

TEST REPORT

Application No.: KSCR2511002499AT
Applicant: VusionGroup S.A.
Address of Applicant: 55, place Nelson Mandela - CS 60106 92024 Nanterre - France
Manufacturer: VusionGroup S.A.
Address of Manufacturer: 55, place Nelson Mandela - CS 60106 92024 Nanterre - France
Factory: Chongqing BOE Smart Electronics System Co.,Ltd.
Address of Factory: No.9 Yunhan road, Shuitu Hi-tech Industrial Zone, Beibei District, Chongqing, P.R China
Equipment Under Test (EUT):
EUT Name: Electronic Shelf Label
Model No.: EDG6-0260-B
Standard(s) : 47 CFR Part 15, Subpart C 15.249
Date of Receipt: 2025-11-13
Date of Test: 2025-11-15 to 2025-11-25 & 2026-02-24 to 2026-02-28
Date of Issue: 2026-03-02

Test Result:
Pass*

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

This report supersedes our previous report KSCR251100249901, issued on 2025-11-27, which is hereby deemed null and void.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Revision Record			
Version	Description	Date	Remark
00	Original	2025-11-27	/
01	Added 9KHz-30MHz and 18GHz-40GHz RSE data	2026-03-02	/

Authorized for issue by:				
Tested By		Maker Qi		
		Maker Qi /Project Engineer		
Approved By		Terry Hou		
		Terry Hou /Reviewer		

2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.249	N/A	47 CFR Part 15, Subpart C 15.203	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Field Strength of the Fundamental Signal (15.249(a))	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2020) Section 6.5&6.6	47 CFR Part 15, Subpart C 15.249(a)	Pass
Restricted Band Around Fundamental Frequency		ANSI C63.10 (2020) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209	Pass
Radiated Emissions Below 1GHz		ANSI C63.10 (2020) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)	Pass
Radiated Emissions Above 1GHz		ANSI C63.10 (2020) Section 6.6	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)	Pass
20dB Bandwidth		ANSI C63.10 (2020) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass

3 Contents

	Page
1 COVER PAGE	1
2 Test Summary	3
3 Contents.....	4
4 General Information	5
4.1 Details of E.U.T.	5
4.2 Description of Support Units.....	5
4.3 Channel list.....	5
4.4 Measurement Uncertainty	6
4.5 Test Location	7
4.6 Test Facility	7
4.7 Deviation from Standards.....	7
4.8 Abnormalities from Standard Conditions.....	7
5 Equipment List	8
6 Radio Spectrum Technical Requirement.....	9
6.1 Antenna Requirement.....	9
7 Radio Spectrum Matter Test Results	10
7.1 Field Strength of the Fundamental Signal (15.249(a))	10
7.2 Restricted Band Around Fundamental Frequency	13
7.3 Radiated Emissions Below 1GHz.....	23
7.4 Radiated Emissions Above 1GHz	29
7.5 20dB Bandwidth	47
8 Test Setup Photo.....	51
9 EUT Constructional Details (EUT Photos).....	51

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3V by Battery Battery model:CR2450 Output: DC 3V
Test Voltage:	DC 3V
Operation Frequency:	2400-2483.5MHz
Modulation Type:	MSK
Number of Channels:	11
Antenna Type:	PCB Antenna
Antenna Gain:	0.47dBi (Provided by the manufacturer)

4.2 Description of Support Units

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

4.3 Channel list

Channel	Frequency(MHz)	Channel	Frequency(MHz)
0	2404.06	6	2461.79
1	2410	7	2469.49
2	2421.9	8	2474.38
3	2424.7	9	2476.83
4	2441.84	10	2479.28
5	2449.19		

4.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
10	Temperature Test	1°C
11	Humidity Test	3%
12	Supply Voltages	1.5%
13	Time	3%
Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

4.5 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.6 Test Facility

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

- **A2LA**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

- **VCCI**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

5 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	07/09/2025	07/08/2026
2	Signal Generator	Agilent	E8257C	KS301066	07/22/2025	07/21/2026
3	Loop Antenna (9KHz-30MHz)	COM-POWER	AL-130R	KUS1806E001	07/11/2025	07/10/2026
4	Bilog Antenna (30MHz-1GHz)	TESEQ	CBL 6112D	KUS1806E005	07/12/2025	07/11/2026
5	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	03/23/2024	03/22/2026
6	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/07/2024 01/11/2026	01/06/2026 01/10/2028
7	Amplifier(30MHz~1GHz)	TST	LNA009100G30	KSEM061	01/15/2025 12/18/2025	01/14/2026 12/17/2026
8	Amplifier(400MHz~8GHz)	TST	LNA004080G30	KSEM062	01/15/2025 12/18/2025	01/14/2026 12/17/2026
9	Amplifier(1GHz~18GHz)	TST	LNA010180G45	KSEM039	07/09/2025	07/08/2026
10	Amplifier(18~40GHz)	TST	LNA180400G40	KSEM038	07/09/2025	07/08/2026
11	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	02/26/2025 12/30/2025	02/25/2026 12/29/2026
12	Software	Faratronic	EZ_EMV-3A1	/	NCR	NCR
13	Software	ESE	E3_V 6.111221a	/	NCR	NCR

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

15.203 requirement:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is PCB antenna and no consideration of replacement. The best case gain of the antenna is 0.47dBi.

Antenna location: Refer to Internal photos

7 Radio Spectrum Matter Test Results

7.1 Field Strength of the Fundamental Signal (15.249(a))

Test Requirement 47 CFR Part 15, Subpart C 15.249(a)

Test Method: ANSI C63.10 (2020) Section 6.5&6.6

Measurement Distance: 3m

Limit:

Fundamental frequency(MHz)	Field strength of fundamental(millivolts/meter)	Field strength of harmonics(microvolts/meter)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

Remark: The frequencies above 1000MHz 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 fundamental frequency in "902-928MHz", the field strength of fundamental is based on Quasi-Peak.

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

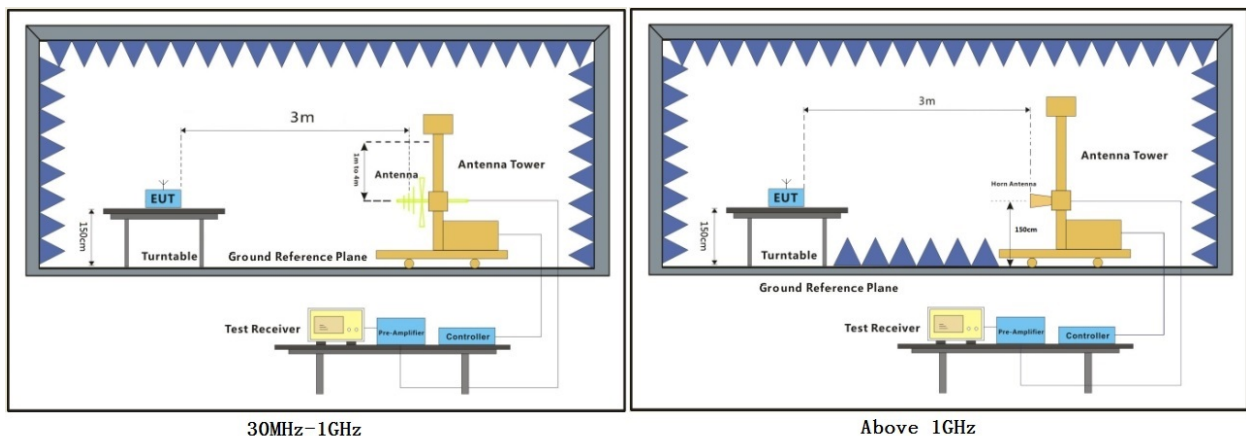
Humidity: 50.3 % RH

Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting with modulation mode.

7.1.3 Test Setup Diagram



7.1.4 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 or 10 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 or 10 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: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
2404.06	95.19	-0.72	94.47	114.00	-19.53	Peak	Horizontal
	94.08	-0.72	93.36	94.00	-0.64	Average	Horizontal
	85.24	-0.72	84.52	114.00	-29.48	Peak	Vertical
	84.17	-0.72	83.45	94.00	-10.55	Average	Vertical

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
2441.84	94.47	-0.53	93.94	114.00	-20.06	Peak	Horizontal
	93.41	-0.53	92.88	94.00	-1.12	Average	Horizontal
	87.69	-0.53	87.16	114.00	-26.84	Peak	Vertical
	86.59	-0.53	86.06	94.00	-7.94	Average	Vertical

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
2479.28	95.17	-0.34	94.83	114.00	-19.17	Peak	Horizontal
	94.08	-0.34	93.74	94.00	-0.26	Average	Horizontal
	86.69	-0.34	86.35	114.00	-27.65	Peak	Vertical
	80.99	-0.34	80.65	94.00	-13.35	Average	Vertical

7.2 Restricted Band Around Fundamental Frequency

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209

Test Method: ANSI C63.10 (2020) Section 6.10.5

Measurement Distance: 3m

Limit:

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
Above 1GHz	74.0	Peak Value

Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

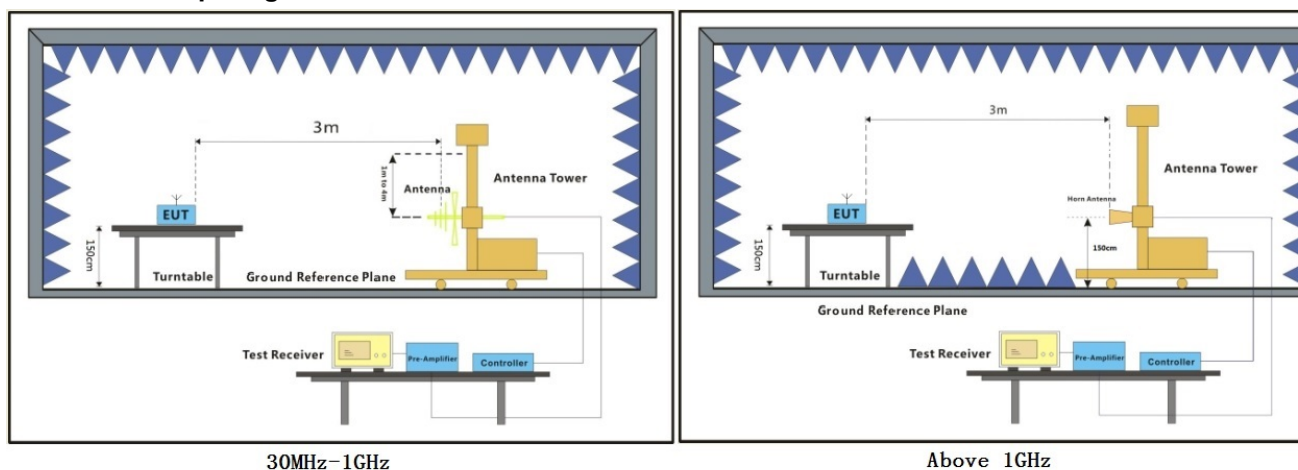
Humidity: 50.3 % RH

Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting with modulation mode.

7.2.3 Test Setup Diagram

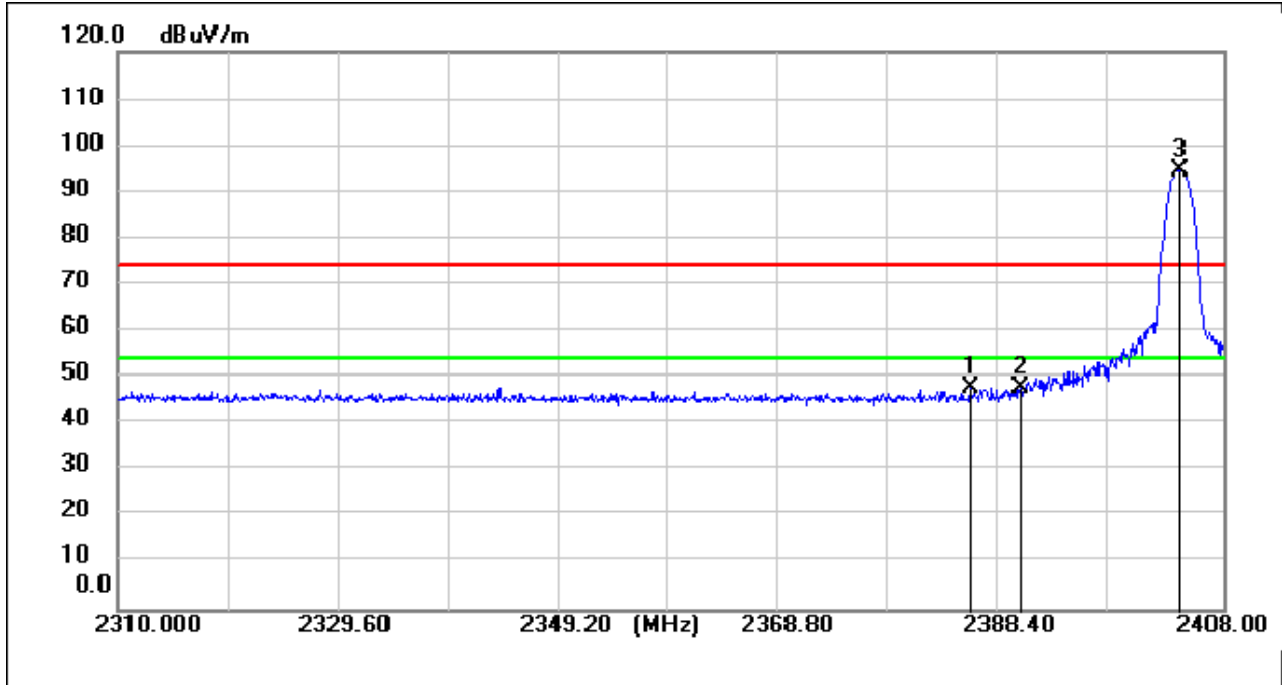


7.2.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 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 or 10 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.

