

FCC Test Report

Report No.: AGC01110210718FE03C

FCC ID	:	2A0KB-A3101J
APPLICATION PURPOSE	:	Class II Permissive Change
PRODUCT DESIGNATION	:	SoundCore mini
BRAND NAME	:	ANKER
MODEL NAME	:	A3101, A3101J
APPLICANT	:	Anker Innovations Limited
DATE OF ISSUE	:	Aug. 30, 2024
STANDARD(S)	:	FCC Part 15 Subpart C §15.247
REPORT VERSION	:	V1.0







Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes	
V1.0	/	Aug. 30, 2024	Valid	Initial Release	

Note: The original test report AGC01110210718FE03 (dated Jul. 30, 2021 and tested from Jul. 14, 2021 to Jul.

29, 2021) was modified on Aug. 26, 2024, including the following changes and additions:

-Changed FCC Part 15.247 standards to FCC Part 15 Subpart C §15.247 standards;

-Changed the address of the applicant and the manufacturer;

-Changed the hardware version;

-Changed the charge port from Micro-USB to Type-C;

-Added a current-limiting control circuit for the charging IC;

-Added a wake-up circuit, a power-on/off detection circuit, and a battery fully charged detection circuit in shutdown state;

-Modified the software shutdown charging indication and power-on/off detection according to the hardware circuit;

For the above described change the following tests was considered to be necessary:

Clause	Testing
§15.209	Radiated Spurious Emission
§15.207	AC Power Line Conducted Emission



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1. General Information

Applicant	Anker Innovations Limited
Address	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong
Manufacturer	Anker Innovations Limited
Address	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong
Factory	N/A
Address	N/A
Product Designation	SoundCore mini
Brand Name	ANKER
Test Model	A3101
Series Model(s)	A3101J
Difference Description	All the same except for the model name.
Date of receipt of test item	Aug. 15, 2024
Date of Test	Aug. 15, 2024 to Aug. 30, 2024
Deviation from Standard	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Test Report Form No	AGCER-FCC-BR_EDR-V1

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

Prepared By

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Aug. 30, 2024

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Aug. 30, 2024

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Max Zhang Authorized Officer

Aug. 30, 2024



2. Product Information

2.1 Product Technical Description

Frequency Band	2400MHz-2483.5MHz
Operation Frequency Range	2402MHz-2480MHz
Bluetooth Version	V5.0
Modulation Type	BR 🖾 GFSK, EDR 🖾 π /4-DQPSK, 🖾 8DPSK
Number of channels	79 Channels
Channel Separation	1 MHz
Maximum Transmitter Power	3.446dBm
Hardware Version	VerE
Software Version	V1.3
Antenna Designation	PCB Antenna
Antenna Gain	0dBi
Power Supply	DC 3.7V by battery or DC 5V by adapter

2.2 Test Frequency List

Frequency Band	Channel Number	Frequency			
	0	2402 MHz			
	1	2403 MHz			
	:	:			
2400~2483.5MHz	39	2441MHz			
	:	:			
	77	2479 MHz			
	78	2480 MHz			
Note: f = 2402 + 1k MHz, k = 0,, 78 ; "f "is the operating frequency (MHz); "k" is the operating channel.					



2.3 Related Submittal(S) / Grant (S)

This submittal(s) (test report) is intended for FCC ID: **2AOKB-A3101J**, 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
4	KDB 558074 D01 15.247 Meas Guidance v05r02	Guidance for compliance measurements on Digital Transmission Systems, Frequency Hopping Spread Spectrum system, and Hybrid system devices operating under Section 15.247 of the FCC rules

2.5 Receiver Input Bandwidth

The input bandwidth of the receiver is 1.3MHz, in every connection one Bluetooth device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally, the type of connection (e.g. single of multi slot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also, the slave of the connection will use these settings. Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

2.6 Equally Average Use of Frequencies and Behaviour.

The generation of the hopping sequence in connection mode depends essentially on two input values:

1. LAP/UAP of the master of the connection.

2. Internal master clock.

The LAP (lower address part) are the 24 LSB's of the 48 BD_ADDRESS. The BD_ADDRESS is an unambiguous number of every Bluetooth unit. The UAP (upper address part) are the 24MSB's of the 48BD_ADDRESS

The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For behavior action with other units only offset is used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us. The clock has a cycle of about one day(23h30).

