

CT712 Install Guide

Installing LANforge to manage the CT712 RF Noise Generator and RADAR Simulator.

Overview

The CT712 is a [HackRF-One Software-Defined Radio \(SDR\)](#) platform that has many capabilities. LANforge uses the platform to emulate RADAR pulse types for WiFi DFS testing. LANforge currently supports the following RADAR types:

- FCC Types 0 - 6
- ETSI Types 0 - 6
- Korea Types 1 - 4
- Japan Types W53-1 - W53-8
- Japan Types W56-1 - W56-HOP



The output power of the CT712 varies by frequency as described in the [HackRF Documentation](#):

- 2170 MHz to 2740 MHz: 13 dBm to 15 dBm
- 2740 MHz to 4000 MHz: 0 dBm to 5 dBm, decreasing as frequency increases

- 4000 MHz to 6000 MHz: -10 dBm to 0 dBm, generally decreasing as frequency increases

LANforge CT712 Software Installation

To install the LANforge Server, GUI and CT712 software for controller-only based installs:

- Download the latest version of lf_kinstall.pl
 - `wget candelatech.com/lf_kinstall.pl`
 - `chmod a+x lf_kinstall.pl`
- Install LANforge Server and GUI
 - `sudo ./lf_kinstall.pl --lfver 5.4.7 --do_interop`
- Install python dependencies (run as lanforge user):
 - `cd /home/lanforge/LANforgeServer-5.4.7/scripts/py-scripts`
 - `./update_dependencies.py`
- Copy your RFGEN license key to /home/lanforge/license.txt
 - Email support@candelatech.com if you need license key assistance.
- Restart the LANforge Manager
 - `sudo reboot`

See the [LANforge Installation Guide](#) for additional installation options.

At this point, you can run the `lf_hackrf_dfs.py` script from the `/home/lanforge` directory or use the LANforge GUI to emulate RADAR pulse types or RF noise.

```
[root@lanforge]# ./lf_hackrf_dfs.py --help
usage: lf_hackrf_dfs.py [-h] [--lf_hackrf LF_HACKRF] [--pulse_width PULSE_WIDTH]
                       [--pulse_interval PULSE_INTERVAL] [--pulse_count PULSE_COUNT]
                       [--one_burst] [--bursts BURSTS] [--rf_type RF_TYPE]
                       [--uut_channel UUT_CHANNEL] [--sweep_time SWEEP_TIME] [--freq FREQ]
                       [--daemon DAEMON] [--pid_file PID_FILE] [--gain GAIN] [--if_gain IF_GAIN]
                       [--bb_gain BB_GAIN] [--log_level LOG_LEVEL] [--mgt_pipe MGT_PIPE]
                       [--no_repeat] [--sample_mod SAMPLE_MOD]
                       [--host_perf_adjust HOST_PERF_ADJUST] [--tx_sample_rate TX_SAMPLE_RATE]

dfs testing , FCC0-6, ETSI0-6

Note: some systems will need to preface command with sudo nice -19

options:
-h, --help            show this help message and exit
--lf_hackrf LF_HACKRF  -lf_hackrf { last 4 bytes of serial num from hackrf_info }
--pulse_width PULSE_WIDTH
                       --pulse_width { usecs } default: 1
--pulse_interval PULSE_INTERVAL
                       --pulse_interval { usecs } default: 1
--pulse_count PULSE_COUNT
                       --pulse_count { number } default: 1
--one_burst           --one_burst store_true default: False
--bursts BURSTS       --bursts provide a number of bursts
--rf_type RF_TYPE     --radar_type RF_TYPE
```

See the [CT712 RF Noise Generator and RADAR Simulator Guide](#) for more information.