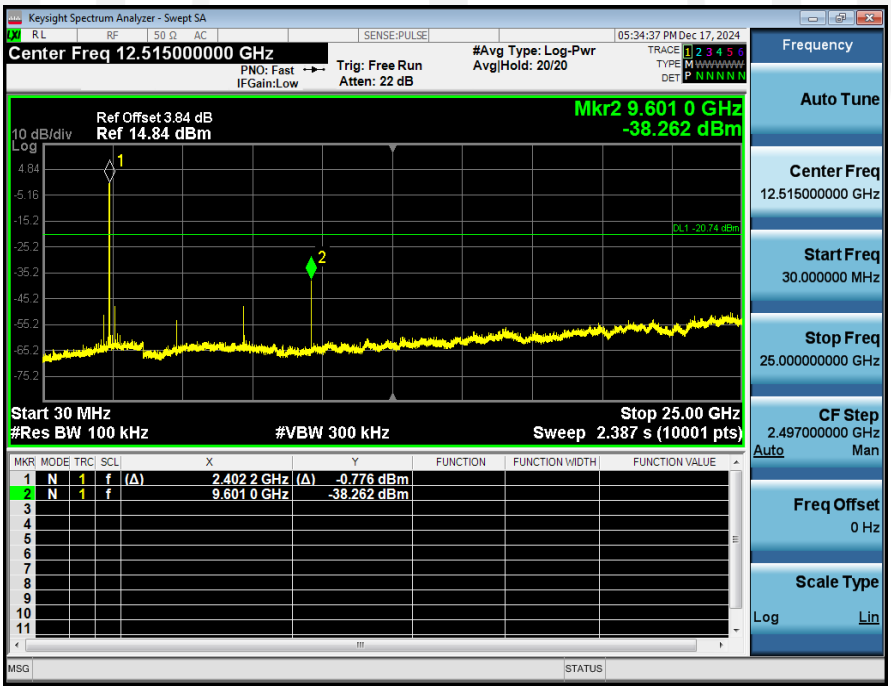
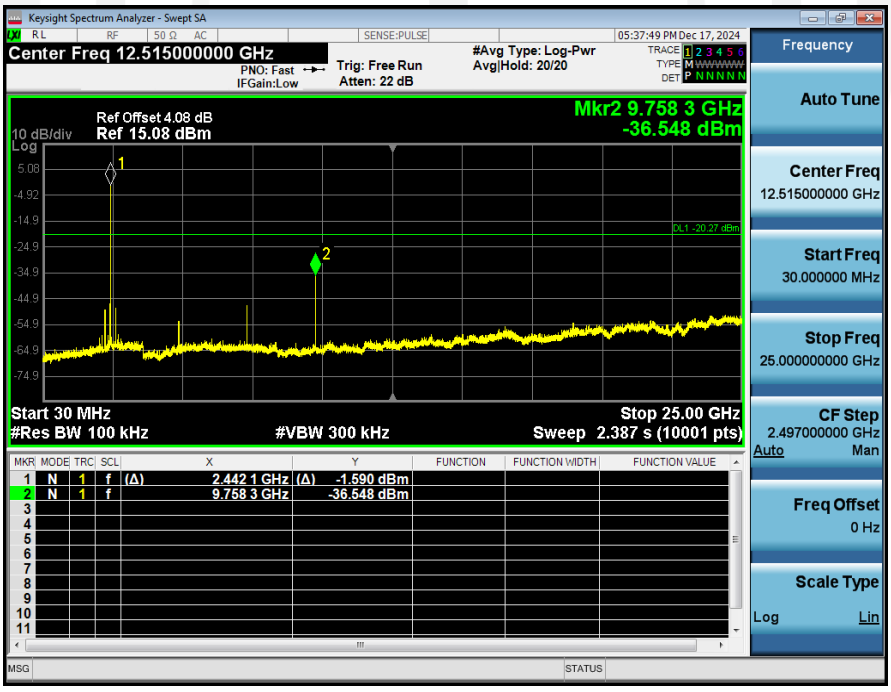
1_Reference_Level_NVNT_ANT1_3-DH1_2402_00

2_Spurious_Emissions_NVNT_ANT1_3-DH1_2402_00



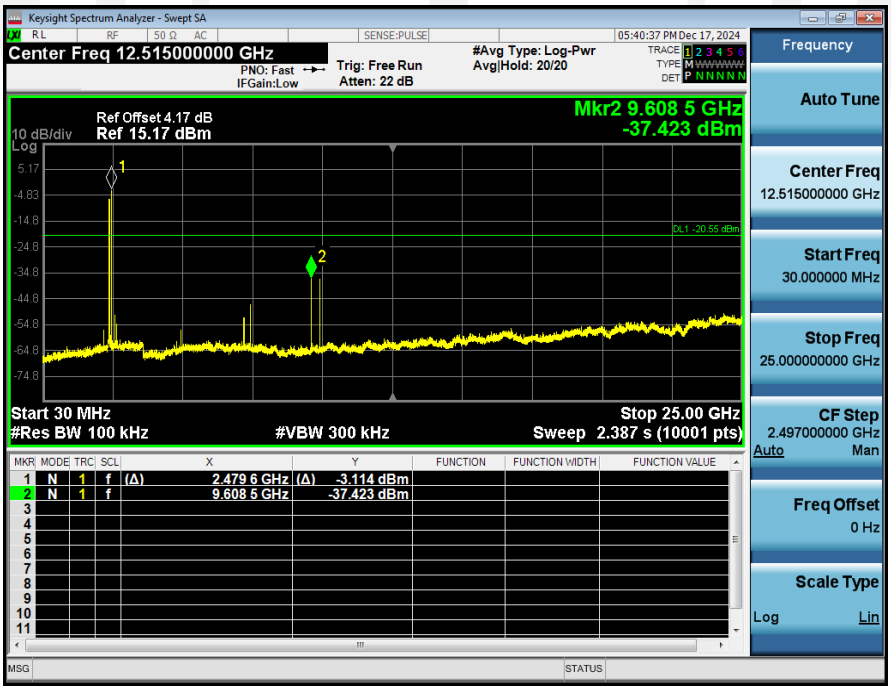
1_Reference_Level_NVNT_ANT1_3-DH1_2441_00

2_Spurious_Emissions_NVNT_ANT1_3-DH1_2441_00



1_Reference_Level_NVNT_ANT1_3-DH1_2480_00

2_Spurious_Emissions_NVNT_ANT1_3-DH1_2480_00



9. Radiated Emissions

9.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

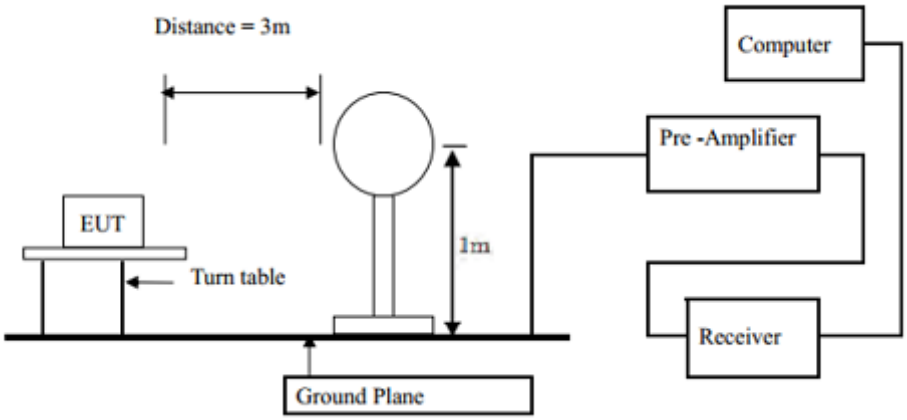
15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009-0.490	300	2400/F(KHz)	/
0.490-1.705	30	24000/F(KHz)	/
1.705-30	30	30	29.5
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

