



TESTING LABORATORY
CERTIFICATE#4323.01



MAXIMUM PERMISSIBLE EXPOSURE

TEST REPORT

For

Midland Radio Corporation

5900 Parretta Drive, Kansas City, Missouri, 64120-2134, United States

FCC ID: MMAMXT575

Report Type: Original Report	Product Type: GMRS MOBILE RADIO
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Report Number:	<u>RXM201206050-00B</u>
Report Date:	<u>2021-01-19</u>
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Midland Radio Corporation
Tested Model	MXT-575
Product Type	GMRS MOBILE RADIO
Modulation Mode	FM
Channel Spacing	25 kHz
Maximum Output Power(ERP)	462.5500-462.7250MHz: 46.89dBm 462.5625-462.7125MHz: 36.11dBm 467.5500-467.7250MHz: 46.69dBm
Operation Frequency	462.5500-462.7250MHz 462.5625-462.7125MHz 467.5500-467.7250MHz
Power Supply	DC 13.8V
*Antenna Gain	2.1 dBi

Note: The Maximum Antenna Gain was provided by manufacturer.*

*All measurement and test data in this report was gathered from production sample serial number: RXM201206050-1.
(Assigned by the BACL. The EUT supplied by the applicant was received on 2020-12-06)*

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Narda	Isotropic probe	NARD-EA5091	01158	2020-11-19	2021-11-18
Narda	Broadband Field Meter	NBM-550	B-1130	2020-11-19	2021-11-18

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to §2.1091 and §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission’s guideline.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

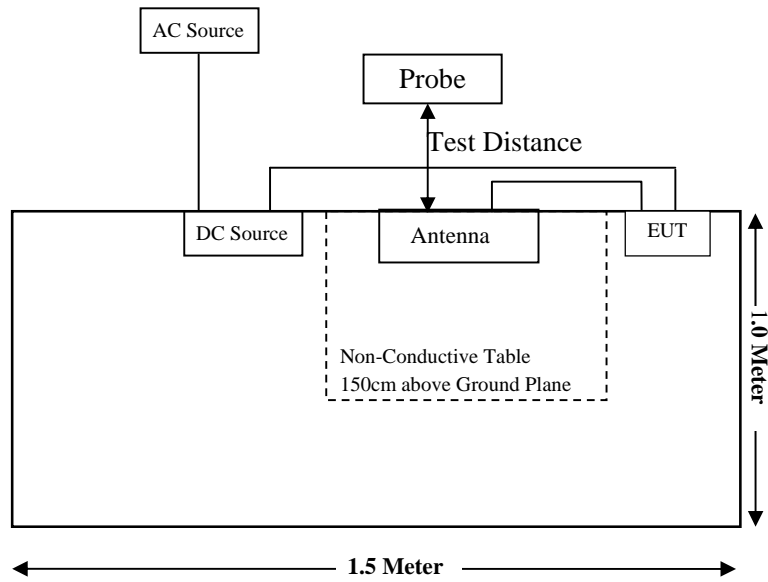
(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

Test Procedure

1. Place the EUT’s antenna was vertical polarization on the table.
2. The EUT was set to transmit at the frequency at maximum RF power.
3. The Distance between the test probe and the investigated EUT’s antenna equal to the distance be specified as safety distance in the user manual.
4. Power density measurements were taken at different heights of the probe from the ground (0.8 to 3.0 meters) while rotating versus azimuth (from 0° to 360°) the antenna.
5. Adjusted the distance between the test probe and the tested antenna to the real safe distance, Rreal, such that the measured highest power density in the “worst case” position was the same or slightly less than the test limit.
6. The measurement results of final measurements conducted at the chosen azimuth and different heights of the probe above the ground.

Block Diagram of Test Setup



Test Data**Environmental Conditions**

Temperature:	22.5 °C
Relative Humidity:	50 %
ATM Pressure:	101.6 kPa

The testing was performed by CK Huang on 2021-01-08

Test Result: Compliant.

