



FCC TEST REPORT
FCC ID: 2BKMD-HT-554

On Behalf of

Shenzhen Haitao Technology Co.,Ltd

MAGNETIC 5 IN 1 SPEAKER

Model No.: HT-554

Prepared for : Shenzhen Haitao Technology Co.,Ltd
Address : 2F Building 2, West Industrial Park, Hezhou
District, Hangcheng Street, Bao'an District, Shenzhen, China

Prepared By : Shenzhen PSI Testing Co., Ltd.
Address : 1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road,
Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Report Number : psi2504220-C01-R05
Date of Receipt : April 25, 2025
Date of Test : April 25, 2025-May 7, 2025
Date of Report : May 7, 2025
Version Number : V0

TABLE OF CONTENTS

Description	Page
1. Test Result Summary	5
2. General Information	6
2.1. DESCRIPTION OF DEVICE (EUT)	6
2.2. ACCESSORIES OF DEVICE (EUT)	7
2.3. TESTED SUPPORTING SYSTEM DETAILS	7
2.4. BLOCK DIAGRAM OF CONNECTION BETWEEN EUT AND SIMULATORS	7
2.5. DESCRIPTION OF TEST MODES	8
2.6. TEST CONDITIONS	8
2.7. TEST FACILITY	9
2.8. MEASUREMENT UNCERTAINTY	9
2.9. TEST EQUIPMENT LIST	10
3. Test Results and Measurement Data	11
3.1. CONDUCTED EMISSION	11
3.2. RADIATED SPURIOUS EMISSION MEASUREMENT	15
3.3. TEST SPECIFICATION	21
4. Photos of test setup	25
5. Photos of EUT	25

TEST REPORT DECLARATION

Applicant : Shenzhen Haitao Technology Co.,Ltd
Address : 2F Building 2, West Industrial Park, Hezhou
District, Hangcheng Street, Bao'an District, Shenzhen, China
Manufacturer : Shenzhen Haitao Technology Co.,Ltd
Address : 2F Building 2, West Industrial Park, Hezhou
District, Hangcheng Street, Bao'an District, Shenzhen, China
EUT Description : MAGNETIC 5 IN 1 SPEAKER
(A) Model No. : HT-554
(B) Trademark : N/A

Measurement Standard Used:

FCC CFR Title 47 Part 15 Subpart C

ANSI C63.10:2013

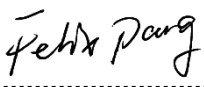
Test Result: PASS

The device described above is tested by Shenzhen PSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen PSI Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the FCC CFR Title 47 Part 15 Subpart C requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen PSI Testing Co., Ltd.

Tested by (name + signature).....:

Felix Pang
Test Engineer



Approved by (name + signature).....:

Simple Guan
Project Manager



Date of issue.....:

May 7, 2025

Revision History

Revision	Issue Date	Revisions	Revised By
V0	May 7, 2025	Initial released Issue	Felix Pang

1. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Spurious Emission	§15.209	PASS
Occupied Bandwidth	§15.215 (c)	PASS

Note:

1. *PASS: Test item meets the requirement.*
2. *Fail: Test item does not meet the requirement.*
3. *N/A: Test case does not apply to the test object.*
4. *The test result judgment is decided by the limit of test standard.*
5. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

2. General Information

2.1. Description of Device (EUT)

EUT Name : MAGNETIC 5 IN 1 SPEAKER
Model No. : HT-554
Diff : /
Power supply : Input: 5 V  3 A, 9 V  3 A, DC 3.7 V by Battery
Output 1: Phone 15W (max)
Output 2: Earbuds 3W
Output 3: Watch 2.5W

Radio Technology : Wireless power transmission systems

Operation frequency : Phone:111KHz -205KHz
Earbuds:111KHz -205KHz
Watch: 300KHz -350KHz

Modulation : MSK

Antenna Type : Coil Antenna

Connector cable loss : 0dB

Software version : V1.0

Hardware version : V1.0

Note : Antenna information is provided by applicant.
Testing lab is not responsible for the accuracy of the information.

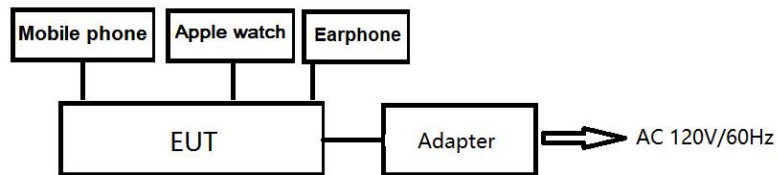
2.2. Accessories of Device (EUT)

Accessories	:	N/A
Manufacturer	:	N/A
Model	:	N/A
specifications	:	N/A

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	Adapter	Xiaomi	MDY-08-EH	N/A	N/A
2	Mobile phone	Xiaomi	Xiaomi 12S Pro	N/A	N/A
3	Earphone	Apple	A2031	N/A	N/A
+4	Apple watch	Apple Inc.	ultra 2	N/A	N/A

