



RF Exposure Evaluation Report

APPLICANT	RADIO ACTIVITY S.R.L
ADDRESS	VIA PRIVATA CASCIA, 11 MILANO 20128 ITALY
FCC ID	Y9M-KA900
MODEL NUMBER	KA-900
PRODUCT DESCRIPTION	800/900 Band LMR/PS Repeater
DATE SAMPLE RECEIVED	03/15/2019
FINAL TEST DATE	10/01/2019
PREPARED BY	Franklin Rose

Report Number	Report Version	Description	Issue Date
573AUT19 MPE_TestReport_	Rev1	Initial Issue	04/18/2019

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.

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GENERAL REMARKS

Summary

The device under test does:

- ☒ Fulfill the general approval requirements as identified in this test report and was selected by the customer.
- ☐ Not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669
Designation #: US1070

Prepared by:

A handwritten signature in blue ink, appearing to read 'Franklin Rose', is written over a circular red stamp. The stamp contains the text 'TIMCO ENGINEERING' around the perimeter.

Name and Title	Franklin Rose, EMC Project Manager / EMC Specialist
Date	04/18/2019

GENERAL INFORMATION

EUT Description	800/900 Band LMR/PS Repeater		
Model Number	KA-900		
EUT Power Source	<input type="checkbox"/> 110–120 VAC	<input checked="" type="checkbox"/> DC Power (12 V)	<input type="checkbox"/> Battery Operated
Test Item	<input type="checkbox"/> Prototype	<input checked="" type="checkbox"/> Pre-Production	<input type="checkbox"/> Production
Type of Equipment	<input checked="" type="checkbox"/> Fixed	<input type="checkbox"/> Mobile	<input type="checkbox"/> Portable
Antenna Connector	SMA Connector		
Test Conditions	The temperature was 26°C Relative humidity of 50%.		
Modification to the EUT	No Modification to EUT.		
Applicable Standards	FCC CFR 47 Part 2.1091, RSS-102		
Test Facility	Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA. Designation #: US1070		

ANTENNA INFORMATION

Antenna Provided by Manufacturer	Type	Typical Gain (dBi)
No	N/A	0

MPE Distance

<i>Uncontrolled Public RF Exposure/MPE Guideline</i>	
Separation Distance (cm)	52.88 cm
Power Density (mW/cm ²)	0.537 mW/cm ²
<i>Controlled Occupational RF Exposure/MPE Guideline</i>	
Separation Distance (cm)	23.6 cm
Power Density (mW/cm ²)	2.687 mW/cm ²

MPE Parameters

EUT Parameters		
Parameter	Value	Unit
EUT Form Factor	Fixed	
Lowest Frequency	806.000	MHz
Highest Frequency	941.000	MHz
Maximum Power	15.000	W
Tune Up Tolerance	1.000	+/- dBm
Duty Cycle	100%	%
Antenna Gain	0.000	dBi EIRP
Coax Loss	0.000	dB
EIRP	18.884	W

MPE Calculation

Calculations	
RF Exposure Field Strength Limits	
Public Persons may be exposed up to:	
Worst-Case RF Field Strength Limit for the General Public (Uncontrolled Environment)	0.537 mW/cm ²
Occupational Persons may be exposed up to:	
Worst-Case RF Field Strength Limit for Controlled Use (Controlled Environment)	2.687 mW/cm ²
Separation Distance	
Mandatory distance from radiating element:	
Calculation Method	Distance from Radiating Element (cm) = SQRT (P(mW) / 4π S(mW/cm ²))
Uncontrolled Sep. Distance @ 0.537 mW/cm ²	52.88 cm
Controlled Sep. Distance @ 2.687 mW/cm ²	23.65 cm
EUT Power Density at 20 cm	
Calculation Method	Power Density (mW/cm ²) = P(mW) / 4π R(cm) ²
EUT Power Density @ 20 cm	3.757 mW/cm ²