TIMCO ENGINEERING, Inc.
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RF Exposure Evaluation Report

APPLICANT	COMTRONIX COMMUNICATIONS INC.
	42327 RIO NEDO, SUITE A TEMECULA CA 92590 USA
FCC ID	2AHIALBR100C
IC	21255-LBR100C
MODEL NUMBER	LBR-100
PRODUCT DESCRIPTION	VHF LOW BAND REPEATER
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.

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: 3/31/2016

RF Exposure Requirements

General information

Device type: VHF LOW BAND REPEATER

Devices that operate under Part 90 of this chapter are subject to RF exposure evaluation prior to equipment authorization or use.

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 to permanent structures.	Any	omni	0

Operating configuration and exposure conditions:

The conducted output power is shown in the table below.

MPE Calculation:

The minimum separation distance is calculated as follows:

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

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	123.02	W	*equals*	Max Power	123020	mW
Duty Cycle	50.00	%	*equals*	Duty Factor	0.5	numeric
Antenna Gain	0	dBi	*equals*	Gain numeric	1	numeric
Coax Loss	0	dB		Gain - Coax Los	1	numeric
Power Density	0.2	mW/cm^2				

Enter power Density from the chart to the right

Frequency	50	MHz

Rule Part 1.1310, Table 1 (B)

Frequency ran	Power den	Enter this value
MHz	**mW/cm^2**	**mW/cm^2**
0.3-1.34	100	**100**
1.34-30	$180/f^2$	**0.1**
30-300	0.2	**0.2**
300-1,500	f/1500	**0.0**
1,500-100,000	1	**1**

f = frequency in MHz

Minimum Separation Distance	**156 cm**	**1.56 m**

Minimum Seperation in Inches 61.54422 Inches