

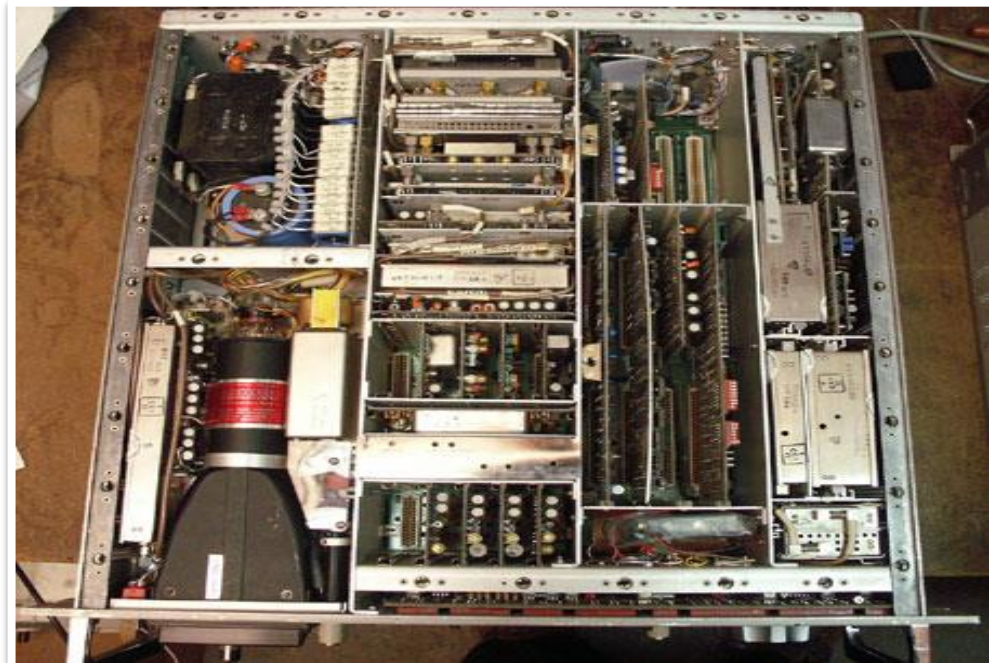
# REMOTE SIGNAL MONITORING

Joe Jesson, W2JEJ  
jejesson4@gmail.com



# HISTORICAL - SWEEP-SPECTRUM PANARAMIC

## DISPLAY



# SWEPT-SPECTRUM PANARAMIC DISPLAY - TSCM

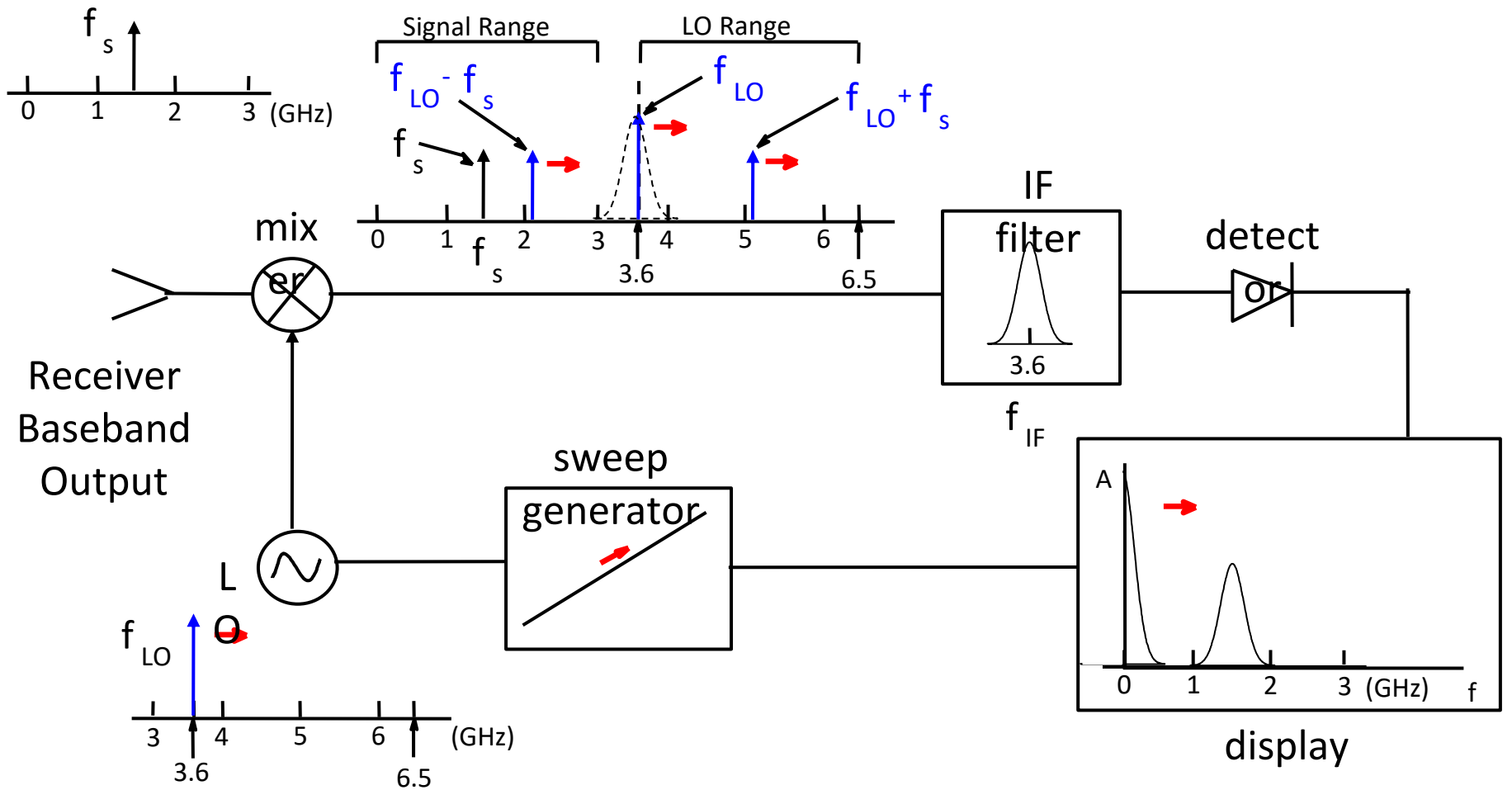


MASON A3 1971 Portable Intercept

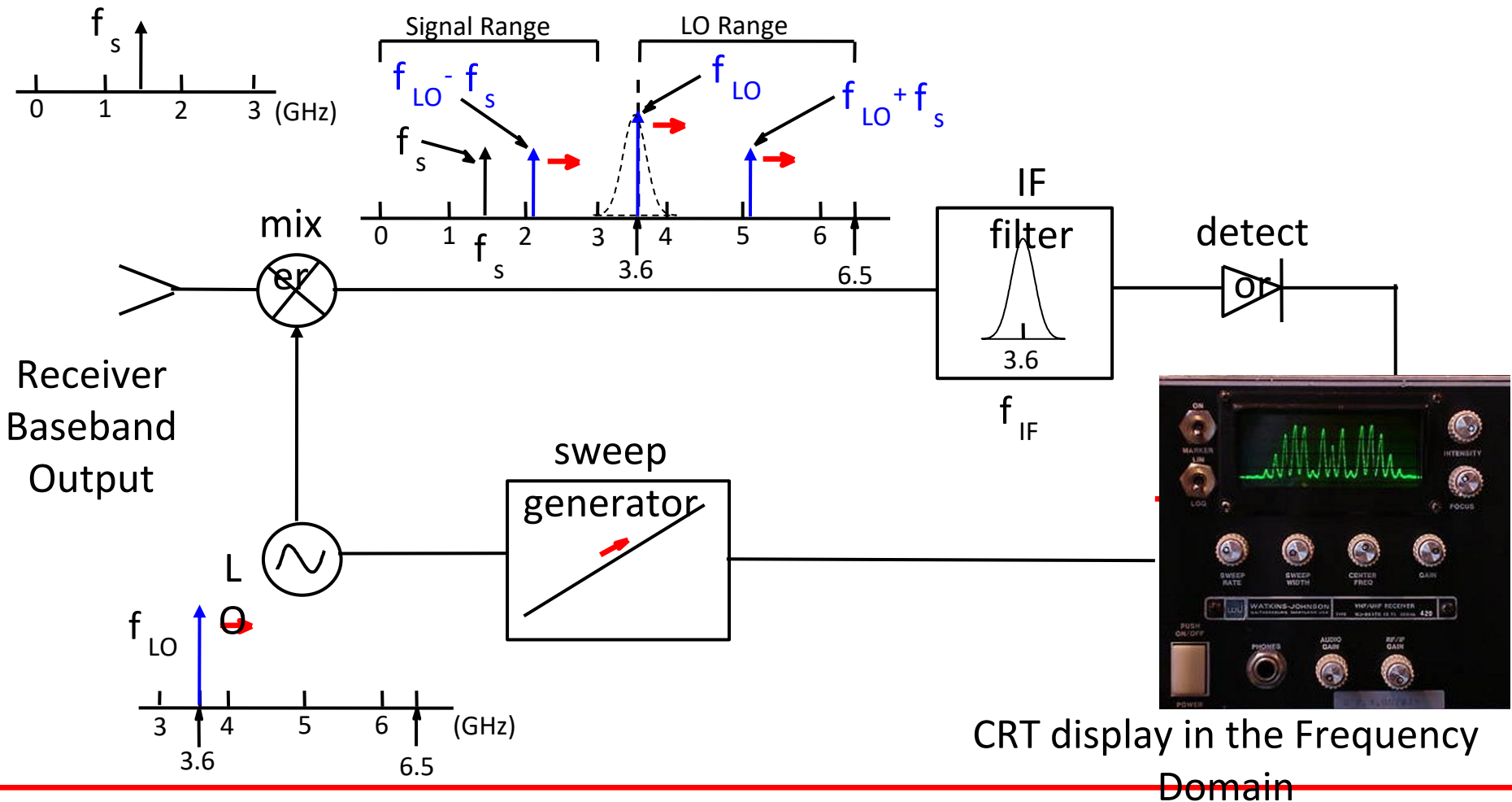


MASON MPR-1 Portable Intercept

# SWEPT FREQUENCY DISPLAY



# SWEPT FREQUENCY DISPLAY



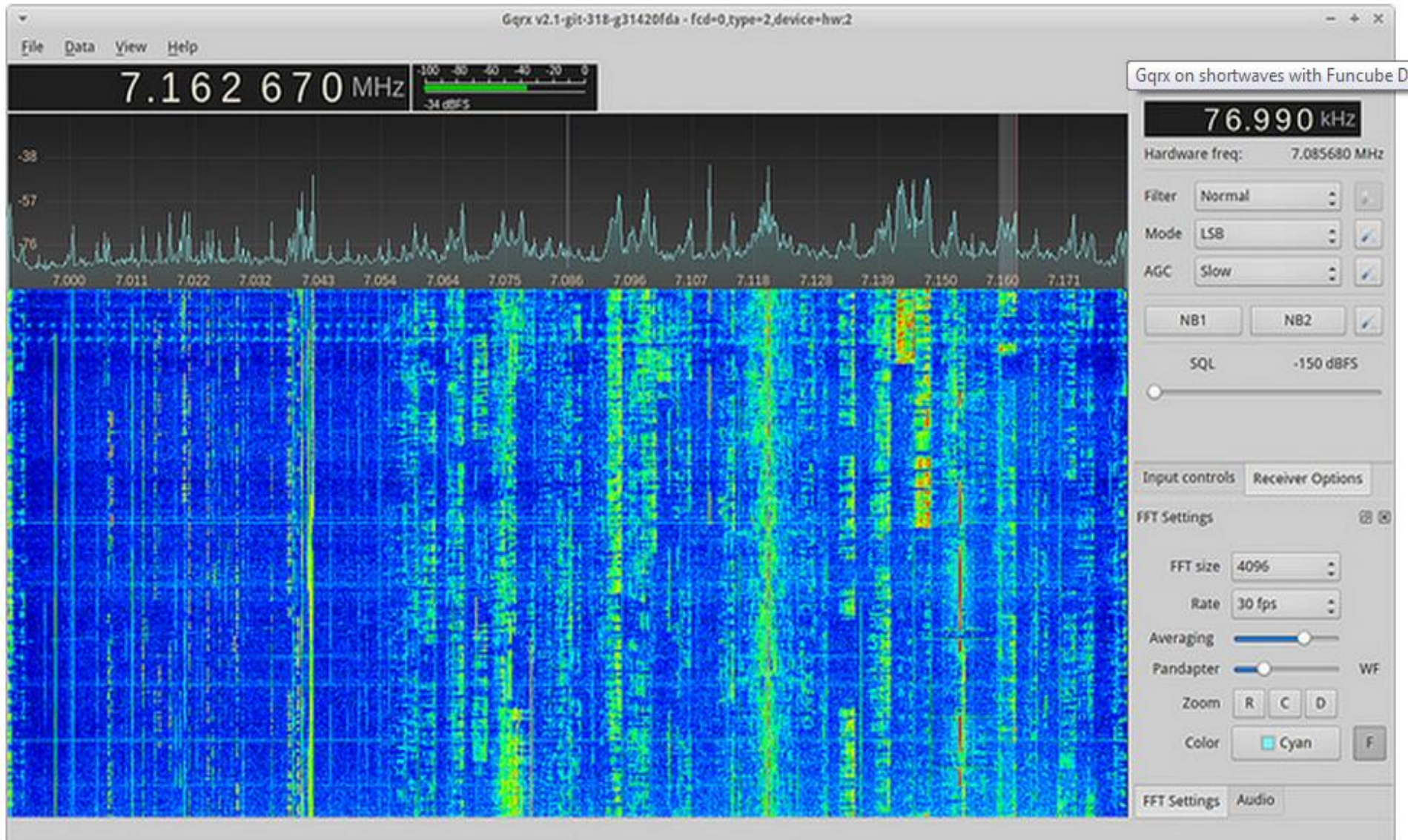
