FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

PRECENO TECHNOLOGY PTE.LTD.

WIMM One

Model Number: 330

FCC ID: ZJT-330

Prepared for : PRECENO TECHNOLOGY PTE.LTD.
No. 10 Anson Road, #15-17/18, International Plaza,
Singapore 079903

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

Tel: (0755) 26639496

Report Number	:	ACS-F11121
Date of Test	:	Jul.11~19, 2011
Date of Report	:	Jul.19, 2011

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TEST REPORT CERTIFICATION

Applicant	:	PRECENO TECHNOLOGY PTE.LTD.
Manufacturer	:	PRECENO TECHNOLOGY PTE.LTD.
EUT Description	:	WIMM One
FCC ID	:	ZJT-330

(A) MODEL NO. : 330
(B) SERIAL NO. : N/A
(C) POWER SUPPLY : DC 5V From Adapter Input, AC 120V/60Hz
(D) TEST VOLTAGE : DC 5V From Adapter Input AC 120V/60Hz

Tested for comply with:
FCC Rules and Regulations Part 15 Subpart C: 2008
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 and IC 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 : Jul.11~ 19, 2011 Report of date: Jul.19, 2011

Prepared by : Blove Ye
Blove Ye / Assistant

Reviewer by :
Sunny Lu / Senior Assistant

信華科技（深圳）有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC 部門報告專用章
Stamp only for EMC Dept. Report
Signature: Ken Lu 7/19

Approved & Authorized Signer :
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	FCC Part 15: 15.207 ANSI C63.10: 2009	PASS
Radiated Emission	FCC Part 15: 15.209 ANSI C63.10: 2009	PASS
Band Edge Compliance	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Conducted spurious emissions	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
6dB Bandwidth	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Peak Output Power	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Power Spectral Density	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

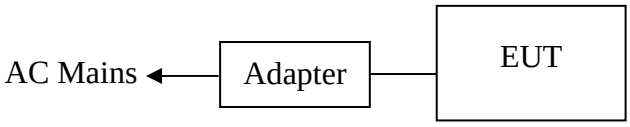
Product Name	:	WIMM One
Model Number	:	330
FCC ID	:	ZJT-330
Operation Frequency	:	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz
Channel Number	:	IEEE 802.11b/g, 11.
Modulation Technology	:	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK)
Antenna Assembly Gain	:	IFA, -2.2dBi PK gain
Applicant	:	PRECENO TECHNOLOGY PTE.LTD. No. 10 Anson Road, #15-17/18, International Plaza, Singapore 079903
Manufacturer	:	PRECENO TECHNOLOGY PTE.LTD. No. 10 Anson Road, #15-17/18, International Plaza, Singapore 079903
Power Adapter	:	Model No.: K20-AM
USB Cable	:	Unshielded, Detachable, 1.1m
Date of Test	:	Jul.11~19, 2011
Date of Receipt	:	Jul.10, 2011
Sample Type	:	Prototype production

2.2.Test Information

A special test software was used to control EUT work in Continuous TX mode(100% duty cycle), and select test channel, wireless mode and data rate.

Tested mode, channel, and data rate information			
Mode	data rate (Mpbs)(see Note)	Channel	Frequency (MHz)
IEEE 802.11b	1	Low :CH1	2412
	1	Middle: CH6	2437
	1	High: CH11	2462
IEEE 802.11g	6	Low :CH1	2412
	6	Middle: CH6	2437
	6	High: CH11	2462
Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.			

2.3. Block diagram of connection between the EUT and simulators



(EUT: WIMM One)

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: Mar.31, 2012
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: Jul.02, 2011
	:	Accredited by DATech, German Registration Number: DAT-P-091/99-01 Valid Date: Feb.01, 2014
		Accredited by NVLAP, USA NVLAP Code: 200372-0 Valid Date: Mar.31, 2012

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

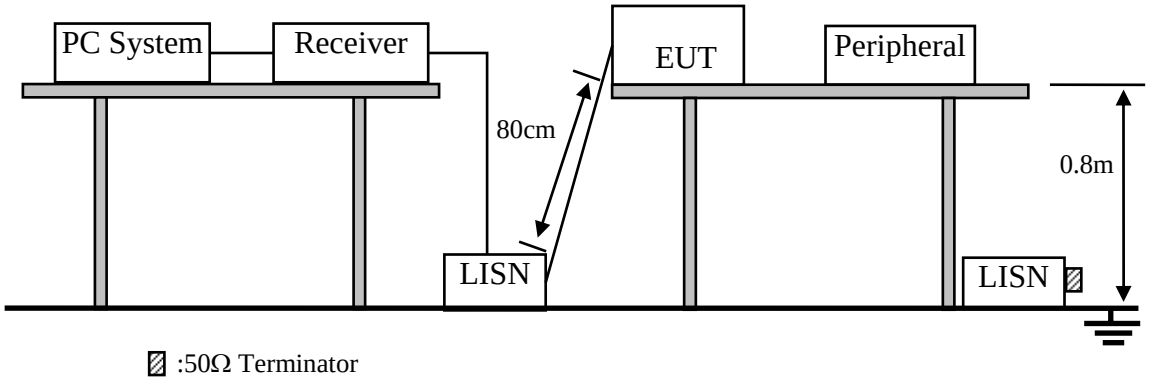
Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	3.2 dB (150KHz to 30MHz)
Uncertainty for Radiation Emission test in 3m chamber	3.6 dB(30~200MHz, Polarize: H)
	3.7 dB(30~200MHz, Polarize: V)
	4.0 dB(200M~1GHz, Polarize: H)
	3.7 dB(200M~1GHz, Polarize: V)
Uncertainty 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	3.57 dB
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	$7x10^{-8}$
Uncertainty for Bandwidth test	83 kHz
Uncertainty for DC power test	0.038 %
Uncertainty for test site temperature and humidity	0.6℃
	3%

3. POWER LINE CONDUCTED EMISSION TEST

3.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	838693/001	Nov.05, 10	1 Year
2.	L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	834066/011	Nov.05, 10	1 Year
3.	Terminator	Hubersuhner	50Ω	No. 1	May 08, 11	1 Year
4.	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May 08, 11	1Year
5.	Coaxial Switch	Anritsu	MP59B	M55367	May 08, 11	1 Year
6.	Passive Probe	Rohde & Schwarz	ESH2-Z3	299.7810.52	May 08, 11	1 Year
7.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May 08, 11	1 Year

3.2.Block Diagram of Test Setup



▨ :50Ω Terminator

3.3.Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.4.Configuration of EUT on Test

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

3.4.1.WIMM One (EUT)

Model Number : 330
Serial Number : N/A

3.4.2.Support Equipment: As Tested Supporting System Details, in Section 2.3.

3.5.Operating Condition of EUT

3.5.1.Setup the EUT and simulator as shown as Section 2.4.

3.5.2.Turned on the power of all equipment.

3.5.3.PC run test software to control EUT work in Tx mode.

