

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
Zylux Acoustic Corporation.

Flicks Portable Projector

Model No.: BK01DW45A * , BK02DW45A * , BK03DW45A * , BK04DW45A *

FCC ID: XN6-BKDW45

Prepared for : Zylux Acoustic Corporation.
Address : 3F, 22 Lane 35, Jihu Road, NeiHu Technolongy
Park, 114 Taipei Taiwan

Prepared by : ACCURATE TECHNOLOGY CO., LTD
Address : F1, Bldg. A, Chan Yuan New Material Port, Keyuan
Rd. Science & Industry Park, Nan Shan, Shenzhen,
Guangdong P.R. China

Tel: (0755) 26503290
Fax: (0755) 26503396

Report No. : ATE20151667
Date of Test : July 22-Aug 12, 2015
Date of Report : Aug 12, 2015

TABLE OF CONTENTS

Description	Page
Test Report Certification	
1. GENERAL INFORMATION	5
1.1. Description of Device (EUT).....	5
1.2. Carrier Frequency of Channels	6
1.3. Special Accessory and Auxiliary Equipment	6
1.4. Description of Test Facility	7
1.5. Measurement Uncertainty	7
2. MEASURING DEVICE AND TEST EQUIPMENT	8
3. OPERATION OF EUT DURING TESTING	9
3.1. Operating Mode	9
3.2. Configuration and peripherals	9
3.3. Sample differences and their testing instructions	10
4. TEST PROCEDURES AND RESULTS	11
5. POWER LINE CONDUCTED MEASUREMENT	12
5.1. Block Diagram of Test Setup.....	12
5.2. Power Line Conducted Emission Measurement Limits.....	12
5.3. Configuration of EUT on Measurement	12
5.4. Operating Condition of EUT	12
5.5. Test Procedure	13
5.6. Power Line Conducted Emission Measurement Results	13
6. 6DB BANDWIDTH MEASUREMENT	26
6.1. Block Diagram of Test Setup.....	26
6.2. The Requirement For Section 15.247(a)(2).....	26
6.3. EUT Configuration on Measurement	26
6.4. Operating Condition of EUT	26
6.5. Test Procedure	26
6.6. Test Result	27
7. MAXIMUM PEAK OUTPUT POWER	29
7.1. Block Diagram of Test Setup.....	29
7.2. The Requirement For Section 15.247(b)(3).....	29
7.3. EUT Configuration on Measurement	29
7.4. Operating Condition of EUT	29
7.5. Test Procedure	29
7.6. Test Result	30
8. POWER SPECTRAL DENSITY MEASUREMENT.....	32
8.1. Block Diagram of Test Setup.....	32
8.2. The Requirement For Section 15.247(e).....	32
8.3. EUT Configuration on Measurement	32
8.4. Operating Condition of EUT	32
8.5. Test Procedure	33
8.6. Test Result	34
9. BAND EDGE COMPLIANCE TEST	36
9.1. Block Diagram of Test Setup.....	36
9.2. The Requirement For Section 15.247(d)	36
9.3. EUT Configuration on Measurement	36

9.4.	Operating Condition of EUT	37
9.5.	Test Procedure	37
9.6.	Test Result	37
10.	RADIATED SPURIOUS EMISSION TEST	44
10.1.	Block Diagram of Test Setup.....	44
10.2.	The Limit For Section 15.247(d)	45
10.3.	Restricted bands of operation	46
10.4.	Configuration of EUT on Measurement	46
10.5.	Operating Condition of EUT	46
10.6.	Test Procedure	47
10.7.	The Field Strength of Radiation Emission Measurement Results	48
11.	CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST	66
11.1.	Block Diagram of Test Setup.....	66
11.2.	The Requirement For Section 15.247(d)	66
11.3.	EUT Configuration on Measurement	66
11.4.	Operating Condition of EUT	66
11.5.	Test Procedure	67
11.6.	Test Result	67
12.	ANTENNA REQUIREMENT.....	69
12.1.	The Requirement	69
12.2.	Antenna Construction	69

Test Report Certification

Applicant : Zylux Acoustic Corporation.
Manufacturer : Dashbon, Inc.
Factory : Zhao Yang Electronic(Shenzhen) Co., Ltd.
EUT Description : Flicks Portable Projector
BK01DW45A * , BK02DW45A * ,
BK03DW45A * , BK04DW45A *
Note:
Model No. : 1.character “ * ” can be A-Z or Blank, indicate different Color
2. Except that the battery capacity is not the same between
BK01DW45A * and BK02DW45A * , other circuits are the same.
Trade Name : Dashbon

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.10: 2013

The EUT was tested according to DTS test procedure of Jun 05, 2014 KDB558074 D01 DTS Meas Guidance v03r02 for compliance to FCC 47CFR 15.247 requirements

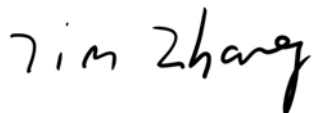
The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : July 22, 2015-Aug 12, 2015

Date of Report: Aug 12, 2015

Prepared by :


(Tim.zhang, Engineer)

Approved & Authorized Signer :


(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Flicks Portable Projector
Model Number	:	BK01DW45A * , BK02DW45A * , BK03DW45A * , BK04DW45A *
		Note:
		1.character “ * ” can be A-Z or Blank, indicate different Color
		2. Except that the battery capacity is not the same between BK01DW45A * and BK02DW45A * , other circuits are the same.
Bluetooth version	:	Bluetooth V4.0 LE
Frequency Range	:	2402MHz-2480MHz
Number of Channels	:	40
Antenna Gain	:	0dBi
Antenna type	:	PCB Antenna
Trade Name	:	Dashbon
Power Supply	:	AC 120V/60Hz
Adapter	:	Model: A10-090P3A Input: AC100-240V; 50/60Hz Output: DC 19V; 4.74A
Modulation mode	:	GFSK
Applicant	:	Zylux Acoustic Corporation.
Address	:	3F, 22 Lane 35, Jihu Road, NeiHu Technolongy Park, 114 Taipei Taiwan
Manufacturer	:	Dashbon, Inc.
Address	:	4F No 94 Baozhong Rd, Xindian District, New Taipei City, 23144 Taiwan.
Factory	:	Zhao Yang Electronic(Shenzhen) Co., Ltd.
Address	:	Section A, 4th Floor, Building 1 & Building 2, De Yong Jia Industrial PaYu Lv Community, Gong Ming Street, Guang Ming New District, ShenZhen, PRC
Date of sample received	:	July 22, 2015
Date of Test	:	July 22, 2015-Aug 12, 2015

1.2.Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

1.3.Special Accessory and Auxiliary Equipment

PC

Manufacturer: LENOVO

M/N: 4290-RT8

S/N: R9-FW93G 11/08

1.4. Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC
The Registration Number is 752051

Listed by Industry Canada
The Registration Number is 5077A-2

Accredited by China National Accreditation Committee
for Laboratories
The Certificate Registration Number is L3193

Name of Firm : ACCURATE TECHNOLOGY CO. LTD

Site Location : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.
Science & Industry Park, Nanshan, Shenzhen, Guangdong
P.R. China

1.5. Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty = 3.08dB, k=2
(9kHz-30MHz)

Radiated emission expanded uncertainty = 4.42dB, k=2
(30MHz-1000MHz)

Radiated emission expanded uncertainty = 4.06dB, k=2
(Above 1GHz)

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2015	Jan. 10, 2016
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2015	Jan. 10, 2016
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2015	Jan. 10, 2016
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 11, 2015	Jan. 10, 2016
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2015	Jan. 14, 2016
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2015	Jan. 14, 2016
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2015	Jan. 14, 2016
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 15, 2015	Jan. 14, 2016
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2015	Jan. 10, 2016
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2015	Jan. 10, 2016
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 11, 2015	Jan. 10, 2016
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 11, 2015	Jan. 10, 2016

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

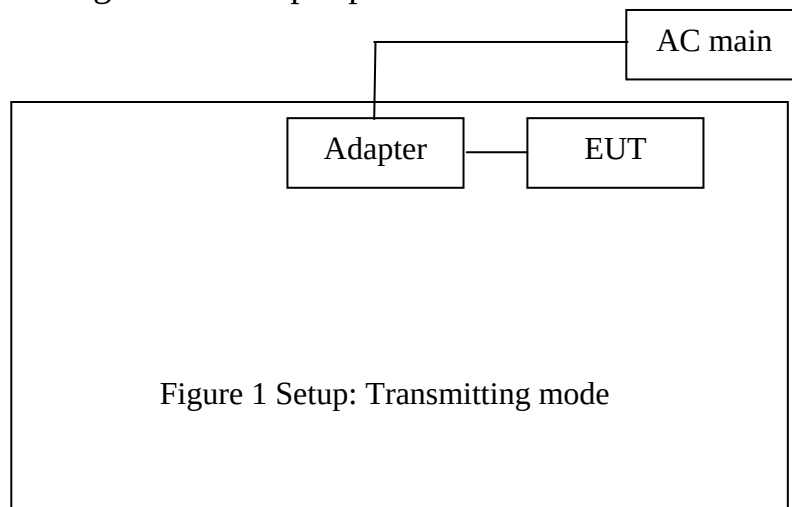
The mode is used: **BLE Transmitting mode**

Low Channel: 2402MHz

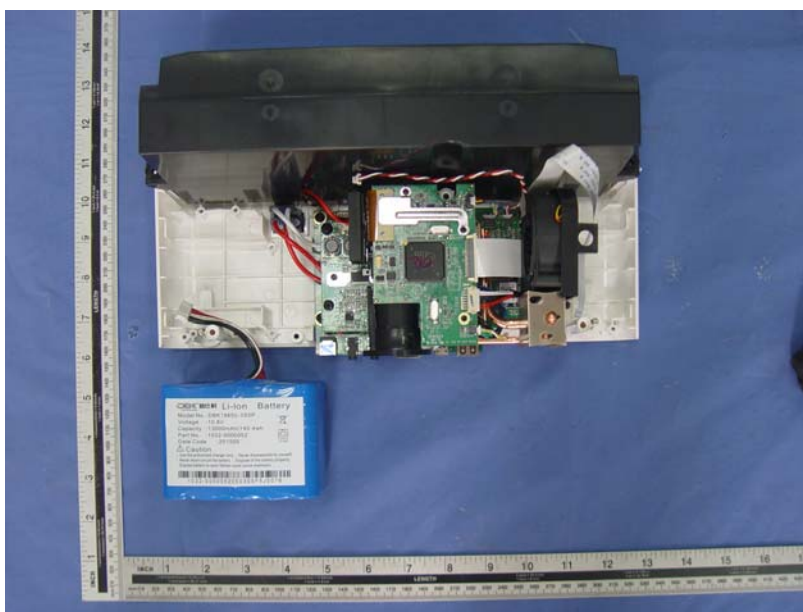
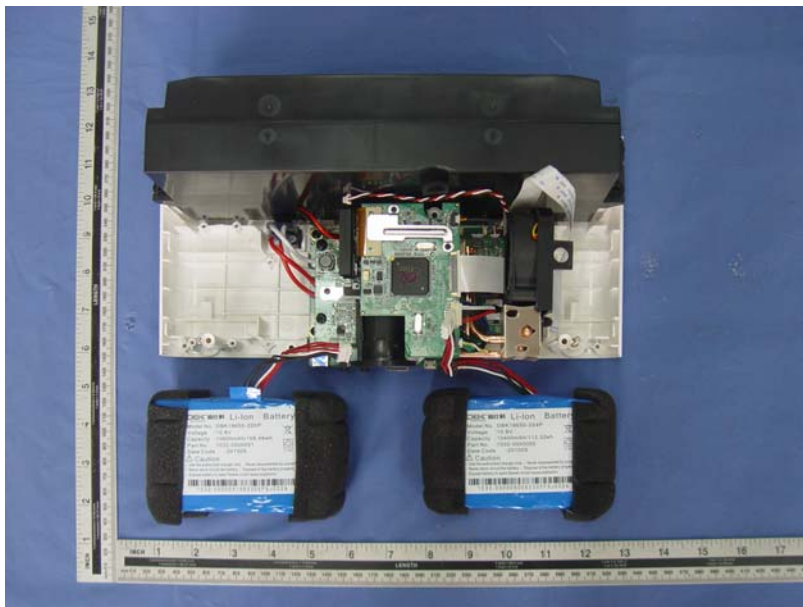
Middle Channel: 2440MHz

High Channel: 2480MHz

3.2.Configuration and peripherals



3.3.Sample differences and their testing instructions



Note: BK01DW45A * , BK02DW45A * , BK03DW45A * , BK04DW45A * character “ * ” can be A-Z or Blank, indicate different Color
 Except that the battery capacity is not the same between BK01DW45A * and BK02DW45A * , BK02DW45A * series' EUT are equipped with two battery. The battery capacity is 15600mAH and 10400mAH respectively.
 BK01DW45A * series' EUT only equipped with a battery. The battery capacity is 13000mAH.
 The other circuits are all the same.

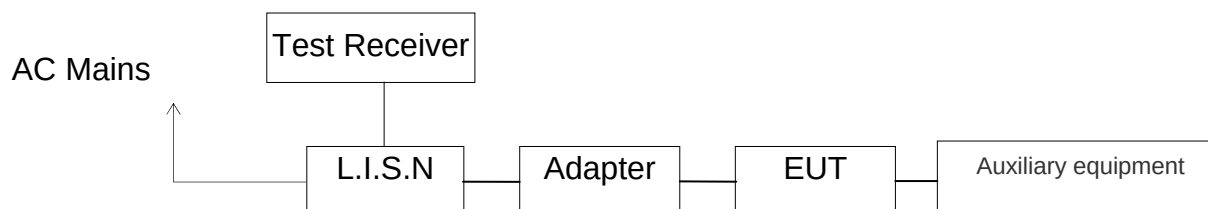
The difference of the EUT' battery may affect the test with the following two items:
 AC Power Line Conducted Emission Test and Radiated Spurious Emission Test
 So we have two different types of test data in the report.

4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. POWER LINE CONDUCTED MEASUREMENT

5.1. Block Diagram of Test Setup



(EUT: Flicks Portable Projector)

5.2. Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

NOTE1: The lower limit shall apply at the transition frequencies.
 NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

5.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

5.4. Operating Condition of EUT

- 5.4.1. Setup the EUT and simulator as shown as Section 5.1.
- 5.4.2. Turn on the power of all equipment.
- 5.4.3. Let the EUT work in test mode and measure it.

5.5. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2014 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

5.6. Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150kHz to 30MHz is checked.

Test mode : BT communicating(AC 120V/60Hz)

EUT mode : BK01DW45A*

MEASUREMENT RESULT: "ZYE019_fin"

2015-8-1 9:30

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.374000	40.10	11.2	58	18.3	QP	L1	GND
1.856000	34.10	11.7	56	21.9	QP	L1	GND
12.863000	34.40	11.9	60	25.6	QP	L1	GND

MEASUREMENT RESULT: "ZYE019_fin2"

2015-8-1 9:30

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.374000	39.30	11.2	48	9.1	AV	L1	GND
1.852000	29.70	11.7	46	16.3	AV	L1	GND
12.597500	29.30	11.9	50	20.7	AV	L1	GND

MEASUREMENT RESULT: "ZYE018_fin"

2015-8-1 9:28

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.60	11.2	58	17.8	QP	N	GND
1.856000	34.10	11.7	56	21.9	QP	N	GND
12.350000	34.40	11.9	60	25.6	QP	N	GND

MEASUREMENT RESULT: "ZYE018_fin2"

2015-8-1 9:28

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.30	11.2	48	8.1	AV	N	GND
1.850000	29.50	11.7	46	16.5	AV	N	GND
12.372500	29.20	11.9	50	20.8	AV	N	GND

Test mode : BT communicating(AC 240V/60Hz)

EUT mode : BK01DW45A*

MEASUREMENT RESULT: "ZYE002_fin"

2015-7-30 15:43

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.387000	38.50	11.3	58	19.6	QP	L1	GND
0.732000	27.40	11.5	56	28.6	QP	L1	GND
1.989000	31.00	11.7	56	25.0	QP	L1	GND

MEASUREMENT RESULT: "ZYE002_fin2"

2015-7-30 15:43

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.384000	35.40	11.2	48	12.8	AV	L1	GND
0.729000	25.70	11.5	46	20.3	AV	L1	GND
1.989000	28.80	11.7	46	17.2	AV	L1	GND

MEASUREMENT RESULT: "ZYE001_fin"

2015-7-30 15:40

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.387000	41.00	11.3	58	17.1	QP	N	GND
0.726000	29.20	11.5	56	26.8	QP	N	GND
1.965000	29.30	11.7	56	26.7	QP	N	GND

MEASUREMENT RESULT: "ZYE001_fin2"

2015-7-30 15:40

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.387000	34.50	11.3	48	13.6	AV	N	GND
0.726000	26.50	11.5	46	19.5	AV	N	GND
1.962000	28.50	11.7	46	17.5	AV	N	GND

Test mode : BT communicating(AC 120V/60Hz)

EUT mode : BK02DW45A*

MEASUREMENT RESULT: "ZYE016_fin"

2015-8-1 9:23

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	41.10	11.2	58	17.3	QP	L1	GND
1.854000	34.30	11.7	56	21.7	QP	L1	GND
12.804500	34.50	11.9	60	25.5	QP	L1	GND

MEASUREMENT RESULT: "ZYE016_fin2"

2015-8-1 9:23

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.374000	40.20	11.2	48	8.2	AV	L1	GND
1.848000	29.80	11.7	46	16.2	AV	L1	GND
12.854000	29.40	11.9	50	20.6	AV	L1	GND

MEASUREMENT RESULT: "ZYE017_fin"

2015-8-1 9:26

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.80	11.2	58	17.6	QP	N	GND
1.856000	34.50	11.7	56	21.5	QP	N	GND
13.056500	33.90	11.9	60	26.1	QP	N	GND

MEASUREMENT RESULT: "ZYE017_fin2"

2015-8-1 9:26

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.30	11.2	48	8.1	AV	N	GND
1.852000	29.80	11.7	46	16.2	AV	N	GND
12.768500	29.50	11.9	50	20.5	AV	N	GND

Test mode : BT communicating(AC 240V/60Hz)

EUT mode : BK02DW45A*

MEASUREMENT RESULT: "ZYE011_fin"

2015-8-1 9:08

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	41.60	11.2	58	16.8	QP	L1	GND
0.723000	33.30	11.5	56	22.7	QP	L1	GND
1.905000	37.40	11.7	56	18.6	QP	L1	GND

MEASUREMENT RESULT: "ZYE011_fin2"

2015-8-1 9:08

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	39.70	11.2	48	8.7	AV	L1	GND
0.723000	30.90	11.5	46	15.1	AV	L1	GND
1.902000	33.50	11.7	46	12.5	AV	L1	GND

MEASUREMENT RESULT: "ZYE010_fin"

2015-8-1 9:05

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.378000	38.80	11.2	58	19.5	QP	N	GND
0.696000	34.30	11.5	56	21.7	QP	N	GND
1.902000	37.30	11.7	56	18.7	QP	N	GND

MEASUREMENT RESULT: "ZYE010_fin2"

