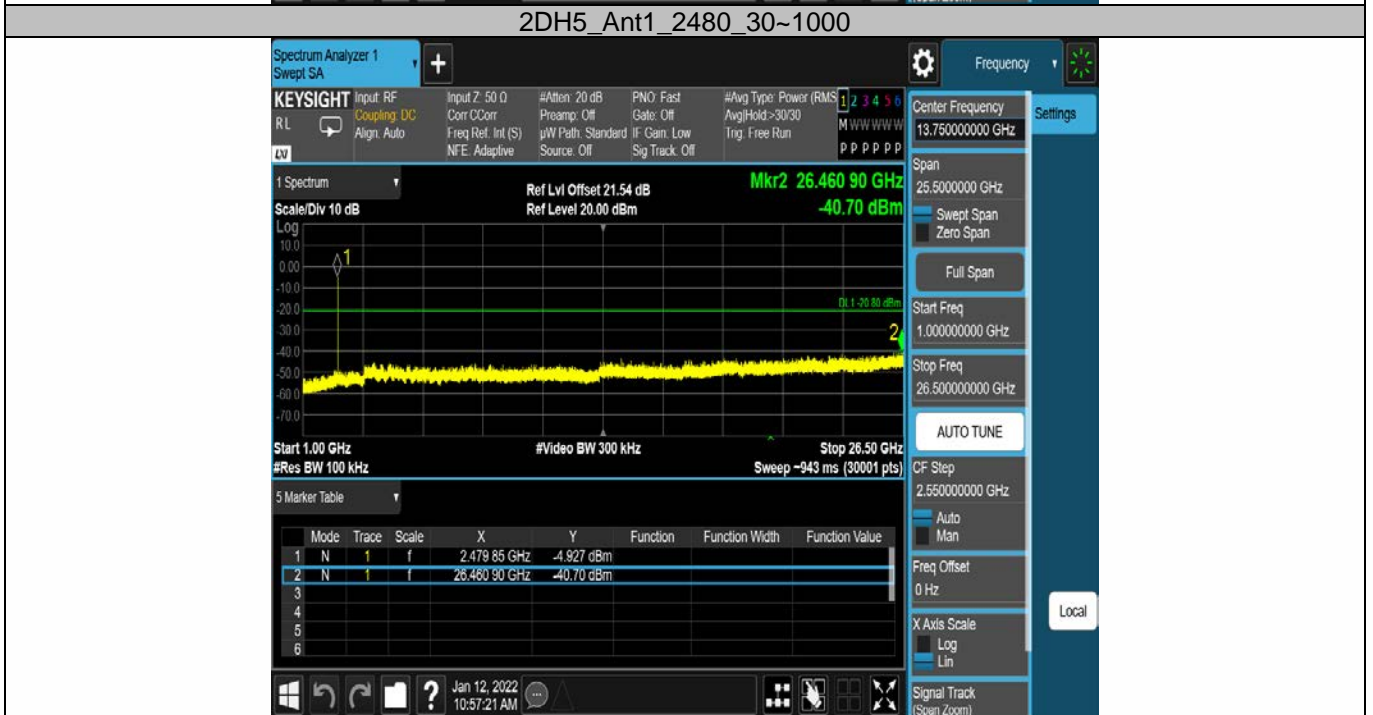




2DH5\_Ant1\_2441\_1000~26500



2DH5\_Ant1\_2480\_0~Reference



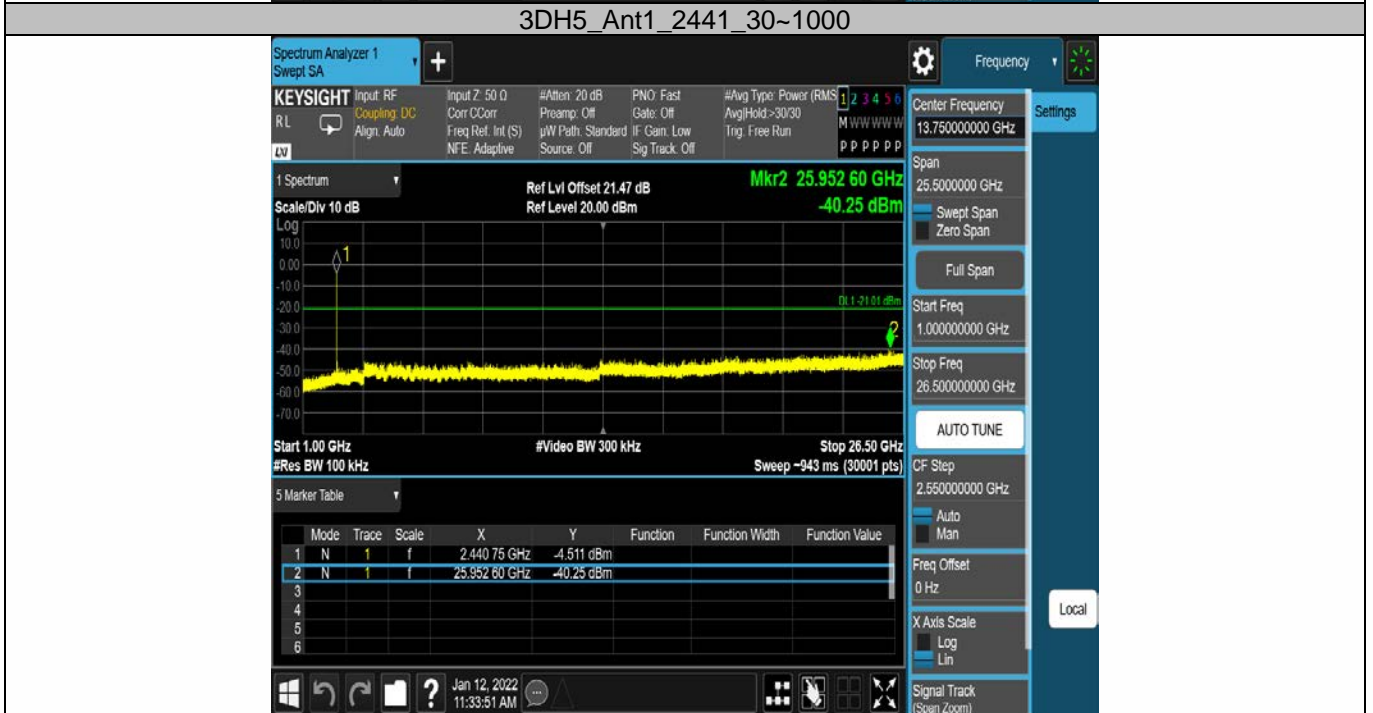
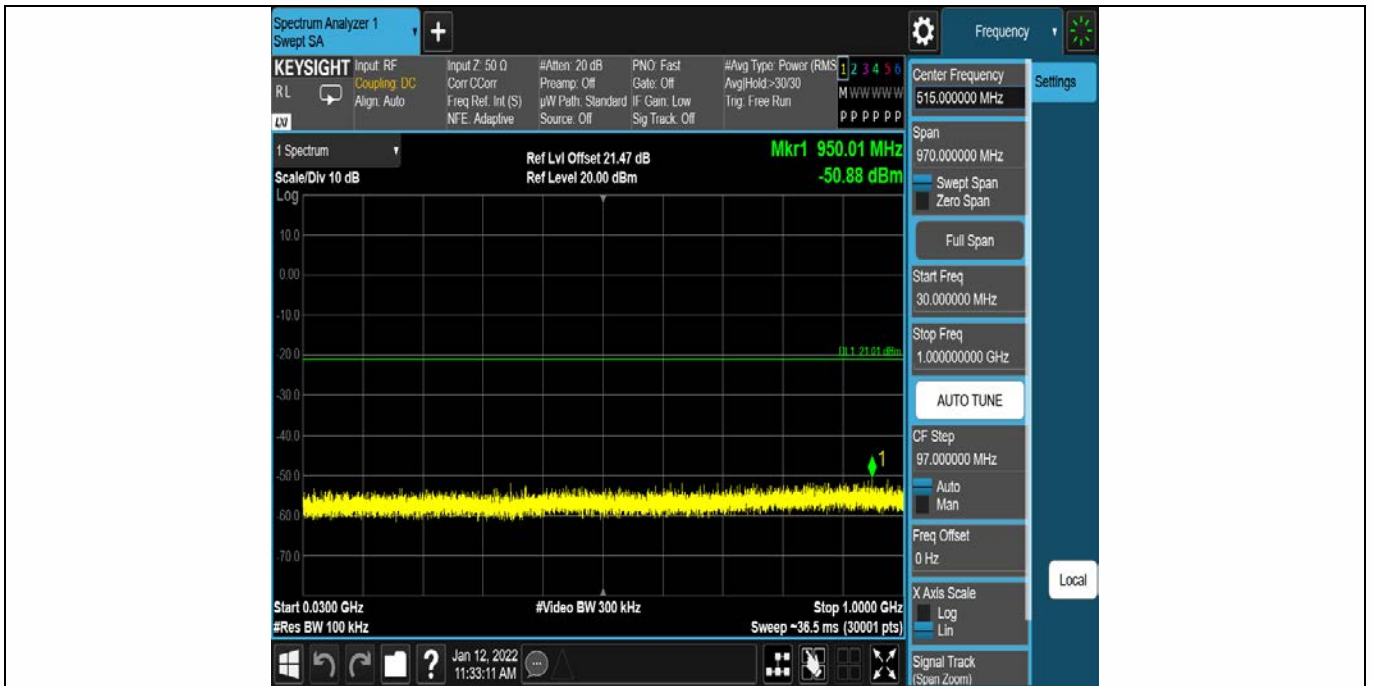


