RF TEST REPORT

Product Name: Wireless microphone

Model Name: LDANNYBPB51US

FCC ID: 2AFF6-15PBYNNADL

IC: 22349-15PBYNNADL

Issued For : Adam Hall GmbH

Adam-Hall-Str. 1, 61267 Neu-Anspach, Germany

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT24K008RF01
Sample Received Date:	Nov. 04, 2024
Date of Test:	Nov. 04, 2024 ~ Apr. 16, 2025
Date of Issue:	Apr. 16, 2025

TEST REPORT CERTIFICATION

Applicant:	Adam Hall GmbH
Address:	Adam-Hall-Str. 1, 61267 Neu-Anspach, Germany
Manufacturer:	Enping Pasgao Electronic Company Limited
Address:	V1 2nd District Industrial Transfer Park, Enping, Jiangmen, Guangdong, China
Product Name:	Wireless microphone
Trademark:	LD
Model Name:	LDANNYBPB51US
Sample Number:	LGT2411010-2
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR Part 74 RSS-210 Issue 11, June 25, 2024 RSS-Gen Issue 5, February 2021 ETSI EN 300 422-1 V2.2.1 (2021-11) ANSI C63.26-2015	PASS

Prepared by:

Zane Shan

Zane Shan
Engineer

Approved by:

Vita Li
Technical Director

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Revision History

Rev.	Issue Date	Contents
00	Apr. 16, 2025	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Part 74; RSS-210 Issue 11			
Standard Section	Test Item	Judgment	Remark
15.207 RSS-Gen	Conducted Emission	N/A	--
Part 74.861(e)(6)/(e)(7) RSS 210(G.5)	Radiated Spurious Emission	PASS	Refer to EN 300 422-1
Part 74.861(e)(6)/(e)(7) RSS 210(G.5)	Emission Mask	PASS	Refer to EN 300 422-1
Part 74.861(e)(1) RSS 210(G.2)	Output Power	PASS	--
Part 74.861(e)(5) RSS 210(G.3)	Occupied Bandwidth	PASS	--
Part 74.861(e)(4) RSS 210(G.4)	Transmitter frequency stability	PASS	--
Part 74.861(e)(3) RSS 210(G.6)	Modulation	PASS	--
Part 2.1047 RSS 210(G.6)	Audio Frequency Response	PASS	--
15.203 RSS-Gen	Antenna Requirement	PASS	--

NOTE:

(1) 'N/A' denotes test is not applicable in this Test Report.

1.1 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China
Accreditation Certificate	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 9K-30MHz	±2.84dB
4	All emissions, radiated 30M-1GHz	±4.39dB
5	All emissions, radiated 1G-6GHz	±5.10dB
6	All emissions, radiated>6G	±5.48dB
7	Conducted Emission (9KHz-150KHz)	±2.79dB
8	Conducted Emission (150KHz-30MHz)	±2.80dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Wireless microphone
Trademark:	LD
Model Name:	LDANNYBPB51US
Series Model:	N/A
Model Difference:	N/A
Operation Frequency Range:	514 MHz-542MHz
Modulation mode / type:	FM
Emission Bandwidth:	54.647KHz
Battery:	DC 3V
Antenna Gain(dBi):	0
Hardware Version:	N/A
Software Version:	N/A
Temperature Range:	-30℃-50℃

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. The antenna information refers to the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.
3. Test frequency list:

Test Channel		
Test Channel	EUT Channel	Test Frequency (MHz)
lowest	CH01	514.275
middle	CH06	525.750
highest	CH12	541.800

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Low Channel
Mode 2	Middle Channel
Mode 3	High Channel

Note:

(1) Due to the different configuration and test, in this list only some worse mode. The worst test data of the worse modeis reported by this report.

2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
N/A	N/A	N/A	N/A	N/A

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
N/A	N/A	N/A	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

(2) “YES” is means “with core”; “NO” is means “without core”.

2.4 EQUIPMENTS LIST

Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2024.03.09	2025.03.08
LISN	COM-POWER	LI-115	02032	2024.03.09	2025.03.08
LISN	SCHWARZBECK	NNLK 8122	00160	2024.03.09	2025.03.08
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2024.03.09	2025.03.08
Temperature & Humidity	KTJ	TA218B	N.A	2024.03.09	2025.03.08
Testing Software	EMC-I_V1.4.0.3_SKET				

Radiated Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2024.03.09	2025.03.08
Active loop Antenna	ETS	6502	00049544	2023.10.13	2025.10.12
Spectrum Analyzer	Keysight	N9010B	MY60242508	2024.08.05	2025.08.04
Bilog Antenna(30M-1G)	SCHWARZBECK	VULB 9168	2705	2022.12.12	2025.12.11
Horn Antenna(1-18G)	SCHWARZBECK	3115	10SL0060	2022.06.02	2025.06.01
Horn Antenna(18-40G)	A-INFO	LB-180400-KF	J211060273	2022.06.08	2025.06.07
Pre-amplifier(30M-1G)	EMtrace	RP01A	02019	2024.03.09	2025.03.08
Pre-amplifier(1-26.5G)	Agilent	8449B	3008A4722	2024.03.09	2025.03.08
Pre-amplifier(18-40G)	com-mw	LNPA_18-40-01	18050003	2024.03.09	2025.03.08
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2024.03.11	2025.03.10
Testing Software	EMC-I_V1.4.0.3_SKET				

RF Conducted Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
Signal Analyzer	Keysight	N9010B	MY60242508	2024.08.05	2025.08.04
Signal Analyzer	Keysight	N9020A	MY50530994	2024.03.09	2025.03.08
Audio Analyzer	R&S	UPL	N/A	2024.10.11	2025.10.10
MXG Vector Signal Generator	Keysight	N5182B	MY59100717	2024.03.09	2025.03.08
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2024.03.09	2025.03.08
Attenuator	eastsheep	90db	N.A	2024.03.09	2025.03.08
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2024.03.11	2025.03.10
Digital multimeter	MASTECH	MS8261	MBGBC83053	2024.03.09	2025.03.08
Testing Software	MTS8310_V2.0.0.0_MW				

RF Conducted Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
Signal Analyzer	Keysight	N9020A	MY50530994	2025.03.05	2026.03.04
Audio Analyzer	R&S	UPL	N/A	2024.10.11	2025.10.10
MXG Vector Signal Generator	Keysight	N5182B	MY59100717	2025.03.05	2026.03.04
Attenuator	eastsheep	90db	N.A	2025.03.06	2026.03.05
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2025.03.10	2026.03.09
Digital multimeter	MASTECH	MS8261	MBGBC83053	2025.03.05	2026.03.04
Testing Software	MTS8310_V2.0.0.0_MW				

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

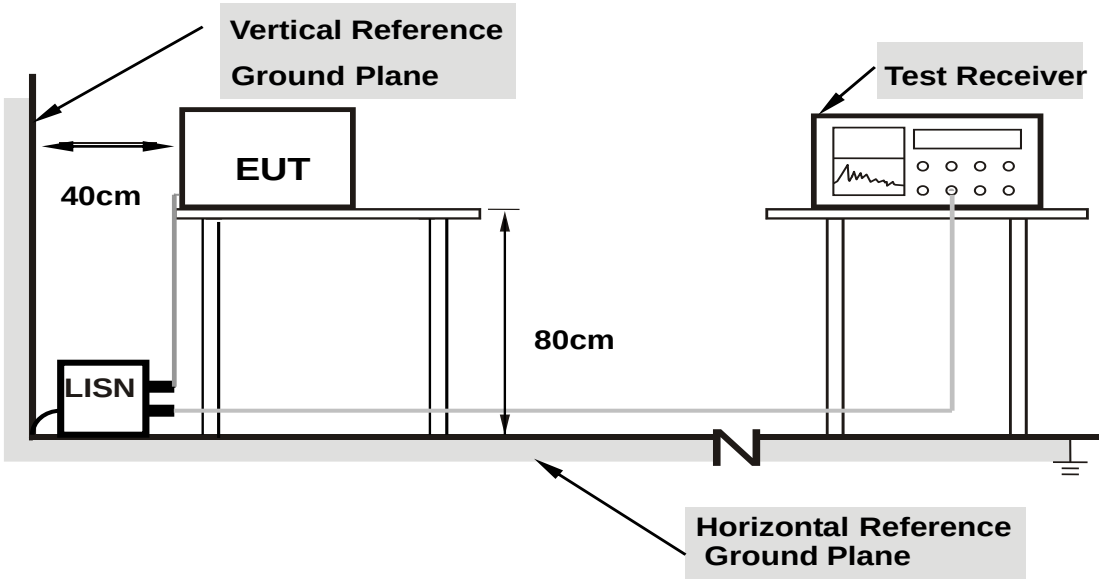
The following table is the setting of the receiver

Receiver Parameters	**Setting**
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.5 TEST RESULT

N/A.

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

According to CFR 47 section 74.861 e (6)(iii), the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= P(dBW) - [43 + 10log(P)] (dB)

= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

= -13dBm.

According to CFR 47 section 74.861 e (7) and RSS-210 Issue 11 (G.5)
The transmitter unwanted emissions shall meet the requirements in sections 4.2.4.1.2 of ETSI EN 300 422-1

Frequency range	Maximum power, e.r.p(≤1 GHz) e.i.r.p(> 1 GHz)	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 KHz
47 MHz to 74 MHz	-54 dBm	100 KHz
74 MHz to 87.5 MHz	-36 dBm	100 KHz
87.5 MHz to 118 MHz	-54 dBm	100 KHz
118 MHz to 174 MHz	-36 dBm	100 KHz
174 MHz to 230 MHz	-54 dBm	100 KHz
230 MHz to 470 MHz	-36 dBm	100 KHz
470 MHz to 862 MHz	-54 dBm	100 KHz
862 MHz to 1 GHz	-36 dBm	100 KHz
1 GHz to 3 GHz	-30 dBm	1 MHz

3.2.2 TEST PROCEDURE

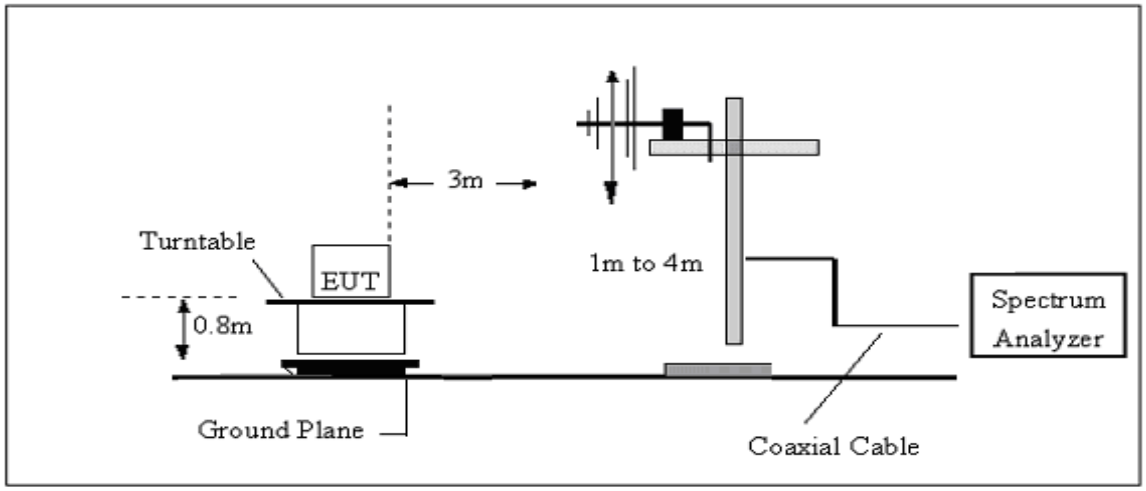
1. Please refer to ETSI EN 300 422-1 clause 5.1 for the test conditions.
2. Please refer to ETSI EN 300 422-1 clause 5.4.4 for the measurement method.

