TEST REPORT

Application No.:	SZCR2405001876AT
Applicant:	Cosonic Intelligent Technologies Co., Ltd.
Address of Applicant:	NO.3 Keyuan Road, Songshan Lake District, Dongguan City, Guangdong Province 523808
Manufacturer:	Cosonic Intelligent Technologies Co., Ltd.
Address of Manufacturer:	NO.3 Keyuan Road, Songshan Lake District, Dongguan City, Guangdong Province 523808
Factory:	COSONIC VIETNAM COMPANY LIMITED
Address of Factory:	Lot C5-1, Ba Thien II Industrial Park, Thien Ke Ward, Binh Xuyen District, Vinh Phuc Province, Vietnam
Equipment Under Test (EUT):	
EUT Name:	ONN. TRUE WRLS GEN3
Model No.:	100069415, AAWHT100069415, AABLSV100069415, AAASH100069415 ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID:	2ALVK-ONN100069415
Standard(s) :	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2024-05-23
Date of Test:	2024-05-24 to 2024-05-27
Date of Issue:	2024-05-30
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu
EMC Laboratory Manager

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Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2024-05-30		Original

Authorized for issue by:				
		Bill Chen **Bill Chen/Project Engineer**		
		Eric Fu **Eric Fu/Reviewer**		

2 Test Summary

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Radiated Spurious Emissions Below 1GHz	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Above 1GHz		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass

Remark:

Model No.: 100069415, AAWHT100069415, AABLSV100069415, AAASH100069415

Only the model 100069415 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference on model No..

This test report (Ref. No.: SZCR240500187602) is only valid with the original test report

(Ref. No.: FYCR221000043202).

According to the declaration from the applicant, the models in this report and models in original report were identical, the following changes have been made to the product：

1. Left and right earphone PCBA replace the microphone brand and add a TVS tube, at the same time, adjusted some component position and alignment.
2. Charging box added TVS tube, and adjusted some component positions and alignments due to board frame differences.
3. the battery replaced the brand manufacturer but the battery parameters remain unchanged.
4. the antenna replaced the manufacturer at the same time the antenna alignment is different, the antenna gain is reduced.

Considering to the difference, pre-scan were performed on the sample in this report to find the items which can be influential to the result in the original test report for fully retest.

Therefore in this report of section 2 were fully retested on model and shown the data in this report, other tests please refer to original report FYCR221000043202.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	Left earbuds: Li-Ion Polymer Battery 3.7V 35mAh (Charge by travel case) Right earbuds: Li-Ion Polymer Battery 3.7V 35mAh (Charge by travel case) travel case with backup battery: Li-Ion Polymer Battery 3.7V 450mAh (Charged by USB port)
Cable(s):	Type C cable:22cm unshielded
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.3 Dual mode
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Type:	FPC Antenna
Antenna Gain:	Left earbud:0.1dBi Right earbud:-1.1dBi
RF cable loss:	0.4dB

Remark:The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
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The EUT has been tested as an independent unit.			

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Radiated Spurious Emissions Below 1GHz	± 6.0dB for 3m; ± 5.0dB for 10m
Radiated Spurious Emissions Above 1GHz	± 4.6dB (1-18GHz);± 4.8dB (18-40GHz)
Radiated Emissions which fall in the restricted bands	± 6.0dB (Below 1GHz);± 4.6dB (Above 1GHz)

Remark:
The U_{lab} (lab Uncertainty) is less than $U_{cispr/ETSI}$ (CISPR/ETSI Uncertainty), so the test results
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI (Member No. 1937)**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1336**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Radiated Spurious Emissions Below 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2023-11-20	2025-11-19
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2023-06-19	2026-06-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2023-10-19	2024-10-18
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2023-09-16	2025-09-15
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2024-03-14	2025-03-13
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2023-07-07	2024-07-06

Radiated Spurious Emissions Above 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2024-05-11	2027-05-10
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22
Microwave system amplifier	Agilent	83017A	SEM005-25	2023-09-19	2024-09-18
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2023-07-07	2024-07-06
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2022-08-10	2024-08-09
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2024-03-15	2025-03-14

Radiated Emissions which fall in the restricted bands					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2024-05-11	2027-05-10
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22
Microwave system amplifier	Agilent	83017A	SEM005-25	2023-09-19	2024-09-18
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2023-07-07	2024-07-06
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2022-08-10	2024-08-09
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2024-03-15	2025-03-14

General used equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2023-07-28	2024-07-27
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2023-07-28	2024-07-27
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2024-03-18	2025-03-17

6 Radio Spectrum Matter Test Results

6.1 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2013) Section 6.4,6.5
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

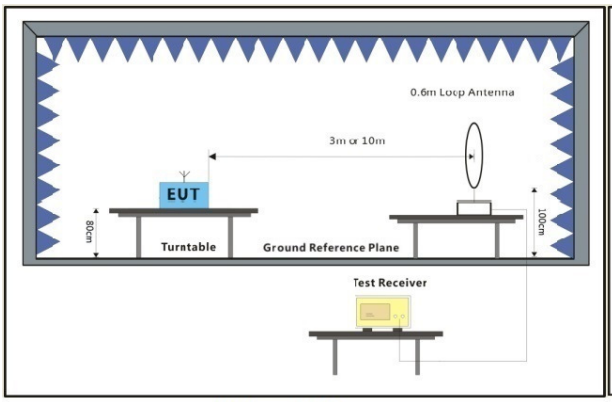
6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 23.5 °C Humidity: 47.5 % RH Atmospheric Pressure: 1020 mbar

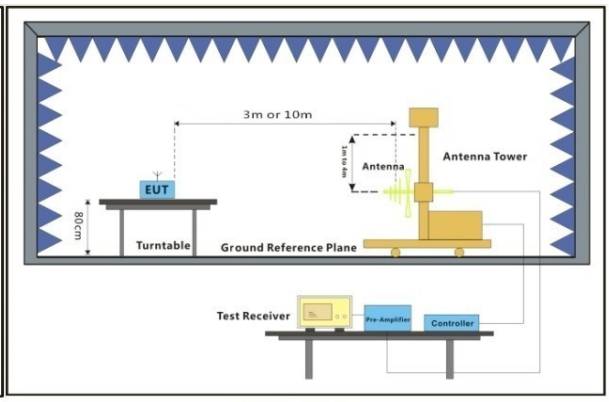
6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX_non-Hop mode(Left earbud)_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.
Final test	01	TX_non-Hop mode(Right earbud)_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

6.1.3 Test Setup Diagram



Below 30MHz



30MHz-1GHz

6.1.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

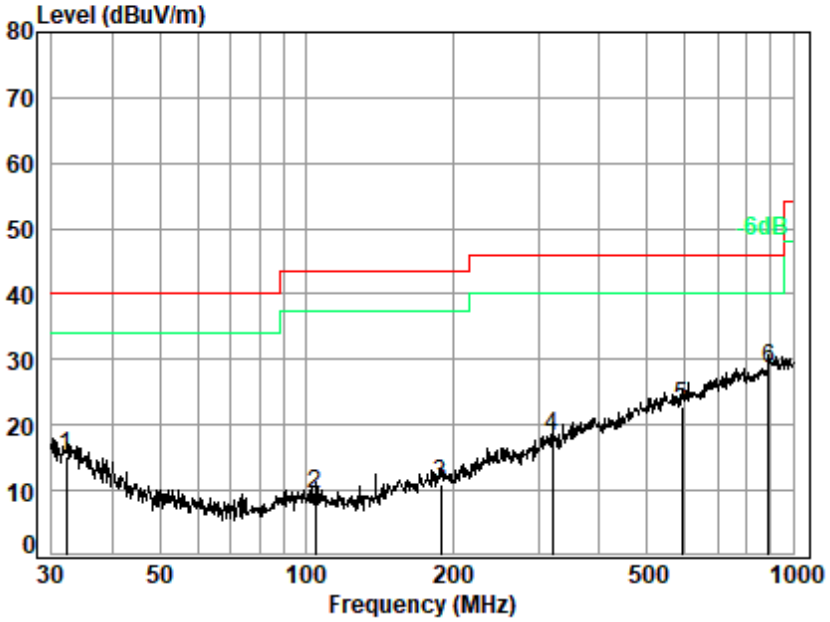
i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

