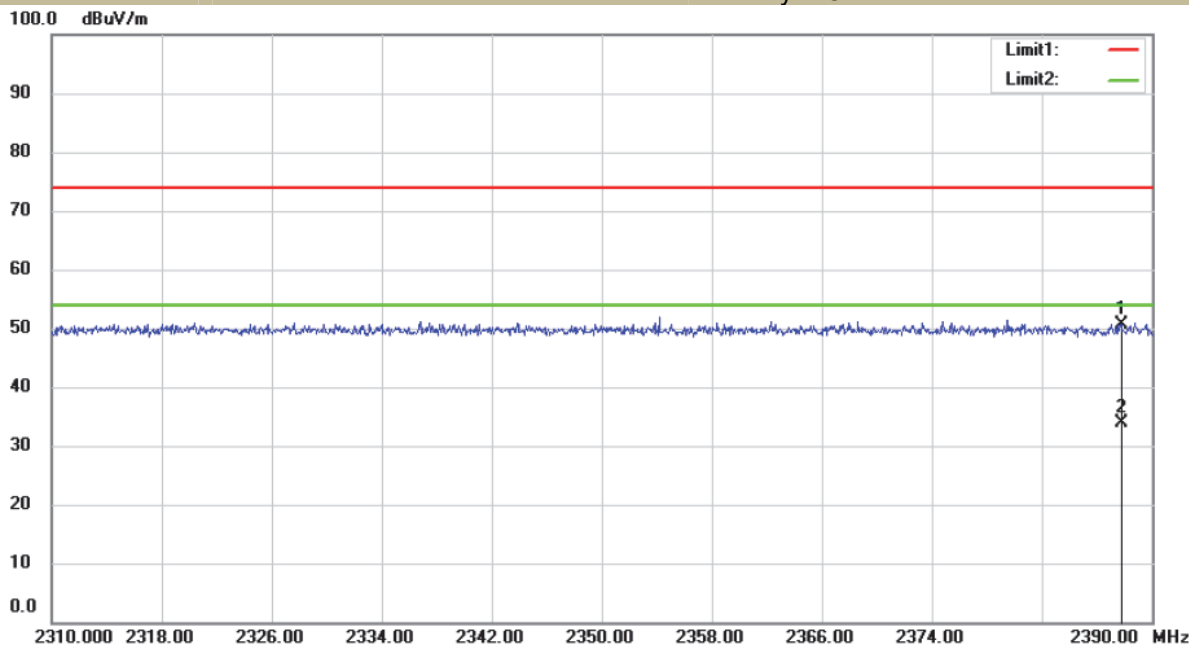


Test Model	Spurious Emission in Restricted Band 2310-2390MHz		
	Channel 0: 2402MHz	GFSK	V
	Test By: TOM		

