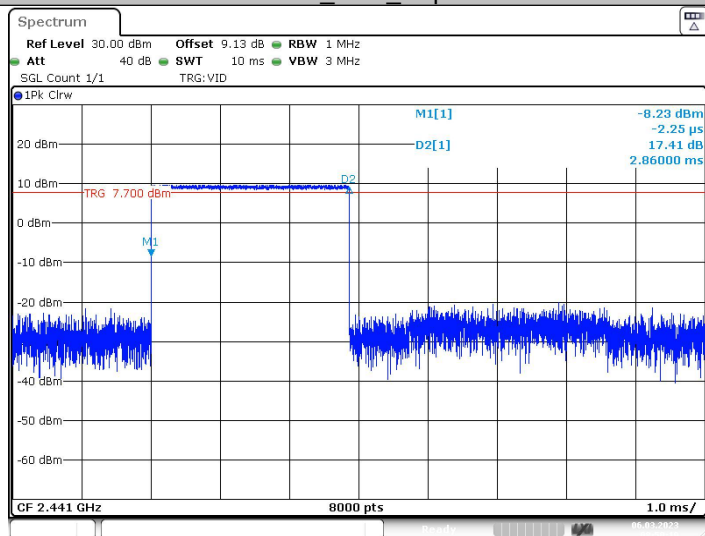
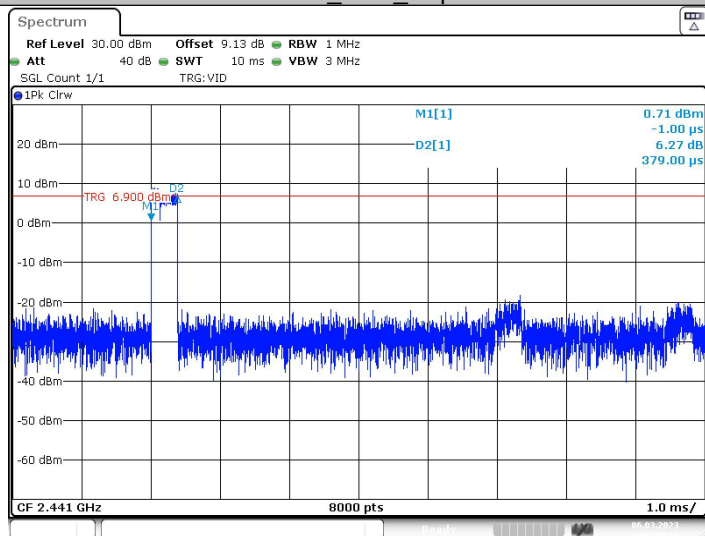


