RF-Catcher Suite – Handle a GPS signal

**RF-Catcher** is the most compact & portable RF Capture & Playback device and spectrum analyzer. Covering a frequency range from 70 MHz to 6 GHz, **RF-Catcher** can record & play real-time RF bandwidth of up to 55 MHz. **RF-Catcher Application Suite** extends **RF-Catcher** capacities with a wide range of software applications: IQ Converter, IQ Splitter, Event Trigger, RF TroubleMaker, Task Scheduler…

How to capture/playback a GPS signal with RF-Catcher

This setup has been validated with the Spring’17 release of **RF-Catcher Application Suite**.

**STEP 1 – HW requirements**

You will need:
- **RF-Catcher** (+ PC)
- Active GNSS antenna
- GPS splitter
- SMA cables

Note that when playing back the GPS signal on **RF-Catcher**, it takes a few seconds to get the lock LED (next to the GNSS antenna on RF-Catcher) to light up.

The lock mechanism of the GPS receiver takes some time, which is normal.

**STEP 2 – GPS CAPTURE**

We will work with a GPS L1 signal (1575.42 MHz)

Here is how to setup **RF-Catcher**:

- Connect GNSS active antenna to the splitter’s DC in port
- Connect **RF-Catcher**’s GNSS in to the splitter’s port B
- Connect **RF-Catcher**’s RF Rx in to the splitter’s port A (DC Block)

Then configure the following Rx parameters in **RF Capture & Playback** application:
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You can adjust gain to get an optimal carrier through the “Autoset Gain” button.

**Important:** Make at least a 45 seconds-long record (1 min 30 typ.) to have time to lock when playing back the signal.

**STEP 3 – GPS PLAYBACK (test setup)**

Here is how to setup RF-Catcher to test a GPS recording:

- Connect RF-Catcher’s RF Tx out to the splitter’s DC in port
- Connect RF-Catcher’s GNSS in to the splitter’s port A (DC Block)

Then configure the following Tx parameters in RF Capture & Playback application:

The GPS LED on RF-Catcher should light up after a few seconds.

If it does not, try changing the attenuation in GUI and/or using the attenuation value that compensates the gain used during the record.