

# **FCC Test Report**

Report No.: AGC01110201224FE02A

**FCC ID** : 2AOKB-A3391V

**APPLICATION PURPOSE**: Class II Equipment

**PRODUCT DESIGNATION**: Wireless Speaker

**BRAND NAME** : Soundcore

**MODEL NAME** : A3391, A3391J

**APPLICANT**: Anker Innovations Limited

**DATE OF ISSUE** : Apr. 29, 2021

**STANDARD(S)** : FCC Part 15.247

**REPORT VERSION** : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE, the test result presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 2 of 23

## REPORT REVISE RECORD

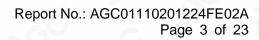
Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Apr. 29, 2021	Valid	Initial Release

#### Note:

The original test report Ref. No. AGC01110201224FE02 dated Jan. 21, 2021 was modified on Apr. 29, 2021 to include the following changes:

- -Change the hardware version;
- -Change the test photos and of EUT;
- -RCA OUT pass-through increase OP circuit;
- -RCA OUT channel, 8107 analog output increase OP circuit;
- -MIC front circuit adds OP circuit;
- -Increased OP circuit power supply circuit;
- -8107 adds 43 feet, 57 feet, 58 feet circuit;
- -So the Conducted Emission and Radiated Emission had been tested for the Class II device.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

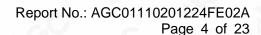




# **TABLE OF CONTENTS**

1. VERIFICATION OF COMPLIANCE	
2. GENERAL INFORMATION	5
2.1. PRODUCT DESCRIPTION	6 6
2.7. ANTENNA REQUIREMENT	
3. MEASUREMENT UNCERTAINTY	
4. DESCRIPTION OF TEST MODES	
5. SYSTEM TEST CONFIGURATION	
5.1. CONFIGURATION OF TESTED SYSTEM5.2. EQUIPMENT USED IN TESTED SYSTEM5.3. SUMMARY OF TEST RESULTS	9 9
6. TEST FACILITY	. 10
11.1. MEASUREMENT PROCEDURE	. 12 . 13 . 13
12. FCC LINE CONDUCTED EMISSION TEST	. 19
12.1. LIMITS OF LINE CONDUCTED EMISSION TEST	. 19 . 20 . 20 . 21
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	. 23
ADDENDIV D. DUOTOOD ADUO OF FUT	-

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the specificated resting/inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





1. VERIFICATION OF COMPLIANCE

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	GANZHOU DEHUIDA TECHNOLOGY CO., LTD		
Address	Dehuida Science and Technology Park, Huoyanshan Road, Anyuan District, Ganzhou City, Jiangxi Province. P.R China.		
Product Designation	Wireless Speaker		
Brand Name	Soundcore		
Test Model	A3391		
Series Model	A3391J		
Difference Description	All the same except for the model name.		
Date of test	Dec. 23, 2020 to Jan. 07, 2021		
Deviation	No any deviation from the test method		
Condition of Test Sample	Normal		
Test Result	Pass		
Report Template	AGCRT-US-BLE/RF		

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

Prepared By	John Zerry	
	John Zeng (Project Engineer)	Apr. 29, 2021
Reviewed By	Max Zhang	
No.	Max Zhang (Reviewer)	Apr. 29, 2021
Approved By	Formersties	
	Forrest Lei (Authorized Officer)	Apr. 29, 2021

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated restriction Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter perhorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 5 of 23

# 2. GENERAL INFORMATION

## 2.1. PRODUCT DESCRIPTION

The EUT is designed as a "Wireless Speaker". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz
RF Output Power	4.679dBm (Max)
Bluetooth Version	V5.0
Modulation	BR □GFSK, EDR □π /4-DQPSK, □8DPSK BLE □GFSK 1Mbps □GFSK 2Mbps
Number of channels	40 Channel
Antenna Designation	FPC Antenna (Comply with requirements of the FCC part 15.203)
Antenna Gain	3.81dBi
Hardware Version	VB.0
Software Version	V1.3
Power Supply	DC 14.8V by battery or AC 120V

## 2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency		
	0	2402 MHz		
100 aC	1	2404 MHz		
2400~2483.5MHz				
	38	2478 MHz		
	39	2480 MHz		

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 6 of 23

# 2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID: 2AOKB-A3391V** filling to comply with the FCC Part 15.247 requirements.