2.4. Block Diagram of connection between EUT and simulators



2.5. Description of Test Modes

Number	Modes
1	AC Adapter+Wireless charging mode (Phone: Battery Status: $\leq 1\%$)
2	AC Adapter+Wireless charging mode (Phone: Battery Status:50%)
3	AC Adapter+Wireless charging mode (Phone: Battery Status: $\geq 98\%$)
4	AC Adapter+Wireless charging mode (Earphone: Battery Status: $\leq 1\%$)
5	AC Adapter+Wireless charging mode (Earphone: Battery Status:50%)
6	AC Adapter+Wireless charging mode (Earphone: Battery Status: $\geq 98\%$)
7	AC Adapter+Wireless charging mode (Watch: Battery Status: $\leq 1\%$)
8	AC Adapter+Wireless charging mode (Watch: Battery Status:50%)
9	AC Adapter+Wireless charging mode (Watch: Battery Status: $\geq 98\%$)
10	AC Adapter+Wireless charging mode (Phone: Battery Status: $\leq 1\%$) + (Earphone: Battery Status: $\leq 1\%$)
11	AC Adapter+Wireless charging mode (Phone: Battery Status: $\leq 1\%$) + (Watch: Battery Status: $\leq 1\%$)
12	AC Adapter+Wireless charging mode (Earphone: Battery Status: $\leq 1\%$) + (Watch: Battery Status: $\leq 1\%$)
13	AC Adapter+Wireless charging mode (Phone: Battery Status: $\leq 1\%$) + (Earphone: Battery Status: $\leq 1\%$) + (Watch: Battery Status: $\leq 1\%$)
14	Standby

Note: All test modes has been tested, this report only reflected the worst mode.Mode 13 is worst case for

2.6. Test Conditions

Items	Required
Temperature range:	15-35℃
Humidity range:	25-75%
Pressure range:	86-106kPa

2.7. Test Facility

Shenzhen PSI Testing Co., Ltd.

1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

September 13, 2023 File on Federal Communication Commission

Registration Number: 916281

2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for Power Line Conducted Emissions Test	2.17dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	2.74dB(Polarize: V)
	2.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 18GHz)	4.29dB(Polarize: V)
	4.82dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	48.24KHz
Uncertainty for conducted RF Power	0.41dB
Occupied Bandwidth	968Hz

2.9. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	9*6*6 anechoic chamber	SKET	9*6*6	N/A	/	2022.12.20	3 Year
2.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2024.12.18	1 Year
3.	L.I.S.N.#1	Rohde&Schwarz	ENV216	102282	/	2024.12.18	1 Year
4.	L.I.S.N.#2	RFT	NNB111	13835240	/	2024.12.18	1 Year
5.	Loop Antenna	Schwarz beck	FMZB 1519B	00128	/	2025.01.02	2 Year
6.	Bilog Antenna	Schwarz beck	VULB 9168	01448	/	2025.01.02	2 Year
7.	Spectrum Analyzer	Rohde&Schwarz	FSV-40N	101648	3.70	2024.12.18	1 Year
8.	Horn Antenna	Schwarz beck	BBHA 9120 D	02706	/	2025.01.02	2 Year
9.	Amplifier	SKET	LAPA_01G18 G-45dB	SK202203290 1	/	2024.12.18	1 Year
10.	Horn Antenna	Schwarz beck	BBHA 9170	00946	/	2024.12.31	2 Year
11.	Amplifier	SKET	LNPA_0118G -45	SK202001080 1	/	2024.12.18	1 Year
12.	RF Power Probe	Rohde&Schwarz	NRP-Z11	1138.3004.02- 1111533-Fz	/	2024.12.18	1 Year
13.	RF Sensor Unit	Tachoy	TR1029-2	20220428P00 8	/	2024.12.18	1 Year
14.	Spectrum Analyzer	Agilent	N9020A	MY51281067	A.14.03	2024.12.18	1 Year
15.	Temp. & Humid Chamber	Auchno	9606	/	/	2024.12.18	1 Year
16.	Regulated DC Power Supply	Xinouhua	ADC120V10A	202211251638	/	2024.12.18	1 Year
17.	Cable	SKET	Cable-RE-1	#02/#03	/	2024.12.18	1 Year
18.	Cable	SKET	Cable-RE-2	#01	/	2024.12.18	1 Year
19.	Cable	SKET	Cable-RE-3	#04	/	2024.12.18	1 Year
20.	Cable	SKET	Cable-CE-1	A-E-24	/	2024.12.18	1 Year
21.	6dB Attenuator	Schwarzbeck	DGA 9552N 6dB	CK4186	/	2024.12.18	1 Year
22.	Power meter	Agilent	E4419B	GB40202121	/	2024.12.18	1 Year

