

APPLICATION FOR CERTIFICATION

On Behalf of

Philips Lighting(China) Investment Co., Ltd.

LED Lamp

Model No. : 9290011998B

Brand : Philips

FCC ID : 2AGBW9290011998BX

Prepared for

Philips Lighting(China) Investment Co., Ltd.

Building 9, Lane 888, Tian Lin Road, Minhang district, Shanghai, China

Prepared by

Audix Technology (Wujiang) Co., Ltd. EMC Dept.

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Report Number : ACWE-F1703002A

Date of Test : Mar.30~Apr.11, 2017

Date of Report : Apr.24, 2017

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TEST REPORT CERTIFICATION

Applicant : Philips Lighting(China) Investment Co., Ltd.
 Manufacturer : Philips Lighting(China) Investment Co., Ltd.
 EUT Description : LED Lamp
 FCC ID : 2AGBW9290011998BX
 (A) Model No. : 9290011998B
 (B) Brand : Philips
 (C) Power Supply : AC 110-130V, 50/60Hz
 (D) Test Voltage : AC 120V, 60Hz

Applicable Standards:

FCC RULES AND REGULATIONS PART 15 SUBPART C, Oct. 2015
ANSI C63.10: 2013

The device described above was tested by Audix Technology (Wujiang) Co., Ltd. EMC Dept. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C section 15.207, 15.209&15.247 limits.

The measurement results are contained in this test report and Audix Technology (Wujiang) Co., Ltd. EMC Dept. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this test report shows that the EUT to be technically compliant with the FCC limits.

This test report applies to above tested sample only. This test report shall not be reproduced in part without written approval of Audix Technology (Wujiang) Co., Ltd. EMC Dept.

Date of Test: Mar.30~Apr.11, 2017

Date of Report: Apr.24, 2017

Prepared by : Emma Hu
 (Emma Hu/Assistant Administrator)

Reviewer : Danny Sun
 (Danny Sun/ Deputy Manager)

Approved & Authorized Signer : Ken Lu
 (Ken Lu/Assistant General Manager)

1. DESCRIPTION OF VERSION

Edition No.	Date of Rev.	Summary	Report No.
0	Apr.01, 2017	Original Report.	ACWE-F1703002
Rev. A	Apr.24, 2017	Add a new LED board.	ACWE-F1703002A

2. SUMMARY OF MEASUREMENTS AND RESULTS

The EUT has been tested according to the applicable standards and test results are referred as below.

Description of Test Item	Standard	Results	Remark
CONDUCTED EMISSION	FCC 47 CFR Part 15 Subpart C/ Section 15.207 And ANSI C63.10:2013	PASS	Minimum passing margin is 2.00 dB at 0.19 MHz
RADIATED EMISSION	FCC 47 CFR Part 15 Subpart C/ Section 15.209& Section 15.205 And ANSI C63.10:2013	PASS	Minimum passing margin is 6.76 dB at 184.23 MHz
6 dB BANDWIDTH	FCC 47 CFR Part 15 Subpart C/ Section 15.247(a)(2) And ANSI C63.10:2013	N/A	----
OUTPUT POWER	FCC 47 CFR Part 15 Subpart C/ Section 15.247(b)(3) And ANSI C63.10:2013	N/A	----
BAND EDGES	FCC 47 CFR Part 15 Subpart C/ Section 15.247(d) And ANSI C63.10:2013	N/A	----
POWER SPECTRAL DENSITY	FCC 47 CFR Part 15 Subpart C/ Section 15.247(e) And ANSI C63.10:2013	N/A	----
EMISSION LIMITATIONS	FCC 47 CFR Part 15 Subpart C/ Section 15.247(d) And ANSI C63.10:2013	N/A	----

3. GENERAL INFORMATION

3.1. Description of Device (EUT)

Description	:	LED Lamp
Model No.	:	9290011998B
FCC ID	:	2AGBW9290011998BX
Brand	:	Philips
Applicant	:	Philips Lighting(China) Investment Co., Ltd. Building 9, Lane 888, Tian Lin Road, Minhang district, Shanghai, China
Manufacturer	:	Philips Lighting(China) Investment Co., Ltd. Building 9, Lane 888, Tian Lin Road, Minhang district, Shanghai, China
Radio Technology	:	IEEE 802.15.4 (ZigBee®)
Antenna Gain	:	2.21dBi
Fundamental Range	:	2405 MHz -2480MHz
Tested Frequency	:	2405MHz (CH11) 2450MHz (CH20) 2475MHz (CH25) 2480MHz (CH26)
Channel Setting Method	:	Channel is changed via atmel production test application.
Highest Working Frequency	:	2.4GHz
Modulation type	:	O-QPSK
Date of Receipt of Sample	:	Mar.30, 2017
Date of Test	:	Mar.30~Apr.11, 2017

Remarks for Rev.A:

1. This report is based on the original report ACWE-F1703002.
2. This report adds a new LED board. It has effect on the test result, so we retest the items which are under the influence. The test result was recorded in this report ACWE-F1703002A. Please refer to original report ACWE-F1703002 if you want to check the other test data.

3.2. Description of Test Facility

Name of Firm : **Audix Technology (Wujiang) Co., Ltd. EMC Dept.**

Site Location : No. 1289 Jiangxing East Road, the Eastern Part of Wujiang Economic Development Zone Jiangsu China 215200

Test Facilities : **No.1 Conducted Shielding Enclosure**
No.1 3m Semi-anechoic Chamber
 Date of Validity: Mar.30, 2018
 FCC Registration No.: 897661
 IC Registration No.:5183D-2

RF Fully Chamber

NVLAP Lab Code : 200786-0
 Valid until on Sep.30, 2017
 (NVLAP is a signatory member of ILAC MRA)
 Remark: This report shall not be imply endorsement, certification or approval by NVLAP, NIST, or any agency of the U.S. Federal Government.

3.3. Measurement Uncertainty

Test Item	Range Frequency	Uncertainty
No.1 Conducted Disturbance Measurement	0.15MHz ~ 30MHz	± 2.65dB
Radiated Disturbance Measurement (At 3m Chamber)	30MHz ~ 300MHz	± 3.18dB
	300MHz ~ 1GHz	± 3.12dB
Radiated Disturbance Measurement (At 3m Chamber)	1GHz ~ 6GHz	± 4.56dB
	6GHz ~ 18GHz	± 5.03dB

Remark: Uncertainty = $ku_c(y)$

Test Item	Uncertainty
6 dB Bandwidth	± 0.16 MHz
Maximum Peak Output Power	± 0.12dB
Band Edges	± 0.38dB
Power Spectral Density	± 0.38dB
Emission Limitations	± 0.38dB

Remark: Uncertainty = $ku_c(y)$

4. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

“ An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 antennas of this E.U.T are permanently attached.

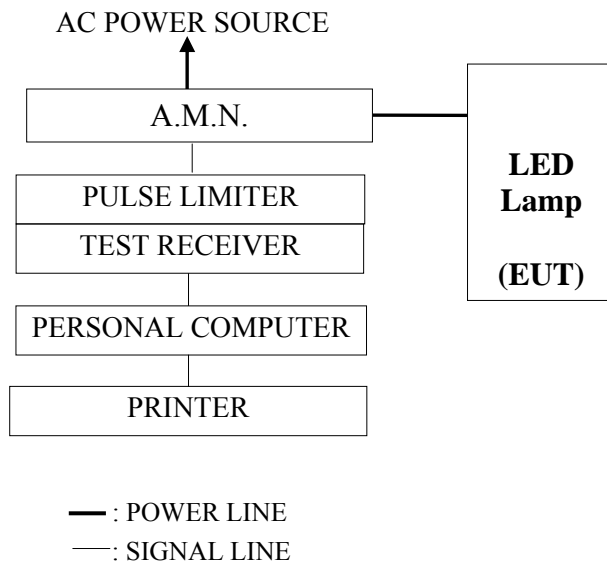
*The E.U.T Complies with the requirement of §15.203

5. CONDUCTED EMISSION MEASUREMENT

5.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCI	100351	2016-07-03	2017-07-02
2.	A.M.N	R&S	ESH2-Z5	100153	2016-05-15	2017-05-14
3.	Pulse Limiter	R&S	ESH3-Z2	100605	2017-01-05	2018-01-04
4.	RF Cable	Shengxuan	RG400	Cable 50/1+Switch	2017-01-05	2018-01-04
5.	Software	Audix/e3(6.7.0313)				

5.2. Block Diagram of Test Setup



5.3. Power line Conducted Emission Limit

(FCC Part 15, Section 15.207, Class B)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB μ V	56 ~ 46 dB μ V
500kHz ~ 5MHz	56 dB μ V	46 dB μ V
5MHz ~ 30MHz	60 dB μ V	50 dB μ V

Remark1: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2: The lower limit applies at the band edges.

5.4. Test Procedure

The measuring process is according to ANSI C63.10-2013 and laboratory internal procedure TKC-301-004. (For FCC Part15 Subpart C)

In the conducted emission measurement, the EUT and all peripheral devices were set up on a non-metallic table which was 0.8 meter height above the ground plane, and 0.4 meter far away from the vertical plane. The mains cable of the EUT connected to one Artificial Main Network(AMN). All other unit of the EUT and AE connected to a second Line Impedance Stabilization Network(L.I.S.N.). The telecommunication cable connected to the AE through a Impedance Stabilization Network(ISN) which terminated a 50Ω resistor. For the measurement, the A.M.N measuring port was terminated by a 50Ω measuring equipment and the second L.I.S.N measuring port was terminated by a 50Ω terminator. All measurements were done between the phase lead and the reference ground, and between the neutral lead and the reference ground. All cables or wires placement were verified to find out the maximum emission.

The bandwidth of measuring receiver was set at 9 kHz.

The required frequency band (0.15 MHz ~ 30 MHz) was pre-scanned with peak detector; the final measurement was measured with quasi-peak detector and average detector. (If the average limit is met when using a quasi-peak detector, the average detector is unnecessary).

The emission level is calculated automatically by the test system which uses the following equation:

$$\text{Emission level (dB}\mu\text{V)} = \text{Reading (dB}\mu\text{V)} + \text{A.M.N factor (dB)} + \text{Cable loss (dB)}.$$

(Cable loss includes pulse limiter loss)

5.5. Conducted Emission Measurement Results

For FCC Part15 Subpart C

PASSED.

EUT was performed during this section testing and all the test results are attached in next pages.

Test Date : Mar.31, 2017 Temperature : 23.3 Humidity : 58%

Mode	Test Condition	Reference Test Data No.	
		Neutral	Line
1	TX CH11 2405MHz	# 5	# 6
2	TX CH20 2450MHz	# 8	# 7
3	TX CH25 2475MHz	# 9	# 10

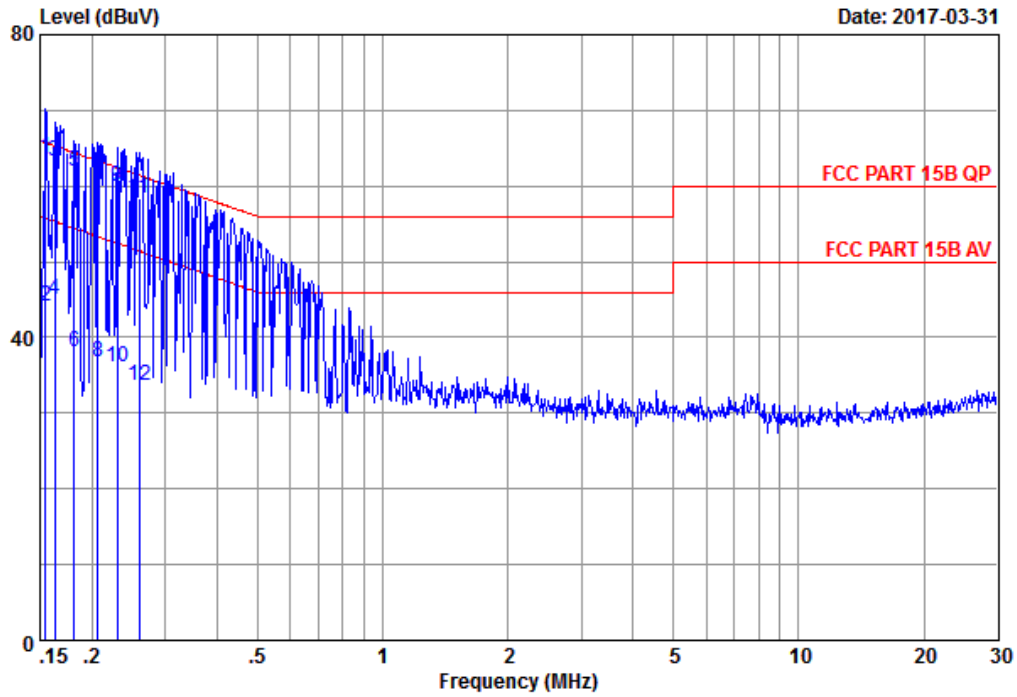
NOTE 1- ‘ ’ means the worst test mode.

NOTE 2- The worst emission is detected at 0.19 MHz with emission level of 61.89 dB (μV) and with QP detector (Limit is 63.89 dB (μV)), when the Neutral of the EUT is connected to AMN.



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Data: 5 File: F:\2017Test Data\Report\4\C1W1704087.EM6 (10)



Site no. : No.1 Conducted shielding Enclosure Data no. : 5
 AMN/LISN : ESH2-Z5-1605 Phase : NEUTRAL
 Limit : FCC PART 15B QP
 Env. / Ins. : 23.3C&58%/ESCI Engineer : KM.Tong
 EUT : LED Lamp
 M/N : 9290011998B
 Power Rating : 120Vac/60Hz
 Test mode : TX CH11 2405MHz
 memo : LED board for ITN

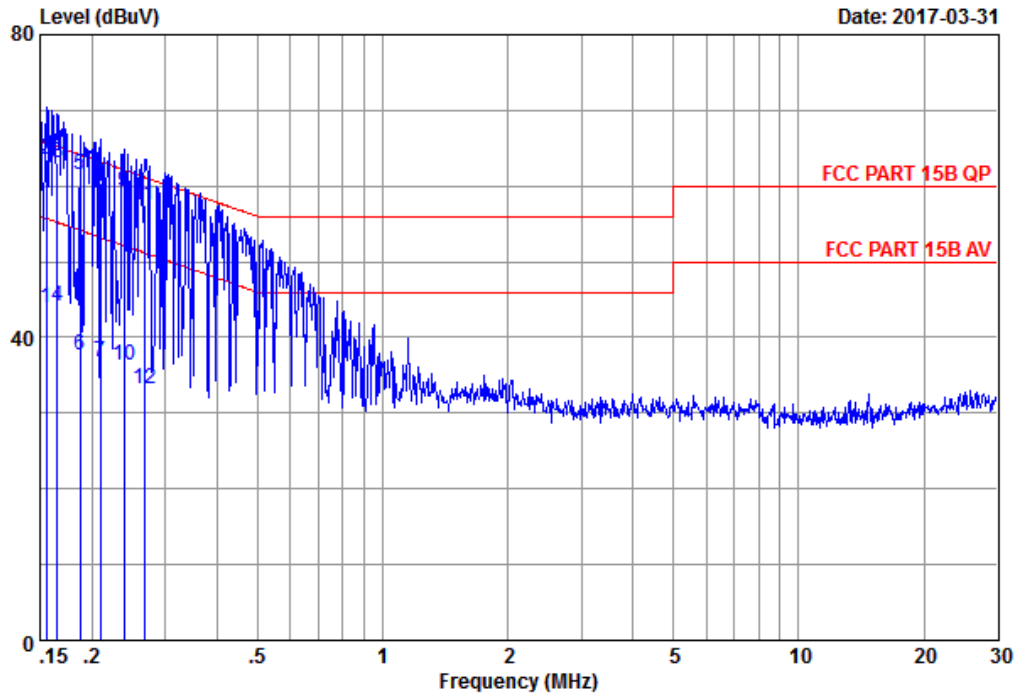
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Aux (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15	0.15	0.02	9.91	53.60	63.68	65.74	2.06	QP
2	0.15	0.15	0.02	9.91	34.00	44.08	55.74	11.66	Average
3	0.16	0.15	0.02	9.91	53.10	63.18	65.34	2.16	QP
4	0.16	0.15	0.02	9.91	34.90	44.98	55.34	10.36	Average
5	0.18	0.15	0.02	9.91	51.80	61.88	64.42	2.54	QP
6	0.18	0.15	0.02	9.91	28.00	38.08	54.42	16.34	Average
7	0.21	0.15	0.02	9.91	51.20	61.28	63.36	2.08	QP
8	0.21	0.15	0.02	9.91	26.61	36.69	53.36	16.67	Average
9	0.23	0.15	0.02	9.91	49.80	59.88	62.44	2.56	QP
10	0.23	0.15	0.02	9.91	26.00	36.08	52.44	16.36	Average
11	0.26	0.15	0.03	9.91	48.20	58.29	61.42	3.13	QP
12	0.26	0.15	0.03	9.91	23.50	33.59	51.42	17.83	Average

Remarks:
 1.Emission Level= AMN factor + Cable loss+ Pulse Att+ Reading .