CRT display in the Frequency Domain

ANALOG SWEEP SPECTRUM DISPLAY

# FOURIER TRANSFORM DSP SPECTRUM (1970's)

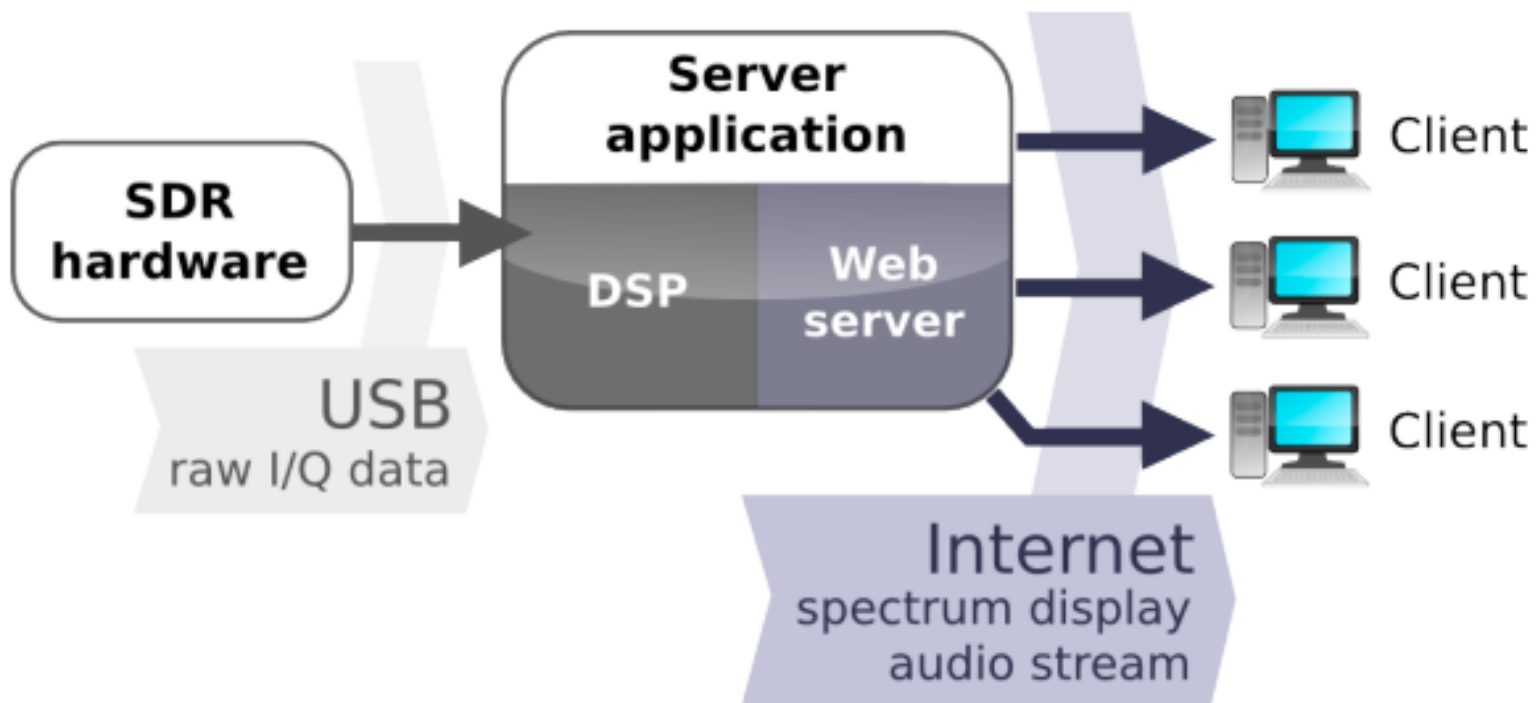


# LINUX SDR APPLICATION, GQRX



LINUX Based, Most Popular for Linux and available as LIVE Distribution USB (Boots into UBUNTU And Pre-installed GQRX)

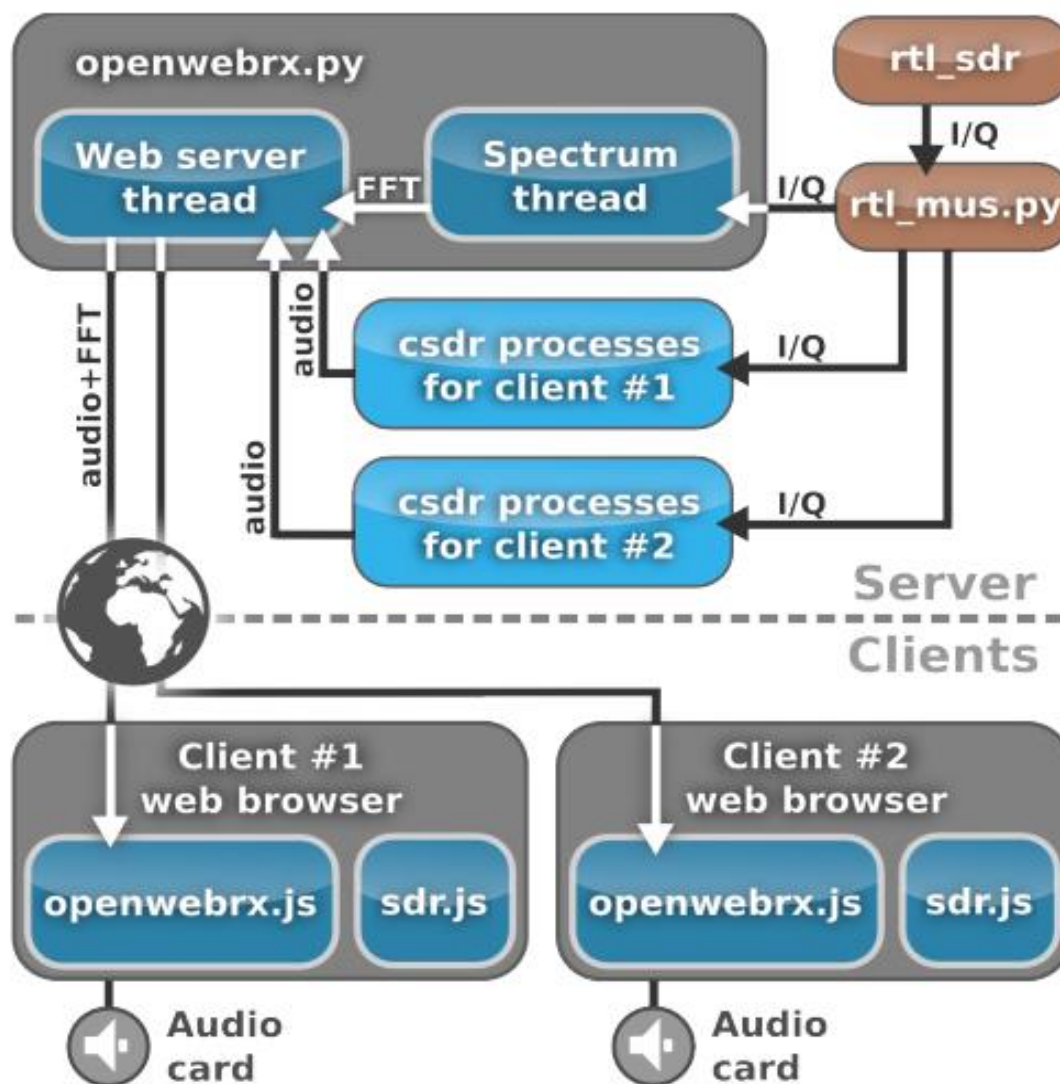
# STATE-OF-THE ART REMOTE MONITORING ARCHITECTURE



