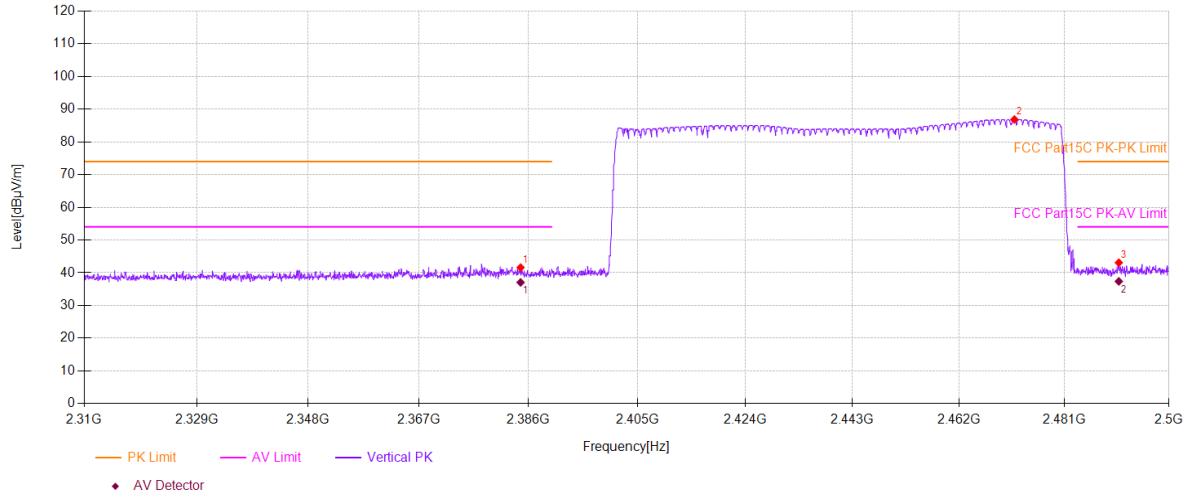


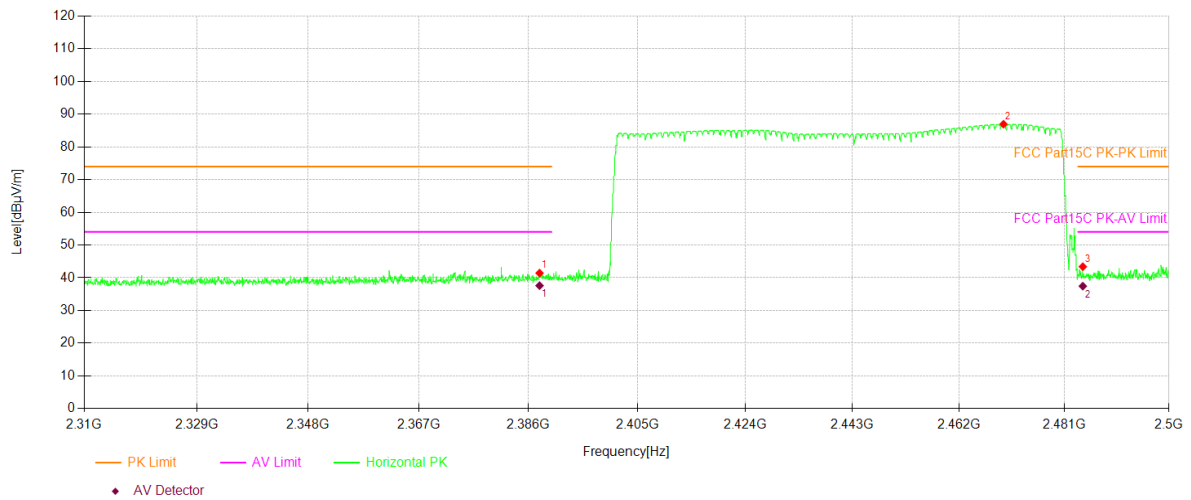
Test Model

Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz
Hopping GFSK V



Test Model

Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz
Hopping GFSK H

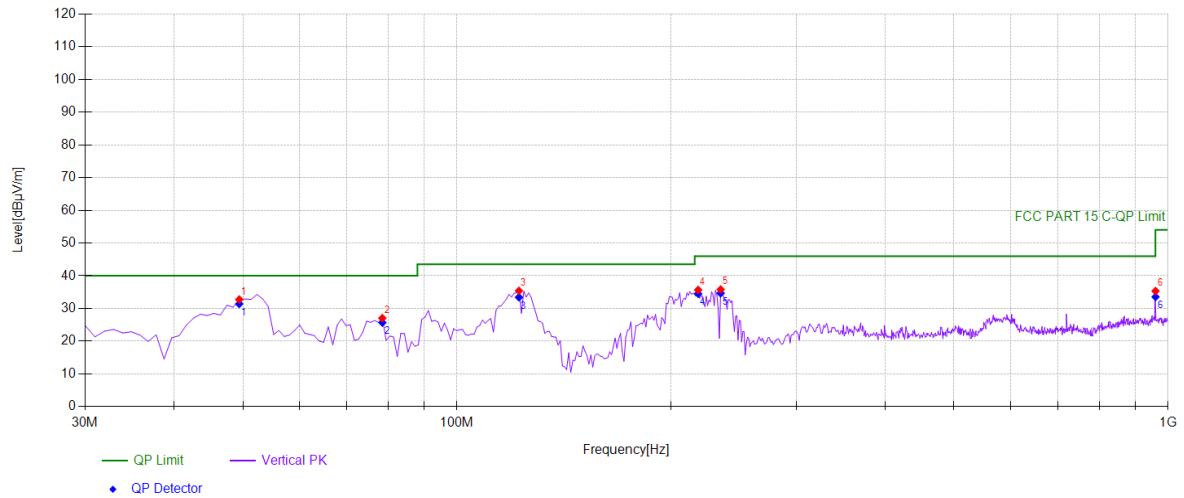


■ Spurious Emission below 1GHz(30MHz to 1GHz)

All the antenna(Antenna 1) and modes(GFSK, $\pi/4$ -DQPSK, 8DPSK) mode have been tested, and the worst(Antenna 1,GFSK) result recorded was report as below:

■

Mode:	BT 2402
Environment:	Temp: 25°C; Humi:60%



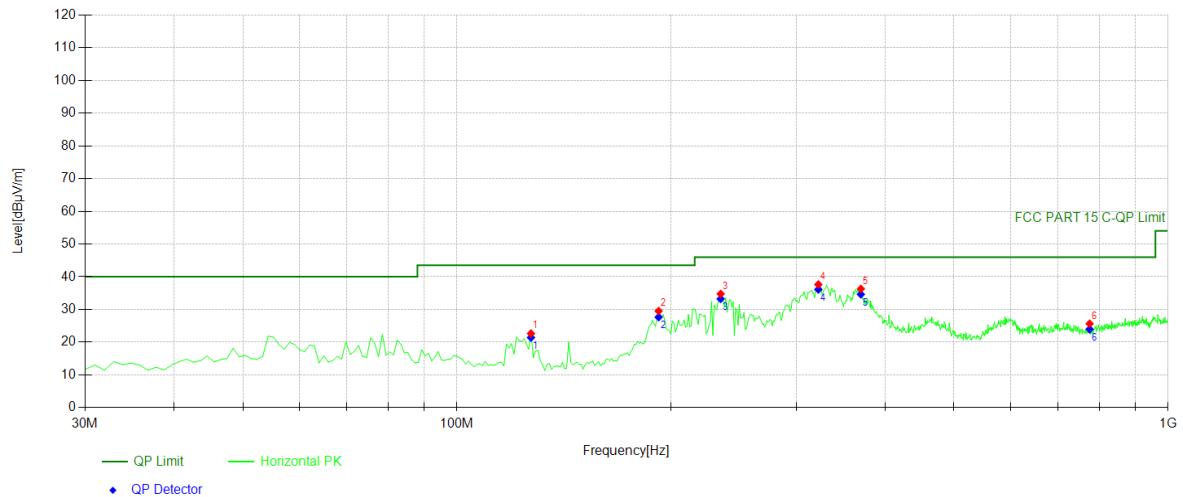
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	49.4194	48.84	-16.09	32.75	PK	40.00	7.25	Vertical
2	78.5485	47.03	-19.98	27.05	PK	40.00	12.95	Vertical
3	122.242	54.08	-18.66	35.42	PK	43.50	8.08	Vertical
4	218.368	52.06	-16.40	35.66	PK	46.00	10.34	Vertical
5	234.874	51.67	-15.85	35.82	PK	46.00	10.18	Vertical
6	960.190	37.72	-2.38	35.34	PK	54.00	18.66	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	49.4194	-16.09	31.40	40.00	8.60
2	78.5485	-19.98	25.70	40.00	14.30
3	122.2422	-18.66	33.43	43.50	10.07
4	218.3684	-16.40	34.51	46.00	11.49
5	234.8749	-15.85	34.67	46.00	11.33
6	960.1902	-2.38	33.55	54.00	20.45

