

APPLICATION FOR CERTIFICATION

On Behalf of
FUTABA Corporation
Radio Control
Model No. : T4PLS
FCC ID : AZPFHSSBI-24G
Brand: Futaba

Prepared for : FUTABA Corporation
1080 Yabutsuka Chosei-son Chosei-gun
Chiba, 299-4395 Japan.

Prepared by : AUDIX Technology Corporation
EMC Department
No. 53-11, Dingfu, Linkou Dist.,
New Taipei City 244, Taiwan, R.O.C.

Tel : (02) 2609-9301, 2609-2133
Fax: (02) 2609-9303

File Number : C1M1302134
Report Number : EM-F1020295
Date of Test : Mar. 29 ~ Apr. 12, 2013
Date of Report : Apr. 18, 2013

TABLE OF CONTENTS

Description	Page
TEST REPORT CERTIFICATION	4
1. GENERAL INFORMATION	5
1.1. Description of Device (EUT).....	5
1.2. Description of Test Facility	6
1.3. Measurement Uncertainty.....	6
2. CONDUCTED EMISSION MEASUREMENT.....	7
3. RADIATED EMISSION MEASUREMENT	8
3.1. Test Equipment.....	8
3.2. Test Setup	8
3.3. Radiated Emission Limits (§15.209)	10
3.4. Operating Condition of EUT	10
3.5. Test Procedure	10
3.6. Radiated Emission Measurement Results.....	11
4. 20dB BANDWIDTH MEASUREMENT	35
4.1. Test Equipment.....	35
4.2. Block Diagram of Test Setup.....	35
4.3. Specification Limits (§15.247(a)(1))	35
4.4. Operating Condition of EUT	35
4.5. Test Procedure	35
4.6. Test Results.....	36
5. CARRIER FREQUENCY SEPARATION MEASUREMENT	40
5.1. Test Equipment.....	40
5.2. Block Diagram of Test Setup.....	40
5.3. Specification Limits (§15.247(a)(1))	40
5.4. Operating Condition of EUT	40
5.5. Test Procedure	40
5.6. Test Results.....	41
6. TIME OF OCCUPANCY MEASUREMENT	47
6.1. Test Equipment.....	47
6.2. Block Diagram of Test Setup.....	47
6.3. Specification Limits (§15.247(a)(1)(iii))	47
6.4. Operating Condition of EUT	47
6.5. Test Procedure	47
6.6. Test Results.....	48
7. NUMBER OF HOPPING CHANNELS MEASUREMENT	56
7.1. Test Equipment.....	56
7.2. Block Diagram of Test Setup.....	56
7.3. Specification Limits (§15.247(a)(1)(iii))	56
7.4. Operating Condition of EUT	56
7.5. Test Procedure	56
7.6. Test Results.....	56
8. MAXIMUM PEAK OUTPUT POWER MEASUREMENT	58
8.1. Test Equipment.....	58
8.2. Block Diagram of Test Setup.....	58
8.3. Specification Limits (§15.247(b)-(1)).....	58
8.4. Operating Condition of EUT	58
8.5. Test Procedure	58
8.6. Test Results.....	58

9. EMISSION LIMITATIONS MEASUREMENT.....63

9.1. Test Equipment..... 63

9.2. Block Diagram of Test Setup..... 63

9.3. Specification Limits (§15.247(c))..... 63

9.4. Operating Condition of EUT 63

9.5. Test Procedure 63

9.6. Test Results..... 63

10. BAND EDGES MEASUREMENT.....76

10.1. Test Equipment..... 76

10.2. Block Diagram of Test Setup 76

10.3. Specification Limits (§15.247(c)) 76

10.4. Operating Condition of EUT 76

10.5. Test Procedure..... 76

10.6. Test Results 76

11. DEVIATION TO TEST SPECIFICATIONS79

12. PHOTOGRAPHS80

12.1. Photos of Radiated Measurement at Semi-Anechoic Chamber..... 80

12.2. Photo of RF Conducted Measurement 83

TEST REPORT CERTIFICATION

Applicant : FUTABA Corporation
 Manufacturer : FUTABA Corporation
 EUT Description : Radio Control
 FCC ID : AZPFHSSBI-24G
 (A) Model No. : T4PLS
 (B) Serial No. : N/A
 (C) Brand : Futaba
 (D) Power Supply : DC 6V
 (E) Test Voltage : DC 6V (Via Battery)

Measurement Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C, Oct. 2012
AND ANSI C63.4/2003

(FCC CFR 47 Part 15C, §15.207 and §15.209 and §15.247)

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test : Mar. 29 ~ Apr. 12, 2013 Date of Report : Apr. 18, 2013

Producer : 
 (Tina Huang/Administrator)

Signatory : 
 (Leon Liu/Deputy General Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Radio Control
Model Number	:	T4PLS
Serial Number	:	N/A
FCC ID	:	AZPFHSSBI-24G
Applicant	:	FUTABA Corporation 1080 Yabutsuka Chosei-son Chosei-gun Chiba, 299-4395 Japan.
Manufacturer	:	FUTABA Corporation 1080 Yabutsuka Chosei-son Chosei-gun Chiba, 299-4395 Japan.
Radio Technology	:	FHSS and T-FHSS Modulation
Frequency Band	:	FHSS: 2403.250MHz ~ 2447.500MHz T-FHSS: 2407.500MHz ~ 2467.500MHz
Frequency Channel	:	FHSS: 60 channels T-FHSS: 31 channels
Tested Frequency	:	FHSS: 2403.250MHz (Channel 01) 2425.00MHz (Channel 30) 2447.500MHz (Channel 60) T-FHSS: 2407.500MHz (Channel 01) 2435.500MHz (Channel 15) 2467.500MHz (Channel 31)
Antenna (Di-Pole)	:	Antenna Gain: 2.14dBi
Date of Receipt of Sample	:	Apr. 25, 2013
Date of Test	:	Mar. 29 ~ Apr. 12, 2013

1.2. Description of Test Facility

Name of Firm : **AUDIX Technology Corporation**
EMC Department
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.

Test Location & Facility (AC) : **Semi-Anechoic Chamber**
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.
 May 11, 2012 Renewal on
 Federal Communication Commission
 Registration Number: 90993

NVLAP Lab. Code : 200077-0

TAF Accreditation No : 1724

1.3. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Radiation Test (Distance: 3m)	30MHz~300MHz	±2.91dB
	300MHz~1000MHz	±2.94dB
	Above 1GHz	± 5.02dB

Remark : Uncertainty = $k_{uc}(y)$

Test Item	Uncertainty
20dB Bandwidth	± 0.2kHz
Carrier Frequency Separation	± 0.2kHz
Time Of Occupancy	± 0.03sec
Maximum peak Output power	± 0.52dBm
Emission Limitations	± 0.13dB
Band Edges	± 0.13dB

2. CONDUCTED EMISSION MEASUREMENT

【The EUT only employs DC power for operation, no conductive emission limits are required according to FCC Part 15 Section §15.207】

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

3.1.1. For Frequency Range 30MHz~1000MHz (at Semi-Anechoic Chamber)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 07, 12'	Aug. 06, 13'
2.	Test Receiver	R & S	ESCS30	100338	Jul. 04, 12'	Jul. 03, 13'
3.	Amplifier	Agilent	8447D	2944A06305	Feb. 19, 13'	Feb. 18, 14'
4.	Log Periodic Antenna	Schwarzbeck	UHALP 9108-A	0810	Mar. 03, 13'	Mar. 02, 14'
5.	Biconical Antenna	CHASE	VBA6106A	1264	Mar. 03, 13'	Mar. 02, 14'

3.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

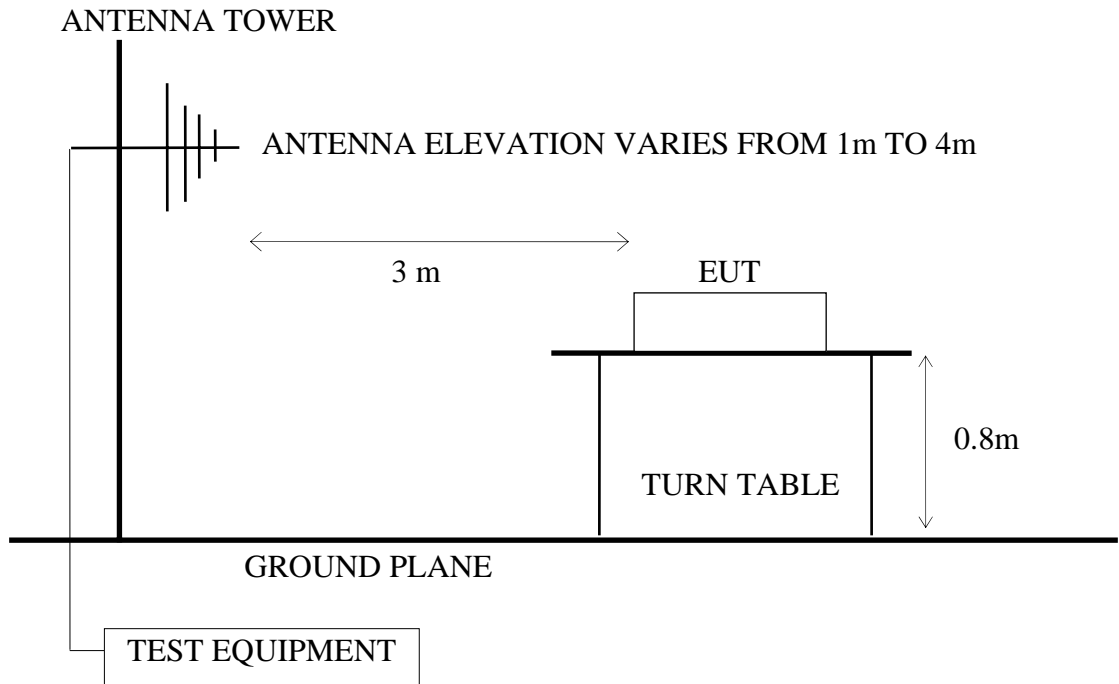
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 07, 12'	Aug. 06, 13'
2.	Test Receiver	R & S	ESCS30	100338	Jul. 04, 12'	Jul. 03, 13'
3.	Amplifier	HP	8449B	3008A00529	Jan. 31, 13'	Jan. 30, 14'
4.	2.4GHz Notch Filter	EWT	EWT-14-007 0-R1	G2	Feb. 12, 13'	Feb. 11, 14'
5.	3.5GHz High Pass Filter	HP	84300-80038	005	Dec. 14, 12'	Dec. 13, 13'
6.	Horn Antenna	EMCO	3115	9112-3775	May 09, 12'	May 08, 13'
7.	Horn Antenna	EMCO	3116	2653	Oct. 15, 12'	Oct. 14, 13'

3.2. Test Setup

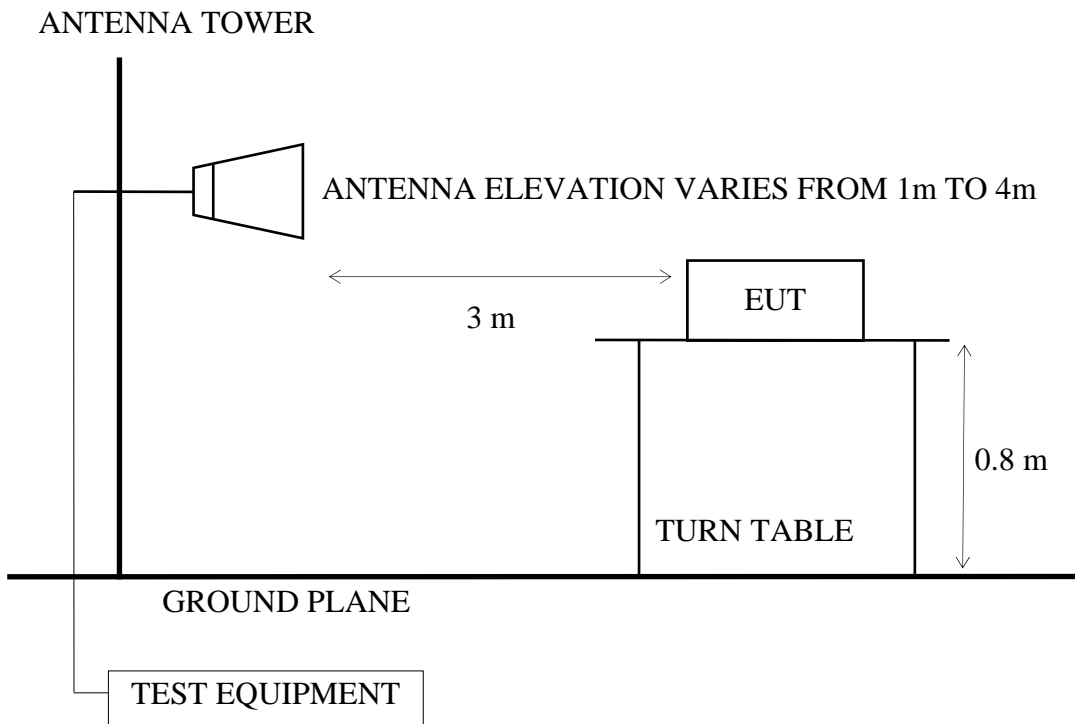
3.2.1. Block Diagram of connection between EUT and simulators

RADIO CONTROL (EUT)

3.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



3.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



3.3. Radiated Emission Limits (§15.209)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMITS	
		$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0
Above 1000	3	74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average)	

- Remark :
- (1) Emission level ($\text{dB}\mu\text{V/m}$) = 20 log Emission level ($\mu\text{V/m}$)
 - (2) The tighter limit applies at the edge between two frequency bands.
 - (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
 - (4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
 - (5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

3.4. Operating Condition of EUT

- 3.4.1. Set up the EUT (Radio Control) as shown on 3.2.
- 3.4.2. To turn on the power of all equipment.
- 3.4.3. The EUT was set the PC system using test program “Futaba Term”.
(Note: The PC system is not EUT’s accessory, It’s only test EUT on test.)
- 3.4.4. The EUT was set to continuously transmit signals at 2403.250MHz, 2425.000MHz and 2447.500MHz at FHSS modulation during testing.
- 3.4.5. The EUT was set to continuously transmit signals at 2407.500MHz, 2435.500MHz and 2467.500MHz at T-FHSS modulation during testing.

3.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna could be moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antennas such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to FCC ANSI C63.4-2003 regulation.

The bandwidth of the R&S Test Receiver ESCS30 was set at 120kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked. 30MHz to 1000MHz was measured with Quasi-Peak detector. Pursuant to ANSI 4.2.2, peak detector is an alternate option for frequency from 30MHz to 1000MHz.

Above 1GHz was measured with peak and average detector. For frequency from 5.5GHz to 25GHz, we checked it in 1 meter distance and with a shorter cable 2 meter instead of original's. There is no signal exist.

3.6. Radiated Emission Measurement Results

PASSED.

(All emissions not reported below are too low against the prescribed limits.)

EUT : Radio Control M/N : T4PLS

Test Date : Apr. 12, 2013 Temperature : 26 Humidity : 61%

For Frequency Range 30MHz~1000MHz:

The EUT emitted the fundamental frequency with data code at the stand, side and lying conditions.

The EUT select **worst position "stand"** and with following test modes was performed during this section testing and all the test results are listed in section 3.6.1.

Radio Technology: FHSS Modulation

Mode	Channel	Frequency	Test Mode	Position	Reference Test Data	
					Horizontal	Vertical
1.	01	2403.250MHz	Transmit	Stand	# 2	# 1
2.	30	2425.000MHz		Stand	# 2	# 1
3.	60	2447.500MHz		Stand	# 2	# 1

Note 1: Above all final readings were measured with Quasi-Peak detector.

Radio Technology: T-FHSS Modulation

Mode	Channel	Frequency	Test Mode	Position	Reference Test Data	
					Horizontal	Vertical
1.	01	2407.500MHz	Transmit	Stand	# 2	# 1
2.	15	2435.500MHz		Stand	# 2	# 1
3.	31	2467.500MHz		Stand	# 2	# 1

Note 1: Above all final readings were measured with Quasi-Peak detector.

For Frequency above 1GHz:

The EUT select **worst position “stand ”** and with following test modes was performed during this section testing and all the test results are listed in section 3.6.2.

Radio Technology: FHSS Modulation

Mode	Chnnel	Frequency	Test Mode	Position	Test Frequency Range
1.	01	2403.250MHz	Transmit	Stand	1000-2680MHz*
2.					2680-4000MHz
3.					4000-5500MHz*
4.					5500-11000MHz
5.					11000-18000MHz
6.					18000-25000MHz
7.	30	2425.000MHz	Transmit	Stand	1000-2680MHz*
8.					2680-4000MHz
9.					4000-5500MHz*
10.					5500-11000MHz
11.					11000-18000MHz
12.					18000-25000MHz
13.	60	2447.500MHz	Transmit	Stand	1000-2680MHz*
14.					2680-4000MHz
15.					4000-5500MHz*
16.					5500-11000MHz
17.					11000-18000MHz
18.					18000-25000MHz

- Note: 1. Above all final readings were measured with Peak and Average detector.
 2. The emissions (up to 25GHz) not reported are too low to be measured.
 3.”*” means there is spurious emission falling the frequency band and be measures.

Radio Technology: T-FHSS Modulation

Mode	Chnnel	Frequency	Test Mode	Position	Test Frequency Range
1.	01	2407.500MH	Transmit	Stand	1000-2680MHz*
2.					2680-4000MHz
3.					4000-5500MHz*
4.					5500-11000MHz
5.					11000-18000MHz
6.					18000-25000MHz
7.	15	2435.500MHz	Transmit	Stand	1000-2680MHz*
8.					2680-4000MHz
9.					4000-5500MHz*
10.					5500-11000MHz
11.					11000-18000MHz
12.					18000-25000MHz
13.	31	2467.500MHz	Transmit	Stand	1000-2680MHz*
14.					2680-4000MHz
15.					4000-5500MHz*
16.					5500-11000MHz
17.					11000-18000MHz
18.					18000-25000MHz

- Note: 1. Above all final readings were measured with Peak and Average detector.
 2. The emissions (up to 25GHz) not reported are too low to be measured.
 3. "*" means there is spurious emission falling the frequency band and be measures.

For Restricted Bands:

The EUT was tested in restricted bands and all the test results are listed in section 3.6.3. (The restricted bands defined in part 15.205(a))

Radio Technology: FHSS Modulation

Mode	Channel	Frequency	Test Mode	Reference Test Data	
				Horizontal	Vertical
1.	01	2403.250MHz	Transmit	# 2	# 1
2.	60	2447.500MHz	Transmit	# 4	# 3

Radio Technology: T-FHSS Modulation

Mode	Channel	Frequency	Test Mode	Reference Test Data	
				Horizontal	Vertical
1.	01	2407.500MHz	Transmit	# 2	#1
2.	31	2467.500MHz	Transmit	# 4	# 3

3.6.1. Frequency Range 30-1000MHz

Radio Technology: FHSS Modulation

Frequency: 2403.250MHz

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% Qjianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2403.25 (FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
258.690	24.53	3.50	-1.07	26.96	46.00	19.04	Peak
861.400	26.09	7.20	-0.30	32.99	46.00	13.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% Qjianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2403.25 (FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
188.490	21.43	2.90	-0.55	23.78	43.50	19.72	Peak
976.900	26.16	7.70	-0.11	33.75	54.00	20.25	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 2425.000MHz

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2425 (FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
194.430	21.77	3.00	-0.91	23.87	43.50	19.63	Peak
784.400	23.87	6.90	-2.13	28.64	46.00	17.36	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2425 (FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
260.580	24.58	3.60	-2.45	25.73	46.00	20.27	Peak
866.300	25.97	7.20	-0.68	32.49	46.00	13.51	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 2447.500MHz

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% Qjianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2447.5 (FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
255.180	24.19	3.56	-0.85	26.90	46.00	19.10	Peak
869.800	25.71	7.20	-0.69	32.22	46.00	13.78	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% Qjianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2447.5 (FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
269.490	24.92	3.70	-0.48	28.14	46.00	17.86	Peak
899.900	24.96	7.37	-1.78	30.55	46.00	15.45	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Radio Technology: T-FHSS Modulation

Frequency: 2407.500MHz

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2407.5 (T-FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
91.290	15.90	2.00	9.59	27.50	43.50	16.00	Peak
971.300	26.81	7.70	-0.44	34.07	54.00	19.93	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2407.5 (T-FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
102.090	17.29	2.10	3.44	22.83	43.50	20.67	Peak
600.300	21.31	6.30	6.38	33.99	46.00	12.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 2435.500MHz

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2435.5 (T-FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
102.090	17.29	2.10	3.19	22.58	43.50	20.92	Peak
705.300	23.56	6.60	0.77	30.93	46.00	15.07	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2435.5 (T-FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
56.190	14.11	1.60	8.56	24.28	40.00	15.72	Peak
91.290	15.90	2.00	12.73	30.64	43.50	12.86	Peak
777.400	24.18	6.80	-0.10	30.89	46.00	15.11	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 2467.500MHz

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2467.5 (T-FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
102.090	17.29	2.10	4.58	23.97	43.50	19.53	Peak
957.300	26.33	7.60	-0.49	33.44	46.00	12.56	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2467.5 (T-FHSS)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
154.740	20.71	2.63	0.40	23.73	43.50	19.77	Peak
903.400	24.90	7.40	0.17	32.47	46.00	13.53	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

3.6.2. Above 1GHz Frequency Range Measurement Results

Radio Technology: FHSS Modulation

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 01, Frequency: 2403.250MHz

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Horizontal (dBμV)	Emission Level Horizontal (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4805.500	33.06	9.14	17.05	59.25	74.00	14.75

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4808.500	59.25	-30.25	29.00	54.00	25.00

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(3.072\text{ms}/100\text{ms}) = -30.25$
 2. Average value=Peak value+ Duty Cycle Correction Factor

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Vertical (dBμV)	Emission Level Vertical (dBμV/m)	Limits (dBμV/m)	Margin (dB)
1645.120	26.27	6.45	19.71	52.43	74.00	21.57
4805.500	33.06	9.14	21.65	63.85	74.00	10.15

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1645.120	52.43	-30.25	22.18	54.00	31.82
4805.500	63.85	-30.25	33.60	54.00	20.40

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(3.072\text{ms}/100\text{ms}) = -30.25$
 2. Average value=Peak value+ Duty Cycle Correction Factor

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 30, Frequency: 2425.000MHz

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Horizontal (dBμV)	Emission Level Horizontal (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4846.000	33.12	9.15	21.23	63.50	74.00	10.50

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4846.000	63.50	-30.25	33.25	54.00	20.75

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(3.072\text{ms}/100\text{ms}) = -30.25$
 2. Average value=Peak value+ Duty Cycle Correction Factor

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Vertical (dBμV)	Emission Level Vertical (dBμV/m)	Limits (dBμV/m)	Margin (dB)
1678.720	26.40	6.69	19.19	52.28	74.00	21.72
4846.000	33.12	9.15	25.09	67.36	74.00	6.64

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1678.720	52.28	-30.25	22.03	54.00	31.97
4846.000	67.36	-30.25	37.11	54.00	16.89

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(3.072\text{ms}/100\text{ms}) = -30.25$
 2. Average value=Peak value+ Duty Cycle Correction Factor

Date of Test : Apr. 12, 2013 Temperature : 26

EUT : Radio Control Humidity : 61%

Test Mode : Transmit, Channel: 60, Frequency: 2447.500MHz

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Horizontal (dBμV)	Emission Level Horizontal (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4891.000	33.21	9.16	20.02	62.40	74.00	11.60

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4891.000	62.40	-30.25	32.15	54.00	21.85

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(3.072\text{ms}/100\text{ms}) = -30.25$
2. Average value=Peak value+ Duty Cycle Correction Factor

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Vertical (dBμV)	Emission Level Vertical (dBμV/m)	Limits (dBμV/m)	Margin (dB)
1712.320	26.52	6.92	22.02	55.47	74.00	18.53
4891.000	33.21	9.16	22.32	64.70	74.00	9.30

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1712.320	55.47	-30.25	25.22	54.00	28.78
4891.000	64.70	-30.25	34.45	54.00	19.55

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(3.072\text{ms}/100\text{ms}) = -30.25$
2. Average value=Peak value+ Duty Cycle Correction Factor

Radio Technology: T-FHSS Modulation

Date of Test : Apr. 12, 2013 Temperature : 26

EUT : Radio Control Humidity : 61%

Test Mode : Transmit, Channel: 01, Frequency: 2407.500MHz

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Horizontal (dBμV)	Emission Level Horizontal (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4813.000	33.06	9.14	24.41	66.61	74.00	7.39

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4813.000	66.61	-46.74	19.87	54.00	34.13

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(0.460\text{ms}/100\text{ms}) = -46.74$
2. Average value=Peak value+ Duty Cycle Correction Factor

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Vertical (dBμV)	Emission Level Vertical (dBμV/m)	Limits (dBμV/m)	Margin (dB)
1650.160	26.27	6.49	31.41	64.17	74.00	9.83
4813.000	33.06	9.14	27.83	70.03	74.00	3.97

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1650.160	64.17	-46.74	17.43	54.00	36.57
4813.000	70.03	-46.74	23.29	54.00	30.71

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(0.460\text{ms}/100\text{ms}) = -46.74$
2. Average value=Peak value+ Duty Cycle Correction Factor

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 15, Frequency: 2435.500MHz

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Horizontal (dBμV)	Emission Level Horizontal (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4868.500	33.18	9.15	22.52	64.85	74.00	9.15

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4868.500	64.85	-46.74	18.11	54.00	35.89

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(0.460\text{ms}/100\text{ms}) = -46.74$
 2. Average value=Peak value+ Duty Cycle Correction Factor

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Vertical (dBμV)	Emission Level Vertical (dBμV/m)	Limits (dBμV/m)	Margin (dB)
1692.160	26.46	6.80	20.89	54.15	74.00	19.85
4868.500	33.18	9.15	24.64	66.97	74.00	7.03

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1692.160	54.15	-46.74	7.41	54.00	46.59
4868.500	66.97	-46.74	20.23	54.00	33.77

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(0.460\text{ms}/100\text{ms}) = -46.74$
 2. Average value=Peak value+ Duty Cycle Correction Factor

