Attestation of Compliance

Reference No.	:	**LCSA11103011EA**
Applicant	:	**Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.**
Address	:	**2F, Eight J Building, East Area, Shangxue Science Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China**
Manufacturer	:	**Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.**
Address	:	**2F, Eight J Building, East Area, Shangxue Science Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China**
Trade Mark	:	**N/A**
Product	:	**Translate Earphone**
Model(S)	:	**M8, V03, V05, V06, M10, M11, M12**
Tested according to	:	**EN 55032:2015/A11:2020** **EN 55035:2017+A11:2020**

The submitted products have been tested by us with the listed standards.

This Attestation of Compliance is issued according to the council Directive 2014/30/EU, Referred to as the Electromagnetic Compatibility. It confirms that the listed product complies with all essential requirements of the EMC directive and applies only to the sample and its technical documentation submitted to Shenzhen LCS Compliance Testing Laboratory Ltd. for testing.

After preparation of the necessary technical documentation as well as the EC conformity declaration the required CE marking can be affixed on the product.Other relevant Directives have to be observed.

CE

Date of issue: November 24, 2023

LCS TESTING LABORATORY APPROVED

Manager

Shenzhen LCS Compliance Testing Laboratory Ltd.
Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Tel: (86)0755-82591330 Fax: (86)0755-82591332
Http://www.lcs-cert.com Email: webmaster@lcs-cert.com

Attestation of Compliance

Attestation No.	:	**LCSA11103011E**
Approval Holder	:	**Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.**
Address	:	**2F, Eight J Building, East Area, Shangxue Science Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China**
Manufacturer	:	**Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.**
Address	:	**2F, Eight J Building, East Area, Shangxue Science Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China**
Brand Name	:	**N/A**
Product	:	**Translate Earphone**
Type/Model Name	:	**M8, V03, V05, V06, M10, M11, M12**
H/S Version	:	**HW: V1.0** **SW: V1.0**

Attestation of the technical design of the radio equipment according to the following essential requirements set out in article 3 of the RED 2014/53/EU:

Article 3.1a): Health and Safety	**Conform**
Article 3.1b): Electromagnetic Compatibility	**Conform**
Article 3.2: Effective Use of the Radio Spectrum	**Conform**

CE-marking

Marking Example (Class 1)

This attestation is issued in accordance with the Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.

November 24, 2023

Date of issue

Manager

Shenzhen LCS Compliance Testing Laboratory Ltd.
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Annex

Applied Standards and Test Reports

Standard	Laboratory	Test Report Number
ETSI EN 301 489-1 V2.2.3 (2019-11) Draft ETSI EN 301 489-17 V3.2.6 (2023-06) EN 55032:2015/A1:2020 EN 55035:2017/A11:2020	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCSA11103011EA
ETSI EN 300 328 V2.2.2 (2019-07)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCSA11103011EB LCSA11103011EC
EN 62479: 2010 EN 50663: 2017	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCSA11103011ED
EN IEC 62368-1:2020+A11:2020	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCSA11103012S

General Remarks:

1. This conformity assessment is limited to the essential requirements of the RED Directive. Only products fulfilling all essential requirements of all applicable new approach directives may be placed on the market and put into service.

2. Products in compliance with all provisions of the applicable directives providing for the CE marking must bear this marking.

3. The manufacturer shall take all measures necessary so that the manufacturing process and its monitoring ensure conformity of the manufactured radio equipment with the approved type described in the Attestation of Compliance and with the requirements of Directive 2014/53/EU that apply to it.

4. This device also contains frequency bands that are not operational in EU member states. Only the frequency bands used in European Union have been assessed for this attestation.

5. The manufacturer shall draw up a written EU declaration of conformity for each radio equipment type and keep it at the disposal of the national authorities for 10 years after the radio equipment has been placed on the market. The EU declaration of conformity shall identify the radio equipment type for which it has been drawn up. A copy of the EU declaration of conformity shall be made available to the relevant authorities upon request.

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Test Report

Applicant	:	**Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.**
Address	:	**2F, Eight J Building, East Area, Shangxue Science Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China**

Report on the submitted samples said to be:

Sample Name(s)	:	**Translate Earphone**
Trade Mark	:	**N/A**
Part No.	:	**M8**
Reference Part No.	:	**V03, V05, V06, M10, M11, M12**
Sample Received Date	:	**February 27, 2024** **March 20, 2024**
Testing Period	:	**February 27, 2024 ~ March 01, 2024** **March 20, 2024 ~ March 25, 2024**
Date of Report	:	**March 25, 2024**
Testing Location	:	**901, No.40 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China**
Results	:	**Please refer to next page(s).**

TEST REQUEST	CONCLUSION
As specified by client, based on the performed tests on submitted sample, the result of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl Phthalate(DEHP) and Diisobutyl phthalate(DIBP) content comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.	**PASS**

Signed for and on behalf of LCS

Terry.Luo

Terry.Luo

A. EU RoHS Directive 2011/65/EU and its amendment directives

Test method: Refer to IEC 62321-1:2013&IEC 62321-2:2021&IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF).

Test result(s):

Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
1	Black plastic shell	BL	BL	BL	BL	BL	BL	2024-02-27
2	Silver metal rod	BL	BL	BL	BL	/	/	2024-02-27
3	Black plastic sheet	BL	BL	BL	BL	BL	BL	2024-02-27
4	Gold metal needle	BL	BL	BL	BL	/	/	2024-02-27
5	Bright black plastic sheet	BL	BL	BL	BL	BL	BL	2024-02-27
6	Silver magnet	BL	BL	BL	BL	/	/	2024-02-27
7	Blue plastic thread	BL	BL	BL	BL	BL	BL	2024-02-27
8	Silver wire	BL	BL	BL	BL	/	/	2024-02-27
9	White plastic thread	BL	BL	BL	BL	BL	BL	2024-02-27
10	Silver sheet metal	BL	BL	BL	BL	/	/	2024-02-27
11	Black plastic sheet	BL	BL	BL	BL	BL	BL	2024-02-27
12	Silver metal needle	BL	BL	BL	BL	/	/	2024-02-27
13	Red plastic thread	BL	BL	BL	BL	BL	BL	2024-02-27
14	Black plastic thread	BL	BL	BL	BL	BL	BL	2024-02-27
15	Silver wire	BL	BL	BL	BL	/	/	2024-02-27
16	Black plastic sheet	BL	BL	BL	BL	BL	BL	2024-02-27
17	White plastic sheet	BL	BL	BL	BL	BL	BL	2024-02-27
18	Silver metal pin	BL	BL	BL	BL	/	/	2024-02-27
19	Grey ceramic	BL	BL	BL	BL	BL	BL	2024-02-27
20	Copper colored metal wire	BL	BL	BL	BL	/	/	2024-02-27
21	Brown capacitor	BL	BL	BL	BL	BL	BL	2024-02-27
22	Black IC	BL	BL	BL	BL	BL	BL	2024-02-27
23	Tin solder	BL	BL	BL	BL	/	/	2024-02-27
24	PCB board	BL	BL	BL	BL	BL	BL	2024-02-27
25	Silver metal screw	BL	BL	BL	BL	/	/	2024-02-27
26	Silver metal screw	BL	BL	BL	BL	/	/	2024-02-27
27	Gold metal needle	BL	BL	BL	BL	/	/	2024-02-27
28	Black plastic shell	BL	BL	BL	BL	BL	BL	2024-02-27
29	Silver sheet metal	BL	BL	BL	BL	/	/	2024-02-27
30	Silver sheet metal	BL	BL	BL	BL	/	/	2024-02-27

Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
31	White plastic sheet	BL	BL	BL	BL	BL	BL	2024-02-27
32	Copper colored metal wire	BL	BL	BL	BL	/	/	2024-02-27
33	Silver magnet	BL	BL	BL	BL	/	/	2024-02-27
34	Black plastic sheet	BL	BL	BL	BL	BL	BL	2024-02-27
35	Black foam	BL	BL	BL	BL	BL	BL	2024-02-27
36	Silver crystal oscillator	BL	BL	BL	BL	/	/	2024-02-27
37	Black IC	BL	BL	BL	BL	BL	BL	2024-02-27
38	White plastic shell	BL	BL	BL	BL	BL	BL	2024-03-20
39	White plastic sheet	BL	BL	BL	BL	BL	BL	2024-03-20
40	White plastic sheet	BL	BL	BL	BL	BL	BL	2024-03-20
41	Bright black plastic sheet	BL	BL	BL	BL	BL	BL	2024-03-20

Note:

1. Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Polymers	Metals	Composite material
Cd	BL≤(70-3σ)<X<(130+3σ)≤OL	BL≤(70-3σ)<X<(130+3σ)≤OL	LOD<X<(150+3σ)≤OL
Pb	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(500-3σ)<X<(1500+3σ)≤OL
Hg	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(500-3σ)<X<(1500+3σ)≤OL
Cr	BL≤(700-3σ)<X	BL≤(700-3σ)<X	BL≤(500-3σ)<X
Br	BL≤(300-3σ)<X	N/A	BL≤(250-3σ)<X

Remark:
- BL= Below Limit
- OL= Over Limit
- X= The range of needing to do further testing
- 3σ= The reproducibility of analytical instruments
- N/A= Not applicable
- LOD= Detection limit

2. The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

3. The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

4. ▼=For restricted substances PBBs and PBDEs, the results show the total Br content, the restricted substance was Cr(VI), and the results showed the total Cr content.

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	1000
Dibutyl Phthalate(DBP)	1000
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

B. EU RoHS Directive 2011/65/EU with amendment (EU) 2015/863 on DBP, BBP, DEHP & DIBP content

Test method:

Phthalates(DBP, BBP, DEHP &DIBP) Content:

Refer to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatography-mass spectrometer (GC-MS).

Test result(s):

1) Phthalates(DBP, BBP, DEHP &DIBP)

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)			Limit (mg/kg)
		(1)	(5)	(28)	
Dibutyl Phthalate(DBP) Content	50	N.D.	N.D.	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	N.D.	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	N.D.	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		(3+7+9+11+13+14)	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		(16+17+19+21+22+24)	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

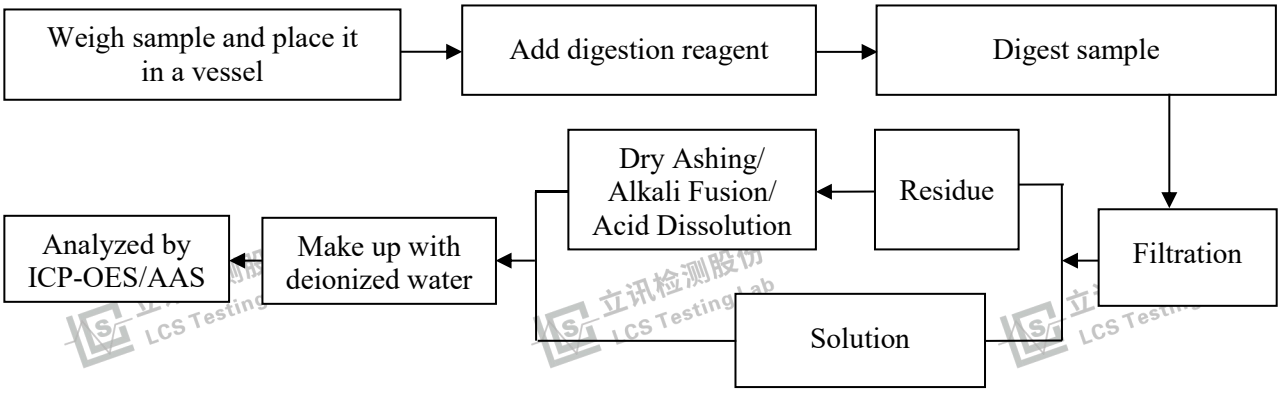
Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		(31+34+35+37)	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)				Limit (mg/kg)
		(38)	(39)	(40)	(41)	
Dibutyl Phthalate(DBP) Content	50	N.D.	N.D.	N.D.	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	N.D.	N.D.	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	N.D.	N.D.	N.D.	1000

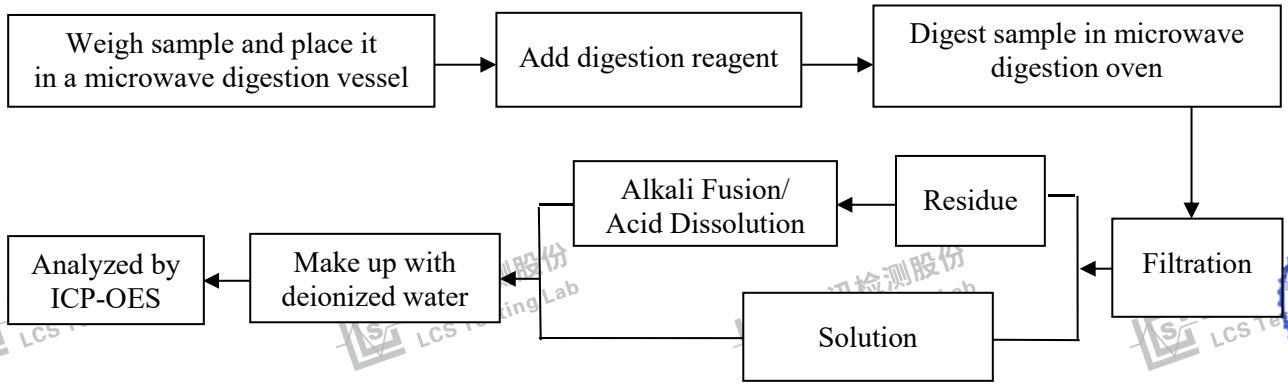
Note:
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg= milligram per kilogram=ppm
- According to customer's requirement, only the appointed materials have been tested.

Test Process

1. Lead(Pb) & Cadmium(Cd): IEC 62321-5:2013

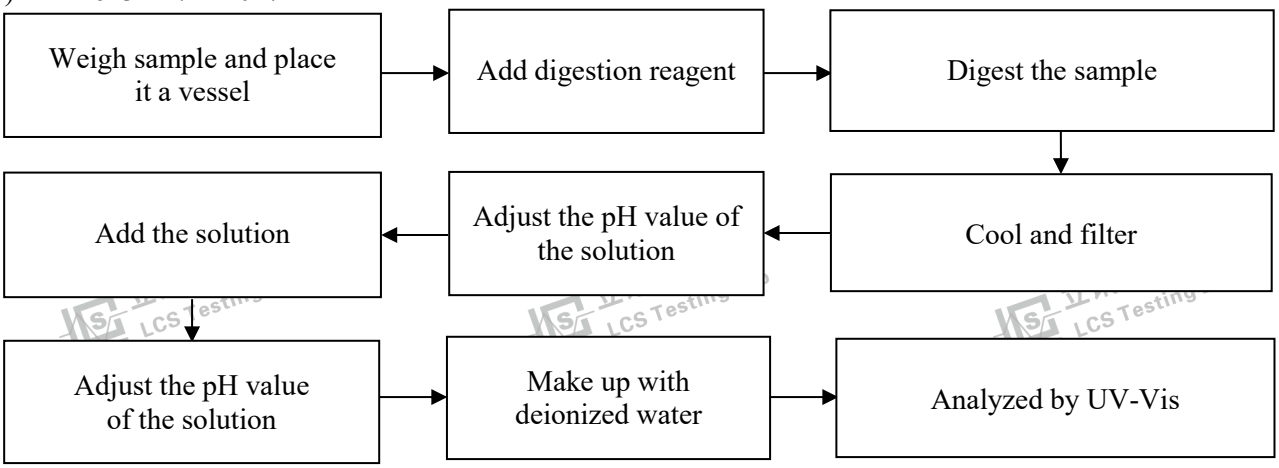


2. Mercury(Hg): IEC 62321-4:2013+AMD1:2017 CSV

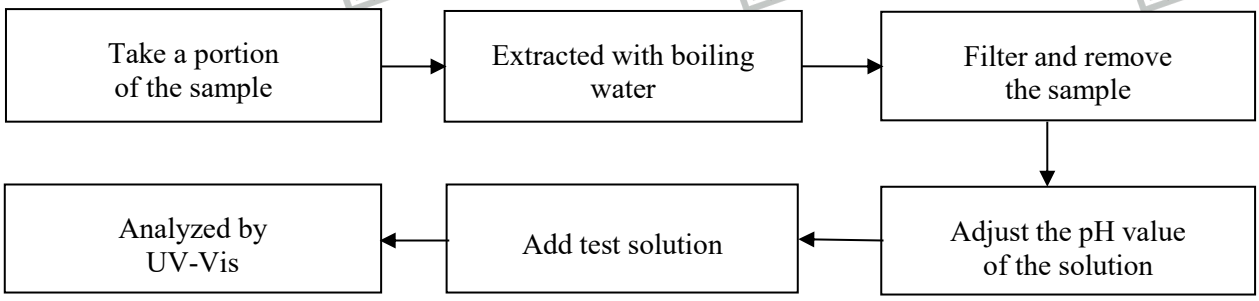


3. Hexavalent Chromium(Cr(VI))

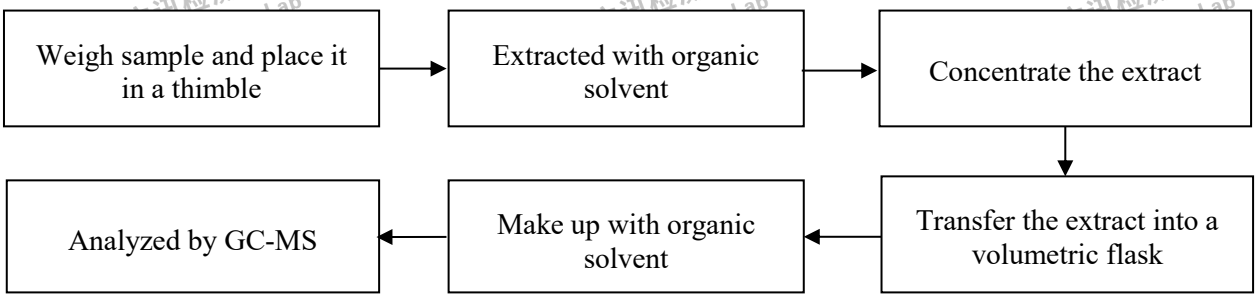
1) IEC 62321-7-2:2017



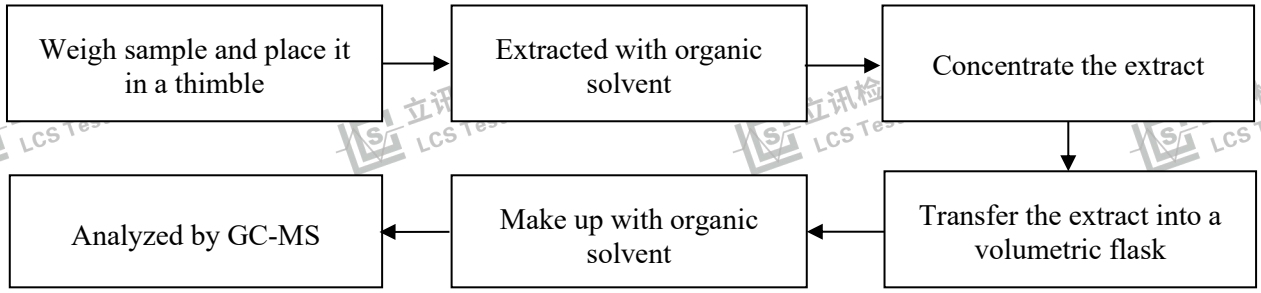
2) IEC 62321-7-1:2015



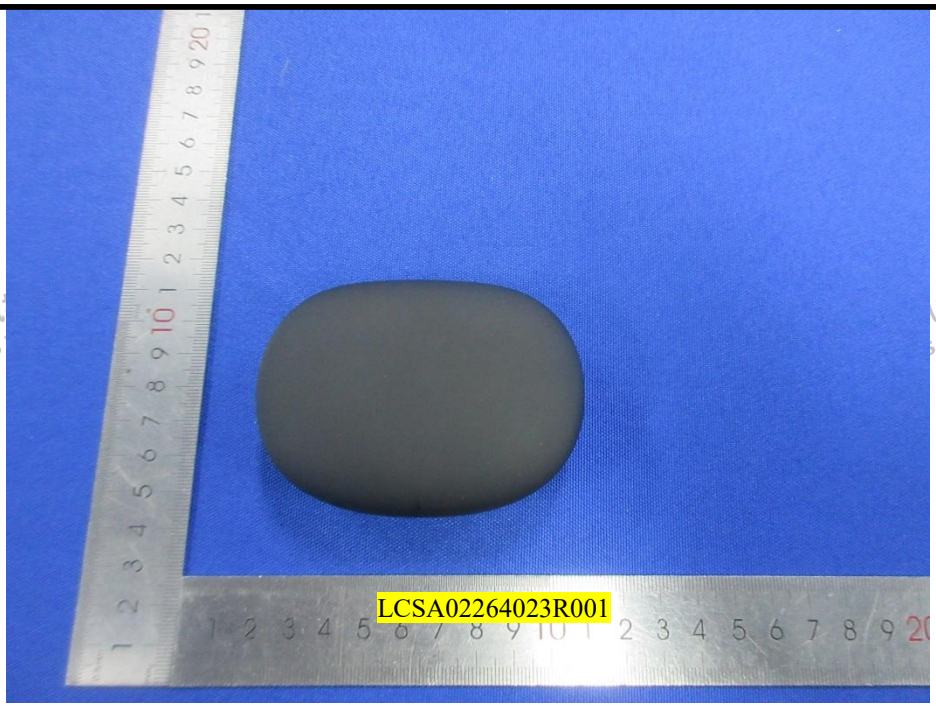
4. Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs) : IEC 62321-6:2015

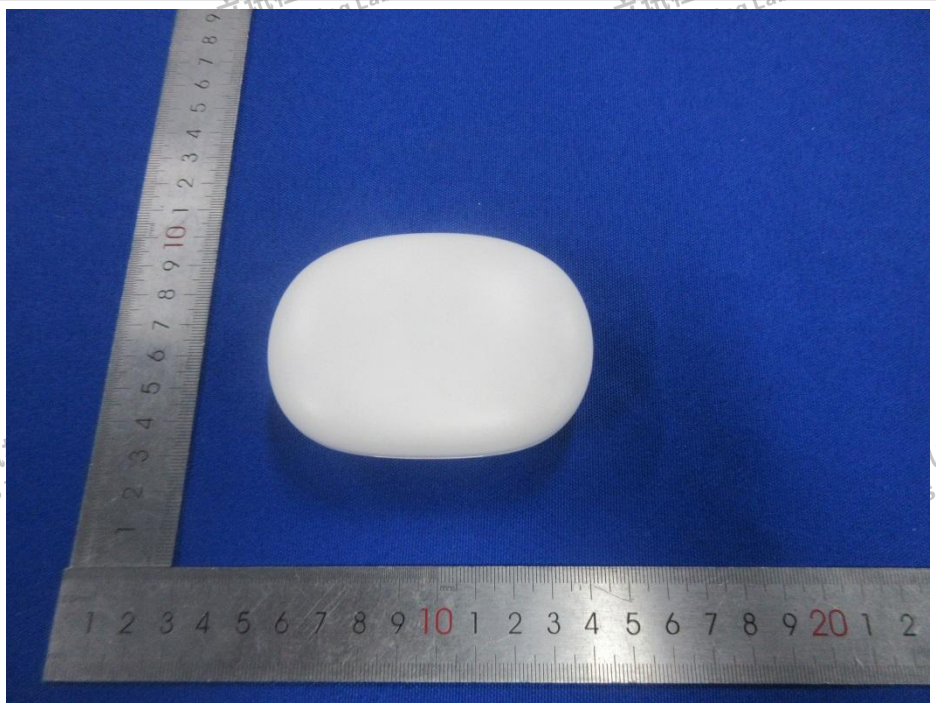


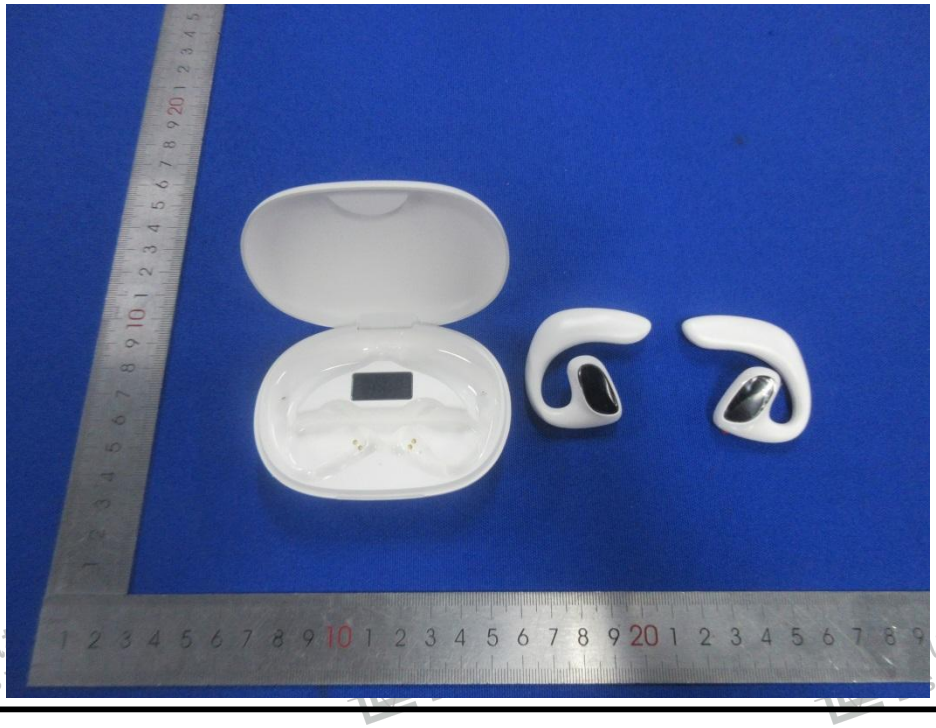
5. Phthalates(DBP, BBP, DEHP & DIBP) : IEC 62321-8:2017

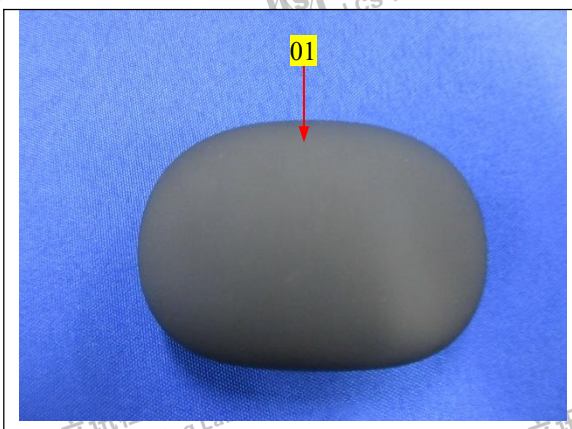


The photo(s) of the sample





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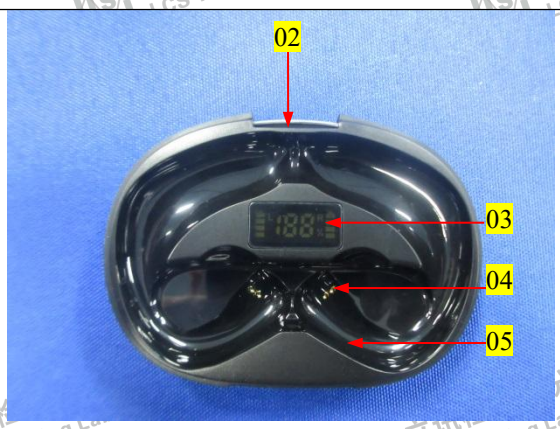
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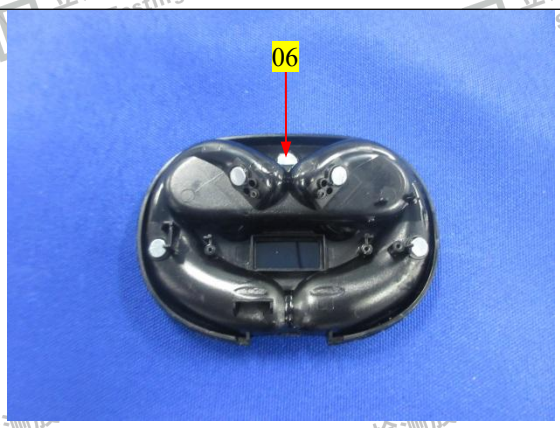
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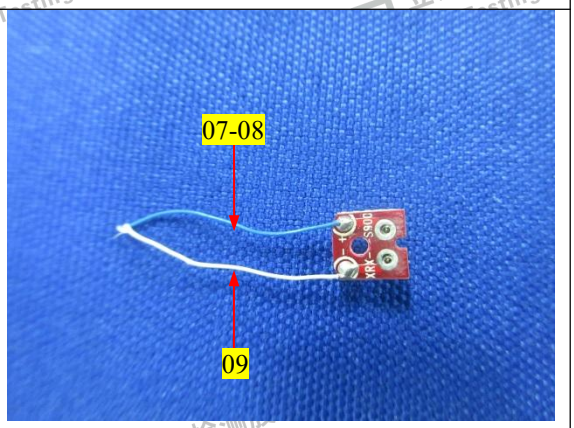
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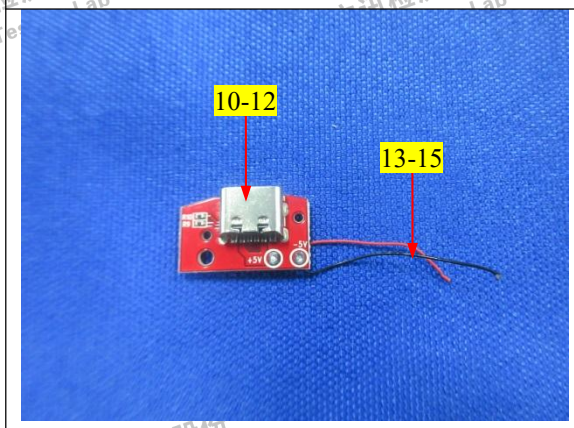
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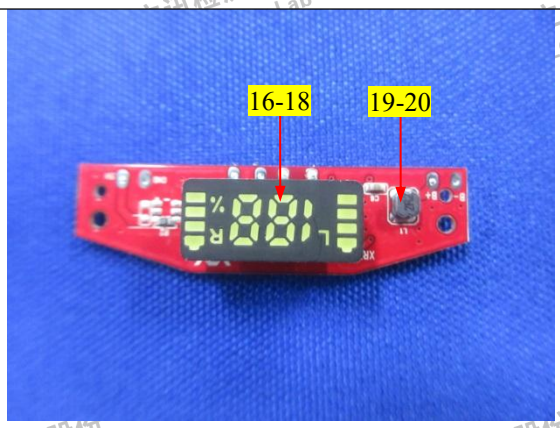
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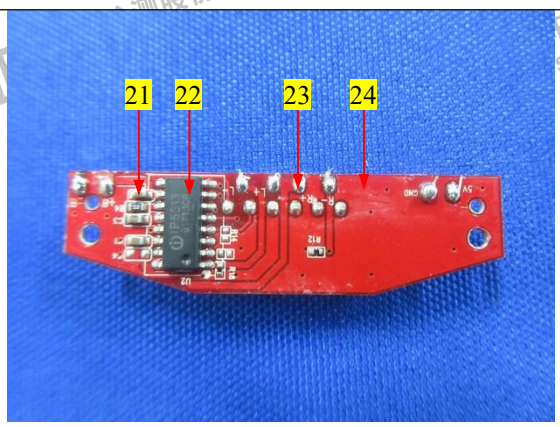
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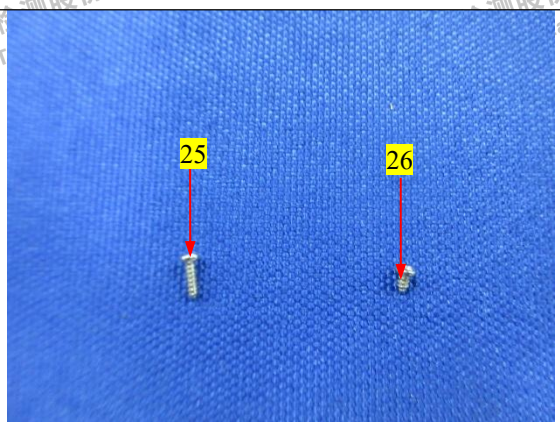
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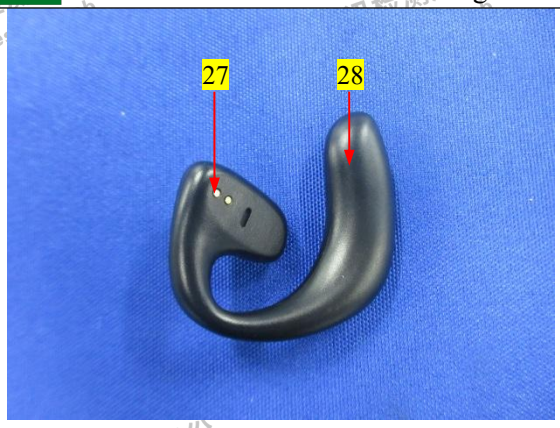
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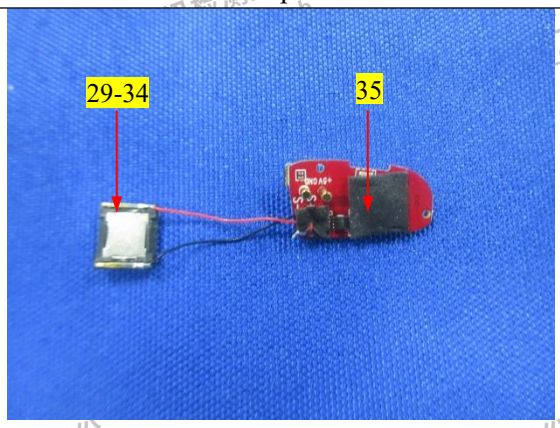
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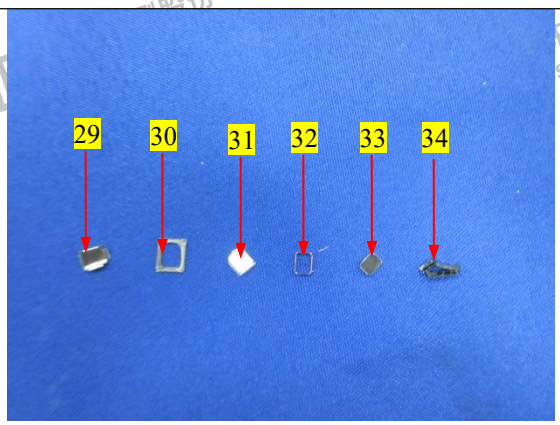
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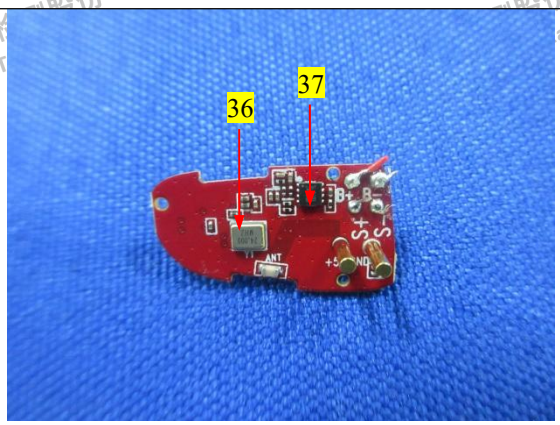
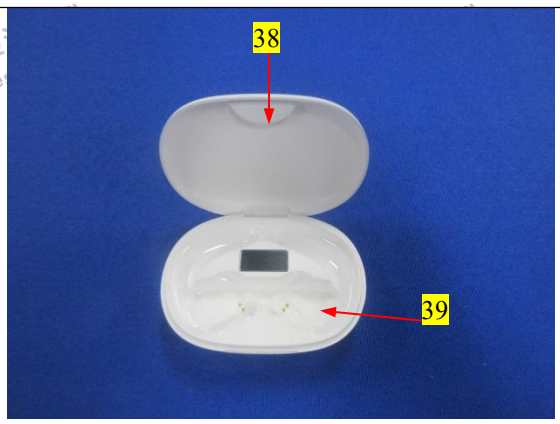
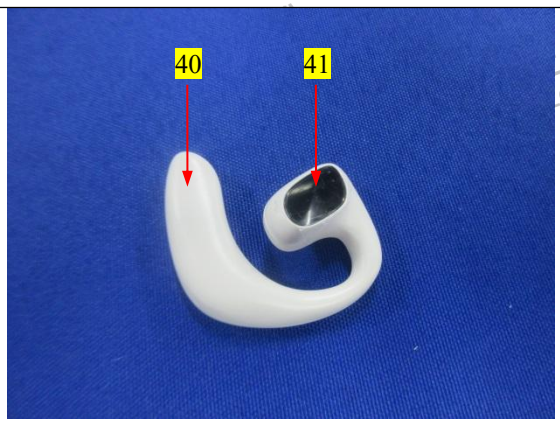

36
37


38
39


40
41

Statement:

1. The test report is invalid without the signature of the approver and the special seal for the company's report;
2. The company name, address and sample information shown on the report were provided by the applicant who should be responsible for the authenticity which are not verified by LCS;
3. The test results in this report are only responsible for the tested samples;
4. Without written approval of LCS, this report can't be reproduced except in full;
5. In case of any discrepancy between the corresponding Chinese and English contents in the test report, the Chinese version shall prevail.

Revision History

Revision	Issue Date	Revision Content	Revised By
001	2024.03.25	According to customer's requirement add testing (From point 38 to point 41) all other information is unchanged. The LCSA02264023R001 report replaces the original LCSA02264023R report, and the original report is invalid.	Yujia Cen

*** End of Report ***

Attestation of Compliance

Reference No.	:	**LCSA02264023R001**
Applicant	:	**Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.**
Address	:	**2F, Eight J Building, East Area, Shangxue Science Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China**
Sample Name(s)	:	**Translate Earphone**
Trade Mark	:	**N/A**
Part No.	:	**M8**
Reference Part No.	:	**V03, V05, V06, M10, M11, M12**
Tested according to	:	**IEC 62321-1:2013, IEC 62321-2:2021, IEC 62321-3-1:2013, IEC 62321-5:2013, IEC 62321-4:2013+AMD1:2017 CSV, IEC 62321-6:2015, IEC 62321-7-1:2015, IEC 62321-7-2:2017, IEC 62321-8:2017**

The submitted products have been tested by us with the listed standards.

This attestation of compliance is issued according to the council directive 2011/65/EU and its amendment directives (EU) 2015/863. It confirms that the listed product complies with all essential requirements of the RoHS directive and applies only to the sample and its technical documentation submitted to Shenzhen LCS Compliance Testing Laboratory Ltd. for testing.

After preparation of the necessary technical documentation as well as the EC conformity declaration the required CE marking can be affixed on the product. Other relevant directives have to be observed.