2015-8-1 9:05

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	39.40	11.2	48	9.0	AV	N	GND
0.696000	31.80	11.5	46	14.2	AV	N	GND
1.902000	35.00	11.7	46	11.0	AV	N	GND

Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

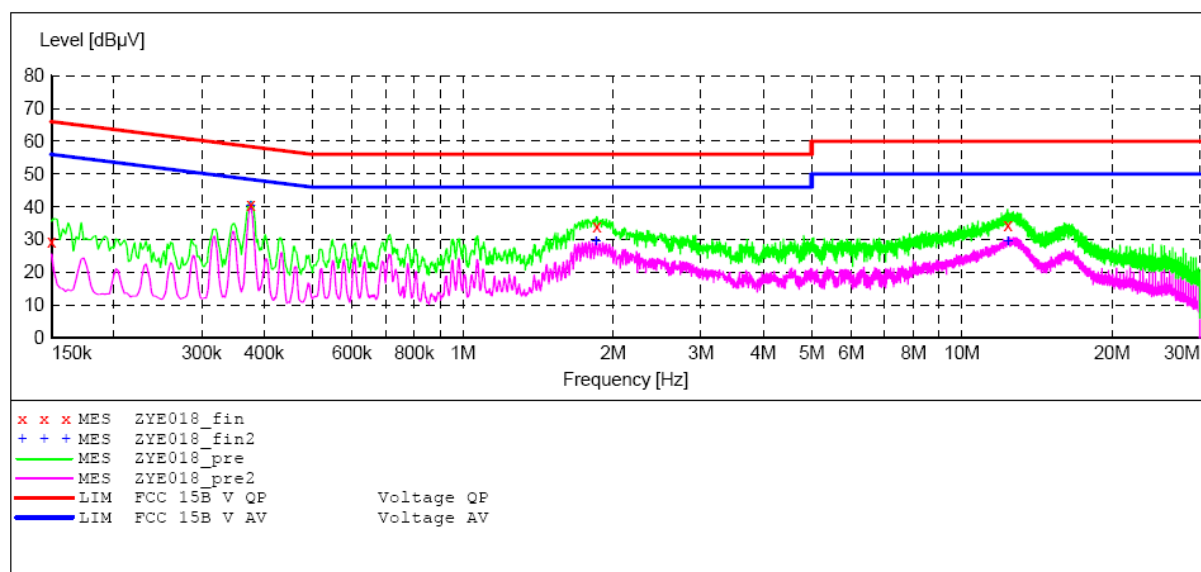
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK01DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: N 120V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-8-1 / 9:27:04

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN(ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE018_fin"

2015-8-1 9:28

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.60	11.2	58	17.8	QP	N	GND
1.856000	34.10	11.7	56	21.9	QP	N	GND
12.350000	34.40	11.9	60	25.6	QP	N	GND

MEASUREMENT RESULT: "ZYE018_fin2"

2015-8-1 9:28

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.30	11.2	48	8.1	AV	N	GND
1.850000	29.50	11.7	46	16.5	AV	N	GND
12.372500	29.20	11.9	50	20.8	AV	N	GND

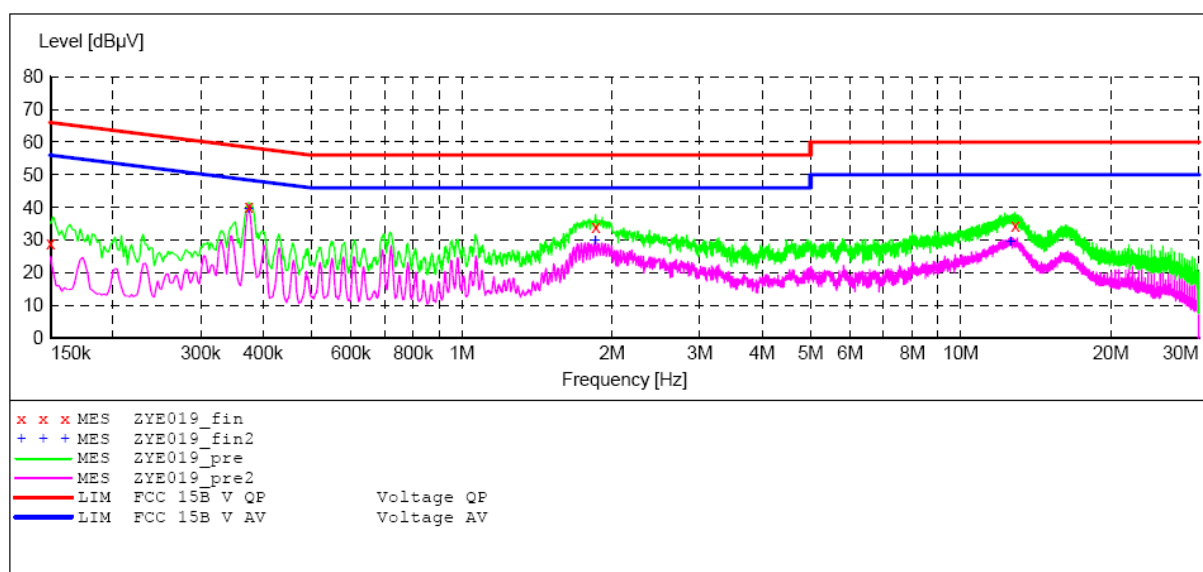
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK01DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: L 120V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-8-1 / 9:29:09

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN (ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE019_fin"

2015-8-1 9:30

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.374000	40.10	11.2	58	18.3	QP	L1	GND
1.856000	34.10	11.7	56	21.9	QP	L1	GND
12.863000	34.40	11.9	60	25.6	QP	L1	GND

MEASUREMENT RESULT: "ZYE019_fin2"

2015-8-1 9:30

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.374000	39.30	11.2	48	9.1	AV	L1	GND
1.852000	29.70	11.7	46	16.3	AV	L1	GND
12.597500	29.30	11.9	50	20.7	AV	L1	GND

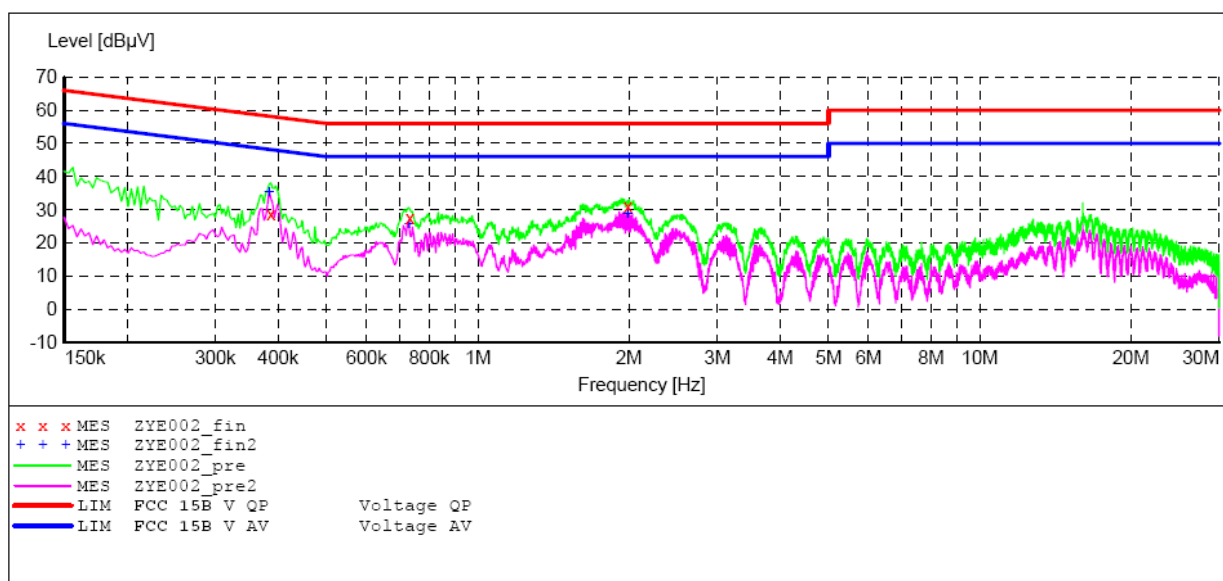
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK01DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: L 240V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-7-30 / 15:41:56

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN (ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE002_fin"

2015-7-30 15:43

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.387000	38.50	11.3	58	19.6	QP	L1	GND
0.732000	27.40	11.5	56	28.6	QP	L1	GND
1.989000	31.00	11.7	56	25.0	QP	L1	GND

MEASUREMENT RESULT: "ZYE002_fin2"

2015-7-30 15:43

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.384000	35.40	11.2	48	12.8	AV	L1	GND
0.729000	25.70	11.5	46	20.3	AV	L1	GND
1.989000	28.80	11.7	46	17.2	AV	L1	GND

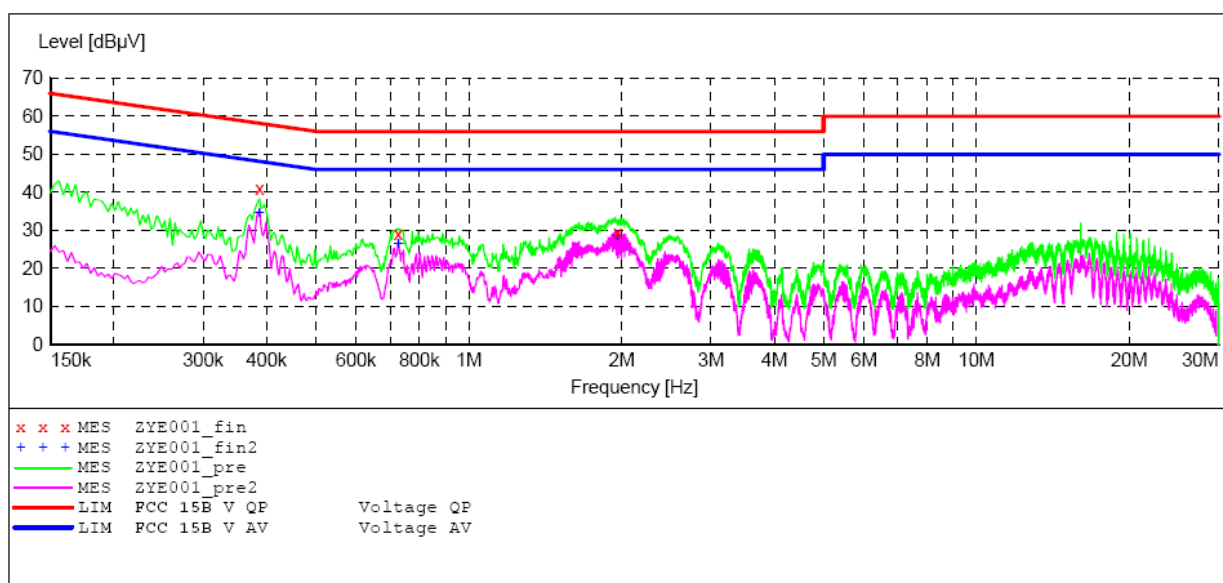
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK01DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: N 240V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-7-30 / 15:39:11

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN (ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE001_fin"

2015-7-30 15:40

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.387000	41.00	11.3	58	17.1	QP	N	GND
0.726000	29.20	11.5	56	26.8	QP	N	GND
1.965000	29.30	11.7	56	26.7	QP	N	GND

MEASUREMENT RESULT: "ZYE001_fin2"

2015-7-30 15:40

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.387000	34.50	11.3	48	13.6	AV	N	GND
0.726000	26.50	11.5	46	19.5	AV	N	GND
1.962000	28.50	11.7	46	17.5	AV	N	GND

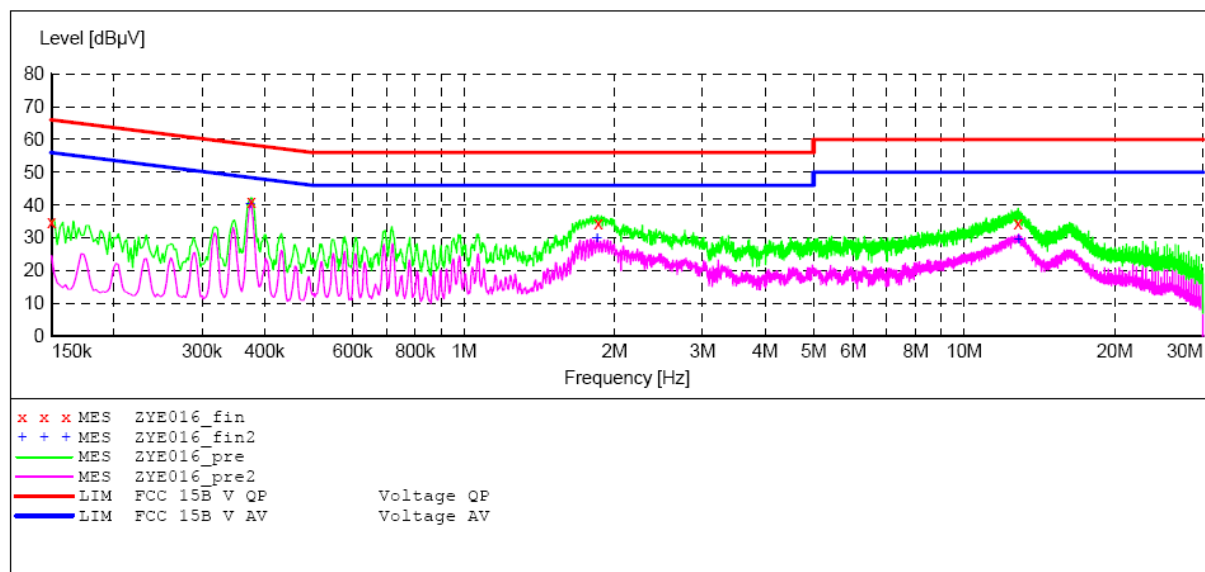
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK02DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: L 120V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-8-1 / 9:22:16

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN(ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE016_fin"

2015-8-1 9:23

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	41.10	11.2	58	17.3	QP	L1	GND
1.854000	34.30	11.7	56	21.7	QP	L1	GND
12.804500	34.50	11.9	60	25.5	QP	L1	GND

MEASUREMENT RESULT: "ZYE016_fin2"

2015-8-1 9:23

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.374000	40.20	11.2	48	8.2	AV	L1	GND
1.848000	29.80	11.7	46	16.2	AV	L1	GND
12.854000	29.40	11.9	50	20.6	AV	L1	GND

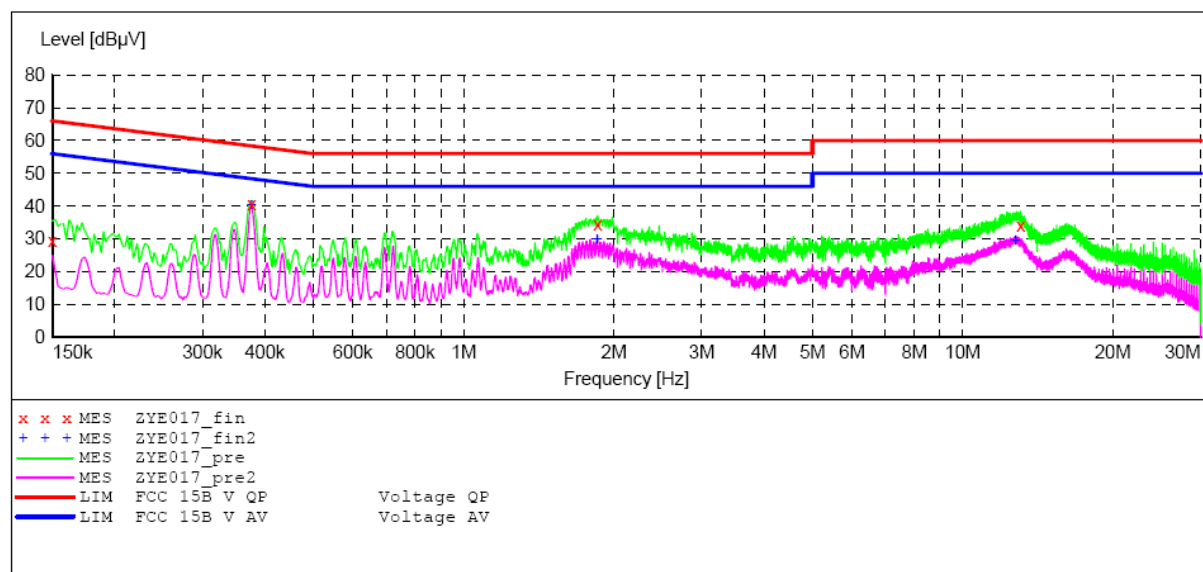
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK02DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: N 120V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-8-1 / 9:24:41

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN(ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE017_fin"

2015-8-1 9:26

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.80	11.2	58	17.6	QP	N	GND
1.856000	34.50	11.7	56	21.5	QP	N	GND
13.056500	33.90	11.9	60	26.1	QP	N	GND

MEASUREMENT RESULT: "ZYE017_fin2"

2015-8-1 9:26

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.376000	40.30	11.2	48	8.1	AV	N	GND
1.852000	29.80	11.7	46	16.2	AV	N	GND
12.768500	29.50	11.9	50	20.5	AV	N	GND

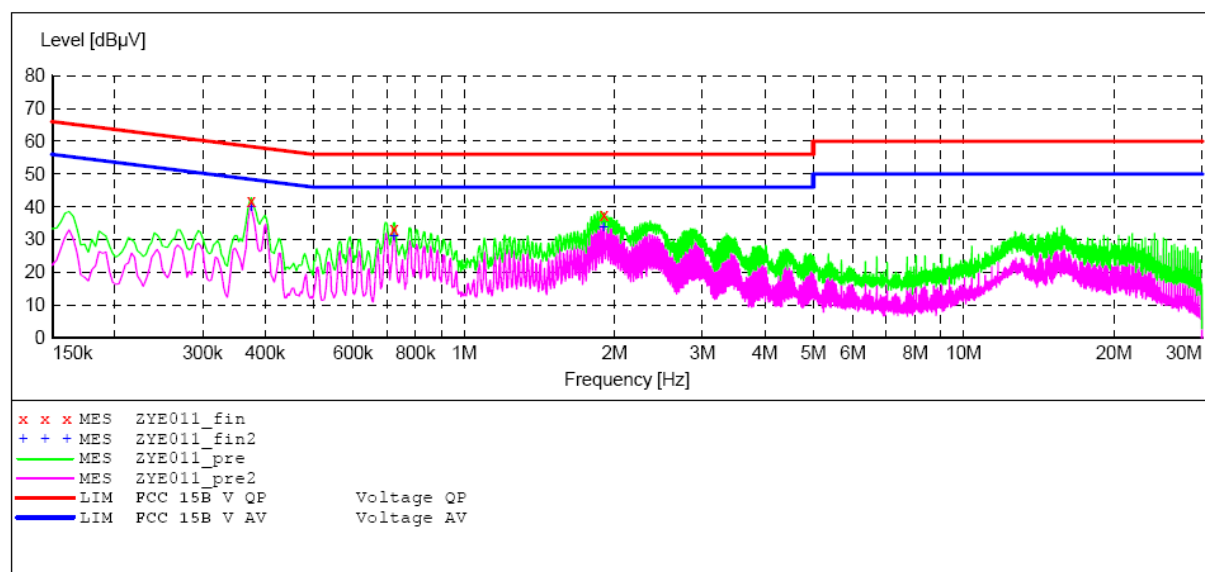
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK02DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: L 240V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-8-1 / 9:06:19