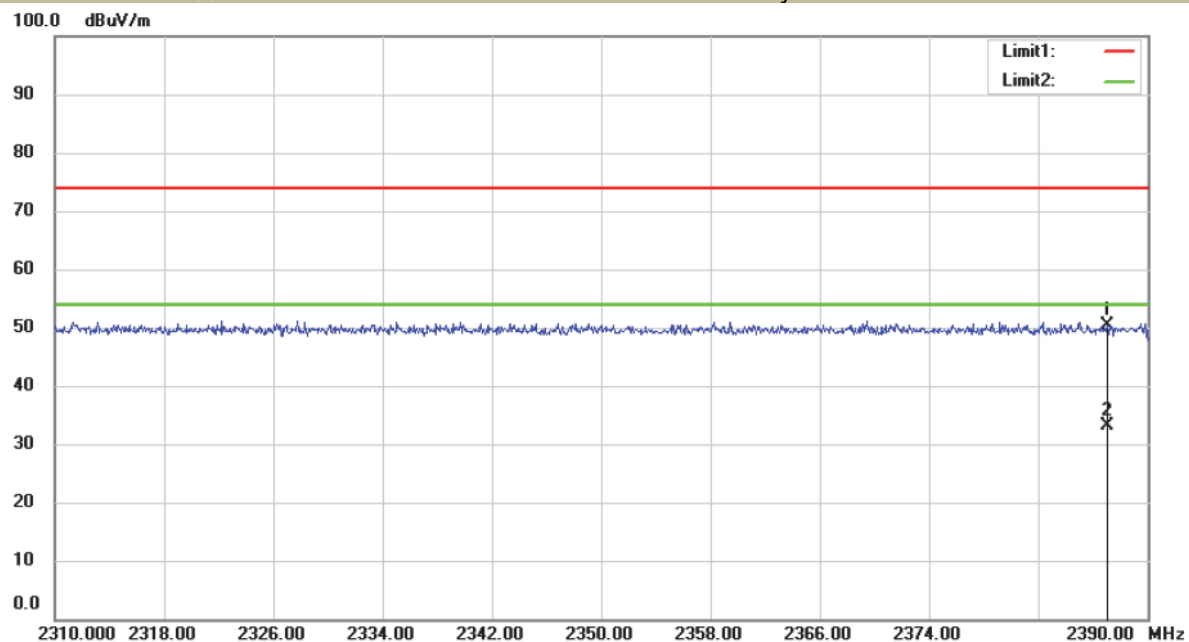


Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 22 C

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

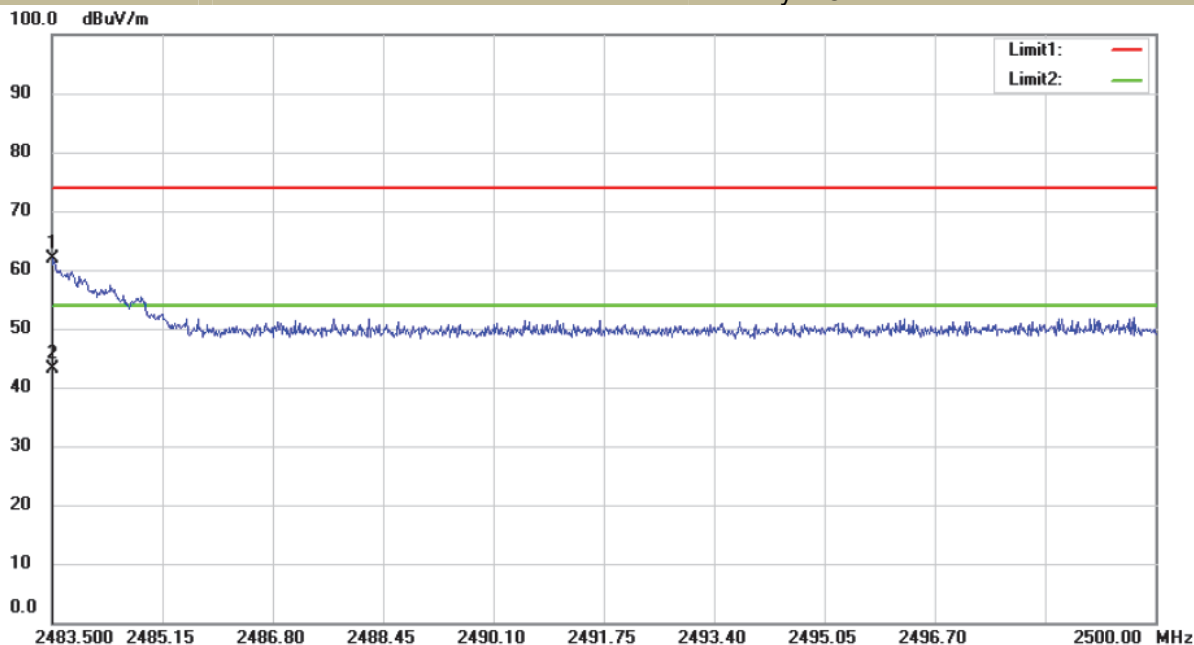


Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 22 C

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



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 22 C

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

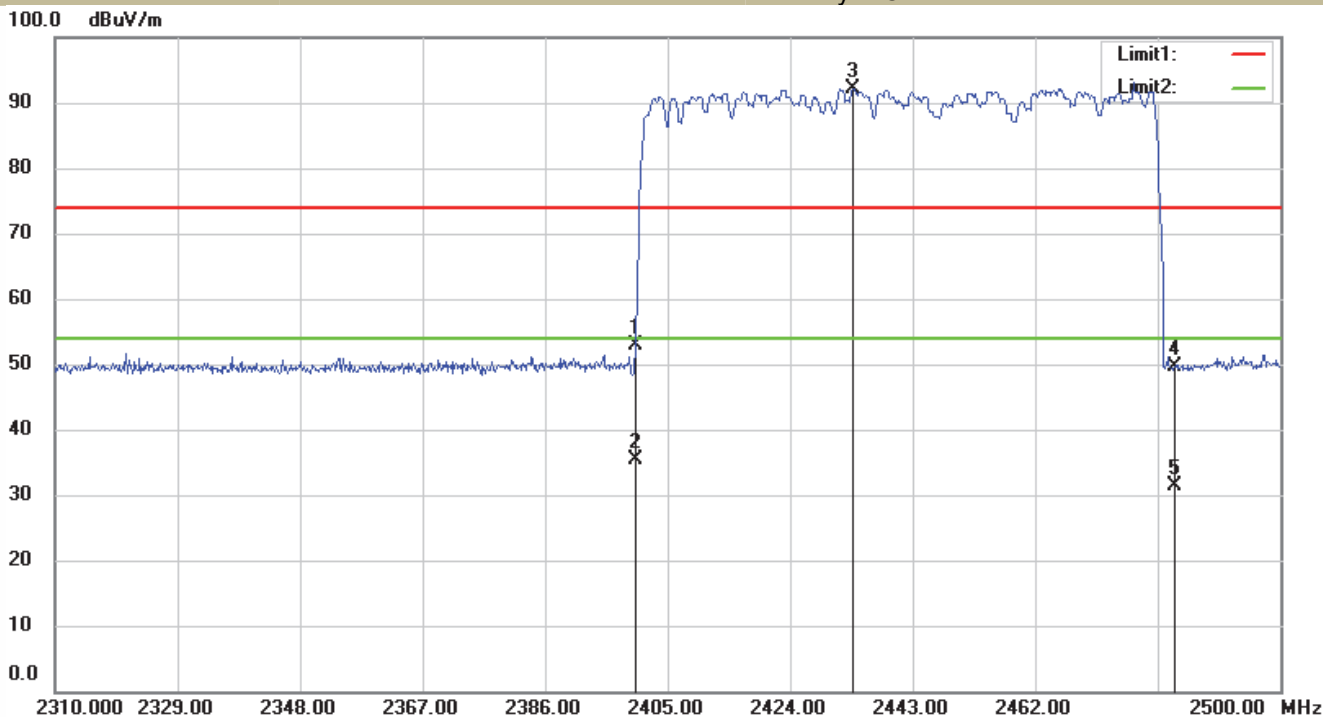


