

FCC PART 15C TEST REPORT FOR CERTIFICATION

On Behalf of

Activision Publishing, Inc.

Bluetooth Portal of Power

Trade Name : Activision

Model Number: 84442790

FCC ID: XLU84442790

Prepared for : Activision Publishing, Inc.
3100 Ocean Park Boulevard, Santa Monica, CA90405,
USA

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
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Report Number : ACS-F12226
Date of Test : Sep.15~23, 2012
Date of Report : Oct.30, 2012

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TEST REPORT CERTIFICATION

Applicant : Activision Publishing, Inc.
 Manufacturer : Sunlight Technology Electronic Manufacturing Co; Ltd.
 EUT Description : Bluetooth Portal of Power
 FCC ID : XLU84442790
 (A) Trade Name : Activision
 (B) Model NO. : 84442790
 (C) SERIAL NO. : N/A
 (D) POWER SUPPLY : DC 4.5V
 (E) TEST VOLTAGE : DC 4.5V

Tested for comply with:

FCC Rules and Regulations Part 15 Subpart C: 2011

Test procedure used:

ANSI C63.10:2009

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. This report contains data that are not covered by the NVLAP accreditation. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Sep.15~ 23, 2012 Report of date: Oct.30, 2012

Prepared by : June Shao Reviewed by : Sunny Lu
 June Shao/ Assistant Sunny Lu/ Assistant Manager

Stamp only for EMC Dept. Report

Signature: Ken Lu 10/30/12

Approved & Authorized Signer : Ken Lu
 Ken Lu / Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Power Line Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.10 :2009	N/A
Radiated Emission Test	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS
Conducted Spurious Emissions	FCC Part 15: 15.247(a)(1) ANSI C63.10 :2009	PASS
Carrier Frequency Separation Test	FCC Part 15: 15.247(a)(1) ANSI C63.10 :2009	PASS
20dB Bandwidth Test	FCC Part 15: 15.215 ANSI C63.10 :2009	PASS
Number Of Hopping Frequency Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2009	PASS
Dwell Time Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2009	PASS
Maximum Peak Output Power Test	FCC Part 15: 15.247(b)(1)\ ANSI C63.10 :2009	PASS
Band Edge Compliance Test	FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS
N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

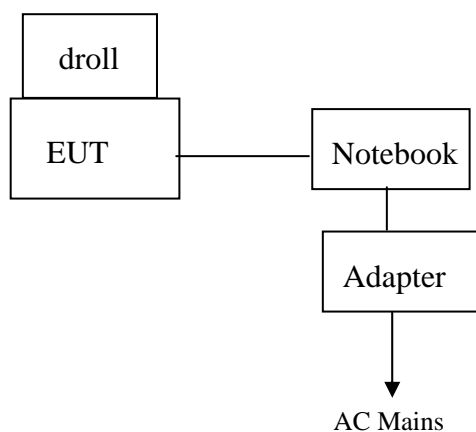
2.1. Description of Device (EUT)

Product Name	: Bluetooth Portal of Power
Model No	: 84442790
FCC	: XLU84442790
Trade Name	: Activision
Radio	: Bluetooth V3.0+EDR
Operation Frequency	: 2402MHz-2480MHz
Modulation	: GFSK, $\pi/4$ DQPSK, 8-DPSK
Applicant	: Activision Publishing, Inc. 3100 Ocean Park Boulevard, Santa Monica, CA90405, USA
Manufacturer	: Sunlight Technology Electronic Manufacturing Co; Ltd. New Asia Industrial City, Lin Village, Tangxia Town, Dongguan City, China
USB Cable	: Unshielded, Detachable, 1.0m
Date of Test	: Sep.15~23, 2012
Date of Receipt	: Sep.10, 2012
Sample Type	: Prototype production

2.2. Tested Supporting System Details

No.	Description	ACS No.	Manufacturer	Model	Serial Number	Approved type
1.	Notebook	Test PC R	DELL	D430	PP09S	<input checked="" type="checkbox"/> FCC DoC
		Power Cord: Unshielded, Detachable, 1.8m Power Adapter: Manufacture: DELL, M/N:LA65NS1-00 DVI Cable: Shielded, Detachable, 4.0m (Power Cord: Unshielded, Detachable, 1.8m)				

2.3. Block Diagram of connection between EUT and simulators



(EUT: Bluetooth Portal of Power)

2.4. Test Facility

Site Description

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block, Shenzhen
Science & Industrial Park, Nantou,
Shenzhen, Guangdong, China

3m Anechoic Chamber : Certificated by FCC, USA
Registration Number: 90454
Valid Date: Feb.22, 2015

3m & 10m Anechoic Chamber : Certificated by FCC, USA
Registration Number: 794232
Valid Date: Dec.30, 2012

EMC Lab. : Certificated by Industry Canada
Registration Number: IC 5183A-1
Valid Date: Jun.13, 2014

: Certificated by DAkkS, Germany
Registration No: D-PL-12151-01-01
Valid Date: Feb.01, 2014

Accredited by NVLAP, USA
NVLAP Code: 200372-0
Valid Date: Mar.31, 2013

2.5. Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Radiation Emission test in 3m chamber	3.6 dB(30~200MHz, Polarize: H)
	3.7 dB(30~200MHz, Polarize: V)
	4.0 dB(200M~1GHz, Polarize: H)
	3.7 dB(200M~1GHz, Polarize: V)
Uncertainty for Radiation Emission test in 3m chamber (1GHz-18GHz)	3.1dB (Distance: 3m Polarize: V)
	3.7 dB (Distance: 3m Polarize: H)
Uncertainty for Radiated Spurious Emission test in RF chamber	3.57dB
Uncertainty for Conduction Spurious emission test	2.00 dB
Uncertainty for Output power test	0.73 dB
Uncertainty for Power density test	2.00 dB
Uncertainty for Frequency range test	7×10^{-8}
Uncertainty for Bandwidth test	83 kHz
Uncertainty for DC power test	0.038 %
Uncertainty for test site temperature and humidity	0.6°C
	3%

3. POWER LINE CONDUCTED EMISSION TEST

According to Paragraph (a) of FCC15.207, Tests to demonstrate compliance with the theconducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

4. RADIATED EMISSION TEST

4.1. Test Equipment

Frequency rang: 30~1000MHz

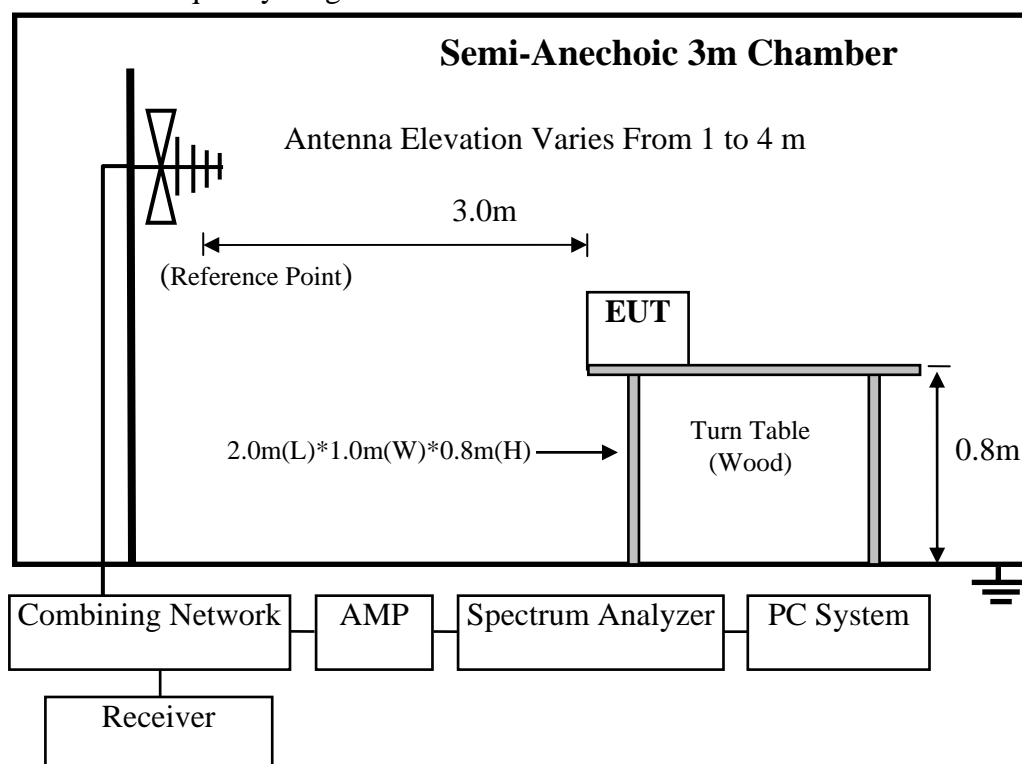
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Nov.28,11	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 12	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 12	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 12	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Oct.26, 10	2.0 Year
6	RF Cable	MIYAZAKI	CFD400-NL	3# Chamber No.1	May.08, 12	1 Year
7	Coaxial Switch	Anritsu	MP59B	M74389	May.08, 12	1 Year

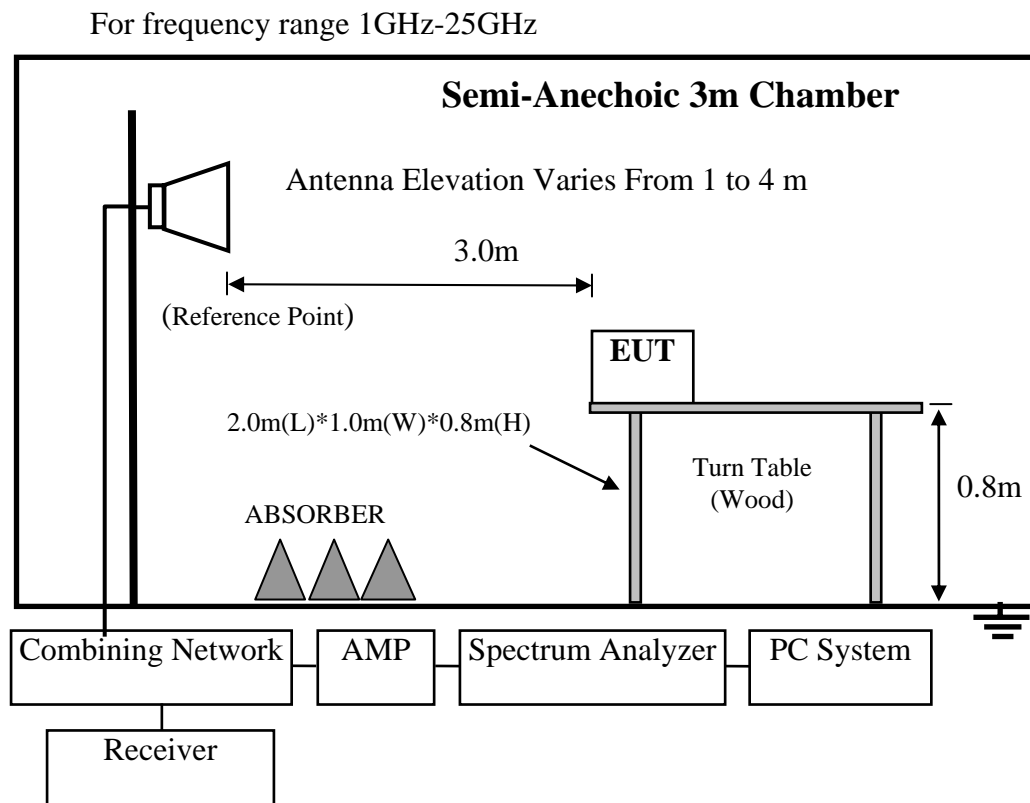
Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4407B	MY41440292	May.08, 12	1 Year
2	Horn Antenna	EMCO	3115	9510-4580	June.05, 12	1 Year
3	Amplifier	Agilent	8449B	3008A00863	May.08, 12	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX106	77980/6	May.08, 12	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX106	77977/6	May.08, 12	1 Year
6	Horn Antenna	EMCO	3116	00060089	May.08, 12	1.5 Year

4.2. Block Diagram of Test Setup

For frequency range 30MHz-1000MHz





4.3. Radiated Emission Limit Standard: FCC 15.209

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

Remark : (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
- (4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.4. EUT Configuration on Test

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

4.4.1. Bluetooth Portal of Power (EUT)

Model Number : 84442790
Serial Number : N/A

4.4.2. Support Equipment : As Tested Supporting System Detail, in Section 2.4

4.5. Operating Condition of EUT

4.5.1. Setup the EUT and simulator as shown as Section 4.2.

4.5.2. Turned on the power of all equipment.

4.5.3. Let EUT work in Tx mode.

4.6. Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10-2009 on radiated emission Test.

This test was performed with EUT in X, Y, Z position, and the worse case was found when EUT in X position as the test photo indicated.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's RBW is set at 1MHz and VBW is set at 3MHz for peak emissions measurement above 1GHz

This device is pulse modulated, a duty cycle factor was used to calculate average level based measured peak level.

The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

4.7. Radiated Emission Test Results

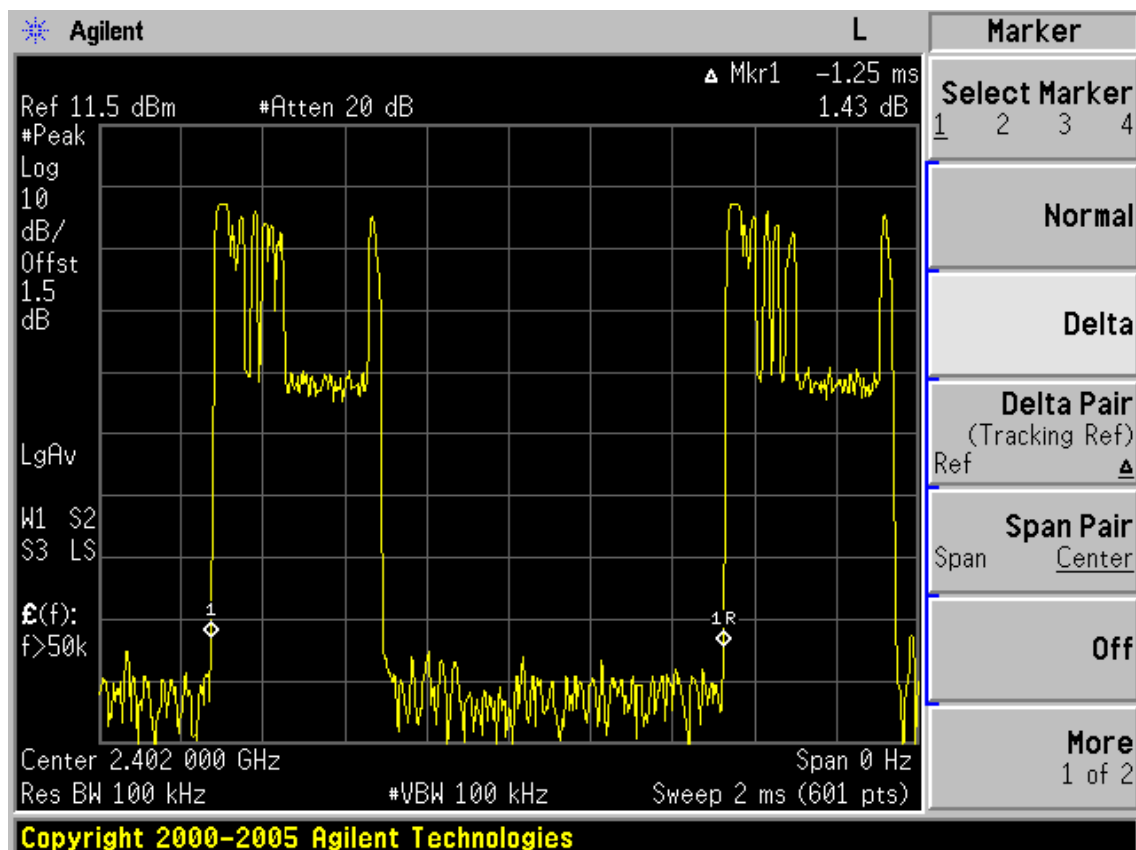
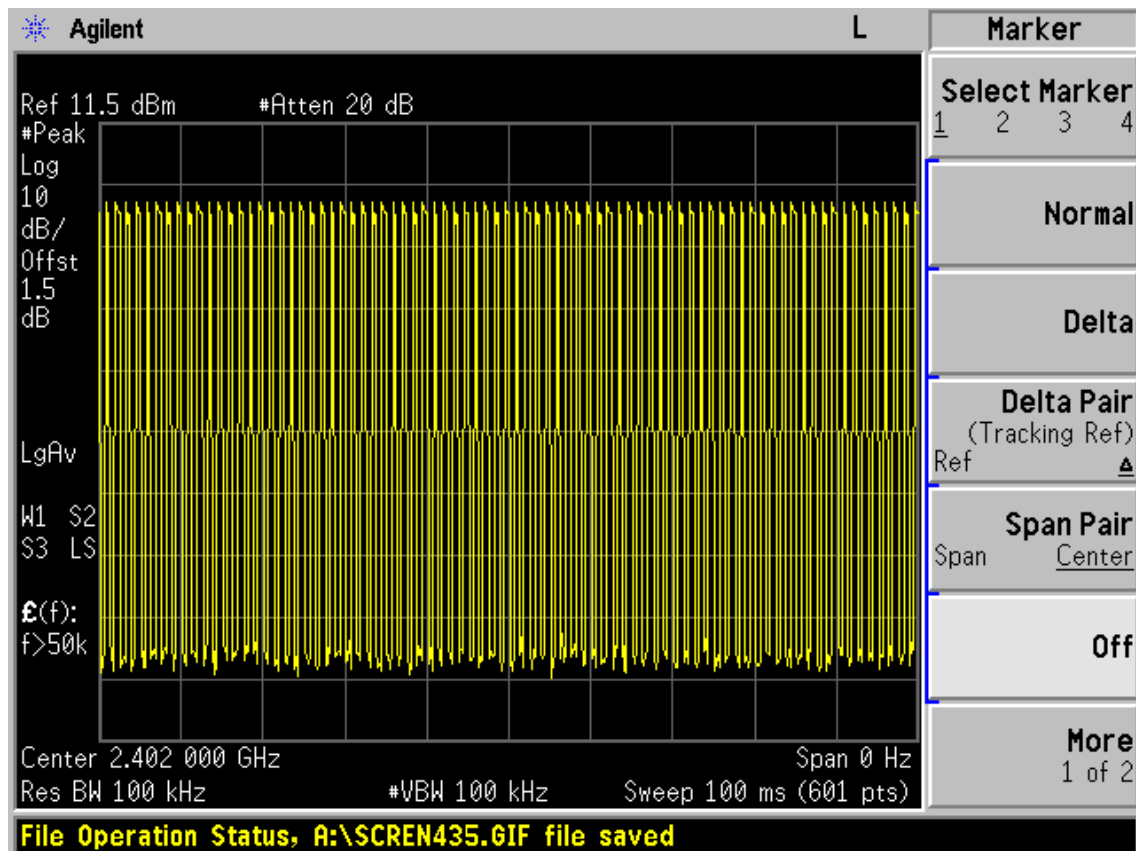
PASS.

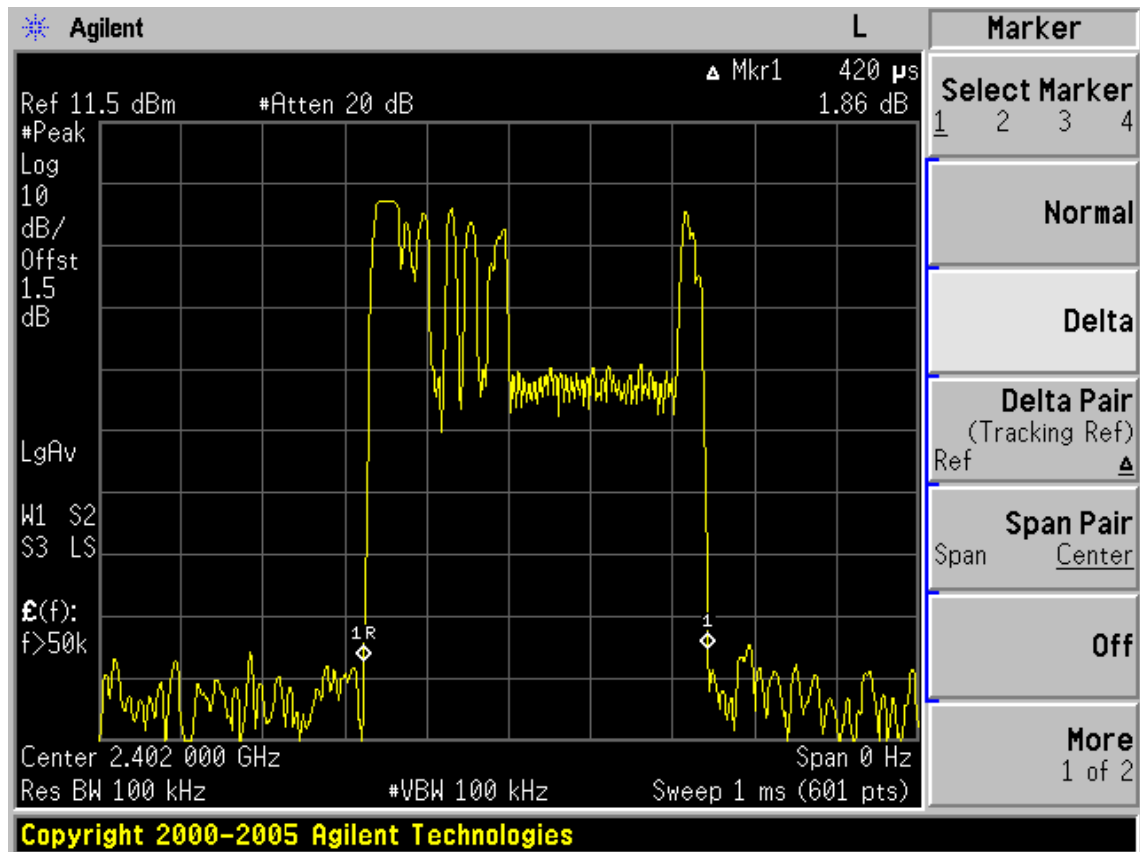
All the emissions from 30MHz to 25GHz were comply with the 15.209 Limit.

Note: The duty cycle factor for calculate average level is 9.47dB, and average limit is 20dB below peak limit, so if peak measured level comply with peak limit, the average level was deemed to comply with average limit.

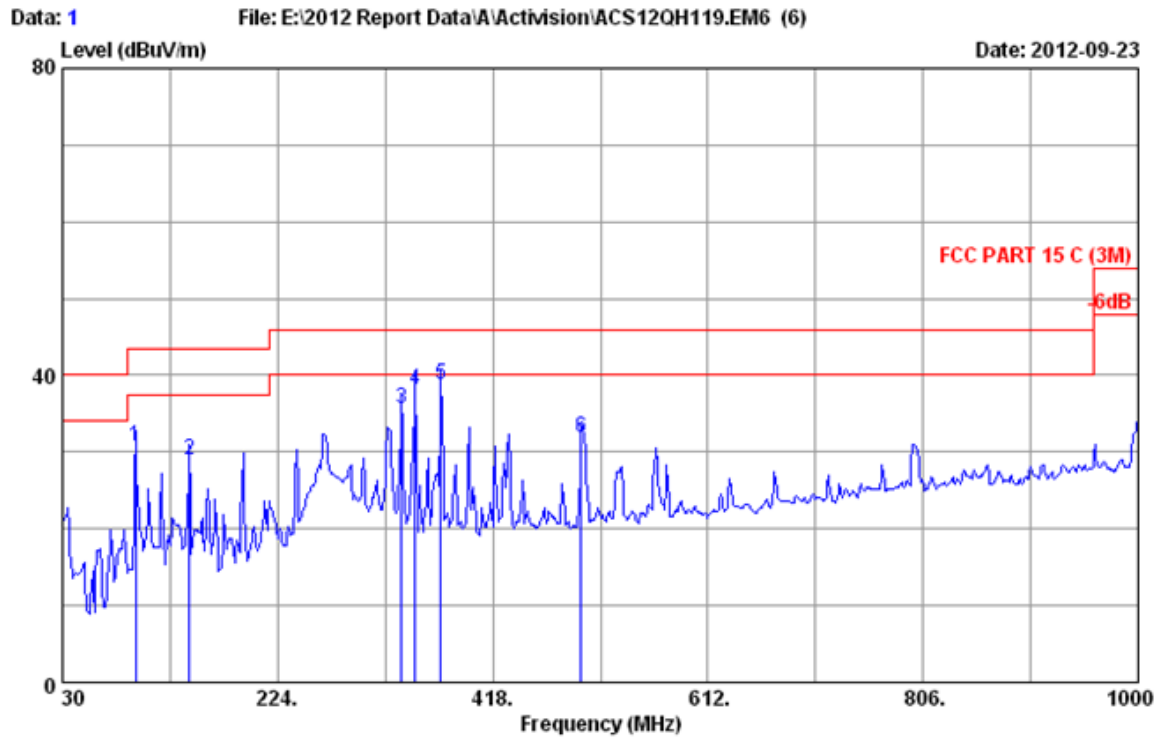
Duty cycle: $420\mu s / 1.25\text{ms} * 100\% = 33.6\%$

Duty cycle factor = $20\log (1/\text{duty cycle}) = 9.47$





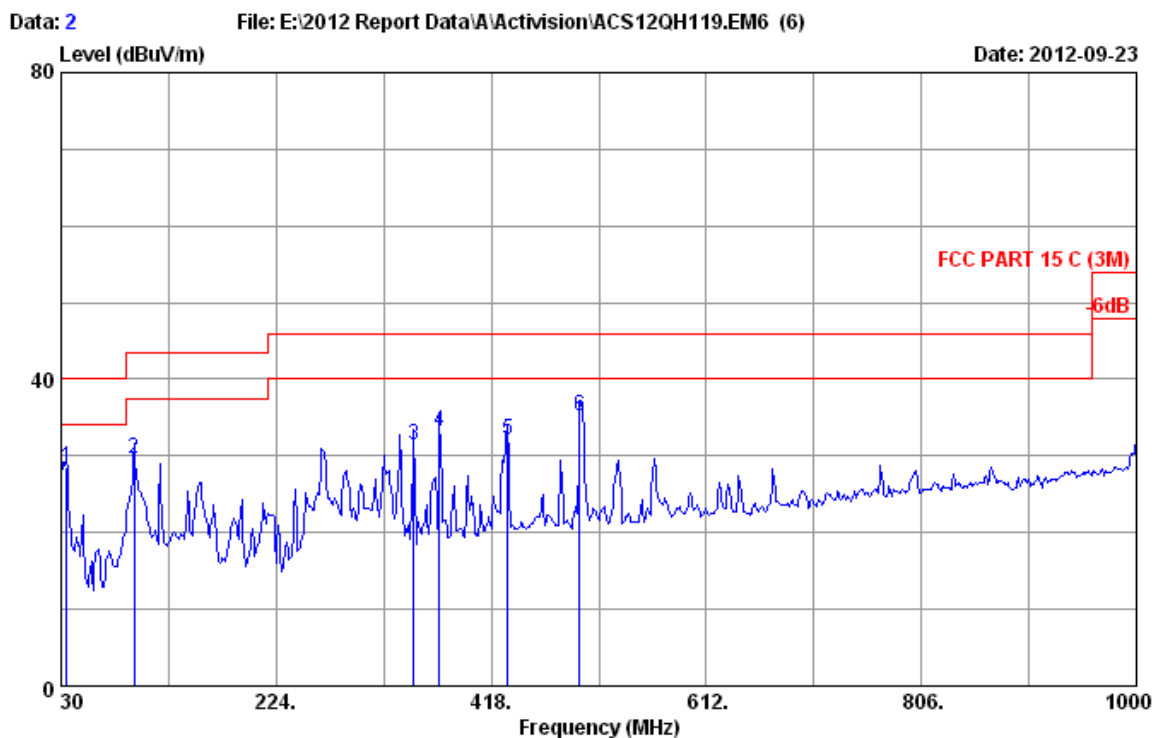
Frequency: 30MHz~1GHz



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2012 CBL6111C 2598 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 24°C/56% Engineer : Leo_Li
EUT : Bluetooth Portal of Power
Power rating : DC 4.5V
Test Mode : Tx Mode
M/N:84442790

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	95.960	8.97	0.82	20.95	30.74	43.50	12.76	QP
2	144.460	11.17	0.94	16.92	29.03	43.50	14.47	QP
3	335.550	14.81	1.39	19.39	35.59	46.00	10.41	QP
4	348.160	15.30	1.41	21.34	38.05	46.00	7.95	QP
5	371.440	15.91	1.48	21.29	38.68	46.00	7.32	QP
6	497.540	18.89	1.83	11.05	31.77	46.00	14.23	QP

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

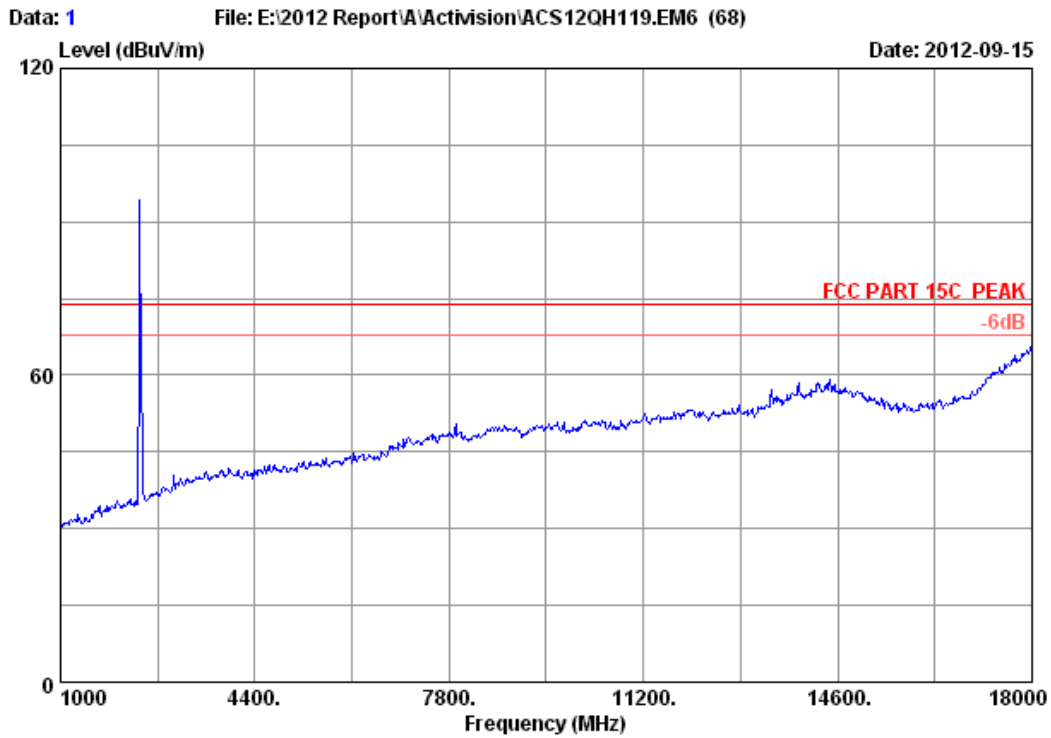


Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2012 CBL6111C 2598 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 24°C/56% Engineer : Leo_Li
EUT : Bluetooth Portal of Power
Power rating : DC 4.5V
Test Mode : Tx Mode
M/N:84442790

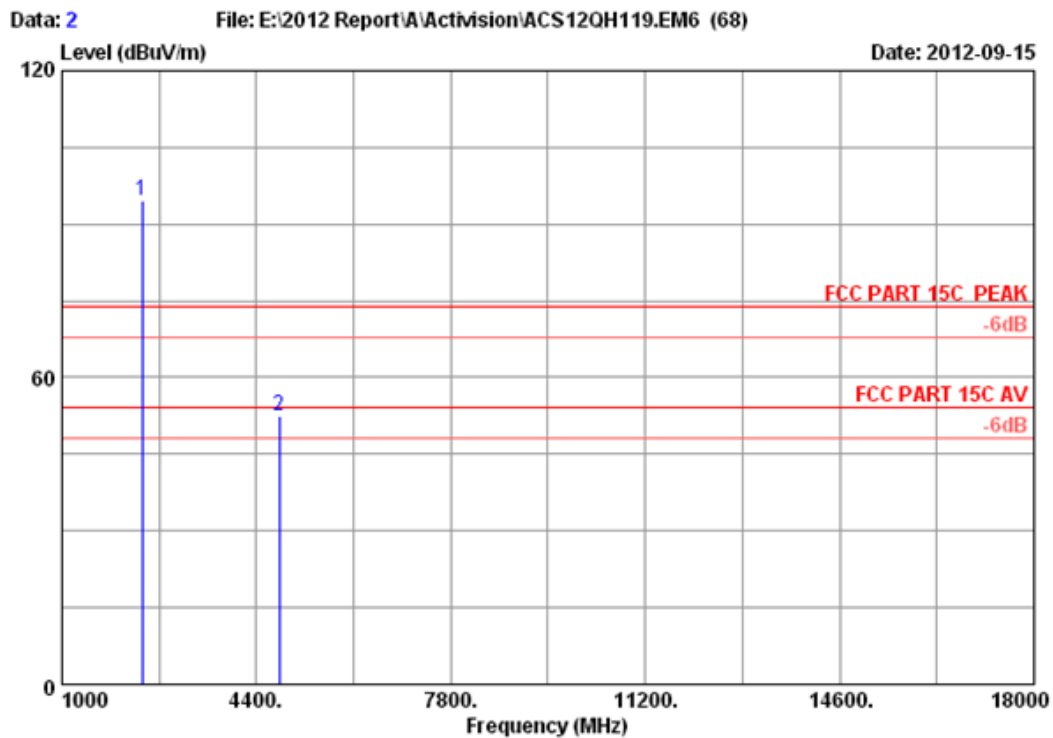
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	34.850	16.01	0.51	11.90	28.42	40.00	11.58	QP
2	95.960	8.97	0.82	19.80	29.59	43.50	13.91	QP
3	348.160	15.30	1.41	14.76	31.47	46.00	14.53	QP
4	371.440	15.91	1.48	15.86	33.25	46.00	12.75	QP
5	432.550	17.58	1.64	12.94	32.16	46.00	13.84	QP
6	497.540	18.89	1.83	14.60	35.32	46.00	10.68	QP