#### 2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

#### 2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

# 2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

#### 2.7. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the condicated restrouting portion of Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Page 7 of 23

#### 3. 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%.

- Uncertainty of Conducted Emission, Uc = ±3.1 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±4.0 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB
- Uncertainty of total RF power, conducted, Uc = ±0.8 dB
- Uncertainty of RF power density, conducted, Uc = ±2.6 dB
- Uncertainty of spurious emissions, conducted, Uc = ±2.7 dB
- Uncertainty of Occupied Channel Bandwidth: Uc = ±2 %

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Feating/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC where test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.



Page 8 of 23

# 4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX (1M)
2	Middle channel TX (1M)
3	High channel TX (1M)
4	Low channel TX (2M)
5	Middle channel TX (2M)
6	High channel TX (2M)

Note: 1. Only the result of the worst case was recorded in the report, if no other cases.

- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Restriction Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written application of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

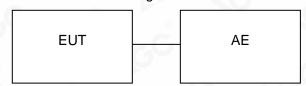


Page 9 of 23

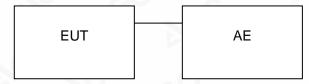
# 5. SYSTEM TEST CONFIGURATION

#### **5.1. CONFIGURATION OF TESTED SYSTEM**

Radiated Emission Configure:



Conducted Emission Configure:



## **5.2. EQUIPMENT USED IN TESTED SYSTEM**

Item	Equipment	Model No.	ID or Specification	Remark
1	Wireless Speaker	A3391	2AOKB-A3391V	EUT
2	Control Box	N/A	USB-TTL	AE
3	AC power line	N/A	1.5m unshielded	Accessory
4	Load	N/A	2.4ohm	AE
5	Load	N/A	2.4ohm	AE

## **5.3. SUMMARY OF TEST RESULTS**

FCC RULES	CC RULES DESCRIPTION OF TEST	
15.209	Radiated Emission	Compliant
15.207	Conducted Emission	Compliant

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 10 of 23

# 6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd			
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China			
Designation Number	CN1259			
FCC Test Firm Registration Number	975832			
A2LA Cert. No.	5054.02			
Description	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA			

## TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	May 15, 2020	May 14, 2021
LISN	R&S	ESH2-Z5	100086	Jul. 03, 2020	Jul. 02, 2021
Test software	FARA	EZ-EMC(Ver. AGC-CON03A1)	N/A	N/A	N/A

#### **TEST EQUIPMENT OF RADIATED EMISSION TEST**

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2020	May 14, 2021
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 07, 2020	Dec. 06, 2021
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	Mar. 23, 2020	Mar. 22, 2022
Attenuator	ZHINAN	E-002	N/A	Sep. 03, 2020	Sep. 02, 2022
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 21, 2019	Sep. 20, 2021
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	May 22, 2020	May 21, 2022
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May 17, 2019	May 16, 2021
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 03, 2020	Sep. 02, 2022
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 08, 2021	Jan. 07, 2023
Test software	FARA	EZ-EMC(Ver.RA-0 3A)	N/A	N/A	N/A

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 11 of 23

#### 11. RADIATED EMISSION

#### 11.1. MEASUREMENT PROCEDURE

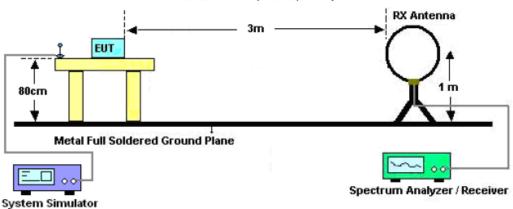
- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pestud/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

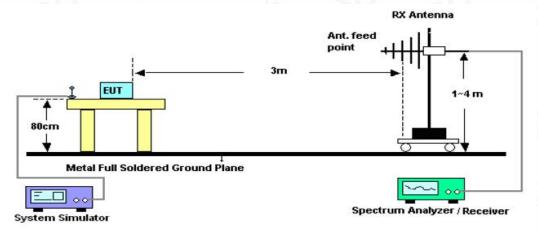


## 11.2. TEST SETUP

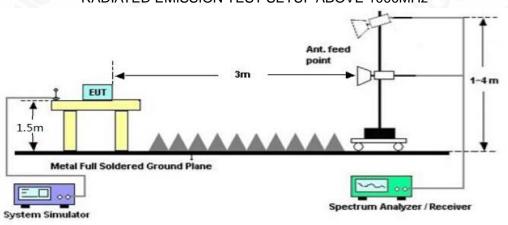
# Radiated Emission Test-Setup Frequency Below 30MHz



