

APPLICATION FOR CERTIFICATION  
On Behalf of  
Philips Lighting(China) Investment Co., Ltd.  
LED Lamp

Model No. : 9290012575

Brand : Philips

FCC ID : 2AGBW9290012575X

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

Tel : +86-512-63403993  
Fax :+86-512-63403339

Report Number : ACWE-F1604007  
Date of Test : Feb.27~Mar.05, 2016  
Date of Report : May.06, 2016

## TABLE OF CONTENTS

<u>Description</u>	<u>Page</u>
TEST REPORT CERTIFICATION .....	4
<b>1. SUMMARY OF MEASUREMENTS AND RESULTS .....</b>	<b>5</b>
<b>2. GENERAL INFORMATION.....</b>	<b>6</b>
2.1.Description of Device (EUT).....	6
2.2.Description of Test Facility .....	7
2.3.Measurement Uncertainty.....	8
<b>3. CONDUCTED EMISSION MEASUREMET .....</b>	<b>9</b>
3.1.Test Equipment .....	9
3.2.Block Diagram of Test Setup.....	9
3.3.Power line Conducted Emission Limit .....	9
3.4.Test Procedure .....	10
3.5.Conducted Emission Measurement Results.....	10
<b>4. RADIATED EMISSION MEASUREMENT .....</b>	<b>17</b>
4.1.Test Equipment .....	17
4.2.Block Diagram of Test Setup.....	17
4.3.Radiated Emission Limits.....	18
4.4.Test Procedure .....	18
4.5.Measurement Results.....	20
4.6.Restricted Bands Measurement Results (For Below 1GHz).....	21
4.7.Restricted Bands Measurement Results (For Above 1GHz) .....	27
4.8.Spurious Emission Measurement Results in Band Edge Emission (FCC Part 15, 15.205).....	33
<b>5. 6 DB BANDWIDTH MEASUREMENT .....</b>	<b>45</b>
5.1.Test Equipment .....	45
5.2.Block Diagram of Test Setup.....	45
5.3.Specification Limits (§15.247(a)(2)) .....	45
5.4.Test Procedure .....	45
5.5.Test Results.....	45
<b>6. OUTPUT POWER MEASUREMENT.....</b>	<b>48</b>
6.1.Test Equipment .....	48
6.2.Block Diagram of Test Setup.....	48
6.3.Specification Limits (§15.247(b)(3)).....	48
6.4.Test Procedure .....	49
6.5.Test Results.....	49
<b>7. BAND EDGES MEASUREMENT .....</b>	<b>50</b>
7.1.Test Equipment .....	50
7.2.Block Diagram of Test Setup.....	50
7.3.Specification Limits (§15.247(d)).....	50
7.4.Test Procedure .....	50
7.5.Test Results.....	50
<b>8. POWER SPECTRAL DENSITY MEASUREMENT .....</b>	<b>52</b>
8.1.Test Equipment .....	52
8.2.Block Diagram of Test Setup.....	52
8.3.Specification Limits (§15.247(e)).....	52
8.4.Test Results.....	52
<b>9. EMISSION LIMITATIONS MEASUREMENT .....</b>	<b>55</b>
9.1.Test Equipment .....	55
9.2.Block Diagram of Test Setup.....	55
9.3.Specification Limits (§15.247(d)).....	55
9.4.Test Procedure .....	55
9.5.Test Results.....	56

<b>10. DUTY CYCLE .....</b>	<b>79</b>
10.1. Test Equipment.....	79
10.2. Test Results .....	79
<b>11. DEVIATION TO TEST SPECIFICATIONS .....</b>	<b>80</b>

## 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.  
 Factory#3 : Honor Tone Ltd  
 EUT Description : LED Lamp  
 FCC ID : 2AGBW9290012575X  
 (A) Model No. : 9290012575  
 (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: May.06, 2016

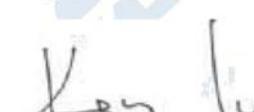
Prepared by

:   
 (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 11.05 dB at 0.15 MHz
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 9.61 dB at 30.25 MHz
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 28.05 dB 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 15.279 dB 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.	:	9290012575
FCC ID	:	2AGBW9290012575X
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 Guangdong 523000 China
Factory#3	:	Honor Tone Ltd Mun Industrial Zone, Danshui, Huiyang, Huizhou Guangdong 516211 CN
Radio Technology	:	IEEE 802.15.4 (ZigBee®)
Antenna Gain	:	1.5dBi
Fundamental Range	:	2405 MHz -2475MHz
Tested Frequency	:	2405MHz (CH11) 2450MHz (CH20) 2475MHz (CH25) 2480MHz (CH26)
Channel Setting Method	:	Channel is changed according to EUT's power on or power off.
Highest Working Frequency	:	2.4GHz
Power Rating	:	10W

Modulation type : O-QPSK  
 Date of Receipt of Sample : Feb.25, 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 (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

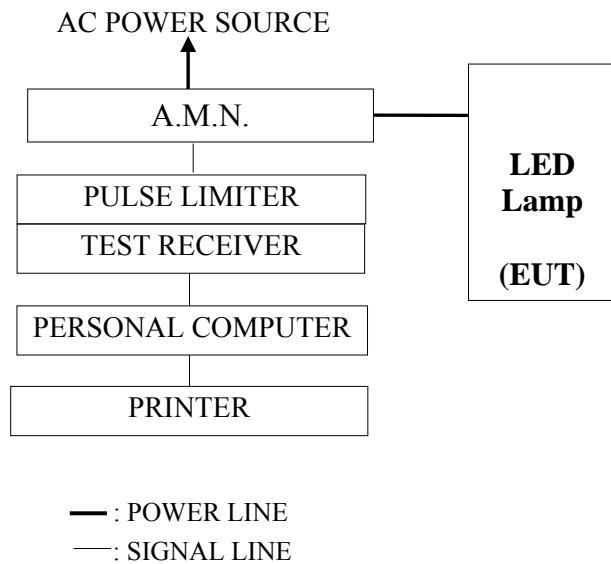
Remark: Uncertainty =  $ku_c(y)$

### 3. CONDUCTED EMISSION MEASUREMET

#### 3.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCI	100839	2016-01-05	2017-01-04
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



#### 3.3. 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 $\mu$ V	56 ~ 46 dB $\mu$ V
500kHz ~ 5MHz	56 dB $\mu$ V	46 dB $\mu$ V
5MHz ~ 30MHz	60 dB $\mu$ V	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  $50\Omega$  resistor. For the measurement, the A.M.N measuring port was terminated by a  $50\Omega$  measuring equipment and the second L.I.S.N measuring port was terminated by a  $50\Omega$  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:

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%

Mode	Test Condition	Reference Test Data No.	
		Neutral	Line
1	<b>TX CH11 2405MHz</b>	# 1	# 2
2	TX CH20 2450MHz	# 3	# 4
3	TX CH25 2475MHz	# 5	# 6

NOTE 1- ‘ ’means the worst test mode.

NOTE 2- The worst emission is detected at 0.15 MHz with emission level of 54.84 dB ( $\mu$ V) and with QP detector (Limit is 65.89 dB ( $\mu$ V)), when the Neutral of the EUT is connected to AMN.

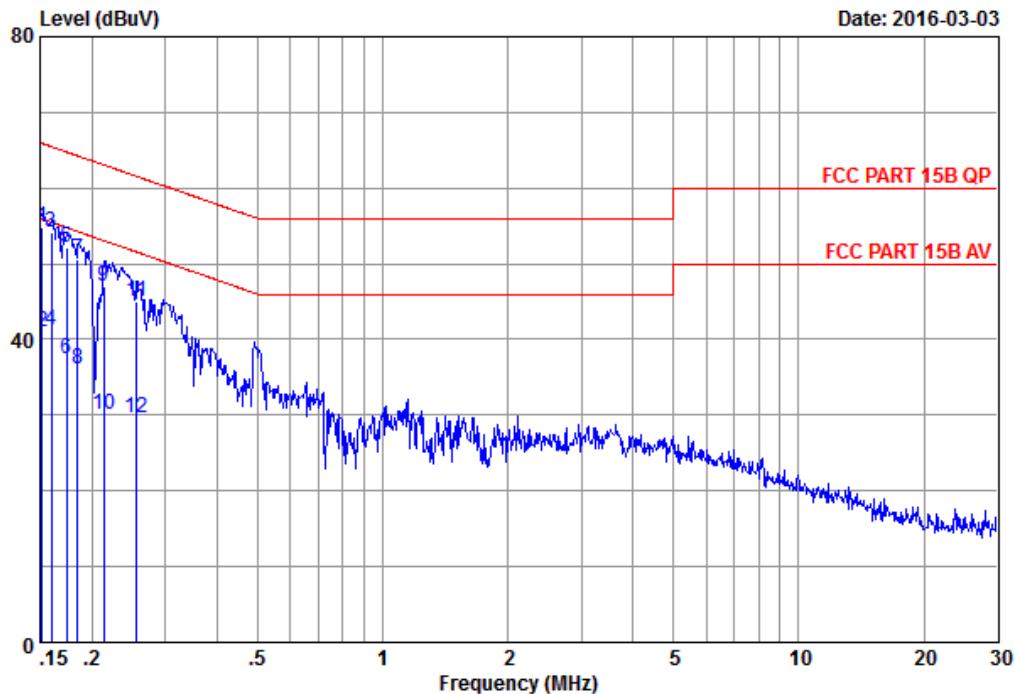


Audix Technology(Wujiang)Co.,Ltd.  
No.1289, Jiang Xing East Road, Eastern Part of WuJiang  
Economic Development Zone, JiangSu, China  
Tel:0512-63403993 Fax:0512-63403339

Data: 1

File: F:\2016Test Data\Report\3\G1603010.EM6 (18)

Date: 2016-03-03



Site no.	: No.1 Conducted shielding Enclosure	Data no.	: 1
AMN/LISN	: ESH2-Z5-1505	Phase	: NEUTRAL
Limit	: FCC PART 15B QP		
Env. / Ins.	: 22.1*C&57%ESCI	Engineer	: KM.Tong
EUT	: LED Lamp		
M/N	: 9290012575		
Power Rating	: 120Vac/60Hz		
Test mode	: TX CH11 2405MHz		
Memo	:		
	:		
	:		
	:		

Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 0.15	0.15	9.89	44.80	54.84	65.89	11.05	QP
2 0.15	0.15	9.89	31.00	41.04	55.89	14.85	Average
3 0.16	0.15	9.89	44.00	54.04	65.46	11.42	QP
4 0.16	0.15	9.89	31.20	41.24	55.46	14.22	Average
5 0.17	0.15	9.89	42.00	52.04	64.77	12.73	QP
6 0.17	0.15	9.89	27.30	37.34	54.77	17.43	Average
7 0.19	0.15	9.89	40.60	50.64	64.26	13.62	QP
8 0.19	0.15	9.89	26.00	36.04	54.26	18.22	Average
9 0.21	0.15	9.89	37.00	47.04	63.09	16.05	QP
10 0.21	0.15	9.89	20.00	30.04	53.09	23.05	Average
11 0.26	0.15	9.89	35.01	45.05	61.56	16.51	QP
12 0.26	0.15	9.89	19.51	29.55	51.56	22.01	Average

## Remarks:

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

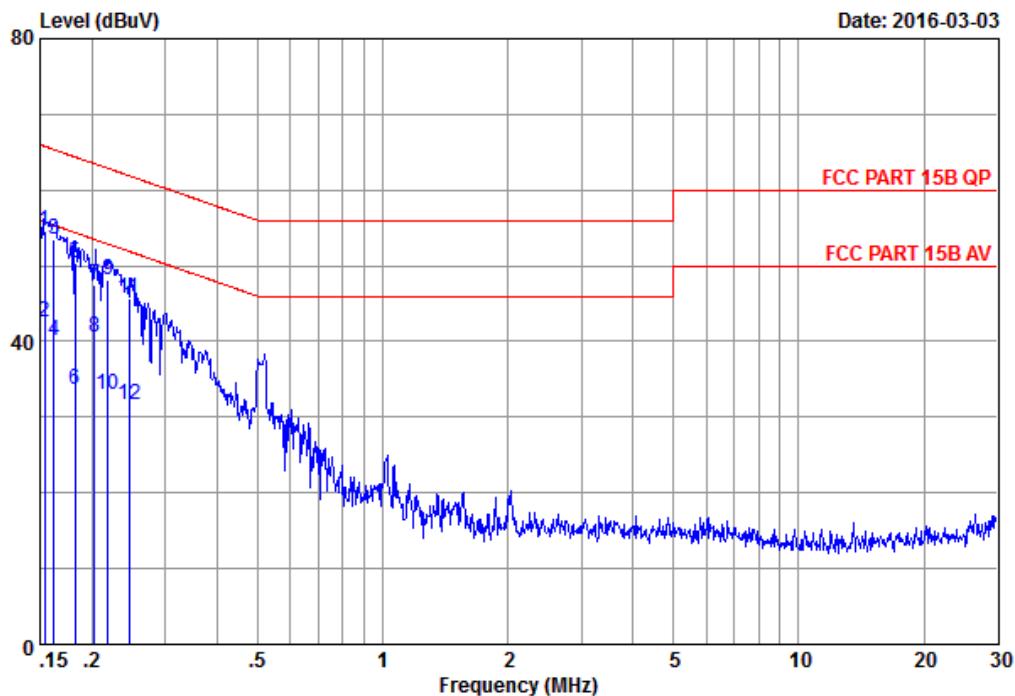


Audix Technology(Wujiang)Co.,Ltd.  
No.1289, Jiang Xing East Road, Eastern Part of WuJiang  
Economic Development Zone, JiangSu, China  
Tel:0512-63403993 Fax:0512-63403339

Data: 2

File: F:\2016Test Data\Report\3\G1603010.EM6 (18)

Date: 2016-03-03



Site no.	: No.1 Conducted shielding Enclosure	Data no.	: 2
AMN/LISN	: ESH2-Z5-1505	Phase	: LINE
Limit	: FCC PART 15B QP		
Env. / Ins.	: 22.1*C&57%ESCI	Engineer	: KM.Tong
EUT	: LED Lamp		
M/N	: 9290012575		
Power Rating	: 120Vac/60Hz		
Test mode	: TX CH11 2405MHz		
Memo	:		
	:		
	:		
	:		

Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 0.15	0.16	9.89	44.50	54.55	65.78	11.23	QP
2 0.15	0.16	9.89	32.50	42.55	55.78	13.23	Average
3 0.16	0.16	9.89	43.50	53.55	65.36	11.81	QP
4 0.16	0.16	9.89	30.00	40.05	55.36	15.31	Average
5 0.18	0.15	9.89	40.30	50.34	64.39	14.05	QP
6 0.18	0.15	9.89	23.50	33.54	54.39	20.85	Average
7 0.20	0.15	9.89	37.50	47.54	63.49	15.95	QP
8 0.20	0.15	9.89	30.50	40.54	53.49	12.95	Average
9 0.22	0.15	9.89	38.00	48.04	62.86	14.82	QP
10 0.22	0.15	9.89	23.00	33.04	52.86	19.82	Average
11 0.25	0.15	9.89	35.61	45.65	61.89	16.24	QP
12 0.25	0.15	9.89	21.61	31.65	51.89	20.24	Average

## Remarks:

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

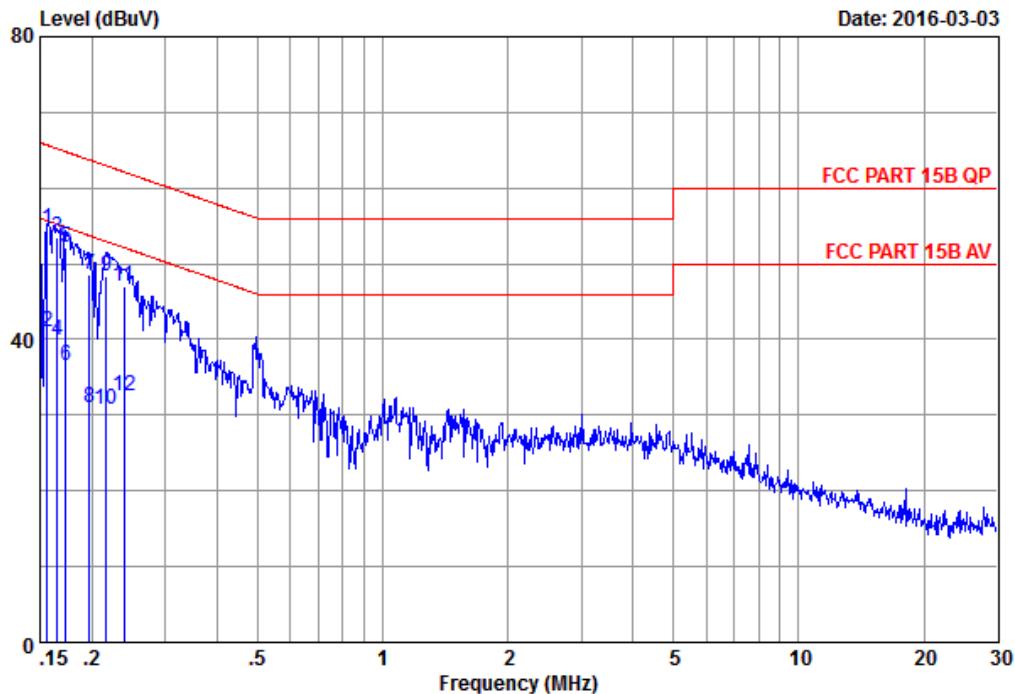


Audix Technology(Wujiang)Co.,Ltd.  
No.1289, Jiang Xing East Road, Eastern Part of WuJiang  
Economic Development Zone, JiangSu, China  
Tel:0512-63403993 Fax:0512-63403339

Data: 3

File: F:\2016Test Data\Report\3\G1603010.EM6 (18)

Date: 2016-03-03



Site no. : No.1 Conducted shielding Enclosure  
AMN/LISN . : ESH2-Z5-1505  
Limit : FCC PART 15B QP  
Env. / Ins. : 22.1\*C&57%ESCI  
EUT : LED Lamp  
M/N : 9290012575  
Power Rating : 120Vac/60Hz  
Test mode : TX CH20 2450MHz  
Memo :

.....  
.....  
.....

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

Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 0.16	0.15	9.89	44.50	54.54	65.67	11.13	QP
2 0.16	0.15	9.89	31.00	41.04	55.67	14.63	Average
3 0.17	0.15	9.89	43.50	53.54	65.21	11.67	QP
4 0.17	0.15	9.89	29.80	39.84	55.21	15.37	Average
5 0.17	0.15	9.89	42.00	52.04	64.82	12.78	QP
6 0.17	0.15	9.89	26.50	36.54	54.82	18.28	Average
7 0.20	0.15	9.89	38.50	48.54	63.74	15.20	QP
8 0.20	0.15	9.89	21.00	31.04	53.74	22.70	Average
9 0.22	0.15	9.89	38.30	48.34	62.97	14.63	QP
10 0.22	0.15	9.89	20.80	30.84	52.97	22.13	Average
11 0.24	0.15	9.89	37.01	47.05	62.13	15.08	QP
12 0.24	0.15	9.89	22.51	32.55	52.13	19.58	Average

## Remarks:

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

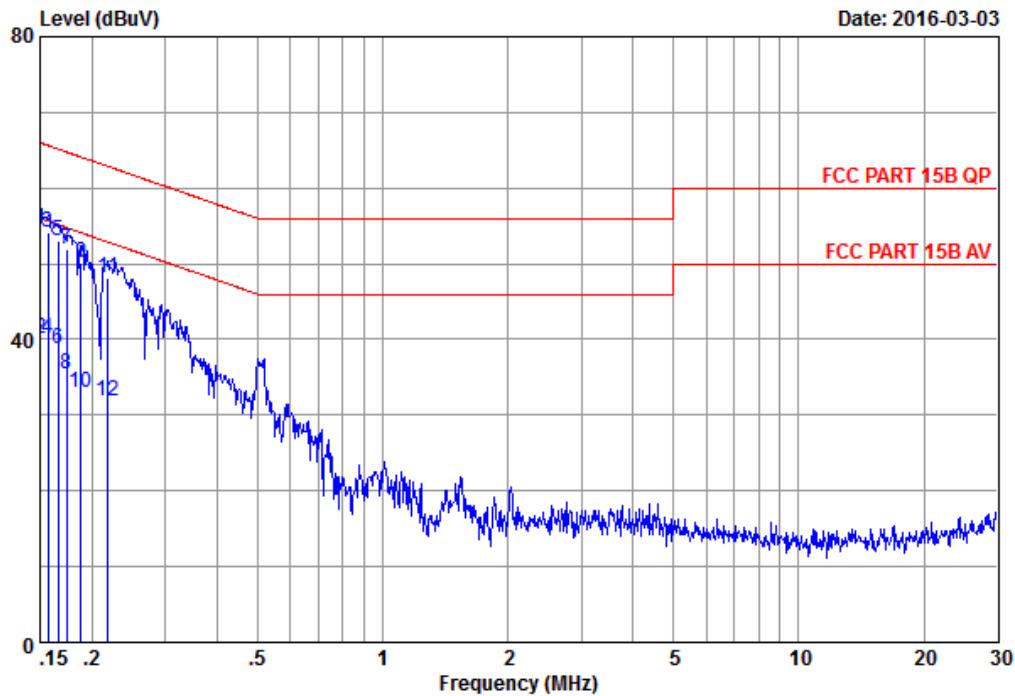


Audix Technology(Wujiang)Co.,Ltd.  
No.1289, Jiang Xing East Road, Eastern Part of WuJiang  
Economic Development Zone, JiangSu, China  
Tel:0512-63403993 Fax:0512-63403339

Data: 4

File: F:\2016Test Data\Report\3\G1603010.EM6 (18)

Date: 2016-03-03



Site no. : No.1 Conducted shielding Enclosure      Data no. : 4  
 AMN/LISN . : ESH2-Z5-1505      Phase : LINE  
 Limit : FCC PART 15B QP  
 Env. / Ins. : 22.1\*C&57%ESCI      Engineer : KM.Tong  
 EUT : LED Lamp  
 M/N : 9290012575  
 Power Rating : 120Vac/60Hz  
 Test mode : TX CH20 2450MHz  
 Memo :  
 :  
 :  
 :  
 :

Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 0.15	0.16	9.89	44.60	54.65	66.00	11.35	QP
2 0.15	0.16	9.89	30.00	40.05	56.00	15.95	Average
3 0.16	0.16	9.89	44.00	54.05	65.62	11.57	QP
4 0.16	0.16	9.89	30.00	40.05	55.62	15.57	Average
5 0.17	0.16	9.89	43.00	53.05	65.16	12.11	QP
6 0.17	0.16	9.89	28.80	38.85	55.16	16.31	Average
7 0.17	0.15	9.89	41.80	51.84	64.77	12.93	QP
8 0.17	0.15	9.89	25.50	35.54	54.77	19.23	Average
9 0.19	0.15	9.89	40.00	50.04	64.12	14.08	QP
10 0.19	0.15	9.89	23.00	33.04	54.12	21.08	Average
11 0.22	0.15	9.89	38.00	48.04	62.89	14.85	QP
12 0.22	0.15	9.89	21.80	31.84	52.89	21.05	Average

## Remarks:

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

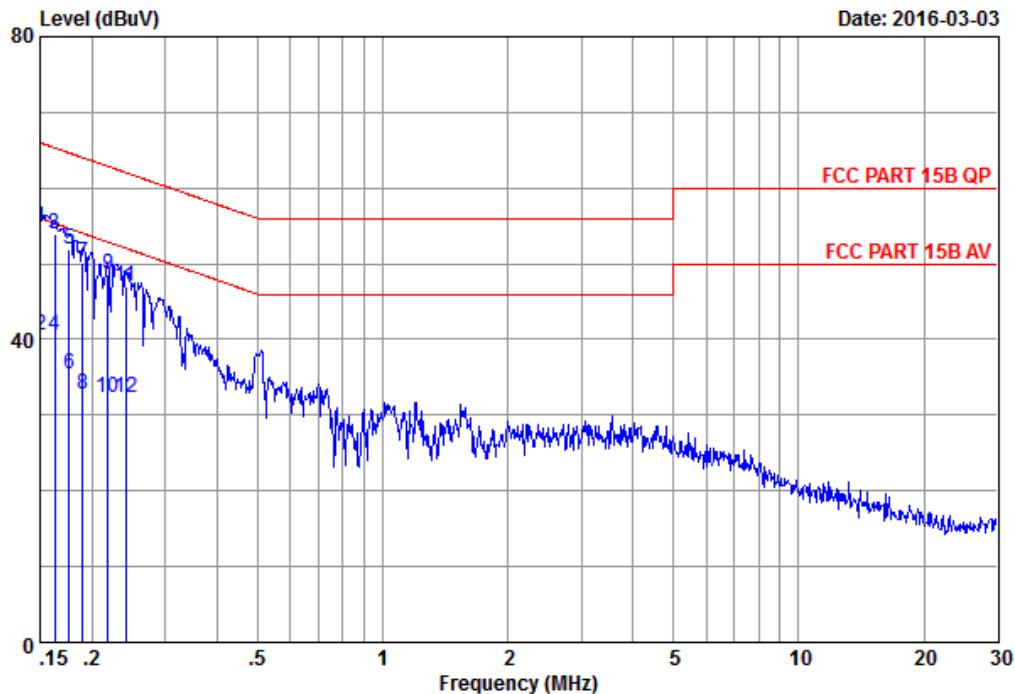


Audix Technology(Wujiang)Co.,Ltd.  
No.1289, Jiang Xing East Road, Eastern Part of WuJiang  
Economic Development Zone, JiangSu, China  
Tel:0512-63403993 Fax:0512-63403339

Data: 5

File: F:\2016Test Data\Report\3\G1603010.EM6 (18)

Date: 2016-03-03



Site no. : No.1 Conducted shielding Enclosure  
 AMN/LISN . : ESH2-Z5-1505  
 Limit : FCC PART 15B QP  
 Env. / Ins. : 22.1\*C&57%ESCI  
 EUT : LED Lamp  
 M/N : 9290012575  
 Power Rating : 120Vac/60Hz  
 Test mode : TX CH25 2475MHz  
 Memo :

.....  
 .....

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

Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 0.15	0.15	9.89	44.80	54.84	66.00	11.16	QP
2 0.15	0.15	9.89	30.50	40.54	56.00	15.46	Average
3 0.16	0.15	9.89	43.80	53.84	65.31	11.47	QP
4 0.16	0.15	9.89	30.50	40.54	55.31	14.77	Average
5 0.18	0.15	9.89	41.80	51.84	64.67	12.83	QP
6 0.18	0.15	9.89	25.30	35.34	54.67	19.33	Average
7 0.19	0.15	9.89	40.00	50.04	64.04	14.00	QP
8 0.19	0.15	9.89	22.80	32.84	54.04	21.20	Average
9 0.22	0.15	9.89	38.50	48.54	62.89	14.35	QP
10 0.22	0.15	9.89	22.20	32.24	52.89	20.65	Average
11 0.24	0.15	9.89	37.01	47.05	62.06	15.01	QP
12 0.24	0.15	9.89	22.21	32.25	52.06	19.81	Average

## Remarks:

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

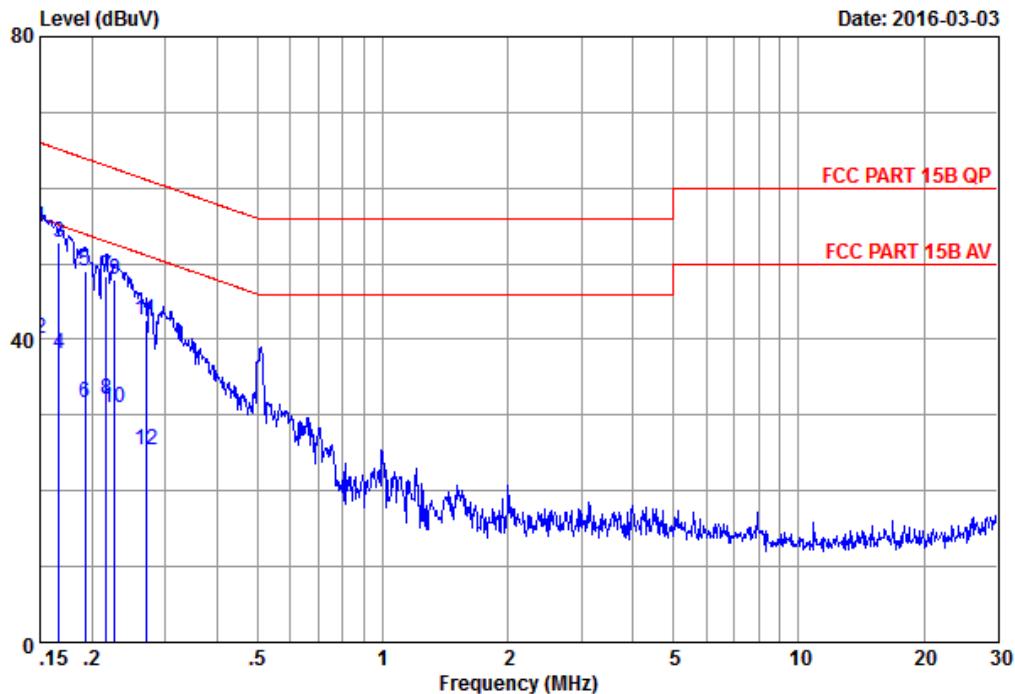


Audix Technology(Wujiang)Co.,Ltd.  
No.1289, Jiang Xing East Road, Eastern Part of WuJiang  
Economic Development Zone, JiangSu, China  
Tel:0512-63403993 Fax:0512-63403339

Data: 6

File: F:\2016Test Data\Report\3\G1603010.EM6 (18)

Date: 2016-03-03



Site no.	: No.1 Conducted shielding Enclosure	Data no.	: 6
AMN/LISN	: ESH2-Z5-1505	Phase	: LINE
Limit	: FCC PART 15B QP		
Env. / Ins.	: 22.1*C&57%/ESCI	Engineer	: KM.Tong
EUT	: LED Lamp		
M/N	: 9290012575		
Power Rating	: 120Vac/60Hz		
Test mode	: TX CH25 2475MHz		
Memo	:		
	:		
	:		
	:		

Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1 0.15	0.16	9.89	44.70	54.75	66.00	11.25	QP
2 0.15	0.16	9.89	30.00	40.05	56.00	15.95	Average
3 0.17	0.16	9.89	42.80	52.85	65.11	12.26	QP
4 0.17	0.16	9.89	28.00	38.05	55.11	17.06	Average
5 0.19	0.15	9.89	39.00	49.04	63.91	14.87	QP
6 0.19	0.15	9.89	21.50	31.54	53.91	22.37	Average
7 0.22	0.15	9.89	38.30	48.34	62.97	14.63	QP
8 0.22	0.15	9.89	22.00	32.04	52.97	20.93	Average
9 0.23	0.15	9.89	37.80	47.84	62.56	14.72	QP
10 0.23	0.15	9.89	21.00	31.04	52.56	21.52	Average
11 0.27	0.16	9.89	32.50	42.55	61.12	18.57	QP
12 0.27	0.16	9.89	15.40	25.45	51.12	25.67	Average

## Remarks:

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

## 4. RADIATED EMISSION MEASUREMENT

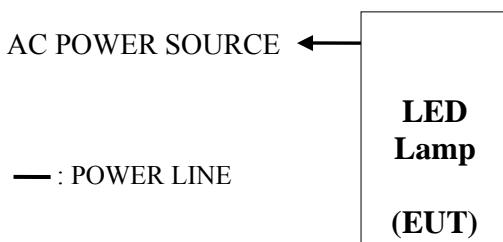
### 4.1. Test Equipment

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

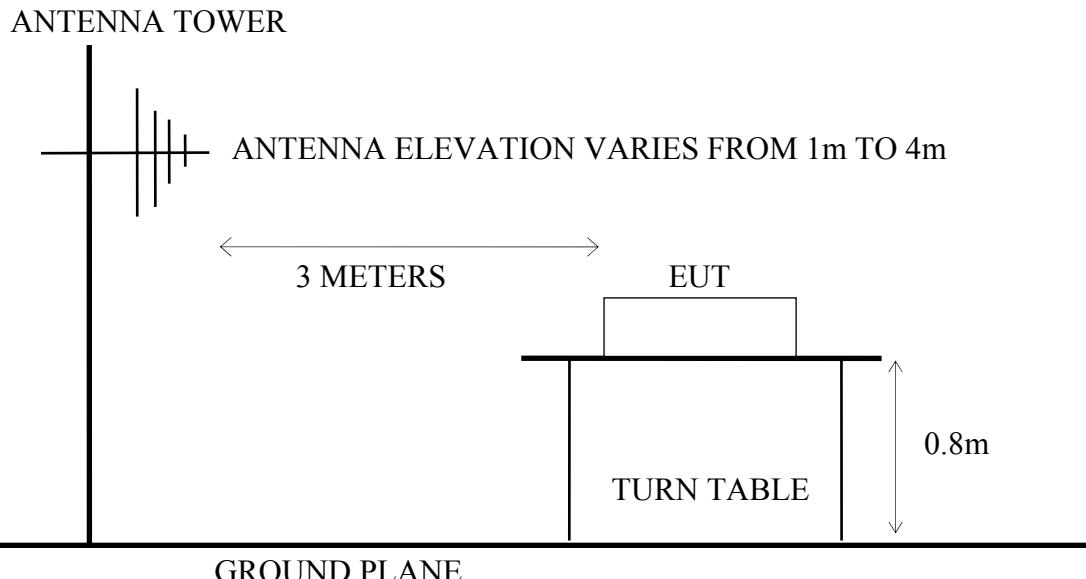
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Preamplifier	Agilent	8449B	3008A02233	2016-01-05	2017-01-04
2.	Preamplifier	Agilent	8447D	2944A10921	2015-07-03	2016-07-02
3.	PXA Signal Analyzer	Agilent	N9030A	MY53120367	2015-06-23	2016-06-22
4.	Test Receiver	R&S	ESCI	100361	2016-01-05	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

