



FCC Part 15, Subpart B, Class B

ARTIKA FOR LIVING INC

LED CEILING FAN

Test Model: FAN-SUR-SL

Additional Model No.: FAN-SUR-C1SL, FAN-SUR may be follow by upto six characters, 23FAN-SUR-C2SL, 23FAN-SUR-followby up to sixcharacters.-

Prepared for : ARTIKA FOR LIVING INC
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Date of receipt of test sample : December 15, 2023
Number of tested samples : 2
Sample No. : B231123041
Serial number : Prototype
Date of Test : December 15, 2023 ~ December 18, 2023
Date of Report : December 19, 2023





FCC Part 15, Subpart B, Class B
FCC 47 CFR Part 15 Subpart B, Class B, ANSI C63.4 -2014

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Date Of Issue : December 19, 2023

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518000, China

Testing Location/ Procedure... : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □

Applicant's Name..... : ARTIKA FOR LIVING INC

Address : 1756, 50th Avenue Montréal (Lachine), Québec,Canada
H8T 2V5

Test Specification

Standard..... : FCC 47 CFR Part 15 Subpart B, Class B, ANSI C63.4
-2014

Test Report Form No..... : LCSEMC-1.0

TRF Originator..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF..... : Dated 2011-03

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context.

Test Item Description..... : LED CEILING FAN

Test Model : FAN-SUR-SL

Trade Mark : ARTIKA

Ratings : Input: 100-240V~, 50/60Hz, 70W, 30W for Fan, 40W for
lamp

Result : Positive

Compiled by:

Vera Deng

Vera Deng/ Administrator

Supervised by:

Cary Luo

Cary Luo/ Technique principal

Approved by:

Gavin Liang

Gavin Liang/ Manager





Revision History

Report Version	Issue Date	Revision Content	Revised By
000	December 19, 2023	Initial Issue	---





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1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	Standard	Limits	Results
Conducted disturbance at mains terminals	FCC 47 CFR Part 15 Subpart B, Class B, ANSI C63.4 -2014	Class B	PASS
Radiated disturbance	FCC 47 CFR Part 15 Subpart B, Class B, ANSI C63.4 -2014	Class B	PASS
N/A is an abbreviation for Not Applicable.			

Test mode:		
Mode 1	Lighting	Record





2. GENERAL INFORMATION

2.1. Description of Device (EUT)

- EUT : LED CEILING FAN
- Trade Mark : ARTIKA
- Test Model : FAN-SUR-SL
- Additional Model No. : FAN-SUR-C1SL, FAN-SUR may be follow by upto six characters, 23FAN-SUR-C2SL, 23FAN-SUR-followby up to sixcharacters.-
- Model Declaration : PCB board, structure and internal of these model(s) are the same, So no additional models were tested
- Power Supply : Input: 100-240V~, 50/60Hz, 70W, 30W for Fan, 40W for lamp
- Highest internal frequency (Fx) : 108 MHz < Fx ≤ 500 MHz

Highest internal frequency (Fx)	Highest measured frequency
Fx ≤ 108 MHz	1 GHz
108 MHz < Fx ≤ 500 MHz	2 GHz
500 MHz < Fx ≤ 1 GHz	5 GHz
Fx > 1 GHz	5 × Fx up to a maximum of 6 GHz

NOTE 1 For FM and TV broadcast receivers, Fx is determined from the highest frequency generated or used excluding the local oscillator and tuned frequencies.
Where Fx is unknown, the radiated emission measurements shall be performed up to 6 GHz.

2.2. Support Equipment List

Manufacturer	Description	Model	Serial Number	Certificate
Giantforce	Switching Power Adapter	GME75A-24 0300FUL	---	FCC

2.3 External I/O Cable

I/O Port Description	Quantity	Cable
Power Port	1	N/A





2.4. Description of Test Facility

Site Description

EMC Lab. : NVLAP Accreditation Code is 600167-0.
 FCC Designation Number is CN5024.
 CAB identifier is CN0071.
 CNAS Registration Number is L4595.
 FCC Test Firm Registration Number: 254912.

