

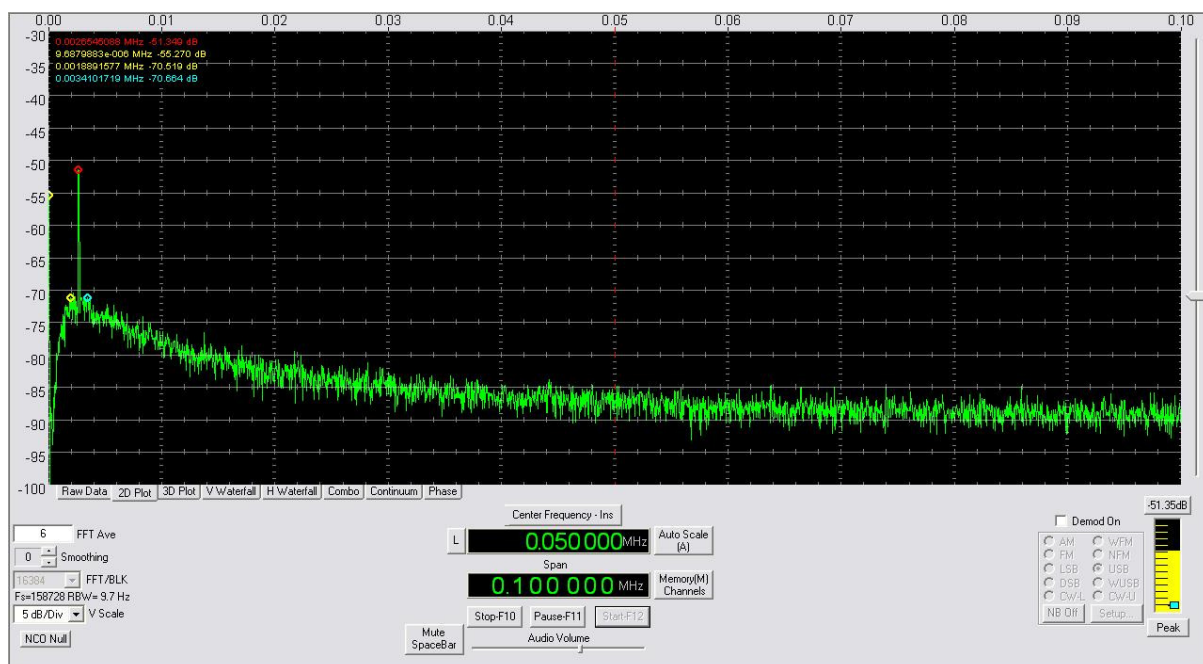
Optical Receiver Head Frequency Response

Receiver Head Detail:

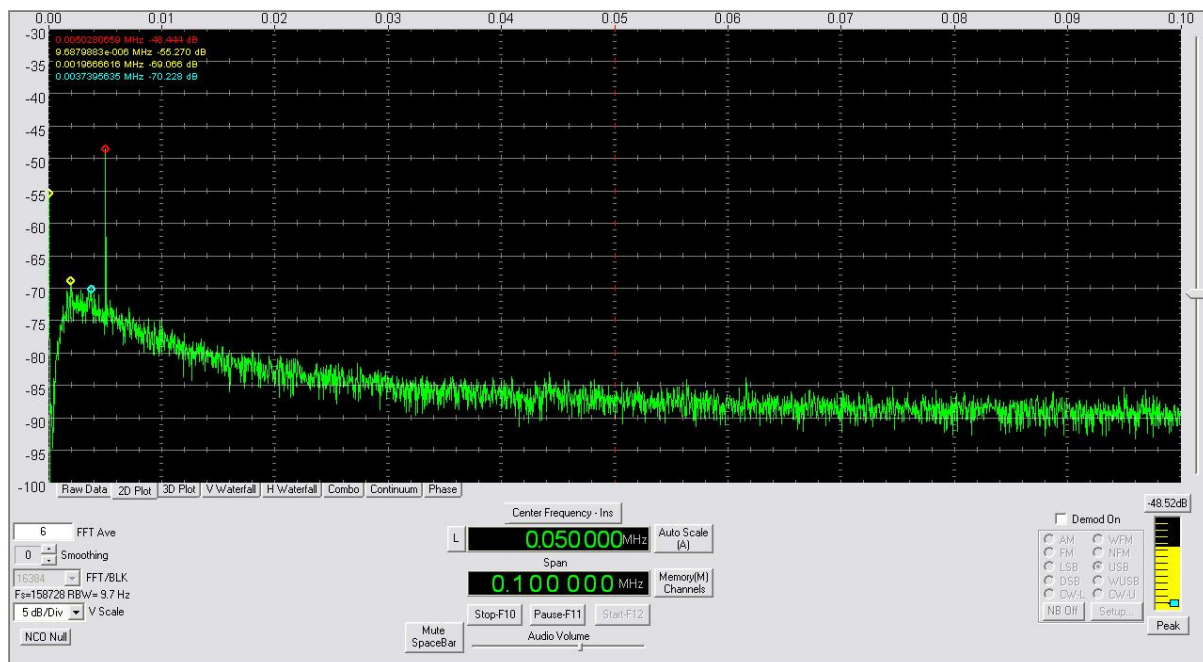
BPW34 2 * 10M Ω resistors / 1nF. Input FET 2N3820 (I_d 5mA, V_d 5V) cascode with BC109 (I_c 0.5mA) , NE5532 buffer

Source, 3V RMS sinewave from a signal generator, through 130k Ω resistor to standard 5mm red LED placed in the Rx tube. Diffused and attenuated by approx 10mm of loosely scrunched tissue paper, LED to detector distance about 20mm. The whole assembly was then placed in dark screening

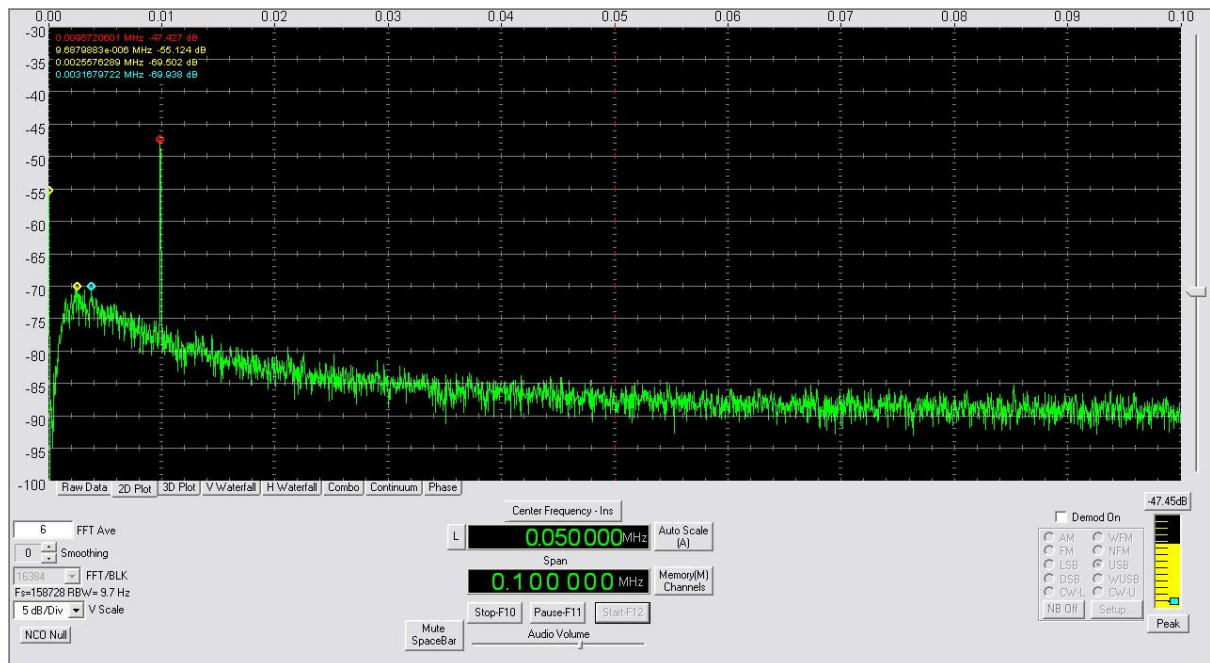
The Plots show Signal to Noise at the optical Rx output received on an SDR-IQ as the source was tuned over 3 to 125kHz