For Test Software Information

Item	Software Name	Manufacturer	Version
RE	EZ EMC	Farad	PSI-3A1
CE	EZ EMC	Farad	PSI-3A1
RF	RTS	TACHOY	V1.0.0

3. Test Results and Measurement Data

3.1. Conducted Emission

3.1.1. Test Specification

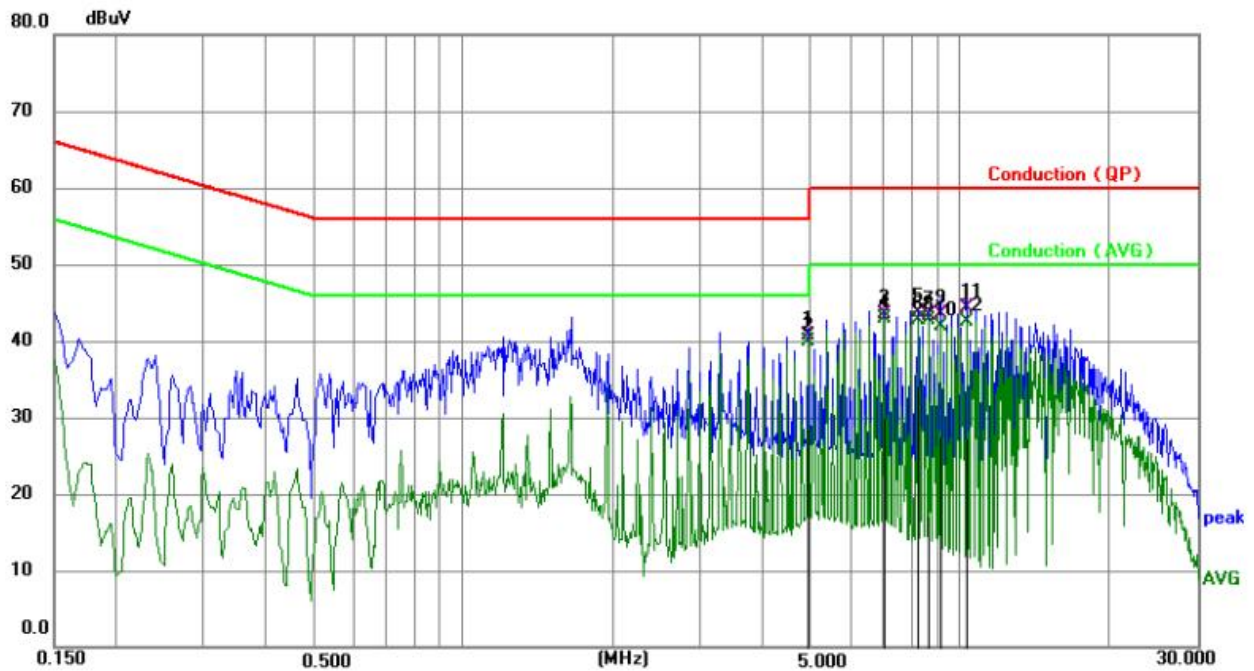
Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	Reference Plane 40cm 80cm E.U.T Adapter Test table/Insulation plane LISN Filter AC power EMI Receiver Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	Transmitting Mode														
Test Procedure:	1. The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.														
Test Result:	PASS														

3.1.2. Test data

Please refer to following diagram for individual

Test Mode	: Mode 13
Test Results	: PASS
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out. 3. If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

