

**FCC - TEST REPORT**

Report Number : **68.940.15.015.01** Date of Issue: November 23, 2015

Model : **BTL501**

Product Type : **MIPOW PLAYBULB COMET**

Applicant : **Shenzhen Baojia Battery Technology Co.,Ltd**

Address : **Block A, Yonghe Road, Tongfuyu Industrial Zone, Heping, Fuyong,**
Baoan, Shenzhen,China

Production Facility : **Shenzhen Baojia Battery Technology Co.,Ltd**

Address : **Block A, Yonghe Road, Tongfuyu Industrial Zone, Heping, Fuyong,**
Baoan, Shenzhen,China

Test Result : ☒ **Positive** ☐ **Negative**

Total pages : **30**

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13, Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2, Nanshan District,
Shenzhen City, 518052,
P. R. China

FCC Registration Number: 502708

Telephone: 86 755 8828 6998
Fax: 86 755 828 5299

Test Site 2:

Company name: Compliance Certification Services (Shenzhen) Inc.
No. 10-1 Mingkeda Logistics Park, No.18 Huanguan
South RD. Guan lan Town, Baoan Distr,
Shenzhen, China

FCC Registration Number: 441872

Remark: All test items were performed at Site 2.

3 Description of the Equipment Under Test

Description of the Equipment Under Test

Product:	MIPOW PLAYBULB COMET
Model no.:	BTL501
Brand Name:	MIPOW
FCC ID:	SL7BTL501
Rating Voltage:	DC 24V/1A by adapter Powered by external power supply: Input: 100-240VAC~50/60Hz, 0.6A Output: 24VDC, 1A
RF Transmission Frequency:	2402-2480MHz
No. of Operated Channel:	40
Modulation:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	3dBi
Description of the EUT:	The Equipment Under Test (EUT) is a lamp with Bluetooth function which operated at 2.4GHz.

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2014 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

5 Summary of Test Results

Technical Requirements					
FCC Part 15 Subpart C					
Test Condition	Pages	Test Site	Test Result		
			Pass	Fail	N/A
15.207 Conducted emission AC power port	10	Site 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
§15.205(a), §15.209(a), §15.249(a), §15.249(c) Field strength of emissions and Restricted bands	13	Site 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC §15.215(c) 20dB bandwidth	21	Site 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
§15.249(d) Out of band emissions	24	Site 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
§15.203 Antenna requirement	See note 1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remark 1: N/A – Not Applicable.

Note 1: The EUT uses an integral antenna, which gain is 3.0dBi. According to §15.203, it is considered sufficiently to comply with the provisions of this section.



6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: SL7BTL501 complies with Section 15.205, 15.209, 15.249 of the FCC Part 15, Subpart C Rules.

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: November 16, 2015

Testing Start Date: November 16, 2015

Testing End Date: November 17, 2015

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

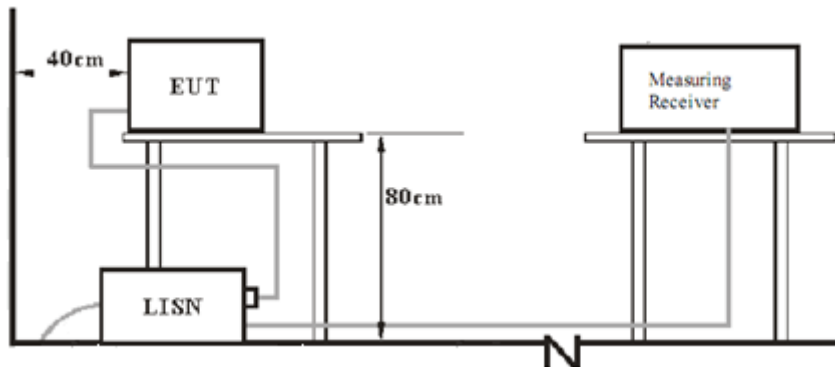
Prepared by:

John Zhi
EMC Project Manager

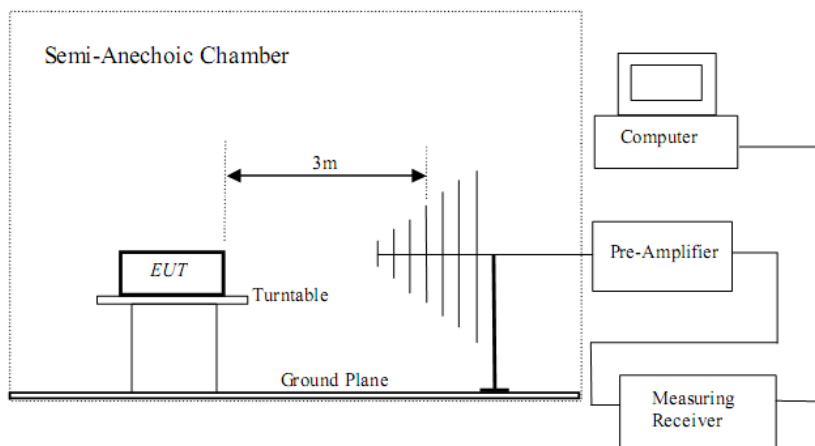
Alan Xiong
EMC Project Engineer

7 Test setups

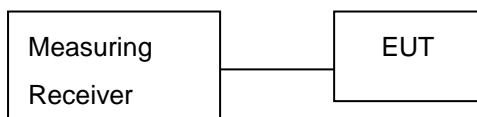
7.1 AC Power Line Conducted Emission test setups



7.2 Radiated test setups



7.3 Conducted RF test setups



8 Systems test configuration

Auxiliary Equipment Used during Test:

Name	Model No	S/N	Manufacturer	FCC
Adapter	NBS24J240100HE	---	---	---
Notebook	Inspiron 14-3437	---	DELL	---

Test software which used to control the EUT in continues transmitting mode

The system was configured to hopping mode and non-hopping mode.

Hopping mode: typical working mode (normal hopping status)

Non-hopping mode: The system was configured to operate at a signal channel transmitting. The test software allows the configuration and operation at the worst-case duty and the highest transmit power

