

New DX-Patrol QO-100 Up converter MK3

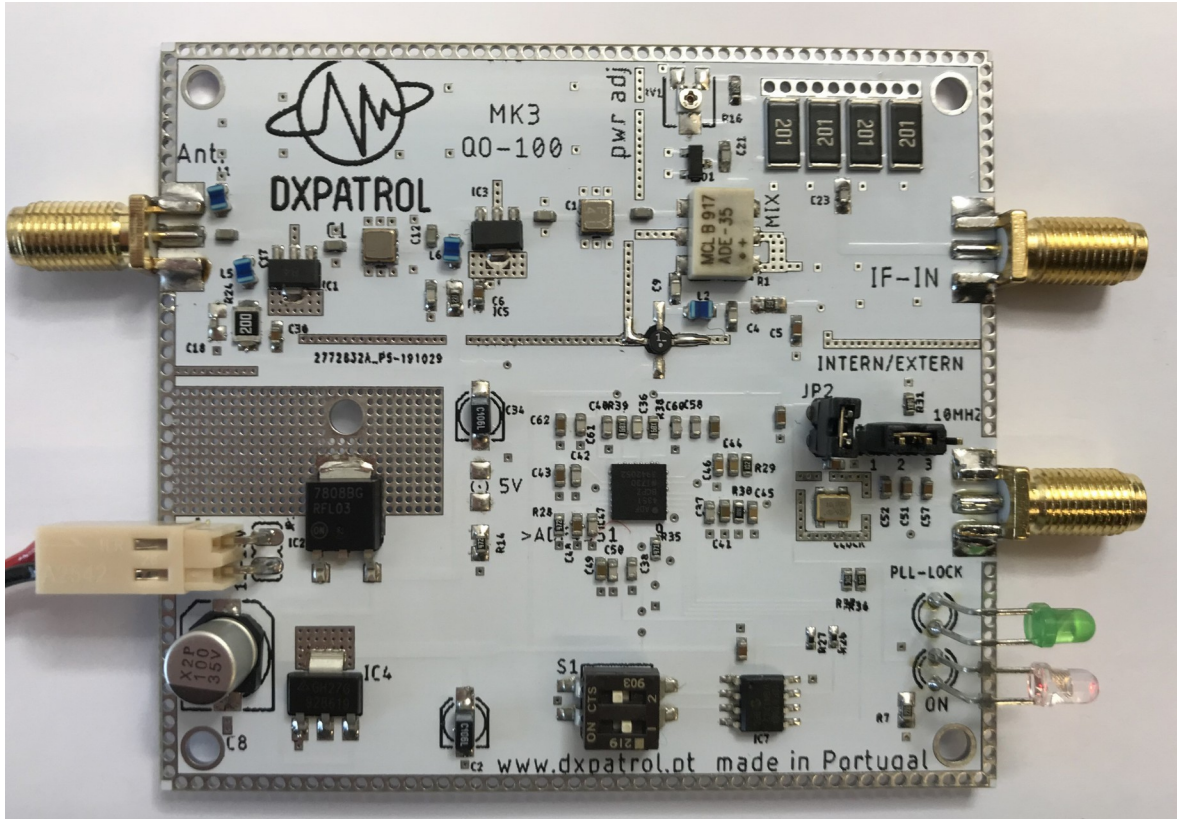


fig 1, Upconverter