**How to Setup Network with AIW-357**

**on MIO-5377**

**Prerequisite**

* MIO-5377 with Ubuntu 20.04.6 LTS (kernel version: 5.4.0-42)

Or, MIO-5377 with Ubuntu 22.04.2 LTS (kernel version: 5.15.0-71)

* Tarball file “aiw-357-mbim-set-ip.tar.bz2”
* Tarball file “xs5g03\_pcie\_driver\_Advantech.tar.gz”

**Build AIW-357 driver and install libmbim-utils**

1. Build the AIW-357 driver at your home directory “/home/username/”

* Decompress the driver tarball “aiw357\_driver/xs5g03\_pcie\_driver\_Advantech.tar.gz”

# tar zxvf xs5g03\_pcie\_driver\_Advantech.tar.gz

* Build the driver

# cd XS5G03\_pcie\_driver\_Advantech

# make

If successful, you will find out the driver “mtk\_pcie\_wwan\_m80.ko”.

1. Install libmbim-utils

# sudo apt install libmbim-utils

**Network Test**

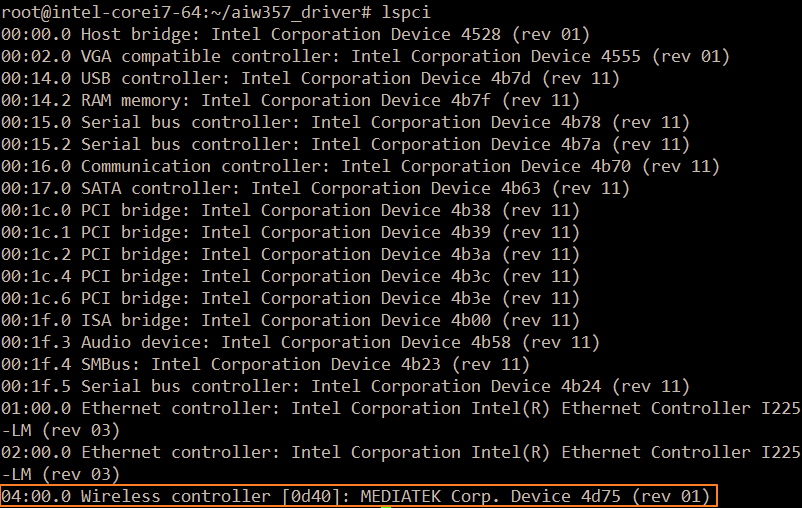
Please follow the below steps to test network.

1. Check some files that are build-in at your home directory “/home/username/” on Ubuntu.

* aiw-357-mbim-set-ip.tar.bz2 (application to bring up the network interface)
* aiw357\_driver/mtk\_pcie\_wwan\_m80.ko (AIW-357 driver)

1. Check AIW-357 module with PCIe

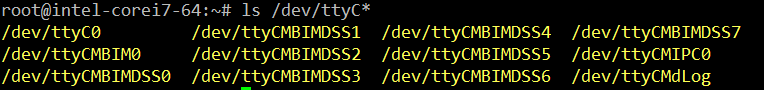
# lspci



1. Load driver

# sudo insmod aiw357\_driver/mtk\_pcie\_wwan\_m80.ko

If the driver loaded successful, the user can find out device nodes as below.



1. Prepare some files for MBIM
   * Decompress the tarball aiw-357-mbim-set-ip.tar.bz2” and you will see the script “mbim-set-ip”

# tar jxvf “aiw-357-mbim-set-ip.tar.bz2”

* + Create the mbim configuration and copy it to /etc directory

# sudo vi /etc/mbim-network.conf

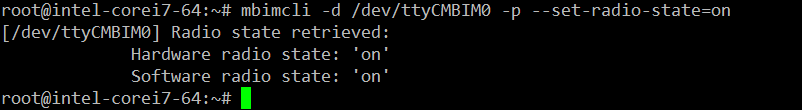
Please fill your APN in the below orange rectangle



