RF Exposure Evaluation

FCC ID : 2AL6N-WPAD01

Measuring Standard

KDB 680106 D01 RF Exposure Wireless Charging Apps v03

Description of EUT

Product name : Smart Shoes Wireless charger
Model name : SV-WPAD01
Date of Test : 2019, 02, 01

Test equipment List

Description	Manufacturer	Model	Cal. Due Date
Magnetic fileld meter	NARDA	ELT400	18-Jan-19

Requirements

According to the item 5 of KDB 680106 D01v03:
Induction wireless power transfer applications that meet all of the following requirements of KDB 680106 D01, Clause 5(b) is waived from PAG procedures.

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

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

(3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
(conform)

(4) Client device is placed directly in contact with the transmitter.
(conform)

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
(conform)

(6) 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.
(conform)

RF Exposure Limit

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) – Class A

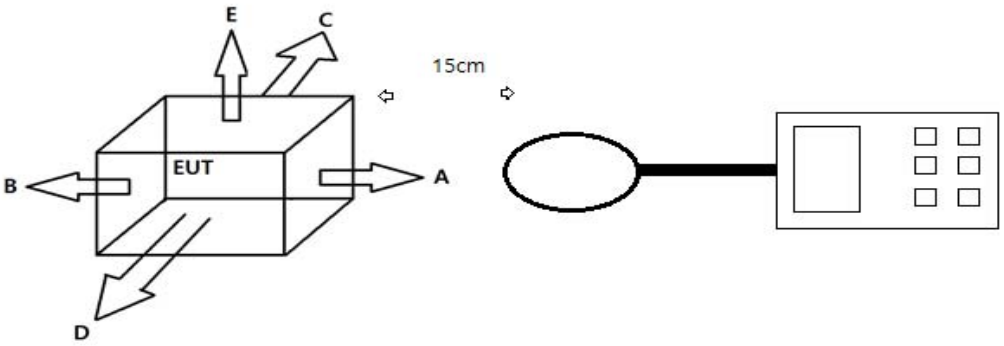
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm^2)	Average Time (minutes)
0.3 – 3.0	614	1.63	*(100)	6
3.0 – 30	1842/f	4.89/f	*($900/f^2$)	6
30 – 300	61.4	0.163	1.0	6
300 – 1500			F/300	6
1500 – 100,000			5	6

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) – Class B

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm^2)	Average Time (minutes)
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

Test setup



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 D01v03.

Test Result

E-Filed Strength at 15 cm from the edges surrounding the EUT

Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limits Test (V/m)
2.44	2.77	2.44	2.59	-	614

E-Filed Strength at 20 cm from the Top

Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limits Test (V/m)
-	-	-	-	2.994	614

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

Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limits Test (A/m)
0.128	0.126	0.124	0.158	-	1.63

H-Filed Strength at 20 cm from the Top

Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limits Test (A/m)
-	-	-	-	0.176	1.63

Test Set-up Photo