

# FCC Radio Test Report

## FCC ID: 2AEP6-JPLB1S-2

### Original Grant

**Report No.** : TB-FCC156041

**Applicant** : HangZhou XiongMai Technology CO., LTD

#### Equipment Under Test (EUT)

**EUT Name** : Smart LED Bulb 360 Camera

**Model No.** : XM-JPLB1S-2

**Series Model No.** : XM-LB1S-2, XM-LB1S-2S, XM-JPLB1S-2S, LB1S-2, LB1S-1, B13-L

**Brand Name** : XM

**Receipt Date** : 2017-06-15

**Test Date** : 2017-06-16 to 2017-06-26

**Issue Date** : 2017-06-27

**Standards** : FCC Part 15, Subpart C (15.247:2016)

**Test Method** : ANSI C63.10: 2013

**Conclusions** : PASS

In the configuration tested, the EUT complied with the standards specified above,

The EUT technically complies with the FCC and IC requirements

**Test/Witness Engineer** : *Ivan Su*

**Approved&  
Authorized** : *Fay Lin*



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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## 1. General Information about EUT

### 1.1 Client Information

**Applicant** : HangZhou XiongMai Technology CO., LTD  
**Address** : 9th Floor, Building 9, Yinhu Innovation Center, No.9 FuXian Road, YinHu Street, Hangzhou, China  
**Manufacturer** : HangZhou XiongMai Technology CO., LTD  
**Address** : 9th Floor, Building 9, Yinhu Innovation Center, No.9 FuXian Road, YinHu Street, Hangzhou, China

### 1.2 General Description of EUT (Equipment Under Test)

<b>EUT Name</b>	:	Smart LED Bulb 360 Camera
<b>Models No.</b>	:	XM-JPLB1S-2, XM-LB1S-2, XM-LB1S-2S, XM-JPLB1S-2S, LB1S-2, LB1S-1, B13-L
<b>Model Difference</b>	:	All models are identical in the same PCB layout interior structure and electrical circuits, The only difference is resolution and brand.
<b>Product Description</b>	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
	Number of Channel:	802.11b/g/n(HT20):11 channels see note(3) 802.11n(HT40):7 channels see note(3)
	RF Output Power:	802.11b: 17.81dBm 802.11g: 18.41dBm 802.11n (HT20): 17.24dBm 802.11n (HT40): 14.51dBm
	Antenna Gain:	3dBi Internal Antenna
	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)
	Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps
<b>Power Supply</b>	:	AC Voltage supplied
<b>Power Rating</b>	:	Input: AC 100-240V 50/60Hz
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual

#### Note:

- (1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC KDB 558074 D01 DTS Meas Guidance v04.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

## (3) Channel List:

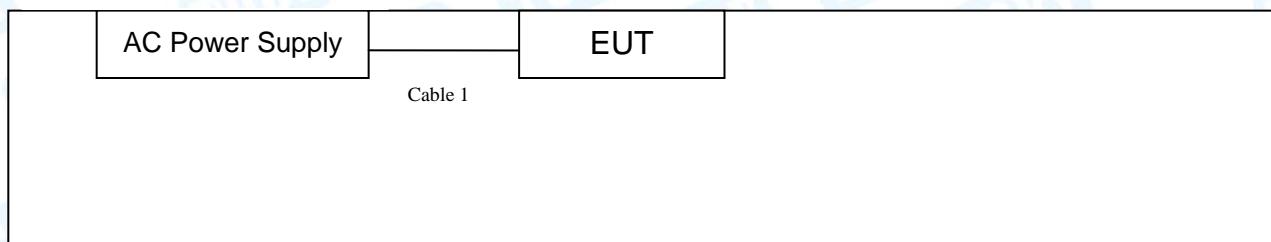
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

Note: CH 01~CH 11 for 802.11b/g/n(HT20), CH 03~CH 09 for 802.11n(HT40)

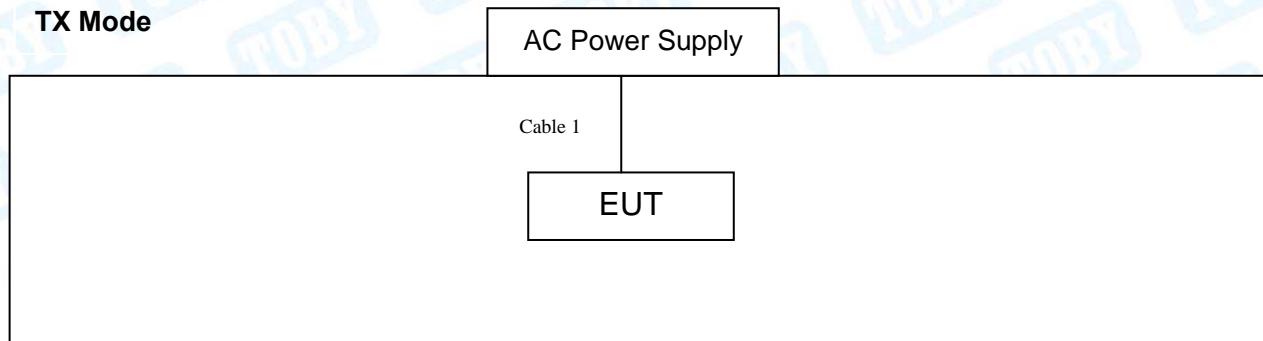
## (4) The Antenna information about the equipment is provided by the applicant.

## 1.3 Block Diagram Showing the Configuration of System Tested

## Normal Working Mode



## TX Mode



## 1.4 Description of Support Units

Equipment Information				
Name	Model	FCC ID/VOC	Manufacturer	Used "√"
Cable Information				
Number	Shielded Type	Ferrite Core	Length	Note
Cable 1	NO	NO	1.2M	

## 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test	
Final Test Mode	Description
Mode 1	Normal Working with TX B Mode

For Radiated Test	
Final Test Mode	Description
Mode 2	TX Mode B Mode Channel 01/06/11
Mode 3	TX Mode G Mode Channel 01/06/11
Mode 4	TX Mode N(HT20) Mode Channel 01/06/11
Mode 5	TX Mode N(HT40) Mode Channel 03/06/09

### Note:

- (1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, Middle, lowest available channels, and the worst case data rate as follows:

802.11b Mode: CCK (1 Mbps)  
802.11g Mode: OFDM (6 Mbps)  
802.11n (HT20) Mode: MCS 0 (6.5 Mbps)  
802.11n (HT40) Mode: MCS 0 (13 Mbps)

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.  
(3) The EUT is considered a portable unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

## 1.6 Description of Test Software Setting

During testing channel&Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN.

Test Software Version	N/A		
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	DEF	DEF	DEF
IEEE 802.11g OFDM	DEF	DEF	DEF
IEEE 802.11n (HT20)	DEF	DEF	DEF
Channel	CH 03	CH 06	CH 09
IEEE 802.11n (HT40)	DEF	DEF	DEF

## 1.7 Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty ( $U_{Lab}$ )
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	$\pm 3.42$ dB $\pm 3.42$ dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	$\pm 4.60$ dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	$\pm 4.40$ dB
Radiated Emission	Level Accuracy: Above 1000MHz	$\pm 4.20$ dB

## 1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

### **FCC List No.: (811562)**

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

### **IC Registration No.: (11950A-1)**

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

## 2. Test Summary

FCC Part 15 Subpart C(15.247)/ RSS 247 Issue 1				
Standard Section		Test Item	Judgment	Remark
FCC	IC			
15.203	/	Antenna Requirement	PASS	N/A
15.207	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A
15.205	RSS-GEN 7.2.2	Restricted Bands	PASS	N/A
15.247(a)(2)	RSS 247 5.2 (1)	6dB Bandwidth	PASS	N/A
15.247(b)	RSS 247 5.4 (4)	Peak Output Power	PASS	N/A
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	PASS	N/A
15.247(d)	RSS 247 5.5	Band Edge	PASS	N/A
15.247(d)& 15.209	RSS 247 5.5	Transmitter Radiated Spurious Emission	PASS	N/A

**Note:** "/" for no requirement for this test item.  
N/A is an abbreviation for Not Applicable.

### 3. Test Equipment

<b>Conducted Emission Test</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal. Due Date</b>
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 21, 2016	Jul. 20, 2017
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 21, 2016	Jul. 20, 2017
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 21, 2016	Jul. 20, 2017
LISN	Rohde & Schwarz	ENV216	101131	Jul. 21, 2016	Jul. 20, 2017
<b>Radiation Emission Test</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal. Due Date</b>
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 21, 2016	Jul. 20, 2017
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 21, 2016	Jul. 20, 2017
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.25, 2017	Mar. 24, 2018
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar.25, 2017	Mar. 24, 2018
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.24, 2017	Mar. 23, 2018
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar.24, 2017	Mar. 23, 2018
Loop Antenna	Laplace instrument	RF300	0701	Mar.24, 2017	Mar. 23, 2018
Pre-amplifier	Sonoma	310N	185903	Mar.25, 2017	Mar. 24, 2018
Pre-amplifier	HP	8449B	3008A00849	Mar.24, 2017	Mar. 23, 2018
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.25, 2017	Mar. 24, 2018
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
<b>Antenna Conducted Emission</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal. Due Date</b>
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 21, 2016	Jul. 20, 2017
Spectrum Analyzer	Rohde & Schwarz	ESCI	100010/007	Jul. 21, 2016	Jul. 20, 2017
Power Meter	Anritsu	ML2495A	25406005	Jul. 21, 2016	Jul. 20, 2017
Power Sensor	Anritsu	ML2411B	25406005	Jul. 21, 2016	Jul. 20, 2017

## 4. Conducted Emission Test

### 4.1 Test Standard and Limit

#### 4.1.1 Test Standard

FCC Part 15.207

#### 4.1.2 Test Limit

Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dB $\mu$ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

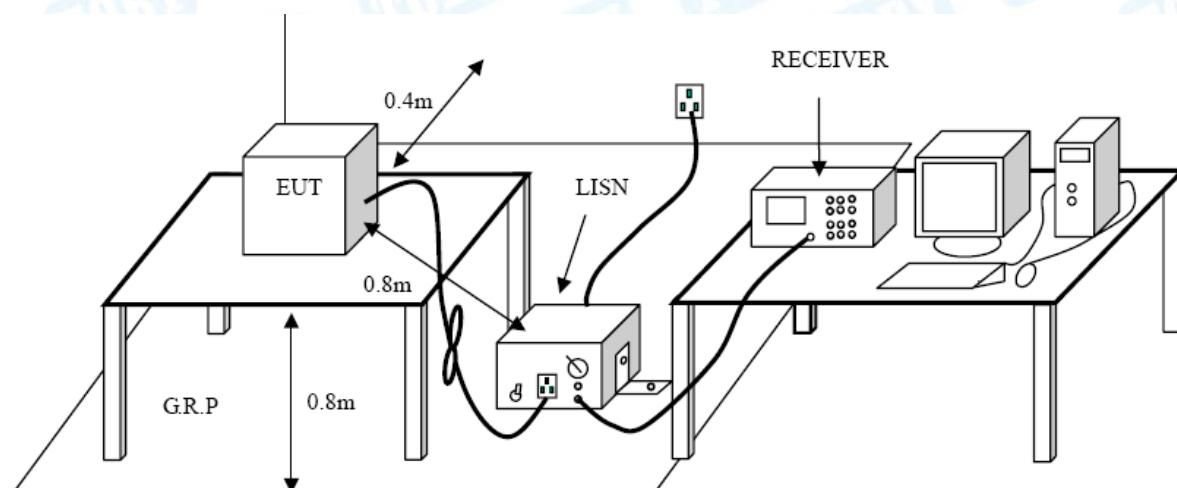
Notes:

(1) \*Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### 4.2 Test Setup



### 4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

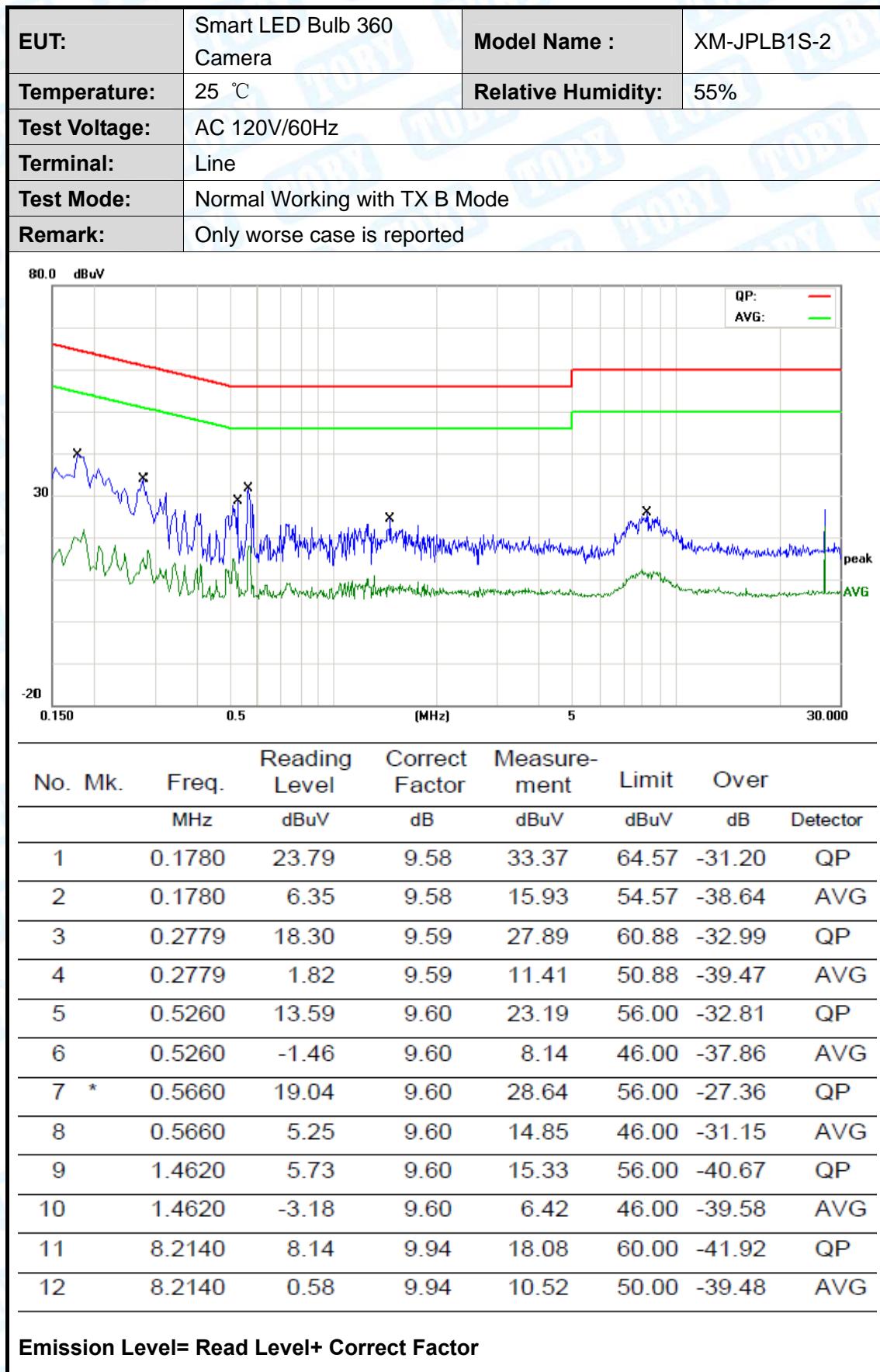
The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

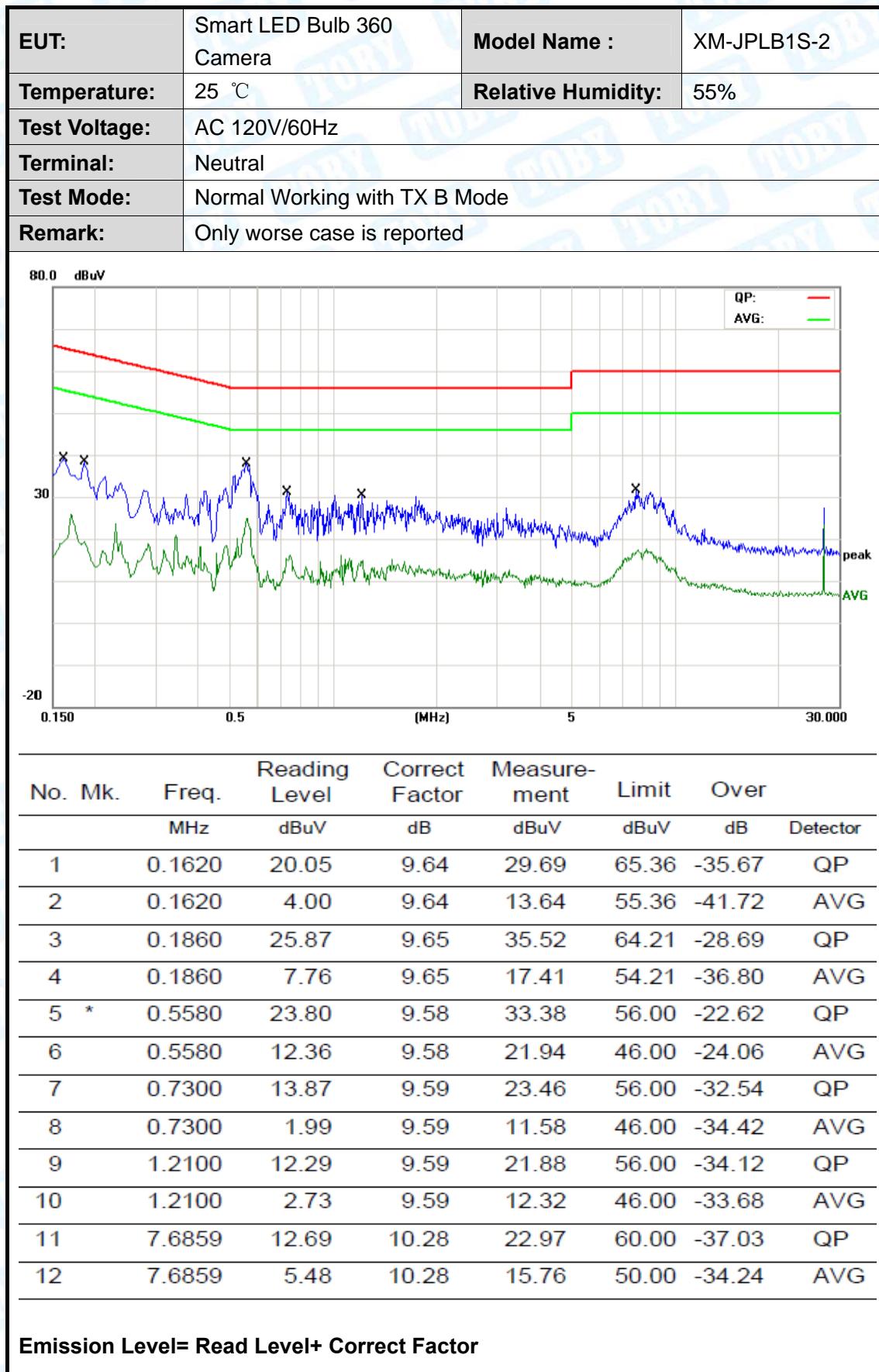
#### 4.4 EUT Operating Mode

Please refer to the description of test mode.

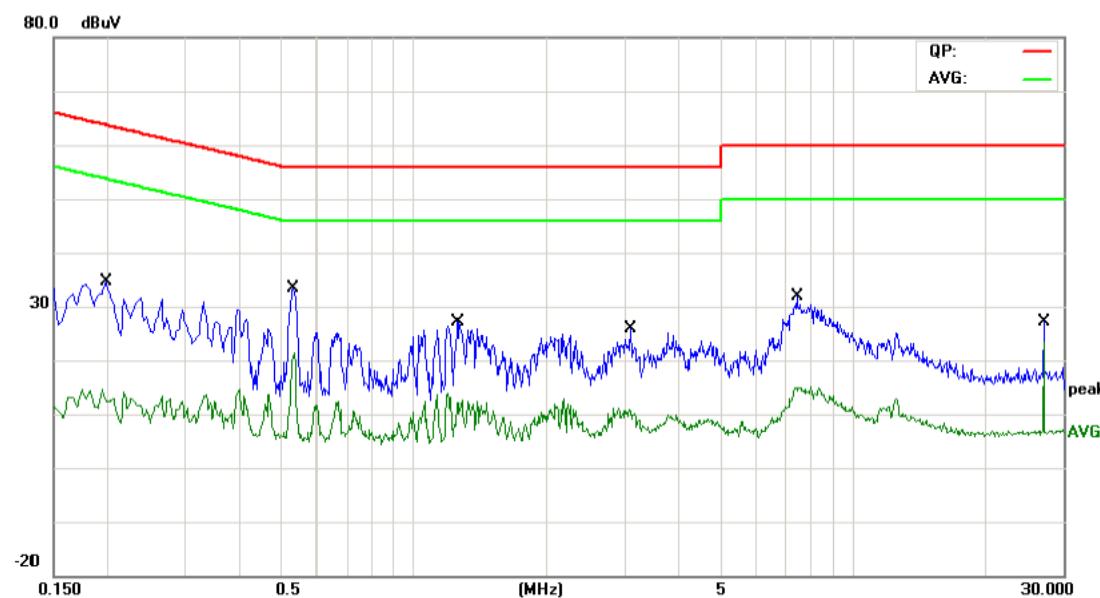
#### 4.5 Test Data

Please see the next page.





<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model Name :</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 240V/60Hz		
<b>Terminal:</b>	Line		
<b>Test Mode:</b>	Normal Working with TX B Mode		
<b>Remark:</b>	Only worse case is reported		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over
			Level	Factor	ment		
		MHz	dBuV	dB	dBuV	dBuV	dB
1		0.1980	21.96	9.58	31.54	63.69	-32.15
2		0.1980	1.08	9.58	10.66	53.69	-43.03
3		0.5299	19.57	9.60	29.17	56.00	-26.83
4		0.5299	2.85	9.60	12.45	46.00	-33.55
5		1.2579	10.35	9.60	19.95	56.00	-36.05
6		1.2579	-1.56	9.60	8.04	46.00	-37.96
7		3.1020	7.12	9.65	16.77	56.00	-39.23
8		3.1020	-2.49	9.65	7.16	46.00	-38.84
9		7.4260	13.60	9.89	23.49	60.00	-36.51
10		7.4260	3.54	9.89	13.43	50.00	-36.57
11		27.0020	14.75	10.73	25.48	60.00	-34.52
12 *		27.0020	12.59	10.73	23.32	50.00	-26.68

Emission Level= Read Level+ Correct Factor

<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model Name :</b>	XM-JPLB1S-2					
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%					
<b>Test Voltage:</b>	AC 240V/60Hz							
<b>Terminal:</b>	Neutral							
<b>Test Mode:</b>	Normal Working with TX B Mode							
<b>Remark:</b>	Only worse case is reported							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1980	21.20	9.65	30.85	63.69	-32.84	QP
2		0.1980	4.60	9.65	14.25	53.69	-39.44	AVG
3	*	0.5500	28.32	9.58	37.90	56.00	-18.10	QP
4		0.5500	16.24	9.58	25.82	46.00	-20.18	AVG
5		0.6140	21.30	9.59	30.89	56.00	-25.11	QP
6		0.6140	5.96	9.59	15.55	46.00	-30.45	AVG
7		0.7100	19.78	9.59	29.37	56.00	-26.63	QP
8		0.7100	9.84	9.59	19.43	46.00	-26.57	AVG
9		1.3740	20.80	9.60	30.40	56.00	-25.60	QP
10		1.3740	9.74	9.60	19.34	46.00	-26.66	AVG
11		7.4460	19.17	10.28	29.45	60.00	-30.55	QP
12		7.4460	10.43	10.28	20.71	50.00	-29.29	AVG
<b>Emission Level= Read Level+ Correct Factor</b>								

## 5. Radiated Emission Test

### 5.1 Test Standard and Limit

5.1.1 Test Standard  
FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limits ( 9 kHz~1000 MHz)

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

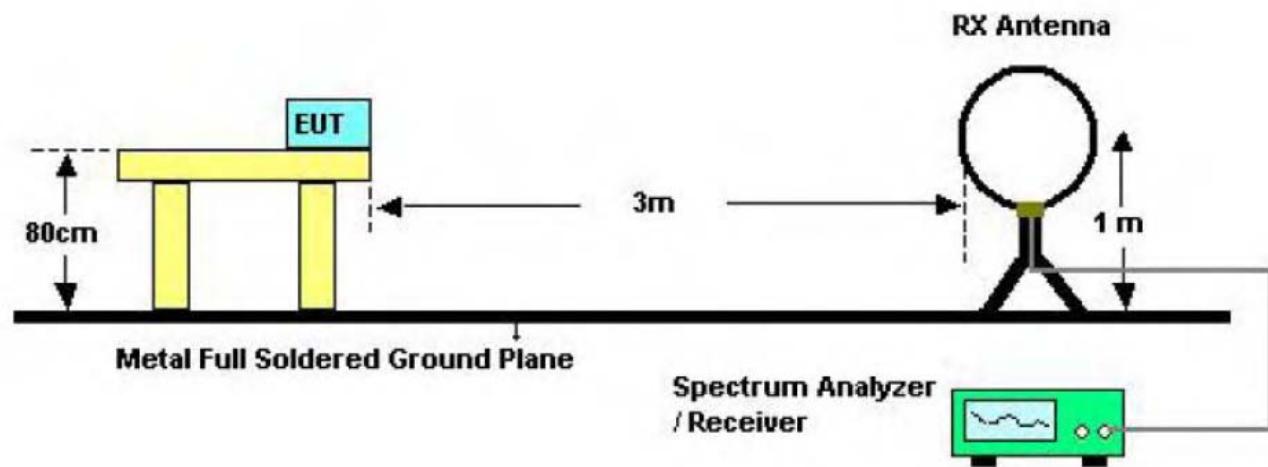
Radiated Emission Limit (Above 1000MHz)

Frequency (MHz)	Distance of 3m (dBuV/m)	
	Peak	Average
Above 1000	74	54

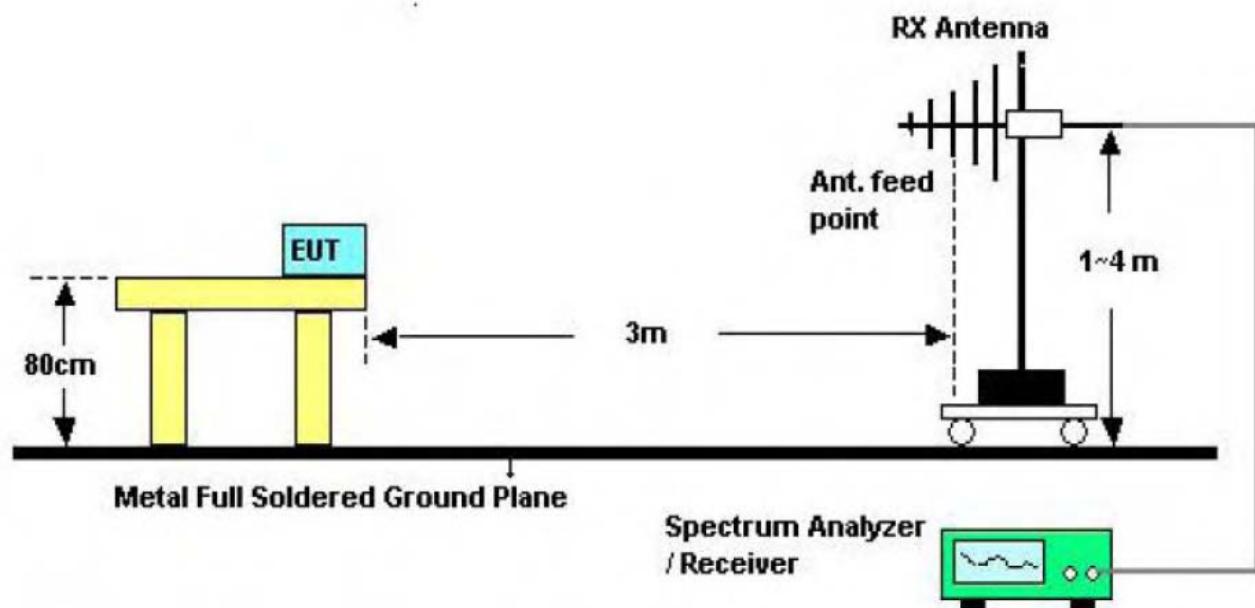
**Note:**

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

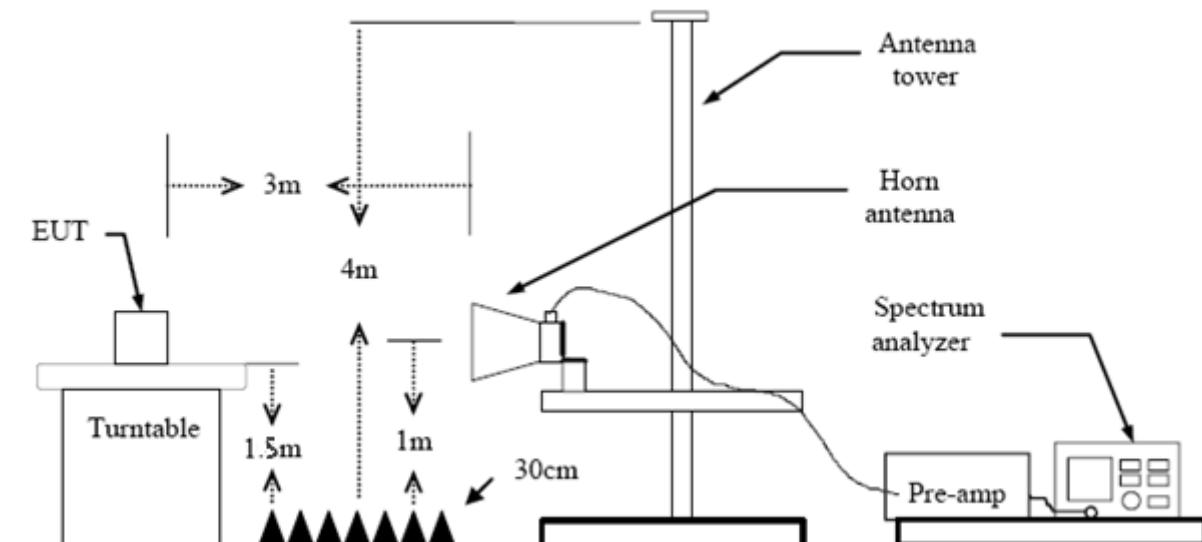
## 5.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

### 5.3 Test Procedure

- (1) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (2) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (3) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (4) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Below 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (6) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (7) For the actual test configuration, please see the test setup photo.