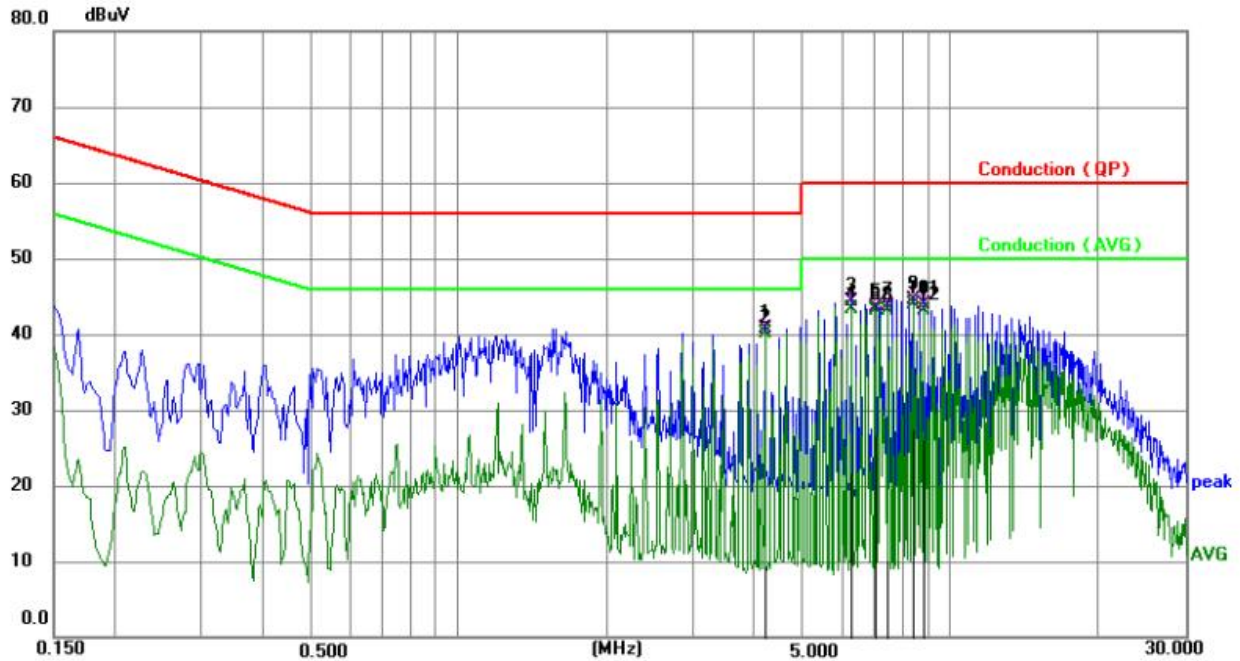
Temperature	26℃	Humidity	54%
Pol	Line		AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	4.9380	30.58	10.12	40.70	56.00	-15.30	QP	P	
2 *	4.9380	29.79	10.12	39.91	46.00	-6.09	AVG	P	
3	7.0304	33.40	10.10	43.50	60.00	-16.50	QP	P	
4	7.0304	32.86	10.10	42.96	50.00	-7.04	AVG	P	
5	8.2274	33.61	10.09	43.70	60.00	-16.30	QP	P	
6	8.2274	32.65	10.09	42.74	50.00	-7.26	AVG	P	
7	8.6775	33.31	10.09	43.40	60.00	-16.60	QP	P	
8	8.6775	32.53	10.09	42.62	50.00	-7.38	AVG	P	
9	9.1230	33.51	10.09	43.60	60.00	-16.40	QP	P	
10	9.1230	31.87	10.09	41.96	50.00	-8.04	AVG	P	
11	10.3200	34.32	10.08	44.40	60.00	-15.60	QP	P	
12	10.3200	32.48	10.08	42.56	50.00	-7.44	AVG	P	

Level = Reading + Factor Margin = Level - Limit

Pol	Neutral
-----	---------

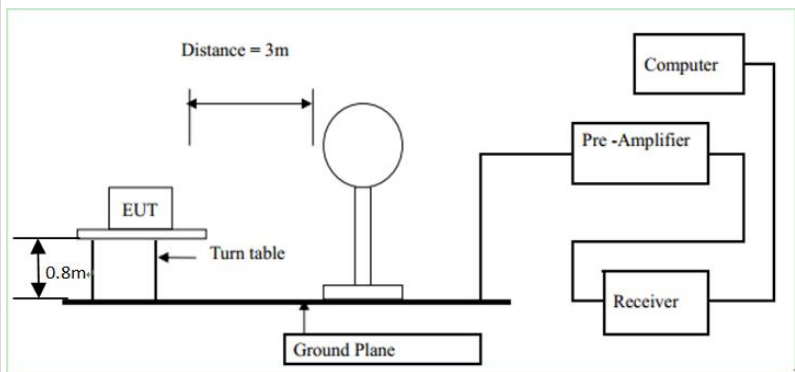


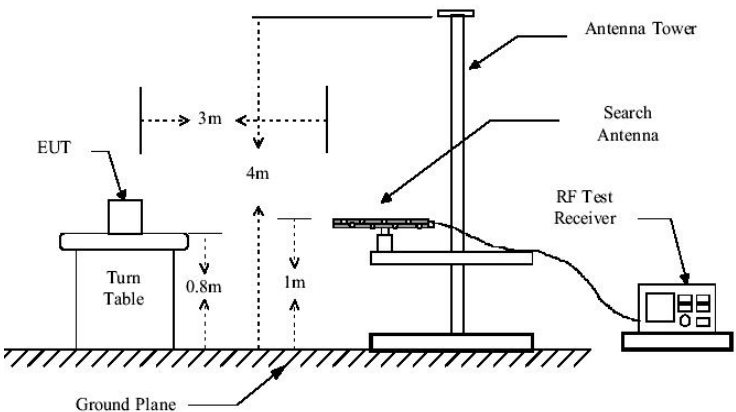
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	4.1864	30.70	10.10	40.80	56.00	-15.20	QP	P	
2 *	4.1864	29.94	10.10	40.04	46.00	-5.96	AVG	P	
3	6.2835	34.19	10.11	44.30	60.00	-15.70	QP	P	
4	6.2835	33.18	10.11	43.29	50.00	-6.71	AVG	P	
5	7.0304	33.50	10.10	43.60	60.00	-16.40	QP	P	
6	7.0304	33.01	10.10	43.11	50.00	-6.89	AVG	P	
7	7.4760	33.70	10.10	43.80	60.00	-16.20	QP	P	
8	7.4760	32.97	10.10	43.07	50.00	-6.93	AVG	P	
9	8.3760	34.51	10.09	44.60	60.00	-15.40	QP	P	
10	8.3760	33.81	10.09	43.90	50.00	-6.10	AVG	P	
11	8.8215	33.91	10.09	44.00	60.00	-16.00	QP	P	
12	8.8215	33.09	10.09	43.18	50.00	-6.82	AVG	P	