9 Technical Requirement

9.1 Conducted Emission

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

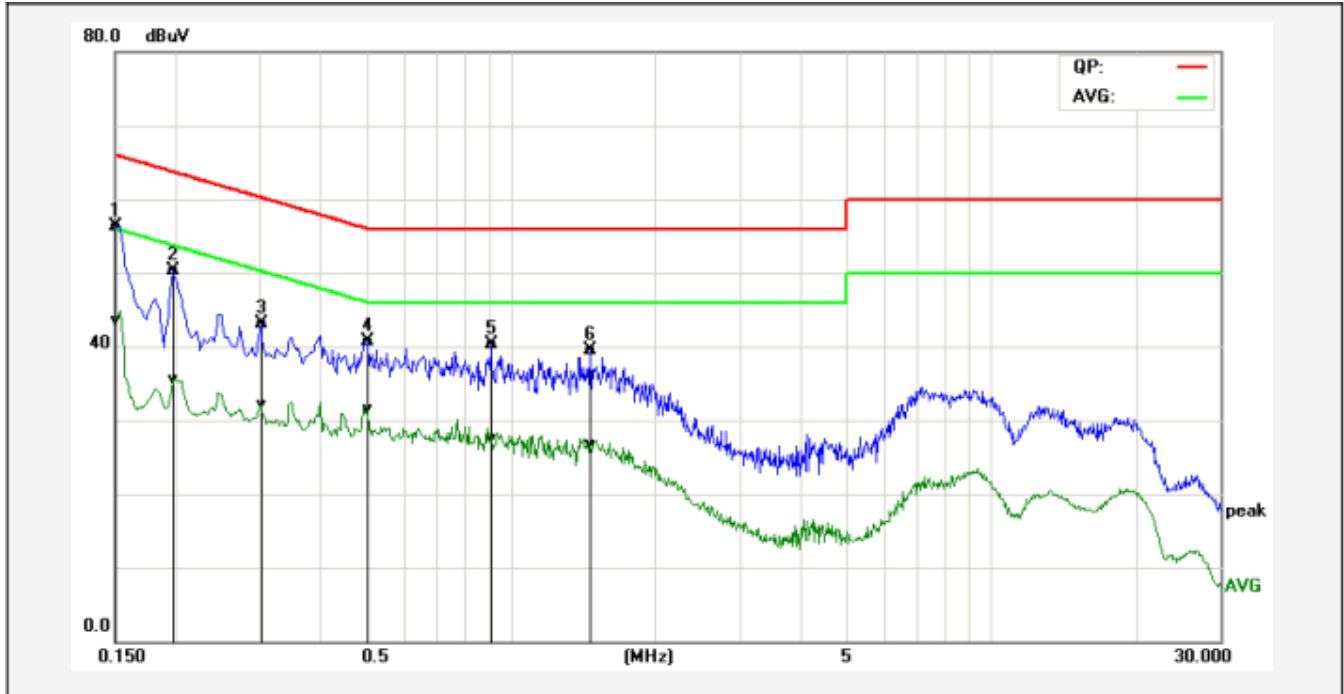
Limit

According to §15.207 & RSS-GEN A8.8, conducted emissions limit as below:

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

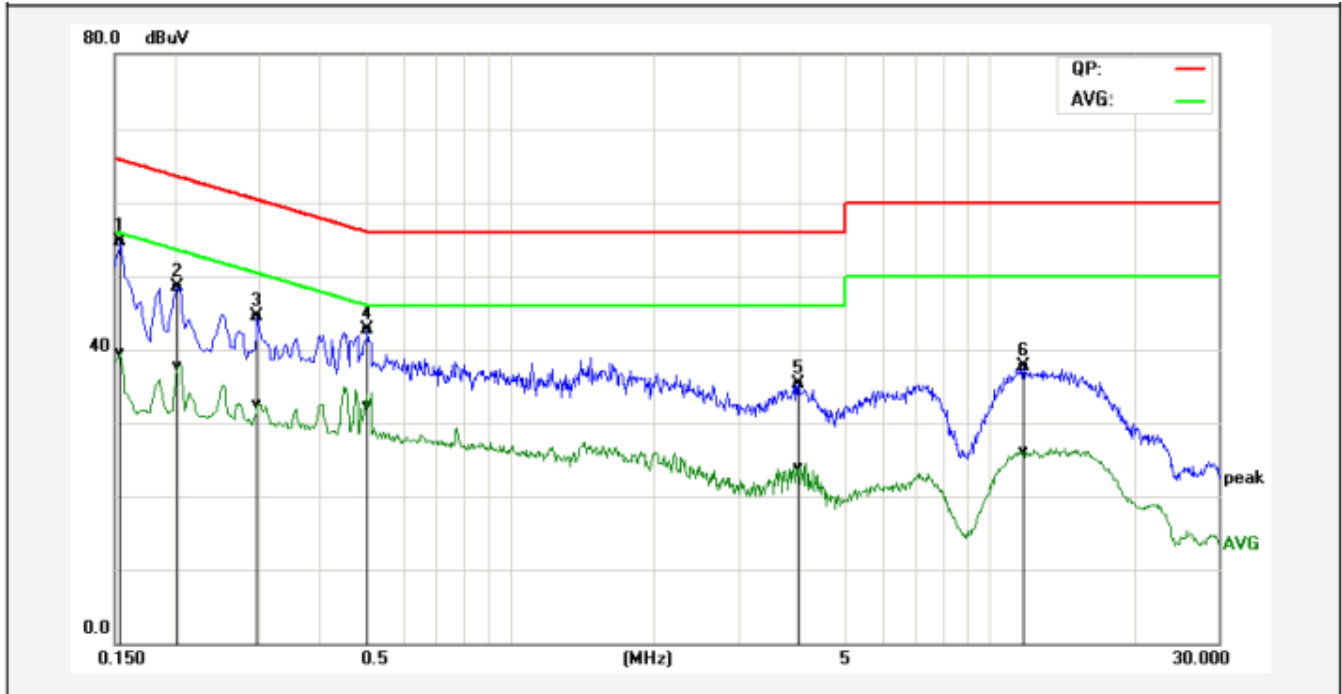
Decreasing linearly with logarithm of the frequency

Product Type : MIPOW PLAYBULB COMET
 M/N : BTL501
 Operating Condition : Transmitting
 Test Specification : Line
 Comment : AC 120V/60Hz



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.1500	46.78	33.84	9.58	56.36	43.42	65.99	56.00	-9.63	-12.58	Pass
2P	0.1980	40.69	25.81	9.69	50.38	35.50	63.69	53.69	-13.31	-18.19	Pass
3P	0.3020	33.50	22.34	9.69	43.19	32.03	60.19	50.19	-17.00	-18.16	Pass
4P	0.5060	31.08	21.89	9.68	40.76	31.57	56.00	46.00	-15.24	-14.43	Pass
5P	0.9100	30.64	17.75	9.73	40.37	27.48	56.00	46.00	-15.63	-18.52	Pass
6P	1.4660	29.71	16.92	9.72	39.43	26.64	56.00	46.00	-16.57	-19.36	Pass

Product Type : MIPOW PLAYBULB COMET
 M/N : BTL501
 Operating Condition : Transmitting
 Test Specification : Neutral
 Comment : AC 120V/60Hz



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.1539	44.85	29.73	9.78	54.63	39.51	65.78	55.79	-11.15	-16.28	Pass
2P	0.2020	38.80	27.88	9.79	48.59	37.67	63.52	53.53	-14.93	-15.86	Pass
3P	0.2980	34.74	22.73	9.76	44.50	32.49	60.30	50.30	-15.80	-17.81	Pass
4P	0.5060	33.03	22.66	9.68	42.71	32.34	56.00	46.00	-13.29	-13.66	Pass
5P	3.9940	25.63	14.19	9.76	35.39	23.95	56.00	46.00	-20.61	-22.05	Pass
6P	11.7980	27.87	16.25	9.81	37.68	26.06	60.00	50.00	-22.32	-23.94	Pass

9.2 Field strength of emissions and restricted bands

Test Method

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
3. Use the following spectrum analyzer settings:
Span = wide enough to fully capture the emission being measured ,RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz, VBW \geq RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Follow the guidelines in ANSI C63.4-1992 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc.
The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the duty cycle per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from $20\log(\text{duty cycle}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Limits

According to §15.249 (a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

According to §15.249 (c), Field strength limits are specified at a distance of 3 meters.
According to §15.249 (d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.
According to §15.205 and Unwanted emissions falling into restricted bands in §15.205 (a) Table 3 shall comply with the limits specified in §15.209.