Test Mode: 462.6250MHz (worst case)

Measuring Probe Height(cm)	Power Density(mW/cm ²)				
	40cm	50cm	60cm	70cm	80cm
80	0.070	0.069	0.069	0.068	0.067
90	0.088	0.088	0.087	0.087	0.086
100	0.091	0.090	0.089	0.086	0.081
110	0.098	0.098	0.097	0.095	0.092
120	0.112	0.111	0.110	0.107	0.106
130	0.124	0.123	0.122	0.121	0.120
140	0.143	0.143	0.142	0.141	0.140
150	0.184	0.183	0.182	0.181	0.177
160	0.188	0.187	0.187	0.186	0.018
170	0.241	0.240	0.239	0.239	0.199
180	0.194	0.194	0.193	0.193	0.191
190	0.186	0.185	0.185	0.184	0.183
200	0.174	0.173	0.172	0.171	0.170
210	0.114	0.112	0.110	0.107	0.106
220	0.094	0.091	0.088	0.085	0.081
230	0.091	0.090	0.089	0.085	0.090
240	0.082	0.081	0.080	0.079	0.077
250	0.053	0.051	0.050	0.048	0.047
260	0.043	0.042	0.039	0.038	0.037
270	0.022	0.020	0.019	0.018	0.016
280	0.017	0.016	0.014	0.013	0.011
290	0.013	0.012	0.011	0.010	0.009
300	0.011	0.010	0.010	0.009	0.008

Test Result Summary:

Maximum Power Density (mW/cm²)	0.241
Measured Conducted power (dBm)	46.89
Tune-up Power(dBm)	47.00
Scaled Maximum Power Density(50% dutyCyle) (mW/cm²)	0.124
MPE Limit (mW/cm²)	0.31
Safety distance (cm)	40
Result	Compliant

Note:

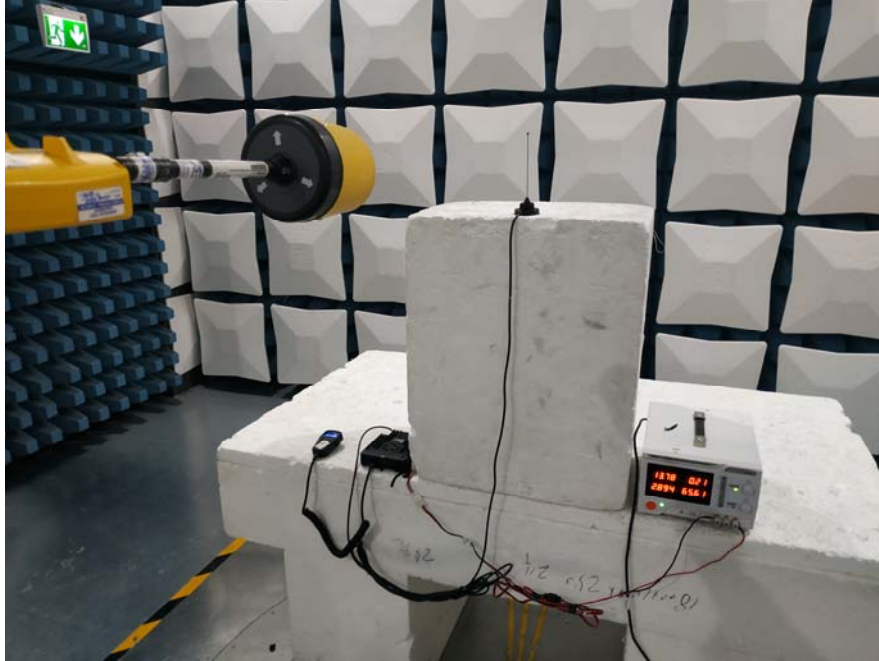
1. The tune-up output power was declared by the Manufacturer.
2. The antenna used for test is worst and has the highest gain,the information as below which was provided by the Manufacturer

Antenna Type	Antenna Gain
Omni antenna	2.1dBi

3. Typical use qualifies for a maximum duty cycle is 50%

To maintain compliance with the FCC's RF exposure guidelines, place the antenna at least 40cm from nearby persons.

TEST SETUP PHOTO



Declarations

- 1: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.
- 2: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
- 3: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
- 4: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.
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