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SDRplay RSPdx with go2MONITOR

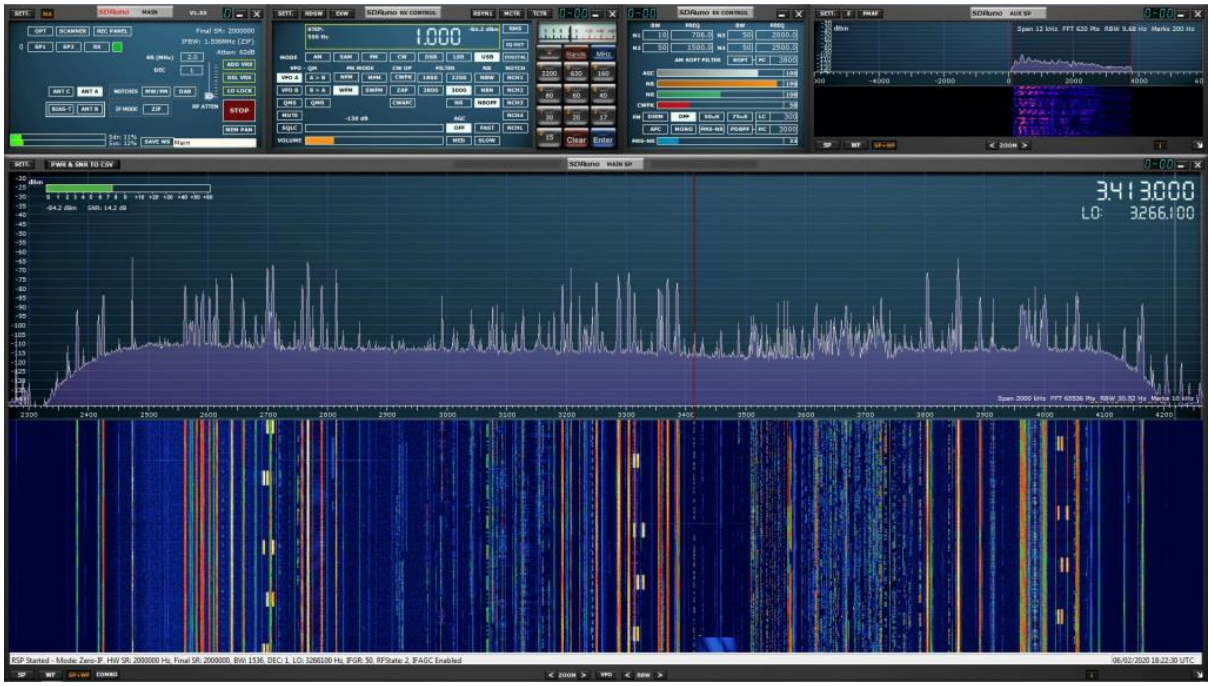
Posted on **February 28, 2020**

Thanks to SDRplay, I was sent both their new RSPdx and older RSPduo SDRs at the end of January free of charge.