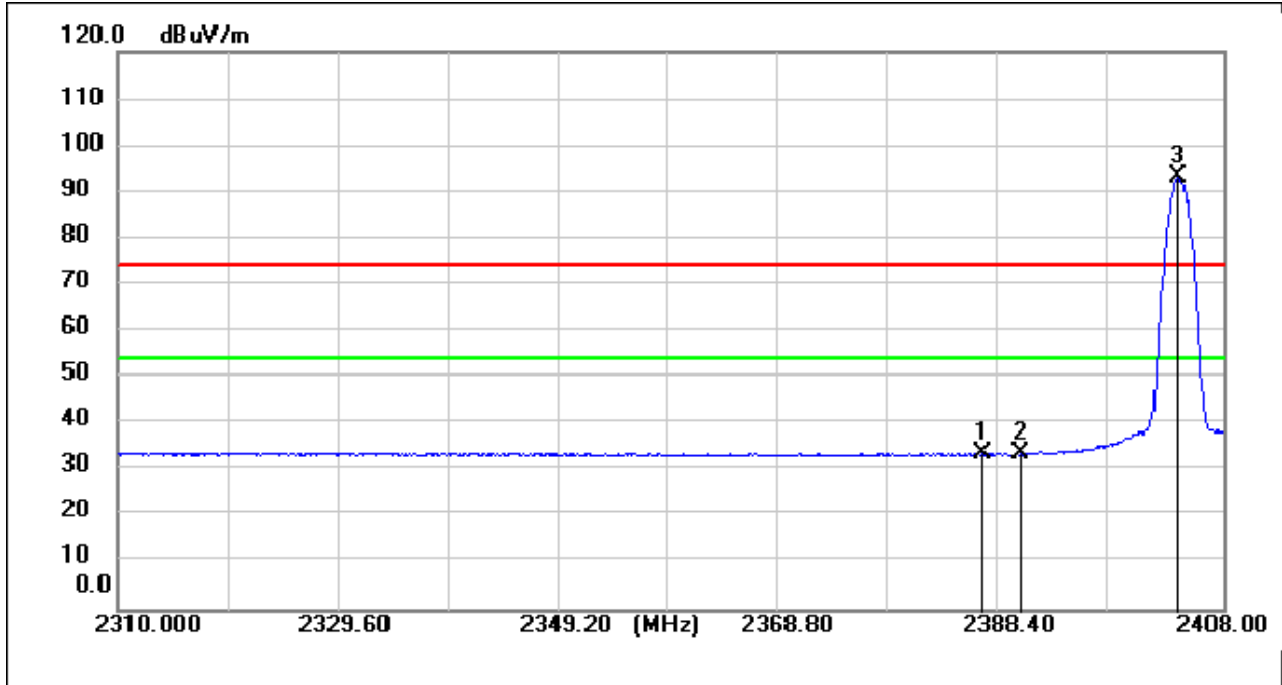
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

TX_CH_2404.06_Horizontal_Peak



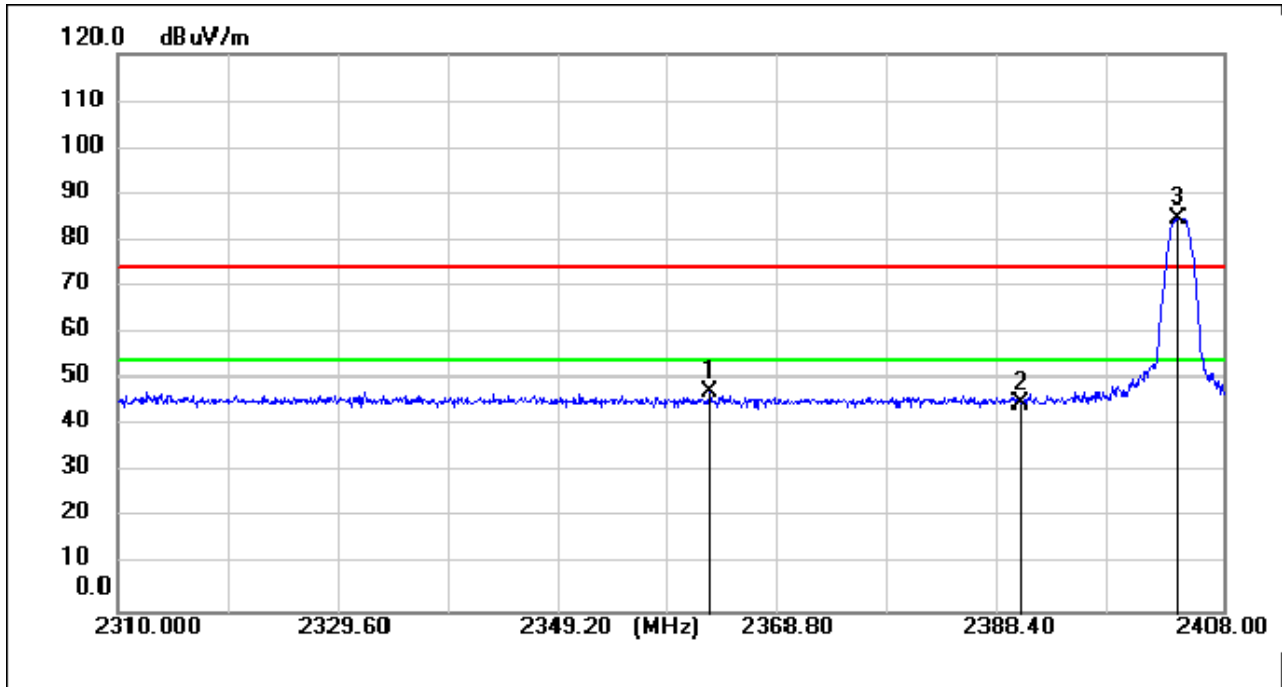
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.558	48.65	-0.81	47.84	74.00	-26.16	peak
2	2390.000	48.44	-0.79	47.65	74.00	-26.35	peak
3	2404.276	95.19	-0.72	94.47	74.00	20.47	peak

TX_CH_2404.06_Horizontal_Average

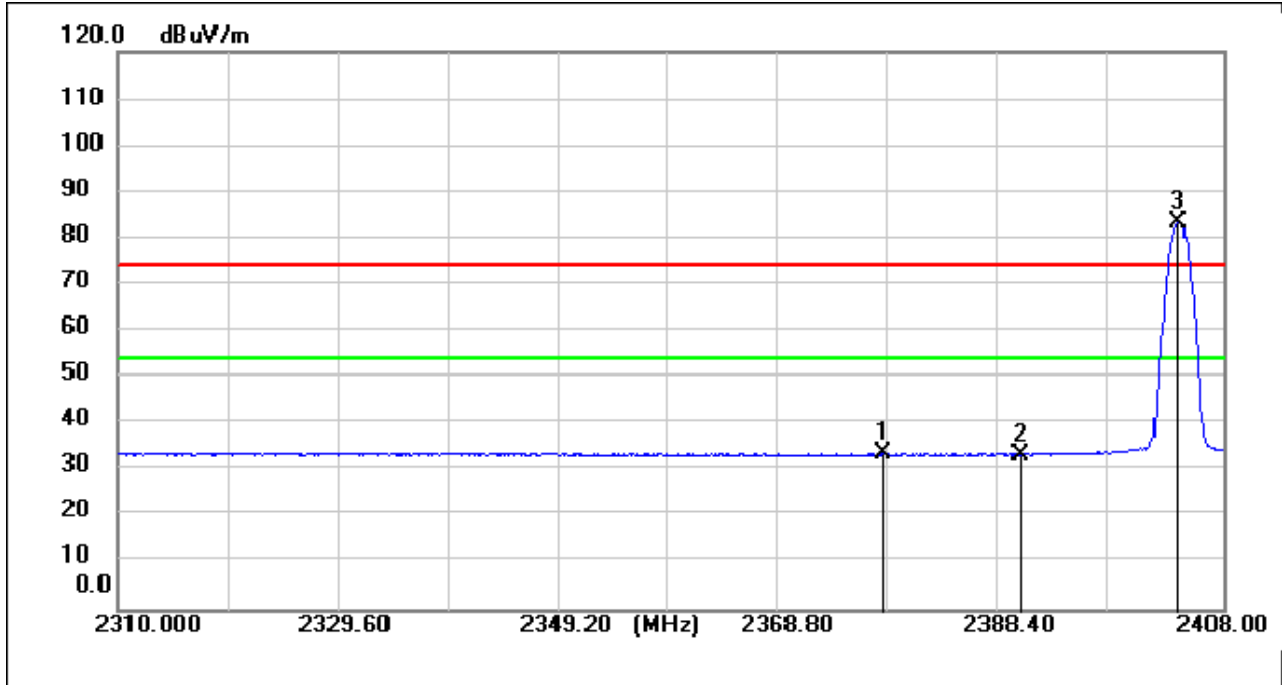


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.636	34.38	-0.80	33.58	54.00	-20.42	AVG
2	2390.000	34.23	-0.79	33.44	54.00	-20.56	AVG
3	2404.080	94.08	-0.72	93.36	54.00	39.36	AVG