3DH5\_Ant1\_2402\_0~Reference



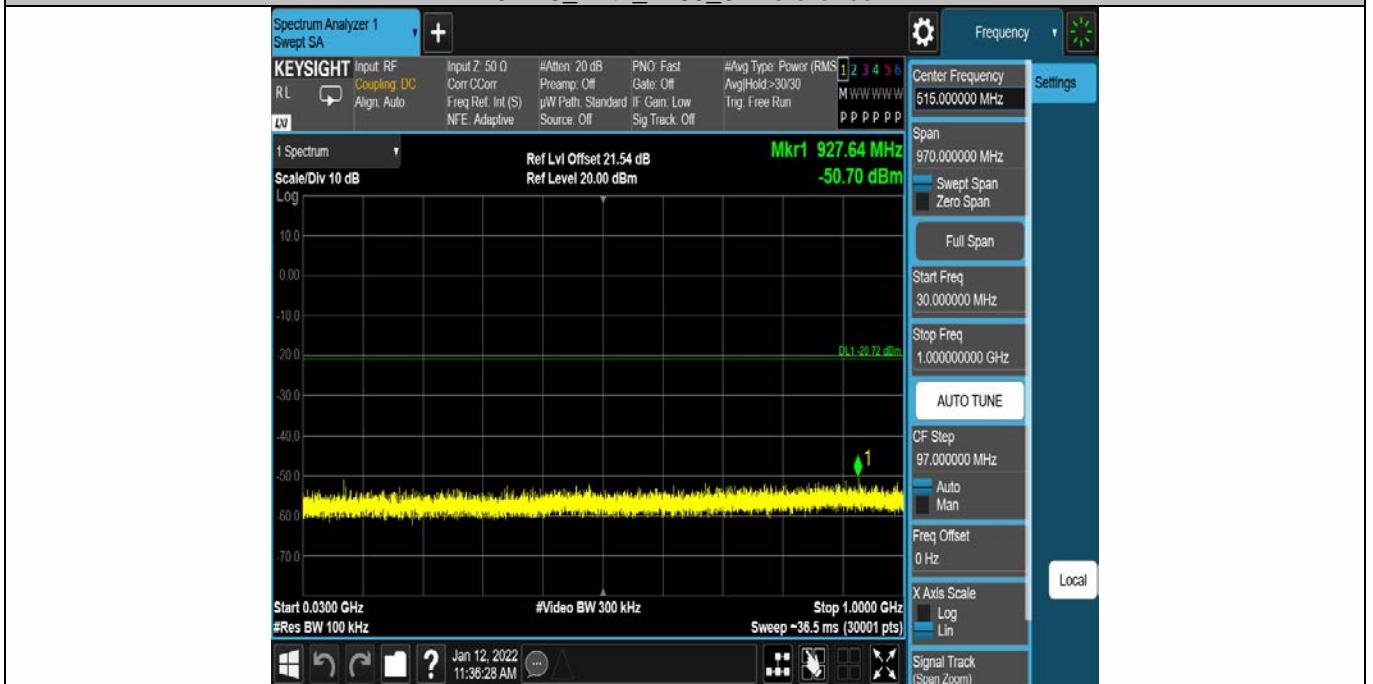
3DH5\_Ant1\_2402\_30~1000



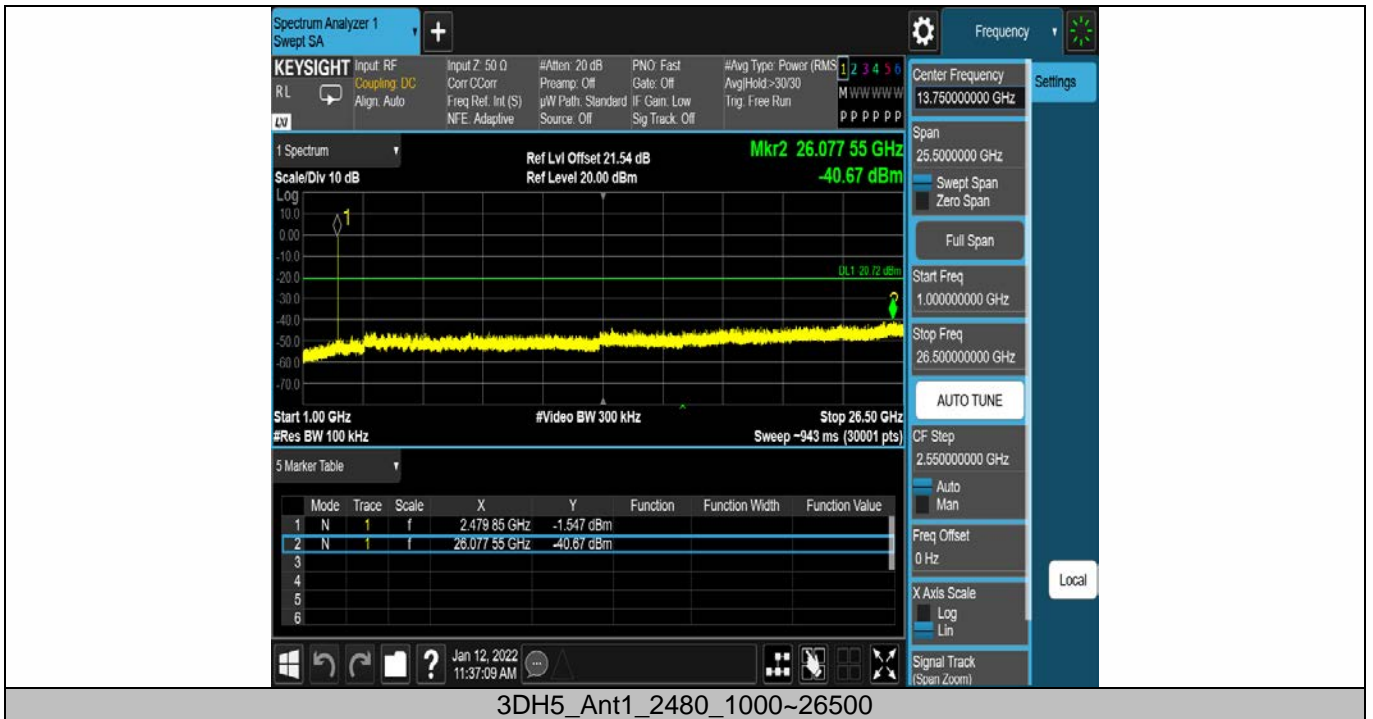




3DH5\_Ant1\_2480\_0~Reference



3DH5\_Ant1\_2480\_30~1000



**Emissions in Restricted Bands  
Test Result**

Test Mode	Antenna	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	2402	Peak	2310.000	-28.74	≤-21.20	66.46	≤74	PASS
			Peak	2346.725	-26.18	≤-21.20	69.02	≤74	PASS
			Peak	2390.000	-27.51	≤-21.20	67.69	≤74	PASS
		2480	Peak	2483.500	-27.99	≤-21.20	67.21	≤74	PASS
			Peak	2499.920	-26.7	≤-21.20	68.50	≤74	PASS
			Peak	2500.000	-28.85	≤-21.20	66.35	≤74	PASS
		Hop_2402	Peak	2310.000	-27.65	≤-21.20	67.55	≤74	PASS
			Peak	2383.370	-25.8	≤-21.20	69.40	≤74	PASS
			Peak	2390.000	-28.62	≤-21.20	66.58	≤74	PASS
		Hop_2480	Peak	2483.500	-29.31	≤-21.20	65.89	≤74	PASS
			Peak	2484.720	-26.33	≤-21.20	68.87	≤74	PASS
			Peak	2500.000	-28.54	≤-21.20	66.66	≤74	PASS
2DH5	Ant1	2402	Peak	2310.000	-28.71	≤-21.20	66.49	≤74	PASS
			Peak	2374.445	-25.94	≤-21.20	69.26	≤74	PASS
			Peak	2390.000	-28.45	≤-21.20	66.75	≤74	PASS
		2480	Peak	2483.500	-27.56	≤-21.20	67.64	≤74	PASS
			Peak	2485.200	-26.62	≤-21.20	68.58	≤74	PASS
			Peak	2500.000	-28.46	≤-21.20	66.74	≤74	PASS
		Hop_2402	Peak	2310.000	-28.69	≤-21.20	66.51	≤74	PASS
			Peak	2357.960	-26.03	≤-21.20	69.17	≤74	PASS
			Peak	2390.000	-29.34	≤-21.20	65.86	≤74	PASS
		Hop_2480	Peak	2483.500	-28.61	≤-21.20	66.59	≤74	PASS
			Peak	2492.640	-26.87	≤-21.20	68.33	≤74	PASS
			Peak	2500.000	-28.56	≤-21.20	66.64	≤74	PASS
3DH5	Ant1	2402	Peak	2310.000	-28.66	≤-21.20	66.54	≤74	PASS
			Peak	2369.930	-26.29	≤-21.20	68.91	≤74	PASS
			Peak	2390.000	-27.87	≤-21.20	67.33	≤74	PASS
		2480	Peak	2483.500	-28.17	≤-21.20	67.03	≤74	PASS
			Peak	2485.520	-26.54	≤-21.20	68.66	≤74	PASS
			Peak	2500.000	-28.23	≤-21.20	66.97	≤74	PASS
		Hop_2402	Peak	2310.000	-29.39	≤-21.20	65.81	≤74	PASS
			Peak	2386.940	-26.09	≤-21.20	69.11	≤74	PASS
			Peak	2390.000	-28.15	≤-21.20	67.05	≤74	PASS
		Hop_2480	Peak	2483.500	-28.83	≤-21.20	66.37	≤74	PASS
			Peak	2498.000	-26.08	≤-21.20	69.12	≤74	PASS
			Peak	2500.000	-27.24	≤-21.20	67.96	≤74	PASS

**Note:**

- The Antenna Gain is compensated in the graph.
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



