APPLICATION FOR CERTIFICATION

On Behalf of

Philips Lighting(China) Investment Co., Ltd.

LED Lamp

Model No. : 9290011369A

Brand : Philips

FCC ID : 2AGBW9290011369AX

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.

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

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Report Number : ACWE-F1603005 Date of Test : Feb.27~Mar.05, 2016

Date of Test . 1 co.27 Mar. 03, 20

Date of Report : Mar. 15, 2016

TABLE OF CONTENTS

De	escription	<u>Page</u>
TE	ST REPORT CERTIFICATION	4
1.	SUMMARY OF MEASUREMENTS AND RESULTS	5
2.	GENERAL INFORMATION	6
	2.1. Description of Device (EUT).	6
	2.2. Description of Test Facility	
	2.3. Measurement Uncertainty	
3.	CONDUCTED EMISSION MEASUREMET	9
	3.1. Test Equipment	
	3.2. Block Diagram of Test Setup.	
	3.3. Power line Conducted Emission Limit	
	3.4. Test Procedure	
	3.5. Conducted Emission Measurement Results	
4.	RADIATED EMISSION MEASUREMENT	
	4.1. Test Equipment	
	4.2. Block Diagram of Test Setup.	
	4.3. Radiated Emission Limits 4.4. Test Procedure	
	4.5. Measurement Results	
	4.6. Restricted Bands Measurement Results (For Below 1GHz).	
	4.7. Restricted Bands Measurement Results (For Above 1GHz)	
	4.8. Spurious Emission Measurement Results in Band Edge Emission (FCC Part 15, 15.205)	
5.	6 DB BANDWIDTH MEASUREMENT	41
	5.1. Test Equipment	41
	5.2.Block Diagram of Test Setup	
	5.3. Specification Limits (§15.247(a)(2))	
	5.4. Test Procedure	
_	5.5. Test Results	
6.	OUTPUT POWER MEASUREMENT	
	6.1. Test Equipment	
	6.2. Block Diagram of Test Setup	
	6.3. Specification Limits (§15.247(b)(3))	
	6.5. Test Results	
7.	BAND EDGES MEASUREMENT	
٠.		
	7.1. Test Equipment	
	7.3. Specification Limits (§15.247(d)).	
	7.4. Test Procedure	
	7.5. Test Results	
8.	POWER SPECTRAL DENSITY MEASUREMENT	48
	8.1. Test Equipment	48
	8.2.Block Diagram of Test Setup	
	8.3. Specification Limits (§15.247(e))	
	8.4 Test Results	48

9.	EMISSION LIMITATIONS MEASUREMENT	51
	9.1. Test Equipment	51
	9.2. Block Diagram of Test Setup	
	9.3. Specification Limits (§15.247(d))	
	9.4. Test Procedure	
	9.5. Test Results	52
10.	DUTY CYCLE	75
	10.1. Test Equipment	75
	10.2. Test Results	
11.	DEVIATION TO TEST SPECIFICATIONS	76

TEST REPORT CERTIFICATION

Applicant Philips Lighting(China) Investment Co., Ltd.

Manufacturer Philips Lighting(China) Investment Co., Ltd.

Factory#1 Changan Win Channel Electronics Company Limited

Factory#2 Arts Electronics Co., Ltd.

Honor Tone Ltd Factory#3

EUT Description LED Lamp

FCC ID 2AGBW9290011369AX

(A) Model No. 9290011369A

(B) Brand Philips

(C) Power Supply AC 110-130V, 60Hz

(D) Test Voltage AC 120V, 60Hz

Applicable Standards:

FCC RULES AND REGULATIONS PART 15 SUBPART C, Oct. 2015

ANSI C63.10: 2013

KDB 558074 D01 DTS Meas Guidance v03r05

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: Feb.27~Mar.05, 2016 Date of Report: Mar. 15, 2016

Prepared by

(Emma Hu/Assistant Administrator)

Reviewer (Danny Sun/ Section Manager)

Approved & Authorized Signer

(Ken Lu/Assistant General Manager)

1. 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 And KDB 558074 D01 DTS Meas Guidance v03r05	PASS	Minimum passing margin is 6.96 dB at 0.15MHz
RADIATED EMISSION	FCC 47 CFR Part 15 Subpart C/ Section 15.209& Section 15.205 And ANSI C63.10:2013 And KDB 558074 D01 DTS Meas Guidance v03r05	PASS	Minimum passing margin is 9.20 dB at 30.97MHz
6 dB BANDWIDTH	FCC 47 CFR Part 15 Subpart C/ Section 15.247(a)(2) And ANSI C63.10:2013 And KDB 558074 D01 DTS Meas Guidance v03r05	PASS	> 500kHz
OUTPUT POWER	FCC 47 CFR Part 15 Subpart C/ Section 15.247(b)(3) And ANSI C63.10:2013 And KDB 558074 D01 DTS Meas Guidance v03r05	PASS	Minimum passing margin is 25.31dB at CH 11
BAND EDGES	FCC 47 CFR Part 15 Subpart C/ Section 15.247(d) And ANSI C63.10:2013 And KDB 558074 D01 DTS Meas Guidance v03r05	PASS	
POWER SPECTRAL DENSITY	FCC 47 CFR Part 15 Subpart C/ Section 15.247(e) And ANSI C63.10:2013 And KDB 558074 D01 DTS Meas Guidance v03r05	PASS	Minimum passing margin is 12.406dB at CH 11
EMISSION LIMITATIONS	FCC 47 CFR Part 15 Subpart C/ Section 15.247(d) And ANSI C63.10:2013 And KDB 558074 D01 DTS Meas Guidance v03r05	PASS	

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Description : LED Lamp

Model No. : 9290011369A

FCC ID : 2AGBW9290011369AX

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

Factory#1 : Changan Win Channel Electronics Company Limited

No.85, Tong Gu Xia Lu, Shangjiao Community, Changan Town, Dongguan City, Guangdong Province, China

Factory#2 : Arts Electronics Co., Ltd.

Shangxing Lu, Shangjiao Community, Changan Town,

Dongguan Guangdong523000 China

Factory#3 : Honor Tone Ltd

Mun Industrial Zone, Danshui, Huiyang, Huizhou

Guangdong 516211 CN

Radio Technology : IEEE 802.15.4 (ZigBee®)

Antenna Gain : 1.1dBi

Fundamental Range : 2405 MHz -2475MHz

Tested Frequency : 2405MHz (CH11)

2450MHz (CH20) 2475MHz (CH25)

Channel Setting Method : Channel is changed according to EUT's power on or

power off.

Highest Working

Frequency

: 2.4GHz

Power Rating : 9W

Modulation type : O-QPSK

Date of Receipt of Sample : Jan.20, 2016

Date of Test : Feb.27~Mar.05, 2016

2.2. 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, 2016

(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.

2.3. Measurement Uncertainty

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

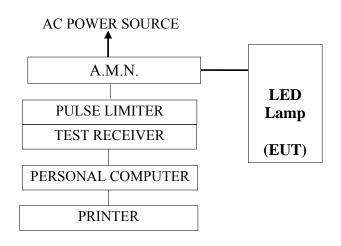
Remark: Uncertainty = $ku_c(y)$

3. CONDUCTED EMISSION MEASUREMET

3.1. Test Equipment

Item	Туре	Manufacturer	Manufacturer Model No. Serial No. Last Cal. Next C					
1.	Test Receiver	R & S	ESCI	100839	100839 2016-01-05 2017			
2.	A.M.N	R&S	ESH2-Z5	100153	2015-05-15	2016-05-14		
3.	Pulse Limiter	R&S	ESH3-Z2	100605	2015-07-03	2016-07-02		
4.	RF Cable	Harbour Industries RG400 002 2016-01-05				2017-01-04		
5.	Software	Audix/e3(6.7.0313)						

3.2. Block Diagram of Test Setup



-: POWER LINE

-: SIGNAL LINE

3.3. Power line Conducted Emission Limit

(FCC Part 15, Section 15.207, Class B)

Frequency	Maximum RF Line Voltage			
	Quasi-Peak Level Average Leve			
150kHz ~ 500kHz	$66 \sim 56 \text{ dB}\mu\text{V}$	$56 \sim 46 \text{ dB}\mu\text{V}$		
500kHz ~ 5MHz	56 dBμV	$46~dB\mu V$		
5MHz ~ 30MHz	60 dBμV	$50~dB\mu V$		

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.

3.4. 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 \sim 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:

Emission level ($dB\mu V$) = Reading ($dB\mu V$) + A.M.N factor (dB) + Cable loss (dB). (Cable loss includes pulse limiter loss)

3.5. 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.

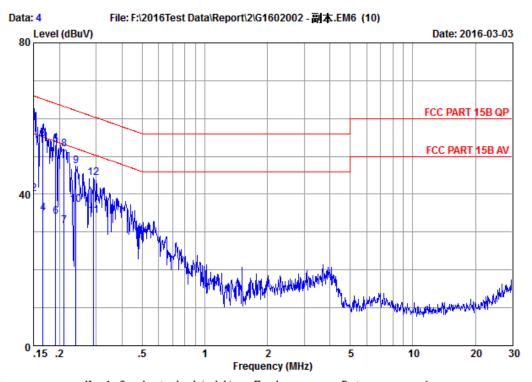
Test Date: Mar.03, 2016 Temperature: 22.1 Humidity: 57%

M - 1 -	T4 C 1'4'	Reference Test Data No.			
Mode	Test Condition	Neutral	Line		
1	TX CH11 2405MHz	# 4	# 3		
2	TX CH20 2450MHz	# 6	# 5		
3	TX CH25 2475MHz	# 8	# 7		

NOTE 1- 'means the worst test mode.

NOTE 2- The worst emission is detected at 0.15 MHz with emission level of 59.04 dB (μ V) and with QP detector (Limit is 66.00 dB (μ V)), when the Neutral of the EUT is connected to AMN





Site no. AMN/LISN Limit Env. / Ins. EUT M/N Power Rating : Test mode

Memo

No.1 Conducted shielding Enclosure ESH2-Z5-1505 FCC PART 15B QP 22.1*C&57%/ESCI LED Lamp 9290011369A 120Vac/60Hz TX CH11 2405MHz

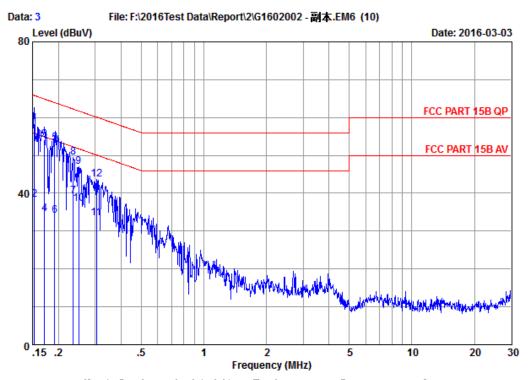
: 4 : NEUTRAL Data no. Phase Engineer : KM.Tong

1 0.15 0.15 9.89 49.00 59.04 66.00 6.96 QP 2 0.15 0.15 9.89 30.00 40.04 56.00 15.96 Average 3 0.17 0.15 9.89 44.50 54.54 65.11 10.57 QP 4 0.17 0.15 9.89 25.00 35.04 55.11 20.07 Average 5 0.19 0.15 9.89 43.00 53.04 63.95 10.91 QP 6 0.19 0.15 9.89 24.00 34.04 53.95 19.91 Average 7 0.21 0.15 9.89 21.54 31.58 53.18 21.60 Average 8 0.21 0.15 9.89 41.95 51.99 63.18 11.19 QP 9 0.24 0.15 9.89 37.49 47.53 62.08 14.55 QP 10 0.24 0.15 9.89 27.15 37.19 52.08 14.89 Average 11 0.29 0.15 9.89 24.21 34.25 50.46 16.21 Average		Freq.	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
12 U.27 U.13 7.U7 34.32 44.30 DU.40 10.1U UF	3 4 5 6 7 8 9	0.15 0.17 0.17 0.19 0.19 0.21 0.21 0.24 0.24	0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	9.89 9.89 9.89 9.89 9.89 9.89 9.89	30.00 44.50 25.00 43.00 24.00 21.54 41.95 37.49 27.15	40.04 54.54 35.04 53.04 34.04 31.58 51.99 47.53 37.19	56.00 65.11 55.11 63.95 53.95 53.18 63.18 62.08 52.08	15.96 10.57 20.07 10.91 19.91 21.60 11.19 14.55 14.89	Äverage QP Average QP Average Average QP QP Average

Remarks:

1.Emission Level= AMN factor + Cable loss + Reading .