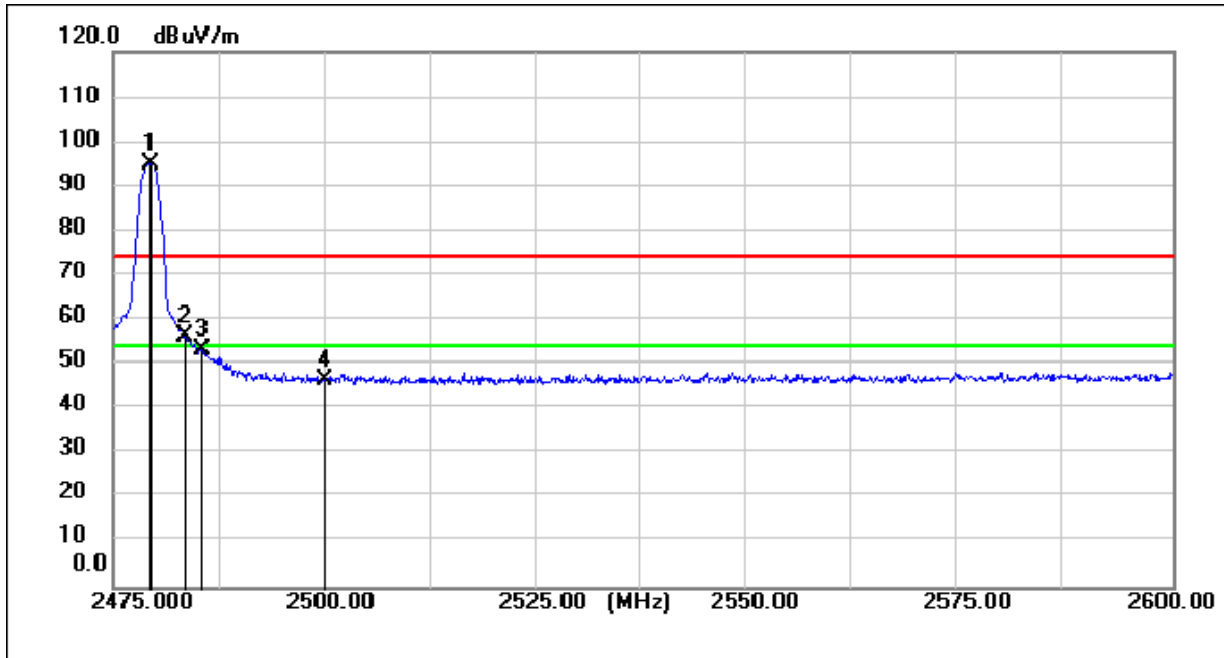
TX_CH_2404.06_Vertical_Peak



TX_CH_2404.06_Vertical_Average

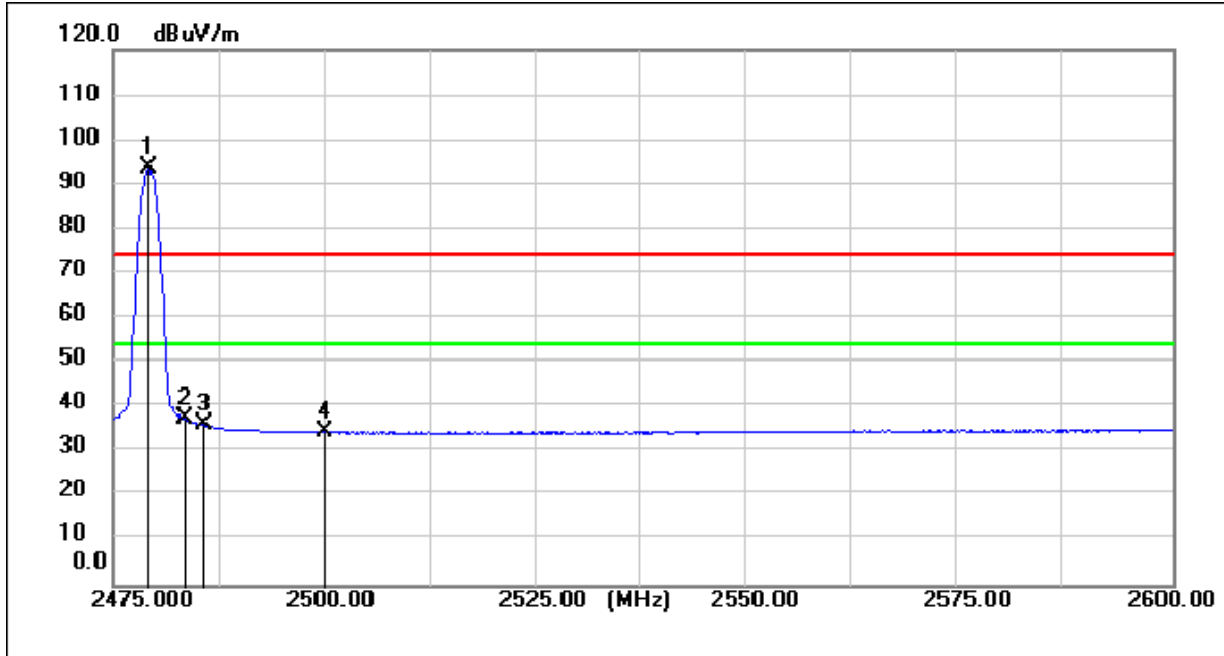


TX_CH_2479.28_Horizontal_Peak

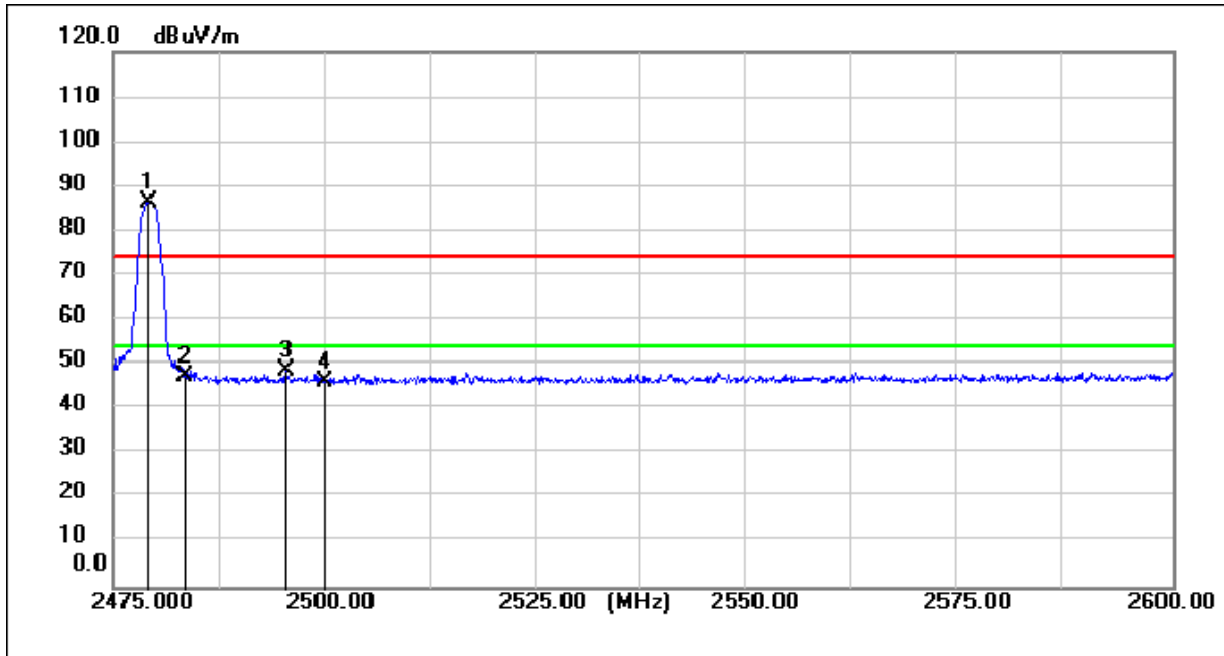


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2479.375	95.17	-0.34	94.83	74.00	20.83	peak
2	2483.500	56.53	-0.33	56.20	74.00	-17.80	peak
3	2485.500	53.79	-0.31	53.48	74.00	-20.52	peak
4	2500.000	46.92	-0.24	46.68	74.00	-27.32	peak

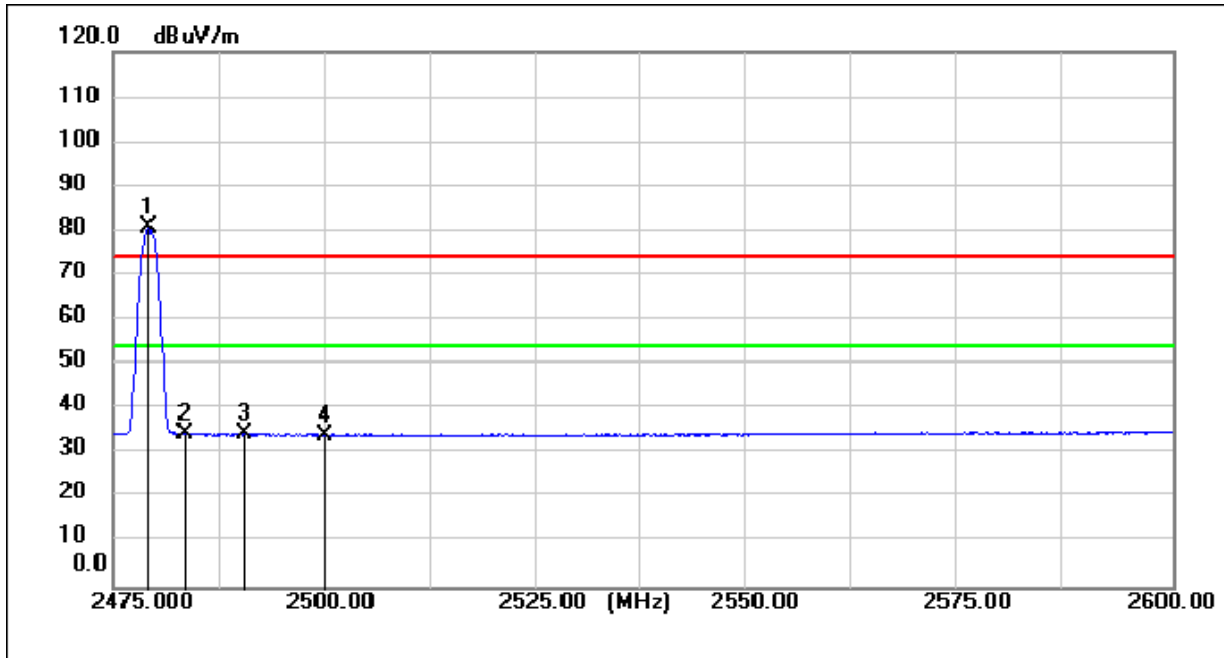
TX_CH_2479.28_Horizontal_Average



TX_CH_2479.28_Vertical_Peak



TX_CH_2479.28_Vertical_Average



7.3 Radiated Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)

Test Method: ANSI C63.10 (2020) 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

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

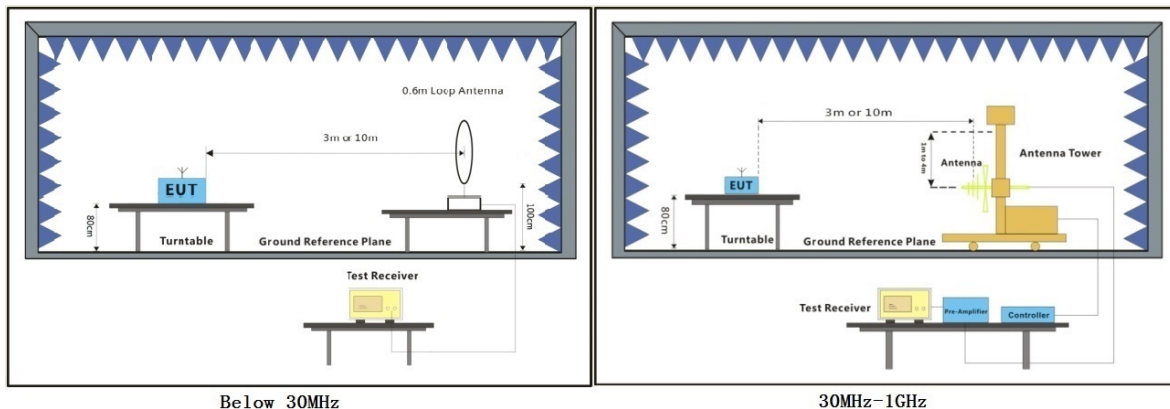
Humidity: 50.3 % RH

Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting with modulation mode.

7.3.3 Test Setup Diagram



7.3.4 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. The EUT was set 3 or 10 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.

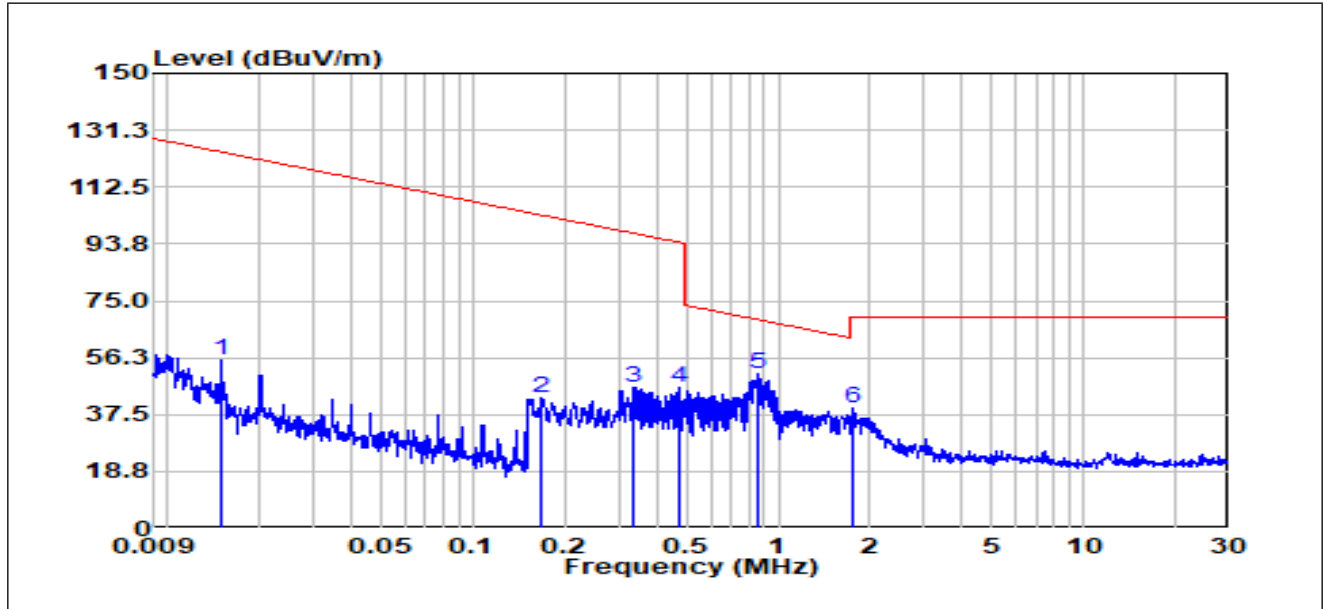
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. The below 1 GHz were investigated, but it was determined that the 2404.06 MHz operation of MSK modulation produced the most severe emissions. Therefore, emissions from other operations are not recorded in the report.
3. For below 30MHz, Regulatory limits are specified as magnetic field strength ($\mu\text{A/m}$) at 300 m or 30 m, while the test data are measured at 3m and expressed in $\text{dB}\mu\text{V/m}$. Therefore, distance correction factor (+80dB, the conversion formulas are as follows: $(40\log_{10}(300/3))$ or +40dB the conversion formulas are as follows: $(40\log_{10}(30/3))$).

Unit conversion ($\mu\text{A/m}$ convert to $\text{dB}\mu\text{V/m}$ equivalent) were applied, The calculation relationships are defined as follows: $\text{dB}\mu\text{A/m}=20\log_{10}(\mu\text{A/m})$ and $\text{dB}\mu\text{A/m}=\text{dB}\mu\text{V/m}-51.5$.

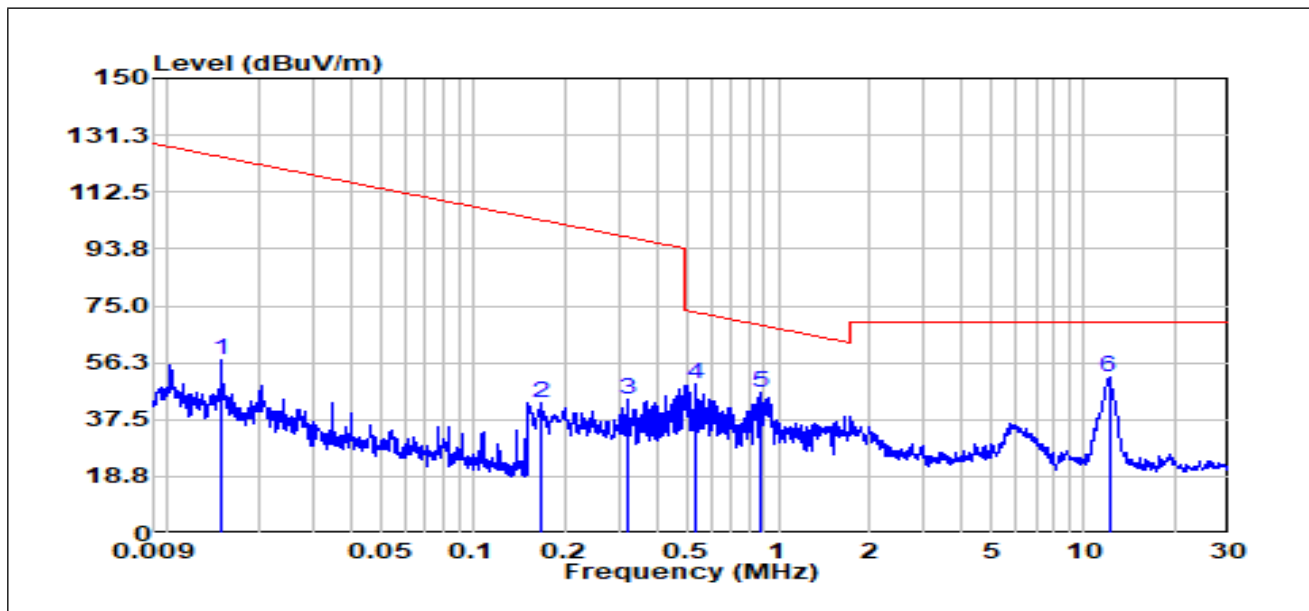
These formulas are used to convert magnetic field strength from $\mu\text{A/m}$ to $\text{dB}\mu\text{A/m}$ and to derive the corresponding magnetic field level from an electric field value expressed in $\text{dB}\mu\text{V/m}$. so that the limit lines shown in this report represent the equivalent 3 m E field limits, allowing direct comparison with the measurement results.

