

# **FCC Test Report**

Report No.: AGC01110190954FE03B

**FCC ID** : 2AOKB-A3165

**APPLICATION PURPOSE**: Class II Permissive Change

**PRODUCT DESIGNATION**: Soundcore Flare 2

**BRAND NAME** : Soundcore

MODEL NAME : A3165

**APPLICANT**: Anker Innovations Limited

**DATE OF ISSUE** : Sep. 21, 2023

**STANDARD(S)** : FCC Part 15 Subpart C §15.247

**REPORT VERSION**: V1.0

Attestation of Global Conce (Shenzhen) Co., Ltd



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# Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes	
V1.0	/	Sep. 21, 2023	Valid	Initial Release	

Note: The original test report AGC01110190954FE03A (dated Jun. 02, 2022 and tested from May 24, 2022 to May 31, 2022) was modified on Sep. 21, 2023, including the following changes and additions:

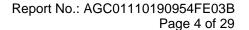
--Replaced the battery (The battery voltage of the sample changed from 7.2V/17.28Wh to 7.3V/ 17.52Wh); For the above described change(s) the following tests was considered to be necessary:

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



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## 1. General Information

Applicant	Anker Innovations Limited				
Address	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hongkong				
Manufacturer	Anker Innovations Limited				
Address	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hongkong				
Factory	N/A				
Address	N/A				
Product Designation	Soundcore Flare 2				
Brand Name	Soundcore				
Test Model	A3165				
Date of receipt of test item	Aug. 30, 2023				
Date of Test	Aug. 31, 2023 to Sep. 21, 2023				
Deviation from Standard	No any deviation from the test method				
Condition of Test Sample	Normal				
Test Result	Pass				
Test Report Form No	AGCER-FCC-BR_EDR-V1				

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

Prepared By	Cool cheng	
	Cool Cheng (Project Engineer)	Sep. 21, 2023
Reviewed By	Calin Lin	
	Calvin Liu (Reviewer)	Sep. 21, 2023
Approved By	Max Zhang	
	Max Zhang (Authorized Officer)	Sep. 21, 2023



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## 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	12.977dBm		
Hardware Version	Н		
Software Version	V1.20		
Antenna Designation	PCB Antenna		
Antenna Gain	1.56dBi		
Power Supply	DC 7.3V by battery or DC 5V by adapter		
Adapter Information	N/A		

## 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: 1 = 2402 + 1k iii 12, k = 0, ..., 70, 1 is the operating frequency (iii 12), k is the operating charmer.



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#### 2.3 Related Submittal(S) / Grant (S)

This submittal(s) (test report) is intended for FCC ID: **2AOKB-A3165**, 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

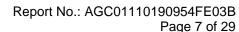
The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For behavior action with other units only offset is used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us. The clock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

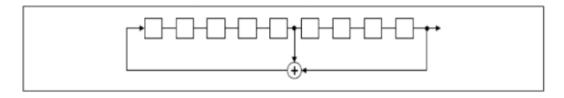




### 2.7 Pseudorandom Frequency Hopping Sequence

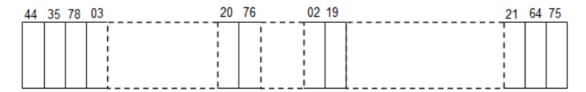
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized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



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.



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#### 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 1.56dBi.



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#### 3. Test Environment

#### 3.1 Address of The Test Laboratory

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

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

#### 3.2 Test Facility

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

## CNAS-Lab Code: L5488

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

## A2LA-Lab Cert. No.: 5054.02

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

## FCC-Registration No.: 975832

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

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

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



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#### 3.3 Environmental Conditions

	NORMAL CONDITIONS			
Temperature range (℃)	15 - 35			
Relative humidity range	20 % - 75 %			
Pressure range (kPa)	86 - 106			
Power supply	7.3V			
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%.

