# **WPT Evaluation Report**

FCC ID : A4RGE2AE

**Equipment : Phone** 

Applicant : Google LLC

1600 Amphitheatre Parkway,

Mountain View, California, 94043 USA

Standard : FCC CFR 47 part 1, 1.1307(b) and 1.1310

KDB 680106 D01v03

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR part 1, 1.1307(b), 1.1310 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

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Report No.: FA1O2919-05B

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan

TEL: 886-3-327-3456 FAX: 886-3-328-4978 Page Number : 1 of 5

Report Issued Date: Jun. 06, 2022

## **Table of Contents**

Report No. : FA1O2919-05B

1.	DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	4
2.	RF EXPOSURE LIMIT INTRODUCTION	4
3.	TEST MODE	5
4.	MEASUREMENT EQUIPMENT	5
5.	RF EXPOSURE EVALUATION	5
Ар	pendix A. Test Setup Photo	

SPORTON INTERNATIONAL INC. Page Number : 2 of 5

TEL: 886-3-327-3456 Report Issued Date: Jun. 06, 2022 FAX: 886-3-328-4978

## **Revision History**

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REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE				
FA1O2919-05B	Rev. 01	Initial issue of report	Jun. 06, 2022				

TEL: 886-3-327-3456 FAX: 886-3-328-4978 Report Issued Date: Jun. 06, 2022

: 3 of 5

Report No. : FA1O2919-05B

### 1. Description of Equipment Under Test (EUT)

Product Feature & Specification				
EUT Type	Phone			
FCC ID	A4RGE2AE			
Frequency Range 110KHz ~ 148.5KHz				
Moudlation Type	ASK			
Antenna Type	Coil			
Date of Test	Apr. 26, 2022			

Report No.: FA102919-05B

### 2. RF Exposure Limit Introduction

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
30.24	(A) Limits for (	Occupational/Controlled Expos	ure	
0.3-3.0	614	1.63	* 100	6
3.0-30	1842/f	4.89/f	* 900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000	3		5	6
	(B) Limits for Gene	eral Population/Uncontrolled Ex	posure	
0.3-1.34	614	1.63	* 100	30
1.34-30	824/f	2.19/f	* 180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

(1) 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.

(2) 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.

SPORTON INTERNATIONAL INC. Page Number : 4 of 5

TEL: 886-3-327-3456 Report Issued Date: Jun. 06, 2022 FAX: 886-3-328-4978

<sup>\* =</sup> Plane-wave equivalent power density

#### 3. Test Mode

This device has been tested in the following charging conditions as below:

Test Mode	Test Setup Configuration	Charging Current Condition		
TM1	Test w/ Client Device installed	< 1% Battery status		
TM2	Test w/ Client Device installed	50% Battery status		
ТМ3	Test w/ Client Device installed	Near 100% Battery status		

Report No.: FA1O2919-05B

### 4. Measurement Equipment

Instrument	Manufacturer	Model No.	Serial No.	Freq. Range	Last Cal.	Due Date
Electric and Magnetic field Probe-Analyzey	Narda S.T.S / PMM	EHP 200AC	170WX80309	3KHz~30MHz	Oct. 26, 2021	Oct. 25, 2022

### 5. RF Exposure Evaluation

#### **General Note:**

- The device support Wireless Power Consortium with a maximum power transfer to the phone of 5W. In addition, the
  device can be used in reverse, as a transmitter to another wireless charging receiver. In this case, up to 5W (BPP)
  can be transmitted to the external receiver.
- For portable devices that do not physically attach to phone, desktop WPT testing guidance from FCC KDB 680106 D01v03r01.
- 3. There is no mechanical / magnetic connection mechanism between client and smart phone (this application) so charging is only supported for desktop/tabletop use.
- 4. The equipment under test was placed on a desk inside of shield room. The isotropic field probe was used to measure the field strength for 6 EUT surfaces, the detail setup photo please refer to Appendix A.
- 5. Per KDB 680106 D01v03r01, RF exposure evaluation at 15 cm surrounding the device and 20 cm above the top surface. Emissions between 50 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 1.63 A/m and aggregate H-field strengths from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit

	H-Field Measurement (A/m)						
Position	Α	В	С	D	Е	F	50% of limit
	(20cm)	(20cm)	(15cm)	(15cm)	(15cm)	(15cm)	30 /0 01 1111111
TM1	0.0150	0.0141	0.0142	0.0156	0.0144	0.0142	
TM2	0.0147	0.0144	0.0144	0.0151	0.0141	0.0137	0.815
TM3	0.0147	0.0147	0.0139	0.0148	0.0139	0.0135	

#### **Conclusion:**

The field strength limit refers to Part 1.1310 and the test result of exposure evaluation is less than with 50% of the MPE limit.

SPORTON INTERNATIONAL INC.Page Number: 5 of 5TEL: 886-3-327-3456Report Issued Date : Jun. 06, 2022

FAX: 886-3-328-4978