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN(ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE011_fin"

2015-8-1 9:08

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	41.60	11.2	58	16.8	QP	L1	GND
0.723000	33.30	11.5	56	22.7	QP	L1	GND
1.905000	37.40	11.7	56	18.6	QP	L1	GND

MEASUREMENT RESULT: "ZYE011_fin2"

2015-8-1 9:08

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	39.70	11.2	48	8.7	AV	L1	GND
0.723000	30.90	11.5	46	15.1	AV	L1	GND
1.902000	33.50	11.7	46	12.5	AV	L1	GND

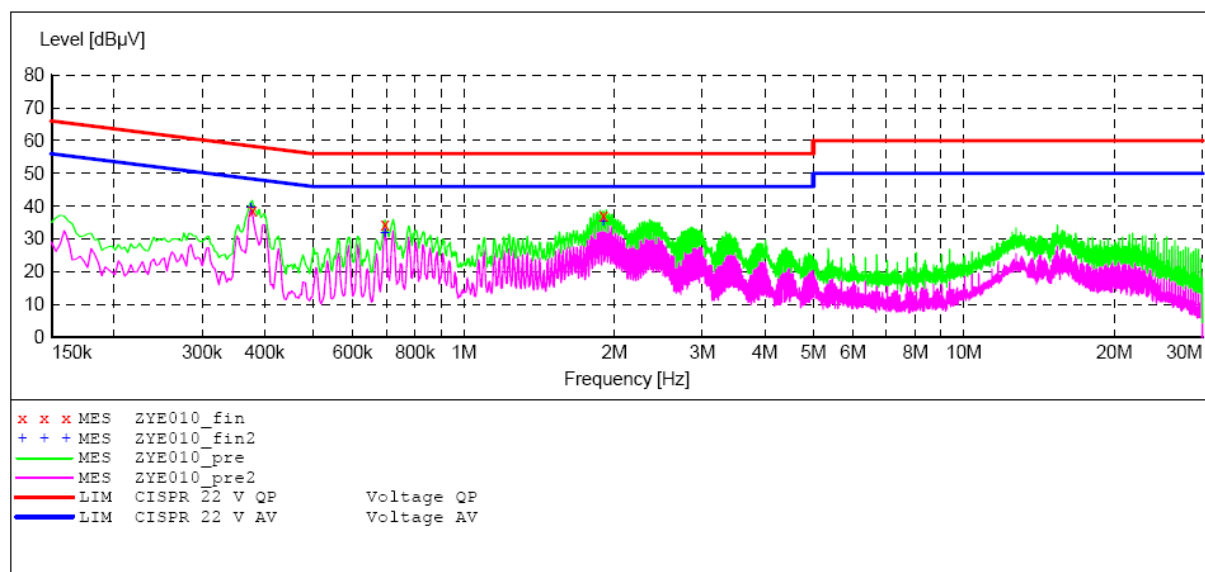
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Flicks Portable Projector M/N:BK02DW45A*
 Manufacturer: Dashbon, Inc.
 Operating Condition: BT OPERATION
 Test Site: 2#Shielding Room
 Operator: star
 Test Specification: N 240V/60Hz
 Comment: Report No.:ATE20151667
 Start of Test: 2015-8-1 / 9:03:52

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz LISN(ESH3-Z5)
 Average



MEASUREMENT RESULT: "ZYE010_fin"

2015-8-1 9:05

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.378000	38.80	11.2	58	19.5	QP	N	GND
0.696000	34.30	11.5	56	21.7	QP	N	GND
1.902000	37.30	11.7	56	18.7	QP	N	GND

MEASUREMENT RESULT: "ZYE010_fin2"

2015-8-1 9:05

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	39.40	11.2	48	9.0	AV	N	GND
0.696000	31.80	11.5	46	14.2	AV	N	GND
1.902000	35.00	11.7	46	11.0	AV	N	GND

6. 6DB BANDWIDTH MEASUREMENT

6.1. Block Diagram of Test Setup



(EUT: Flicks Portable Projector)

6.2. The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.3. EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4. Operating Condition of EUT

6.4.1. Setup the EUT and simulator as shown as Section 6.1.

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

6.5. Test Procedure

6.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

6.5.2. Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

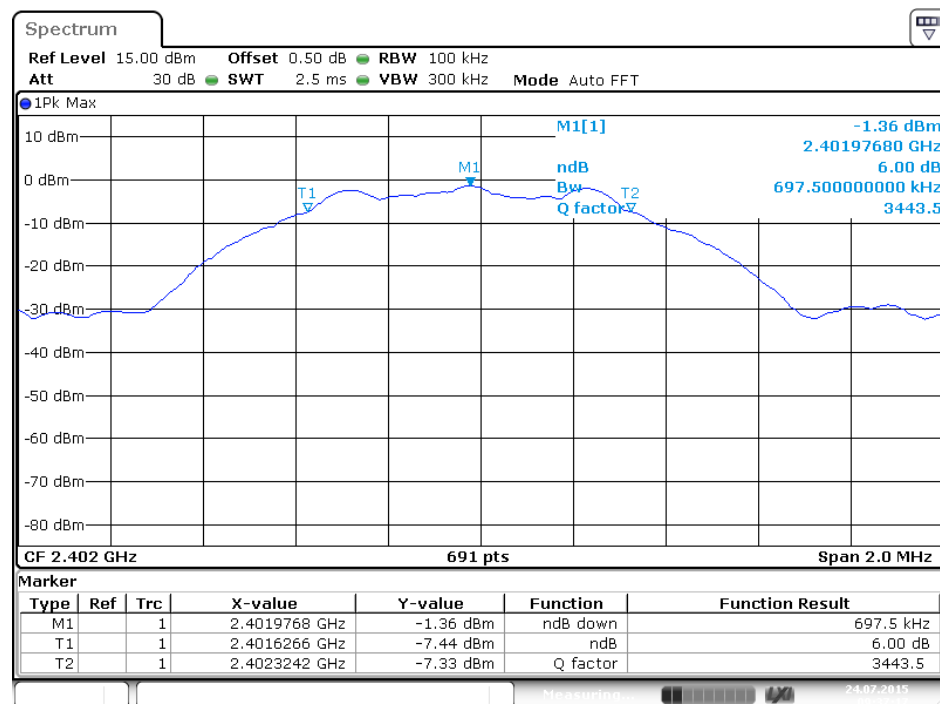
6.5.3. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

6.6.Test Result

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit(MHz)	PASS/FAIL
0	2402	0.6975	0.5	PASS
19	2440	0.6918	0.5	PASS
39	2480	0.6946	0.5	PASS

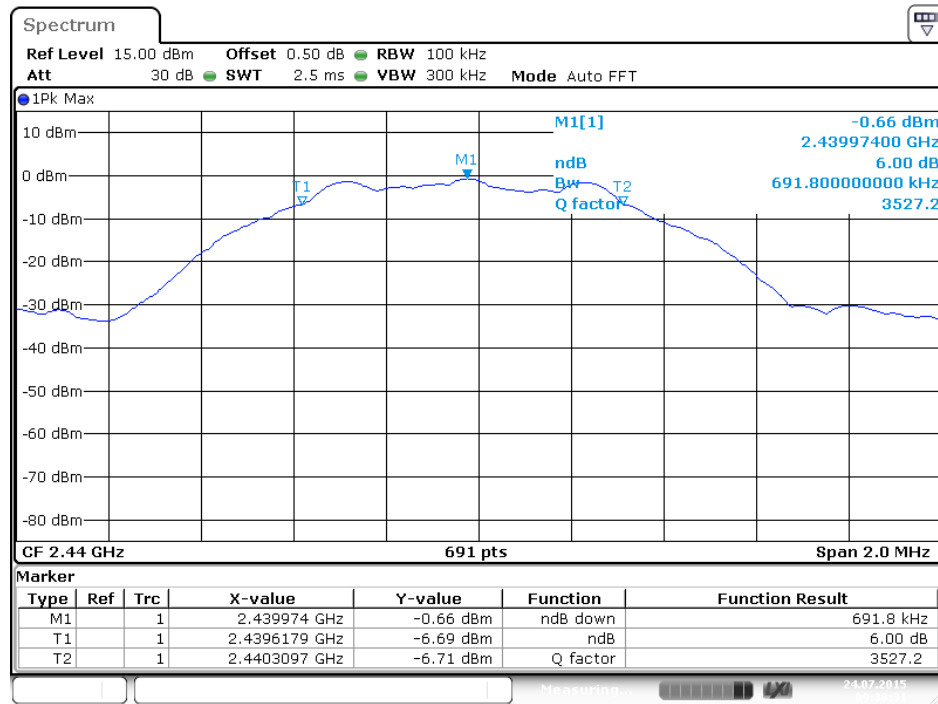
The spectrum analyzer plots are attached as below.

channel 0



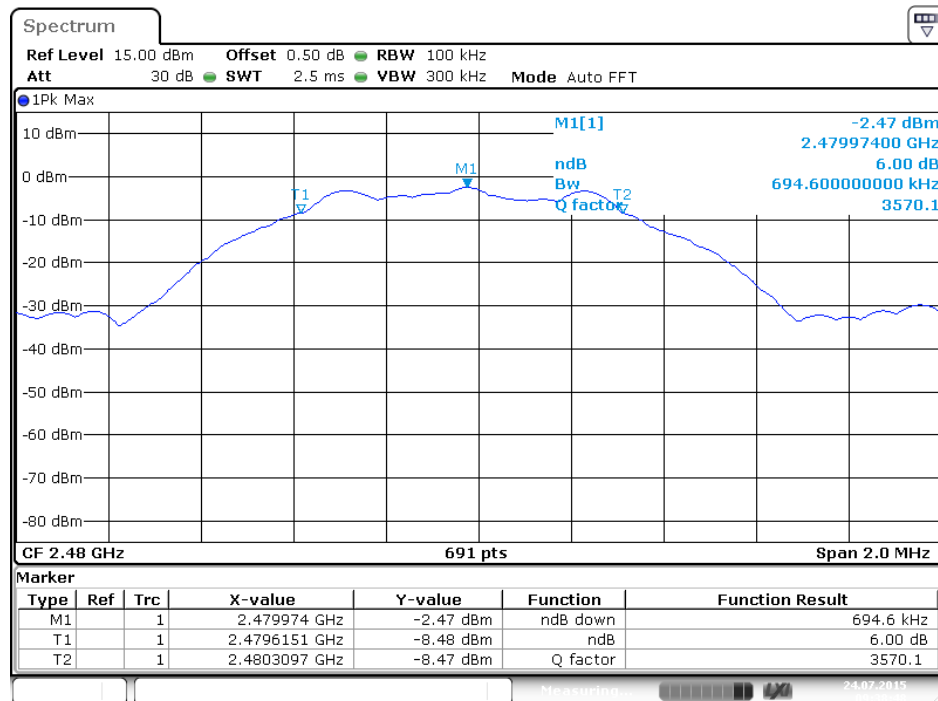
Date: 24.JUL.2015 09:37:18

channel 19



Date: 24.JUL.2015 09:38:31

channel 39



Date: 24.JUL.2015 09:38:49

7. MAXIMUM PEAK OUTPUT POWER

7.1. Block Diagram of Test Setup



(EUT: Flicks Portable Projector)

7.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

7.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.4. Operating Condition of EUT

7.4.1. Setup the EUT and simulator as shown as Section 7.1.

7.4.2. Turn on the power of all equipment.

7.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

7.5. Test Procedure

7.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

7.5.2. Test method is options 1 from KDB558074 D01 DTS Meas Guidance v03r02

7.5.3. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz.

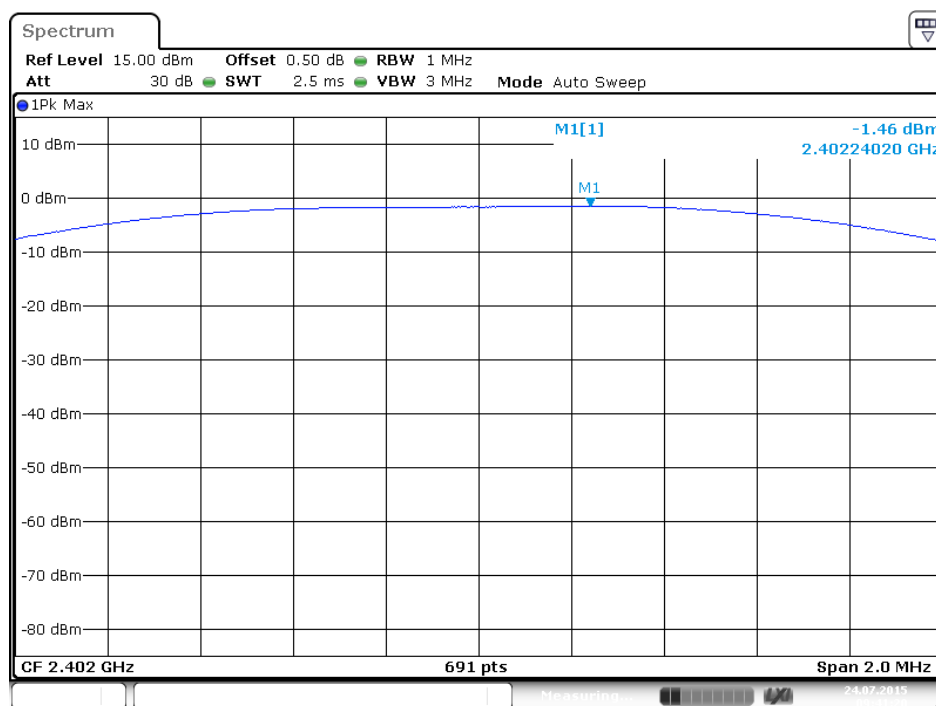
7.5.4. Measurement the maximum peak output power.

7.6.Test Result

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
0	2402	-1.46	30	PASS
19	2440	-0.47	30	PASS
39	2480	-2.14	30	PASS

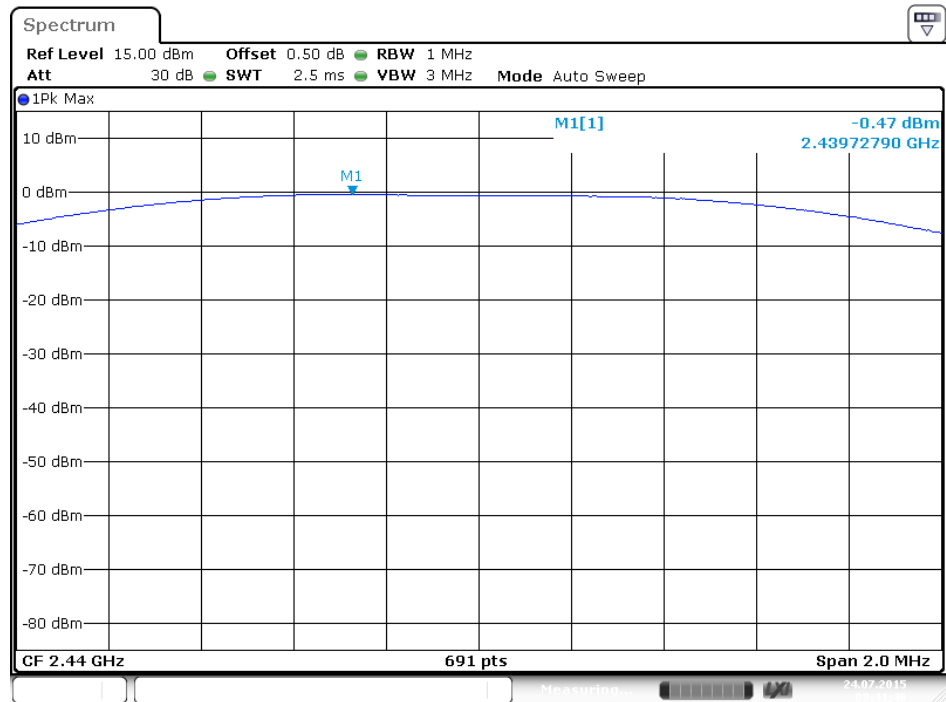
The spectrum analyzer plots are attached as below.

channel 0



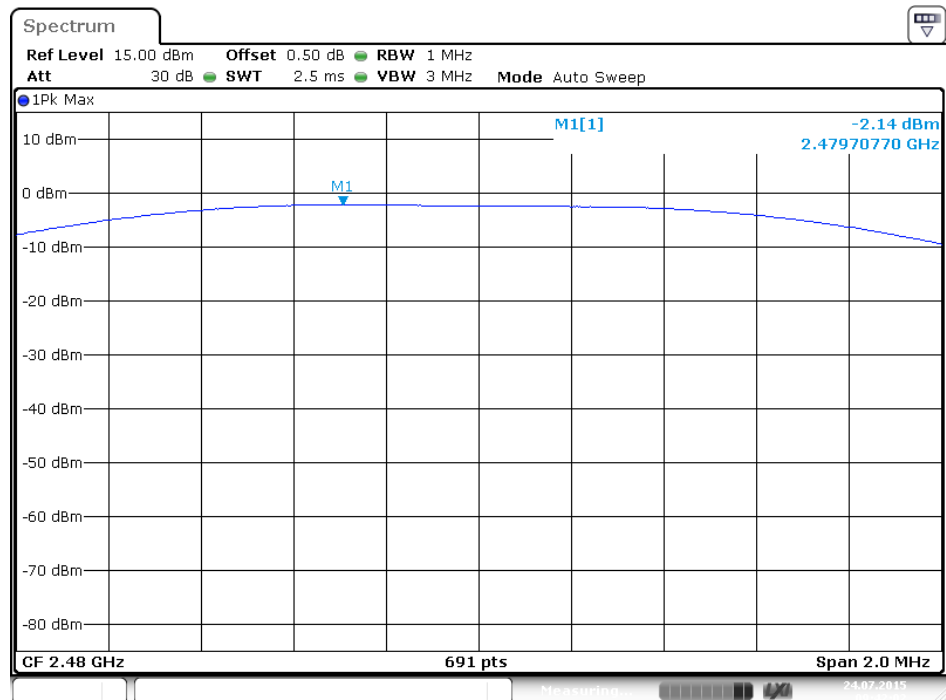
Date: 24.JUL.2015 09:41:20

channel 19



Date: 24.JUL.2015 09:41:46

channel 39



Date: 24.JUL.2015 09:42:03

8. POWER SPECTRAL DENSITY MEASUREMENT

8.1. Block Diagram of Test Setup



(EUT: Flicks Portable Projector)

8.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

8.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

8.4. Operating Condition of EUT

8.4.1. Setup the EUT and simulator as shown as Section 8.1.

8.4.2. Turn on the power of all equipment.

8.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

8.5. Test Procedure

8.5.1. The EUT was tested according to DTS test procedure of Jun 05, 2014 KDB558074 D01 DTS Meas Guidance v03r02 for compliance to FCC 47CFR 15.247 requirements.

