

Portable QO-100 SAT Station with 35cm Dish and Pluto SDR

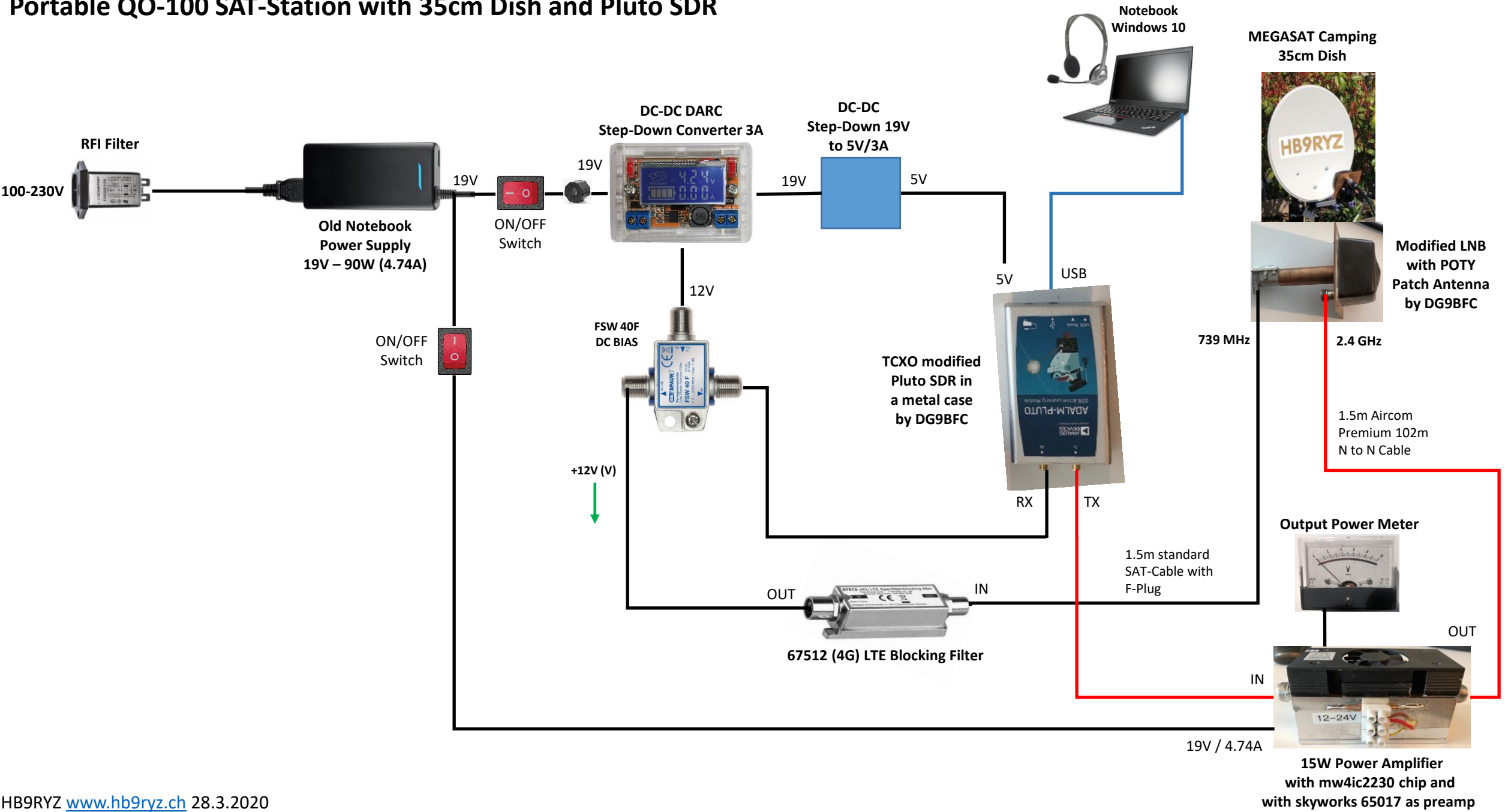
March 2020

HB9RYZ

