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# RF Exposure Evaluation Report

| | |
|---:|:---|
| **APPLICANT** | STANDARD COMMUNICATIONS PTY.LTD. |
| | PO BOX 96<br>WINSTON HILLS NSW 2153 AUSTRALIA |
| **FCC ID** | TXJGX400 |
| **MODEL NUMBER** | GX400 |
| **PRODUCT DESCRIPTION** | MARINE CB TRANSCEIVER |
| **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.
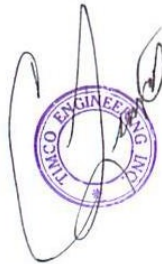
## GENERAL REMARKS

### 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:** 12/26/2014

Applicant: STANDARD COMMUNICATIONS PTY.LTD.
FCC ID:     TXJGX400
Report:     s\STANDARD Comm Au\1842AUT14\1842AUT14TestReport.docxt

Page 2 of 4

# RF Exposure Requirements

## General information

Device type: Part 95 CB Transceiver.

## 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 | Any | omni | 0 |
|  |  |  |  |

## 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:

Applicant: STANDARD COMMUNICATIONS PTY.LTD.
FCC ID:     TXJGX400
Report:     s\STANDARD Comm Au\1842AUT14\1842AUT14TestReport.docxt

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

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** <br> **General Population/Uncontrolled Exposure** | | | | | |
| | | | | | |
| **Insert values in yellow highlighted boxes to determine Minimum Separation Distance** | | | | | |
| Max Power | 4 | W | *equals* | Max Power | 4000 mW |
| Duty Cycle | 50 | % | *equals* | Duty Factor | 0.5 numeric |
| Antenna Gain | 0 | dBi | *equals* | Gain numeric | 1 numeric |
| Coax Loss | 0.55 | dB | | Gain - Coax Loss | 0.881049 numeric |
| Power Density | 0.24 | mW/cm² | | | |

**Enter power Density from the chart to the right**

| Frequency | 27.405 | MHz |
|---|---|---|

**Rule Part 1.1310, Table 1**

| Frequency range | Power density | Enter this value |
|---|---|---|
| **MHz** | **mW/cm²** | **mW/cm²** |
| 0.3-1.34 | 100 | **100** |
| 1.34-30 | 180/f² | **0.2** |
| 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** | **24 cm** | **0.24 m** |
|---|---|---|

| Minimum Seperation in Inches | 9.509087 | Inches |
|---|---|---|