

RF EXPOSURE TEST REPORT



Applicant	SHENZHEN DNS INDUSTRIES CO., LTD.
Address	23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen, China

Manufacturer or Supplier	SHENZHEN DNS INDUSTRIES CO., LTD.
Address	23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen, China
Product	Wireless charger
Brand Name	DNS, omars, mbest, NOVOO, KEYMOX, Infinitive
Model	WD-231E
Additional Model & Model Difference	703243
Date of tests	Mar. 23, 2023

The submitted sample of the above equipment has been tested according to the requirements of the following standard:

- ☒ 47 CFR PART 1, Subpart I, Section 1.1310
- ☒ KDB 680106 D01

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Eric Fang Project Engineer / EMC Department	Approved by Glyn He Assistant Manager/ EMC Department
	
	Date: Mar. 23, 2023

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TABLE OF CONTENTS

RF EXPOSURE TEST REPORT	1
RELEASE CONTROL RECORD.....	3
1. GENERAL INFORMATION.....	4
1.1. GENERAL DESCRIPTION OF EUT	4
2. RF EXPOSURE MEASUREMENT	5
2.1 LIMITS	5
2.2 DESCRIPTION OF SUPPORT UNITS.....	5
2.3 CONFIGURATION OF SYSTEM UNDER TEST	6
2.4 TEST SETUP FOR WPT.....	6
2.5 EQUIPMENTS USED DURING TEST.....	7
2.6 TEST POINT DESCRIPTION.....	7
2.7 TEST RESULTS	8
3. PHOTOGRAPHS OF THE TEST CONFIGURATION.....	10



Test Report No.: FM2302WDG0217

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2302WDG0217	Original release	Mar. 23, 2023

1. GENERAL INFORMATION

1.1. GENERAL DESCRIPTION OF EUT

FCC ID	ZBC-WD231E
PRODUCT	Wireless charger
MODEL NO.	WD-231E
ADDITIONAL MODELS	703243
POWER SUPPLY	Input:5V/2A, 9V/2.22A Output: 5W/7.5W/10W/15W(Max)
MODULATION TECHNOLOGY	ASK
OPERATING FREQUENCY RANGE	110KHz ~ 205KHz
ANTENNA TYPE	Coil Antenna
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB Line: Unshielded, Detachable, 90cm

NOTES:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 2302WDG0217) for detailed product photo.
4. Additional model 703243 is identical with test model WD-231E except brand name and model no. for trading purpose.

2. RF EXPOSURE MEASUREMENT

2.1 LIMITS

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

TABLE 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)
(A) Limits for Occupational/Controlled Exposures				
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
(B) 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
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

Reference KDB 680106 D01 RF Exposure Wireless Charging App v03

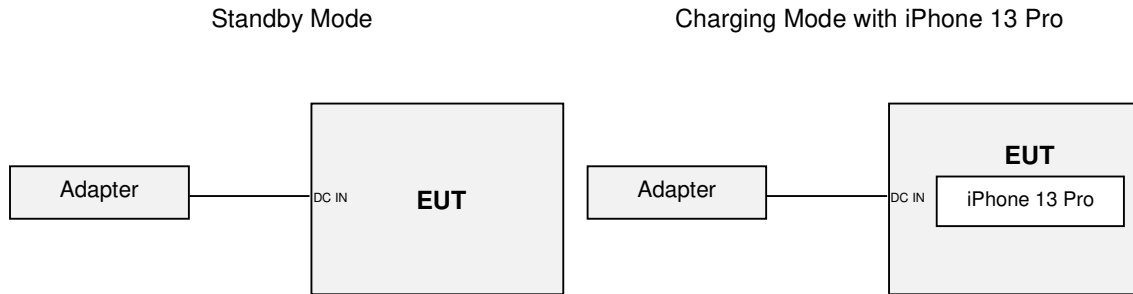
The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

