

FCC Test Report

Report No.: AGC01165230201FE10

FCC ID : 2AHLIB41W

APPLICATION PURPOSE Original Equipment

PRODUCT DESIGNATION: Bluetooth speaker with wireless charging

BRAND NAME : N/A

MODEL NAME : B41W-PD, B41

APPLICANT: Shenzhen Ihold Technology Co., Ltd

DATE OF ISSUE : Mar. 20, 2023

STANDARD(S) : FCC Part 15 Subpart C

REPORT VERSION: V 1.0

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	/	Mar. 20, 2023	Valid	Initial Release



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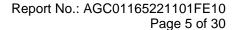
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Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections 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 agc01@agccert.com.



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1. GENERAL INFORMATION

Shenzhen Ihold Technology Co., Ltd		
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Shenzhen Ihold Technology Co., Ltd		
4th Floor, Building D, Huafeng No.1 Technology Park, Sanwei, Xi'xiang, Bao'an, Shenzhen, Guangdong 518102, China		
Shenzhen Ihold Technology Co., Ltd		
4th Floor, Building D, Huafeng No.1 Technology Park, Sanwei, Xi'xiang, Bao'an, Shenzhen, Guangdong 518102, China		
Bluetooth speaker with wireless charging		
N/A		
B41W-PD		
B41		
All the same except for the model name		
Feb. 16, 2023		
Feb. 16, 2023 to Mar. 17, 2023		
No any deviation from the test method		
Pass		
AGCTR-ER-FCC-WPTV1.0		

Prepared By	Alan Duan	!
	Alan Duan (Project Engineer)	Mar. 20, 2023
Reviewed By	Calin Lin	
	Calvin Liu (Reviewer)	Mar. 20, 2023
Approved By	Max Zhang	
	Max Zhang (Authorized Officer)	Mar. 20, 2023



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2. PRODUCT INFORMATION

2.1 PRODUCT TECHNICAL DESCRIPTION

Hardware Version	V1.0
Software Version	V1.0
Operation Frequency	110.8KHz-205KHz
Modulation Type	ASK
Number of channels	1 Channel
Field Strength of Fundamental	68.52dBuV/m (Max)
Antenna Designation	Coil Antenna
Antenna Gain	0dBi
Power Supply	DC 5V/3A, DC 9V/2A
Adapter Information	N/A

2.2 TEST FREQUENCY LIST

Frequency Band	Channel Number	Frequency
110.8KHz-205KHz	01	119 KHz



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2.3 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2AHLIB41W** filing to comply with Part 2, Part 15 of the Federal Communication Commission rules.

2.4 TEST METHODOLOGY

The tests were performed according to following standards:

No.	Identity	Document Title		
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations		
2	FCC 47 CFR Part 15	Radio Frequency Devices		
3	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices		

2.5 SPECIAL ACCESSORIES

Not available for this EUT intended for grant.

2.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.7 ANTENNA REQUIREMENT

Standard Requirement

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antennathat uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a brokenantenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The non-detachable antenna inside the device cannot be replaced by the user at will. The gain of the antenna is 0 dBi.



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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 be in compliance with 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 be in compliance with 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	EXTREME CONDITIONS			
Temperature range (℃)	15 - 35	-20 - 50			
Relative humidty range	20 % - 75 %	20 % - 75 %			
Pressure range (kPa)	86 - 106	86 - 106			
Power supply					

Note: The Extreme Temperature and Extreme Voltages declared by the manufacturer.

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%.

ltem	Measurement Uncertainty
Uncertainty of Conducted Emission for AC Port	$U_c = \pm 2.9 \text{ dB}$
Uncertainty of Radiated Emission below 150kHz	$U_c = \pm 4.2 \text{ dB}$
Uncertainty of Radiated Emission below 30MHz	$U_c = \pm 3.8 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 4.0 \text{ dB}$
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$
Uncertainty of spurious emissions, conducted	$U_c = \pm 2.7 \%$
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$