DH5_Ant1_Hop



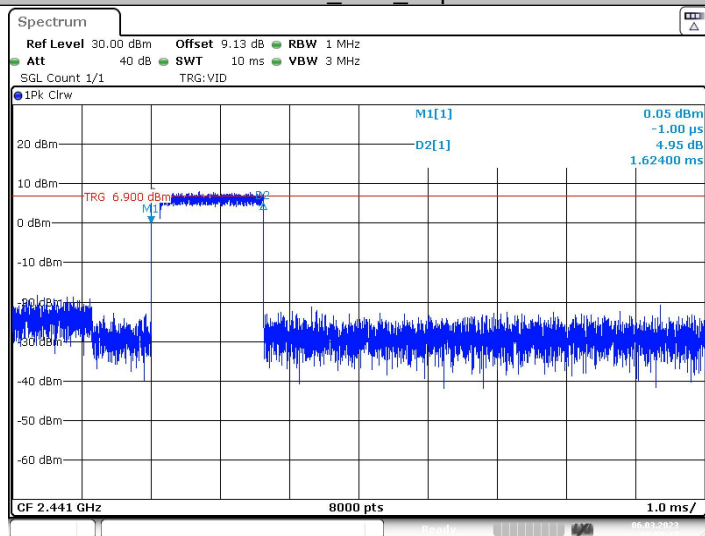
Date: 6.MAR.2023 08:50:19

2DH1_Ant1_Hop



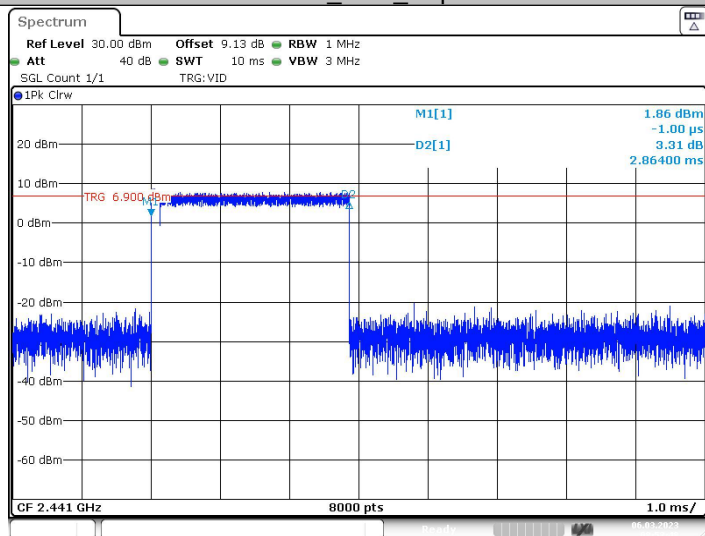
Date: 6.MAR.2023 08:54:26

2DH3_Ant1_Hop



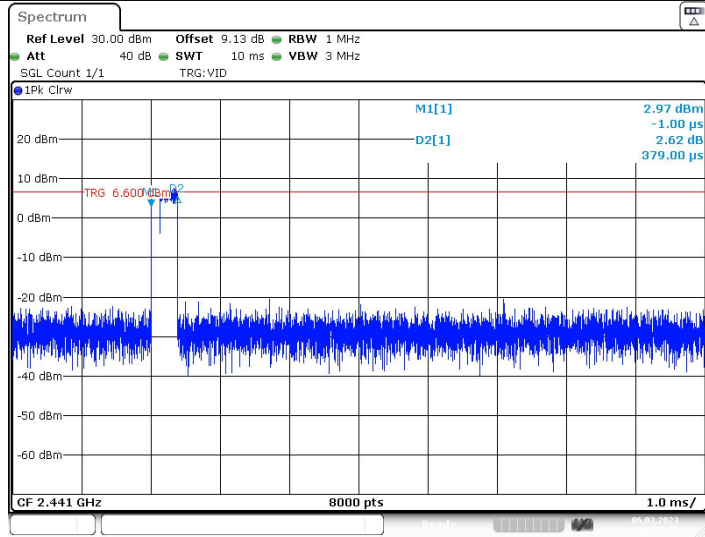
Date: 6.MAR.2023 08:55:18

2DH5_Ant1_Hop



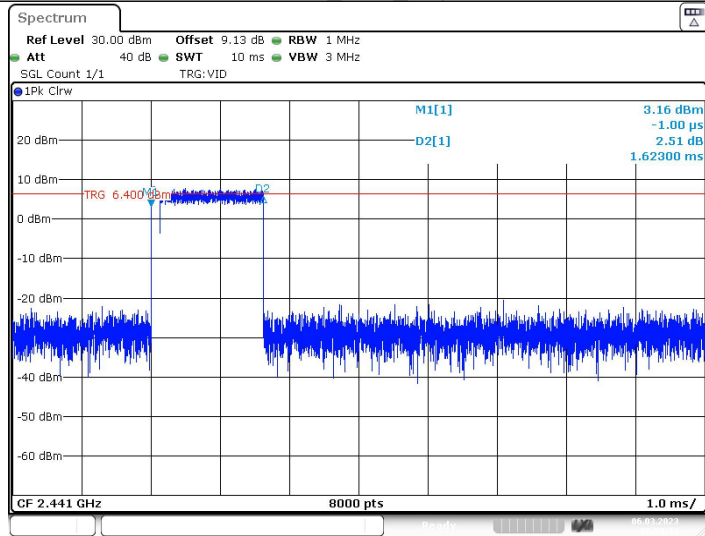
Date: 6.MAR.2023 08:53:48

3DH1_Ant1_Hop

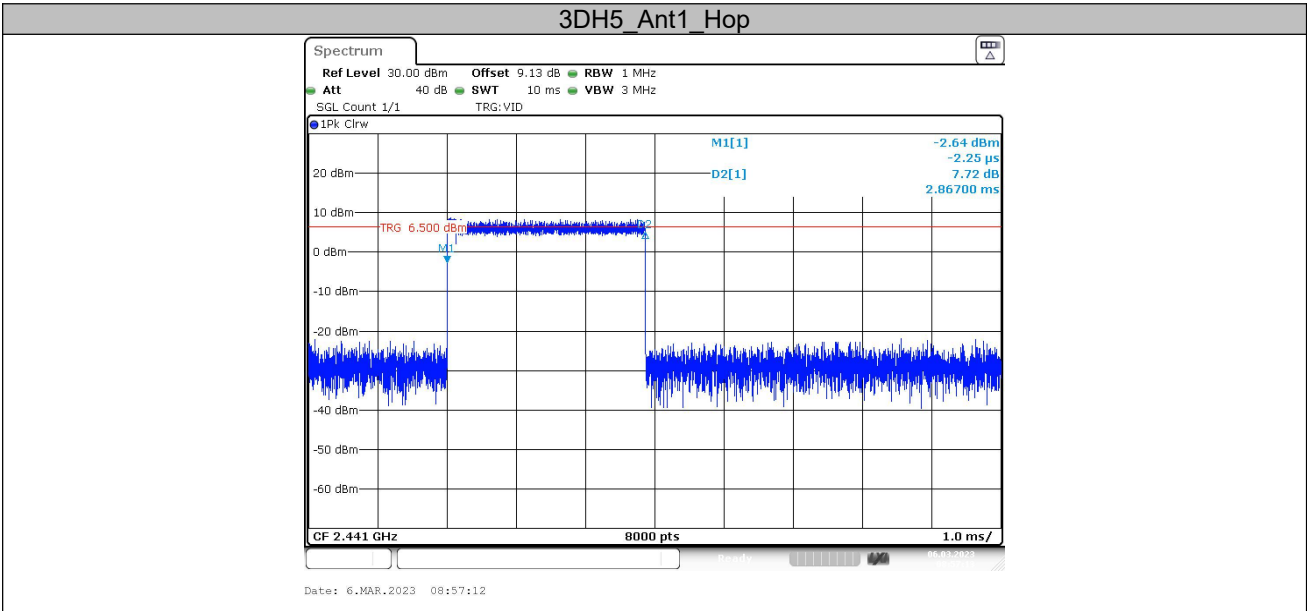


Date: 6.MAR.2023 08:57:53

3DH3_Ant1_Hop



Date: 6.MAR.2023 08:58:34



8. RADIATED EMISSIONS

8.1. 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

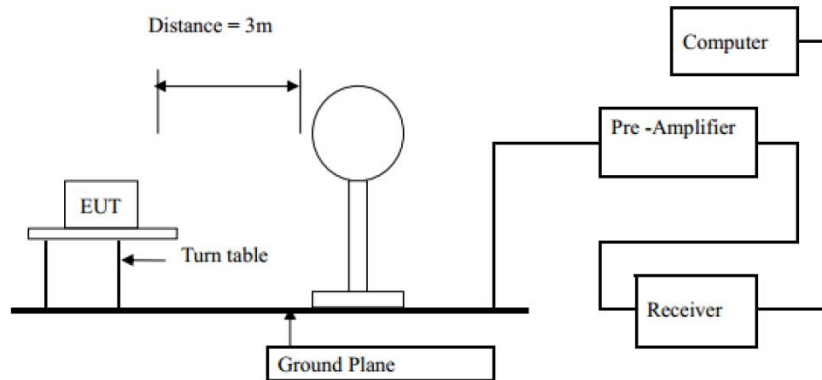
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 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

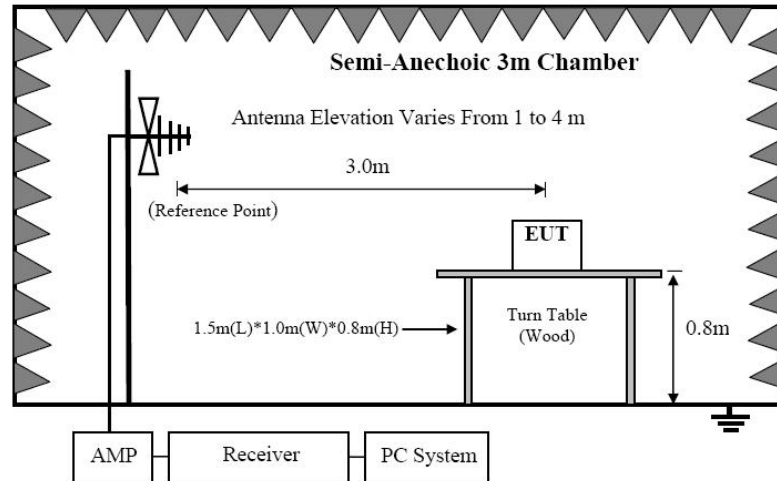
FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009-0.490	300	2400/F(KHz)	/
0.490-1.705	30	24000/F(KHz)	/
1.705-30	30	30	29.5
30 88	3	100	40.0
88 216	3	150	43.5
216 960	3	200	46.0
960 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

8.2. Block Diagram of Test setup

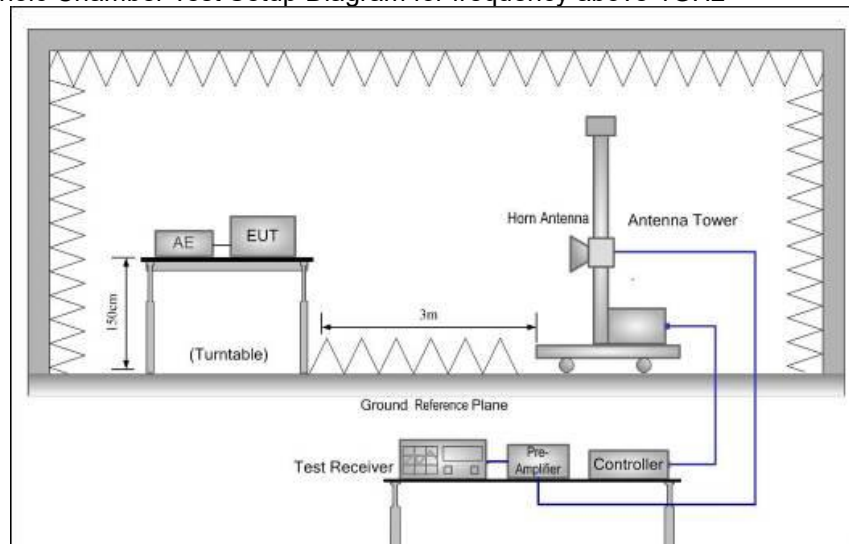
8.2.1 In 3m Anechoic Chamber Test Setup Diagram for below 30MHz



8.2.1 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.

8.3. 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 as shown in section 1.4 and 6.1
- (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.

