

# Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC145046 Page: 1 of 93

# FCC Radio Test Report FCC ID: 2AFPV-M1

## **Original Grant**

Report No. : TB-FCC145046

Applicant : Shenzhen Yuan Co., Ltd.

**Equipment Under Test (EUT)** 

**EUT Name** : DLP LED Projector

Model No. : M1

Series Model No. : M1BK, M1BL, M1R, M1Y, M1W, M1S+, M1MAX

Brand Name : ZECO

**Receipt Date** : 2015-08-10

**Test Date** : 2015-08-10 to 2015-08-24

**Issue Date** : 2015-08-25

**Standards** : FCC Part 15: 2014, Subpart C(15.247)

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 :

Approved& Authorized :

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.

TB-RF-074-1.0



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## 1. General Information about EUT

## 1.1 Client Information

**Applicant**: Shenzhen Yuan Co., Ltd.

Address : 2308 Floor 23. Zhantao Technology Building, Minzhi Road, Minzhi

Street ,Baoan District, Shenzhen City, China

Manufacturer : Shenzhen Yuan Co., Ltd.

Address : 2308 Floor 23. Zhantao Technology Building, Minzhi Road, Minzhi

Street ,Baoan District, Shenzhen City, China

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

EUT Name	1	DLP LED Project	tor		
Models No.		M1, M1BK, M1B	L, M1R, M1Y, M1W, M1S+, M1MAX		
Model Difference	1	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.			
Product Description		Operation Freque 802.11b/g/n(HT2			
Power Supply	Š	DC Voltage supplied from Host System by USB cable. DC power supplied by AC/DC Adapter. DC power by Li-ion Battery			
Power Rating	5				
Connecting I/O Port(S)	:	Please refer to the	ne User's Manual		



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#### 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 v03r03.

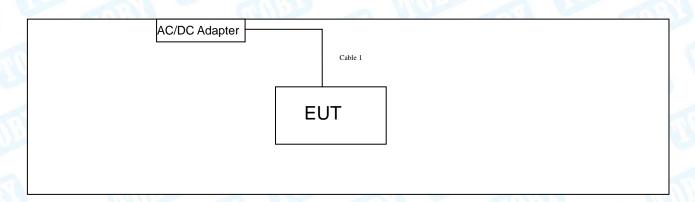
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Antenna information provided by the applicant.
- (4) Channel List:

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)

1.3 Block Diagram Showing the Configuration of System Tested

### **TX Mode**



## 1.4 Description of Support Units

Equipment Information						
Name Model S/N Manufacturer Used "√"						
1	/	/ [[]]	1	1		
Cable Information						
Number Shielded Type Ferrite Core Length Note						
Cable 1	YES	NO	1.0M	Accessories		



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## 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	AC Charging with TX B Mode			

For Radiated Test			
Final Test Mode Description			
Mode 3	TX Mode B Mode Channel 01/06/11		
Mode 4 TX Mode G Mode Channel 01/06/			
Mode 5	TX Mode N(HT20) Mode Channel 01/06/11		
Mode 6	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, Midle, 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 mobile 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.



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Test Software Version	UDD V	VLAN Test Tool Version 1	0.4
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	27	27	27
IEEE 802.11g OFDM	27	27	26
IEEE 802.11n (HT20)	27	27	26
Channel	CH 03	CH 06	CH 09
IEEE 802.11n (HT40)	27	27	27

## 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 <sub>Lab</sub> )
THE PARTY OF	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Dadiated Emission	Level Accuracy:	. 4 CO dD
Radiated Emission	9kHz to 30 MHz	±4.60 dB
Padiated Emission	Level Accuracy:	±4.40 dB
Radiated Emission	30MHz to 1000 MHz	±4.40 db
Radiated Emission	Level Accuracy:	.4.20 dB
Radialed Emission	Above 1000MHz	±4.20 dB



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## 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.

May 22, 2014 certificated by TUV Rheinland(China) Co., Ltd. with TUV certificate No.: UA 50282953 0001 and report No.: 17026822 002. The certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TUV Rhineland.



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# 2. Test Summary

Standa	rd Section	Tool How	UDE	Remark
FCC	IC	Test Item	Judgment	
15.203	1	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	Transmitter Radiated Spurious Emission	PASS	N/A

Note: "/" for no requirement for this test item.

N/A is an abbreviation for Not Applicable.



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# 3. Test Equipment

Conducted Emission Test						
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date	
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Aug. 07, 2015	Aug. 06, 2016	
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Aug. 07, 2015	Aug. 06, 2016	
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 07, 2015	Aug. 06, 2016	
LISN	Rohde & Schwarz	ENV216	101131	Aug. 07, 2015	Aug. 06, 2016	
	manarataro:	model no	Goriai itoi	Zuot Guii	Date	
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date	
Spectrum Analyzer	Agilent	E4407B	MY45106456	Sep. 01, 2014	Aug. 31, 2015	
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016	
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 28, 2015	Mar. 27, 2016	
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 28, 2015	Mar. 27, 2016	
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 28, 2015	Mar. 27, 2016	
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 28, 2015	Mar. 27, 2016	
Pre-amplifier	Sonoma	310N	185903	Mar. 28, 2015	Mar. 27, 2016	
Pre-amplifier	HP	8447B	3008A00849	Mar. 28, 2015	Mar. 27, 2016	
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 28, 2015	Mar. 27, 2016	
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A	



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## 4. Conducted Emission Test

## 4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

#### 4.1.2 Test Limit

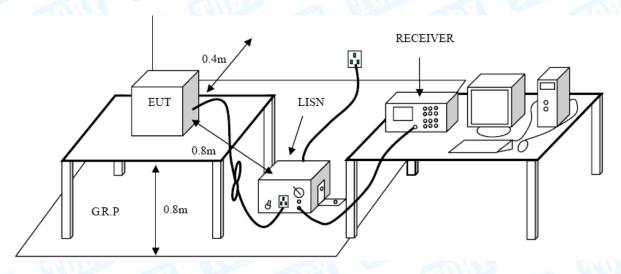
#### **Conducted Emission Test Limit**

	Maximum RF Line Voltage (dBμV)		
Frequency	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.



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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

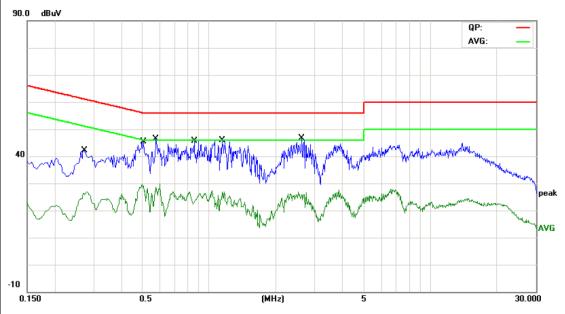
Please see the next page





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1	EUT:	DLP LED Projector	Model Name :	M1
	Temperature:	25 ℃	Relative Humidity:	55%
	Test Voltage:	AC 120V/60 Hz	031	
k	Terminal:	Line		
	Test Mode:	AC Charging with TX B N	Mode (	THE PARTY OF THE P
	Remark:	Only worse case is repor	ted	1:33
	90.0 dBuV			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB	dBu∀	dBu∀	dB	Detector
1		0.2740	27.35	10.02	37.37	60.99	-23.62	QP
2		0.2740	15.76	10.02	25.78	50.99	-25.21	AVG
3		0.5060	28.81	10.02	38.83	56.00	-17.17	QP
4		0.5060	16.82	10.02	26.84	46.00	-19.16	AVG
5	*	0.5740	31.95	10.06	42.01	56.00	-13.99	QP
6		0.5740	18.04	10.06	28.10	46.00	-17.90	AVG
7		0.8540	26.88	10.09	36.97	56.00	-19.03	QP
8		0.8540	12.64	10.09	22.73	46.00	-23.27	AVG
9		1.1460	28.48	10.06	38.54	56.00	-17.46	QP
10		1.1460	15.49	10.06	25.55	46.00	-20.45	AVG
11		2.6220	26.30	10.04	36.34	56.00	-19.66	QP
12		2.6220	14.26	10.04	24.30	46.00	-21.70	AVG

<sup>\*:</sup>Maximum data x:Over limit !:over margin





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	DLP	LED Project	or <b>M</b> o	del Name		M1	
Temperature:	25 °C		Re	lative Hum	idity:	55%	BAG
Test Voltage:	AC 1	20V/60 Hz		il v	Gal	TIB	
Terminal:	Neut	ral	DAGE				
Test Mode:	AC C	harging with	TX B Mode	e (TI)		- F	1
Remark:	Only	worse case	is reported			13	
90.0 dBuV							
						QP: AVG:	_
						Ara.	
	M. A	1 No And	ulli anili	na Ma	×		
40	hymal Myll	Water Adams to and to	kAMMATAT Macual		MANAGE JANGARA	halanan angrahaman angrapan kalana	belaroung
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$ W \wedge V $	, M		L. A. P.	Jelyla ayera			AVI
0							
0.150	0.5		(MHz)	5			30.000
			A				
		Reading	Correct	Measure-		_	
No. Mk.	Freq.	Level	Factor	ment	Limit	O∨er	
	MHz	<b>Level</b> dBuV	Factor dB	<b>ment</b> dBuV	<b>Limit</b> dBu∨	dB	Detector
1 (	MHz <b>0.4780</b>	dBuV 28.02	Factor dB 10.03	ment dBu√ 38.05	Limit dBu√ 56.37	dB -18.32	QP
1 (	MHz 0.4780 0.4780	28.02 16.17	Factor  dB  10.03  10.03	ment dBuV 38.05 26.20	dBuV 56.37 46.37	dB -18.32 -20.17	QP AVG
1 (	MHz 0.4780 0.4780 0.5740	28.02 16.17 31.16	Factor  dB  10.03  10.03  10.02	ment  dBuV  38.05  26.20  41.18	Limit  dBu√  56.37  46.37  56.00	dB -18.32 -20.17 -14.82	QP AVG QP
1 (2 (3 * (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4	MHz 0.4780 0.4780 0.5740	28.02 16.17 31.16 14.67	Factor  dB  10.03  10.03  10.02  10.02	ment dBuV 38.05 26.20 41.18 24.69	dBuV 56.37 46.37 56.00 46.00	-18.32 -20.17 -14.82 -21.31	QP AVG QP AVG
1 (2 (3 * (4 (5 (5 (5 (5 (5 (5 (5 (5 (5 (5 (5 (5 (5	MHz 0.4780 0.4780 0.5740 0.5740 1.1660	28.02 16.17 31.16 14.67 28.69	Factor  dB  10.03  10.03  10.02  10.02  10.14	ment  dBuV  38.05  26.20  41.18  24.69  38.83	bimit dBuV 56.37 46.37 56.00 46.00 56.00	dB -18.32 -20.17 -14.82 -21.31 -17.17	QP AVG QP AVG
1 2 1 3 * 1 4 1 5 6	MHz 0.4780 0.4780 0.5740 0.5740 1.1660	28.02 16.17 31.16 14.67 28.69 14.66	Factor  dB  10.03  10.03  10.02  10.02  10.14  10.14	ment dBuV 38.05 26.20 41.18 24.69 38.83 24.80	Limit  dBuV  56.37  46.37  56.00  46.00  46.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20	QP AVG QP AVG QP AVG
1 2 1 3 * 4 5 6 7 :	MHz 0.4780 0.4780 0.5740 0.5740 1.1660 1.1660 2.6619	28.02 16.17 31.16 14.67 28.69 14.66 23.82	Factor  dB  10.03  10.03  10.02  10.02  10.14  10.14  10.06	ment  dBuV  38.05  26.20  41.18  24.69  38.83  24.80  33.88	Limit  dBuV  56.37  46.37  56.00  46.00  56.00  56.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20 -22.12	QP AVG QP AVG QP AVG
1 2 3 * 4 5 5 6 7 3 8 3 3 4 3 5 6 7 8 5 6 7 8 5 6 7 8 5 6 7 8 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	MHz 0.4780 0.4780 0.5740 0.5740 1.1660 1.1660 2.6619 2.6619	28.02 16.17 31.16 14.67 28.69 14.66	Factor  dB  10.03  10.03  10.02  10.02  10.14  10.14  10.06  10.06	ment  dBuV  38.05  26.20  41.18  24.69  38.83  24.80  33.88  22.00	Limit  dBuV  56.37  46.37  56.00  46.00  56.00  46.00  46.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20 -22.12 -24.00	QP AVG AVG QP AVG QP AVG
1 2 3 * 4 5 5 6 7 3 8 3 3 4 3 5 6 7 8 5 6 7 8 5 6 7 8 5 6 7 8 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	MHz 0.4780 0.4780 0.5740 0.5740 1.1660 1.1660 2.6619	28.02 16.17 31.16 14.67 28.69 14.66 23.82	Factor  dB  10.03  10.03  10.02  10.02  10.14  10.14  10.06	ment  dBuV  38.05  26.20  41.18  24.69  38.83  24.80  33.88	Limit  dBuV  56.37  46.37  56.00  46.00  56.00  46.00  46.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20 -22.12	QP AVG QP AVG QP AVG
1 2 3 * 4 1 5 6 7 : 8 : 9	MHz 0.4780 0.4780 0.5740 0.5740 1.1660 1.1660 2.6619 2.6619	Level  dBuV  28.02  16.17  31.16  14.67  28.69  14.66  23.82  11.94	Factor  dB  10.03  10.03  10.02  10.02  10.14  10.14  10.06  10.06	ment  dBuV  38.05  26.20  41.18  24.69  38.83  24.80  33.88  22.00	Limit  dBuV  56.37  46.37  56.00  46.00  56.00  46.00  56.00  56.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20 -22.12 -24.00	QP AVG QP AVG QP AVG QP AVG
1	MHz 0.4780 0.5740 0.5740 1.1660 1.1660 2.6619 2.6619 3.7540	Level  dBuV  28.02  16.17  31.16  14.67  28.69  14.66  23.82  11.94  23.99	Factor  dB  10.03  10.02  10.02  10.14  10.14  10.06  10.06	ment  dBuV  38.05  26.20  41.18  24.69  38.83  24.80  33.88  22.00  34.05	bimit  dBuV  56.37  46.37  56.00  46.00  56.00  46.00  46.00  46.00  46.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20 -22.12 -24.00 -21.95	QP AVG QP AVG QP AVG QP AVG
1 2 3 * 4 5 5 6 7 2 8 2 9 10 11	MHz 0.4780 0.4780 0.5740 0.5740 1.1660 1.1660 2.6619 2.6619 3.7540 3.7540	Level  dBuV  28.02  16.17  31.16  14.67  28.69  14.66  23.82  11.94  23.99  11.08	Factor  dB  10.03  10.02  10.02  10.14  10.14  10.06  10.06  10.06	ment  dBuV  38.05  26.20  41.18  24.69  38.83  24.80  33.88  22.00  34.05  21.14	bimit  dBuV  56.37  46.37  56.00  46.00  56.00  46.00  46.00  46.00  46.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20 -22.12 -24.00 -21.95 -24.86 -21.54	QP AVG QP AVG QP AVG QP AVG QP AVG
1 2 3 * 4 5 5 6 7 2 8 2 9 10 11	MHz 0.4780 0.4780 0.5740 0.5740 1.1660 1.1660 2.6619 2.6619 3.7540 7.1300	Level  dBuV  28.02  16.17  31.16  14.67  28.69  14.66  23.82  11.94  23.99  11.08  28.40	Factor  dB  10.03  10.03  10.02  10.02  10.14  10.14  10.06  10.06  10.06  10.06	ment  dBuV  38.05  26.20  41.18  24.69  38.83  24.80  33.88  22.00  34.05  21.14  38.46	Limit  dBuV  56.37  46.37  56.00  46.00  56.00  46.00  56.00  46.00  60.00	-18.32 -20.17 -14.82 -21.31 -17.17 -21.20 -22.12 -24.00 -21.95 -24.86 -21.54	QP AVG QP AVG QP AVG AVG



