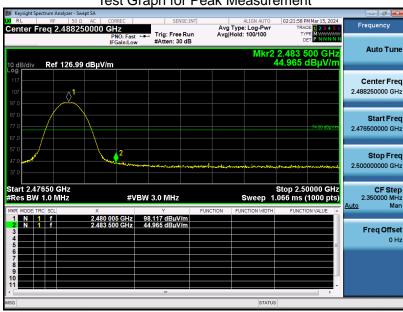


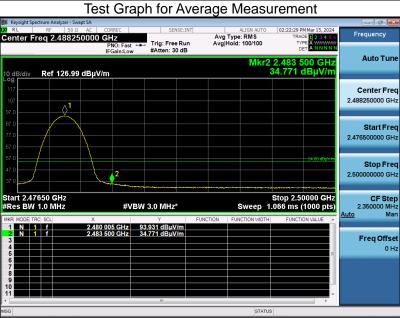


## **Band Edge Emission Test Results for Restricted Bands**

EUT Name	soundcore Boom 2 Plus	Model Name	A3134
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	DC 7.3V by battery
Test Mode	Mode 9	Antenna Polarity	Vertical

Test Graph for Peak Measurement





#### **RESULT: Pass**

Note: The factor had been edited in the "Input Correction" of the Spectrum Analyzer.



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# 10. Number of Hopping Frequency Measurement

## 10.1 Provisions Applicable

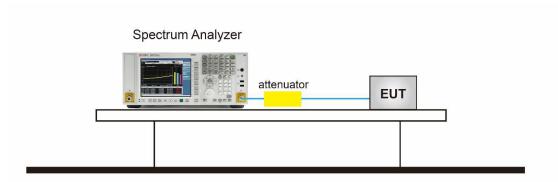
This frequency hopping system must employ a minimum of 15 hopping channels.

#### **10.2 Measurement Procedure**

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

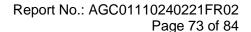
- 1. Span = The frequency band of operation. Depending on the number of channels the device
- 2. supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
- 3. RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
- 4. VBW ≥ RBW
- 5. Sweep time = Auto couple
- 6. Detector = Peak
- 7. Trace mode = Max hold
- 8. Allow the trace to stabilize

### 10.3 Measurement Setup (Block Diagram of Configuration)



#### 10.4 Measurement Result

Test Data of Number of Hopping Frequency					
Test Mode	Number of Hopping Frequency	Limits	Pass or Fail		
8DPSK Hopping	79	>=15	Pass		





**Test Graphs of Number of Hopping Frequency** Avg Type: Log-Pwr Avg|Hold: 100/100 Frequency Trig: Free Run #Atten: 40 dB PNO: Fast IFGain:Low **Auto Tune** Mkr1 2.446 05 GHz 6.900 dBm Ref 30.00 dBm Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz Stop Freq 2.483500000 GHz **CF Step** 8.350000 MHz <u>Auto</u> Man Freq Offset 0 Hz Center 2.44175 GHz #Res BW 200 kHz Span 83.50 MHz Sweep 1.998 ms (1000 pts) **#VBW** 620 kHz

Test\_Graph\_BR\_HOP\_ANT1\_NA\_1Mbps\_Number of Hopping

Note: All mode rates are tested and evaluated, GFSK modulated DH5 mode is the worst case and documented in the report.



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11. Time of Occupancy (Dwell Time) Measurement

### 11.1 Provisions Applicable

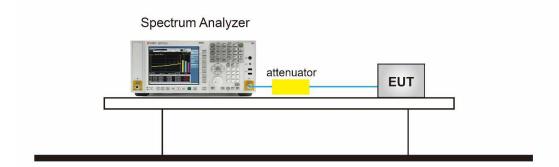
The maximum permissible time of occupancy is 400ms within a period of 400ms multiplied by the number of hopping channels employed.

#### 11.2 Measurement Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

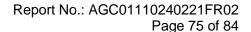
- 1. Span = Zero span, centered on a hopping channel.
- 2. RBW shall be ≤ channel spacing and where possible RBW should be set >> 1 / T, where T is the expected dwell time per channel.
- 3. VBW ≥ RBW
- 4. Sweep time = As necessary to capture the entire dwell time per hopping channel
- 5. Detector = Peak
- 6. Trace mode = Free Run
- 7. Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time. An oscilloscope may be used instead of a spectrum analyzer. The EUT shall show compliance with the appropriate regulatory limit for the number of hopping channels. A plot of the data shall be included in the test report.