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 <sub>c</sub> = ±2 %



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## 3.5 List of Equipment Used

• R	RF Conducted Test System						
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
	AGC-ER-E036	Spectrum Analyzer	Agilent	N9020A	MY49100060	2023-06-01	2024-05-31
	AGC-ER-E062	Power Sensor	Agilent	U2021XA	MY54110007	2023-03-03	2024-03-02
	AGC-ER-E063	Power Sensor	Agilent	U2021XA	MY54110009	2023-03-03	2024-03-02
	AGC-EM-A152	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-06-09	2024-06-08
	N/A	RF Connection Cable	N/A	1#	N/A	Each time	N/A
	N/A	RF Connection Cable	N/A	2#	N/A	Each time	N/A

• 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)	
	AGC-EM-E046	EMI Test Receiver	R&S	ESCI	10096	2023-02-18	2024-02-17	
	AGC-EM-E116	EMI Test Receiver	R&S	ESCI	100034	2023-06-03	2024-06-02	
$\boxtimes$	AGC-EM-E061	Spectrum Analyzer	Agilent	N9010A	MY53470504	2023-06-01	2024-05-31	
$\boxtimes$	AGC-EM-E086	Loop Antenna	ZHINAN	ZN30900C	18051	2022-03-12	2024-03-11	
$\boxtimes$	AGC-EM-E001	Wideband Antenna	SCHWARZBECK	VULB9168	D69250	2023-05-11	2025-05-10	
	AGC-EM-E029	Broadband Ridged Horn Antenna	ETS	3117	00034609	2023-03-23	2024-03-22	
$\boxtimes$	AGC-EM-E082	Horn Antenna	SCHWARZBECK	BBHA 9170	#768	2021-10-31	2023-10-30	
$\boxtimes$	AGC-EM-E146	Pre-amplifier	ETS	3117-PA	00246148	2022-08-04	2024-08-03	
$\boxtimes$	AGC-EM-A119	2.4G Filter	SongYi	N/A	N/A	2023-06-01	2024-05-31	
	AGC-EM-A138	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-06-09	2024-06-08	
	AGC-EM-A139	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-06-09	2024-06-08	

• A	AC Power Line Conducted Emission								
Used	Equipment No.	Test Equipment	Manufacturer	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)				
$\boxtimes$	AGC-EM-E045	EMI Test Receiver	R&S ESPI		101206	2023/06/03	2024/06/02		
	AGC-EM-A130	6dB Attenuator	Eeatsheep	LM-XX-6-5W	DC-6GZ	2023-06-09	2024-06-08		
$\boxtimes$	AGC-EM-E023	AMN	R&S	100086	ESH2-Z5	2023/06/03	2024/06/02		



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• Te	Test Software									
Used	Used Equipment No. Test Equipment Manufacturer		Manufacturer	Model No.	Version Information					
$\boxtimes$	AGC-EM-S001	CE Test System	R&S	ES-K1	V1.71					
$\boxtimes$	AGC-EM-S003	RE-Test System	FARA	EZ-EMC	VRA-03A					
	AGC-ER-S012	BT/WIFI-Test System	Tonscend	JS1120-2	2.6					
$\boxtimes$	AGC-EM-S011	RSE Test System	Tonscend	TS+-Ver2.1(JS36-RSE)	4.0.0.0					



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# 4. System Test Configuration

## 4.1 EUT Configuration

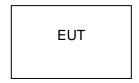
The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### 4.2 EUT Exercise

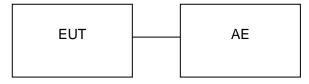
The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

## 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

1	No.	Equipment	Model No. Manufacturer Specification Information		Cable	
	1	Xiaomi phone	Xiaomi	Mi 10	-	1.0m unshielded
	2	adapter	HUAWEI	HW-200440C00	-	

## □ Test Accessories Come From The Manufacturer

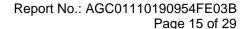
No.	Equipment	Model No.	Manufacturer	Specification Information	Cable
1	Charger line		-		0.525m unshielded