Field strength of emissions and Restricted bands

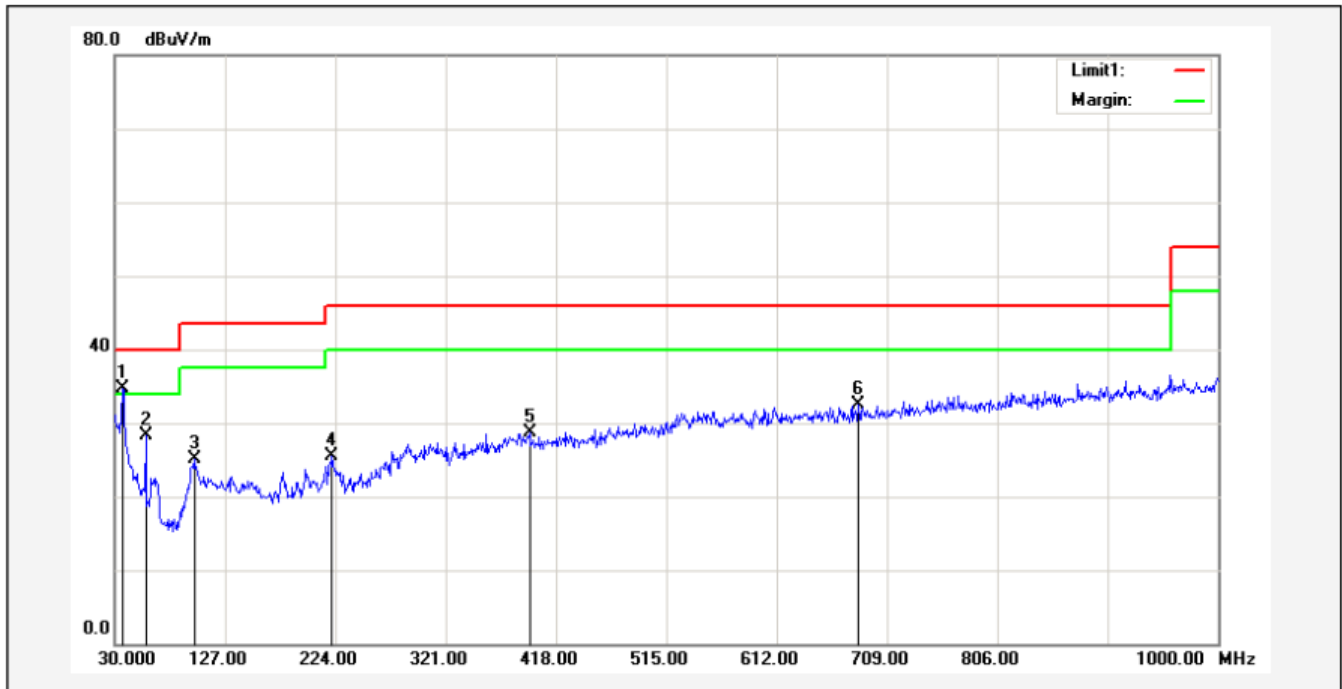
EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2402MHz

Test Specification: Horizontal

Remark: 30MHz-1GHz



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	36.7900	49.86	-15.21	34.65	40.00	-5.35			peak
2	57.1600	51.64	-23.26	28.38	40.00	-11.62			peak
3	99.8400	48.76	-23.70	25.06	43.50	-18.44			peak
4	221.0900	46.07	-20.51	25.56	46.00	-20.44			peak
5	394.7200	45.06	-16.27	28.79	46.00	-17.21			peak
6	683.7800	44.89	-12.35	32.54	46.00	-13.46			peak

Field strength of emissions and Restricted bands

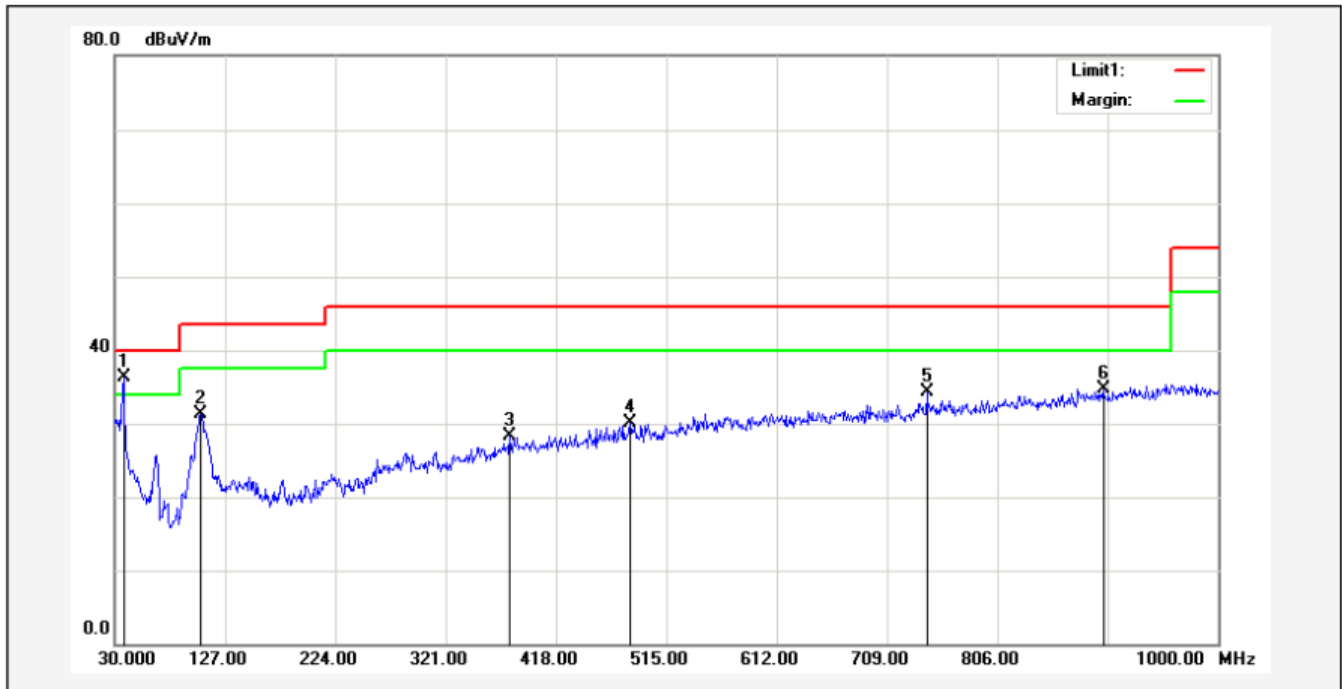
EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2402MHz

Test Specification: Vertical

Remark: 30MHz-1GHz



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	37.7600	51.86	-15.48	36.38	40.00	-3.62			peak
2	105.6600	54.01	-22.63	31.38	43.50	-12.12			peak
3	377.2600	44.97	-16.67	28.30	46.00	-17.70			peak
4	482.9900	44.47	-14.36	30.11	46.00	-15.89			peak
5	743.9200	45.61	-11.29	34.32	46.00	-11.68			peak
6	899.1200	44.51	-9.84	34.67	46.00	-11.33			peak

