



Product Name:	Wireless Charger
Product Model No.:	GY-E8 GY-E8S、GY-E8-1、GY-E8-2、GY-E8-3、GY-E8A、GY-E8B、GY-E8C、GY-E8D
Test Auxiliary:	Phone, Earbuds, Watch ,Adapter
Test Auxiliary Model No.:	DL01, DL02, DL03,DL04
Transmitting mode	Keep the EUT in continuously wireless charging mode
Power supply:	Input: DC 9V 2A/DC 9V 2.7A/DC 12V 2A Wireless Output Phone: 15W Max Wireless Output Earbuds: 3W Max Wireless Output Watch: 2.5W Max
Test Description:	Phone and Earbuds and Watch Battery>98%, =50%and <1% are tested, and the worst is <1%.

Test Modes:		
Mode 1	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (15W)	
Mode 2	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (10W)	
Mode 3	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (7.5W)	
Mode 4	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (5W)	
Mode 5	AC/DC Adapter (9V/2A) + EUT + Earbuds (3W)	
Mode 6	AC/DC Adapter (9V/2A) + EUT + Watch (2.5W)	
Mode 8	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (10W) + Earbuds (3W) + Watch (2.5W)	
Mode 9	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (7.5W) + Earbuds (3W) + Watch (2.5W)	
Mode 10	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (5W) + Earbuds (3W) + Watch (2.5W)	
Mode 11	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (15W) + Earbuds (3W)	
Mode 12	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (10W) + Earbuds (3W)	
Mode 13	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (7.5W) + Earbuds (3W)	
Mode 14	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (5W) + Earbuds (3W)	
Mode 15	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (15W) + Watch (2.5W)	
Mode 16	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (10W) + Watch (2.5W)	
Mode 17	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (7.5W) + Watch (2.5W)	
Mode 18	AC/DC Adapter (9V/2A) + EUT + Mobile Phone (5W) + Watch (2.5W)	
Mode 19	AC/DC Adapter (9V/2A) + EUT + Earbuds (5W) + Watch (2.5W)	
Mode 20	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (15W)	
Mode 21	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (10W)	
Mode 22	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (7.5W)	
Mode 23	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (5W)	
Mode 24	AC/DC Adapter (9V/2.7A) + EUT + Earbuds (3W)	
Mode 25	AC/DC Adapter (9V/2.7A) + EUT + Watch (2.5W)	



Mode 26	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (15W) + Earbuds (3W) + Watch (2.5W)	
Mode 27	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (10W) + Earbuds (3W) + Watch (2.5W)	
Mode 28	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (7.5W) + Earbuds (3W) + Watch (2.5W)	
Mode 29	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (5W) + Earbuds (3W) + Watch (2.5W)	
Mode 30	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (15W) + Earbuds (3W)	
Mode 31	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (10W) + Earbuds (3W)	
Mode 32	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (7.5W) + Earbuds (3W)	
Mode 33	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (5W) + Earbuds (3W)	
Mode 34	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (15W) + Watch (2.5W)	
Mode 35	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (10W) + Watch (2.5W)	
Mode 36	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (7.5W) + Watch (2.5W)	
Mode 37	AC/DC Adapter (9V/2.7A) + EUT + Mobile Phone (5W) + Watch (2.5W)	
Mode 38	AC/DC Adapter (9V/2.7A) + EUT + Earbuds (5W) + Watch (2.5W)	
Mode 39	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (15W)	
Mode 40	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (10W)	
Mode 41	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (7.5W)	
Mode 42	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (5W)	
Mode 43	AC/DC Adapter (12V/2A) + EUT + Earbuds (3W)	
Mode 44	AC/DC Adapter (12V/2A) + EUT + Watch (2.5W)	
Mode 45	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (15W) + Earbuds (3W) + Watch (2.5W)	Record
Mode 46	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (10W) + Earbuds (3W) + Watch (2.5W)	
Mode 47	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (7.5W) + Earbuds (3W) + Watch (2.5W)	
Mode 48	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (5W) + Earbuds (3W) + Watch (2.5W)	
Mode 49	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (15W) + Earbuds (3W)	
Mode 50	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (10W) + Earbuds (3W)	
Mode 51	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (7.5W) + Earbuds (3W)	
Mode 52	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (5W) + Earbuds (3W)	
Mode 53	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (15W) + Watch (2.5W)	
Mode 54	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (10W) + Watch (2.5W)	
Mode 55	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (7.5W) + Watch (2.5W)	
Mode 56	AC/DC Adapter (12V/2A) + EUT + Mobile Phone (5W) + Watch (2.5W)	
Mode 57	AC/DC Adapter (12V/2A) + EUT + Earbuds (3W) + Watch (2.5W)	

