



Test Report No.: FM2201WDG0226



# RF EXPOSURE TEST REPORT



Applicant	MerchSource, LLC.
Address	7755 Irvine Center Drive, Suite 100, Irvine, CA 92618

Manufacturer or Supplier	MerchSource, LLC.
Address	7755 Irvine Center Drive, Suite 100, Irvine, CA 92618
Product	Wireless Charger with Mirror Round LED 8inch
Brand Name	Sharper Image
Model	1014289
Additional Model & Model Difference	1015505, see items 1.1
Date of tests	Jul. 06, 2021 ~ Jul. 12, 2021 Jan. 25, 2022 ~ May 18, 2022

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 Andy Zhu Supervisor / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	
	Data: May 18, 2022

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2106WDG0113	Original release	Aug. 04, 2021
FM2201WDG0226	Based on the original report FM2106WDG0113, Change the Manufacturer and address, Change PCB cabling and component layout but it need to be retested.	May 18, 2022

## 1. GENERAL INFORMATION

### 1.1. GENERAL DESCRIPTION OF EUT

<b>FCC ID</b>	2AEVM1014289
<b>PRODUCT</b>	Wireless Charger with Mirror Round LED 8inch
<b>MODEL NO.</b>	1014289
<b>ADDITIONAL MODEL</b>	1015505
<b>SAMPLE STATUS</b>	Engineering sample
<b>POWER SUPPLY</b>	DC 12V from Adapter
<b>MODULATION TECHNOLOGY</b>	ASK
<b>OPERATING FREQUENCY RANGE</b>	111-205KHz
<b>ANTENNA TYPE</b>	Coil Antenna
<b>I/O PORTS</b>	Refer to user's manual
<b>CABLE SUPPLIED</b>	N/A

#### NOTES:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
- Please refer to the EUT photo document (Reference No.: 2201WDG0226) for detailed product photo.
- Additional models 1015505 are identical with the test model 1014289 except the model number for marketing purpose.
- The EUT were powered by the following adapter.

ADAPTER	
BRAND:	N/A
MODEL:	AD0301-1202000UB
INPUT:	AC 100-240V, 50-60Hz 0.8A Max.
OUTPUT:	DC 12V, 2A 24W
DC LINE:	Unshielded, Non-detachable, 155cm

## 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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	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

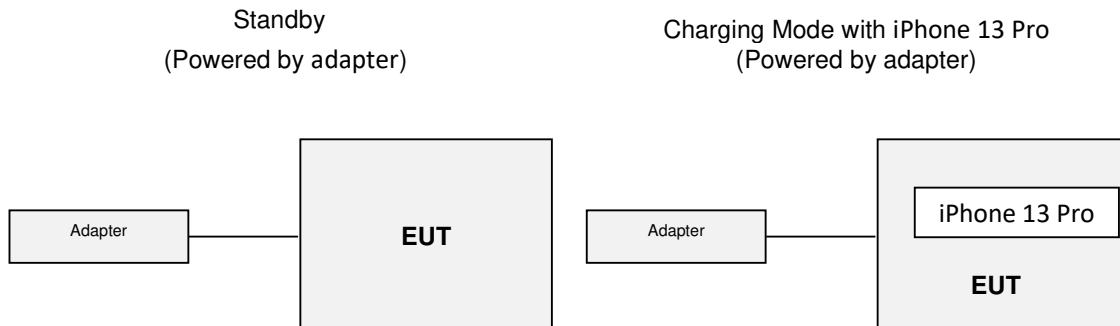
The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