Test Mode: 00; Polarity: Coaxial



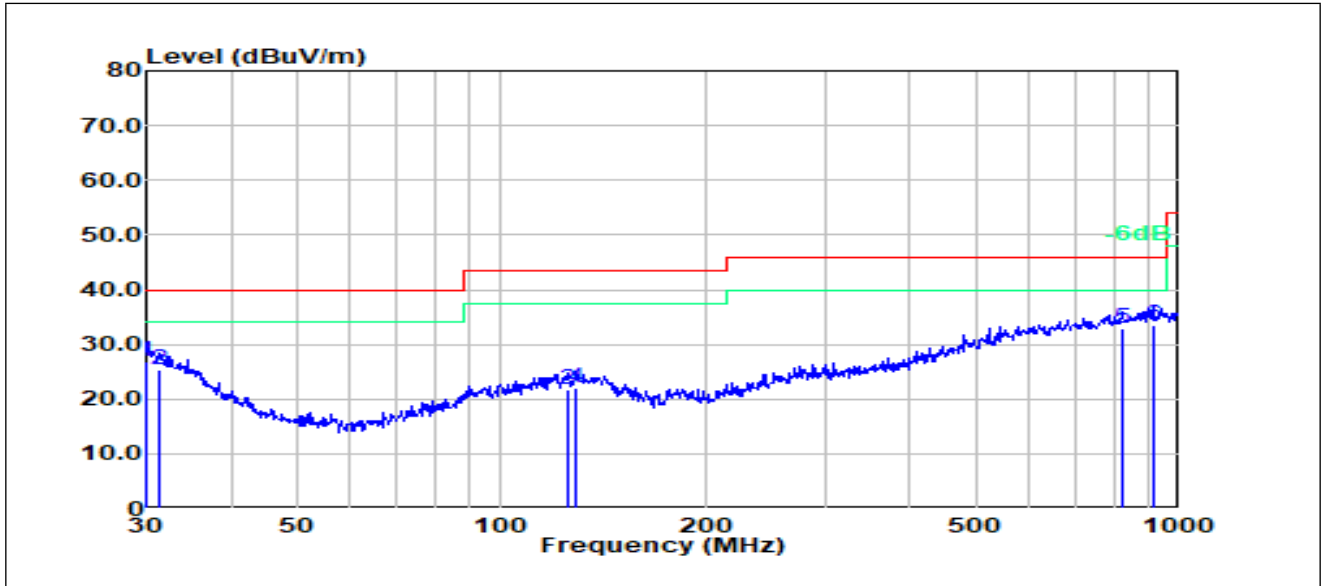
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	0.02	35.15	20.36	55.51	124.07	-68.56	100	54	AVG
2	0.17	22.65	20.58	43.23	103.08	-59.85	100	304	AVG
3	0.34	26.01	20.50	46.51	97.06	-50.55	100	205	AVG
4	0.48	26.03	20.45	46.48	94.07	-47.59	100	75	AVG
5	0.86	30.52	20.43	50.95	68.90	-17.95	100	9	QP
6	1.77	19.32	20.53	39.85	69.50	-29.65	100	195	QP

Test Mode: 00; Polarity: Coplanar



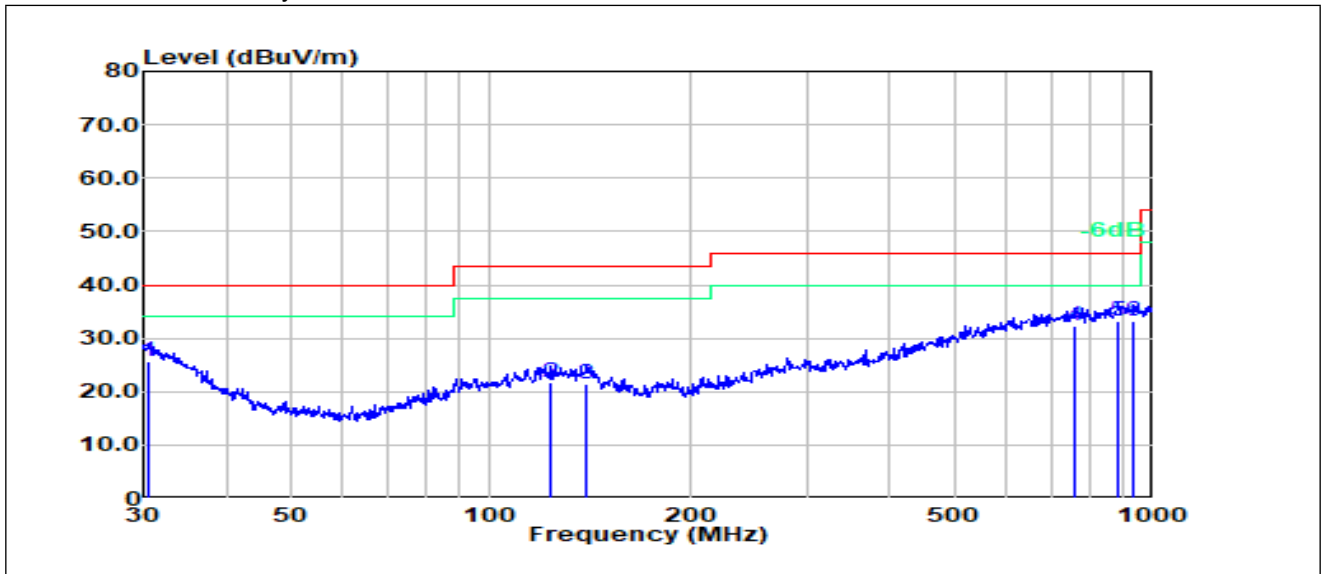
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	0.02	36.90	20.36	57.26	124.07	-66.81	100	307	AVG
2	0.17	22.31	20.59	42.90	103.15	-60.25	100	96	AVG
3	0.32	23.70	20.50	44.20	97.45	-53.25	100	96	AVG
4	0.54	28.64	20.44	49.08	73.01	-23.93	100	0	QP
5	0.88	26.09	20.43	46.52	68.76	-22.24	100	296	QP
6	12.09	30.19	21.05	51.24	69.50	-18.26	100	357	QP

Test Mode: 01; Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.11	1.85	25.04	26.89	40.00	-13.11	100	0	QP
2	31.29	1.17	24.04	25.21	40.00	-14.79	200	169	QP
3	125.01	1.27	20.40	21.67	43.50	-21.83	100	294	QP
4	129.02	1.60	20.42	22.02	43.50	-21.48	100	260	QP
5	821.71	2.68	30.10	32.78	46.00	-13.22	200	0	QP
6	912.86	2.21	31.44	33.65	46.00	-12.35	100	266	QP

Test Mode: 01; Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.53	0.92	24.70	25.62	40.00	-14.38	100	360	QP
2	123.70	1.64	20.04	21.68	43.50	-21.82	100	246	QP
3	139.85	1.32	20.22	21.54	43.50	-21.96	100	259	QP
4	763.38	2.44	29.97	32.41	46.00	-13.59	100	96	QP
5	884.50	1.81	31.28	33.09	46.00	-12.91	100	280	QP
6	935.55	1.71	31.45	33.16	46.00	-12.84	100	6	QP

7.4 Radiated Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)

Test Method: ANSI C63.10 (2020) Section 6.6

Measurement Distance: 3m

Limit:

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

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

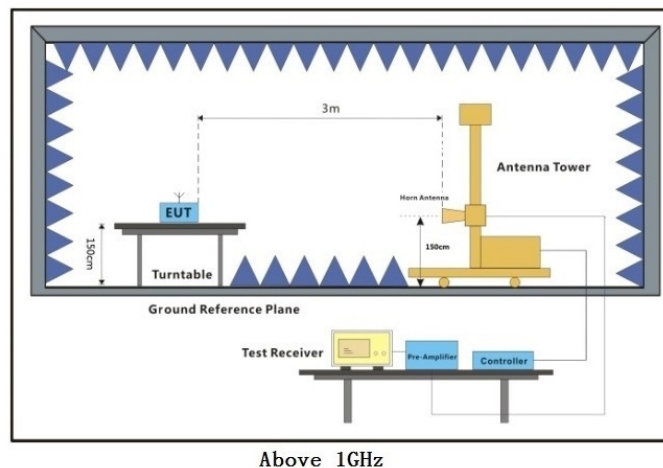
Humidity: 50.3 % RH

Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting with modulation mode.

7.4.3 Test Setup Diagram



Above 1GHz

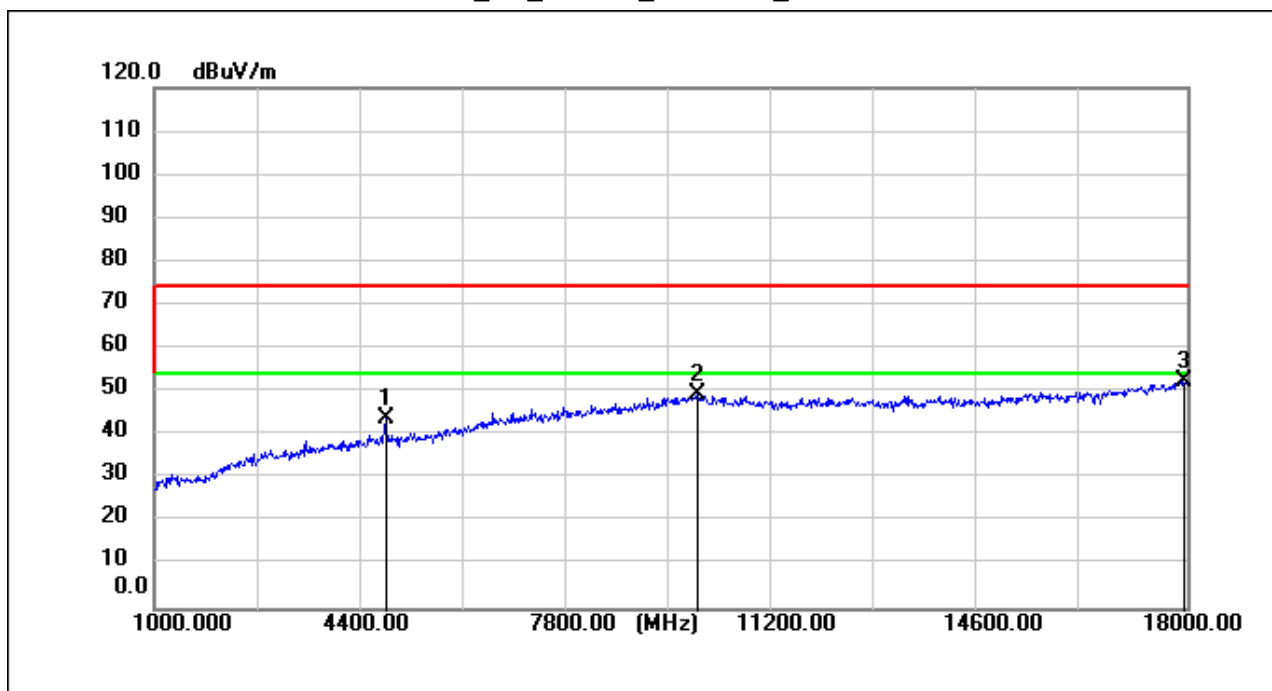
7.4.4 Measurement Procedure and Data

- 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:

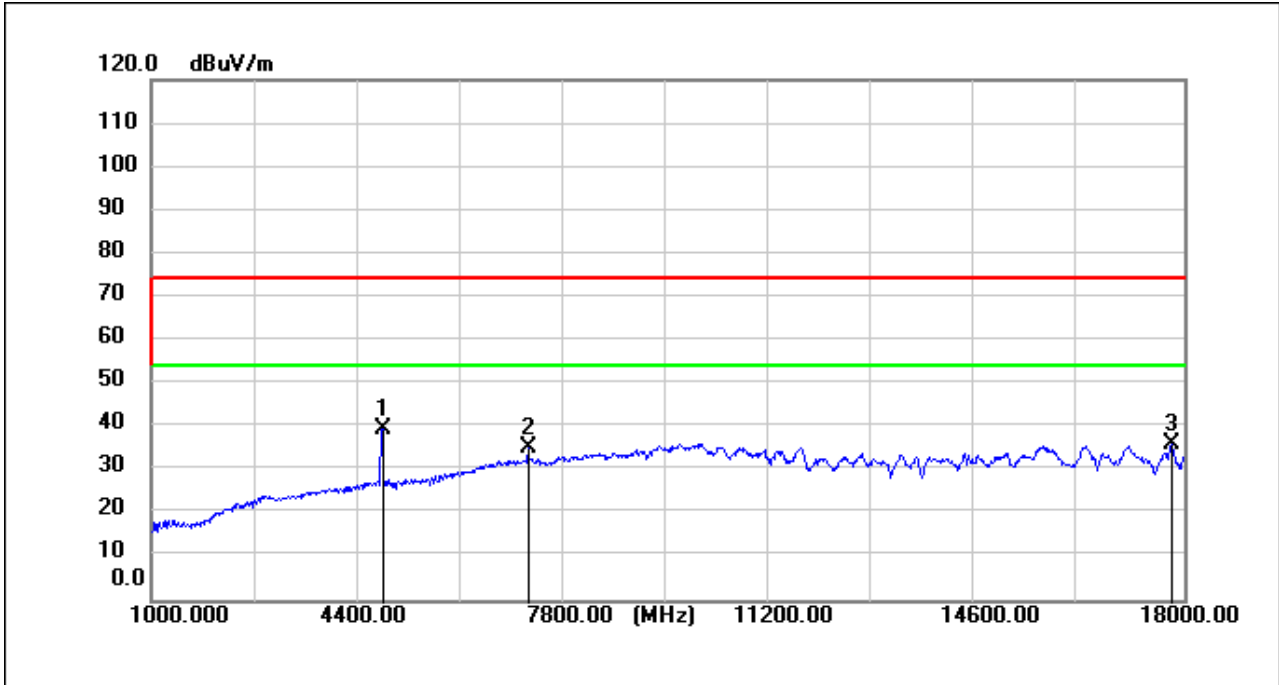
1. $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. The disturbance above 18GHz was investigated while operating in MSK mode, however, As the peak emissions of the EUT were found to be lower than the applicable average limits, only the worst case test plots are provided in this report. it was determined that 2404.06MHz operation for MSK modulation produced the worst emissions. So the emissions produced from other operation are not recorded in report.