### 5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

## 5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Test data please refer the following pages.

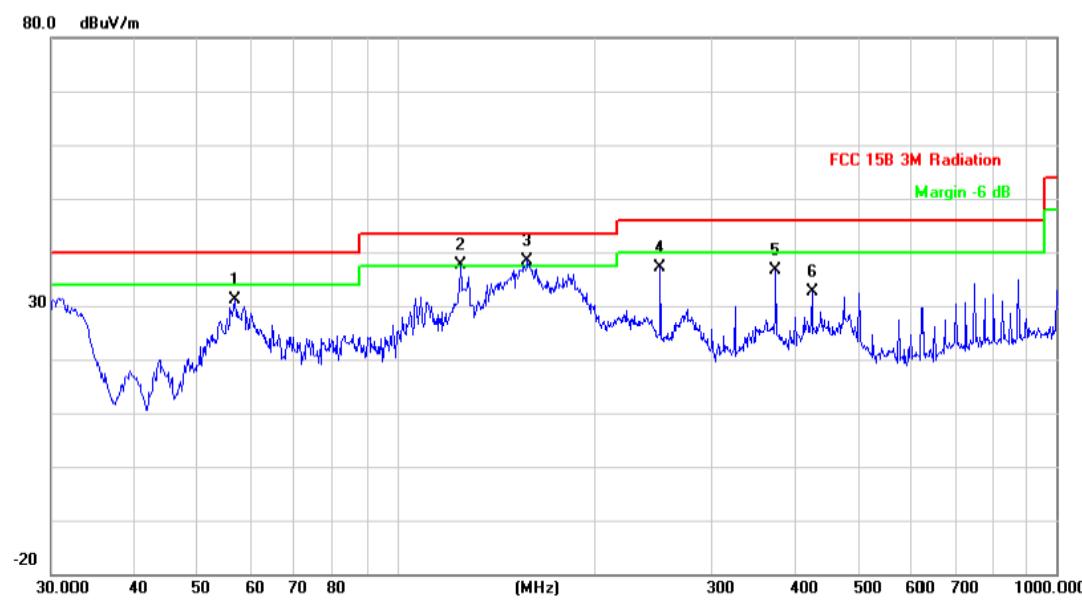
**9KHz~30MHz**

From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

**30MHz~1GHz**

<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Ant. Pol.</b>	Horizontal		
<b>Test Mode:</b>	TX B Mode 2412MHz		
<b>Remark:</b>	Only worse case is reported		

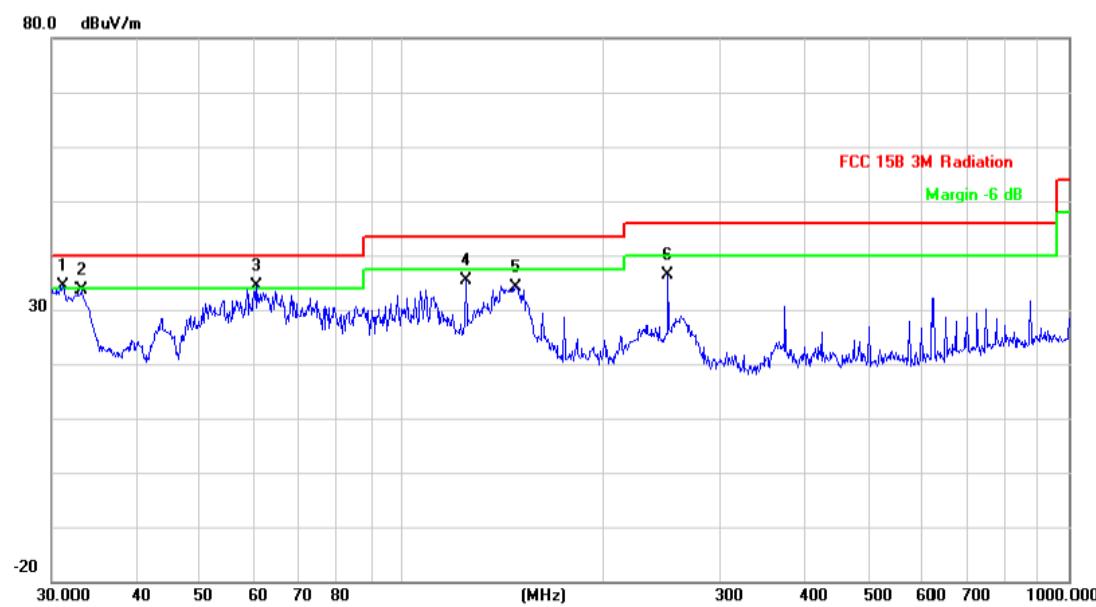


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Over Detector
1		56.7917	55.62	-24.57	31.05	40.00	-8.95	QP
2	!	125.0066	59.78	-22.26	37.52	43.50	-5.98	QP
3	*	157.5588	58.95	-20.45	38.50	43.50	-5.00	QP
4		250.3012	54.88	-17.69	37.19	46.00	-8.81	QP
5		375.9385	50.46	-13.94	36.52	46.00	-9.48	QP
6		425.0280	44.96	-12.44	32.52	46.00	-13.48	QP

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

**Emission Level= Read Level+ Correct Factor**

EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worse case is reported		



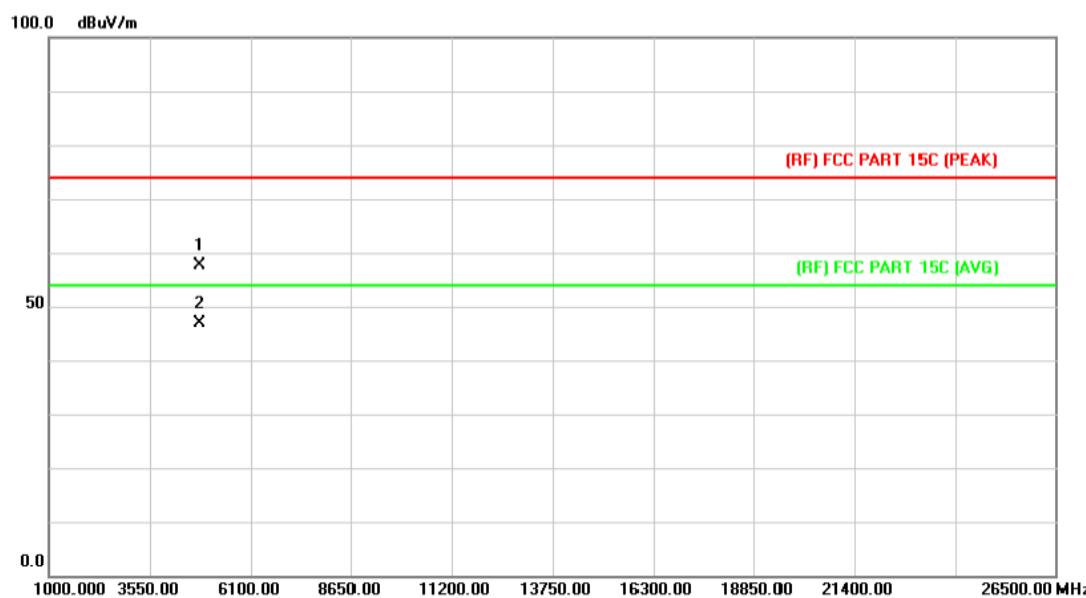
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over
			Level	Factor	ment		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
1	*	31.1798	49.37	-14.87	34.50	40.00	-5.50
2		33.0949	49.57	-16.05	33.52	40.00	-6.48
3	!	60.7043	58.88	-24.55	34.33	40.00	-5.67
4		125.0066	57.52	-22.26	35.26	43.50	-8.24
5		147.9214	55.34	-21.16	34.18	43.50	-9.32
6		250.3010	53.98	-17.69	36.29	46.00	-9.71

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

Emission Level= Read Level+ Correct Factor

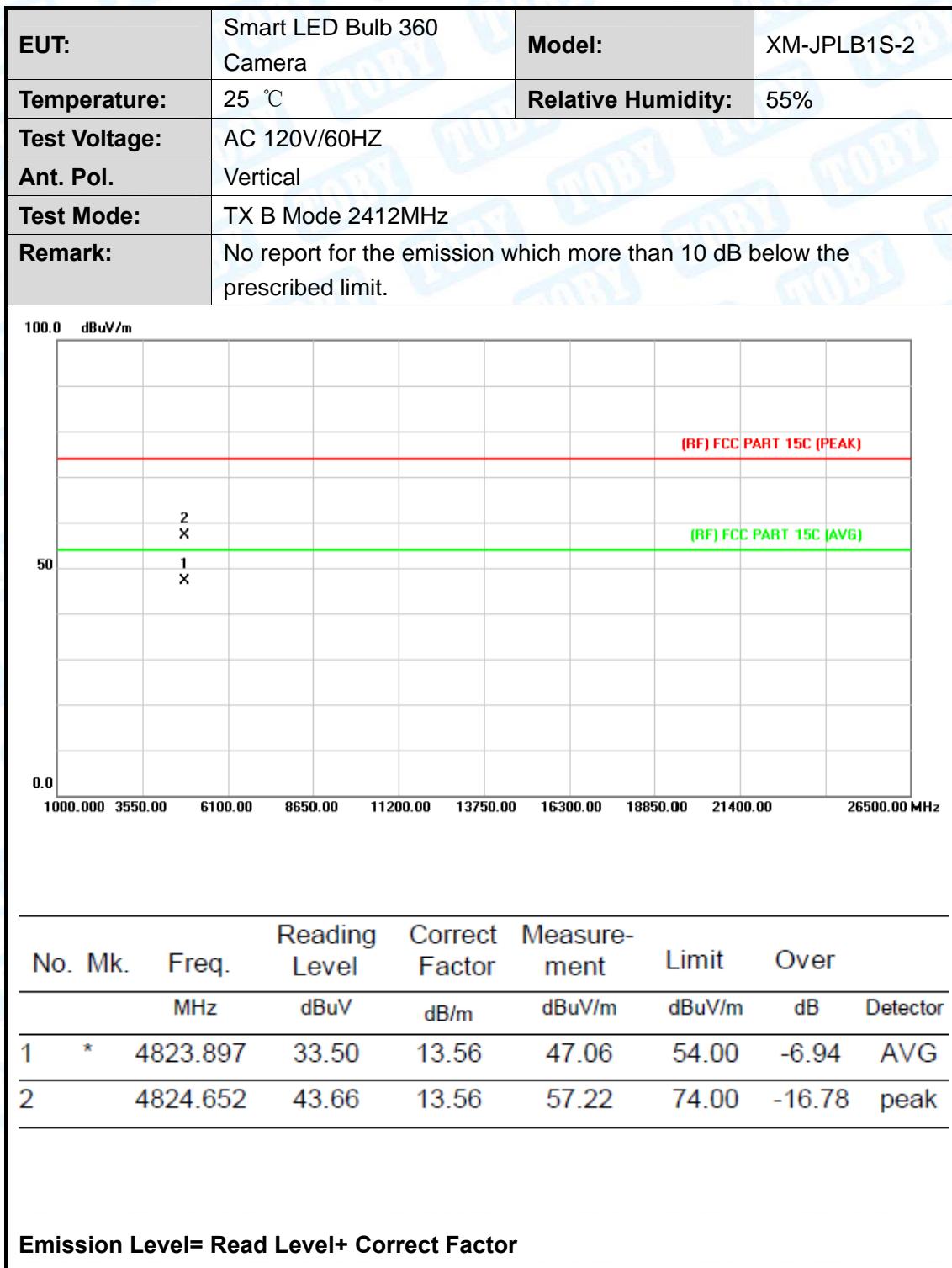
**Above 1GHz**

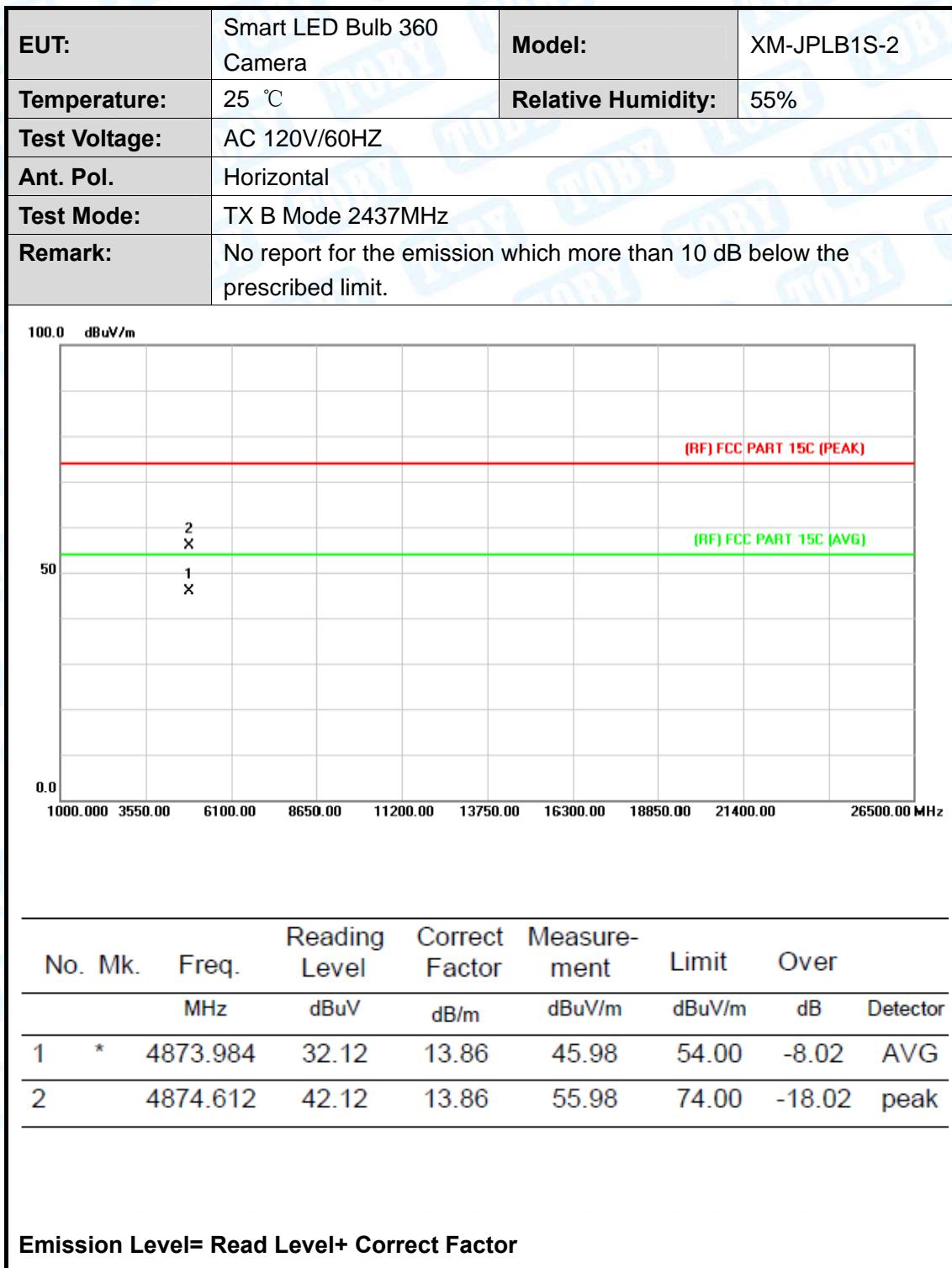
<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Ant. Pol.</b>	Horizontal		
<b>Test Mode:</b>	TX B Mode 2412MHz		
<b>Remark:</b>	No report for the emission which more than 10 dB below the prescribed limit.		



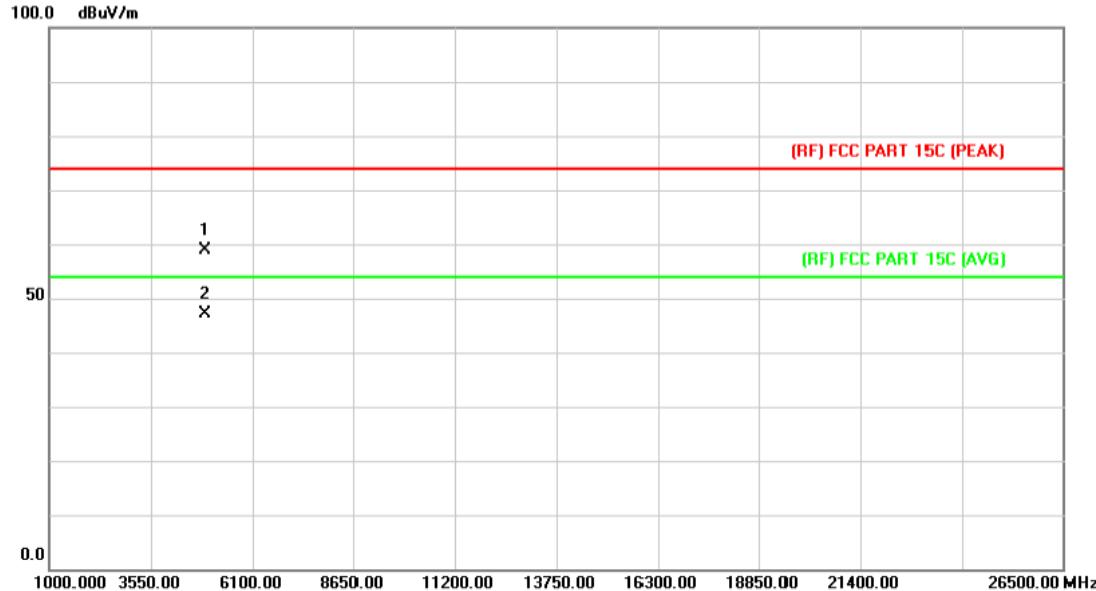
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.997	44.12	13.56	57.68	74.00	-16.32	peak
2	*	4824.120	33.31	13.56	46.87	54.00	-7.13	AVG

Emission Level= Read Level+ Correct Factor

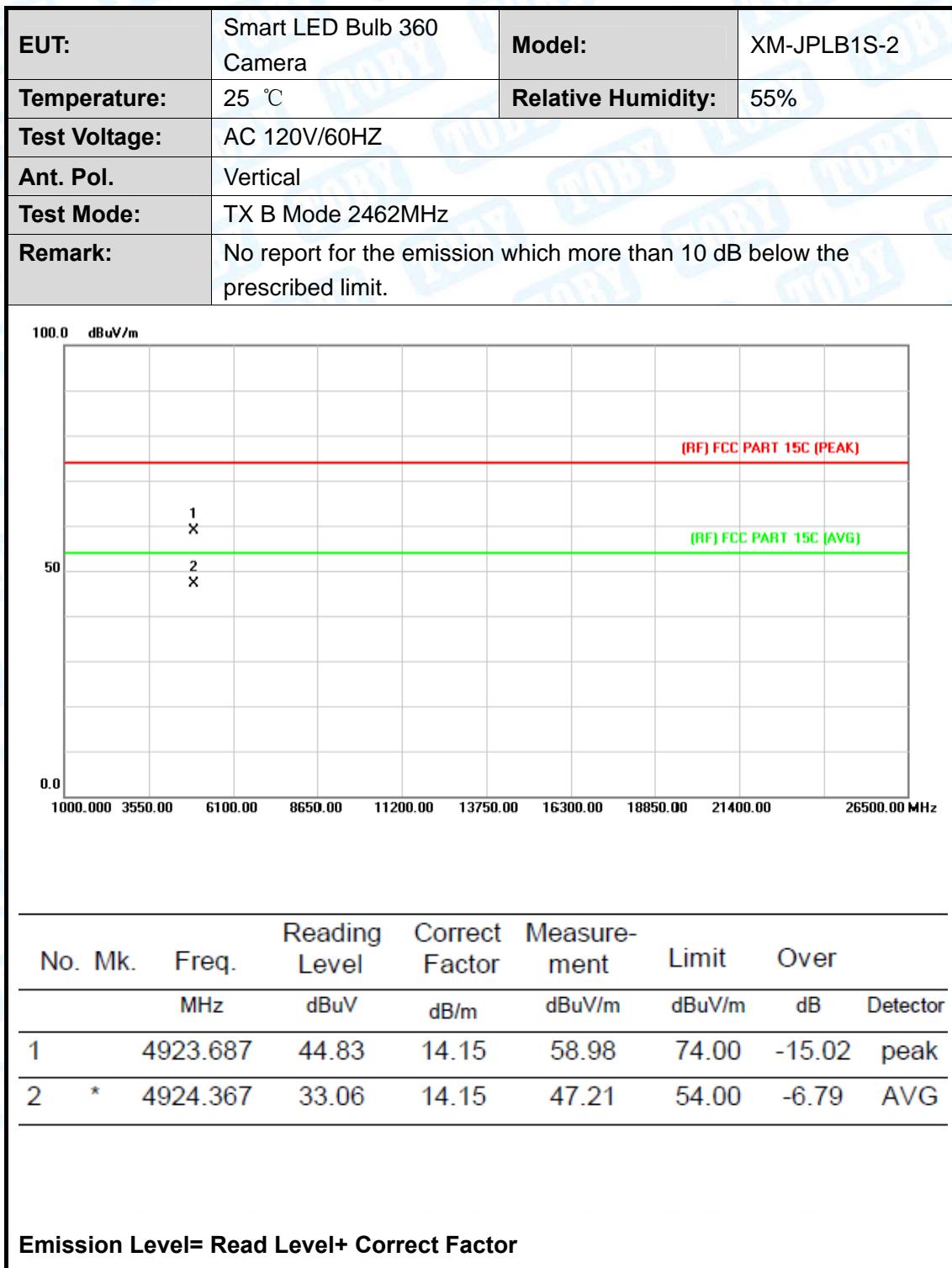


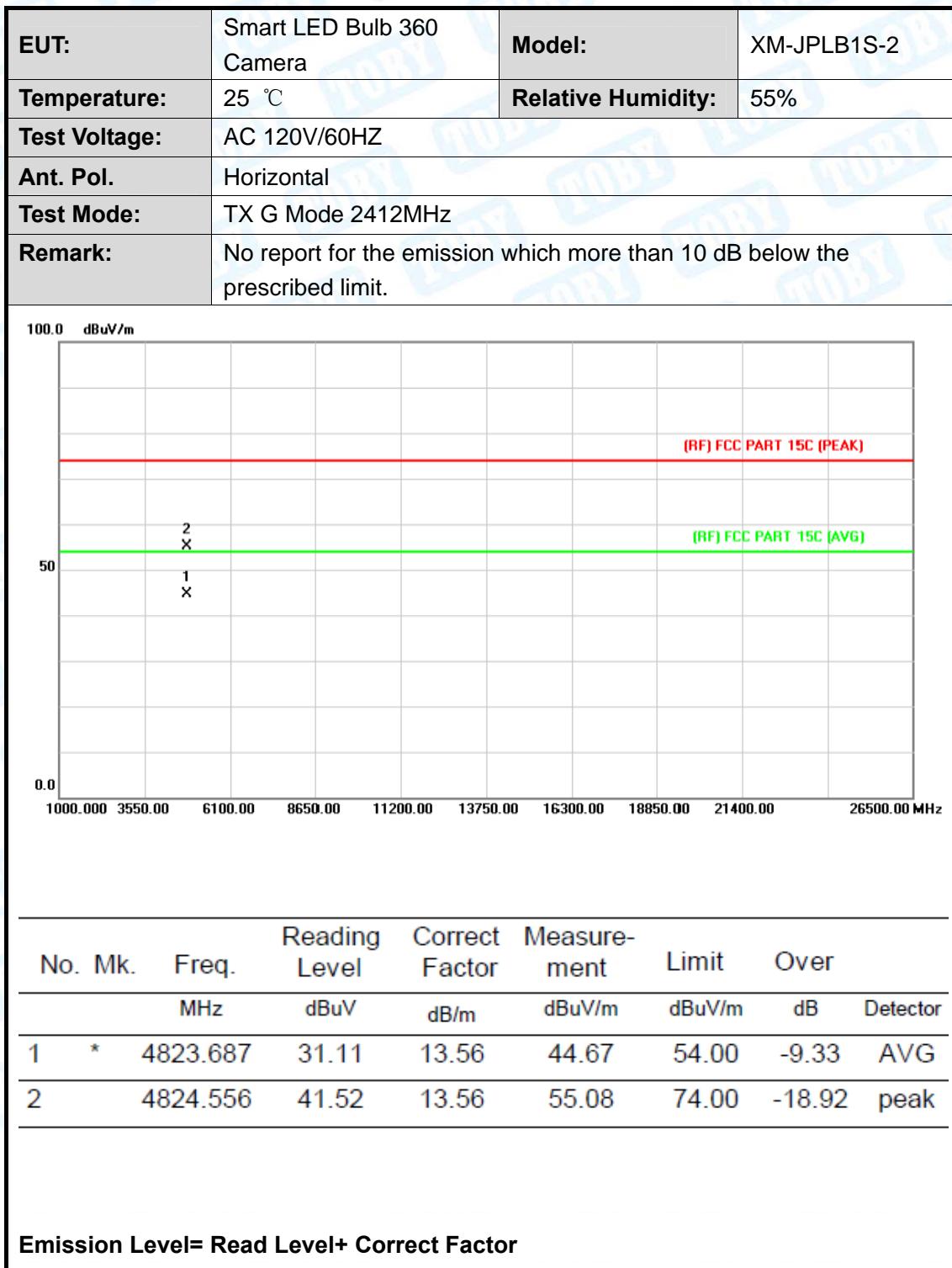


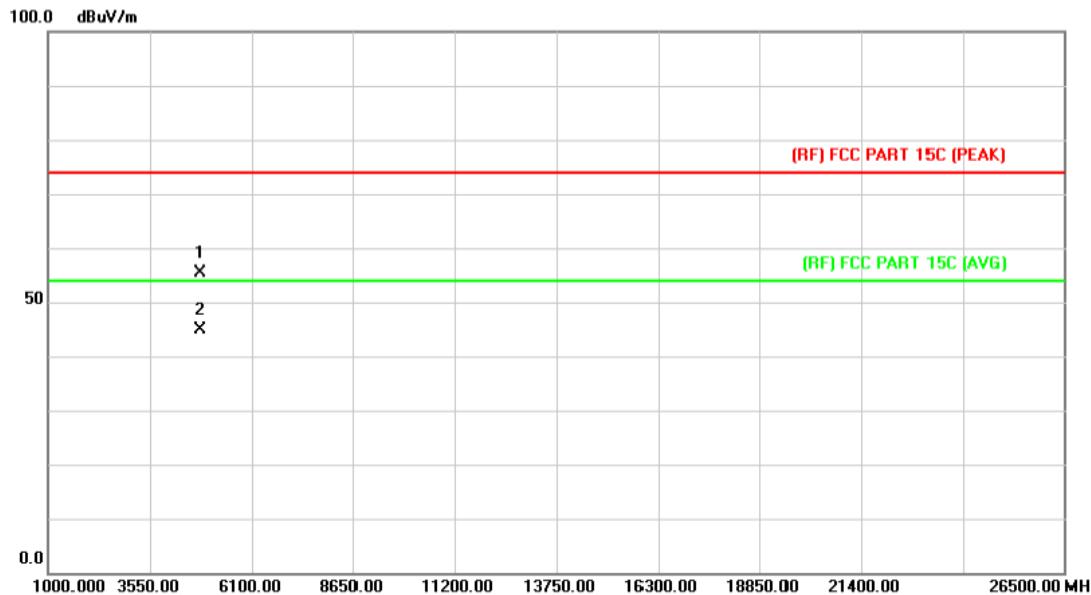


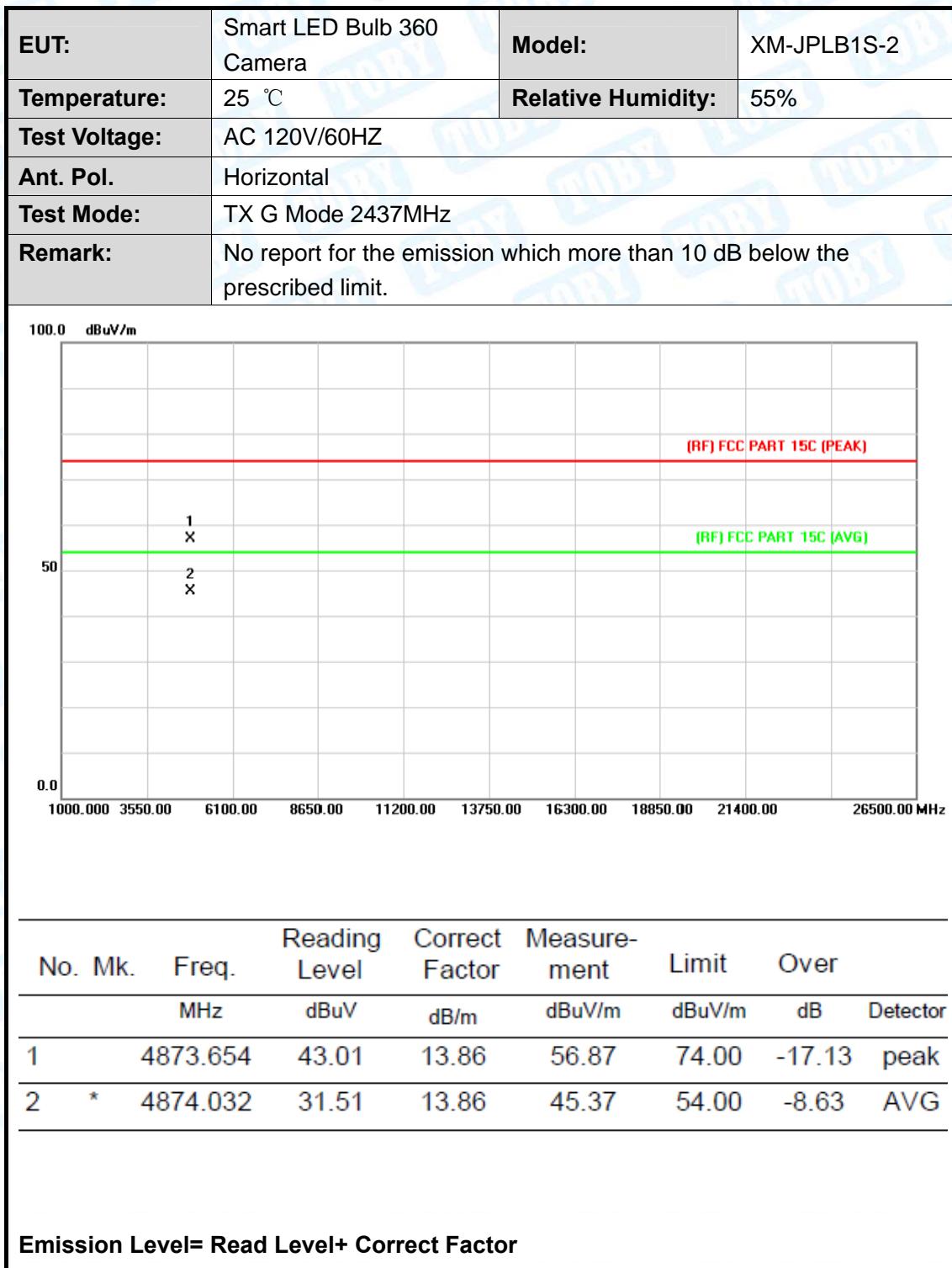
EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2				
Temperature:	25 °C	Relative Humidity:	55%				
Test Voltage:	AC 120V/60HZ						
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2462MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dB	Detector
1	*	4924.674	44.82	14.15	58.97	74.00	-15.03 peak
2	*	4924.674	32.87	14.15	47.02	54.00	-6.98 AVG