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No. Mk. Freq. Level Factor ment Limit Over	Εl	JT:	DLP I	_ED Projecto	or <b>Mo</b>	del Name :	N	11	
Companies   Comp	Те	mperature	: <b>25</b> ℃		Rel	lative Humic	dity: 5	5%	Riber
AC Charging with TX B Mode   Only worse case is reported	Te	st Voltage:	AC 24	40V/60 Hz		1	(71)	133	
Only worse case is reported   Only worse case   Only worse   Only worse case   Only worse   Only worse   Only worse   Only w	Te	rminal:	Line		A Kar		10		MAIN N
No. Mk.   Freq.   Reading   Level   Factor   Measure   ment   Limit   Over	Te	st Mode:	AC C	harging with	TX B Mode		2		
No. Mk.   Freq.   Reading   Correct   Factor   Measure   Limit   Over	Re	mark:	Only	worse case i	s reported	C. Carrier		13	_ (
No. Mk. Freq. Reading Level Factor Measure ment Limit Over    MHz   dBuV   dB   dBuV   dB   Detector dBuV   dBuV   dB   Detector dBuV   dBuV   dB   Detector dBuV   dBuV   dBuV   dB   Detector dBuV   dBuV	90	0.0 dBuV							
No. Mk. Freq. Reading Level Factor Measurement Limit Over    MHz								1 -	
No. Mk. Freq. Reading Level Factor Measurement Limit Over    MHz									
No. Mk. Freq. Reading Level Factor Measurement Limit Over    MHz									
No. Mk. Freq. Reading Level Factor Measurement Limit Over    MHz									
No. Mk. Freq. Reading Level Factor Measurement Limit Over    MHz		10 X	×	×	¥	×	parka.		
No. Mk. Freq. Level Factor Measure ment Limit Over    MHz	4	0 /^ ~~~	with my	<i>/////////////////////////////////////</i>	4 <u></u>	A STANDAY BURNEY	Lapron markly	philipping house.	
No. Mk. Freq. Level Factor Measure ment Limit Over    MHz			A. MA	ווין וייאיז	MMM A. Lina	N. 1 Jun 1		Mr. Walter	No appela
No. Mk. Freq. Reading Correct Measure ment Limit Over    No. Mk. Freq. Level Factor ment   Limit Over		L.Who.M	Majadha da 1	Muller a Apple	AA Mhaaa	MANAGE MANAGEMENT	HAT HATELOUS IN NOTICE	MATERIA.	peak
No. Mk.         Freq.         Reading Level         Correct Factor Measurement         Measurement         Limit Over           1         0.2819         30.54         10.09         40.63         60.76         -20.13         QP           2         0.2819         13.97         10.09         24.06         50.76         -26.70         AVG           3         *         0.5620         36.11         10.02         46.13         56.00         -9.87         QP           4         0.5620         23.34         10.02         33.36         46.00         -12.64         AVG           5         1.2980         25.27         10.13         35.40         56.00         -20.60         QP           6         1.2980         11.52         10.13         21.65         46.00         -24.35         AVG           7         2.3260         32.87         10.06         42.93         56.00         -13.07         QP		V- 4.4M44	M. M	*****	(* * Markey Haller	No. Johnson		and My Co	AVG
No. Mk.         Freq.         Reading Level         Correct Factor Measurement         Measurement         Limit Over           1         0.2819         30.54         10.09         40.63         60.76         -20.13         QP           2         0.2819         13.97         10.09         24.06         50.76         -26.70         AVG           3         *         0.5620         36.11         10.02         46.13         56.00         -9.87         QP           4         0.5620         23.34         10.02         33.36         46.00         -12.64         AVG           5         1.2980         25.27         10.13         35.40         56.00         -20.60         QP           6         1.2980         11.52         10.13         21.65         46.00         -24.35         AVG           7         2.3260         32.87         10.06         42.93         56.00         -13.07         QP			* 1 1	(	M.	Jf '			-Tichers,
No. Mk.         Freq.         Reading Level         Correct Factor Measurement         Measurement         Limit Over           1         0.2819         30.54         10.09         40.63         60.76         -20.13         QP           2         0.2819         13.97         10.09         24.06         50.76         -26.70         AVG           3         *         0.5620         36.11         10.02         46.13         56.00         -9.87         QP           4         0.5620         23.34         10.02         33.36         46.00         -12.64         AVG           5         1.2980         25.27         10.13         35.40         56.00         -20.60         QP           6         1.2980         11.52         10.13         21.65         46.00         -24.35         AVG           7         2.3260         32.87         10.06         42.93         56.00         -13.07         QP									
No. Mk.         Freq.         Reading Level         Correct Factor         Measurement         Limit         Over           1         0.2819         30.54         10.09         40.63         60.76         -20.13         QP           2         0.2819         13.97         10.09         24.06         50.76         -26.70         AVG           3         *         0.5620         36.11         10.02         46.13         56.00         -9.87         QP           4         0.5620         23.34         10.02         33.36         46.00         -12.64         AVG           5         1.2980         25.27         10.13         35.40         56.00         -20.60         QP           6         1.2980         11.52         10.13         21.65         46.00         -24.35         AVG           7         2.3260         32.87         10.06         42.93         56.00         -13.07         QP	-10								
No. Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV         dBuV         dB         Detector           1         0.2819         30.54         10.09         40.63         60.76         -20.13         QP           2         0.2819         13.97         10.09         24.06         50.76         -26.70         AVG           3         *         0.5620         36.11         10.02         46.13         56.00         -9.87         QP           4         0.5620         23.34         10.02         33.36         46.00         -12.64         AVG           5         1.2980         25.27         10.13         35.40         56.00         -20.60         QP           6         1.2980         11.52         10.13         21.65         46.00         -24.35         AVG           7         2.3260         32.87         10.06         42.93         56.00         -13.07         QP		0.150	0.5		(MHz)	5			30.000
No. Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV         dBuV         dB         Detector           1         0.2819         30.54         10.09         40.63         60.76         -20.13         QP           2         0.2819         13.97         10.09         24.06         50.76         -26.70         AVG           3         *         0.5620         36.11         10.02         46.13         56.00         -9.87         QP           4         0.5620         23.34         10.02         33.36         46.00         -12.64         AVG           5         1.2980         25.27         10.13         35.40         56.00         -20.60         QP           6         1.2980         11.52         10.13         21.65         46.00         -24.35         AVG           7         2.3260         32.87         10.06         42.93         56.00         -13.07         QP	-			Reading	Correct	Measure-			
1       0.2819       30.54       10.09       40.63       60.76 -20.13       QP         2       0.2819       13.97       10.09       24.06       50.76 -26.70       AVG         3 * 0.5620       36.11       10.02       46.13       56.00 -9.87       QP         4 0.5620       23.34       10.02       33.36       46.00 -12.64       AVG         5 1.2980       25.27       10.13       35.40       56.00 -20.60       QP         6 1.2980       11.52       10.13       21.65       46.00 -24.35       AVG         7 2.3260       32.87       10.06       42.93       56.00 -13.07       QP		No. Mk.	Freq.		Factor	ment	Limit	Over	
2     0.2819     13.97     10.09     24.06     50.76 -26.70     AVG       3 * 0.5620     36.11     10.02     46.13     56.00 -9.87     QP       4 0.5620     23.34     10.02     33.36     46.00 -12.64     AVG       5 1.2980     25.27     10.13     35.40     56.00 -20.60     QP       6 1.2980     11.52     10.13     21.65     46.00 -24.35     AVG       7 2.3260     32.87     10.06     42.93     56.00 -13.07     QP			MHz	dBu∀	dB	dBuV			Detector
3 *     0.5620     36.11     10.02     46.13     56.00 -9.87     QP       4 0.5620     23.34     10.02     33.36     46.00 -12.64     AVG       5 1.2980     25.27     10.13     35.40     56.00 -20.60     QP       6 1.2980     11.52     10.13     21.65     46.00 -24.35     AVG       7 2.3260     32.87     10.06     42.93     56.00 -13.07     QP		1	0.2819	30.54	10.09	40.63	60.76	-20.13	QP
4       0.5620       23.34       10.02       33.36       46.00 -12.64       AVG         5       1.2980       25.27       10.13       35.40       56.00 -20.60       QP         6       1.2980       11.52       10.13       21.65       46.00 -24.35       AVG         7       2.3260       32.87       10.06       42.93       56.00 -13.07       QP		2	0.2819	13.97	10.09	24.06	50.76	-26.70	AVG
5     1.2980     25.27     10.13     35.40     56.00 -20.60     QP       6     1.2980     11.52     10.13     21.65     46.00 -24.35     AVG       7     2.3260     32.87     10.06     42.93     56.00 -13.07     QP									
6 1.2980 11.52 10.13 21.65 46.00 -24.35 AVG 7 2.3260 32.87 10.06 42.93 56.00 -13.07 QP	_	3 *			10.02	46.13	56.00	-9.87	QP
7 2.3260 32.87 10.06 42.93 56.00 -13.07 QP			0.5620	36.11					
	_	4	0.5620 0.5620	36.11 23.34	10.02	33.36	46.00	-12.64	AVG
8 2.3260 18.67 10.06 28.73 46.00 -17.27 AVG	_	4 5	0.5620 0.5620 1.2980	36.11 23.34 25.27	10.02 10.13	33.36 35.40	46.00 56.00	-12.64 -20.60	AVG QP
	_	4 5 6	0.5620 0.5620 1.2980 1.2980	36.11 23.34 25.27 11.52	10.02 10.13 10.13	33.36 35.40 21.65	46.00 56.00 46.00	-12.64 -20.60 -24.35	AVG QP AVG

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

3.6980

3.6980

7.0460

7.0460

9

10

11

12

27.11

14.09

31.88

12.52

10.06

10.06

10.06

10.06

37.17

24.15

41.94

22.58

56.00 -18.83

46.00 -21.85

60.00 -18.06

50.00 -27.42

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

QP

AVG

AVG

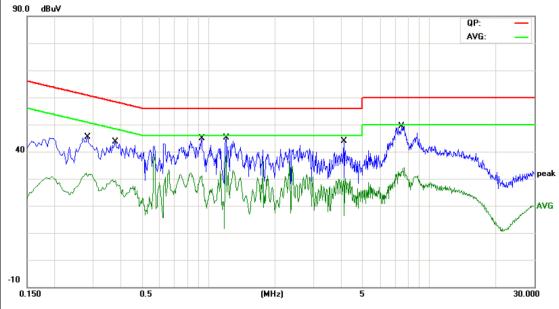
QP





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EUT:	DLP LED Projector	Model Name :	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 240V/60 Hz		
Terminal:	Neutral		
Test Mode:	AC Charging with TX B	Mode	
Remark:	Only worse case is report	rted	1:33
90.0 dBuV			
			QP: —
			AVG: —



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBu∨	dB	dBu∨	dBu∀	dB	Detector
1	0.2819	28.89	10.09	38.98	60.76	-21.78	QP
2	0.2819	20.15	10.09	30.24	50.76	-20.52	AVG
3	0.3780	27.81	10.06	37.87	58.32	-20.45	QP
4	0.3780	17.95	10.06	28.01	48.32	-20.31	AVG
5	0.9300	28.59	10.13	38.72	56.00	-17.28	QP
6	0.9300	19.72	10.13	29.85	46.00	-16.15	AVG
7	1.1980	31.14	10.14	41.28	56.00	-14.72	QP
8 *	1.1980	26.46	10.14	36.60	46.00	-9.40	AVG
9	4.1020	16.21	10.06	26.27	56.00	-29.73	QP
10	4.1020	5.73	10.06	15.79	46.00	-30.21	AVG
11	7.5220	31.59	10.08	41.67	60.00	-18.33	QP
12	7.5220	22.07	10.08	32.15	50.00	-17.85	AVG

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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## 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 (9kHz~1000MHz)

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	Class A (dBuV	//m)(at 3 M)	Class B (dBuV	//m)(at 3 M)
(MHz)	Peak	Average	Peak	Average
Above 1000	80	60	74	54