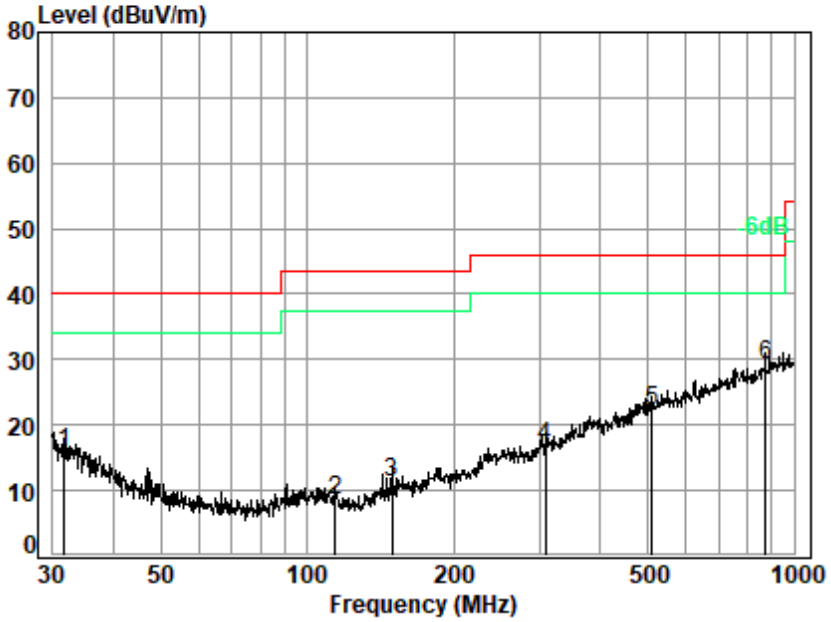
Test Mode: 00; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01876AT/01877AT
Test Mode: 00

	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	32.18	20.20	0.66	27.79	22.17	15.24	40.00	-24.76	QP
2	104.54	12.21	1.21	27.57	23.52	9.37	43.50	-34.13	QP
3	189.07	14.29	1.67	27.22	22.33	11.07	43.50	-32.43	QP
4	319.94	18.51	2.25	26.83	24.34	18.27	46.00	-27.73	QP
5	590.97	24.44	3.18	27.93	23.26	22.95	46.00	-23.05	QP
6 q	890.73	28.06	4.07	26.83	23.35	28.65	46.00	-17.35	QP

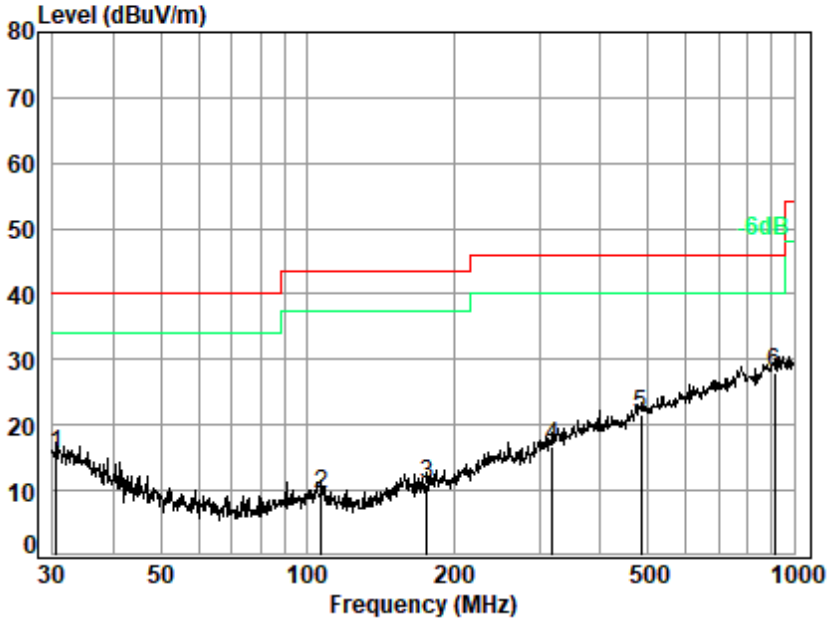
Test Mode: 00; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 01876AT/01877AT
Test Mode: 00

	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	31.73	20.39	0.66	27.79	22.64	15.90	40.00	-24.10	QP
2	114.11	11.50	1.27	27.53	23.16	8.40	43.50	-35.10	QP
3	149.49	12.98	1.46	27.38	24.23	11.29	43.50	-32.21	QP
4	307.83	18.41	2.20	26.78	23.01	16.84	46.00	-29.16	QP
5	510.04	23.17	2.92	27.60	23.78	22.27	46.00	-23.73	QP
6 q	872.18	27.66	4.02	26.96	24.34	29.06	46.00	-16.94	QP

Test Mode: 01; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01876AT/01877AT
Test Mode: 01

	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.53	20.95	0.65	27.79	21.67	15.48	40.00	-24.52	QP
2	106.76	12.15	1.23	27.56	23.62	9.44	43.50	-34.06	QP
3	176.27	13.87	1.60	27.27	22.64	10.84	43.50	-32.66	QP
4	318.82	18.48	2.24	26.83	22.92	16.81	46.00	-29.19	QP
5	485.61	22.88	2.84	27.50	23.26	21.48	46.00	-24.52	QP
6 q	912.86	28.01	4.12	26.67	22.51	27.97	46.00	-18.03	QP

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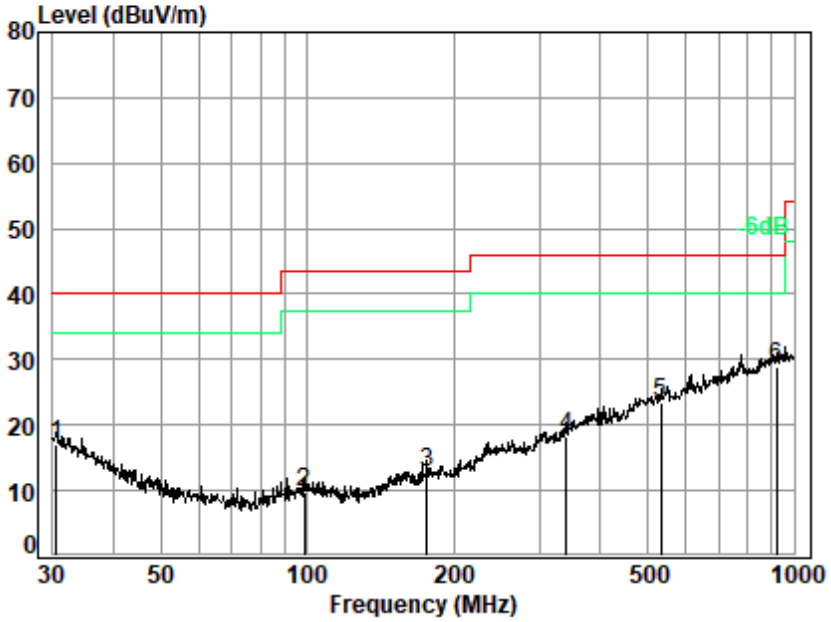
Test Mode: 01; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 01876AT/01877AT
Test Mode: 01

	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.53	20.95	0.65	27.79	23.14	16.95	40.00	-23.05	QP
2	98.49	12.22	1.18	27.59	23.92	9.73	43.50	-33.77	QP
3	176.27	13.87	1.60	27.27	24.49	12.69	43.50	-30.81	QP
4	340.78	19.13	2.32	26.92	23.74	18.27	46.00	-27.73	QP
5	531.96	23.33	2.99	27.69	24.91	23.54	46.00	-22.46	QP
6 q	919.29	28.17	4.14	26.63	23.20	28.88	46.00	-17.12	QP

6.2 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2013) Section 6.6
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