Level = Reading + Factor Margin = Level - Limit

3.2. Radiated Spurious Emission Measurement

3.2.1. Test Specification

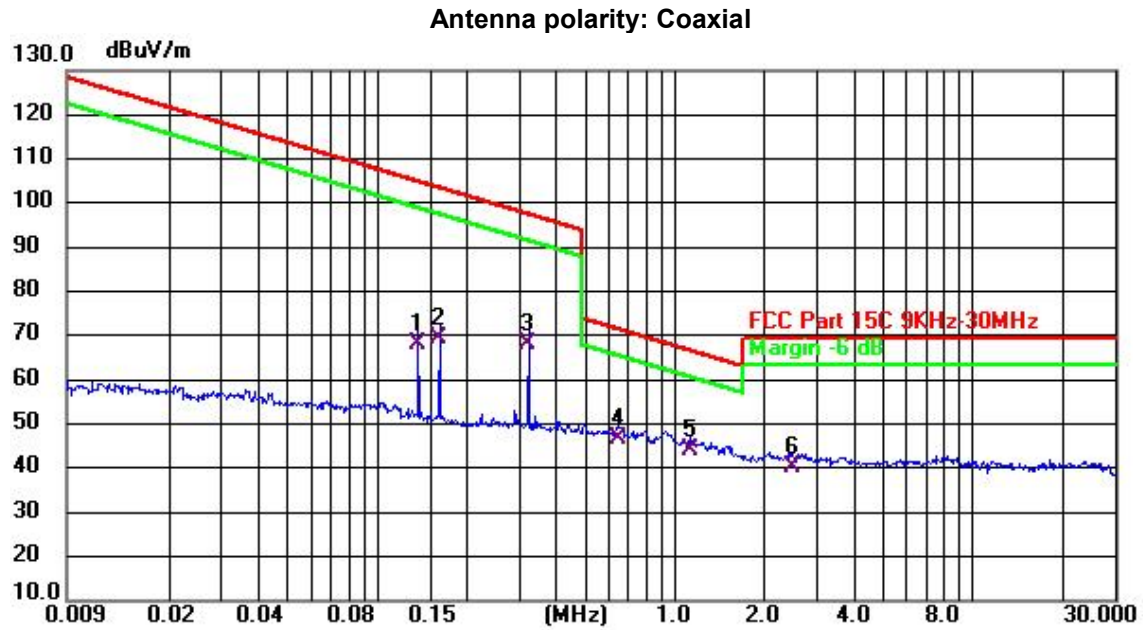
Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10: 2013				
Frequency Range:	9 kHz to 1 GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Coaxial & Coplanar(9KHz-30MHz) Horizontal & Vertical(30MHz-1GHz)				
Operation mode:	Refer to item 4.1				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Note: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 KHz, 110-490 KHz and above 1000 MHZ. Radiated emission limits in these three bands are based on measurements employing an average detector.				
Limit:	Frequency		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		30		30
	30-88		100		3
	88-216		150		3
	216-960		200		3
	Above 960		500		3
	Test setup:	For radiated emissions below 30MHz			
					
30MHz to 1GHz					

	
Test Procedure:	1. For the radiated emission test below 1GHz: The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. 2. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 3. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 4. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold; For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test mode:	Refer to section 4.1 for details
Test results:	PASS

3.2.2. Test Data

Please refer to following diagram for individual

Frequency Range	: 9KHz~30MHz
Test Mode	: Mode 13
Test Results	: PASS
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.