## Test Graphs



DH5\_Ant1\_Low\_2402\_Peak



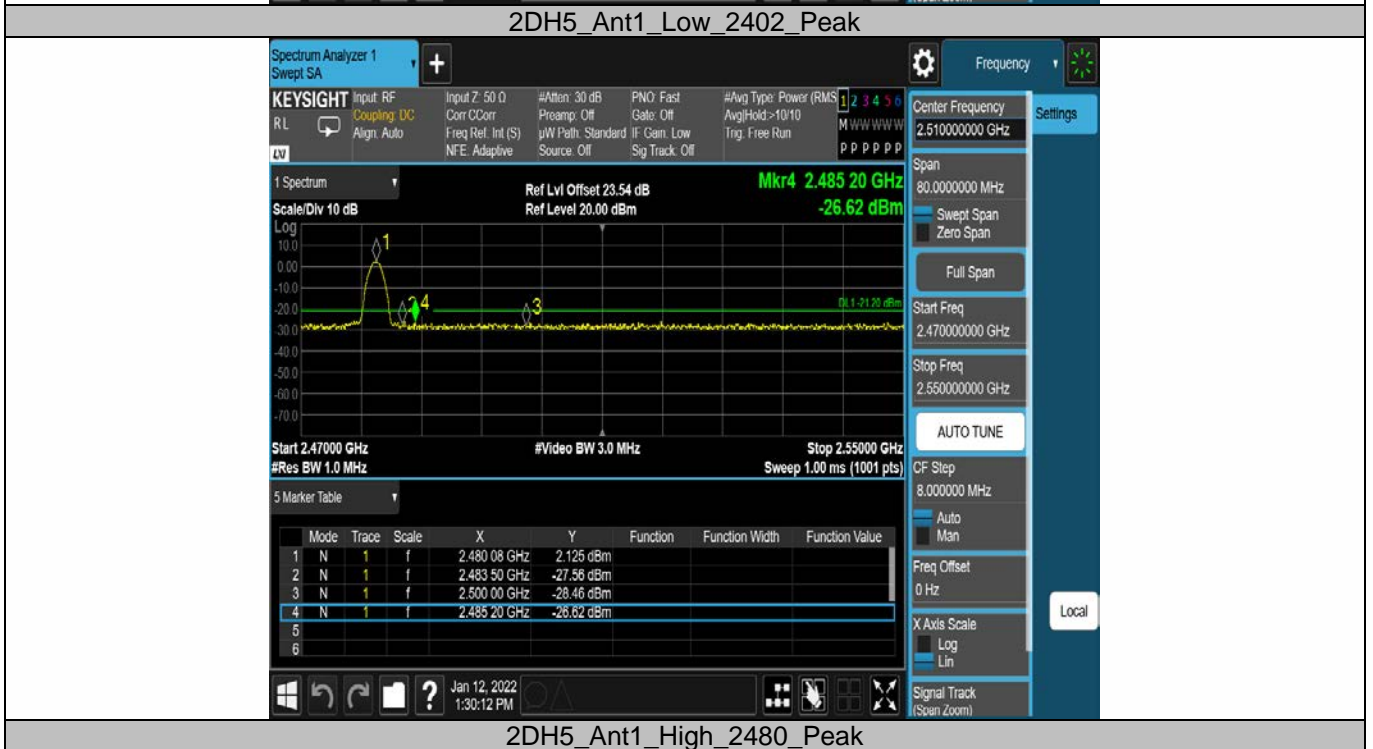
DH5\_Ant1\_High\_2480\_Peak



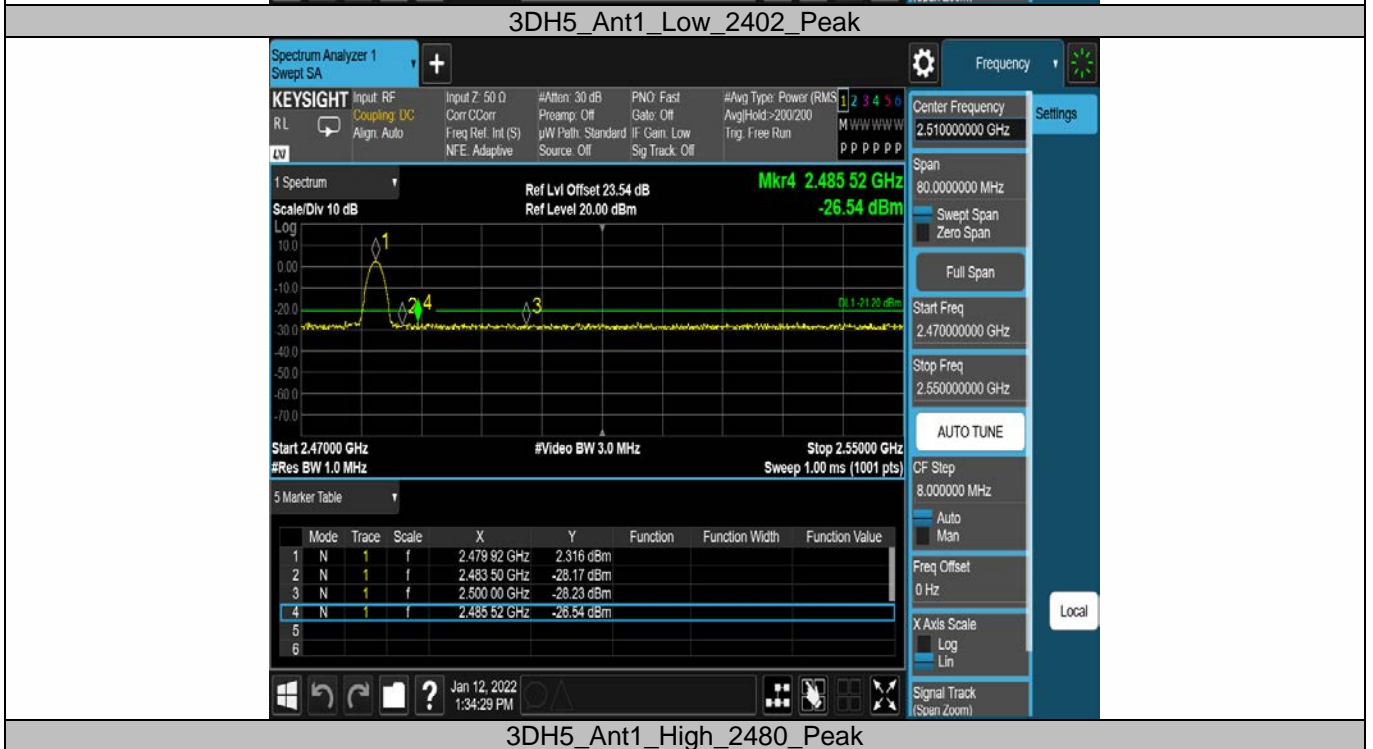
DH5\_Ant1\_Low\_Hop\_2402\_Peak

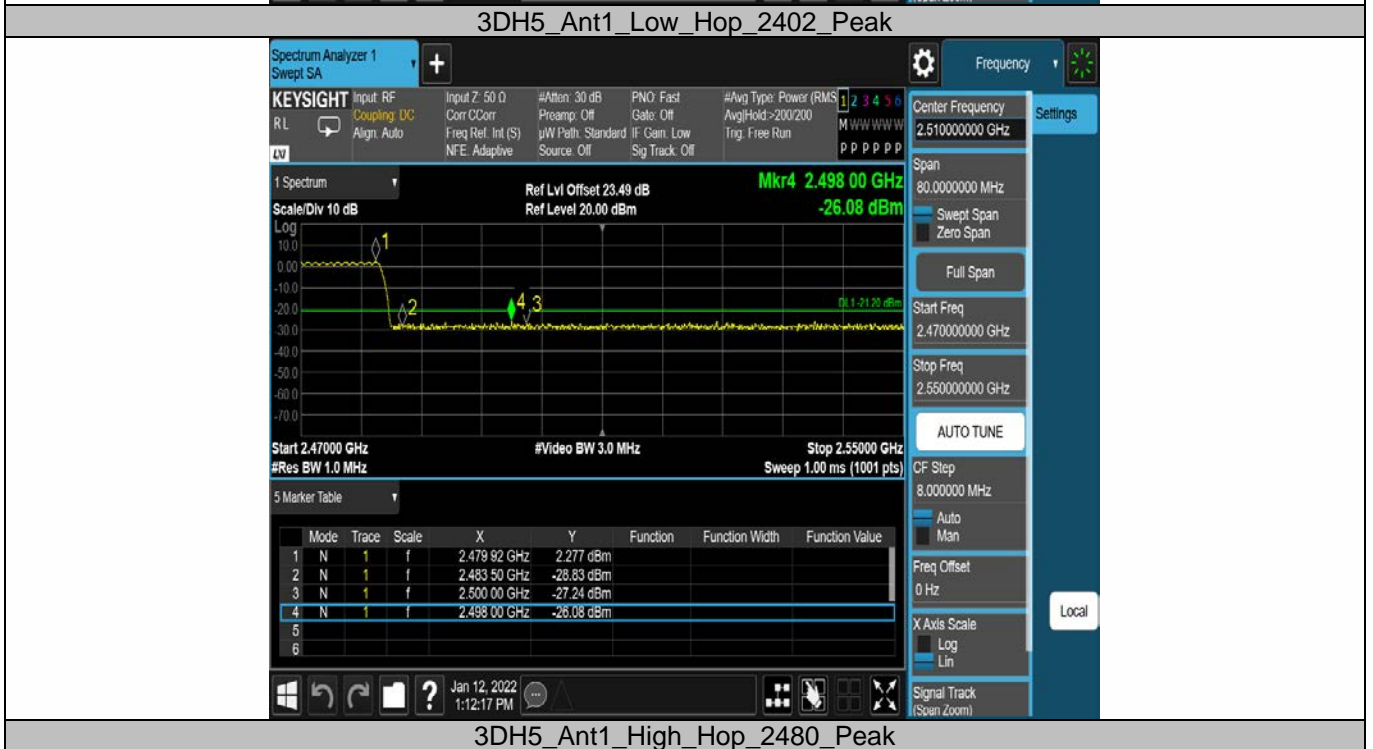


DH5\_Ant1\_High\_Hop\_2480\_Peak









## 9.7 RADIATED SPURIOUS EMISSION

### 9.7.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02

### 9.7.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

According to FCC Part 15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	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	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)
13.36-13.41			

According to FCC Part 15.205, the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

Restricted Frequency(MHz)	Field Strength ( $\mu\text{V}/\text{m}$ )	Field Strength ( $\text{dB}\mu\text{V}/\text{m}$ )	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log ( $\mu\text{V}/\text{m}$ )	300
0.490-1.705	24000/F(KHz)	20 log ( $\mu\text{V}/\text{m}$ )	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

### 9.7.3 Test Configuration

Test according to clause 7.2 radio frequency test setup 2

### 9.7.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

For Above 1GHz:

The EUT was placed on a turn table which is 1.5m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz

VBW  $\geq$  RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 1GHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 100 kHz for

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 30MHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 9kHz

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 150KHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 200Hz

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.

Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from  $20\log(\text{dwell time}/100 \text{ ms})$ , in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Repeat above procedures until all frequency measured was complete.

