



## **Exhibit 5: EMI Test Report**

**External Radio Frequency  
Power Amplifier ACOM 1500**

**Model 1500**

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# EMI Test Report for ACOM

**Product Name:** ACOM1500

**Regulation:** FCC, Part 97 Sub Part D

**Date of test:** MARCH 9 2012

**Tested by:** Eng. Dr. Stanimir Lekov, R&D at ACOM OOD

**Test Method:** FCC, Part 97.317 (a)(1)(2)(3), (b)(1)(2)  
Part 97.307 (d), (e)

## **Responsible Parties**

**Manufacturer:** ACOM OOD – Bulgaria

**Applicant:** Array Solutions

**EUT Type/Model #:** Linear Amplifier ACOM1500

**Test Location:** ACOM OOD laboratory

## **EUT Description**

The EUT (ACOM1500) is a Linear Amplifier for Amateur Radio.

The tests were run in a typical configuration including the following support equipment:

- 1) H.F. Transceiver
- 2) Power Supply for transceiver

## **Reason for Test**

Compliance with FCC Part 97

Changes made during test: none

Deviations from standard test method: none

## **Test Summary**

The ACOM1500 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.

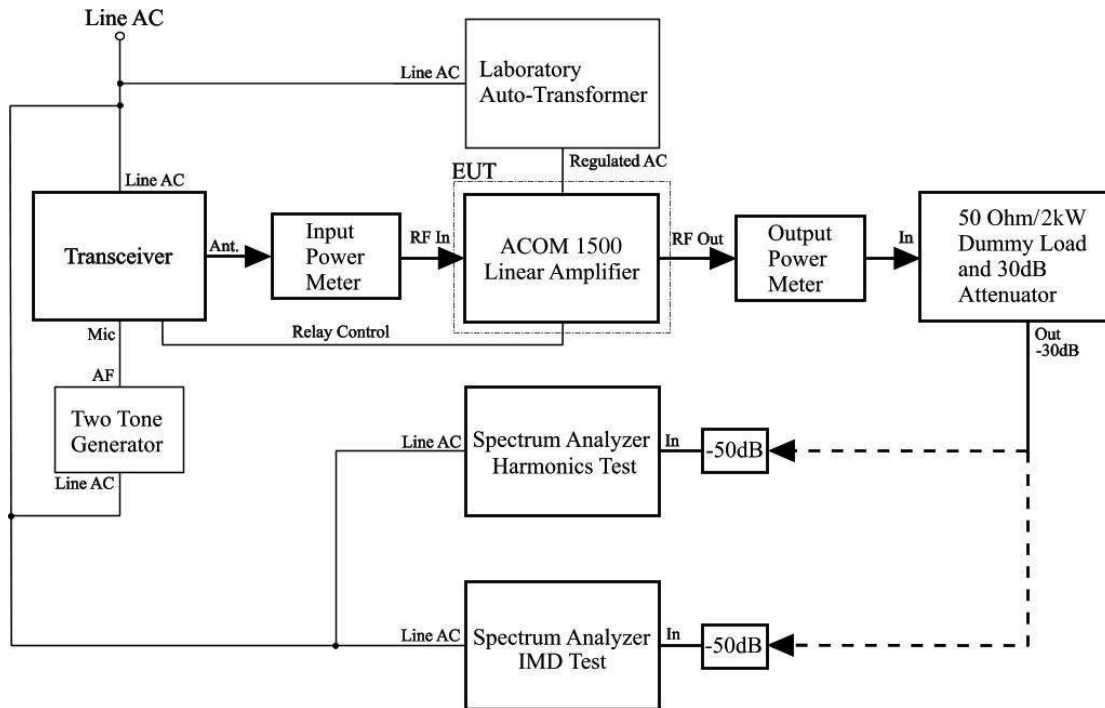
The following table indicates the measurement points and test results for the harmonic emissions to the tenth order:

Power Gain per 97.317-(a) (1) (2) (3)				Spurious emissions per 97.307 (d) (e)		
Frequency f <sub>1</sub> , MHz	Input Power, W	Output Power, W	Amplifier Gain, dB	2f <sub>1</sub> , dBc	3f <sub>1</sub> , dBc	(4-10)f <sub>1</sub> , dBc worst case
1.800	65	1200	12.7	-50.0	-66.0	Better than - 70.0
3.500	80	1200	11.8	-51.5	-74.0	Better than - 68.0
7.100	80	1200	11.8	-59.0	-73.0	Better than - 66.0
10.125	81	1200	11.7	-58.0	-74.0	Better than - 68.0
14.350	65	1200	12.7	-56.0	Better than -68.0	Better than - 66.0
18.100	71	1200	12.3	-58.0	Better than -68.0	Better than - 65.0
21.450	66	1200	12.6	-56.0	-68.0	Better than - 65.0
52.000	55	1200	13.4	-70.0	-78.0	Better than - 78.0
Amplifier was not capable of operation on any frequency or frequencies between 26 and 28MHz as measured at the points below per 97.317-(a) (3). Data for: amplifier in Stand-by / amplifier ON.						
26.000	50 / 4	48.3 / 0.031	-0.15 / -21			
27.000	50 / 4	48.3 / 0.002	-0.15 / --33			
28.000	50 / 4	48.3 / 0.008	-0.15 / -27			
After owner modification to activate 24-28 MHz band:						
24.900*	67.0	1200	12.5	-72.0	Better than -65.0	Better than - 65.0
29.000*	64.0	1200	12.7	Better than -68.0	Better than -68.0	Better than - 66.0

\*Not usable as shipped; data applicable only after enabling of 24-28 MHz band.

The following table indicates the measurement points and test results for the Inter Modulation Distortions to the 11-th order:

Inter-modulation in dB relative to 1500W PEP per 97.307(a)(b)			
Order:	D3	D5	D7 and higher
Freq. (MHz)	dB	dB	dB
14.200	-35	-38	-50



**Fig.1 Setup Block Diagram for ACOM1500**

### EUT Technical Data

**Description:** Linear Amplifier ACOM1500

**Manuf/Model:** ACOM OOD Bulgaria / Model 1500

**Serial #:** 120101

**FCC Ident.:** XN8AA1500

**Power supply (Rated):** 240 VAC 50/60Hz

**Power supply (Tested):** 240VAC 50Hz

**Internal Options:** None

**Frequencies Amplified:** Amateur radio bands from 1.8MHz through 54 MHz

### Support Equipment Data

**Description:** HF Transceiver

**Manuf/Model:** ICOM Model No. IC-7600

**Serial #:** 03678

**Power supply:** 220VAC 50Hz

**Internal Options:** None

**Frequencies Generated:** Amateur radio bands from 1.8MHz through 54MHz

**Description:** Two-Tone Generator

**Manuf/Model:** Kenwood Station Monitor, Model SM-220

**Serial #:** None

**Power supply:** 220VAC 50Hz

**Internal Options:** None

**Frequencies Generated:** 1000Hz plus 1575Hz Audio

**Description:** Laboratory Auto-Transformer

**Manuf/Model:** RFT, Model LSS 020

**Serial #:** 13/004

**Power supply:** 220VAC 50Hz

**Internal Options:** None

**Frequencies Generated:** None

### **Cables Description**

Transceiver Ant. to Input Power Meter - RG58/U, 1m length

Input Power Meter to EUT input - RG58/U, 25cm length

Output Power Meter to Dummy Load /Attenuator - RG213/U, 1m length

Dummy Load /Attenuator/out to Spectrum Analyzer - RG58/U, 1.5m length

### **EUT I/O Ports**

#### **ACOM1500**

Key-In (Transmit/Receive Relay Control)

Key-Out (Not Connected)

RF INPUT 50 Ohm

RF OUTPUT A1 to A3 - 50 Ohm

Mains AC Input 240V 50/60Hz

### **Test Equipment List**

#	Equipment type	Manufacturer	Model #	Serial #	Used
1	Spectrum Analyzer	TEKTRONIX	2710	B 02 0771	Yes
2	Spectrum Analyzer	RIGOL	DSA1030	DSA1B134500202	Yes

3	2kW 30dB Attenuator	Bird	8329-300	842	Yes
4	50dB Attenuator	Russia	n/a	n/a	Yes
5	Power Meter	Bird Electronic Corp.	Model 4421-101	1665	Yes
7	Power Sensor	Bird Electronic Corp.	4024	10494	Yes
8	Power Meter	Bird Electronic Corp.	Model 4421-101	4328	Yes
9	Power Sensor	Bird Electronic Corp.	4022	3711	Yes
10	HF Transceiver	ICOM	IC-7600	03678	Yes
11	Two-Tone Generator	Kenwood	SM-220 Station Monitor	n/a	Yes
12	Laboratory Auto-Transformer	RFT	LSS 020	13/004	Yes