The following table is the setting of the Spectrum Analyzer.

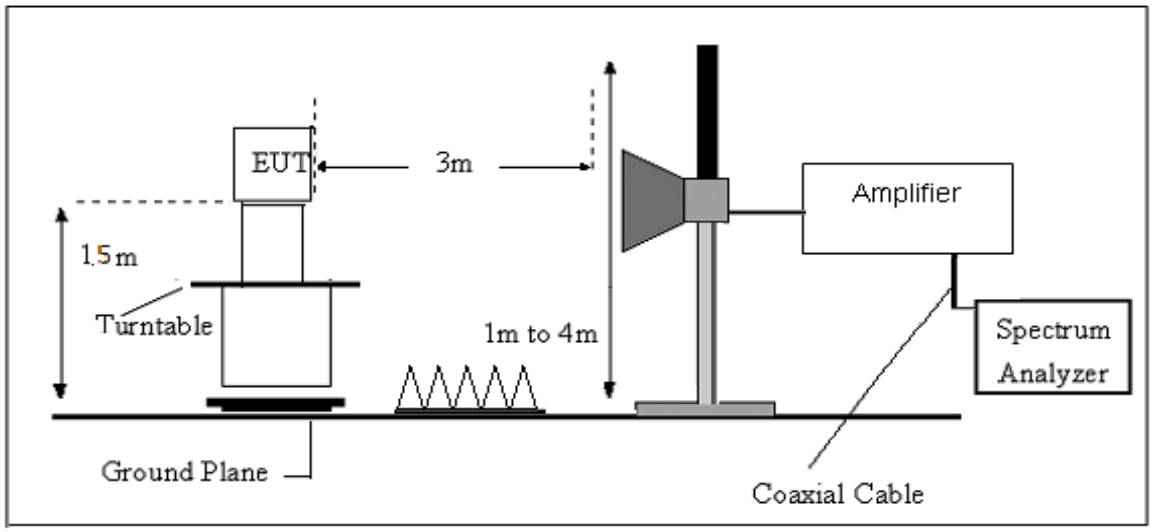
Spectrum Analyzer	Setting	
Frequency Start to Stop	30 MHz to 1000 MHz	1000 MHz to 4000MHz
Resolution bandwidth	100 kHz	1 MHz
Video bandwidth	300 kHz	3 MHz
Filter type	3 dB (Gaussian)	
Detector mode	Peak	
Trace Mode	Max Hold	

3.2.4 TESTSETUP

(A) Radiated Emission Test-Up Frequency 30MHz~1GHz



(B) Radiated Emission Test-Up Frequency Above 1GHz



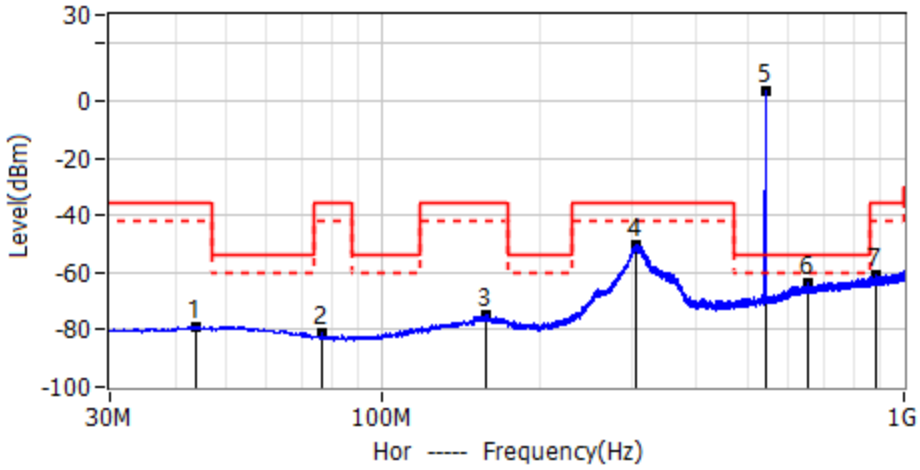
3.2.5 TEST RESULTS

FCC Part 74 & RSS-210

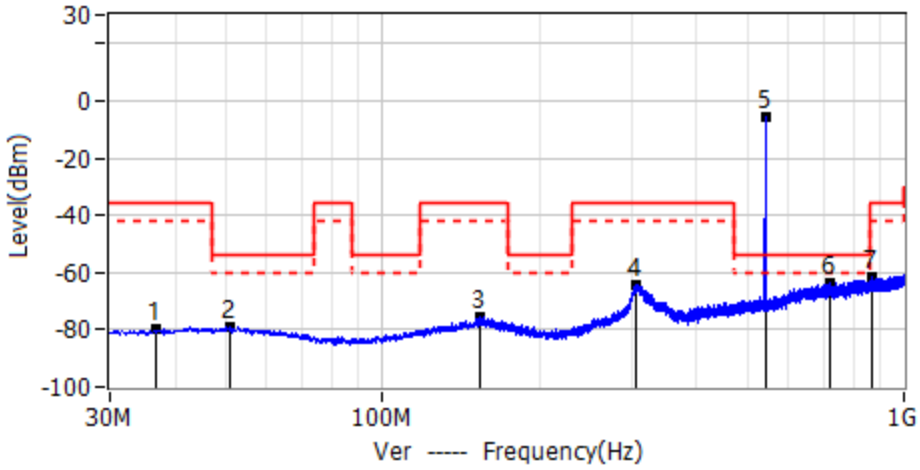
(30-6000)MHz							
The Worst Test Results Low Channel 514.275 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit （dBm）	Margin (dBm)	Polarity
1028.21	-39.25	5.70	4.71	-38.26	-13.00	-25.26	H
1542.75	-39.64	7.40	8.24	-40.48	-13.00	-27.48	H
2056.84	-30.25	8.10	10.53	-32.68	-13.00	-19.68	H
1028.51	-43.04	5.70	4.71	-42.05	-13.00	-29.05	V
1542.39	-43.55	7.40	8.24	-44.39	-13.00	-31.39	V
2056.90	-42.50	8.10	10.53	-44.93	-13.00	-31.93	V
The Worst Test Results Mid Channel 525.75 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit （dBm）	Margin (dBm)	Polarity
1051.44	-36.61	5.70	4.71	-35.62	-13.00	-22.62	H
1576.73	-42.95	7.40	8.24	-43.79	-13.00	-30.79	H
2102.79	-37.68	8.10	10.53	-40.11	-13.00	-27.11	H
1051.26	-37.41	5.70	4.71	-36.42	-13.00	-23.42	V
1576.90	-31.29	7.40	8.24	-32.13	-13.00	-19.13	V
2102.80	-36.72	8.10	10.53	-39.15	-13.00	-26.15	V
The Worst Test Results High Channel 541.8 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit （dBm）	Margin (dBm)	Polarity
1083.39	-35.74	5.70	4.71	-34.75	-13.00	-21.75	H
1625.26	-42.97	7.40	8.24	-43.81	-13.00	-30.81	H
2167.01	-37.77	8.10	10.53	-40.20	-13.00	-27.20	H
1083.56	-36.66	5.70	4.71	-35.67	-13.00	-22.67	V
1625.30	-30.98	7.40	8.24	-31.82	-13.00	-18.82	V
2167.23	-36.27	8.10	10.53	-38.70	-13.00	-25.70	V

EN 300422-1

Project: LGT24K008	Test Engineer: LiuH
EUT: Wireless microphone	Temperature: 27℃
M/N: LDANNYBPB51US	Humidity: 51%RH
Test Voltage: Battery	Test Data: 2024-11-13
Test Mode: H 541.8MHz	
Note:	

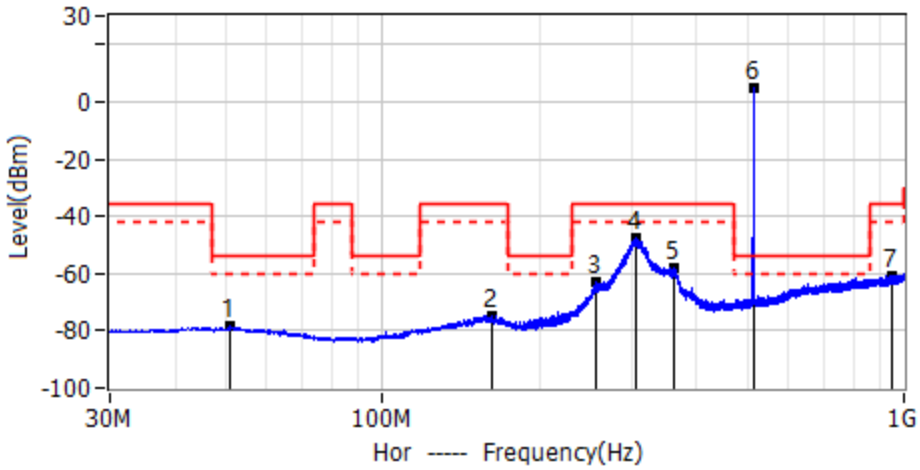


No.	Frequency MHz	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	43.8225	-78.80	-36.00	-42.80	RMS	Hor
2*	76.4388	-80.83	-36.00	-44.83	RMS	Hor
3*	158.1613	-74.59	-36.00	-38.59	RMS	Hor
4*	305.1163	-50.05	-36.00	-14.05	RMS	Hor
!5*	541.7963	3.59	N/A	N/A	RMS	Hor
6*	653.9525	-63.53	-54.00	-9.53	RMS	Hor
7*	884.5700	-61.11	-36.00	-25.11	RMS	Hor

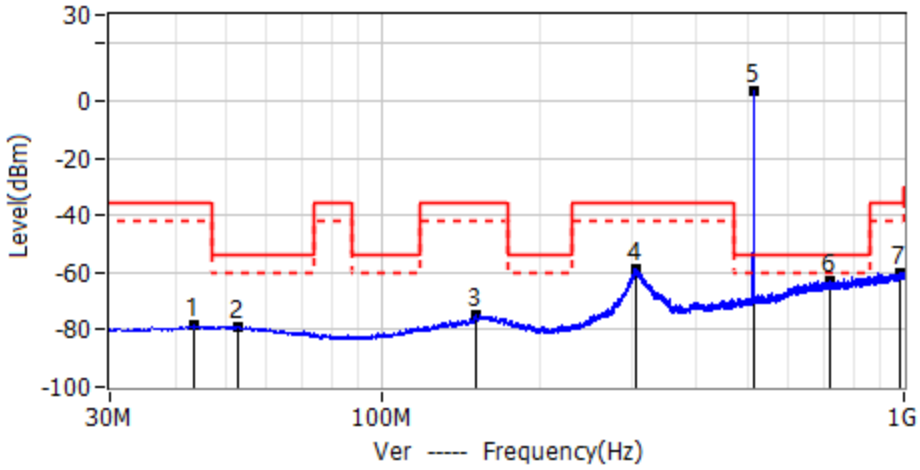


No.	Frequency MHz	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	36.7900	-80.08	-36.00	-44.08	RMS	Ver
2*	50.9763	-79.02	-54.00	-25.02	RMS	Ver
3*	153.0688	-75.72	-36.00	-39.72	RMS	Ver
4*	306.0863	-64.22	-36.00	-28.22	RMS	Ver
!5*	541.7963	-5.34	N/A	N/A	RMS	Ver
6*	718.5788	-63.62	-54.00	-9.62	RMS	Ver
7*	869.8988	-61.87	-36.00	-25.87	RMS	Ver

Project: LGT24K008	Test Engineer: LiuH
EUT: Wireless microphone	Temperature: 27℃
M/N: LDANNYBPB51US	Humidity: 51%RH
Test Voltage: Battery	Test Data: 2024-11-13
Test Mode: L 514.275MHz_	
Note:	