### 9.7.5 Test Results

#### ■ Spurious Emission below 30MHz (9KHz to 30MHz)

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
--	--	--	--	--	--	--	--

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

Distance extrapolation factor =  $40\log(\text{Specific distance}/ \text{test distance})$  (dB);

Limit line = Specific limits(dBuV) + distance extrapolation factor



■ Spurious Emission Above 1GHz (1GHz to 25GHz)

Bluetooth (GFSK, pi/4-DQPSK, 8DPSK) mode have been tested, and the worst result(GFSK) was report as below:

Test mode: GFSK Frequency: Channel 0: 2402MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
6635.745	V	47.09	30.14	74.00	54.00	-26.91	-23.86
11652.43	V	55.06	38.52	74.00	54.00	-18.96	-15.48
17994.79	V	62.53	44.21	74.00	54.00	-11.47	-9.79
5411.656	H	44.41	26.15	74.00	54.00	-29.59	-27.85
11056.90	H	54.08	36.14	74.00	54.00	-19.92	-17.86
17968.81	H	63.15	45.24	74.00	54.00	-10.85	-8.76

Test mode: GFSK Frequency: Channel 39: 2441MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
6754.755	V	47.60	30.25	74.00	54.00	-26.40	-23.75
11425.65	V	54.97	36.85	74.00	54.00	-19.03	-17.15
17929.90	V	62.23	44.21	74.00	54.00	-11.77	-9.79
6451.352	H	46.99	29.78	74.00	54.00	-27.01	-24.22
10374.20	H	53.34	35.21	74.00	54.00	-20.66	-18.79
17981.80	H	62.84	44.63	74.00	54.00	-11.16	-9.37

Test mode: GFSK Frequency: Channel 78: 2480MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
5673.537	V	43.51	25.63	74.00	54.00	-30.49	-28.37
10997.93	V	53.98	35.74	74.00	54.00	-20.02	-18.26
17922.12	V	61.33	43.21	74.00	54.00	-12.67	-10.79
6716.791	H	47.20	30.24	74.00	54.00	-26.80	-23.76
11743.72	H	54.77	36.71	74.00	54.00	-19.23	-17.29
17911.77	H	62.17	35.03	74.00	54.00	-11.83	-18.97

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
  - (2) Emission Level= Reading Level+Correct Factor.
  - (3) Correct Factor= Ant\_F + Cab\_L - Preamp
  - (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

Bluetooth (GFSK, pi/4-DQPSK, 8DPSK, Hopping) mode have been tested, and the worst result(GFSK, Hopping) was report as below:

Test mode: GFSK Frequency: Channel 0: 2402MHz

Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2388.356	H	49.30	74	32.89	54
2384.064	V	49.31	74	33.02	54

Test mode: GFSK Frequency: Channel 78: 2480MHz

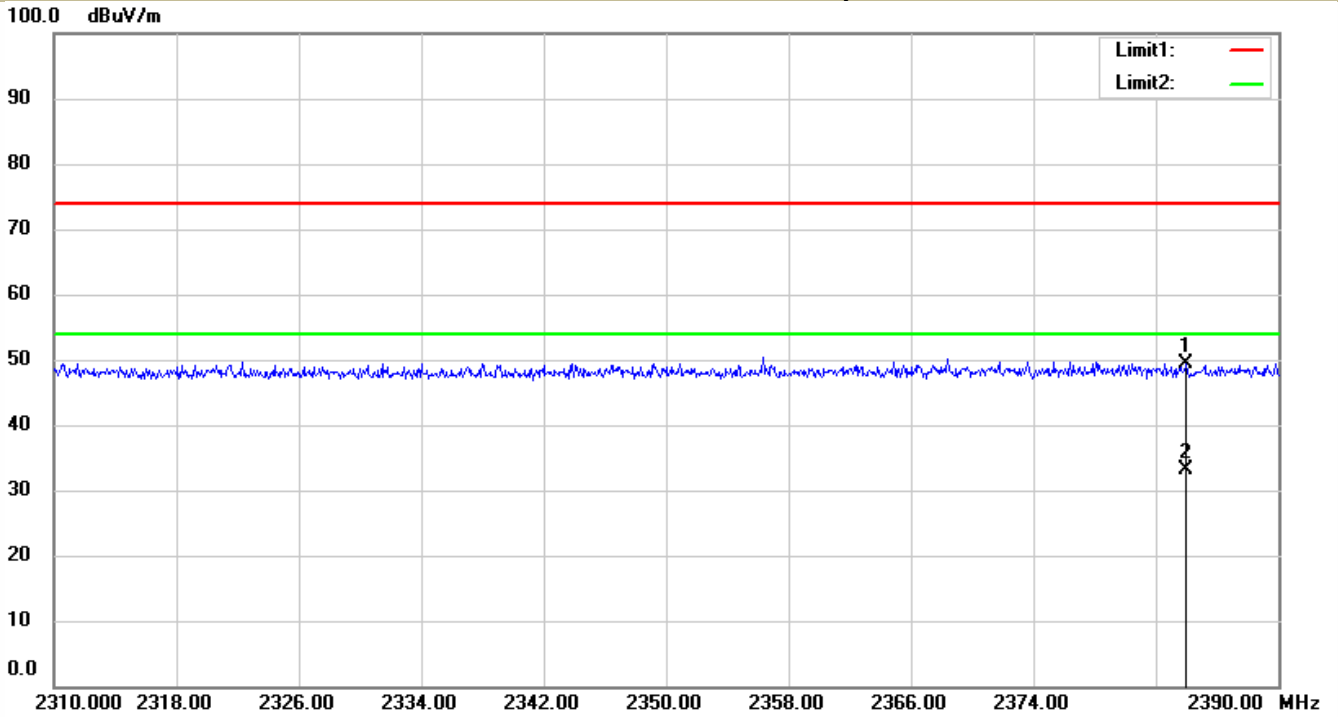
Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2483.751	H	49.58	74	32.33	54
2484.981	V	49.70	74	32.14	54

Test mode: GFSK Frequency: Hopping

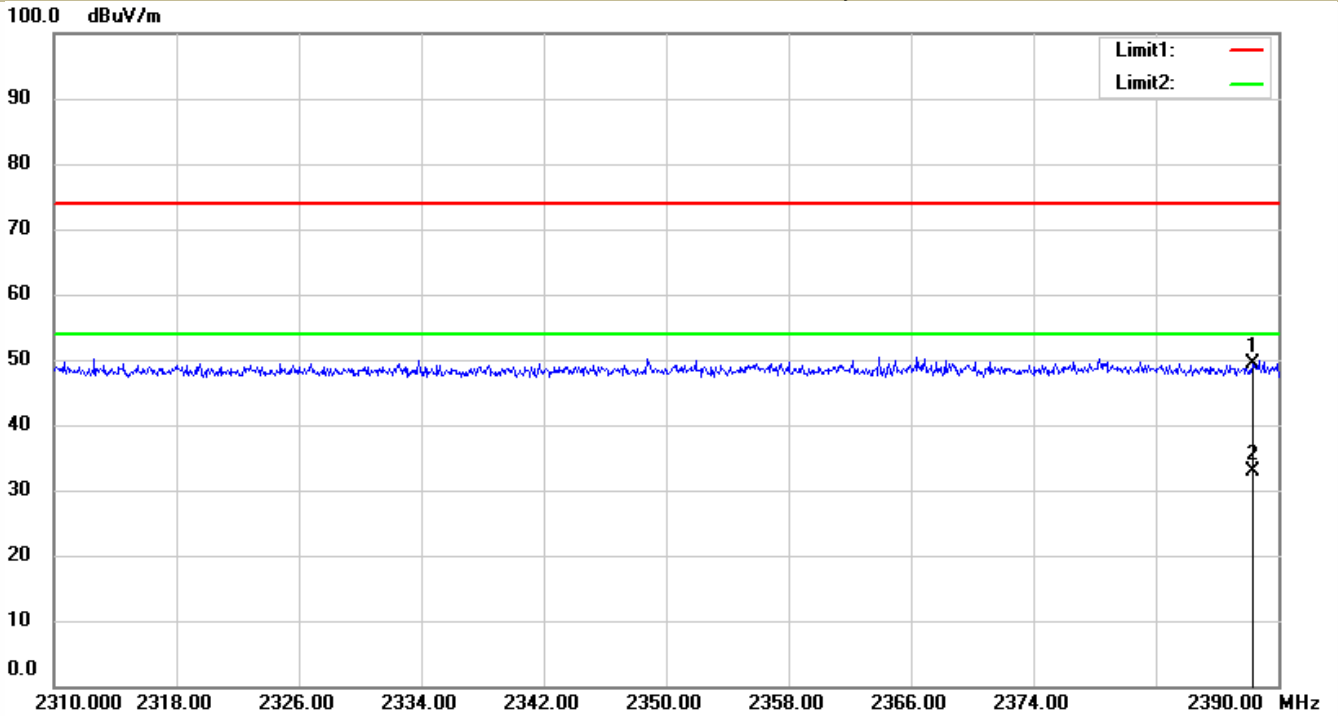
Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2400.000	H	47.87	74	30.23	54
2483.500	H	48.52	74	30.84	54
2400.000	V	47.56	74	30.23	54
2483.500	V	47.97	74	30.58	54

- Note:** (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).  
 (2) Emission Level= Reading Level+Correct Factor.  
 (3) Correct Factor= Ant\_F + Cab\_L - Preamp  
 (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