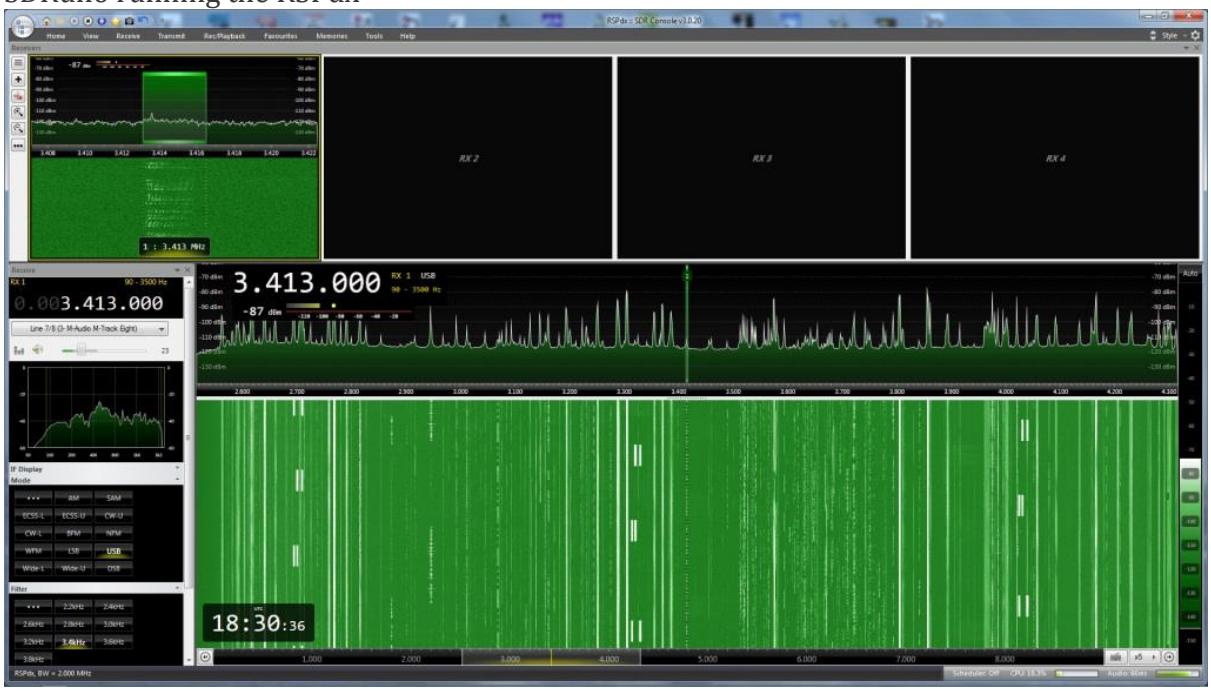
The main reason was to get them integrated into Procitec's go2MONITOR and go2DECODE software, to increase the number of SDRs that the company's products are compatible with.

This I've been successful in doing with the RSPdx – I'm still to unbox the RSPduo at this time of writing.

First of all though, I've been extremely pleased with the RSPdx in its own right. The SDRuno software works really well, is pretty easy to use – and it looks good too.



SDRuno running the RSPdx



The RSPdx also works with SDRConsole

The fact that you can have up to 10 MHz of bandwidth is brilliant, and it isn't too bad on the CPU usage either – running at around 25% with 10 MHz bandwidth on my ancient PC. Used with SDRConsole you can cover a good number of frequencies at once, and can record them if necessary. Of course, you can do this with SDRuno too, but at the moment only IQ – you can't record individual frequencies.

Saying that, I've seen the SDRuno Roadmap for future releases and not only will recording of individual frequencies be possible, a more advanced scheduler is to be included. This is something I feel SDRConsole – amazing though it is – is lacking when it comes to single frequency recording. There is also the issue with SDRConsole that you are limited to recording only 6 hours worth of wav file per frequency.

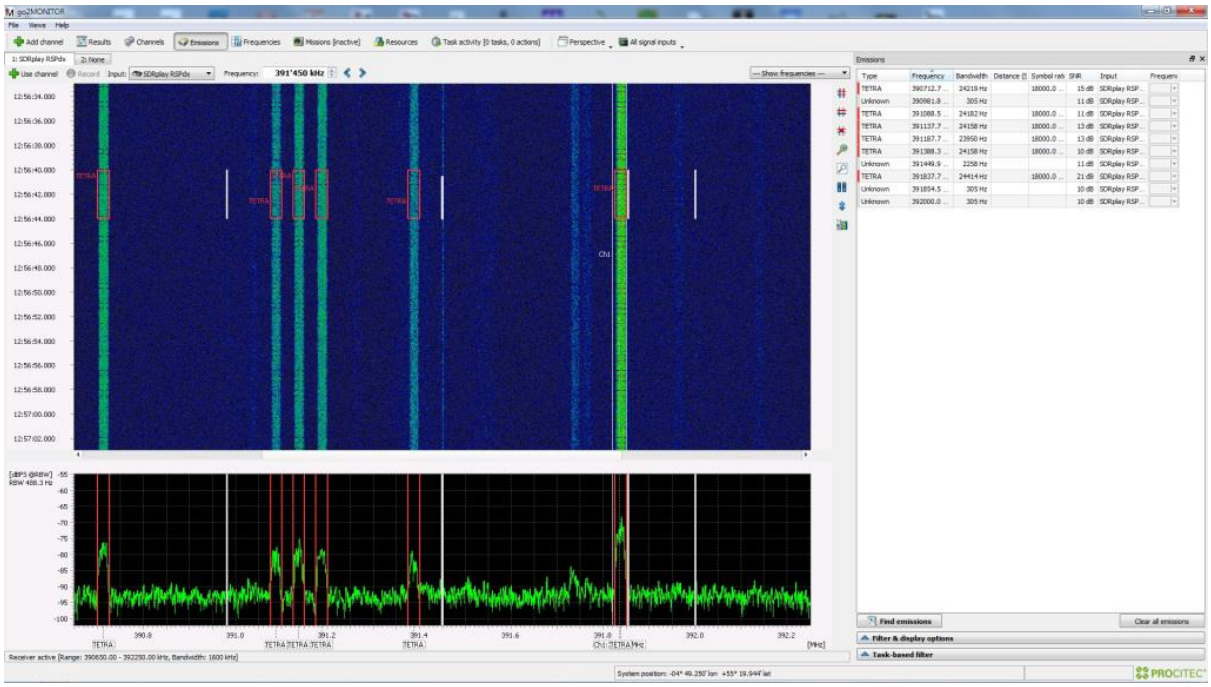
Anyway, I digress. Back to the RSPdx and go2MONITOR.