Site no. AMN/LISN Limit Env. / Ins. EUT M/N Power Rating : Test mode :

Test mode Memo

No.1 Conducted shielding Enclosure ESH2-Z5-1505 FCC PART 15B QP 22.1*C&57%/ESCI LED Lamp 9290011369A 120Vac/60Hz TX CH11 2405MHz

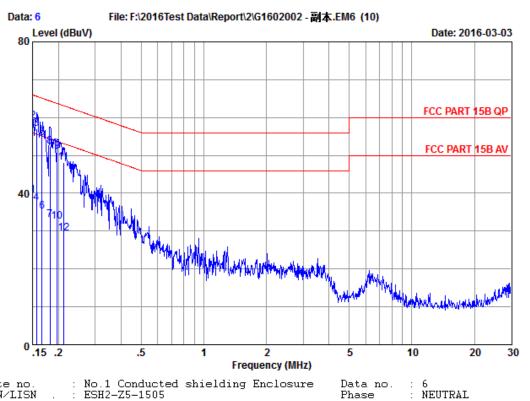
: 3 : LINE Data no. Phase Engineer : KM.Tong

	req. MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
2 3 4 5 6 7 8 9 10	0.15 0.15 0.17 0.17 0.19 0.19 0.24 0.24 0.25 0.25 0.31	0.16 0.16 0.16 0.15 0.15 0.15 0.15 0.15 0.15 0.15	9.89 9.89 9.89 9.89 9.89 9.89 9.89 9.90	48.30 28.30 44.20 24.50 43.30 24.00 29.20 39.40 37.03 27.22 23.45 33.56	58.35 38.35 54.25 34.55 53.34 34.04 39.24 49.44 47.07 37.26 33.51 43.62	65.84 55.84 64.91 54.91 63.95 52.26 62.26 61.73 51.73 50.10	7.49 17.49 10.66 20.36 10.61 19.91 13.02 12.82 14.66 14.47 16.59 16.48	QP Average QP Average QP Average Average QP QP Average Average

Remarks:

^{1.} Emission Level= AMN factor + Cable loss + Reading .





Phase

Engineer : KM.Tong

Site no. AMN/LISN Limit Env. / Ins. EUT

 $\overline{M} \nearrow N$ Power Rating : Test mode Memo

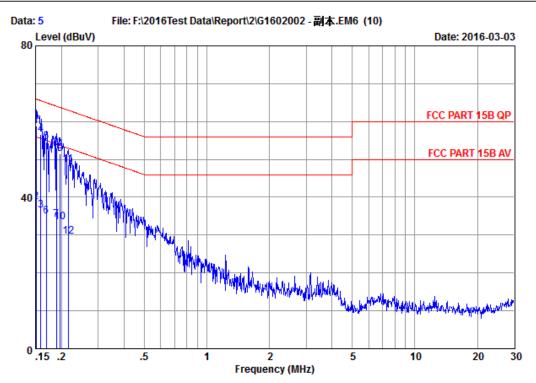
No.1 Conducted shielding Enclosure ESH2-Z5-1505 FCC PART 15B QP 22.1*C&57%/ESCI LED Lamp 9290011369A 120Vac/60Hz TX CH20 2450MHz

	Freq.	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 2 3 4 5 6 7 8	0.16 0.16 0.17 0.17 0.18 0.18 0.20	0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	9.89 9.89 9.89 9.89 9.89 9.89 9.89	29.30 49.00 47.00 27.30 44.50 25.20 23.00 42.30 41.00	39.34 59.04 57.04 37.34 54.54 33.04 52.34 51.04	56.00 66.00 65.62 55.62 65.11 55.11 54.39 64.39	16.66 6.96 8.58 18.28 10.57 19.87 21.35 12.05	Average QP QP Average QP Average Average QP QP
10 11 12	0.20 0.21 0.21	0.15 0.15 0.15	9.89 9.89 9.89	22.50 38.00 19.30	32.54 48.04 29.34	53.74 63.17 53.17	21.20 15.13 23.83	Average QP Average

Remarks:

1. Emission Level= AMN factor + Cable loss + Reading .





Site no. :
AMN/LISN :
Limit :
Env. / Ins. :
EUT : M/N Power Rating : Test mode :

Test mode Memo

No.1 Conducted shielding Enclosure ESH2-Z5-1505 FCC PART 15B QP 22.1*C&57%/ESCI LED Lamp 9290011369A 120Vac/60Hz TX CH20 2450MHz

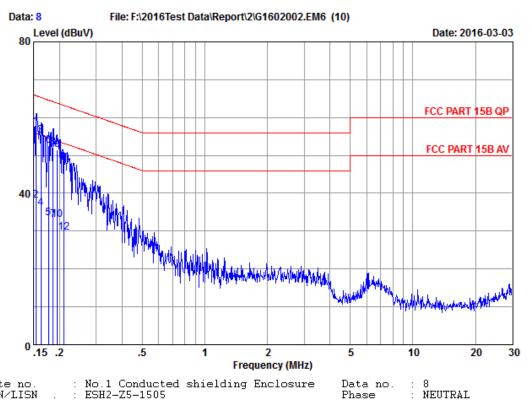
: 5 : LINE Data no. Phase Engineer : KM.Tong

1 0.15 0.16 9.89 48.80 58.85 65.94 7.09 QP 2 0.15 0.16 9.89 28.80 38.85 55.94 17.09 Average 3 0.16 0.16 9.89 26.50 36.55 55.52 18.97 Average 4 0.16 0.16 9.89 46.50 56.55 65.52 8.97 QP 5 0.17 0.16 9.89 44.50 54.55 65.01 10.46 QP 6 0.17 0.16 9.89 25.00 35.05 55.01 19.96 Average 7 0.19 0.15 9.89 24.00 34.04 54.08 20.04 Average 8 0.19 0.15 9.89 43.00 53.04 64.08 11.04 QP 9 0.20 0.15 9.89 41.50 51.54 63.74 12.20 QP 10 0.20 0.15 9.89 23.30 33.34 53.74 20.40 Average		Freq.	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
11 0.22 0.15 9.89 38.50 48.54 63.01 14.47 QP 12 0.22 0.15 9.89 19.50 29.54 53.01 23.47 Average	3 4 5 6 7 8 9 10	0.15 0.16 0.16 0.17 0.17 0.19 0.19 0.20 0.20 0.22	0.16 0.16 0.16 0.16 0.16 0.15 0.15 0.15 0.15	9.89 9.89 9.89 9.89 9.89 9.89 9.89 9.89	28.80 26.50 46.50 44.50 25.00 24.00 41.50 23.30 38.50	38.85 36.55 56.55 54.55 35.05 34.04 53.04 51.54 33.34 48.54	55.94 55.52 65.52 65.01 55.01 54.08 64.08 63.74 53.74 63.01	17.09 18.97 8.97 10.46 19.96 20.04 11.04 12.20 20.40 14.47	Average Average QP QP Average Average QP QP QP QP QP Average

Remarks:

1. Emission Level = AMN factor + Cable loss + Reading .





Phase

Engineer : KM.Tong

Site no. AMN/LISN Limit Env. / Ins. EUT

M/N Power Rating : Test mode Memo

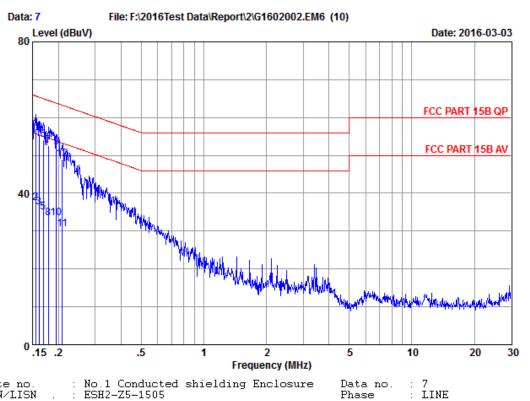
No.1 Conducted shielding Enclosure ESH2-Z5-1505 FCC PART 15B QP 22.1*C&57%/ESCI LED Lamp 9290011369A 120Vac/60Hz TX CH25 2475MHz

	eq. (Hz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
2 0 3 0 4 0 5 0 7 0 8 0 10 0 11 0	1.15 1.15 1.16 1.16 1.18 1.18 1.19 1.19 1.20 1.20	0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	9.89 9.89 9.89 9.89 9.89 9.89 9.89 9.89	47.50 28.00 45.30 26.00 23.30 42.50 23.00 42.00 41.50 23.00 38.00 19.50	57.54 38.04 55.34 36.04 33.34 52.54 33.04 52.04 51.54 33.04 29.54	65.78 55.78 65.31 55.31 54.63 64.63 54.21 64.21 63.82 53.82 53.21	8.24 17.74 9.97 19.27 21.29 12.09 21.17 12.17 12.28 20.78 15.17 23.67	QP Average QP Average Average QP Average QP QP Average QP Average

Remarks:

1. Emission Level= AMN factor + Cable loss + Reading .





Phase

Engineer : KM.Tong

Site no. AMN/LISN Limit Env. / Ins. EUT

M/N Power Rating : Test mode Memo

No.1 Conducted shielding Enclosure ESH2-Z5-1505 FCC PART 15B QP 22.1*C&57%/ESCI LED Lamp 9290011369A 120Vac/60Hz TX CH25 2475MHz

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 2 3 4 5 6 7 8 9 10 11	0.16 0.16 0.16 0.16 0.17 0.17 0.18 0.18 0.20 0.20 0.21	0.16 0.16 0.16 0.16 0.16 0.15 0.15 0.15 0.15	9.89 9.89 9.89 9.89 9.89 9.89 9.89 9.89	47.00 27.50 26.30 45.50 25.00 44.00 42.50 23.30 42.00 23.30 20.50 39.00	57.05 37.55 36.35 55.55 35.05 54.05 52.54 33.34 52.04 33.34 49.04	65.73 55.73 55.41 65.41 55.01 64.53 54.53 63.82 53.82 53.24 63.24	8.68 18.18 19.06 9.86 10.96 11.99 21.19 11.78 20.48 22.70 14.20	QP Average Average QP Average QP QP Average QP Average QP Average QP

Remarks:

1. Emission Level= AMN factor + Cable loss + Reading .

4. RADIATED EMISSION MEASUREMENT

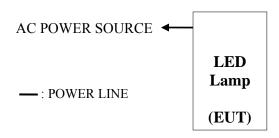
4.1. Test Equipment

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

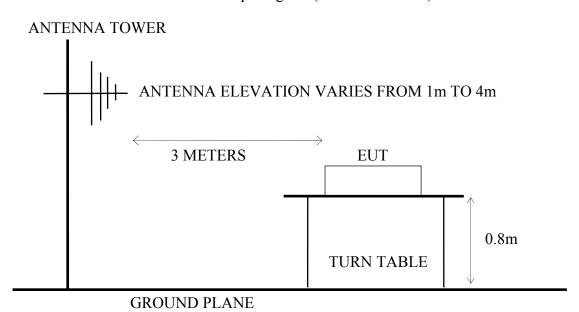
Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.			
1.	Preamplifier	Agilent	8449B	3008A02233	2016-01-05	2017-01-04			
2.	Preamplifier	Agilent	8447D	2944A10921	2015-07-03	2016-07-02			
3.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22			
4.	Test Receiver	R&S	ESCI	100361	2016-01-05	2017-01-04			
5.	Bi-log Antenna	Schaffner	CBL6112D	22250	2015-09-02	2016-09-01			
6.	Horn Antenna	EMCO	3115	62960	2015-06-30	2016-05-29			
7.	RF Cable #1	Yuhang CSYH	cable-3m	001(0.5m)	2016-01-05	2017-01-04			
8.	RF Cable #2	Yuhang CSYH	cable-3m	002(0.5m)	2016-01-05	2017-01-04			
9.	RF Cable #3	Yuhang CSYH	cable-3m	003(3.0m)	2016-01-05	2017-01-04			
10.	Software	Audix/e3(6.7.0313)							

4.2. Block Diagram of Test Setup

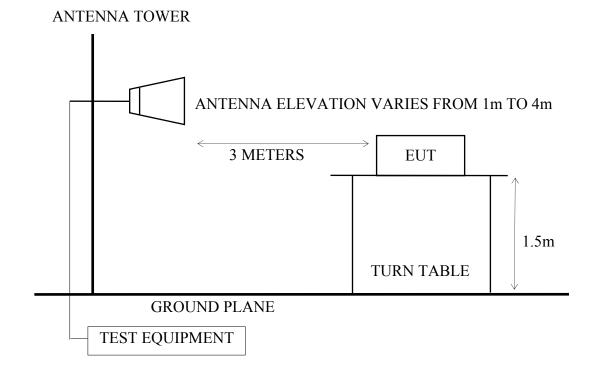
4.2.1. Block Diagram of Test Setup between EUT and simulators



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



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



4.3. Radiated Emission Limits

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

Frequency	Distance Meters	Field Strengths Limits		
MHz	Distance Meters	dBμV/m		
30 ~ 230	10	30.0		
230 ~ 1000	10	37.0		
Above 1000	2	74.0 dBμV/m (Peak)		
Above 1000	3	54.0 dBμV/m (Average)		

Remark: (1) Emission level ($dB\mu V/m$) = 20 log Emission level ($\mu V/m$)

(2) The tighter limit applies at the edge between two frequency bands.

4.4. 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 10 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:

- 1. For 30MHz-1GHz measurement: Emission Level (dB μ V/m) = Reading (dB μ V)+Antenna Factor (dB/m)+Cable Loss (dB)
- 2. For Above 1GHz measurement: Emission Level ($dB\mu V/m$) = Reading ($dB\mu V$)+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 XY plan(in Horizontal) & YZ plan(in Vertical) is shown in the report.