8.4. Test Result

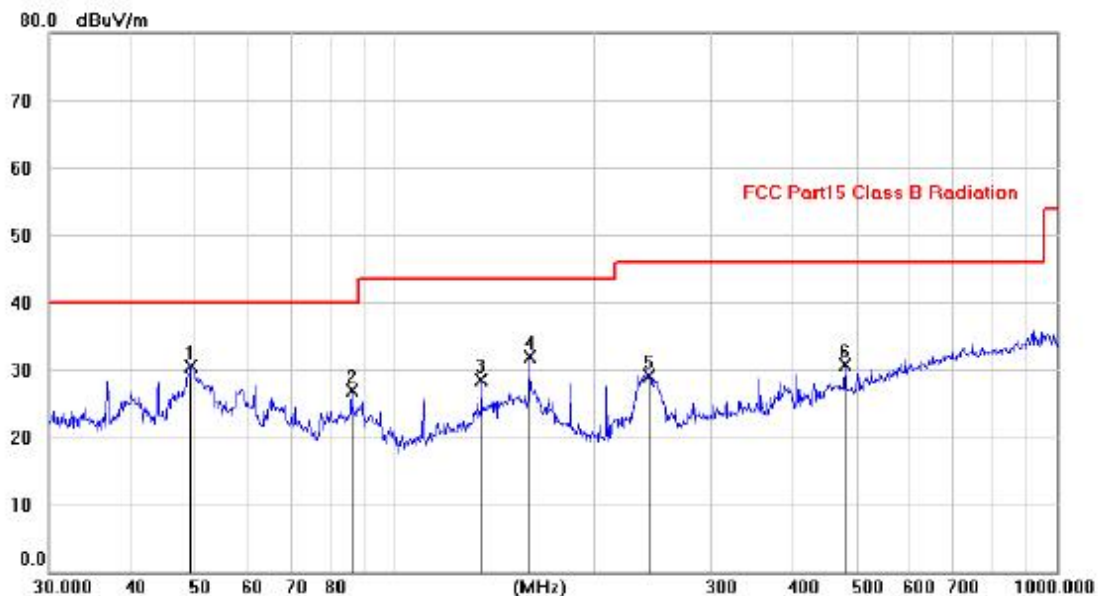
We have scanned the 10th harmonic from 9KHz to the EUT's highest frequency.
Detailed information please see the following page.

From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

From 30MHz to 1000MHz: Conclusion: PASS

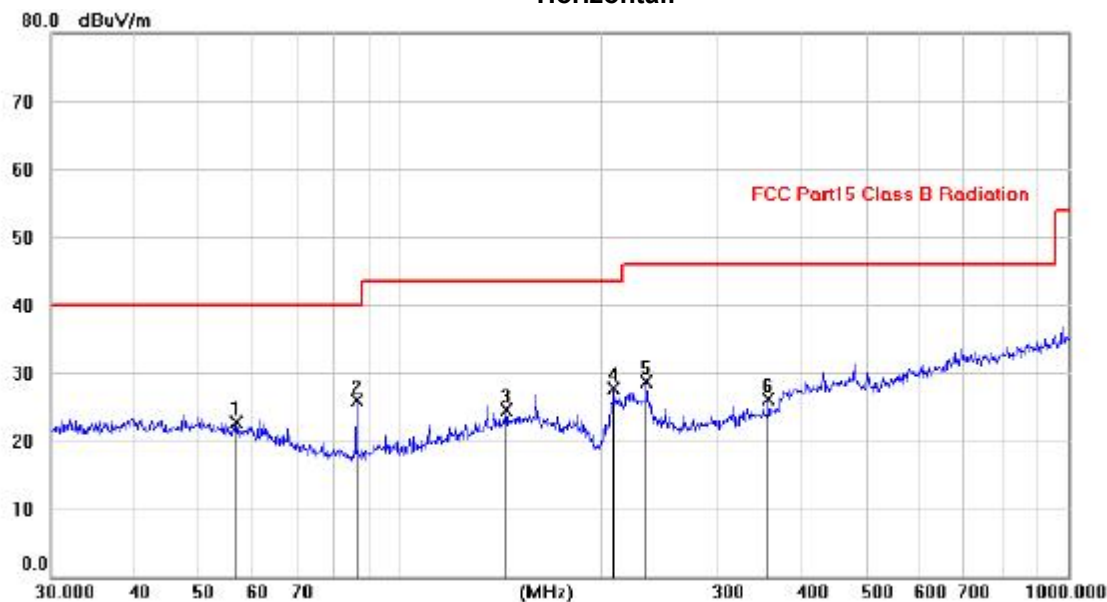
Vertical:



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	49.2324	16.41	14.03	30.44	40.00	-9.56	peak		
2		86.0189	16.85	9.98	26.83	40.00	-13.17	peak		
3		135.2055	14.58	13.96	28.54	43.50	-14.96	peak		
4		159.7470	16.86	15.04	31.90	43.50	-11.60	peak		
5		241.9872	16.59	12.59	29.18	46.00	-16.82	peak		
6		479.2375	12.86	17.93	30.79	46.00	-15.21	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Horizontal:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		56.8447	9.35	13.43	22.78	40.00	-17.22	peak		
2	*	86.0087	15.96	9.98	25.94	40.00	-14.06	peak		
3		144.2839	9.89	14.63	24.52	43.50	-18.98	peak		
4		208.8974	16.68	11.05	27.73	43.50	-15.77	peak		
5		233.4850	16.23	12.39	28.62	46.00	-17.38	peak		
6		356.3423	10.71	15.36	26.07	46.00	-19.93	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Remark: All modes have been tested, and only worst data of GFSK mode, Channel 2402MHz was listed in this report.

From 1G-25GHz

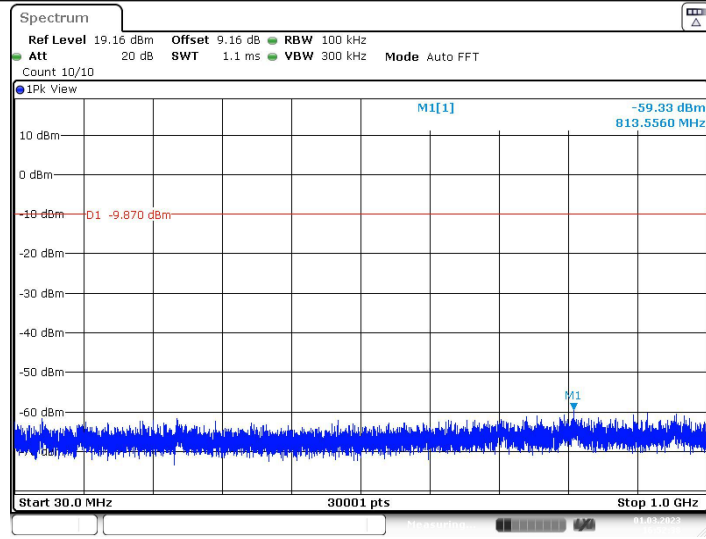
Test Mode: GFSK TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4804	48.62	V	33.93	10.18	34.26	58.47	74	-15.53	PK
4804	36.12	V	33.93	10.18	34.26	45.97	54	-8.03	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
4804	47.04	H	33.93	10.18	34.26	56.89	74	-17.11	PK
4804	35.35	H	33.93	10.18	34.26	45.20	54	-8.80	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
Test Mode: GFSK TX Mid									
4882	49.90	V	33.95	10.20	34.26	59.79	74	-14.21	PK
4882	35.09	V	33.95	10.20	34.26	44.98	54	-9.02	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
4882	48.44	H	33.95	10.20	34.26	58.33	74	-15.67	PK
4882	34.90	H	33.95	10.20	34.26	44.79	54	-9.21	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
Test Mode: GFSK TX High									
4960	47.67	V	33.98	10.22	34.25	57.62	74	-16.38	PK
4960	33.44	V	33.98	10.22	34.25	43.39	54	-10.61	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
4960	46.03	H	33.98	10.22	34.25	55.98	74	-18.02	PK
4960	32.72	H	33.98	10.22	34.25	42.67	54	-11.33	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
Note:									
1, Result = Read level + Antenna factor + cable loss-Amp factor									
2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