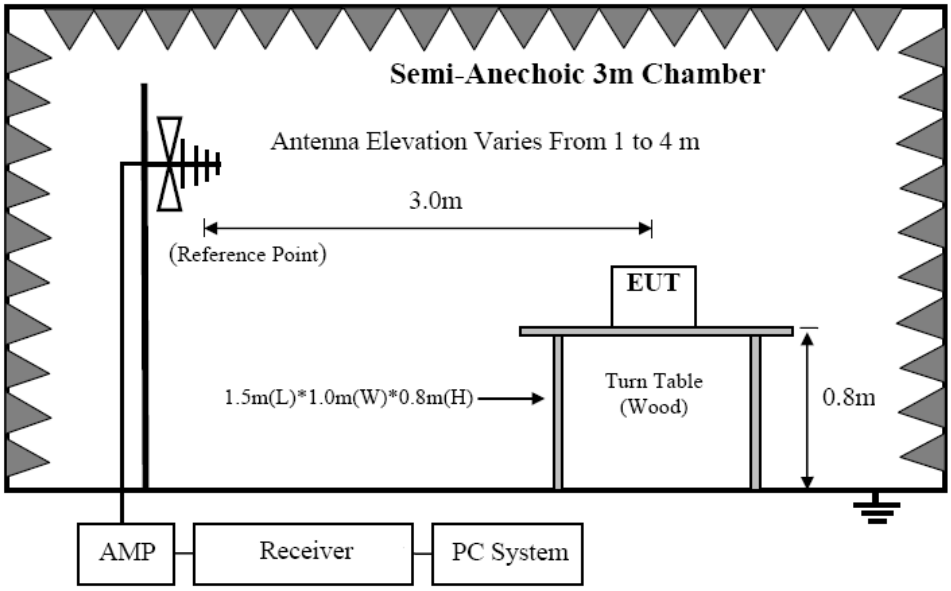
Note: The peak limit is 20 dB higher than the average limit

9.2. Block Diagram of Test setup

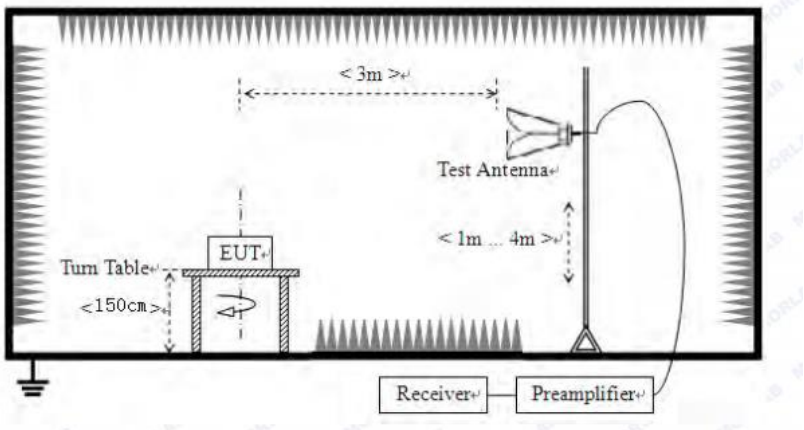
9.2.1 In 3m Anechoic Chamber Test Setup Diagram for below 30MHz



9.2.1 In 3m Anechoic Chamber Test Setup Diagram for below 1GHz



8.2.2 In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



Note: For harmonic emissions test a appropriate high pass filter was inserted in the input port of AMP.

9.3. Test Procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.

(2) Setup EUT and simulator

(3) Test antenna was located 3m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.

(a) Change work frequency or channel of device if practicable.

(b) Change modulation type of device if practicable.

(c) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions

(4) Spectrum frequency from 9KHz to 25GHz (tenth harmonic of fundamental frequency) was investigated

(5) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 :2013on Radiated Emission test.

(6) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RBW is set at 1MHz, VBW is set at 10Hz for Average measure.

9.4. Test Results

We have scanned from 9kHz to the 10th harmonic of the EUT's highest frequency.

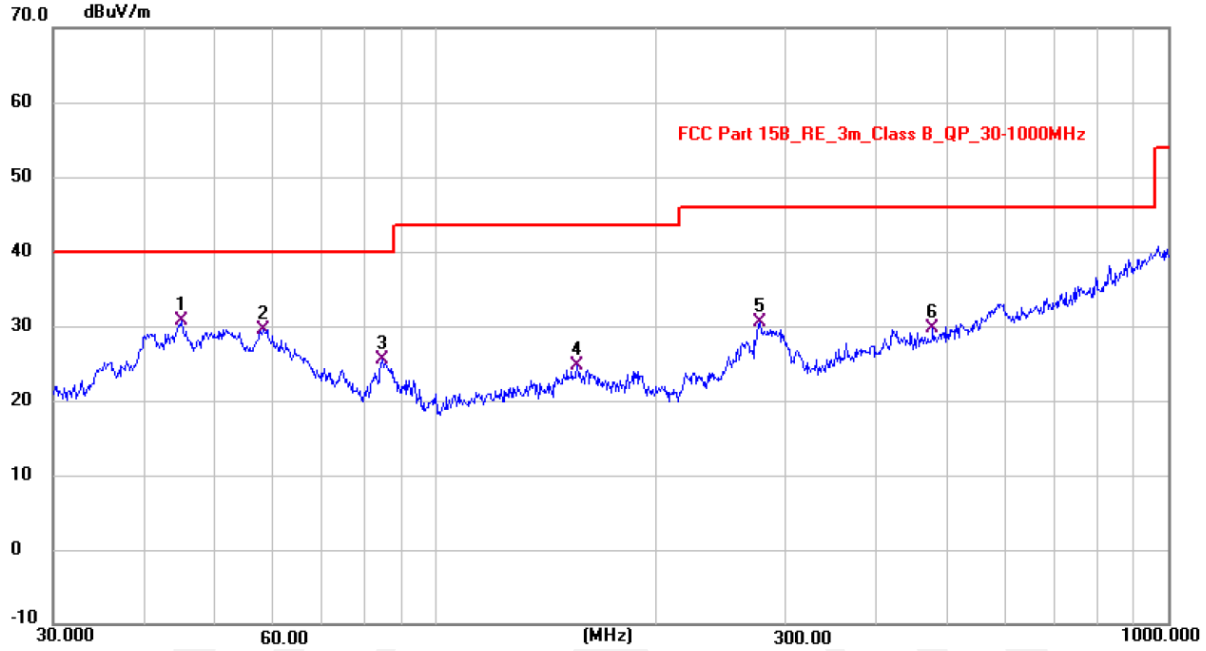
Detailed information please see the following page.

<table>
<tr><td colspan="4">From 9KHz to 30MHz:</td></tr>
<tr><td>Test Date</td><td>: 2024.12.6</td><td>Temperature</td><td>: 26℃</td></tr>
<tr><td>Test Engineer</td><td>: Jensen Wang</td><td>Humidity</td><td>: 54%</td></tr>
<tr><td>Test Mode</td><td colspan="3">: GFSK, π/4 DQPSK, 8 DPSK mode</td></tr>
<tr><td>Test Results</td><td colspan="3">: PASS</td></tr>
<tr><td>Note:</td><td colspan="3">The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.</td></tr>
</table>

From 30MHz to 1000MHz:					
Test Date	:	2024.12.6	Temperature	:	26℃
Test Engineer	:	Jensen Wang	Humidity	:	54%
Test Mode	:	GFSK, π/4 DQPSK, 8 DPSK mode			
Test Results	:	**PASS**			
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out. 3. All modes have been tested, and only worst data of GFSK mode, Channel 2402MHz (DC 3.7V) was listed in this report.				