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

Frequency: 1GHz~18GHz



Site no.	: 3m Chamber	Data no.	: 1
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: GFSK 2402MHz Tx		
M/N	: 84442790		

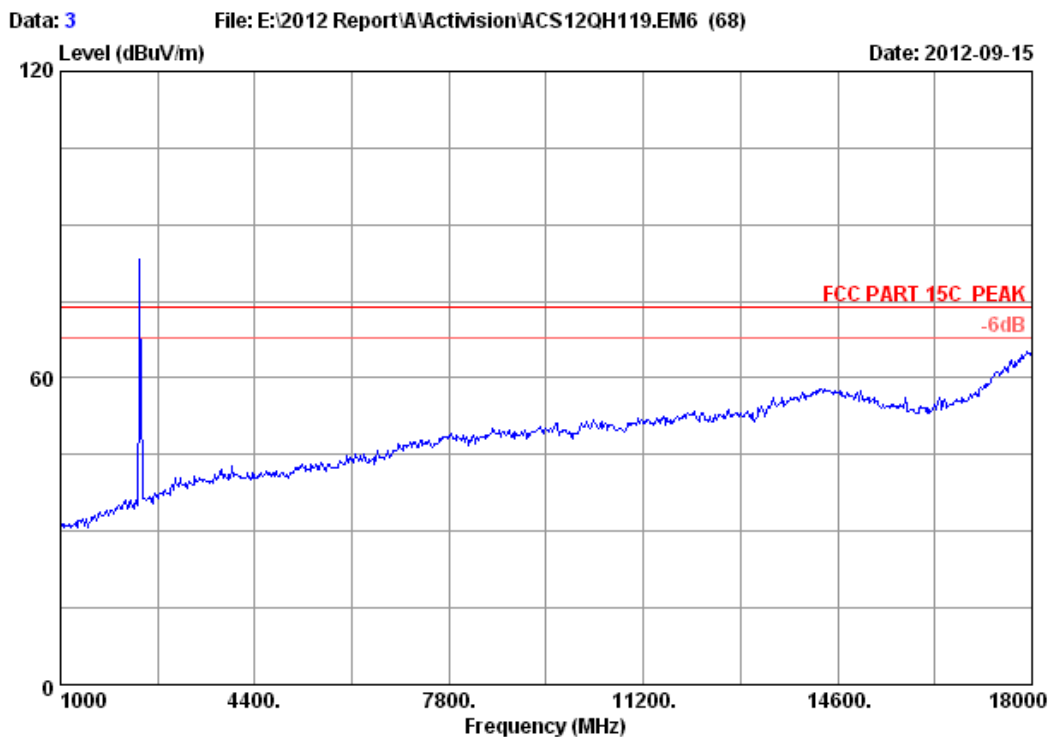


Site no. : 3m Chamber Data no. : 2
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2402MHz Tx
 M/N : 84442790

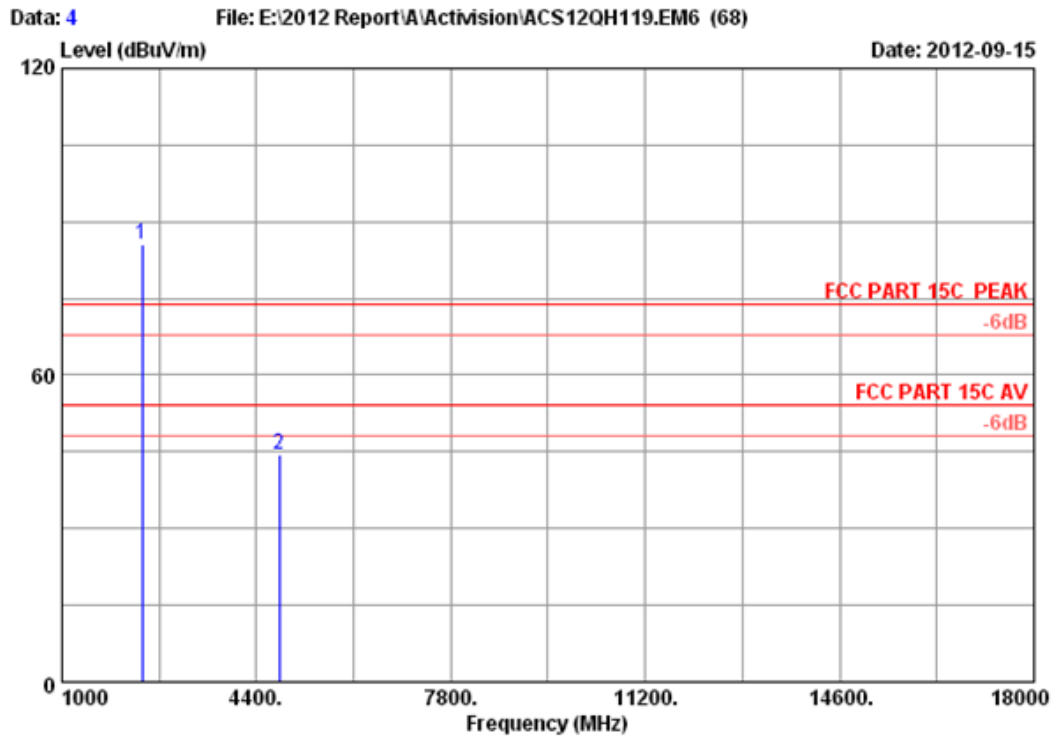
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.000	27.96	6.01	34.44	94.96	94.49	74.00	-20.49	Peak
2	4804.000	32.86	8.52	34.60	45.78	52.56	74.00	21.44	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: GFSK 2402MHz Tx		
M/N	: 84442790		

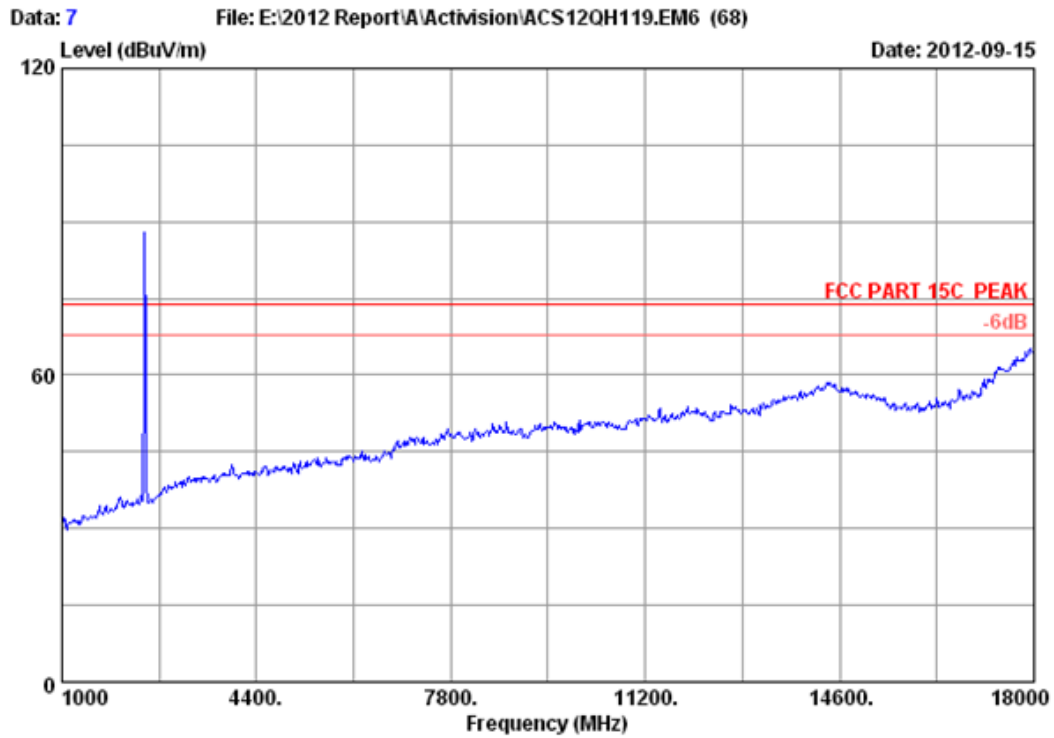


Site no. : 3m Chamber Data no. : 4
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2402MHz Tx
 M/N : 84442790

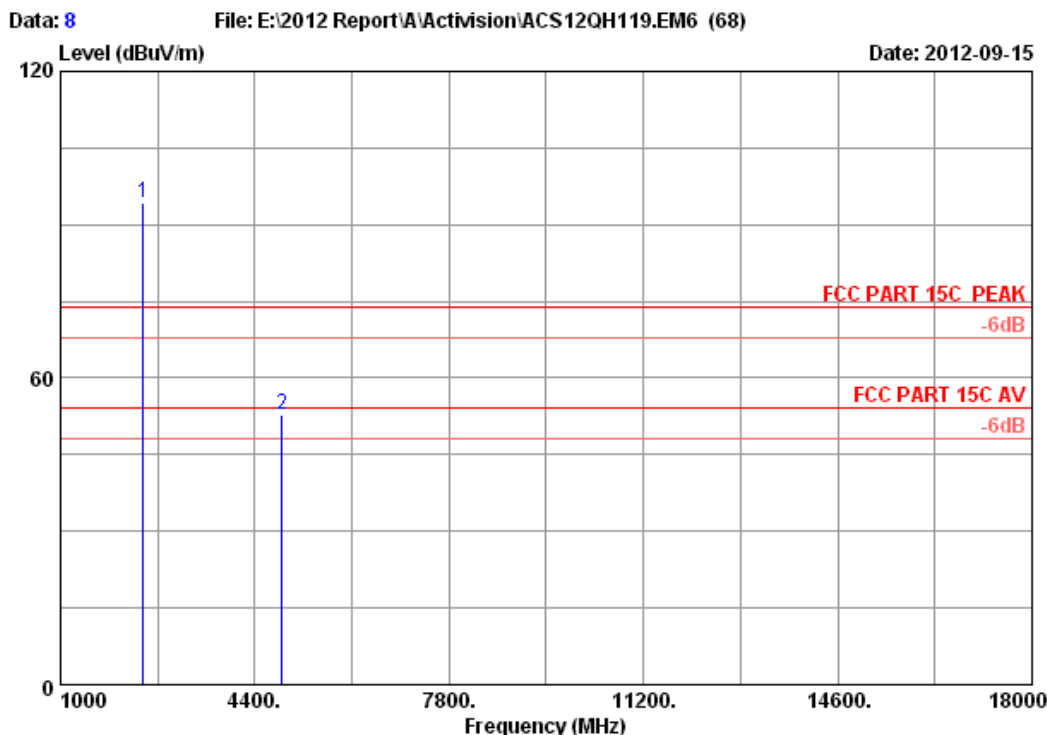
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.000	27.96	6.01	34.44	86.04	85.57	74.00	-11.57	Peak
2	4804.000	32.86	8.52	34.60	37.58	44.36	74.00	29.64	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 7
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: GFSK 2441MHz Tx		
M/N	: 84442790		

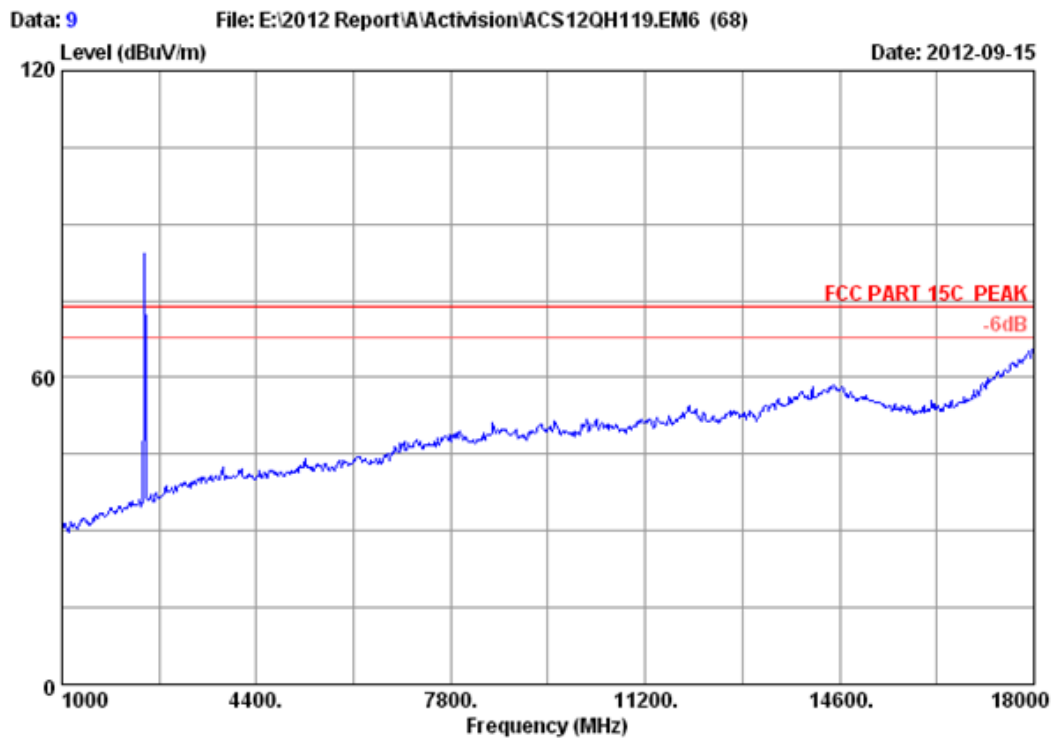


Site no. : 3m Chamber Data no. : 8
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2441MHz Tx
 M/N : 84442790

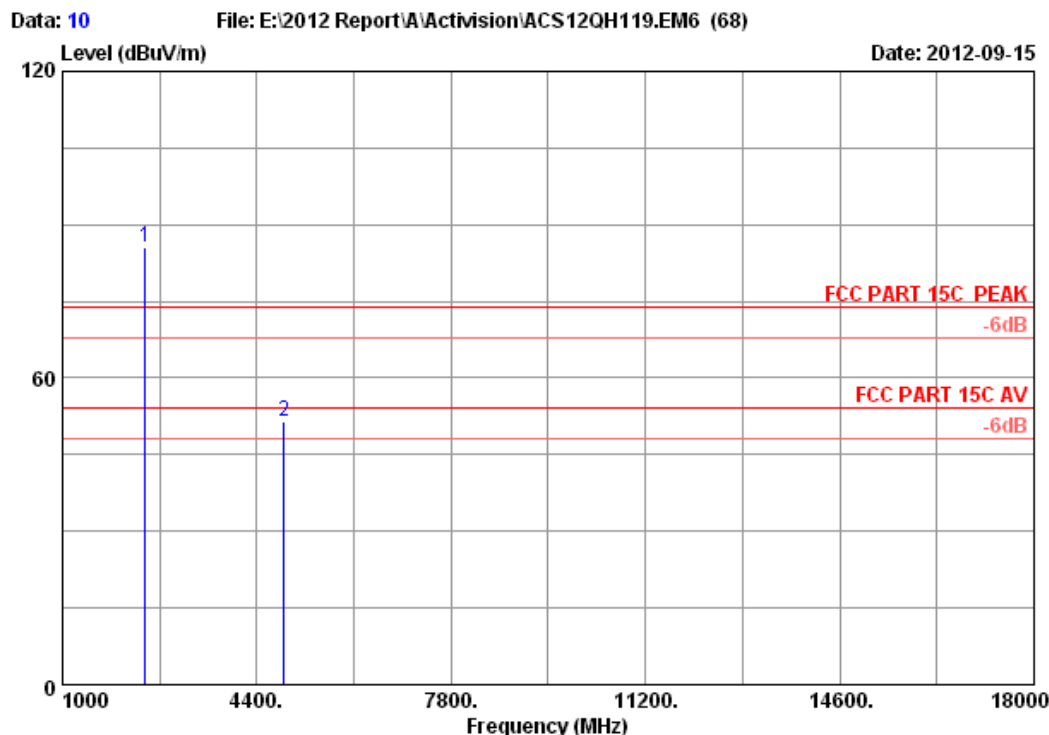
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	28.03	6.09	34.44	94.45	94.13	74.00	-20.13	Peak
2	4882.000	32.98	8.58	34.60	45.98	52.94	74.00	21.06	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 9
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: GFSK 2441MHz Tx		
M/N	: 84442790		

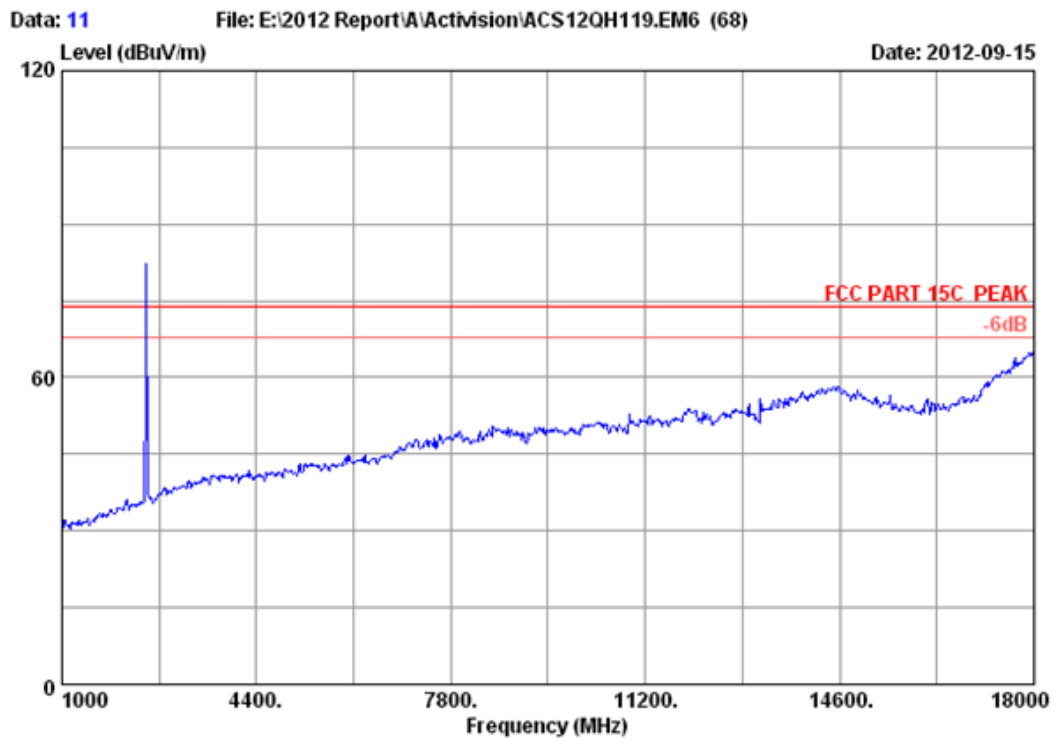


Site no. : 3m Chamber Data no. : 10
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2441MHz Tx
 M/N : 84442790

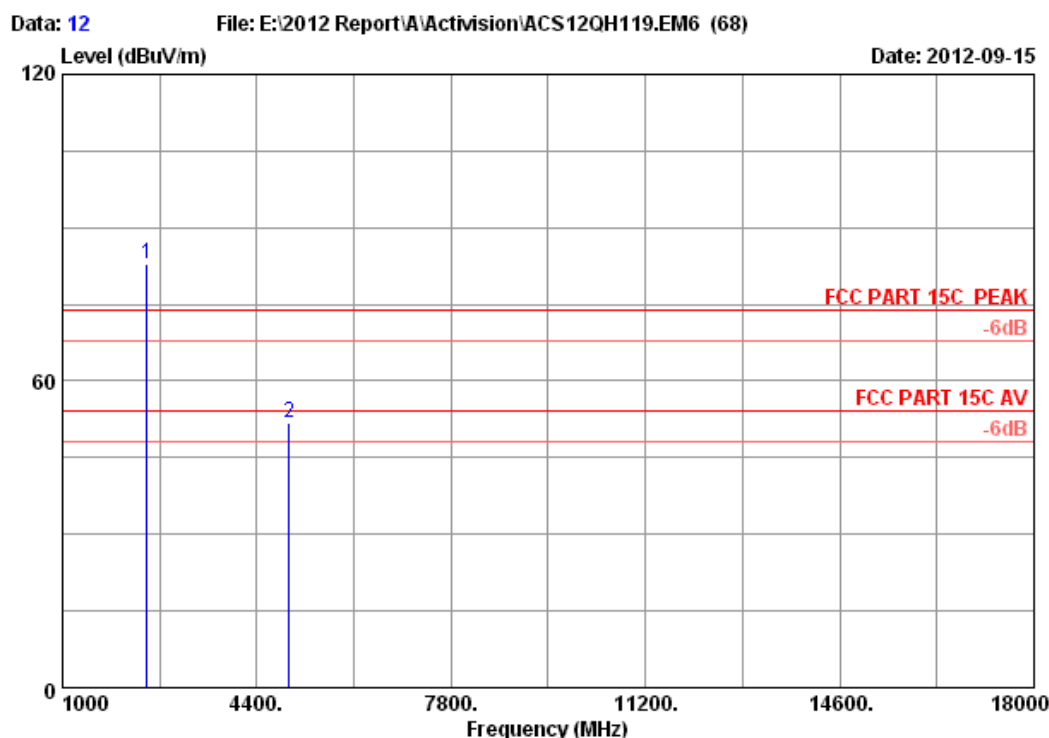
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	28.03	6.09	34.44	86.03	85.71	74.00	-11.71	Peak
2	4882.000	32.98	8.58	34.60	44.67	51.63	74.00	22.37	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 11
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: GFSK 2480MHz Tx		
M/N	: 84442790		

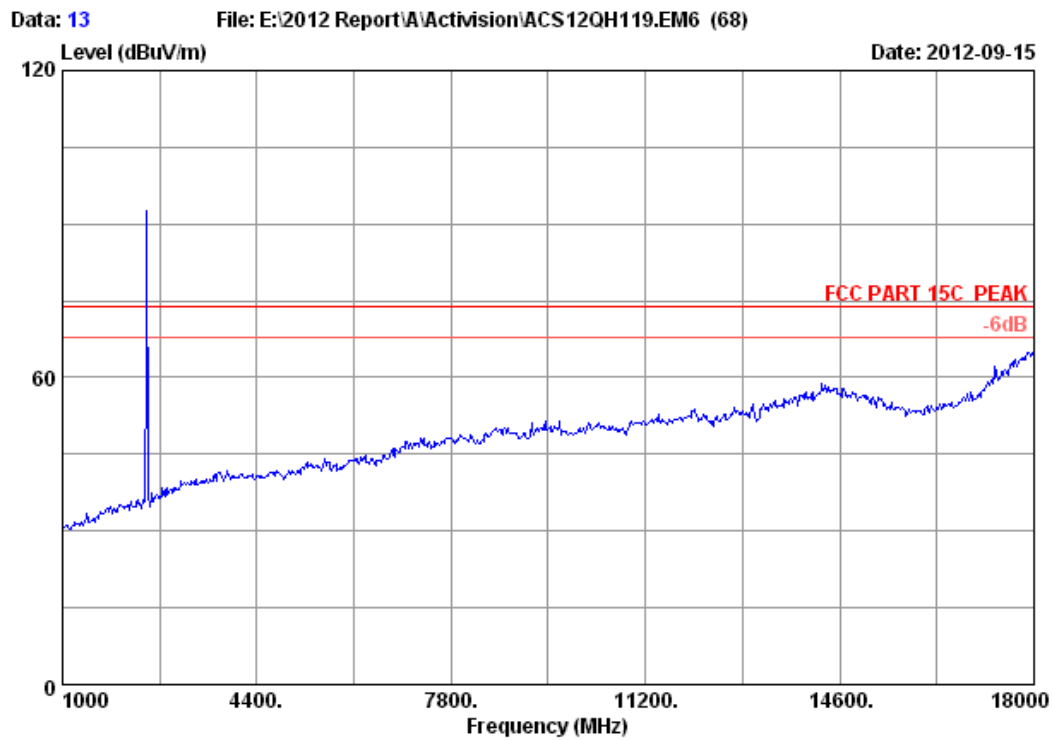


Site no. : 3m Chamber Data no. : 12
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2480MHz Tx
 M/N : 84442790

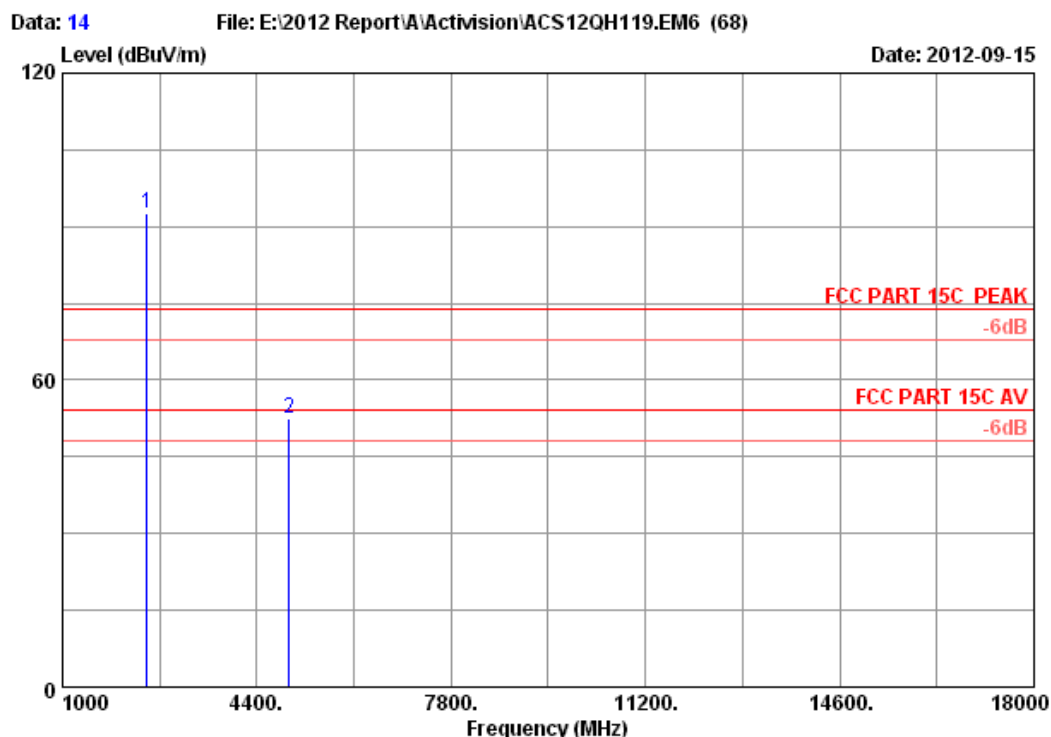
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.000	28.08	6.15	34.45	83.09	82.87	74.00	-8.87	Peak
2	4960.000	33.14	8.65	34.60	44.76	51.95	74.00	22.05	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 13
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: GFSK 2480MHz Tx		
M/N	: 84442790		

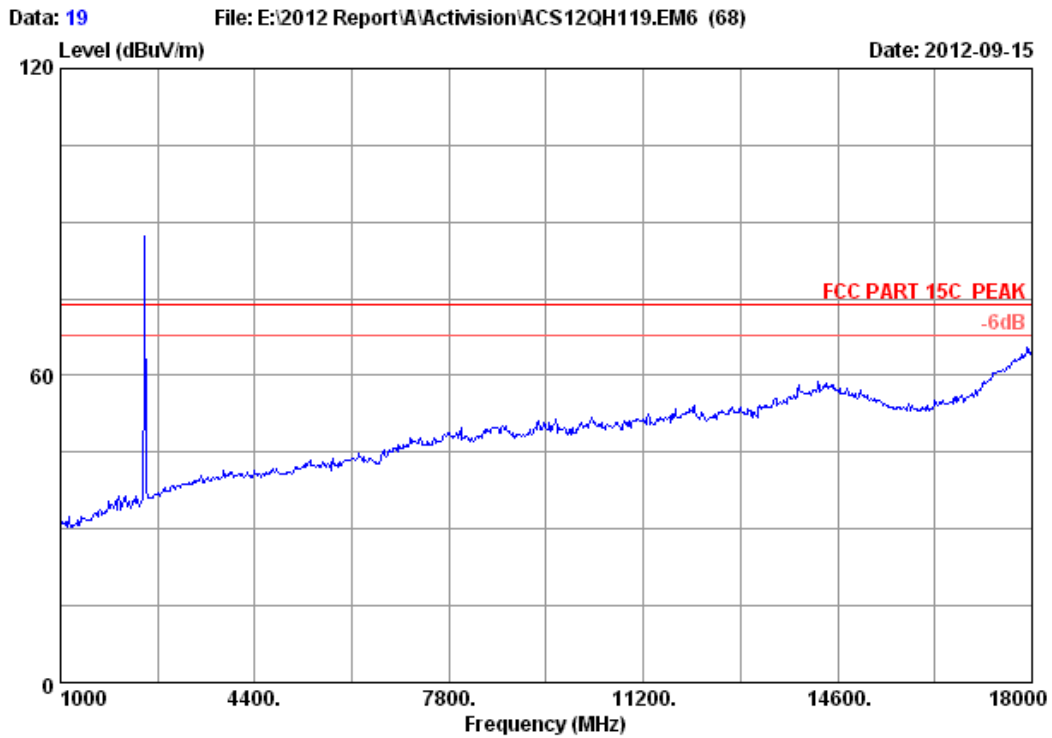


Site no. : 3m Chamber Data no. : 14
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2480MHz Tx
 M/N : 84442790

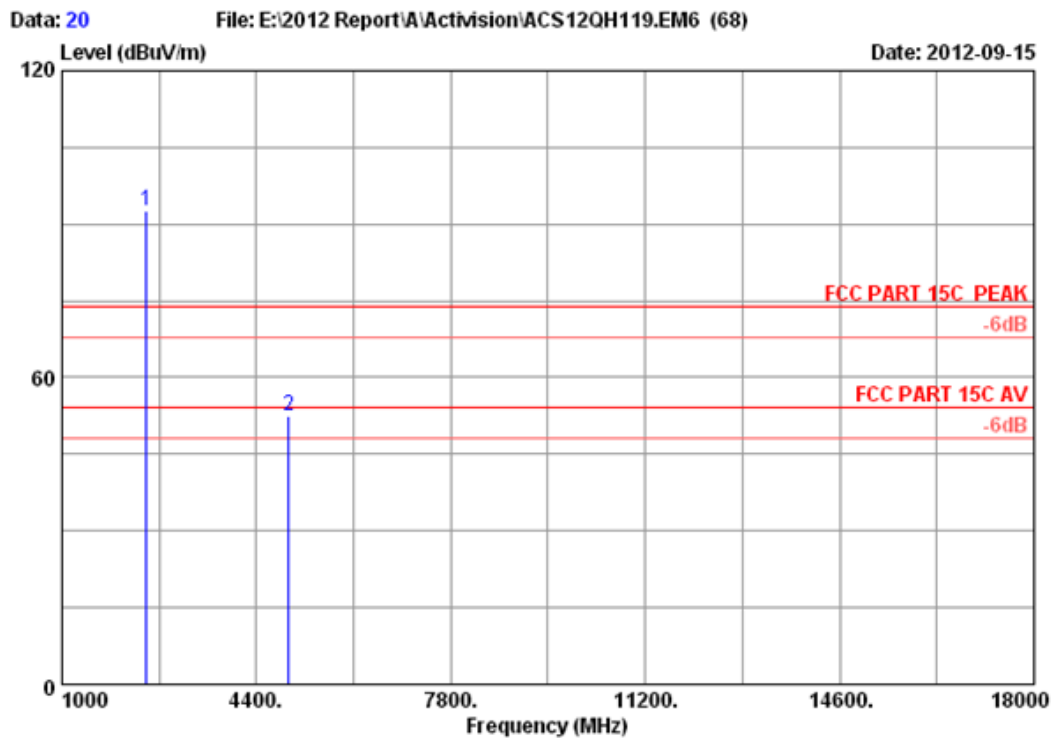
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.000	28.08	6.15	34.45	92.82	92.60	74.00	-18.60	Peak
2	4960.000	33.14	8.65	34.60	45.38	52.57	74.00	21.43	Peak

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber	Data no.	: 19
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: 8-DPSK 2480MHz Tx		
M/N	: 84442790		