2.5. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.6. Measurement Uncertainty

Test	Parameters	Expanded Uncertainty (U _{lab})	Expanded Uncertainty (U _{cispr})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 3.8 dB ± 3.4 dB
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.3 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	± 5.2 dB

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.





3. TEST RESULTS

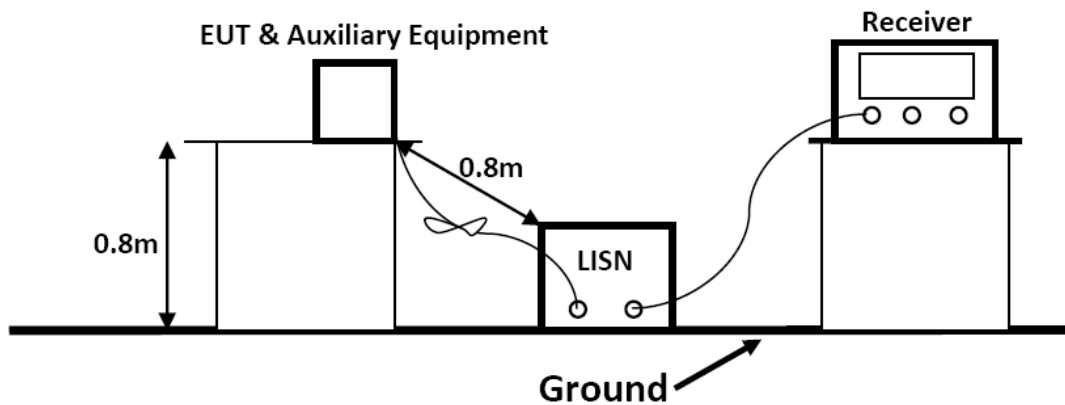
3.1. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Software	Farad	EZ	/	N/A	N/A
2	EMI Test Receiver	R&S	ESR3	102312	2023-02-25	2024-02-24
3	Artificial Mains	R&S	ENV216	101288	2023-06-09	2024-06-08
4	Pulse Limiter	R&S	ESH3-Z2	102750-NB	2023-08-15	2024-08-14
5	Impedance Stabilization Network	TESEQ	ISN T800	45130	2023-10-18	2024-10-17

3.1.2. Block Diagram of Test Setup



3.1.3. Test Standard

Power Line Conducted Emission Limits (Class B)

Frequency (MHz)			Limit (dB μ V)	
			Quasi-peak Level	Average Level
0.15	~	0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50	~	5.00	56.0	46.0
5.00	~	30.00	60.0	50.0

NOTE1-The lower limit shall apply at the transition frequencies.
NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.





3.1.4.EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

3.1.5.Operating Condition of EUT

3.1.5.1.Setup the EUT as shown on Section 3.1.2

3.1.5.2.Turn on the power of all equipments.

3.1.5.3.Let the EUT work in measuring Lighting and measure it.

3.1.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of the test receiver is set at 9kHz.

The frequency range from 150kHz to 30MHz is investigated

3.1.7.Test Results

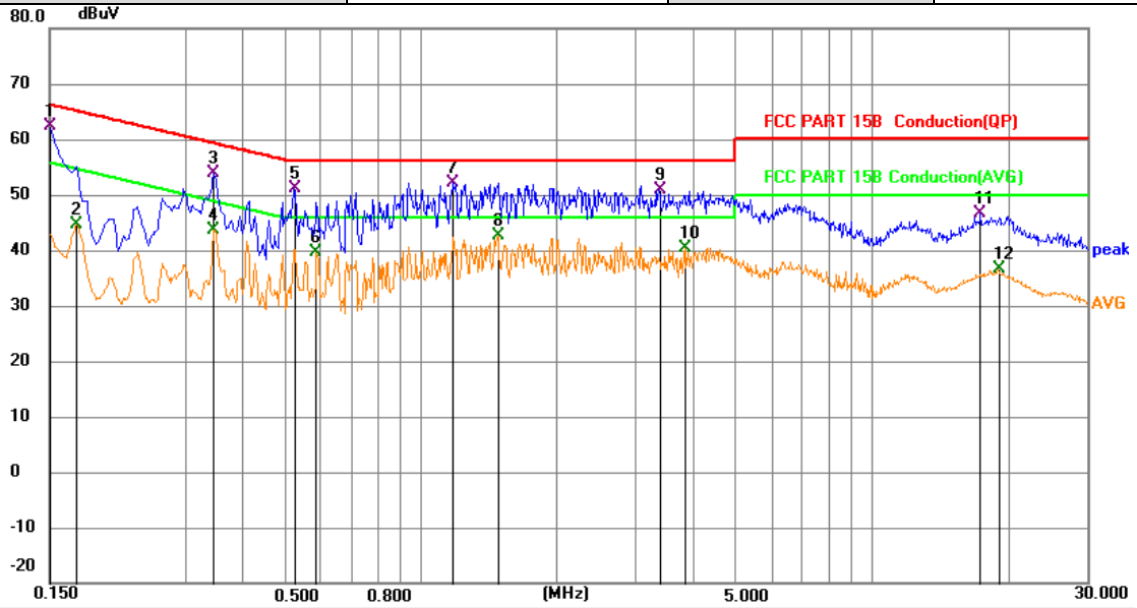
PASS.