Left earphone:

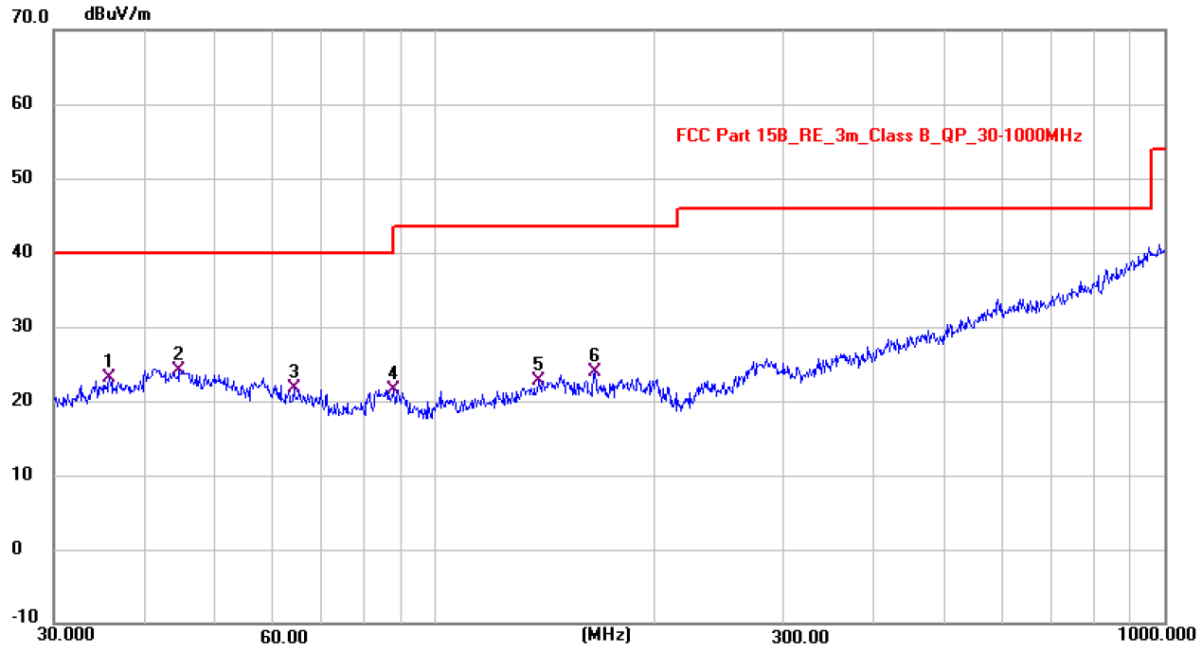
Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	45.0187	16.28	14.36	30.64	40.00	-9.36	QP
2	58.0245	16.24	13.32	29.56	40.00	-10.44	QP
3	84.6277	15.90	9.58	25.48	40.00	-14.52	QP
4	156.0466	10.36	14.26	24.62	43.50	-18.88	QP
5	277.5797	16.14	14.43	30.57	46.00	-15.43	QP
6	478.8455	10.01	19.65	29.66	46.00	-16.34	QP

Note: Level = Reading + Factor Margin = Level - Limit

Polarization: Horizontal

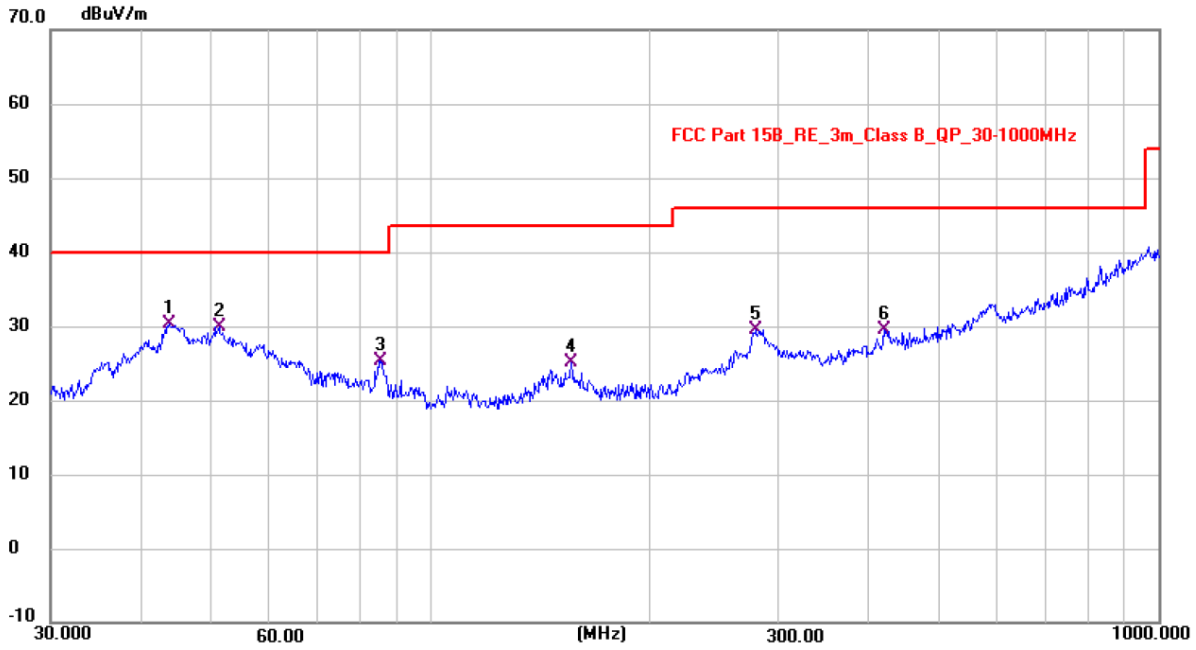


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35.8117	9.20	13.95	23.15	40.00	-16.85	QP
2 *	44.6062	9.68	14.37	24.05	40.00	-15.95	QP
3	64.0669	9.03	12.69	21.72	40.00	-18.28	QP
4	87.8015	11.84	9.67	21.51	40.00	-18.49	QP
5	138.4480	8.96	13.80	22.76	43.50	-20.74	QP
6	165.9952	10.14	13.76	23.90	43.50	-19.60	QP

Note: Level = Reading + Factor Margin = Level – Limit

Right earphone:

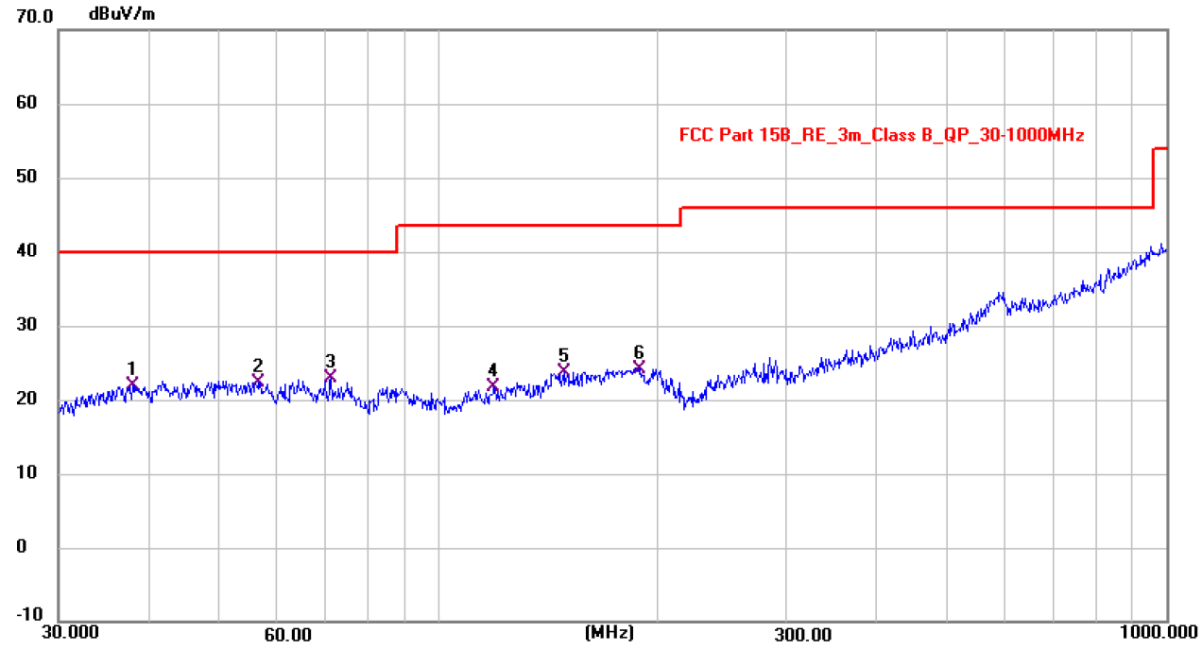
Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	43.7160	15.83	14.41	30.24	40.00	-9.76	QP
2	51.1657	15.90	14.02	29.92	40.00	-10.08	QP
3	85.4102	15.78	9.61	25.39	40.00	-14.61	QP
4	156.0466	10.86	14.26	25.12	43.50	-18.38	QP
5	280.2694	15.04	14.55	29.59	46.00	-16.41	QP
6	419.4755	11.32	18.20	29.52	46.00	-16.48	QP