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Data: 6 File: F:\2017Test Data\Report\4\C1W1704087.EM6 (10)



Site no. : No.1 Conducted shielding Enclosure Data no. : 6
 AMN/LISN : ESH2-Z5-1605 Phase : LINE
 Limit : FCC PART 15B QP
 Env. / Ins. : 23.3C&58%/ESCI Engineer : KM.Tong
 EUT : LED Lamp
 M/N : 9290011998B
 Power Rating : 120Vac/60Hz
 Test mode : TX CH11 2405MHz
 memo : LED board for ITN

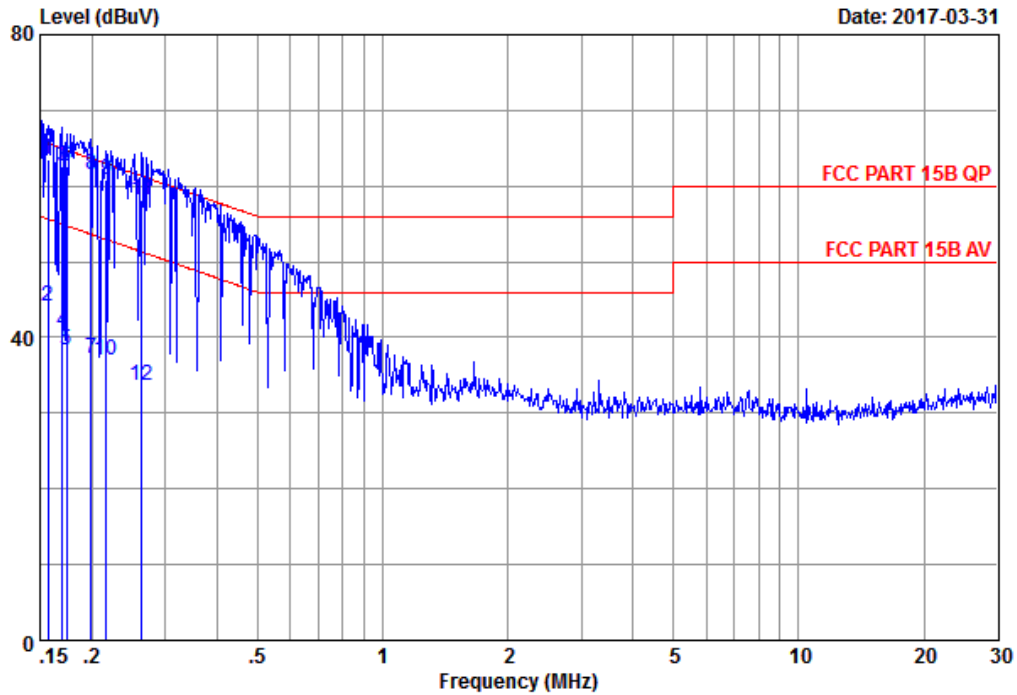
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Aux (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.16	0.16	0.02	9.91	33.81	43.90	55.69	11.79	Average
2	0.16	0.16	0.02	9.91	53.50	63.59	65.69	2.10	QP
3	0.17	0.16	0.02	9.91	53.01	63.10	65.21	2.11	QP
4	0.17	0.16	0.02	9.91	34.01	44.10	55.21	11.11	Average
5	0.19	0.16	0.02	9.91	51.50	61.59	64.15	2.56	QP
6	0.19	0.16	0.02	9.91	27.50	37.59	54.15	16.56	Average
7	0.21	0.16	0.02	9.91	26.60	36.69	53.23	16.54	Average
8	0.21	0.16	0.02	9.91	50.40	60.49	63.23	2.74	QP
9	0.24	0.16	0.03	9.91	49.10	59.20	62.13	2.93	QP
10	0.24	0.16	0.03	9.91	26.20	36.30	52.13	15.83	Average
11	0.27	0.16	0.03	9.91	47.40	57.50	61.20	3.70	QP
12	0.27	0.16	0.03	9.91	23.00	33.10	51.20	18.10	Average

Remarks:
 1.Emission Level= AMN factor + Cable loss+ Pulse Att+ Reading .



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Data: 8 File: F:\2017Test Data\Report\4\C1W1704087.EM6 (10)



Site no. : No.1 Conducted shielding Enclosure Data no. : 8
 AMN/LISN : ESH2-Z5-1605 Phase : NEUTRAL
 Limit : FCC PART 15B QP
 Env. / Ins. : 23.3C&58%/ESCI Engineer : KM.Tong
 EUT : LED Lamp
 M/N : 9290011998B
 Power Rating : 120Vac/60Hz
 Test mode : TX CH20 2450MHz
 memo : LED board for ITN

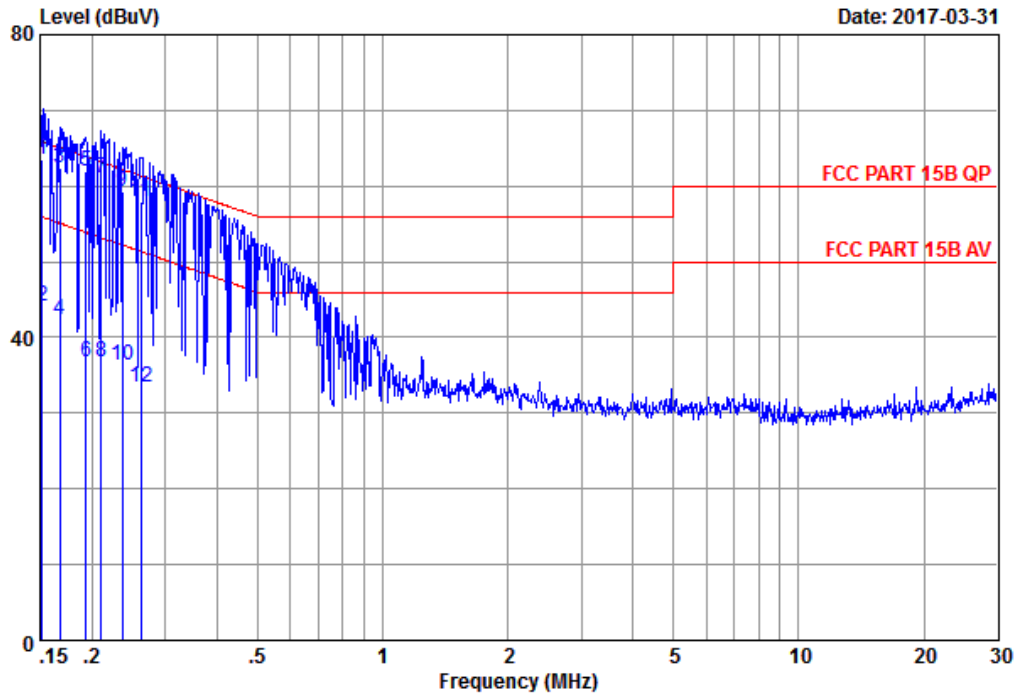
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Aux (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.16	0.15	0.02	9.91	53.40	63.48	65.65	2.17	QP
2	0.16	0.15	0.02	9.91	34.00	44.08	55.65	11.57	Average
3	0.17	0.15	0.02	9.91	52.50	62.58	64.99	2.41	QP
4	0.17	0.15	0.02	9.91	30.60	40.68	54.99	14.31	Average
5	0.17	0.15	0.02	9.91	28.20	38.28	54.77	16.49	Average
6	0.17	0.15	0.02	9.91	52.50	62.58	64.77	2.19	QP
7	0.20	0.15	0.02	9.91	27.10	37.18	53.67	16.49	Average
8	0.20	0.15	0.02	9.91	51.40	61.48	63.67	2.19	QP
9	0.22	0.15	0.02	9.91	50.80	60.88	62.96	2.08	QP
10	0.22	0.15	0.02	9.91	26.91	36.99	52.96	15.97	Average
11	0.26	0.15	0.03	9.91	48.10	58.19	61.34	3.15	QP
12	0.26	0.15	0.03	9.91	23.60	33.69	51.34	17.65	Average

Remarks:
 1.Emission Level= AMN factor + Cable loss+ Pulse Att+ Reading .



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Data: 7 File: F:\2017Test Data\Report\4\C1W1704087.EM6 (10)



Site no. : No.1 Conducted shielding Enclosure Data no. : 7
 AMN/LISN : ESH2-Z5-1605 Phase : LINE
 Limit : FCC PART 15B QP
 Env. / Ins. : 23.3C&58%/ESCI Engineer : KM.Tong
 EUT : LED Lamp
 M/N : 9290011998B
 Power Rating : 120Vac/60Hz
 Test mode : TX CH20 2450MHz
 memo : LED board for ITN

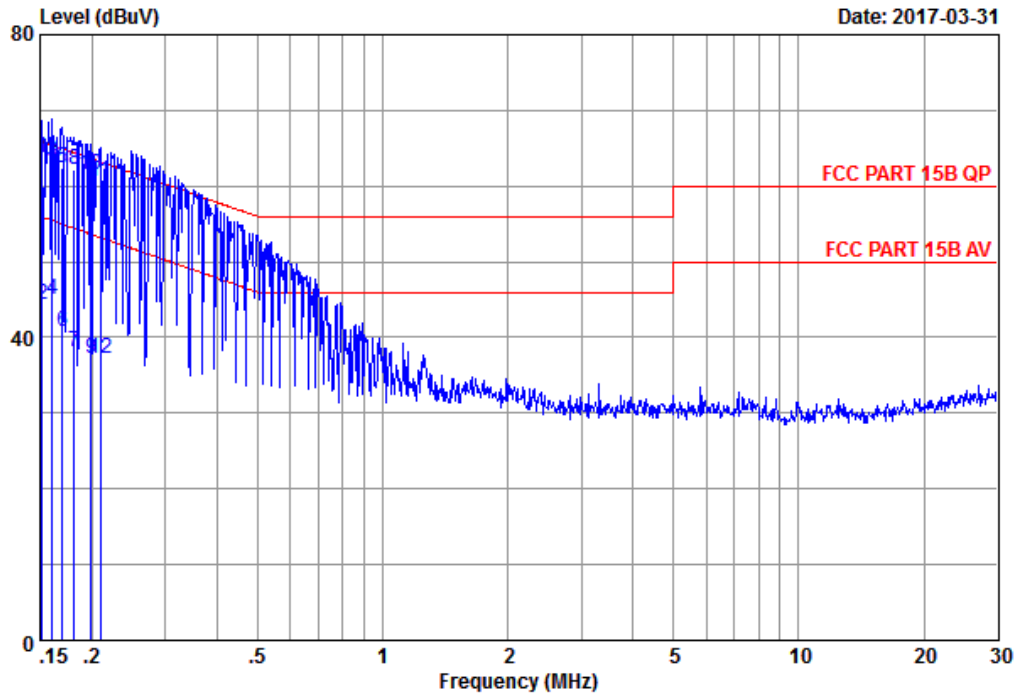
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Aux (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15	0.16	0.02	9.91	53.51	63.60	65.91	2.31	QP
2	0.15	0.16	0.02	9.91	34.01	44.10	55.91	11.81	Average
3	0.17	0.16	0.02	9.91	52.41	62.50	65.08	2.58	QP
4	0.17	0.16	0.02	9.91	32.20	42.29	55.08	12.79	Average
5	0.19	0.16	0.02	9.91	51.80	61.89	63.89	2.00	QP
6	0.19	0.16	0.02	9.91	26.70	36.79	53.89	17.10	Average
7	0.21	0.16	0.02	9.91	51.01	61.10	63.18	2.08	QP
8	0.21	0.16	0.02	9.91	26.70	36.79	53.18	16.39	Average
9	0.24	0.16	0.03	9.91	49.10	59.20	62.22	3.02	QP
10	0.24	0.16	0.03	9.91	26.20	36.30	52.22	15.92	Average
11	0.26	0.16	0.03	9.91	47.90	58.00	61.38	3.38	QP
12	0.26	0.16	0.03	9.91	23.40	33.50	51.38	17.88	Average

Remarks:
 1.Emission Level= AMN factor + Cable loss+ Pulse Att+ Reading .