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3.5 LIST OF EQUIPMENTS USED

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Test Receiver	R&S	ESPI	101206	Mar. 28, 2022	Mar. 27, 2023
Artificial power network	R&S	ESH2-Z5	100086	Jun. 08, 2022	Jun. 07, 2023
Test Software	FARA	EZ-EMC	Ver. AGC-CON03A1	N/A	N/A
Test Receiver	R&S	ESCI	10096	Mar. 28, 2022	Mar. 27, 2023
EXA Signal Analyzer	Agilent	N9010A	MY53470504	Aug. 04, 2022	Aug. 03, 2023
Active Loop Antenna (9K-30Mhz)	ZHINAN	ZN30900C	18051	Mar. 12, 2022	Mar. 11, 2024
Wideband Antenna	SCHWARZBECK	VULB9168	VULB9168-494	Jan. 05, 2023	Jan. 04, 2025
Test Software	FARA	EZ-EMC	Ver.RA-03A	N/A	N/A



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4.SYSTEM TEST CONFIGURATION

4.1 EUT CONFIGURATION

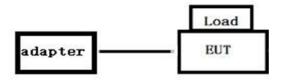
The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

4.2 EUT EXERCISE

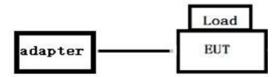
The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

4.3 CONFIGURATION OF TESTED SYSTEM

Radiated Emission Configure:



Conducted Emission Configure:



4.4 EQUIPMENT USED IN TESTED SYSTEM

The Following Peripheral Devices And Interface Cables Were Connected During The Measurement:

☐ Test Accessories Come From The Laboratory

Item	Equipment	Model No.	Identifier	Note
1	Adapter	HW-050200C01	N/A	Accessories
2	Wireless charging load	N/A	N/A	Accessories
3	Charger line	N/A	N/A	Accessories

☐ Test Accessories Come From The Manufacturer

Item	Equipment	Model No.	Identifier	Note
1	Bluetooth speaker with wireless charging	B41W-PD	2AHLIB41W	EUT



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4.5 SUMMARY OF TEST RESULTS

Item	FCC Rules	Description Of Test	Result
1	§15.203	Antenna Equipment	Pass
2	§15.209(a)(f)	Radiated Spurious Emission	Pass
3	§15.215(c)	20dB Bandwidth	Pass
4	§15.205(a)	Restricted Bands of Operation	Pass
5	§15.207	AC Power Line Conducted Emission	Pass



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5. DESCRIPTION OF TEST MODES

	Summary table of Test Cases
Test Item	Equipment type / Modulation
rest nem	WPT_(TX:119KHz)/ ASK
Radiated&Conducted Test Cases	Mode 1: Charging+Wireless 10W Mode 2: Charging+Wireless 7.5W Mode 3: Charging+Wireless 5W Mode 4: Charging+Wireless Null
AC Conducted Emission	Mode 1: Charging+Wireless 10W Mode 2: Charging+Wireless 7.5W Mode 3: Charging+Wireless 5W Mode 4: Charging+Wireless Null

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.



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6. FIELD STRENGTH OF FUNDAMENTAL

6.1 PROVISIONS APPLICABLE

Test Requirement:	FCC Part15 C Section 15.209							
Test Method:	ANSI C63.10:2013							
Test Frequency Range:	9kHz to 1GHz							
Test site:	Measurement Distance: 3m							
	Frequency	Detector	RBW	VBW	Value			
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak			
Receiver setup:	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak			
ixeceiver setup.	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak			
	Above 1GHz	Peak	1MHz	3MHz	Peak			
	Above IGHZ	Peak	1MHz	10Hz	Average			

Limits for frequency below 30MHz

Frequency	Limit (uV/m)	Measurement Distance(m)	Remark
0.009-0.490	2400/F(kHz)	300	Quasi-peak Value
0.490-1.705	24000/F(kHz)	30	Quasi-peak Value
1.705-30	30	30	Quasi-peak Value

Limits for frequency Above 30MHz

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
Above IGHZ	74.00	Peak Value

Remark: (1) Emission level dB μ V = 20 log Emission level μ V/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.



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6.2 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.
- 2. 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.



