FCC PART 15.247

TEST REPORT

For

Hobby Products International Inc.

70 Icon St, Foothill Ranch, CA 92610-3000 USA

FCC ID: Y9XHPIRACING00101

Report Type:	**Product Type:**
Original Report	2CH 2.4GHz FHSS RADIO SYSTEM

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Report Number:	RSH140821052-00
Report Date:	2014-09-18
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TABLE OF CONTENTS

GENERAL INFORMATION **4**
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4
OBJECTIVE 4
RELATED SUBMITTAL(S)/GRANT(S) 4
TEST METHODOLOGY 4
TEST FACILITY 4
SYSTEM TEST CONFIGURATION **5**
DESCRIPTION OF TEST CONFIGURATION 5
EUT EXERCISE SOFTWARE 5
EQUIPMENT MODIFICATIONS 5
BLOCK DIAGRAM OF TEST SETUP 5
SUMMARY OF TEST RESULTS **6**
FCC §15.247 (i) & §1.1307 (b) (1) & §2.1093- RF EXPOSURE **7**
APPLICABLE STANDARD 7
FCC §15.203 - ANTENNA REQUIREMENT **8**
APPLICABLE STANDARD 8
ANTENNA CONNECTOR CONSTRUCTION 8
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS **9**
APPLICABLE STANDARD 9
MEASUREMENT UNCERTAINTY 9
EUT SETUP 9
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP 10
TEST PROCEDURE 10
TEST EQUIPMENT LIST AND DETAILS 11
CORRECTED AMPLITUDE & MARGIN CALCULATION 11
TEST RESULTS SUMMARY 11
TEST DATA 11
FCC §15.247(a) (1) - CHANNEL SEPARATION TEST **15**
APPLICABLE STANDARD 15
TEST EQUIPMENT LIST AND DETAILS 15
TEST PROCEDURE 15
TEST DATA 15
FCC §15.247(a) (1) – 20 dB BANDWIDTH TESTING **18**
APPLICABLE STANDARD 18
TEST PROCEDURE 18
TEST EQUIPMENT LIST AND DETAILS 18
TEST DATA 18
FCC §15.247(a) (1) (iii) - QUANTITY OF HOPPING CHANNEL TEST **21**
APPLICABLE STANDARD 21
TEST PROCEDURE 21
TEST EQUIPMENT LIST AND DETAILS 21
TEST DATA 21
FCC §15.247(a) (1) (iii) - TIME OF OCCUPANCY (DWELL TIME) **23**
APPLICABLE STANDARD 23

FINAL

TEST PROCEDURE 23
TEST EQUIPMENT LIST AND DETAILS 23
TEST DATA 23

FCC §15.247(b) (1) - PEAK OUTPUT POWER MEASUREMENT 26

APPLICABLE STANDARD 26
TEST PROCEDURE 26
TEST EQUIPMENT LIST AND DETAILS 26
TEST DATA 26

FCC §15.247(d) - BAND EDGES TESTING 29

APPLICABLE STANDARD 29
TEST PROCEDURE 29
TEST EQUIPMENT LIST AND DETAILS 29
TEST DATA 29

FINAL

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Hobby Products International Inc.'s* product, model number: *TF-60 (FCC ID: Y9XHPIRACING00101) or* ("EUT") in this report is a *2CH 2.4GHz FHSS RADIO SYSTEM,* which was measured approximately: 17.4 cm (L) x 11.2 cm (W) x 7.2 cm (H),rated input voltage: DC 6V from battery.

** All measurement and test data in this report was gathered from production sample serial number: 140821052. (Assigned by BACL. Dongguan).The EUT was received on 2014-08-22.*

Objective

This report is prepared on behalf of *Hobby Products International Inc.* in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communications Commission's rules.

The tests were performed in order to determine the EUT compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 02, 2012. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

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SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode.

43 hopping channels are configured by system, and EUT was tested with low channel: 2407 MHz, middle channel: 2428MHz, and high channel: 2449MHz.

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2407	12	2418	23	2429	34	2440
2	2408	13	2419	24	2430	35	2441
3	2409	14	2420	25	2431	36	2442
4	2410	15	2421	26	2432	37	2443
5	2411	16	2422	27	2433	38	2444
6	2412	17	2423	28	2434	39	2445
7	2413	18	2424	29	2435	40	2446
8	2414	19	2425	30	2436	41	2447
9	2415	20	2426	31	2437	42	2448
10	2416	21	2427	32	2438	43	2449
11	2417	22	2428	33	2439	/	/

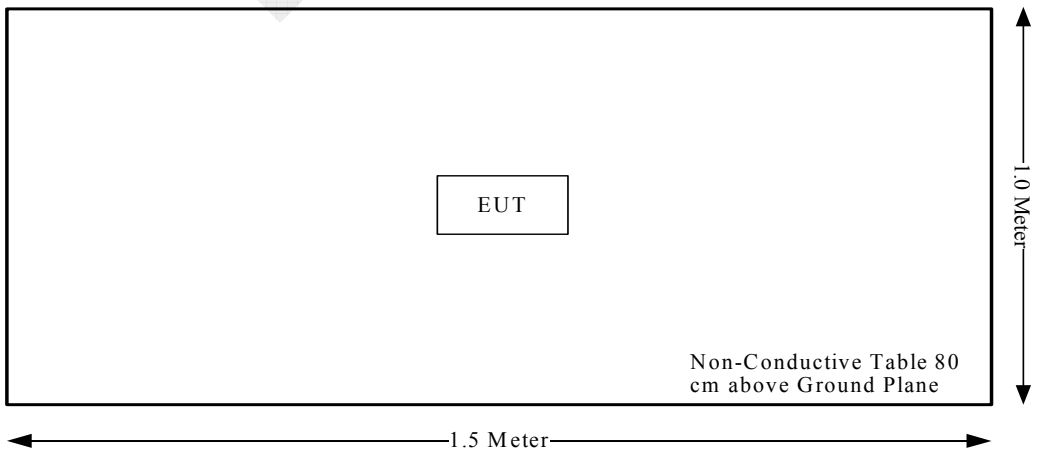
EUT Exercise Software

No exercise software was used in testing.

Equipment Modifications

No modification was made to the EUT.

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §2.1093	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	Conducted Emissions	Not Applicable
§15.205, §15.209, §15.247(d)	Radiated Emissions	Compliance
§15.247 (a)(1)	20 dB Bandwidth	Compliance
§15.247(a)(1)	Channel Separation Test	Compliance
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliance
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliance
§15.247(b)(1)	Peak Output Power Measurement	Compliance
§15.247(d)	Band Edges	Compliance

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FCC §15.247 (i) & §1.1307 (b) (1) & §2.1093- RF EXPOSURE

Applicable Standard

According to§15.247(i) and §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB447498 D01 General RF Exposure Guidance v05r02:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Measurement Result

The maximum conducted output power= -1.48 dBm=0.71mW at 2449MHz
[(max. power of channel, mW)/(min. test separation distance, mm)] · [√f(GHz)]
= 0.71/5*(√2.449) = 0.22 < 3.0

So the stand-alone SAR evaluation is not necessary.

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FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 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. 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.

Antenna Connector Construction

The EUT has an internal antenna. And the antenna gain is 2 dBi and fulfills the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

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FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner：

If U_{lab} is less than or equal to U_{cispr} of Table 2, then:
- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} of Table 1, then:
- compliance is deemed to occur if no measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

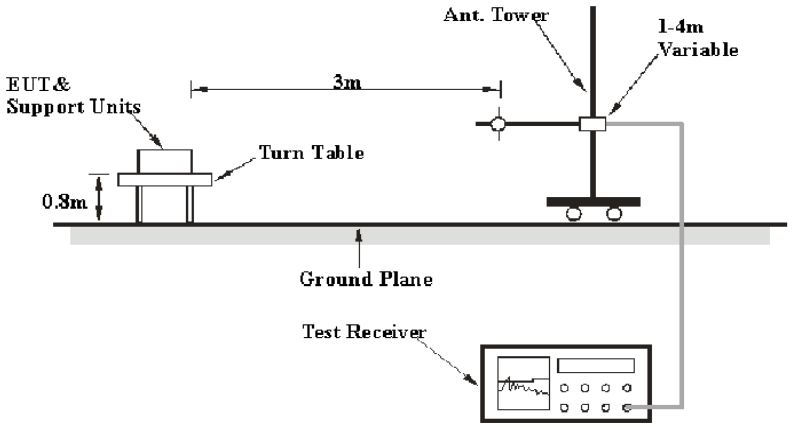
Based on CISPR 16-4-2: 2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:
30M~200MHz: 5.0 dB
200M~1GHz: 6.2 dB
1G~6GHz: 4.45 dB
6G~18GHz: 5.23 dB

Table 2 – Values of U_{cispr}

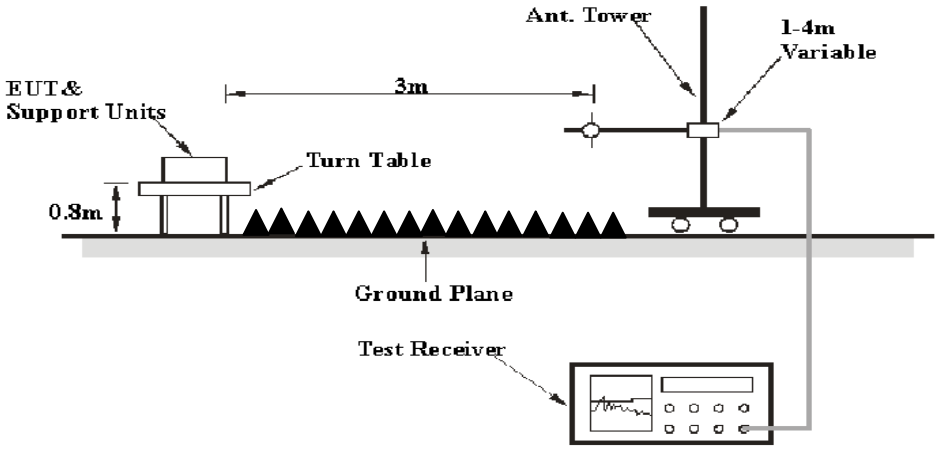
Measurement	U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209, and FCC 15.247 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz - 1 GHz, peak and Average detection modes for frequencies above 1 GHz.

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Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2014-05-09	2015-05-09
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447E	2434A02181	2014-09-01	2015-09-01
R&S	Spectrum Analyzer	FSEM	DE31388	2014-05-09	2015-05-09
ETS LINDGREN	Horn Antenna	3115	000 527 35	2012-09-06	2015-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2014-02-19	2015-02-19
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2014-06-16	2017-06-15
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2014-09-06	2015-09-06

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, and section 15.205, 15.209 and 15.247, with the worst margin reading of:

5.32 dB at **4898 MHz** in the **Horizontal** polarization

Test Data

Environmental Conditions

Temperature:	26.4°C
Relative Humidity:	51%
ATM Pressure:	99.7

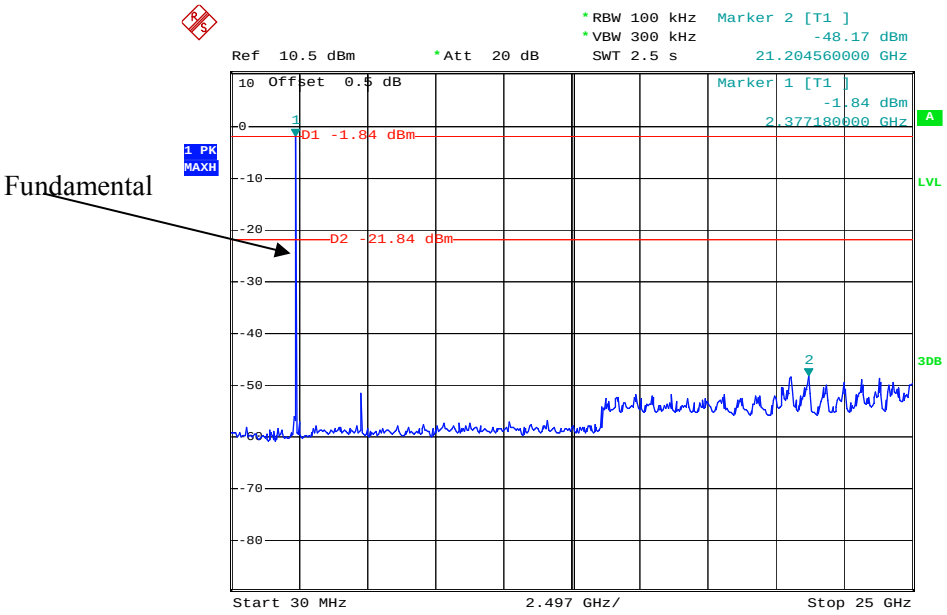
The testing was performed by leon Chen on 2014-09-14&2014-09-15

Test Mode: Transmitting

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)				Limit (dBμV/m)	Margin (dB)
Low Channel: 2407 MHz									
2407	62.01	PK	H	25.66	4.42	0.00	92.09	N/A	N/A
2407	44.81	AV	H	25.66	4.42	0.00	74.89	N/A	N/A
2407	60.41	PK	V	25.66	4.42	0.00	90.49	N/A	N/A
2407	43.85	AV	V	25.66	4.42	0.00	73.93	N/A	N/A
2390	25.9	PK	H	25.61	4.39	0.00	55.90	74.00	18.10
2390	13.47	AV	H	25.61	4.39	0.00	43.47	54.00	10.53
4814	50.51	PK	H	30.62	6.00	27.41	59.72	74.00	14.28
4814	37.79	AV	H	30.62	6.00	27.41	47.00	54.00	7.00
7221	43.55	PK	H	34.13	7.46	25.90	59.24	74.00	14.76
7221	31.05	AV	H	34.13	7.46	25.90	46.74	54.00	7.26
9628	29.18	PK	H	36.01	8.80	27.51	46.48	74.00	27.52
9628	18.16	AV	H	36.01	8.80	27.51	35.46	54.00	18.54
1372	30.9	PK	H	23.27	3.06	26.97	30.26	74.00	43.74
1372	20.18	AV	H	23.27	3.06	26.97	19.54	54.00	34.46
163.3	35.17	QP	H	12.55	1.56	21.44	27.84	43.50	15.66
Middle Channel: 2428 MHz									
2428	62.24	PK	H	25.71	4.41	0.00	92.36	N/A	N/A
2428	48.21	AV	H	25.71	4.41	0.00	78.33	N/A	N/A
2428	60.15	PK	V	25.71	4.41	0.00	90.27	N/A	N/A
2428	45.93	AV	V	25.71	4.41	0.00	76.05	N/A	N/A
4856	51.09	PK	H	30.73	6.09	27.42	60.49	74.00	13.51
4856	36.57	AV	H	30.73	6.09	27.42	45.97	54.00	8.03
7284	41.62	PK	H	34.28	7.49	25.89	57.50	74.00	16.50
7284	27.03	AV	H	34.28	7.49	25.89	42.91	54.00	11.09
9712	28.75	PK	H	36.21	8.82	27.32	46.46	74.00	27.54
9712	16.17	AV	H	36.21	8.82	27.32	33.88	54.00	20.12
1307	31.03	PK	H	23.10	2.93	26.91	30.15	74.00	43.85
1307	17.29	AV	H	23.10	2.93	26.91	16.41	54.00	37.59
2813	32.14	PK	H	26.71	5.47	27.56	36.76	74.00	37.24
2813	18.4	AV	H	26.71	5.47	27.56	23.02	54.00	30.98
163.3	35.72	QP	H	12.55	1.56	21.44	28.39	43.50	15.11
High Channel: 2449 MHz									
2449	62.66	PK	H	25.77	4.40	0.00	92.83	N/A	N/A
2449	47.44	AV	H	25.77	4.40	0.00	77.61	N/A	N/A
2449	60.79	PK	V	25.77	4.40	0.00	90.96	N/A	N/A
2449	44.15	AV	V	25.77	4.40	0.00	74.32	N/A	N/A
2483.5	32.14	PK	H	25.86	4.49	0.00	62.49	74.00	11.51
2483.5	18.01	AV	H	25.86	4.49	0.00	48.36	54.00	5.64
4898	52.49	PK	H	30.83	6.08	27.42	61.98	74.00	12.02
4898	39.19	AV	H	30.83	6.08	27.42	48.68	54.00	**5.32**
7347	42.15	PK	H	34.43	7.53	25.87	58.24	74.00	15.76
7347	29.79	AV	H	34.43	7.53	25.87	45.88	54.00	8.12
9796	28.68	PK	H	36.41	8.84	27.13	46.80	74.00	27.20
9796	15.71	AV	H	36.41	8.84	27.13	33.83	54.00	20.17
1957	30.83	PK	H	24.51	3.79	27.49	31.64	74.00	42.36
1957	17.59	AV	H	24.51	3.79	27.49	18.40	54.00	35.60
163.3	35.49	QP	H	12.55	1.56	21.44	28.16	43.50	15.34

Conducted Spurious Emissions at Antenna Port

Low Channel



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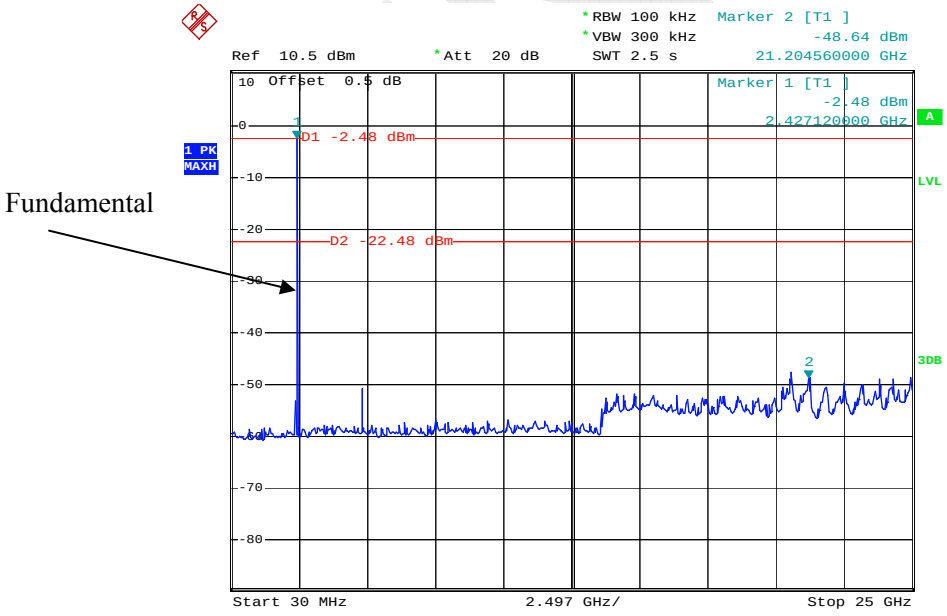
Middle Channel



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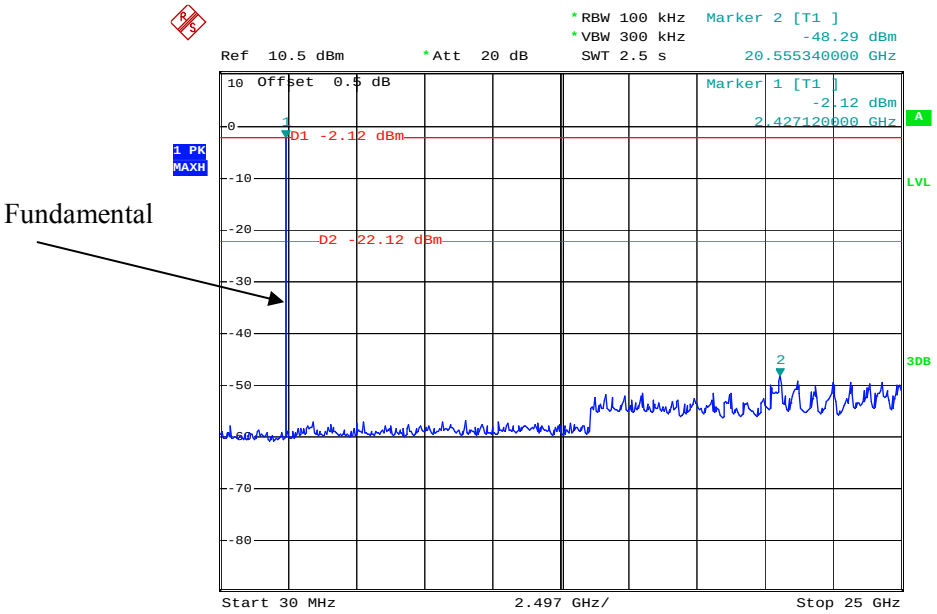
High Channel



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FCC §15.247(a) (1) - CHANNEL SEPARATION TEST

Applicable Standard

Frequency hopping systems shall have hoping channel carrier frequencies separated by a minimum of 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.50 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

Set the EUT in transmitting mode, maxhold the trace, Allow it to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

Test Data

Environmental Conditions

Temperature:	29.1°C
Relative Humidity:	62 %
ATM Pressure:	100.1Pa

The testing was performed by leon Chen on 2014-09-12

Test Result: Compliance.

Please refer to following tables and plots

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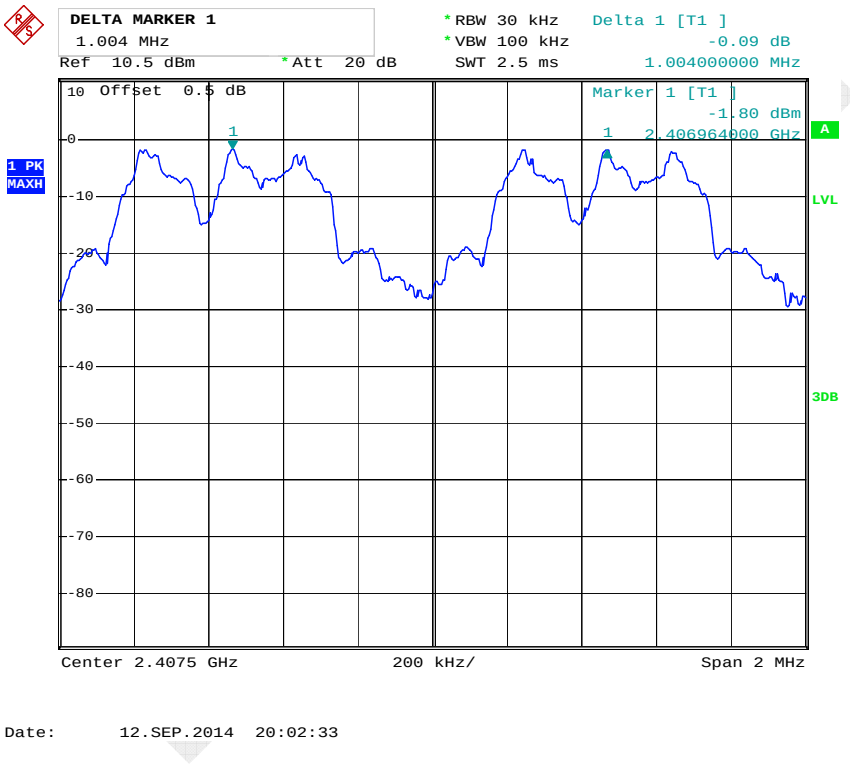
Test Mode: Transmitting

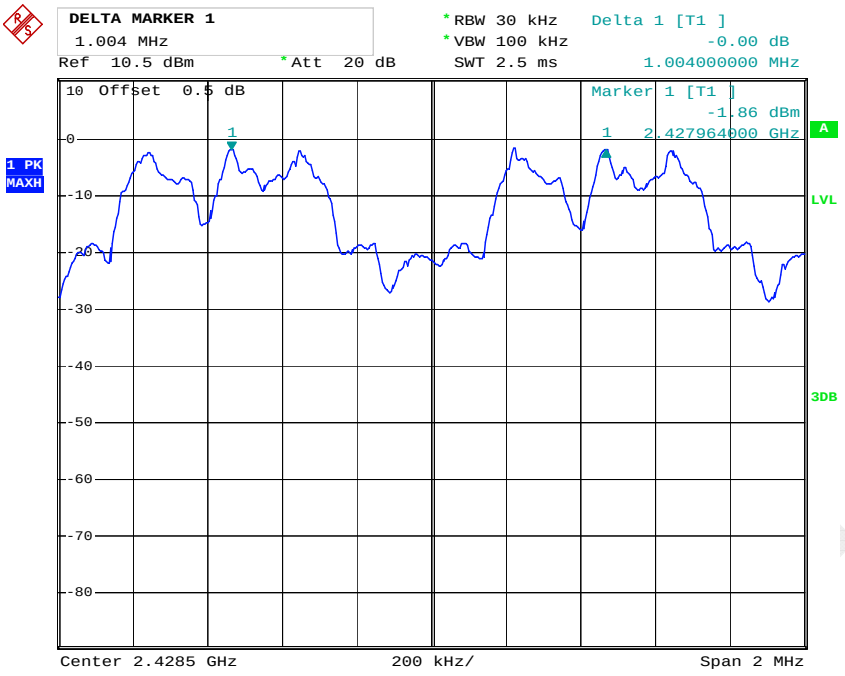
Channel	Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)	Result
Low	2407	1.004	0.653	Pass
Adjacent	2408			
Middle	2428	1.004	0.653	Pass
Adjacent	2429			
High	2449	1.004	0.653	Pass
Adjacent	2448			

Note: Limit= (2/3) of 20 dB bandwidth

Low Channel



Middle Channel



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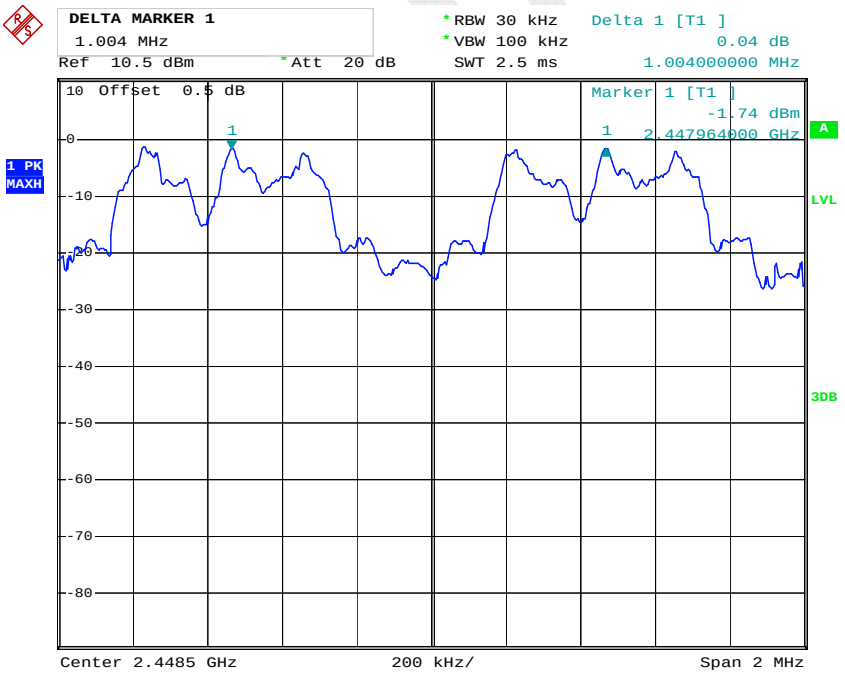
High Channel



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FCC §15.247(a) (1) – 20 dB BANDWIDTH TESTING

Applicable Standard

Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Test Procedure

Set the EUT in transmitting mode, maxhold the trace, Allow it to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	29.1°C-24.6°C
Relative Humidity:	62 %-64 %
ATM Pressure:	100.1Pa-100.7 Pa

The testing was performed by leon Chen on 2014-09-12&2014-09-18.

Test Result: Compliance.

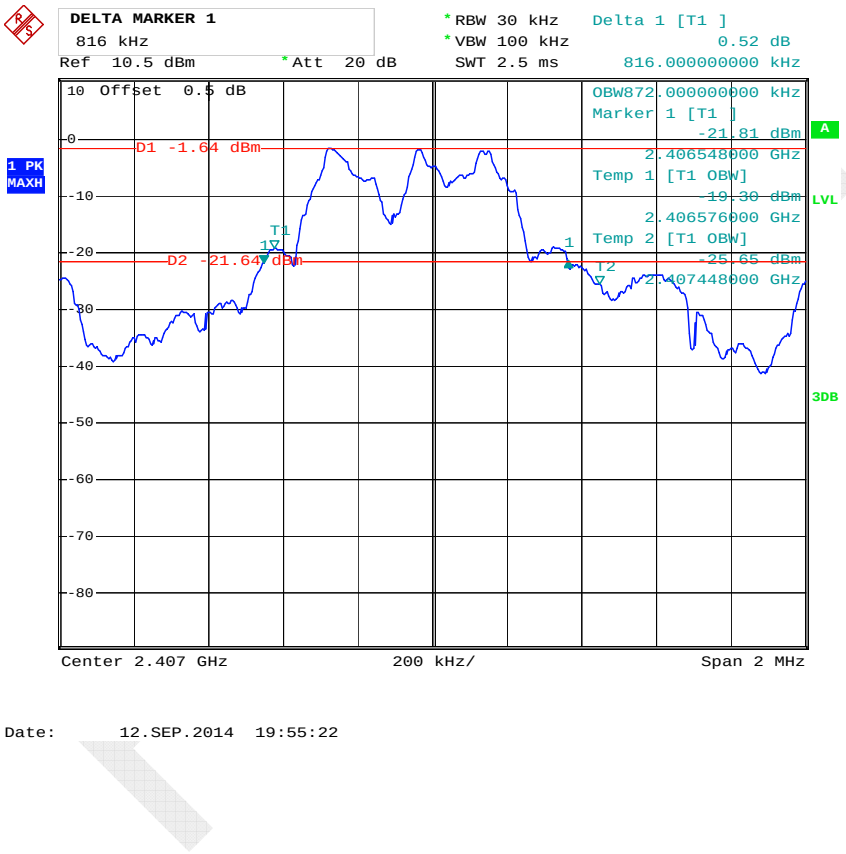
Please refer to following tables and plots

Test Mode: Transmitting

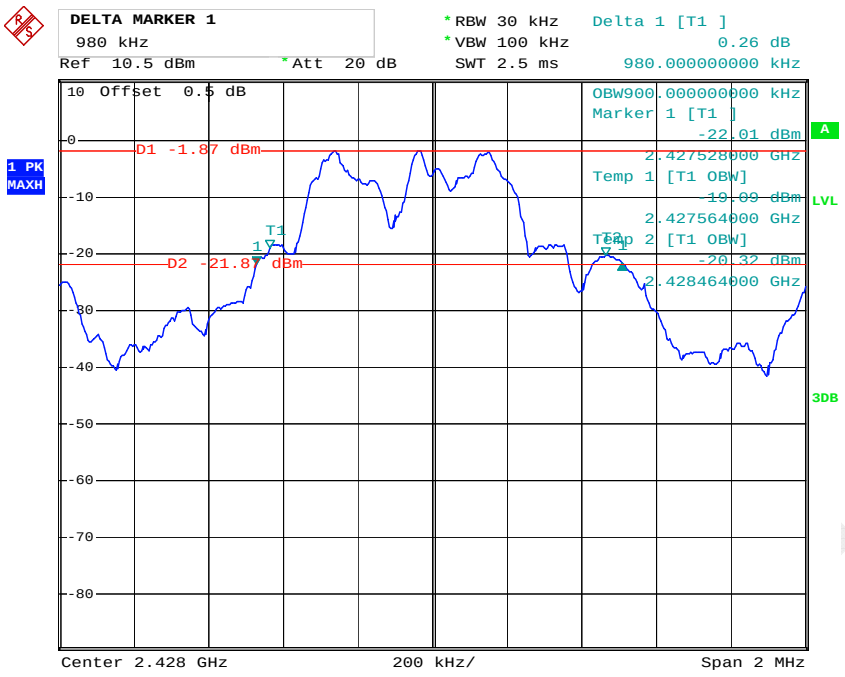
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	2407	0.816
Middle	2428	0.980
High	2449	0.824

Please refer to the following plots.

Low Channel

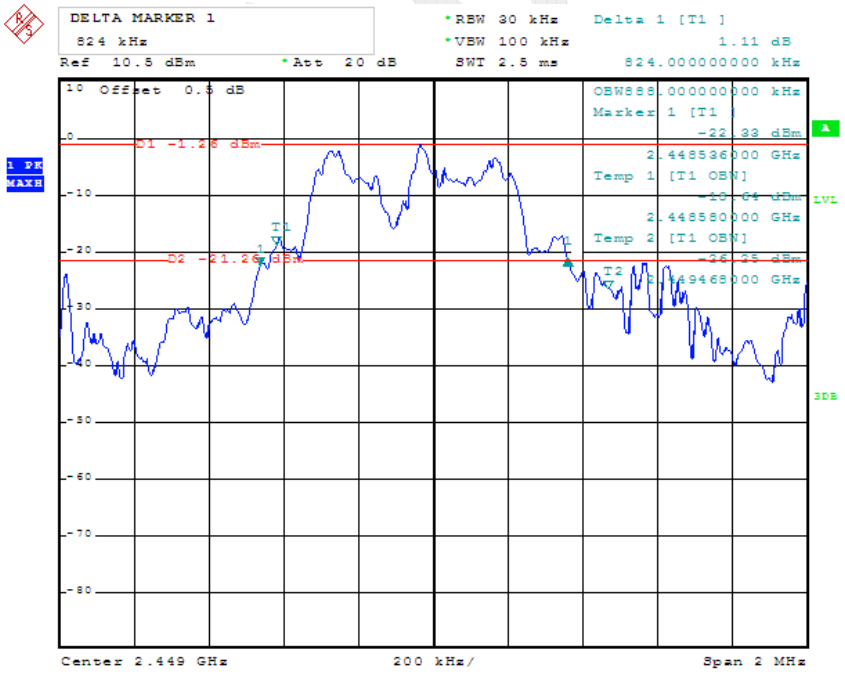


Middle Channel



Date: 12.SEP.2014 20:08:28

High Channel



Date: 18.SEP.2014 10:45:38

FCC §15.247(a) (1) (iii) - QUANTITY OF HOPPING CHANNEL TEST

Applicable Standard

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Procedure

Set the EUT in hopping mode, maxhold the trace, allow it to stabilize.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	29.1°C
Relative Humidity:	62 %
ATM Pressure:	100.1Pa

The testing was performed by leon Chen on 2014-09-12

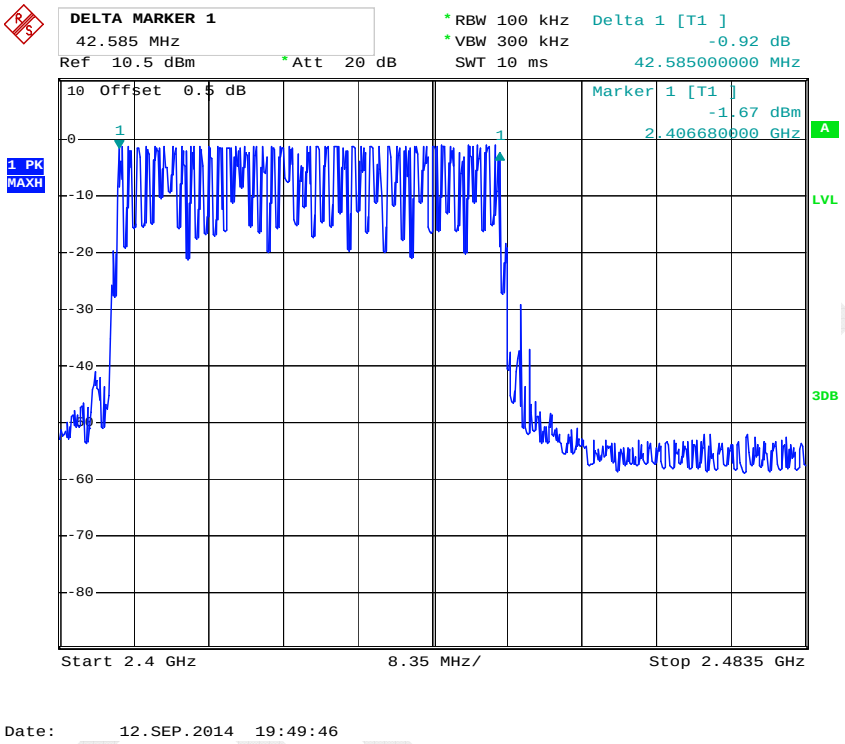
Test Result: Compliance.

Please refer to following tables and plots

Test Mode: Transmitting

Frequency Range (MHz)	Number of Hopping Channel	Limit
2400-2483.5	43	≥15

Number of Hopping Channels



Date: 12.SEP.2014 19:49:46

FCC §15.247(a) (1) (iii) - TIME OF OCCUPANCY (DWELL TIME)

Applicable Standard

Frequency hopping systems in the 2400-2483.5 MHz shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Procedure

The EUT was worked in hopping mode; Spectrum SPAN was set as zero. Sweep time was set as necessary to capture the entire dwell time per hopping channel, the quantity of pulse was get from single sweep. In addition, the time of single pulse was tested.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	29.1°C～29.2°C
Relative Humidity:	62 %～63 %
ATM Pressure:	100.1Pa～100.2Pa

The testing was performed by leon Chen on 2014-09-15 and 2014-09-17

Test Result: Compliance.

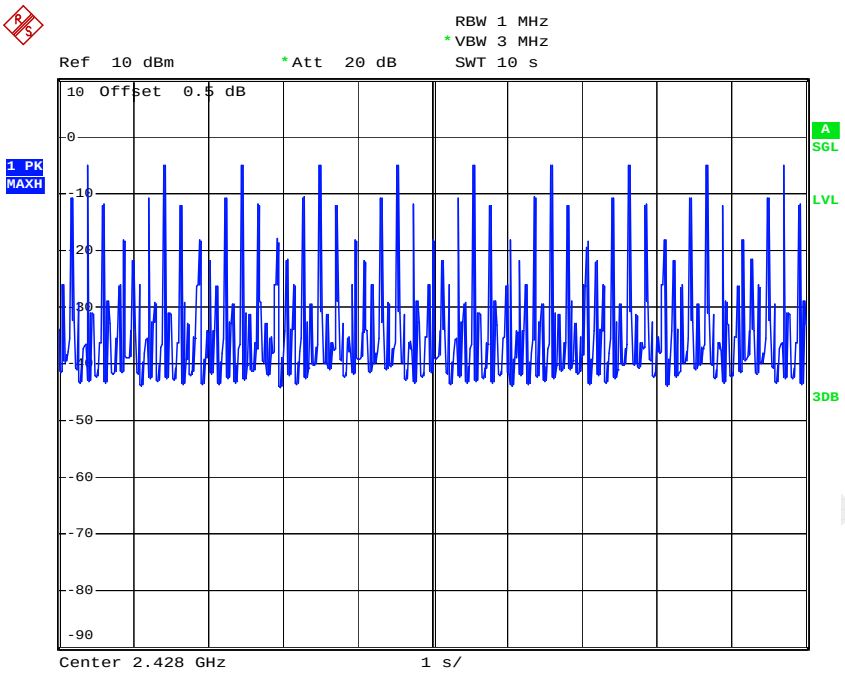
Please refer to following tables and plots

Test Mode: Transmitting

Frequency	Pulse Width (ms)	Hopping Rate	Dwell Time (s)	Limit (s)	Result
2428 MHz	0.86	129	0.044	0.4	Pass

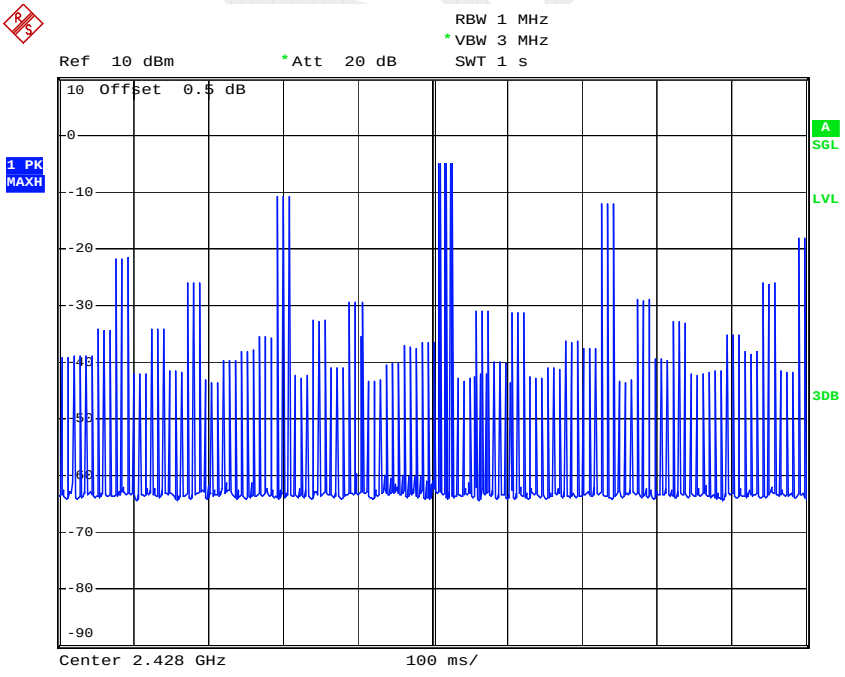
Note:
Dwell time= pulse width* hopping rate/hopping numbers*hopping numbers*0.4
Hopping rate= 10/10*3*43 =129 pulse/second

10 hoppings per 10s



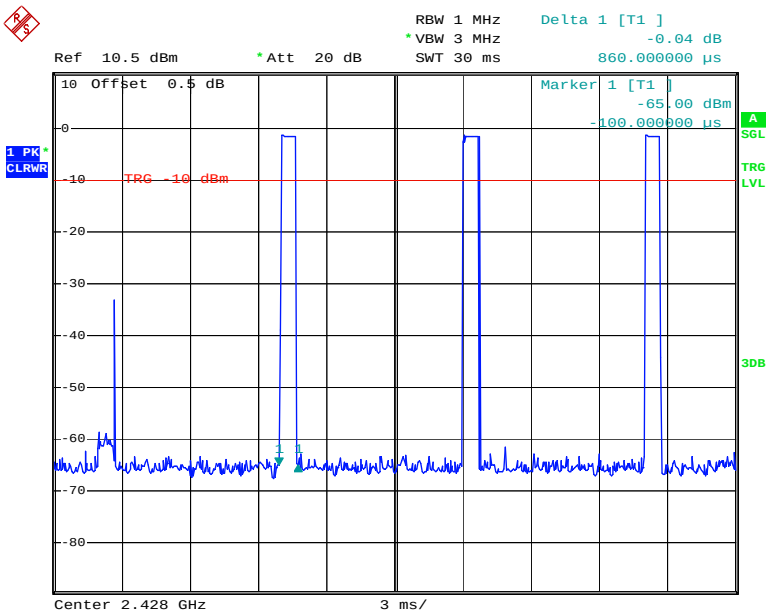
Date: 17.SEP.2014 09:32:21

3 pulse in a hopping



Date: 17.SEP.2014 09:31:45

860us per pulse



Date: 15.SEP.2014 17:55:30

FCC §15.247(b) (1) - PEAK OUTPUT POWER MEASUREMENT

Applicable Standard

According to §15.247(b) (1), for frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts

Test Procedure

Set the EUT in transmitting mode, maxhold the trace, Allow it to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	29.1°C
Relative Humidity:	62 %
ATM Pressure:	100.1Pa

The testing was performed by leon Chen on 2014-09-12

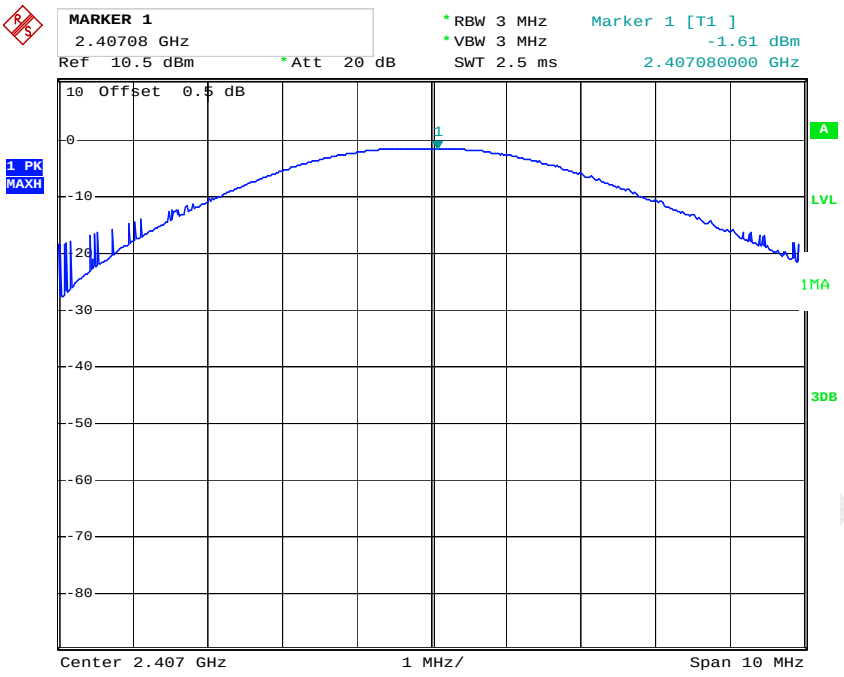
Test Result: Compliance.

Test Mode: Transmitting

Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low	2407	-1.61	21
Middle	2428	-1.63	21
High	2449	-1.48	21

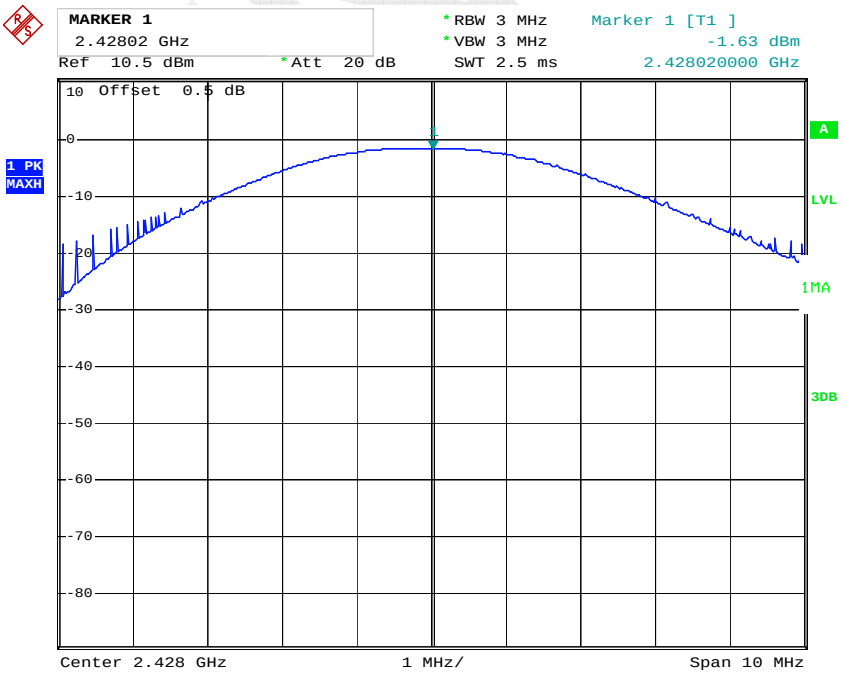
Please refer to the following plots.

Peak Output Power, Low Channel



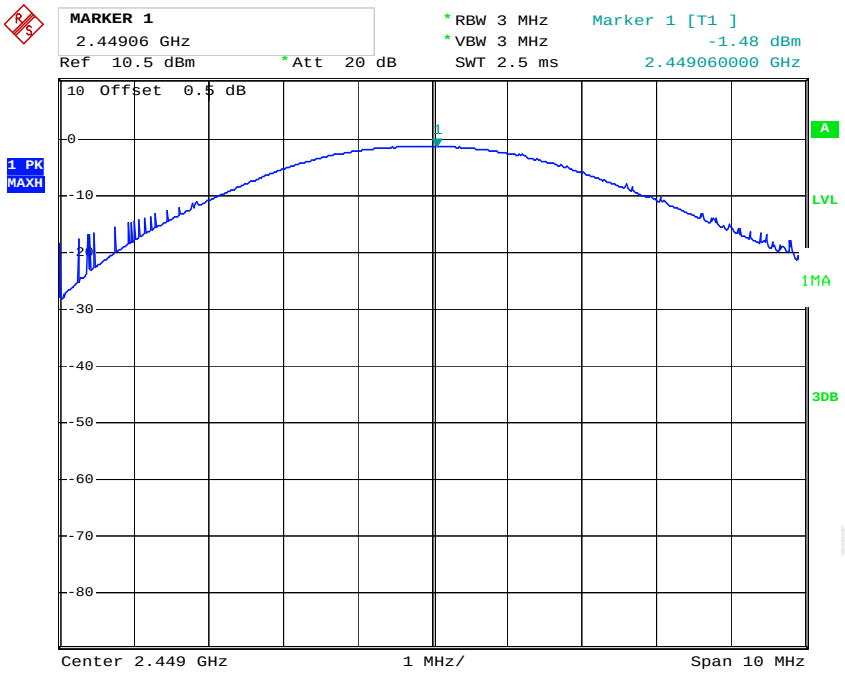
Date: 12.SEP.2014 20:00:25

Peak Output Power, Middle Channel



Date: 12.SEP.2014 20:12:06

Peak Output Power, High Channel



Date: 12.SEP.2014 20:12:42

FCC §15.247(d) - BAND EDGES TESTING

Applicable Standard

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

Test Procedure

1. Set RBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
2. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

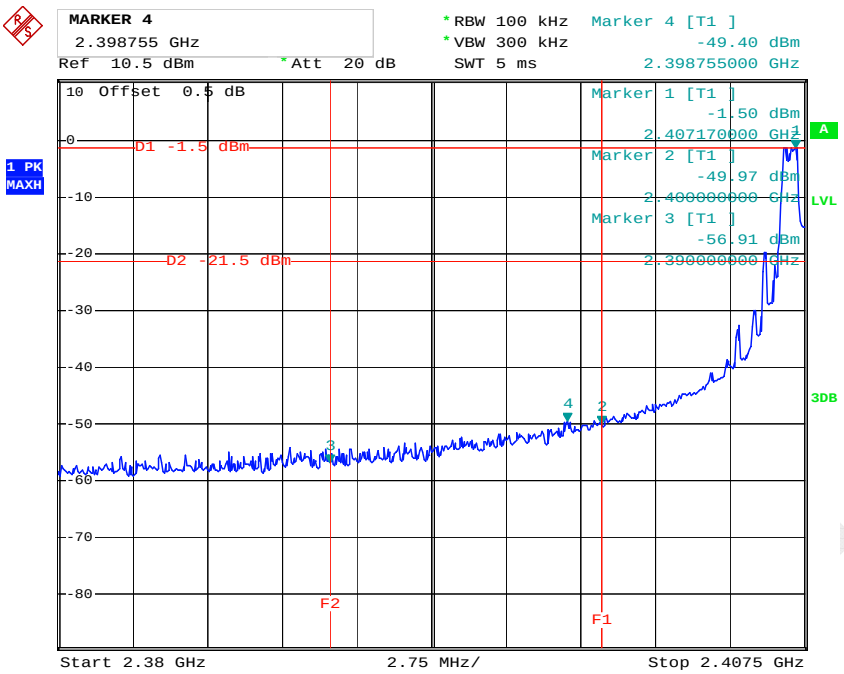
Environmental Conditions

Temperature:	29.1°C
Relative Humidity:	62 %
ATM Pressure:	100.1Pa

The testing was performed by leon Chen on 2014-09-12

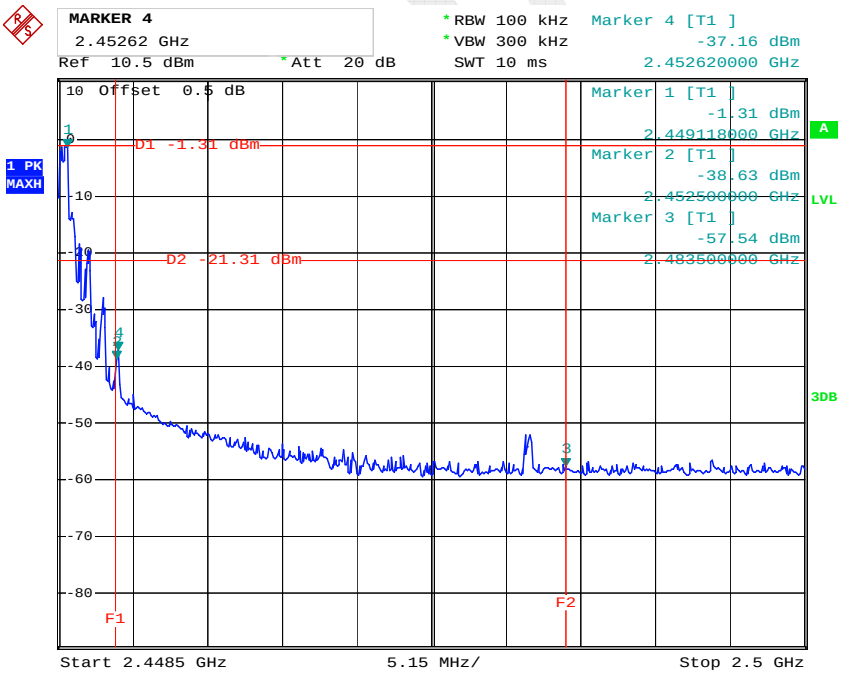
Test Result: Compliance

Band Edge, Left Side



Date: 12.SEP.2014 19:58:54

Band Edge, Right Side



Date: 12.SEP.2014 20:17:52

******* END OF REPORT *******