4.5. Measurement Results

PASSED

4.5.1. 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

NI	Test Mode and Frequency		Reference Test Data No.		
No.	Test Mode a	na Frequency	Horizontal	Vertical	
1.		2405MHz (Channel 11)	# 7	# 8	
2.	Transmitting	2450MHz (Channel 20)	# 9	# 10	
3.		2475MHz (Channel 25)	# 11	# 12	

For Frequency range: above 1GHz

Ma	T4 M- 1	1 F	Reference T	est Data No.
No.	Test Mode a	Test Mode and Frequency		Vertical
1.		2405MHz (Channel 11)	# 13	# 14
2.	Transmitting	2450MHz (Channel 20)	# 15	# 16
3.		2475MHz (Channel 25)	# 17	# 18

4.5.2. 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)

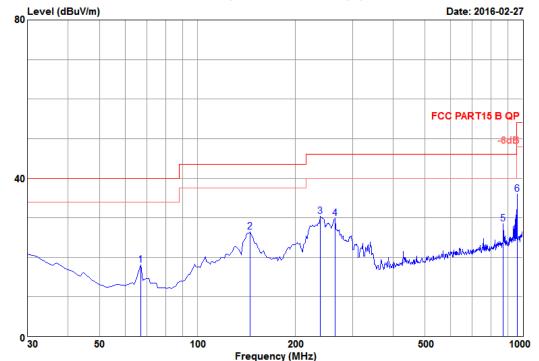
			Reference T	est Data No.
No.	Test Mode a	2405MHz (Channel 11) 2475MHz (Channel 25)	Horizontal	Vertical
1.		2405MHz (Channel 11)	# 19, # 21	# 20, # 22
2.	Transmitting	2475MHz (Channel 25)	# 23, # 25	# 24, # 26

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



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Data: 7 File: G:\Test Data\2016\Reports\02\G1602002.EM6 (26)



Site NO. : 3m chamber
Dis. / Ant. : 3m 6112D(22250)-1510
Limit : FCC PART15 B QP
Env. / Ins. : 16.2*C&48%/ESCI
EUT : LED Lamp
M/N : 9290011369A

Power Rating : 120Vac/60Hz Test Mode : TX CH11 2405MHz Memo :

Data	INO.	• /
Ant.	pol.	: HORIZONTAL

.mo. por. . moniponi

Engineer : Mickey

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	66.86	8.95	0.70	35.73	18.11	40.00	21.89	QP
2	145.43	12.43	1.04	39.92	26.37	43.50	17.13	QΡ
3	238.55	12.22	1.39	43.56	30.45	46.00	15.55	QP
4	264.74	13.83	1.47	41.22	29.85	46.00	16.15	QP
5	870.99	21.47	2.96	31.46	28.52	46.00	17.48	QP
6	960.23	22.12	3.22	37.67	36.05	54.00	17.95	QP

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

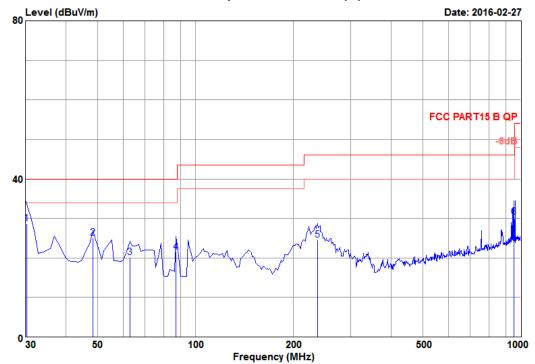
Data NO.:8 Ant.pol.:VERTICAL

Engineer : Mickey



Audix Technology(Wujiang)Co.,Ltd. No.1289, Jiang King East Road, The Eastern Part of Wu Jiang Economic Development Zone, JiangSu, China Tel: (0512) 63403993 Fax: (0512) 63403993

File: G:\Test Data\2016\Reports\02\G1602002.EM6 (26)



Site NO. : 3m chamber : 3m 6112D(22250)-1510 : FCC PART15 B QP : 16.2*C&48%/ESCI $\mathtt{Dis.} \ \angle \ \mathtt{Ant.}$ Limit Env. / Ins.

12.14

22.06

1.38

3.19

: LED Lamp : 9290011369A EUT M/N Power Rating : 120Vac/60Hz Test Mode : TX CH11 2405MHz

Memo

237.58

951.50

1

2

Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
30.25	21.30	0.47	34.23	28.65	40.00	11.35	QP
48.43 62.98	11.63 8.35	0.60 0.68	40.08 38.45	25.01 20.21	40.00 40.00	14.99 19.79	QP OP
87.23	8.68	0.80	39.19	21.44	40.00	18.56	QΡ

24.60

30.45

46.00

46.00

21.40

15.55

QР

32.19

37.80

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

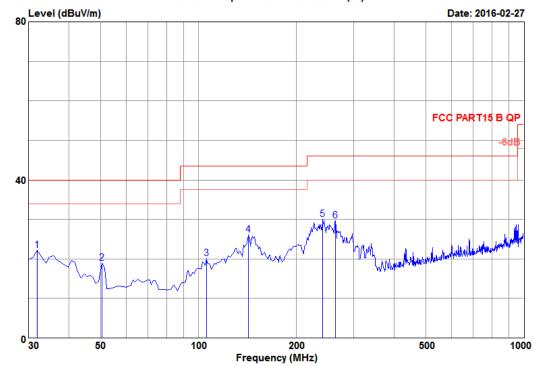
Data NO. :9 Ant. pol. : HORIZONTAL

Engineer : Mickey



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File: G:\Test Data\2016\Reports\02\G1602002.EM6 (26)



Site NO. : 3m chamber
Dis. / Ant. : 3m 6112D(22250)-1510
Limit : FCC PART15 B QP
Env. / Ins. : 16.2*C&48%/ESCI

EUT : LED Lamp
M/N : 9290011369A

Power Rating: 120Vac/60Hz
Test Mode: TX CH20 2450MHz

Memo :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2 3 4 5 6	31.94 50.37 105.66 142.52 240.49 263.77	20.20 10.70 11.59 12.71 12.38 13.84	0.48 0.61 0.88 1.03 1.39 1.47	28.90 34.99 34.77 39.34 42.95 41.01	22.23 19.00 20.06 26.05 30.00 29.65	40.00 40.00 43.50 43.50 46.00 46.00	17.77 21.00 23.44 17.45 16.00 16.35	QP QP QP QP QP QP

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

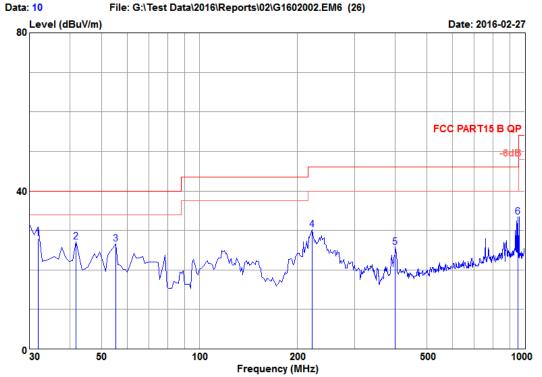
Data NO. :10 Ant. pol. : VERTICAL

Engineer : Mickey



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File: G:\Test Data\2016\Reports\02\G1602002.EM6 (26)



Site NO. Dis. / Ant. : 3m chamber : 3m 6112D(22250)-1510 : FCC PART15 B QP : 16.2*C&48%/ESCI Limit Env. / Ins. EUT

: LED Lamp : 9290011369A M/N Power Rating : 120Vac/60Hz Test Mode : TX CH20 2450MHz Memo

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 31.94	20.20	0.48	34.62	27.95	40.00	12.05	QP
2 41.64	14.87	0.55	39.09	27.19	40.00	12.81	QP
3 55.22	9.30	0.64	43.94	26.59	40.00	13.41	QP
4 222.06	10.86	1.33	44.72	30.15	46.00	15.85	QP
5 399.57	16.80	1.87	34.40	25.77	46.00	20.23	QP
6 951.50	22.06	3.19	35.19	33.45	46.00	12.55	QP

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

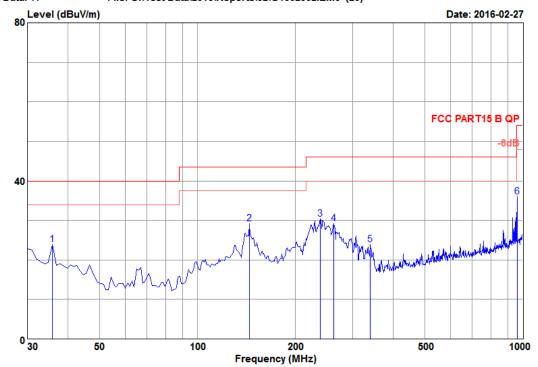
Data NO. :11 Ant. pol. : HORIZONTAL

Engineer : Mickey



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Site NO. Dis. / Ant.

: 3m chamber : 3m 6112D(22250)-1510 : FCC PART15 B QP : 16.2*C&48%/ESCI Limit Env. / Ins.

: LED Lamp : 9290011369A EUT M/N Power Rating : 120Vac/60Hz Test Mode : TX CH25 2475MHz

Memo

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2 3 4 5 6	35.82 144.46 238.55 261.83 339.43 960.23	18.00 12.52 12.22 13.87 15.05 22.12	0.51 1.04 1.39 1.47 1.70 3.22	32.71 42.67 43.56 40.58 33.99 37.67	23.88 29.21 30.45 29.24 23.86 36.05	40.00 43.50 46.00 46.00 46.00 54.00	16.12 14.29 15.55 16.76 22.14 17.95	QP QP QP QP QP QP

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

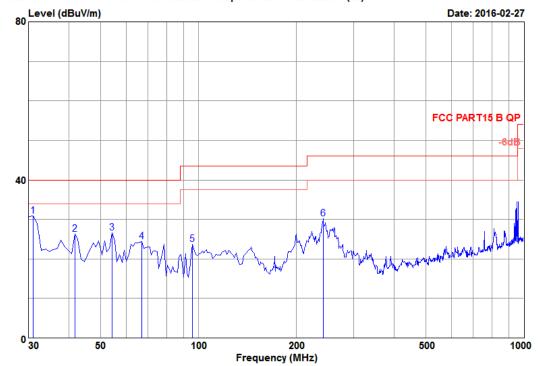
Data NO. :12 Ant. pol. : VERTICAL

Engineer : Mickey



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ta: 12 File: G:\Test Data\2016\Reports\02\G1602002.EM6 (26)



Site NO. : 3m chamber
Dis. / Ant. : 3m 6112D(22250)-1510
Limit : FCC PART15 B QP
Env. / Ins. : 16.2*C&48%/ESCI
EUT : LED Lamp

EUT : LED Lamp
M/N : 9290011369A
Power Rating : 120Vac/60Hz
Test Mode : TX CH25 2475MHz
Memo :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	30.97	20.75	0.48	36.92	30.80	40.00	9.20	QP
2	41.64	14.87	0.55	38.09	26.19	40.00	13.81	QP
3	54.25	9.58	0.63	43.73	26.65	40.00	13.35	QP
4	66.86	8.95	0.70	42.00	24.38	40.00	15.62	QP
5	95.96	10.18	0.84	39.96	23.77	43.50	19.73	QP
6	241.46	12.45	1.40	43.01	30.14	46.00	15.86	QP

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

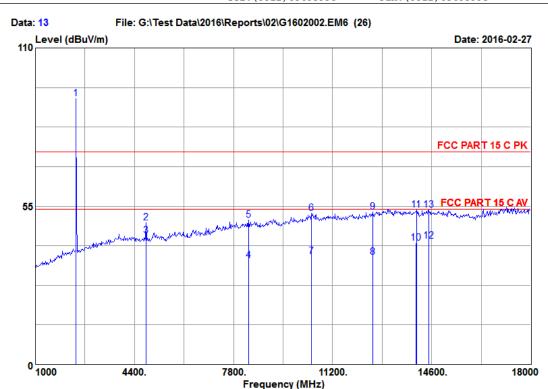
4.7. Restricted Bands Measurement Results (For Above 1GHz)



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

Data NO. : 13 Ant. pol. : HORIZONTAL

Engineer : Mickey



Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C PK
Env. / Ins. : 16.2*C&48%/N9030A

EUT : LED Lamp
M/N : 9290011369A
Power Rating: 120Vac/60Hz

Power Rating: 120Vac/60Hz Test Mode : TX CH11 2405MHz Memo :

	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)		on Limits (dBuV/m)	Margin (dB)	Remark
		(GD)		(ubuv)	(GD)	(GDGV/M	(abav/m) 		
1	2400.00	28.45	5.09	93.43	34.50	92.47	74.00	-18.47	Peak
2	4800.00	32.86	7.32	43.11	33.95	49.34	74.00	24.66	Peak
3	4808.94	32.86	7.32	38.64	33.95	44.87	54.00	9.13	Average
4	8318.98	37.39	9.71	23.15	34.21	36.04	54.00	17.96	Average
5	8320.00	37.39	9.71	37.24	34.21	50.13	74.00	23.87	Peak
6	10480.00	39.57	11.09	35.86	34.07	52.45	74.00	21.55	Peak
- 7	10481.94	39.57	11.09	20.90	34.07	37.49	54.00	16.51	Average
8	12578.94	38.98	11.97	19.38	33.03	37.30	54.00	16.70	Average
9	12580.00	38.98	11.97	35.14	33.03	53.06	74.00	20.94	Peak
10	14070.14	42.26	12.87	18.82	31.70	42.25	54.00	11.75	Average
11	14080.00	42.26	12.87	30.27	31.70	53.70	74.00	20.30	Peak
12	14492.78	42.60	13.01	19.51	32.28	42.84	54.00	11.16	Average
13	14500.00	42.60	13.01	30.31	32.28	53.64	74.00	20.36	Peak

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor. 2. The emission levels that are 20dB below the official

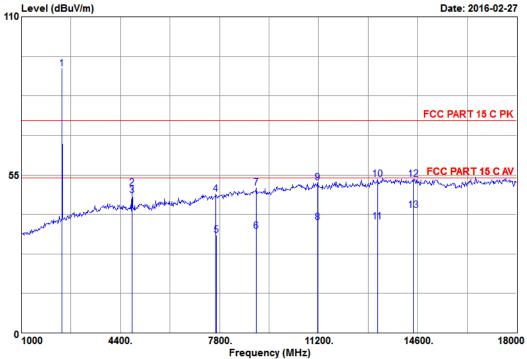
limit are not reported.