Site 3m Chamber #1

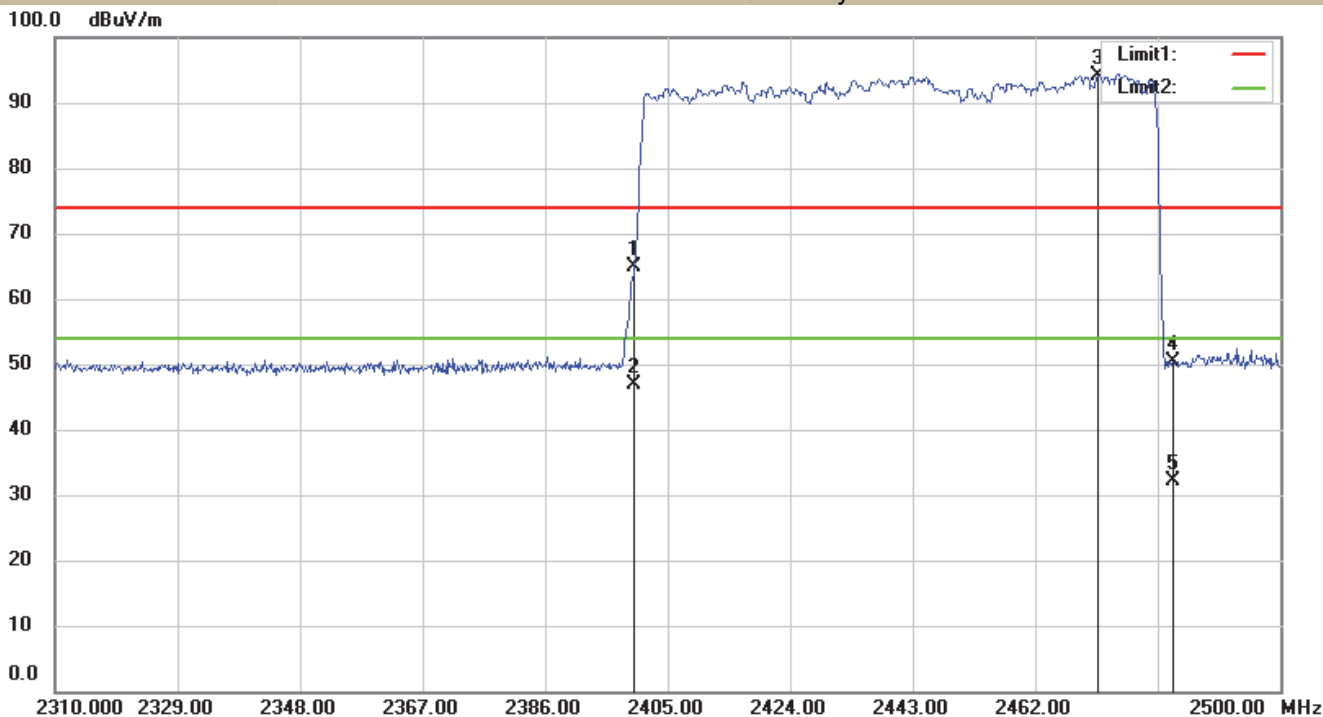
Polarization: **Horizontal**

Temperature: 22 C

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

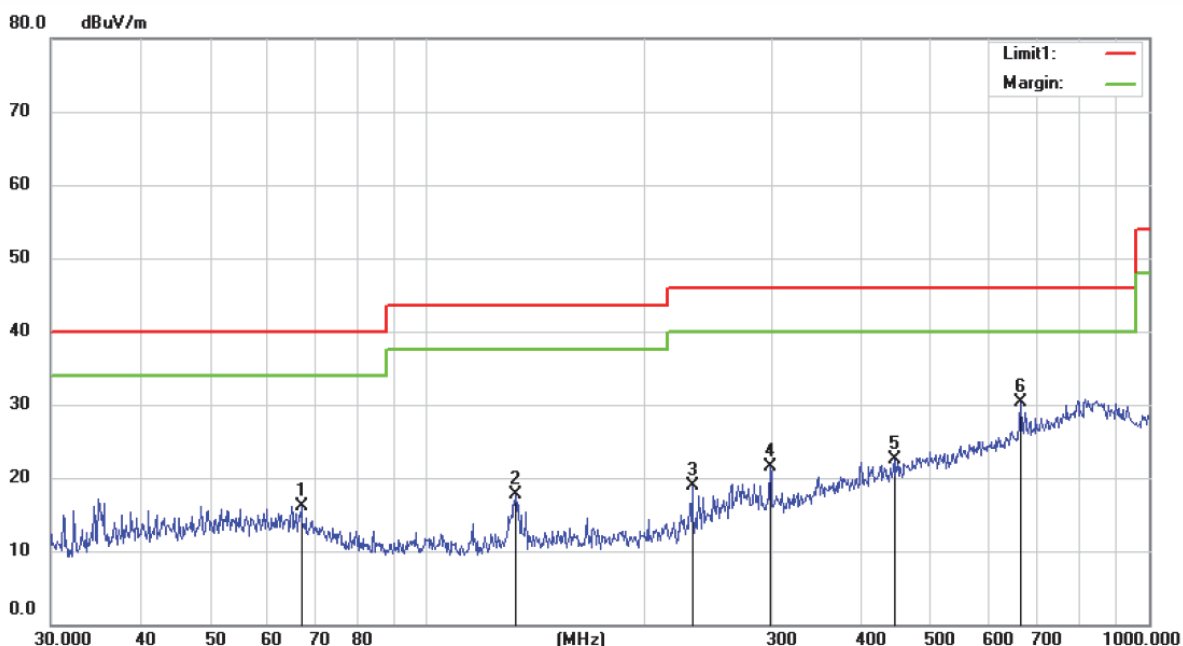


Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz			
Test Model	Hopping	GFSK	H
Test By: TOM			



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

Bluetooth (GFSK, $\pi/4$ -DQPSK) 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