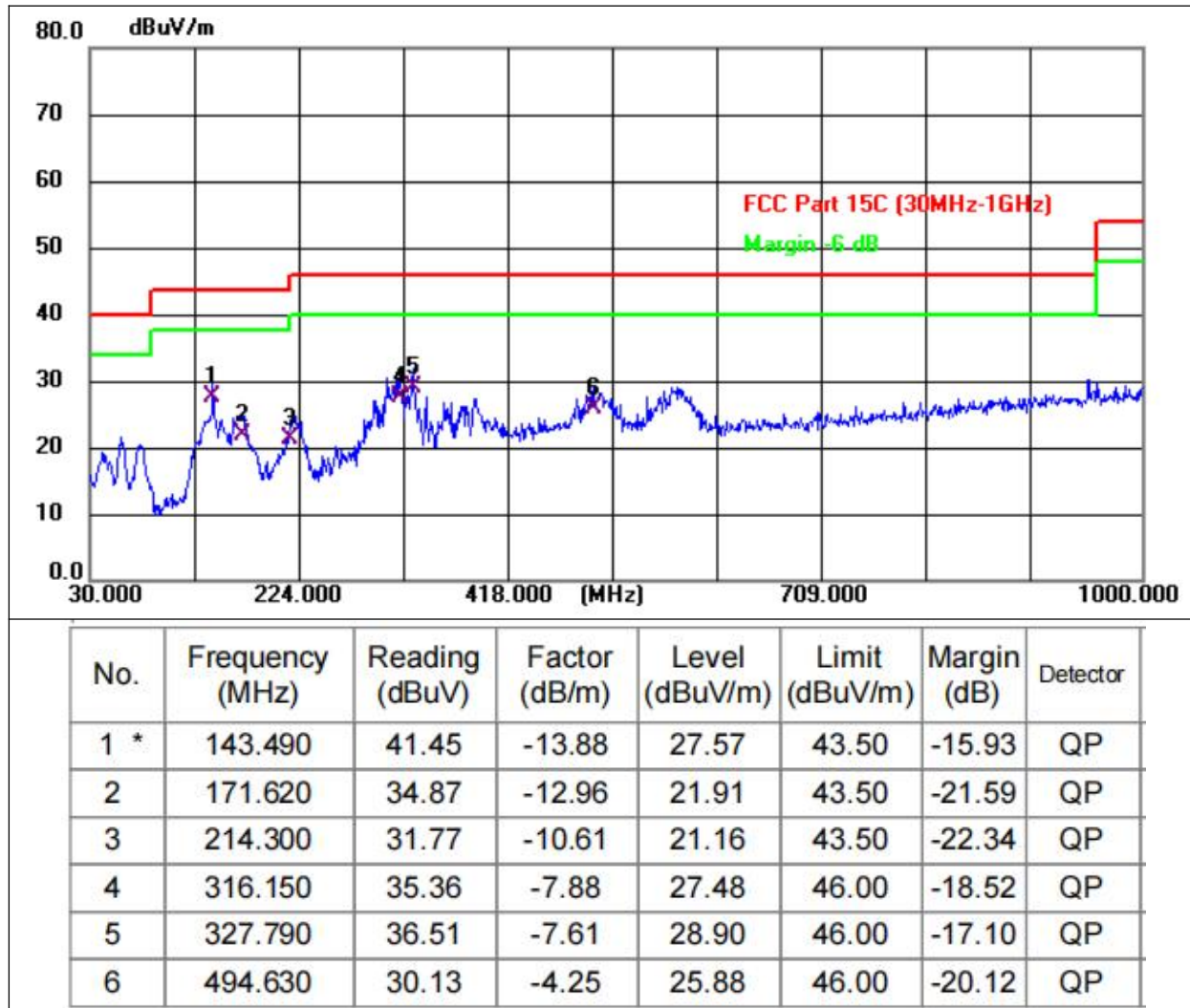
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.135	67.78	0.16	67.94	105.00	-37.06	QP
2	0.160	69.03	0.16	69.19	103.52	-34.33	QP
3	0.321	67.47	0.77	68.24	97.48	-29.24	QP
4	0.641	45.31	1.38	46.69	71.47	-24.78	QP
5 *	1.113	41.57	2.34	43.91	66.67	-22.76	QP
6	2.466	35.23	5.12	40.35	69.54	-29.19	QP

Level = Reading + Factor Margin = Level – Limit

Frequency Range	: 30MHz~1000MHz
Test Mode	: Mode 13
Test Results	: PASS
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.