Retzler, A. (2015). OpenWebRX: SDR Web Application for the Masses. In *34th ARRL and TAPR Digital Communications Conference*. Verified 07/12/2023, <https://blog.sdr.hu/repos/TAPR-DCC-2015-Talk-and-Paper/openwebrx-tapr-dcc-2015-paper.pdf>



# STATE-OF-THE ART REMOTE MONITORING ARCHITECTURE



Retzler, A. (2015). OpenWebRX: SDR Web Application for the Masses. In *34th ARRL and TAPR Digital Communications Conference*. Verified 07/12/2023, <https://blog.sdr.hu/repos/TAPR-DCC-2015-Talk-and-Paper/openwebrx-tapr-dcc-2015-paper.pdf>

# GLOBAL REMOTE SDR MONITORS

WebSDR, OpenWebRX, KiWiSDR



World of Receivers and Transmitters

Home

Table

Map

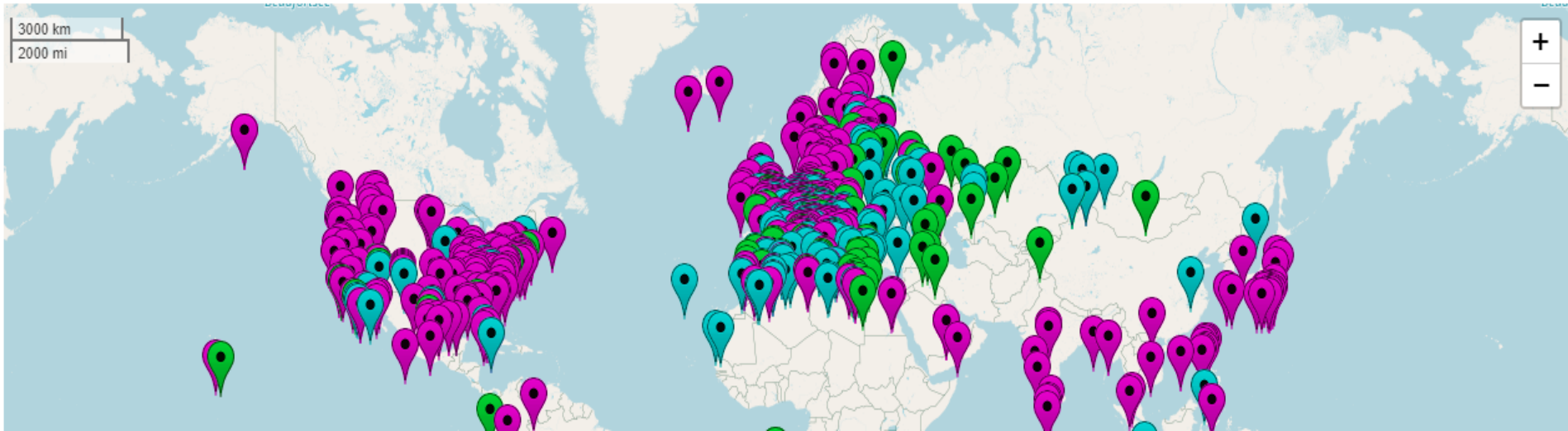
Add

APRS

## Map of SDR Receivers

Displaying 1 - 1193 of 1193

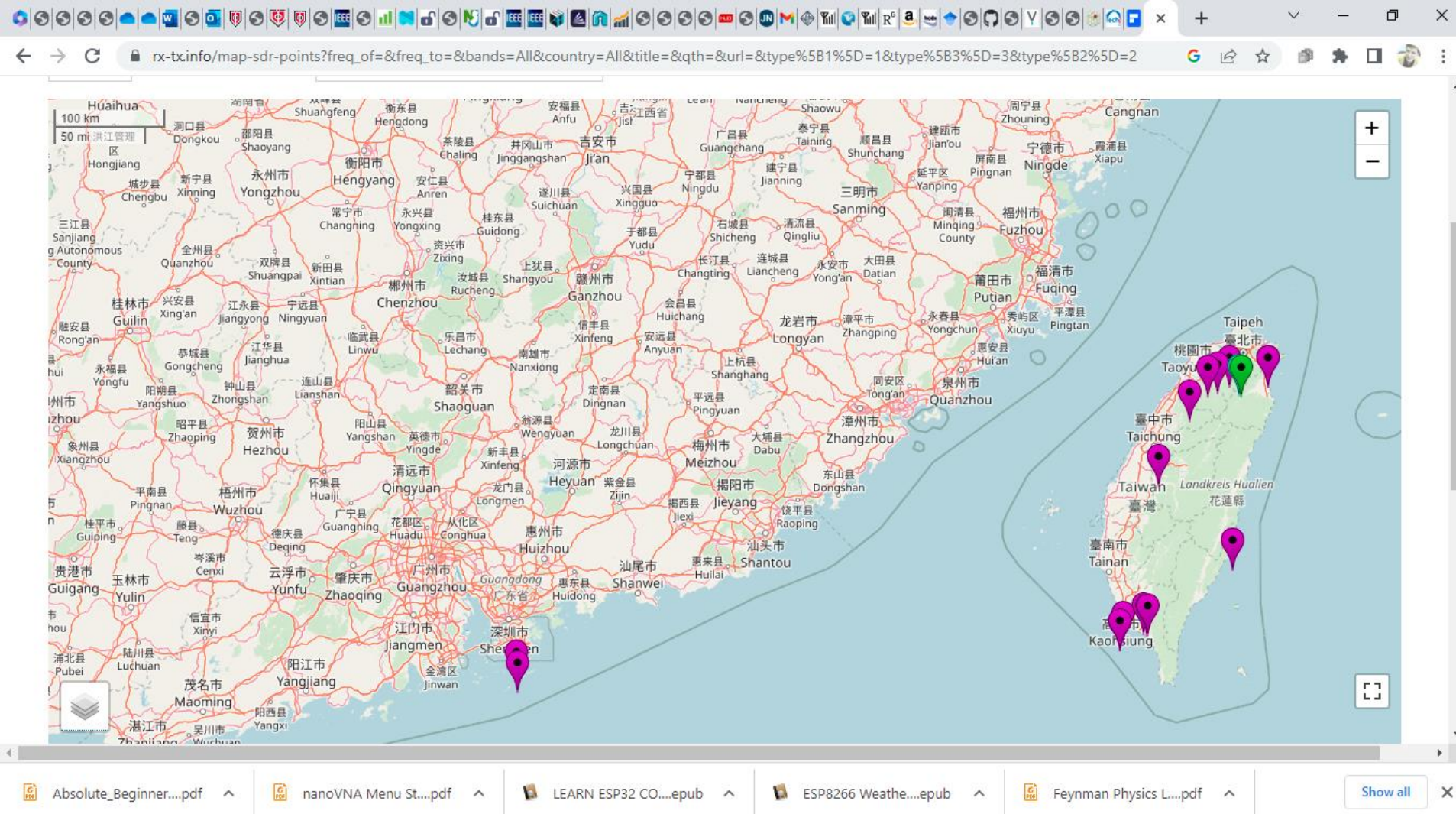
Frequency  Band  Country  Search  SDR type  WebSDR  OpenWebRX  KiwiSDR



<https://rx-tx.info/map-sdr-points>

# GLOBAL REMOTE SDR MONITORS

## WebSDR, OpenWebRX, KiWiSDR



The image shows a screenshot of a web browser displaying a map of SDR monitoring points. The browser's address bar shows the URL: [rx-tx.info/map-sdr-points?freq\\_of=&freq\\_to=&bands=All&country=All&title=&qth=&url=&type%5B1%5D=1&type%5B3%5D=3&type%5B2%5D=2](https://rx-tx.info/map-sdr-points?freq_of=&freq_to=&bands=All&country=All&title=&qth=&url=&type%5B1%5D=1&type%5B3%5D=3&type%5B2%5D=2). The map displays various locations in China and Taiwan, with several purple and green pins indicating SDR monitoring points. The map includes a scale bar (100 km / 50 mi) and a search bar. The browser's taskbar at the bottom shows several open tabs, including "Absolute\_Beginner...pdf", "nanoVNA Menu St...pdf", "LEARN ESP32 CO...epub", "ESP266 Weathe...epub", and "Feynman Physics L...pdf".

