

Test Site Services. Inc.

EMI Test Report Addendum

For Acom International
Acom 1000A

Emissions

FCC, Part 97 Sub Part D
External RF Power Amplifier

Test # B00139

Test Site Services, Inc.
P.O. Box 766
Marlboro, MA 01752
U.S.A.
Phone/Fax: (508) 481-1684

*This report shall not be reproduced, in whole or in part without the written approval of Test Site Services Inc.
This report must not be used by the recipient to claim product endorsement by NVLAP or any other agency of the U.S. Government*

**EMI Test Report Addendum
for
Acom International**

Test Number : B00139

Product Name : Acom 1000A

Regulation : FCC, Part 97 Sub Part D
: External RF Power Amplifier

Date: 12/4/00

**Report Reviewed
& Accepted by:**



K. Petrov

Acom International

157 Horse Pond Road
Sudbury, MA 01776
Phone: (978) 440-7555
Fax : (978) 440-9008

Report Issued By:



Richard L. Wiedeman, Laboratory Director

Tested By:



Tom Charron, Test Engineer

Tested By:



K. Raymond, Test Engineer

This test report is not valid without the signatures of Test Site Services, Inc. personnel.

EUT Description

The EUT (Acom 1000A) is a Linear Amplifier for Amateur Radio.

The tests were run in an identical configuration as in original test including the following support equipment;

- 1) Six Meter Transceiver
- 2) Power Supply
- 3) Band Pass Filters

REASON FOR TEST

In response to O.E.T. request for additional information :

To: Richard Wiedeman, null
From: Andy Leimer
aleimer@fcc.gov
FCC Application Processing Branch

Re: FCC ID OITAA1000
Applicant: ACOM International, Inc.
Correspondence Reference Number: 17041
731 Confirmation Number: EA98739

Q) Explain the types of modulation used for the Power Gain tests. Provide additional data as required for different types of modulations.

A) No modulation was used for power gain testing. All measurements where made using continuous wave type (CW) emission.

Q) The test at 52 MHz indicates that the input power was 35 Watts. Section 97.317(a)(3) of the Rules states that the amplifier should be driven with at least 50 Watts. The amplifier drive power used for the test was 35 Watts. Please explain why the minimum drive power was not used for this test.

A) Due to problems associated with support equipment 35 watts was the maximum achievable power input at 52 MHz. during original test. The EUT was re-tested on 12/4/00 to display Power, Gain and Harmonics with input power levels both greater and lesser than 50 watts. See data section for detail.

