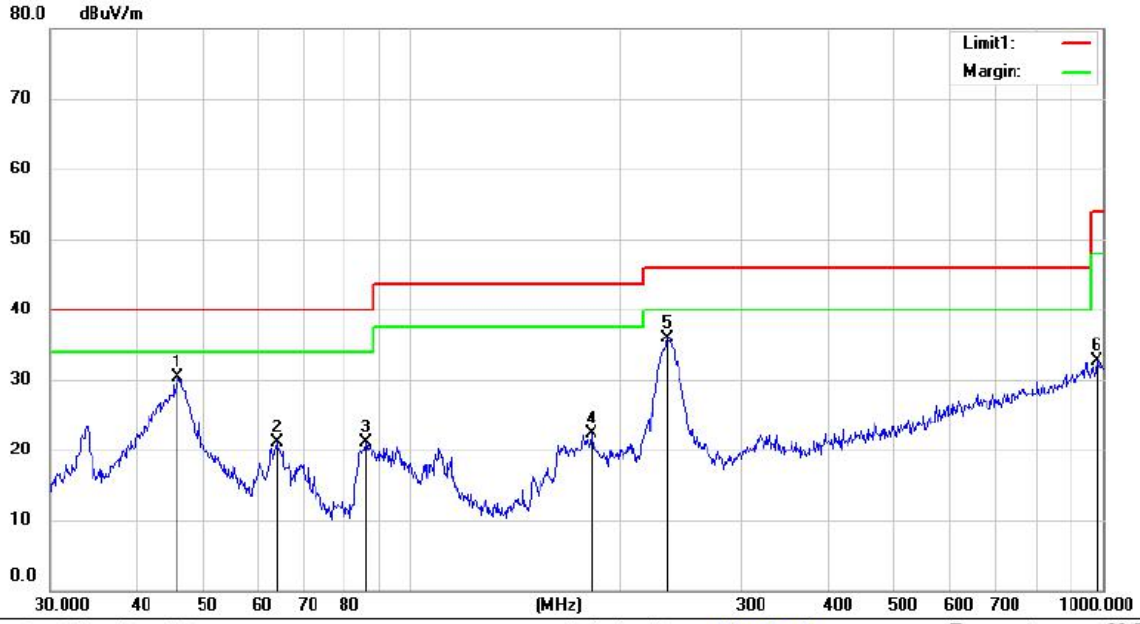


Site 3m Chamber #1
Limit: FCC PART 15B
Mode:3DH1 2441
Note:

Polarization: *Vertical*
Power: AC 120V/60Hz

Temperature: 29.5 C
Humidity: 48 %

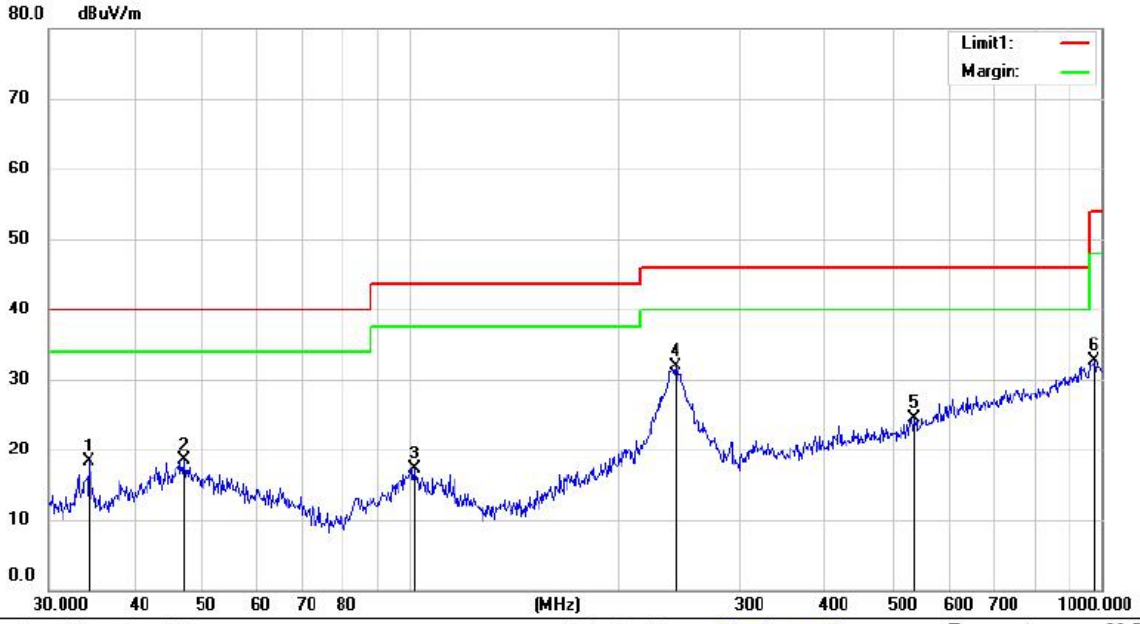
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	45.9560	41.53	-11.29	30.24	40.00	-9.76	QP			
2		63.8427	34.50	-13.35	21.15	40.00	-18.85	QP			
3		85.8607	37.29	-16.09	21.20	40.00	-18.80	QP			
4		182.0000	35.66	-13.35	22.31	43.50	-21.19	QP			
5		234.7850	46.22	-10.40	35.82	46.00	-10.18	QP			
6		980.4690	29.22	3.53	32.75	54.00	-21.25	QP			

Site 3m Chamber #1
Limit: FCC PART 15B
Mode:3DH1 2480
Note:

Polarization: *Vertical*
Power: AC 120V/60Hz

Temperature: 29.5 C
Humidity: 48 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		45.9358	40.61	-11.29	29.32	40.00	-10.68	QP			
2		85.3353	37.01	-16.28	20.73	40.00	-19.27	QP			
3		165.4866	35.07	-14.37	20.70	43.50	-22.80	QP			
4	*	235.5065	47.07	-10.37	36.70	46.00	-9.30	QP			
5		441.9362	29.16	-5.35	23.81	46.00	-22.19	QP			
6		961.3192	29.78	3.21	32.99	54.00	-21.01	QP			



Site 3m Chamber #1
Limit: FCC PART 15B
Mode:3DH1 2480
Note:

Polarization: *Horizontal*
Power: AC 120V/60Hz

Temperature: 29.5 C
Humidity: 48 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		34.3814	31.41	-13.15	18.26	40.00	-21.74	QP			
2		47.2426	29.73	-11.22	18.51	40.00	-21.49	QP			
3		101.4218	29.85	-12.54	17.31	43.50	-26.19	QP			
4	*	242.3127	42.05	-10.09	31.96	46.00	-14.04	QP			
5		535.7073	28.62	-4.05	24.57	46.00	-21.43	QP			
6		972.3374	29.41	3.32	32.73	54.00	-21.27	QP			