In most case it is implemented as 28 bits counter. For the deriving of the hopping sequence the entire. LAP (24 bits),4LSB's(4bits) (Input 1) and the 27MSB's of the clock (Input 2) are used. With this input values different mathematical procedures (permutations, additions, XOR-operations) are performed to generate the Sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the Bluetooth system has the following behavior:

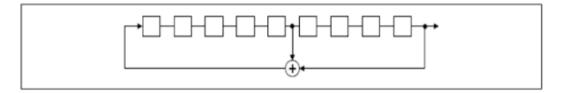
The first connection between the two devices is established, a hopping sequence was generated. For Transmitting the wanted data the complete hopping sequence was not used. The connection ended. The second connection will be established. A new hopping sequence is generated. Due to the fact the Bluetooth clock has a different value, because the period between the two transmission is longer (and it Cannot be shorter) than the minimum resolution of the clock(312.5us). The hopping sequence will always differ from the first one.



2.7 Pseudorandom Frequency Hopping Sequence

The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence: 29 1 = 511 bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of The PRBS Sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:

4	4	35	78	03	 20	76	02	19		 21	64	75
Γ				l l	 	l	1			 		
				l i	-					1		
				;	1	;	-			i		
L					 _i		i		1	 ¦		

Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their Corresponding transmitters and shift frequencies in synchronization with the transmitted signals.



2.8 Special Accessories

Not available for this EUT intended for grant.

2.9 Equipment Modifications

Not available for this EUT intended for grant.

2.10 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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi

EUT Antenna:

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



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.



3.3 Environmental Conditions

	Normal Conditions
Temperature range (°C)	15 - 35
Relative humidity range	20 % - 75 %
Pressure range (kPa)	86 - 106
Power supply	DC 3.7V

3.4 Measurement Uncertainty

The reported uncertainty of measurement y \pm 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%

Item	Measurement Uncertainty		
Uncertainty of Conducted Emission for AC Port	$U_c = \pm 2.9 \text{ dB}$		
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 3.9 \text{ dB}$		
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.9 \text{ dB}$		
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	$U_c = \pm 2 \%$		
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$		



3.5 List of Equipment Used

• F	Radiated Spurious Emission								
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)		
\boxtimes	AGC-EM-E046	EMI Test Receiver	R&S	ESCI	10096	2024-02-01	2025-01-31		
	AGC-EM-E116	EMI Test Receiver	R&S	ESCI	100034	2024-05-24	2025-05-23		
\boxtimes	AGC-EM-E061	Spectrum Analyzer	Agilent	N9010A	MY53470504	2024-05-28	2025-05-27		
\boxtimes	AGC-EM-E086	Loop Antenna	ZHINAN	ZN30900C	18051	2024-03-05	2026-03-04		
\boxtimes	AGC-EM-E001	Wideband Antenna	SCHWARZBECK	VULB9168	D69250	2023-05-11	2025-05-10		
\boxtimes	AGC-EM-E029	Broadband Ridged Horn Antenna	ETS	3117	00034609	2024-03-31	2025-03-30		
\boxtimes	AGC-EM-E082	Horn Antenna	SCHWARZBECK	BBHA 9170	#768	2023-09-24	2025-09-23		
\boxtimes	AGC-EM-E146	Pre-amplifier	ETS	3117-PA	00246148	2024-07-24	2026-07-23		
\boxtimes	AGC-EM-A119	2.4GHz Filter	SongYi	N/A	N/A	2024-05-23	2025-05-22		
\boxtimes	AGC-EM-A138	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-06-09	2025-06-08		
	AGC-EM-A139	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-06-09	2025-06-08		

• A	C Power Line C	Conducted Emission	on				
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
\square	AGC-EM-E045	EMI Test Receiver	R&S	ESPI	101206	2024-05-28	2025-05-27
\boxtimes	AGC-EM-A130	6dB Attenuator	Eeatsheep	LM-XX-6-5W	DC-6GZ	2023-06-09	2025-06-08
	AGC-EM-E023	AMN	R&S	100086	ESH2-Z5	2024-05-28	2025-05-27