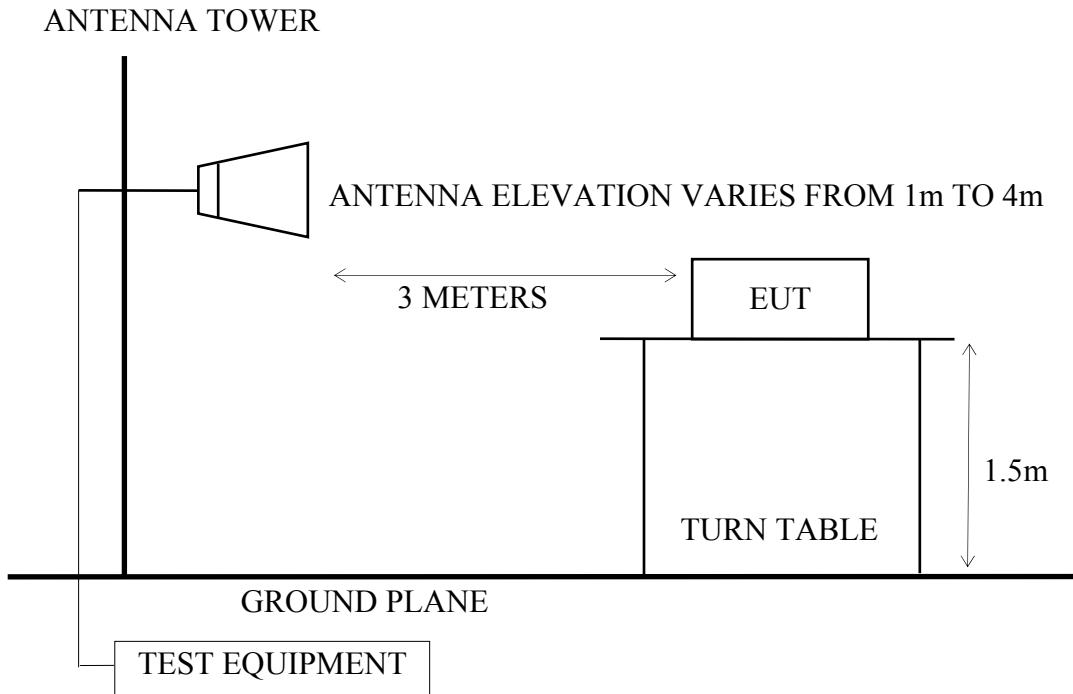
#### 4.2.1. Block Diagram of Test Setup between EUT and simulators



#### 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 MHz	Distance Meters	Field Strengths Limits
		dB $\mu$ 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 $\mu$ 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 antenna 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 10<sup>th</sup> 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 $\mu$ V/m) = Reading (dB $\mu$ 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 XZ 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

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

For Frequency range : above 1GHz

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

### 4.5.2. For Band Edge Emission

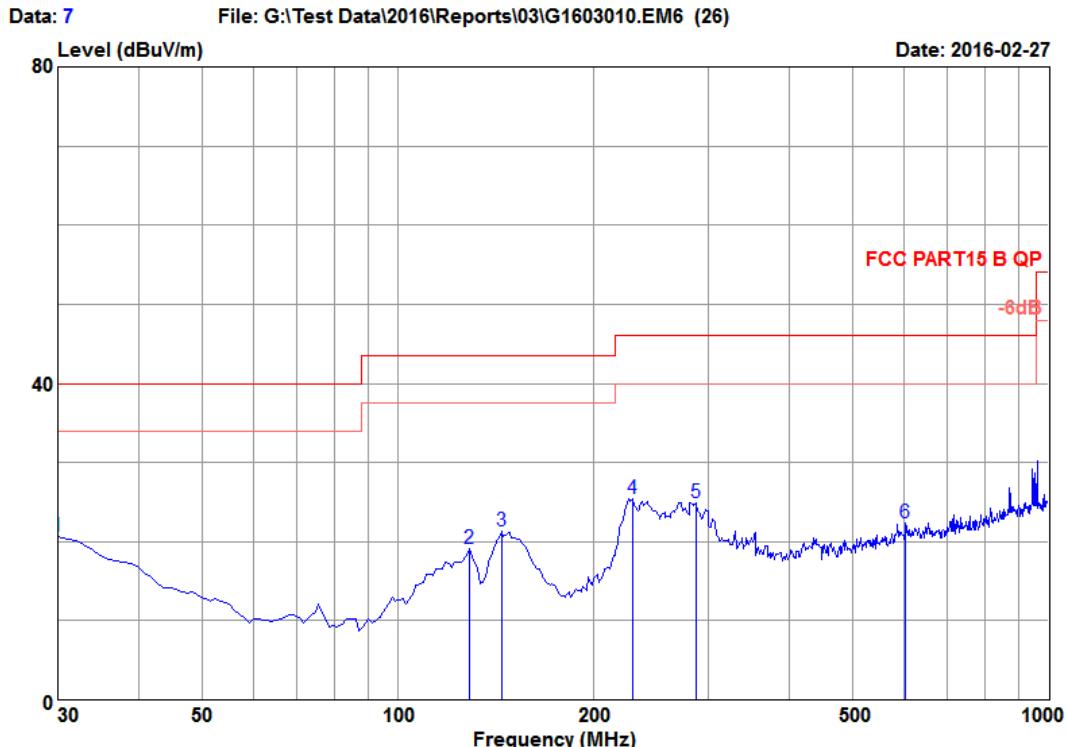
The EUT was tested in restricted bands and all the test results are listed in section 5.9. The restricted bands defined in part 15.205(a)

No.	Test Mode and Frequency	Reference Test Data No.	
		Horizontal	Vertical
1.	Transmitting	2405MHz (Channel 11)	# 19, # 21
2.		2475MHz (Channel 25)	# 23, # 25
3.		2480MHz (Channel 26)	# 55, # 57
			# 20, # 22      # 24, # 26      # 56, # 58

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



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



Site NO.	:	3m chamber	Data NO. :	7
Dis. / Ant.	:	3m 6112D(22250)-1510	Ant. pol. :	HORIZONTAL
Limit	:	FCC PART15 B QP		
Env. / Ins.	:	16.2*C&48%/ESCI	Engineer :	Mickey
EUT	:	LED Lamp		
M/N	:	9290012575		
Power Rating	:	120Vac/60Hz		
Test Mode	:	TX CH11 2405MHz		
Memo	:			

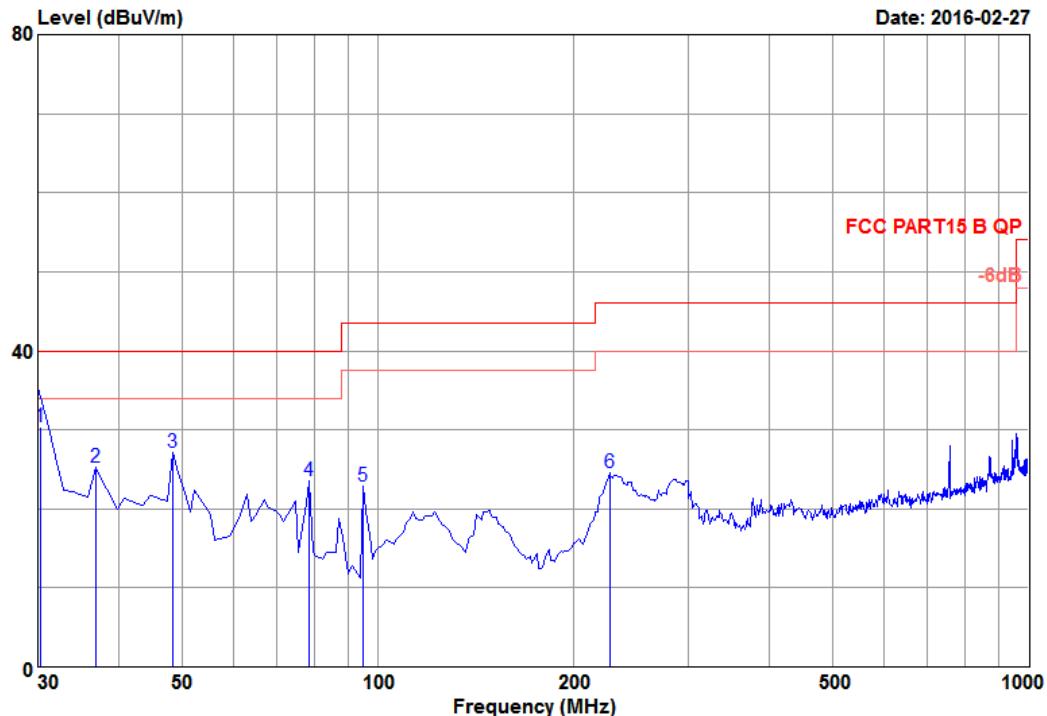
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission			
				Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 30.00	21.30	0.47	26.21	20.63	40.00	19.37	QP
2 128.94	13.16	0.98	32.07	19.13	43.50	24.37	QP
3 144.46	12.52	1.04	34.71	21.25	43.50	22.25	QP
4 229.82	11.50	1.36	39.32	25.44	46.00	20.56	QP
5 288.02	13.72	1.55	36.29	24.94	46.00	21.06	QP
6 603.27	19.51	2.38	28.36	22.35	46.00	23.65	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
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: 8 File: G:\Test Data\2016\Reports\03\G1603010.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 : 9290012575  
Power Rating : 120Vac/60Hz  
Test Mode : TX CH11 2405MHz  
Memo :

Data NO. :8  
Ant. pol. : VERTICAL  
Engineer : Mickey

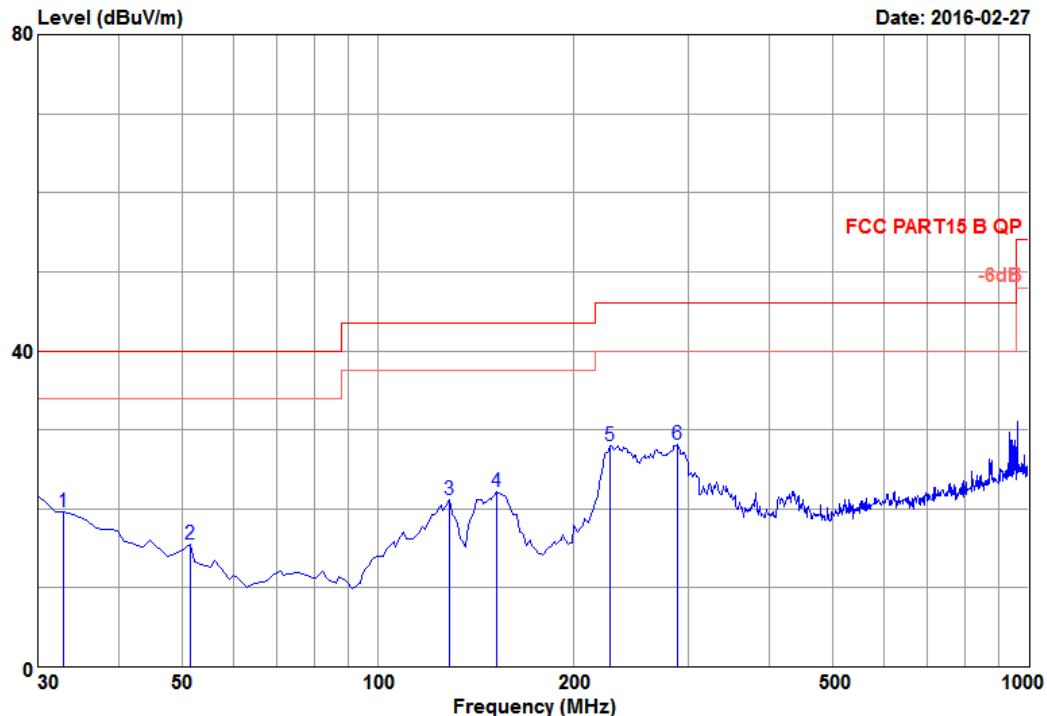
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB <sub>B</sub> V)	Emission Level (dB <sub>B</sub> V/m)	Limits (dB <sub>B</sub> V/m)	Margin (dB)	Remark
1	30.25	21.30	0.47	35.97	30.39	40.00	9.61	QP
2	36.79	17.45	0.52	34.56	25.20	40.00	14.80	QP
3	48.43	11.63	0.60	42.20	27.13	40.00	12.87	QP
4	78.50	8.01	0.76	42.05	23.58	40.00	16.42	QP
5	94.99	10.00	0.84	39.23	22.86	43.50	20.64	QP
6	226.91	11.26	1.35	38.73	24.59	46.00	21.41	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
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: 9 File: G:\Test Data\2016\Reports\03\G1603010.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 : 9290012575  
Power Rating : 120Vac/60Hz  
Test Mode : TX CH20 2450MHz  
Memo :

Data NO. :9  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

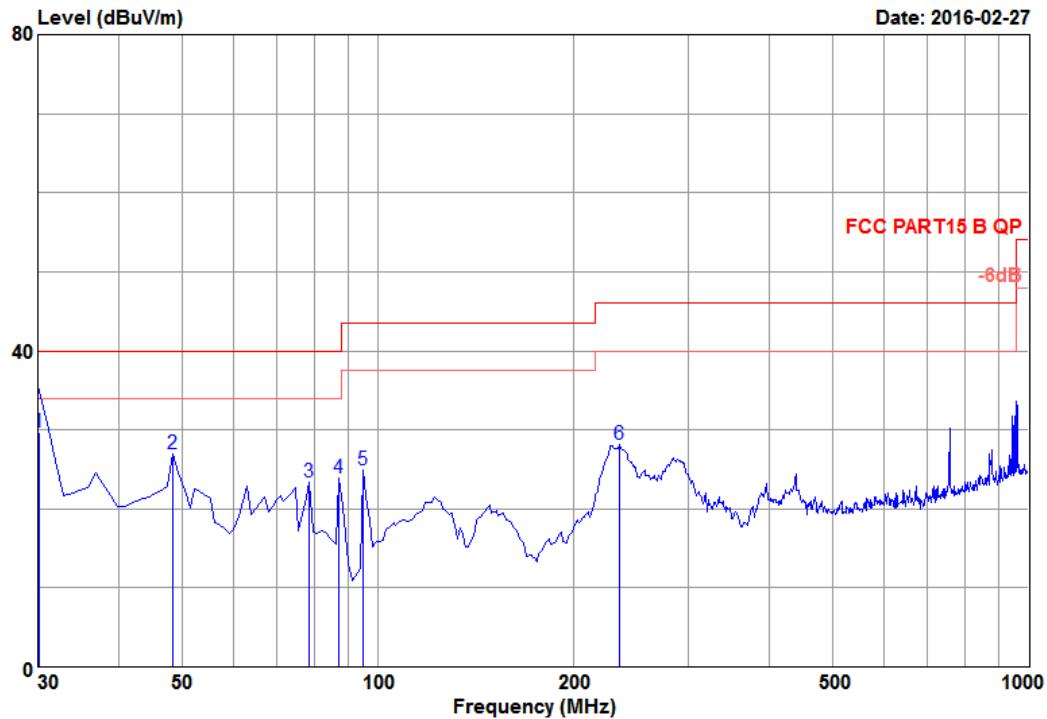
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB <sub>B</sub> V)	Emission			
				Level (dB <sub>B</sub> V/m)	Limits (dB <sub>B</sub> V/m)	Margin (dB)	Remark
1 32.91	19.65	0.49	26.76	19.56	40.00	20.44	QP
2 51.34	10.42	0.62	31.83	15.57	40.00	24.43	QP
3 128.94	13.16	0.98	34.13	21.19	43.50	22.31	QP
4 152.22	11.76	1.07	36.43	22.27	43.50	21.23	QP
5 226.91	11.26	1.35	42.11	27.97	46.00	18.03	QP
6 288.99	13.73	1.55	39.49	28.15	46.00	17.85	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
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: 10 File: G:\Test Data\2016\Reports\03\G1603010.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 : 9290012575  
Power Rating : 120Vac/60Hz  
Test Mode : TX CH20 2450MHz  
Memo :

Data NO. :10  
Ant. pol. : VERTICAL  
Engineer : Mickey

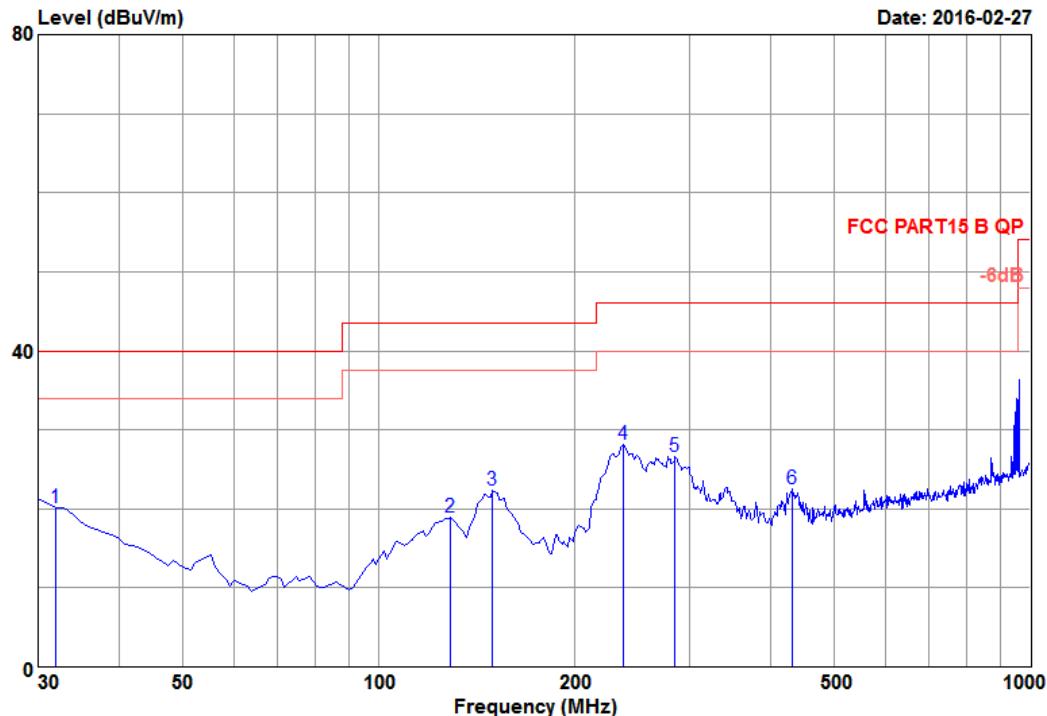
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB <sub>B</sub> V)	Emission Level (dB <sub>B</sub> V/m)	Limits (dB <sub>B</sub> V/m)	Margin (dB)	Remark
1	30.18	21.30	0.47	35.27	29.69	40.00	10.31	QP
2	48.43	11.63	0.60	41.97	26.90	40.00	13.10	QP
3	78.50	8.01	0.76	41.90	23.43	40.00	16.57	QP
4	87.23	8.68	0.80	41.55	23.80	40.00	16.20	QP
5	94.99	10.00	0.84	41.21	24.84	43.50	18.66	QP
6	234.67	11.90	1.38	41.61	28.16	46.00	17.84	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
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: 11 File: G:\Test Data\2016\Reports\03\G1603010.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 : 9290012575  
Power Rating : 120Vac/60Hz  
Test Mode : TX CH25 2475MHz  
Memo :

Data NO. :11  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB <sub>B</sub> V)	Emission Level (dB <sub>B</sub> V/m)	Limits (dB <sub>B</sub> V/m)	Margin (dB)	Remark
1 31.94	20.20	0.48	26.88	20.21	40.00	19.79	QP
2 128.94	13.16	0.98	31.83	18.89	43.50	24.61	QP
3 149.31	12.05	1.06	36.18	22.29	43.50	21.21	QP
4 237.58	12.14	1.38	41.43	28.23	46.00	17.77	QP
5 285.11	13.68	1.54	38.03	26.62	46.00	19.38	QP
6 431.58	17.24	1.95	30.71	22.44	46.00	23.56	QP

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

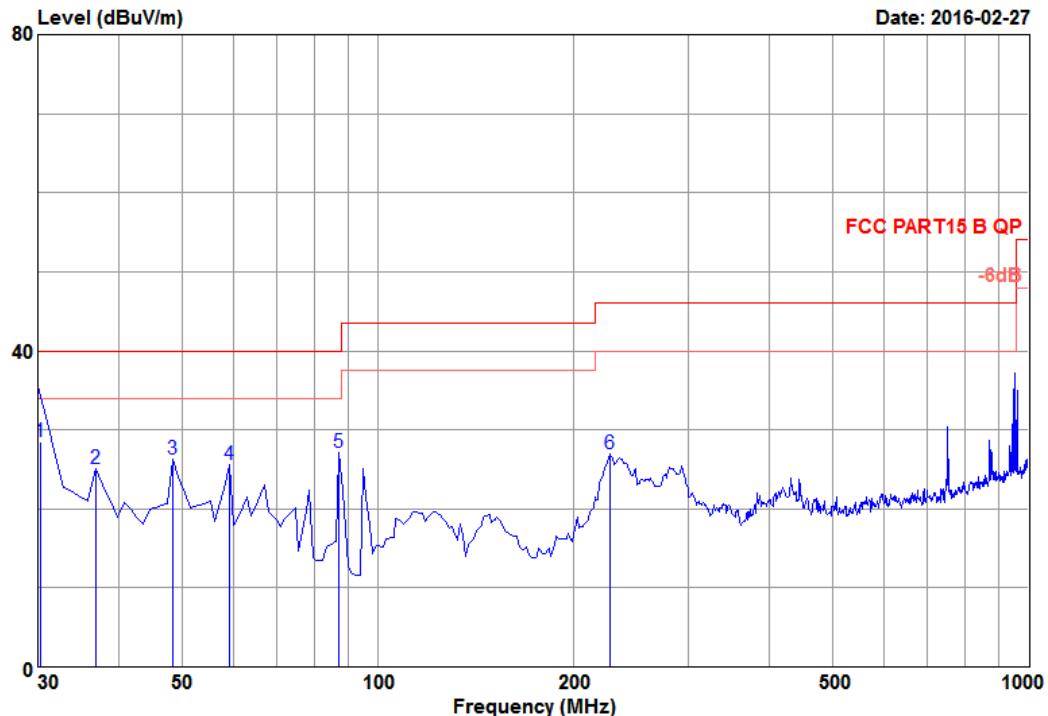


Audix Technology (Wujiang) Co., Ltd.  
No.1289, Jiang Xing East Road, The Eastern Part of Wu Jiang  
Economic Development Zone, JiangSu, China  
Tel: (0512) 63403993 Fax: (0512) 63403993

Data: 12

File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)

Date: 2016-02-27



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 : 9290012575  
 Power Rating : 120Vac/60Hz  
 Test Mode : TX CH25 2475MHz  
 Memo :

Data NO. :12  
 Ant. pol. : VERTICAL  
 Engineer : Mickey

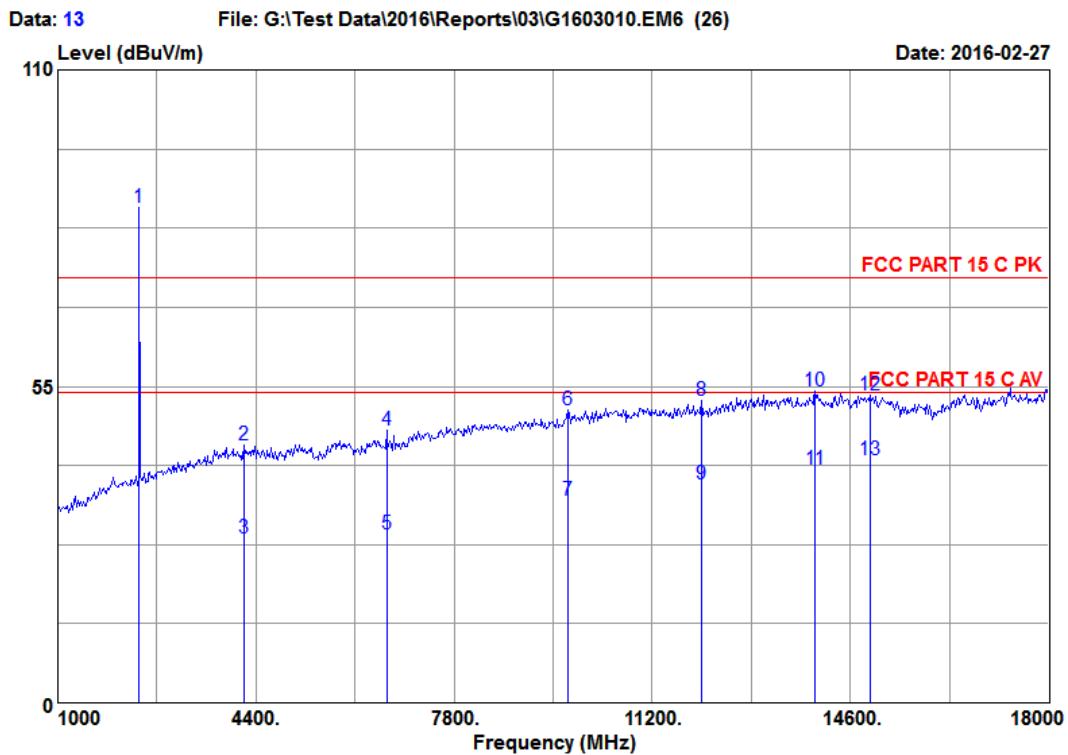
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB <sub>B</sub> V)	Emission Level (dB <sub>B</sub> V/m)	Limits (dB <sub>B</sub> V/m)	Margin (dB)	Remark
1	30.25	21.30	0.47	34.09	28.51	40.00	11.49	QP
2	36.79	17.45	0.52	34.51	25.15	40.00	14.85	QP
3	48.43	11.63	0.60	41.27	26.20	40.00	13.80	QP
4	59.10	8.18	0.66	44.05	25.61	40.00	14.39	QP
5	87.23	8.68	0.80	44.84	27.09	40.00	12.91	QP
6	226.91	11.26	1.35	41.07	26.93	46.00	19.07	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)



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



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH11 2405MHz  
Memo :

Data NO. : 13  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1 2400.00	28.45	5.09	87.10	34.50	86.14	74.00	-12.14	Peak
2 4200.00	32.54	7.02	39.18	34.04	44.70	74.00	29.30	Peak
3 4203.25	32.54	7.03	23.20	34.04	28.73	54.00	25.27	Average
4 6640.00	34.80	8.73	37.75	33.97	47.31	74.00	26.69	Peak
5 6642.50	34.80	8.73	19.80	33.97	29.36	54.00	24.64	Average
6 9760.00	38.46	10.65	36.22	34.46	50.87	74.00	23.13	Peak
7 9762.80	38.46	10.65	20.61	34.46	35.26	54.00	18.74	Average
8 12040.00	39.08	11.55	35.57	33.74	52.46	74.00	21.54	Peak
9 12043.15	39.07	11.55	21.20	33.74	38.08	54.00	15.92	Average
10 14000.00	42.20	12.85	30.64	31.59	54.10	74.00	19.90	Peak
11 14003.10	42.20	12.85	17.21	31.59	40.67	54.00	13.33	Average
12 14940.00	41.21	13.15	32.08	32.93	53.51	74.00	20.49	Peak
13 14942.15	41.21	13.15	20.81	32.93	42.24	54.00	11.76	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.

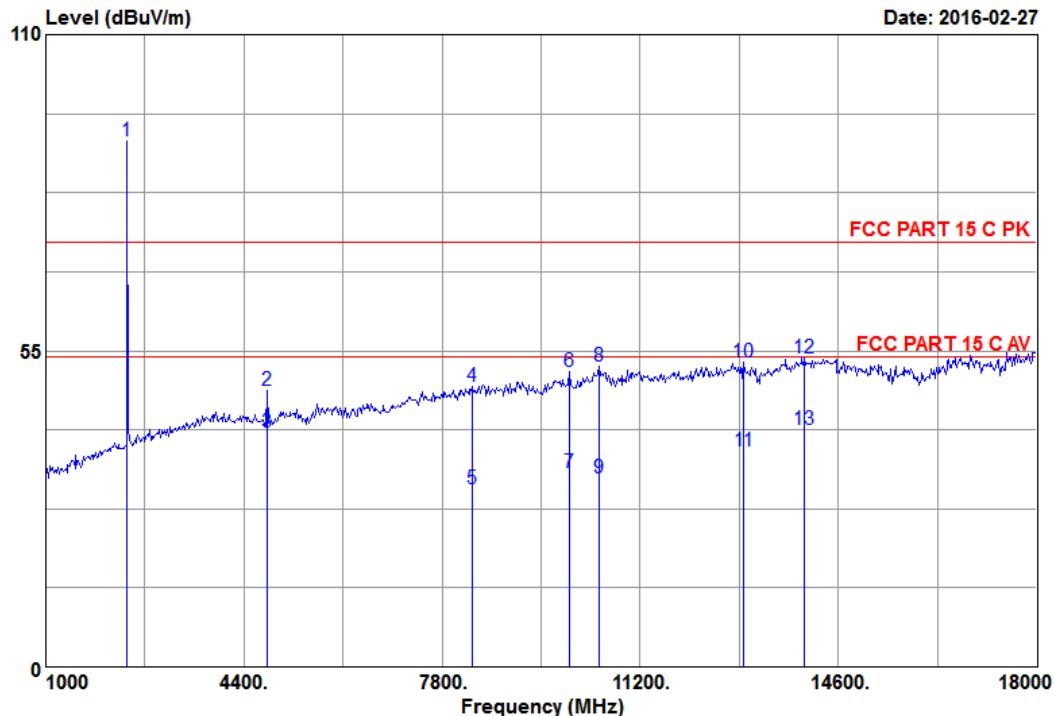


Audix Technology (Wujiang) Co., Ltd.  
No.1289, Jiang Xing East Road, The Eastern Part of Wu Jiang  
Economic Development Zone, JiangSu, China  
Tel: (0512) 63403993 Fax: (0512) 63403993

Data: 14

File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)

Date: 2016-02-27



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH11 2405MHz  
Memo :

Data NO. : 14  
Ant. pol. : VERTICAL  
Engineer : Mickey

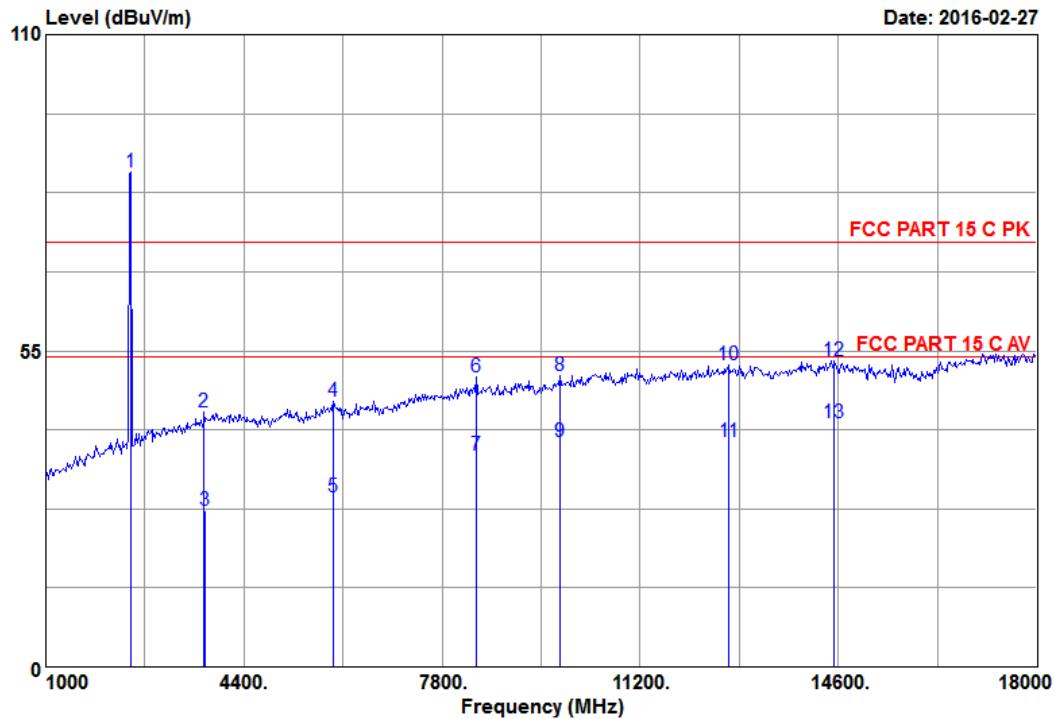
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2400.00	28.45	5.09	92.35	34.50	91.39	74.00	-17.39	Peak
2	4800.00	32.86	7.32	41.93	33.95	48.16	74.00	25.84	Peak
3	4802.30	32.86	7.32	34.60	33.95	40.83	54.00	13.17	Average
4	8320.00	37.39	9.71	35.83	34.21	48.72	74.00	25.28	Peak
5	8323.90	37.39	9.71	18.11	34.21	31.00	54.00	23.00	Average
6	9980.00	38.78	10.83	36.23	34.47	51.37	74.00	22.63	Peak
7	9982.60	38.78	10.83	18.60	34.47	33.74	54.00	20.26	Average
8	10500.00	39.60	11.10	35.70	34.04	52.36	74.00	21.64	Peak
9	10504.25	39.60	11.10	16.30	34.04	32.96	54.00	21.04	Average
10	12980.00	39.86	12.29	33.38	32.49	53.04	74.00	20.96	Peak
11	12981.14	39.86	12.29	17.90	32.49	37.56	54.00	16.44	Average
12	14020.00	42.21	12.86	30.31	31.63	53.75	74.00	20.25	Peak
13	14022.30	42.21	12.86	17.81	31.63	41.25	54.00	12.75	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: 15 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH20 2450MHz  
Memo :

Data NO. : 15  
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	2460.00	28.62	5.15	86.79	34.50	86.06	74.00	-12.06	Peak
2	3720.00	31.93	6.62	39.87	34.16	44.26	74.00	29.74	Peak
3	3722.80	31.93	6.62	22.79	34.16	27.18	54.00	26.82	Average
4	5940.00	34.18	8.49	37.53	33.89	46.31	74.00	27.69	Peak
5	5943.20	34.18	8.49	20.80	33.89	29.58	54.00	24.42	Average
6	8380.00	37.46	9.73	37.42	34.22	50.39	74.00	23.61	Peak
7	8382.14	37.46	9.73	23.90	34.22	36.87	54.00	17.13	Average
8	9820.00	38.56	10.70	35.76	34.46	50.56	74.00	23.44	Peak
9	9824.25	38.56	10.70	24.39	34.46	39.19	54.00	14.81	Average
10	12720.00	39.28	12.09	33.92	32.83	52.46	74.00	21.54	Peak
11	12723.20	39.31	12.09	20.50	32.83	39.07	54.00	14.93	Average
12	14520.00	42.55	13.01	30.11	32.31	53.36	74.00	20.64	Peak
13	14522.80	42.55	13.01	19.20	32.31	42.45	54.00	11.55	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.

