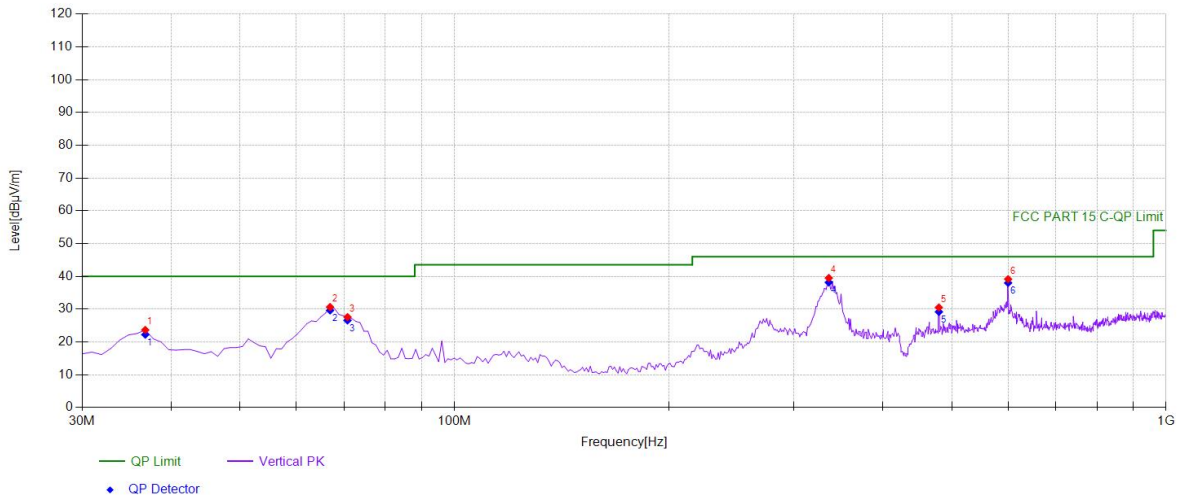


Mode:	BLE 2480
Environment:	Temp: 25°C; Humi:60%

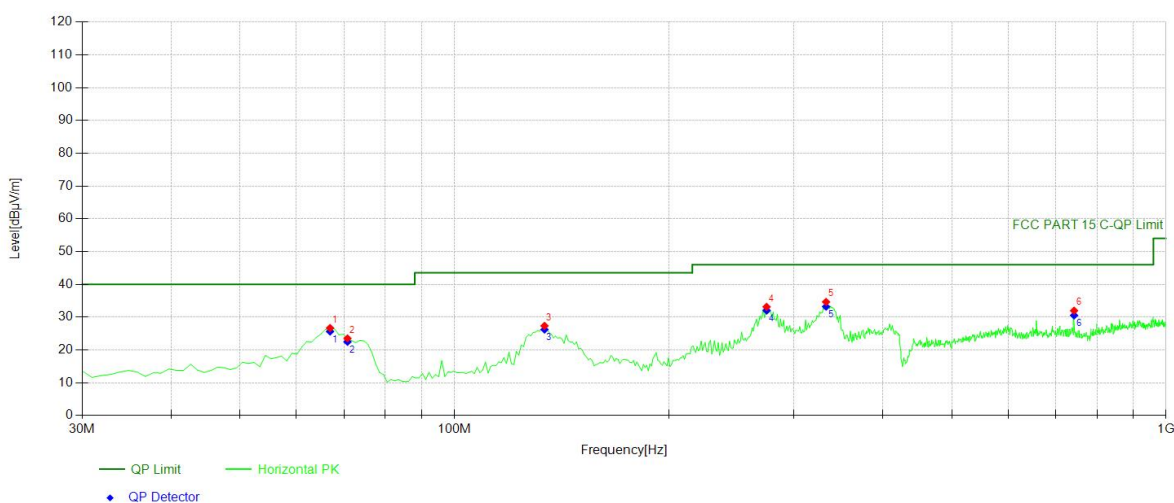


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	36.7968	36.07	-12.42	23.65	PK	40.00	16.35	Vertical
2	66.8969	43.46	-12.83	30.63	PK	40.00	9.37	Vertical
3	70.7808	40.97	-13.40	27.57	PK	40.00	12.43	Vertical
4	335.855	45.85	-6.36	39.49	PK	46.00	6.51	Vertical
5	479.559	33.59	-3.09	30.50	PK	46.00	15.50	Vertical
6	599.96	38.98	0.16	39.14	PK	46.00	6.86	Vertical