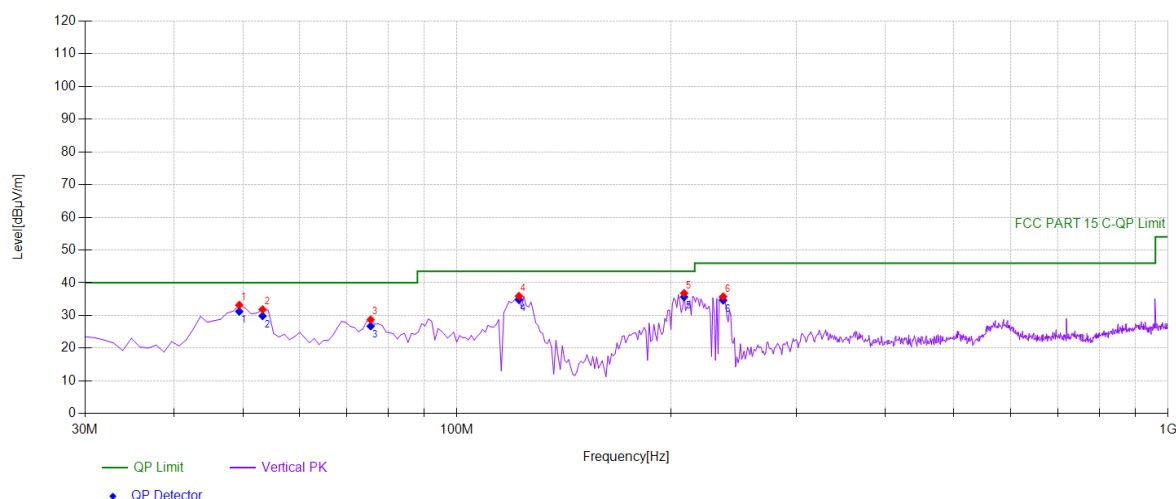
Mode:	BT 2402
Environment:	Temp: 25°C; Humi:60%



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	127.097	41.64	-18.97	22.67	PK	43.50	20.83	Horizontal
2	192.152	47.44	-17.89	29.55	PK	43.50	13.95	Horizontal
3	234.874	50.62	-15.85	34.77	PK	46.00	11.23	Horizontal
4	322.262	51.12	-13.47	37.65	PK	46.00	8.35	Horizontal
5	369.839	48.31	-11.99	36.32	PK	46.00	9.68	Horizontal
6	775.705	32.71	-7.05	25.66	PK	46.00	20.34	Horizontal

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	127.0971	-18.97	21.43	43.50	22.07
2	192.1522	-17.89	27.67	43.50	15.83
3	234.8749	-15.85	33.25	46.00	12.75
4	322.2623	-13.47	36.13	46.00	9.87
5	369.8398	-11.99	34.63	46.00	11.37
6	775.7057	-7.05	23.97	46.00	22.03