RoHS

Terry. luo

Date of issue: March 25, 2024

----------:
Manager

Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 901, No.40 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

TCB

GRANT OF EQUIPMENT AUTHORIZATION

TCB

Certification
Issued Under the Authority of the
Federal Communications Commission
By:

KL-Certification GmbH
Heinrich-Hertz-Allee 7
St. Ingbert, 66386
Germany

Date of Grant: 03/22/2024

Application Dated: 03/22/2024

Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.
2F, Eight J Building, East Area, Shangxue
Science Park, Bantian Street,
Longgang District, Shenzhen, Guangdong,, 518000
China

Attention: Yuanfei Wang , Marketing Manager

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: 2A6DU-M8
Name of Grantee: Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.
Equipment Class: **Digital Transmission System**
Notes: **Translate Earphone**

Grant Notes	FCC Rule Parts	Frequency Range (MHZ)	Output Watts	Frequency Tolerance	Emission Designator
	15C	2402.0 - 2480.0	0.0012		

Power listed is maximum peak conducted output power. This filing meets the SAR threshold exclusion set forth in KDB 447498 and therefore can be used in mobile/portable configurations. The antenna used for this transmitter must not transmit simultaneously with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures. Users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

TCB

GRANT OF EQUIPMENT AUTHORIZATION

TCB

Certification
Issued Under the Authority of the
Federal Communications Commission
By:

KL-Certification GmbH
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St. Ingbert, 66386
Germany

Date of Grant: 03/22/2024

Application Dated: 03/22/2024

Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.
2F, Eight J Building, East Area, Shangxue
Science Park, Bantian Street,
Longgang District, Shenzhen, Guangdong,, 518000
China

Attention: Yuanfei Wang , Marketing Manager

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: 2A6DU-M8
Name of Grantee: Shenzhen Tongshunhui Audio & Video Technology Co., Ltd.
Equipment Class: **Part 15 Spread Spectrum Transmitter**
Notes: **Translate Earphone**

Grant Notes	FCC Rule Parts	Frequency Range (MHZ)	Output Watts	Frequency Tolerance	Emission Designator
	15C	2402.0 - 2480.0	0.0012		

Power listed is maximum peak conducted output power. This filing meets the SAR threshold exclusion set forth in KDB 447498 and therefore can be used in mobile/portable configurations. The antenna used for this transmitter must not transmit simultaneously with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures. Users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Translate Earphone

Test Model: M8

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng

B.1 DTS Bandwidth

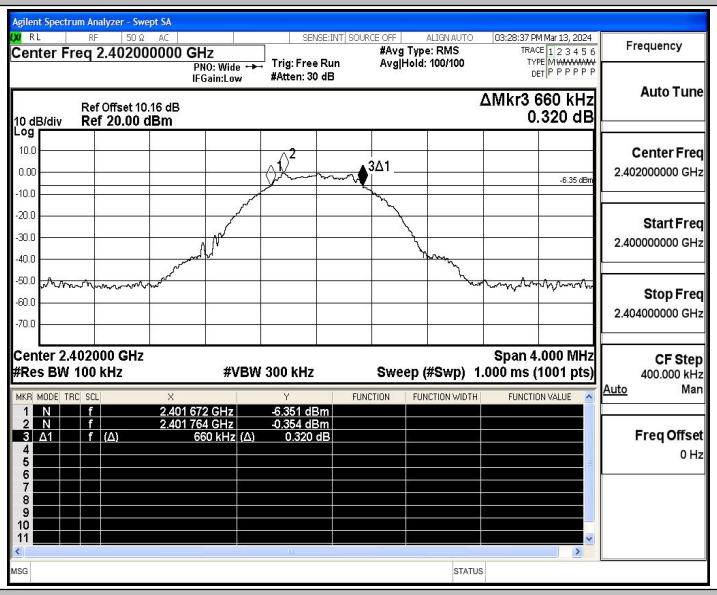
Right Ear:

Test Result

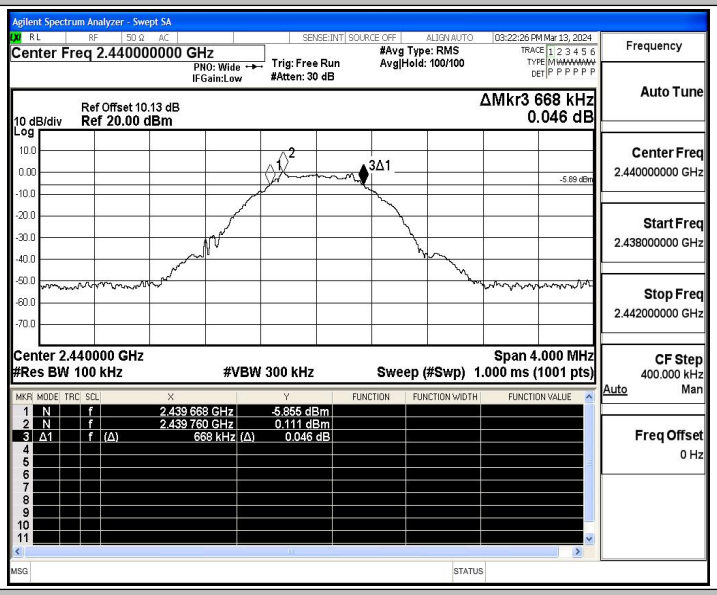
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.672	2402.332	0.5	PASS
		2440	0.668	2439.668	2440.336	0.5	PASS
		2480	0.684	2479.664	2480.348	0.5	PASS

Test Graphs

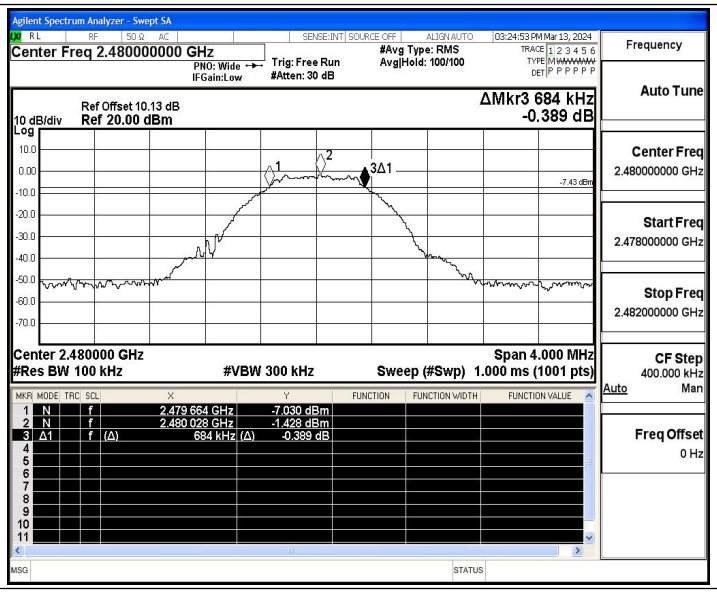
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



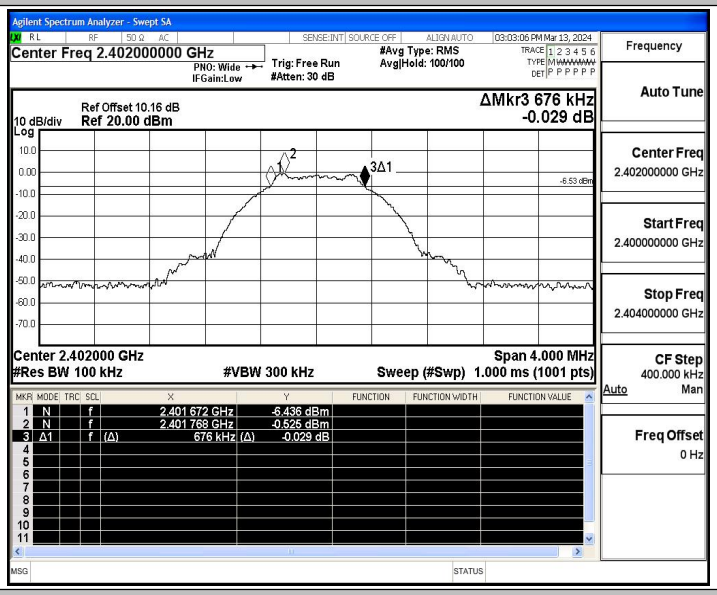
Left Ear:

Test Result

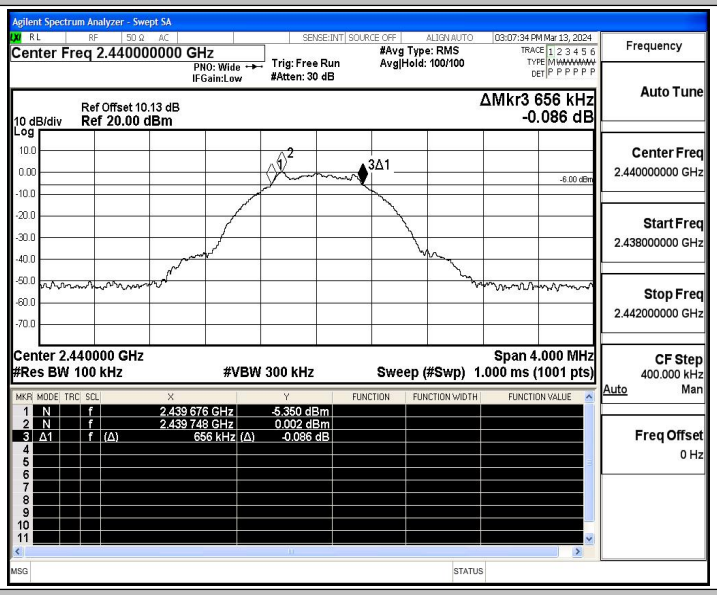
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.672	2402.348	0.5	PASS
		2440	0.656	2439.676	2440.332	0.5	PASS
		2480	0.676	2479.672	2480.348	0.5	PASS

Test Graphs

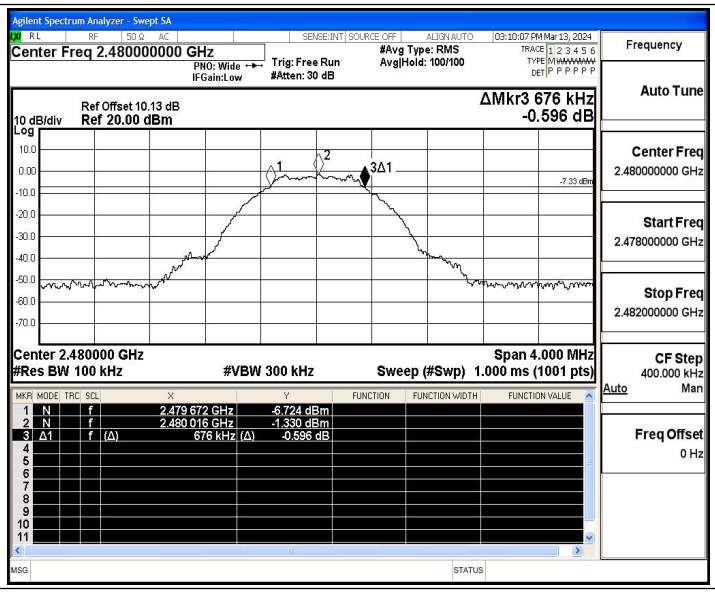
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
03:10:07 PM Mar 13, 2024
Ref Offset 10.13 dB
10 dB/div Ref 20.00 dBm
Log
ΔMkr3 676 kHz
-0.596 dB
-7.33 dBm
Center 2.480000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
Sweep (#Swp) 1.000 ms (1001 pts)
1 N f 2.479 672 GHz -6.724 dBm
2 N f 2.480 016 GHz -1.330 dBm
3 Δ1 f (Δ) 676 kHz (Δ) -0.596 dB
Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.478000000 GHz
Stop Freq 2.482000000 GHz
CF Step 400.000 kHz
Auto Man
Freq Offset 0 Hz

B.2 Maximum conducted output power

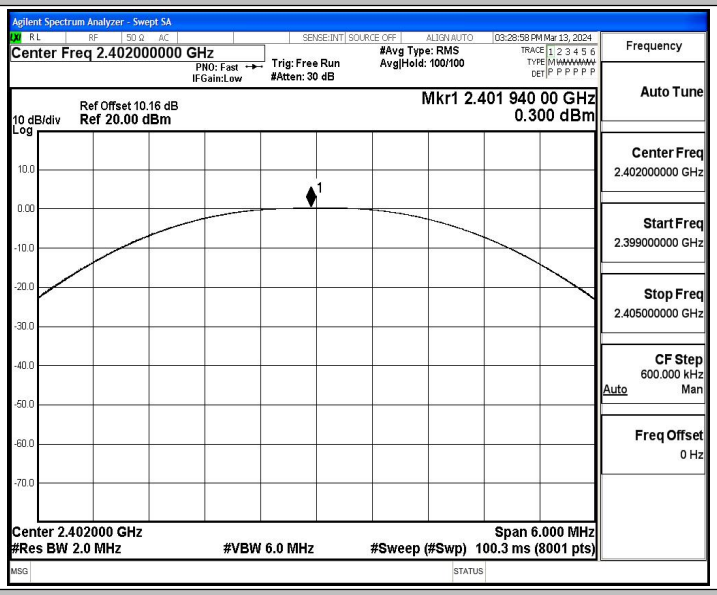
Right Ear:

Test Result

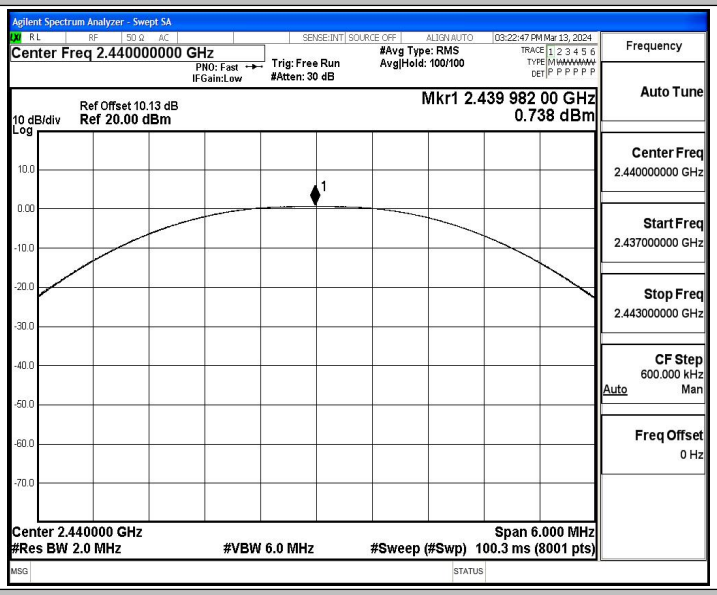
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.30	≤30	PASS
		2440	0.74	≤30	PASS
		2480	-0.34	≤30	PASS

Test Graphs

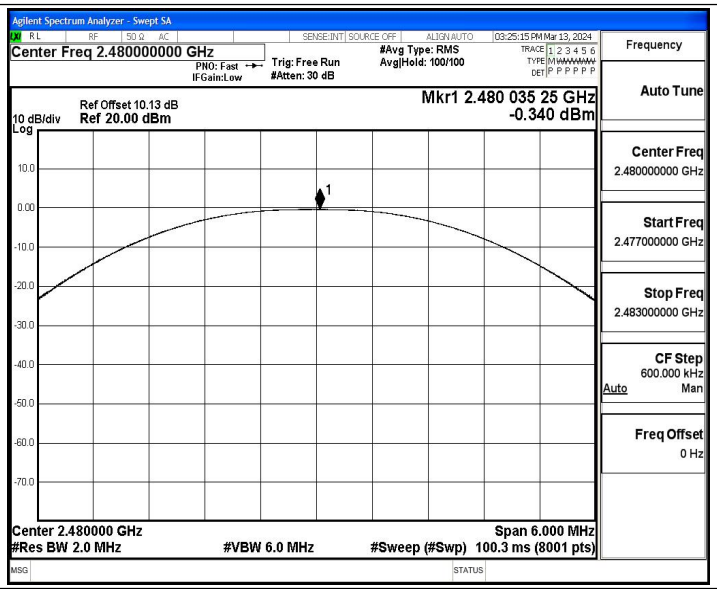
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



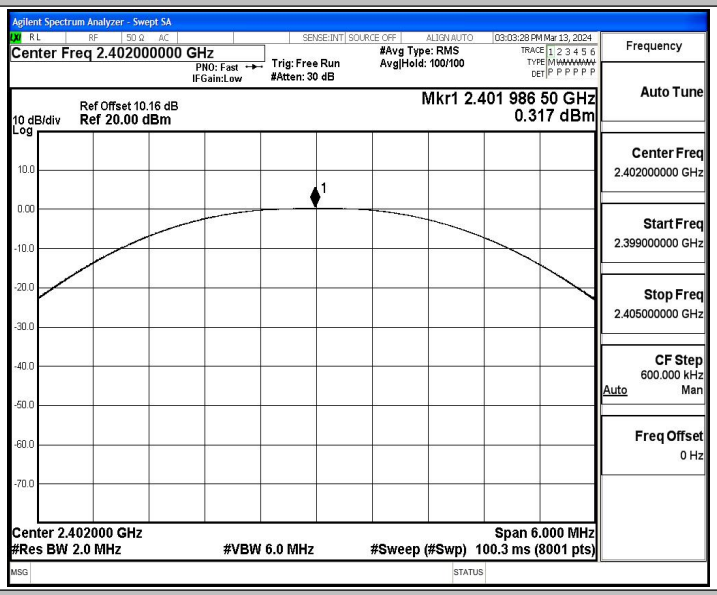
Left Ear:

Test Result

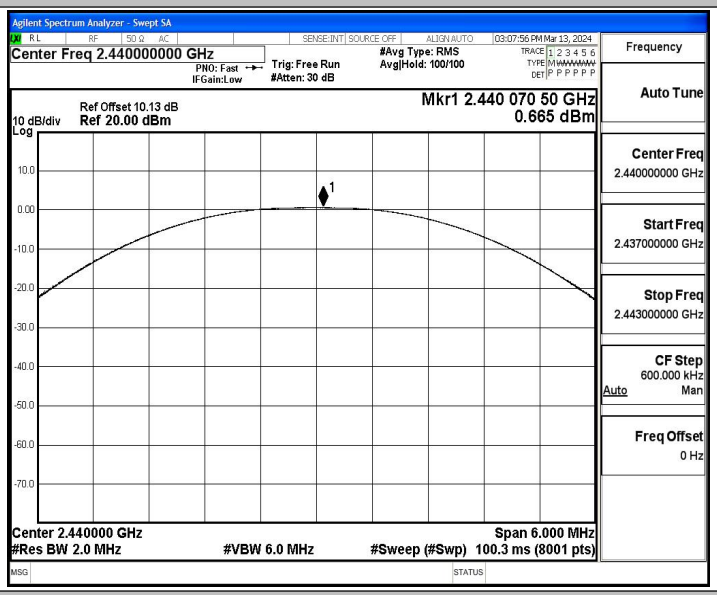
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.32	≤30	PASS
		2440	0.67	≤30	PASS
		2480	-0.41	≤30	PASS

Test Graphs

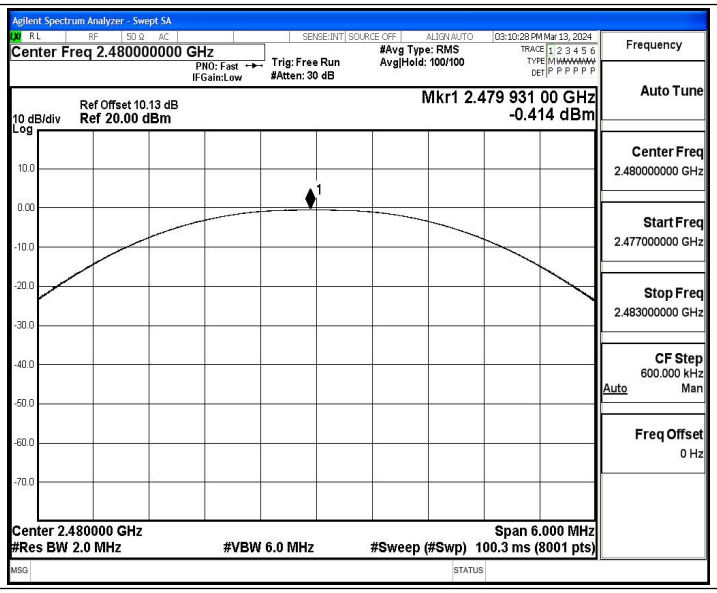
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
03:10:28 PM Mar 13, 2024
Ref Offset 10.13 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.479 931 00 GHz
-0.414 dBm
Center 2.480000 GHz
#Res BW 2.0 MHz
#VBW 6.0 MHz
#Sweep (#Swp) 100.3 ms (8001 pts)
Span 6.000 MHz
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.477000000 GHz
Stop Freq
2.483000000 GHz
CF Step
600.000 kHz
Auto
Man
Freq Offset
0 Hz

B.3 Maximum power spectral density

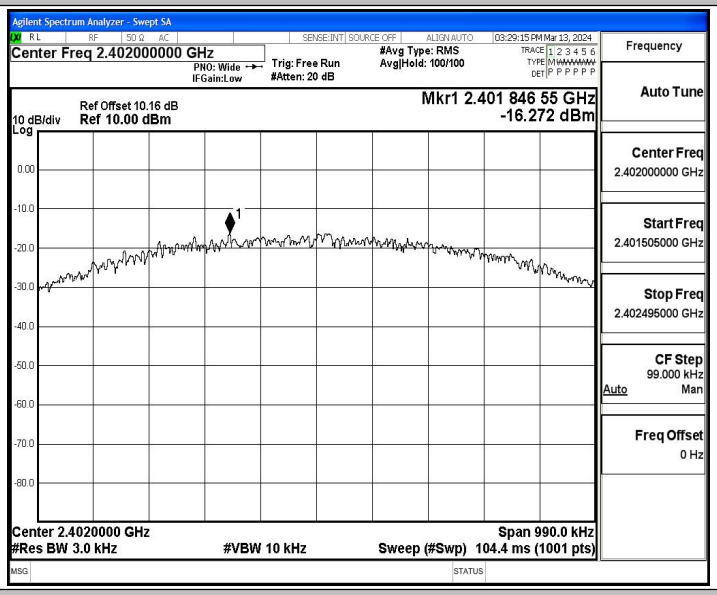
Right Ear:

Test Result

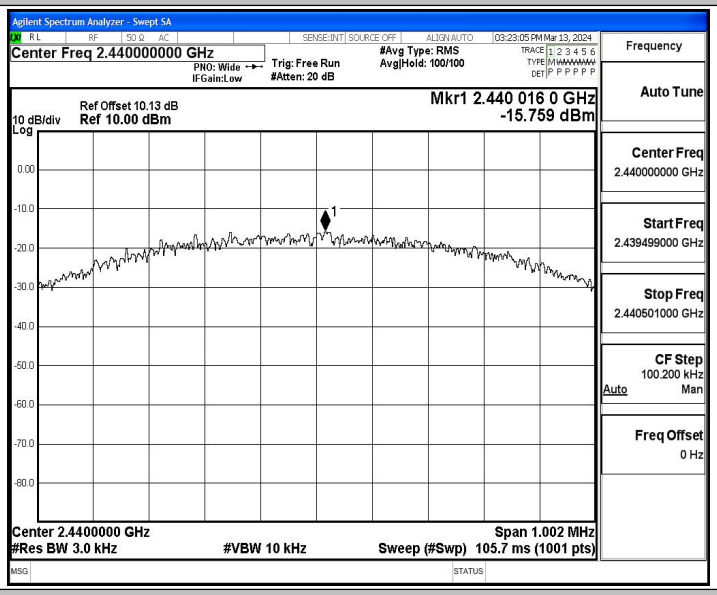
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.27	≤8.00	PASS
		2440	-15.76	≤8.00	PASS
		2480	-16.99	≤8.00	PASS

Test Graphs

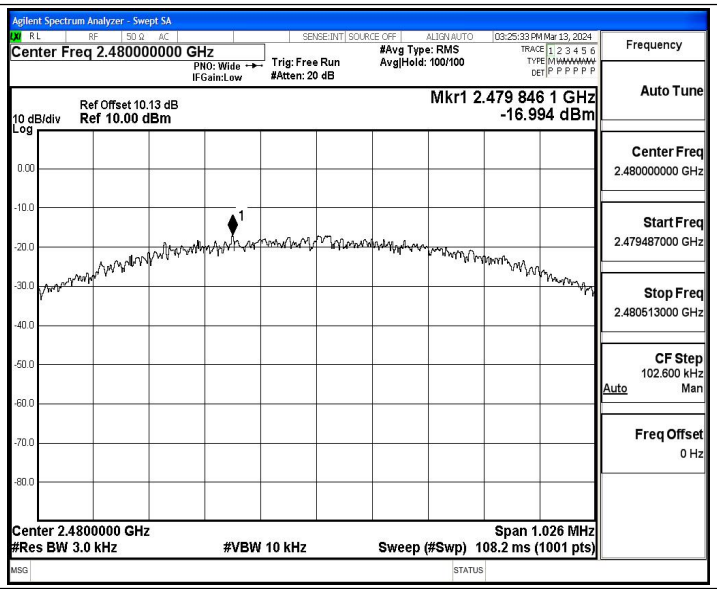
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



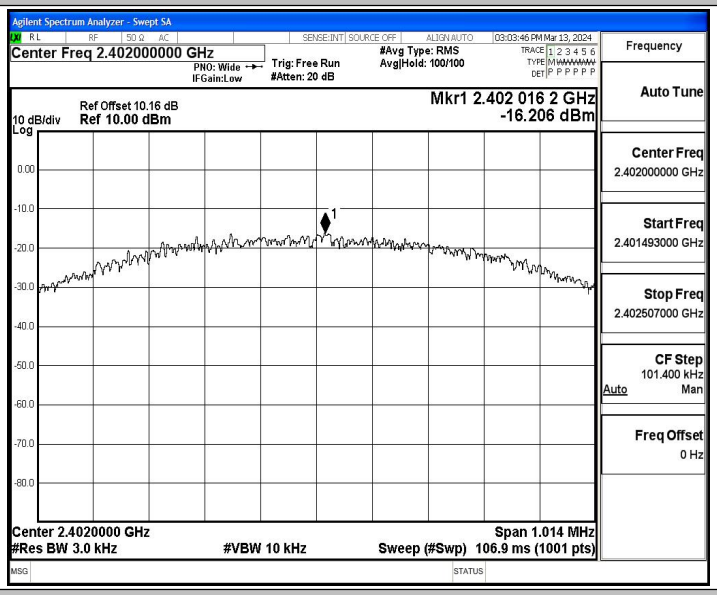
Left Ear:

Test Result

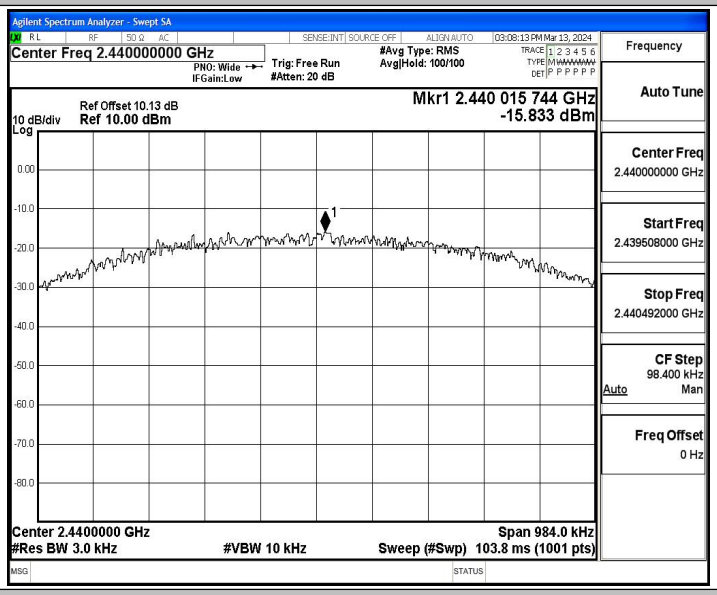
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.21	≤8.00	PASS
		2440	-15.83	≤8.00	PASS
		2480	-16.86	≤8.00	PASS

Test Graphs

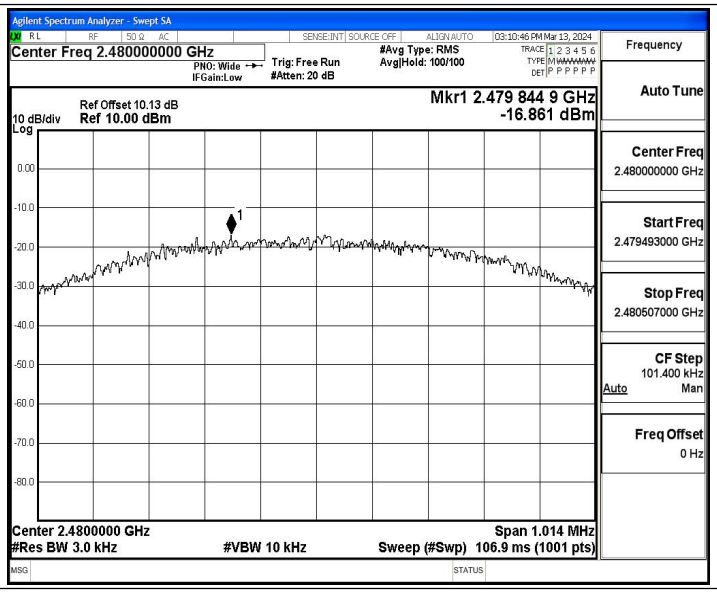
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 100/100
03:10:46 PM Mar 13, 2024
Ref Offset 10.13 dB
10 dB/div Ref 10.00 dBm
Log
Mkr1 2.479 844 9 GHz
-16.861 dBm
Center 2.4800000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 1.014 MHz
Sweep (#Swp) 106.9 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.479493000 GHz
Stop Freq
2.480507000 GHz
CF Step
101.400 kHz
Auto Man
Freq Offset
0 Hz

B.4 Band edge measurements

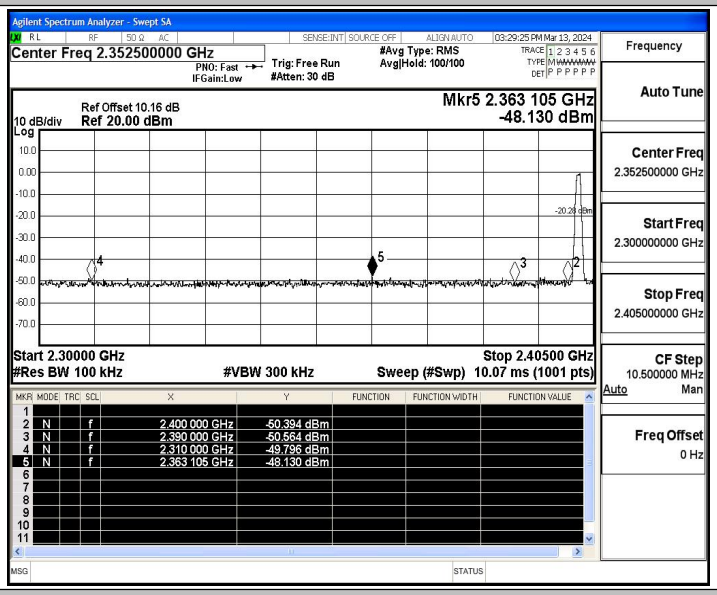
Right Ear:

Test Result

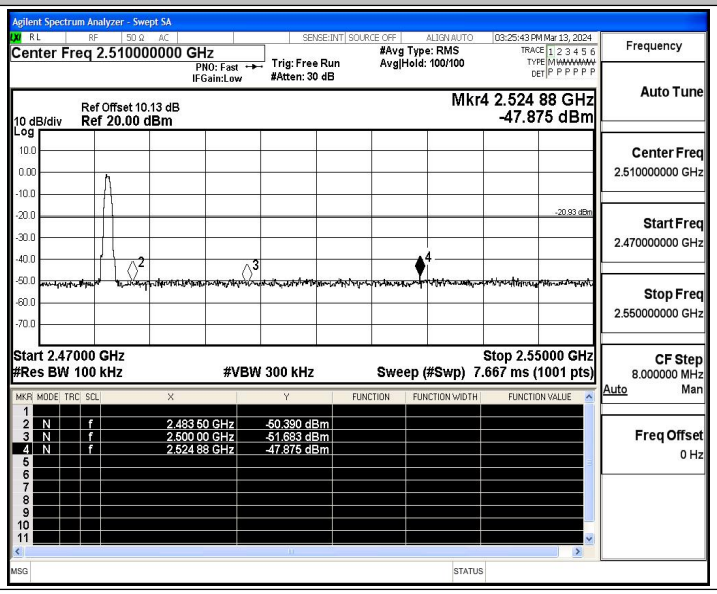
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.28	-48.13	≤-20.28	PASS
		High	2480	-0.93	-47.88	≤-20.93	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



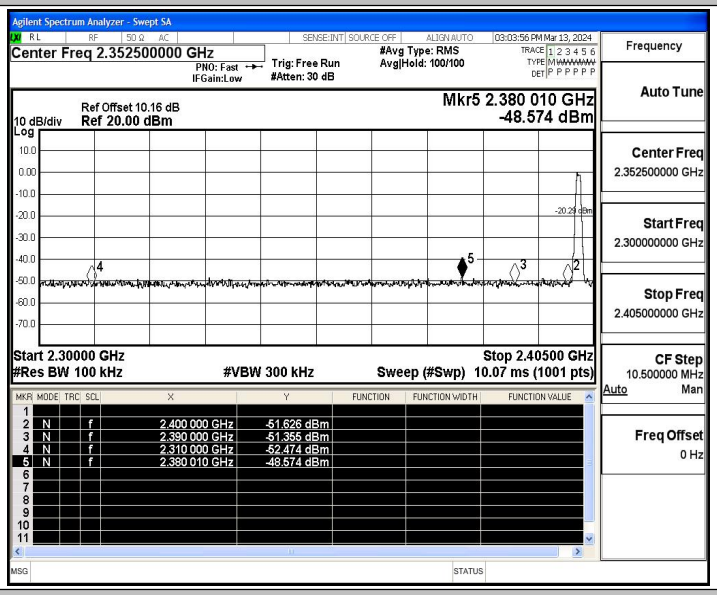
Left Ear:

Test Result

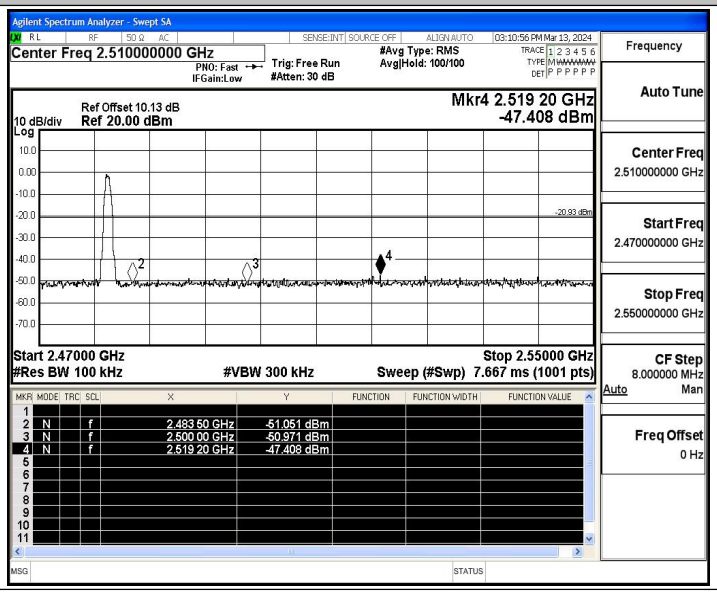
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.29	-48.57	≤-20.29	PASS
		High	2480	-0.93	-47.41	≤-20.93	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



B.5 Conducted Spurious Emission

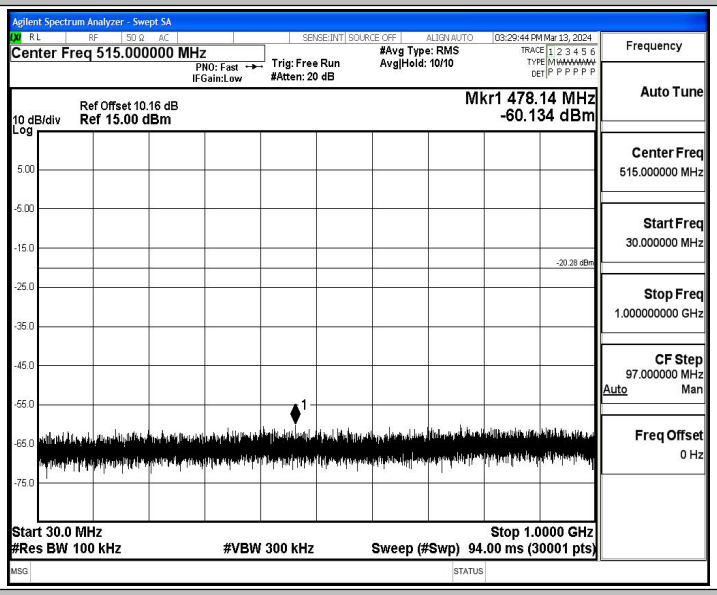
Right Ear:

Test Result

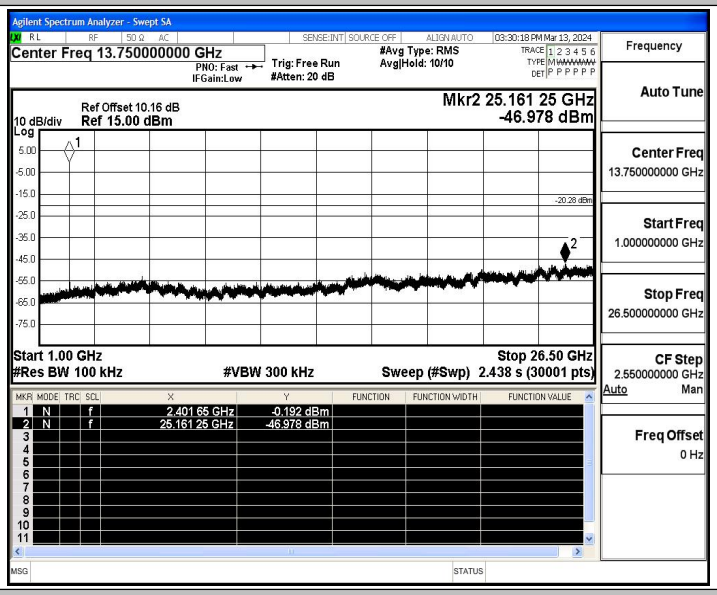
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-0.28	-60.13	≤-20.28	PASS
			1000~26500	-0.28	-46.98	≤-20.28	PASS
		2440	30~1000	0.24	-59.96	≤-19.76	PASS
			1000~26500	0.24	-46.43	≤-19.76	PASS
		2480	30~1000	-0.93	-59.15	≤-20.93	PASS
			1000~26500	-0.93	-47.29	≤-20.93	PASS