Note: All test modes were pre-tested, but we only recorded the worst case in this report.



RF Exposure Evaluation

1 Measuring Standard

KDB 680106 RF Exposure Wireless Charging Apps v03r01

No.	Item	Uncertainty
1	H-filed	$\pm 0.93\text{dB}$
2	E-filed	$\pm 0.51\text{dB}$

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.
- (2) Output power from each primary coil is less than or equal to 15 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.
- (4) Client device is placed directly in contact with the transmitter.
- (5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- (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.

Remark: Meet all the above requirements.

Limits

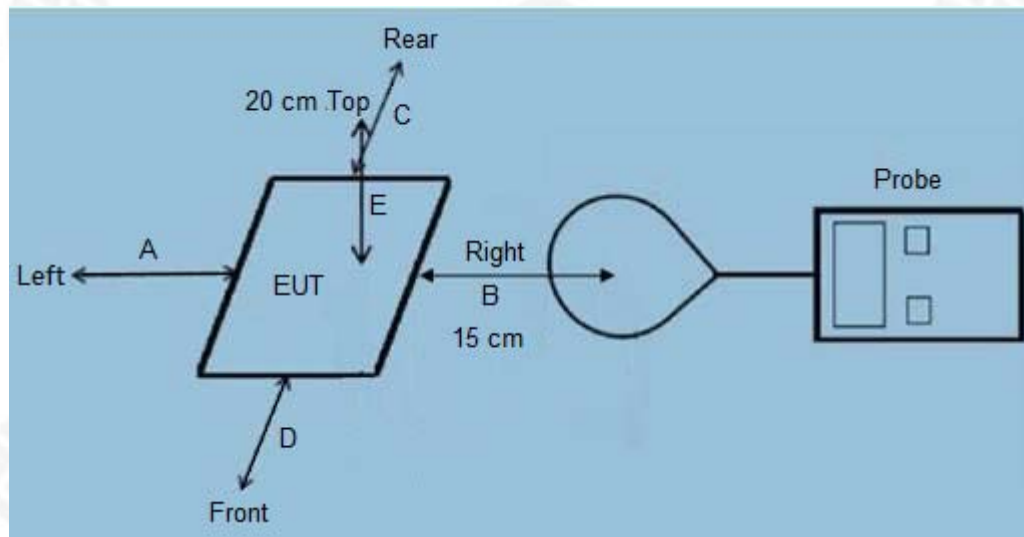
The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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	N-0231	June. 26 2022	June. 25 2023
Magnetic field probe 100cm ²	Narda	ELT probe 100cm ²	M0675	June. 26 2022	June. 25 2023
Isotropic Electric field probe	Narda	EP-601	611WX70332	June. 26 2022	June. 25 2023

6 Test Result

E-Filed Strength at 15 cm from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Limits (V/m)
0.1484	0.76	0.74	0.75	0.74	614

E-Filed Strength at 20 cm from the top of the EUT (V/m)

Frequency Range (MHz)	Test Position E	Limits (V/m)
0.1484	0.75	614

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

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Limits (A/m)
0.1484	0.16	0.14	0.14	0.15	1.63

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

Frequency Range (MHz)	Test Position E	Limits (A/m)
0.1484	0.15	1.63



7 Test Set-up Photo