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## 4.5 Summary of Test Results

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





# 5. Description of Test Modes

	Summary table of Test Cases					
	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 7: Bluetooth Tx CH00_2402 MHz_3Mbps (Battery powered or AC/DC adapter) Mode 9: Bluetooth Tx CH39_2441 MHz_3Mbps(Battery powered or AC/DC adapter) Mode10: Bluetooth Tx CH78_2480 MHz_3Mbps(Battery powered or AC/DC adapter) Mode11: Bluetooth Tx Hopping-1Mbps(Battery powered or AC/DC adapter) Mode12: Bluetooth Tx Hopping-2Mbps(Battery powered or AC/DC adapter) Mode13: 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.
- 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.





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# 6. Radiated Spurious Emission

#### **6.1 Measurement Limits**

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**

- 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



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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.

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

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 Stan Fraguency	1GHz~26.5GHz		
Start ~Stop Frequency	1MHz/3MHz for Peak, 1MHz/3MHz for Average		

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



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#### Quasi-Peak Measurements below 1GHz

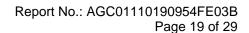
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. Span was set greater than 1MHz
- 3. RBW = as shown in the table above
- 4. Detector = CISPR quasi-peak
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

#### 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

### Average Measurements above 1GHz (Method VB)

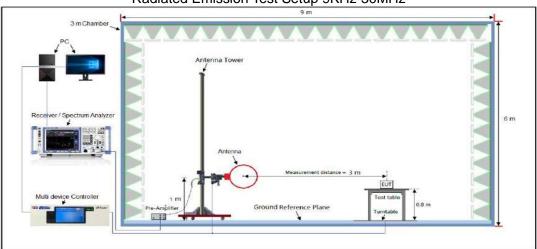
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW setting requirements are as follows:
- 4. If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.
- 5. If the EUT duty cycle is < 98%, set VBW  $\ge 1/T$ . T is the minimum transmission duration.
- 6. Detector = Peak
- 7. Sweep time = auto
- 8. Trace mode = max hold
- 8. Trace was allowed to stabilize



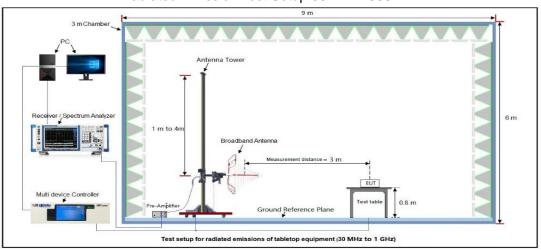


# 6.3 Measurement Setup (Block Diagram of Configuration)

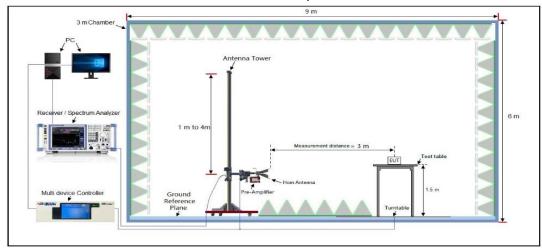
Radiated Emission Test Setup 9KHz-30MHz



## Radiated Emission Test Setup 30MHz-1000MHz

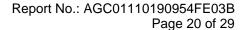


#### Radiated Emission Test Setup Above 1000MHz



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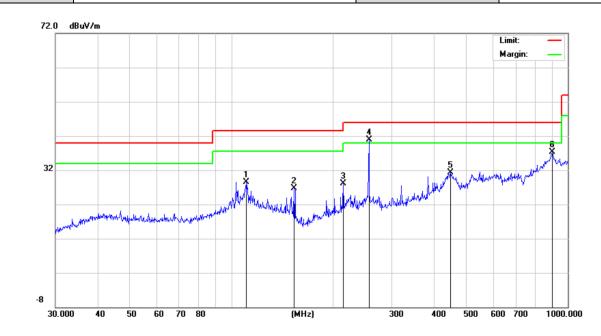