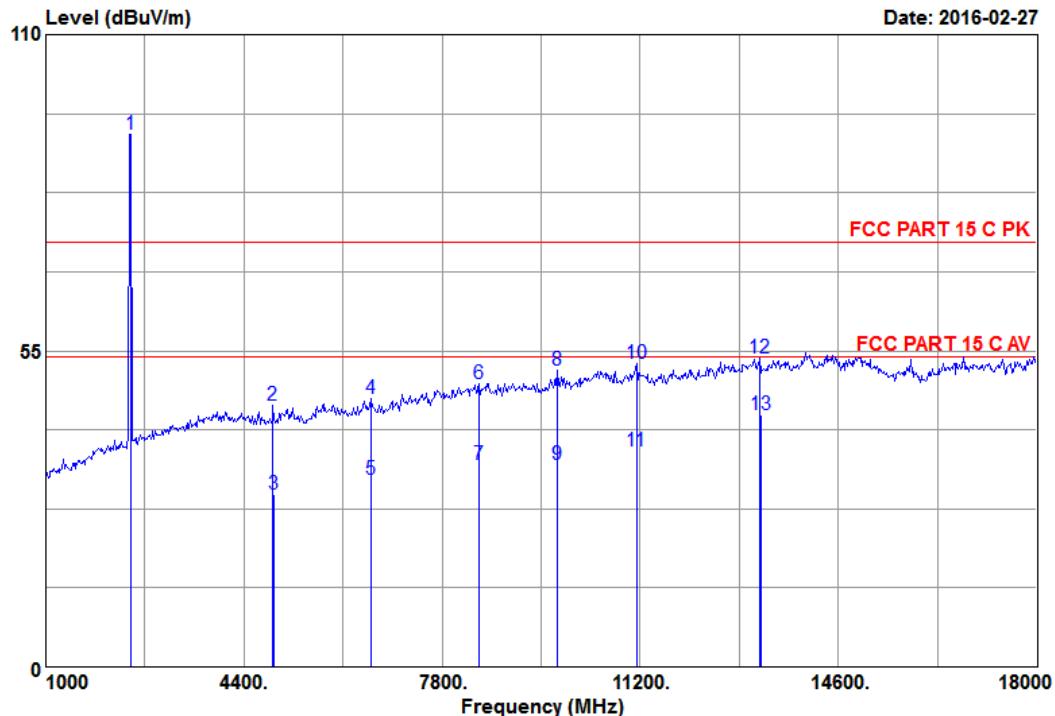


Audix Technology (Wujiang) Co., Ltd.  
No.1289, Jiang Xing East Road, The Eastern Part of Wu Jiang  
Economic Development Zone, JiangSu, China  
Tel: (0512) 63403993 Fax: (0512) 63403993

Data: 16

File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)

Date: 2016-02-27



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH20 2450MHz  
Memo :

Data NO. : 16  
Ant. pol. : VERTICAL  
Engineer : Mickey

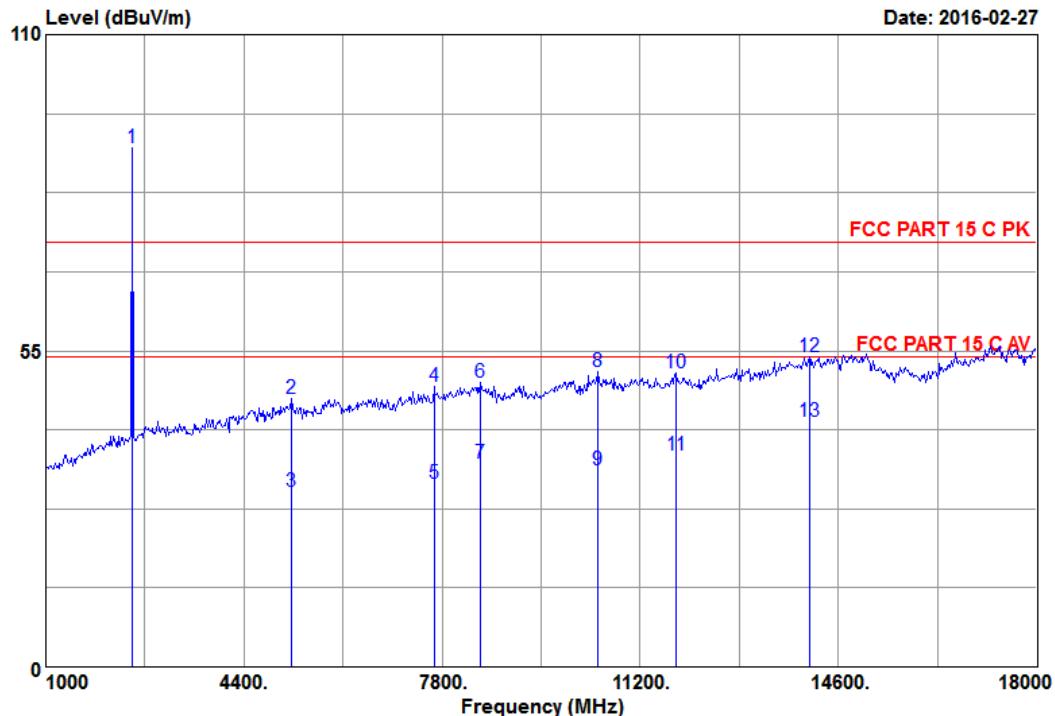
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dB <sub>UV</sub> )	Preamp Factor (dB)	Emission Level (dB <sub>UV</sub> /m)	Limits (dB <sub>UV</sub> /m)	Margin (dB)	Remark
1	2460.00	28.62	5.15	93.39	34.50	92.66	74.00	-18.66	Peak
2	4900.00	33.01	7.37	38.99	33.94	45.43	74.00	28.57	Peak
3	4903.25	33.04	7.37	23.51	33.94	29.98	54.00	24.02	Average
4	6580.00	34.65	8.72	37.26	33.97	46.66	74.00	27.34	Peak
5	6582.10	34.65	8.72	23.30	33.97	32.70	54.00	21.30	Average
6	8440.00	37.54	9.76	36.21	34.25	49.26	74.00	24.74	Peak
7	8441.19	37.54	9.76	22.11	34.25	35.16	54.00	18.84	Average
8	9780.00	38.49	10.65	36.82	34.46	51.50	74.00	22.50	Peak
9	9782.50	38.51	10.65	20.40	34.46	35.10	54.00	18.90	Average
10	11140.00	39.18	11.37	35.81	33.67	52.69	74.00	21.31	Peak
11	11142.20	39.19	11.37	20.70	33.67	37.59	54.00	16.41	Average
12	13260.00	40.52	12.45	32.96	32.24	53.69	74.00	20.31	Peak
13	13264.25	40.52	12.45	23.20	32.24	43.93	54.00	10.07	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: 17 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH25 2475MHz  
Memo :

Data NO. : 17  
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	2470.00	28.62	5.18	90.92	34.49	90.23	74.00	-16.23	Peak
2	5220.00	33.55	7.65	39.40	33.91	46.69	74.00	27.31	Peak
3	5221.25	33.55	7.68	23.19	33.91	30.51	54.00	23.49	Average
4	7660.00	36.87	9.32	36.75	34.08	48.86	74.00	25.14	Peak
5	7661.18	36.87	9.32	19.90	34.08	32.01	54.00	21.99	Average
6	8460.00	37.56	9.77	36.45	34.25	49.53	74.00	24.47	Peak
7	8464.25	37.56	9.77	22.30	34.25	35.38	54.00	18.62	Average
8	10480.00	39.57	11.09	34.68	34.07	51.27	74.00	22.73	Peak
9	10483.25	39.57	11.09	17.71	34.07	34.30	54.00	19.70	Average
10	11820.00	39.21	11.48	34.29	33.78	51.20	74.00	22.80	Peak
11	11822.30	39.20	11.48	19.90	33.78	36.80	54.00	17.20	Average
12	14100.00	42.28	12.88	30.43	31.73	53.86	74.00	20.14	Peak
13	14103.50	42.28	12.88	19.30	31.73	42.73	54.00	11.27	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.

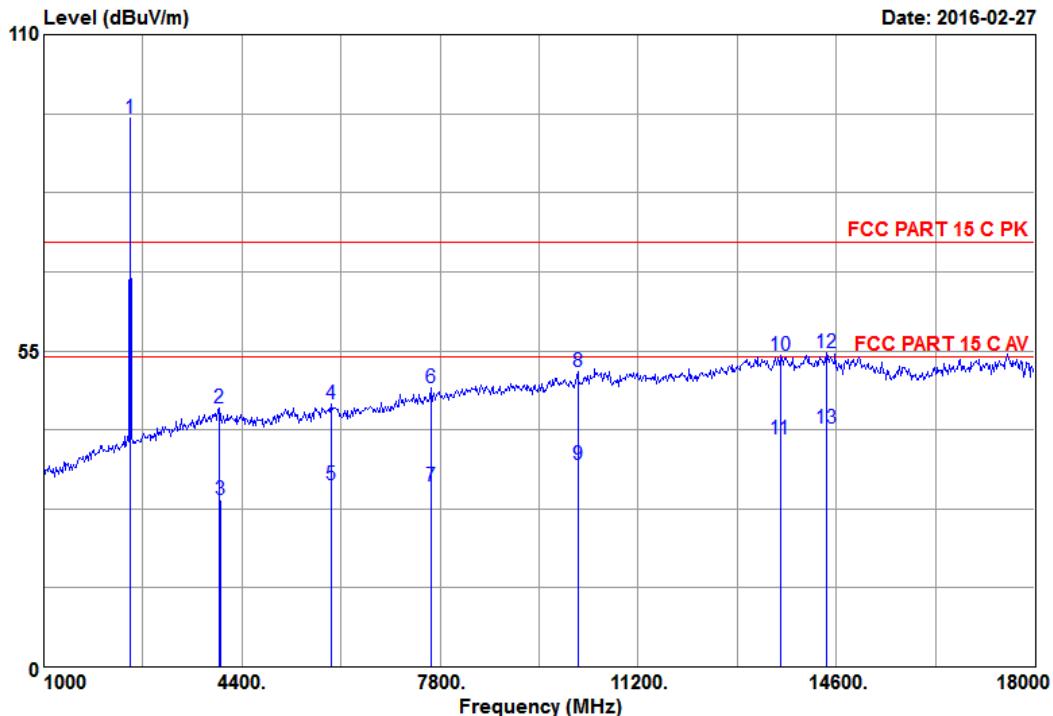


Audix Technology (Wujiang) Co., Ltd.  
No.1289, Jiang Xing East Road, The Eastern Part of Wu Jiang  
Economic Development Zone, JiangSu, China  
Tel: (0512) 63403993 Fax: (0512) 63403993

Data: 18

File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)

Date: 2016-02-27



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH25 2475MHz  
Memo :

Data NO. : 18  
Ant. pol. : VERTICAL  
Engineer : Mickey

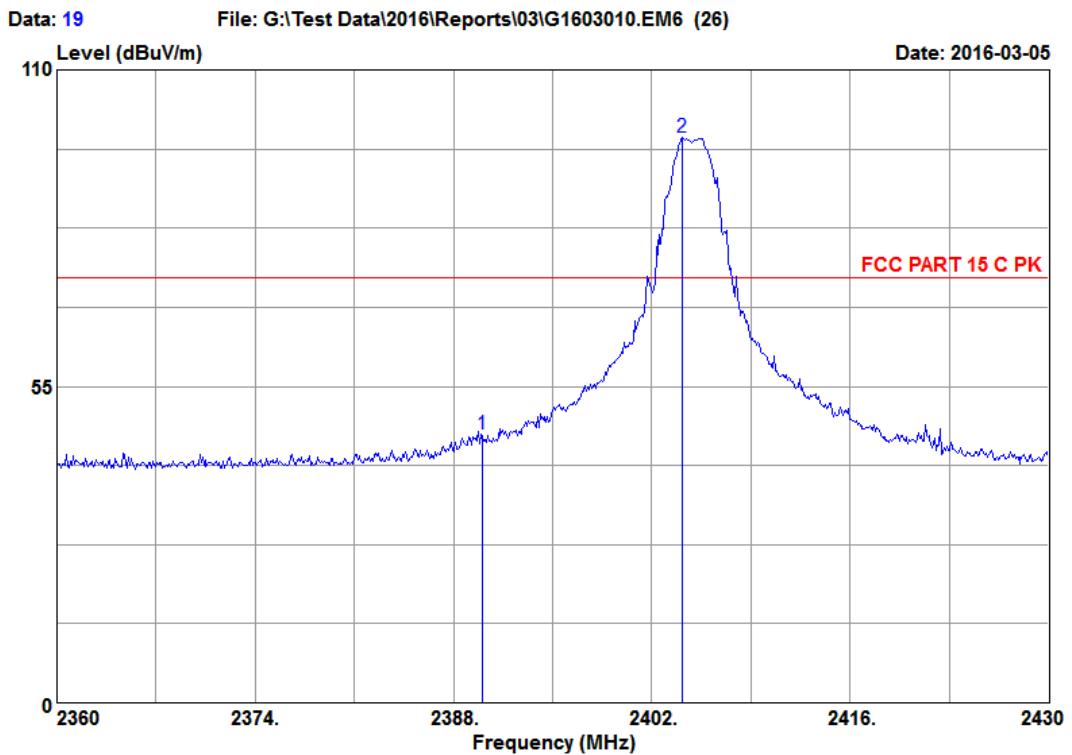
	Freq. (MHz)	Ant. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2470.00	28.62	5.18	96.15	34.49	95.46	74.00	-21.46	Peak
2	4020.00	32.67	6.93	39.43	34.07	44.96	74.00	29.04	Peak
3	4023.25	32.67	6.94	23.51	34.07	29.05	54.00	24.95	Average
4	5940.00	34.18	8.49	36.86	33.89	45.64	74.00	28.36	Peak
5	5942.60	34.18	8.49	22.80	33.89	31.58	54.00	22.42	Average
6	7640.00	36.86	9.31	36.38	34.08	48.47	74.00	25.53	Peak
7	7643.50	36.86	9.32	19.31	34.08	31.41	54.00	22.59	Average
8	10160.00	39.07	10.93	35.78	34.34	51.44	74.00	22.56	Peak
9	10163.25	39.07	10.93	19.59	34.34	35.25	54.00	18.75	Average
10	13640.00	41.43	12.66	31.93	31.90	54.12	74.00	19.88	Peak
11	13644.25	41.43	12.66	17.49	31.90	39.68	54.00	14.32	Average
12	14440.00	42.56	12.99	31.34	32.20	54.69	74.00	19.31	Peak
13	14442.60	42.56	12.99	18.19	32.20	41.54	54.00	12.46	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 Xing East Road,The Eastern Part of Wu Jiang  
Economic Development Zone,JiangSu,China  
Tel: (0512) 63403993 Fax: (0512) 63403993



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH11 2405MHz  
Memo :

Data NO. : 19  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

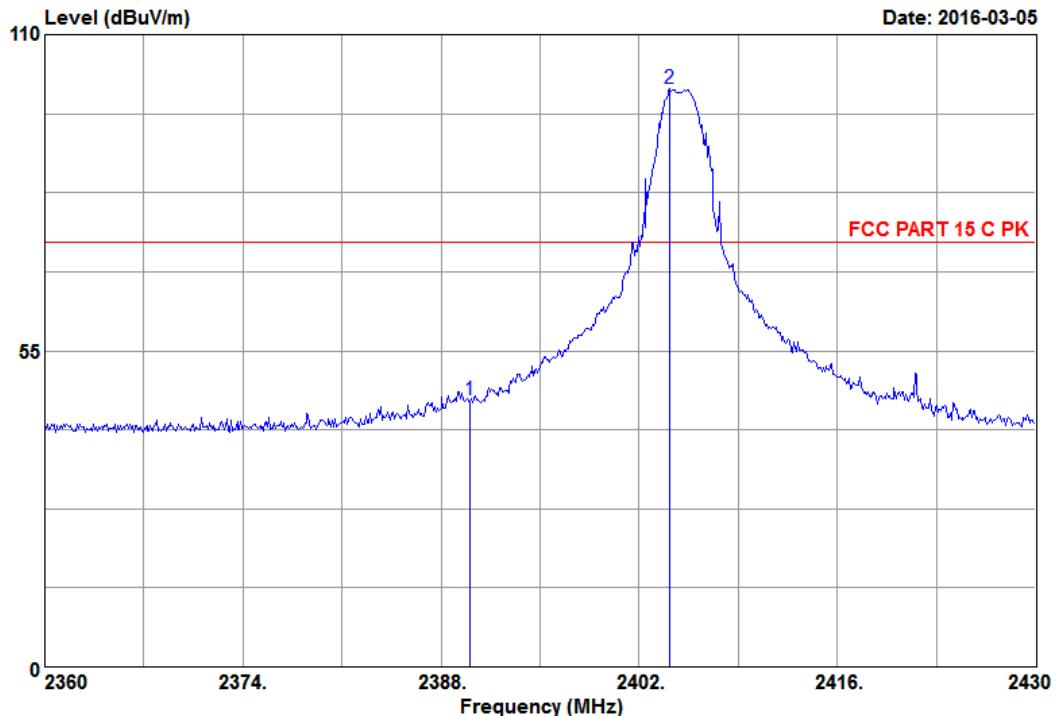
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1 2390.00	28.45	5.09	47.56	34.50	46.60	74.00	27.40	Peak
2 2404.19	28.49	5.09	99.13	34.50	98.21	74.00	-24.21	Peak

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.



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: 20 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH11 2405MHz  
Memo :

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

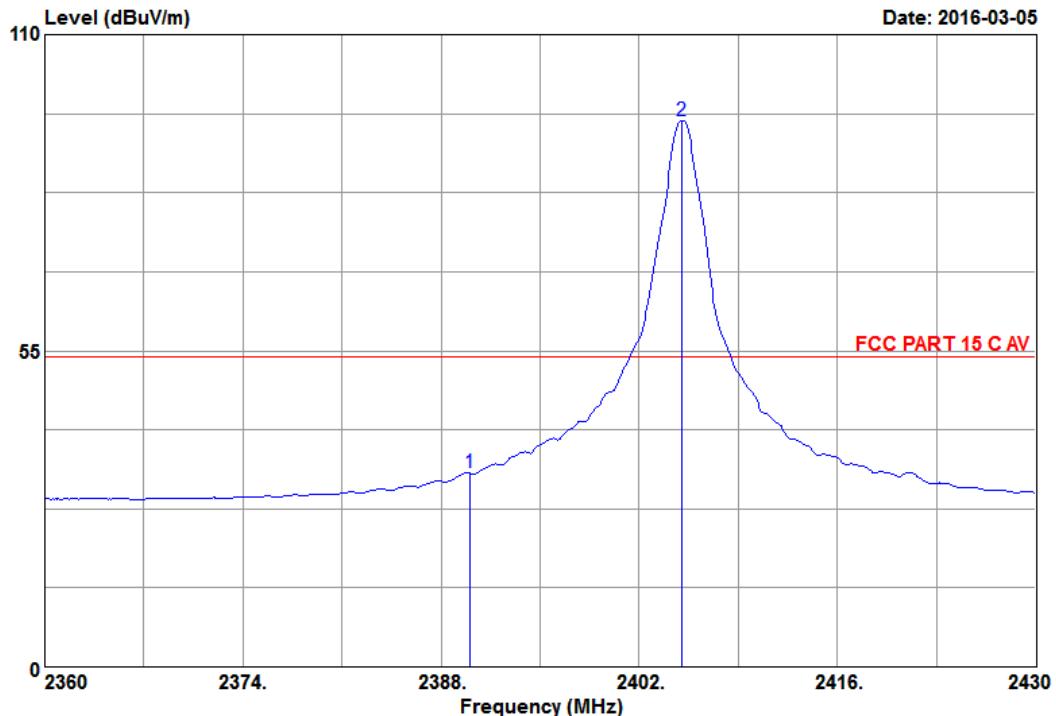
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dB <sub>B</sub> V)	(dB)	(dB <sub>B</sub> V/m)	(dB <sub>B</sub> V/m)	(dB)	
1	2390.00	28.45	5.09	47.44	34.50	46.48	74.00	27.52 Peak
2	2404.19	28.49	5.09	101.49	34.50	100.57	74.00	-26.57 Peak

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.



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: 21 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH11 2405MHz  
Memo :

Data NO. : 21  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

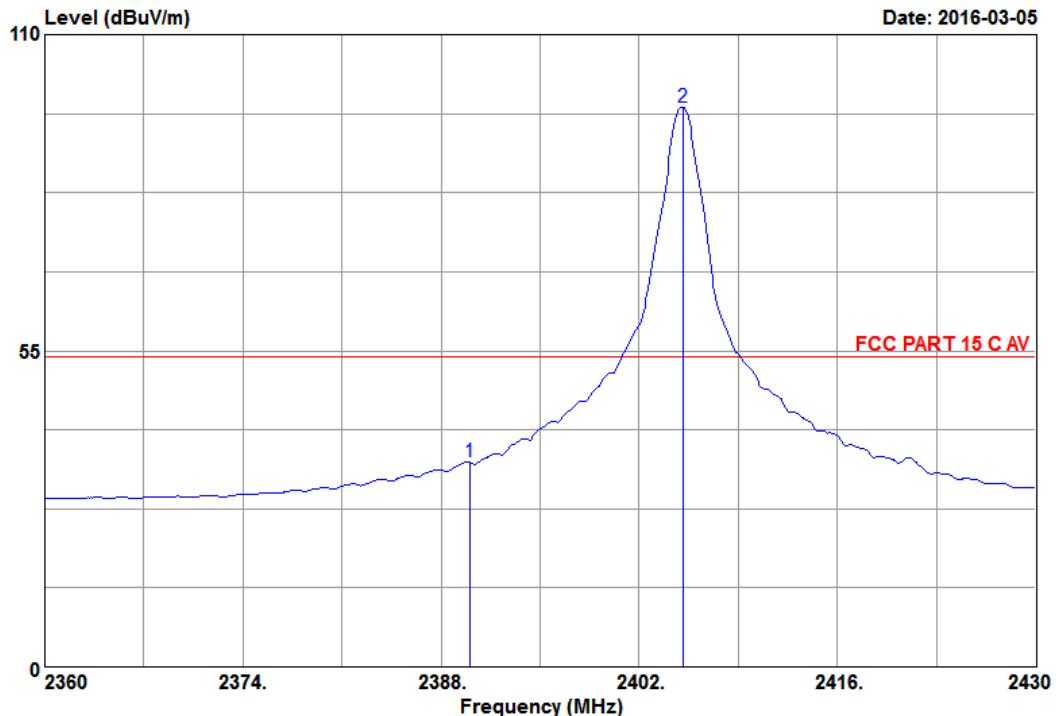
Freq.	Ant.	Cable	Preamp	Emission			
(MHz)	Factor	Loss	Reading	Factor	Level	Limits	Margin
	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
1	2390.00	28.45	5.09	34.74	34.50	33.78	54.00
2	2405.00	28.49	5.09	96.03	34.50	95.11	54.00

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: 22 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH11 2405MHz  
Memo :

Data NO. : 22  
Ant. pol. : VERTICAL  
Engineer : Mickey

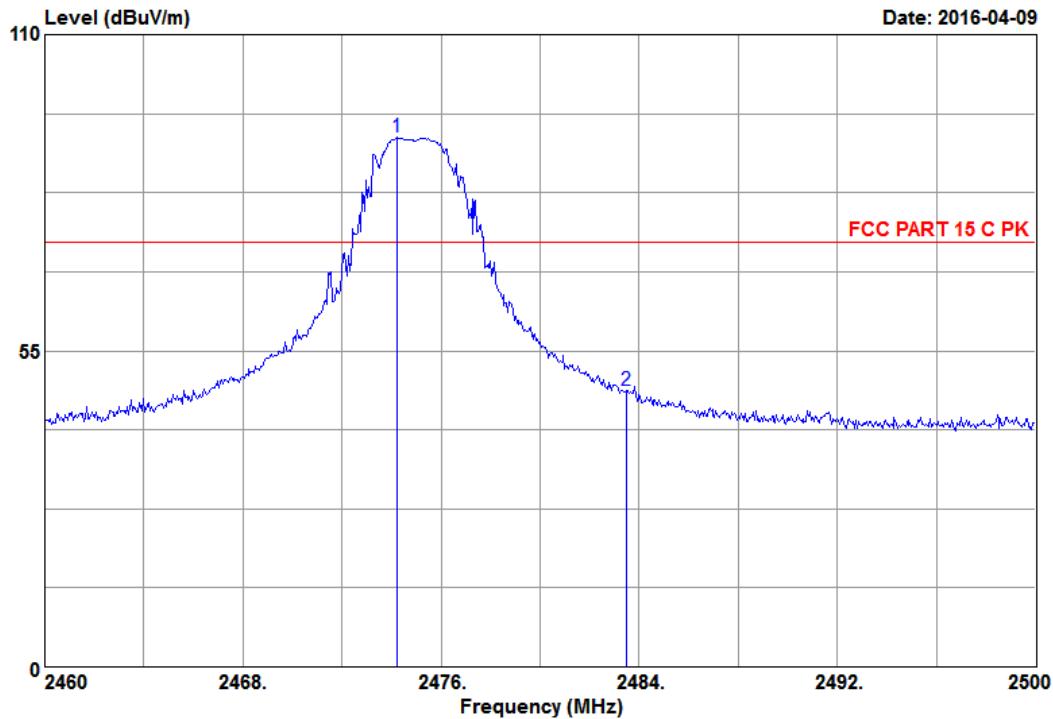
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.00	28.45	5.09	36.62	34.50	35.66	54.00	18.34 Average
2	2405.09	28.49	5.09	98.36	34.50	97.44	54.00	-43.44 Average

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: 23 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH25 2475MHz  
Memo :

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

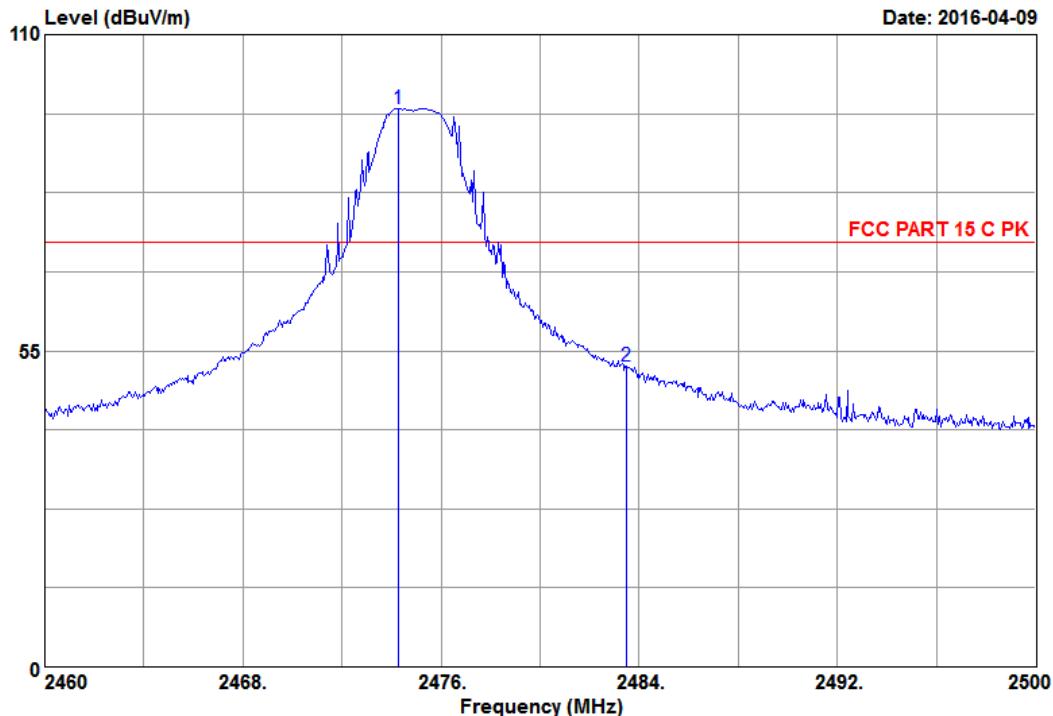
Freq.	Ant.	Cable	Preamp	Emission				
(MHz)	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2474.20	28.66	5.18	92.72	34.49	92.07	74.00	-18.07 Peak
2	2483.50	28.66	5.18	48.74	34.49	48.09	74.00	25.91 Peak

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.