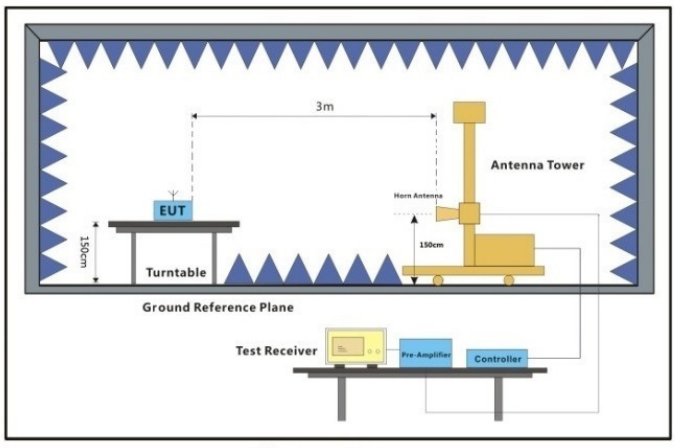
6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 22.5 °C Humidity: 49.5 % RH Atmospheric Pressure: 1020 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX_non-Hop mode(Left earbud)_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.
Final test	01	TX_non-Hop mode(Right earbud)_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

6.2.3 Test Setup Diagram



Above 1GHz

6.2.4 Measurement Procedure and Data

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

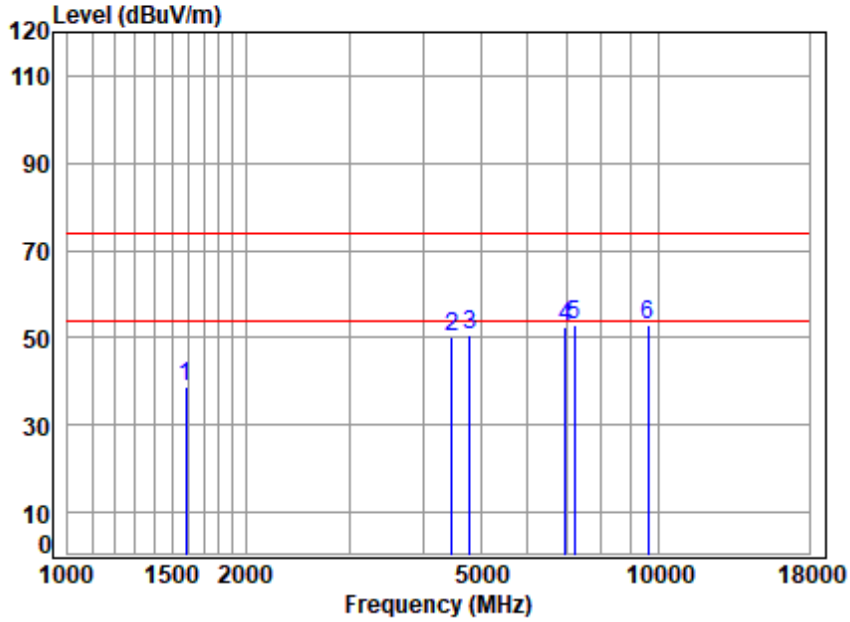
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

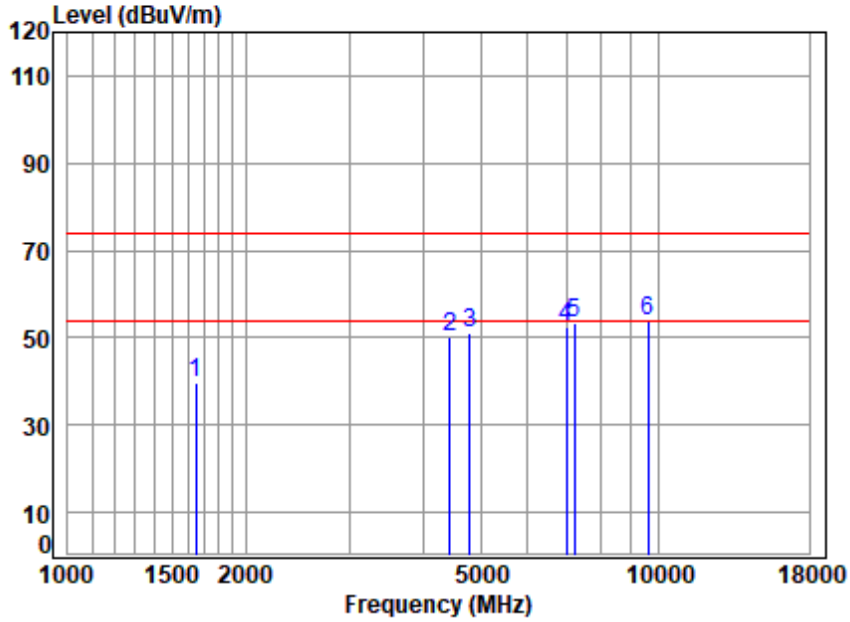
Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2402 TX RSE
: BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1587.975	4.18	26.85	38.40	46.15	38.78	74.00	-35.22	peak
2	4469.214	7.10	33.97	35.75	44.94	50.26	74.00	-23.74	peak
3	4804.000	7.31	34.32	35.52	44.65	50.76	74.00	-23.24	peak
4	6954.852	8.89	35.79	35.54	43.41	52.55	74.00	-21.45	peak
5 p	7206.000	9.18	35.70	35.79	44.04	53.13	74.00	-20.87	peak
6	9608.000	12.36	37.42	37.46	40.61	52.93	74.00	-21.07	peak

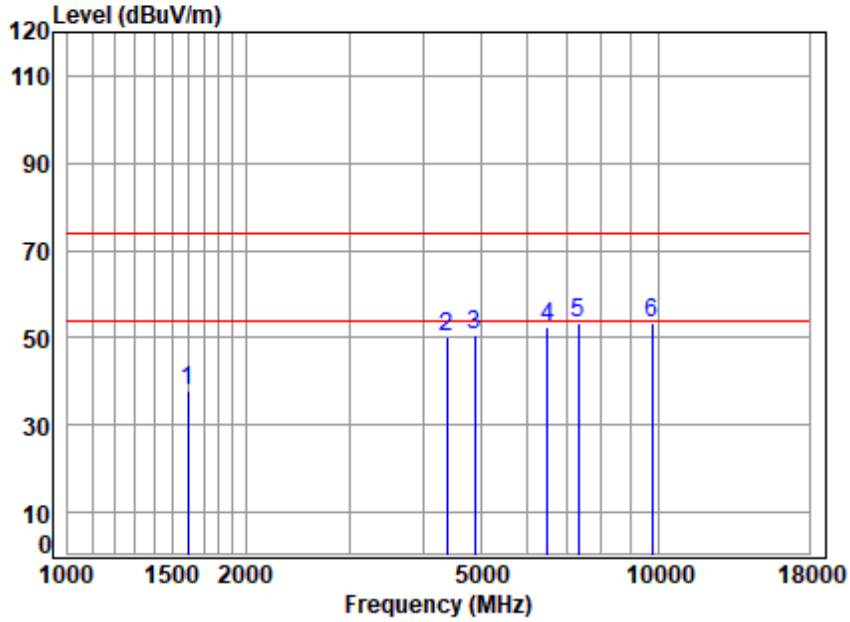
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2402 TX RSE
: BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1648.778	4.26	26.31	38.41	47.44	39.60	74.00	-34.40	peak
2	4443.453	7.09	34.28	35.77	44.74	50.34	74.00	-23.66	peak
3	4804.000	7.31	34.32	35.52	45.02	51.13	74.00	-22.87	peak
4	6974.982	8.90	35.75	35.55	43.51	52.61	74.00	-21.39	peak
5	7206.000	9.18	35.70	35.79	44.15	53.24	74.00	-20.76	peak
6 p	9608.000	12.36	37.42	37.46	41.31	53.63	74.00	-20.37	peak