3.6.Test Procedure

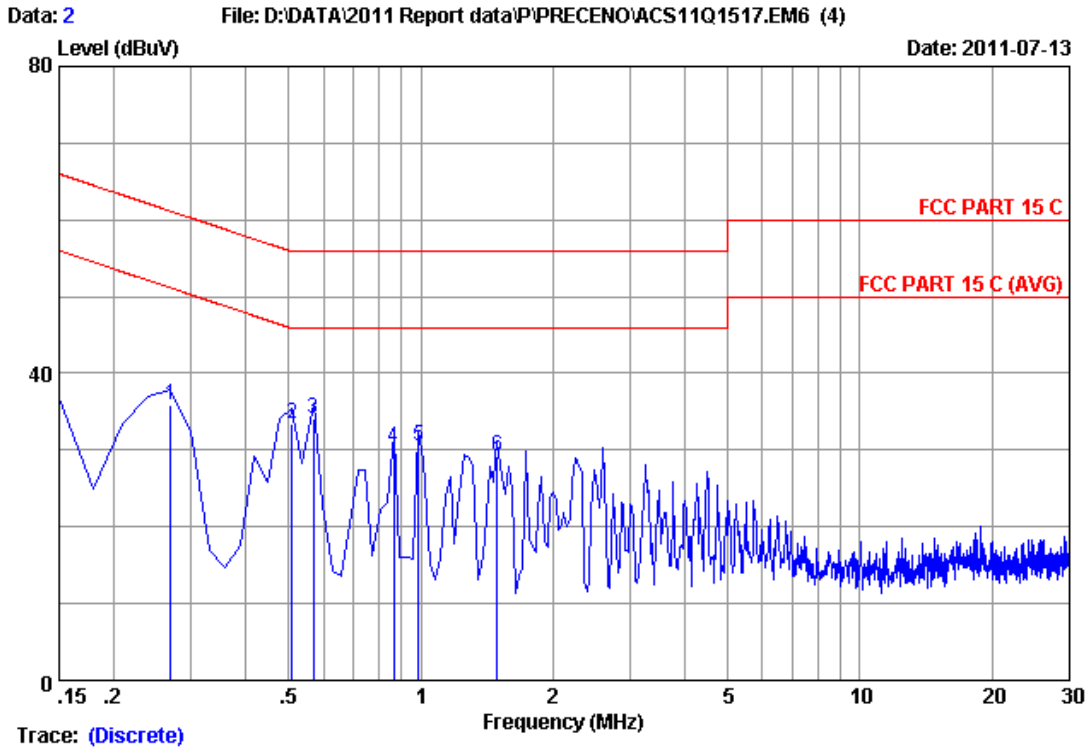
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via PC connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2009 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS10) is set at 10kHz.

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

3.7.Power Line Conducted Emission Test Results

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

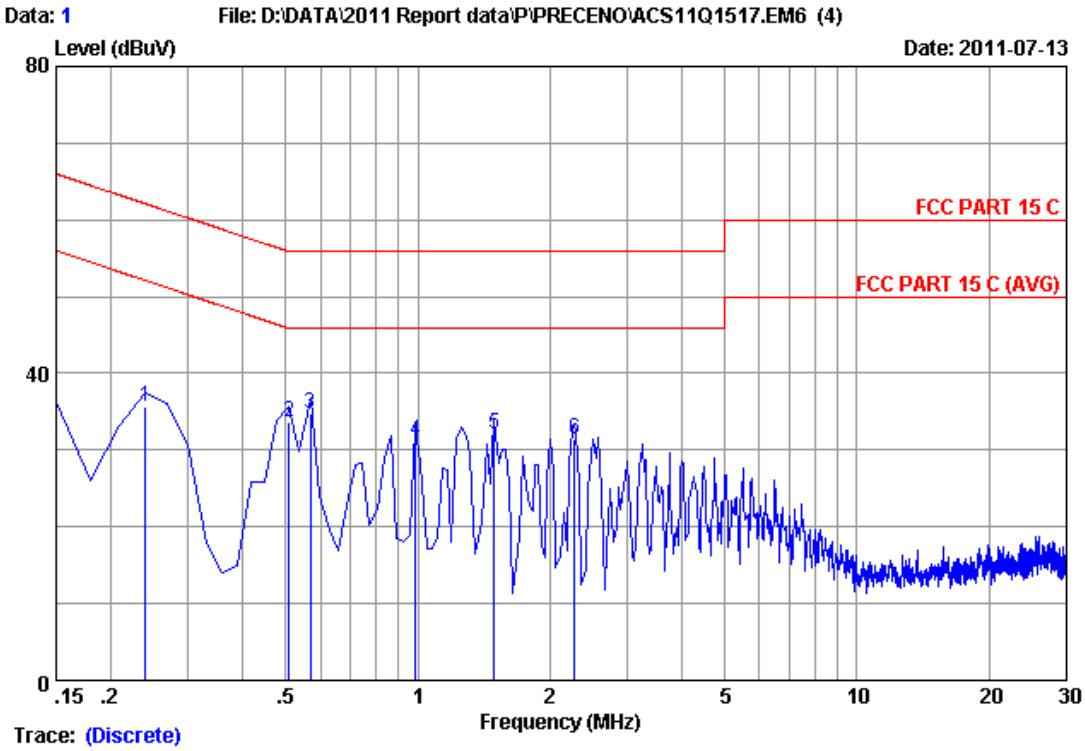


Trace: (Discrete)

Site no :1#conduction Data No :2
Dis./Ant. :** 2011 ESH2-Z5 LINE
Limit :FCC PART 15 C
Env./Ins. :29.5*C/55% Engineer :Leo-Li
EUT :WIMM One M/N:330
Power Rating :DC 5V From Adapter Input AC 120V/60Hz
Test Mode :Tx Mode (WiFi)

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.26940	0.18	9.98	25.80	35.96	61.14	25.18	QP
2	0.50820	0.19	9.98	23.34	33.51	56.00	22.49	QP
3	0.56790	0.19	9.98	24.00	34.17	56.00	21.83	QP
4	0.86640	0.21	9.98	20.21	30.40	56.00	25.60	QP
5	0.98580	0.23	9.98	20.41	30.62	56.00	25.38	QP
6	1.493	0.27	9.97	18.88	29.12	56.00	26.88	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)
+Reading.
2.If the average limit is met when useing a quasi-peak detector.
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.