<https://rx-tx.info/map-sdr-points>

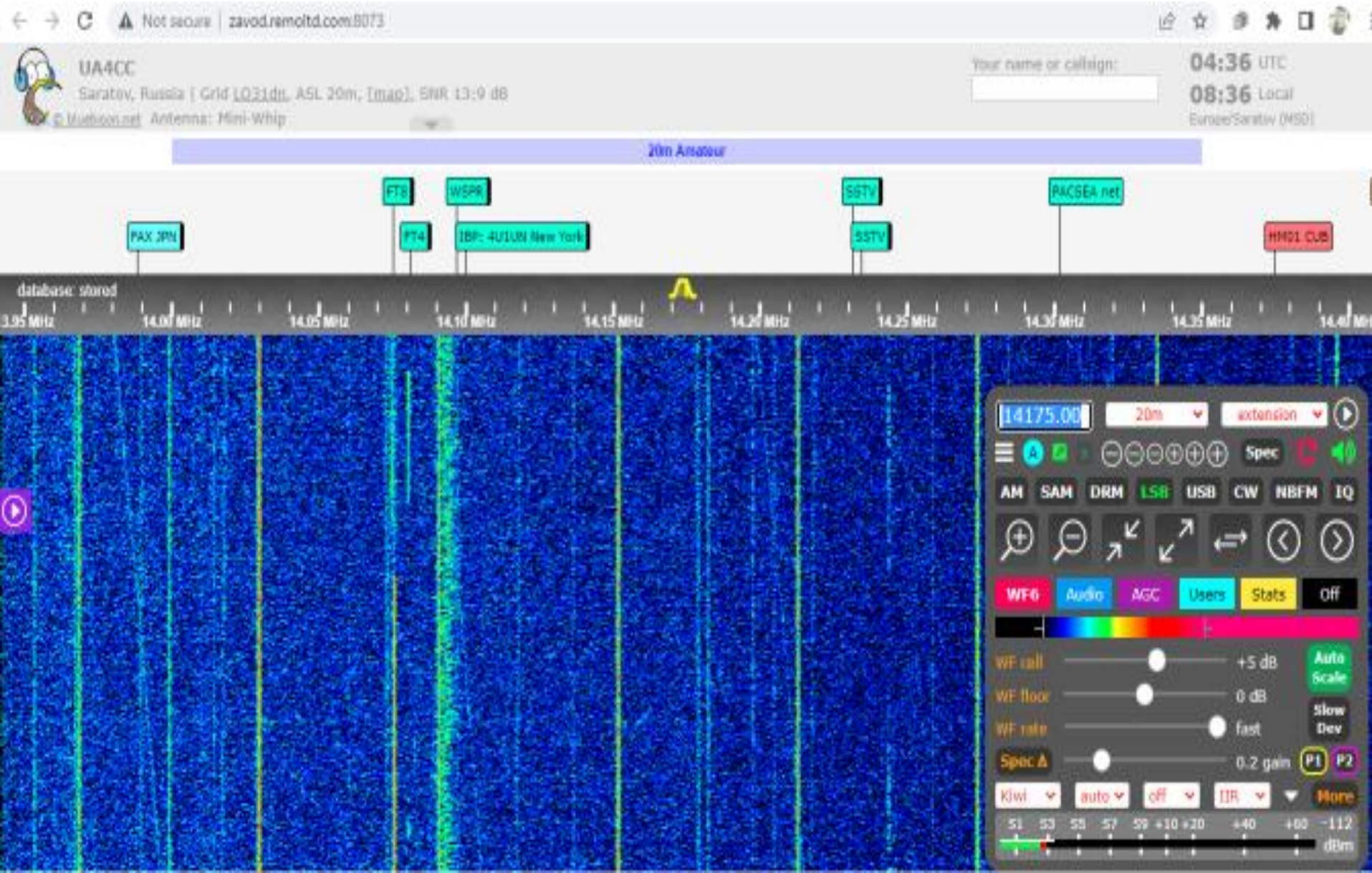
# GLOBAL REMOTE SDR MONITORS

## WebSDR

The screenshot displays the WebSDR CARUARU-PE interface. At the top, the title "WEBSDR CARUARU-PE: 0122<sup>PT</sup><sub>46</sub>" is shown in blue and green text, with the call sign "PY7NM/PX2H0817-NAILTON PY2PE-JUNIO" below it. A navigation menu includes links for "KIWISDR", "BLOG PY7NM", "SDR-BRASIL", "PRODUTOS PARA VENDA", "CONTATO", "QUEM SOMOS", and "MODELO CELULAR". A call to action asks for help to keep the website online, providing a PIX/CPF: 052.440.034-29. A note mentions the system creator PA3FWM and a link to a server list. The main section is titled "INFORMAÇÃO SDR CARUARU" and features a search bar for "ADICIONA LOCAL E INDICATIVO" with "US, Trenton" entered. Below this are control buttons for "Bandas" (All Bands, Single Band, Off), "Controles", "Web config" (Java, HTML5), "Audio" (Java, HTML5, Chrome Audio), and "IMAGENS DE FUNDO". The central part of the interface is a spectrum analyzer with a frequency scale from 6700 to 7650 kHz. A yellow cursor is positioned at approximately 7100 kHz, with a "click to tune" tooltip. The background of the interface is a scenic landscape image.

# GLOBAL REMOTE SDR MONITORS

## KiWiSDR



# GLOBAL REMOTE SDR MONITORS

## KiWiSDR DIGITAL FT8

← → C Not secure | zavod.remotd.com:8073

UTC	SNR	dT	Freq	km	age	Freq: 14074.00	mode: FT8
04:46:00	-12.5	-2.60	1500	505		KZUNJ <b>KT8J UNJ</b>	
04:46:00 FT8 decoded 1, new spots 1, hashtable 0X							
UTC	SNR	dT	Freq	km	age	freq: 14074.00	mode: FT8
04:46:30	-09.0	-2.35	1720	1871		KE3RLB <b>KT8J UNJ</b>	
04:46:30	-10.0	-2.12	1500			KZUNJ R30P R-06	
04:46:30	-11.0	-1.95	1944			KZUNJ US5LD R-14	
04:46:30	-12.0	-2.60	475	1185		CQ <b>KT8J UNJ</b>	
04:46:30	-12.5	-2.60	1084	1707		K7BV <b>KT8J UNJ</b>	
04:46:30	-15.5	-2.60	2625	1643		CQ DX <b>KT8J UNJ</b>	
04:46:30 FT8 decoded 6, new spots 4, hashtable 0X							
UTC	SNR	dT	Freq	km	age	freq: 14074.00	mode: FT8
04:46:45	-05.0	-2.44	1155	604		CQ <b>KT8J UNJ</b>	
04:46:45	-05.5	-2.44	1222	2147		NP3DM <b>KT8J UNJ</b>	
04:46:45	-05.0	-2.44	1436	1629		N1GNX <b>KT8J UNJ</b>	
04:46:45	-10.0	-2.35	1704			ZL4QS OE1HLB (RR73)	
04:46:45	-12.5	-2.12	1488	2552		RK7N <b>KT8J UNJ</b>	
04:46:45 FT8 decoded 5, new spots 4, uploaded 3 spots to pskreporter.info, hashtable 1X							

20m Amateur

database stored

14.070 MHz

14.075 MHz

FT8

FT8/FT4 decoder From [ft8](#) by Karlis Goba © 2018 [help](#) [X](#)

14074 FT8 reporter call UA4CC reporter grid LO31dn [Clear](#)

pskreporter.info

14074.00 select band FT8/FT4

AM SAM DRM LSB **USB** CW NBFM IQ

WF11 Audio AGC Users Stats Off

WF cell +5 dB Auto Scale

WF floor 0 dB Slow Dev

WF rate fast

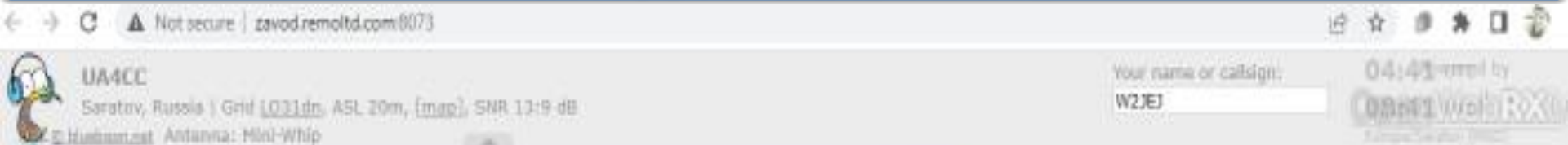
Spec A 0.2 gain P1 P2

KIWI auto off IIR More

S1 S3 S5 S7 S9 +10 +20 +40 +60 -104 dBm

# GLOBAL REMOTE SDR MONITORS

## KiWiSDR HARDWARE



KiWiSDR: software-defined receiver

First production PCB



# GLOBAL REMOTE SDR MONITORS

## OpenWebRX DIGITAL FT8

The screenshot displays the OpenWebRX DIGITAL FT8 interface. At the top, the browser address bar shows the URL: `ksin.bpmsg.com:8073/#freq=14074000,mod=usb,secondary_mod=ft8,sqlz=-150`. The page title is "9V1KG HF Ham radio + BC" with location "Singapore | Loc: Q11Lal, ASL: 50 m".

The main interface features a waterfall plot on the left showing signal activity. A list of received messages is displayed in the bottom-left corner:

UTC	dB	DT	Freq	Message
050200	2	0.5	14075207	CQ YH1AA <a href="#">01:33</a>
050200	-14	0.2	14075910	YB7XO YH7UI RR73
050200	-7	0.1	14075391	CQ YH1RD <a href="#">01:33</a>
050200	2	0.1	14075478	CQ YB2OPT <a href="#">01:43</a>
050200	2	0.5	14075513	CQ YH1AE <a href="#">01:32</a>
050200	-17	0.9	14074435	YH4FO YC3CTJ R-18
050200	-18	0.1	14076017	YH4AAA YH0R R-05

At the bottom, system status bars show: Audio buffer [0.6 s], Audio output [48.2 kbps], Audio stream [48 kbps], Network usage [273.1 Mbps], Server CPU [9%], and Clients [1].

On the right side, a control panel is visible, showing the current frequency **14.0740 MHz** (14.0238 MHz offset), mode **USB**, and digital mode **DIG FT8**. It also includes a "REC" button and a signal strength indicator at -96.4 dB.