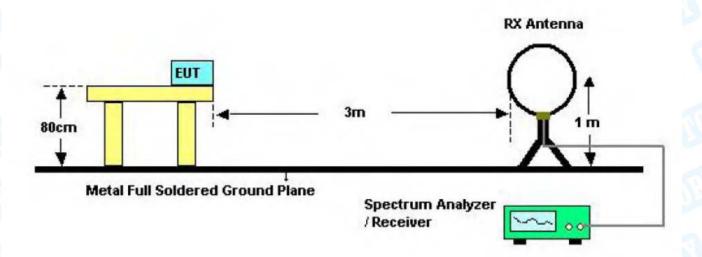
## Note:

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

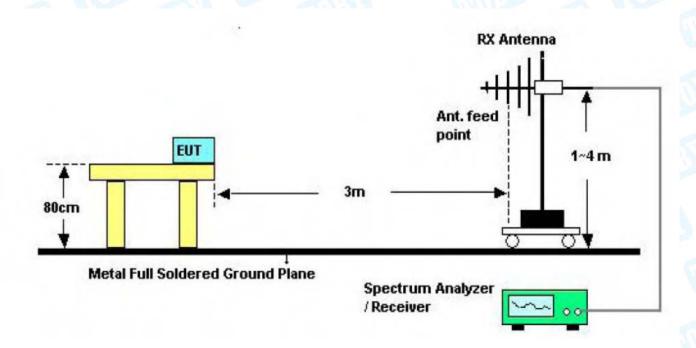


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## 5.2 Test Setup



Below 30MHz Test Setup

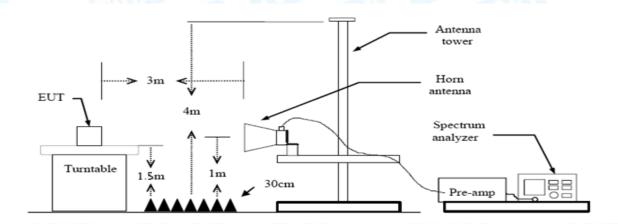


Below 1000MHz Test Setup



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Above 1GHz Test Setup

## 5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz. The EUT was placed on a rotating 0.8m high above the 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 Bellow 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.

## 5.4 EUT Operating Condition

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



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## 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.



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	4			or <b>M</b> o	odel:	M1		
_	perature:	25 ℃		Re	lative Humidity	: 55%	ó	
Test	Voltage:	AC 1	20V/60 Hz				33	
Ant.	Pol.	Horiz	ontal	Alson.		620		
Test	: Mode:	TX B	Mode 2412N	ИHz		1	10	A STATE OF THE PARTY OF THE PAR
Rem	nark:	Only	worse case i	is reported			3	
30	dBuV/m	No. of the Contract of the Con		T Z	3 *	BFJFCC 15C	3M Radiation Margin -6	dB T
-20 30.0	000 40	50 60 70	80	(MHz)	300 4	00 500	600 700	1000.000
N	lo. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment Li	mit	Over	
		MHz	dBu∨	dB/m	dBuV/m df	BuV/m	dB	Detector
1	! 13	5.0319	59.66	-22.08	37.58 4	3.50	-5.92	peak
2	! 18	9.0740	59.61	-20.88	38.73 4	3.50	-4.77	peak
3	! 27	0.3747	58.30	-17.68	40.62 4	6.00	-5.38	peak
4	* 38	1.2485	55.93	-14.05	41.88 4	6.00	-4.12	peak
5	! 68	7.1507	47.87	-7.22	40.65 4	6.00	-5.35	peak
6	! 94	5.4397	45.59	-4.83	40.76 4	6.00	-5.24	peak

\*:Maximum data

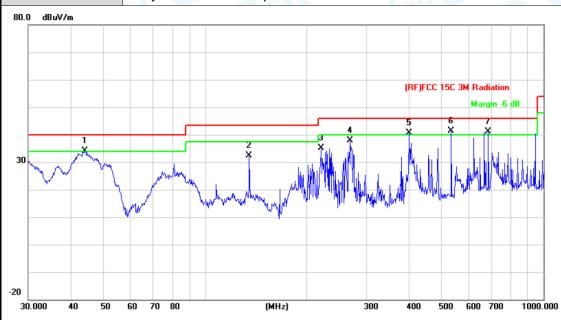
Emission Level= Read Level+ Correct Factor

x:Over limit !:over margin



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EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	01 - 0	
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worse case is repor	ted	1:72



	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		ļ.	44.1200	55.95	-21.90	34.05	40.00	-5.95	peak
2			135.0319	54.48	-22.08	32.40	43.50	-11.10	peak
3			220.6168	54.62	-19.50	35.12	46.00	-10.88	peak
4			268.4852	55.54	-17.71	37.83	46.00	-8.17	peak
5	ı	!	400.4318	53.53	-12.80	40.73	46.00	-5.27	peak
6		*	533.8318	51.43	-10.14	41.29	46.00	-4.71	peak
7		ļ	687.1507	48.27	-7.22	41.05	46.00	-4.95	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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EUT:			DLF	P LE	ED I	Projec	tor	Мо	del:		M1		1
Гетре	eratur	e:	25	$^{\circ}\!$	ě	TIVE	32	Rel	ative Hu	midity:	55%	ó	
Test V	oltage	<b>ə</b> :	AC	120	)V/6	60 Hz			1	6	ME	33	
Ant. P	ol.		Hor	izor	ntal		113						
Test N	lode:		TX	ΒM	1ode	e 2437	7MHz		CHILL			11/1	A. A. Santa
Rema	rk:		Onl	y w	orse	e case	is report	ed	Carlot Carlot	630			
80.0 d	BuV/m												
							1 *	2 X	3	(RF)	FCC 15C	3M Radiatio	
30 -20 30.000	40	50	60	70 E	<b></b> ~		(MHz		3	00 400	500	600 700	1000.00
20 30.000			60			ading	(MHz		Measure	<del>-</del>			1000.00
20 30.000	. Mk.		60 eq.		Rea Le	vel		ct I				600 700 Over	1000.00
20 30.000		Fr Mi	<b>eq</b> . ⊣z	F	Rea Le	_	Corre	ct I	Measure ment dBuV/m	<del>-</del>	it	<b>Over</b>	1000.od
20 30.000		Fr	<b>eq</b> . ⊣z	F	Rea Le	vel	Corre Facto	ct I	Measure ment	<del>-</del> Lim	it //m	Over	
30.000 No		Fr Mi	eq. ⊣z )319	F	Rea Le	e <b>vel</b> BuV	Corre Facto	ct I	Measure ment dBuV/m	<b>Lim</b> dBu\	it //m <b>50</b>	<b>Over</b>	Detecto
No	. Mk.	Fr. Mt	eq. ⊣z )319 )740	F	Rea Le dE 59	evel 3u V 3u V 9.16	Corre Facto dB/m	et lor	Measure ment dBu∀/m 37.08	Lim dBu\	it //m 50	Over dB -6.42	Detecto <b>peal</b>
No 1 2	. Mk.	Fr. MH 135.0 189.0	eq. →z 0319 0740	, F	Rea Le 59 60	evel BuV 9.16 9.61	Corre Facto dB/m -22.08	ct I	Measure ment dBuV/m 37.08 39.73	Lim  dBu  43.	it //m 50 50 00	Over  dB  -6.42  -3.77	Detecto peal peal
No 1 2 3	. Mk. *	From MH 135.0 189.0 270.3	eq. →z 0319 0740 3747 2485	F	Rea Le 59 60 56	3u V 0.16 0.61 0.80	Corre Facto dB/m -22.08 -20.88	ct I	Measure ment dBuV/m 37.08 39.73 39.12	Lim  dBu  43.  43.  46.	it //m 50 50 00 00	Over  dB  -6.42  -3.77  -6.88	Detector peal peal peal



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EUT:	DLPL	_ED Projecto	or <b>Mo</b>	del:	M <sup>2</sup>	1	
Temperature:	25 ℃		Re	lative Humid	lity: 55	5%	Filtra-
Test Voltage:	AC 12	20V/60 Hz			Tim	132	
Ant. Pol.	Vertic	al	Asir	- 1	62		Till
Test Mode:	TX B	Mode 2437N	ЛНz			A 113	A STATE OF THE PARTY OF THE PAR
Remark:	Only	worse case i	s reported			3	_ (
80.0 dBuV/m							
30			ا الله الله الله الله الله الله الله ال	2 3		C 3M Radiation Margin -6	
20		where we have the ware of	Amount of the same			TV-YHWINI VH	
30.000 40 50	60 70	80	(MHz)	300	400 500	0 600 700	1000.000
30.000 40 50	60 70 Freq.		(MHz)	300 Measure- ment	400 500 Limit	0 600 700 Over	1000.000
30.000 40 50 No. Mk. F		80 Reading	(MHz)	Measure-			1000.000
30.000 40 50 No. Mk. F	req.	Reading Level	(MHz) Correct Factor	Measure- ment	Limit	Over	
No. Mk. F	r <b>eq.</b> ИНZ	Reading Level	(MHz)  Correct Factor  dB/m	Measure- ment dBuV/m	<b>Limit</b> dBuV/m	<b>Over</b>	Detecto <b>pea</b> k
No. Mk. F	Freq. MHz <b>1200</b>	Reading Level dBuV 55.45	Correct Factor dB/m -21.90	Measure- ment dBuV/m	Limit dBuV/m 40.00	Over dB -6.45	Detector peak
No. Mk. F  1 44. 2 207 3 268	ireq. MHz 1200 .1226	Reading Level dBuV 55.45 57.52	Correct Factor dB/m -21.90	Measure- ment dBuV/m 33.55 37.43	Limit dBu∀/m 40.00 43.50	Over  dB  -6.45  -6.07	Detecto
No. Mk. F  1 44. 2 207 3 268 4 400	ireq. MHz 1200 .1226 .4852	Reading Level dBuV 55.45 57.52 55.04	(MHz)  Correct Factor  dB/m -21.90 -20.09	Measure- ment dBuV/m 33.55 37.43 37.33	Limit dBu∀/m 40.00 43.50 46.00	Over  dB  -6.45  -6.07  -8.67	Detector peak peak peak



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°C 120V/60 Hz izontal B Mode 2462MHz y worse case is re	THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO THE PERSON NA	(RF)FCC 15C 3M Radiation Margin -6	
izontal B Mode 2462MHz	eported	Margin -6	
B Mode 2462MHz	eported	Margin -6	
	eported	Margin -6	
y worse case is re	3	Margin -6	
X X	2 3 X	Margin -6	
70 80	(MHz) 300	400 500 600 700	1000.000
_		Limit O∨er	
dBuV d	B/m dBuV/m	dBuV/m dB	Detecto
57.16 -2	2.08 35.08	43.50 -8.42	peak
59.11 -2	0.88 38.23	43.50 -5.27	peak
57.80 -1	7.68 40.12	46.00 -5.88	peak
54.93 -1	4.05 40.88	46.00 -5.12	peak
46.22 -7	7.87 38.35	46.00 -7.65	peak
			peak
	Reading Level Factorial Reading Level Factorial Reading Level Factorial Reading Readin	Reading Level         Correct Factor         Measurement           dBuV         dB/m         dBuV/m           57.16         -22.08         35.08           59.11         -20.88         38.23           57.80         -17.68         40.12           54.93         -14.05         40.88           46.22         -7.87         38.35           45.59         -4.83         40.76	Reading Level         Correct Factor         Measurement         Limit         Over           dBuV         dB/m         dBuV/m         dBuV/m         dBuV/m         dBuV/m         dB           57.16         -22.08         35.08         43.50         -8.42           59.11         -20.88         38.23         43.50         -5.27           57.80         -17.68         40.12         46.00         -5.88           54.93         -14.05         40.88         46.00         -5.12           46.22         -7.87         38.35         46.00         -7.65           45.59         -4.83         40.76         46.00         -5.24



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TORY
TODI

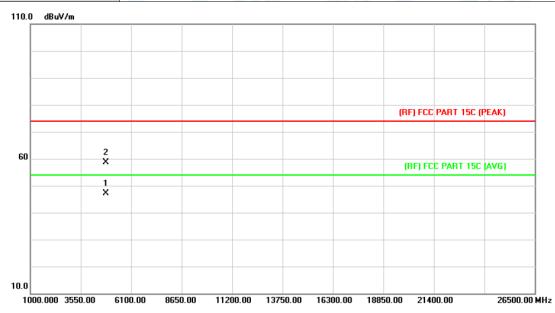
UT:	DLP	LED Projector	Model:		M1	
emperature:	25 °C		Relative	55%		
est Voltage:	AC 1	20V/60 Hz	Tien .	6		
Ant. Pol.	Vertic	cal	I HILL			
est Mode:	TX B	Mode 2462MH	z	11111		A STATE OF THE PARTY OF THE PAR
Remark:	Only	worse case is r	eported	6.11	1:33	
80.0 dBuV/m						
30	Wy .	× × × × × × × × × × × × × × × × × × ×	2	(RF)	FCC 15C 3M Radiation	
		The way he was the	Mary all	(   <u>                                  </u>	,	
20 30.000 40	50 60 70	W. W. W.	(MHz)	300 400	500 600 700	1000.00
	50 60 70 Freq.	80  Reading C	orrect Mea	300 400 asure- ent Lim		1000.00
30.000 40		Reading C Level F	orrect Mea actor m	sure-	it Over	1000.00
30.000 40 No. Mk.	Freq.	Reading C Level F	orrect Mea Factor me	sure- ent Lim	<b>it Over</b> //m dB	
No. Mk.	Freq.	Reading C Level F dBuV 54.48 -2	orrect Mea Factor medB/m dB/ 22.08 32	isure- ent Lim uV/m dBu\	it <b>Over</b> //m dB 50 -11.10	Detecto
No. Mk.  1 13 2 20	Freq. MHz 35.0319	Reading C Level F dBuV 54.48 -2 54.81 -2	orrect Mea Factor modB/m dB/m 22.08 32	ent Lim uV/m dBuv 2.40 43.	it Over //m dB 50 -11.10 50 -9.01	Detecto <b>peak</b>
No. Mk.  1 13 2 20 3 26	Freq. MHz 35.0319 01.3930	Reading C Level F dBuV 54.48 -2 54.81 -2 56.04 -1	orrect Mea Factor m dB/m dB 22.08 32 20.32 34 17.71 38	asure- ent Lim uV/m dBu\ 2.40 43. 4.49 43. 3.33 46.	it Over //m dB 50 -11.10 50 -9.01 00 -7.67	Detecto peak peak peak
No. Mk.  1 13 2 20 3 26 4 ! 40	Freq. MHz 35.0319 01.3930 68.4852 00.4318	Reading C Level F dBuV 54.48 -2 54.81 -2 56.04 -1 53.03 -1	orrect Mea Factor m dB/m dB 22.08 32 20.32 34 17.71 38 12.80 40	asure- ent Lim uV/m dBu <sup>v</sup> 2.40 43. 4.49 43. 3.33 46. 0.23 46.	it Over  //m dB  50 -11.10  50 -9.01  00 -7.67  00 -5.77	Detecto peak peak peak peak
No. Mk.  1 13 2 20 3 26 4 ! 40 5 ! 53	Freq. MHz 35.0319 01.3930 68.4852	Reading C Level F dBuV 54.48 -2 54.81 -2 56.04 -1 53.03 -1	orrect Mea factor m dB/m dB 22.08 32 20.32 34 17.71 38 12.80 40	asure- ent Lim uV/m dBu\ 2.40 43. 4.49 43. 3.33 46.	it Over  //m dB  50 -11.10  50 -9.01  00 -7.67  00 -5.77  00 -5.21	Detecto peak peak peak

TB-RF-074-1.0



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EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	01 - 0	THE STATE OF THE S				
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2412MHz		A VIV				
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the					
	prescribed limit.						