Trace: (Discrete)

Site no :1#conduction Data No :1
Dis./Ant. :** 2011 ESH2-Z5 NEUTRAL
Limit :FCC PART 15 C
Env./Ins. :29.5*C/55% Engineer :Leo-Li
EUT :WIMM One M/N:330
Power Rating :DC 5V From Adapter Input AC 120V/60Hz
Test Mode :Tx Mode (WiFi)

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.23955	0.21	9.98	25.35	35.54	62.11	26.57	QP
2	0.50820	0.22	9.98	23.45	33.65	56.00	22.35	QP
3	0.56790	0.22	9.98	24.56	34.76	56.00	21.24	QP
4	0.98580	0.24	9.98	20.95	31.17	56.00	24.83	QP
5	1.493	0.25	9.97	21.78	32.00	56.00	24.00	QP
6	2.269	0.28	9.96	21.18	31.42	56.00	24.58	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)
+Reading.
2.If the average limit is met when useing a quasi-peak detector.
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

4. RADIATED EMISSION TEST

4.1.Test Equipment

Frequency rang: 30~1000MHz

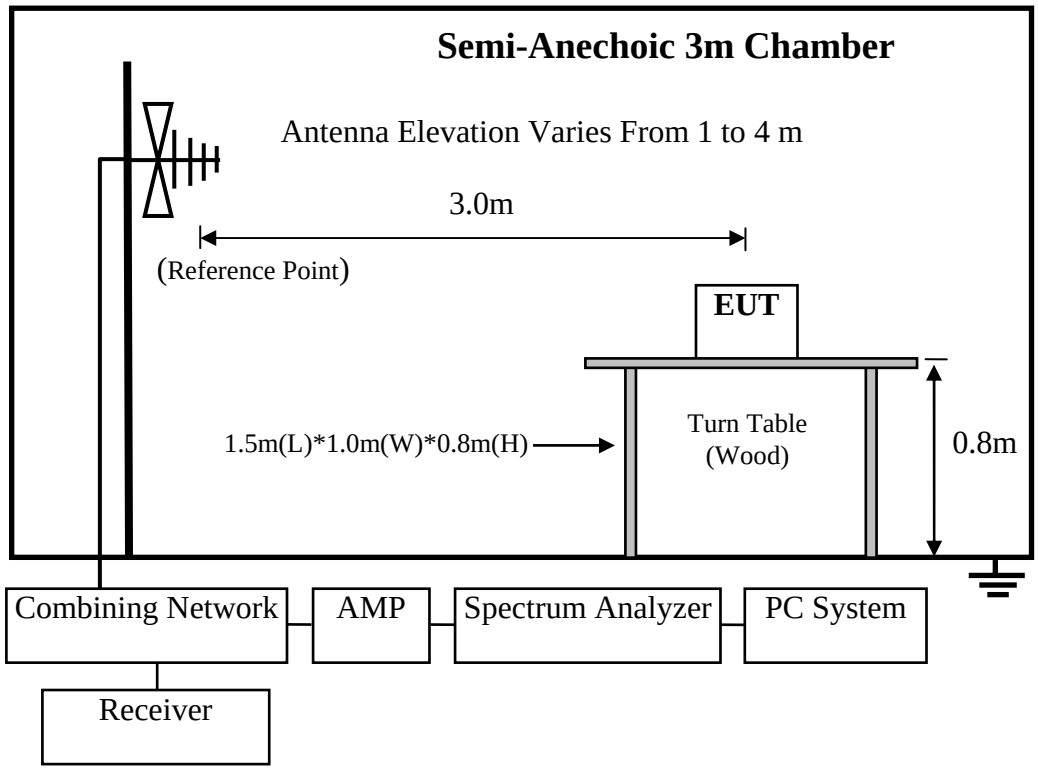
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Dec.06,10	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 11	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 11	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 11	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Oct. 26, 10	1 Year
6	RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 11	1 Year
7	Coaxial Switch	Anritsu	MP59B	M73989	May.08, 11	1 Year

Frequency rang: above 1GHz~18GHz

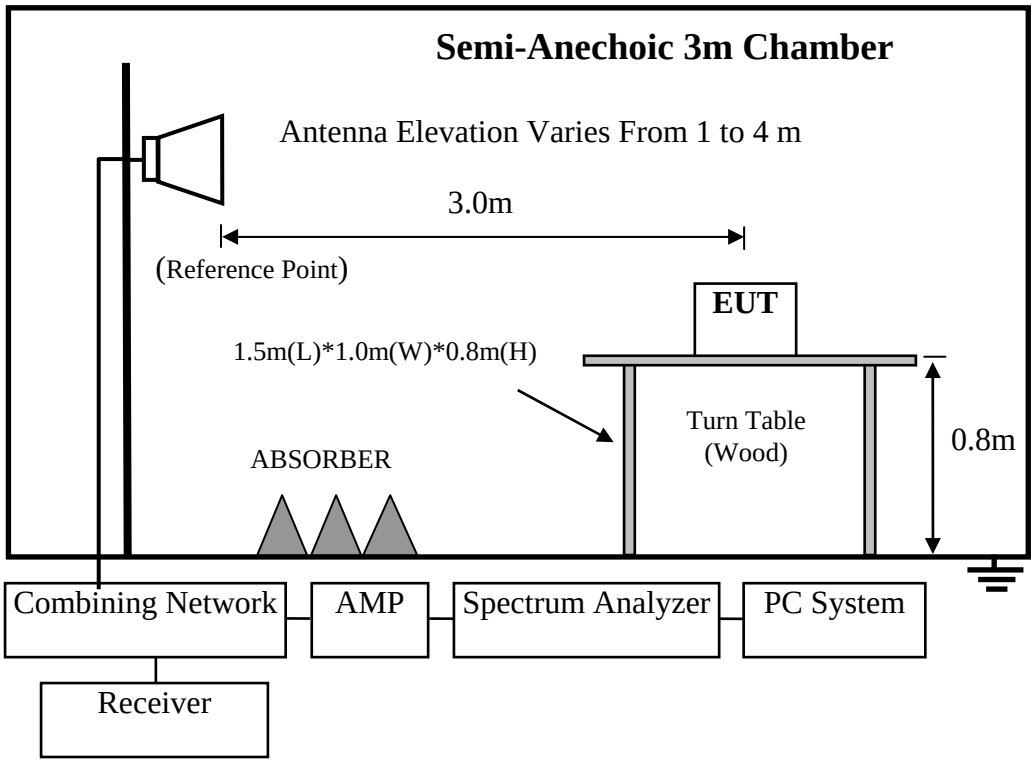
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4407B	MY41440292	May.08, 11	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	May.25, 11	1.5 Year
3	Amplifier	Agilent	8449B	3008A00863	May.08, 11	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX102	28622/2	May.08, 11	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	29091/2	May.08, 11	1 Year

4.2.Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range above 1GHz~18GHz



4.3.Radiated Emission Limit

4.3.1.15.209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/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 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Remark： (1) Emission level dBμV = 20 log Emission level μV/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.

4.3.2.15.205 Restricted bands of operation

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

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

4.4.EUT Configuration on Test

The configurations of EUT are listed in Section 3.5.

4.5.Operating Condition of EUT

Same as Conducted Emission test that is listed in Section 3.6. except the test set up replaced by Section 4.2.

4.6.Test Procedure

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. Power on the EUT and let it working in test mode, then test it. 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 are set on test.

