

EUT Specification**FCC ID: 2A46S-HX200Q4**

Characteristics	Description
Product Name	Power Bank
Model number	HX200Q4
Power Supply	AC120V/60Hz for adapter
Operating Frequency Range	110-205KHz
Modulation Technique	ASK
Antenna Type	Induction coil
Device category	<input checked="" type="checkbox"/> Portable (<20cm separation) <input type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others _____
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	<input checked="" type="checkbox"/> Single antenna <input 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 Procedure

- 1.EUT was placed on a table, and the measure probe was placed at a measurement distance of 0~10cm from the EUT to the center of the probe.
- 2.Power on the measuring probe, the EUT was set at the maximum field strength emission state.
- 3.The EUT was put in different directions (Left, Right, Front, Rear, Top and Bottom) toward to the measure probe.The distance from the EUT to the probe starts from 0cm, and measures every 2cm until the distance is 10cm.
- 4.Record the worst data of the different directions.

Measuring Device And Test Equipment

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
<input checked="" type="checkbox"/>	E-Field Probe(9kHz-30MHz)	Narda	EHP-200A	180ZX11012	2022.01.19	1 Year

Description of Support Device

adapter	Model number: CD217 : Input: AC 100-240V, 50/60Hz Output: DC 9V/3A,DC 12V/2.5A
iPhone	Manufacturer: Apple Inc. : M/N: A1524 S/N: N/A
Wireless Charger Receiver Module	Manufacturer: Universal : M/N: N/A S/N: N/A
SAMSUNG S9	Manufacturer: SAMSUNG : M/N:Samsung Galaxy S9 S/N: N/A

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 pretested four modes (max load, mid load, min load, Standby) for EUT. The worst mode (max load) and worst test frequency(frequency: 127.7KHz) test data see the following.

Calculated Electric Field (E-Field) strength at 15cm from the boundaries of the EUT, and 20cm from the top.

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	H- Field(A/m)	Limit(A/m)	10% Limit(A/m)
Measurement Point 1	Front	0	0.153	1.63	0.163
Measurement Point 2	Back	0	0.149		
Measurement Point 3	Left	0	0.154		
Measurement Point 4	Right	0	0.152		
Measurement Point 5	Bottom	0	0.139		
Measurement Point 6	Top	0	0.170		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	E- Field(V/m)	Limit(V/m)	10% Limit(V/m)
Measurement Point 1	Front	0	45.208	614	61.4
Measurement Point 2	Back	0	45.324		
Measurement Point 3	Left	0	45.265		
Measurement Point 4	Right	0	45.117		
Measurement Point 5	Bottom	0	45.330		
Measurement Point 6	Top	0	45.248		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	H- Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	2	0.154	1.63	0.163
Measurement Point 2	Back	2	0.161		
Measurement Point 3	Left	2	0.156		
Measurement Point 4	Right	2	0.148		
Measurement Point 5	Bottom	2	0.132		
Measurement Point 6	Top	2	0.177		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	E- Field(V/m)	Limit(V/m)	10% Limit(V/m)
Measurement Point 1	Front	2	43.541	614	61.4
Measurement Point 2	Back	2	43.633		
Measurement Point 3	Left	2	43.254		
Measurement Point 4	Right	2	43.265		
Measurement Point 5	Bottom	2	41.271		
Measurement Point 6	Top	2	44.034		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	H- Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	4	0.140	1.63	0.163
Measurement Point 2	Back	4	0.142		
Measurement Point 3	Left	4	0.143		
Measurement Point 4	Right	4	0.132		
Measurement Point 5	Bottom	4	0.121		
Measurement Point 6	Top	4	0.157		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	E- Field(V/m)	Limit(V/m)	10% Limit(V/m)
Measurement Point 1	Front	4	41.241	614	61.4
Measurement Point 2	Back	4	41.366		
Measurement Point 3	Left	4	41.256		
Measurement Point 4	Right	4	41.252		
Measurement Point 5	Bottom	4	40.131		
Measurement Point 6	Top	4	41.376		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	H- Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	6	0.129	1.63	0.163
Measurement Point 2	Back	6	0.134		
Measurement Point 3	Left	6	0.129		
Measurement Point 4	Right	6	0.131		
Measurement Point 5	Bottom	6	0.122		
Measurement Point 6	Top	6	0.145		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	E- Field(V/m)	Limit(V/m)	10% Limit(V/m)
Measurement Point 1	Front	6	37.330	614	61.4
Measurement Point 2	Back	6	37.518		
Measurement Point 3	Left	6	37.519		
Measurement Point 4	Right	6	37.522		
Measurement Point 5	Bottom	6	37.402		
Measurement Point 6	Top	6	37.215		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	H- Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	8	0.129	1.63	0.163
Measurement Point 2	Back	8	0.132		
Measurement Point 3	Left	8	0.127		
Measurement Point 4	Right	8	0.116		
Measurement Point 5	Bottom	8	0.111		
Measurement Point 6	Top	8	0.141		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	E- Field(V/m)	Limit(V/m)	10% Limit(V/m)
Measurement Point 1	Front	8	35.358	614	61.4
Measurement Point 2	Back	8	35.157		
Measurement Point 3	Left	8	35.334		
Measurement Point 4	Right	8	35.615		
Measurement Point 5	Bottom	8	32.025		
Measurement Point 6	Top	8	37.026		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	H- Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	10	0.119	1.63	0.163
Measurement Point 2	Back	10	0.121		
Measurement Point 3	Left	10	0.125		
Measurement Point 4	Right	10	0.120		
Measurement Point 5	Bottom	10	0.112		
Measurement Point 6	Top	10	0.135		

Test Mode: Wireless Charging 15W use Xiaomi 9					
		Measuring Distance(cm)	E- Field(V/m)	Limit(V/m)	10% Limit(V/m)
Measurement Point 1	Front	10	33.251	614	61.4
Measurement Point 2	Back	10	34.518		
Measurement Point 3	Left	10	33.534		
Measurement Point 4	Right	10	33.253		
Measurement Point 5	Bottom	10	31.021		
Measurement Point 6	Top	10	36.947		

PHOTOGRAPHS OF TEST SETUP

Signature

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