TEST REPORT

Reference No.	:	WTS19S06038789W002
FCC ID	:	2ACWB-DUALA
Applicant	:	mophie LLC
Address	:	6244 Technology Ave. Kalamazoo, MI 49009 U.S.A.
Manufacturer	:	mophie LLC
Address	:	6244 Technology Ave. Kalamazoo, MI 49009 U.S.A.
Trade Mark.....	:	mophie.
Product	:	mophie dual wireless charging pad
Model(s)	:	DUAL-WRLS-BASE-A
Standards	:	FCC CFR 47 Part 1.1307:2019 FCC CFR 47 Part 1.1310:2019
Date of Receipt sample	:	2019-06-14
Date of Test	:	2019-06-15 to 2019-06-27
Date of Issue	:	2019-07-01
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
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Frank Yin

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Approved by:

Philo Zhong

Philo Zhong / Manager

1 Laboratories Introduction

Waltek Services (Shenzhen) Co., Ltd is a professional third-party testing and certification laboratory with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by ILAC (International Laboratory Accreditation Cooperation) member. A2LA (American Association for Laboratory Accreditation, the certification number is 4243.01) of USA, CNAS (China National Accreditation Service for Conformity Assessment, the registration number is L3110) of China.Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CEC(California energy efficiency), ISED Canada (Innovation, Science and Economic Development Canada). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as Intertek(ETL-SEMKO), TÜV Rheinland, TÜV SÜD, etc.

Waltek Services (Shenzhen) Co., Ltd is one of the largest and the most comprehensive third party testing laboratory in China. Our test capability covered four large fields: safety test. ElectroMagnetic Compatibility(EMC), and energy performance, wireless radio. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

1.1 Test Facility

A. Accreditations for Conformity Assessment (International)

Country/Region	Scope Covered By	Scope	Note
USA	ISO/IEC 17025	FCC ID \ SDoC(VOC/DOC)	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India		WPC	-
Thailand		NTC	-
Singapore		IDA	-

Note:

1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.
2. ISED CAB identifier : CN0013.

B.TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of …	Notify body number
TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd.	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

2 Contents

3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS19S06038789W001	2019-06-14	2019-06-15 to 2019-06-27	2019-07-01	original	-	Valid

4 General Information

4.1 General Description of E.U.T

Product:	mophie dual wireless charging pad
Model(s):	DUAL-WRLS-BASE-A
Type of Modulation:	ASK
Frequency Range:	0.112-0.205MHz
Antenna installation:	Ant1: Coil Antenna; Ant2: Coil Antenna

4.2 Details of accessories

Ratings：	Input: DC 19V, 1.58A; Output(Qi): 8W*2; Output(USB-A): DC 5V, 1A

4.3 Test Mode

All the test model(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Description	Test channel	Test mode
Full Load	127.74kHz	Transmitting with Ant1
Half Load	127.74kHz	Transmitting with Ant1
No Load	127.74kHz	Transmitting with Ant1
Full Load	127.74kHz	Transmitting with Ant2
Half Load	127.74kHz	Transmitting with Ant2
No Load	127.74kHz	Transmitting with Ant2
Full Load	127.74kHz	Transmitting with Ant1+Ant2
Half Load	127.74kHz	Transmitting with Ant1+Ant2*
No Load	127.74kHz	Transmitting with Ant1+Ant2
All the mode were tested and passed, “*” show the worst case mode which were recorded in this report.		

5 Equipment Used during Test

5.1 Equipments List

RF EXPOSURE						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Protection Network	SCHWARZBECK	VDHH9502	9502-103	2019-04-12	2020-04-11
2	EMI Test Receiver	R&S	ESCI	101528	2019-04-12	2020-04-11

5.2 Description of Auxiliary Equipment

Equipment	Manufacturer	Model No.	Specification
Wireless charging receiver 1	Waltek Services (Shenzhen) Co., Ltd	/	8W
Wireless charging receiver 2	Waltek Services (Shenzhen) Co., Ltd	/	8W
Resistive Load	Waltek Services (Shenzhen) Co., Ltd	/	5Ω
AC adapter	SHENZHEN HONOR ELECTRONIC CO., LTD.	ADS-40FSI-19 19030EPCU	Input: 100-240V~, 50/60Hz, Max.1.0A Output: DC 19V, 1.58A