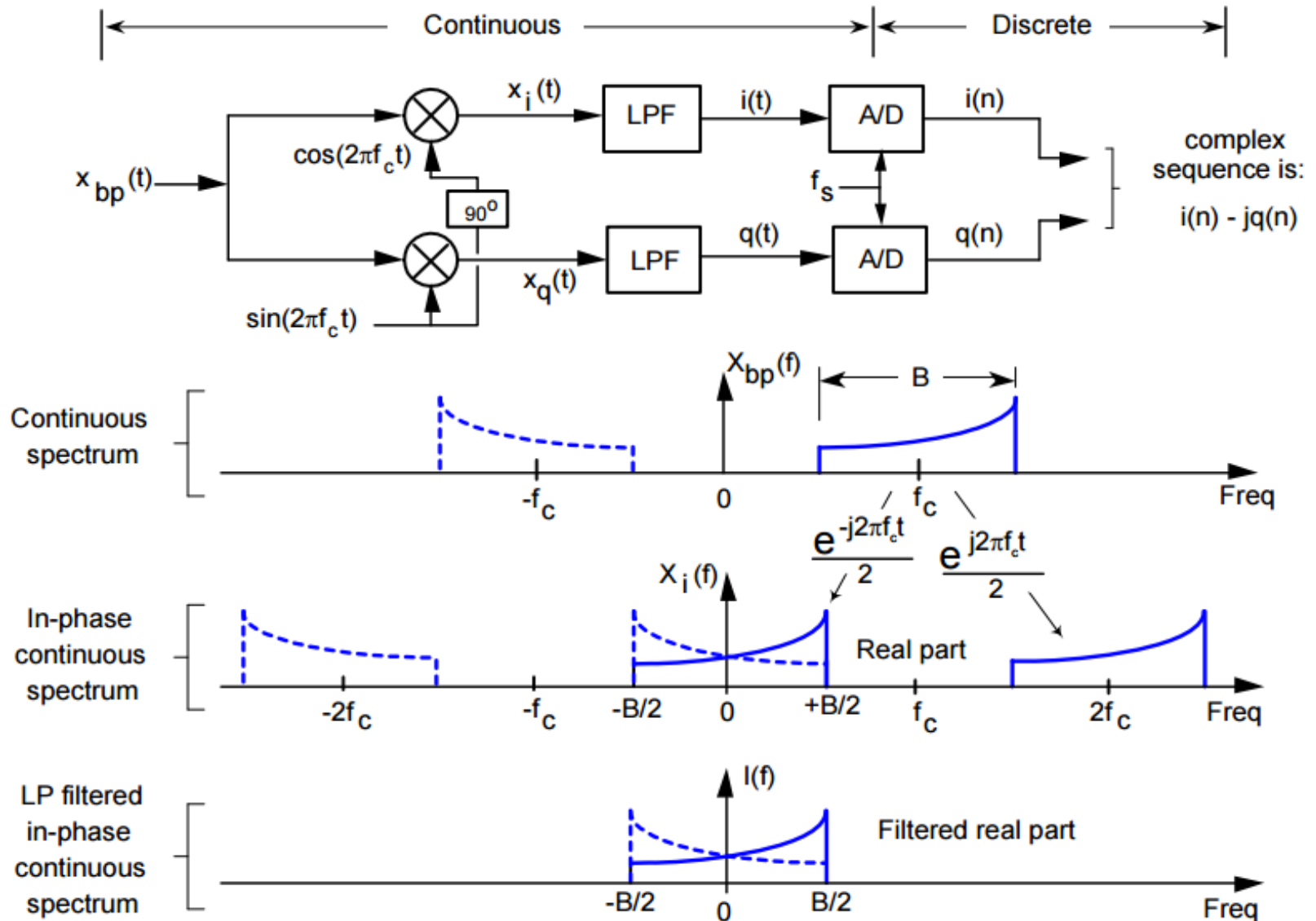


# SDR - DVB-T TV TUNER (2012), BASED ON THE RTL2832U

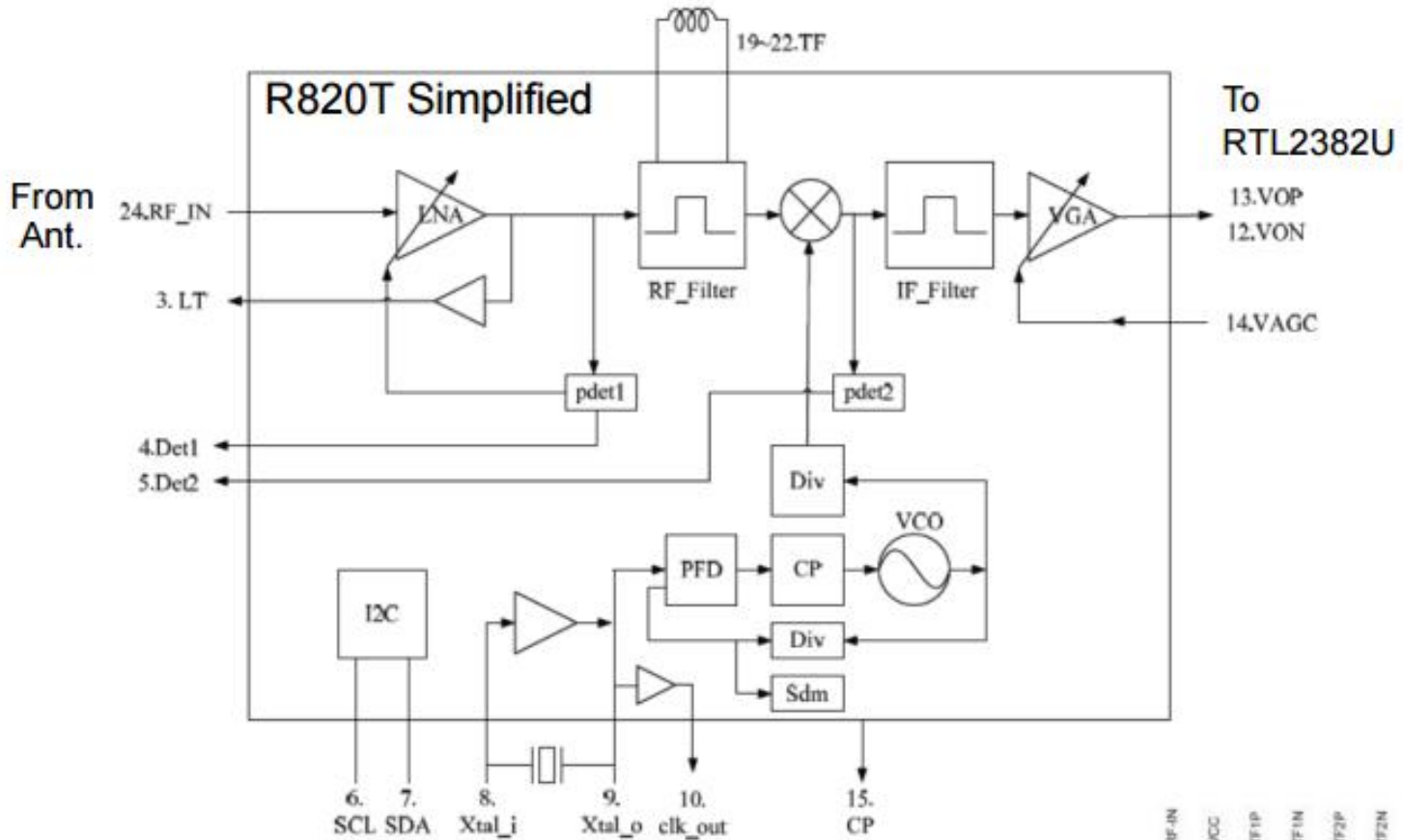


- Bandwidth: Up to 2.4 MHz stable.
- ADC: RTL2832U 8-bits
- Frequency Range: 500 kHz – 1766 MHz (500 kHz – 24 MHz in direct sampling mode)
- Typical Input Impedance: 50 Ohms • Typical Current Draw: 270 – 280 mA

# SIGNALING BASEBAND TO I & Q



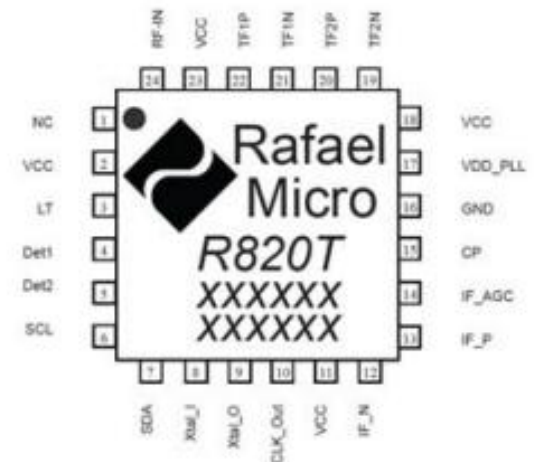
# RF / IF IC, RAFAEL MICRO R820T



## Typical figures

- Frequency range: 42 to 1002 MHz
- Noise figure : 3.5 dB @ RF\_IN
- Phase noise: -98 dBc/Hz @ 10 kHz
- Current consumption: < 178 mA @ 3.3V power supply
- Max input power: +10 dBm
- Image rejection: 65 dBc

note: [dBm]=[dBuV on 75Ω] -108.75dB



# LOCAL HOST SET TO 146.46 MHz - N2RE DSRC

The screenshot displays the OpenWebRX web application interface in a Mozilla Firefox browser. The browser's address bar shows the URL `localhost:8073/#freq=146460000,mod=nfm,sq=-150`. The application header includes the OpenWebRX logo, a call sign `W2JEJ`, and location information: `hamilton square | Loc: FN20qf, ASL: 20 m`. Navigation icons for Status, Log, Receiver, Map, and Settings are visible in the top right.

The main display area features a waterfall plot with a frequency range from 145.5 MHz to 147.0 MHz. A yellow signal peak is visible at 146.46 MHz, labeled `N2RE`. Below the plot, a control panel is open, showing the current frequency `146.4600 MHz` and the device `RTL-SDR USB Stick N2RE 2m`. The modulation mode is set to `FM`, and other modes like `WFM`, `AM`, `LSB`, `USB`, `CW`, `DMR`, `D-Star`, `NXDN`, `YSF`, and `M17` are also listed. A `DIG` dropdown menu is present, along with volume and gain sliders.