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	36.7968	34.64	-12.42	22.22	40.00	17.78
2	66.8969	42.45	-12.83	29.62	40.00	10.38
3	70.7808	39.96	-13.40	26.56	40.00	13.44
4	335.8559	44.52	-6.36	38.16	46.00	7.84
5	479.5596	32.26	-3.09	29.17	46.00	16.83
6	599.96	37.83	0.16	37.99	46.00	8.01



Suspected Data List

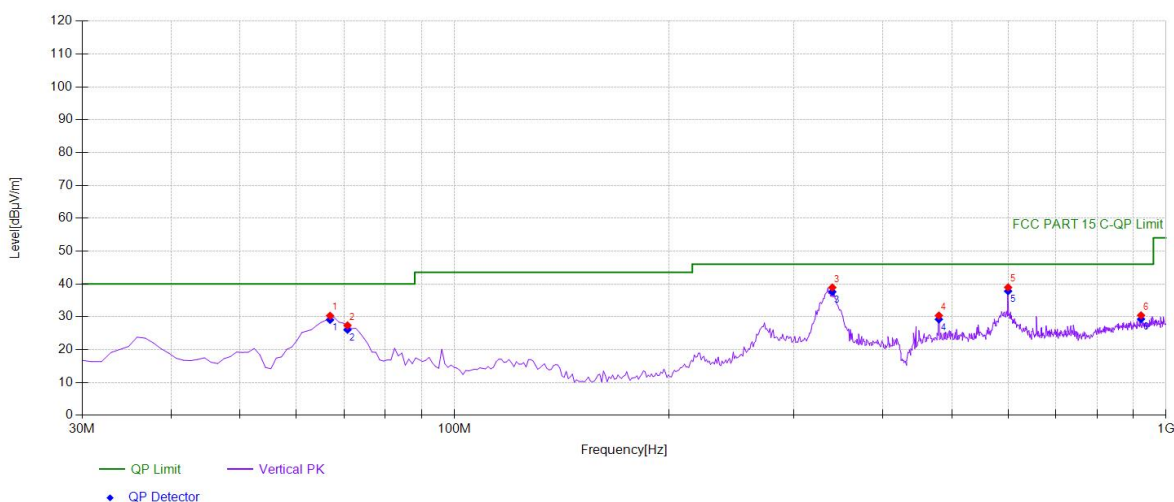
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	66.8969	39.50	-12.83	26.67	PK	40.00	13.33	Horizontal
2	70.7808	36.91	-13.40	23.51	PK	40.00	16.49	Horizontal
3	133.893	41.19	-13.86	27.33	PK	43.50	16.17	Horizontal
4	274.684	42.17	-9.03	33.14	PK	46.00	12.86	Horizontal
5	332.942	41.20	-6.56	34.64	PK	46.00	11.36	Horizontal
6	742.692	31.18	0.79	31.97	PK	46.00	14.03	Horizontal

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	66.8969	38.46	-12.83	25.63	40.00	14.37
2	70.7808	35.87	-13.40	22.47	40.00	17.53
3	133.8939	40.07	-13.86	26.21	43.50	17.29
4	274.6847	41.05	-9.03	32.02	46.00	13.98
5	332.9429	39.76	-6.56	33.20	46.00	12.80
6	742.6927	29.74	0.79	30.53	46.00	15.47