## RADIATED EMISSION TEST SETUP 30MHz-1000MHz



#### RADIATED EMISSION TEST SETUP ABOVE 1000MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Coedicated Postuagina Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written pathorization of AGC where the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 13 of 23

## 11.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)	
0.009~0.490	2400/F(kHz)	300	
0.490~1.705	24000/F(kHz)	30	
1.705~30.0	30	30	
30~88	100	3	
88~216	150	3	
216~960	200	3	
Above 960	500	3	

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

## 11.4. TEST RESULT

# **RADIATED EMISSION BELOW 30MHz**

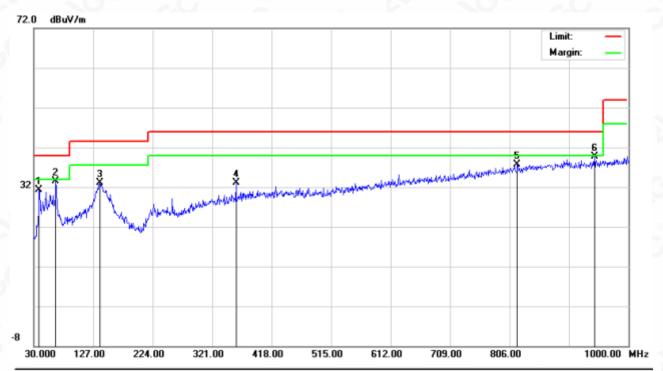
The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



## **RADIATED EMISSION BELOW 1GHZ**

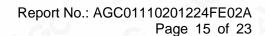
EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	,
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		38.7300	16.94	14.39	31.33	40.00	-8.67	peak
2		65.8900	16.17	17.42	33.59	40.00	-6.41	peak
3		137.6700	12.33	20.85	33.18	43.50	-10.32	peak
4		359.8000	9.45	23.57	33.02	46.00	-12.98	peak
5		818.6100	7.02	30.65	37.67	46.00	-8.33	peak
6	*	944.7100	7.70	32.08	39.78	46.00	-6.22	peak

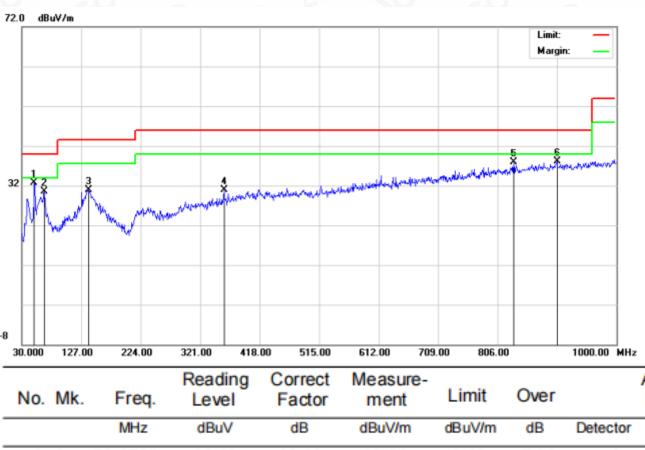
**RESULT: PASS** 

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.





EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	,
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	50.3700	18.80	13.88	32.68	40.00	-7.32	peak
2		66.8600	13.16	17.35	30.51	40.00	-9.49	peak
3		139.6100	9.71	21.17	30.88	43.50	-12.62	peak
4	;	359.8000	7.37	23.57	30.94	46.00	-15.06	peak
5	(	832.1900	7.05	30.83	37.88	46.00	-8.12	peak
6	(	903.0000	6.29	31.73	38.02	46.00	-7.98	peak

#### **RESULT: PASS**

Note: 1. Factor=Antenna Factor + Cable loss, Over=Limit-Measurement.

2. All test modes had been tested. The mode 3 is the worst case and recorded in the report.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 16 of 23

## **RADIATED EMISSION ABOVE 1GHZ**

EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4804.000	42.16	0.08	42.24	74	-31.76	peak
4804.000	34.73	0.08	34.81	54	-19.19	AVG
7206.000	36.46	2.21	38.67	74	-35.33	peak
7206.000	29.61	2.21	31.82	54	-22.18	AVG
	(8)				©	
						(8)

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4804.000	43.25	0.08	43.33	74	-30.67	peak
4804.000	35.67	0.08	35.75	54	-18.25	AVG
7206.000	37.91	2.21	40.12	74	-33.88	peak
7206.000	30.74	2.21	32.95	54	-21.05	AVG
			®			

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Pest Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issue of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com. g/Inspection he test results he test report.