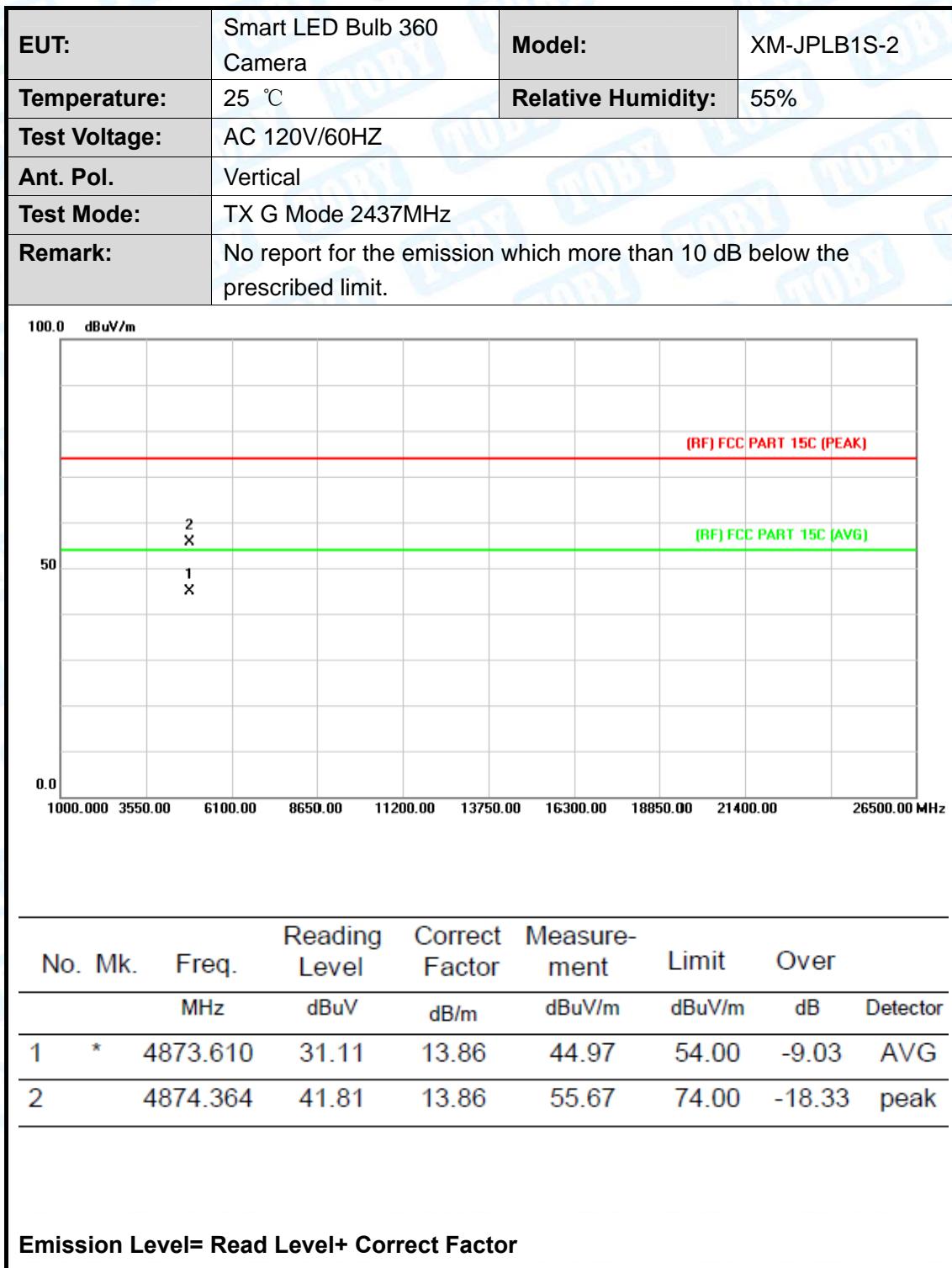
Emission Level= Read Level+ Correct Factor

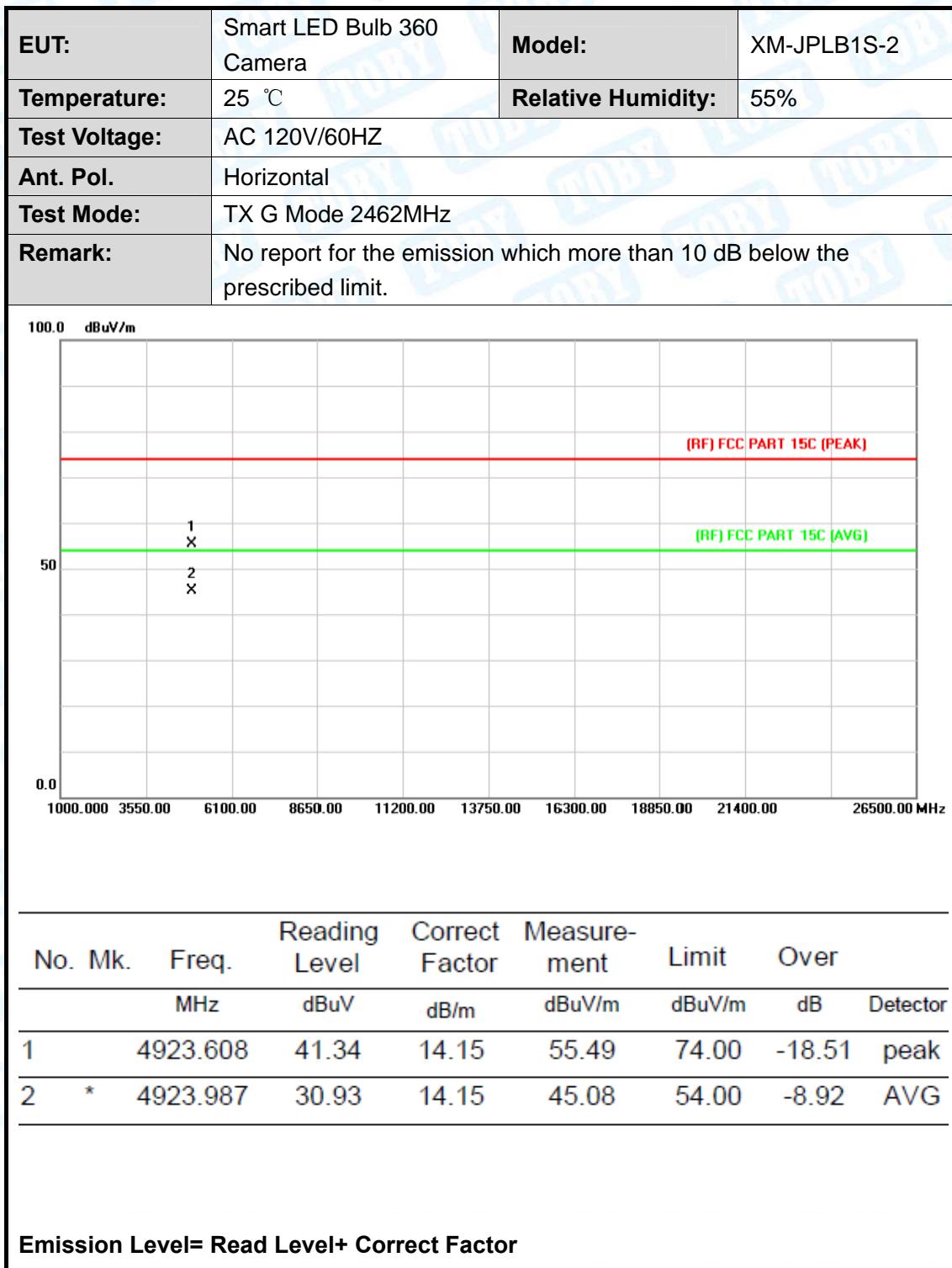


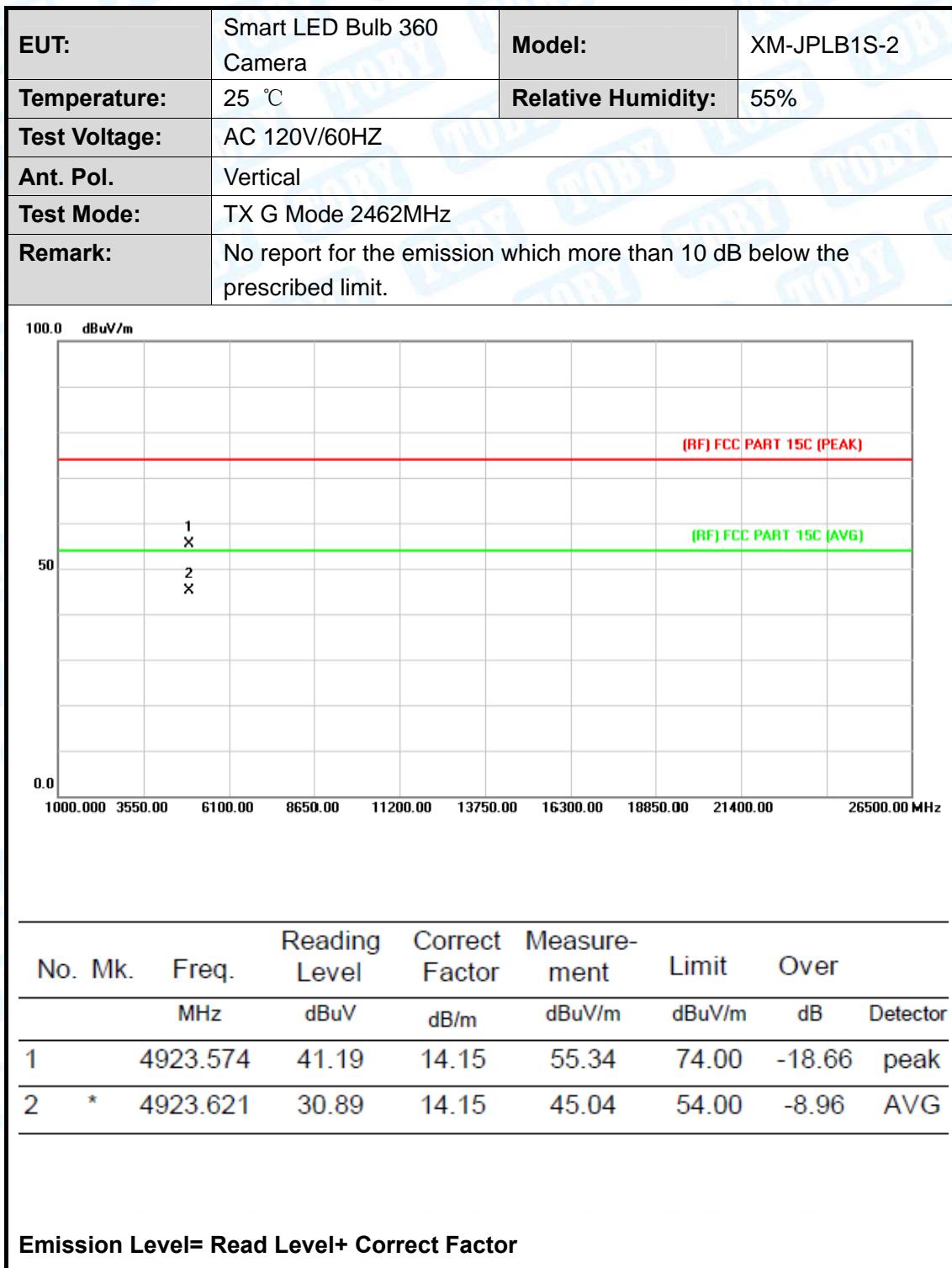


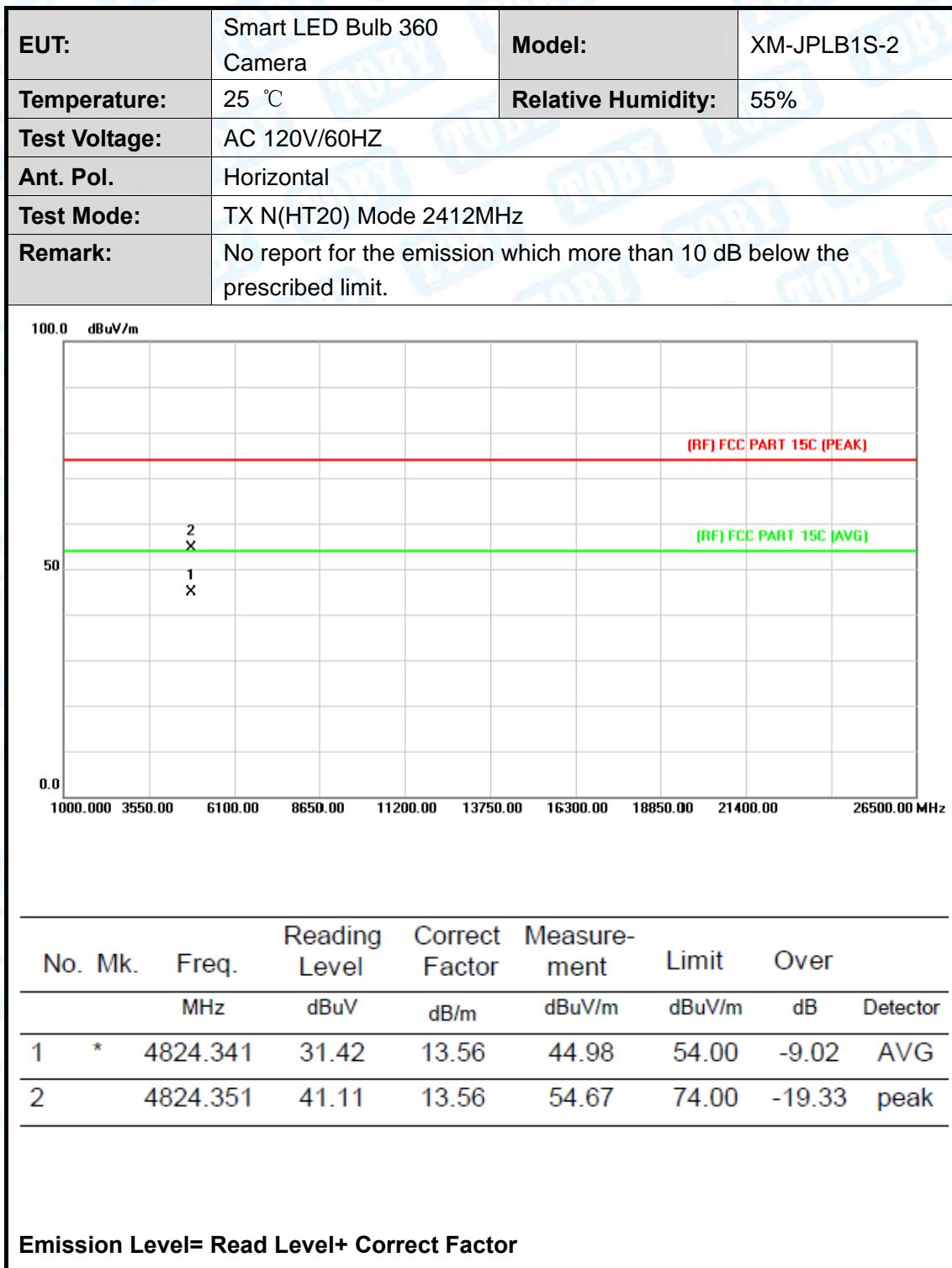
<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2																																
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%																																
<b>Test Voltage:</b>	AC 120V/60HZ																																		
<b>Ant. Pol.</b>	Vertical																																		
<b>Test Mode:</b>	TX G Mode 2412MHz																																		
<b>Remark:</b>	No report for the emission which more than 10 dB below the prescribed limit.																																		
																																			
<table border="1"><thead><tr><th>No.</th><th>Mk.</th><th>Freq.</th><th>Reading Level</th><th>Correct Factor</th><th>Measure-ment</th><th>Limit</th><th>Over</th></tr><tr><th></th><th></th><th>MHz</th><th>dBuV</th><th>dB/m</th><th>dBuV/m</th><th>dB</th><th>Detector</th></tr></thead><tbody><tr><td>1</td><td></td><td>4823.654</td><td>41.90</td><td>13.56</td><td>55.46</td><td>74.00</td><td>-18.54 peak</td></tr><tr><td>2</td><td>*</td><td>4824.622</td><td>31.21</td><td>13.56</td><td>44.77</td><td>54.00</td><td>-9.23 AVG</td></tr></tbody></table>				No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over			MHz	dBuV	dB/m	dBuV/m	dB	Detector	1		4823.654	41.90	13.56	55.46	74.00	-18.54 peak	2	*	4824.622	31.21	13.56	44.77	54.00	-9.23 AVG
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																												
		MHz	dBuV	dB/m	dBuV/m	dB	Detector																												
1		4823.654	41.90	13.56	55.46	74.00	-18.54 peak																												
2	*	4824.622	31.21	13.56	44.77	54.00	-9.23 AVG																												
<b>Emission Level= Read Level+ Correct Factor</b>																																			

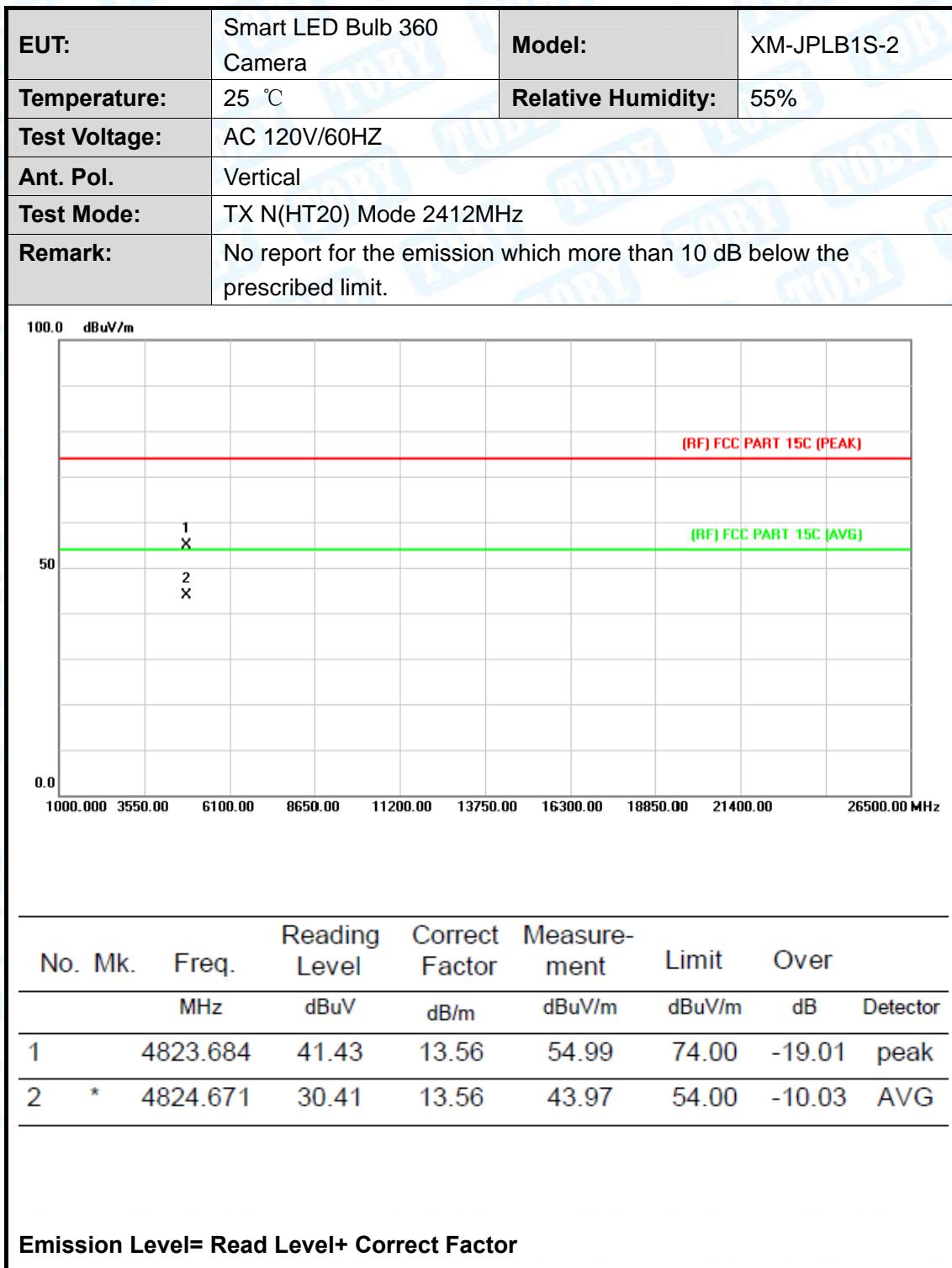


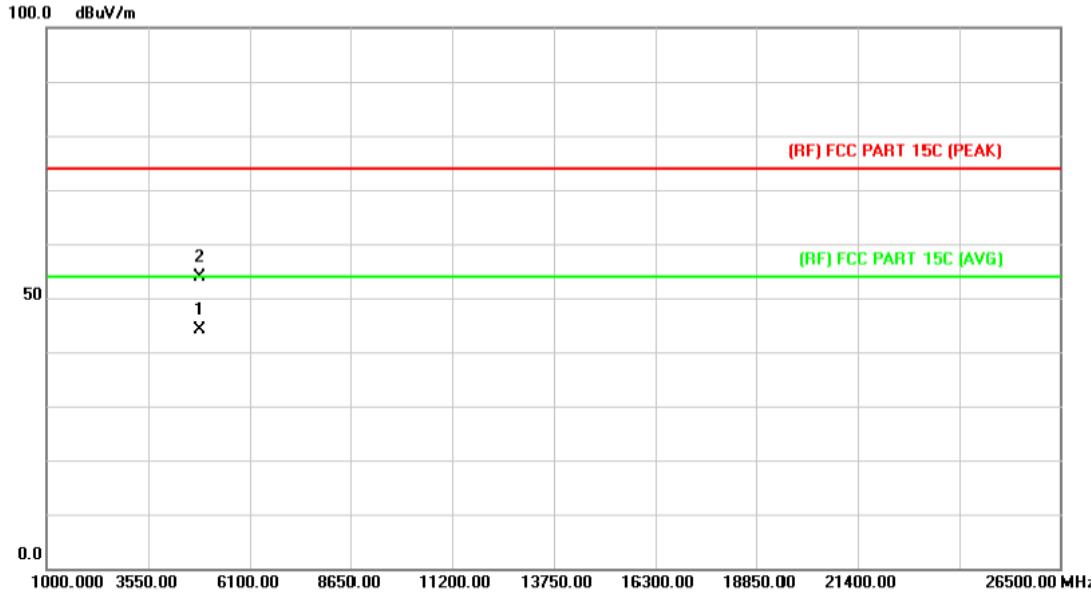




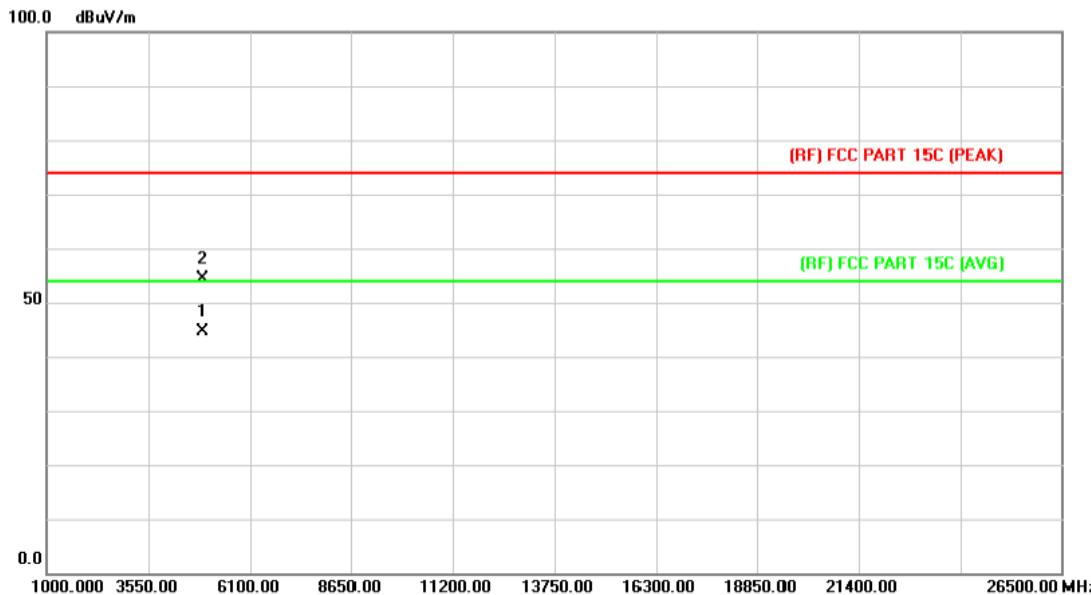


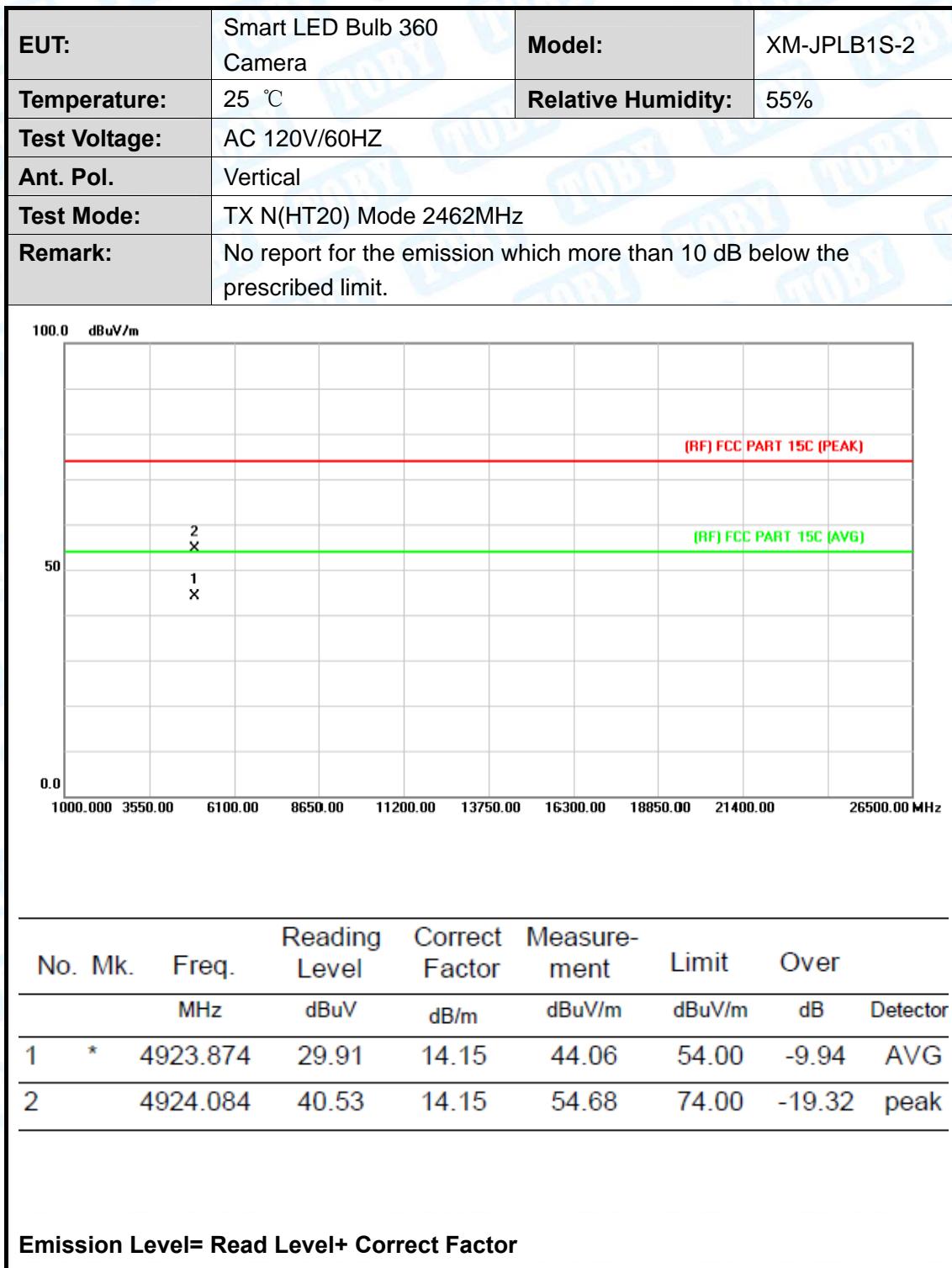


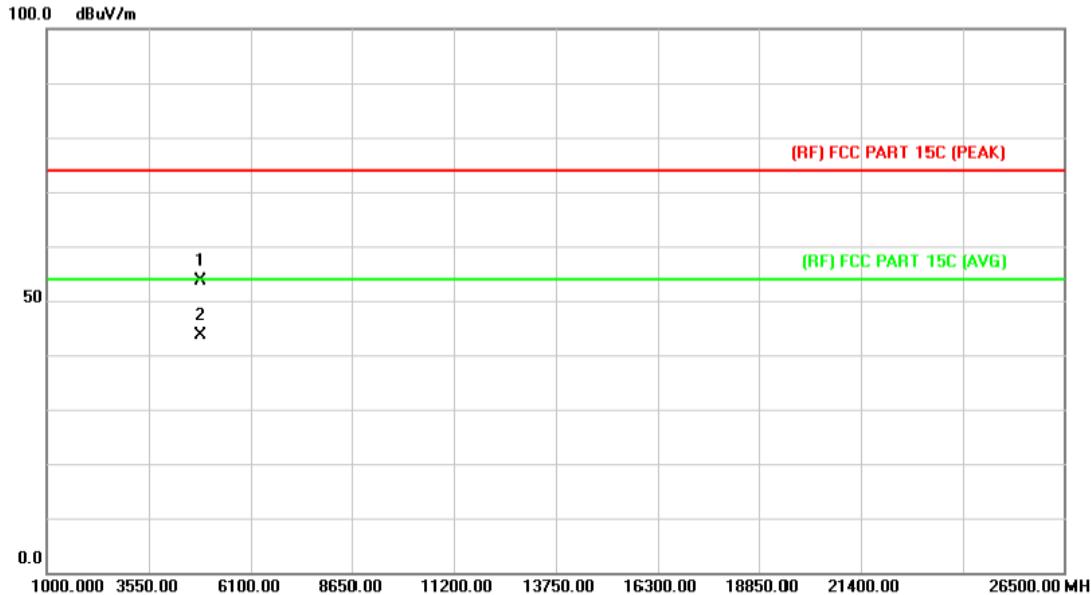


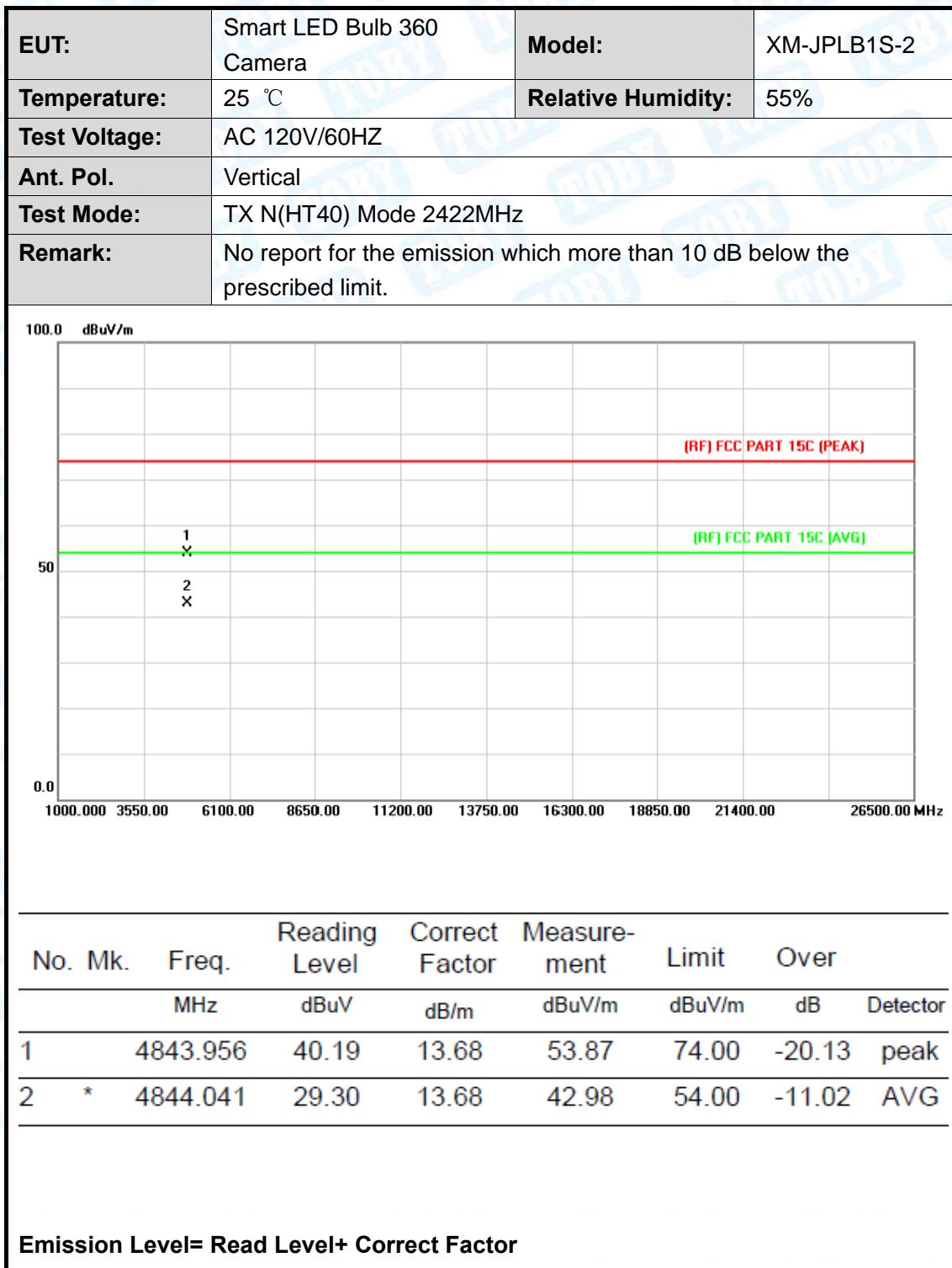
EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2				
Temperature:	25 °C	Relative Humidity:	55%				
Test Voltage:	AC 120V/60HZ						
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mode 2437MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dB	Detector
1	*	4873.608	30.35	13.86	44.21	54.00	-9.79
2		4874.084	40.13	13.86	53.99	74.00	-20.01
Emission Level= Read Level+ Correct Factor							