Module 2: ESP32-S3

Mode:	BLE 2402
Environment:	Temp: 25℃; Humi:60%

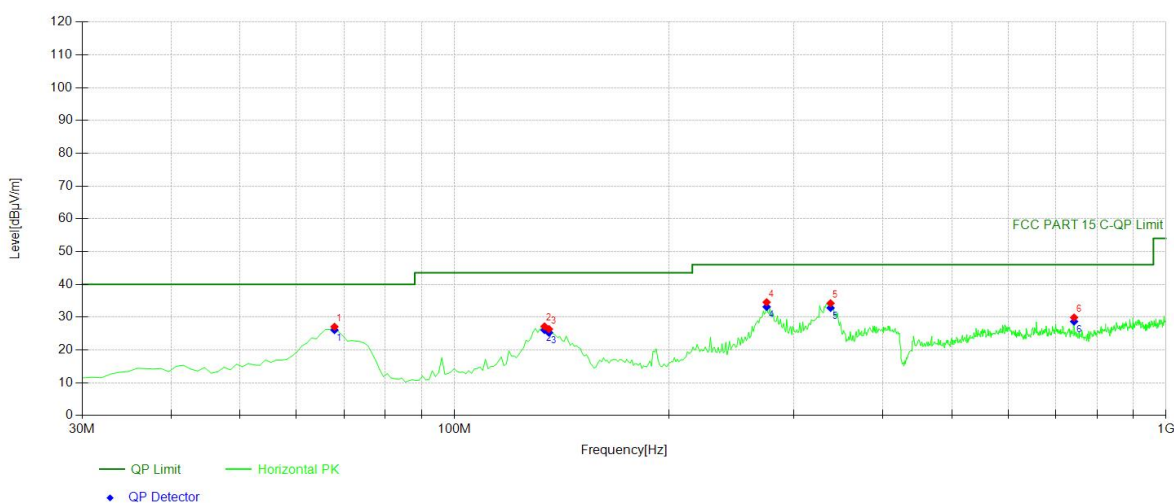


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	66.8969	43.13	-12.83	30.30	PK	40.00	9.70	Vertical
2	70.7808	40.77	-13.40	27.37	PK	40.00	12.63	Vertical
3	339.739	45.00	-6.09	38.91	PK	46.00	7.09	Vertical
4	479.559	33.45	-3.09	30.36	PK	46.00	15.64	Vertical
5	599.96	38.77	0.16	38.93	PK	46.00	7.07	Vertical
6	922.322	26.90	3.53	30.43	PK	46.00	15.57	Vertical

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	66.8969	41.88	-12.83	29.05	40.00	10.95
2	70.7808	39.44	-13.40	26.04	40.00	13.96
3	339.7397	43.67	-6.09	37.58	46.00	8.42
4	479.5596	32.3	-3.09	29.21	46.00	16.79
5	599.96	37.62	0.16	37.78	46.00	8.22
6	922.3223	25.75	3.53	29.28	46.00	16.72