Data NO. : 14 Ant. pol. : VERTICAL

Engineer : Mickey





Site NO. : 3m Semi-Anechoic Chamber Dis. / Ant. : 3m 3115-62960-150630 Limit : FCC PART 15 C PK Env. / Ins. : 16.2*C&48%/N9030A

EUT

: LED Lamp : 9290011369A M/N Power Rating: 120Vac/60Hz Test Mode : TX CH11 2405MHz

Memo

	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)		on Limits (dBuV/m)	Margin (dB)	Remark
1	2400.00	28.45	5.09	92.97	34.50	92.01	74.00	-18.01	Peak
2	4800.00	32.86	7.32	44.13	33.95	50.36	74.00	23.64	Peak
3	4808.94	32.86	7.32	41.52	33.95	47.75	54.00	6.25	Average
4	7680.00	36.87	9.34	36.13	34.08	48.26	74.00	25.74	Peak
5	7682.46	36.87	9.34	22.00	34.08	34.13	54.00	19.87	Average
6	9058.66	38.01	10.03	21.81	34.42	35.43	54.00	18.57	Average
7	9060.00	38.01	10.03	36.77	34.42	50.39	74.00	23.61	Peak
8	11157.22	39.19	11.37	21.57	33.67	38.46	54.00	15.54	Average
9	11160.00	39.20	11.37	35.30	33.67	52.20	74.00	21.80	Peak -
10	13220.00	40.44	12.42	32.96	32.28	53.54	74.00	20.46	Peak
11	13220.66	40.44	12.42	18.22	32.28	38.80	54.00	15.20	Average
12	14460.00	42.57	13.00	30.23	32.24	53.56	74.00	20.44	Peak
13	14464.56	42.57	13.00	19.41	32.24	42.74	54.00	11.26	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.

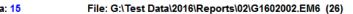
^{2.} The emission levels that are 20dB below the official limit are not reported.

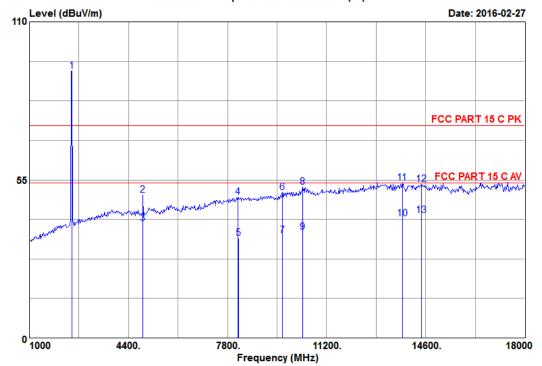
Data NO. : 15 Ant. pol. : HORIZONTAL

Engineer : Mickey



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Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C PK
Env. / Ins. : 16.2*C&48%/N9030A

EUT : LED Lamp M/N : 9290011369A Power Rating: 120Vac/60Hz Test Mode : TX CH20 2450MHz

Memo

	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)		on Limits (dBuV/m)	Margin (dB)	Remark
1	2460.00	28.62	5.15	93.70	34.50	92.97	74.00	-18.97	Peak
2	4900.00	33.01	7.37	43.21	33.94	49.65	74.00	24.35	Peak
3	4900.85	33.01	7.37	33.44	33.94	39.88	54.00	14.12	Average
4	8160.00	37.19	9.65	36.29	34.16	48.97	74.00	25.03	Peak
5	8167.82	37.21	9.65	21.99	34.16	34.69	54.00	19.31	Average
6	9680.00	38.37	10.56	36.17	34.45	50.65	74.00	23.35	Peak
7	9689.62	38.37	10.59	21.24	34.45	35.75	54.00	18.25	Average
8	10380.00	39.41	11.04	36.26	34.15	52.56	74.00	21.44	Peak
9	10387.32	39.41	11.04	20.63	34.15	36.93	54.00	17.07	Average
10	13798.92	41.76	12.74	18.83	31.77	41.56	54.00	12.44	Average
11	13800.00	41.76	12.74	31.11	31.77	53.84	74.00	20.16	Peak
12	14460.00	42.57	13.00	30.05	32.24	53.38	74.00	20.62	Peak
13	14466.04	42.57	13.00	19.43	32.24	42.76	54.00	11.24	Average

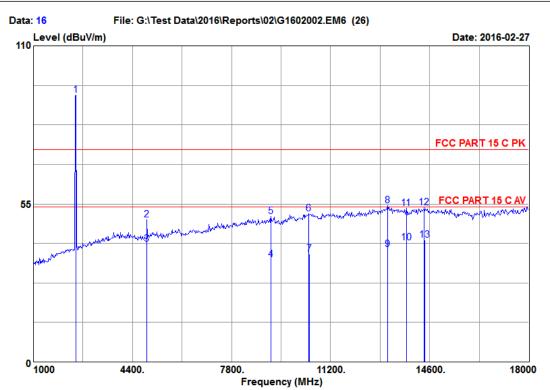
Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor. 2. The emission levels that are 20dB below the official

limit are not reported.



Data NO. : 16 Ant. pol. : VERTICAL

Engineer : Mickey



Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C PK
Env. / Ins. : 16.2*C&48%/N9030A

EUT : LED Lamp M/N : 9290011369A Power Rating: 120Vac/60Hz Test Mode : TX CH20 2450MHz

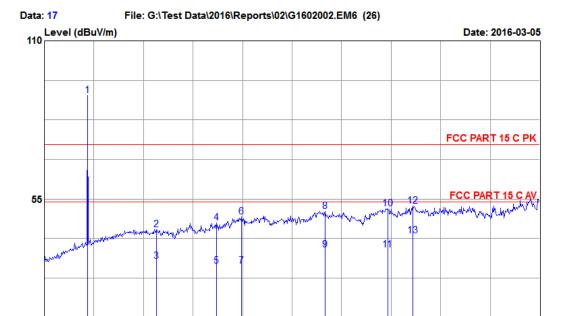
Memo

	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)		on Limits (dBuV/m)	Margin (dB)	Remark
1	2460.00	28.62	5.15	93.63	34.50	92.90	74.00	-18.90	Peak
2	4900.00	33.01	7.37	43.09	33.94	49.53	74.00	24.47	Peak
3	4900.09	33.01	7.37	34.59	33.94	41.03	54.00	12.97	Average
4	9155.50	38.03	10.12	21.89	34.43	35.61	54.00	18.39	Average
5	9160.00	38.03	10.12	36.97	34.43	50.69	74.00	23.31	Peak -
6	10460.00	39.52	11.08	35.13	34.09	51.64	74.00	22.36	Peak
7	10461.98	39.55	11.08	20.88	34.09	37.42	54.00	16.58	Average
8	13160.00	40.27	12.39	34.05	32.33	54.38	74.00	19.62	Peak
9	13161.12	40.27	12.39	18.86	32.33	39.19	54.00	14.81	Average
10	13800.00	41.76	12.74	18.85	31.77	41.58	54.00	12.42	Average
11	13800.00	41.76	12.74	30.76	31.77	53.49	74.00	20.51	Peak
12	14420.00	42.53	12.98	30.49	32.17	53.83	74.00	20.17	Peak
	14425.42	42.54	12.98	19.13	32.17	42.48	54.00	11.52	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.





Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C PK
Env. / Ins. : 16.2*C&48%/N9030A

Ant. Cable

4400.

: LED Lamp : 9290011369A EUT M/N

Memo

⁰1000

Data NO. : 17 Ant. pol. : HORIZONTAL Engineer : Mickey

Frequency (MHz)

11200.

14600.

18000

Power Rating: 120Vac/60Hz Test Mode : TX CH25 2475MHz

	Freq. (MHz)	Factor (dB)	Loss (dB)	Reading (dBuV)	Factor (dB)	Level (dBuV/m	Limits (dBuV/m)	Margin (dB)	Remark
7 8 1 9 1 10 1 11 1 12 1	2470.00 4843.00 4844.25 6901.00 6903.00 7762.00 7763.25 10639.87 12781.00 12782.14 13642.00	28.62 32.92 32.92 35.37 35.37 36.91 39.46 39.46 39.42 39.42 41.43	5.18 7.34 7.34 8.80 9.40 9.40 11.16 11.16 12.13 12.13	91.75 37.94 26.90 36.47 21.51 36.61 19.50 33.95 20.51 32.83 18.40 30.38 20.38	34.49 33.94 34.01 34.01 34.09 34.09 33.94 33.94 32.76 32.76 31.90 31.90	91.06 44.26 33.22 46.63 31.67 48.83 31.72 50.63 37.19 51.62 37.19 52.57 42.28	74.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00	-17.06 29.74 20.78 27.37 22.33 25.17 22.28 23.37 16.81 22.38 16.81 21.43 11.72	Peak Peak Average Peak Average Peak Average Peak Average Peak Average Peak Average

Preamp Emission

7800.

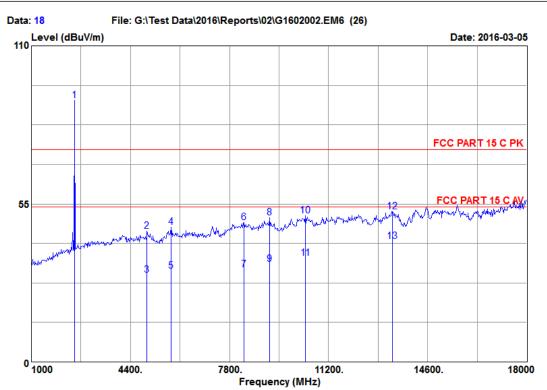
Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor. 2. The emission levels that are 20dB below the official

limit are not reported.



Data NO. : 18 Ant. pol. : VERTICAL

Engineer : Mickey



Site NO. : 3m Semi-Anechoic Chamber Dis. / Ant. : 3m 3115-62960-150630 Limit : FCC PART 15 C PK Env. / Ins. : 16.2*C&48%/N9030A

: LED Lamp : 9290011369A EUT M/N Power Rating: 120Vac/60Hz Test Mode : TX CH25 2475MHz

Memo

	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)		on Limits (dBuV/m)	Margin (dB)	Remark
1	2470.00	28.62	5.18	91.73	34.49	91.04	74.00	-17.04	Peak
2	4969.00	33.14	7.41	38.97	33.92	45.60	74.00	28.40	Peak
3	4969.87	33.17	7.41	23.59	33.92	30.25	54.00	23.75	Average
4	5788.00	34.12	8.32	38.27	33.90	46.81	74.00	27.19	Peak
5	5789.25	34.12	8.32	23.20	33.90	31.74	54.00	22.26	Average
6	8287.00	37.35	9.70	35.77	34.20	48.62	74.00	25.38	Peak
7	8288.15	37.35	9.70	19.31	34.20	32.16	54.00	21.84	Average
8	9169.00	38.03	10.12	36.58	34.43	50.30	74.00	23.70	Peak
9	9169.98	38.03	10.12	20.31	34.43	34.03	54.00	19.97	Average
10	10408.00	39.44	11.05	34.46	34.13	50.82	74.00	23.18	Peak
11	10409.25	39.44	11.05	19.80	34.13	36.16	54.00	17.84	Average
12	13390.00	40.85	12.52	31.08	32.13	52.32	74.00	21.68	Peak
13	13390.14	40.85	12.52	20.80	32.13	42.04	54.00	11.96	Average

Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor. 2. The emission levels that are 20dB below the official

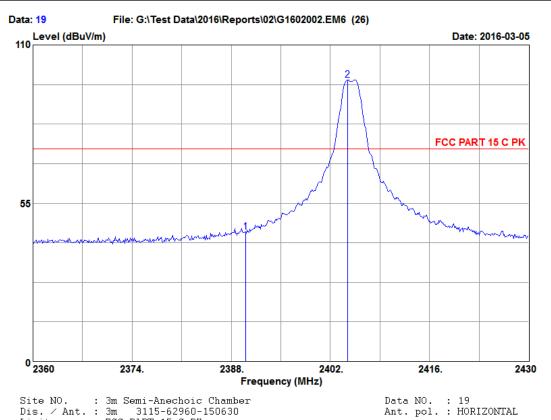
limit are not reported.

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



Audix Technology (Wujiang) Co., Ltd. No.1289, Jiang King East Road, The Eastern Part of Wu Jiang Economic Development Zone, JiangSu, China Tel: (0512) 63403993 Fax: (0512) 63403993

Engineer : Mickey



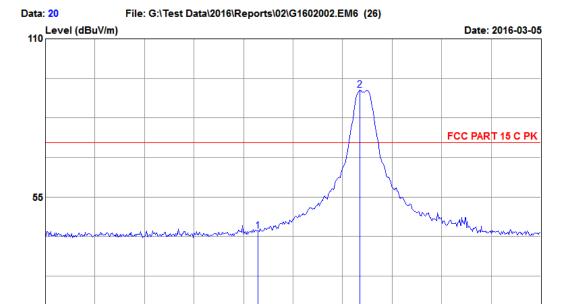
Site NO. : 3m Semi-Anechoic Chamber Dis. / Ant. : 3m 3115-62960-150630 Limit : FCC PART 15 C PK Env. / Ins. : 16.2*C&48%/N9030A

: LED Lamp M/N : 9290011369A Power Rating: 120Vac/60Hz Test Mode : TX CH11 2405MHz Memo

	Freq.	Ant. Factor (dB)	Reading	Factor			Margin (dB)	Remark	
_	2390.00 2404.44	28.45 28.49	 45.95 98.84	34.50 34.50	44.99 97.92	74.00 74.00	29.01 -23.92	Peak 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.