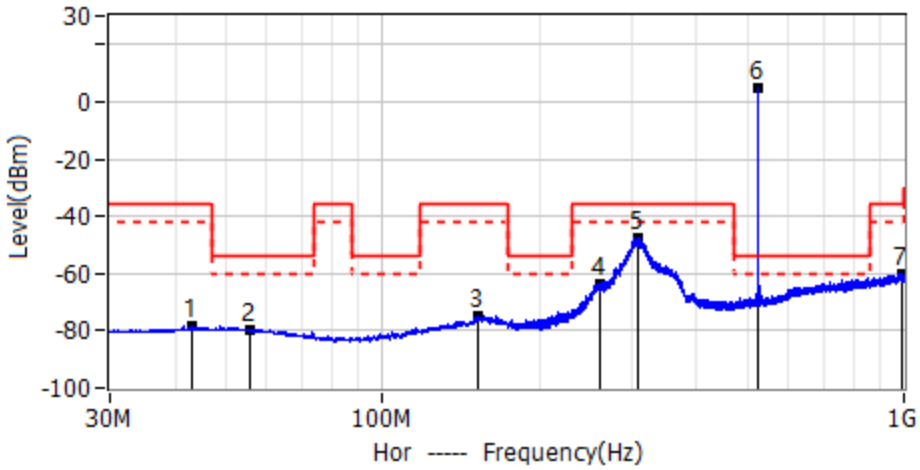


No.	Frequency MHz	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	51.0975	-78.68	-54.00	-24.68	RMS	Hor
2*	162.7688	-74.95	-36.00	-38.95	RMS	Hor
3*	257.4650	-62.77	-36.00	-26.77	RMS	Hor
4*	306.2075	-47.50	-36.00	-11.50	RMS	Hor
5*	361.1338	-57.75	-36.00	-21.75	RMS	Hor
!6*	514.2725	4.77	N/A	N/A	RMS	Hor
7*	946.7713	-60.59	-36.00	-24.59	RMS	Hor

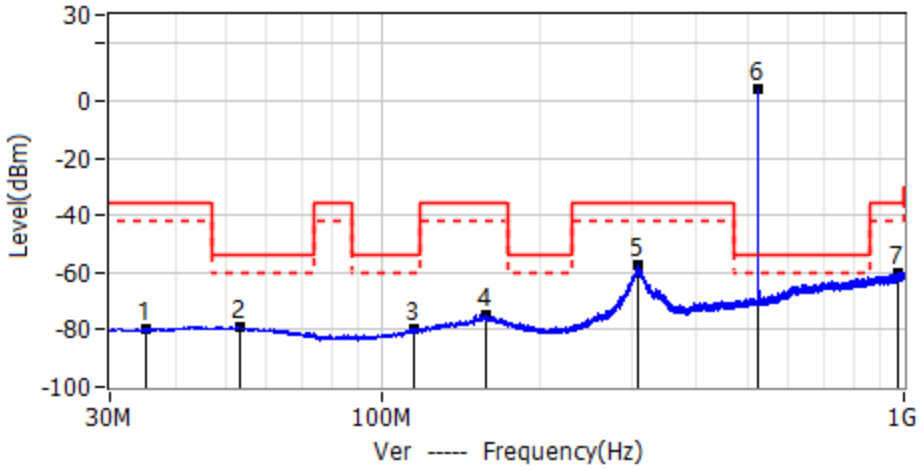


No.	Frequency MHz	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	43.4588	-78.56	-36.00	-42.56	RMS	Ver
2*	52.7950	-78.79	-54.00	-24.79	RMS	Ver
3*	150.8863	-74.97	-36.00	-38.97	RMS	Ver
4*	305.6013	-58.98	-36.00	-22.98	RMS	Ver
!5*	514.2725	3.11	N/A	N/A	RMS	Ver
6*	721.0038	-62.63	-54.00	-8.63	RMS	Ver
7*	985.2075	-59.88	-36.00	-23.88	RMS	Ver

Project: LGT24K008	Test Engineer: LiuH
EUT: Wireless microphone	Temperature: 27℃
M/N: LDANNYBPB51US	Humidity: 51%RH
Test Voltage: Battery	Test Data: 2024-11-13
Test Mode: M 525.75MHz	
Note:	

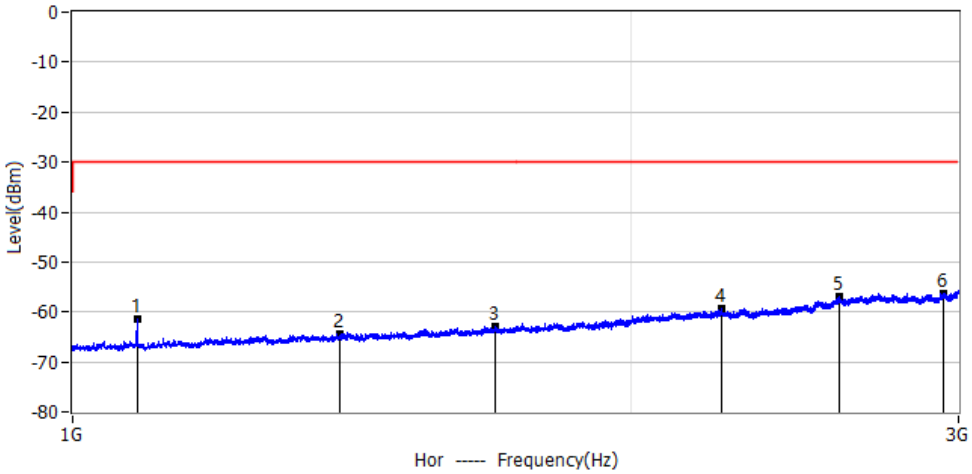


No.	Frequency MHz	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	43.0950	-78.42	-36.00	-42.42	RMS	Hor
2*	55.8263	-79.51	-54.00	-25.51	RMS	Hor
3*	151.7350	-74.73	-36.00	-38.73	RMS	Hor
4*	260.9813	-63.38	-36.00	-27.38	RMS	Hor
5*	308.6325	-47.67	-36.00	-11.67	RMS	Hor
!6*	525.7913	4.92	N/A	N/A	RMS	Hor
7*	992.9675	-60.04	-36.00	-24.04	RMS	Hor

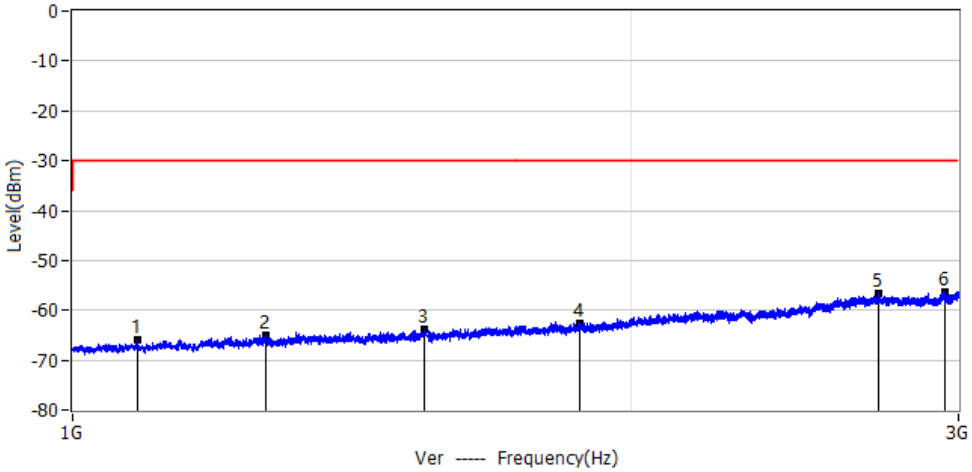


No.	Frequency MHz	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	35.2138	-79.43	-36.00	-43.43	RMS	Ver
2*	53.2800	-79.25	-54.00	-25.25	RMS	Ver
3*	115.1175	-79.87	-54.00	-25.87	RMS	Ver
4*	157.5550	-74.90	-36.00	-38.90	RMS	Ver
5*	308.2688	-57.61	-36.00	-21.61	RMS	Ver
!6*	525.7913	3.90	N/A	N/A	RMS	Ver
7*	974.6588	-59.82	-36.00	-23.82	RMS	Ver

Project: LGT24K008	Test Engineer: LiuH
EUT: Wireless microphone	Temperature: 27℃
M/N: LDANNYBPB51US	Humidity: 51%RH
Test Voltage: Battery	Test Data: 2024-11-19
Test Mode: H 541.8MHz	
Note:	

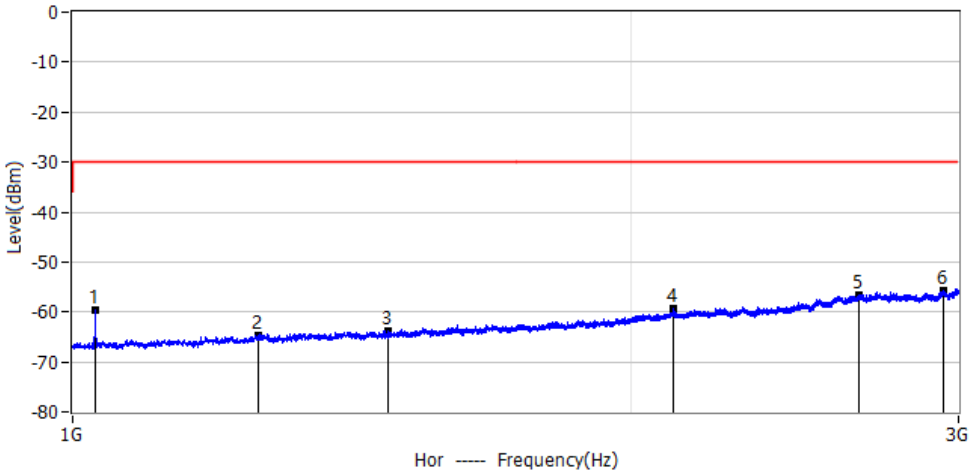


No.	Frequency	Reading dBuV	Factor dB	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	1.084GHz	57.89	-119.18	-61.29	-30.00	-31.29	AV	Hor
2*	1.394GHz	52.44	-116.77	-64.33	-30.00	-34.33	AV	Hor
3*	1.688GHz	50.96	-113.89	-62.93	-30.00	-32.93	AV	Hor
4*	2.235GHz	48.38	-107.80	-59.42	-30.00	-29.42	AV	Hor
5*	2.586GHz	46.95	-103.74	-56.79	-30.00	-26.79	AV	Hor
6*	2.943GHz	45.11	-101.36	-56.25	-30.00	-26.25	AV	Hor

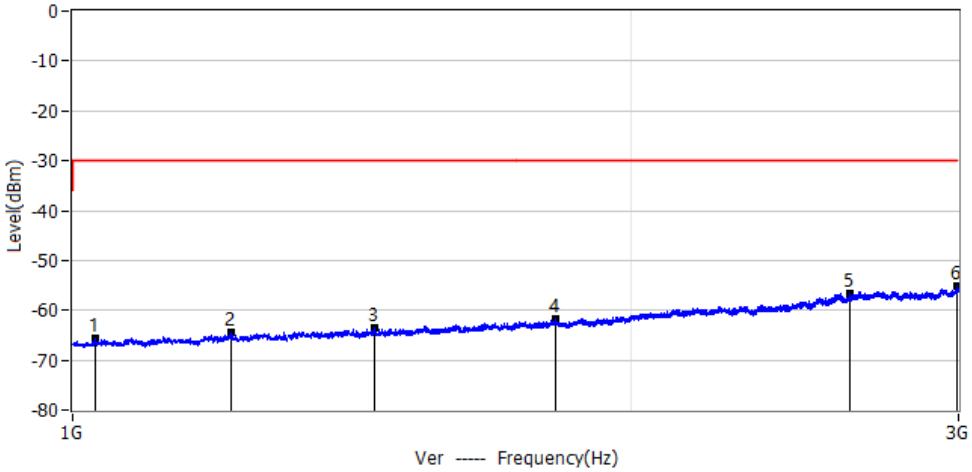


No.	Frequency	Reading dBuV	Factor dB	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	1.084GHz	53.17	-119.17	-66.00	-30.00	-36.00	AV	Ver
2*	1.271GHz	52.62	-117.72	-65.10	-30.00	-35.10	AV	Ver
3*	1.547GHz	51.61	-115.37	-63.76	-30.00	-33.76	AV	Ver
4*	1.876GHz	49.45	-112.01	-62.56	-30.00	-32.56	AV	Ver
5*	2.715GHz	46.07	-102.84	-56.77	-30.00	-26.77	AV	Ver
6*	2.948GHz	45.04	-101.32	-56.28	-30.00	-26.28	AV	Ver