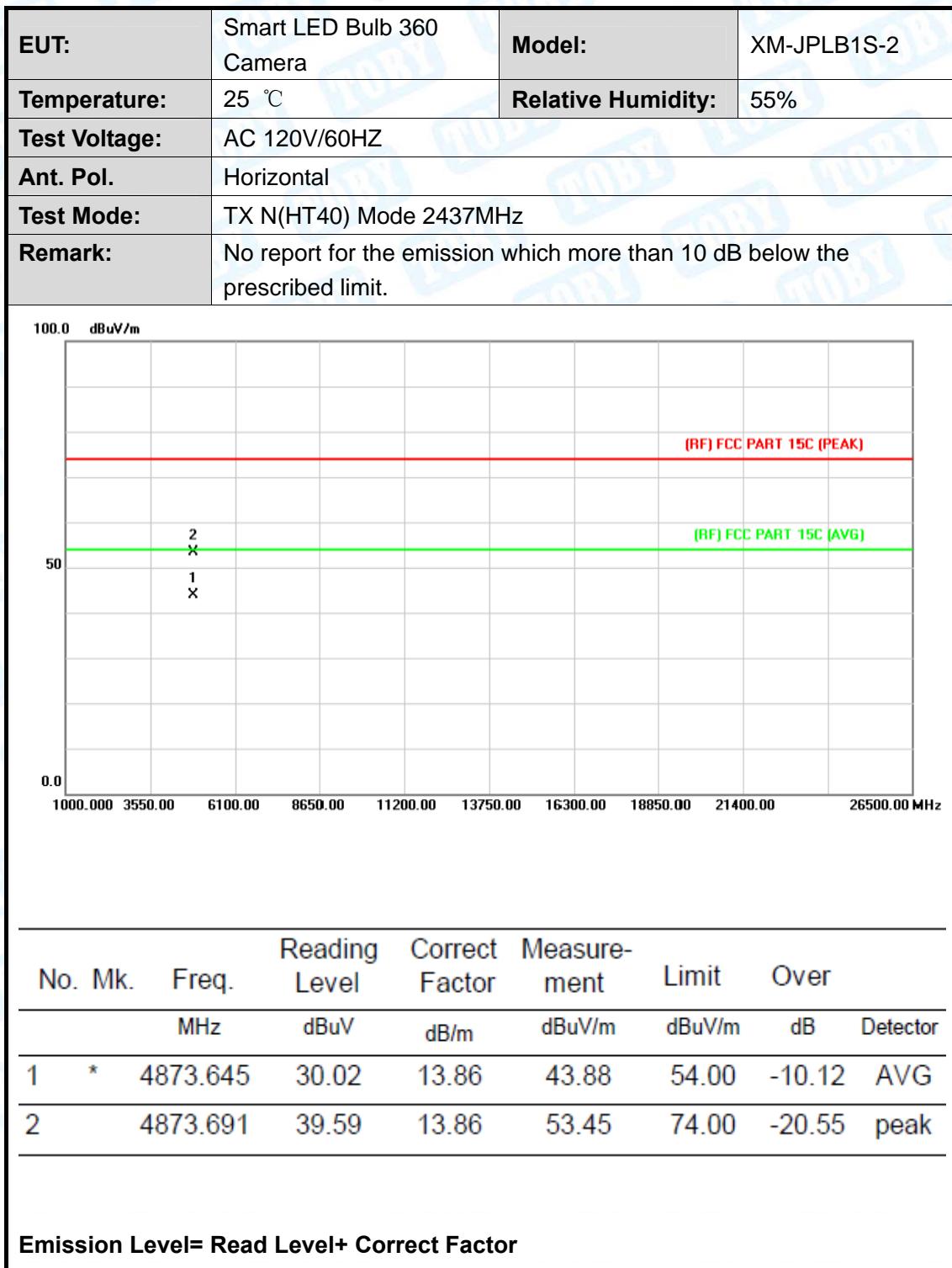


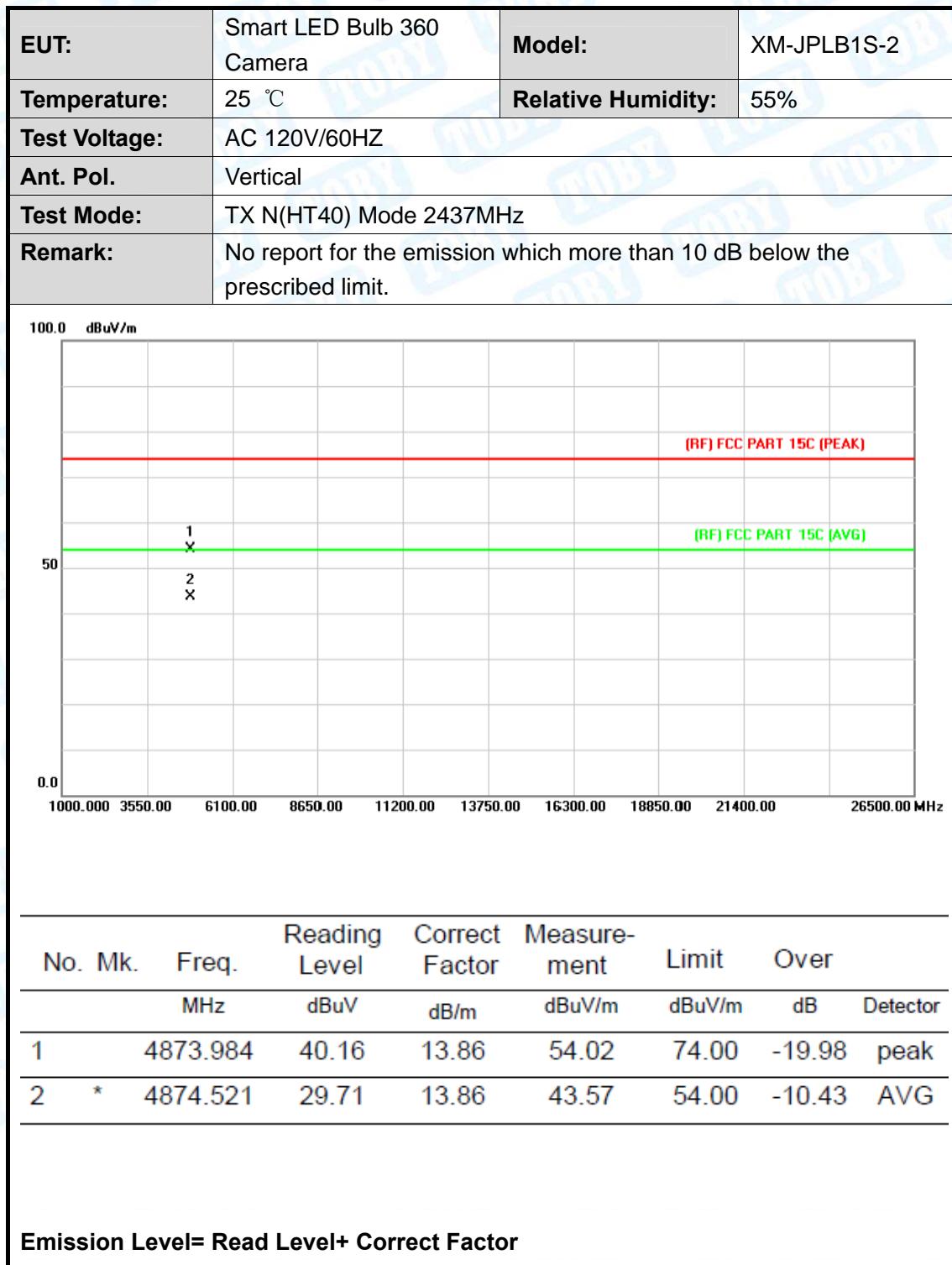
EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2				
Temperature:	25 °C	Relative Humidity:	55%				
Test Voltage:	AC 120V/60HZ						
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mode 2462MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
1	*	4923.854	30.44	14.15	44.59	54.00	-9.41
2		4924.314	40.22	14.15	54.37	74.00	-19.63
Emission Level= Read Level+ Correct Factor							

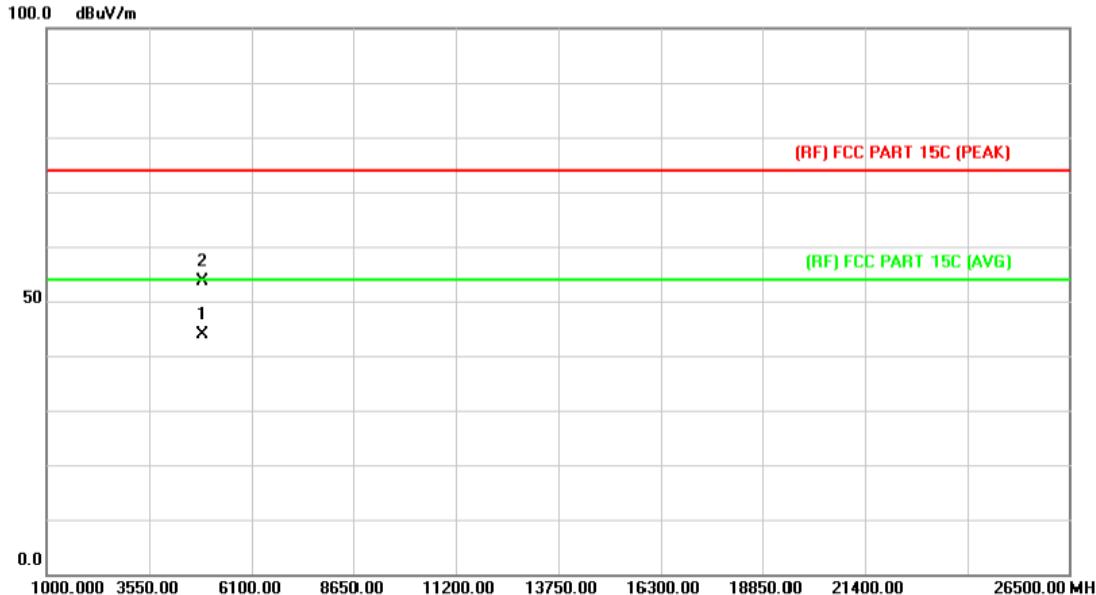


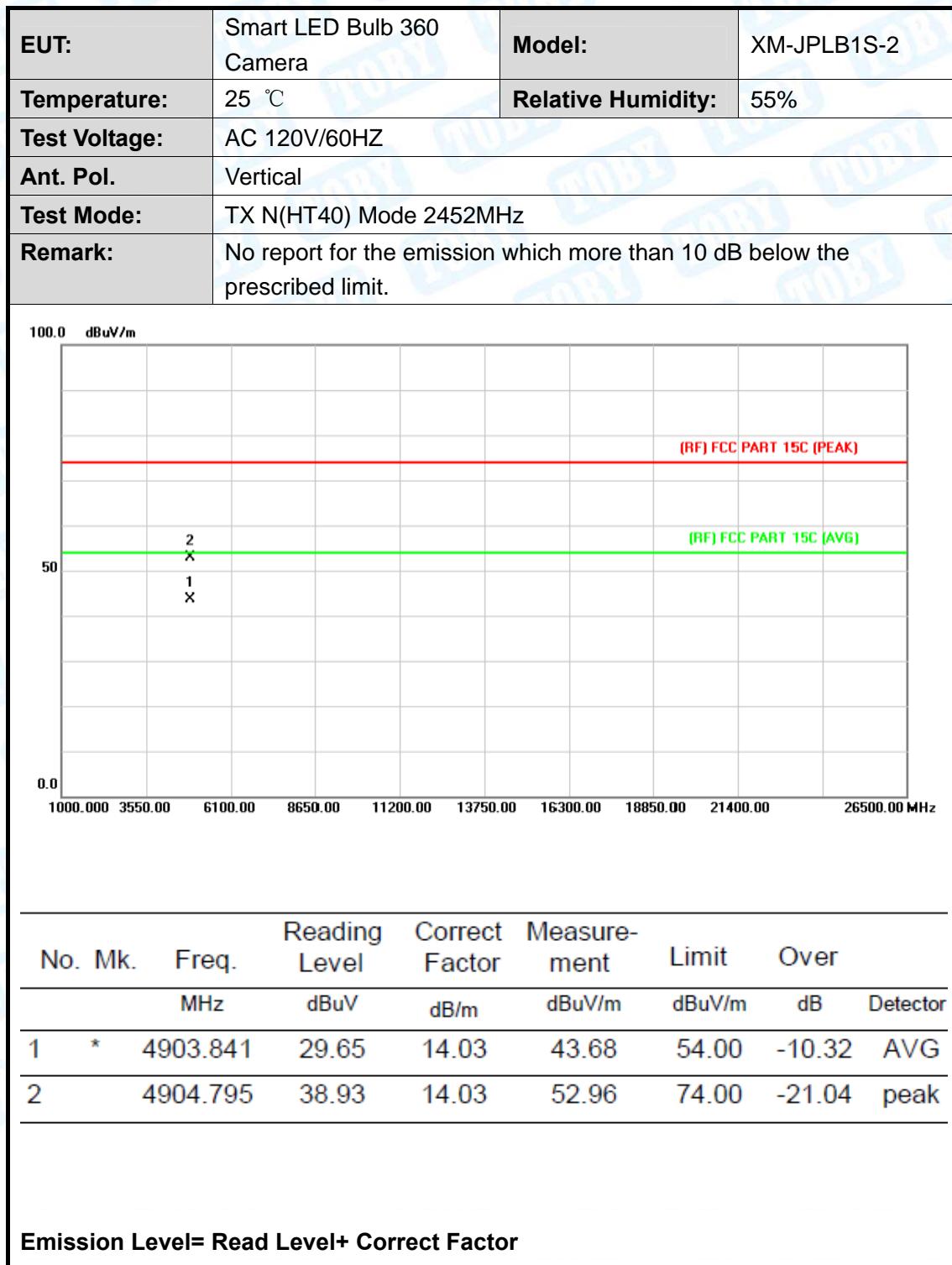
EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2				
Temperature:	25 °C	Relative Humidity:	55%				
Test Voltage:	AC 120V/60HZ						
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT40) Mode 2422MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dB	Detector
1	*	4844.054	40.00	13.68	53.68	74.00	-20.32 peak
2	*	4844.321	29.90	13.68	43.58	54.00	-10.42 AVG
Emission Level= Read Level+ Correct Factor							







EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2																																
Temperature:	25 °C	Relative Humidity:	55%																																
Test Voltage:	AC 120V/60HZ																																		
Ant. Pol.	Horizontal																																		
Test Mode:	TX N(HT40) Mode 2452MHz																																		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.																																		
																																			
<table border="1"><thead><tr><th>No.</th><th>Mk.</th><th>Freq.</th><th>Reading Level</th><th>Correct Factor</th><th>Measure-ment</th><th>Limit</th><th>Over</th></tr><tr><th></th><th></th><th>MHz</th><th>dBuV</th><th>dB/m</th><th>dBuV/m</th><th>dB</th><th>Detector</th></tr></thead><tbody><tr><td>1</td><td>*</td><td>4903.574</td><td>29.84</td><td>14.03</td><td>43.87</td><td>54.00</td><td>-10.13 AVG</td></tr><tr><td>2</td><td></td><td>4904.751</td><td>39.56</td><td>14.03</td><td>53.59</td><td>74.00</td><td>-20.41 peak</td></tr></tbody></table>				No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over			MHz	dBuV	dB/m	dBuV/m	dB	Detector	1	*	4903.574	29.84	14.03	43.87	54.00	-10.13 AVG	2		4904.751	39.56	14.03	53.59	74.00	-20.41 peak
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																												
		MHz	dBuV	dB/m	dBuV/m	dB	Detector																												
1	*	4903.574	29.84	14.03	43.87	54.00	-10.13 AVG																												
2		4904.751	39.56	14.03	53.59	74.00	-20.41 peak																												
Emission Level= Read Level+ Correct Factor																																			



## 6. Restricted Bands Requirement

### 6.1 Test Standard and Limit

#### 6.1.1 Test Standard

FCC Part 15.247(d)

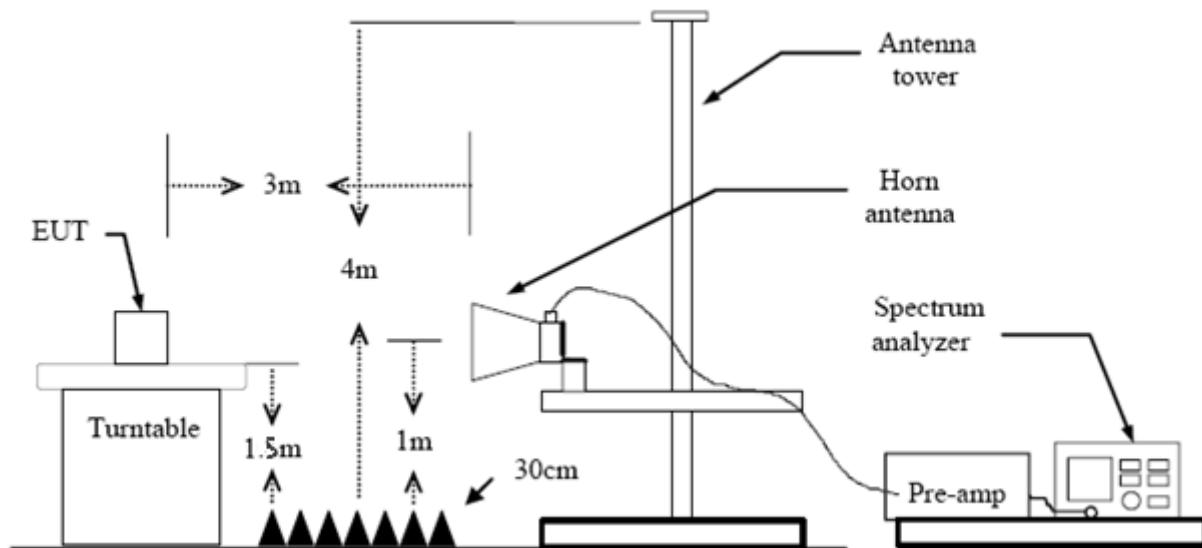
FCC Part 15.209

FCC Part 15.205

#### 6.1.2 Test Limit

Restricted Frequency Band (MHz)	Distance of 3m (dBuV/m)	
	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54

### 6.2 Test Setup



### 6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.

- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Below 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

#### 6.4 EUT Operating Condition

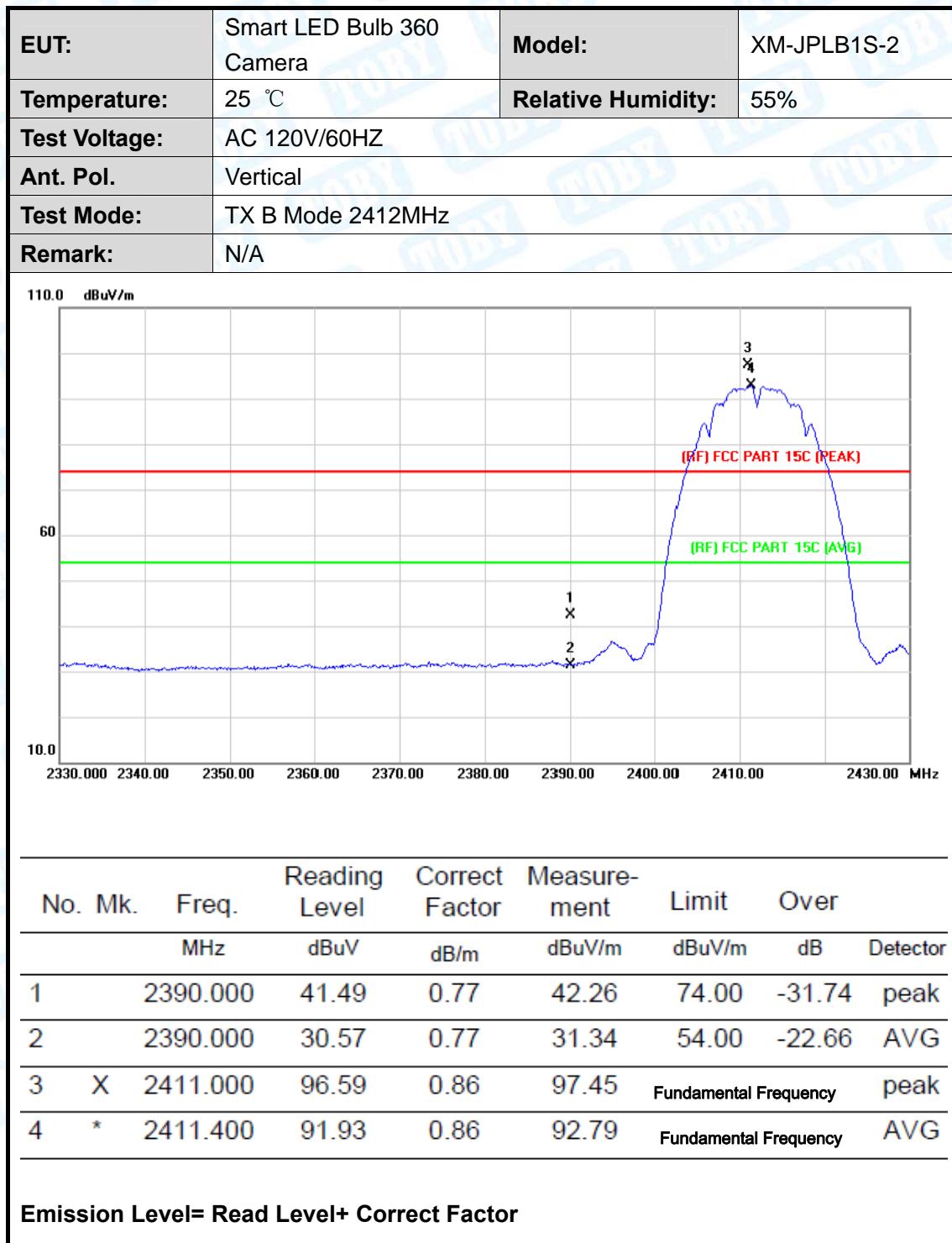
The Equipment Under Test was set to Continual Transmitting in maximum power.

#### 6.5 Test Data

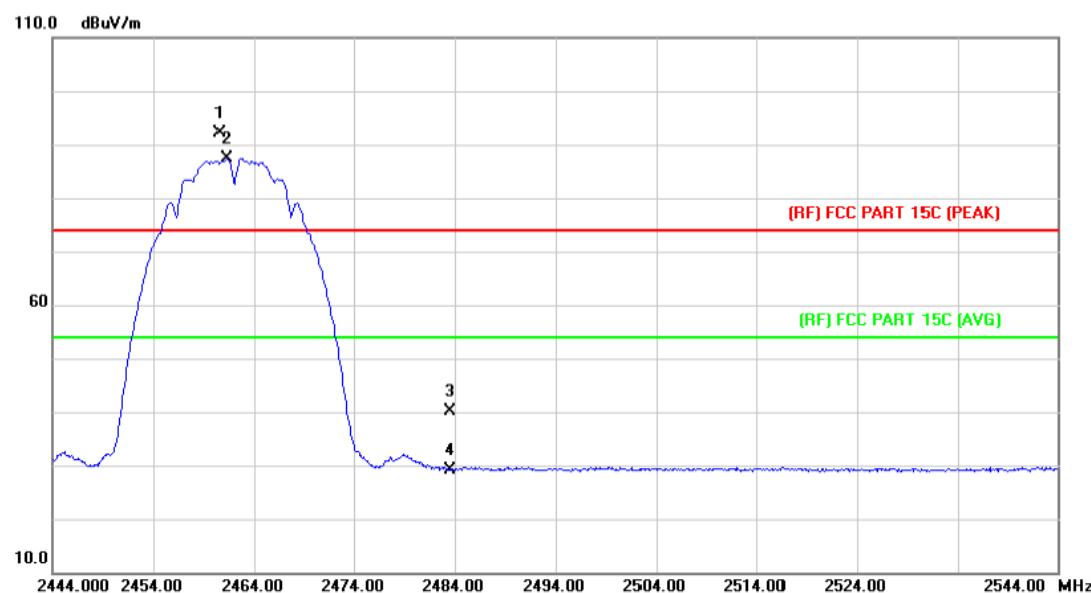
Please see the next page.