2.2 DESCRIPTION OF SUPPORT UNITS

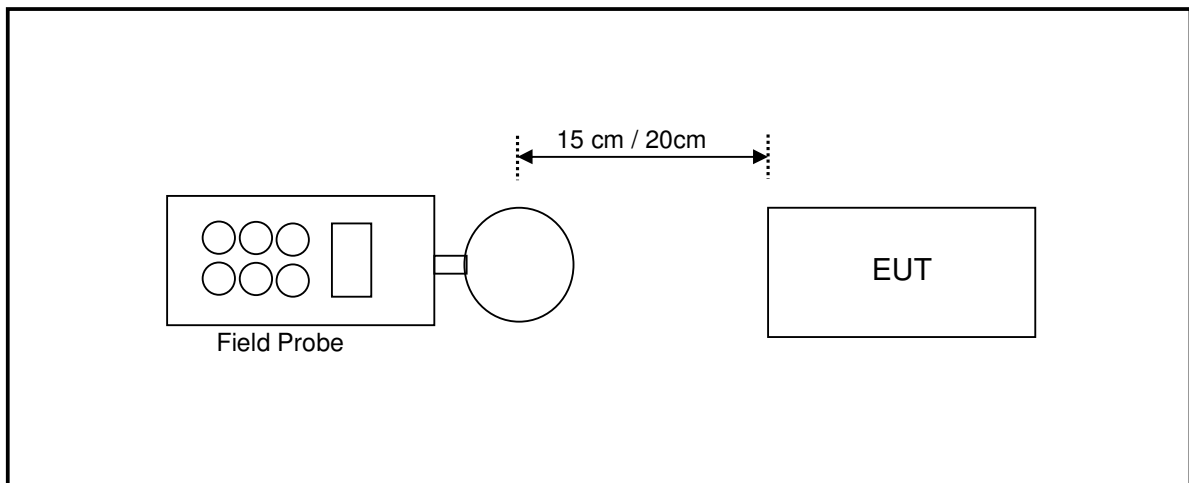
The EUT has been tested with associated equipment below

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	iPhone 13 Pro	Apple	A2639	RWGKGR4X05	N/A

2.3 CONFIGURATION OF SYSTEM UNDER TEST



2.4 TEST SETUP FOR WPT



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device.

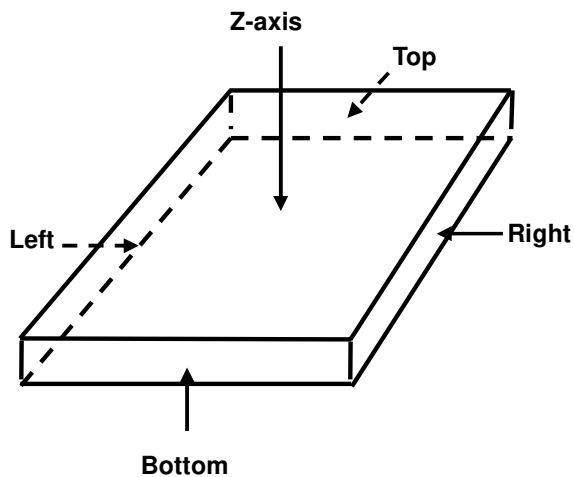
The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.5 EQUIPMENTS USED DURING TEST

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Electric and Magnetic Field Probe-Analyzer	Narda	EHP-200A	180ZX10216	Mar. 17, 24
3m Fully Anechoic Chamber	Chance Most	8m*4m*4m	D3040011DG	May 27, 25
Test Software	Narda	EHP200-TS	V1.94	N/A

NOTE: 1. The test was performed in RS chamber.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2.6 TEST POINT DESCRIPTION



2.7 TEST RESULTS

Mode 1 Standby

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.11	1.21	1.12	0.95	1.32
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.89	-612.79	-612.88	-613.05	-612.68
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.89	-305.79	-305.88	-306.05	-305.68

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (A/m)	0.215	0.199	0.199	0.207	0.231
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.415	-1.431	-1.431	-1.423	-1.399
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.600	-0.616	-0.616	-0.608	-0.584

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Mode2: Charging Mode (iPhone 13 Pro 1% Battery)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	2.74	3.17	3.29	2.92	3.55
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-611.26	-610.83	-610.71	-611.08	-610.45
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-304.26	-303.83	-303.71	-304.08	-303.45

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (A/m)	0.247	0.263	0.295	0.279	0.231
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.383	-1.367	-1.335	-1.351	-1.399
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.568	-0.552	-0.520	-0.536	-0.584

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Mode3: Charging Mode (iPhone 13 Pro 50% Battery)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	2.59	2.84	2.87	2.66	3.15
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-611.41	-611.16	-611.13	-611.34	-610.85
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-304.41	-304.16	-304.13	-304.34	-303.85

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (A/m)	0.231	0.223	0.239	0.223	0.207
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.399	-1.407	-1.391	-1.407	-1.423
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.584	-0.592	-0.576	-0.592	-0.608

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

Mode4: Charging Mode (iPhone 13 Pro 90% Battery)

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.27	2.79	2.81	2.59	2.94
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.73	-611.21	-611.19	-611.41	-611.06
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-306.73	-304.21	-304.19	-304.41	-304.06

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (A/m)	0.215	0.207	0.231	0.191	0.175
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.415	-1.423	-1.399	-1.439	-1.455
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.600	-0.608	-0.584	-0.624	-0.640

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.



Test Report No.: FM2302WDG0217

3. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (FCC MPE Test Photo).

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