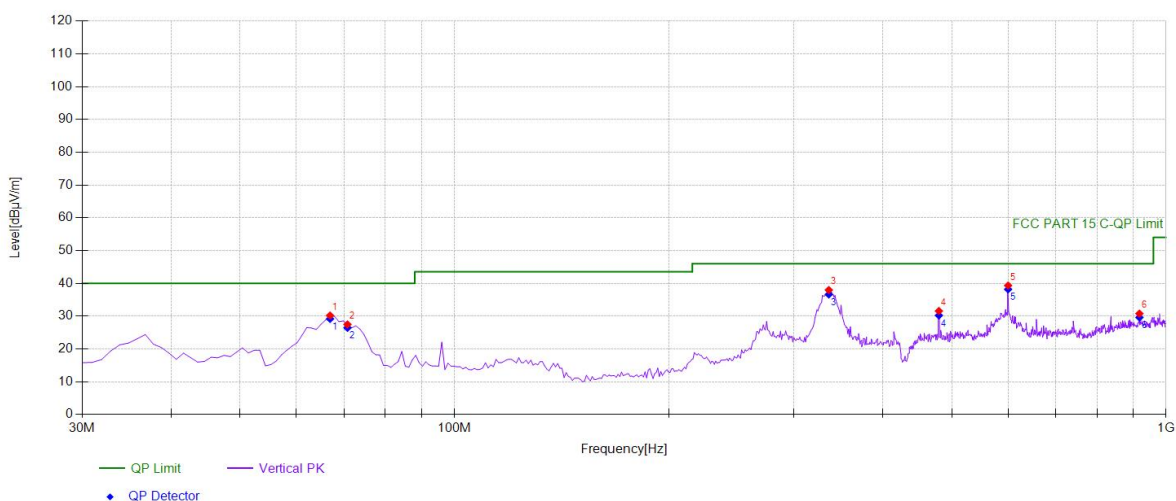
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	67.8679	40.04	-12.98	27.06	PK	40.00	12.94	Horizontal
2	133.893	41.03	-13.86	27.17	PK	43.50	16.33	Horizontal
3	135.835	40.34	-13.99	26.35	PK	43.50	17.15	Horizontal
4	274.684	43.57	-9.03	34.54	PK	46.00	11.46	Horizontal
5	337.797	40.45	-6.22	34.23	PK	46.00	11.77	Horizontal
6	742.692	29.10	0.79	29.89	PK	46.00	16.11	Horizontal

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	67.8679	39.03	-12.98	26.05	40.00	13.95
2	133.8939	39.94	-13.86	26.08	43.50	17.42
3	135.8358	39.25	-13.99	25.26	43.50	18.24
4	274.6847	42.16	-9.03	33.13	46.00	12.87
5	337.7978	39.04	-6.22	32.82	46.00	13.18
6	742.6927	27.87	0.79	28.66	46.00	17.34

Mode:	BLE 2440
Environment:	Temp: 25℃; Humi:60%

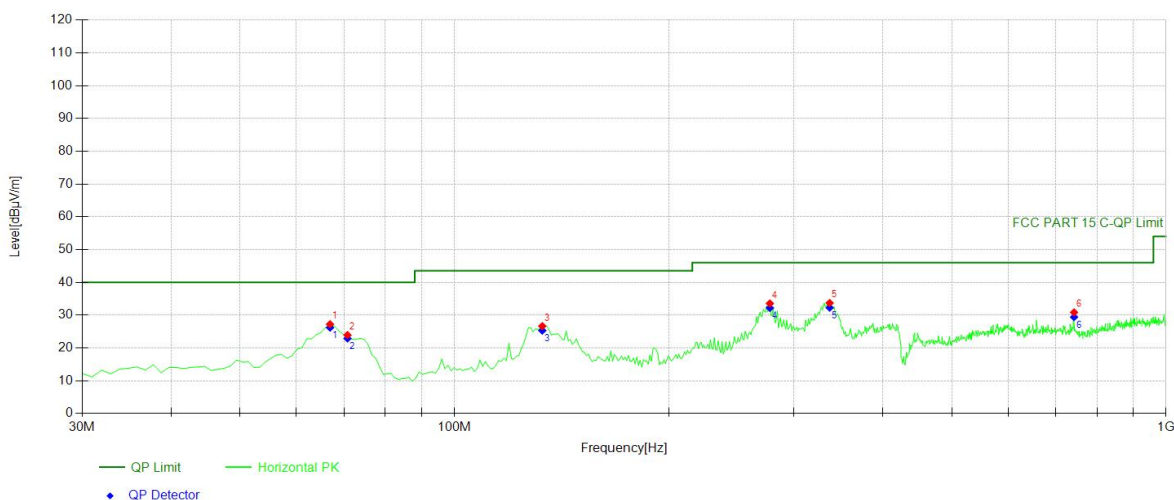


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	66.8969	43.02	-12.83	30.19	PK	40.00	9.81	Vertical
2	70.7808	40.86	-13.40	27.46	PK	40.00	12.54	Vertical
3	335.855	44.33	-6.36	37.97	PK	46.00	8.03	Vertical
4	479.559	34.66	-3.09	31.57	PK	46.00	14.43	Vertical
5	599.96	39.18	0.16	39.34	PK	46.00	6.66	Vertical
6	917.467	27.18	3.59	30.77	PK	46.00	15.23	Vertical