Test Mode: $\pi/4$ DQPSK TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4804	48.84	V	33.93	10.18	34.26	58.69	74	-15.31	PK
4804	36.91	V	33.93	10.18	34.26	46.76	54	-7.24	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
4804	47.57	H	33.93	10.18	34.26	57.42	74	-16.58	PK
4804	35.31	H	33.93	10.18	34.26	45.16	54	-8.84	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
Test Mode: $\pi/4$ DQPSK TX Mid									
4882	49.22	V	33.95	10.20	34.26	59.11	74	-14.89	PK
4882	35.81	V	33.95	10.20	34.26	45.70	54	-8.30	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
4882	48.22	H	33.95	10.20	34.26	58.11	74	-15.89	PK
4882	34.77	H	33.95	10.20	34.26	44.66	54	-9.34	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
Test Mode: $\pi/4$ DQPSK TX High									
4960	47.19	V	33.98	10.22	34.25	57.14	74	-16.86	PK
4960	33.76	V	33.98	10.22	34.25	43.71	54	-10.29	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
4960	46.09	H	33.98	10.22	34.25	56.04	74	-17.96	PK
4960	32.79	H	33.98	10.22	34.25	42.74	54	-11.26	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
Note: 1, Result = Read level + Antenna factor + cable loss-Amp factor 2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

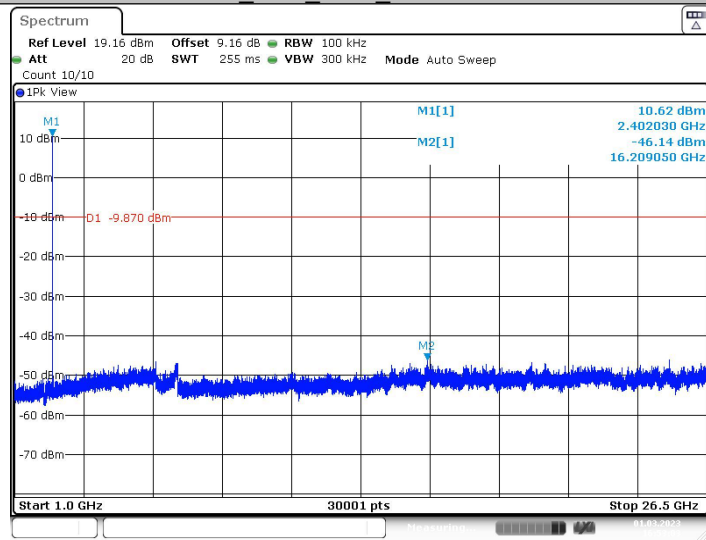
Test Mode: 8DPSK TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4804	48.41	V	33.93	10.18	34.26	58.26	74	-15.74	PK
4804	36.32	V	33.93	10.18	34.26	46.17	54	-7.83	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
4804	47.24	H	33.93	10.18	34.26	57.09	74	-16.91	PK
4804	35.21	H	33.93	10.18	34.26	45.06	54	-8.94	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
Test Mode: 8DPSK TX Mid									
4882	49.18	V	33.95	10.20	34.26	59.07	74	-14.93	PK
4882	35.96	V	33.95	10.20	34.26	45.85	54	-8.15	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
4882	48.14	H	33.95	10.20	34.26	58.03	74	-15.97	PK
4882	34.78	H	33.95	10.20	34.26	44.67	54	-9.33	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
Test Mode: 8DPSK TX High									
4960	47.80	V	33.98	10.22	34.25	57.75	74	-16.25	PK
4960	33.12	V	33.98	10.22	34.25	43.07	54	-10.93	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
4960	46.71	H	33.98	10.22	34.25	56.66	74	-17.34	PK
4960	32.22	H	33.98	10.22	34.25	42.17	54	-11.83	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
Note: 1, Result = Read level + Antenna factor + cable loss-Amp factor 2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

