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RF Exposure Evaluation Report

APPLICANT	STANDARD COMMUNICATIONS PTY.LTD.
	Locked Bag 2086 Nth Ryde NSW 1670 AUSTRALIA
FCC ID	TXJCM1039V
MODEL NUMBER	CM1039
PRODUCT DESCRIPTION	VHF MOBILE RADIO
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.
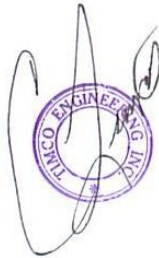
GENERAL REMARKS

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: 11/25/2014

Applicant: STANDARD COMMUNICATIONS PTY.LTD.
FCC ID: TXJCM1039V
Report: s\STANDARD Comm Au\1836AUT14\1836AUT14TestReport.docxt

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RF Exposure Requirements

General information

Device type: VHF Mobile Transceiver

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 specifies an external antenna of 2.15 dBi an antenna.

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Fixed mounted	Any	External	2.15

Operating configuration and exposure conditions:

The conducted output power is shown in the table below. Typical use qualifies for a maximum duty cycle factor of 100%.

Operation: A typical installation consists of an antenna system with a 10 meter coaxial cable of the type RG 213/ U type which has a loss as follows;

Nom. Attenuation for RG 213/U:

Frequency MHz	Attenuation per 100ft. dB
1	.27
10	.55
50	1.3
100	1.9
200	2.7
400	4.1
700	6.5
900	7.6
1000	8.0
4000	21.5

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.

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	25	W	equals	Max Power	25000	mW
Duty Cycle	50	%	equals	Duty Factor	0.5	numeric
Antenna Gain	2.15	dBi	equals	Gain numeric	1.64059	numeric
Coax Loss	0	dB		Gain - Coax Loss	1.64059	numeric
Power Density	0.2	mW/cm^2	←			

Enter power Density from the chart to the right

Frequency	174	MHz		Rule Part 1.1310, Table 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	**0.1**
1,500-100,000	1	**1**

f = frequency in MHz

Minimum Separation Distance	**90 cm**	**0.90 m**

Minimum Seperation in Inches	35.53607	Inches

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