

MAXIMUM PERMISSIBLE EXPOSURE

TEST REPORT

For

Quanzhou Wouxun Electronics Co., Ltd.

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FCC ID: WVTWOUXUN25

Report Type: Original Report	Product Type: TWO WAY RADIO(GMRS RADIO)
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Report Number:	RXM210426052-00C
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Quanzhou Wouxun Electronics Co., Ltd.
Tested Model	KG-XS20G
Series Model	KG-XS20G Plus, KG-XS20G+, XS20G, XS20G Plus, KG-XS20GR, KG-XS20GX, KG-XS20GR Plus, KG-XS20GX Plus
Model Difference	See Declaration letter
Product Type	TWO WAY RADIO(GMRS RADIO)
Modulation Mode	FM
Channel Spacing	25kHz
Maximum Output Power (conducted)	462.5500-462.7250MHz: 41.86dBm 462.5625-462.7125MHz: 34.88dBm 467.5500-467.7250MHz: 41.74dBm
Operation Frequency	462.5500-462.7250MHz (main channels) 462.5625-462.7125MHz (interstitial channels) 467.5500-467.7250MHz (main channels)
Power Supply	DC 13.8V
*Antenna Gain	5.5 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: RXM210426052-1(Assigned by the BACL. The EUT supplied by the applicant was received on 2021-04-26)

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)

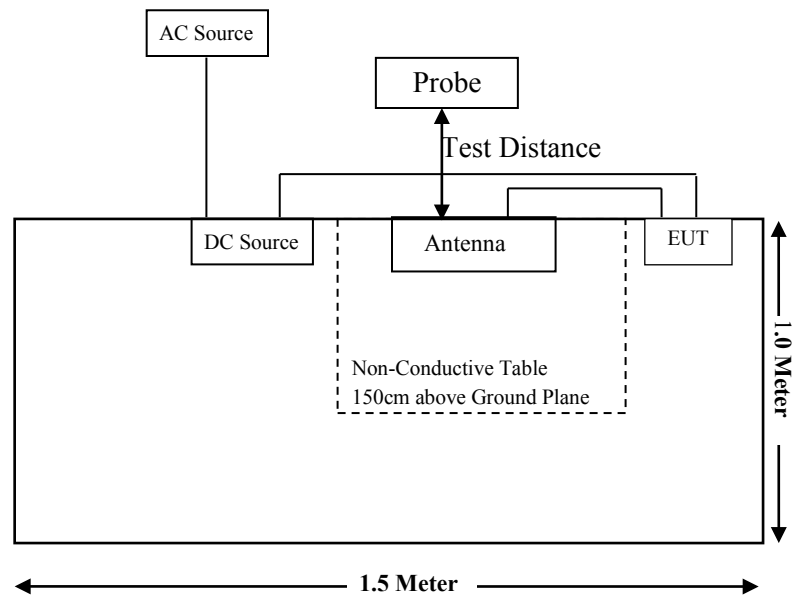
(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
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 Stone Zhang on 2021-07-07

Test Result: Compliant.

Test Mode: 462.6250MHz (worst case)

Measuring Probe Height(cm)	Power Density(mW/cm ²)				
	40cm	50cm	60cm	70cm	80cm
80	0.0486	0.0382	0.0253	0.0187	0.0127
90	0.1385	0.1237	0.1046	0.0867	0.0486
100	0.1546	0.1364	0.1173	0.0986	0.0572
110	0.1976	0.1543	0.1372	0.1156	0.0978
120	0.2273	0.2145	0.1976	0.1357	0.0846
130	0.2853	0.2427	0.1976	0.1543	0.1039
140	0.4832	0.3838	0.2735	0.2453	0.1067
150	0.5639	0.4016	0.2189	0.2163	0.1437
160	0.5517	0.3128	0.0916	0.0725	0.0707
170	0.4017	0.4007	0.3762	0.4017	0.3102
180	0.4892	0.3386	0.2132	0.1057	0.0872
190	0.3586	0.3272	0.2046	0.1873	0.0568
200	0.3242	0.2046	0.1873	0.1675	0.0437
210	0.2683	0.2238	0.2046	0.1842	0.0543
220	0.2426	0.1846	0.1287	0.1043	0.0864
230	0.1867	0.1237	0.0985	0.0436	0.0234
240	0.0823	0.0813	0.0803	0.0786	0.0768
250	0.0531	0.0514	0.0578	0.0481	0.0467
260	0.0428	0.0418	0.0391	0.0382	0.0367
270	0.0221	0.0235	0.0189	0.0177	0.0163
280	0.0174	0.0159	0.0143	0.0133	0.0113
290	0.0132	0.0121	0.0113	0.0105	0.0098
300	0.0112	0.0103	0.0096	0.0088	0.0076

Test Result Summary:

Maximum Power Density (mW/cm²)	0.5639
Measured Conducted power (dBm)	41.86
Tune-up Power(dBm)	42.00
Scaled Maximum Power Density(50% dutyCyle) (mW/cm²)	0.2829
MPE Limit (mW/cm²)	0.31
Safety distance (cm)	40
Result	Compliant

Note:

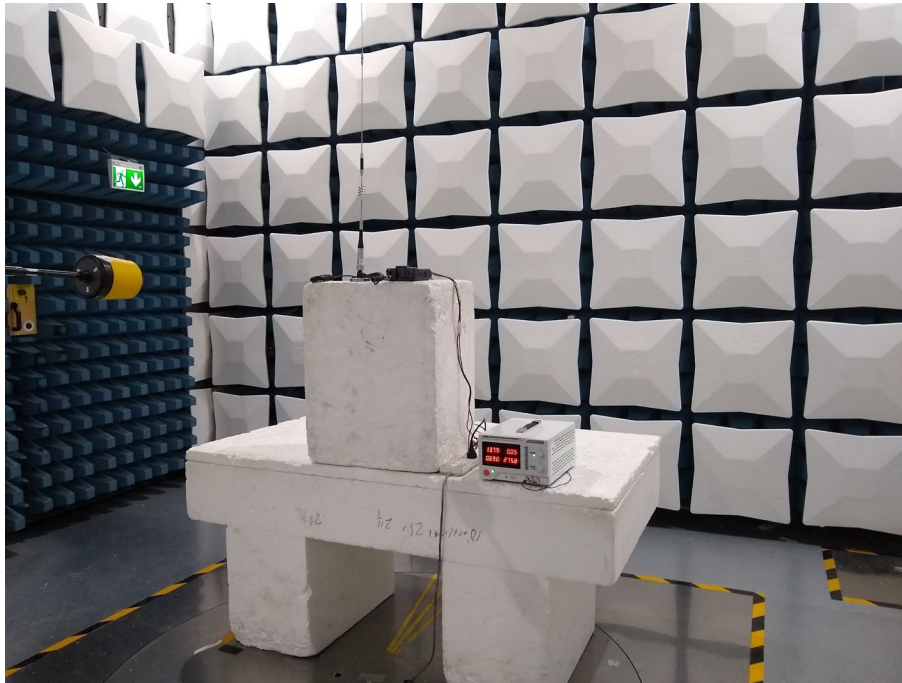
1. The tune-up output power was declared by the Manufacturer.
2. The antenna used for test is worst and has the highest gain, the information as below which was provided by the Manufacturer

Antenna Type	Antenna Gain
Omni antenna	5.5dBi

3. Typical use qualifies for a maximum duty cycle is 50%
4. A typical installation consists of system with a coaxial cable has a loss 1.36dB and the cable length 1.5m.

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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