To get the SDRs to work correctly with any of the go2 products means creating a configuration file and adding a ExtIO DLL file to the software. This is reasonably easy to do once you get use to it and it enables a GUI to become active so that you can control the SDR through go2MONITOR.

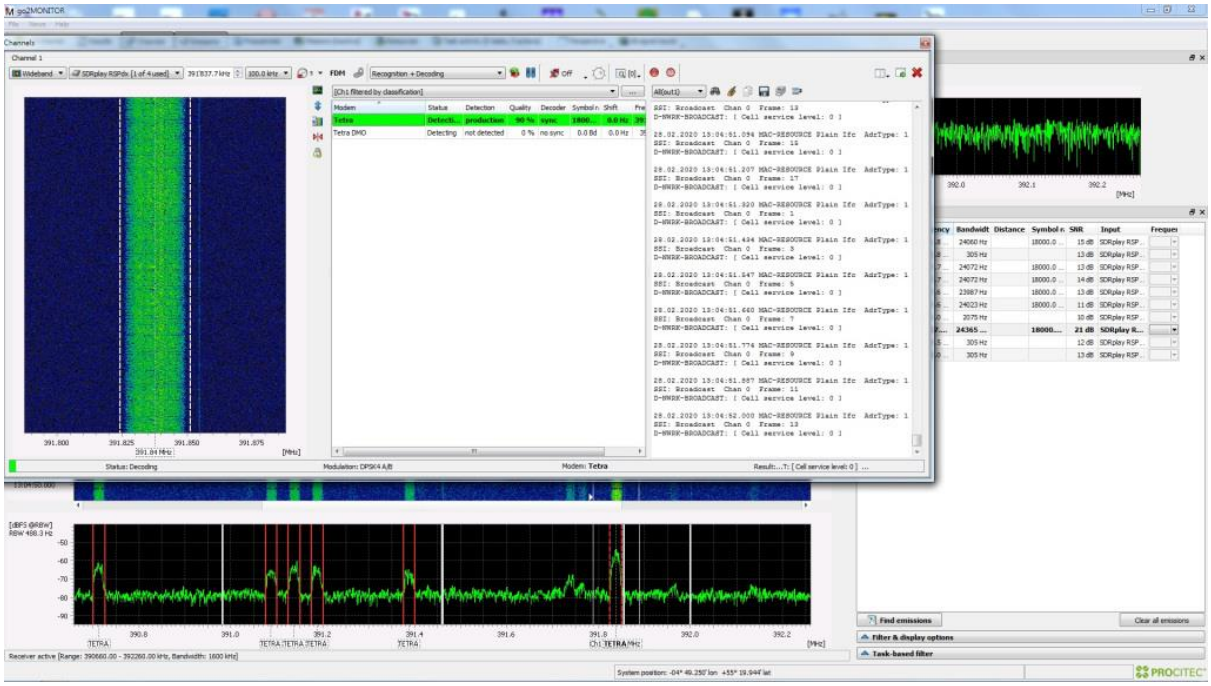
One interesting aspect with the RSPdx GUI is that regardless of what you enter as some of the parameters in the configuration file, the ExtIO file overrides these. Effectively, I just left some of the data as found in a basic configuration template and let the GUI do all the work for me.