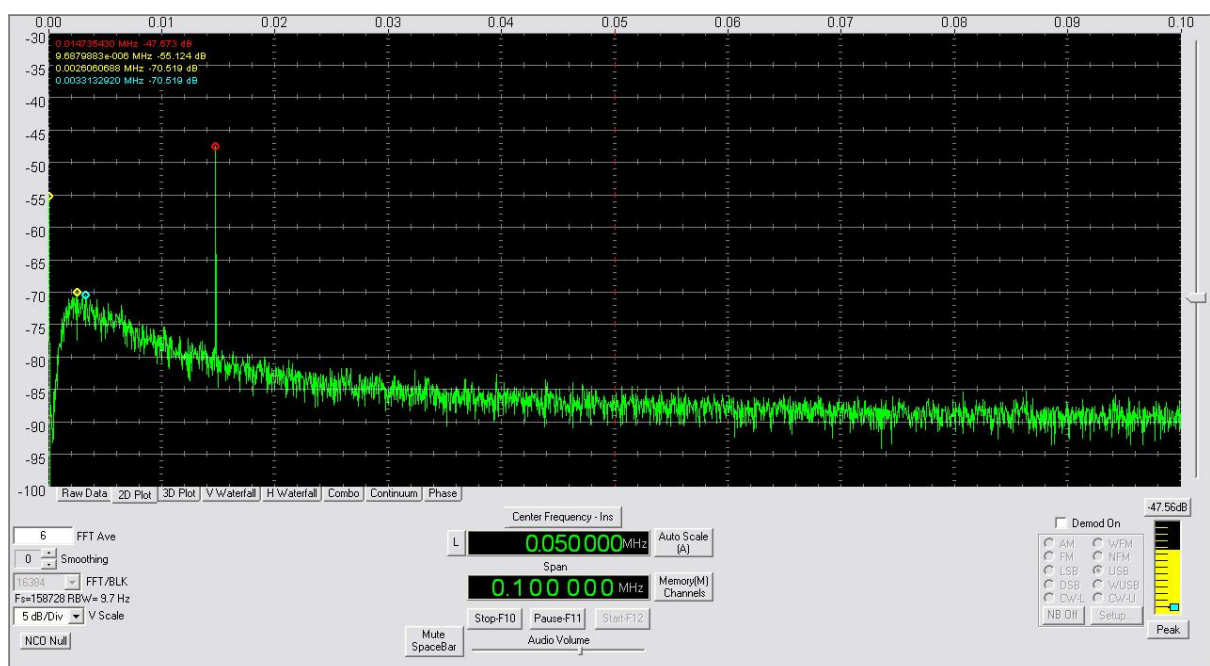
3kHz



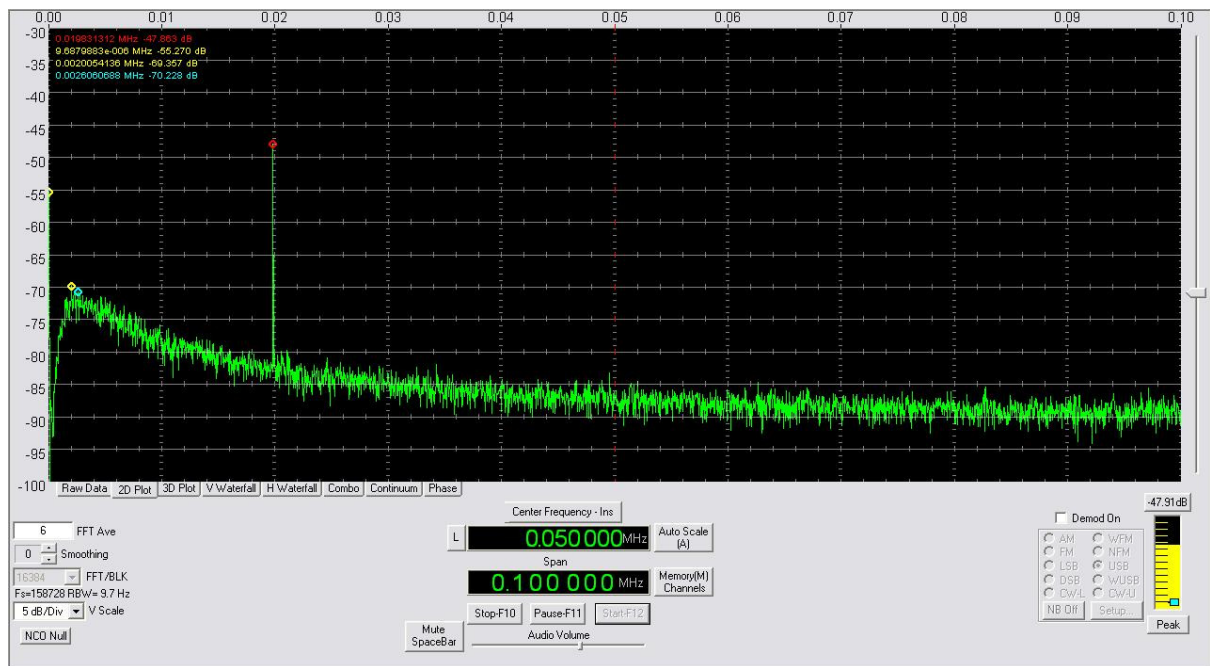