### 11.3 Measurement Setup (Block Diagram of Configuration)

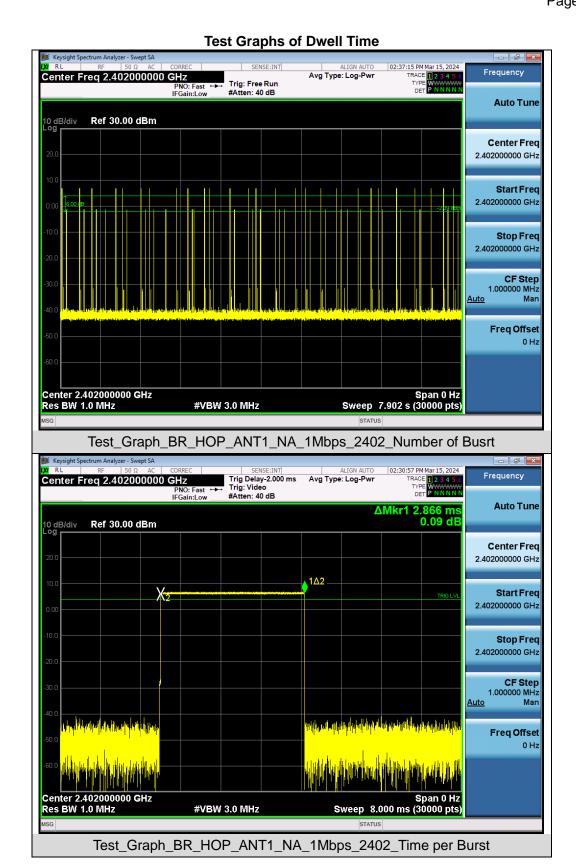


#### 11.4 Measurement Result

	Test Data of Dwell Time							
Channel	Time of Pulse for DH5 (ms)	Number of hops in the period specified in the requirements	Dwell Time (ms)	Limit (ms)	Pass or Fail			
2402	2.866	27.0*4	309.528	400	Pass			
2441	2.866	27.0*4	309.528	400	Pass			
2480	2.866	26.0*4	298.064	400	Pass			

