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RF Exposure Evaluation Report

APPLICANT	MIDLAND RADIO CORPORATION
	5900 PARRETTA DRIVE KANSAS CITY MISSOURI 64120 USA
FCC ID	MMAMXT400
MODEL NUMBER	MXT400
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.

The attached report shall not be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

Applicant: MIDLAND RADIO CORPORATION

FCC ID: MMAMXT400

Report: V:\M\MIDLAND_MMA\1536AUT16\1536AUT16RF EXP MPE RPT160616.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 at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669



Authorized Signatory Name:

Cory Leverett,
Engineering Project Manager

Date: 8/25/2016

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RF Exposure Requirements

General information

Device type: MOBILE GMRS TRANSCEIVER

Antenna

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Fixed mounted	Any	Unity	2.15

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%.

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	45	W	<i>equals</i>	Max Power	45000	mW
Duty Cycle	50	%	<i>equals</i>	Duty Factor	0.5	numeric
Antenna Gain	0	dBi	<i>equals</i>	Gain numeric	1	numeric
Coax Loss	2.15	dB		Gain - Coax Loss	0.609537	numeric
Power Density	0.3	mW/cm ²				
Enter power Density from the chart to the right				Rule Part 1.1310, Table 1 (B)		
Frequency	467.725	MHz		Frequency range	Power density	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				60 cm		0.60 m
Minimum Separation in Inches		23.72794 Inches				

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