Mode:	BT 2441
Environment:	Temp: 25°C; Humi:60%



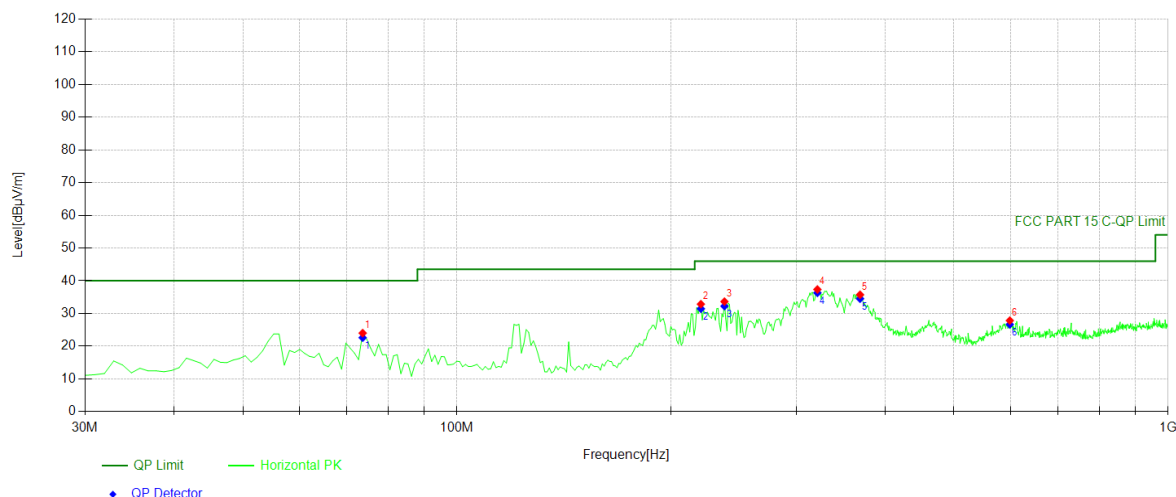
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	49.4194	49.29	-16.09	33.20	PK	40.00	6.80	Vertical
2	53.3033	48.28	-16.44	31.84	PK	40.00	8.16	Vertical
3	75.6356	48.27	-19.54	28.73	PK	40.00	11.27	Vertical
4	122.242	54.60	-18.66	35.94	PK	43.50	7.56	Vertical
5	208.658	53.81	-17.01	36.80	PK	43.50	6.70	Vertical
6	236.816	51.58	-15.79	35.79	PK	46.00	10.21	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	49.4194	-16.09	31.22	40.00	8.78
2	53.3033	-16.44	29.86	40.00	10.14
3	75.6356	-19.54	26.75	40.00	13.25
4	122.2422	-18.66	34.80	43.50	8.70
5	208.6587	-17.01	35.66	43.50	7.84
6	236.8168	-15.79	34.65	46.00	11.35

Mode:	BT 2441
Environment:	Temp: 25°C; Humi:60%



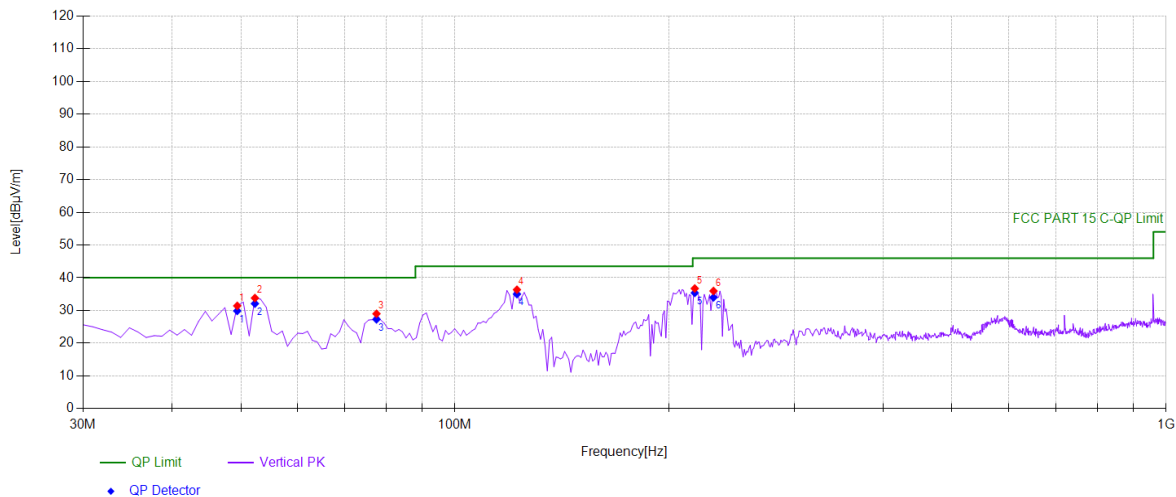
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	73.6937	43.26	-19.25	24.01	PK	40.00	15.99	Horizontal
2	220.310	49.15	-16.29	32.86	PK	46.00	13.14	Horizontal
3	237.787	49.40	-15.76	33.64	PK	46.00	12.36	Horizontal
4	321.291	50.89	-13.54	37.35	PK	46.00	8.65	Horizontal
5	368.868	47.76	-12.03	35.73	PK	46.00	10.27	Horizontal
6	598.989	34.34	-6.49	27.85	PK	46.00	18.15	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	73.6937	-19.25	22.61	40.00	17.39
2	220.3103	-16.29	31.46	46.00	14.54
3	237.7878	-15.76	32.24	46.00	13.76
4	321.2913	-13.54	36.31	46.00	9.69
5	368.8689	-12.03	34.52	46.00	11.48
6	598.989	-6.49	26.64	46.00	19.36