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: 24 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH25 2475MHz  
Memo :

Data NO. : 24  
Ant. pol. : VERTICAL  
Engineer : Mickey

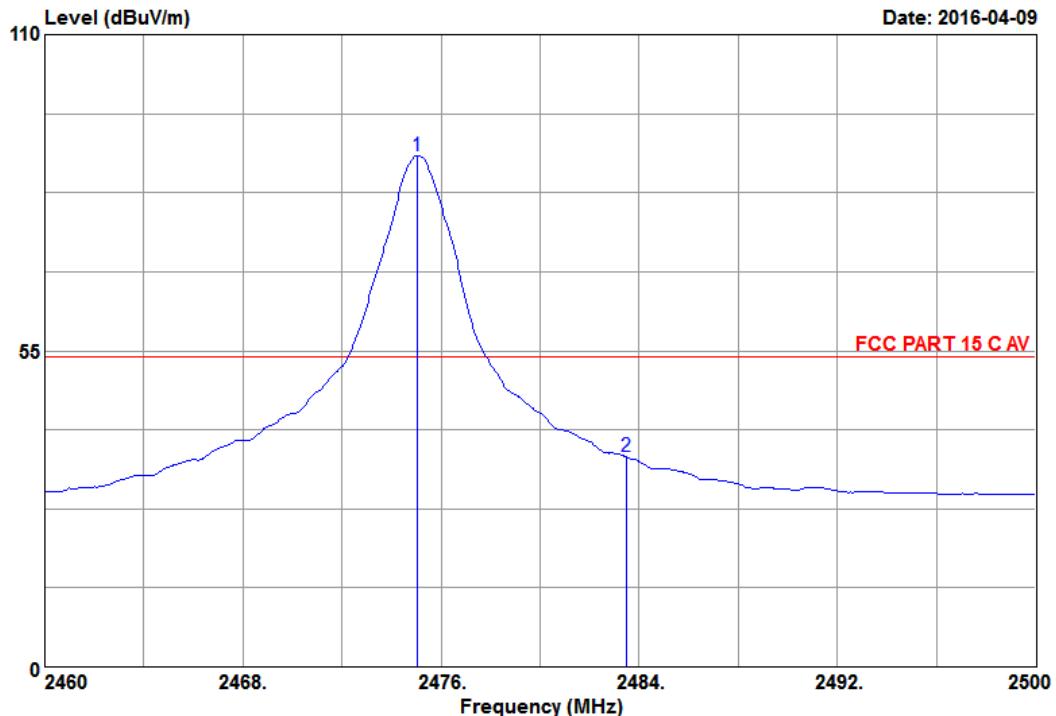
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2474.25	28.66	5.18	97.77	34.49	97.12	74.00	-23.12 Peak
2	2483.50	28.66	5.18	52.87	34.49	52.22	74.00	21.78 Peak

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.



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: 25 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH25 2475MHz  
Memo :

Data NO. : 25  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

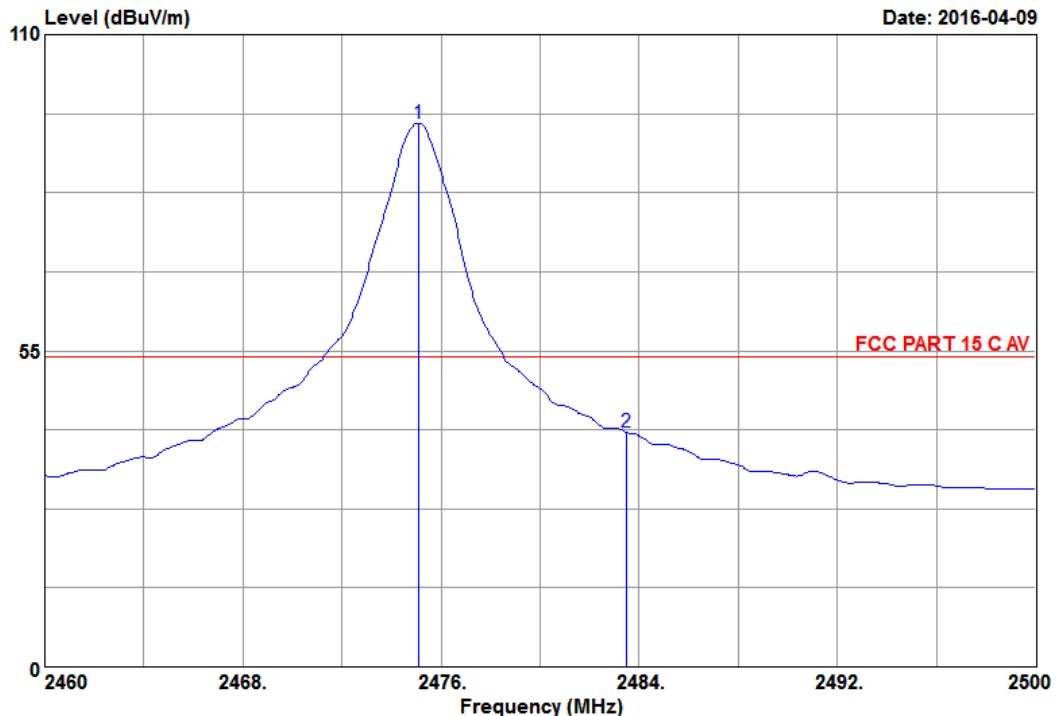
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2475.05	28.66	5.18	89.58	34.49	88.93	54.00	-34.93 Average
2	2483.50	28.66	5.18	37.13	34.49	36.48	54.00	17.52 Average

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.



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: 26 File: G:\Test Data\2016\Reports\03\G1603010.EM6 (26)



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 : 9290012575  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH25 2475MHz  
Memo :

Data NO. : 26  
Ant. pol. : VERTICAL  
Engineer : Mickey

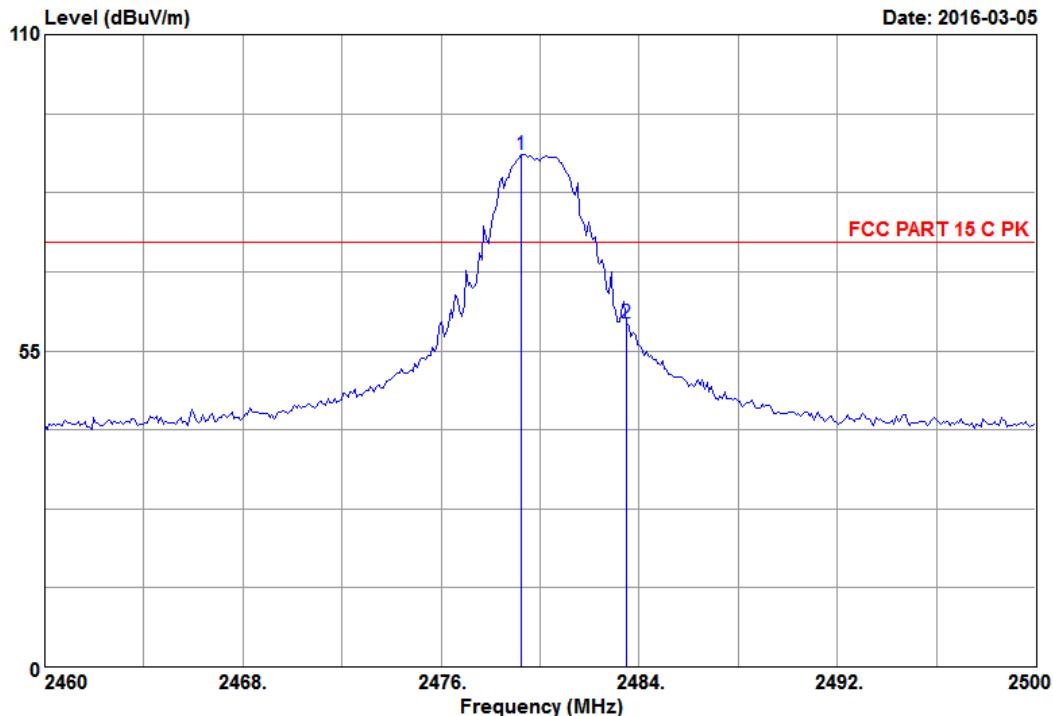
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2475.10	28.66	5.18	95.27	34.49	94.62	54.00	-40.62 Average
2	2483.50	28.66	5.18	41.50	34.49	40.85	54.00	13.15 Average

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.



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: 55 File: G:\Test Data\2016\Reports\02\G1603010.EM6 (58)



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 : 9290011419A  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH26 2480MHz  
Memo :

Data NO. : 55  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

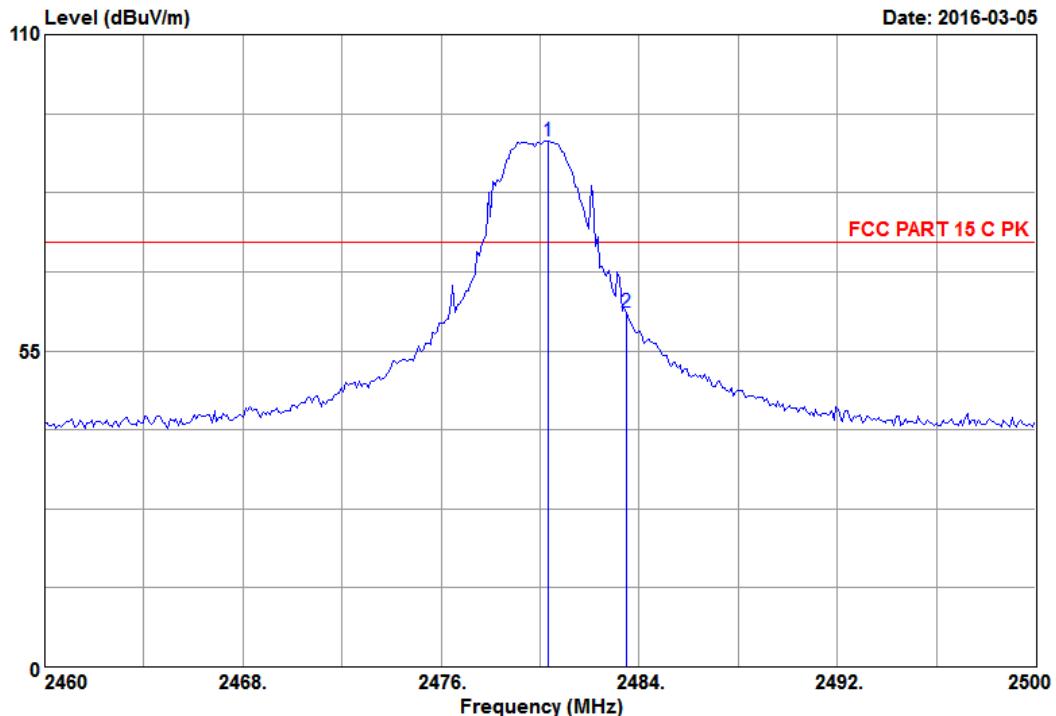
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.26	28.66	5.18	89.87	34.49	89.22	74.00	-15.22 Peak
2	2483.50	28.66	5.18	60.43	34.49	59.78	74.00	14.22 Peak

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.



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: 56 File: G:\Test Data\2016\Reports\02\G1603010.EM6 (58)



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 : 9290011419A  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH26 2480MHz  
Memo :

Data NO. : 56  
Ant. pol. : VERTICAL  
Engineer : Mickey

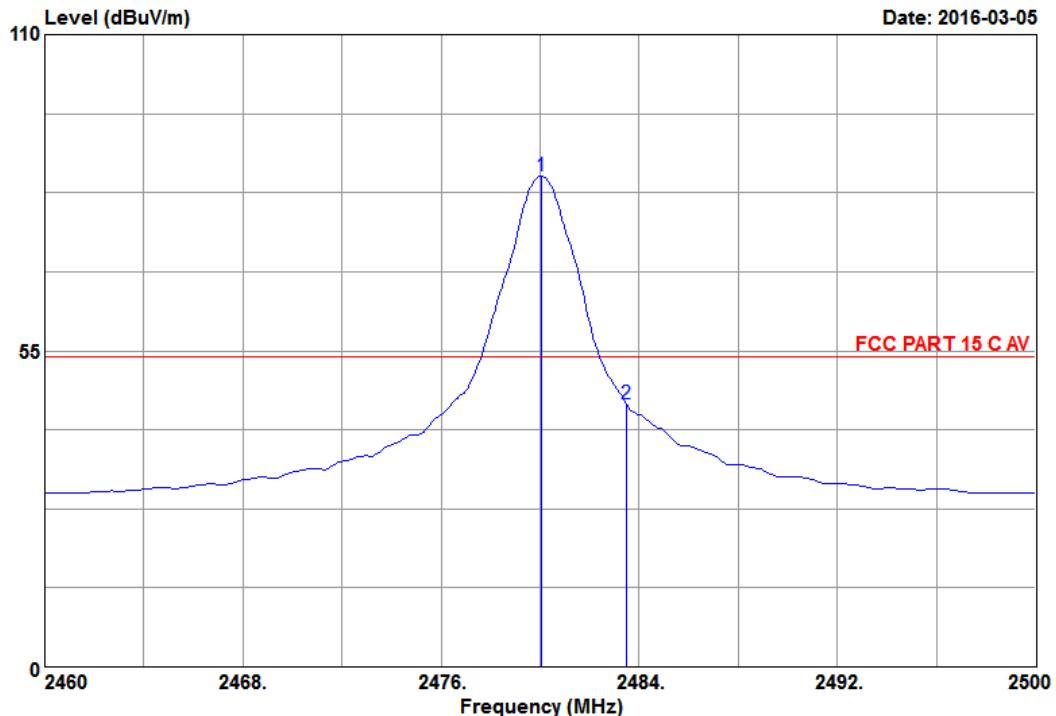
Freq.	Ant.	Cable	Preamp	Emission			
(MHz)	Factor	Loss	Reading	Factor	Level	Limits	Margin
	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
1	2480.34	28.66	5.18	92.12	34.49	91.47	74.00 -17.47 Peak
2	2483.50	28.66	5.18	62.29	34.49	61.64	74.00 12.36 Peak

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.



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: 57 File: G:\Test Data\2016\Reports\02\G1603010.EM6 (58)



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 : 9290011419A  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH26 2480MHz  
Memo :

Data NO. : 57  
Ant. pol. : HORIZONTAL  
Engineer : Mickey

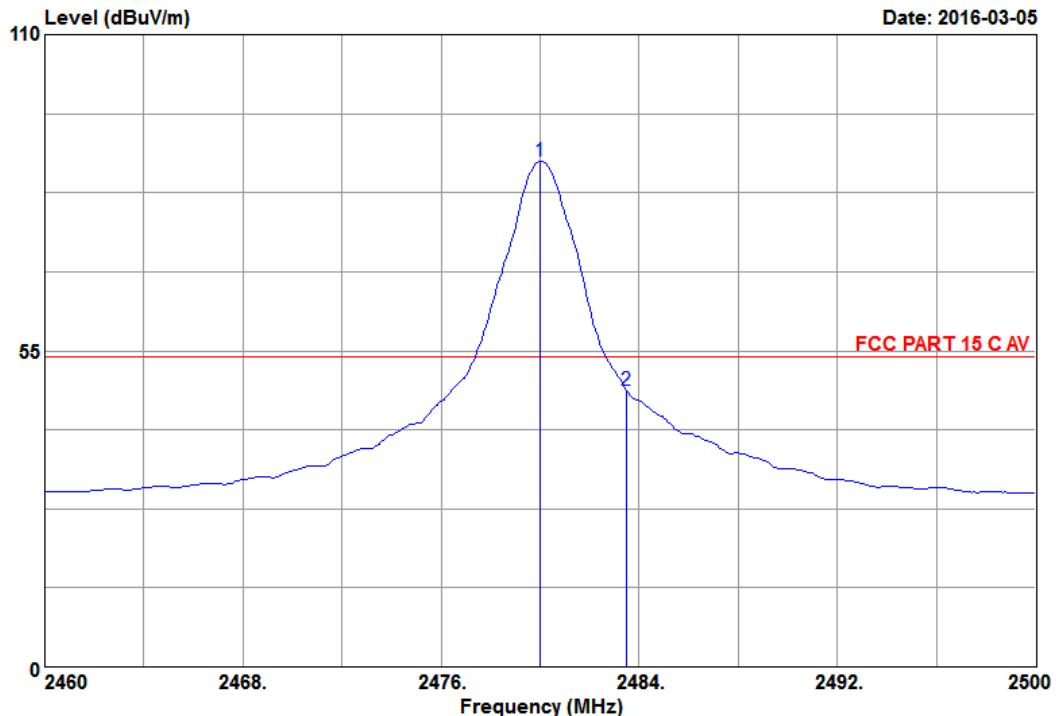
	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.07	28.66	5.18	85.93	34.49	85.28	54.00	-31.28 Average
2	2483.50	28.66	5.18	46.44	34.49	45.79	54.00	8.21 Average

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: 58 File: G:\Test Data\2016\Reports\02\G1603010.EM6 (58)



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 : 9290011419A  
Power Rating: 120Vac/60Hz  
Test Mode : TX CH26 2480MHz  
Memo :

Data NO. : 58  
Ant. pol. : VERTICAL  
Engineer : Mickey

	Ant.	Cable	Preamp	Emission				
Freq.	Factor	Loss	Reading	Factor	Level	Limits	Margin	Remark
(MHz)	(dB)	(dB)	(dB <sub>B</sub> V)	(dB)	(dB <sub>B</sub> V/m)	(dB <sub>B</sub> V/m)	(dB)	
1	2479.98	28.66	5.18	88.53	34.49	87.88	54.00	-33.88 Average
2	2483.50	28.66	5.18	48.82	34.49	48.17	54.00	5.83 Average

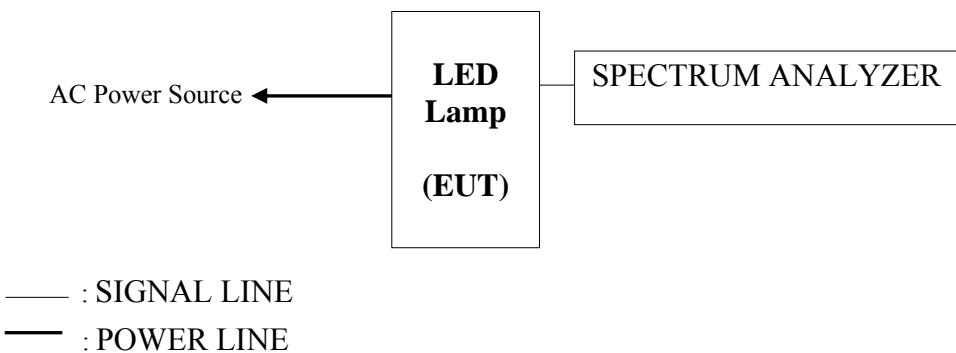
Remarks: 1. Emission Level= Ant.Factor + Cable Loss + Reading - Preamp.Factor.  
2. The emission levels that are 20dB below the official  
limit are not reported.

## 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

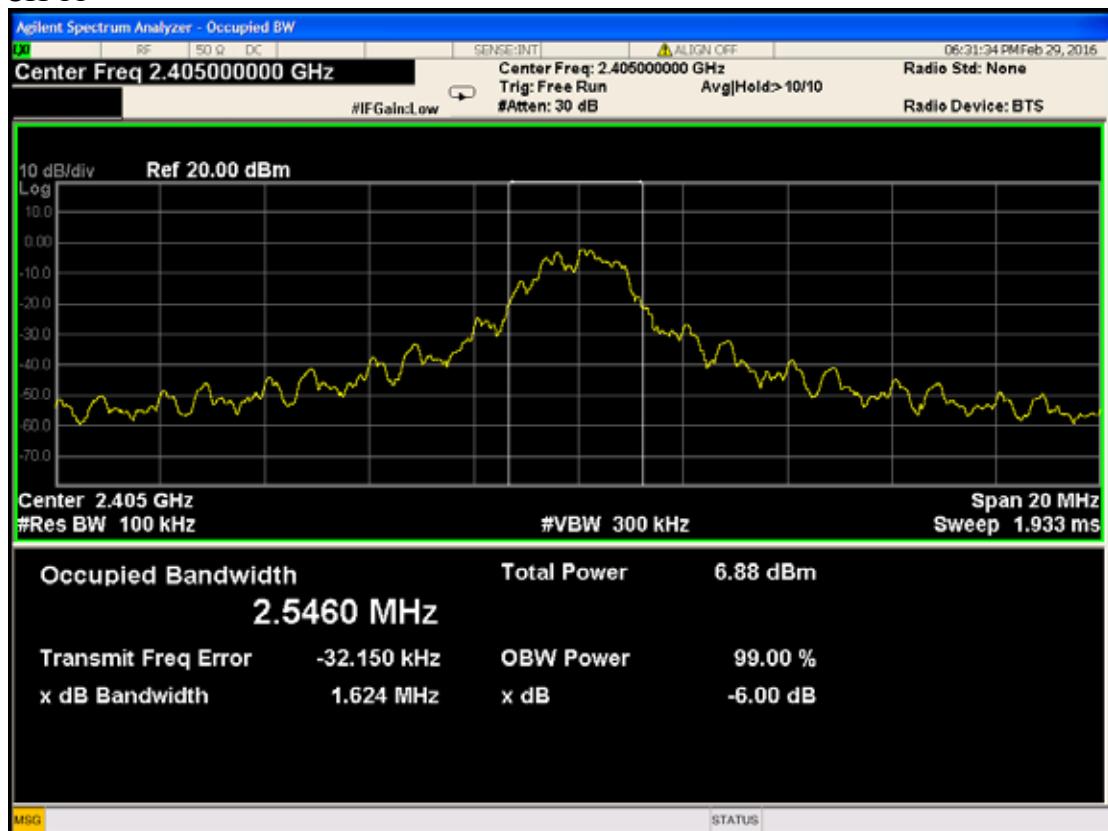
The transmitter output was connected to the test receiver / spectrum analyzer. The bandwidth of the fundamental frequency was measured by spectrum analyzer. The 6 dB bandwidth is defined as the total spectrum power of which is higher than peak power minus 6 dB. The measurement guideline was according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

### 5.5. Test Results

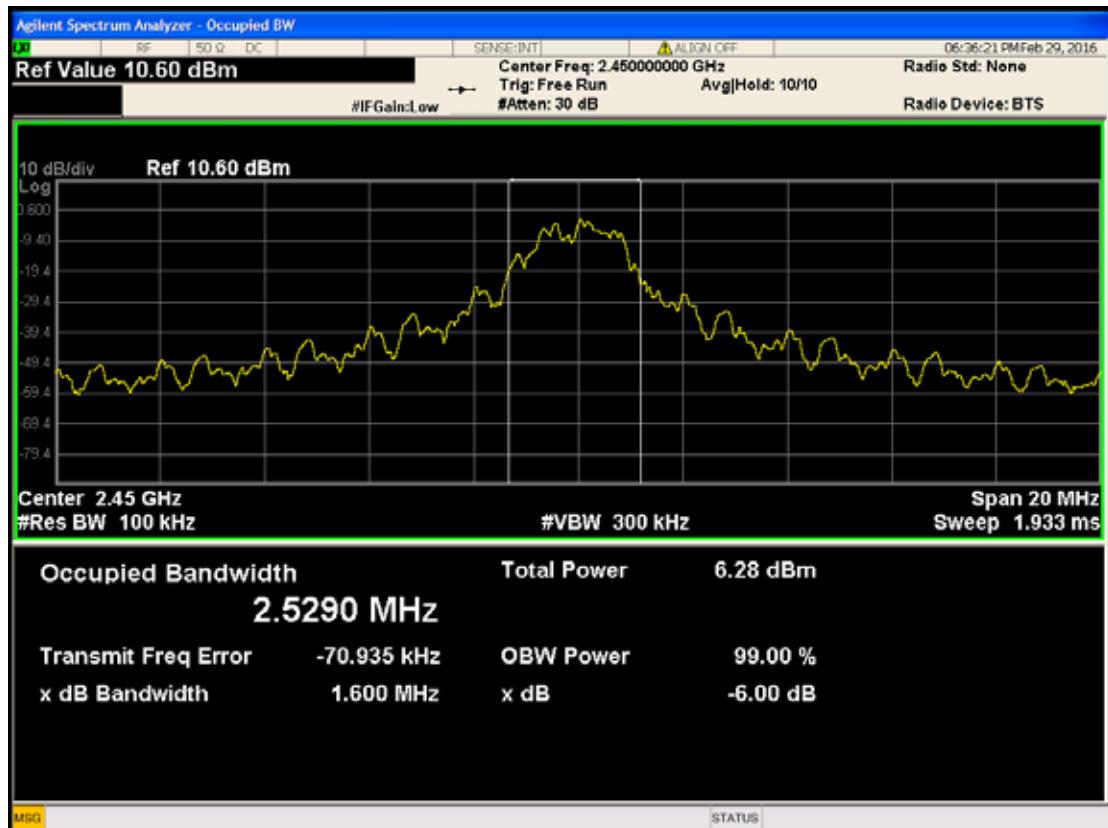
**PASSED.** All the test results are attached in next pages.

Channel	Center Frequency(MHz)	6 dB Bandwidth(MHz)
11	2405	<b>1.624</b>
20	2450	<b>1.600</b>
25	2475	<b>1.622</b>

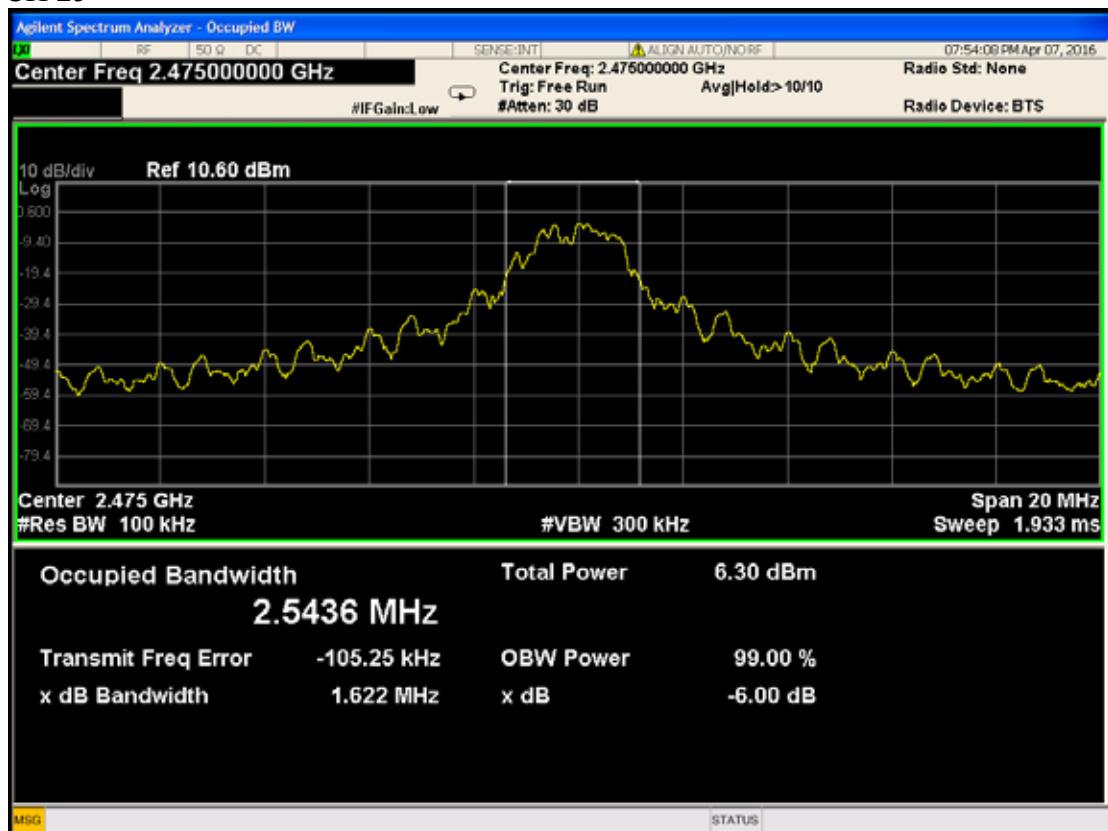
## CH 11



## CH 20



CH 25

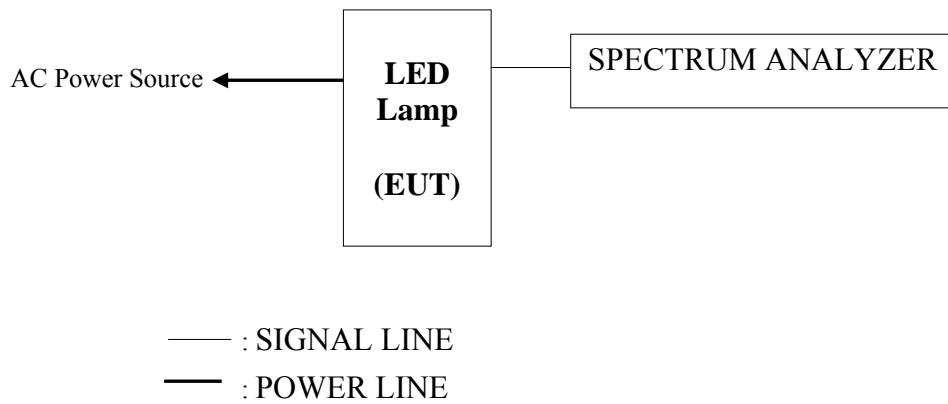


## 6. OUTPUT POWER MEASUREMENT

### 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  $\geq 3 \times$  RBW.
- d) Number of points in sweep  $\geq 2 \times$  span / RBW. (This gives bin-to-bin spacing  $\leq$  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  $\geq 98 \%$ , 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	1.95	30
20	2450	1.72	30
25	2475	1.51	30
26	2480	-7.07	30

## 7. BAND EDGES MEASUREMENT

### 7.1. 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

### 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)).

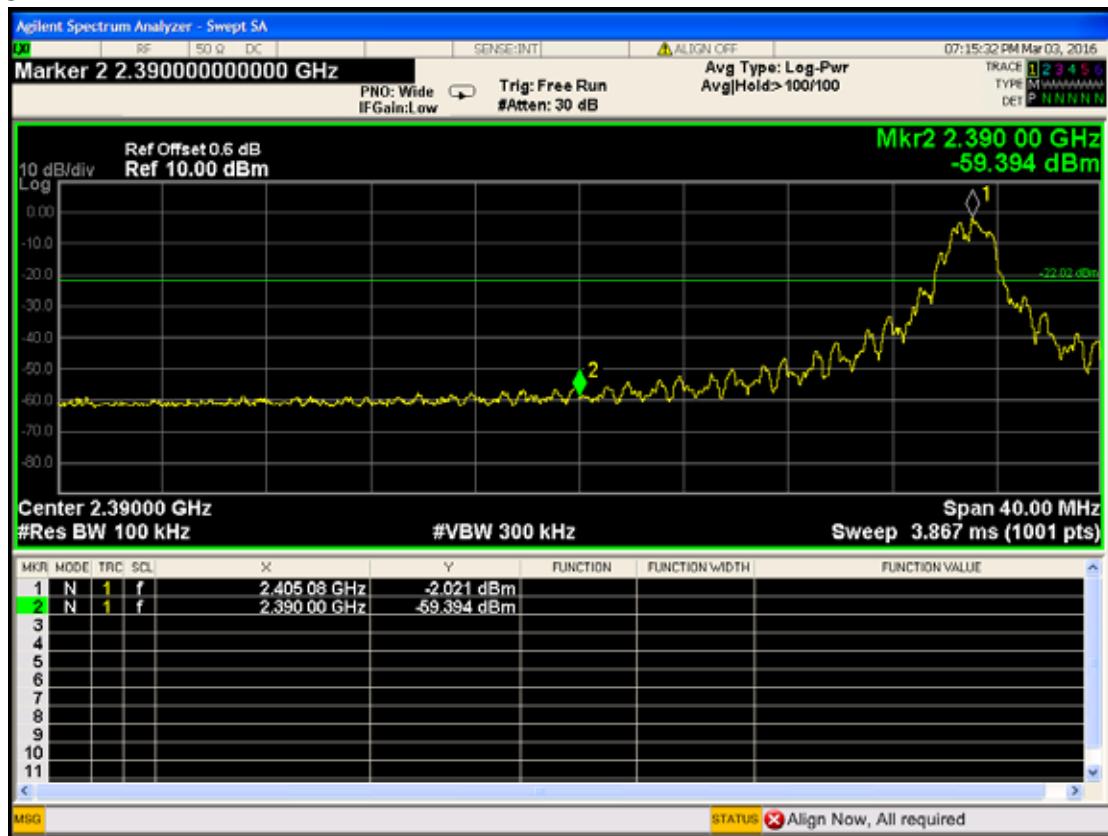
### 7.4. Test Procedure

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.