8.5.2. The transmitter output was connected to the spectrum analyzer through a low loss cable.

8.5.3. Measurement Procedure PKPSD:

8.5.4. This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

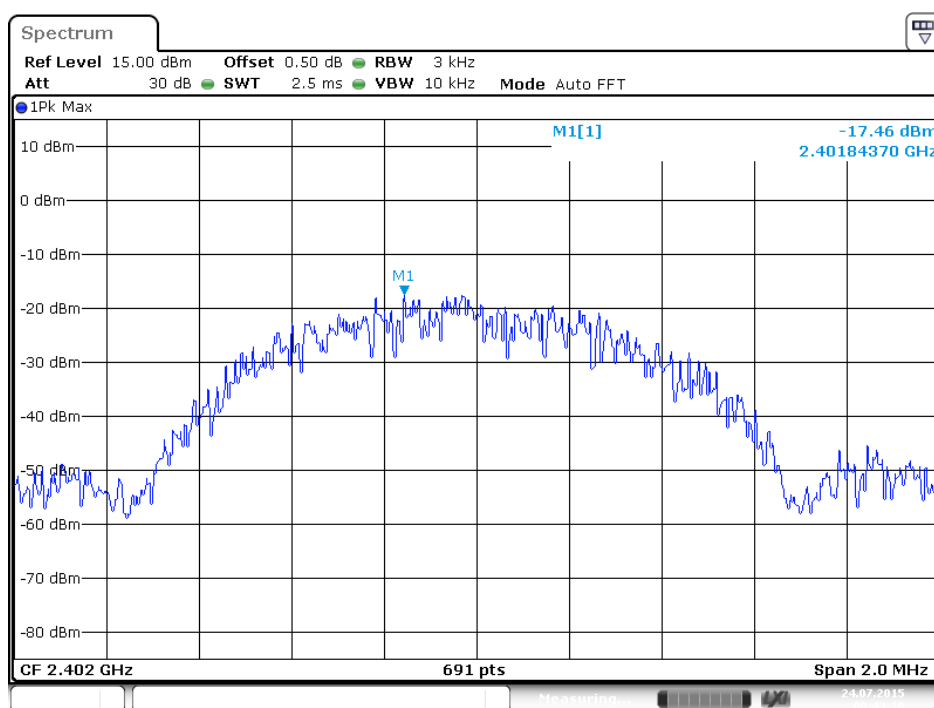
8.5.5. Measurement the maximum power spectral density.

8.6.Test Result

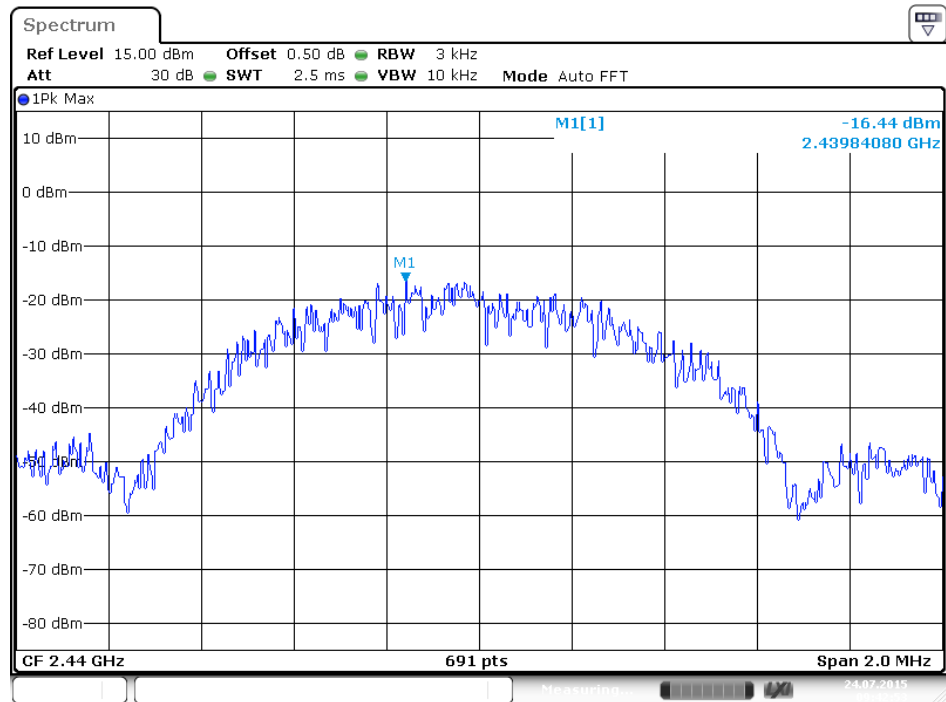
CHANNEL NUMBER	FREQUENCY (MHz)	PSD (dBm/3KHz)	LIMIT (dBm/3KHz)	PASS/FAIL
0	2402	-17.46	8	PASS
19	2440	-16.44	8	PASS
39	2480	-17.97	8	PASS

The spectrum analyzer plots are attached as below.

channel 0

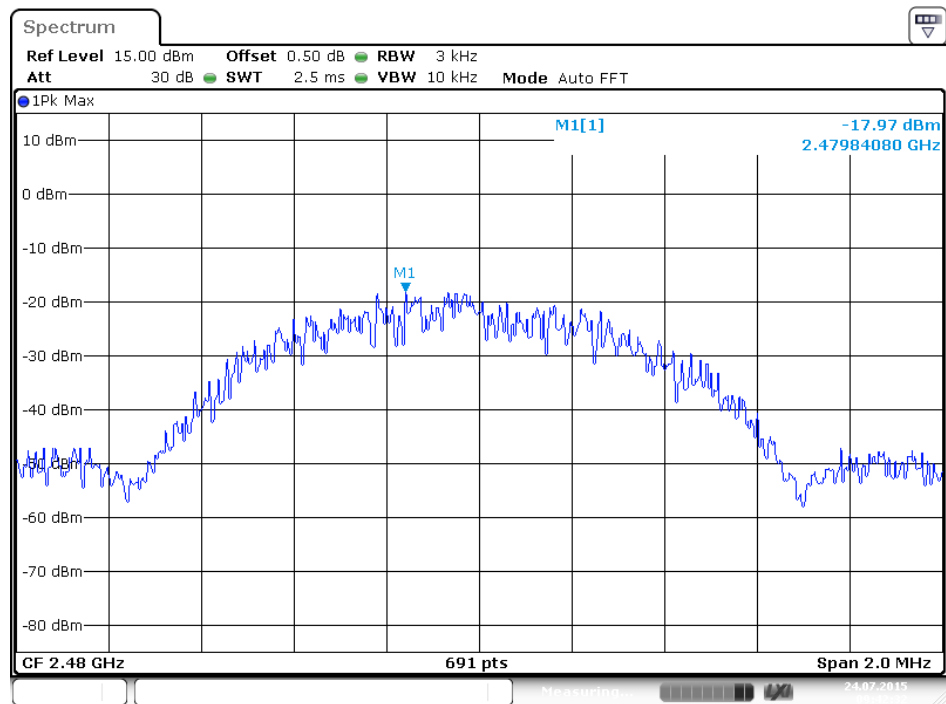


channel 19



Date: 24.JUL.2015 09:42:54

channel 39



Date: 24.JUL.2015 09:42:33

9. BAND EDGE COMPLIANCE TEST

9.1. Block Diagram of Test Setup



(EUT: Flicks Portable Projector)

9.2. The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

9.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.4.Operating Condition of EUT

9.4.1.Setup the EUT and simulator as shown as Section 9.1.

9.4.2.Turn on the power of all equipment.

9.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

9.5.Test Procedure

Conducted Band Edge:

9.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

9.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

9.5.3. Radiate Band Edge:

9.5.4.The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.

9.5.5.The turntable was rotated for 360 degrees to determine the position of maximum emission level.

9.5.6.EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

9.5.7.Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

9.5.8.RBW=1MHz, VBW=1MHz

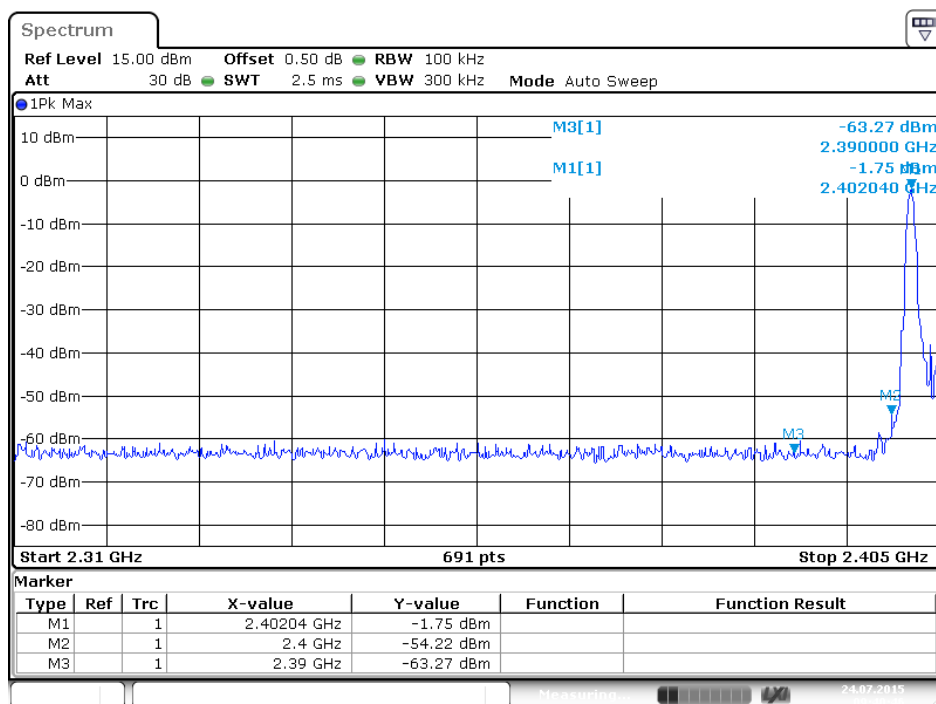
9.5.9.The band edges was measured and recorded.

9.6.Test Result

Pass

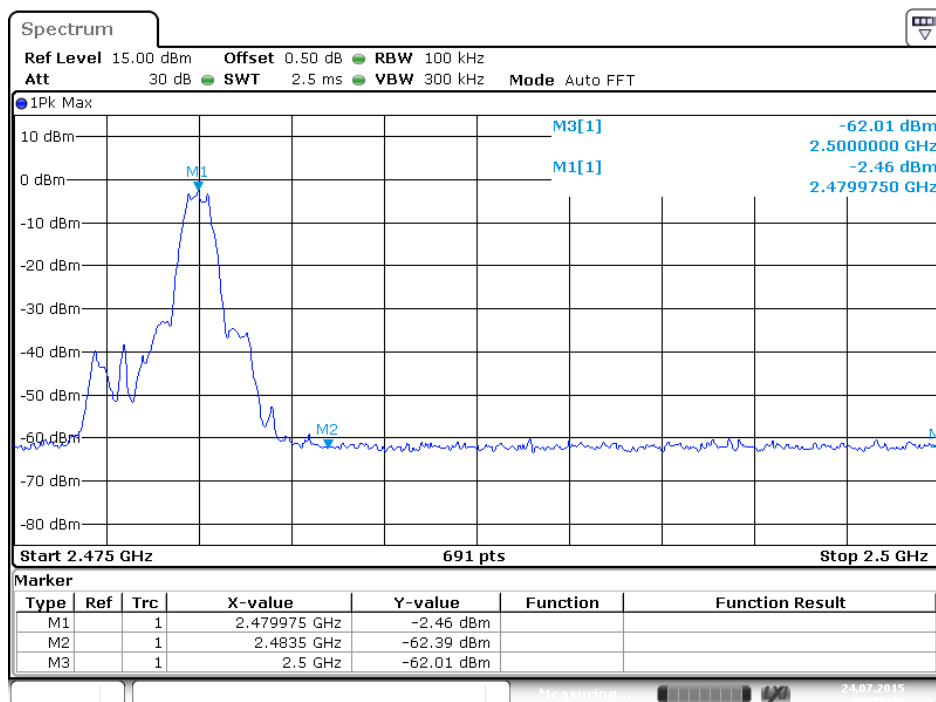
Channel	Frequency	Delta peak to band emission	Limit(dBc)
0	2.4GHz	52.47	20
39	2.4835GHz	59.93	20

channel 0



Date: 24.JUL.2015 09:40:46

channel 39



Date: 24.JUL.2015 09:39:49

Radiated Band Edge Result

Date of Test:	Aug 04, 2015	Temperature:	25°C
EUT:	Flicks Portable Projector	Humidity:	50%
Model No.:	BK02DW45A*	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2402MHz) GFSK	Test Engineer:	Star

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2390.000	33.49	42.89	-8.00	25.49	34.89	54.00	74.00	-28.51	-39.11	Vertical
2400.000	47.68	57.53	-7.97	39.71	49.56	54.00	74.00	-14.29	-24.44	Vertical
2390.000	33.80	43.54	-8.00	25.80	35.54	54.00	74.00	-28.20	-38.46	Horizontal
2400.000	46.76	56.81	-7.97	38.79	48.84	54.00	74.00	-15.21	-25.16	Horizontal

Date of Test:	Aug 04, 2015	Temperature:	25°C
EUT:	Flicks Portable Projector	Humidity:	50%
Model No.:	BK02DW45A*	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2480MHz) GFSK	Test Engineer:	Star

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	43.24	52.36	-7.76	35.48	44.60	54.00	74.00	-18.52	-29.40	Vertical
2500.000	33.69	43.03	-7.71	25.98	35.32	54.00	74.00	-28.02	-38.68	Vertical
2483.500	37.98	48.28	-7.76	30.22	40.52	54.00	74.00	-23.78	-33.48	Horizontal
2500.000	32.52	42.04	-7.71	24.81	34.33	54.00	74.00	-29.19	-39.67	Horizontal

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:
Result = Reading + Corrected Factor
3. Display the measurement of peak values.

Job No.: star2015 #1519

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2402MHz

Model: BK02DW45A*

Manufacturer: Dashbon, Inc.

Polarization: Horizontal

Power Source: AC 120V/60Hz

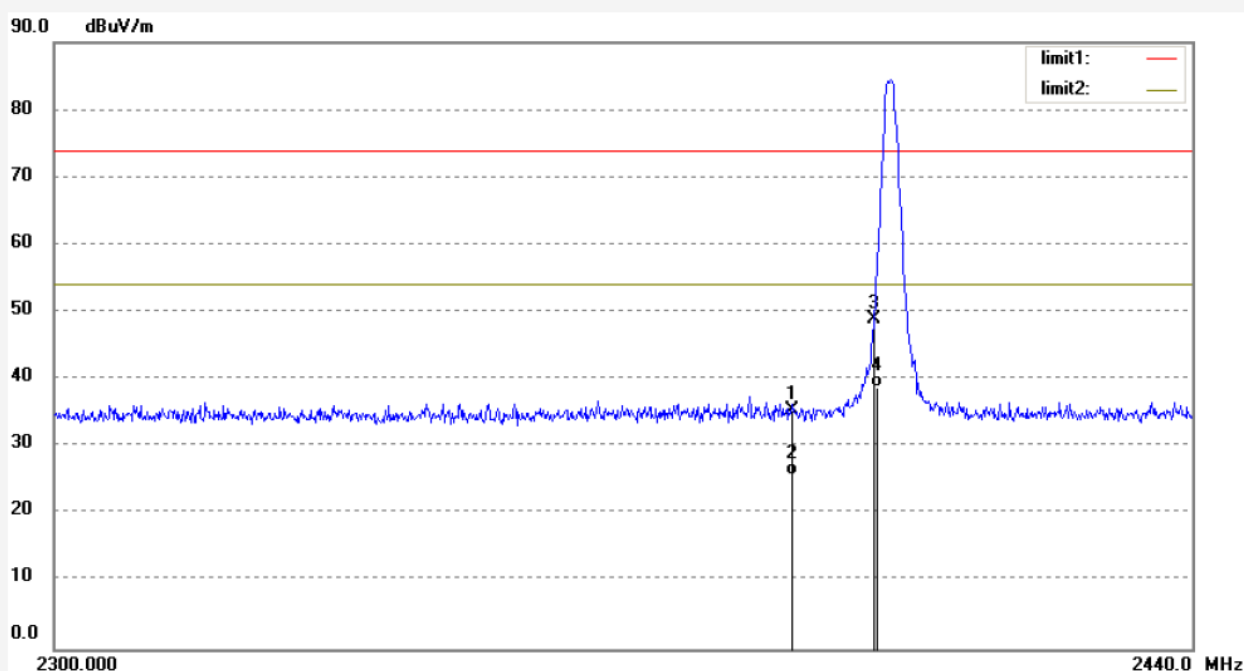
Date: 15/08/04/

Time: 9/21/31

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	43.54	-8.00	35.54	74.00	-38.46	peak			
2	2390.000	33.80	-8.00	25.80	54.00	-28.20	AVG			
3	2400.000	56.81	-7.97	48.84	74.00	-25.16	peak			
4	2400.000	46.76	-7.97	38.79	54.00	-15.21	AVG			

Job No.: star2015 #1520

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2402MHz

Model: BK02DW45A*

Manufacturer: Dashbon, Inc.

Polarization: Vertical

Power Source: AC 120V/60Hz

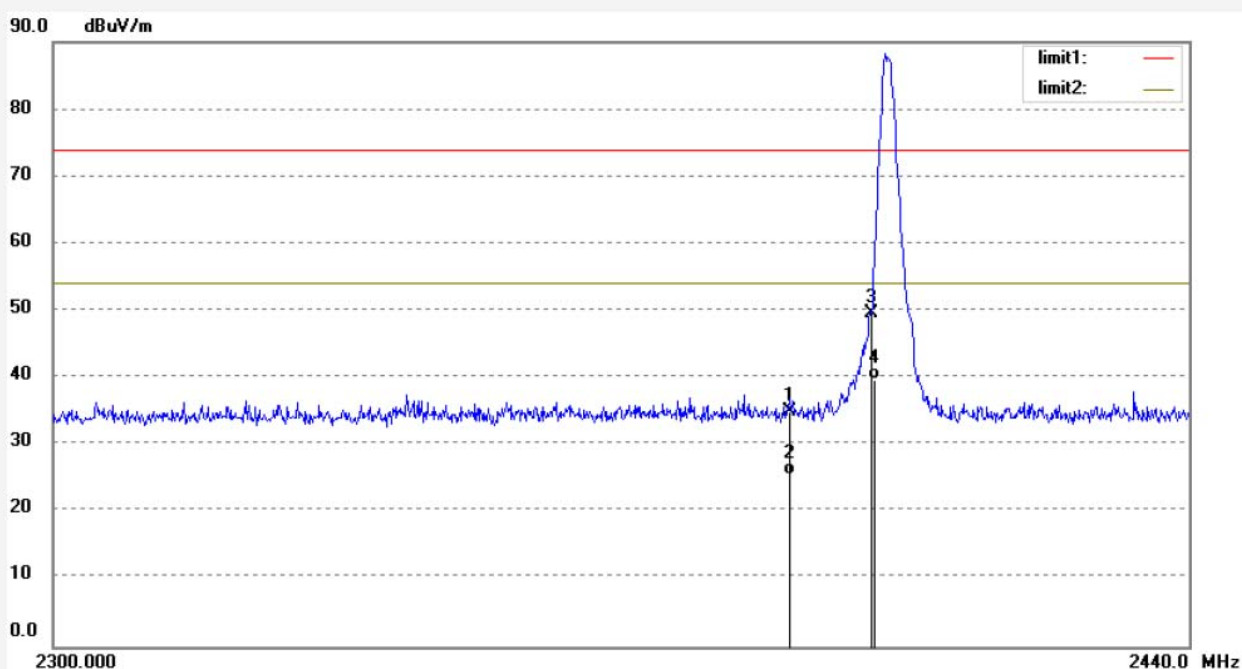
Date: 15/08/04/

Time: 9/22/44

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	42.89	-8.00	34.89	74.00	-39.11	peak			
2	2390.000	33.49	-8.00	25.49	54.00	-28.51	AVG			
3	2400.000	57.53	-7.97	49.56	74.00	-24.44	peak			
4	2400.000	47.68	-7.97	39.71	54.00	-14.29	AVG			

Job No.: star2015 #1522

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2480MHz

Model: BK02DW45A*

Manufacturer: Dashbon, Inc.