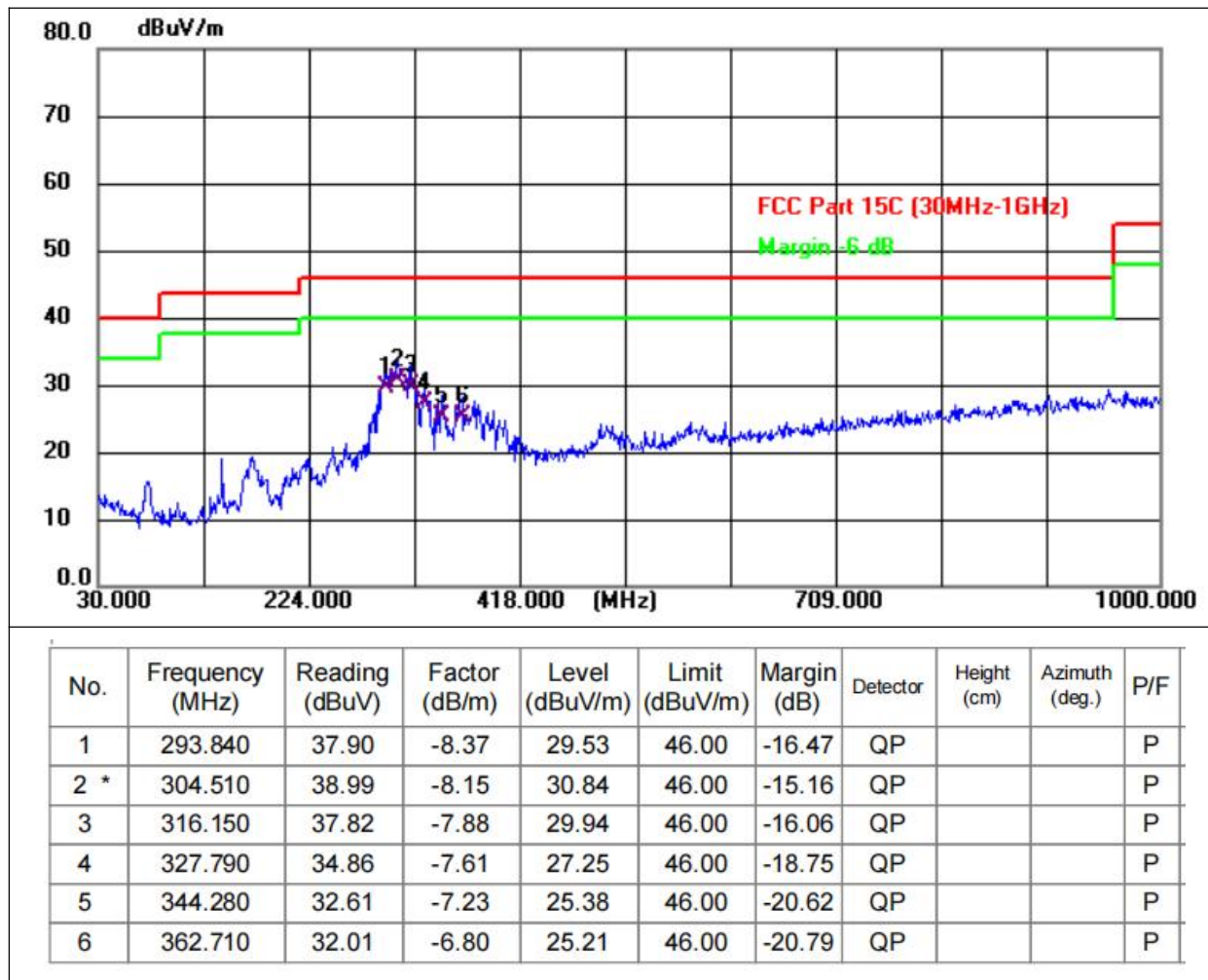
30MHz-1GHz

Temperature	26℃	Humidity	54%
Pol	Vertical	Test Voltage	AC 120V/60Hz



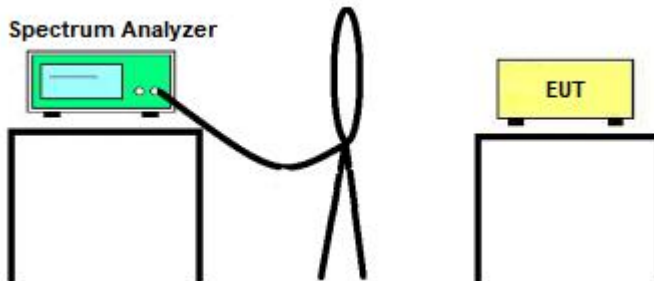
Level = Reading + Factor Margin = Level – Limit