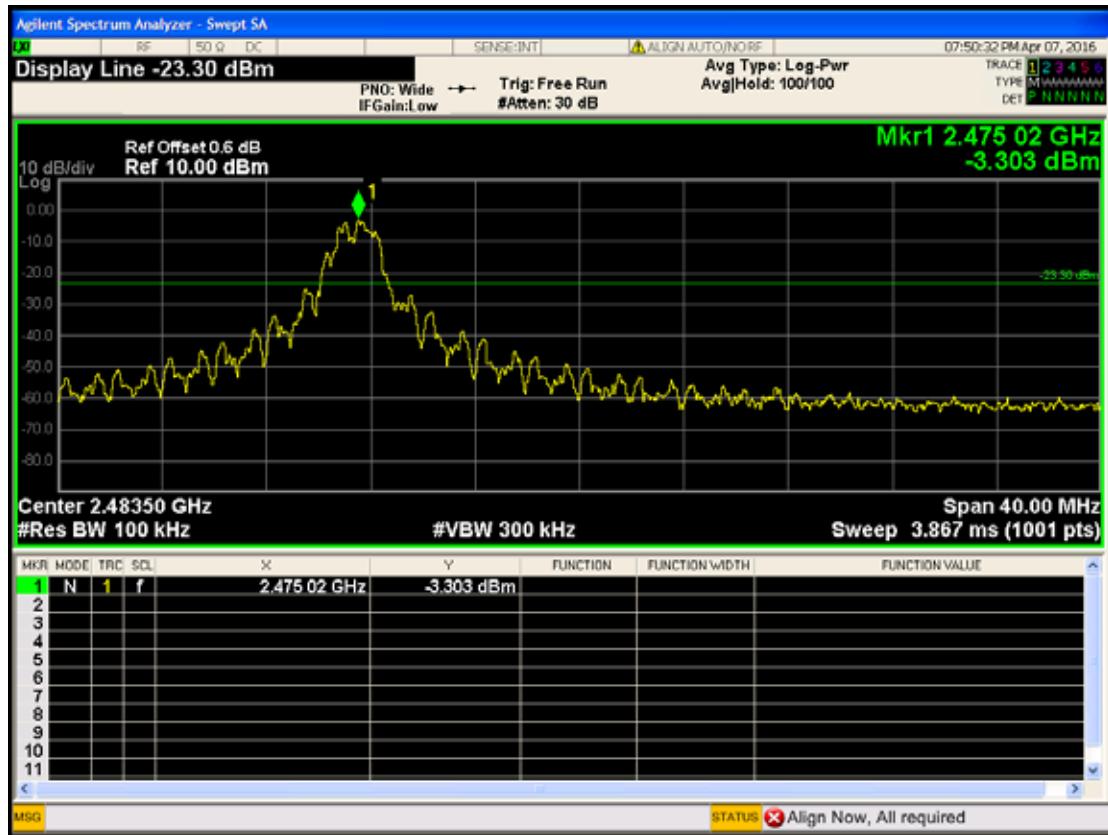
### 7.5. Test Results

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

CH11



CH25



## 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))

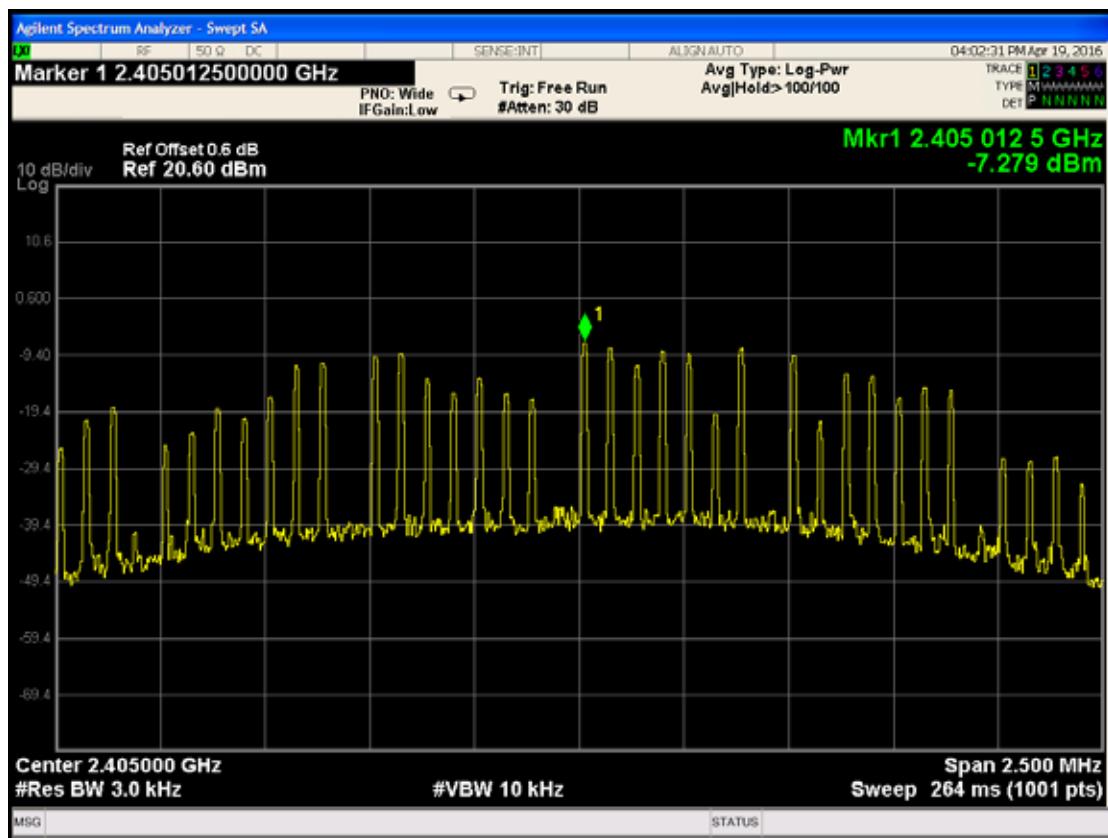
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### 8.4. Test Results

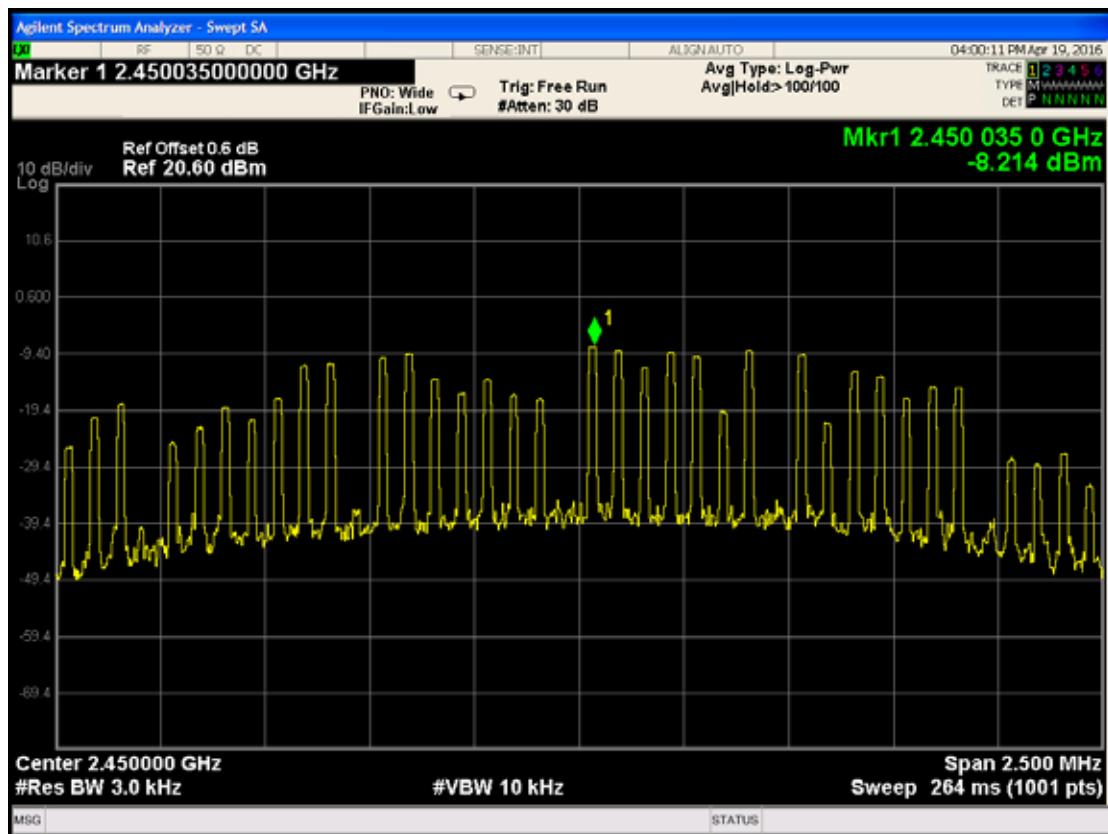
**PASSED.** All the test results are attached in next page.

Channel	Frequency(GHz)	Value(dBm/3kHz)
11	2.405	-7.279
20	2.450	-8.214
25	2.475	-8.398

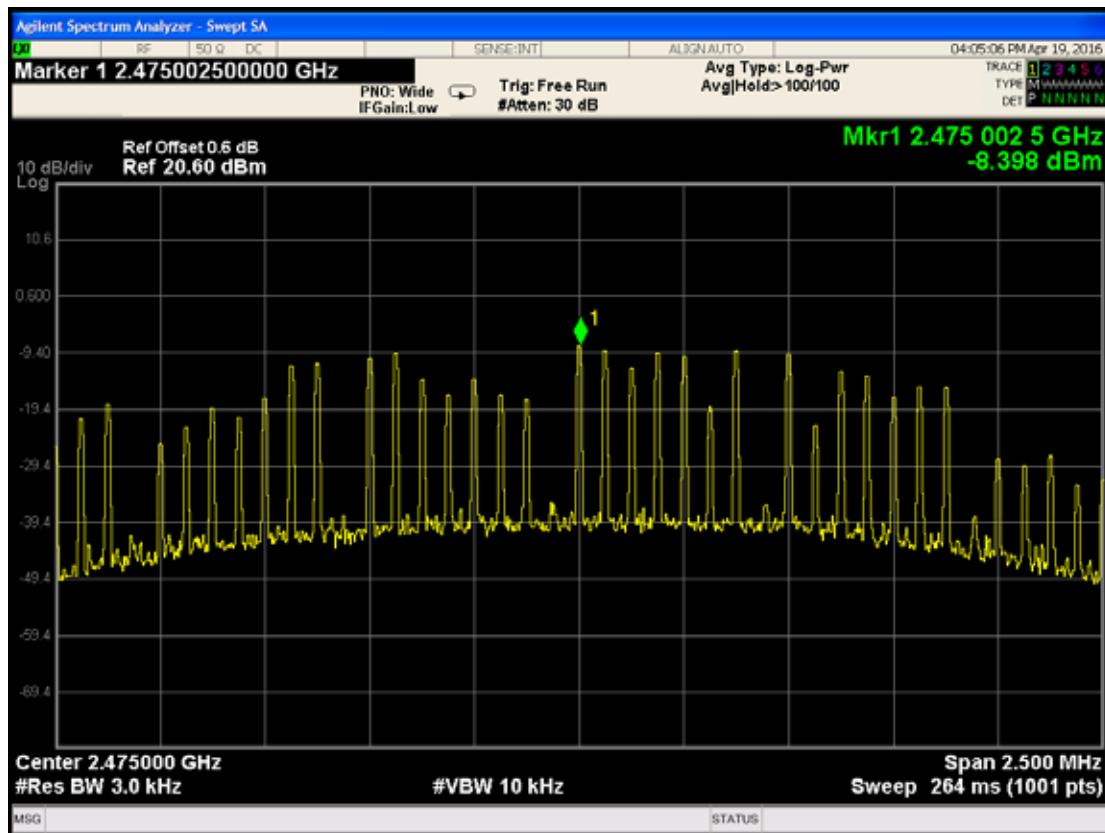
CH 11



CH 20



CH 25



## 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 = 100kHz, VBW  $\geq$  300 kHz, scan up through 10<sup>th</sup> harmonic. All harmonics/spurs must be at least 30 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

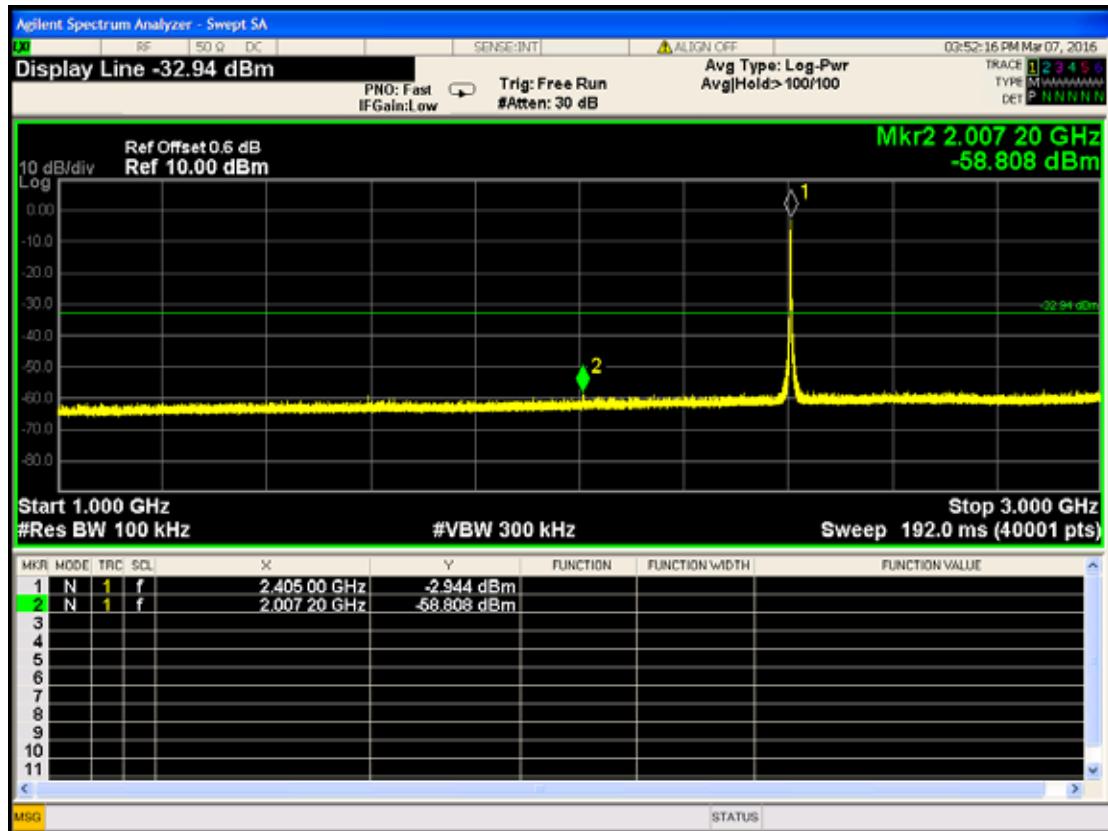
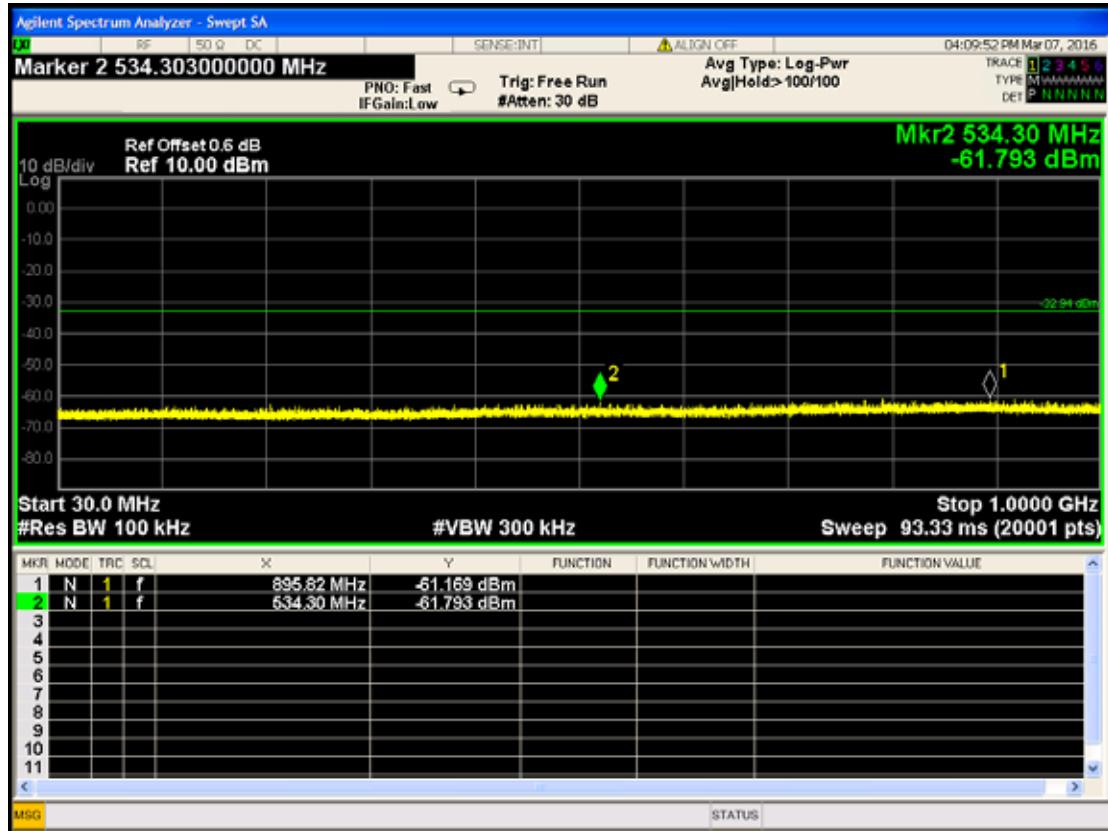
**PASSED.** All the test results are attached in next pages.

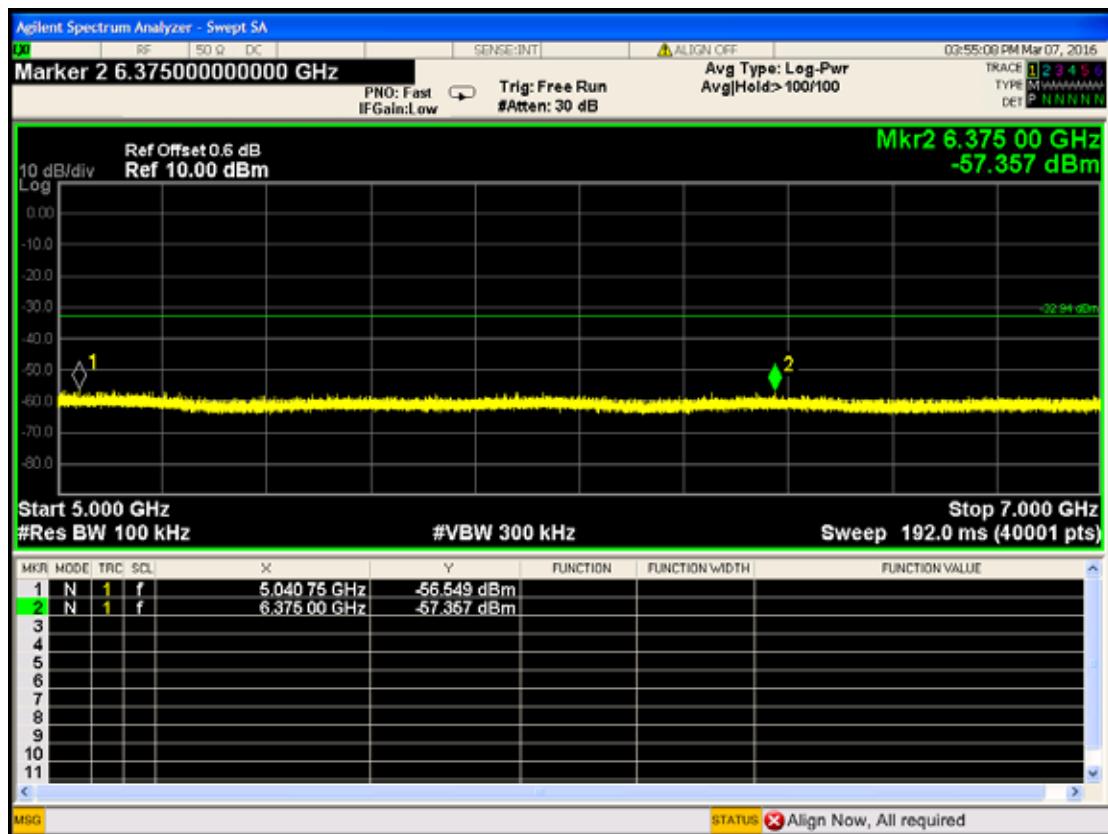
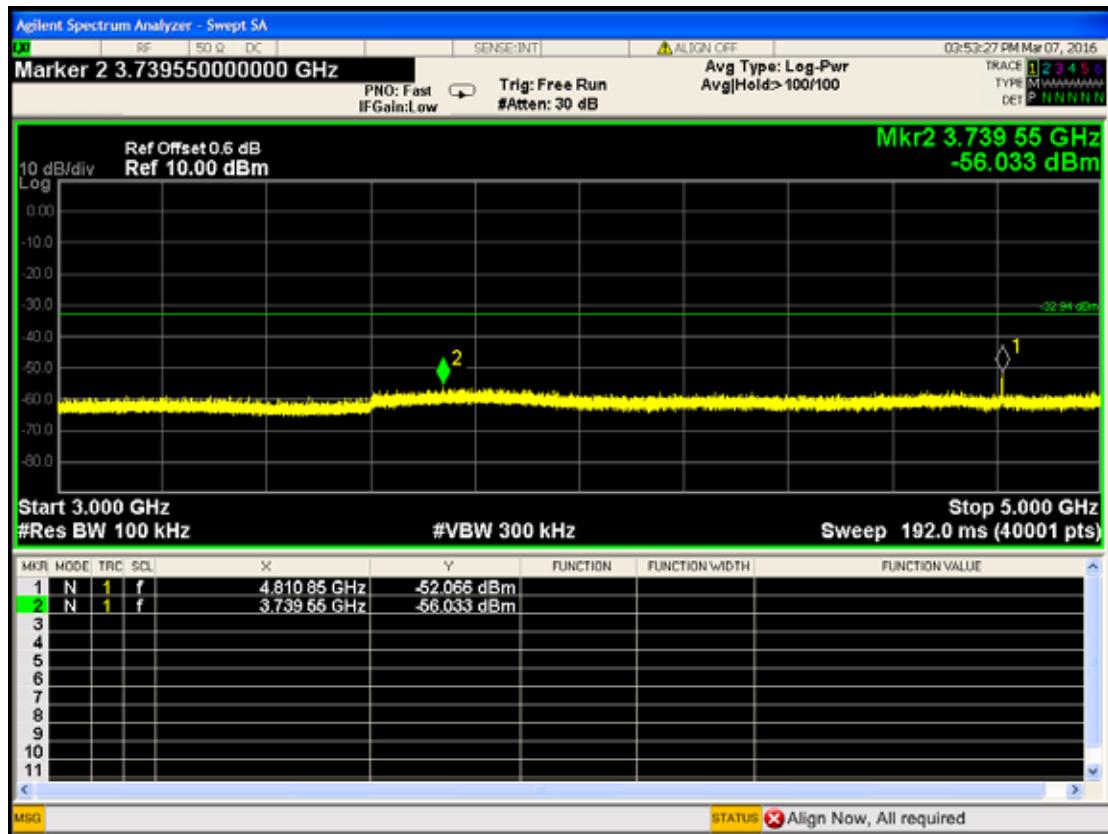
Channel	Frequency(MHz)	Amplitude(dBm)
11	895.82	-61.169
	534.30	-61.793
	2405.00	-2.944
	2007.20	-58.808
	4810.85	-52.066
	3739.55	-56.033
	5040.75	-56.549
	6375.00	-57.357
	8381.65	-56.559
	8174.85	-56.834
	10649.60	-56.779
	9843.80	-57.750
	12084.05	-57.461
	11343.55	-57.976
	13654.55	-56.440
	14195.80	-56.030
	15205.15	-55.803
	16270.35	-56.557
	18935.60	-54.690
	18371.00	-55.106
	19155.75	-54.896
	19825.25	-55.006
	21920.15	-53.377
	21648.10	-54.917
	23765.40	-53.629
	24518.75	-54.462
20	828.41	-60.986
	275.22	-62.581
	2450.00	-3.673
	1953.95	-60.867
	4900.80	-53.208
	3763.35	-55.289

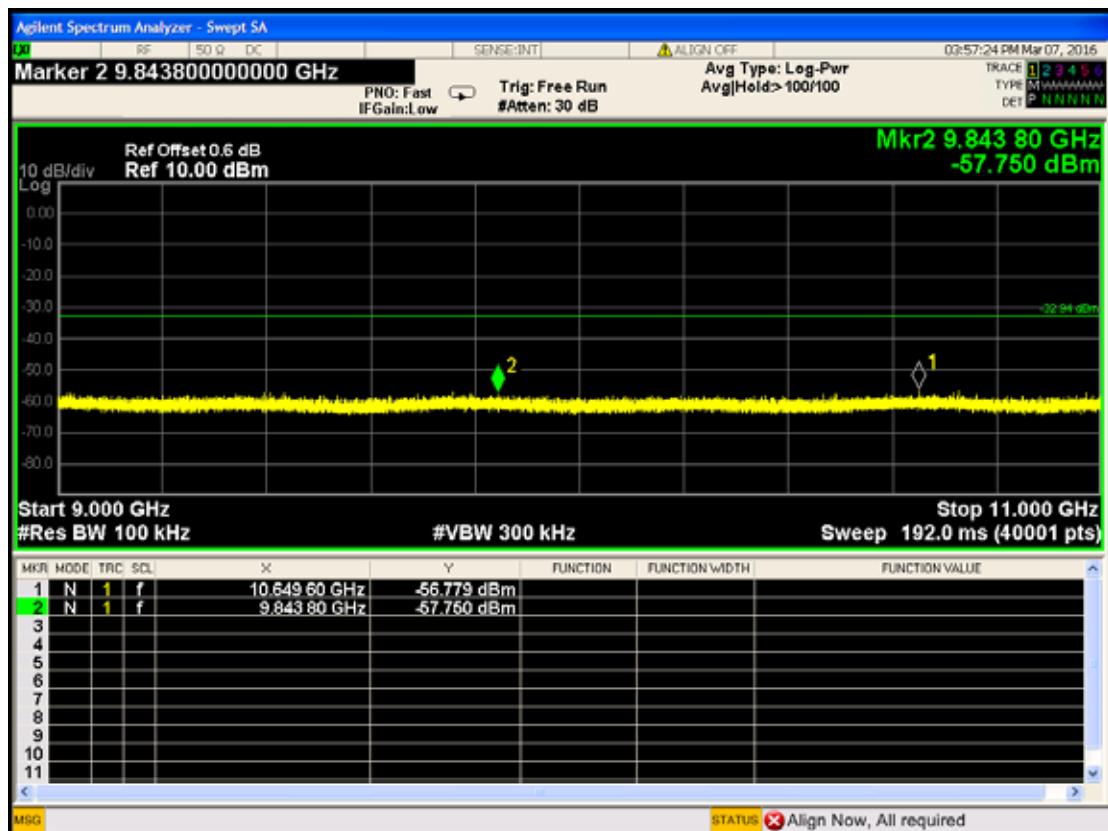
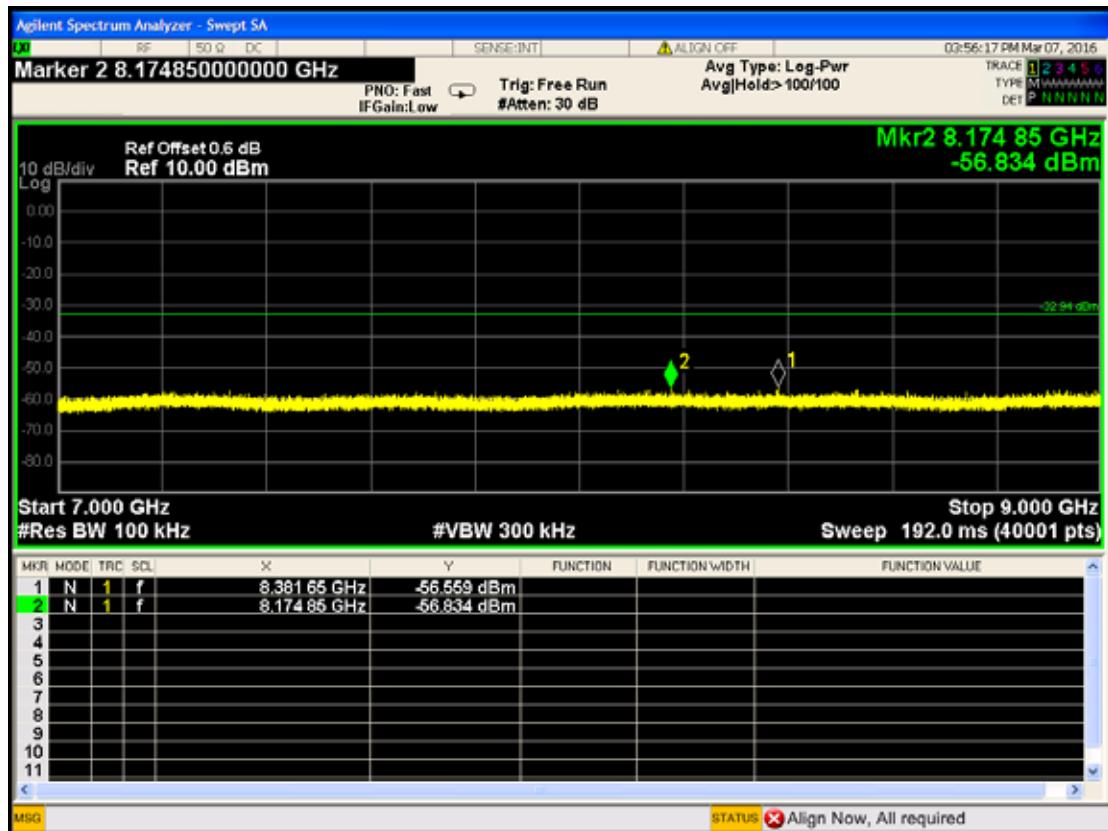
	5125.80	-56.808
	5985.80	-56.751
	8467.35	-56.706
	7597.65	-56.847
	10622.40	-56.492
	9813.40	-56.841
	11091.45	-57.180
	11485.20	-56.999
	13634.70	-56.127
	14090.95	-56.194
	15351.45	-55.869
	16022.15	-56.640
	18953.05	-54.746
	14478.05	-55.022
	19174.60	-54.151
	19658.80	-54.735
	21884.70	-53.578
	22449.75	-54.038
	23605.90	-53.485
	24019.90	-53.529
25	851.15	-59.985
	487.31	-61.677
	2475.00	-3.066
	2709.45	-56.469
	4948.85	-54.284
	3735.85	-54.774
	5159.95	-55.977
	5876.50	-56.921
	8862.10	-56.096
	7266.40	-56.242
	9758.00	-56.245
	10631.85	-56.217
	11730.00	-56.400
	12152.95	-56.776
	13765.75	-55.014
	14467.05	-55.885
	15428.00	-55.792