Conducted RF Spurious Emission

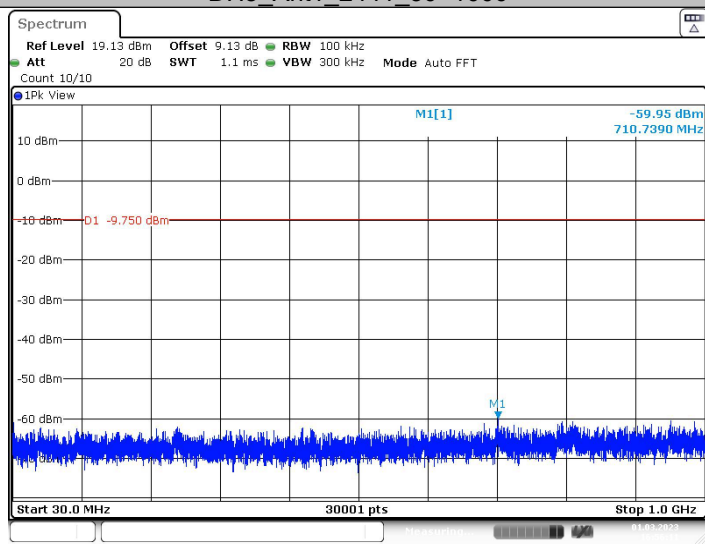
DH5_Ant1_2402_30~1000



DH5_Ant1_2402_1000~26500

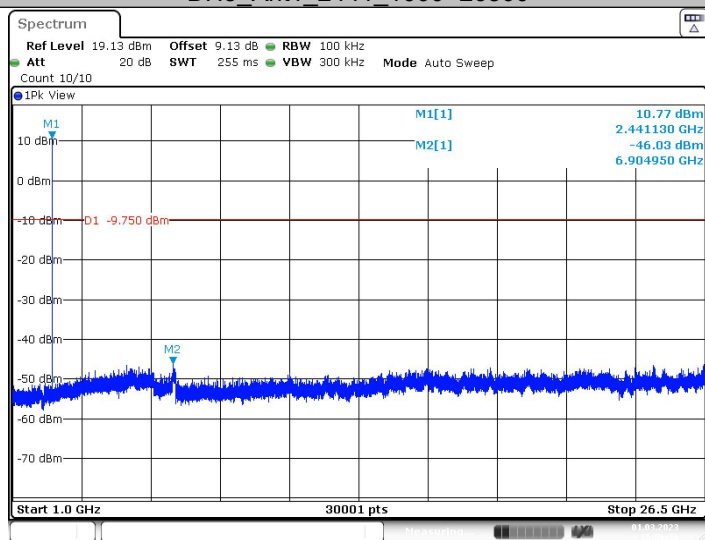


DH5_Ant1_2441_30~1000



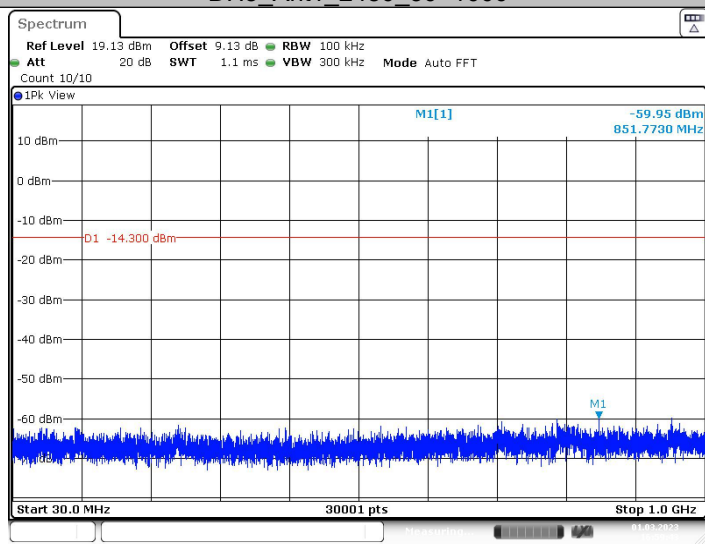
Date: 1.MAR.2023 16:56:11

DH5_Ant1_2441_1000~26500



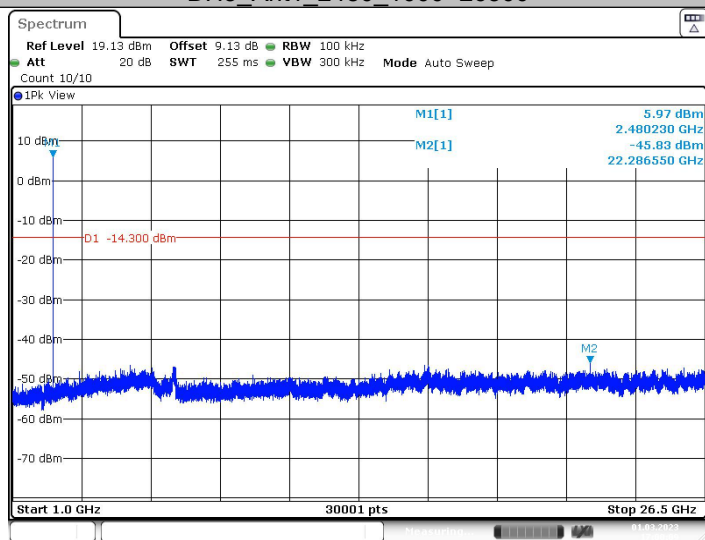
Date: 1.MAR.2023 16:56:36

DH5_Ant1_2480_30~1000



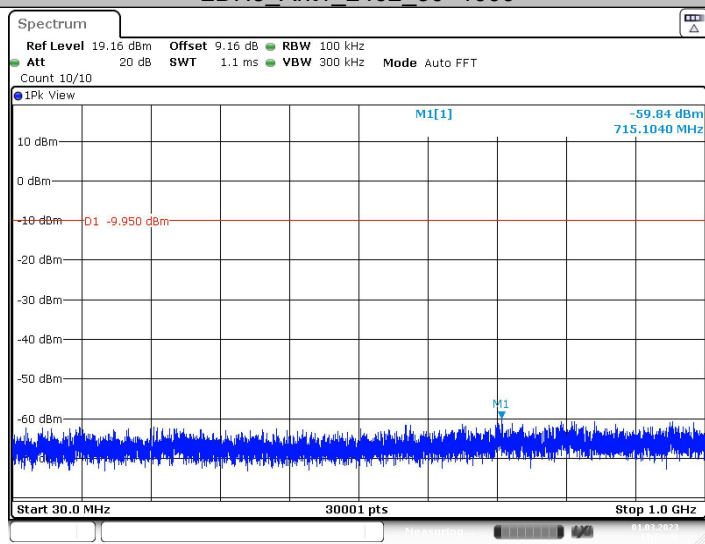
Date: 1.MAR.2023 16:59:44

DH5_Ant1_2480_1000~26500



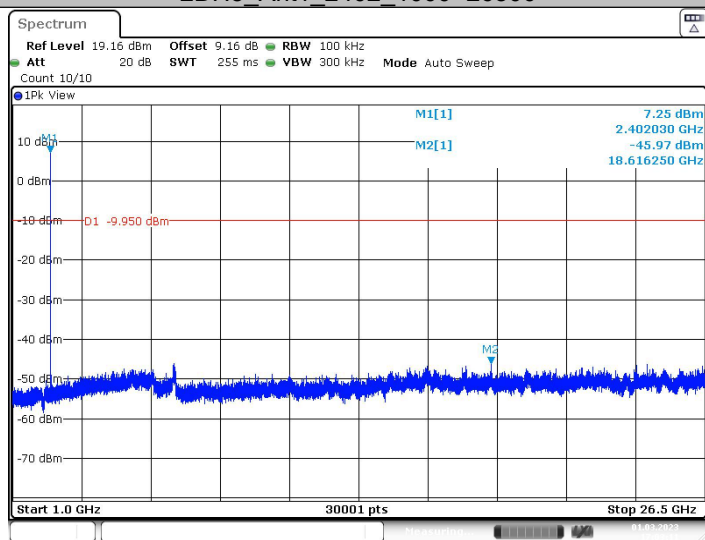