5kHz



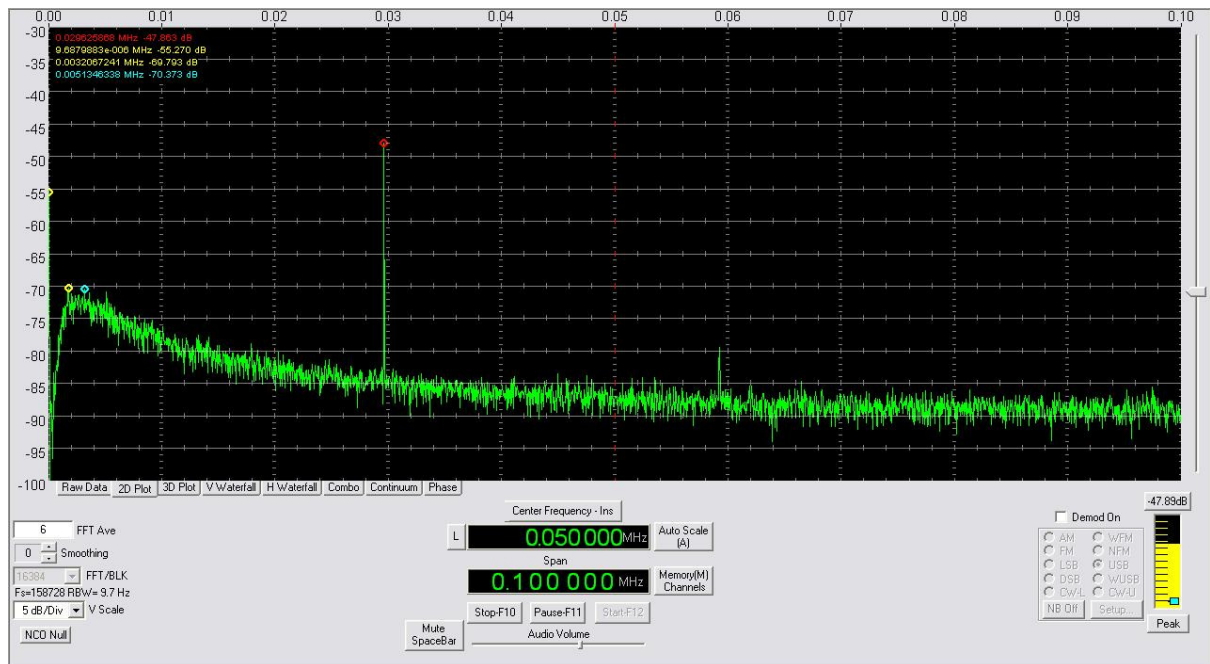
10 kHz



