS and Kernel 5.10.104-tegra)
* The tarball “EWM-W176H01E-MIC-713-Binary.tar.bz2” included driver and related files
* After boot up, please use ‘sudo’ with default username and password (mic-713/mic-713)
* AP router to support 6E. In our test envrionment, we have the ASUS GT AXE11000.

**Check Hardware with Module**

* Check PCIe interface for WiFi

# lspci



* Check USB interface for BT

# lsusb



**Setup WLAN**

1. Copy the firmware and related files to system
	* tar jxvf EWM-W176H01E-MIC-713-Binary.tar.bz2
	* cd ./EWM-W176H01E-Binary/wlan
	* sudo cp ./wlan\_firmware/\* /lib/firmware
	* sudo mkdir -p /lib/firmware/wlan
	* sudo cp ./wlan\_host/qcom\_cfg.ini /lib/firmware/wlan
2. Load WLAN drivers

Step 1) sudo modprobe cfg80211

Step 2) sudo insmod ./driver/wlan\_cnss\_core\_pcie.ko

Step 3) sudo insmod ./driver/wlan.ko

**Setup Bluetooth**

1. Copy the firmware and related files to system
	* tar jxvf EWM-W176H01E-MIC-713-Binary.tar.bz2
	* cd ./EWM-W176H01E-Binary/bt
	* sudo mkdir -p /data/misc/bluetooth
	* sudo cp ./bt\_firmware/ar3k/\* /lib/firmware/ar3k/
	* sudo cp -f ./usr/lib/\* /usr/lib/
	* sudo cp -f ./usr/bin/\* /usr/bin/
	* sudo cp -f ./etc/bluetooth/\* /etc/bluetooth/
2. Load Bluetooth drivers

Step 1) sudo modprobe -r btusb

Step 2) sudo insmod ./driver/bt\_usb\_qcom.ko

Step 3) sudo rmmod bt\_usb\_qcom

Step 4) sudo modprobe btusb

**Test**

1. **Test by GUI**
	1. **WiFi**
* Select the option Wi-Fi



* Select the SSID of AP



* Input your password of AP



* Open the terminal to check interface and network connection
	+ Check interface and you will see the interface as “wlanX”

# ifconfig

* + Check network connection after obtained IP address

# ping -c 3 8.8.8.8



**1.2 Bluetooth**

* Select the option Bluetooth



* You will see the result in scanning as below list



1. **Test WiFi with security “WPA3” by wpa\_supplicant**
* Stop wpa\_supplicant service

# systemctl stop wpa\_supplicant.service

* Create configuration and save it

Note that fill in your SSID and password depend on your AP router.

#vi /tmp/wpa.conf

* + Configuration with 6G

|  |
| --- |
| ap\_scan=1fast\_reauth=1pmf=1sae\_pwe=1network={ scan\_ssid=1 ssid="your\_ssid" proto=RSN key\_mgmt=SAE pairwise=CCMP group=CCMP priority=10 ieee80211w=2 psk="your\_ssid\_password" group\_mgmt=AES-128-CMAC} |

* + Configuration with 2.4G or 5G

|  |
| --- |
| ap\_scan=1fast\_reauth=1pmf=1network={ scan\_ssid=1 ssid="your\_ssid" proto=RSN key\_mgmt=SAE pairwise=CCMP group=CCMP priority=10 ieee80211w=2 psk="your\_ssid\_password" group\_mgmt=AES-128-CMAC} |

* Check WiFi interface

# sudo iwconfig

Note: you will see the interface like wlan0

* Running wpa\_supplicant

# wpa\_supplicant -Dnl80211 -i wlan0 -c /tmp/wpa.conf -B

* Get IP address by DHCP and check network connection

# dhclient wlan0

# ping -c 3 8.8.8.8