Pol	Horizontal
-----	------------



Level = Reading + Factor Margin = Level – Limit

3.3. Test Specification

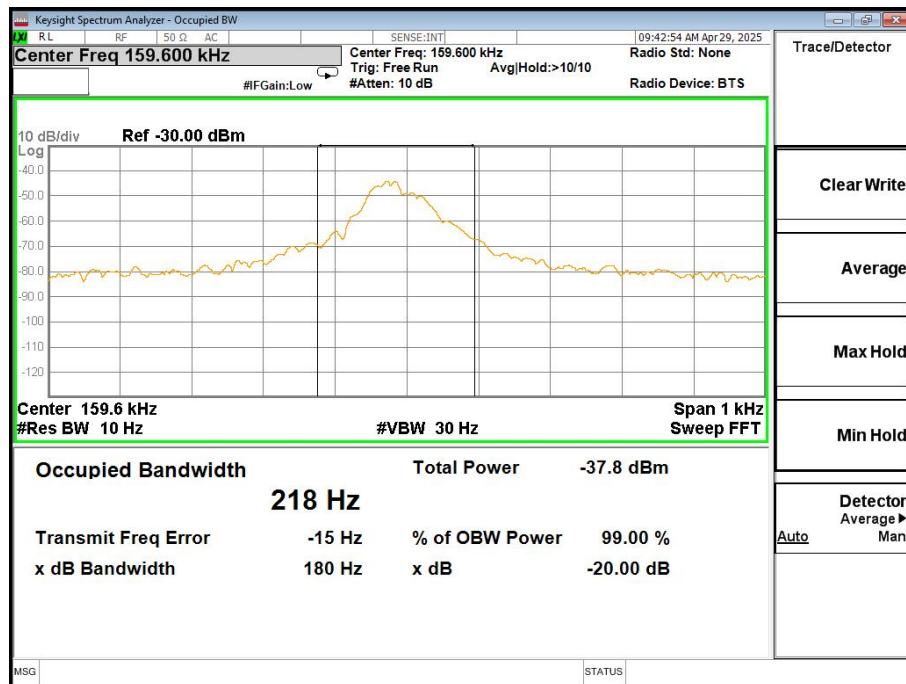
Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10: 2013
Limit:	N/A
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW$\geq$1% of the 20 dB bandwidth; VBW$\geq$RBW; Sweep = auto; Detector function = peak; Trace = max hold. 4. Measure and record the results in the test report.
Test setup:	 The diagram illustrates the test setup. On the left, a 'Spectrum Analyzer' is shown on a stand. A cable connects it to an artificial antenna, represented by a vertical line with a loop at the top. To the right of the antenna, an 'EUT' (Equipment Under Test) is shown on a stand. The antenna is positioned between the Spectrum Analyzer and the EUT, indicating its role in measuring the emissions from the EUT.
Test Mode:	Refer to section 4.1 for details
Test results:	PASS

3.3.1. Test data

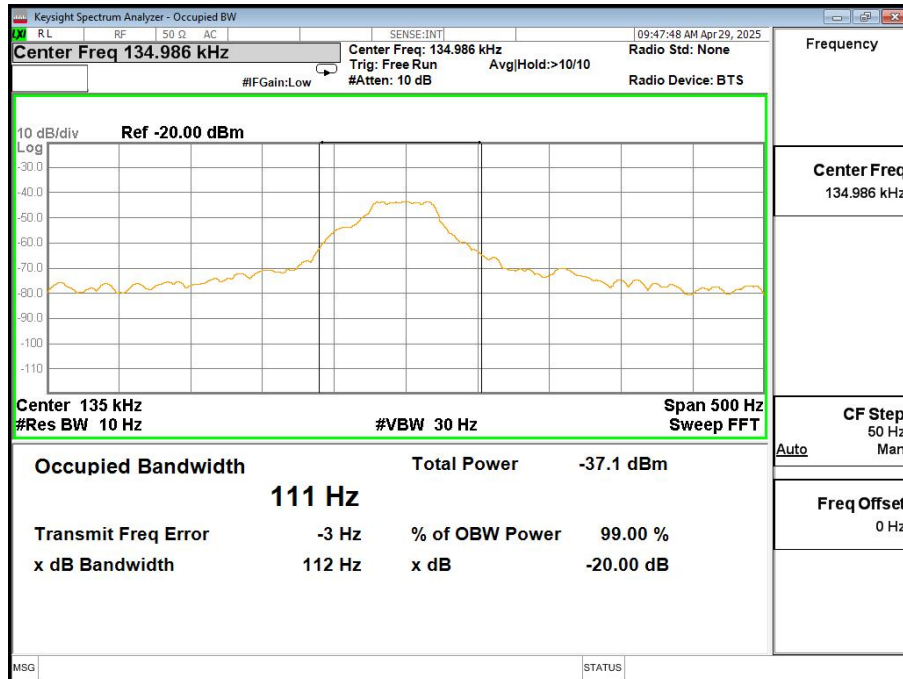
Temperature :	25.7 °C	Relative Humidity :	55%
Pressure :	101kPa		

	Frequency (KHz)	20dB bandwidth (KHz)	Result
Phone coil	159.6	0.18	Pass
Earbuds	135	0.112	Pass
Watch	321.1	0.954	Pass

Phone coil



Earbuds



Watch



4. Photos of test setup

Reference to the **appendix I Test Setup Photo** for details.

5. Photos of EUT

Reference to the **appendix II external photos** and **appendix III internal photos** for details.

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