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6.3 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any), Average Factor (optional) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG - AV

where $FS = Field Strength in dB\mu V/m$

RA = Receiver Amplitude (including preamplifier) in dBµV

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB/m AG = Amplifier Gain in dB AV = Average Factor in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:

FS = RR + LF where FS = Field Strength in $dB\mu V/m$ RR = RA - AG - AV in $dB\mu V$ LF = CF + AF in dB

Assume a receiver reading of $52.0 \text{ dB}\mu\text{V}$ is obtained. The antenna factor of 7.4 dB/m and cable factor of 1.6 dB are added. The amplifier gain of 29 dB and average factor of 5 dB are subtracted, giving a field strength of 27 dB $\mu\text{V/m}$.

This value in dBµV/m was converted to its corresponding level in µV/m.

 $RA = 52.0 dB\mu V/m$

 $AF = 7.4 \text{ dB/m} \qquad \qquad RR = 18.0 \text{ dB}\mu\text{V}$ $CF = 1.6 \text{ dB} \qquad \qquad LF = 9.0 \text{ dB}$

AG = 29.0 dBAV = 5.0 dB

FS = RR + LF

 $FS = 18 + 9 = 27 dB\mu V/m$

Level in μ V/m = Common Antilogarithm [(27 dB μ V/m)/20] = 22.4 μ V/m

Magnetic field strength calculation (9 kHz – 30 MHz)

When the limit is in terms of magnetic field, the following equation applies:

 $H[dB(\mu A/m)] = V[dB(\mu V)] + LC[dB] - GPA[dB] + AFH[dB(S/m)]$

Where,

H is the magnetic field strength (to be compared with the limit),

V is the voltage level measured by the receiver or spectrum analyzer,

LC is the cable loss,

GPA is the gain of the preamplifier (if used), and

AFH is the magnetic antenna factor.

If the "electrical" antenna factor is used instead, the above equation becomes:

 $H[dB(\mu A/m)] = V[dB(\mu V)] + LC[dB] - GPA[dB] + AFE[dB(m-1)] - 51.5[dB\Omega]$

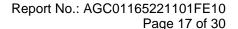
where AFE is the "electric" antenna factor, as provided by the antenna calibration laboratory.

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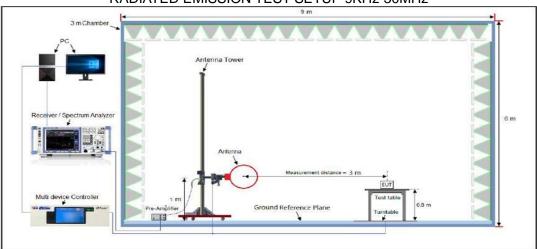
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



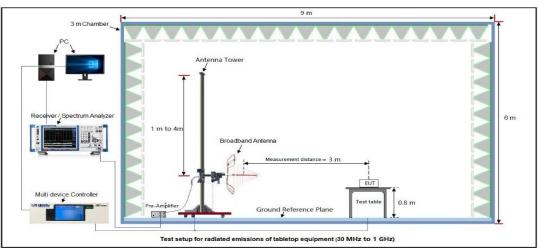


6.4 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)

RADIATED EMISSION TEST SETUP 9KHz-30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.205 limits.

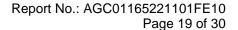


6.5 MEASUREMENT RESULTS

ELECTRIC FIELD TEST IN THE FREQUENCY RANGE 9KHz-150KHz

EUT Bluetooth spea					_		
Charging		Model Name	e	B41W-P	D		
Temperature 22.4°C		Relative Hu	midity	53.2%			
Pressure 985hPa		Test Voltage	•	Normal Voltage			
Test Mode 1		Antenna		Face			
130.0 dBuV/m				Limit			
				Marg			
70					6		
					1		
1 2	. 4	5					
my my my many man	mayner man man MM	Lower Company Company	rannega me	us ades	1 souther		
	4.41444		A PONTON	Completent Janish	Pr. and		
10.0							
0.009		MHz)			0.150		
No. Mk. Freq.	Reading Corr Level Fac		Limit	Over			
MHz	dBuV dE		dB/m	dB	Detector		
1 0.0120	11.66 28.	19 39.85	125.8	-85.97	peak		
2 0.0158	10.27 27.	91 38.18	123.4	-85.27	peak		
3 0.0240	8.26 27.	29 35.55	119.8	-84.29	peak		
4 0.0318	10.70 26.	71 37.41	117.4	-80.00	peak		
5 0.0422	11.86 25.	94 37.80	114.9	-77.17	peak		
6 * 0.1190	45.45 21.	59 67.04	106.1	-39.06	peak		