At the bottom of the interface, a status bar provides system metrics: `Audio buffer (0.1 s)`, `Audio output (44.1 kbps)`, `Audio stream (45 kbps)`, `Network usage (205.4 kbps)`, `Server CPU (20%)`, and `Clients (1)`.

# SDR - KiwiSDR WITH FPGA and CUSTOMIZED OPENWEBRX

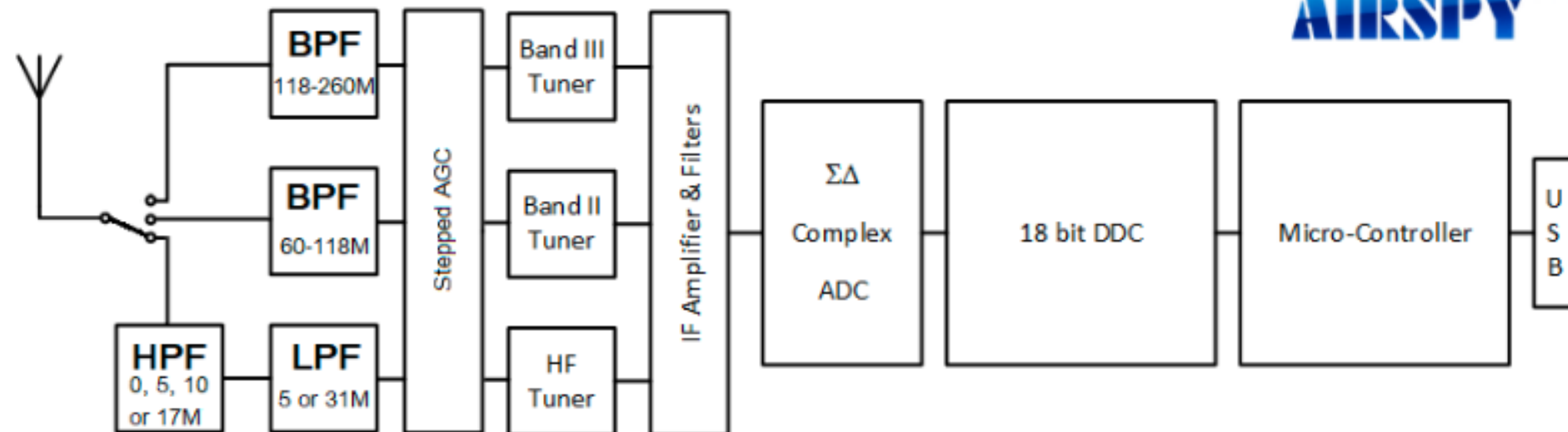


<http://kiwisdr.com/public/>

[http://kiwisdr.com/ks/using\\_Kiwi.html](http://kiwisdr.com/ks/using_Kiwi.html)

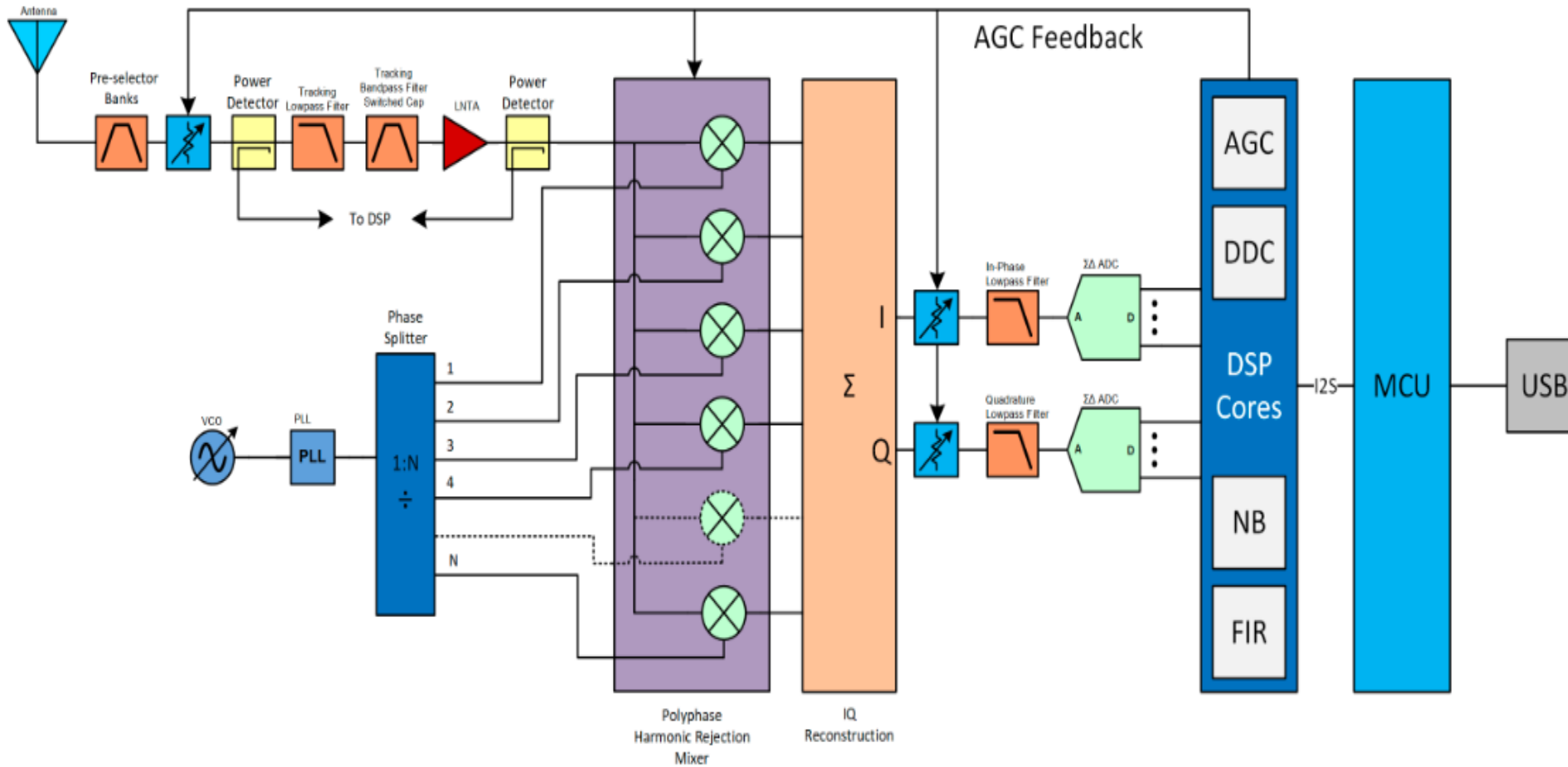
<http://kiwisdr.com/>

# SDR - AIRSPY HF+ DISCOVERY



- HF coverage between 0.5 kHz .. 31 MHz
- VHF coverage between 60 .. 260 MHz
- Sensitivity: -140.0 dBm (0.02  $\mu$ V / 50 ohms at 15MHz) MDS Typ. at 500Hz bandwidth in HF
- Sensitivity: -141.5 dBm MDS Typ. at 500 Hz bandwidth in FM Broadcast Band (64 - 118 MHz)
- Sensitivity: -141.0 dBm MDS Typ. at 500 Hz bandwidth in VHF Aviation Band (118 - 260 MHz)
- Linearity: +15 dBm IIP3 on HF at maximum gain
- Linearity: +13 dBm IIP3 on VHF at maximum gain
- Dynamic Range: 110 dB blocking dynamic range (BDR) in HF
- Dynamic Range: 95 dB blocking dynamic range (BDR) in VHF

# SDR - AIRSPY HF+ DISCOVERY



# OPENwebRX LINUX SOFTWARE OPTIONS

## Raspberry Pi 3, 4

SD Complete Distribution Installation:

<https://www.openwebrx.de/download/rpi.php>

## DragonOS Focal Live Distribution (My Favorite)

>150 SDR Applications, Frequently Updated

The Mother of All SDR Applications!

<https://sourceforge.net/projects/dragonos-focal/>

## LiNux Installation

<https://www.openwebrx.de/download/ubuntu.php>



# DRAGONOS FOCAL APPS P1

- Aircrack-ng 1.6
- Airspy\_ADSB
- Apache2
- Asterisk
- Auto137
- BladeRF ADSB w/ Dump1090 Mutability (/usr/src)
- BladeRF-Wiphy (usr/src/wiphy-build)
- Acarsdec w/ rtlSDR support
- Blue hydra
- Boatbod op25
- BTLE w/ hackrf (can be recompiled for bladeRF)
- CalypsoBTS w/ firmware + tools
- Cesium
- Chirp-daily (python2)
- Composable-SDR AppImage with SDRPlay support
- Crocodile Hunter (LimeSDR Mini support)
- CubicSDR
- DF-Aggregator w/ Offline capability
- Direwolf
- Dumphfdl
- DumpVDL2
- Esptool
- FALCON
- Fldigi
- GNU Radio 3.8
- Gpredict
- GQRX
- GQRX Scanner
- GR-ADSB
- GR-AIR-Modes
- GR-AOA
- GR-Correctiq
- GR-DECT2
- GR-DSD
- GR-FHSS\_Utills
- GR-Foo
- GR-Grnet
- GR-GSM
- GR-ieee802-11 w/ HackRF Sink TX Flowgraph
- GR-ieee802-15-4
- GR-IIO
- Gr-Inspector (/usr/src)
- GR-Iridium
- GR-limesdr
- GR-Lora
- GR-Lora\_SDR
- GR-Mixalot
- GR-NFC
- GR-NRSC5
- GR-NTSC-RC
- GR-Paint38
- GR-PDU\_Utills
- GR-RDS
- GR-Sandia\_Utills
- GR-Satellites
- GR-Smart\_Meters
- GR-Soapy
- GR-Tempest
- GR-Timing\_Utills