Project: LGT24K008	Test Engineer: LiuH
EUT: Wireless microphone	Temperature: 27℃
M/N: LDANNYBPB51US	Humidity: 51%RH
Test Voltage: Battery	Test Data: 2024-11-19
Test Mode: L 514.275MHz	
Note:	

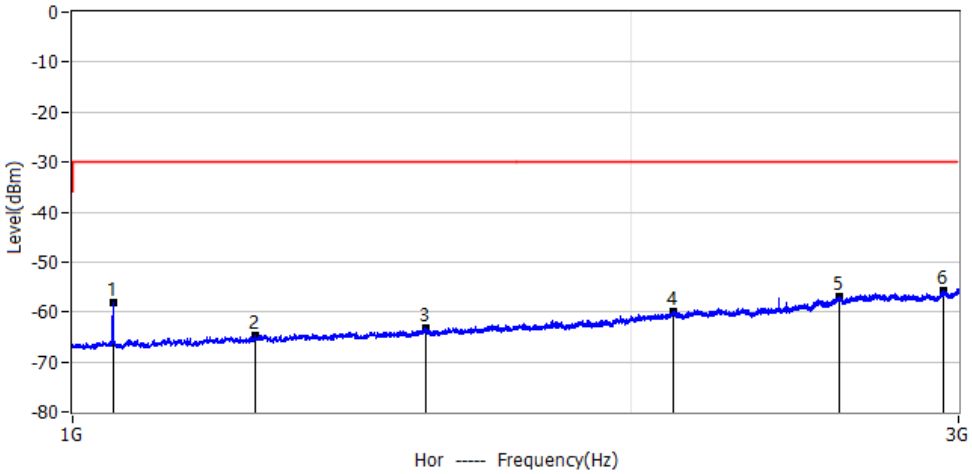


No.	Frequency	Reading dBuV	Factor dB	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	1.029GHz	59.82	-119.56	-59.74	-30.00	-29.74	AV	Hor
2*	1.258GHz	53.14	-117.80	-64.66	-30.00	-34.66	AV	Hor
3*	1.478GHz	52.25	-116.09	-63.84	-30.00	-33.84	AV	Hor
4*	2.106GHz	49.61	-108.96	-59.35	-30.00	-29.35	AV	Hor
5*	2.653GHz	46.68	-103.27	-56.59	-30.00	-26.59	AV	Hor
6*	2.942GHz	45.68	-101.37	-55.69	-30.00	-25.69	AV	Hor

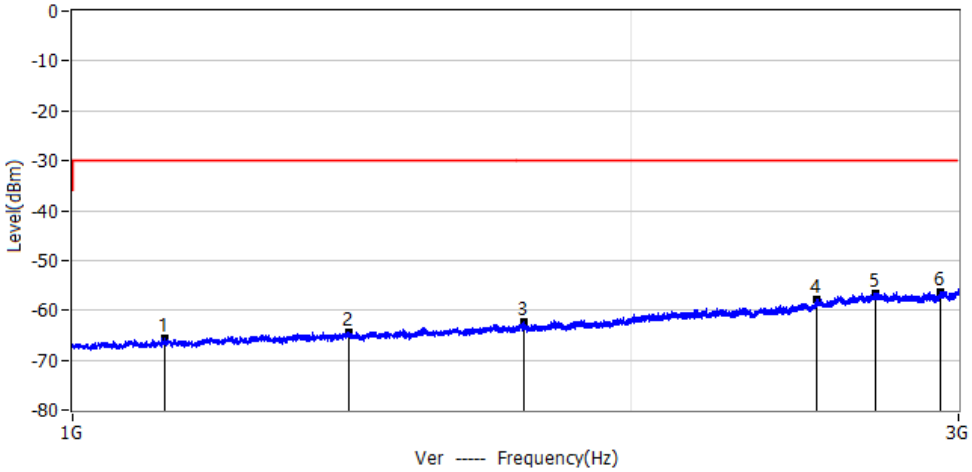


No.	Frequency	Reading dBuV	Factor dB	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	1.029GHz	53.95	-119.56	-65.61	-30.00	-35.61	AV	Ver
2*	1.218GHz	53.58	-118.11	-64.53	-30.00	-34.53	AV	Ver
3*	1.454GHz	52.74	-116.29	-63.55	-30.00	-33.55	AV	Ver
4*	1.820GHz	50.78	-112.61	-61.83	-30.00	-31.83	AV	Ver
5*	2.621GHz	46.85	-103.51	-56.66	-30.00	-26.66	AV	Ver
6*	2.996GHz	45.66	-100.91	-55.25	-30.00	-25.25	AV	Ver

Project: LGT24K008	Test Engineer: LiuH
EUT: Wireless microphone	Temperature: 27℃
M/N: LDANNYBPB51US	Humidity: 51%RH
Test Voltage: Battery	Test Data: 2024-11-19
Test Mode: M 525.75MHz	
Note:	



No.	Frequency	Reading dBuV	Factor dB	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	1.051GHz	61.16	-119.37	-58.21	-30.00	-28.21	AV	Hor
2*	1.254GHz	53.03	-117.82	-64.79	-30.00	-34.79	AV	Hor
3*	1.549GHz	52.11	-115.35	-63.24	-30.00	-33.24	AV	Hor
4*	2.107GHz	48.97	-108.95	-59.98	-30.00	-29.98	AV	Hor
5*	2.586GHz	46.87	-103.73	-56.86	-30.00	-26.86	AV	Hor
6*	2.947GHz	45.51	-101.33	-55.82	-30.00	-25.82	AV	Hor



No.	Frequency	Reading dBuV	Factor dB	Level dBm	Limit dBm	Margin dB	Detector	Polar
1*	1.120GHz	53.41	-118.91	-65.50	-30.00	-35.50	AV	Ver
2*	1.408GHz	52.31	-116.66	-64.35	-30.00	-34.35	AV	Ver
3*	1.750GHz	51.00	-113.32	-62.32	-30.00	-32.32	AV	Ver
4*	2.518GHz	46.67	-104.43	-57.76	-30.00	-27.76	AV	Ver
5*	2.705GHz	46.39	-102.89	-56.50	-30.00	-26.50	AV	Ver
6*	2.936GHz	45.15	-101.42	-56.27	-30.00	-26.27	AV	Ver

4. NECESSARY BANDWIDTH

4.1 LIMIT

EMISSION MASK I

According to CFR 47 section 74.861 e (6), the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;

(2) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;

(3) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least 43+10log 10 *(mean output power in watts) dB;

EMISSION MASK II

According to ETSI EN 300 422-1 V2.2.1 Clause 4.2.4.2.2,

The transmitter output spectrum shall be within the mask defined in figure where B is the declared channel bandwidth

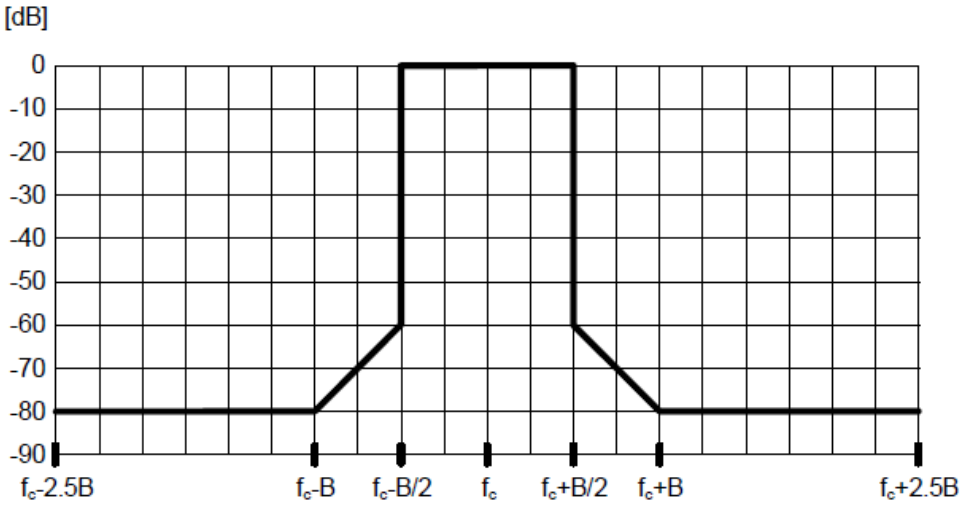


Figure 1: Transmit spectral power mask for equipment employing analogue modulation, RBW = 1 kHz

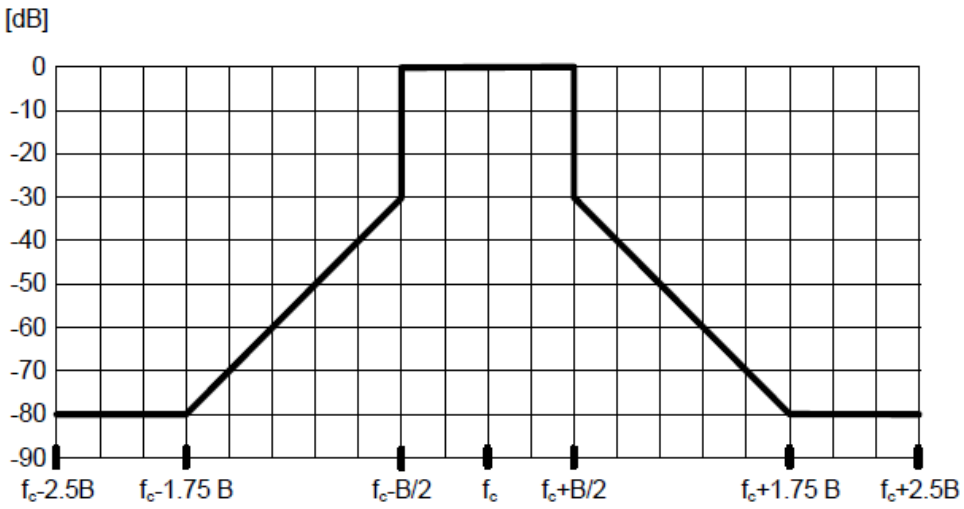
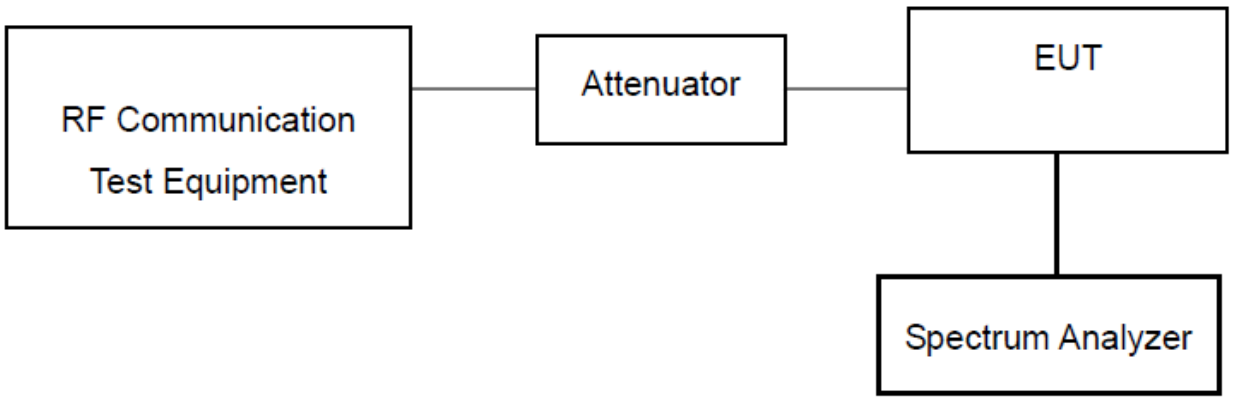


Figure 2: Transmit spectral power mask for equipment employing digital modulation, except WMAS, RBW = 1 kHz

4.2 TEST PROCEDURES

1. Please refer to ETSI EN 300 422-1 clause 5.1 for the test conditions.
2. Please refer to ETSI EN 300 422-1 clause 5.4.3 for the measurement method.

