

RF Exposure Report

Report No.: AGC011102311121FH02

FCC ID : 2AOKB-A3319

APPLICATION PURPOSE: Original Equipment

PRODUCT DESIGNATION: Wireless Speaker

BRAND NAME : AnkerWork

MODEL NAME : A3319

APPLICANT: Anker Innovations Limited

DATE OF ISSUE : Dec. 27, 2023

STANDARD(S) : KDB680106 D01 RF Exposure Wireless Charging Base App

v04

REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec. 27, 2023	Valid	Initial Release

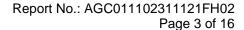
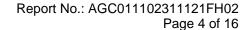




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1. General Information

Applicant	Anker Innovations Limited
Address	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hongkong
Manufacturer	Anker Innovations Limited
Address	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hongkong
Factory	N/A
Address	N/A
Product Designation	Wireless Speaker
Brand Name	AnkerWork
Test Model	A3319
Series Model(s)	N/A
Difference Description	N/A
Date of receipt of test item	Nov. 22, 2023
Date of Test	Nov. 22, 2023 – Dec. 27, 2023
Deviation from Standard	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Test Report Form No	AGCER-FCC-RF Exposure (WPT)-V1

The test results of this report relate only to the tested sample identified in this report.

Cool Cheng
(Project Engineer)

Reviewed By

Calvin Liu
(Reviewer)

Max Zhang
Authorized Officer

Dec. 27, 2023

Dec. 27, 2023



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2. Product Information

2.1 Product Technical Description

Equipment Specification	WPT
Operation Frequency	WPT Band I: 111kHz-147kHz WPT Band II: 360kHz±5kHz
Hardware Version	V4
Software Version	V3.0.1
Modulation Type	MPP
Number of channels	2
Field Strength of Fundamental	68.44dBuV/m (Max)
Antenna Designation	Coil Antenna
Antenna Gain	0dBi
Power Supply	DC 7.2V by battery or / DC 9V 3A/ DC 15V 2A/ DC 20V 1.5A by adapter
Wireless Charging Output Power	5W, 7.5W, 10W, 15W
TYPE-C Output Power	N/A
Adapter Information	Adapter Name: A2337 Input: 100-240V~1A, 50-60Hz Output: DC 5V3A / DC 9V3A / DC 12V2.5A / DC 15V2A/ DC 20V1.5A
Note:	

The EUT can operate in two frequency bands, and both cases have been tested. The frequency of 128kHz is presented as the worst case in the report.

2.2 Test Frequency List

Frequency Band	Channel Number	Frequency
111~147kHz	01	128kHz

Frequency Band	Channel Number	Frequency
360kHz±5kHz	01	360kHz



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3. Test Environment

3.1 Address of The Test Laboratory

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd.

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L5488

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to FOLLOW CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories.)

A2LA-Lab Cert. No.: 5054.02

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to follow ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 975832

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files with Registration 975832.

IC-Registration No.: 24842 (CAB identifier: CN0063)

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842.



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3.3 Environmental Conditions

	Normal Conditions
Temperature range (℃)	15 - 35
Relative humidity range	20% - 75%
Pressure range (kPa)	86 - 106
Power supply	

3.4 Measurement Uncertainty

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

The calibration uncertainty is 0.7dB for the H-field readings and 1.06dB for the E-field readings. The calibration uncertainty is specified over the frequency range from 3.0 kHz to 10.0MHz and a dynamic range from 0.1A/m to 3200A/m and from 0.08V/m to 2000V/m respectively.

3.5 List of Equipment Used

Used	Test Equipment	Manufacturer	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
	MAGPy-8H3D+E3D	SPEAG	3061	2023-04-13	2024-04-12
	MAGPy-DAS	SPEAG	3063	2023-04-13	2024-04-12



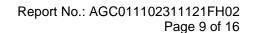
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4. Equipment Used in Tested System

The following peripheral devices and interface cables were connected during the measurement:

No.	Equipment	Model No.	Manufacturer	Specification Information	Cable
1	Wireless charging load	N/A	HUAWEI	Support 5W,7.5W,10W,15W	

No.	Equipment	Model No.	Manufacturer	Specification Information	Cable
1	Charger	A2337	ANKAL	DC 5V3A / DC 9V3A / DC 12V2.5A / DC 15V2A/ DC 20V1.5A	Accessories
2	Wireless charging load	CPS4041	N/A	Support 15W	Accessories





5. Description of Test Modes

NO.	Test Mode Description	Exposure Conditions				
1	Mode 1: AC/DC Adapter(9V/3A) + EUT + Wireless load (Full Load)	Mobile				
2	Mode 2: AC/DC Adapter(9V/3A)+ EUT + Wireless load (Half Load)	Mobile				
3	Mode 3: AC/DC Adapter(9V/3A)+ EUT + Wireless load (Null Load)	Mobile				
4	Mode 4: AC/DC Adapter(15V/2A) + EUT + Wireless load (Full Load)	Mobile				
5	Mode 5: AC/DC Adapter(15V/2A)+ EUT + Wireless load (Half Load)	Mobile				
6	Mode 6: AC/DC Adapter(15V/2A)+ EUT + Wireless load (Null Load)	Mobile				
7	Mode 7: AC/DC Adapter(20V/1.5A) + EUT + Wireless load (Full Load)	Mobile				
8	Mode 8: AC/DC Adapter(20V/1.5A)+ EUT + Wireless load (Half Load)	Mobile				
9	Mode 9: AC/DC Adapter(20V/1.5A)+ EUT + Wireless load (Null Load)	Mobile				
10	Mode 10: EUT + Wireless load(Full load)	Portable				
11	Mode 11: EUT + Wireless load (Half load)	Portable				
12	Mode 12: EUT + Wireless load (Null load)	Portable				
Note: /	Note: All test modes were pre-tested, but we only recorded the worst case in this report.					

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6. RF Exposure Measurement

6.1 Refer Evaluation Method

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

FCC KDB publication 680106 D01 RF Exposure Wireless Charging Apps v04: RF Exposure Considerations for Low Power Consumer Wireless Power Transfer Applications

FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.

FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

FCC CFR 47 part 18.107: Indusial, Scientific, and Medical Equipment.

6.2 Measurement Limits

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency	Electric Field	Magnetic Field	Power Density	Averaging Time	
Range(MHz)	Strength(V/m)	Strength(A/m)	(mW/cm²)	(minute)	
	Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6	
3.0-30	1842/f	4.89/f	*900/f²	6	
30-300	61.4	0.163	1.0	6	
300-1,500	/	/	f/300	6	
1,500-100,000	/	/	5	6	

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency	Electric Field	Magnetic Field	Power Density	Averaging Time		
Range(MHz)	Strength(V/m)	Strength(A/m)	Strength(A/m) (mW/cm²)			
	Limits for Gener	rolled Exposure				
0.3-1.34	614	614 1.63		30		
1.34-30	34-30 824/f 2.19/f		*180/f²	30		
30-300	30-300 27.5		0.2	30		
300-1,500	300-1,500 /		f/1500	30		
1,500-100,000	1,500-100,000 /		1.0	30		

F=frequency in MHz

According to FCC KDB 680106 D01v04 Section 3. RF Exposure Requirements clause 3.2 the Emission-Limits in the frequency range from 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of CFR 47 – Section 1.1310 as following:

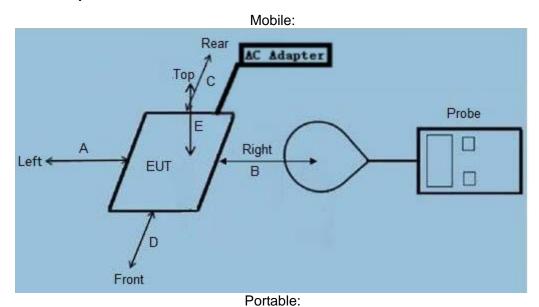
	E-Field	*/*	B-Field		
Frequency V/m		A/m	uT		
0.3 MHz – 3.0 MHz 614		1.613	2.0		
3.0 MHz – 30 MHz 824/f (=27.5 _{30MHz})		2.19/f (=0.073 _{30MHz})			

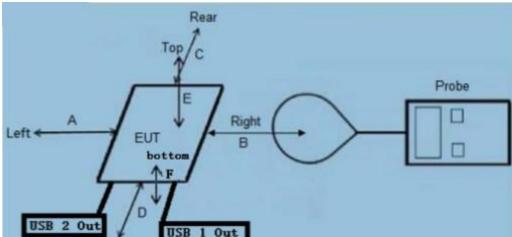
A KDB inquire was required to determine/confirm the applicable limits below 100 KHz.