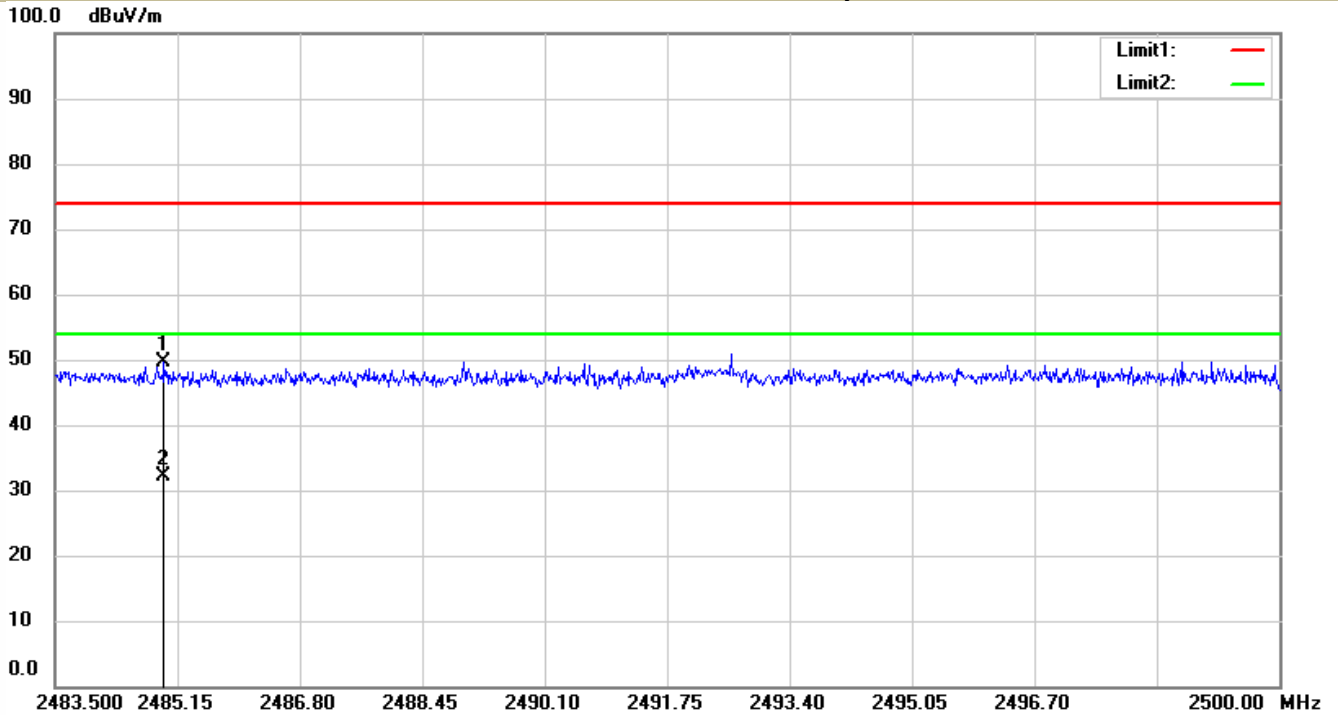
Test Model: Spurious Emission in Restricted Band 2310-2390MHz  
 Bluetooth V5.0  
 Channel 0: 2402MHz  
 GFSK  
 Test By: TOM  
 V



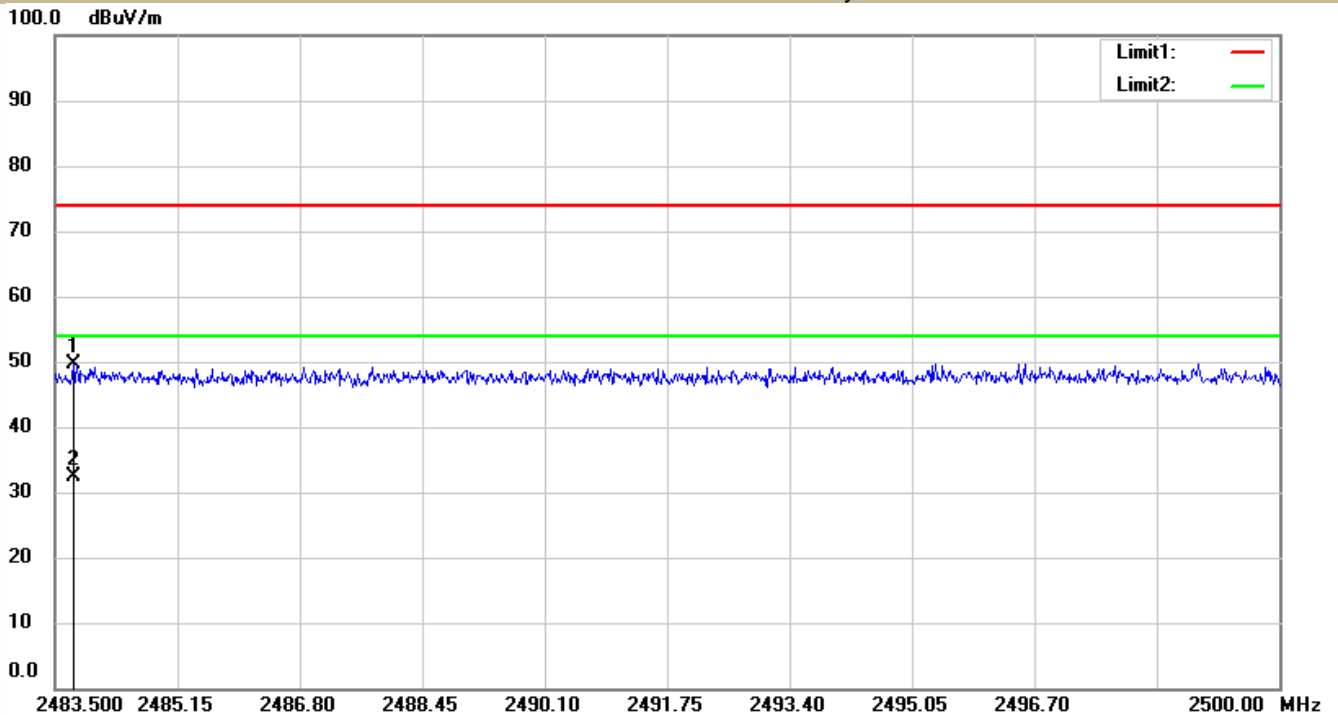
Test Model: Spurious Emission in Restricted Band 2310-2390MHz  
 Bluetooth V5.0  
 Channel 0: 2402MHz  
 GFSK  
 Test By: TOM  
 H



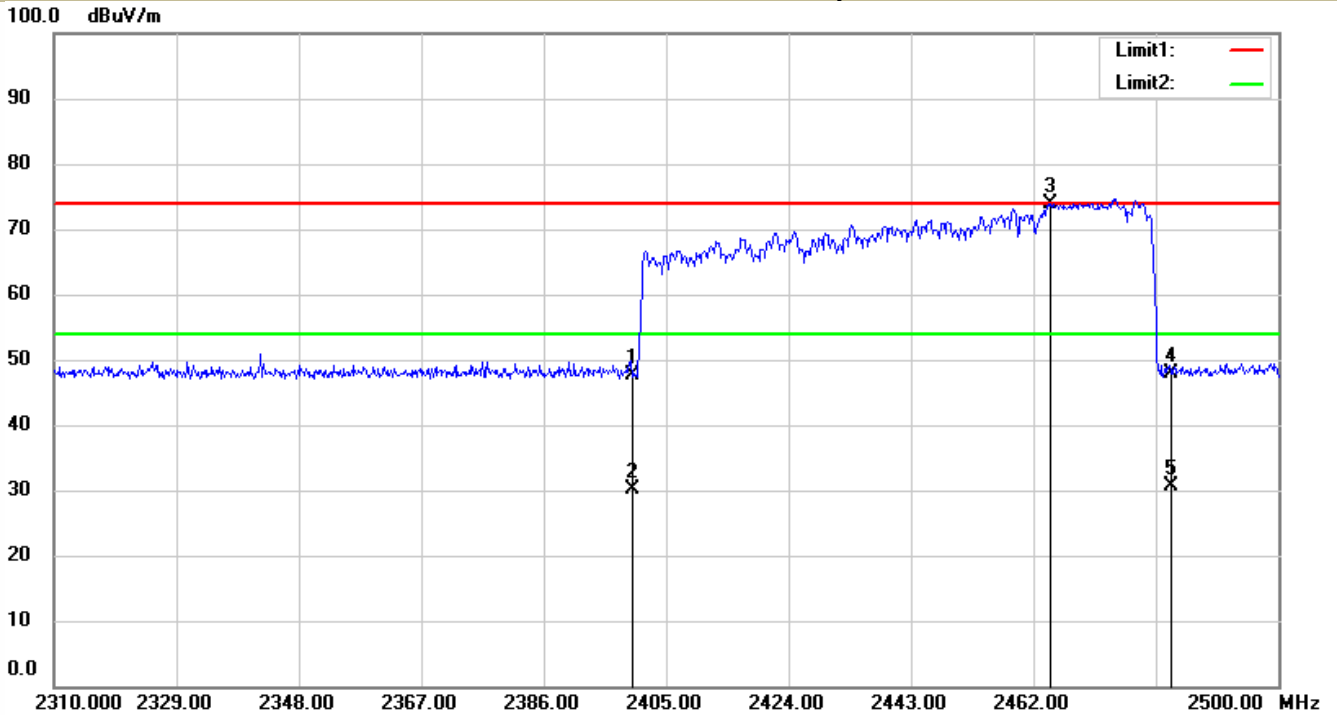
Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz	GFSK	V
	Bluetooth V5.0	Test By: TOM	
	Channel 78: 2480MHz		



