

RF Exposure Report

Applicant: NINGBO UNIVERSAL DRAGON I/E CORP.

Address of Applicant: 9/f Kirin Mansion, Tiantong North Road 1539#, Ningbo, China

Manufacturer/Factory: NINGBO UNIVERSAL DRAGON I/E CORP.

Address of Manufacturer/Factory: 9/f Kirin Mansion, Tiantong North Road 1539#, Ningbo, China

Equipment Under Test (EUT)

Product Name: wireless charging notebook

Model No.: KP2238S

FCC ID: 2AUVH-KP2238S

Applicable standards : FCC CFR Title 47 Part 1 §1.1307
FCC CFR Title 47 Part 1 §1.1310
FCC CFR Title 47 Part 2 §2.1091
KDB 680106 D01 RF Exposure Wireless Charging App v03r01

Date of sample receipt: May 31, 2022

Date of Test: June 01-08, 2022

Date of report issued: June 08, 2022

Test Result : PASS *

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

Authorized Signature:



Robinson Luo

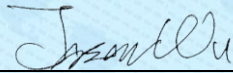
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	June 08, 2022	Original

Prepared By:

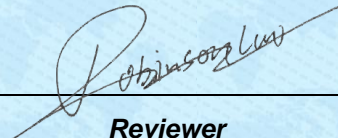


Date:

June 08, 2022

Project Engineer

Check By:



Date:

June 08, 2022

Reviewer

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4 General Information

4.1 General Description of EUT

Product Name:	wireless charging notebook
Model No.:	KP2238S
Serial No.:	N/A
Test sample(s) ID:	GTS202205000308-1
Sample(s) Status	Engineer sample
Operation Frequency:	112kHz~205kHz
Modulation type:	FSK
Antenna Type:	Coil Antenna
Antenna gain:	0dBi (Max)
Power supply:	Input: DC 5V, 2A Output: DC 5V, 1A,5W

4.2 Test Facility

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

● **FCC—Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

● **IC —Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

4.3 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123- 128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

4.4 Description of Support Units

Manufacturer	Description	Model	S/N
YBZ	Intelligent wireless charging full function test module	001	N/A
XIAOMI	USB Charger	MDY-10-EH	N/A

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 Requirements

Test Methodology:

The tests documented in this report were performed in accordance with FCC CFR Title 47 Part 1 §1.1307, FCC CFR Title 47 Part 1 §1.1310, FCC CFR Title 47 Part 2 §2.1091 and KDB 680106 D01 RF Exposure Wireless Charging App v03r01

Limit:

Table 1 to § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

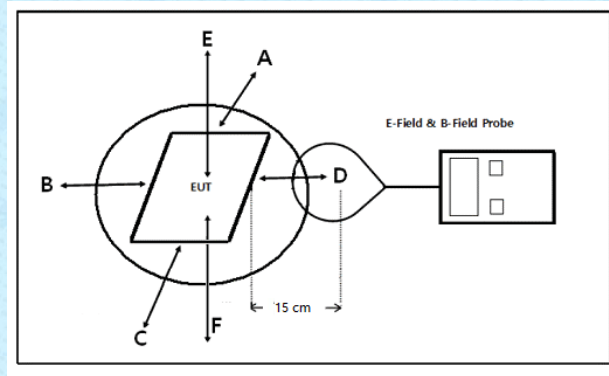
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
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
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

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

Method Of Measurement:

- The RF exposure test was performed in shielded chamber.
- The geometric centre of probe was placed at 15 cm test distance surrounding the device and 20 cm above the top surface.
- The measurement probe used to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

Test Setup:



Note: As bottom point is not required to test for desktop devices

Equipment Approval Considerations:

The EUT comply with 680106 D01 RF Exposure Wireless Charging App v03r01.

1. Power transfer frequency is less than 1 MHz.
Yes, the device operated in the frequency range from 112kHz to 205kHz.
2. Output power from each primary coil is less than or equal to 15 Watts.
Yes, The maximum output power of each primary coil is 5 watts.
3. The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.
Yes, the client device includes only single primary coil.
4. Client device is placed directly in contact with the transmitter.
Yes, Client device is placed directly in contact with the transmitter.
5. Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
Yes, The EUT is a mobile device.
6. The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.
Yes; The EUT's field strength levels are less than 50% of the MPE limit.

Measuring Instrument Used:

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Electric and Magnetic Field Analyzer	Narda	EHP-200A	GTS614	2021.11.15	2022.11.14

E Field And H Field Strength Test Result:

Test Mode	Description
Mode 1	Charging with 5W wireless charging load
Mode 2	Charging without wireless charging load (No Load)

Note: All the modes had been tested, but only the worst data was recorded in the report (Mode 1).

H-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (A/m)

15cm				20cm	Limits(A/m)	50% Limits(A/m)
Test Position A	Test Position B	Test Position C	Test Position D	Test Position E		
0.07	0.15	0.07	0.11	0.08	1.63	0.815

E-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (V/m)

15cm				20cm	Limits(V/m)	50% Limits(V/m)
Test Position A	Test Position B	Test Position C	Test Position D	Test Position E		
3.13	2.14	2.63	2.25	2.23	614	307

6 Test Setup Photo

Reference to the **appendix I** for details.

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