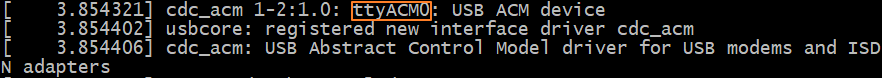
**How to Setup GNSS with AIW-210 on Ubuntu**

**Prerequisite**

* AIW-210 GNSS module
* Platform
  + Option1：UNO-137 platform and setup Ubuntu 20.04 with normal installation
  + Option2：EPC-R7200 platform and setup Ubuntu 18.04 from nVidia BSP. (Login account/password is ubuntu/ubuntu)

**Check Device Node**

The serial port is present by Ubuntu build-in driver “cdc\_acm”. The user can find out the device node by command “dmesg”. As below screenshot, we can get device node “ttyACM0”.



The “ttyACM0” is in the /dev directory



**Install gpsd package**

1. Please follow the below commands to install gpsd package

* With Ubuntu 20.04

# sudo apt-get update

# sudo apt-get install gpsd

# sudo apt-get install gpsd-clients

* With Ubuntu 18.04

# sudo apt-get remove gpsd

# sudo apt-get remove gpsd-clients

# sudo apt update

# sudo apt install -y scons libncurses-dev python-dev pps-tools git-core asciidoctor python3-matplotlib build-essential manpages-dev pkg-config python3-distutils

# wget <http://download.savannah.gnu.org/releases/gpsd/gpsd-3.23.1.tar.gz>

# tar -xzf gpsd-3.23.1.tar.gz

# cd gpsd-3.23.1

# sudo scons

# sudo scons install

# gpsd -V

1. To stop/disable gpsd as default by below commands

# sudo systemctl stop gpsd

# sudo systemctl disable gpsd

# sudo systemctl stop gpsd.socket

**Test**

* Begin to run gpsd

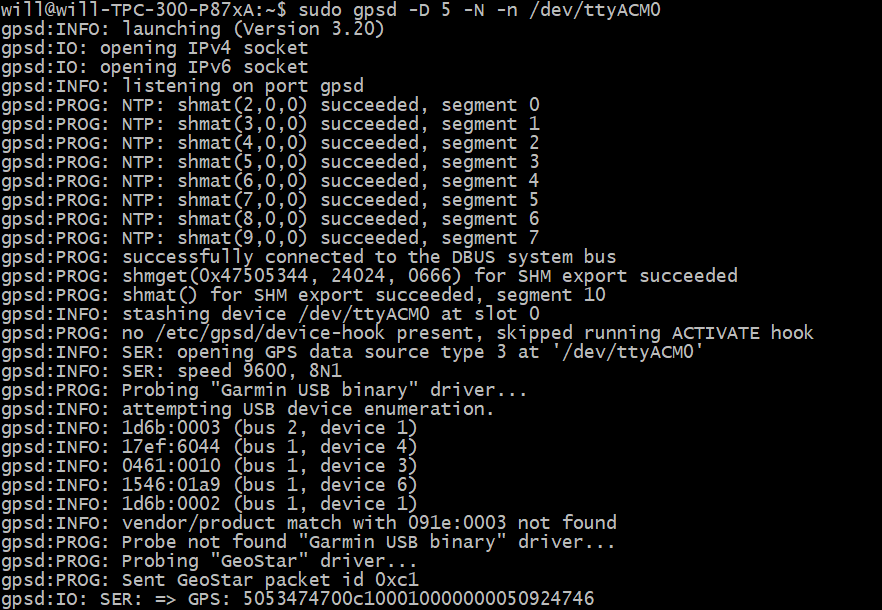
# sudo gpsd -n /dev/ttyACMX

Note: X is the number



gpsd is running in debug mode if needed.

# sudo gpsd -D 5 -N -n /dev/ttyACMX



* GPS

Set configuration to GPS only

# sudo bash -c "echo -n -e '\xB5\x62\x06\x3E\x34\x00\x00\x00\x2A\x06\x00\x08\x10\x00\x01\x00\x01\x01\x01\x03\x03\x00\x00\x00\x01\x01\x02\x08\x0C\x00\x00\x00\x01\x01\x03\x02\x05\x00\x00\x00\x01\x01\x05\x03\x04\x00\x00\x00\x05\x01\x06\x08\x0C\x00\x00\x00\x01\x01\x1E\x9A' > /dev/ttyACMX"