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 VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

The frequency range from 30MHz to 10^{th} 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

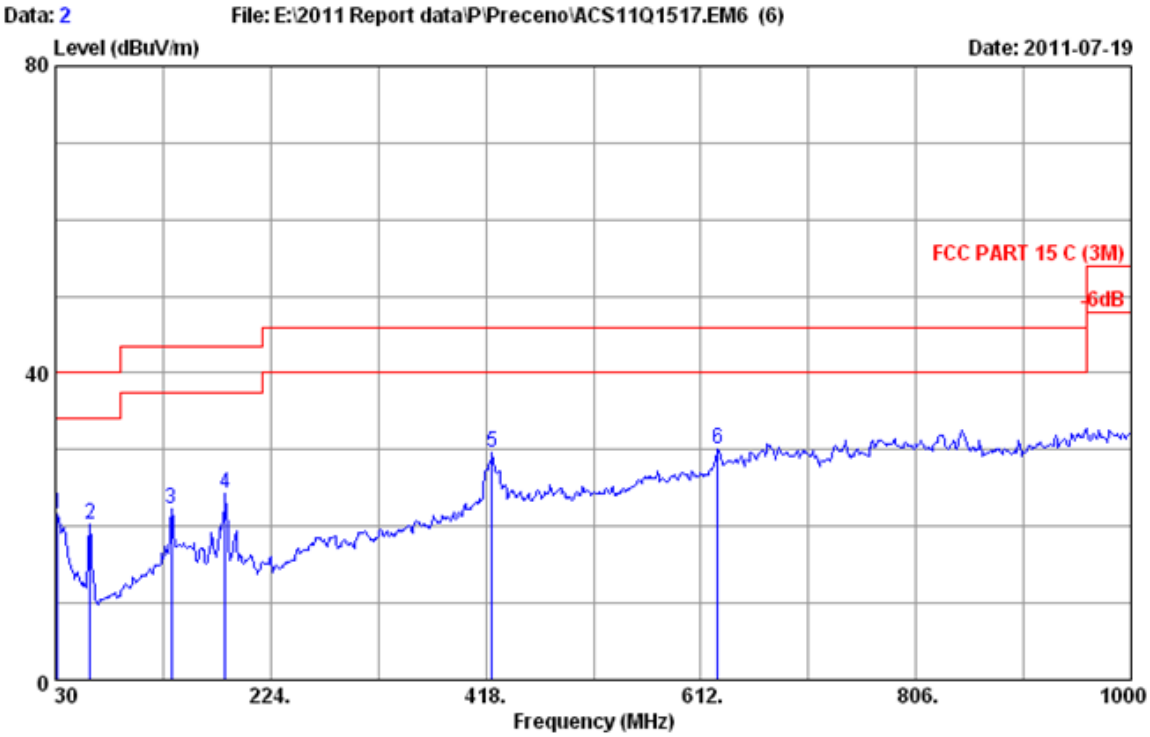
PASS.

Remark: According to exploratory test. There are no obvious emission above 7GHz and cannot find obvious emission in the band 4GHz-7GHz except the second harmonics.

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

Note: For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

Frequency: 30MHz~1GHz




```
Site no.      : 3m Chamber                    Data no.   : 2
Dis. / Ant.   : 3m   2010 CBL6111C 2598       Ant. pol.  : HORIZONTAL
Limit         : FCC PART 15 C (3M)
Env. / Ins.   : 24*C/56%                      Engineer   : Leo_Li
EUT           : WIMM One  M/N:330
Power rating  : DC 5V From Adapter input AC 120V/60Hz
Test Mode     : Tx Mode(WiFi)
```

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	31.940	18.88	0.61	2.17	21.66	40.00	18.34	QP
2	61.040	6.00	0.90	13.27	20.17	40.00	19.83	QP
3	134.760	12.10	1.40	8.86	22.36	43.50	21.14	QP
4	183.260	9.34	1.72	13.31	24.37	43.50	19.13	QP
5	423.820	17.20	3.49	8.96	29.65	46.00	16.35	QP
6	627.520	20.15	4.64	5.36	30.15	46.00	15.85	QP

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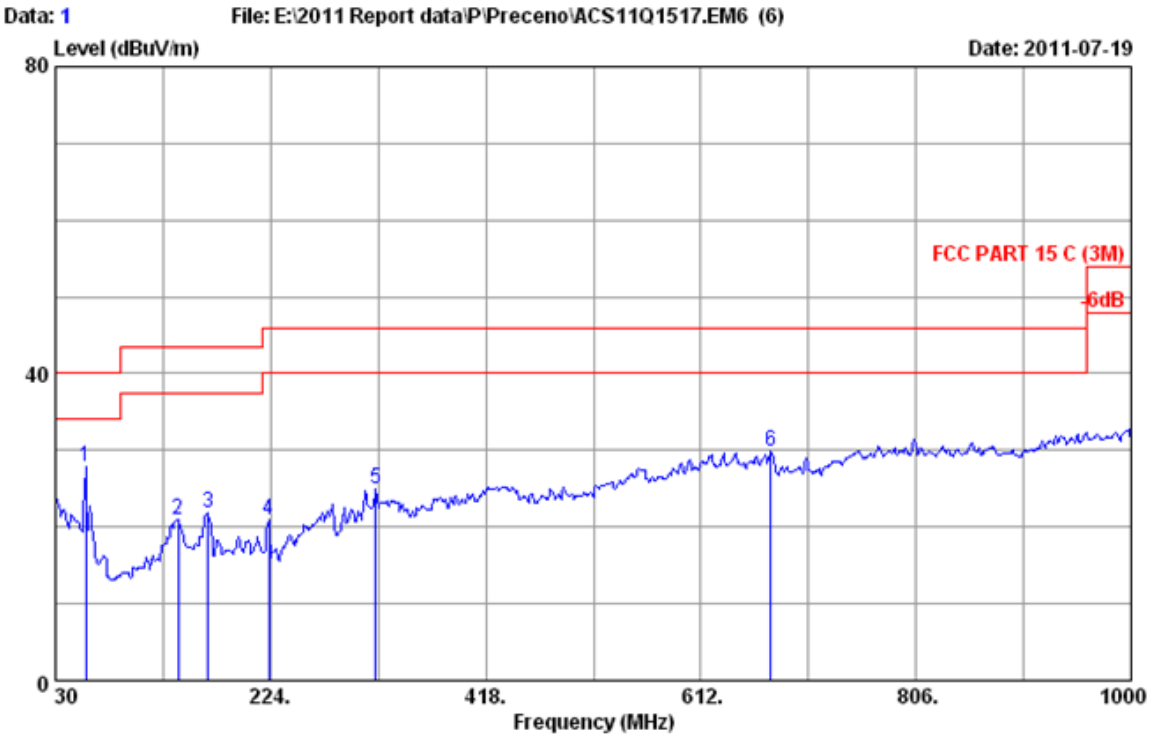
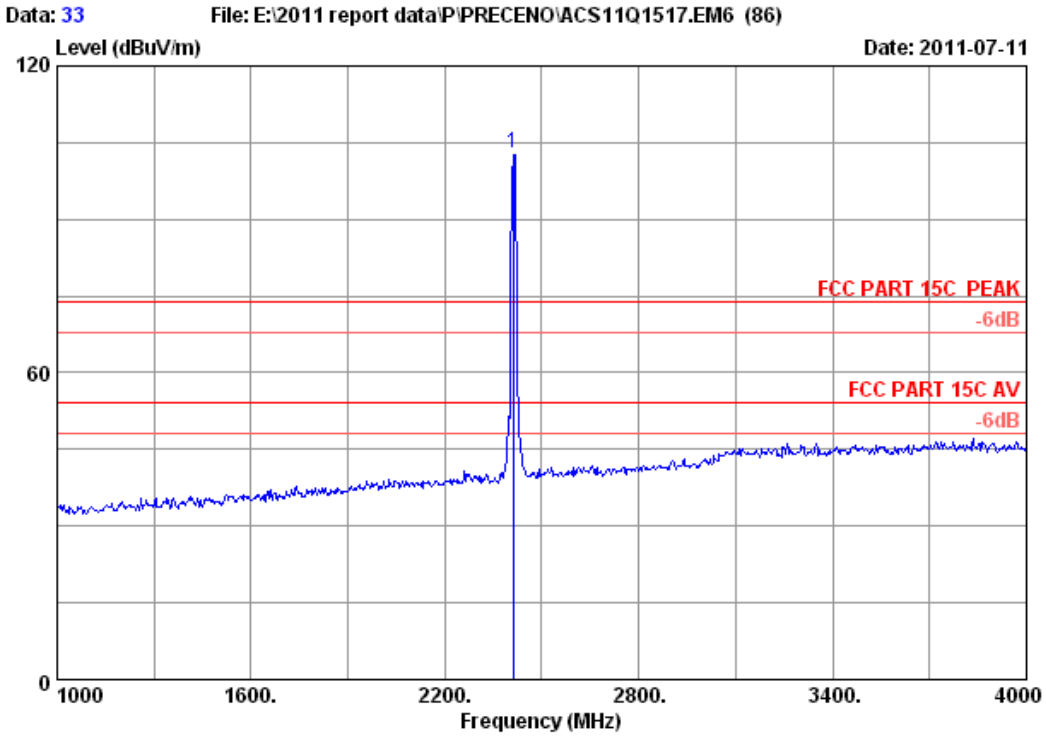


Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2010 CBL6111C 2598 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 24*C/56% Engineer : Leo_Li
EUT : WIMM One M/N:330
Power rating : DC 5V From Adapter input AC 120V/60Hz
Test Mode : Tx Mode(WiFi)

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	57.160	6.66	0.88	20.34	27.88	40.00	12.12	QP
2	140.580	11.98	1.44	7.50	20.92	43.50	22.58	QP
3	167.740	10.40	1.62	9.83	21.85	43.50	21.65	QP
4	222.060	10.36	2.09	8.57	21.02	46.00	24.98	QP
5	319.060	14.18	3.06	7.67	24.91	46.00	21.09	QP
6	675.050	20.75	4.88	4.29	29.92	46.00	16.08	QP

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

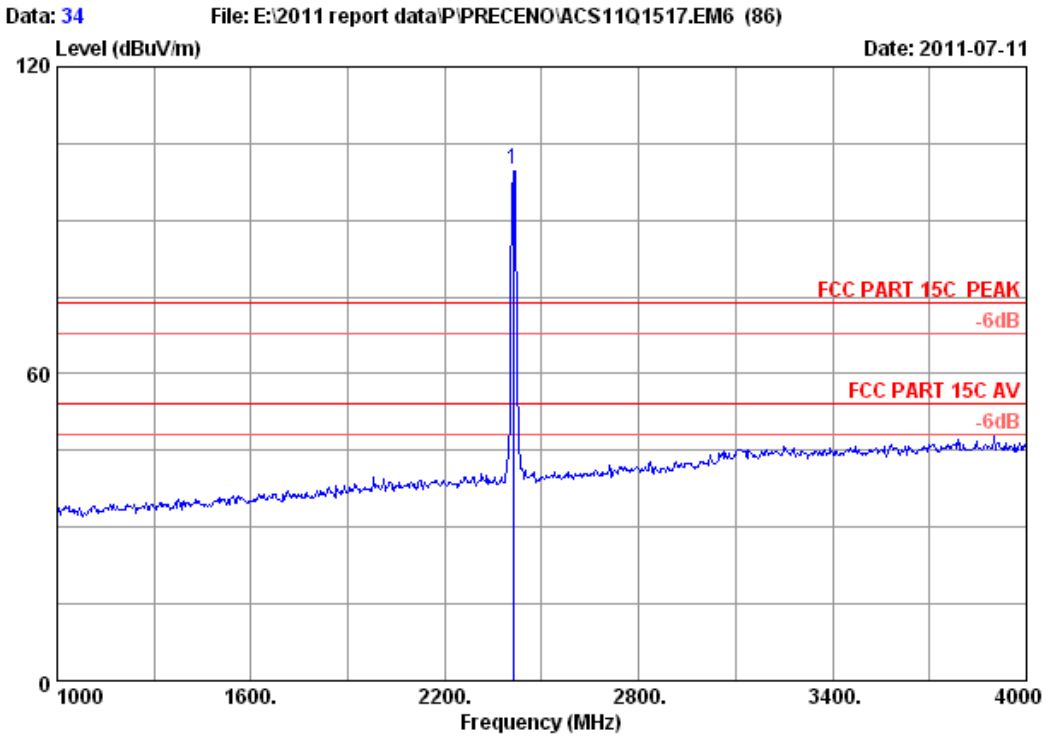
Frequency: 1GHz~18GHz



Site no. : 3m Chamber Data no. : 33
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	2412.000	27.98	6.78	34.44	102.78	103.10	74.00	-29.10	Peak

