



Test Report - FCC PART 1.1310 / MPE

Applicant: Acom Ltd.

Approved for Release By:

Signature: *Bruno Clavier*

Name & Title: Bruno Clavier, General Manager

Date of Signature 2/14/2022

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Timco Engineering, Inc., an IIA Company
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1. Customer Information

Applicant: Acom Ltd.
Address: 6 Valeri Petrov Str.
Sofia-Bozhurishte Economic Zone
Bozhurishte, 2227

2. Location of Testing

2.1 Test Laboratory

Timco Engineering Inc. is a subsidiary of Industrial Inspection & Analysis, Inc. ("IIA"). Testing was performed at Timco's permanent laboratory located at 849 NW State Road 45, Newberry, Florida 32669

FCC test firm # 578780

FCC Designation # US1070

FCC site registration is under A2LA certificate # 0955.01

ISED Canada test site registration # 2056A

EU Notified Body # 1177

For all designations see A2LA scope # 0955.01



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2.2 Testing was performed, reviewed by

Dates of Testing: January 11, 2022 – January 17, 2022

Signature:

A handwritten signature of Tim Royer.



Name & Title: Tim Royer, EMC Engineer

Date of Signature 2/14/2022

Signature:

A handwritten signature of Terri Allen.

Name & Title: Terri Allen, Lab Assistant

Date of Signature 2/14/2022



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3. Test Sample(s) (EUT/DUT)

The test sample was received: January 11, 2022

3.1 Description of the EUT

A description as well as unambiguous identification of the EUT(s) tested. Where more than one sample is required for technical reasons (such as the use of connected units for the purpose of conducted output power testing where the product units will have integral antennas), each specific test shall identify which unit was tested.

Identification	
FCC ID:	2AJXZ2020S
Brief Description	Linear Amplifier
Type of Modular	n/a
Model(s) #	ACOM 2020S
Firmware version	1.3
Serial Number	n/a

Technical Characteristics	
Technology	External RF Power Amplifier/Linear Amplifier
Frequency Range	1.8 - 54 MHz (split as appropriate to FCC Part 97)
RF O/P Power (Max.)	61.7 dBm (1500 W)
Modulation	n/a
Bandwidth & Emission Class	A1A, A3A, A3E, F1D, F3E, J1D, J3C, J3E, J3F
Duty Cycle	100%
Antenna Connector	UHF
Voltage Rating (AC or Batt.)	240 V AC

Antenna Characteristics		
Frequency Range	Mode / BW	Antenna Gain
n/a	n/a	0 dBi



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4. Test methods & Applicable Regulatory Limits

4.1 Test methods/Standards/Guidance:

The following guidance FCC KDB 447498 D01 General RF Exposure Guidance v06 was used for RF exposure evaluation as per FCC Part 1.1310 and FCC Part 2.1091 and part 2.1093. Full test results are available in this report.

4.1.1 FCC Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging Time (minutes)
A Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
B Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30



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4.2 Equations

POWER DENSITY

$$E(V/m) = \text{SQRT} (30 * P * G) / d$$

$$Pd(W/m^2) = E^2 / 377$$

$$S = \text{EIRP} / (4 * \text{Pi} * D^{2v})$$

Where:

S = Power density, in mW/cm^2

EIRP = Equivalent Isotropic Radiated Power, in mW

D = Separation distance in cm

Power density is converted from units of mW/cm^2 to units of W/m^2 by multiplying by 10.

DISTANCE

$$D = \text{SQRT} (\text{EIRP} / (4 * \text{Pi} * S))$$

Where:

D = Separation distance in cm

EIRP = Equivalent Isotropic Radiated Power, in mW

S = Power density in mW/cm^2

SOURCE-BASED DUTY CYCLE (When applicable (for example, multi-slot mobile phone applications) A duty cycle factor may be applied.)

$$\text{Source-based time-average EIRP} = (DC / 100) * \text{EIRP}$$

Where:

DC = Duty Cycle in % as applicable.

EIRP = Equivalent Isotropic radiated Power, in mW



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5. RF Exposure Results

MPE									
Frequency Band	Evaluation Distance (cm)	Max Power + Tolerance (dBm)	Antenna Gain (dBi)	Duty Cycle (%)	EIRP (W)	Power Density	Limit for Uncontrolled Exposure	Limit for Controlled Exposure	Distance Required to meet Uncontrolled Exposure Limit (cm)
1.8-54 MHz	20	61.76	0.00	100%	1499.68	298.353 mW/cm ²	0.2 mW/cm ²	0.516 mW/cm ²	772.47

RESULT: Pass at DISTANCE 772.47 cm



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6. History of Test Report Changes

Test Report #	Revision #	Description	Date of Issue
TR_6373-21_FCC PT 1.1310/ MPE_	1	Initial release	02/02/2022
	2	Updated address, Page 3	02/11/2022
	3	Updated address, Page 8	2/14/2022



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END OF TEST REPORT
