TIMCO ENGINEERING, Inc.
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RF Exposure Evaluation Report

APPLICANT	MIDLAND RADIO CORPORATION
	5900 PARRETTA DRIVE KANSAS CITY MISSOURI 64120 USA
FCC ID	MMAMXT105
MODEL NUMBER	MXT105
PRODUCT DESCRIPTION	MOBILE GMRS 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.

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: 5/31/2016

RF Exposure Requirements

General information

Device type: MOBILE GMRS TRANSCEIVER

Devices that operate under Part 95 subpart A 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)
Roof or Truck Mounted	Any	Magnetic	3 dBi

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	4.9	W	*equals*	Max Power	4900	mW
Duty Cycle	50	%	*equals*	Duty Factor	0.5	numeric
Antenna Gain	3	dBi	*equals*	Gain numeric	1.995262	numeric
Coax Loss	0	dB		Gain - Coax Los	1.995262	numeric
Power Density	0.3	mW/cm^2				

Enter power Density from the chart to the right

Frequency 462.725 MHz

Rule Part 1.1310, Table 1 (B)

Frequency rang	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	**36 cm**	**0.36 m**

Minimum Seperation in Inches 14.16615 Inches

Applicant: MIDLAND RADIO CORPORATION
FCC ID: MMAMXT105
Report: V:\M\MIDLAND_MMA\816AUT16\816AUT16RF EXP MPE RPT_REV3.DOCX