



RF Exposure Evaluation Report

APPLICANT	STANDARD COMMUNICATIONS PTY.LTD.
ADDRESS	PO BOX 96 WINSTON HILLS NSW 2153 AUSTRALIA
FCC ID	TXJCM60U25
MODEL NUMBER	CM60-U25B
PRODUCT DESCRIPTION	VHF TRANSCEIVER
DATE SAMPLE RECEIVED	4/11/2018
FINAL TEST DATE	4/27/2018
PREPARED BY	Franklin Rose
TEST RESULTS	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

Report Number	Report Version	Description	Issue Date
492AUT18 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

GENERAL INFORMATION

EUT Description	UHF MOBILE TRANSCEIVER
FCC ID	TXJCM60U25
Model Number	CM60-U25B
EUT Power Source	<input type="checkbox"/> 110–120Vac/50– 60Hz
	<input checked="" type="checkbox"/> DC Power (13.8 V)
	<input type="checkbox"/> Battery Operated Exclusively
Test Item	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> Pre-Production
	<input type="checkbox"/> Production
Type of Equipment	<input type="checkbox"/> Fixed
	<input checked="" type="checkbox"/> Mobile
	<input type="checkbox"/> 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

ANTENNA INFORMATION

Manufacturer Provided Antenna	Type	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

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.

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	5.15	dBi	equals	Gain numeric	3.273407	numeric																					
Coax Loss	0	dB		Gain - Coax Loss	3.273407	numeric																					
Power Density	0.3 mW/cm ²																										
Enter power Density from the chart to the right																											
Frequency	512	MHz		Rule Part 1.1310, Table 1 (B) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Frequency range</th> <th style="text-align: left;">Power den</th> <th style="text-align: left;">Enter this value</th> </tr> <tr> <th style="text-align: left;">MHz</th> <th style="text-align: left;">mW/cm²</th> <th style="text-align: left;">mW/cm²</th> </tr> </thead> <tbody> <tr> <td>0.3-1.34</td> <td>100</td> <td>100</td> </tr> <tr> <td>1.34-30</td> <td>180/f²</td> <td>0.0</td> </tr> <tr> <td>30-300</td> <td>0.2</td> <td>0.2</td> </tr> <tr> <td>300-1,500</td> <td>f/1500</td> <td>0.3</td> </tr> <tr> <td>1,500-100,000</td> <td>1</td> <td>1</td> </tr> </tbody> </table>			Frequency range	Power den	Enter this value	MHz	mW/cm ²	mW/cm ²	0.3-1.34	100	100	1.34-30	180/f ²	0.0	30-300	0.2	0.2	300-1,500	f/1500	0.3	1,500-100,000	1	1
Frequency range	Power den	Enter this value																									
MHz	mW/cm ²	mW/cm ²																									
0.3-1.34	100	100																									
1.34-30	180/f ²	0.0																									
30-300	0.2	0.2																									
300-1,500	f/1500	0.3																									
1,500-100,000	1	1																									
f = frequency in MHz																											

Minimum Separation Distance	104.2 cm	1.042 m
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