Date: 1.MAR.2023 17:00:09

2DH5_Ant1_2402_30~1000



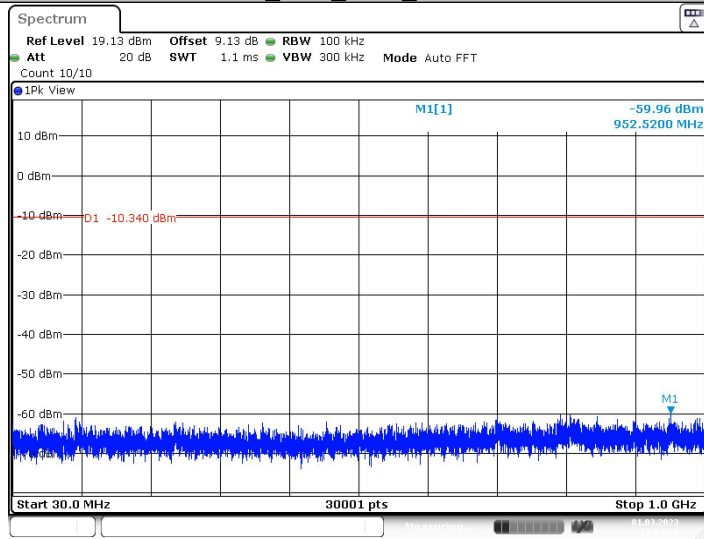
Date: 1.MAR.2023 17:02:46

2DH5_Ant1_2402_1000~26500



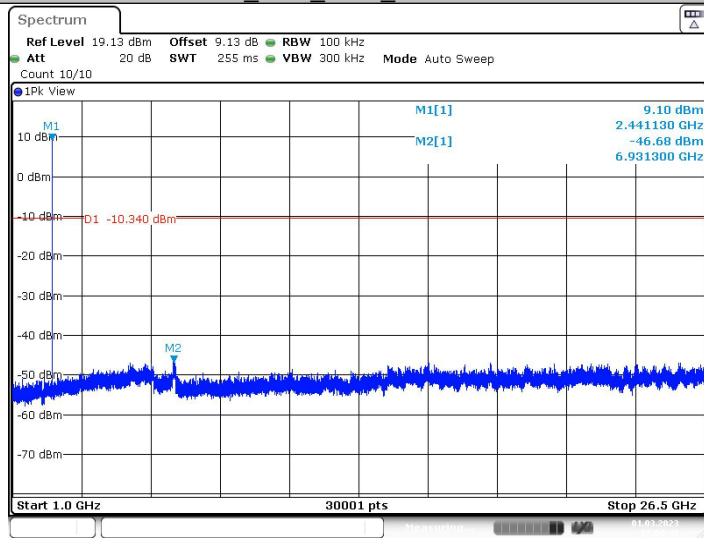
Date: 1.MAR.2023 17:03:11

2DH5_Ant1_2441_30~1000



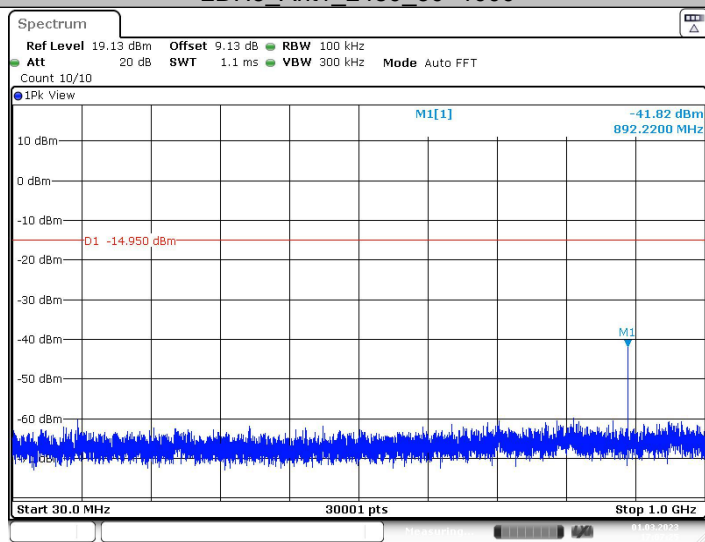
Date: 1.MAR.2023 17:04:20

2DH5_Ant1_2441_1000~26500



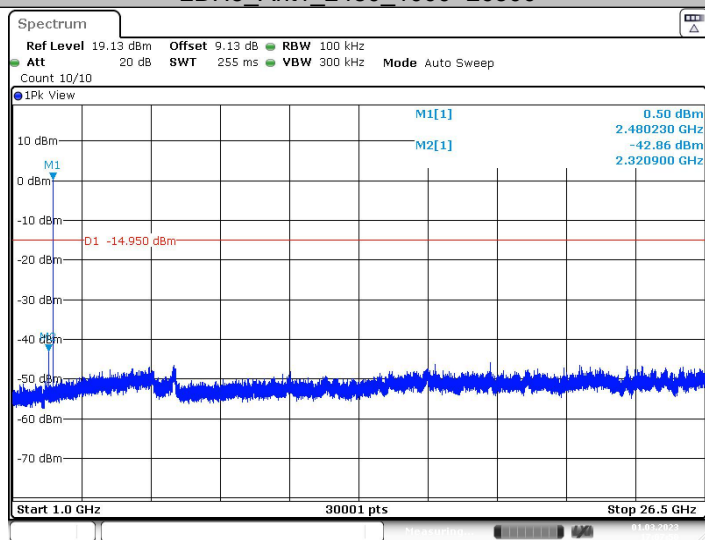
Date: 1.MAR.2023 17:04:45

2DH5_Ant1_2480_30~1000

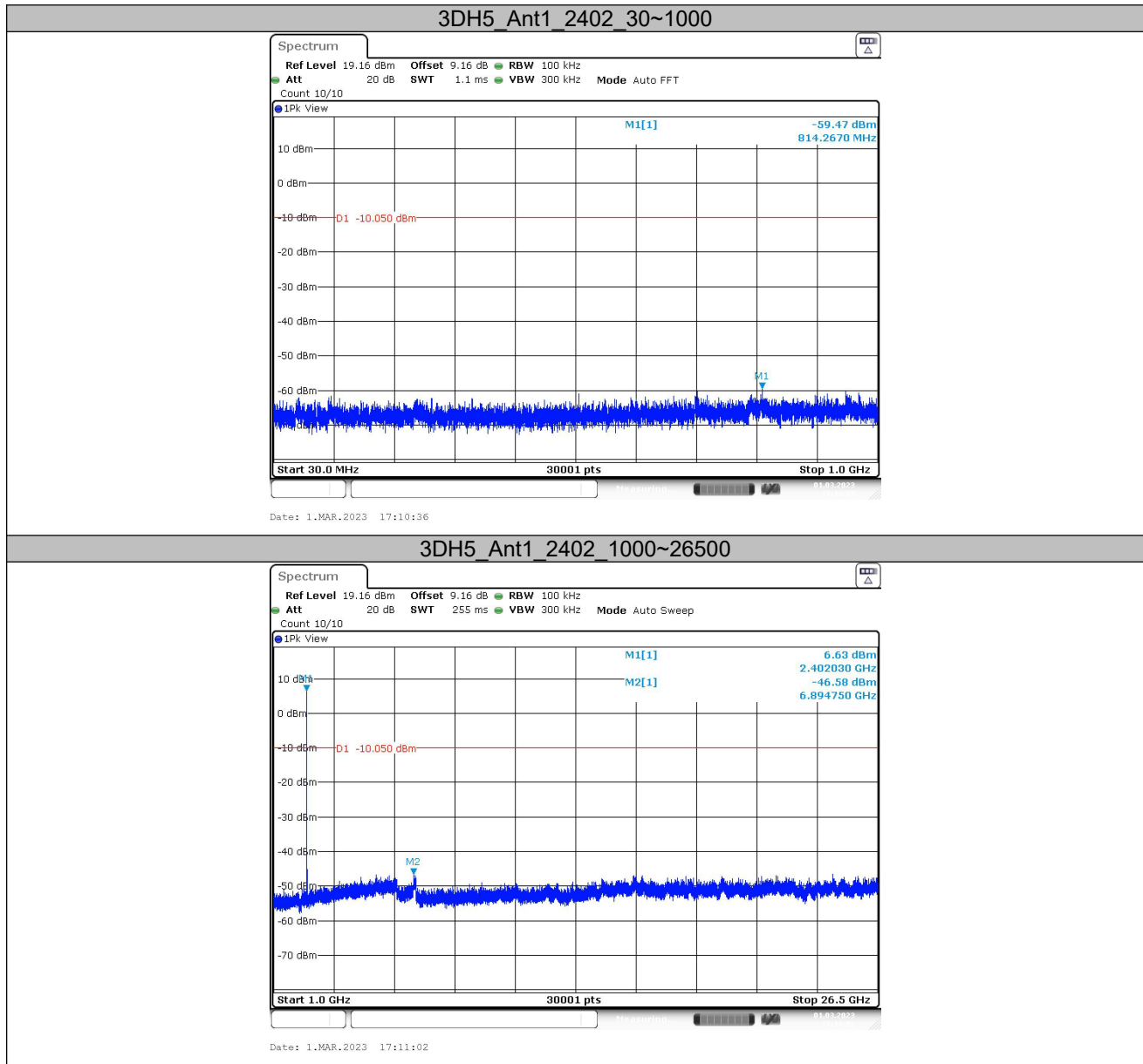


Date: 1.MAR.2023 17:07:24