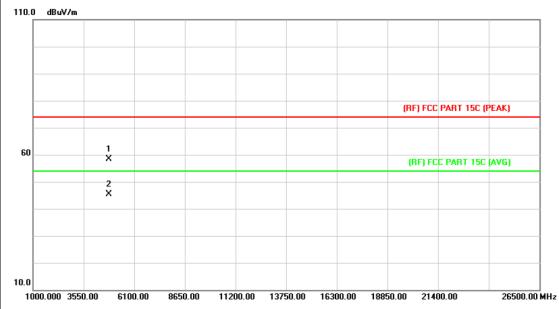


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.988	33.67	13.56	47.23	54.00	-6.77	AVG
2		4824.267	44.98	13.56	58.54	74.00	-15.46	peak



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EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	01 - 0	THE STATE OF
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		A VIVE
Remark:	No report for the emissio prescribed limit.	n which more than 10 (	dB below the

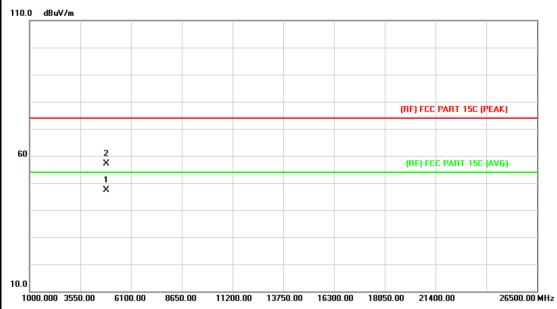


N	۱o.	Mk.	Freq.	Reading Level		Measure- ment	Limit	O∨er	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4823.670	44.94	13.56	58.50	74.00	-15.50	peak
2		*	4823.991	31.87	13.56	45.43	54.00	-8.57	AVG



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EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	01 - 0	THE STATE OF THE S				
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2437MHz		A VIVE				
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the					
	prescribed limit.						

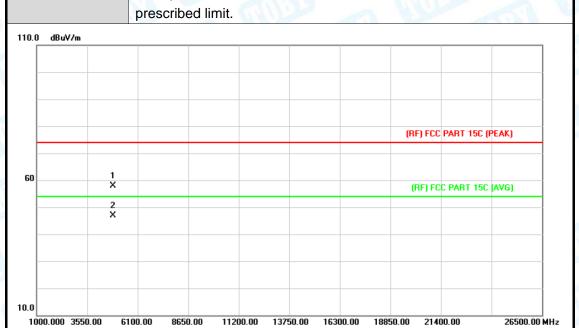


No	. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.058	33.48	13.86	47.34	54.00	-6.66	AVG
2		4874.447	43.32	13.86	57.18	74.00	-16.82	peak



Report No.: TB-FCC145046
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a and			
EUT:	DLP LED Projector	Model:	M1
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	131	an is
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2437MHz		
Remark:	No report for the emissi	on which more than 10	dB below the

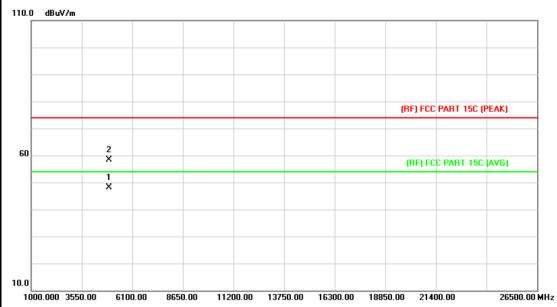


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.152	44.04	13.86	57.90	74.00	-16.10	peak
2	*	4874.194	32.98	13.86	46.84	54.00	-7.16	AVG



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EUT:	DLP LED Projector	Model:	M1			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Horizontal					
Test Mode:	TX B Mode 2462MHz	TX B Mode 2462MHz				
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					

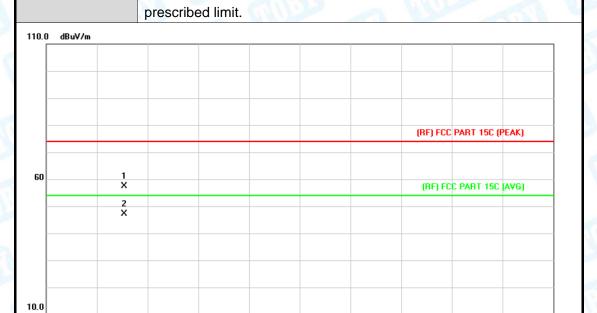


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.016	34.02	14.15	48.17	54.00	-5.83	AVG
2		4924.458	44.26	14.15	58.41	74.00	-15.59	peak



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EUT:	DLP LED Projector	Model:	M1		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz			
Ant. Pol.	Vertical				
Test Mode:	TX B Mode 2462MHz	TX B Mode 2462MHz			
Remark:	No report for the emission which more than 10 dB below the				



	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4924.007	43.29	14.15	57.44	74.00	-16.56	peak
2		*	4924.219	33.06	14.15	47.21	54.00	-6.79	AVG

13750.00

16300.00 18850.00

21400.00

26500.00 MHz

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

1000.000 3550.00

6100.00

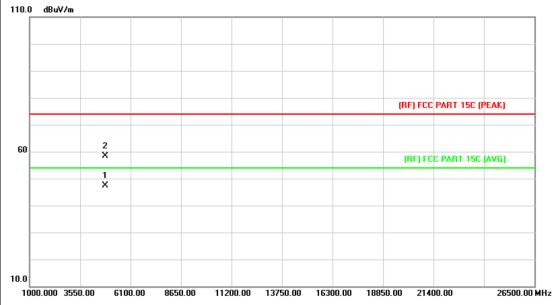
8650.00

11200.00



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DLP LED Projector	Model:	M1	
25 ℃	Relative Humidity:	55%	
AC 120V/60 Hz			
Horizontal			
TX G Mode 2412MHz			
No report for the emission which more than 10 dB below the prescribed limit.			
	25 °C  AC 120V/60 Hz  Horizontal  TX G Mode 2412MHz  No report for the emissio	25 °C Relative Humidity:  AC 120V/60 Hz  Horizontal  TX G Mode 2412MHz  No report for the emission which more than 10 or	

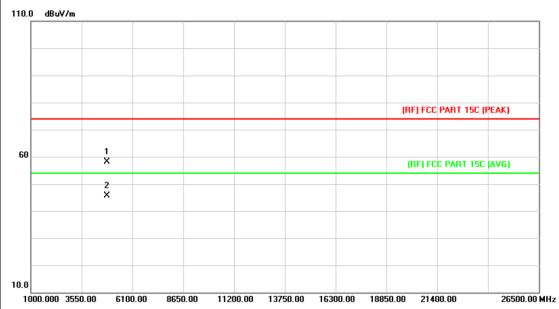


N	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.426	33.76	13.56	47.32	54.00	-6.68	AVG
2		4824.276	44.89	13.56	58.45	74.00	-15.55	peak



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EUT:	DLP LED Projector	Model:	M1			
Temperature:	<b>25</b> ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Vertical					
Test Mode:	TX G Mode 2412MHz	TX G Mode 2412MHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

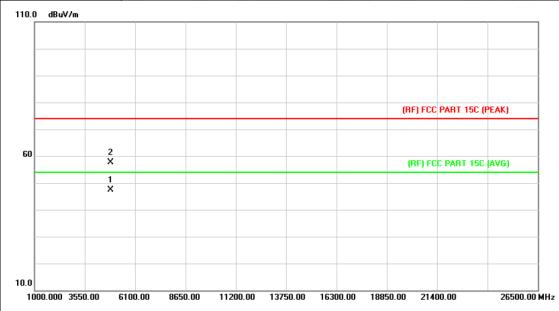


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.677	44.59	13.56	58.15	74.00	-15.85	peak
2	*	4823.978	32.19	13.56	45.75	54.00	-8.25	AVG



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			II WILLIAM TO THE RESIDENCE OF THE PARTY OF	
EUT:	DLP LED Projector	Model:	M1	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	AC 120V/60 Hz	03 - 6	TO SECURE	
Ant. Pol.	Horizontal			
Test Mode:	TX G Mode 2437MHz			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.			



No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.085	33.57	13.86	47.43	54.00	-6.57	AVG
2		4874.474	43.76	13.86	57.62	74.00	-16.38	peak



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EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2437MHz		A VIVE

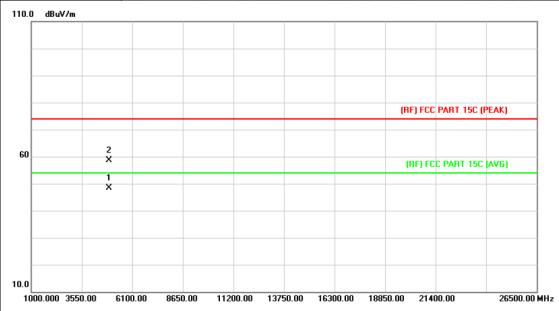
Remark:	No report for the emission which more than 10 dB below the
	nrescribed limit



	No. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.215	43.98	13.86	57.84	74.00	-16.16	peak
2	*	4874.419	32.67	13.86	46.53	54.00	-7.47	AVG



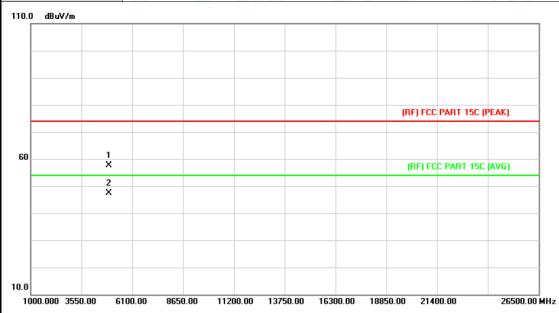
			O. W. P.				
EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	55%					
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal						
Test Mode:	TX G Mode 2462MHz						
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.143	34.22	14.15	48.37	54.00	-5.63	AVG
2		4924.459	44.52	14.15	58.67	74.00	-15.33	peak



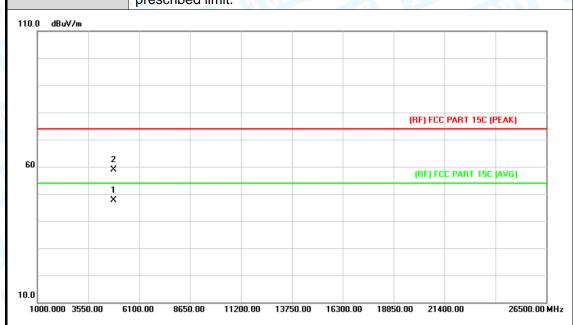
			II WILLIAM				
EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Vertical						
Test Mode:	TX G Mode 2462MHz						
Remark:	No report for the emission prescribed limit.	n which more than 10 (	dB below the				



No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4924.075	43.56	14.15	57.71	74.00	-16.29	peak
2	*	4924.263	33.14	14.15	47.29	54.00	-6.71	AVG



		111:13	THE PARTY OF THE P				
EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 °C Relative Humidity: 55%						
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mode 2412	MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit	prescribed limit					

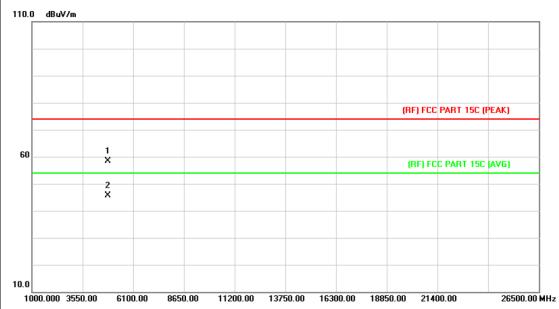


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.745	34.18	13.56	47.74	54.00	-6.26	AVG
2		4824.632	45.42	13.56	58.98	74.00	-15.02	peak



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EUT:	DLP LED Projector	Model:	M1			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Vertical					
Test Mode:	TX N(HT20) Mode 2412N	ИHz				
Remark:	Remark: No report for the emission which more than 10 dB below the prescribed limit.					

