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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 | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="color: red; margin: 0;">Enter power Density from the chart to the right</p> <p>Frequency 860 MHz</p> </div> <div style="width: 50%;"> <p style="text-align: center; margin: 0;">Rule Part 1.1310, Table 1 (B)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 30%;">Frequency range</th> <th style="width: 20%;">Power density</th> <th style="width: 50%;">Enter this value</th> </tr> <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; border-radius: 50%;">100</td> </tr> <tr> <td>1.34-30</td> <td>180/f²</td> <td style="border: 2px solid red; border-radius: 50%;">0.0</td> </tr> <tr> <td>30-300</td> <td>0.2</td> <td style="border: 2px solid red; border-radius: 50%;">0.2</td> </tr> <tr> <td>300-1,500</td> <td>f/1500</td> <td style="border: 2px solid red; border-radius: 50%;">0.6</td> </tr> <tr> <td>1,500-100,000</td> <td>1</td> <td style="border: 2px solid red; border-radius: 50%;">1</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">f = frequency in MHz</p> </div> </div> | | | | | | 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 | 0.6 | 1,500-100,000 | 1 | 1 |
| 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 | 0.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,500-100,000 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Separation Distance | | 51 cm | | 0.51 m | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Separation in Inches 20 Inches | | | | | | | | | | | | | | | | | | | | | | | | | | |