2402.

Frequency (MHz)

2416.

Data NO. : 20 Ant. pol. : VERTICAL

Engineer : Mickey

2430

Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C PK
Env. / Ins. : 16.2*C&48%/N9030A

2388.

ENV. / Ins. : 16.2*C&48%/N903 EUT : LED Lamp M/N : 9290011369A Power Rating: 120Vac/60Hz

Power Rating: 120Vac/60Hz Test Mode : TX CH11 2405MHz

2374.

Memo :

2360

	Freq. (MHz)	Ant. Factor (dB)		Reading	Factor			Margin (dB)	Remark
_	2390.00 2404.44		5.09 5.09	44.15 93.00		43.19 92.08	74.00 74.00	30.81 -18.08	Peak 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.

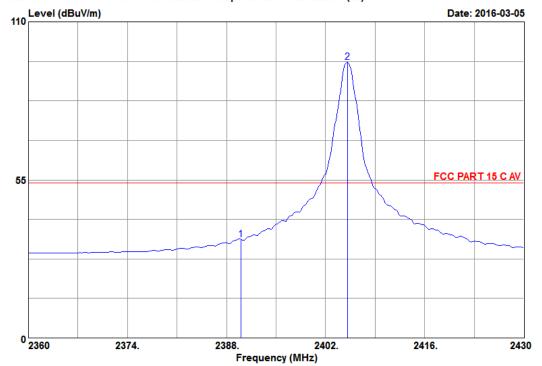
Data NO. : 21 Ant. pol. : HORIZONTAL

Engineer : Mickey



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Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C AV
Env. / Ins. : 16.2*C&40%/N9030A

EUT : LED Lamp

M/N : 9290011369A Power Rating: 120Vac/60Hz Test Mode : TX CH11 2405MHz

Memo

	Freq. (MHz)	Ant. Factor (dB)		Reading (dBuV)	Factor	Emissio Level (dBuV/m	Limits	Margin (dB)	Remark
_	2390.00	28.45	5.09	35.30	34.50	34.34	54.00	19.66	Average
	2405.10	28.49	5.09	96.78	34.50	95.86	54.00	-41.86	Average

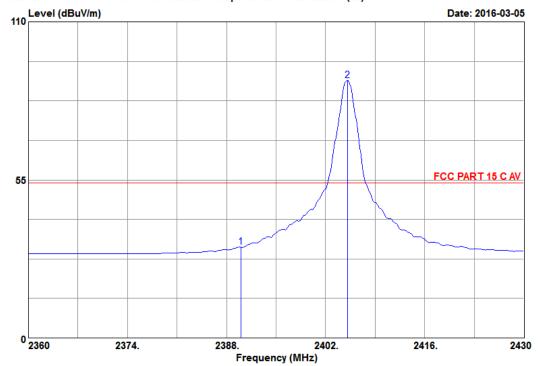
Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.
2. The emission levels that are 20dB below the official limit are not reported.



Data NO. : 22 Ant. pol. : VERTICAL

Engineer : Mickey





Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C AV
Env. / Ins. : 16.2*C&48%/N9030A

EUT : LED Lamp
M/N : 9290011369A
Power Rating: 120Vac/60Hz

Test Mode : TX CH11 2405MHz

Memo :

		Ant.	Cable	!	Preamp	Emissic	n		
	Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV∕m	(dBuV/m)	(dB)	
_									
1	2390.00	28.45	5.09	32.56	34.50	31.60	54.00	22.40	Average
2	2405.10	28.49	5.09	90.56	34.50	89.64	54.00	-35.64	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.

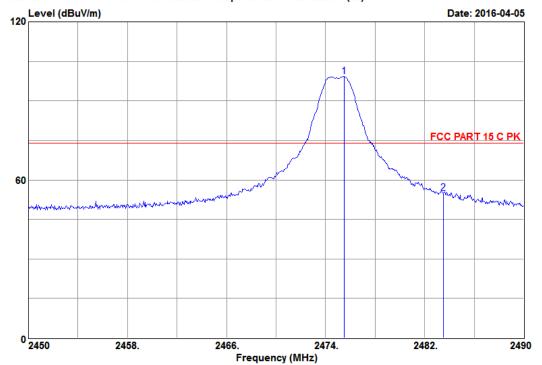
Data NO. : 23 Ant. pol. : HORIZONTAL

Engineer : Mickey



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Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C PK
Env. / Ins. : 18.6*C&53%/N9030A

EUT : LED lamp : 9290011369A Power Rating: 120Vac/60Hz Test Mode : TX CH25 2475MHz

Memo

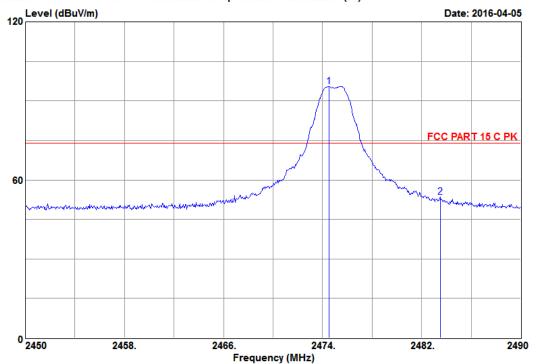
	-	Factor	Reading	Factor			Margin (dB)	Remark	
_	2475.50 2483.50	28.66 28.66	 99.84 55.62		99.19 54.97	74.00 74.00	-25.19 19.03	Peak Peak	_

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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EUT : LED lamp
M/N : 9290011369A
Power Rating: 120Vac/60Hz
Test Mode : TX CH25 2475MHz

Memo :

	Freq. (MHz)	Ant. Factor (dB)	Loss	Reading	Factor		on Limits (dBuV∕m)	Margin (dB)	Remark
_	2474.50	28.66	5.18	96.22	34.49	95.57	74.00	-21.57	Peak
	2483.50	28.66	5.18	54.03	34.49	53.38	74.00	20.62	Peak

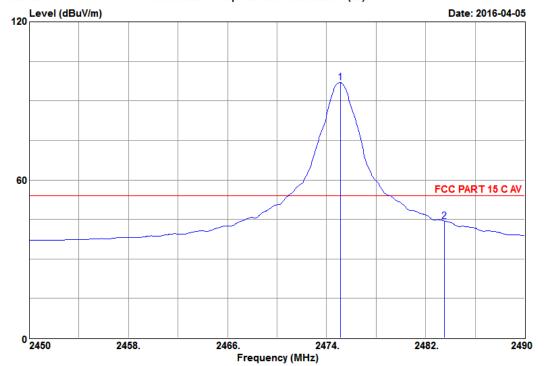
Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.

2. The emission levels that are 20dB below the official limit are not reported.



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





Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C AV
Env. / Ins. : 18.6*C&53%/N9030A

EUT : LED lamp
M/N : 9290011369A
Power Rating: 120Vac/60Hz
Test Mode : TX CH25 2475MHz

Memo :

Data NO. : 25
Ant. pol. : HORIZONTAL

Engineer : Mickey

	Freq. (MHz)	Ant. Factor (dB)					on Limits (dBuV/m)	Margin (dB)	Remark
_	2475.10	28.66	5.18	97.56	34.49	96.91	54.00	-42.91	Average
	2483.50	28.66	5.18	45.04	34.49	44.39	54.00	9.61	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.



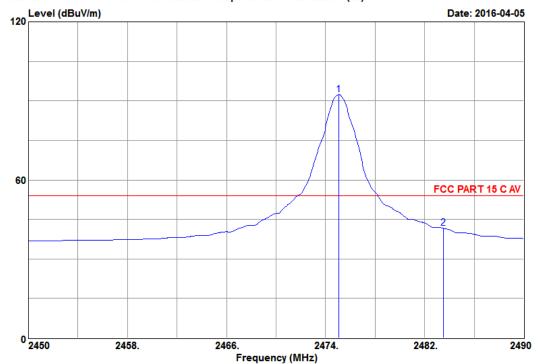
Audix Technology(Wujiang)Co.,Ltd.
No.1289,Jiang Xing East Road,The Eastern Part of Wu Jiang Economic Development Zone,JiangSu,China
Tel:(0512)63403993 Fax:(0512)63403993

Data NO. : 26 Ant. pol. : VERTICAL

Average

Engineer : Mickey





Site NO. : 3m Semi-Anechoic Chamber
Dis. / Ant. : 3m 3115-62960-150630
Limit : FCC PART 15 C AV
Env. / Ins. : 18.6*C&53%/N9030A

2 2483.50 28.66 5.18 42.27 34.49 41.62

EUT : LED lamp
M/N : 9290011369A
Power Rating: 120Vac/60Hz
Test Mode : TX CH25 2475MHz

Memo :

		Ant.	Cable	2	Preamp	- Emissio	on		
	Freq. (MHz)	Factor (dB)					Limits (dBuV/m)		Remark
1	2475.05	28.66	5.18	92.97	34.49	92.32	54.00	-38.32	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.

54.00

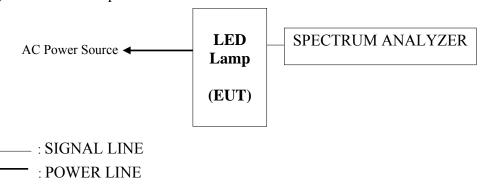
12.38

5. 6 dB BANDWIDTH MEASUREMENT

5.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22

5.2. Block Diagram of Test Setup



5.3. Specification Limits (§15.247(a)(2))

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500kHz.

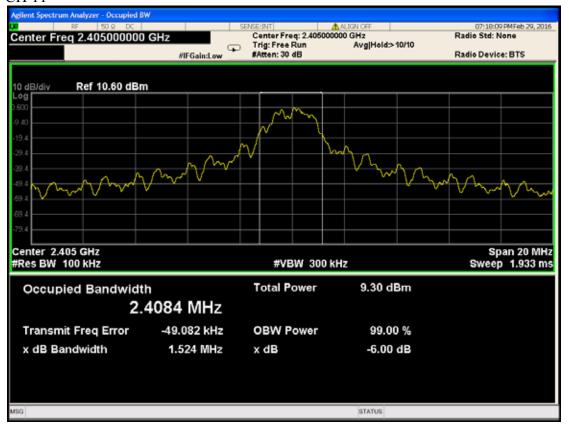
5.4. Test Procedure

The transmitter output was connected to the test receiver / spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB. The measurement guideline was according to KDB558074 v03r05.

5.5. Test Results

PASSED. All the test results are attached in next pages.

Channel	Center Frequency(MHz)	6 dB Bandwidth(MHz)		
11	2405	1.524		
20	2450	1.611		
25	2475	1.611		





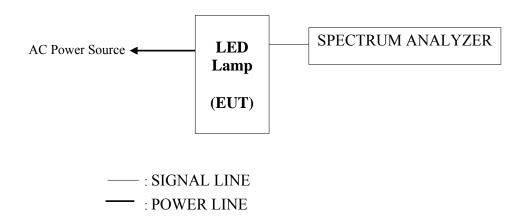


6. OUTPUT POWER MEASUREMENT

6.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22

6.2. Block Diagram of Test Setup



6.3. Specification Limits (§15.247(b)(3))

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

6.4. Test Procedure

- a) Set span to at least 1.5 times the OBW.
- b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
- c) Set VBW \geq 3 x RBW.
- d) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This gives bin-to-bin spacing $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
- e) Sweep time = auto.
- f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- g) If transmit duty cycle < 98%, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle $\ge 98\%$, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".
- h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- i) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

6.5. Test Results

PASSED. All the test results are attached in next pages.

Channel	Frequency	Power(dBm)	Limit(dBm)
11	2405	4.69	30
20	2450	4.52	30
25	2475	4.31	30

7. BAND EDGES MEASUREMENT

7.1. Test Equipment

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22

7.2. Block Diagram of Test Setup

The same as section 5.2.

7.3. Specification Limits (§15.247(d))

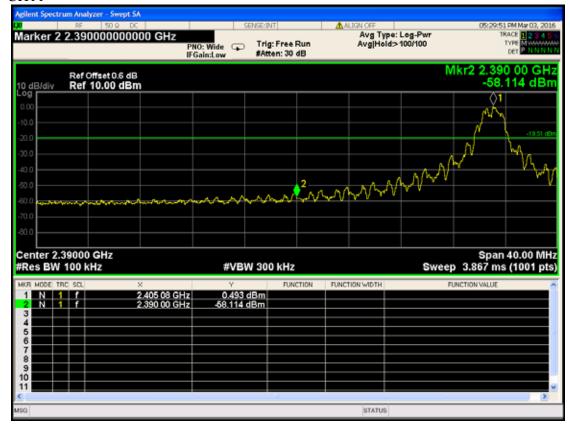
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

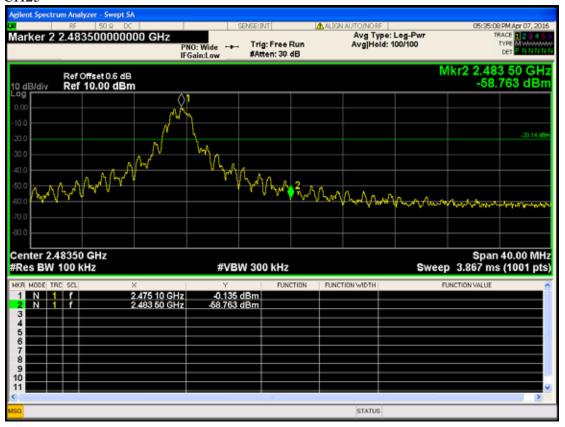
7.4. Test Procedure

The transmitter output was connected to the test receiver / spectrum analyzer. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz with suitable frequency span including 100kHz bandwidth from band edge.

