

RF Exposure Evaluation

According to KDB 447498 D01 General RF Exposure Guidance v06 and part 2.1093, Unless specifically required by the *published RF exposure KDB procedures*, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding *SAR Test Exclusion Threshold* condition(s), listed below, is (are) satisfied.

For 100 MHz to 6 GHz and test separation distances \leq 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$

$f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

Here,

For Bluetooth

Mode	Max Power (dBm)	Tune-up power (dBm)	Max Power (mW)	Frequency(MHz)	Min. Distance (mm)	Calc. thresholds	limit
BR/EDR	-7.23	-7±1	0.25	2480	5	0.0787	3.0

So a SAR test is not required

Product Name:	Wireless Charger Bluetooth Speaker Alarm Clock
Test Model No.:	JY-03
Model Difference:	/
Transmitting mode:	Keep the EUT in continuously wireless charging mode
Power supply:	Input: 9 V \pm 2.2 A Wireless output: 10W Max

Test Modes:

Mode 1	AC Adapter+Wireless charging mode (Battery Status: $\leq 1\%$)
Mode 2	AC Adapter+Wireless charging mode (Battery Status:50%)
Mode 3	AC Adapter+Wireless charging mode (Battery Status: $\geq 98\%$)

Note: All modes and coil were tested, only the worst-case was recorded in the report. Mode 1 is the worst mode.

Item	Equipment	Mfr/Brand	Model/Type No.	Wireless charging power parameters	Note
E-1	AC Adapter	HUAWEI	HW-050450C00	N/A	AE
E-2	Mobile phone	Xiaomi Communications Co., Ltd.	Xiaomi 12S Pro	N/A	AE

2 Measuring Standard

KDB 680106 D01 Wireless Power Transfer v04

3 Requirements

Requirements of section 3 of KDB 680106 D01	Yes/ No	Description
Mobile Device and Portable Device Configurations	Yes	Mobile Device
Equipment Authorization Procedures for Devices Operating at Frequencies Below 4 MHz	Yes	The device operate in the frequency range Qi protocol: 111-205KHz
RF Exposure compliance may be ensured only for a minimum conditions at smaller distances can still be considered unlikely.separation distance that is greater than 20 cm, while use	Yes	The EUT H-field and E-field strengths at 20 cm surrounding the device.

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

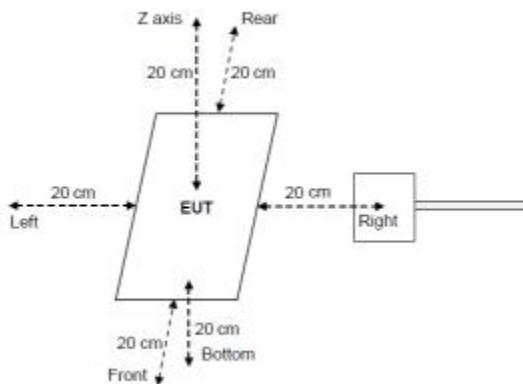
F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).



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4 Test Setup

For mobile exposure conditions:



5 Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at test distance (20 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, F) were completed.
- 4) The EUT was measured according to the dictates of KDB 680106 D01 v04.

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

6 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, 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	Uncertainty
1	H-field	$\pm 0.7 \text{ dB}$
2	E-field	$\pm 1.06 \text{ dB}$

Decision Rule

- Uncertainty is not included
- Uncertainty is included



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7 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	Sep. 29, 2024	Sep. 28, 2025
Magnetic field probe 100cm ²	Narda	ELT probe 100cm ²	M0675	Sep. 29, 2024	Sep. 28, 2025
Isotropic Electric field probe	Narda	EP-601	611WX70332	Sep. 29, 2024	Sep. 28, 2025

8 Test Result

H-Filed Strength at 20 cm from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Unit	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	50%Limits (A/m)	Limits (A/m)	test result
0.111-0.205	A(uT)	0.35	0.28	0.57	0.62	0.61	0.45	0.815	1.63	PASS
	(A/m)	0.44	0.35	0.71	0.78	0.76	0.56			

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Note: Calculation: A/m=uT/1.25



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9 Photos of test setup