Polarization: Horizontal

Power Source: AC 120V/60Hz

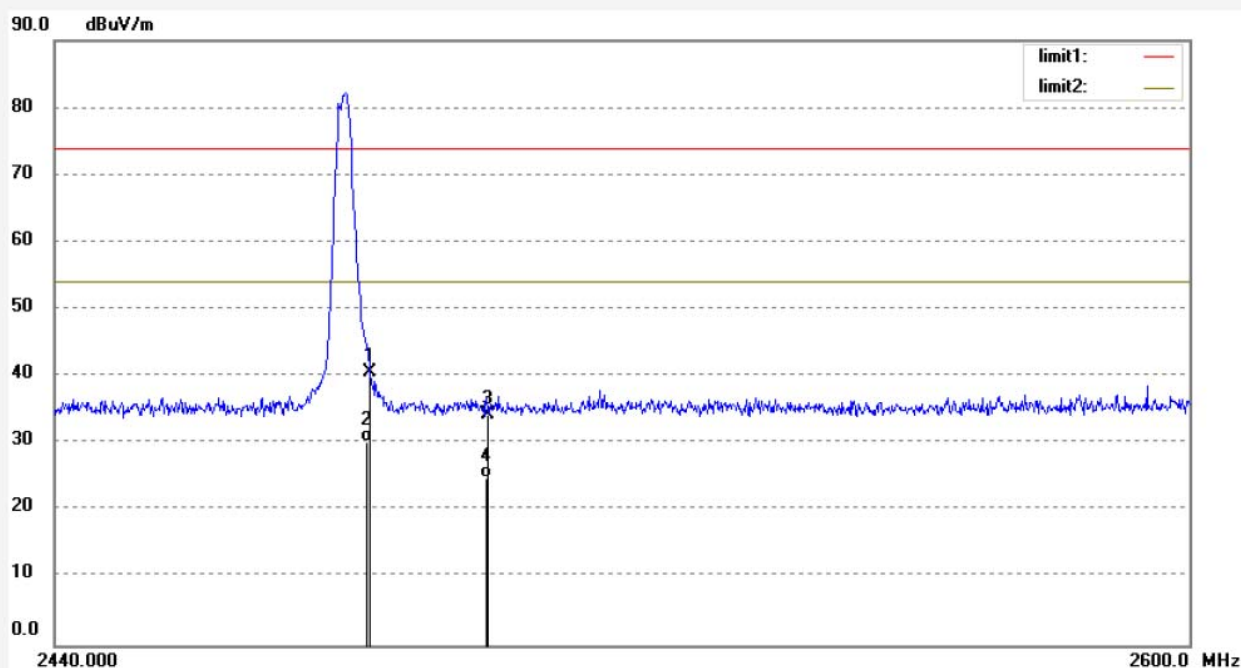
Date: 15/08/04/

Time: 9/27/06

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	48.28	-7.76	40.52	74.00	-33.48	peak			
2	2483.500	37.98	-7.76	30.22	54.00	-23.78	AVG			
3	2500.000	42.04	-7.71	34.33	74.00	-39.67	peak			
4	2500.000	32.52	-7.71	24.81	54.00	-29.19	AVG			

Job No.: star2015 #1521

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2480MHz

Model: BK02DW45A*

Manufacturer: Dashbon, Inc.

Polarization: Vertical

Power Source: AC 120V/60Hz

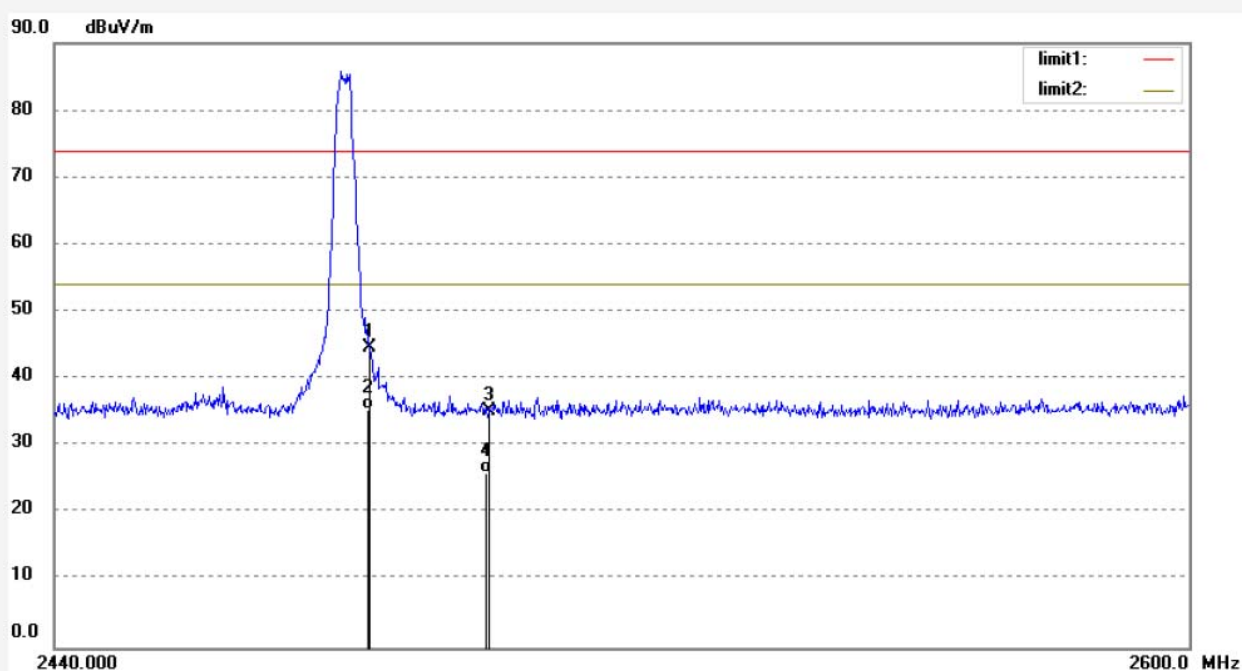
Date: 15/08/04/

Time: 9/26/08

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	52.36	-7.76	44.60	74.00	-29.40	peak			
2	2483.500	43.24	-7.76	35.48	54.00	-18.52	AVG			
3	2500.000	43.03	-7.71	35.32	74.00	-38.68	peak			
4	2500.000	33.69	-7.71	25.98	54.00	-28.02	AVG			

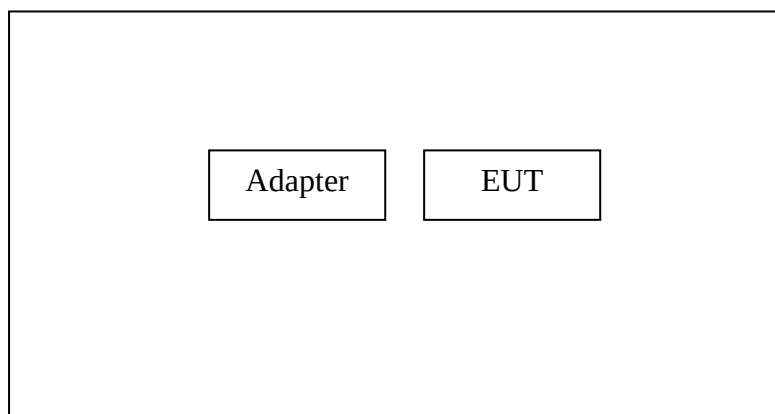
Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:
Result = Reading + Corrected Factor
3. Display the measurement of peak values.
4. I have tested two different types (BK01DW45A* & BK02DW45A*) of products and recorded the results of the worst case data.

10.RADIATED SPURIOUS EMISSION TEST

10.1.Block Diagram of Test Setup

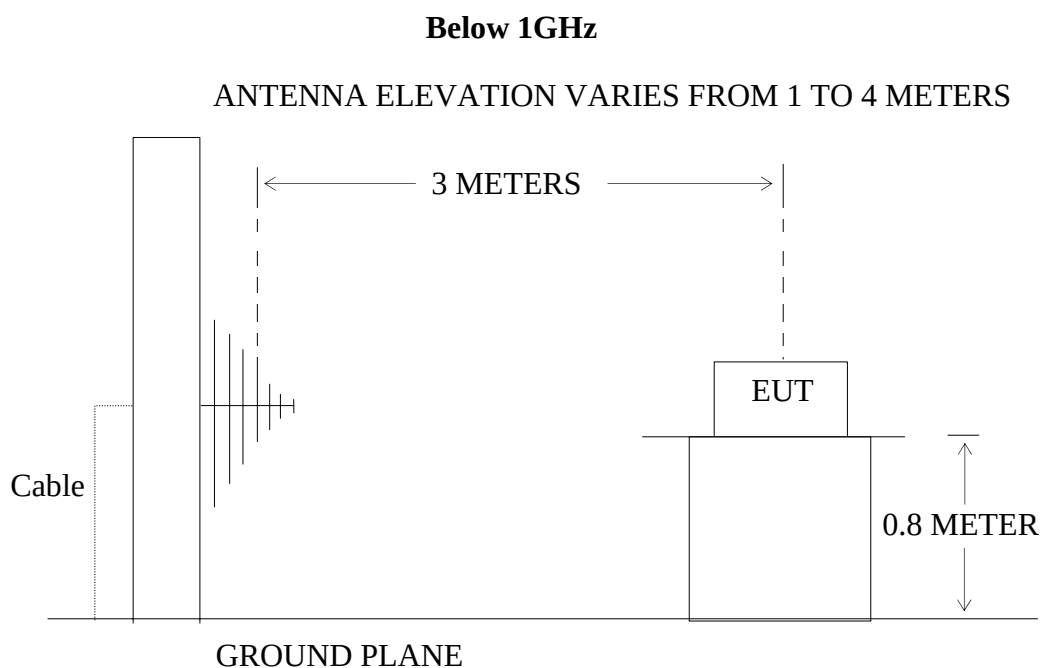
10.1.1.Block diagram of connection between the EUT and peripherals



Setup: Transmitting mode

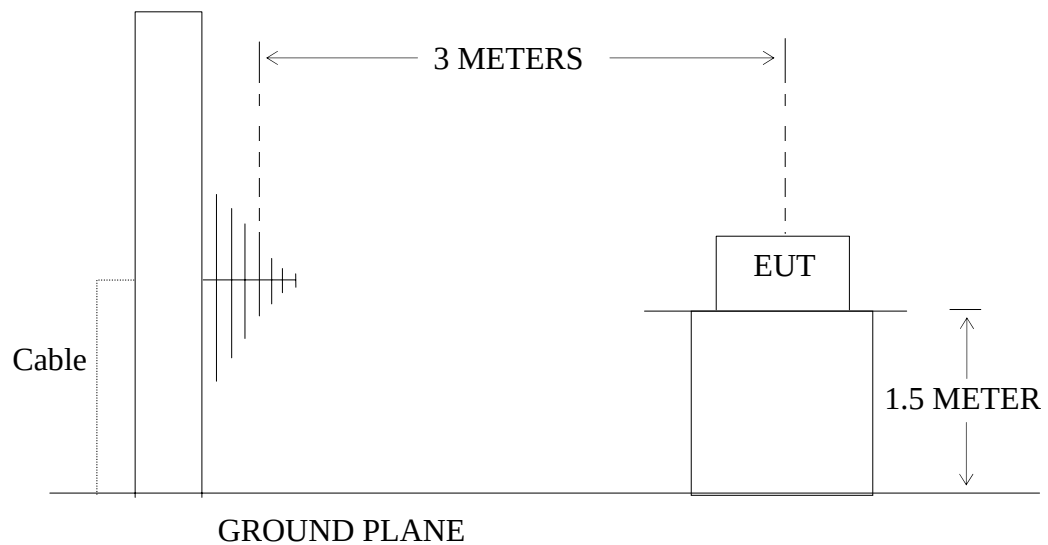
(EUT: Flicks Portable Projector)

10.1.2.Semi-Anechoic Chamber Test Setup Diagram



Above 1GHz

ANTENNA ELEVATION VARIES FROM 1 TO 4 METERS



10.2.The Limit For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

10.3.Restricted bands of operation

10.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510

²Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

10.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.5.Operating Condition of EUT

10.5.1.Setup the EUT and simulator as shown as Section 10.1.

10.5.2.Turn on the power of all equipment.

10.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to

transmit.

10.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground (Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground (Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 25GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

10.7.The Field Strength of Radiation Emission Measurement Results

PASS.

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3. The radiation emissions from 18-25GHz are not reported, because the test values lower than the limits of 20dB.

4. I have tested two different types (BK01DW45A* & BK02DW45A*) of products and recorded the results of the worst case data(above 1GHz).



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

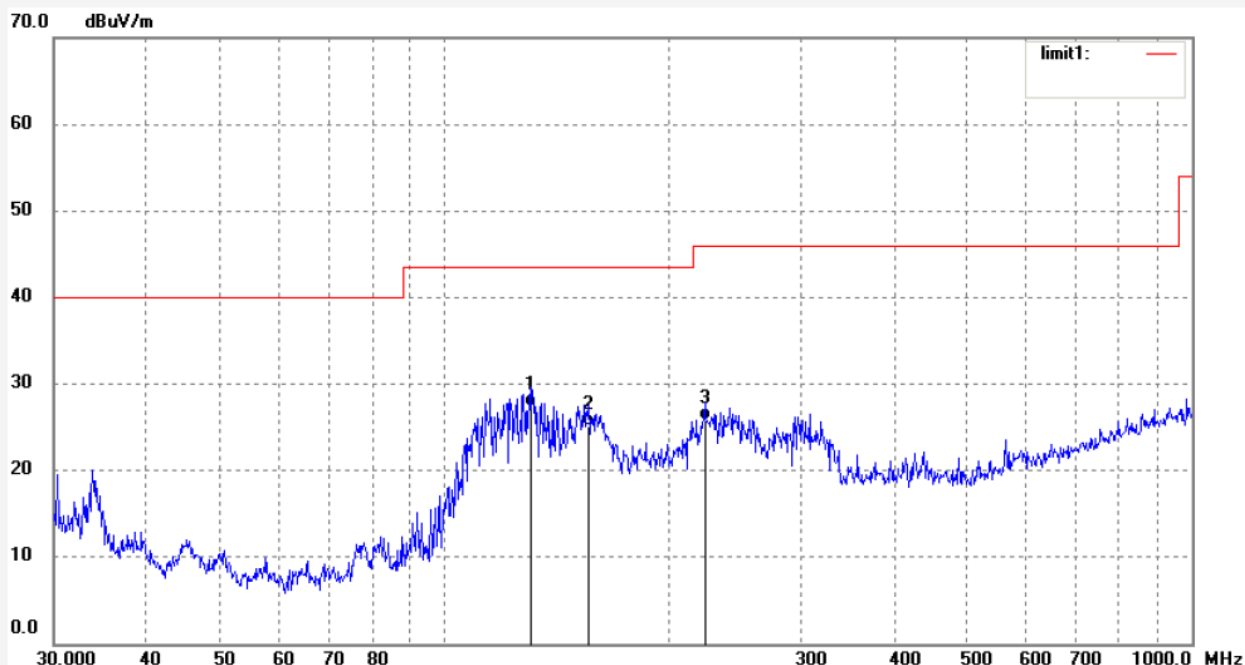
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: STAR2015 #1588
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2402MHz
Model: BK01DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/08/05/
Time: 13/39/55
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667



Job No.: STAR2015 #1587

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2402MHz

Model: BK01DW45A*

Manufacturer: Dashbon, Inc.

Polarization: Vertical

Power Source: AC 120V/60Hz

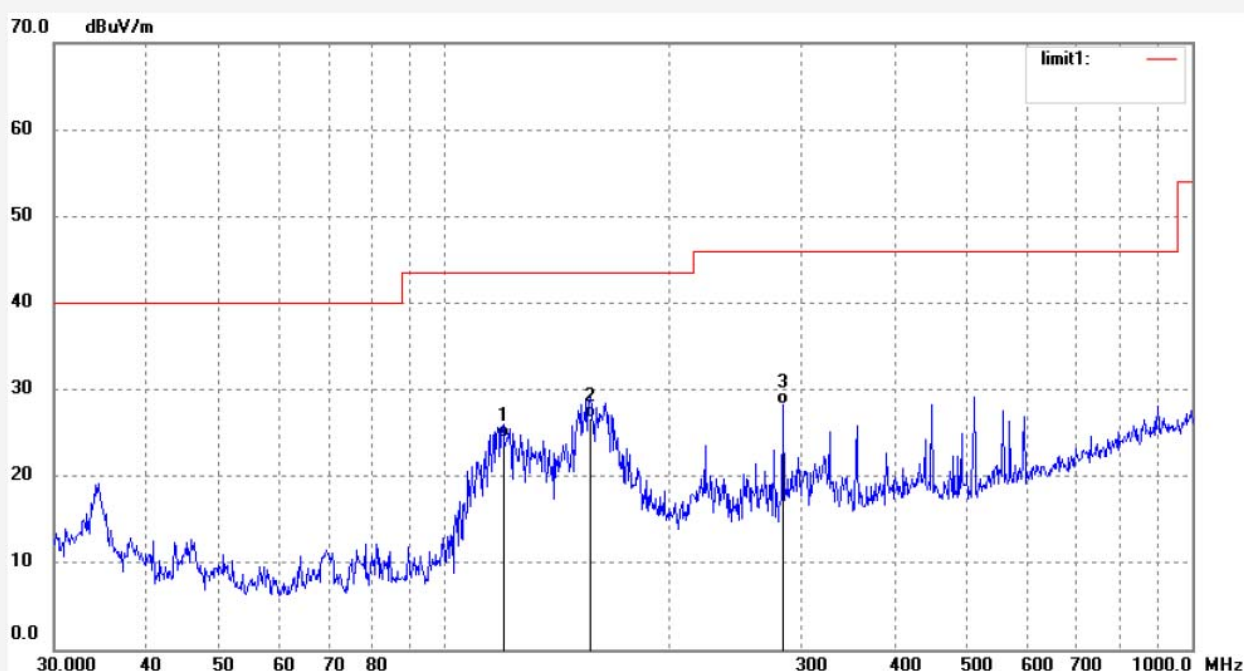
Date: 15/08/05/

Time: 13/38/27

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	119.7672	45.66	-21.32	24.34	43.50	-19.16	QP			
2	156.9764	48.40	-21.68	26.72	43.50	-16.78	QP			
3	284.2606	44.88	-16.60	28.28	46.00	-17.72	QP			

Job No.: STAR2015 #1589

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2440MHz

Model: BK01DW45A*

Manufacturer: Dashbon, Inc.

Polarization: Horizontal

Power Source: AC 120V/60Hz

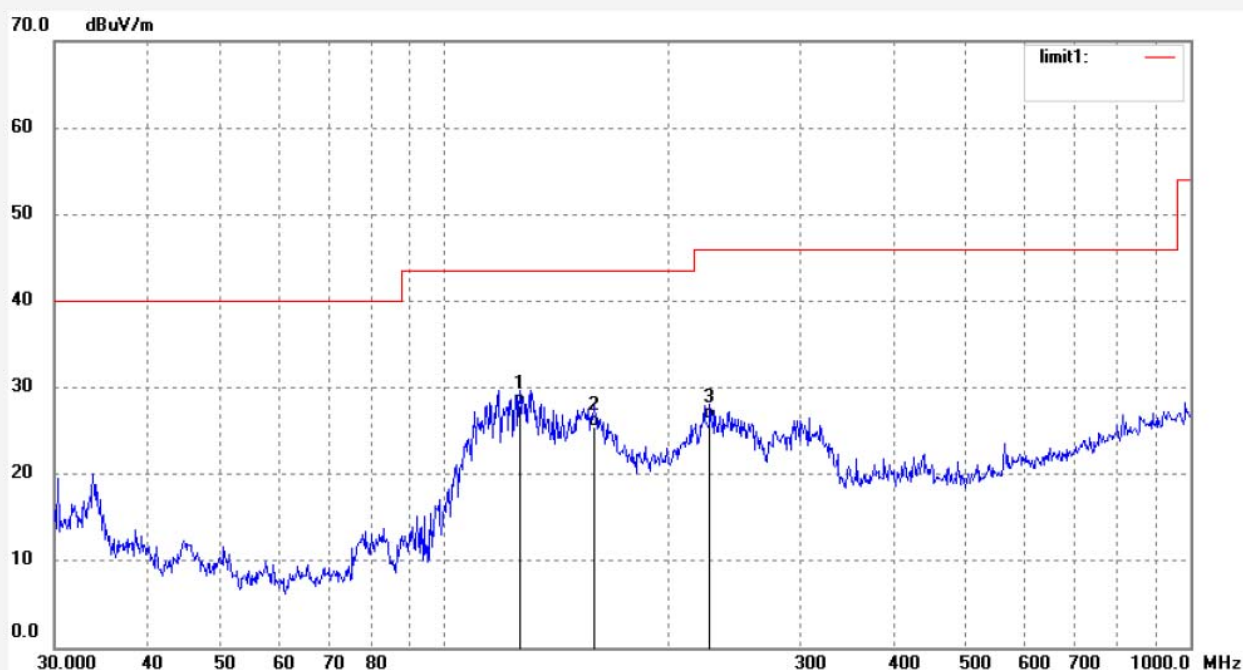
Date: 15/08/05/

Time: 13/41/38

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	126.2487	49.60	-21.60	28.00	43.50	-15.50	QP			
2	158.6399	46.99	-21.49	25.50	43.50	-18.00	QP			
3	227.0164	44.72	-18.33	26.39	46.00	-19.61	QP			

Job No.: STAR2015 #1590

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2440MHz

Model: BK01DW45A*

Manufacturer: Dashbon, Inc.

Polarization: Vertical

Power Source: AC 120V/60Hz

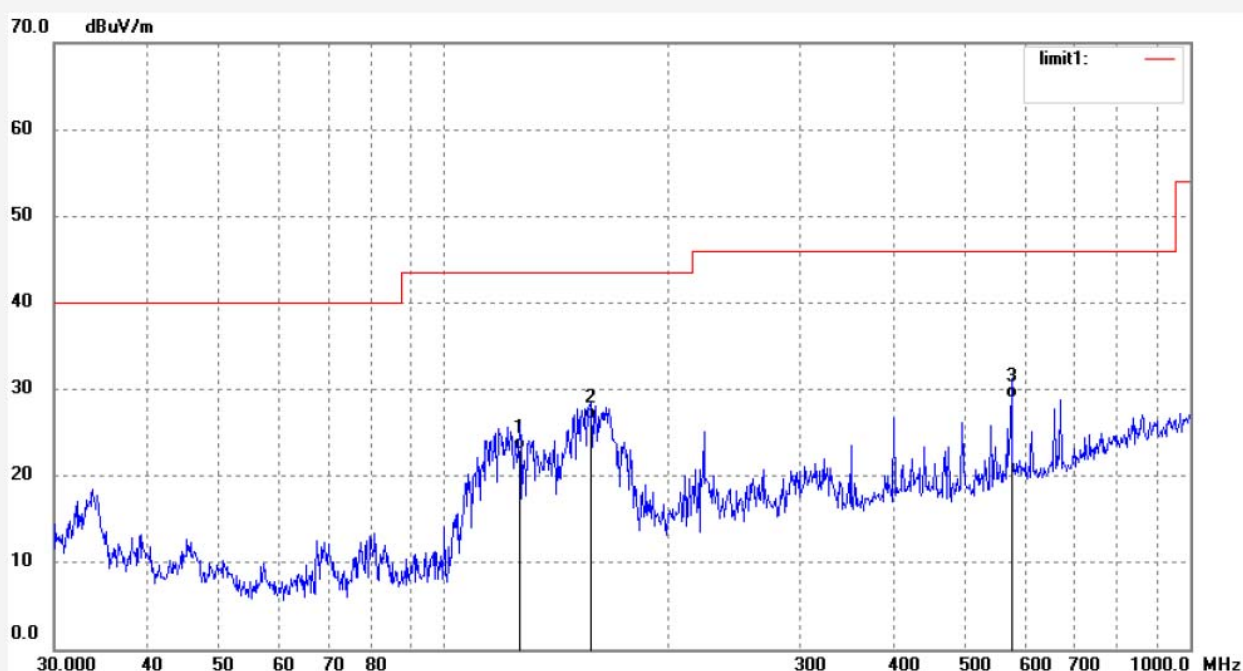
Date: 15/08/05/

Time: 13/42/22

Engineer Signature:

Distance: 3m

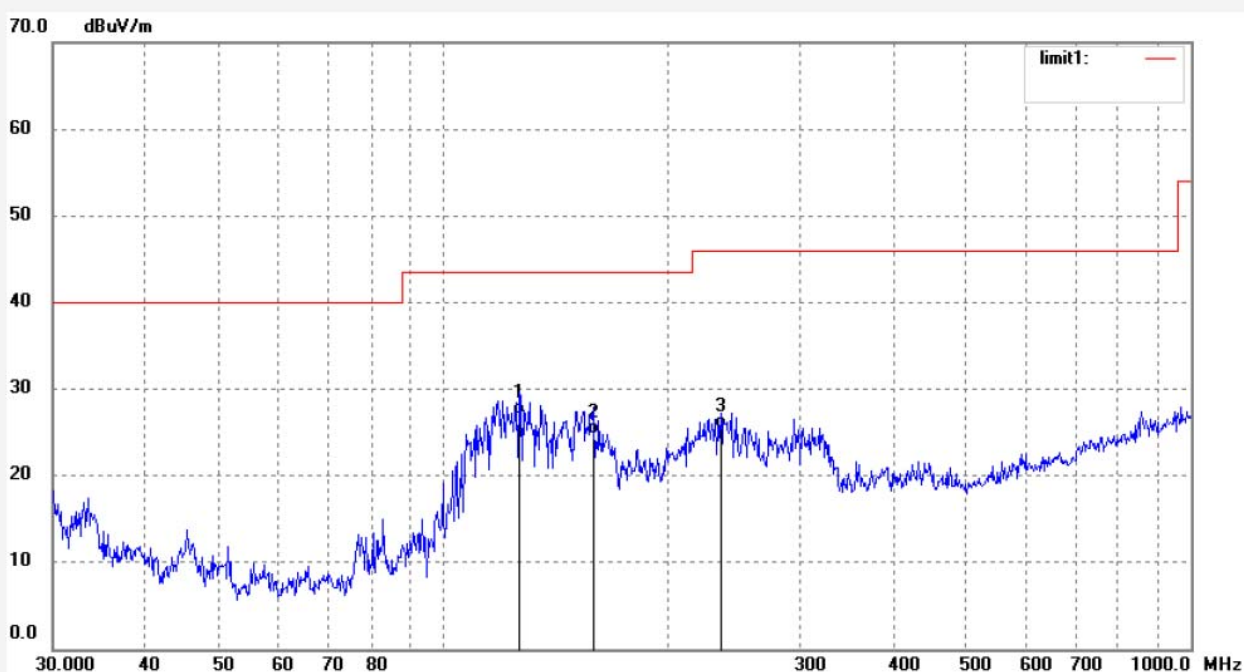
Note: Report No.:ATE20151667



Job No.: STAR2015 #1592
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2480MHz
Model: BK01DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/08/05/
Time: 13/44/32
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667

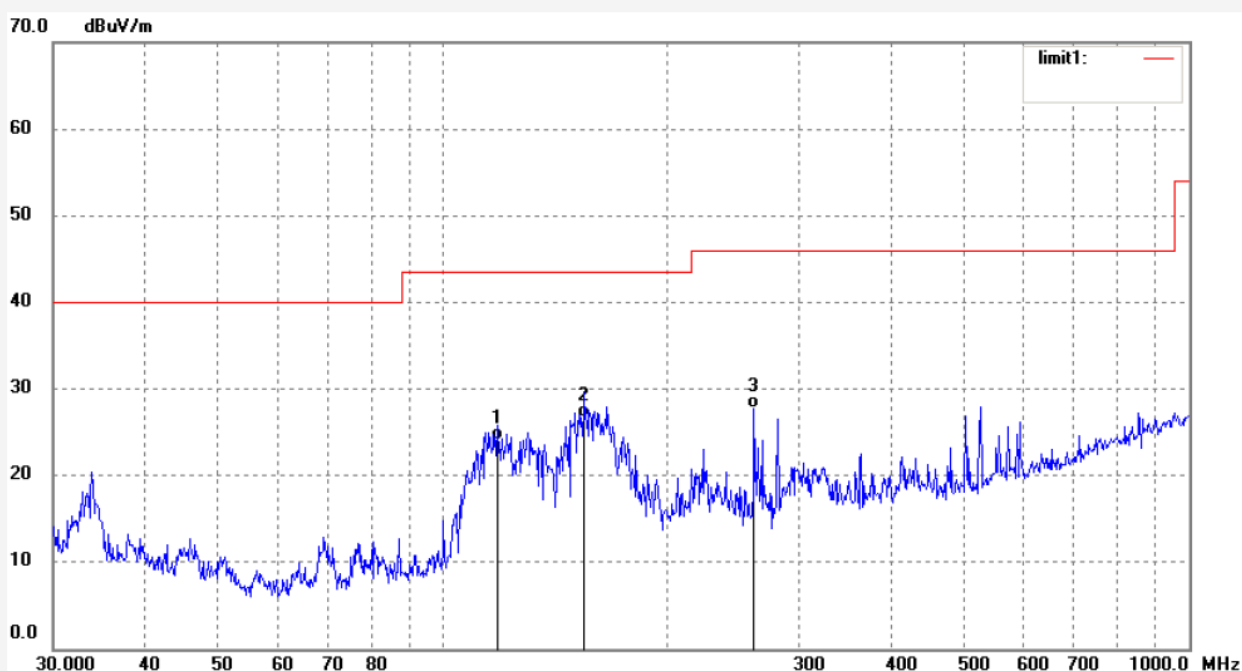


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	126.2487	48.67	-21.60	27.07	43.50	-16.43	QP			
2	158.6399	46.26	-21.49	24.77	43.50	-18.73	QP			
3	235.1346	43.72	-18.28	25.44	46.00	-20.56	QP			

Job No.: STAR2015 #1591
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2480MHz
Model: BK01DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 15/08/05/
Time: 13/43/17
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667

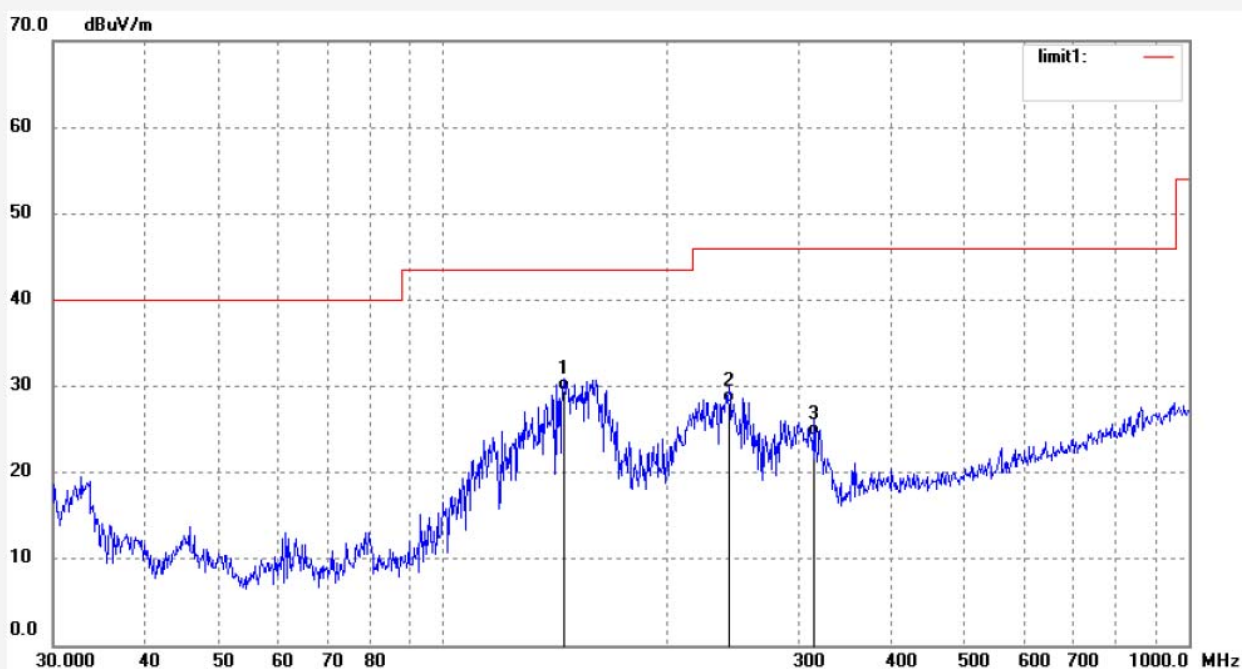


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	118.0957	45.37	-21.27	24.10	43.50	-19.40	QP			
2	154.7857	48.67	-21.91	26.76	43.50	-16.74	QP			
3	261.2730	45.30	-17.50	27.80	46.00	-18.20	QP			

Job No.: STAR2015 #1507
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2402MHz
Model: BK02DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/08/03/
Time: 14/09/31
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667

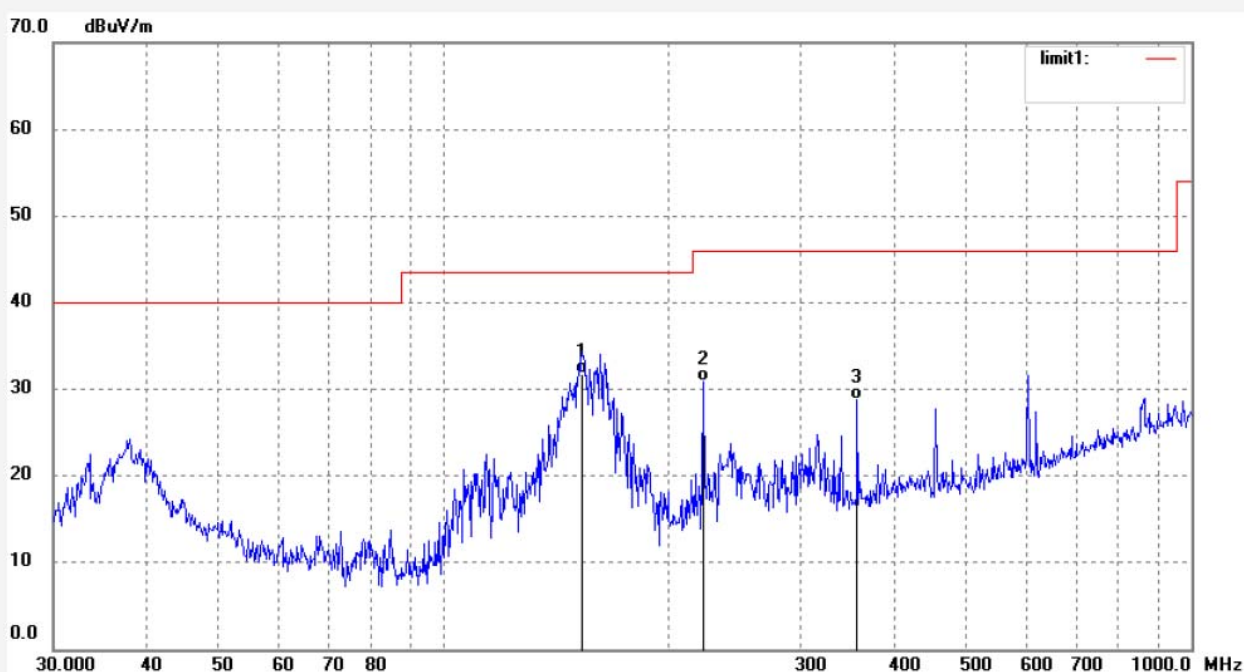


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	145.2995	51.82	-22.25	29.57	43.50	-13.93	QP			
2	241.8377	46.39	-18.23	28.16	46.00	-17.84	QP			
3	314.7522	40.20	-15.95	24.25	46.00	-21.75	QP			

Job No.: STAR2015 #1508
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2402MHz
Model: BK02DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 15/08/03/
Time: 14/10/17
Engineer Signature:
Distance: 3m

