PHONE: 888.472.2424 OR 352.472.5500 EMAIL: <u>INFO@TIMCOENGR.COM</u>

WEB: <u>HTTP://WWW.TIMCOENGR.COM</u>



RF Exposure Evaluation Report

| APPLICANT | STANDARD COMMUNICATIONS PTY.LTD. |
|----------------------|---|
| ADDRESS | PO BOX 96 WINSTON HILLS NSW 2153 AUSTRALIA |
| FCC ID | TXJCM60V25 |
| MODEL NUMBER | CM60-V25B |
| PRODUCT DESCRIPTION | VHF TRANSCEIVER |
| DATE SAMPLE RECEIVED | 4/9/2018 |
| FINAL TEST DATE | 4/16/2018 |
| PREPARED BY | Franklin Rose |
| TEST RESULTS | □ FAIL |

| Report Number | Report Version | Description | Issue Date |
|-----------------------------|----------------|---------------|------------|
| 477AUT18 MPE_TestReport_ | Rev1 | Initial Issue | 05/01/2018 |

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.



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GENERAL REMARKS

Summary

The device under test does:

| Fulfill the general approval requirements as identified in this test report and was selected by the customer. |
|---|
| Not fulfill the general approval requirements as identified in this test report |

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made at:

Timco Engineering Inc. 849 NW State Road 45 Newberry, FL 32669 Designation #: US1070

Prepared by:



Name and Title Franklin Rose, Project Manager / EMC Testing Technician

Date 05/01/2018

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GENERAL INFORMATION

| EUT Description | VHF TRANSCEIVER |
|-------------------------|--|
| Model Number | CM60-V25B |
| | ☐ 110-120Vac/50- 60Hz |
| EUT Power Source | ☐ DC Power (13.8 V) |
| | ☐ Battery Operated Exclusively |
| | ☐ Prototype |
| Test Item | □ Pre-Production |
| | Production |
| | Fixed |
| Type of Equipment | |
| | ☐ Portable |
| Antenna Connector | BNC |
| Test Conditions | The temperature was 26°C Relative humidity of 50%. |
| Modification to the EUT | No Modification to EUT. |
| Applicable Standards | FCC CFR 47 Part 2.1091 |
| Test Facility | Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA. |
| | Designation #: US1070 |

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ANTENNA INFORMATION

| Manufacturer Provided Antenna | Туре | Max Gain (dBi) |
|----------------------------------|----------------|-------------------|
| No | Not specified. | 2.15 |
| No | Not specified. | 5.15 |

MANUFACTURER'S STATEMENT

The following excerpt was taken from the CM60 Service Manual:

Radio Frequency Exposure Control

This radio emits RF (Radio Frequency) energy or radio waves when transmitting. RF energy is one of many forms of electromagnetic energy including sunlight and electricity. The FCC Radio Frequency exposure guidelines include recommendations on the safe levels of exposure for workers and the general public with a significant margin of protection.

To comply with FCC exposure limits the radio must be installed using an externally mounted antenna with a gain of either 2.15 dBi or 5.15 dBi. The antenna must be mounted centrally on the roof of the vehicle in a location that ensures a minimum safe distance of 35 inches (0.9 m) from people.

For further information on RF energy exposure and how to control it, please visit the following website. www.fcc.gov/oet/rfsafety/rf-faqs.html

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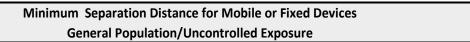
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MPE CALCULATION

The minimum separation distance is calculated as follows:

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

The limit for general uncontrolled exposure environment is shown in FCC rule Part 1.1310, Table 1.



| Insert va | lues in yellow highligh | nted boxes t | to determine Minir | num Sepai | ration Distance |
|-----------------------|-------------------------|---------------------------|--------------------|--------------------|--------------------|
| Max Power | 25 W | equals | Max Power | 25000 | mW |
| Duty Cycle | <mark>50</mark> % | equals | Duty Factor | 0.5 | numeric |
| Antenna Gain | 5.15 dBi | equals | Gain numeric | 3.273407 | numeric |
| Coax Loss | 0 dB | | Gain - Coax Loss | 3.273407 | numeric |
| Power Density | 0.2 mW/cm | ² ← | | | _ |
| Enter power Density f | from the chart to the | right | Rule Part | : 1.1310, Ta | able 1 (B) |
| Frequency | 170 MHz | | Frequency range | Power der | 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 127.6 cm 1.276 m |
|--|
|--|

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