7.5. Test Results

PASSED. The testing data was attached in the next pages.





8. POWER SPECTRAL DENSITY MEASUREMENT

8.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22

8.2. Block Diagram of Test Setup

The same as section 5.2.

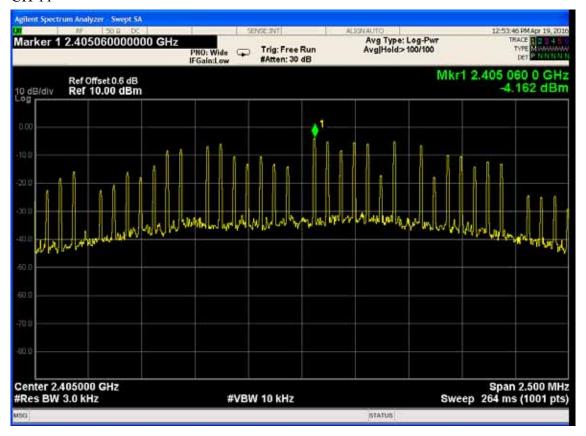
8.3. Specification Limits (§15.247(e))

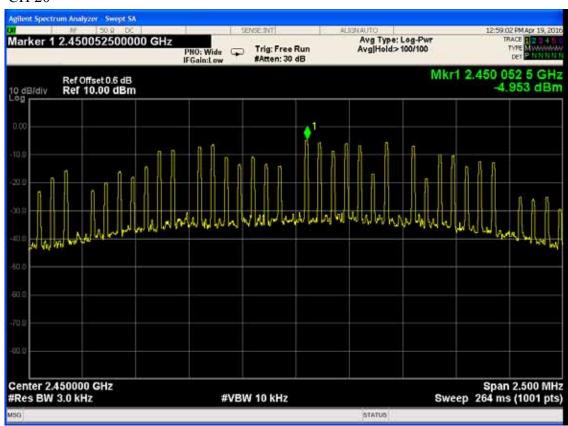
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

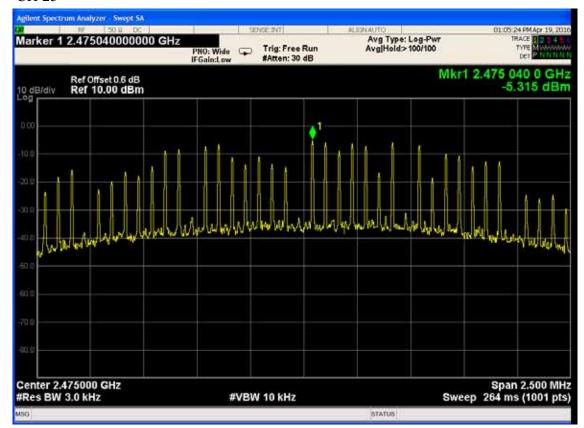
8.4. Test Results

PASSED. All the test results are attached in next page.

Channel	Frequency(GHz)	Value(dBm/3kHz) -4.162		
11	2.405			
20	2.450	-4.953		
25	2.475	-5.315		







9. EMISSION LIMITATIONS MEASUREMENT

9.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22

9.2. Block Diagram of Test Setup

The same as section 5.2.

9.3. Specification Limits (§15.247(d))

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

9.4. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set RBW = 100 kHz, VBW $\geq 300 \text{kHz}$, scan up through 10 th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. The measurement guideline was according to KDB558074 v03r05.

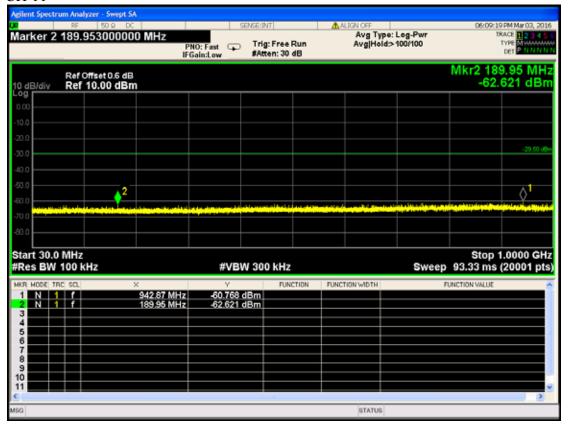
9.5. Test Results

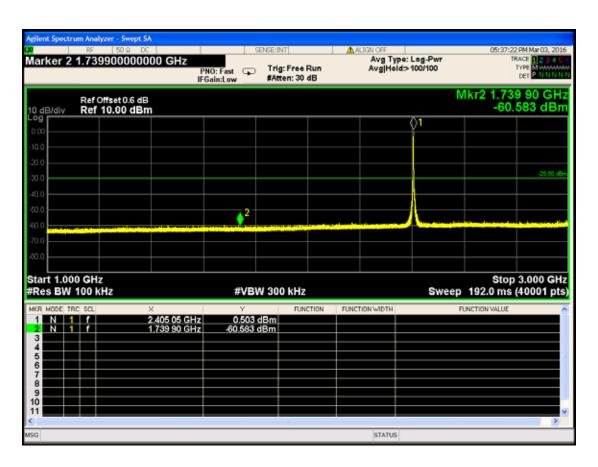
PASSED. All the test results are attached in next pages.

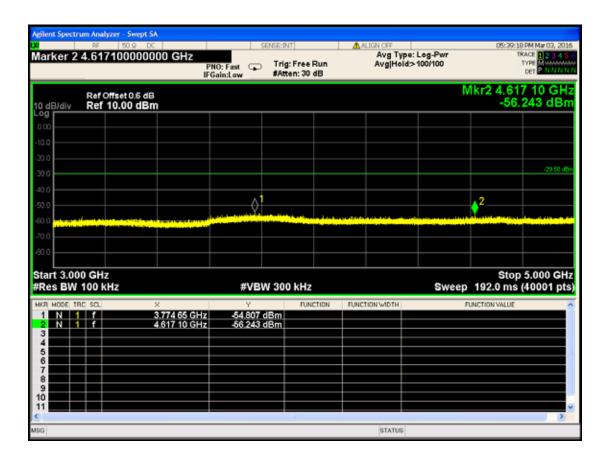
Channel	Frequency(MHz)	Amplitude(dBm)		
	942.87	-60.768		
	189.95	-62.621		
	2405.05	0.503		
	1739.90	-60.583		
	3774.65	-54.807		
	4617.10	-56.243		
	5088.05	-55.114		
	6445.30	-56.667		
	7216.10	-53.540		
	8093.75	-56.251		
	10631.80	-55.953		
	9912.20	-56.125		
11	11007.25	-56.000		
11	11481.25	-56.522		
	14602.35	-56.089		
	14031.50	-56.222		
	16663.60	-55.800		
	15716.50	-56.176		
	18968.20	-54.380		
	17904.55	-55.487		
	19780.35	-52.993		
	20553.00	-56.412		
	22012.35	-53.024		
	22830.90	-53.184		
	23876.85	-52.635		
	24038.95	-52.791		
	760.56	-60.194		
	308.92	-61.619		
20	2450.05	-0.075		
20	2121.80	-59.754		
	3871.10	-55.136		
	4900.90	-55.640		

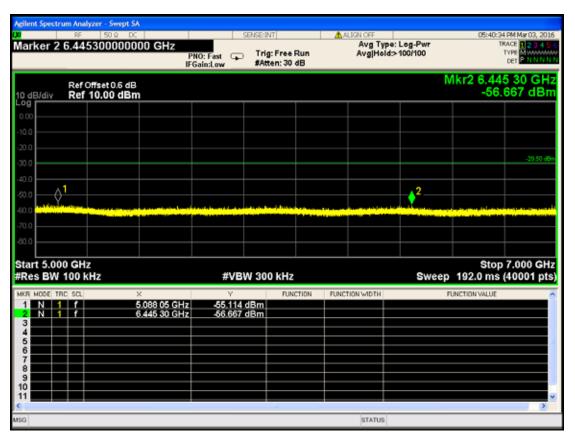
	5068.40	-55.000	
	6041.00	-56.645	
	7348.50	-54.683	
	8167.80	-55.383	
	9045.45	-55.667	
	10706.55	-56.077	
	11055.80	-56.923	
	12011.90	-57.073	
	13611.20	-55.269	
	14041.55	-55.689	
	15339.90	-56.104	
	16146.65	-56.370	
	18971.45	-53.742	
	17351.45	-55.572	
	19113.95	-53.894	
	20758.80	-54.354	
	22303.30	-53.751	
	21575.90	-54.956	
	23855.90	-53.139	
	24363.85	-53.363	
	790.14	-60.666	
	445.06	-61.683	
	2475.05	-0.446	
	2237.10	-61.179	
	3777.65	-54.889	
	4731.20	-56.062	
	5164.65	-55.975	
	6276.15	-57.351	
25	8923.40	-55.532	
	7423.50	-56.496	
	10687.60	-56.114	
	10180.15	-56.192	
	12722.25	-56.426	
	11148.25	-56.657	
	14618.45	-55.448	
	13672.55	-55.766	
	15327.55	-56.031	

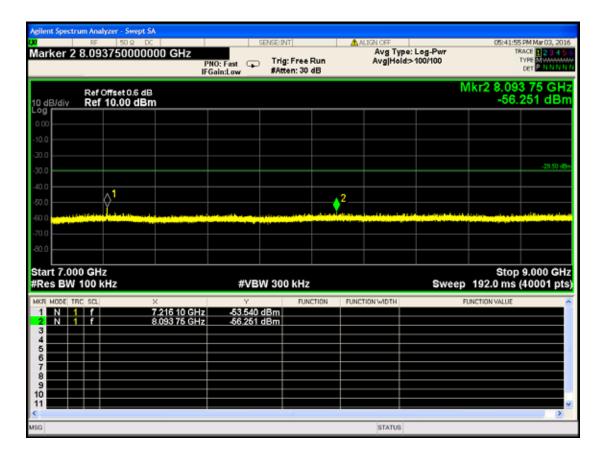
16588.95	-56.575
18637.20	-54.004
17696.30	-55.490
19232.85	-53.678
20546.00	-55.215
21903.25	-52.995
22560.55	-53.109
23645.85	-52.082
24370.95	-53.149