Mode:	BT 2480
Environment:	Temp: 25°C; Humi:60%

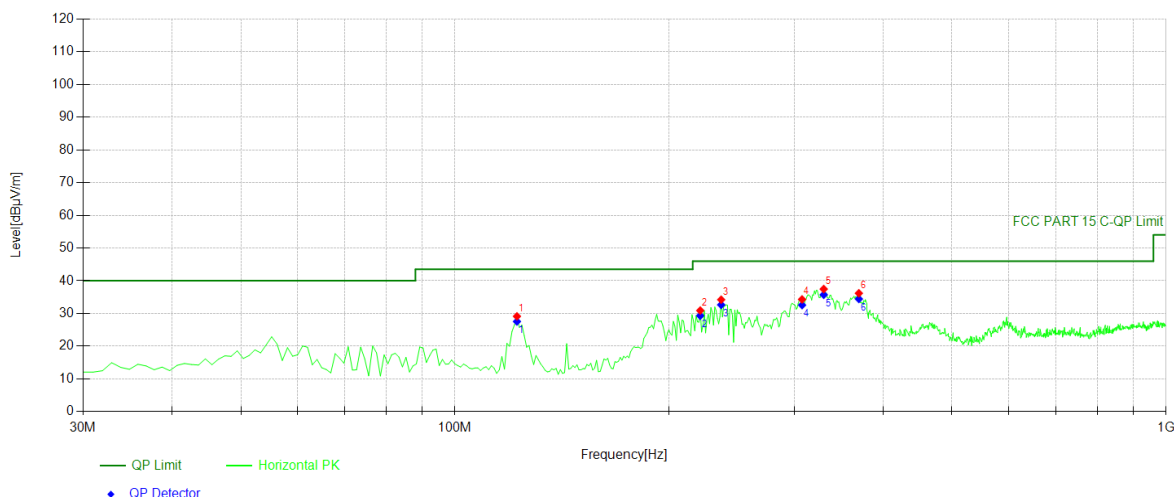
**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	49.4194	47.52	-16.09	31.43	PK	40.00	8.57	Vertical
2	52.3323	50.12	-16.31	33.81	PK	40.00	6.19	Vertical
3	77.5776	48.84	-19.83	29.01	PK	40.00	10.99	Vertical
4	122.242	55.03	-18.66	36.37	PK	43.50	7.13	Vertical
5	217.397	53.20	-16.47	36.73	PK	46.00	9.27	Vertical
6	230.991	51.94	-15.97	35.97	PK	46.00	10.03	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	49.4194	-16.09	29.88	40.00	10.12
2	52.3323	-16.31	32.10	40.00	7.90
3	77.5776	-19.83	27.30	40.00	12.70
4	122.2422	-18.66	35.02	43.50	8.48
5	217.3974	-16.47	35.38	46.00	10.62
6	230.991	-15.97	33.98	46.00	12.02