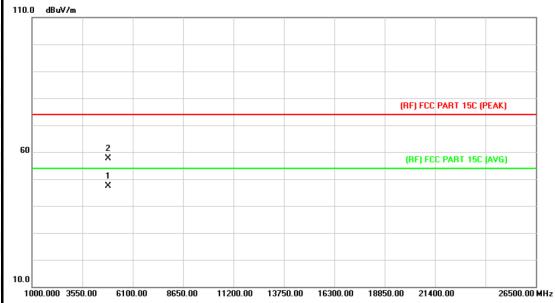


1	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4823.645	44.75	13.56	58.31	74.00	-15.69	peak
2	,	*	4823.946	32.15	13.56	45.71	54.00	-8.29	AVG



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EUT:	DLP LED Projector	Model:	M1			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT20) Mode 2437N	ИНz				
Remark:	No report for the emission which more than 10 dB below the					
prescribed limit.						

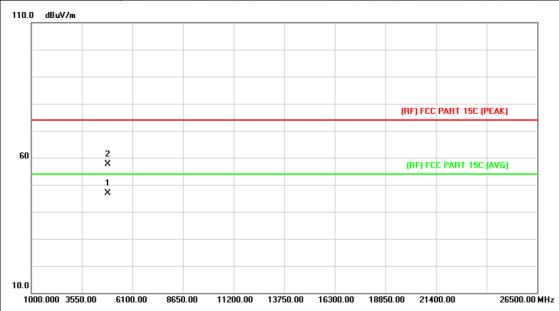


	No.	Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4874.041	33.41	13.86	47.27	54.00	-6.73	AVG
2	1		4874.753	43.82	13.86	57.68	74.00	-16.32	peak



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EUT:	DLP LED Projector	Model:	M1			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Vertical					
Test Mode:	TX N(HT20) Mode 2437N	ИHz				
Remark:	emark: No report for the emission which more than 10 dB below the prescribed limit.					

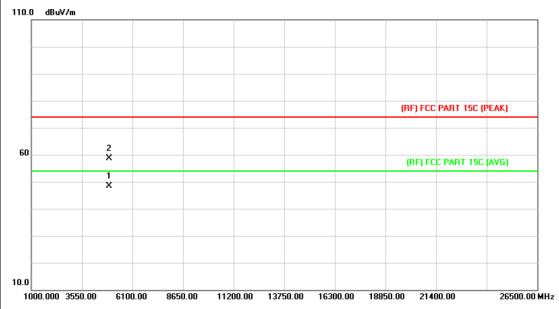


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.247	33.10	13.86	46.96	54.00	-7.04	AVG
2		4874.453	43.89	13.86	57.75	74.00	-16.25	peak



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EUT:	DLP LED Projector	Model:	M1				
Temperature:	<b>25</b> ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mode 2462N	ИHz					
Remark: No report for the emission which more than 10 dB below the prescribed limit.							

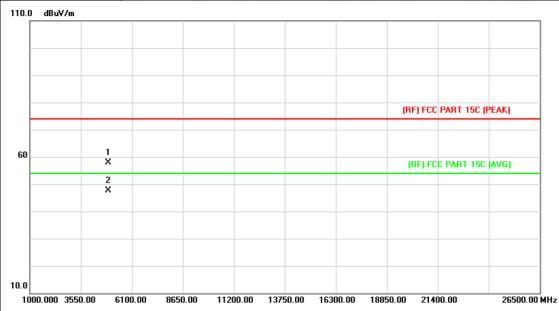


No	o. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.354	34.17	14.15	48.32	54.00	-5.68	AVG
2		4924.715	44.49	14.15	58.64	74.00	-15.36	peak



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EUT:	DLP LED Projector	Model:	M1			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	01 - 6				
Ant. Pol.	Vertical					
Test Mode:	TX N(HT20) Mode 2462	ИНz				
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					
110 0 JD.3//-						

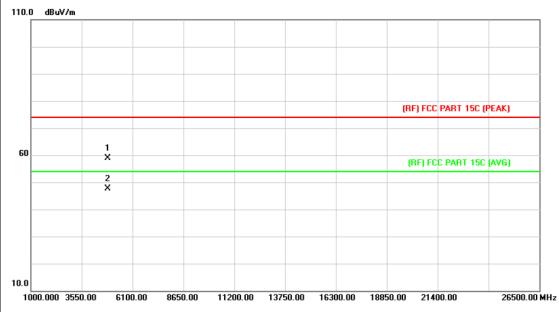


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4924.236	43.69	14.15	57.84	74.00	-16.16	peak
2	*	4924.745	33.47	14.15	47.62	54.00	-6.38	AVG



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EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2422	ИНz	A VIVE				
Remark:	Remark: No report for the emission which more than 10 dB below the prescribed limit.						

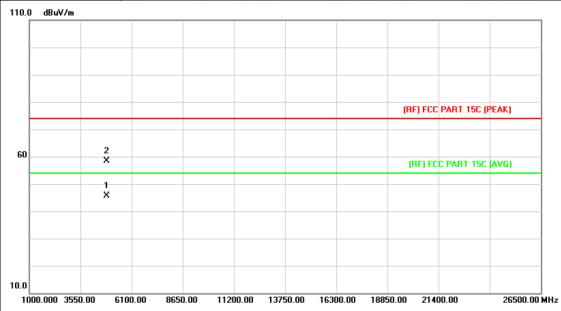


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4844.394	45.25	13.68	58.93	74.00	-15.07	peak
2	*	4844.846	33.89	13.68	47.57	54.00	-6.43	AVG



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EUT:	DLP LED Projector	Model:	M1		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz	01 - 0			
Ant. Pol.	Vertical				
Test Mode:	TX N(HT40) Mode 2422	ИНz			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				
110 0 dRuV/m					

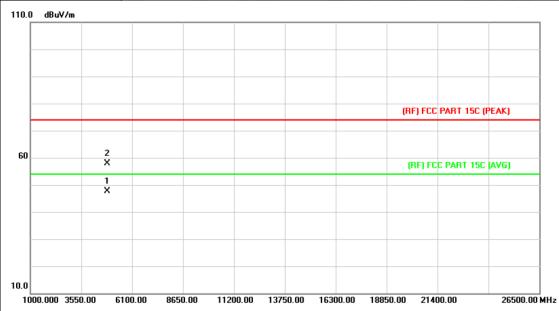


N	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4844.395	31.99	13.68	45.67	54.00	-8.33	AVG
2		4844.756	44.66	13.68	58.34	74.00	-15.66	peak



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EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2437N	ИНz	THE PARTY OF THE P				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
	No report for the emissio		dB below the				

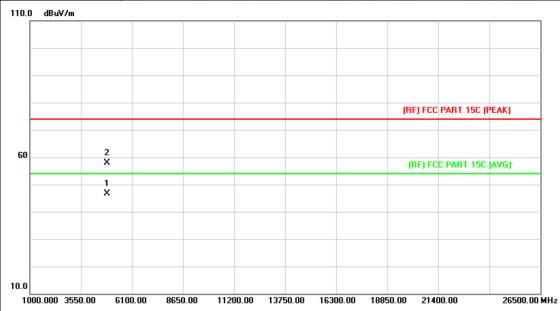


N	o. M	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4	874.024	33.78	13.86	47.64	54.00	-6.36	AVG
2		4	874.735	43.93	13.86	57.79	74.00	-16.21	peak



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EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX N(HT40) Mode 2437	ИНz	A VIII				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
110.0 JD.A/J-	·						

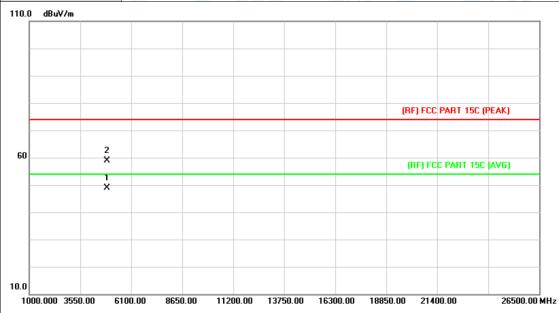


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.624	32.76	13.86	46.62	54.00	-7.38	AVG
2		4874.795	44.08	13.86	57.94	74.00	-16.06	peak



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EUT:	DLP LED Projector	Model:	M1			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT40) Mode 2452	MHz				
Remark:	No report for the emissio prescribed limit.	n which more than 10 o	dB below the			
110 0 dRuV/m						

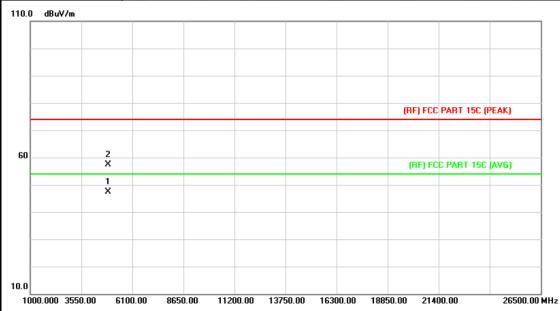


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4904.143	34.73	14.03	48.76	54.00	-5.24	AVG
2		4904.459	44.80	14.03	58.83	74.00	-15.17	peak



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EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Vertical						
Test Mode:	TX N(HT40) Mode 2452l	MHz					
Remark:	No report for the emission prescribed limit.	n which more than 10	dB below the				
110.0 dBul/m							



	No.	Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4904.374	33.38	14.03	47.41	54.00	-6.59	AVG
2	2		4904.662	43.34	14.03	57.37	74.00	-16.63	peak



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# 6. Restricted Bands Requirement

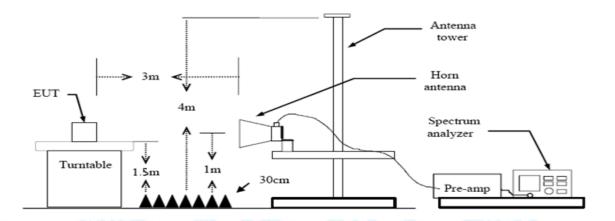
#### 6.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

5.1.2 Test Limit

Restricted Frequency	Class B (dBuV/m)(at 3 M)				
Band (MHz)	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. The EUT was placed on a rotating 0.8m high above the 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



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Bellow 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.

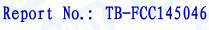
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average 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.

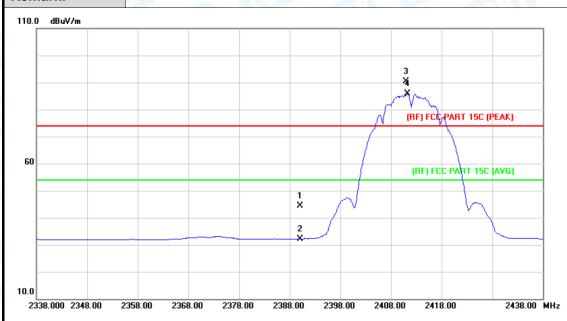




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## (1) Radiation Test

EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal	4000	A LIVE
Test Mode:	TX B Mode 2412MHz		(:N) (ii
Remark:	N/A		



No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.68	0.77	44.45	74.00	-29.55	peak
2		2390.000	31.38	0.77	32.15	54.00	-21.85	AVG
3	Х	2411.000	89.53	0.86	90.39	Fundamental Frequency		peak
4	*	2411.300	84.90	0.86	85.76	- Fundamental	Frequency	AVG



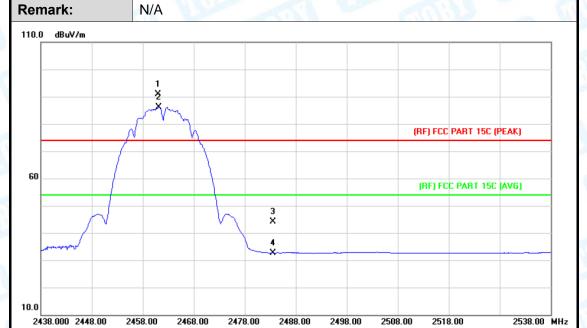
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UT:			DLP	LED	Projec	ctor	Мо	del:			M1		
empe	eratui	e:	25 ℃			A.D.	Rel	Relative Humidity:			55	%	S. B. C.
Test V	oltag	e:	AC 1	20V/	/60 Hz					6	3(1)	133	
Ant. P	ol.		Verti	cal		· AR				1			
Test N	lode:		TX B	Mod	de 241	2MHz		6	MID	2		1 117	N. Control
Rema	k:		N/A	W		-		1		esti	13	3	_ (
110.0	BuV/m												
60								1 X 2 X		(RF)	FCC PA	PART 15C (PEA)	
10.0 2334.0	00 2344	1.00 2	354.00	2364.	00 23	74.00 238	4.00	239	4.00 24	04.00	2414.00	D 2	2434.00 MH
No	Mk.	Fr	eq.		ading evel	Corre Fact			asure- ent	Limi	t	Over	
		MI	 Hz	d	lBuV	dB/m		dE	Bu∀/m	dBu∖	//m	dB	Detecto
1		2390		4:	3.74	0.77		4	4.51	74.	00	-29.49	peak
1 2			.000		3.74 2.07	0.77 0.77			4.51 2.84	74.0 54.0		-29.49 -21.16	AVG
	X	2390	.000	3:			'	3:		54.0	00		



THU:			
EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	TO I TO	an see
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		

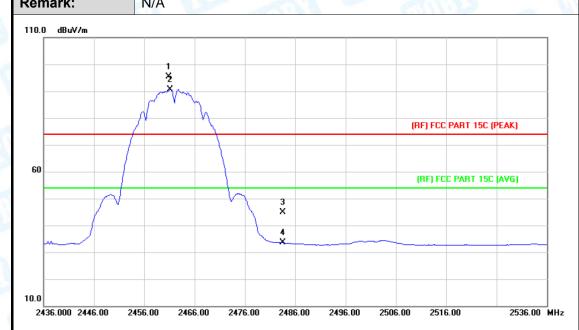


No	. Mk	κ. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Х	2461.000	89.70	1.06	90.76	Fundamental	Frequency	peak
2	*	2461.200	85.15	1.07	86.22	Fundamental	Frequency	AVG
3		2483.500	43.02	1.17	44.19	74.00	-29.81	peak
4		2483.500	31.56	1.17	32.73	54.00	-21.27	AVG