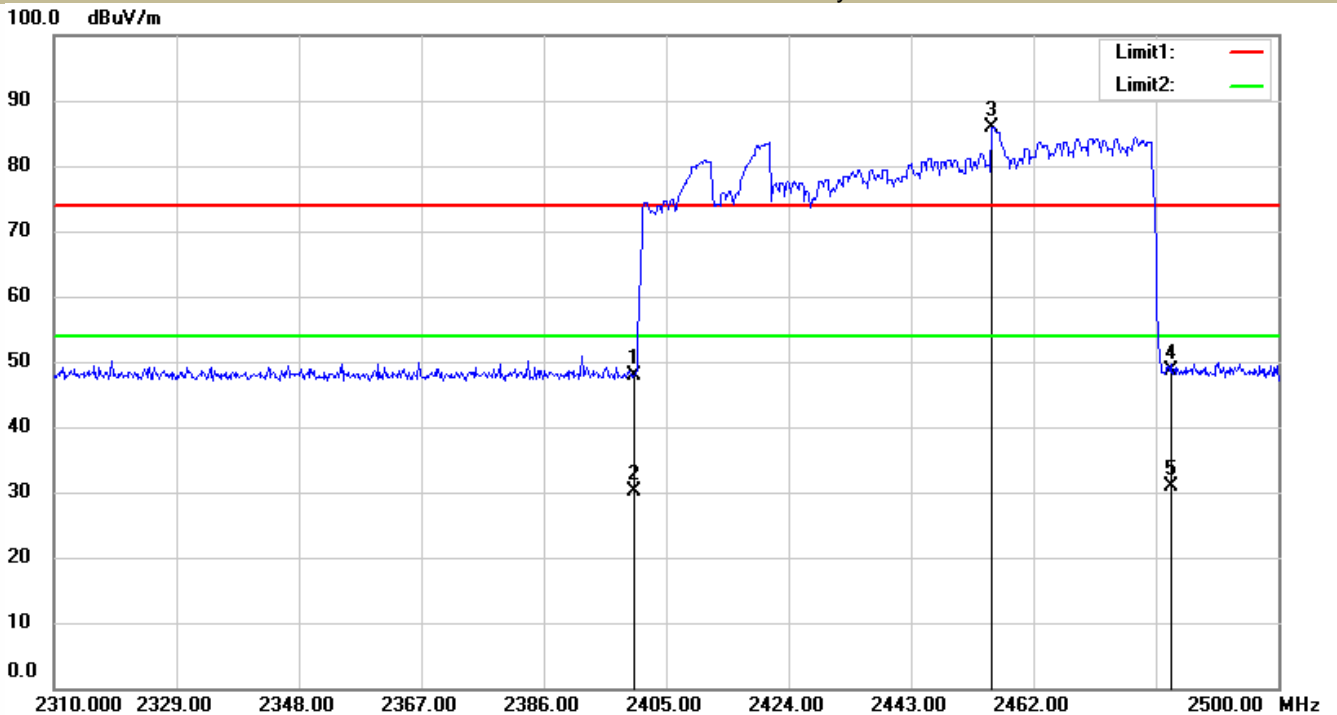
Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz	GFSK	H
	Bluetooth V5.0	Test By: TOM	
	Channel 78: 2480MHz		



Test Model: Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz  
 Bluetooth V5.0  
 Hopping  
 GFSK  
 Test By: TOM  
 V

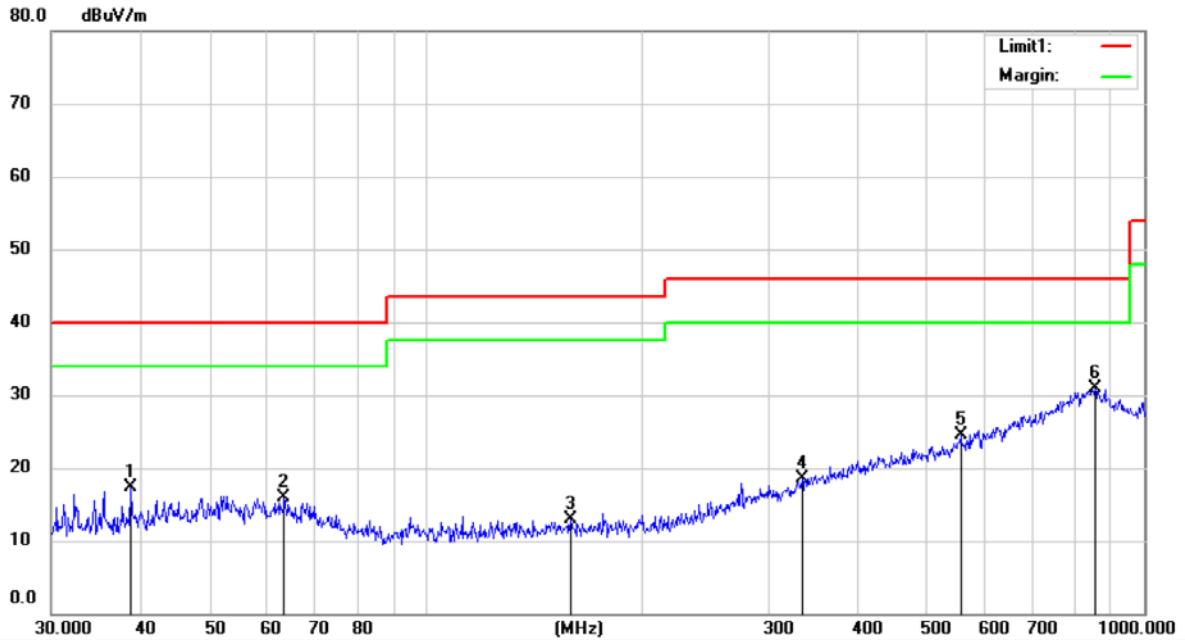


Test Model: Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz  
 Bluetooth V5.0  
 Hopping  
 GFSK  
 Test By: TOM  
 H



■ Spurious Emission below 1GHz (30MHz to 1GHz)

Bluetooth (GFSK, pi/4-DQPSK, 8DPSK) mode have been tested, and the worst result(GFSK) was report as below:



Site 3m Chamber #1

Polarization: *Horizontal*

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

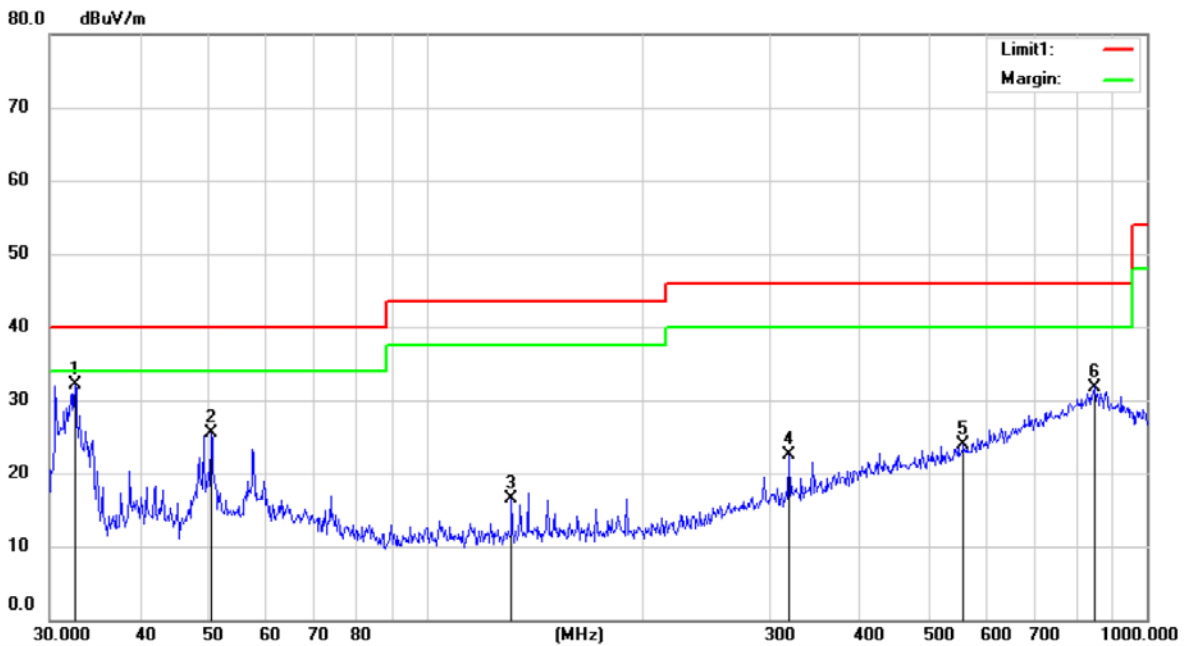
Power: DC 3.7V

Humidity: 43 %

Mode:BT 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		38.7518	30.36	-13.15	17.21	40.00	-22.79	QP		
2		63.4800	27.96	-12.08	15.88	40.00	-24.12	QP		
3		159.0160	26.72	-13.88	12.84	43.50	-30.66	QP		
4		333.9794	26.61	-8.08	18.53	46.00	-27.47	QP		
5		556.5304	28.46	-3.87	24.59	46.00	-21.41	QP		
6	*	856.6491	28.43	2.44	30.87	46.00	-15.13	QP		



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

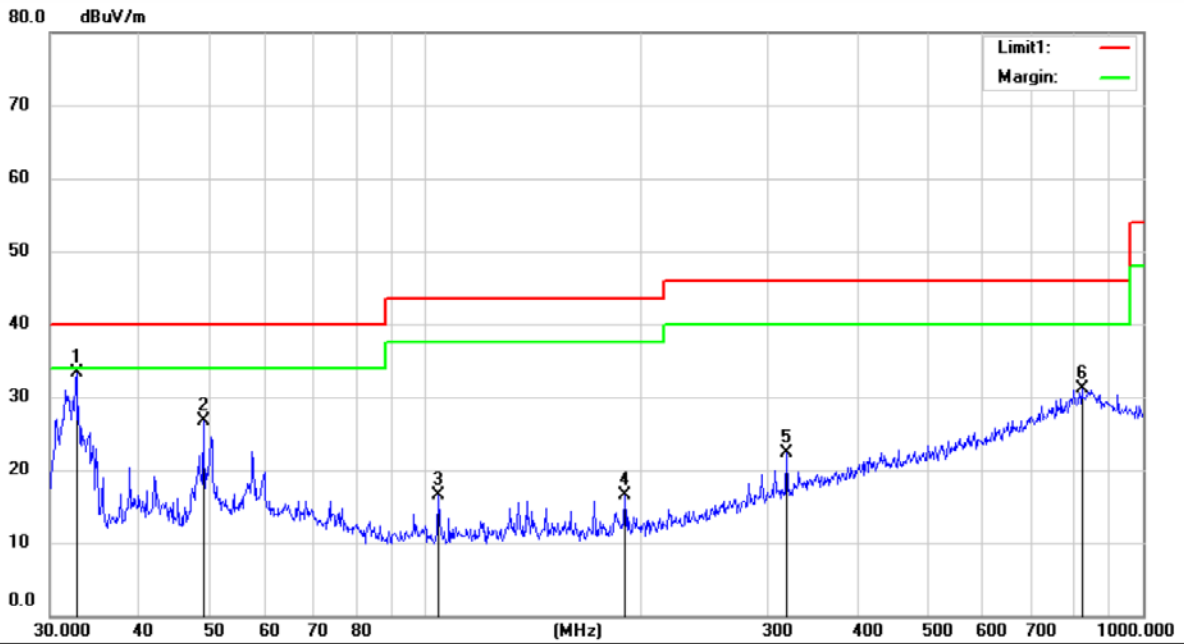
Power: DC 3.7V

Humidity: 43 %

Mode: BT 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	32.5911	46.42	-14.37	32.05	40.00	-7.95	QP		
2		50.3868	37.39	-11.96	25.43	40.00	-14.57	QP		
3		131.4117	30.76	-14.23	16.53	43.50	-26.97	QP		
4		319.5164	31.24	-8.76	22.48	46.00	-23.52	QP		
5		557.5070	27.82	-3.85	23.97	46.00	-22.03	QP		
6		849.9170	28.88	2.92	31.80	46.00	-14.20	QP		



