RADIO TEST REPORT

For

shenzhen AUKEY E-Business Co.,ltd

Product Name:	Smart LED Light Bulb
Model :	LT-B4
Series Model:	SL-B200
FCC ID:	2AHKGLT-B4
Prepared By :	Shenzhen BST Technology Co., Ltd. Building No.23-24, Zhiheng Industrial Park, Guankouer Road, Nantou,Nanshan District,Shenzhen,Guangdong,China
Test Date:	Apr. 01-08, 2017
Date of Report :	Apr.08, 2017
Test Result	PASS
Report No.:	BST170449659A0001Y-ER-2

TEST RESULT CERTIFICATION

Applicant's name ..... : shenzhen AUKEY E-Business Co.,ltd.

Address ..... : Buliding P09,Huanan City Pinghu Town,Longgang District,Shenzhen,China

Manufacture's Name..... : Shenzhen Jinglian Technology Co., Ltd

Address ..... : H building, Wanda industry zone, Zhoushi road, Shiyan town, Baoan district,Shzhen city,China.

Product description ;

Product name ..... : Smart LED Light Bulb

Model and/or type reference : LT-B4

Series Model ..... : SL-B200

Standards ..... : FCC Part15.247

Test procedure ..... : ANSI C63.10-2013, ANSI C63.4-2014

Testing Engineer : Vicky Liu

Technical Manager : Jacky Chen

Authorized Signatory : Andy Yan

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

1.1 TEST FACILITY

Shenzhen Asia Test Technology Co.,Ltd.
7 / F, Xinwei Building, Gushu Village, Xixiang Town, Baoan District, Shenzhen, China
FCC Registration No.: 348715; IC Registration No.: 12198A

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ± 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** %。

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

2 GENERAL INFORMATION

2.1GENERAL DESCRIPTION OF EUT

Equipment	Smart LED Light Bulb
Model Name	LT-B4
Serial Model	SL-B200
Model Difference	All models are identical except model name.
Product Description	The EUT is a Bluetooth Cooking Thermometer

Operation Frequency:	2402~2480MHz
Modulation Type:	GFSK
Bluetooth version：	4.0 BLE
Bit Rate of Transmitter	1 Mbps
Number Of Channel	40CH
Antenna Designation:	Please see Note 3.
Output Power(Conducted):	0.41dBm
Antenna Gain (dBi)	0dbi

Channel List	Please refer to the Note 2.
Ratings	AC 120V
Adapter	N/A
Battery	N/A
BT versions	V4.0 BLE because the firmware limitation, this product only supports BT4.0 BLE. And users can not enable other RF function by themselves.
HW	V1.0
SW	V1.1

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2.

Channel	Frequency (MHz)
00	2402
01	2404
……	……
38	2478
39	2480

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	Pogo pin connector	0	BT Antenna

2.2 DESCRIPTION OF TEST MODES

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 above was evaluated respectively.

Pretest Mode	Description
Mode 1	CH00
Mode 2	CH19
Mode 3	CH39
Mode 4	BT link

For Conducted Emission	
Final Test Mode	Description
Mode 4	BT link

For Radiated Emission	
Final Test Mode	Description
Mode 1	CH00
Mode 2	CH19
Mode 3	CH39

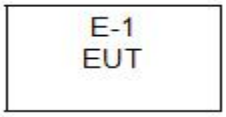
Note:

(1) The measurements are performed at the highest, middle, lowest available channels. Test performed by new battery.

(2) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	Bluetooth Cooking Thermometer	N/A	IBT-2X	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

(1) The support equipment was authorized by Declaration of Confirmation.

(2) For detachable type I/O cable should be specified the length in cm in『Length』column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	US44300368	2016-06-04	2017-06-03
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2016-06-04	2017-06-03
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2016-06-04	2017-06-03
Amplifier	Agilent	8447F	3113A06717	2016-06-04	2017-06-03
Amplifier	C&D	PAP-1G8	2002	2016-06-04	2017-06-03
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2016-06-04	2017-06-03
Horn Antenna	ETS	3117	00086197	2016-06-04	2017-06-03
Horn Antenna	ETS	3116B	00088203	2016-06-04	2017-06-03
Loop Antenna	Schwarz beck	FMZB 1516	9773	2016-06-04	2017-06-03
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2016-06-04	2017-06-03
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2016-06-04	2017-06-03
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2016-06-04	2017-06-03

3.EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	dBuV		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	56.00	46.00	CISPR
5.0 -30.0	60.00	50.00	CISPR

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

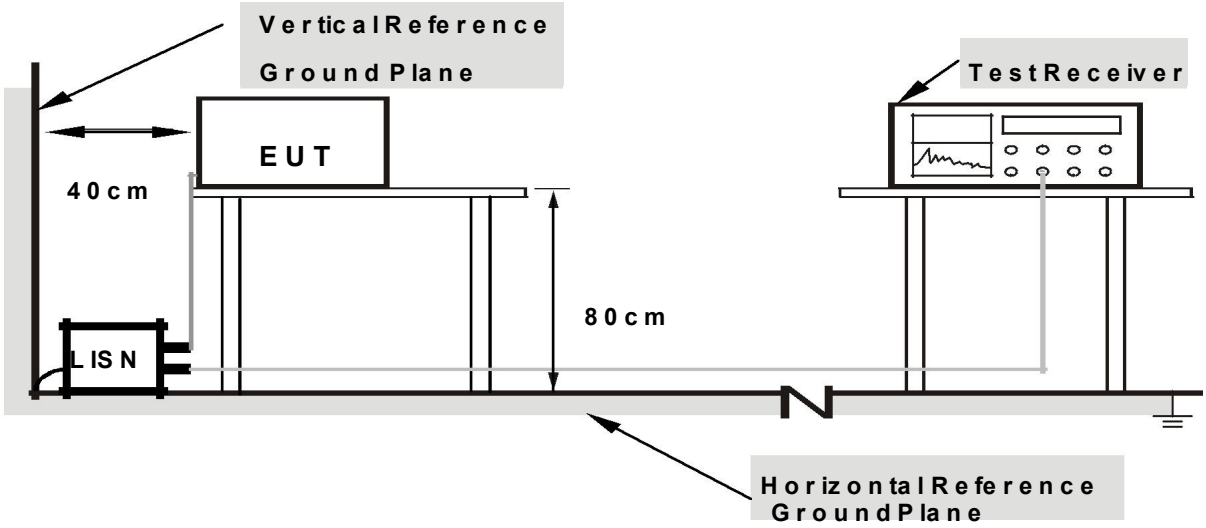
3.1.2 TEST PROCEDURE

a. 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.
b. 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.
c. 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.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1. Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80cm from EUT and at least 80

from other units and other metal planes

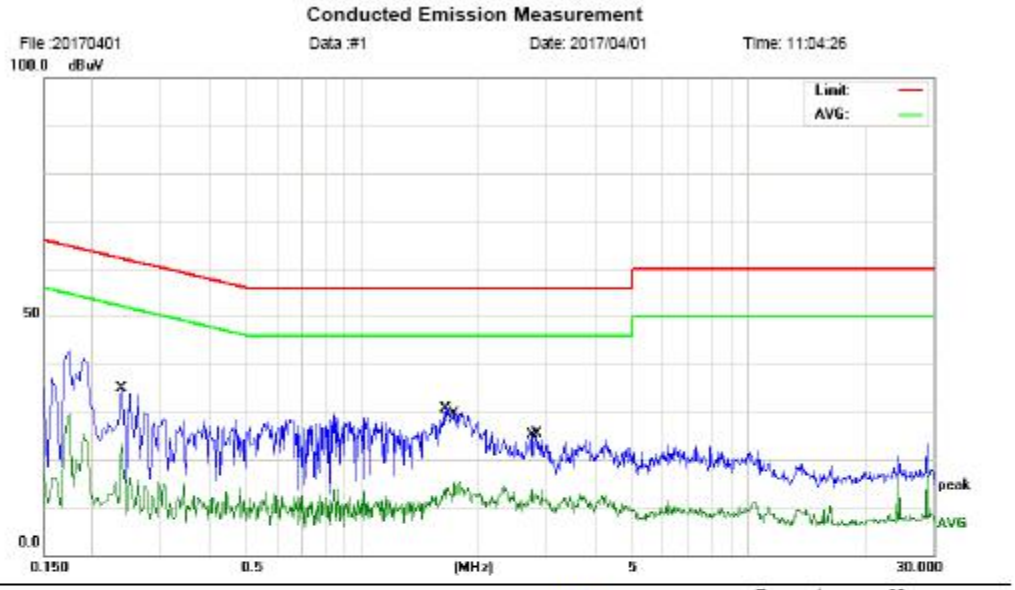
3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was testedan d used to collect the included

3.16 TEST RESULTS

EUT：	Smart LED Light Bulb	Model Name. ：	LT-B4
Temperature：	23	Relative Humidtity：	50%
Pressure：	1011Mbar	Test Voltage ：	AC 120 V

L1

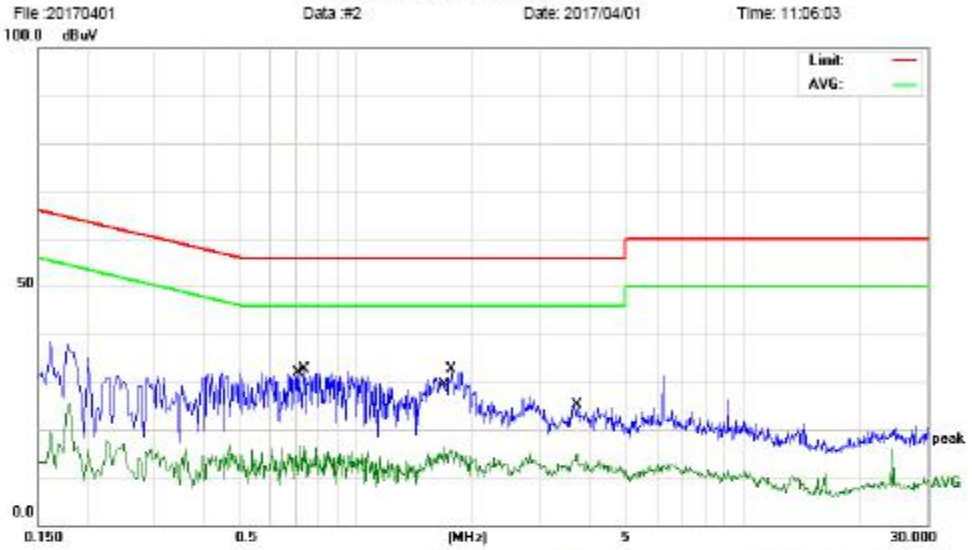


Site
Phase: L1
Temperature: 26
Limit: FCC Part15 CE-Class B_QP
Power: AC 120V/60Hz
Humidity: 56 %
EUT:
M/N: B200LED球泡灯
Mode:
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2380	24.01	10.93	34.94	62.16	-27.22	QP	
2		0.2380	12.52	10.93	23.45	52.16	-28.71	AVG	
3	*	1.6380	20.69	9.97	30.66	56.00	-25.34	QP	
4		1.7300	5.15	9.97	15.12	46.00	-30.88	AVG	
5		2.7500	3.63	10.03	13.66	46.00	-32.34	AVG	
6		2.8380	15.40	10.03	25.43	56.00	-30.57	QP	