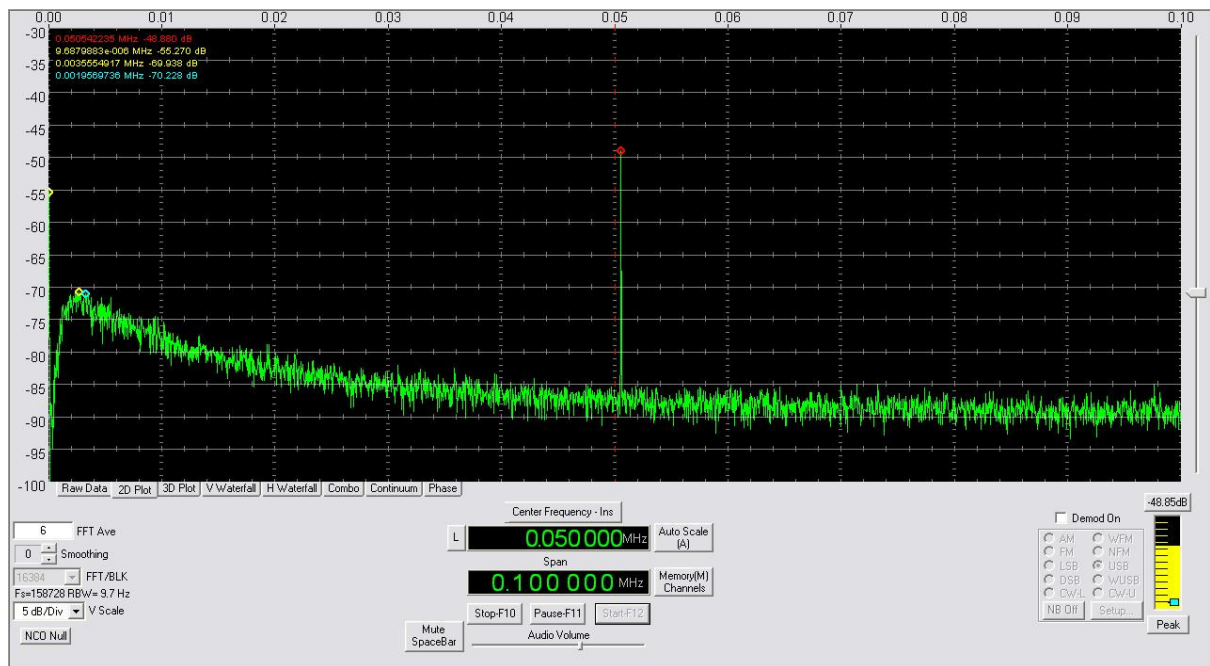
15kHz



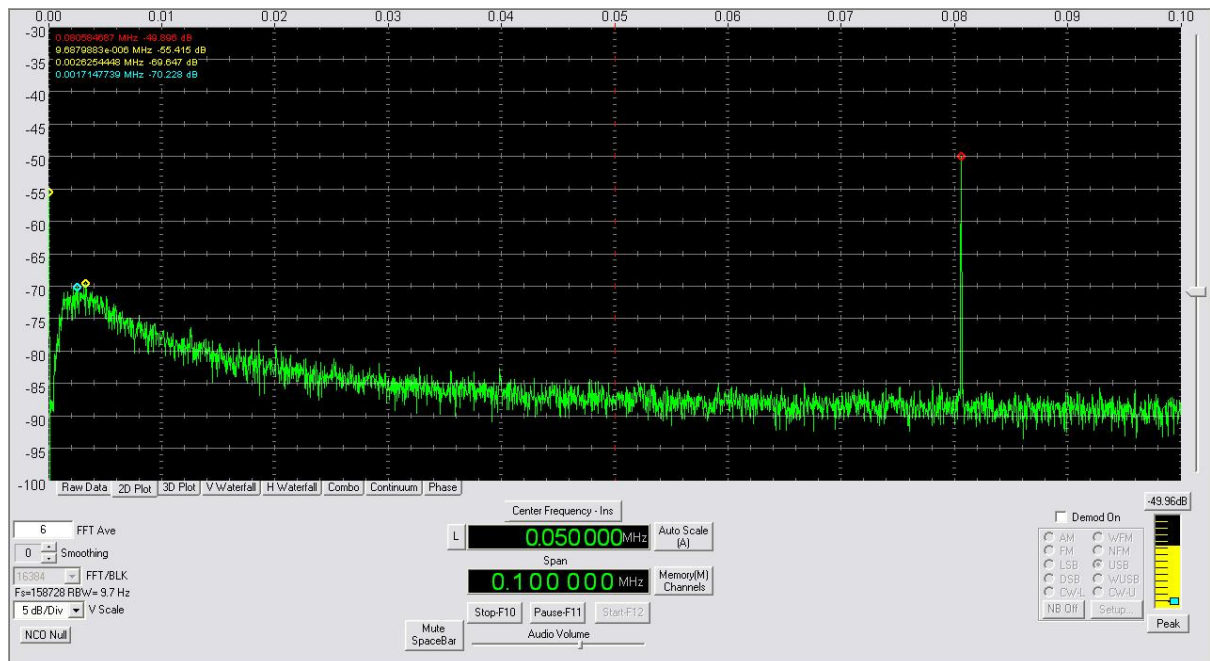