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

Power: DC 3.7V

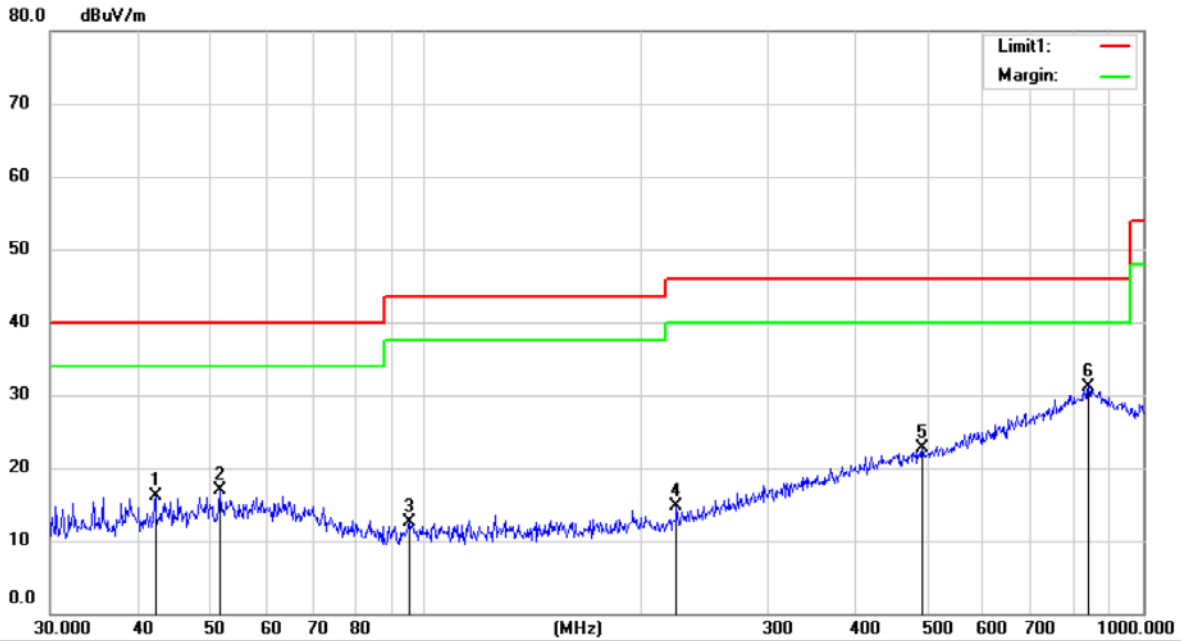
Humidity: 43 %

Mode: BT 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	32.6340	47.62	-14.36	33.26	40.00	-6.74	QP		
2		49.1435	38.86	-12.22	26.64	40.00	-13.36	QP		
3		104.4445	30.94	-14.36	16.58	43.50	-26.92	QP		
4		189.9050	30.43	-13.90	16.53	43.50	-26.97	QP		
5		319.5164	31.12	-8.76	22.36	46.00	-23.64	QP		
6		823.5132	28.87	2.15	31.02	46.00	-14.98	QP		





Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

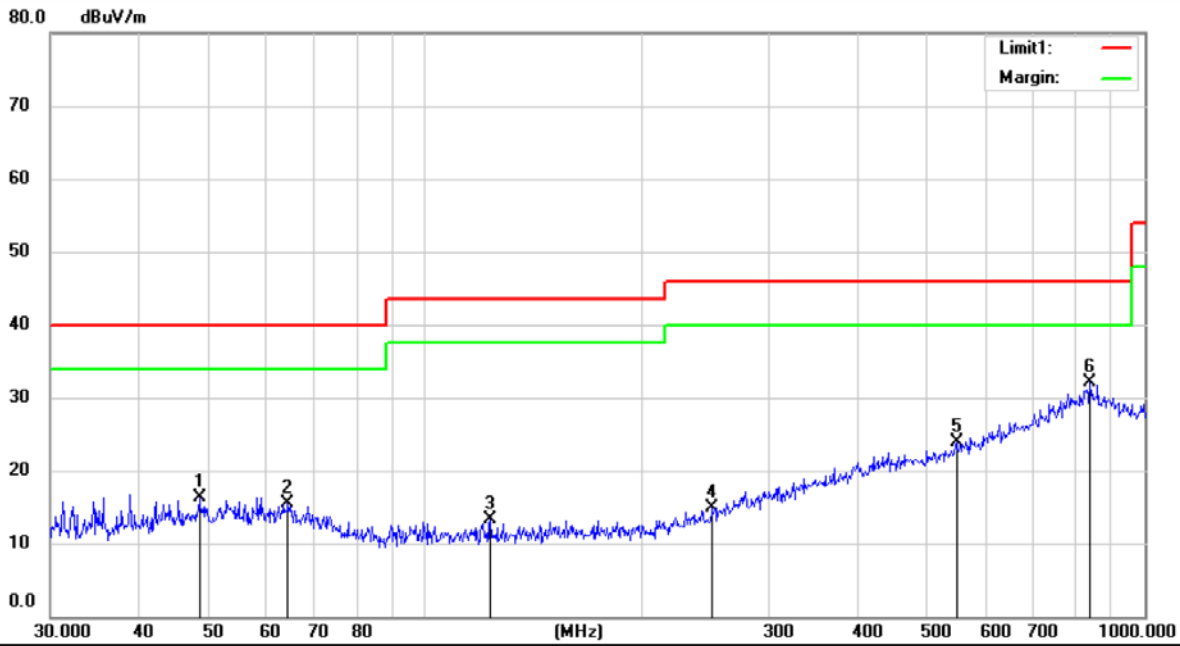
Power: DC 3.7V

Humidity: 43 %

Mode:BT 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		42.0066	29.00	-12.87	16.13	40.00	-23.87	QP		
2		51.7295	28.66	-11.80	16.86	40.00	-23.14	QP		
3		95.0096	27.13	-14.63	12.50	43.50	-31.00	QP		
4		224.0278	27.63	-12.86	14.77	46.00	-31.23	QP		
5		493.7654	28.04	-5.26	22.78	46.00	-23.22	QP		
6	*	839.5497	28.36	2.84	31.20	46.00	-14.80	QP		



Site 3m Chamber #1

Polarization: *Horizontal*

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

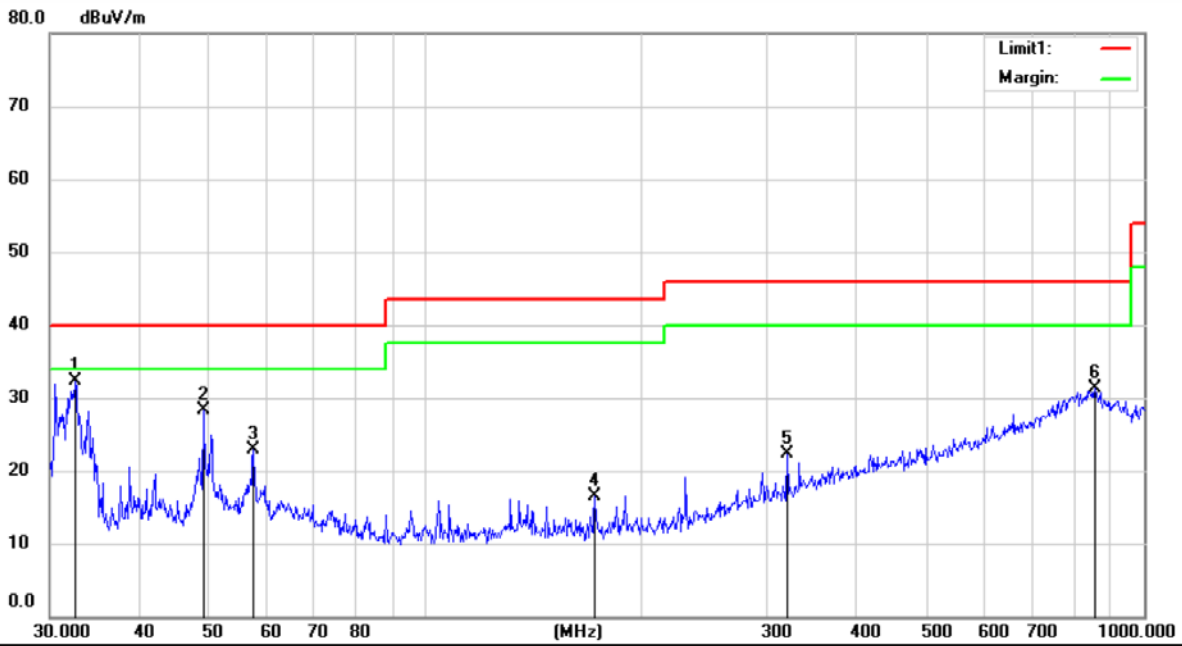
Power: DC 3.7V

Humidity: 43 %

Mode:BT 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		48.4591	28.77	-12.40	16.37	40.00	-23.63	QP		
2		64.4048	27.52	-12.10	15.42	40.00	-24.58	QP		
3		122.8878	27.65	-14.38	13.27	43.50	-30.23	QP		
4		250.5207	26.07	-11.22	14.85	46.00	-31.15	QP		
5		547.5775	28.07	-4.13	23.94	46.00	-22.06	QP		
6	*	841.3917	29.26	2.87	32.13	46.00	-13.87	QP		



Site 3m Chamber #1

Polarization: *Vertical*

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

Power: DC 3.7V

Humidity: 43 %

Mode: BT 2480

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Detector	Comment
1	*	32.5768	46.59	-14.37	32.22	40.00	-7.78			QP	
2		49.1435	40.49	-12.22	28.27	40.00	-11.73			QP	
3		57.6192	34.90	-12.08	22.82	40.00	-17.18			QP	
4		172.0700	30.37	-13.94	16.43	43.50	-27.07			QP	
5		319.5164	31.09	-8.76	22.33	46.00	-23.67			QP	
6		855.8985	28.76	2.49	31.25	46.00	-14.75			QP	