N1

Conducted Emission Measurement



Site
Limit: FCC Part15 CE-Class B_QP
EUT:
M/N: B200LED球泡灯
Mode:
Note:

Phase: N
Power: AC 120V/60Hz

Temperature: 26
Humidity: 56 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.7180	6.75	9.98	16.73	46.00	-29.27	AVG	
2		0.7340	22.68	9.97	32.65	56.00	-23.35	QP	
3		1.6940	6.49	9.97	16.46	46.00	-29.54	AVG	
4	*	1.7660	22.72	9.98	32.70	56.00	-23.30	QP	
5		3.7220	15.10	10.05	25.15	56.00	-30.85	QP	
6		3.7220	4.77	10.05	14.82	46.00	-31.18	AVG	

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a)&A8.5, then the 15.209(a) limit in the table below has to be followed.

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section A8.4 (4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

Frequencies (MHz)	Field Strength (micorvolts/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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	dBuV/m(at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / *10Hz* for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.

b. The EUT was placed on the top of a rotating table 0.8m(1.5m above 1G) above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. 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.

e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

f. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note: Fro radiated meissiont test above 1GHz:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

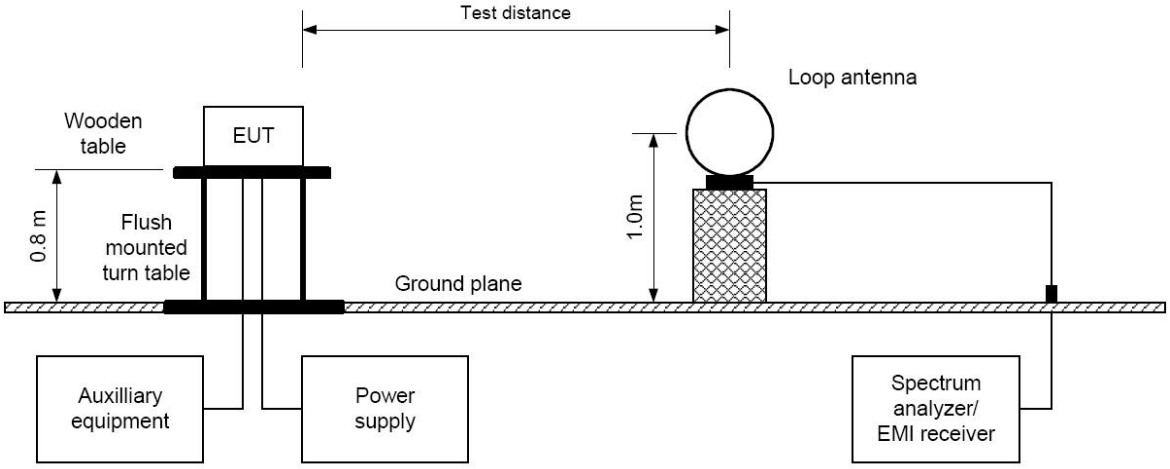
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

3.2.3 DEVIATION FROM TEST STANDARD

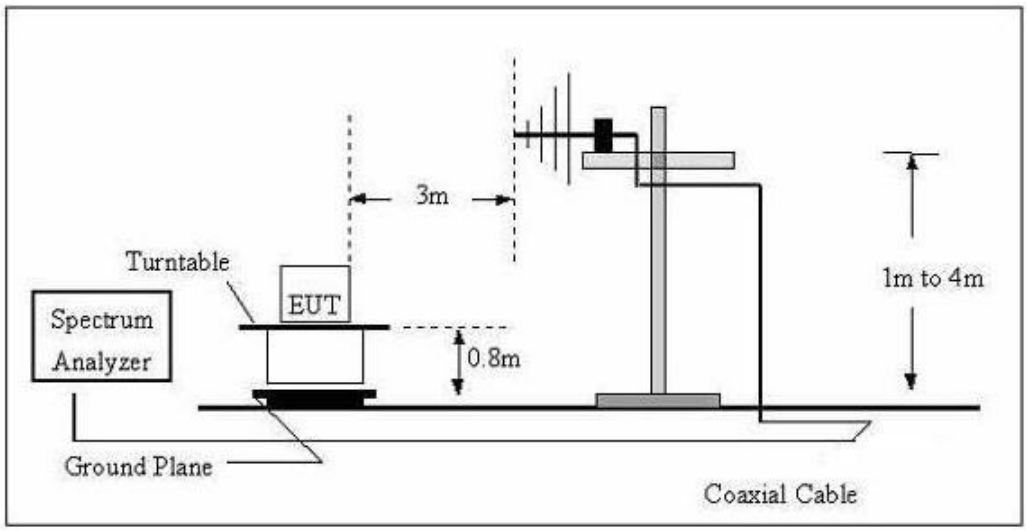
No deviation

3.2.4 TEST SETUP

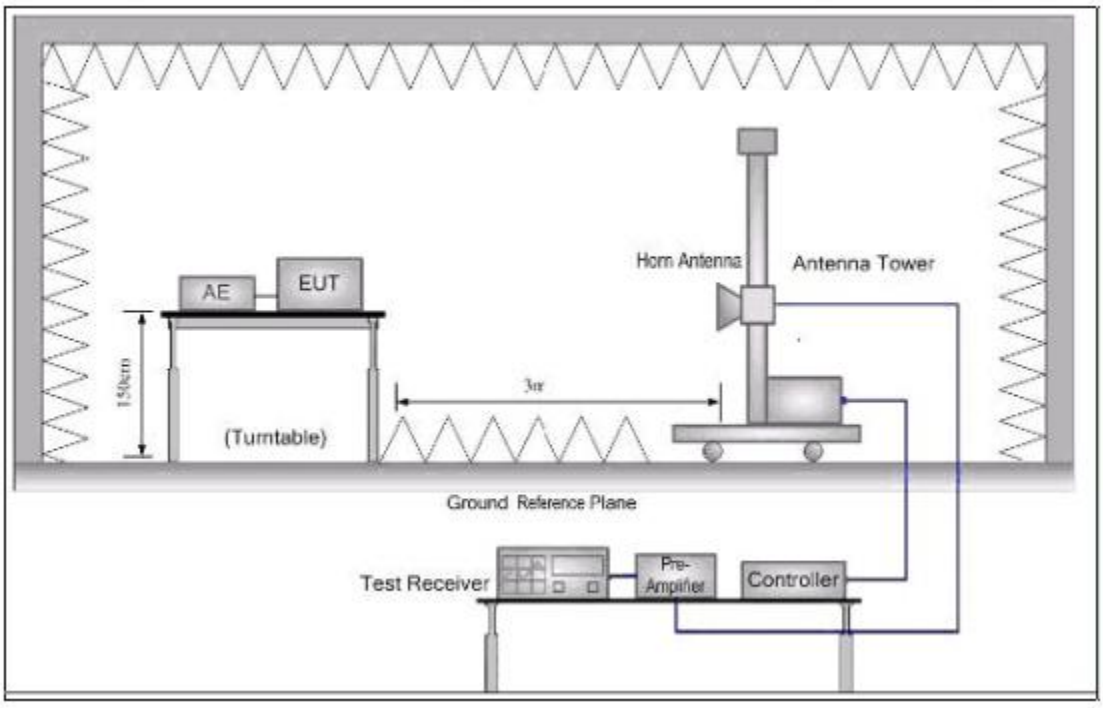
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT：	Smart LED Light Bulb	Model Name. ：	LT-B4
Temperature：	23	Relative Humidtity：	50%
Pressure：	1011Mbar	Test Voltage ：	AC 120 V

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	P
--	--	--	--	P

NOTE:

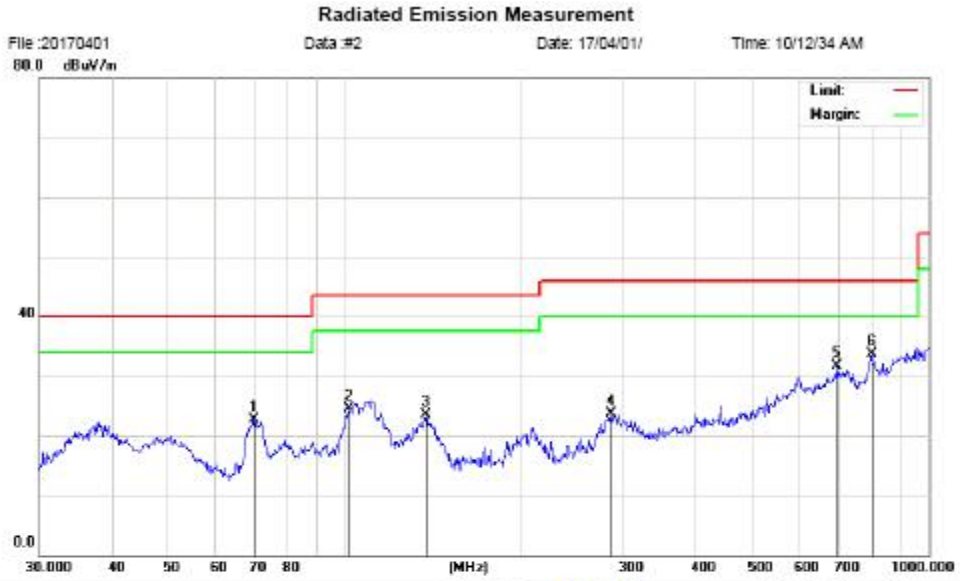
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB); Limit line = specific limits(dBuv) + distance extrapolation factor.