#### 6.4 Measurement Result

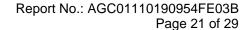
#### **Radiated Emission Below 30MHz**

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

Radiated Emission Test Results at 30MHz-1GHz						
<b>EUT Name</b>	A3165					
Temperature	23.5° C	Relative Humidity	61.4%			
Pressure	960hPa	Test Voltage	DC7.3V			
Test Mode	Mode 3	Antenna Polarity	Horizontal			

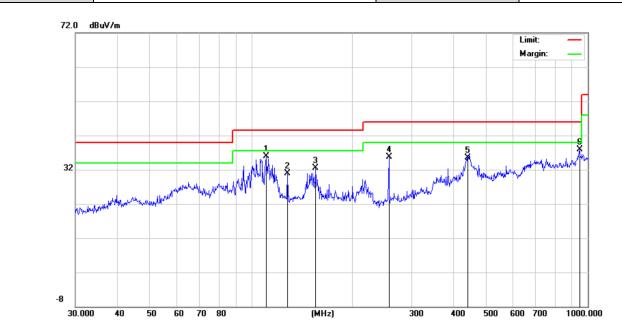


Final	Final Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	
1	110.5687	28.55	16.31	43.50	14.95	100	160	Horizontal	
2	153.7385	26.65	13.14	43.50	16.85	100	170	Horizontal	
3	215.2678	28.11	14.42	43.50	15.39	100	90	Horizontal	
4	256.5211	40.81	14.90	46.00	5.19	100	220	Horizontal	
5	447.9822	31.28	24.82	46.00	14.72	100	160	Horizontal	
6	900.1474	37.22	31.78	46.00	8.78	100	140	Horizontal	





Radiated Emission Test Results at 30MHz-1GHz						
EUT Name	A3165					
Temperature 23.5° C		Relative Humidity	61.4%			
Pressure	960hPa	Test Voltage	DC7.3V			
Test Mode	Mode 3	Antenna Polarity	Vertical			



Final Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	110.5687	35.94	16.05	43.50	7.56	100	160	Vertical
2	128.1130	30.86	17.90	43.50	12.64	100	170	Vertical
3	155.3644	32.45	18.20	43.50	11.05	100	90	Vertical
4	256.5211	35.77	17.61	46.00	10.23	100	220	Vertical
5	440.1963	35.42	26.09	46.00	10.58	100	160	Vertical
6	945.4399	37.84	30.78	46.00	8.16	100	140	Vertical

## **RESULT: Pass**

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

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



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#### Radiated Emissions Test Results Above 1 GHz

EUT Name	Soundcore Flare 2	Model Name	A3165
Temperature	23.5° C	Relative Humidity	61.4%
Pressure	960hPa	Test Voltage	DC7.3V
Test Mode	Mode 1	Antenna Polarity	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4804.000	46.28	0.08	46.36	74	-27.64	peak
4804.000	36.74	0.08	36.82	54	-17.18	AVG
7206.000	41.05	2.21	43.26	74	-30.74	peak
7206.000	32.15	2.21	34.36	54	-19.64	AVG

#### Remark:

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

EUT Name	Soundcore Flare 2	Model Name	A3165
Temperature	23.5° C	Relative Humidity	61.4%
Pressure	960hPa	Test Voltage	DC7.3V
Test Mode	Mode 1	Antenna Polarity	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4804.000	46.25	0.08	46.33	74	-27.67	peak
4804.000	36.27	0.08	36.35	54	-17.65	AVG
7206.000	42.15	2.21	44.36	74	-29.64	peak
7206.000	32.48	2.21	34.69	54	-19.31	AVG

#### Remark:

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

## **RESULT: Pass**



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#### Radiated Emissions Test Results for Above 1 GHz

