TIMCO ENGINEERING, Inc.
www.timcoengr.com

849 NW STATE ROAD 45
NEWBERRY, FL 32669 USA
PH: 888.472.2424 OR 352.472.5500
FAX: 352.472.2030
EMAIL: INFO@TIMCOENGR.COM
HTTP://WWW.TIMCOENGR.COM

RF Exposure Evaluation Report

APPLICANT	KODEN ELECTRONICS CO., LTD.
	5278 UENOHARA UENOHARA YAMANASHI-KEN 409-0112 JAPAN
FCC ID	O5VRB808P
IC	8477A-RB808P
MODEL NUMBER	RB808P, RB808
PRODUCT DESCRIPTION	X BAND MARINE 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.

The attached report shall not be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

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, Engineering Project Manager

Date: 10/27/2016

RF Exposure Requirements

General information

Device type: X BAND MARINE RADAR

Devices that operate under Part 80, 90 of this chapter are subject to RF exposure evaluation prior to equipment authorization or use.

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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Report: V:\K\KODEN_O5V\1244AZUT16\1244AZUT16RF EXP MPE.DOCX

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Minimum Separation Distance for Mobile or Fixed Devices
General Population/Uncontrolled Exposure

Insert values in yellow highlighted boxes to determine Minimum Separation Distance

Max Power	12000	W	*equals*	Max Power	12000000	mW
Duty Cycle	0.084	%	*equals*	Duty Factor	0.00084	numeric
Antenna Gain	30	dBi	*equals*	Gain numeric	1000	numeric
Coax Loss	0	dB		Gain - Coax Los	1000	numeric
Power Density	1	mW/cm^2				

Enter power Density from the chart to the right

Frequency 9440 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	**6.3**
1,500-100,000	1	**1**

f = frequency in MHz

Minimum Separation Distance	**896 cm**	**8.96 m**

Minimum Seperation in Inches 352.3382 Inches

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