3.27 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT：	Smart LED Light Bulb	Model Name. ：	LT-B4
Temperature：	23	Relative Humidtity：	50%
Pressure：	1011Mbar	Test Voltage ：	AC 120 V

Vertical



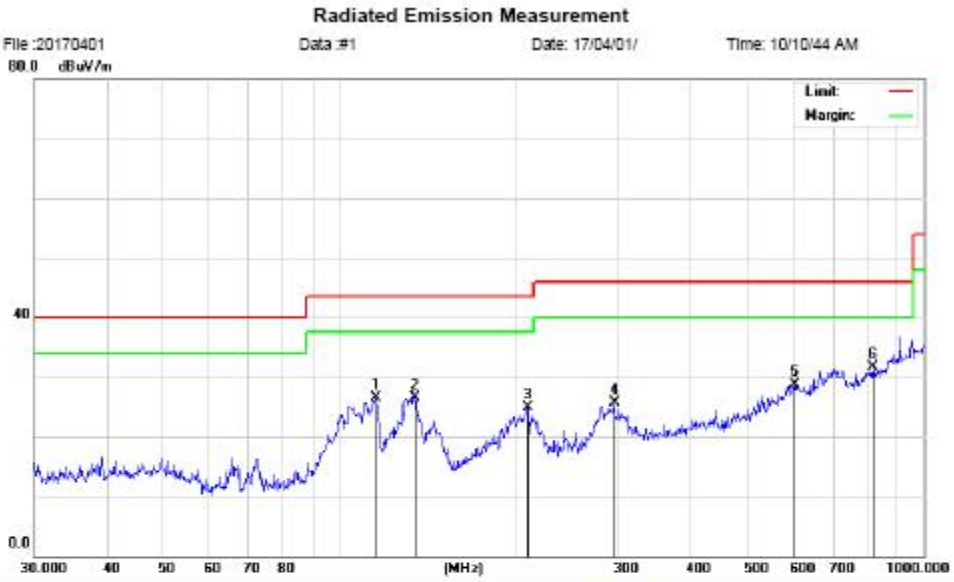
Site
Limit: FCC_PART15_B_03m_QP_
EUT:
M/N: SL-B200LED球泡灯
Mode:
Note:

Polarization: *Vertical*
Power: AC 120V/60Hz
Distance: 3m

Temperature: 25
Humidity: 50 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		70.0903	41.63	-19.01	22.62	40.00	-17.38	QP			
2		101.6443	38.31	-13.86	24.45	43.50	-19.05	QP			
3		137.9028	38.33	-14.83	23.50	43.50	-20.00	QP			
4		285.9778	34.41	-10.73	23.68	46.00	-22.32	QP			
5		696.8567	32.19	-0.51	31.68	46.00	-14.32	QP			
6	*	798.9797	30.36	3.44	33.80	46.00	-12.20	QP			

Horizontal



Site
Limit: FCC_PART15_B_03m_QP_
EUT:
M/N: SL-B200LED球泡灯
Mode:
Note:

Polarization: *Horizontal*
Power: AC 120V/60Hz
Distance: 3m

Temperature: 25
Humidity: 50 %

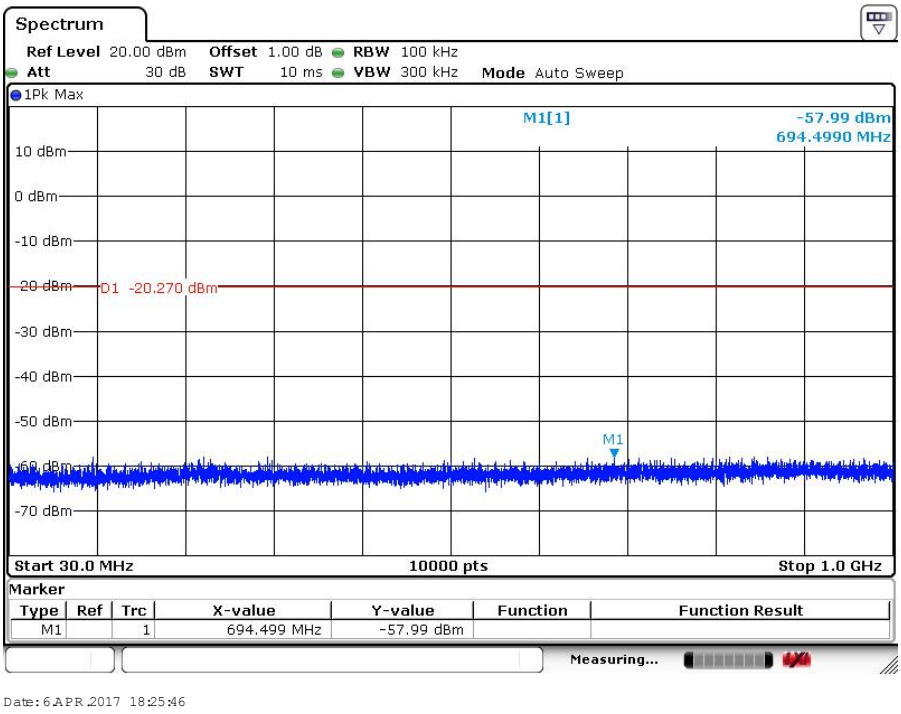
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		115.3205	41.65	-15.13	26.52	43.50	-16.98	QP			
2		135.0319	41.32	-14.72	26.60	43.50	-16.90	QP			
3		210.0482	41.51	-16.66	24.85	43.50	-18.65	QP			
4		295.1469	35.98	-10.27	25.71	46.00	-20.29	QP			
5		601.4265	30.50	-1.74	28.76	46.00	-17.24	QP			
6	*	818.8341	31.08	0.67	31.75	46.00	-14.25	QP			

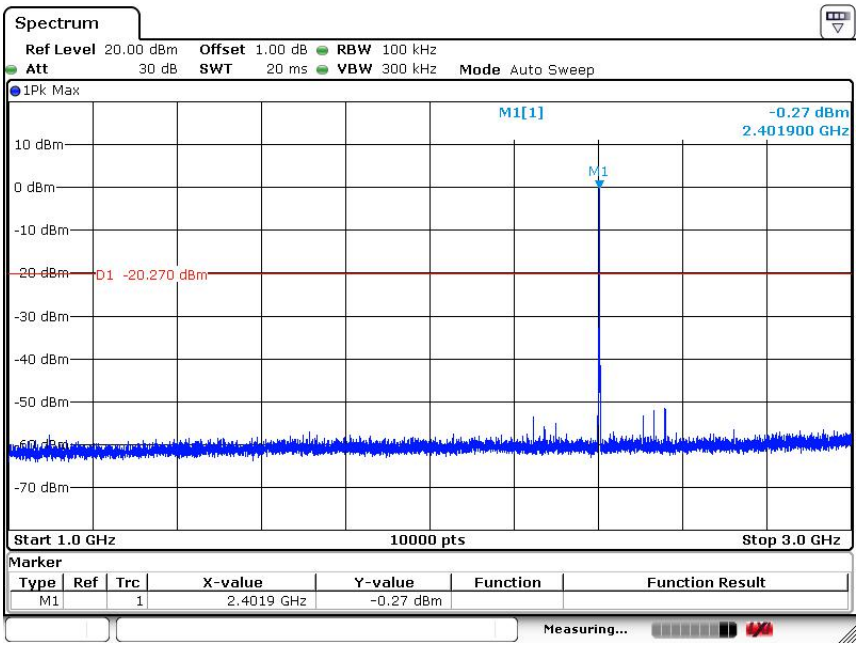
3.2.8 TEST RESULTS (1GHZ~ 10TH HARMONIC)

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2402MHz							
4842	53.3	-3.55	49.75	74	-24.25	H	PK
4842	33.04	-3.55	29.49	54	-24.51	H	AV
7311	52.05	-0.51	51.54	74	-22.46	H	PK
7311	33.06	-0.51	32.55	54	-21.45	H	AV
4842	52.03	-3.55	48.48	74	-25.52	V	PK
4842	38.65	-3.55	35.1	54	-18.9	V	AV
7311	54.63	-0.51	54.12	74	-19.88	V	PK
7311	40.84	-0.51	40.33	54	-13.67	V	AV
Middle Channel-2441MHz							
4820	55.84	-3.49	52.35	74	-21.65	H	PK
4820	43.27	-3.49	39.78	54	-14.22	H	AV
7401	54.69	-0.47	54.22	74	-19.78	H	PK
7401	40.52	-0.47	40.05	54	-13.95	H	AV
4820	52.79	-3.49	49.30	74	-24.70	V	PK
4820	42.38	-3.49	38.89	54	-15.11	V	AV
7401	53.81	-0.47	53.34	74	-20.66	V	PK
7401	40.72	-0.47	40.25	54	-13.75	V	AV
High Channel-2480MHz							
4523	55.88	-3.41	52.29	74	-21.71	H	PK
4523	43.59	-3.41	40.00	54	-14.00	H	AV
7380	51.64	-0.42	51.12	74	-22.88	H	PK
7380	42.33	-0.42	41.81	54	-12.19	H	AV
4960	53.56	-3.41	49.97	74	-24.03	V	PK
4960	39.85	-3.41	36.26	54	-17.74	V	AV
7440	52.35	-0.42	51.83	74	-22.17	V	PK
7440	41.30	-0.42	40.78	54	-13.22	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured

Conducted Spurious Emissions at Antenna Port: Low Channel





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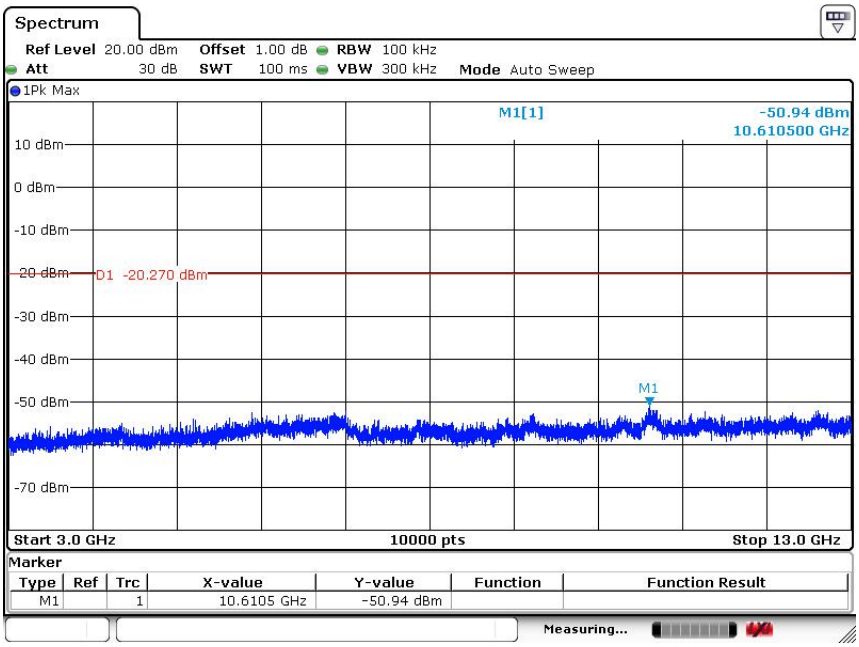

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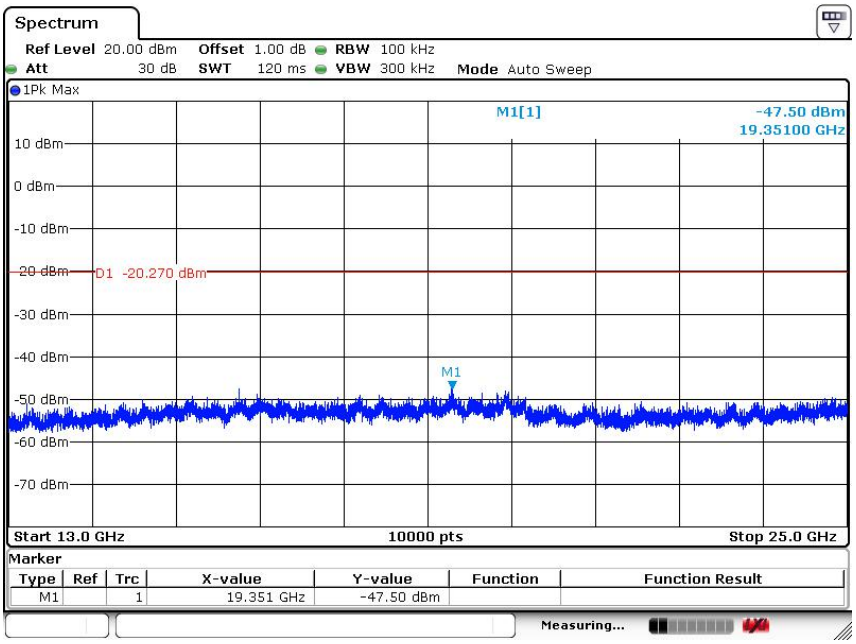
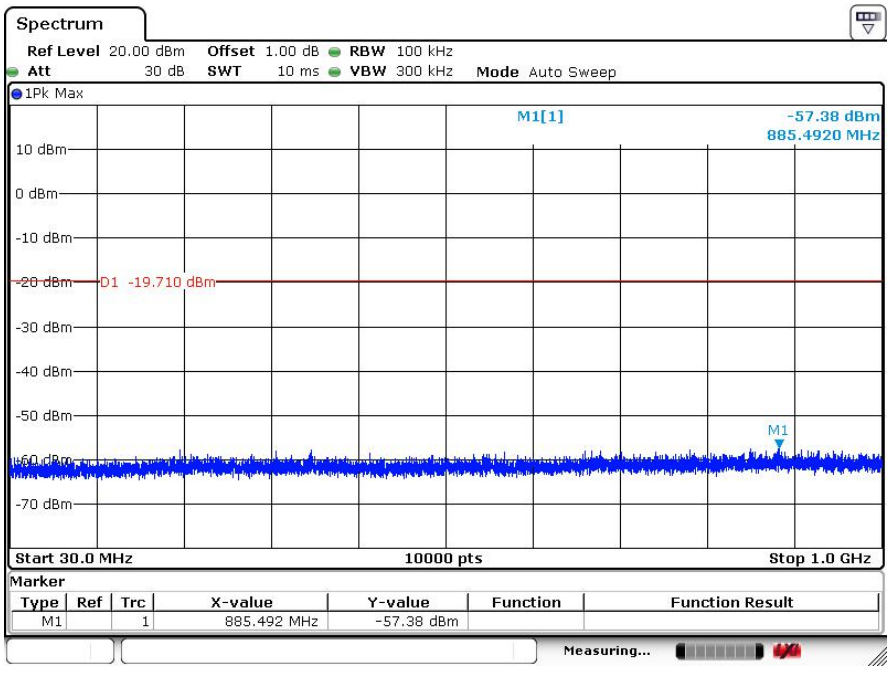
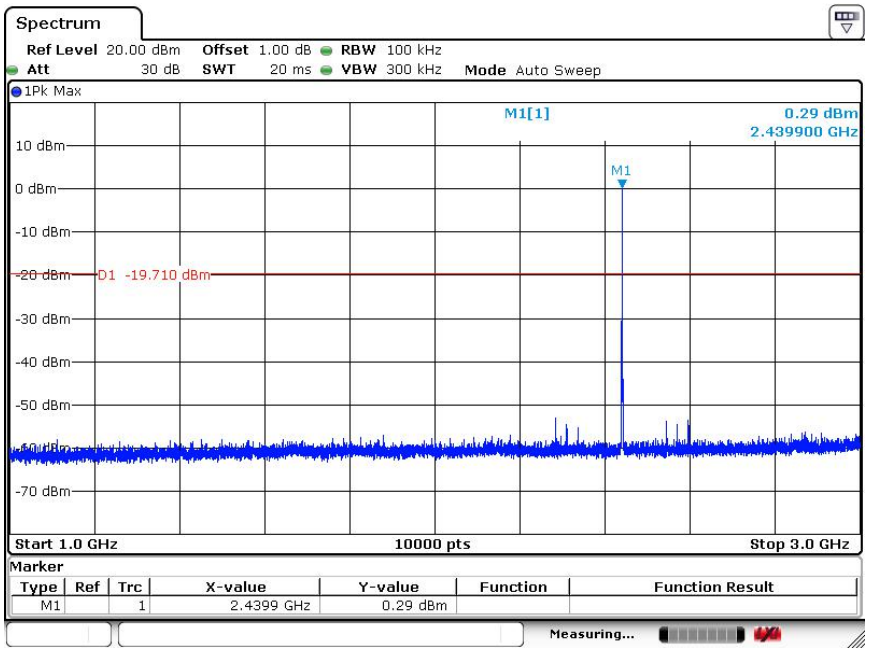
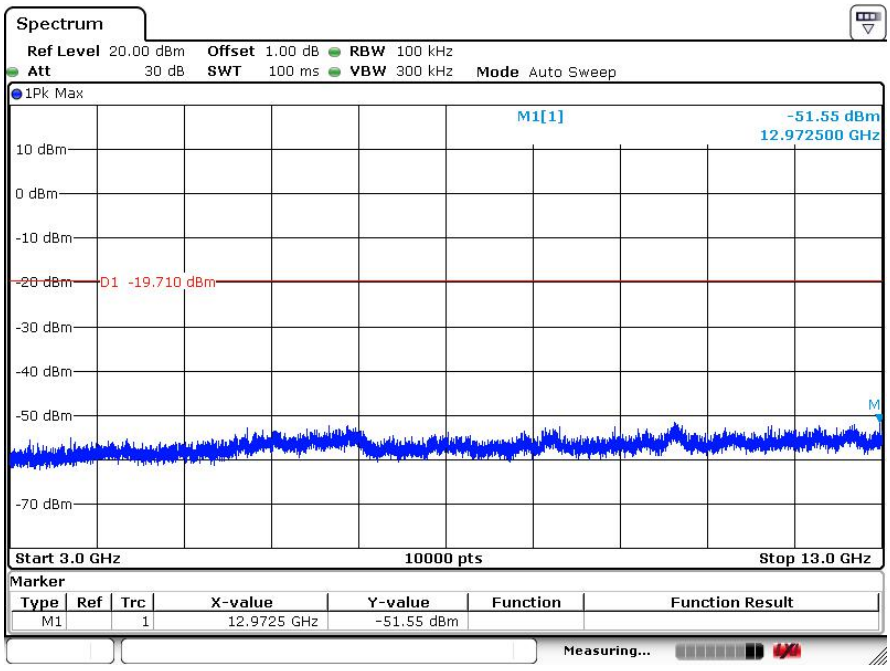


Middle channel

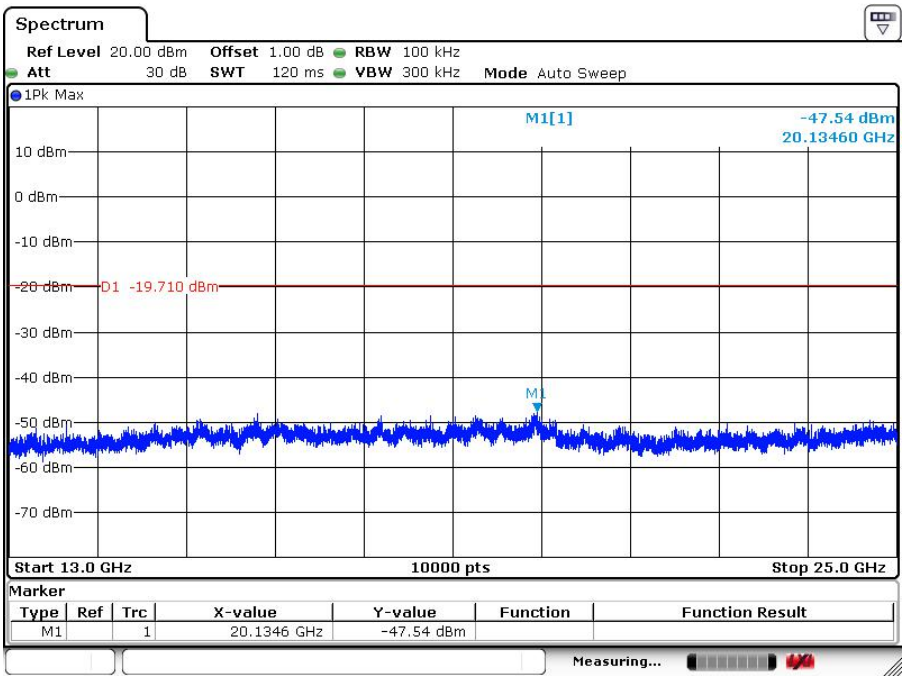




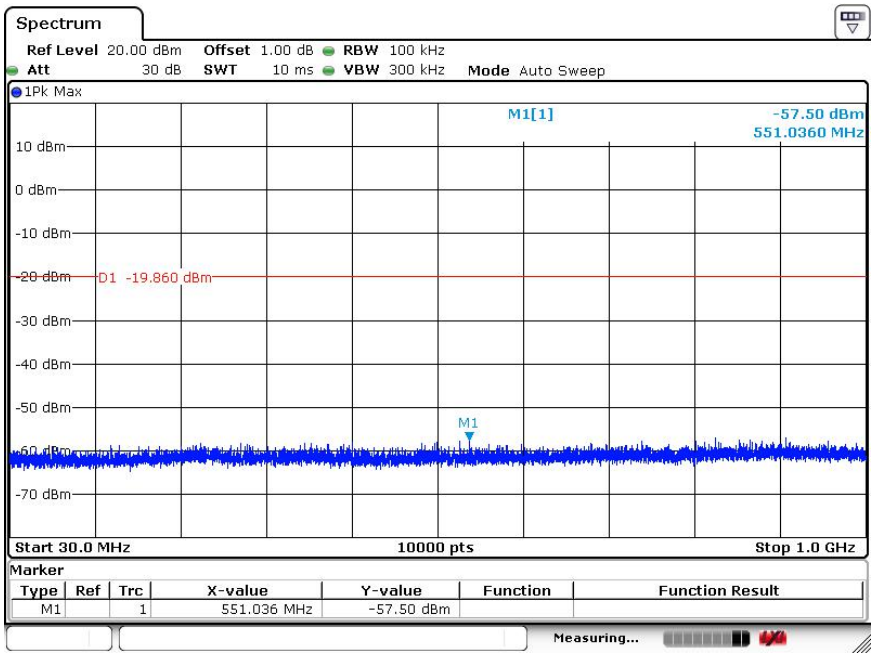
Date: 6.APR.2017 18:24:22

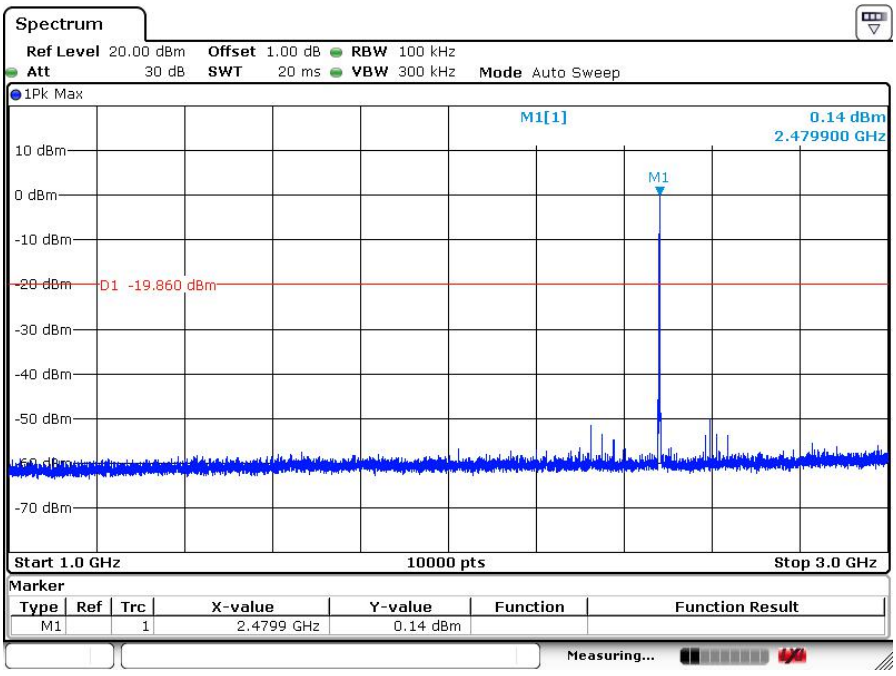


Date: 6.APR.2017 18:24:50

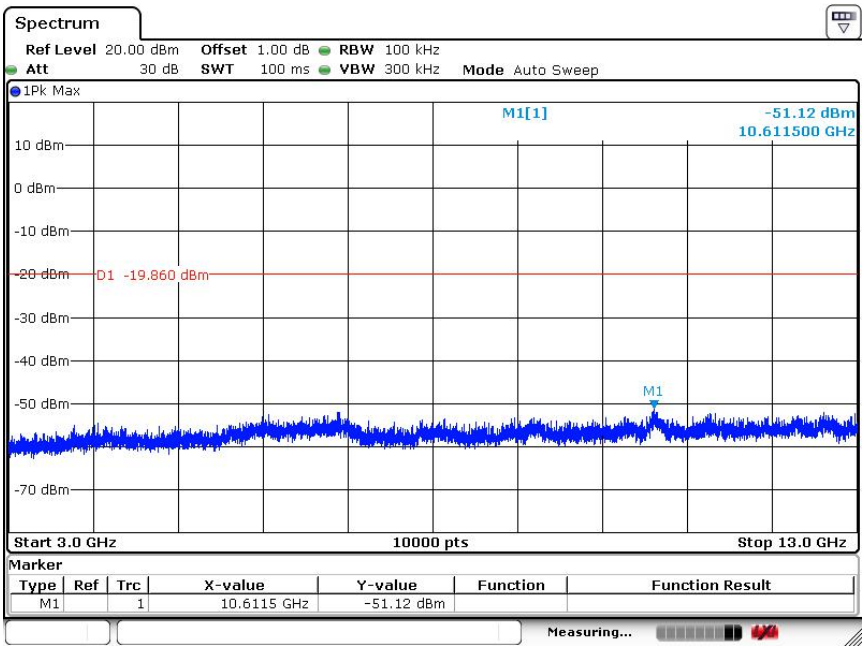


High channel

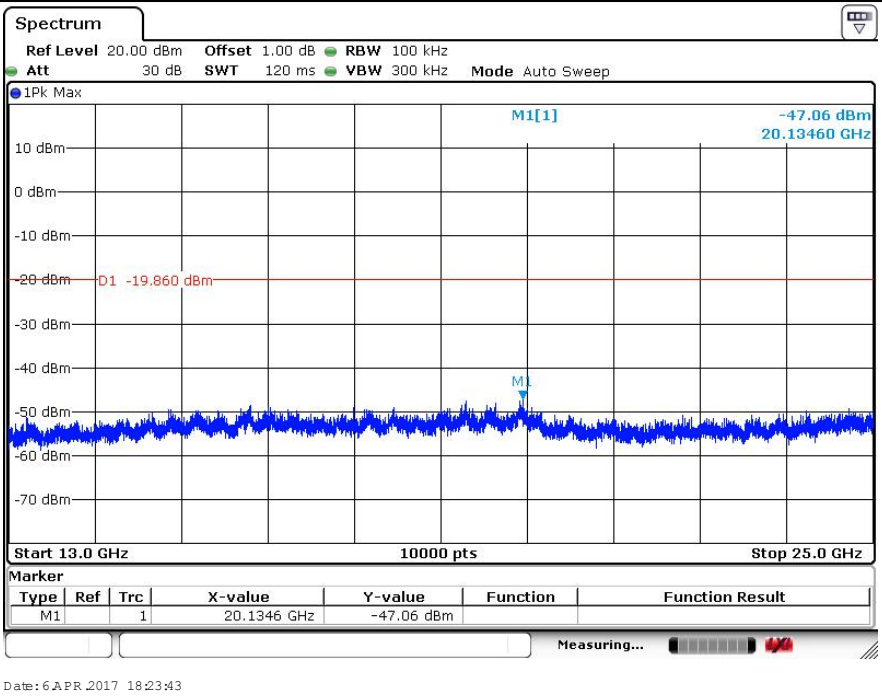




Date: 6.APR.2017 18:23:05



Date: 6.APR.2017 18:23:31



4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C&A8.2				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

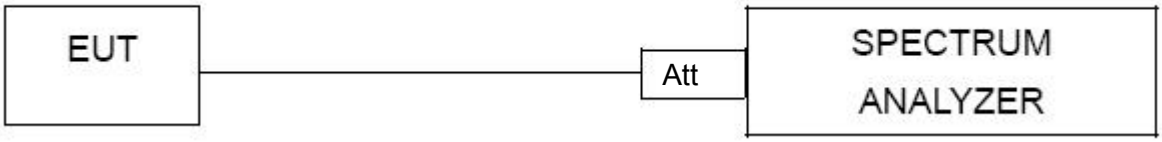
4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW ≥ 3 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

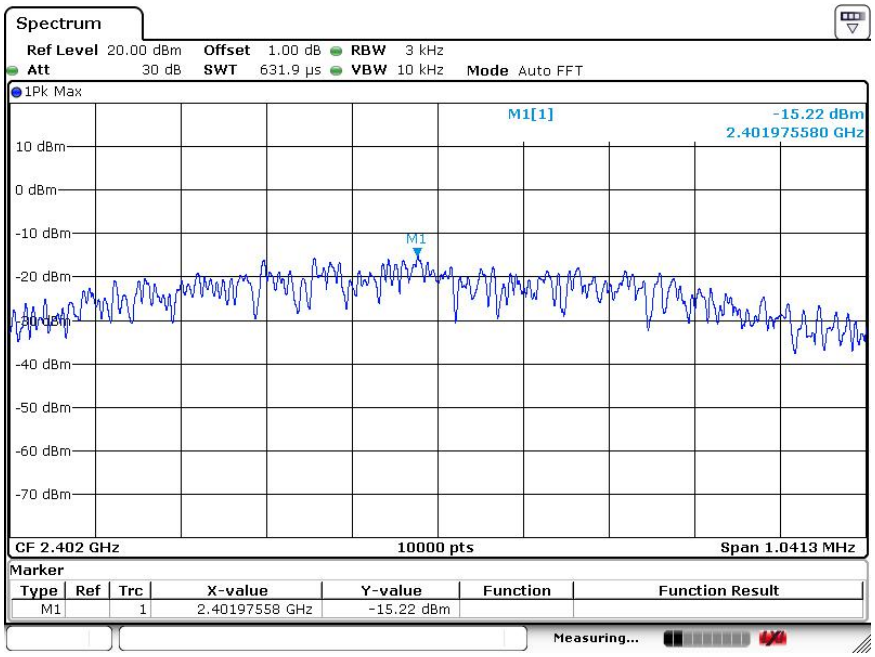
4.15 TEST RESULTS

EUT：	Smart LED Light Bulb	Model Name. ：	LT-B4
Temperature：	23	Relative Humidtity：	50%
Pressure：	1011Mbar	Test Voltage ：	AC 120 V

