

● Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

All the antenna(Antenna 1) and modes(802.11a/n) has been tested and the worst(Antenna 1, 802.11a) result recorded was report as below:

Test mode: 802.11a Frequency: Channel 149: 5745MHz

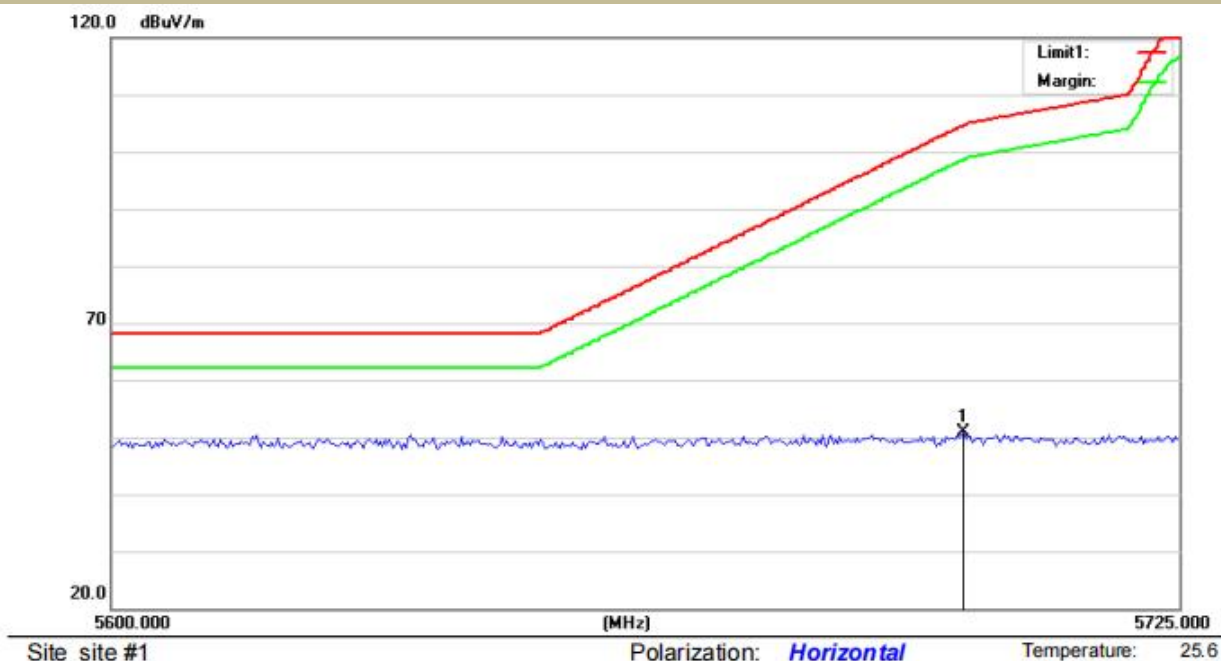
Freq. (MHz)	Ant.Pol.	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5699.75	H	50.82	-44.41	112.85	Pass
5720.14	V	50.96	-44.27	104.82	Pass

Test mode: 802.11a Frequency: Channel 165: 5825MHz

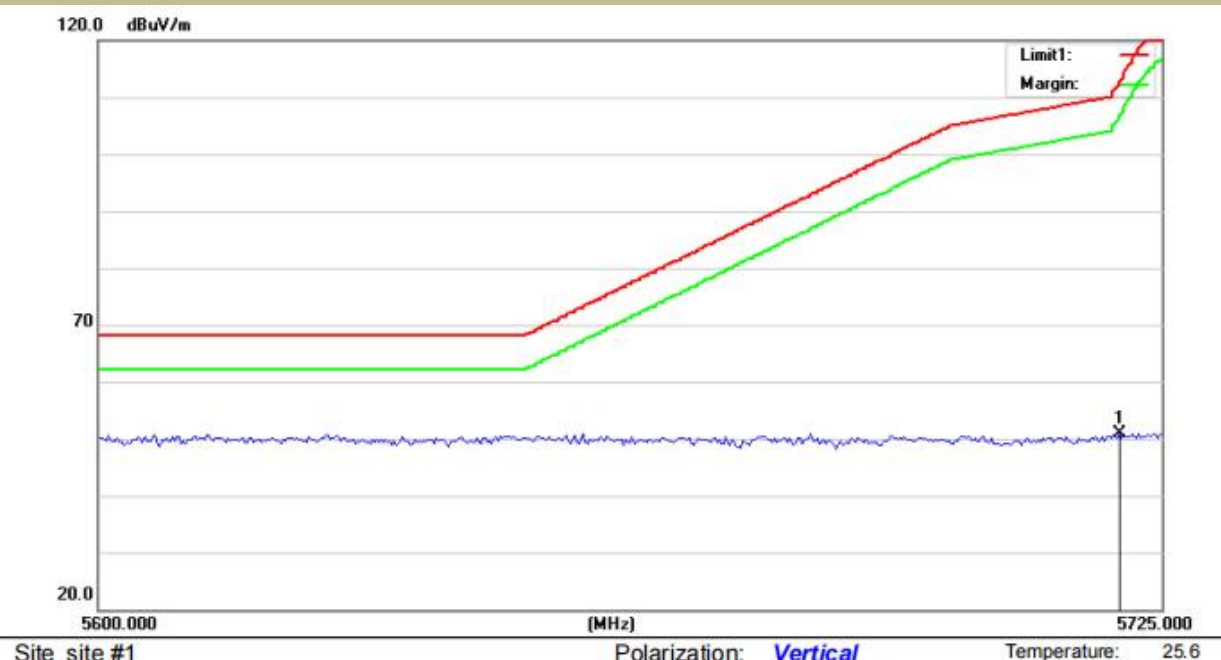
Freq. (MHz)	Ant.Pol.	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5880.03	H	51.04	-44.19	101.29	Pass
5865.25	V	50.93	-44.3	107.44	Pass

**Note:** (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).  
 (2) Emission Level= Reading Level+Probe Factor +Cable Loss.  
 (3)  $EIRP[dBm] = E[dBuV/m] + 20 \log(d[meters]) - 104.77$   
 d is the measurement distance in 3 meters

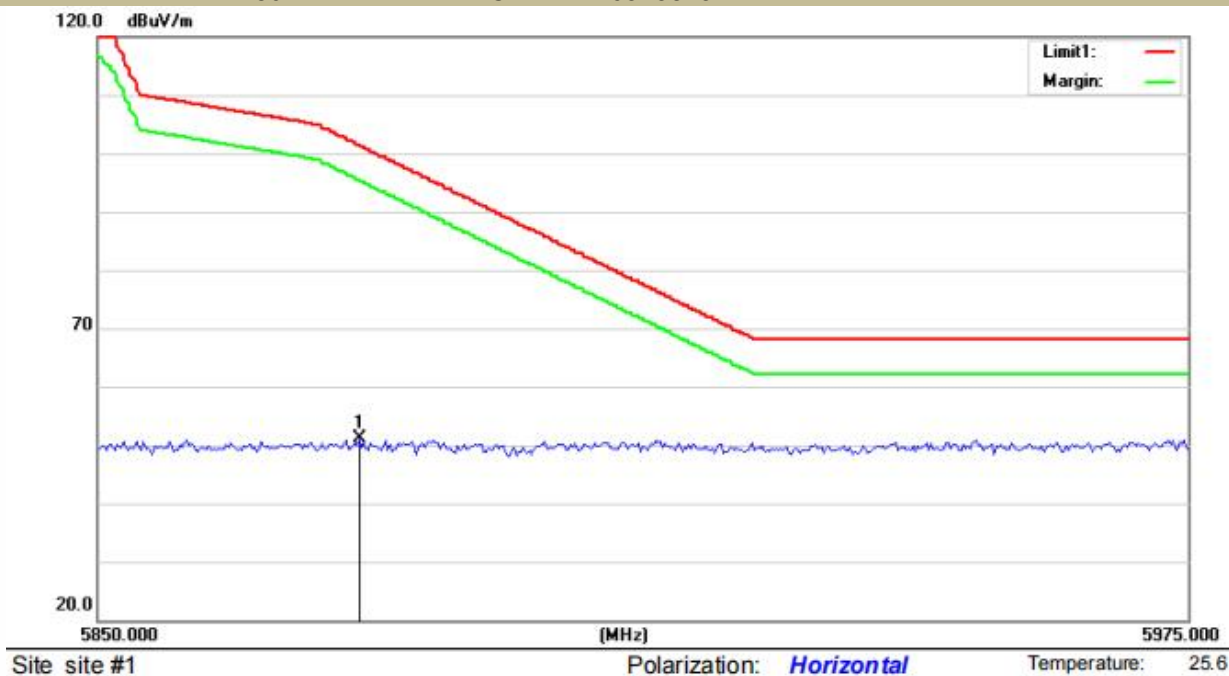
U-NII -3  
 Test Model Undesirable radiated Undesirable radiated Spurious Emission in Band Edge  
 802.11a Channel 149: 5745MHz Ant.Pol H



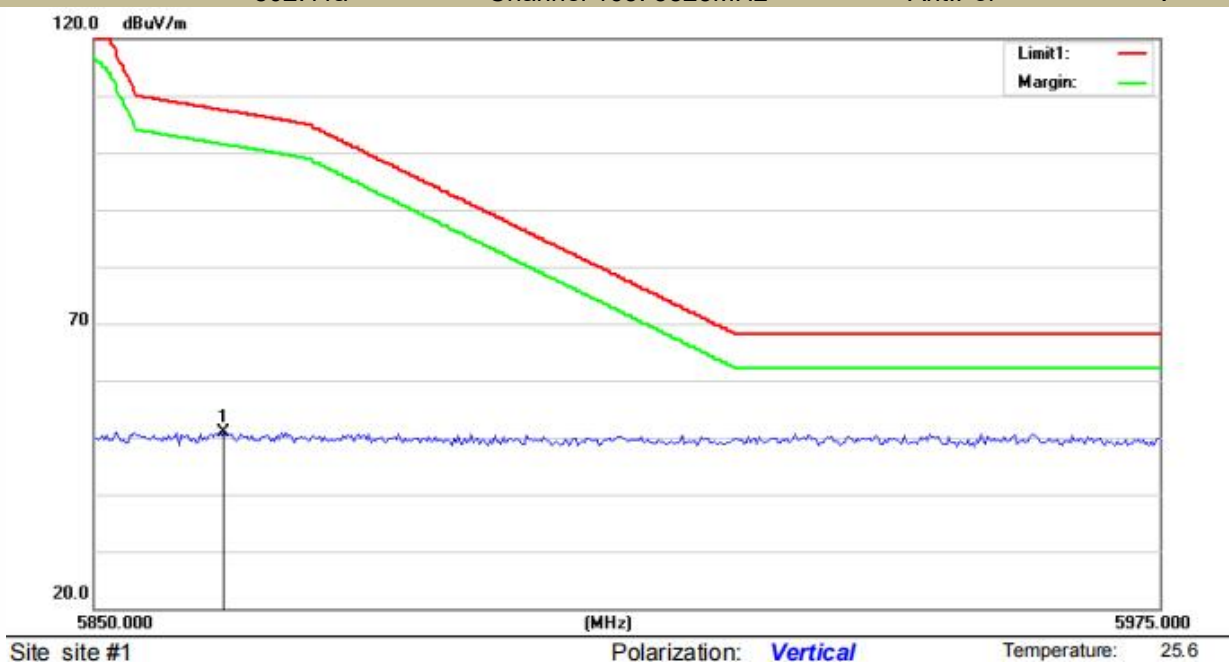
U-NII -3  
 Test Model Undesirable radiated Undesirable radiated Spurious Emission in Band Edge  
 802.11a Channel 149: 5745MHz Ant.Pol V



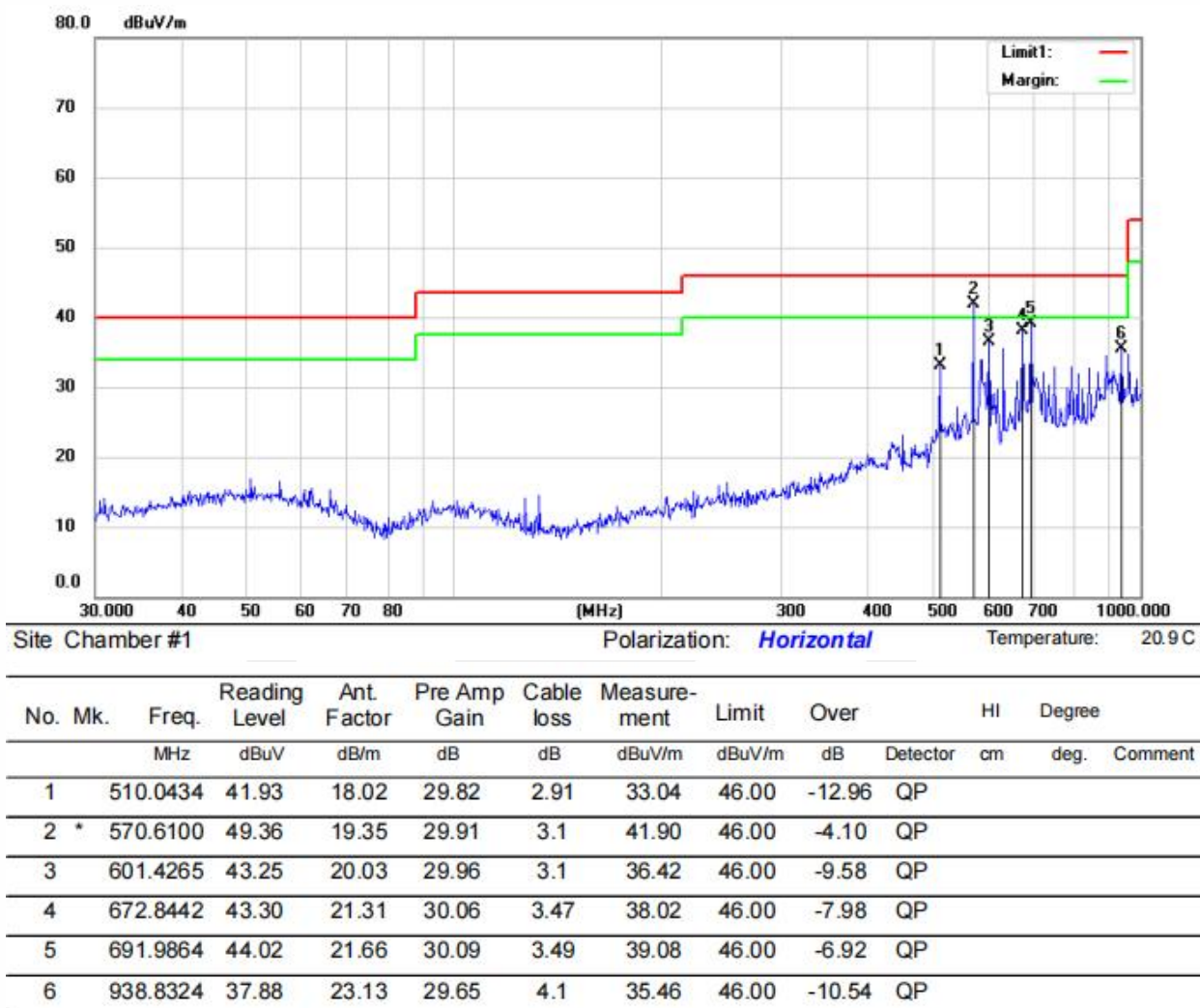
U-NII -3  
 Test Model Undesirable radiated Undesirable radiated Spurious Emission in Band Edge  
 802.11a Channel 165: 5825MHz Ant.Pol H



U-NII -3  
 Test Model Undesirable radiated Undesirable radiated Spurious Emission in Band Edge  
 802.11a Channel 165: 5825MHz Ant.Pol V

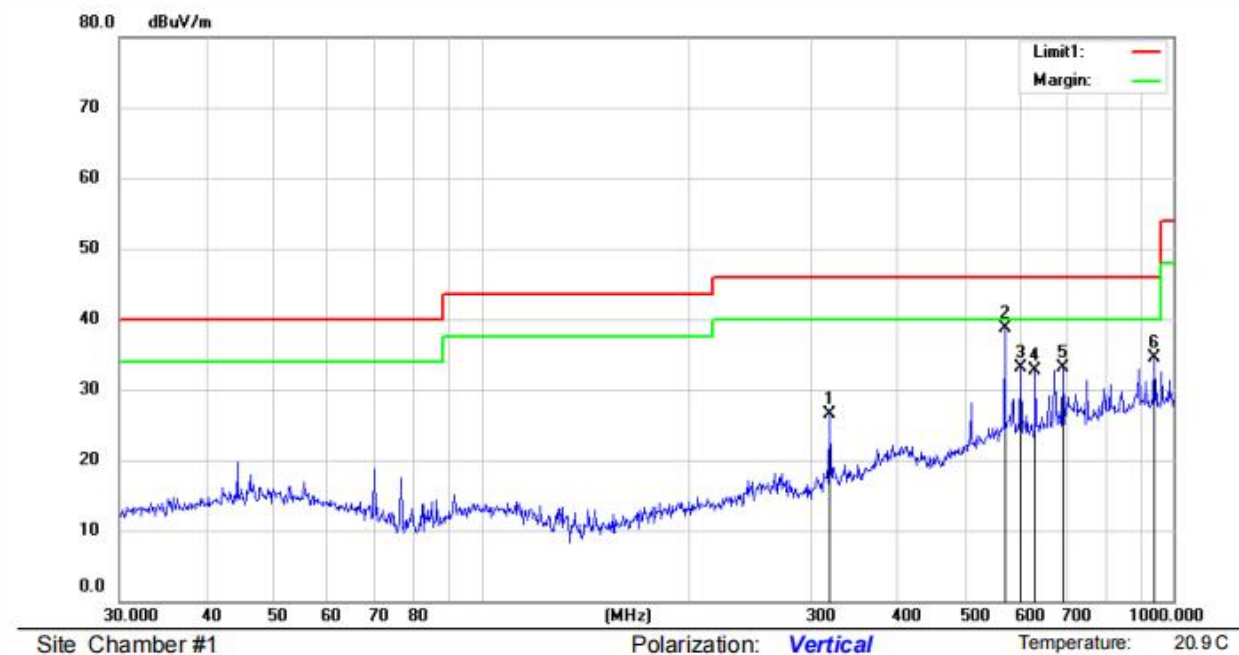


- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)  
All the antenna( Antenna 1 ) and modes( 802.11a/n ) has been tested and the worst( Antenna 1 , 802.11a ) result recorded was report as below:



\*:Maximum data x:Over limit !:over margin

Operator: Ccyf

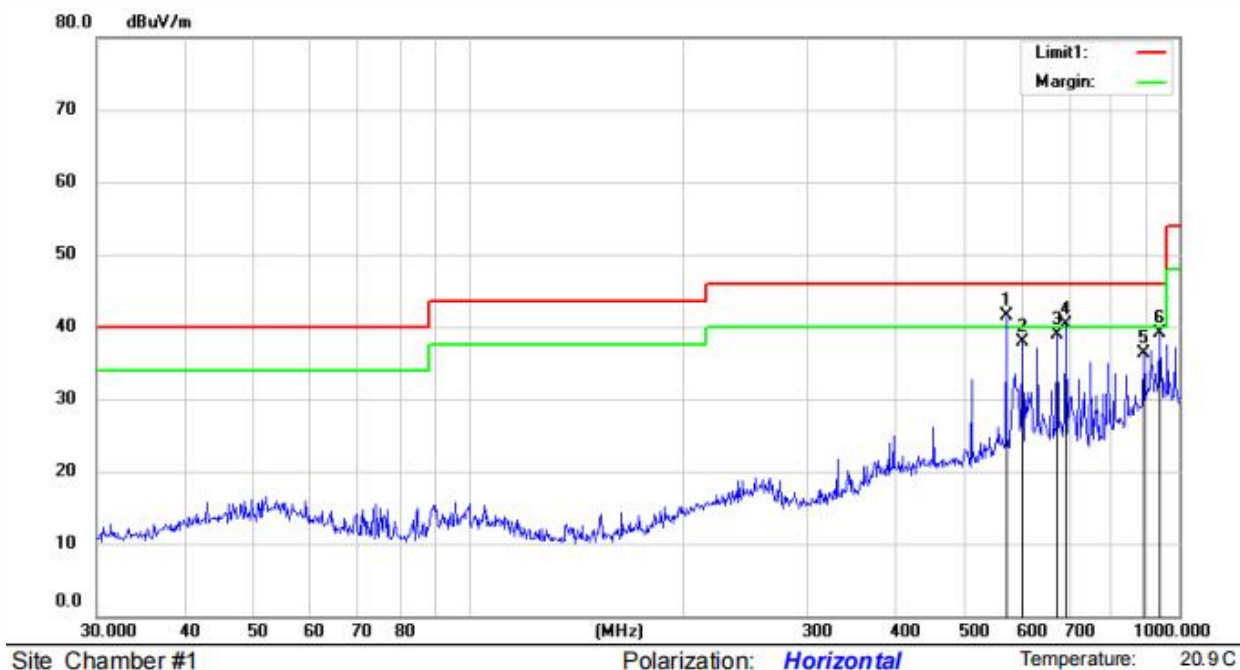


No.	Mk.	Freq. MHz	Reading Level dBuV	Ant. Factor dB/m	Pre Amp Gain dB	Cable loss dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	HI	Degree	Comment
1		318.8170	39.69	14.31	29.83	2.24	26.41	46.00	-19.59	QP		
2	*	570.6100	46.21	19.35	29.91	3.1	38.75	46.00	-7.25	QP		
3		601.4265	39.84	20.03	29.96	3.1	33.01	46.00	-12.99	QP		
4		631.6883	38.74	20.57	30	3.32	32.63	46.00	-13.37	QP		
5		691.9864	37.99	21.66	30.09	3.49	33.05	46.00	-12.95	QP		
6		938.8324	37.02	23.13	29.65	4.1	34.60	46.00	-11.40	QP		

\*:Maximum data    x:Over limit    !:over margin

Operator: Ccyf

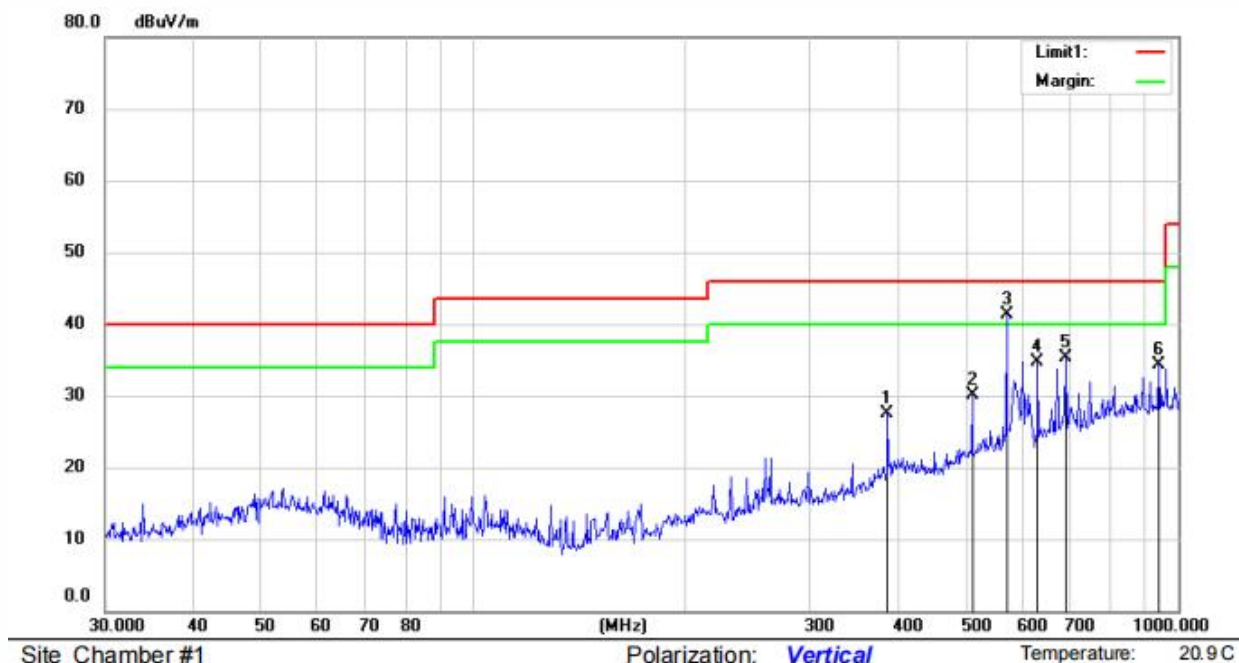




No.	Mk.	Freq. MHz	Reading Level dBuV	Ant. Factor dB/m	Pre Amp Gain dB	Cable loss dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	HI	Degree	Comment
1	*	570.6100	48.91	19.35	29.91	3.1	41.45	46.00	-4.55	QP		
2		601.4265	44.80	20.03	29.96	3.1	37.97	46.00	-8.03	QP		
3		672.8442	44.25	21.31	30.06	3.47	38.97	46.00	-7.03	QP		
4	!	691.9864	45.20	21.66	30.09	3.49	40.26	46.00	-5.74	QP		
5		890.7277	39.36	22.79	29.86	3.97	36.26	46.00	-9.74	QP		
6		938.8324	41.57	23.13	29.65	4.1	39.15	46.00	-6.85	QP		

\*:Maximum data x:Over limit !:over margin

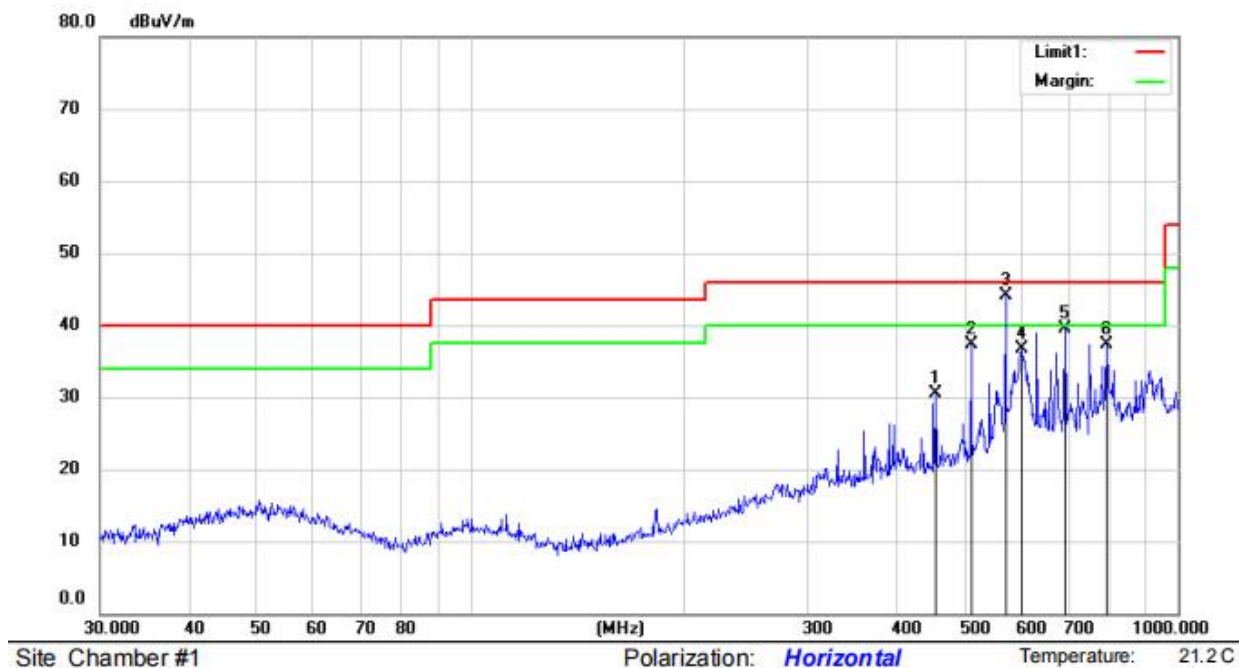
Operator: Ccyf



No.	Mk.	Freq. MHz	Reading Level dBuV	Ant. Factor dB/m	Pre Amp Gain dB	Cable loss dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	HI cm	Degree deg.	Comment
1		386.6338	38.13	15.95	29.82	3.34	27.60	46.00	-18.40	QP			
2		510.0434	38.92	18.02	29.82	2.91	30.03	46.00	-15.97	QP			
3	*	570.6100	48.69	19.35	29.91	3.1	41.23	46.00	-4.77	QP			
4		631.6883	40.82	20.57	30	3.32	34.71	46.00	-11.29	QP			
5		691.9864	40.25	21.66	30.09	3.49	35.31	46.00	-10.69	QP			
6		938.8324	36.79	23.13	29.65	4.1	34.37	46.00	-11.63	QP			

\*:Maximum data x:Over limit !:over margin

Operator: Ccyf

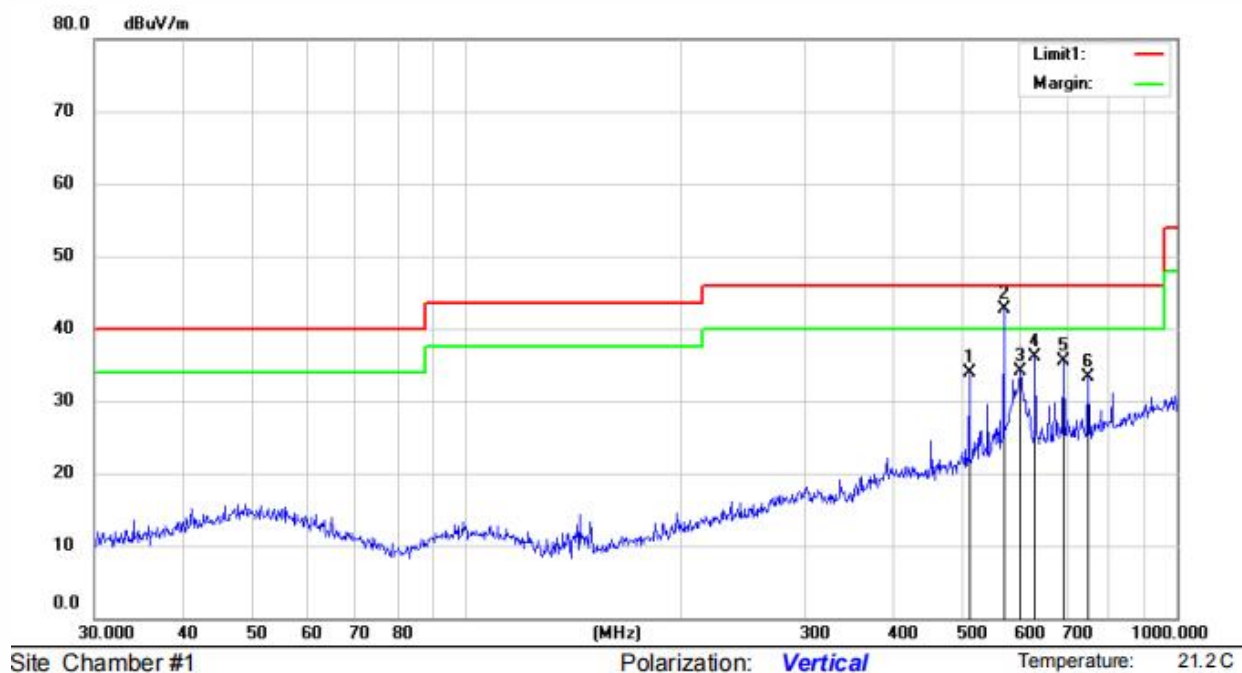


No.	Mk.	Freq. MHz	Reading Level dBuV	Ant. Factor dB/m	Pre Amp Gain dB	Cable loss dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	HI	Degree	Comment
1		454.3100	40.65	16.98	29.81	2.7	30.52	46.00	-15.48	QP		
2		510.0434	46.20	18.02	29.82	2.91	37.31	46.00	-8.69	QP		
3	*	570.6100	51.61	19.35	29.91	3.1	44.15	46.00	-1.85	QP		
4		601.4265	43.57	20.03	29.96	3.1	36.74	46.00	-9.26	QP		
5		691.9865	44.54	21.66	30.09	3.49	39.60	46.00	-6.40	QP		
6		793.3960	42.15	21.57	30.24	3.8	37.28	46.00	-8.72	QP		

\*:Maximum data x:Over limit !:over margin

Operator: Ccyf





No.	Mk.	Freq. MHz	Reading Level dBuV	Ant. Factor dB/m	Pre Amp Gain dB	Cable loss dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	HI	Degree	Comment
1		510.0434	42.77	18.02	29.82	2.91	33.88	46.00	-12.12	QP		
2	*	570.6100	50.07	19.35	29.91	3.1	42.61	46.00	-3.39	QP		
3		601.4265	40.88	20.03	29.96	3.1	34.05	46.00	-11.95	QP		
4		631.6883	42.17	20.57	30	3.32	36.06	46.00	-9.94	QP		
5		691.9865	40.39	21.66	30.09	3.49	35.45	46.00	-10.55	QP		
6		750.1082	39.02	20.7	30.18	3.78	33.32	46.00	-12.68	QP		

\*:Maximum data x:Over limit !:over margin

Operator: Ccyf

## 8.5 POWER LINE CONDUCTED EMISSIONS

### 8.5.1 Applicable Standard

According to FCC Part 15.207(a)

According to IC RSS-Gen 8.8

### 8.5.2 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.

### 8.5.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

### 8.5.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.

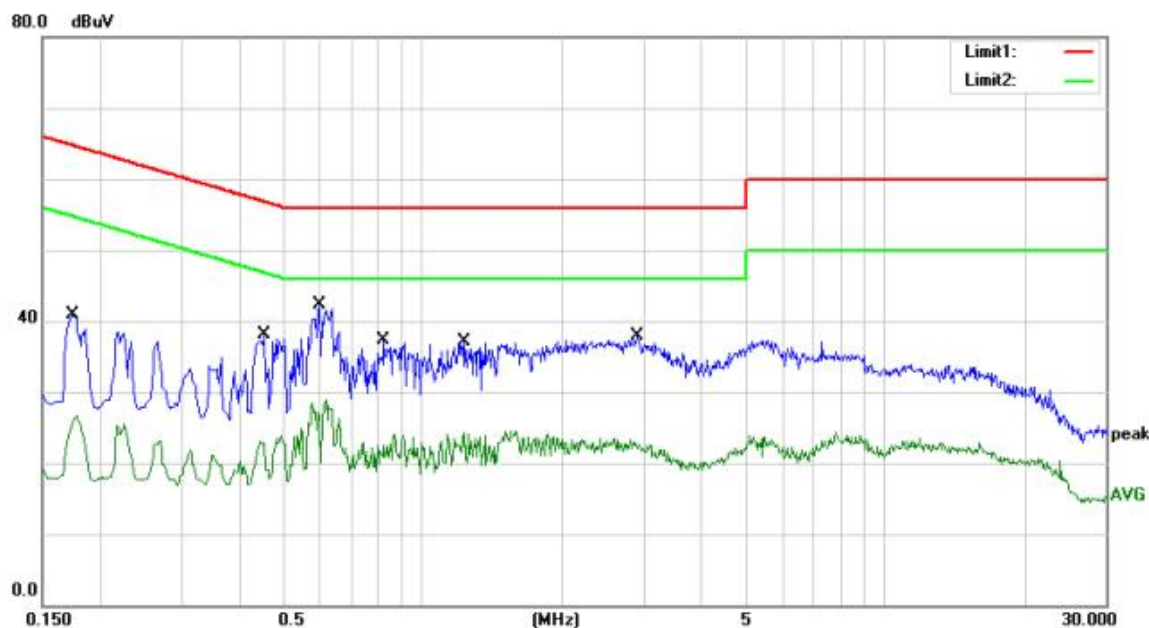
Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Repeat above procedures until all frequency measured were complete.

### 8.5.5 Test Results

Pass

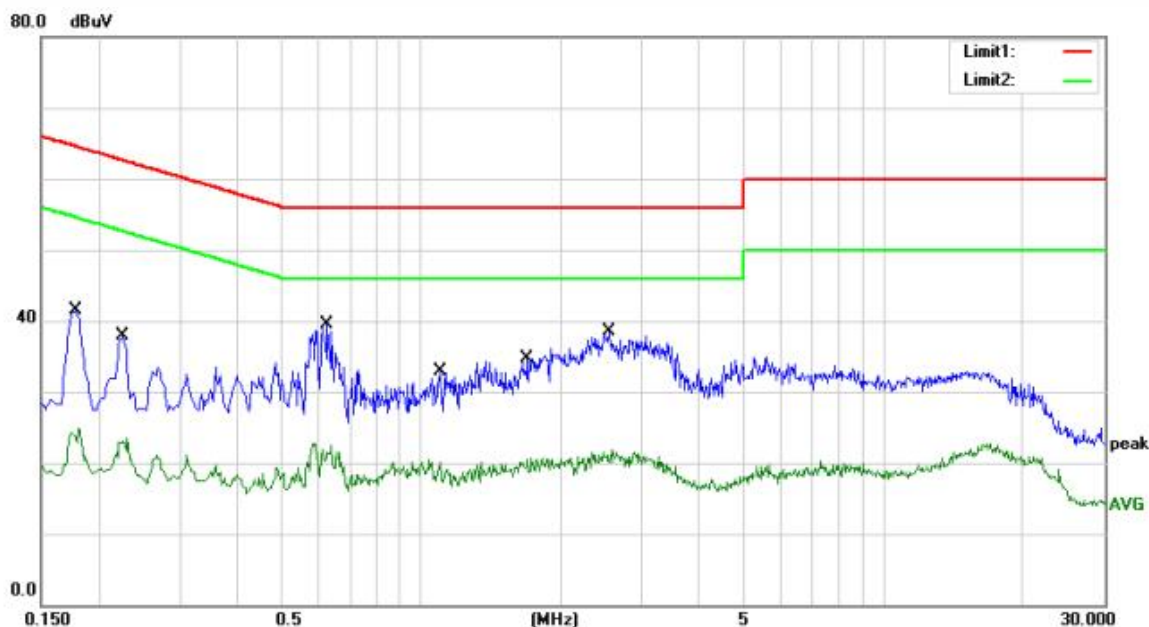
The AC120V &240V voltage have been tested, and the worst result recorded was report as below:



Site site #1 Phase: L1 Temperature: 22.5

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1740	23.87	17.05	40.92	64.77	-23.85	QP	
2		0.1740	9.69	17.05	26.74	54.77	-28.03	AVG	
3		0.4540	21.10	17.07	38.17	56.80	-18.63	QP	
4		0.4540	6.42	17.07	23.49	46.80	-23.31	AVG	
5	*	0.5980	25.25	17.06	42.31	56.00	-13.69	QP	
6		0.5980	11.92	17.06	28.98	46.00	-17.02	AVG	
7		0.8260	20.31	17.02	37.33	56.00	-18.67	QP	
8		0.8260	7.00	17.02	24.02	46.00	-21.98	AVG	
9		1.2300	20.10	17.05	37.15	56.00	-18.85	QP	
10		1.2300	7.34	17.05	24.39	46.00	-21.61	AVG	
11		2.9060	20.86	17.03	37.89	56.00	-18.11	QP	
12		2.9060	6.35	17.03	23.38	46.00	-22.62	AVG	

\*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator:



Site site #1 Phase: **N** Temperature: 22.5

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1780	24.38	17.04	41.42	64.58	-23.16	QP	
2		0.1780	7.80	17.04	24.84	54.58	-29.74	AVG	
3		0.2260	20.78	17.05	37.83	62.60	-24.77	QP	
4		0.2260	6.39	17.05	23.44	52.60	-29.16	AVG	
5	*	0.6260	22.51	17.05	39.56	56.00	-16.44	QP	
6		0.6260	5.35	17.05	22.40	46.00	-23.60	AVG	
7		1.0980	15.93	17.04	32.97	56.00	-23.03	QP	
8		1.0980	3.37	17.04	20.41	46.00	-25.59	AVG	
9		1.6980	17.63	17.09	34.72	56.00	-21.28	QP	
10		1.6980	3.55	17.09	20.64	46.00	-25.36	AVG	
11		2.5420	21.47	17.06	38.53	56.00	-17.47	QP	
12		2.5420	4.83	17.06	21.89	46.00	-24.11	AVG	

\*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator:



## 8.6 ANTENNA APPLICATION

### 8.6.1 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 15.407(a)	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.

### 8.6.2 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.



## 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 -----