full assembled PCB

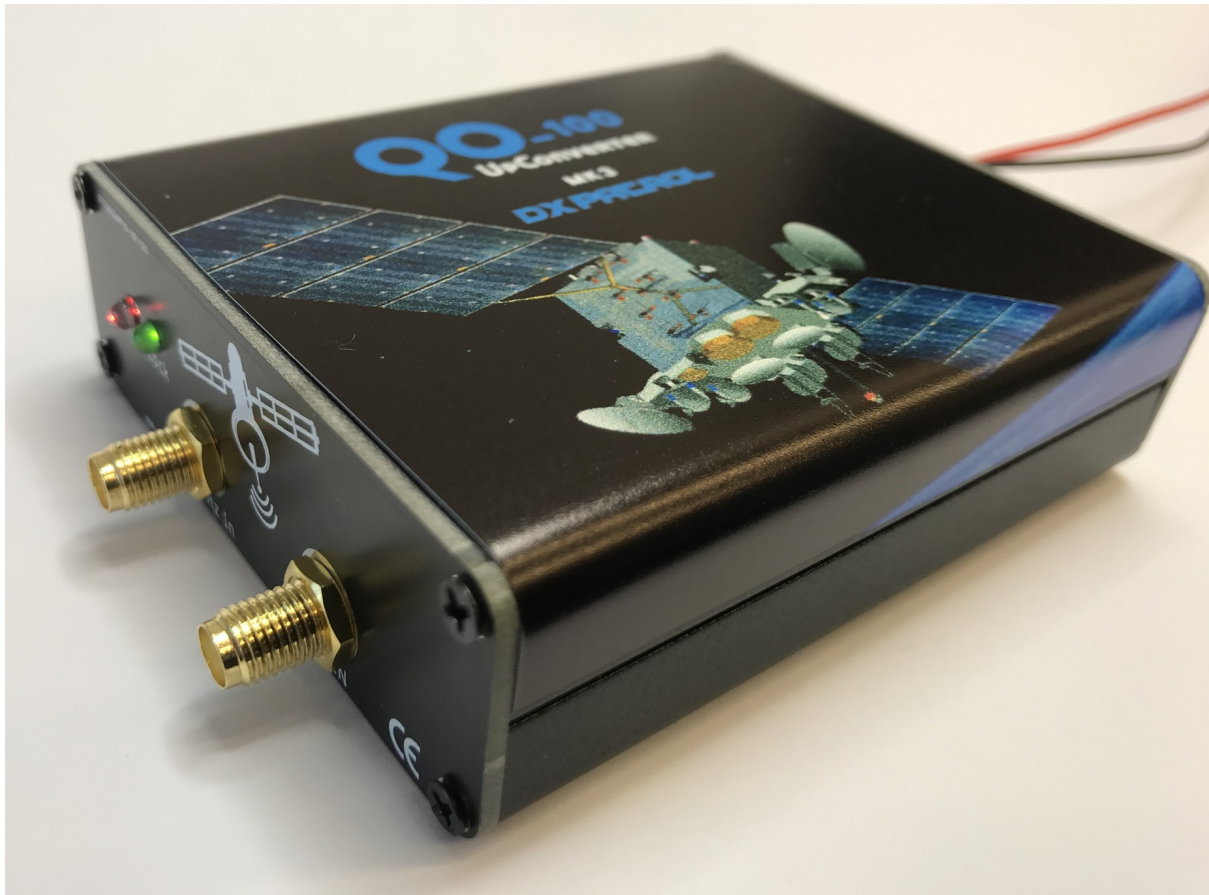
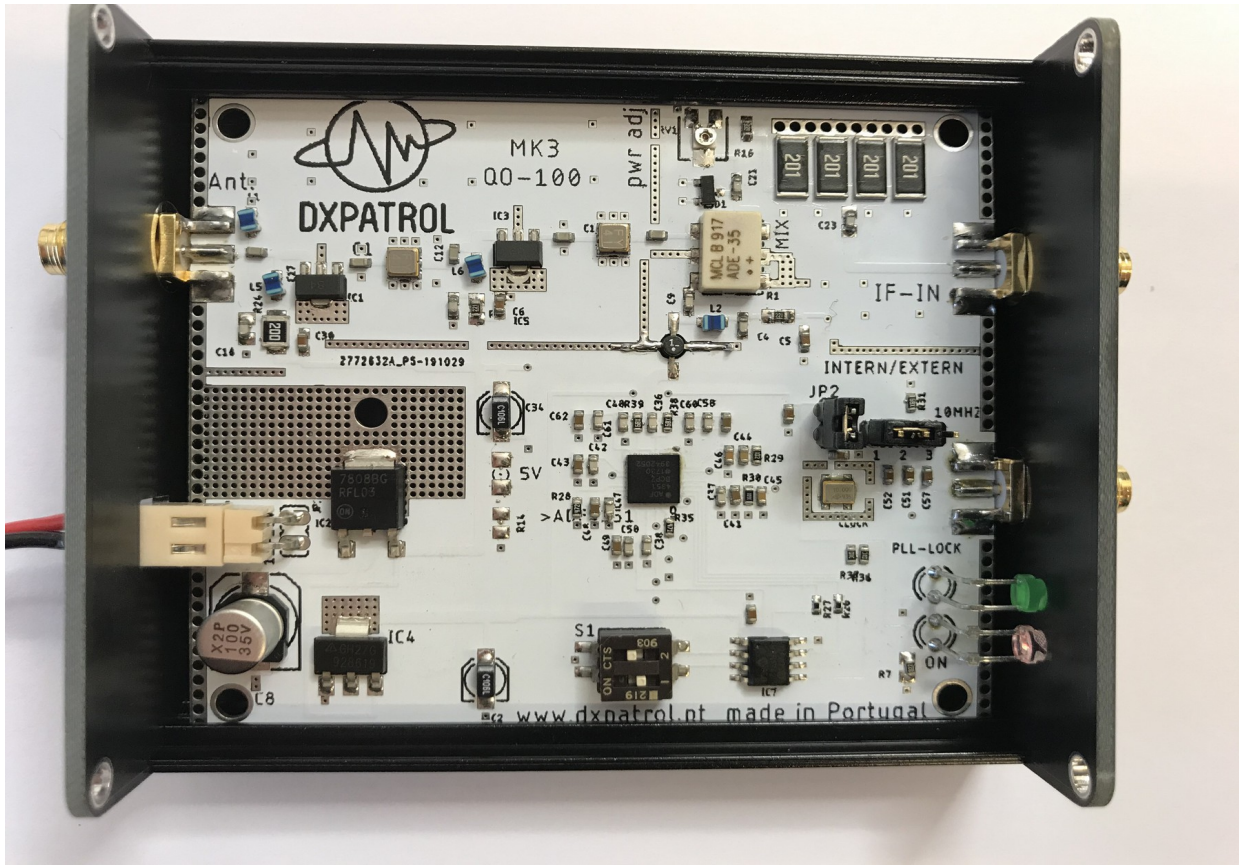