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Data: 9 File: F:\2017Test Data\Report\4\C1W1704087.EM6 (10)



Site no. : No.1 Conducted shielding Enclosure Data no. : 9
 AMN/LISN : ESH2-Z5-1605 Phase : NEUTRAL
 Limit : FCC PART 15B QP
 Env. / Ins. : 23.3C&58%/ESCI Engineer : KM.Tong
 EUT : LED Lamp
 M/N : 9290011998B
 Power Rating : 120Vac/60Hz
 Test mode : TX CH25 2475MHz
 memo : LED board for ITN

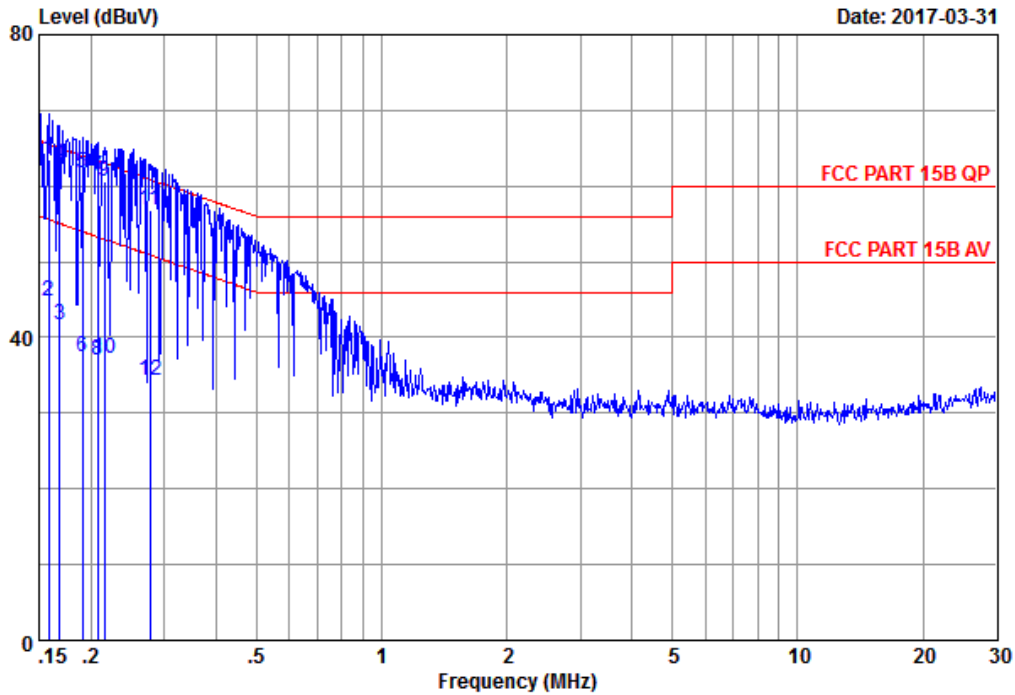
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Aux (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15	0.15	0.02	9.91	53.70	63.78	65.91	2.13	QP
2	0.15	0.15	0.02	9.91	34.20	44.28	55.91	11.63	Average
3	0.16	0.15	0.02	9.91	53.30	63.38	65.43	2.05	QP
4	0.16	0.15	0.02	9.91	34.90	44.98	55.43	10.45	Average
5	0.17	0.15	0.02	9.91	52.40	62.48	64.99	2.51	QP
6	0.17	0.15	0.02	9.91	30.70	40.78	54.99	14.21	Average
7	0.18	0.15	0.02	9.91	28.10	38.18	54.42	16.24	Average
8	0.18	0.15	0.02	9.91	52.20	62.28	64.42	2.14	QP
9	0.20	0.15	0.02	9.91	27.20	37.28	53.67	16.39	Average
10	0.20	0.15	0.02	9.91	51.50	61.58	63.67	2.09	QP
11	0.21	0.15	0.02	9.91	50.50	60.58	63.23	2.65	QP
12	0.21	0.15	0.02	9.91	27.11	37.19	53.23	16.04	Average

Remarks:
 1.Emission Level= AMN factor + Cable loss+ Pulse Att+ Reading .



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Data: 10 File: F:\2017Test Data\Report\4\C1W1704087.EM6 (10)



Site no. : No.1 Conducted shielding Enclosure Data no. : 10
 AMN/LISN : ESH2-Z5-1605 Phase : LINE
 Limit : FCC PART 15B QP
 Env. / Ins. : 23.3C&58%/ESCI Engineer : KM.Tong
 EUT : LED Lamp
 M/N : 9290011998B
 Power Rating : 120Vac/60Hz
 Test mode : TX CH25 2475MHz
 memo : LED board for ITN

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Aux (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.16	0.16	0.02	9.91	53.41	63.50	65.56	2.06	QP
2	0.16	0.16	0.02	9.91	34.60	44.69	55.56	10.87	Average
3	0.17	0.16	0.02	9.91	31.60	41.69	55.03	13.34	Average
4	0.17	0.16	0.02	9.91	52.81	62.90	65.03	2.13	QP
5	0.19	0.16	0.02	9.91	51.60	61.69	64.02	2.33	QP
6	0.19	0.16	0.02	9.91	27.40	37.49	54.02	16.53	Average
7	0.21	0.16	0.02	9.91	51.20	61.29	63.32	2.03	QP
8	0.21	0.16	0.02	9.91	26.90	36.99	53.32	16.33	Average
9	0.22	0.16	0.02	9.91	50.60	60.69	63.01	2.32	QP
10	0.22	0.16	0.02	9.91	27.20	37.29	53.01	15.72	Average
11	0.28	0.16	0.03	9.91	46.70	56.80	60.90	4.10	QP
12	0.28	0.16	0.03	9.91	24.20	34.30	50.90	16.60	Average

Remarks:
 1.Emission Level= AMN factor + Cable loss+ Pulse Att+ Reading .

6. RADIATED EMISSION MEASUREMENT

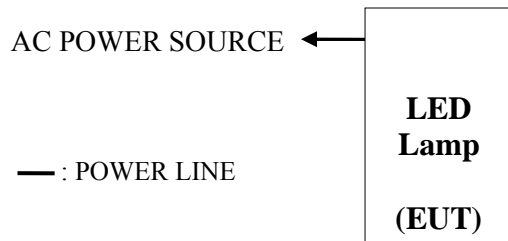
6.1. Test Equipment

The following test equipment was used during the radiated emission measurement:
At 3m Semi-Anechoic Chamber

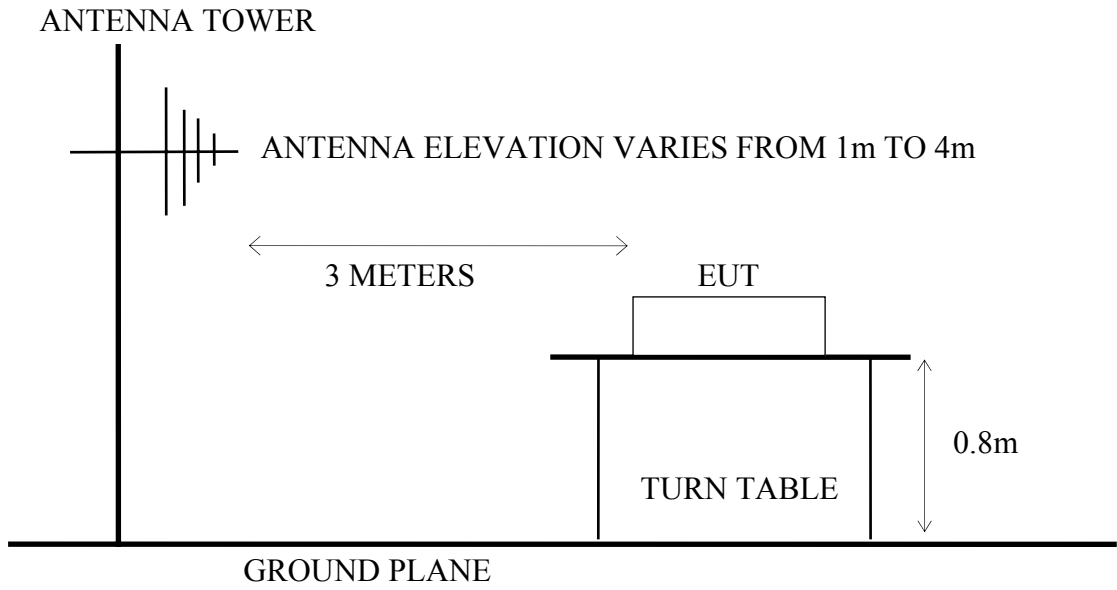
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Preamplifier	Chengyi dianzi	EMC9135	980374	2017-01-04	2018-01-03
2.	Preamplifier	Chengyi dianzi	EMC9135	980373	2017-01-04	2018-01-03
3.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2016-05-15	2017-05-14
4.	Test Receiver	R&S	ESCI	100361	2017-01-05	2018-01-04
5.	Bi-log Antenna	Seibersdorf	VULB 9168	705	2016-07-20	2017-07-19
6.	Horn Antenna	EMCO	3115	62959	2016-06-20	2017-06-19
7.	Horn Antenna	ETS	3116	62641	2016-09-30	2017-09-29
8.	RF Cable #1	Yuhang CSRH	cable-3m	001(0.5m)	2017-01-05	2018-01-04
9.	RF Cable #2	Yuhang CSRH	cable-3m	002(0.5m)	2017-01-05	2018-01-04
10.	RF Cable #3	Yuhang CSRH	cable-3m	003(3.0m)	2017-01-05	2018-01-04
11.	Software	Audix/e3(6.7.0313)				

6.2. Block Diagram of Test Setup

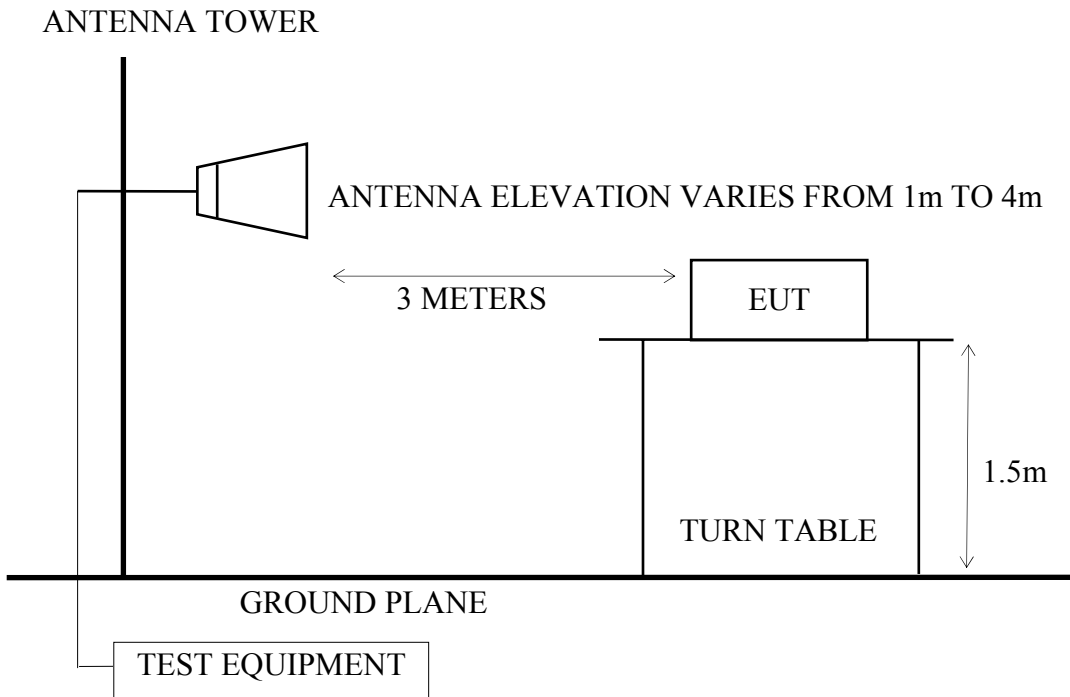
6.2.1. Block Diagram of Test Setup between EUT and simulators



6.2.2. No. 1 3m Semi-Anechoic Chamber Setup Diagram (Test distance:3m) for 30-1000MHz



6.2.3. No. 1 3m Semi-Anechoic Chamber Setup Diagram (Test distance: 3m) for above 1GHz



6.3. Radiated Emission Limits

Radiated Emission Limits (FCC Part15 C, section 15.209, CISPR22)

Frequency MHz	Distance Meters	Field Strengths Limits
		dB μ V/m
30 ~ 88	3	40
88 ~ 216	3	43.5
216 ~ 960	3	46
Above 960	3	54
Above 1000	3	74 (Peak) 54 (Average)

Remark : (1) Emission level (dB μ V/m) = 20 log Emission level (μ V/m)
(2)The tighter limit applies at the edge between two frequency bands.

6.4. Test Procedure

The measuring process is according to ANSI C63.10-2013 and laboratory internal procedure TKC-301-001. (For FCC Part15 Subpart C)

In the radiated disturbance measurement, the EUT and all simulators were set up on a non-metallic turn table which was 0.8 meter above the ground plane. Measurement distance between EUT and receiving antennas was set at 3 meters at 30MHz~1GHz and 3 meters at 1GHz~6GHz. The measurement distance is the shortest horizontal distance between an imaginary circular periphery which consists of EUT periphery and cables and the reference point of the antenna. During the radiated measurement, the EUT was rotated 360° and receiving antennas were moved from 1 ~ 4 meters for finding maximum emission. Two receiving antennas were used for both horizontal and vertical polarization detection for 30MHz~1GHz, One receiving antennas was used for both horizontal and vertical polarization detection for 1GHz~6GHz (the absorbing material was added when testing of 1GHz~6GHz was done). All cables or wires placement were verified to find out the maximum emission.

The bandwidth of measuring receiver (or spectrum analyzer) was set to:

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz
 RBW (1 MHz), VBW (1MHz) for Peak detector above 1GHz
 RBW (1 MHz), VBW (10Hz) for AV detector above 1GHz

The frequency range from 30MHz to 10th harmonic(25GHz) are checked, and no any emissions were found from 18GHz to 25GHz.

The emission level is calculated automatically by the test system which uses the following equation :

- For 30MHz-1GHz measurement:
Emission Level (dB μ V/m) = Reading (dB μ V)+Antenna Factor (dB/m)+Cable Loss (dB)
- For Above 1GHz measurement:
Emission Level (dB μ V/m) = Reading (dB μ V)+Antenna Factor (dB/m)+Cable Loss(dB)
-Pre-amplifier factor (dB)

The three orthogonal planes have been all tested, and the data of the worst mode XZ plan(in Horizontal) & XY plan(in Vertical) is shown in the report.