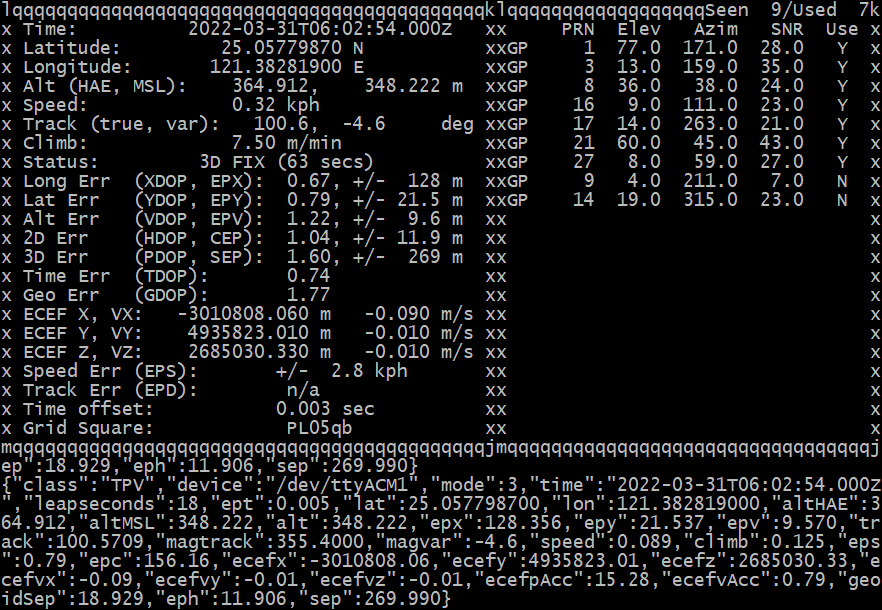
Check configuration

# ubxtool -p CFG-GNSS



Get longitude and latitude for GPS

# cgps



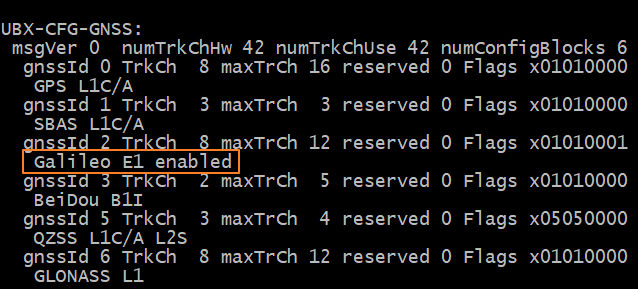
* Galileo

Set configuration to Galileo only

# sudo bash -c "echo -n -e ' \xB5\x62\x06\x3E\x34\x00\x00\x00\x2A\x06\x00\x08\x10\x00\x00\x00\x01\x01\x01\x03\x03\x00\x00\x00\x01\x01\x02\x08\x0C\x00\x01\x00\x01\x01\x03\x02\x05\x00\x00\x00\x01\x01\x05\x03\x04\x00\x00\x00\x05\x01\x06\x08\x0C\x00\x00\x00\x01\x01\x1E\x8A' > /dev/ttyACMX"

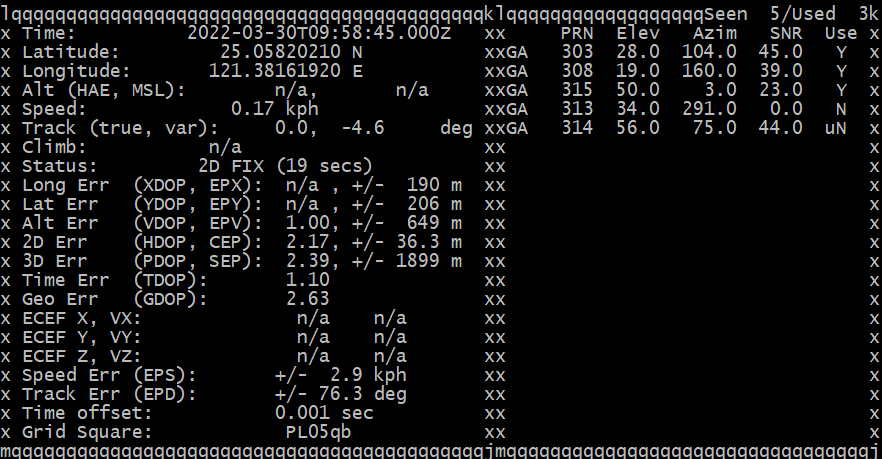
Check configuration

# ubxtool -p CFG-GNSS



Get longitude and latitude for Galileo

# cgps



* BeiDou

Set configuration to BeiDou only

# sudo bash -c "echo -n -e '\xB5\x62\x06\x3E\x34\x00\x00\x00\x2A\x06\x00\x08\x10\x00\x00\x00\x01\x01\x01\x03\x03\x00\x00\x00\x01\x01\x02\x08\x0C\x00\x00\x00\x01\x01\x03\x02\x05\x00\x01\x00\x01\x01\x05\x03\x04\x00\x00\x00\x05\x01\x06\x08\x0C\x00\x00\x00\x01\x01\x1E\x82' > /dev/ttyACMX"