EUT Name	Soundcore Flare 2	Model Name	A3165
Temperature	23.5° C	Relative Humidity	61.4%
Pressure	960hPa	Test Voltage	DC7.3V
Test Mode	Mode 2	Antenna Polarity	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4882.000	46.29	0.14	46.43	74	-27.57	peak
4882.000	37.48	0.14	37.62	54	-16.38	AVG
7323.000	42.15	2.36	44.51	74	-29.49	peak
7323.000	32.81	2.36	35.17	54	-18.83	AVG
Remark:						
	nna Factor + Cable	Loss _ Pre	amplifier			

EUT Name	Soundcore Flare 2	Model Name	A3165
Temperature	23.5° C	Relative Humidity	61.4%
Pressure	960hPa	Test Voltage	DC7.3V
Test Mode	Mode 2	Antenna Polarity	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4882.000	46.29	0.14	46.43	74	-27.57	peak
4882.000	36.24	0.14	36.38	54	-17.62	AVG
7323.000	41.05	2.36	43.41	74	-30.59	peak
7323.000	31.25	2.36	33.61	54	-20.39	AVG
		•				
Remark:						

# **RESULT: Pass**

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



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#### Radiated Emissions Test Results for Above 1 GHz

EUT Name	Soundcore Flare 2	Model Name	A3165
Temperature	23.5° C	Relative Humidity	61.4%
Pressure	960hPa	Test Voltage	DC7.3V
Test Mode	Mode 3	Antenna Polarity	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4960.000	45.36	0.22	45.58	74	-28.42	peak
4960.000	36.27	0.22	36.49	54	-17.51	AVG
7440.000	41.05	2.64	43.69	74	-30.31	peak
7440.000	32.48	2.64	35.12	54	-18.88	AVG
Remark:						

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

EUT Name	Soundcore Flare 2	Model Name	A3165
Temperature	23.5° C	Relative Humidity	61.4%
Pressure	960hPa	Test Voltage	DC7.3V
Test Mode	Mode 3	Antenna Polarity	Vertical

Frequency Meter Reading		Emission Level	Limits	Margin	Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
45.26	0.22	45.48	74	-28.52	peak
36.24	0.22	36.46	54	-17.54	AVG
41.05	2.64	43.69	74	-30.31	peak
32.51	2.64	35.15	54	-18.85	AVG
	(dBμV) 45.26 36.24 41.05	(dBµV) (dB) 45.26 0.22 36.24 0.22 41.05 2.64	(dBμV)     (dB)     (dBμV/m)       45.26     0.22     45.48       36.24     0.22     36.46       41.05     2.64     43.69	(dBμV)     (dB)     (dBμV/m)     (dBμV/m)       45.26     0.22     45.48     74       36.24     0.22     36.46     54       41.05     2.64     43.69     74	(dBμV)         (dB)         (dBμV/m)         (dBμV/m)         (dBμV/m)           45.26         0.22         45.48         74         -28.52           36.24         0.22         36.46         54         -17.54           41.05         2.64         43.69         74         -30.31

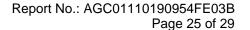
Remark

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

# **RESULT: Pass**

#### Note:

- 1. 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.
- 2. Factor = Antenna Factor + Cable loss Pre-amplifier gain, Margin = Emission Level-Limit.
- 3. The "Factor" value can be calculated automatically by software of measurement system.





## 7. AC Power Line Conducted Emission Test

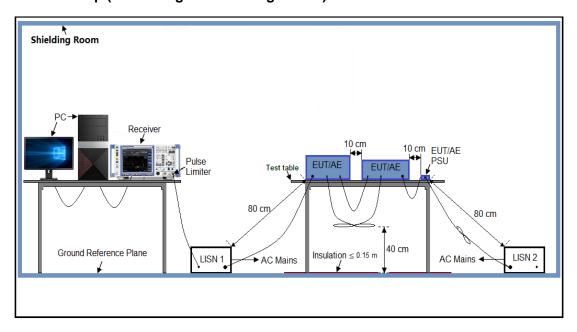
#### 7.1 Measurement Limits

Frequency	Maximum RF Line Voltage					
	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)





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## 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.