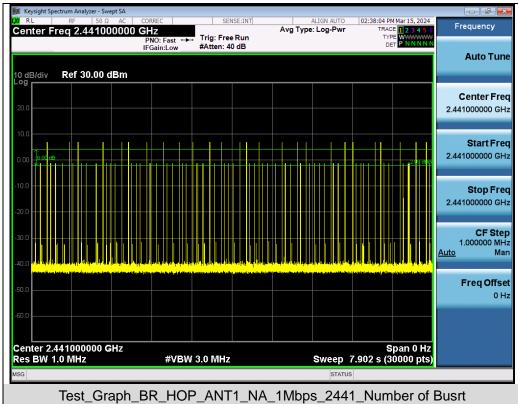


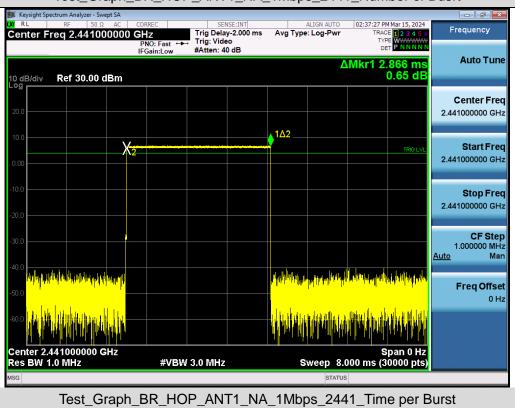










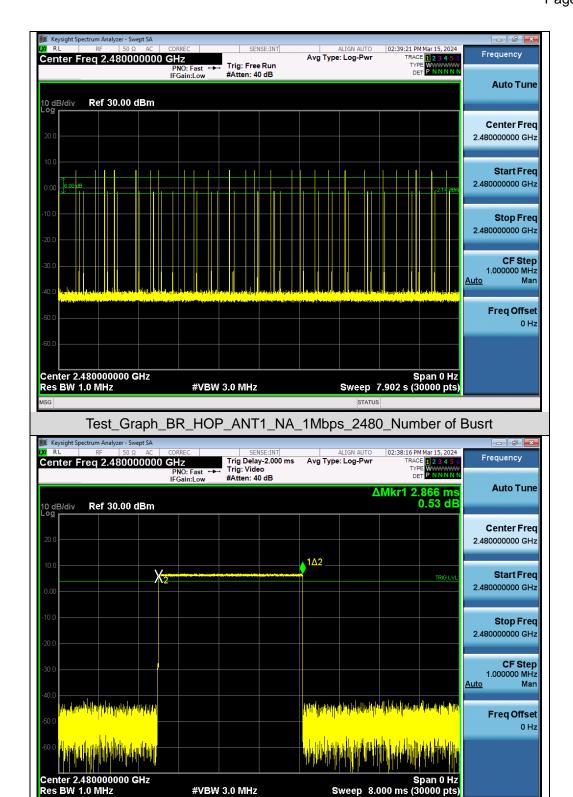


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Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/







Test\_Graph\_BR\_HOP\_ANT1\_NA\_1Mbps\_2480\_Time per Burst Note: All mode rates are tested and evaluated, GFSK modulated DH5 mode is the worst case and documented in the report.

#VBW 3.0 MHz

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Res BW 1.0 MHz



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## 12. Frequency Separation Measurement

### 12.1 Provisions Applicable

When the power is less than 0.125W: The minimum permissible channel separation for this system is 2/3 the value of the 20dB BW.

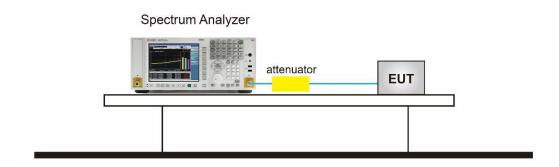
When the power is less than 1W: The minimum permissible channel separation for this system is 20dB BW.

#### 12.2 Measurement Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- 1. Span: Wide enough to capture the peaks of two adjacent channels.
- 2. RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
- 3. Video (or average) bandwidth (VBW) ≥ RBW.
- 4. Sweep: Auto.
- 5. Detector function: Peak.
- 6. Trace: Max hold. g) Allow the trace to stabilize.
- 7. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

### 12.3 Measurement Setup (Block Diagram of Configuration)

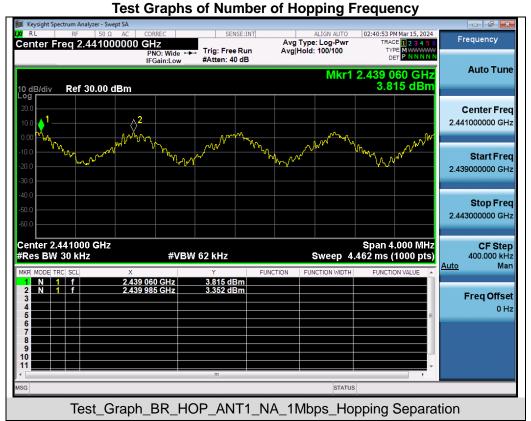


#### 12.4 Measurement Result

	Test Data of Frequency Separation						
	Test Mode	Channel Separation (MHz)	Limits (MHz)	Pass or Fail			
ſ	GFSK	0.925	≥0.623	Pass			







Note: All mode rates are tested and evaluated, GFSK modulated DH5 mode is the worst case and documented in the report.



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## 13. AC Power Line Conducted Emission Test

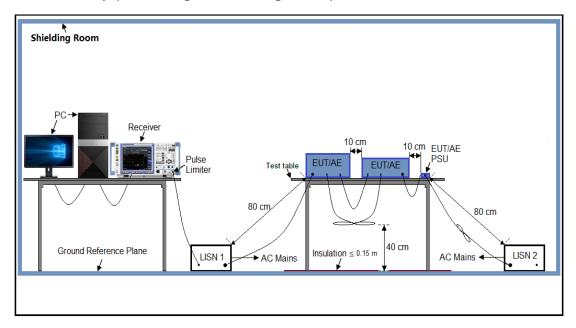
#### 13.1 Measurement Limit

Fraguenay	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.