Date of Test : Apr. 12, 2013 Temperature : 26

EUT : Radio Control Humidity : 61%

Test Mode : Transmit, Channel: 31, Frequency: 2467.500MHz

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Horizontal (dBμV)	Emission Level Horizontal (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4933.000	33.28	9.11	18.54	60.92	74.00	13.08

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4933.000	60.92	-46.74	14.18	54.00	39.82

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(0.460\text{ms}/100\text{ms}) = -46.74$
2. Average value=Peak value+ Duty Cycle Correction Factor

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading Vertical (dBμV)	Emission Level Vertical (dBμV/m)	Limits (dBμV/m)	Margin (dB)
1742.560	26.65	7.09	18.55	52.29	74.00	21.71
4933.000	33.28	9.11	19.40	61.78	74.00	12.22

Remarks: 1. Emission level=Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1742.560	52.29	-46.74	5.55	54.00	48.45
4933.000	61.78	-46.74	15.04	54.00	38.96

Remarks: 1. Duty Cycle Correction Factor = $20\log(\text{Dwell time}/100\text{ms}) = 20\log(0.460\text{ms}/100\text{ms}) = -46.74$
2. Average value=Peak value+ Duty Cycle Correction Factor

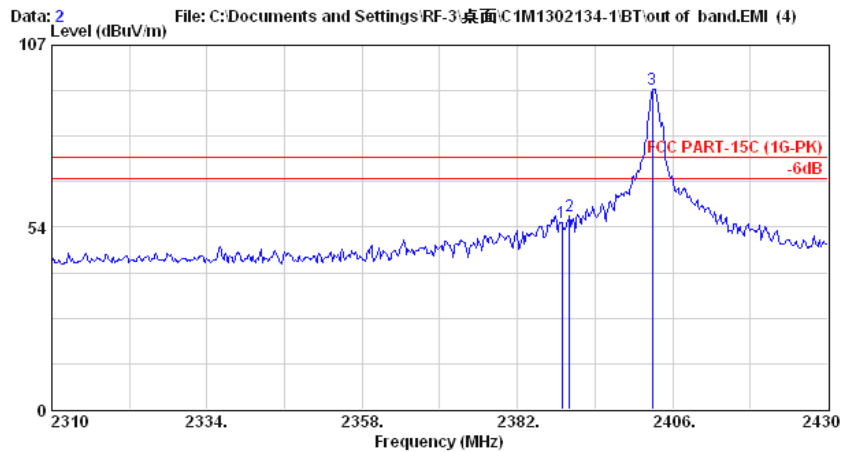
3.6.3. Restricted Bands Measurement Results

Radio Technology: FHSS Modulation

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 01, Frequency: 2403.250MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:temc@temc.com.tw



Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2403.25 (FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2388.840	28.47	6.34	20.23	55.04	74.00	18.96	Peak
2	2390.040	28.47	6.34	21.89	56.71	74.00	17.29	Peak
3	2402.880	28.51	6.36	59.20	94.07	74.00	-20.07	Peak @

- Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

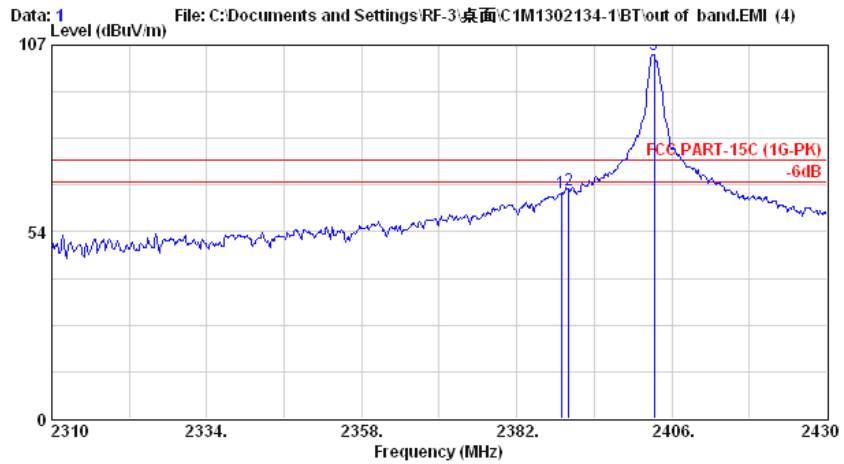
Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2388.840	55.04	-30.25	24.79	54.00	29.21

- Remarks: 1. Duty Cycle Correction Factor=20log (dwell time/100ms)=
 20log (3.072ms/100ms) = -30.25
 2. Average value=Peak value+ Duty Cycle Correction Factor
 3. Low frequency section (spurious in the restricted band 2310-2430MHz).

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 01, Frequency: 2403.250MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PL8
 Power Rating : DC6V
 Test Mode : TX2403.25 (FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2388.840	28.47	6.34	29.74	64.55	74.00	9.45	Peak
2	2390.040	28.47	6.34	30.77	65.59	74.00	8.41	Peak
3	2403.240	28.51	6.36	69.21	104.08	74.00	-30.08	Peak @

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

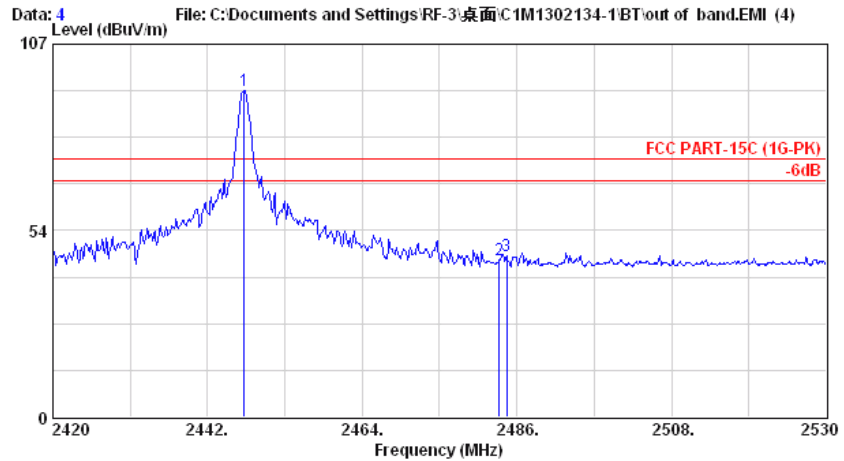
Emission Frequency	Peak Value	Duty Cycle Correction Factor	Average Value Vertical	Limit	Margin
(MHz)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
2388.840	64.55	-30.25	34.30	54.00	19.70

Remarks: 1. Duty Cycle Correction Factor=20log (dwell time/100ms)=
 20log (3.072ms/100ms) = -30.25
 2. Average value=Peak value+ Duty Cycle Correction Factor
 3. Low frequency section (spurious in the restricted band 2310-2430MHz).

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 60, Frequency: 2447.500MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.33-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttmc@ttmc.com.tw



Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PL8
 Power Rating : DC6V
 Test Mode : TX2447.5 (FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	2447.170	28.59	6.41	58.61	93.60	74.00	-19.60	Peak @
2	2483.500	28.66	6.45	9.77	44.89	74.00	29.11	Peak
3	2484.570	28.66	6.45	11.07	46.18	74.00	27.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

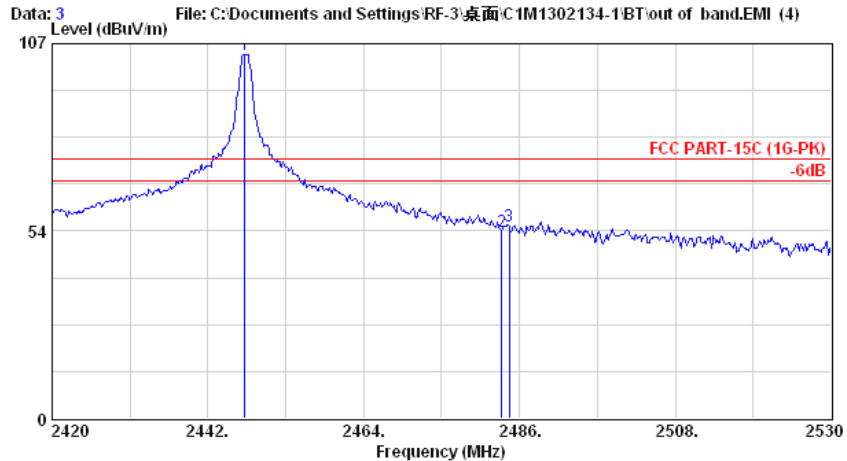
Emission Frequency	Peak Value	Duty Cycle Correction Factor	Average Value Horizontal	Limit	Margin
(MHz)	(dB/m)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)
2484.570	46.18	-30.25	15.93	54.00	38.07

- Remarks: 1. Duty Cycle Correction Factor= $20\log(\text{dwell time}/100\text{ms})=20\log(3.072\text{ms}/100\text{ms})=-30.25$
2. Average value=Peak value+ Duty Cycle Correction Factor
3. Low frequency section (spurious in the restricted band 2420-2530MHz).

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 60, Frequency: 2447.500MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:temc@temc.com.tw



Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PL8
 Power Rating : DC6V
 Test Mode : TX2447.5 (FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2447.170	28.59	6.41	69.02	104.01	74.00	-30.01	Peak @
2	2483.500	28.66	6.45	18.12	53.24	74.00	20.76	Peak
3	2484.570	28.66	6.45	19.85	54.96	74.00	19.04	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

Emission Frequency	Peak Value	Duty Cycle Correction Factor	Average Value Vertical	Limit	Margin
(MHz)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
2484.570	54.96	-30.25	24.71	54.00	29.29

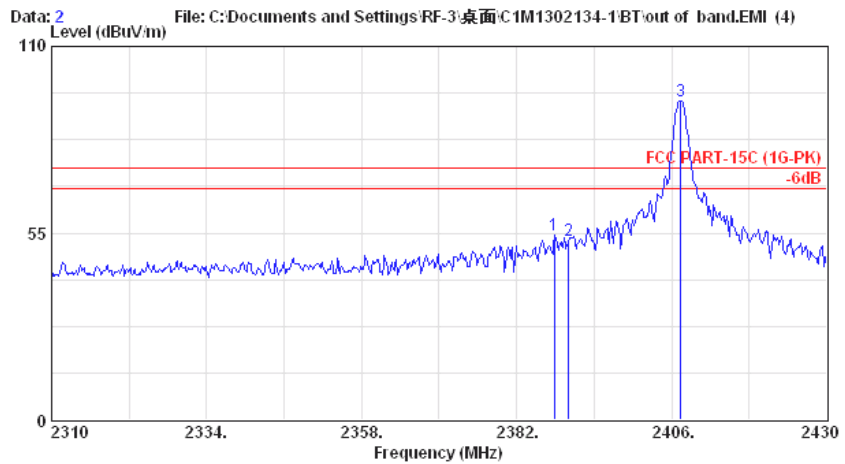
Remarks: 1. Duty Cycle Correction Factor=20log (dwell time/100ms)=
 20log (3.072ms/100ms) = -30.25
 2. Average value=Peak value+ Duty Cycle Correction Factor
 3. Low frequency section (spurious in the restricted band 2420-2530MHz).

Radio Technology: T-FHSS Modulation

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 01, Frequency: 2407.500MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2407.5 (T-FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2387.880	28.47	6.34	19.58	54.39	74.00	19.61	Peak
2	2390.040	28.47	6.34	18.00	52.82	74.00	21.18	Peak
3	2407.440	28.51	6.36	59.18	94.05	74.00	-20.05	Peak X

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

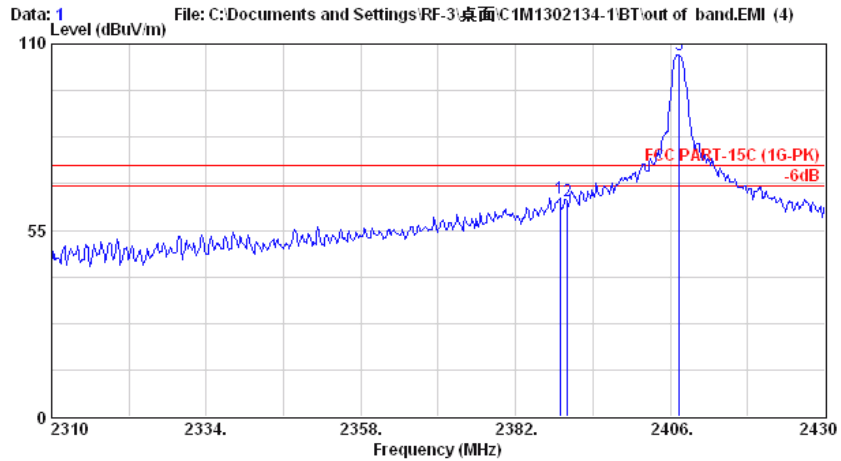
Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2387.880	54.39	-46.74	7.65	54.00	46.35

Remarks: 1. Duty Cycle Correction Factor=20log (dwell time/100ms)=
 20log (0.460ms/100ms) = -46.74
 2. Average value=Peak value+ Duty Cycle Correction Factor
 3. Low frequency section (spurious in the restricted band 2310-2430MHz).

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 31, Frequency: 2407.500MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2407.5 (T-FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2388.840	28.47	6.34	29.49	64.30	74.00	9.70	Peak
2	2390.040	28.47	6.34	28.96	63.78	74.00	10.22	Peak
3	2407.440	28.51	6.36	71.73	106.60	74.00	-32.60	Peak @

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

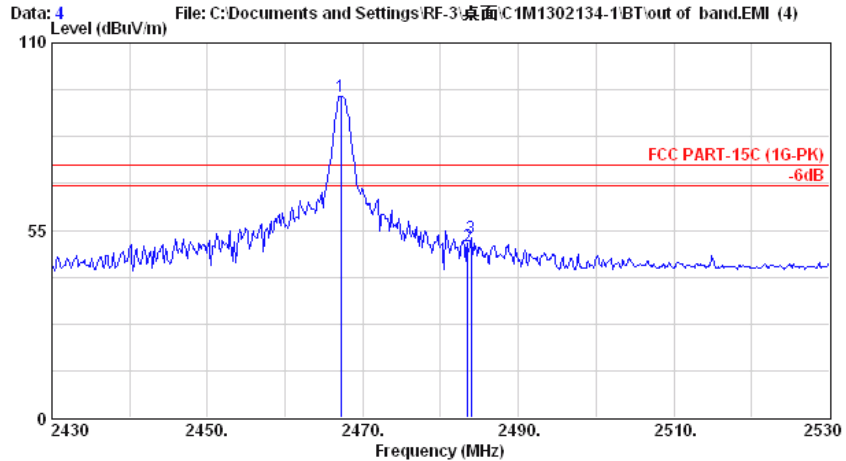
Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2388.840	64.30	-46.74	17.56	54.00	36.44

Remarks: 1. Duty Cycle Correction Factor=20log (dwell time/100ms)=
 20log (0.460ms/100ms) = -46.74
 2. Average value=Peak value+ Duty Cycle Correction Factor
 3. Low frequency section (spurious in the restricted band 2310-2430MHz).

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 31, Frequency: 2467.500MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PLS
 Power Rating : DC6V
 Test Mode : TX2467.5 (T-FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2467.200	28.62	6.42	59.30	94.34	74.00	-20.34	Peak X
2	2483.500	28.66	6.45	15.33	50.44	74.00	23.56	Peak
3	2483.900	28.66	6.45	17.79	52.91	74.00	21.09	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

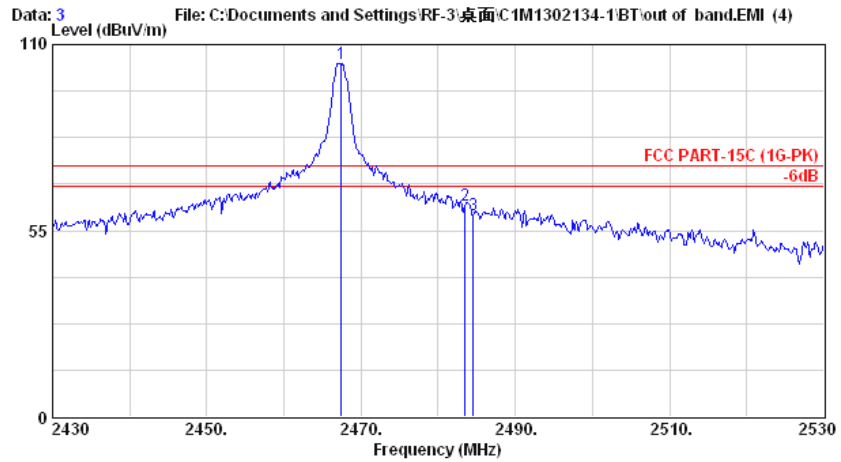
Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Horizontal (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2483.900	52.91	-46.74	6.17	54.00	47.83

Remarks: 1. Duty Cycle Correction Factor=20log (dwell time/100ms)=
 20log (0.460ms/100ms) = -46.74
 2. Average value=Peak value+ Duty Cycle Correction Factor
 3. Low frequency section (spurious in the restricted band 2420-2530MHz).

Date of Test : Apr. 12, 2013 Temperature : 26
 EUT : Radio Control Humidity : 61%
 Test Mode : Transmit, Channel: 15, Frequency: 2467.500MHz



AUDIX TECHNOLOGY Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 26°C/61% □jianlun_hung
 EUT : T4PL8
 Power Rating : DC6V
 Test Mode : TX2467.5 (T-FHSS)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2467.400	28.62	6.42	69.41	104.45	74.00	-30.45	Peak X
2	2483.500	28.66	6.45	27.33	62.44	74.00	11.56	Peak
3	2484.500	28.66	6.45	24.70	59.81	74.00	14.19	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.
 3. '@' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.

Emission Frequency (MHz)	Peak Value (dB/m)	Duty Cycle Correction Factor (dB)	Average Value Vertical (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2483.500	62.4	-46.74	15.70	54.00	38.30

Remarks: 1. Duty Cycle Correction Factor=20log (dwell time/100ms)=
 20log (0.460ms/100ms) = -46.74
 2. Average value=Peak value+ Duty Cycle Correction Factor
 3. Low frequency section (spurious in the restricted band 2420-2530MHz).

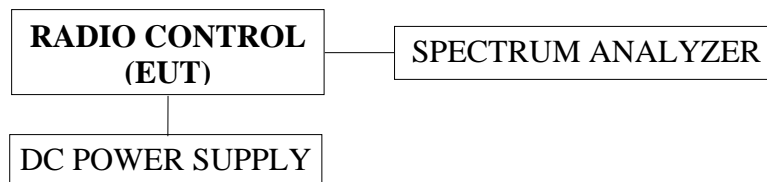
4. 20dB BANDWIDTH MEASUREMENT

4.1. Test Equipment

The following test equipment was used during the 20dB bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'
2.	DC Power Supply	TOP WARD	3303A	721773	N/A	N/A

4.2. Block Diagram of Test Setup



4.3. Specification Limits (§15.247(a)(1))

Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

4.4. Operating Condition of EUT

- 4.4.1. Set up the EUT and simulator as shown on 4.2.
- 4.4.2. To turn on the power of all equipment.
- 4.4.3. EUT (Radio Control) was on transmitting frequency function during the testing.

4.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The RBW of the fundamental frequency was measure by spectrum analyzer 1% of the 20dB bandwidth and the setting equal to RBW and VBW is equal to RBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

The measurement guideline was according to FCC Public Notice DA 00-705.

4.6. Test Results

PASSED. All the test results are attached in next pages.

Test Date : Mar. 29, 2013 Temperature :25 Humidity : 60%

4.6.1. Radio Technology: T-FHSS Modulation

No.	Channel	Test Frequency	20dB Bandwidth	2/3 (20dB Bandwidth)
1.	01	2403.250MHz	267kHz	178kHz
2.	30	2425.000MHz	261kHz	174kHz
3.	60	2447.500MHz	261kHz	174kHz

The maximum two-thirds of the 20dB bandwidth shall be at maximum 178kHz.

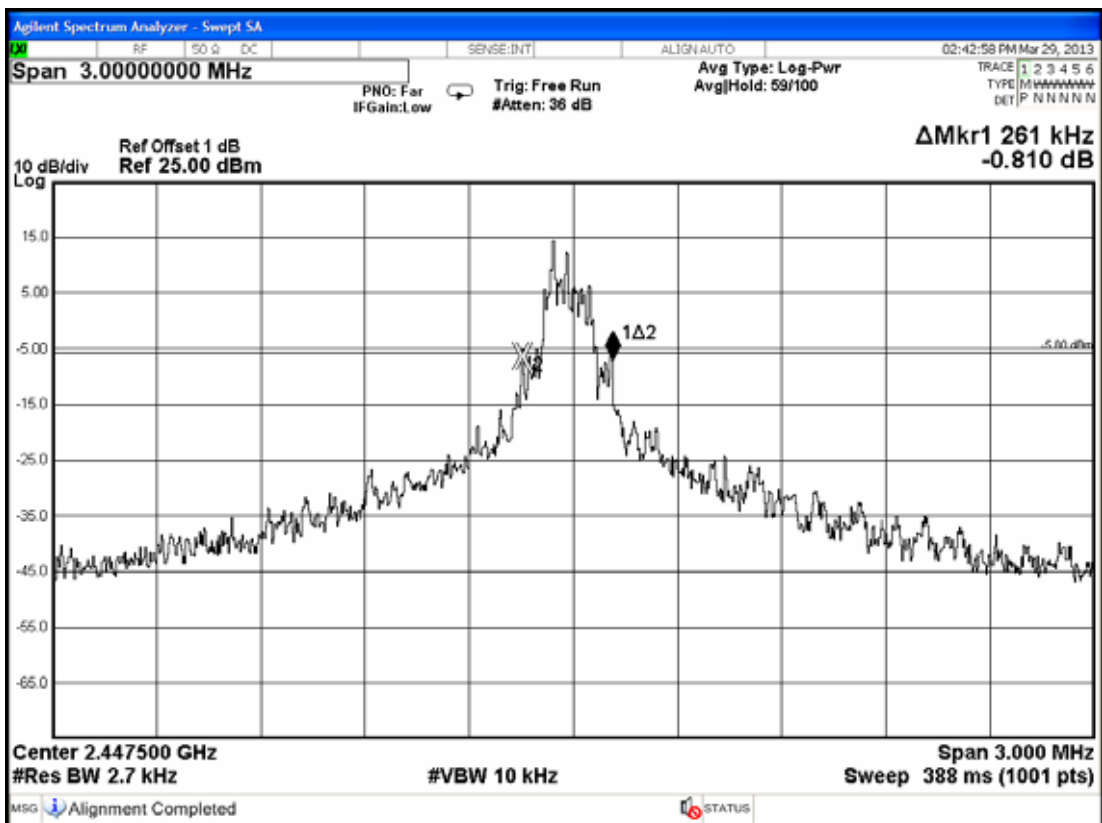
Channel 01, Frequency: 2403.250MHz



Channel 30, Frequency: 2425.000MHz



Channel 60, Frequency: 2447.500MHz

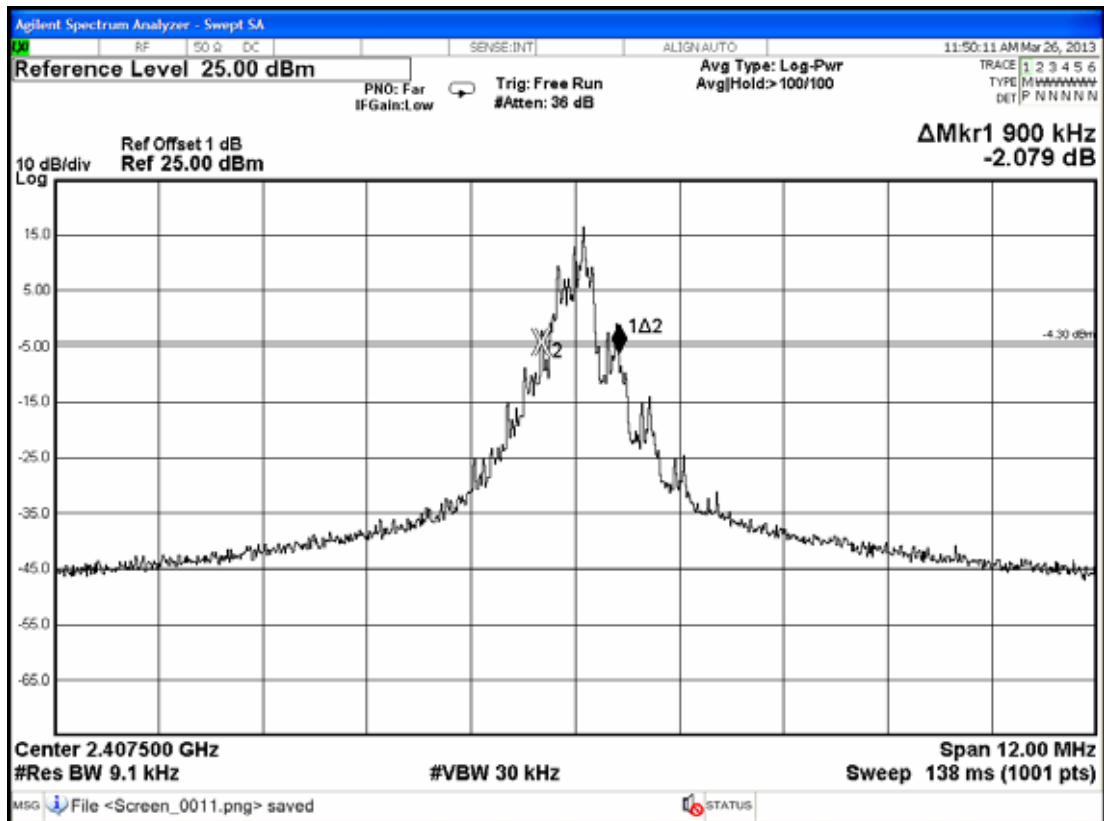


4.6.2. Radio Technology: FHSS Modulation

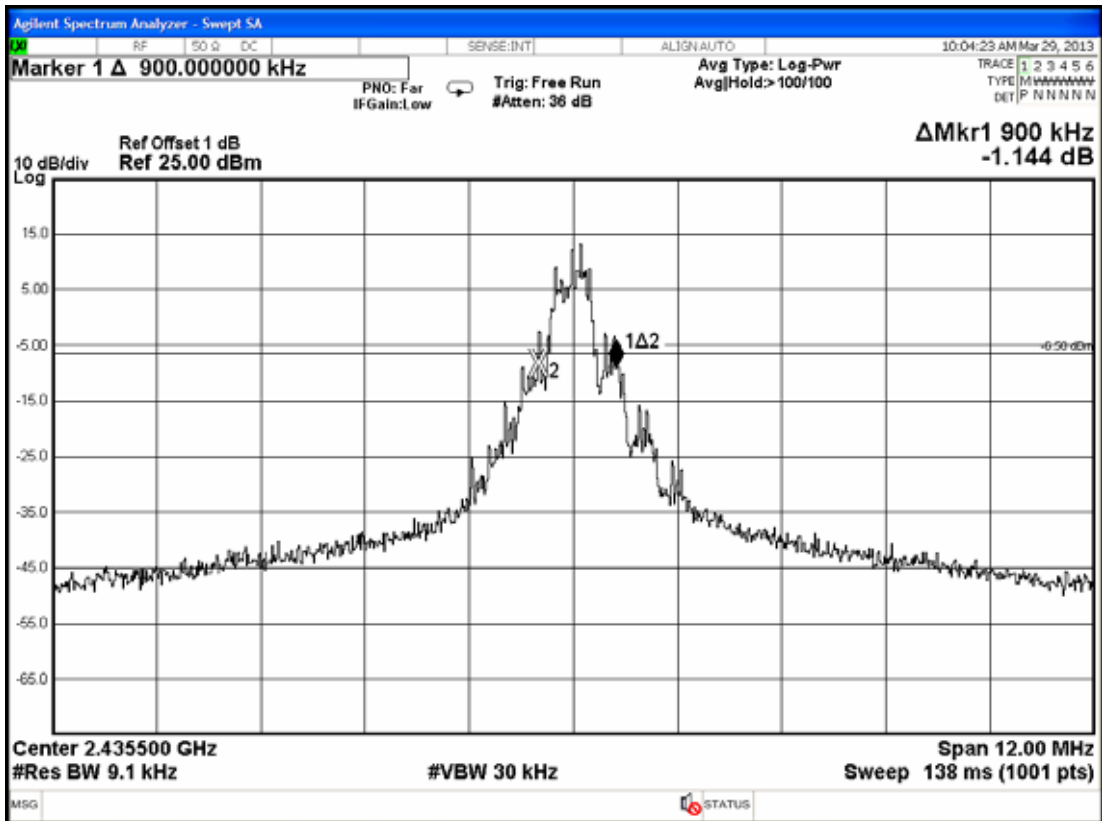
No.	Channel	Test Frequency	20dB Bandwidth	2/3 (20dB Bandwidth)
1.	01	2407.500MHz	900kHz	600kHz
2.	15	2435.500MHz	900kHz	600kHz
3.	31	2467.500MHz	900kHz	600kHz

The maximum two-thirds of the 20dB bandwidth shall be at maximum 600kHz.