5.3 Test Equipment Calibration

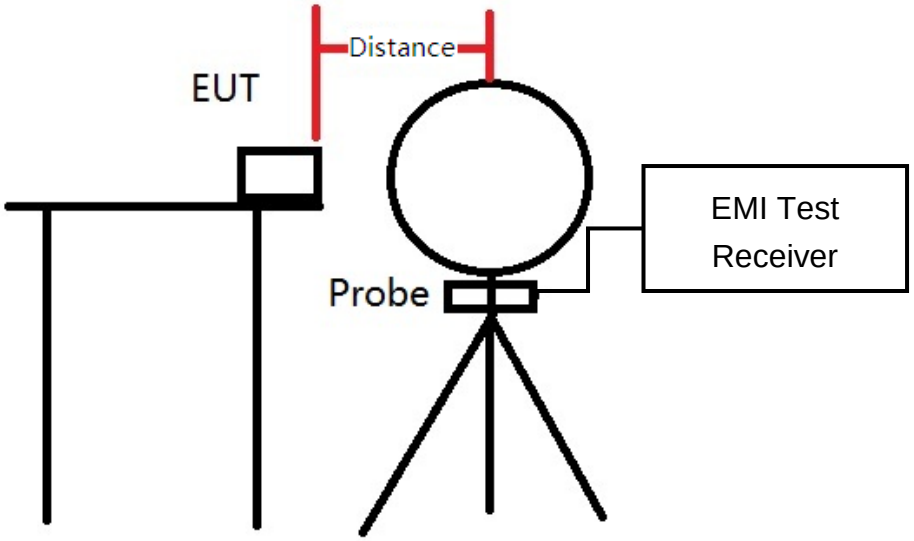
All the test equipments used are valid and calibrated by GUANG ZHOU GRG METROLOGY & TES T CO., LTD. address is No.163, Pingyun Rd. West of Huangpu Ave,Tianhe District, Guangzhou, Guangdong, China.

6 RF Exposure

Test Requirement:

Environmental evaluation and exposure limit according to FCC CFR 47 Part 1.1307 (c) and (d), 1.1310. According KDB680106 D01 RF Exposure Wireless Charging Apps v03

6.1 Test Setup



These testing were performed at test configuration as above diagram.

EUT was placed on a table, and the measure probe was placed at a measurement distance of 20cm from the top of EUT to the center of the probe and 15cm from other directions of EUT to the center of the probe..

The EUT was put in different directions (Left, Right, Front, Rear, Top and Bottom) to obtain the maximum reading.

6.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
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
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
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
1500-100,000			1.0	30

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

6.3 Test Data

H-Field(Transmitting with Ant1+Ant2-Half Load):

Test Side	Separation Distance(cm)	H-Field Measured(A/m)	H-Field Limit(A/m)
Left	15	0.36	1.63
Right	15	0.32	1.63
Front	15	0.34	1.63
Rear	15	0.30	1.63
Top	20	0.49	1.63
Bottom	15	0.42	1.63
Margin Limit (%)		30.06%	

Remark: The device meets the RF exposure limit at a 15cm separation distance as specified in §1.1310 of the FCC Rules and meeting all of the following requirements as follows.

(1) Power transfer frequency is less than 1 MHz.

(2) Output power from each primary coil is less than or equal to 15 watts.

(3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.

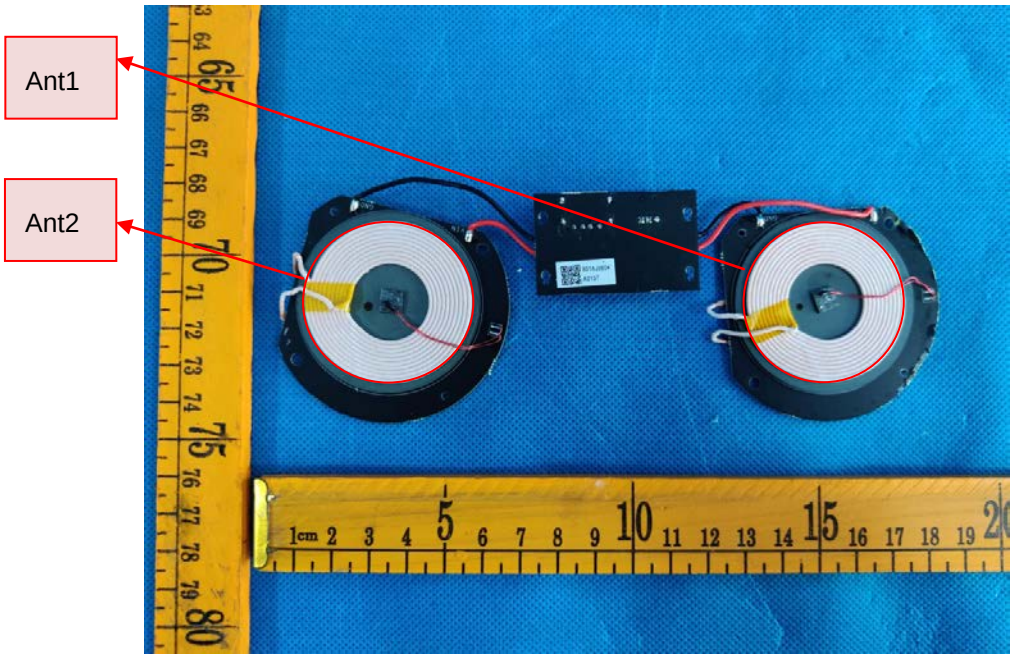
(4) Client device is placed directly in contact with the transmitter.

(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.

6.4 EUT coupling surface area

The inductive area is below (Coupling area：ø 40 mm, The located at top of the equipment):



7 Photograph – RF Exposure Test Setup

Note: Refer to the file DUAL-WRLS-BASE-A_Tsup Pho.

======End of Report======