So, below are some of the results with today's first test.

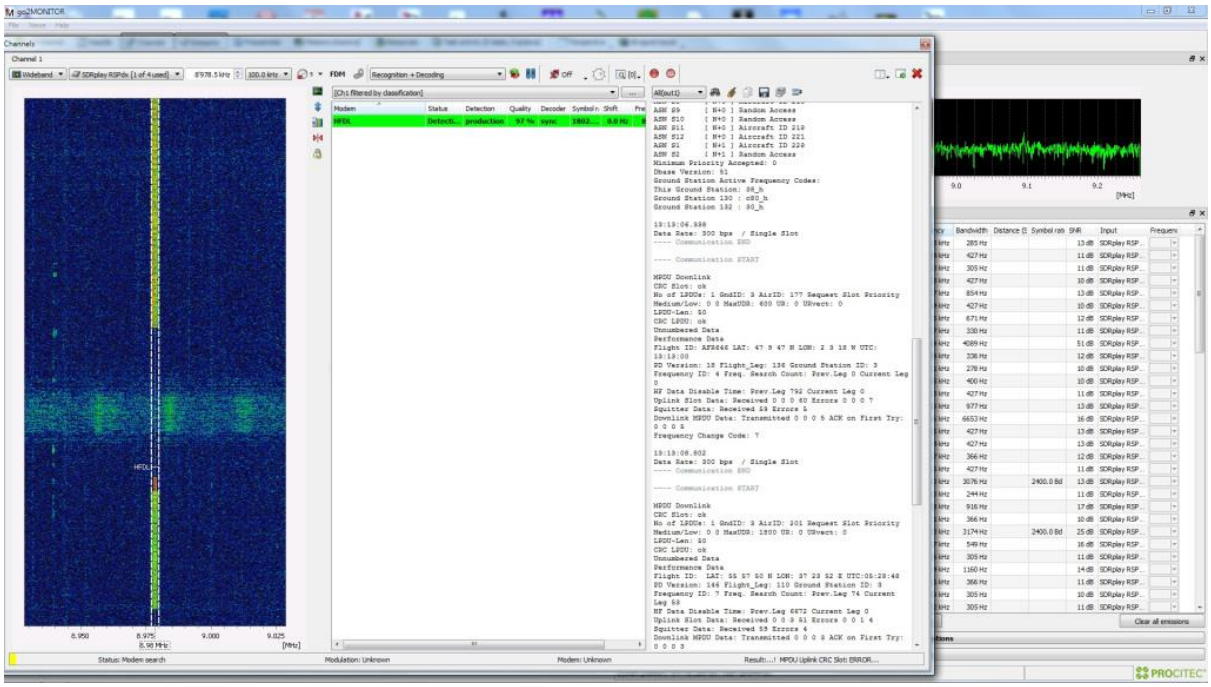
First of all I went into the VHF/UHF side of things and targeted the local TETRA networks. These were found easily and after messing around with the GUI, I was able to get go2MONITOR set up to nicely find all the emissions within the 1.6 MHz bandwidth I'd chosen to use



From there, all I had to do was to select one of the found emissions and let the software do its thing.