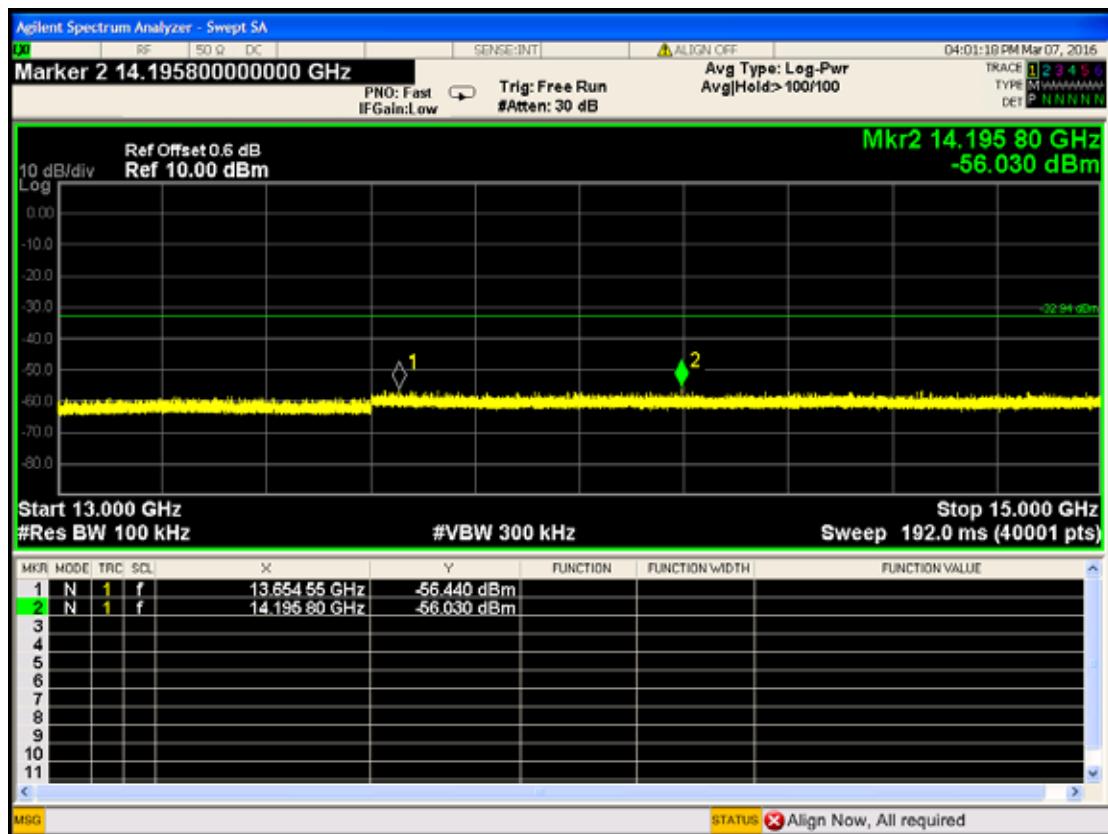
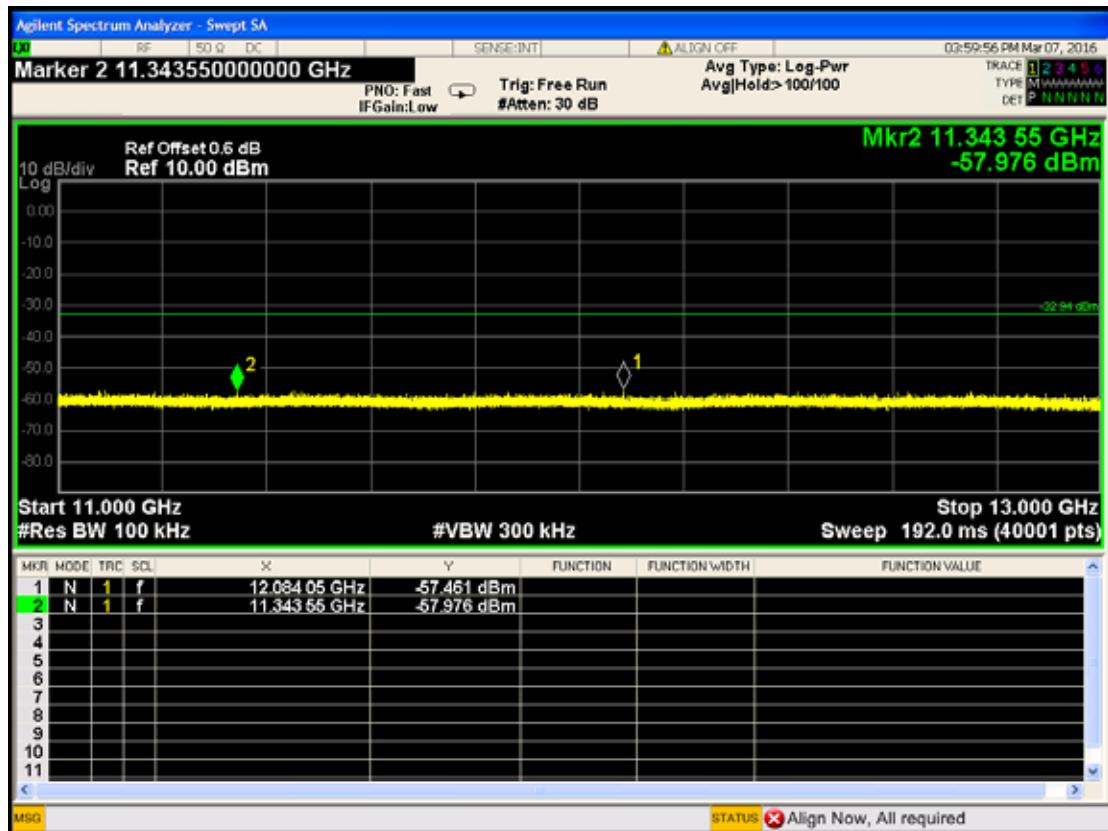
	16000.60	-55.913
	18505.45	-54.022
	17294.10	-55.058
	19106.65	-53.796
	20188.85	-54.851
	22539.40	-52.810
	21882.90	-54.792
	23663.75	-51.820
	24294.90	-53.370

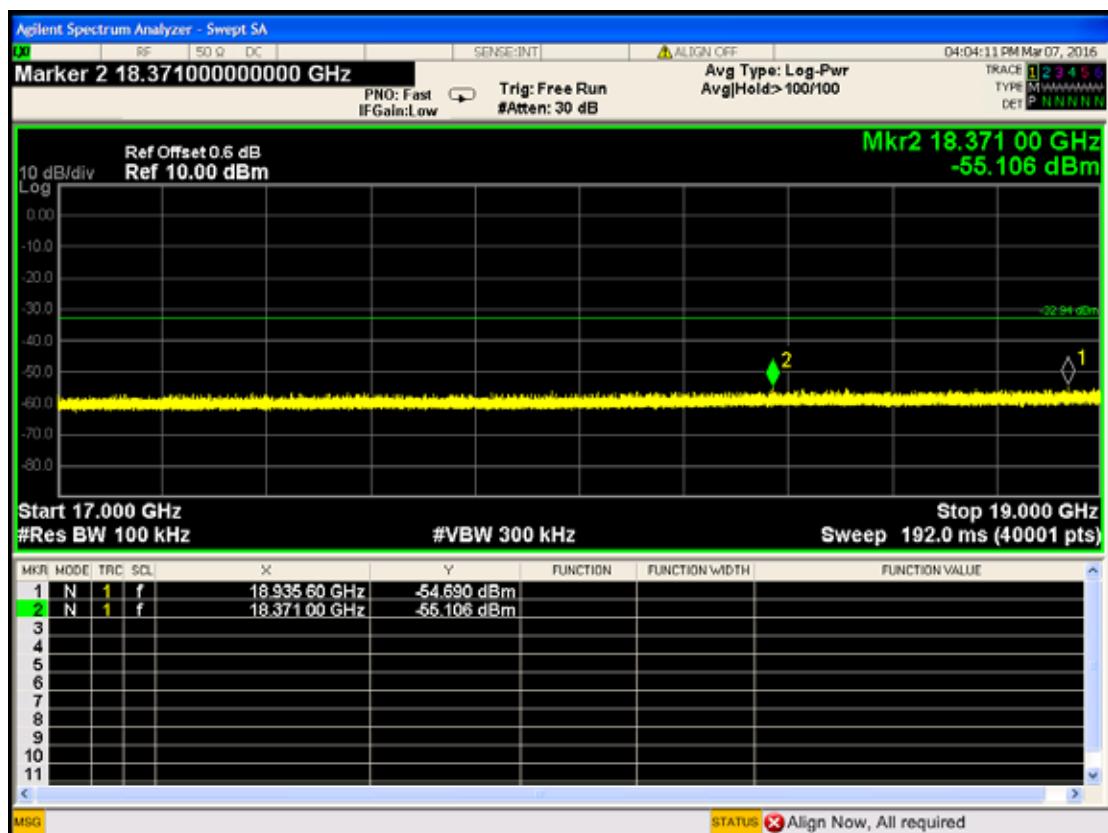
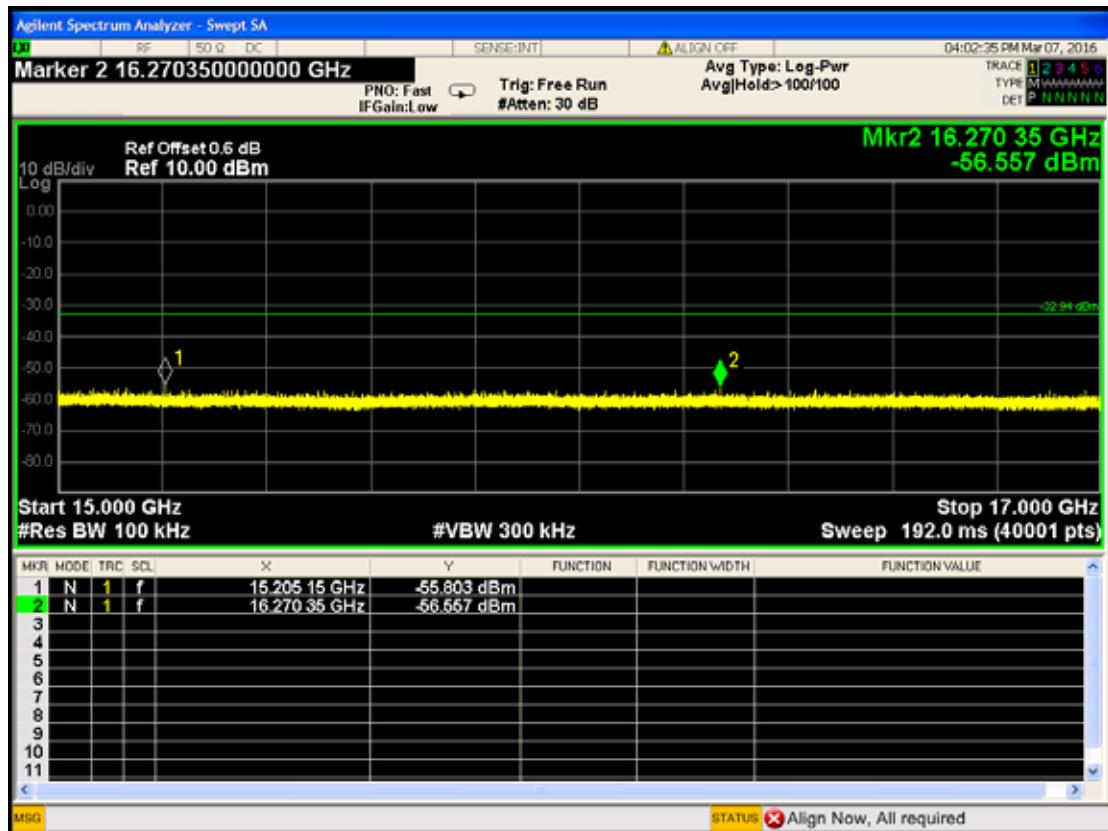
CH 11

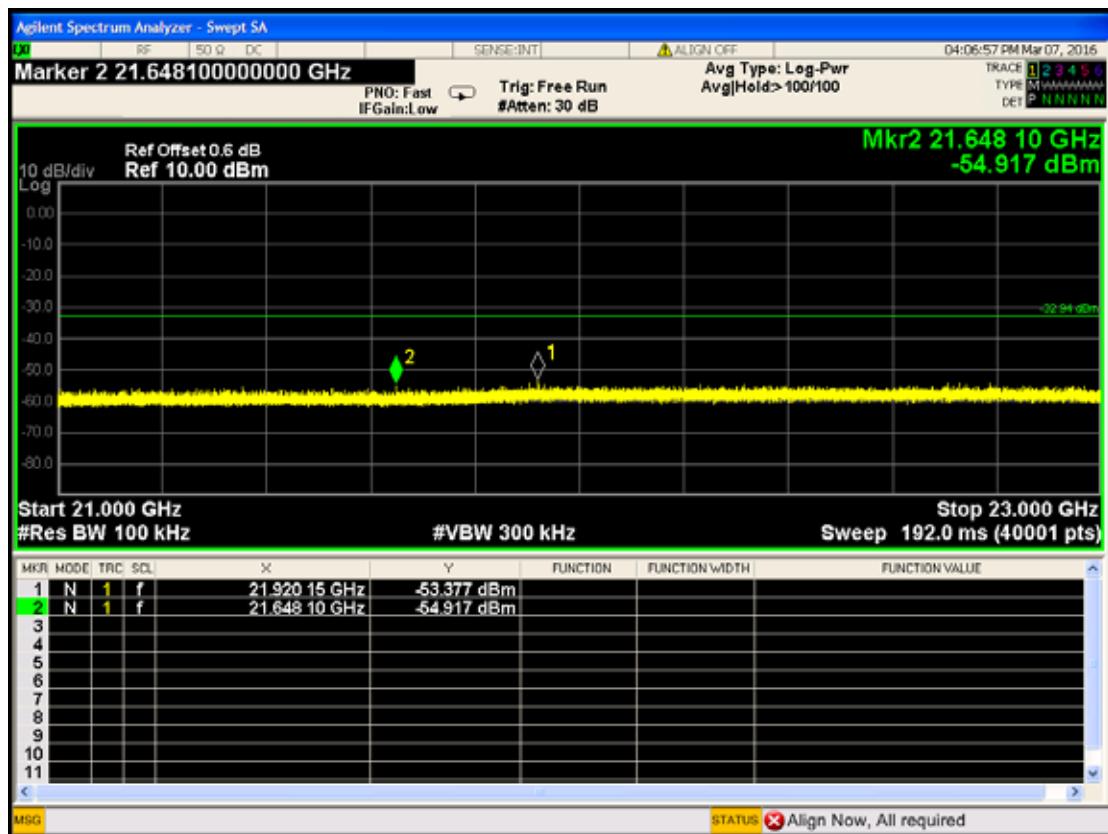
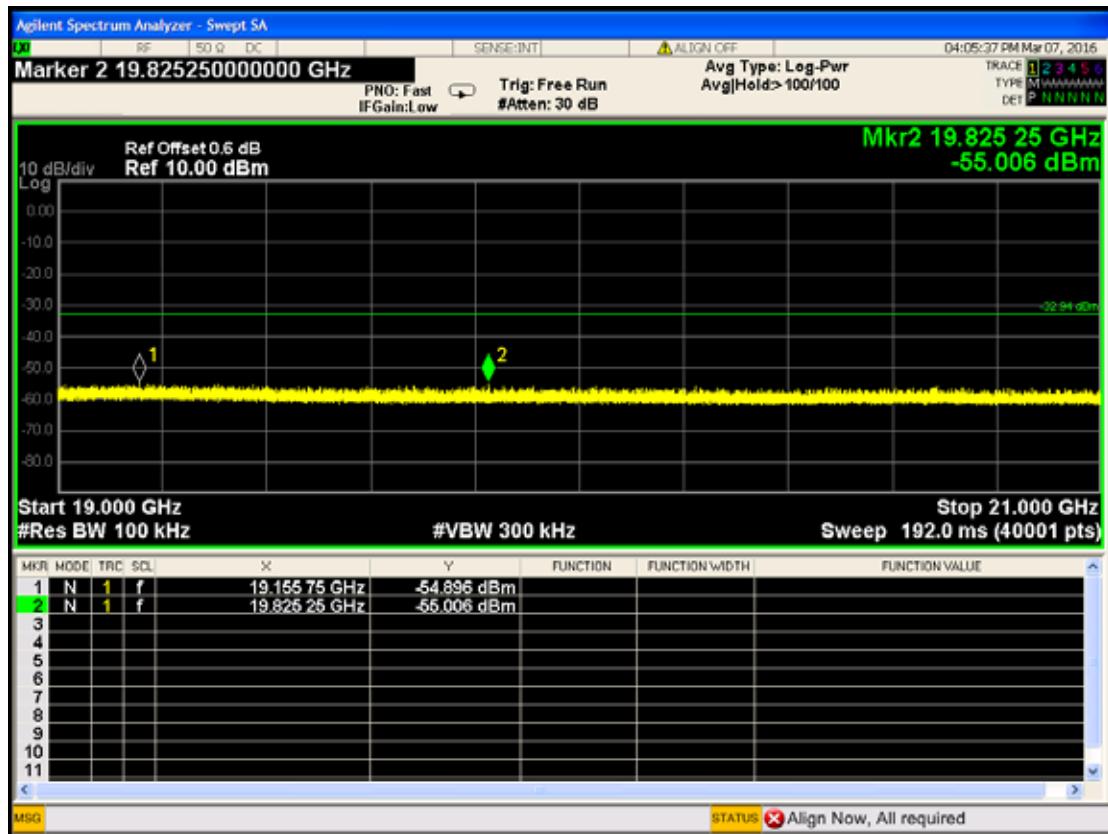


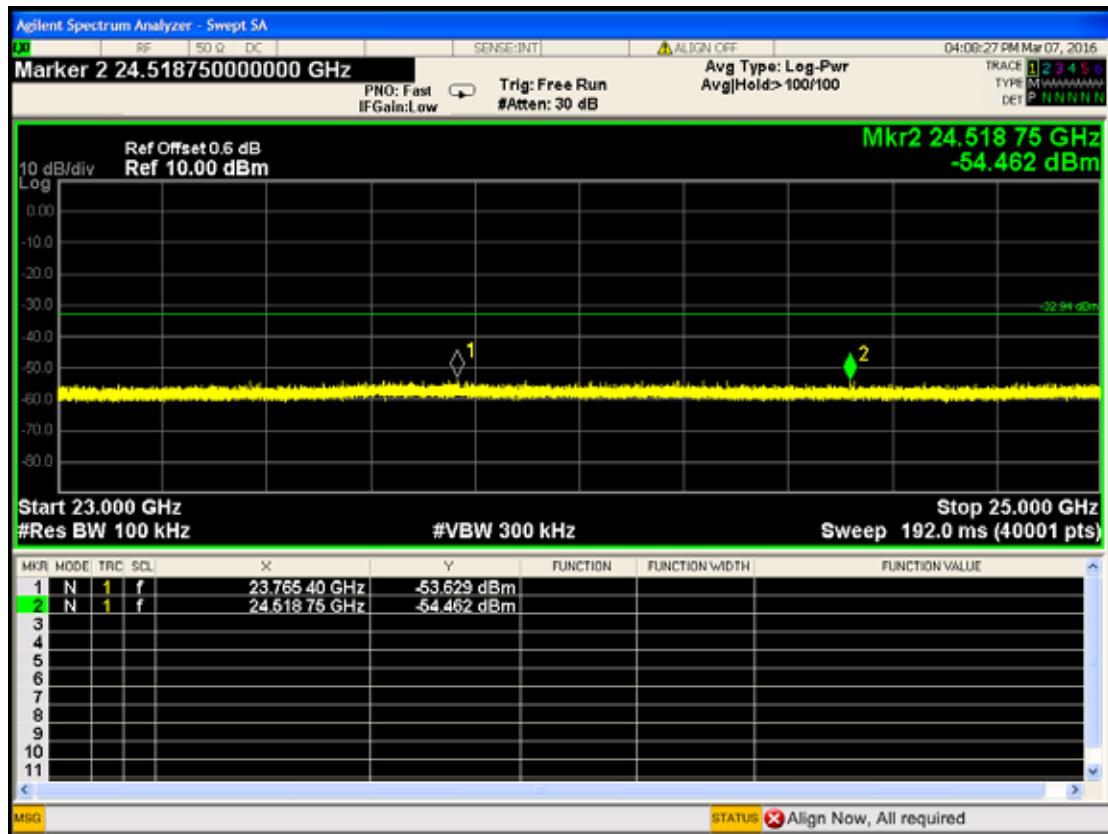




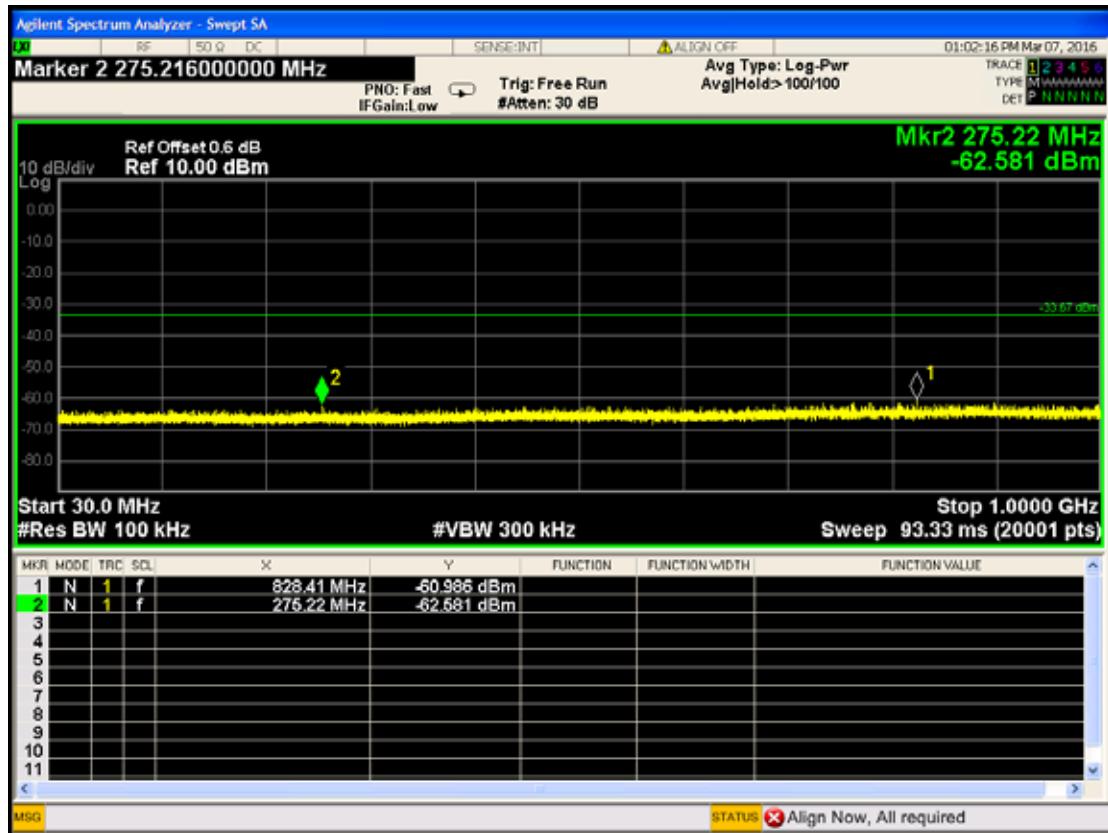


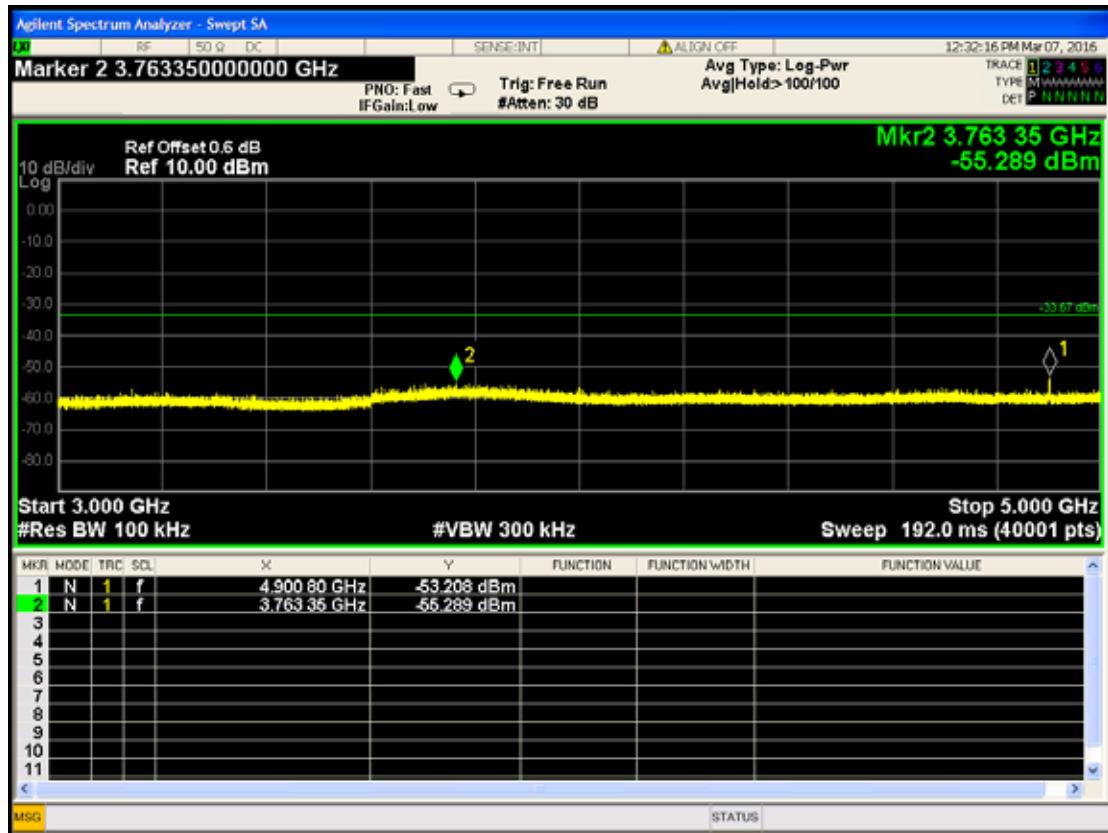
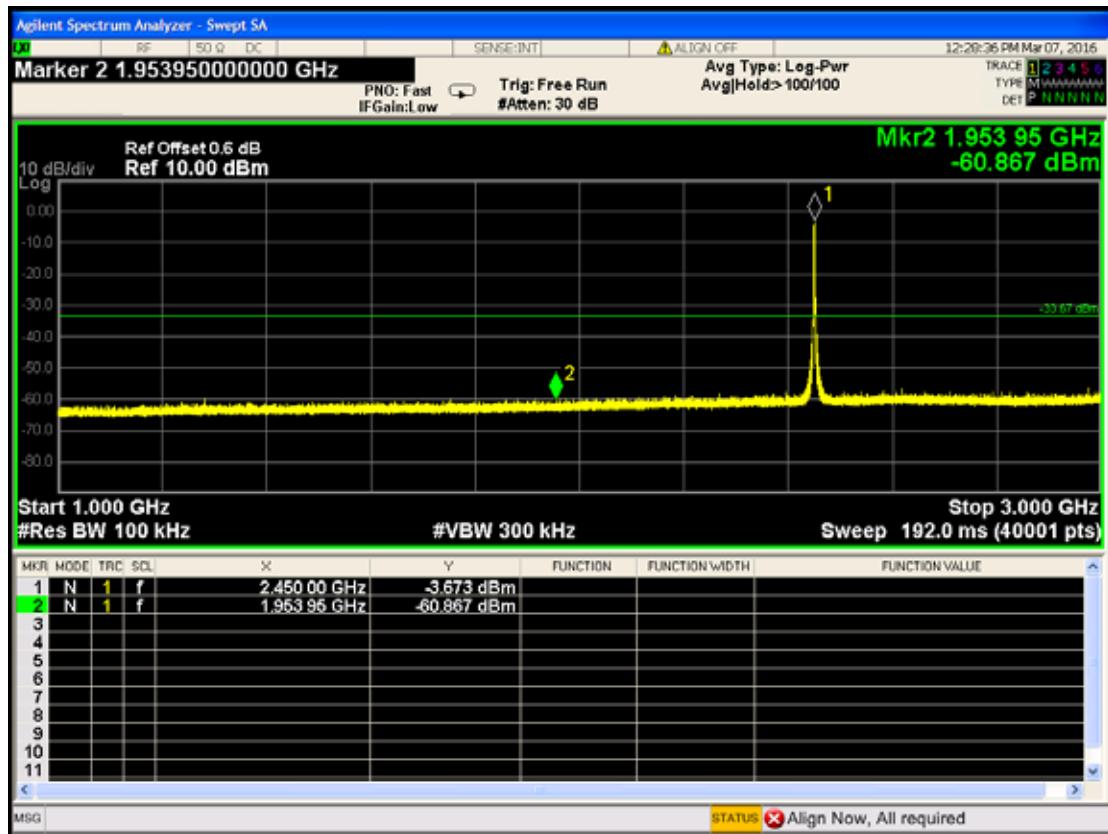


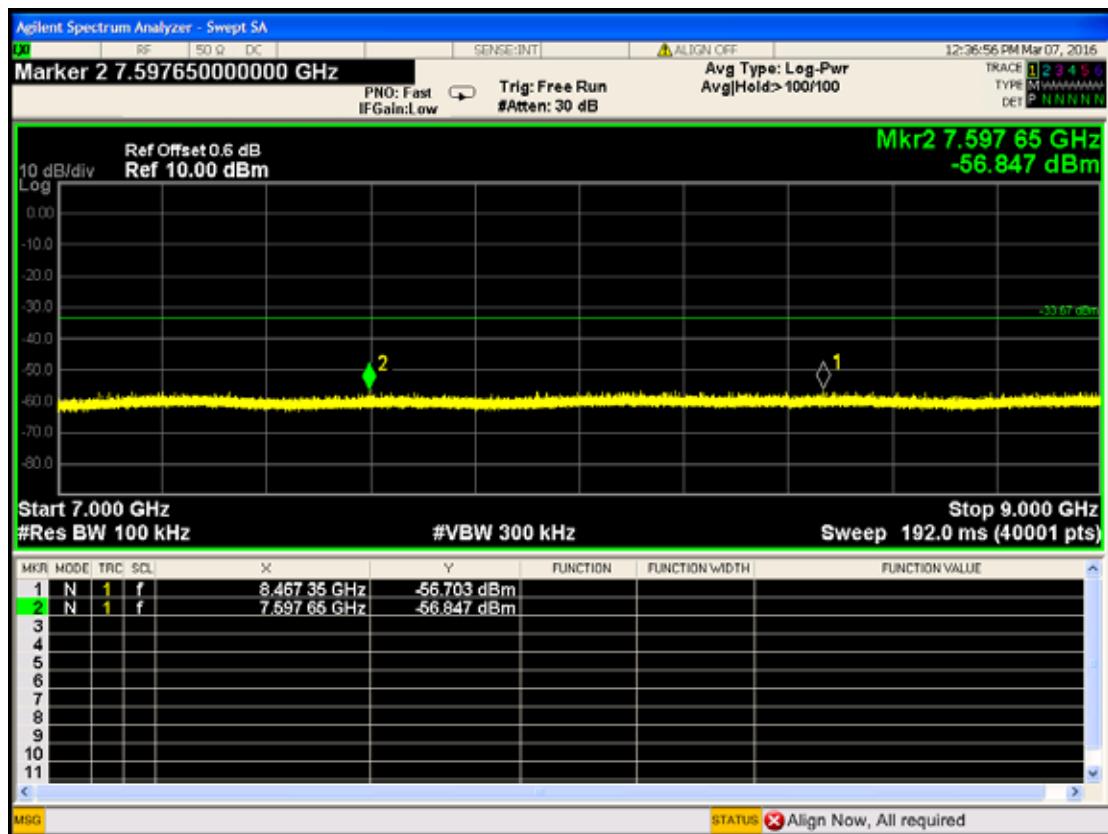
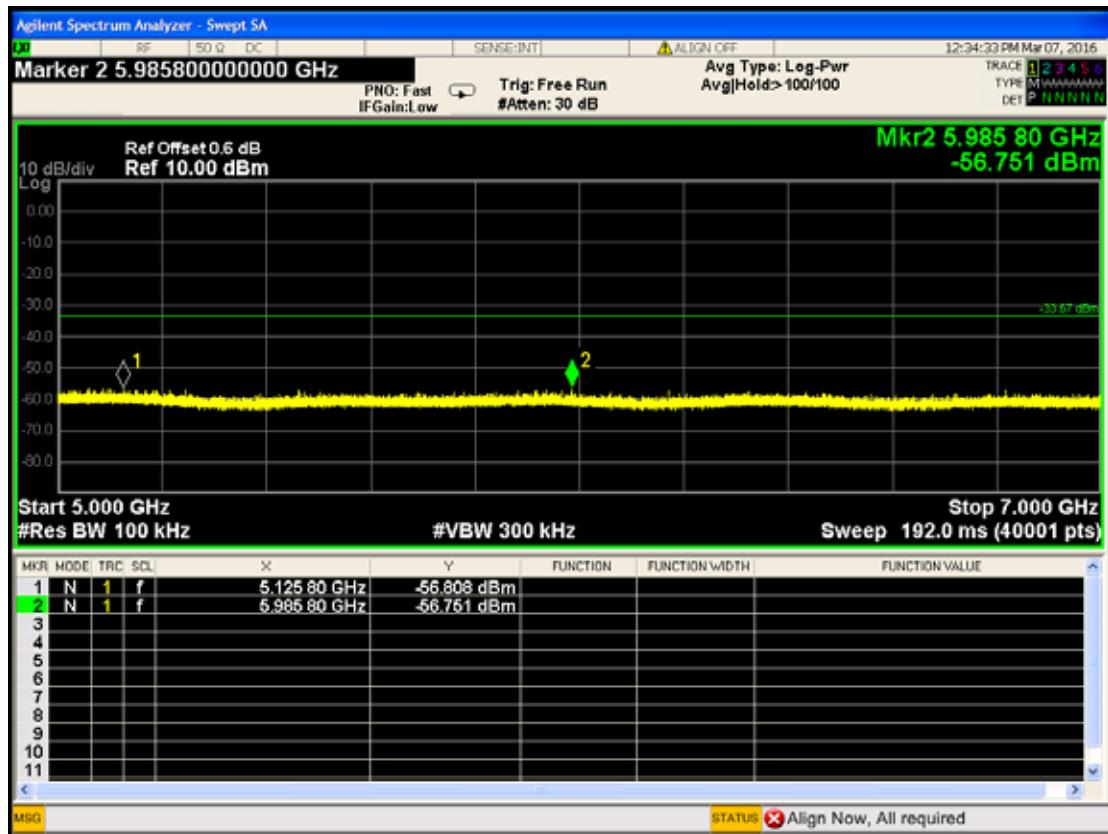