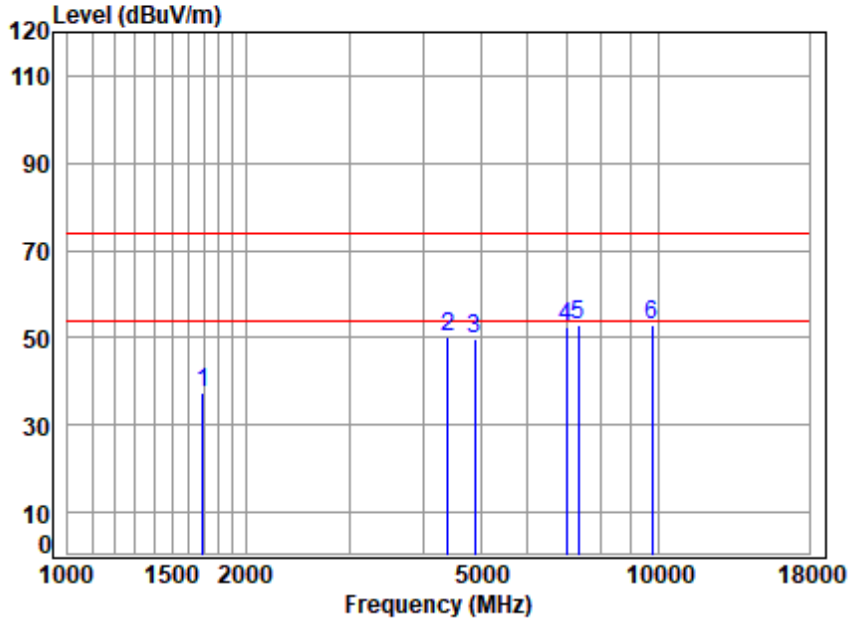
Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2441 TX RSE
: BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	4.20	26.81	38.40	45.38	37.99	74.00	-36.01	peak
2	4392.376	7.05	34.74	35.80	44.18	50.17	74.00	-23.83	peak
3	4882.000	7.36	34.63	35.47	44.20	50.72	74.00	-23.28	peak
4	6488.754	8.55	35.58	35.24	43.42	52.31	74.00	-21.69	peak
5 p	7323.000	9.32	35.70	35.90	44.32	53.44	74.00	-20.56	peak
6	9764.000	12.47	37.37	37.42	41.01	53.43	74.00	-20.57	peak

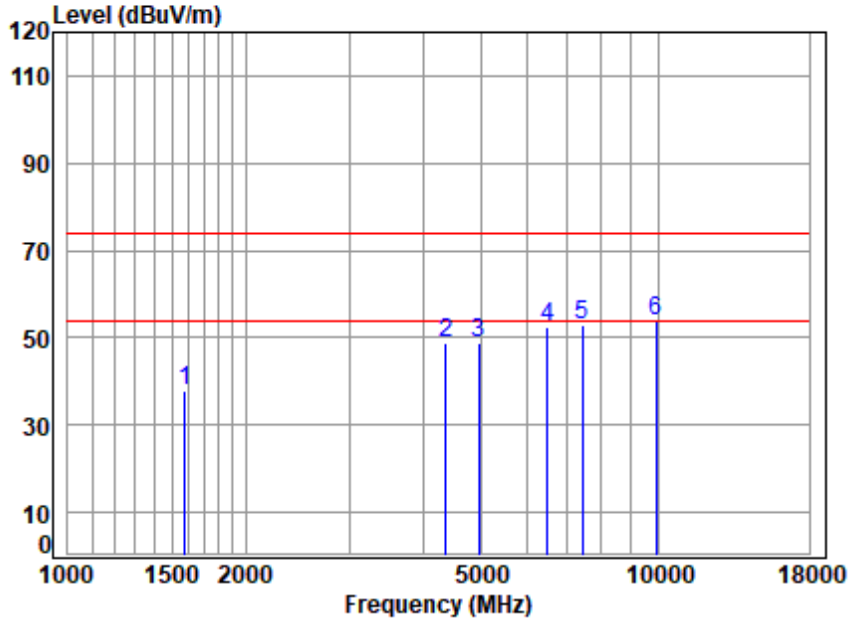
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2441 TX RSE
: BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1692.231	4.32	26.22	38.41	45.29	37.42	74.00	-36.58	peak
2	4405.090	7.06	34.74	35.79	44.07	50.08	74.00	-23.92	peak
3	4882.000	7.36	34.63	35.47	43.41	49.93	74.00	-24.07	peak
4	6974.982	8.90	35.75	35.55	43.46	52.56	74.00	-21.44	peak
5	7323.000	9.32	35.70	35.90	43.74	52.86	74.00	-21.14	peak
6 p	9764.000	12.47	37.37	37.42	40.51	52.93	74.00	-21.07	peak

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2480 TX RSE
: BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1578.822	4.17	26.88	38.40	45.08	37.73	74.00	-36.27	peak
2	4367.058	7.04	34.54	35.82	43.08	48.84	74.00	-25.16	peak
3	4960.000	7.41	34.56	35.42	42.45	49.00	74.00	-25.00	peak
4	6488.754	8.55	35.58	35.24	43.53	52.42	74.00	-21.58	peak
5	7440.000	9.46	35.96	36.02	43.51	52.91	74.00	-21.09	peak
6 p	9920.000	12.58	37.30	37.39	41.22	53.71	74.00	-20.29	peak

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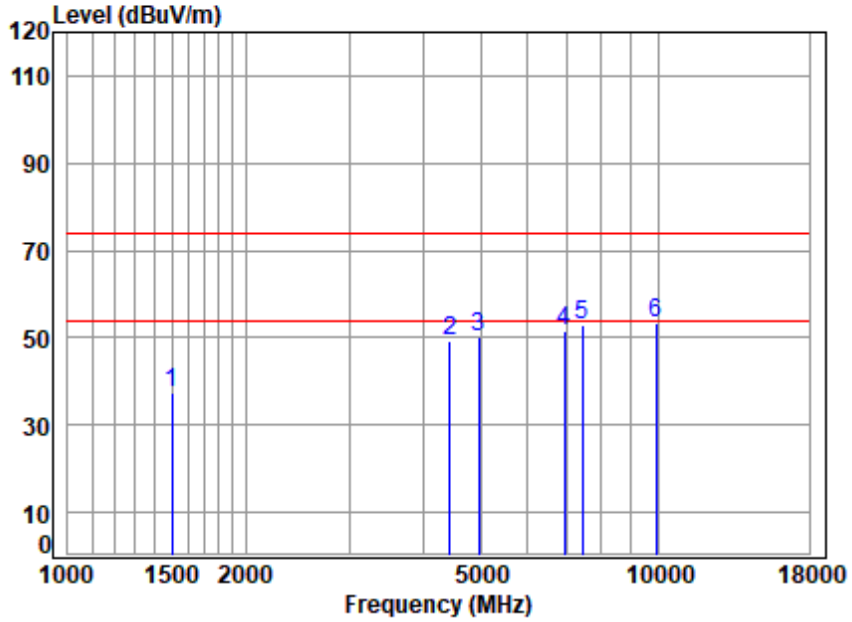
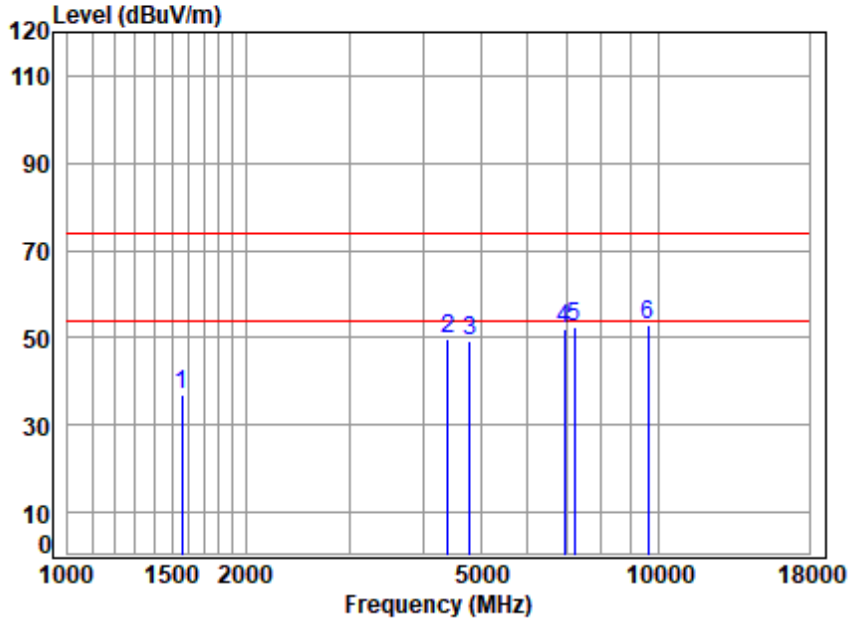
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2480 TX RSE
: BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1498.781	4.06	26.77	38.39	44.77	37.21	74.00	-36.79	peak
2	4443.453	7.09	34.28	35.77	43.83	49.43	74.00	-24.57	peak
3	4960.000	7.41	34.56	35.42	43.74	50.29	74.00	-23.71	peak
4	6934.778	8.87	35.74	35.53	42.68	51.76	74.00	-22.24	peak
5	7440.000	9.46	35.96	36.02	43.59	52.99	74.00	-21.01	peak
6 p	9920.000	12.58	37.30	37.39	40.77	53.26	74.00	-20.74	peak