Test Graphs

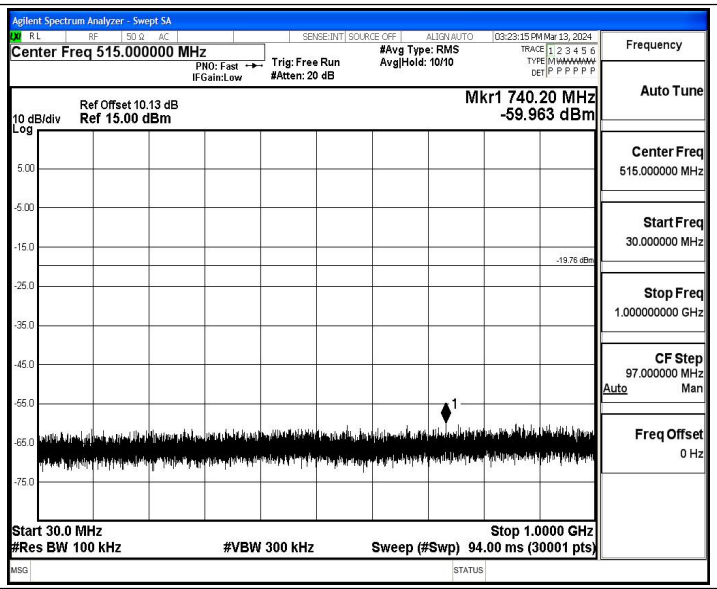
BLE_1M_Ant1_2402_30~1000



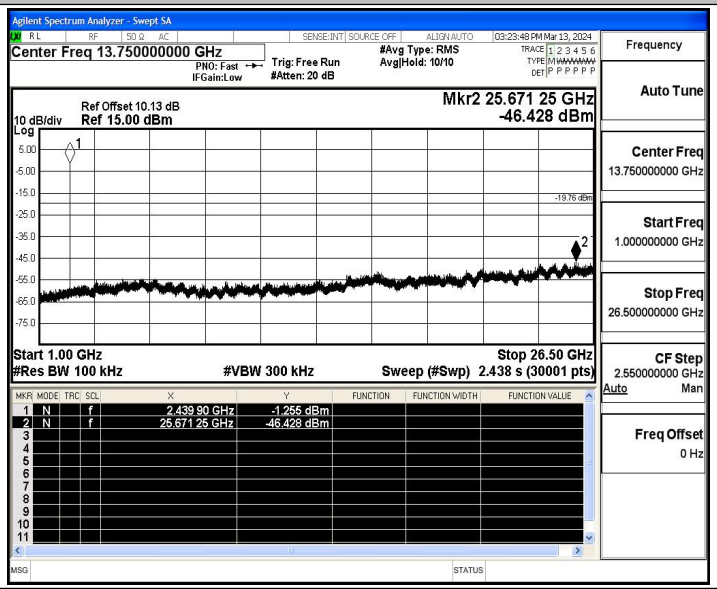
BLE_1M_Ant1_2402_1000~26500



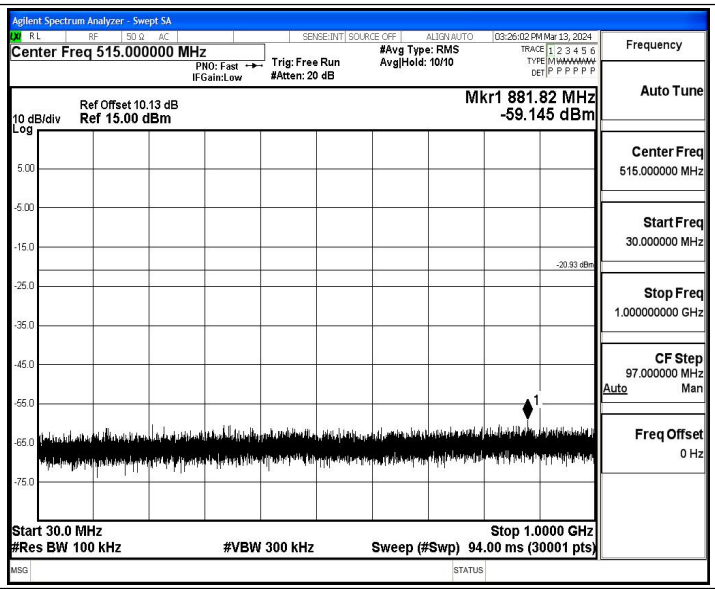
BLE_1M_Ant1_2440_30~1000



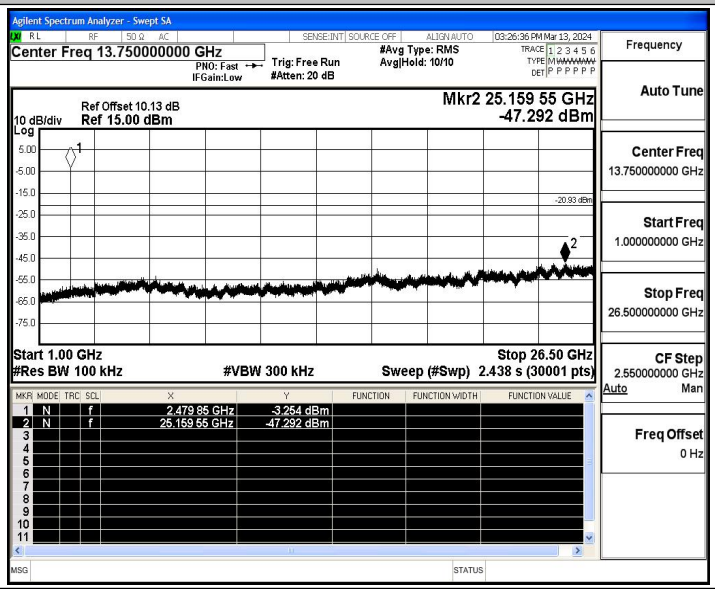
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



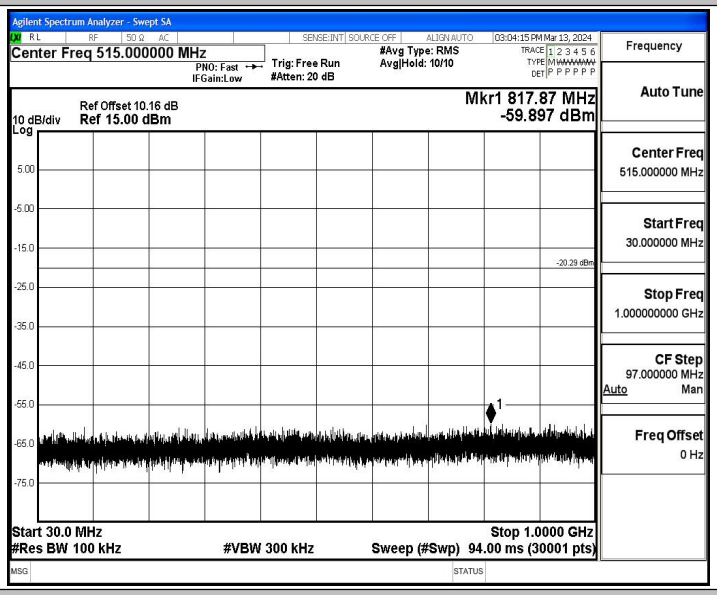
Left Ear:

Test Result

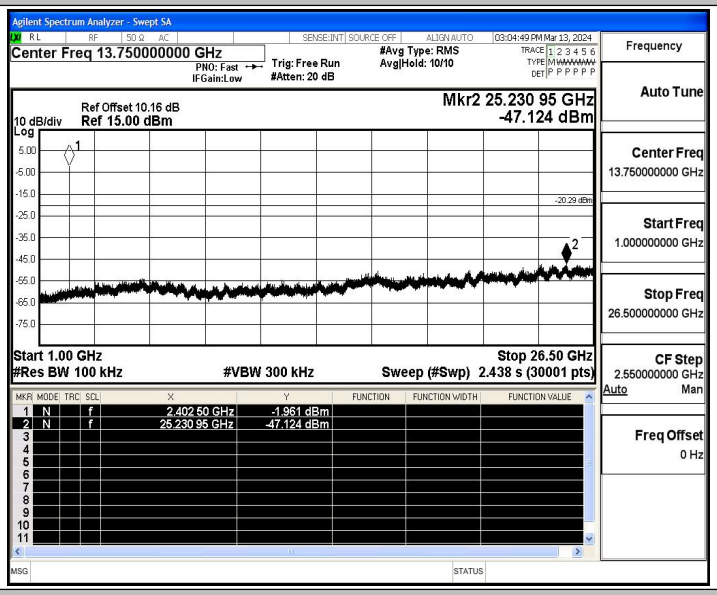
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-0.29	-59.9	≤-20.29	PASS
			1000~26500	-0.29	-47.12	≤-20.29	PASS
		2440	30~1000	0.13	-58.81	≤-19.87	PASS
			1000~26500	0.13	-46.87	≤-19.87	PASS
		2480	30~1000	-0.93	-59.01	≤-20.93	PASS
			1000~26500	-0.93	-46.95	≤-20.93	PASS

Test Graphs

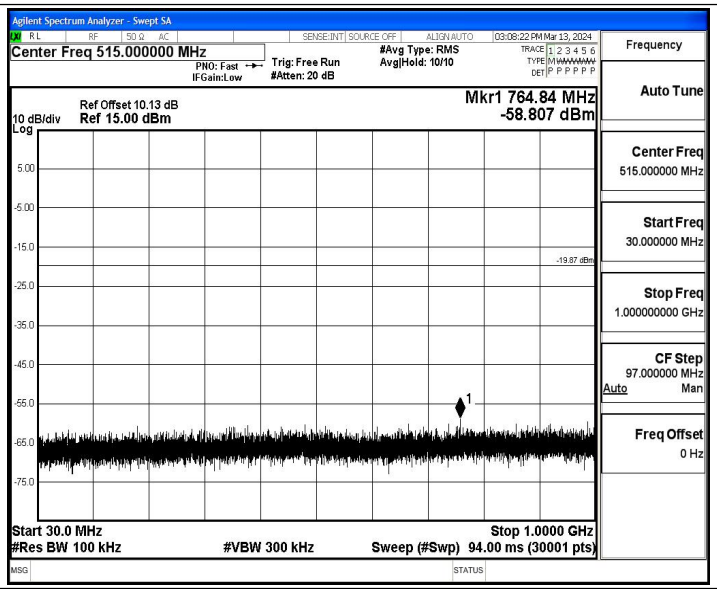
BLE_1M_Ant1_2402_30~1000



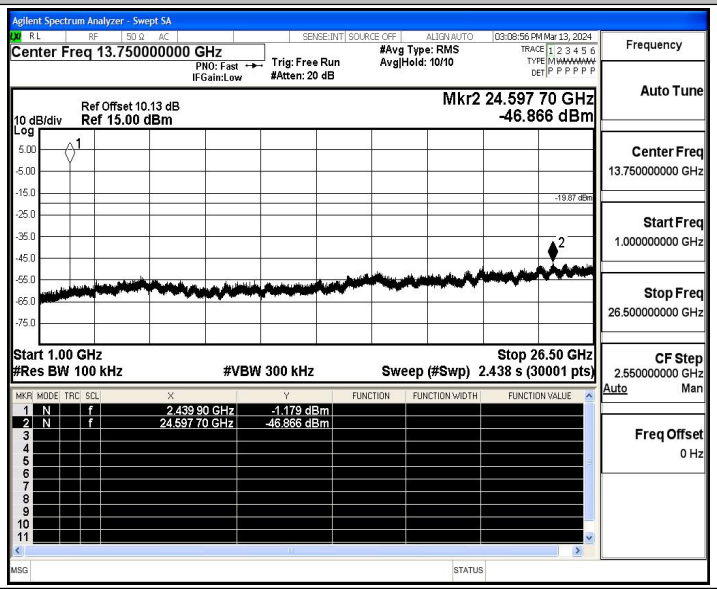
BLE_1M_Ant1_2402_1000~26500



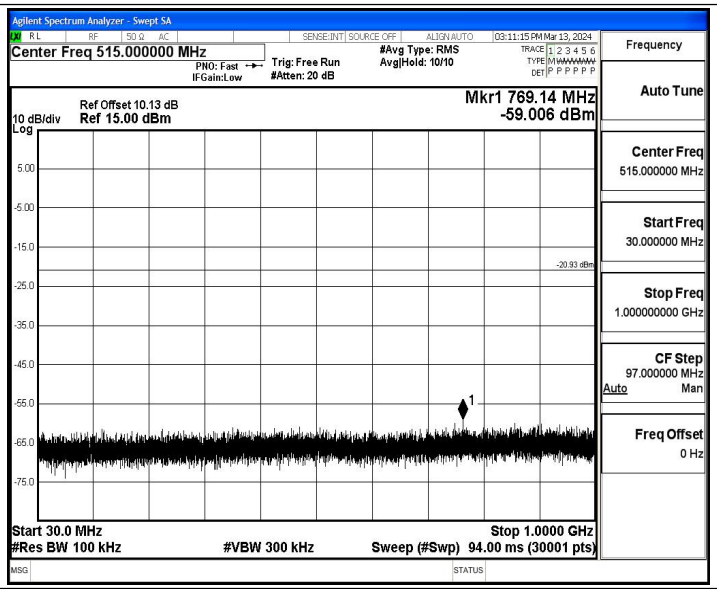
BLE_1M_Ant1_2440_30~1000



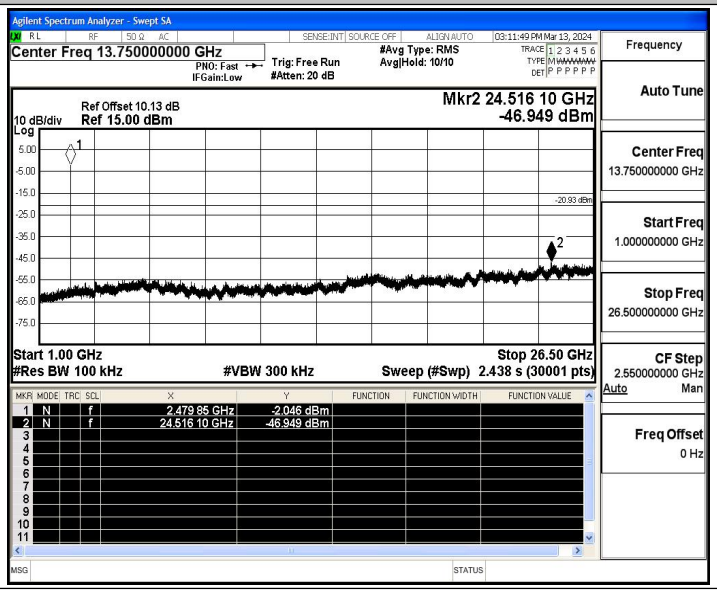
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



Reference level measurement

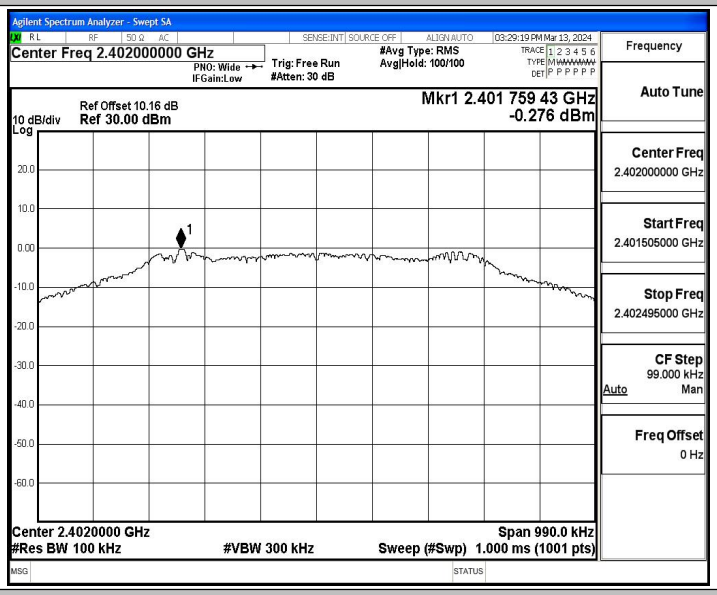
Right Ear:

Test Result

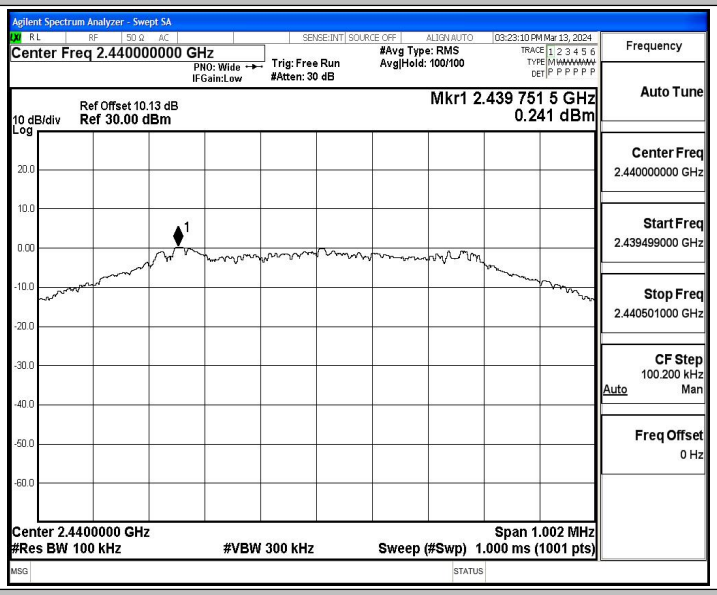
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2401.76	-0.28
		2440	2439.75	0.24
		2480	2479.75	-0.93

Test Graphs

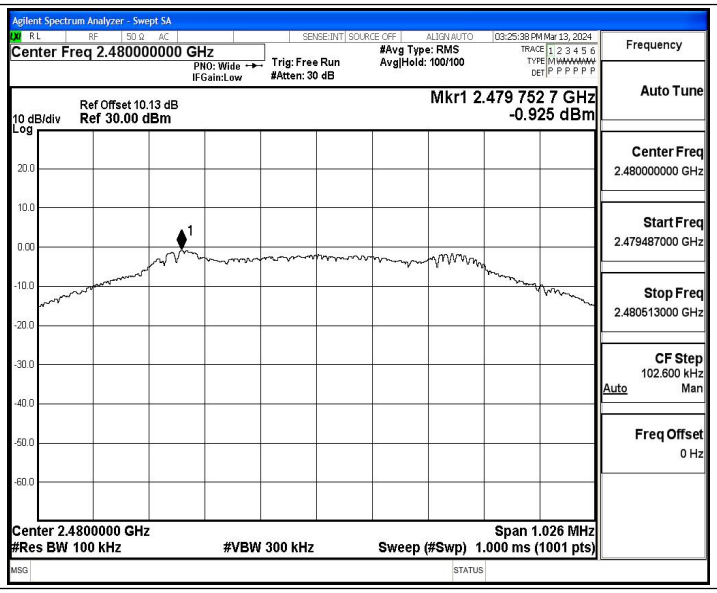
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



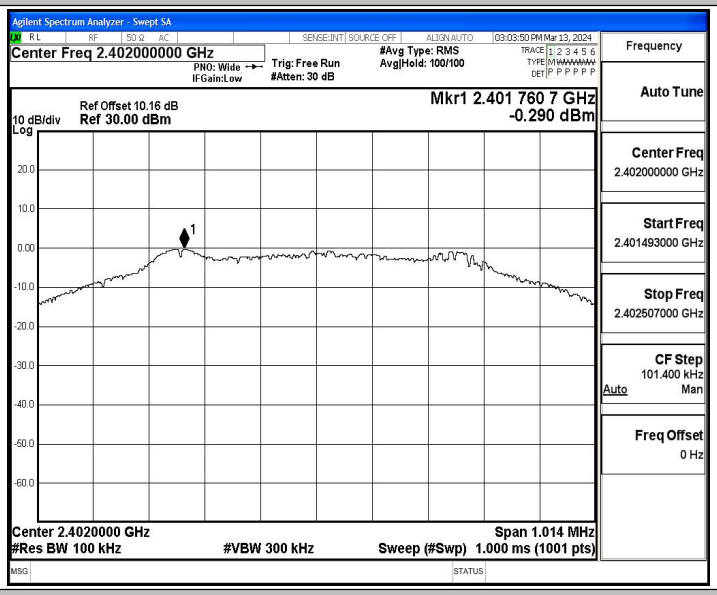
Left Ear:

Test Result

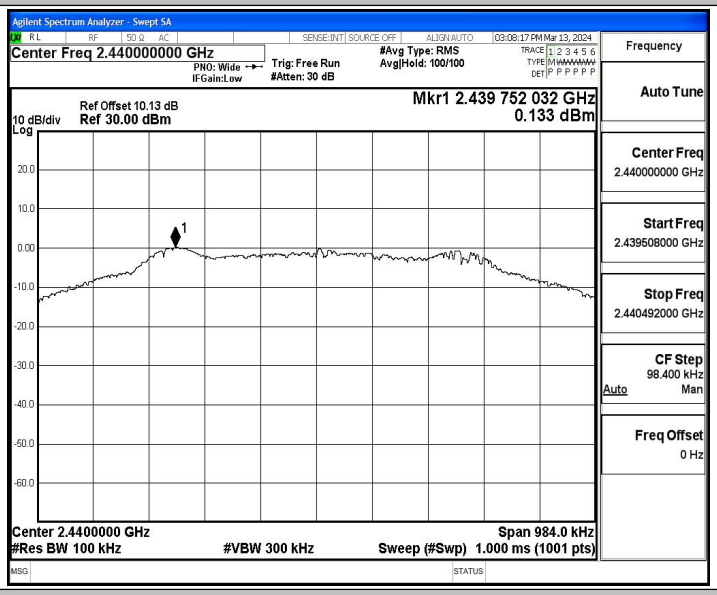
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2401.76	-0.29
		2440	2439.75	0.13
		2480	2479.75	-0.93

Test Graphs

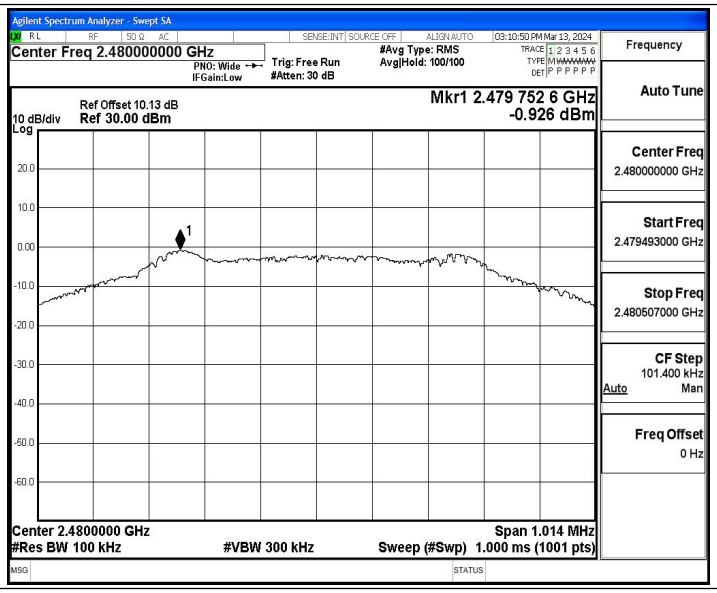
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
03:10:50 PM Mar 13, 2024
Ref Offset 10.13 dB
10 dB/div Ref 30.00 dBm
Log
Mkr1 2.479 752 6 GHz
-0.926 dBm
Center 2.4800000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 1.014 MHz
Sweep (#Swp) 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.479493000 GHz
Stop Freq
2.480507000 GHz
CF Step
101.400 kHz
Auto Man
Freq Offset
0 Hz

B.6 Duty Cycle

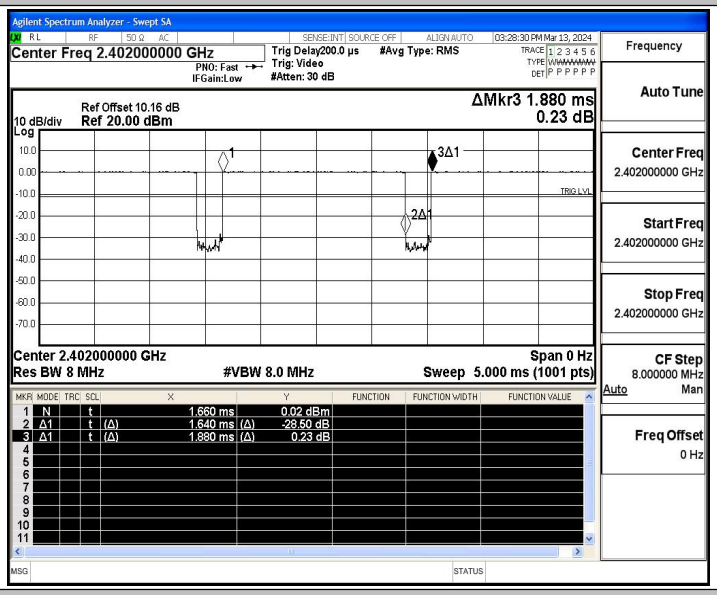
Right Ear:

Test Result

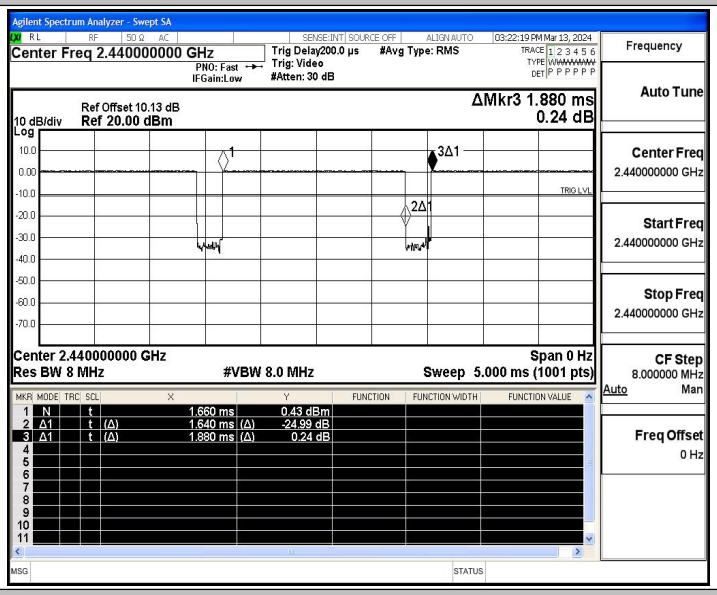
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE_1M	Ant1	2402	1.64	1.88	87.23	0.59	0.61
		2440	1.64	1.88	87.23	0.59	0.61
		2480	1.64	1.88	87.23	0.59	0.61

Test Graphs

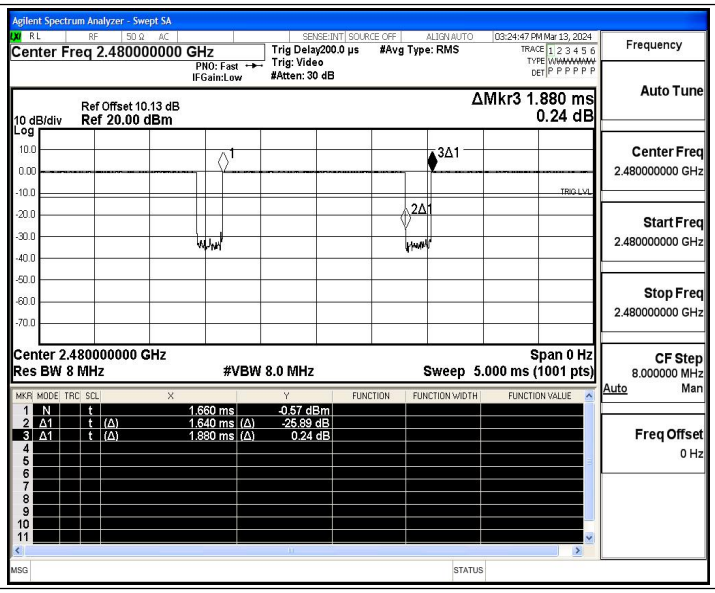
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



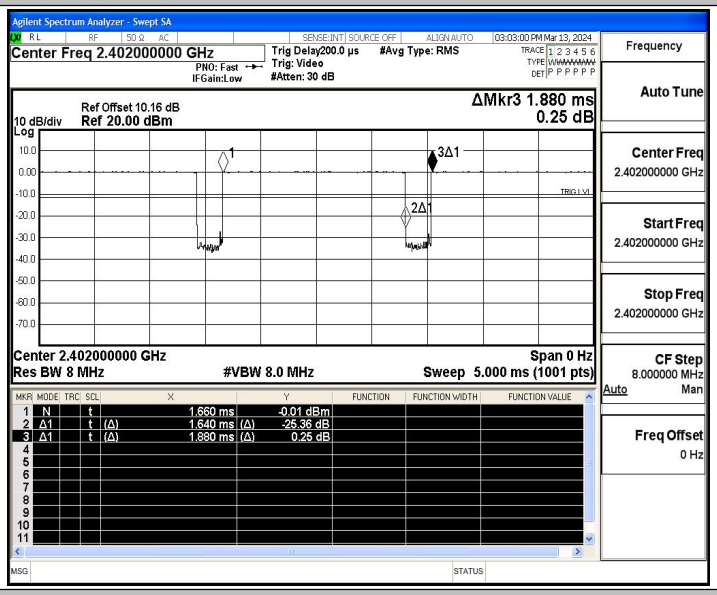
Left Ear:

Test Result

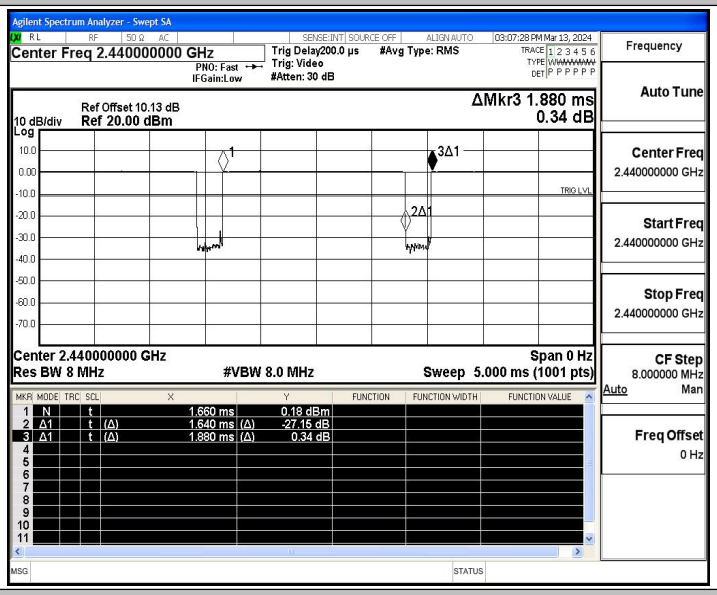
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE_1M	Ant1	2402	1.64	1.88	87.23	0.59	0.61
		2440	1.64	1.88	87.23	0.59	0.61
		2480	1.64	1.88	87.23	0.59	0.61

Test Graphs

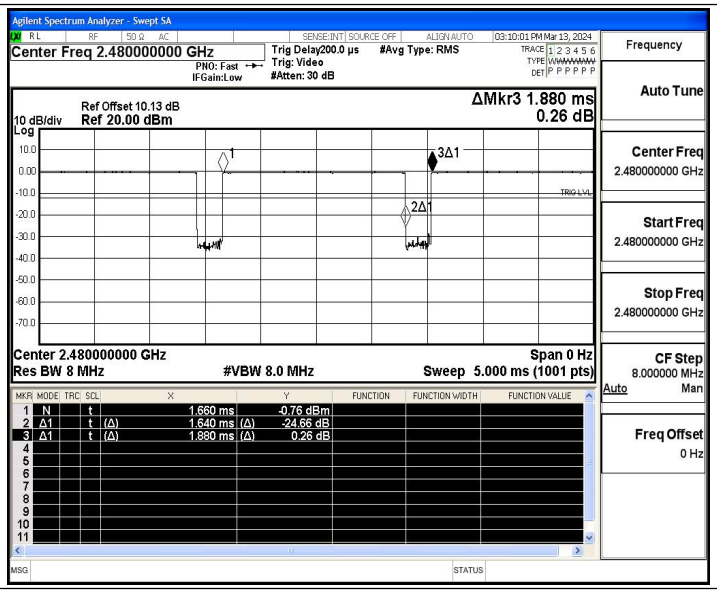
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig Delay200.0 µs
Trig: Video
#Atten: 30 dB
#Avg Type: RMS
03:10:01 PM Mar 13, 2024
Ref Offset 10.13 dB
10 dB/div Ref 20.00 dBm
Log
ΔMkr3 1.880 ms
0.26 dB
Center 2.480000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 5.000 ms (1001 pts)
1 N t 1.660 ms -0.76 dBm
2 Δ1 t (Δ) 1.640 ms (Δ) -24.66 dB
3 Δ1 t (Δ) 1.880 ms (Δ) 0.26 dB
Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.480000000 GHz
Stop Freq 2.480000000 GHz
CF Step 8.000000 MHz
Auto Man
Freq Offset 0 Hz

B.7 Emissions in Restricted Bands

Right Ear:

Test Result

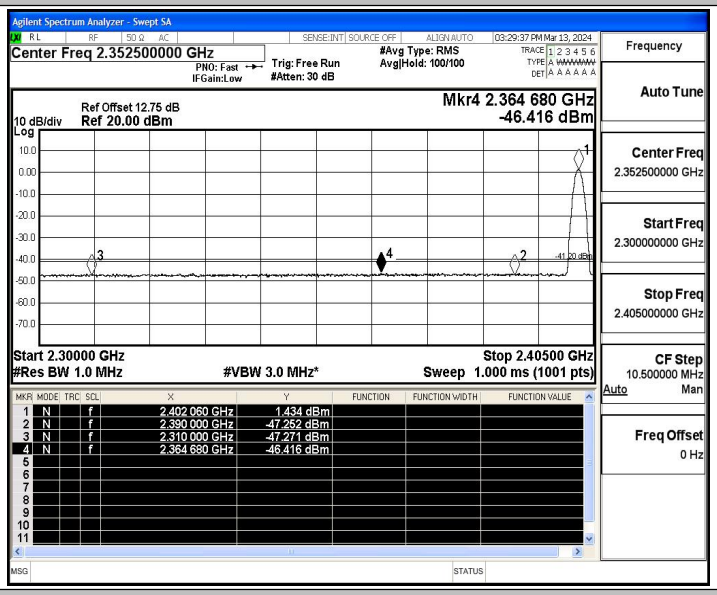
TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.27	≤-41.20	47.93	≤54	PASS
				AV	2364.680	-46.42	≤-41.20	48.78	≤54	PASS
				AV	2390.000	-47.25	≤-41.20	47.95	≤54	PASS
				Peak	2310.000	-39.94	≤-21.20	55.26	≤74	PASS
				Peak	2353.025	-35.62	≤-21.20	59.58	≤74	PASS
				Peak	2390.000	-38.54	≤-21.20	56.66	≤74	PASS
		High	2480	AV	2483.500	-47.02	≤-41.20	48.18	≤54	PASS
				AV	2495.120	-46.03	≤-41.20	49.17	≤54	PASS
				AV	2500.000	-47.04	≤-41.20	48.16	≤54	PASS
				Peak	2483.500	-39.89	≤-21.20	55.31	≤74	PASS
				Peak	2485.280	-36.37	≤-21.20	58.83	≤74	PASS
				Peak	2500.000	-39.15	≤-21.20	56.05	≤74	PASS

Note:

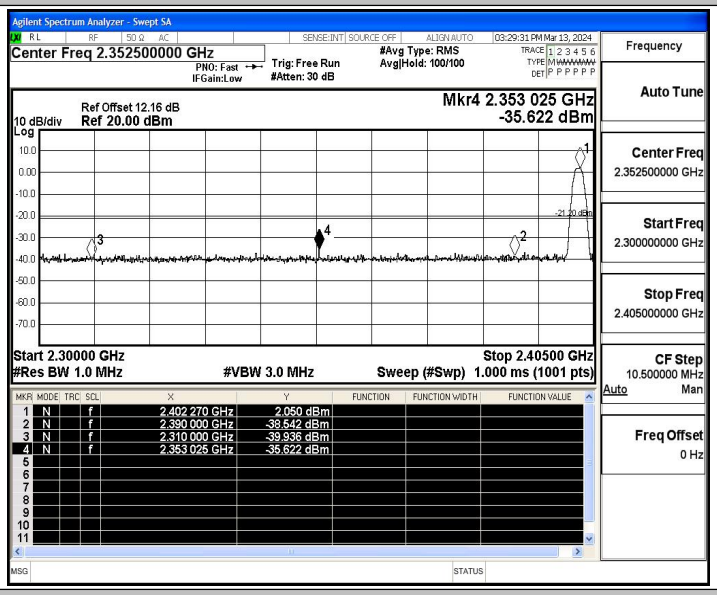
1. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