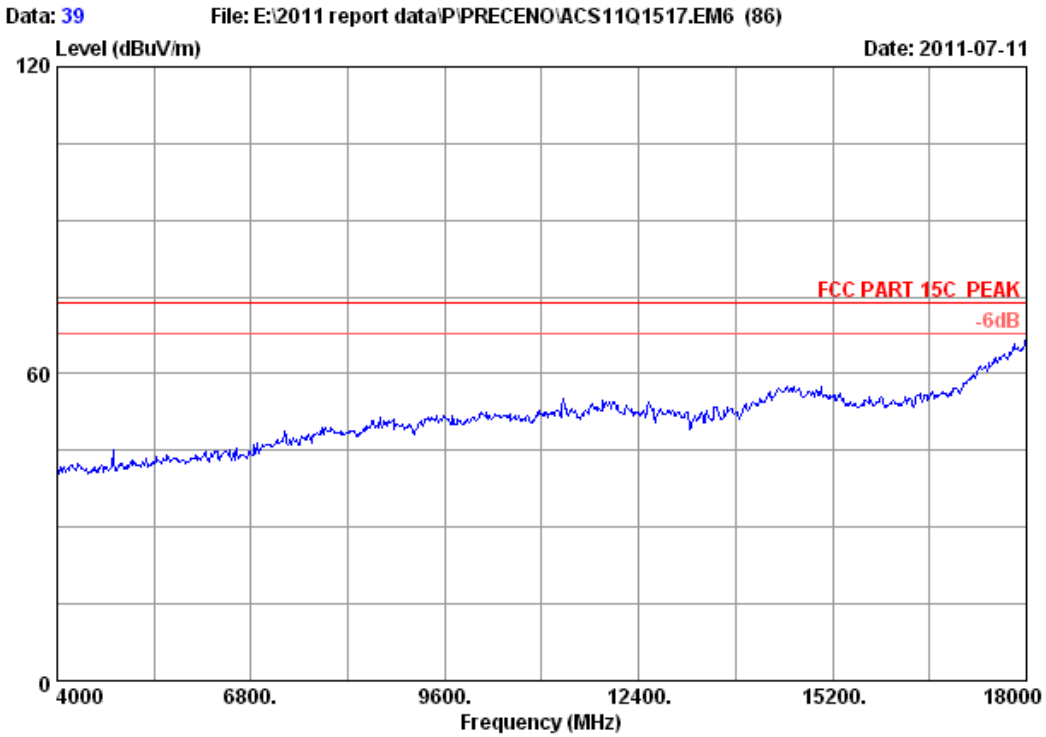
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



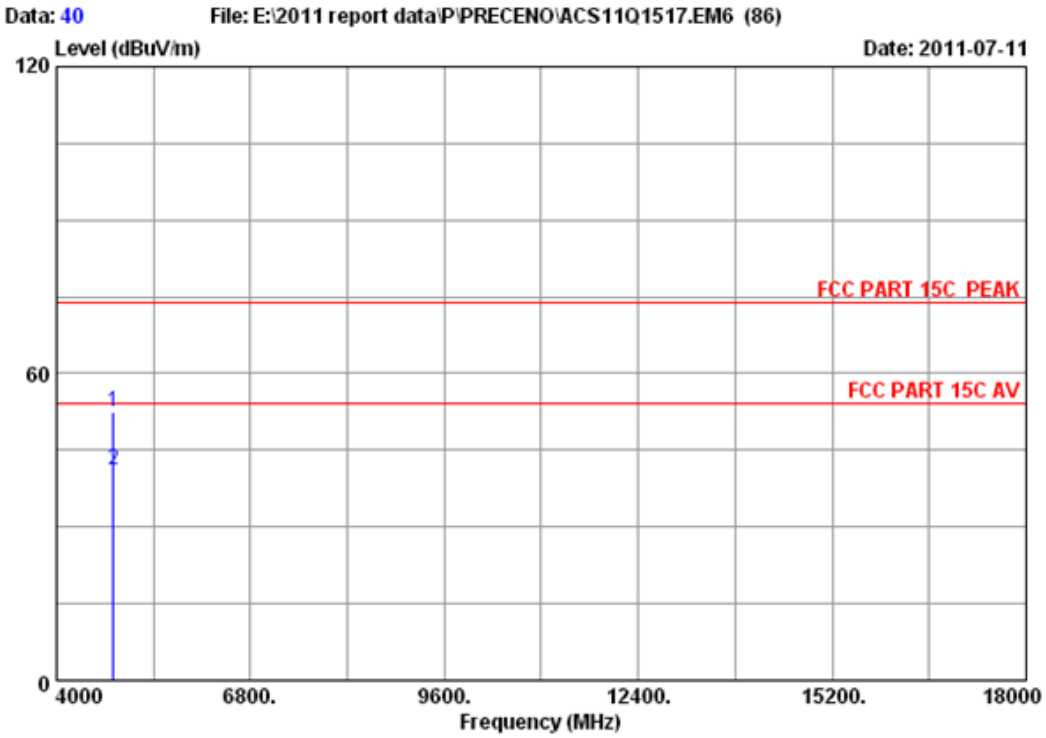
Site no. : 3m Chamber Data no. : 34
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	2412.000	27.98	6.78	34.44	99.48	99.80	74.00	-25.80	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.



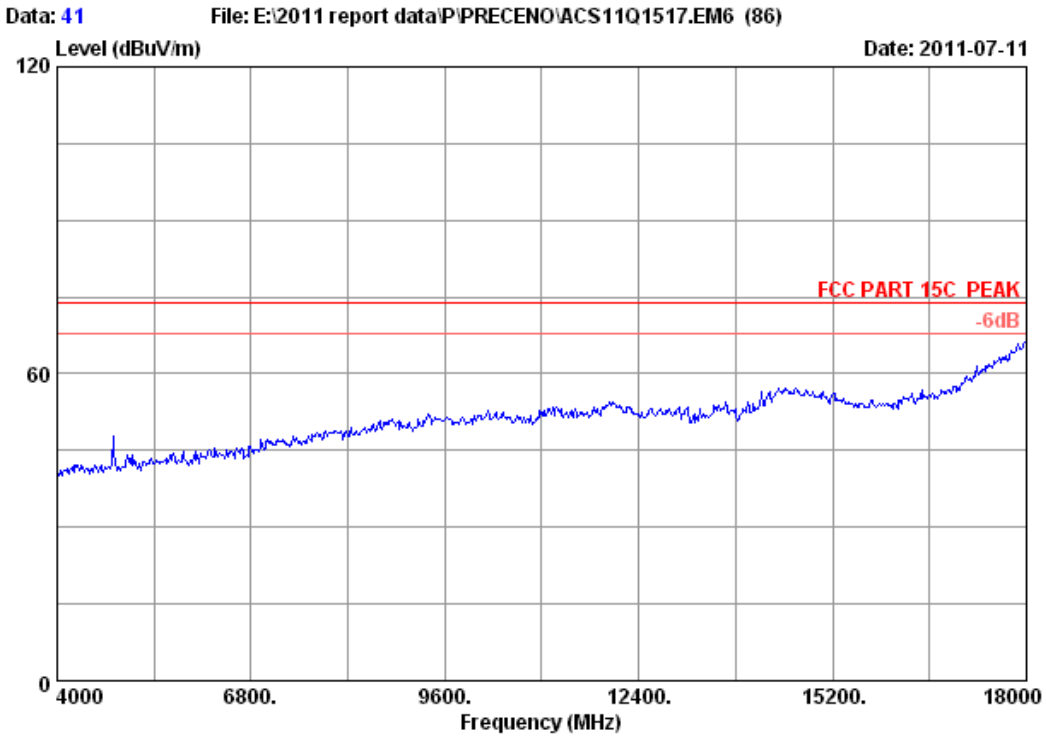

```
Site no.      : 3m Chamber              Data no. :  39
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11b     CH1     2412 MHz   Tx
M/N           : 330
```