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A HILLIAM		411/19	THE STATE OF THE S
EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		1000
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/Δ		



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Х	2460.900	94.23	1.06	95.29	Fundamental	Frequency	peak
2	*	2461.200	89.61	1.07	90.68	Fundamental	Frequency	AVG
3		2483.500	43.77	1.17	44.94	74.00	-29.06	peak
4		2483.500	32.35	1.17	33.52	54.00	-20.48	AVG



EU1	Γ:	DLP LED Projecto	or Model:	M1
Ten	nperature:	25 ℃	Relative Hun	nidity: 55%
Tes	t Voltage:	AC 120V/60 Hz		
Ant	. Pol.	Horizontal	Million	
Tes	t Mode:	TX G Mode 2412N	ИНz	DO TO VILLE
Ren	nark:	N/A		
110.0	) dBuV/m	'		
				4 X
				3
				(RF) FCC PART 15C (PEAK)
60				
				(RF) FCC PART 15C (AVG)
			1 X	
	_		2 X	
10.0	338.000 2348.00	2358.00 2368.00 2378.	00 2388.00 2398.00 2	2408.00 2418.00 2438.00 MF

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.32	0.77	44.09	74.00	-29.91	peak
2		2390.000	31.71	0.77	32.48	54.00	-21.52	AVG
3	*	2407.400	78.79	0.85	79.64	Fundamental I	Frequency	AVG
4	Χ	2408.300	89.48	0.85	90.33	Fundamental I	Frequency	peak



2436.00 MHz



10.0

2336.000 2346.00

2356.00

2366.00

2376.00

EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz		
Remark:	N/A		1:33
110.0 dBuV/m			
60		(RI	F) FCC PART 15C (PEAK)
		1 X	

No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	47.66	0.77	48.43	74.00	-25.57	peak
2		2390.000	33.21	0.77	33.98	54.00	-20.02	AVG
3	Χ	2408.700	96.01	0.85	96.86	Fundamental	Frequency	peak
4	*	2409.500	85.31	0.85	86.16	Fundamental	Frequency	AVG

2386.00

2396.00

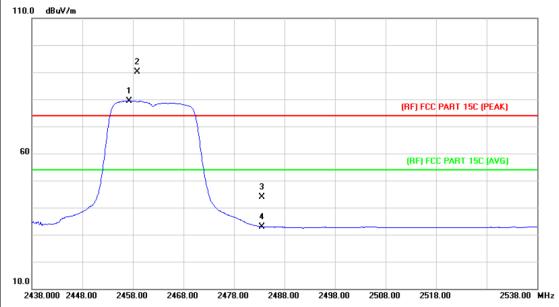
2406.00

2416.00





EUT:	DLP LED Projector	Model:	M1					
Temperature:	<b>25</b> ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60 Hz							
Ant. Pol.	Horizontal							
Test Mode:	TX G Mode 2462MHz							
Remark:	N/A		1:73					
110.0 dBuV/m								



No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2457.300	78.29	1.05	79.34	Fundamental	Frequency	AVG
2	Х	2458.800	88.97	1.06	90.03	Fundamental	Frequency	peak
3		2483.500	42.79	1.17	43.96	74.00	-30.04	peak
4		2483.500	31.82	1.17	32.99	54.00	-21.01	AVG



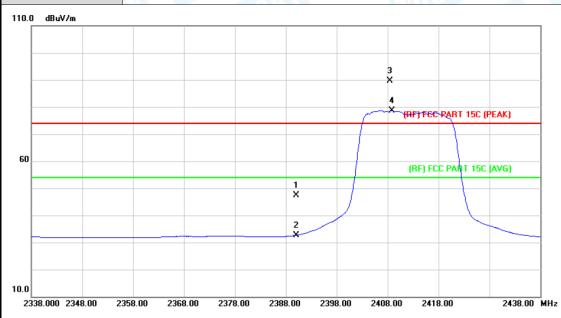
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EUT: DLP LED Projector			or	Model:				M1						
Гетр	eratu	re:	25 °C		W	13	Relative Humidity:			55	%	637		
Test \	Voltag	e:	AC 1	20V/60	) Hz					6		133		
Ant. F	Pol.		Vertic	cal		N/A			K					
Test I	Mode:		TX G	Mode	2462	MHz		CILL				1 11	W.	
Rema	ark:		N/A	MA				60		6		3		1
110.0	dBuV/m													_
			1 X											1
			2 X											1
					<del>\</del>					(BF)	FCC PA	ART 15C (PEA	K)	$\frac{1}{1}$
60														
-		-				3				(BE	) FCC F	PART 15C (AV	G)	4
						X								
	Mushow					4 X								1
<u> </u>														1
														$\frac{1}{2}$
10.0														
2436.	.000 244	6.UU 2	2456.00	2466.00	2476	5.00 248	6.00	2496.00	2:	606.00	2516.0	U	2536.00	Mi
					····		_4 B	1						
Νo	. Mk	Fr	eq.	Read Lev	_	Corre Facto		vleasu men		Lim	it	Over		
.,,		 МI	•	dBu				dBuV/		dBu'		dB	Dete	oto
		1011	1 12	uDu		dB/m				_				
	- 1/	0450	CO0	~~ ^				94.6	).5	Fundam	ental f	Frequency	pe	ar
1	Х	2458		93.5		1.06								
1 2	X *	2458 2459		93.8 82.8		1.06		83.9				Frequency	А١	/G
			.400		39				95		ental I	Frequency -27.23		



۱	EUT:	DLP LED Projector Model: M1						
	Temperature:	25 ℃	Relative Humidity:	55%				
	Test Voltage:	AC 120V/60 Hz						
	Ant. Pol.	Horizontal						
	Test Mode:	TX N(HT20) Mode 2412MHz						
	Remark:	N/A						



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	46.61	0.77	47.38	74.00	-26.62	peak
2		2390.000	31.91	0.77	32.68	54.00	-21.32	AVG
3	Х	2408.400	88.69	0.85	89.54	Fundamental	Frequency	peak
4	*	2408.800	77.79	0.85	78.64	Fundamental	Frequency	AVG

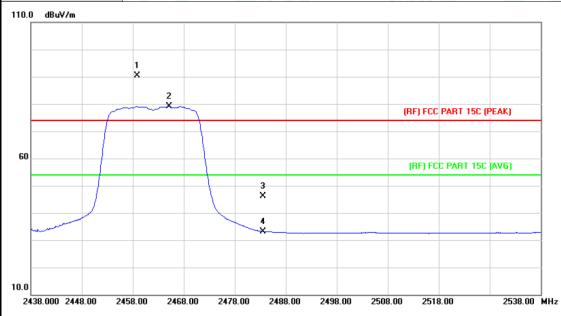


EUT:		DLP LE	D Projector	Model:		M1
Ten	nperature:	25 ℃		Relative H	umidity:	55%
Tes	t Voltage:	AC 120	V/60 Hz		6	anis -
Ant. Pol. Vertical						
Test Mode: TX N(HT20) Mode 2412MHz						
Ren	mark:	N/A			-	UF3
110.0	) dBuV/m					
60				1 x		FCC PART 15C (PEAK)
10.0						
		R	eading Cor	rect Measur		2416.00 2436.00 M

٨	۱o. ا	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			2390.000	53.62	0.77	54.39	74.00	-19.61	peak
2			2390.000	33.97	0.77	34.74	54.00	-19.26	AVG
3	+	t	2408.800	84.73	0.85	85.58	Fundamental	Frequency	AVG
4	)	X	2409.100	95.79	0.85	96.64	Fundamental	Frequency	peak



EUT	Ī:	DLP LED Projector	Model:	M1				
Tem	perature:	25 ℃	Relative Humidity:	55%				
Test	t Voltage:	AC 120V/60 Hz						
Ant.	. Pol.	Horizontal						
Test	t Mode:	TX N(HT20) Mode 2462N	TX N(HT20) Mode 2462MHz					
Ren	nark:	N/A						
110.0	dD.Attm							

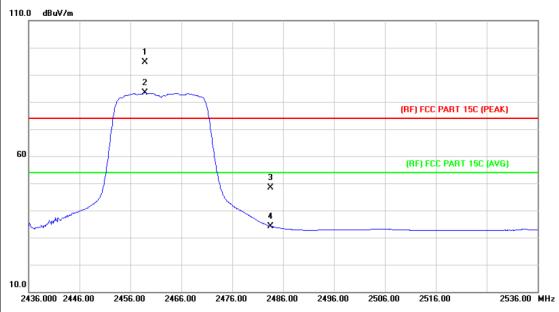


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Х	2458.800	89.39	1.06	90.45	Fundamental	Frequency	peak
2	*	2465.200	78.01	1.09	79.10	Fundamental	Frequency	AVG
3		2483.500	44.93	1.17	46.10	74.00	-27.90	peak
4		2483.500	32.06	1.17	33.23	54.00	-20.77	AVG



TOBY	
- 110	

EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX N(HT20) Mode 2462MHz						
Remark:	N/A		1:72				



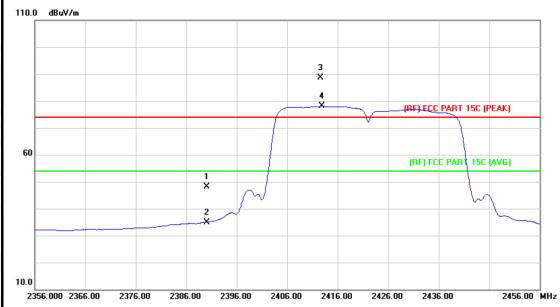
No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2458.800	93.64	1.06	94.70	Fundamental I	Frequency	peak
2	*	2458.800	82.32	1.06	83.38	Fundamental I	requency	AVG
3		2483.500	47.31	1.17	48.48	74.00	-25.52	peak
4		2483.500	33.02	1.17	34.19	54.00	-19.81	AVG





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EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2422MHz						
Remark:	N/A						



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	47.35	0.77	48.12	74.00	-25.88	peak
2		2390.000	34.23	0.77	35.00	54.00	-19.00	AVG
3	Х	2412.600	87.88	0.86	88.74	 Fundamental	Frequency	peak
4	*	2412.800	77.16	0.86	78.02	 Fundamental	Frequency	AVG



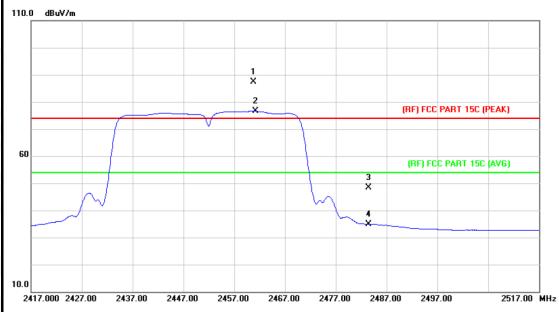


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			DLP LED Projector			Model:			M1		
			25 °C			Relativ	e Hum	idity:	55%	2 1	MA
Tes	t Voltag	e:	AC 1	20V/60 Hz		72/6		6	Unit	13	
٩nt	t. Pol. Vertical					N					
Tes	est Mode: TX N(HT40) Mode 2422MHz			11/1	L. Land						
Ren	nark:		N/A	A Brown	1	1		611	138		
110.0	D dBuV/m										
						3 X					
						4					
						×	~	(RF)	FCC PART	15C (PEAK	g
60								(DE	) ECC DAD	T) 15C (AVE	
				1 X				(nr	J FCC PAR	I TSC [AVE	"
				2 _	/~					$\sim$	
				×							
10.0	356.000 236	6.00 23	376.00	2386.00 239	6.00 2406.	NN 2411	6.00 24	126.00	2436.00		2456.00 MI
2.	30.000 230	0.00 2.	11 0.00	2300.00	0.00 2400.	241	0.00 24	20.00	2430.00	•	.430.00
				Reading	Correc	t Mes	asur <del>e</del>				
Ν	lo. Mk.	Fre	eq.	Level	Factor		ent	Limi	t C	over	
		MH		dBu∀	dB/m	dB	Bu V/m	dBu√	//m	dB	Detecto
1		2390.	000	51.35	0.77	52	2.12	74.0	00 -:	21.88	peak
		2390.	000	36.96	0.77	37	7.73	54.0		16.27	AVG
2				91.99	0.86		2.85		nental Fre		peak
2	Х	2412.	200	01.00							•
	X *	2412.		81.20	0.86	Ð,	2.06	— Fundam	ental Fre	auenov -	AVG



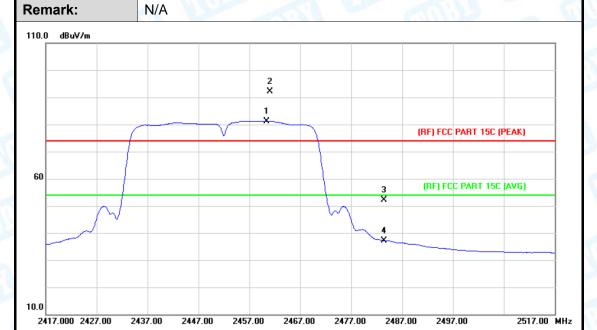
EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 °C Relative Humidity: 55%						
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT40) Mode 2452MHz						
Remark:	N/A						
110.0 dBuV/m							



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2460.800	86.40	1.06	87.46	Fundamental	Frequency	peak
2	*	2461.200	75.54	1.07	76.61	Fundamental	Frequency	AVG
3		2483.500	47.27	1.17	48.44	74.00	-25.56	peak
4		2483.500	33.77	1.17	34.94	54.00	-19.06	AVG



A VIVE							
EUT:	DLP LED Projector	Model:	M1				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz		ALL STATES				
Ant. Pol.	Vertical						
Test Mode:	TX N(HT40) Mode 2452	2MHz					