6.5. Measurement Results

PASSED

6.5.1. For Restricted Bands:

The EUT was tested in restricted bands and all the test results are listed in section 5.7 & 5.8. (The restricted bands defined in part 15.205(a))

For Frequency range : below 1GHz

No.	Test Mode and Frequency		Reference Test Data No.	
			Horizontal	Vertical
1.	Transmitting	2405MHz (Channel 11)	# 19	# 20
2.		2450MHz (Channel 20)	# 21	# 22
3.		2475MHz (Channel 25)	# 23	# 24

For Frequency range : above 1GHz

No.	Test Mode and Frequency		Reference Test Data No.	
			Horizontal	Vertical
1.	Transmitting	2405MHz (Channel 11)	# 13	# 14
2.		2450MHz (Channel 20)	# 15	# 16
3.		2475MHz (Channel 25)	# 17	# 18

6.5.2. For Band Edge Emission

The EUT was tested in restricted bands and all the test results are listed in section 5.9. The restricted bands defined in part 15.205(a)

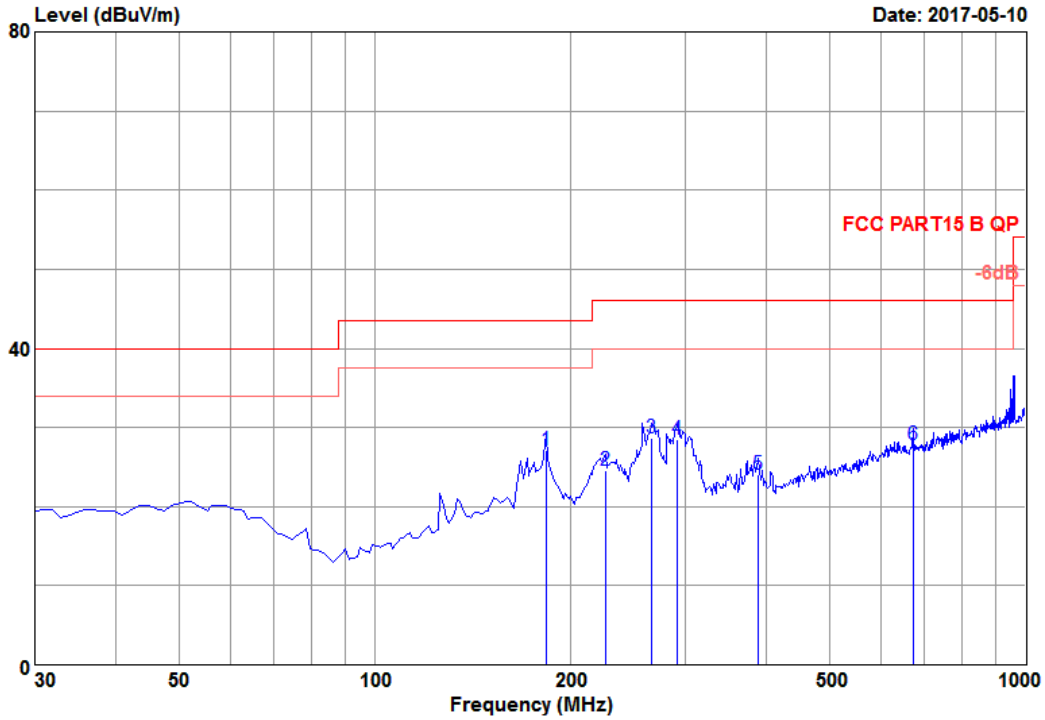
No.	Test Mode and Frequency		Reference Test Data No.	
			Horizontal	Vertical
1.	Transmitting	2405MHz (Channel 11)	# 1, # 3	# 2, # 4
2.		2475MHz (Channel 25)	# 5, # 7	# 6, # 8
3.		2480MHz (Channel 26)	# 9, # 11	# 10, # 12

6.6. Restricted Bands Measurement Results (For Below 1GHz)



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 Tel: (0512) 63403993 Fax: (0512) 63403993

Data: 19 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24) Date: 2017-05-10



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 19
 Dis. / Ant. : 3m 6198(705)-160720 Ant. pol. : HORIZONTAL
 Limit : FCC PART15 B QP
 Env. / Ins. : 16.5*C&40%/ESCI Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

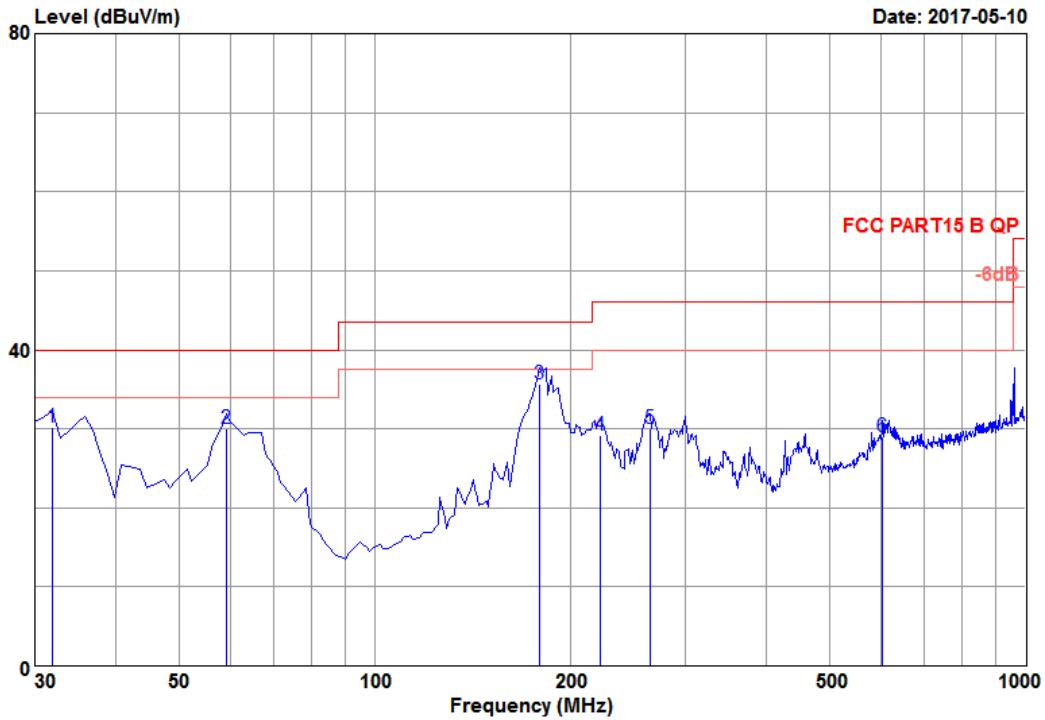
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	183.26	18.09	0.99	35.04	27.02	27.10	43.50	16.40	QP
2	225.94	19.46	1.11	30.88	26.86	24.59	46.00	21.41	QP
3	265.71	18.80	1.20	35.35	26.74	28.61	46.00	17.39	QP
4	291.90	19.62	1.27	34.20	26.66	28.43	46.00	17.57	QP
5	388.90	21.89	1.48	27.99	27.23	24.13	46.00	21.87	QP
6	672.14	26.63	2.02	27.06	27.90	27.81	46.00	18.19	QP

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 20 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber
 Dis. / Ant. : 3m 6198(705)-160720
 Limit : FCC PART15 B QP
 Env. / Ins. : 16.5*CS&40%/ESCI
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

Data NO. : 20
 Ant. pol. : VERTICAL
 Engineer : Mickey

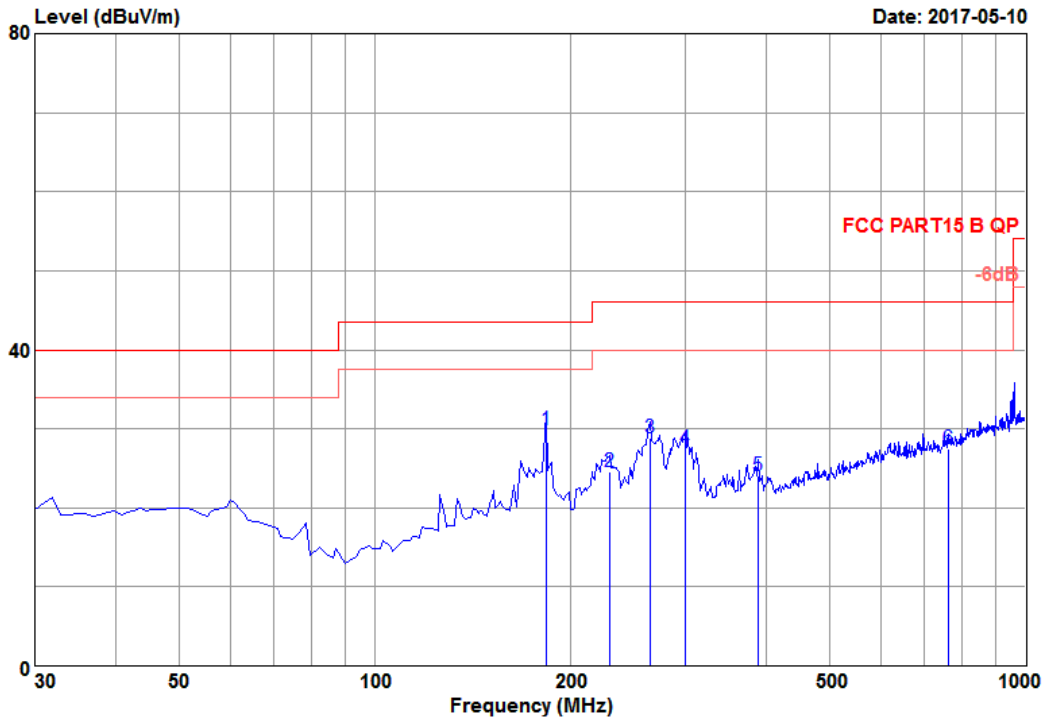
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	31.94	19.30	0.47	38.12	27.62	30.27	40.00	9.73	QP
2	59.10	19.63	0.61	37.28	27.56	29.96	40.00	10.04	QP
3	179.38	18.40	0.98	43.37	27.04	35.71	43.50	7.79	QP
4	222.06	19.87	1.09	35.02	26.87	29.11	46.00	16.89	QP
5	264.74	18.76	1.20	36.73	26.74	29.95	46.00	16.05	QP
6	603.27	25.91	1.90	29.21	27.99	29.03	46.00	16.97	QP

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 21 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber	Data NO. : 21
Dis. / Ant. : 3m 6198(705)-160720	Ant. pol. : HORIZONTAL
Limit : FCC PART15 B QP	
Env. / Ins. : 16.5*CS&40%/ESCI	Engineer : Mickey
EUT : LED lamp	
M/N : 9290011998B	
Power Rating: 120Vac/60Hz	
Test Mode : TX CH20 2450MHz	
Memo : LED Board for LTN	

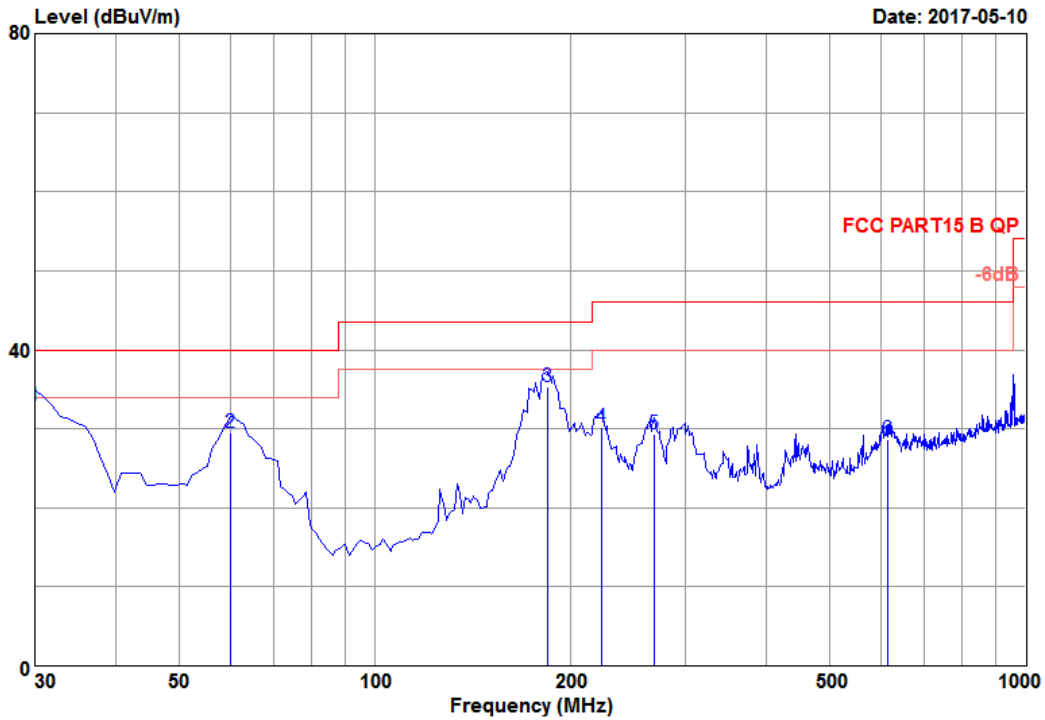
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	183.26	18.09	0.99	37.81	27.02	29.87	43.50	13.63	QP
2	229.82	19.04	1.12	31.25	26.85	24.56	46.00	21.44	QP
3	264.74	18.76	1.20	35.64	26.74	28.86	46.00	17.14	QP
4	299.66	19.76	1.29	33.10	26.64	27.51	46.00	18.49	QP
5	388.90	21.89	1.48	27.97	27.23	24.11	46.00	21.89	QP
6	761.38	27.80	2.19	25.14	27.71	27.42	46.00	18.58	QP

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 22 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber	Data NO. : 22
Dis. / Ant. : 3m 6198(705)-160720	Ant. pol. : VERTICAL
Limit : FCC PART15 B QP	Engineer : Mickey
Env. / Ins. : 16.5*CS&40%/ESCI	
EUT : LED lamp	
M/N : 9290011998B	
Power Rating: 120Vac/60Hz	
Test Mode : TX CH20 2450MHz	
Memo : LED Board for LTN	

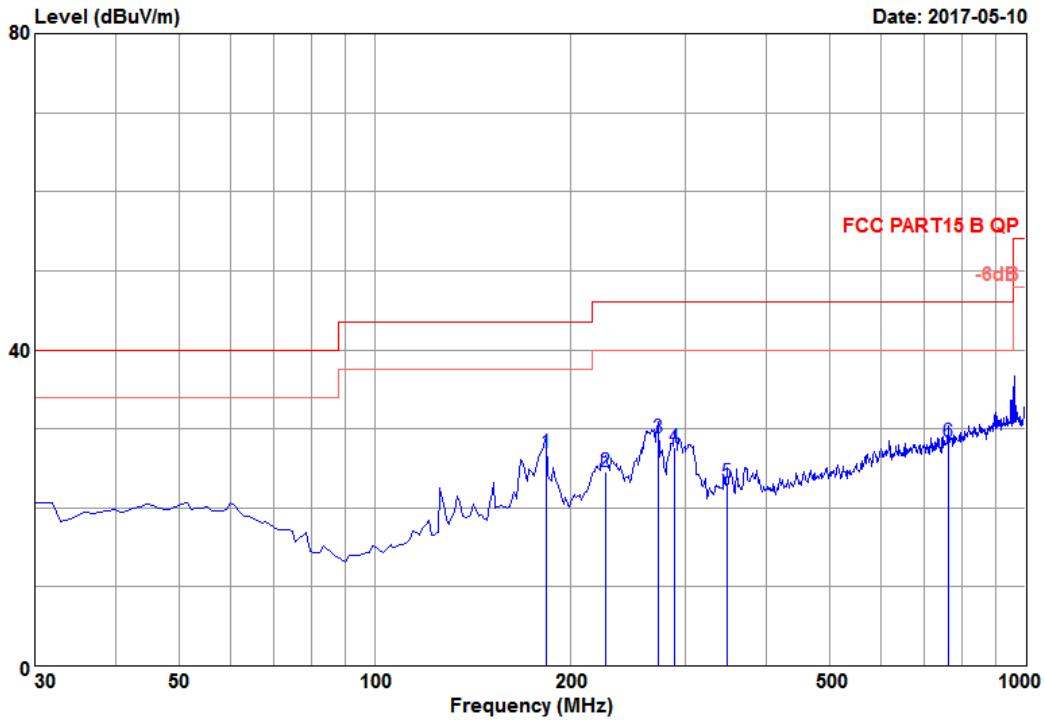
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	30.00	19.14	0.46	40.92	27.63	32.89	40.00	7.11	QP
2	60.07	19.54	0.61	36.91	27.55	29.51	40.00	10.49	QP
3	184.23	18.01	0.99	43.25	27.02	35.23	43.50	8.27	QP
4	223.03	19.77	1.10	36.20	26.87	30.20	46.00	15.80	QP
5	268.62	18.92	1.21	36.00	26.73	29.40	46.00	16.60	QP
6	613.94	26.02	1.92	28.62	27.97	28.59	46.00	17.41	QP