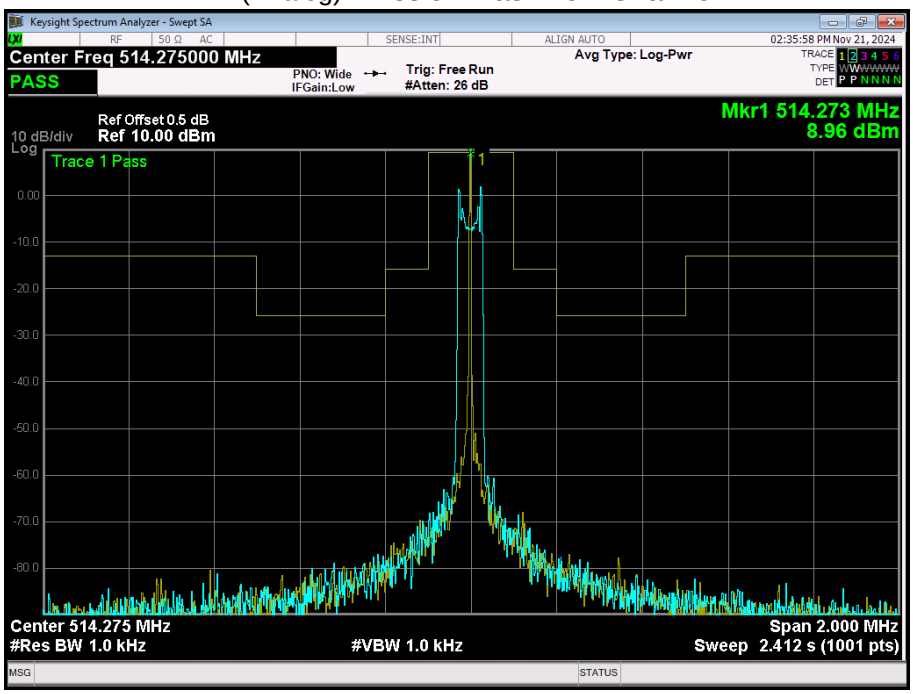
4.3 TEST SETUP



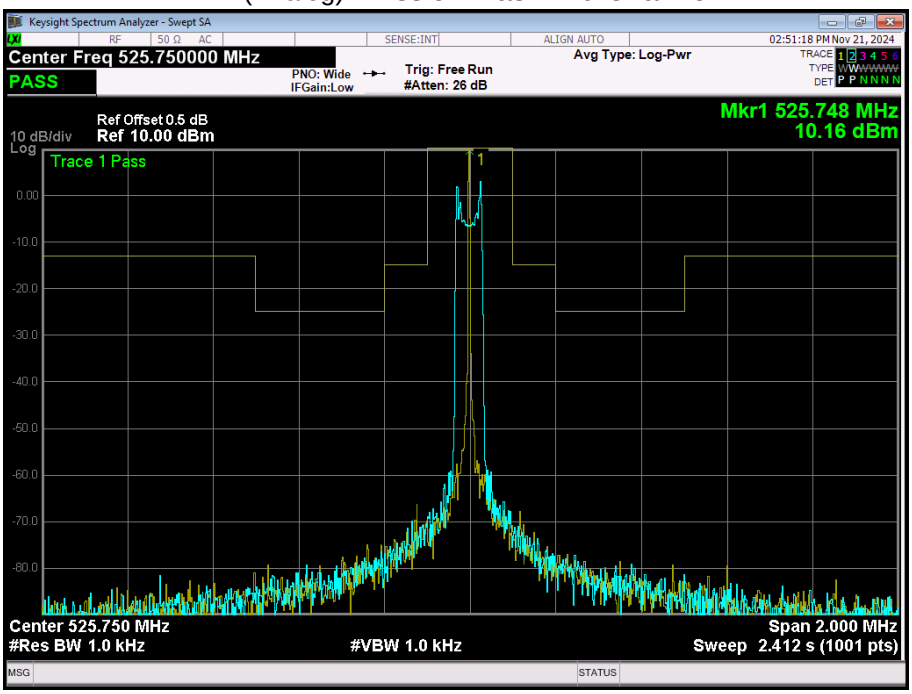
4.4 TEST RESULTS

EMISSION MASK I

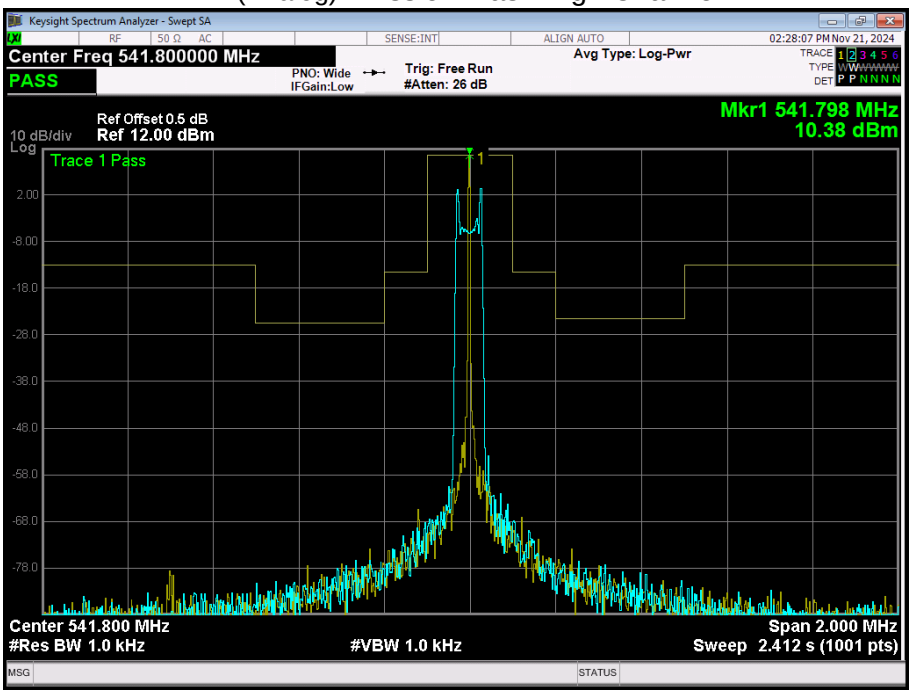
FM (Analog)Emission Mask Low Channel



FM (Analog)Emission Mask Mid Channel



FM (Analog)Emission Mask High Channel



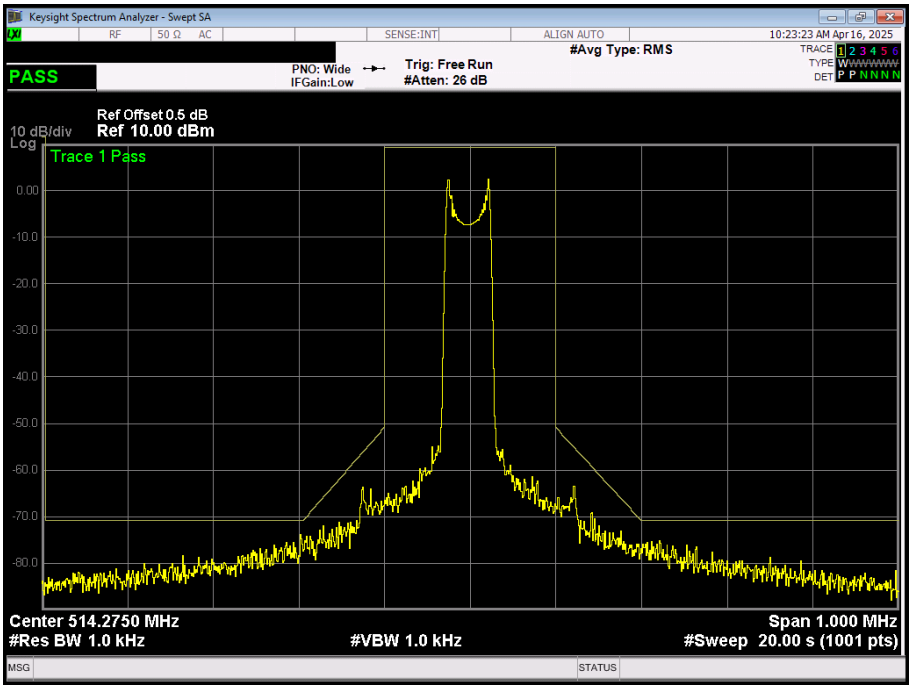
EMISSION MASK II

ETSI EN 300 422-1 V2.2.1 Clause 4.2.4.2.2 The Maximum Measurement of Necessary Bandwidth

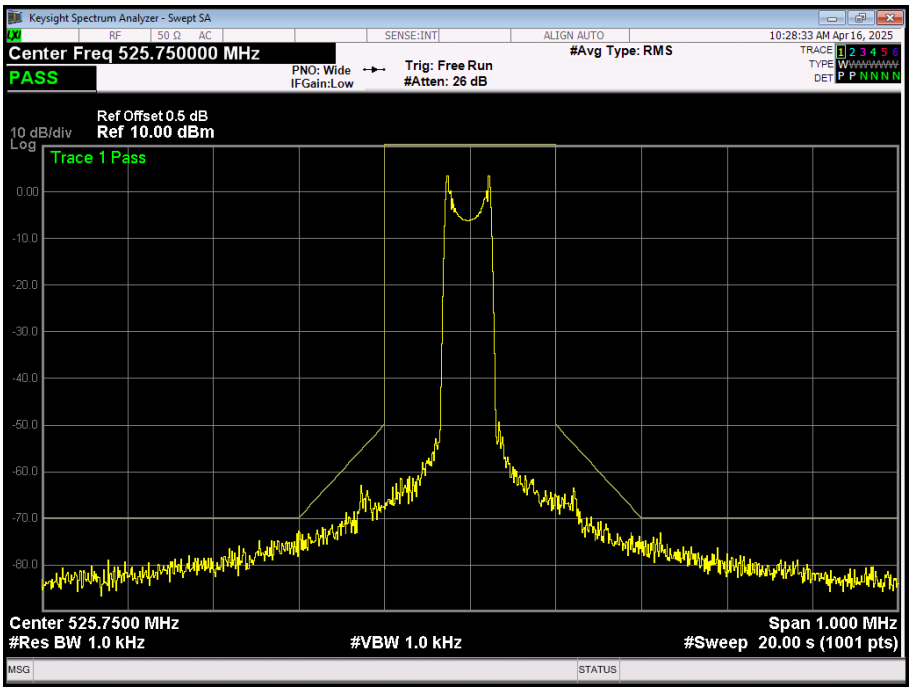
Test Plot:

Frequency(MHz)	Declared Bandwidth	B/2	2.5*B
514.275	200K	100K	500K
525.750	200K	100K	500K
541.800	200K	100K	500K