Fig 1.1 MK3 upconverter housing

- Full lockable into a internal TCXO 10 Mhz reference or a external GPSDO
- Extreme accuracy and precision transmission frequency.
- Local Oscillator has 4 factory pre-programmed frequencies for 4 IF usages. (*see table*)
- Easy selection by dip switch (s1) on board.
- Clean and stable signal.
- Spurious emissions = < 50dB
- 200mW output 23dBm
- Local Oscillators uses a Analog Devices AF4351 synthesizer
- locked into **10MHz TCXO Clipped Sine Wave Oscillator Frequencies Stability 500ppb**
- power supply 10 to 15V
- Current consumption 300mA
- Dimensions: 77mm/67mm
- Connectors SMA
- PLL Lock Green LED indication
- RF input 1 to 3 W (*6W absolute maximum*)
- Metal case optional





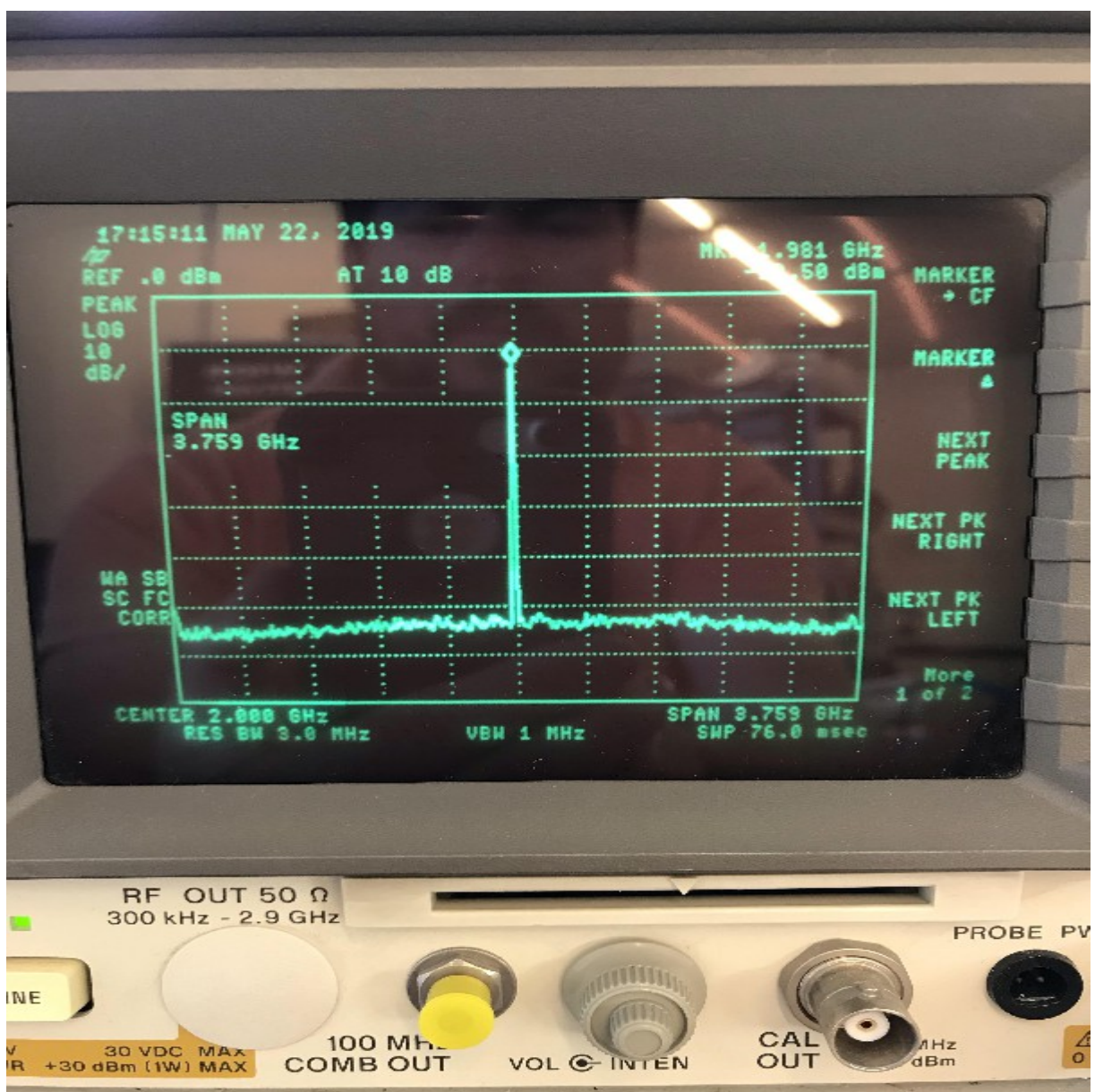


Fig 2 spectrum view 3,8Ghz span (local oscillator)

IF 28MHz *	RF 2372Mhz	
IF 144MHz	RF 2256MHz	
IF 432MHz	RF 1968MHz	
IF 1296MHz	RF 1104MHz	

Table 1. IF frequencies options

External 10MHz reference:

- Remove JP2 Off (this jumpers turns OFF the TCXO; this avoid any dual reference signal on input resulting in erratic output signal.)
- Swap JP1 from Internal position, to External position

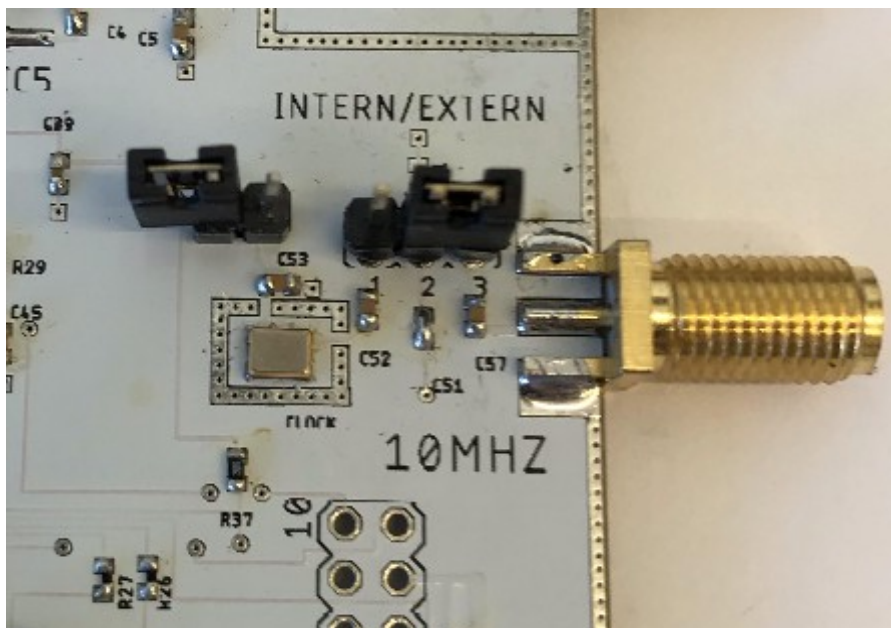


fig 3 external 10Mhz reference jumper selection

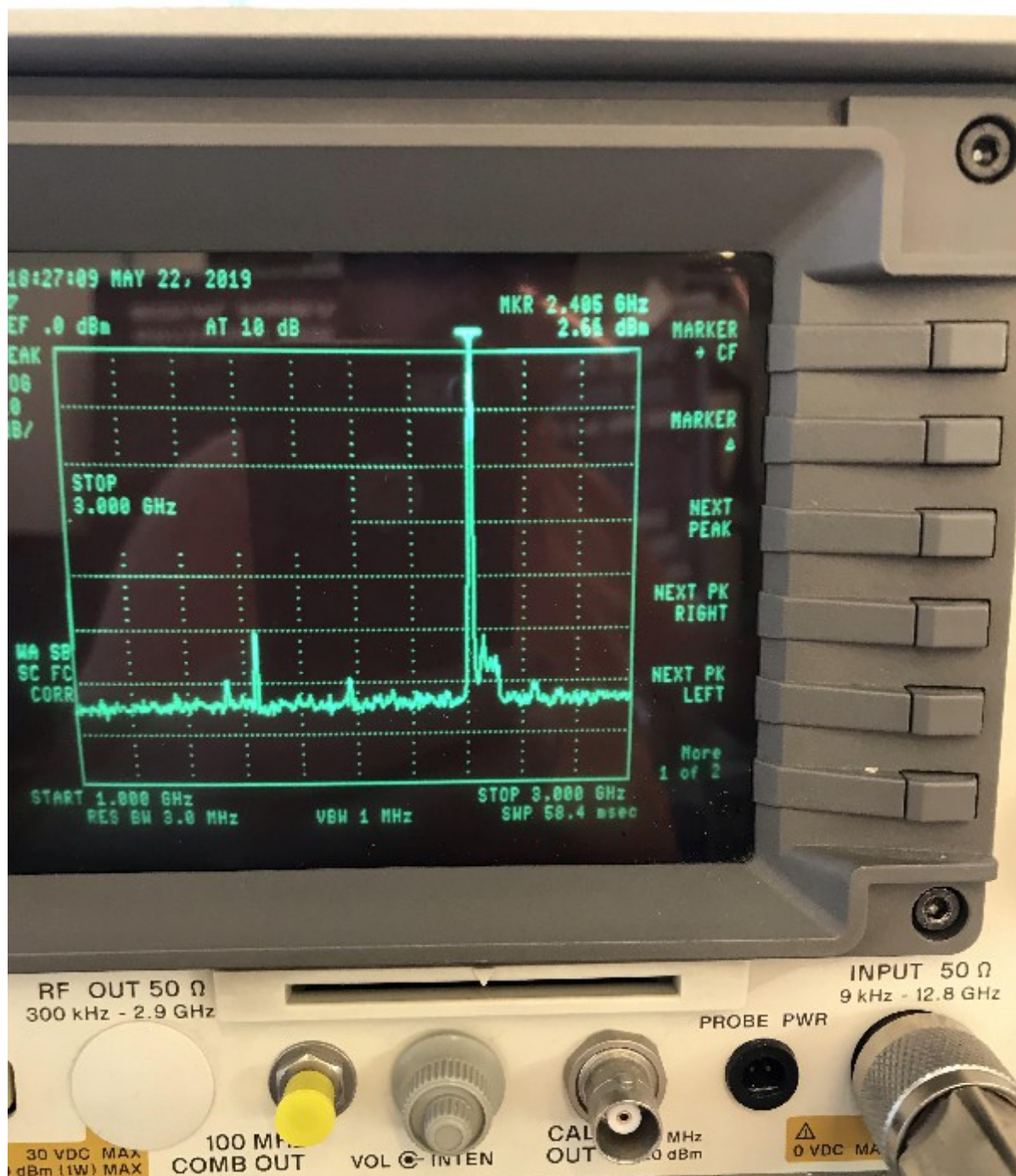


Fig 5 Output signal on 2400MHz (LO leakage 53dBs below)

- **Low IF input can increase the converter spurious emissions. Using this IF, some external Band Pass Filters might be needed between the converter and power amplifier.*
- *144Mhz and UP IFs are well recommended.*