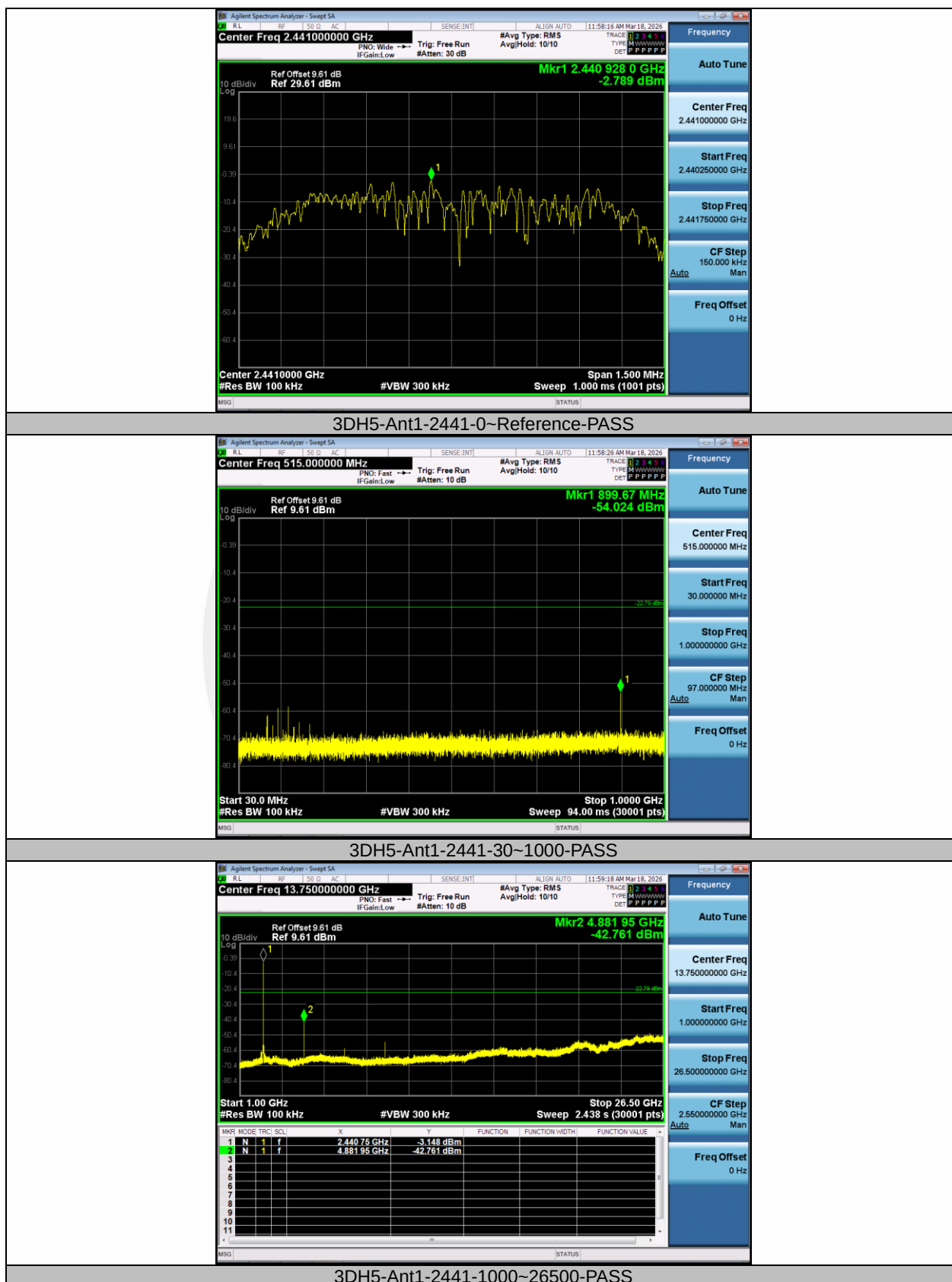
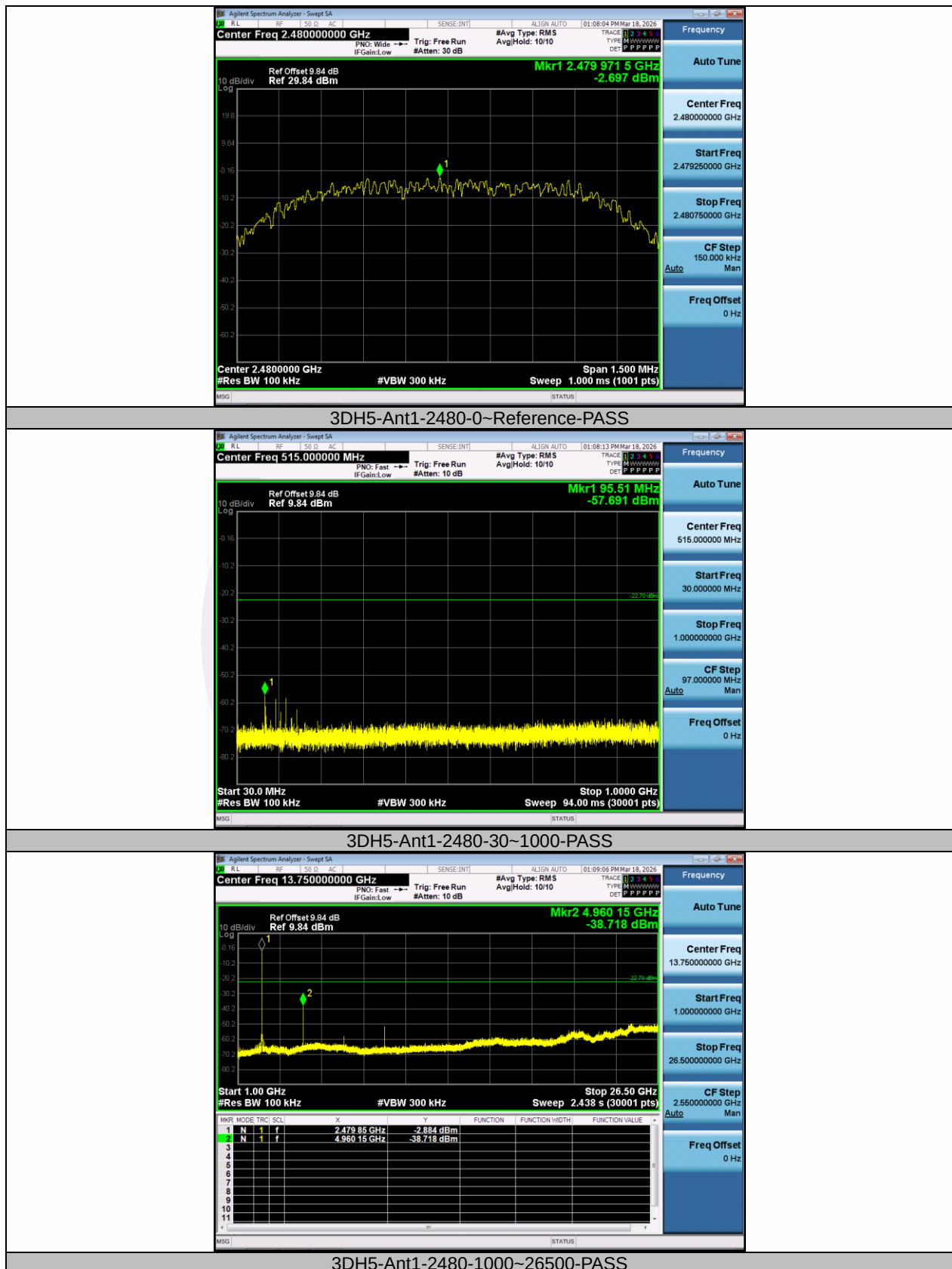






