FCC 47 CFR MPE REPORT

mophie LLC

mophie Magnetic Wireless Charger

Model Number: QI2-PAD-KICKSTAND

FCC ID: 2ACWB-KICKST

Applicant:	mophie LLC
Address:	6244 Technology Ave.Kalamazoo.MI49009, USA
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Tel: 86-769-83081888-808	

Report Number:	ESTE-R2408068
Date of Test:	Aug. 07, 2024~Aug. 14, 2024
Date of Report:	Aug. 16, 2024

Applicant: **Address:**	mophie LLC 6244 Technology Ave.Kalamazoo.MI49009, USA		
Manufacturer: **Address:**	mophie LLC 6244 Technology Ave.Kalamazoo.MI49009, USA		
E.U.T:	mophie Magnetic Wireless Charger		
Model Number:	QI2-PAD-KICKSTAND		
Power Supply:	Input: 5V⎓3A; 9V⎓2.22A Output: 15W Max		
Trade Name:	mophie	Serial No.:	------
Date of Receipt:	Aug. 07, 2024	Date of Test:	Aug. 07, 2024~Aug. 14, 2024
Test Specification:	FCC CFR 47 Part 1.1307(b)&1.1310 KDB 680106 D01 RF Exposure Wireless Charging Apps v04r01		
Test Result:	The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC CFR 47 Part 1.1307(b)&1.1310 requirements.This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd. **Date:** Aug. 16, 2024		

Prepared by:	Reviewed by:	Approved by:
Ring Yang / Assistant	Seven Wang / Engineer	Iceman Hu / Manager

Other Aspects:

None.

Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested

1. Summary of test

1.1. Summary of test result

No.	Description of Test Item	FCC Standard Section	Results
1	Maximum Permissible Exposure	Part 1.1307(b)&1.1310	PASS

1.2. Test Mode

Test Item	Test Mode	
Maximum Permissible Exposure	Output: 5W/7.5W/15W	Full load
		Half load
		No load
Note：The worst Full Load status is recorded in the report		

1.3. Test Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Electric and Magnetic Field Probe-Analyzer	Narda S.T.S./PMM	EHP-200A	EST-E106	June 13,24	1 Year
Test Software	Narda	EHP200-TS	Rel 1.92	N/A	N/A
Note: Test uncertainty: ±1.62 dB (H-field);±1.64 dB (E-field) at a level of confidence of 95%.					

1.4. Assistant equipment used for test

Item	Equipment	Brand	Model Name/Type No.	FCC ID	Series No.
A	Wireless Load	-	CPS4041_MPP_RX_V1.0.1	-	-
B	Adapter	-	CHG-WALL-PD-40W	-	-
Note: Don't configuration adapter when it sales on the market, The adapter provided by the laboratory.					