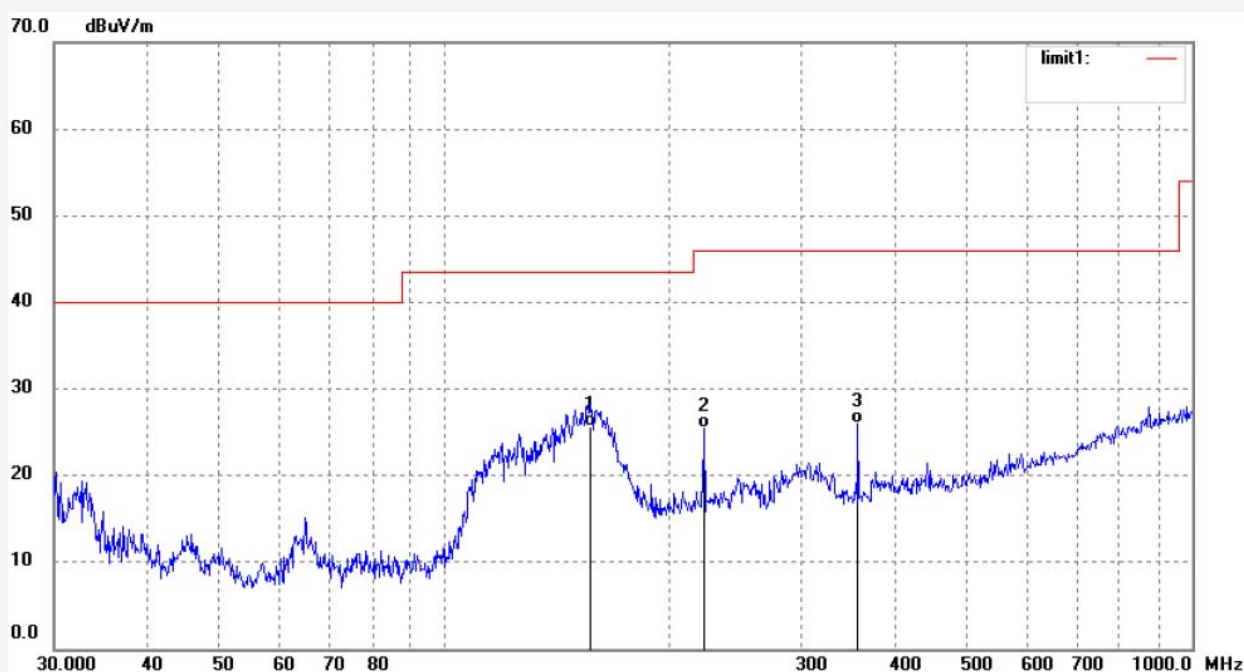
Note: Report No.:ATE20151667



Job No.: STAR2015 #1514
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2440HMz
Model: BK02DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/08/03/
Time: 14/18/02
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667

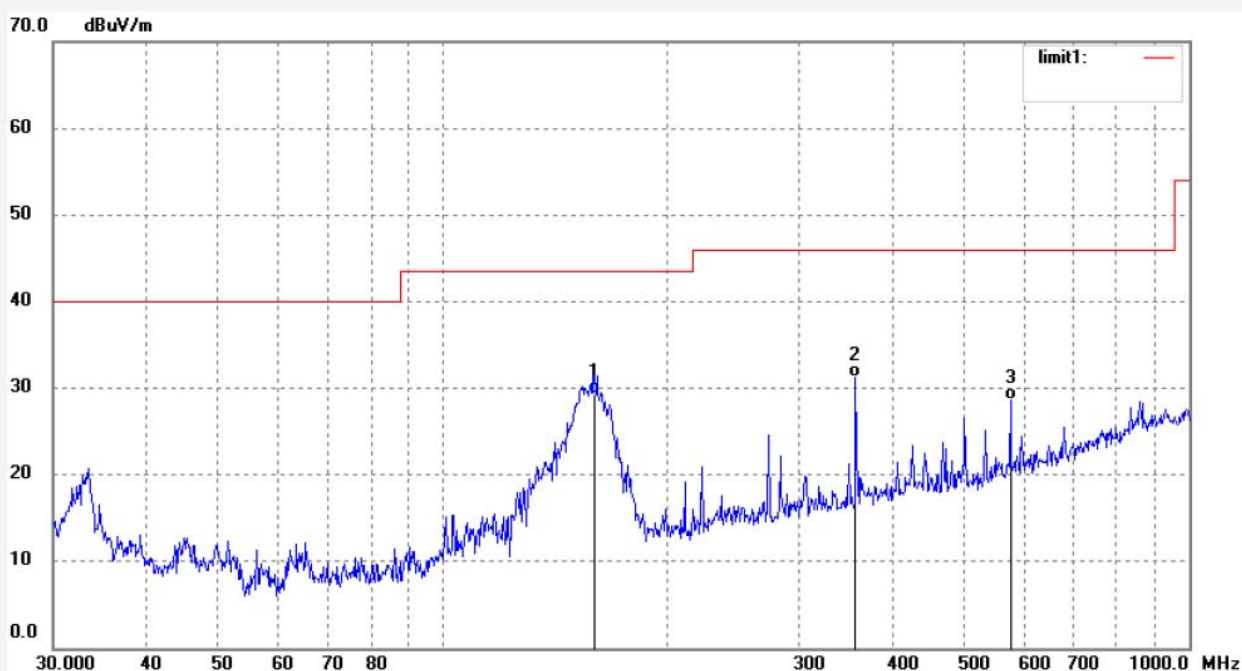


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	156.9765	47.32	-21.68	25.64	43.50	-17.86	QP			
2	222.2807	43.86	-18.38	25.48	46.00	-20.52	QP			
3	357.1925	40.33	-14.40	25.93	46.00	-20.07	QP			

Job No.: STAR2015 #1513
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2440MHz
Model: BK02DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 15/08/03/
Time: 14/16/48
Engineer Signature:
Distance: 3m

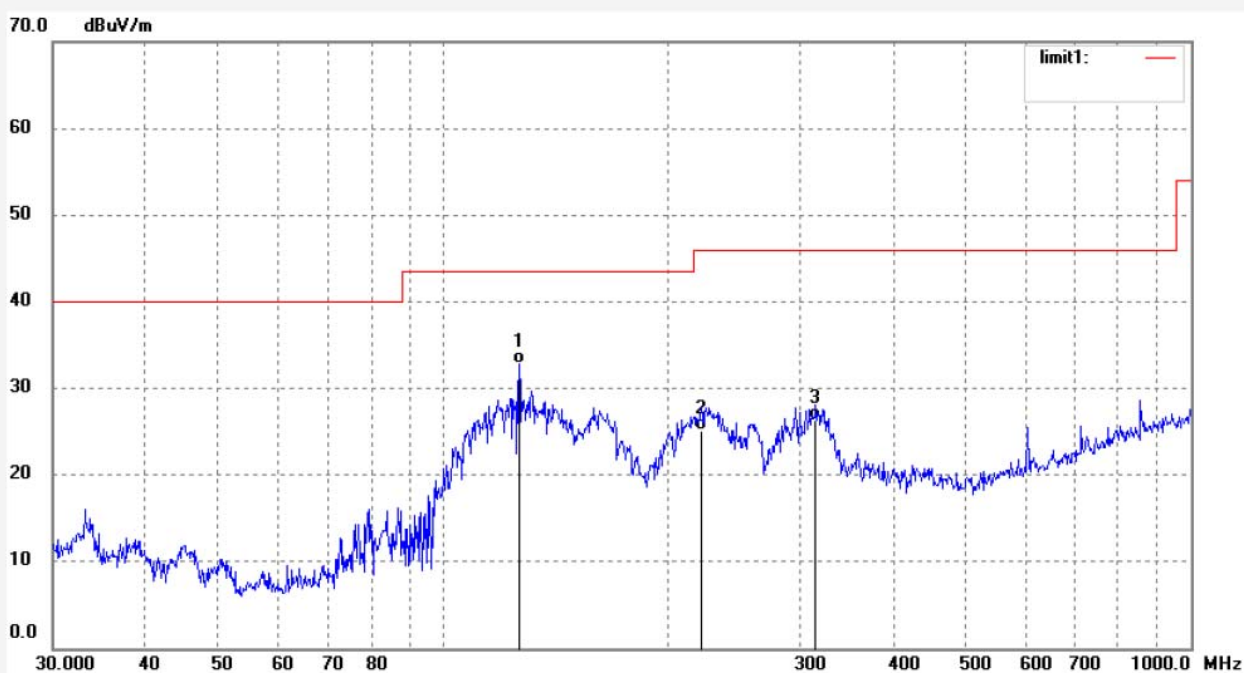
Note: Report No.:ATE20151667



Job No.: star2015 #1517
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2480 MHz
Model: BK02DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/08/04/
Time: 9/13/05
Engineer Signature:
Distance: 1m

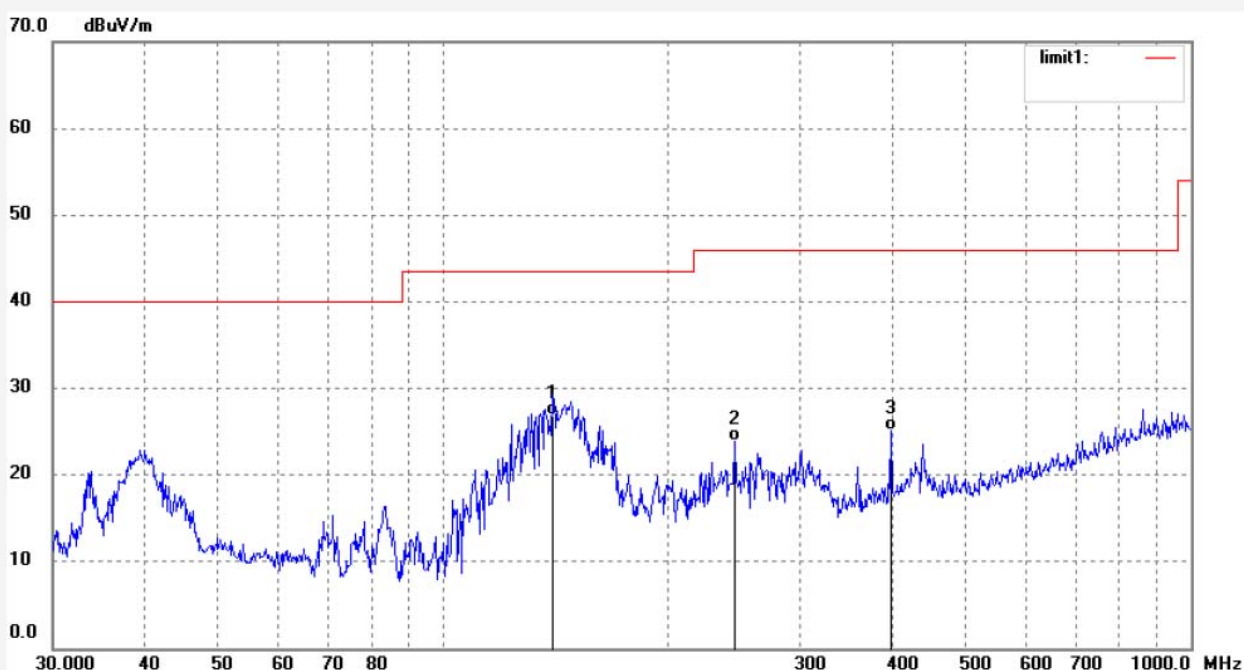
Note: Report No.:ATE20151667



Job No.: star2015 #1518
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2480 MHz
Model: BK02DW45A*
Manufacturer: Dashbon, Inc.

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 15/08/04/
Time: 9/13/48
Engineer Signature:
Distance: 1m

Note: Report No.:ATE20151667

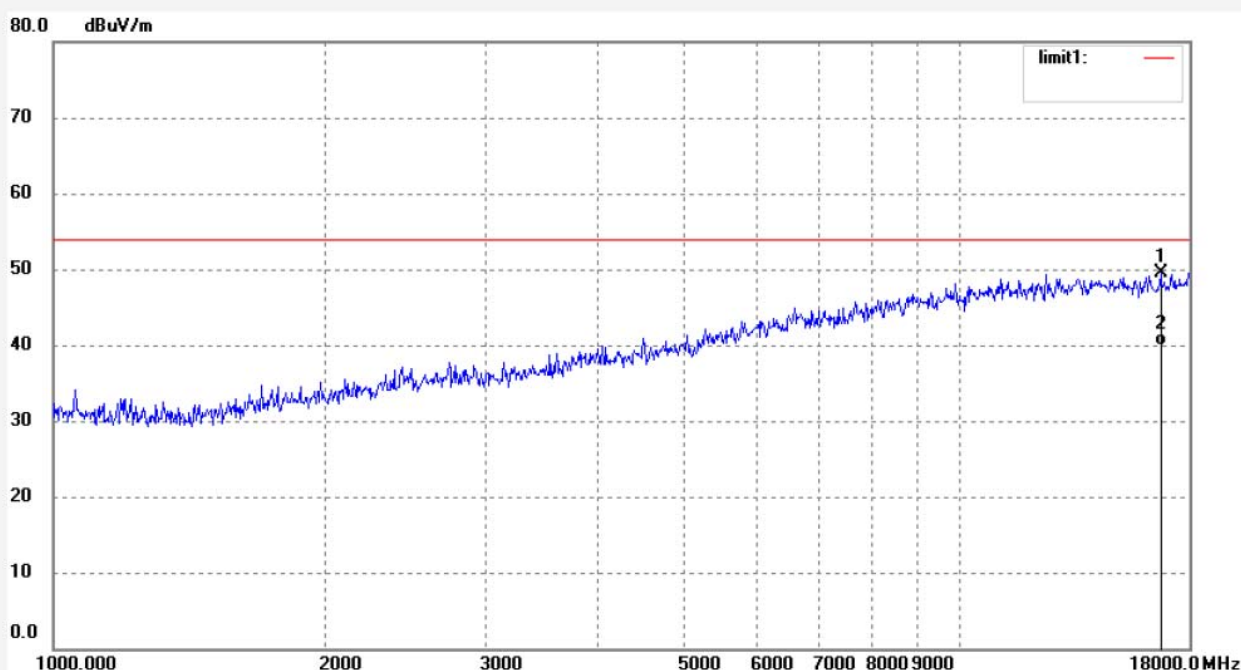


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	139.7909	48.96	-22.07	26.89	43.50	-16.61	QP			
2	245.2606	42.01	-18.20	23.81	46.00	-22.19	QP			
3	396.8992	39.16	-14.01	25.15	46.00	-20.85	QP			

Job No.: STAR2015 #1582
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2402MHz
Model: BK01DW45A*
Manufacturer: Zhao Yang

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/08/05/
Time: 13/30/26
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	16736.686	35.52	14.08	49.60	74.00	-24.40	peak			
2	16736.686	25.77	14.08	39.85	54.00	-14.15	AVG			

Job No.: STAR2015 #1581

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2402MHz

Model: BK01DW45A*

Manufacturer: Zhao Yang

Polarization: Vertical

Power Source: AC 120V/60Hz

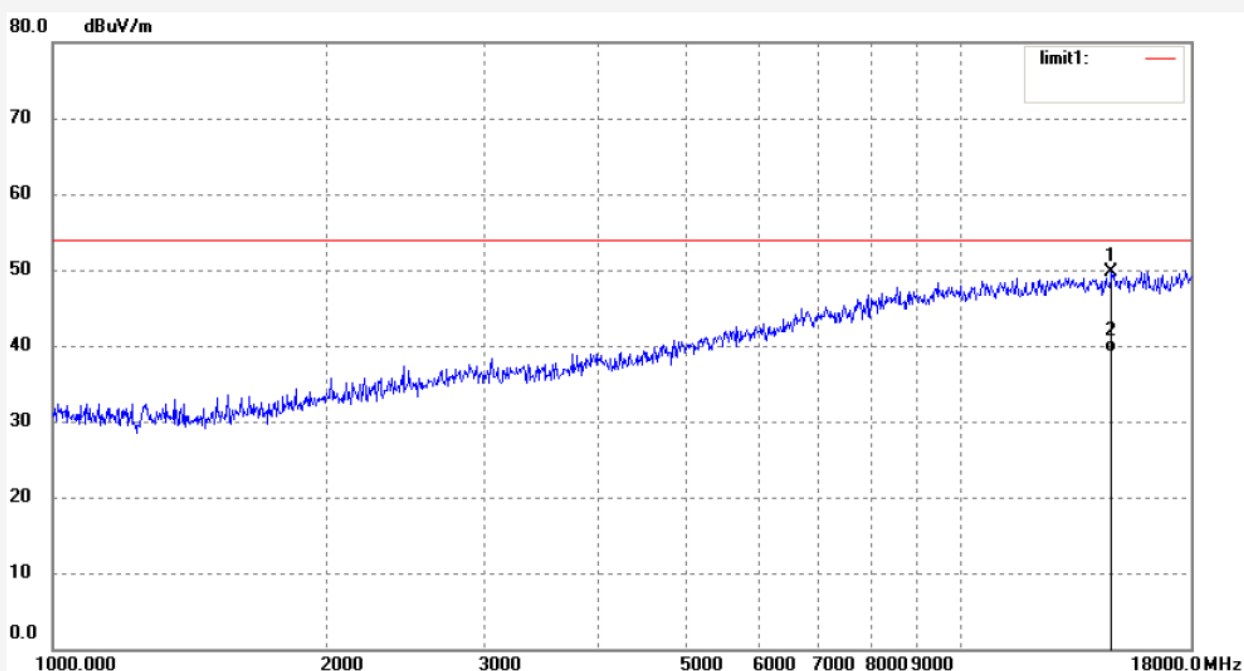
Date: 15/08/05/

Time: 13/29/38

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20151667

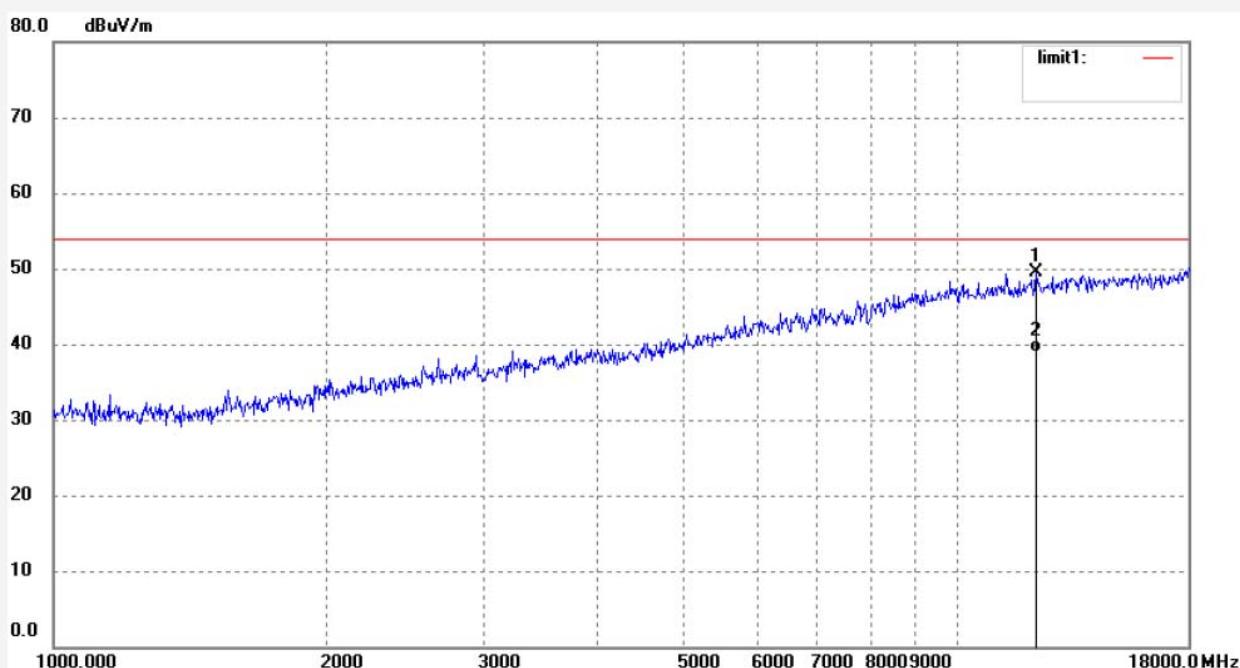


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14724.757	35.91	13.87	49.78	74.00	-24.22	peak			
2	14724.757	25.14	13.87	39.01	54.00	-14.99	AVG			

