All-In-One
A DATV Transceiver

using SDRangel software

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SDRangel quesaco ?

TX & RX Software Defined Radio
Open Source Software developed by Edouard Griffiths F4EXB

SDRangel

uses sample source plugins to collect I/Q samples from a hardware device. Then in the passband returned possibly decimated one or more channel Rx plugins can be used to demodulate, decode or analyze some part of this spectrum.

uses sample sink plugins to send I/Q samples to a hardware device. One or more channel Tx plugins can be used to produce modulated samples that are mixed into a transmission passband with possible subsequent interpolation before being sent to the device.

The UI is organized in workspaces inside which you place the different components: device, main spectrum, channels, features.

https://www.sdrangel.org/

Sample source plugin: PlutoSDR

Channel Rx plugin: DATV Demodulator
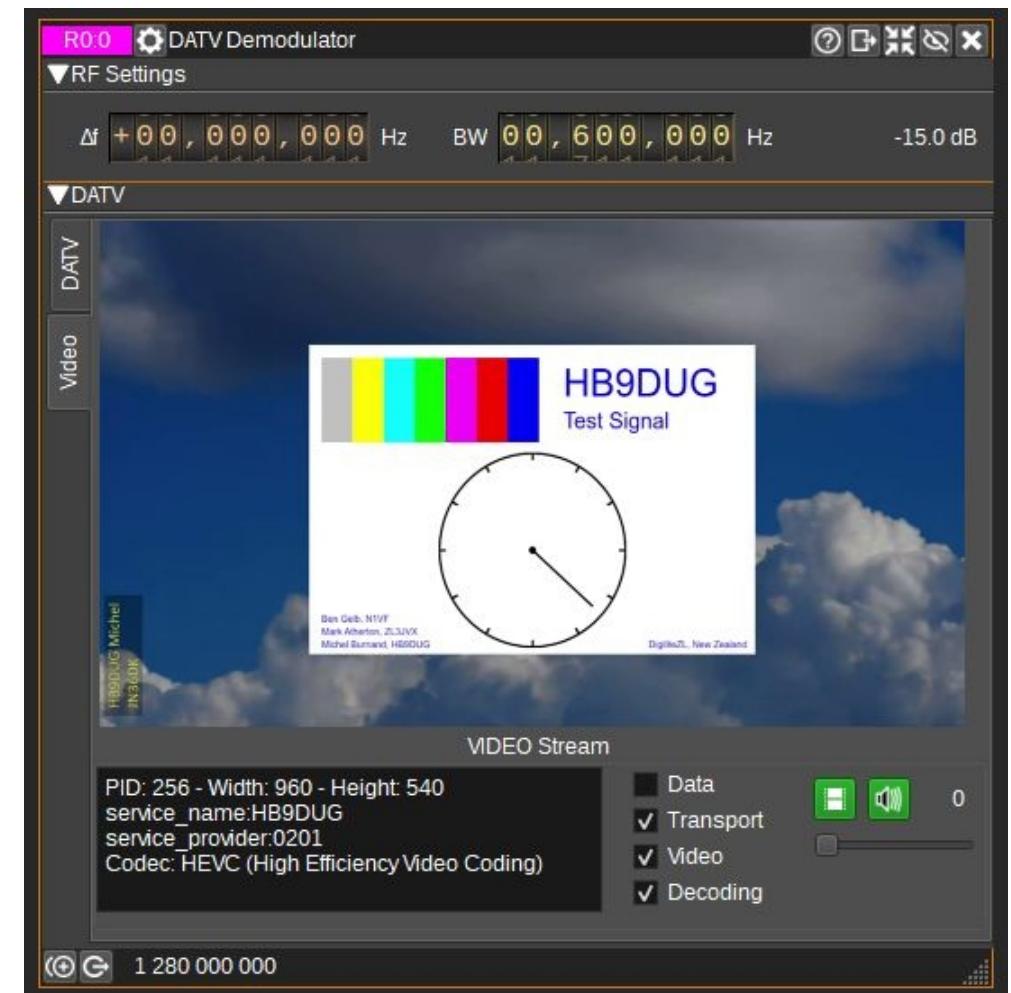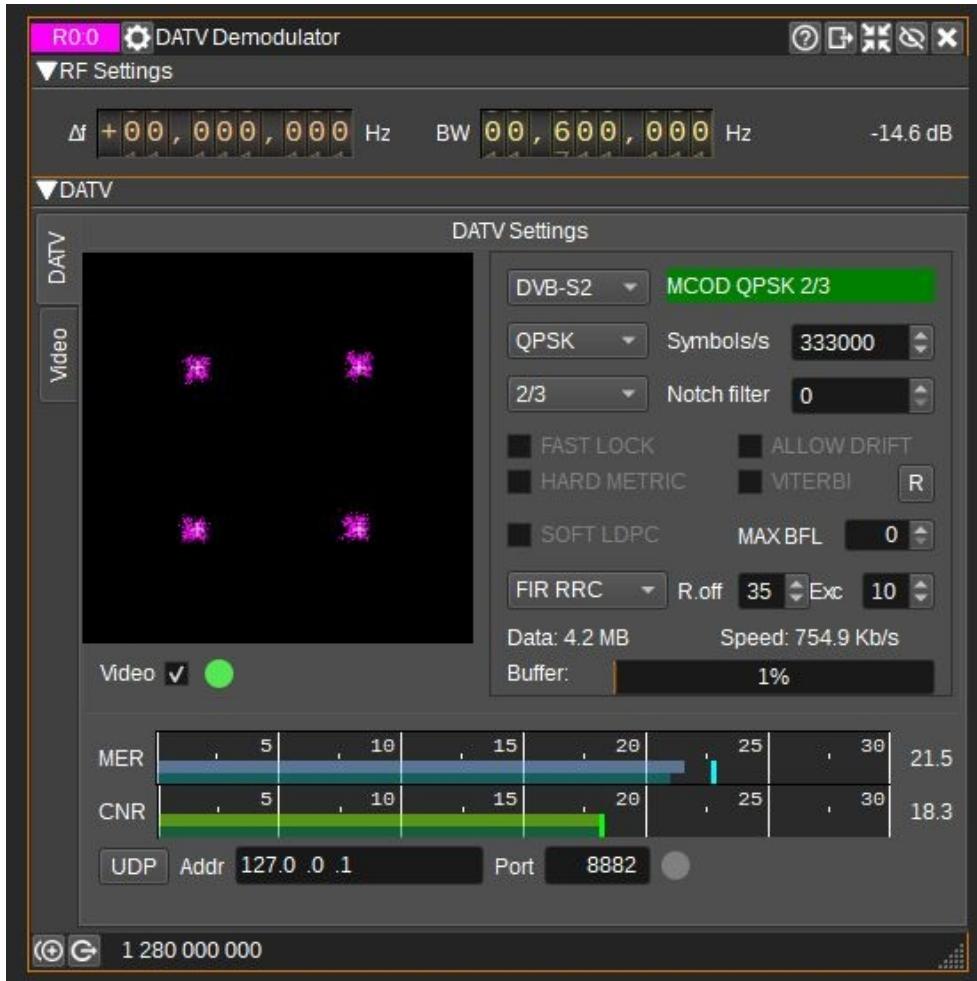
Sample sink plugin: LimeSDR
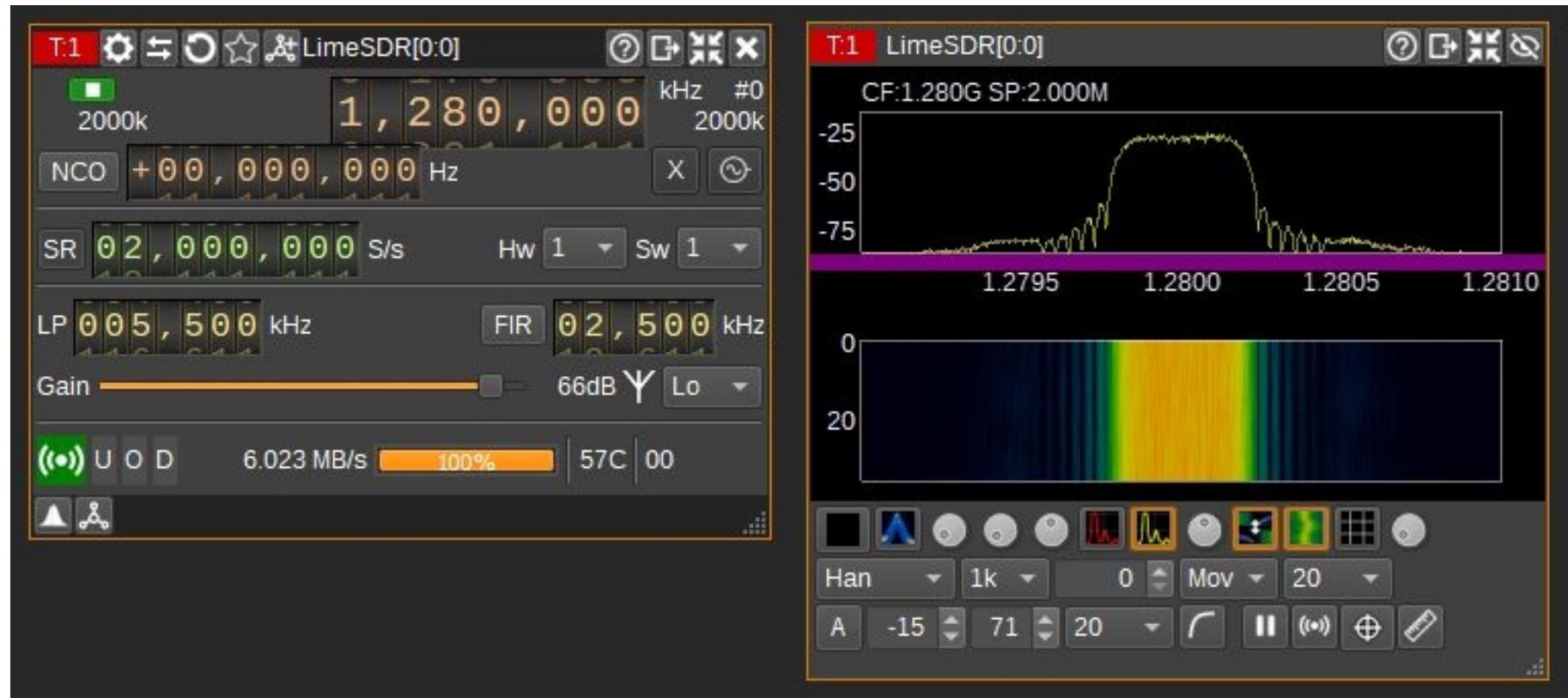
Channel Tx plugin: DATV Modulator
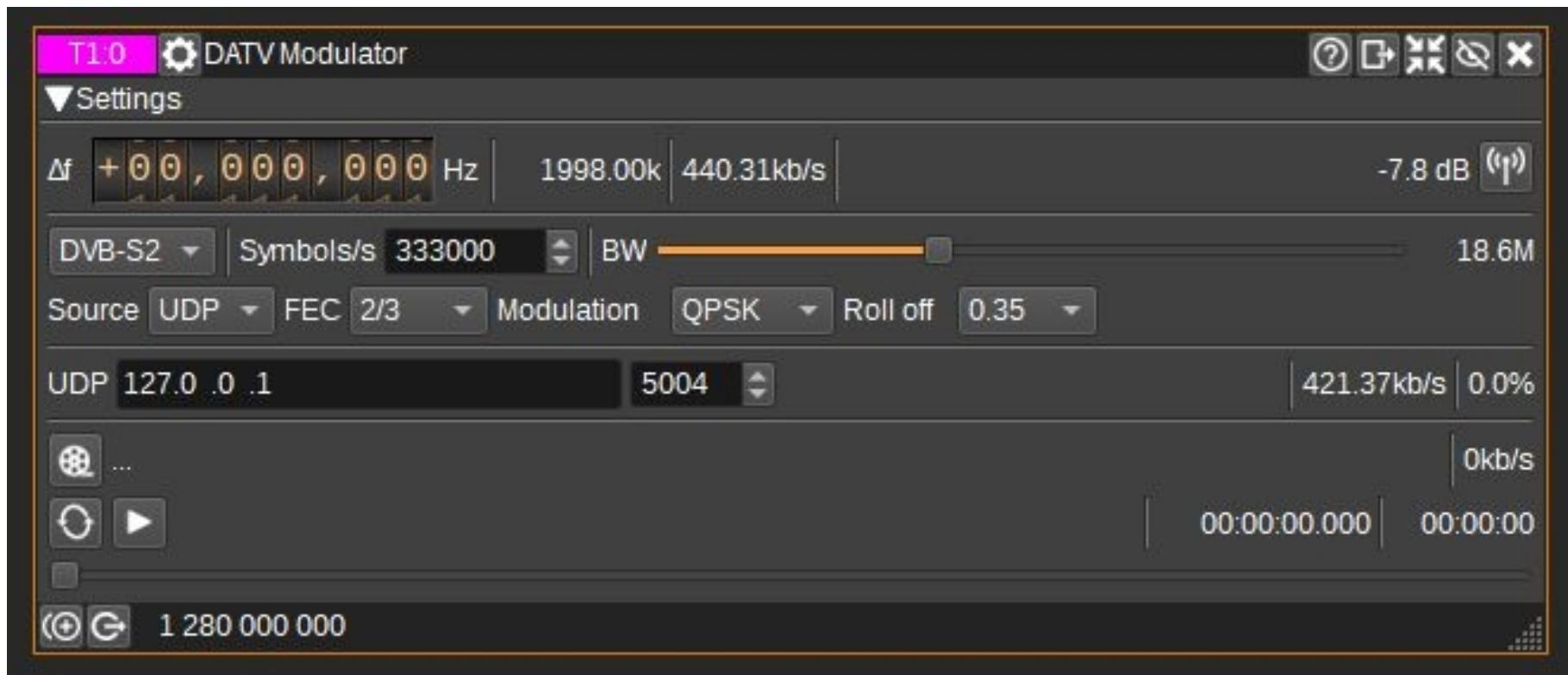
User interface – Rx PlutoSDR / TX LimeSDR

User interface – Rx LimeSDR / Tx LimeSDR
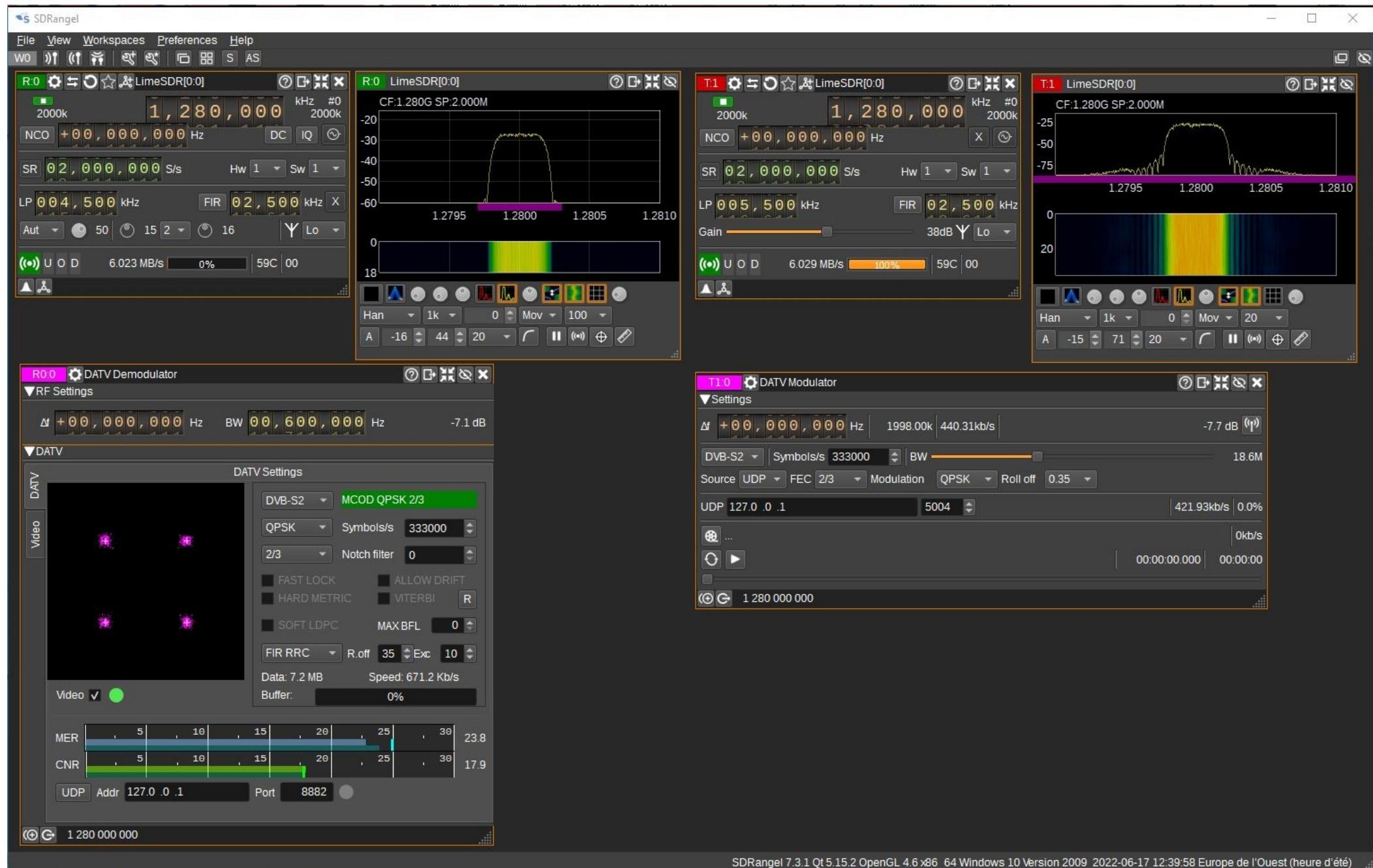
# SDRangel – DATV Demodulator

DVB-S2 specific - Soft LDPC decoder
It can be used to decode signals lower that ~10 db MER which is the limit of Low Density Parity Check (LDPC) hard decoding.

Details here:
https://github.com/f4exb/sdrangel/blob/master/plugins/channelrx/demoddatv/readme.md
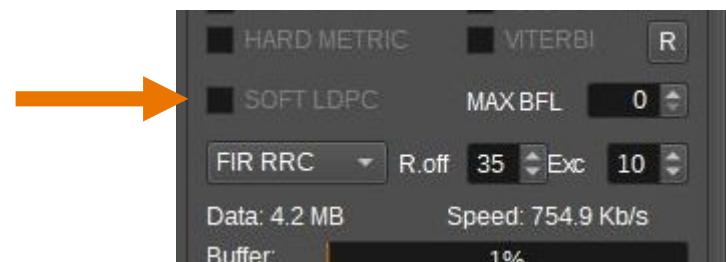
SDRangel Features – Lime RFE USB Controller

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SDRangel support

SDRangel is available for download here:
https://github.com/f4exb/sdrangel/releases
for:
- Windows 10
- MAC os
- Linux (ubuntu 22.04)
- from source

A online manual is provided for each module by selecting the question mark icon in the top right corner of the window module.

A forum is available:
https://groups.io/g/sdrangel/

References

Good hack !