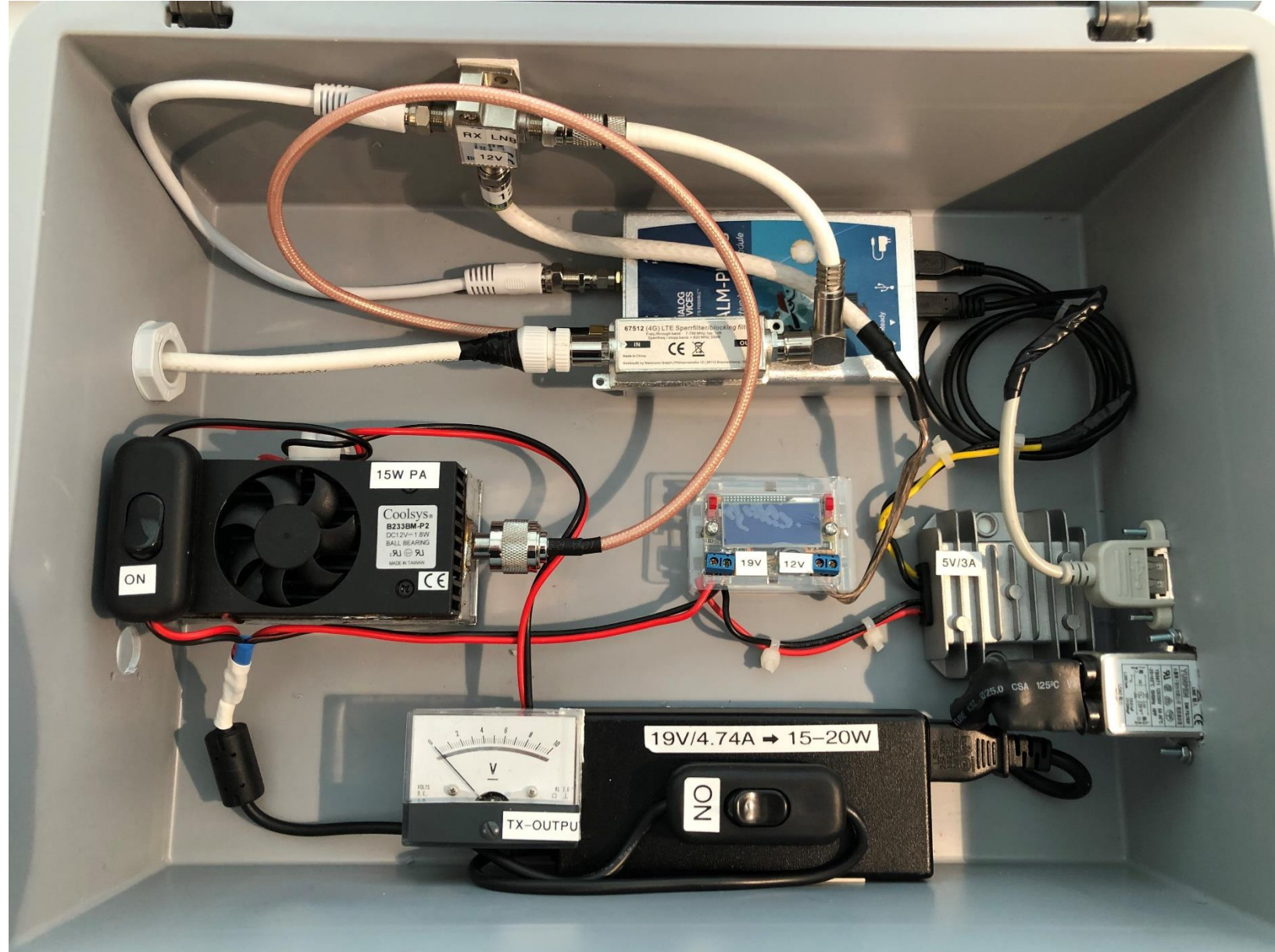
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Portable QO-100 SAT-Station with 35cm Dish and Pluto SDR