## 9.8 CONDUCTED EMISSION TEST

### 9.8.1 Applicable Standard

According to FCC Part 15.207(a)

### 9.8.2 Conformance Limit

Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies  
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### 9.8.3 Test Configuration

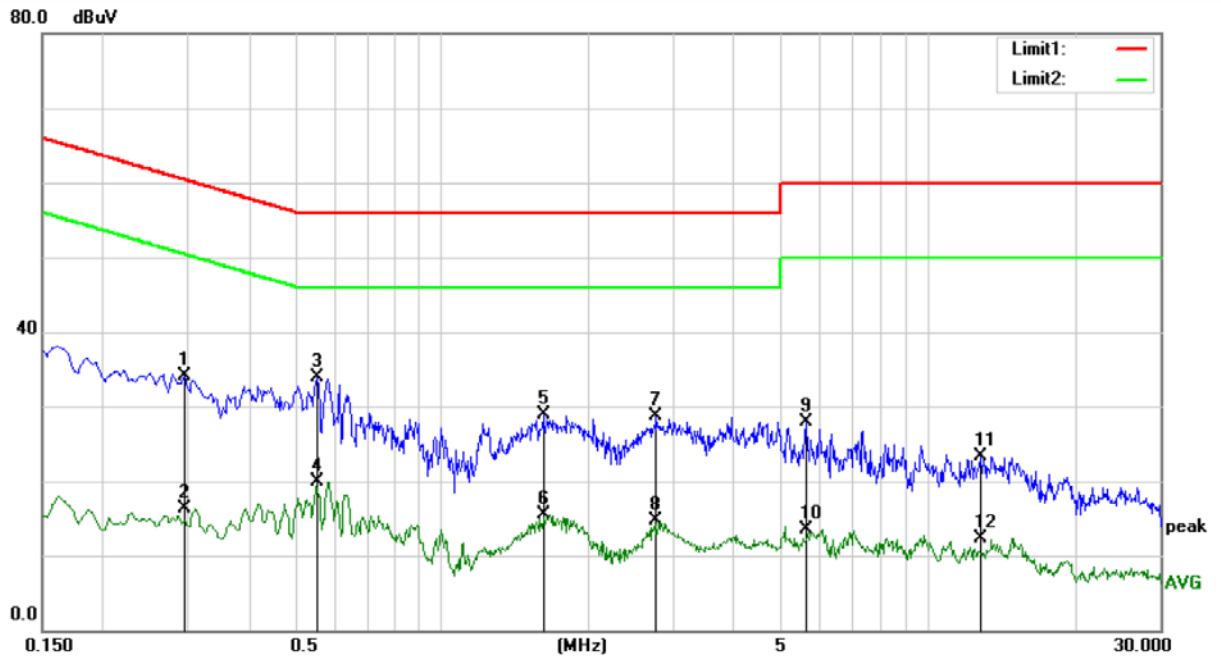
Test according to clause 7.3 conducted emission test setup

### 9.8.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.  
Maximum procedure was performed on the highest emissions to ensure EUT compliance.  
Repeat above procedures until all frequency measured were complete.

### 9.8.5 Test Results

**PASS**



Site Conduction #1

Phase: **N**

Temperature: 22.8

Limit: (CE)FCC PART 15 class B\_QP

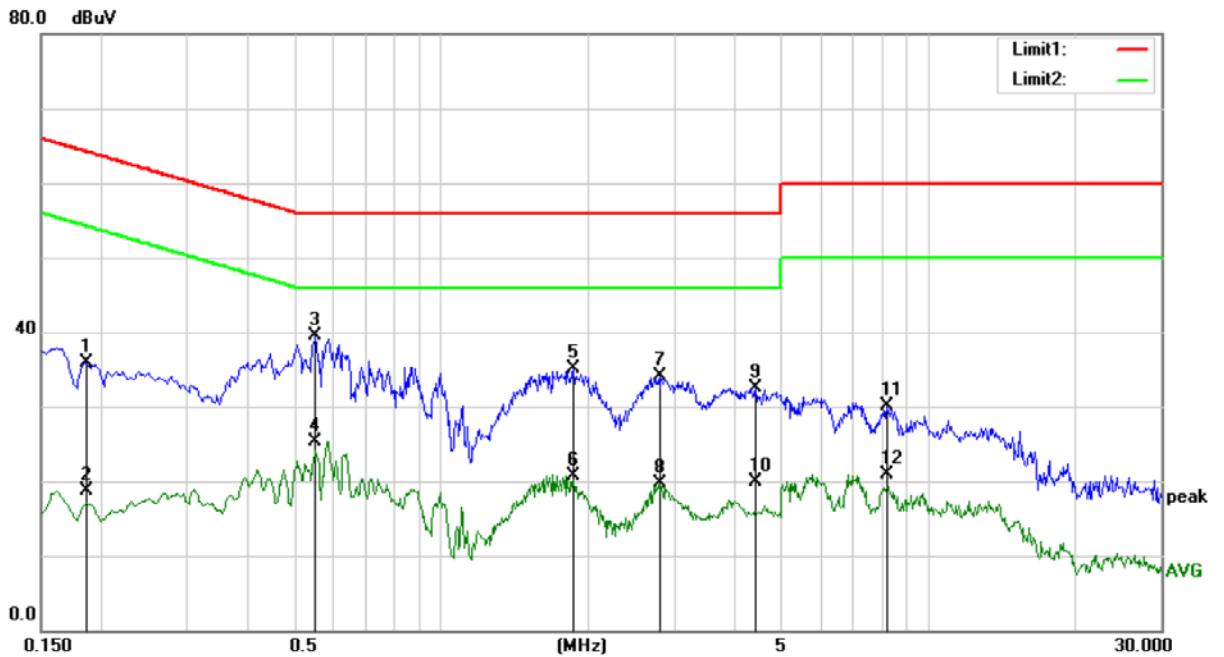
Power: DC 5V from a fapter

Humidity: 48 %

Mode: charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.2940	24.85	9.29	34.14	60.41	-26.27	QP	
2		0.2940	7.10	9.29	16.39	50.41	-34.02	AVG	
3	*	0.5540	24.67	9.28	33.95	56.00	-22.05	QP	
4		0.5540	10.57	9.28	19.85	46.00	-26.15	AVG	
5		1.6140	19.05	9.79	28.84	56.00	-27.16	QP	
6		1.6140	5.75	9.79	15.54	46.00	-30.46	AVG	
7		2.7540	18.90	9.82	28.72	56.00	-27.28	QP	
8		2.7540	4.79	9.82	14.61	46.00	-31.39	AVG	
9		5.6060	18.02	9.86	27.88	60.00	-32.12	QP	
10		5.6060	3.58	9.86	13.44	50.00	-36.56	AVG	
11		12.8060	13.31	10.08	23.39	60.00	-36.61	QP	
12		12.8060	2.24	10.08	12.32	50.00	-37.68	AVG	



Site Conduction #1 Phase: **L1** Temperature: 22.8  
 Limit: (CE)FCC PART 15 class B\_QP Power: DC 5V from afapter Humidity: 48 %  
 Mode: charging  
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1860	26.55	9.44	35.99	64.21	-28.22	QP	
2		0.1860	9.23	9.44	18.67	54.21	-35.54	AVG	
3	*	0.5500	30.29	9.28	39.57	56.00	-16.43	QP	
4		0.5500	15.97	9.28	25.25	46.00	-20.75	AVG	
5		1.8620	25.31	9.80	35.11	56.00	-20.89	QP	
6		1.8620	10.93	9.80	20.73	46.00	-25.27	AVG	
7		2.8100	24.19	9.82	34.01	56.00	-21.99	QP	
8		2.8100	9.83	9.82	19.65	46.00	-26.35	AVG	
9		4.4260	22.75	9.84	32.59	56.00	-23.41	QP	
10		4.4260	10.08	9.84	19.92	46.00	-26.08	AVG	
11		8.1940	20.08	9.98	30.06	60.00	-29.94	QP	
12		8.1940	10.92	9.98	20.90	50.00	-29.10	AVG	

## 9.9 ANTENNA APPLICATION

### 9.9.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 15.203	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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### 9.9.2 Result

PASS.

The EUT has 1 antenna: a PCB Antenna for BT with classic mode, the gain is -0.58 dBi;

- Note:
- Antenna use a permanently attached antenna which is not replaceable.
  - Not using a standard antenna jack or electrical connector for antenna replacement
  - The antenna has to be professionally installed (please provide method of installation)

which in accordance to section 15.203, please refer to the internal photos.

Detail of factor for radiated emission

Frequency(MHz)	Ant_F(dB)	Cab_L(dB)	Preamp(dB)	Correct Factor(dB)
0.009	20.6	0.03	\	20.63
0.15	20.7	0.1	\	20.8
1	20.9	0.15	\	21.05
10	20.1	0.28	\	20.38
30	18.8	0.45	\	19.25
30	11.7	0.62	27.9	-15.58
100	12.5	1.02	27.8	-14.28
300	12.9	1.91	27.5	-12.69
600	19.2	2.92	27	-4.88
800	21.1	3.54	26.6	-1.96
1000	22.3	4.17	26.2	0.27
1000	25.6	1.76	41.4	-14.04
3000	28.9	3.27	43.2	-11.03
5000	31.1	4.2	44.6	-9.3
8000	36.2	5.95	44.7	-2.55
10000	38.4	6.3	43.9	0.8
12000	38.5	7.14	42.3	3.34
15000	40.2	8.15	41.4	6.95
18000	45.4	9.02	41.3	13.12
18000	37.9	1.81	47.9	-8.19
21000	37.9	1.95	48.7	-8.85
25000	39.3	2.01	42.8	-1.49
28000	39.6	2.16	46.0	-4.24
31000	41.2	2.24	44.5	-1.06
34000	41.5	2.29	46.6	-2.81
37000	43.8	2.30	46.4	-0.3
40000	43.2	2.50	42.2	3.5

\*\*\* End of Report \*\*\*