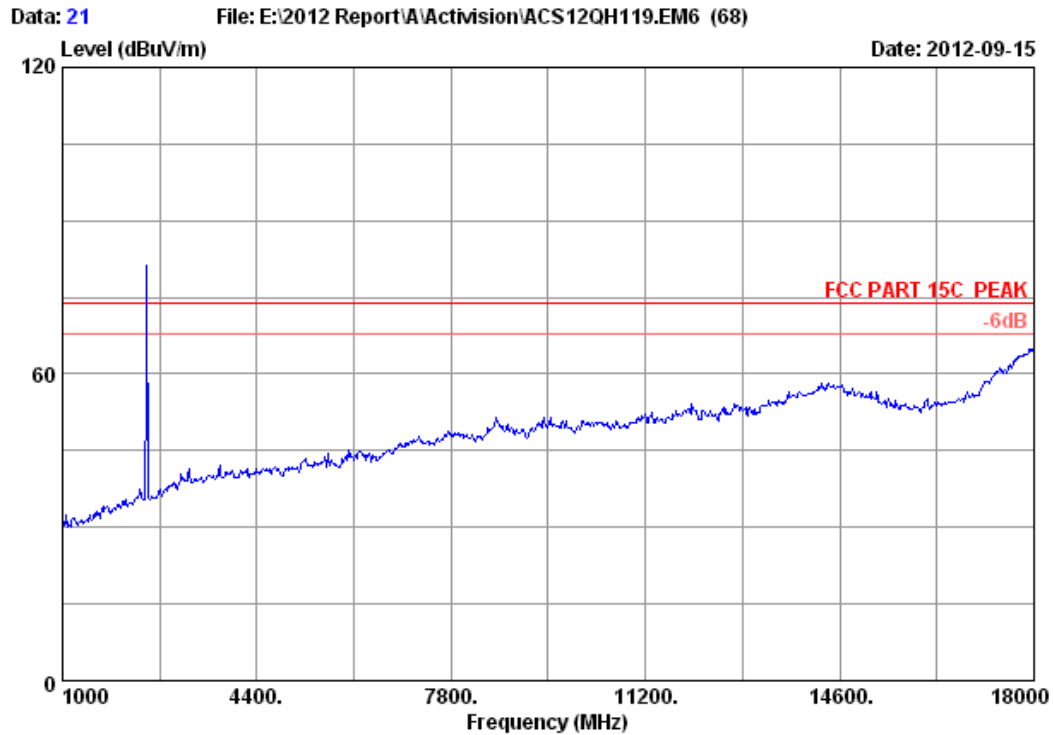


Site no. : 3m Chamber Data no. : 20
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2480MHz Tx
 M/N : 84442790

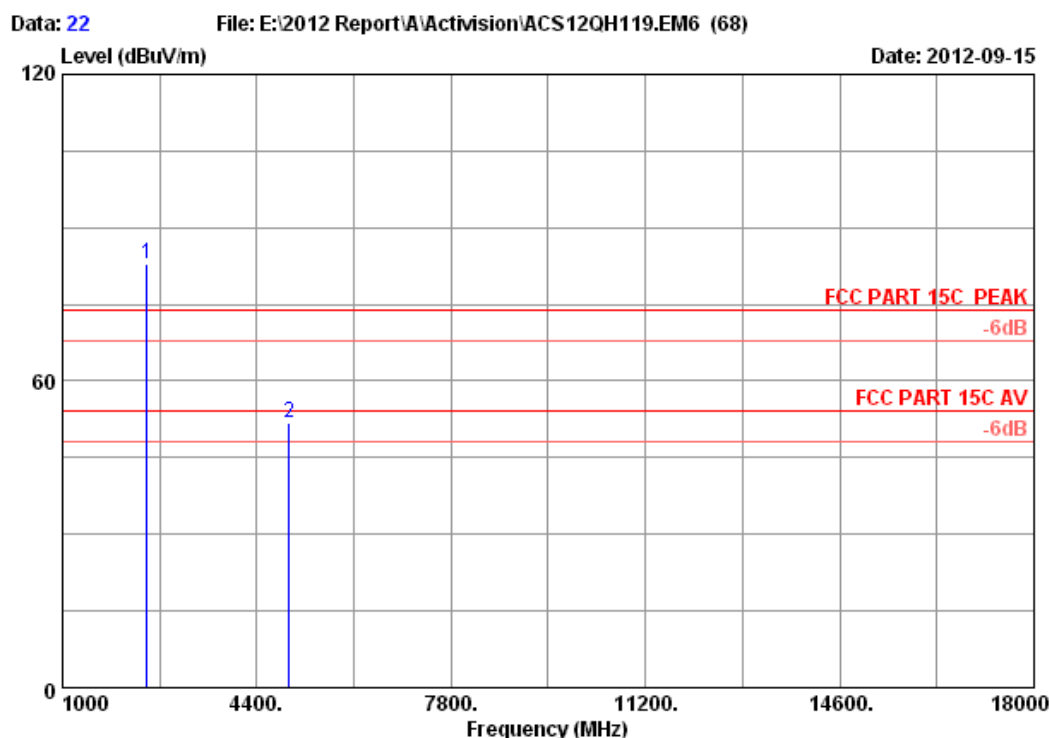
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.000	28.08	6.15	34.45	92.76	92.54	74.00	-18.54	Peak
2	4960.000	33.14	8.65	34.60	45.27	52.46	74.00	21.54	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 21
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: 8-DPSK 2480MHz Tx		
M/N	: 84442790		

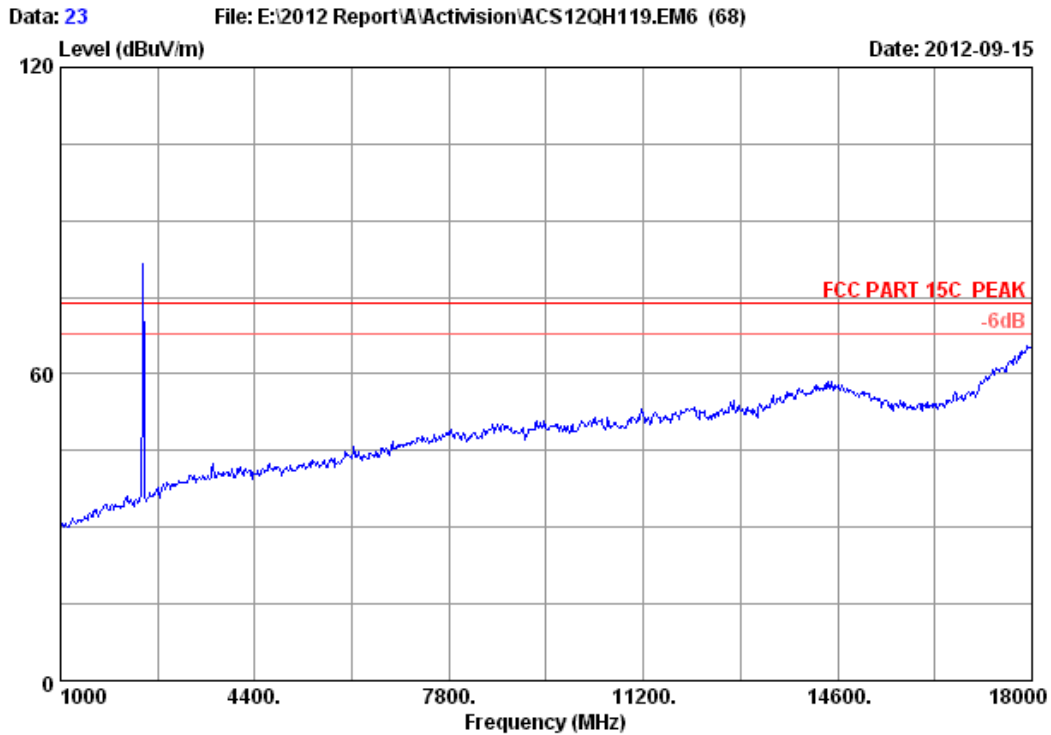


Site no. : 3m Chamber Data no. : 22
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2480MHz Tx
 M/N : 84442790

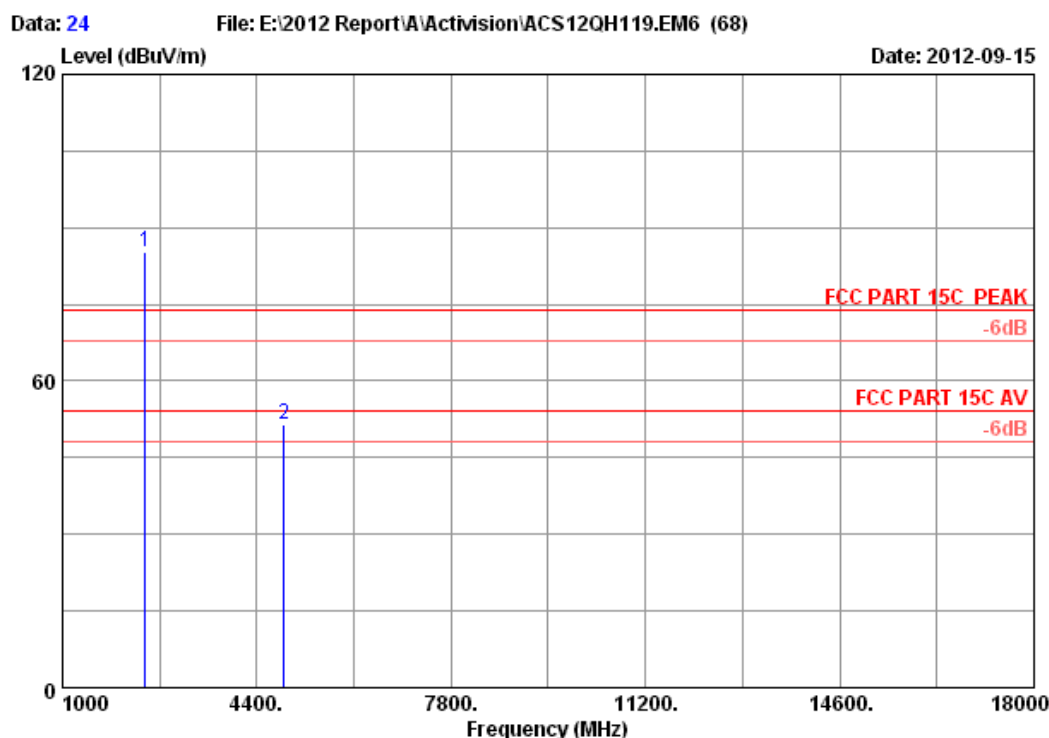
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2480.000	28.08	6.15	34.45	83.12	82.90	74.00	-8.90	Peak
2	4960.000	33.14	8.65	34.60	44.56	51.75	74.00	22.25	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 23
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: 8-DPSK 2441MHz Tx		
M/N	: 84442790		

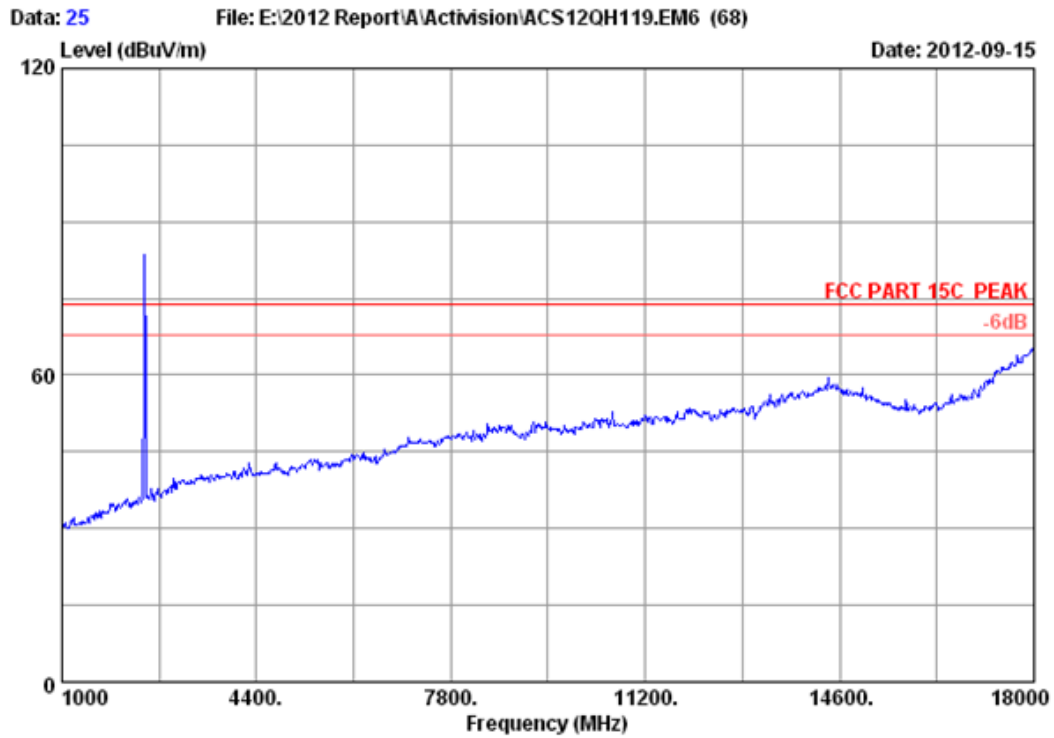


Site no. : 3m Chamber Data no. : 24
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2441MHz Tx
 M/N : 84442790

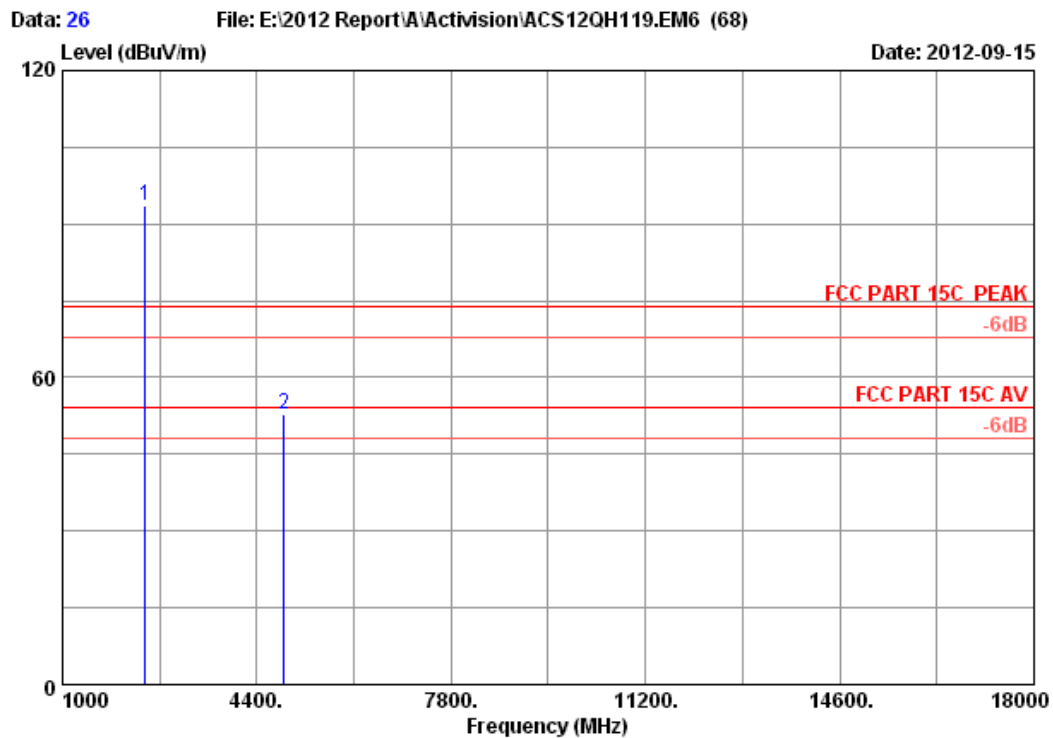
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	28.03	6.09	34.44	85.50	85.18	74.00	-11.18	Peak
2	4882.000	32.98	8.58	34.60	44.39	51.35	74.00	22.65	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 25
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: 8-DPSK 2441MHz Tx		
M/N	: 84442790		

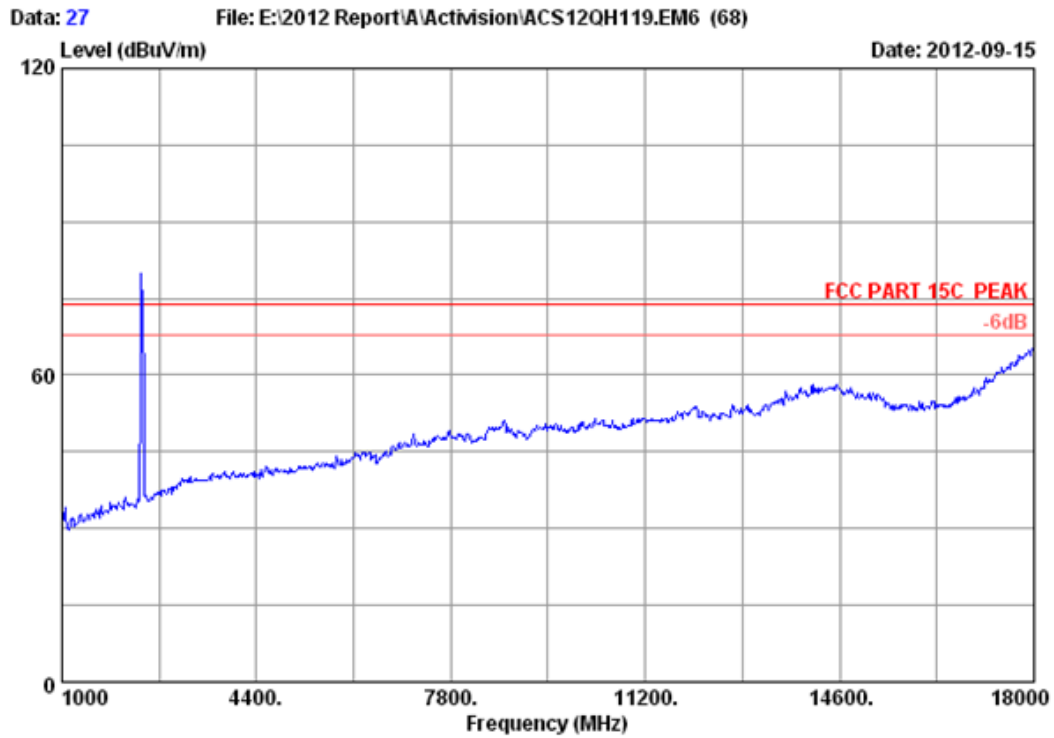


Site no. : 3m Chamber Data no. : 26
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2441MHz Tx
 M/N : 84442790

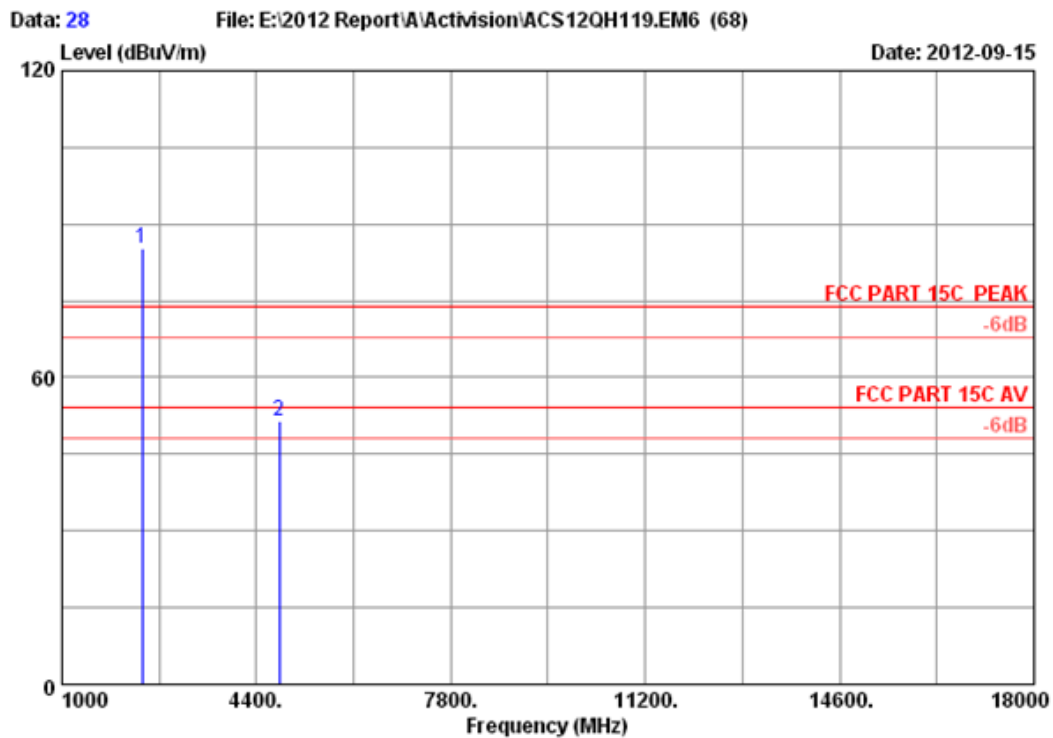
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	28.03	6.09	34.44	94.03	93.71	74.00	-19.71	Peak
2	4882.000	32.98	8.58	34.60	45.82	52.78	74.00	21.22	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 27
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: 8-DPSK 2402MHz Tx		
M/N	: 84442790		

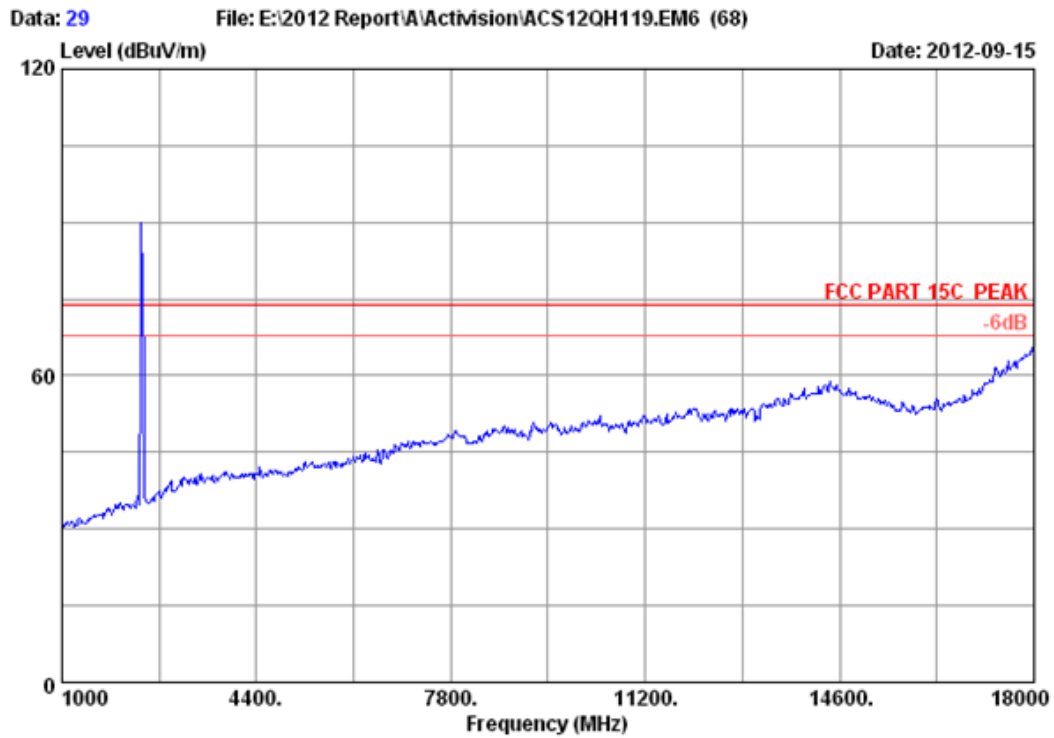


Site no. : 3m Chamber Data no. : 28
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2402MHz Tx
 M/N : 84442790

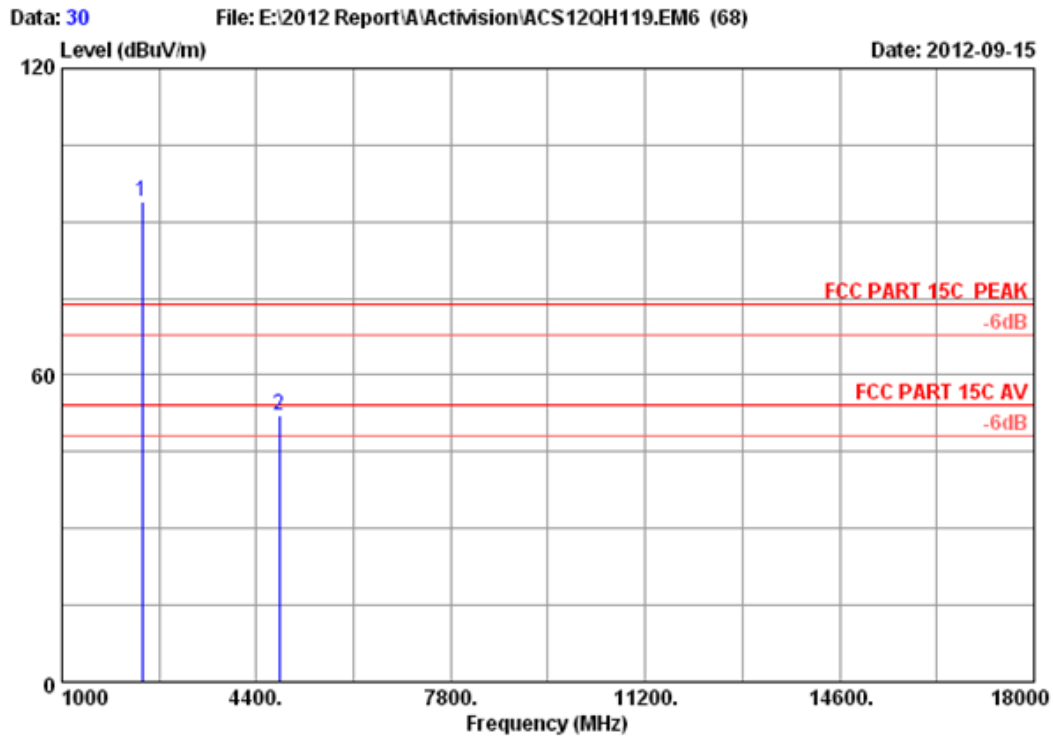
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.000	27.96	6.01	34.44	85.68	85.21	74.00	-11.21	Peak
2	4804.000	32.86	8.52	34.60	44.56	51.34	74.00	22.66	Peak

Remarks:

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



Site no.	: 3m Chamber	Data no.	: 29
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Leo-Li
EUT	: Bluetooth Portal of Power		
Power supply	: DC 4.5V		
Test mode	: 8-DPSK 2402MHz Tx		
M/N	: 84442790		



Site no. : 3m Chamber Data no. : 30
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2402MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.000	27.96	6.01	34.44	94.53	94.06	74.00	-20.06	Peak
2	4804.000	32.86	8.52	34.60	45.21	51.99	74.00	22.01	Peak

Remarks:

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

5. CONDUCTED SPURIOUS EMISSIONS

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 12	1 Year
2.	Antenna	EMCO	3115	9510-4580	May.31, 12	1Year
3.	Hum Chamber	TERCHY	MHQ-120CLUB	A60223	May.08, 12	1Year

5.2. Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum 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.

5.3. Test Procedure

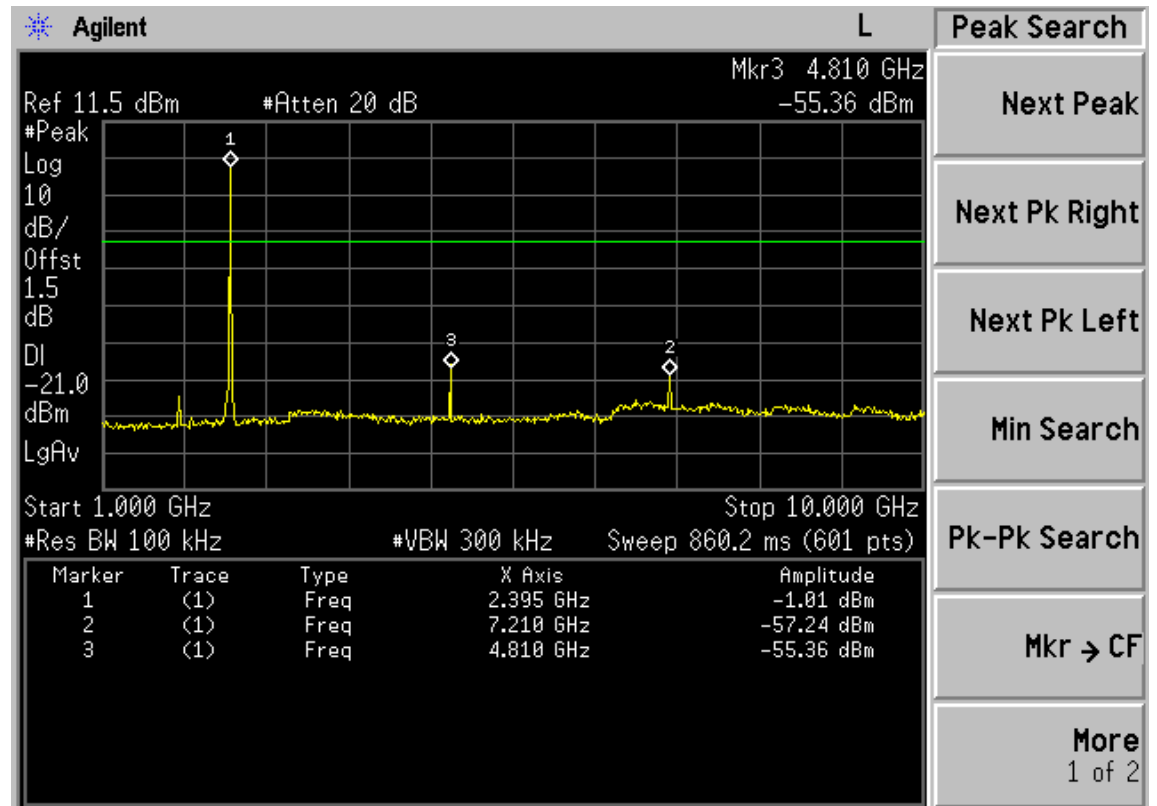
The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions detected.

5.4. Test result

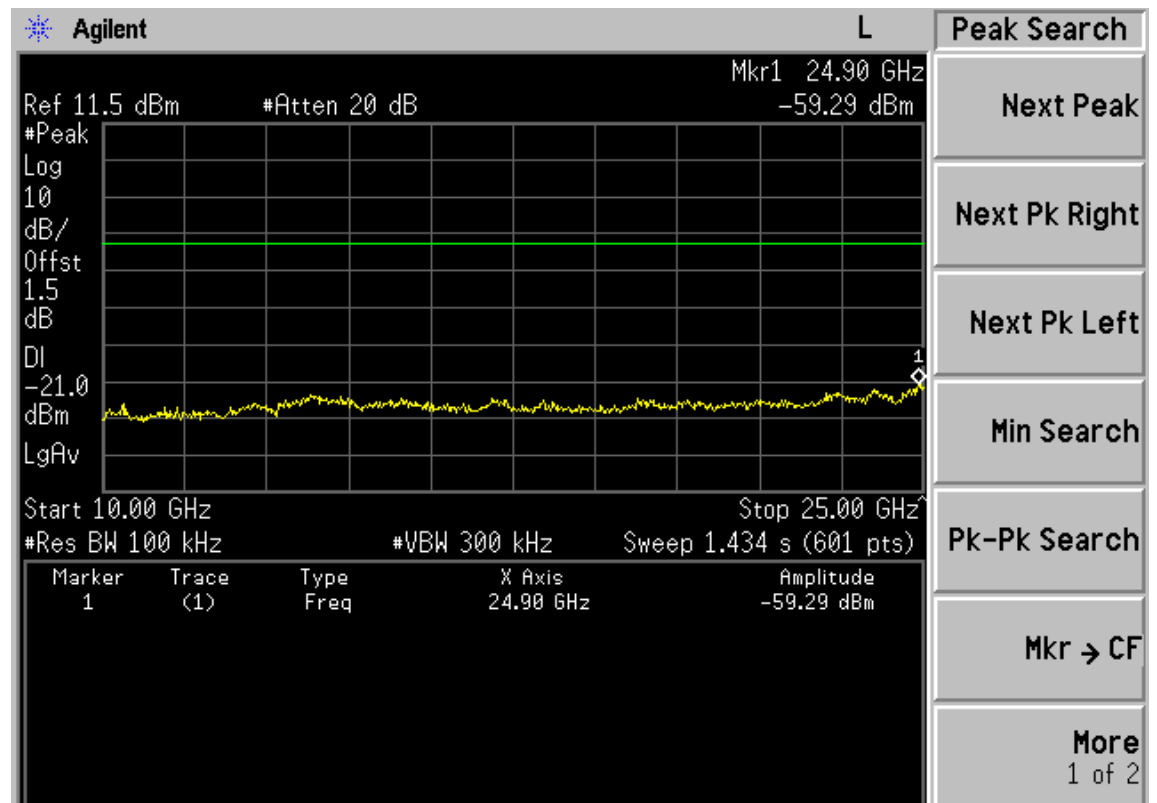
PASS (The testing data was attached in the next pages.)