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 23 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber
 Dis. / Ant. : 3m 6198(705)-160720
 Limit : FCC PART15 B QP
 Env. / Ins. : 16.5*CS&40%/ESCI
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH25 2475MHz
 Memo : LED Board for LTN

Data NO. : 23
 Ant. pol. : HORIZONTAL
 Engineer : Mickey

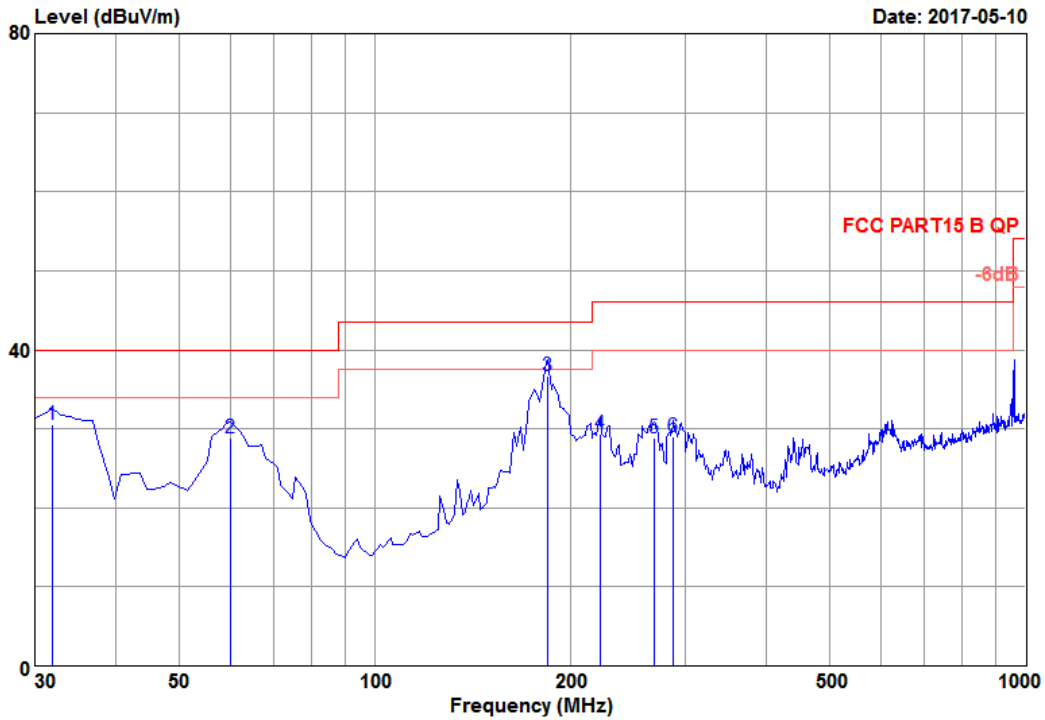
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	183.26	18.09	0.99	34.96	27.02	27.02	43.50	16.48	QP
2	225.94	19.46	1.11	30.85	26.86	24.56	46.00	21.44	QP
3	272.50	19.08	1.22	35.27	26.72	28.85	46.00	17.15	QP
4	288.99	19.56	1.26	33.52	26.67	27.67	46.00	18.33	QP
5	347.19	20.89	1.39	27.82	26.95	23.15	46.00	22.85	QP
6	761.38	27.80	2.19	26.01	27.71	28.29	46.00	17.71	QP

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 24 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber	Data NO. : 24
Dis. / Ant. : 3m 6198(705)-160720	Ant. pol. : VERTICAL
Limit : FCC PART15 B QP	
Env. / Ins. : 16.5*CS&40%/ESCI	Engineer : Mickey
EUT : LED lamp	
M/N : 9290011998B	
Power Rating: 120Vac/60Hz	
Test Mode : TX CH25 2475MHz	
Memo : LED Board for LTN	

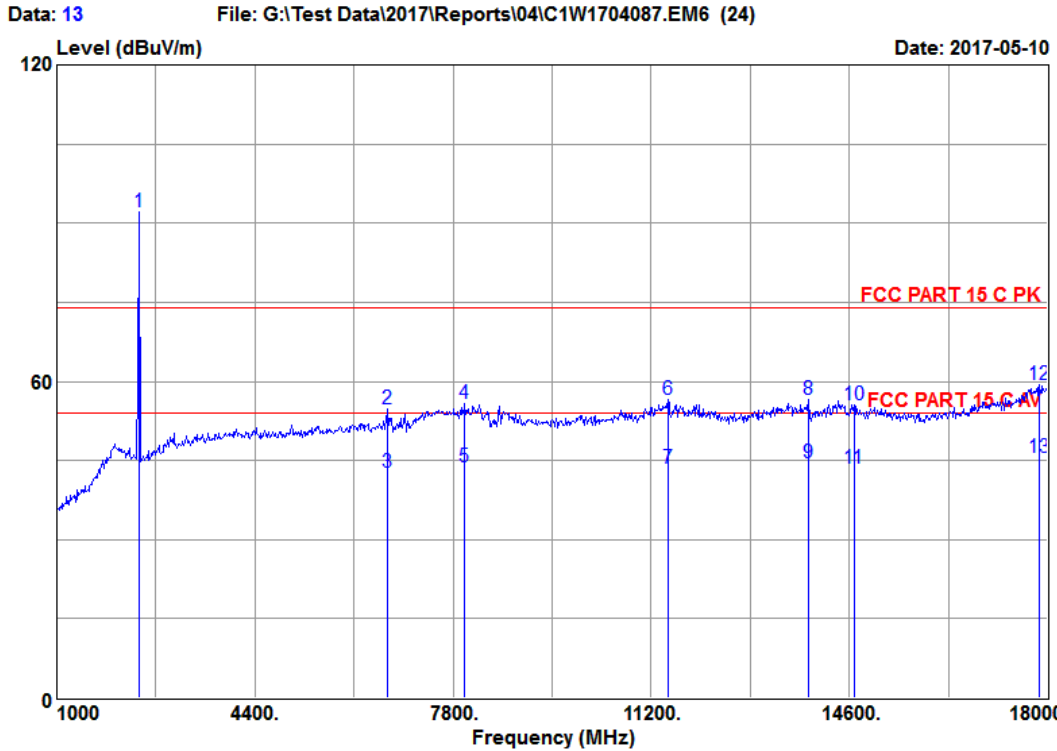
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	31.94	19.30	0.47	38.42	27.62	30.57	40.00	9.43	QP
2	60.07	19.54	0.61	36.23	27.55	28.83	40.00	11.17	QP
3	184.23	18.01	0.99	44.76	27.02	36.74	43.50	6.76	QP
4	222.06	19.87	1.09	35.24	26.87	29.33	46.00	16.67	QP
5	268.62	18.92	1.21	35.42	26.73	28.82	46.00	17.18	QP
6	288.02	19.54	1.26	34.87	26.68	28.99	46.00	17.01	QP

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.

6.7. Restricted Bands Measurement Results (For Above 1GHz)



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Site NO. : 3m Semi-Anechoic Chamber Data NO. : 13
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*C&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

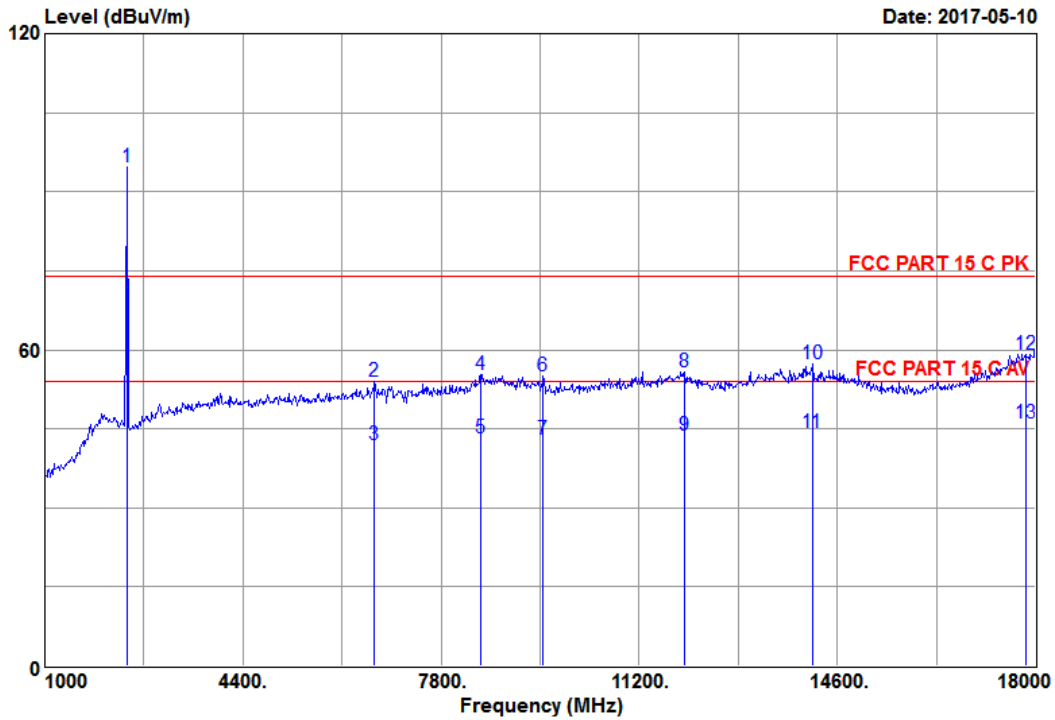
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBUV)	Preamp Factor (dB)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2411.00	29.05	7.45	89.05	33.38	92.17	74.00	-18.17	Peak
2	6678.00	34.71	11.44	42.05	33.50	54.70	74.00	19.30	Peak
3	6678.00	34.71	11.44	30.05	33.50	42.70	54.00	11.30	Average
4	8004.00	37.30	12.18	39.79	33.50	55.77	74.00	18.23	Peak
5	8004.00	37.30	12.18	27.79	33.50	43.77	54.00	10.23	Average
6	11489.00	40.63	13.61	35.10	32.83	56.51	74.00	17.49	Peak
7	11489.00	40.63	13.61	22.10	32.83	43.51	54.00	10.49	Average
8	13903.00	42.22	14.77	32.81	33.28	56.52	74.00	17.48	Peak
9	13903.00	42.22	14.77	20.81	33.28	44.52	54.00	9.48	Average
10	14685.00	42.62	15.13	30.68	32.93	55.50	74.00	18.50	Peak
11	14685.00	42.62	15.13	18.68	32.93	43.50	54.00	10.50	Average
12	17864.00	45.82	16.53	30.05	32.95	59.45	74.00	14.55	Peak
13	17864.00	45.82	16.53	16.05	32.95	45.45	54.00	8.55	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 14 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 14
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

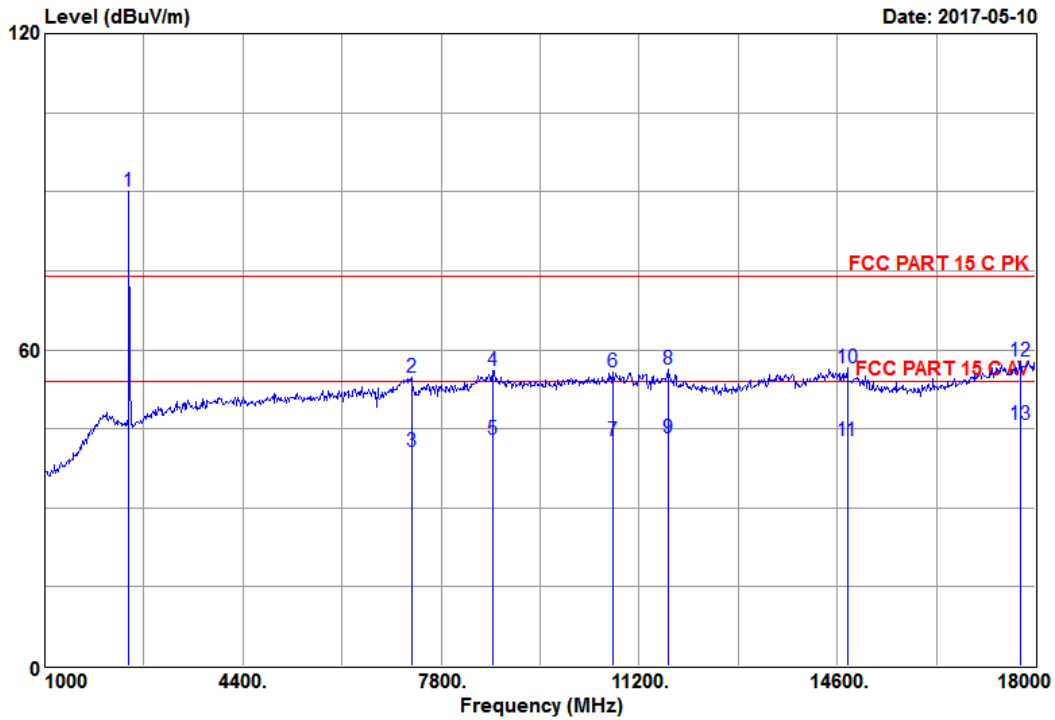
Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2411.00	29.05	7.45	91.45	33.38	94.57	74.00	-20.57	Peak
2 6661.00	34.67	11.43	41.27	33.50	53.87	74.00	20.13	Peak
3 6661.00	34.67	11.43	29.27	33.50	41.87	54.00	12.13	Average
4 8480.00	39.23	12.42	36.85	33.29	55.21	74.00	18.79	Peak
5 8480.00	39.23	12.42	24.85	33.29	43.21	54.00	10.79	Average
6 9551.00	38.11	12.87	36.76	32.80	54.94	74.00	19.06	Peak
7 9551.00	38.11	12.87	24.76	32.80	42.94	54.00	11.06	Average
8 11982.00	41.86	13.84	33.07	32.90	55.87	74.00	18.13	Peak
9 11982.00	41.86	13.84	21.07	32.90	43.87	54.00	10.13	Average
10 14175.00	42.84	14.93	32.71	33.20	57.28	74.00	16.72	Peak
11 14175.00	42.84	14.93	19.71	33.20	44.28	54.00	9.72	Average
12 17847.00	45.75	16.53	29.82	32.94	59.16	74.00	14.84	Peak
13 17847.00	45.75	16.53	16.82	32.94	46.16	54.00	7.84	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 15 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 15
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH20 2450MHz
 Memo : LED Board for LTN