20kHz



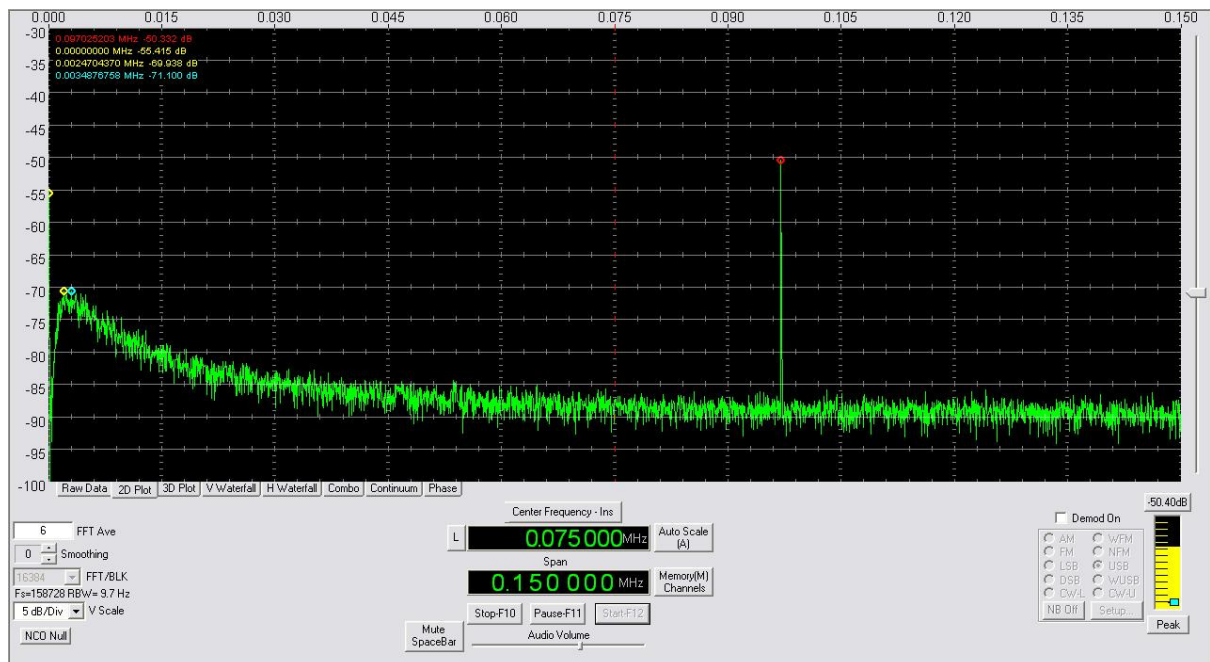
30kHz