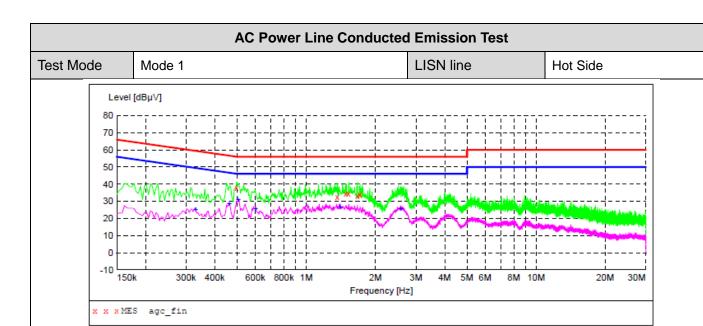
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

#### 7.4 Final Procedure of Line Conducted Emission Test

- 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.

#### 7.5 Measurement Results





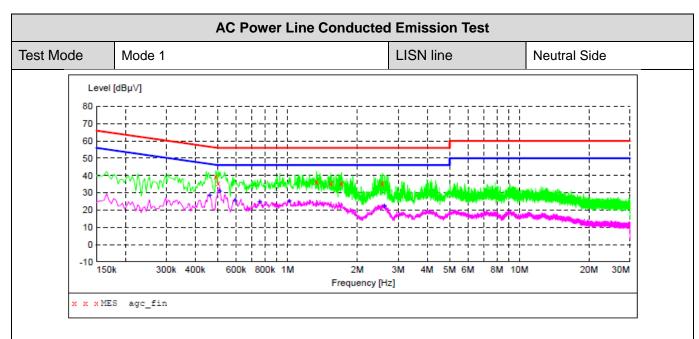
## MEASUREMENT RESULT: "agc\_fin"

-	11:32 cy Level Hz dBμV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.4980		6.1	56			L1
1.3660			56		_	L1
1.4860	00 34.30	6.2	56	21.7	QP	L1
1.5300	00 34.40	6.2	56	21.6	QP	L1
1.6700	00 33.00	6.2	56	23.0	QP	L1
1.7140	00 33.80	6.2	56	22.2	QP	L1

# MEASUREMENT RESULT: "agc\_fin2"

2023/9/1 11:32 Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.330000	25.50	6.1	50	24.0	AV	L1
0.462000	28.80	6.1	47	17.9	AV	L1
0.506000	31.30	6.2	46	14.7	AV	L1
0.602000	26.10	6.2	46	19.9	AV	L1
1.406000	26.80	6.2	46	19.2	AV	L1
2.574000	26.10	6.3	46	19.9	AV	L1





# MEASUREMENT RESULT: "agc\_fin"

2023/9/1 11:28								
	Frequency MHz	Level dBµV		Limit dBµV	_	Detector	Line	
	0.490000	39.10	6.1	56	17.1	QP	N	
	0.502000	35.40	6.2	56	20.6	QP	N	
	1.334000	36.40	6.2	56	19.6	QP	N	
	1.538000	35.30	6.2	56	20.7	QP	N	
	1.706000	35.60	6.2	56	20.4	QP	N	
	2.566000	35.30	6.3	56	20.7	OP	N	

# MEASUREMENT RESULT: "agc fin2"

2023/9/1 11:28 Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.462000	28.90	6.1	47	17.8	AV	N
0.510000	31.20	6.2	46	14.8	AV	N
0.594000	26.00	6.2	46	20.0	AV	N
0.758000	24.70	6.2	46	21.3	AV	N
1.018000	25.60	6.2	46	20.4	AV	N
2.614000	22.50	6.3	46	23.5	AV	N



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# **Appendix I: Photographs of Test Setup**

Refer to the Report No.: AGC01110190954AP01B

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC01110190954AP02B

----End of Report----



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