Portable QO-100 SAT Kit with 35cm Dish and Pluto SDR

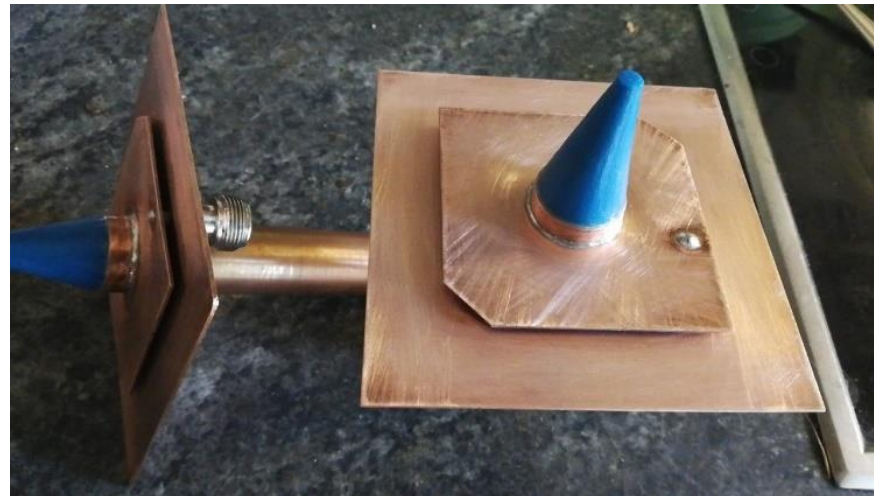
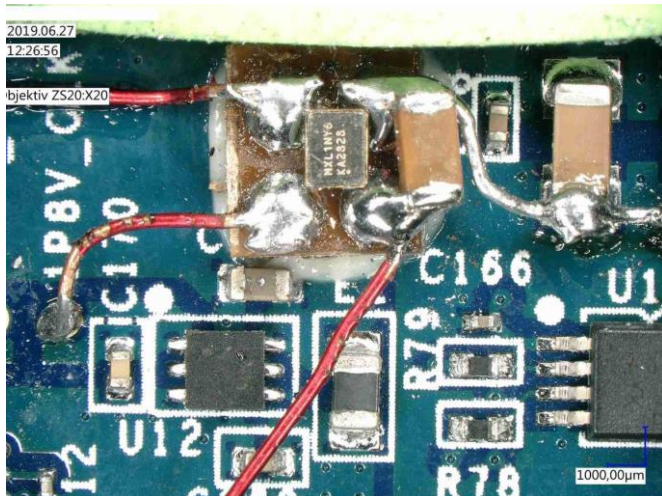
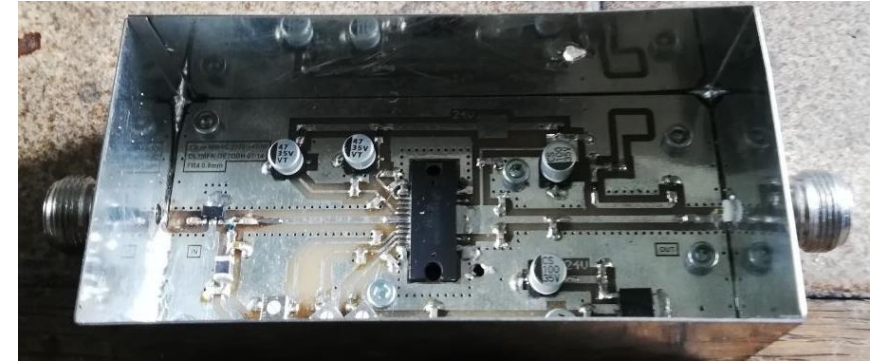


Portable QO-100 SAT-Station with 35cm Dish and Pluto SDR

The QO-100 portable SAT-Station is about 9kg incl. travel case and 11kg incl. tripod.

- MEGASAT Camping dish 35cm
- Pluto SDR TCXO modified and in metal case
- Patch-Antenne and LNB TCXO modified
- 10-15W Amplifier with skyworks 65017 as preamp (20 dB gain)
- mw4ic2230 (30-31 dB gain) as amplifier
- old Notebook Power Supply 19V and 4.74A
- DARC DC-DC Step-Down Converter from 19V to 12V
- DC-DC Step Down Converter from 19V to 5V for the Adam Pluto SDR
- SDR Console v3.0.22 with the beacon synchronization
- No GPSDO necessary to stabilize the frequency by using the beacon function of SDR Radio Console
- USB Sennheiser PC3 Headset for Notebook
- Griffin PowerMate USB VFO Knob
- 4-Port USB Hub

Special thanks to SIGI DG9BFC, who built the main parts and helped me to setup the solution with SDR Console v3.0.22 via a Teamviewer session online.