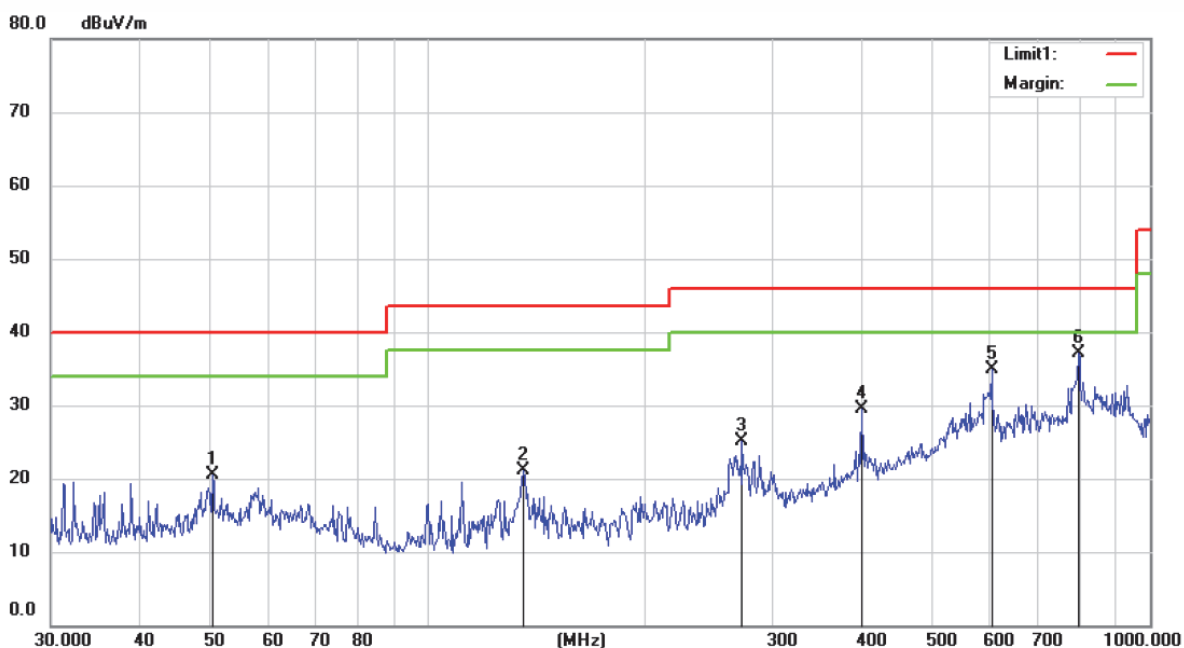
Power: DC 3.7V from Battery

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	Detector	cm	degree
1		66.7911	28.67	-12.48	16.19	40.00	-23.81	QP		
2		132.6270	32.00	-14.22	17.78	43.50	-25.72	QP		
3		233.2464	31.38	-12.43	18.95	46.00	-27.05	QP		
4		299.0536	30.53	-9.03	21.50	46.00	-24.50	QP		
5		444.4616	28.39	-5.83	22.56	46.00	-23.44	QP		
6	*	664.9286	31.84	-1.50	30.34	46.00	-15.66	QP		



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

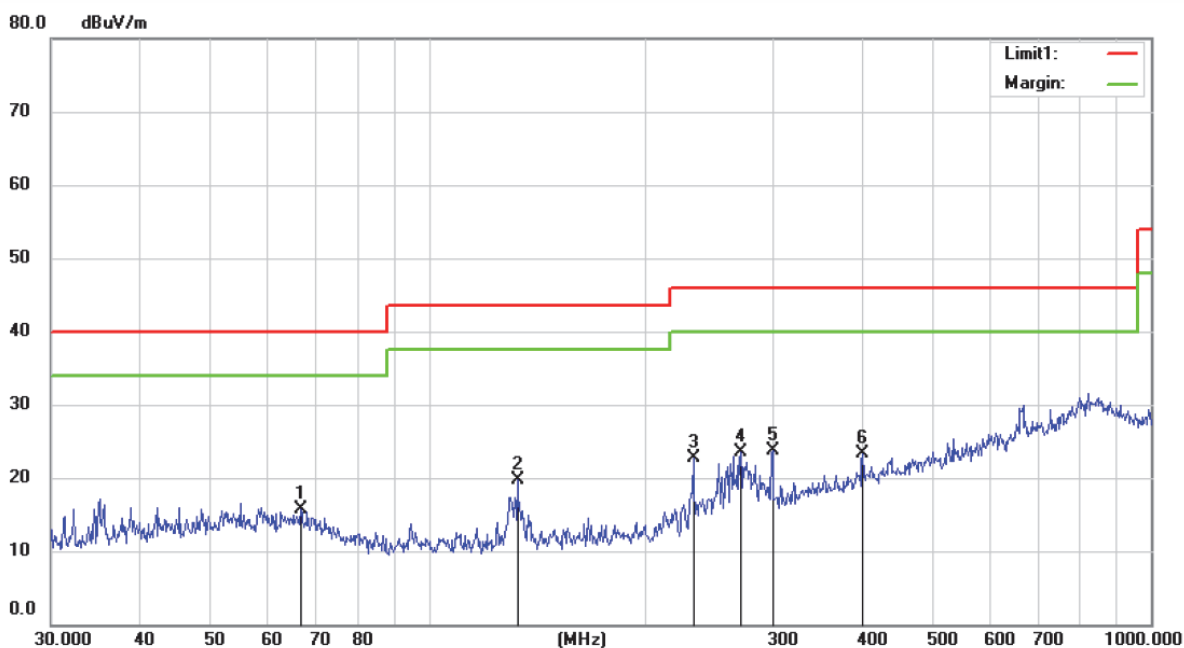
Power: DC 3.7V from Battery

Humidity: 43 %

Mode:BT 2402

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	Comment
1		50.3868	32.48	-11.96	20.52	40.00	-19.48	QP		
2		135.7440	35.36	-14.22	21.14	43.50	-22.36	QP		
3		272.9945	35.36	-10.23	25.13	46.00	-20.87	QP		
4		399.2051	35.91	-6.38	29.53	46.00	-16.47	QP		
5		603.5390	37.62	-2.79	34.83	46.00	-11.17	QP		
6	*	798.2795	35.12	1.92	37.04	46.00	-8.96	QP		



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

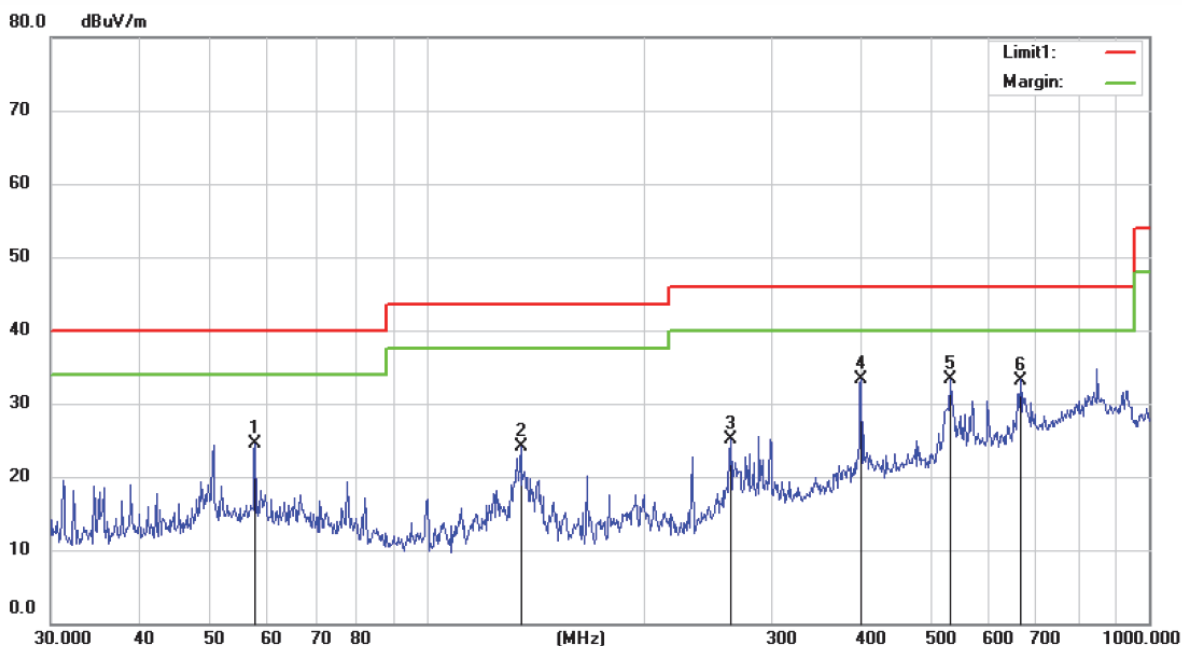
Power: DC 3.7V from Battery

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		66.5572	28.19	-12.43	15.76	40.00	-24.24	QP		
2		133.0927	33.95	-14.21	19.74	43.50	-23.76	QP		
3		232.6338	35.18	-12.46	22.72	46.00	-23.28	QP		
4		270.7306	33.93	-10.39	23.54	46.00	-22.46	QP		
5	*	299.8410	32.67	-8.97	23.70	46.00	-22.30	QP		
6		399.0302	29.79	-6.39	23.40	46.00	-22.60	QP		



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

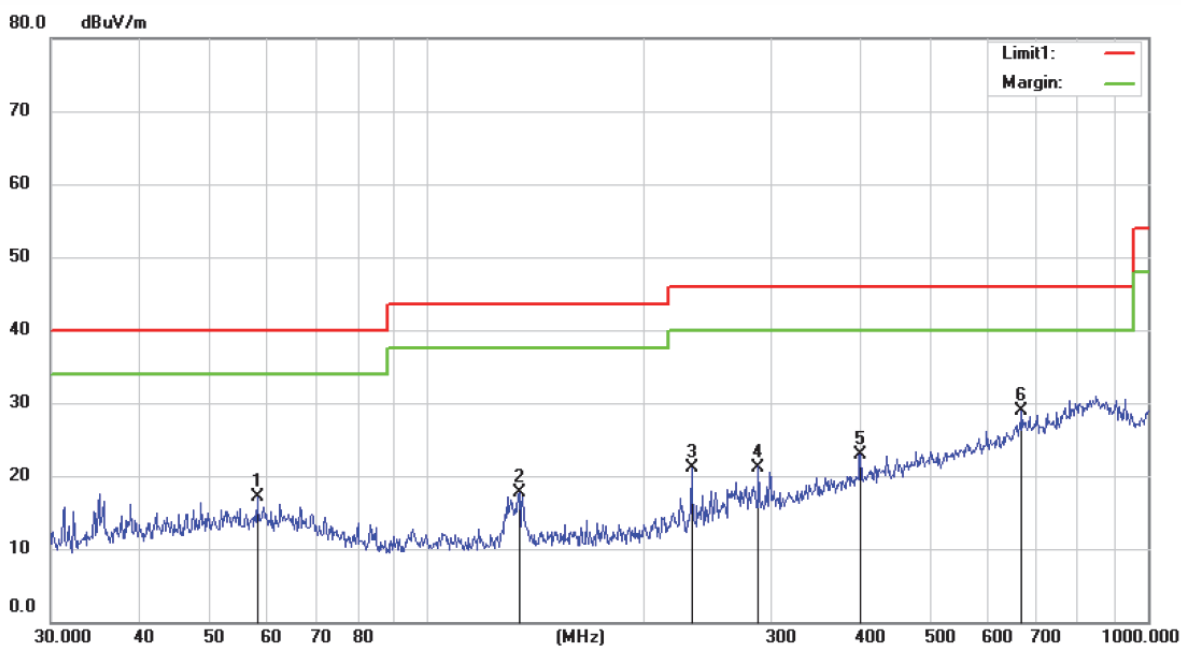
Power: DC 3.7V from Battery

Humidity: 43 %

Mode:BT 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		57.6192	36.61	-12.08	24.53	40.00	-15.47	QP		
2		134.7953	38.38	-14.20	24.18	43.50	-19.32	QP		
3		263.2415	35.94	-10.85	25.09	46.00	-20.91	QP		
4	*	399.3802	39.73	-6.36	33.37	46.00	-12.63	QP		
5		530.5663	38.00	-4.77	33.23	46.00	-12.77	QP		
6		663.4730	34.73	-1.53	33.20	46.00	-12.80	QP		