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	66.8969	41.99	-12.83	29.16	40.00	10.84
2	70.7808	39.83	-13.40	26.43	40.00	13.57
3	335.8559	42.98	-6.36	36.62	46.00	9.38
4	479.5596	33.31	-3.09	30.22	46.00	15.78
5	599.96	38.01	0.16	38.17	46.00	7.83
6	917.4675	26.01	3.59	29.60	46.00	16.40



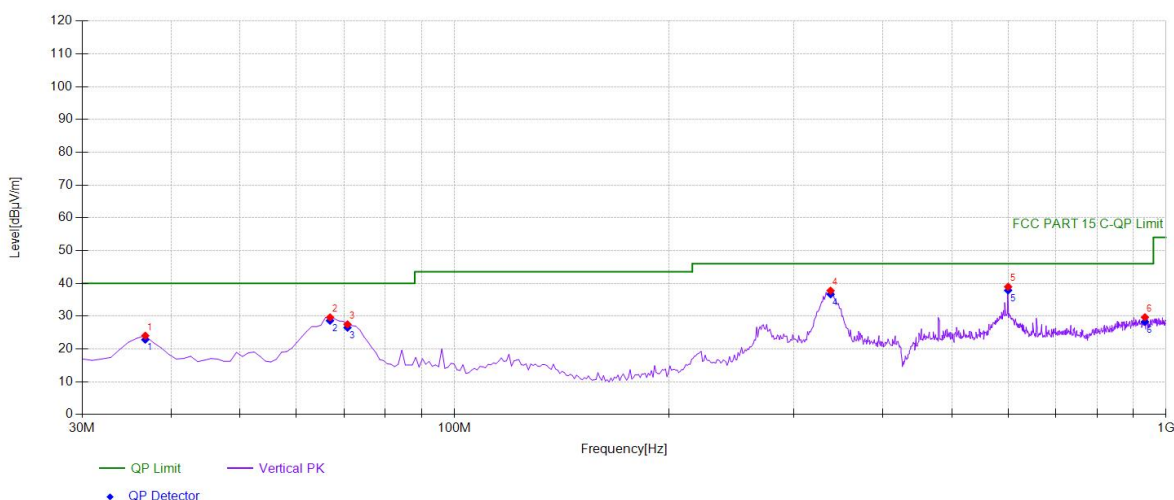
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	66.8969	40.06	-12.83	27.23	PK	40.00	12.77	Horizontal
2	70.7808	37.32	-13.40	23.92	PK	40.00	16.08	Horizontal
3	132.922	40.44	-13.79	26.65	PK	43.50	16.85	Horizontal
4	277.597	42.47	-8.91	33.56	PK	46.00	12.44	Horizontal
5	336.826	40.00	-6.29	33.71	PK	46.00	12.29	Horizontal
6	742.692	30.06	0.79	30.85	PK	46.00	15.15	Horizontal

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	66.8969	39.02	-12.83	26.19	40.00	13.81
2	70.7808	36.28	-13.40	22.88	40.00	17.12
3	132.9229	39.08	-13.79	25.29	43.50	18.21
4	277.5976	41.11	-8.91	32.20	46.00	13.80
5	336.8268	38.56	-6.29	32.27	46.00	13.73
6	742.6927	28.62	0.79	29.41	46.00	16.59

