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RF Exposure Evaluation Report

APPLICANT	NEPTUNE TECHNOLOGY GROUP INC. 1600 ALABAMA HIGHWAY 229 TALLASSEE AL 36078 USA
FCC ID	P2SR450DC
MODEL NUMBER	R450DC
PRODUCT DESCRIPTION	DATA COLLECTOR
STANDARD APPLIED	CFR 47 Part 2.1091
PREPARED BY	Tim Royer

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:



Tested by:

Name and Title: Tim Royer, Project Manager/Testing Engineer

Sr. EMC Engineer
EMC-003838-NE



Date: 11/8/2017

Applicant: NEPTUNE TECHNOLOGY GROUP INC.
FCC ID: P2SR450DC
Report: 1895AUT17RF EXP MPE RPT.DOCX

RF Exposure Requirements

General information

Device type: DATA COLLECTOR

Antenna

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Fixed mounted	Any	omni	8.1

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 1.1310, Table 1.

**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	10.05	W	<i>equals</i>	Max Power	10050	mW
Duty Cycle	50	%	<i>equals</i>	Duty Factor	0.5	numeric
Antenna Gain	8.1	dBi	<i>equals</i>	Gain numeric	6.456542	numeric
Coax Loss	0	dB		Gain - Coax Loss	6.456542	numeric
Power Density	0.3	mW/cm ²				

Enter power Density from the chart to the right

Rule Part 1.1310, Table 1 (B)

Frequency	465	MHz		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	0.3
				1,500-100,000	1	1

f = frequency in MHz

Minimum Separation Distance	93 cm	0.93 m
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Minimum Separation in Inches 36.49529 Inches