

RF Exposure evaluation report

Applicant:	Guangzhou Rantion Technology Co., Ltd
Address of Applicant:	Building D, Kengkou digital base, No. 9 Huaxi Road, Liwan District, Guangzhou, China
Manufacturer:	Guangzhou Rantion Technology Co., Ltd
Address of Manufacturer:	Building D, Kengkou digital base, No. 9 Huaxi Road, Liwan District, Guangzhou, China
Product name:	Electric Drum Amplifier
Model:	DDA-80
Rating(s):	110-230V AC 50/60Hz
Trademark:	
Standards:	47 CFR Part 1.1310 (2013) 47 CFR Part 2.1091 (2013) KDB447498D01 General RF Exposure Guidance v06
FCC ID:	2AV7N-DDA-80
Date of Receipt:	2021-04-15
Date of Test:	2021-04-15~2021-05-31
Date of Issue:	2021-05-31
Test Result	Pass*

* In the configuration tested, the test item complied with the standards specified above.

Authorized for issue by:

Test by:

Reviewed by:

May. 31, 2021 Eleven Liang

Project Engineer

May. 31, 2021

Pauler Li 

Project Manager

Date

Name/Position

Signature

Date

Name/Position

Signature

Possible test case verdicts:

test case does not apply to the test object ...: N/A

test object does meet the requirement: P (Pass)

test object does not meet the requirement ...: F (Fail)

Testing Laboratory information:

Testing Laboratory Name: ITL Co., Ltd

Address.....: No. 8 Jinqianling Street 5, Huangjiang Town, Dongguan,
Guangdong, 523757 P.R.C.

Testing location : Same as above

Tel : 0086-769-39001678

Fax : 0086-20-62824387

E-mail : itl@i-testlab.com

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report would be invalid test report without all the signatures of testing technician and approver.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

General product information:

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2 General Information

2.1 Client Information

Applicant: Guangzhou Rantion Technology Co., Ltd
Address of Applicant: Building D, Kengkou digital base, No. 9 Huaxi Road, Liwan District, Guangzhou, China

2.2 General Description of E.U.T.

Name: Electric Drum Amplifier
Model No.: DDA-80
Trade Mark:  **DONNER**TM
Operating Frequency: 2402 MHz to 2480 MHz for Bluetooth.
Channels: 79 channels with 1MHz step for Bluetooth
40 channels with 2MHz step for BLE
Type of Modulation: GFSK, ($\pi/4$) DQPSK, 8DPSK for Bluetooth
Antenna Reference: PCB Antenna with 3.38dBi peak Gain
Function: Electric Drum Amplifier

2.3 Details of E.U.T.

EUT Power Supply: 120V~
Test mode for BT: The program used to control the EUT for staying in continuous transmitting and receiving mode is programmed. Channel lowest (2402MHz), middle (2441MHz) and highest (2480MHz) are chosen for Bluetooth full testing.
Normal mode: the Bluetooth has been tested on the Modulation of GFSK;
EDR mode: the Bluetooth has been tested on the Modulation of ($\pi/4$)DQPSK and 8DPSK, compliance test and record the worst case on ($\pi/4$)DQPSK and 8DPSK

Test mode for BLE: The program used to control the EUT for staying in continuous transmitting and receiving mode is programmed. Channel lowest (2402MHz), middle (2440MHz) and highest (2480MHz) are chosen for full testing.

2.4 Description of Support Units

The EUT has been tested as an independent unit for fixed frequency by testing lab.

2.5 Test Location

All tests were performed at:
ITL Co., Ltd
No. 8 Jinqianling Street 5, Huangjiang Town, Dongguan, Guangdong, 523757 P.R.C.
0086-769-39001678
itl@i-testlab.com
No tests were sub-contracted.

2.6 Deviation from Standards

Biconical and log periodic antennas were used instead of dipole antennas.

2.7 Abnormalities from Standard Conditions

None.

2.8 Other Information Requested by the Customer

None.

2.9 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS Lab code: L9342**
- **FCC Designation No.:CN5035**
- **IC Registration NO.: 12593A**
- **NVLAP LAB CODE: 600199-0**

3 MPE Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06 and FCC 1.1310
Radiofrequency radiation exposure limits for General Population/Uncontrolled Exposure

3.1.2 EUT RF Exposure

Bluetooth (Classic mode):

The Max Output Power is 2.63 dBm in EDR mode(3DH5) Lowest channel (2.402GHz);

Antenna gain: 3.38dBi

R=20cm

$$S = PG / (4 \pi R^2) = 0.00086 \text{ mW/cm}^2 < 1 (\text{limits}) \text{ mW/cm}^2$$

Bluetooth (BLE mode):

The Max Output Power is 0.99 dBm in Lowest channel (2.402GHz);

Antenna gain: 3.38dBi

R=20cm

$$S = PG / (4 \pi R^2) = 0.00060 \text{ mW/cm}^2 < 1 (\text{limits}) \text{ mW/cm}^2$$

--END--