Note: Level = Reading + Factor Margin = Level - Limit

Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.0114	7.59	14.28	21.87	40.00	-18.13	QP
2	56.6674	8.88	13.46	22.34	40.00	-17.66	QP
3 *	71.2985	11.16	11.74	22.90	40.00	-17.10	QP
4	119.1744	9.20	12.47	21.67	43.50	-21.83	QP
5	149.2238	9.52	14.10	23.62	43.50	-19.88	QP
6	189.2400	12.38	11.82	24.20	43.50	-19.30	QP

Note: Level = Reading + Factor Margin = Level - Limit

From 1GHz to 25GHz:					
Test Date	:	2024.12.6	Temperature	:	26℃
Test Engineer	:	Jensen Wang	Humidity	:	54%
Test Mode	:	GFSK, π/4 DQPSK, 8 DPSK mode			
Test Results	:	**PASS**			
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out. 3. If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.				

Left earphone:

Test Mode : GFSK TX Low								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	4804	V	59.58	-13.25	46.33	74.00	-27.67	Peak
2	4804	V	48.79	-13.25	35.54	54.00	-18.46	Avg
3	7206	--	--	--	--	--	--	--
4	9608	--	--	--	--	--	--	--
5	4804	H	56.79	-13.25	43.54	74.00	-30.46	Peak
6	4804	H	46.84	-13.25	33.59	54.00	-20.41	Avg
7	7206	--	--	--	--	--	--	--
8	9608	--	--	--	--	--	--	--
Test Mode : GFSK TX Mid								
1	4882	V	58.66	-12.98	45.68	74.00	-28.32	Peak
2	4882	V	47.55	-12.98	34.57	54.00	-19.43	Avg
3	7323	--	--	--	--	--	--	--
4	9764	--	--	--	--	--	--	--
5	4882	H	55.64	-12.98	42.66	74.00	-31.34	Peak
6	4882	H	45.07	-12.98	32.09	54.00	-21.91	Avg
7	7323	--	--	--	--	--	--	--
8	9764	--	--	--	--	--	--	--
Test Mode : GFSK TX High								
1	4960	V	58.77	-12.70	46.07	74.00	-27.93	Peak
2	4960	V	49.60	-12.70	36.90	54.00	-17.10	Avg
3	7440	--	--	--	--	--	--	--
4	9920	--	--	--	--	--	--	--
5	4960	H	54.51	-12.70	41.81	74.00	-32.19	Peak
6	4960	H	44.93	-12.70	32.23	54.00	-21.77	Avg
7	7440	--	--	--	--	--	--	--
8	9920	--	--	--	--	--	--	--

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.

Test Mode : π/4 DQPSK TX Low								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	4804	V	60.30	-13.25	47.05	74.00	-26.95	Peak
2	4804	V	48.59	-13.25	35.34	54.00	-18.66	Avg
3	7206	--	--	--	--	--	--	--
4	9608	--	--	--	--	--	--	--
5	4804	H	55.42	-13.25	42.17	74.00	-31.83	Peak
6	4804	H	46.88	-13.25	33.63	54.00	-20.37	Avg
7	7206	--	--	--	--	--	--	--
8	9608	--	--	--	--	--	--	--
Test Mode : π/4 DQPSK TX Mid								
1	4882	V	60.36	-12.98	47.38	74.00	-26.62	Peak
2	4882	V	50.01	-12.98	37.03	54.00	-16.97	Avg
3	7323	--	--	--	--	--	--	--
4	9764	--	--	--	--	--	--	--
5	4882	H	57.74	-12.98	44.76	74.00	-29.24	Peak
6	4882	H	47.81	-12.98	34.83	54.00	-19.17	Avg
7	7323	--	--	--	--	--	--	--
8	9764	--	--	--	--	--	--	--
Test Mode : π/4 DQPSK TX High								
1	4960	V	58.42	-12.70	45.72	74.00	-28.28	Peak
2	4960	V	48.00	-12.70	35.30	54.00	-18.70	Avg
3	7440	--	--	--	--	--	--	--
4	9920	--	--	--	--	--	--	--
5	4960	H	55.83	-12.70	43.13	74.00	-30.87	Peak
6	4960	H	45.44	-12.70	32.74	54.00	-21.26	Avg
7	7440	--	--	--	--	--	--	--
8	9920	--	--	--	--	--	--	--

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.

Test Mode : 8 DPSK TX Low								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	4804	V	58.41	-13.25	45.16	74.00	-28.84	Peak
2	4804	V	46.76	-13.25	33.51	54.00	-20.49	Avg
3	7206	--	--	--	--	--	--	--
4	9608	--	--	--	--	--	--	--
5	4804	H	54.68	-13.25	41.43	74.00	-32.57	Peak
6	4804	H	47.36	-13.25	34.11	54.00	-19.89	Avg
7	7206	--	--	--	--	--	--	--
8	9608	--	--	--	--	--	--	--
Test Mode : 8 DPSK TX Mid								
1	4882	V	59.67	-12.98	46.69	74.00	-27.31	Peak
2	4882	V	48.13	-12.98	35.15	54.00	-18.85	Avg
3	7323	--	--	--	--	--	--	--
4	9764	--	--	--	--	--	--	--
5	4882	H	55.30	-12.98	42.32	74.00	-31.68	Peak
6	4882	H	48.37	-12.98	35.39	54.00	-18.61	Avg
7	7323	--	--	--	--	--	--	--
8	9764	--	--	--	--	--	--	--
Test Mode : 8 DPSK TX High								
1	4960	V	58.01	-12.70	45.31	74.00	-28.69	Peak
2	4960	V	48.36	-12.70	35.66	54.00	-18.34	Avg
3	7440	--	--	--	--	--	--	--
4	9920	--	--	--	--	--	--	--
5	4960	H	55.96	-12.70	43.26	74.00	-30.74	Peak
6	4960	H	46.95	-12.70	34.25	54.00	-19.75	Avg
7	7440	--	--	--	--	--	--	--
8	9920	--	--	--	--	--	--	--

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.