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

Test mode:	GFSK	Frequency:	Channel 0: 2402MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
3849.985	V	42.31	28.26	74	54	-31.69	-25.74
4804.000	V	41.19	30.05	74	54	-32.81	-23.95
9788.673	V	56.14	43.96	74	54	-17.86	-10.04
3255.767	H	42.40	28.06	74	54	-31.60	-25.94
7208.638	H	53.90	47.06	74	54	-20.10	-6.94
9929.730	H	56.07	42.96	74	54	-17.93	-11.04

Test mode:	GFSK	Frequency:	Channel 39: 2441MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
2845.082	V	42.30	28.36	74	54	-31.70	-25.64
7323.000	V	55.49	48.99	74	54	-18.51	-5.01
17875.56	V	62.27	46.23	74	54	-11.73	-7.77
5179.798	H	43.95	28.03	74	54	-30.05	-25.97
7323.000	H	54.22	48.67	74	54	-19.78	-5.33
10142.93	H	55.87	42.98	74	54	-18.13	-11.02

Test mode:	GFSK	Frequency:	Channel 78: 2480MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
3739.219	V	43.29	28.31	74	54	-30.71	-25.69
7440.000	V	55.35	49.54	74	54	-18.65	-4.46
12070.66	V	58.17	44.96	74	54	-15.83	-9.04
3306.026	H	42.52	28.36	74	54	-31.48	-25.64
7440.000	H	55.47	49.02	74	54	-18.53	-4.98
17872.98	H	61.11	46.05	74	54	-12.89	-7.95

Test mode:	π/4DQPSK	Frequency:	Channel 0: 2402MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
2872.349	V	42.90	28.31	74	54	-31.10	-25.69
7206.000	V	54.79	48.03	74	54	-19.21	-5.97
17146.83	V	60.94	45.74	74	54	-13.06	-8.26
4098.010	H	42.72	29.15	74	54	-31.28	-24.85
7206.000	H	53.79	47.99	74	54	-20.21	-6.01
17842.01	H	61.74	46.25	74	54	-12.26	-7.75

Test mode:	π/4DQPSK	Frequency:	Channel 39: 2441MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
4074.977	V	43.22	28.36	74	54	-30.78	-25.64
7323.000	V	54.63	48.25	74	54	-19.37	-5.75
17849.75	V	60.14	45.69	74	54	-13.86	-8.31
4111.654	H	43.21	29.02	74	54	-30.79	-24.98
7323.000	H	54.75	48.37	74	54	-19.25	-5.63
17885.90	H	62.20	47.01	74	54	-11.80	-6.99

Test mode:	π/4DQPSK	Frequency:	Channel 78: 2480MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
5433.599	V	45.83	31.02	74	54	-28.17	-22.98
7449.045	V	54.37	47.99	74	54	-19.63	-6.01
17842.01	V	61.42	46.35	74	54	-12.58	-7.65
4361.382	H	43.75	28.02	74	54	-30.25	-25.98
7440.000	H	55.35	48.68	74	54	-18.65	-5.32
17844.59	H	62.42	46.02	74	54	-11.58	-7.98

Test mode:	8DPSK	Frequency:	Channel 0: 2402MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
4202.366	V	43.29	30.25	74	54	-30.71	-23.75
7206.000	V	54.46	48.62	74	54	-19.54	-5.38
17885.90	V	61.90	46.87	74	54	-12.10	-7.13
3292.675	H	41.92	28.03	74	54	-32.08	-25.97
7206.000	H	54.60	48.06	74	54	-19.40	-5.94
17844.59	H	61.49	45.68	74	54	-12.51	-8.32

Test mode:	8DPSK	Frequency:	Channel 39: 2441MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
4343.769	V	43.79	29.56	74	54	-30.21	-24.44
7323.000	V	54.80	47.95	74	54	-19.20	-6.05
17867.82	V	62.06	46.58	74	54	-11.94	-7.42
4323.727	H	43.44	28.02	74	54	-30.56	-25.98
7323.000	H	55.18	48.74	74	54	-18.82	-5.26
17834.28	H	61.44	46.05	74	54	-12.56	-7.95

Test mode:	8DPSK	Frequency:	Channel 78: 2480MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
5637.575	V	46.01	33.02	74	54	-27.99	-20.98
7440.000	V	54.42	48.02	74	54	-19.58	-5.98
17464.45	V	60.75	45.86	74	54	-13.25	-8.14
4098.010	H	43.08	28.69	74	54	-30.92	-25.31
7440.000	H	54.53	47.895	74	54	-19.47	-6.11
17847.17	H	63.19	47.02	74	54	-10.81	-6.98

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.

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

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)
2389.768	H	57.44	74	43.26	54
2389.952	V	56.99	74	42.89	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)
2483.568	H	59.27	74	43.85	54
2483.686	V	56.82	74	43.78	54

Test mode:	π/4DQPSK	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)
2389.460	H	58.18	74	43.06	54
2389.868	V	57.51	74	42.68	54

Test mode:	π/4DQPSK	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)
2483.632	H	57.17	74	42.86	54
2483.579	V	56.77	74	42.74	54

Test mode:	8DPSK	Frequency:	Channel 0: 2402MHz		

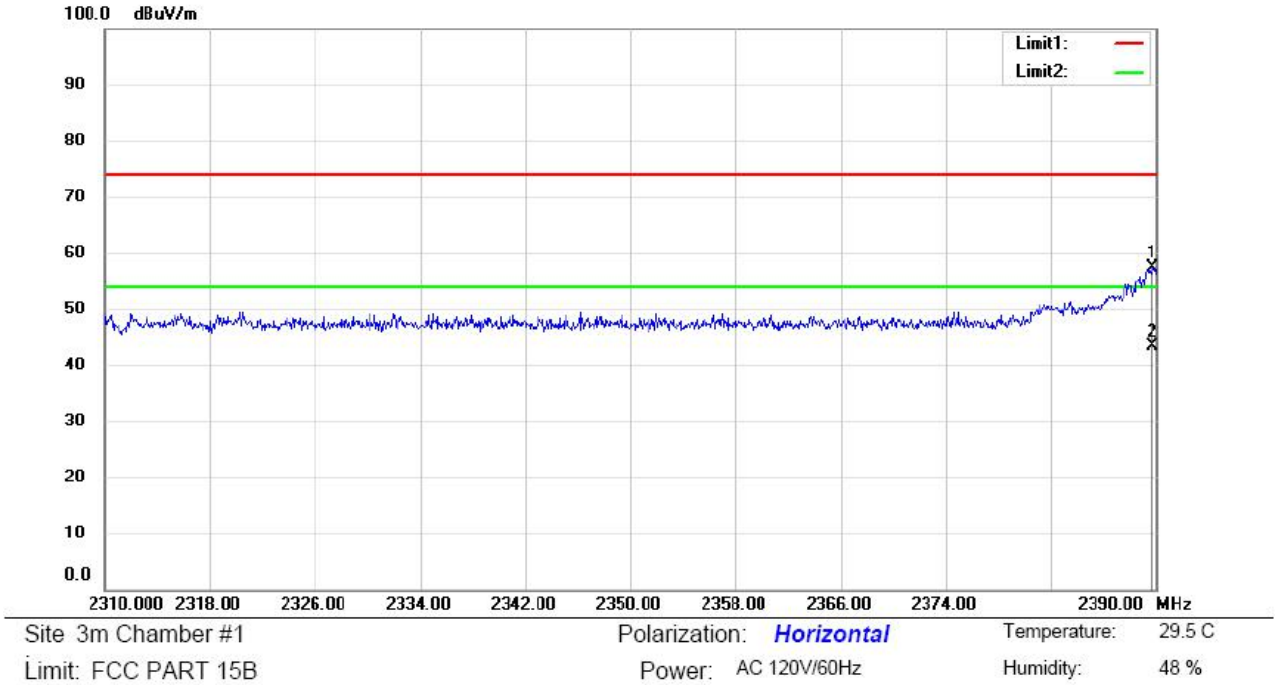
Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2389.728	H	56.58	74	42.85	54
2389.180	V	56.13	74	41.98	54

Test mode:	8DPSK	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)
2483.516	H	57.51	74	43.28	54
2483.568	V	55.81	74	42.03	54

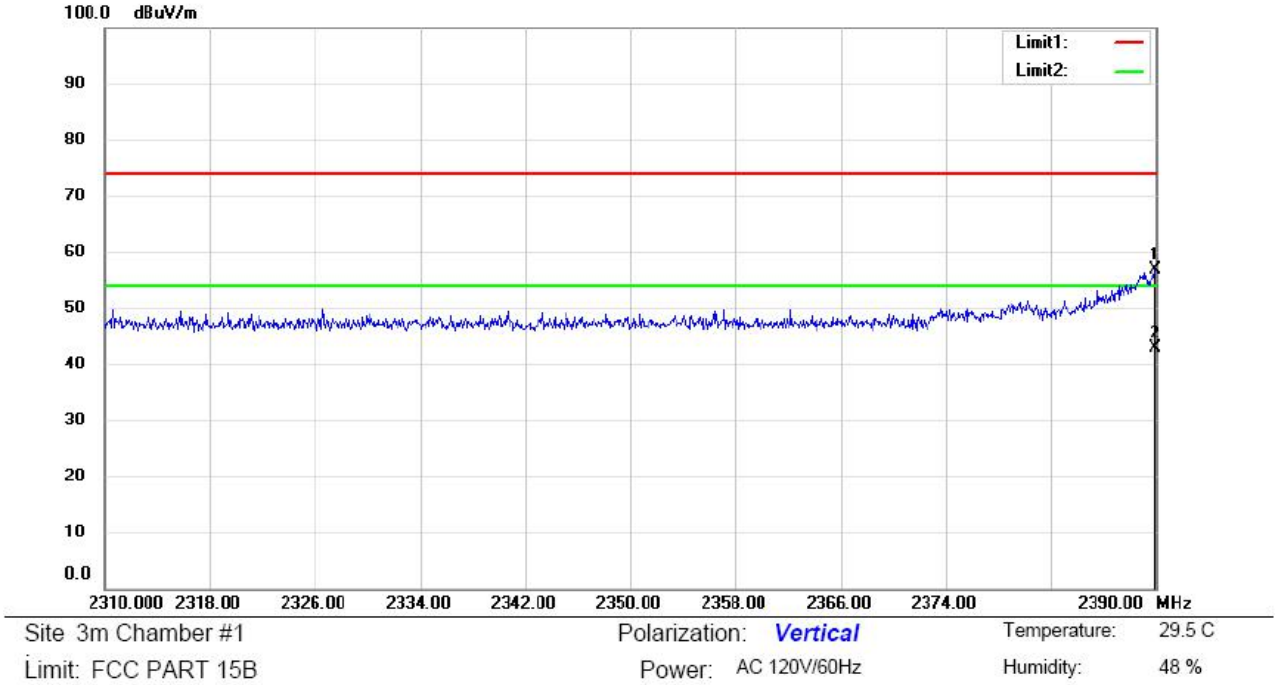
Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) Data of measurement within this frequency range shown " -- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

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



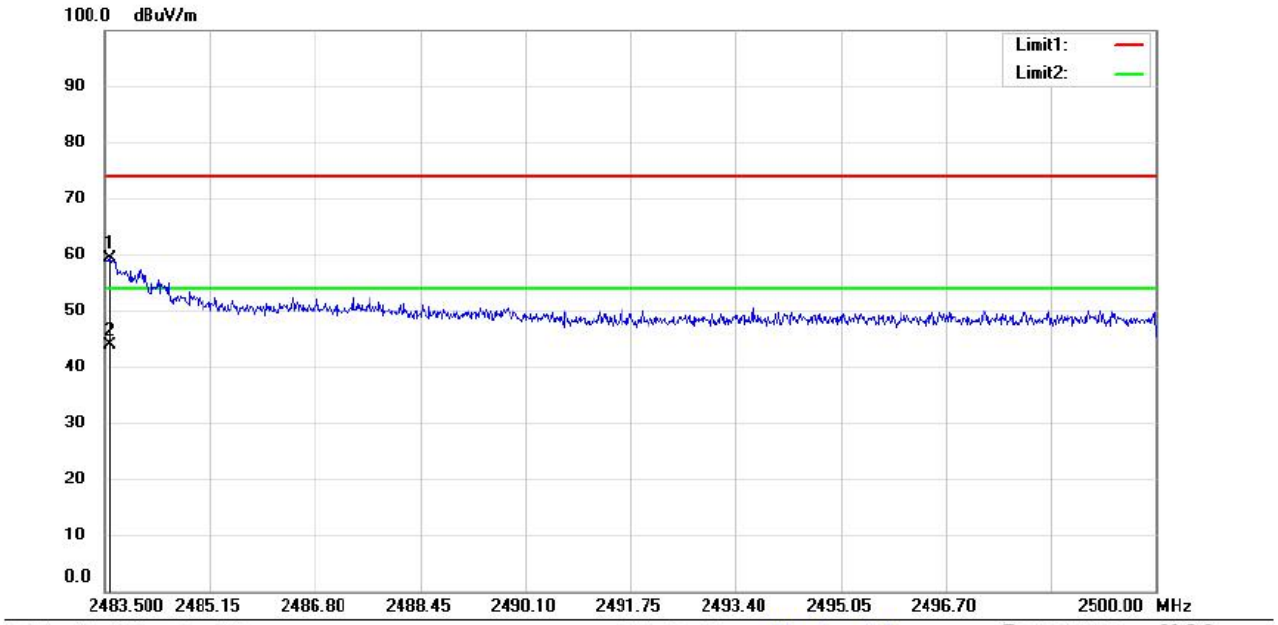
Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

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



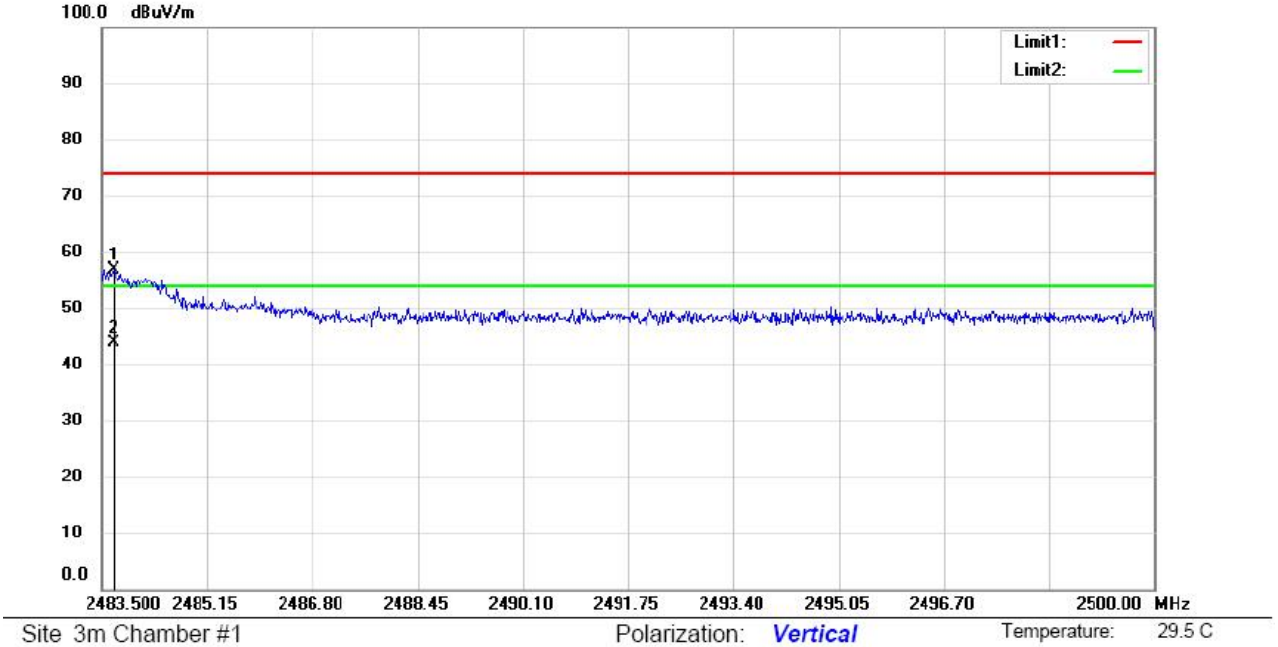
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

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



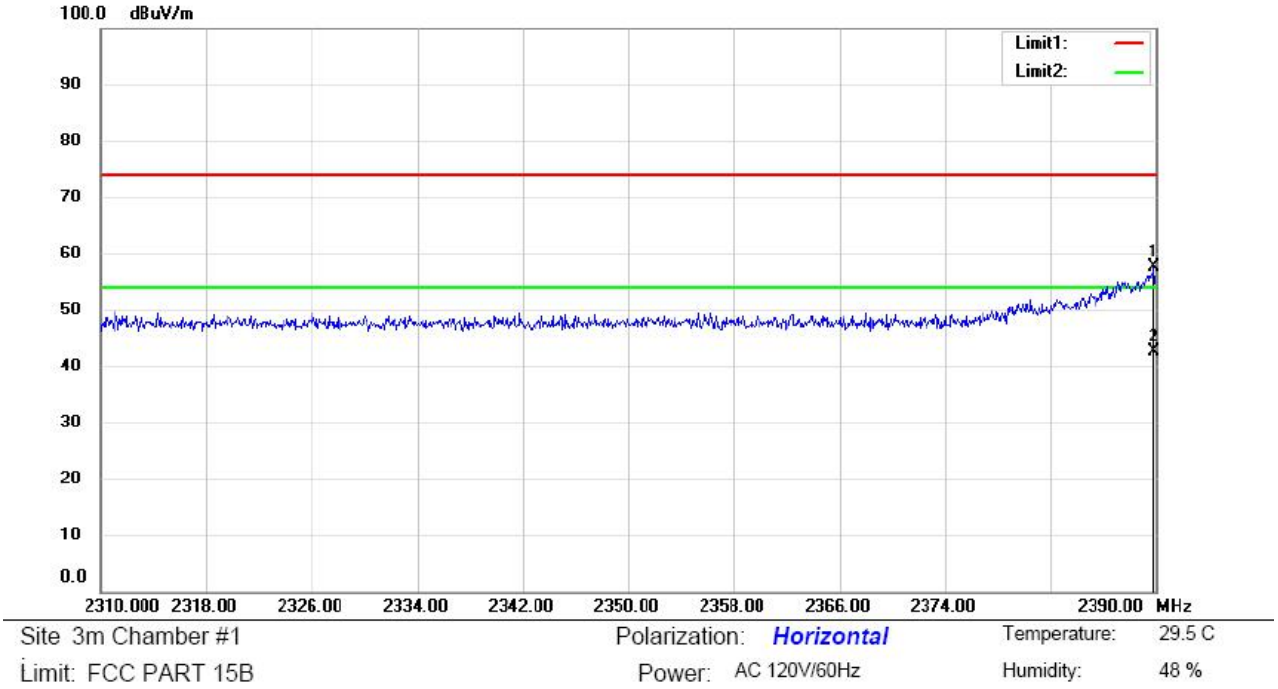
Site 3m Chamber #1	Polarization: *Horizontal*	Temperature:	29.5 C
Limit: FCC PART 15B	Power: AC 120V/60Hz	Humidity:	48 %

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



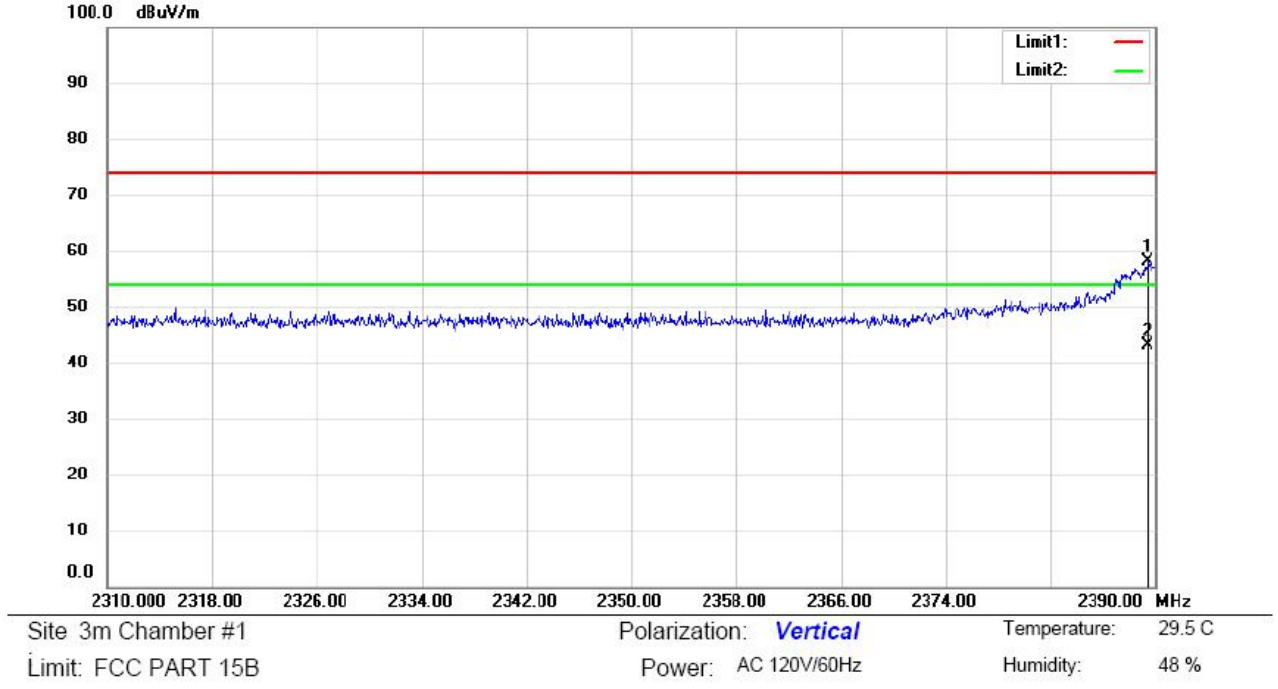
Site 3m Chamber #1	Polarization: *Vertical*	Temperature:	29.5 C
Limit: FCC PART 15B	Power: AC 120V/60Hz	Humidity:	48 %

Test Model	Spurious Emission in Restricted Band 2310-2390MHz		
	Channel 0: 2402MHz	π /4DQPSK	H



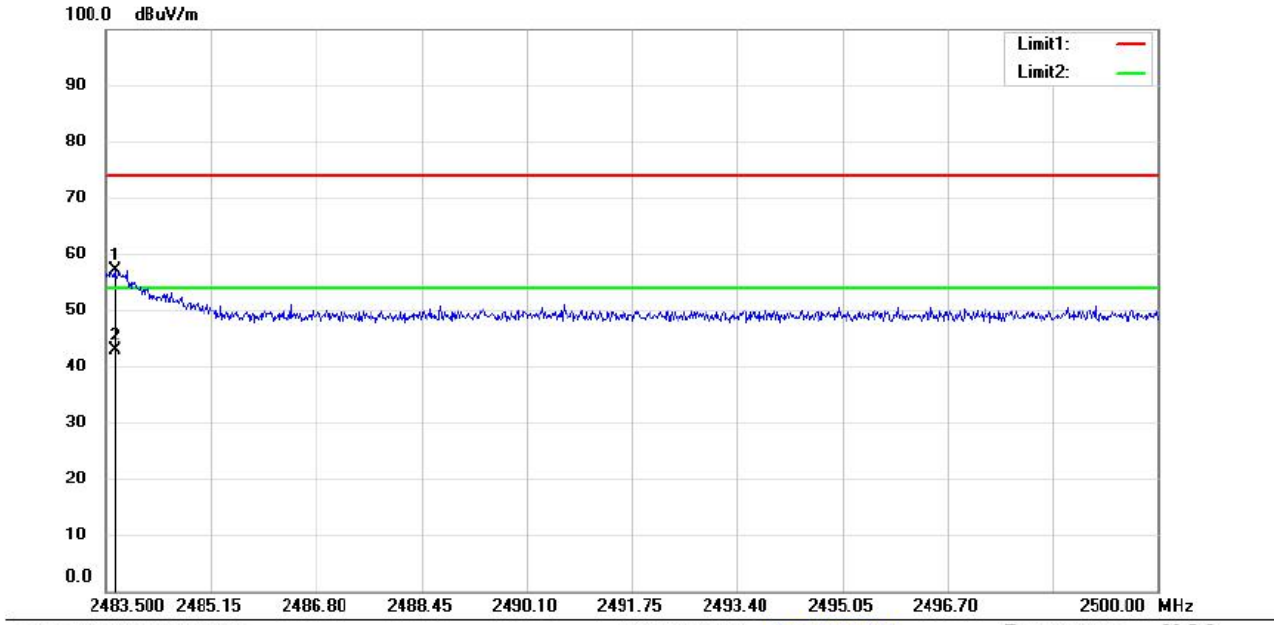
Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

Test Model	Spurious Emission in Restricted Band 2310-2390MHz		
	Channel 0: 2402MHz	π /4DQPSK	V



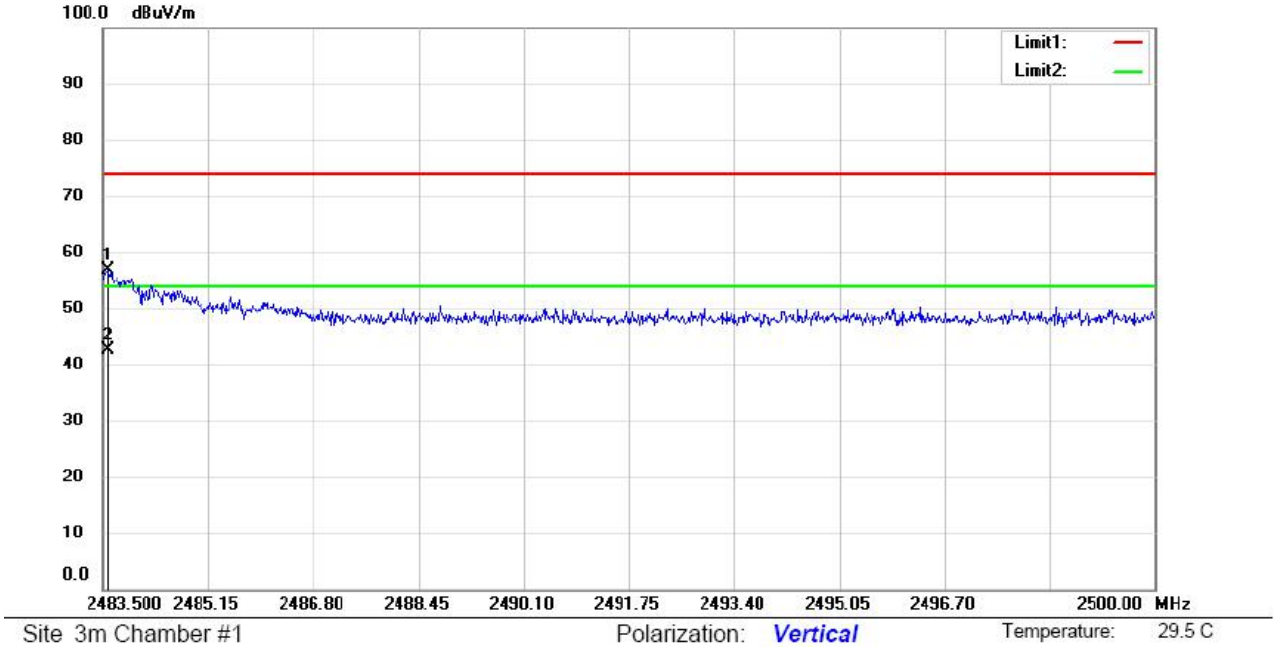
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz		
	Channel 78: 2480MHz	π /4DQPSK	H



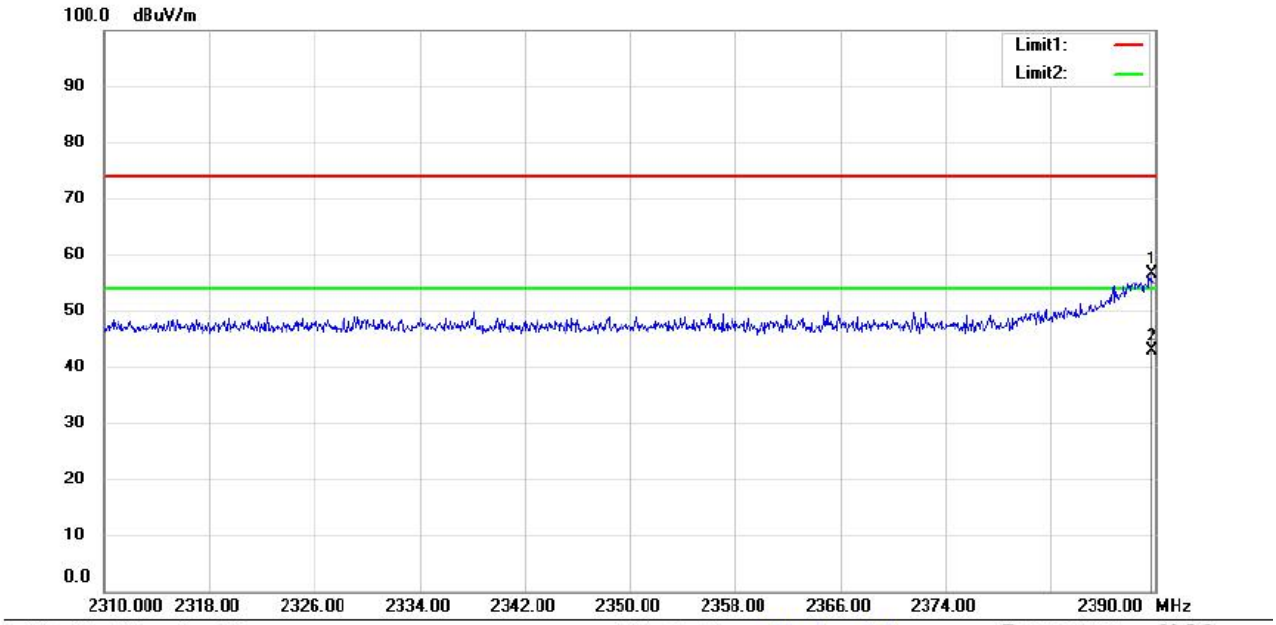
Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz		
	Channel 78: 2480MHz	π /4DQPSK	V



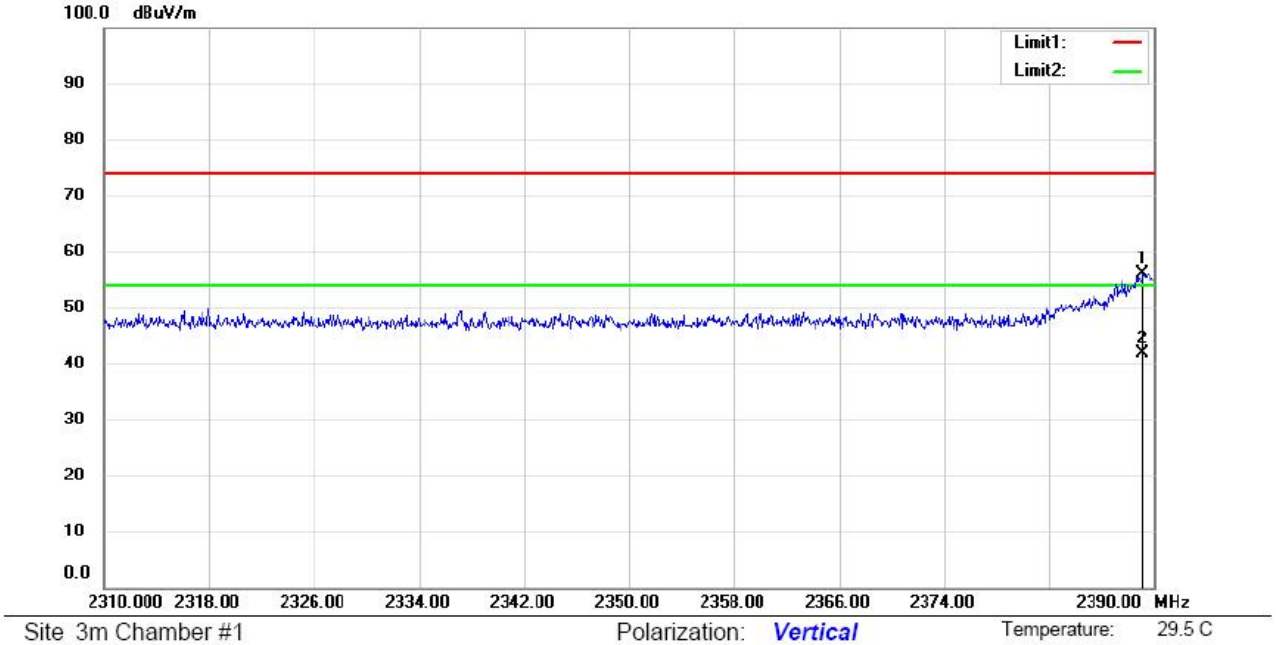
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

Test Model	Spurious Emission in Restricted Band 2310-2390MHz		
	Channel 0: 2402MHz	8DPSK	H



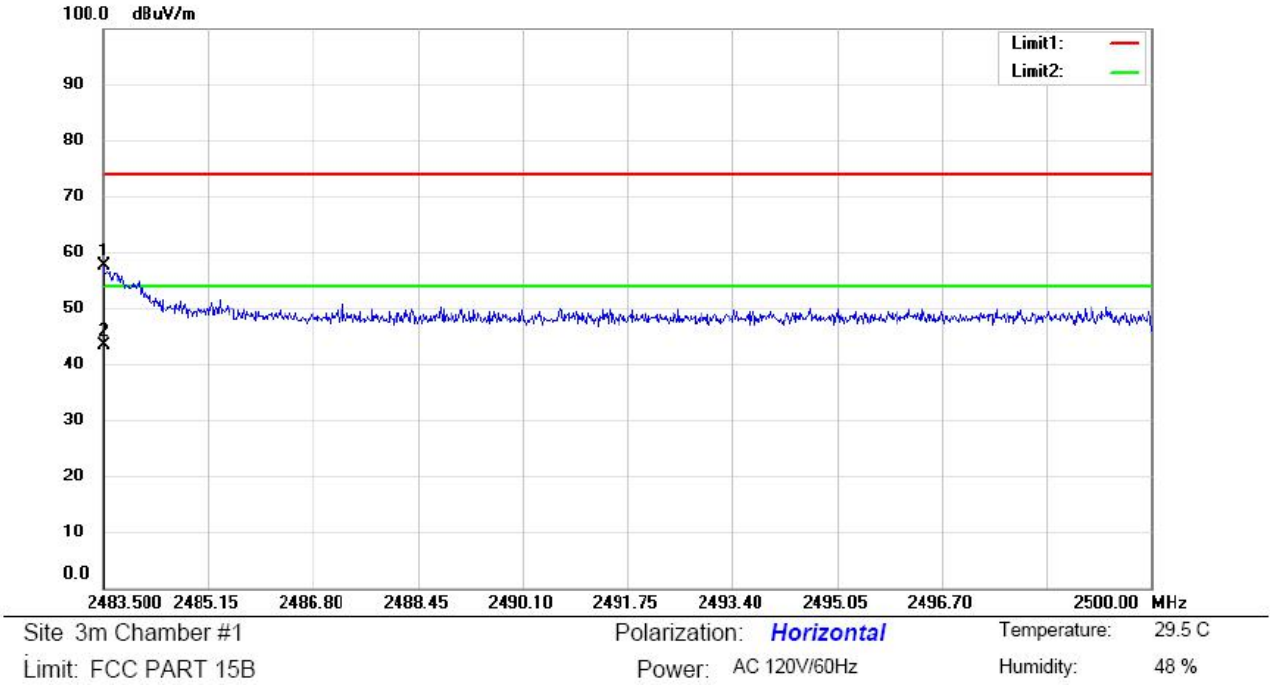
Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

Test Model	Spurious Emission in Restricted Band 2310-2390MHz		
	Channel 0: 2402MHz	8DPSK	V



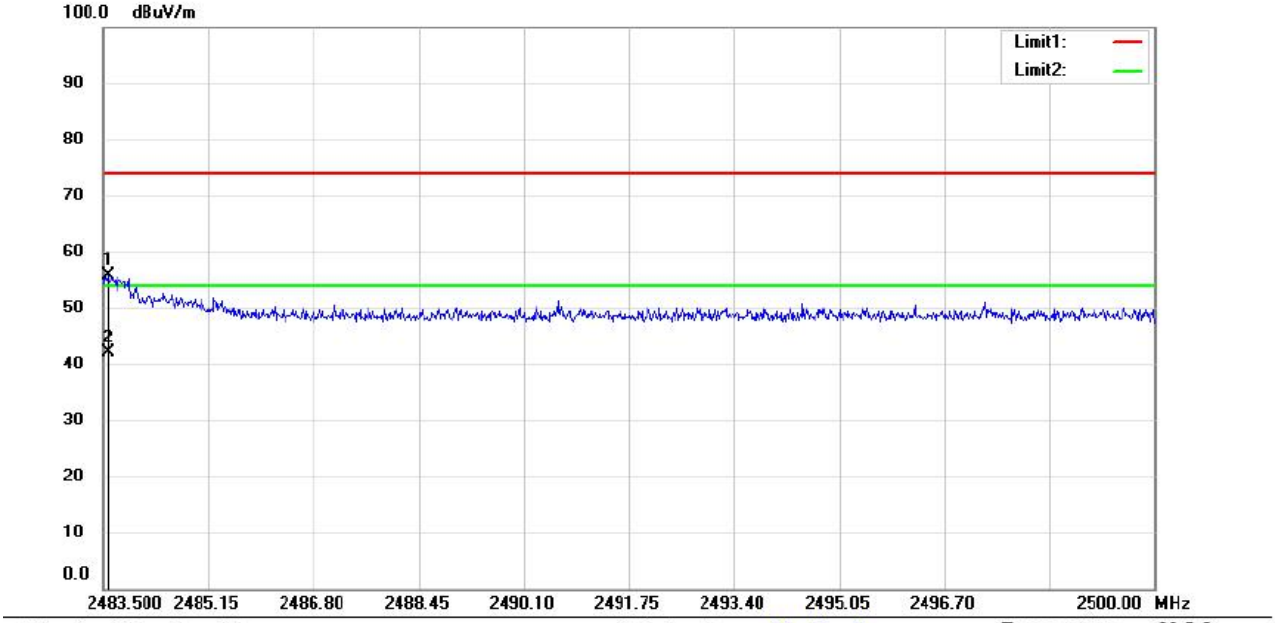
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz		
	Channel 78: 2480MHz	8DPSK	H



Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz		
	Channel 78: 2480MHz	8DPSK	V



Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C
Limit: FCC PART 15B Power: AC 120V/60Hz Humidity: 48 %

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

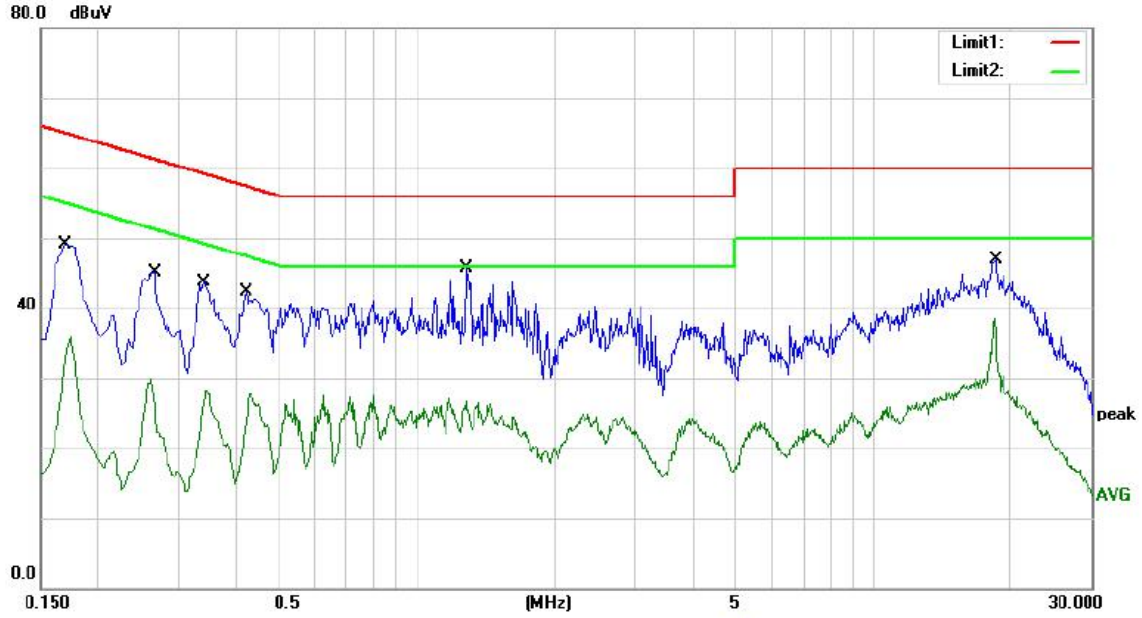
9.8.4 Test Procedure

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

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

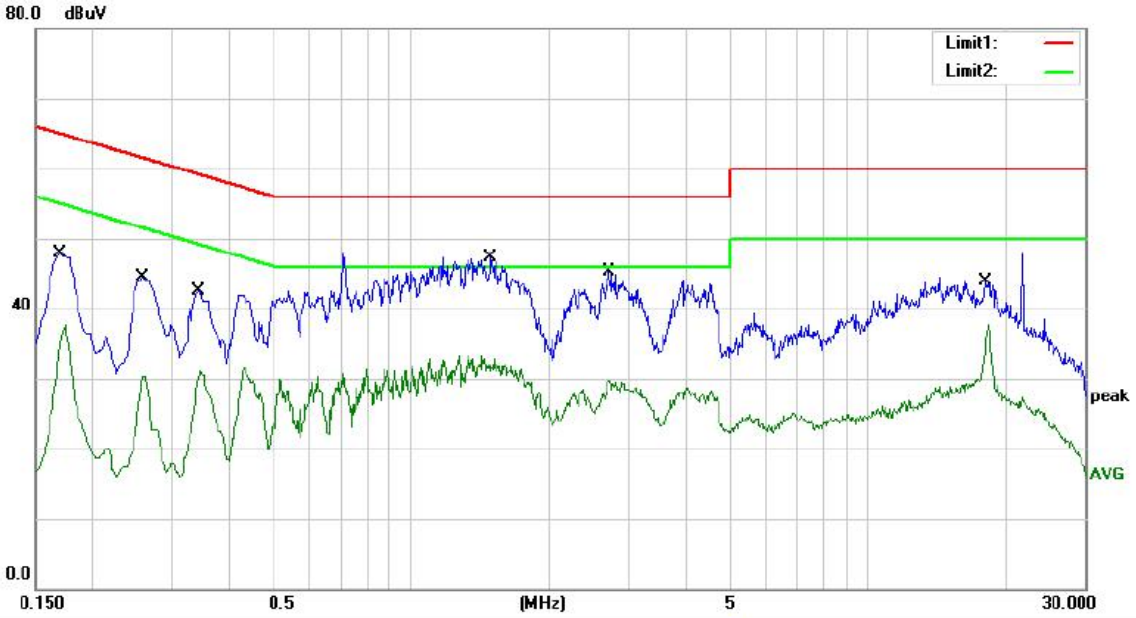


Site Conduction #2
Limit: FCC PART 15C
Mode: BT mode
Note:

Phase: N
Power: AC 120V/60Hz

Temperature: 23.7
Humidity: 41 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	39.15	9.90	49.05	64.96	-15.91	QP	
2		0.1700	26.07	9.90	35.97	54.96	-18.99	AVG	
3		0.2660	35.21	9.91	45.12	61.24	-16.12	QP	
4		0.2660	19.91	9.91	29.82	51.24	-21.42	AVG	
5		0.3420	33.71	9.91	43.62	59.15	-15.53	QP	
6		0.3420	18.46	9.91	28.37	49.15	-20.78	AVG	
7		0.4220	32.47	9.92	42.39	57.41	-15.02	QP	
8		0.4220	17.84	9.92	27.76	47.41	-19.65	AVG	
9	*	1.2780	35.76	9.93	45.69	56.00	-10.31	QP	
10		1.2780	16.81	9.93	26.74	46.00	-19.26	AVG	
11		18.4300	36.87	10.07	46.94	60.00	-13.06	QP	
12		18.4300	28.42	10.07	38.49	50.00	-11.51	AVG	



Site Conduction #2
Limit: FCC PART 15C
Mode: BT mode
Note:

Phase: L1
Power: AC 120V/60Hz

Temperature: 23.7
Humidity: 41 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	37.92	9.90	47.82	64.96	-17.14	QP	
2		0.1700	27.86	9.90	37.76	54.96	-17.20	AVG	
3		0.2580	34.50	9.91	44.41	61.50	-17.09	QP	
4		0.2580	20.39	9.91	30.30	51.50	-21.20	AVG	
5		0.3420	32.56	9.91	42.47	59.15	-16.68	QP	
6		0.3420	21.10	9.91	31.01	49.15	-18.14	AVG	
7	*	1.4940	37.32	9.93	47.25	56.00	-8.75	QP	
8		1.4940	23.31	9.93	33.24	46.00	-12.76	AVG	
9		2.7180	35.42	9.94	45.36	56.00	-10.64	QP	
10		2.7180	19.86	9.94	29.80	46.00	-16.20	AVG	
11		18.0940	33.85	10.07	43.92	60.00	-16.08	QP	
12		18.0940	27.60	10.07	37.67	50.00	-12.33	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 is Integral Antenna, the gain is 0 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 ------