Field strength of emissions and Restricted bands

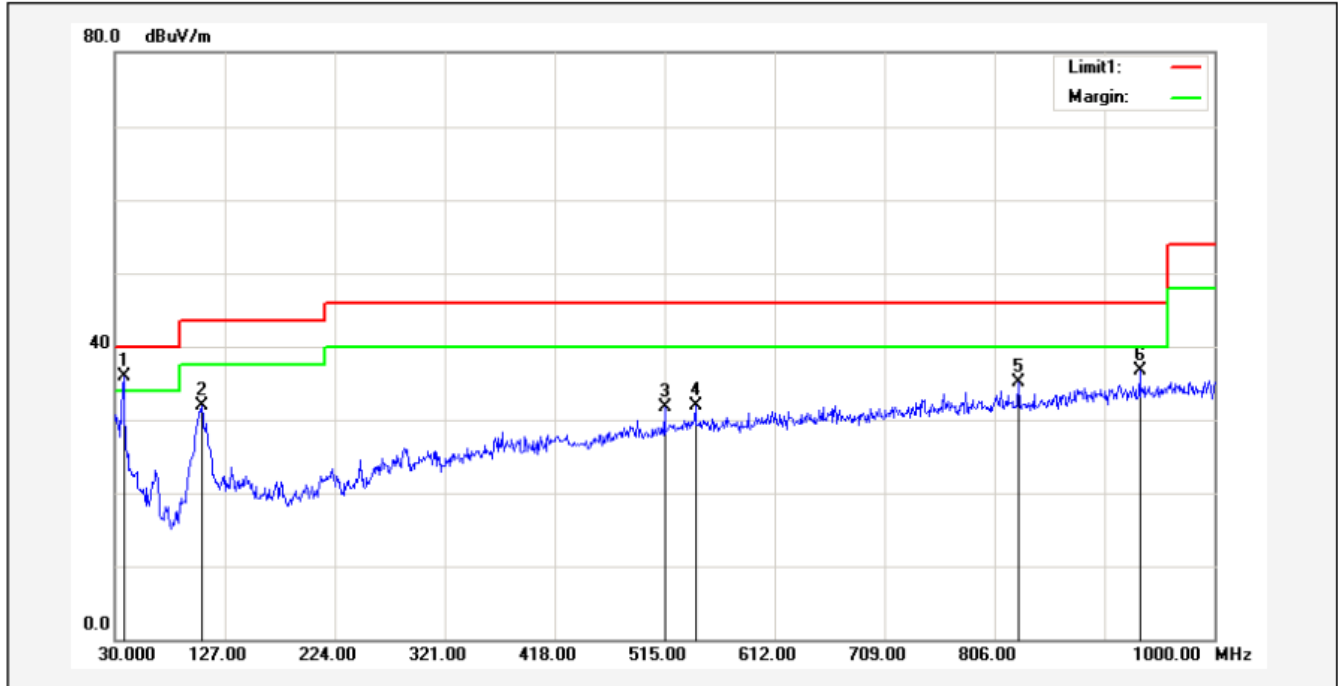
EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2440MHz

Test Specification: Horizontal

Remark: 30MHz-1GHz



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	37.7600	51.48	-15.48	36.00	40.00	-4.00			peak
2	106.6300	54.28	-22.45	31.83	43.50	-11.67			peak
3	515.0000	45.88	-14.19	31.69	46.00	-14.31			peak
4	542.1600	45.17	-13.24	31.93	46.00	-14.07			peak
5	827.3400	45.60	-10.53	35.07	46.00	-10.93			peak
6	934.0400	46.35	-9.74	36.61	46.00	-9.39			peak

Field strength of emissions and Restricted bands

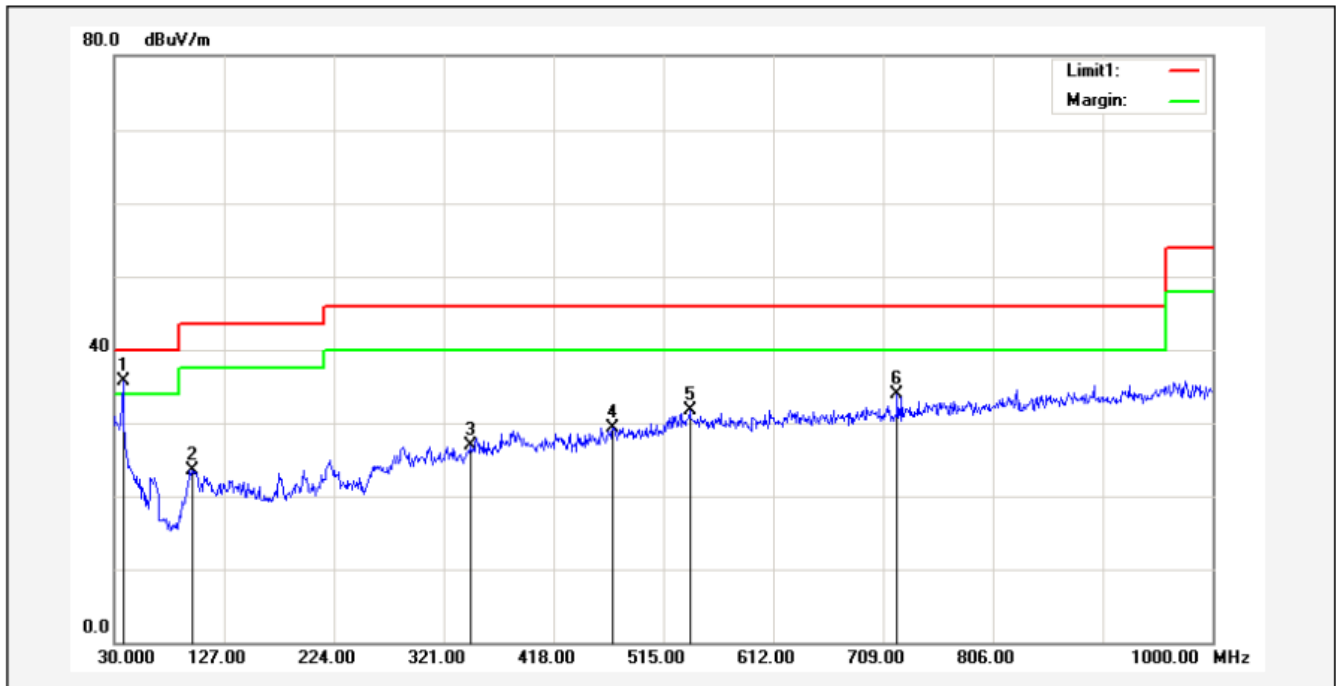
EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2440MHz

Test Specification: Vertical

Remark: 30MHz-1GHz



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	37.7600	51.28	-15.48	35.80	40.00	-4.20			peak
2	98.8700	47.24	-23.80	23.44	43.50	-20.06			peak
3	344.2800	44.75	-17.94	26.81	46.00	-19.19			peak
4	470.3800	44.05	-14.71	29.34	46.00	-16.66			peak
5	538.2800	45.18	-13.38	31.80	46.00	-14.20			peak
6	721.6100	45.68	-11.82	33.86	46.00	-12.14			peak