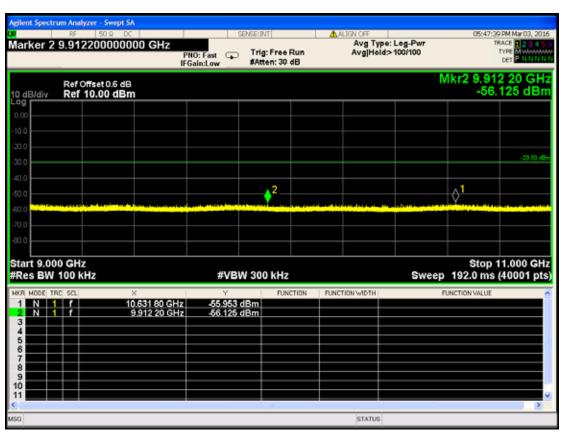


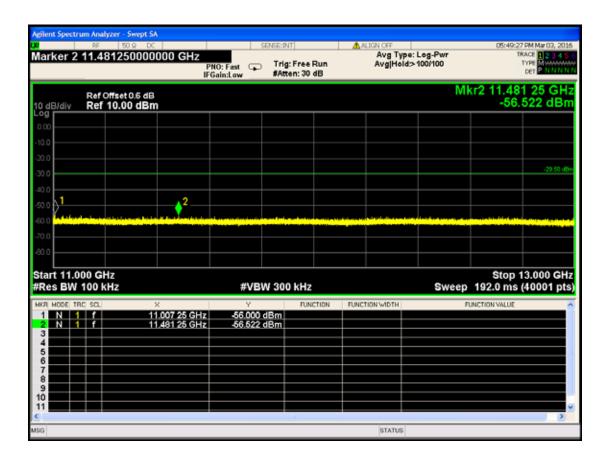


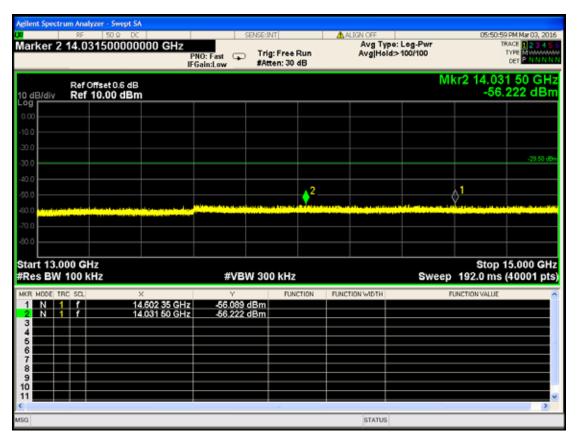


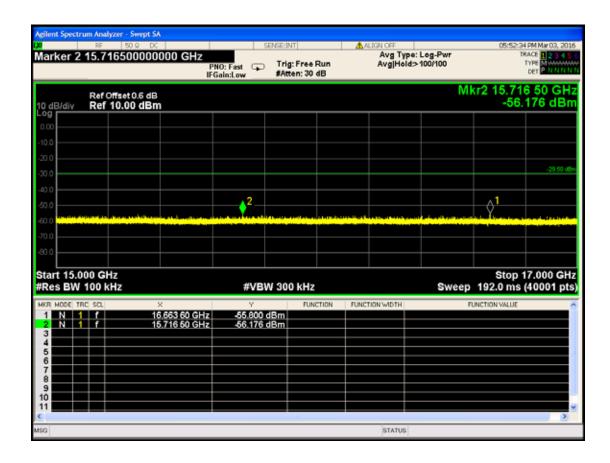


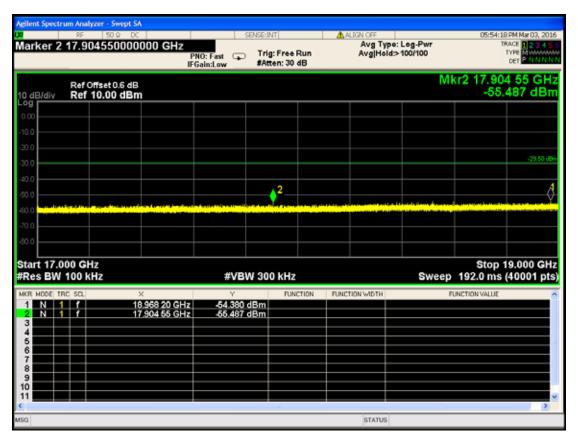


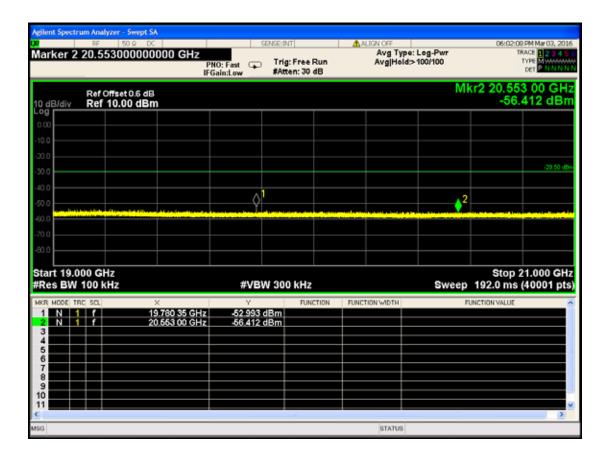


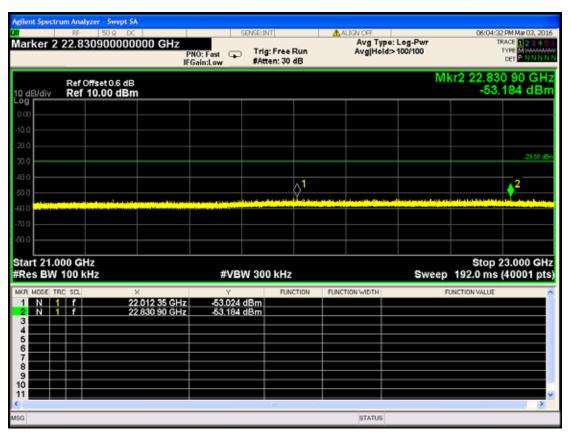


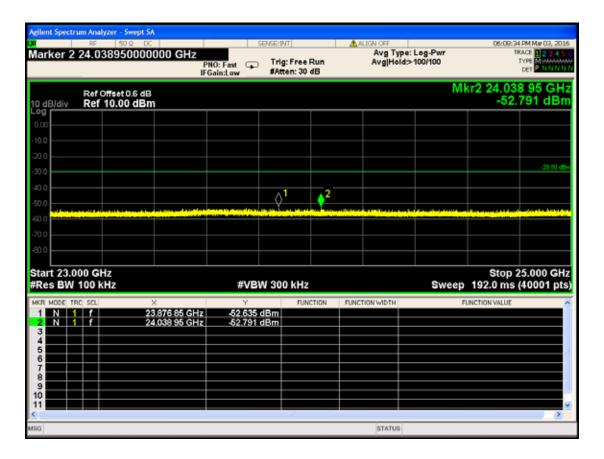


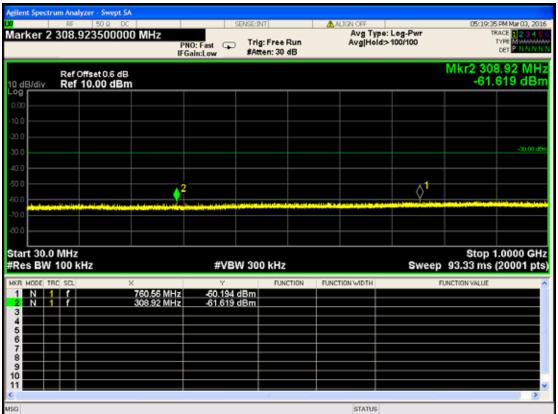


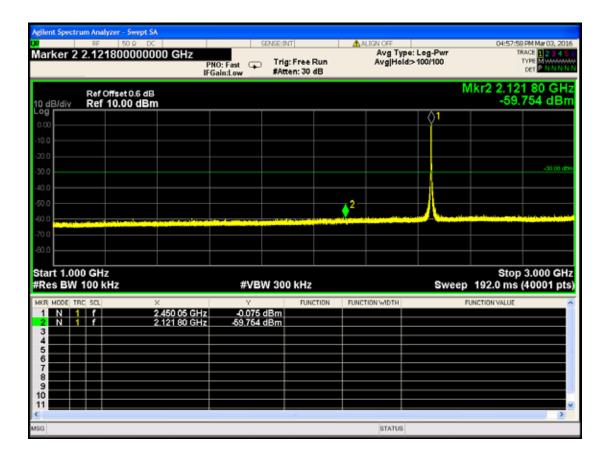


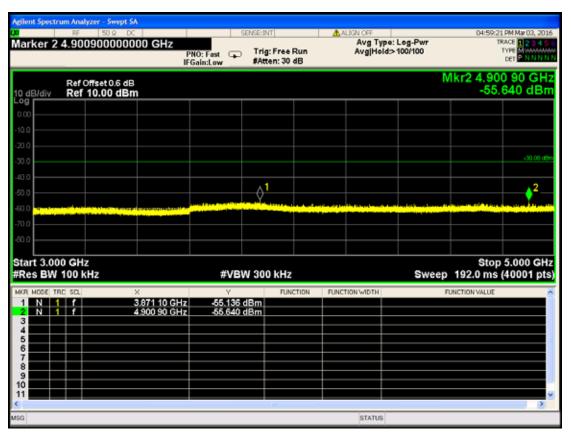


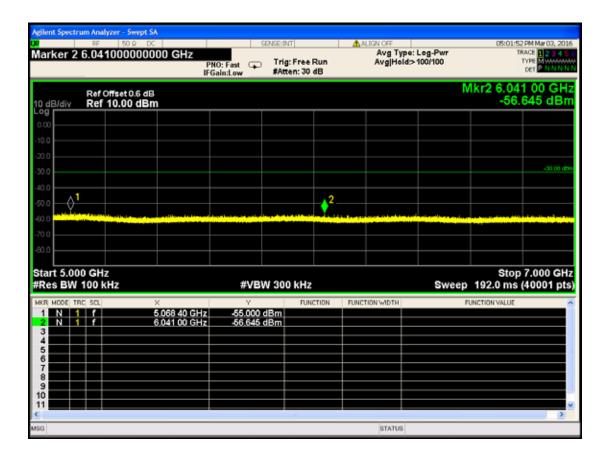


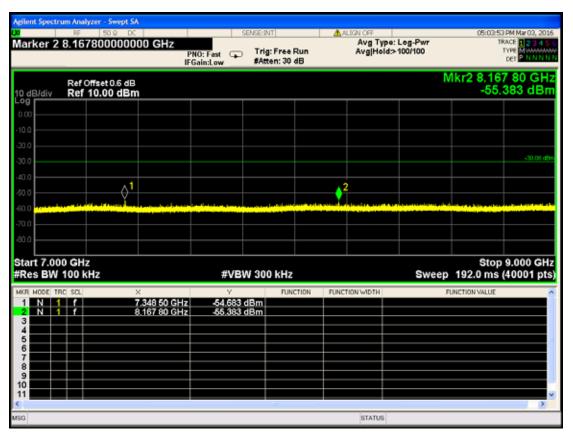


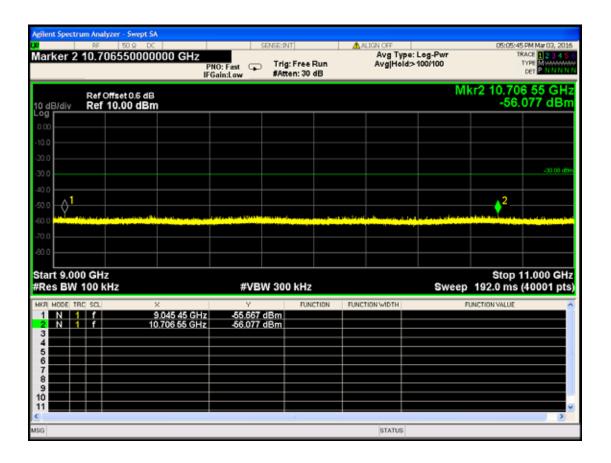


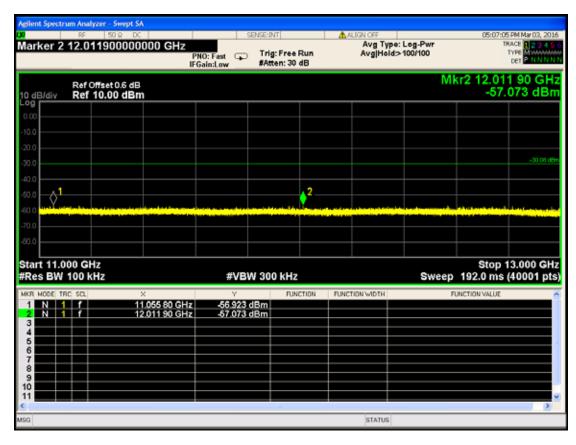


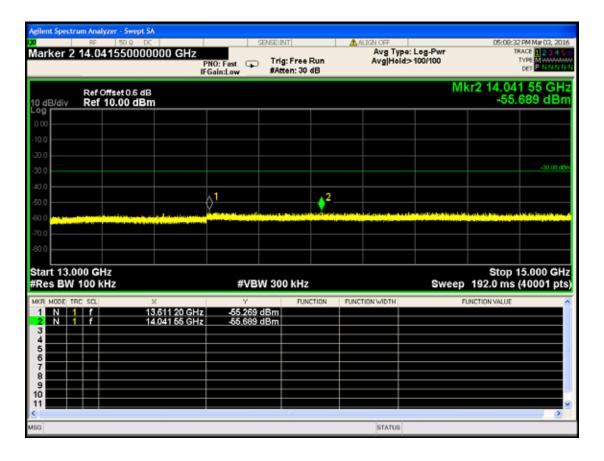


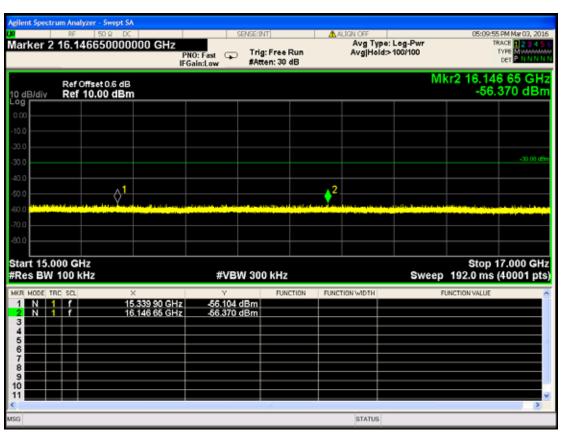


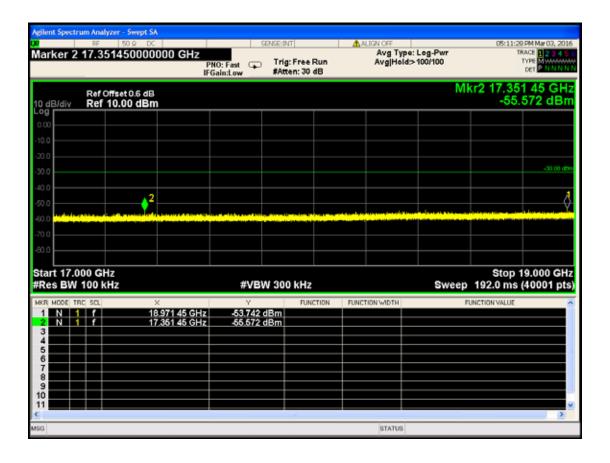


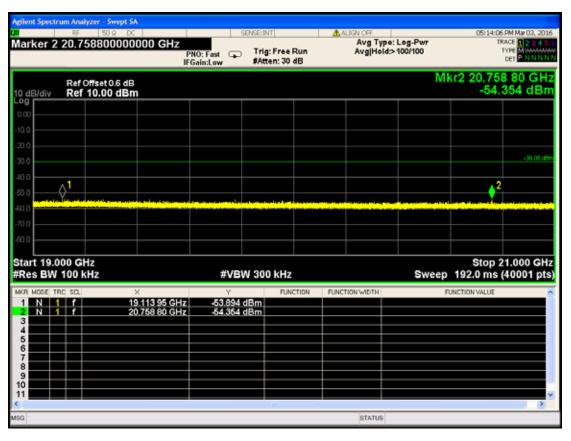