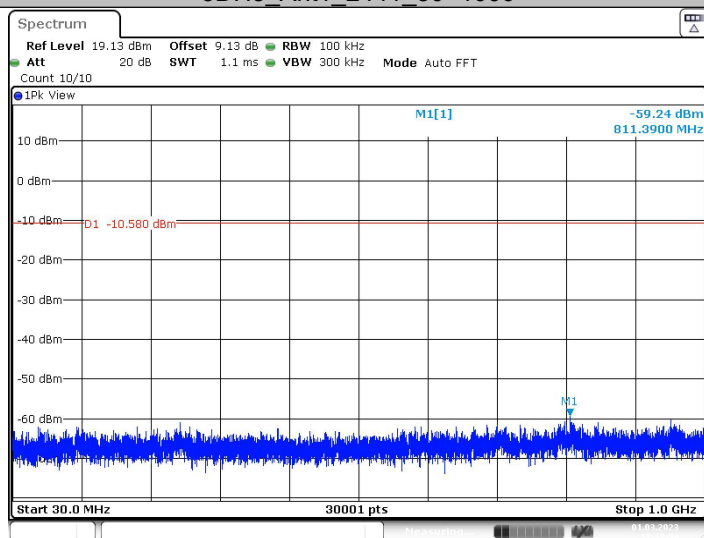
2DH5_Ant1_2480_1000~26500



Date: 1.MAR.2023 17:07:49

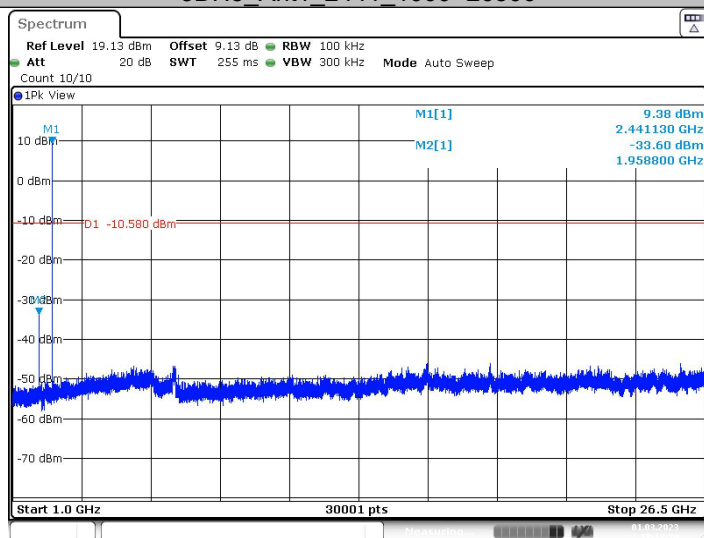


3DH5_Ant1_2441_30~1000

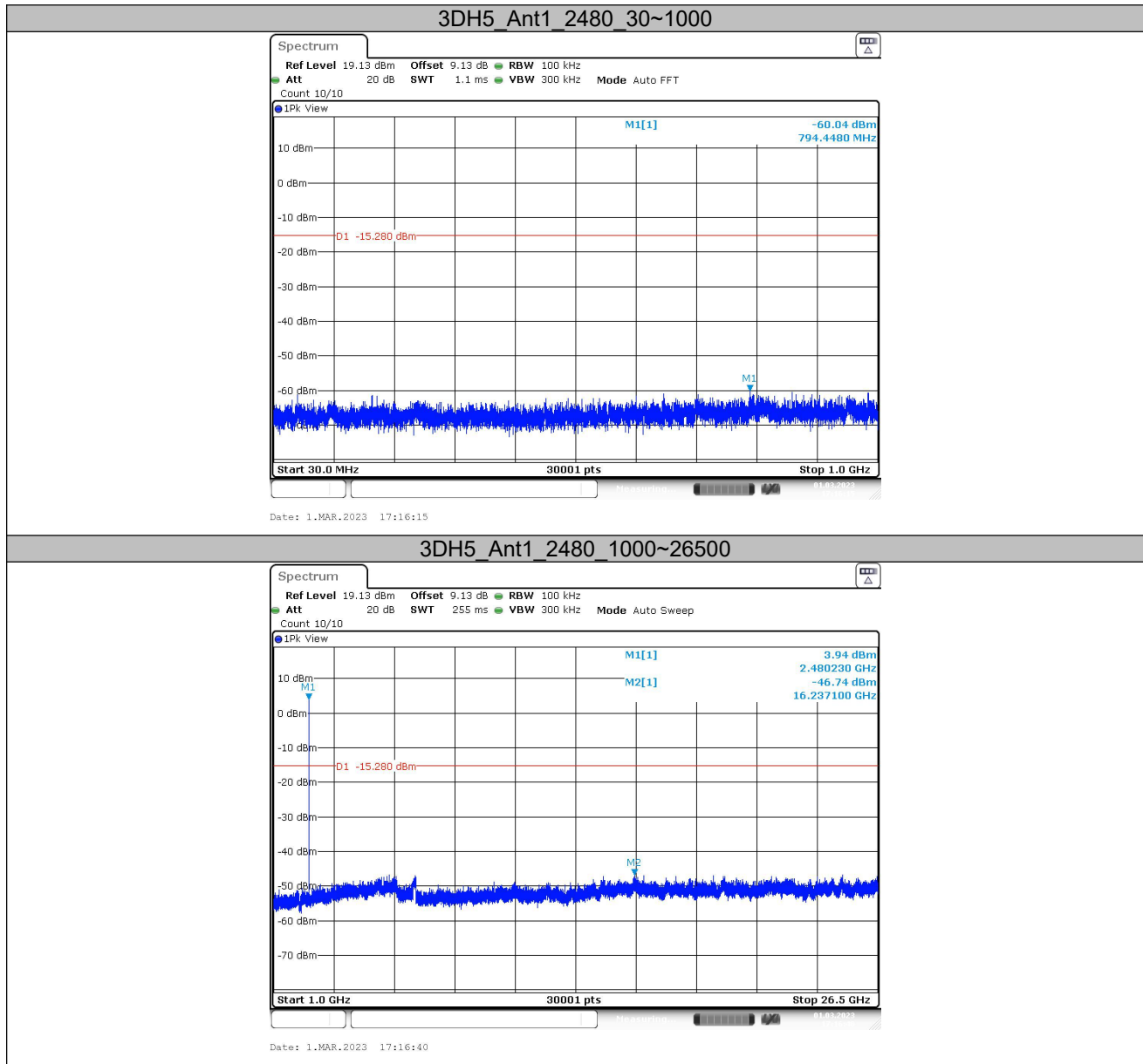


Date: 1.MAR.2023 17:12:59

3DH5_Ant1_2441_1000~26500

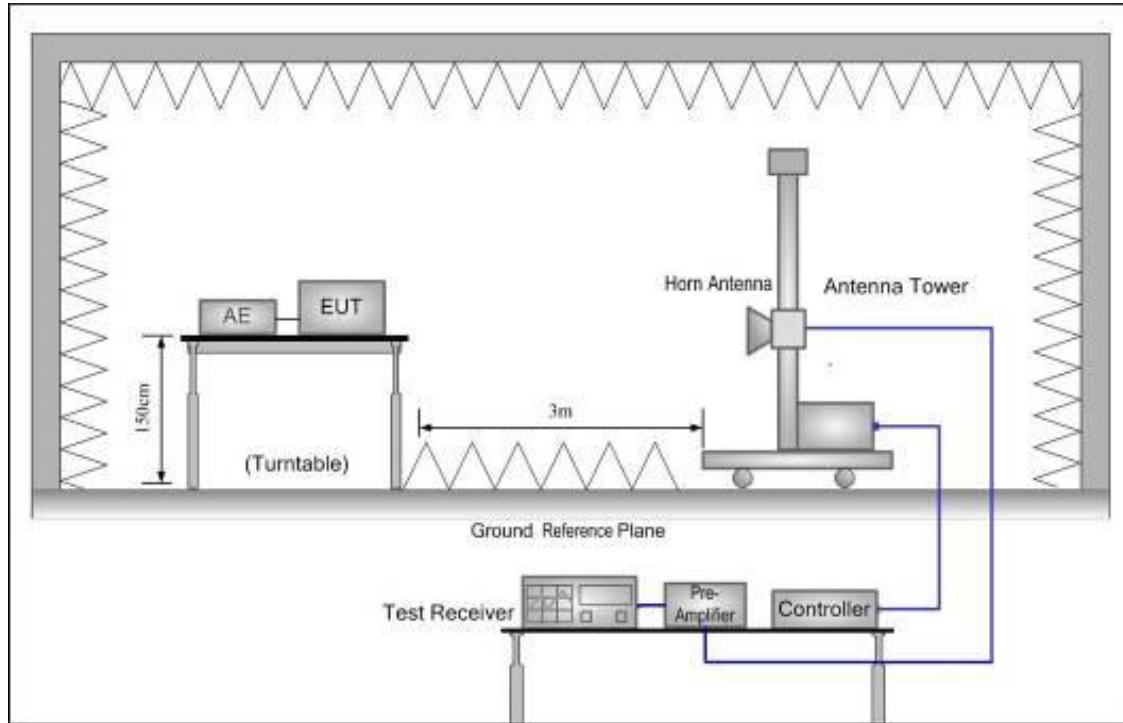


Date: 1.MAR.2023 17:13:24



9. BAND EDGE COMPLIANCE

9.1. Block Diagram of Test Setup



9.2. Limit

All the lower and upper band-edges emissions appearing within restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