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

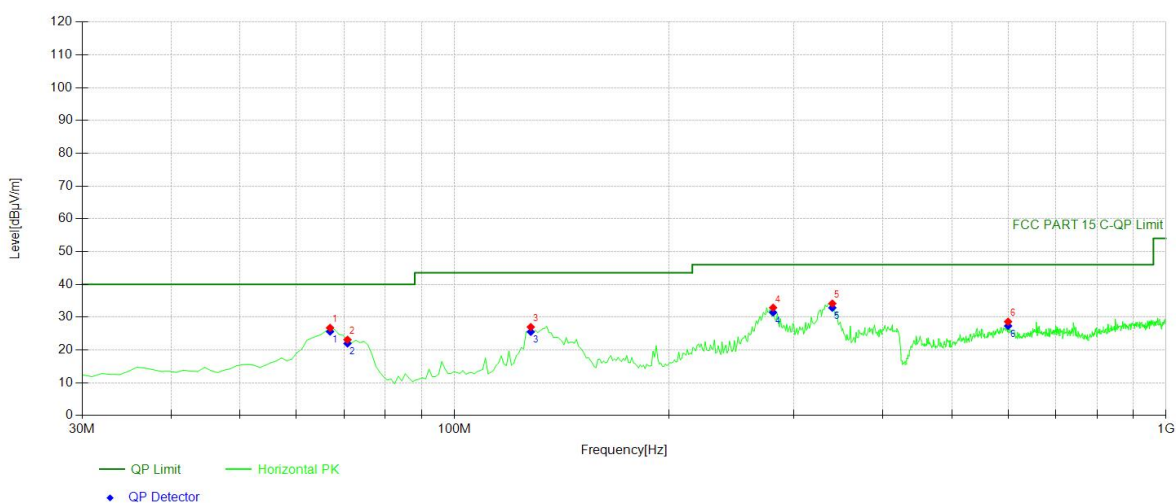


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	36.7968	36.44	-12.42	24.02	PK	40.00	15.98	Vertical
2	66.8969	42.45	-12.83	29.62	PK	40.00	10.38	Vertical
3	70.7808	40.89	-13.40	27.49	PK	40.00	12.51	Vertical
4	337.797	43.98	-6.22	37.76	PK	46.00	8.24	Vertical
5	599.96	38.78	0.16	38.94	PK	46.00	7.06	Vertical
6	933.974	26.47	3.20	29.67	PK	46.00	16.33	Vertical

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	36.7968	35.25	-12.42	22.83	40.00	17.17
2	66.8969	41.44	-12.83	28.61	40.00	11.39
3	70.7808	39.88	-13.40	26.48	40.00	13.52
4	337.7978	42.88	-6.22	36.66	46.00	9.34
5	599.96	37.68	0.16	37.84	46.00	8.16
6	933.974	25.05	3.20	28.25	46.00	17.75



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	66.8969	39.57	-12.83	26.74	PK	40.00	13.26	Horizontal
2	70.7808	36.50	-13.40	23.10	PK	40.00	16.90	Horizontal
3	128.068	40.46	-13.48	26.98	PK	43.50	16.52	Horizontal
4	280.510	41.68	-8.79	32.89	PK	46.00	13.11	Horizontal
5	339.739	40.24	-6.09	34.15	PK	46.00	11.85	Horizontal
6	599.96	28.45	0.16	28.61	PK	46.00	17.39	Horizontal

Final Data List

NO.	Freq. [MHz]	QP Reading [dBμV]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	66.8969	38.42	-12.83	25.59	40.00	14.41
2	70.7808	35.35	-13.40	21.95	40.00	18.05
3	128.0681	38.99	-13.48	25.51	43.50	17.99
4	280.5105	40.21	-8.79	31.42	46.00	14.58
5	339.7397	38.94	-6.09	32.85	46.00	13.15
6	599.96	27.15	0.16	27.31	46.00	18.69

8.7 CONDUCTED EMISSIONS TEST

8.7.1 Applicable Standard

According to FCC Part 15.207(a)
According to IC RSS-Gen 8.8

8.7.2 Conformance Limit

Frequency(MHz)	Conducted Emission Limit	
	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.