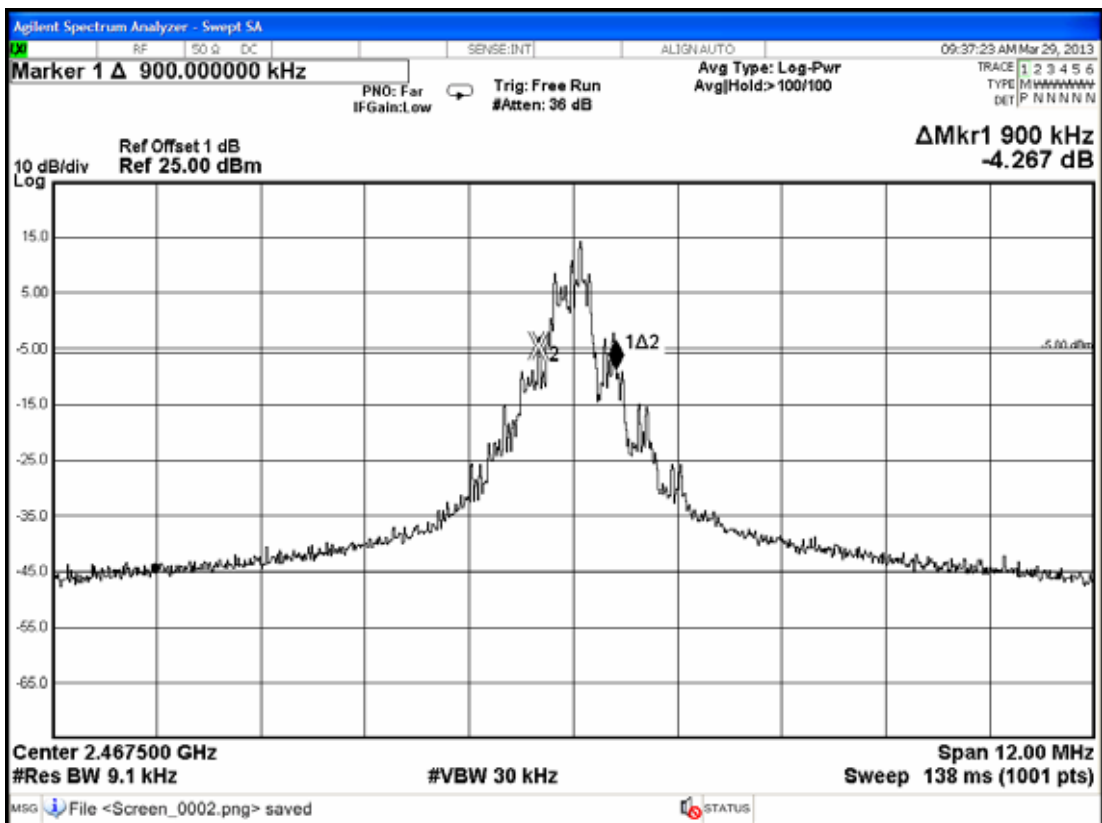
Channel 01, Frequency: 2407.500MHz



Channel 30, Frequency: 2435.500MHz



Channel 60, Frequency: 2467.500MHz



5. CARRIER FREQUENCY SEPARATION MEASUREMENT

5.1. Test Equipment

The following test equipment was used during the carrier frequency separation measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'
2.	DC Power Supply	TOP WARD	3303A	721773	N/A	N/A

5.2. Block Diagram of Test Setup

The same as section.4.2.

5.3. Specification Limits (§15.247(a)(1))

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

5.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

5.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The channel separation was measure by spectrum analyzer with RBW equal to 1% of the span. The video bandwidth not to be smaller than resolution bandwidth, the peak was mark on adjacent bandwidth, the between of peak is carrier frequency separation. The measurement guideline was according to FCC Public Notice DA 00-705.

5.6. Test Results

PASSED. All the test results are attached in next pages.

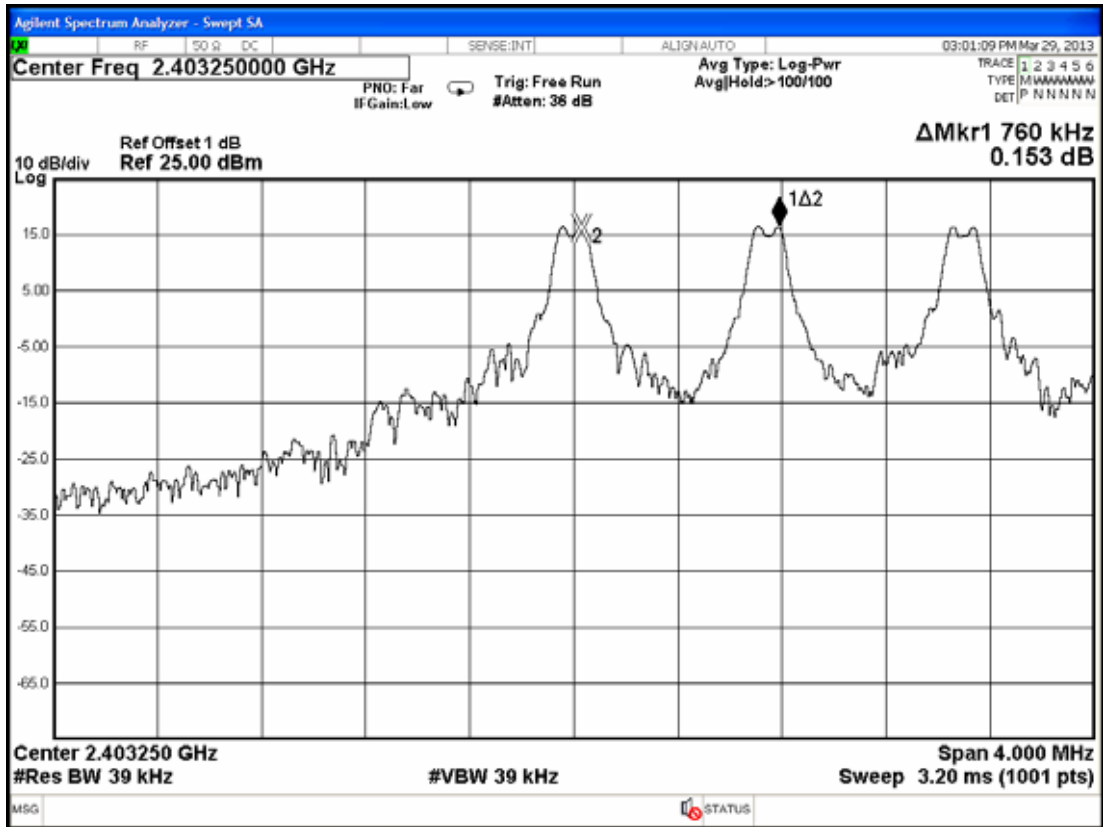
Test Date : Mar. 29, 2013 Temperature :25 Humidity : 60%

5.6.1. Radio Technology: FHSS Modulation

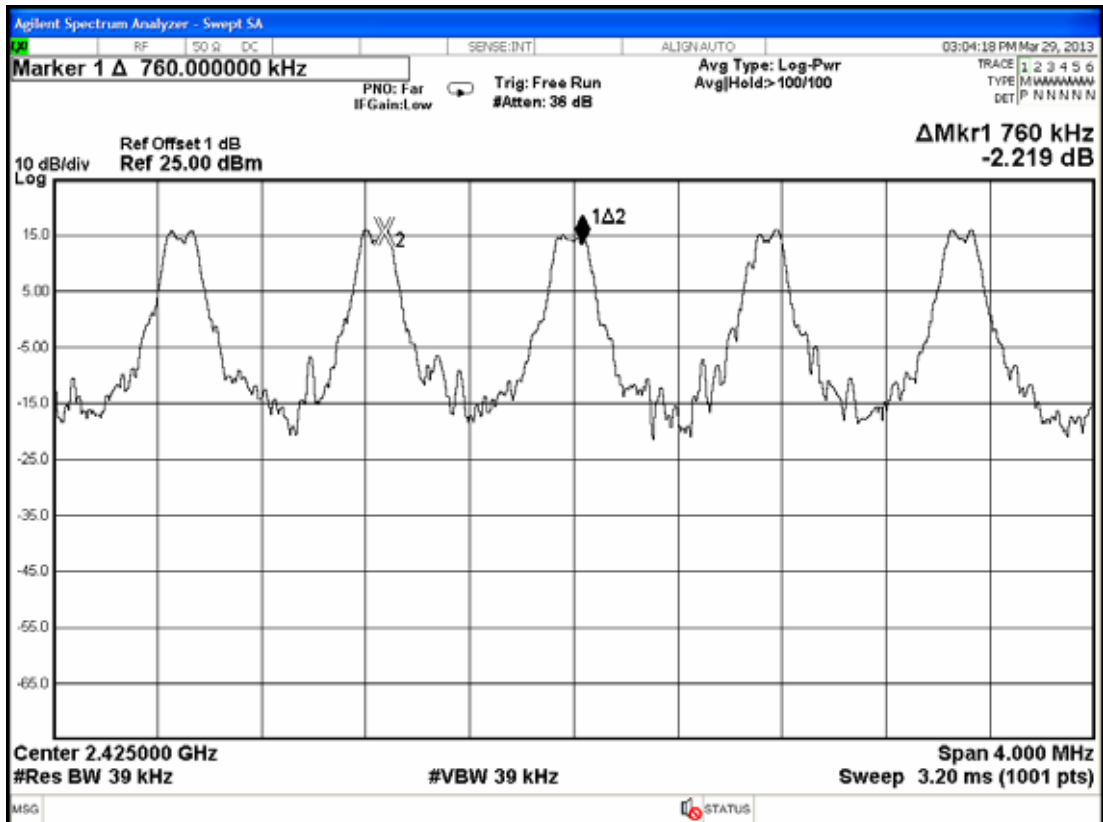
1. 2403.25MHz adjacent channel of carrier frequency separation: 760kHz.
2. 2425.00MHz adjacent channel of right carrier frequency separation:
760kHz.
3. 2425.00MHz adjacent channel of left carrier frequency separation:
760kHz.
4. 2447.50MHz adjacent channel of carrier frequency separation:
760MHz.

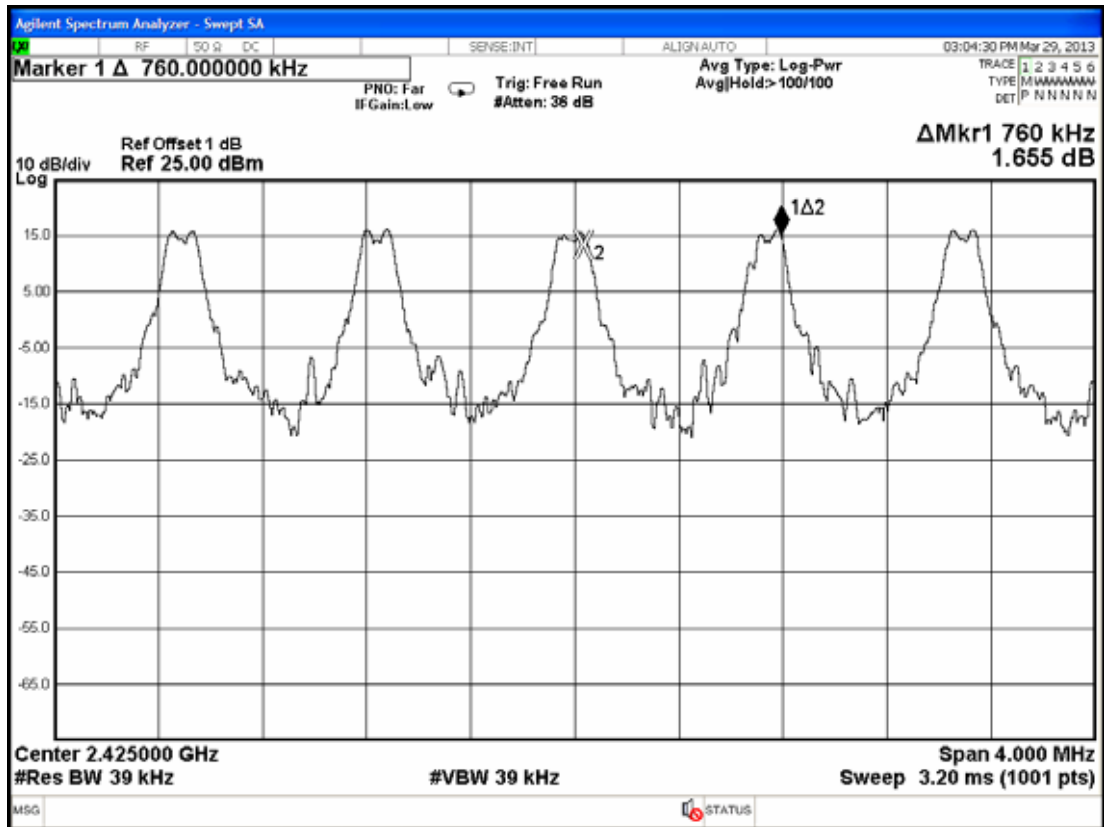
[Above values have met the requirement as specified in section 4.3: frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.]

Channel 01, Test Frequency: 2403.250MHz

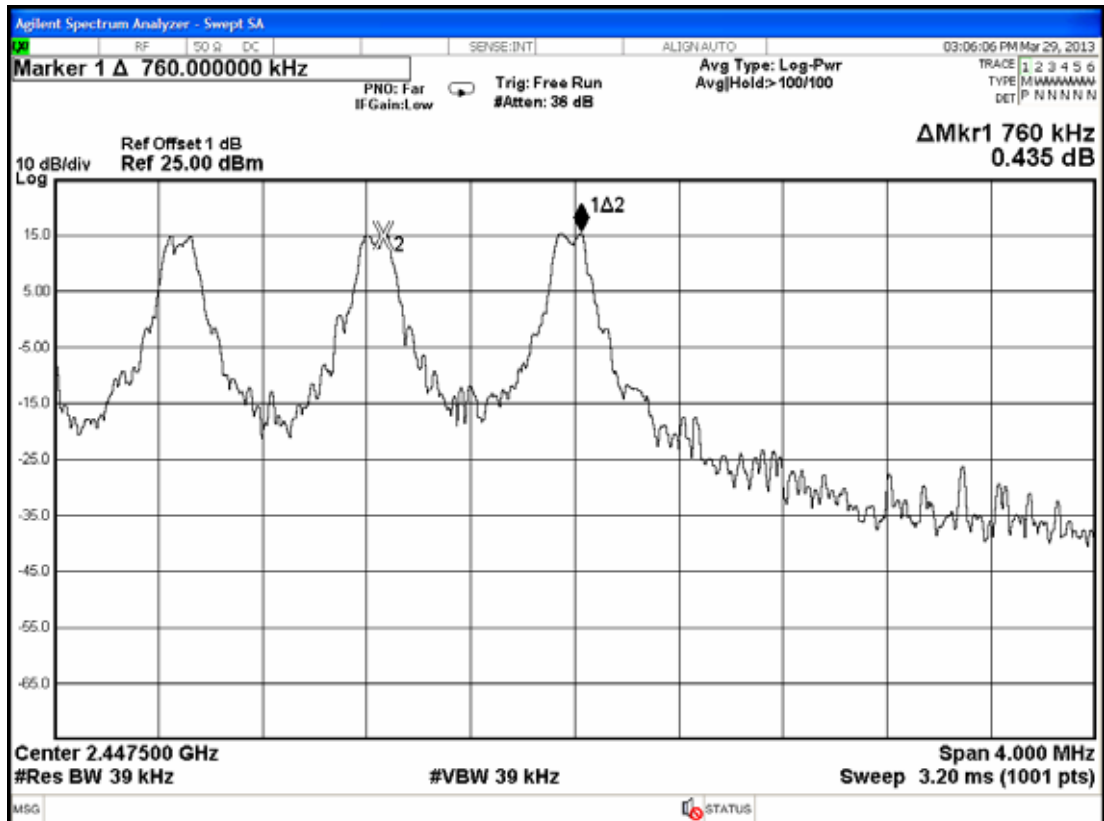


Channel 30, Test Frequency: 2425.000MHz





Channel 60, Test Frequency: 2447.500MHz

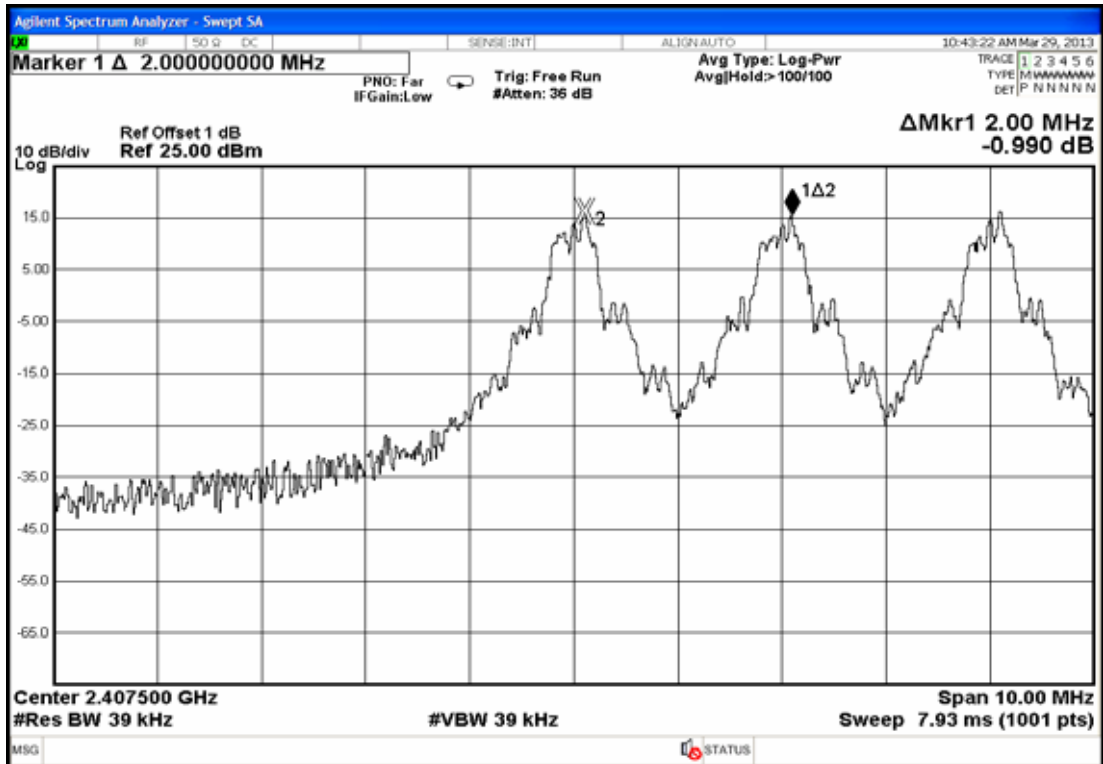


5.6.2. Radio Technology: T-FHSS Modulation

1. 207.500MHz adjacent channel of carrier frequency separation: 2MHz.
2. 2435.500MHz adjacent channel of right carrier frequency separation: 2MHz.
3. 2435.500MHz adjacent channel of left carrier frequency separation: 2MHz.
4. 2467.500MHz adjacent channel of carrier frequency separation: 2MHz.

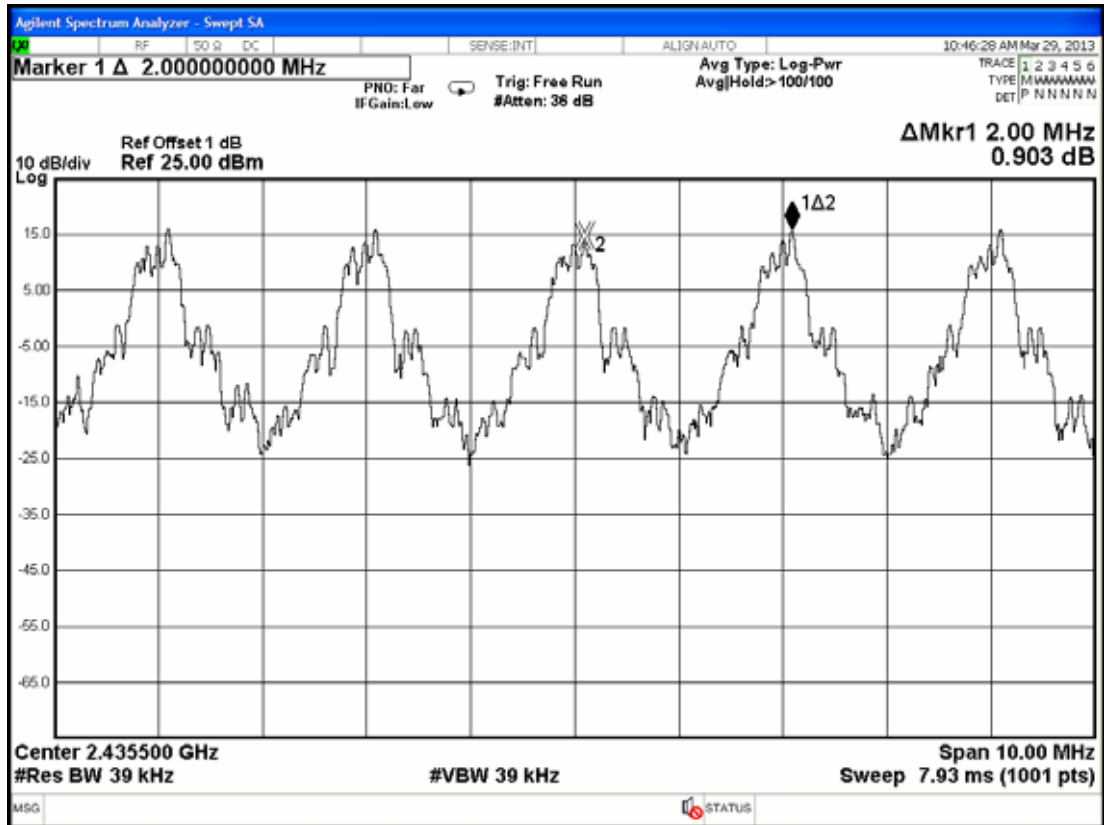
[Above values have met the requirement as specified in section 4.3: frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.]

Channel 01, Test Frequency: 2407.500MHz

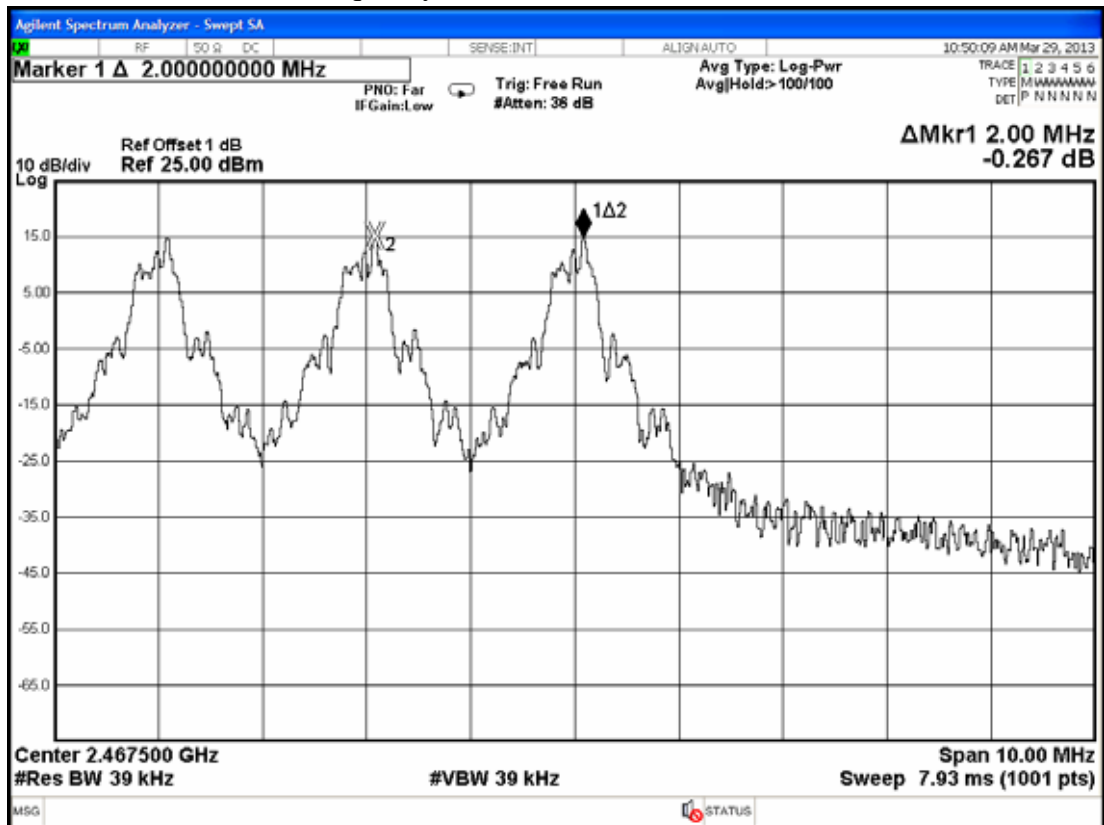


Channel 15, Test Frequency: 2435.500MHz





Channel 31, Test Frequency: 2467.500MHz



6. TIME OF OCCUPANCY MEASUREMENT

6.1. Test Equipment

The following test equipment was used during the time of occupancy measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'
2.	DC Power Supply	TOP WARD	3303A	721773	N/A	N/A

6.2. Block Diagram of Test Setup

The same as section.4.2.

6.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems in the 2400-2483.5MHz shall use at least 15 non-overlapping 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 number of hopping channels employed.

6.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

6.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 1MHz RBW and 1MHz VBW. $VBW \geq RBW$; Span=zero span.

Centred on a hopping channel sweep=as necessary to capture the entire dwell time per hopping channel ; Detector function=peak ; Trace=Max hold

The measurement guideline was according to FCC Public Notice DA 00-705.

6.6. Test Results

PASSED. All the test results are attached in next pages.

Test Date : Mar. 29, 2013 Temperature :25 Humidity : 60%

6.6.1. Radio Technology: FHSS Modulation

Duty cycle: 60 channels*0.4 seconds = 24 seconds

Test Frequency: 2403.250MHz

For each second of 5 channels appearance, the longest time of occupancy for each of 24 seconds is:

5 channels*24 seconds* 3.072ms = 368.64ms (<400ms)

Test Frequency: 2425.000MHz

For each second of 5 channels appearance, the longest time of occupancy for each of 24 seconds is:

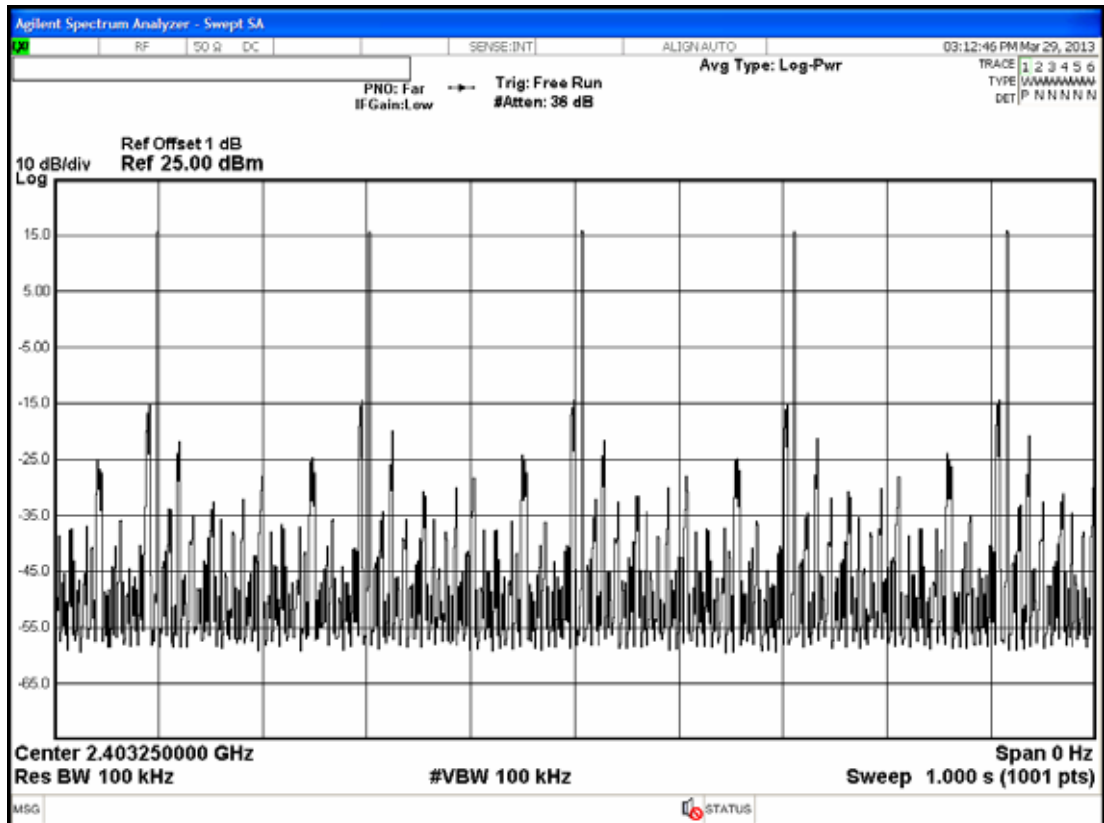
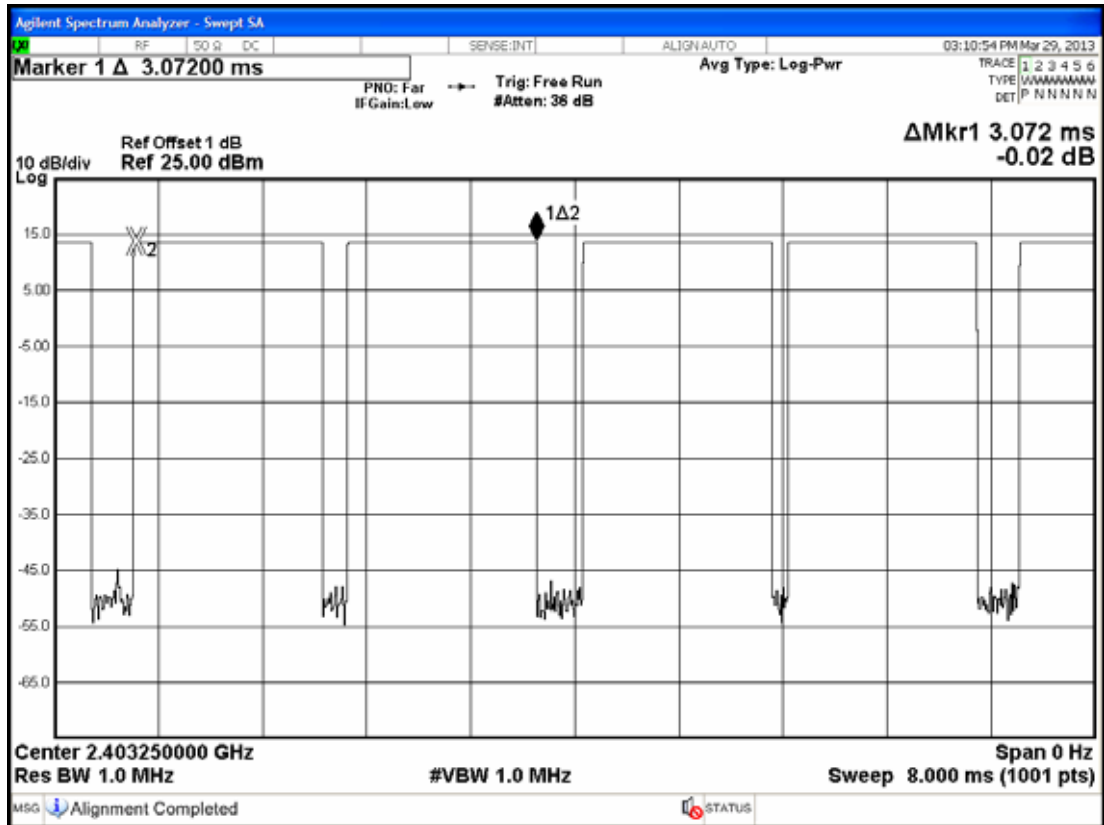
5 channels*24 seconds* 3.072ms = 368.64.60ms (<400ms)

Test Frequency: 2447.500MHz

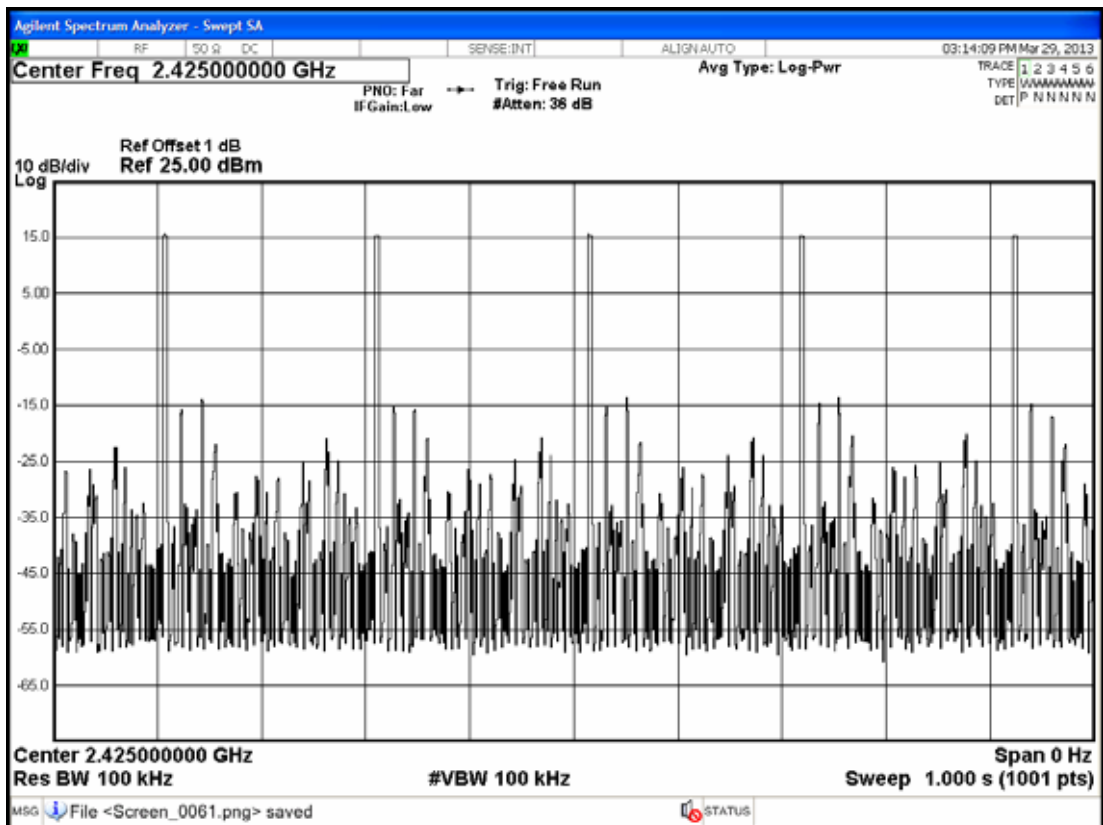
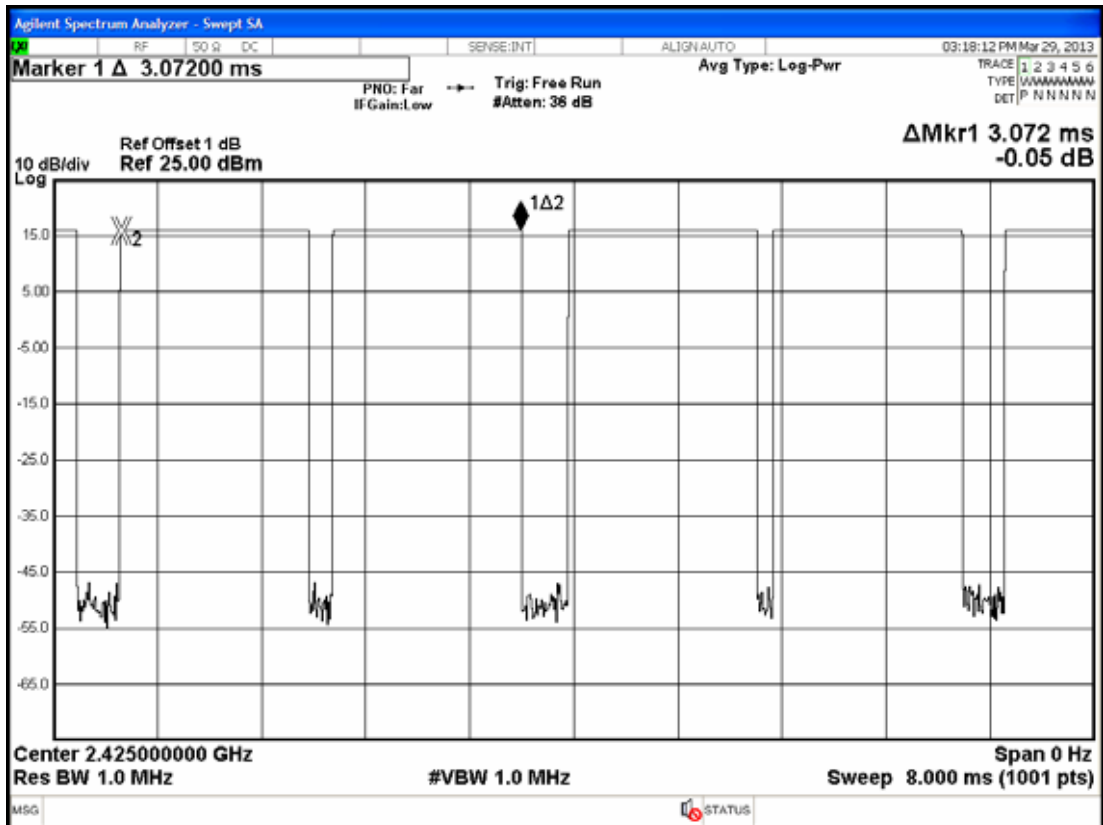
For each second of 5 channels appearance, the longest time of occupancy for each of 24 seconds is:

5 channels*24 seconds* 3.072ms = 368.64ms (<400ms)

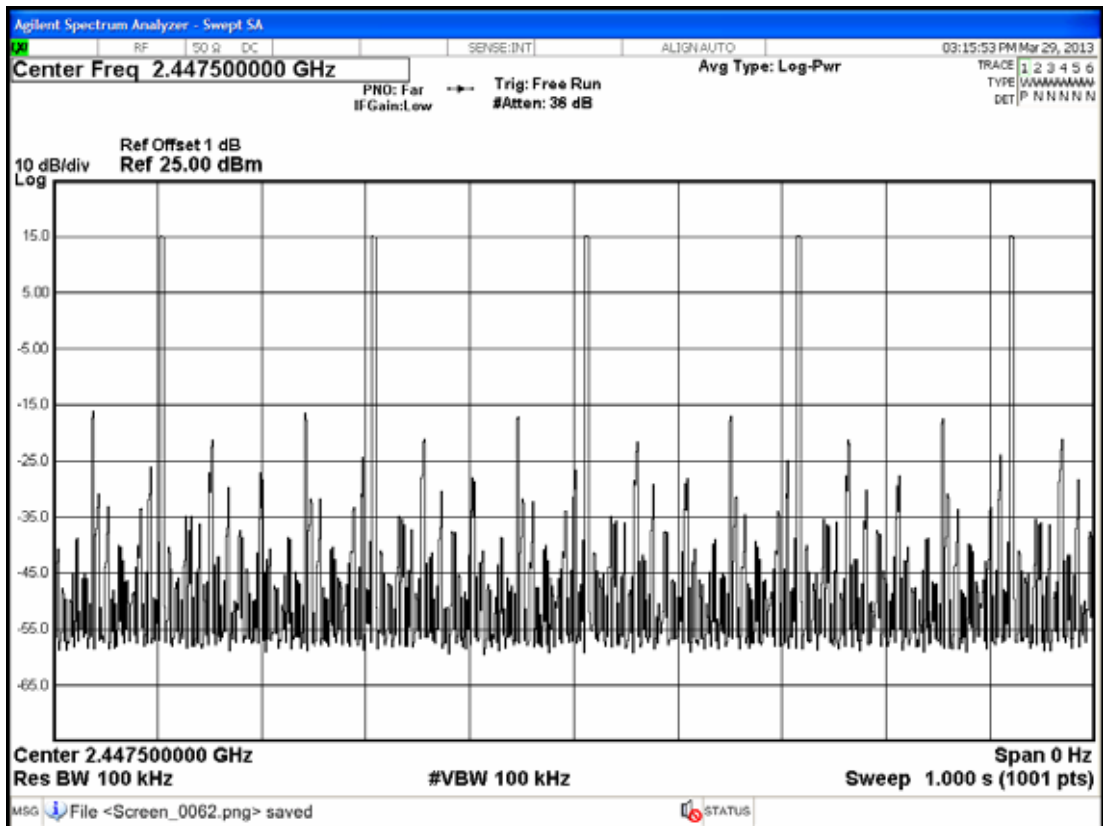
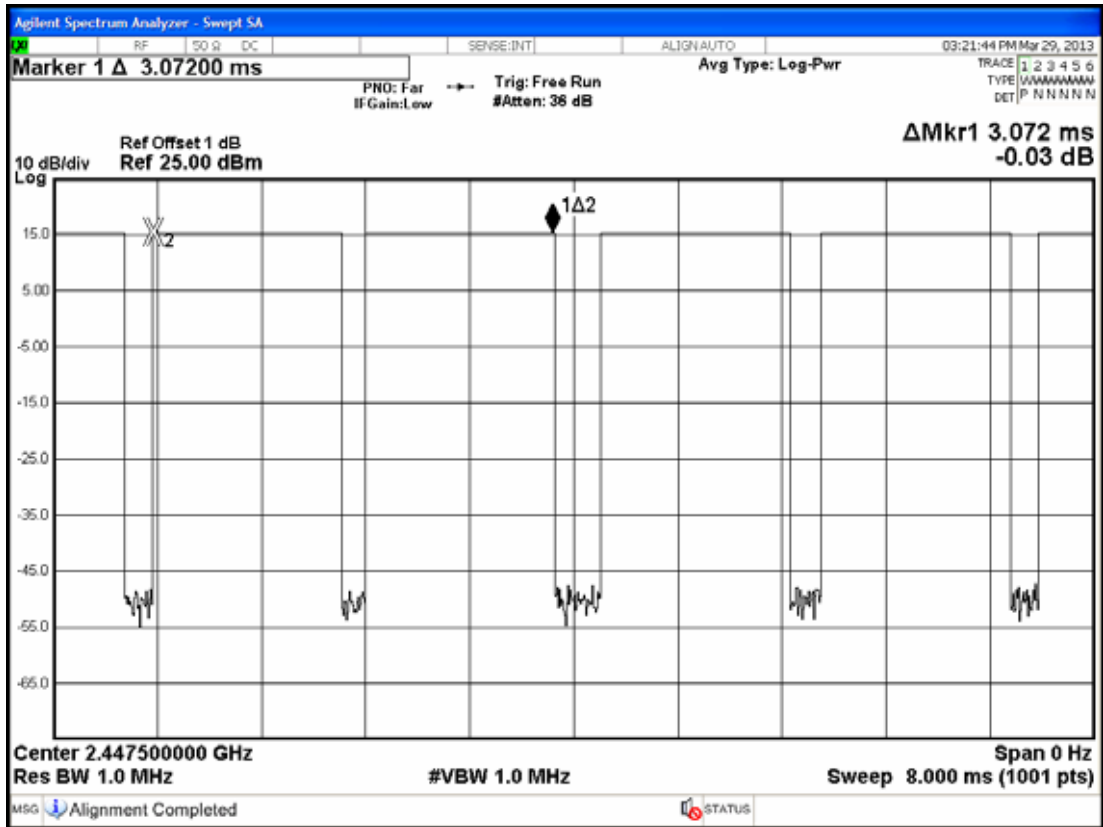
Channel 01, Test Frequency: 2403.250MHz



Channel 30, Test Frequency: 2425.000MHz



Channel 60, Test Frequency: 2447.500MHz



6.6.2. Radio Technology: T-FHSS Modulation

Duty cycle: $31 \text{ channels} * 0.4 \text{ seconds} = 12.4 \text{ seconds}$

Test Frequency: 2407.500MHz

For each second of 11 channels appearance, the longest time of occupancy for each of 12.4 seconds is:

$11 \text{ channels} * 12.4 \text{ seconds} * 0.46\text{ms} = 62.744\text{ms} (<400\text{ms})$

Test Frequency: 2435.500MHz

For each second of 11 channels appearance, the longest time of occupancy for each of 12.4 seconds is:

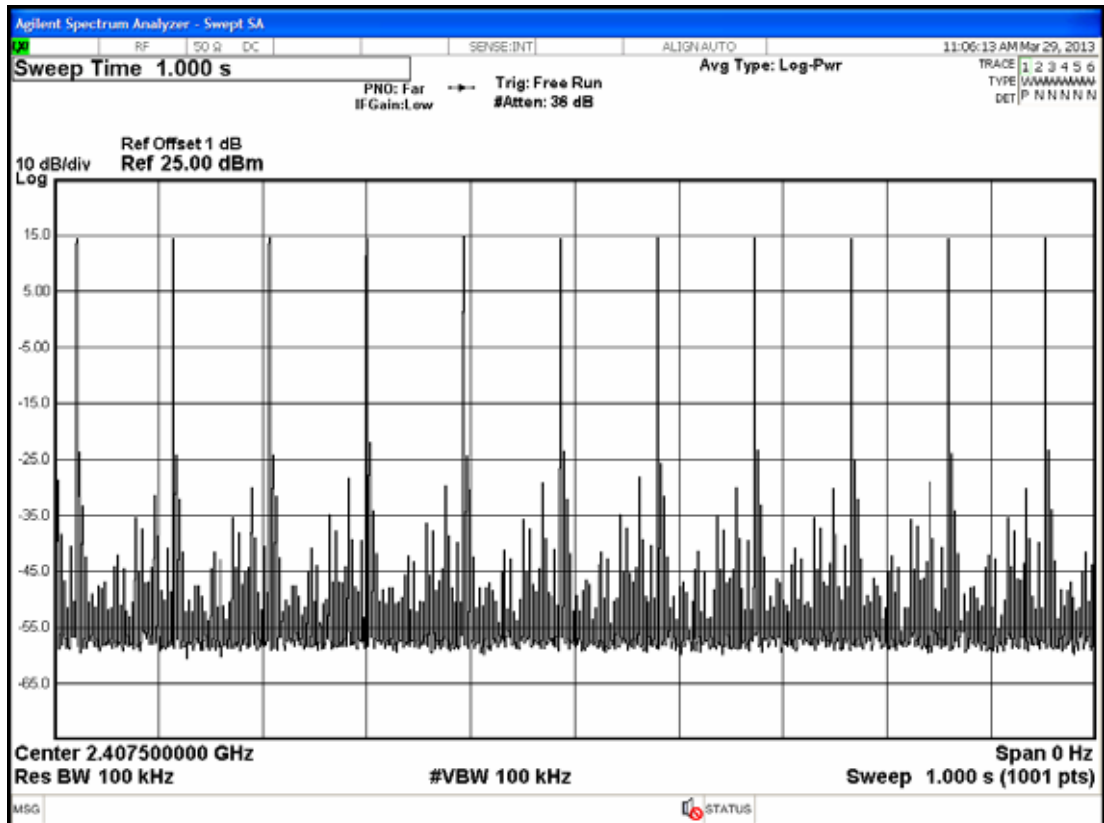
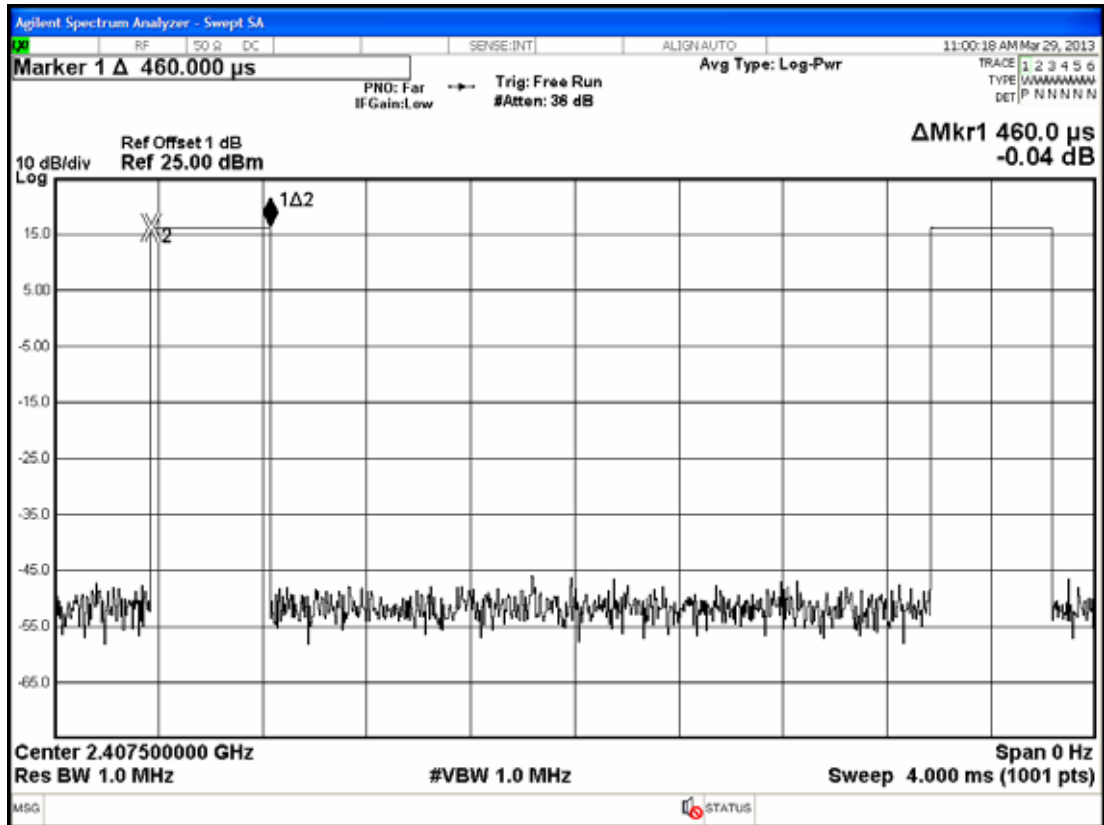
$11 \text{ channels} * 12.4 \text{ seconds} * 0.46\text{ms} = 62.744\text{ms} (<400\text{ms})$

Test Frequency: 2467.500MHz

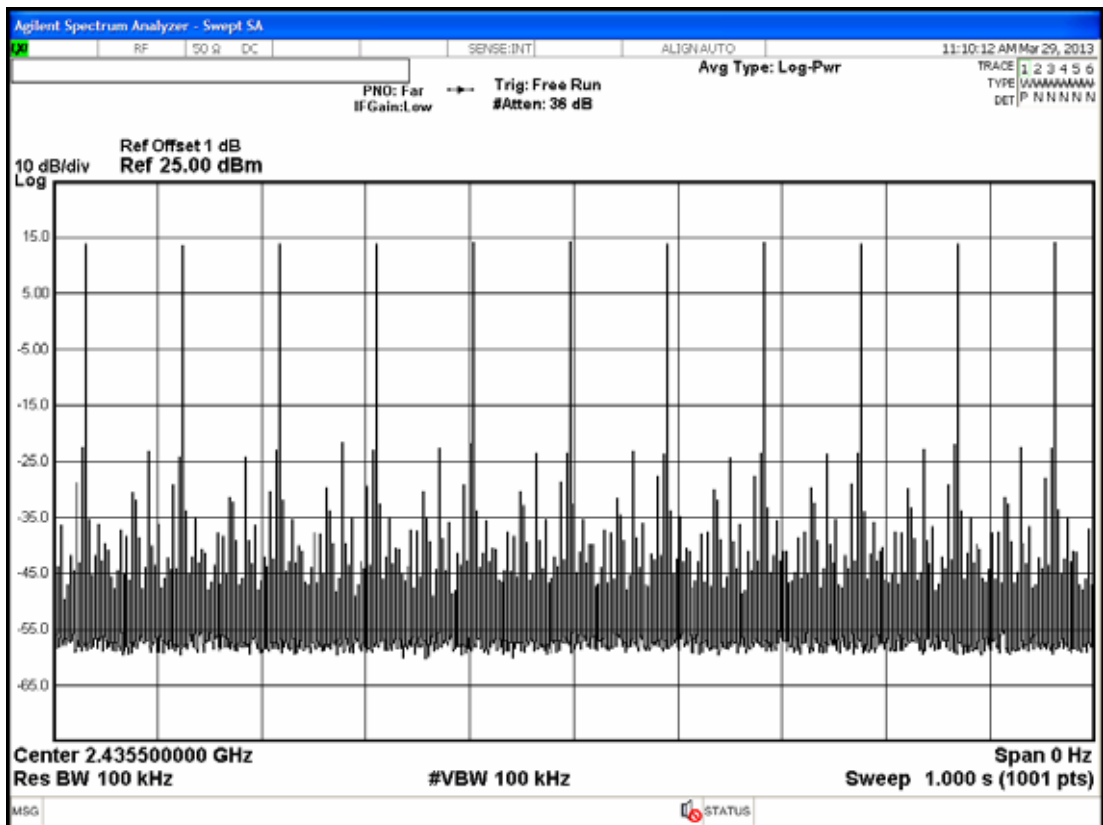
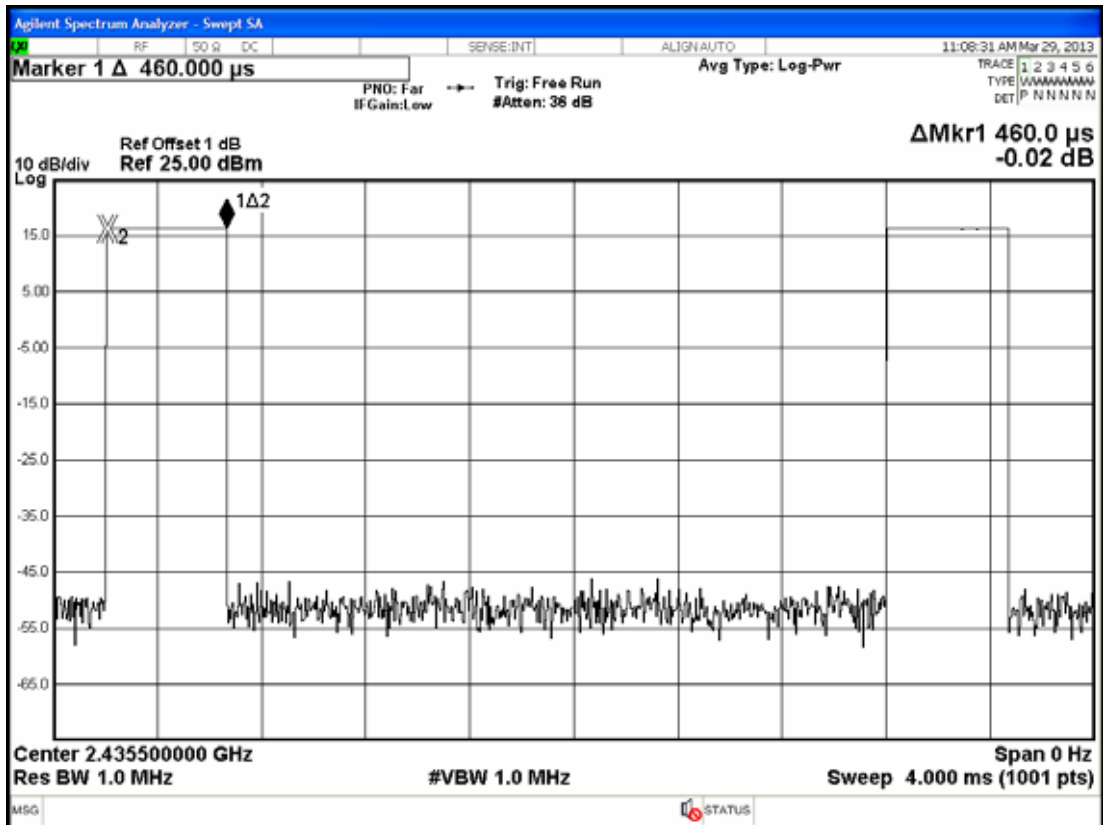
For each second of 11 channels appearance, the longest time of occupancy for each of 12.4 seconds is:

$11 \text{ channels} * 12.4 \text{ seconds} * 0.46\text{ms} = 62.744\text{ms} (<400\text{ms})$

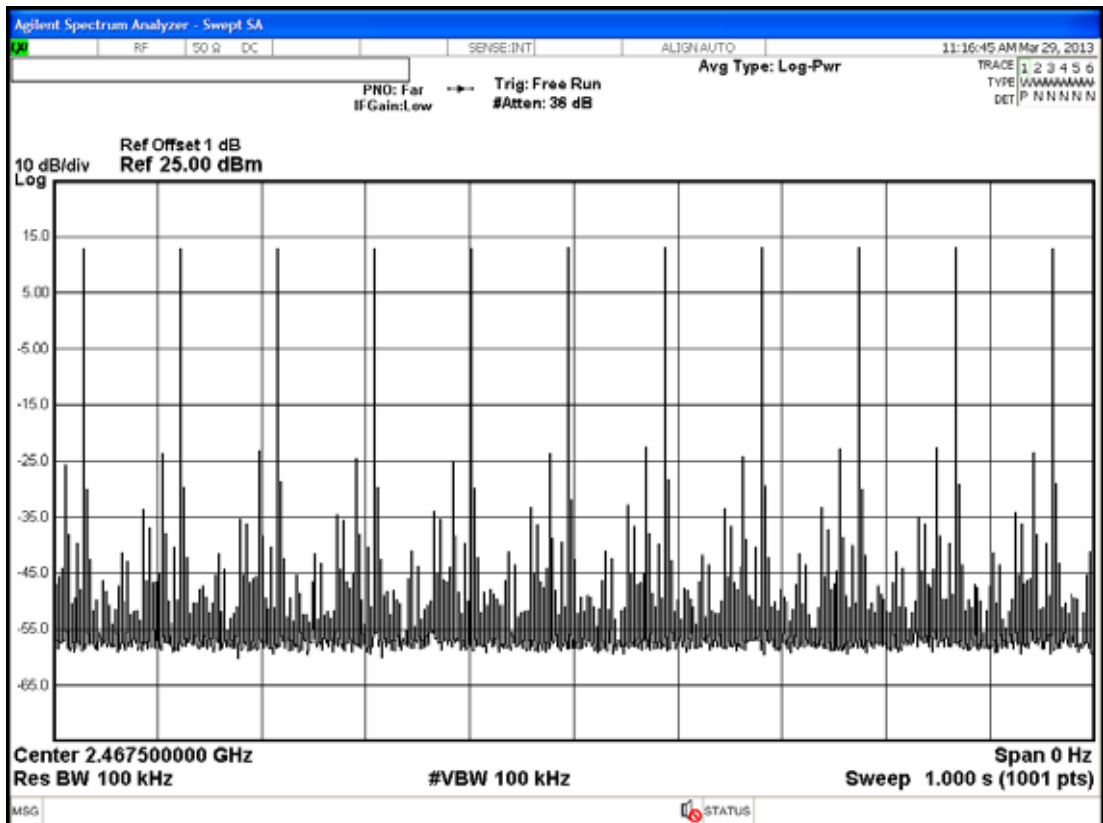
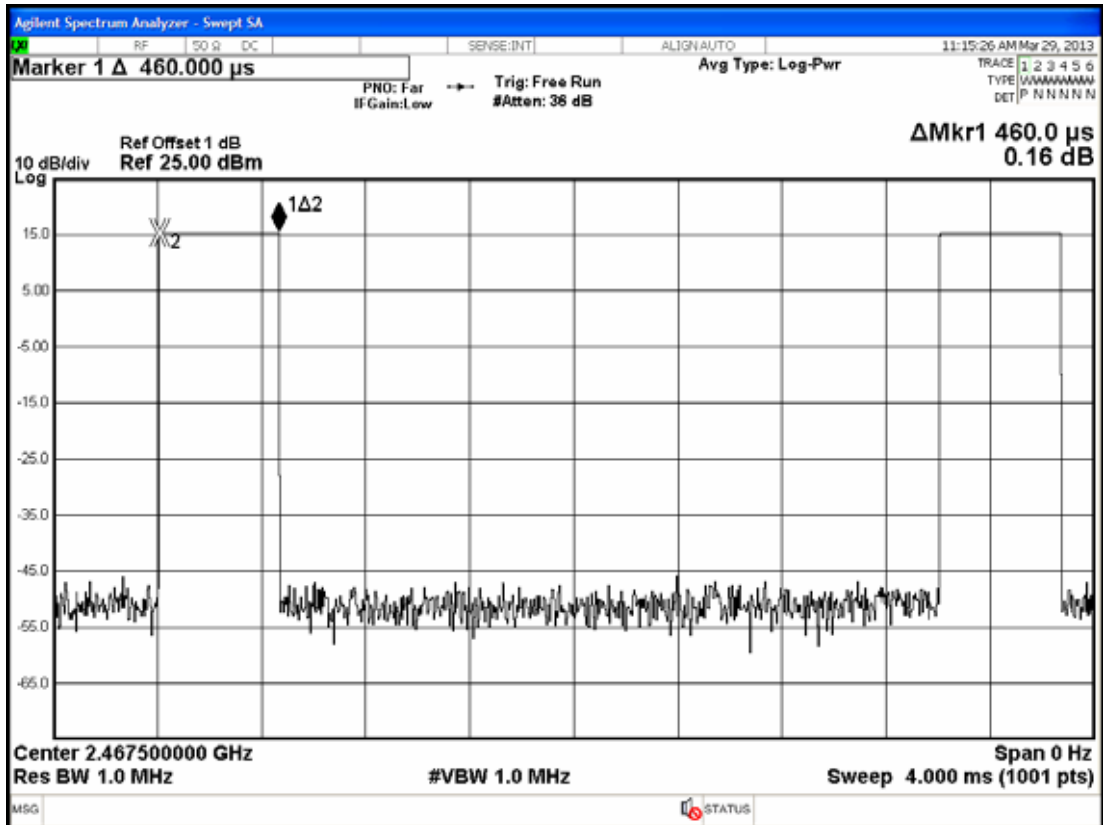
Channel 01, Test Frequency: 2407.500MHz



Channel 15, Test Frequency: 2435.500MHz



Channel 60, Test Frequency: 2467.500MHz



7. NUMBER OF HOPPING CHANNELS MEASUREMENT

7.1. Test Equipment

The following test equipment was used during the number of hopping channels measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'
2.	DC Power Supply	TOP WARD	3303A	721773	N/A	N/a

7.2. Block Diagram of Test Setup

The same as section.4.2.

7.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems which use fewer than 20 hopping frequencies may employ intelligent hopping techniques to avoid interference to other transmissions. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 non-overlapping channels.

7.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

7.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 100kHz VBW. Sweep=Auto ; Detector function=peak ; Trace=Max hold
The measurement guideline was according to FCC Public Notice DA 00-705.

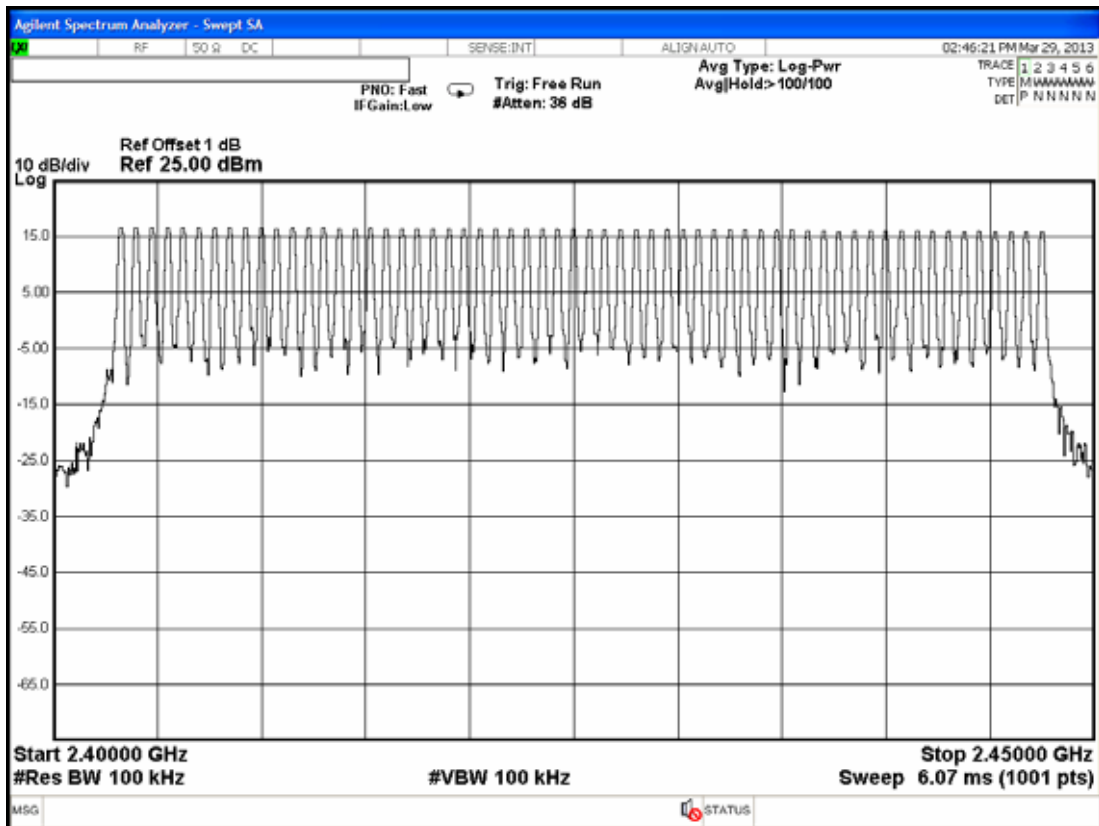
7.6. Test Results

PASSED. All the test results are attached in next page.

Test Date : Mar. 29, 2013 Temperature :25 Humidity : 60%

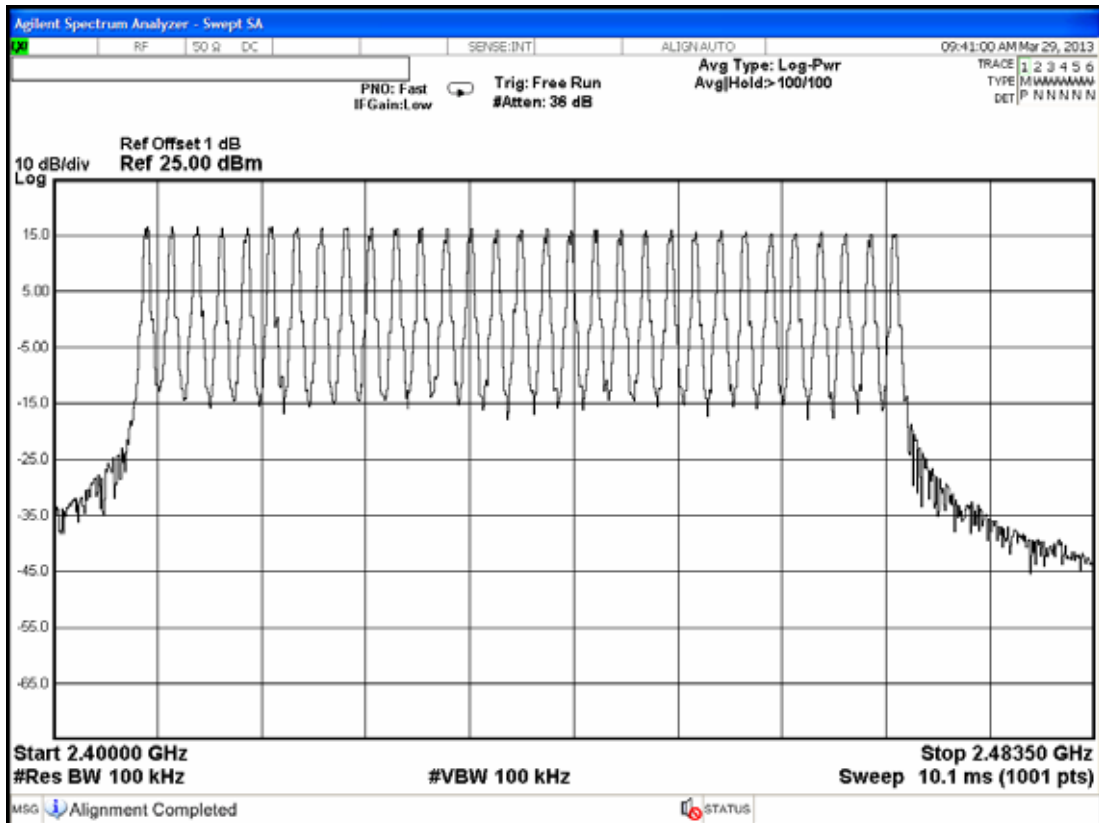
7.6.1. Radio Technology: FHSS Modulation

The number hopping channel is 60.



7.6.2. Radio Technology: T-FHSS Modulation

The number hopping channel is 31.



8. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

8.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'
2.	DC Power Supply	TOP WARD	3303A	721773	N/A	N/A

8.2. Block Diagram of Test Setup

The same as section.4.2.

8.3. Specification Limits (§15.247(b)-(1))

The Limits of maximum Peak Output Power for frequency hopping systems in 2400-2483.5MHz is: 0.125Watt. (21dBm)

8.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

8.5. Test Procedure

The transmitter output was connected to the spectrum analyzer.

Span can encompass the waveform

RBW>EBW

VBW RBW

Sweep=5MHz

The measurement guideline was according to FCC Public Notice DA 00-705.

8.6. Test Results

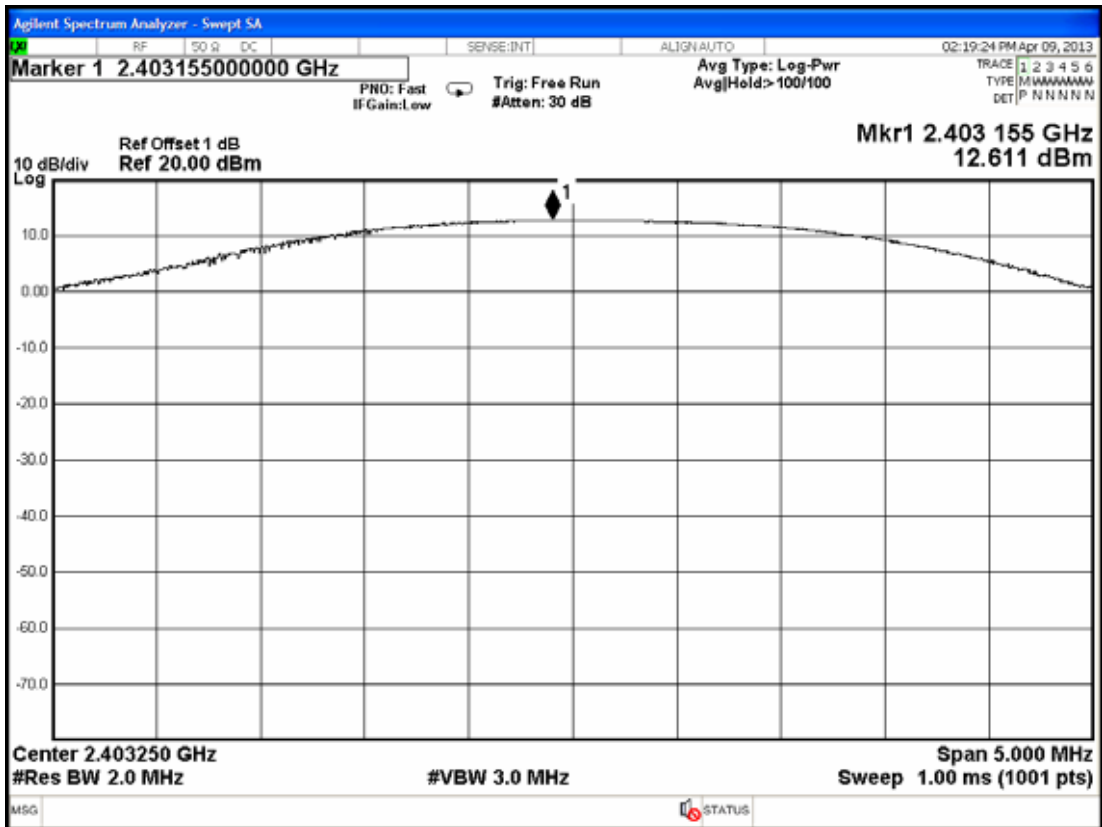
PASSED. All the test results are listed below.

Test Date : Apr. 09, 2013 Temperature :26 Humidity : 51%

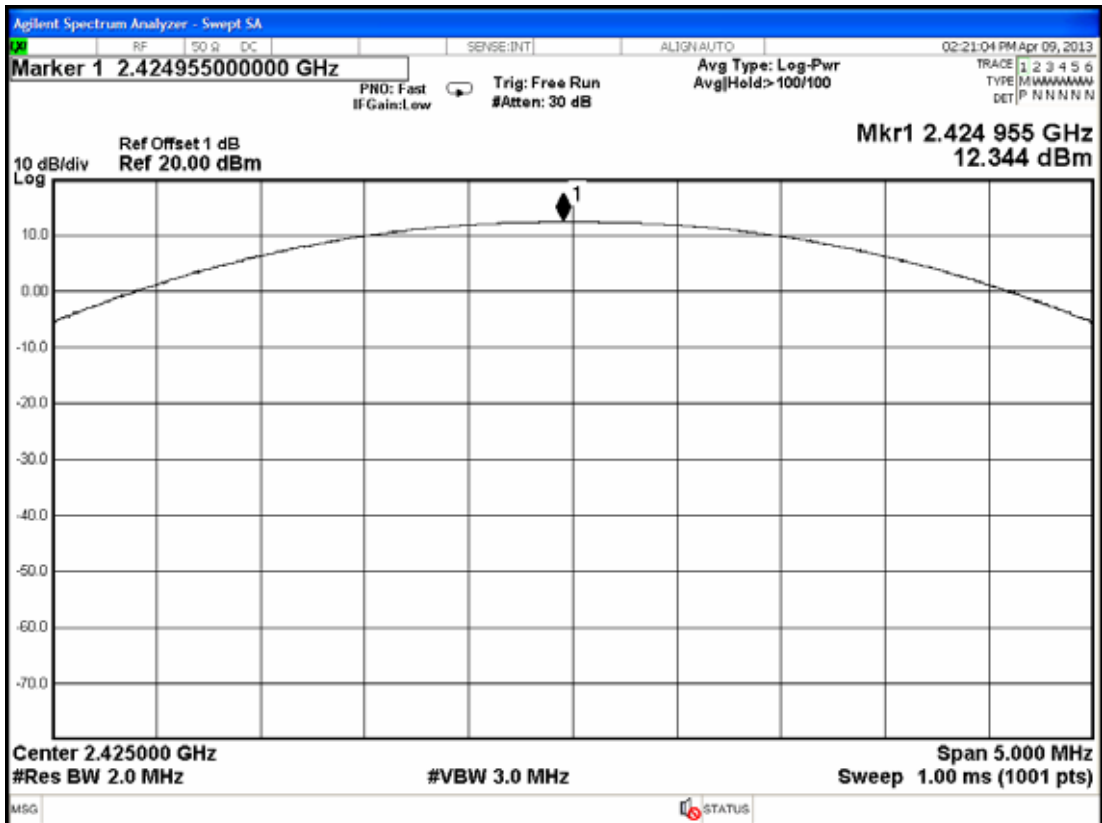
8.6.1. Radio Technology: FHSS Modulation

No.	Channel	Test Frequency	Peak Output Power	Limit
1.	01	2403.250MHz	12.611dBm	21dBm
2.	30	2425.000MHz	12.344dBm	21dBm
3.	60	2447.500MHz	11.688dBm	21dBm

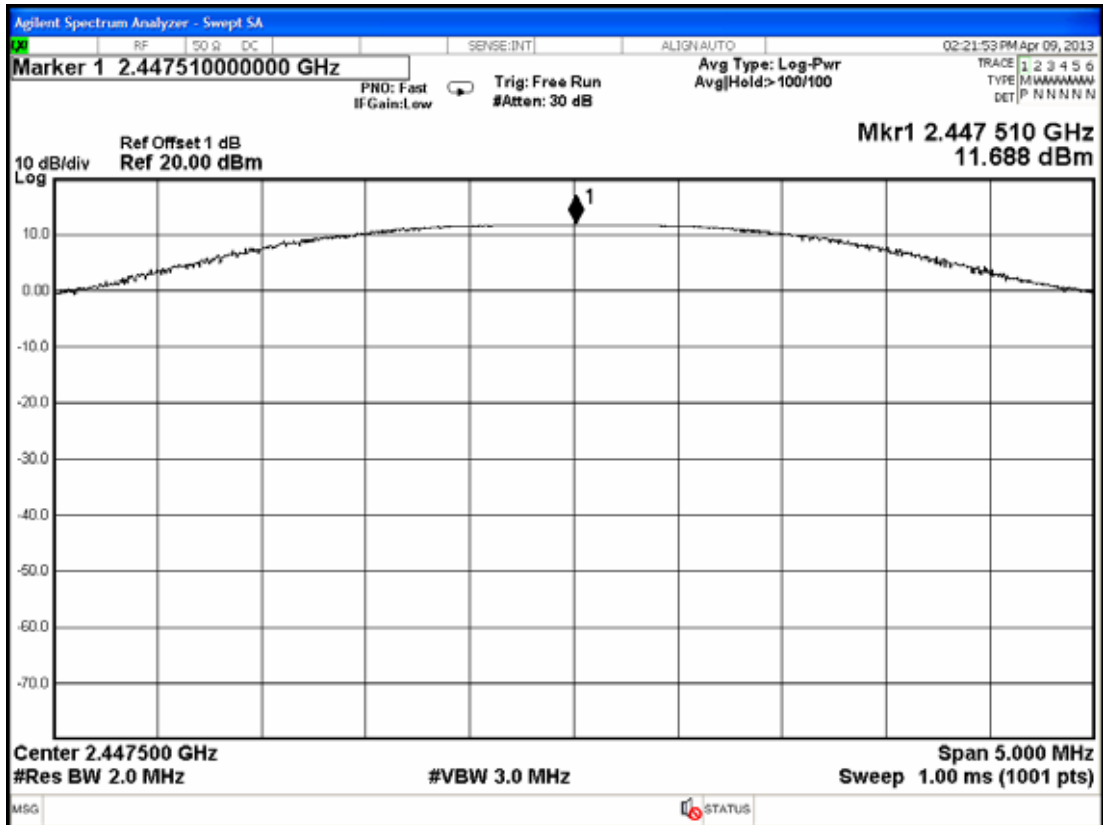
Channel 01, Frequency: 2403.250MHz



Channel 30, Frequency: 2425.000MHz



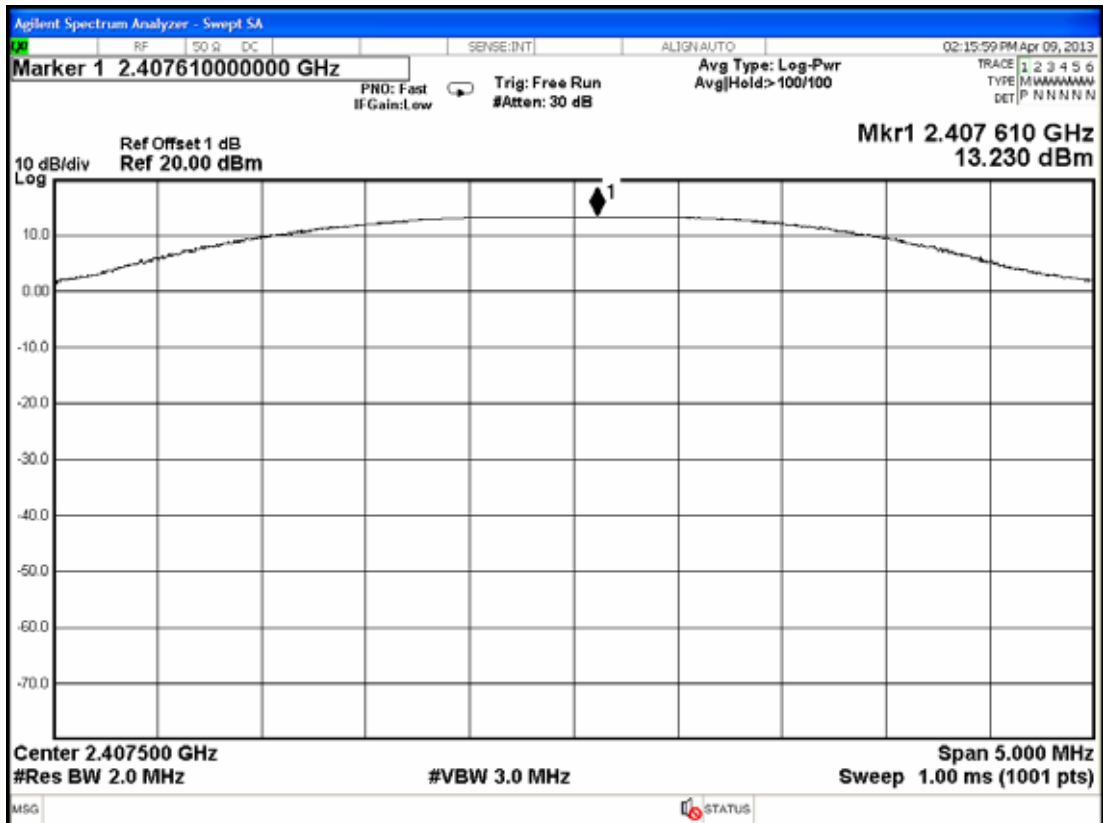
Channel 60, Frequency: 2447.500MHz



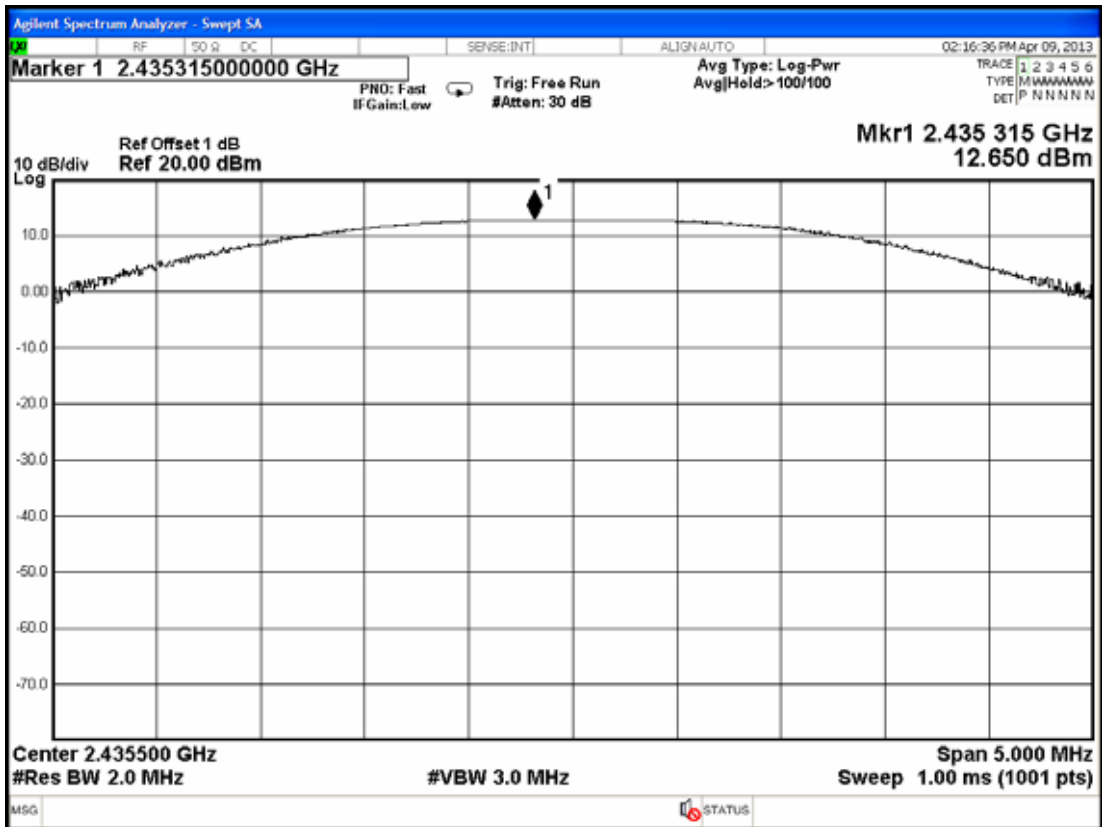
8.6.2. Radio Technology: T-FHSS Modulation

No.	Channel	Test Frequency	Peak Output Power	Limit
1.	01	2407.500MHz	13.230dBm	21dBm
2.	15	2435.500MHz	12.650dBm	21dBm
3.	31	2467.500MHz	11.635dBm	21dBm

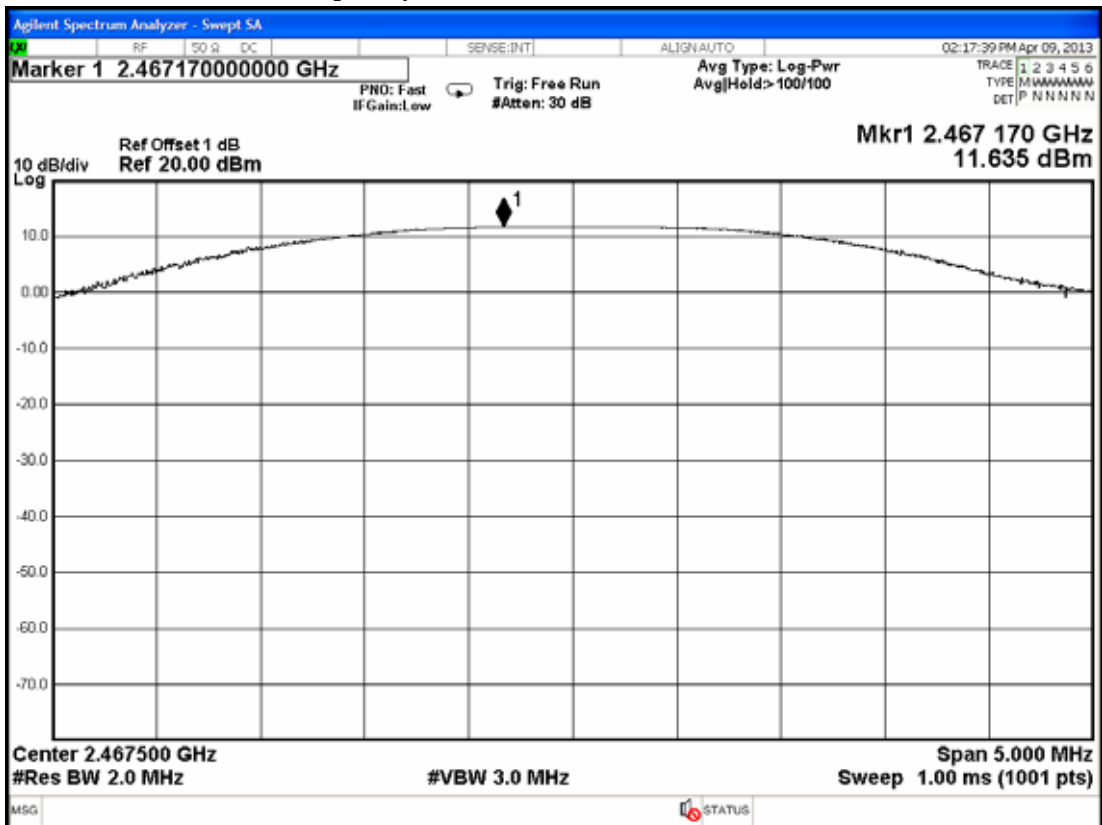
Channel 01, Frequency: 2407.500MHz



Channel 15, Frequency: 2435.500MHz



Channel 31, Frequency: 2467.500MHz



9. EMISSION LIMITATIONS MEASUREMENT

9.1. Test Equipment

The following test equipment was used during the emission limitations test:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'
2.	DC Power Supply	TOP WARD	3303A	721773	N/A	N/A

9.2. Block Diagram of Test Setup

The same as section.4.2.

9.3. Specification Limits (§15.247(c))

9.3.1. In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)).(This test result attaching to §3.6.3)

9.3.2. The reference level for determining limit of emission limitations is according to the value measured indicated in plots at section 8.6.

9.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

9.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set both RBW and VBW of spectrum analyzer to 100kHz with frequency range from 30MHz to 25GHz.

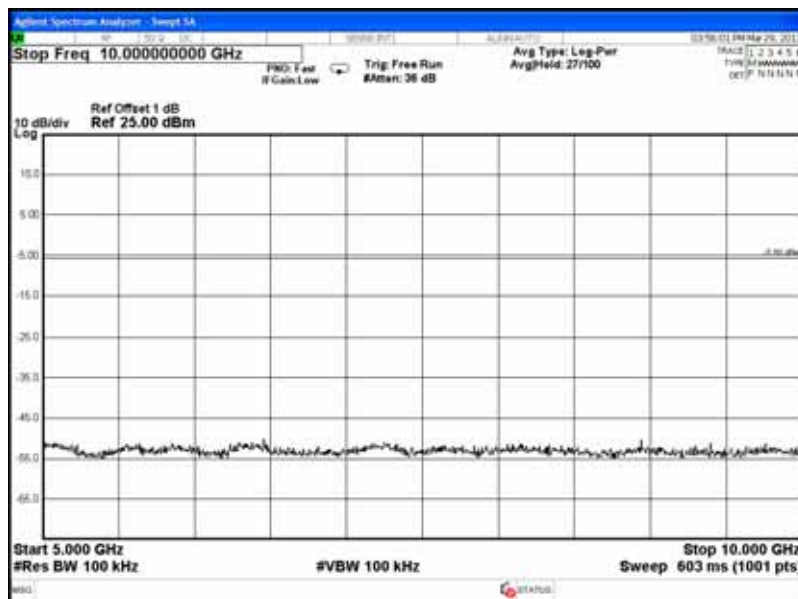
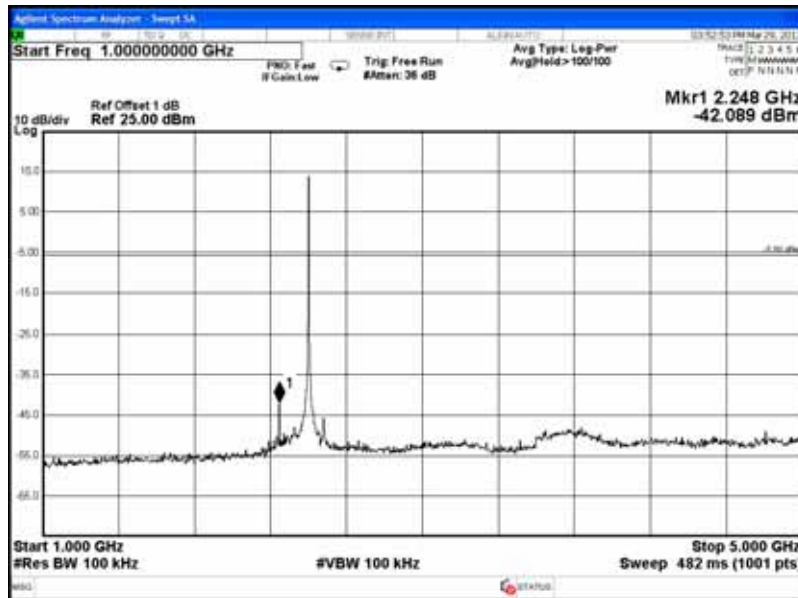
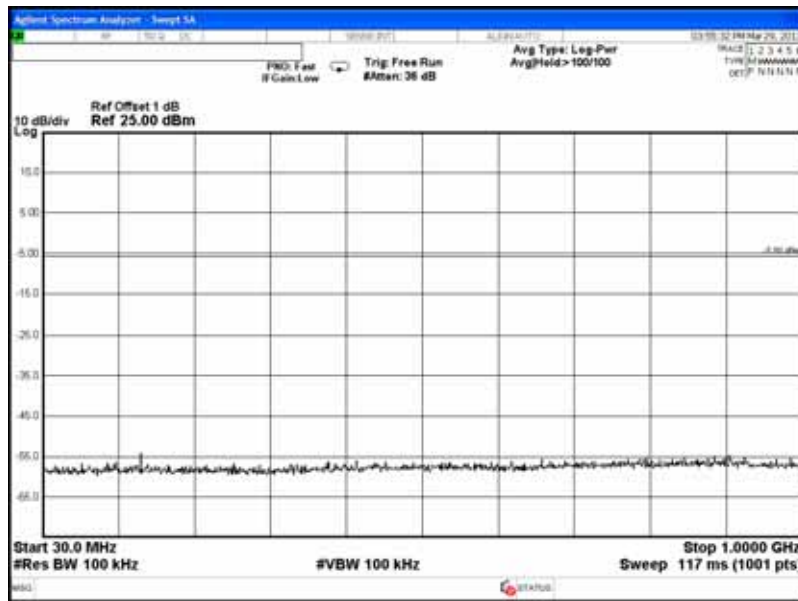
The measurement guideline was according to FCC Public Notice DA 00-705.

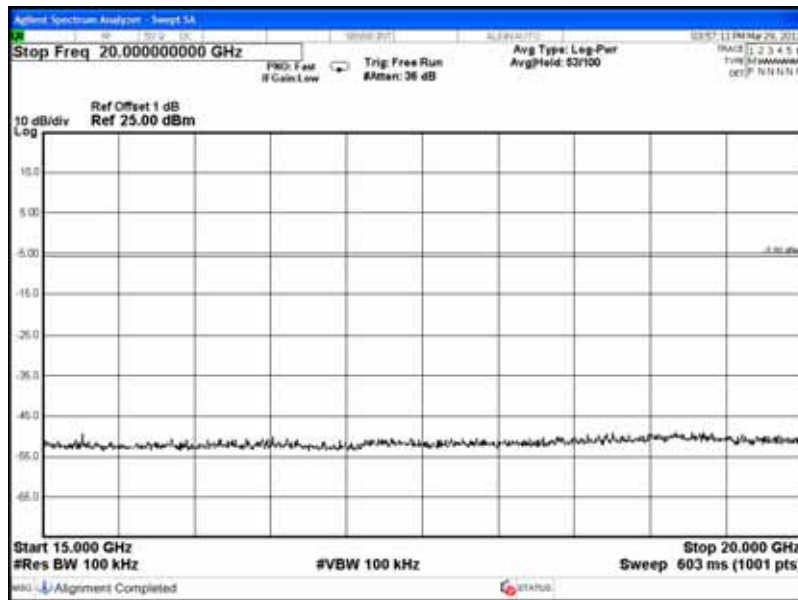
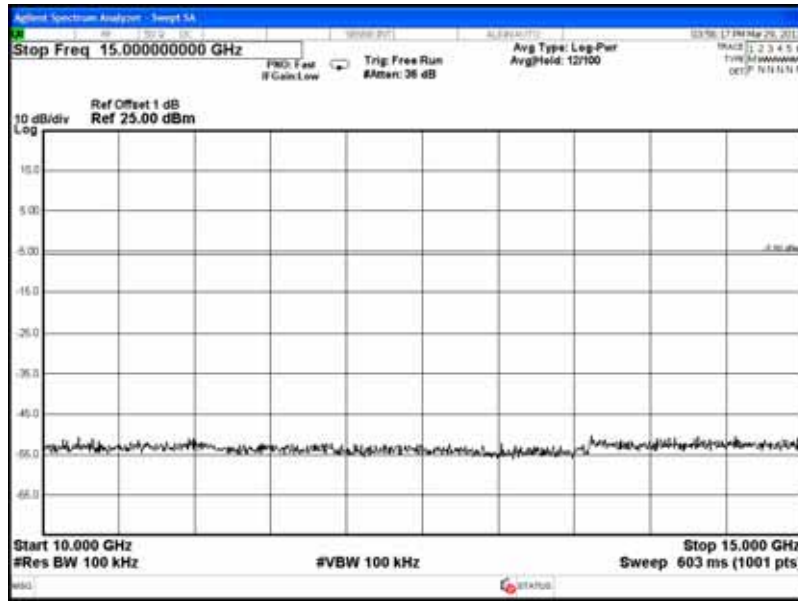
9.6. Test Results

PASSED. The testing data was attached in the next pages.

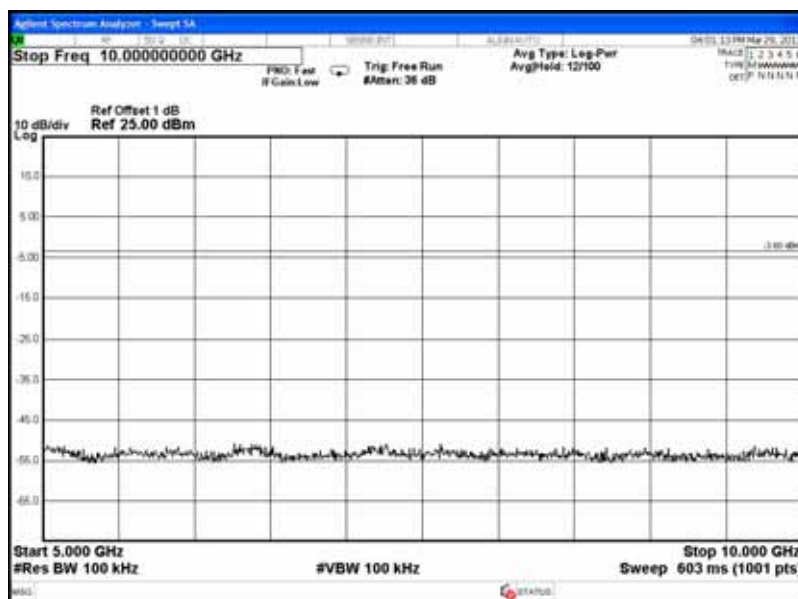
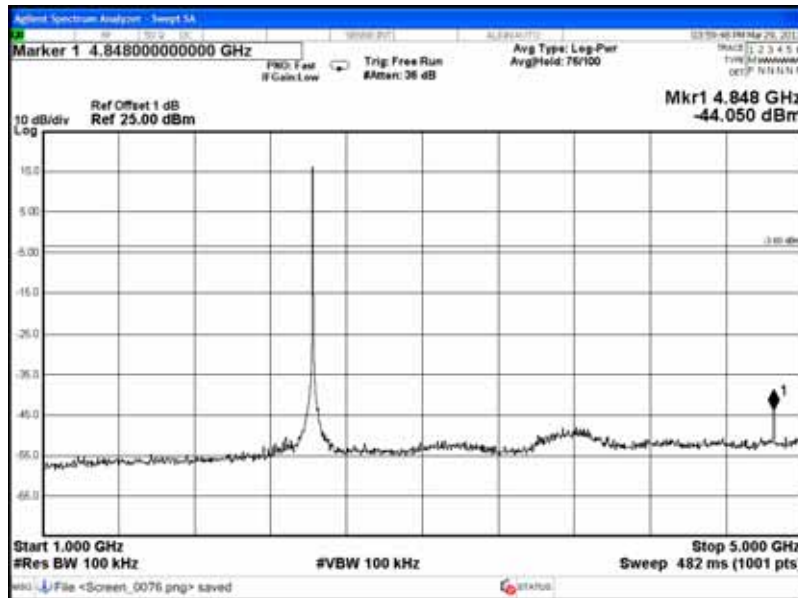
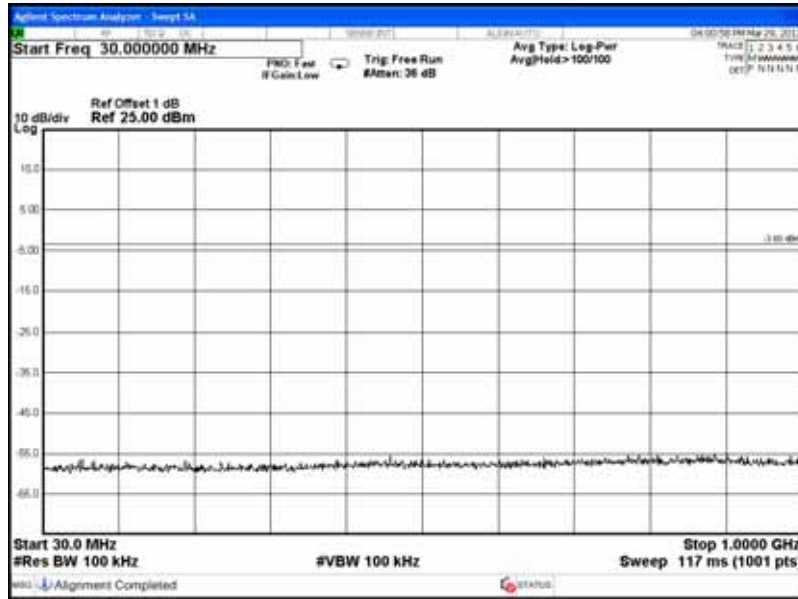
Test Date: Mar. 29, 2013 Temperature : 25 Humidity : 60%

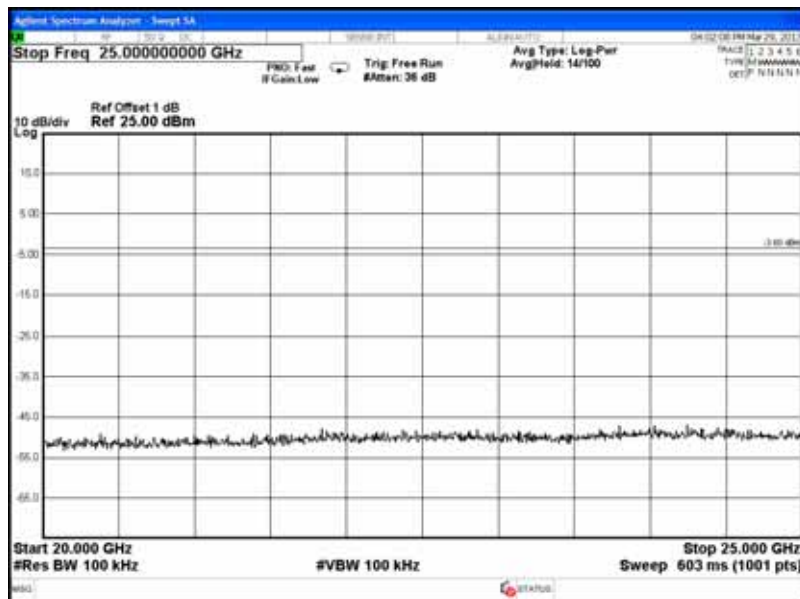
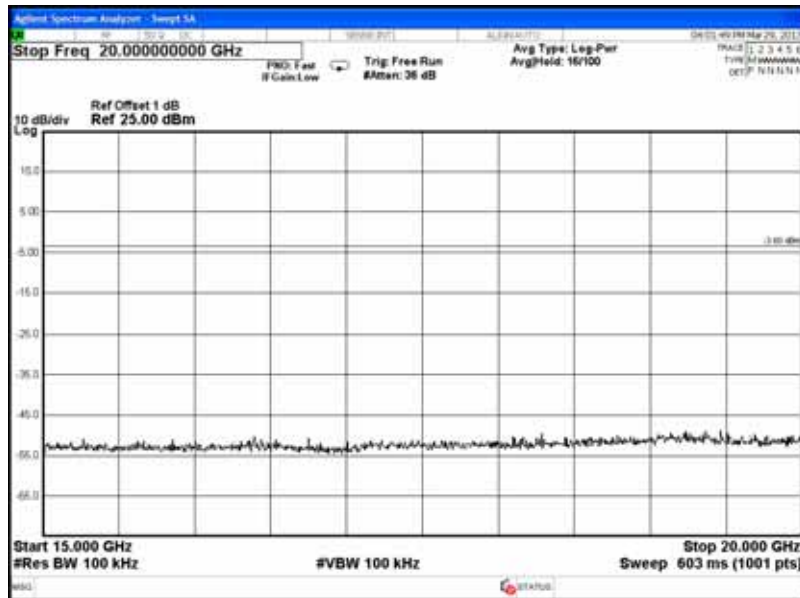
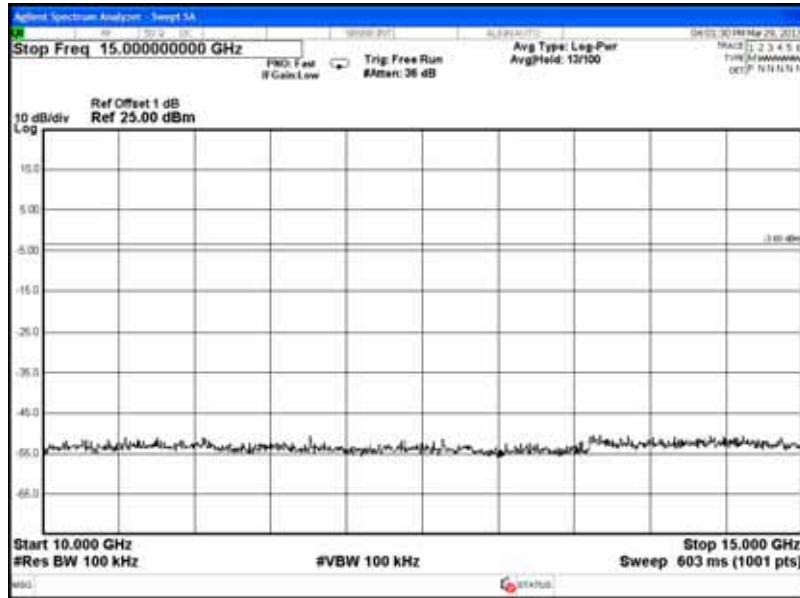
9.6.1. Radio Technology: FHSS Modulation
Channel 01, Frequency: 2403.250MHz



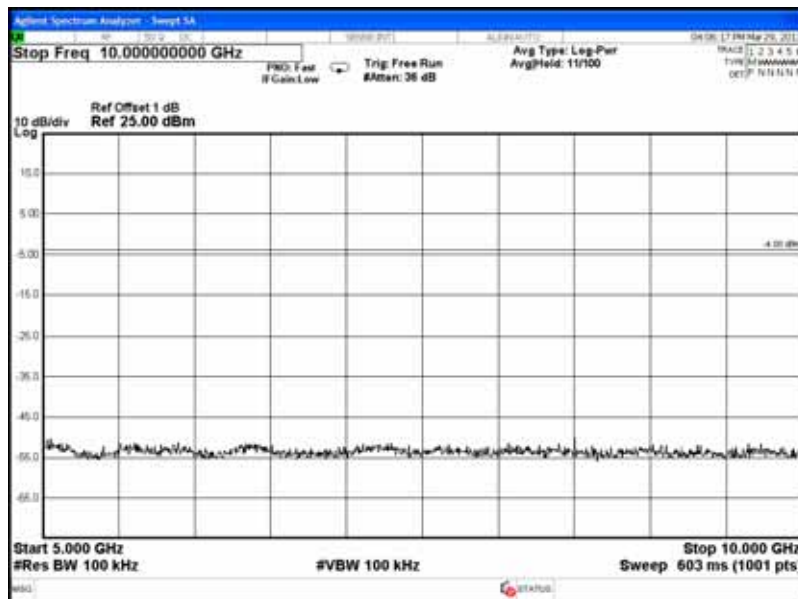
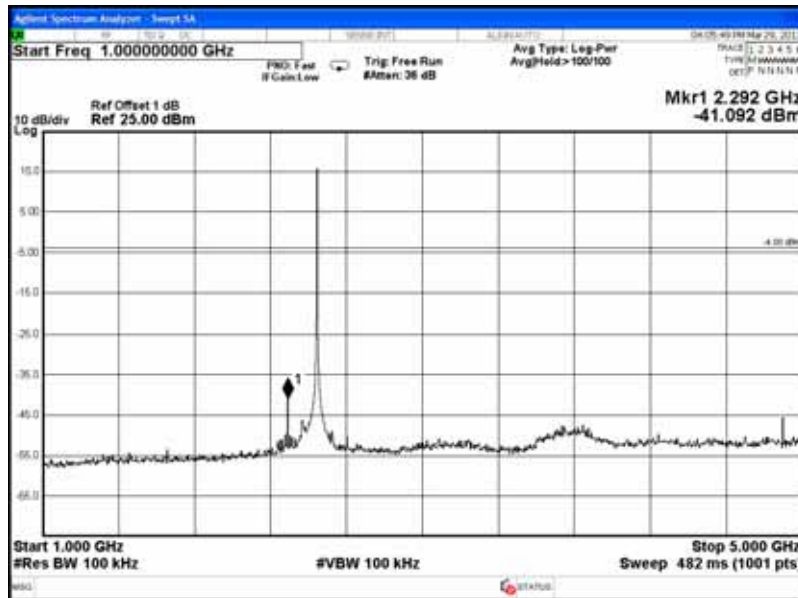
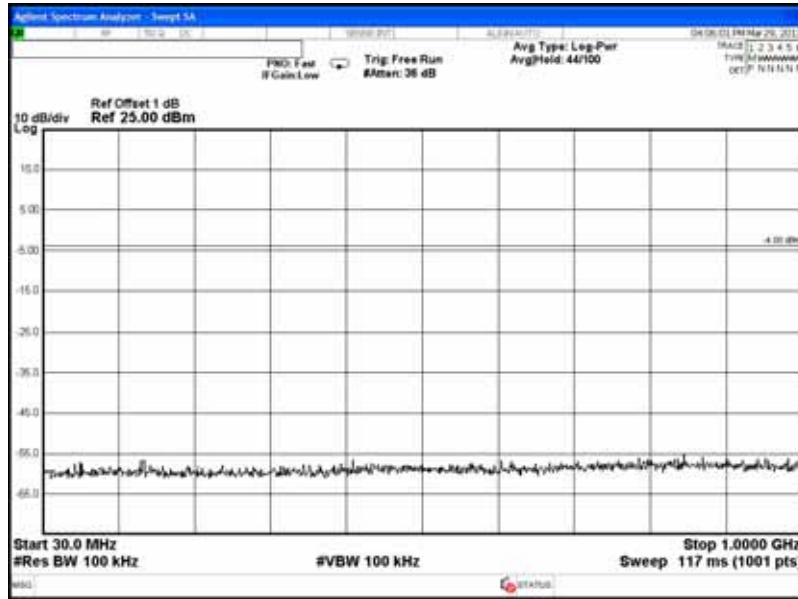


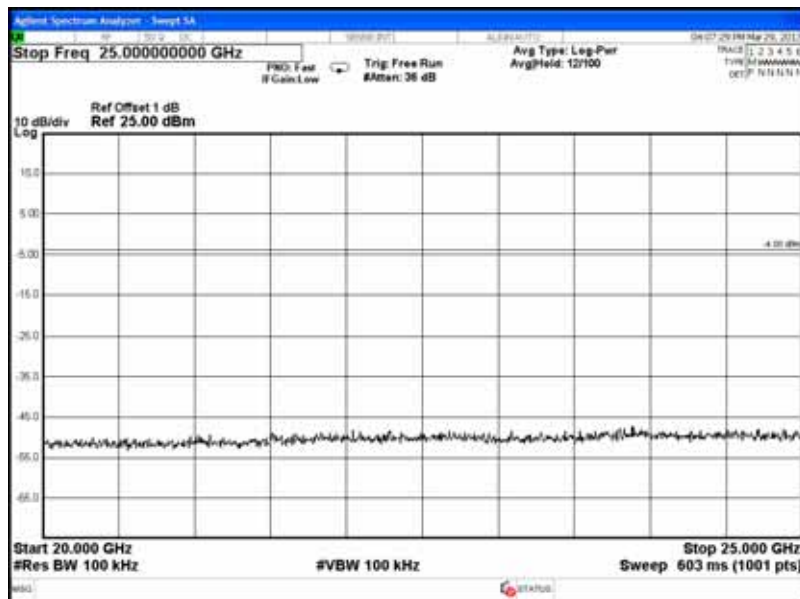
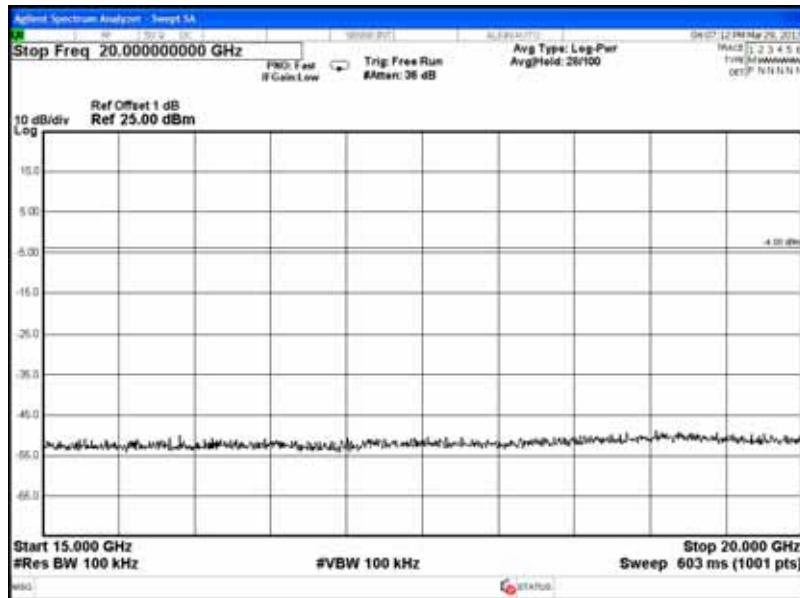
Channel 30, Frequency: 2425.00MHz



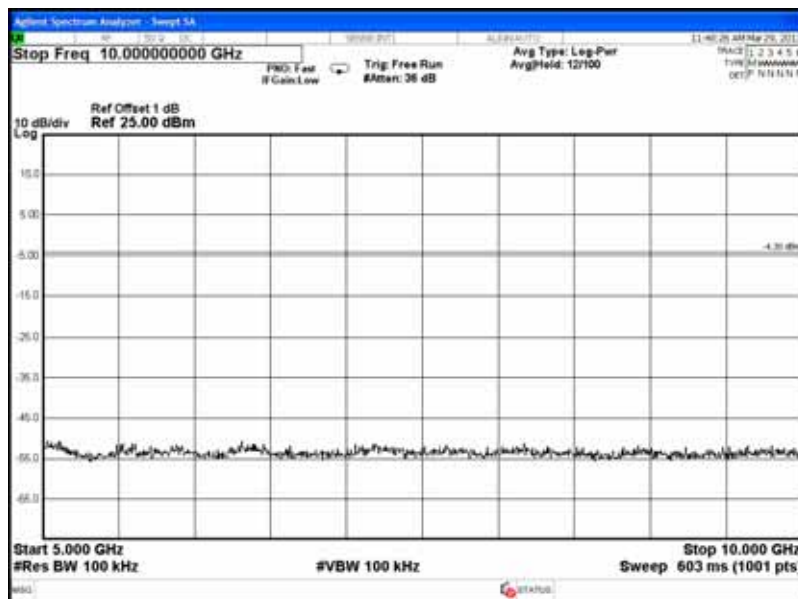
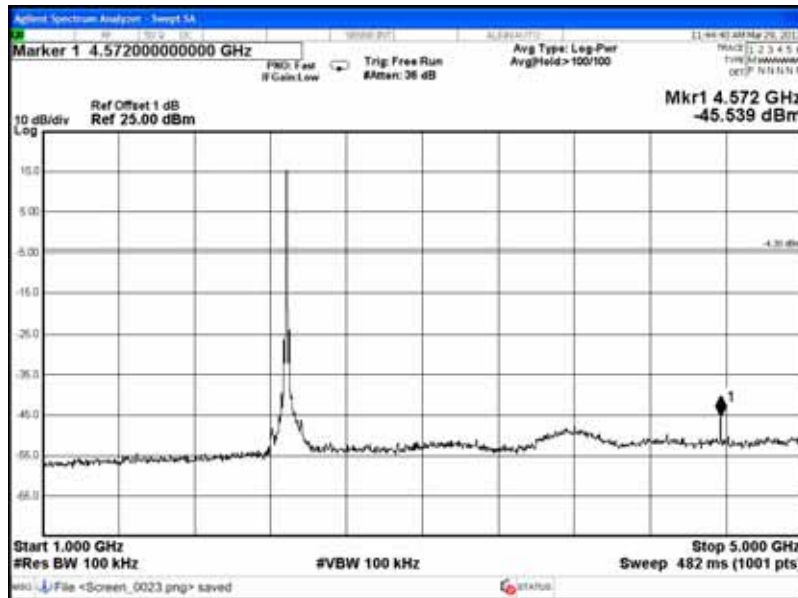


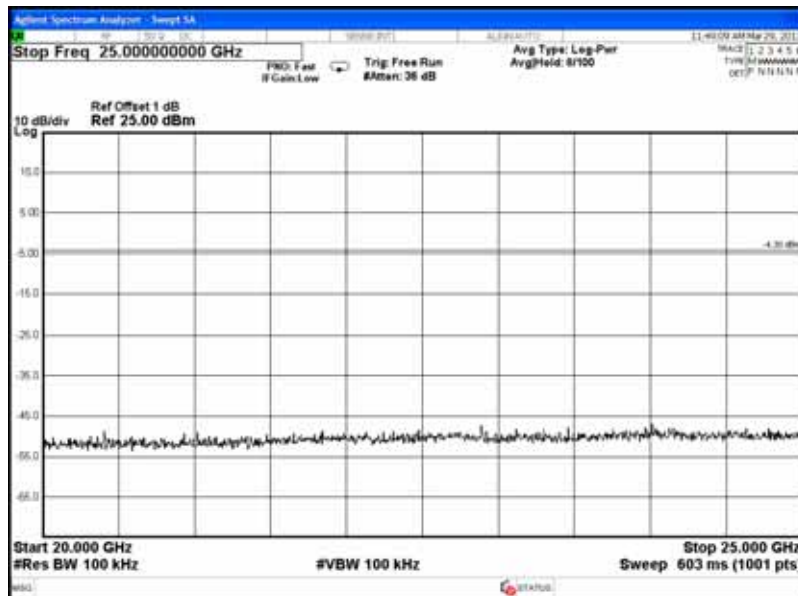
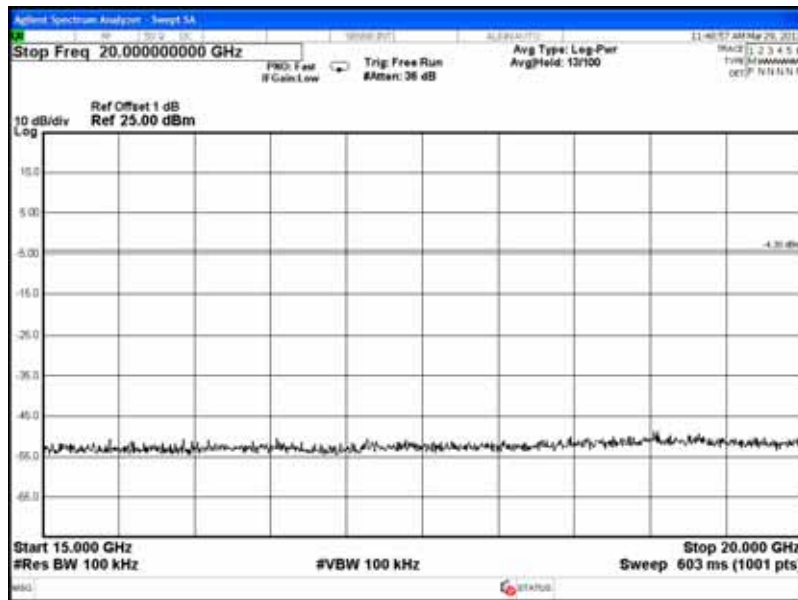
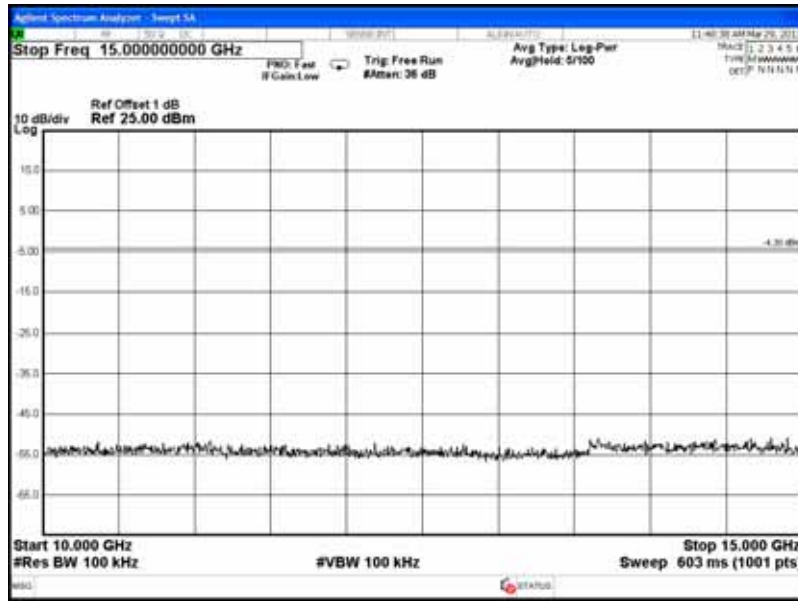
Channel 60, Frequency: 2447.5MHz



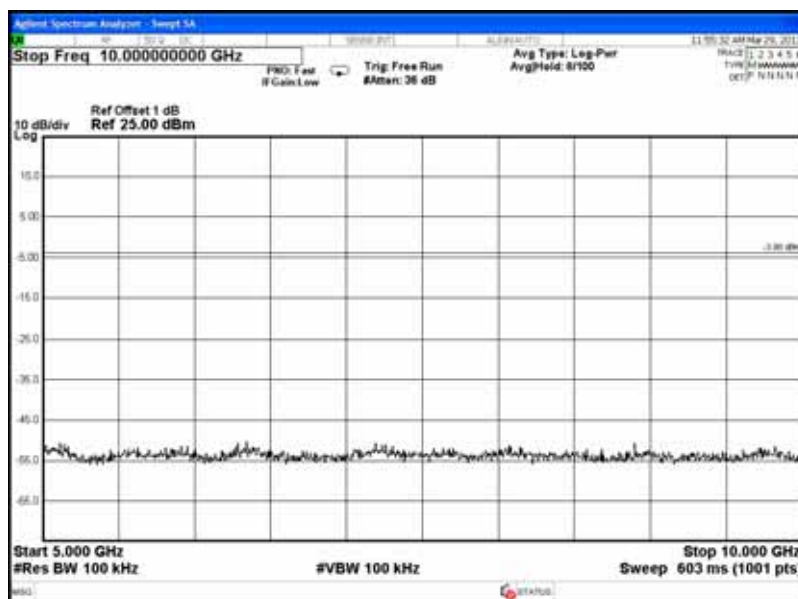
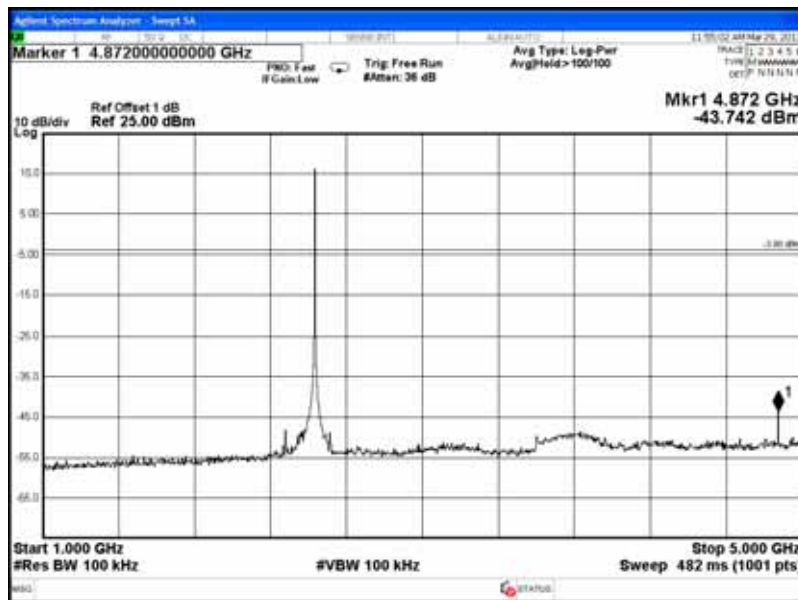
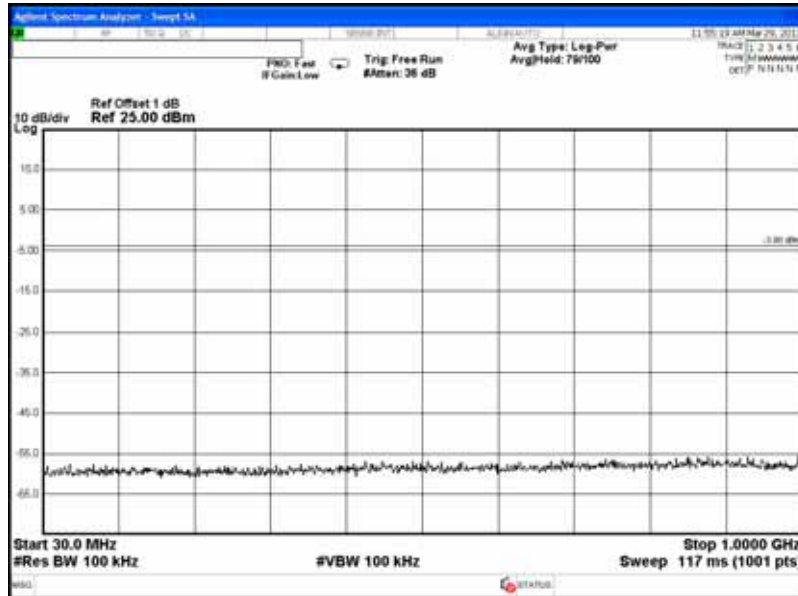