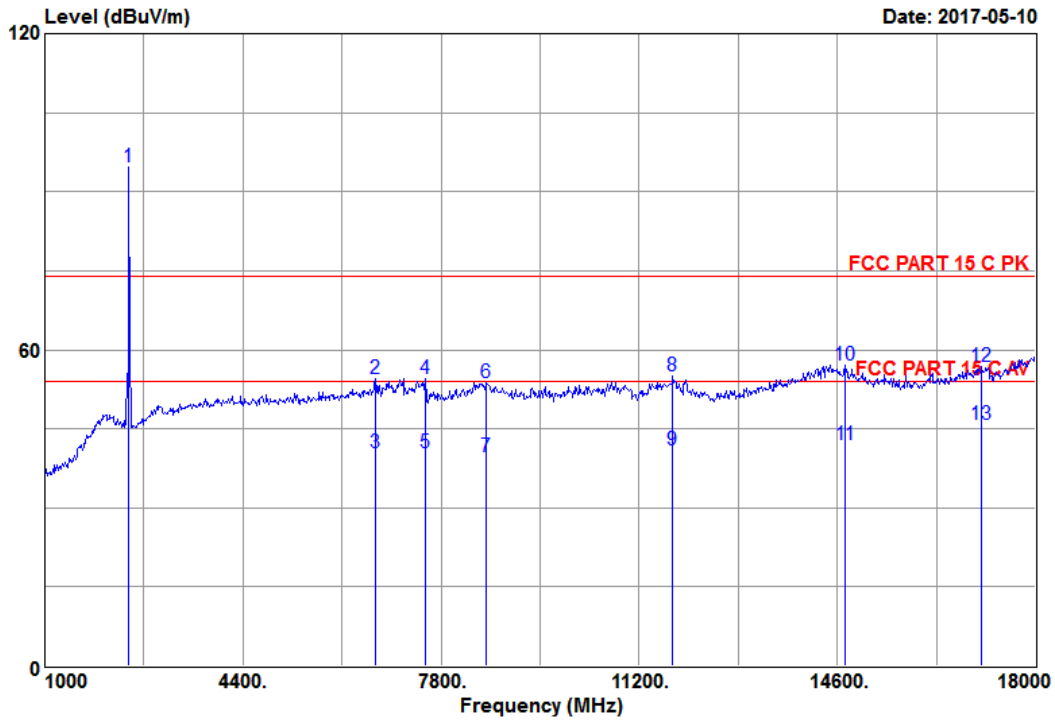
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2445.00	28.83	7.55	86.93	33.35	89.96	74.00	-15.96	Peak
2	7290.00	36.26	11.79	40.21	33.50	54.76	74.00	19.24	Peak
3	7290.00	36.26	11.79	26.21	33.50	40.76	54.00	13.24	Average
4	8684.00	39.04	12.52	37.63	33.20	55.99	74.00	18.01	Peak
5	8684.00	39.04	12.52	24.63	33.20	42.99	54.00	11.01	Average
6	10741.00	38.39	13.30	36.82	32.71	55.80	74.00	18.20	Peak
7	10741.00	38.39	13.30	23.82	32.71	42.80	54.00	11.20	Average
8	11693.00	41.16	13.70	34.37	32.85	56.38	74.00	17.62	Peak
9	11693.00	41.16	13.70	21.37	32.85	43.38	54.00	10.62	Average
10	14770.00	42.22	15.16	32.15	32.87	56.66	74.00	17.34	Peak
11	14770.00	42.22	15.16	18.15	32.87	42.66	54.00	11.34	Average
12	17745.00	45.31	16.50	28.90	32.90	57.81	74.00	16.19	Peak
13	17745.00	45.31	16.50	16.90	32.90	45.81	54.00	8.19	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 16 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 16
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*C&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH20 2450MHz
 Memo : LED Board for LTN

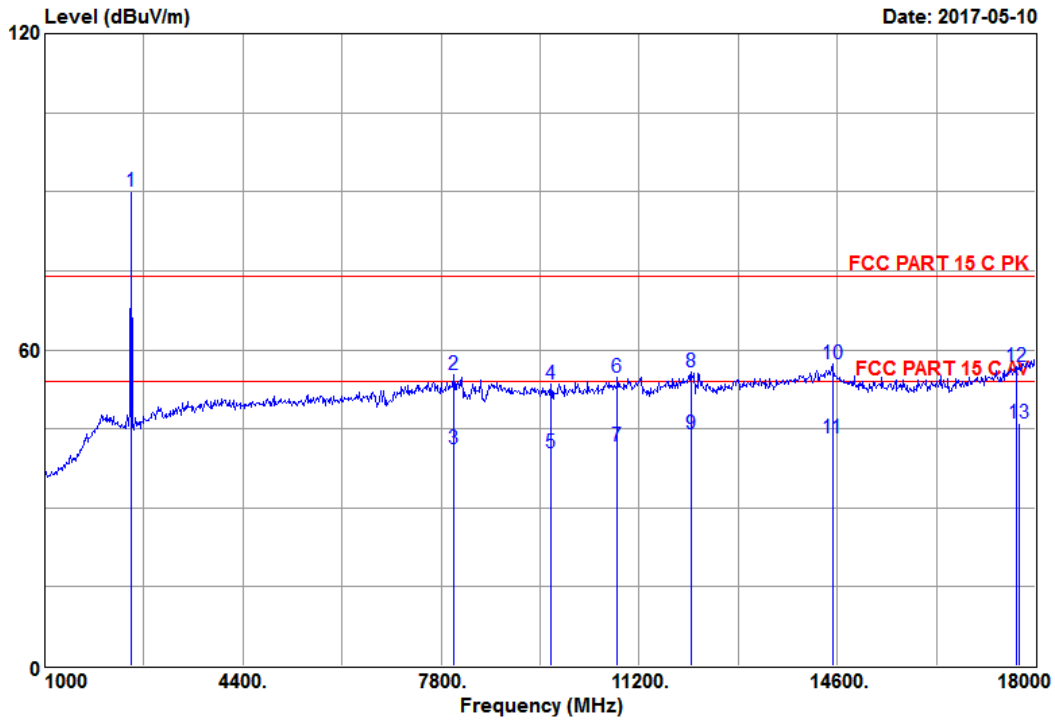
Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	28.83	7.55	91.57	33.35	94.60	74.00	-20.60	Peak
2	34.71	11.44	41.79	33.50	54.44	74.00	19.56	Peak
3	34.71	11.44	27.79	33.50	40.44	54.00	13.56	Average
4	36.83	11.91	39.30	33.50	54.54	74.00	19.46	Peak
5	36.83	11.91	25.30	33.50	40.54	54.00	13.46	Average
6	39.21	12.47	35.32	33.24	53.76	74.00	20.24	Peak
7	39.21	12.47	21.32	33.24	39.76	54.00	14.24	Average
8	41.36	13.75	32.75	32.87	54.99	74.00	19.01	Peak
9	41.36	13.75	18.75	32.87	40.99	54.00	13.01	Average
10	42.38	15.15	32.40	32.90	57.03	74.00	16.97	Peak
11	42.38	15.15	17.40	32.90	42.03	54.00	11.97	Average
12	42.13	16.30	30.93	32.63	56.73	74.00	17.27	Peak
13	42.13	16.30	19.93	32.63	45.73	54.00	8.27	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 17 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 17
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*C&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH25 2475MHz
 Memo : LED Board for LTN

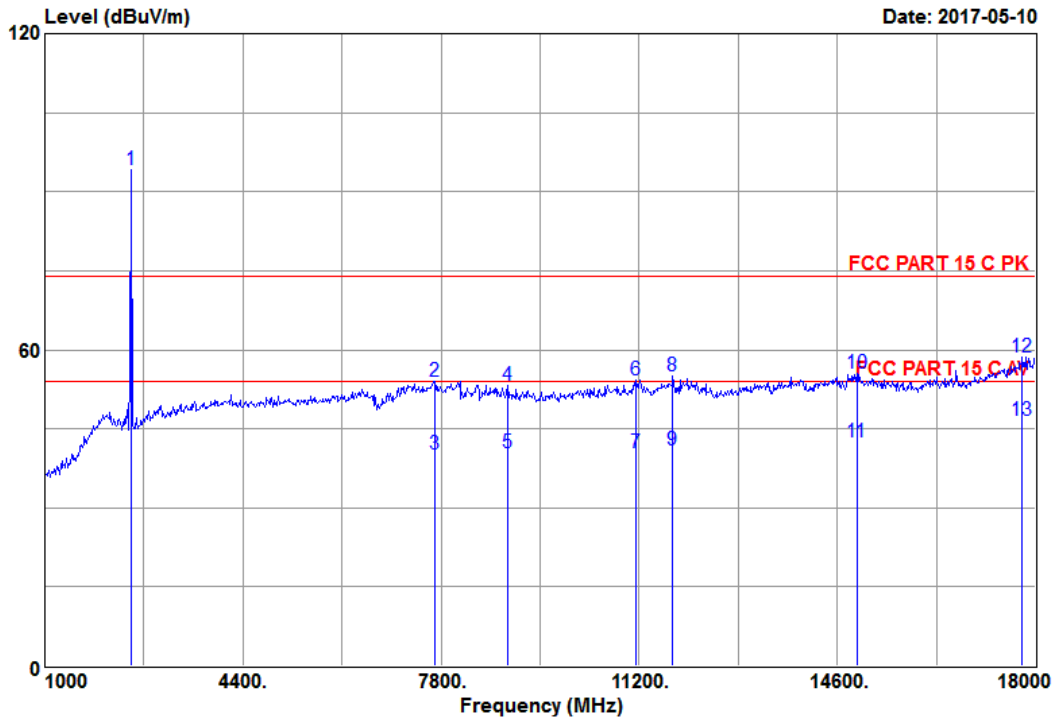
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.00	28.61	7.60	87.22	33.34	90.09	74.00	-16.09	Peak
2	8021.00	37.37	12.18	39.15	33.49	55.21	74.00	18.79	Peak
3	8021.00	37.37	12.18	25.15	33.49	41.21	54.00	12.79	Average
4	9687.00	38.14	12.92	35.23	32.75	53.54	74.00	20.46	Peak
5	9687.00	38.14	12.92	22.23	32.75	40.54	54.00	13.46	Average
6	10826.00	38.46	13.32	35.60	32.72	54.66	74.00	19.34	Peak
7	10826.00	38.46	13.32	22.60	32.72	41.66	54.00	12.34	Average
8	12101.00	41.40	13.86	33.57	32.92	55.91	74.00	18.09	Peak
9	12101.00	41.40	13.86	21.57	32.92	43.91	54.00	10.09	Average
10	14515.00	43.42	15.06	31.78	33.01	57.25	74.00	16.75	Peak
11	14515.00	43.42	15.06	17.78	33.01	43.25	54.00	10.75	Average
12	17677.00	45.02	16.48	28.29	32.87	56.92	74.00	17.08	Peak
13	17711.00	45.17	16.49	17.19	32.88	45.97	54.00	8.03	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 18 File: G:\Test Data\2017\Reports\04\IC1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 18
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*C&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH25 2475MHz
 Memo : LED Board for LTN

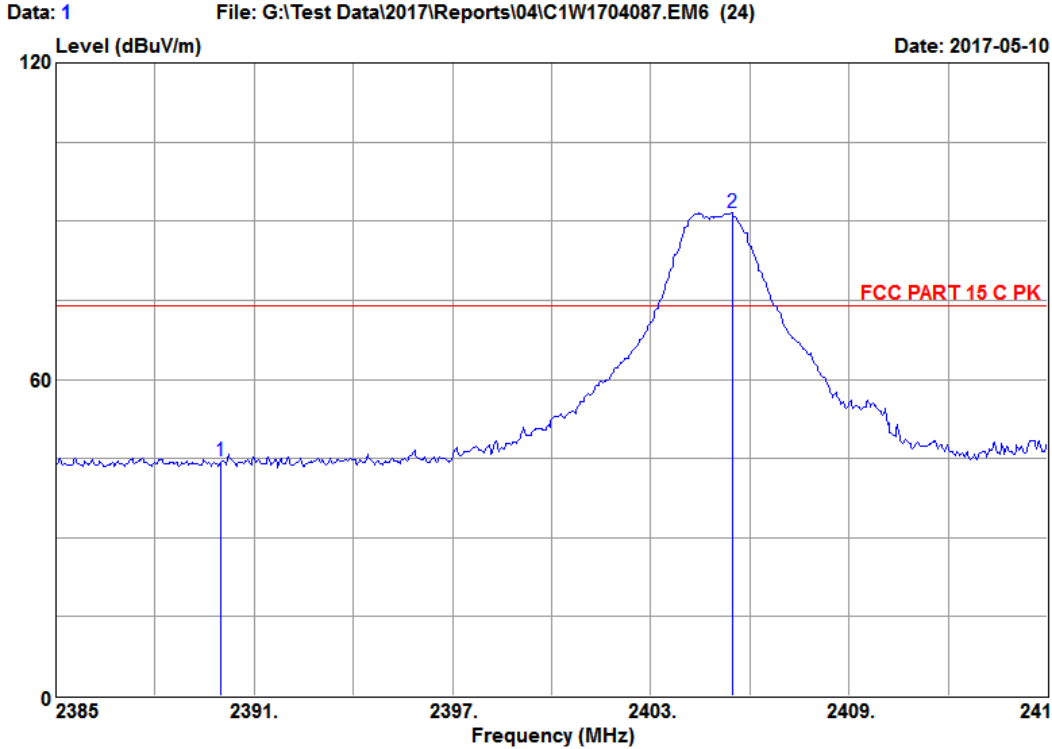
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.00	28.61	7.60	91.28	33.34	94.15	74.00	-20.15	Peak
2	7698.00	37.00	12.01	38.56	33.50	54.07	74.00	19.93	Peak
3	7698.00	37.00	12.01	24.56	33.50	40.07	54.00	13.93	Average
4	8939.00	38.69	12.65	35.05	33.07	53.32	74.00	20.68	Peak
5	8939.00	38.69	12.65	22.05	33.07	40.32	54.00	13.68	Average
6	11149.00	39.23	13.46	34.40	32.77	54.32	74.00	19.68	Peak
7	11149.00	39.23	13.46	20.40	32.77	40.32	54.00	13.68	Average
8	11778.00	41.36	13.75	32.69	32.87	54.93	74.00	19.07	Peak
9	11778.00	41.36	13.75	18.69	32.87	40.93	54.00	13.07	Average
10	14940.00	41.42	15.23	31.64	32.78	55.51	74.00	18.49	Peak
11	14940.00	41.42	15.23	18.64	32.78	42.51	54.00	11.49	Average
12	17779.00	45.46	16.51	29.47	32.91	58.53	74.00	15.47	Peak
13	17779.00	45.46	16.51	17.47	32.91	46.53	54.00	7.47	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.

