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RF Exposure Evaluation Report

APPLICANT	RADIO SOLUTIONS, INC.
	70 ACCORD PARK DRIVE NORWELL, MA. 02061 USA
FCC ID	2AHVPSB800M2A
MODEL NUMBER	SB800M2A
PRODUCT DESCRIPTION	800 MHz CLASS B SIGNAL BOOSTER/BDA
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: 12/ 15/ 2016

RF Exposure Requirements

General information

Device type: 800 MHz CLASS B SIGNAL BOOSTER/ BDA

Antenna

The manufacturer does not specify an antenna, but a typical antenna has a gain of 6 dBi.

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Fixed mounted	Any	omni	6

Operating configuration and exposure conditions:

The limit for 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.

Insert values in yellow highlighted boxes to determine Minimum Separation Distance																							
Max Power	5	W	<i>equals</i>	Max Power	5000 mW																		
Duty Cycle	100	%	<i>equals</i>	Duty Factor	1 numeric																		
Antenna Gain	6	dBi	<i>equals</i>	Gain numeric	3.981072 numeric																		
Coax Loss	0	dB		Gain - Coax Loss	3.981072 numeric																		
Power Density	0.6	mW/cm ²																					
				Rule Part 1.1310, Table 1 (B) Enter power Density from the chart to the right Enter this value																			
Frequency	860	MHz		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>MHz</th> <th>mW/cm²</th> <th>mW/cm²</th> </tr> </thead> <tbody> <tr> <td>0.3-1.34</td> <td>100</td> <td style="border: 2px solid red;">100</td> </tr> <tr> <td>1.34-30</td> <td>180/f²</td> <td style="border: 2px solid red;">0.0</td> </tr> <tr> <td>30-300</td> <td>0.2</td> <td style="border: 2px solid red;">0.2</td> </tr> <tr> <td>300-1,500</td> <td>f/1500</td> <td style="border: 2px solid red;">0.6</td> </tr> <tr> <td>1,500-100,000</td> <td>1</td> <td style="border: 2px solid red;">1</td> </tr> </tbody> </table>		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	0.6	1,500-100,000	1	1
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				f = frequency in MHz																			
Minimum Separation Distance				51 cm	0.51 m																		
Minimum Separation in Inches			20 Inches																				