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 22 C

Limit: (RE)FCC PART 15 CLASS B

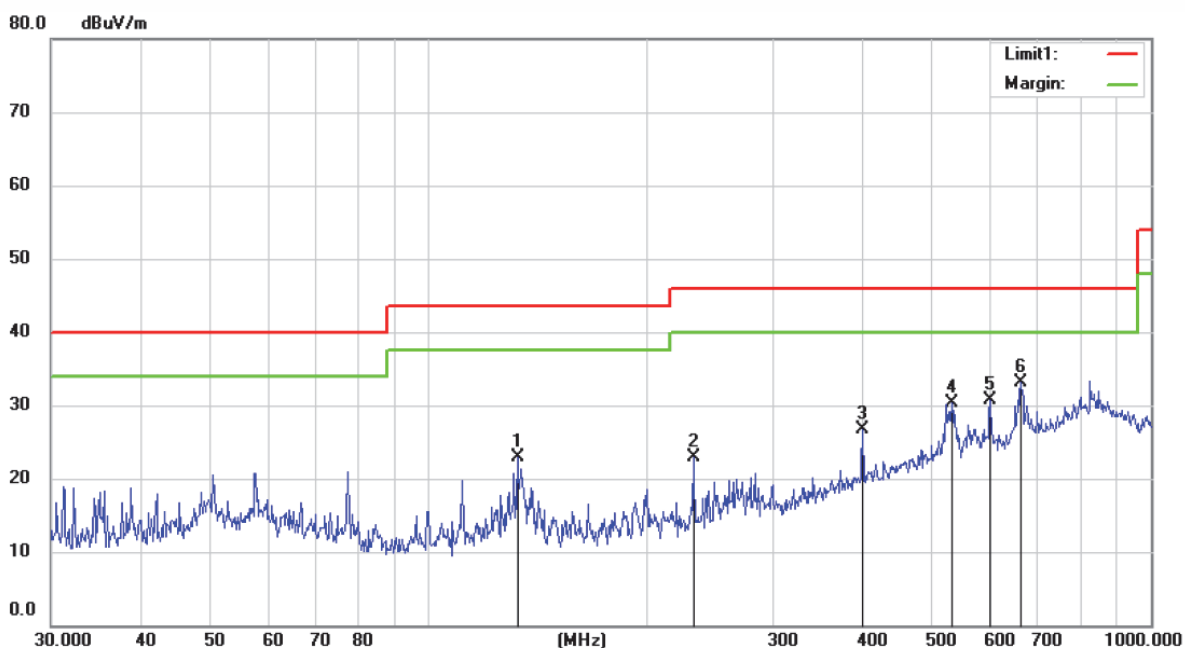
Power: DC 3.7V from Battery

Humidity: 43 %

Mode: BT 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		58.1775	29.23	-12.09	17.14	40.00	-22.86	QP		
2		134.5002	31.86	-14.20	17.66	43.50	-25.84	QP		
3		232.5318	33.65	-12.48	21.17	46.00	-24.83	QP		
4		288.4958	30.84	-9.64	21.20	46.00	-24.80	QP		
5		399.3802	29.21	-6.36	22.85	46.00	-23.15	QP		
6	*	669.3147	30.30	-1.41	28.89	46.00	-17.11	QP		



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		132.9761	37.03	-14.21	22.82	43.50	-20.68	QP		
2		233.2464	35.41	-12.43	22.98	46.00	-23.02	QP		
3		399.3802	33.04	-6.36	26.68	46.00	-19.32	QP		
4		531.7304	35.12	-4.74	30.38	46.00	-15.62	QP		
5		599.5840	33.52	-2.86	30.66	46.00	-15.34	QP		
6	*	662.0203	34.61	-1.56	33.05	46.00	-12.95	QP		

9.8 CONDUCTED EMISSION TEST

9.8.1 Applicable Standard

According to FCC Part 15.207

According to IC RSS-Gen 8.8

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.

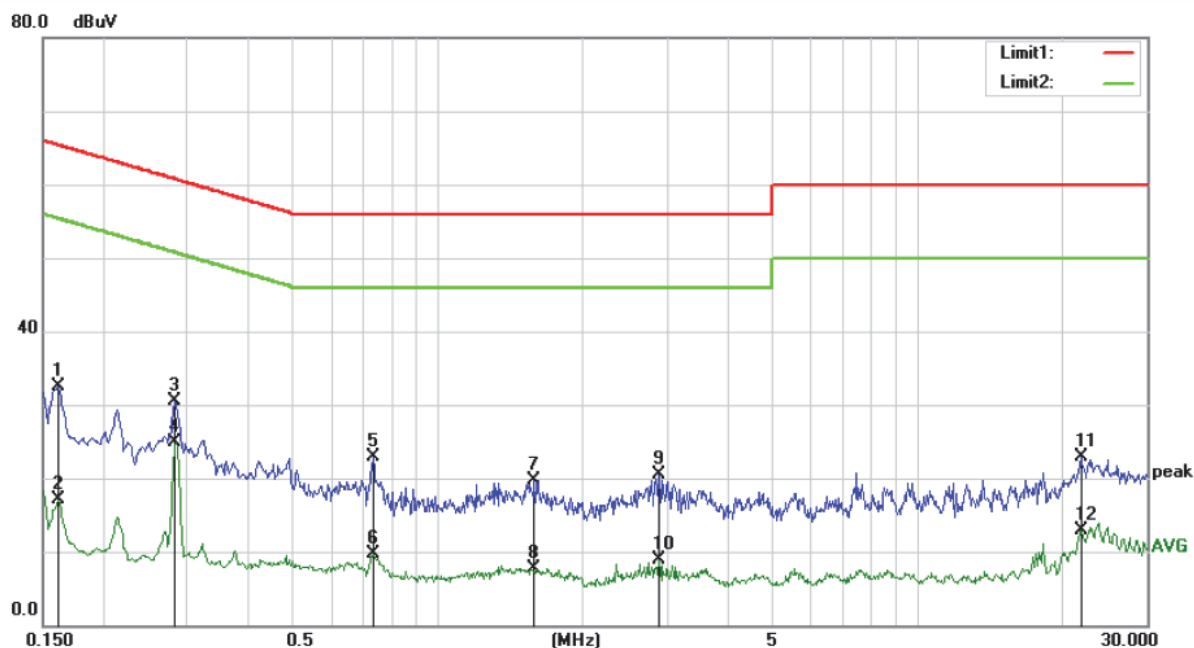
Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Repeat above procedures until all frequency measured were complete.