Field strength of emissions and Restricted bands

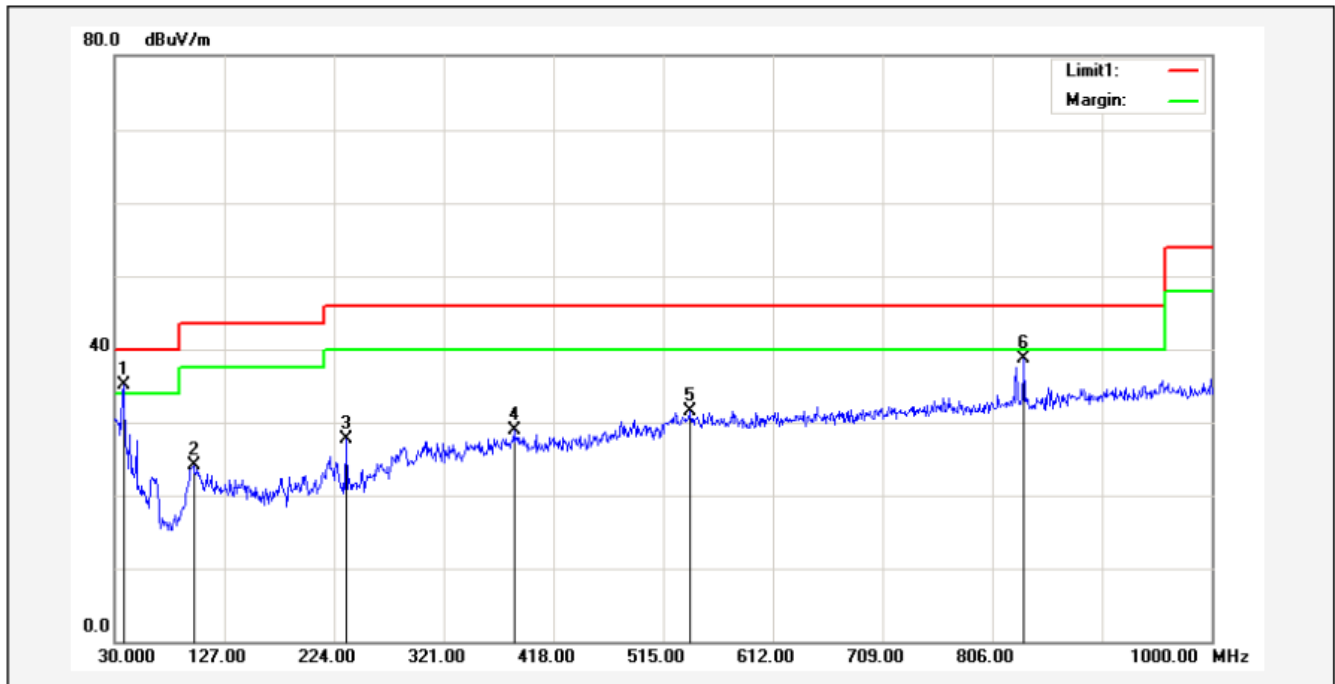
EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2480MHz

Test Specification: Horizontal

Remark: 30MHz-1GHz



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	37.7600	50.52	-15.48	35.04	40.00	-4.96			peak
2	99.8400	47.71	-23.70	24.01	43.50	-19.49			peak
3	234.6700	49.34	-21.69	27.65	46.00	-18.35			peak
4	383.0800	45.40	-16.45	28.95	46.00	-17.05			peak
5	538.2800	44.84	-13.38	31.46	46.00	-14.54			peak
6	834.1300	49.39	-10.65	38.74	46.00	-7.26			peak

Field strength of emissions and Restricted bands

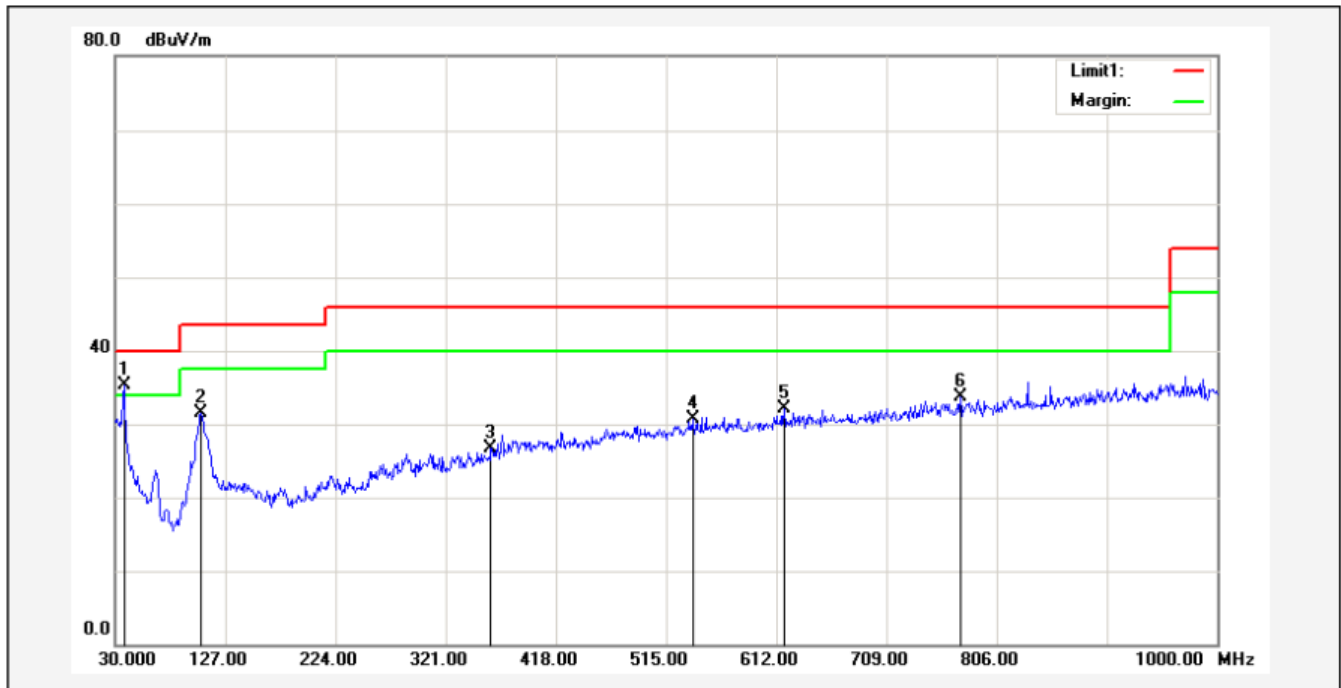
EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2480MHz

Test Specification: Vertical

Remark: 30MHz-1GHz



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	37.7600	50.77	-15.48	35.29	40.00	-4.71			peak
2	105.6600	54.09	-22.63	31.46	43.50	-12.04			peak
3	360.7700	44.15	-17.40	26.75	46.00	-19.25			peak
4	538.2800	43.99	-13.38	30.61	46.00	-15.39			peak
5	618.7900	44.92	-12.89	32.03	46.00	-13.97			peak
6	773.9900	44.78	-11.16	33.62	46.00	-12.38			peak

Field strength of emissions and Restricted bands

Frequency MHz	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Margin dBuV/m	Result
1301	49.35	Horizontal	74.00	PK	-24.65	Pass
1854	49.76	Horizontal	74.00	PK	-24.24	Pass
2402	72.27	Horizontal	114.00	PK	-25.31	Pass
2402	88.69	Horizontal	94.00	AV	-7.28	Pass
1070	48.59	Vertical	74.00	PK	-25.41	Pass
1595	49.71	Vertical	74.00	PK	-24.29	Pass
2402	74.14	Vertical	114.00	PK	-39.86	Pass
2402	72.23	Vertical	94.00	AV	-21.77	Pass
1147	48.60	Horizontal	74.00	PK	-25.40	Pass
1495	50.11	Horizontal	74.00	PK	-23.89	Pass
2440	76.48	Horizontal	114.00	PK	-37.52	Pass
2440	73.68	Horizontal	94.00	AV	-20.32	Pass
1322	49.58	Vertical	74.00	PK	-24.42	Pass
1882	48.64	Vertical	74.00	PK	-25.36	Pass
2440	88.98	Vertical	114.00	PK	-25.02	Pass
2440	85.87	Vertical	94.00	AV	-8.13	Pass
1175	48.73	Horizontal	74.00	PK	-25.27	Pass
1763	49.32	Horizontal	74.00	PK	-24.68	Pass
2480	91.40	Horizontal	114.00	PK	-22.60	Pass
2480	88.65	Horizontal	94.00	AV	-5.35	Pass
1371	48.98	Vertical	74.00	PK	-25.02	Pass
1700	49.47	Vertical	74.00	PK	-24.53	Pass
2480	79.17	Vertical	114.00	PK	-34.83	Pass
2480	76.52	Vertical	94.00	AV	-17.48	Pass