RESULT: PASS

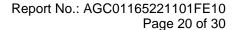




ELECTRIC FIELD TEST IN THE FREQUENCY RANGE 9KHz-150KHz

					EQUENCY RANGE 9KHz-150KHz				
EUT		Bluetooth sp charging	eaker with w	ireless	Model Name		B41W-P	D	
Temperature		22.4°C			Relative Hur	nidity	53.2%		
Pressure		985hPa			Test Voltage		Normal Voltage		
Test Mode		Mode 1			Antenna		Side		
130.0 d	IBuV/m						Limi		
10.0	wy*	Manhorman	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	(MHz)	A A A A A A A A A A A A A A A A A A A	Moral popul	May-Dunah dayan	0.150	
	w _w	Mahmana	74	(MHz)	Measure-	apart 440	/ton-lawarday		
0.009	Mk.		Reading Level			www.ww/\ Limit	Over		
0.009	Mk.		Reading	Correct	Measure-				
0.009	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	0.150	
0.009 No.		Freq.	Reading Level	Correct Factor	Measure- ment dBuV/m	Limit dB/m	Over	0.150 Detector	
No.		Freq. MHz 0.0097	Reading Level dBuV 12.23	Correct Factor dB 28.36	Measure- ment dBuV/m 40.59	Limit dB/m 127.6	Over dB -87.07	0.150 Detector peak	
No.		Freq. MHz 0.0097 0.0114	Reading Level dBuV 12.23 10.22	Correct Factor dB 28.36 28.24	Measure- ment dBuV/m 40.59 38.46	Limit dB/m 127.6 126.2	Over dB -87.07 -87.81	Detector peak peak	
No.		Freq. MHz 0.0097 0.0114 0.0240	Reading Level dBuV 12.23 10.22 8.33	Correct Factor dB 28.36 28.24 27.29	Measure- ment dBuV/m 40.59 38.46 35.62	Limit dB/m 127.6 126.2 119.8	Over dB -87.07 -87.81 -84.22	Detector peak peak peak	

RESULT: PASS

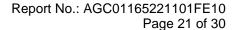




ELECTRIC FIELD TEST IN THE FREQUENCY RANGE 150KHz-30MHz

	EL	DI . (()	1					
EUT		Bluetooth sp charging	eaker with w	ireless	Model Name		B41W-P[D
Temperature		22.4°C			Relative Hum	idity	53.2%	
Pressure		985hPa		Test Voltage		Normal Voltage		
Test Mode		Mode 1			Antenna		Face	
130.0 dB	3uV/m						Limit Marg	
10.0	- And	A. Marillon London	maria (rago a/porrana arabana)		has greater than the great and the great	,		
10.0	S. S	3 *	i	(MHz)	5			30.000
	71	A. Marillon London				Limit	Over	30.000
0.150	71	0.5	Reading	(MHz) Correct	Measure-			30.000
0.150	71	Freq.	Reading Level	(MHz) Correct Factor	Measure- ment	Limit	Over	
0.150 No.	71	Freq.	Reading Level	Correct Factor	Measure- ment dBuV/m	Limit	Over	Detector
0.150 No.	71	0.5 Freq. MHz 0.1722	Reading Level dBuV 26.26	Correct Factor dB 21.49	Measure- ment dBuV/m 47.75	Limit dB/m 102.8	Over dB -55.10	Detector peak
0.150 No.	71	0.5 Freq. MHz 0.1722 0.2562	Reading Level dBuV 26.26 24.97	Correct Factor dB 21.49 21.33	Measure- ment dBuV/m 47.75 46.30	Limit dB/m 102.8 99.41	Over dB -55.10 -53.11	Detector peak peak
0.150 No.	Mk.	0.5 Freq. MHz 0.1722 0.2562 0.3832	Reading Level dBuV 26.26 24.97 22.85	Correct Factor dB 21.49 21.33 21.10	Measure- ment dBuV/m 47.75 46.30 43.95	Limit dB/m 102.8 99.41 95.93	Over dB -55.10 -53.11 -51.98	Detector peak peak peak