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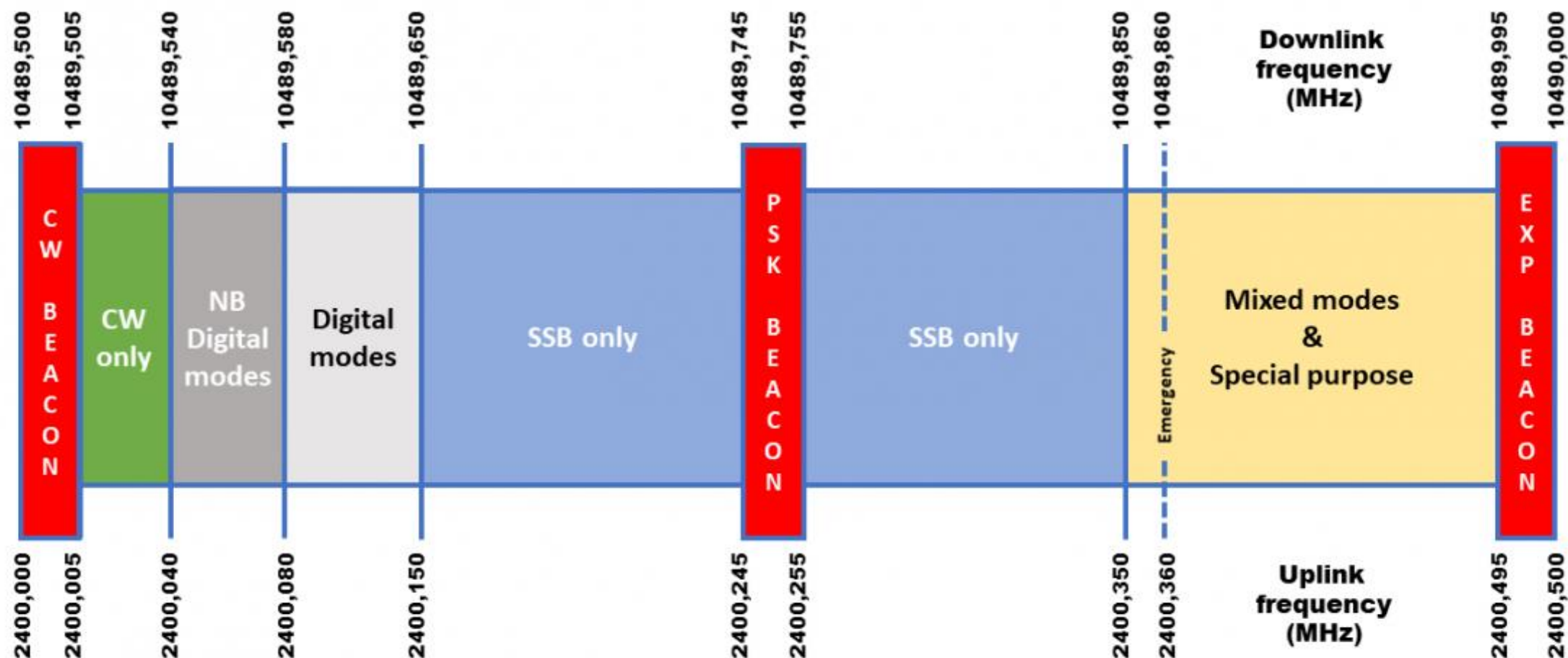


QO-100 SAT – Setup with SDR Radio Console v3.0.22 with Beacon-Correction/Stabalization



SDR Radio Console v3.0.22
Converter Settings
Down: 9749.986.9 MHz / 8.089.500.00
Bandwidth: 550 kHz

AMSAT QO-100 / P4A NB Transponder Bandplan



Mar 18th 2020

AMSAT QO-100 / P4A NB Transponder Bandplan



Uplink		Downlink		Available [MHz]	Comment
Start [MHz]	End [MHz]	Start [MHz]	End [MHz]		
		10489,500	10489,505	0,005	Lower Beacon 10489,500 MHz, CW F1A, + guard band
2400,005	2400,040	10489,505	10489,540	0,035	CW only
2400,040	2400,080	10489,540	10489,580	0,040	digimodes (500 Hz max. BW)
2400,080	2400,150	10489,580	10489,650	0,070	digimodes (2700 Hz max. BW)
2400,150	2400,245	10489,650	10489,745	0,095	SSB only (2700 Hz max. BW)
		10489,745	10489,755	0,010	Middle Beacon 10489,750 MHz, 400 Bit/s BPSK + guard band
2400,255	2400,350	10489,755	10489,850	0,095	SSB only (2700 Hz max. BW)
2400,350	2400,495	10489,850	10489,995	0,145	mixed modes (2700 Hz max. BW) & special purpose
		10489,995	10490,000	0,005	Experimental Beacon 10490,000 MHz, CW and other modulations + guard Band

QO-100 SAT – Footprint