Right earphone:

Test Mode : GFSK TX Low								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	4804	V	57.64	-13.25	44.39	74.00	-29.61	Peak
2	4804	V	47.75	-13.25	34.50	54.00	-19.50	Avg
3	7206	--	--	--	--	--	--	--
4	9608	--	--	--	--	--	--	--
5	4804	H	56.16	-13.25	42.91	74.00	-31.09	Peak
6	4804	H	46.05	-13.25	32.80	54.00	-21.20	Avg
7	7206	--	--	--	--	--	--	--
8	9608	--	--	--	--	--	--	--
Test Mode : GFSK TX Mid								
1	4882	V	59.07	-12.98	46.09	74.00	-27.91	Peak
2	4882	V	46.88	-12.98	33.90	54.00	-20.10	Avg
3	7323	--	--	--	--	--	--	--
4	9764	--	--	--	--	--	--	--
5	4882	H	56.77	-12.98	43.79	74.00	-30.21	Peak
6	4882	H	46.39	-12.98	33.41	54.00	-20.59	Avg
7	7323	--	--	--	--	--	--	--
8	9764	--	--	--	--	--	--	--
Test Mode : GFSK TX High								
1	4960	V	59.72	-12.70	47.02	74.00	-26.98	Peak
2	4960	V	47.53	-12.70	34.83	54.00	-19.17	Avg
3	7440	--	--	--	--	--	--	--
4	9920	--	--	--	--	--	--	--
5	4960	H	56.48	-12.70	43.78	74.00	-30.22	Peak
6	4960	H	44.88	-12.70	32.18	54.00	-21.82	Avg
7	7440	--	--	--	--	--	--	--
8	9920	--	--	--	--	--	--	--

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.

Test Mode : π/4 DQPSK TX Low								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	4804	V	57.39	-13.25	44.14	74.00	-29.86	Peak
2	4804	V	46.81	-13.25	33.56	54.00	-20.44	Avg
3	7206	--	--	--	--	--	--	--
4	9608	--	--	--	--	--	--	--
5	4804	H	56.82	-13.25	43.57	74.00	-30.43	Peak
6	4804	H	47.73	-13.25	34.48	54.00	-19.52	Avg
7	7206	--	--	--	--	--	--	--
8	9608	--	--	--	--	--	--	--
Test Mode : π/4 DQPSK TX Mid								
1	4882	V	60.26	-12.98	47.28	74.00	-26.72	Peak
2	4882	V	48.52	-12.98	35.54	54.00	-18.46	Avg
3	7323	--	--	--	--	--	--	--
4	9764	--	--	--	--	--	--	--
5	4882	H	58.17	-12.98	45.19	74.00	-28.81	Peak
6	4882	H	48.58	-12.98	35.60	54.00	-18.40	Avg
7	7323	--	--	--	--	--	--	--
8	9764	--	--	--	--	--	--	--
Test Mode : π/4 DQPSK TX High								
1	4960	V	59.67	-12.70	46.97	74.00	-27.03	Peak
2	4960	V	49.70	-12.70	37.00	54.00	-17.00	Avg
3	7440	--	--	--	--	--	--	--
4	9920	--	--	--	--	--	--	--
5	4960	H	55.71	-12.70	43.01	74.00	-30.99	Peak
6	4960	H	46.61	-12.70	33.91	54.00	-20.09	Avg
7	7440	--	--	--	--	--	--	--
8	9920	--	--	--	--	--	--	--

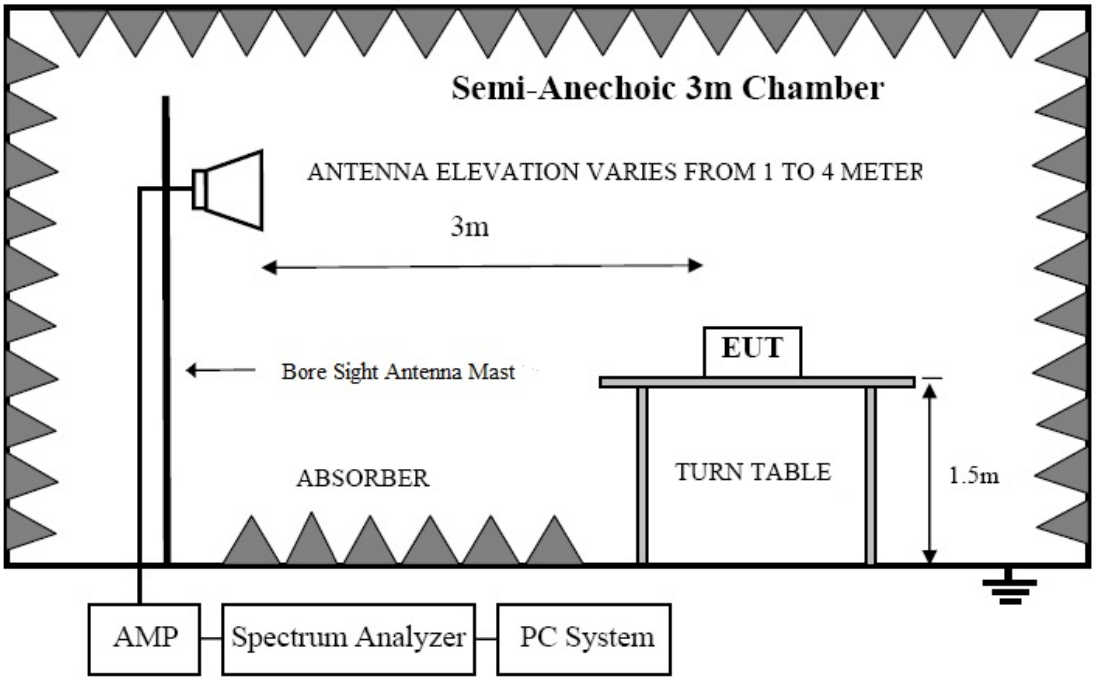
Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.

Test Mode : 8 DPSK TX Low								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	4804	V	60.12	-13.25	46.87	74.00	-27.13	Peak
2	4804	V	49.48	-13.25	36.23	54.00	-17.77	Avg
3	7206	--	--	--	--	--	--	--
4	9608	--	--	--	--	--	--	--
5	4804	H	54.50	-13.25	41.25	74.00	-32.75	Peak
6	4804	H	46.19	-13.25	32.94	54.00	-21.06	Avg
7	7206	--	--	--	--	--	--	--
8	9608	--	--	--	--	--	--	--
Test Mode : 8 DPSK TX Mid								
1	4882	V	58.99	-12.98	46.01	74.00	-27.99	Peak
2	4882	V	47.58	-12.98	34.60	54.00	-19.40	Avg
3	7323	--	--	--	--	--	--	--
4	9764	--	--	--	--	--	--	--
5	4882	H	55.48	-12.98	42.50	74.00	-31.50	Peak
6	4882	H	44.89	-12.98	31.91	54.00	-22.09	Avg
7	7323	--	--	--	--	--	--	--
8	9764	--	--	--	--	--	--	--
Test Mode : 8 DPSK TX High								
1	4960	V	59.79	-12.70	47.09	74.00	-26.91	Peak
2	4960	V	46.99	-12.70	34.29	54.00	-19.71	Avg
3	7440	--	--	--	--	--	--	--
4	9920	--	--	--	--	--	--	--
5	4960	H	58.24	-12.70	45.54	74.00	-28.46	Peak
6	4960	H	46.99	-12.70	34.29	54.00	-19.71	Avg
7	7440	--	--	--	--	--	--	--
8	9920	--	--	--	--	--	--	--

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.

10.Band Edge Test

10.1.Block Diagram of Test Setup



10.2.Test Limit

Radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

10.3.Test Procedure

Refer to ANSI C 63.10, Clause 6.10.

All restriction band and non- restriction band have been tested, only worse case is reported.