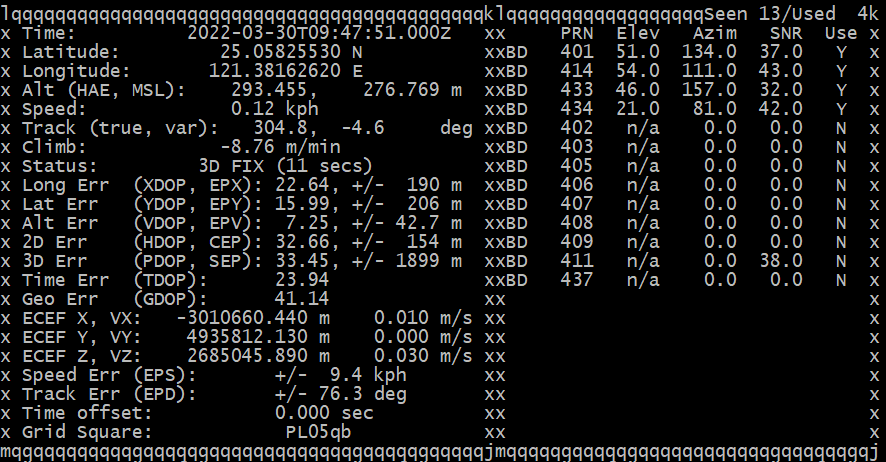
Check configuration

# ubxtool -p CFG-GNSS



Get longitude and latitude for BeiDou

# cgps



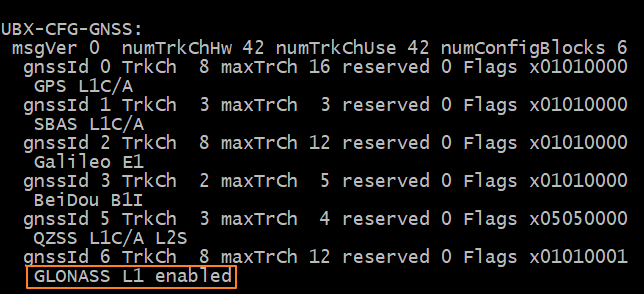
* GLONASS

Set configuration to GLONASS only

# sudo bash -c "echo -n -e '\xB5\x62\x06\x3E\x34\x00\x00\x00\x2A\x06\x00\x08\x10\x00\x00\x00\x01\x01\x01\x03\x03\x00\x00\x00\x01\x01\x02\x08\x0C\x00\x00\x00\x01\x01\x03\x02\x05\x00\x00\x00\x01\x01\x05\x03\x04\x00\x00\x00\x05\x01\x06\x08\x0C\x00\x01\x00\x01\x01\x1E\x72' > /dev/ttyACMX"

