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RF Exposure Evaluation Report

APPLICANT	RADIO SOLUTIONS, INC.
	70 ACCORD PARK DRIVE NORWELL, MA. 02061 USA
FCC ID	2AHVPSB7800M2A
MODEL NUMBER	SB7800M2A
PRODUCT DESCRIPTION	VHF PART 90 INDUSTRIAL BOOSTER
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, Assistant Lab Manager

Date: 9/18/2017

RF Exposure Requirements

General information

Device type: VHF PART 90 INDUSTRIAL BOOSTER

Antenna

The manufacturer does not provide an antenna, but a 2.15 dBi dipole will be assumed as FCC Rule Part 90.219(e)(1) limits output power to 5 Watts ERP.

MPE Calculation:

The limit for general uncontrolled exposure environment for this band is shown in FCC rule Part 1.1310, Table 1. At 763 MHz the limit is $763 / 1500 = 0.509 \text{ mW/cm}^2$.

Power density in mW/cm^2 can be determined as $PD = \frac{P*G}{4*\pi*D^2}$ with P in mW, G of 1.64

for a 2.15 dBi dipole, and D in cm. This can be rearranged as $D = \sqrt{\frac{P*G}{4*\pi*PD}}$ and

calculated as $\sqrt{\frac{5000 \text{ mW} * 1.64}{4 * \pi * 0.509 \frac{\text{mW}}{\text{cm}^2}}} = 35.8 \text{ cm}$.