## (1) Radiation Test

<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2				
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%				
<b>Test Voltage:</b>	AC 120V/60HZ						
<b>Ant. Pol.</b>	Horizontal						
<b>Test Mode:</b>	TX B Mode 2412MHz						
<b>Remark:</b>	N/A						
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dB	Detector
1		2390.000	38.69	0.77	39.46	74.00	-34.54 peak
2		2390.000	28.38	0.77	29.15	54.00	-24.85 AVG
3	*	2411.300	85.05	0.86	85.91	Fundamental Frequency	AVG
4	X	2413.500	89.77	0.86	90.63	Fundamental Frequency	peak
<b>Emission Level= Read Level+ Correct Factor</b>							

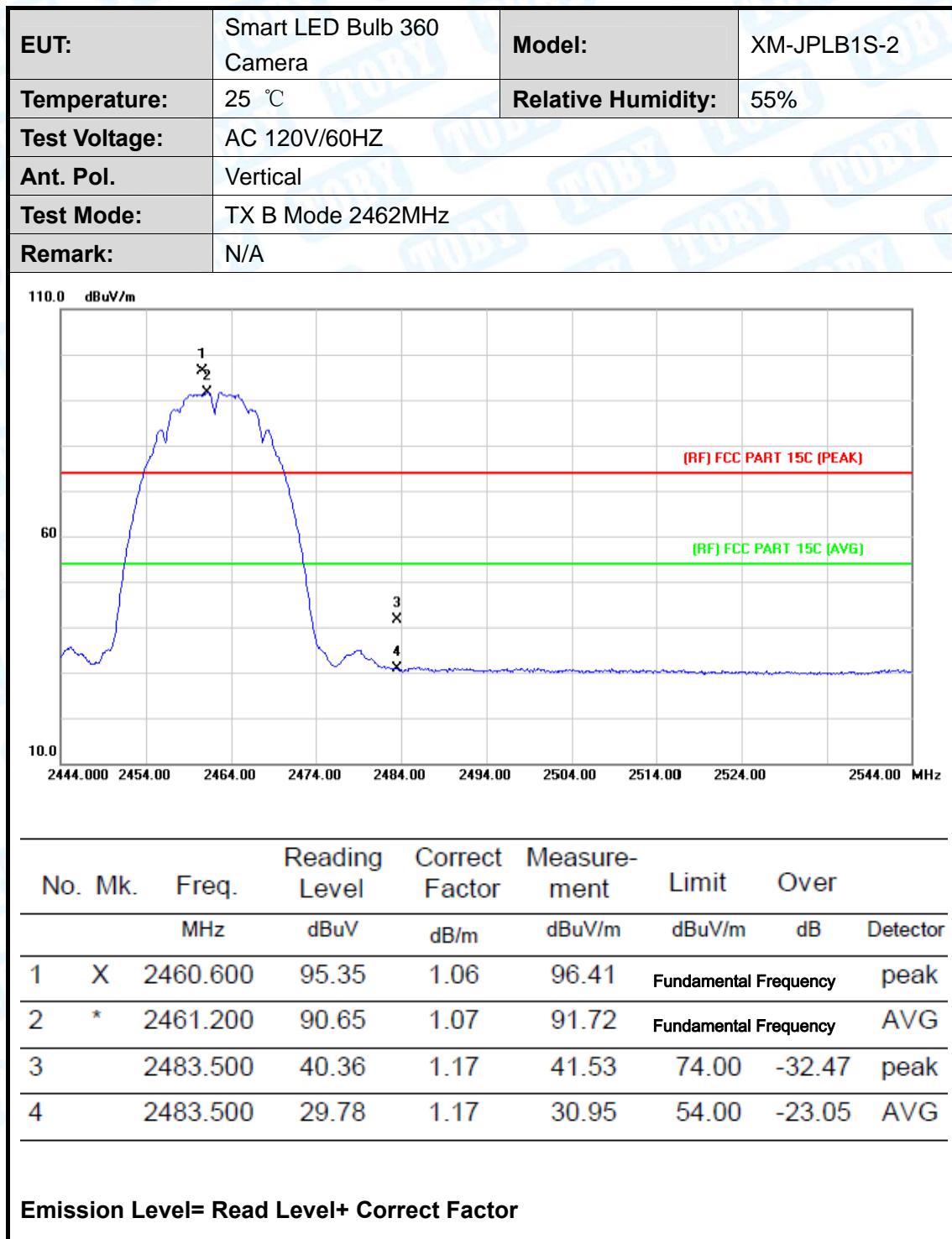


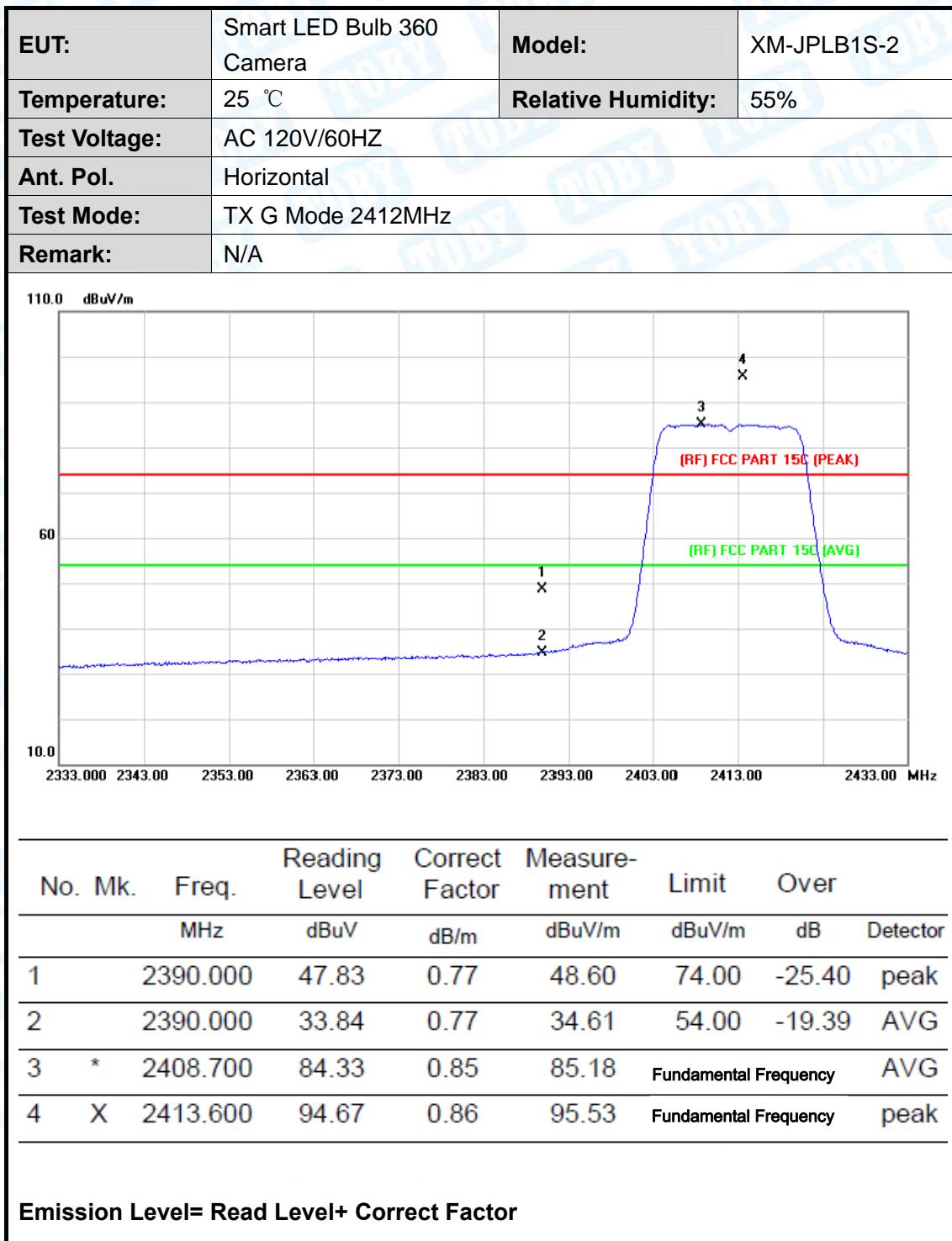
EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/A		

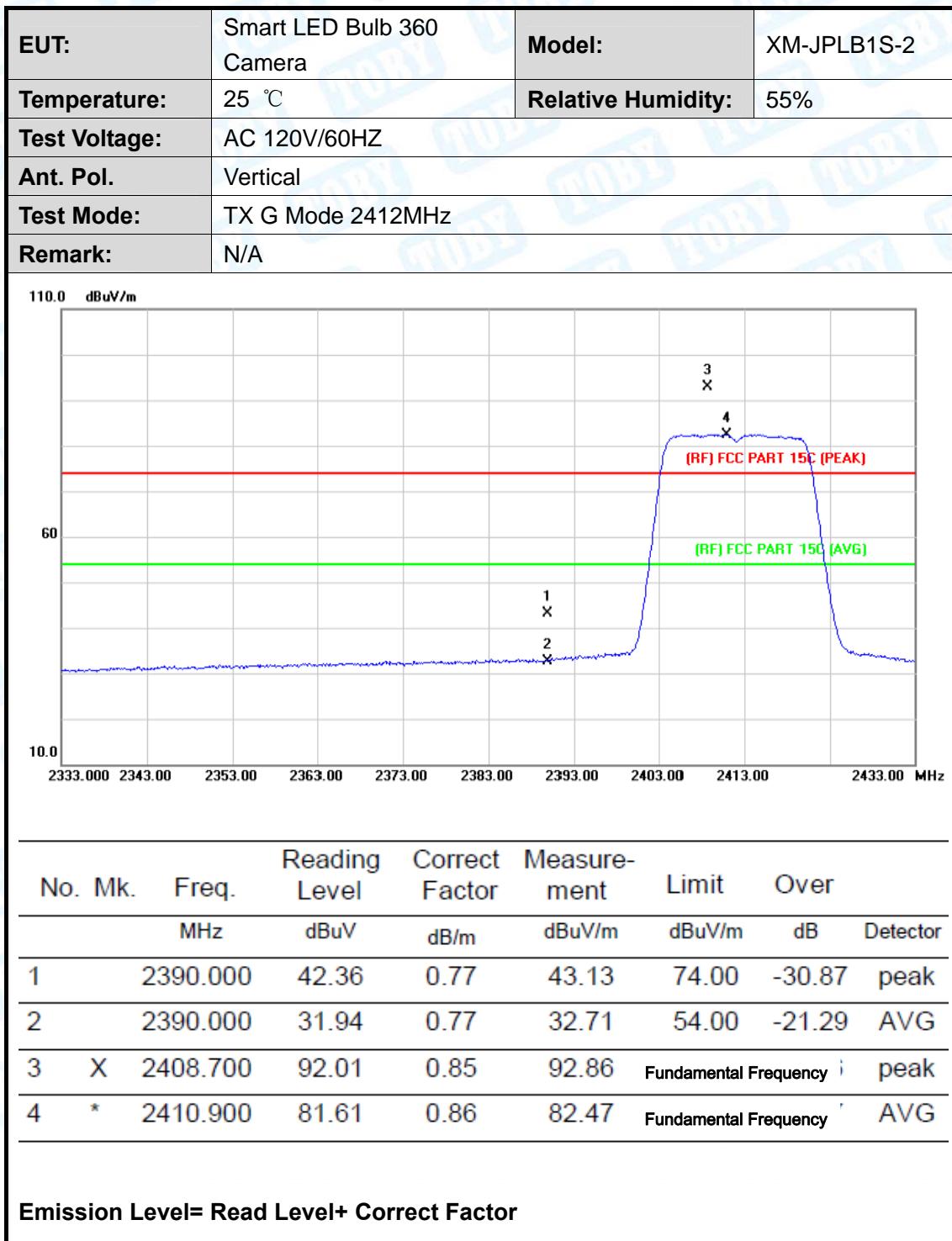


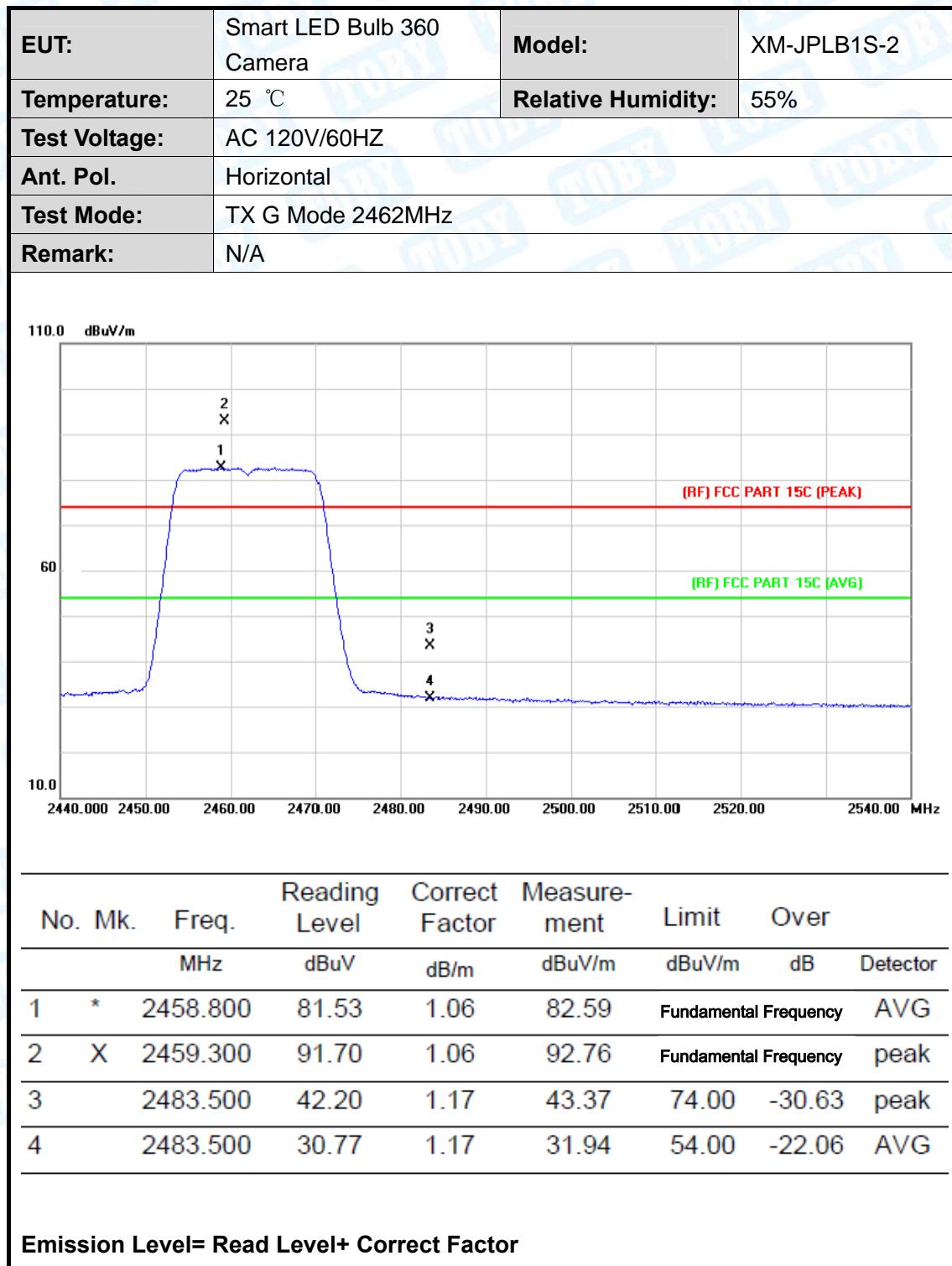
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dB	Over Detector
1	X	2460.600	91.00	1.06	92.06	Fundamental Frequency	peak
2	*	2461.300	86.33	1.07	87.40	Fundamental Frequency	Avg
3		2483.500	39.07	1.17	40.24	74.00	-33.76
4		2483.500	27.91	1.17	29.08	54.00	-24.92

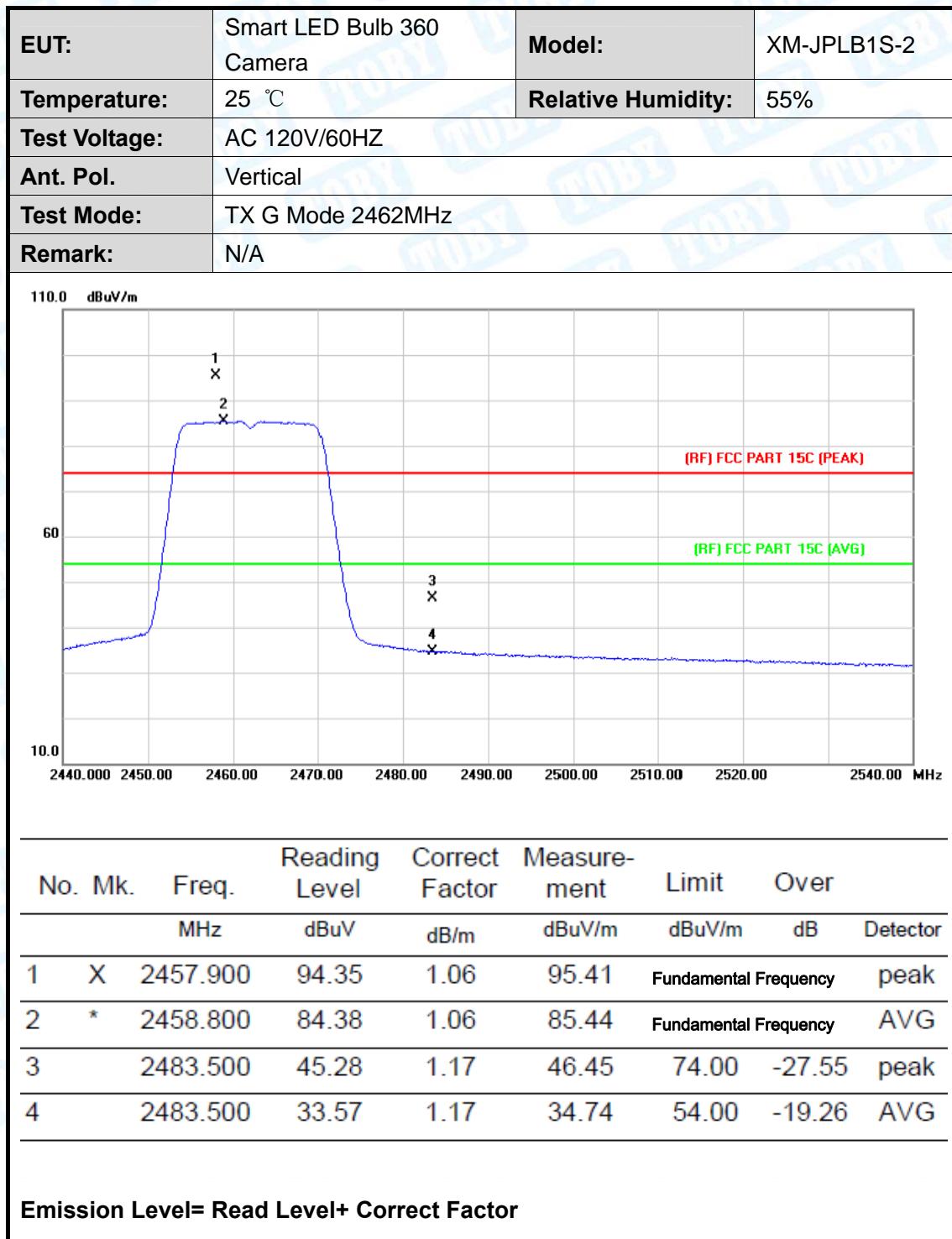
Emission Level= Read Level+ Correct Factor