^{*=}Plane-wave equivalent power density



6.3 Measurement Setup





Note:

- -- RF exposure assessment tests are conducted in a shielded room.
- -- Refer to the following test method description for the test distance between the edge of the charger and the measuring probe.
- -- As shown in the above picture, the test layout is not for the real object, only the requirements of the test layout listed in the standard requirements are presented, for reference only.
- -- The actual test EUT distinguishes the test type according to the requirements as shown in the figure above.



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6.4 Measurement Procedure

6.4.1 For mobile RF exposure:

- a) The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- b) E-field and H-field measurements should be taken with the probe geometric center located 20cm around the EUT and 20cm above the top surface of the master/client pair.
- 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.
- d) The EUT were measured according to the dictates of KDB 680106 D01v04
- Equipment Approval Considerations of KDB 680106 D01v04

Requirements of KDB 680106	Yes or No	Description
Wireless power transfer frequency is below 1MHz	Yes	The device operate in the frequency range WPT Band I: 111kHz-147kHz WPT Band II: 360kHz±5kHz
Output power from each primary coil is lessthan 15 watts	Yes	The maximum output power of the primary coil is 15W.
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.	Yes	The transfer system includes single coil that is able to detect receiver device.
Client device is placed directly in contact withthe transmitter.	Yes	Client device is placed directly in contactwith the transmitter.
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	No	Device can be used in portable conditions.
The aggregate H-field strengths at 20 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.	Yes	The EUT H-field strengths at 20 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.



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6.4.2 For portable RF exposure:

- a) The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- b) The measurement probe was placed at test distance (from 0 cm to 20 cm, in 2 cm maximum increment) which is between the edge of the charger and the geometric center of probe.
- c) The highest emission level was recorded and compared with limit as soon as measurement of each point (A, B, C, D, E, F,) were completed.
- d) The EUT were measured according to the dictates of KDB 680106 D01v04
- Assessment Methods:
- Test performed with all the radiating structures operating at maximum power at the same time.
- H-field measurements are taken along all three axes the device from 0cm~20cm in 2cm minimum increment for each edge surface of the host/client pair.



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6.5 Measurement Results

Mobile devices are evaluated as follows:

	Field Strength	Measured H-Field Strength Values (A/m) Measured E-Field Strength Values (V/m)						50%_FCC	
		Position A	Position B	Position C	Position D	Position E	FCC Limit	limit	
Mode 7	A/m	0.04	0.04 0.03		0.05	0.01	1.63	0.815	
Mode 7	V/m	0.07	0.08	0.07	0.10	0.05	614	307	



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Portable devices are evaluated as follows:

Measurement results directly tested using MAGPy:

Operate		n Measured	Measured H-Field Strength Values (A/m) Measured E-Field Strength Values (V/m)							
			Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	FCC Limit s	FCC 50% Limits
Mode 10	A/m	0	0.04	0.07	0.07	0.07	0.01	0.01	1.63	0.815
Mode 10	V/m	0	0.08	0.13	0.13	0.14	0.06	0.05	614	307

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result:

Operate Mode	Field		Measured H-Field Strength Values (A/m) Measured E-Field Strength Values (V/m)							
	Stren gth	Measured distance (cm)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	FCC Limit s	FCC 50% Limits
Mode 10	A/m	0	0.04	0.06	0.06	0.07	0.01	0.01	1.63	0.815
Mode 10	V/m	0	0.07	0.13	0.13	0.13	0.05	0.05	614	307



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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC011102311121AP05



Conditions of Issuance of Test Reports

- 1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
- 2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
- 3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
- 4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
- 5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
- 6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
- 7.Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
- 8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
- 9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.