• Tes	st Software				
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Version Information
	AGC-EM-S001	CE Test System	R&S	ES-K1	V1.71
\square	AGC-EM-S003	RE Test System	FARA	EZ-EMC	V.RA-03A



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:

	EUT		AE
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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

No.	Equipment	Manufacturer	Model No.	Specification Information	Cable
1	Adapter	Huawei		Input(AC): 100V-240V 50/60Hz 2.4A Output(DC): USB-C(5V/3A;9V/3A;10V/4A;11V/6A;12V/3A;15V/3A ;20V4.4A) USB-A(5V/2A;10V/4A;11V/6A;20V/4.4A)	
🖂 Te	st Accessorie	s Come From T	he Manufactu	rer	

No.	Equipment	Manufacturer	Model No.	Specification Information	Cable
1	USB Cable				0.535m unshielded



4.5 Summary of Test Results

Item	FCC Rules	Description of Test	Result
1	§15.209	Radiated Spurious Emission	Pass
2	§15.207	AC Power Line Conducted Emission	Pass



5. Description of Test Modes

	Summary table of Test Cases
Test Item	Data Rate / Modulation
Test item	Bluetooth – BR_EDR (GFSK/π /4-DQPSK/8DPSK)
Radiated & Conducted Test Cases	 Mode 1: Bluetooth Tx CH00_2402 MHz_1Mbps (Battery powered or AC/DC adapter) Mode 2: Bluetooth Tx CH39_2441 MHz_1Mbps (Battery powered or AC/DC adapter) Mode 3: Bluetooth Tx CH78_2480 MHz_1Mbps (Battery powered or AC/DC adapter) Mode 4: Bluetooth Tx CH00_2402 MHz_2Mbps (Battery powered or AC/DC adapter) Mode 5: Bluetooth Tx CH39_2441 MHz_2Mbps (Battery powered or AC/DC adapter) Mode 6: Bluetooth Tx CH78_2480 MHz_2Mbps (Battery powered or AC/DC adapter) Mode 6: Bluetooth Tx CH78_2480 MHz_2Mbps (Battery powered or AC/DC adapter) Mode 7: Bluetooth Tx CH00_2402 MHz_3Mbps (Battery powered or AC/DC adapter) Mode 8: Bluetooth Tx CH39_2441 MHz_3Mbps (Battery powered or AC/DC adapter) Mode 9: Bluetooth Tx CH78_2480 MHz_3Mbps (Battery powered or AC/DC adapter) Mode 9: Bluetooth Tx CH78_2480 MHz_3Mbps (Battery powered or AC/DC adapter) Mode 9: Bluetooth Tx CH78_2480 MHz_3Mbps (Battery powered or AC/DC adapter) Mode 9: Bluetooth Tx CH78_2480 MHz_3Mbps (Battery powered or AC/DC adapter) Mode 10: Bluetooth Tx Hopping-1Mbps (Battery powered or AC/DC adapter) Mode11: Bluetooth Tx Hopping-2Mbps (Battery powered or AC/DC adapter) Mode12: Bluetooth Tx Hopping-3Mbps (Battery powered or AC/DC adapter)
AC Conducted Emission	Mode 1: Bluetooth Link + Battery + USB Cable (Charging from AC Adapter)

Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. The battery is full-charged during the test.
- 3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 4. For Conducted Test method, a temporary antenna connector is provided by the manufacture.



SOLUTION ATS285X COM	(COM8 115200 -	BQB Mode
RF Channel 78	Hopping Mode	er 🔹 fixed 🔹
Packet Type 30H5 👻	Payload 1	Type PRBS9
TX Gain Index 4 💌	RX Gain Ir	ndex 0
Access Code Ox AbDdE341258888888	AGC 1	Mode
Single Ione	Packet IX Packet RX	Hopping TX
1结束ContinueTX测试,持续80.1秒 1开始SingleTone测试(Chan:0 TxGain 1结束SingleTone测试,持续1.7秒 1开始ContinueTX测试(Chan:0 Packet 1结束ContinueTX测试,持续30.9秒 1开始ContinueTX测试(Chan:0 Packet 1结束ContinueTX测试,持续7.2秒 1开始SingleTone测试(Chan:0 TxGain 1结束SingleTone测试,持续1.9秒	:DH5 Payload:PRBS9 TxGain:4) :3DH5 Payload:PRBS9 TxGain:4).	