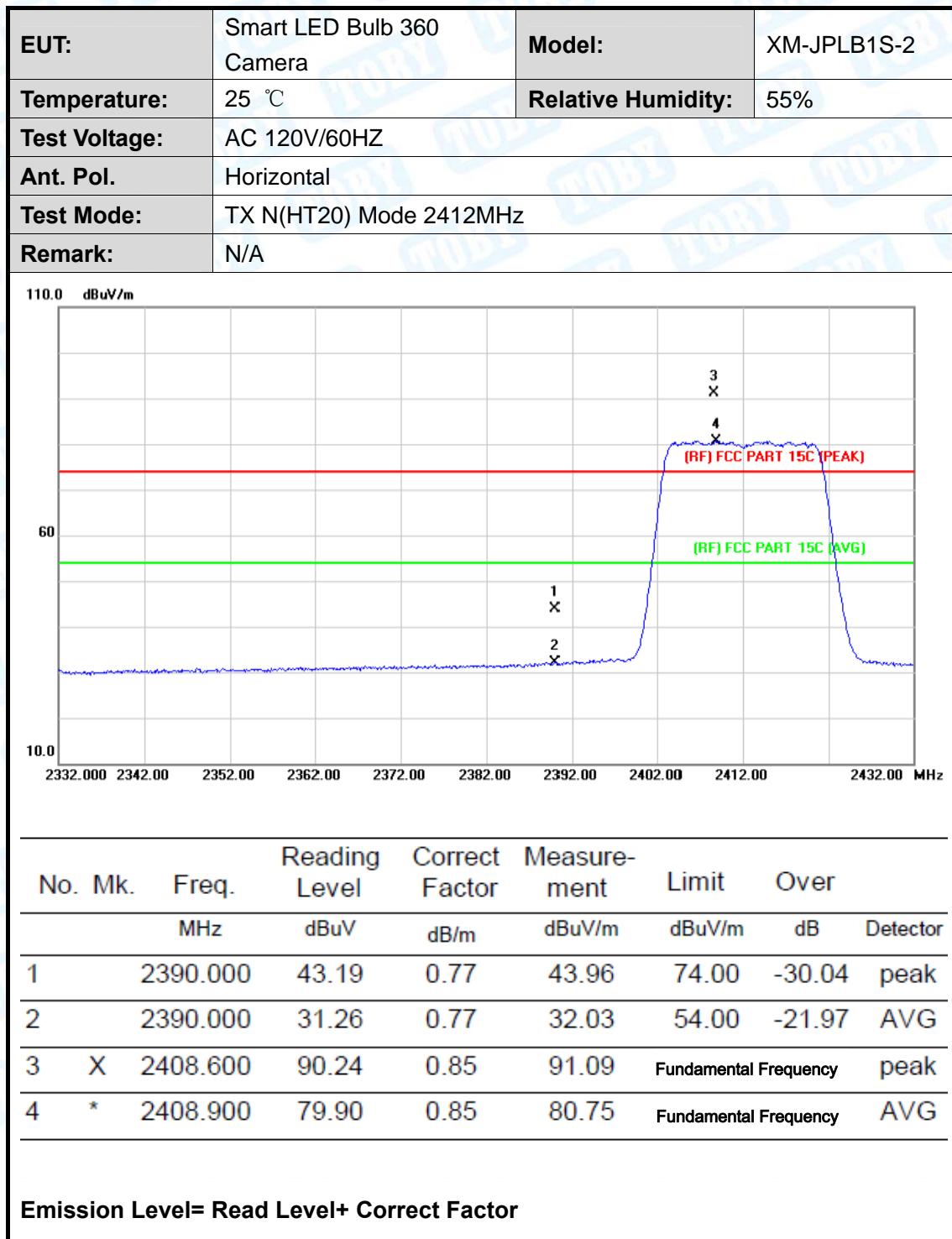


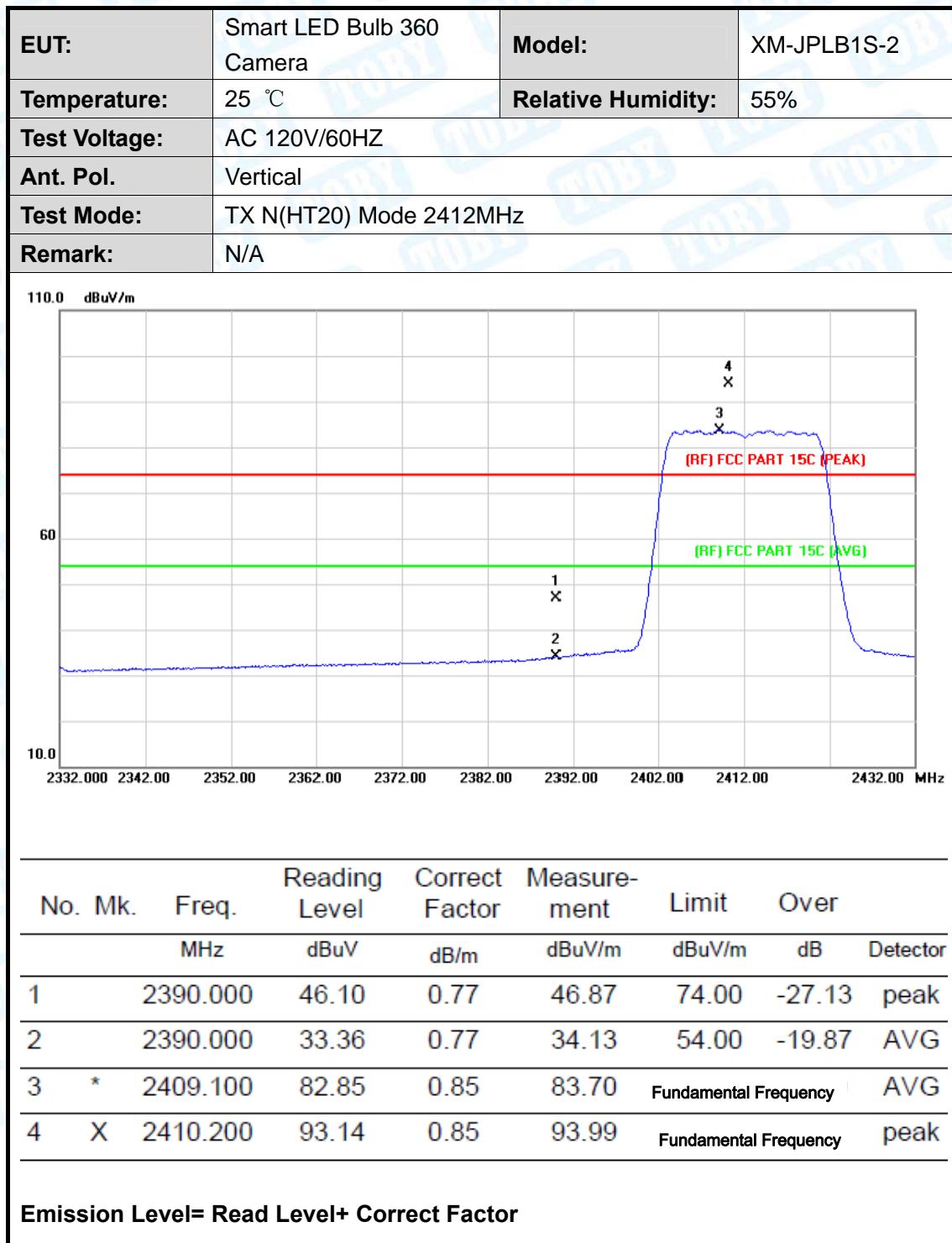


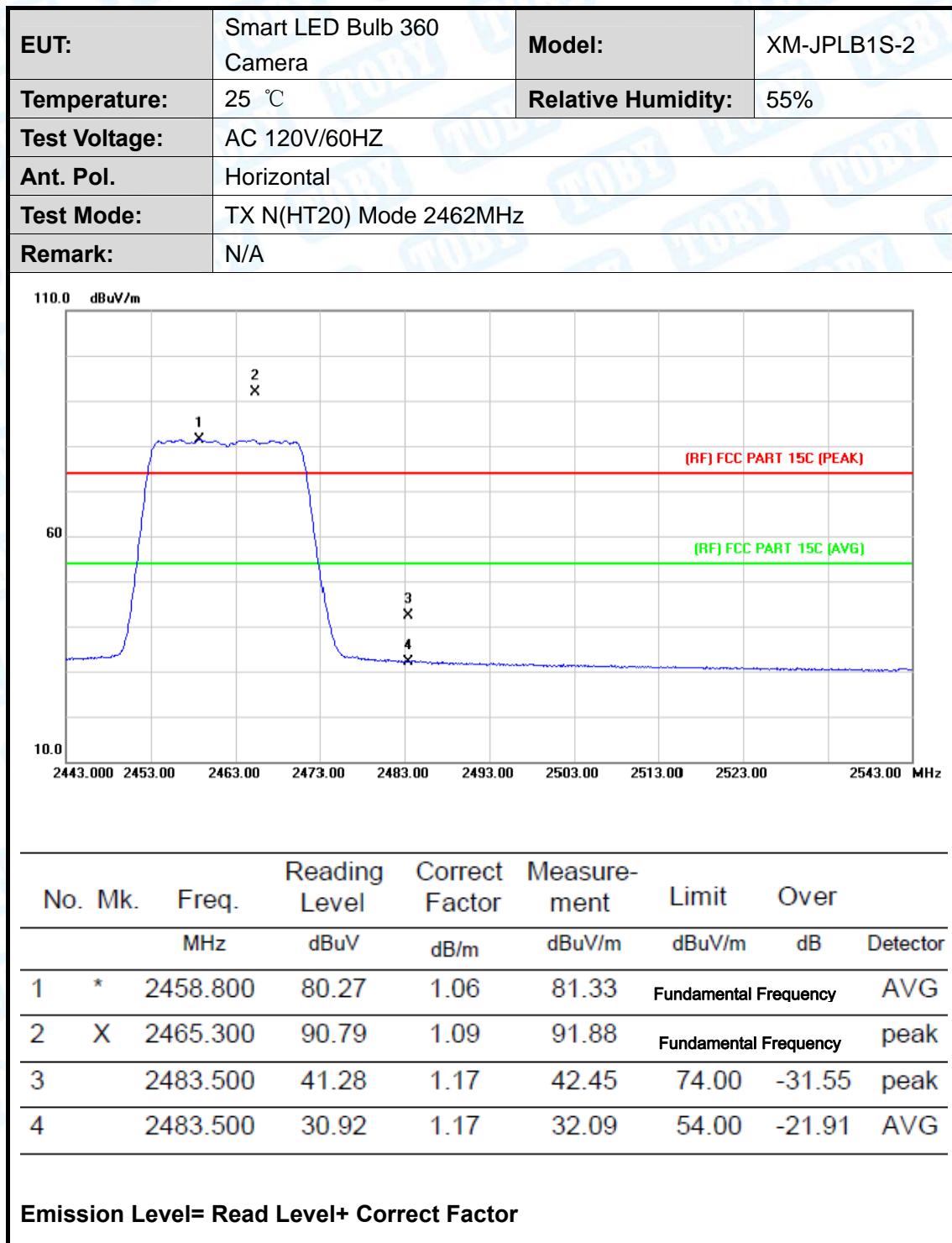


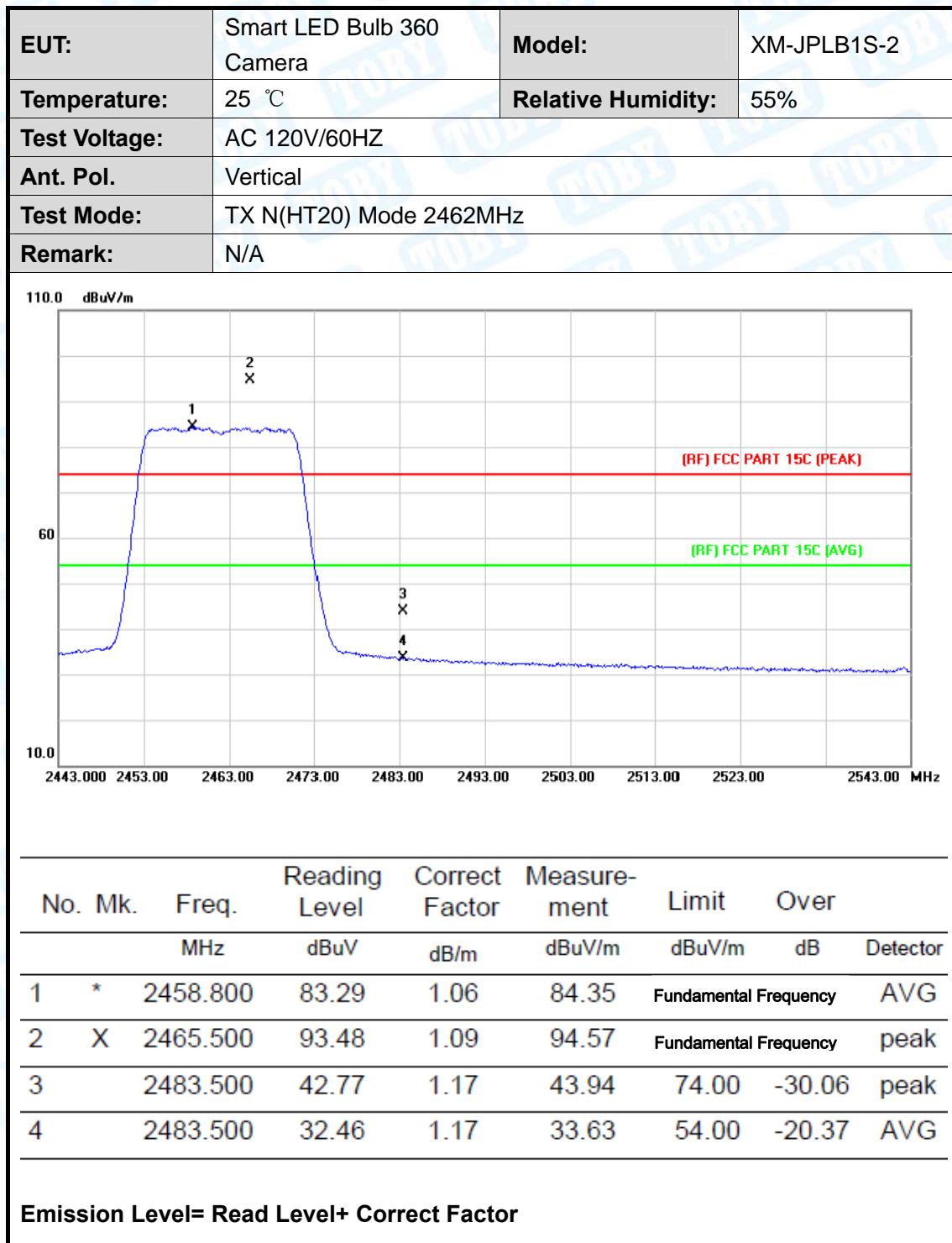




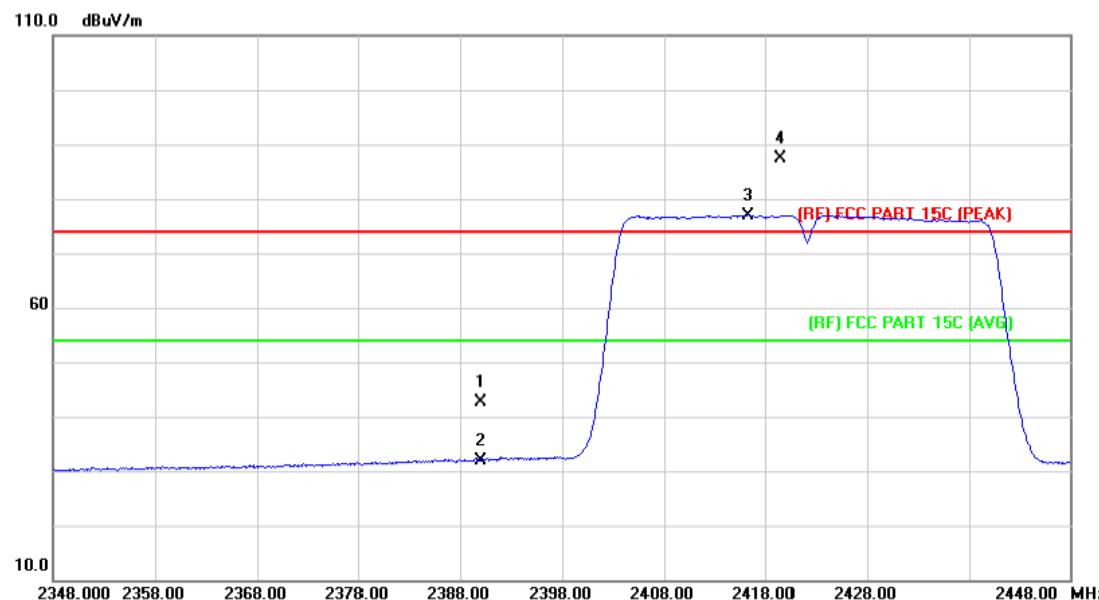






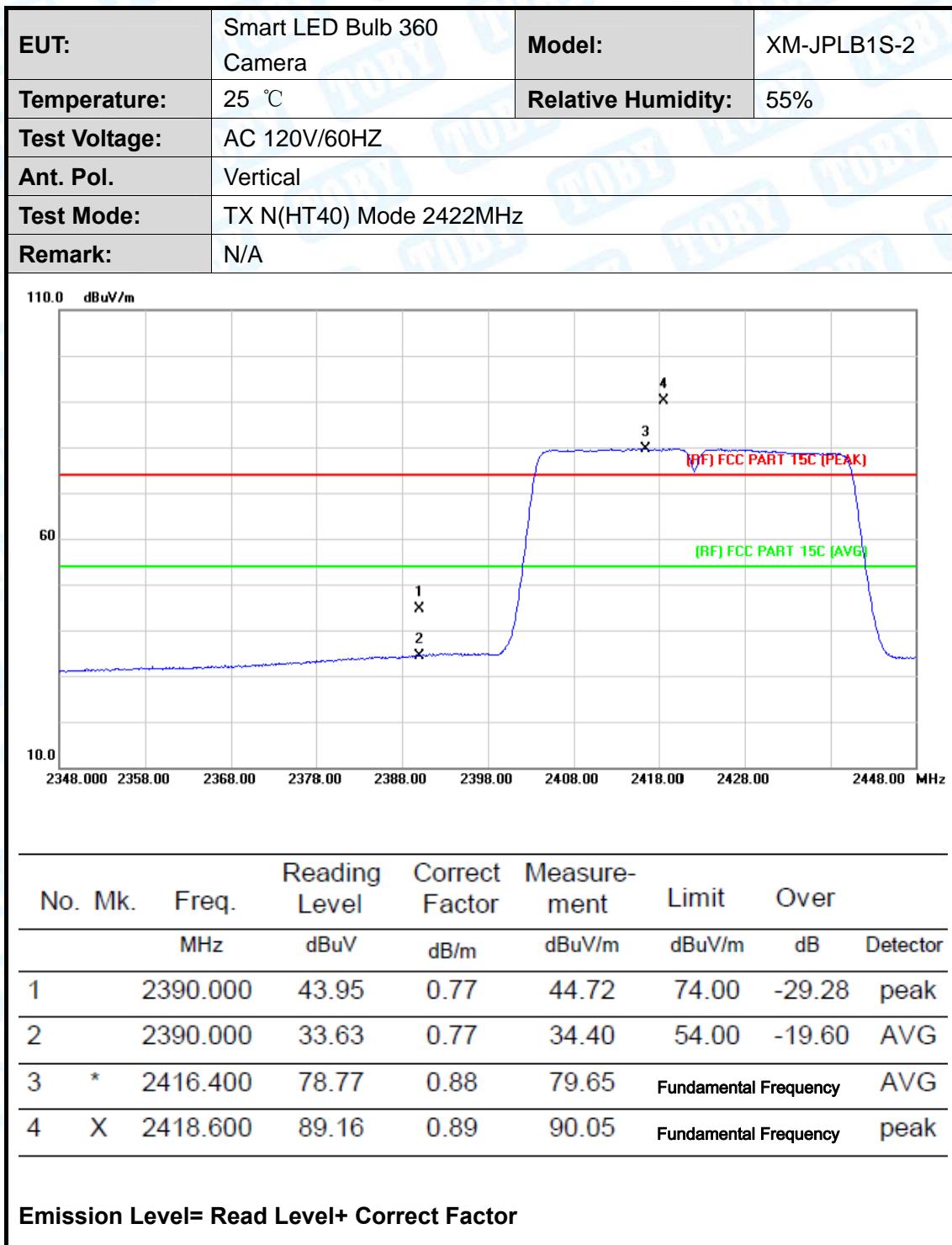


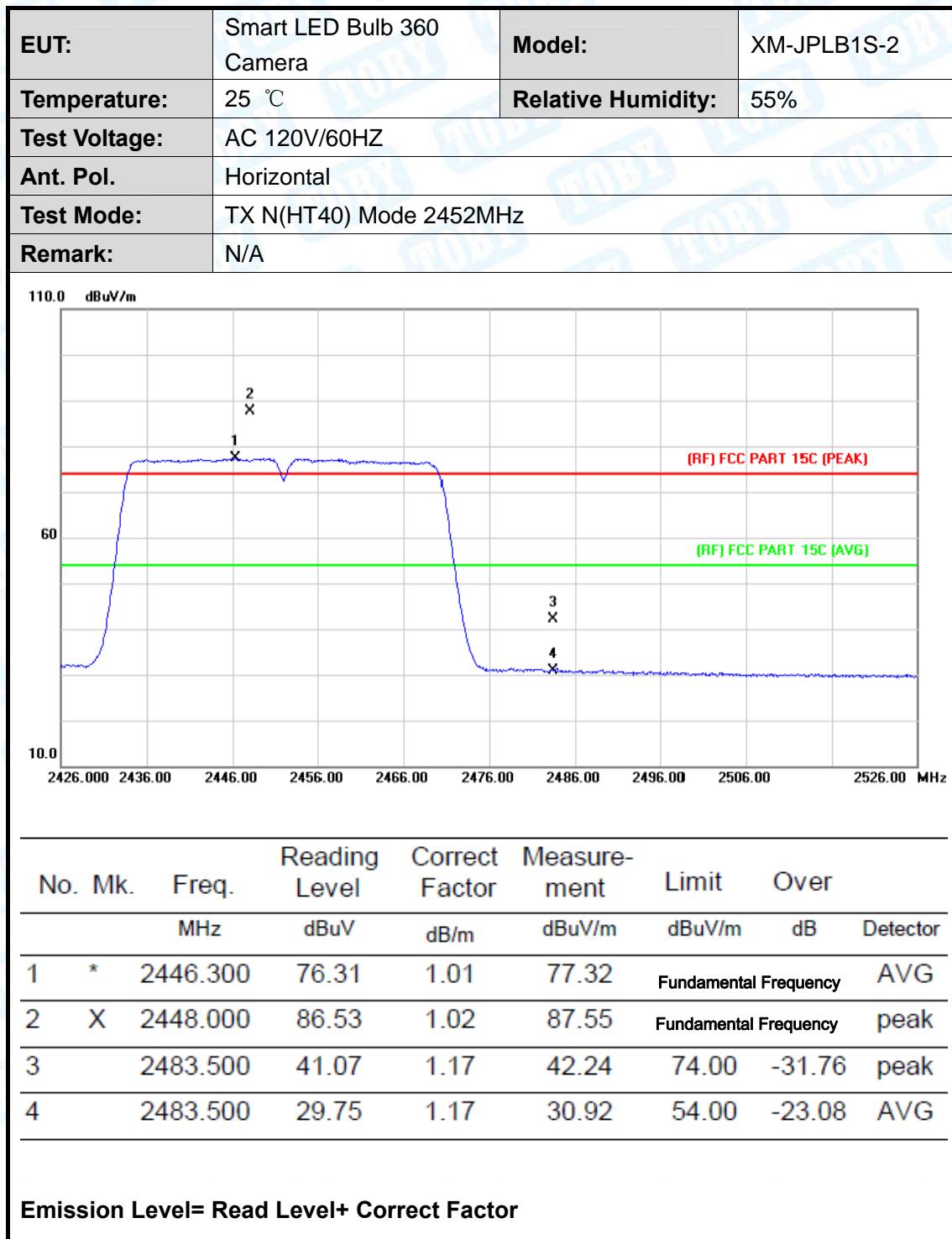
EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
1		2390.000	41.78	0.77	42.55	74.00	-31.45 peak
2		2390.000	31.19	0.77	31.96	54.00	-22.04 AVG
3	*	2416.300	76.12	0.88	77.00	Fundamental Frequency	AVG
4	X	2419.600	86.44	0.89	87.33	Fundamental Frequency	peak

Emission Level= Read Level+ Correct Factor



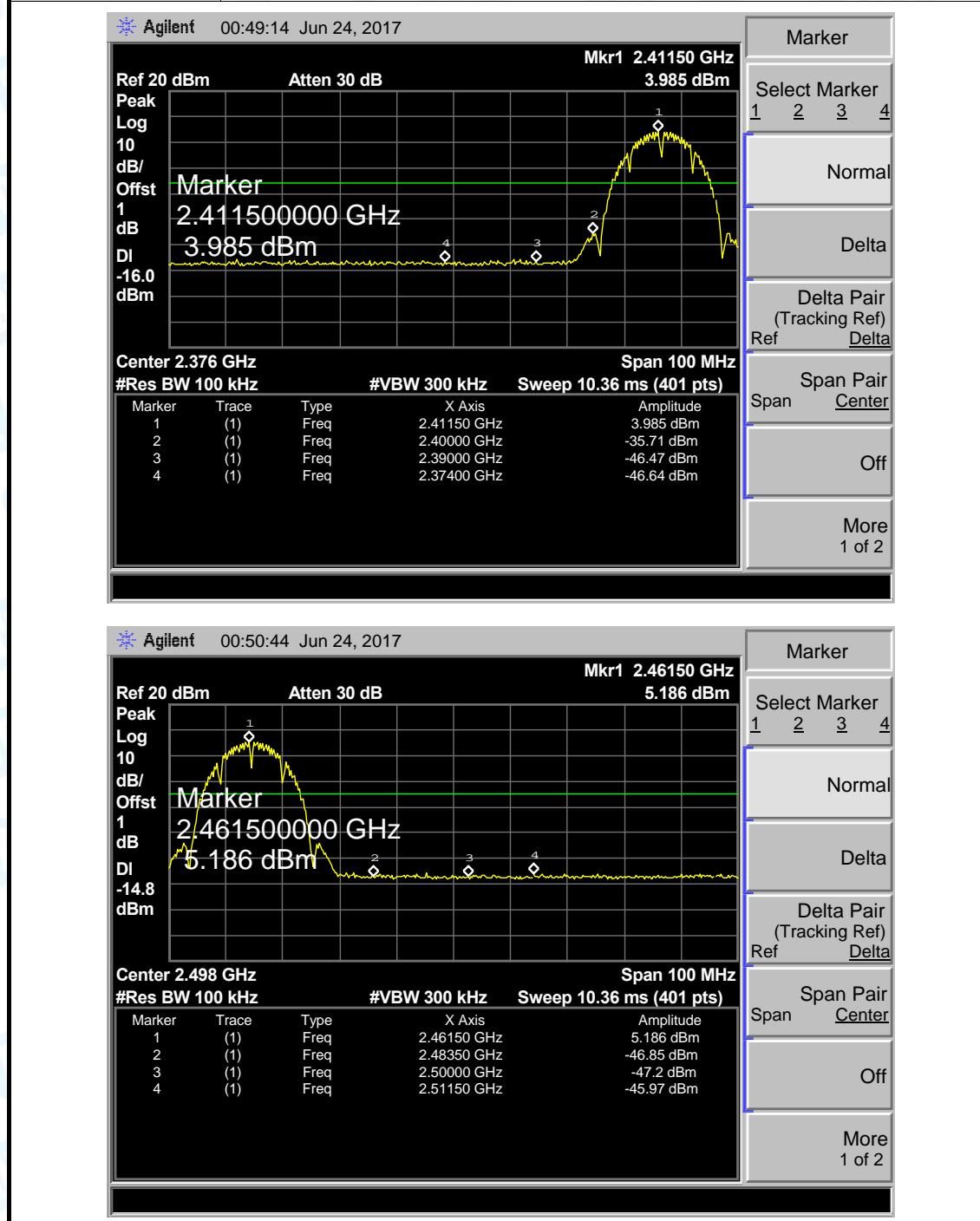


<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2				
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%				
<b>Test Voltage:</b>	AC 120V/60HZ						
<b>Ant. Pol.</b>	Vertical						
<b>Test Mode:</b>	TX N(HT40) Mode 2452MHz						
<b>Remark:</b>	N/A						
<p>The plot shows RF power in dBuV/m on the Y-axis (10.0 to 110.0) versus frequency in MHz on the X-axis (2423.000 to 2523.000). A blue curve represents the measured emission levels. Four points on the curve are labeled: 1 (at ~2448.300 MHz), 2 (at ~2450.300 MHz), 3 (at ~2483.500 MHz), and 4 (at ~2483.500 MHz). Two horizontal red lines represent the (RF) FCC PART 15C (PEAK) limit at approximately 80 dBuV/m. Two horizontal green lines represent the (RF) FCC PART 15C (AVG) limit at approximately 55 dBuV/m.</p>							
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over Detector
1	X	2448.300	89.34	1.02	90.36	Fundamental Frequency	peak
2	*	2450.300	78.92	1.02	79.94	Fundamental Frequency	AVG
3		2483.500	42.91	1.17	44.08	74.00	-29.92
4		2483.500	31.62	1.17	32.79	54.00	-21.21

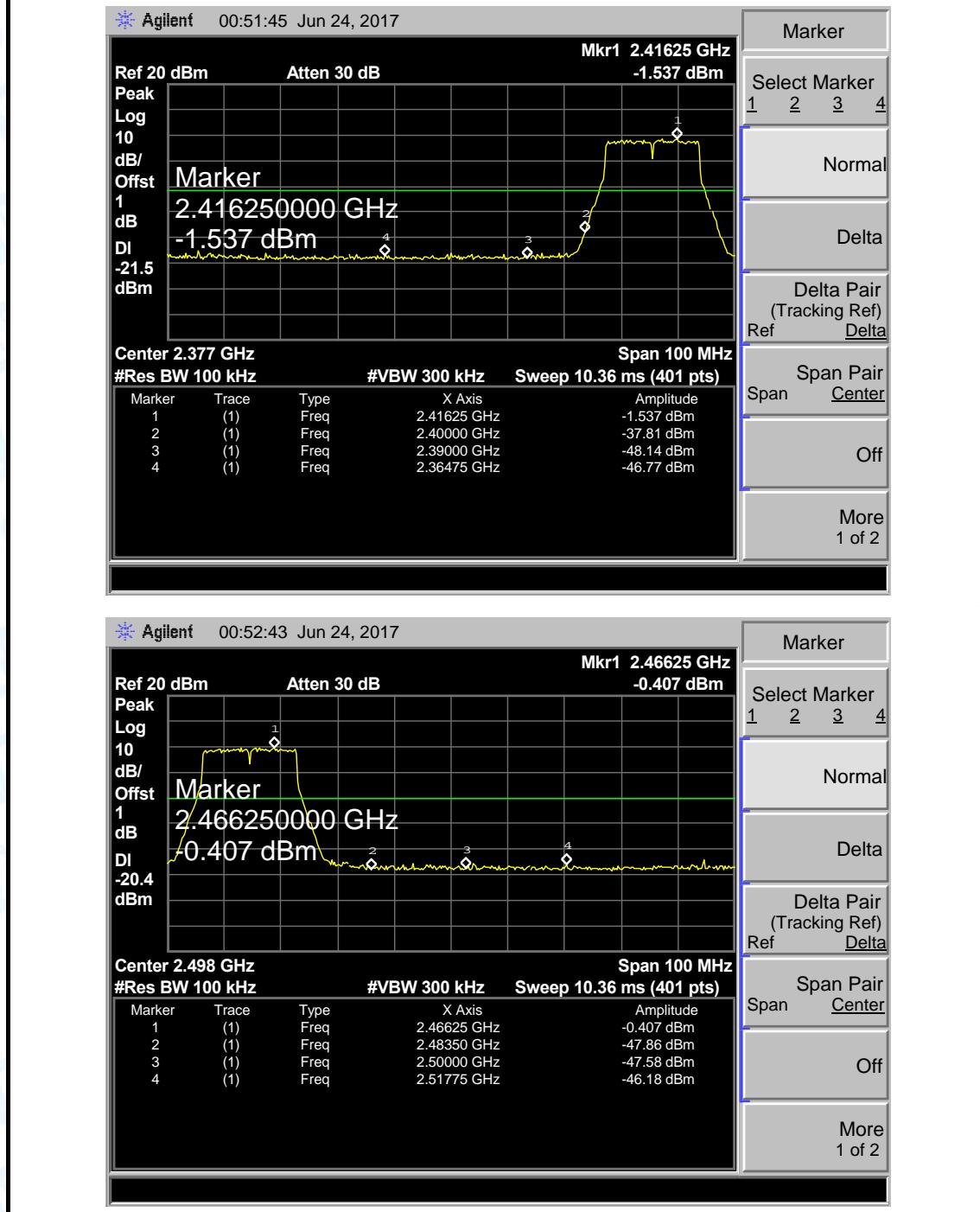
**Emission Level= Read Level+ Correct Factor**

## (2) Conducted Test

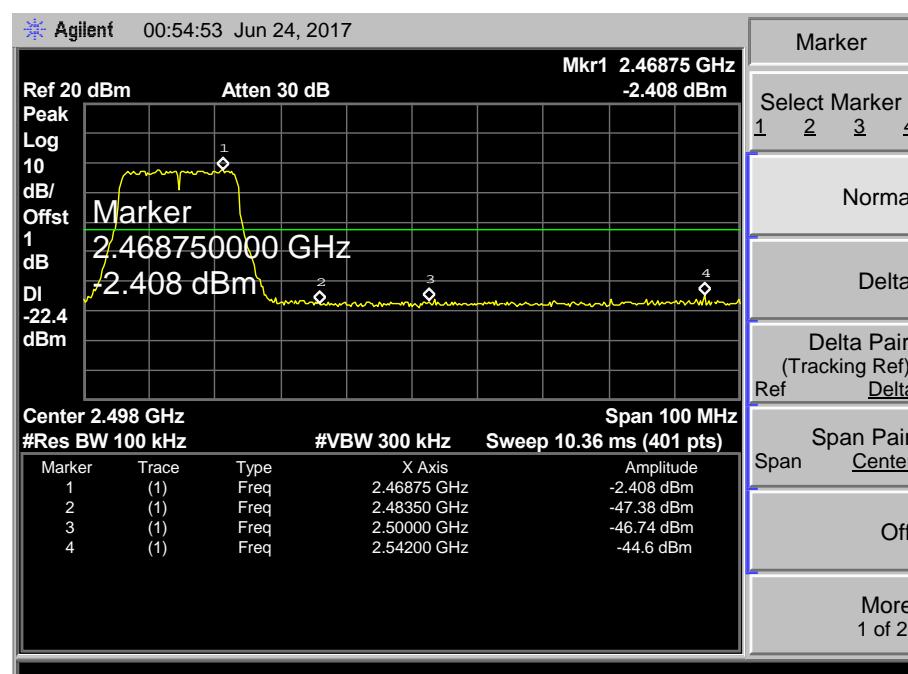
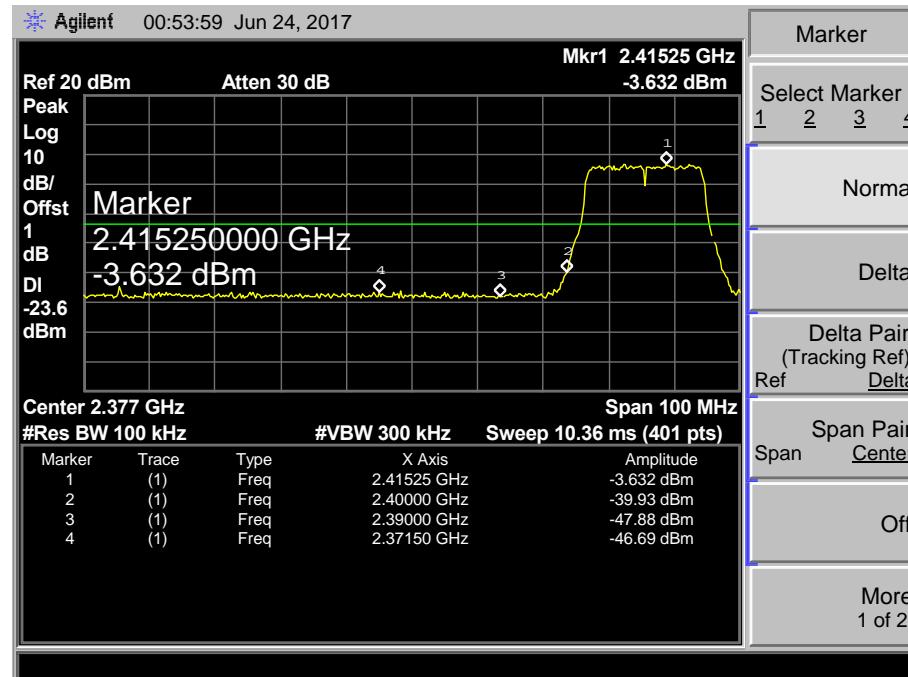
<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Test Mode:</b>	TX B Mode 2412MHz / TX B Mode 2462MHz		
<b>Remark:</b>	The EUT is programed in continuously transmitting mode		



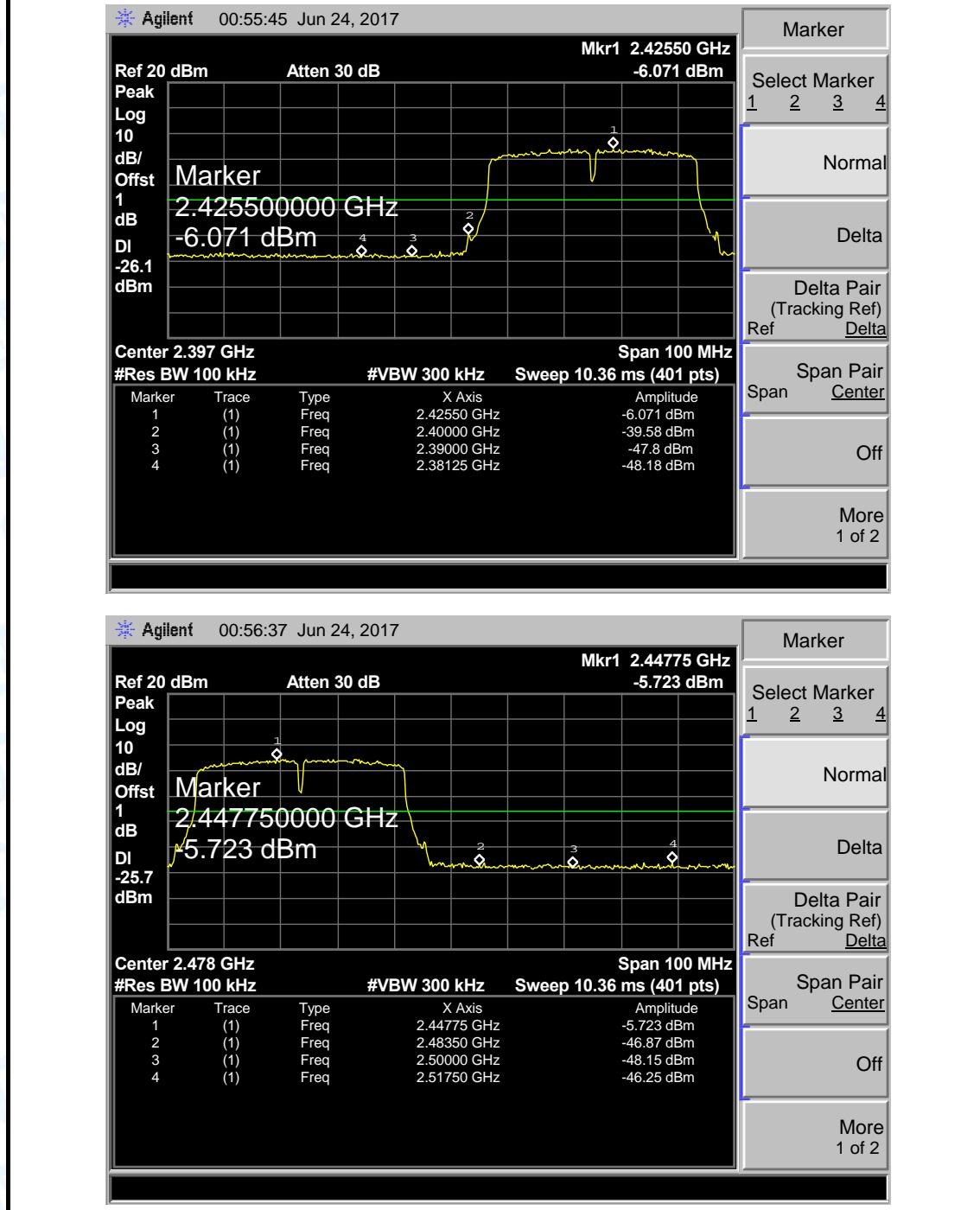
<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Test Mode:</b>	TX G Mode 2412MHz / TX G Mode 2462MHz		
<b>Remark:</b>	The EUT is programed in continuously transmitting mode		



<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Test Mode:</b>	TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz		
<b>Remark:</b>	The EUT is programed in continuously transmitting mode		



<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Test Mode:</b>	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz		
<b>Remark:</b>	The EUT is programmed in continuously transmitting mode		



## 7. Bandwidth Test

### 7.1 Test Standard and Limit

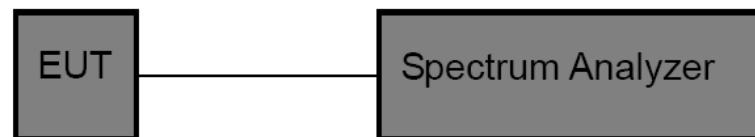
#### 7.1.1 Test Standard

FCC Part 15.247 (a)(2)

#### 7.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210		
Test Item	Limit	Frequency Range(MHz)
Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5