RESULT: PASS





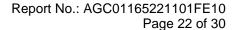
ELECTRIC FIELD TEST IN THE FREQUENCY RANGE 150KHz-30MHz

	ELECTRIC FII	ELD TEST IN	THE FREC	REQUENCY RANGE 150KHz-30MHz				
EUT	Bluetooth sp charging	beaker with w	ireless	Model Name		B41W-PI)	
Temperature	22.4°C			Relative Hum	nidity	53.2%		
Pressure	985hPa			Test Voltage		Normal Voltage		
Test Mode	Mode 1		Antenna			Side		
70		Markan di terri	h. Napode Nobras da Napo	Land and the state of the state		6 X	in: —	
10.0 0.150	0	5	(MHz)	5			30.000	
No.	Mk. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	
1	0.1768	27.22	21.48	48.70	102.6	-53.92	peak	
2	0.2329	23.16	21.37	44.53	100.2	-55.71	peak	
3	0.2562	25.33	21.33	46.66	99.41	-52.75	peak	
4	0.3832	23.82	21.10	44.92	95.93	-51.01	peak	
5	* 9.0592	29.20	24.12	53.32	69.54	-16.22	peak	
6	11.1977	28.37	24.47	52.84	69.54	-16.70	peak	

RESULT: PASS

NOTES:

- 1. Quasi-Peak detector is used for frequency below 30MHz.
- 2. Negative value in the margin column shows emission below limit.
- 3. All measurements were made with 0.6m loop antenna at 3m distance. All emissions are below the QP limit.
- 4. Corr. Factor= Antenna Factor (dB/m) + Cable Loss (dB)
- 5. Loop antenna is used for the emission under 30MHz.

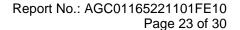




RADIATED EMISSION BELOW 1GHz

	RADIATED EMISSION BELOW 1GHz															
EUT					Bluetooth speaker with wireless charging			Model Na	ame		B41\	W-P	D			
Temp	erature	е		2	22.8°C				Relative	Relative Humidity		53.1%				
Press	ure			985hPa				Test Volt	Test Voltage		Normal Voltage		е			
Test N	Test Mode			ı	Mode 1			Antenna	Antenna		Horizontal					
	32	1BuV/m					,		2, 3		againge the state of the state	w	5X	mit: argin:		
	#\.//in	, bischeurb	ng/Hajirifirka	der or get u	e, etc. je.pr	Anna/el	Blower war	Capacific	Albert Samuel	Hansander Parl J. M. Hansander P.						
				50		70 8	0		(MHz)	300	400	500	600	700	1000	.000
	-8 30.000		0	50		70 8	0	ling			400	500	600 Ove		1000	.000
	-8 30.000	0 4	0	50 Fre	60	70 8	o ead	ling el	(MHz) Correct	300 Measure-	400	500		r	1000 Detec	
	-8 30.000	0 4	0	50 Fre	eq.	70 8 R	ead Lev	ling el	Correct Factor	Measure- ment	400 Limit	500	Ove	r		tor
	-8 30.000 No.	0 4	96	Fro MH	eq.	70 8 R	ead Lev	ling el	Correct Factor	Measure- ment	Limit	500	Ove dB	r 06	Detec	tor k
	-8 30.000 No.	0 4	96	Fro MH	eq. Hz 362	70 8 R	ead Leve	ling el iv 79	Correct Factor dB 14.65	Measure- ment dBuV/m 25.44	Limit dB/m 43.50	500 (-1	dB	r 06 5	Detec	tor k
	No.	Mk	96 128 192	Fro MH 63.43 55.44	eq. Hz 362	70 8 R	dBu	ding el el v 79 37	Correct Factor dB 14.65 16.98	Measure- ment dBuV/m 25.44 26.35	Limit dB/m 43.50 43.50	500 (-1 -1	dB 18.0	r 06 5	Detec pe a pe a	tor k k
	No.	Mk	96 123 192 463	Fro MH 66.43 5.44 2.41	eq. Hz 362 457	70 8 R	dBu 10.7	ding el el v 79 37 48	Correct Factor dB 14.65 16.98 15.50	Measure- ment dBuV/m 25.44 26.35 26.98	400 Limit dB/m 43.50 43.50	500 (-1 -1 -1	dB 18.0 17.1	r 6 5 62	pea pea pea	tor k k