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2460.400	80.18	1.06	81.24	Fundamental	Frequency	AVG
2	Χ	2461.000	91.09	1.06	92.15	Fundamental	Frequency	peak
3		2483.500	50.95	1.17	52.12	74.00	-21.88	peak
4		2483.500	36.07	1.17	37.24	54.00	-16.76	AVG

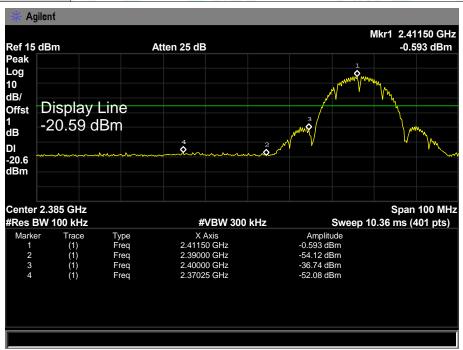


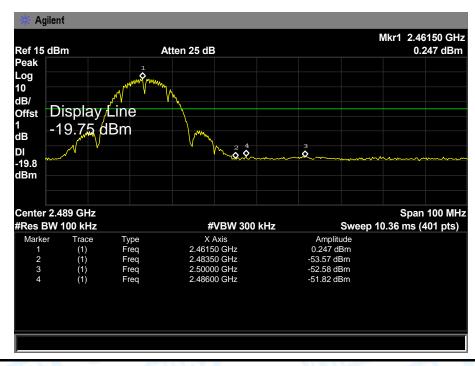


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## (2) Conducted Test

EUT:	DLP LED Projector	Model:	M1			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz					
Remark:	The EUT is programed in continuously transmitting mode					



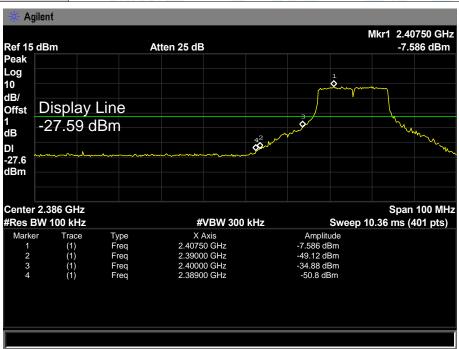


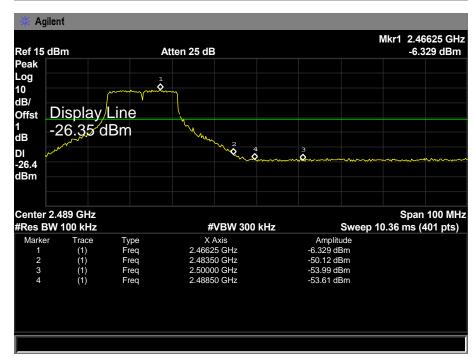




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EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Test Mode:	TX G Mode 2412MHz / TX G Mode 2462MHz		
Remark:	The EUT is programed in continuously transmitting mode		



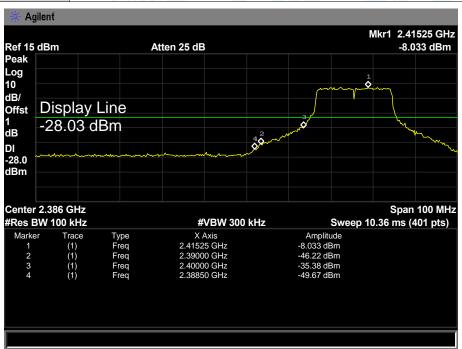


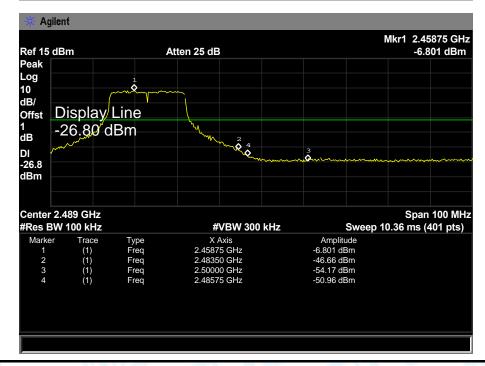






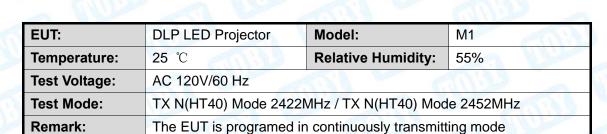
EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Test Mode:	TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz		
Remark:	The EUT is programed in continuously transmitting mode		

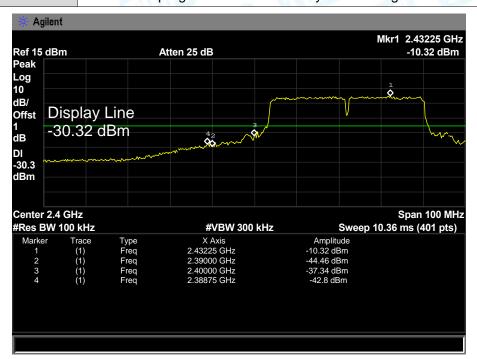


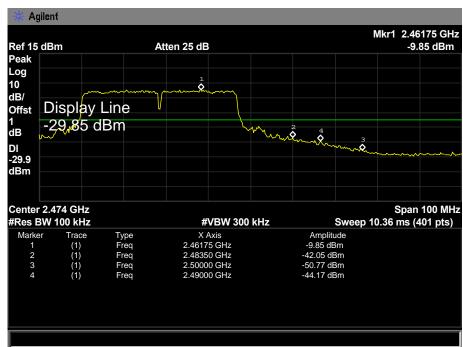














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## 7. Bandwidth Test

### 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 247 Issue 1				
Test Item	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, Midle and high channel for the test.

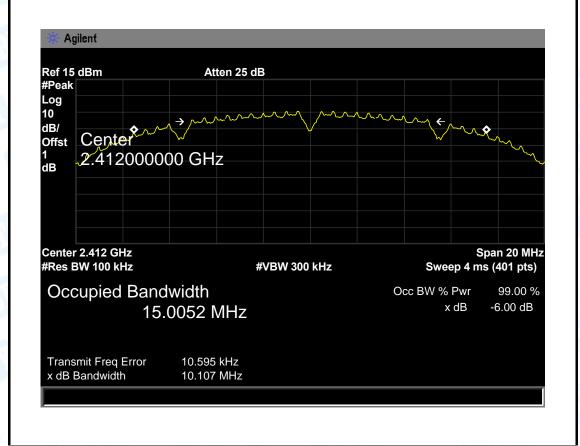


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### 7.5 Test Data

EUT:	DLP LED Projector	Model:	M1		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Test Mode:	TX 802.11B Mode				
Channel frequence	cy 6dB Bandwidth	6dB Bandwidth 99% Bandwidth Limit			
(MHz)	(MHz)	(MHz)	(MHz)		
2412	10.107	15.0052			
2437	10.101	14.9980	>=0.5		
2462	10.098	14.9868			

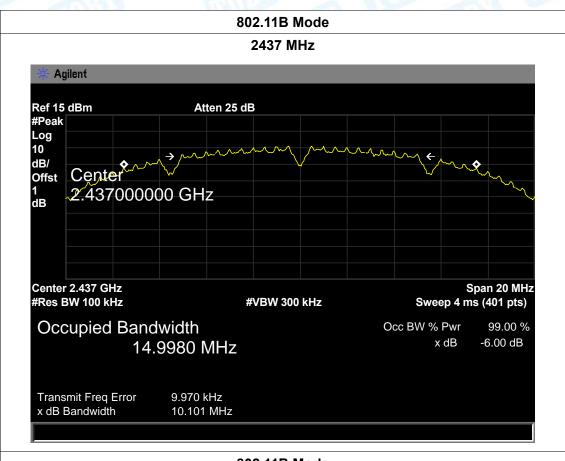
#### 802.11B Mode





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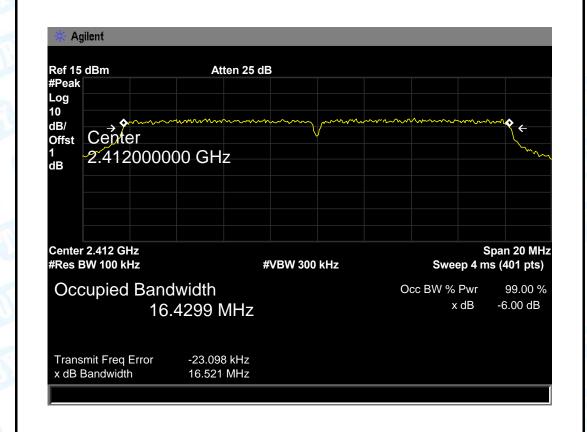
#### 802.11B Mode 2462 MHz Agilent Ref 15 dBm Atten 25 dB #Peak Log 10 dB/ Center Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB 14.9868 MHz x dB Transmit Freq Error 6.581 kHz x dB Bandwidth 10.098 MHz

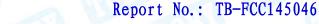


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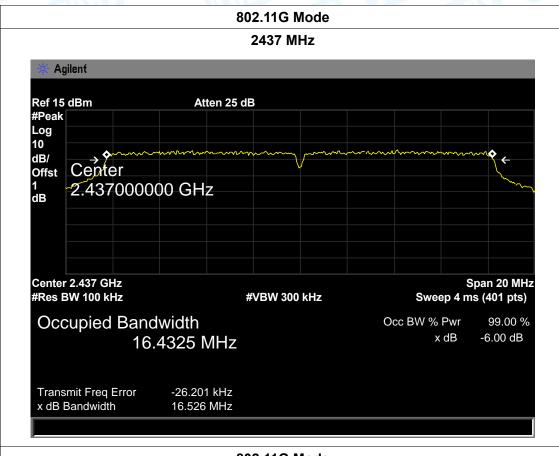
EUT:	DLP LED Projector	Model:	M1		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz	The same of			
Test Mode:	TX 802.11G Mode				
Channel frequen	cy 6dB Bandwidth	6dB Bandwidth 99% Bandwidth Limit			
(MHz)	(MHz)	(MHz)	(MHz)		
2412	16.521	16.4299			
2437	16.526	16.4325	>=0.5		
2462	16.558	16.4396			
802 11G Mode					

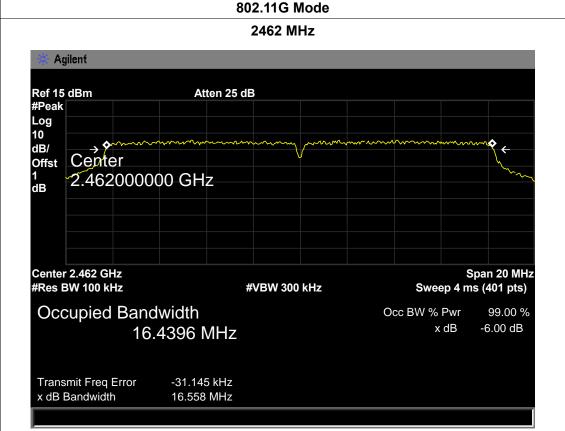




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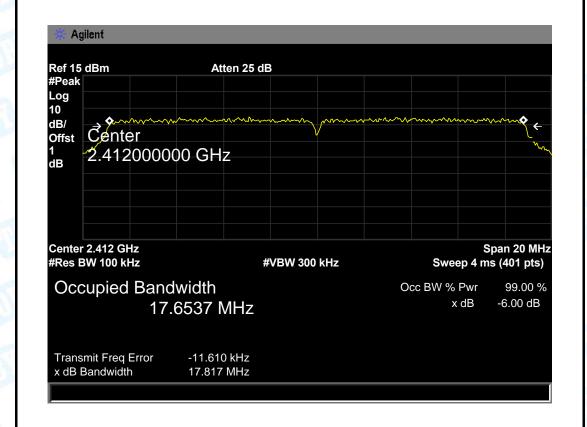


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4	1	T	7
	IJ	<b>51</b>	
	S 86		

			The state of the s		
EUT:	DLP LED Projector	Model:	M1		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz	UL TO THE REAL PROPERTY.			
Test Mode:	TX 802.11N(HT20) Mode				
Channel frequen	ncy 6dB Bandwidth 99% Bandwidth Limit				
(MHz)	(MHz)	(MHz)	(MHz)		
2412	17.817	17.6537			
2437	17.825	17.6383	>=0.5		
2462 17.812 17.6446					
802.11N(HT20) Mode					

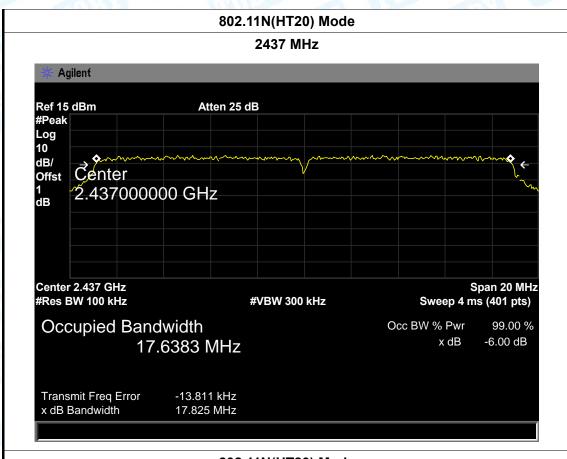
#### 2.1114(11120) IVI





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#### 802.11N(HT20) Mode 2462 MHz Agilent Ref 15 dBm Atten 25 dB #Peak Log 10 dB/ Center Offst 1 dB <sup>2</sup>.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 17.6446 MHz Transmit Freq Error -6.433 kHz x dB Bandwidth 17.812 MHz