6. Radiated Spurious Emission

6.1 Measurement Limit

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.

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 Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection"

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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.

Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz
	1MHz/3MHz for Peak, 1MHz/3MHz for Average

The following table is the setting of spectrum analyzer and receiver.

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP



• Quasi-Peak Measurements below 1GHz

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. Span was set greater than 1MHz
- 3. RBW = as shown in the table above
- 4. Detector = CISPR quasi-peak
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

Peak Measurements above 1GHz

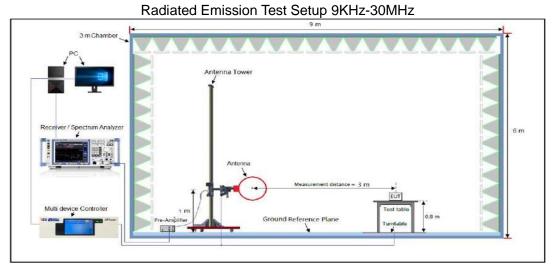
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = peak
- 5. Sweep time = auto couple
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize

<u>Average Measurements above 1GHz</u>

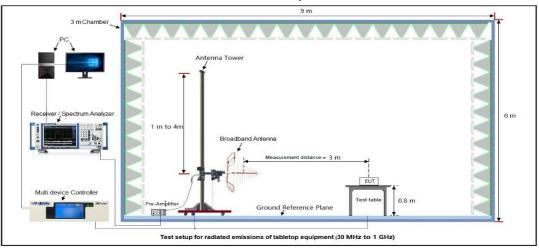
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW \geq [3 × RBW]
- 4. Detector = Power averaging (rms)
- 5. Averaging type = power (i.e., rms)
- 6. Sweep time = auto
- 7. Perform a trace average of at least 100 traces.
- 8. The applicable correction factor is [10*log (1 / D)], where D is the duty cycle. The factor had been edited in the "Input Correction" of the Spectrum Analyzer.



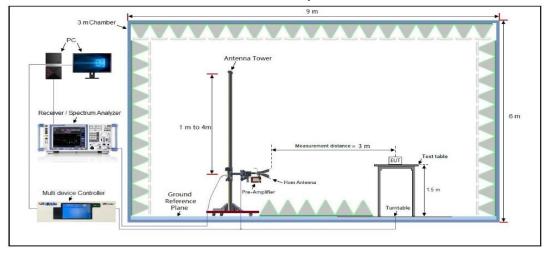
6.3 Measurement Setup (Block Diagram of Configuration)



Radiated Emission Test Setup 30MHz-1000MHz



Radiated Emission Test Setup Above 1000MHz



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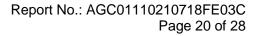


6.4 Measurement Result

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.