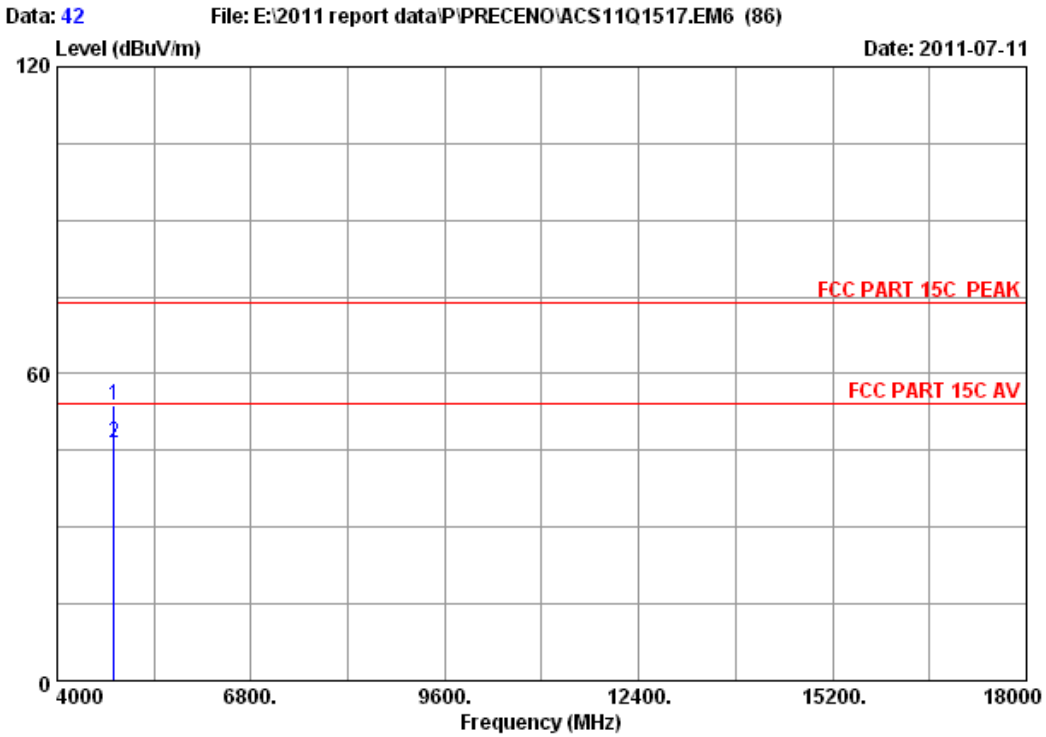
Site no. : 3m Chamber Data no. : 40
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	4824.000	32.89	9.57	34.60	44.71	52.57	74.00	21.43	Peak
2	4824.000	32.89	9.57	34.60	33.38	41.24	54.00	12.76	Average

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.



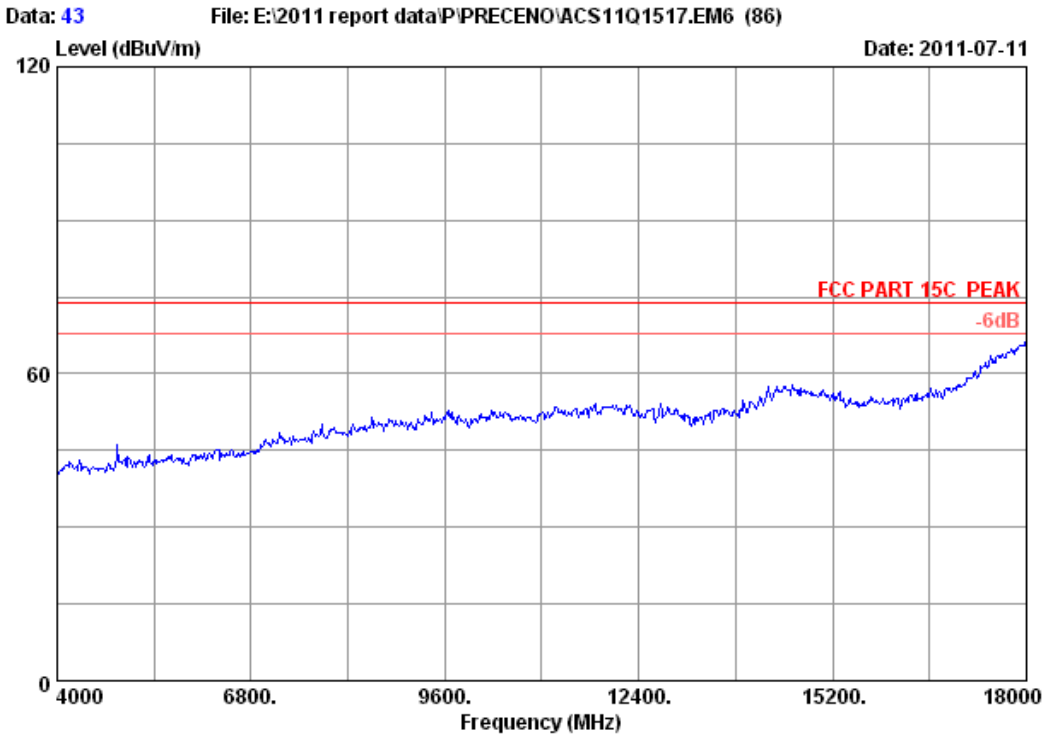

```
Site no.      : 3m Chamber              Data no. :  41
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11b     CH1     2412 MHz   Tx
M/N           : 330
```



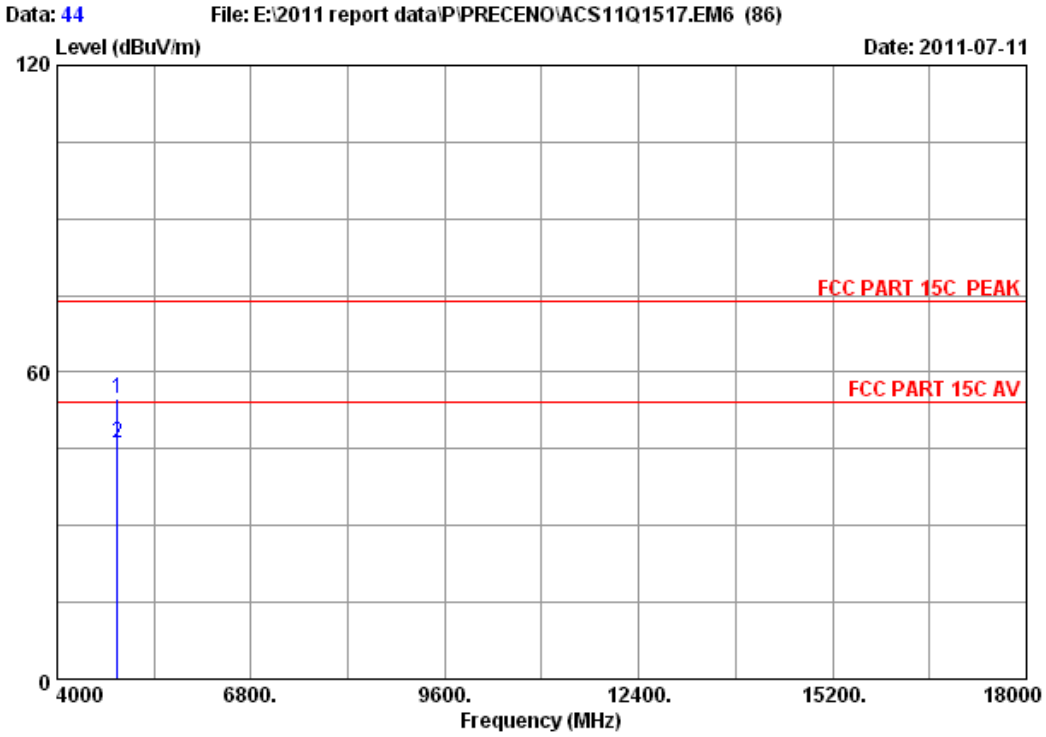
Site no. : 3m Chamber Data no. : 42
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	4824.000	32.89	9.57	34.60	46.07	53.93	74.00	20.07	
2	4824.000	32.89	9.57	34.60	38.75	46.61	54.00	7.39	Average

