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RF Exposure Requirement

According to KDB680106 D01 RF Exposure Wireless Charging Apps v02 (05/31/2013), the requirement of RF exposure for the Wireless Charging device shall be met.

The RF exposure requirements must be determined in conjunction with the device operating characteristics, according to the mobile and portable exposure requirements in Section 2.1091 and Section 2.1093 of the rules. SAR and MPE limits do not cover the frequency range for wireless power transfer applications which operate below 100 kHz and 300 kHz respectively;
therefore, RF exposure compliance needs to be determined with respect to 1.1307 (c) and (d) of the FCC rules.

For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 10 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 10 cm measured from the center of the probe(s) to the edge of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.

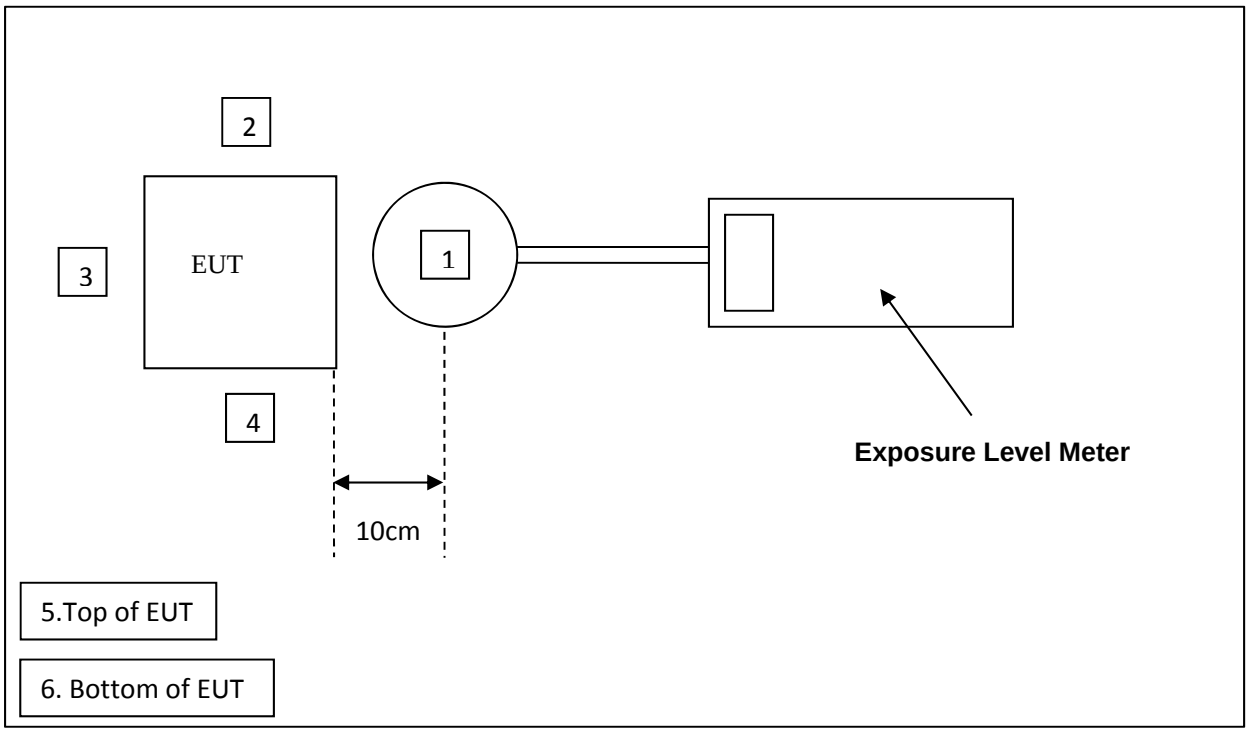
Table 1 – Limits for Maximum Permissible Exposure (MPE)

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 Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f2	6
30-300	61.4	0.163	1.0	6
300-1,500	-	-	f/300	6
1,500-100,000	-	-	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/f2	30
30-300	27.5	0.073	0.2	30
300-1,500	-	-	f/1500	30
1,500-100,000	-	-	1.0	30

