2025 02 10

IQ Data from from test track notes

# Data Files

miki\_cmr.txt and suhf\_cmr.txt were collected with unpack\_cmr.py from the [judo-radio-utils repo](https://bitbucket.trimble.tools/projects/JUDO/repos/judo-radio-utils/browse). It basically time stamps packets and decodes the message types and lengths. Both Judos were time synced to their GNSS receivers, so the timestamp should line up well between these files.

iq.tgz came from running “nc localhost 6666 > /tmp/iq.bin” on the judo, then using “tar cvzf” to compress it.

# Setup

P3-09 was used for the Mikimoto data collection

EB79 was used for the SUHF data collection. EB79 was running build #1336. It is using an older FPGA image, as can be seen in the opening lines printed by suhf\_driver:

[ DEVELOP ] root@mp1010-6419R35079:~# suhf\_driver -m 450 -f 464550000 -r -d 0 -q

MP1010 Soft UHF 450MHz/900MHz Driver

SPI device opened:

spi device: /dev/spidev/by-name/suhf\_fpga

spi mode: 0

bits per word: 16

max speed: 12000000 Hz (12000 KHz)

Soft UHF FPGA Version:

Git Hash: 4a23221e0a93fa85

Git Branch: master

For comparison, this is the result from EB93, which is running build #1534

[ DEVELOP ] root@mp1010-6419R35093:~# stdbuf -oL suhf\_driver -m 450 -f 464550000 -r

MP1010 Soft UHF 450MHz/900MHz Driver

SPI device opened:

spi device: /dev/spidev/by-name/suhf\_fpga

spi mode: 0

bits per word: 16

max speed: 12000000 Hz (12000 KHz)

Soft UHF FPGA Version:

Git Hash: 9a6561b22f2f1562

Git Branch: master

The SUHF RSSI were around -34dB.

Both the P3-09 and EB79 were running off the same whip antenna, via an RF splitter.

# Results

The unpack\_cmr.py logs of the CMRs look like both receivers are OK (no time gaps greater than 1 second).