## DRAGONOS FOCAL APPS P2

- gsm\_scanner-GUI
- GSMEvil2
- HackTV GUI v2021-11-09
- Ham2Mon by lordmorgul
- IceCast2 (needs configured before starting)
- IMSI-catcher
- Inotify-tools
- Inspectrum 0.2.3
- Iridium-Toolkit
- IridiumLive
- JAERO
- Js8call
- JSquelch
- JTDX
- Kalibrate (HackRF)
- Kismet
- Kismet rest api
- Kisstatic2mobile w/ latest kismet support
- Kismon
- Larry Tetra Kit e9f93618
- LeanSDR/LeanDVB
- Libacars
- LibBladeRF 2.4.1 w/ xA5 support
- LibhackRF/hackRF tools 2021.03.1
- Libosmo-dsp
- LimeSuite
- Linrad
- LiquidSoap
- LTE-Cell-Scanner (v2 remains and supports RTLSDR, HackRF, BladeRF with CMake options)
- LuaRadio v0.10.0 w/ examples
- M17-Gnuradio
- Meshtastic Python API 1.2.58(standalone)
- Mirage ([GitHub.com/RCayre/mirage](https://github.com/RCayre/mirage))
- MMDVM
- Mmdvm-sdr by r4d10n
- MMDVMHost by g4klx
- Multimon-ng
- Nmap
- NOAA-Apt 1.3.1
- NRSC5 decoder for RTLSDR
- Nzyme
- OP25 "Boatbod" (GNU Radio 3.8/Python3 tst /usr/src/op25/)
- OpenWebRX 0.20.3
- Osmo-bsc
- Osmo-bts-trx
- Osmo-hlr
- Osmo-MGW
- Osmo-msc
- Osmo-NITB
- Osmo-nitb-scripts (@NotPike)
- Osmo-Sip-Connector
- Osmo-trx-lms (LimeSDR support)
- Osmo-trx-uhd
- Osmocom-BB tools in /usr/src
- Photonmap
- Probequest
- Pyadi-ii
- PyRtlSDR

## DRAGONOS FOCAL APPS P3

- PySDR 2.0 (Guide to SDR and DSP using Python)
- Qalculate
- Qfits for use with sattools
- QradioLink w/ MMDVM ability
- QspectrumAnalyzer
- Qsstv
- Qt-DAB
- RDF-Sim
- Retrogram-RTLSDR
- Retrogram-soapysdr
- Reveng
- RFcat
- RFCrack
- RFsoapyfile
- RMSViewer
- RSP TCP Server (SDRPlay support)
- RTL\_433
- RTLSDR-Airband v4.0.1 (conf in /usr/src/)
- RX\_Tools
- SatDump
- SDR++ w/ server capability
- SDR4space.lite w/ examples
- SDRAngel
- SDRReceiver
- SDRTrunk
- ShinySDR
- SigDigger
- Signal Server GUI w/ python3 virtual environment
- Signal Server N90ZB w/ Web Interface by Dr. Bill Walker
- Soapysdr modules
- Sparrow-WiFi w/ FALCON tools + wpa2cap2john
- Splat!
- SpyServer (usr/src/spyserver-linux-x64)
- srsLTE-Sniffer (loop-catcher.sh in /usr/src/srsLTE-release\_18\_12/build/lib/examples)
- srsRAN
- Strf
- Tetra-kit "screen2tetra.sh" script in /usr/src/tetra-kit/recorder/wav
- Tetra-Kit-Player in /usr/src (needs npm installed)
- Trunk-Recorder
- Ubertooth 2020-12-R1
- Umurmur
- Universal Radio Hacker
- WFView from source
- wireguard
- Wireshark
- WSJT-X
- Yate/YateBTS w/ BladeRF xA4 improvements
- yellowShoes nrsc5 HD FM audio player
- Zenmap
- DSD-FME
- LTESniffer
- RF-Tools
- OpenBTS
- TempestSDR
- Ice9-Bluetooth Sniffer
- qFlipper
- sm\_scanner-GUI

# DragonOS Focal R30 Live Distribution – ISO Download

drive.google.com/drive/folders/1X-NAxJFIN9XNheomV-69shWJTWQK9e2U

Drive

Search in Drive

Shared with me > DragonOS FocalX Testing

Name	Owner	Last m...	↑	File size
DragonOS_FocalX_R30.iso	Alpha Fox	Apr 15, 2023		3.97 GB
DragonOS_FocalX_R30.iso.md5	Alpha Fox	Apr 15, 2023		58 bytes
DragonOS_FocalX_R30.iso.sha256	Alpha Fox	Apr 15, 2023		90 bytes
README.txt	Alpha Fox	Apr 16, 2023		7 KB

My Drive

Shared drives

Computers

Shared with me

Recent

Starred

Trash

Storage (73% full)

73.03 GB of 100 GB used

Get more storage

DragonOS\_FocalX\_...iso

README (1).txt

FST4W on the HF...pdf

FST4W on the HF...pdf

JVC GY-DS100u Ca...pdf

Show all

# DragonOS Focal R30 Live Distribution – Live USB Prep

Rufus 3.20.1929 (Portable)

---

## Drive Properties

Device  
NO\_LABEL (D:) [32 GB]

Boot selection  
DragonOS\_FocalX\_R30.iso

Persistent partition size  
 16 GB

Partition scheme  
MBR

Target system  
BIOS or UEFI

Show advanced drive properties

---

## Format Options

Volume label  
DragonOS FocalX R30

File system  
FAT32 (Default)

Cluster size  
16 kilobytes (Default)

Hide advanced format options

Quick format

Create extended label and icon files

Check device for bad blocks

---

## Status


READY

# SDR DEVICE SETTINGS OPENWEBRX

OpenWebRX Settings — Mozilla Firefox

OpenWebRX | Open Sour... x OpenWebRX Settings x +

localhost:8073/settings/sdr

OpenWebRX  W2JEJ  
Hamilton Square | Loc: FN20qf, ASL: 20 m

Map Settings

Settings / SDR device settings

## SDR device settings

<h3>RTL-SDR USB Stick</h3> <p>State: Running</p>	<p>3 profile(s) Current profile: N2RE 2m Clients: INACTIVE: 2, USER: 3 Connections: 1</p>
<h3>Airspy HF+</h3> <p>State: Stopped</p>	<p>5 profile(s) Current profile: 20m Clients: INACTIVE: 2 Connections: 0</p>
<h3>SDRPlay RSP2</h3> <p>State: Stopped</p>	<p>5 profile(s) Current profile: 20m Clients: INACTIVE: 2</p>

Add new device...

# N2RE PROFILE SETTING 146.46 Mhz OPENWEBRX

OpenWebRX Settings — Mozilla Firefox

OpenWebRX | Open Source SDR PLAYS  
OpenWebRX Settings

localhost:8073/settings/sdr/rtlsdr/profile/2m

- RTL-SDR USB Stick
- 70cm Repeaters
- N2RE 2m**
- TCNJ Balloon 10m
- New profile

## Profile settings

Profile name	<input type="text" value="N2RE 2m"/>
Device gain	<input type="text" value="Specify manual gain"/> <input type="button" value="Remove"/>
	<input type="text" value="29.0"/>
Center frequency	<input type="text" value="146.46"/> <input type="button" value="MHz"/>
Sample rate	<input type="text" value="2.048"/> <input type="button" value="MS/s"/>
Initial frequency	<input type="text" value="146.46"/> <input type="button" value="MHz"/>
Initial modulation	<input type="text" value="FM"/>
Additional optional settings	<input type="text" value="Oscillator offset"/> <input type="button" value="Add"/>

Settings / SDR device settings / RTL-SDR USB Stick / N2RE 2m


# DATA PROTOCOLS SUPPORTED in OpenWebRX V1.2





# DIGITAL DEVICES SUPPORTED in OpenWebRX V1.2

localhost:8073/settings/newsdr

 **W2JEJ**  
Hamilton Square | Loc: FN20qf, ASL: 20 m

Device settings / Newsdr

- Airspy R2 or Mini
- Airspy HF+ or Discovery
- Blade RF
- HackRF
- HPSDR devices (Hermes / Hermes Lite 2 / Red Pitaya)
- LimeSDR device
- PlutoSDR
- RTL-SDR device
- RTL-SDR device (via SoapySDR)
- RTL-SDR device (via rtl\_tcp)
- R&S device using EB200 or Ammos protocol
- SDRPlay device (RSP1, RSP2, RSPDuo, RSPDx)
- Device connected to a SoapyRemote server
- Ettus Research USRP device

Airspy R2 or Mini


Note: Switching the type will not be possible after creation since the

Note: This dropdown only shows device types that have their require

feature report.