GFSK

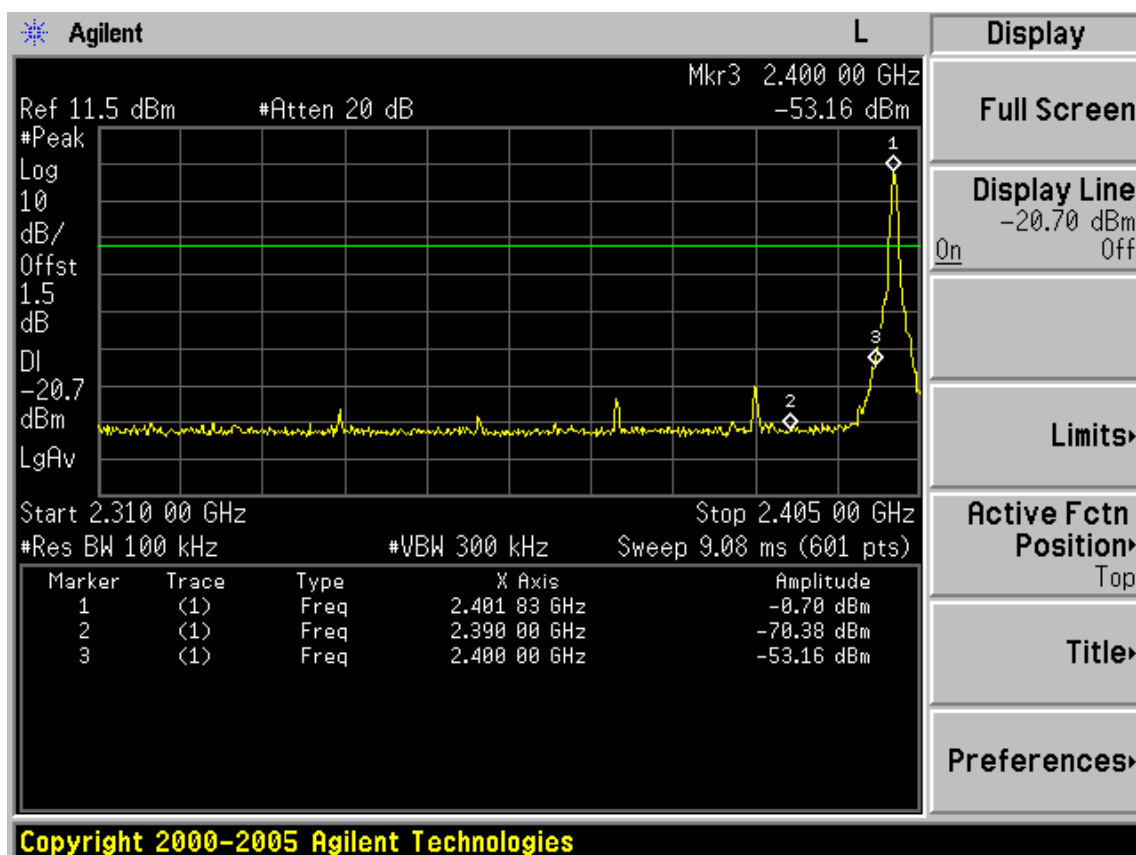
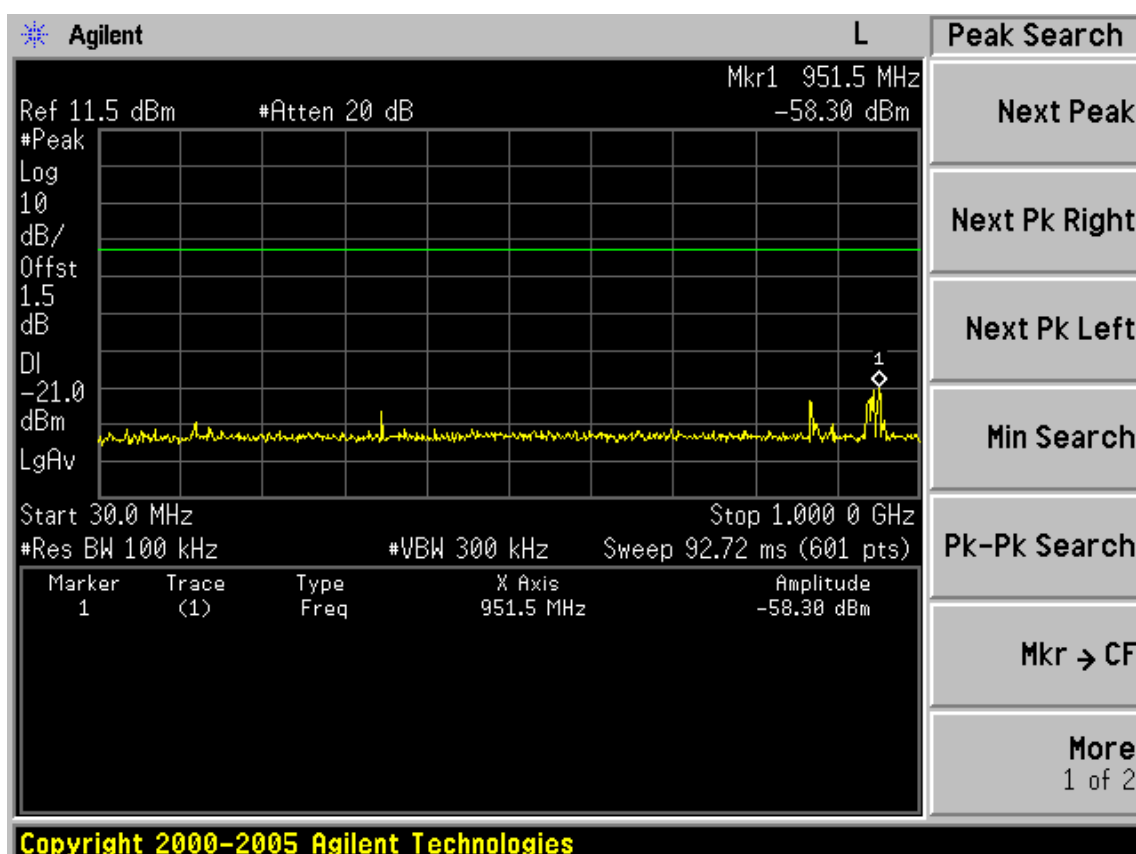
2402MHz



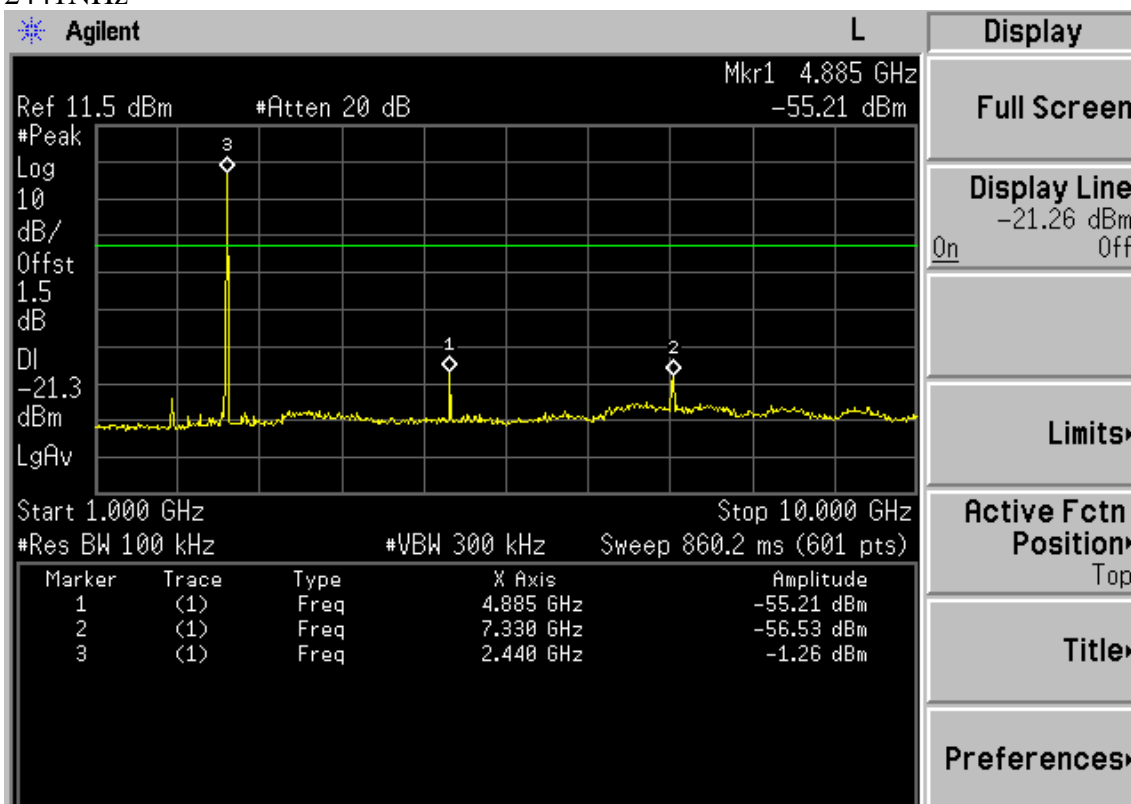
Copyright 2000-2005 Agilent Technologies



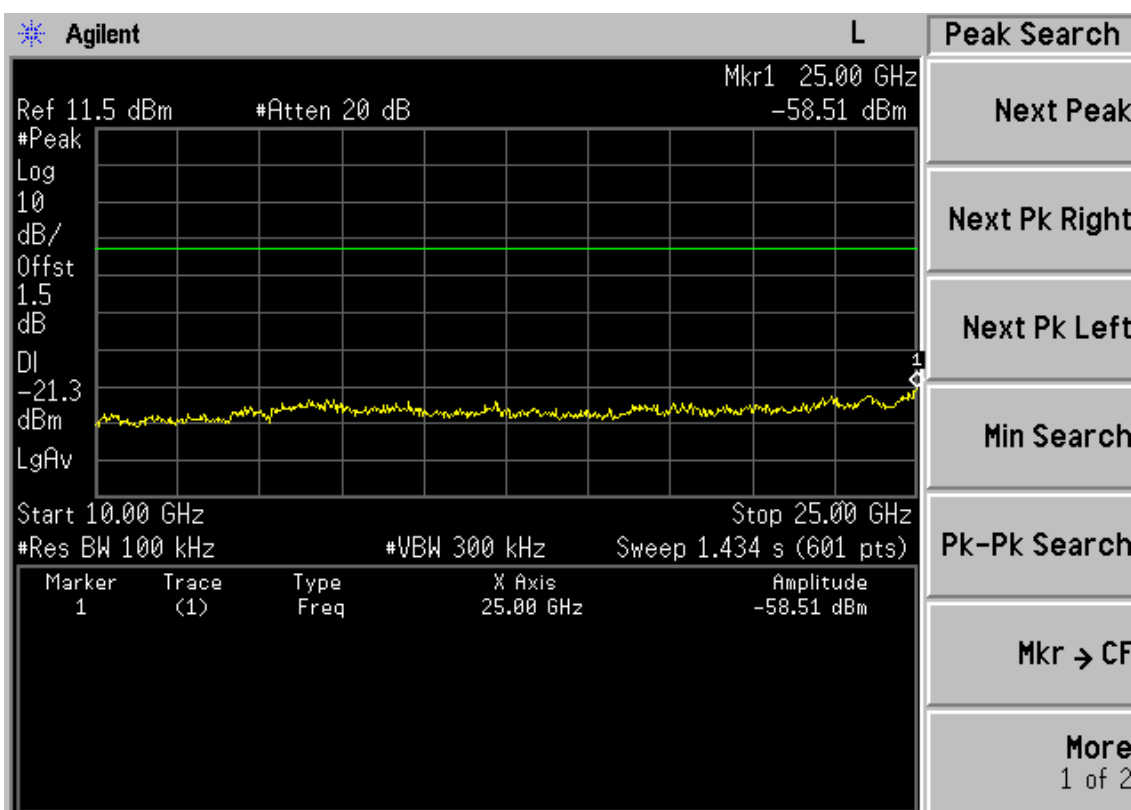
Copyright 2000-2005 Agilent Technologies



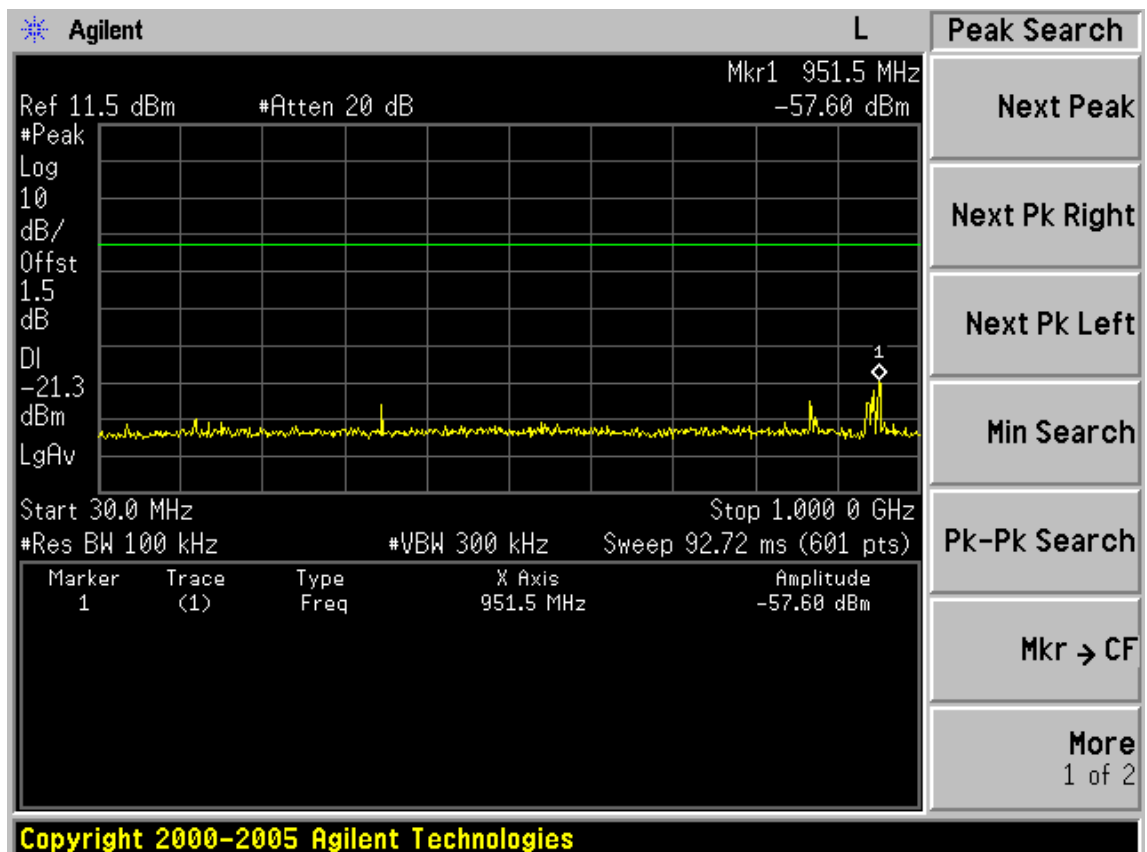
2441NHZ



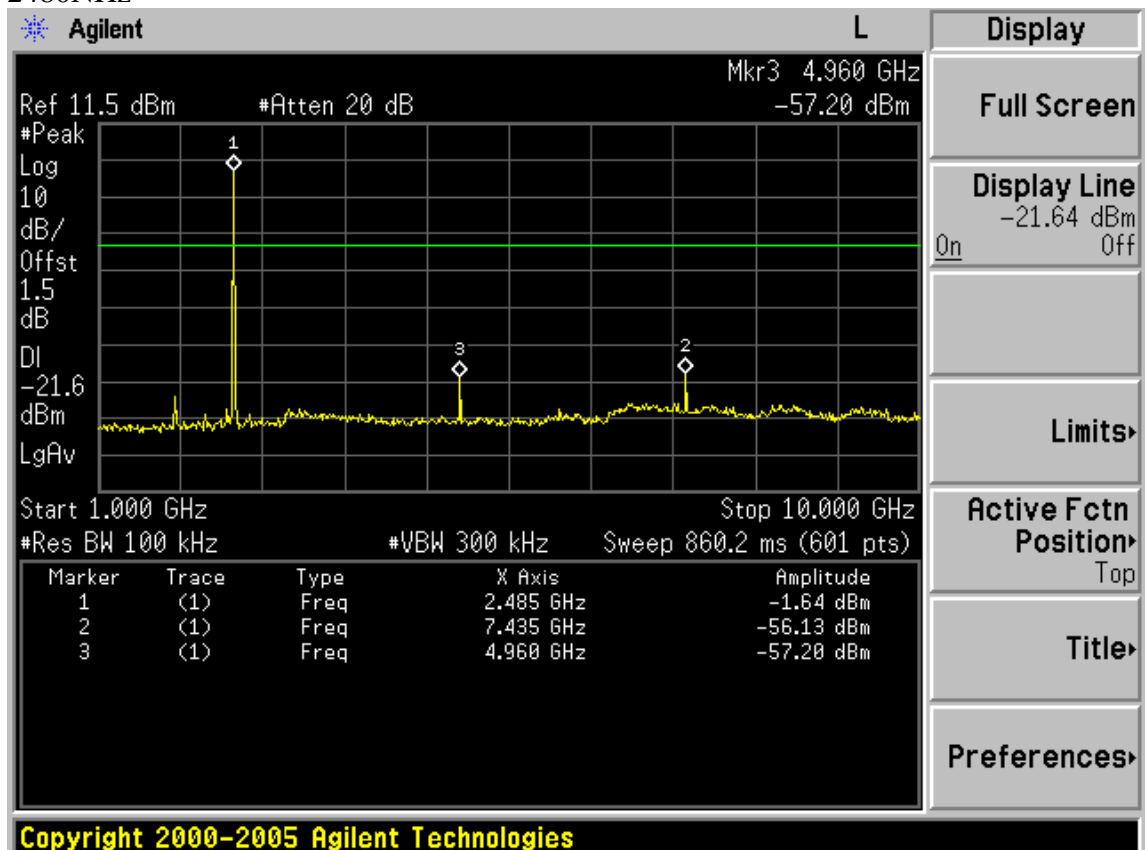
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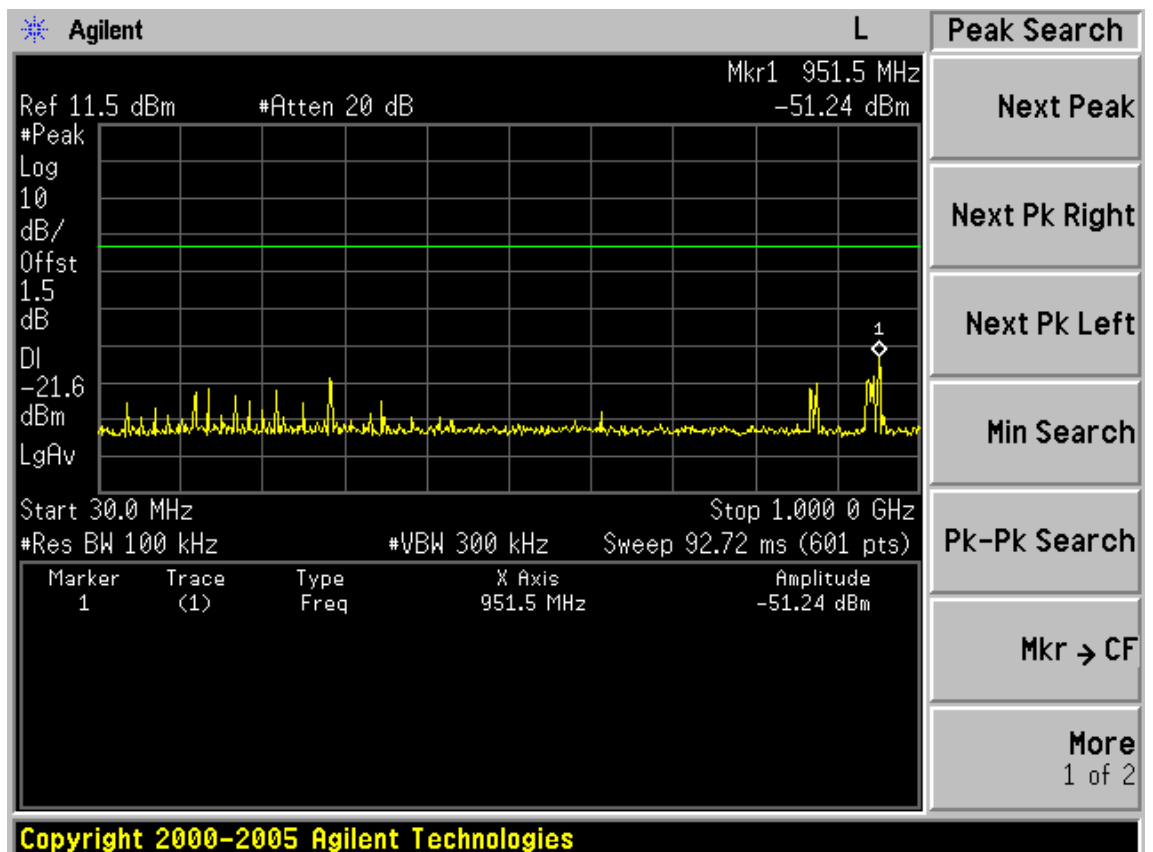
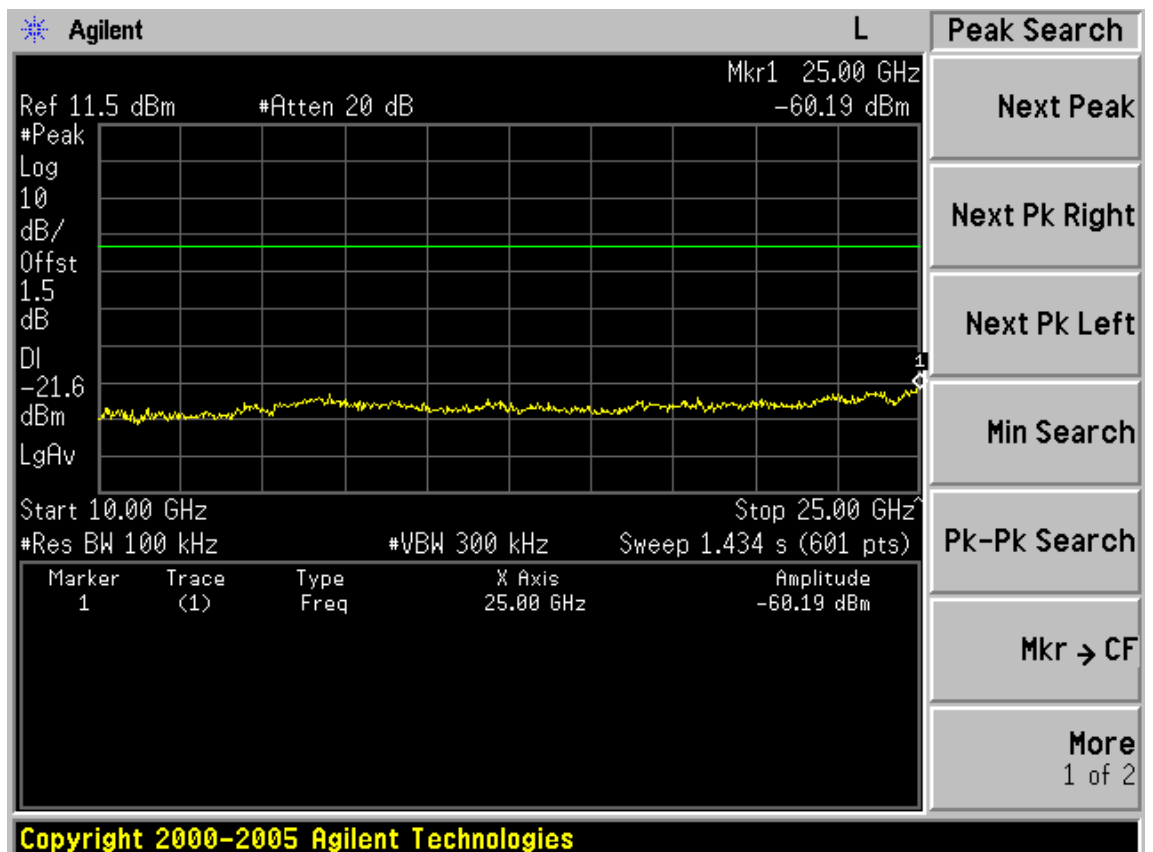


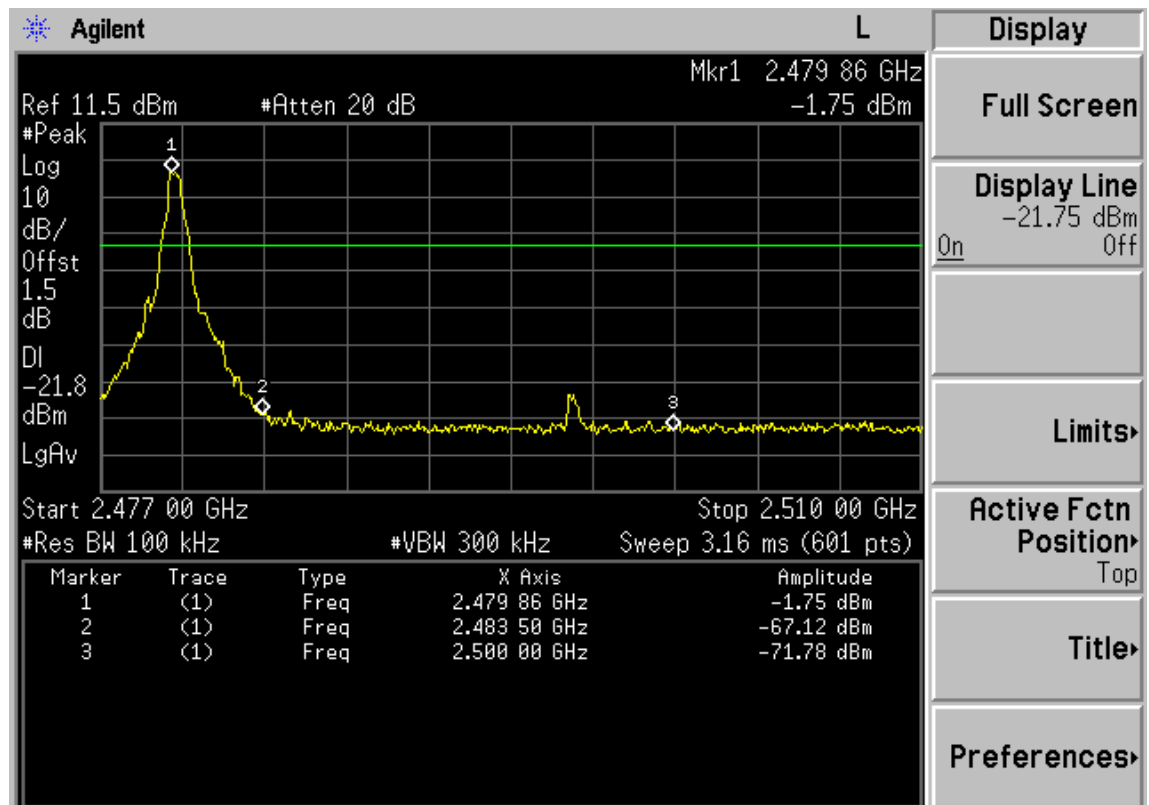
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2480MHz



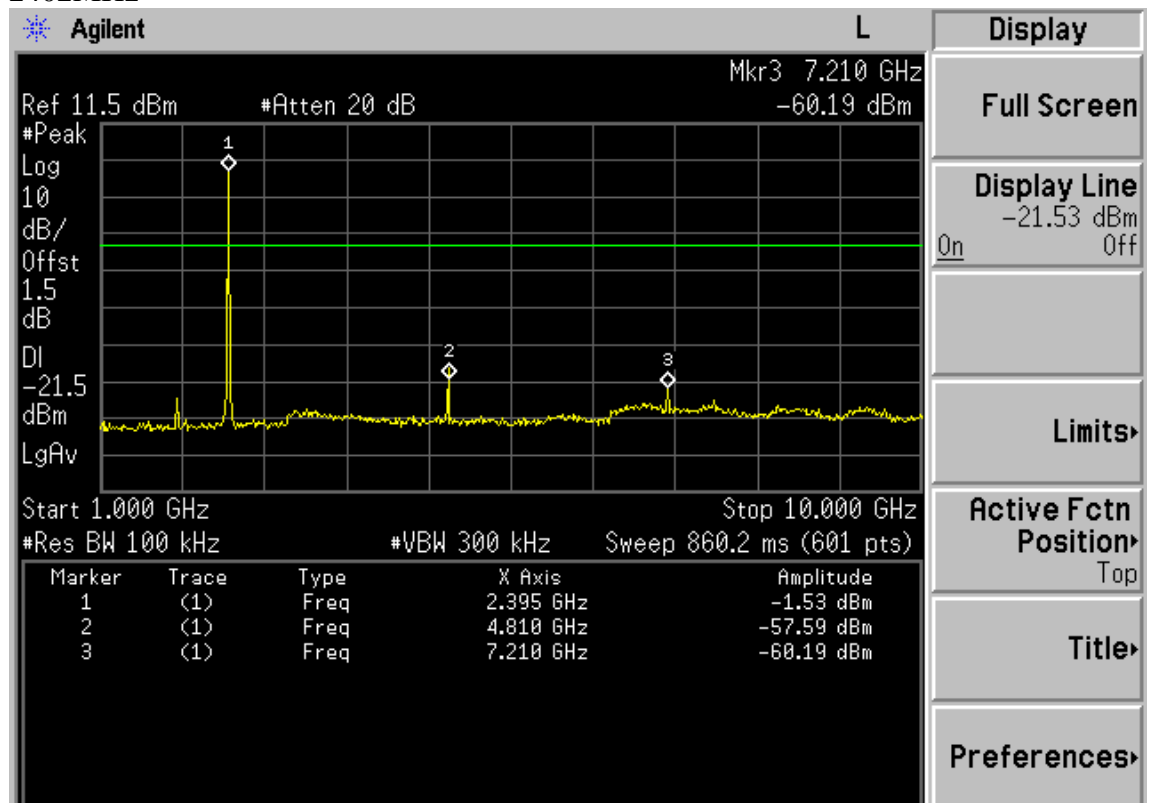




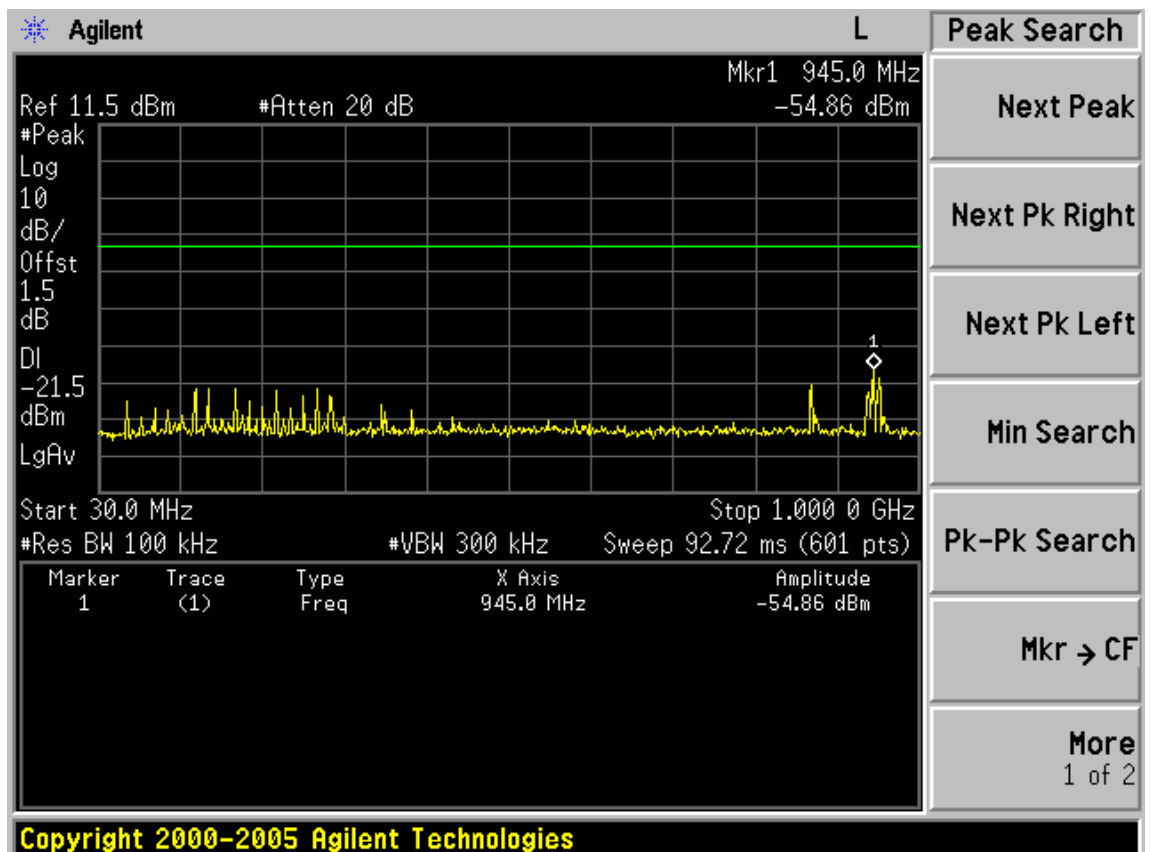
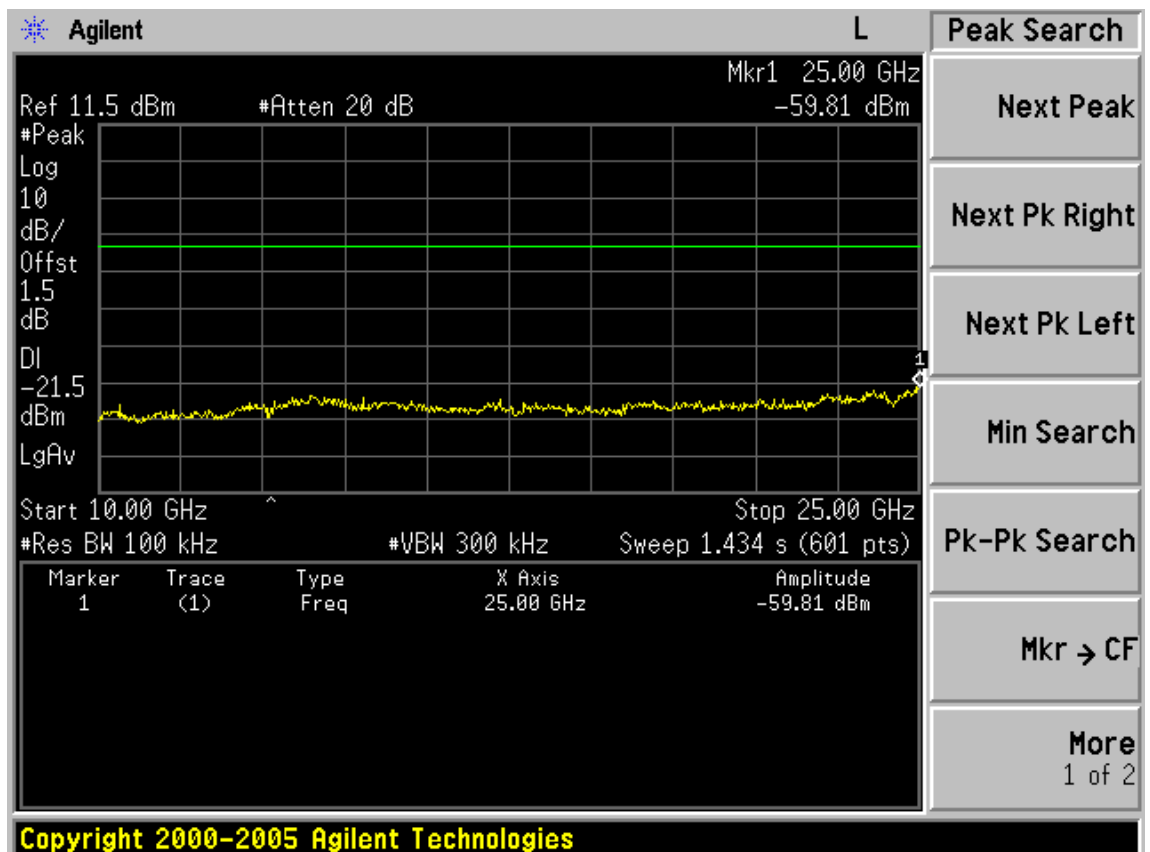
Copyright 2000-2005 Agilent Technologies

