



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

**External Radio Frequency  
Power Amplifier ACOM 2100**

**Model 2100**

# EMI Test Report for ACOM 2100

**Product Name:** ACOM2100

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

**Date of test:** April 10<sup>th</sup> 2017

**Tested by:** Biliyan Marinov, Engineer 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:** ACOM OOD – Bulgaria

**EUT Type/Model #:** Linear Amplifier ACOM2100

**Test Location:** ACOM OOD lab

## **EUT Description**

The EUT (ACOM2100) is a Linear Amplifier for Amateur Radio.

The tests were run in a typical configuration.:

## **Reason for Test**

Compliance with FCC Part 97

Changes made during test: none

Deviations from standard test method: none

## **Test Summary**

The ACOM 2100 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
1.900	70.2	1500	13.3	-61.59	-66.99	-91.38
3.750	72.2	1500	13.2	-64.68	-68.22	-96.13
7.150	76.9	1500	12.9	-70.41	-68.34	-108.41
10.125	70.8	1500	13.3	-69.51	-68.19	-88.69
14.175	66.1	1500	13.6	-64.88	-68.58	-93.78
18.118	64	1500	13.7	-67.61	-69.63	-95.21
21.225	61.6	1500	13.9	-66.41	-70.77	-98.91
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 in Operate						
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:						
24.930*	60.3	1500	13.9	-88.28	-71.08	-94.51
28.500*	53.9	1500	14.4	-99.72	-73.80	-91.32
52.000	55	1500	14.4	-73.62	-64.79	-79.52

\*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 Intermodulation Distortions to the 11-th order:

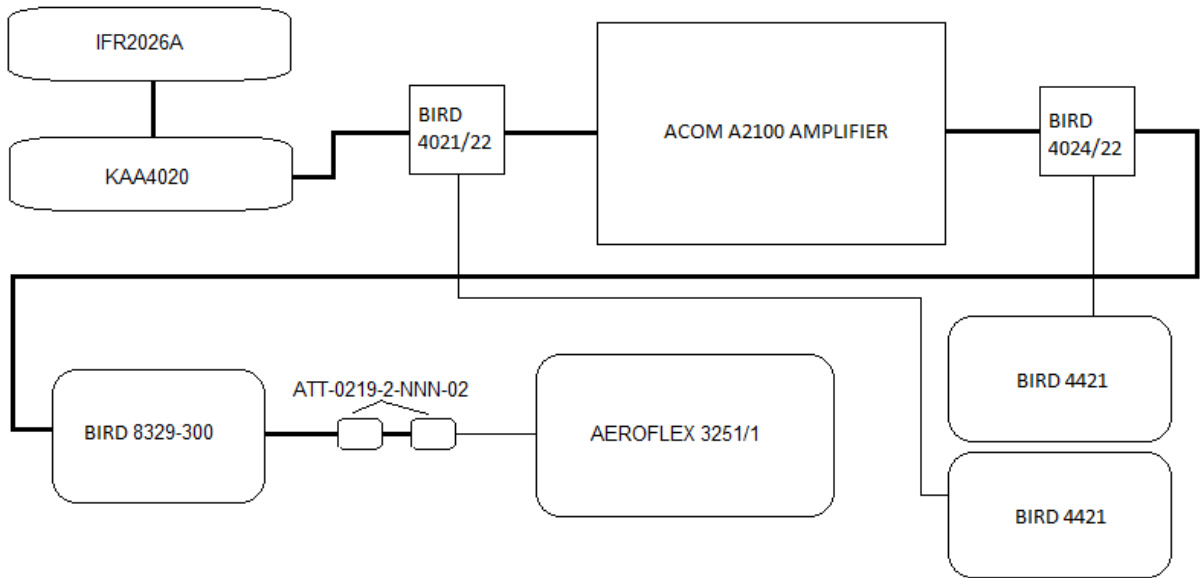
Intermodulation in dB relative to 1500W PEP per 97.307(a)(b)			
Order:	D3	D5	D7 and higher
Freq. (MHz)	dB	dB	dB
14.200	-32	-42	-53

Calculated OIP3 with Pout level at 61.76dBm (1500W): 45.76dB

OIP3 calculation method:  $OIP3 = P_{out} - |IM3/2|$

Calculated IIP3 with 13.6dB gain @ 14.2MHz: -32.16dB

IIP3 calculation method:  $IIP3 = OIP3 - \text{Gain}$



**Fig.1 Setup Block Diagram for ACOM2100**

### Test Equipment List

N <sup>o</sup>	Equipment Type	Manufactured	Model N <sup>o</sup>	Serial N <sup>o</sup>	Cal Date D/M/Y	Cal Due D/M/Y
1	Directional power sensor	Bird technologies	4021	0004	18.01.2017	18.01.2018
2	Directional power sensor	Bird technologies	4022	131201496	18.01.2017	18.01.2018
3	RF power meter	Bird technologies	4421	131201485	18.01.2017	18.01.2018
4	Directional power sensor	Bird technologies	4024	10494	18.01.2017	18.01.2018
5	Directional power sensor	Bird technologies	4022	3711	18.01.2017	18.01.2018
6	RF power meter	Bird technologies	4421	4328	18.01.2017	18.01.2018
7	Attenuator 2kW; 30dB; oil-cooled	Bird technologies	8329-300	842	18.01.2017	18.01.2018
8	Attenuator 2W; 20dB	Midwest Microwave	ATT-0219-2-NNN-02	-	5.04.2017	5.04.2018
9	Attenuator 2W; 20dB	Midwest Microwave	ATT-0219-2-NNN-02	-	5.04.2017	5.04.2018
10	Spectrum analyzer	Aeroflex	3251/1	I1203 004	21.03.2017	21.03.2018
11	Signal Generator	IFR	2026A	202601/915	23.02.2017	23.02.2019
12	Wideband RF PA	AR Modular	KAA4020	9458-1	25.01.2017	25.05.2018