CHANGES MADE DURING TEST

None

DEVIATIONS FROM STANDARD TEST METHOD

None

Test Summary

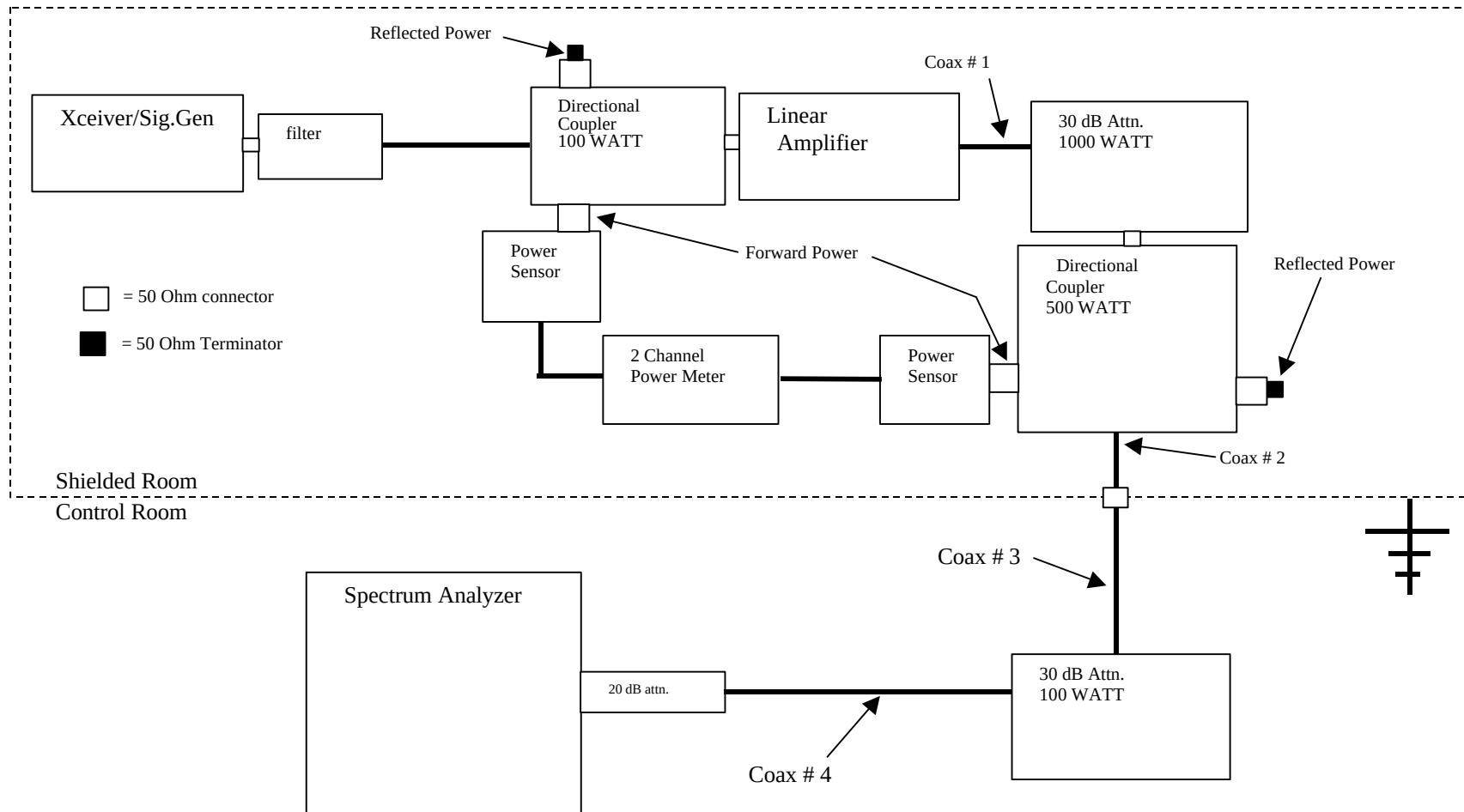
The Acom 2000A complied with FCC Part 97 Subpart D, 97.307 and 97.317 Limits for Amateur Radio equipment when tested in the system configuration defined herein.

The following table indicates the margins (i.e. difference between measurement point and limit) of the data points and their harmonics to the tenth order:

Results reflect amplifier as shipped with 24 and 28 MHz. Bands disabled and amplifier unlocked in the 24 and 28 MHz. Bands

Power Gain 97.317 (a) (1) (2) (3),(c) (6) (ii)				Spurious emissions 97.307 (d), (e)			
Frequency (Mhz.) f1	Power in (W)	Power out (W)	Gain dB	2f1 dBc	3f1 dBc	4f1 dBc	5-10f1 dBc
52.00	59.0	1175.0	13.00	-64.9	-78.9	-73.6	>-73.2
97.317 (c) (6) (i) was not capable of full power output when driven with < 50 watts							
52.0	41.0	776.0	12.80				

See data section for additional information.



Correction Factor Power Meter Channel 1 = Attn. Directional Coupler Forward Power

Correction Factor Power Meter Channel 2 = Coax # 1 + 1 KW Attn + Attn Forward Power 500 W Coupler

Corection Factor Spectrum Analyzer = Coax # 1 + 1 KW Attn + Coupler # 2 Power Out + Coax 2 + 3 with Connector + 100 W Attn + Coax # 4+20dB attn