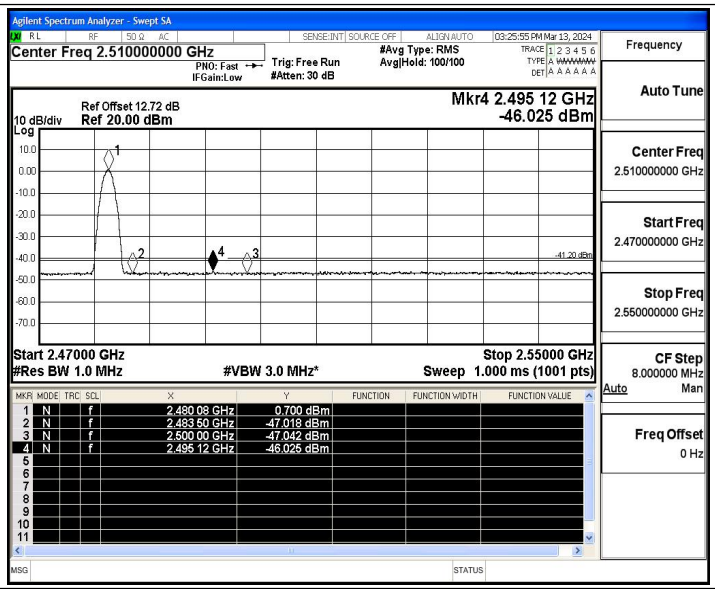
BLE_1M_Ant1_Low_2402_AV



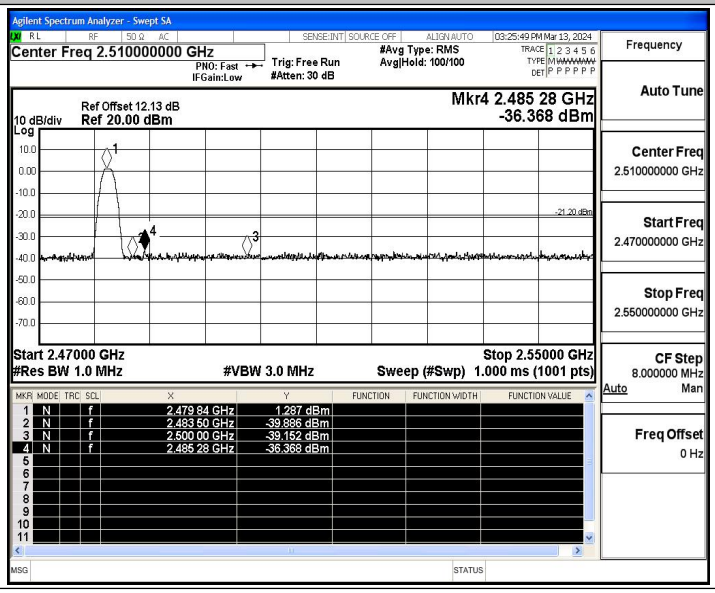
BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak



Left Ear:

Test Result

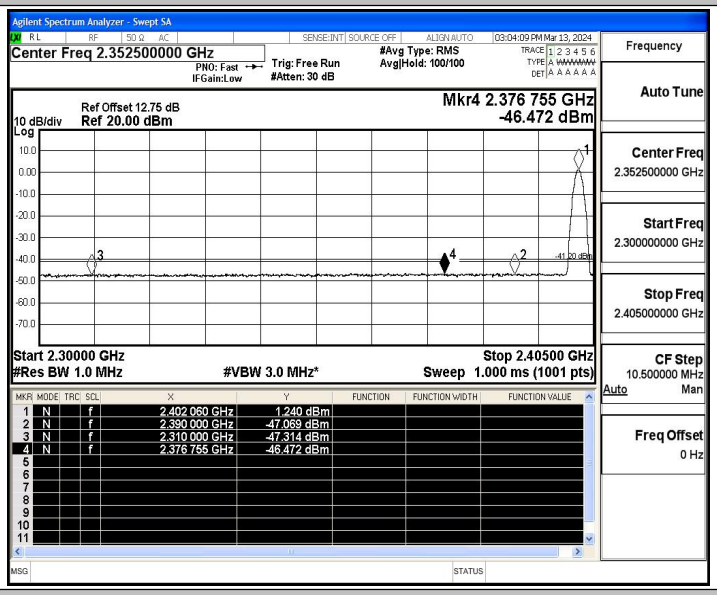
TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.31	≤-41.20	47.89	≤54	PASS
				AV	2376.755	-46.47	≤-41.20	48.73	≤54	PASS
				AV	2390.000	-47.07	≤-41.20	48.13	≤54	PASS
				Peak	2310.000	-39.3	≤-21.20	55.90	≤74	PASS
				Peak	2382.950	-36.6	≤-21.20	58.60	≤74	PASS
				Peak	2390.000	-39.5	≤-21.20	55.70	≤74	PASS
		High	2480	AV	2483.500	-46.87	≤-41.20	48.33	≤54	PASS
				AV	2491.200	-46.36	≤-41.20	48.84	≤54	PASS
				AV	2500.000	-46.33	≤-41.20	48.87	≤54	PASS
				Peak	2483.500	-39.29	≤-21.20	55.91	≤74	PASS
				Peak	2494.240	-35.82	≤-21.20	59.38	≤74	PASS
				Peak	2500.000	-38.55	≤-21.20	56.65	≤74	PASS

Note:

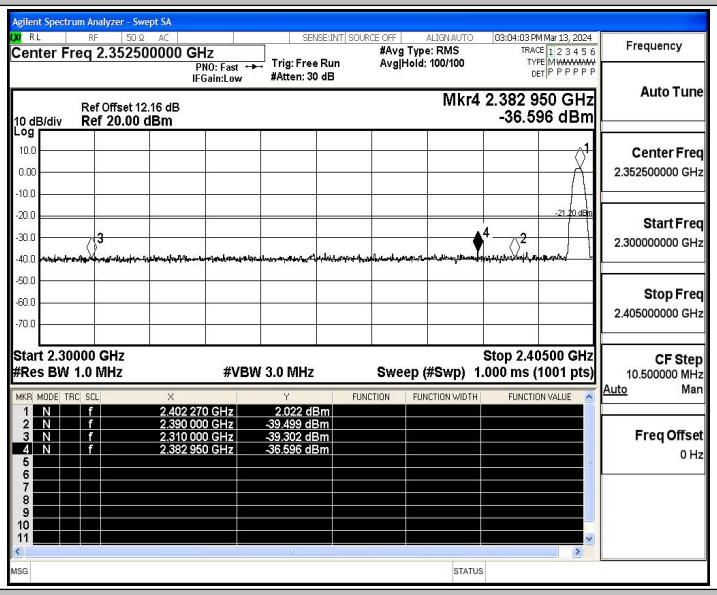
3. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
4. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

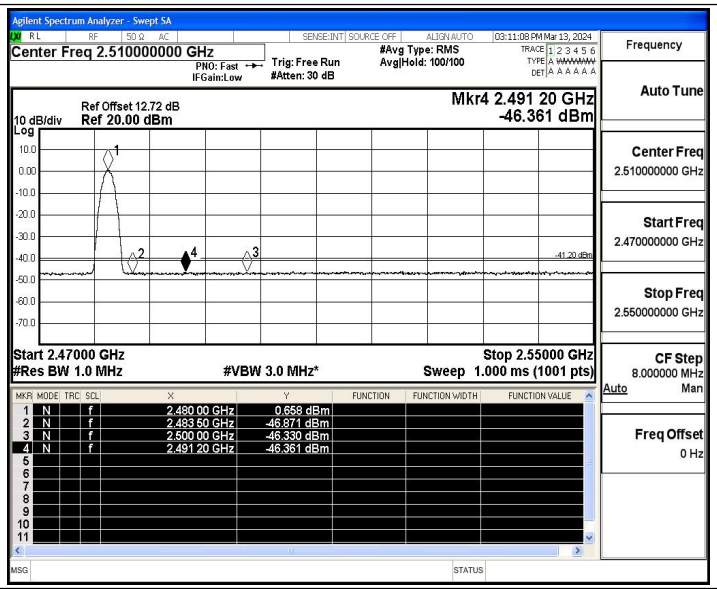
BLE_1M_Ant1_Low_2402_AV



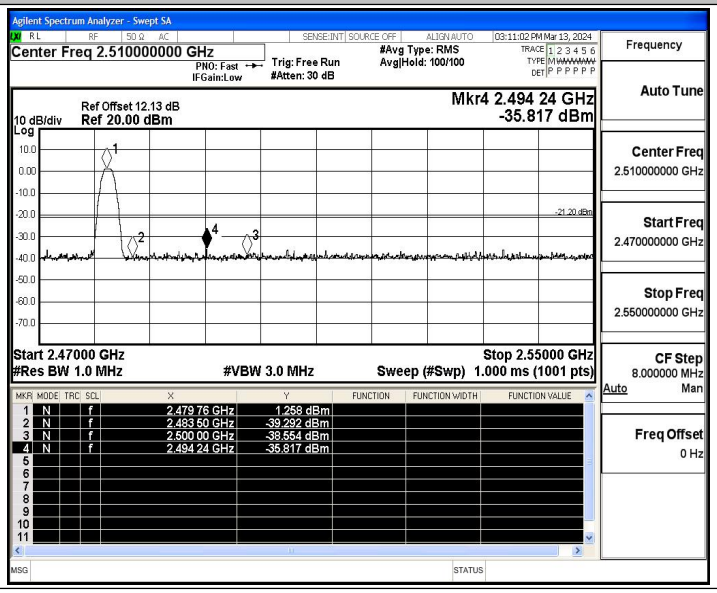
BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Translate Earphone

Test Model: M8

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng

A.1 20dB Emission Bandwidth

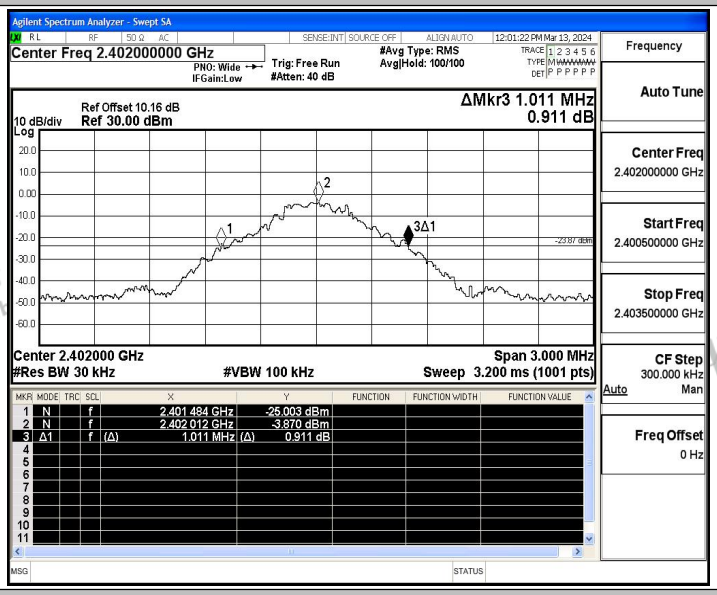
Right Ear:

Test Result

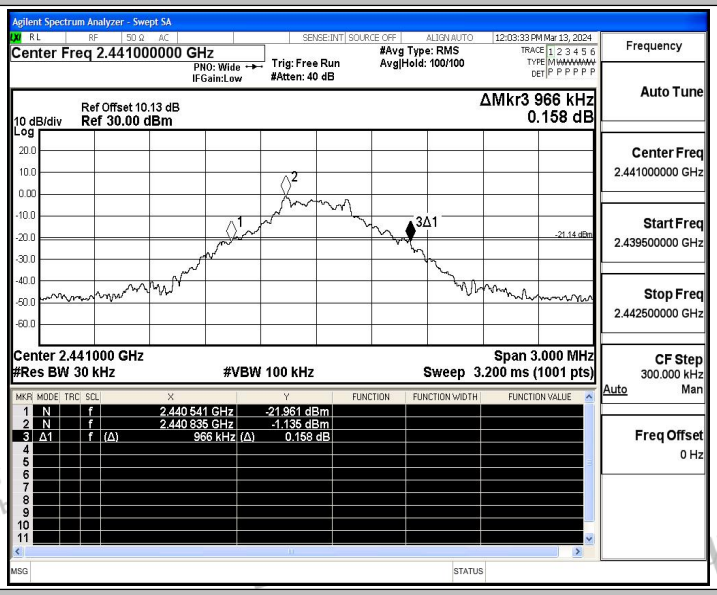
TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.011	2401.484	2402.495	---	---
		2441	0.966	2440.541	2441.507	---	---
		2480	0.966	2479.541	2480.507	---	---
2DH5	Ant1	2402	1.323	2401.340	2402.663	---	---
		2441	1.290	2440.364	2441.654	---	---
		2480	1.293	2479.364	2480.657	---	---

Test Graphs

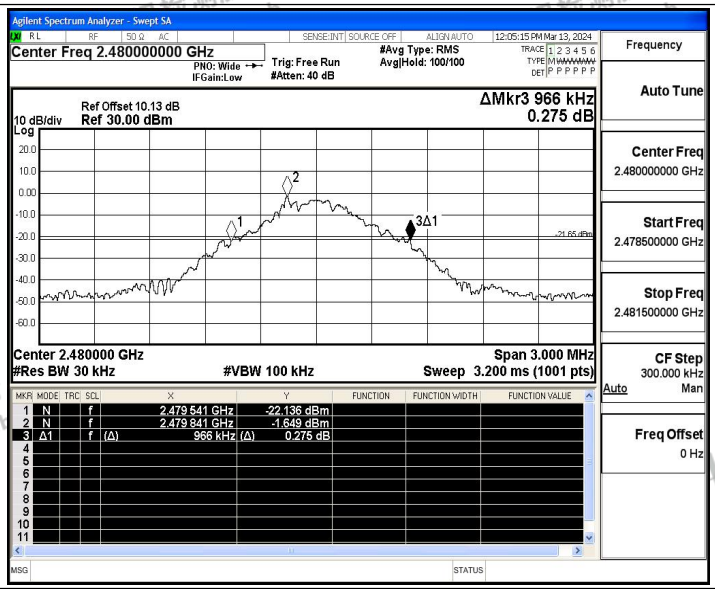
DH5_Ant1_2402



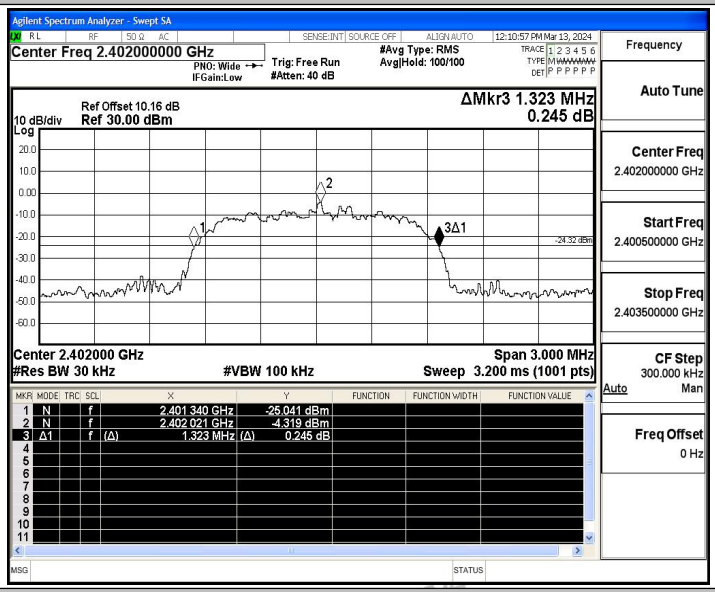
DH5_Ant1_2441



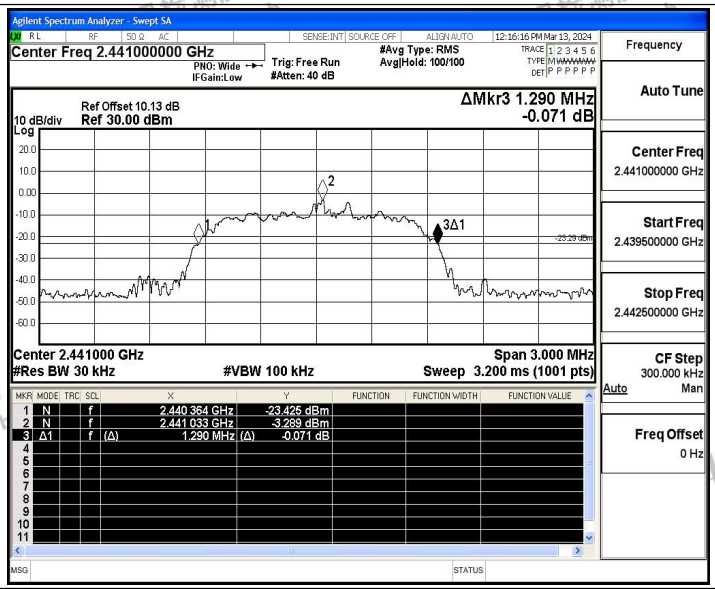
DH5_Ant1_2480



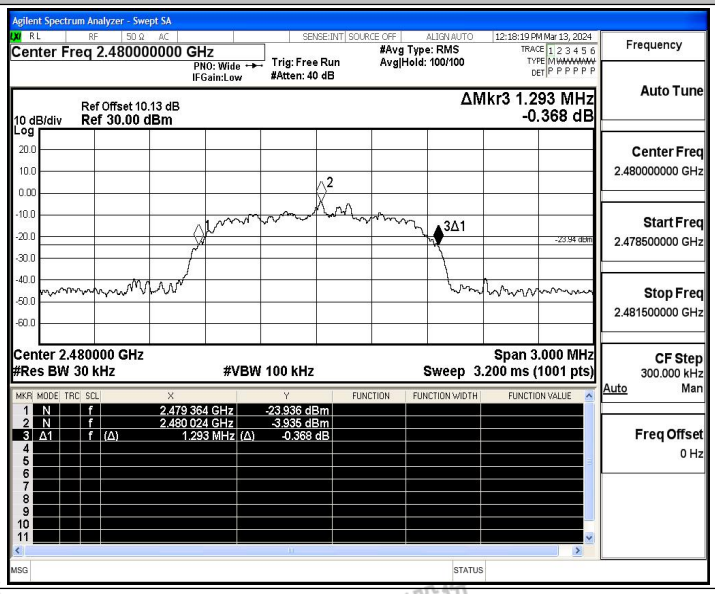
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



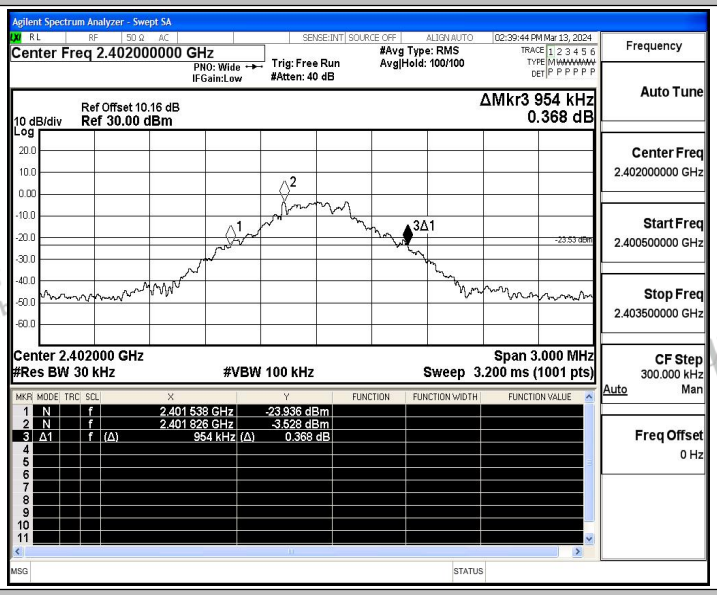
Left Ear:

Test Result

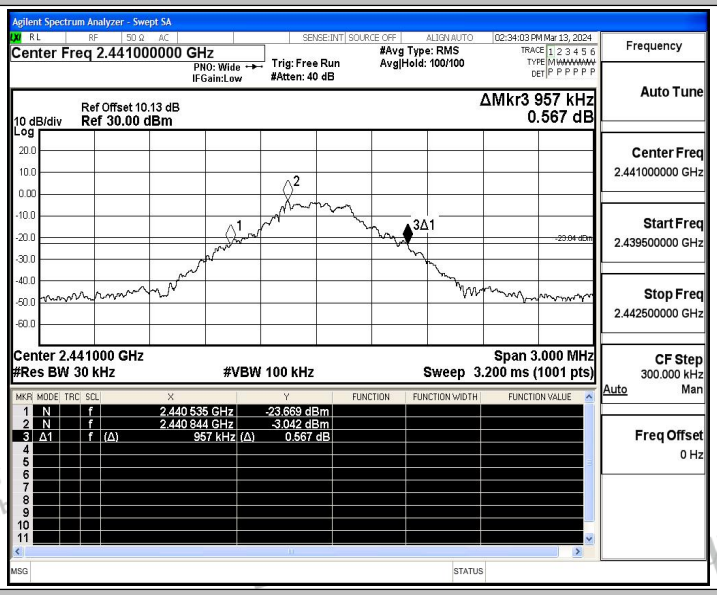
TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.954	2401.538	2402.492	---	---
		2441	0.957	2440.535	2441.492	---	---
		2480	1.017	2479.481	2480.498	---	---
2DH5	Ant1	2402	1.323	2401.343	2402.666	---	---
		2441	1.296	2440.361	2441.657	---	---
		2480	1.317	2479.343	2480.660	---	---

Test Graphs

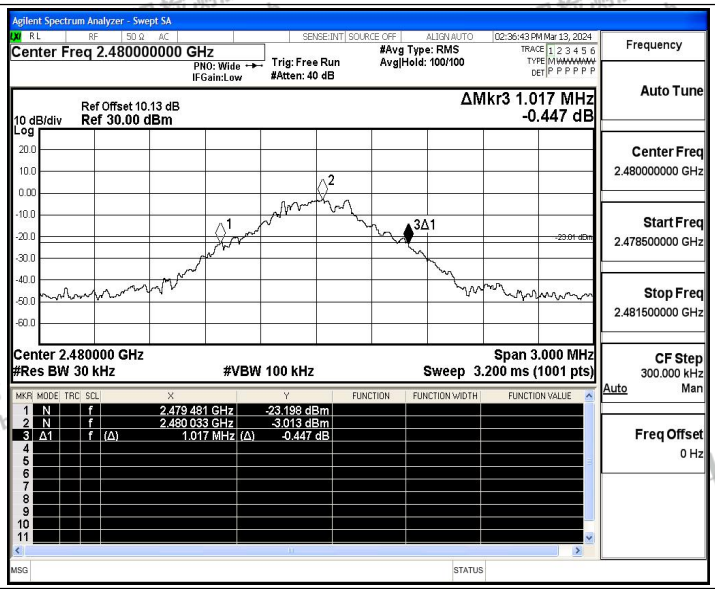
DH5_Ant1_2402



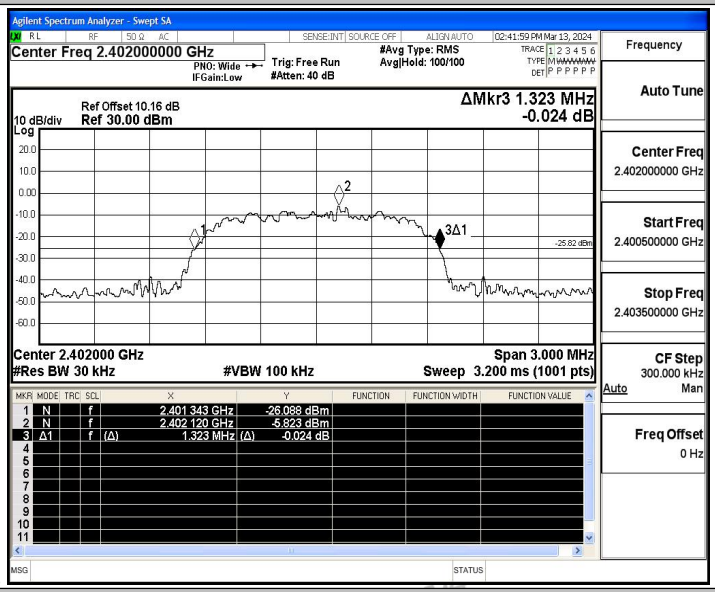
DH5_Ant1_2441



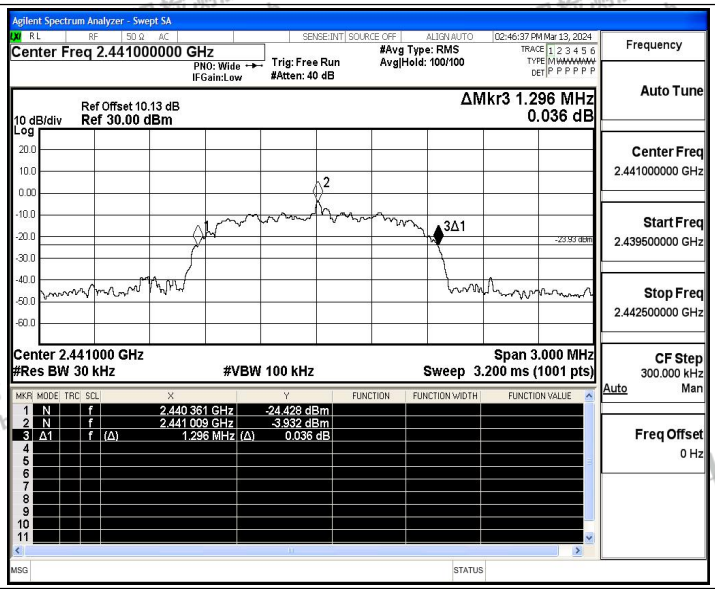
DH5_Ant1_2480



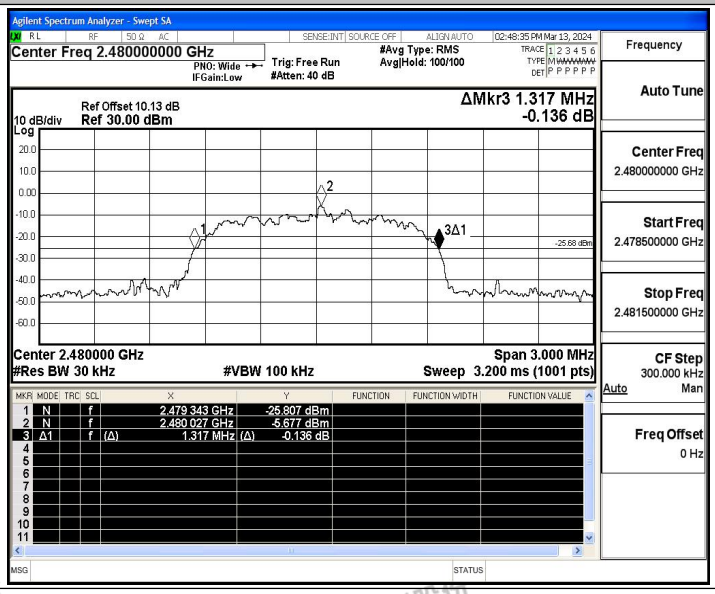
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



A.2 Maximum conducted output power

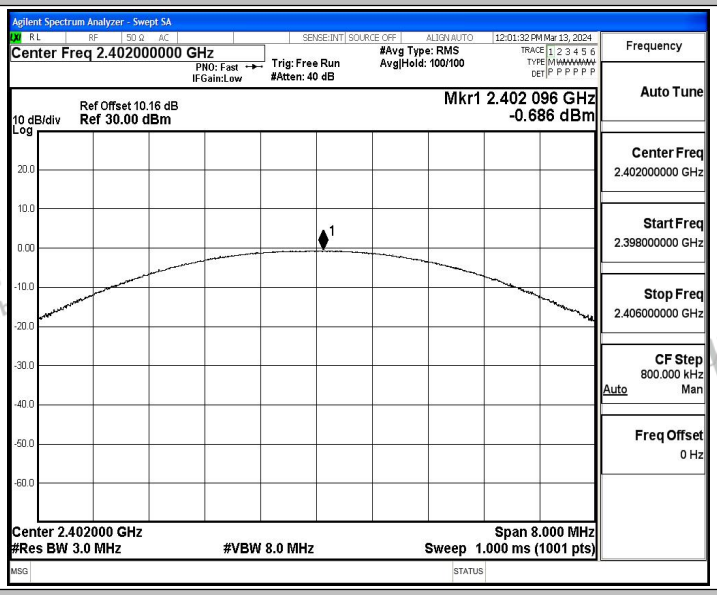
Right Ear:

Test Result Peak

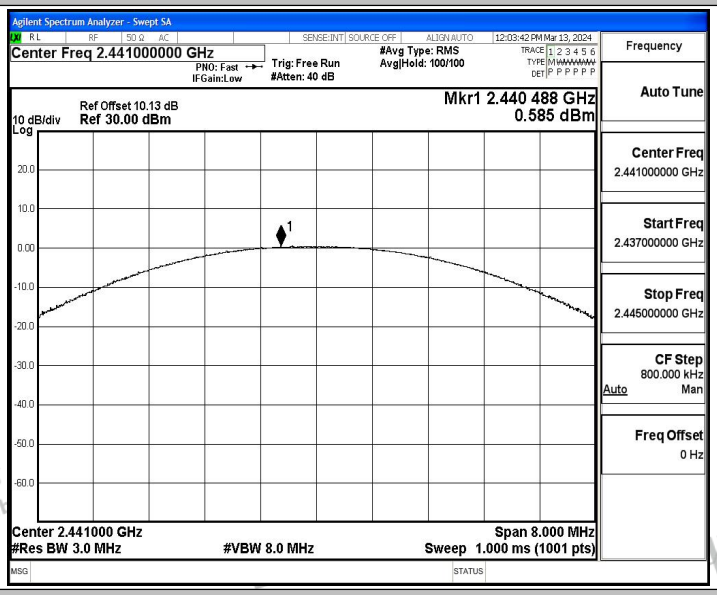
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-0.69	≤21	PASS
		2441	0.59	≤21	PASS
		2480	0.08	≤21	PASS
2DH5	Ant1	2402	0.94	≤21	PASS
		2441	0.80	≤21	PASS
		2480	0.21	≤21	PASS

Test Graphs

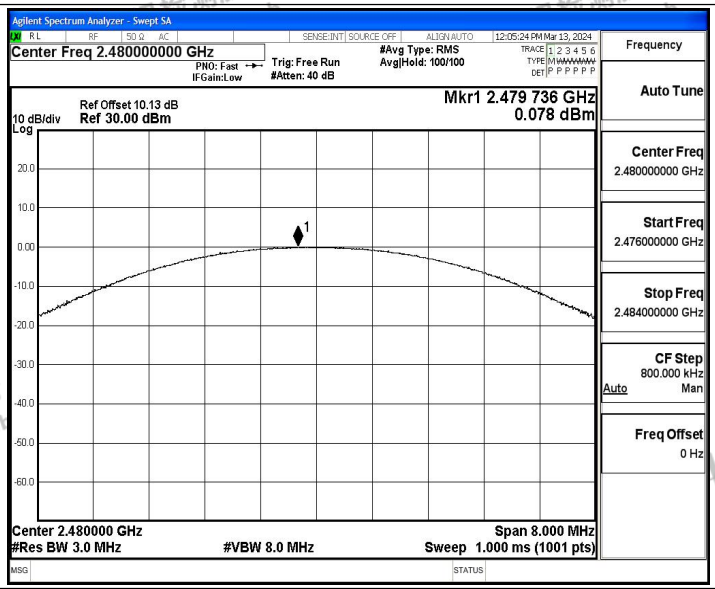
DH5_Ant1_2402



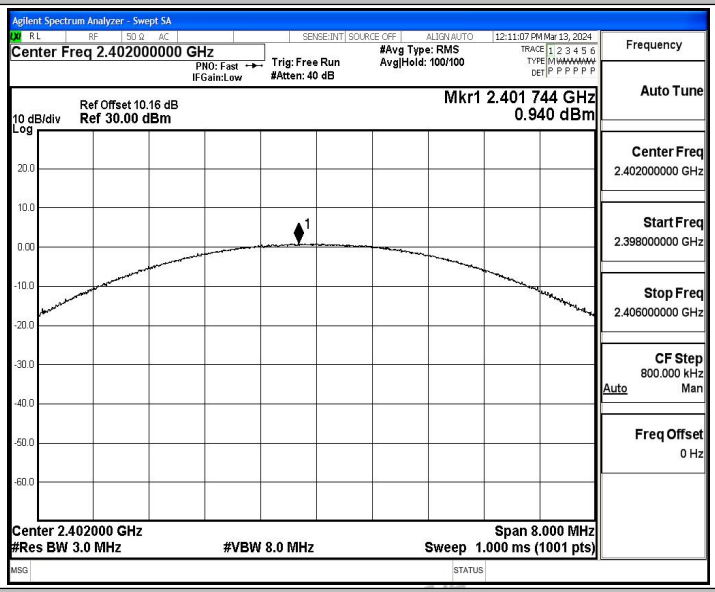
DH5_Ant1_2441



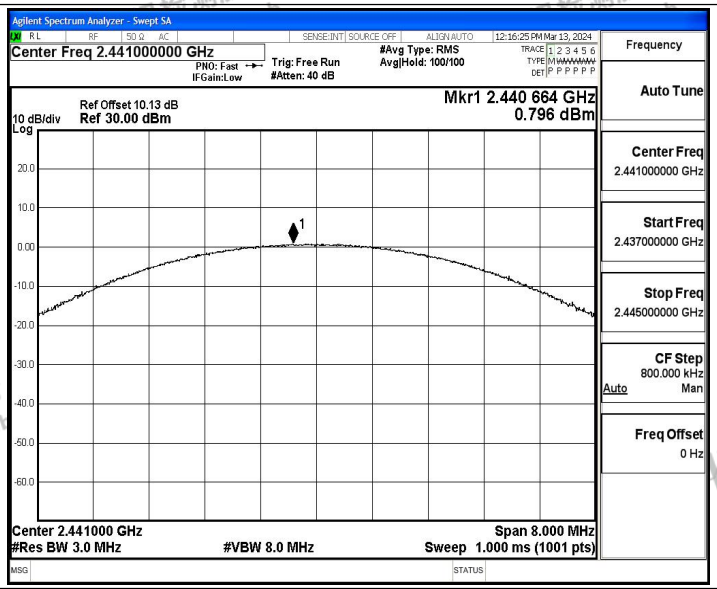
DH5_Ant1_2480



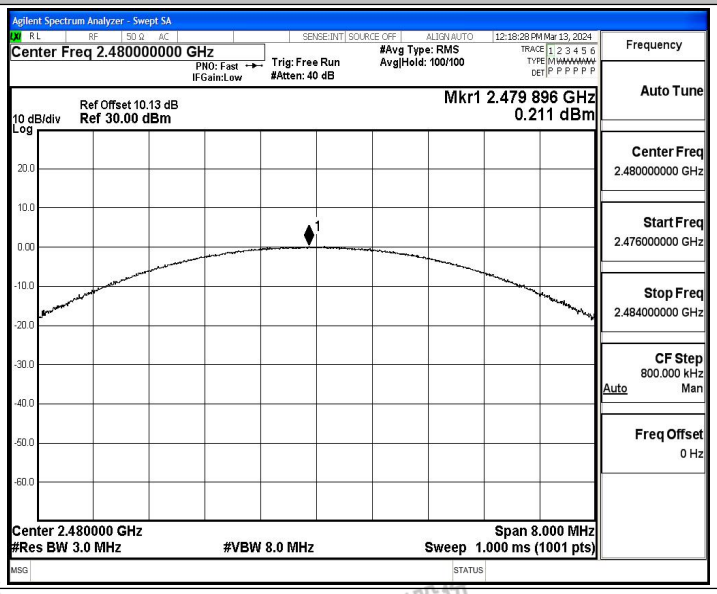
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



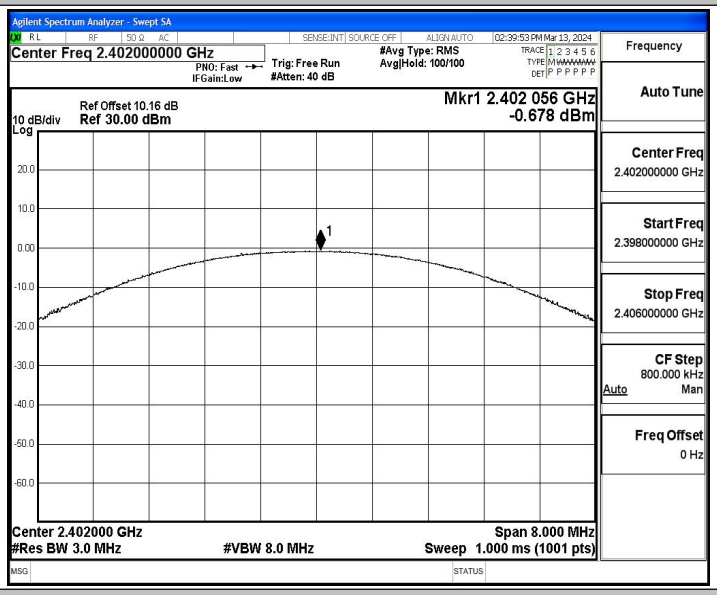
Left Ear:

Test Result Peak

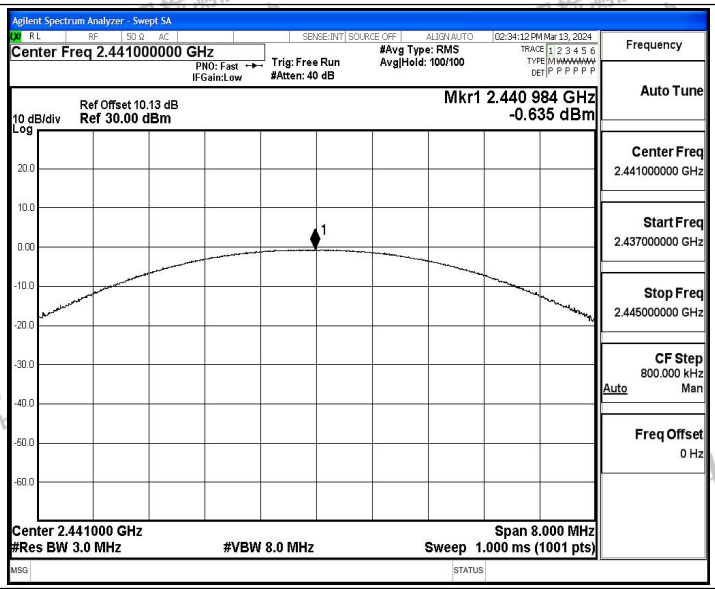
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-0.68	≤20.97	PASS
		2441	-0.64	≤20.97	PASS
		2480	-0.22	≤20.97	PASS
2DH5	Ant1	2402	0.89	≤20.97	PASS
		2441	0.47	≤20.97	PASS
		2480	-0.57	≤20.97	PASS

Test Graphs

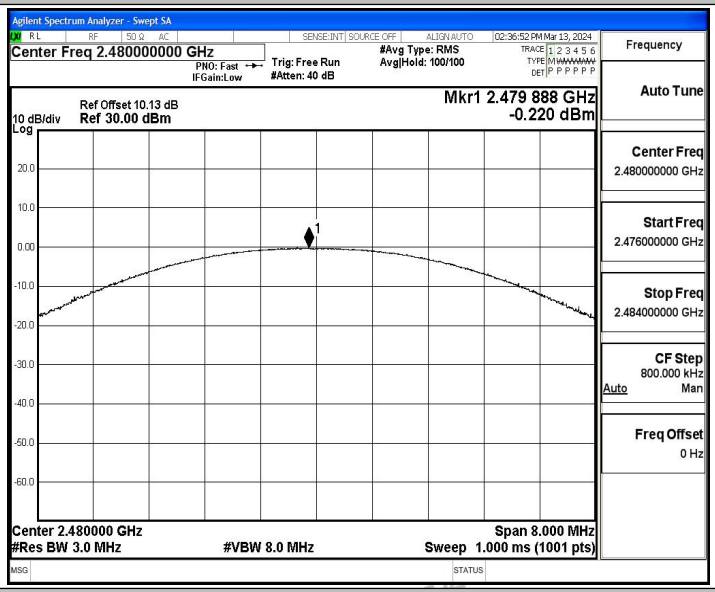
DH5_Ant1_2402



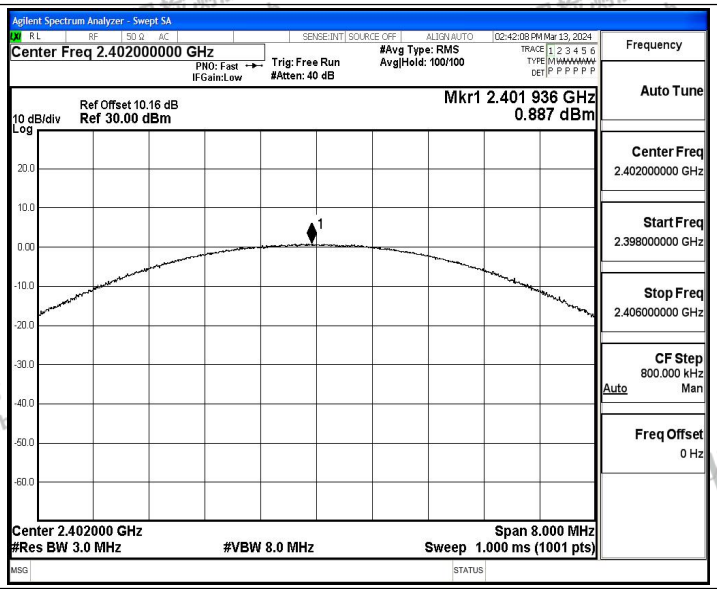
DH5_Ant1_2441



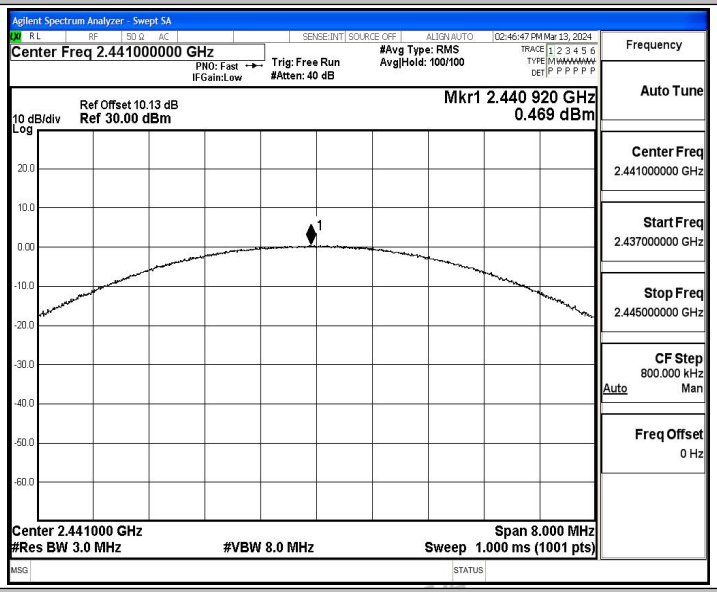
DH5_Ant1_2480



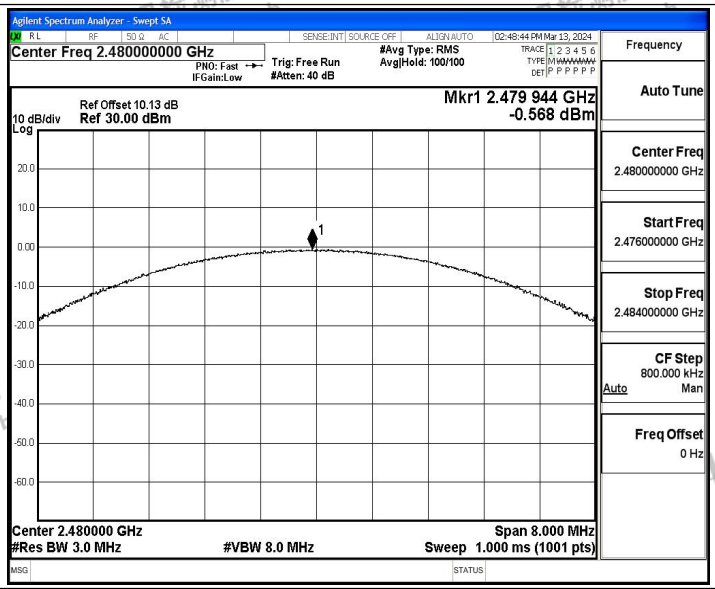
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
02:48:44 PM Mar 13, 2024
Ref Offset 10.13 dB
10 dB/div Ref 30.00 dBm
Log
Mkr1 2.479 944 GHz
-0.568 dBm
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 8.000 MHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.476000000 GHz
Stop Freq
2.484000000 GHz
CF Step
800.000 kHz
Auto Man
Freq Offset
0 Hz

A.3 Carrier frequency separation

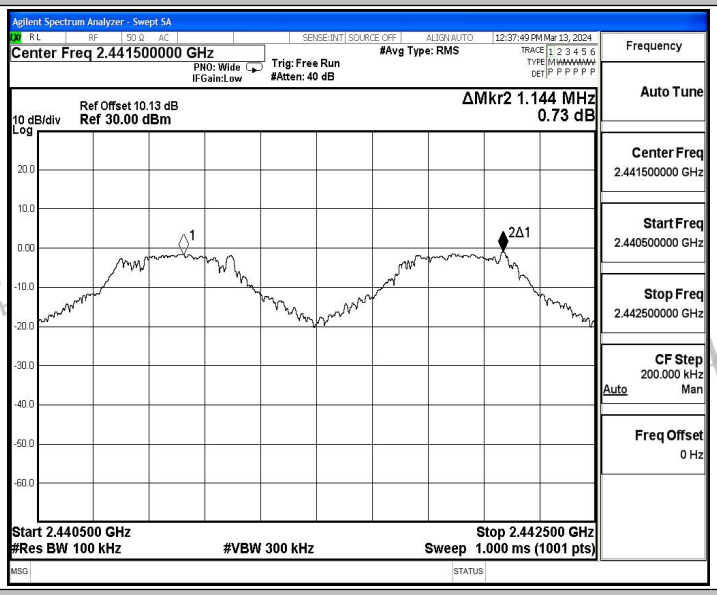
Right Ear:

Test Result

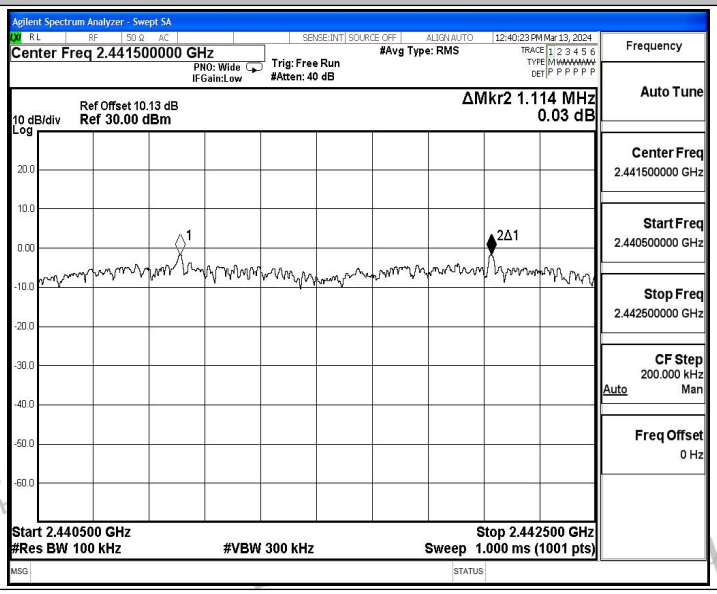
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.144	≥0.674	PASS
2DH5	Ant1	Hop	1.114	≥0.882	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



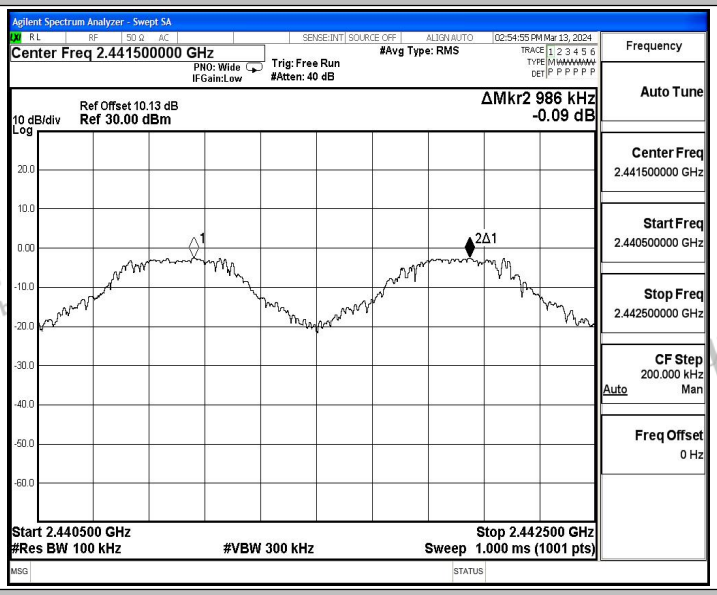
Left Ear:

Test Result

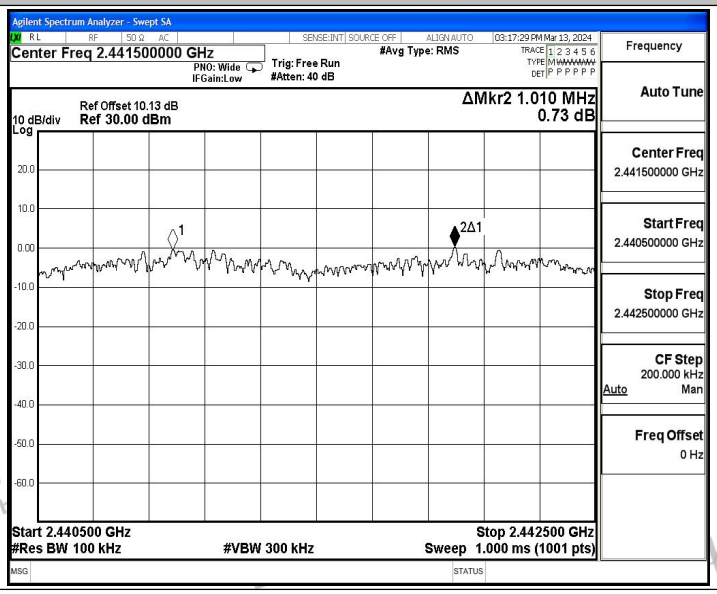
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.986	≥0.678	PASS
2DH5	Ant1	Hop	1.01	≥0.882	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



A.4 Time of occupancy

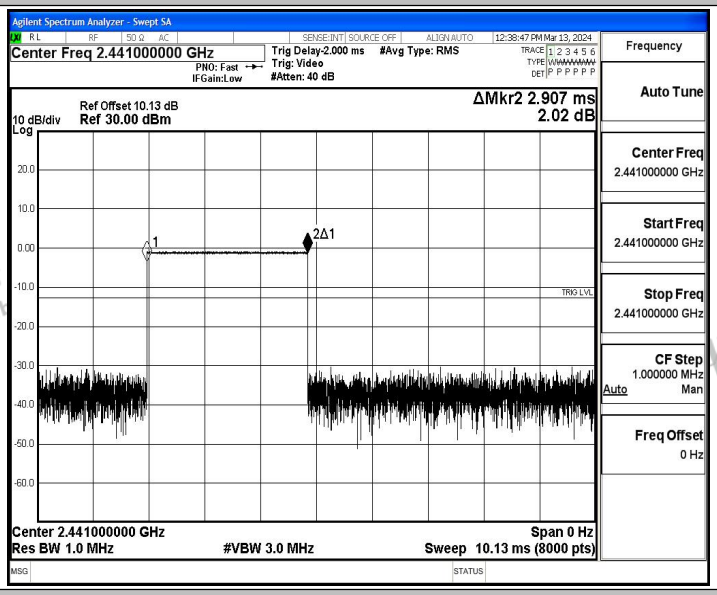
Right Ear:

Test Result

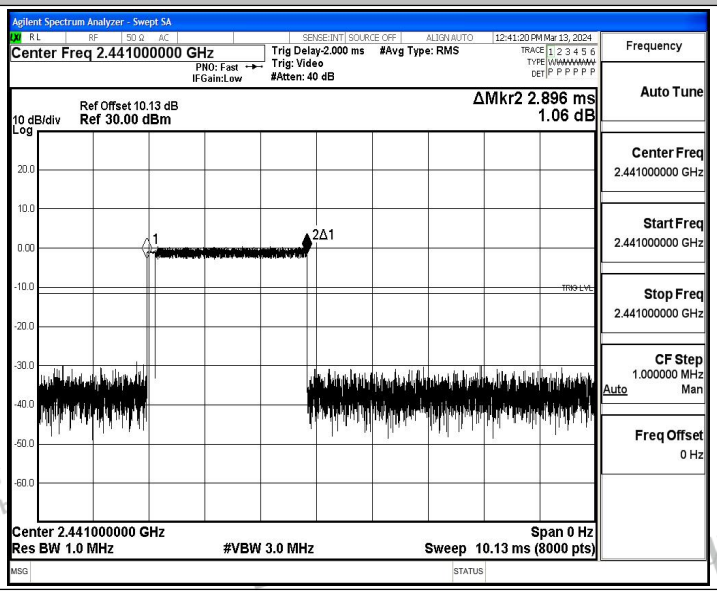
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.907	106.67	0.31	≤0.4	PASS
2DH5	Ant1	Hop	2.896	106.67	0.309	≤0.4	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



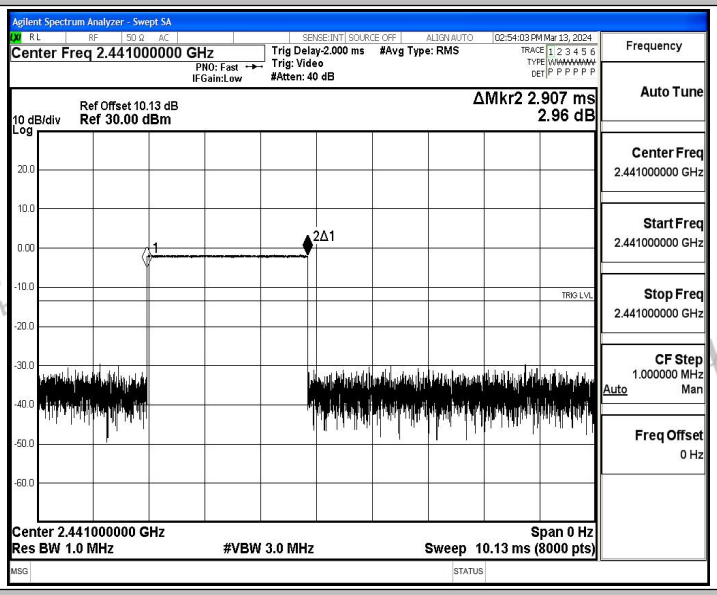
Left Ear:

Test Result

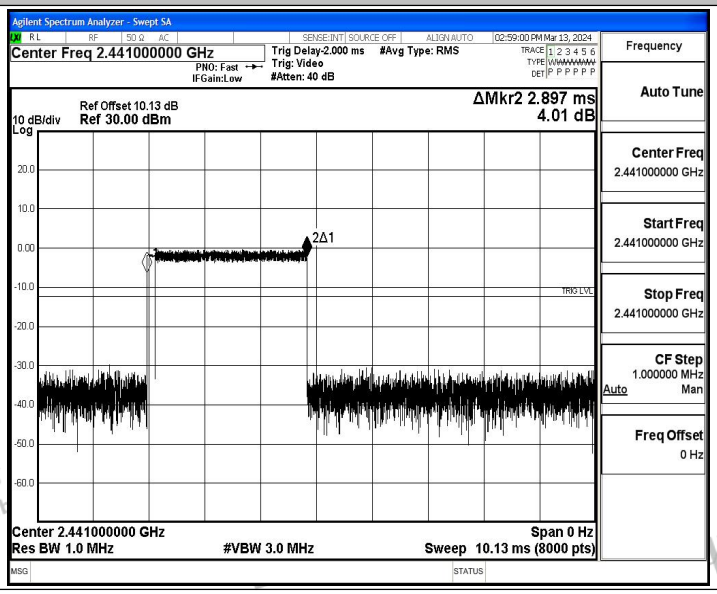
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.907	106.67	0.31	≤0.4	PASS
2DH5	Ant1	Hop	2.897	106.67	0.309	≤0.4	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



A.5 Number of hopping channels

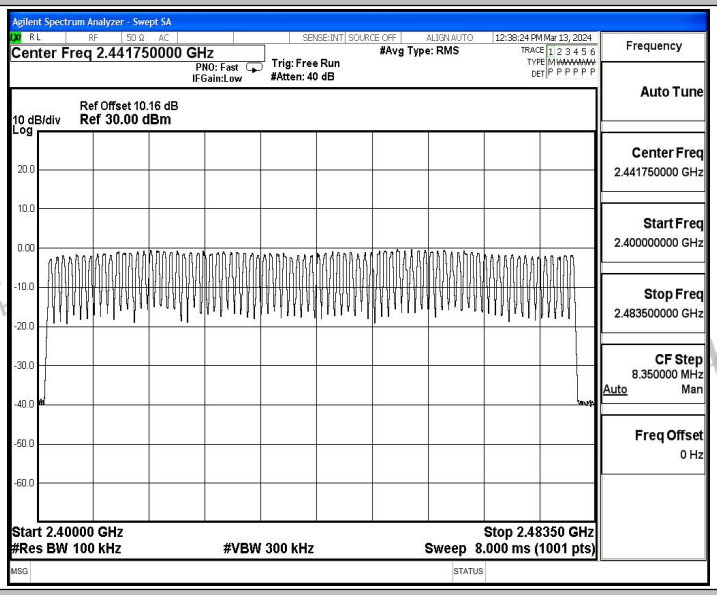
Right Ear:

Test Result

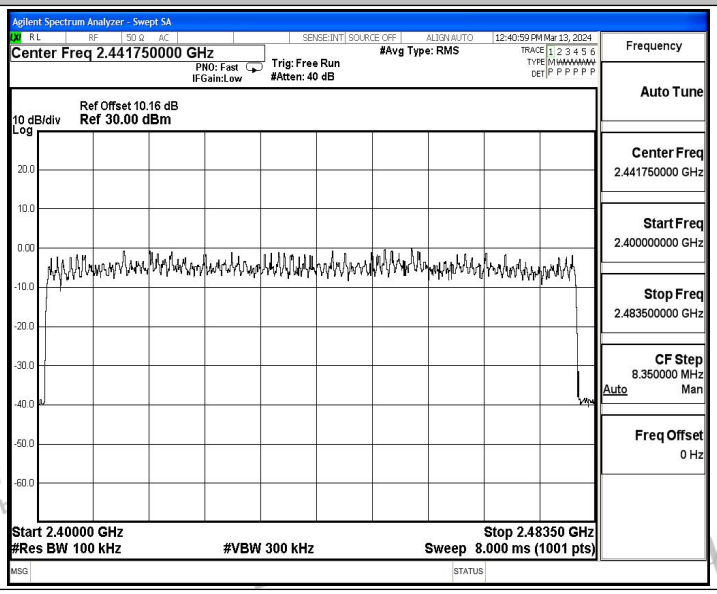
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



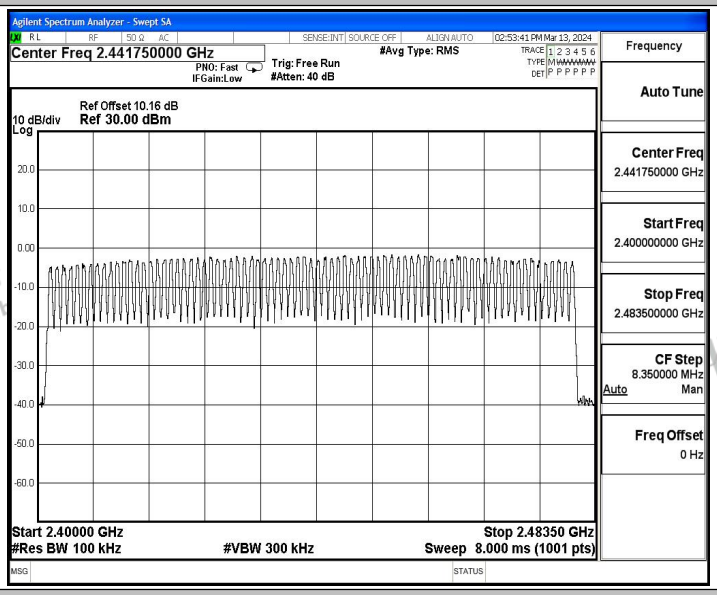
Left Ear:

Test Result

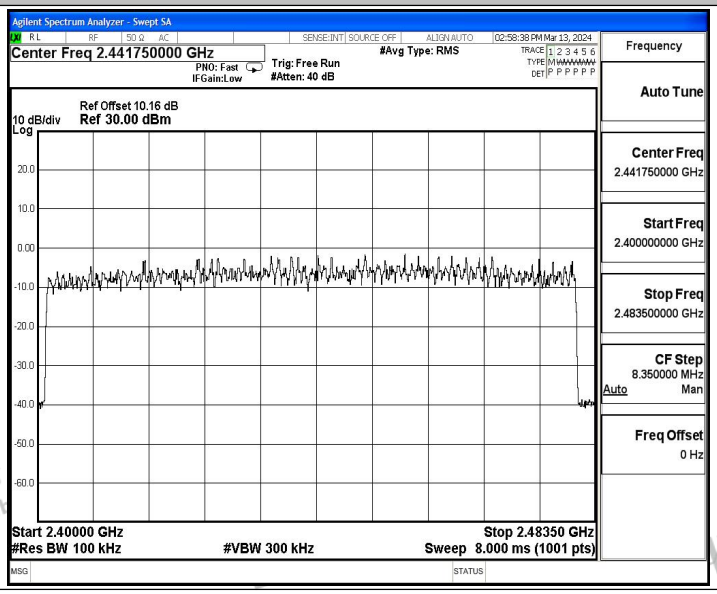
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



A.6 Band edge measurements

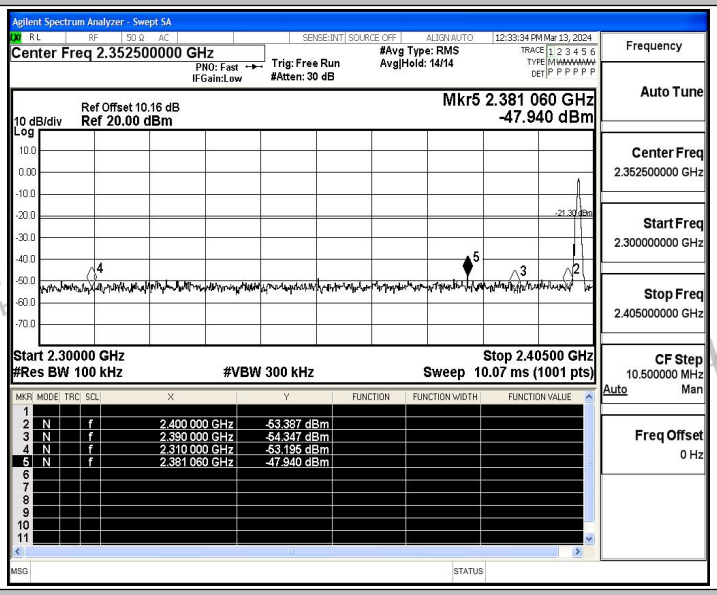
Right Ear:

Test Result

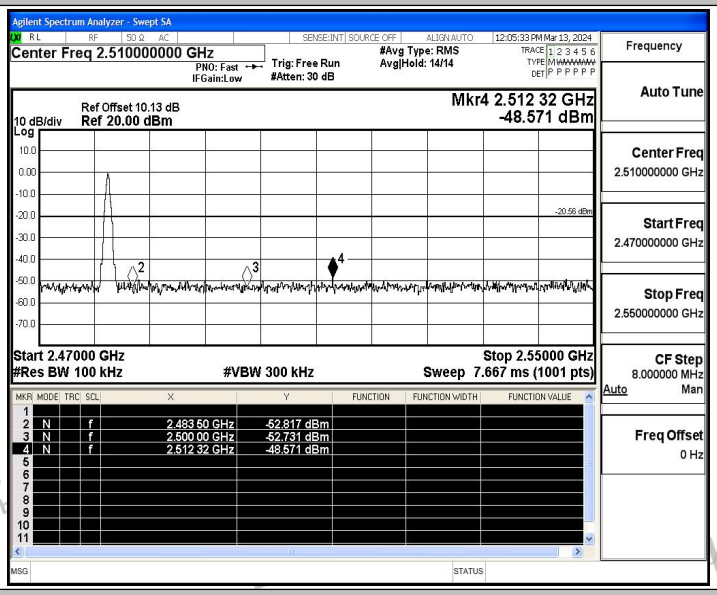
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.30	-47.94	≤-21.3	PASS
		High	2480	-0.56	-48.57	≤-20.56	PASS
		Low	Hop_2402	-2.67	-48.52	≤-22.67	PASS
		High	Hop_2480	-1.85	-47.56	≤-21.85	PASS
2DH5	Ant1	Low	2402	-1.73	-49.46	≤-21.73	PASS
		High	2480	-1.98	-48.48	≤-21.98	PASS
		Low	Hop_2402	-2.63	-47.91	≤-22.63	PASS
		High	Hop_2480	-1.66	-47.29	≤-21.66	PASS

Test Graphs

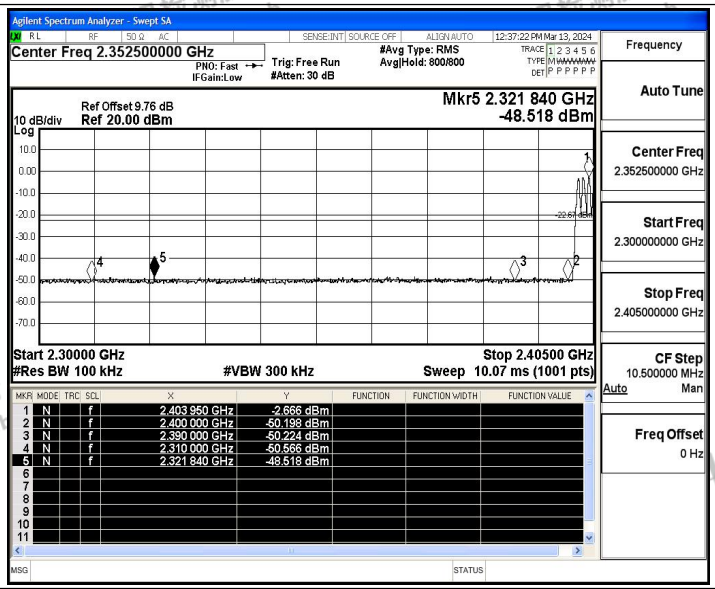
DH5_Ant1_Low_2402



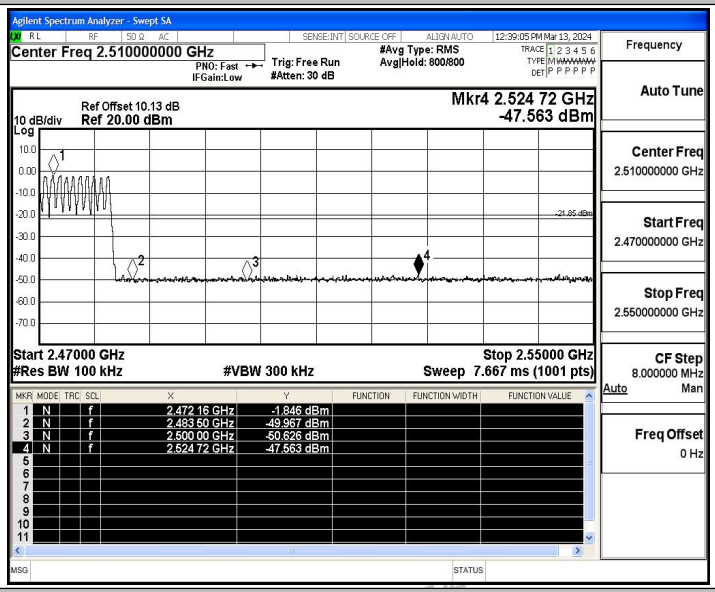
DH5_Ant1_High_2480



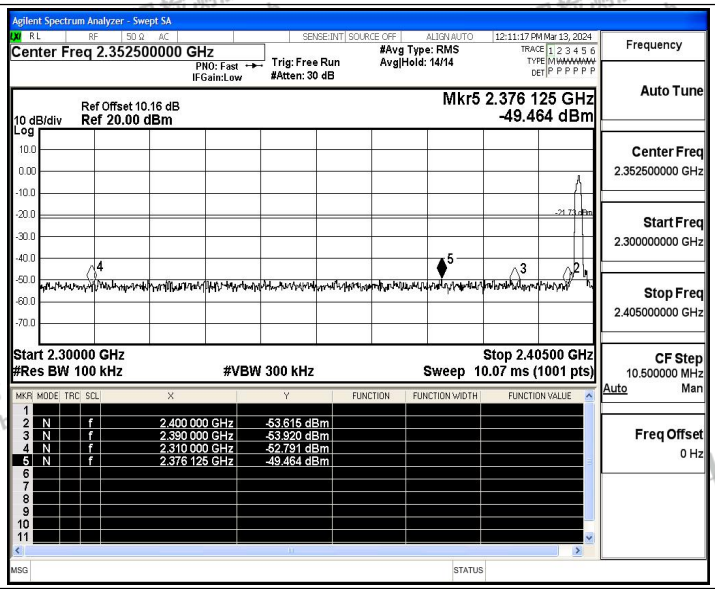
DH5_Ant1_Low_Hop_2402



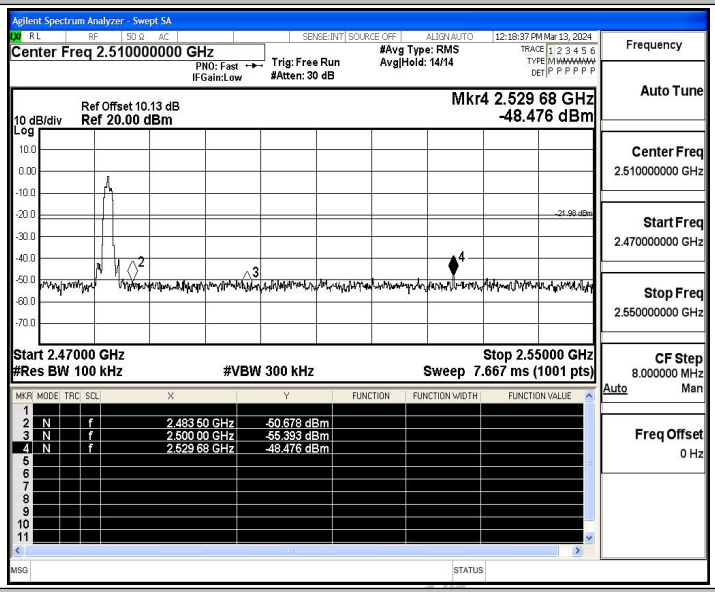
DH5_Ant1_High_Hop_2480



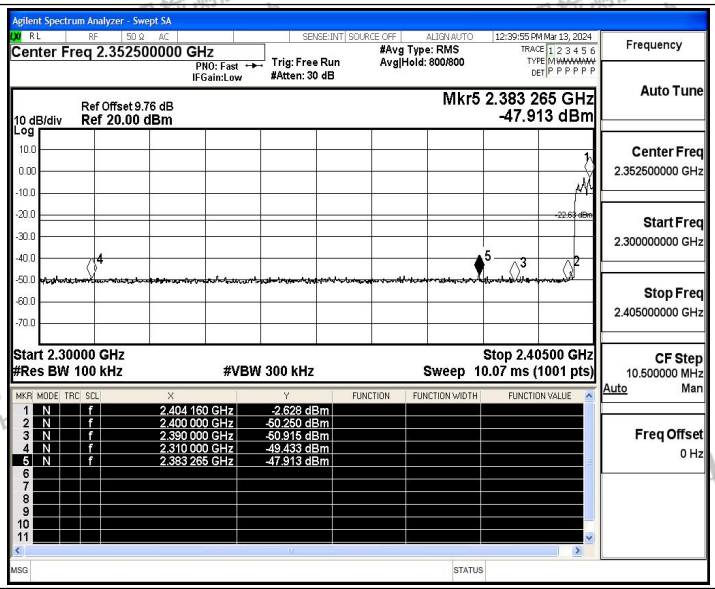
2DH5_Ant1_Low_2402



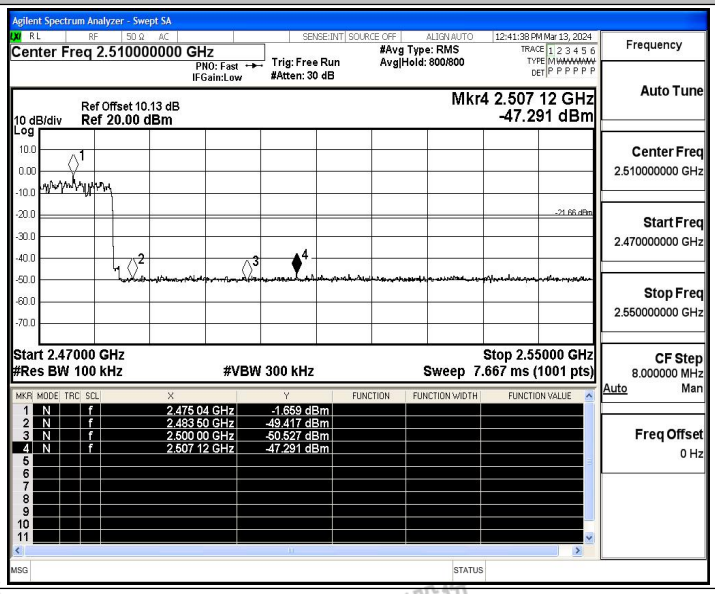
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480



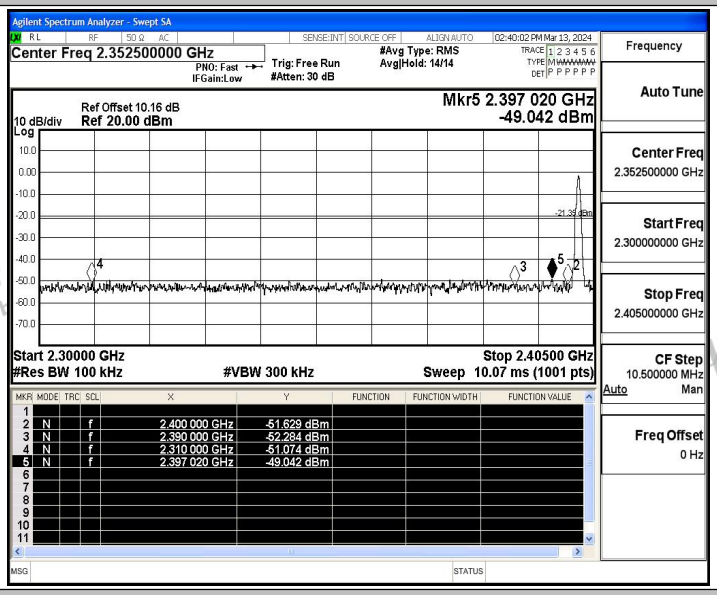
Left Ear:

Test Result

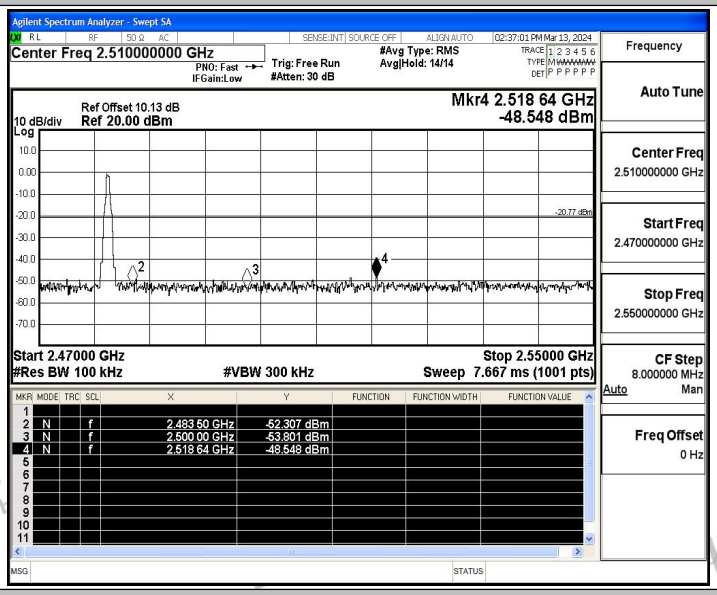
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.35	-49.04	≤-21.35	PASS
		High	2480	-0.77	-48.55	≤-20.77	PASS
		Low	Hop_2402	-5.34	-48.17	≤-25.34	PASS
		High	Hop_2480	-2.72	-46.88	≤-22.72	PASS
2DH5	Ant1	Low	2402	-1.35	-48.96	≤-21.35	PASS
		High	2480	-3.48	-48.94	≤-23.48	PASS
		Low	Hop_2402	-7.58	-47.92	≤-27.58	PASS
		High	Hop_2480	-4.40	-47.64	≤-24.4	PASS

Test Graphs

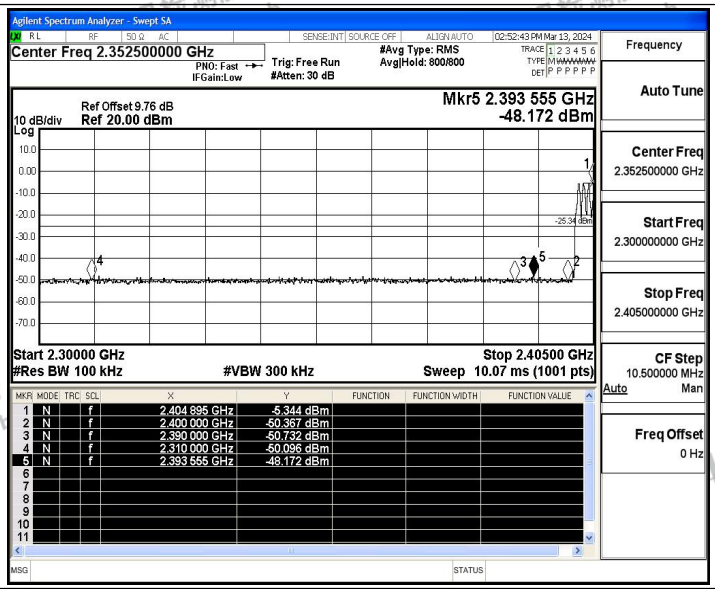
DH5_Ant1_Low_2402



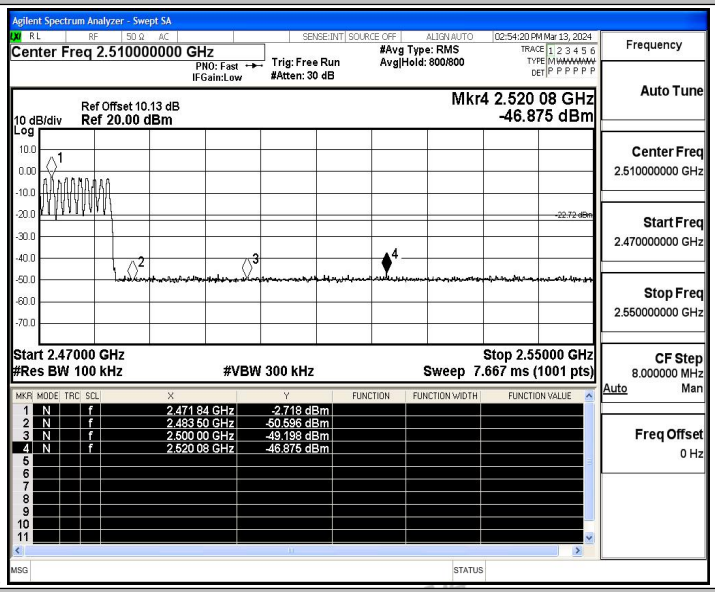
DH5_Ant1_High_2480



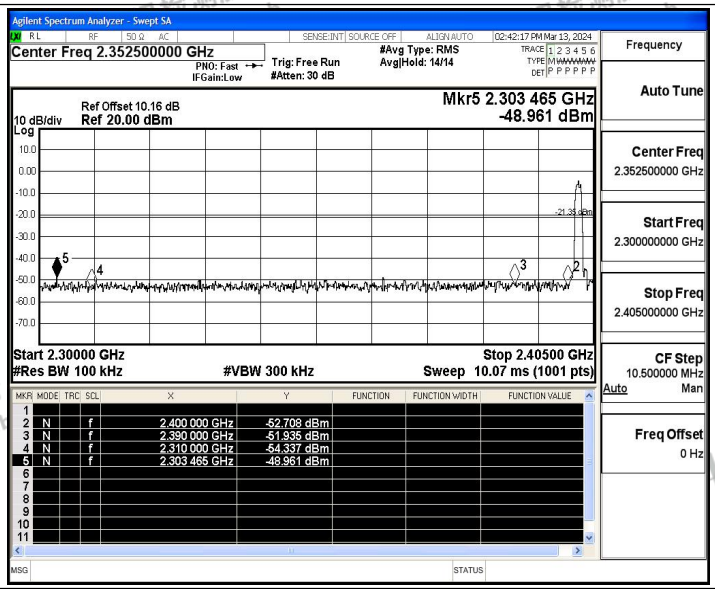
DH5_Ant1_Low_Hop_2402



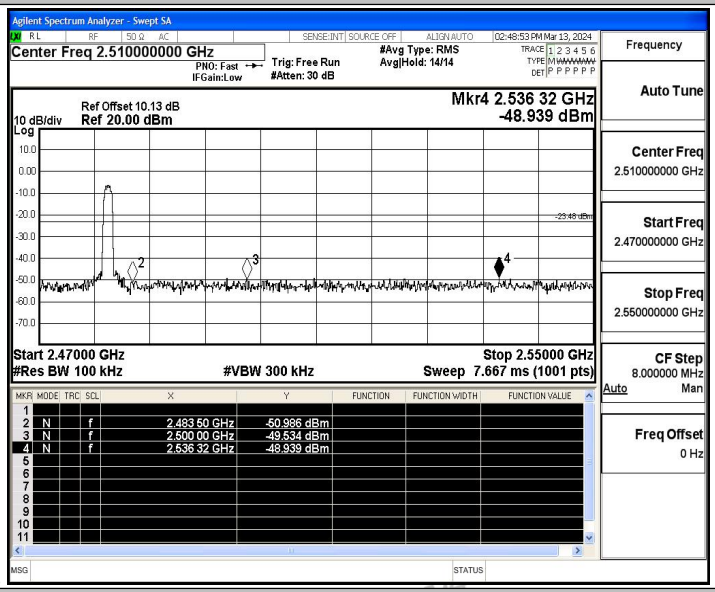
DH5_Ant1_High_Hop_2480



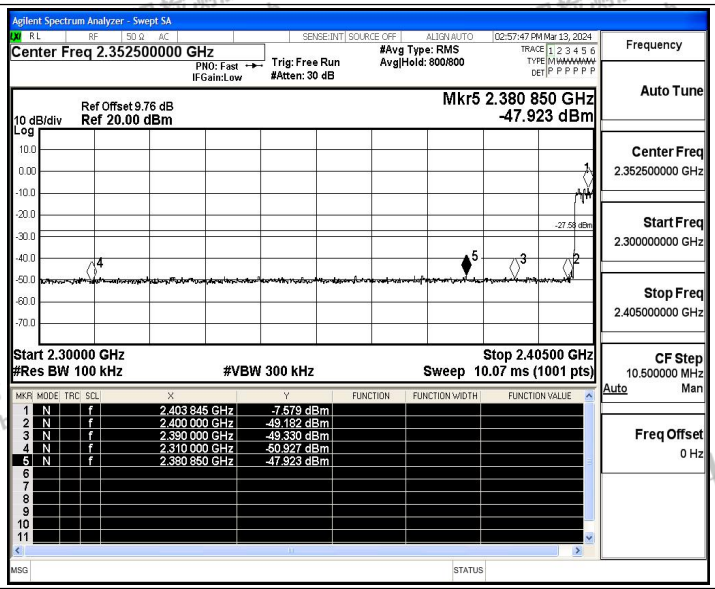
2DH5_Ant1_Low_2402



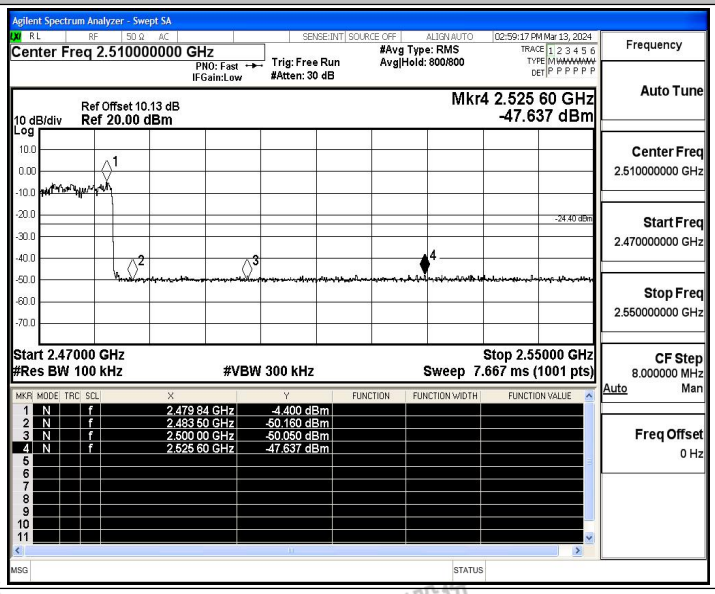
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480



A.7 Conducted Spurious Emission

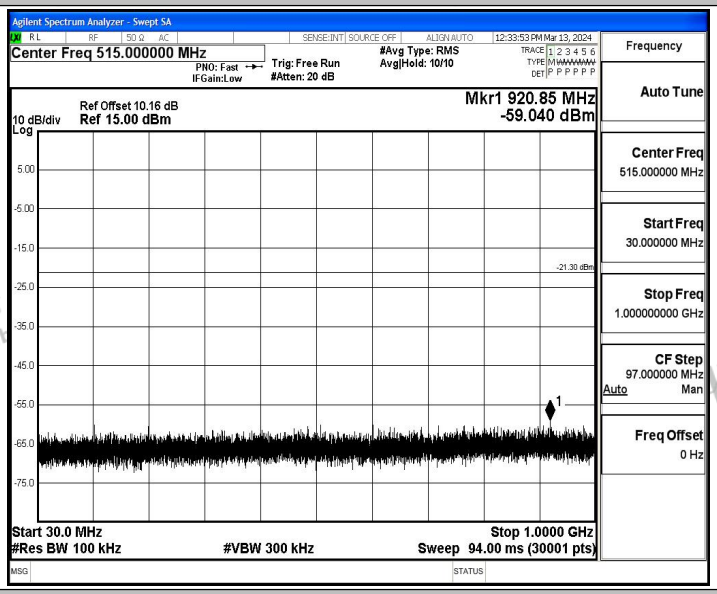
Right Ear:

Test Result

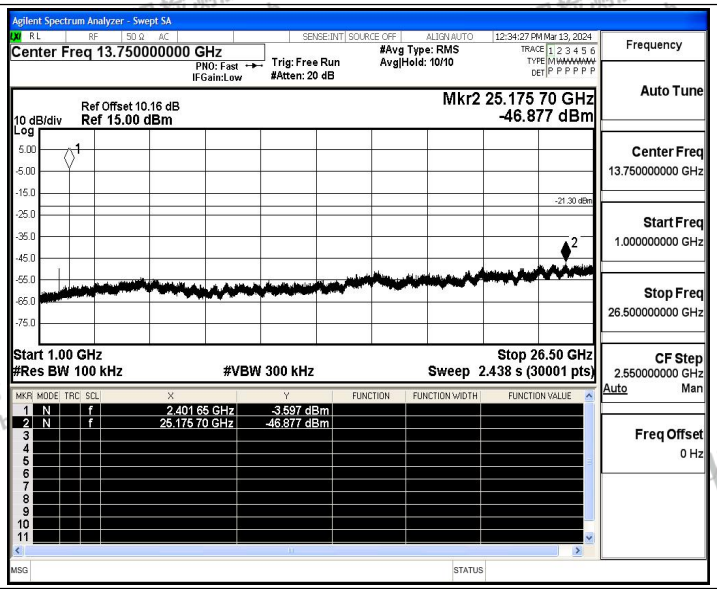
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~1000	-1.30	-59.04	≤-21.3	PASS
			1000~26500	-1.30	-46.88	≤-21.3	PASS
		2441	30~1000	-0.03	-59.73	≤-20.03	PASS
			1000~26500	-0.03	-46.74	≤-20.03	PASS
		2480	30~1000	-0.56	-59.47	≤-20.56	PASS
			1000~26500	-0.56	-46.35	≤-20.56	PASS
2DH5	Ant1	2402	30~1000	-1.73	-59.13	≤-21.73	PASS
			1000~26500	-1.73	-46.94	≤-21.73	PASS
		2441	30~1000	-1.37	-60.17	≤-21.37	PASS
			1000~26500	-1.37	-46.86	≤-21.37	PASS
		2480	30~1000	-1.98	-59.71	≤-21.98	PASS
			1000~26500	-1.98	-47.23	≤-21.98	PASS

Test Graphs

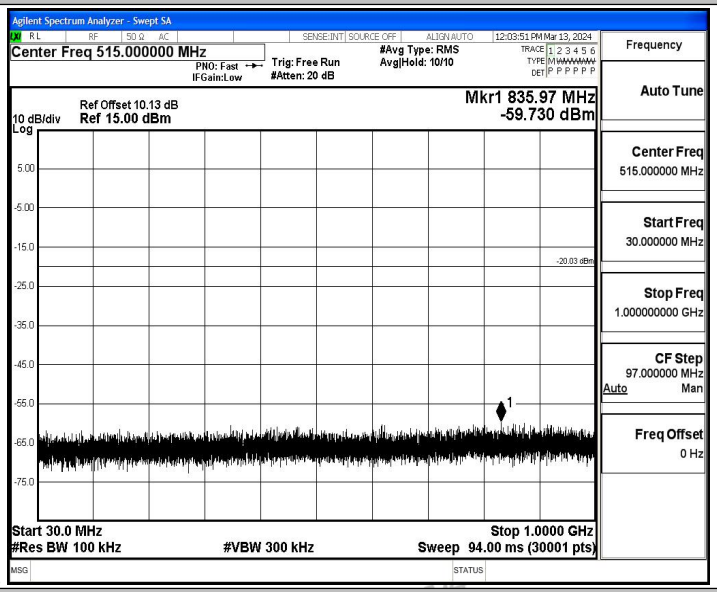
DH5_Ant1_2402_30~1000



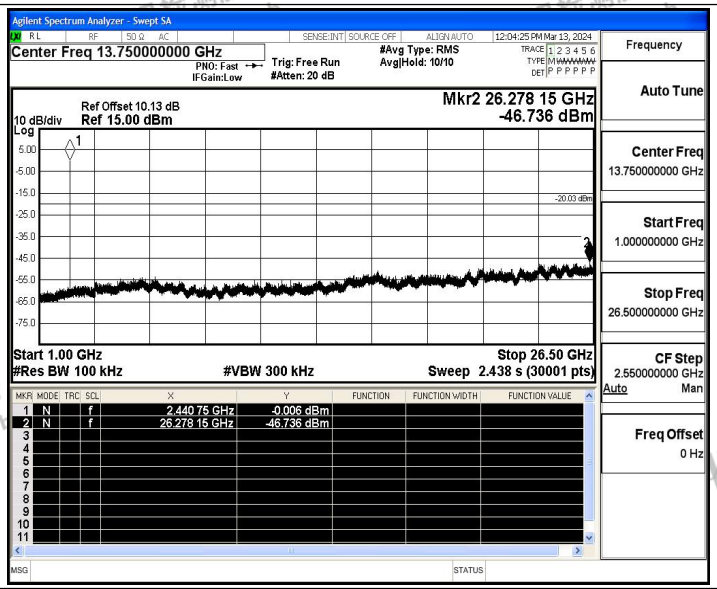
DH5_Ant1_2402_1000~26500



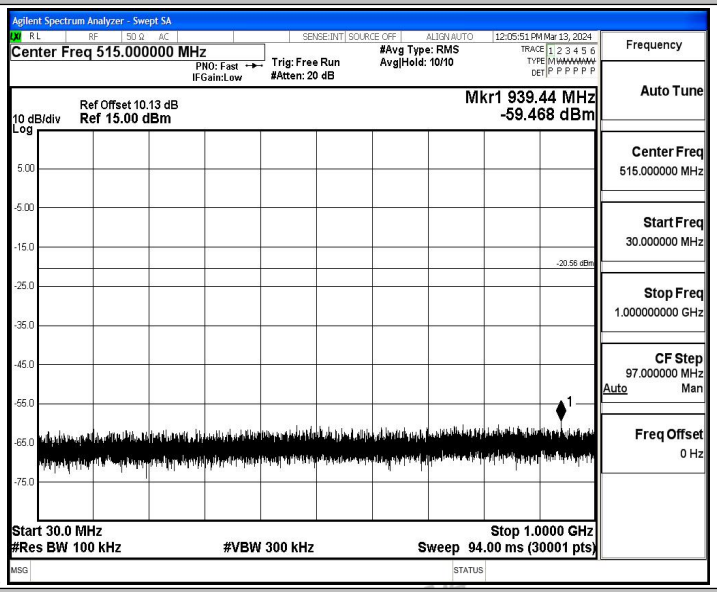
DH5_Ant1_2441_30~1000



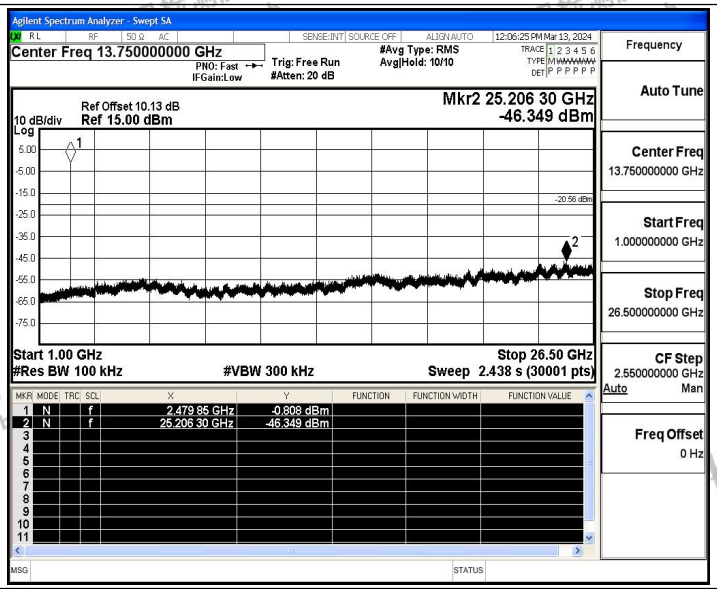
DH5_Ant1_2441_1000~26500



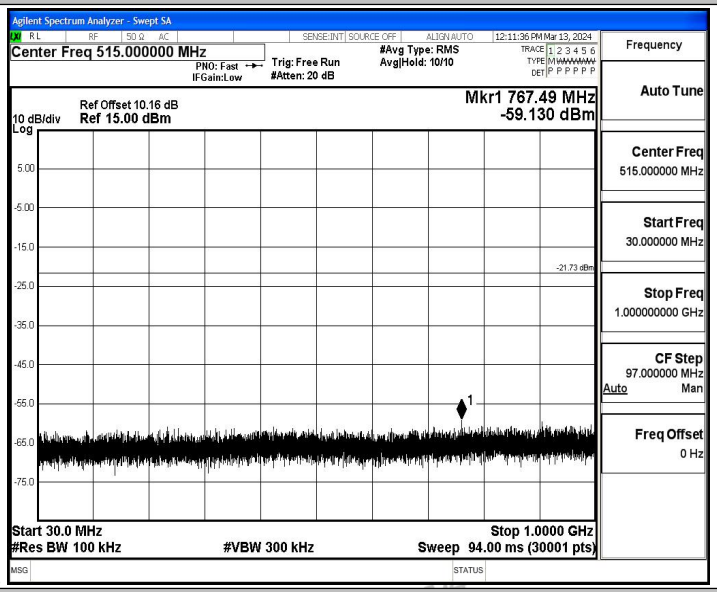
DH5_Ant1_2480_30~1000



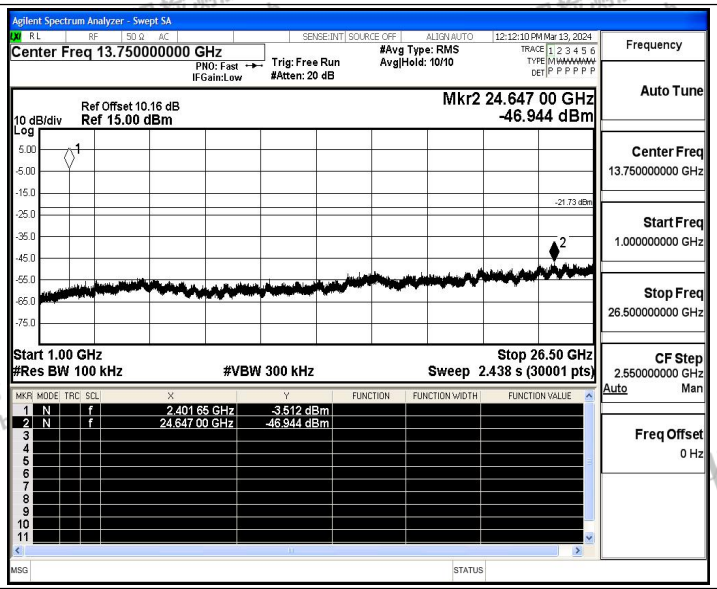
DH5_Ant1_2480_1000~26500



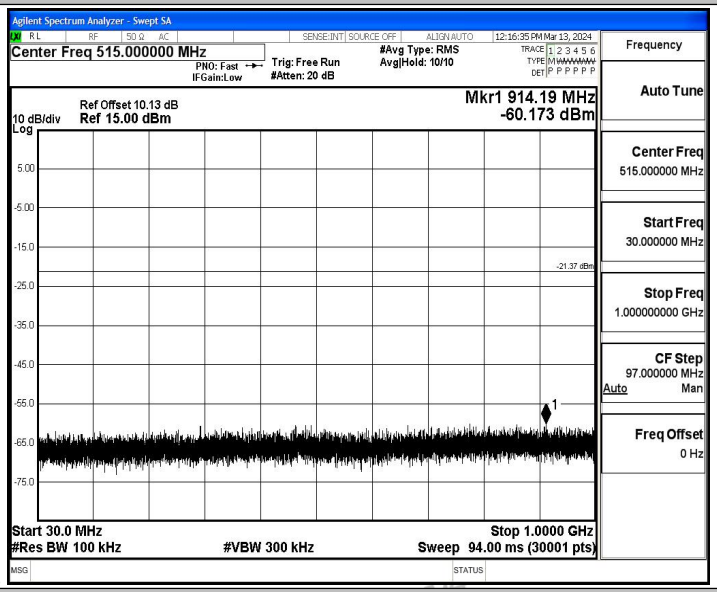
2DH5_Ant1_2402_30~1000



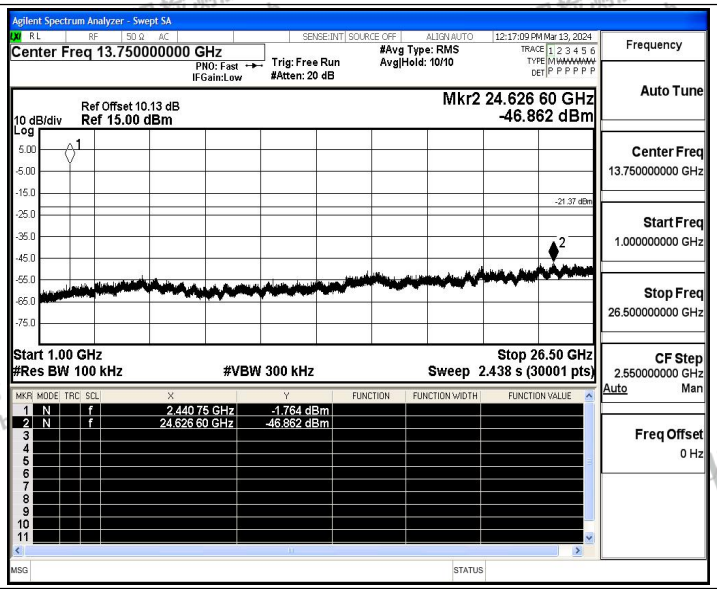
2DH5_Ant1_2402_1000~26500



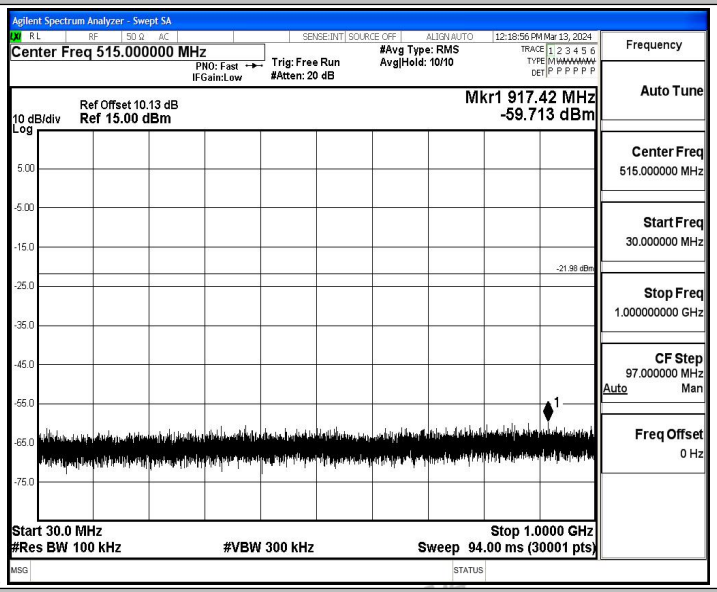
2DH5_Ant1_2441_30~1000



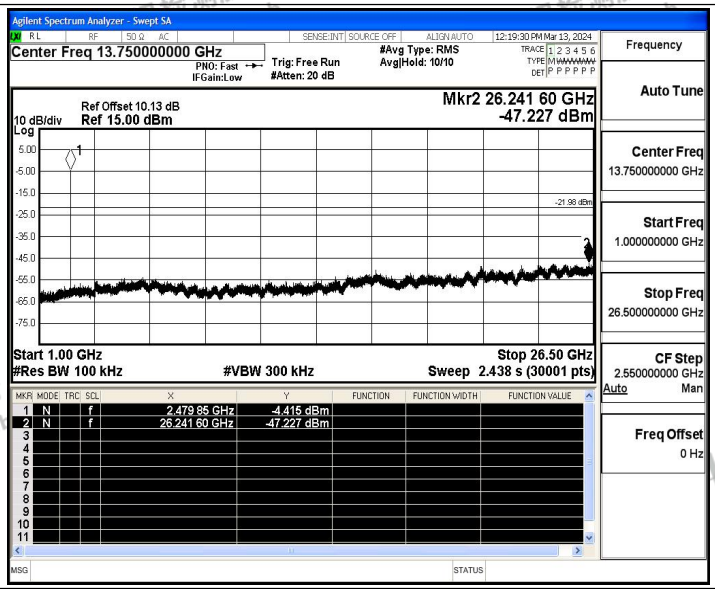
2DH5_Ant1_2441_1000~26500



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500



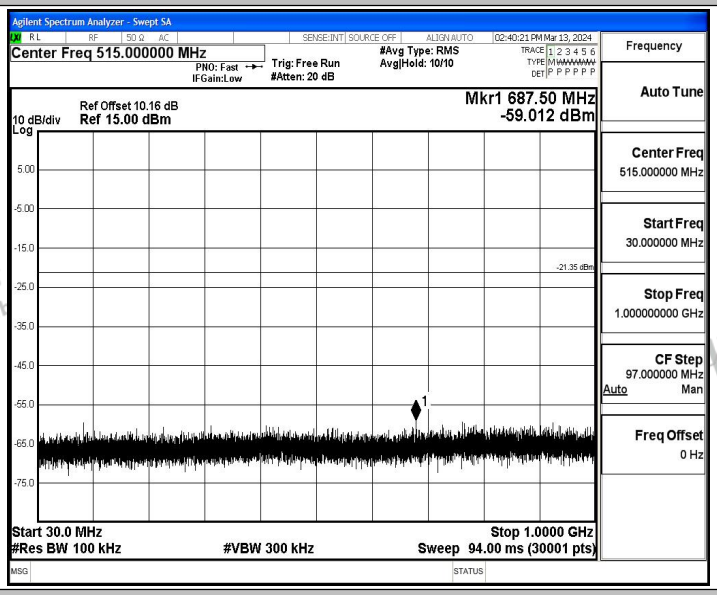
Left Ear:

Test Result

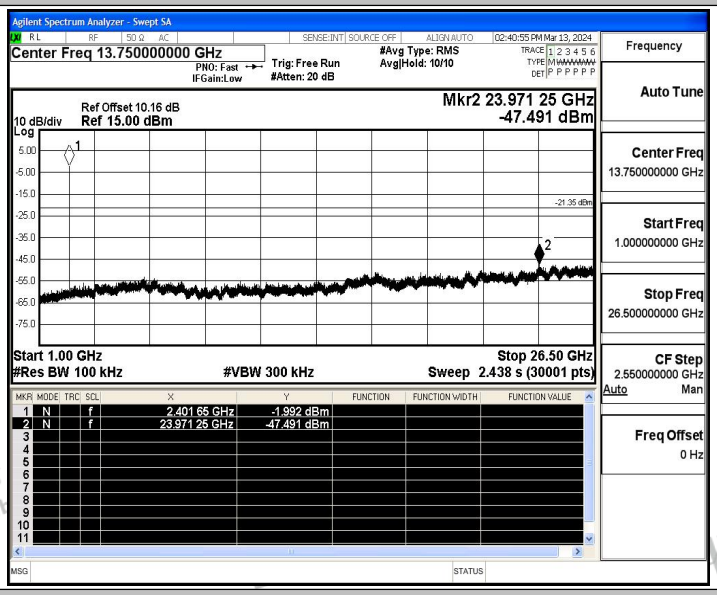
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~1000	-1.35	-59.01	≤-21.35	PASS
			1000~26500	-1.35	-47.49	≤-21.35	PASS
		2441	30~1000	-1.25	-59.9	≤-21.25	PASS
			1000~26500	-1.25	-46.84	≤-21.25	PASS
		2480	30~1000	-0.77	-59.46	≤-20.77	PASS
			1000~26500	-0.77	-46.65	≤-20.77	PASS
2DH5	Ant1	2402	30~1000	-1.35	-59.64	≤-21.35	PASS
			1000~26500	-1.35	-46.78	≤-21.35	PASS
		2441	30~1000	-2.00	-59.56	≤-22	PASS
			1000~26500	-2.00	-46.99	≤-22	PASS
		2480	30~1000	-3.48	-59.32	≤-23.48	PASS
			1000~26500	-3.48	-47.31	≤-23.48	PASS

Test Graphs

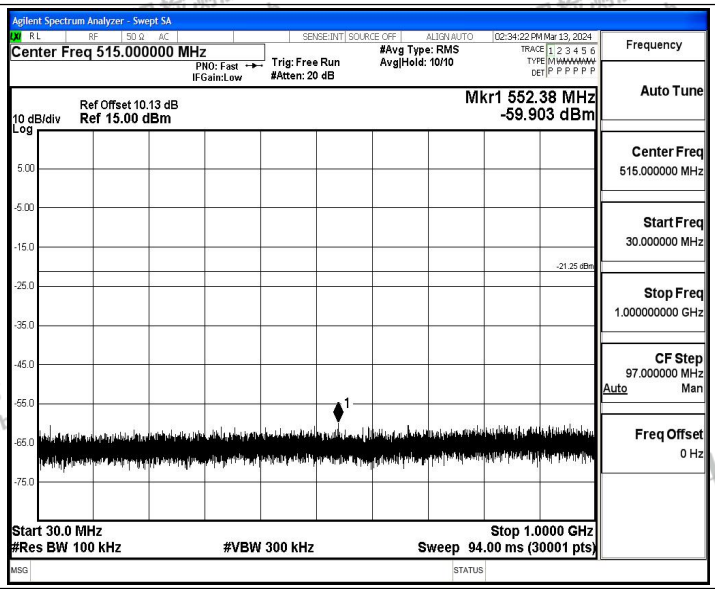
DH5_Ant1_2402_30~1000



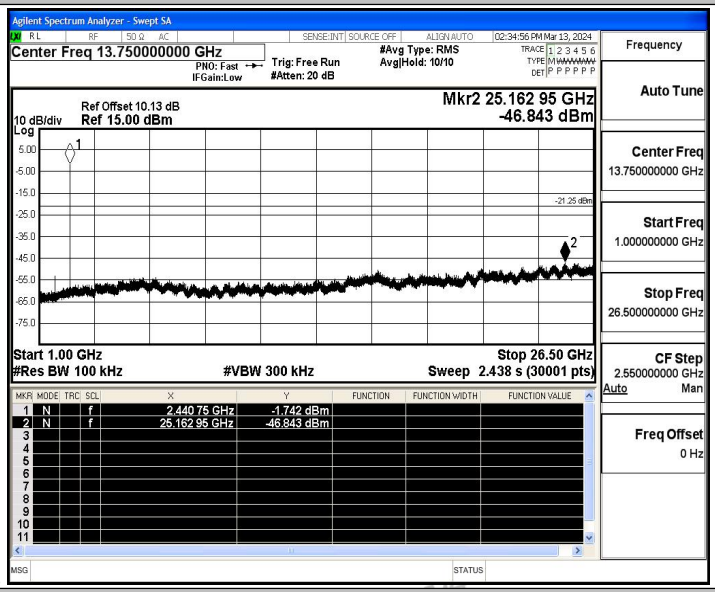
DH5_Ant1_2402_1000~26500



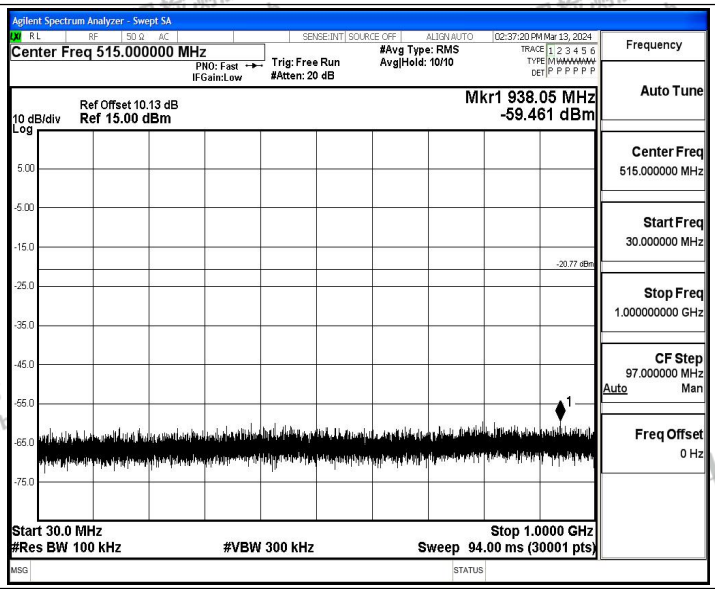
DH5_Ant1_2441_30~1000



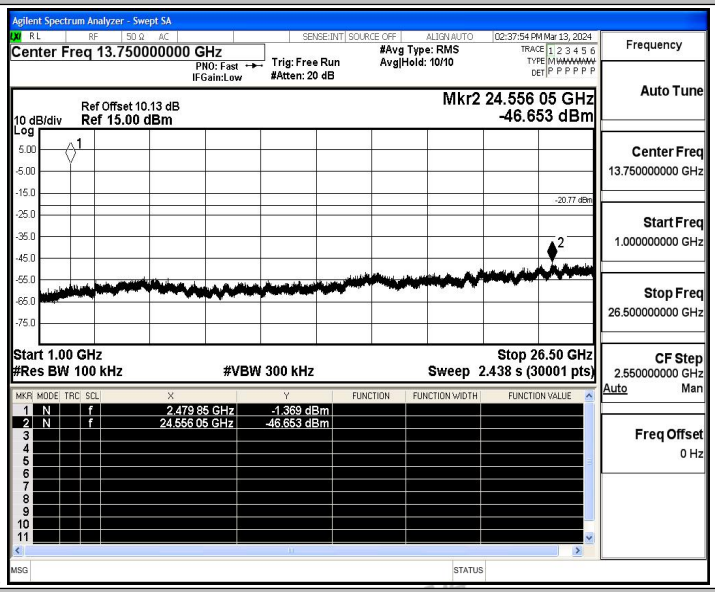
DH5_Ant1_2441_1000~26500



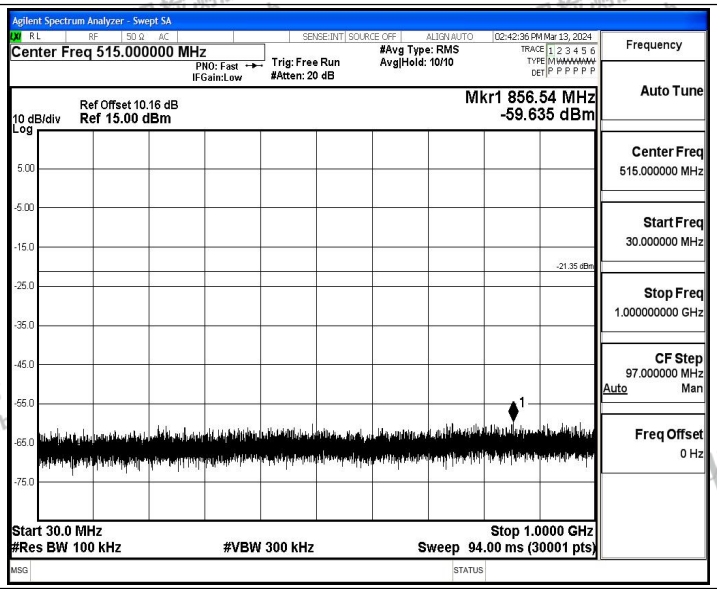
DH5_Ant1_2480_30~1000



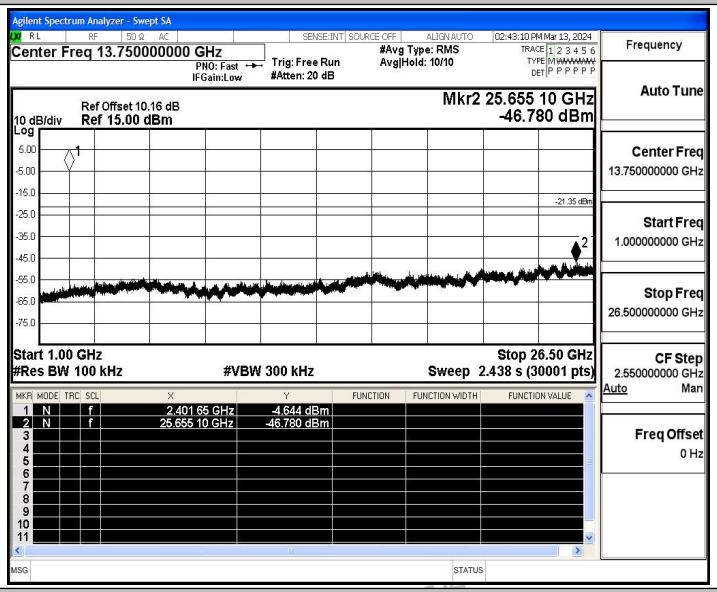
DH5_Ant1_2480_1000~26500



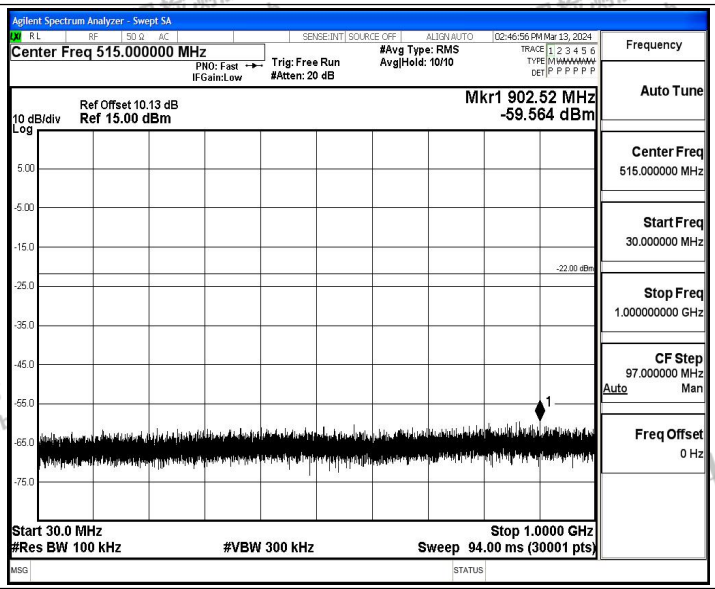
2DH5_Ant1_2402_30~1000



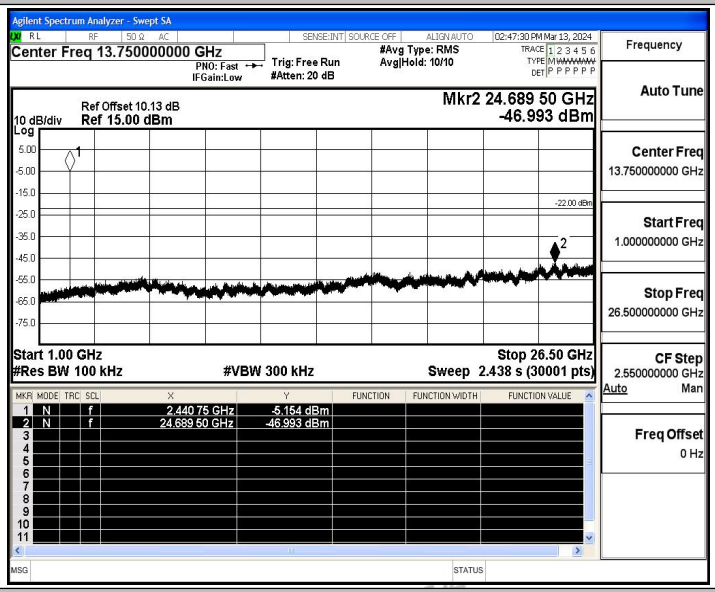
2DH5_Ant1_2402_1000~26500



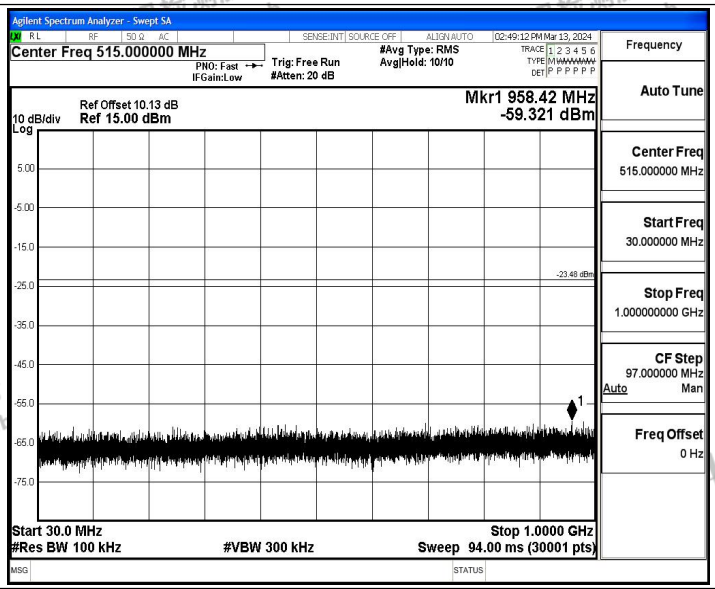
2DH5_Ant1_2441_30~1000



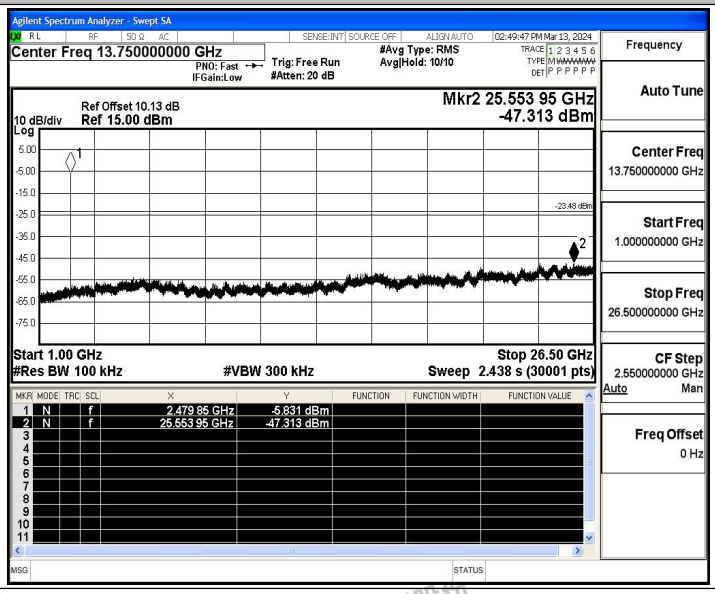
2DH5_Ant1_2441_1000~26500



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500



Reference Level

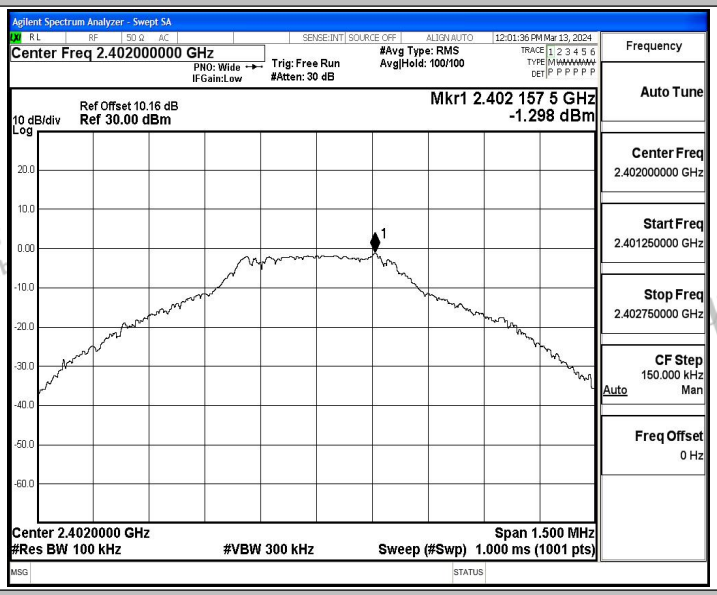
Right Ear:

Test Result

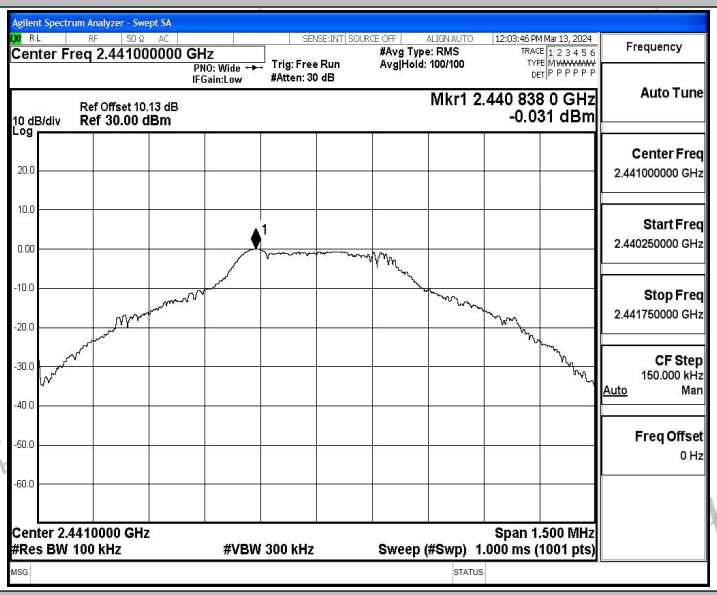
TestMode	Antenna	ChName	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	2402.16	-1.30	---	PASS
		2441	2440.84	-0.03	---	PASS
		2480	2480.17	-0.56	---	PASS
2DH5	Ant1	2402	2402.04	-1.73	---	PASS
		2441	2441.17	-1.37	---	PASS
		2480	2480.00	-1.98	---	PASS

Test Graphs

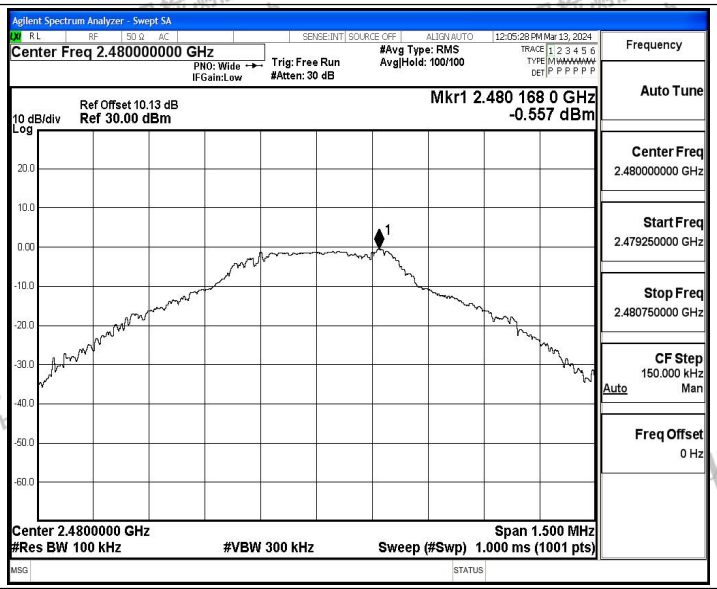
DH5_Ant1_2402



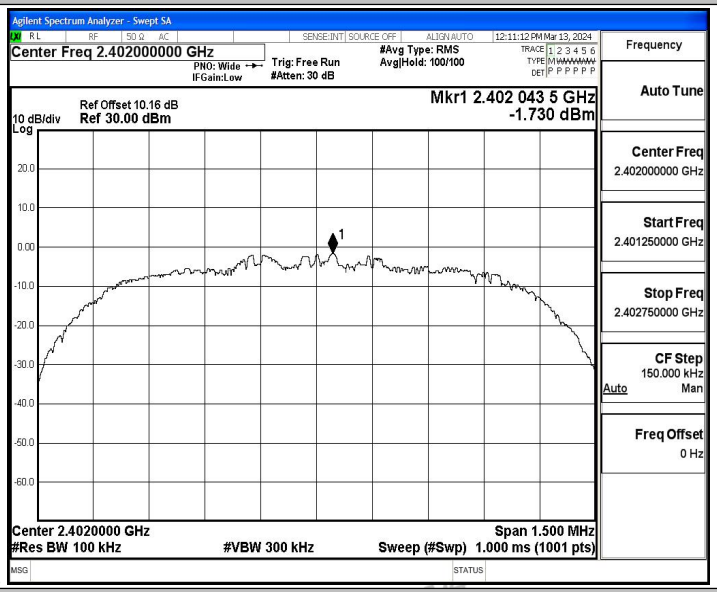
DH5_Ant1_2441



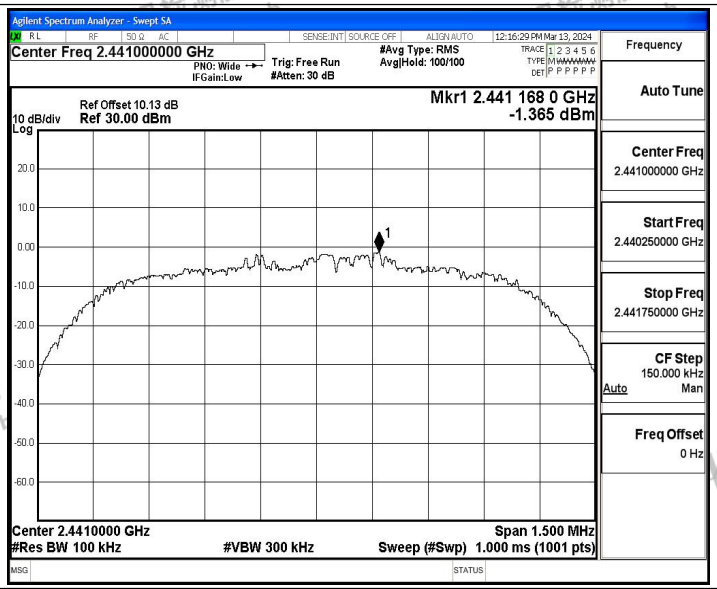
DH5_Ant1_2480



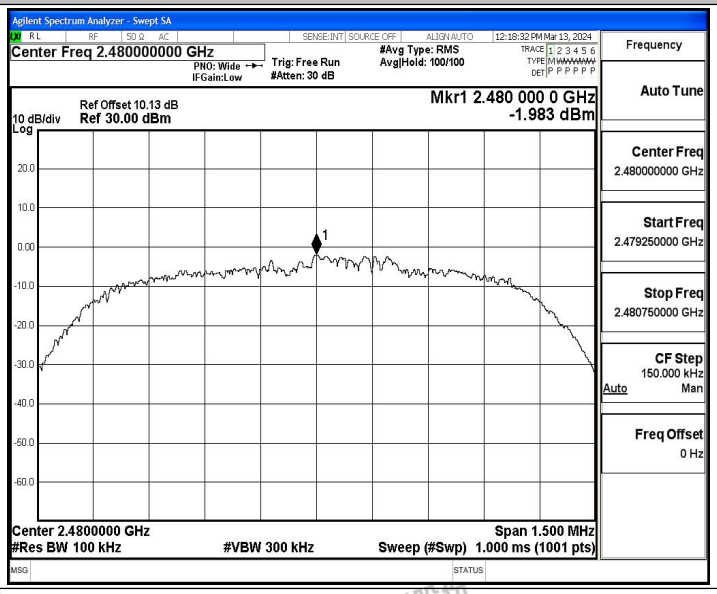
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



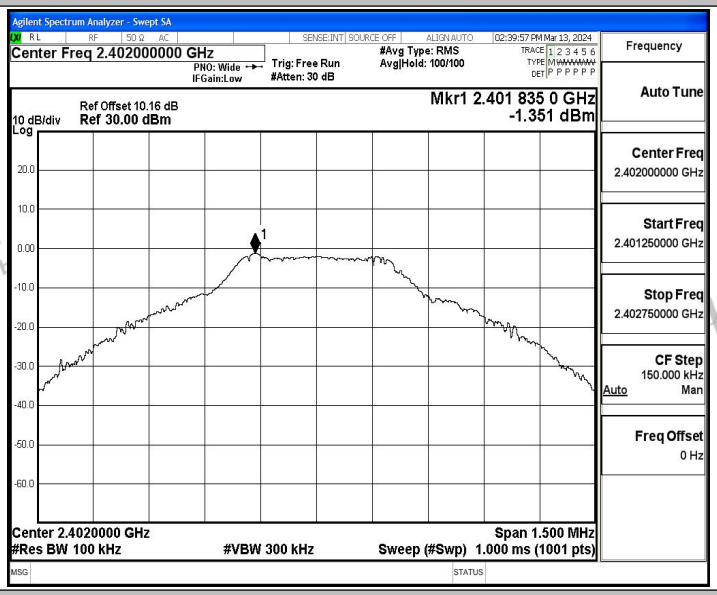
Left Ear:

Test Result

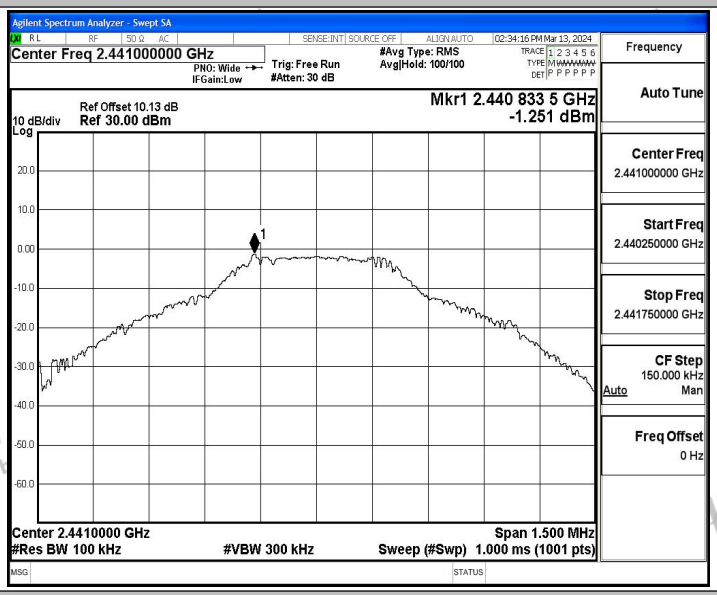
TestMode	Antenna	ChName	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	2401.84	-1.35	---	PASS
		2441	2440.83	-1.25	---	PASS
		2480	2479.84	-0.77	---	PASS
2DH5	Ant1	2402	2402.17	-1.35	---	PASS
		2441	2441.17	-2.00	---	PASS
		2480	2479.85	-3.48	---	PASS

Test Graphs

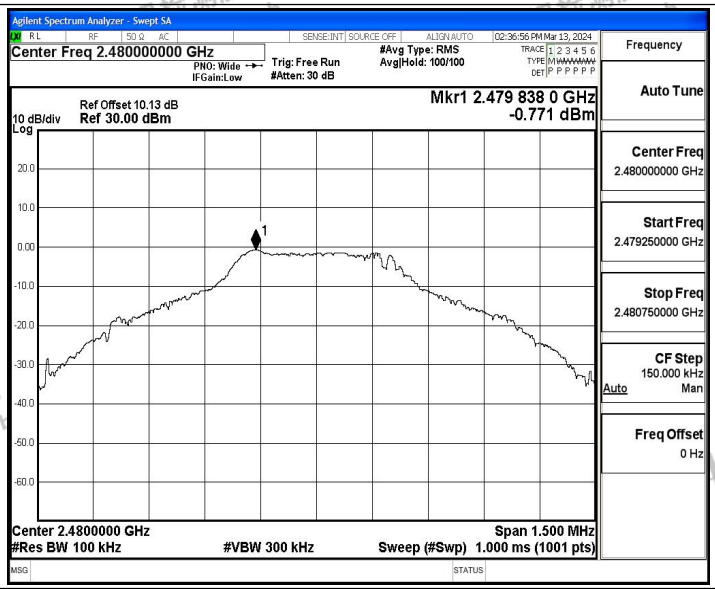
DH5_Ant1_2402



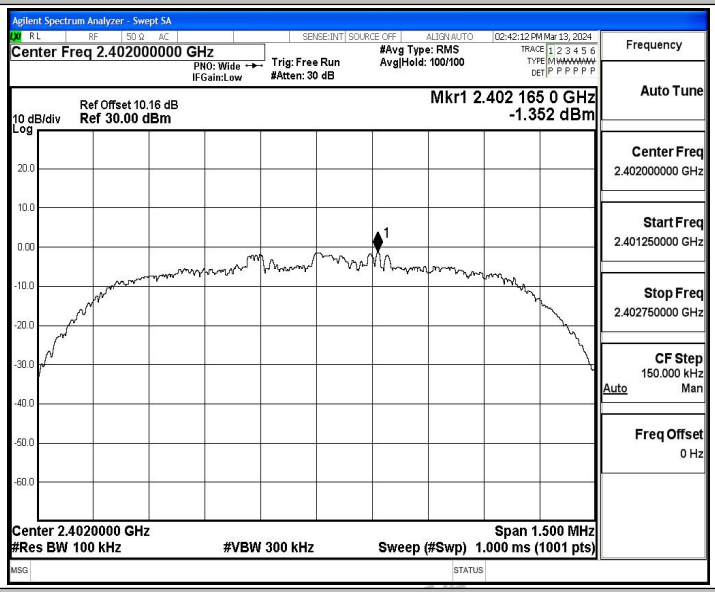
DH5_Ant1_2441



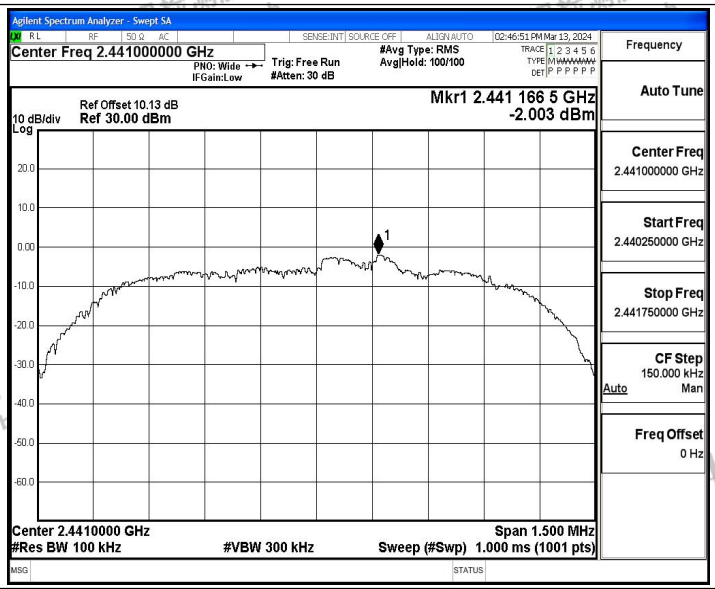
DH5_Ant1_2480



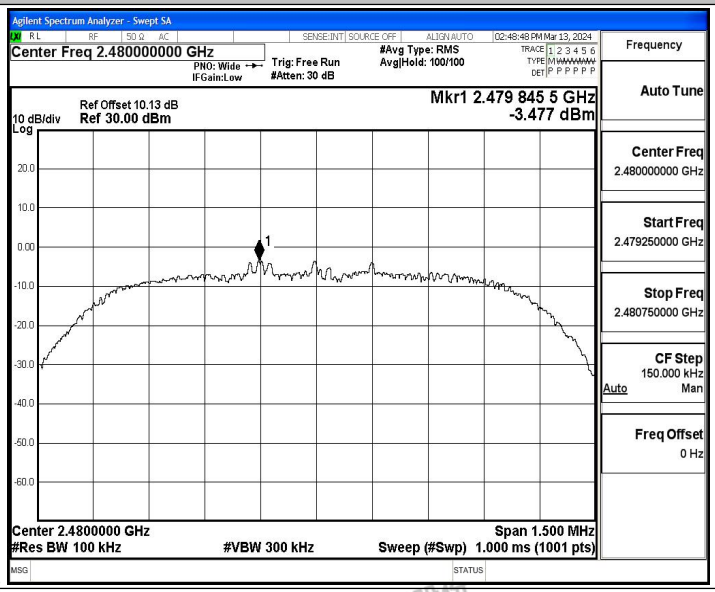
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



A.8 Duty Cycle

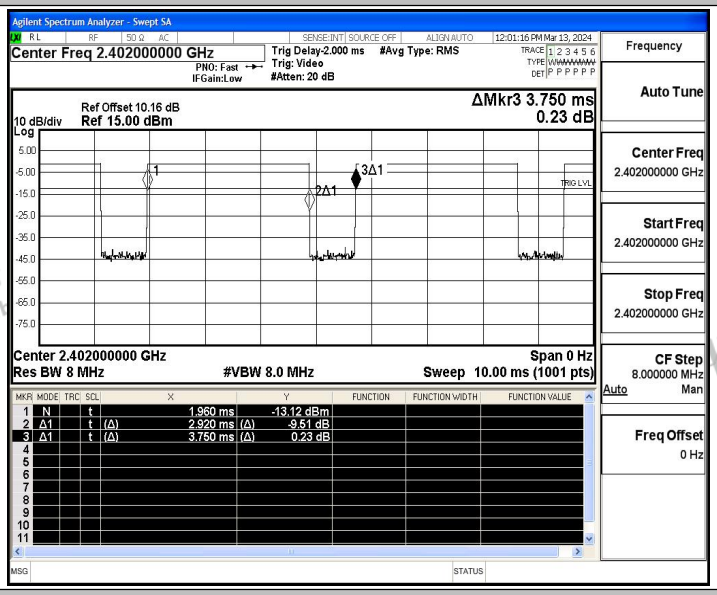
Right Ear:

Test Result

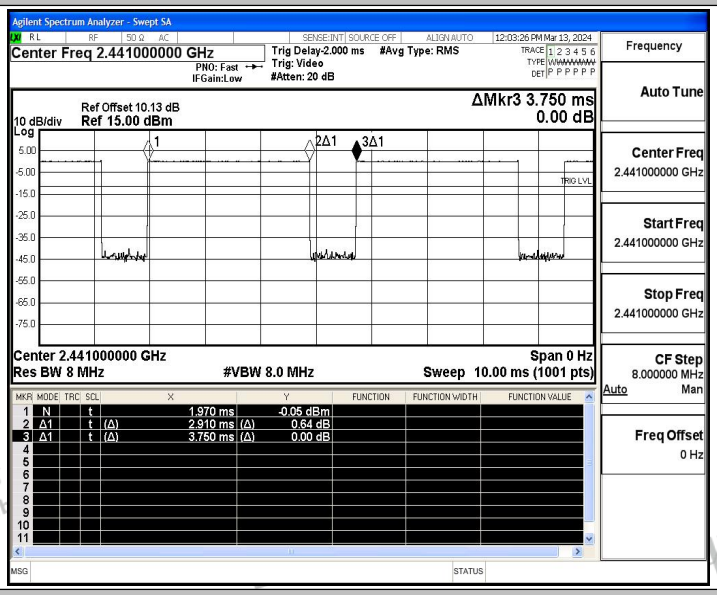
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[kHz]
DH5	Ant1	2402	2.92	3.75	77.87	1.09	0.34
		2441	2.91	3.75	77.60	1.10	0.34
		2480	2.91	3.75	77.60	1.10	0.34
2DH5	Ant1	2402	2.90	3.75	77.33	1.12	0.34
		2441	2.90	3.75	77.33	1.12	0.34
		2480	2.90	3.75	77.33	1.12	0.34

Test Graphs

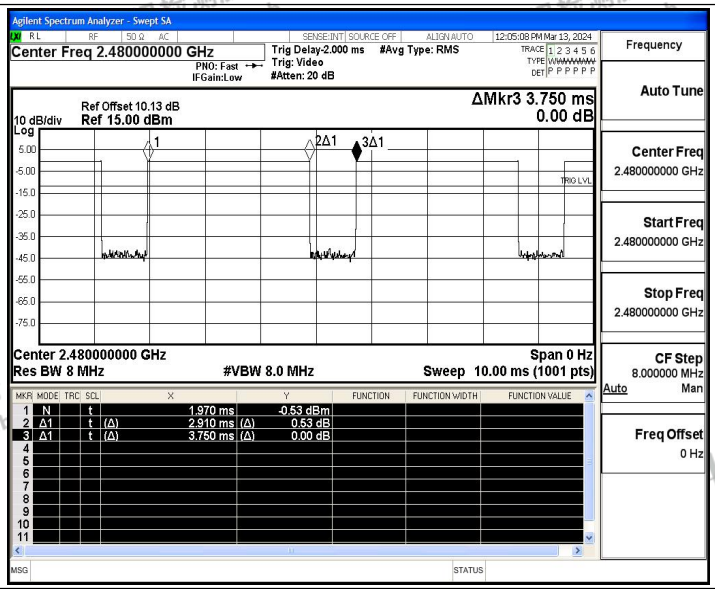
DH5_Ant1_2402



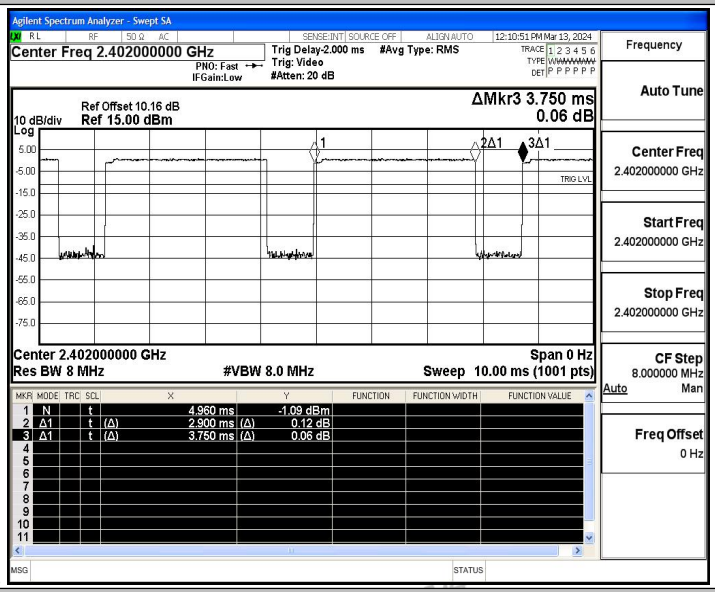
DH5_Ant1_2441



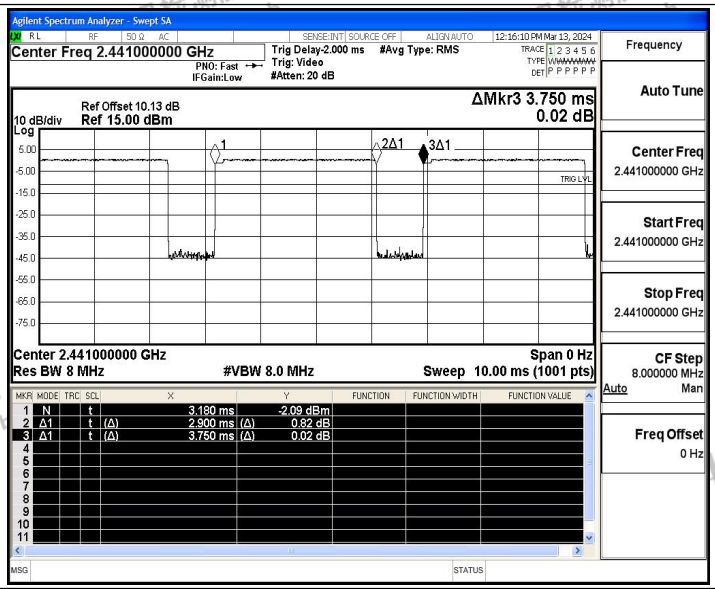
DH5_Ant1_2480



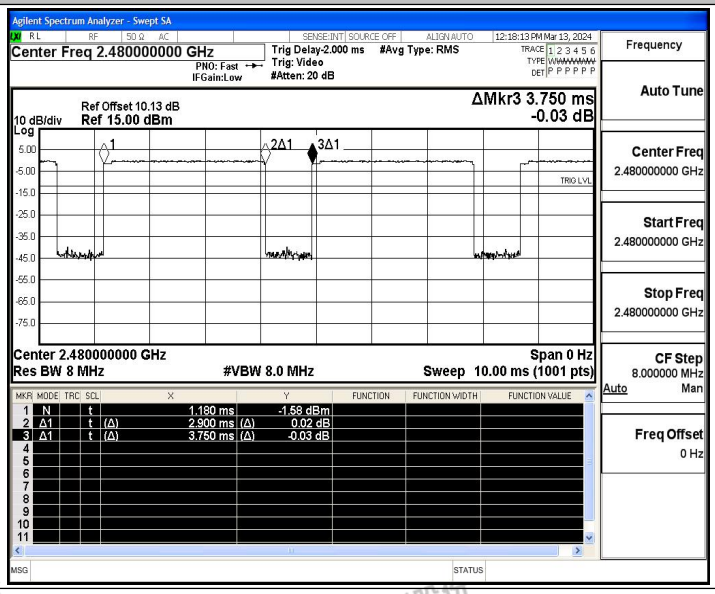
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



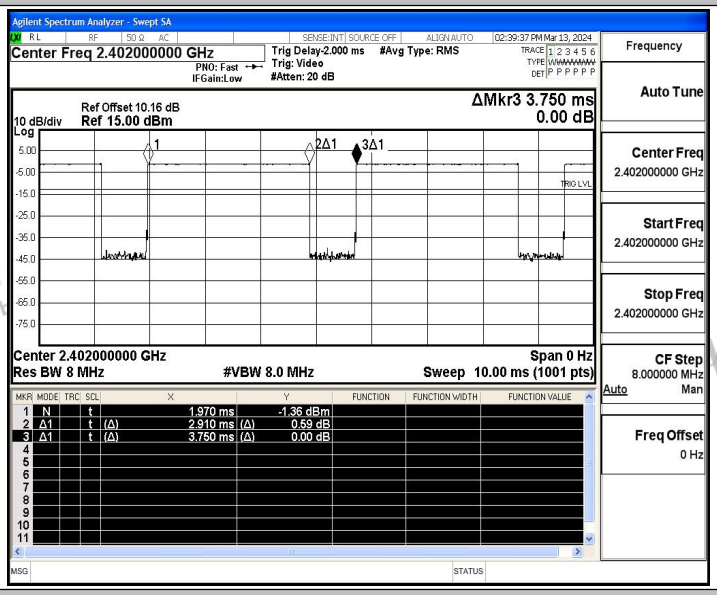
Left Ear:

Test Result

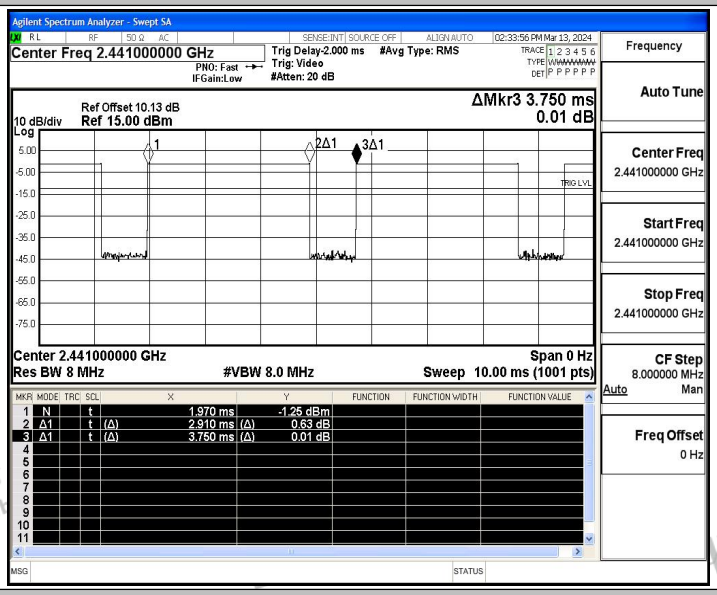
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[kHz]
DH5	Ant1	2402	2.91	3.75	77.60	1.10	0.34
		2441	2.91	3.75	77.60	1.10	0.34
		2480	2.91	3.75	77.60	1.10	0.34
2DH5	Ant1	2402	2.89	3.75	77.07	1.13	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.90	3.75	77.33	1.12	0.34

Test Graphs

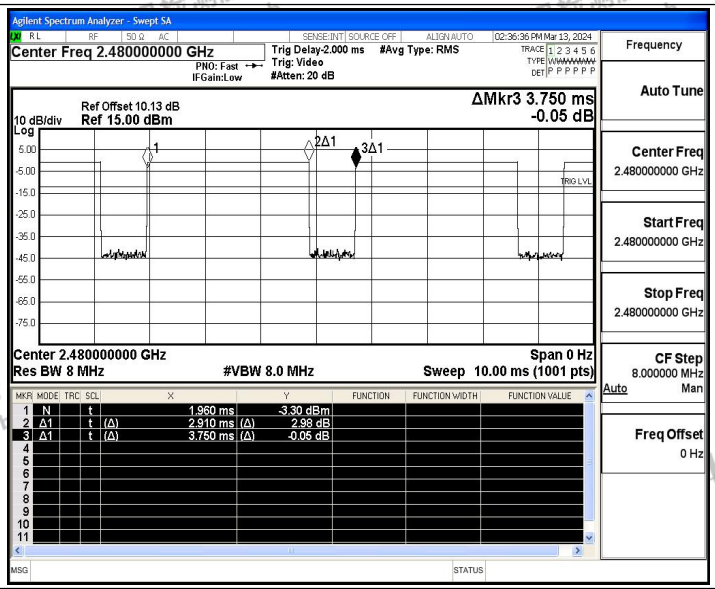
DH5_Ant1_2402



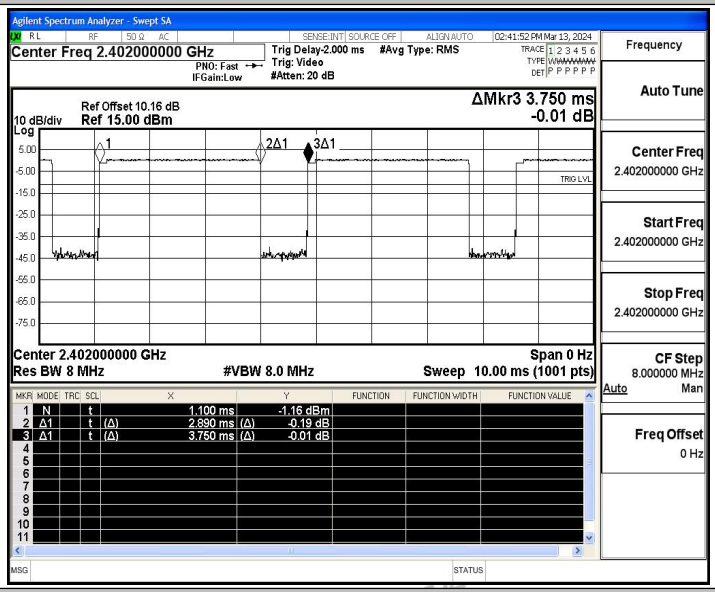
DH5_Ant1_2441



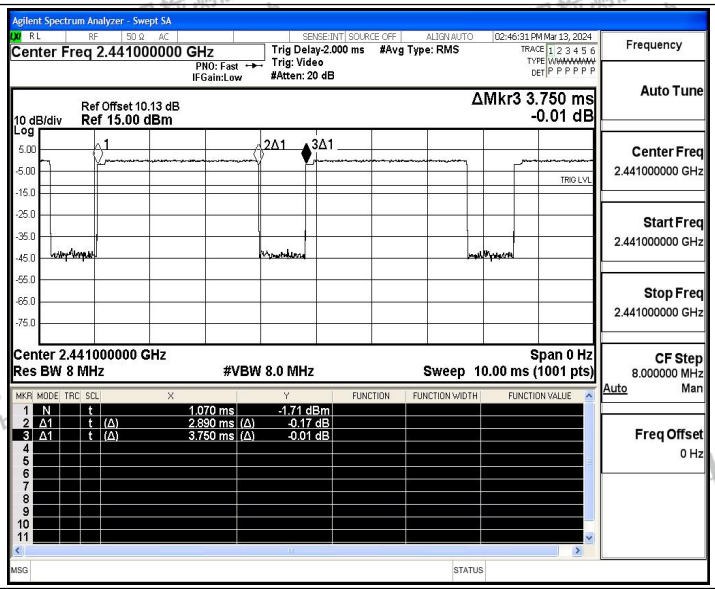
DH5_Ant1_2480



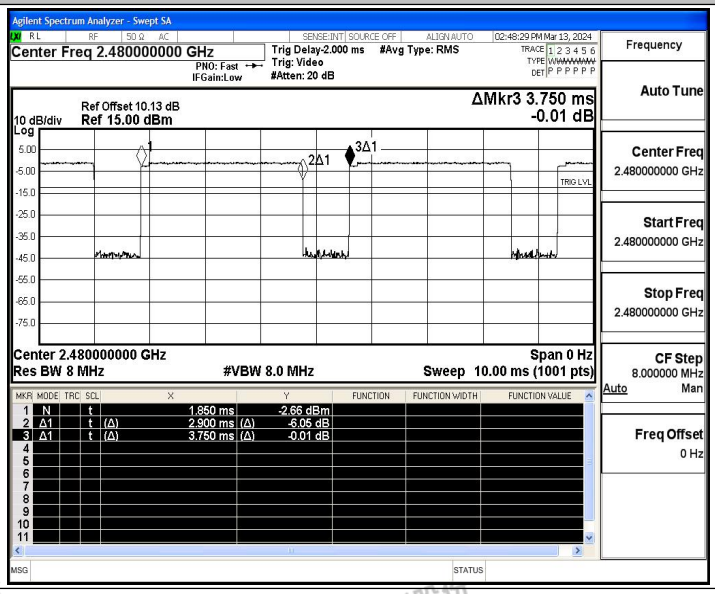
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



A.9 Emissions in Restricted Bands

Right Ear:

Test Result

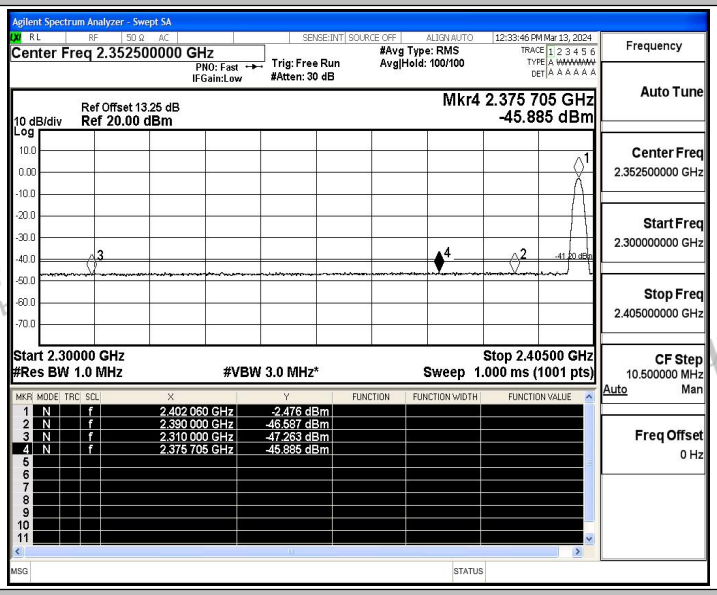
TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-47.26	≤-41.20	47.94	≤54	PASS
				AV	2375.705	-45.89	≤-41.20	49.31	≤54	PASS
				AV	2390.000	-46.59	≤-41.20	48.61	≤54	PASS
				Peak	2310.000	-38.64	≤-21.20	56.56	≤74	PASS
				Peak	2311.235	-36.78	≤-21.20	58.42	≤74	PASS
				Peak	2390.000	-40.43	≤-21.20	54.77	≤74	PASS
		High	2480	AV	2483.500	-47.06	≤-41.20	48.14	≤54	PASS
				AV	2490.880	-45.96	≤-41.20	49.24	≤54	PASS
				AV	2500.000	-45.93	≤-41.20	49.27	≤54	PASS
				Peak	2483.500	-40.29	≤-21.20	54.91	≤74	PASS
				Peak	2497.680	-37.19	≤-21.20	58.01	≤74	PASS
				Peak	2500.000	-39.91	≤-21.20	55.29	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-47.27	≤-41.20	47.93	≤54	PASS
				AV	2339.795	-45.98	≤-41.20	49.22	≤54	PASS
				AV	2390.000	-46.67	≤-41.20	48.53	≤54	PASS
				Peak	2310.000	-40.58	≤-21.20	54.62	≤74	PASS
				Peak	2327.930	-36.93	≤-21.20	58.27	≤74	PASS
				Peak	2390.000	-40.48	≤-21.20	54.72	≤74	PASS
		High	2480	AV	2483.500	-46.28	≤-41.20	48.92	≤54	PASS
				AV	2499.920	-45.5	≤-41.20	49.70	≤54	PASS
				AV	2500.000	-45.97	≤-41.20	49.23	≤54	PASS
				Peak	2483.500	-38.98	≤-21.20	56.22	≤74	PASS
				Peak	2485.840	-36.03	≤-21.20	59.17	≤74	PASS
				Peak	2500.000	-40.48	≤-21.20	54.72	≤74	PASS

Note:

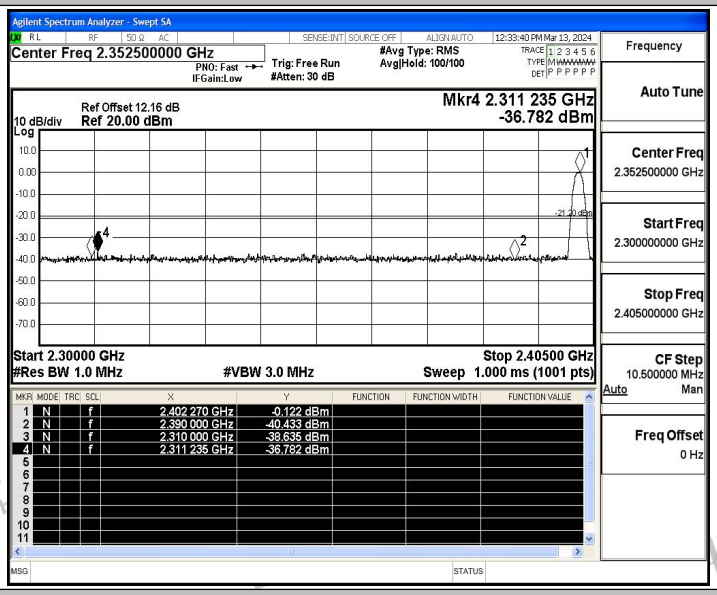
1. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

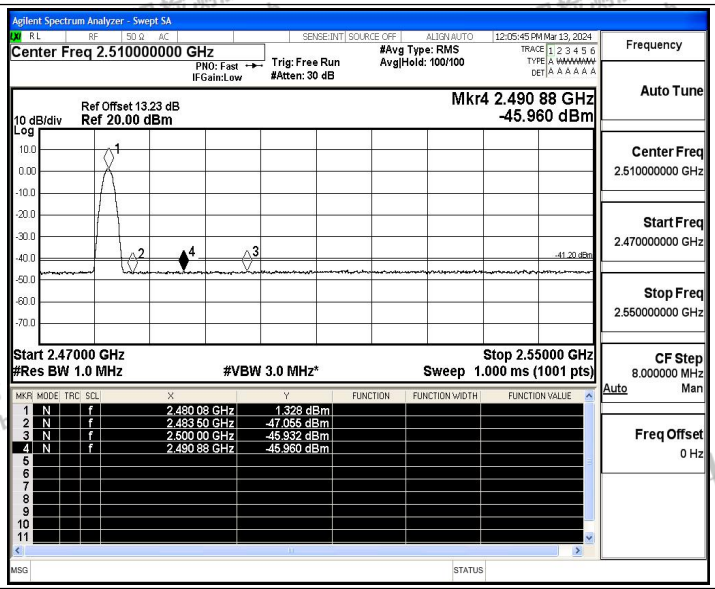
DH5_Ant1_Low_2402_AV



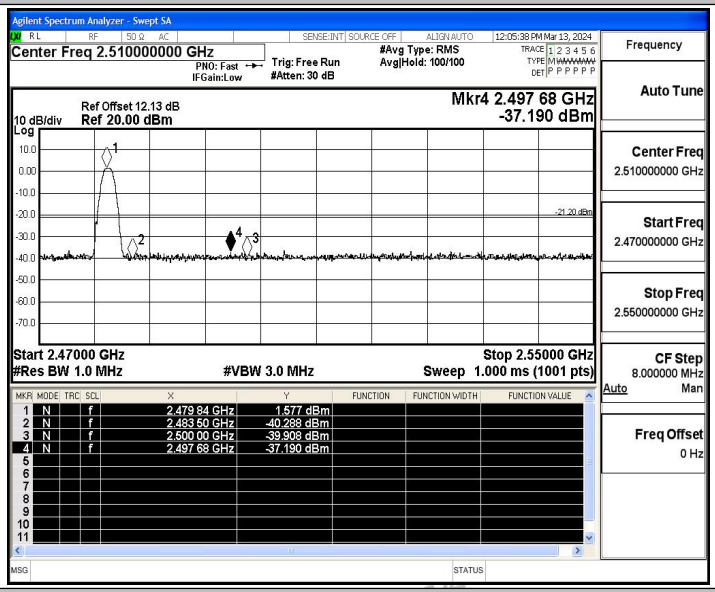
DH5_Ant1_Low_2402_Peak



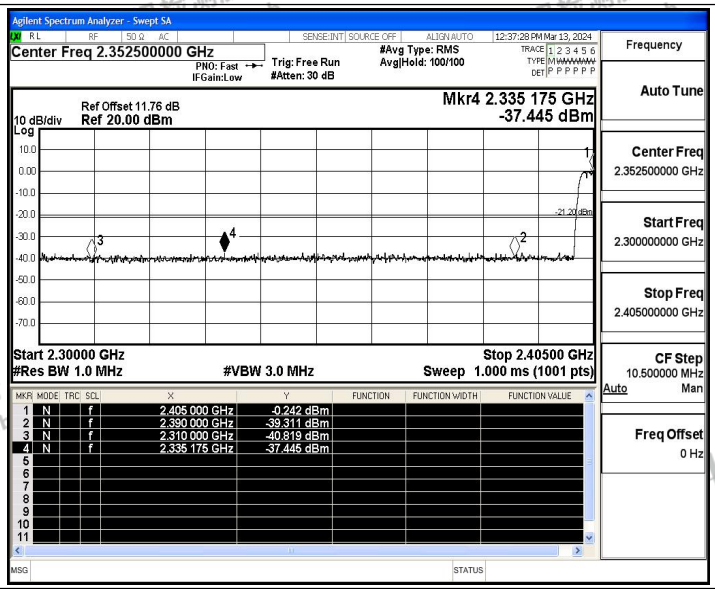
DH5_Ant1_High_2480_AV



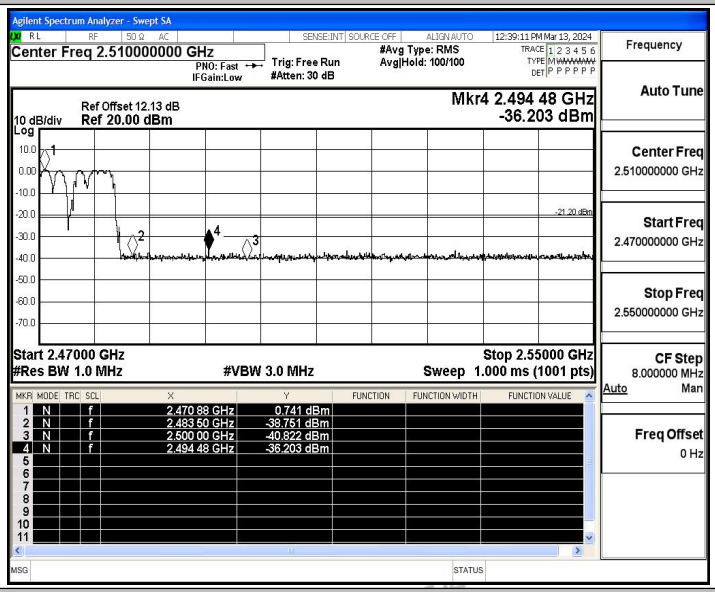
DH5_Ant1_High_2480_Peak



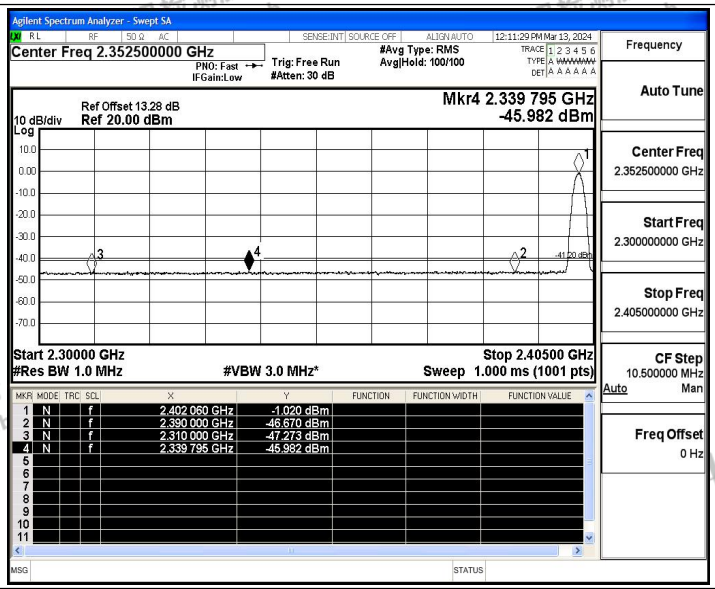
DH5_Ant1_Low_Hop_2402_Peak



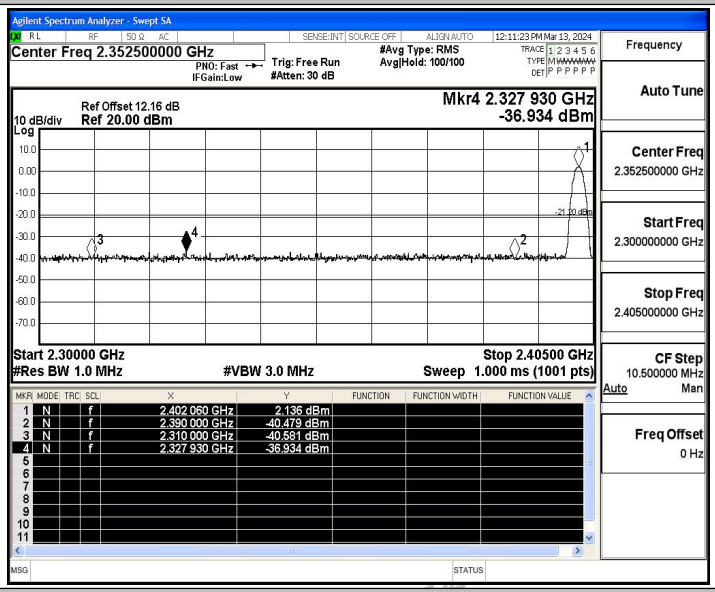
DH5_Ant1_High_Hop_2480_Peak



2DH5_Ant1_Low_2402_AV



2DH5_Ant1_Low_2402_Peak



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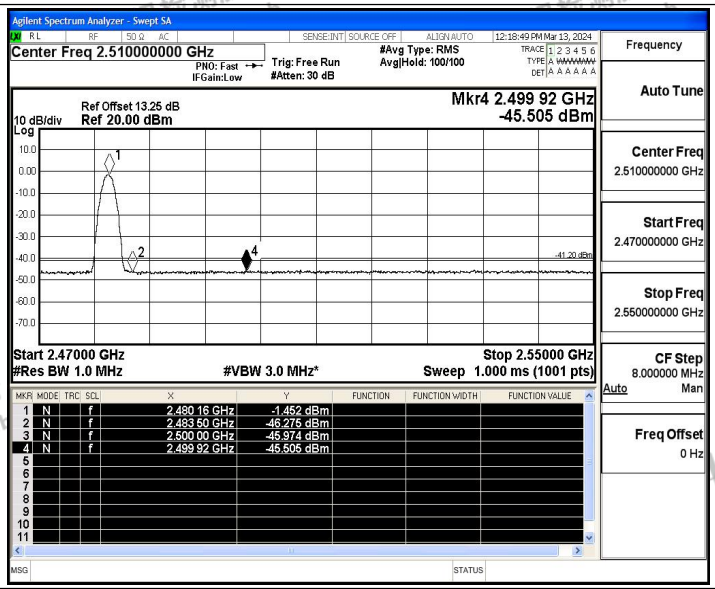

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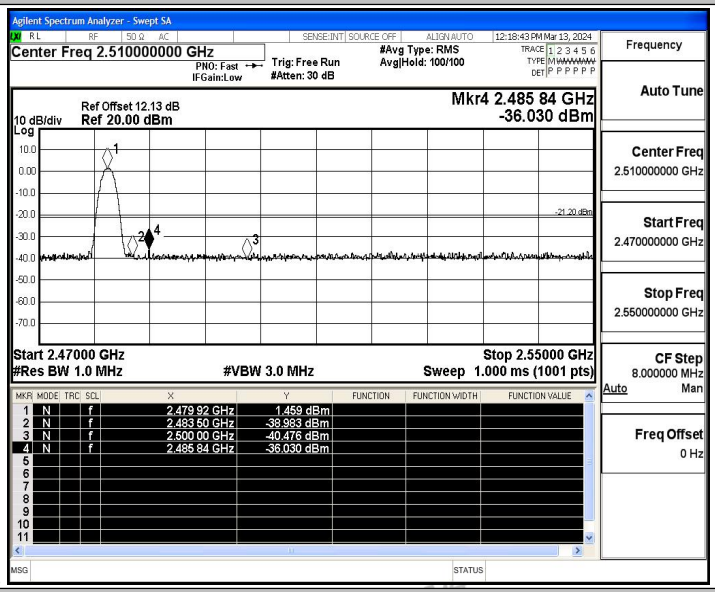

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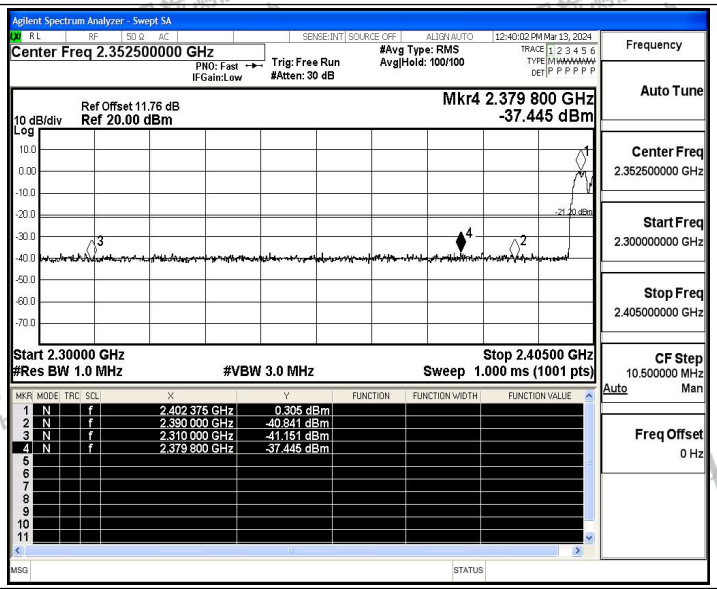
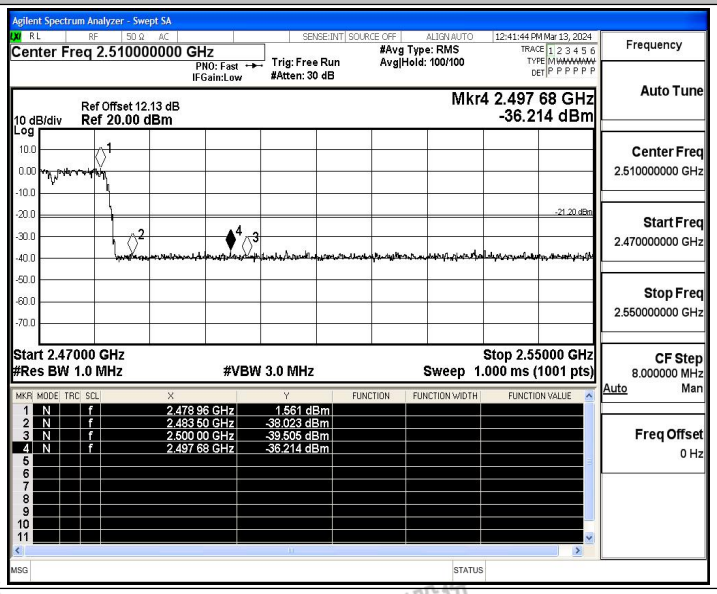


2DH5_Ant1_High_Hop_2480_Peak



Left Ear:

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-47.25	≤-41.20	47.95	≤54	PASS
				AV	2382.950	-45.7	≤-41.20	49.50	≤54	PASS
				AV	2390.000	-46.63	≤-41.20	48.57	≤54	PASS
				Peak	2310.000	-38.82	≤-21.20	56.38	≤74	PASS
				Peak	2388.515	-36.17	≤-21.20	59.03	≤74	PASS
				Peak	2390.000	-40.2	≤-21.20	55.00	≤74	PASS
		High	2480	AV	2483.500	-46.92	≤-41.20	48.28	≤54	PASS
				AV	2497.520	-45.73	≤-41.20	49.47	≤54	PASS
				AV	2500.000	-46.71	≤-41.20	48.49	≤54	PASS
				Peak	2483.500	-39.96	≤-21.20	55.24	≤74	PASS
				Peak	2488.480	-36.88	≤-21.20	58.32	≤74	PASS
				Peak	2500.000	-39.46	≤-21.20	55.74	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.49	≤-21.20	53.71	≤74	PASS
				Peak	2370.665	-37.46	≤-21.20	57.74	≤74	PASS
				Peak	2390.000	-40.06	≤-21.20	55.14	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.21	≤-21.20	54.99	≤74	PASS
				Peak	2498.880	-37.41	≤-21.20	57.79	≤74	PASS
				Peak	2500.000	-40.05	≤-21.20	55.15	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-46.63	≤-41.20	48.57	≤54	PASS
				AV	2373.395	-45.65	≤-41.20	49.55	≤54	PASS
				AV	2390.000	-46.56	≤-41.20	48.64	≤54	PASS
				Peak	2310.000	-40.55	≤-21.20	54.65	≤74	PASS
				Peak	2383.790	-37.1	≤-21.20	58.10	≤74	PASS
				Peak	2390.000	-38.99	≤-21.20	56.21	≤74	PASS
		High	2480	AV	2483.500	-45.97	≤-41.20	49.23	≤54	PASS
				AV	2494.080	-45.71	≤-41.20	49.49	≤54	PASS
				AV	2500.000	-46.34	≤-41.20	48.86	≤54	PASS
				Peak	2483.500	-40.04	≤-21.20	55.16	≤74	PASS
				Peak	2495.600	-37.19	≤-21.20	58.01	≤74	PASS
				Peak	2500.000	-40.23	≤-21.20	54.97	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.63	≤-21.20	54.57	≤74	PASS
				Peak	2378.330	-37.39	≤-21.20	57.81	≤74	PASS
				Peak	2390.000	-39.09	≤-21.20	56.11	≤74	PASS
		High	Hop_248	Peak	2483.500	-39.72	≤-21.20	55.48	≤74	PASS

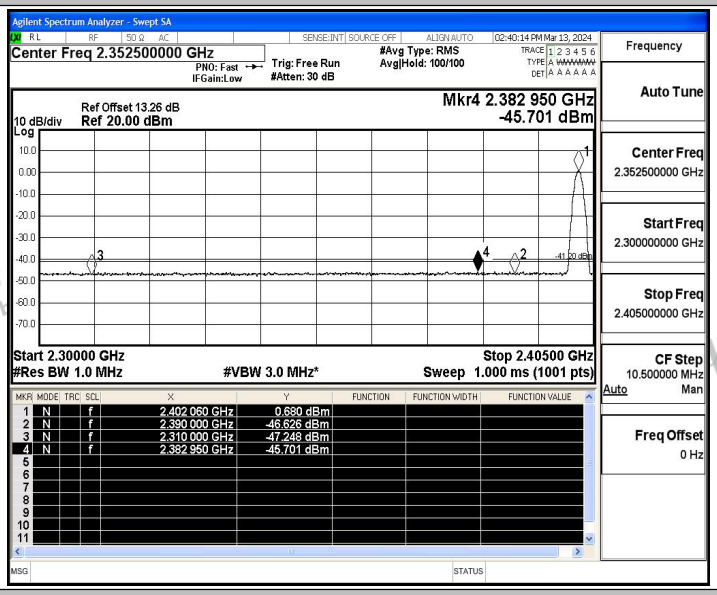
			0	Peak	2496.960	-35.36	≤-21.20	59.84	≤74	PASS
				Peak	2500.000	-40.8	≤-21.20	54.40	≤74	PASS

Note：

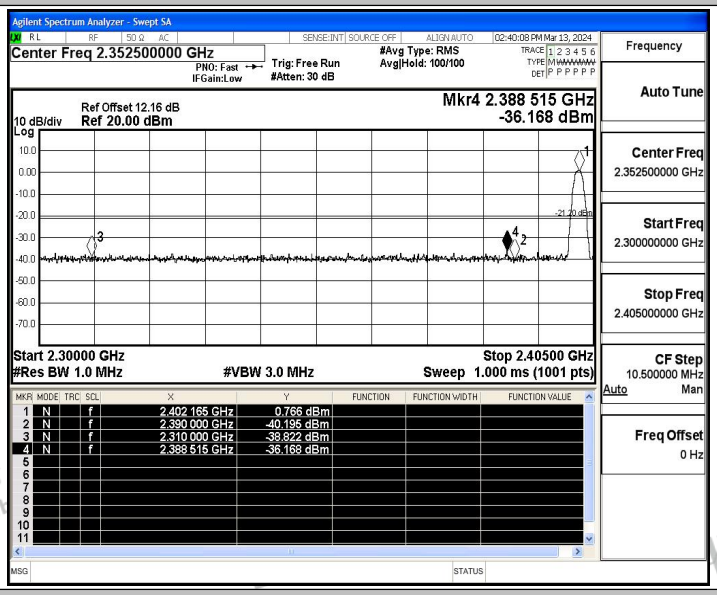
3. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
4. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

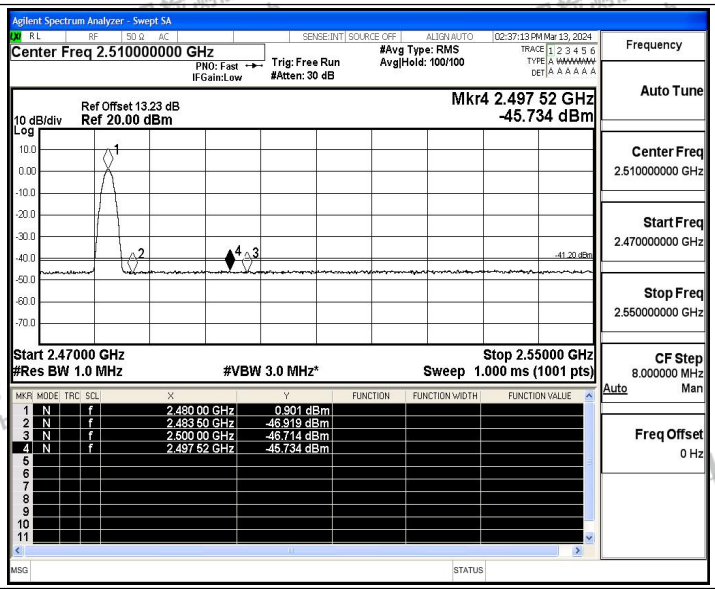
DH5_Ant1_Low_2402_AV



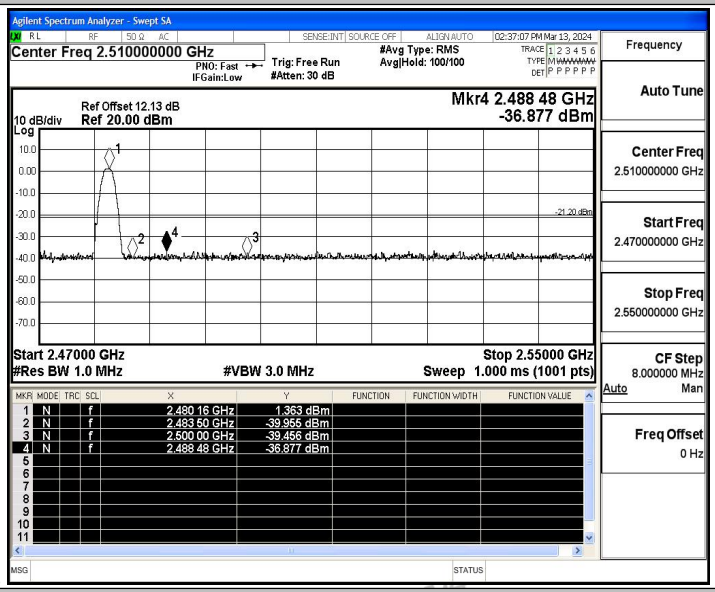
DH5_Ant1_Low_2402_Peak



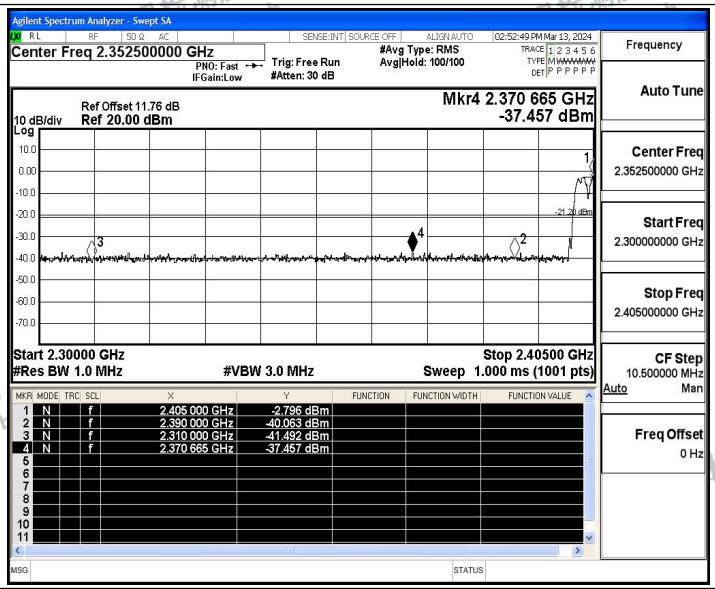
DH5_Ant1_High_2480_AV



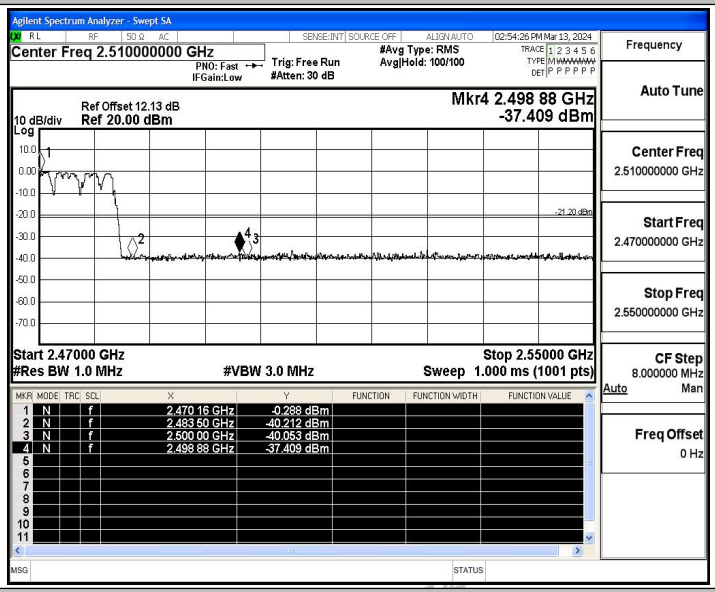
DH5_Ant1_High_2480_Peak



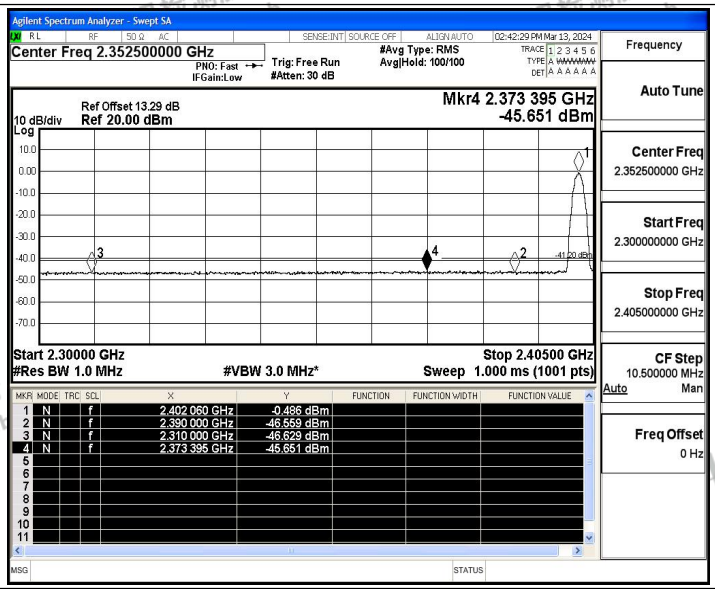
DH5_Ant1_Low_Hop_2402_Peak



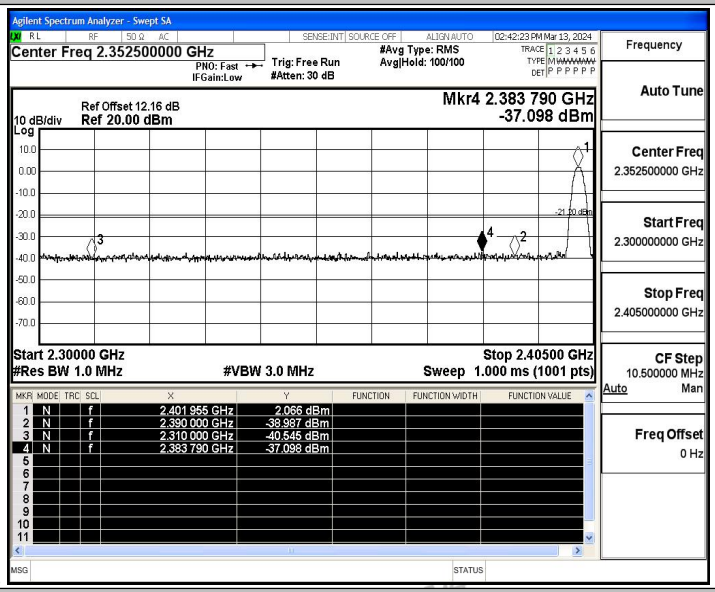
DH5_Ant1_High_Hop_2480_Peak



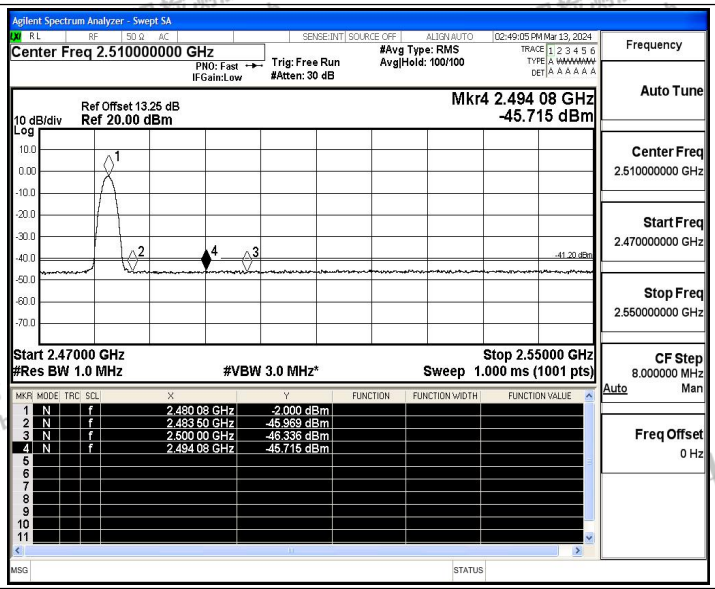
2DH5_Ant1_Low_2402_AV



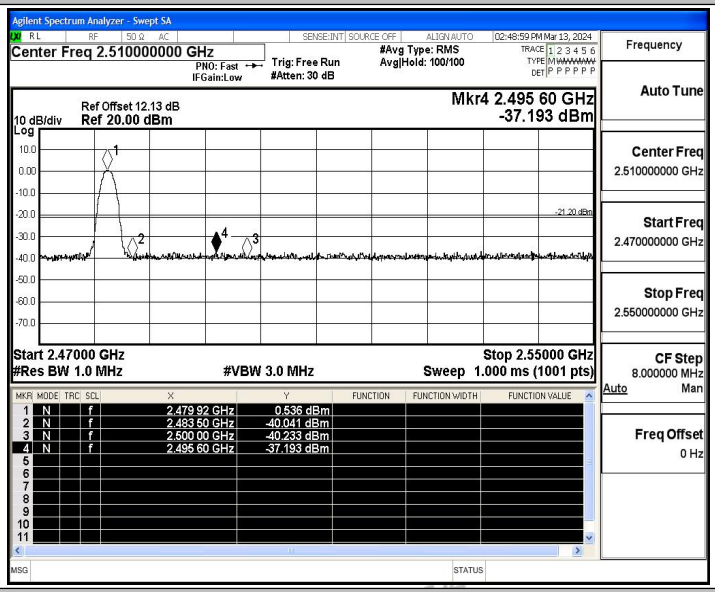
2DH5_Ant1_Low_2402_Peak



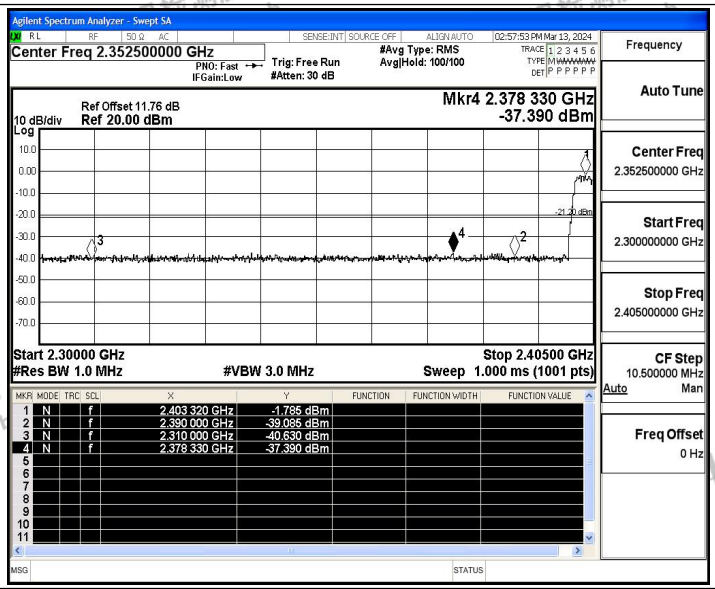
2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak



2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak