TIMCO ENGINEERING, Inc.
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RF Exposure Evaluation Report

APPLICANT	GUIDANCE MARINE LIMITED
	5 TIBER WAY MERIDIAN BUSINESS PARK LEICESTER LE19 1QP UNITED KINGDOM
FCC ID	VYMVALIDATOR
MODEL NUMBER	VALIDATOR
PRODUCT DESCRIPTION	X BAND RADAR
STANDARD APPLIED	CFR 47 Part 2.1091
PREPARED BY	CHRISTIAN PAWLAK

We, TIMCO ENGINEERING, INC. would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and meets the requirements.

GENERAL REMARKS

Attestations

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

I attest that the necessary evaluations were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669

Authorized Signatory Name:

Christian Pawlak

Project Manager

Date: 3/21/2017

RF Exposure Requirements

General information

Device type: X BAND RADAR

Antenna

The manufacturer does not specify an antenna, but a typical antenna has a gain of 0 dBi.

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Fixed mounted	Any	omni	0

MPE Calculation:

The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$$

The limit for general uncontrolled exposure environment is shown in FCC rule Part 1.11310, Table 1.

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Insert values in yellow highlighted boxes to determine Minimum Separation Distance

Max Power	0.024	W	*equals*	Max Power	24	mW
Duty Cycle	100	%	*equals*	Duty Factor	1	numeric
Antenna Gain	6	dBi	*equals*	Gain numeric	3.981072	numeric
Coax Loss	0	dB		Gain - Coax Los	3.981072	numeric
Power Density	1	mW/cm^2				

Enter power Density from the chart to the right

Frequency 9230 MHz

Rule Part 1.1310, Table 1 (B)

Frequency rang	Power den	Enter this value
MHz	**mW/cm^2**	**mW/cm^2**
0.3-1.34	100	**100**
1.34-30	$180/f^2$	**0.0**
30-300	0.2	**0.2**
300-1,500	f/1500	**6.2**
1,500-100,000	1	**1**

f = frequency in MHz

Minimum Separation Distance	**3 cm**	**0.03 m**

Minimum Seperation in Inches 1.084763 Inches

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Report: 2171BUT16RF EXP MPE RPT REV2.DOCX