8.7.3 Test Configuration

Test according to clause 7.3 conducted emission test setup

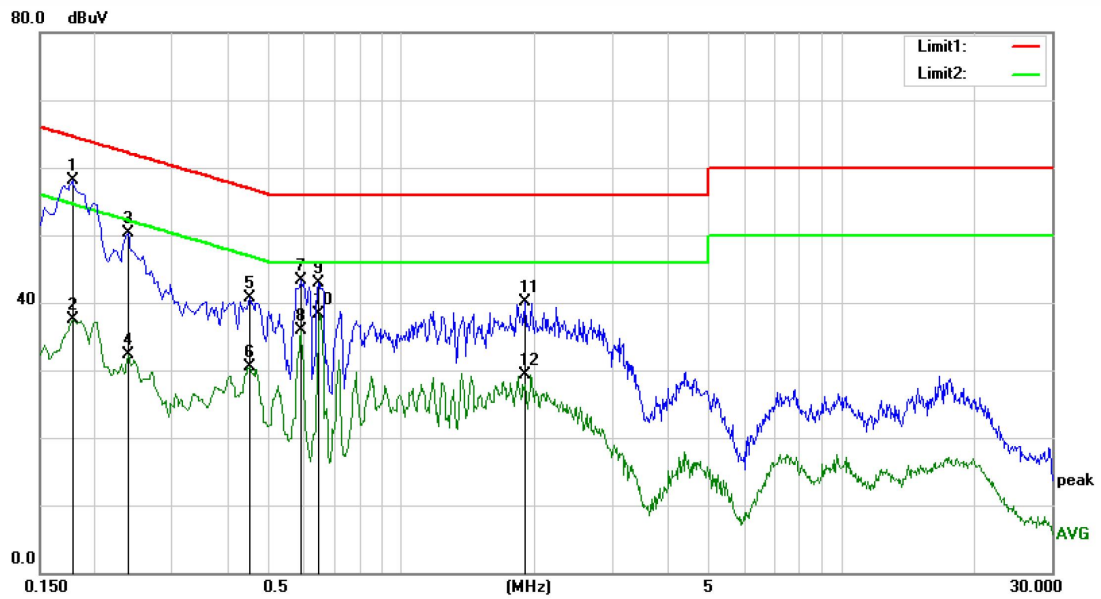
8.7.4 Test Procedure

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.

