FCC ID: 2ARPE-SRWW



RF Exposure Evaluation

1Measuring Standard

KDB 680106 D01 RF Exposure Wireless Charging Apps v03 r01

2Requirements

According to the item 5 of KDB 680106 D01v03 r01:

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 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. Remark: Meet all the above requirements.

Limits

The criterial is ted in the following tables hall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LimitsforMaximumPermissibleExposure(MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)	
	(A) Limits for Occ	cupational/Controlled Ex	posures		
0.3-3.0 614 1.63 *(100)					
3.0-30	1842/f	4.89/f	*(900/f ²)	6	
30-300	61.4	0.163	1.0	6	
300-1500	1	1	f/300	6	
1500-100,000	1	/	5	6	
	(B) Limits for Genera	Population/Uncontrolle	d 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	1	1	f/1500	30	
1500-100,000	1	1	1.0	30	

F=frequency in MHz

^{*=}Plane-wave equivalent power density

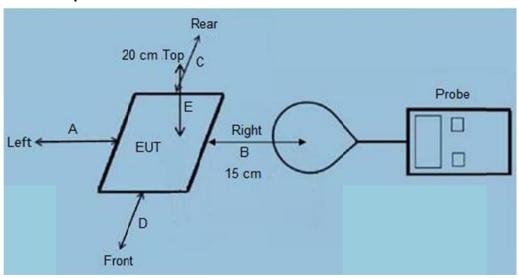
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

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3TestSetup



4TestProcedure

- 1)TheRFexposuretestwasperformedin anechoicchamber.
- 2)Themeasurementprobewasplacedattest distance (15cm from all sides and 20cm from the top) which is between the edge of the charger and the geometric center of probe.
- 3)Thehighestemissionlevelwasrecordedandcomparedwithlimitassoonas measurementof eachpoints (A,B, C,D, E)werecompleted.
- 4)TheEUTwasmeasuredaccordingtothedictatesofKDB680106D01v03 r01.

Remark: TheEUT'stestpositionA, B,C, DandE isvalidfortheEandHfieldmeasurements.

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5TestInstruments list

TestEquipment	Manufacturer	ModelNo.	SN.	Cal.Date (mm-dd-yy)	Cal.Duedate (mm-dd-yy)
EMF Meter	NARDA	EL T -400	N-0356	Oct08, 2022	Oct07, 2023
EMF probe	NARDA	B-Field Probe	M-0812	Oct08, 2022	Oct07, 2023

6TestResult

Note: Frequency Range 0.1115-0.205 (MHz); <5% load energy, 50 % load energy,> 90% load energy mode

all have been tested, Only worse case Max load mode (<5% load energy) is reported.

E-FiledStrengthat15cmfromthe edgessurroundingtheEUT(V/m)

FrequencyRange	Test	Test	Test	Test	Limits
(MHz)	PositionA	PositionB	PositionC	PositionD	(V/m)
0.1115-0.205	1.93	1.88	1.83	1.81	614

E-FiledStrengthat 20cmfromthetopoftheEUT(V/m)

FrequencyRange	Test	Limits	
(MHz)	PositionE	(V/m)	
0.1115-0.205	1.71	614	

H-FiledStrengthat15cmfromthe edgessurroundingtheEUT(A/m)

FrequencyRange	Test	Test	Test	Test	Limits
(MHz)	PositionA	PositionB	PositionC	PositionD	(A/m)
0.1115-0.205	0.58	0.56	0.49	0.47	1.63

H-FiledStrengthat20cmfromthetopoftheEUT(A/m)

FrequencyRange	Test	Limits	
(MHz)	PositionE	(A/m)	
0.1115-0.205	0.45	1.63	

Simultaneous: (BLE+ WPC) = 0.0028+0.58/1.63=0.359 (WIFI+WPC)= 0.0960+0.58/1.63=0.452

Conslusion: For the max result: 0.452< 1.0, the product comply with the FCC RF exposure requirement. .

The report refers only to the sample tested and does not apply to the bulk.

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7.0 TestSetup Photo



6. Measurement Uncertainty

Item	Uncertainty
Uncertainty for H-Field	2.53dB
Uncertainty for E-Field	2.61dB

(95% confidence levels, k=2)

Test Data: May 30, 2023 Review Data: May 30, 2023

TestEngineer:

Andy -Xing
Reviewer:

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