TX_CH_2404.06_Horizontal_Peak



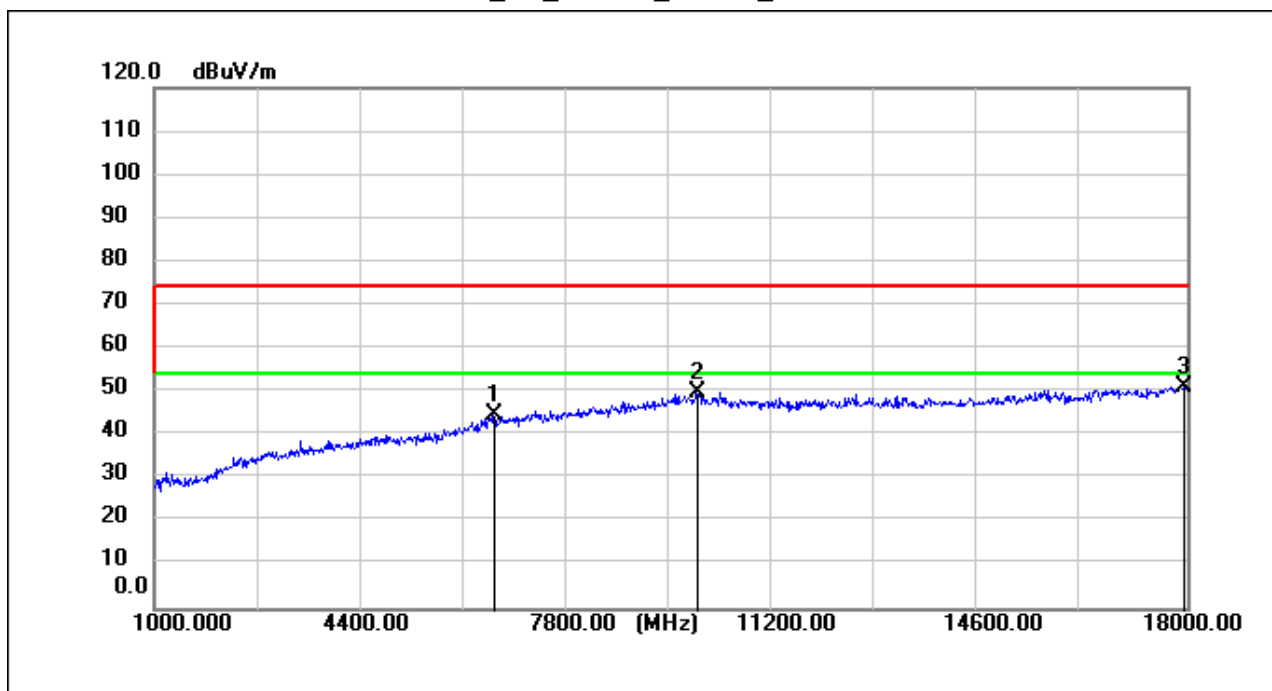
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4808.000	61.05	-17.00	44.05	74.00	-29.95	peak
2	9943.700	55.19	-5.60	49.59	74.00	-24.41	peak
3	17941.350	53.70	-1.04	52.66	74.00	-21.34	peak

TX_CH_2404.06_Horizontal_Average



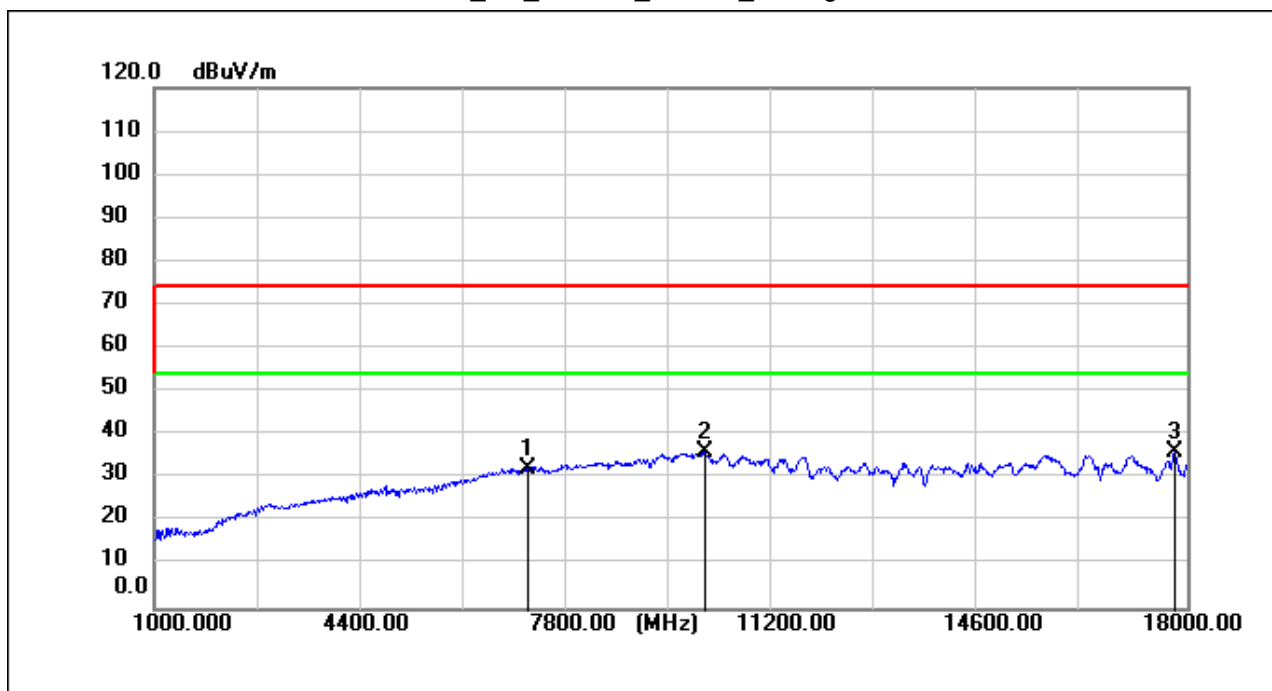
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4808.000	56.67	-17.00	39.67	54.00	-14.33	AVG
2	7211.800	45.22	-10.04	35.18	54.00	-18.82	AVG
3	17798.550	37.52	-1.35	36.17	54.00	-17.83	AVG

TX_CH_2404.06_Vertical_Peak



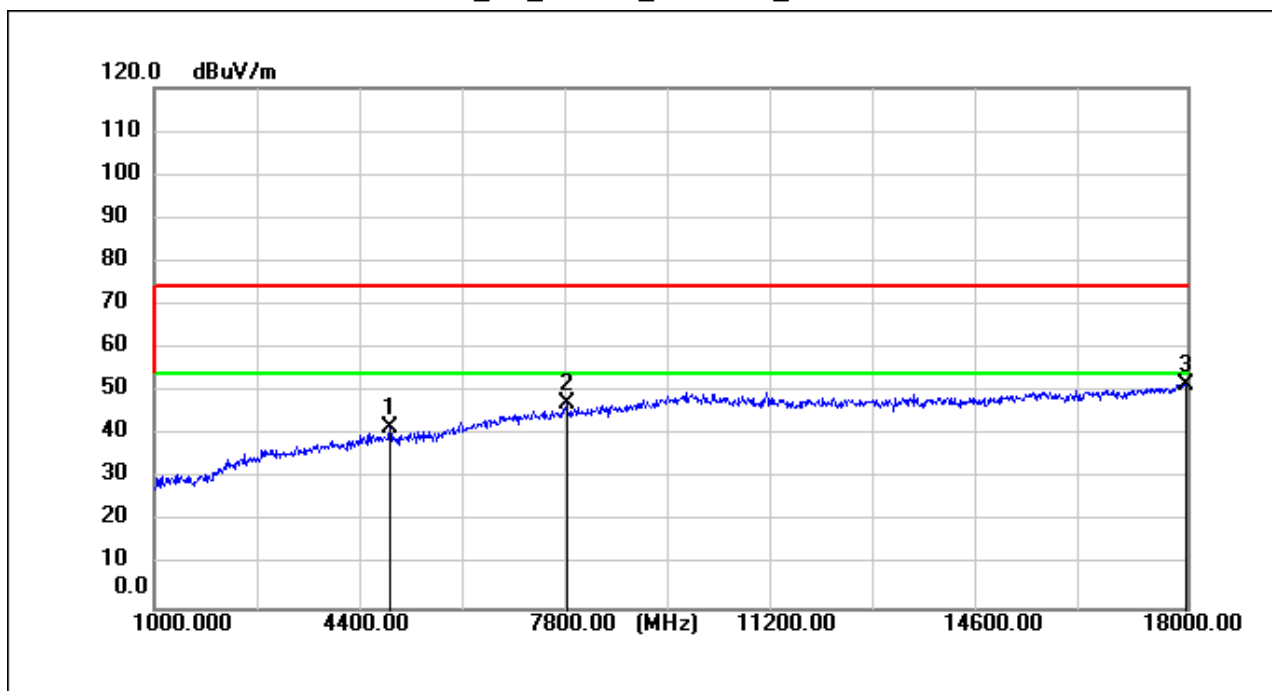
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6578.550	56.06	-11.12	44.94	74.00	-29.06	peak
2	9926.700	55.60	-5.61	49.99	74.00	-24.01	peak
3	17954.100	52.35	-0.95	51.40	74.00	-22.60	peak

TX_CH_2404.06_Vertical_Average



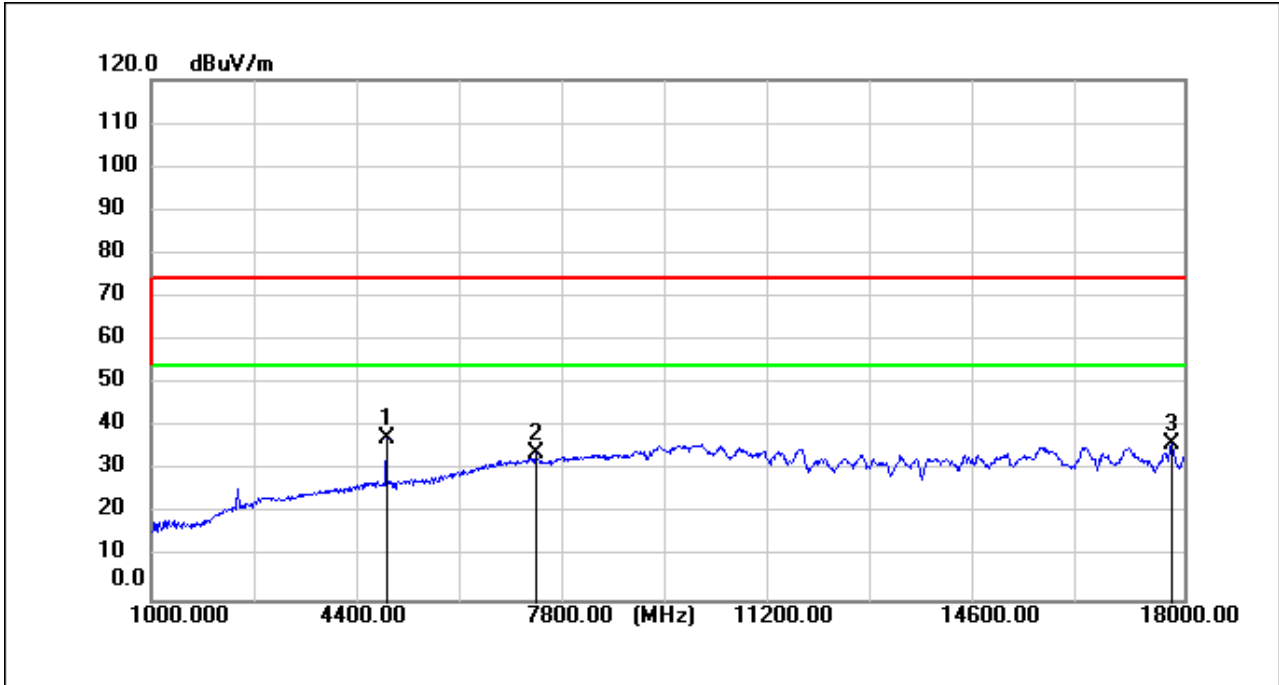
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7153.150	42.59	-10.06	32.53	54.00	-21.47	AVG
2	10064.400	41.83	-5.64	36.19	54.00	-17.81	AVG
3	17798.550	37.44	-1.35	36.09	54.00	-17.91	AVG