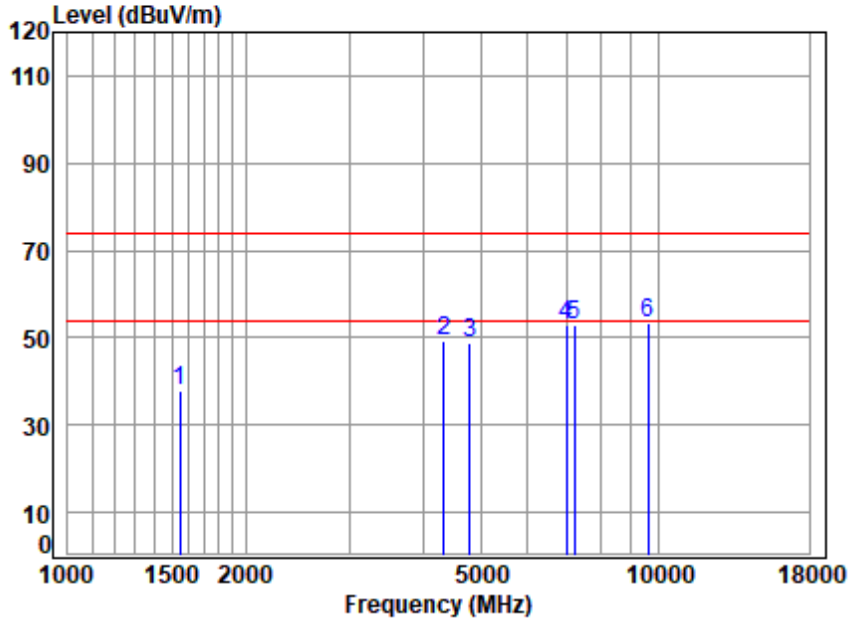
Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2402 TX RSE
: BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1560.673	4.15	26.96	38.40	44.36	37.07	74.00	-36.93	peak
2	4405.090	7.06	34.74	35.79	43.65	49.66	74.00	-24.34	peak
3	4804.000	7.31	34.32	35.52	42.98	49.09	74.00	-24.91	peak
4	6934.778	8.87	35.74	35.53	42.71	51.79	74.00	-22.21	peak
5	7206.000	9.18	35.70	35.79	43.34	52.43	74.00	-21.57	peak
6 p	9608.000	12.36	37.42	37.46	40.69	53.01	74.00	-20.99	peak

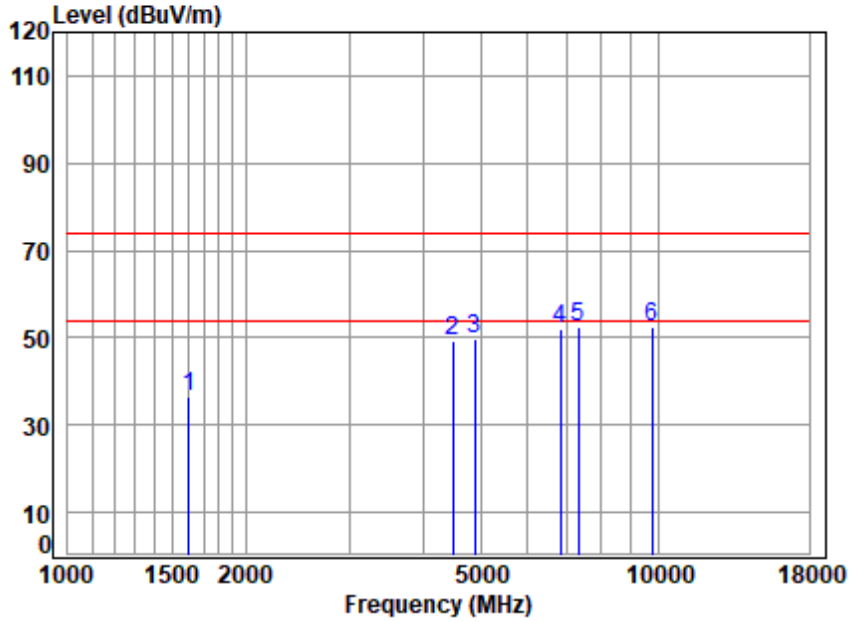
Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2402 TX RSE
: BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1547.199	4.13	26.99	38.39	44.99	37.72	74.00	-36.28	peak
2	4329.354	7.01	34.23	35.85	44.03	49.42	74.00	-24.58	peak
3	4804.000	7.31	34.32	35.52	42.77	48.88	74.00	-25.12	peak
4	6974.982	8.90	35.75	35.55	43.78	52.88	74.00	-21.12	peak
5	7206.000	9.18	35.70	35.79	43.99	53.08	74.00	-20.92	peak
6 p	9608.000	12.36	37.42	37.46	40.89	53.21	74.00	-20.79	peak

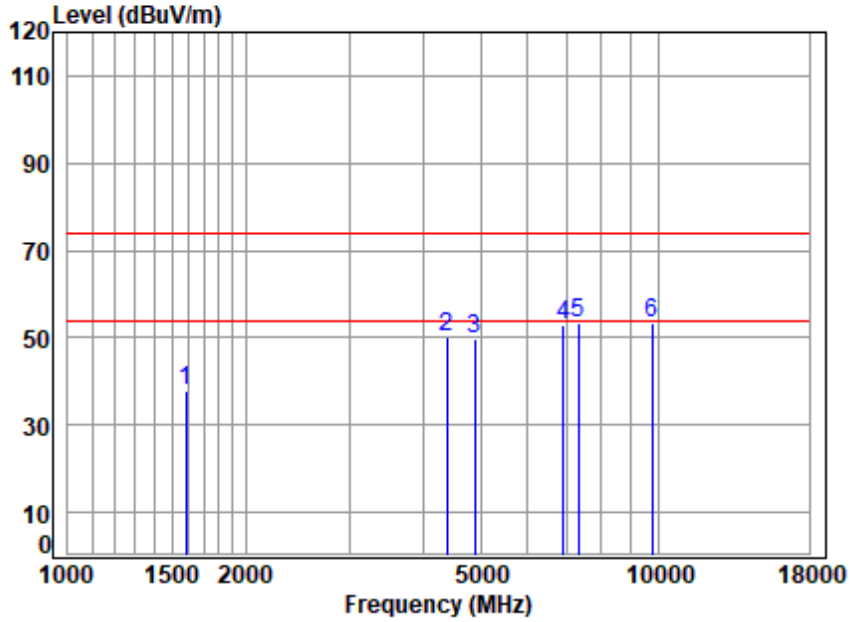
Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2441 TX RSE
: BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1601.804	4.20	26.78	38.40	43.99	36.57	74.00	-37.43	peak
2	4482.150	7.11	33.81	35.74	44.32	49.50	74.00	-24.50	peak
3	4882.000	7.36	34.63	35.47	43.19	49.71	74.00	-24.29	peak
4	6835.278	8.80	35.44	35.47	43.35	52.12	74.00	-21.88	peak
5	7323.000	9.32	35.70	35.90	43.47	52.59	74.00	-21.41	peak
6 p	9764.000	12.47	37.37	37.42	40.20	52.62	74.00	-21.38	peak