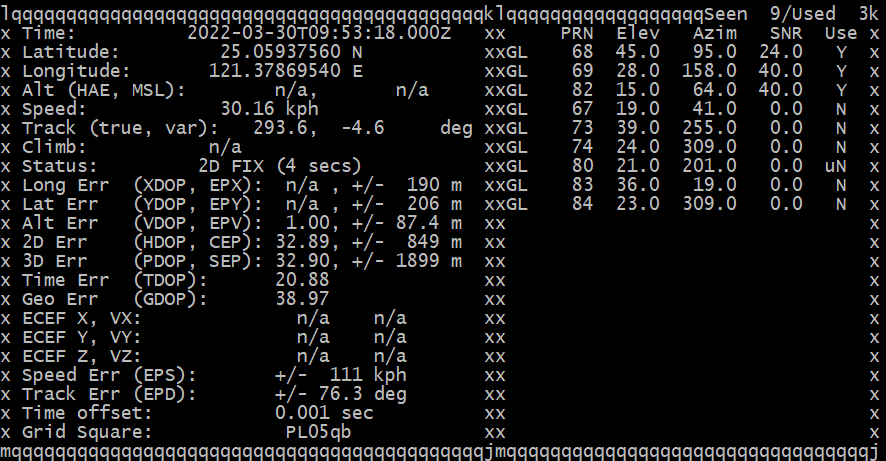
Check configuration

# ubxtool -p CFG-GNSS



Get longitude and latitude for GLONASS

# cgps



* SBAS

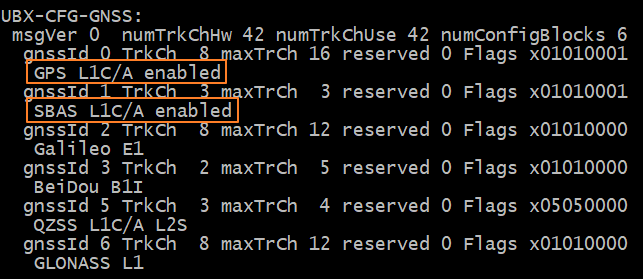
Set configuration to SBAS+GPS

Note: The SBAS and QZSS augmentation systems can be enabled only if GPS operation is also enabled.

# sudo bash -c "echo -n -e '\xB5\x62\x06\x3E\x34\x00\x00\x00\x2A\x06\x00\x08\x10\x00\x01\x00\x01\x01\x01\x03\x03\x00\x01\x00\x01\x01\x02\x08\x0C\x00\x00\x00\x01\x01\x03\x02\x05\x00\x00\x00\x01\x01\x05\x03\x04\x00\x00\x00\x05\x01\x06\x08\x0C\x00\x00\x00\x01\x01\x1F\xBE' > /dev/ttyACMX"

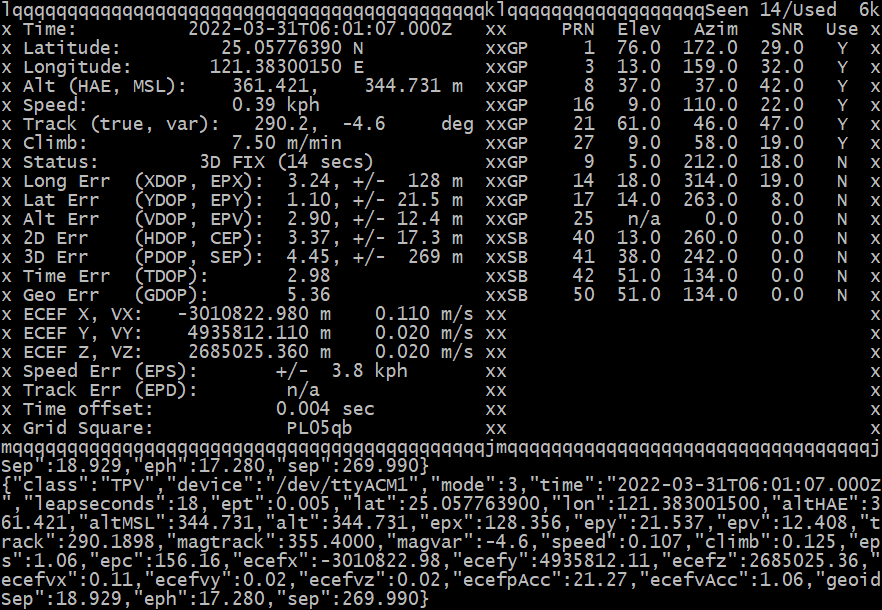
Check configuration

# ubxtool -p CFG-GNSS



Get longitude and latitude for SBAS+GPS

# cgps



* QZSS

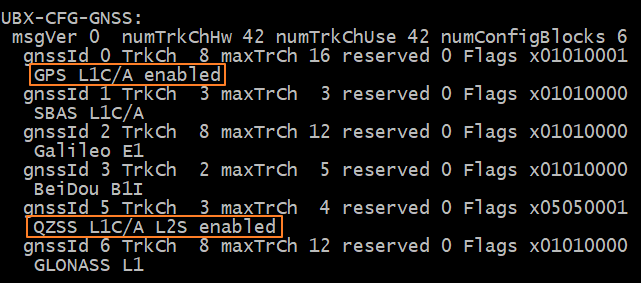
Set configuration to QZSS+GPS

Note: The SBAS and QZSS augmentation systems can be enabled only if GPS operation is also enabled.

# sudo bash -c "echo -n -e '\xB5\x62\x06\x3E\x34\x00\x00\x00\x2A\x06\x00\x08\x10\x00\x01\x00\x01\x01\x01\x03\x03\x00\x00\x00\x01\x01\x02\x08\x0C\x00\x00\x00\x01\x01\x03\x02\x05\x00\x00\x00\x01\x01\x05\x03\x04\x00\x01\x00\x05\x01\x06\x08\x0C\x00\x00\x00\x01\x01\x1F\xA6' > /dev/ttyACMX"

Check configuration

# ubxtool -p CFG-GNSS



Get longitude and latitude for QZSS+GPS

# cgps