RESULT: PASS





RADIATED EMISSION BELOW 1GHz

		D EMISSION E	SELOW 1GH	Z				
EUT	Bluetooth speaker charging	with wireless	Model Nan	ne	B41W-F	D		
Temperature	22.8°C		Relative H	umidity	53.1%			
Pressure	985hPa	Test Voltag	ge	Normal	Voltage			
Test Mode	Mode 1		Antenna		Vertical			
72.0 dBuV/m	23 Andrew Mary Pharmack	of photographic and provided by the same	Mill processing and street to the street to	physiological ph	Limit: Margin:			
30.000 40 50		(MHz)	300	400 50	0 600 700	1000.000		
No. Mk. F	Reading Freq. Level	Correct Factor	Measure- ment	Limit	Over			
	MHz dBuV	dB	dBuV/m	dB/m	dB	Detector		
1 43.	5056 10.67	16.93	27.60	40.00	-12.40	peak		
2 * 53.	5052 13.21	17.03	30.24	40.00	-9.76	peak		
3 55.0	6094 12.96	17.06	30.02	40.00	-9.98	peak		
4 96.	0986 13.27	14.73	28.00	43.50	-15.50	peak		
5 468.	8761 9.06	24.58	33.64	46.00	-12.36	peak		
6 752.	7432 7.03	32 7.03 27.73		46.00	-11.24	peak		

RESULT: PASS

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

- 2. All test modes had been pre-tested. The mode 1 is the worst case and recorded in the report.
- 3. The "Factor" value can be calculated automatically by software of measurement system.



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7. 20 dB BANDWIDTH

7.1 PROVISIONS APPLICABLE

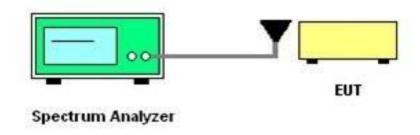
N/A

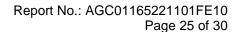
7.2 MEASUREMENT PROCEDURE

Set the parameters of SPA as below:

- 1. The spectrum analyzer connected via a receive antenna placed near the EUT in peak Max hold mode.
- 2. Centre frequency = Operation Frequency
- 3. The resolution bandwidth of 300 Hz and the video bandwidth of 1 kHz were used.
- 4. Span: 3kHz, Sweep time: Auto
- 5. Set the EUT to continue transmitting mode. Allow the trace to stabilize. Use the "N dB down" function of SPA to define the bandwidth.
- 6. Measured the spectrum width with power higher than 20dB below carrier.
- 7. Measured the 99% OBW.
- 8. Record the plots and Reported.

7.3 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)







7.4 MEASUREMENT RESULTS

Test Data of Occupied Bandwidth and -20dB Bandwidth					
Test Mode	Test Channel (MHz)	99% Occupied Bandwidth (kHz)	-20dB Bandwidth (kHz)	Limits (MHz)	Pass or Fail
ASK	0.119	0.748	0.872	N/A	Pass

Test Graphs of Occupied Bandwidth &-20dB Bandwidth







8. AC POWER LINE CONDUCTED EMISSION TEST

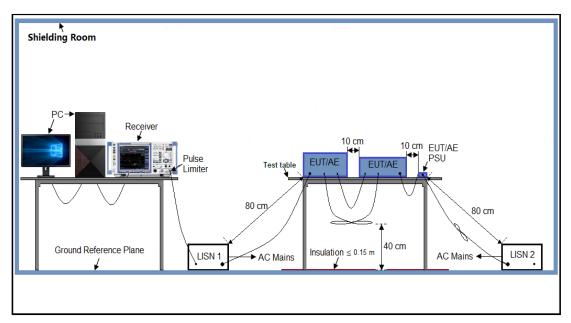
8.1 LIMITS OF LINE CONDUCTED EMISSION TEST

Francisco	Maximum RF Line Voltage		
Frequency	Q.P. (dBμV)	Average (dBμV)	
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.