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2441 TX RSE
: BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1583.392	4.18	26.87	38.40	45.01	37.66	74.00	-36.34	peak
2	4379.699	7.04	34.64	35.81	44.29	50.16	74.00	-23.84	peak
3	4882.000	7.36	34.63	35.47	43.16	49.68	74.00	-24.32	peak
4	6894.806	8.85	35.59	35.50	43.85	52.79	74.00	-21.21	peak
5	7323.000	9.32	35.70	35.90	44.14	53.26	74.00	-20.74	peak
6 p	9764.000	12.47	37.37	37.42	41.04	53.46	74.00	-20.54	peak

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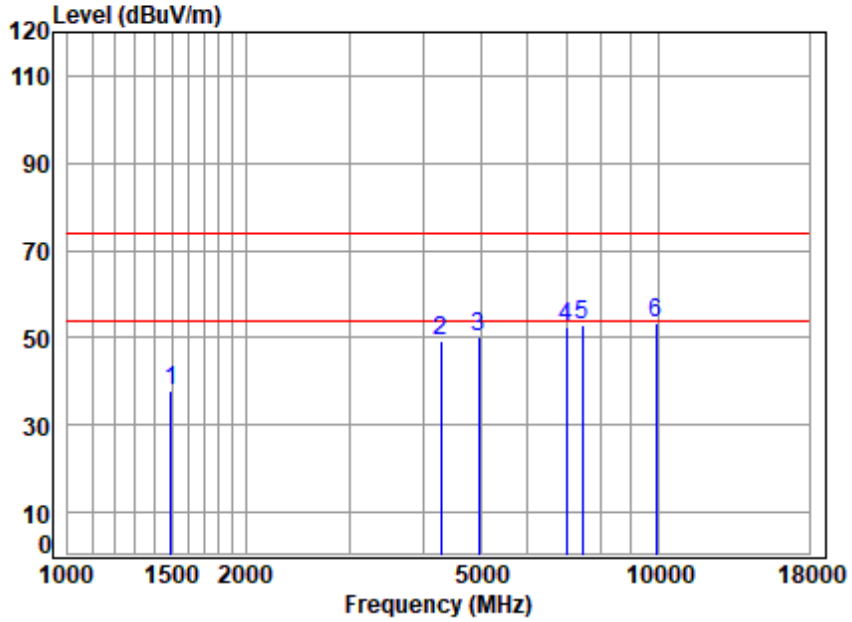
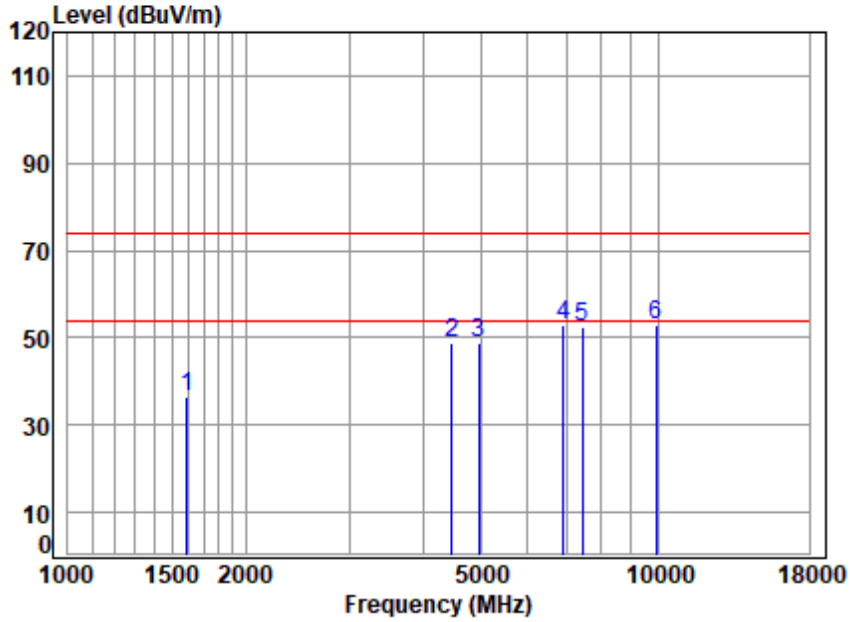
Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2480 TX RSE
: BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1494.455	4.05	26.64	38.39	45.51	37.81	74.00	-36.19	peak
2	4291.977	6.99	33.97	35.88	44.41	49.49	74.00	-24.51	peak
3	4960.000	7.41	34.56	35.42	43.45	50.00	74.00	-24.00	peak
4	6974.982	8.90	35.75	35.55	43.25	52.35	74.00	-21.65	peak
5	7440.000	9.46	35.96	36.02	43.72	53.12	74.00	-20.88	peak
6 p	9920.000	12.58	37.30	37.39	41.01	53.50	74.00	-20.50	peak

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2480 TX RSE
: BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1592.571	4.19	26.83	38.40	44.00	36.62	74.00	-37.38	peak
2	4469.214	7.10	33.97	35.75	43.36	48.68	74.00	-25.32	peak
3	4960.000	7.41	34.56	35.42	42.39	48.94	74.00	-25.06	peak
4	6914.763	8.86	35.66	35.52	43.81	52.81	74.00	-21.19	peak
5	7440.000	9.46	35.96	36.02	43.26	52.66	74.00	-21.34	peak
6 p	9920.000	12.58	37.30	37.39	40.46	52.95	74.00	-21.05	peak

6.3 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2013) Section 6.10.5
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

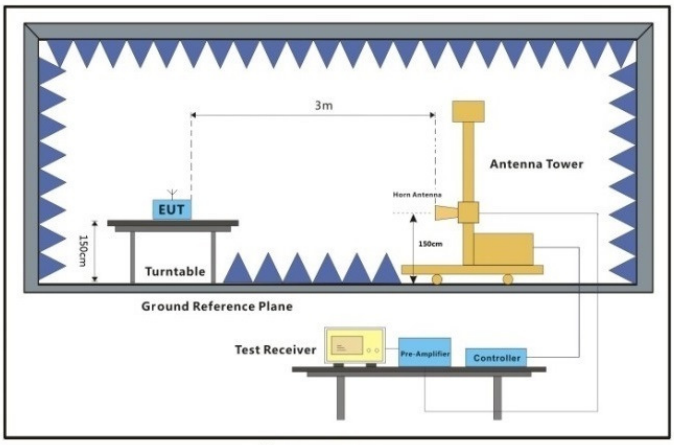
6.3.1 E.U.T. Operation

Operating Environment:
Temperature: 22.5 °C Humidity: 49.6 % RH Atmospheric Pressure: 1020 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX_non-Hop mode(Left earbud)_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.
Final test	01	TX_non-Hop mode(Right earbud)_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

6.3.3 Test Setup Diagram



Above 1GHz

6.3.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

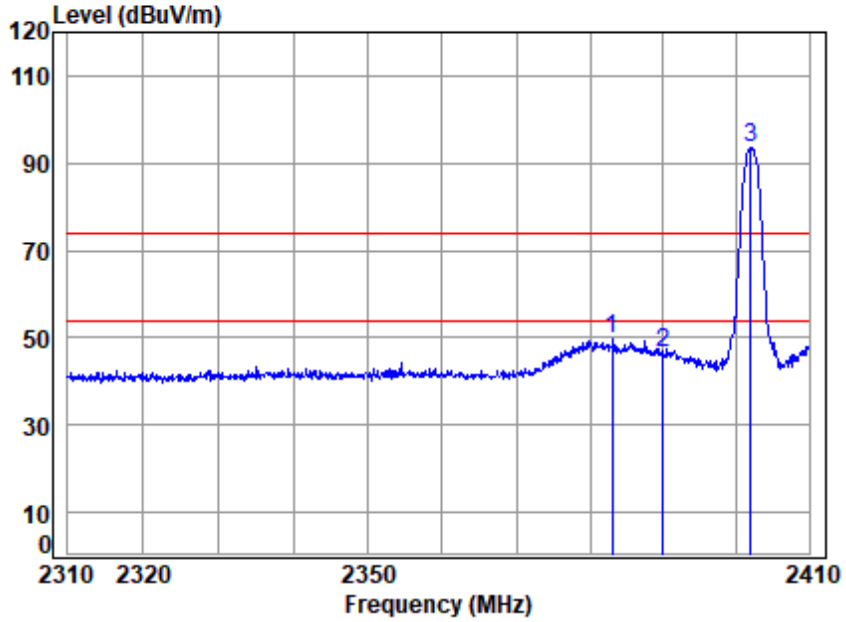
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