TX_CH_2441.84_Horizontal_Peak



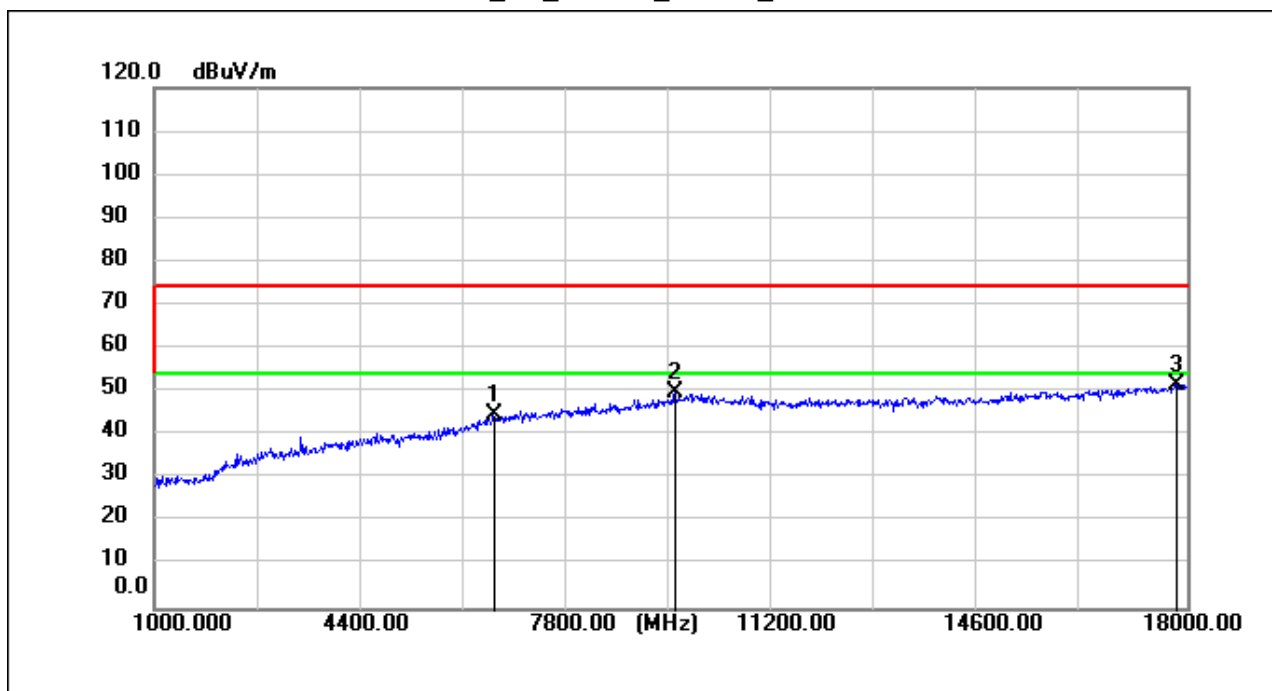
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4883.650	58.44	-16.86	41.58	74.00	-32.42	peak
2	7790.650	56.78	-9.54	47.24	74.00	-26.76	peak
3	17982.150	52.37	-0.75	51.62	74.00	-22.38	peak

TX_CH_2441.84_Horizontal_Average



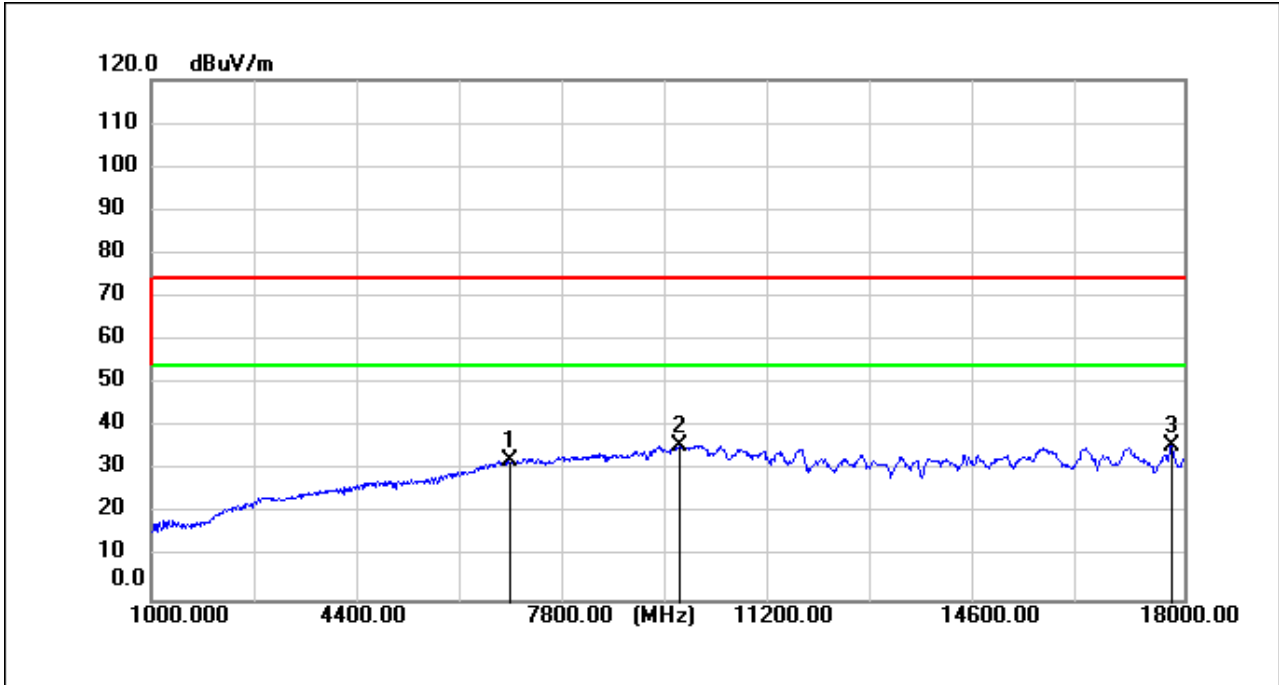
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882.800	54.34	-16.86	37.48	54.00	-16.52	AVG
2	7324.850	43.87	-10.01	33.86	54.00	-20.14	AVG
3	17801.100	37.45	-1.35	36.10	54.00	-17.90	AVG

TX_CH_2441.84_Vertical_Peak



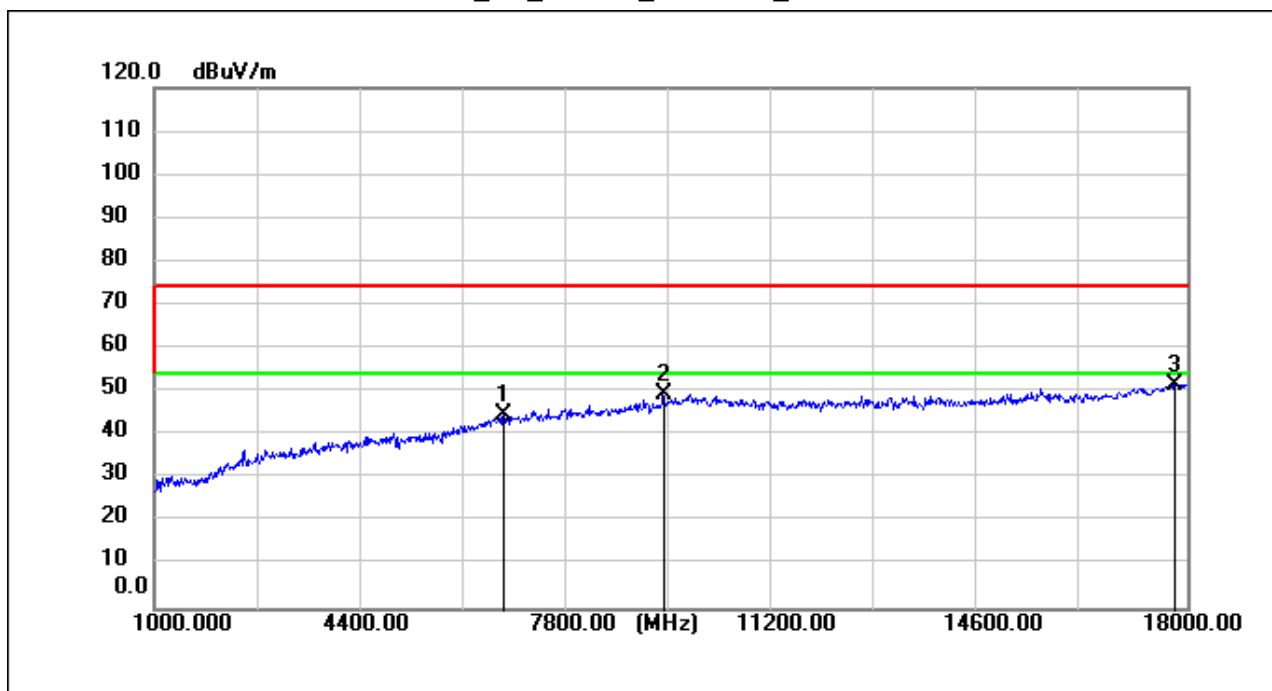
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6578.550	55.90	-11.12	44.78	74.00	-29.22	peak
2	9580.750	56.44	-6.32	50.12	74.00	-23.88	peak
3	17830.000	53.00	-1.34	51.66	74.00	-22.34	peak

TX_CH_2441.84_Vertical_Average



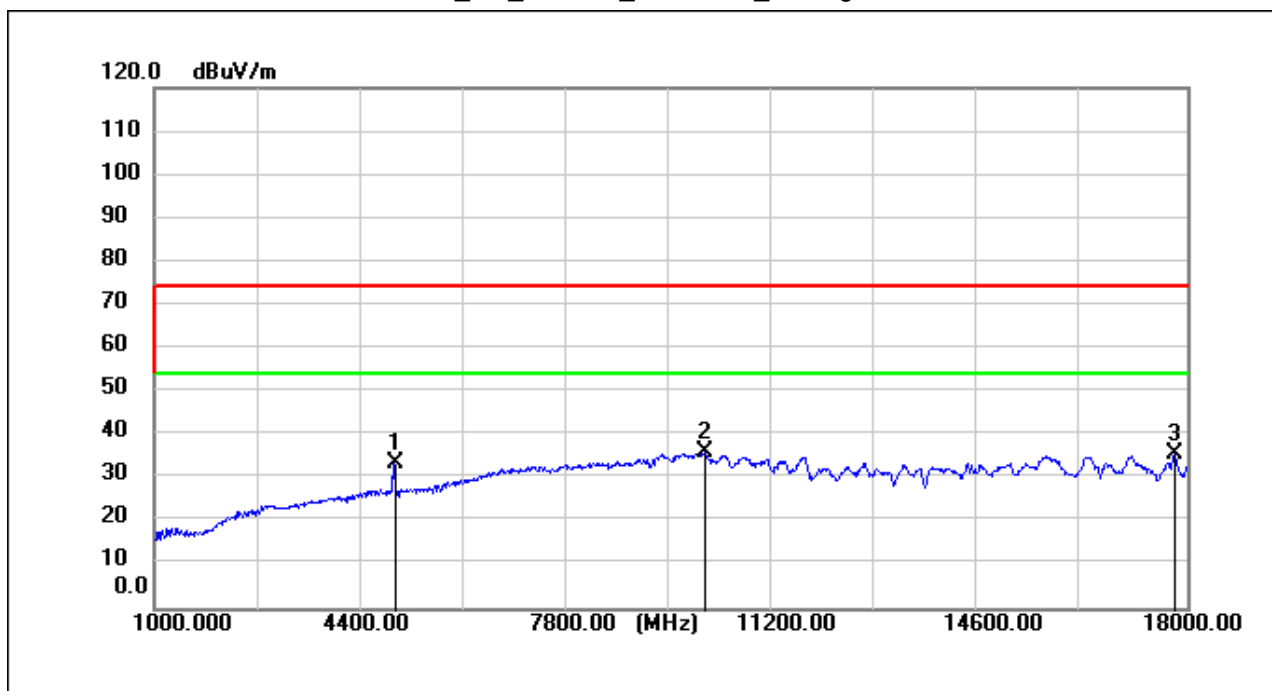
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6893.900	42.51	-10.22	32.29	54.00	-21.71	AVG
2	9698.900	41.92	-6.02	35.90	54.00	-18.10	AVG
3	17812.150	37.18	-1.34	35.84	54.00	-18.16	AVG