Page 17 of 23

g/Inspection the test results

EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

m) (dBμV/m) (dB) Value Typ 74 -30.24 peak 54 -17.95 AVG
54 -17.95 AVG
74 -31.93 peak
54 -20.58 AVG

Factor = $I$	Antenna I	Factor -	+ Cable	Loss -	– Pre-amplifie	er.
			4 1 7			

EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type	
4880.000	44.65	0.14	44.79	74	-29.21	peak	
4880.000	36.09	0.14	36.23	54	-17.77	AVG	
7320.000	41.88	2.36	44.24	74	-29.76	peak	
7320.000	33.63	2.36	35.99	54	-18.01	AVG	
		@				(8)	
emark:				®			
ector - Anter	na Factor + Cah	le I oss - Pre-ai	molifier				

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the specificated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 18 of 23

EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Time
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.000	45.34	0.22	45.56	74	-28.44	peak
4960.000	36.79	0.22	37.01	54	-16.99	AVG
7440.000	39.79	2.64	42.43	74	-31.57	peak
7440.000	36.64	2.64	39.28	54	-14.72	AVG
					©	
mark:	_C	8		-0	_C	8

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

EUT	Wireless Speaker	Model Name	A3391
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.000	46.72	0.22	46.94	74	-27.06	peak
4960.000	37.61	0.22	37.83	54	-16.17	AVG
7440.000	40.99	2.64	43.63	74	-30.37	peak
7440.000	34.43	2.64	37.07	54	-16.93	AVG
		8			<del>,</del> 0	
Remark:		10 <sup>1</sup>		0		
Factor = Anter	nna Factor + Cable	Loss - Pre-a	mplifier.		®	

**RESULT: PASS** 

#### Note

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Restrog/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 19 of 23

# 12. FCC LINE CONDUCTED EMISSION TEST

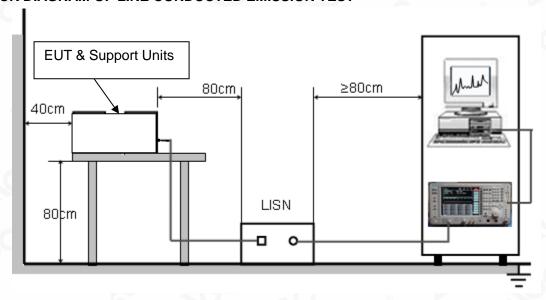
#### 12.1. LIMITS OF LINE CONDUCTED EMISSION TEST

F	Maximum RF Line Voltage			
Frequency	Q.P.( dBuV)	Average( dBuV)		
150kHz~500kHz	66-56	56-46		
500kHz~5MHz	56	46		
5MHz~30MHz	60	50		

Note: 1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

## 12.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written exphorization of AGC where test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.



Page 20 of 23

#### 12.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipment received AC120V/60Hz power from a LISN, if any.
- 5. The EUT received DC 5V power from adapter which received AC120V/60Hz power from a LISN.
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

#### 12.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

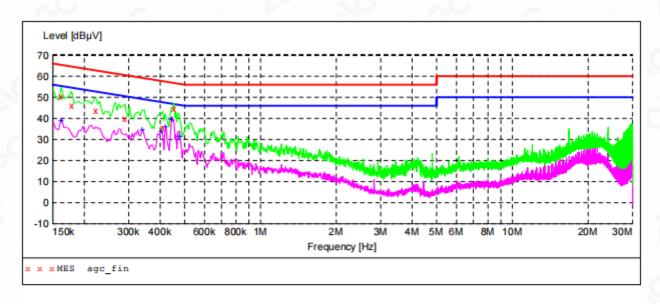
- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less – 2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



12.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

Line Conducted Emission Test Line 1-L



# MEASUREMENT RESULT: "agc\_fin"

2021/4/13 16	:46						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dΒμV	dB	dΒμV	dB			
0.162000	50.40	12.4	65	15.0	QP	L1	GND
0.178000	46.20	12.4	65	18.4	QP	L1	GND
0.222000	43.70	12.4	63	19.0	QP	L1	GND
0.290000	39.80	12.4	61	20.7	QP	L1	GND
0.410000	35.40	12.4	58	22.2	QP	L1	GND
0.454000	44.70	12.4	57	12.1	QP	L1	GND