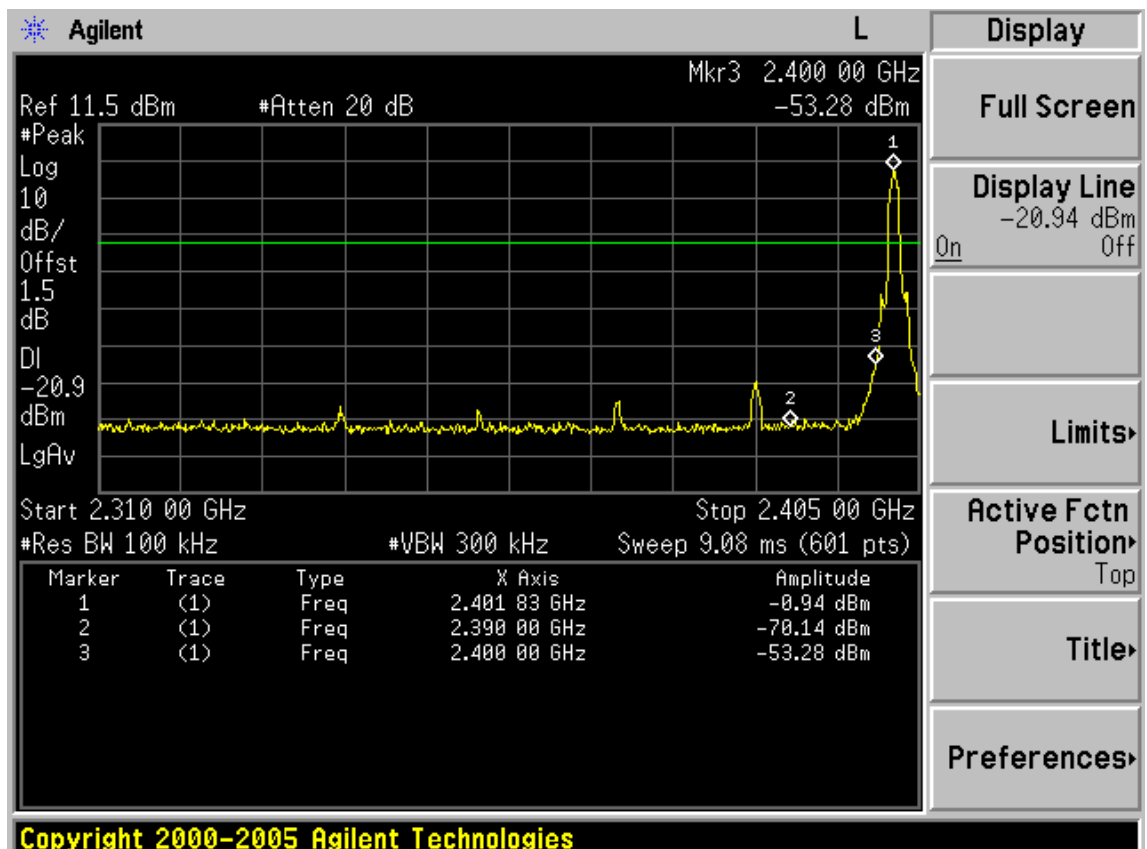
8DPSK

2402MHz

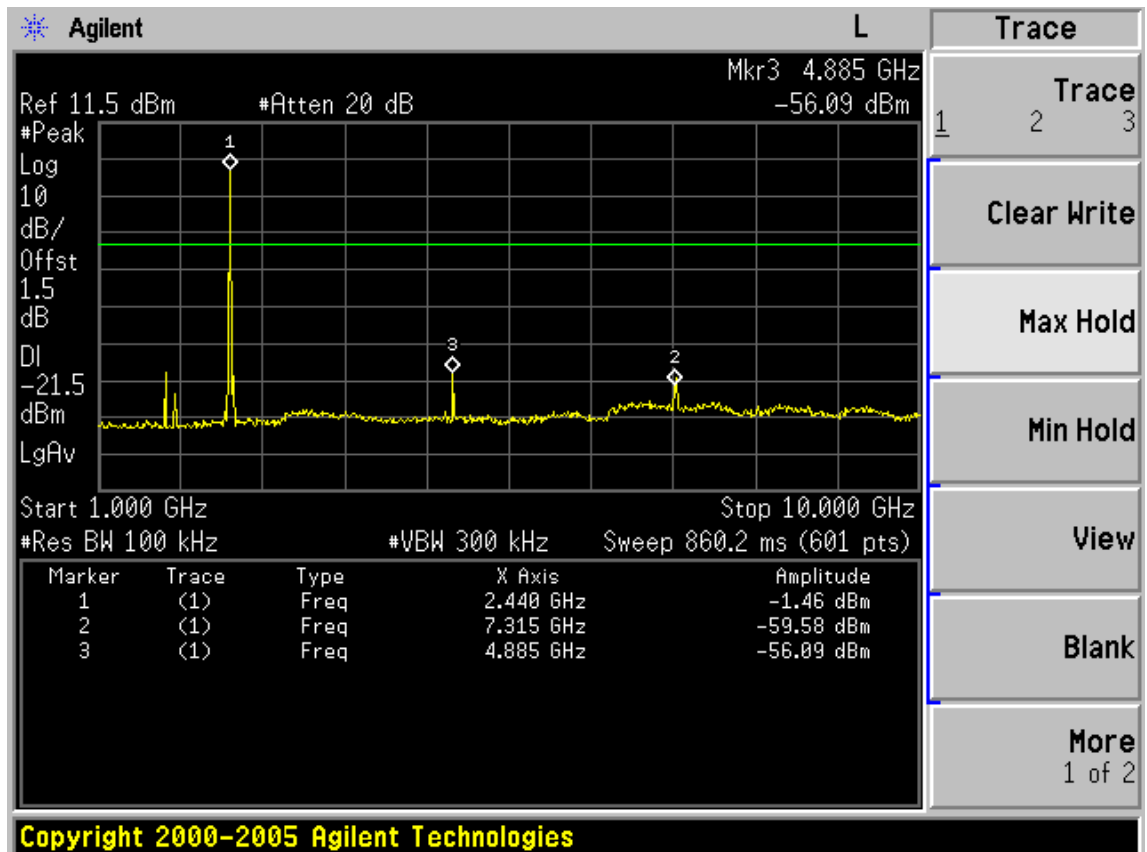


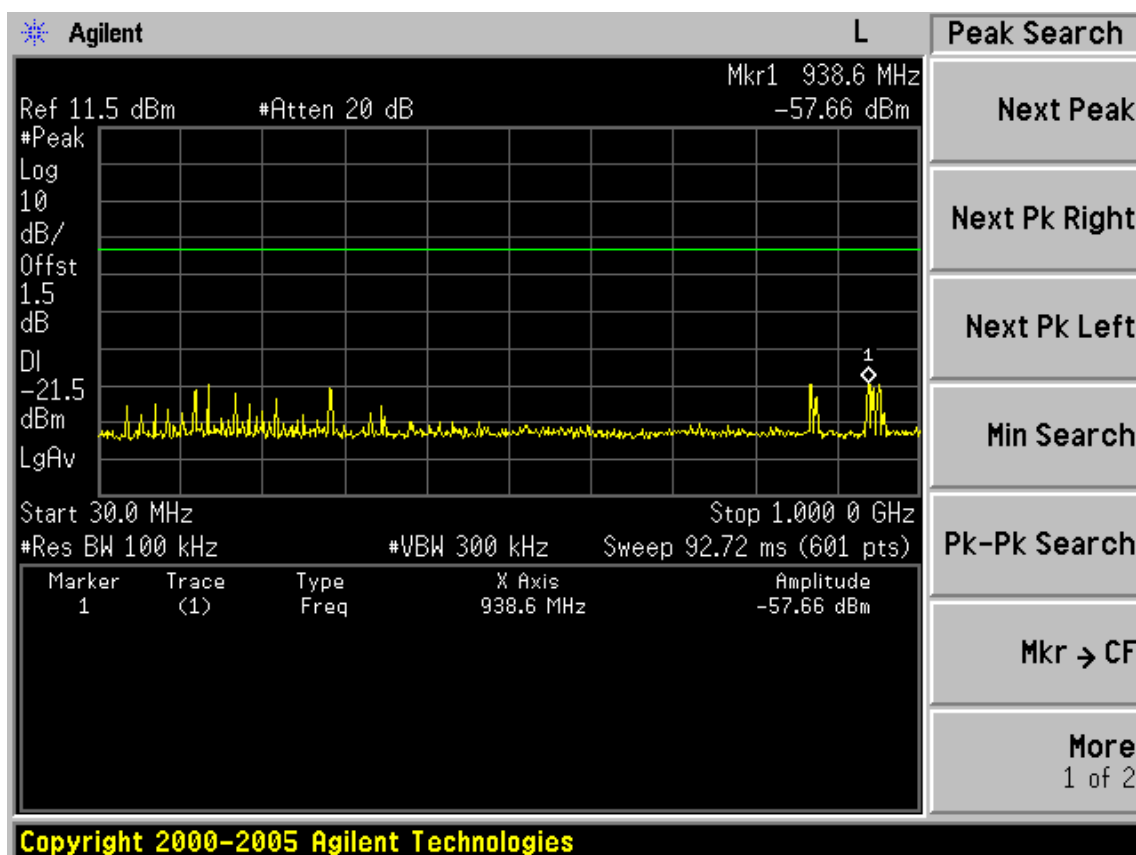
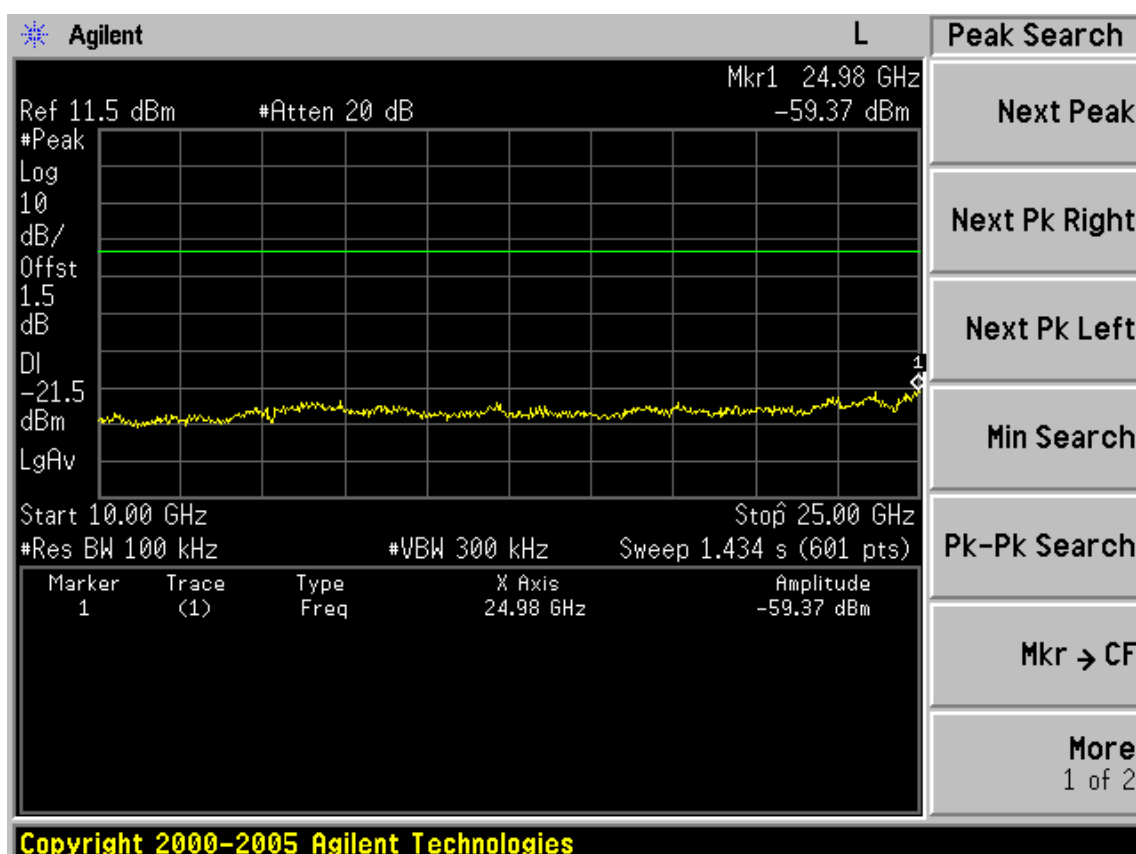
Copyright 2000-2005 Agilent Technologies



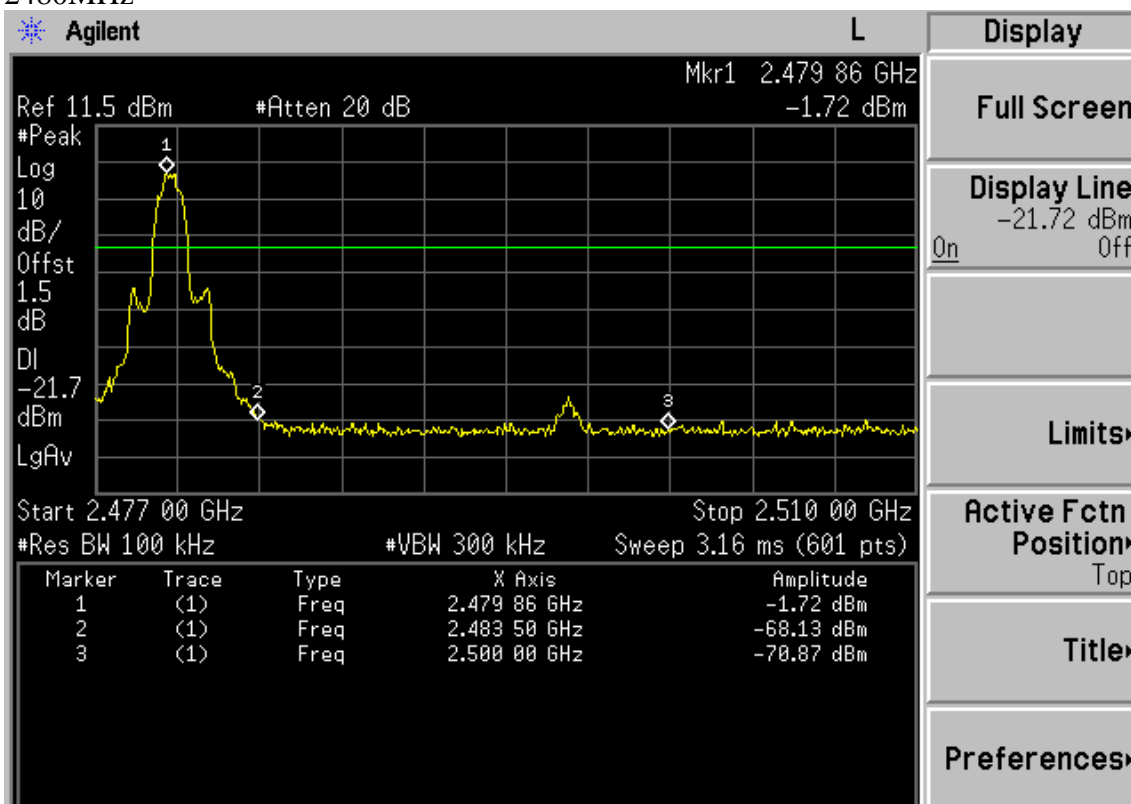


2441MHz

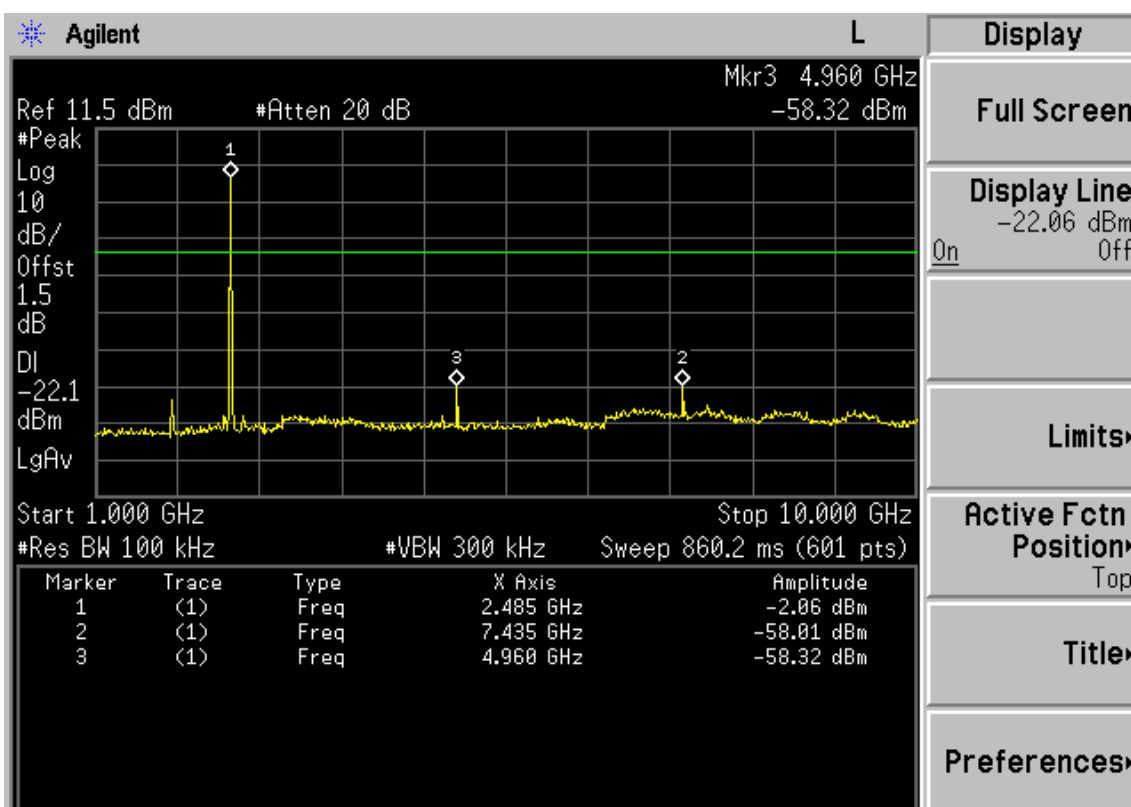




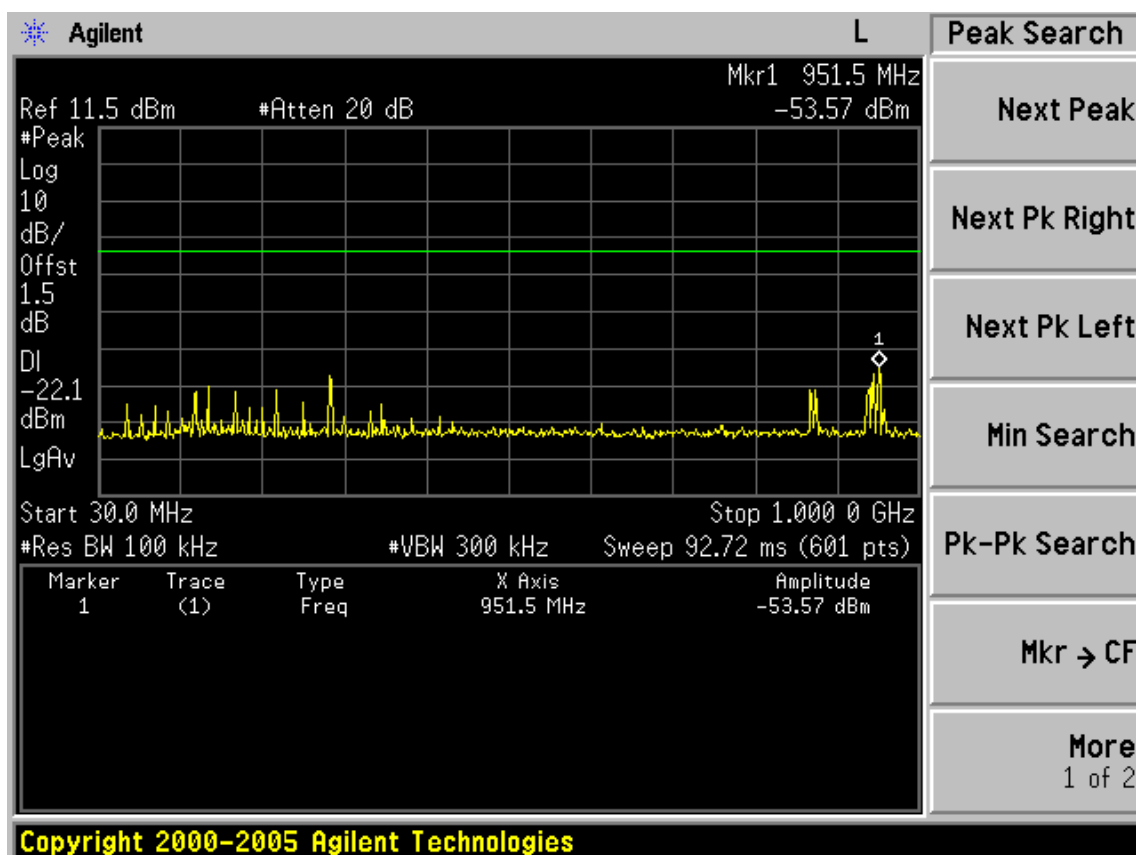
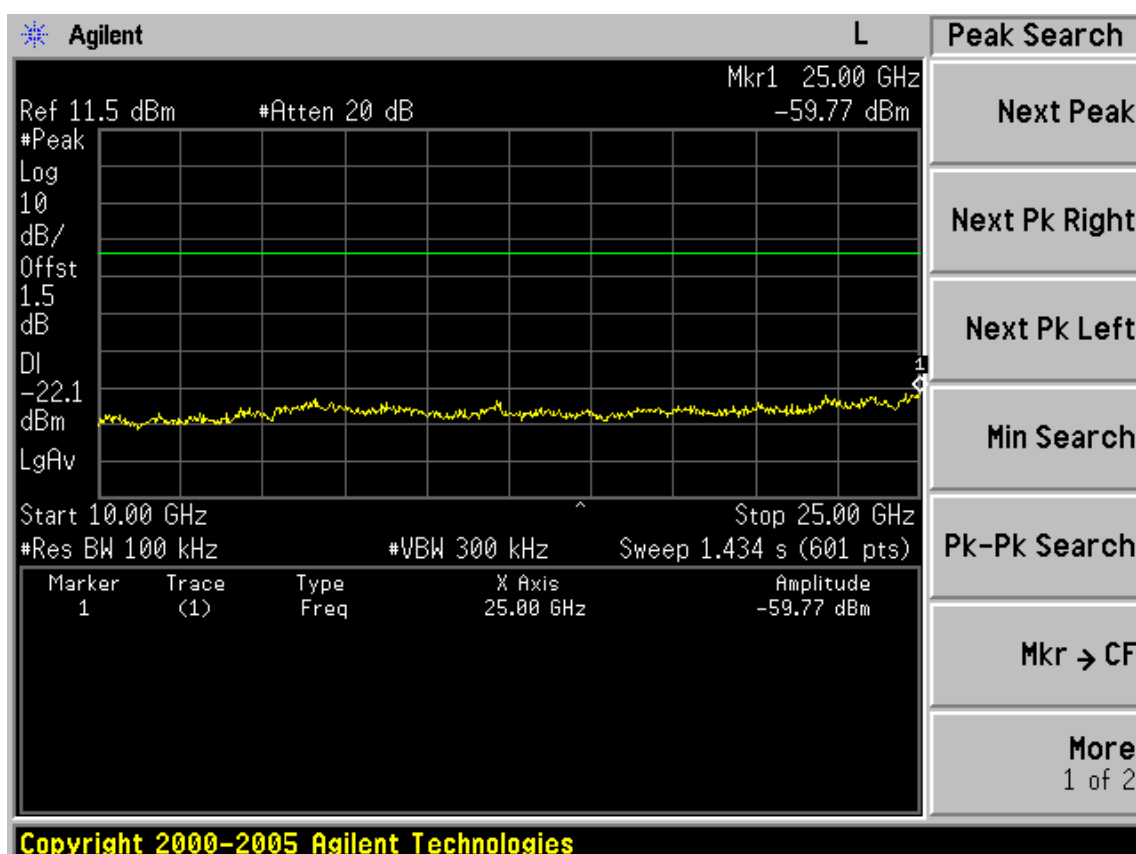
2480MHz



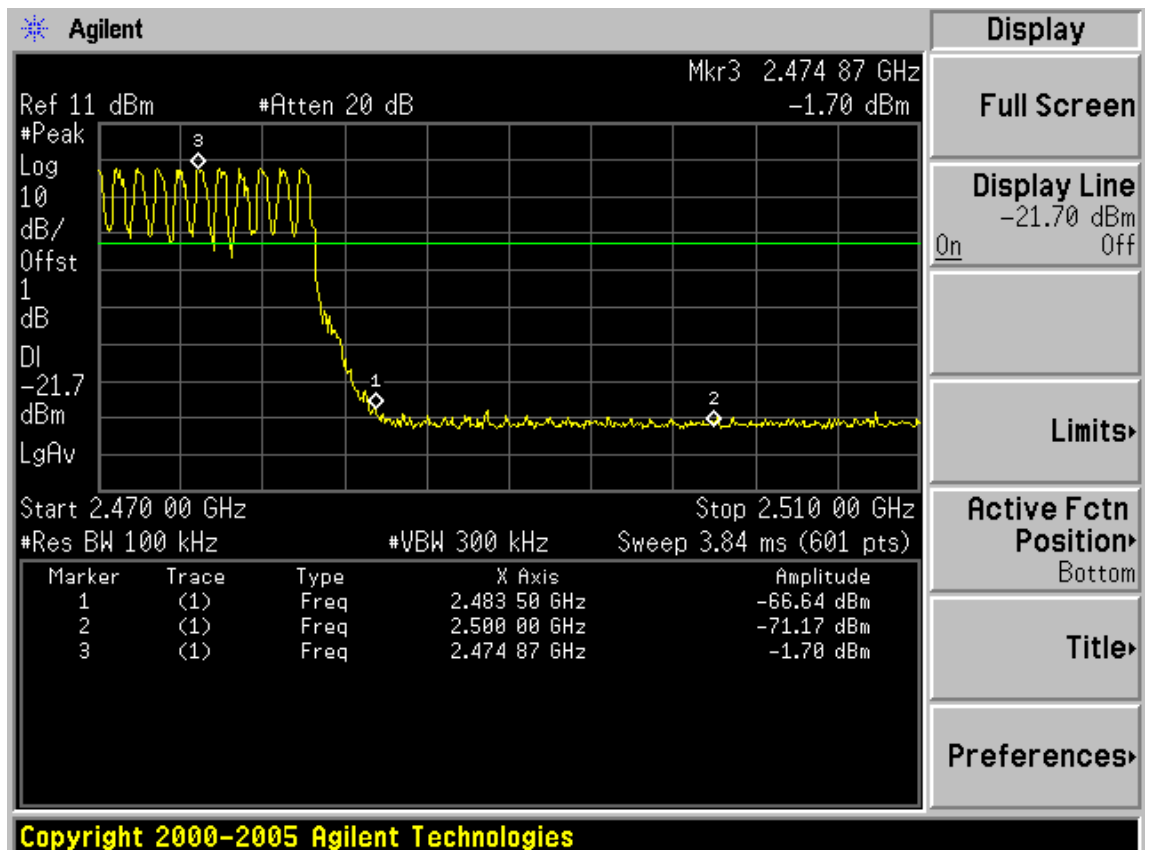
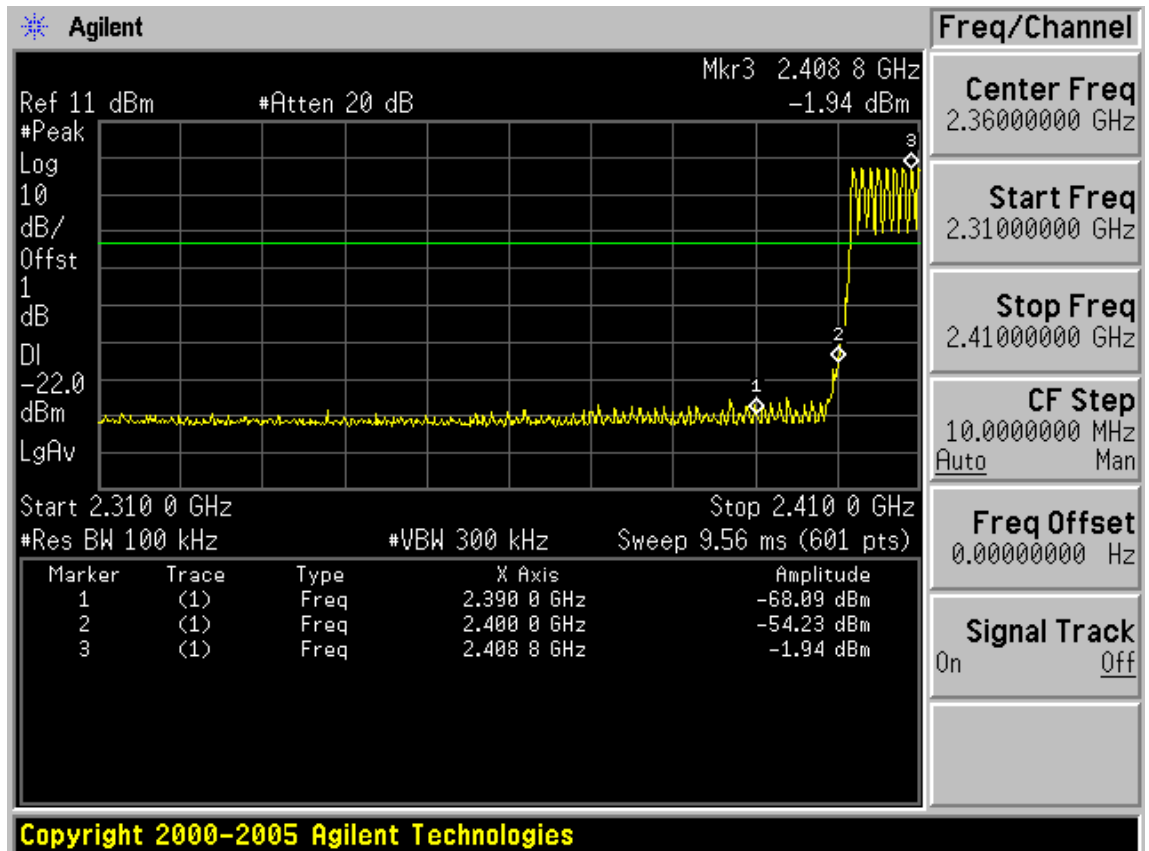
Copyright 2000-2005 Agilent Technologies