8.7.5 Test Results

Pass

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



Site Conduction #1

Phase: **N**

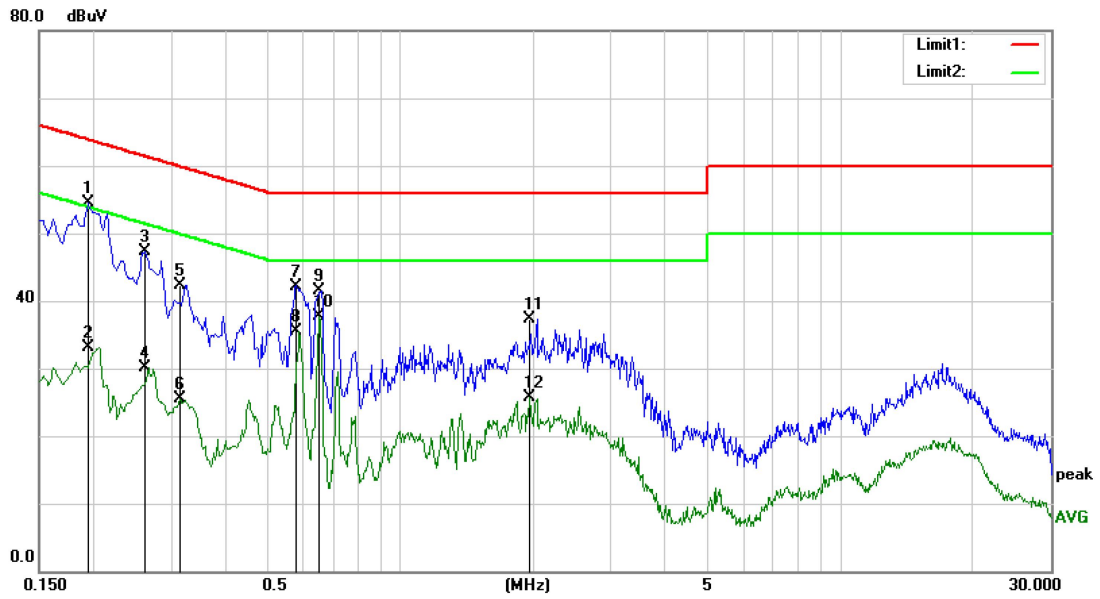
Temperature: 21.9

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 65 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1780	48.37	9.70	58.07	64.58	-6.51	QP	
2		0.1780	27.85	9.70	37.55	54.58	-17.03	AVG	
3		0.2380	40.58	9.67	50.25	62.17	-11.92	QP	
4		0.2380	22.69	9.67	32.36	52.17	-19.81	AVG	
5		0.4500	31.03	9.65	40.68	56.88	-16.20	QP	
6		0.4500	20.85	9.65	30.50	46.88	-16.38	AVG	
7		0.5900	33.59	9.70	43.29	56.00	-12.71	QP	
8		0.5900	26.28	9.70	35.98	46.00	-10.02	AVG	
9		0.6460	33.20	9.74	42.94	56.00	-13.06	QP	
10		0.6460	28.65	9.74	38.39	46.00	-7.61	AVG	
11		1.8980	30.28	9.82	40.10	56.00	-15.90	QP	
12		1.8980	19.50	9.82	29.32	46.00	-16.68	AVG	



Site Conduction #1

Phase: **L1**

Temperature: 21.9

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 65 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1940	44.72	9.74	54.46	63.86	-9.40	QP	
2		0.1940	23.31	9.74	33.05	53.86	-20.81	AVG	
3		0.2620	37.63	9.61	47.24	61.37	-14.13	QP	
4		0.2620	20.56	9.61	30.17	51.37	-21.20	AVG	
5		0.3140	32.71	9.53	42.24	59.86	-17.62	QP	
6		0.3140	16.01	9.53	25.54	49.86	-24.32	AVG	
7		0.5780	32.51	9.69	42.20	56.00	-13.80	QP	
8		0.5780	25.75	9.69	35.44	46.00	-10.56	AVG	
9		0.6540	31.71	9.75	41.46	56.00	-14.54	QP	
10	*	0.6540	27.86	9.75	37.61	46.00	-8.39	AVG	
11		1.9620	27.55	9.83	37.38	56.00	-18.62	QP	
12		1.9620	15.92	9.83	25.75	46.00	-20.25	AVG	

8.8 ANTENNA APPLICATION

8.8.1 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 stave having the highest gain.

8.8.2 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 -----

9 APPENDIX PHOTOGRAPHS OF EUT

Please refer to the file of External Photo and Internal Photo.



10 APPENDIX PHOTOGRAPHS OF TEST SETUP

Please refer to the file of Test Setup Photo.



声 明 Statement

1. 本报告无授权批准人签字及“检验检测专用章”无效；

This report is invalid without the signature of the authorized approver and the "special seal for testing".

2. 未经许可本报告不得部分复制；

This report shall not be copied partly without authorization.

3. 本报告的检测结果仅对送测样品有效，委托方对样品的代表性和资料的真实性负责；

The test results or observations are applicable only to tested sample. Client shall be responsible for representativeness of the samples and the authenticity of the material.

4. 本检测报告中检测项目标注有特殊符号则该项目不在资质认定范围内，仅作为客户委托、科研、教学或内部质量控制等目的使用；

The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.

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The test results or observations are provided in accordance with measured value, without taking risks caused by uncertainty into account. Without explicit stipulation in special agreements, standards or regulations, EMTEK shall not assume any responsibility.

6. 对本检验报告若有异议，请于收到报告之日起 20 日内提出。

Objections shall be raised within 20 days from the date receiving the report.