8.2 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)





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8.3 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 9V/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.

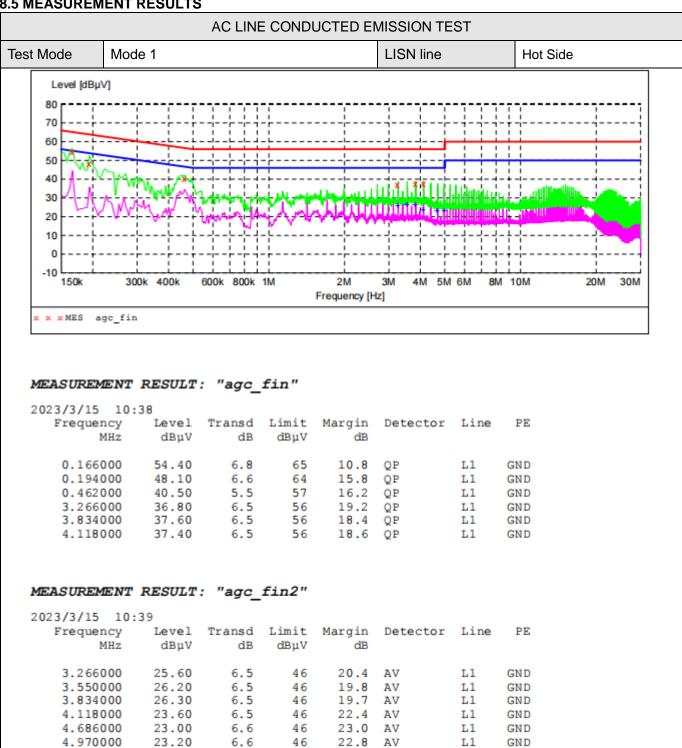
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

8.4 FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 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.

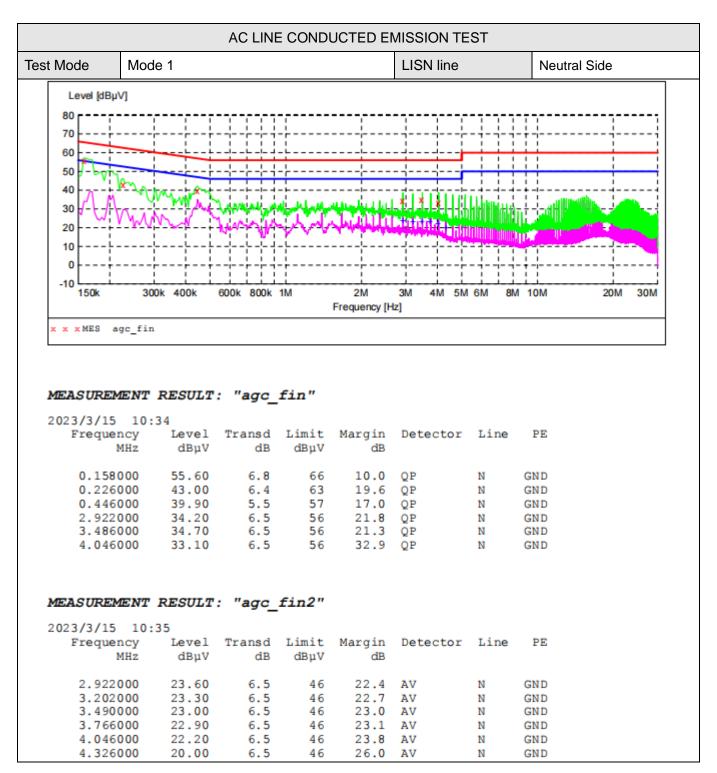


8.5 MEASUREMENT RESULTS



RESULT: PASS





RESULT: PASS

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APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC01165230201AP02

APPENDIX B: PHOTOGRAPHS OF TEST EUT

Refer to the Report No.: AGC01165230201AP03

----END OF REPORT-----



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