

RADIO & Noise Bandpass	Band	MDS HP 8648D (dbm)	BSF Notch 4661 (Khz)	P <sub>TOT</sub> 4661 ATT ADC Clip (dbm)	P <sub>TOT</sub> 4220 ADC Clip (dbm)	P <sub>TOT</sub> 4220 3db Noise (dbm)	B <sub>RF</sub> (calc) (Khz)	B <sub>IF</sub> (hz)	BWR (calc) (db)	NPR From SDR Display	NPR ADC Clip (calc)	NPR 3db Noise (calc)	COMMENTS
<b>Atlas 210X LE</b>	Analog Transceiver from <b>1979</b>				Audio from speaker jack on radio				2.7 Khz crystal filter			factory VFO & PC120 mixer (1N4148 diodes)	
60-4100 (Khz)	80M	-121	3886	-23.4		-23.6	4040	2700	31.8			66	
316-8160 (Khz)	40M	-116	7600	-44.2		-44.7	7844	2700	34.6			37	VFO phase noise and 2nd/3rd harmonics
<b>Atlas 210X LE</b>	Analog Transceiver from <b>1979</b>				Audio from speaker jack on radio				2.7 Khz crystal filter			Si570 VFO & PC100 with HP HSMS-2829 mixer	
60-4100 (Khz)	80M	-126	3886	-23.8		-24.0	4040	2700	31.8			70	
316-8160 (Khz)	40M	-127	7600	-25.7		-25.9	7844	2700	34.6			67	
<b>Atlas 210X LE</b>	Analog Transceiver from <b>1979</b>				Audio from speaker jack on radio				2.7 Khz crystal filter			Si570 VFO & MCL ADE-1 mixer & diplexer	
60-4100 (Khz)	80M	-124	3886	-29.3		-29.6	4040	2700	31.8			63	
316-8160 (Khz)	40M	-124	7600	-26.6		-26.9	7844	2700	34.6			63	
<b>Elad FDM Duo</b>	SDR Transceiver from <b>2017</b>				Audio from speaker jack on radio				DSP Filter				
60-2600 (Khz)	160M	-125	2438	-21.1	-21.2	-19.5	2540	2400	30.2	71	74	75	
60-4100 (Khz)	80M	-127	3886	-21.3	-21.4	-22.9	4040	2400	32.3	69	73	72	
60-5600 (Khz)	60M	-127	5340	-21.3	-21.4	-20.7	5540	2400	33.6	70	72	73	
316-8160 (Khz)	40M	-127	7600	-21.2	-21.3	-21.7	7844	2400	35.1	69	71	70	
<b>Elad FDM S2</b>	SDR Receiver from <b>2016</b>				Audio from PC's sound card				DSP Filter				
60-2600 (Khz)	160M	-125	2438	-20.0	-20.0	-20.0	2540	2400	30.2	71	75	75	
60-4100 (Khz)	80M	-125	3886	-20.0	-20.0	-23.1	4040	2400	32.3	69	73	70	
60-5600 (Khz)	60M	-125	5340	-20.1	-20.1	-20.0	5540	2400	33.6	70	71	71	
316-8160 (Khz)	40M	-125	7600	-20.0	-20.0	-21.1	7844	2400	35.1	69	70	69	
<b>Icom IC-7100</b>	Analog transceiver from <b>2016</b>				Audio from speaker jack on radio				DSP Filter				
60-2600 (Khz)	160M	-123	2438	-24.7		-25.0	2540	2400	30.2			68	
60-4100 (Khz)	80M	-124	3886	-24.8		-25.1	4040	2400	32.3			67	
60-5600 (Khz)	60M	-124	5340	-22.6		-22.9	5540	2400	33.6			68	
316-8160 (Khz)	40M	-124	7600	-20.6		-20.9	7844	2400	35.1			68	
<b>Icom IC-7300</b>	SDR Transceiver from <b>2016</b>				Audio from speaker jack on radio				DSP Filter				
60-2600 (Khz)	160M	-125	2438	-16.4	-16.3	-19.3	2540	2400	30.2			79	76
60-4100 (Khz)	80M	-125	3886	-17.7	-17.6	-22.5	4040	2400	32.3			75	70
60-5600 (Khz)	60M	-125	5340	-15.4	-15.3	-19.9	5540	2400	33.6			76	72
316-8160 (Khz)	40M	-125	7600	-17.6	-17.5	-21.9	7844	2400	35.1			72	68
<b>Yaesu 857D</b>	Analog Transceiver from <b>2005</b>				Audio from speaker jack on radio				Collins 2.3 Khz filter				
60-2600 (Khz)	160M	-128	2438	-31.9		-31.8	2540	2300	30.4			66	preamp on
60-4100 (Khz)	80M	-130	3886	-31.9		-31.8	4040	2300	32.4			66	preamp on
60-5600 (Khz)	60M	-114	5340	-16.0		-15.9	5540	2300	33.8			64	preamp off - FT-897 data from Adam
60-5600 (Khz)	60M	-130	5340	-34.0		-34.0	5540	2300	33.8			62	preamp on - FT-897 data from Adam
316-8160 (Khz)	40M	-114	7600	-16.2		-16.3	7844	2300	35.3			62	preamp off
316-8160 (Khz)	40M	-130	7600	-29.0		-28.9	7844	2300	35.3			66	preamp on

**NOTES:**

Scientific Atlanta 4661 Noise Generator used for generating NPR noise signals

The 4661 Band Stop Filters were crystal filters except for the 2438 filter which was LC

Boonton 4220A with 4E sensor used for power measurements

Singer 323<sup>07</sup> used for audio noise measurements

ADC Clip point derived by reducing noise signal in 0.1 db increments until ADC Clip light goes out

All radios had front end band pass filters except for the Elad Duo and Elad S2 radios

Using an AM Broadcast (MW) High Pass Filter on the Elad Duo and S2 improved the NPR results by about 2 db