## 13.2 Measurement Setup (Block Diagram of Configuration)





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## 13.3 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.

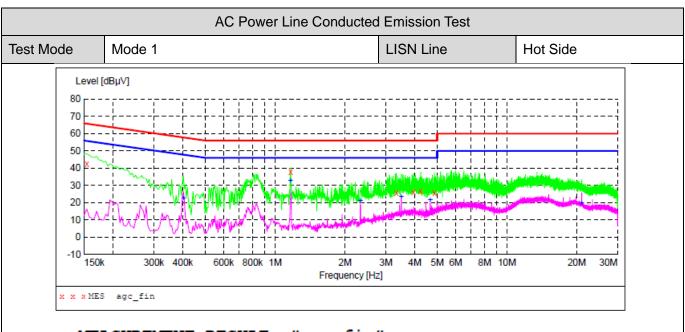
#### 13.4 Final Procedure of Line Conducted Emission Test

- 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.

#### 13.5 Measurement Results





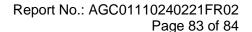


# MEASUREMENT RESULT: "agc\_fin"

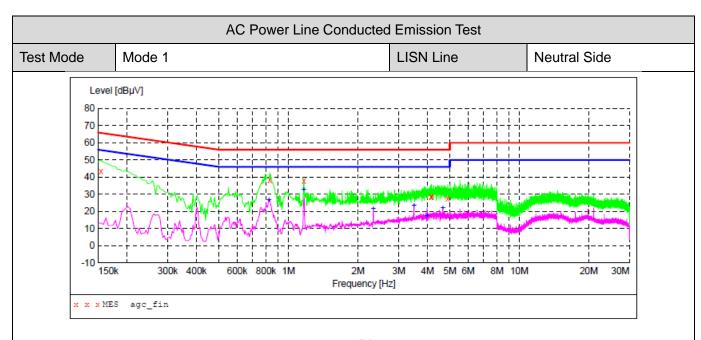
2024/3/13 14:21							
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
	0.154000	42.40	6.1	66	23.4	QP	L1
	1.166000	37.90	6.2	56	18.1	QP	L1
	3.330000	25.80	6.3	56	30.2	QP	L1
	3.954000	26.20	6.3	56	29.8	QP	L1
	4.246000	26.50	6.3	56	29.5	QP	L1
	4.862000	25.90	6.3	56	30.1	OP	T-1

## MEASUREMENT RESULT: "agc\_fin2"

2024/3/13 14:21							
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
	0.402000	22.60	6.1	48	25.2	AV	L1
	1.166000	32.60	6.2	46	13.4	AV	L1
	2.334000	21.30	6.3	46	24.7	AV	L1
	3.502000	23.30	6.3	46	22.7	AV	L1
	4.666000	21.60	6.3	46	24.4	AV	L1
	21.002000	19.50	7.3	50	30.5	AV	L1







## MEASUREMENT RESULT: "agc\_fin"

2024/3/13 14:24
-----------------

Frequency Level Transd Limit Margin Detecto MHz dBµV dB dBµV dB	r Line
0.154000 43.30 6.1 66 22.5 QP	N
0.830000 38.30 6.2 56 17.7 QP	N
1.166000 37.70 6.2 56 18.3 QP	N
4.146000 28.30 6.3 56 27.7 QP	N
4.178000 28.50 6.3 56 27.5 QP	N
4.898000 27.70 6.3 56 28.3 QP	N

## MEASUREMENT RESULT: "agc\_fin2"

#### 2024/3/13 14:24

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.822000	26.70	6.2	46	19.3	AV	N
1.166000	32.80	6.2	46	13.2	AV	N
2.334000	21.60	6.3	46	24.4	AV	N
3.498000	23.60	6.3	46	22.4	AV	N
3.986000	17.30	6.3	46	28.7	AV	N
4.666000	22.00	6.3	46	24.0	AV	N



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**Appendix I: Photographs of Test Setup** 

Refer to the Report No.: AGC01110240221AP02

**Appendix II: Photographs of Test EUT** 

Refer to the Report No.: AGC01110240221AP03

----End of Report----



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