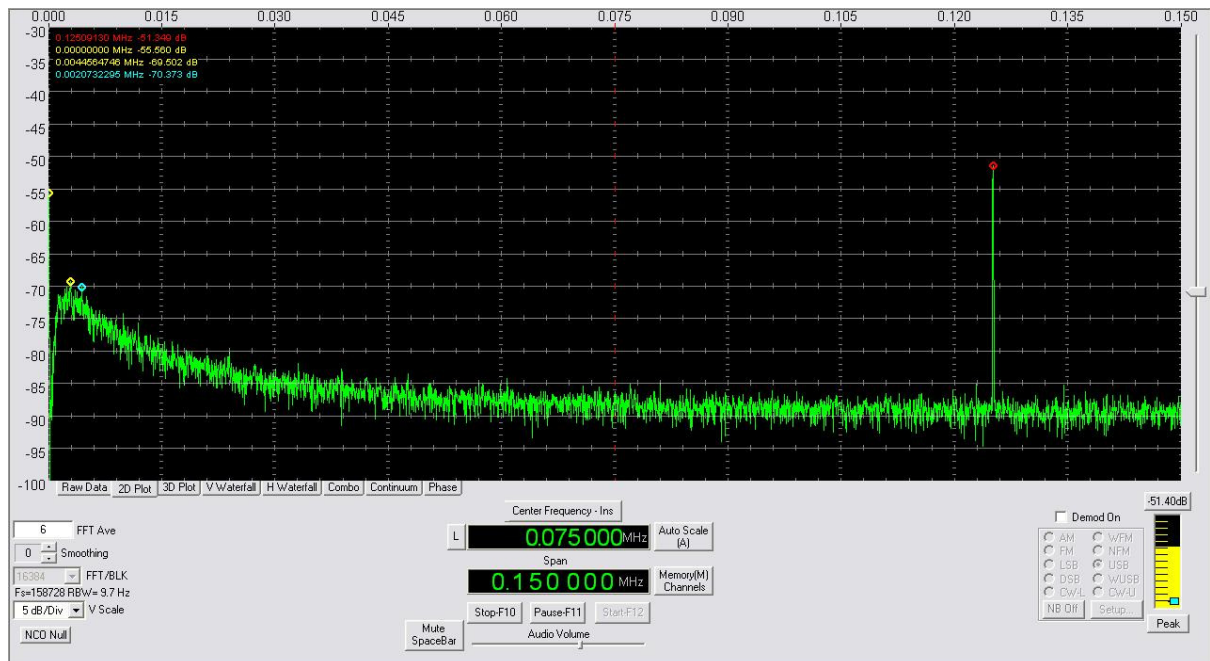
50kHz



80kHz



100kHz



125kHz