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.4m	DC Cable

2. Maximum Permissible Exposure

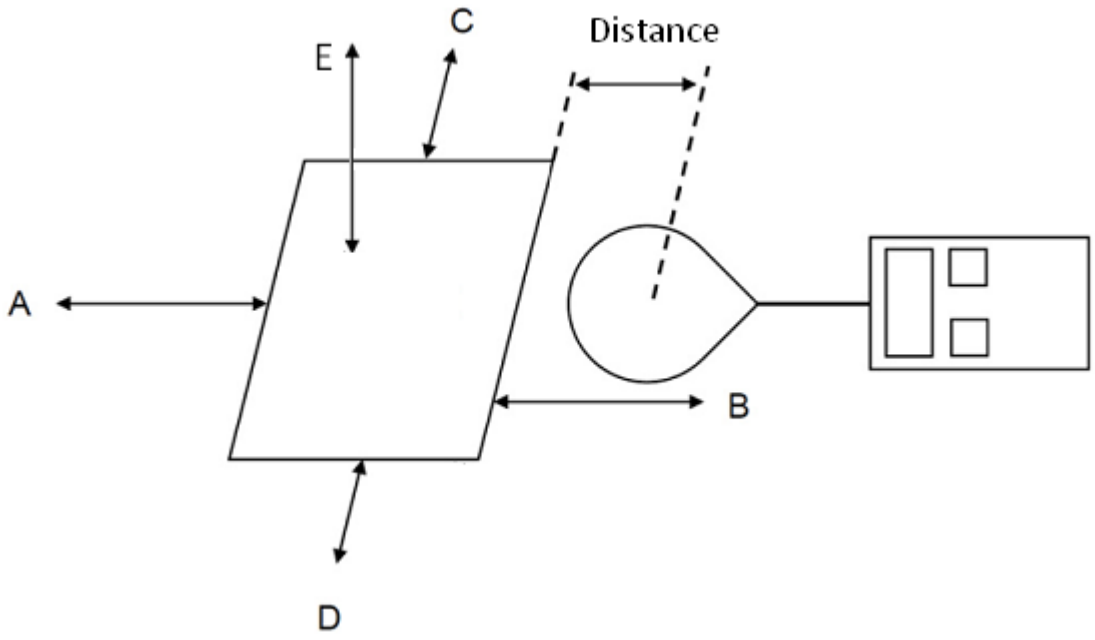
2.1. Limit

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm2)	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/f^2	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/f^2	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

Note:f = frequency in MHz * = Plane-wave equivalent power density.

2.2. Test Setup



2.3. Test Procedure

a. The test was performed on 360 degree turn table in anechoic chamber.
b. The probe was placed at 20 cm surrounding, for test setup.
c. The highest emission level was recorded and compared with limit as soon as measurement of each point; A, B, C, D, E were completed.

2.4. Equipment Approval Considerations

Inductive wireless power transfer applications with supporting field strength results and meeting all of the following requirements are not required to submit a KDB inquiry for devices approved using SDoC or a PAG for equipment approved using certification to address RF exposure compliance.

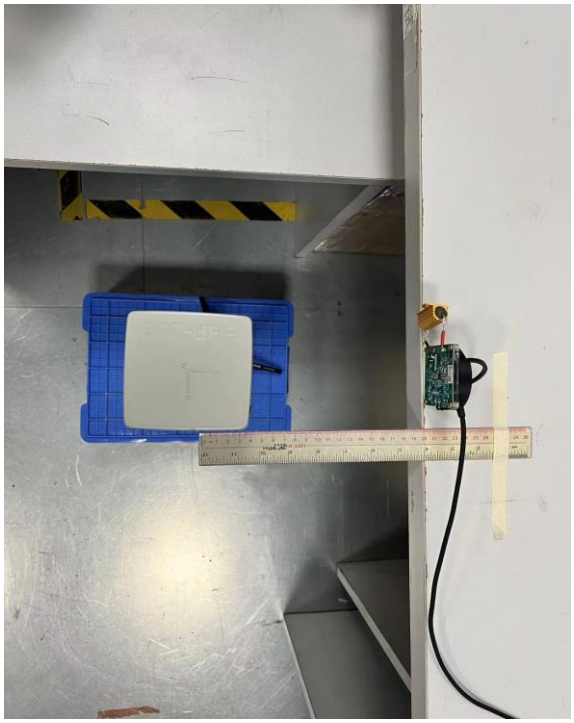
1	Power transfer frequency is less than 4 MHz
	YES; the device operated in the frequency range from 110.5KHz-205KHz, 360KHz
2	Output power from each primary coil is less than or equal to 15 watts
	YES; the maximum output power of the primary coil is 15W.
3	The system may consist of more than one source 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.
	YES; The EUT has three source primary coils
4	Client device is placed directly in contact with the transmitter.
	YES; Client device is placed directly in contact with the transmitter.
5	Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
	YES; Mobile exposure conditions only.
6	The aggregate H-field strengths anywhere at or beyond 20 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.
	YES; The EUT field strength levels are 50% x MPE limts.

2.5. Test Result for Test setup :

E-field strength			
Test Direction	Measuring Distance	Test Frequency	
		110.5-205 KHz 127.8KHz	360KHz
Position A(V/m)	20cm	0.345	1.197
Position B(V/m)	20cm	0.351	0.700
Position C(V/m)	20cm	0.341	0.529
Position D(V/m)	20cm	0.326	0.854
Position E(V/m)	20cm	0.364	0.728
Limits (V/m)		614	
H-field strength			
Test Direction	Measuring Distance	Test Frequency	
		110.5-205 KHz 127.8KHz	360KHz
Position A(A/m)	20cm	0.042	0.044
Position B(A/m)	20cm	0.043	0.046
Position C(A/m)	20cm	0.042	0.050
Position D(A/m)	20cm	0.040	0.046
Position E(A/m)	20cm	0.045	0.048
Limits (A/m)		1.630	

3. Test photo

Position E



End of Test Report