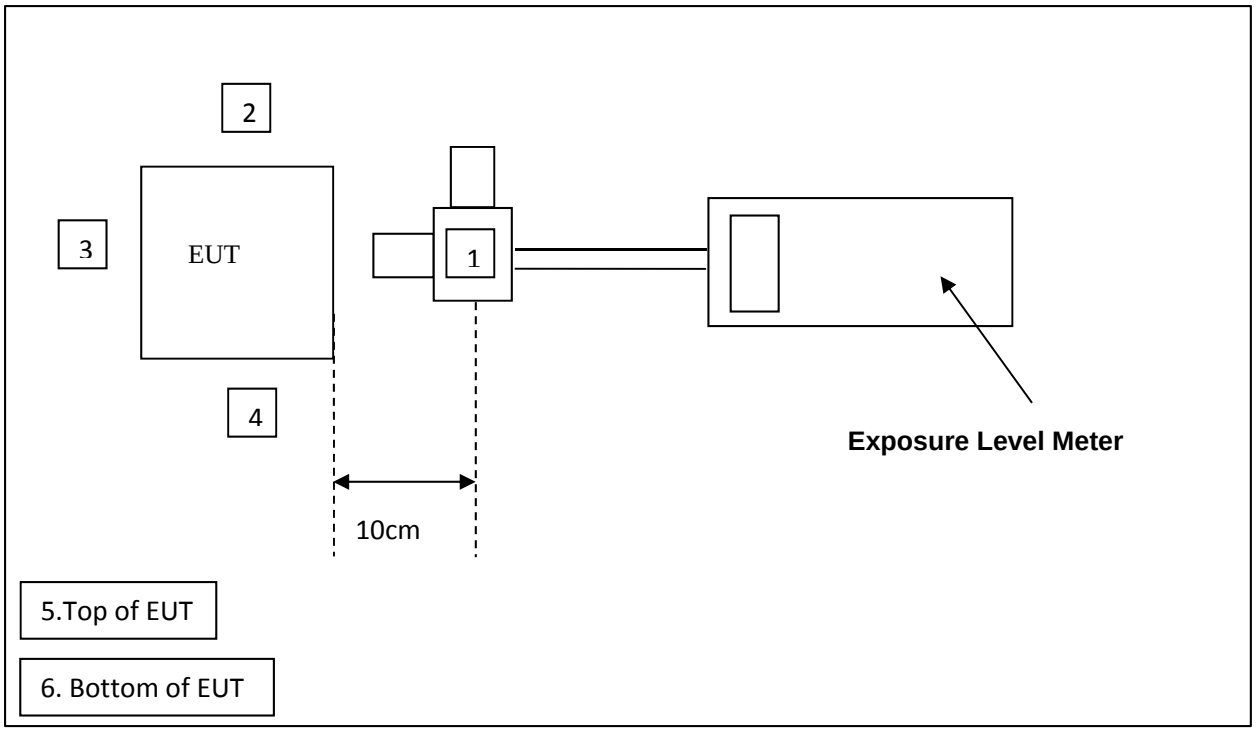
Test Method:

Measurements are conducted with an electric field probe and a magnetic field probe located 10cm away from the EUT and its associated attachments. All sides, including top and bottom, of the EUT were scanned for emissions.

Test Setup:



Magnetic Field (H-Field)



Electric Field (E-Field)

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: RF exposure photo.pdf.

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Test Result:

Test date: April 23, 2016

All measurement at defined as f= 125kHz

Magnetic Field (H-Field) strength at 10cm from the boundaries of the EUT

Measurement probe position	Measuring Distance (cm)	Measured H-field (A/m)	Limit (A/m)	30%of Limit	Margin (A/m)
Measurement 1	10	0.356	1.63	0.489	-0.133
Measurement 2	10	0.341	1.63	0.489	-0.148
Measurement 3	10	0.324	1.63	0.489	-0.165
Measurement 4	10	0.335	1.63	0.489	-0.154
Measurement 5	10	0.320	1.63	0.489	-0.169
Measurement 6	10	0.315	1.63	0.489	-0.174

Electric Field (E-Field) strength at 10cm from the boundaries of the EUT

Measurement probe position	Measuring Distance (cm)	Measured E-field (V/m)	Limit (V/m)	30%of Limit	Margin (V/m)
Measurement 1	10	1.83	614.0	184.20	-182.37
Measurement 2	10	1.79	614.0	184.20	-182.41
Measurement 3	10	1.75	614.0	184.20	-182.45
Measurement 4	10	1.81	614.0	184.20	-182.39
Measurement 5	10	1.71	614.0	184.20	-182.49
Measurement 6	10	1.69	614.0	184.20	-182.51

Equipment List

Equipment	Magnetic Field Probe meter	RF Field Probe Meter
Registration No.	EW-2140	EW-2508
Manufacturer	NARDASAFETY	EMCO
Model No.	ELT400	HI-6105USB
Calibration Date	Mar. 11, 2016	Apr. 22, 2016
Calibration Due Date	Mar. 11, 2017	Apr. 22, 2017