10.4.Test Results

Test Date	:	2024.12.16	Temperature	:	26℃
Test Engineer	:	Jensen Wang	Humidity	:	54%
Test Results	:	**PASS**			

Left earphone:

Frequency Range : **2310MHz~2410MHz**								
Test Mode : GFSK TX 2402MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	61.15	-20.45	40.70	74.00	-33.30	Peak
2	2390	H	--	-20.45	--	54.00	--	Avg
3	2400	H	64.75	-20.41	44.34	74.00	-29.66	Peak
4	2400	H	--	-20.41	--	54.00	--	Avg
1	2390	V	61.75	-20.45	41.30	74.00	-32.70	Peak
2	2390	V	--	-20.45	--	54.00	--	Avg
3	2400	V	63.44	-20.41	43.03	74.00	-30.97	Peak
4	2400	V	--	-20.41	--	54.00	--	Avg
Frequency Range : **2450MHz~2550MHz**								
Test Mode : GFSK TX 2480MHz								
1	2483.5	H	62.92	-20.15	42.77	74.00	-31.23	Peak
2	2483.5	H	--	-20.15	--	54.00	--	Avg
1	2483.5	V	63.96	-20.15	43.81	74.00	-30.19	Peak
2	2483.5	V	--	-20.15	--	54.00	--	Avg

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

Frequency Range : **2310MHz~2410MHz**								
Test Mode : π/4 DQPSK TX 2402MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	58.49	-20.45	38.04	74.00	-35.96	Peak
2	2390	H	--	-20.45	--	54.00	--	Avg
3	2400	H	62.69	-20.41	42.28	74.00	-31.72	Peak
4	2400	H	--	-20.41	--	54.00	--	Avg
1	2390	V	63.16	-20.45	42.71	74.00	-31.29	Peak
2	2390	V	--	-20.45	--	54.00	--	Avg
3	2400	V	63.35	-20.41	42.94	74.00	-31.06	Peak
4	2400	V	--	-20.41	--	54.00	--	Avg
Frequency Range : **2450MHz~2550MHz**								
Test Mode : π/4 DQPSK TX 2480MHz								
1	2483.5	H	61.04	-20.15	40.89	74.00	-33.11	Peak
2	2483.5	H	--	-20.15	--	54.00	--	Avg
1	2483.5	V	63.73	-20.15	43.58	74.00	-30.42	Peak
2	2483.5	V	--	-20.15	--	54.00	--	Avg

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

Frequency Range : **2310MHz~2410MHz**								
Test Mode : 8 DPSK TX 2402MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	59.15	-20.45	38.70	74.00	-35.30	Peak
2	2390	H	--	-20.45	--	54.00	--	Avg
3	2400	H	61.39	-20.41	40.98	74.00	-33.02	Peak
4	2400	H	--	-20.41	--	54.00	--	Avg
1	2390	V	62.20	-20.45	41.75	74.00	-32.25	Peak
2	2390	V	--	-20.45	--	54.00	--	Avg
3	2400	V	62.28	-20.41	41.87	74.00	-32.13	Peak
4	2400	V	--	-20.41	--	54.00	--	Avg
Frequency Range : **2450MHz~2550MHz**								
Test Mode : 8 DPSK TX 2480MHz								
1	2483.5	H	60.41	-20.15	40.26	74.00	-33.74	Peak
2	2483.5	H	--	-20.15	--	54.00	--	Avg
1	2483.5	V	65.03	-20.15	44.88	74.00	-29.12	Peak
2	2483.5	V	--	-20.15	--	54.00	--	Avg

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

Right earphone:

Frequency Range : **2310MHz~2410MHz**								
Test Mode : GFSK TX 2402MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	60.59	-20.45	40.14	74.00	-33.86	Peak
2	2390	H	--	-20.45	--	54.00	--	Avg
3	2400	H	61.73	-20.41	41.32	74.00	-32.68	Peak
4	2400	H	--	-20.41	--	54.00	--	Avg
1	2390	V	61.17	-20.45	40.72	74.00	-33.28	Peak
2	2390	V	--	-20.45	--	54.00	--	Avg
3	2400	V	64.33	-20.41	43.92	74.00	-30.08	Peak
4	2400	V	--	-20.41	--	54.00	--	Avg
Frequency Range : **2450MHz~2550MHz**								
Test Mode : GFSK TX 2480MHz								
1	2483.5	H	61.48	-20.15	41.33	74.00	-32.67	Peak
2	2483.5	H	--	-20.15	--	54.00	--	Avg
1	2483.5	V	65.76	-20.15	45.61	74.00	-28.39	Peak
2	2483.5	V	--	-20.15	--	54.00	--	Avg

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20Db margin.
4. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

Frequency Range : **2310MHz~2410MHz**								
Test Mode : π/4 DQPSK TX 2402MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	58.17	-20.45	37.72	74.00	-36.28	Peak
2	2390	H	--	-20.45	--	54.00	--	Avg
3	2400	H	64.16	-20.41	43.75	74.00	-30.25	Peak
4	2400	H	--	-20.41	--	54.00	--	Avg
1	2390	V	61.89	-20.45	41.44	74.00	-32.56	Peak
2	2390	V	--	-20.45	--	54.00	--	Avg
3	2400	V	64.97	-20.41	44.56	74.00	-29.44	Peak
4	2400	V	--	-20.41	--	54.00	--	Avg
Frequency Range : **2450MHz~2550MHz**								
Test Mode : π/4 DQPSK TX 2480MHz								
1	2483.5	H	61.45	-20.15	41.30	74.00	-32.70	Peak
2	2483.5	H	--	-20.15	--	54.00	--	Avg
1	2483.5	V	64.67	-20.15	44.52	74.00	-29.48	Peak
2	2483.5	V	--	-20.15	--	54.00	--	Avg

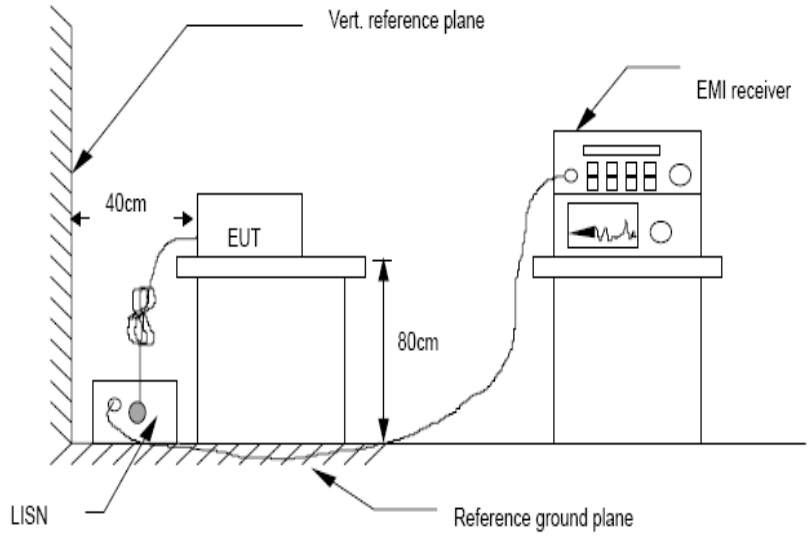
Note:
1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
4. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

Frequency Range : **2310MHz~2410MHz**								
Test Mode : 8 DPSK TX 2402MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	60.07	-20.45	39.62	74.00	-34.38	Peak
2	2390	H	--	-20.45	--	54.00	--	Avg
3	2400	H	62.42	-20.41	42.01	74.00	-31.99	Peak
4	2400	H	--	-20.41	--	54.00	--	Avg
1	2390	V	62.34	-20.45	41.89	74.00	-32.11	Peak
2	2390	V	--	-20.45	--	54.00	--	Avg
3	2400	V	62.07	-20.41	41.66	74.00	-32.34	Peak
4	2400	V	--	-20.41	--	54.00	--	Avg
Frequency Range : **2450MHz~2550MHz**								
Test Mode : 8 DPSK TX 2480MHz								
1	2483.5	H	61.57	-20.15	41.42	74.00	-32.58	Peak
2	2483.5	H	--	-20.15	--	54.00	--	Avg
1	2483.5	V	63.94	-20.15	43.79	74.00	-30.21	Peak
2	2483.5	V	--	-20.15	--	54.00	--	Avg

Note:
1. Means other frequency and mode comply with standard requirements and at least have 20Db margin.
4. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor.
Margin= Result-Limit.
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

11. Power Line Conducted Emissions

11.1.Block Diagram of Test Setup



11.2.Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

4. The lower limit shall apply at the transition frequencies.

11.3.Test Procedure

(1) The EUT was placed on a non-metallic table, 80cm above the ground plane.