### 7.2 Test Setup



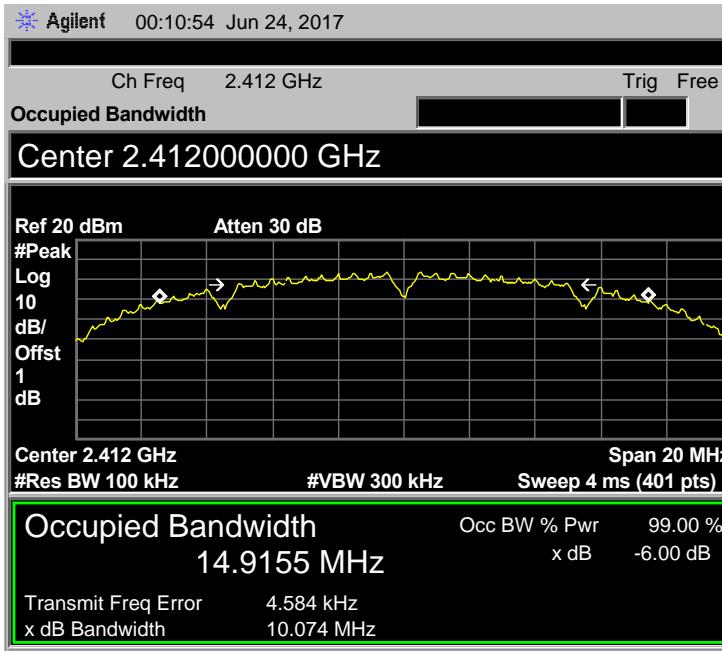
### 7.3 Test Procedure

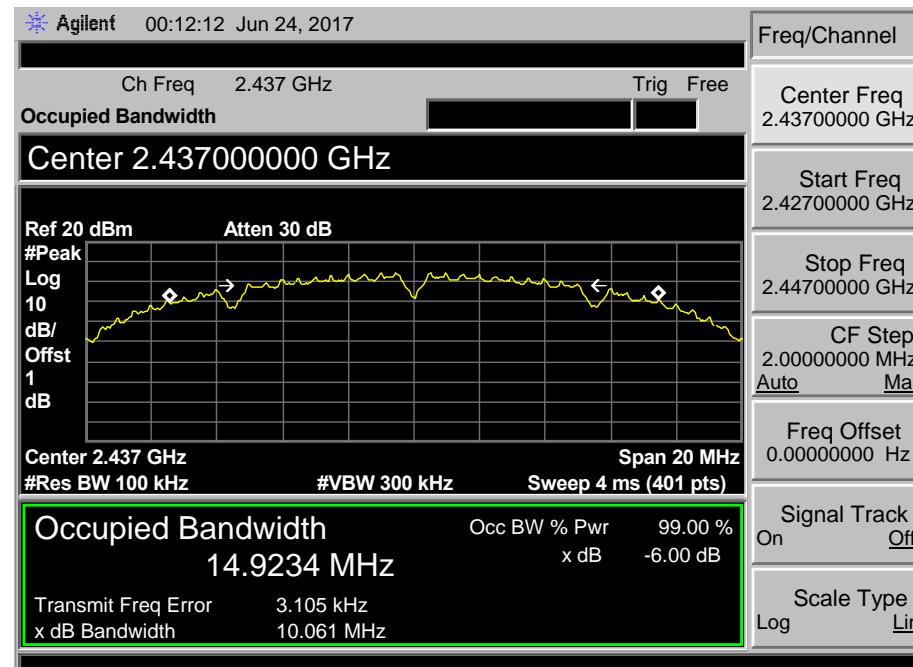
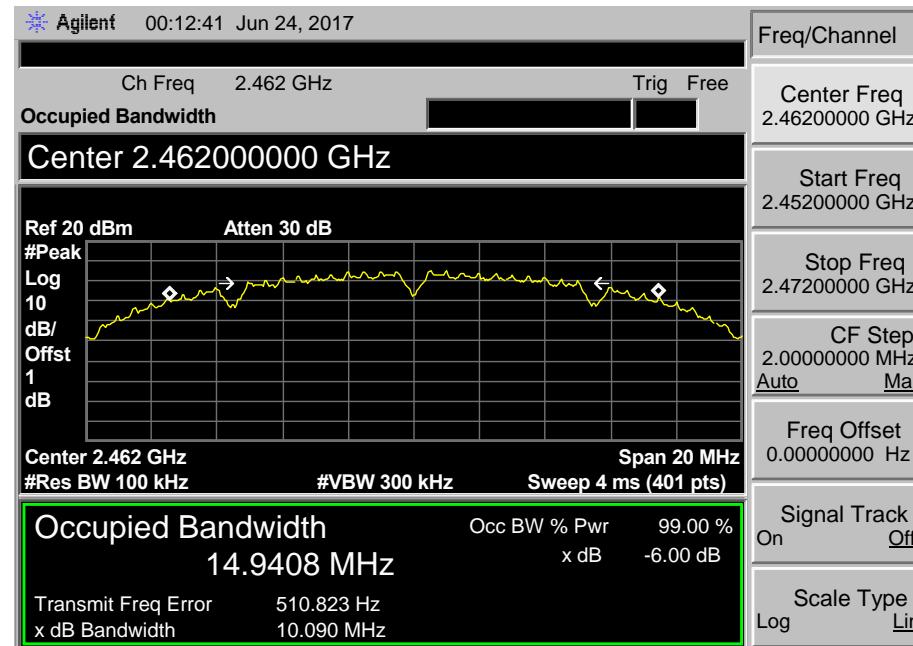
- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst -case (i.e the widest) bandwidth.
- (3) Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

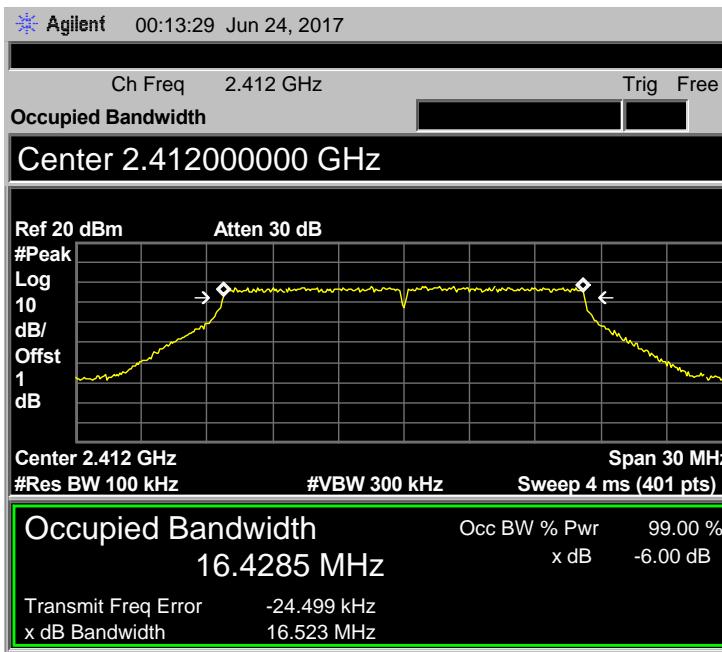
### 7.4 EUT Operating Condition

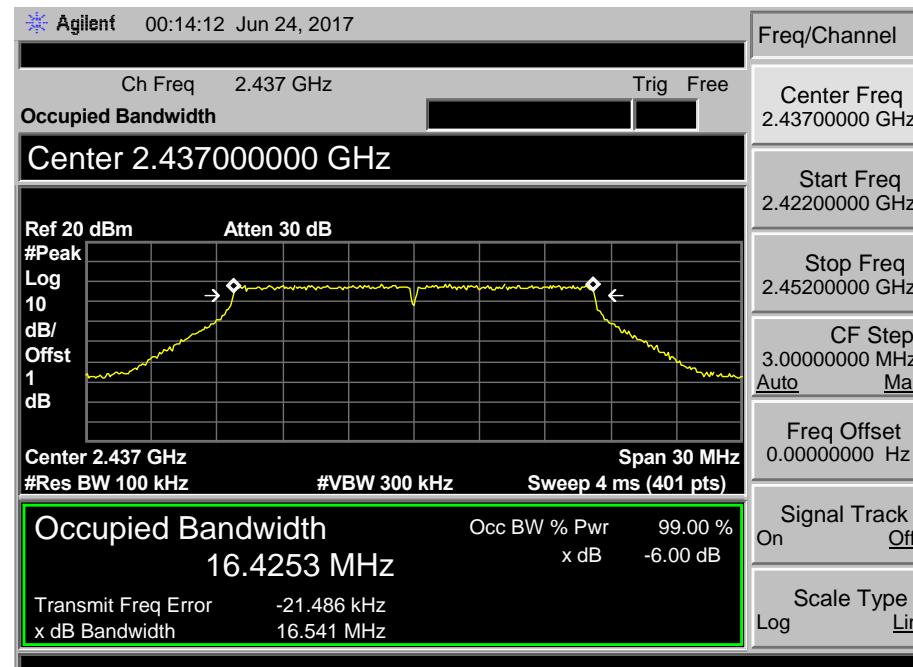
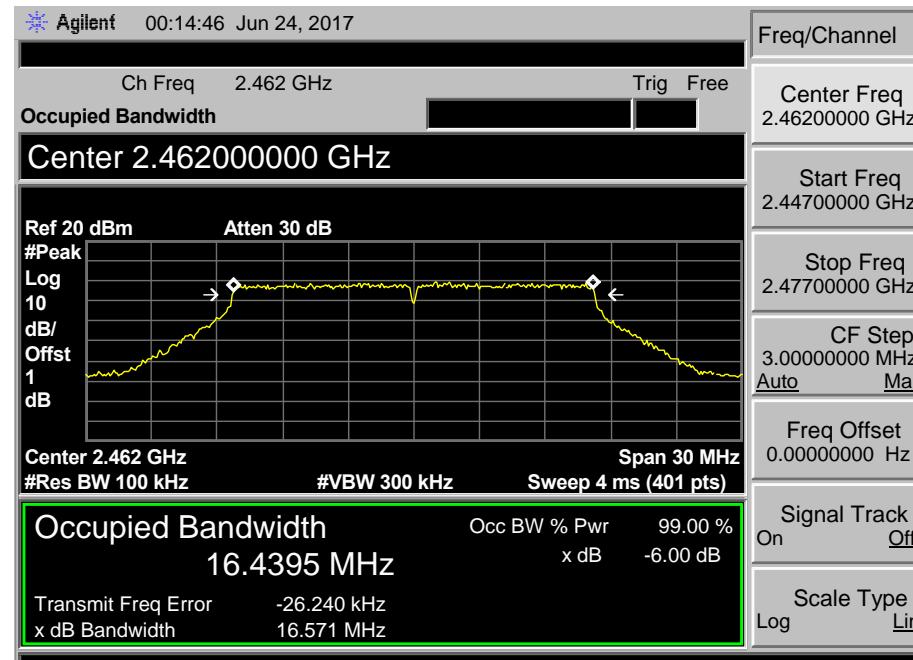
The EUT was set to continuously transmitting in each mode and low, Digital photo framesle and high channel for the test.

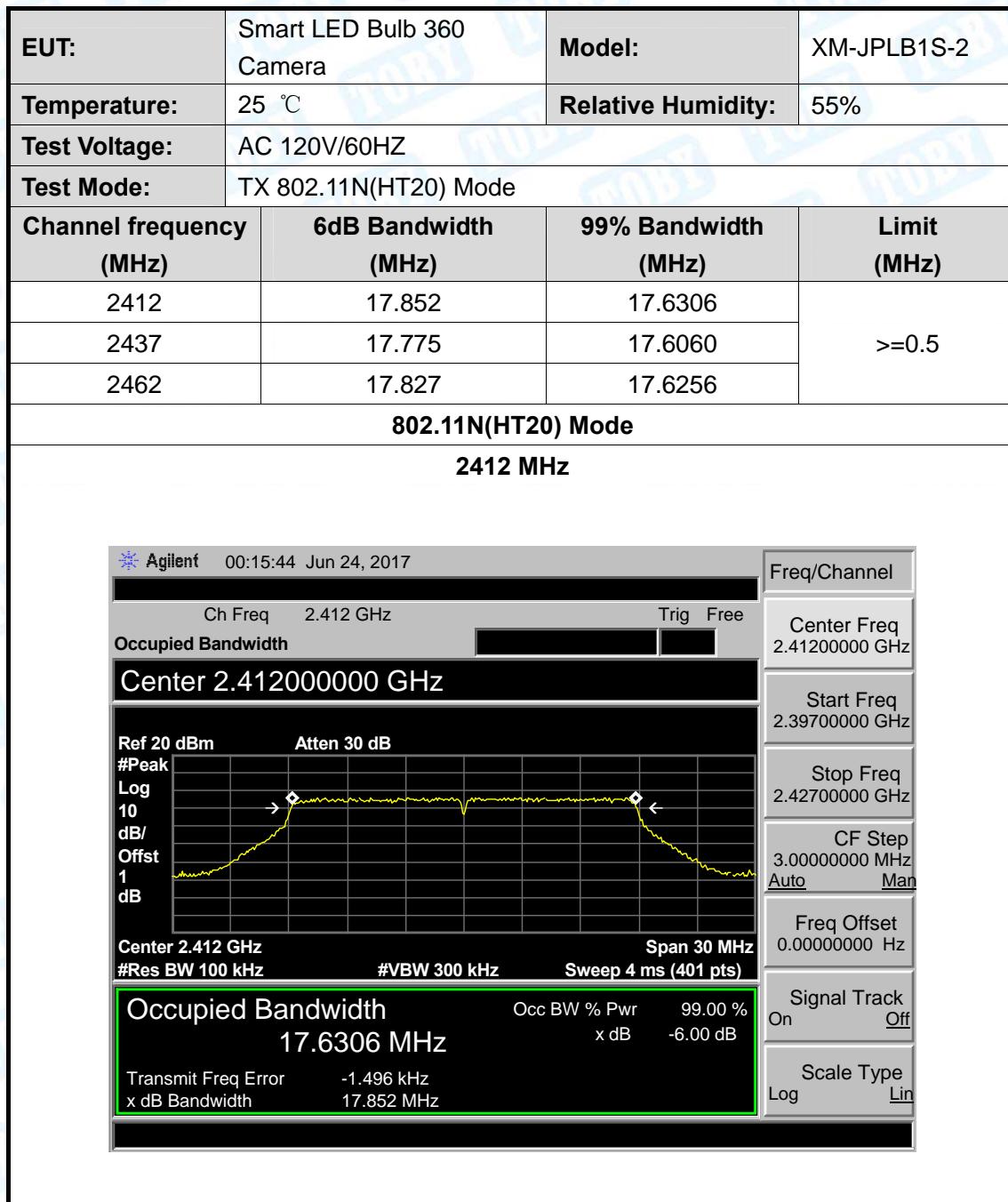
## 7.5 Test Data

<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Test Mode:</b>	TX 802.11B Mode		
<b>Channel frequency (MHz)</b>	<b>6dB Bandwidth (MHz)</b>	<b>99% Bandwidth (MHz)</b>	<b>Limit (MHz)</b>
2412	10.074	14.9155	>=0.5
2437	10.061	14.9234	
2462	10.090	14.9408	
<b>802.11B Mode</b>			
<b>2412 MHz</b>			
 <p>Agilent 00:10:54 Jun 24, 2017</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 2.412000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 2.412 GHz Span 20 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 14.9155 MHz</p> <p>Transmit Freq Error 4.584 kHz</p> <p>x dB Bandwidth 10.074 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -6.00 dB</p>			
<p>Freq/Channel</p> <p>Center Freq 2.412000000 GHz</p> <p>Start Freq 2.402000000 GHz</p> <p>Stop Freq 2.422000000 GHz</p> <p>CF Step 2.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>			

**802.11B Mode****2437 MHz****802.11B Mode****2462 MHz**

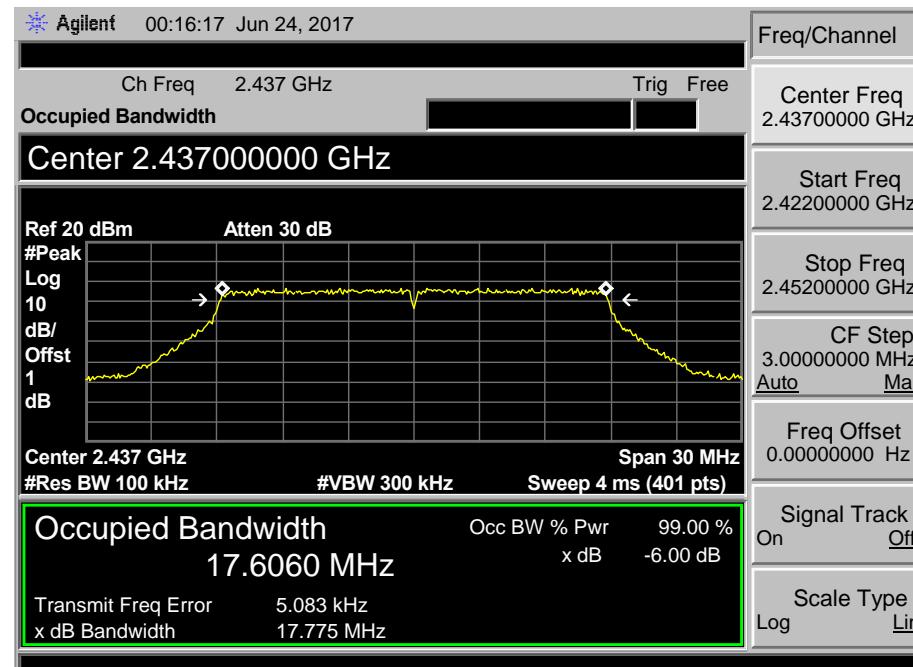
<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Test Mode:</b>	TX 802.11G Mode		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	16.523	16.4285	>=0.5
2437	16.541	16.4253	
2462	16.571	16.4395	
<b>802.11G Mode</b>			
<b>2412 MHz</b>			
			
Agilent 00:13:29 Jun 24, 2017 Ch Freq 2.412 GHz Trig Free Occupied Bandwidth [redacted]	Freq/Channel Center Freq 2.41200000 GHz		
Center 2.412000000 GHz	Start Freq 2.39700000 GHz		
Ref 20 dBm Atten 30 dB #Peak Log 10 dB/Offst 1 dB 	Stop Freq 2.42700000 GHz CF Step 3.00000000 MHz <u>Auto</u> <u>Man</u> Freq Offset 0.0000000 Hz		
Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)	Signal Track On Off Scale Type Log Lin		
<b>Occupied Bandwidth</b> <b>16.4285 MHz</b> Transmit Freq Error -24.499 kHz x dB Bandwidth 16.523 MHz	Occ BW % Pwr 99.00 % x dB -6.00 dB		

**802.11G Mode****2437 MHz****802.11G Mode****2462 MHz**



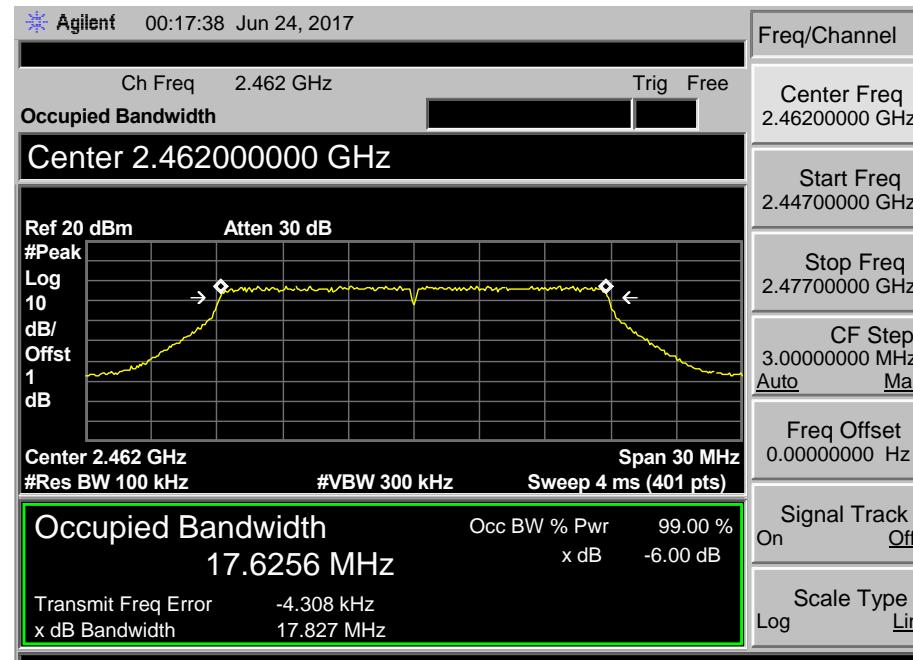
## 802.11N(HT20) Mode

2437 MHz



## 802.11N(HT20) Mode

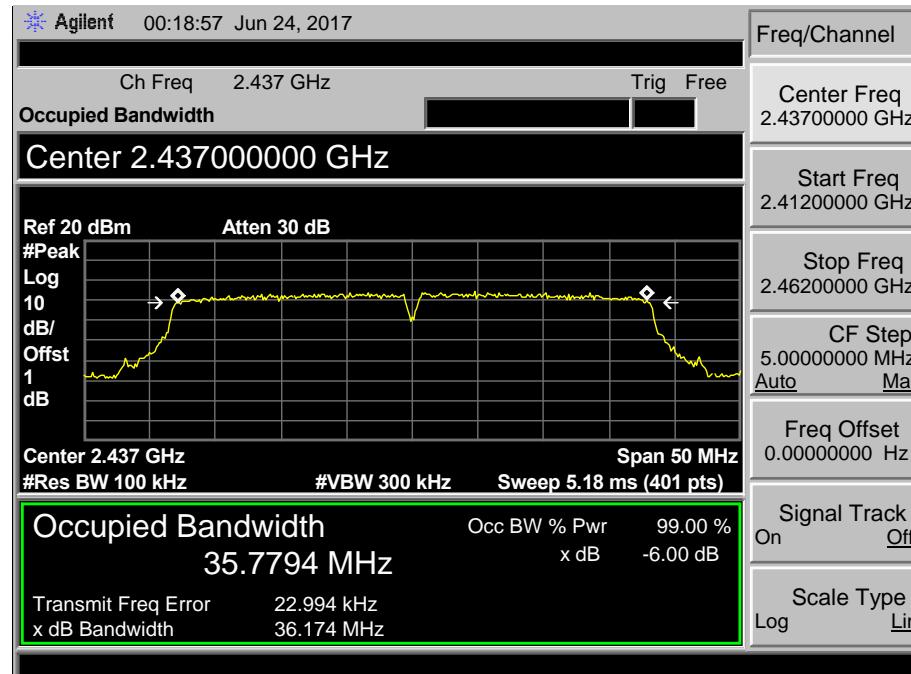
2462 MHz



<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
<b>Test Mode:</b>	TX 802.11N(HT40) Mode		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2422	36.164	35.7222	>=0.5
2437	36.174	35.7794	
2452	36.238	35.7914	
<b>802.11N(HT40) Mode</b>			
<b>2422 MHz</b>			

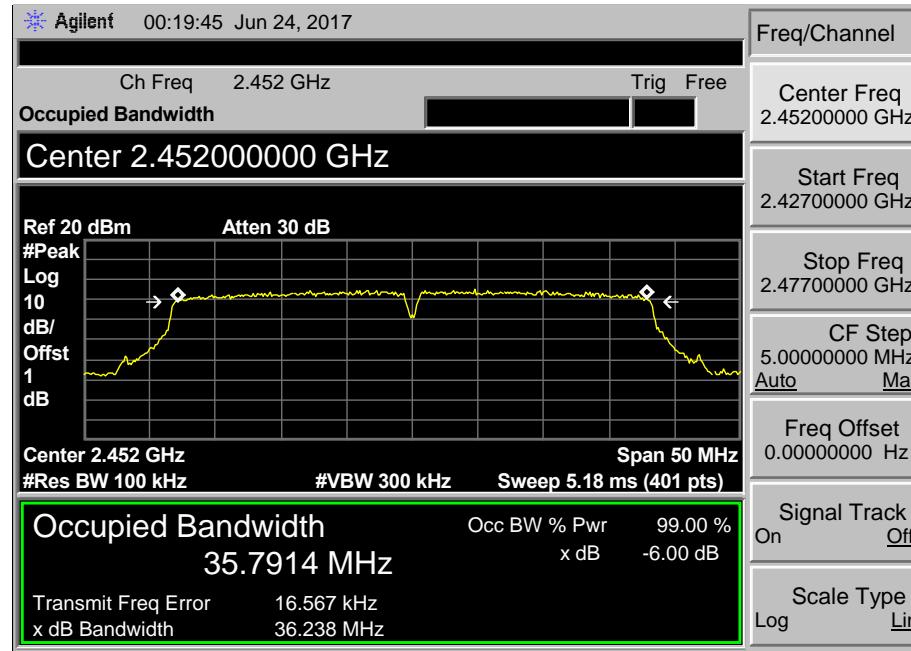
## 802.11N(HT40) Mode

2437 MHz



## 802.11N(HT40) Mode

2452 MHz



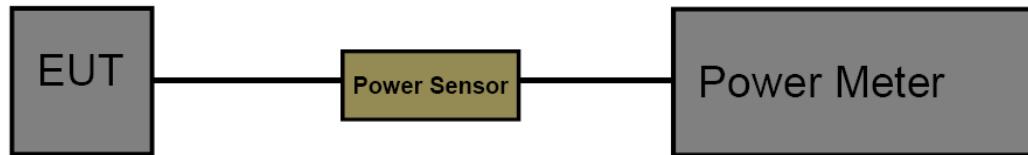
## 8. Peak Output Power Test

### 8.1 Test Standard and Limit

- 8.1.1 Test Standard  
FCC Part 15.247 (b)
- 8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210		
Test Item	Limit	Frequency Range(MHz)
Peak Output Power	1 Watt or 30 dBm	2400~2483.5

### 8.2 Test Setup



### 8.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v04. The EUT was connected to RF power meter via a broadband power sensor as show the block above. The power sensor video bandwidth is greater than or equal to the DTS bandwidth of the equipment.

### 8.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.

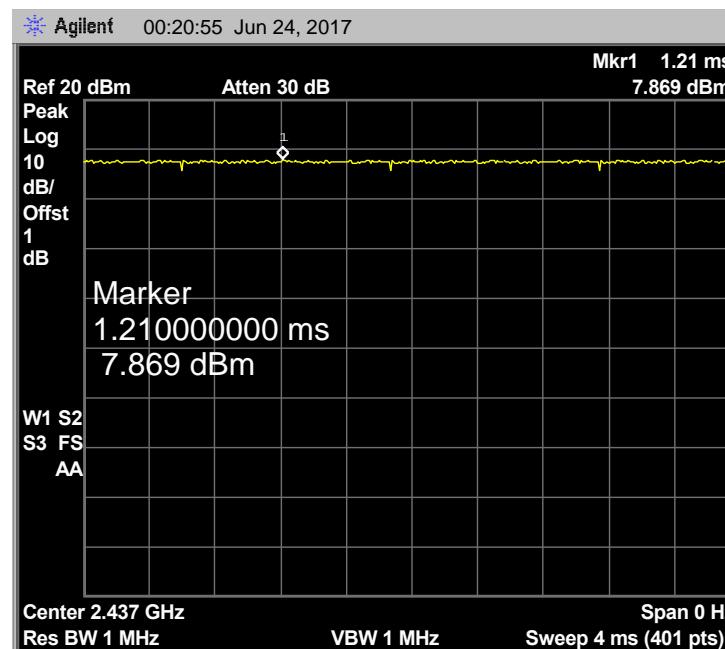
## 8.5 Test Data

<b>EUT:</b>	Smart LED Bulb 360 Camera	<b>Model:</b>	XM-JPLB1S-2
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60HZ		
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
802.11b	2412	16.63	30
	2437	17.29	
	2462	17.81	
802.11g	2412	17.27	30
	2437	17.70	
	2462	18.41	
802.11n (HT20)	2412	16.04	30
	2437	16.37	
	2462	17.24	
802.11n (HT40)	2422	13.99	30
	2437	14.25	
	2452	14.51	
<b>Result: PASS</b>			

Duty Cycle		
Mode	Channel frequency (MHz)	Test Result
802.11b	2412	>98%
	2437	
	2462	
802.11g	2412	>98%
	2437	
	2462	
802.11n (HT20)	2412	>98%
	2437	
	2462	
802.11n (HT40)	2422	>98%
	2437	
	2452	

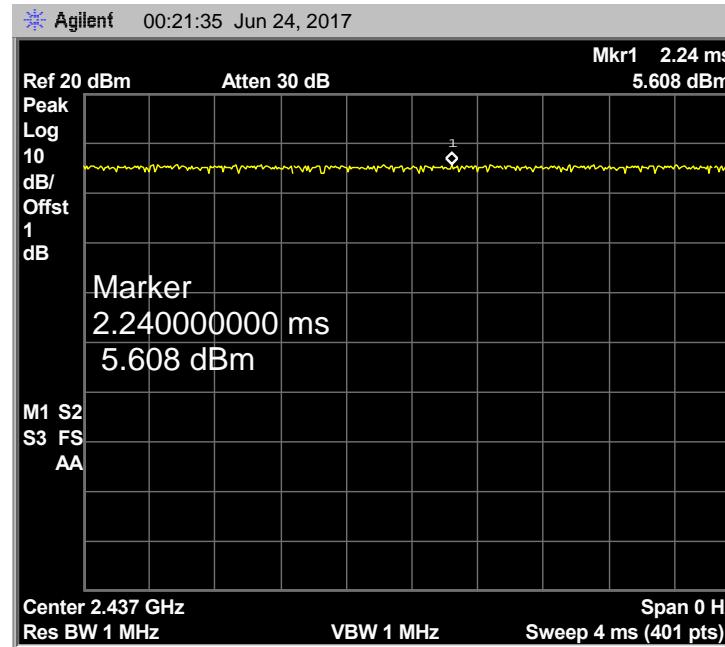
Please see below plots

## 802.11 B Mode 2437 MHz



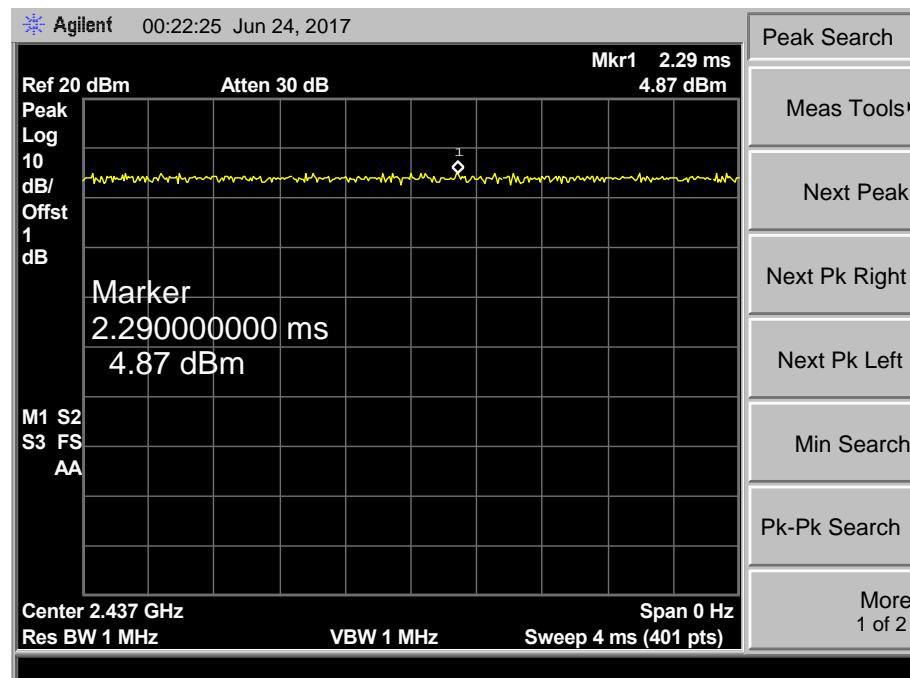
Peak Search  
Meas Tools▶  
Next Peak  
Next Pk Right  
Next Pk Left  
Min Search  
Pk-Pk Search  
More 1 of 2