Mode:	BT 2480
Environment:	Temp: 25°C; Humi:60%



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	122.242	47.80	-18.66	29.14	PK	43.50	14.36	Horizontal
2	221.281	47.17	-16.26	30.91	PK	46.00	15.09	Horizontal
3	236.816	50.02	-15.79	34.23	PK	46.00	11.77	Horizontal
4	307.697	48.14	-13.83	34.31	PK	46.00	11.69	Horizontal
5	330.03	50.43	-12.96	37.47	PK	46.00	8.53	Horizontal
6	369.839	48.18	-11.99	36.19	PK	46.00	9.81	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	122.2422	-18.66	27.56	43.50	15.94
2	221.2813	-16.26	29.33	46.00	16.67
3	236.8168	-15.79	32.65	46.00	13.35
4	307.6977	-13.83	32.57	46.00	13.43
5	330.03	-12.96	35.73	46.00	10.27
6	369.8398	-11.99	34.45	46.00	11.55

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

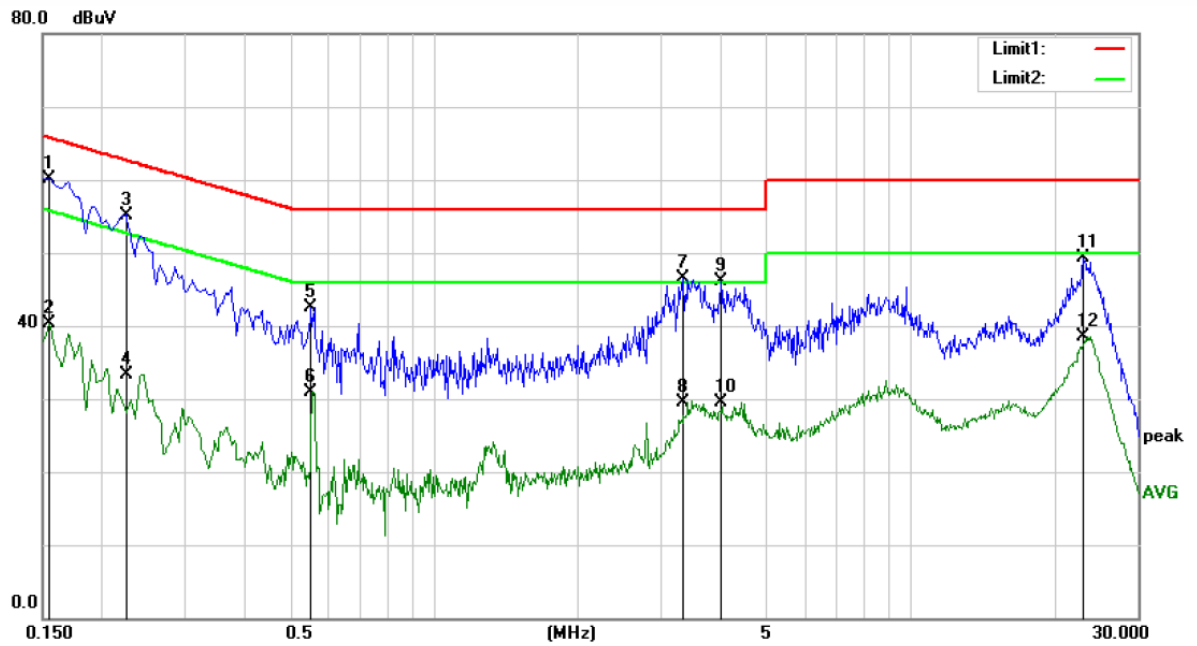
9.8.4 Test Procedure

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: **L1**

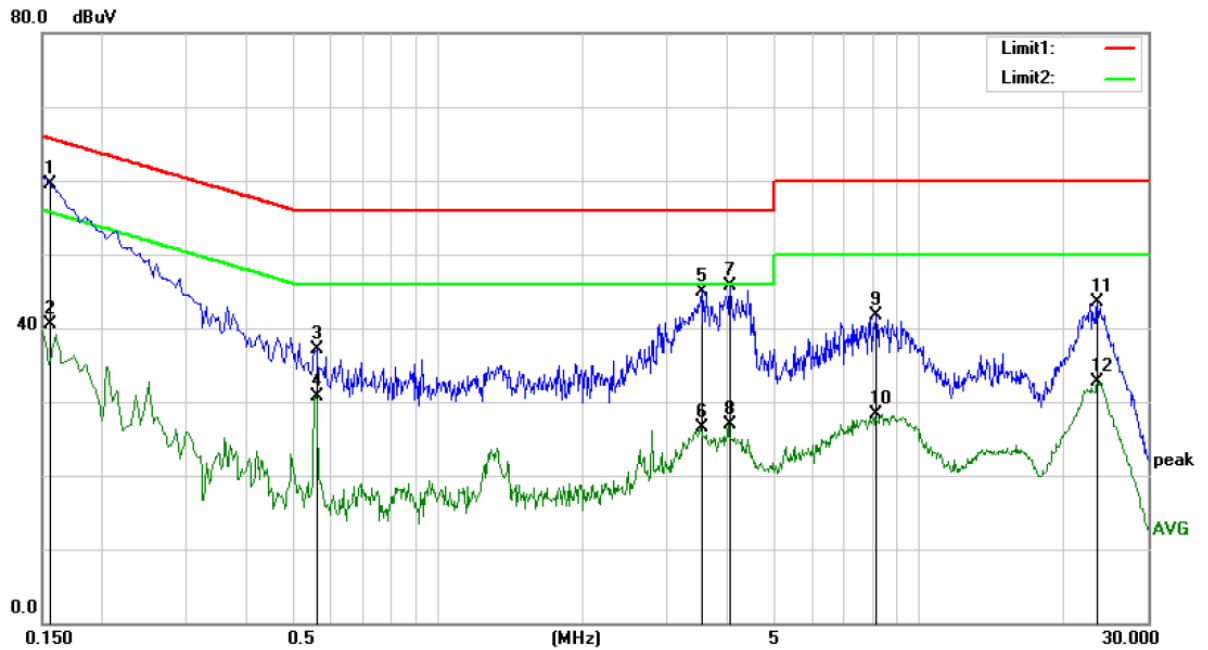
Temperature: 25.1

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 45 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1550	49.52	10.67	60.19	65.73	-5.54	QP	
2		0.1550	29.63	10.67	40.30	55.73	-15.43	AVG	
3		0.2250	44.55	10.65	55.20	62.63	-7.43	QP	
4		0.2250	22.67	10.65	33.32	52.63	-19.31	AVG	
5		0.5500	31.94	10.65	42.59	56.00	-13.41	QP	