Job No.: STAR2015 #1583
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2440MHz
Model: BK01DW45A*
Manufacturer: Zhao Yang

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/08/05/
Time: 13/31/19
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667

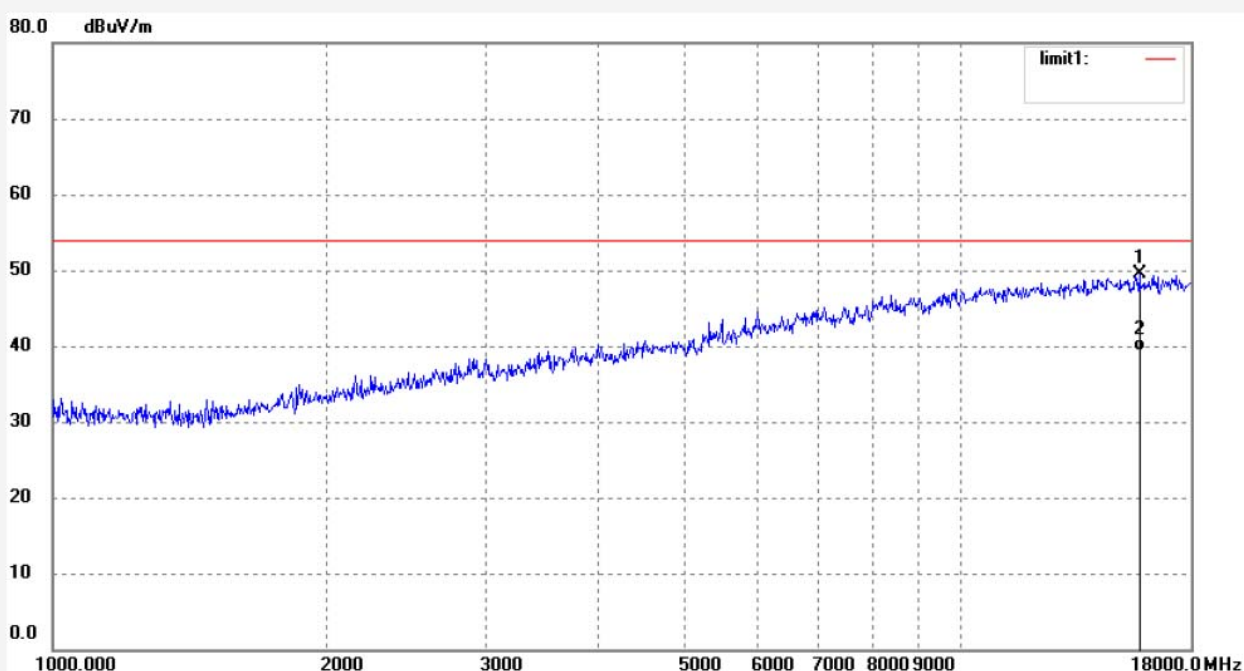


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	12222.059	41.89	7.62	49.51	74.00	-24.49	peak			
2	12222.059	31.26	7.62	38.88	54.00	-15.12	AVG			

Job No.: STAR2015 #1584
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2440MHz
Model: BK01DW45A*
Manufacturer: Zhao Yang

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 15/08/05/
Time: 13/32/21
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	15790.179	36.85	12.72	49.57	74.00	-24.43	peak			
2	15790.179	26.57	12.72	39.29	54.00	-14.71	AVG			

Job No.: STAR2015 #1586

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Flicks Portable Projector

Mode: TX 2480MHz

Model: BK01DW45A*

Manufacturer: Zhao Yang

Polarization: Horizontal

Power Source: AC 120V/60Hz

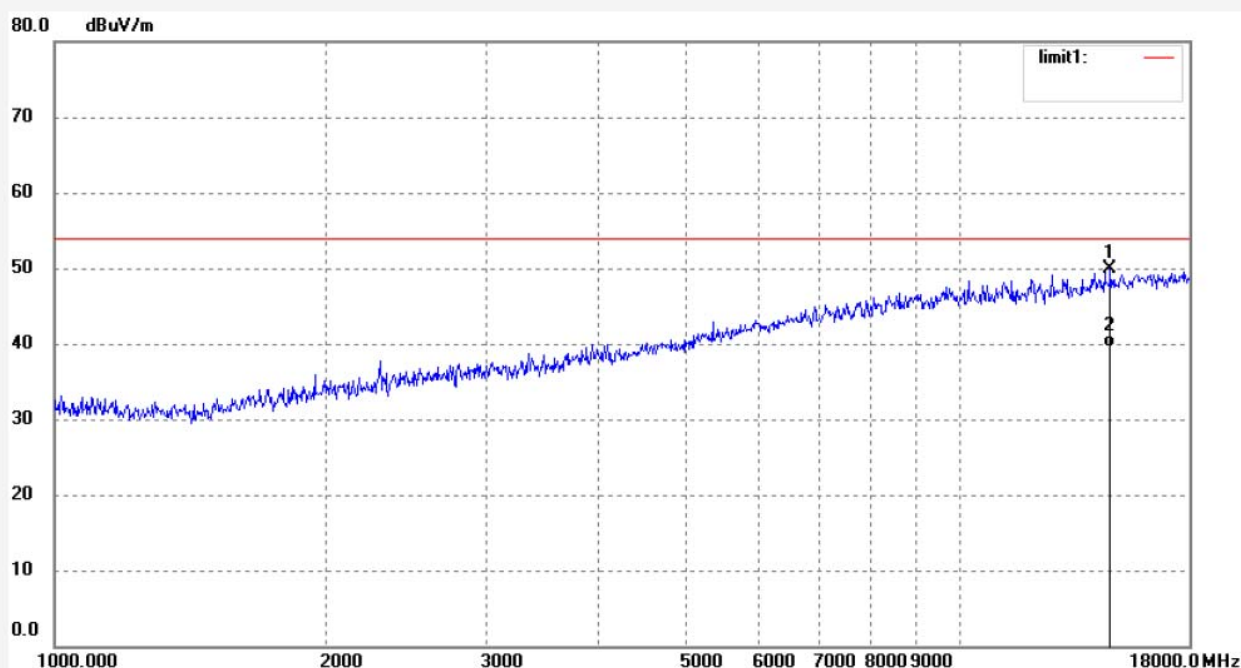
Date: 15/08/05/

Time: 13/33/46

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20151667

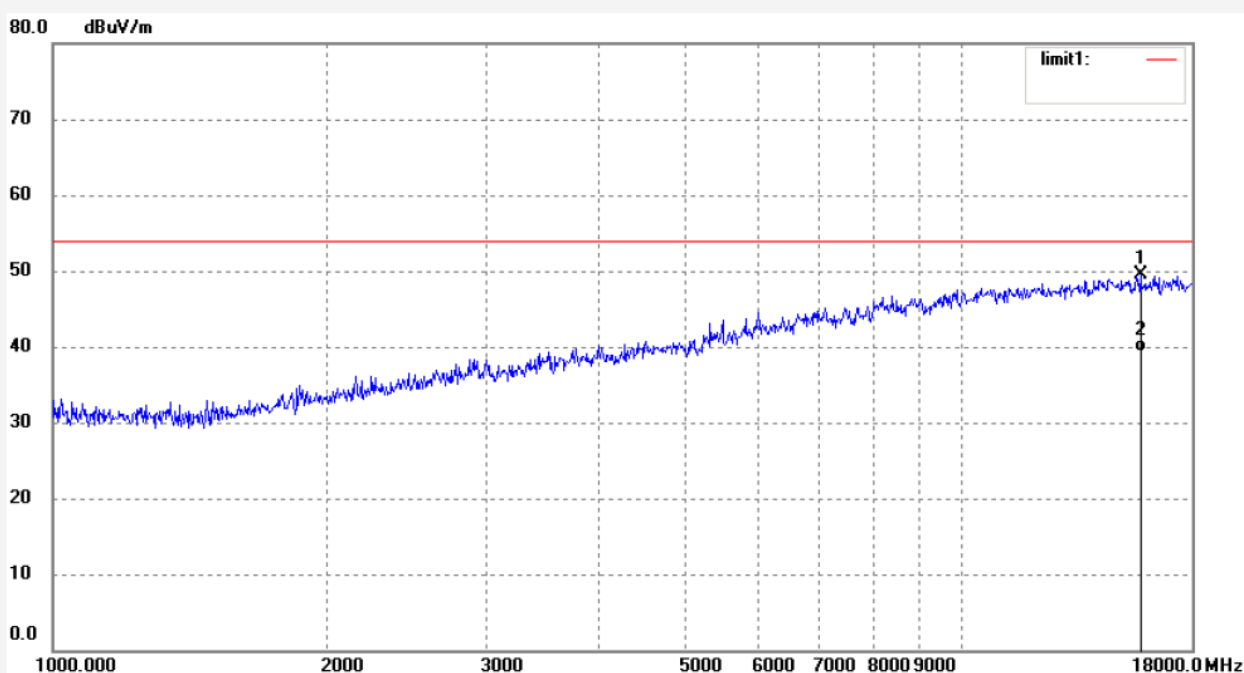


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14724.757	36.02	13.87	49.89	74.00	-24.11	peak			
2	14724.757	25.67	13.87	39.54	54.00	-14.46	AVG			

Job No.: STAR2015 #1584
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Flicks Portable Projector
Mode: TX 2480MHz
Model: BK01DW45A*
Manufacturer: Zhao Yang

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 15/08/05/
Time: 13/32/21
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20151667



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	15790.179	36.85	12.72	49.57	74.00	-24.43	peak			
2	15790.179	26.57	12.72	39.29	54.00	-14.71	AVG			

11.CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

11.1.Block Diagram of Test Setup



(EUT: Flicks Portable Projector)

11.2.The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

11.3.EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

11.4.Operating Condition of EUT

11.4.1.Setup the EUT and simulator as shown as Section 11.1.

11.4.2.Turn on the power of all equipment.

11.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

11.5. Test Procedure

11.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.

11.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz

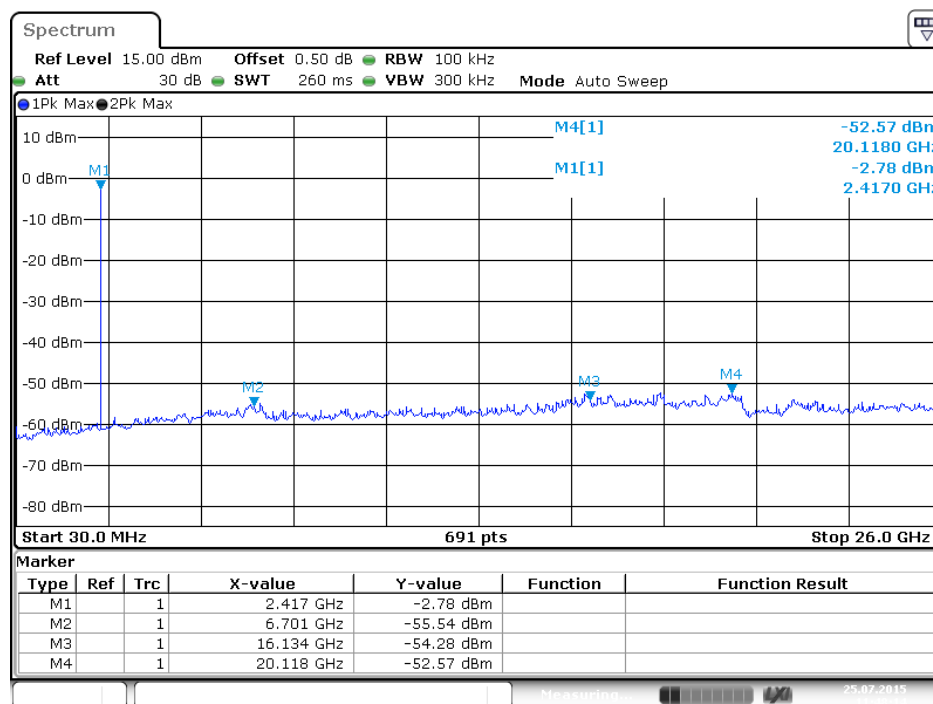
11.5.3. The Conducted Spurious Emission was measured and recorded.

11.6. Test Result

Pass.

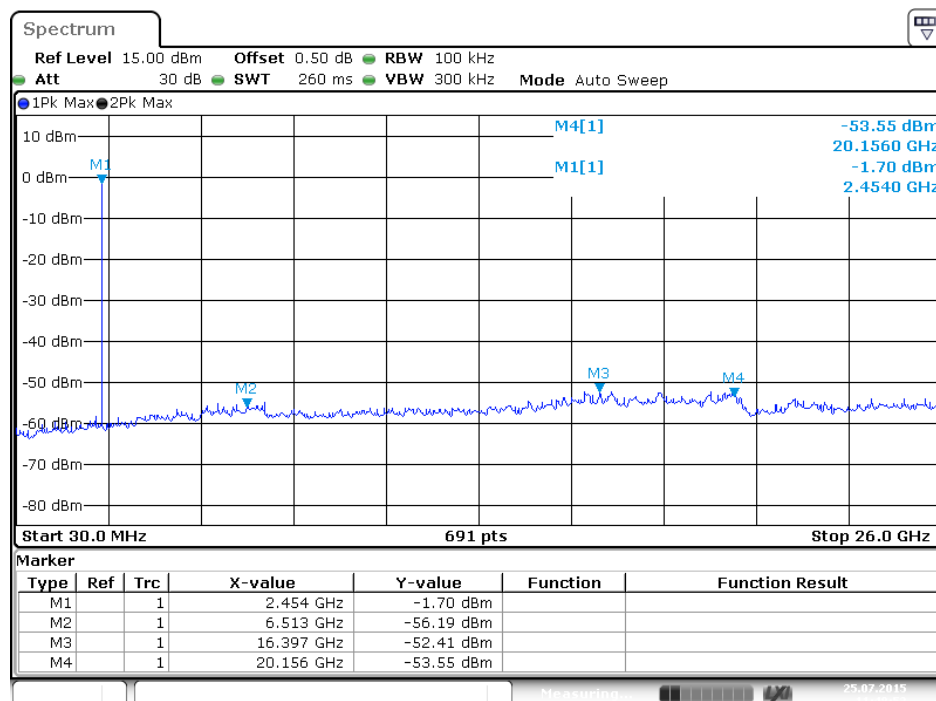
The spectrum analyzer plots are attached as below.

BLE Channel Low 2402MHz



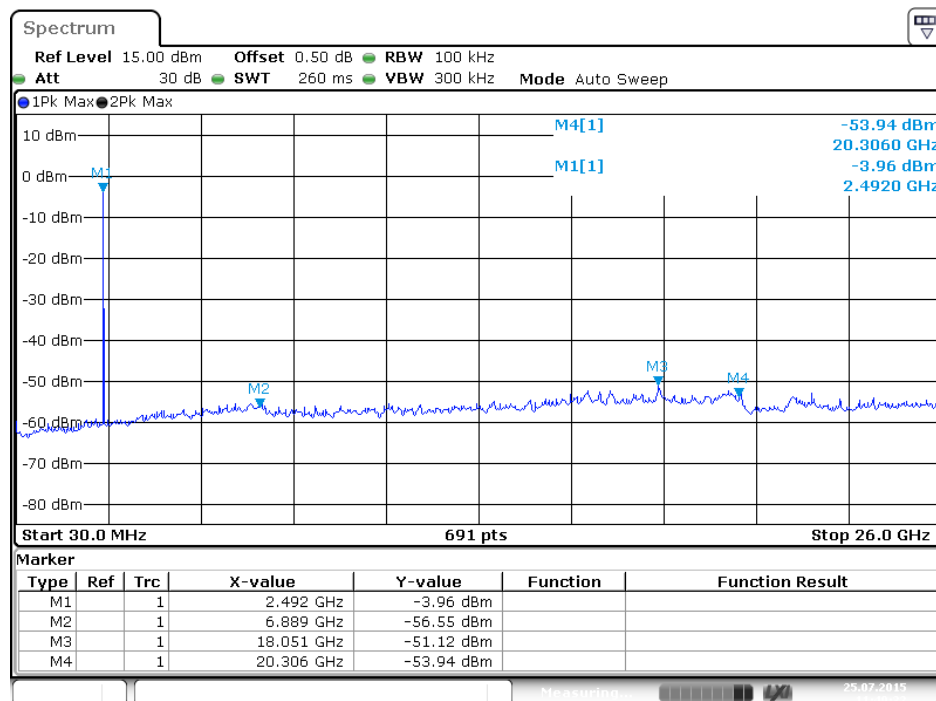
Date: 25.JUL.2015 11:48:14

BLE Channel Middle 2440MHz



Date: 25.JUL.2015 11:48:54

BLE Channel High 2480MHz



Date: 25.JUL.2015 11:49:32

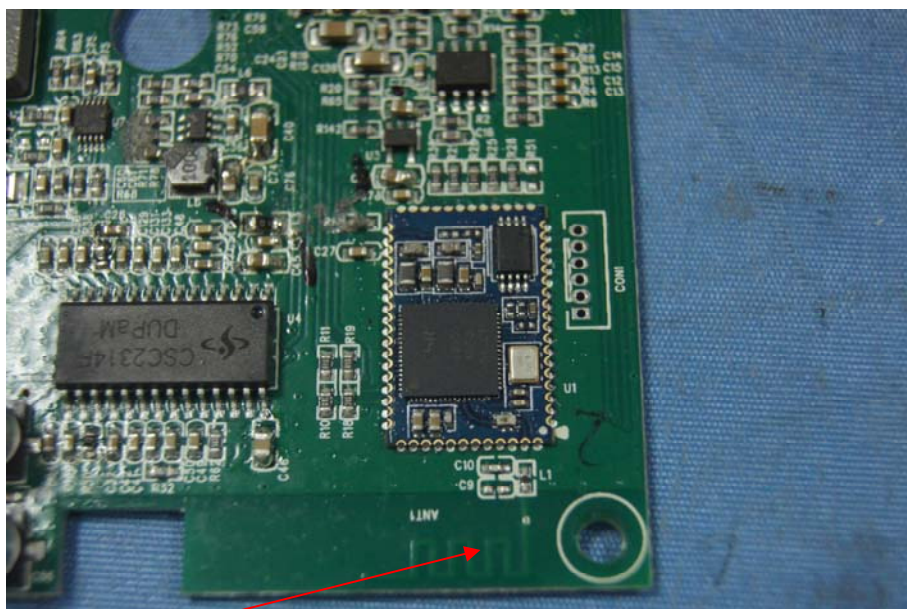
12.ANTENNA REQUIREMENT

12.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

12.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna