Product Name:	Smart Atmosphere Night Light
Product Model No.:	WRNL20
Test Auxiliary:	AC/DC Adapter, Phone
Test Auxiliary Model No.:	HW-050450C00, iPhone 13
Transmitting mode	Keep the EUT in continuously wireless charging mode
Power supply:	Input: DC 12V/2.5A, DC12V/2A Wireless output: 5W-7.5W-10W-15W
Test Description:	Phone Battery > 98%, =50% and < 1% are tested, and the worst is < 1%.

Test Modes:		**Description:**	
Mode 1	Phone Coil	Full Load	Record
		Half Load	
		No Load	
Note: All modes have been tested, and the report only reflects the worst case data.			

RF Exposure Evaluation

1 Measuring Standard

KDB 680106 RF Exposure Wireless Charging Apps v03r01

1.1 KDB 680106 RF Exposure Wireless Charging Apps v03r01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainly
1	H-filed	±0.93dB
2	E-filed	±0.51dB

2 Requirements

According to the item 5 of KDB 680106 v03r01:

Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation.

(1) Power transfer frequency is less than 1MHz.

Yes.The device operates in the frequency Phone Coil is 115KHz-205KHz;

(2) Output power from each primary coil is less than or equal to 15 watts.

Yes. The maximum output power of the primary coil is Max 15W;

(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 transfer system including a charging system with only single primary coils is to detect and allow only between individual of coils;

(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 does not have portable exposure conditions.

(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. Meet the requirement.

Limits

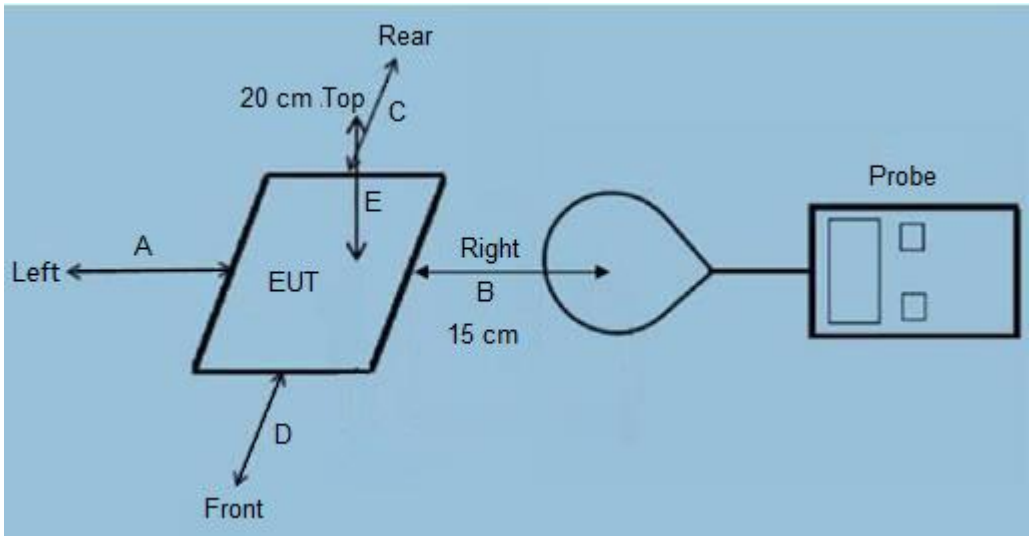
The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

3 Test Setup



4 Test Procedure

1) The RF exposure test was performed in anechoic chamber.

2) The measurement probe was placed at test distance (15 cm from all sides and 20 cm from the top) which is between the edge of the charger and the geometric center of probe.

3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.

4) The EUT was measured according to the dictates of KDB 680106 v03r01.

Remark：The EUT's test position A, B, C, D and E is valid for the E and H field measurements.

5 Test Instruments list

Test Equipment	Manufacturer	Model No.	SN.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
Exposure Level Tester	Narda	ELT-400	180ZX10220	Oct. 25, 2022	Oct. 24 2023
Magnetic field probe 100cm^2	Narda	ELT probe 100cm^2	M0675	Oct. 26, 2022	Oct. 25 2023

6 Test Result

H-Filed Strength at 15 cm from the edges surrounding the EUT (uT)

Frequency Range (MHz)	Test Position Left	Test Position Right	Test Position Rear	Test Position Front
0.115-0.205	0.61	0.59	0.58	0.60

H-Filed Strength at 15 cm from the edges surrounding the EUT (A/m)

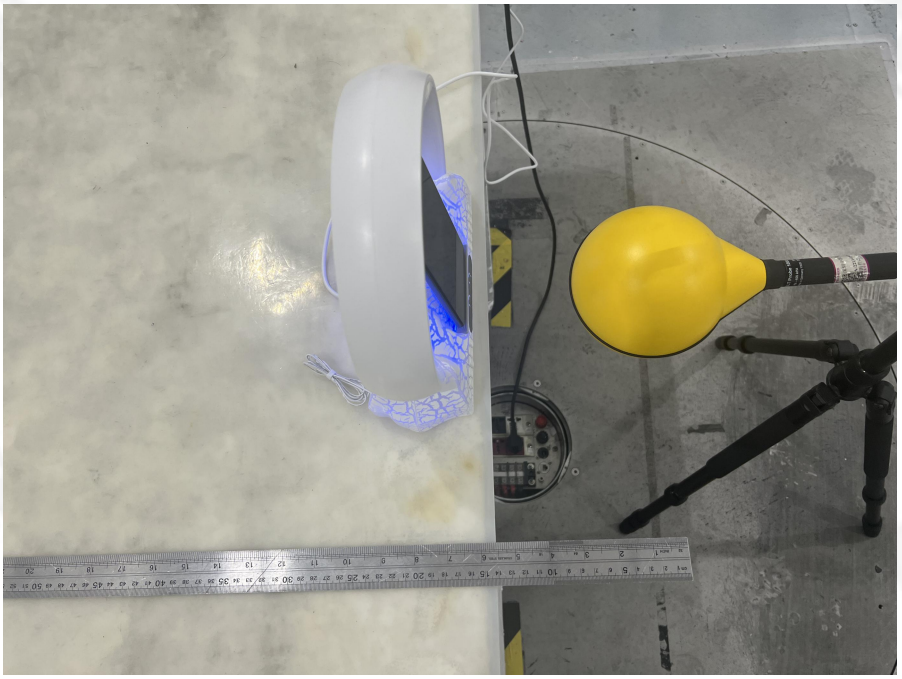
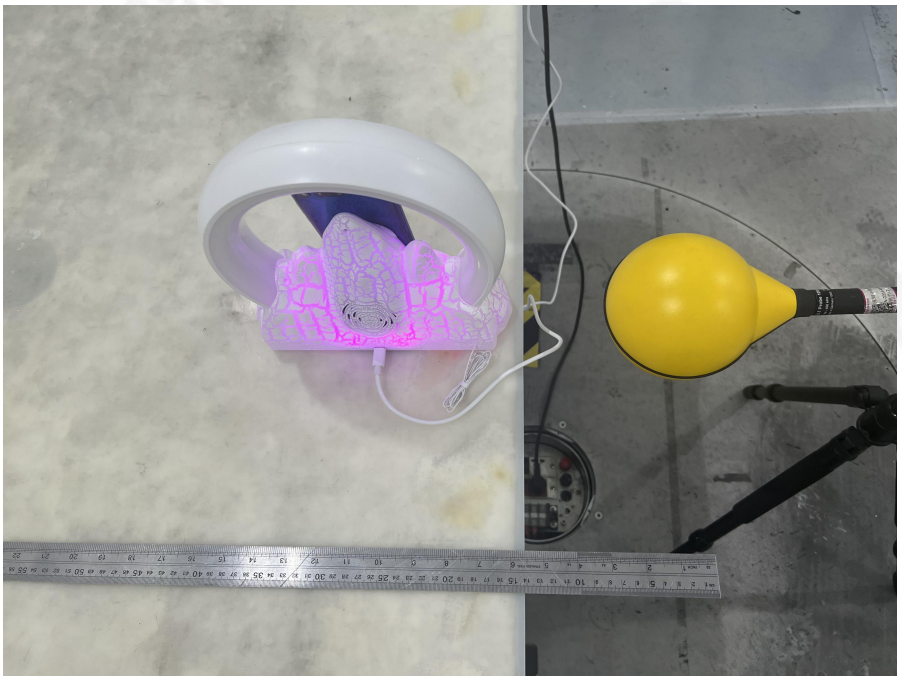
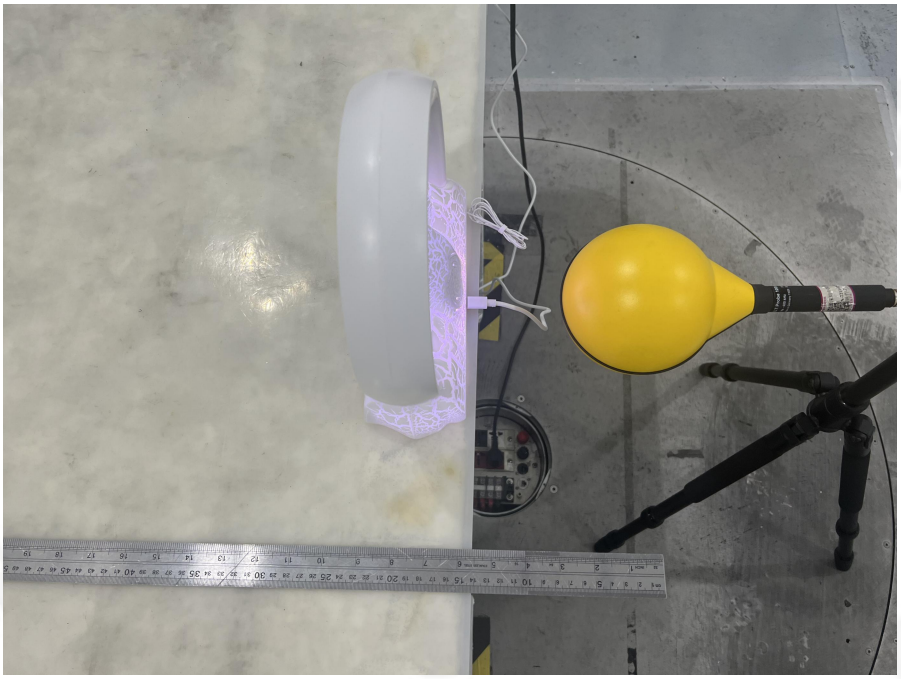
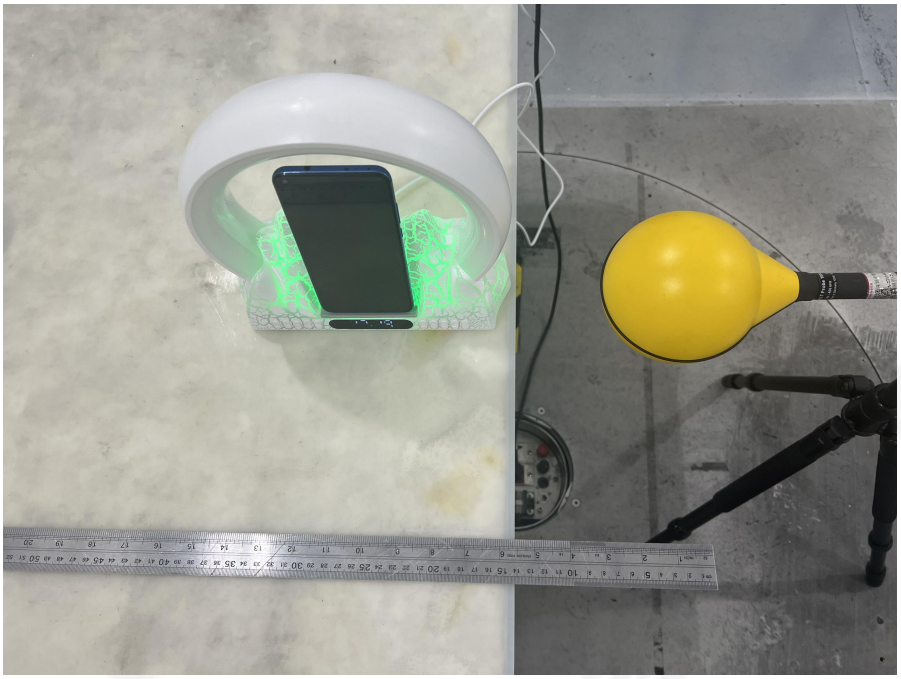
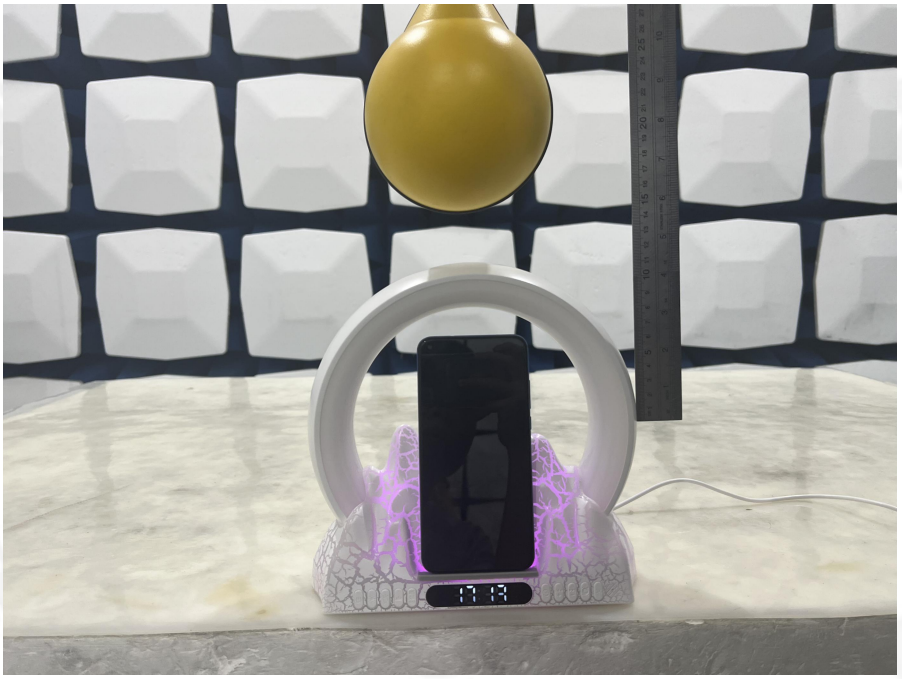
Frequency Range (MHz)	Test Position Left	Test Position Right	Test Position Rear	Test Position Front	Limits (50%) (A/m)	Limits (A/m)
0.115-0.205	0.49	0.47	0.46	0.48	0.815	1.63

H-Filed Strength at 20 cm from Top of the EUT (uT)

Frequency Range (MHz)	Test Position Top
0.115-0.205	0.62

H-Filed Strength at 20 cm from Top of the EUT (A/m)

Frequency Range (MHz)	Test Position Top	Limits (50%) (A/m)	Limits (A/m)
0.115-0.205	0.50	0.815	1.63

Remark: A/m = uT/1.25

7 Test Set-up Photo