(2) Setup the EUT and simulator as shown in 10.1

(3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013on conducted Emission test.

(4) The bandwidth of test receiver is set at 10KHz.

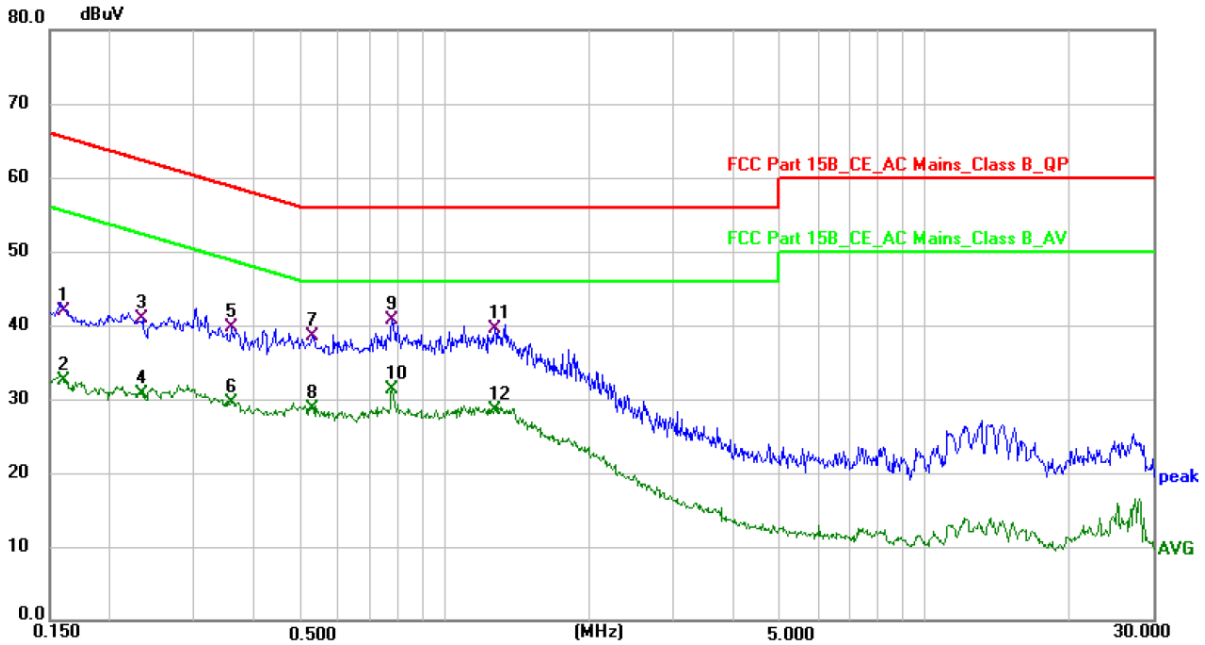
(5) The frequency range from 150 KHz to 30MHz is checked.

11.4.Test Results

Test Date	: 2024.12.6	Temperature	: 26℃
Test Engineer	: Jensen Wang	Humidity	: 54%
Test Mode	: GFSK mode		
Test Results	: **PASS**		
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out. 3. If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out. 4. All modes have been tested, and only worst data of GFSK mode, Channel 2402MHz (AC 120V/ 60Hz) was listed in this report.		

Left earphone:

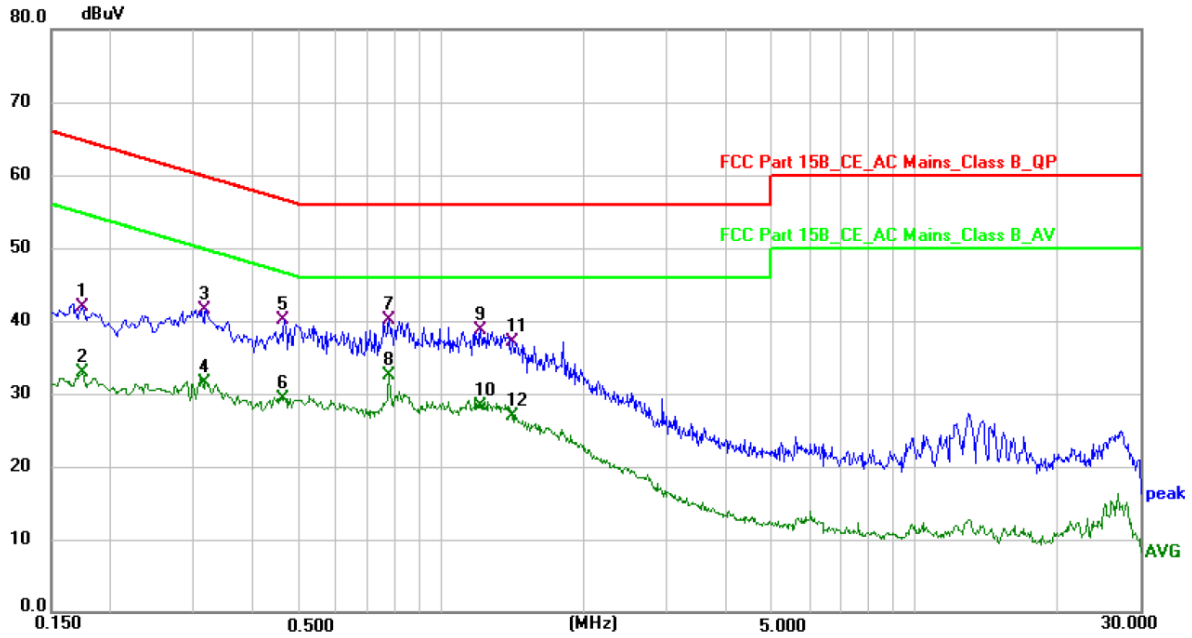
Polarization: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1604	31.88	9.94	41.82	65.44	-23.62	QP
2	0.1604	22.57	9.94	32.51	55.44	-22.93	AVG
3	0.2340	30.86	9.96	40.82	62.31	-21.49	QP
4	0.2340	20.79	9.96	30.75	52.31	-21.56	AVG
5	0.3580	29.86	9.77	39.63	58.77	-19.14	QP
6	0.3580	19.75	9.77	29.52	48.77	-19.25	AVG
7	0.5299	28.67	9.84	38.51	56.00	-17.49	QP
8	0.5299	18.88	9.84	28.72	46.00	-17.28	AVG
9	0.7780	31.35	9.42	40.77	56.00	-15.23	QP
10 *	0.7780	21.80	9.42	31.22	46.00	-14.78	AVG
11	1.2740	30.03	9.40	39.43	56.00	-16.57	QP
12	1.2740	19.08	9.40	28.48	46.00	-17.52	AVG