TX_CH_2479.28_Horizontal_Peak



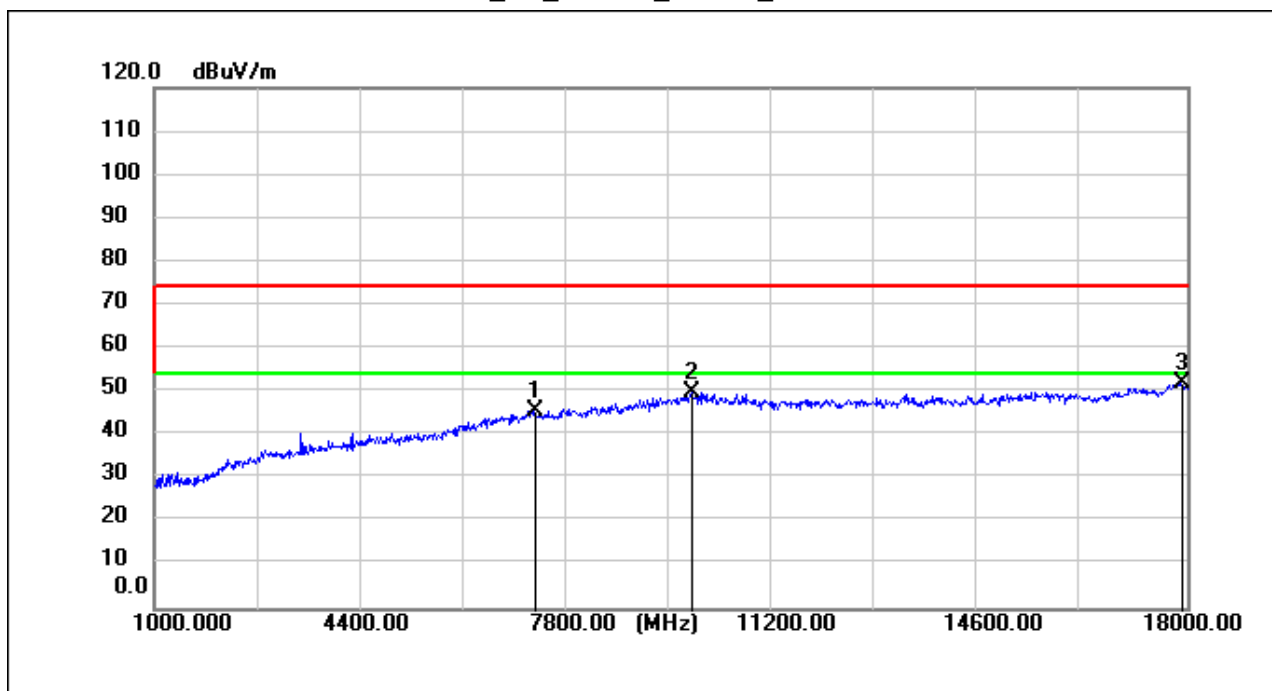
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6752.800	54.99	-10.39	44.60	74.00	-29.40	peak
2	9369.100	56.33	-6.85	49.48	74.00	-24.52	peak
3	17809.600	53.12	-1.34	51.78	74.00	-22.22	peak

TX_CH_2479.28_Horizontal_Average



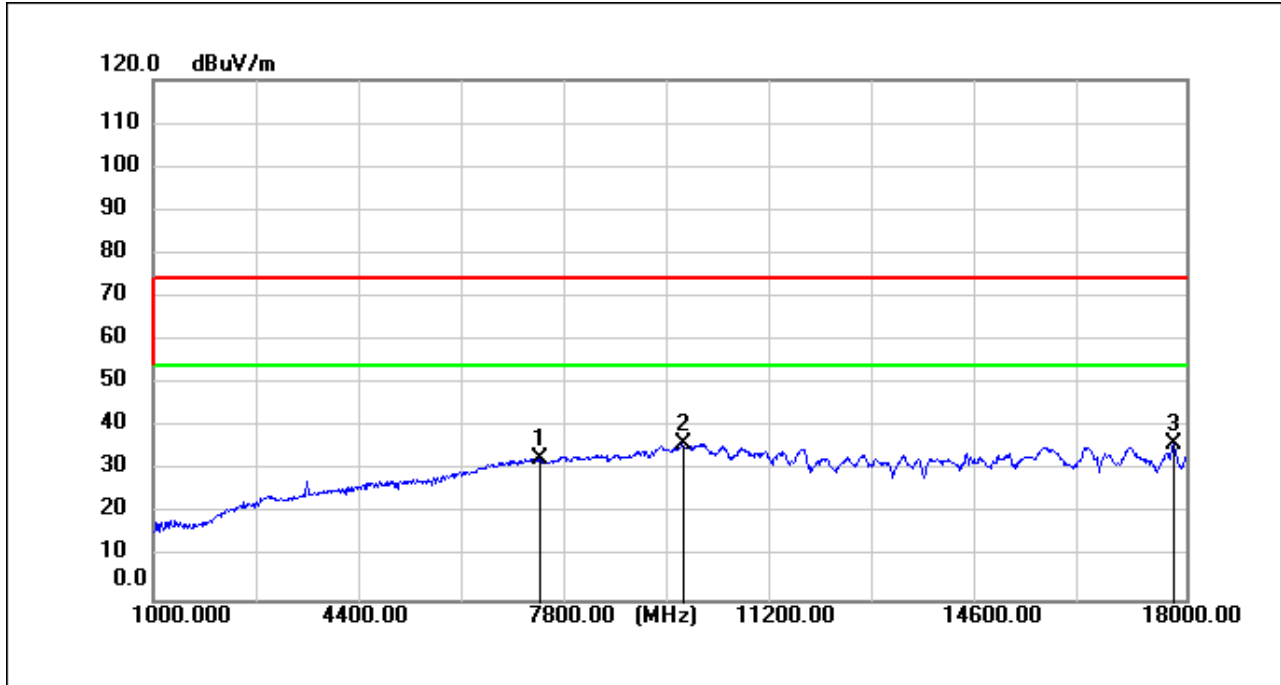
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4957.600	50.19	-16.73	33.46	54.00	-20.54	AVG
2	10062.700	41.72	-5.63	36.09	54.00	-17.91	AVG
3	17801.100	37.29	-1.35	35.94	54.00	-18.06	AVG

TX_CH_2479.28_Vertical_Peak



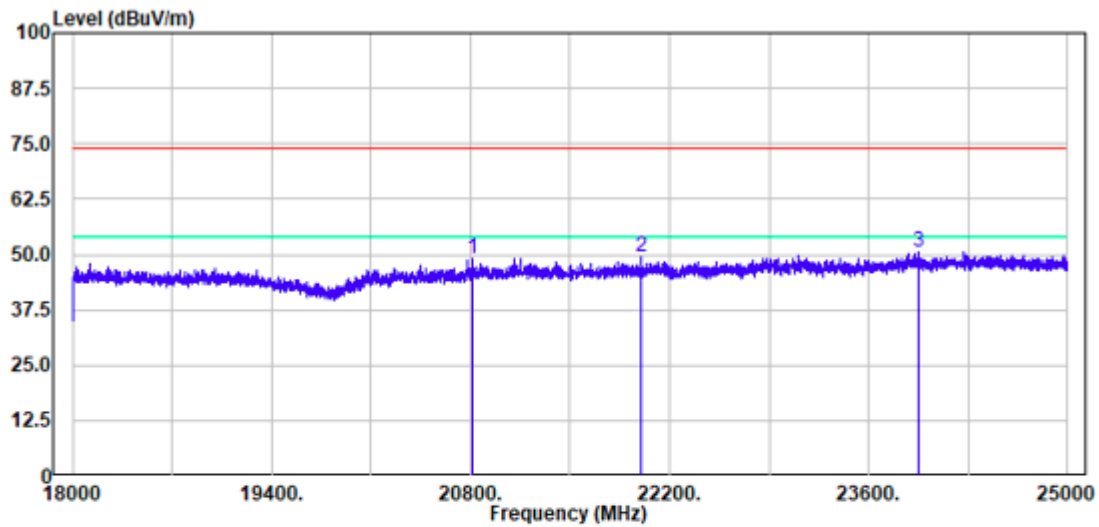
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7257.700	55.67	-10.03	45.64	74.00	-28.36	peak
2	9846.800	55.62	-5.64	49.98	74.00	-24.02	peak
3	17908.200	53.31	-1.27	52.04	74.00	-21.96	peak

TX_CH_2479.28_Veritical_Average



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7374.150	42.84	-10.00	32.84	54.00	-21.16	AVG
2	9710.800	42.08	-5.99	36.09	54.00	-17.91	AVG
3	17812.150	37.57	-1.34	36.23	54.00	-17.77	AVG

TX_CH_2404.06_Horizontal_Peak

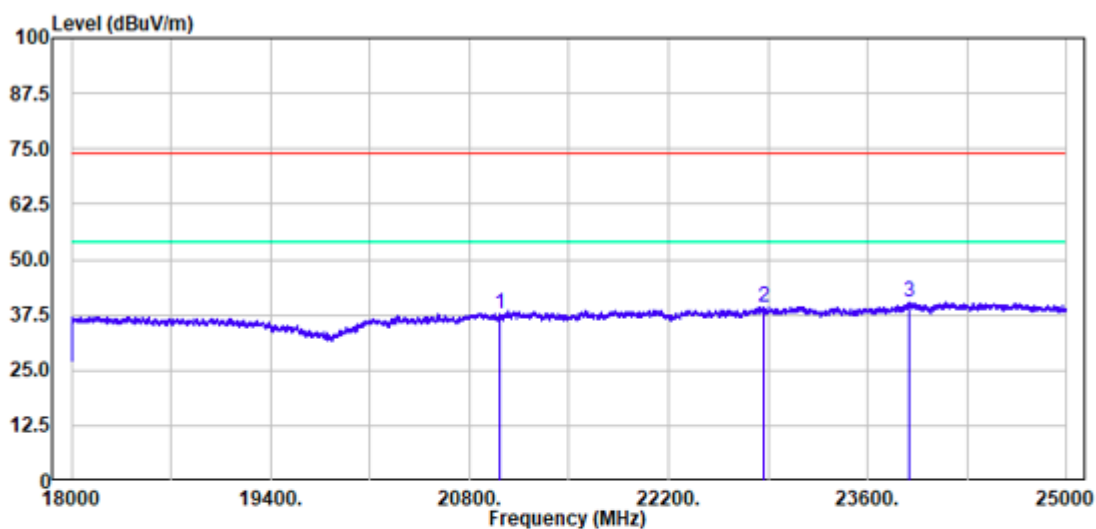


Antenna Polarity :Horizontal

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	20817.36	57.49	38.05	9.54	56.20	48.88	74.00	-25.12	Peak
2	22004.80	57.38	38.37	9.28	55.50	49.53	74.00	-24.47	Peak
3	23949.79	55.08	39.21	10.49	54.19	50.59	74.00	-23.41	Peak

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

TX_CH_2404.06_Horizontal_Average

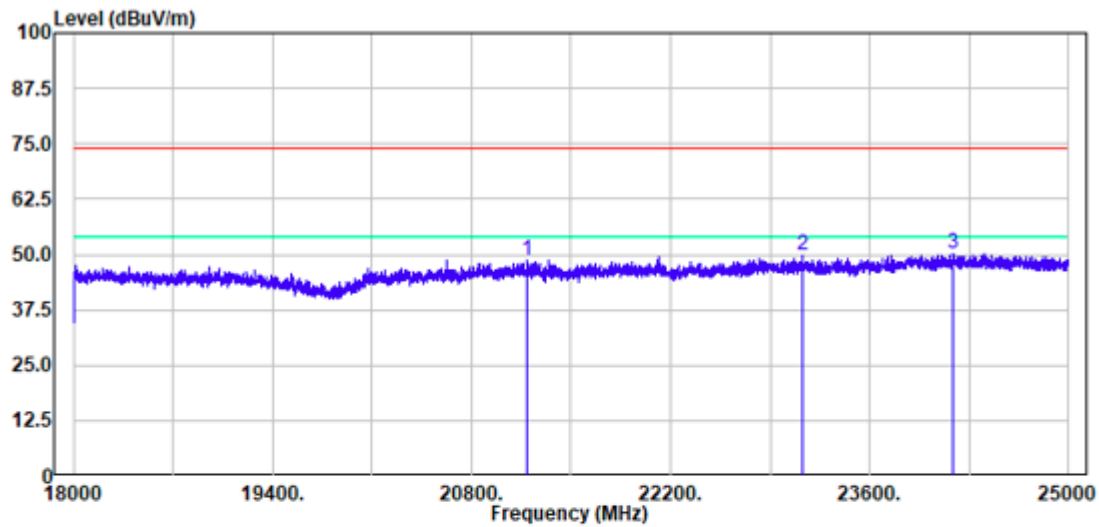


Antenna Polarity :Horizontal

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamplifier Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	21007.80	46.60	38.09	9.39	56.19	37.89	54.00	-16.11	Average
2	22870.17	45.72	38.83	9.88	55.15	39.28	54.00	-14.72	Average
3	23896.58	45.02	39.20	10.39	54.29	40.32	54.00	-13.68	Average

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamplifier Factor

TX_CH_2404.06_ Vertical _Peak

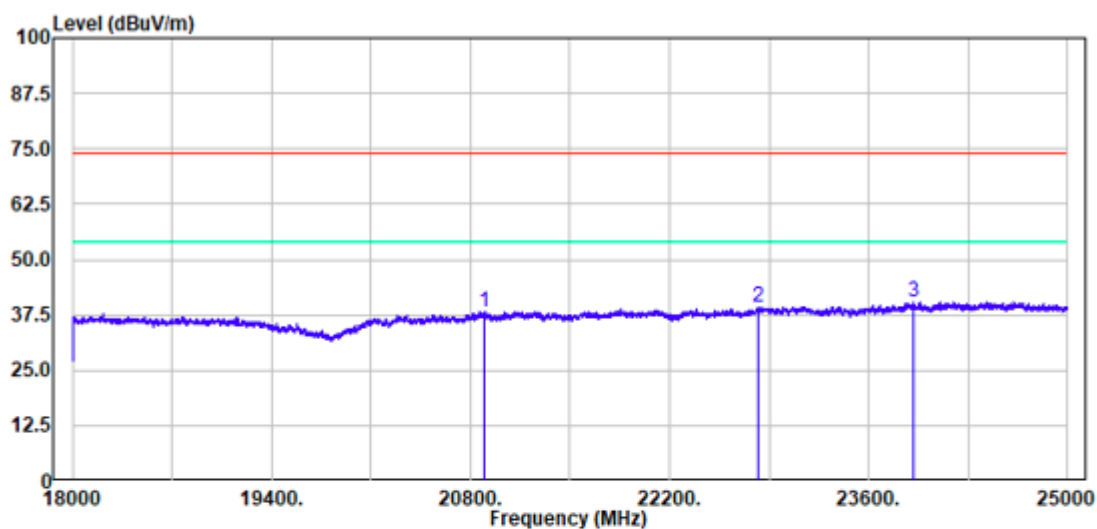


Antenna Polarity :Vertical

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	21194.04	56.91	38.14	9.72	55.93	48.84	74.00	-25.16	Peak
2	23133.43	55.85	38.94	9.93	55.07	49.65	74.00	-24.35	Peak
3	24185.04	54.47	39.30	10.49	54.17	50.09	74.00	-23.91	Peak