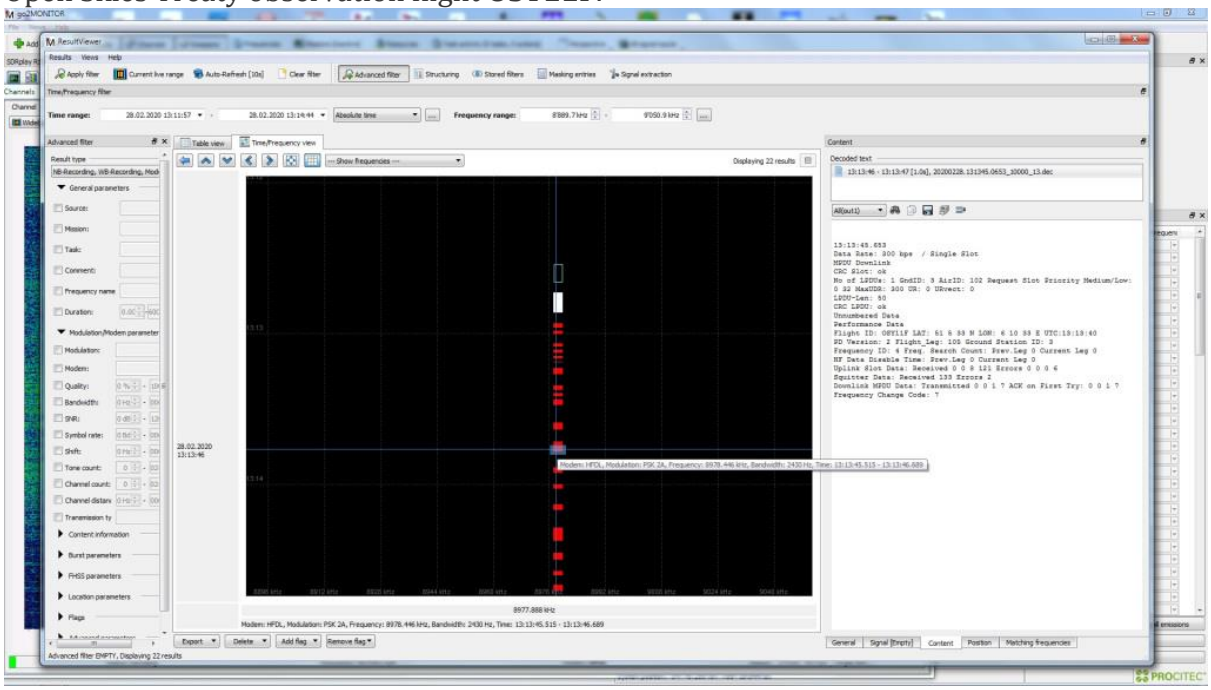
Next I moved on to HF where there's a plethora of data to choose from to test out the SDR. There was quite a large storm going through at the time and my Wellbrook loop and coax feed were getting a bit of a bashing with some considerable interference being produced with the really strong gusts, as can be seen below – the interference between the two HFDL bursts is one such gust.



I've frequently mentioned the Results Viewer that's part of go2MONITOR and with things such as HFDL and TETRA, that process data quickly from lots of signals, this part of the software comes into its own.

The image below is two minutes of HFDL monitoring. All the red blocks is received data that scrolled through the Channel window too quickly to read live. In the viewer you can select

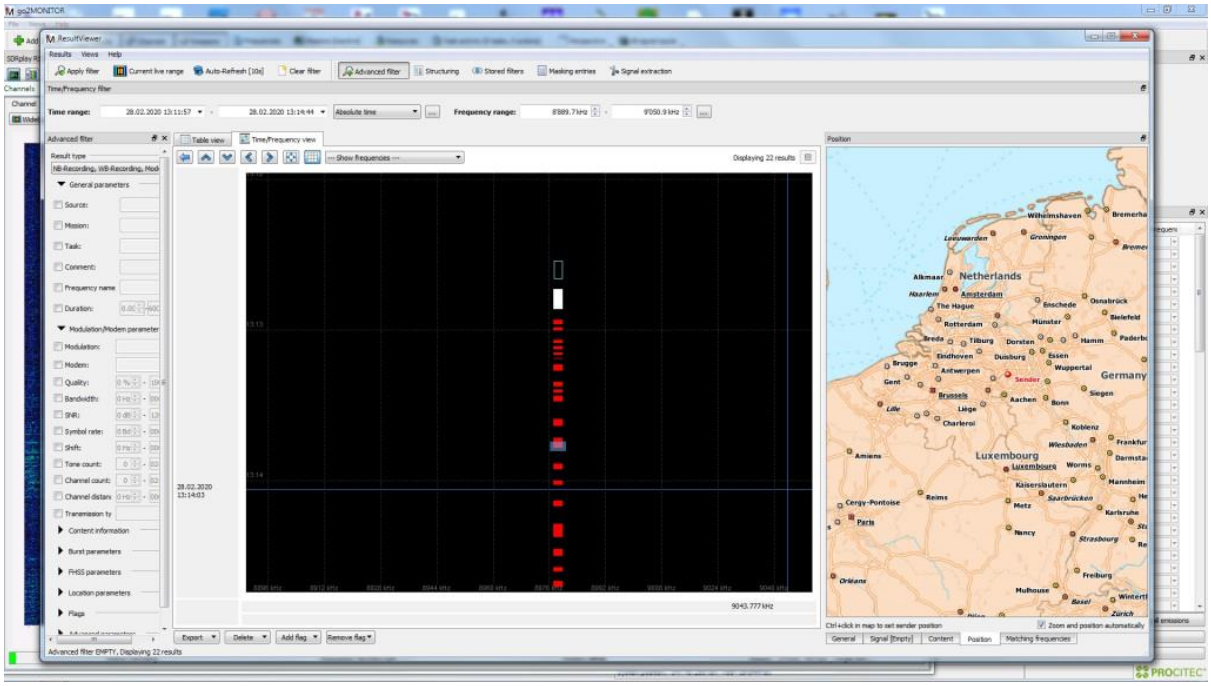
any of the signals and you'll be shown the message as sent. In this case, it is one sent by an Open Skies Treaty observation flight **OSY11F**.