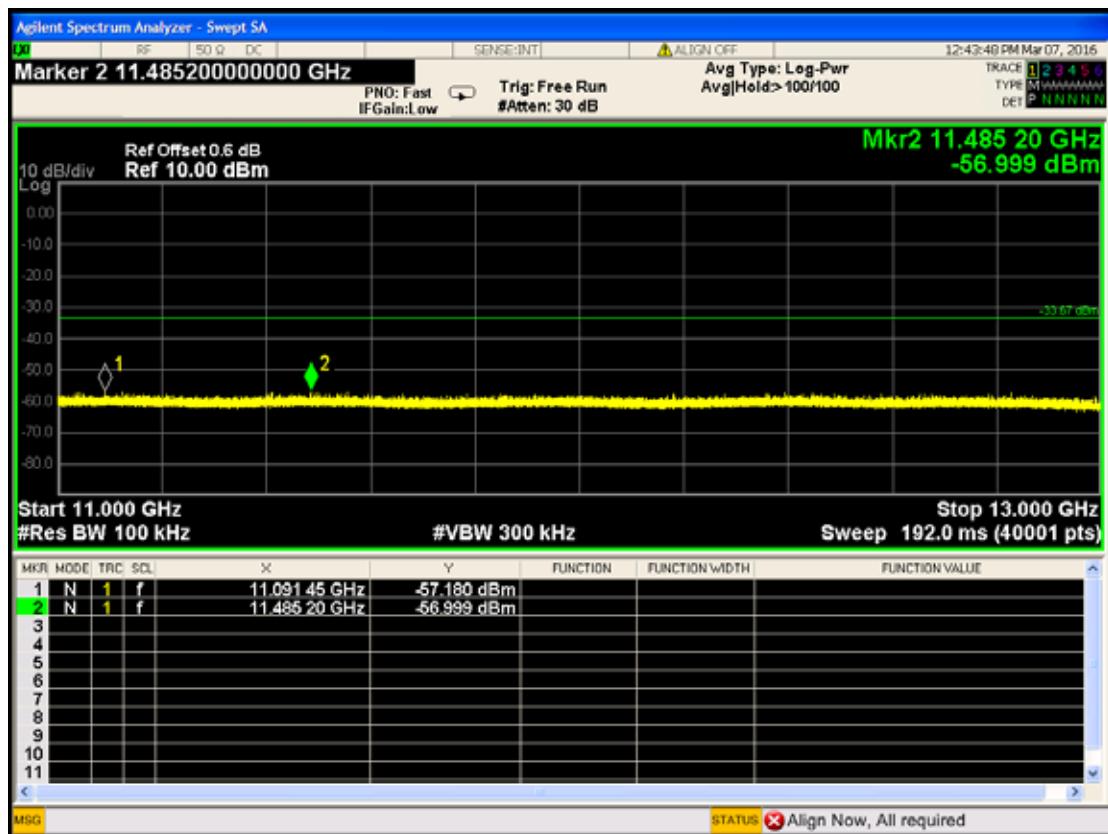
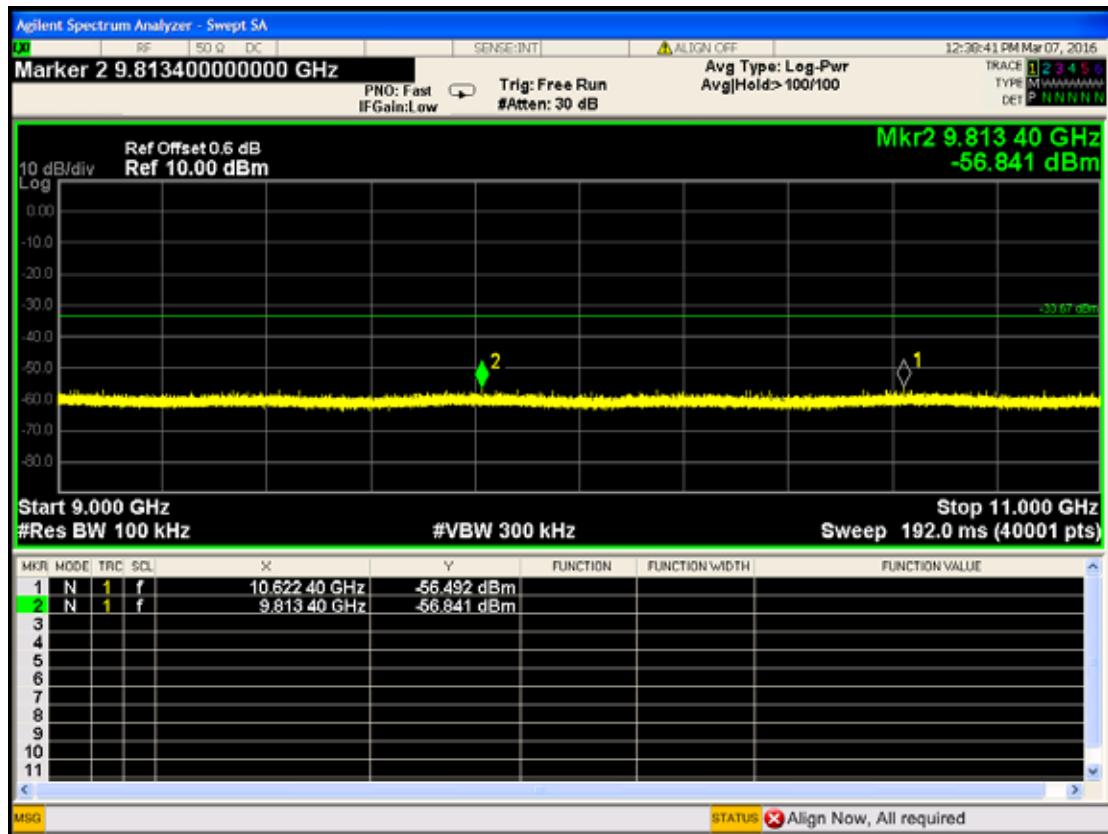


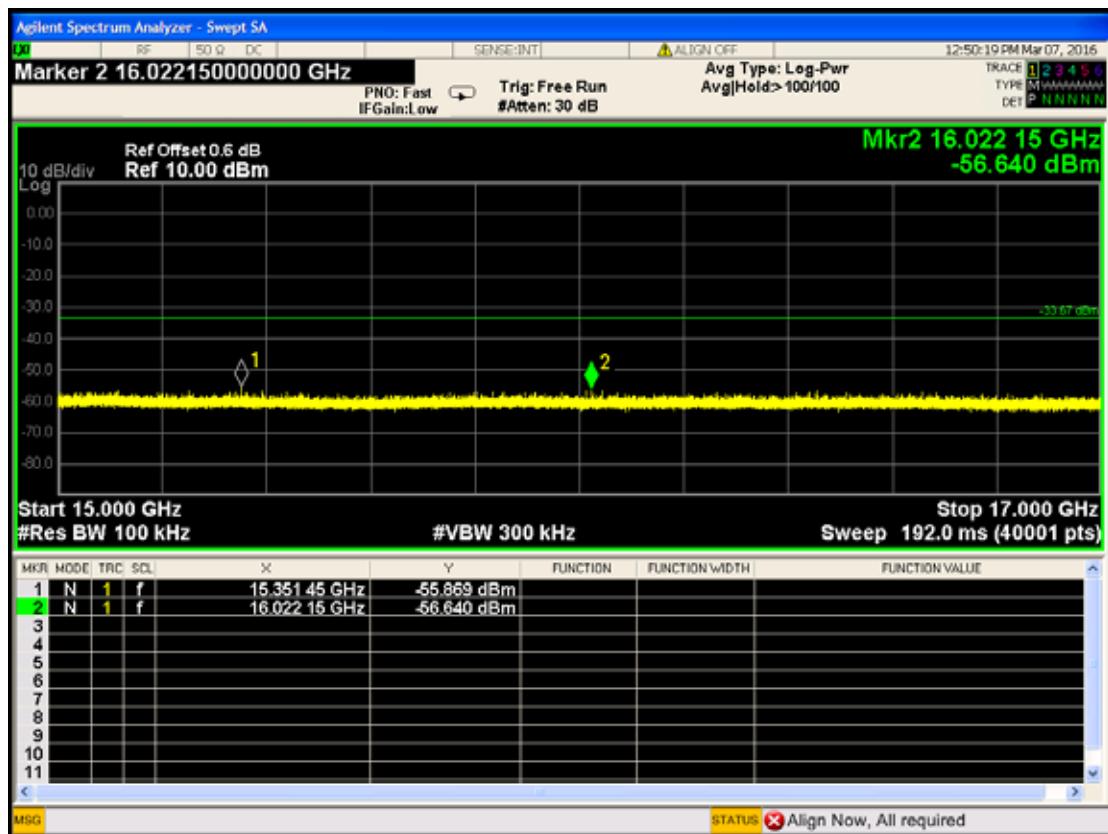
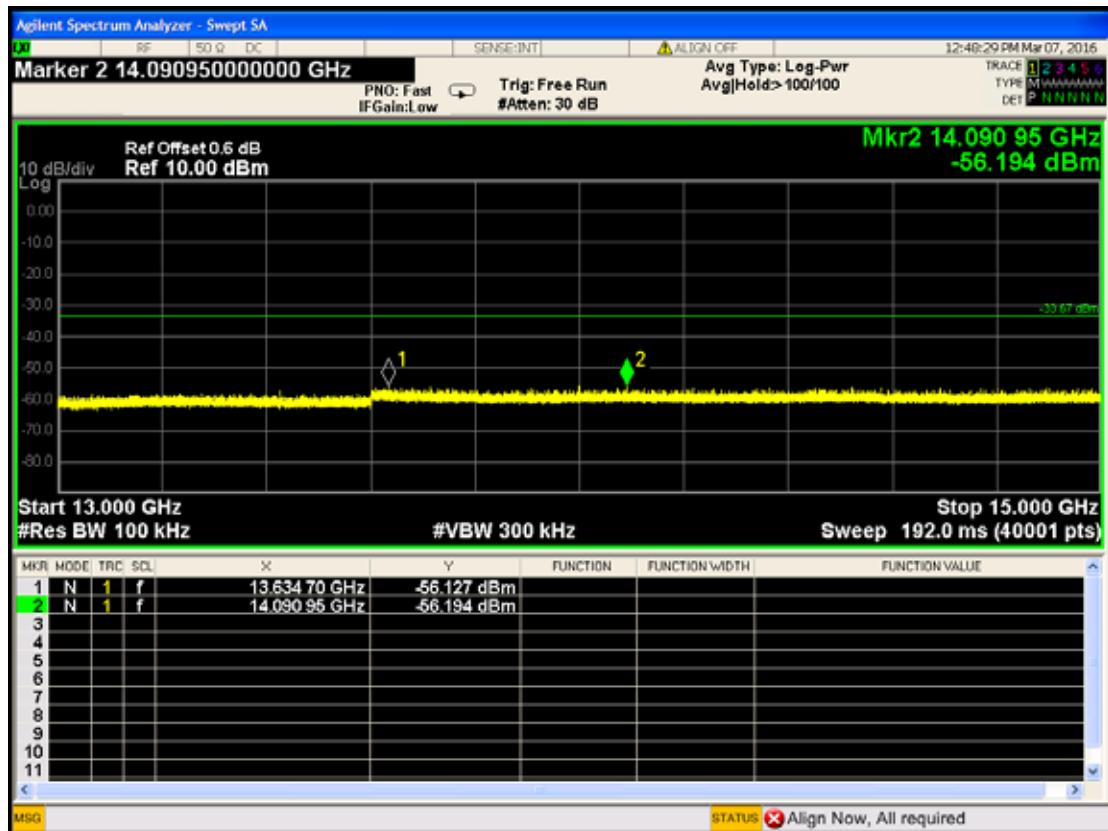
## CH 20

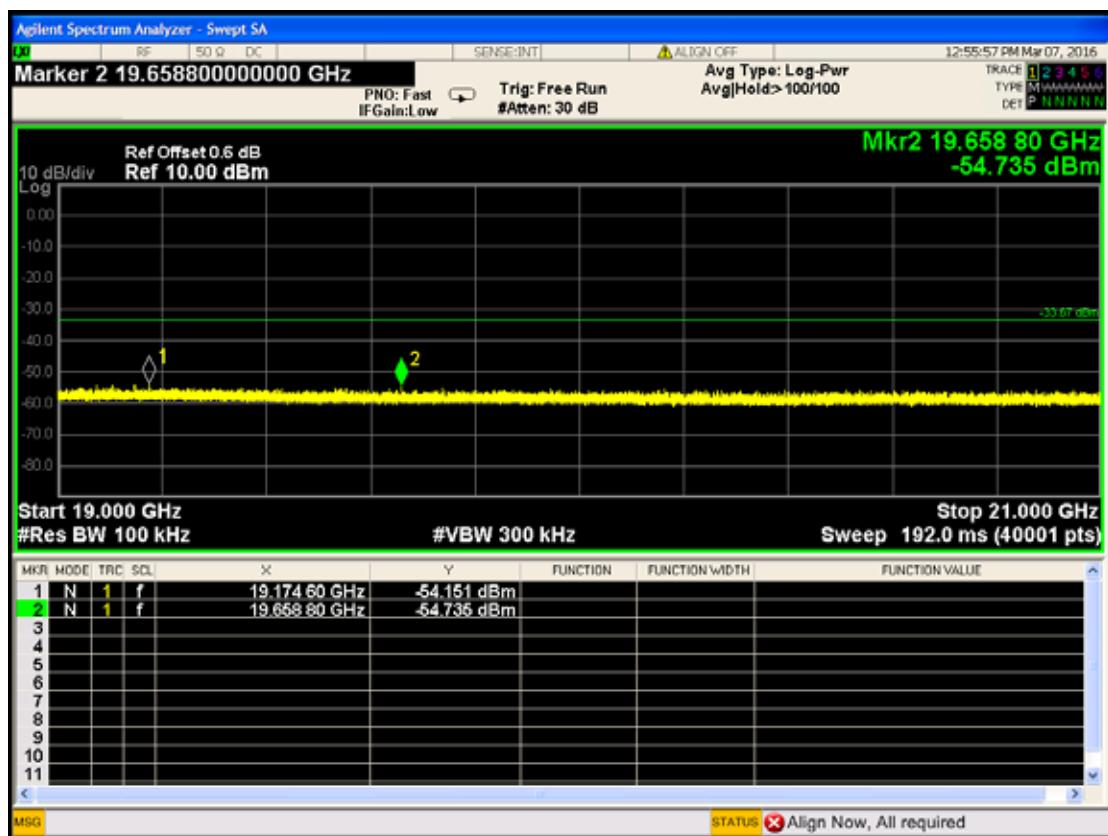
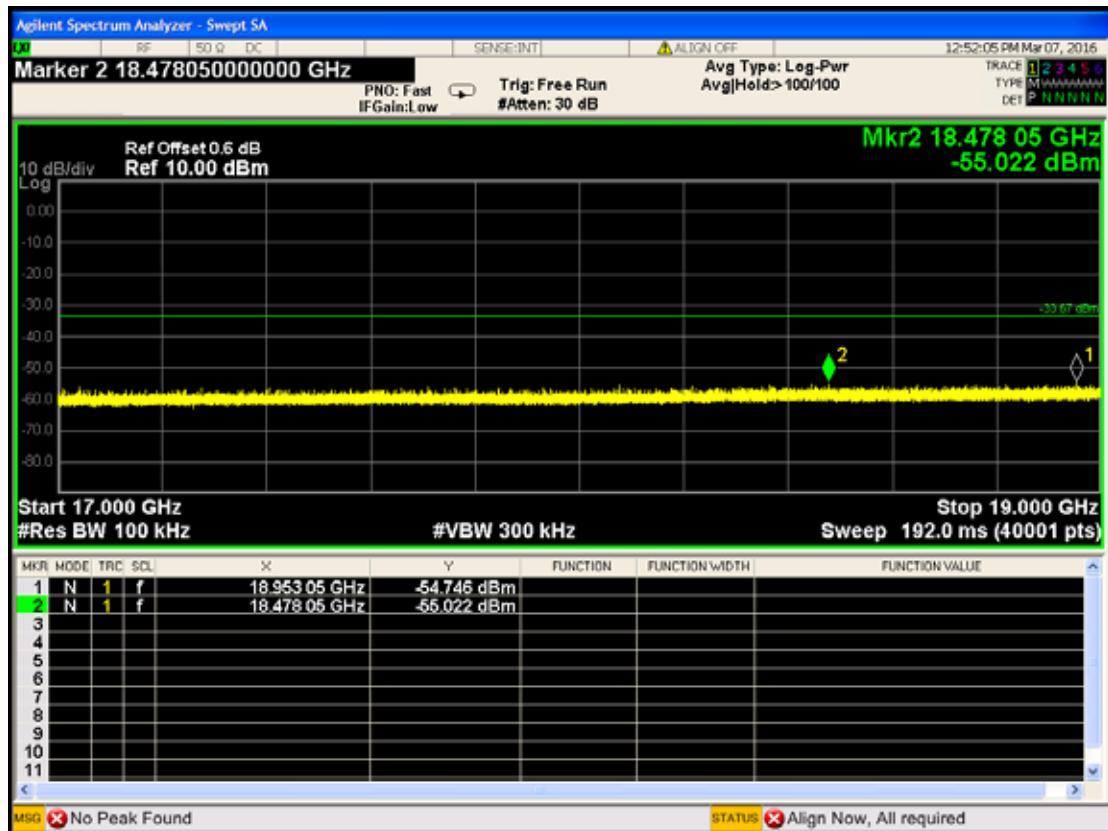


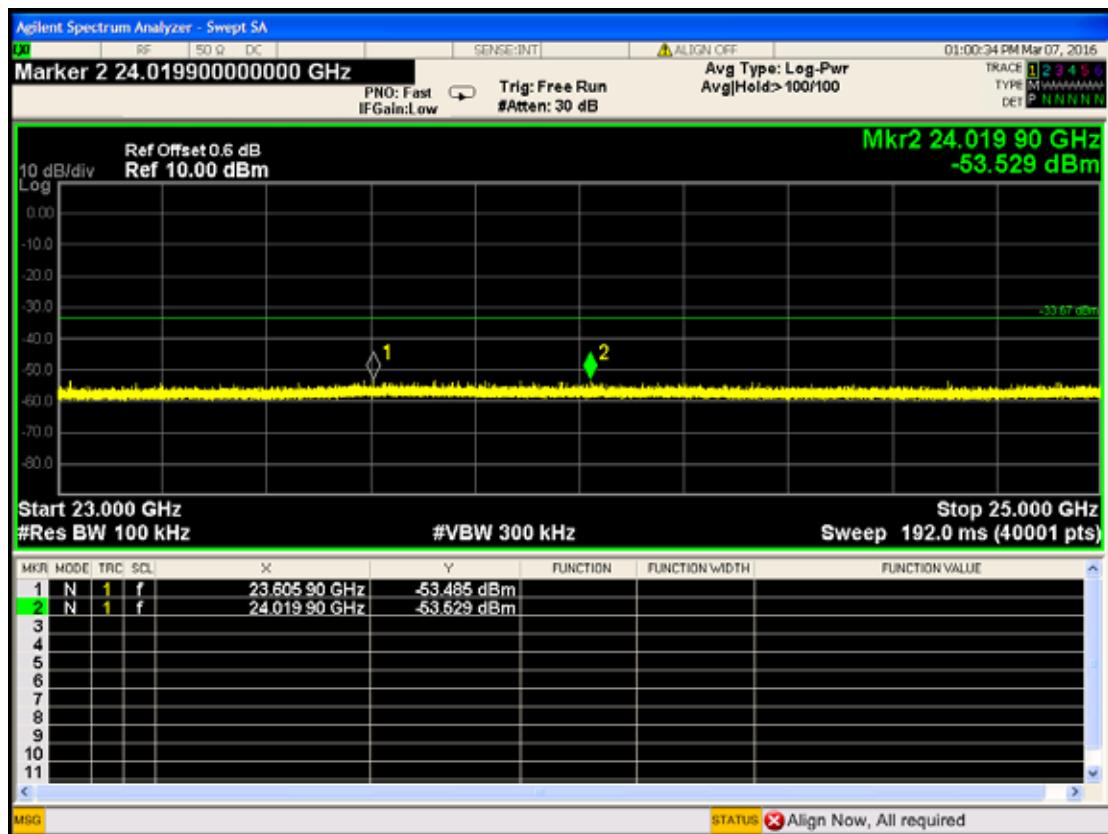
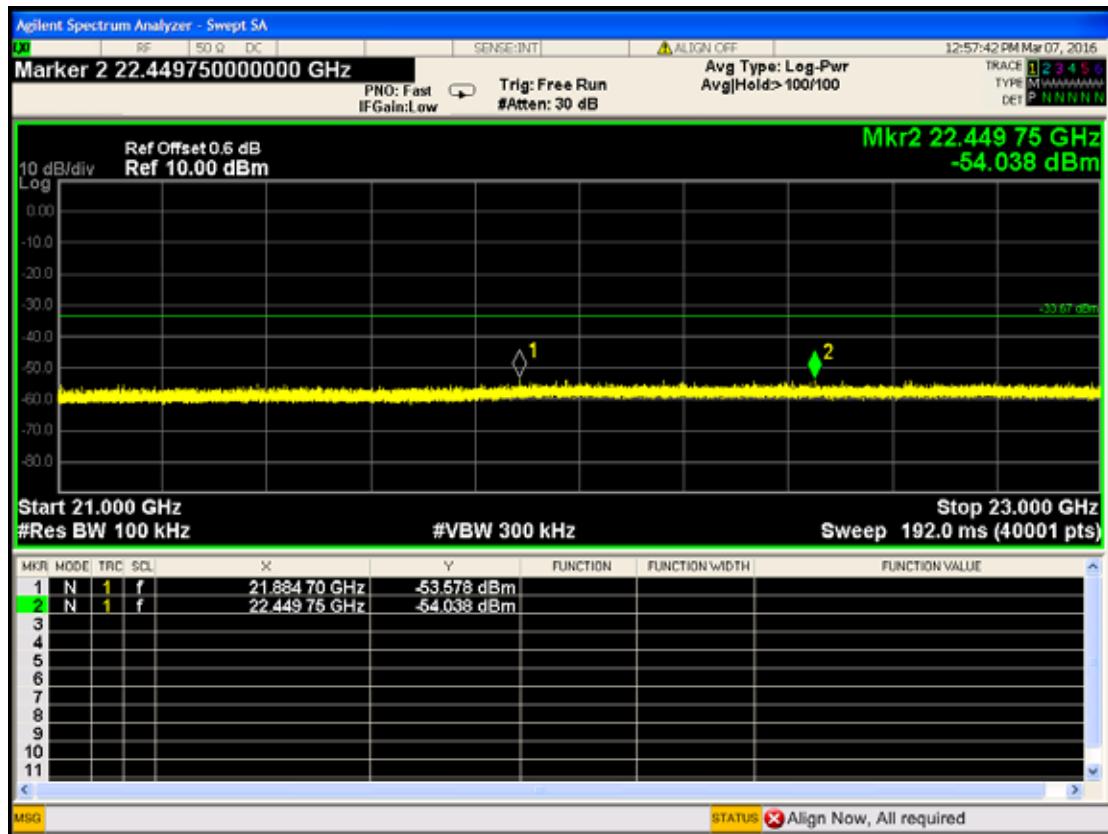




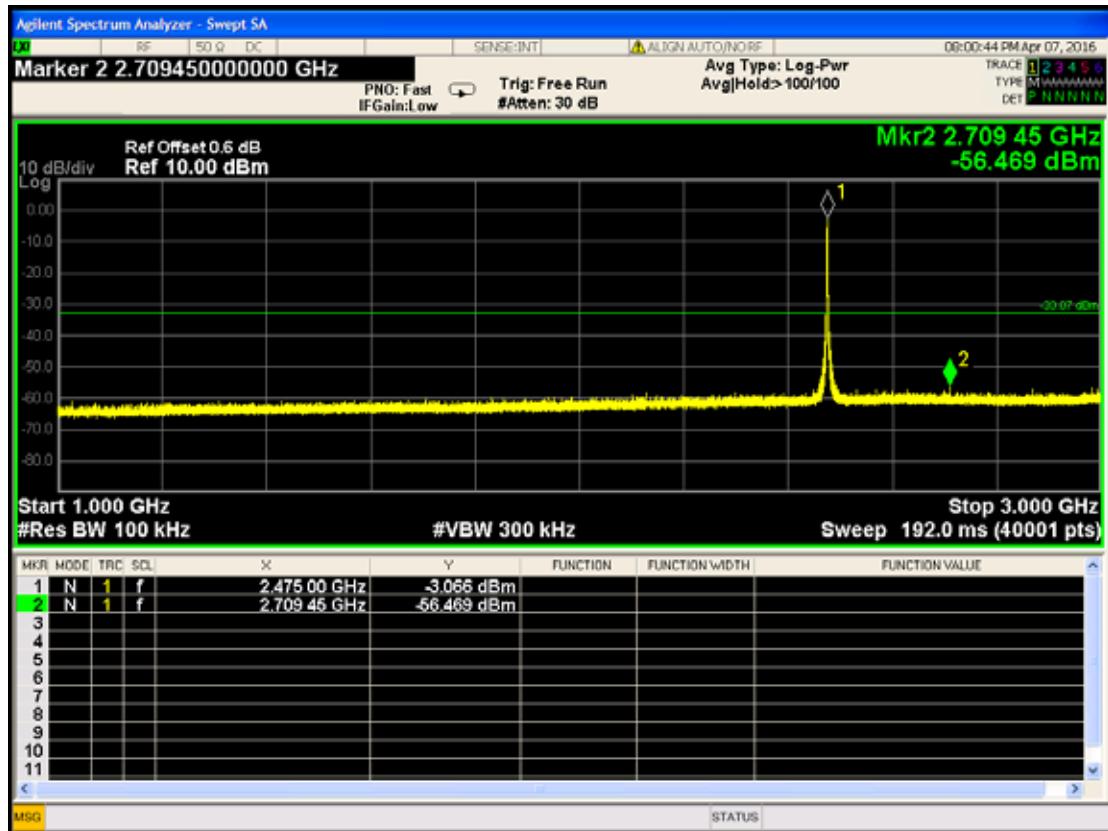
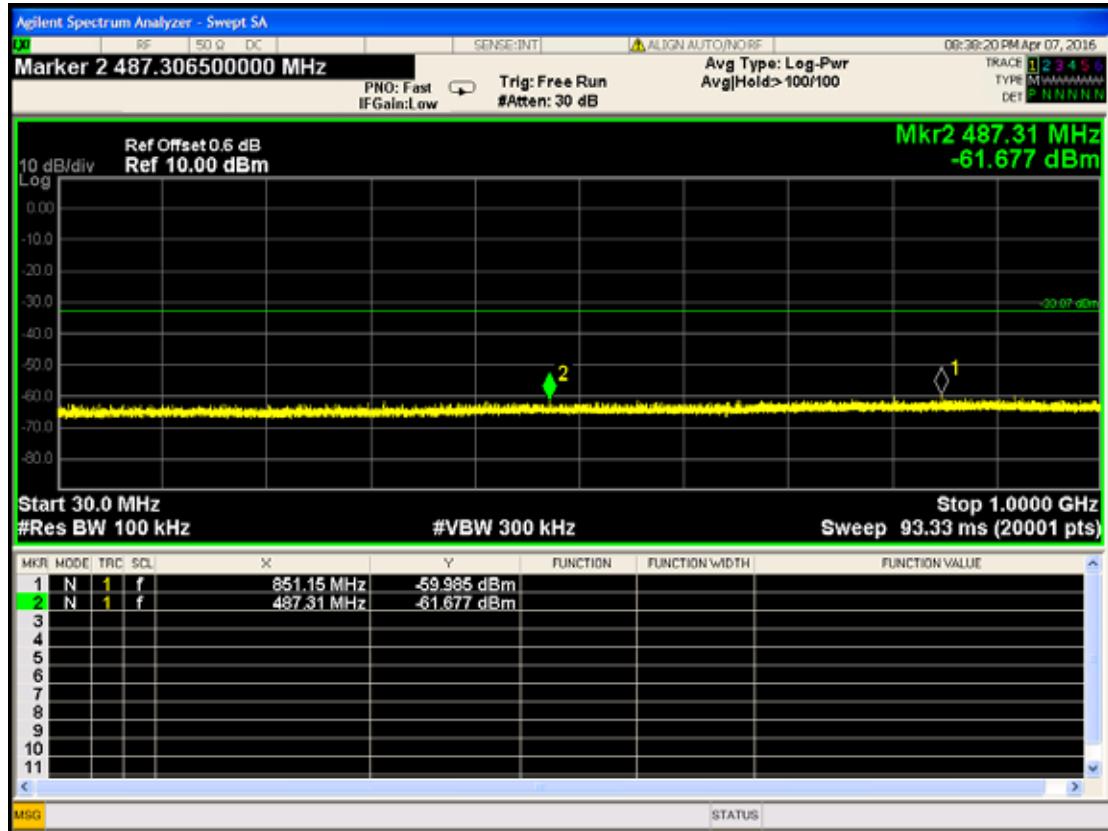