1. Turn radio on

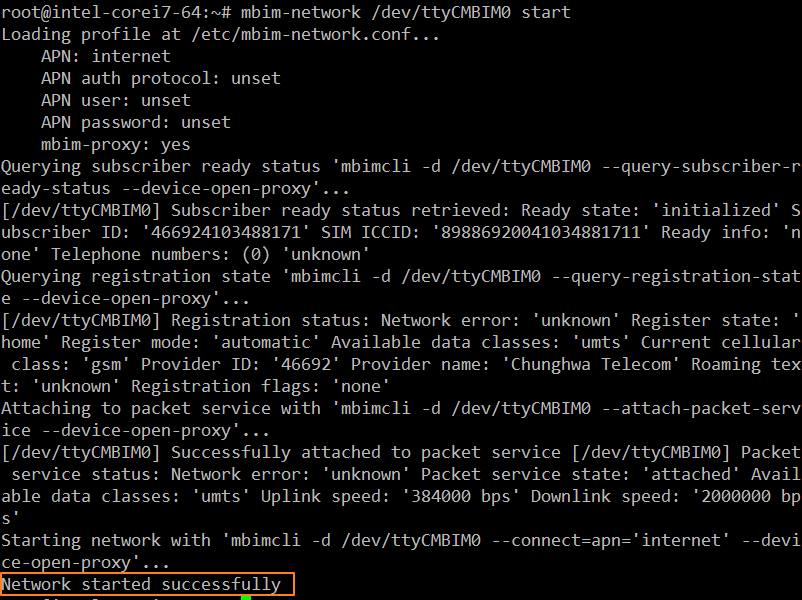
# sudo mbimcli -d /dev/ttyCMBIM0 -p --set-radio-state=on

Note that please wait for 1-2 minutes to let module attaching to base station after running this command.



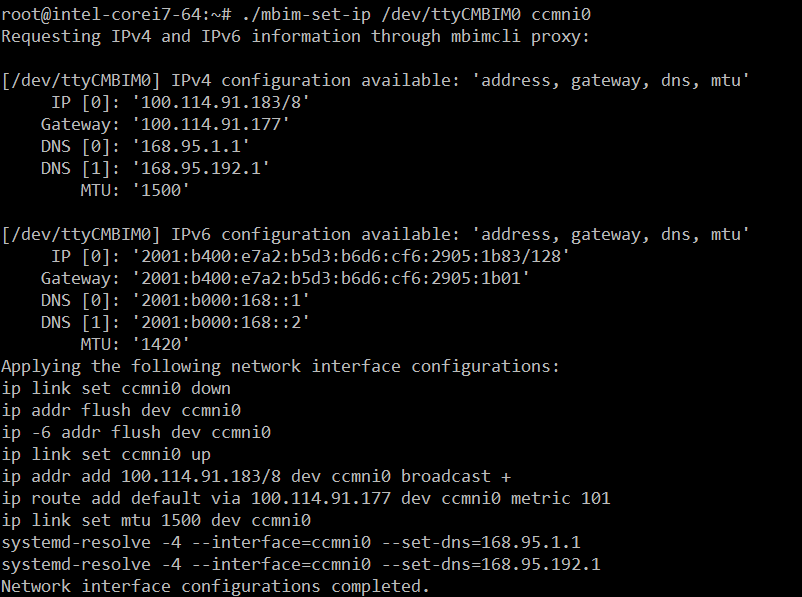
1. Start network connection

# sudo mbim-network /dev/ttyCMBIM0 start



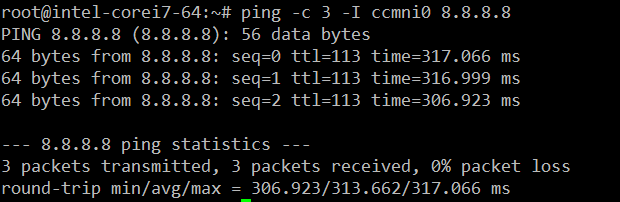
1. Set IP and related setting with connection

# sudo ./mbim-set-ip /dev/ttyCMBIM0 ccmni0



1. Ping test

# ping -c 3 -I ccmni0 8.8.8.8

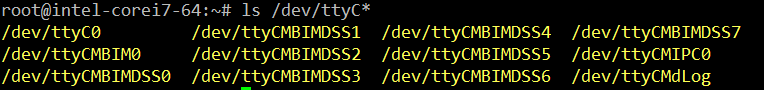


**AT Command**

We can use AT command to communicate with AIW-357 module.