Remark 1: According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Remark 2: Testing is carried out with frequency rang 30MHz to 12.75GHz, which above 1GHz are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9.3 20dB Bandwidth

Test Method

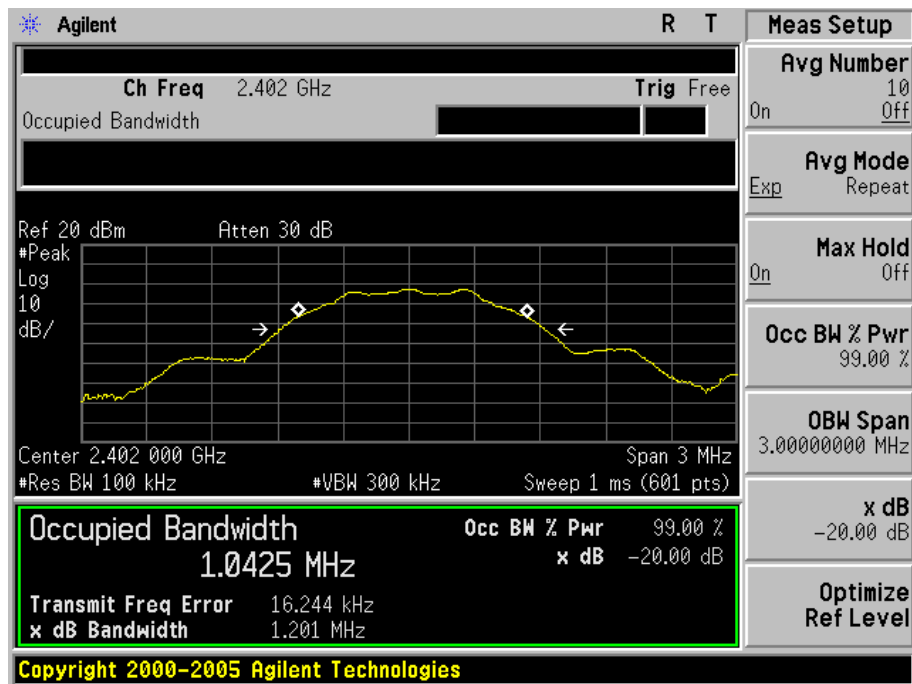
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency 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 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

Limits:

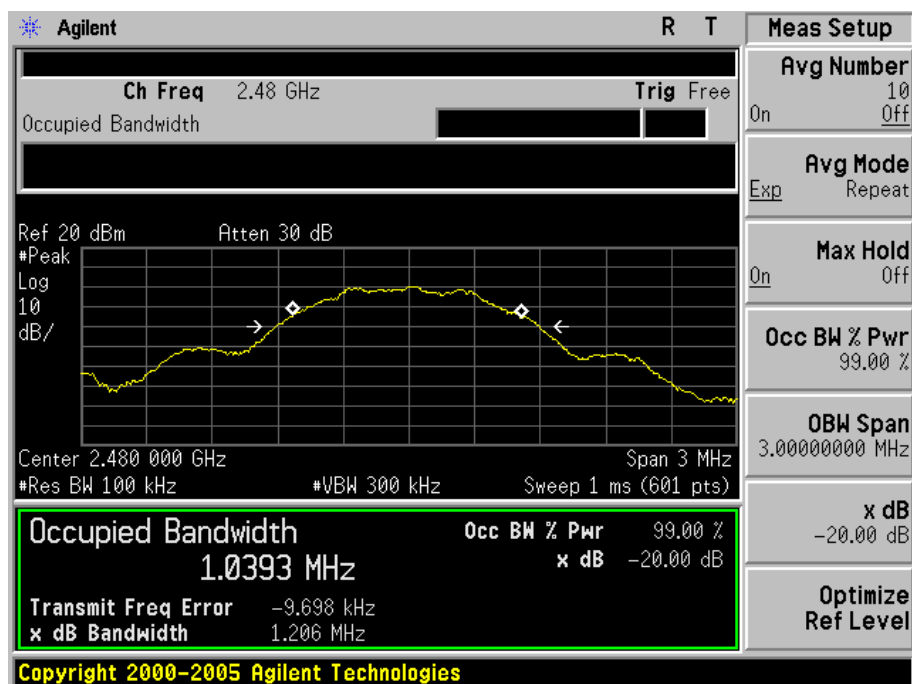
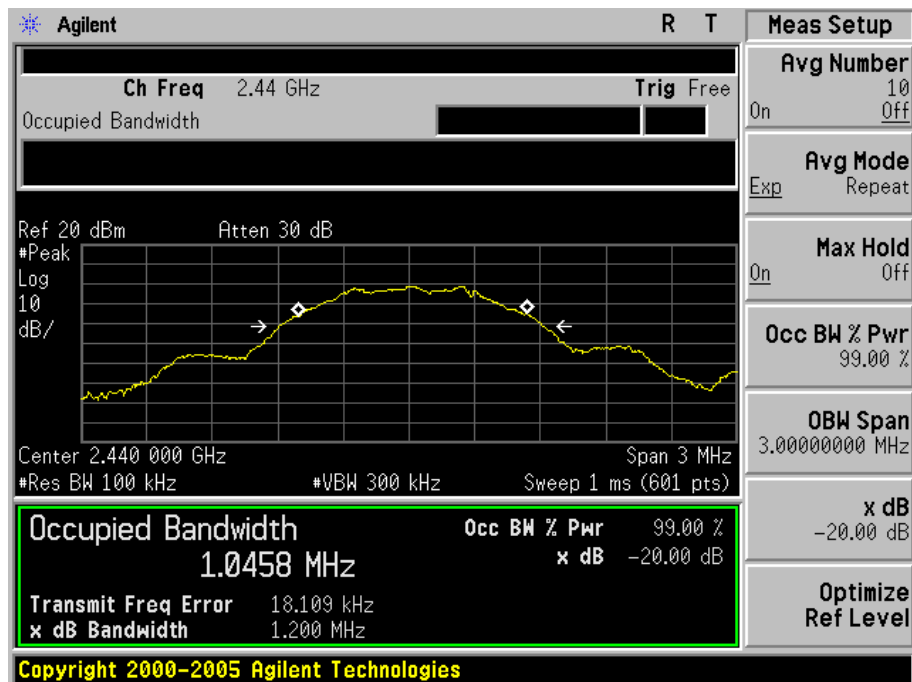
According to 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

20dB Bandwidth

Frequency MHz	20dB Bandwidth MHz	Limit kHz	Result
2402	1.201	--	Pass
2440	1.200	--	Pass
2480	1.206	--	Pass



20dB Bandwidth



9.4 Band edge testing

Test Method

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
3. Use the following spectrum analyzer settings:
Span = wide enough to fully capture the emission being measured, RBW = 1 MHz, VBW \geq RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Follow the guidelines in ANSI C63.4-1992 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the duty cycle per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from $20\log(\text{duty cycle}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Limit:

According to §15.249(d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

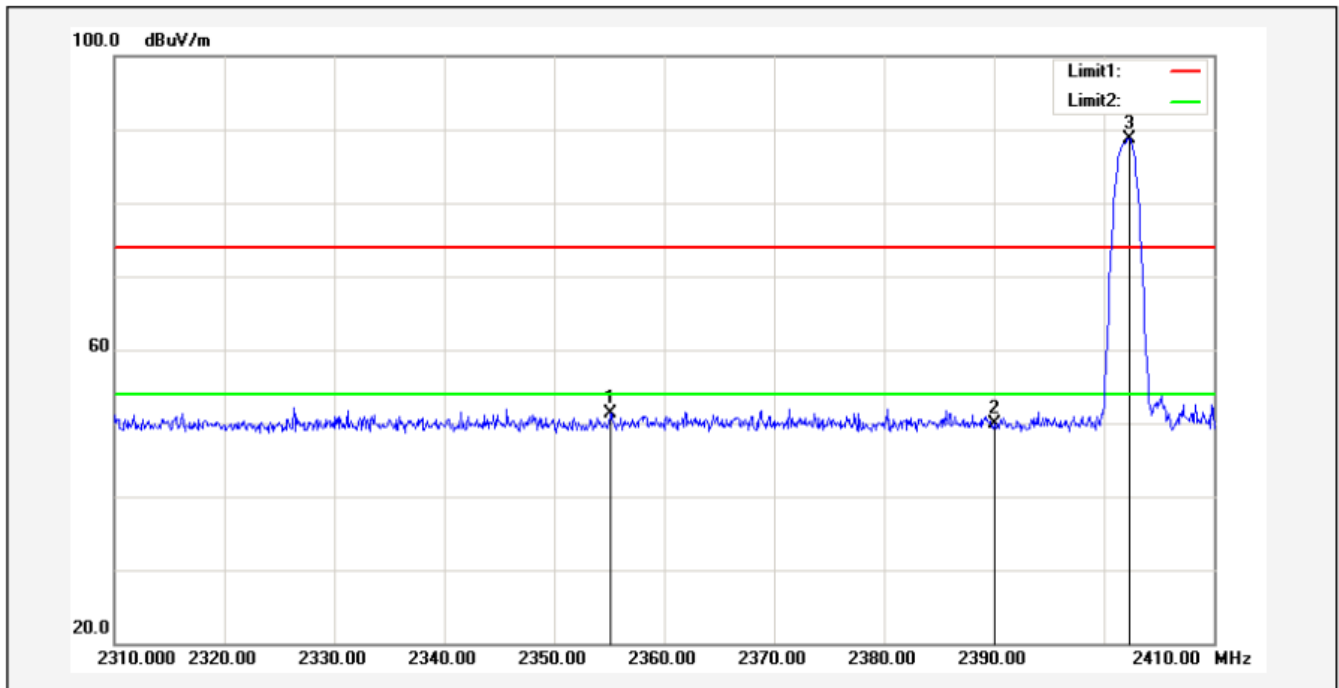
Band edge testing

EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2402MHz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	2355.100	54.42	-3.05	51.37	74.00	-22.63			peak
2	2390.000	52.78	-2.86	49.92	74.00	-24.08			peak
3*	2402.300	91.60	-2.80	88.80	74.00	14.80			peak

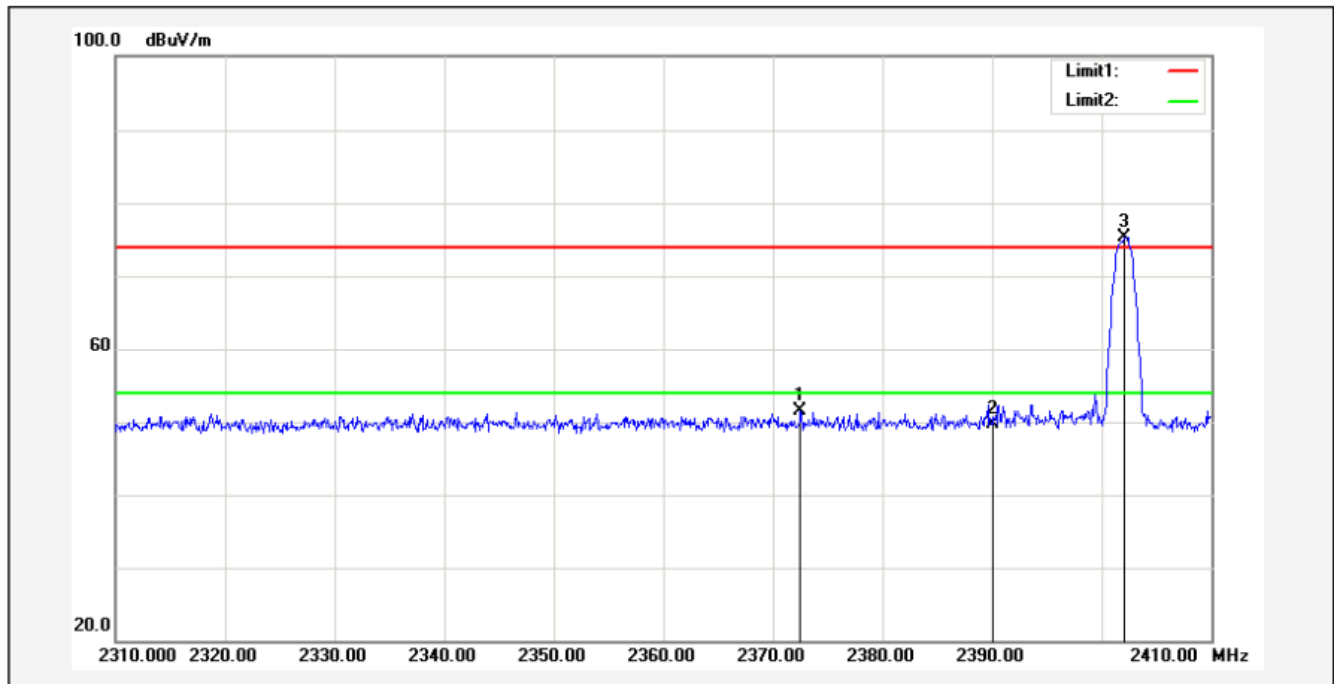
Band edge testing

EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2402MHz

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	2372.500	54.38	-2.96	51.42	74.00	-22.58			peak
2	2390.000	52.59	-2.86	49.73	74.00	-24.27			peak
3*	2402.100	78.17	-2.80	75.37	74.00	1.37			peak