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

TX_CH_2404.06_ Vertical _ Average



Antenna Polarity :Vertical

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	20895.78	46.85	38.07	9.47	56.20	38.19	54.00	-15.81	Average
2	22822.56	45.66	38.81	9.84	55.17	39.14	54.00	-14.86	Average
3	23917.58	45.03	39.20	10.43	54.25	40.41	54.00	-13.59	Average

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

7.5 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215
 Test Method: ANSI C63.10 (2020) Section 6.9
 Measurement Distance: 3m

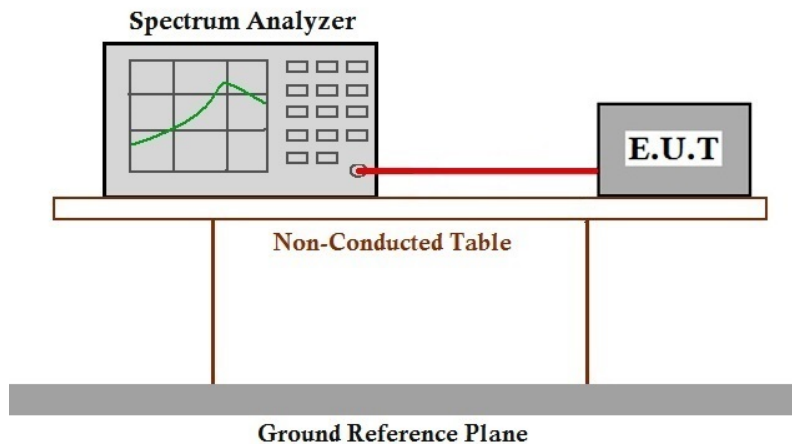
7.5.1 E.U.T. Operation

Operating Environment:
 Temperature: 25.2 °C Humidity: 50.3 % RH Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting with modulation mode.

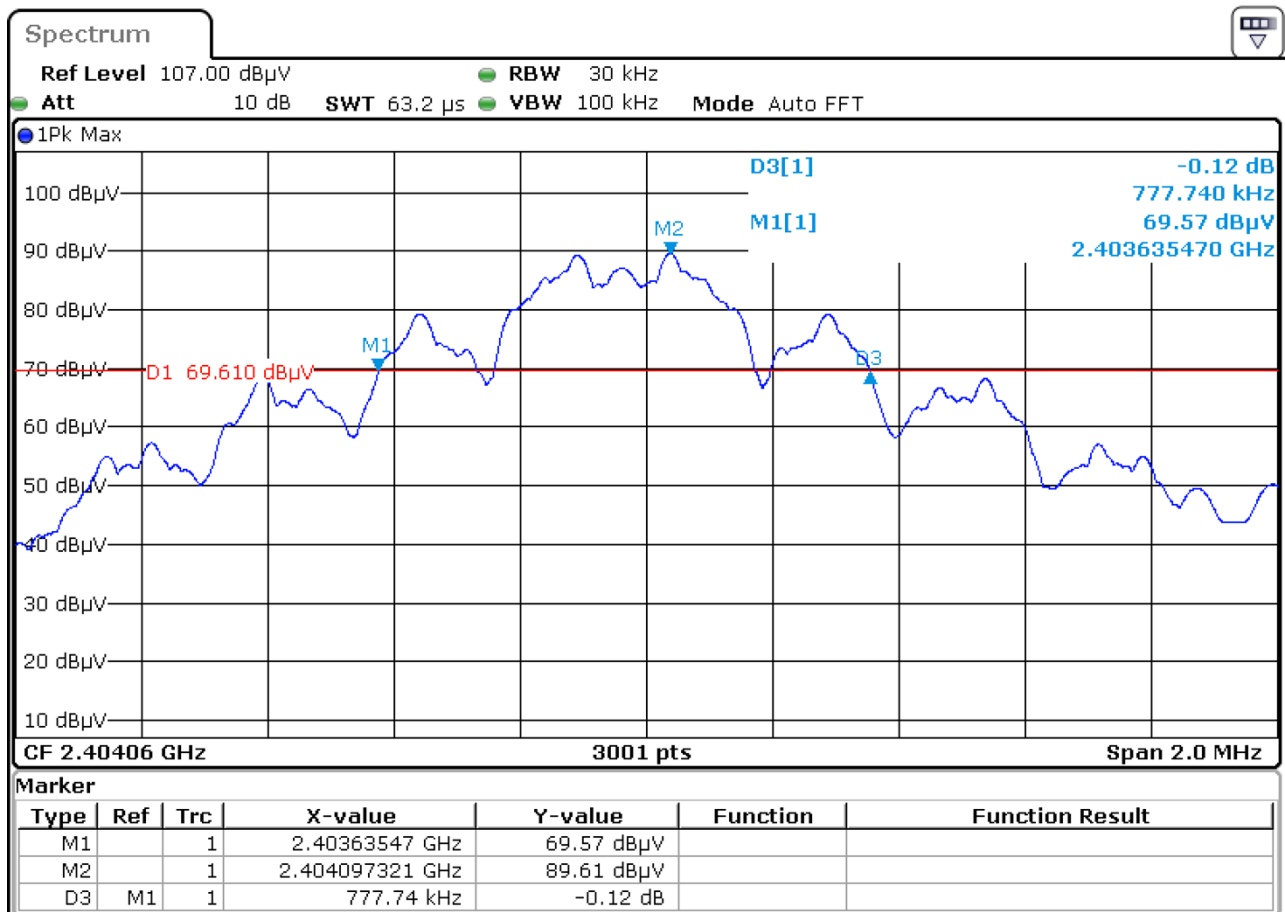
7.5.3 Test Setup Diagram



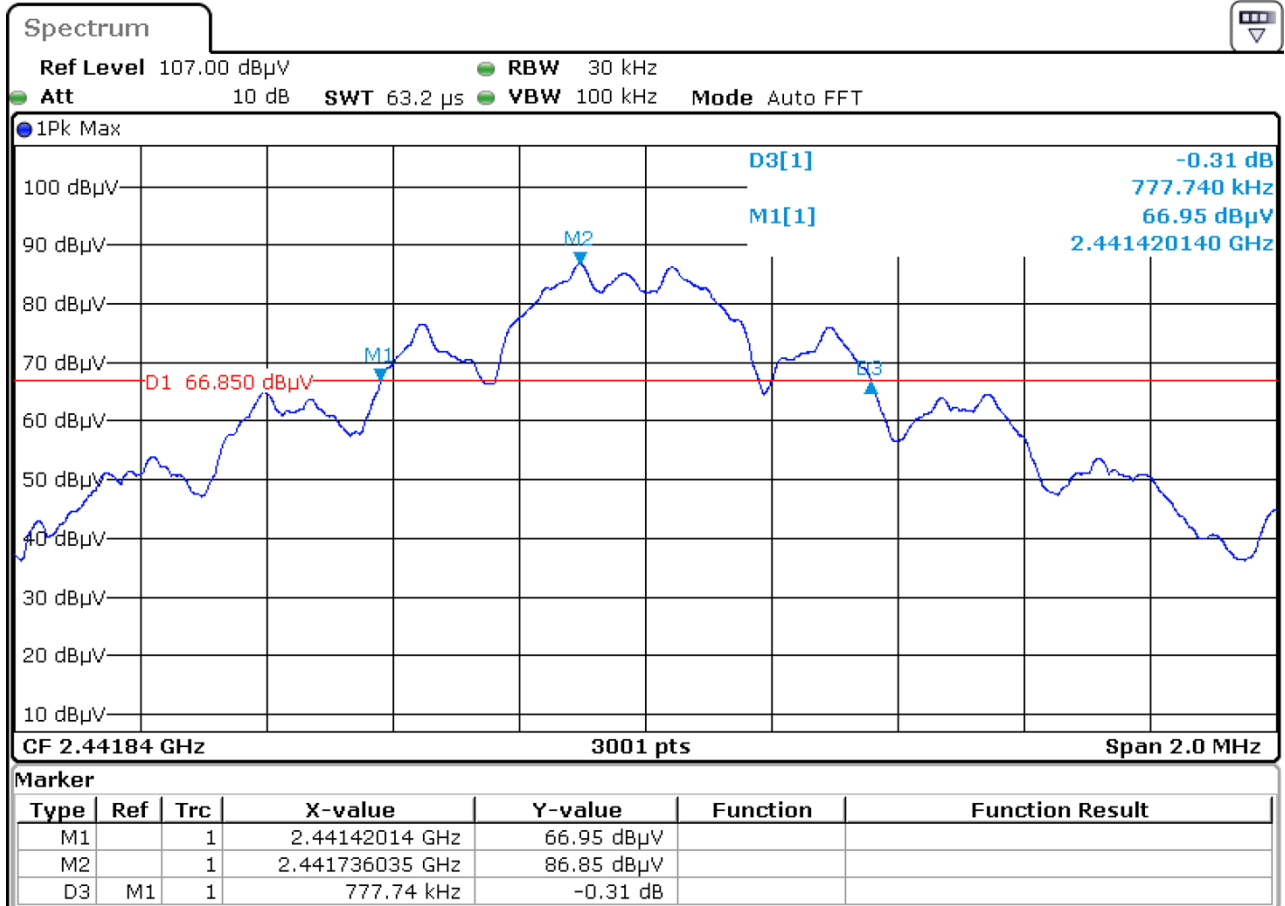
7.5.4 Measurement Procedure and Data

Frequency (MHz)	Bandwidth (kHz)	Result
2404.06	777.74	PASS
2441.84	777.74	PASS
2479.28	776.41	PASS

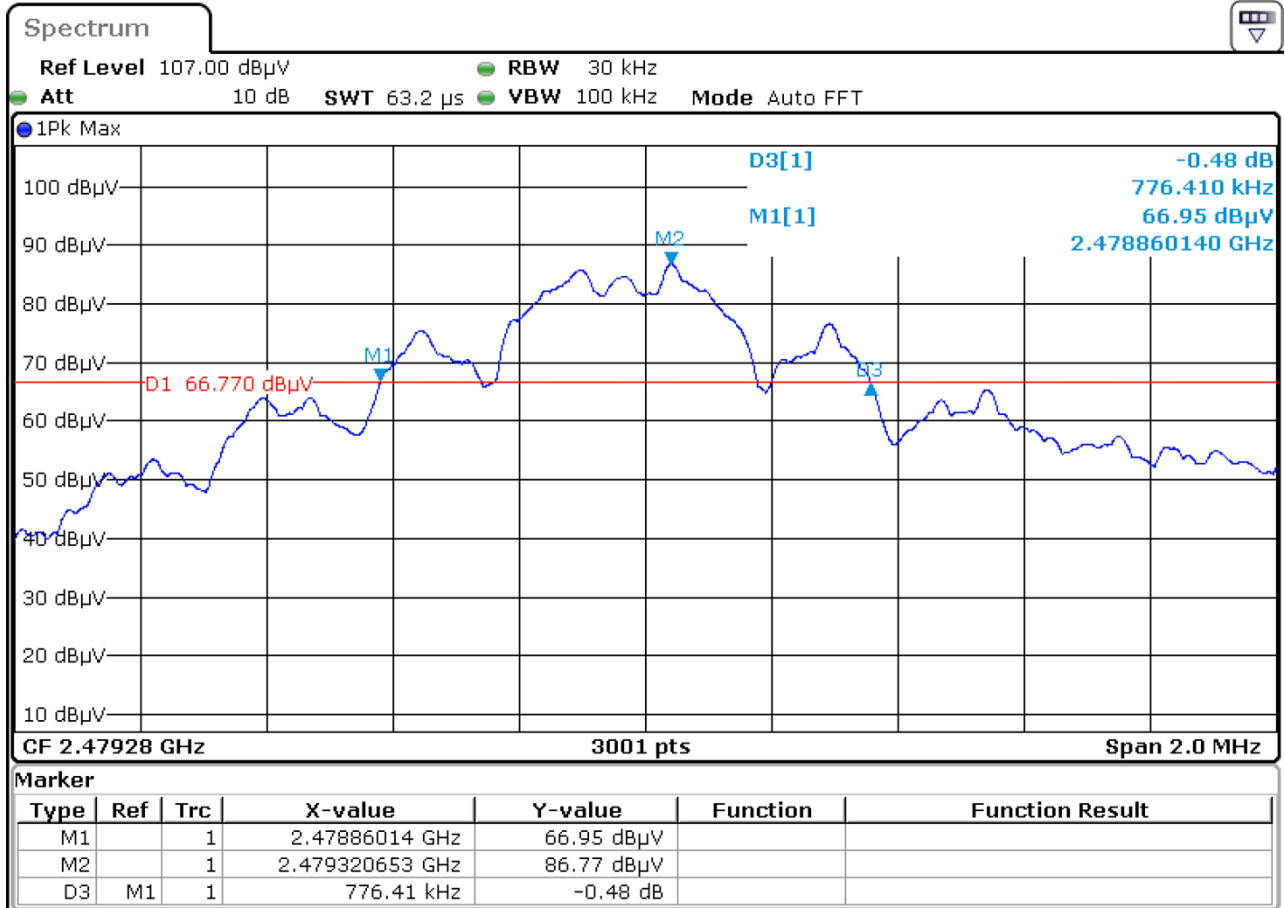
20DB_2404.06MHz



20DB_2441.84MHz



20DB_2479.28MHz





Report No.: KSCR251100249901V01

Page: 51 of 51

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2511002499AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for KSCR2511002499AT

- End of the Report -