## 802.11 G Mode 2437 MHz

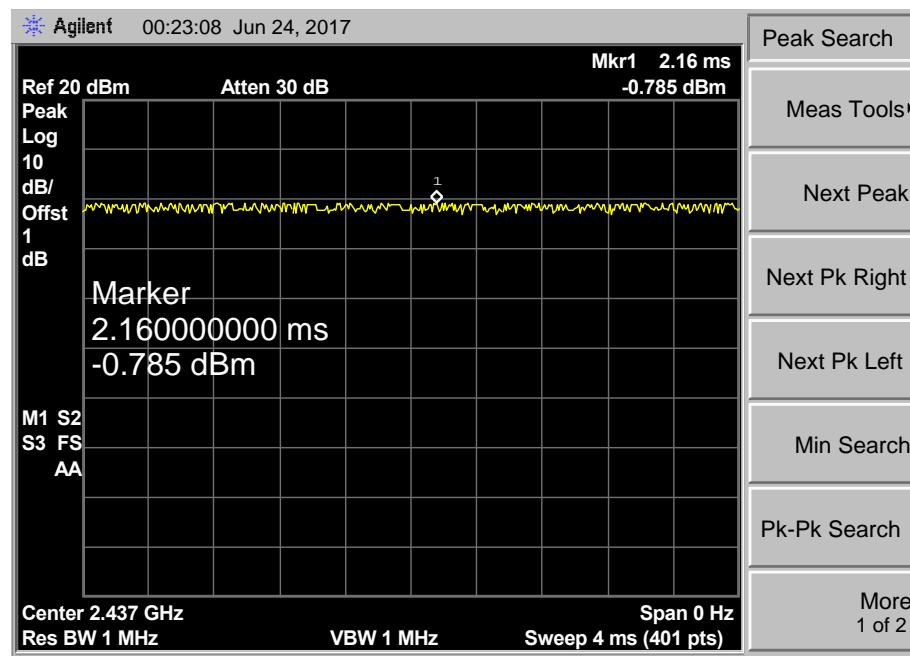


Peak Search  
Meas Tools▶  
Next Peak  
Next Pk Right  
Next Pk Left  
Min Search  
Pk-Pk Search  
More 1 of 2

## 802.11 N(HT20) Mode 2437 MHz



## 802.11 N(HT40) Mode 2437 MHz



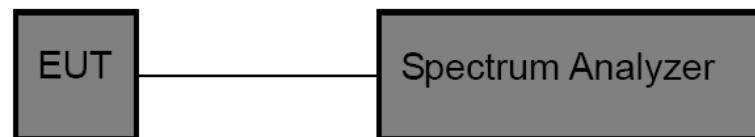
## 9. Power Spectral Density Test

### 9.1 Test Standard and Limit

- 9.1.1 Test Standard  
FCC Part 15.247 (e)
- 9.1.2 Test Limit

FCC Part 15 Subpart C(15.247)		
Test Item	Limit	Frequency Range(MHz)
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5

### 9.2 Test Setup



### 9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v04.

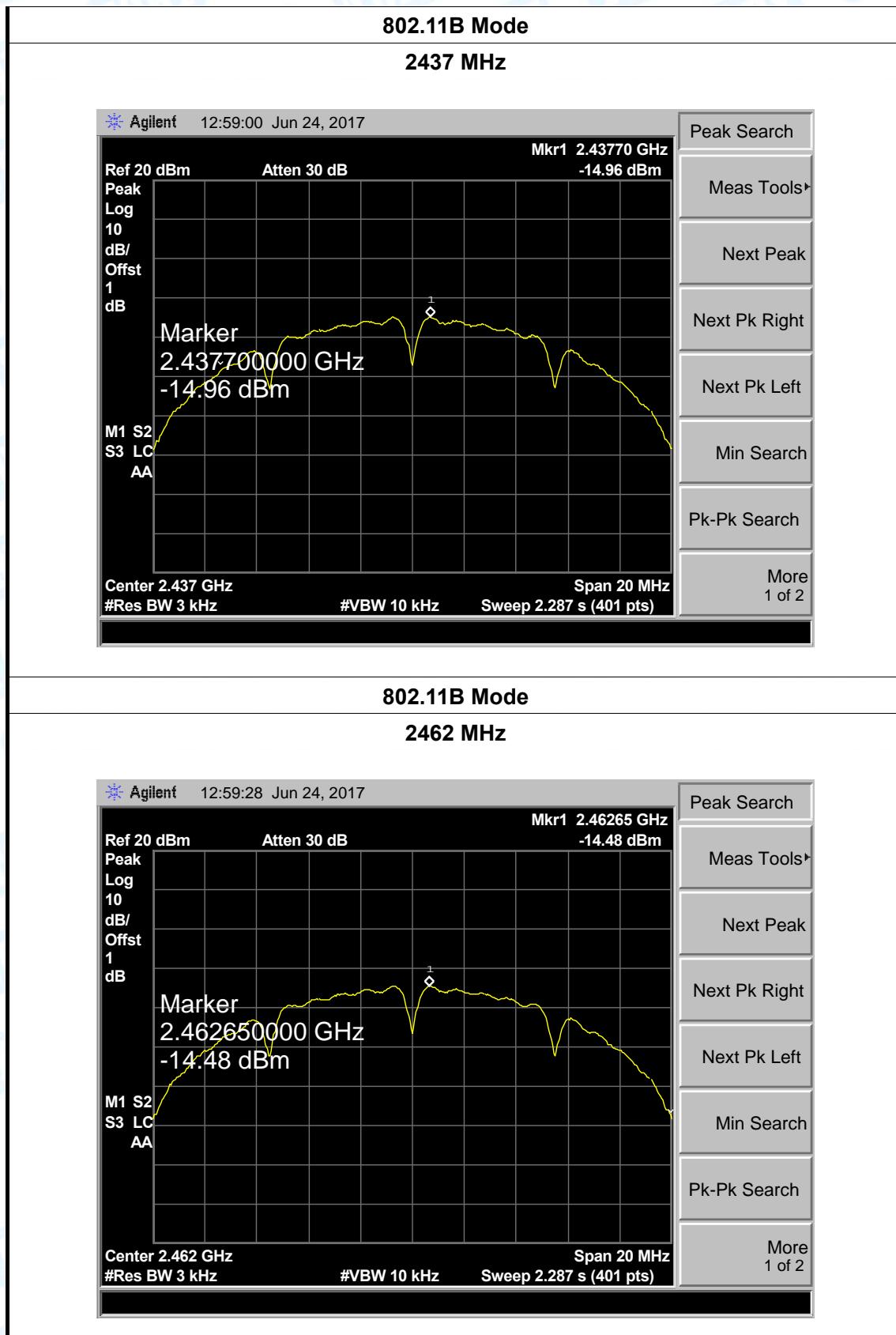
- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequency.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz
- (5) Set the VBW to: 10 kHz
- (6) Detector: peak
- (7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

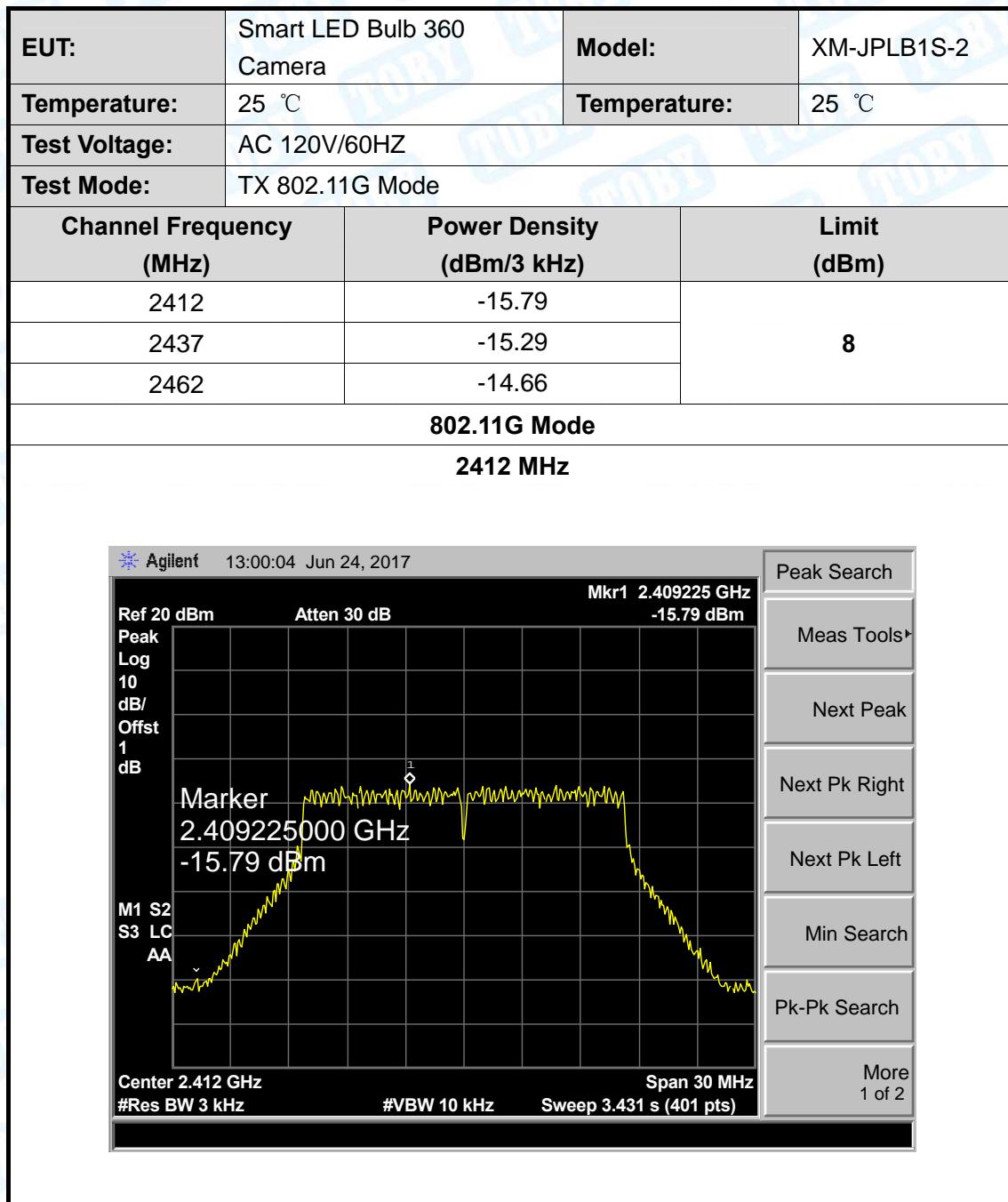
### 9.4 EUT Operating Condition

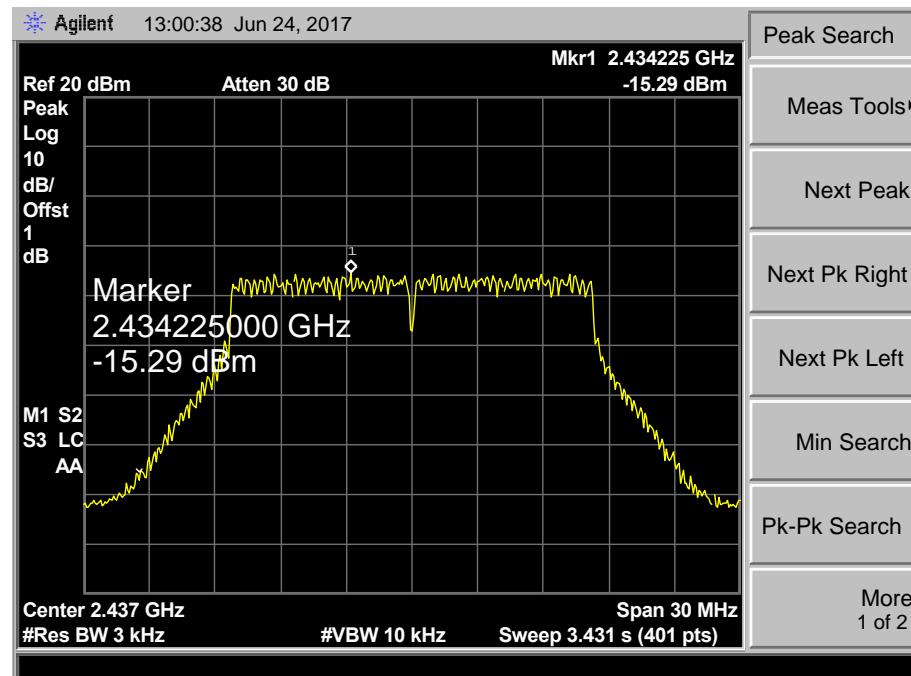
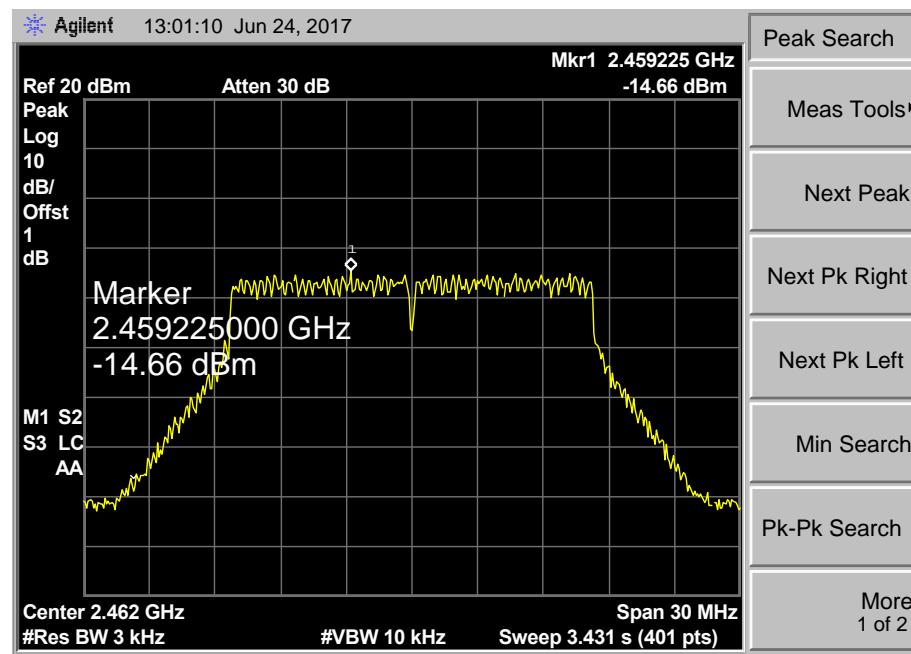
The EUT was set to continuously transmitting in each mode and low, Digital photo framesdle and high channel for the test.

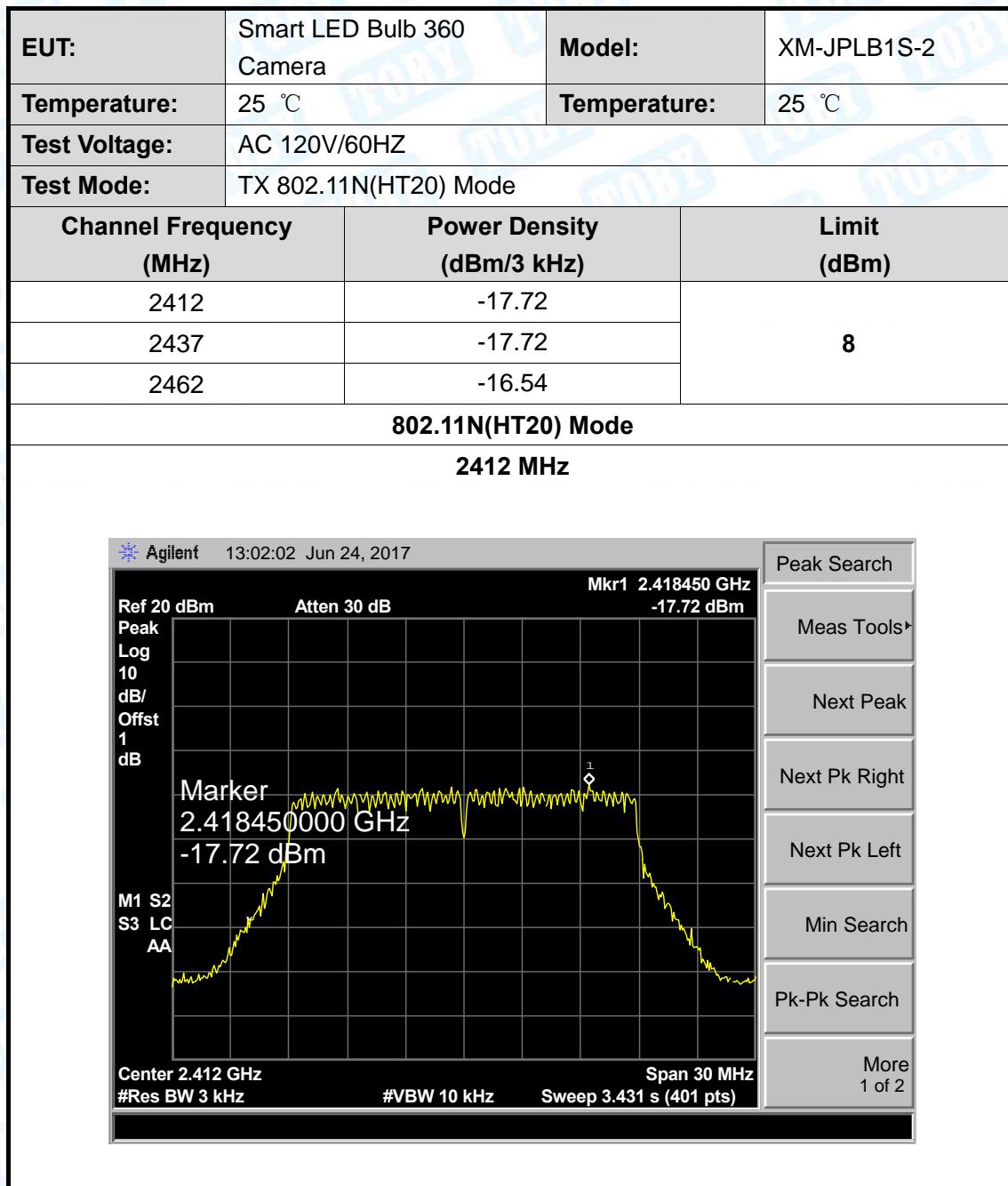
## 9.5 Test Data

EUT:	Smart LED Bulb 360 Camera	Model:	XM-JPLB1S-2		
Temperature:	25 °C	Relative Humidity:	55%		
Test Voltage:	AC 120V/60HZ				
Test Mode:	TX 802.11B Mode				
Channel Frequency (MHz)	Power Density (dBm/3 kHz)	Limit (dBm)			
2412	-15.38	8			
2437	-14.96				
2462	-14.48				
<b>802.11B Mode</b>					
<b>2412 MHz</b>					



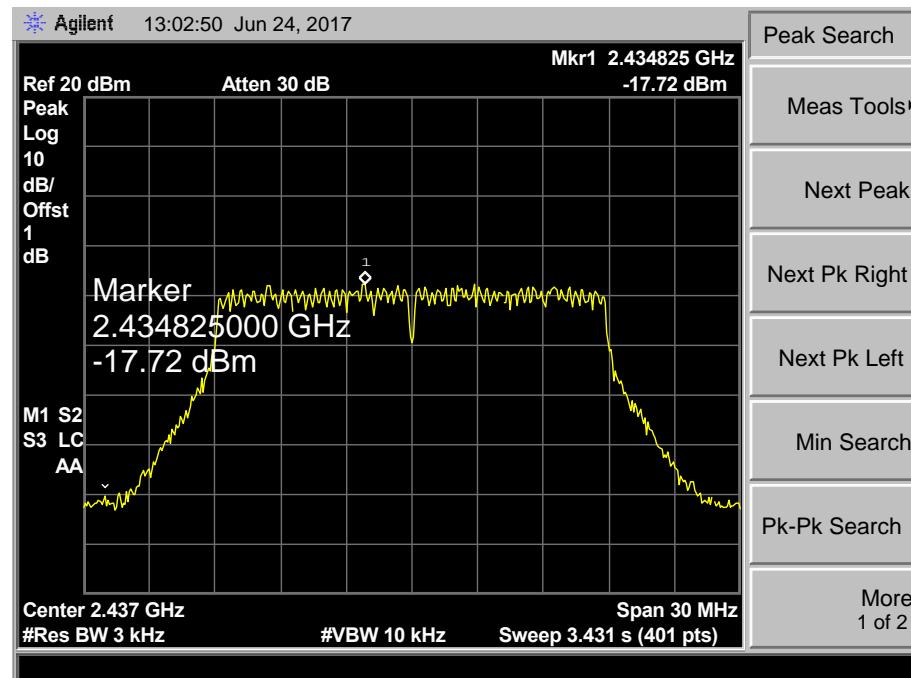


**802.11G Mode****2437 MHz****802.11G Mode****2462 MHz**



## 802.11N(HT20) Mode

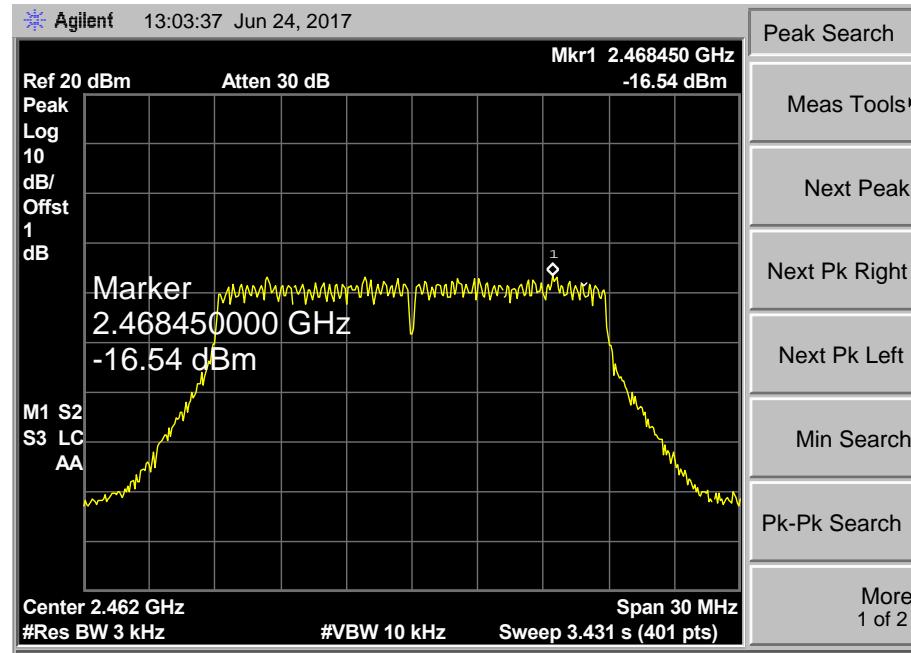
2437 MHz



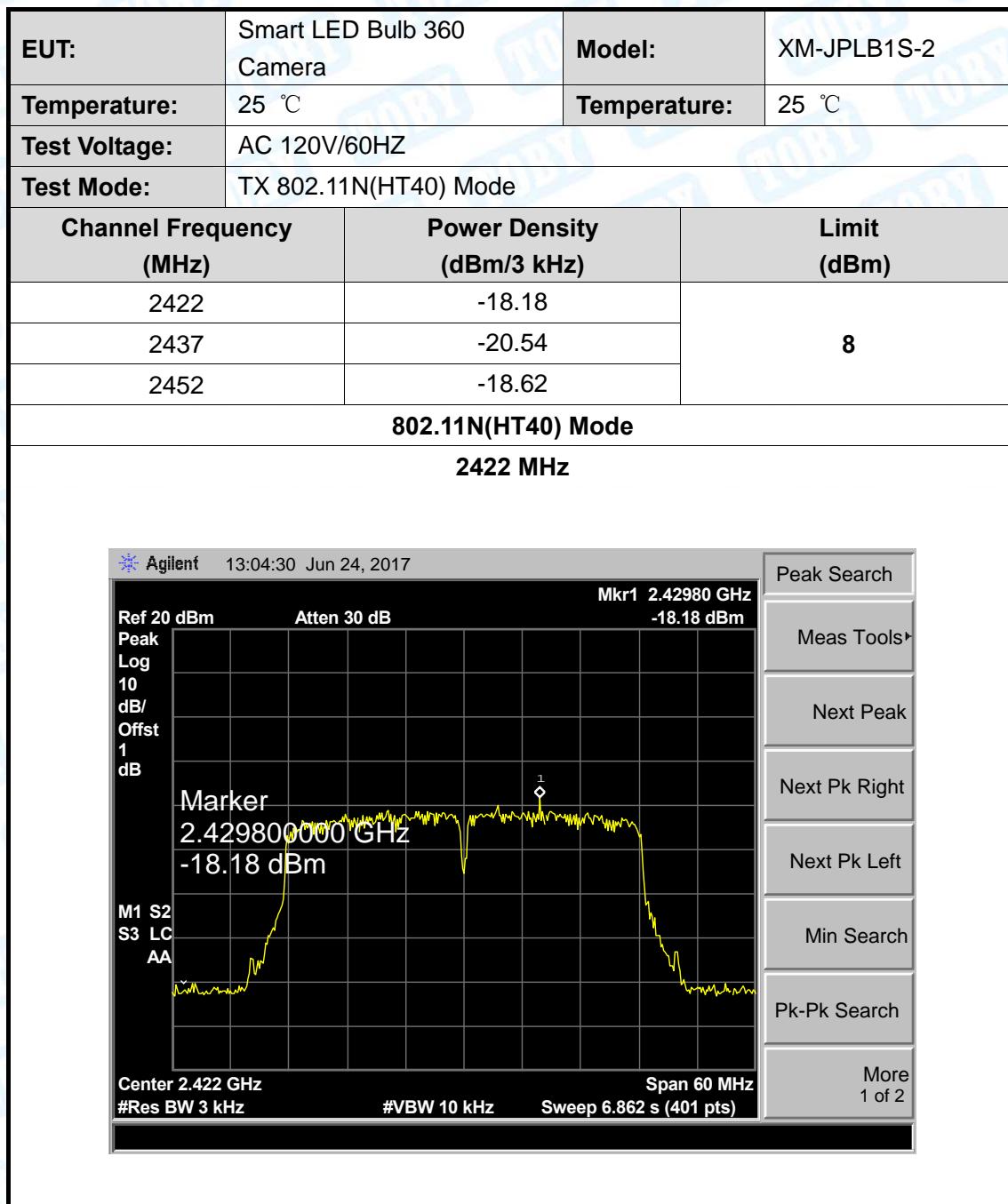
- Peak Search
- Meas Tools
- Next Peak
- Next Pk Right
- Next Pk Left
- Min Search
- Pk-Pk Search
- More 1 of 2

## 802.11N(HT20) Mode

2462 MHz

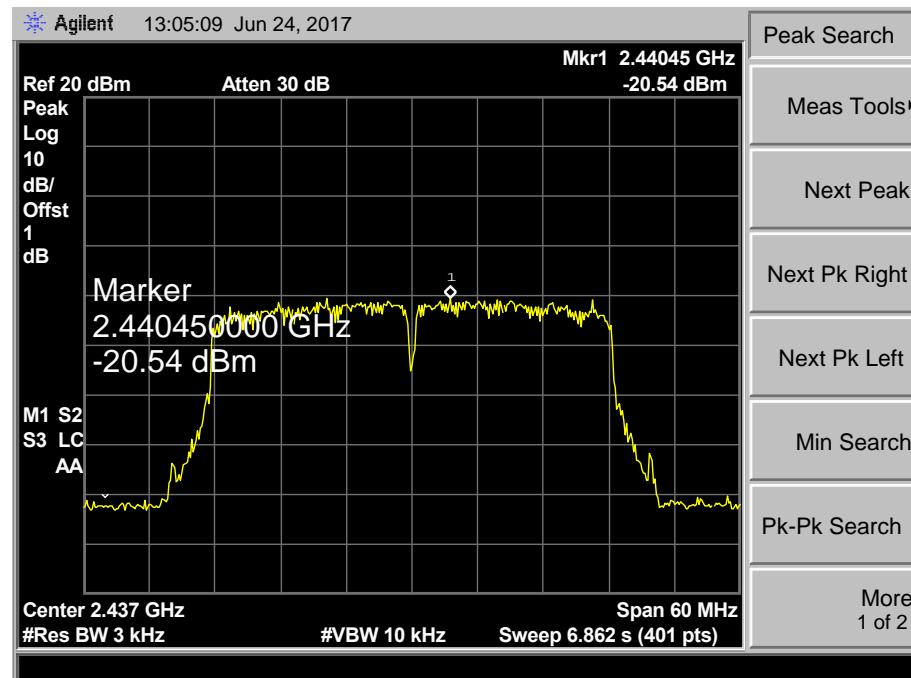


- Peak Search
- Meas Tools
- Next Peak
- Next Pk Right
- Next Pk Left
- Min Search
- Pk-Pk Search
- More 1 of 2



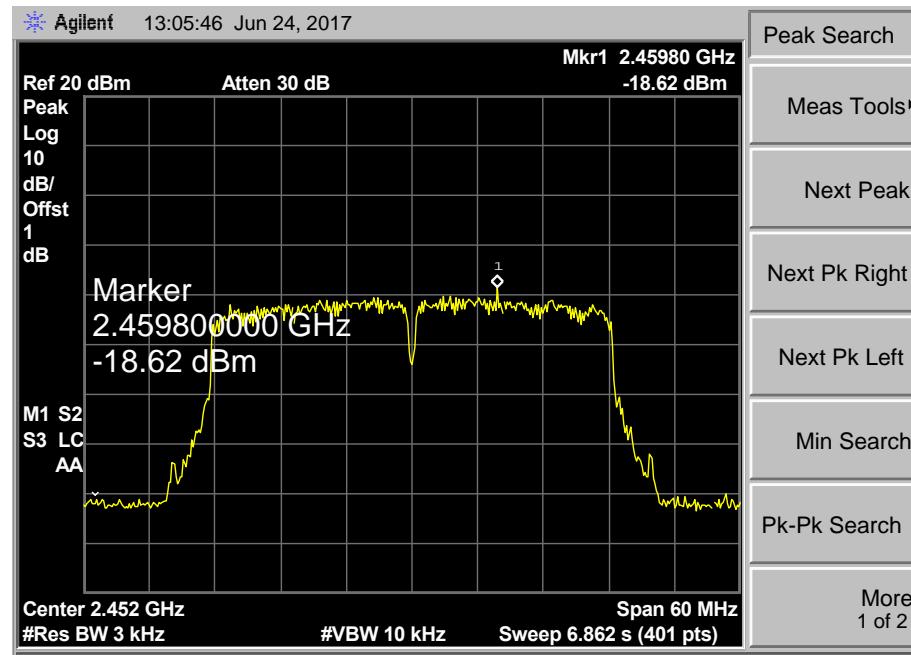
## 802.11N(HT40) Mode

2437 MHz



## 802.11N(HT40) Mode

2452 MHz



## 10. Antenna Requirement

### 10.1 Standard Requirement

#### 10.1.1 Standard

FCC Part 15.203

#### 10.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

### 10.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 3dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

#### Result

The EUT antenna is a Internal Antenna. It complies with the standard requirement.

Antenna Type
<input type="checkbox"/> Permanent attached antenna
<input checked="" type="checkbox"/> Unique connector antenna
<input type="checkbox"/> Professional installation antenna

-----END OF REPORT-----