9.7 RADIATED SPURIOUS EMISSION

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
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	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	Above 38.6
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 (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/F(KHz)	20 log (uV/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 ≥ 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 $\geq$ 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 $\geq$ 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 $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.10 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

Pass

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

Temperature:	25° C
Relative Humidity:	60%
ATM Pressure:	1011 mbar

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		margin(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 =40log(Specific distance/ 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)	margin(dB)	Detector
4803.75	V	51.22	74.00	22.78	peak
8291.25	V	58.42	74.00	15.58	peak
17040	V	67.80	74.00	6.20	peak
4803.75	V	41.97	54.00	12.03	AVG
8291.25	V	37.84	54.00	16.16	AVG
17040	V	49.88	54.00	4.12	AVG
4803.75	H	50.51	74.00	23.49	peak
8368.125	H	58.66	74.00	15.34	peak
16704.375	H	67.21	74.00	6.79	peak
4803.75	H	40.71	54.00	13.29	AVG
8368.125	H	38.90	54.00	15.10	AVG
16704.375	H	47.45	54.00	6.55	AVG

Test mode:	GFSK	Frequency:	Channel 39: 2441MHz
------------	------	------------	---------------------

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	margin(dB)	Detector
4880.625	V	52.51	74.00	21.49	peak
8392.5	V	59.05	74.00	14.95	peak
16800	V	67.40	74.00	6.60	peak
4880.625	V	43.78	54.00	10.22	AVG
8392.5	V	38.69	54.00	15.31	AVG
16800	V	46.35	54.00	7.65	AVG
4880.625	H	51.18	74.00	22.82	peak
8445	H	58.59	74.00	15.41	peak
17928.75	H	66.12	74.00	7.88	peak
4880.625	H	39.28	54.00	14.72	AVG
8445	H	38.47	54.00	15.53	AVG
17928.75	H	49.15	54.00	4.85	AVG

Test mode: GFSK Frequency: Channel 78: 2480MHz

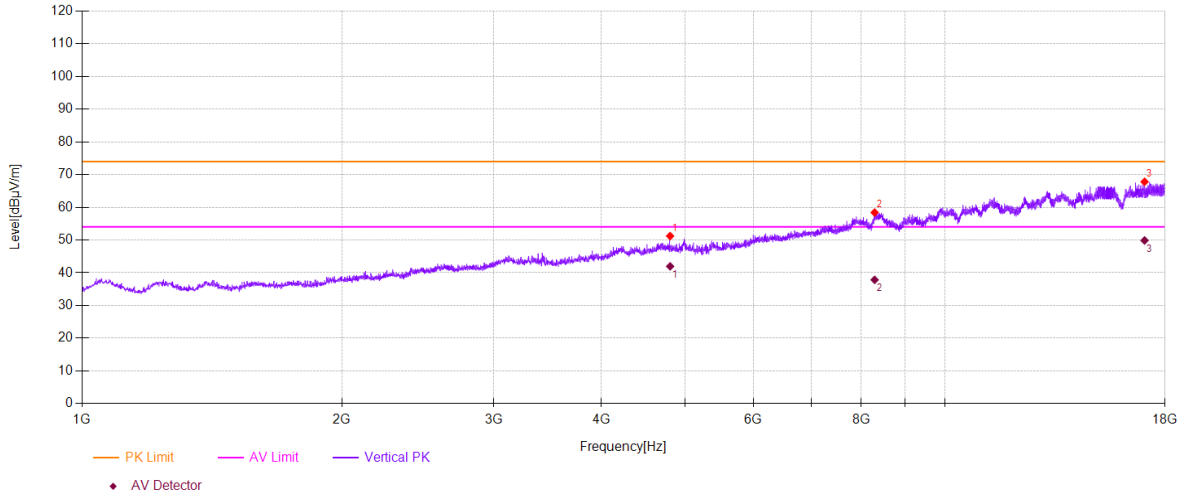
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	margin(dB)	Detector
4959.375	V	53.79	74.00	20.21	peak
8373.75	V	58.56	74.00	15.44	peak
16770	V	67.28	74.00	6.72	peak
4959.375	V	44.55	54.00	9.45	AVG
8373.75	V	38.96	54.00	15.04	AVG
16770	V	46.95	54.00	7.05	AVG
4959.375	H	53.45	74.00	20.55	peak
8383.125	H	59.06	74.00	14.94	peak
17572.5	H	66.57	74.00	7.43	peak
4959.375	H	41.93	54.00	12.07	AVG
8383.125	H	38.30	54.00	15.70	AVG
17572.5	H	50.96	54.00	3.04	AVG

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 - (2) Emission Level= Reading Level+Probe Factor +Cable Loss.
 - (3) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
 - (4) Only records the worst data in tabular form.

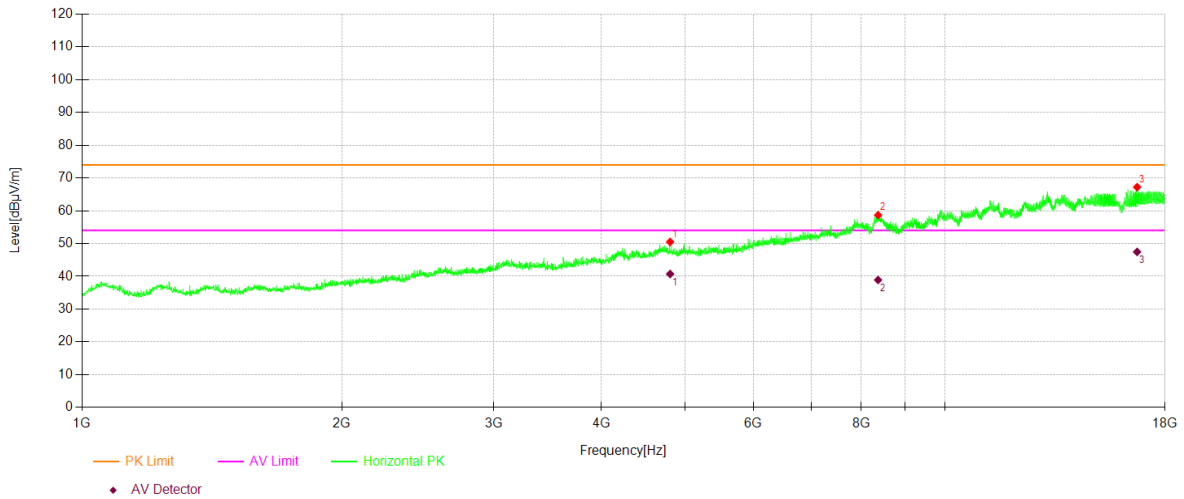
■ Spurious Emission above 1GHz (1GHz to 18GHz)

All modes have been tested, and the worst result recorded was report as below:

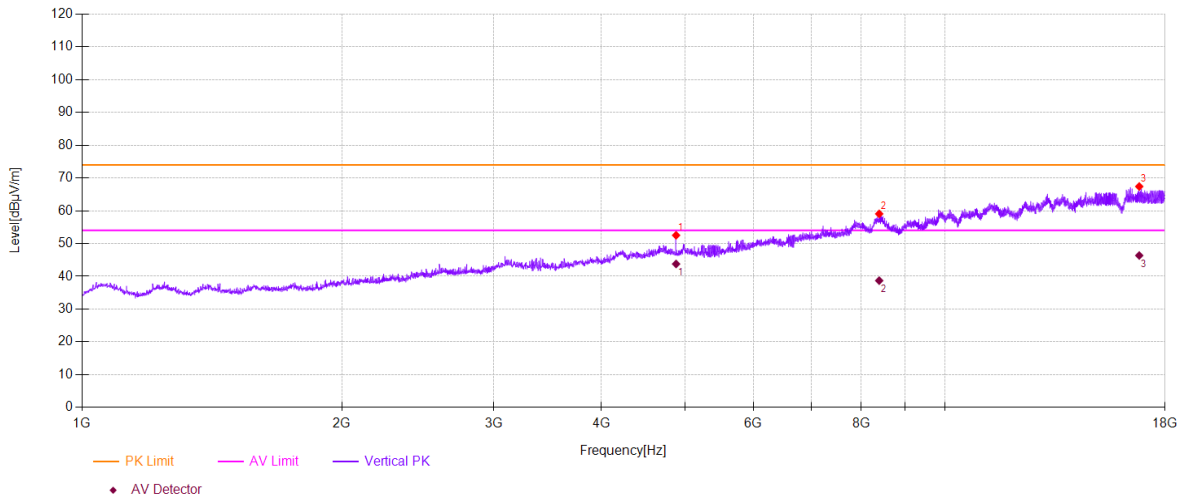
Test mode: GFSK Frequency: Channel 0: 2402MHz V



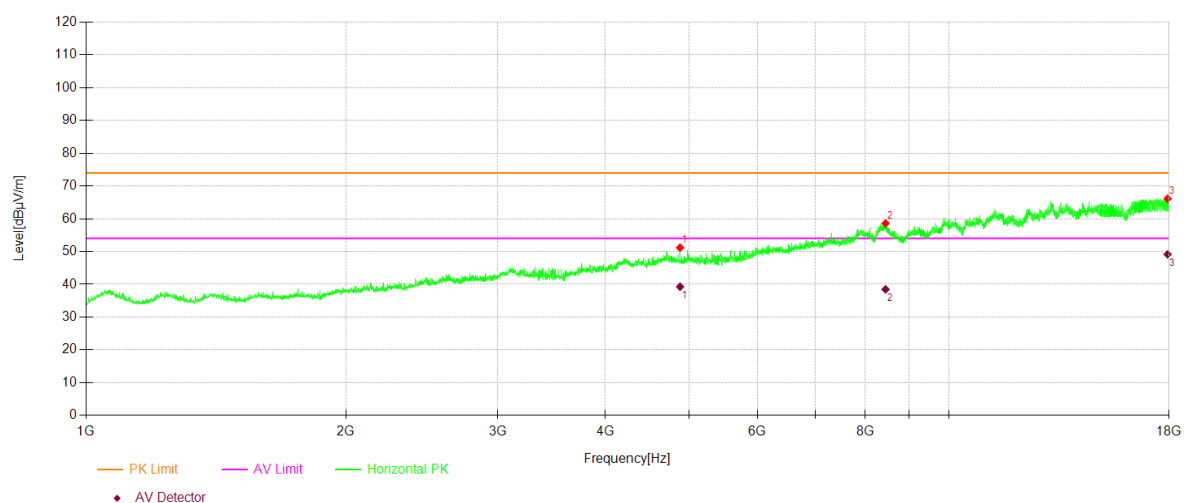
Test mode: GFSK Frequency: Channel 0: 2402MHz H



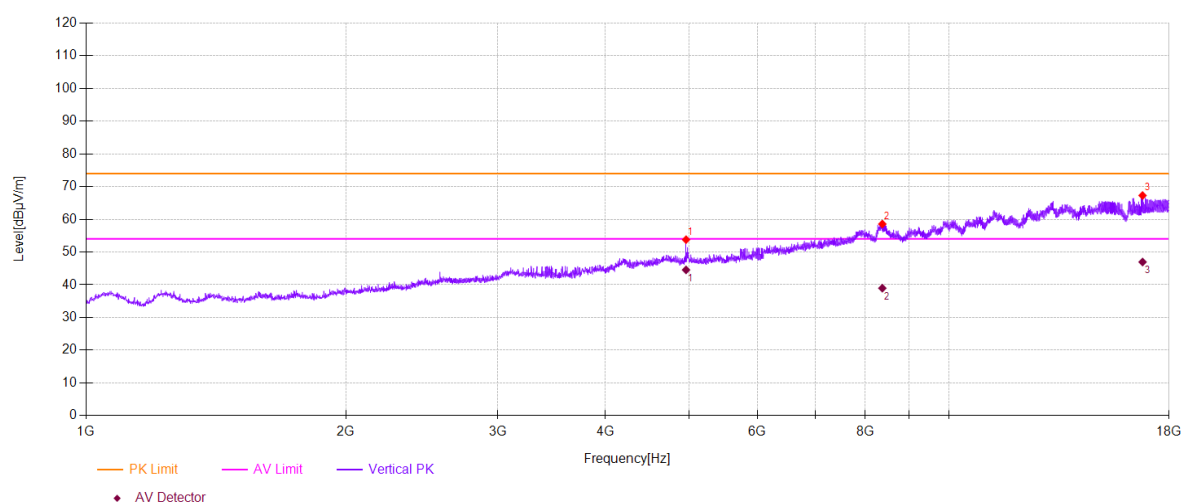
Test mode: GFSK Frequency: Channel 39: 2441MHz V



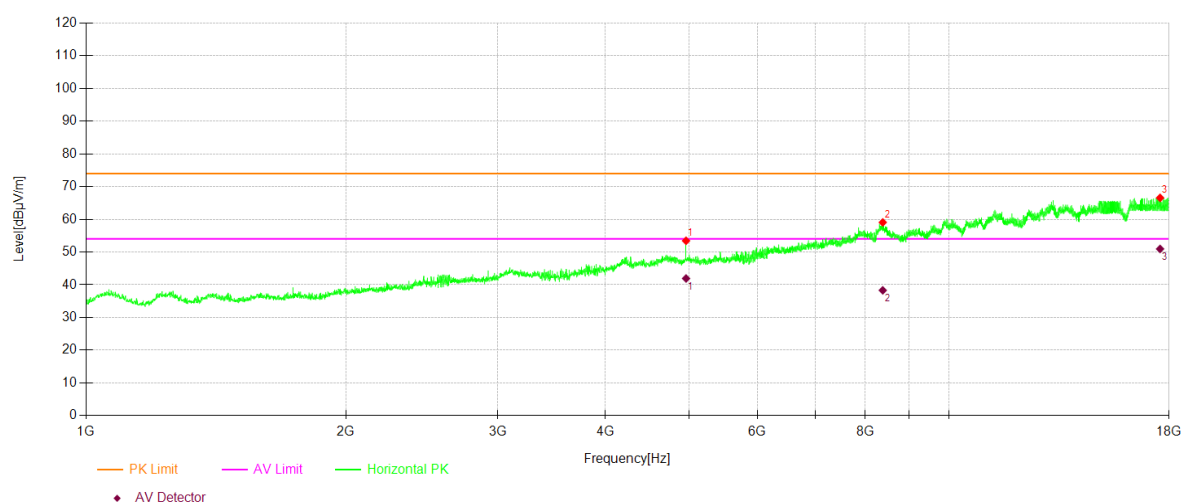
Test mode: GFSK Frequency: Channel 39: 2441MHz H