Test Equipment List

#	Equipment Type	Manufacturer	Model #	Serial #	Cal Date	Cal Due	Used
1	Spectrum Analyzer	Hewlett-Packard	8568B	2207A01917	8/9/99	8/9/00	X
2	Quasi-Peak Adapter	Hewlett-Packard	85650A	2043A00249	8/9/99	8/9/00	X
3	RF Pre-Selector	Hewlett-Packard	85685A	2648A00500	8/9/99	8/9/00	X
4	Spectrum Analyzer	Hewlett-Packard	8566B	2532A02250	7/5/00	7/5/01	
5	Quasi-Peak Adapter	Hewlett-Packard	85650A	2521A00665	7/5/00	7/5/01	
6	RF Pre-Selector	Hewlett-Packard	85685A	2510A00186	7/5/00	7/5/01	
7	EMI Receiver	Rhode & Schwarz	ESV33	8726315	11/11/99	12/7/01	
8	Comb Generator	Com Power	CG-520	20129	5/18/99	5/22/01	
9	RF Probe	Fischer	F-33-1	367	2/8/00	2/8/01	
10	RF Pre-Amplifier	Hewlett Packard	8447D	1937A02850	5/18/00	5/18/01	
11	Pre-Amplifier	Hewlett-Packard	8449B	3008A00952	5/18/00	5/18/01	
12	1 KW 30 dB Atten.	Bird	8327-300	1841	6/20/00	6/20/01	X
13	100 W 30 dB Atten.	Bird	8323	321	6/20/00	6/20/01	X
14	20 dB Atten.	JFW	50HF-020		6/20/00	6/20/01	X
15	20 dB Atten.	JFW	50F-020		6/20/00	6/20/01	X
16	10 dB Atten.	Stoddart Electro	90513	10276	6/20/00	6/20/01	X
17	Signal Generator	HewlettPackard	8642B	2551A00530	6/14/00	6/14/01	X
18	Amplifier	Kalmus	275LC-CE	86971	3/31/00	3/31/01	X
19	Power Meter	Boonton	4232A	21901	5/22/00	5/22/01	X
20	Power Sensor	Boonton	51011-EMC	21054	5/22/00	5/22/01	X
21	Power Sensor	Boonton	51011-EMC	21102	5/22/00	5/22/01	X
22	Directional Coupler	Werlatone	C5091	7231	5/18/00	5/18/01	X
23	Directional Coupler	Werlatone	C5091	7247	5/18/00	5/18/01	X

Appendix A

TEST DATA

Sheet1

EUT:	Acom 1000				Test Site Services Inc				Date:		12/04/2000	
Driven to Full Power						Data Sheet				Test Eng.		K. Raymond
	Tolerance							Tolerance			Tolerance	
	-0+ 0.3dB							-0+ 0.5dB			-0.05+ 0.85dB	
Freq	Coupler A	CH "A"	Amp Input	Amp Input	Coax 1	Atten B	Coupler B	CH "B"	Amp Output	Amp Output	Gain	
MHz	dB	dBm	dBm	Watts	dB	dB	dB	dBm	dBm	Watts	dB	
52.000	30	17.7	47.7	59	0.1	30	30	0.6	60.7	1175	13	
Driven with < 50 Watts												
	Tolerance							Tolerance			Tolerance	
	-0+ 0.3dB							-0+ 0.5dB			-0.05+ 0.85dB	
Freq	Coupler A	CH "A"	Amp Input	Amp Input	Coax 1	Atten B	Coupler B	CH "B"	Amp Output	Amp Output	Gain	
MHz	dB	dBm	dBm	Watts	dB	dB	dB	dBm	dBm	Watts	dB	
52.000	30	16.1	46.1	41	0.1	30	30	-1.2	58.9	776	12.8	
</												

Sheet1

EUT:	ACOM 1000		Test Site Services, Inc.					Date:	12/04/2000	
	Amateur		Data Sheet					Test Eng.	T. Charron	
	Amplifier									
	FUNDAMENTAL					HARMONIC				
Freq	Signal	Correction	Product		Freq	Signal	Correction	Limit	Margin	
	Strength	Factor	Level			Strength	Factor			
MHz	dBuV	dB	dBuV		MHz	dBuV	dB	dBuV	dB	
52.000	84.0	81.1	165.1							1
			0.0	f ₂	104.000	18.6	81.6	165.1	-64.9	2
			0.0	f ₃	156.000	4.35	81.9	165.1	-78.9	3
			0.0	f ₄	208.000	9.1	82.4	165.1	-73.6	4
			0.0	f ₅	260.000	9.1	82.8	165.1	-73.2	5
			0.0	f ₆	312.000	8.35	83	165.1	-73.8	6
			0.0	f ₇	364.000	5.3	83.2	165.1	-76.6	7
			0.0	f ₈	416.000	7.9	83.5	165.1	-73.7	8
			0.0	f ₉	468.000	3	83.6	165.1	-78.5	9
			0.0	f ₁₀	520.000	1.85	83.9	165.1	-79.4	10
A	B	C	D	E	F	G	H	I	J	
			[D=B+C]					[I=D1]	[J=G+H-I]	

