

EUT Specification

FCC ID: 2BKHM-HXW1

Characteristics	Description
Product Name	3 in 1 Wireless Charging Station
Model number	HX-W1
Brand	/
Power Supply	DC 12V / DC 9V
Operating Frequency Range	110-205KHz for phone charging 300-350KHz for Watch charging 110-205KHz for Earphone charging
Modulation Technique	FSK for phone charging ASK for Watch charging ASK for Earphone charging
Antenna Type	Coil Antenna
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
Antenna diversity	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

Applicable Standard:

FCC Part 1(1.1310) ,Part 2(2.1091) and KDB 680106 D01 RF Exposure
Wireless Charging Apps v03

Applicable Requirement:

Three different categories of transmitters are defined by the FCC in OET
Bulletin 65.

These categories are fixed installation, mobile, and portable and are defined as follows:

Fixed Installations: fixed location means that the device, including its antenna, is physically secured at a permanent location and is not able to be easily moved to another location. Additionally, distance to humans from the antenna is maintained to at least 2 meters.

Mobile Devices: a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to be generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structures and the body of the user or nearby persons. Transmitters designed to be used by consumers or workers that can be easily re-located, such as a wireless modem operating in a laptop computer, are considered mobile devices if they meet the 20 centimeter separation requirement. The FCC rules for evaluating mobile devices for RF compliance are found in 47 CFR §2.1091.

Portable Devices: a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user. Portable device requirements are found in Section 2.1093 of the FCC's Rules (47 CFR§2.1093).

The FCC also categorizes the use of the device as based upon the user's awareness and ability to exercise control over his or her exposure. The two categories defined are Occupational/ Controlled Exposure and General Population/Uncontrolled Exposure.

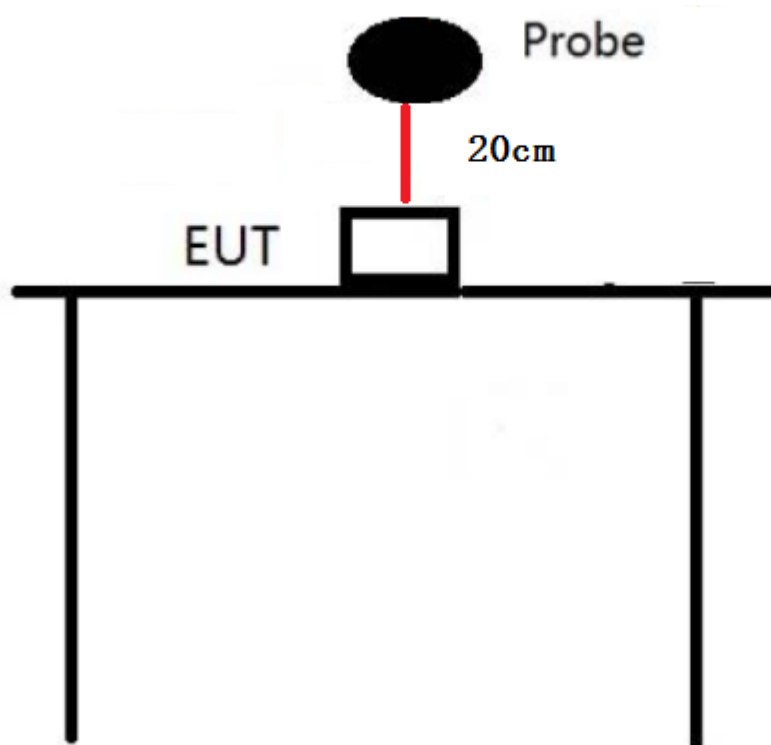
These two categories are defined as follows:

Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure. The phrase fully aware in the context of applying these exposure limits means that an exposed person has received written and/or verbal information fully explaining the potential for RF exposure resulting from his or her employment. With the exception of transient persons, this phrase also means that an exposed person has received appropriate training regarding work practices relating to controlling or mitigating his or her exposure. Such training is not required for transient persons, but they must receive written and/or verbal information and notification (for example, using signs) concerning their exposure potential and appropriate means available to mitigate their exposure. The phrase exercise control means that an exposed person is allowed to and knows how to reduce or avoid exposure by administrative or engineering controls and work practices, such as use of personal protective equipment or time averaging of exposure.

General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. Licensees and applicants are responsible for compliance with both the occupational/controlled exposure limits and the general population/uncontrolled exposure limits as they apply to transmitters under their jurisdiction. Licensees and applicants should be aware that the occupational/controlled exposure limits apply especially in situations where workers may have access to areas in very close proximity to antennas and access to the general public may be restricted.

In lieu of evaluation with the general population/uncontrolled exposure limits, amateur licensees authorized under part 97 of this chapter and members of his or her immediate household may be evaluated with respect to the occupational/controlled exposure limits in this section, provided appropriate training and information has been provided to the amateur licensee and members of his/her household. Other nearby persons who are not members of the amateur licensee's household must be evaluated with respect to the general population/uncontrolled exposure limits.

Test Setup Block



Test Procedure

1. Connect the EUT and equipment as above diagram of test configuration.
2. EUT was placed on a table, and the measure probe was placed at a measurement distance of 20cm from the EUT to the center of the probe.
3. Power on the measuring probe, the EUT was set at the maximum field strength emission state.
4. The EUT was put in different directions (Left, Right, Front, Rear, Top and Bottom) toward to the measure probe. The distance from the top of the EUT to the probe is 20cm, and the distance from other directions is 20cm. Measure the value of field strength.
5. Record the worst data of the different directions.

Measuring Device And Test Equipment

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
<input checked="" type="checkbox"/>	E&H-Field Probe(9kHz-30M Hz)	Narda	EHP-200A	180ZX11012	2023/09/18	2024/09/17

Description of Support Device

No.	Equipment	Manufacturer	Model No.	Serial No.	Remark
1	phone	Apple	A2404	/	/
2	phone	Xiaomi	Xiaomi 9	/	/
3	phone	SAMSUNG	Samsung Galaxy S9	/	/
4	Adapter	Xiaomi	580245A087	/	/
5	Earphone	momax	X5	/	/
6	Watch	Apple	A1859	/	/

Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm ²)	Average Time
(A) Limits for Occupational/Control Exposures				
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	F/1500	30
1500-100000	--	--	1	30

Note: f denotes for frequency in MHz.

* denotes for plane-wave equivalent power density.

Measurement Result

We tested 3 modes(15W load+3W load+5W load, 7.5W load+3W load+5W load,5W load+3W load+5W load) and 3 test distances(20cm, 22cm, 24cm), only the worst mode and the worst test distances were recorded in the report.

Magnetic Field (H-Field) strength at 20cm from the boundaries of EUT, and 20cm from the top.

Test Mode: Wireless Charging 15W+3W+5W					
		Measuring Distance(cm)	H- Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	20	0.161	1.63	0.815
Measurement Point 2	Back	20	0.175		
Measurement Point 3	Left	20	0.164		
Measurement Point 4	Right	20	0.173		
Measurement Point 5	Bottom	20	0.156		
Measurement Point 6	Top	20	0.166		

Test Mode: Wireless Charging 15W+3W+5W					
		Measuring Distance(cm)	E- Field(V/m)	Limit(V/m)	50% Limit(V/m)
Measurement Point 1	Front	20	39.14	614	307
Measurement Point 2	Back	20	38.16		
Measurement Point 3	Left	20	39.55		
Measurement Point 4	Right	20	38.26		
Measurement Point 5	Bottom	20	37.85		
Measurement Point 6	Top	20	40.83		

PHOTOGRAPHS OF TEST SETUP



Signature

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