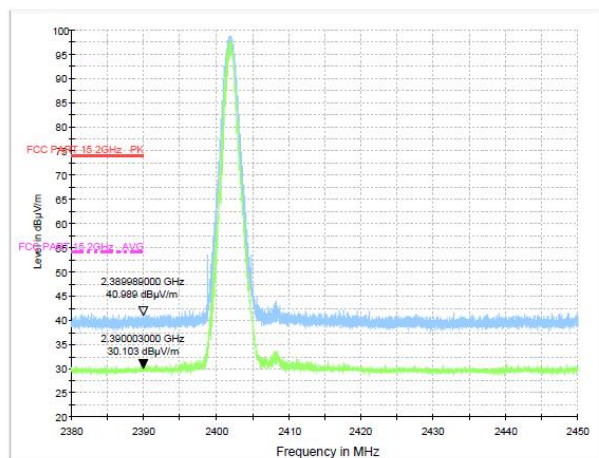
9.3. Test Procedure

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

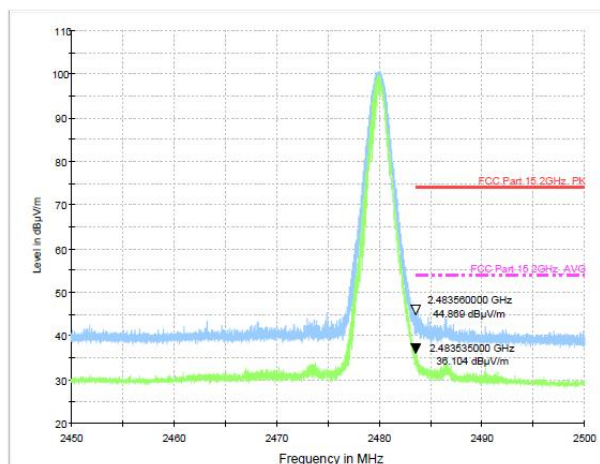
9.4. Test Result

PASS. (See below detailed test data)

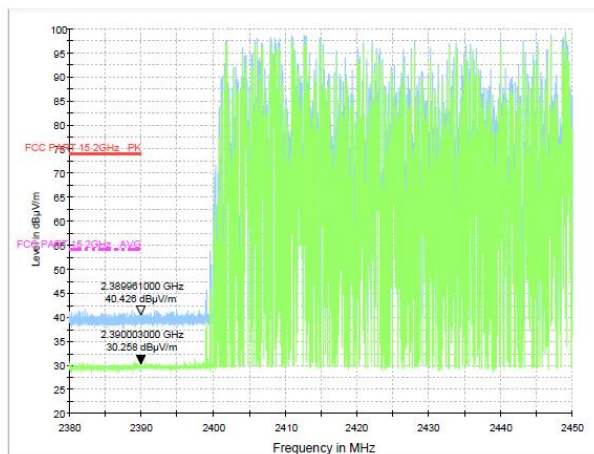
Test Mode: GFSK-Low Hopping-off



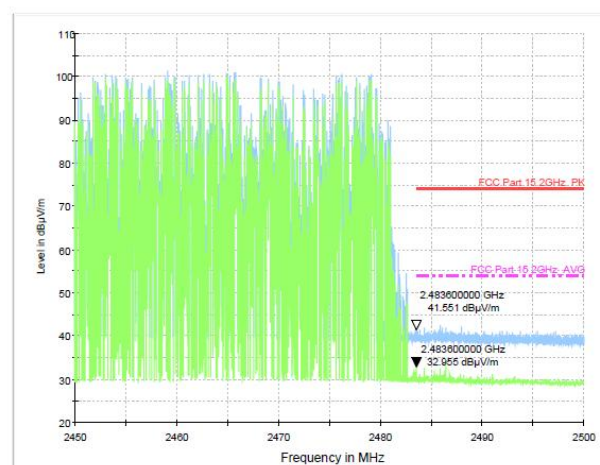
Test Mode: GFSK-High Hopping-off



Test Mode: GFSK-Low Hopping-on

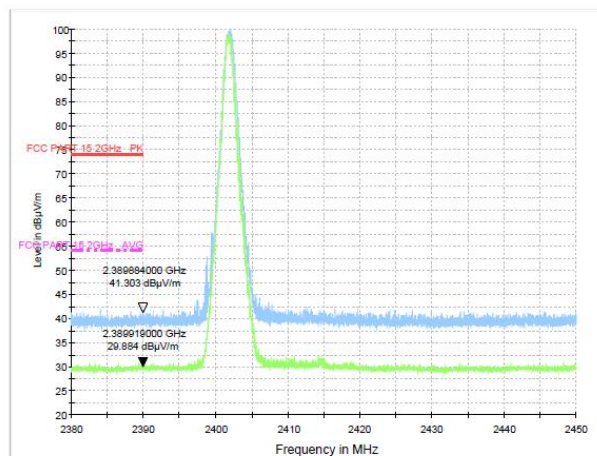
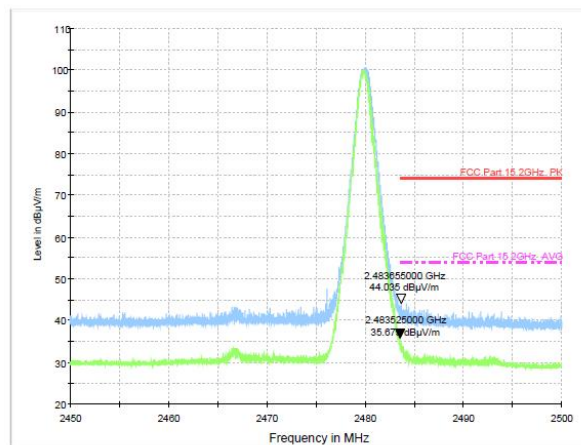
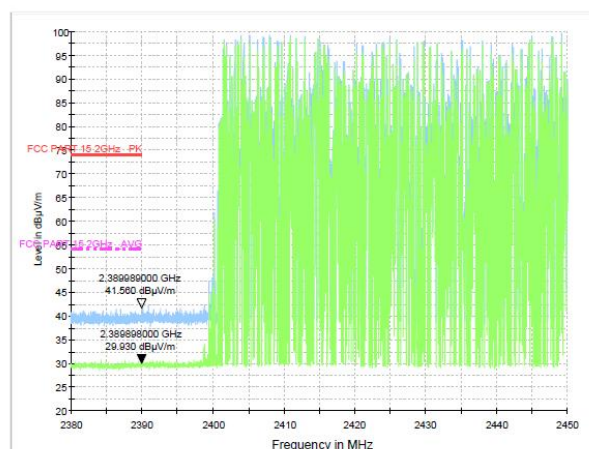
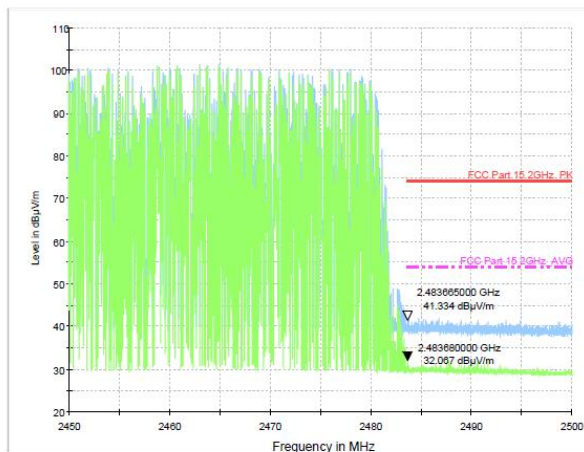


Test Mode: GFSK-High Hopping-on



Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Test Mode: $\pi/4$ DQPSK-Low Hopping-offTest Mode: $\pi/4$ DQPSK-High Hopping-offTest Mode: $\pi/4$ DQPSK-Low Hopping-onTest Mode: $\pi/4$ DQPSK-High Hopping-on

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.