Test mode: GFSK Frequency: Channel 78: 2480MHz V



Test mode: GFSK Frequency: Channel 78: 2480MHz H



■ 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

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	margin(dB)	Detector
2377.72	V	48.32	74.00	25.68	peak
2377.72	V	38.37	54.00	15.63	AVG
2379.43	H	51.14	74.00	22.86	peak
2379.43	H	39.48	54.00	14.52	AVG

Test mode: GFSK Frequency: Channel 78: 2480MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	margin(dB)	Detector
2483.59	V	52.48	74.00	21.52	peak
2483.59	V	39.23	54.00	14.77	AVG
2483.50	H	55.16	74.00	18.84	peak
2483.50	H	40.03	54.00	13.97	AVG

Test mode: GFSK Frequency: Hopping

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	margin(dB)	Detector
2390.00	V	48.25	74.00	25.75	peak
2483.50	V	49.00	74.00	25.00	peak
2390.00	V	38.07	54.00	15.93	AVG
2483.50	V	38.56	54.00	15.44	AVG
2390.00	H	50.70	74.00	23.30	peak
2483.50	H	51.90	74.00	22.10	peak
2390.00	H	38.92	54.00	15.08	AVG
2483.50	H	39.51	54.00	14.49	AVG

- Note:** (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) Data of measurement within this frequency range shown " -- " in the table above means 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

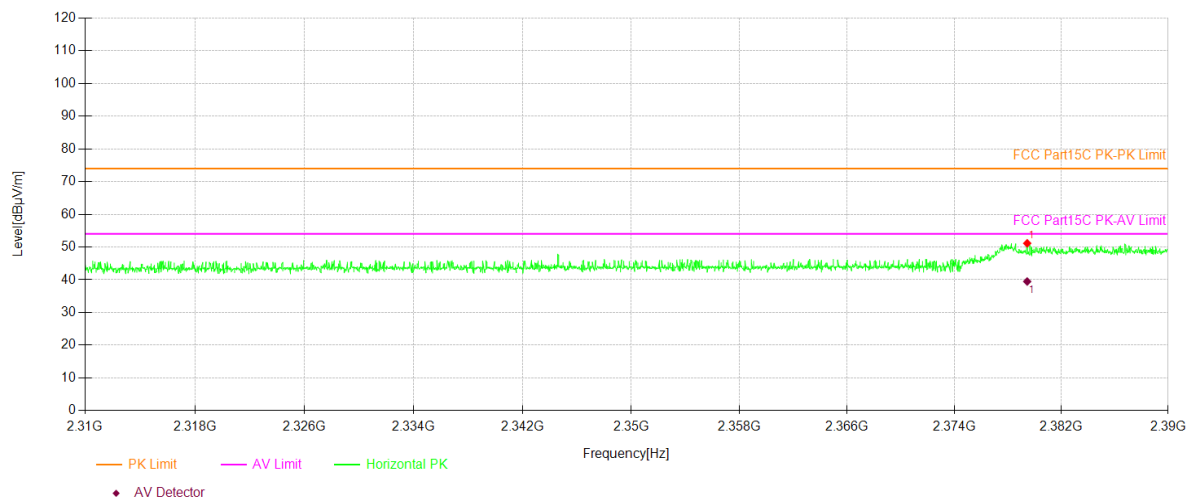
BT

Channel 0: 2402MHz

GFSK

H

Test By: HYD



Test Model

Spurious Emission in Restricted Band 2310-2390MHz

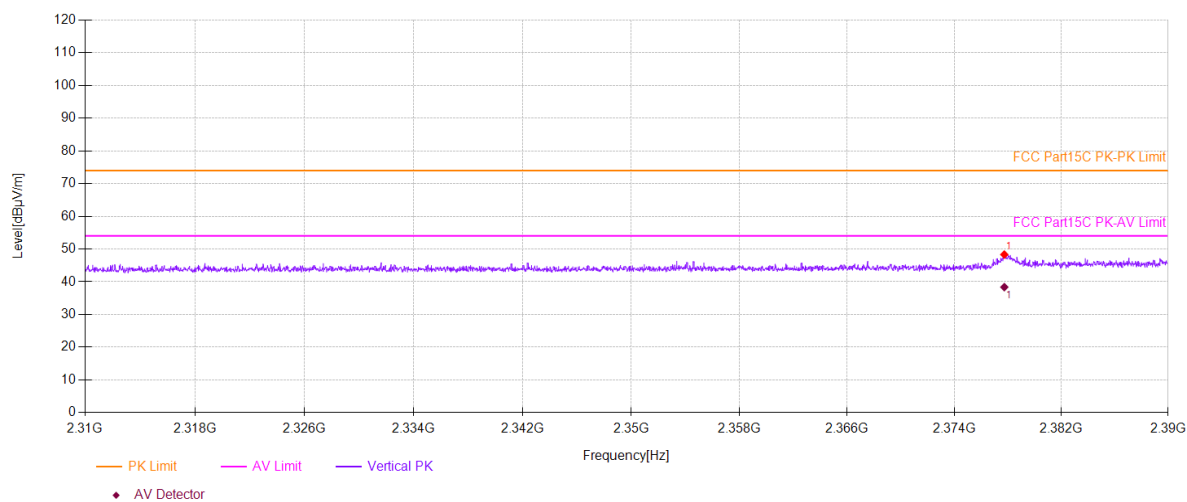
BT

Channel 0: 2402MHz

GFSK

V

Test By: HYD



Test Model

Spurious Emission in Restricted Band 2483.5-2500MHz

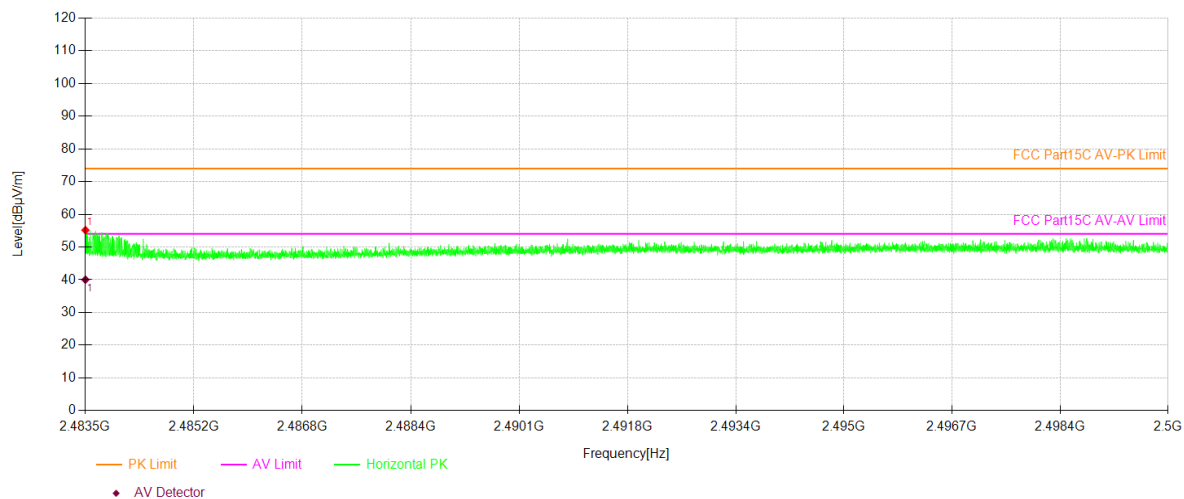
BT

Channel 78: 2480MHz

GFSK

H

Test By: HYD



Test Model

Spurious Emission in Restricted Band 2483.5-2500MHz

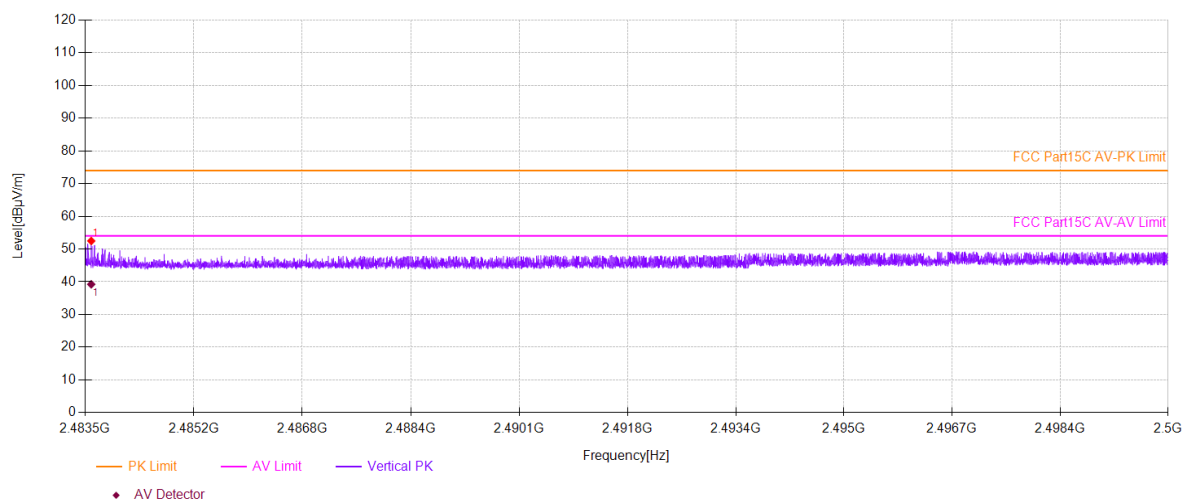
BT

Channel 78: 2480MHz

GFSK

V

Test By: HYD

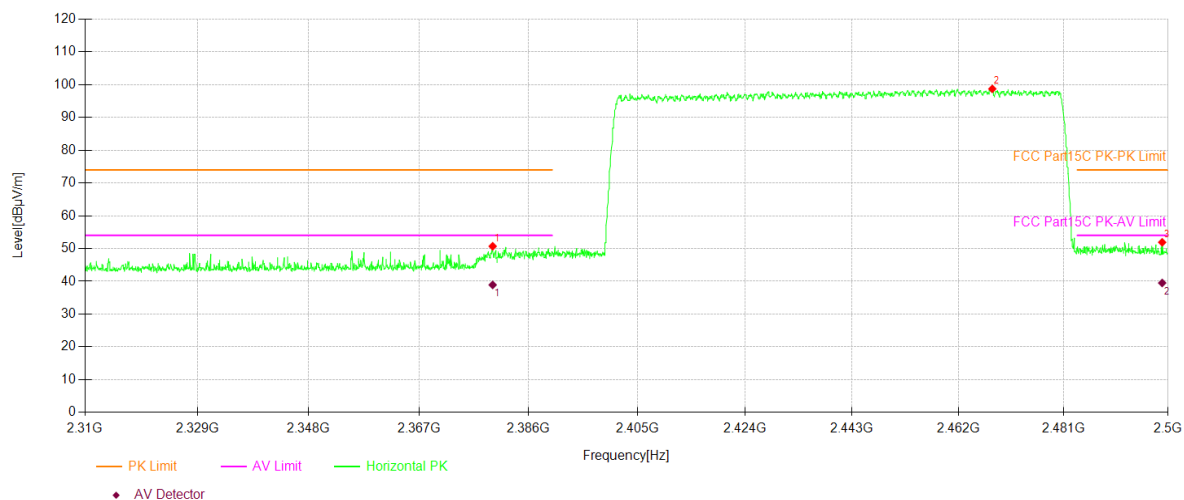


Test Model

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

GFSK
Test By: HYD

H

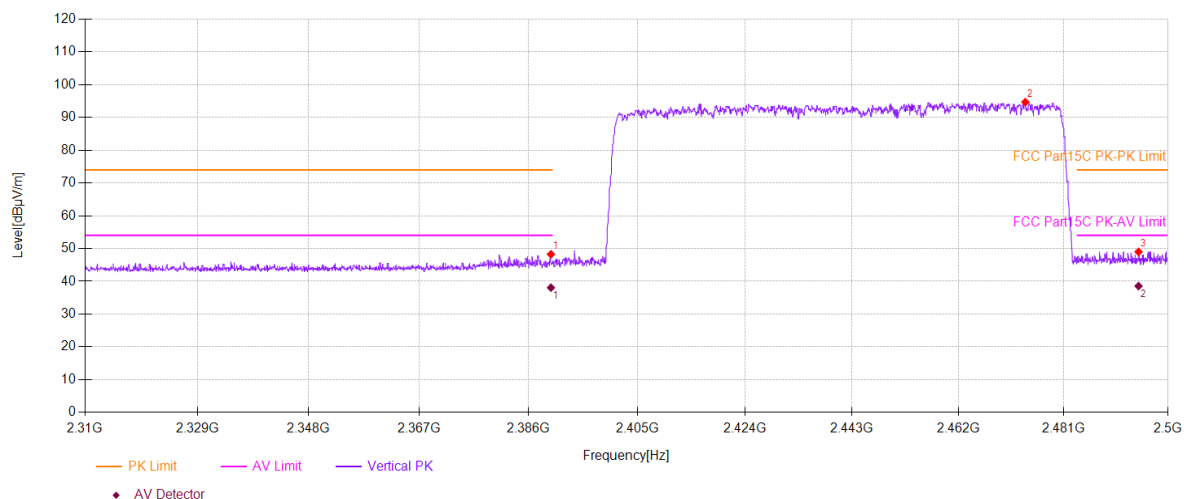


Test Model

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

GFSK
Test By: HYD

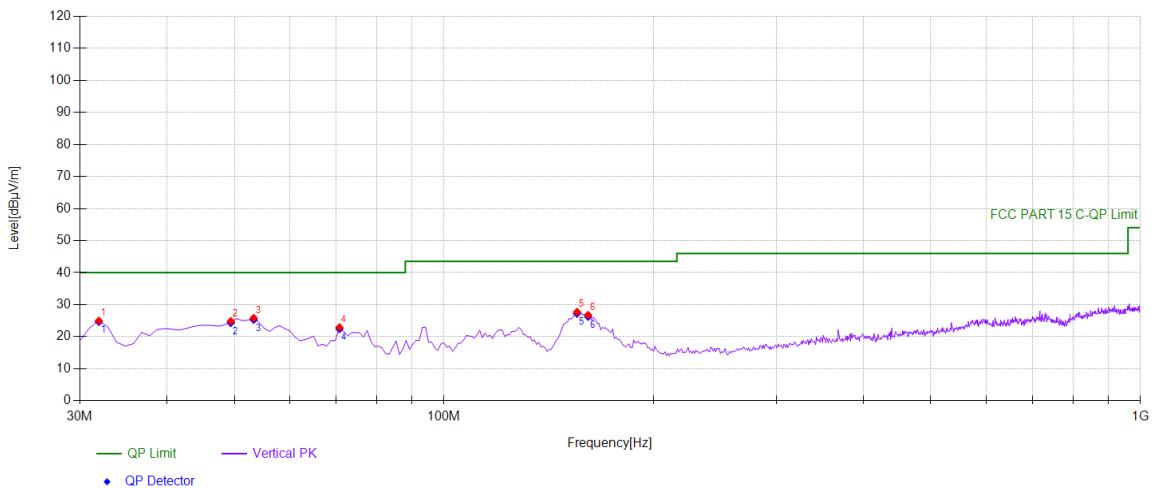
V



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

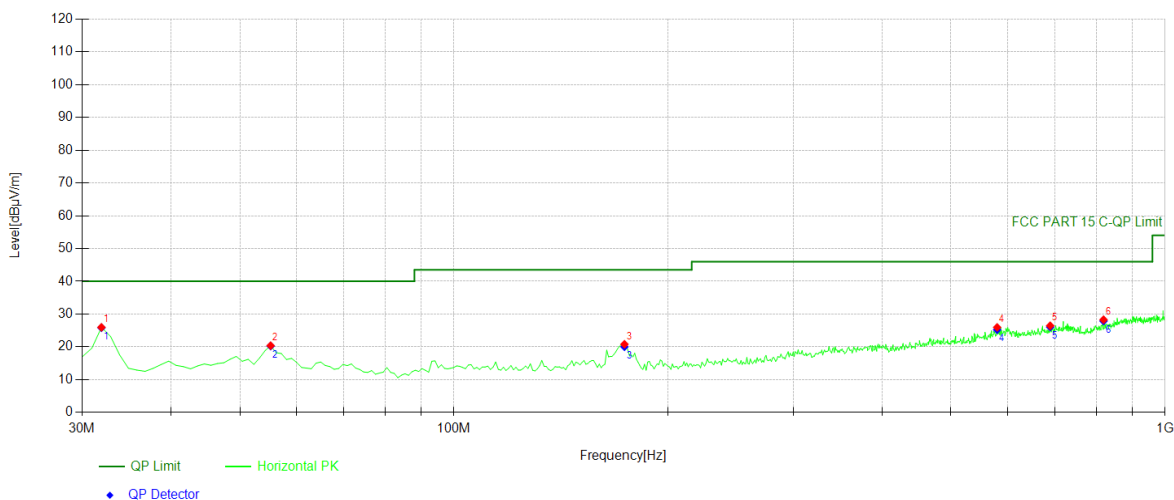
Bluetooth (GFSK, $\pi/4$ -DQPSK, 8DPSK) mode have been tested, and the worst result(GFSK) was report as below:

Test mode: GFSK Frequency: Channel 0: 2402MHz



Suspected Data List								
NO	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	31.9419	36.39	-11.39	25.00	PK	40.00	15.00	Vertical
2	49.4194	33.55	-8.69	24.86	PK	40.00	15.14	Vertical
3	53.3033	34.87	-9.03	25.84	PK	40.00	14.16	Vertical
4	70.7808	34.26	-11.30	22.96	PK	40.00	17.04	Vertical
5	155.2553	39.50	-11.77	27.73	PK	43.50	15.77	Vertical
6	161.0811	38.37	-11.60	26.77	PK	43.50	16.73	Vertical

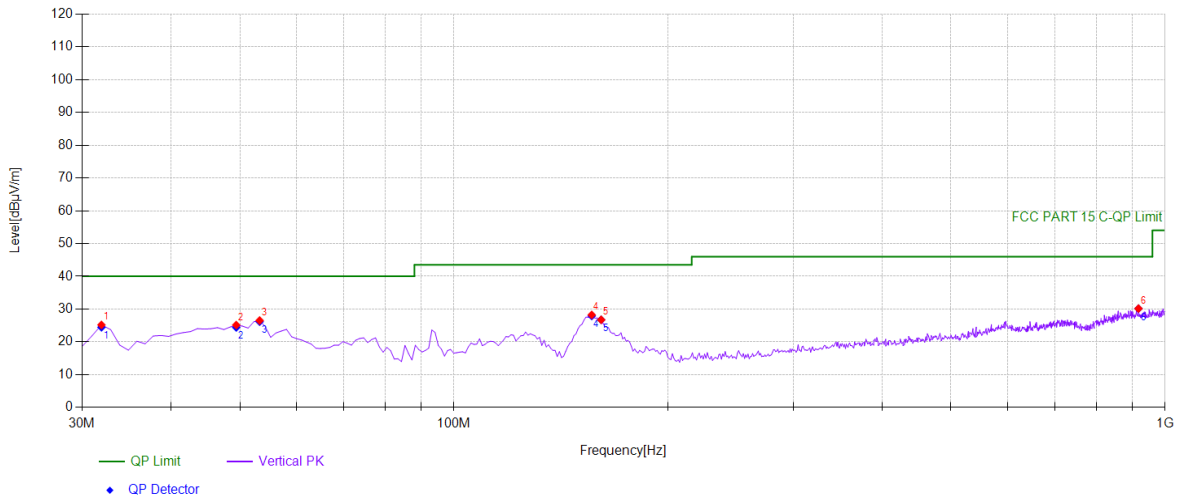
Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	31.9419	-11.39	24.65	40.00	15.35
2	49.4194	-8.69	24.34	40.00	15.66
3	53.3033	-9.03	25.32	40.00	14.68
4	70.7808	-11.30	22.44	40.00	17.56
5	155.2553	-11.77	27.21	43.50	16.29
6	161.0811	-11.60	26.25	43.50	17.25



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	31.9419	37.37	-11.39	25.98	PK	40.00	14.02	Horizontal
2	55.2452	29.67	-9.28	20.39	PK	40.00	19.61	Horizontal
3	173.7037	31.90	-11.09	20.81	PK	43.50	22.69	Horizontal
4	580.5405	26.25	-0.27	25.98	PK	46.00	20.02	Horizontal
5	689.2893	26.00	0.46	26.46	PK	46.00	19.54	Horizontal
6	819.3994	26.68	1.62	28.30	PK	46.00	17.70	Horizontal

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	31.9419	-11.39	25.85	40.00	14.15
2	55.2452	-9.28	20.26	40.00	19.74
3	173.7037	-11.09	20.04	43.50	23.46
4	580.5405	-0.27	25.21	46.00	20.79
5	689.2893	0.46	26.04	46.00	19.96
6	819.3994	1.62	27.88	46.00	18.12

Test mode: GFSK Frequency: Channel 39: 2441MHz

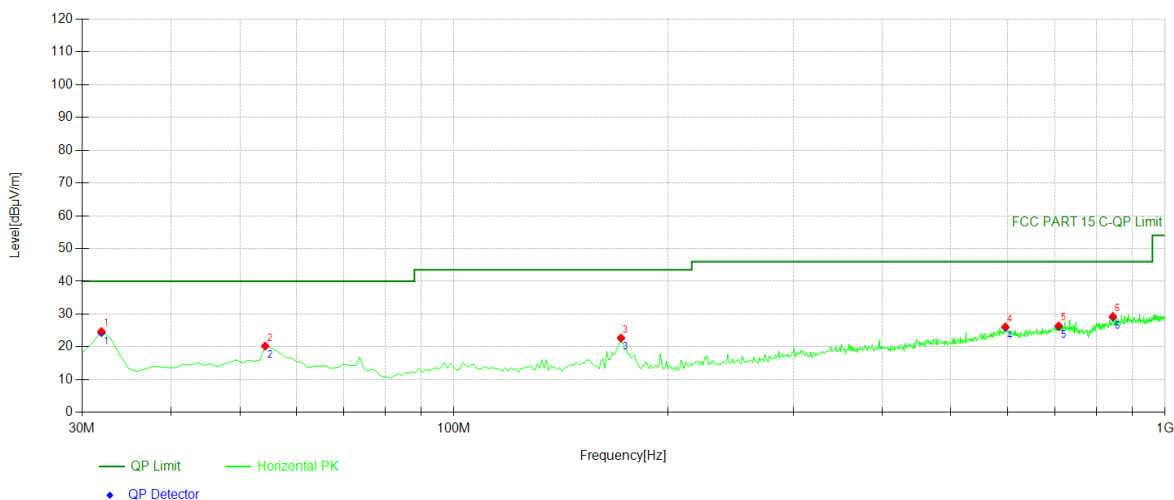


Suspected Data List

NO	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	31.9419	36.58	-11.39	25.19	PK	40.00	14.81	Vertical
2	49.4194	33.83	-8.69	25.14	PK	40.00	14.86	Vertical
3	53.3033	35.56	-9.03	26.53	PK	40.00	13.47	Vertical
4	156.2262	40.00	-11.74	28.26	PK	43.50	15.24	Vertical
5	161.0811	38.35	-11.60	26.75	PK	43.50	16.75	Vertical
6	917.4675	26.73	3.44	30.17	PK	46.00	15.83	Vertical

Final Data List

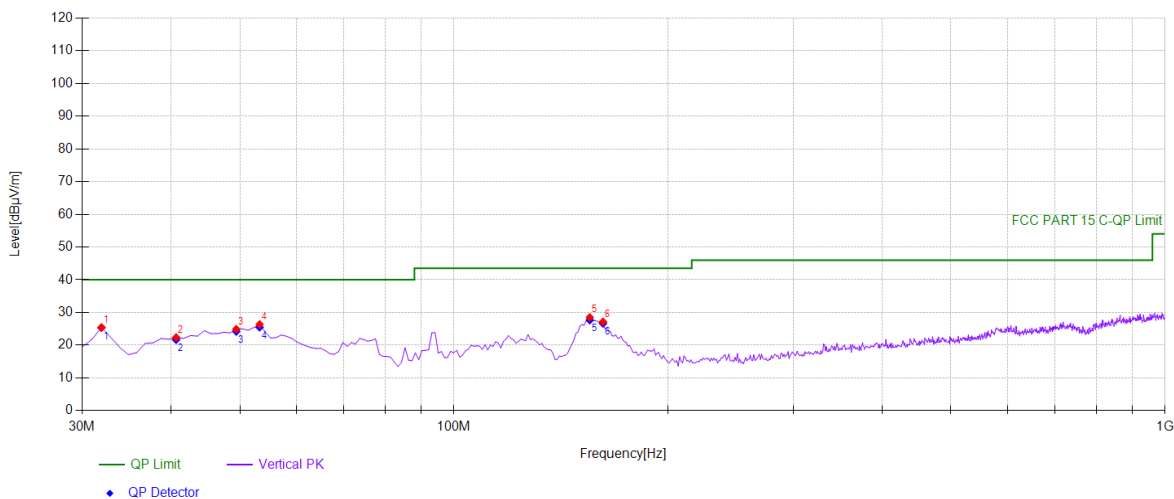
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	31.9419	-11.39	24.47	40.00	15.53
2	49.4194	-8.69	24.42	40.00	15.58
3	53.3033	-9.03	26.17	40.00	13.83
4	156.2262	-11.74	27.90	43.50	15.60
5	161.0811	-11.60	26.74	43.50	16.76
6	917.4675	3.44	30.16	46.00	15.84



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	31.9419	36.17	-11.39	24.78	PK	40.00	15.22	Horizontal
2	54.2743	29.43	-9.15	20.28	PK	40.00	19.72	Horizontal
3	171.7618	33.92	-11.17	22.75	PK	43.50	20.75	Horizontal
4	596.0761	25.76	0.41	26.17	PK	46.00	19.83	Horizontal
5	708.7087	25.41	1.05	26.46	PK	46.00	19.54	Horizontal
6	844.6446	26.97	2.35	29.32	PK	46.00	16.68	Horizontal

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	31.9419	-11.39	24.34	40.00	15.66
2	54.2743	-9.15	20.20	40.00	19.80
3	171.7618	-11.17	22.67	43.50	20.83
4	596.0761	0.41	25.93	46.00	20.07
5	708.7087	1.05	26.22	46.00	19.78
6	844.6446	2.35	29.08	46.00	16.92

Test mode: GFSK Frequency: Channel 78: 2480MHz

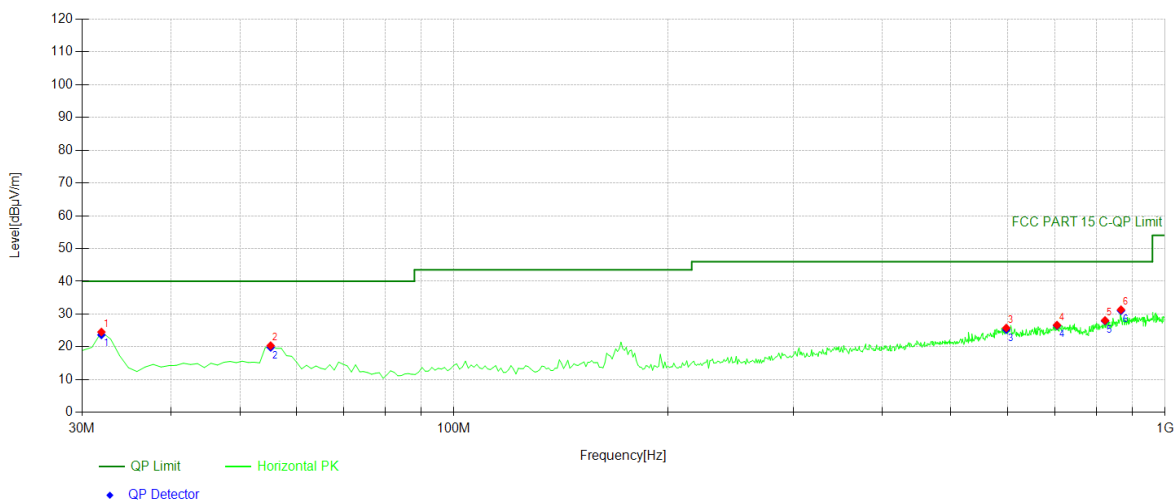


Suspected Data List

NO	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	31.9419	36.81	-11.39	25.42	PK	40.00	14.58	Vertical
2	40.6807	32.43	-10.05	22.38	PK	40.00	17.62	Vertical
3	49.4194	33.59	-8.69	24.90	PK	40.00	15.10	Vertical
4	53.3033	35.40	-9.03	26.37	PK	40.00	13.63	Vertical
5	155.2553	40.31	-11.77	28.54	PK	43.50	14.96	Vertical
6	162.0521	38.72	-11.56	27.16	PK	43.50	16.34	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	31.9419	-11.39	25.36	40.00	14.64
2	40.6807	-10.05	21.68	40.00	18.32
3	49.4194	-8.69	24.20	40.00	15.80
4	53.3033	-9.03	25.50	40.00	14.50
5	155.2553	-11.77	27.67	43.50	15.83
6	162.0521	-11.56	26.65	43.50	16.85