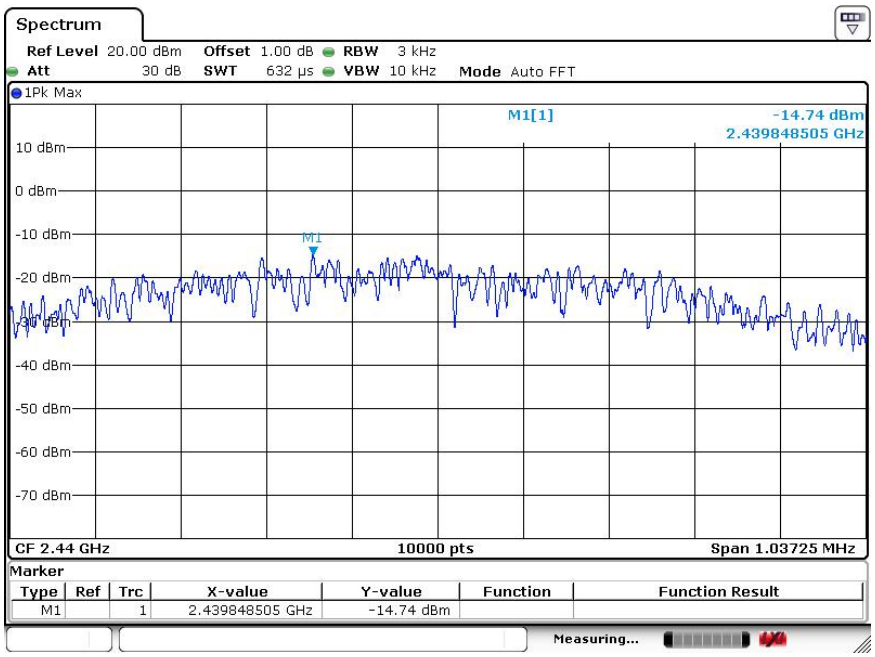
Note: The relevant measured result has the offset with cable loss already.

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3 kHz)	Result
2402 MHz	-15.22	8	PASS
2440 MHz	-14.74	8	PASS
2480 MHz	-14.96	8	PASS

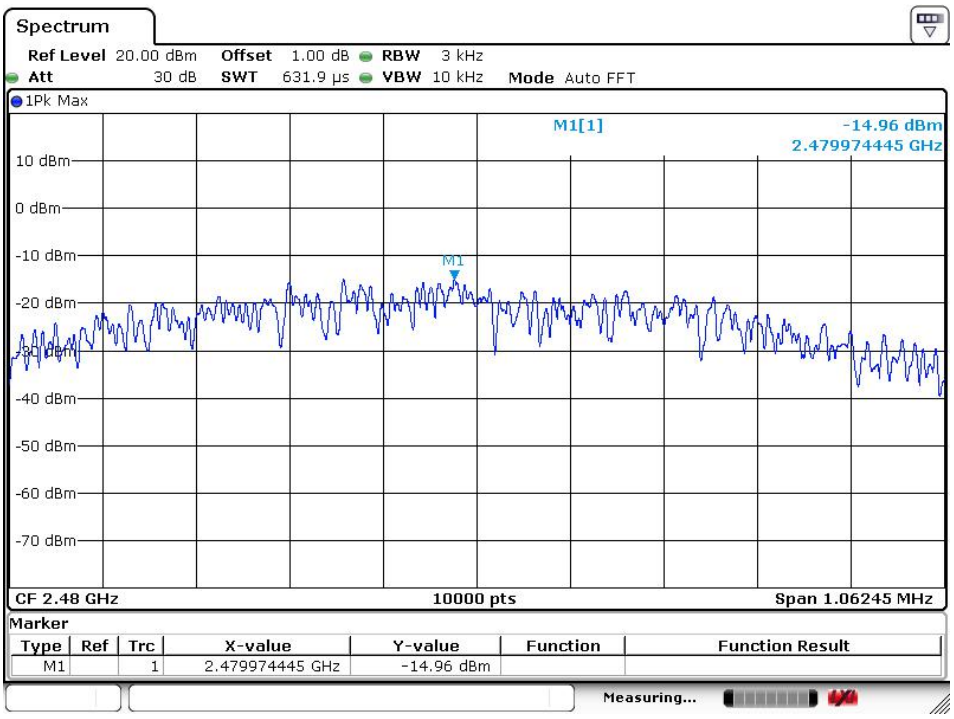
TX CH00



TX CH19



TX CH39


Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 3 kHz
Att 30 dB SWT 631.9 µs VBW 10 kHz Mode Auto FFT
1Pk Max
M1[1] -14.96 dBm
2.479974445 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.48 GHz
10000 pts
Span 1.06245 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.479974445 GHz -14.96 dBm
Measuring...
Date: 6.APR.2017 18:29:38

5. BANDWIDTH TEST

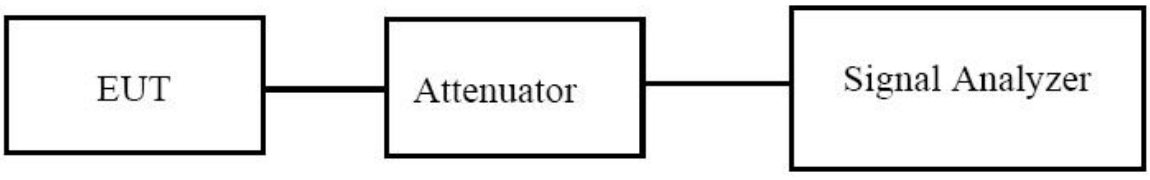
5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C&A8.2				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2) &A8.2	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

According to KDB 558074 D01 DTS Meas Guidance v03r04

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



5.1.2 EUT OPERATION CONDITIONS

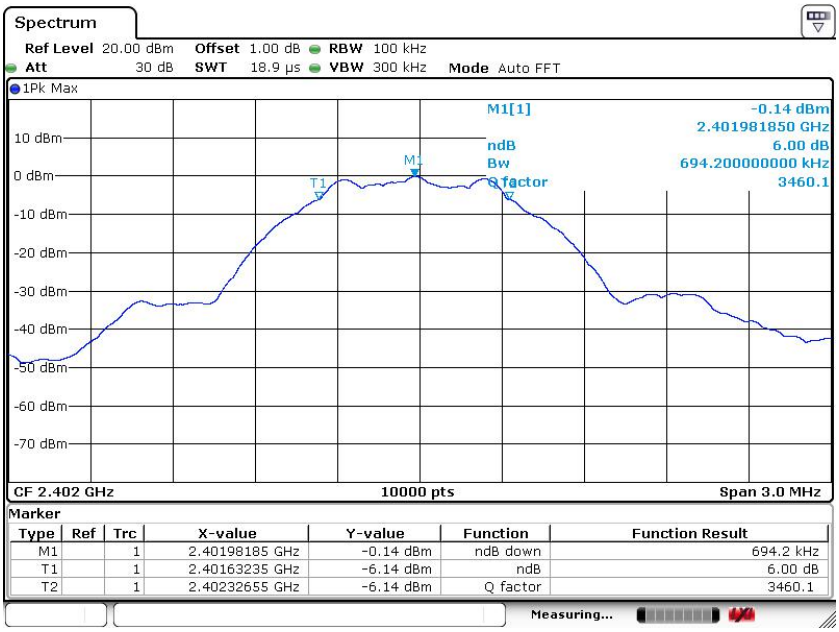
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.13TEST RESULTS

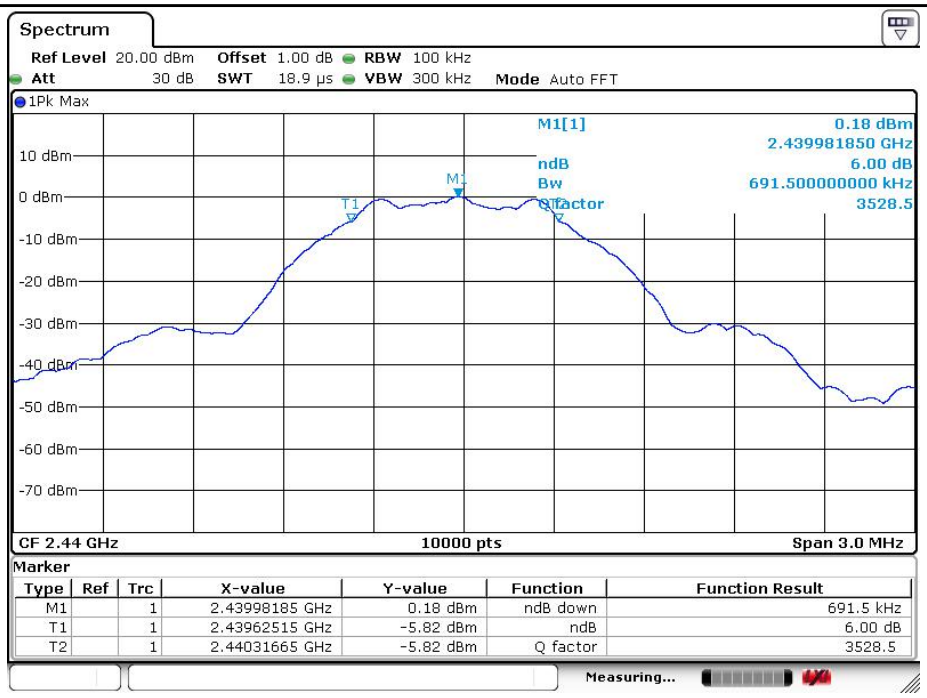
EUT：	Smart LED Light Bulb	Model Name. ：	LT-B4
Temperature：	23	Relative Humidtity：	50%
Pressure：	1011Mbar	Test Voltage ：	AC 120 V