### 2.2 DESCRIPTION OF SUPPORT UNITS

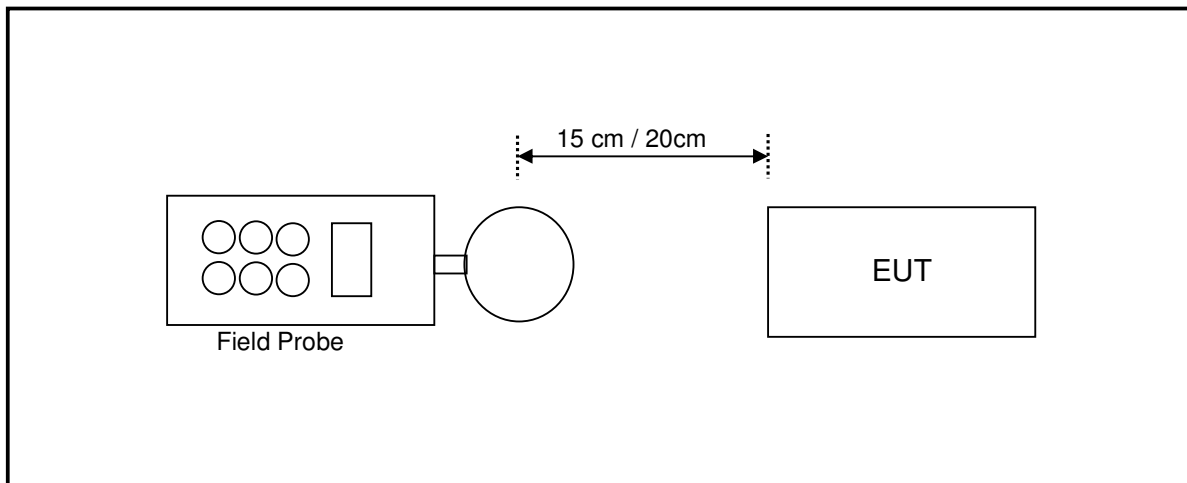
The EUT has been tested with associated equipment below

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Iphone 13 Pro	APPLE	A2639	N/A	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.

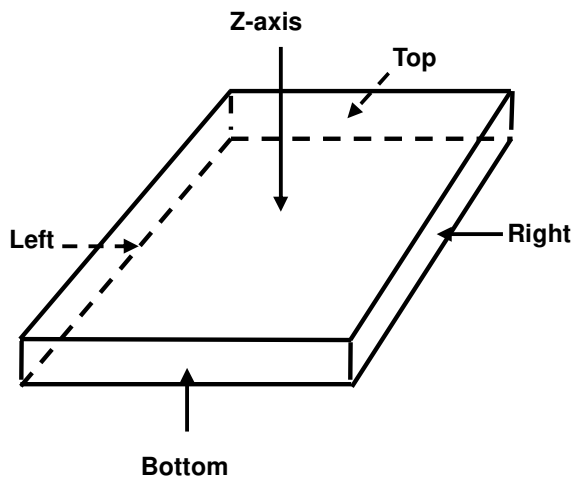
The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 2.5 EQUIPMENTS USED DURING TEST

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
E-Field probe	Narda	NBM-520	2403/01B	Mar. 24,23
Electric and Magnetic Field Probe-Analyzer	Narda	EHP-200A	180ZX10216	Mar. 17, 23
Test Software	Narda	EHP200-TS	V1.94	N/A

- NOTES:**
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	1.09	1.53	0.99	2.22
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.87	-612.90	-612.54	-612.88	-611.91
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.60	-305.81	-305.55	-305.89	-304.69

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.236	0.235	0.235	0.235	0.237
Max H-field (A/m)	0.191	0.177	0.188	0.181	0.188
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.446	-1.452	-1.445	-1.442	-1.437
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.634	-0.626	-0.626	-0.633	-0.629

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.

### Mode 2: Operating with iPhone 13 Pro 10% Charger

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.28	1.51	1.95	1.34	1.51
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.38	-612.55	-612.18	-612.56	-612.77
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.72	-305.53	-304.90	-305.66	-305.64

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.224	0.242	0.229	0.227	0.233
Max H-field (A/m)	0.179	0.184	0.186	0.181	0.180
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.451	-1.444	-1.449	-1.448	-1.445
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.626	-0.631	-0.634	-0.627	-0.628

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.



**Mode 3: Operating with iPhone 13 Pro 50% Charger**

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.45	1.41	1.69	1.42	1.29
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.37	-612.44	-612.06	-612.45	-612.49
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.44	-305.54	-305.24	-305.36	-305.62

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.230	0.232	0.233	0.235	0.233
Max H-field (A/m)	0.185	0.189	0.183	0.188	0.182
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.450	-1.441	-1.447	-1.440	-1.444
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.632	-0.629	-0.630	-0.626	-0.625

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.

**Mode 4: Operating with iPhone 13 Pro 90% Charger**

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.40	1.20	1.38	1.46	1.70
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.53	-612.86	-612.59	-612.48	-612.44
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.55	-305.69	-305.39	-305.36	-305.42

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.226	0.232	0.238	0.236	0.235
Max H-field (A/m)	0.184	0.181	0.184	0.189	0.180
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.443	-1.448	-1.441	-1.441	-1.443
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.632	-0.627	-0.627	-0.634	-0.630

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.



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### 3. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

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