6		0.5500	20.33	10.65	30.98	46.00	-15.02	AVG	
7		3.3350	36.00	10.50	46.50	56.00	-9.50	QP	
8		3.3350	19.10	10.50	29.60	46.00	-16.40	AVG	
9		4.0050	35.66	10.42	46.08	56.00	-9.92	QP	
10		4.0050	19.04	10.42	29.46	46.00	-16.54	AVG	
11		23.0800	38.01	11.23	49.24	60.00	-10.76	QP	
12		23.0800	27.32	11.23	38.55	50.00	-11.45	AVG	



Site Conduction 2#

Phase: **N**

Temperature: 25.1

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 45 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1556	48.85	10.67	59.52	65.70	-6.18	QP	
2		0.1556	29.74	10.67	40.41	55.70	-15.29	AVG	
3		0.5600	26.40	10.65	37.05	56.00	-18.95	QP	
4		0.5600	20.06	10.65	30.71	46.00	-15.29	AVG	
5		3.5450	34.52	10.48	45.00	56.00	-11.00	QP	
6		3.5450	16.08	10.48	26.56	46.00	-19.44	AVG	
7		4.0500	35.32	10.42	45.74	56.00	-10.26	QP	
8		4.0500	16.54	10.42	26.96	46.00	-19.04	AVG	
9		8.1550	31.27	10.52	41.79	60.00	-18.21	QP	
10		8.1550	17.87	10.52	28.39	50.00	-21.61	AVG	
11		23.6300	32.32	11.25	43.57	60.00	-16.43	QP	
12		23.6300	21.37	11.25	32.62	50.00	-17.38	AVG	

9.9 ANTENNA APPLICATION

9.9.1 Antenna Requirement

Standard	Requirement
FCC CRF Part15.203	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.

- 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.

*** End of Report ***