								counto	at 30	MHz-1G						
EUT Name	Sound	dCore	mini						Mode	I Name		/	4310)1		
Temperature	22.5°	С							Relati	ve Hum	idity	Ę	58.59	%		
Pressure	960hF	Pa							Test V	/oltage		1	Norm	nal \	Voltag	je
Test Mode	Mode	7							Anten	na Pola	rity	H	Horiz	zont	al	
72.0 d	lBuV/m															
32											3 4	M	mit: argin:			
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30.000		50	60 7	70 80 R		ling		Mea			500			10	000.000	
30.000) 40	50 F		70 80 R	Read	ling	(MHz) Correct	Mea	30 sure- ent	0 400	500	600	700	10 tecto	_	
30.000) 40	50 F	GO 7 req. 1Hz	70 80 R	Read	ling el V	^(MH₂) Correct Factor	Mea	30 sure- ent V/m	o 400 Limit	500	600	700 De		or	
30.000 	0 40 lo. Mk.	50 F	60 7 req. 1Hz 1245	70 80 R	Readi Leve	ling el V 95	(MHz) Correct Factor dB	Mea me	30 sure- ent V/m 43	o 400 Limit dBuV/n	500 0 -1	600 Ver	700 De	tecto	or	
30.000 	0 40 lo. Mk. 1 2	50 F M 39.0	60 7 req. 1Hz 1245 6400	70 80 R	Readi Leve dBu	ling el V 95	(MHz) Correct Factor dB 13.48	Mea me dBu 20.	30 sure- ent V/m 43 66	0 400 Limit dBuV/n 40.00	500 0 -19 -20	600 Ver dB 9.57	700 De p	tecto	or (
30.000 	0 40 lo. Mk. 1 2 3	50 F M 39.0 116.5	60 7 req. 1Hz 245 400 5557	0 80 R	Readi Leve dBu 6.9	ling el V 95 29 38	(MHz) Correct Factor dB 13.48 16.37	Mea ma dBu 20. 22. 30.	30 sure- ent V/m 43 66	0 400 Limit dBuV/n 40.00 43.50	500 0 -1! -2(-1!	600 Ver dB 9.57 0.84	700 De p	etecto eak	or (
30.000 	0 40 lo. Mk. 1 2 3 4	50 F 39.0 116.5 449.5	60 7 req. 1Hz 245 400 5557 179	70 80 R	Readi Leve dBu 6.9 6.2 5.3	ling el V 95 29 38 33	(мн₂) Соггесt Factor dB 13.48 16.37 24.77	Mea ma dBu 20. 22. 30.	30 sure- ent 43 66 15 65	0 400 Limit dBuV/n 40.00 43.50 46.00	500 500 -19 -20 -19 -19	600 Ver dB 9.57 0.84 5.85	700 Dee p p	eak eak eak		





			Ra	Idia	ted Emiss	ion Test Re	sults at 3	BOMHz-1G	Hz		
EUT Name	Sou	IndCol	re min	ni			Мос	lel Name		A310	1
Temperature	22.5	5°C					Rela	ative Humi	idity	58.5%	6
Pressure	960	hPa					Test	t Voltage		Norm	al Voltage
Test Mode	Мос	de 7					Ant	enna Pola	rity	Vertic	al
72.0	dBuV/m								·		
32	hadred and have		2	N.		Martine Joyna La	Angeligen and An	and the state of t		Limit: Margin:	
-8				70		441->		200 100	F00 C0	0 700	1000 000
-8 30.00	0 40	50	60		80 Reading	(MHz)	Measure	300 400	500 60	0 700	1000.000
30.00	0 40 Io. M		60 Freq.		80 Reading Level	(MHz) Correct Factor	Measure ment		500 GO		1000.000
30.00					Reading	Correct		e-	Over		1000.000
30.00		k.	Freq.		Reading Level	Correct Factor	ment	e- Limit	Over	Det	
30.00	lo. M	k. 43.	Freq. MHz	1	Reading Level dBuV	Correct Factor dB	ment dBuV/m	e- Limit dBuV/m	Over n dB	Det 3 pe	ector
30.00	lo. M 1	k. 43. 67.	Freq. MHz .6584	1)	Reading Level dBuV 8.83	Correct Factor dB 16.94	ment dBuV/m 25.77	E- Limit dBuV/m 40.00	Over dB -14.23	Det 3 pe 7 pe	ector eak
30.00	lo. M 1 2	k. 43. 67. 115.	Freq. MHz .6584 .9129	1)	Reading Level dBuV 8.83 11.61	Correct Factor dB 16.94 17.02	ment dBuV/m 25.77 28.63	e- Limit dBuV/m 40.00 40.00	Over dB -14.23 -11.37	Det 3 pe 7 pe 4 pe	ector eak eak
30.00	lo. M 1 2 3	k. 43. 67. 115. 443.	Freq. MHz .6584 .9129 .3205	4 3	Reading Level dBuV 8.83 11.61 9.78	Correct Factor dB 16.94 17.02 16.88	ment dBuV/m 25.77 28.63 26.66	e- Limit dBuV/m 40.00 40.00 43.50	Over dB -14.23 -11.37 -16.84	Det 3 pe 7 pe 4 pe	ector eak eak eak

RESULT: Pass

- Note: 1. Factor=Antenna Factor + Cable loss, Over=measurement-Limit.
 - 2. All test modes had been pre-tested. The mode 7 is the worst case and recorded in the report.