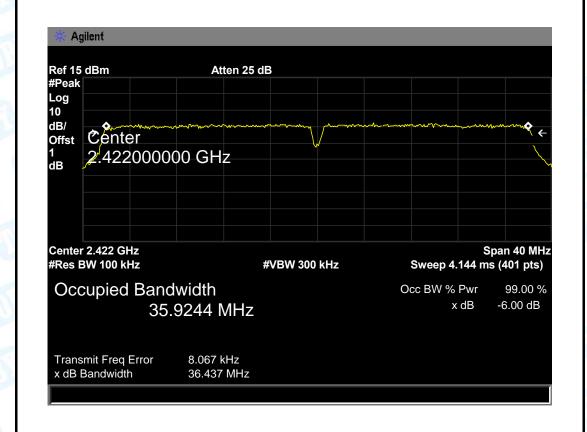


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EUT:	DLP LED Projector	Model:	M1		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Test Mode:	TX 802.11N(HT40) Mode				
Channel frequen	ency 6dB Bandwidth 99% Bandwidth Limit				
(MHz)	(MHz)	(MHz)	(MHz)		
2422	36.437	35.9244			
2437	36.400	35.9092	>=0.5		
2452	2452 36.482 35.9615				
802.11N(HT40) Mode					

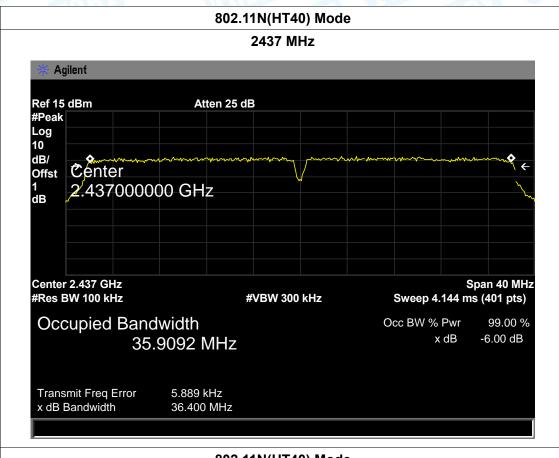
#### 02.11N(HT40) Mod





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#### 802.11N(HT40) Mode 2452 MHz Agilent Ref 15 dBm Atten 25 dB #Peak Log 10 dB/ Center Offst 1 dB 2.452000000 GHz Center 2.452 GHz Span 40 MHz #Res BW 100 kHz Sweep 4.144 ms (401 pts) **#VBW 300 kHz** Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB 35.9615 MHz x dB Transmit Freq Error 7.203 kHz x dB Bandwidth 36.482 MHz



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# 8. Peak Output Power Test

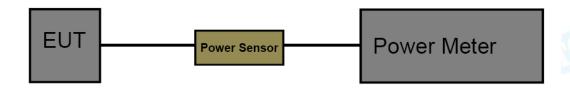
### 8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/ RSS 247 Issue 1					
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 v03r03.

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.



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# 8.5 Test Data

EUT:	DLP LED Projector	Model:	M1
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	The same of the sa	an'il
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
	2412	9.21	
802.11b	2437	9.18	
	2462	9.16	
802.11g	2412	9.05	
	2437	9.11	
	2462	9.12	30
000 44	2412	8.96	30
802.11n (HT20)	2437	8.97	
(11120)	2462	9.02	
202 44	2422	8.98	
802.11n (HT40)	2437	8.94	
(11140)	2452	8.95	



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# 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 v03r03.

- (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

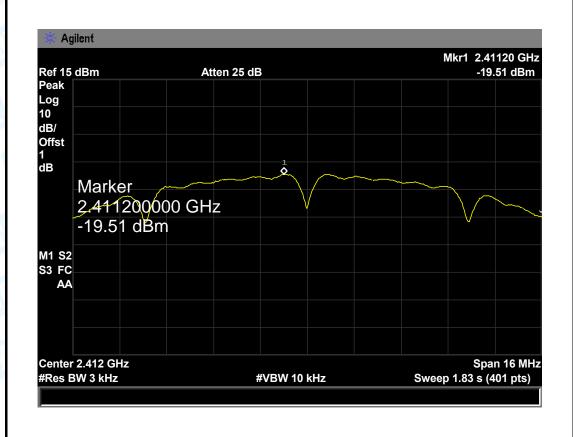
The EUT was set to continuously transmitting in each mode and low, Midle and high channel for the test.



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### 9.5 Test Data

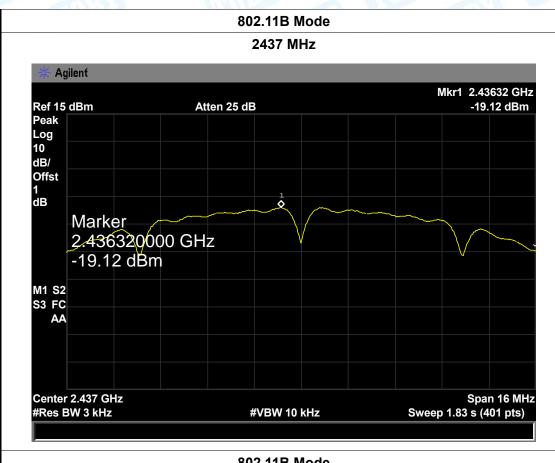
EUT:	DLP LED	DLP LED Projector Model:		M1	
Temperature:	25 ℃		Relative Humidity:	55%	
Test Voltage:	AC 120V/	60 Hz		CALLED .	
Test Mode:	TX 802.1	( 802.11B Mode			
Channel Freq	uency	Power Density		Limit (dBm)	
(MHz)		(3 kHz	z/dBm)		
2412	2412		9.51		
2437		-19.12		8	
2462		-18.63			
		802.11	B Mode		







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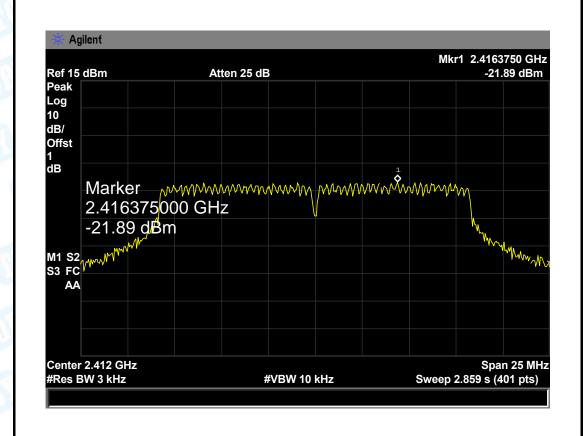
2462

Report No.: TB-FCC145046

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EUT:	DLP LED Projector		Model:		M1
Temperature:	25 ℃		Relative Humidity:		55%
Test Voltage:	AC 120V/	AC 120V/60 Hz			an is
Test Mode:	TX 802.1	TX 802.11G Mode			
Channel Freque	iency Power Density			Limit (dBm)	
(MHz)		(3 kHz/dBm)			
2412		-21.89			
2437		-21	.61		8

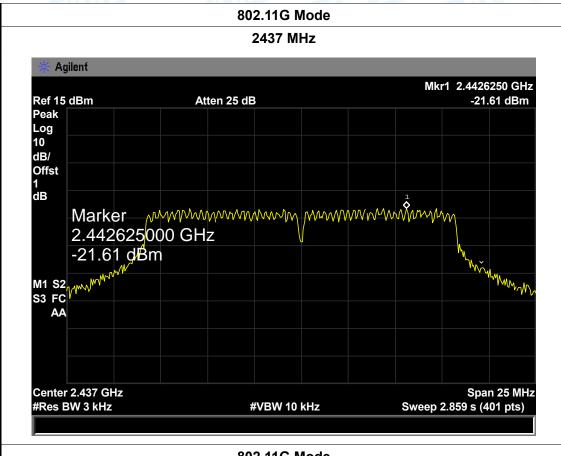
### -20.84 **802.11G Mode**







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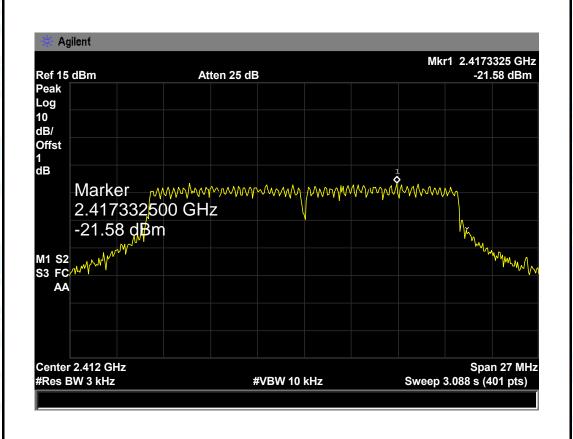


### 802.11G Mode 2462 MHz Agilent Mkr1 2.4660625 GHz Ref 15 dBm -20.84 dBm Atten 25 dB Peak Log 10 dB/ Offst 1 dB Marker pwwwwwym pwymwy www. 2.466062500 GHz -20.84 dBm M1 S2 AA Center 2.462 GHz Span 25 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.859 s (401 pts)



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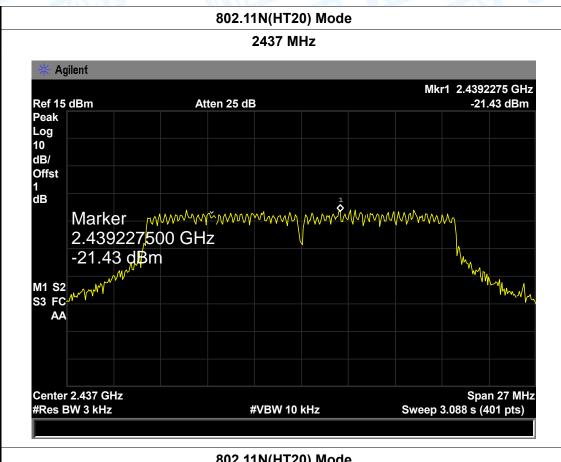
DLP LED Projector		Model:	M1	
25 ℃ R		Relative Humidity	<b>y</b> : 55%	
AC 120V/	60 Hz			
TX 802.1	TX 802.11N(HT20) Mode			
uency	Power Density		Limit (dBm)	
	(3 kHz/dBm)			
	-21.58			
	-21.43		8	
	-20.32			
	802.11N(H	T20) Mode		
	25 °C AC 120V/ TX 802.1	25 °C  AC 120V/60 Hz  TX 802.11N(HT20) Mode  uency  Power (3 kHz  -21  -20	25 °C Relative Humidity AC 120V/60 Hz TX 802.11N(HT20) Mode uency Power Density (3 kHz/dBm) -21.58 -21.43	







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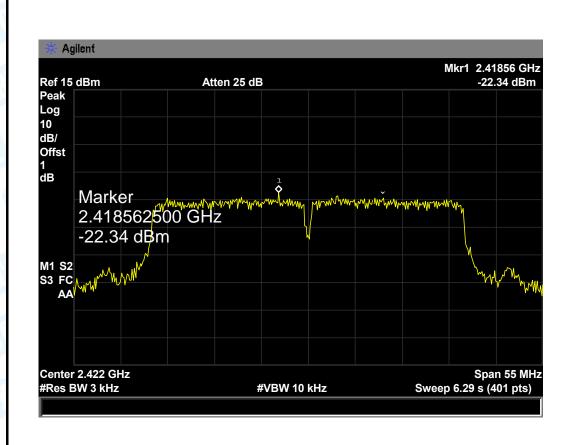


### 802.11N(HT20) Mode 2462 MHz Agilent Mkr1 2.4598400 GHz Ref 15 dBm -20.32 dBm Atten 25 dB Peak Log 10 dB/ Offst 1 dB 2.459840000 GHz -20.32 dBm M1 S2 S3 FC AA Center 2.462 GHz Span 27 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 3.088 s (401 pts)



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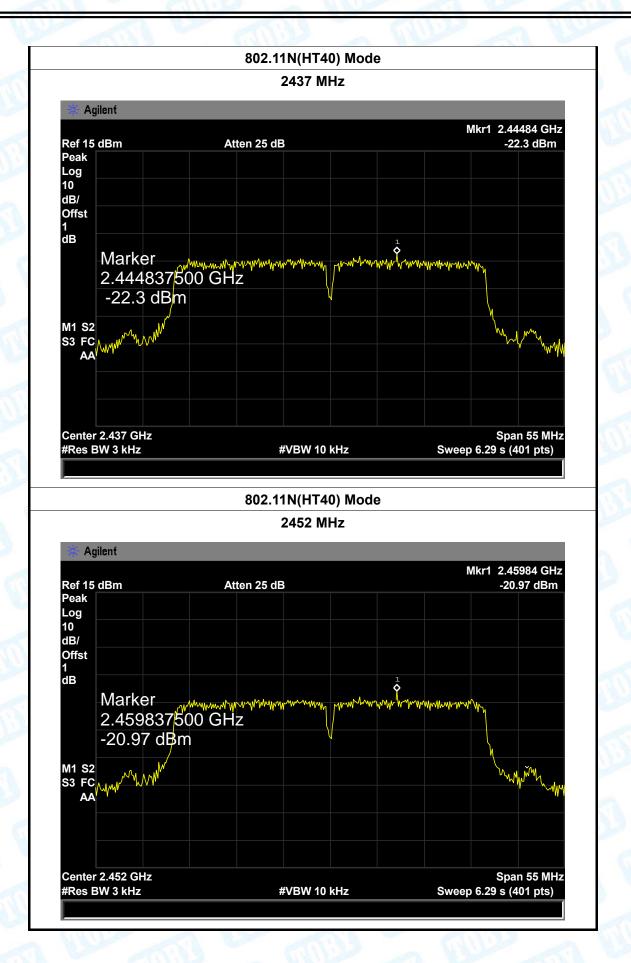
EUT:	DLP LED Projector		Model:	M1	
Temperature:	25 ℃		Relative Humidity:	55%	
Test Voltage:	AC 120V/60 Hz				
Test Mode:	TX 802.11N(HT40) Mode				
Channel Frequency		Power Density		Limit (dBm)	
(MHz)		(3 kHz/dBm)			
2422		-22.34			
2437		-22.30		8	
2452		-20	).96		
		802.11N(H	T40) Mode		
		2422	MHz		





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# 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 2.5 dBi, 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 an Embedded Antenna. It complies with the standard requirement.

	Antenna Type
33	▶ Permanent attached antenna
ann	□ Unique connector antenna
	□ Professional installation antenna