9.8.5 Test Results

Pass

The AC120V &240V voltage have been tested, and the worst result recorded was report as below:



Site Conduction #2

Phase: **N**

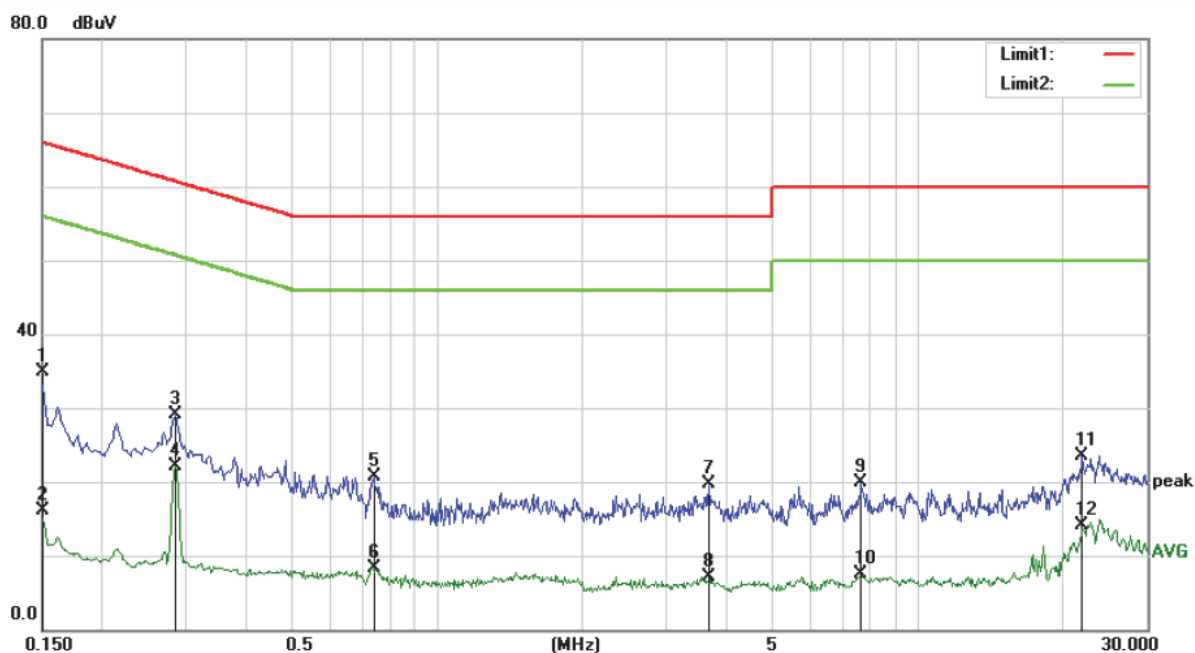
Temperature: 25.1

Limit: (CE)FCC PART 15 class B_QP

Power: DC 5V from adapter

Humidity: 45 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1620	21.95	10.50	32.45	65.36	-32.91	QP	
2		0.1620	6.52	10.50	17.02	55.36	-38.34	AVG	
3		0.2820	20.16	10.39	30.55	60.76	-30.21	QP	
4	*	0.2820	14.47	10.39	24.86	50.76	-25.90	AVG	
5		0.7340	12.63	10.31	22.94	56.00	-33.06	QP	
6		0.7340	-0.56	10.31	9.75	46.00	-36.25	AVG	
7		1.5860	9.32	10.34	19.66	56.00	-36.34	QP	
8		1.5860	-2.67	10.34	7.67	46.00	-38.33	AVG	
9		2.8940	10.21	10.36	20.57	56.00	-35.43	QP	
10		2.8940	-1.41	10.36	8.95	46.00	-37.05	AVG	
11		21.9460	12.12	10.71	22.83	60.00	-37.17	QP	
12		21.9460	2.15	10.71	12.86	50.00	-37.14	AVG	



Site Conduction #2

Phase: **N**

Temperature: 25.1

Limit: (CE)FCC PART 15 class B QP

Power: DC 5V from adapter

Humidity: 45 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1500	24.42	10.52	34.94	66.00	-31.06	QP	
2		0.1500	5.57	10.52	16.09	56.00	-39.91	AVG	
3		0.2860	18.81	10.39	29.20	60.64	-31.44	QP	
4	*	0.2860	11.73	10.39	22.12	50.64	-28.52	AVG	
5		0.7380	10.39	10.31	20.70	56.00	-35.30	QP	
6		0.7380	-1.93	10.31	8.38	46.00	-37.62	AVG	
7		3.6780	9.23	10.43	19.66	56.00	-36.34	QP	
8		3.6780	-3.39	10.43	7.04	46.00	-38.96	AVG	
9		7.6340	9.37	10.60	19.97	60.00	-40.03	QP	
10		7.6340	-3.19	10.60	7.41	50.00	-42.59	AVG	
11		22.0460	12.86	10.71	23.57	60.00	-36.43	QP	
12		22.0460	3.34	10.71	14.05	50.00	-35.95	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.
FCC 47 CFR Part 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.
RSS-Gen Section 6.8	The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.
RSS-247 Section 5.4	If the transmitter employs an antenna system that emits multiple directional beams, but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device (i.e. the sum of the power supplied to all antennas, antenna elements, staves, etc., and summed across all carriers or frequency channels) shall not exceed the applicable output power limit. However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or staff having the highest gain.

9.9.2 Result

PASS.

The EUT has 1 antenna: a FPC Antenna for BT with classic model, the gain is -0.86 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)

Please refer to the attached document Internal Photos to show the antenna connector.

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 ***