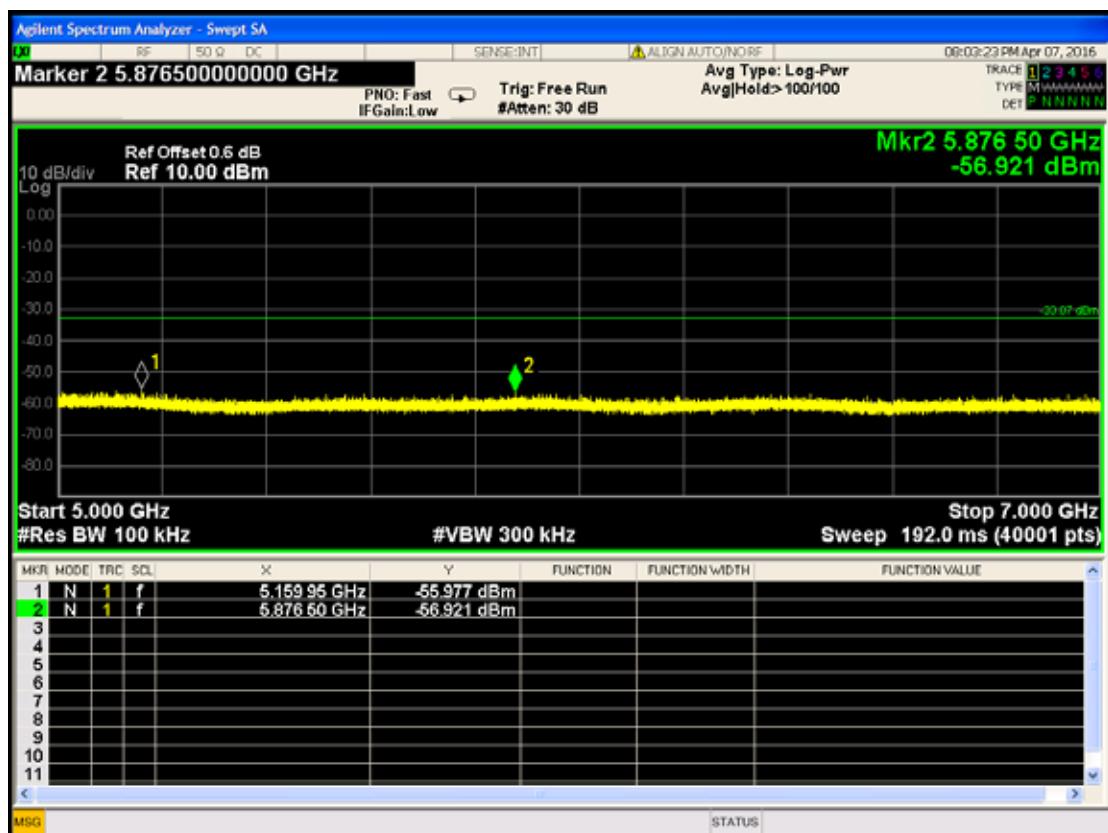
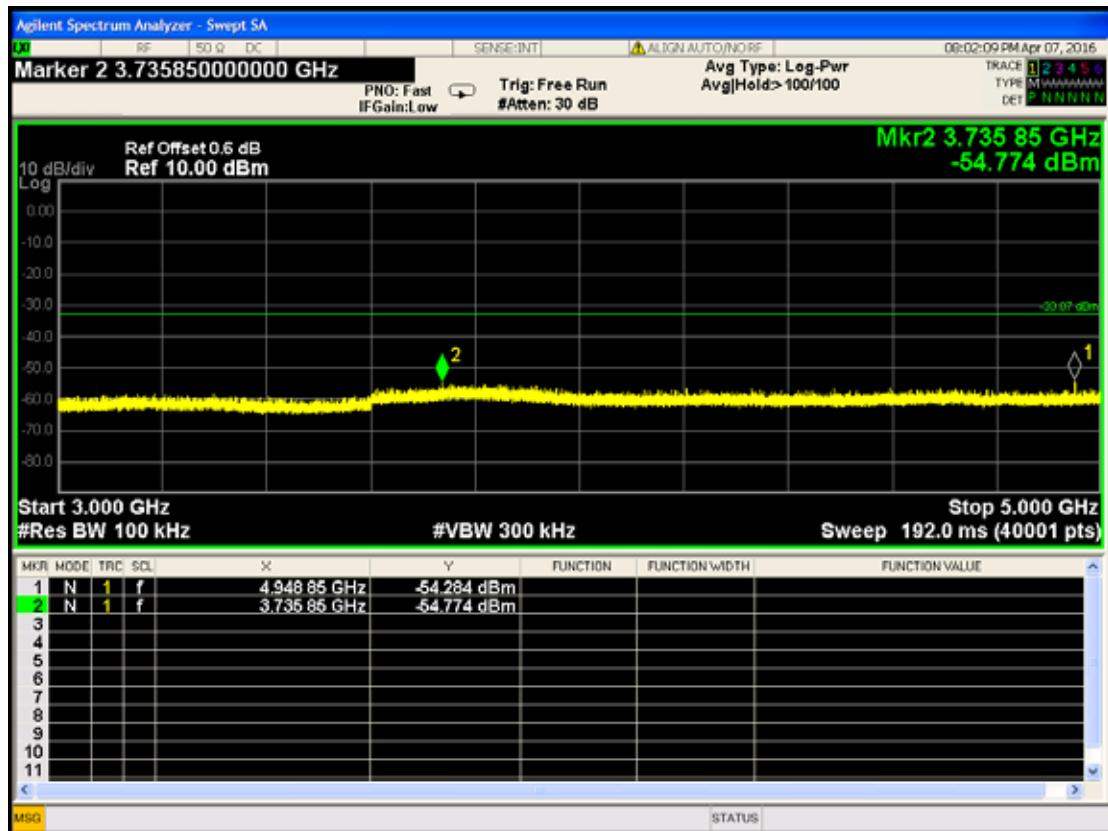


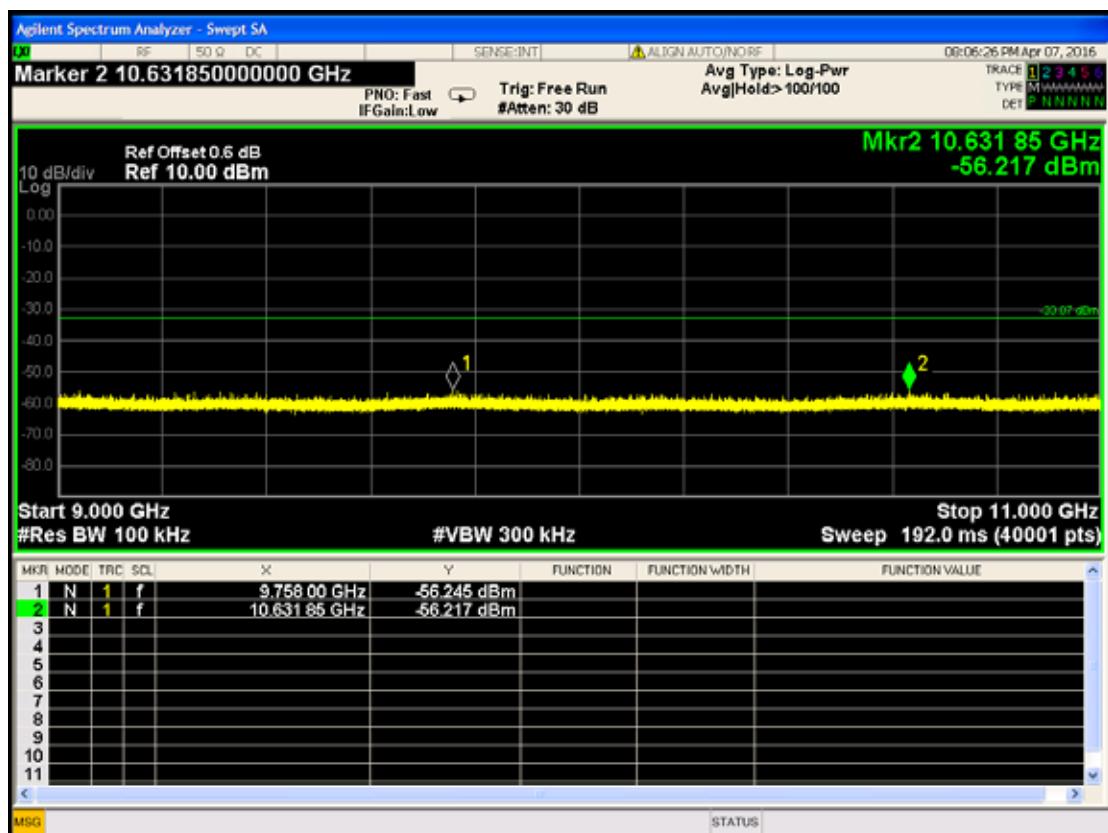
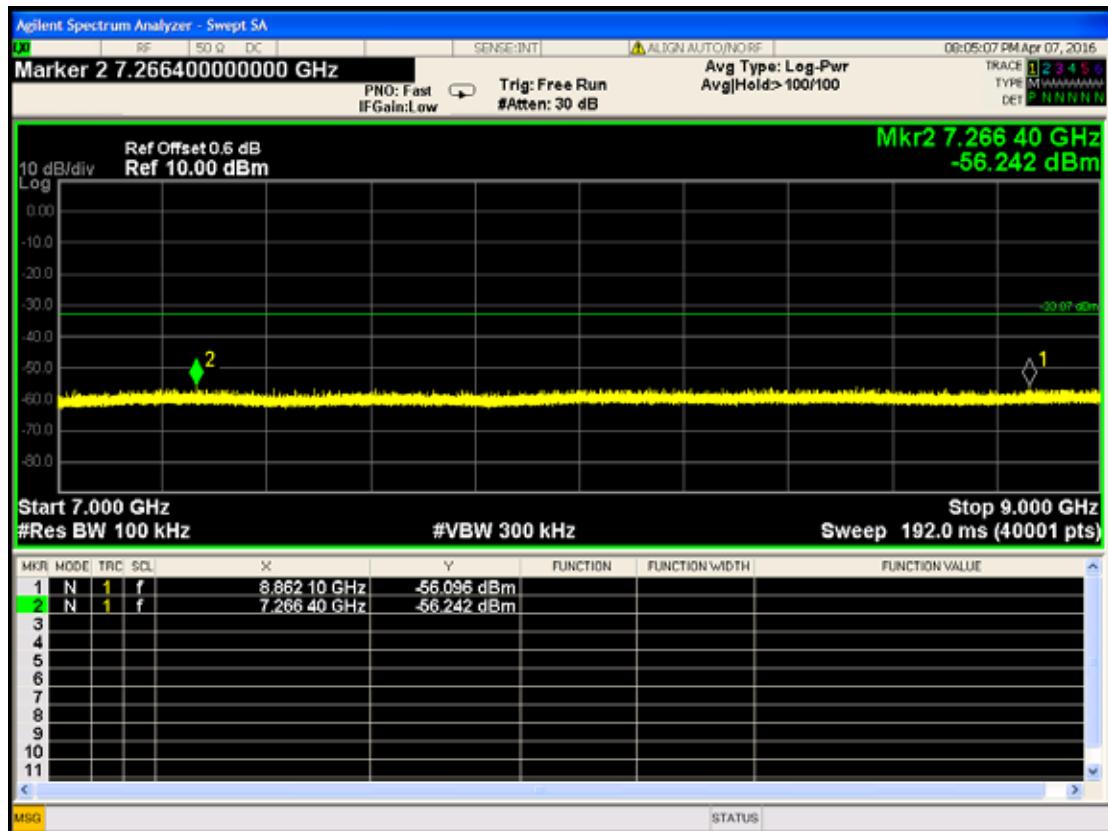


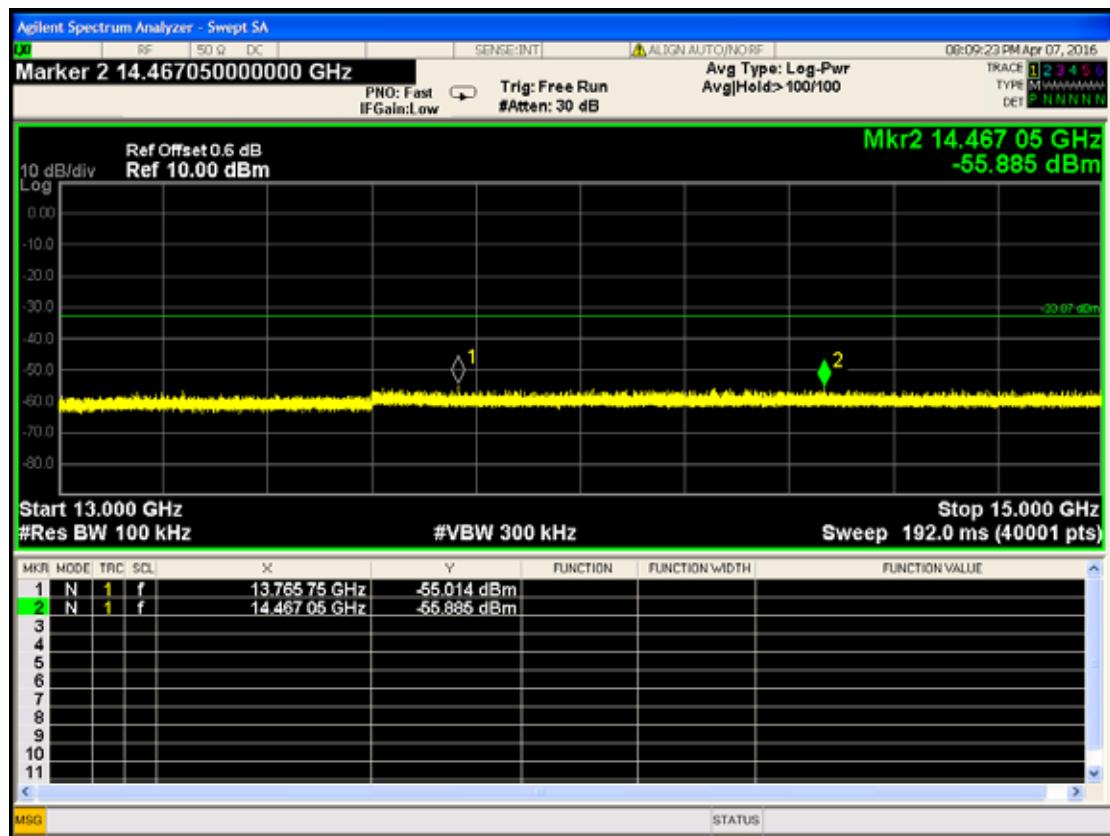
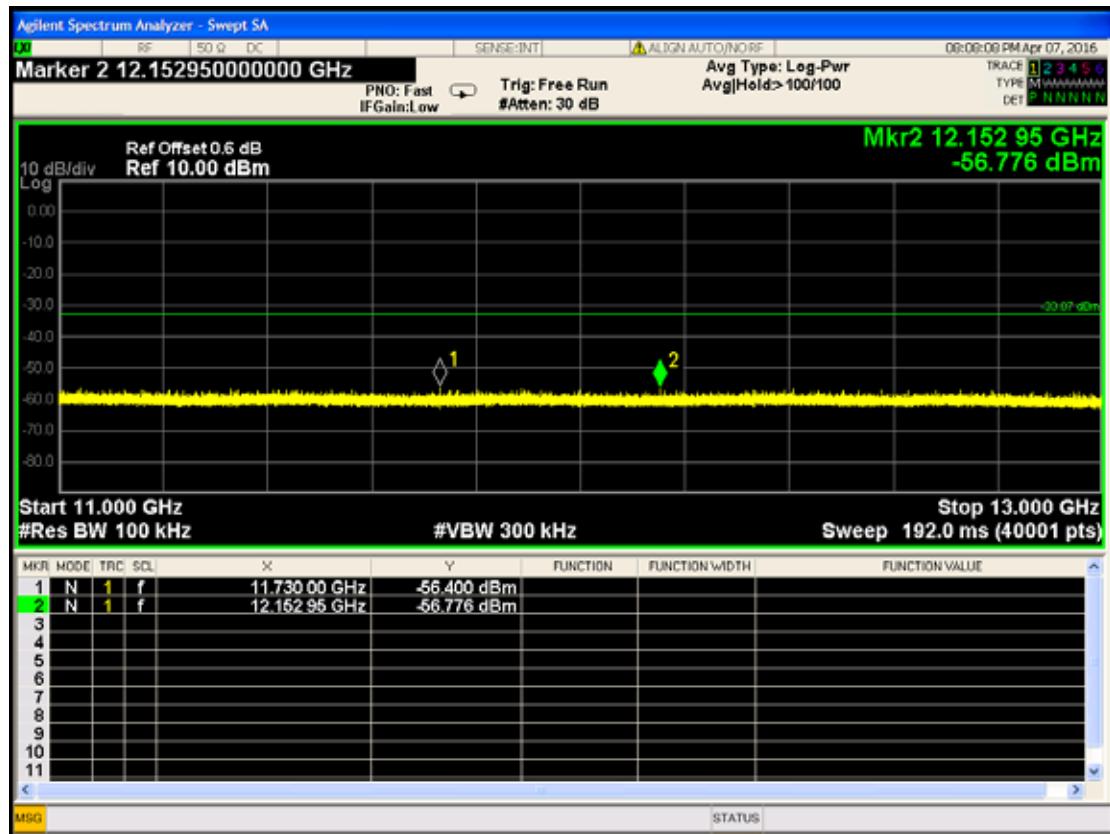


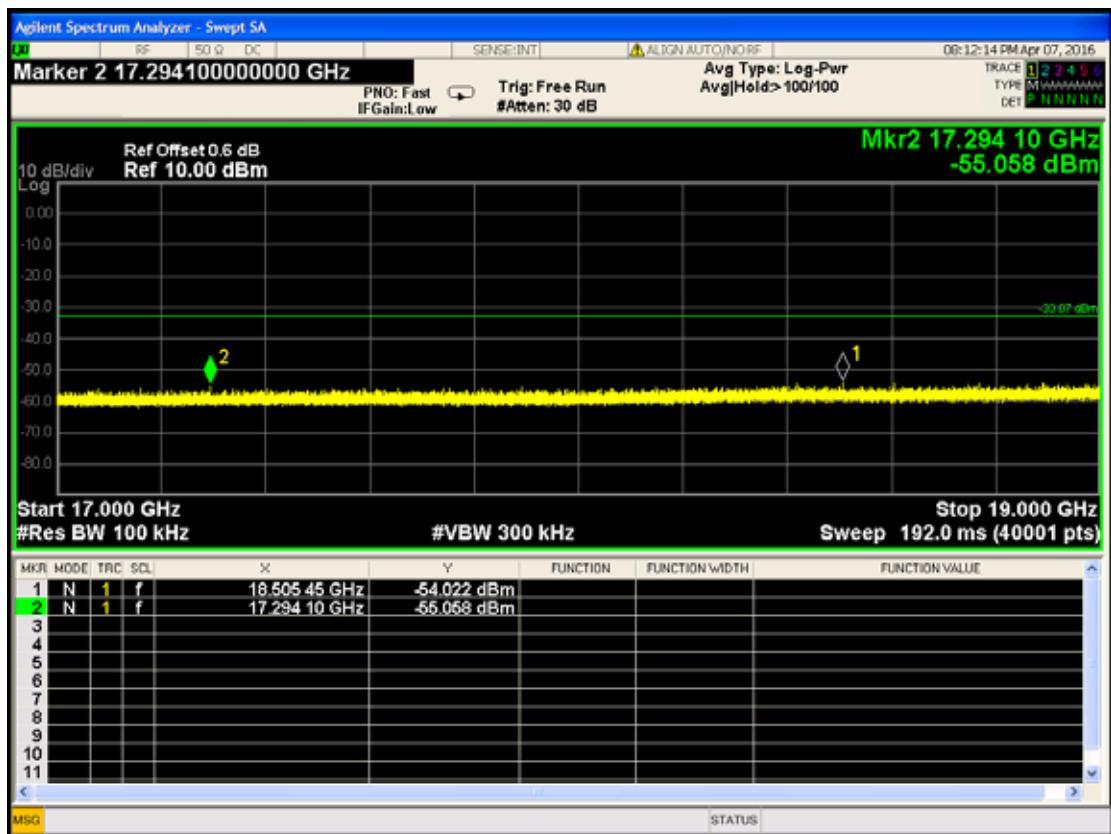
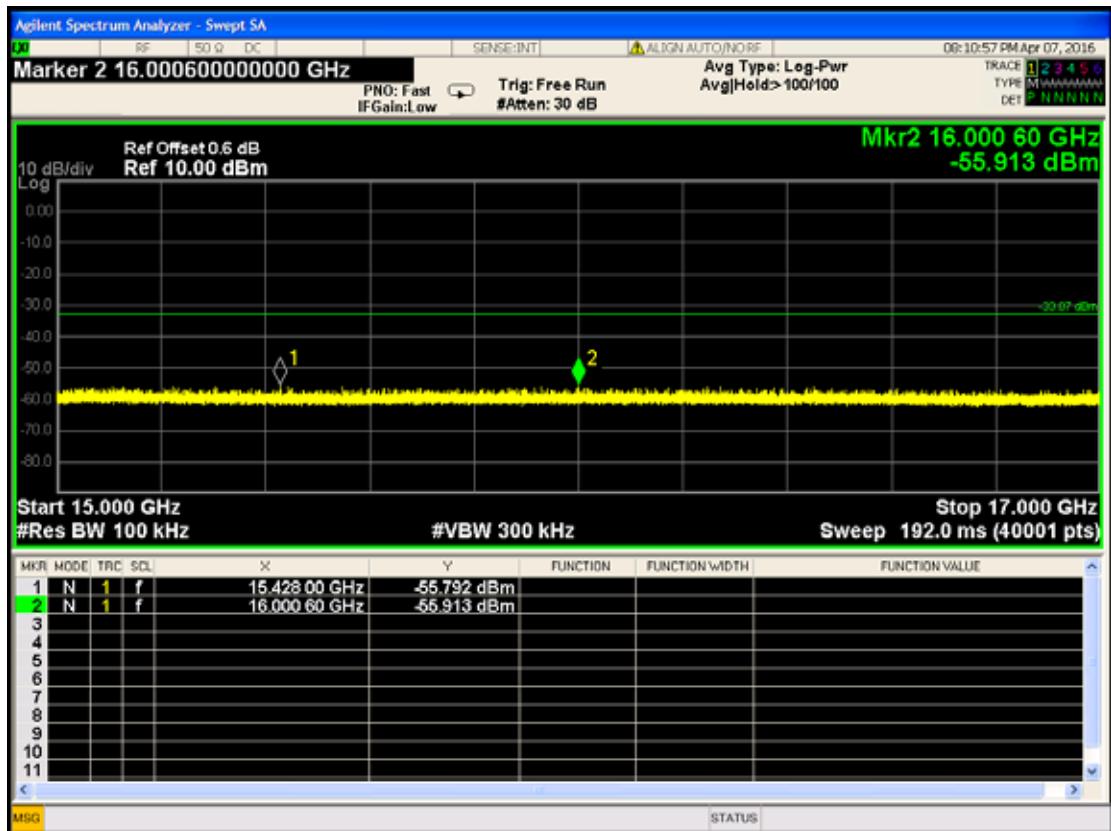
CH 25

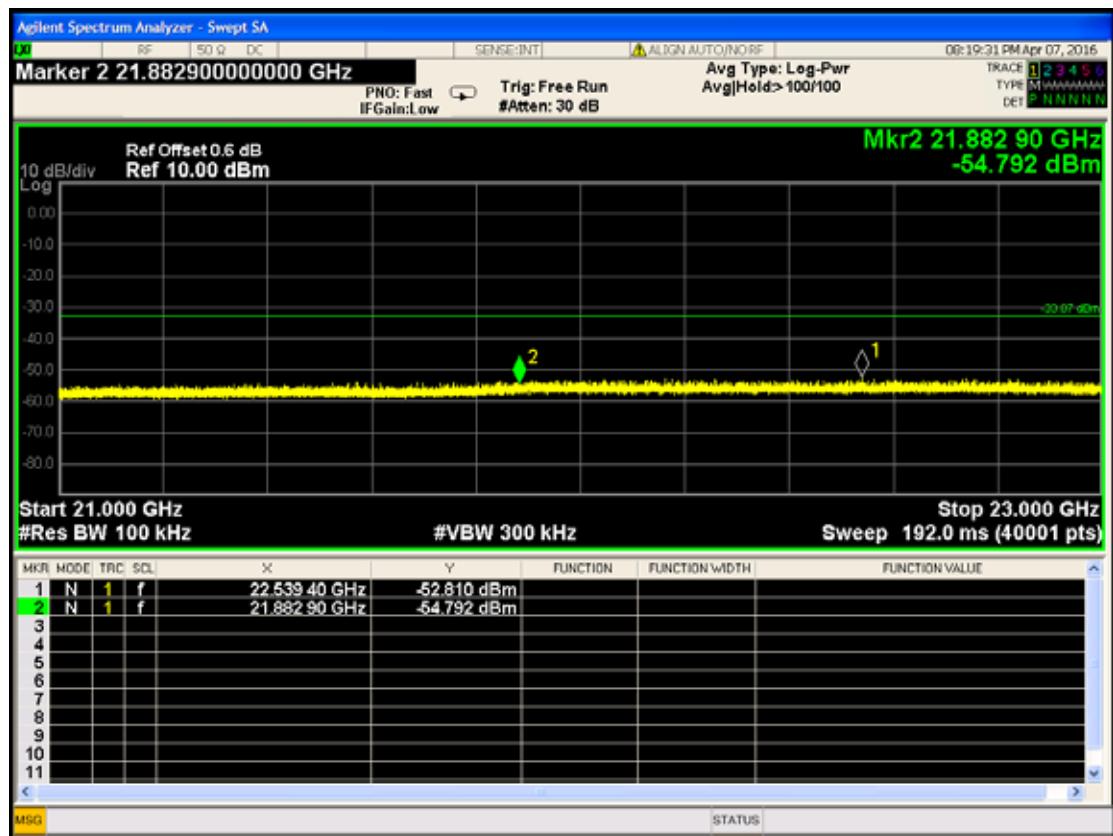
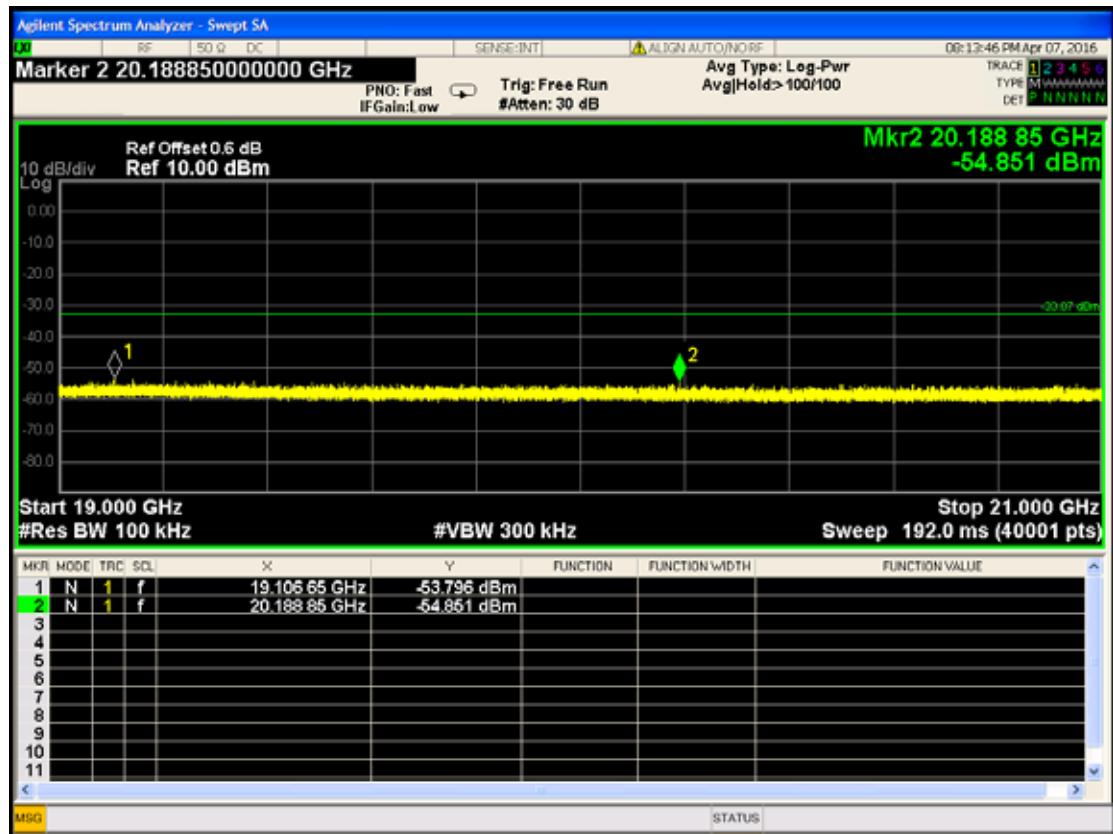


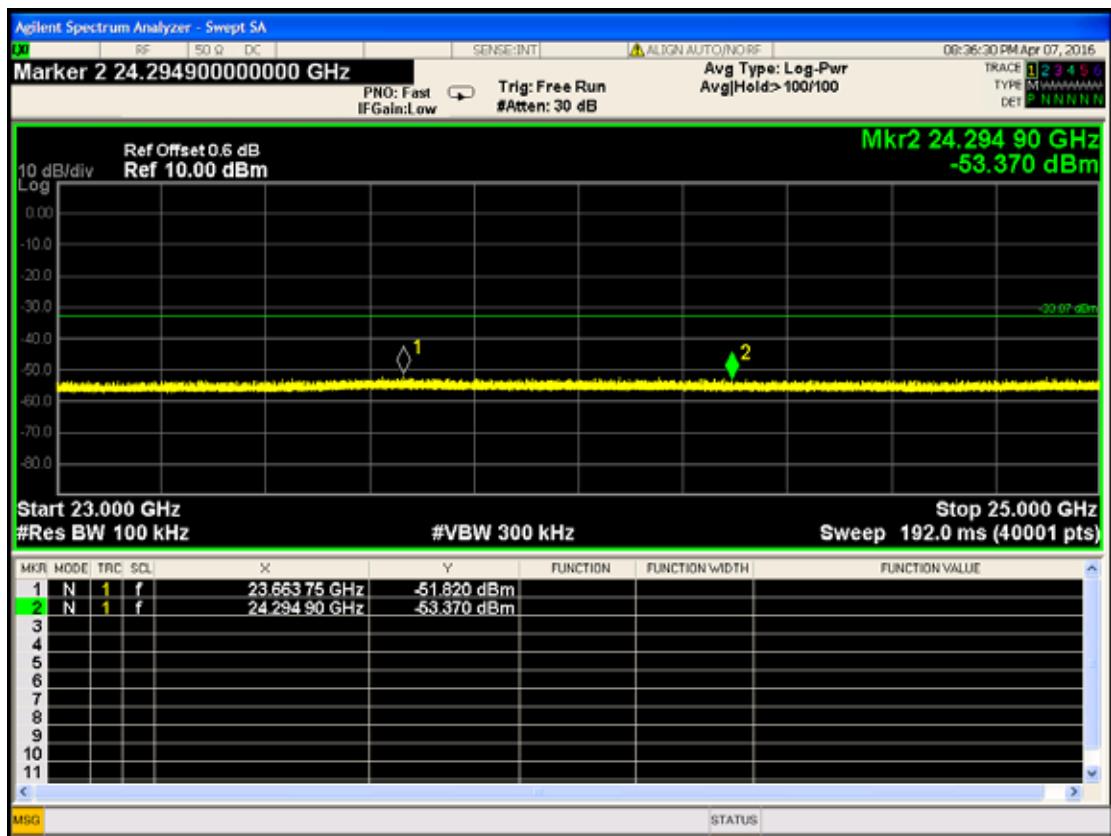












## 10.DUTY CYCLE

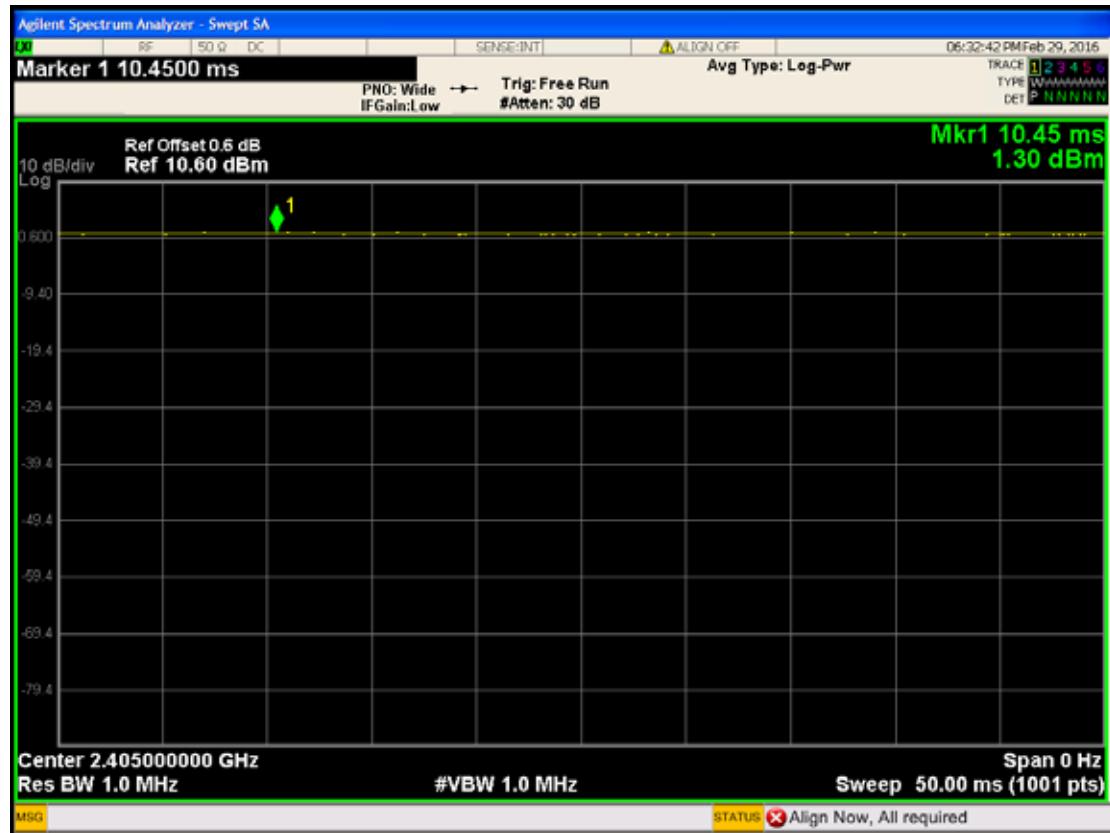
### 10.1. Test Equipment

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%.

CH 11



## 11.DEVIATION TO TEST SPECIFICATIONS

【NONE】