# MEASUREMENT RESULT: "agc\_fin2"

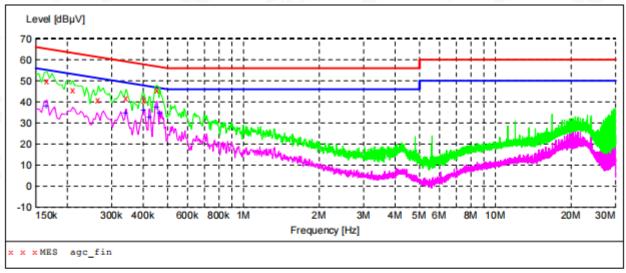
2021/4/13 16	:46						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dΒμV	dB	dΒμV	dB			
	20.00						
0.162000	38.90	12.4	55	16.5	AV	L1	GND
0.342000	34.50	12.4	49	14.7	AV	L1	GND
0.406000	33.90	12.4	48	13.8	AV	L1	GND
0.422000	36.00	12.4	47	11.4	AV	L1	GND
0.446000	39.30	12.4	47	7.6	AV	L1	GND
0.478000	31.10	12.4	46	15.3	AV	L1	GND

**RESULT: PASS** 

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.







# MEASUREMENT RESULT: "agc\_fin"

2021/4/13 1	6:43						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dΒμV	dB	dΒμV	dB			
0.166000	49.90	12.4	65	15.3	QP	N	GND
0.210000	45.60	12.4	63	17.6	QP	N	GND
0.266000	41.00	12.4	61	20.2	QP	N	GND
0.342000	41.80	12.4	59	17.4	QP	N	GND
0.402000	40.80	12.4	58	17.0	QP	N	GND
0.454000	45.60	12.4	57	11.2	QP	N	GND

# MEASUREMENT RESULT: "agc\_fin2"

2021/4/13 16:	43						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.166000	37.80	12.4	55	17.4	AV	N	GND
0.342000	34.60	12.4	49	14.6	AV	N	GND
0.402000	35.90	12.4	48	11.9	AV	N	GND
0.426000	32.90	12.4	47	14.4	AV	N	GND
0.454000	37.70	12.4	47	9.1	AV	N	GND
0.466000	34.70	12.4	47	11.9	AV	N	GND
	0.166000 0.342000 0.402000 0.426000 0.454000	MHz dBμV  0.166000 37.80 0.342000 34.60 0.402000 35.90 0.426000 32.90 0.454000 37.70	Frequency MHz Level Transd dBμV dB  0.166000 37.80 12.4 0.342000 34.60 12.4 0.402000 35.90 12.4 0.426000 32.90 12.4 0.454000 37.70 12.4	Frequency MHz dBμV dB dBμV  0.166000 37.80 12.4 55 0.342000 34.60 12.4 49 0.402000 35.90 12.4 48 0.426000 32.90 12.4 47 0.454000 37.70 12.4 47	Frequency MHz dBμV dB Limit Margin dBμV dB 0.166000 37.80 12.4 55 17.4 0.342000 34.60 12.4 49 14.6 0.402000 35.90 12.4 48 11.9 0.426000 32.90 12.4 47 14.4 0.454000 37.70 12.4 47 9.1	Frequency MHz Level Transd Limit Margin Detector dBμV dB dBμV dB  0.166000 37.80 12.4 55 17.4 AV 0.342000 34.60 12.4 49 14.6 AV 0.402000 35.90 12.4 48 11.9 AV 0.426000 32.90 12.4 47 14.4 AV 0.454000 37.70 12.4 47 9.1 AV	Frequency MHz dBμV dB Limit Margin Detector Line dBμV dB dBμV dB Detector Line 0.166000 37.80 12.4 55 17.4 AV N 0.342000 34.60 12.4 49 14.6 AV N 0.402000 35.90 12.4 48 11.9 AV N 0.426000 32.90 12.4 47 14.4 AV N 0.454000 37.70 12.4 47 9.1 AV N

## **RESULT: PASS**

Note: All the test modes had been tested, the mode 3 was the worst case. Only the data of the worst case would be record in this test report.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Residual Residual



Page 23 of 23

# APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC01110201224AP01A

APPENDIX B: PHOTOGRAPHS OF EUT Refer to the Report No.: AGC01110201224AP01A

----END OF REPORT----

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the special dead resting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written appropriation of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### 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. The non-CMA report issued by AGC is only permitted to be used by the client as internal reference use and shall not be used for public demonstration purpose.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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.
- 10. 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.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the standard restriction Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written explorization of AGE, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.