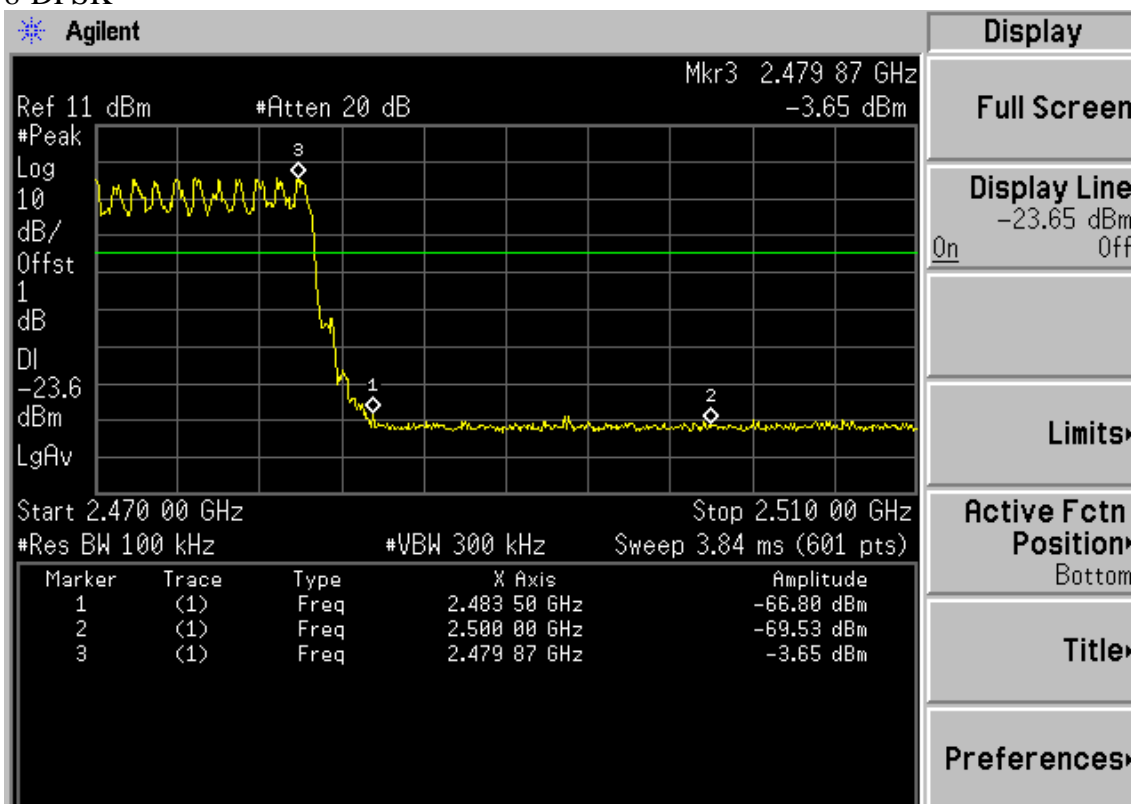
Copyright 2000-2005 Agilent Technologies



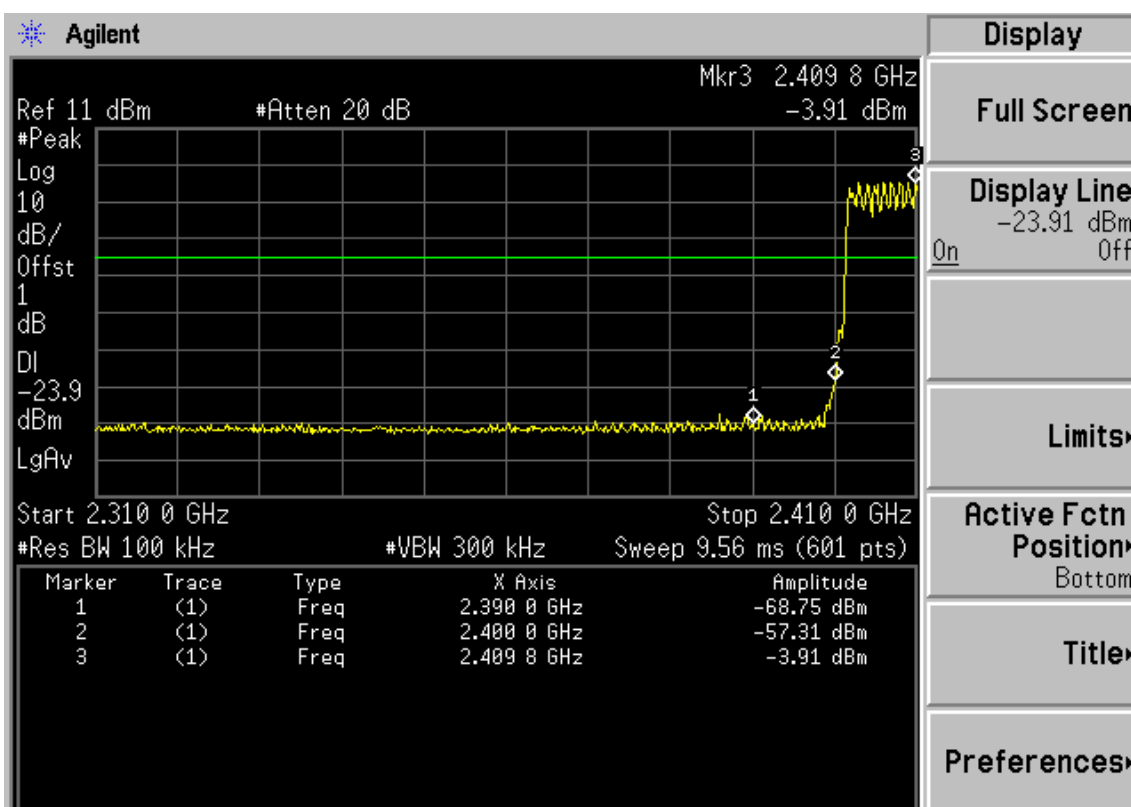
Hopping On GFSK



8-DPSK



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6. CARRIER FREQUENCY SEPARATION TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 12	1 Year

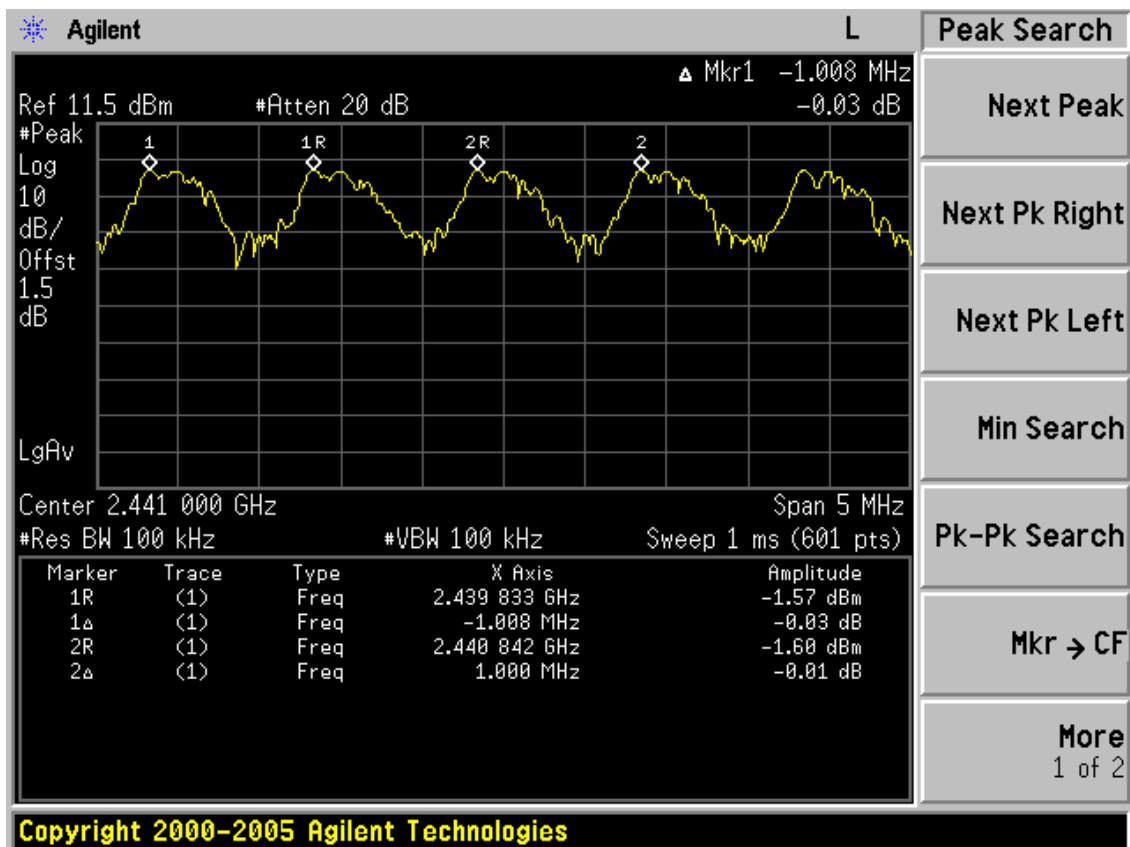
6.2. Limit

Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. 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.

6.3. Test Results.

EUT: Bluetooth Portal of Power		
M/N:84442790		
Test date: 2012-09-22	Pressure: 101.2±1.0 kpa	Humidity: 53.8±1.0%
Tested by: Leo-Li	Test site: RF Site	Temperature : 24.4±1.0℃

Channel separation	Conclusion
1MHz	PASS



7. 20 DB BANDWIDTH TEST

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,12	1 Year

7.2. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

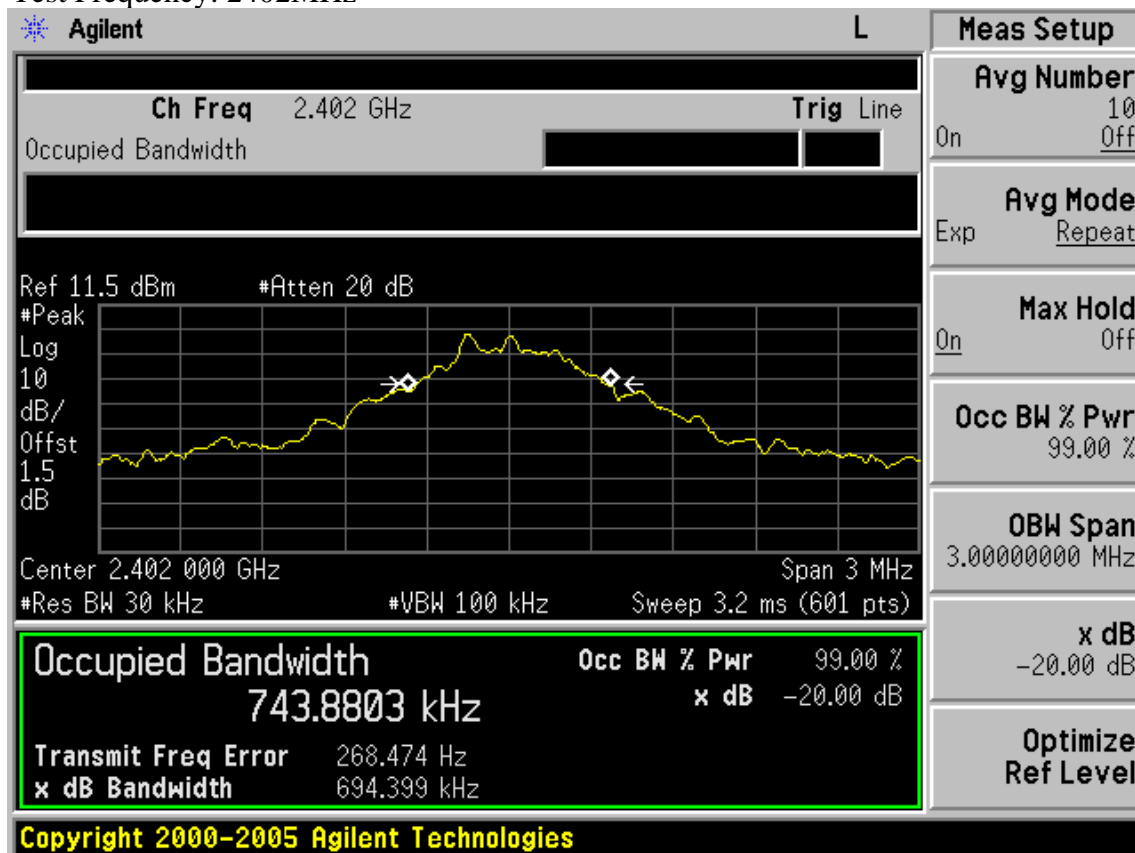
7.3. Test Results

EUT: Bluetooth Portal of Power		
M/N:84442790		
Test date: 2012-09-22	Pressure: 101.2±1.0 kpa	Humidity: 53.8±1.0%
Tested by: Leo-Li	Test site: RF Site	Temperature : 24.4±1.0℃

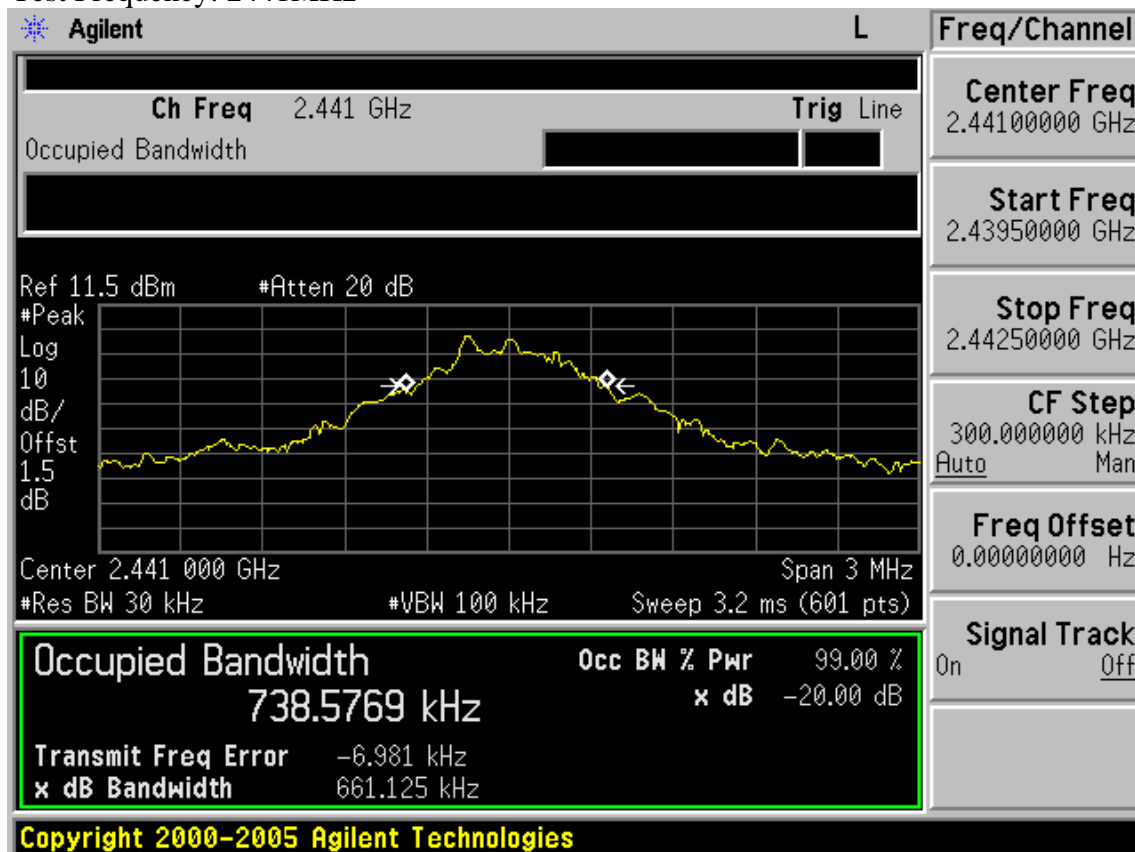
Cable loss: 1.5 dB		Attenuator loss: 20 dB	
Test Mode	CH (MHz)	20dB bandwidth (KHz)	Limit (KHz)
GFSK	2402	694.399	N/A
	2441	661.125	N/A
	2480	691.178	N/A
8DPSK	2402	1215	N/A
	2441	1214	N/A
	2480	1217	N/A
Conclusion : PASS			

GFSK

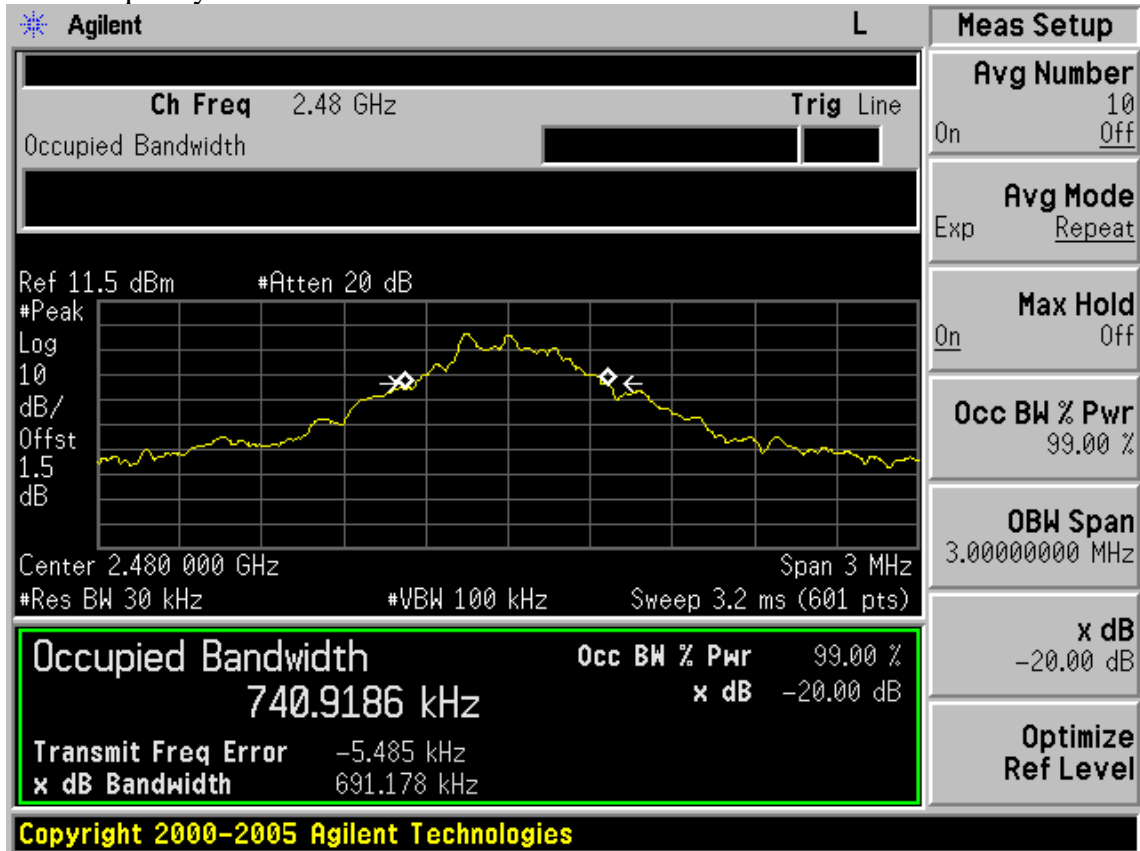
Test Frequency: 2402MHz



Test Frequency: 2441MHz

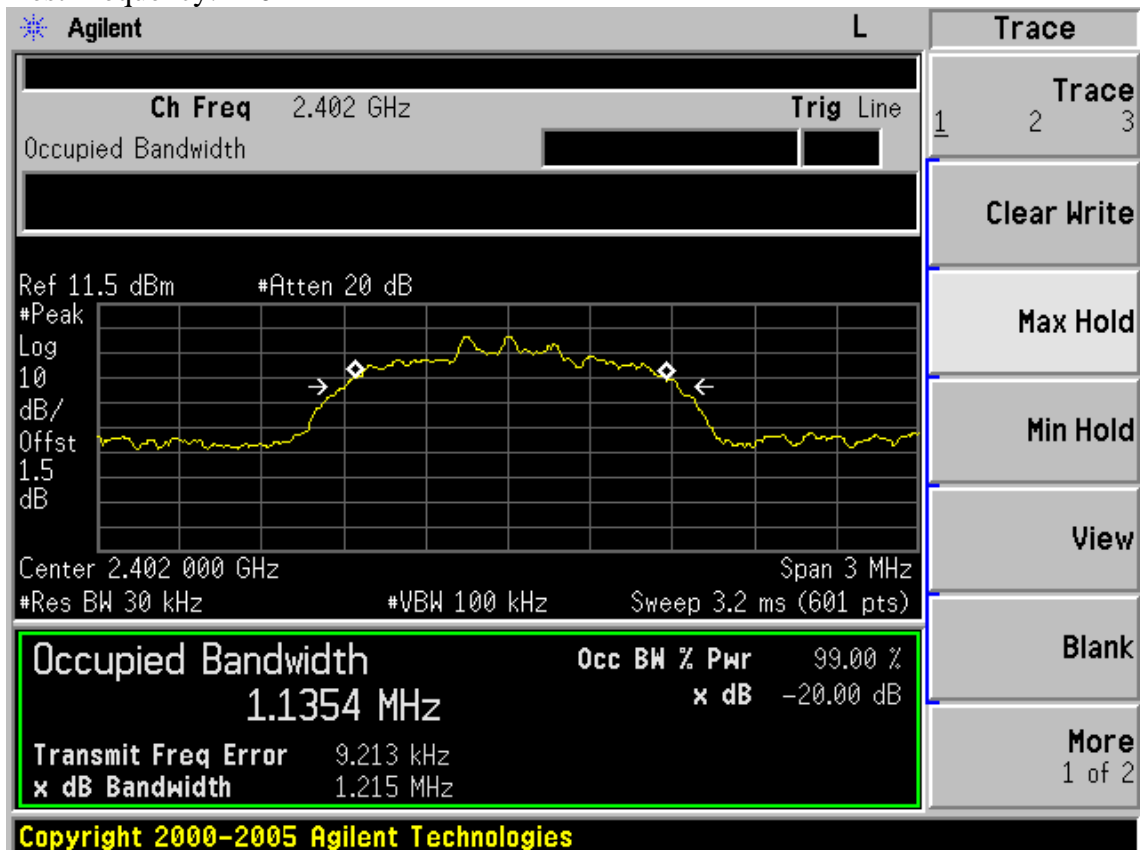


Test Frequency: 2480MHz

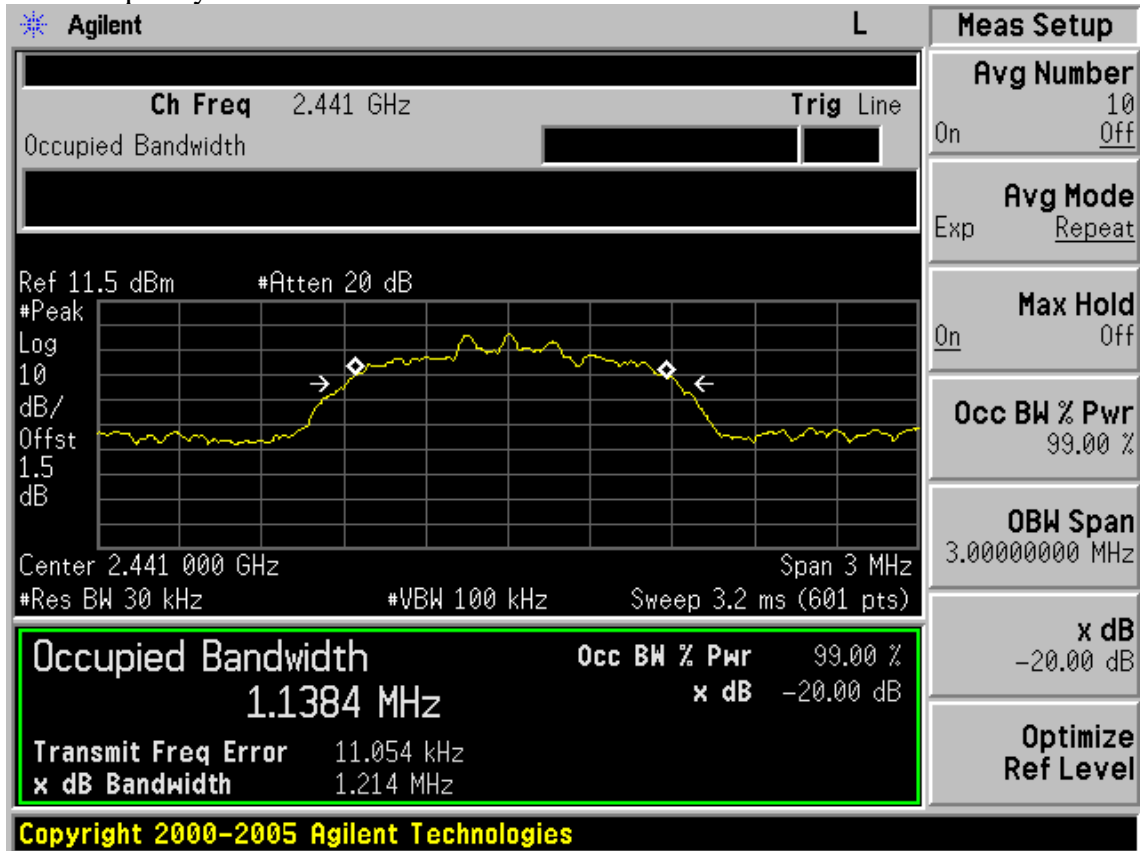


8DPSK

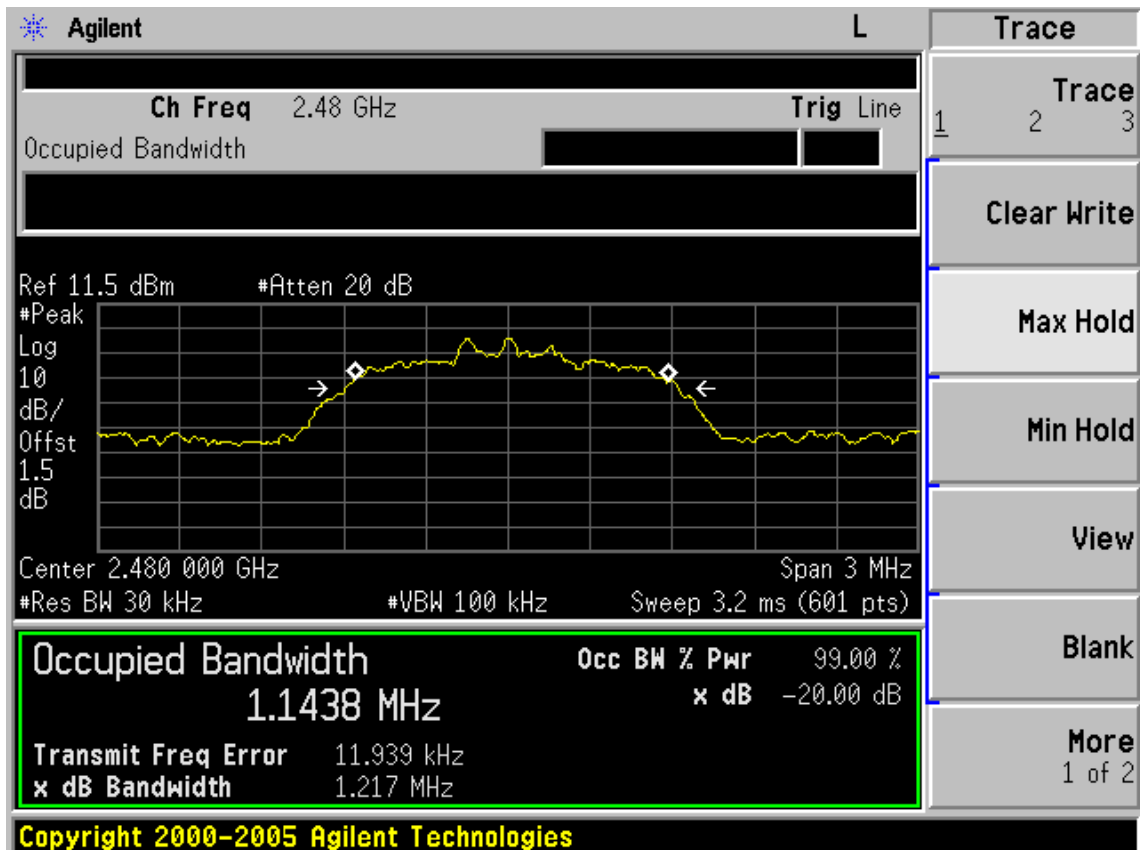
Test Frequency: 2402MHz



Test Frequency: 2441MHz



Test Frequency: 2480MHz



8. NUMBER OF HOPPING FREQUENCY TEST

8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 12	1 Year

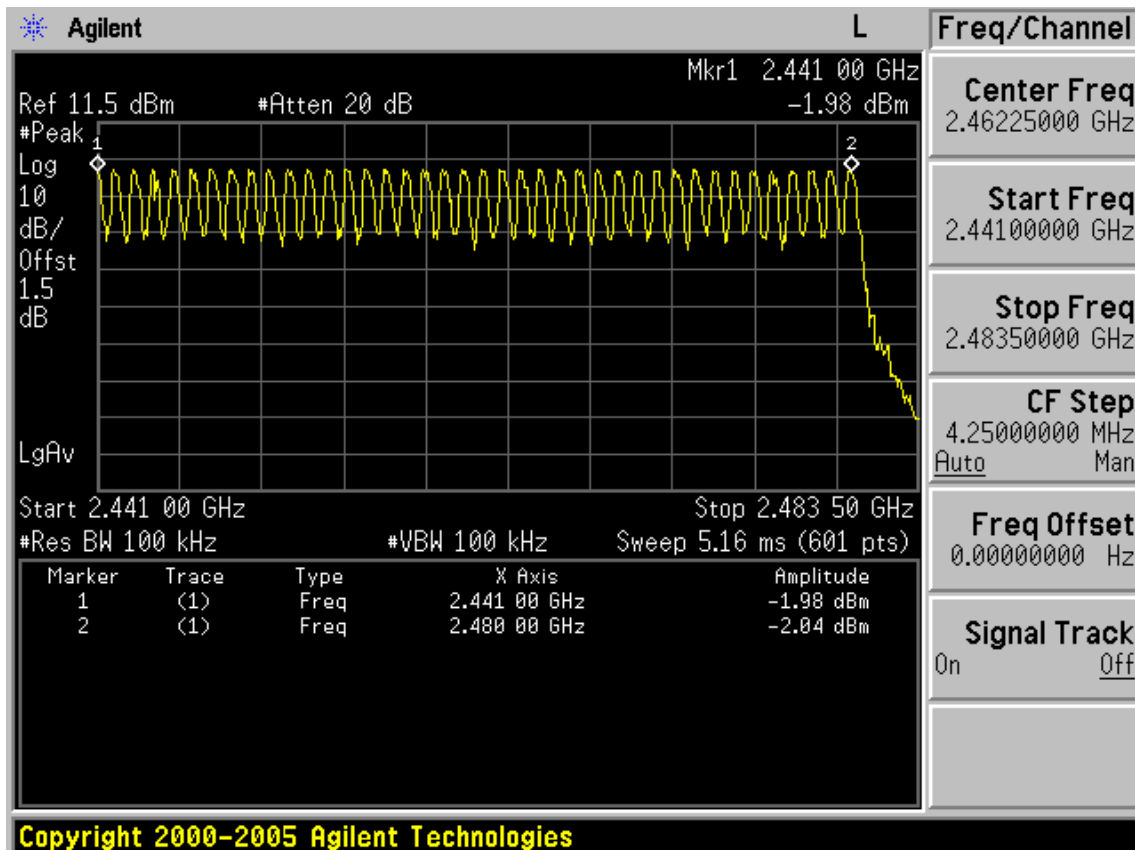
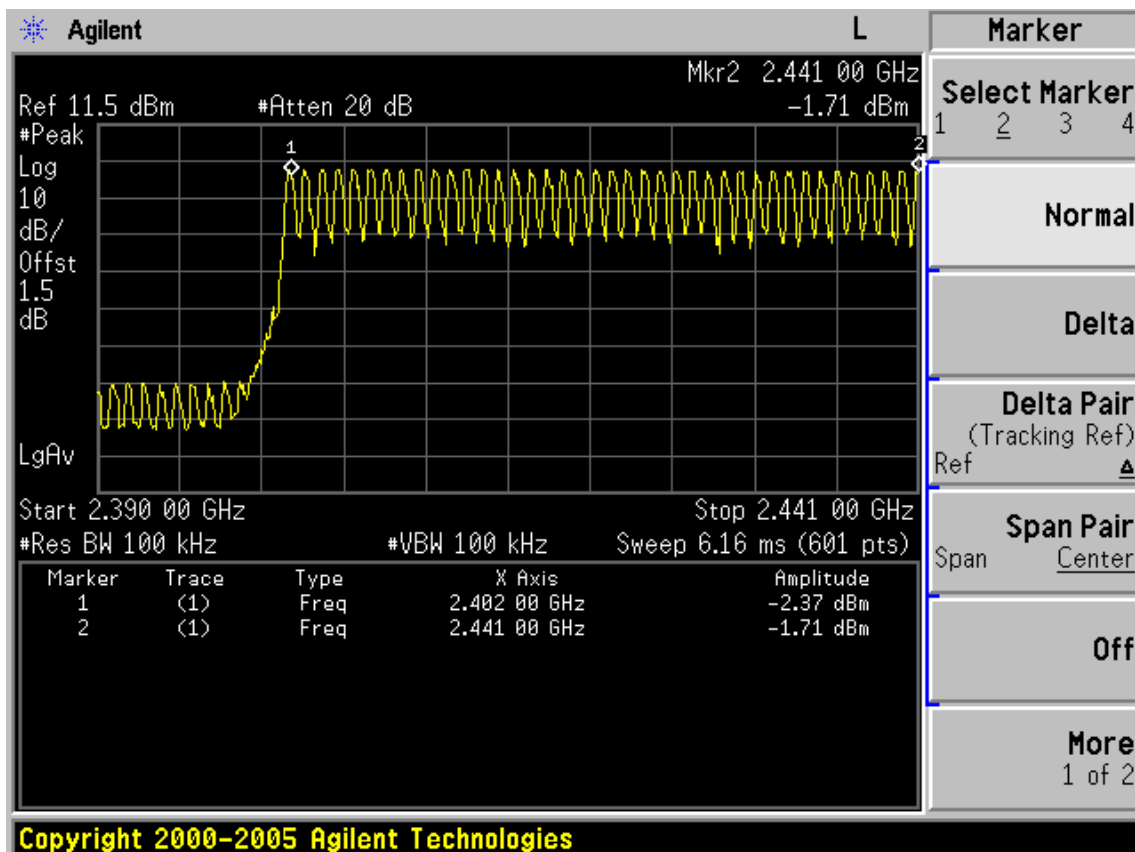
8.2. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

8.3. Test Results

EUT: Bluetooth Portal of Power		
M/N:84442790		
Test date: 2012-09-22	Pressure: 101.2±1.0 kpa	Humidity: 53.8±1.0%
Tested by: Leo-Li	Test site: RF Site	Temperature : 24.4±1.0℃

Number of channel	Limit	Conclusion
79	≥15	PASS



9. DWELL TIME

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 12	1 Year

9.2. Limit

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.