OpenWebRX | Open Source SDR  
PLAYING

localhost:8073/#freq=147464510,mod=nfm,sql=-150

OpenWebRX  W2JJE  
Hamilton Square | Loc: FN20qf, ASL: 20 m

Status Log Receiver Map Settings

N2RE



145.5 MHz 146.0 MHz 146.5 MHz 147.0 MHz

147.4645 MHz  
147.4495 MHz

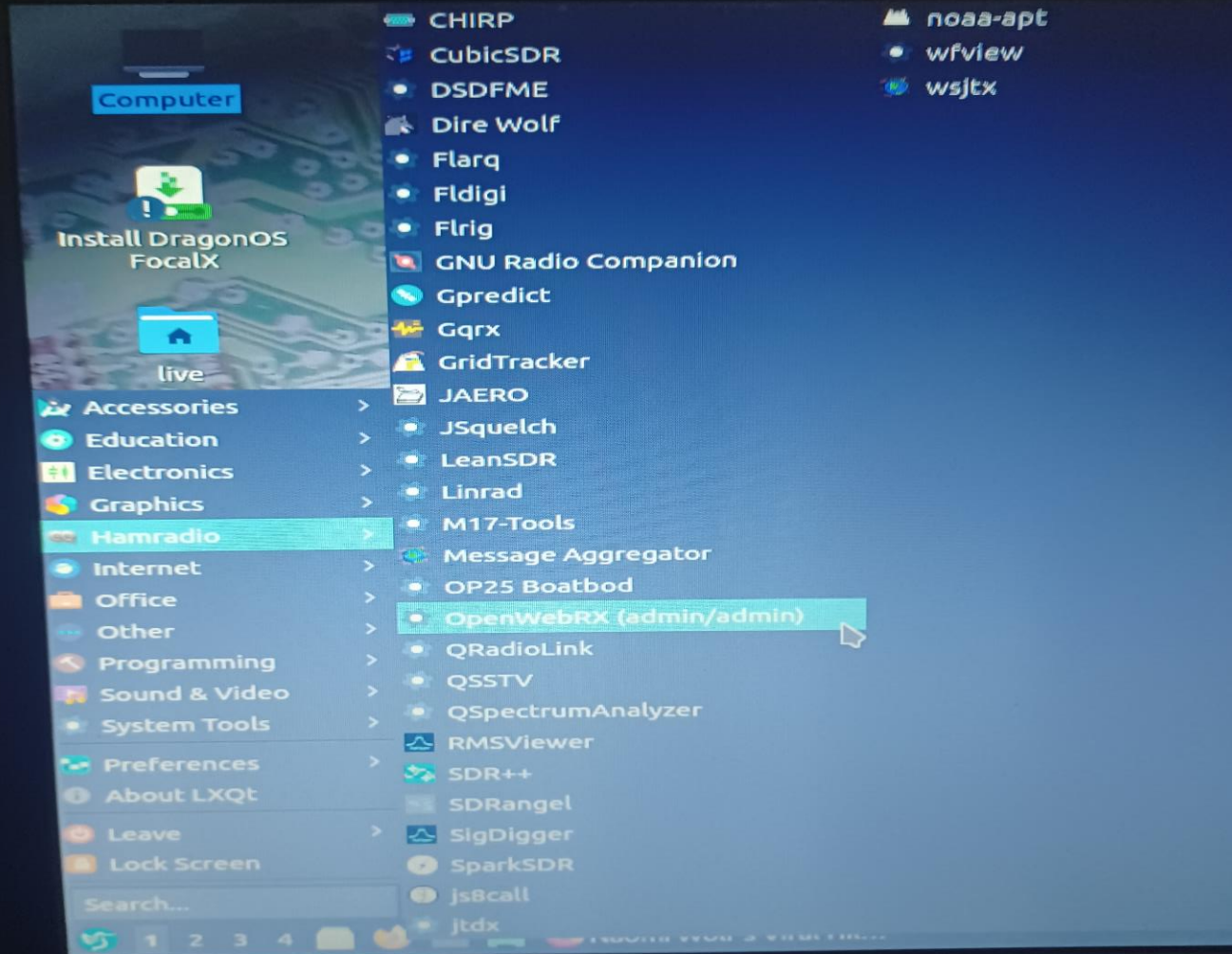
RTL-SDR USB Stick N2RE 2m

FM WFM AM LSB USB  
CW DMR D-Star NXD  
YSF M17  
DIG

Audio buffer [0.2 s] Audio output [44.0 kbps] Audio stream [44 kbps]  
Network usage [194.3 kbps] Server CPU [22%] Clients [1]

LOCAL TRANSMITTERS: <http://www.radioreference.com/apps/db/?ctid=1781>

# DragonOS Focal R30 Live Distribution – MY FAVORITE



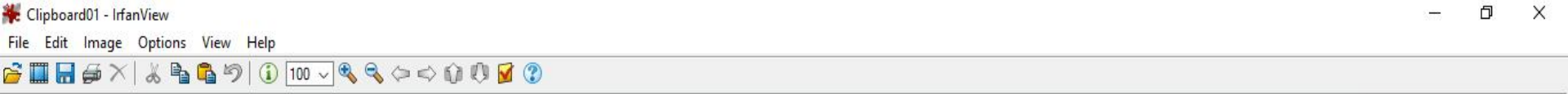
# DragonOS Focal R30 Live Distribution – MY FAVORITE

The screenshot displays the LXQt desktop environment of the DragonOS Focal R30 Live Distribution. The desktop background is a dark blue and black pattern. On the left, there is a vertical sidebar with a 'Computer' button at the top, followed by an 'Install DragonOS FocalX' button with a green download icon, and a 'live' folder icon. Below these are several application categories: Accessories, Education, Electronics, Graphics, Hamradio, Internet, Office, Other (highlighted in green), Programming, Sound & Video, System Tools, Preferences, About LXQt, Leave, and Lock Screen. At the bottom left, there is a search bar and a taskbar with icons for the Dash, four application windows, and system status icons.

The application menu is open, showing a list of installed applications. The 'Other' category is selected, and the 'TempestSDR' application is highlighted in red. The list of applications includes:

- Airspy ADSB
- AutoCalypsoBTS
- BTLE
- BlueWho
- CalypsoBTS
- CleverJAM
- Crocodile Hunter
- DF-Aggregator
- DSAM
- FALCON
- Firmware/Drivers
- GNU Radio Modules
- GSMEvil2
- HackRF-Spectrum-Analyzer
- HackTV
- IMSI Catcher Script
- Inspectrum
- Kismet Metagpsd
- Mirage
- Modmobmap
- OpenBTS
- Osmo-GMR
- Osmo-NITB-Scripts
- Osmo-NITB-Scripts (CalypsoBTS)
- Osmo-fl2k
- Osmocom\_FFT
- Photonmap
- PySDR
- QSTDCDEC
- RF-Tools
- RFCrack
- ReconToCrack
- SDR4space
- SDRTrunk
- STDCDEC
- SatDump
- Signal Server GUI
- Sparrow-WiFi
- Spike
- SpyServer
- StillSuit
- TempestSDR**
- Tetra-Kit
- Universal Radio Hacker
- Yate
- bladeRF-wiphy
- srsRAN examples

# W2JEJ Reporter – Send to WSPRnet



## WSPRnet

Welcome to the Weak Signal Propagation Reporter Network

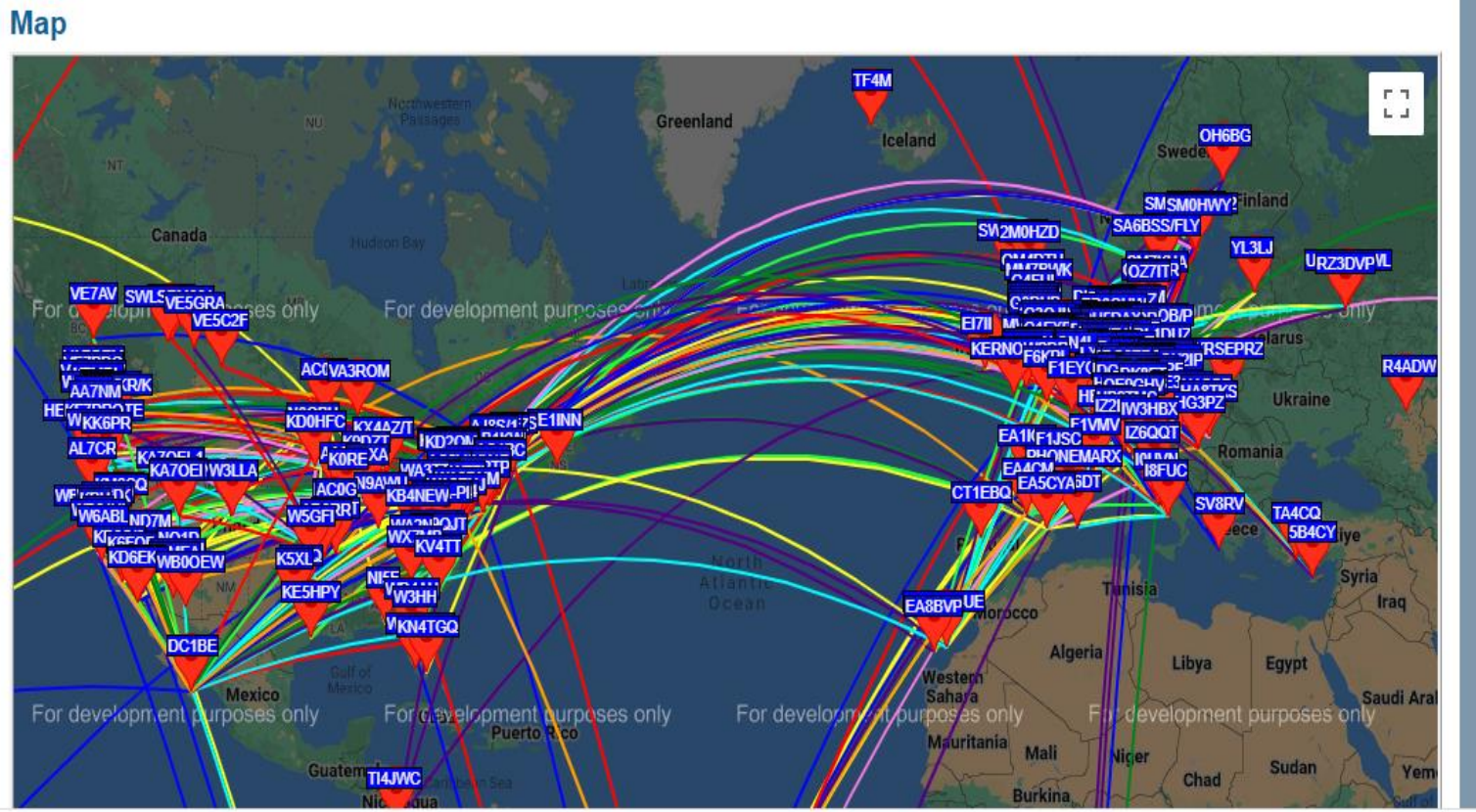
[Activity](#) | [Map](#) | [Database](#)

### User login

Username \*

Password \*

[Create new account](#)  
[Request new password](#)



### Frequencies

USB dial (MHz): 0.136, 0.4742, 1.8366, 3.5686, 5.2872, 5.3647, 7.0386, 10.1387, 13.5539, 14.0956, 18.1046, 21.0946, 24.9246, 28.1246, 50.293, 70.091, 144.489, 432.300, 1296.500

- ### 3rd Party Maps and Data
- WSPR Rocks!
  - M0XDK Map
  - KB9AMG Monthly Stats
  - WA2ZKD Spot Analysis

# THE SARNOFF COLLECTION

**WELCOME!** Check for Hours



<https://davidsarnoff.tcnj.edu/visi>

†