Note: Level = Reading + Factor Margin = Level - Limit

Polarization: N

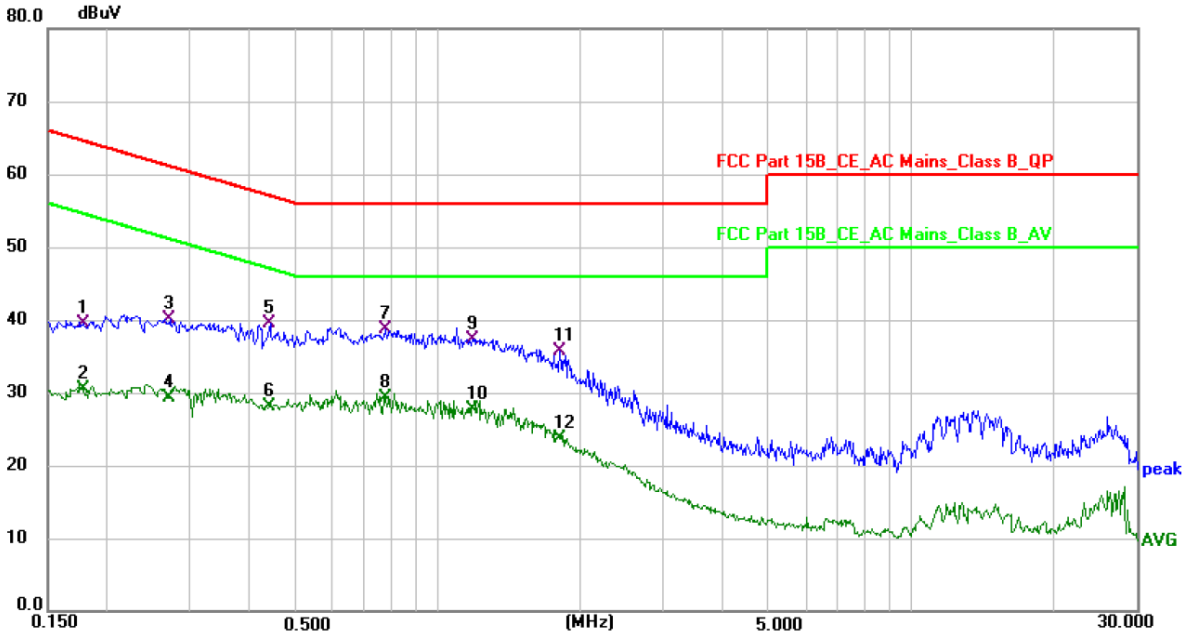


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	32.00	9.94	41.94	64.77	-22.83	QP
2	0.1740	22.90	9.94	32.84	54.77	-21.93	AVG
3	0.3180	31.61	9.92	41.53	59.76	-18.23	QP
4	0.3180	21.57	9.92	31.49	49.76	-18.27	AVG
5	0.4660	30.38	9.81	40.19	56.58	-16.39	QP
6	0.4660	19.42	9.81	29.23	46.58	-17.35	AVG
7	0.7780	30.62	9.42	40.04	56.00	-15.96	QP
8 *	0.7780	23.09	9.42	32.51	46.00	-13.49	AVG
9	1.2100	29.24	9.41	38.65	56.00	-17.35	QP
10	1.2100	18.94	9.41	28.35	46.00	-17.65	AVG
11	1.4140	27.75	9.40	37.15	56.00	-18.85	QP
12	1.4140	17.52	9.40	26.92	46.00	-19.08	AVG

Note: Level = Reading + Factor Margin = Level - Limit

Right earphone:

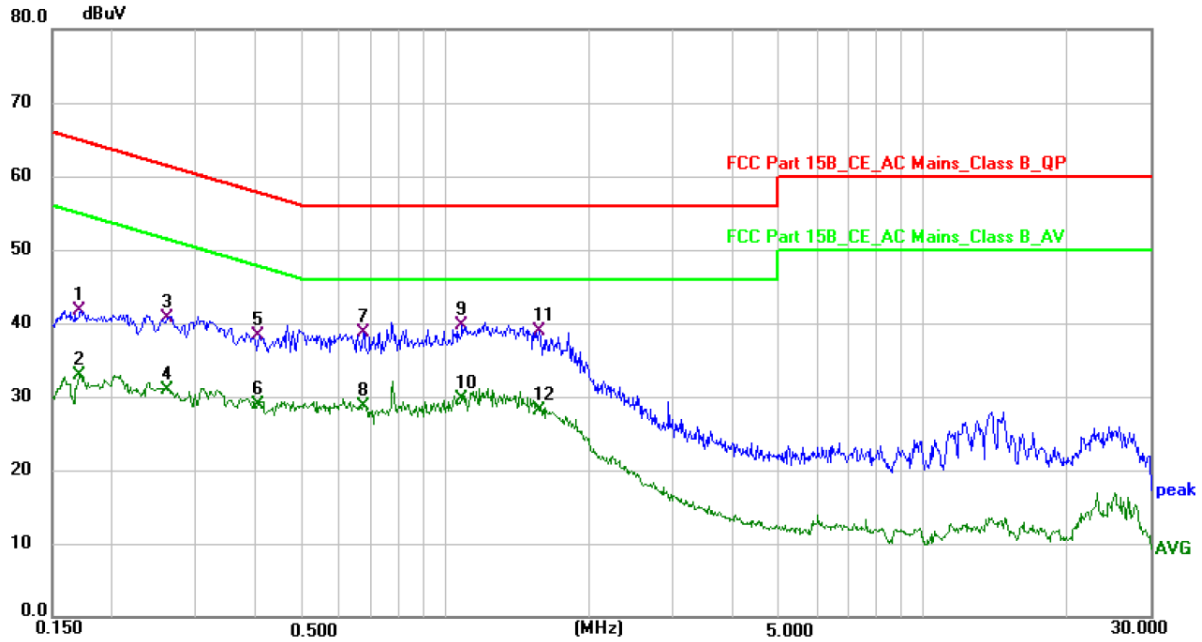
Polarization: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1780	29.63	9.95	39.58	64.58	-25.00	QP
2	0.1780	20.60	9.95	30.55	54.58	-24.03	AVG
3	0.2714	30.03	9.98	40.01	61.07	-21.06	QP
4	0.2714	19.30	9.98	29.28	51.07	-21.79	AVG
5	0.4420	29.73	9.74	39.47	57.02	-17.55	QP
6	0.4420	18.37	9.74	28.11	47.02	-18.91	AVG
7	0.7780	29.35	9.42	38.77	56.00	-17.23	QP
8 *	0.7780	19.80	9.42	29.22	46.00	-16.78	AVG
9	1.1900	27.99	9.41	37.40	56.00	-18.60	QP
10	1.1900	18.39	9.41	27.80	46.00	-18.20	AVG
11	1.8100	26.28	9.39	35.67	56.00	-20.33	QP
12	1.8100	14.31	9.39	23.70	46.00	-22.30	AVG

Note: Level = Reading + Factor Margin = Level - Limit

Polarization: N



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1720	31.76	9.94	41.70	64.86	-23.16	QP
2	0.1720	22.95	9.94	32.89	54.86	-21.97	AVG
3	0.2620	30.73	9.97	40.70	61.37	-20.67	QP
4	0.2620	20.89	9.97	30.86	51.37	-20.51	AVG
5	0.4060	28.70	9.64	38.34	57.73	-19.39	QP
6	0.4060	19.17	9.64	28.81	47.73	-18.92	AVG
7	0.6740	29.24	9.49	38.73	56.00	-17.27	QP
8	0.6740	19.26	9.49	28.75	46.00	-17.25	AVG
9	1.0859	30.29	9.41	39.70	56.00	-16.30	QP
10 *	1.0859	20.38	9.41	29.79	46.00	-16.21	AVG
11	1.5740	29.57	9.40	38.97	56.00	-17.03	QP
12	1.5740	18.71	9.40	28.11	46.00	-17.89	AVG

Note: Level = Reading + Factor Margin = Level - Limit

12. Antenna Requirements

12.1.Limit

For intentional device, according to FCC 47 CFR Section 15.203 and RSS-GEN, 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

12.2.Result

The EUT antenna is internal antenna. It complies with the standard requirement.

13.Photos of test setup

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

14. Photos of EUT

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

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