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RF Exposure Evaluation Report

APPLICANT	YAESU MUSEN CO., LTD.
	TENNOZU PARKSIDE BUILDING 2-5-8 HIGASHI-SHINAGAWA, SHINAGAWA-KU, TOKYO 140-0002 JAPAN
FCC ID	K6630593X3D
MODEL NUMBER	GX6000
PRODUCT DESCRIPTION	MOBILE MARINE TRANSCEIVER
STANDARD APPLIED	CFR 47 Part 2.1091
PREPARED BY	Cory Leverett

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:

Cory Leverett

Engineering Project Manager

Date: August 29, 2016

Applicant: YAESU MUSEN CO., LTD.

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RF Exposure Requirements

General information

Device type: MOBILE MARINE TRANSCEIVER

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	3

Operating configuration and exposure conditions:

The conducted output power is shown in the table below. Typical use qualifies for a maximum duty cycle factor of 100%.

MPE Calculation:

The minimum separation distance is calculated as follows:

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

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

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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	24.6	W	<i>equals</i>	Max Power	24600 mW																								
Duty Cycle	50	%	<i>equals</i>	Duty Factor	0.5 numeric																								
Antenna Gain	3	dBi	<i>equals</i>	Gain numeric	1.995262 numeric																								
Coax Loss	0	dB		Gain - Coax Loss	1.995262 numeric																								
Power Density	0.2	mW/cm ²																											
Enter power Density from the chart to the right			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">Rule Part 1.1310, Table 1 (B)</th> </tr> <tr> <th style="text-align: center;">Frequency range</th> <th style="text-align: center;">Power density</th> <th style="text-align: center; color: red;">Enter this value</th> </tr> <tr> <th style="text-align: center;">MHz</th> <th style="text-align: center;">mW/cm²</th> <th style="text-align: center;">mW/cm²</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0.3-1.34</td> <td style="text-align: center;">100</td> <td style="text-align: center; border: 2px solid red;">100</td> </tr> <tr> <td style="text-align: center;">1.34-30</td> <td style="text-align: center;">180/f²</td> <td style="text-align: center; border: 2px solid red;">0.0</td> </tr> <tr> <td style="text-align: center;">30-300</td> <td style="text-align: center;">0.2</td> <td style="text-align: center; border: 2px solid red;">0.2</td> </tr> <tr> <td style="text-align: center;">300-1,500</td> <td style="text-align: center;">f/1500</td> <td style="text-align: center; border: 2px solid red;">0.1</td> </tr> <tr> <td style="text-align: center;">1,500-100,000</td> <td style="text-align: center;">1</td> <td style="text-align: center; border: 2px solid red;">1</td> </tr> </tbody> </table> f = frequency in MHz			Rule Part 1.1310, Table 1 (B)			Frequency range	Power density	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	0.1	1,500-100,000	1	1
Rule Part 1.1310, Table 1 (B)																													
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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	0.1																											
1,500-100,000	1	1																											
Frequency	157.425	MHz																											
Minimum Separation Distance		99 cm		0.99 m																									
Minimum Separation in Inches		38.87469 Inches																											

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