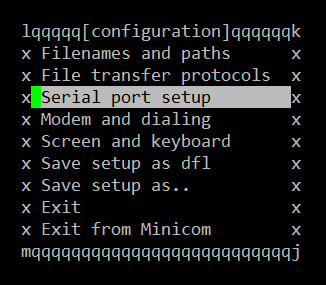
1. Check device node ttyC0 whether exist or not

# ls /dev/ttyC\*

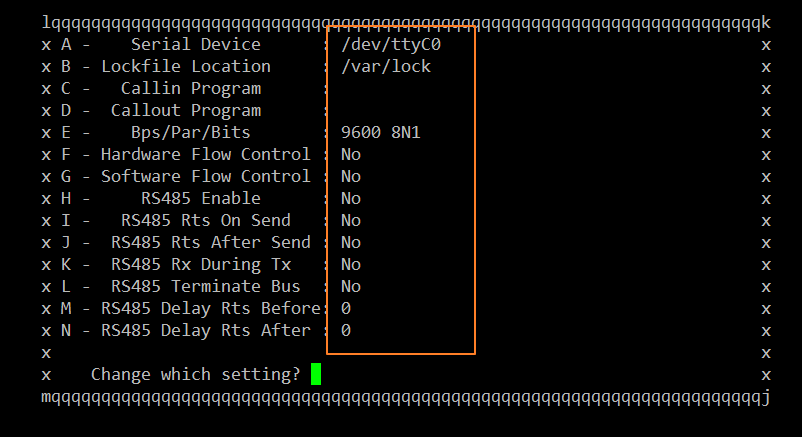


1. Get into AT command console by “Minicom”
   * Start to run minicom and select the “Serial port setup”

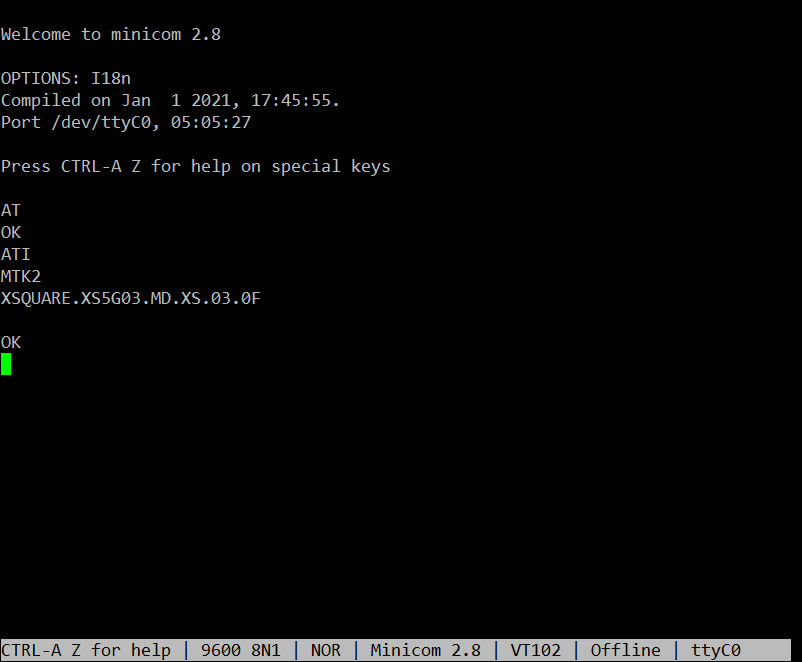
# minicom –s



* + Please set serial setting as below screenshot.



* + Test by AT command “AT” or “ATI”



**GNSS Test**

* + Load driver if it’s not loaded yet

# sudo insmod aiw357\_driver/mtk\_pcie\_wwan\_m80.ko

* Start to run GNSS by Linux command as below

# sudo su

# echo -n \"AT+ELCSSTART\r\n\" > /dev/ccci\_sap\_gnss

# echo -n -e '\x41\x54\x2b\x45\x4c\x43\x53\x53\x54\x41\x52\x54\x0d\x0a' > /dev/ccci\_sap\_gnss

# cat /dev/ccci\_sap\_gnss