The test result please refer to the next page.





Test Model	FAN-SUR-SL	Test Mode	Lighting
Environmental Conditions	23.5°C, 53.6% RH	Test Engineer	Paddi Chen
Pol	Line	Test Voltage	AC 120V/60Hz

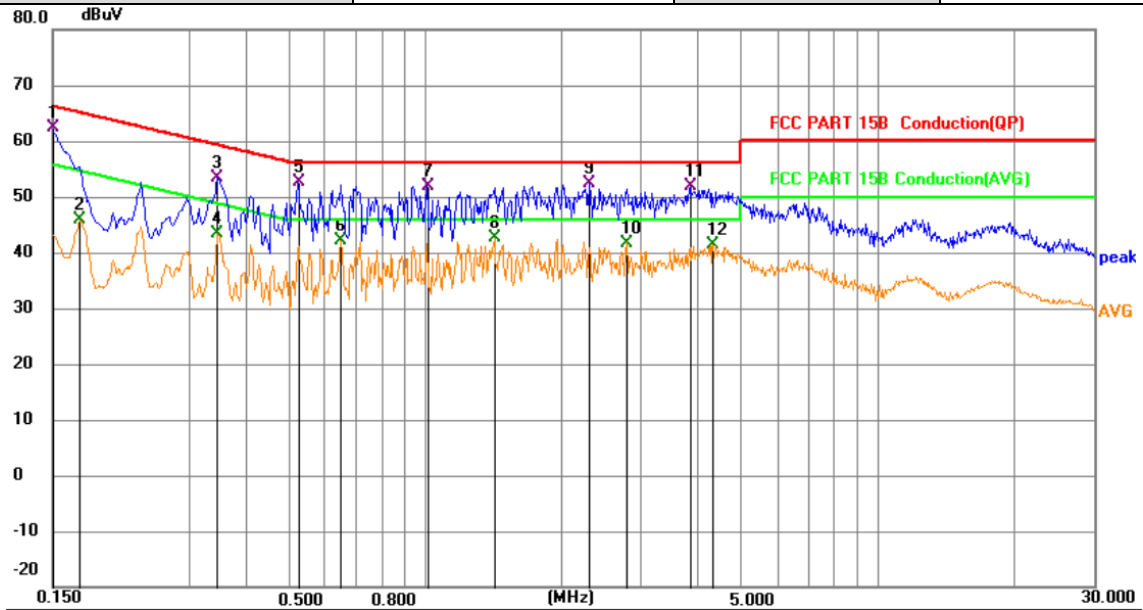


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1500	31.13	31.25	62.38	66.00	-3.62	QP	
2		0.1726	13.44	31.25	44.69	54.83	-10.14	AVG	
3		0.3481	22.55	31.25	53.80	59.01	-5.21	QP	
4		0.3481	12.35	31.25	43.60	49.01	-5.41	AVG	
5		0.5235	19.79	31.25	51.04	56.00	-4.96	QP	
6		0.5865	8.33	31.25	39.58	46.00	-6.42	AVG	
7		1.1805	20.47	31.78	52.25	56.00	-3.75	QP	
8	*	1.4819	10.80	31.90	42.70	46.00	-3.30	AVG	
9		3.3676	18.69	32.12	50.81	56.00	-5.19	QP	
10		3.8401	8.30	32.12	40.42	46.00	-5.58	AVG	
11		17.3851	14.14	32.46	46.60	60.00	-13.40	QP	
12		19.0996	4.28	32.39	36.67	50.00	-13.33	AVG	





Test Model	FAN-SUR-SL	Test Mode	Lighting
Environmental Conditions	23.5°C, 53.6% RH	Test Engineer	Paddi Chen
Pol	Neutral	Test Voltage	AC 120V/60Hz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1500	31.01	31.25	62.26	66.00	-3.74	QP	
2		0.1726	14.70	31.25	45.95	54.83	-8.88	AVG	
3		0.3481	22.12	31.25	53.37	59.01	-5.64	QP	
4		0.3481	12.03	31.25	43.28	49.01	-5.73	AVG	
5		0.5236	21.30	31.25	52.55	56.00	-3.45	QP	
6		0.6496	10.74	31.29	42.03	46.00	-3.97	AVG	
7		1.0051	20.28	31.71	51.99	56.00	-4.01	QP	
8	*	1.4191	10.85	31.88	42.73	46.00	-3.27	AVG	
9		2.3055	20.29	32.13	52.42	56.00	-3.58	QP	
10		2.7826	9.60	32.15	41.75	46.00	-4.25	AVG	
11		3.8446	19.68	32.21	51.89	56.00	-4.11	QP	
12		4.3171	9.15	32.18	41.33	46.00	-4.67	AVG	

***Note: 1) Pre-scan all modes and recorded the worst case results in this report.

2) Margin= Reading level + Correct factor – Limit

Correct Factor= Lism Factor+Cable Factor





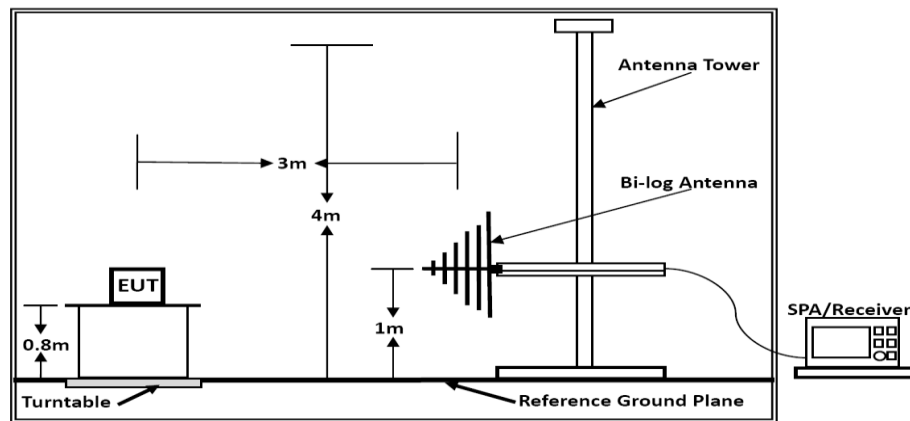
3.2. Radiated emission Measurement

3.2.1. Test Equipment

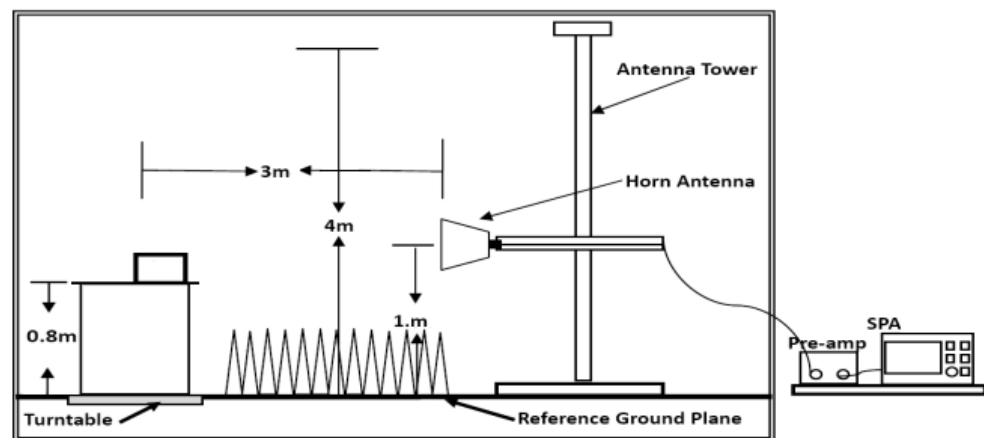
The following test equipments are used during the radiated emission measurement:

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Software	AUDIX	E3	/	N/A	N/A
2	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-09-12	2024-09-11
3	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-09-05	2024-09-04
4	EMI Test Receiver	R&S	ESPI	101940	2023-08-15	2024-08-14
5	Low-frequency amplifier	SchwarzZBECK	BBV9745	00253	2023-10-18	2024-10-17
6	High-frequency amplifier	JS Denki Pte	PA0118-43	JSPA21009	2023-10-18	2024-10-17
7	EMI Test Software	Farad	EZ	/	N/A	N/A
8	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2023-10-18	2024-10-17

3.2.2. Block Diagram of Test Setup



Below 1GHz



Above 1GHz





3.2.3. Radiated Emission Limit (Class B)

Limits for Radiated Disturbance Below 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54
Remark: (1) Emission level $(\text{dB})\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$ (2) The smaller limit shall apply at the cross point between two frequency bands. (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.			
Limits for Radiated Emission Above 1GHz			
Frequency (MHz)	Distance (Meters)	Peak Limit ($\text{dB}\mu\text{V}/\text{m}$)	Average Limit ($\text{dB}\mu\text{V}/\text{m}$)
Above 1000	3	74	54
***Note: The lower limit applies at the transition frequency.			

3.2.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.2.5. Operating Condition of EUT

3.2.5.1. Setup the EUT as shown in Section 3.2.2.

3.2.5.2. Let the EUT work in test Lighting and measure it.

3.2.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120kHz, 300kHz.

The frequency range from 30MHz to 1000MHz is checked.

3.2.7. Radiated Emission Noise Measurement Result

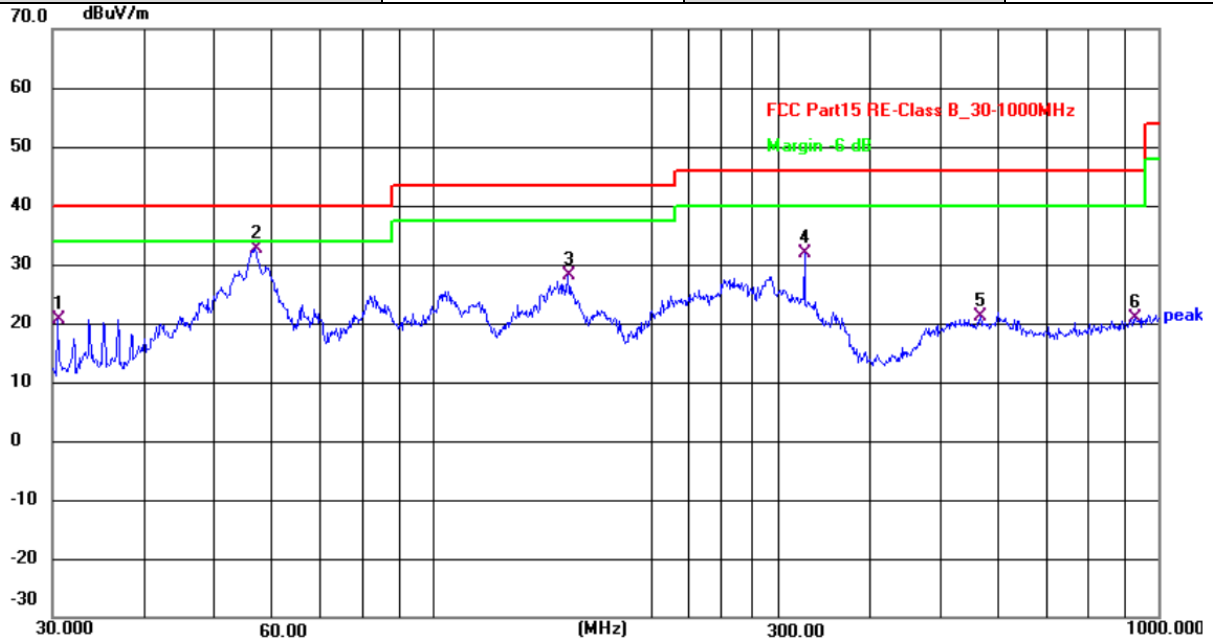
PASS.

The scanning waveforms please refer to the next page.





Test Model	FAN-SUR-SL	Test Mode	Lighting
Environmental Conditions	23.8°C, 52.3% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Paddi Chen	Test Voltage	AC 120V/60Hz

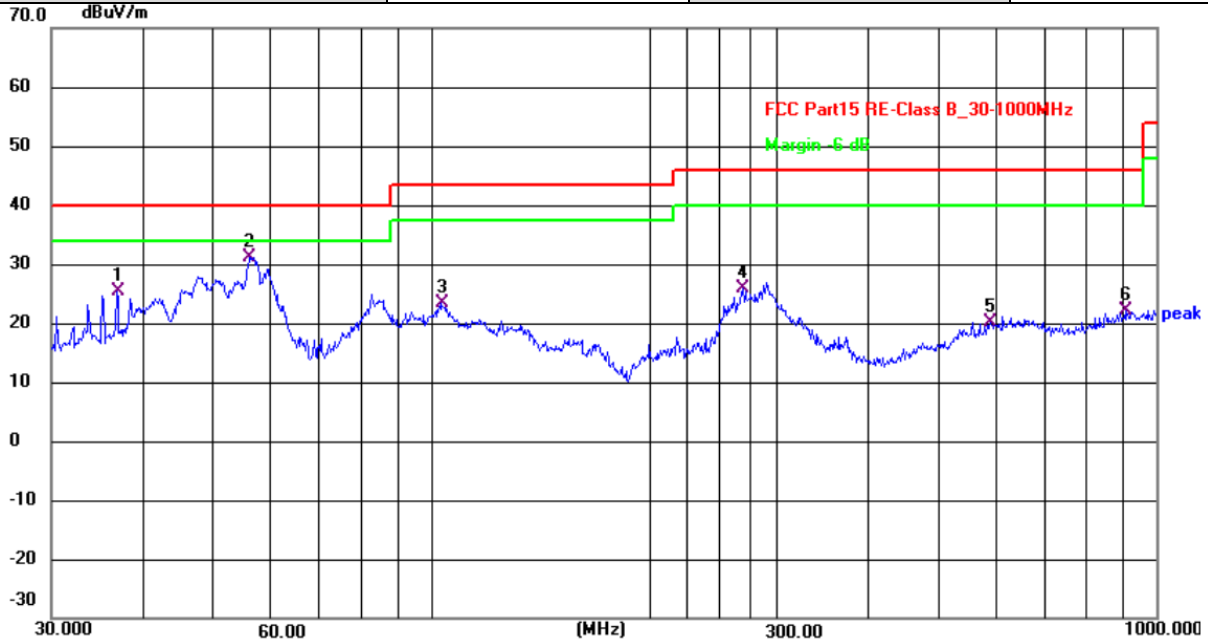


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.5306	39.08	-18.39	20.69	40.00	-19.31	QP
2	56.9912	51.03	-18.31	32.72	40.00	-7.28	QP
3	153.7385	47.96	-19.77	28.19	43.50	-15.31	QP
4	325.5957	46.17	-14.21	31.96	46.00	-14.04	QP
5	568.6126	32.11	-11.10	21.01	46.00	-24.99	QP
6	929.0081	28.73	-7.91	20.82	46.00	-25.18	QP





Test Model	FAN-SUR-SL	Test Mode	Lighting
Environmental Conditions	23.8°C, 52.3% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Paddi Chen	Test Voltage	AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	36.8953	43.00	-17.70	25.30	40.00	-14.70	QP
2	56.1974	49.36	-18.17	31.19	40.00	-8.81	QP
3	103.4421	41.81	-18.48	23.33	43.50	-20.17	QP
4	269.4282	41.31	-15.41	25.90	46.00	-20.10	QP
5	590.9737	30.70	-10.58	20.12	46.00	-25.88	QP
6	906.4824	30.24	-8.20	22.04	46.00	-23.96	QP

Note:1).Pre-Scan all mode, Thus record worse case mode result in this report.

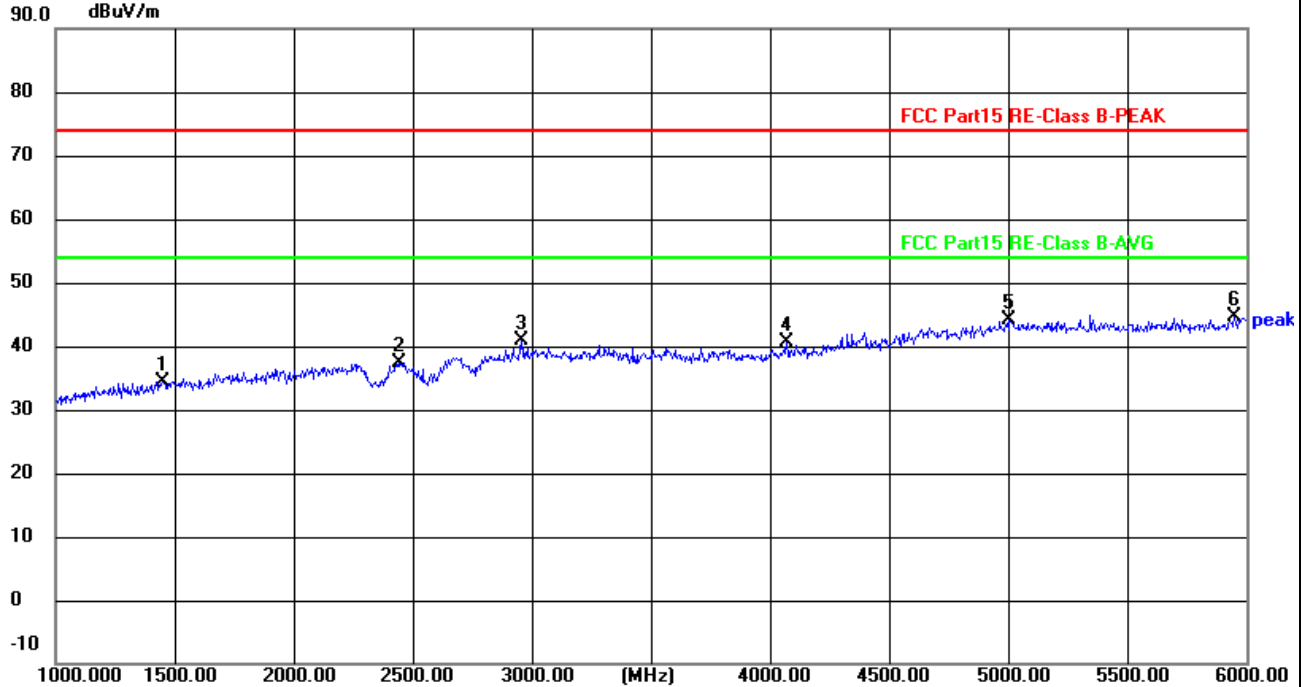
2) Margin= Reading level + Correct factor – Limit

Correct Factor=Antenna Factor+Cable Factor- Pre-amplifier Factor





Test Model	P102	Test Mode	Mode 1 (Above 1GHz)
Environmental Conditions	23.9°C, 52.0% RH	Detector Function	Peak + AV
Pol	Horizontal	Distance	3m
Test Engineer	Taylor Hu	Test Voltage	AC 120V/60Hz

