

MAXIMUM PERMISSIBLE EXPOSURE EVALUATION REPORT

Applicant: SHENZHEN COVALUE COMMUNICATIONS CO.,LTD.

Address: No.616,Block A,Building 7,No. 1008 Songbai Road,Xili
street,Nanshan District,Shenzhen,Guangdong,China

Product Name: Mobile Radio

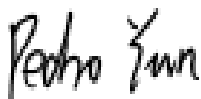
FCC ID: Y4GDM8000-1

Standard(s): 47 CFR §1.1310, 47 CFR §2.1091,
47 CFR §15.247(i)

Report Number: 2402Z105052E-RF-00E

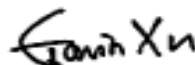
Report Date: 2024/12/17

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).



Reviewed By: Pedro Yun

Title: Project Engineer



Approved By: Gavin Xu

Title: RF Supervisor

Bay Area Compliance Laboratories Corp. (Dongguan)
No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China

Tel: +86-769-86858888

Fax: +86-769-86858891

www.baclcorp.com.cn

Note: The information marked ▲ is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report cannot be reproduced except in full, without prior written approval of the Company. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0. This report may contain data that are not covered by the accreditation scope and shall be marked with ★. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. Each test item follows the test standard(s) without deviation.

1. GENERAL INFORMATION

1.1 General Description Of Equipment under Test

EUT Name:	Mobile Radio
EUT Model:	DM8000-1
Multiple Model:	DM8100-1
Rated Input Voltage:	DC 13.8V from vehicle system
EUT Received Date:	2024/11/15
EUT Received Status:	Good

Note: The multiple models are electrically identical with the test model, the difference is only the shape. Please refer to the declaration letter for more detail, which was provided by manufacturer.

2. RF EXPOSURE EVALUATION (MPE)

2.1 RF Exposure Evaluation

2.1.1 Applicable Standard

According to 1.1310, 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for Maximum Permissible Exposure (MPE)

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3- 3.0	614	1.63	(100)*	6
3.0 - 30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6

f = frequency in MHz;

* = Plane-wave equivalent power density;

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;

According to §1.1310 and §2.1091 RF exposure is calculated.

2.1.2 Calculation formula:

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For [simultaneously](#) transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

2.1.3 Calculated Data:

Operation Modes	Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
BDR/EDR	2402-2480	-3.39	0.46	2.5	1.78	20.00	0.0002	1.0
BLE	2402-2480	-3.39	0.46	1.5	1.41	20.00	0.0001	1.0
VHF	136-174	0	1.00	47.5	56234.13	55.00	0.7418	1.0

Note:

The Conducted output power including Tune-up Tolerance provided by manufacturer.

VHF maximum operation duty cycle is 50%.

VHF was Controlled Environment use.

BT/BLE can't transmit simultaneously.

For Simultaneous transmission:

VHF and BDR/EDR/BLE can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$$= S_{Bluetooth}/S_{limit-Bluetooth} + S_{VHF}/S_{limit-VHF}$$

$$= 0.0002/1.0 + 0.7418/1.0$$

$$= 0.742$$

$$< 1.0$$

Result: Compliant. The device compliant Simultaneous transmission at 55cm distances.

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402Z105052E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402Z105052E-RF-INP EUT INTERNAL PHOTOGRAPHS.

******* END OF REPORT *******