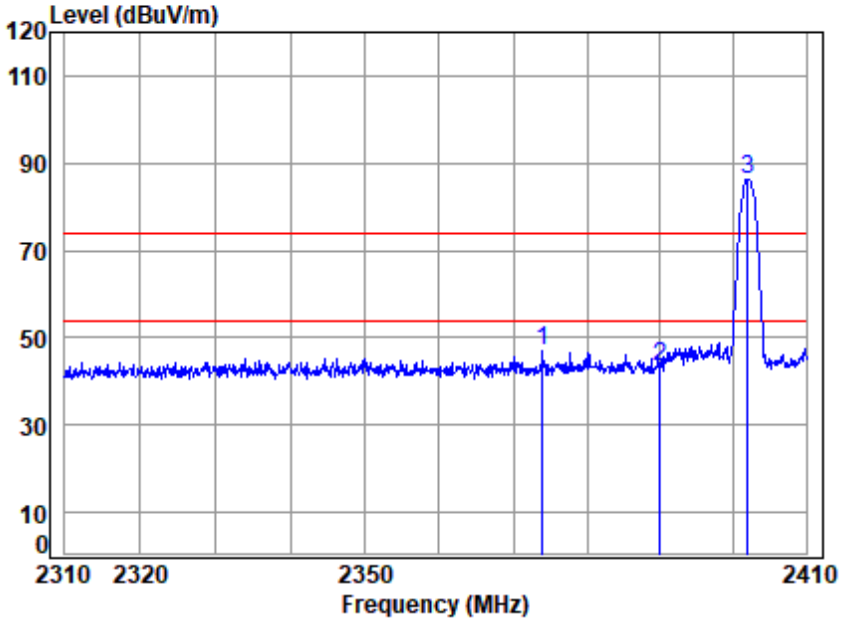
Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2402 Band edge
Note : BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2383.086	5.07	29.10	37.45	53.13	49.85	74.00	-24.15	peak
2	2390.000	5.08	29.10	37.44	49.77	46.51	74.00	-27.49	peak
3 p	2402.000	5.09	29.09	37.41	96.58	93.35	74.00	19.35	peak

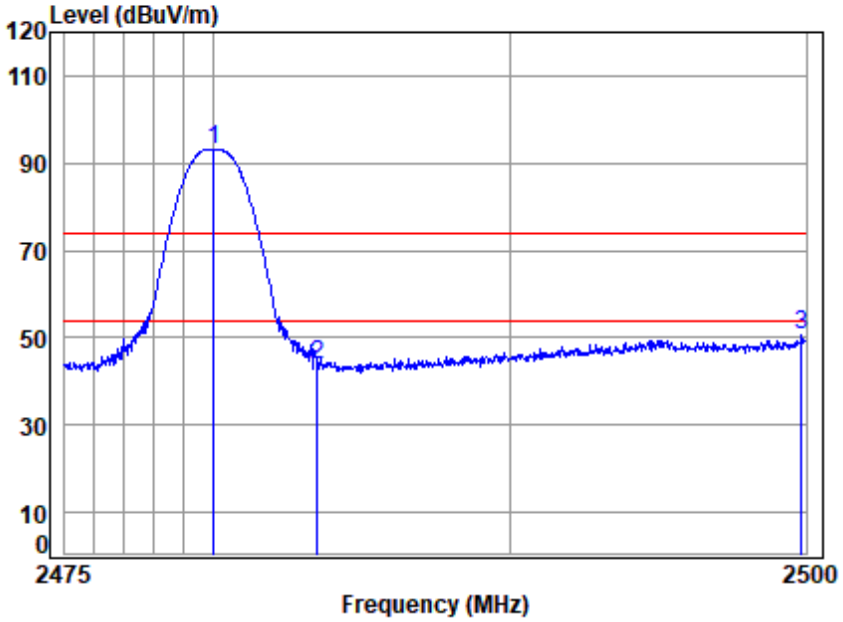
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2402 Band edge
Note : BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2374.014	5.06	29.10	37.47	50.24	46.93	74.00	-27.07	peak
2	2390.000	5.08	29.10	37.44	46.74	43.48	74.00	-30.52	peak
3 p	2402.000	5.09	29.09	37.41	89.33	86.10	74.00	12.10	peak

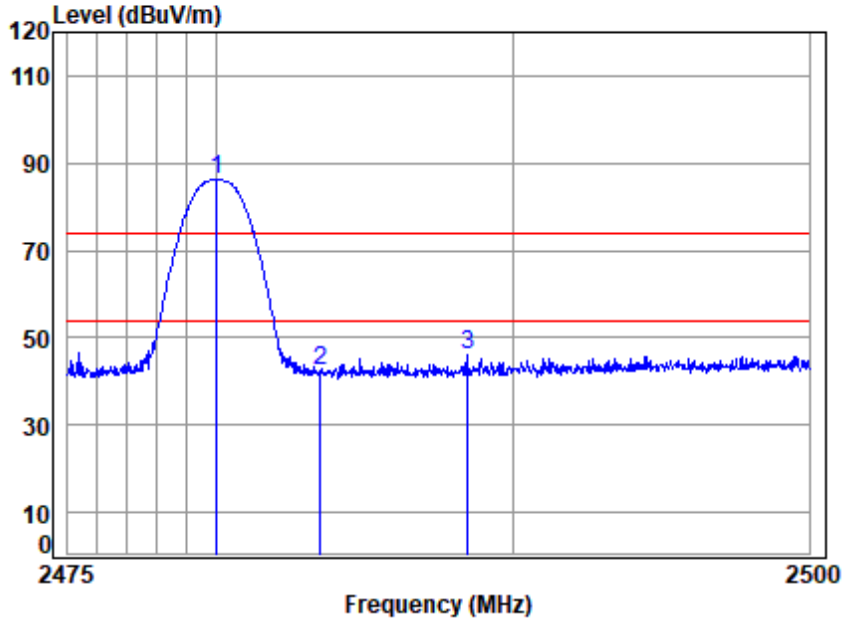
Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2480 Band edge
Note : BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 p	2480.000	5.16	28.90	37.22	96.34	93.18	74.00	19.18	peak
2	2483.500	5.16	28.90	37.22	46.75	43.59	74.00	-30.41	peak
3	2499.849	5.18	28.90	37.18	53.68	50.58	74.00	-23.42	peak