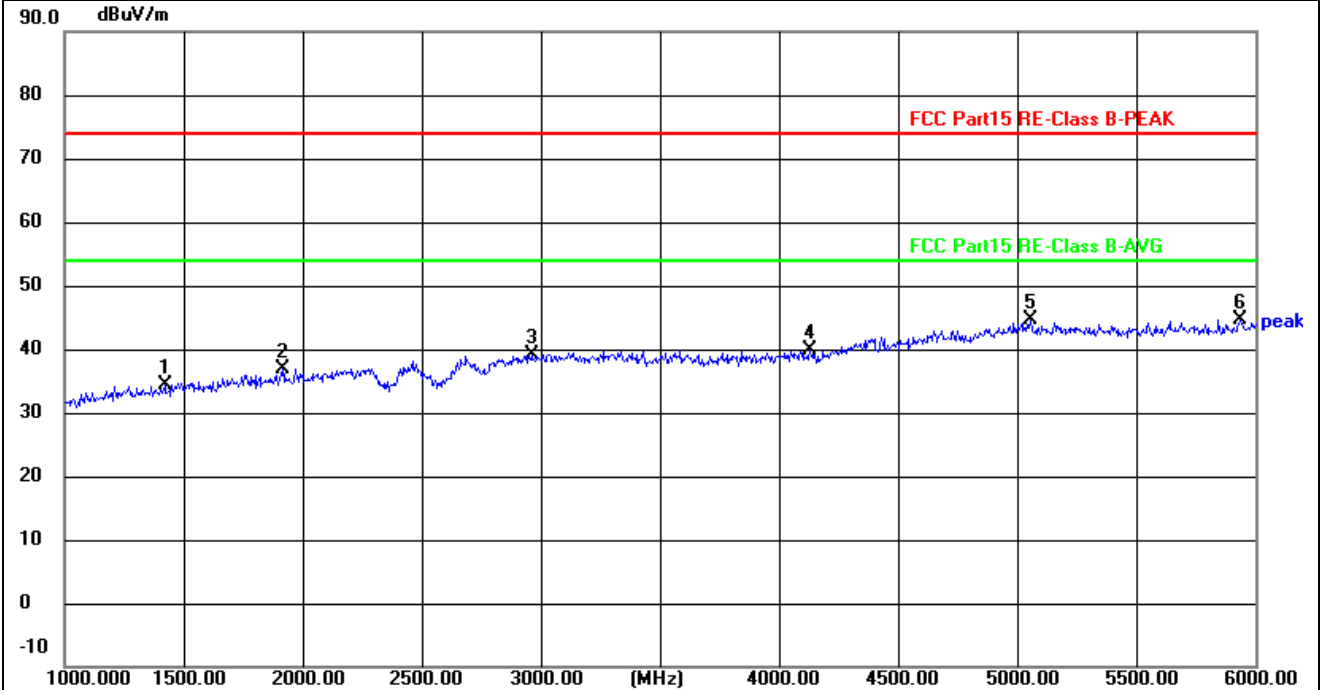


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1450.000	49.51	-15.10	34.41	74.00	-39.59	peak
2	2440.000	48.93	-11.55	37.38	74.00	-36.62	peak
3	2955.000	50.61	-9.75	40.86	74.00	-33.14	peak
4	4070.000	48.80	-8.26	40.54	74.00	-33.46	peak
5	5005.000	48.26	-4.11	44.15	74.00	-29.85	peak
6	5950.000	48.27	-3.64	44.63	74.00	-29.37	peak





Test Model	P102	Test Mode	Mode 1 (Above 1GHz)
Environmental Conditions	23.9°C, 52.0% RH	Detector Function	Peak + AV
Pol	Vertical	Distance	3m
Test Engineer	Taylor Hu	Test Voltage	AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1420.000	49.68	-15.19	34.49	74.00	-39.51	peak
2	1915.000	50.49	-13.55	36.94	74.00	-37.06	peak
3	2960.000	48.74	-9.73	39.01	74.00	-34.99	peak
4	4130.000	48.01	-8.04	39.97	74.00	-34.03	peak
5	5055.000	48.55	-4.02	44.53	74.00	-29.47	peak
6	5935.000	48.27	-3.63	44.64	74.00	-29.36	peak

Note:

- Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- Measurements above show only up to 6 maximum emissions noted.
- 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.
- Factor = Antenna Factor + Cable Loss + Amplifier Factor
 Emission Level = Reading level + Factor
 Margin = Emission Level - Limit





4. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

5. EXTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for External Photos of the EUT.

6. INTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for Internal Photos of the EUT.

-----THE END OF TEST REPORT-----