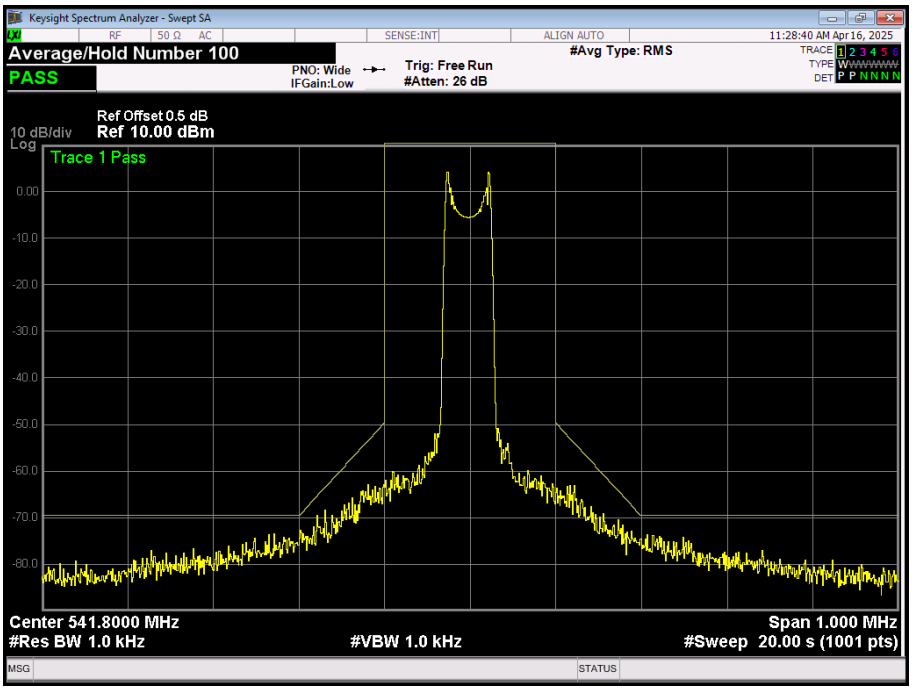
Low



Mid



High


Keysight Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
11:28:40 AM Apr 16, 2025
Average/Hold Number 100
#Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE WWWWW
DET P P N N N
PASS
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Ref Offset 0.5 dB
10 dB/div
Log
Ref 10.00 dBm
Trace 1 Pass
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 541.8000 MHz
#Res BW 1.0 kHz
#VBW 1.0 kHz
Span 1.000 MHz
#Sweep 20.00 s (1001 pts)
MSG
STATUS

5. TRANSMIT POWER

5.1 LIMIT

According to Part 74.861e (1), RSS 210, the Band 470-608 e.i.r.p. limits may not exceed the 250mW

5.2 TEST PROCEDURE

(Radiation)

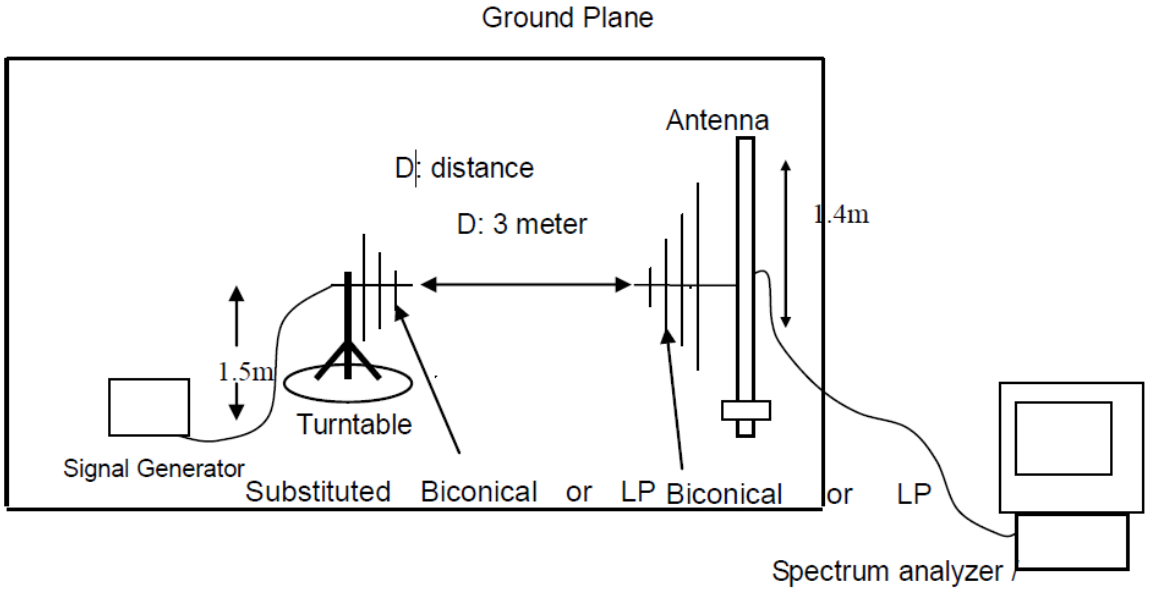
a. On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
b. The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
c. The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
d. The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
e. The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
f. The transmitter shall than be rotated through 360°in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
g. The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
h. The maximum signal level detected by the measuring receiver shall be noted.
i. The measurement shall be repeated with the test antenna set to horizontal polarization.
j. Replace the antenna with a proper Antenna (substitution antenna).
k. The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
l. The substitution antenna shall be connected to a calibrated signal generator.
m. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
n. The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
o. The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
p. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
q. The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

(Conduction)

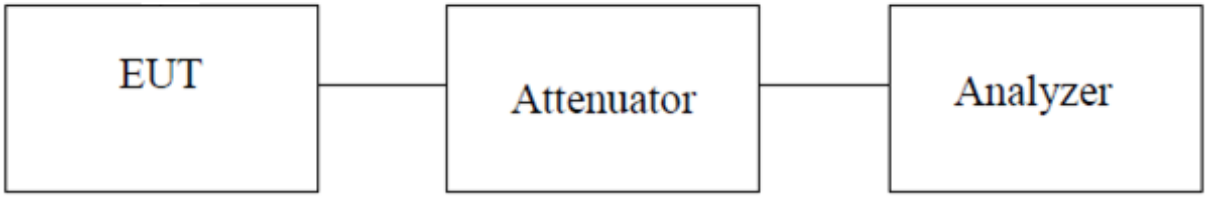
a. The RF output of the transceiver was connected to the input of the spectrum analyzer through sufficient attenuation.
b. Set the RBW >20BW,VBW>3xRBW.
c. Detector = peak.
d Sweep time = auto couple.
e Trace mode = max hold.
f Allow trace to fully stabilize.
g Use the peak marker function to determine the maximum amplitude level.

5.3 TEST SETUP

Radiation



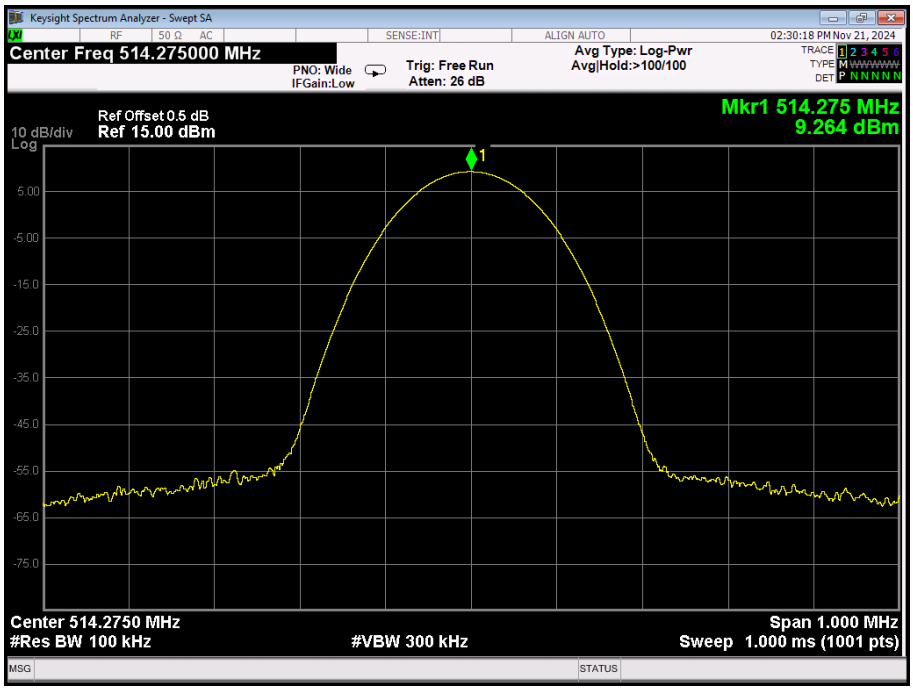
Conduction



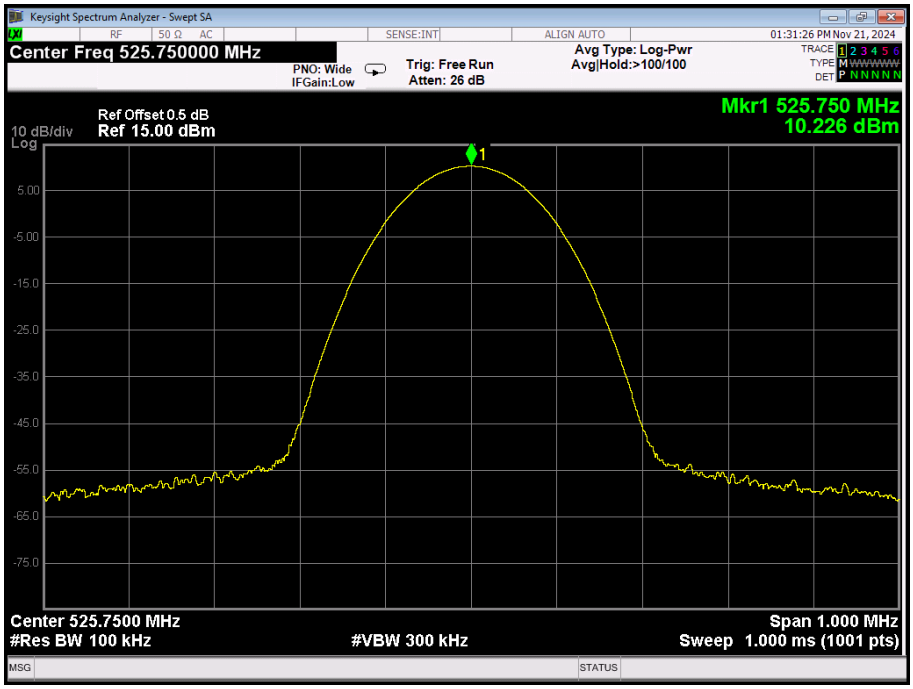
5.4 TEST RESULT

Frequency Channel (MHz)	Peak Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limits (mW)
514.275	9.264	0	9.264	8.441	250
525.750	10.226	0	10.226	10.534	250
541.800	10.459	0	10.459	11.115	250