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EUT	SoundCore mini	Model Name	A3101			
Temperature	22.5° C	Relative Humidity	58.5%			
Pressure	960hPa	Test Voltage	Normal Voltage			
Test Mode	Mode 7	Antenna	Horizontal			

Radiated Emissions Test Results for Above 1GHz

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4804.000	46.23	0.08	46.31	74	-27.69	peak
4804.000	36.41	0.08	36.49	54	-17.51	AVG
7206.000	38.57	2.21	40.78	74	-33.22	peak
7206.000	31.49	2.21	33.7	54	-20.3	AVG
Remark:						
Factor = Anter	nna Factor + Cabl	e Loss – Pre-a	amplifier.			

EUT	SoundCore mini	Model Name	A3101
Temperature	22.5° C	Relative Humidity	58.5%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 7	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4804.000	47.28	0.08	47.36	74	-26.64	peak
4804.000	36.45	0.08	36.53	54	-17.47	AVG
7206.000	42.95	2.21	45.16	74	-28.84	peak
7206.000	32.18	2.21	34.39	54	-19.61	AVG
Remark:						·
Factor = Anter	na Factor + Cabl	e Loss – Pre-	amplifier.			



EUT	SoundCore mini	Model Name	A3101
Temperature	22.5°C	Relative Humidity	58.5%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 8	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type		
4882.000	46.48	0.14	46.62	74	-27.38	peak		
4882.000	37.59	0.14	37.73	54	-16.27	AVG		
7323.000	41.36	2.36	43.72	74	-30.28	peak		
7323.000	32.85	2.36	35.21	54	-18.79	AVG		
Remark:								
Factor = Anten	na Factor + Cabl	e Loss – Pre-a	mplifier.		-			

EUT	SoundCore mini	Model Name	A3101
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 8	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	- Value Type
4882.000	45.24	0.14	45.38	74	-28.62	peak
4882.000	36.18	0.14	36.32	54	-17.68	AVG
7323.000	41.57	2.36	43.93	74	-30.07	peak
7323.000	32.69	2.36	35.05	54	-18.95	AVG
Remark:						
[:] actor = Anter	nna Factor + Cabl	e Loss – Pre-	amplifier.			



EUT	SoundCore mini	Model Name	A3101
Temperature	22.5° C	Relative Humidity	58.5%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 9	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type			
4960.000	46.45	0.22	46.67	74	-27.33	peak			
4960.000	36.82	0.22	37.04	54	-16.96	AVG			
7440.000	41.46	2.64	44.1	74	-29.9	peak			
7440.000	32.63	2.64	35.27	54	-18.73	AVG			
Remark:	Remark:								
Factor = Anter	actor = Antenna Factor + Cable Loss – Pre-amplifier.								

EUT	SoundCore mini	Model Name	A3101
Temperature	22.5° C	Relative Humidity	58.5%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 9	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4960.000	47.85	0.22	48.07	74	-25.93	peak
4960.000	38.74	0.22	38.96	54	-15.04	AVG
7440.000	42.69	2.64	45.33	74	-28.67	peak
7440.000	33.42	2.64	36.06	54	-17.94	AVG
Remark:						
actor = Anter	nna Factor + Cabl	e Loss – Pre-	amplifier.			

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, Margin=Emission Level-Limit.

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

All test modes had been tested. The 8DPSK modulation is the worst case and recorded in the report.