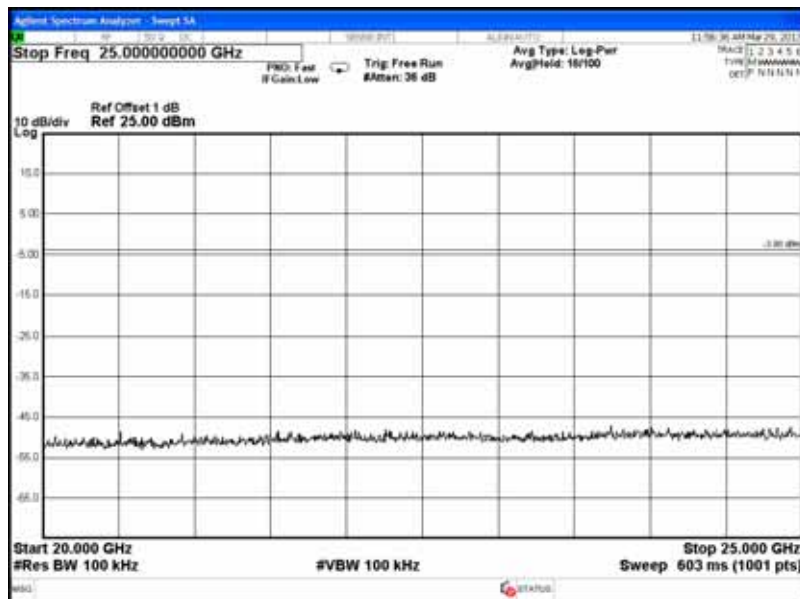
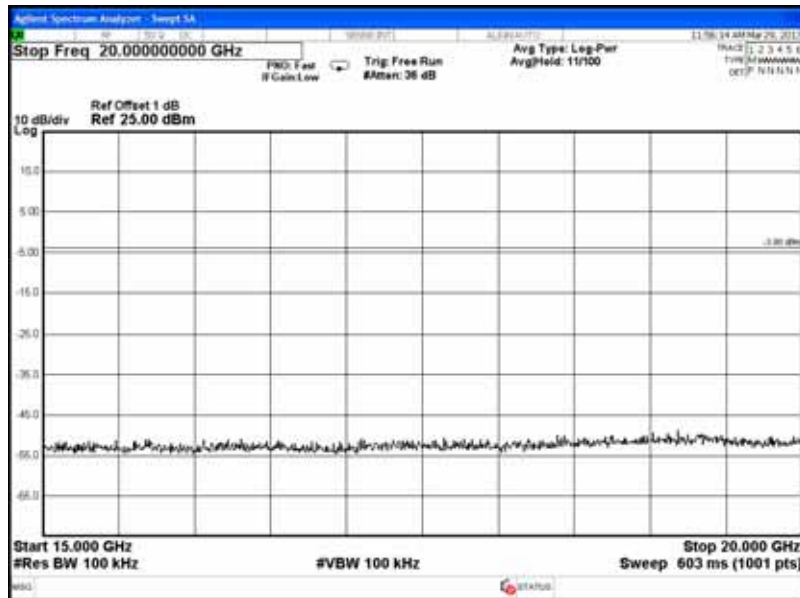
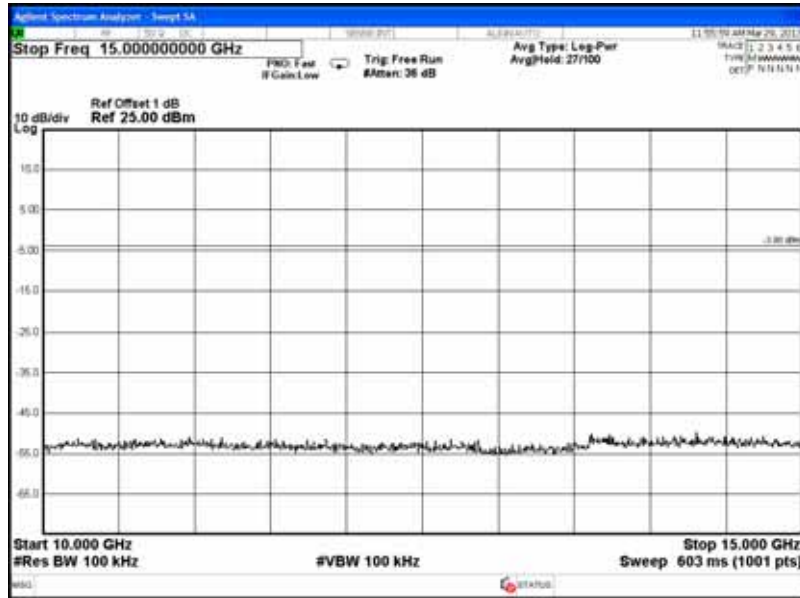
9.6.2. Radio Technology: T-FHSS Modulation
Channel 01, Frequency: 2407.500MHz



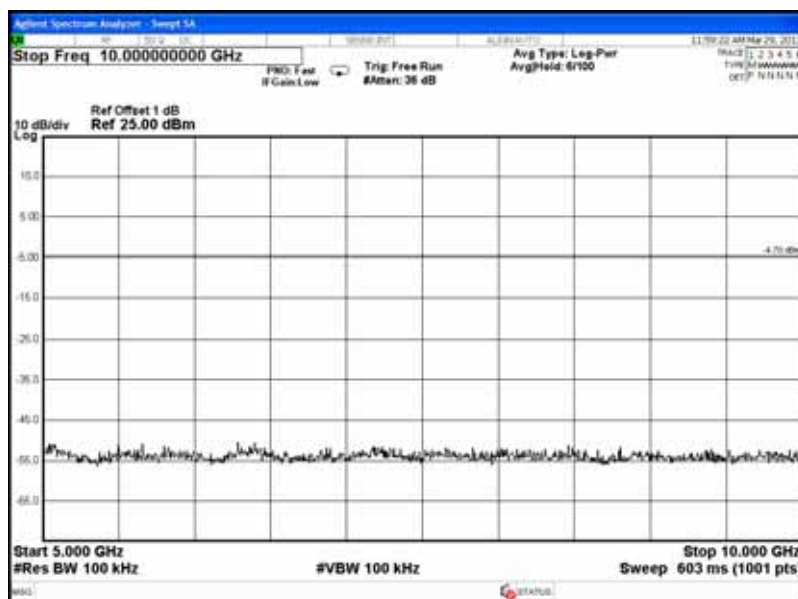
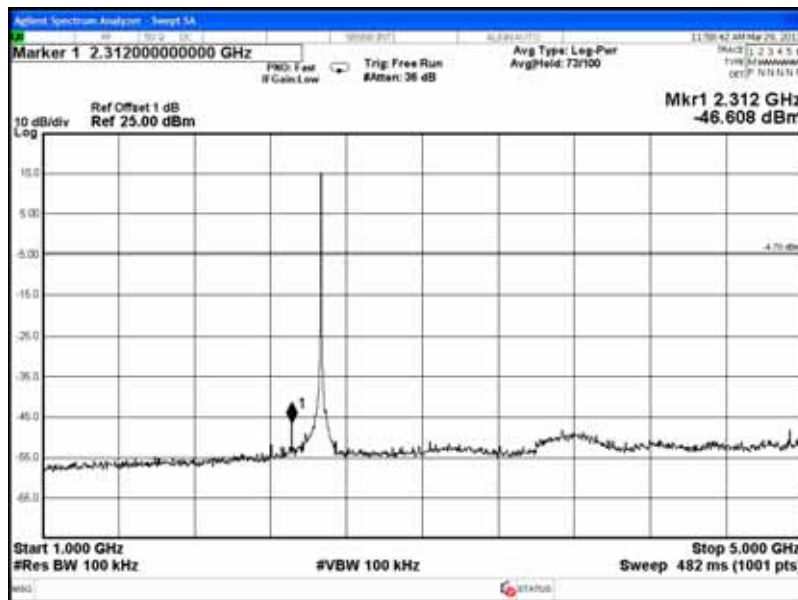
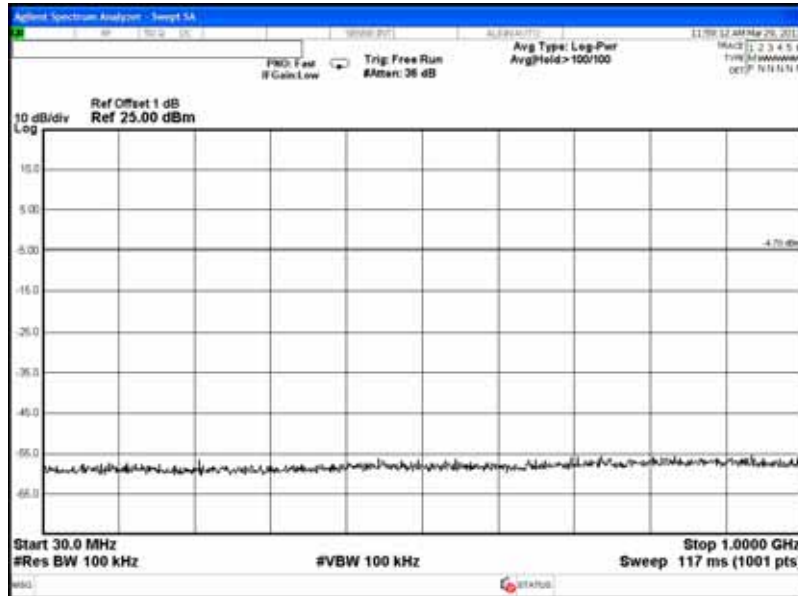


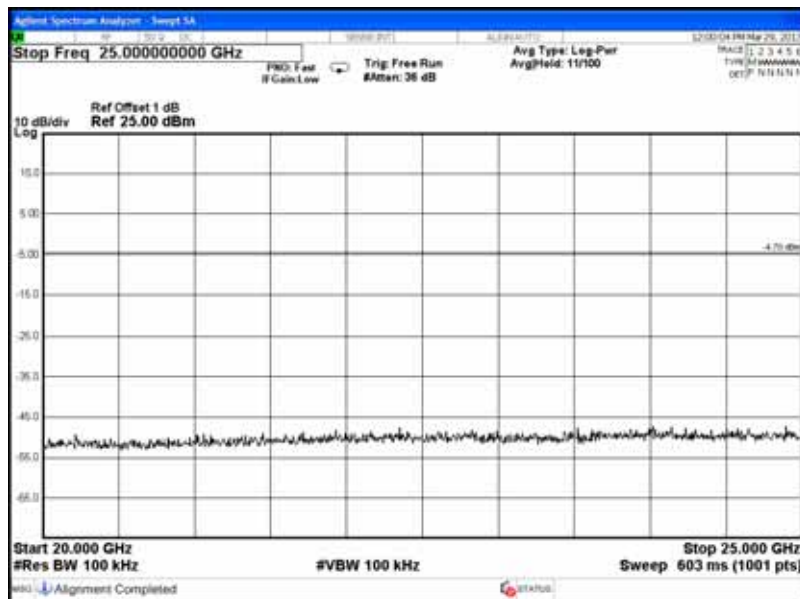
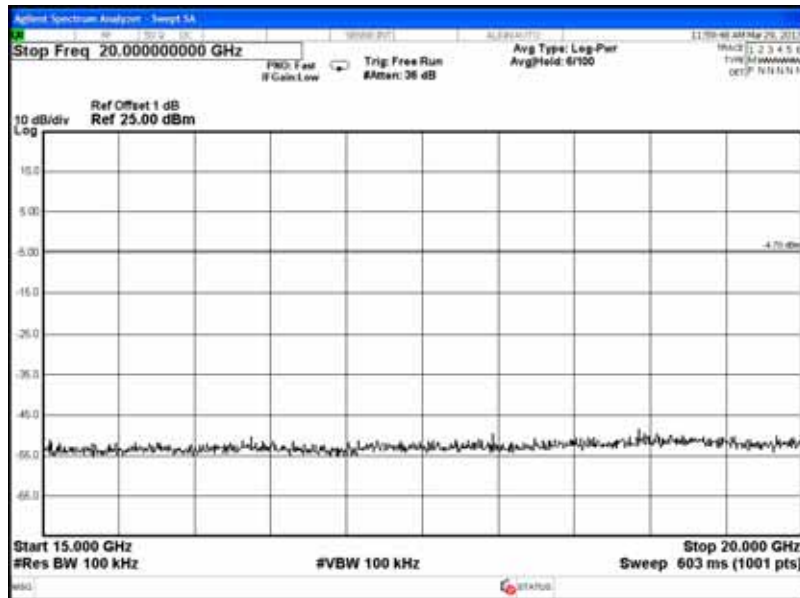
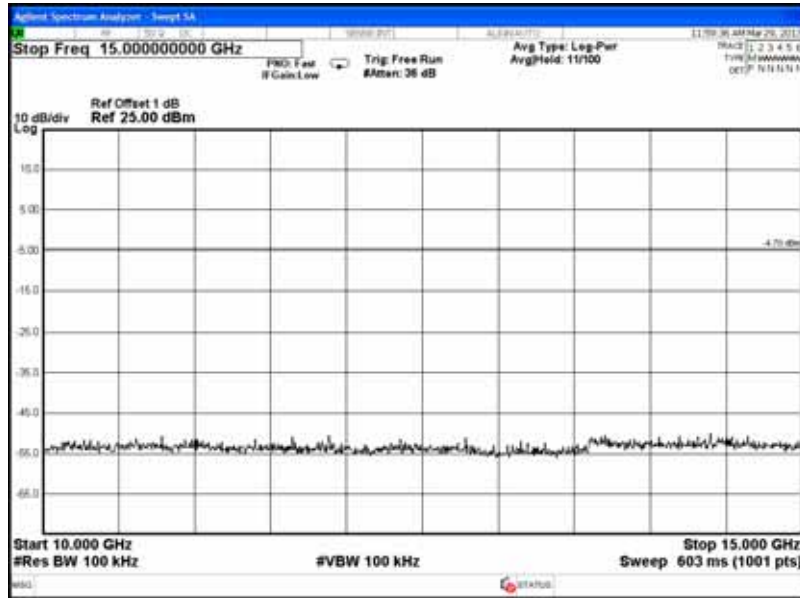
Channel 15, Frequency: 2435.500MHz





Channel 31, Frequency: 2467.500MHz





10. BAND EDGES MEASUREMENT

10.1. Test Equipment

The following test equipment was used during the band edges measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'
2.	DC Power Supply	TOP WARD	3303A	721773	N/A	N/A

10.2. Block Diagram of Test Setup

The same as section.4.2.

10.3. Specification Limits (§15.247(c))

In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)). (This test result attaching to §3.6.3)

10.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

10.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100kHz bandwidth from band edge.

The measurement guideline was according to FCC Public Notice DA 00-705.

10.6. Test Results

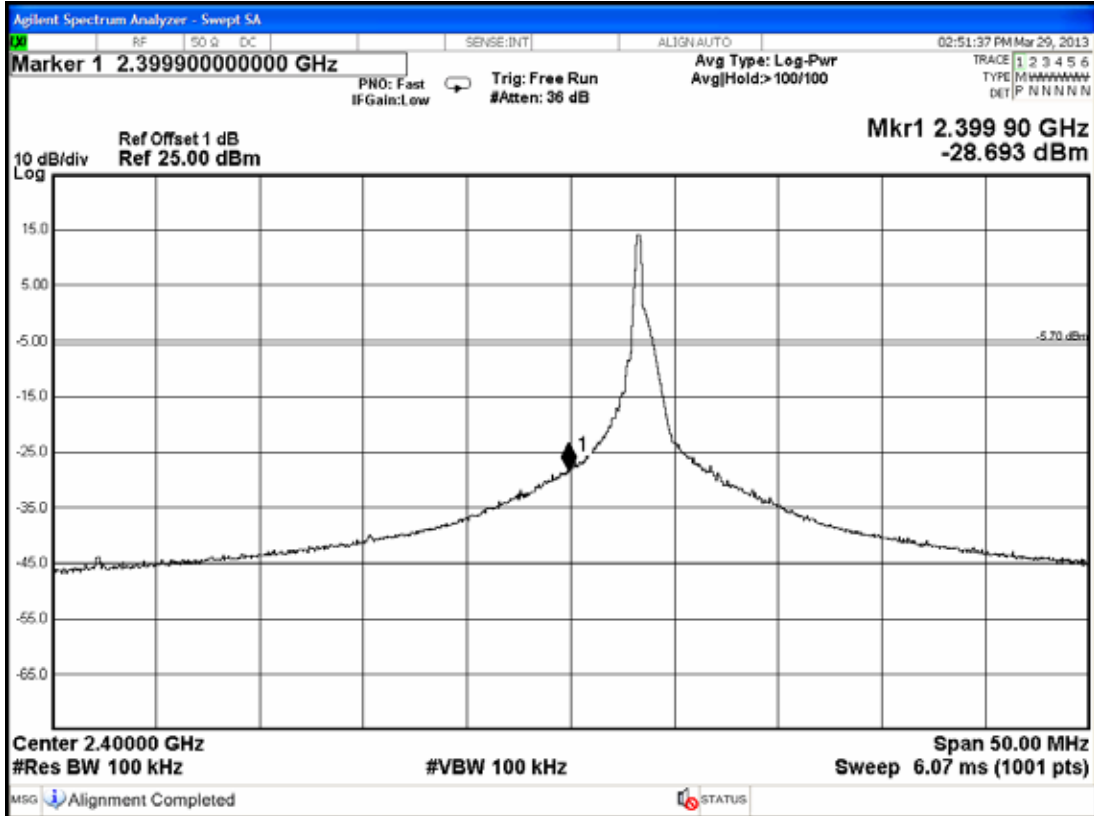
PASSED. The testing data was attached in the next pages.

Test Date : Mar. 29, 2013 Temperature :25 Humidity : 60%

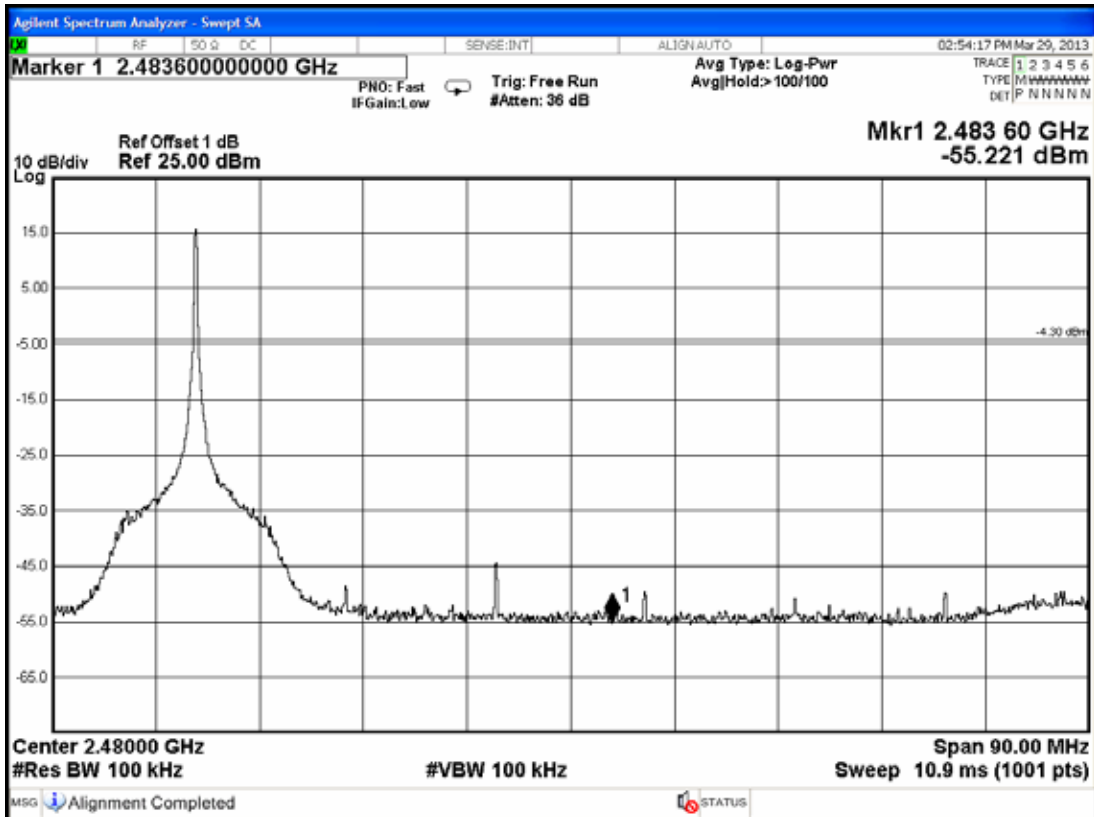
10.6.1. Radio Technology: FHSS Modulation

1. Below Band edge : The highest emission level is -28.693dBm on 2.3999GHz.
2. Upper Band edge: The highest emission level is -55.221dBm on 2.4836GHz.

Below Band edge



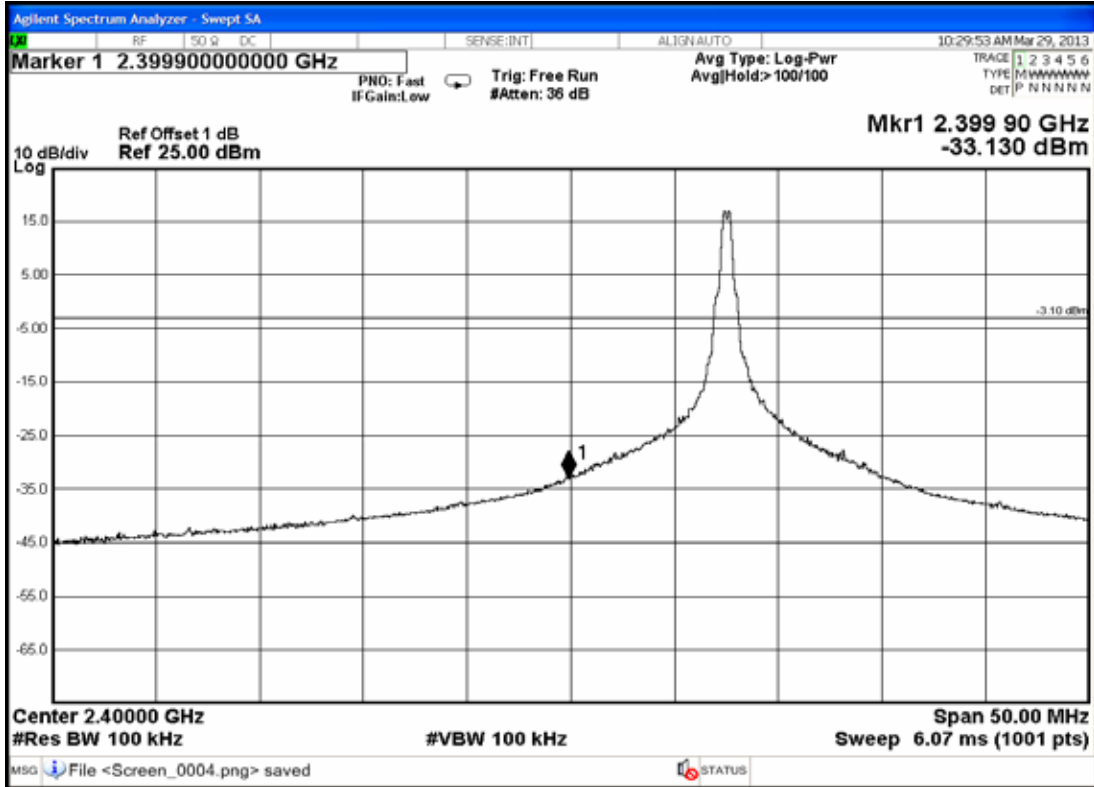
Upper Band edge



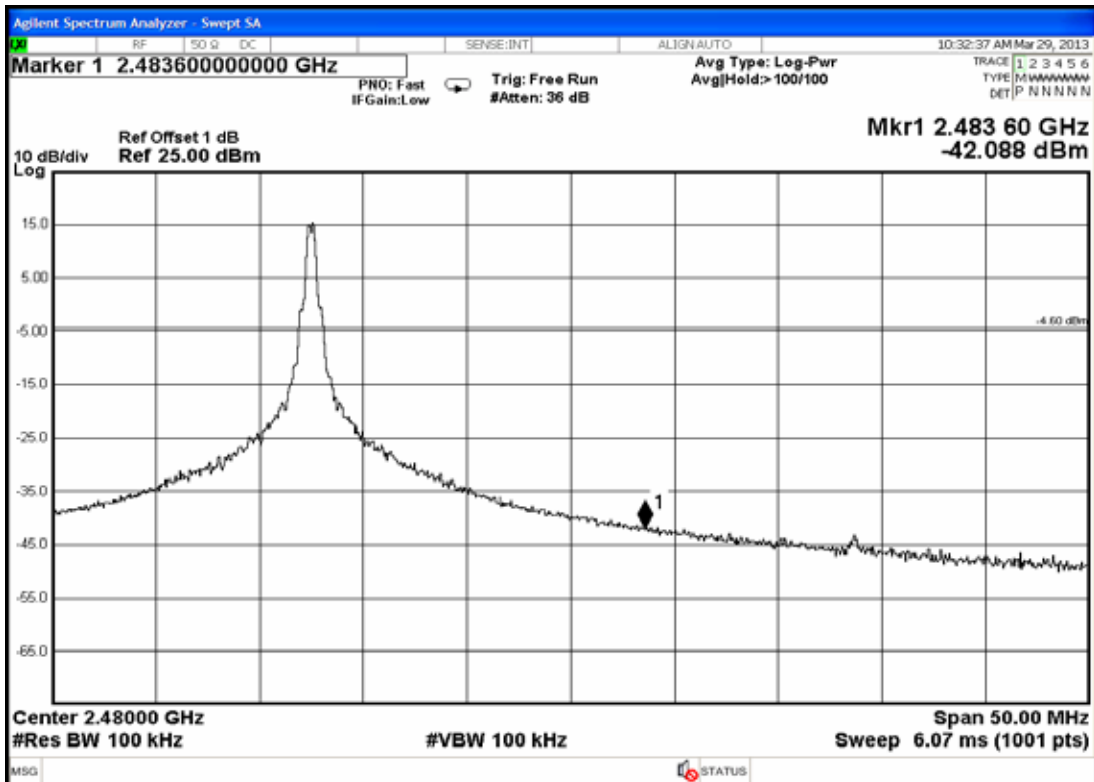
10.6.2. Radio Technology: T-FHSS Modulation

1. Below Band edge : The highest emission level is -33.130dBm on 2.3999GHz.
2. Upper Band edge: The highest emission level is -42.088dBm on 2.4836GHz.

Below Band edge



Upper Band edge



11.DEVIATION TO TEST SPECIFICATIONS

【NONE】