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## RF Exposure Evaluation Report

|                            |  |
|----------------------------|--|
| <b>APPLICANT</b>           | MIDLAND RADIO CORPORATION                                  |
|                            | 5900 PARRETTA DRIVE<br>KANSAS CITY MISSOURI 64120-2134 USA |
| <b>FCC ID</b>              | MMA88182   |
| <b>MODEL NUMBER</b>        | 88182  |
| <b>PRODUCT DESCRIPTION</b> | CB 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.

## 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: 12/8/2016**

Applicant: MIDLAND RADIO CORPORATION

FCC ID: MMA88182

Report: V:\M\MIDLAND\_MMA\2319ZUT16\2319ZUT16RF EXP MPE RPT.DOCX

## RF Exposure Requirements

### General information

Device type: CB TRANSCEIVER

### 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) |
|---------------|-------------|------|-----------------|
| Fixed mounted | Any         | omni | 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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| Insert values in yellow highlighted boxes to determine Minimum Separation Distance |                 |                    |                                      |                      |                    |
|--|-----------------|--------------------|--------------------------------------|----------------------|--------------------|
| Max Power  | 3.883           | W                  | <i>equals</i>                        | Max Power            | 3883               |
| Duty Cycle   | 100             | %                  | <i>equals</i>                        | Duty Factor          | 1                  |
| Antenna Gain   | 3               | dBi                | <i>equals</i>                        | Gain numeric         | 1.995262           |
| Coax Loss  | 0               | dB                 |                                      | Gain - Coax Loss     | 1.995262           |
| Power Density  | 0.2             | mW/cm <sup>2</sup> |                                      |                      |                    |
|  |                 |                    | <b>Rule Part 1.1310, Table 1 (B)</b> |                      |                    |
| Frequency  | 27.405          | MHz                |                                      | Frequency range      | Power density      |
|  |                 |                    |                                      | MHz                  | mW/cm <sup>2</sup> |
|  |                 |                    |                                      | 0.3-1.34             | 100                |
|  |                 |                    |                                      | 1.34-30              | 180/f <sup>2</sup> |
|  |                 |                    |                                      | 30-300               | 0.2                |
|  |                 |                    |                                      | 300-1,500            | f/1500             |
|  |                 |                    |                                      | 1,500-100,000        | 1                  |
|  |                 |                    |                                      | f = frequency in MHz |                    |
| <b>Minimum Separation Distance</b>   |                 |                    | <b>56 cm</b>                         |                      | <b>0.56 m</b>      |
| Minimum Separation in Inches   | 21.84229 Inches |                    |                                      |                      |                    |

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