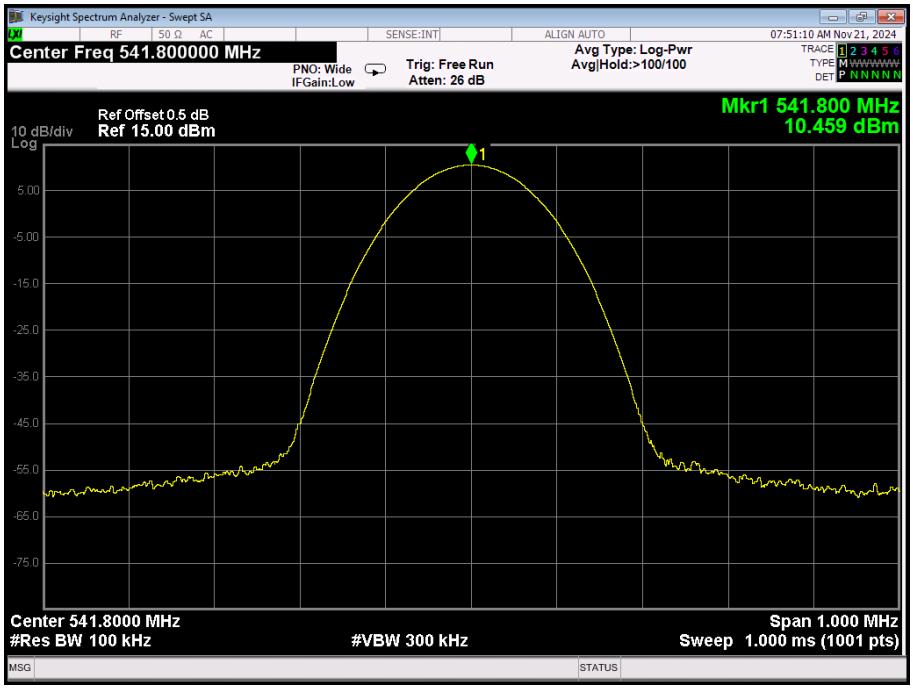
Low Channel



Mid Channel



High Channel



6. OCCUPIED BANDWIDTH

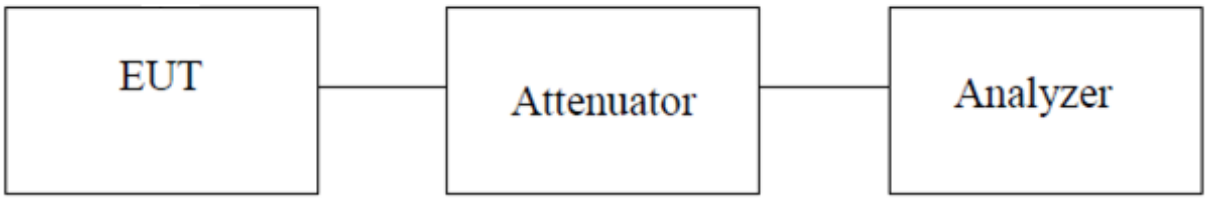
6.1 LIMIT

According to Part 74.861 e (5) and RSS 210, the occupied bandwidth for wireless microphones shall not exceed 200KHz.

6.2 TEST PROCEDURE

a. The RF output of the transceiver was connected to the input of the spectrum analyzer through sufficient attenuation.
   Set Occupied Bandwidth was measured with a occupied bandwidth function of the analyzer.
b. The near the carrier emissions are measured by normal power measurement function of the analyzer.
c. Set SPA Max hold. Mark peak, 99%.

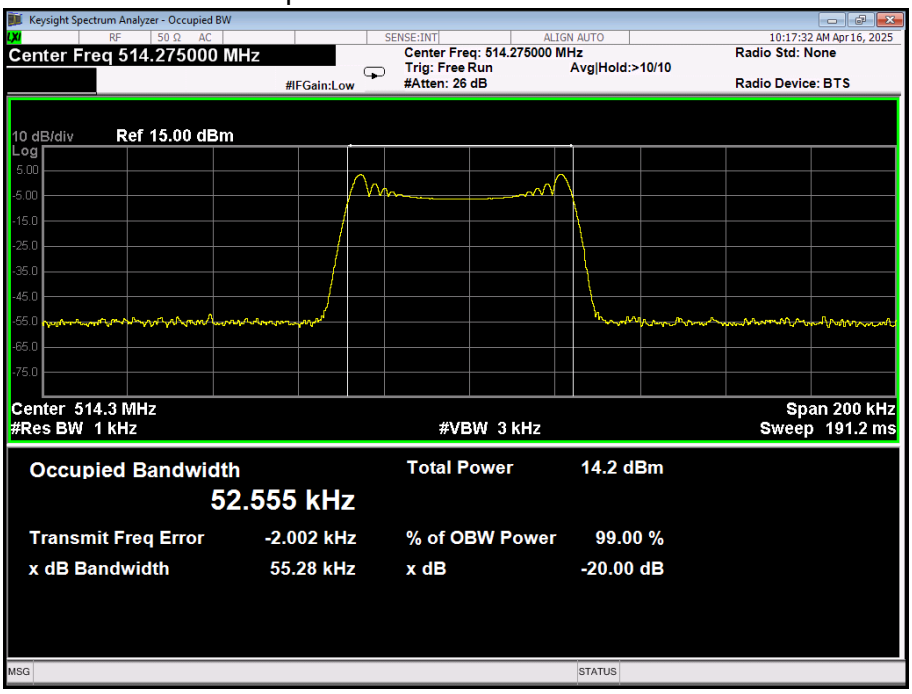
6.3 TEST SETUP



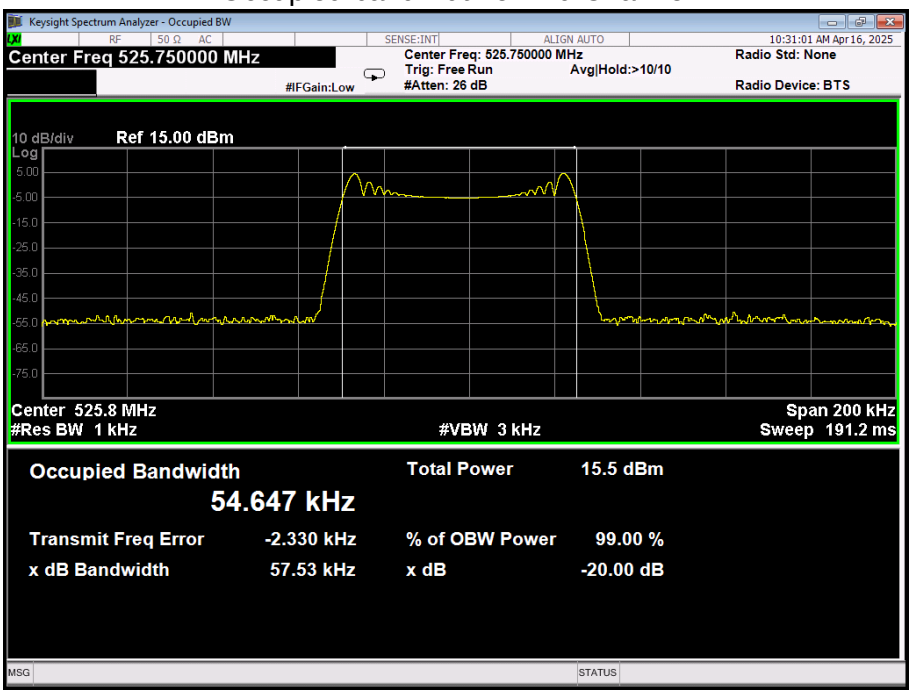
6.4 TEST RESULTS

Frequency (MHz)	Occupied Bandwidth (KHz)	Limit (KHz)
514.275	52.555	200
525.750	54.647	200
541.800	54.256	200

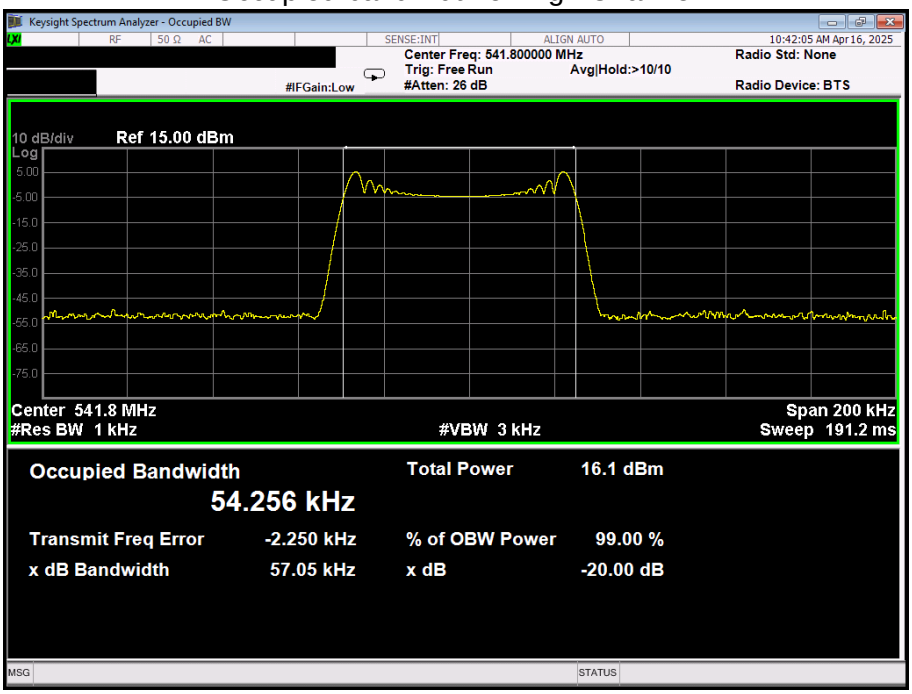
Occupied bandwidth of Low Channel



Occupied bandwidth of Mid Channel



Occupied bandwidth of High Channel



7. FREQUENCY STABILITY

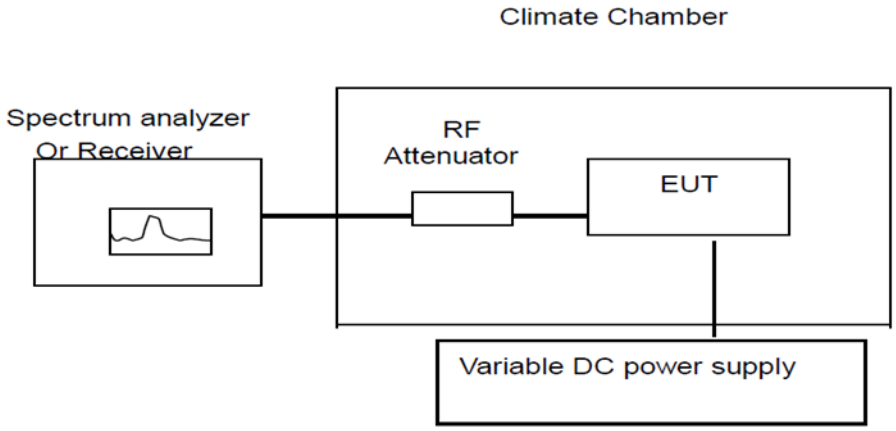
7.1 LIMIT

According to Part 74.861 e (4) and RSS 210, the frequency tolerance of the transmitter shall be 0.005 percent.

7.2 TEST PROCEDURE

1.The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2.Turn the EUT on and couple its output to spectrum analyzer.
3.Turn the EUT off and set the chamber to the highest temperature specified.
4.Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2,5, and 10 minutes.
5.Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6.The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

7.3 TEST SETUP



7.4 TEST RESULTS

Reference Frequency: 514.275MHz					
Power Supply	Environment Temperature (ºC)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
2.7V, DC	20	2002	0.000389	0.00500	PASS
3.0V, DC	20	2000	0.000389		
3.3V, DC	20	2005	0.000390		
BEP	20	2007	0.000390		

Reference Frequency: 514.275MHz				
Environment Temperature(ºC)	Frequency Deviation measured with time Elapse(30 minutes)			
	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
50	2002	0.000389	0.00500	PASS
40	1999	0.000389		
30	1999	0.000389		
20	2003	0.000389		
10	1999	0.000389		
0	2001	0.000389		
-10	2000	0.000389		
-20	2000	0.000389		
-30	2001	0.000389		

Reference Frequency: 525.750MHz					
Power Supply	Environment Temperature (ºC)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
2.7V, DC	20	2001	0.000381	0.00500	PASS
3.0V, DC	20	2001	0.000381		
3.3V, DC	20	2000	0.000380		
BEP	20	2002	0.000381		

Reference Frequency: 525.750MHz				
Environment Temperature(ºC)	Frequency Deviation measured with time Elapse(30 minutes)			
	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
50	2003	0.000381	0.00500	PASS
40	1999	0.000380		
30	1999	0.000380		
20	2003	0.000381		
10	2000	0.000380		
0	1999	0.000380		
-10	2000	0.000380		
-20	2000	0.000380		
-30	2001	0.000381		

Reference Frequency: 541.800MHz					
Power Supply	Environment Temperature (ºC)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
2.7V, DC	20	2001	0.000369	0.00500	PASS
3.0V, DC	20	1999	0.000369		
3.3V, DC	20	2001	0.000369		
BEP	20	2002	0.000370		

Reference Frequency: 541.800MHz				
Environment Temperature(ºC)	Frequency Deviation measured with time Elapse(30 minutes)			
	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
50	2001	0.000369	0.00500	PASS
40	1999	0.000369		
30	2000	0.000369		
20	2003	0.000370		
10	2000	0.000369		
0	1999	0.000369		
-10	1999	0.000369		
-20	2000	0.000369		
-30	2002	0.000370		

8. MODULATION DEVIATION

8.1 LIMIT

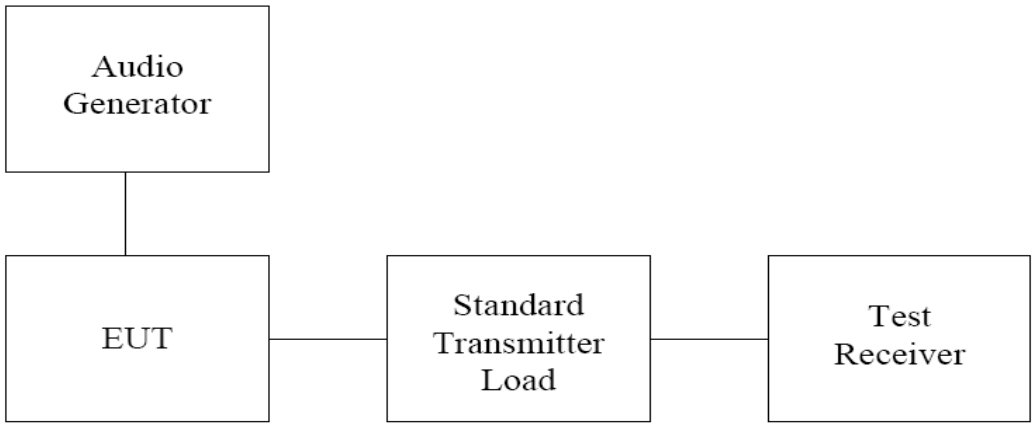
According to CFR 47 section 2.1047 a, for Voice modulation communication equipment, the frequency response of the audio modulation circuit over a range of 100 to 5000 Hz shall be measured.
According to CFR 47 section 74.861 e (3) and RSS 210 G.6, any form of modulation may be used.

A maximum deviation of ±75 KHz is permitted when frequency modulation is employed.

8.2 TEST PROCEDURE

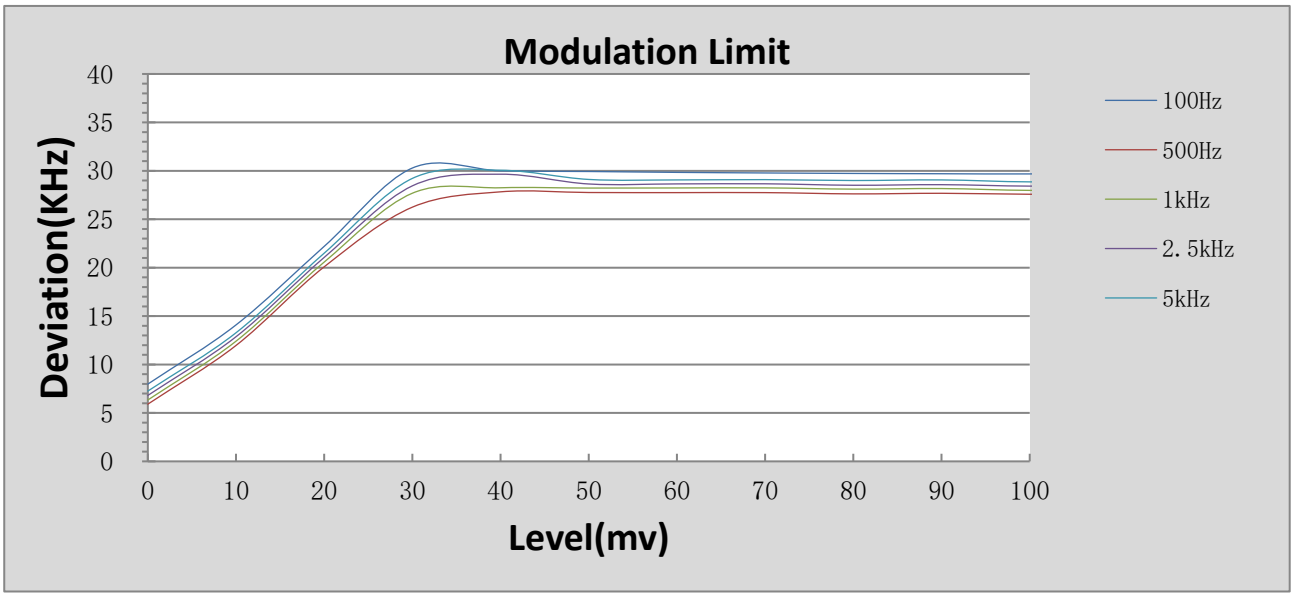
1. Modulation limits is the transmitter circuit's ability to limit the transmitter form producing deviations in excess of rated system deviation.
2. The audio signal generator is connected to the audio input of the EUT with its full rating.
3. The modulation response is measured at certain modulation frequencies, related to 1000 Hz reference signal.
4. Tests are performed for positive and negative modulation.

8.3 TEST SETUP



8.4 TEST RESULTS

Level(mv)	100Hz	500Hz	1kHz	2.5kHz	5kHz
0	7.98	5.91	6.34	6.81	7.26
10	14.09	11.97	12.41	12.87	13.28
20	22.20	20.09	20.58	21.06	21.50
30	30.29	26.25	27.69	28.45	29.22
40	30.00	27.83	28.25	29.65	30.06
50	29.93	27.76	28.22	28.64	29.11
60	29.84	27.75	28.23	28.65	29.06
70	29.78	27.75	28.24	28.66	29.09
80	29.73	27.62	28.11	28.51	29.00
90	29.70	27.68	28.17	28.57	29.06
100	29.68	27.58	27.98	28.42	28.86
110	29.78	27.60	28.05	28.50	28.98



9. AUDIO FREQUENCY RESPONSE

9.1 LIMIT

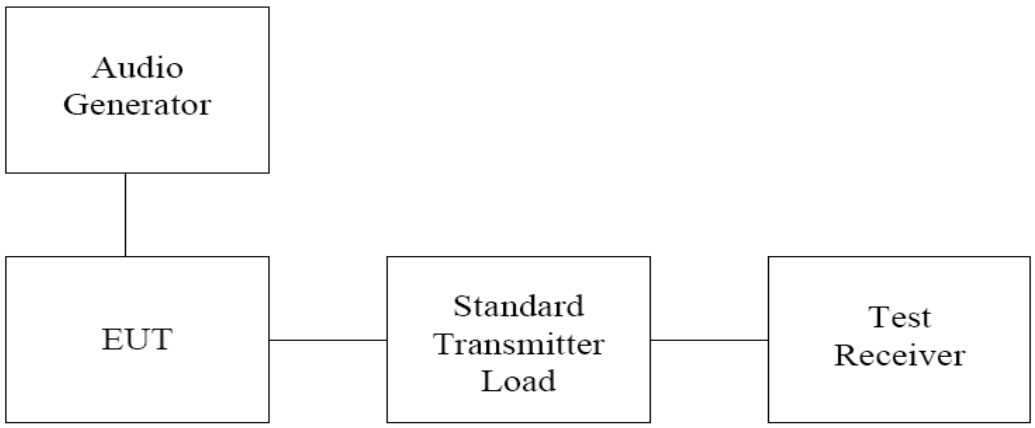
According to CFR 47 section 2.1047 a, for Voice modulation communication equipment, the frequency response of the audio modulation circuit over a range of 100 to 5000 Hz shall be measured.
According to CFR 47 section 74.861 e (3) and RSS 210 G.6, any form of modulation may be used.

A maximum deviation of ±75 KHz is permitted when frequency modulation is employed.

9.2 TEST PROCEDURE

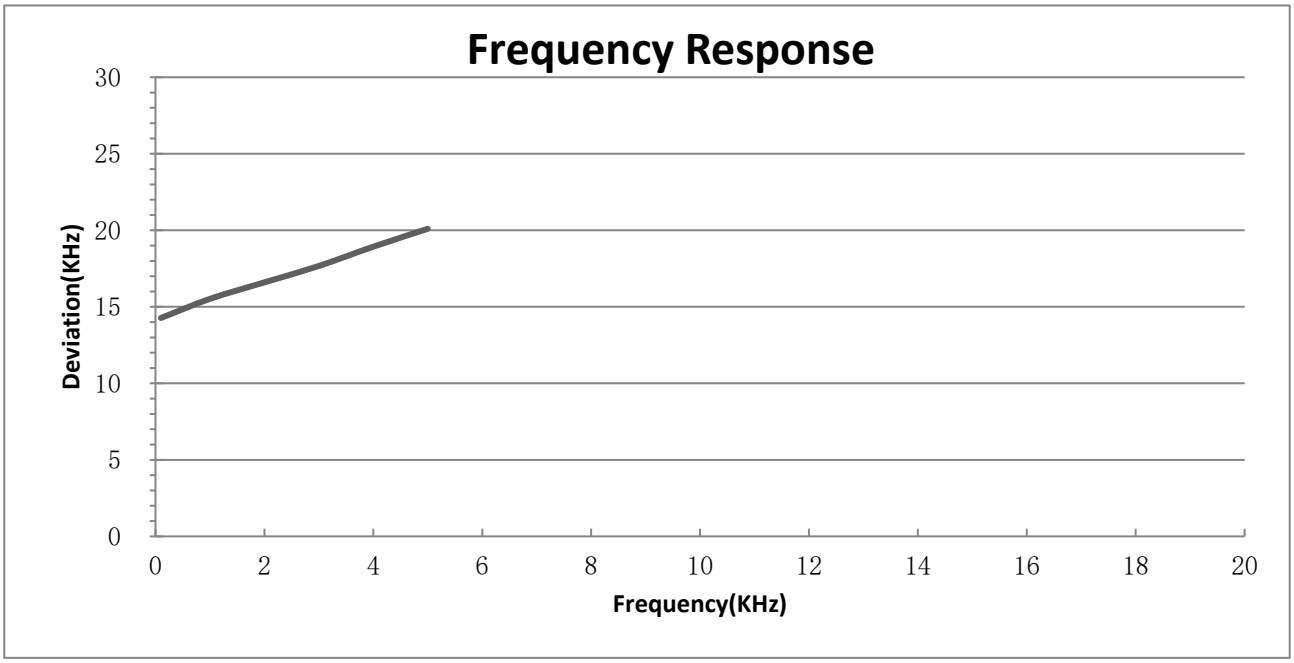
1. The audio frequency response is the degree of the closeness to which the frequency deviation of the transmitter follows prescribed characteristics.
2. The frequency response of the audio modulation part is measured over a frequency range of 100Hz to 5000 Hz.
3. For 1000 Hz tone reference signal the audio generator level is adjusted to get 20% of the rated system deviation.
4. The deviations obtained over the frequency range from 100 HZ to 5000 Hz are recorded and compared with the reference deviation as follows:
Audio Frequency Response= 20 log (DEV freq/ Dev ref)

9.3 TEST SETUP



9.4 TEST RESULTS

Frequency(KHz)	Deviation(KHz)
0.1	14.27
1	15.52
2	16.60
3	17.67
4	18.93
5	20.10



10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

For intentional device: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2 EUT ANTENNA

The EUT antenna is Monopole antenna. It comply with the standard requirement.

※※※※※END OF THE REPORT※※※※※