6.8. Spurious Emission Measurement Results in Band Edge Emission (FCC Part 15, 15.205)



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Site NO. : 3m Semi-Anechoic Chamber Data NO. : 1
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

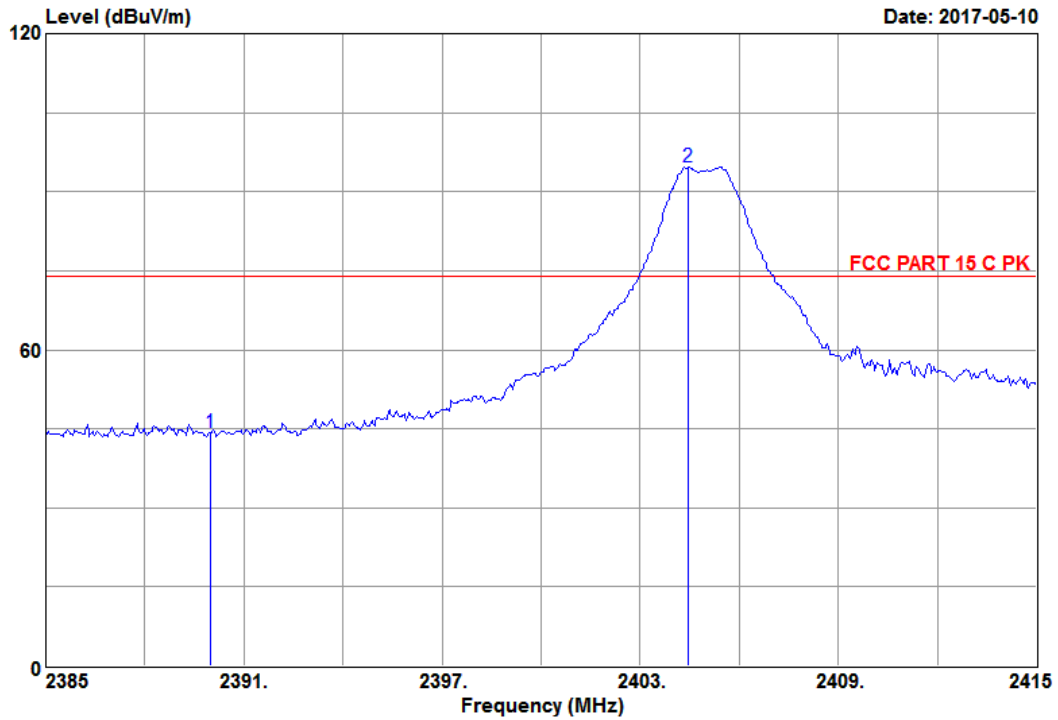
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	29.16	7.45	41.20	33.38	44.43	74.00	29.57	Peak
2	2405.46	29.05	7.45	88.44	33.38	91.56	74.00	-17.56	Peak

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 2 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber
 Dis. / Ant. : 3m 3115-62959-160620
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*CS&40%/E4407B
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

Data NO. : 2
 Ant. pol. : VERTICAL
 Engineer : Mickey

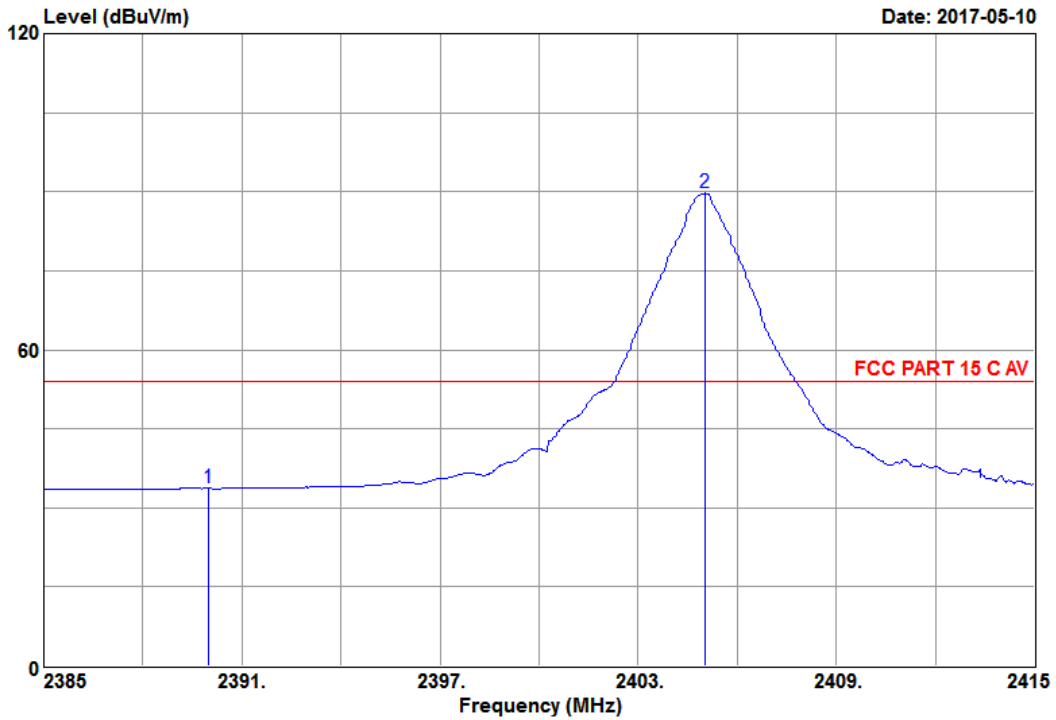
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	29.16	7.45	41.07	33.38	44.30	74.00	29.70	Peak
2	2404.47	29.05	7.45	91.58	33.38	94.70	74.00	-20.70	Peak

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 3 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 3
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 C AV
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

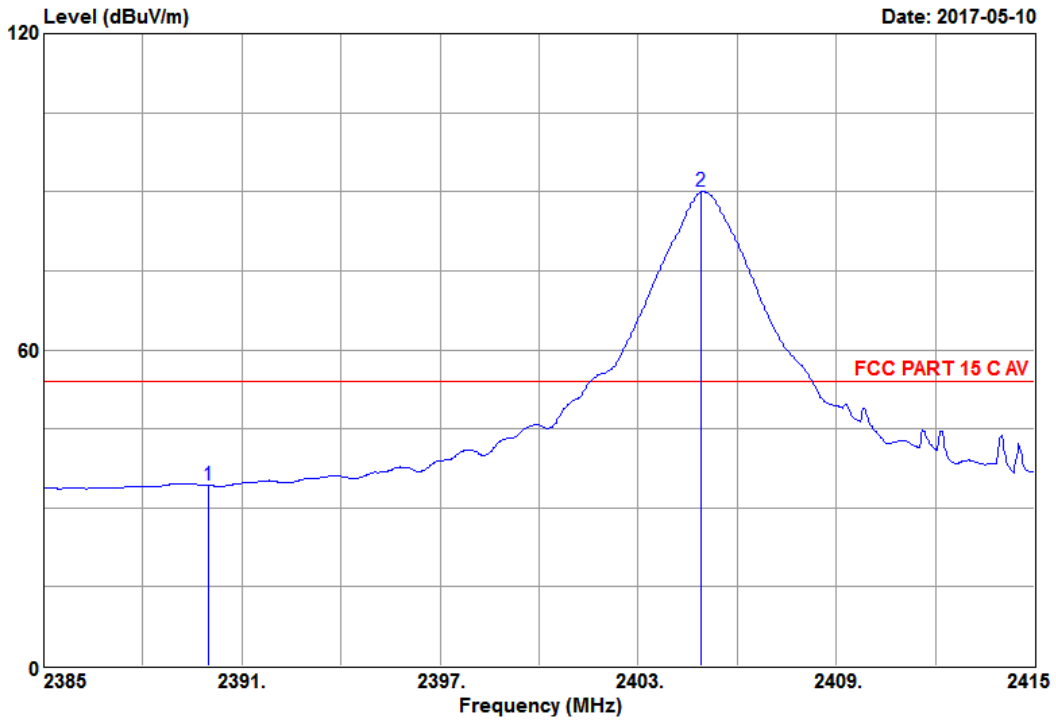
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	29.16	7.45	30.47	33.38	33.70	54.00	20.30	Average
2	2405.01	29.05	7.45	86.59	33.38	89.71	54.00	-35.71	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 4 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 4
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C AV
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH11 2405MHz
 Memo : LED Board for LTN

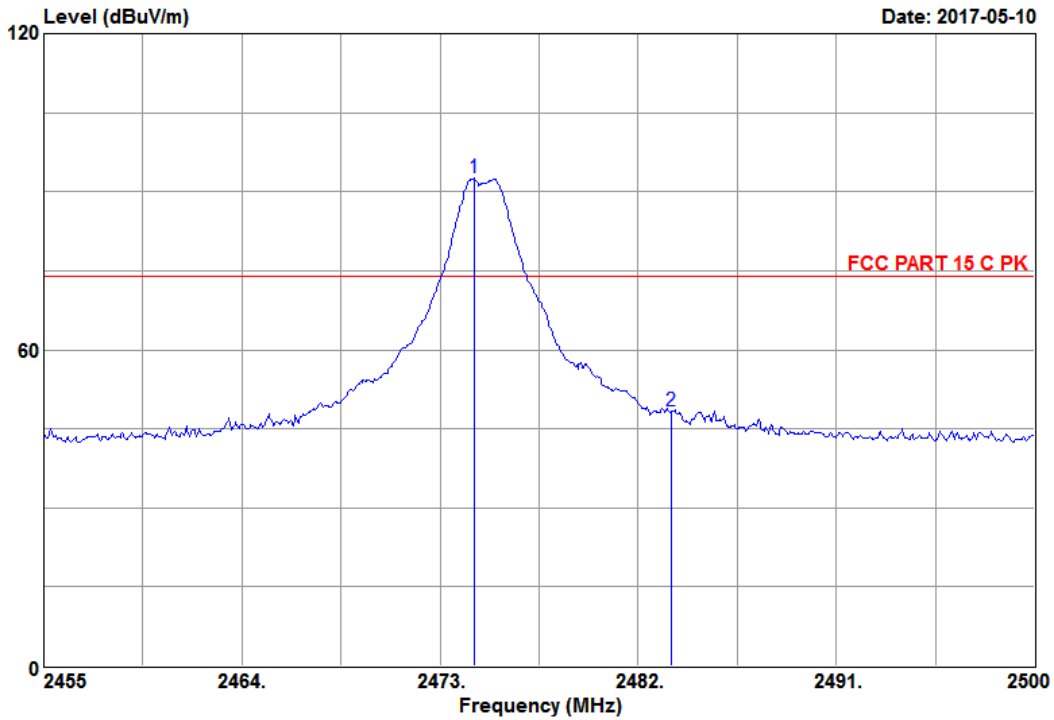
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	29.16	7.45	31.08	33.38	34.31	54.00	19.69	Average
2	2404.92	29.05	7.45	86.90	33.38	90.02	54.00	-36.02	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 5 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber	Data NO. : 5
Dis. / Ant. : 3m 3115-62959-160620	Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C PK	
Env. / Ins. : 16.5*CS&40%/E4407B	Engineer : Mickey
EUT : LED lamp	
M/N : 9290011998B	
Power Rating: 120Vac/60Hz	
Test Mode : TX CH25 2475MHz	
Memo : LED Board for LTN	

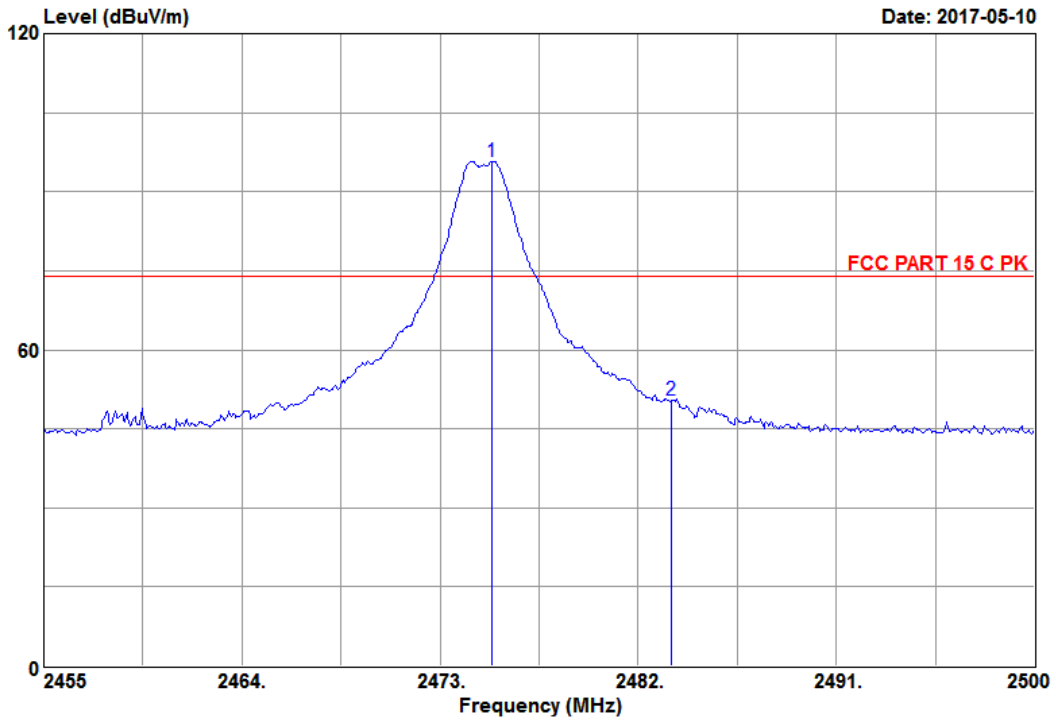
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2474.53	28.61	7.60	89.68	33.34	92.55	74.00	-18.55	Peak
2	2483.50	28.61	7.60	45.39	33.34	48.26	74.00	25.74	Peak

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 6 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 6
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH25 2475MHz
 Memo : LED Board for LTN

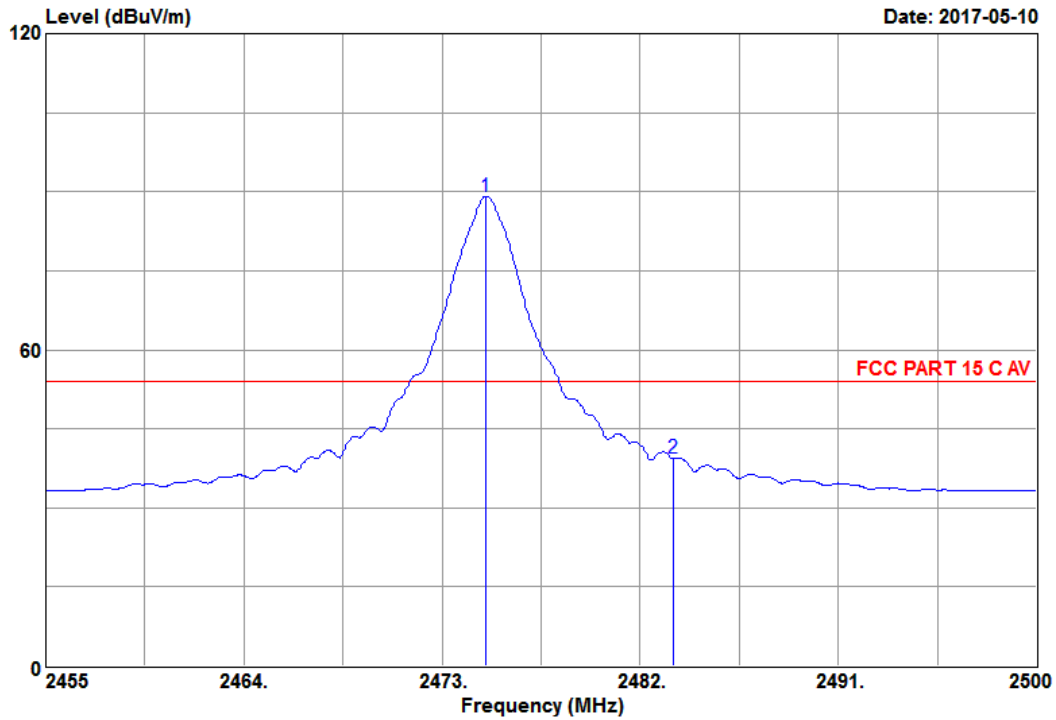
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2475.34	28.61	7.60	92.96	33.34	95.83	74.00	-21.83	Peak
2	2483.50	28.61	7.60	47.51	33.34	50.38	74.00	23.62	Peak