7. AC Power Line Conducted Emission Test

7.1 Measurement Limit

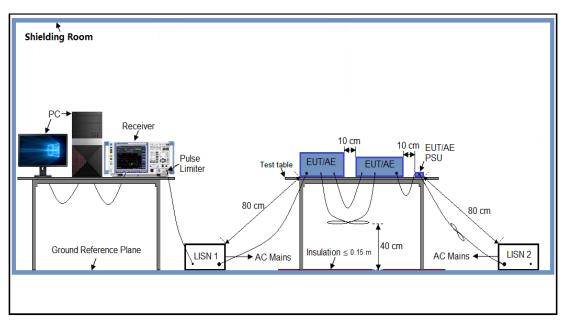
Frequency	Maximum RF	Line Voltage
Frequency	Q.P. (dBµV)	Average (dBµV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

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.

7.2 Measurement Setup (Block Diagram of Configuration)





7.3 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.

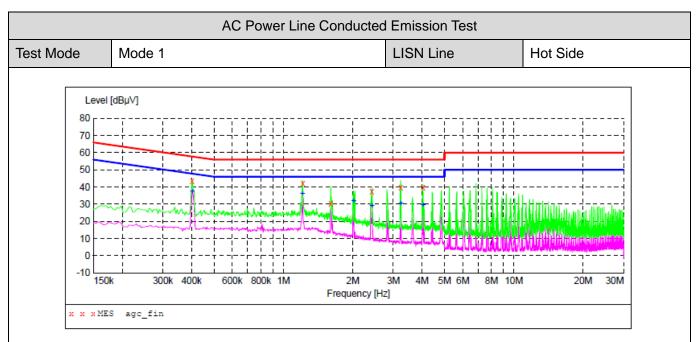
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

7.4 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.
- 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.

7.5 Measurement Results





MEASUREMENT RESULT: "agc_fin"

2024/8/19 11: Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line
0.402000 1.214000 1.606000 2.418000 3.230000 4.038000	43.30 42.00 30.30 37.40 40.00 39.70	6.1 6.2 6.3 6.3 6.3	58 56 56 56 56	14.5 14.0 25.7 18.6 16.0 16.3	QP QP	L1 L1 L1 L1 L1 L1

MEASUREMENT RESULT: "agc_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.402000	37.30	6.1	48	10.5	AV	L1
1.210000	35.80	6.2	46	10.2	AV	ь1
2.018000	31.70	6.2	46	14.3	AV	L1
2.426000	29.20	6.3	46	16.8	AV	L1
3.234000	30.50	6.3	46	15.5	AV	L1
4.038000	29.60	6.3	46	16.4	AV	L1

RESULT: PASS

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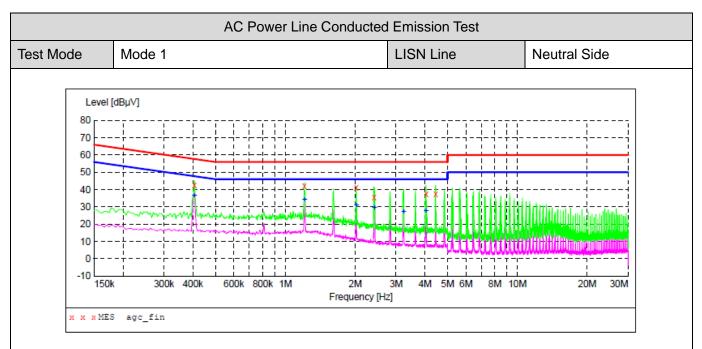
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2



MEASUREMENT RESULT: "agc_fin"

2024/8/19 12:	01						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	
0.406000	42.80	6.1	58	14.9	QP	N	
1.210000	42.00	6.2	56	14.0	QP	N	
2.022000	41.00	6.2	56	15.0	QP	N	
2.410000	35.60	6.3	56	20.4	QP	N	
4.046000	37.30	6.3	56	18.7	QP	N	
4.442000	37.30	6.3	56	18.7	QP	N	

MEASUREMENT RESULT: "agc_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.406000	36.60	6.1	48	11.1	AV	N
1.210000	34.30	6.2	46	11.7	AV	N
2.022000	30.90	6.2	46	15.1	AV	N
2.426000	29.60	6.3	46	16.4	AV	N
3.238000	27.10	6.3	46	18.9	AV	N
4.046000	27.40	6.3	46	18.6	AV	N

RESULT: PASS

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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC01110210718AP02C

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC01110210718AP03C

-----End of Report-----



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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").

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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.

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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.