



RF Exposure Evaluation Report

APPLICANT	Guidance Marine Limited
ADDRESS	5 Tiber Way, Meridian Business Park Leicester LE19 1RP
FCC ID	VYMRAD-1100
MODEL NUMBER	RAD-1100
PRODUCT DESCRIPTION	Series 4 Responder Radar
DATE SAMPLE RECEIVED	FEB 20 2020
FINAL TEST DATE	AUG 10 2020
PREPARED BY	Franklin Rose
TEST RESULTS	☒ PASS ☐ FAIL

Report Number	Report Version	Description	Issue Date
325UT20 MPE_TestReport_	Rev1	Initial Issue	AUG 10 2020

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, Project Manager / EMC Specialist
Date	AUG 10 2020

EUT INFORMATION

EUT Description	Series 4 Responder Radar		
Model Number	RAD-1100		
Modified for Testing	☐		
Modification			
Antenna Connector	☐ UHF	☐ BNC	☐ N
	☐ TNC	☐ SMA	☒ Other (n/a)
EUT Power Source	☐ AC Power (110-120 V)	☒ DC Power	☐ DC Battery (7.4 V)
Test Item	☐ Engineering Prototype	☒ Pre-Production	☐ Post-Production
Type of Equipment	☒ Fixed	☐ Mobile	☐ Portable

ANTENNA INFORMATION

Manufacturer Provides Antenna	Type	Max Gain (dBi)
Yes	PCB/Integral	11.9 dBi

FCC MPE SEPARATION

EUT Parameters		
Parameter	Value	Unit
EUT Form Factor	Fixed ▼	
Lowest Frequency	9200.000	MHz
Highest Frequency	9300.000	MHz
Maximum Power	4.000	dBm ▼
Tune Up Tolerance	0.000	+/- W ▼
Duty Cycle	100%	%
Antenna Gain	11.900	dBi EIRP ▼
Coax Loss	0.000	dB ▼
EIRP	0.039	W

Uncontrolled Public RF Exposure/MPE Guideline	
Separation Distance (cm)	20 cm
Power Density (mW/cm ²)	0.008 mW/cm ²

Controlled Occupational RF Exposure/MPE Guideline	
Separation Distance (cm)	20 cm
Power Density (mW/cm ²)	0.008 mW/cm ²

FCC 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)	1 mW/cm ²
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Occupational Persons may be exposed up to:

Worst-Case RF Field Strength Limit for Controlled Use (Controlled Environment)	5 mW/cm ²
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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 @ 1 mW/cm ²	1.76 cm
Controlled Sep. Distance @ 5 mW/cm ²	0.79 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	0.008 mW/cm ²

END OF REPORT