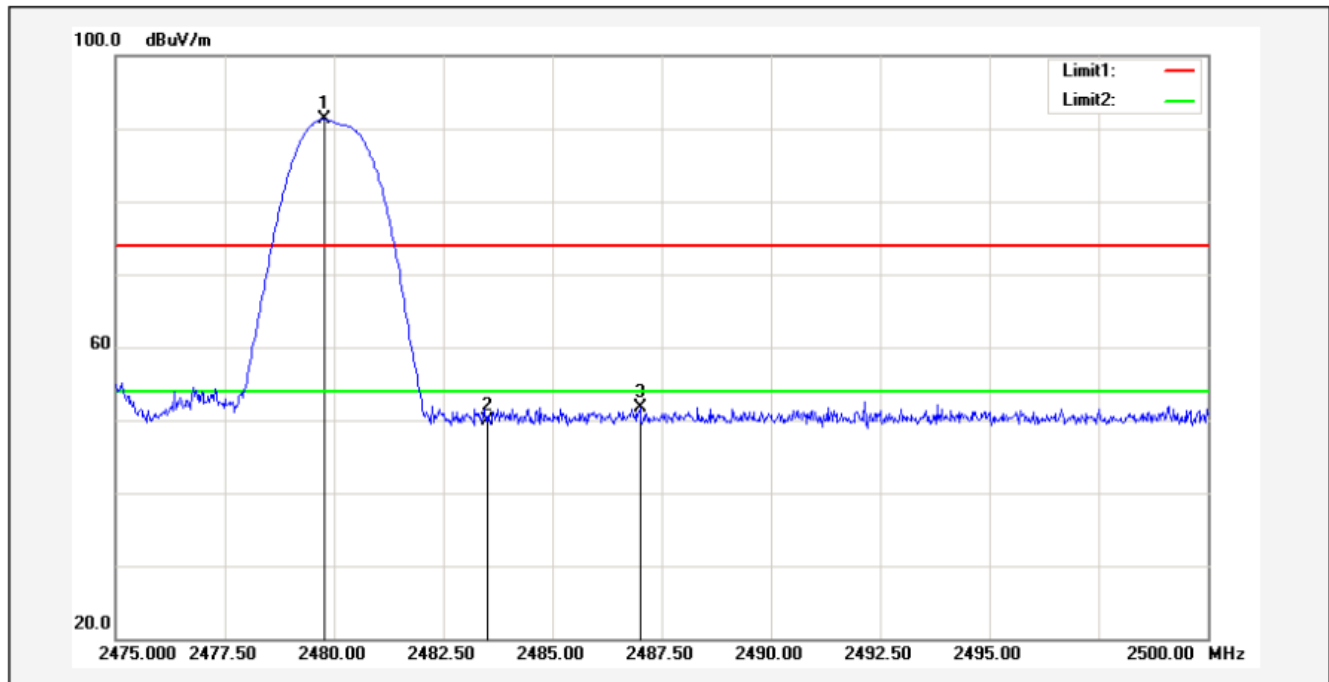
Band edge testing

EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2480MHz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	2479.775	93.70	-2.37	91.33	74.00	17.33			peak
2	2483.500	52.27	-2.35	49.92	74.00	-24.08			peak
3	2487.000	53.99	-2.33	51.66	74.00	-22.34			peak

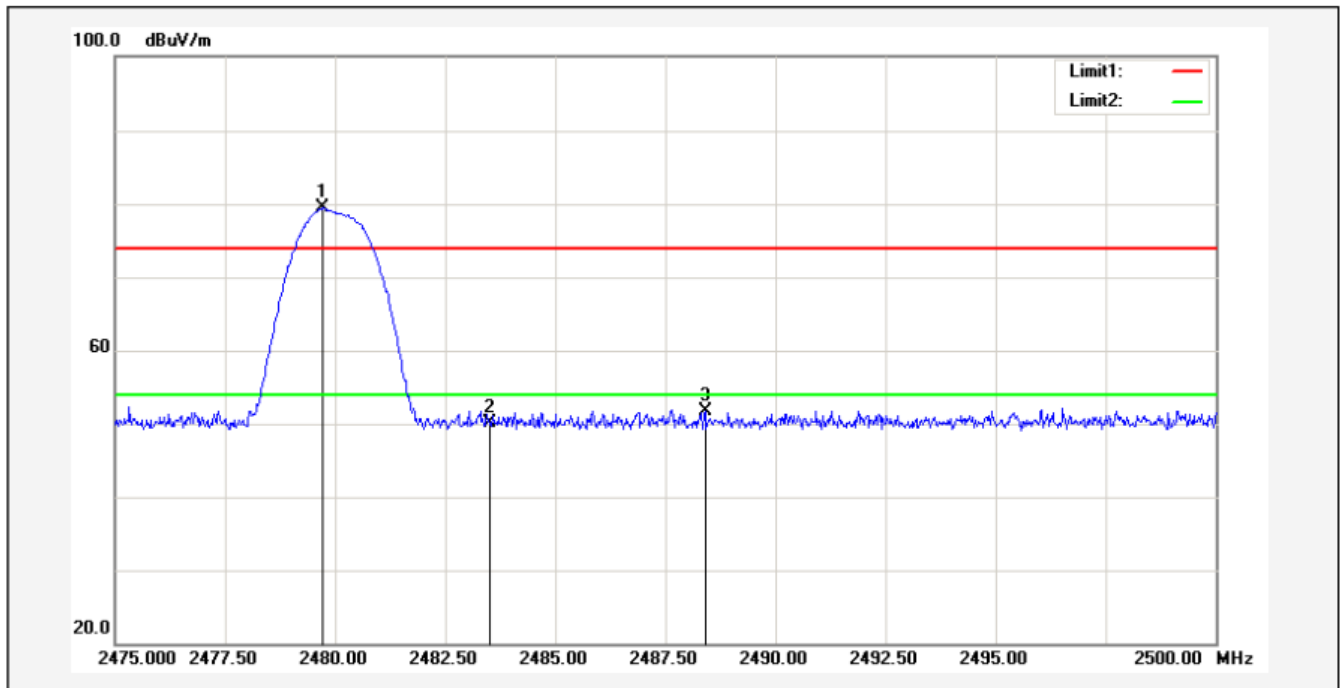
Band edge testing

EUT: MIPOW PLAYBULB COMET

M/N: BTL501

Operating Condition: Tx; 2480MHz

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	2479.725	81.90	-2.37	79.53	74.00	5.53			peak
2	2483.500	52.46	-2.35	50.11	74.00	-23.89			peak
3	2488.400	54.07	-2.32	51.75	74.00	-22.25			peak

Remark: According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

10 Test equipment list

List of Test Instruments

Conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due date
EMI TEST RECEIVER	ROHDE&SCHW ARZ	ESCI	100783	03/09/2015	03/08/2016
LISN(EUT)	ROHDE&SCHW ARZ	ENV216	101543-WX	03/09/2015	03/08/2016
LISN	EMCO	Feb-25	8901-1459	03/09/2015	03/08/2016
Temp. / Humidity Meter	VICTOR	HTC-1	N/A	03/04/2015	03/03/2016
Test S/W	FARAD	EZ-EMC/ CCS-3A1-CE			

Radiated Emission Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due date
EMI TEST RECEIVER	ROHDE&SCHW ARZ	ESCI	100783	03/09/2015	03/08/2016
Amplifier	MITEQ	AM-1604-3000	1123808	03/18/2015	03/17/2016
High Noise Amplifier	Agilent	8449B	3008A01838	03/18/2015	03/17/2016
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170-497	07/10/2015	07/09/2016
Bilog Antenna	SCHAFFNER	CBL6143	5082	03/01/2015	03/01/2016
Horn Antenna	SCHWARZBECK	BBHA9120	D286	03/01/2015	03/01/2016
Loop Antenna	COM-POWER	AL-130	121044	09/27/2015	09/26/2016
Turn Table	N/A	N/A	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	022310-1	N.C.R	N.C.R
Controller	CT	N/A	N/A	N.C.R	N.C.R
Temp. / Humidity Meter	Anymetre	JR913	N/A	02/28/2015	02/27/2016
Antenna Tower	SUNOL	TLT2	N/A	N.C.R	N.C.R
Test S/W	FARAD	LZ-RF / CCS-SZ-3A2			

Conducted RF Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due date
EMI TEST RECEIVER	ROHDE&SCHW ARZ	ESCI	100783	03/09/2015	03/08/2016

Conducted RF tests

- 20dB bandwidth

11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty

System Measurement Uncertainty		
Items		Extended Uncertainty
Radiated Emissions Electric field 3 m distance	Level accuracy	
	30 to 200 MHz	± 3.6880 dB
	200 to 1000 MHz	± 3.6695 dB
	1000 to 6000 MHz	± 5.1782 dB
Conducted emissions mains	Level accuracy	
	150 kHz to 30 MHz	± 3.6836 dB
Band Width	---	178KHz
Peak Output Power	---	± 1.906 dB
Band Edge	---	± 0.182 dB