Suspected Data List

NO	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	31.9419	35.94	-11.39	24.55	PK	40.00	15.45	Horizontal
2	55.2452	29.67	-9.28	20.39	PK	40.00	19.61	Horizontal
3	598.018	25.27	0.51	25.78	PK	46.00	20.22	Horizontal
4	704.8248	25.67	0.99	26.66	PK	46.00	19.34	Horizontal
5	823.2833	26.33	1.74	28.07	PK	46.00	17.93	Horizontal
6	866.977	28.46	2.91	31.37	PK	46.00	14.63	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	31.9419	-11.39	23.66	40.00	16.34
2	55.2452	-9.28	19.85	40.00	20.15
3	598.018	0.51	25.24	46.00	20.76
4	704.8248	0.99	26.48	46.00	19.52
5	823.2833	1.74	27.89	46.00	18.11
6	866.977	2.91	31.03	46.00	14.97

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

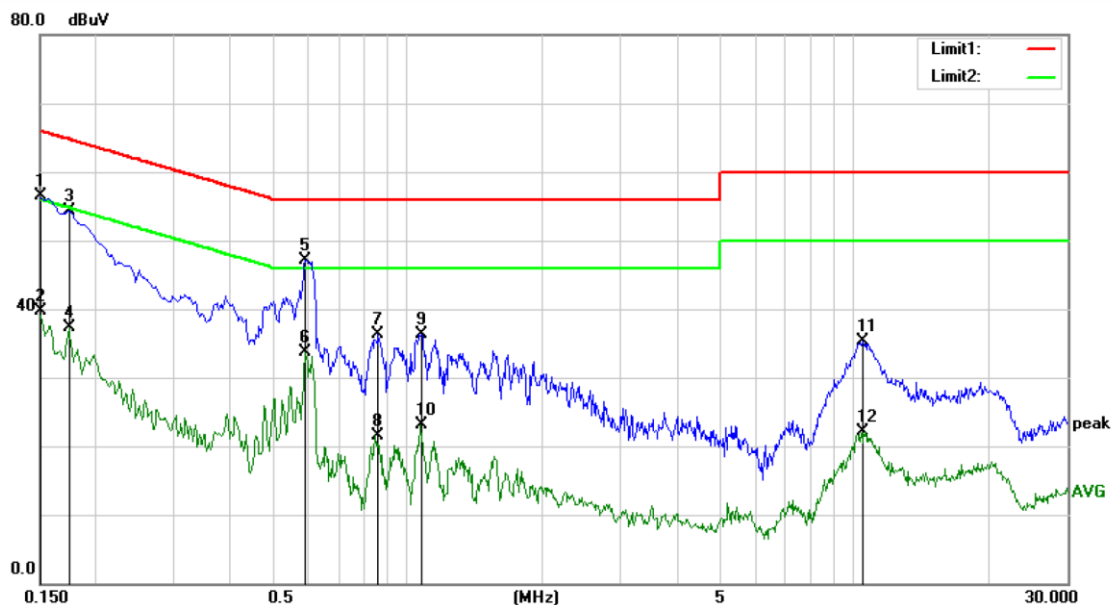
9.8.4 Test Procedure

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

Note: The 120V & 240V voltage have been tested, and the worst result recorded was report as below



Site Conduction #1

Phase: L1

Temperature: 21.8

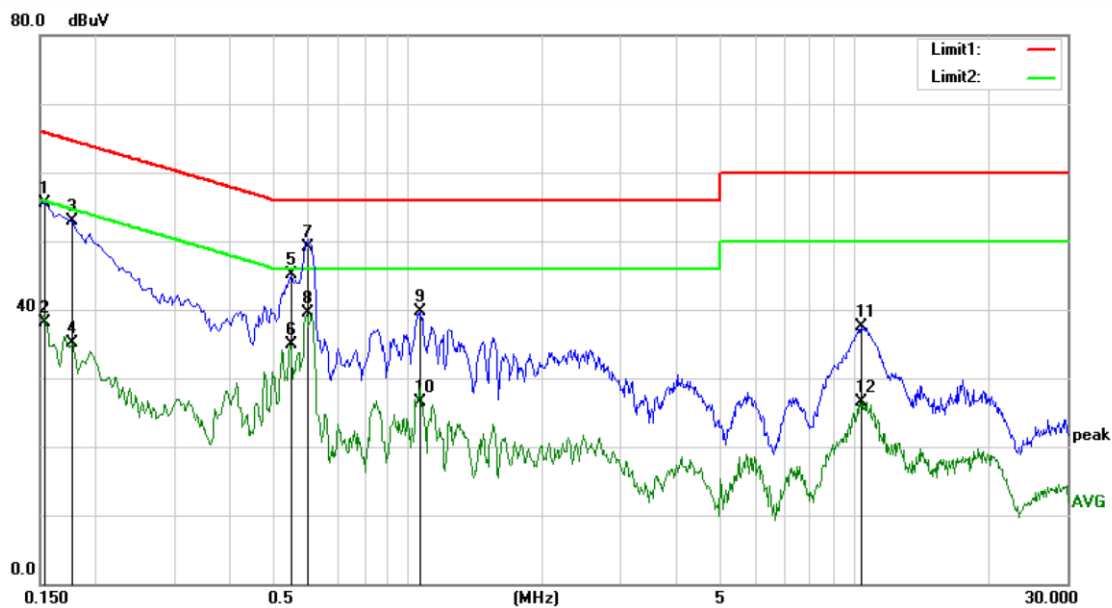
Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 48 %

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1500	46.75	9.71	56.46	66.00	-9.54	QP	
2		0.1500	30.01	9.71	39.72	56.00	-16.28	AVG	
3		0.1740	44.59	9.72	54.31	64.77	-10.46	QP	
4		0.1740	27.64	9.72	37.36	54.77	-17.41	AVG	
5	*	0.5900	37.41	9.72	47.13	56.00	-8.87	QP	
6		0.5900	23.94	9.72	33.66	46.00	-12.34	AVG	
7		0.8580	26.59	9.70	36.29	56.00	-19.71	QP	
8		0.8580	11.71	9.70	21.41	46.00	-24.59	AVG	
9		1.0740	26.66	9.73	36.39	56.00	-19.61	QP	
10		1.0740	13.29	9.73	23.02	46.00	-22.98	AVG	
11		10.5020	25.31	9.95	35.26	60.00	-24.74	QP	
12		10.5020	12.12	9.95	22.07	50.00	-27.93	AVG	



Site Conduction #1

Phase: **N**

Temperature: 21.8

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 48 %

Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit		Detector	Comment
		MHz	Level	Factor	ment	dBuV	dB		
1		0.1540	45.89	9.71	55.60	65.78	-10.18	QP	
2		0.1540	28.38	9.71	38.09	55.78	-17.69	AVG	
3		0.1768	43.17	9.72	52.89	64.63	-11.74	QP	
4		0.1768	25.36	9.72	35.08	54.63	-19.55	AVG	
5		0.5500	35.42	9.72	45.14	56.00	-10.86	QP	
6		0.5500	25.09	9.72	34.81	46.00	-11.19	AVG	
7		0.5980	39.48	9.72	49.20	56.00	-6.80	QP	
8	*	0.5980	29.86	9.72	39.58	46.00	-6.42	AVG	
9		1.0700	29.99	9.73	39.72	56.00	-16.28	QP	
10		1.0700	16.74	9.73	26.47	46.00	-19.53	AVG	
11		10.3940	27.51	9.95	37.46	60.00	-22.54	QP	
12		10.3940	16.54	9.95	26.49	50.00	-23.51	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

- ☒ 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)

Note: 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 ---

10 APPENDIX PHOTOGRAPHS OF EUT

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



11 APPENDIX PHOTOGRAPHS OF TEST SETUP

Please refer to the file of Test Setup Photo.

