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## RF Exposure Evaluation Report

<b>APPLICANT</b>	MIDLAND RADIO CORPORATION
	5900 PARRETTA DRIVE KANSAS CITY MISSOURI 64120 USA
<b>FCC ID</b>	MMAMXT105
<b>MODEL NUMBER</b>	MXT105
<b>PRODUCT DESCRIPTION</b>	MOBILE GMRS TRANSCEIVER
<b>STANDARD APPLIED</b>	CFR 47 Part 2.1091
<b>PREPARED BY</b>	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.

Applicant: MIDLAND RADIO CORPORATION  
FCC ID: MMAMXT105  
Report: V:\M\MIDLAND\_MMA\816AUT16\816AUT16RF EXP MPE RPT\_REV3.DOCX

## 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:

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

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	<b>4.9</b> W	<i>equals</i>	Max Power	4900 mW
Duty Cycle	<b>50</b> %	<i>equals</i>	Duty Factor	0.5 numeric
Antenna Gain	<b>3</b> dBi	<i>equals</i>	Gain numeric	1.995262 numeric
Coax Loss	<b>0</b> dB		Gain - Coax Loss	1.995262 numeric
Power Density	<b>0.3</b> mW/cm <sup>2</sup>			
Frequency	<b>462.725</b> MHz			

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

**Rule Part 1.1310, Table 1 (B)**

Frequency rang	Power den	Enter this value
MHz	mW/cm <sup>2</sup>	mW/cm <sup>2</sup>
0.3-1.34	100	<b>100</b>
1.34-30	180/f <sup>2</sup>	<b>0.0</b>
30-300	0.2	<b>0.2</b>
300-1,500	f/1500	<b>0.3</b>
1,500-100,000	1	<b>1</b>

f = frequency in MHz

<b>Minimum Separation Distance</b>	<b>36 cm</b>	<b>0.36 m</b>
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Minimum Separation in Inches      14.16615 Inches