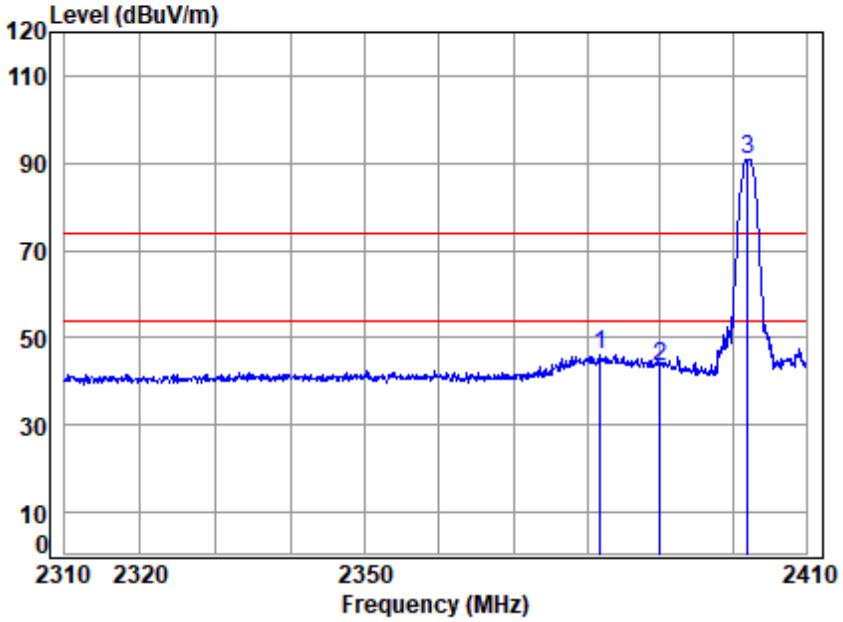
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2480 Band edge
Note : BT
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 p	2480.000	5.16	28.90	37.22	89.26	86.10	74.00	12.10	peak
2	2483.500	5.16	28.90	37.22	45.50	42.34	74.00	-31.66	peak
3	2488.444	5.17	28.90	37.21	49.15	46.01	74.00	-27.99	peak

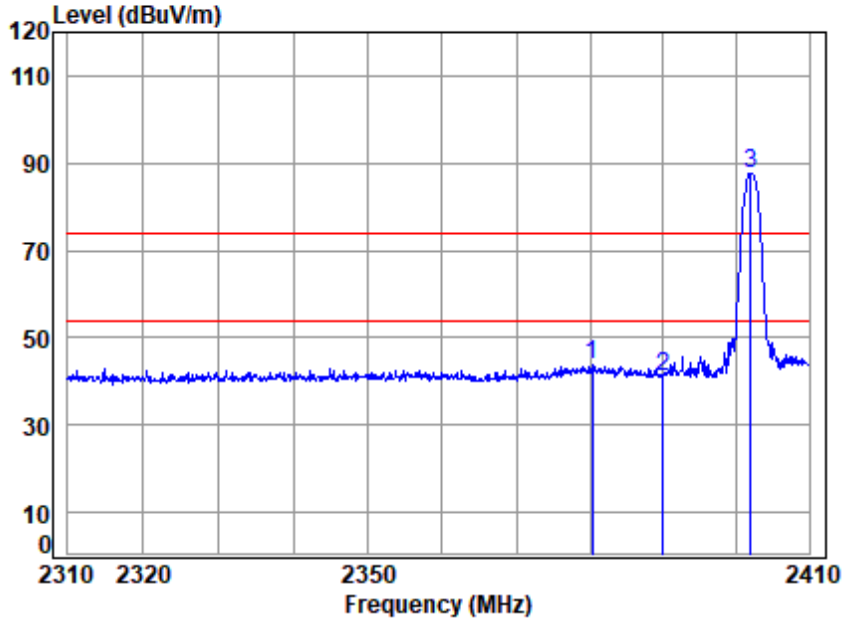
Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2402 Band edge
Note : BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2381.773	5.07	29.10	37.45	49.26	45.98	74.00	-28.02	peak
2	2390.000	5.08	29.10	37.44	46.72	43.46	74.00	-30.54	peak
3 p	2402.000	5.09	29.09	37.41	94.07	90.84	74.00	16.84	peak

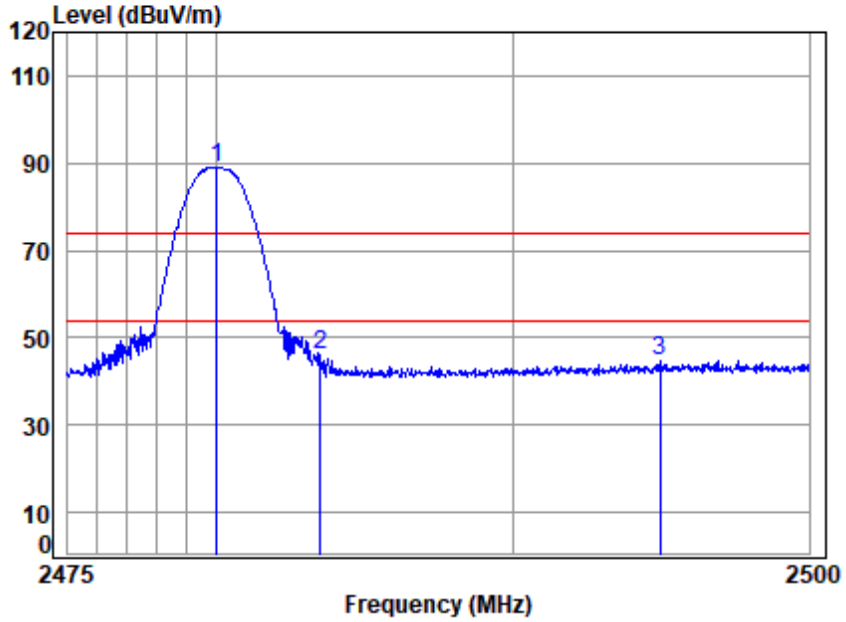
Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2402 Band edge
Note : BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2380.260	5.07	29.10	37.46	46.94	43.65	74.00	-30.35	peak
2	2390.000	5.08	29.10	37.44	44.37	41.11	74.00	-32.89	peak
3 p	2402.000	5.09	29.09	37.41	90.72	87.49	74.00	13.49	peak

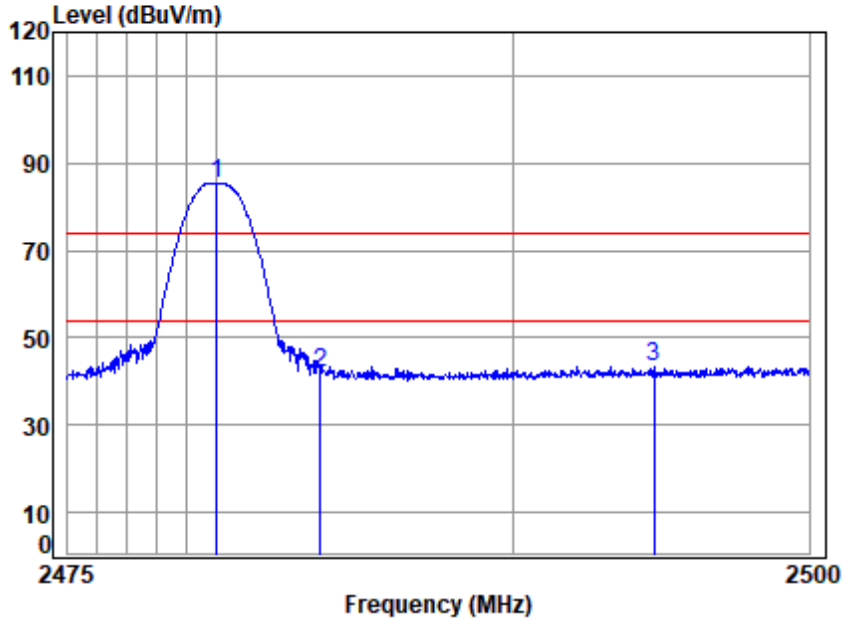
Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01876AT/01877AT
Mode : 2480 Band edge
Note : BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 p	2480.000	5.16	28.90	37.22	92.08	88.92	74.00	14.92	peak
2	2483.500	5.16	28.90	37.22	49.46	46.30	74.00	-27.70	peak
3	2494.955	5.17	28.90	37.19	47.90	44.78	74.00	-29.22	peak

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 01876AT/01877AT
Mode : 2480 Band edge
Note : BT
: R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 p	2480.000	5.16	28.90	37.22	88.62	85.46	74.00	11.46	peak
2	2483.500	5.16	28.90	37.22	44.92	41.76	74.00	-32.24	peak
3	2494.754	5.17	28.90	37.19	46.54	43.42	74.00	-30.58	peak

7 Test Setup Photo

Refer to Setup Photo for SZCR2405001876AT

8 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for SZCR2405001876AT

- End of the Report -

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