Channel	Frequency (MHz)	6dB bandwidth (kHz)	99% bandwidth (MHz)	Limit (kHz)	Result
Low	2402	694.2	/	＞500	Pass
Middle	2440	691.5	/	＞500	Pass
High	2480	708.3	/	＞500	Pass

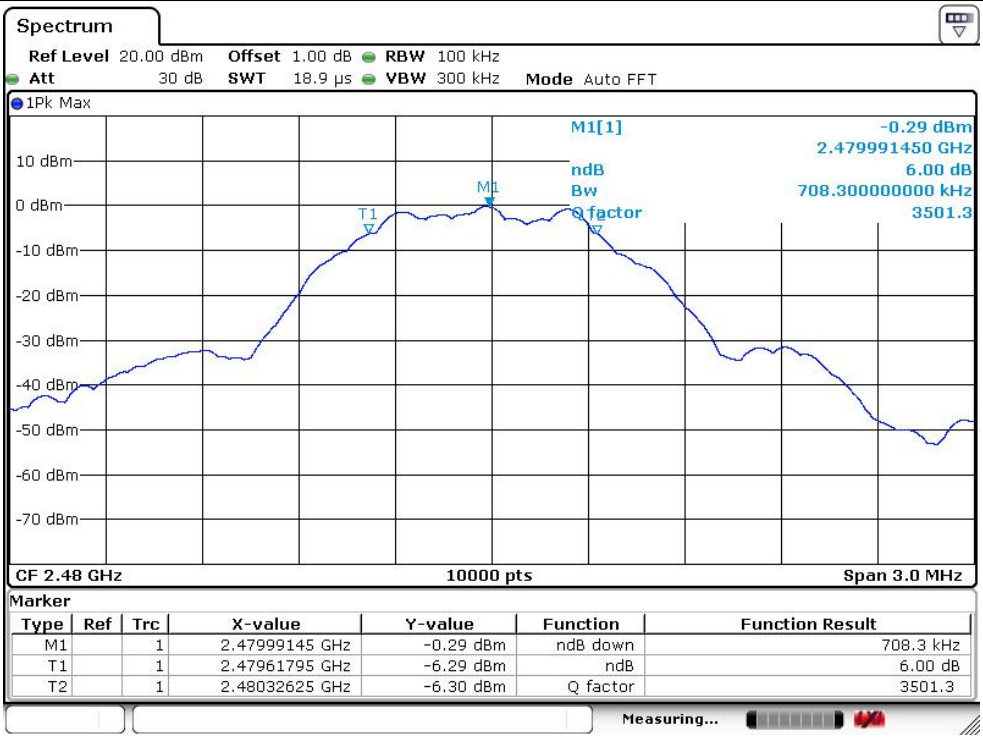
TX CH 00



TX CH 19


Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 30 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT
1Pk Max
M1[1] 0.18 dBm
2.439981850 GHz
ndB 6.00 dB
Bw 691.500000000 kHz
Qfactor 3528.5
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.44 GHz
10000 pts
Span 3.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.43998185 GHz 0.18 dBm ndB down 691.5 kHz
T1 1 2.43962515 GHz -5.82 dBm ndB 6.00 dB
T2 1 2.44031665 GHz -5.82 dBm Q factor 3528.5
Measuring...
Date: 6.APR.2017 18:16:03

TX CH 39


Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 30 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT
1Pk Max
M1[1] -0.29 dBm
2.479991450 GHz
ndB 6.00 dB
Bw 708.300000000 kHz
Q factor 3501.3
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
T1
CF 2.48 GHz
10000 pts
Span 3.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.47999145 GHz -0.29 dBm ndB down 708.3 kHz
T1 1 2.47961795 GHz -6.29 dBm ndB 6.00 dB
T2 1 2.48032625 GHz -6.30 dBm Q factor 3501.3
Measuring...
Date: 6.APR.2017 18:15:41

6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C &A8.4				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3) &A8.4	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

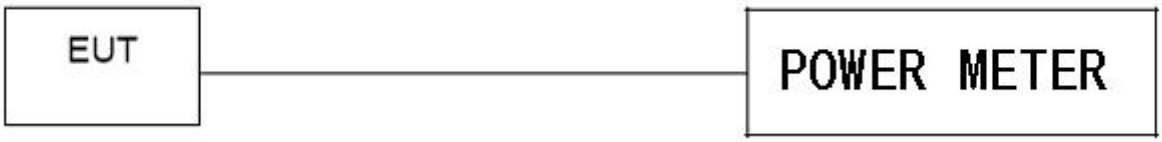
6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the Power meter

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

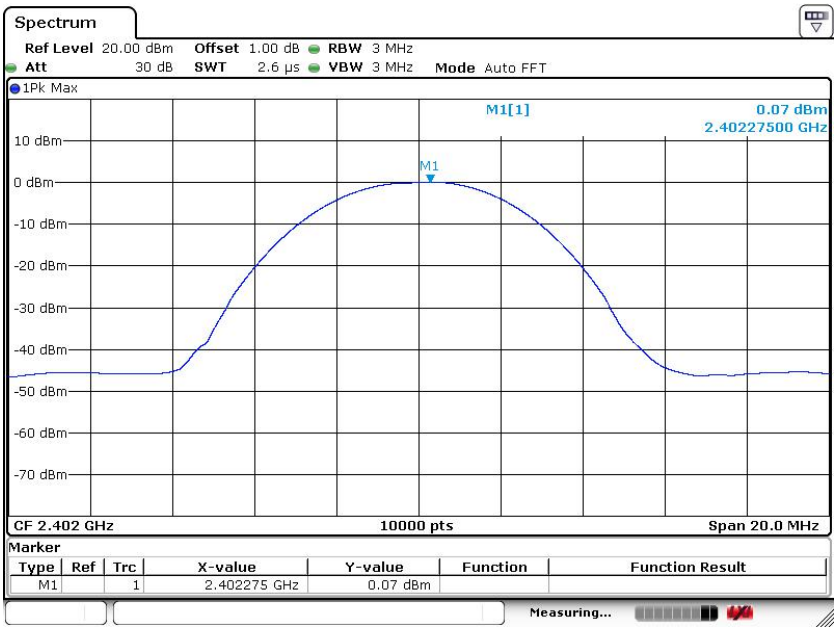
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.15 TEST RESULTS

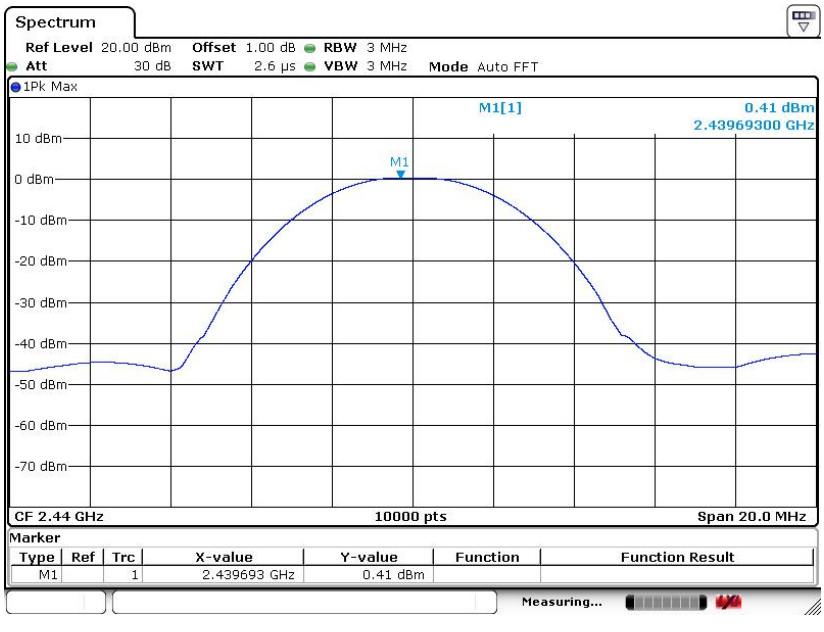
EUT：	Smart LED Light Bulb	Model Name. ：	LT-B4
Temperature：	23	Relative Humidtity：	50%
Pressure：	1011Mbar	Test Voltage ：	AC 120 V

TX Mode			
Test Channe	Frequency	Maximum Conducted Output Power (PK)	LIMIT
	(MHz)	(dBm)	dBm
CH00	2402	0.07	30
CH19	2440	0.41	30
CH39	2480	0.07	30

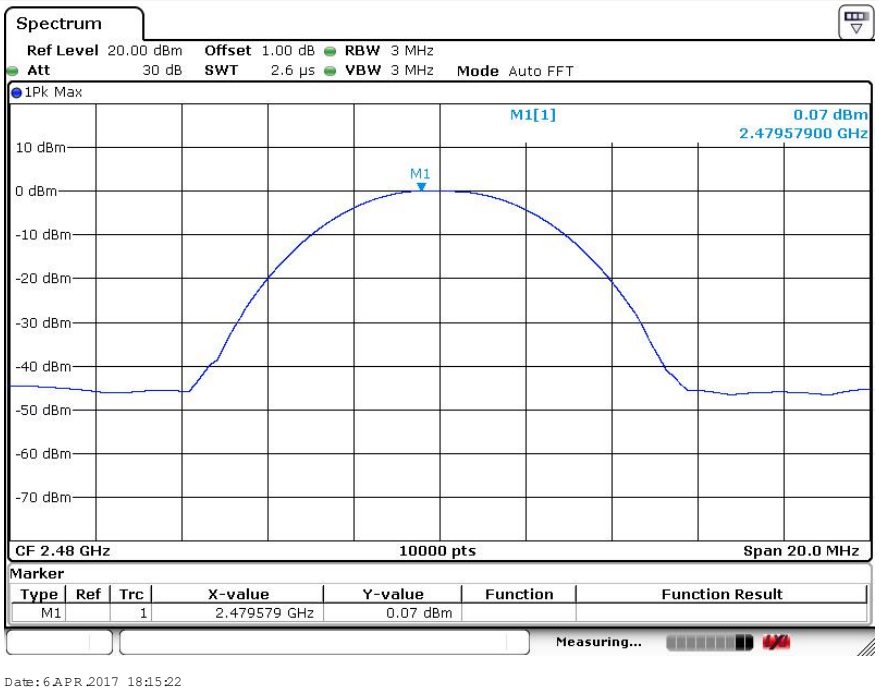
CH00


Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 3 MHz
Att 30 dB SWT 2.6 µs VBW 3 MHz Mode Auto FFT
1Pk Max
M1[1] 0.07 dBm
2.40227500 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.402 GHz 10000 pts Span 20.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.402275 GHz 0.07 dBm
Measuring...
Date: 6.APR.2017 18:14:25

CH19


Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 3 MHz
Att 30 dB SWT 2.6 µs VBW 3 MHz Mode Auto FFT
1Pk Max
M1[1] 0.41 dBm
2.43969300 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.44 GHz 10000 pts Span 20.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.439693 GHz 0.41 dBm
Measuring...
Date: 6.APR.2017 18:15:08

CH39



7.100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

APPLICABLE STANDARD

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 §15.209(a)&A1.1 is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a)&A8.5, must also comply with the radiated emission limits specified in §15.209(a) &A1.1 (see §15.205(c)) &A8.5.

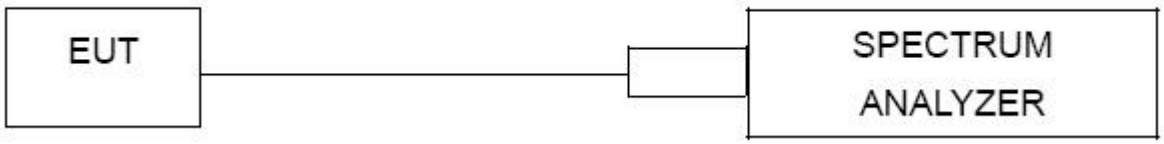
TEST PROCEDURE

a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
c) Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
d) Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
e) Repeat above procedures until all measured frequencies were complete.

7.1 DEVIATION FROM STANDARD

No deviation.

7.2 TEST SETUP



7.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.4 TEST RESULTS

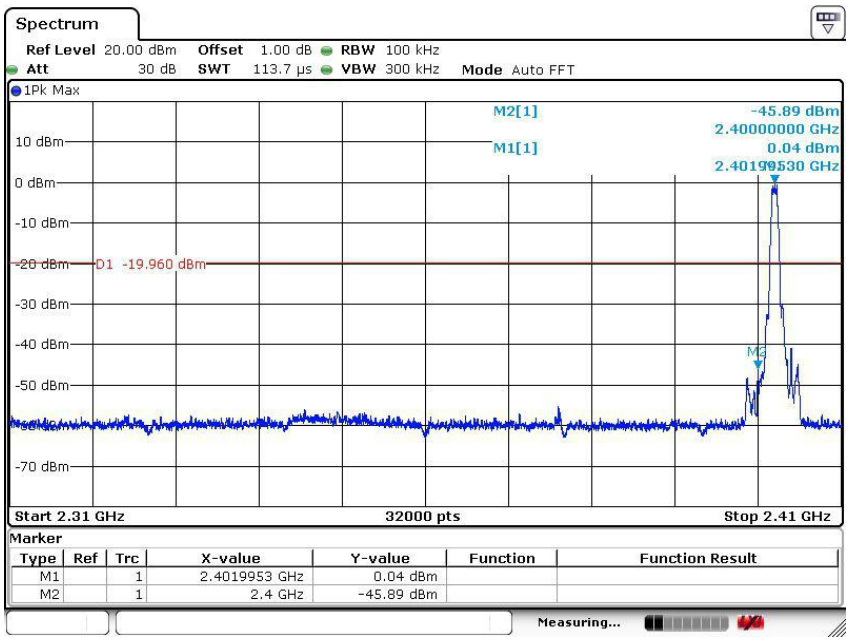
EUT：	Smart LED Light Bulb	Model Name. ：	LT-B4
Temperature：	23	Relative Humidtity：	50%
Pressure：	1011Mbar	Test Voltage ：	AC 120 V

Frequency Band	Delta Peak to band emission (dBc)	＞Limit (dBc)	Result
2390.00	45.93	20	Pass
2483.50	54.89	20	Pass

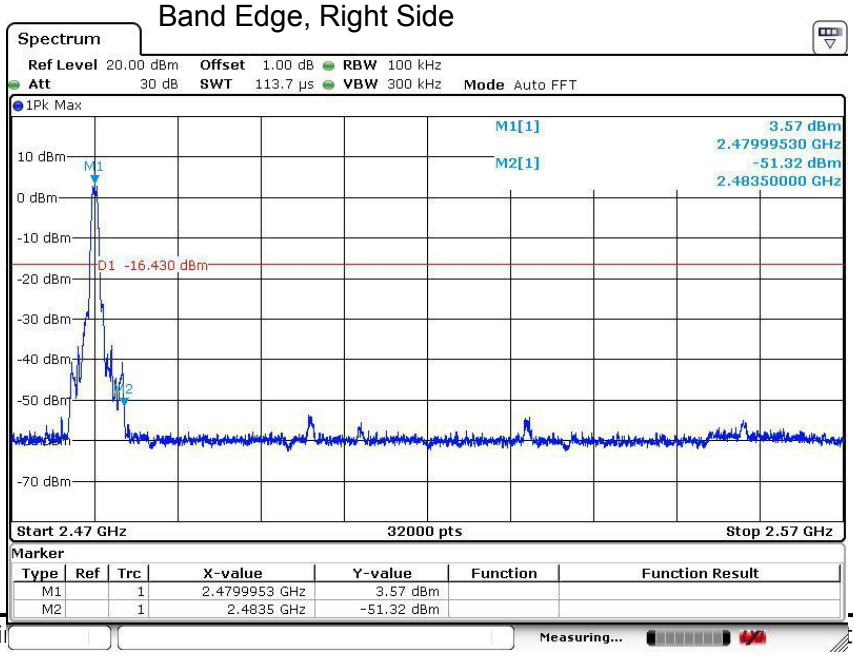
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
2390	50.24	1.05	51.29	74	-22.71	peak	Vertical
2390	46.88	1.05	47.93	74	-26.07	peak	Horizontal
2483.5	49.15	1.29	50.44	74	-23.56	peak	Vertical
2483.5	47.66	1.29	48.95	74	-25.05	peak	Horizontal

Note: Test method to see chapter 3.2 . When PK value is lower than the Average value limit, average not record.

Band Edge, Left Side



Band Edge, Right Side



8.ANTENNA REQUIREMENT

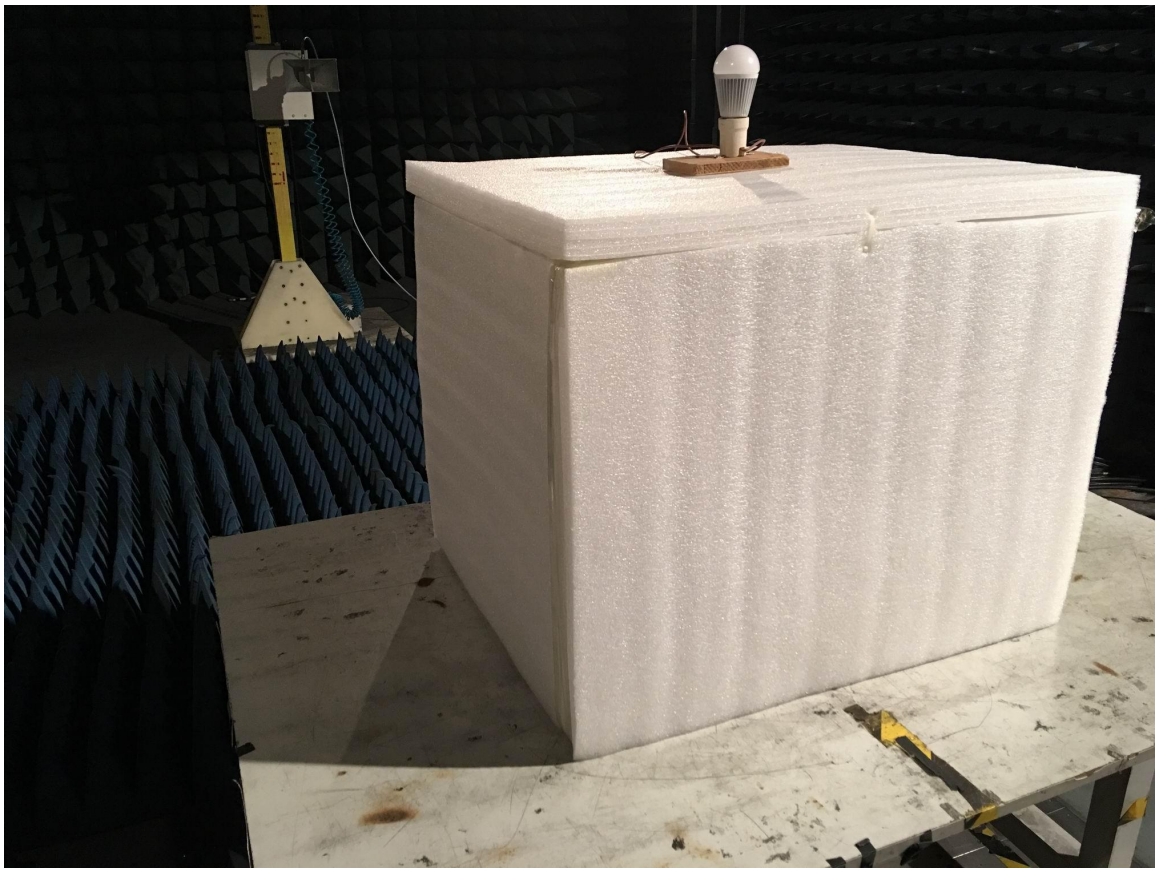
8.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: 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.

8.2 EUT ANTENNA

The EUT antenna is PCB antenna, 0dBi gain. It Conform to the requirements of the antenna

9. EUT TEST PHOTO



END REPORT