

Sherwood Engineering HF Test Results

Model Apache ANAN-7000DLE Serial # none Test Date: 2/22/2018

IF BW 2400 –6 / -60, Hz /	Ultimate	>110	dB
IF BW 500 –6 / -60, Hz /	Ultimate	>110	dB

Front End Selectivity (A – F)	Bandpass, generally half to octave		B
First IF rejection +/- kHz	Does not apply		dB

Dynamic Range with radio, no preamp *

Dynamic Range 20 kHz		103	dB
Dynamic Range 10 kHz		103	dB
Dynamic Range 5 kHz		103	dB
Dynamic Range 2 kHz		103	dB

* Preamp is in the circuit all the time. Attenuation can be added.

ADC overload above receiver noise floor, AGC ON		126	dB
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Reciprocal Mixing Dynamic Range

Spacing kHz		dB	
2.5		109	dB
5		111	dB
10		113	dB
15		114	dB
20		114	dB
25		115	dB
30		115	dB
40		116	dB
50		116	dB
80		117	dB
100		117	dB
200		116	dB
300		120	dB
400		120	dB
500		121	dB

Phase noise (normalized) at 2.5 kHz spacing:	-136		dBc/Hz
Phase noise (normalized) at 5 kHz spacing:	-138		dBc/Hz
Phase noise (normalized) at 10 kHz spacing:	-140		dBc/Hz
Phase noise (normalized) at 20 kHz spacing:	-140		dBc/Hz
Phase noise (normalized) at 25 kHz spacing:	-141		dBc/Hz
Phase noise (normalized) at 30 kHz spacing:	-141		dBc/Hz
Phase noise (normalized) at 40 kHz spacing:	-142		dBc/Hz
Phase noise (normalized) at 50 kHz spacing:	-143		dBc/Hz
Phase noise (normalized) at 80 kHz spacing:	-144		dBc/Hz
Phase noise (normalized) at 100 kHz spacing:	-144		dBc/Hz
Phase noise (normalized) at 200 kHz spacing:	-143		dBc/Hz
Phase noise (normalized) at 300 kHz spacing:	-147		dBc/Hz
Phase noise (normalized) at 400 kHz spacing:	-147		dBc/Hz
Phase noise (normalized) at 500 kHz spacing:	-148		dBc/Hz
Noise floor, SSB bandwidth 14 MHz, no preamp	-124		dBm
Noise floor, SSB bandwidth 14 MHz, Preamp 1 On			dBm
Noise floor, SSB bandwidth 14 MHz, Preamp 2 On			dBm
Sensitivity SSB at 14 MHz, no preamp	0.43		uV
Sensitivity SSB at 14 MHz, Preamp 1 On			uV
Sensitivity SSB at 14 MHz, Preamp 2 On			uV
Noise floor, 500 Hz, 14.2 MHz, no preamp	-131		dBm
Noise floor, 500 Hz, 14.2 MHz, Preamp 1 On			dBm
Noise floor, 500 Hz, 14.2 MHz, Preamp 2 On			dBm
Noise floor, SSB, 50.125 MHz, no preamp	-133		dBm
Noise floor, SSB, 50.125 MHz, Preamp 1			dBm
Noise floor, SSB, 50.125 MHz, Preamp 2			dBm
Sensitivity, SSB, 50.125 MHz, no preamp	0.16		uV
Sensitivity, SSB, 50.125 MHz, Preamp 1			uV
Sensitivity, SSB, 50.125 MHz, Preamp 2			uV
Noise floor, 500 Hz, 50.125 MHz, no preamp	-140		dBm
Noise floor, 500 Hz, 50.125 MHz, Preamp 1 On			dBm
Noise floor, 500 Hz, 50.125 MHz, Preamp 2 On			dBm
Signal for S9, no preamp	-73 dBm	50	uV*
Signal for S9, Preamp 1			uV
Signal for S9, Preamp 2			uV
* Calibration error 2 dB			

AGC threshold at 3 dB level drop, AGC gain = 110	0.9	uV
AGC threshold at 3 dB level drop, AGC gain = 105	1.2	uV
AGC threshold at 3 dB level drop, AGC gain = 100	2.2	uV
AGC threshold at 3 dB level drop, AGC gain = 95	3.9	uV
AGC threshold at 3 dB level drop, AGC gain = 90	7.1	uV

Notes:

Tested with software release v3.4.7.0.

Spurious sidebands when measuring a test signal down 72 dB at approximately 180 Hz.

Dither and Random showed no noise floor degradation at all.

LNA on 6 meters does not appear to be switchable. (On all the time)

Bandpass filter also did not appear to be switchable. (On all the time)

dBm calibration of "S meter" read 2 dB low.

Calibration feature not working properly.