9.3. Test Results

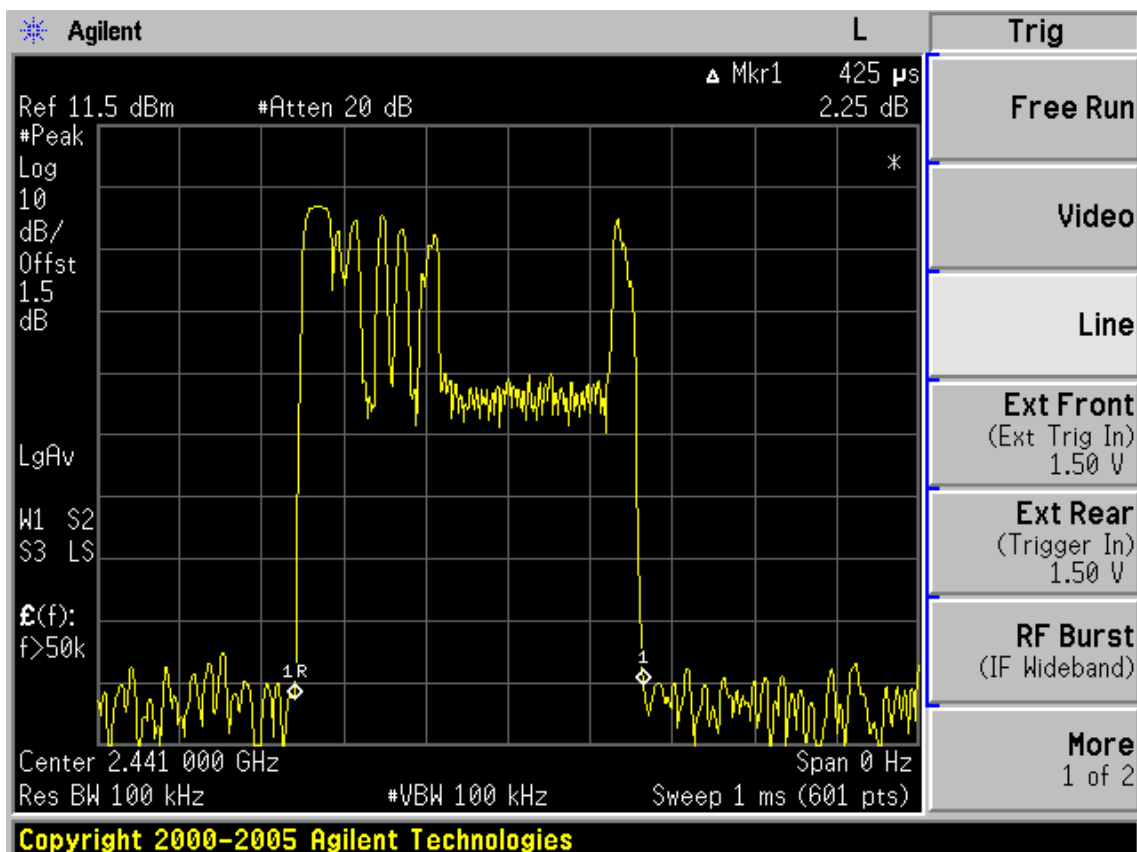
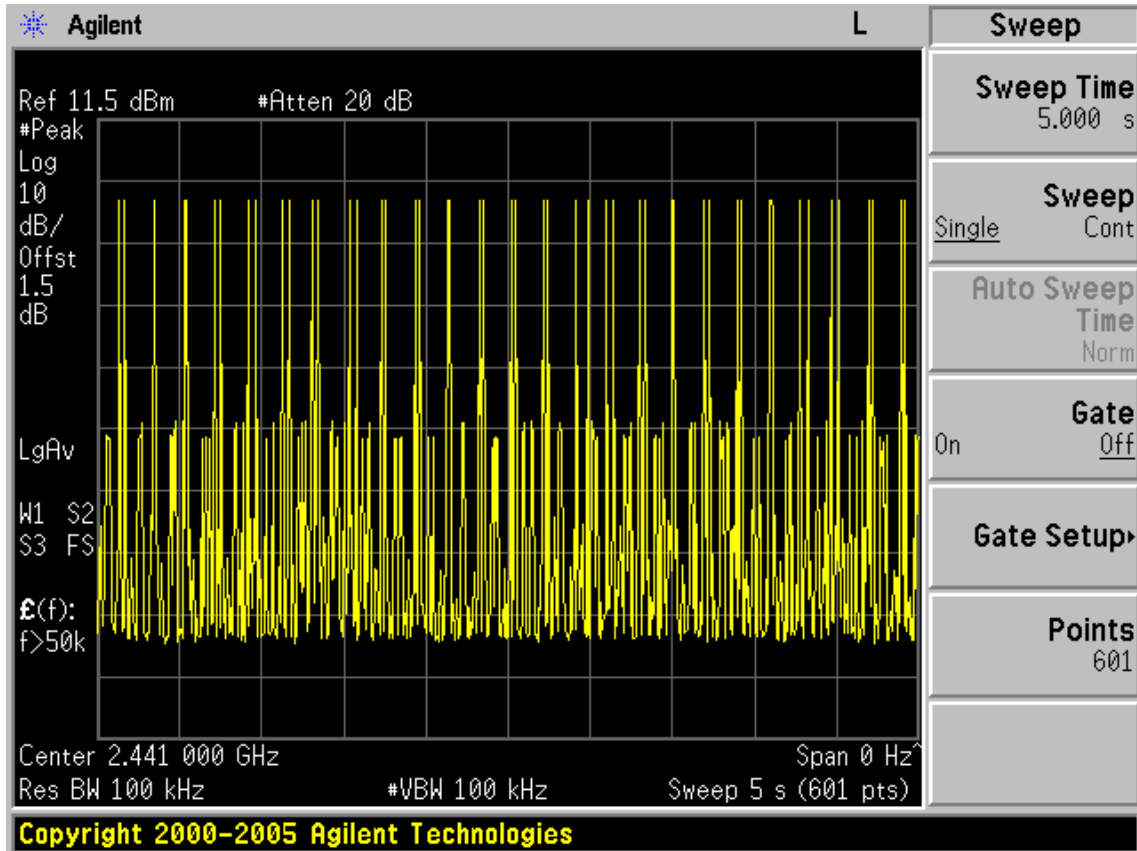
EUT: Bluetooth Portal of Power		
M/N: 84442790		
Test date: 2012-09-22	Pressure: 101.2±1.0 kpa	Humidity: 53.8±1.0%
Tested by: Leo-Li	Test site: RF Site	Temperature : 24.4±1.0℃

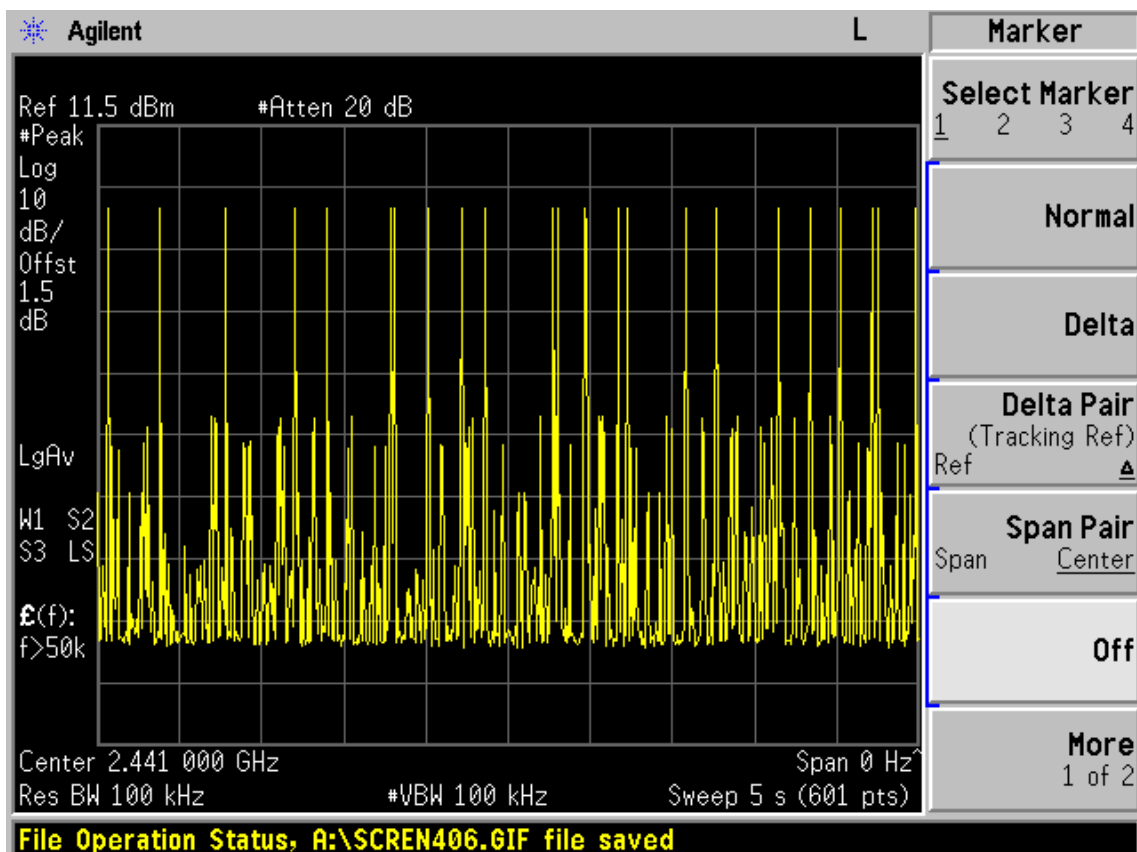
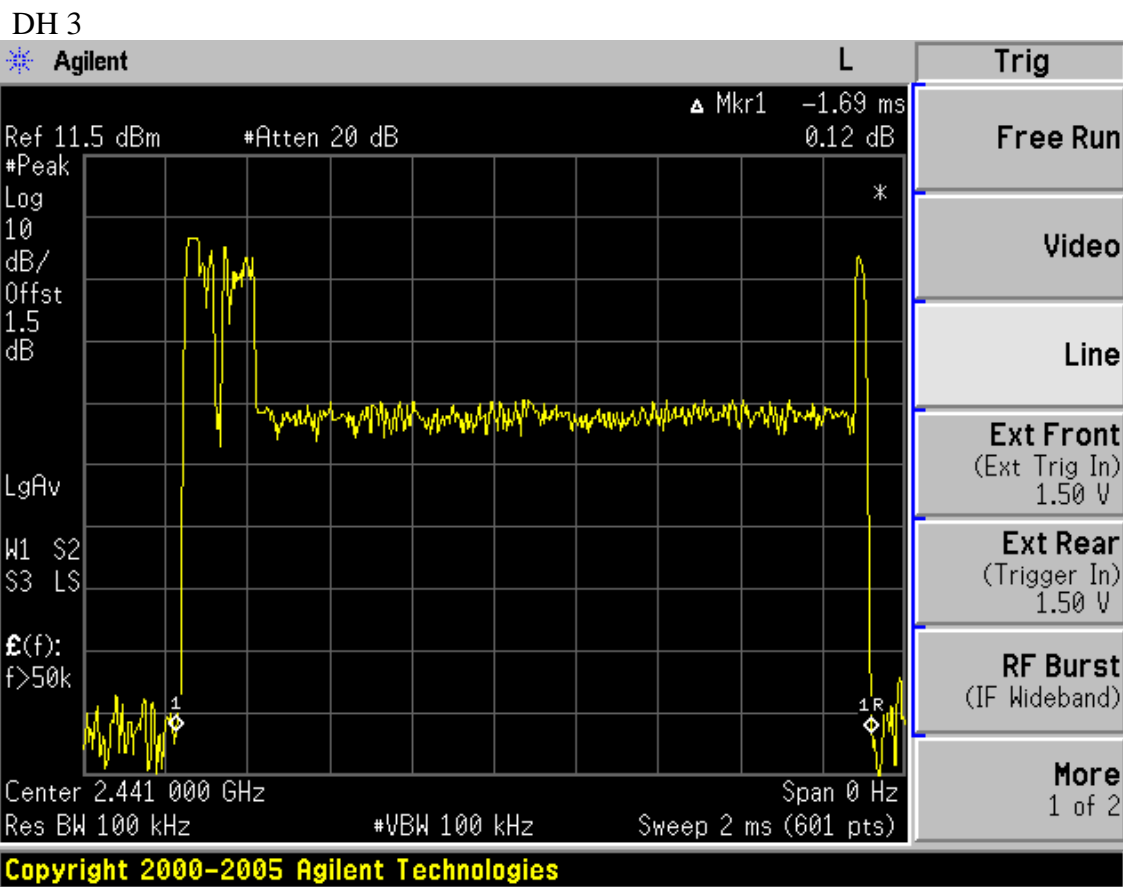
Mode		dwel time	Limit	Conclusion
GFSK	DH1	37hops/5s*0.4*79chanel*0.425ms =99.38ms	<400ms	PASS
	DH3	22hops/5s*0.4*79chanel*1.69ms =234.98ms	<400ms	PASS
	DH5	17hops/5s*0.4*79chanel*2.967ms=318.77ms	<400ms	PASS
8DPSK	DH1	43hops/5s*0.4*79chanel*0.4417ms=120.03ms	<400ms	PASS
	DH3	20hops/5s*0.4*79chanel*1.683ms =212.73ms	<400ms	PASS
	DH5	14hops/5s*0.4*79chanel*2.967ms =262.52ms	<400ms	PASS

Note: All the lower levels were signal from receiver's, and should not considered in here.

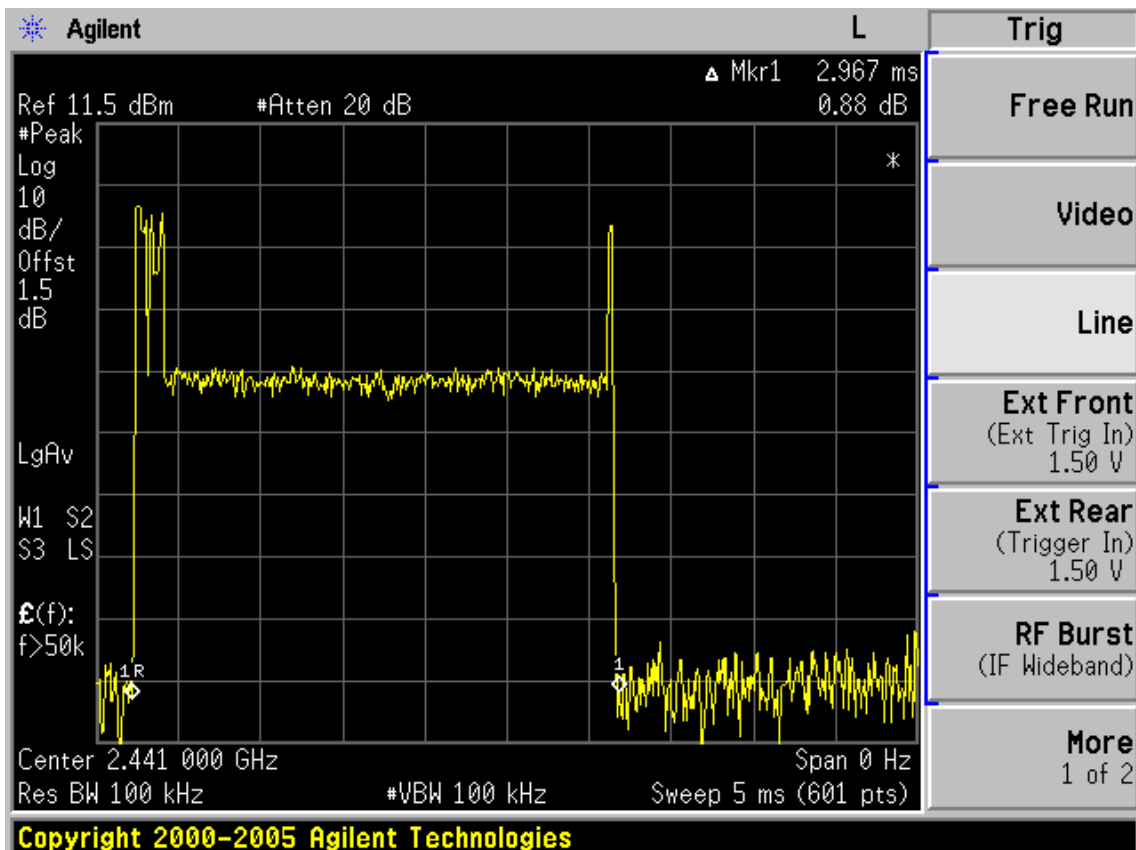
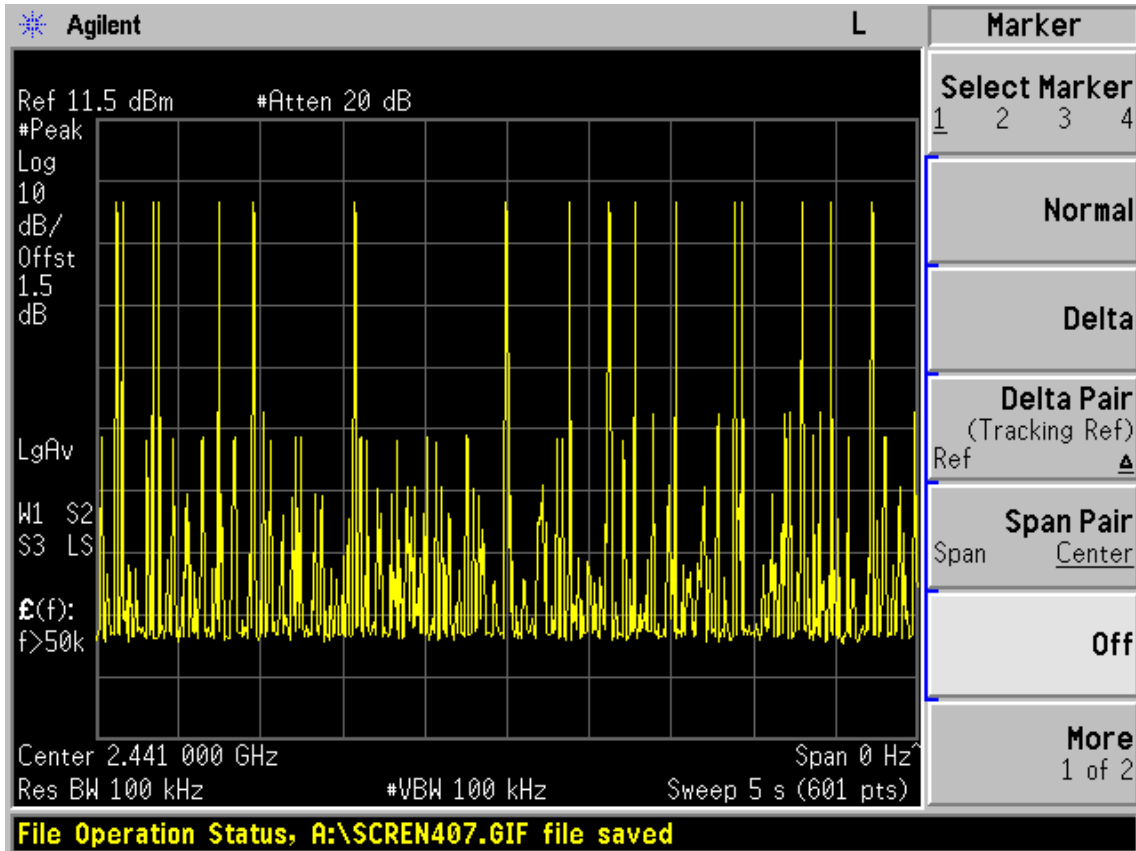
GFSK

DH 1



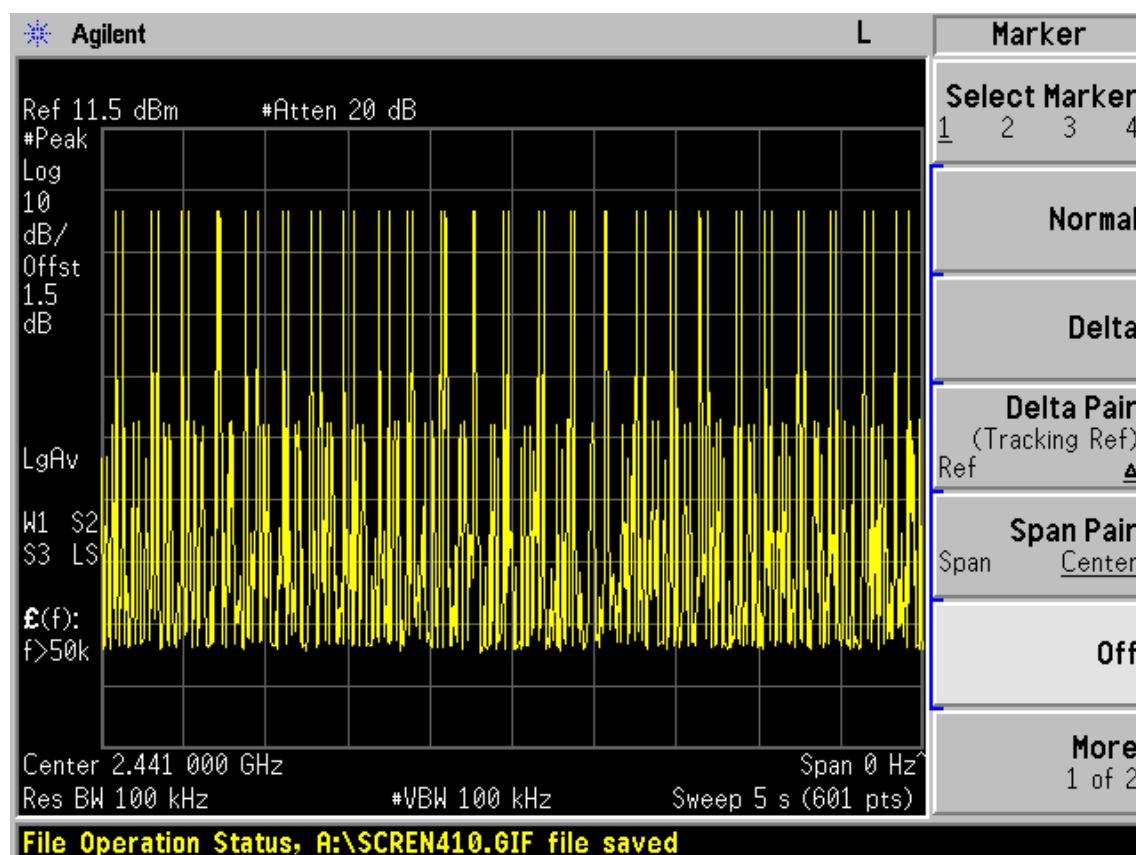
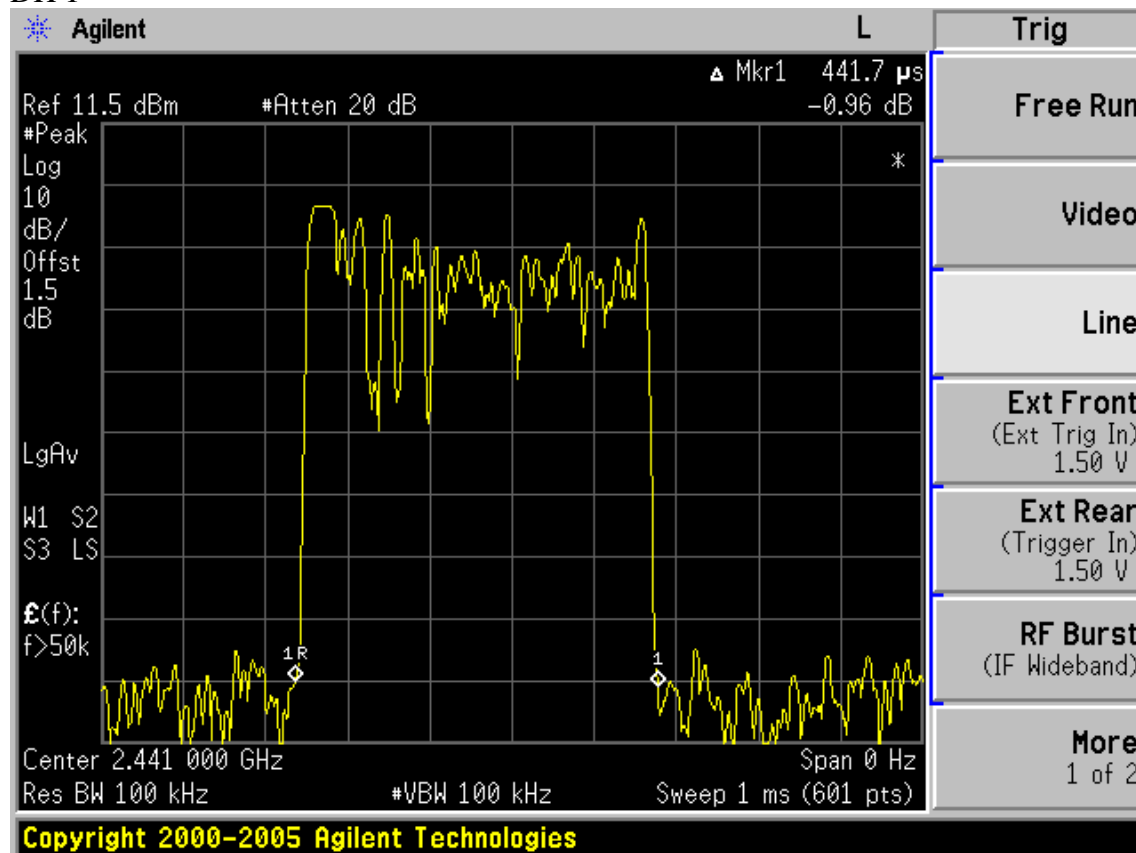


DH 5

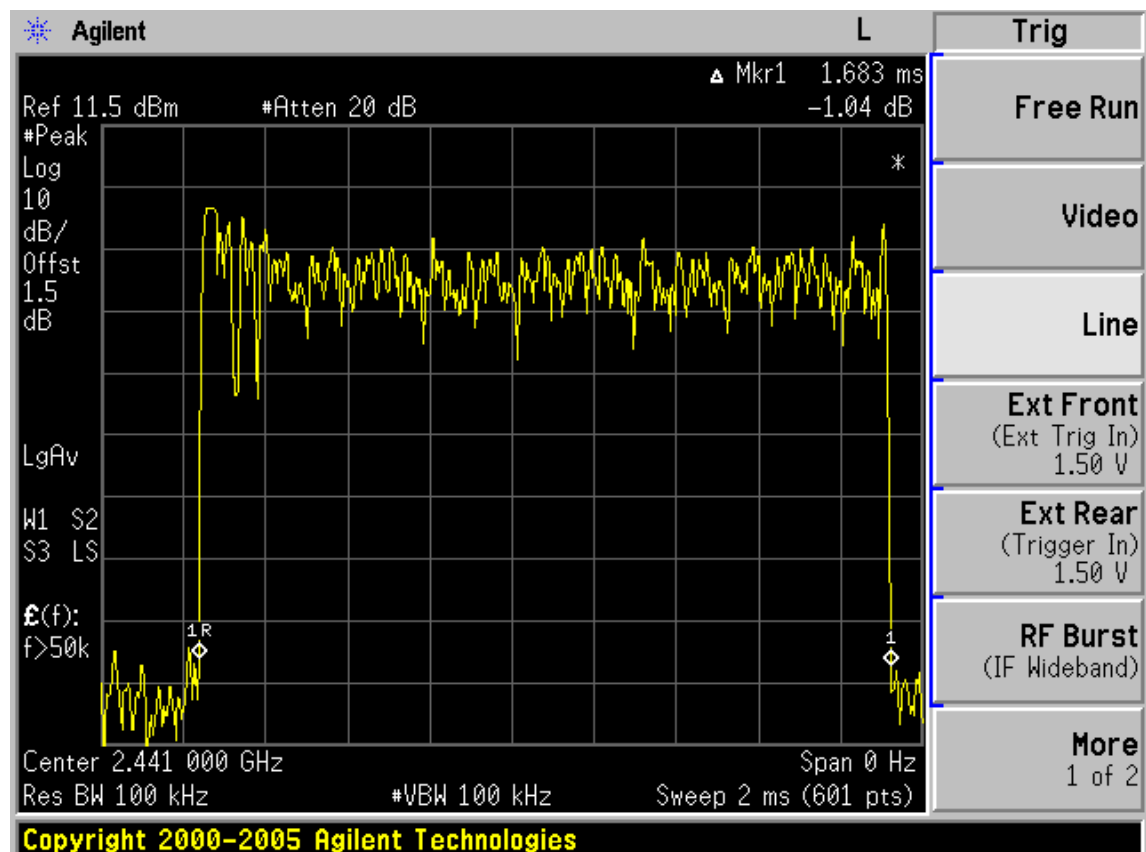
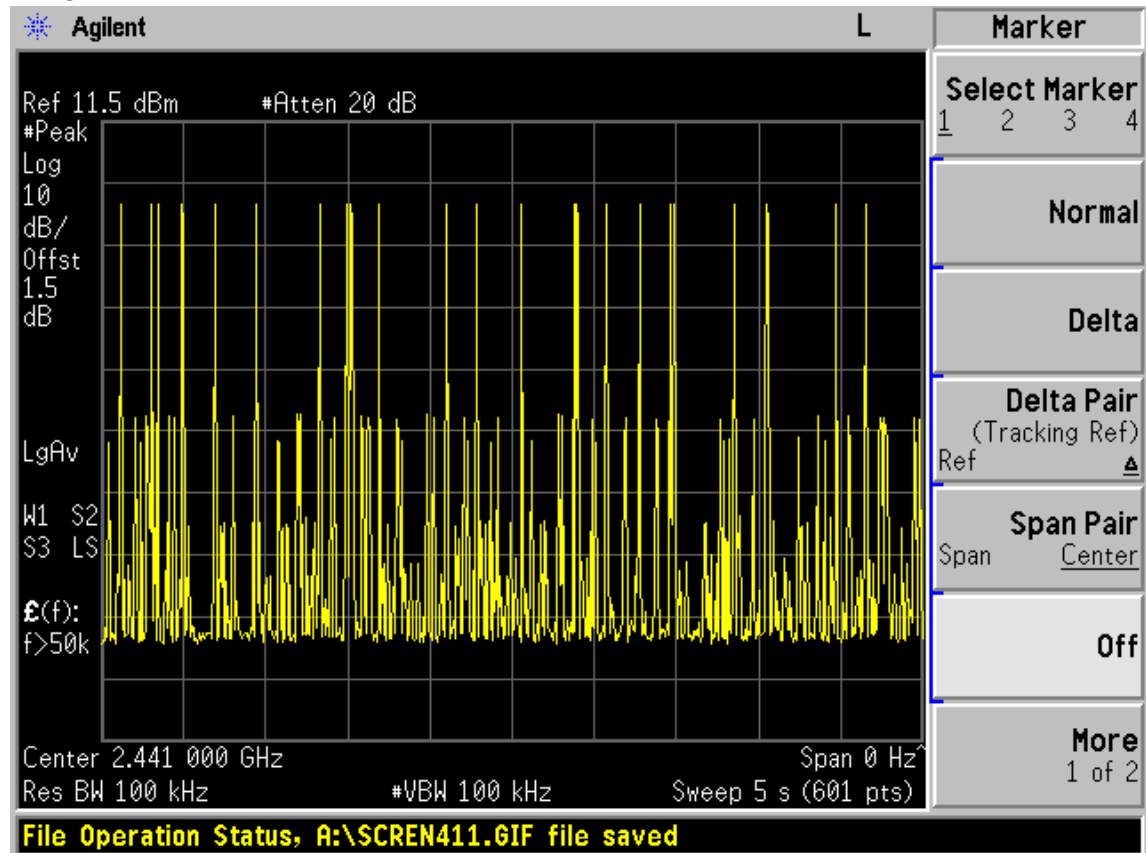


8DPSK

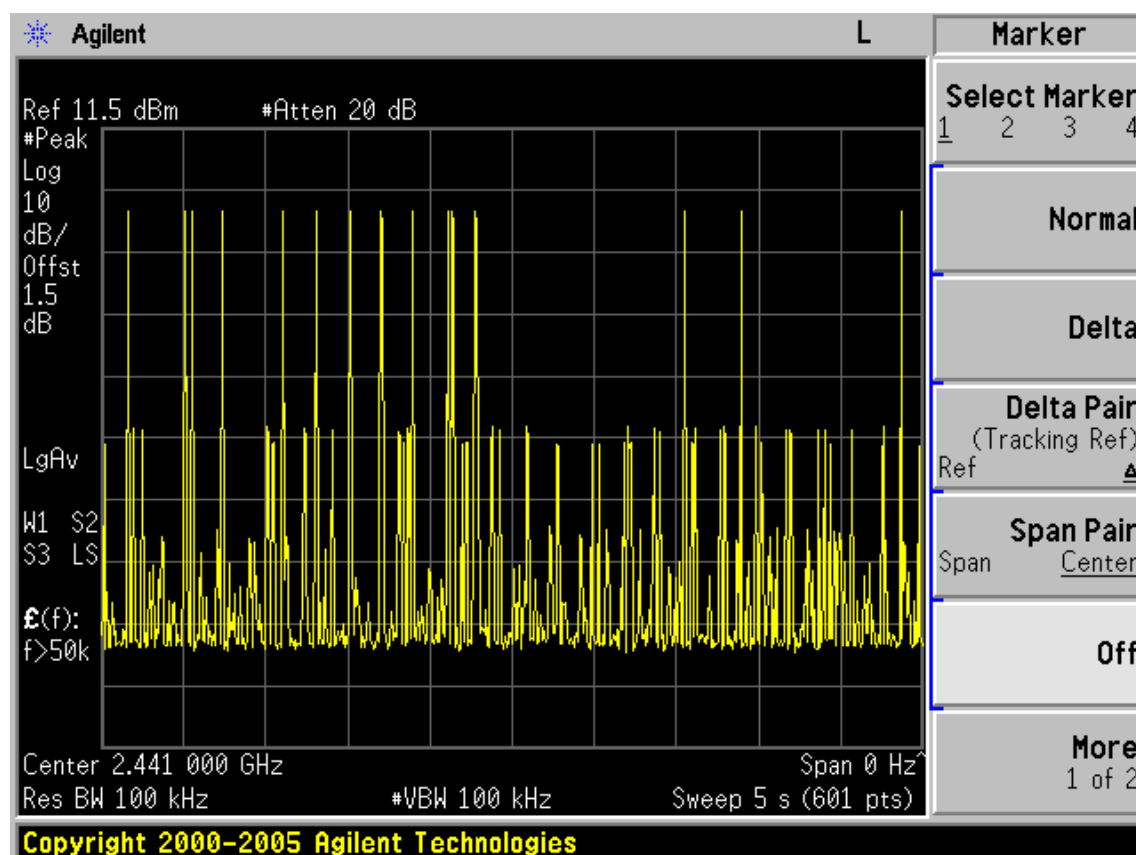
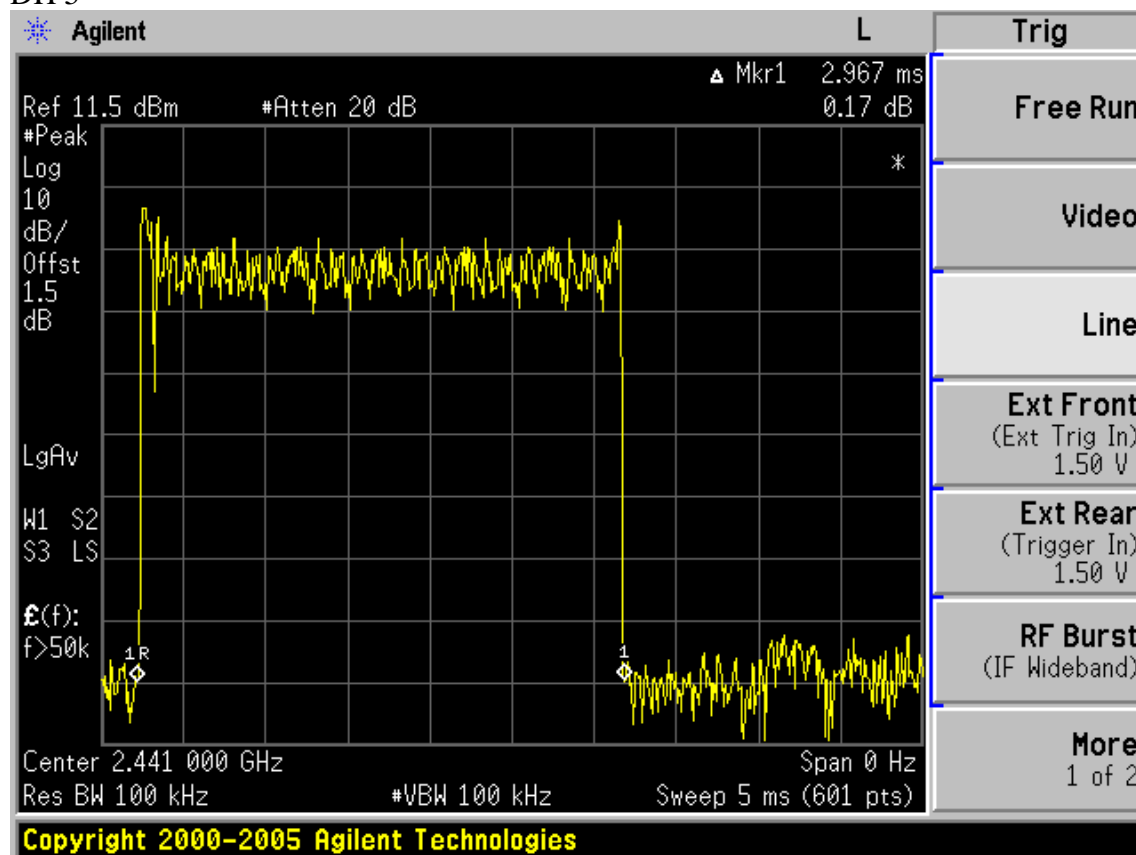
DH 1



DH 3



DH 5



10. MAXIMUM PEAK OUTPUT POWER TEST

10.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 12	1 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	1 Year
5	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 12	1 Year
6	Power Sensor	Anritsu	MA2491A	033005	May.08, 12	1 Year

10.2. Limit

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.

10.3. Test Procedure

1. Connected the EUT's antenna port to power meter.
2. Set the EUT transmit at maximum output level. Then measure the power output for Channel Low, Mid, High to each mode.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

10.4. Test Results

EUT: Bluetooth Portal of Power			
M/N: 84442790			
Test date: 2012-09-22		Pressure: 101.2±1.0 kpa	Humidity: 54.3±1.0%
Tested by: Leo-Li		Test site: RF site	Temperature: 25.1±1.0 °C
Cable loss: 1.5 dB		Attenuator loss: 20 dB	
Test Mode	CH (MHz)	Peak output Power (dBm)	Limit (dBm)
GFSK	2402	-0.61	30
	2441	-1.16	30
	2480	-1.53	30
8-DPSK	2402	-0.28	30
	2441	-0.89	30
	2480	-1.32	30
Conclusion: PASS			

11. BAND EDGE COMPLIANCE TEST

11.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 11	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	1 Year

11.2. Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

11.3. Test Produce

For upper band emissions that are up to two bandwidths(2MHz) away (2483.5MHz to 2485.5MHz) from the band-edge use below produce:

1. Choose a spectrum analyzer span that encompasses both the peak of the fundamental emission and the band-edge emission under investigation. Set the analyzer RBW to 100KHz and with a video bandwidth 300KHz. Record the peak levels of the fundamental emission and the relevant band-edge emission, Observe the stored trace and measure the amplitude delta between the peak of the fundamental and the peak of the band-edge emission. This is not a field strength measurement, it is only a relative measurement to determine the amount by which the emission drops at the band edge relative to the highest fundamental emission level.
2. Subtract the delta measured in step (1) from the maximum field strengths measured in clause 4 .The resultant field strengths are then used to determine band-edge compliance as required by Section 15.205

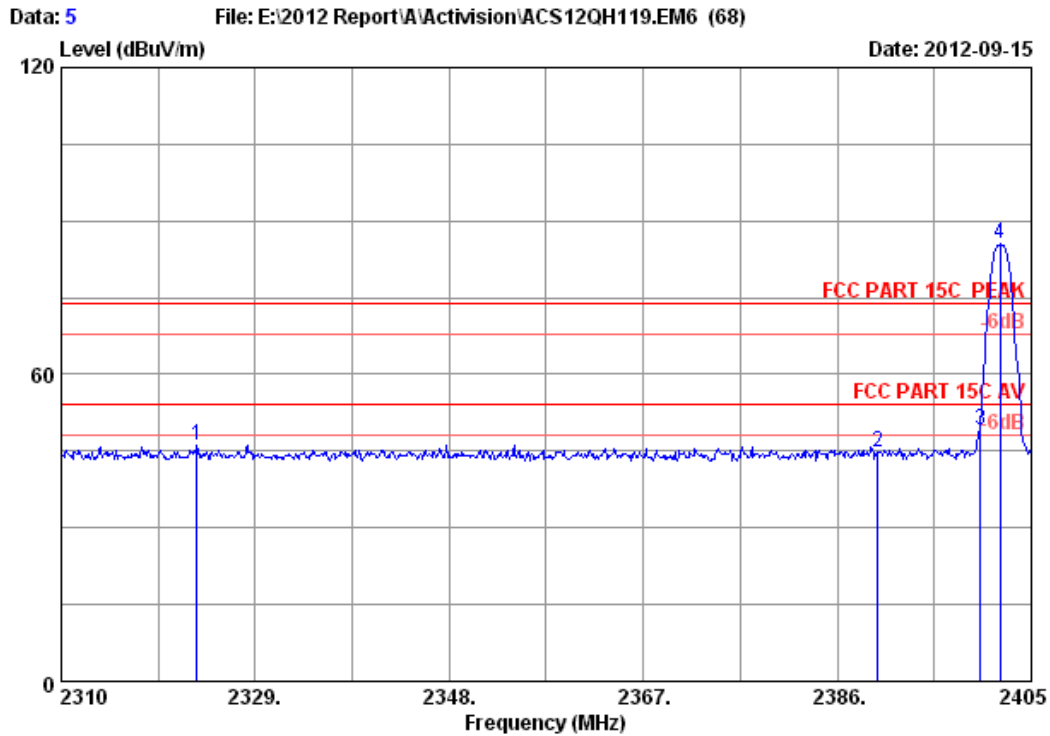
For emissions above two bandwidths away from the band-edge use below produce:

1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upperband-edges of the emission:
 - (a) PEAK: RBW=1MHz ;VBW=3MHz, PK detector, Sweep=AUTO
 - (b) This device is pulse modulated, a duty cycle factor was used to calculate average level based measured peak level

11.4. Test Results

Pass (The testing data was attached in the next pages.)

Note: If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

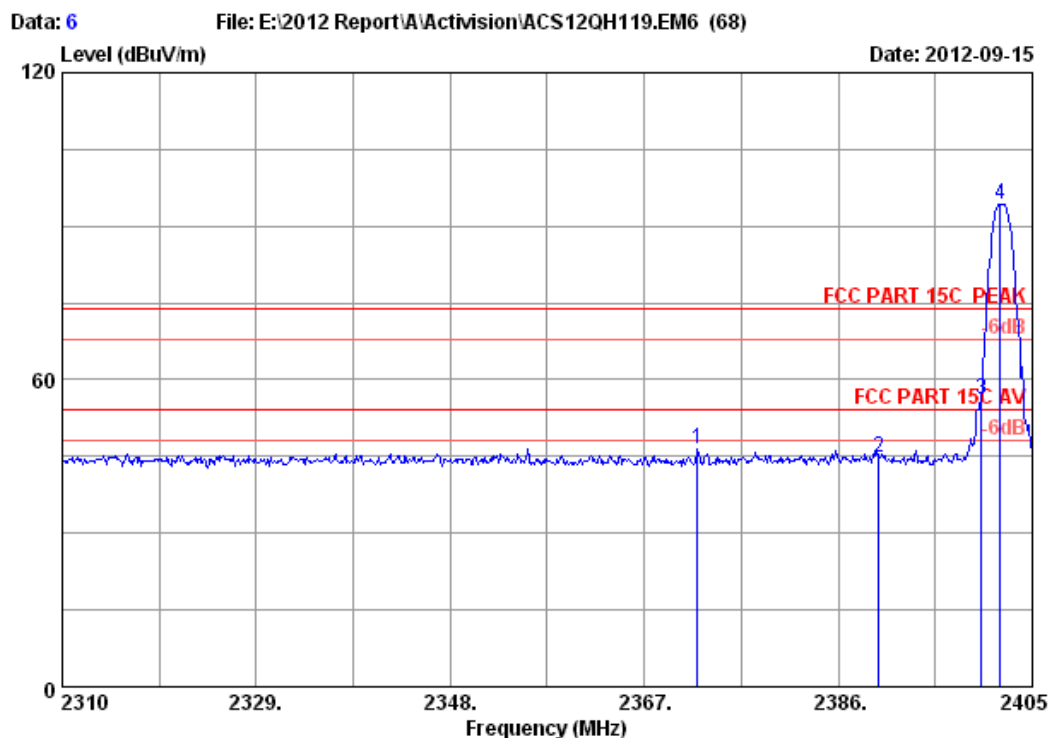


Site no. : 3m Chamber Data no. : 5
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2402MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2323.300	27.86	5.89	34.43	46.89	46.21	74.00	27.79	Peak
2	2390.000	27.96	6.01	34.44	45.13	44.66	74.00	29.34	Peak
3	2400.000	27.96	6.01	34.44	49.63	49.16	74.00	24.84	Peak
4	2401.960	27.96	6.01	34.44	85.91	85.44	74.00	-11.44	Peak

Remarks:

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

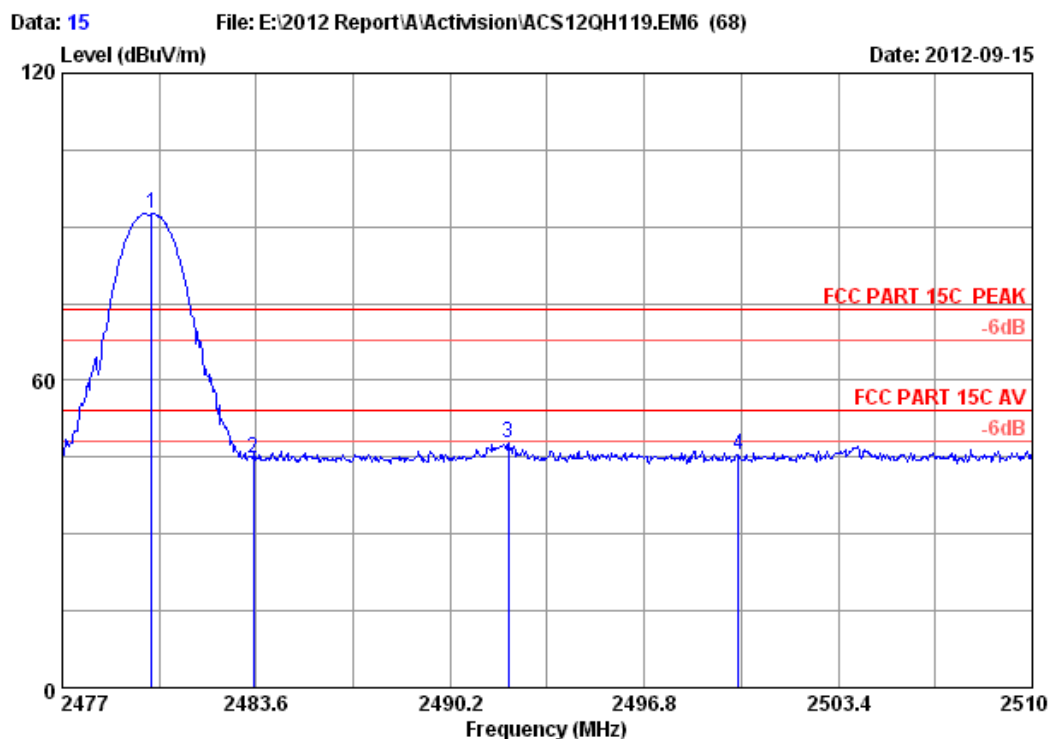


Site no. : 3m Chamber Data no. : 6
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2402MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2372.225	27.93	5.98	34.44	46.95	46.42	74.00	27.58	Peak
2	2390.000	27.96	6.01	34.44	45.41	44.94	74.00	29.06	Peak
3	2400.000	27.96	6.01	34.44	56.72	56.25	74.00	17.75	Peak
4	2401.865	27.96	6.01	34.44	94.78	94.31	74.00	-20.31	Peak

Remarks:

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

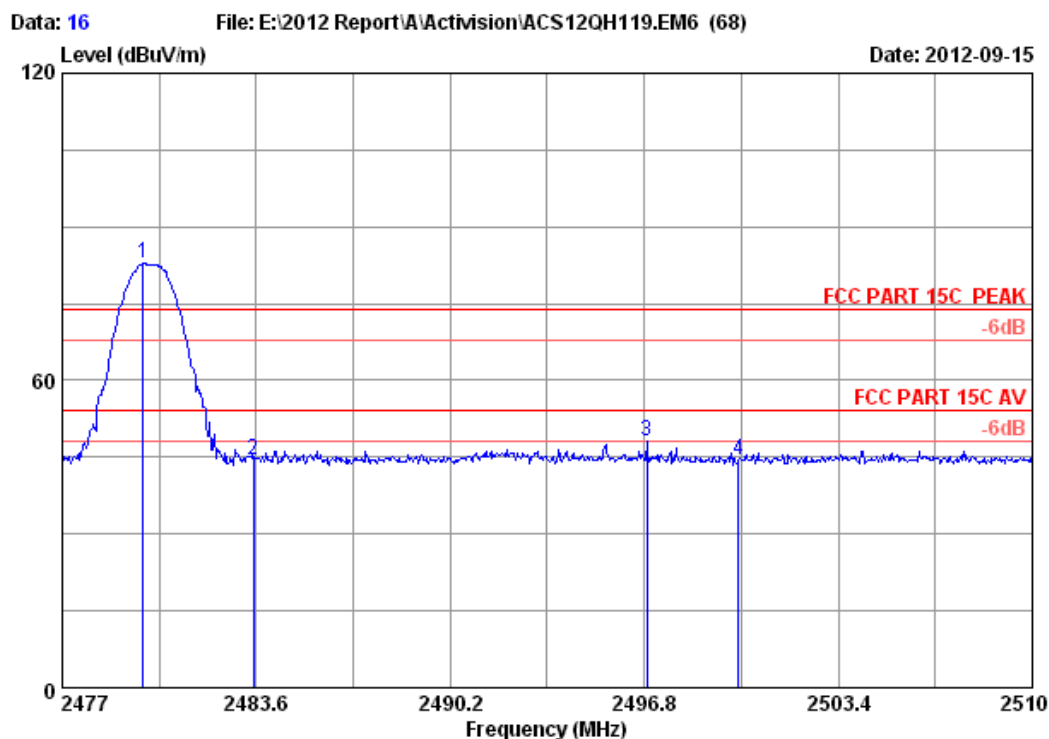


Site no. : 3m Chamber Data no. : 15
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2480MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.036	28.08	6.15	34.45	92.71	92.49	74.00	-18.49	Peak
2	2483.500	28.08	6.15	34.45	45.12	44.90	74.00	29.10	Peak
3	2492.180	28.10	6.15	34.45	48.03	47.83	74.00	26.17	Peak
4	2500.000	28.10	6.18	34.45	45.62	45.45	74.00	28.55	Peak

Remarks:

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

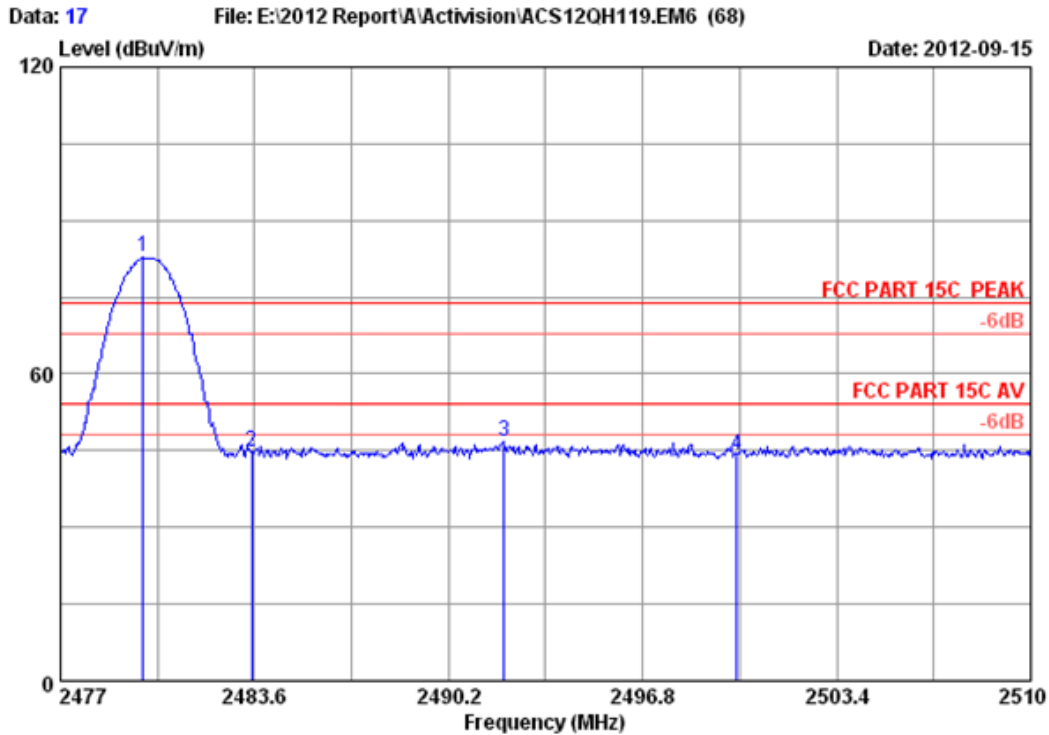


Site no. : 3m Chamber Data no. : 16
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : GFSK 2480MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2479.739	28.08	6.15	34.45	83.05	82.83	74.00	-8.83	Peak
2	2483.500	28.08	6.15	34.45	44.78	44.56	74.00	29.44	Peak
3	2496.899	28.10	6.18	34.45	48.34	48.17	74.00	25.83	Peak
4	2500.000	28.10	6.18	34.45	44.59	44.42	74.00	29.58	Peak

Remarks:

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

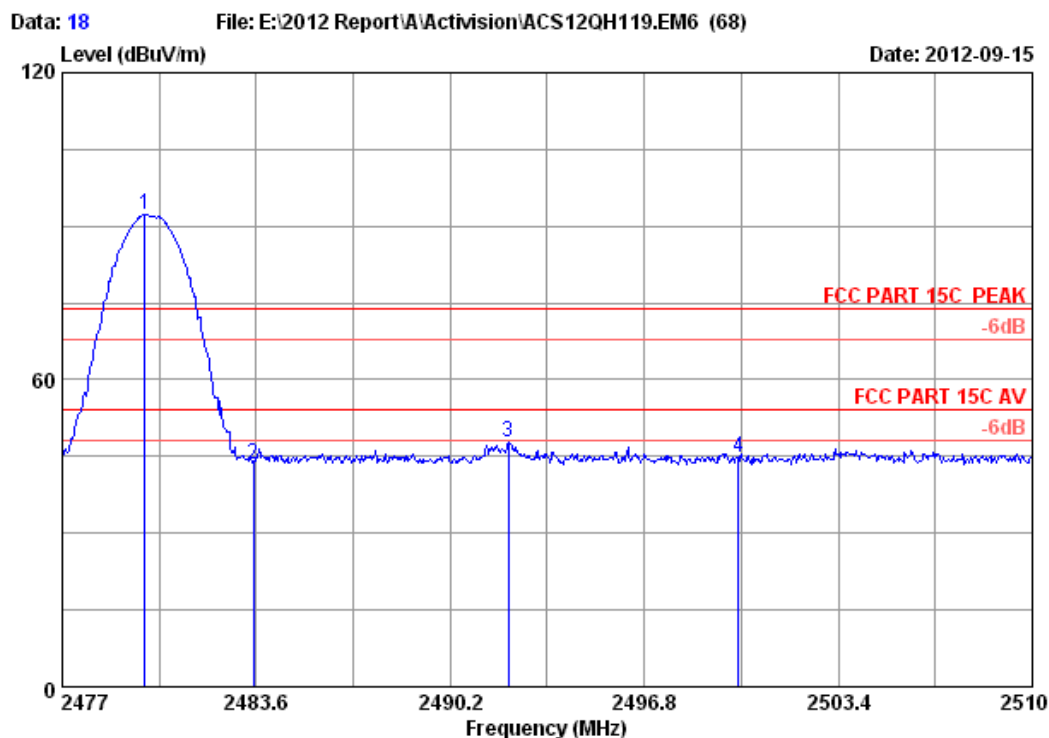


Site no. : 3m Chamber Data no. : 17
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2480MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.805	28.08	6.15	34.45	82.99	82.77	74.00	-8.77	Peak
2	2483.500	28.08	6.15	34.45	45.15	44.93	74.00	29.07	Peak
3	2492.081	28.10	6.15	34.45	47.06	46.86	74.00	27.14	Peak
4	2500.000	28.10	6.18	34.45	44.30	44.13	74.00	29.87	Peak

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.

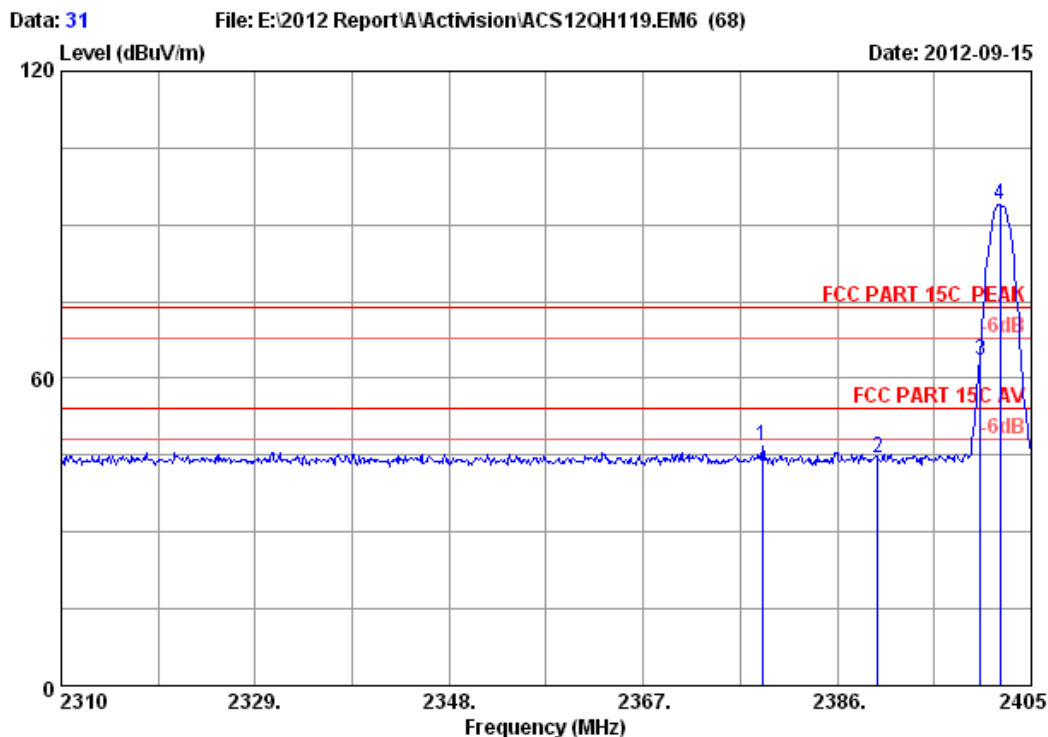


Site no. : 3m Chamber Data no. : 18
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2480MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2479.805	28.08	6.15	34.45	92.43	92.21	74.00	-18.21	Peak
2	2483.500	28.08	6.15	34.45	43.69	43.47	74.00	30.53	Peak
3	2492.180	28.10	6.15	34.45	47.91	47.71	74.00	26.29	Peak
4	2500.000	28.10	6.18	34.45	45.08	44.91	74.00	29.09	Peak

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.

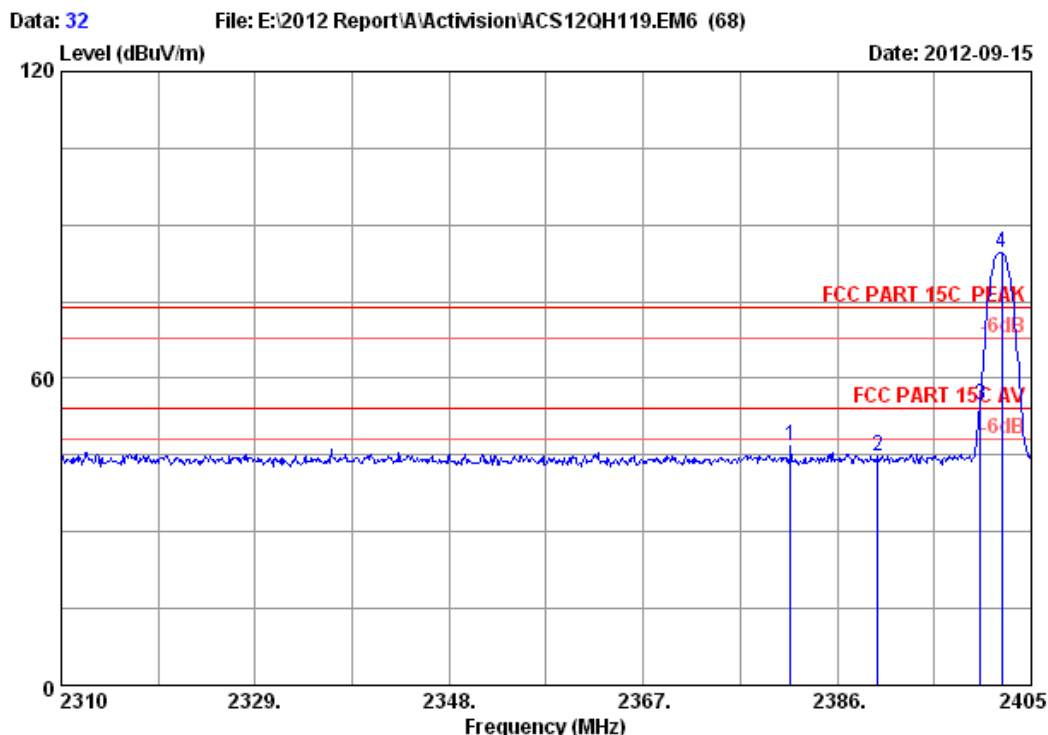


Site no. : 3m Chamber Data no. : 31
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2402MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2378.685	27.93	5.98	34.44	47.19	46.66	74.00	27.34	Peak
2	2390.000	27.96	6.01	34.44	45.05	44.58	74.00	29.42	Peak
3	2400.000	27.96	6.01	34.44	63.83	63.36	74.00	10.64	Peak
4	2401.960	27.96	6.01	34.44	94.55	94.08	74.00	-20.08	Peak

Remarks:

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



Site no. : 3m Chamber Data no. : 32
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Bluetooth Portal of Power
 Power supply : DC 4.5V
 Test mode : 8-DPSK 2402MHz Tx
 M/N : 84442790

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2381.440	27.93	5.98	34.44	47.40	46.87	74.00	27.13	Peak
2	2390.000	27.96	6.01	34.44	45.17	44.70	74.00	29.30	Peak
3	2400.000	27.96	6.01	34.44	55.20	54.73	74.00	19.27	Peak
4	2402.150	27.96	6.01	34.44	85.03	84.56	74.00	-10.56	Peak

Remarks:

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

12.DEVIATION TO TEST SPECIFICATIONS

[NONE]