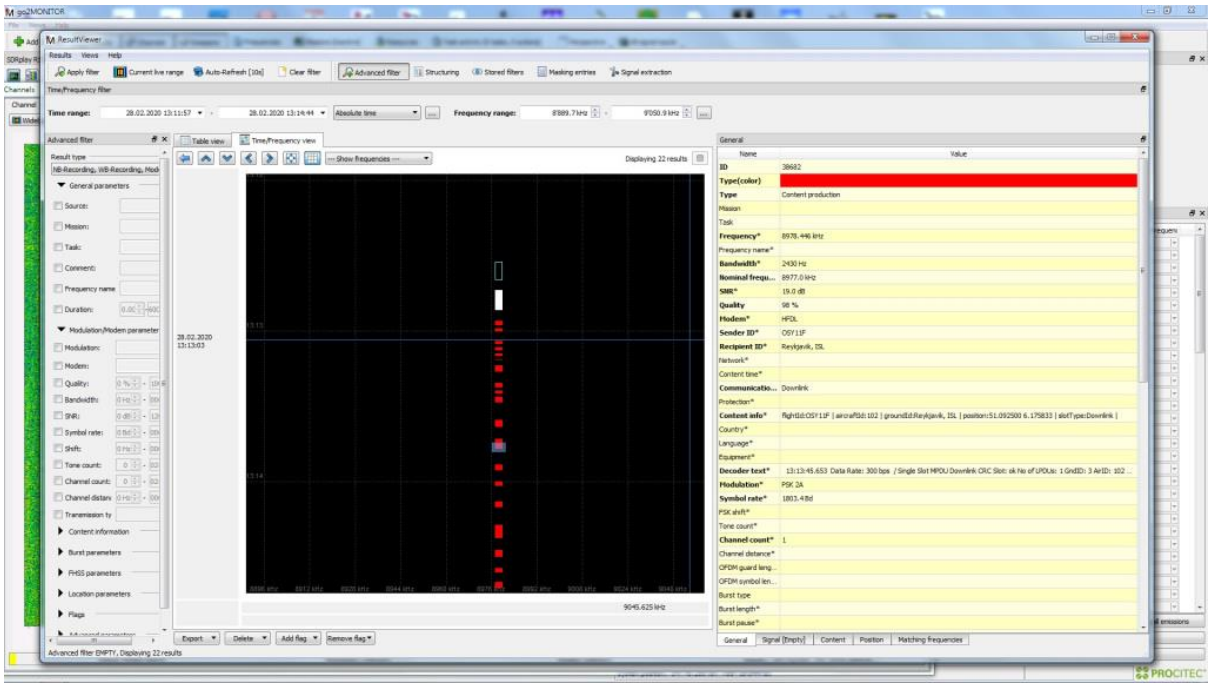
By looking at the Lat/Long and comparing it to the [flight history from FlightAware] and its location at 1313z it ties in nicely. This flight was carried out by the German Air Force A319 *1503* specially kitted out to make these flights.

Fri 13:12:08	51.1692	6.3093	↙ 240°	251	12,000	FlightAware ADS-B (DUS / EDDL)
Fri 13:12:25	51.1575	6.2834	↙ 233°	249	12,000	FlightAware ADS-B (OST / EBOS)
Fri 13:12:45	51.1438	6.2536	↙ 234°	248	12,000	FlightAware ADS-B (EDLS)
Fri 13:13:15	51.1237	6.2103	↙ 233°	248	12,000	FlightAware ADS-B (DUS / EDDL)
Fri 13:13:55	51.0963	6.1523	↙ 232°	247	12,000	FlightAware ADS-B (MGL / EDLN)
Fri 13:14:11	51.0832	6.1314	↙ 218°	250	12,000	FlightAware ADS-B (DUS / EDDL)

go2MONITOR has a basic map function within the Result Viewer function so if there's any Lat/Long position within any message it will plot it – as shown below for OSY11F at 1313z.



Within the General tab of Result Viewer you can get all the parameters of the signal.

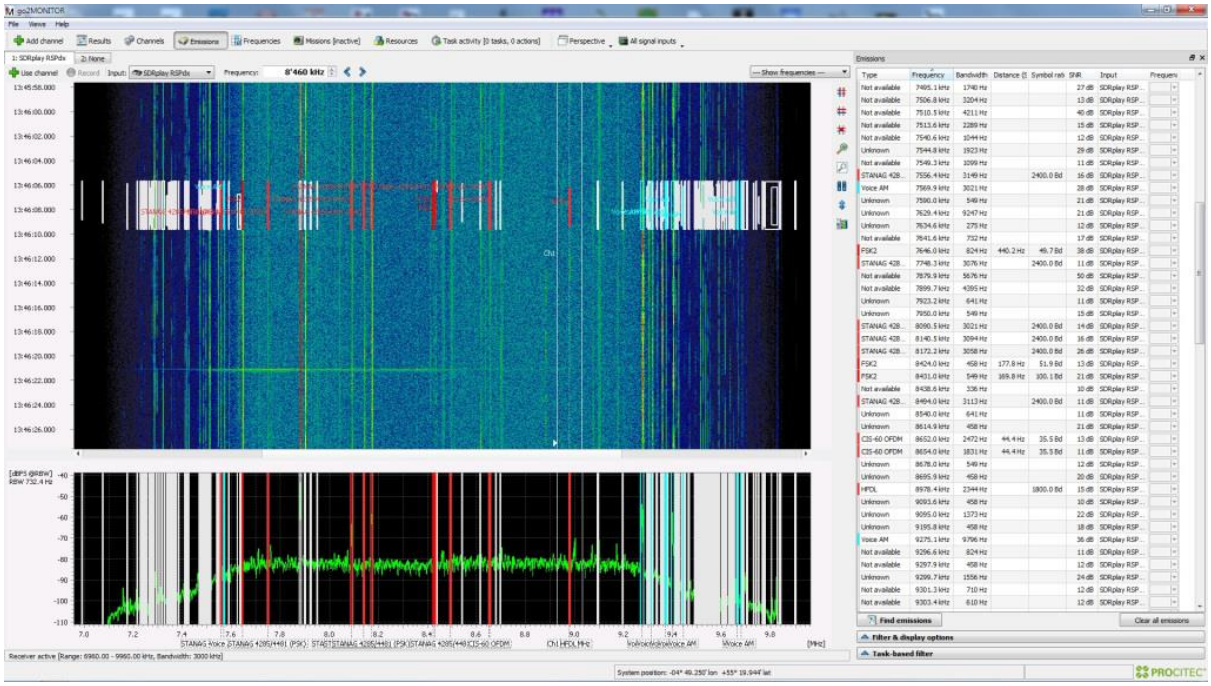


One final test that I carried out was how well everything coped with a bigger bandwidth. In HF I can use up to 3 MHz of bandwidth with the licence I have – going up to 10 MHz once into VHF/UHF. In HF then, I selected 3 MHz in the GUI and then ran an emissions search.

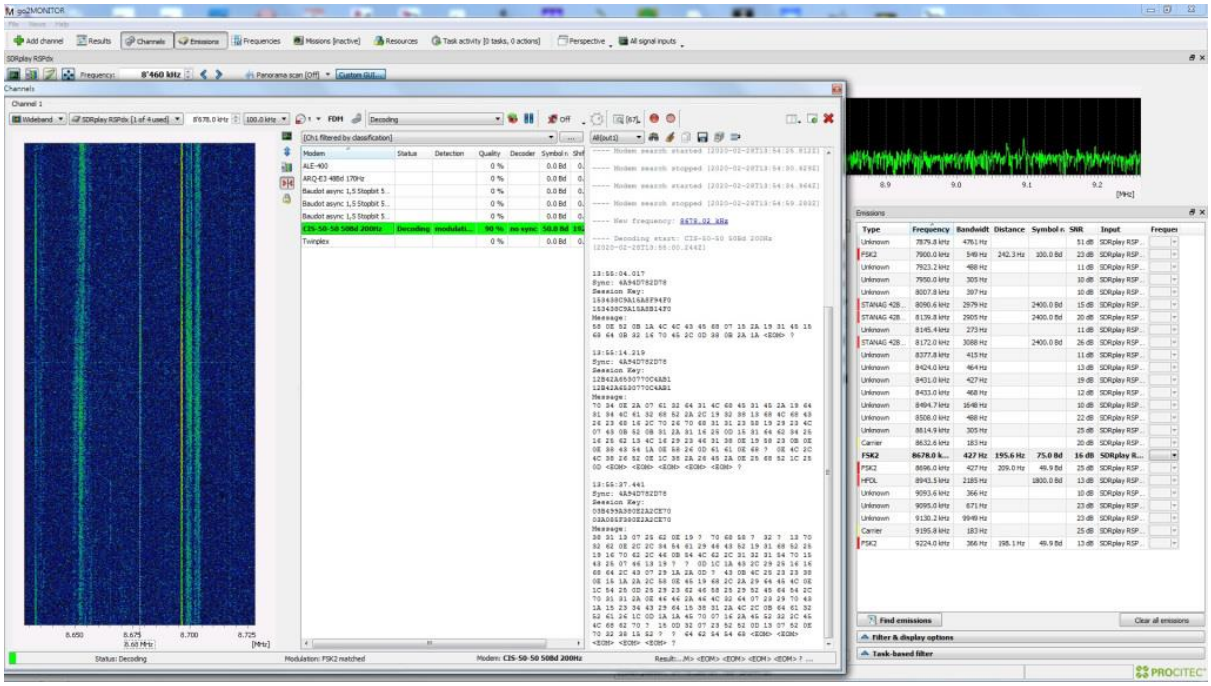
My PC is nearing the end of its life but it coped easily with the amount of data found despite only having 4 GB of RAM with a 3.6 GHz AMD processor – a new PC is in the pipeline that is going to give me much better processing power.

Despite having 3 MHz available, not everything was identified. Most of this was at the fringes of the bandwidth, but some of the weaker signals also failed. That doesn't mean you

can't then process them further, you can, it's just the Emissions scan hasn't quite been able to ID them. Saying that, the software managed to ID things within 2.2 MHz of the 3 MHz bandwidth.



I picked one of the weaker signals to see how both the RSPdx and software coped and they did very well, pretty much decoding all of the CIS-50-50 messages that were coming through on 8678 kHz.



So, overall, pretty pleased with how the RSPdx works with go2MONITOR.

Once I get a better PC I'll be able to test at bigger bandwidths but even with 3 MHz here I was able to achieve the same, if not better, results than I have with the considerably more

expensive WinRadio G31 Excalibur I have been using previously (running with the G33 hack software).

Not that I'm likely to really use go2MONITOR at big bandwidths – 1.6 MHz is probably fine for me – but for Pro's there's no doubt that having these "cheaper" SDRs would make absolutely no difference over using an expensive one such as those in the WinRadio range. In all honesty, I don't think I'll be holding on to the WinRadio for much longer – I'm more likely to get another RSPdx to cover this area of my monitoring.

On its own, as an SDR, the RSPdx is worth the money I'd say. I like it just as much as I do the AirSpy HF+ Discovery – the only real difference I can see between these two SDRs is the max bandwidth available.

For the full article please go to :
https://planesandstuff.wordpress.com/2020/02/28/sdrplay-rspdx-with-go2monitor/

Where you can leave feedback for the author, Tony Roper who kindly wrote this article and provided the development work necessary to get it working.