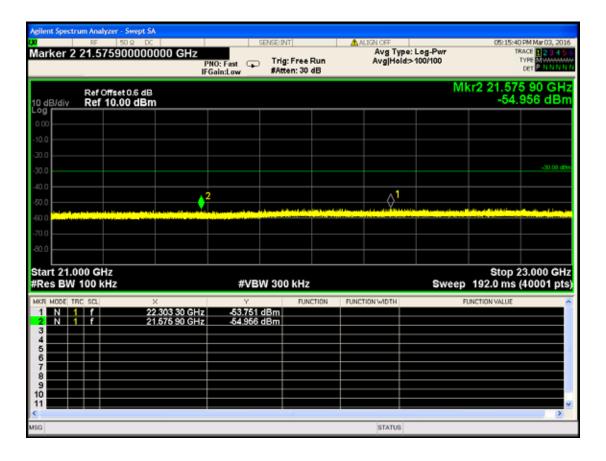


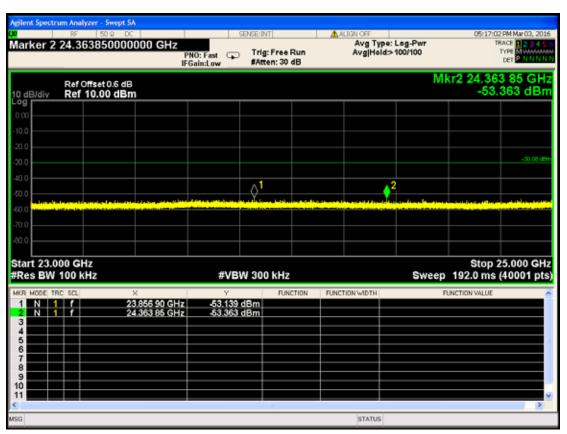


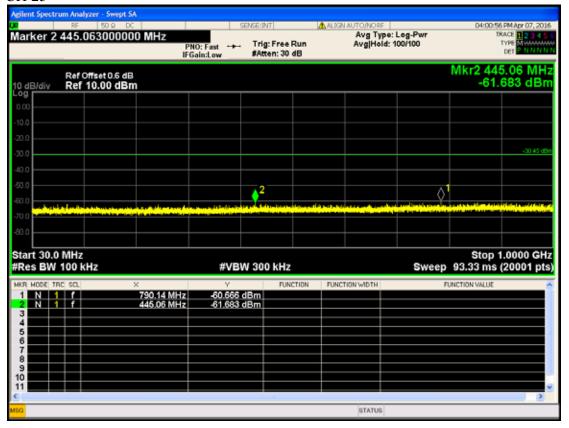


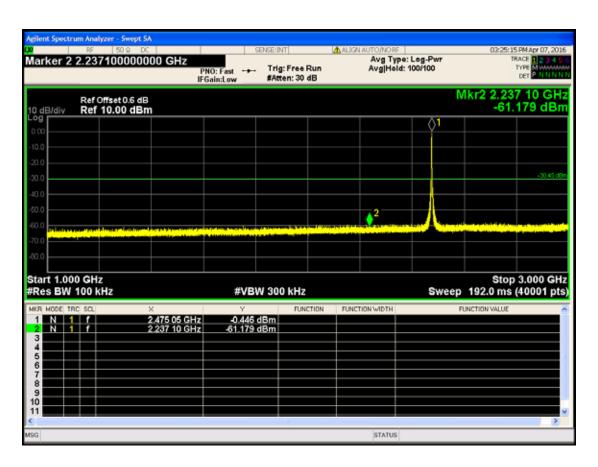


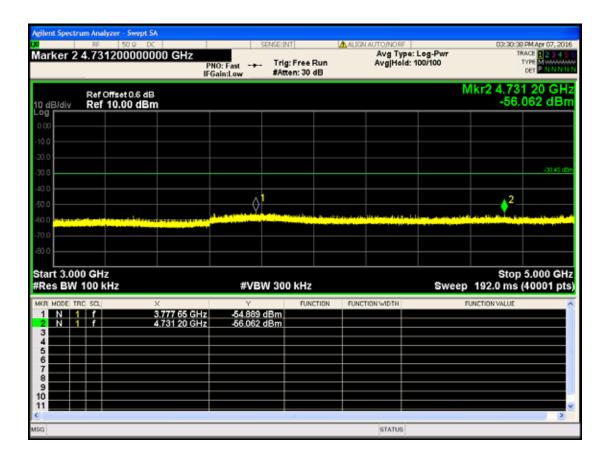


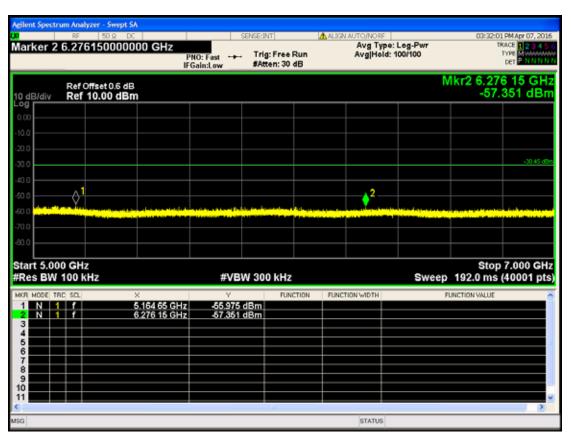


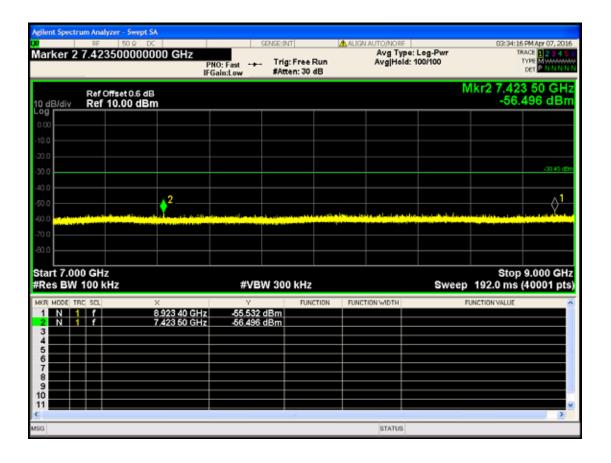


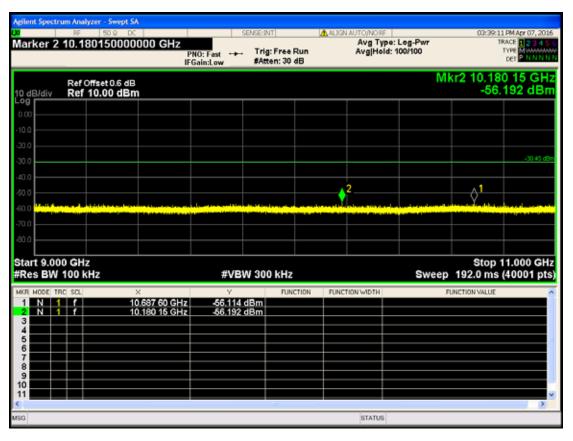


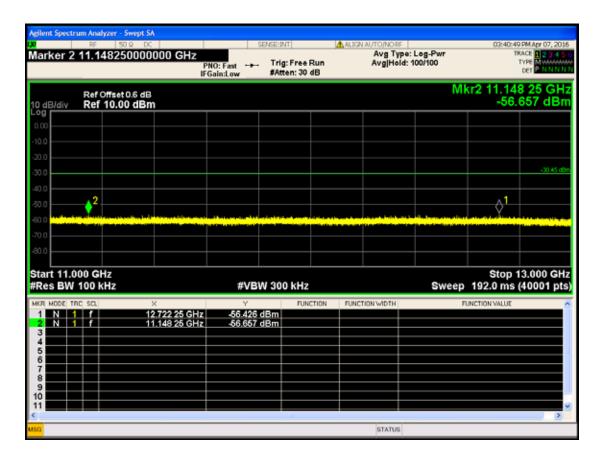


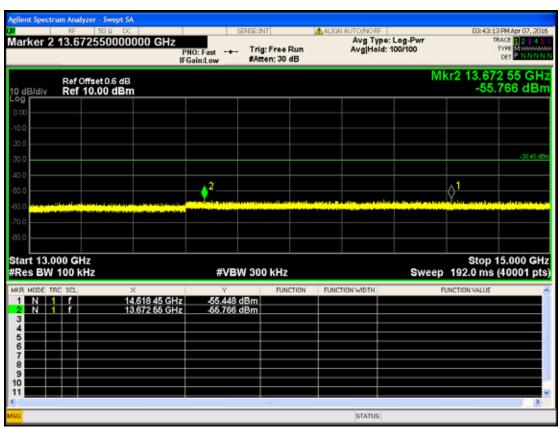


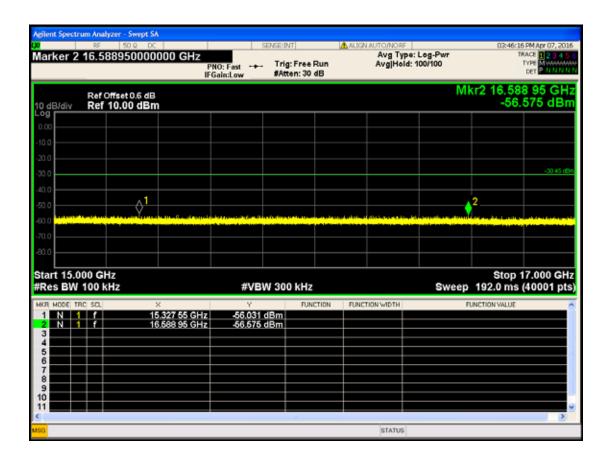


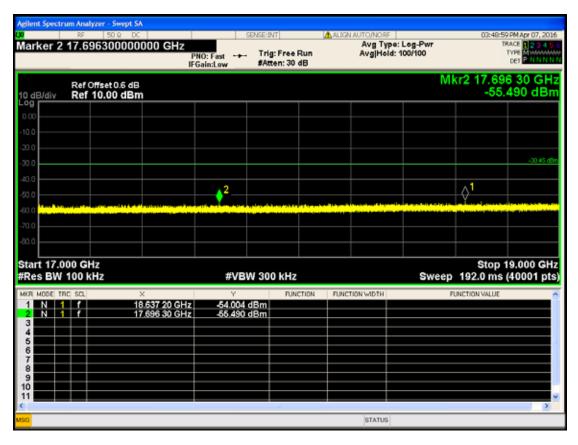


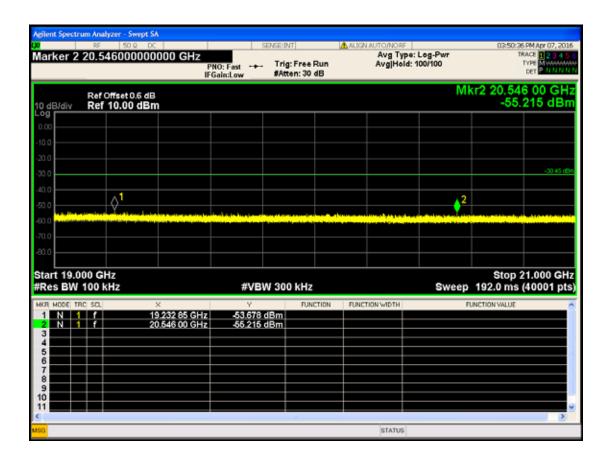


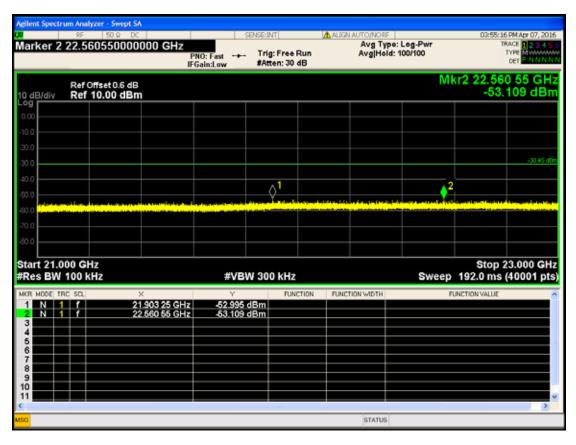


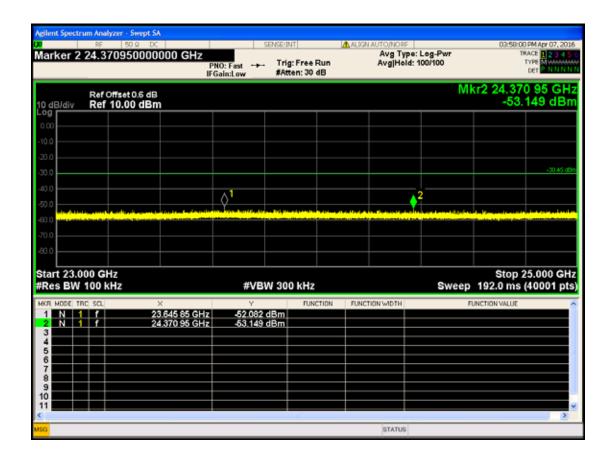












10.DUTY CYCLE

10.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22

10.2. Test Results

The measurement of duty cycle is 100%.



11.DEVIATION TO TEST SPECIFICATIONS

[NONE]