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 7 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber	Data NO. : 7
Dis. / Ant. : 3m 3115-62959-160620	Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C AV	
Env. / Ins. : 16.5*CS&40%/E4407B	Engineer : Mickey
EUT : LED lamp	
M/N : 9290011998B	
Power Rating: 120Vac/60Hz	
Test Mode : TX CH25 2475MHz	
Memo : LED Board for LTN	

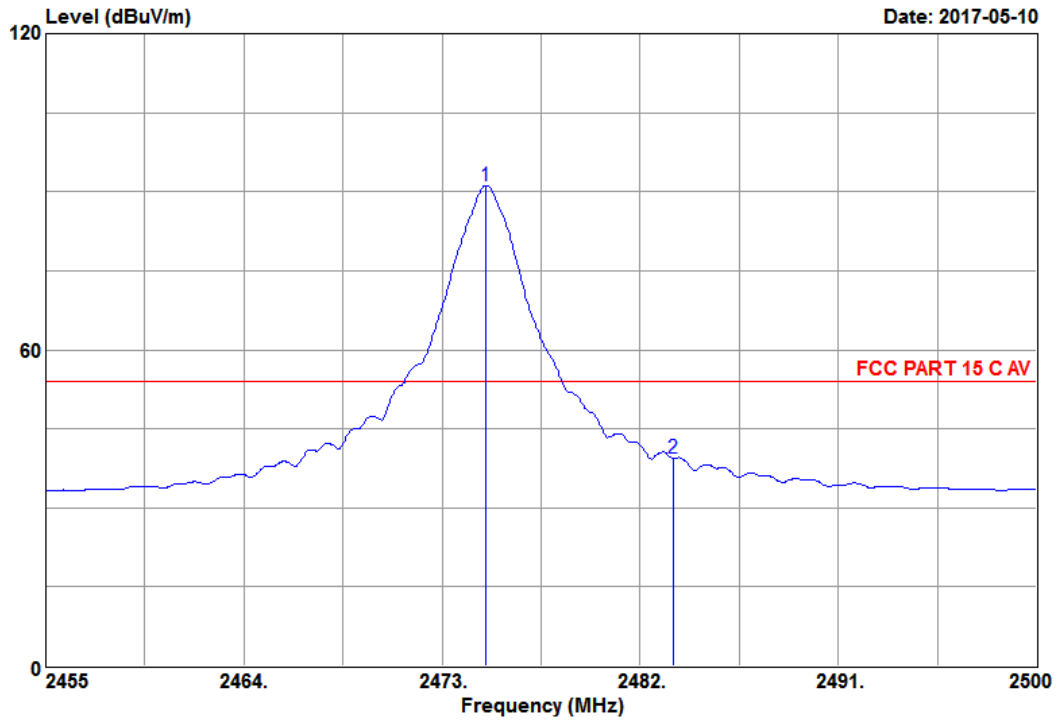
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2474.98	28.61	7.60	86.15	33.34	89.02	54.00	-35.02	Average
2	2483.50	28.61	7.60	36.43	33.34	39.30	54.00	14.70	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 8 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 8
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C AV
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH25 2475MHz
 Memo : LED Board for LTN

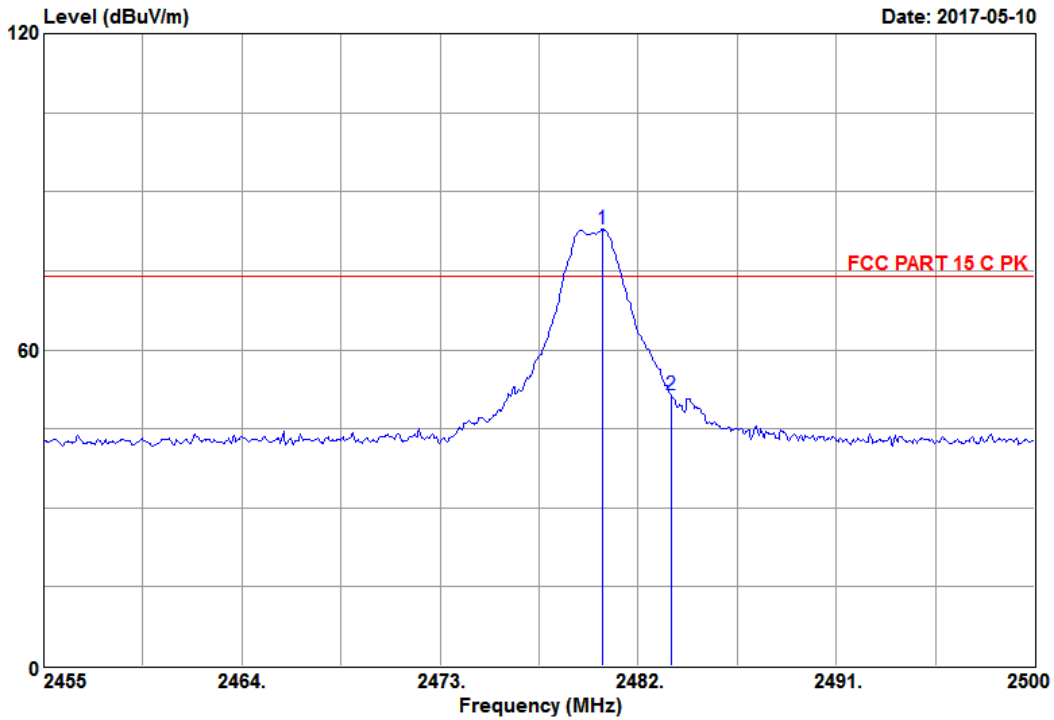
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2474.98	28.61	7.60	88.29	33.34	91.16	54.00	-37.16	Average
2	2483.50	28.61	7.60	36.49	33.34	39.36	54.00	14.64	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 9 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber	Data NO. : 9
Dis. / Ant. : 3m 3115-62959-160620	Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C PK	Engineer : Mickey
Env. / Ins. : 16.5*CS&40%/E4407B	
EUT : LED lamp	
M/N : 9290011998B	
Power Rating: 120Vac/60Hz	
Test Mode : TX CH26 2480MHz	
Memo : LED Board for LTN	

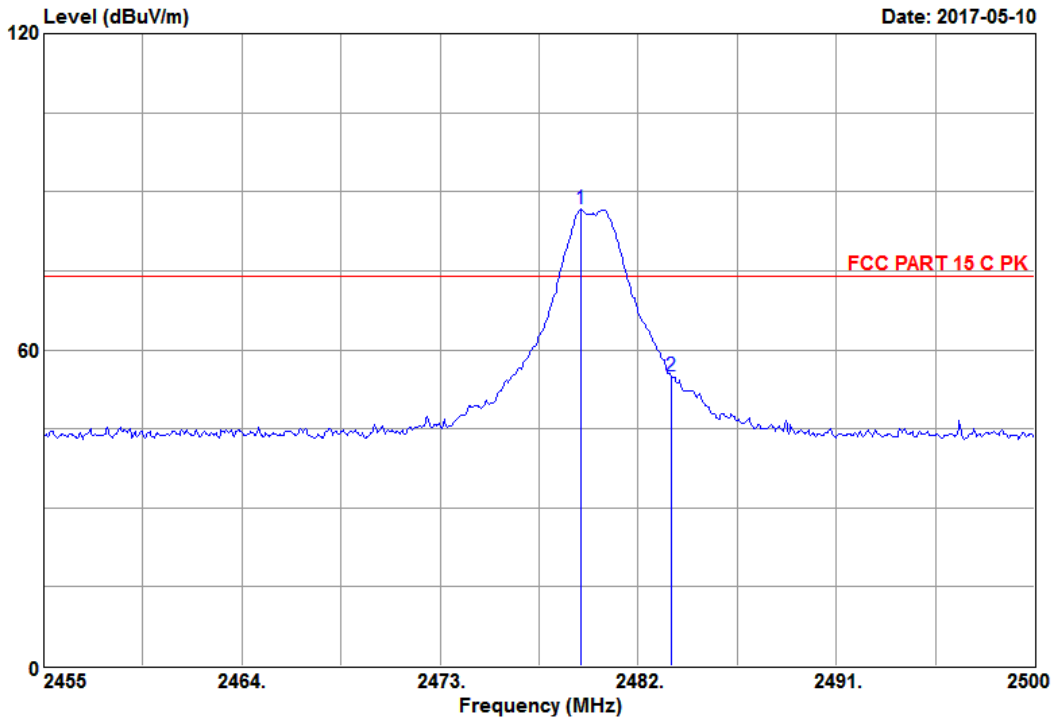
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.38	28.61	7.60	80.07	33.34	82.94	74.00	-8.94	Peak
2	2483.50	28.61	7.60	48.64	33.34	51.51	74.00	22.49	Peak

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 10 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 10
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C PK
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH26 2480MHz
 Memo : LED Board for LTN

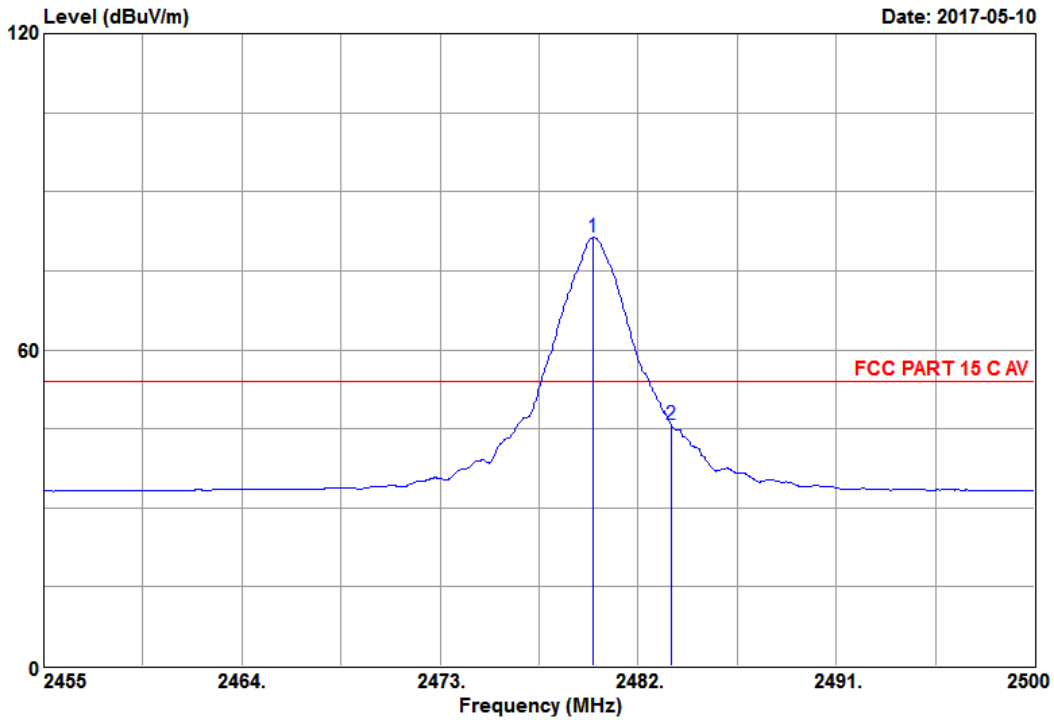
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.39	28.61	7.60	83.81	33.34	86.68	74.00	-12.68	Peak
2	2483.50	28.61	7.60	52.15	33.34	55.02	74.00	18.98	Peak

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 11 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber Data NO. : 11
 Dis. / Ant. : 3m 3115-62959-160620 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 C AV
 Env. / Ins. : 16.5*CS&40%/E4407B Engineer : Mickey
 EUT : LED lamp
 M/N : 9290011998B
 Power Rating: 120Vac/60Hz
 Test Mode : TX CH26 2480MHz
 Memo : LED Board for LTN

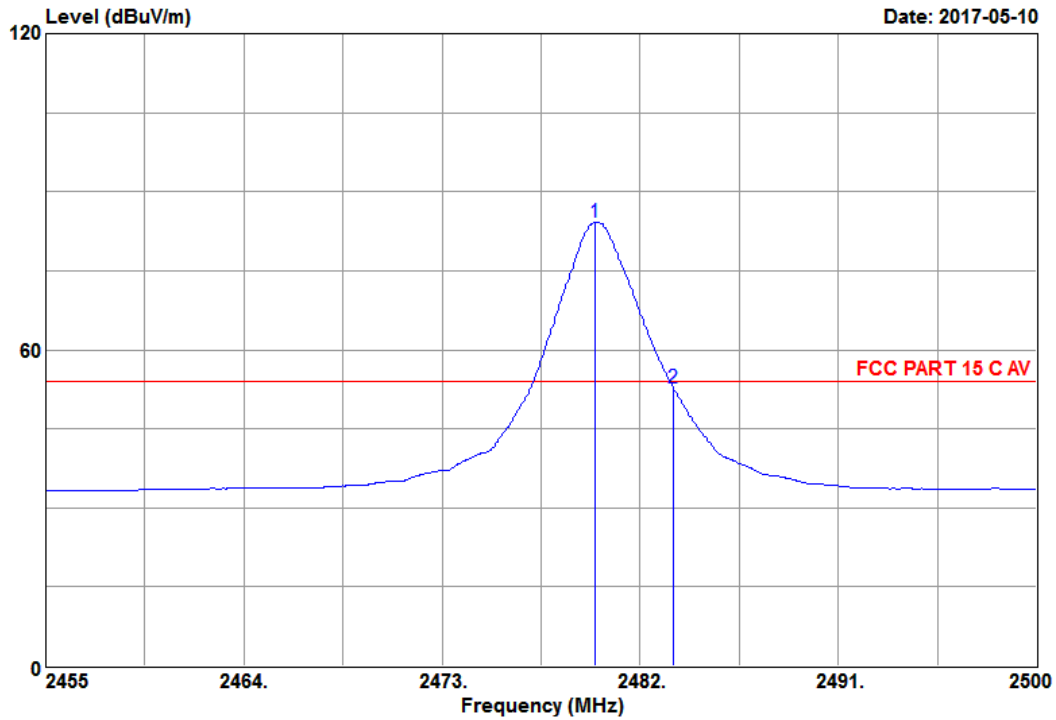
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.93	28.61	7.60	78.41	33.34	81.28	54.00	-27.28	Average
2	2483.50	28.61	7.60	42.98	33.34	45.85	54.00	8.15	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 12 File: G:\Test Data\2017\Reports\04\C1W1704087.EM6 (24)



Site NO. : 3m Semi-Anechoic Chamber	Data NO. : 12
Dis. / Ant. : 3m 3115-62959-160620	Ant. pol. : VERTICAL
Limit : FCC PART 15 C AV	
Env. / Ins. : 16.5*CS&40%/E4407B	Engineer : Mickey
EUT : LED lamp	
M/N : 9290011998B	
Power Rating: 120Vac/60Hz	
Test Mode : TX CH26 2480MHz	
Memo : LED Board for LTN	

	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.98	28.61	7.60	81.33	33.34	84.20	54.00	-30.20	Average
2	2483.50	28.61	7.60	49.78	33.34	52.65	54.00	1.35	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
 2. The emission levels that are 20dB below the official limit are not reported.

7. DEVIATION TO TEST SPECIFICATIONS

【NONE】