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.



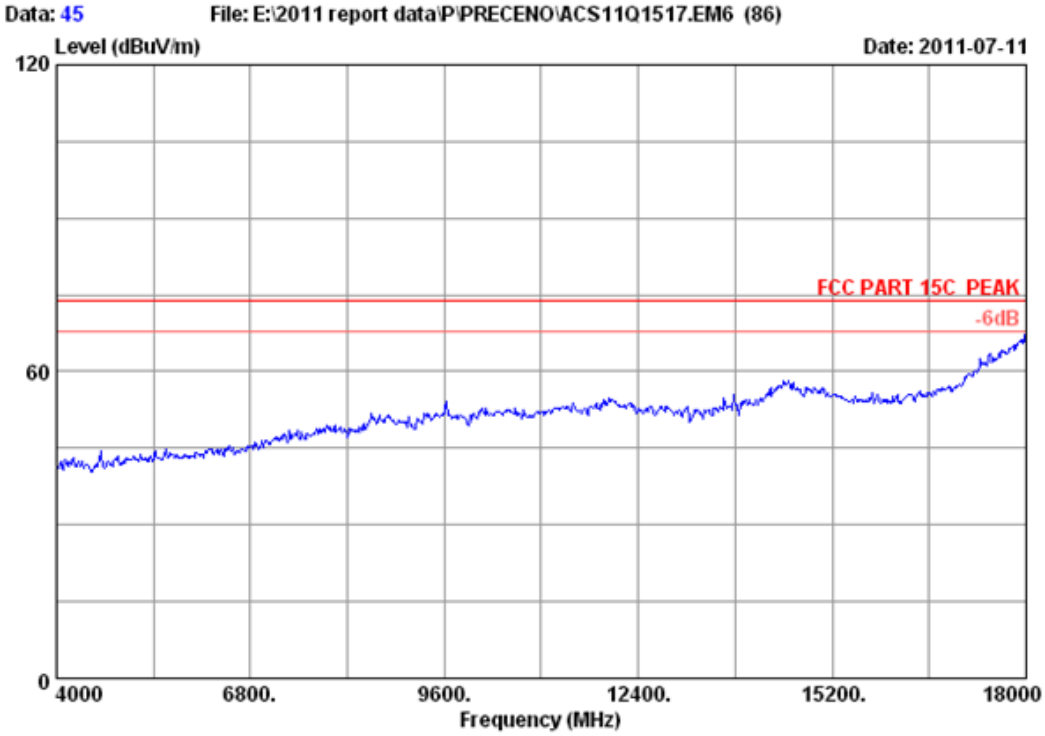

```
Site no.      : 3m Chamber              Data no. :  43
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11b     CH6     2437 MHz   Tx
M/N           : 330
```



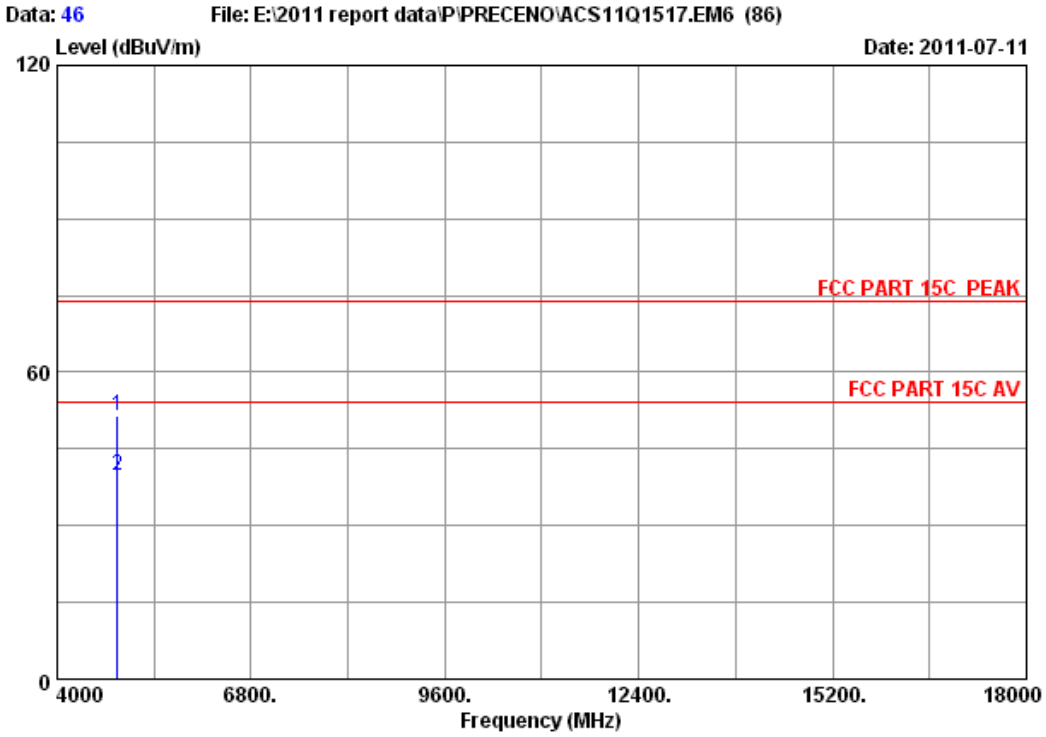
Site no. : 3m Chamber Data no. : 44
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH6 2437 MHz Tx
M/N : 330

	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	4874.000	32.98	9.62	34.60	46.68	54.68	74.00	19.32	Peak
2	4874.000	32.98	9.62	34.60	37.98	45.98	54.00	8.02	Average

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.



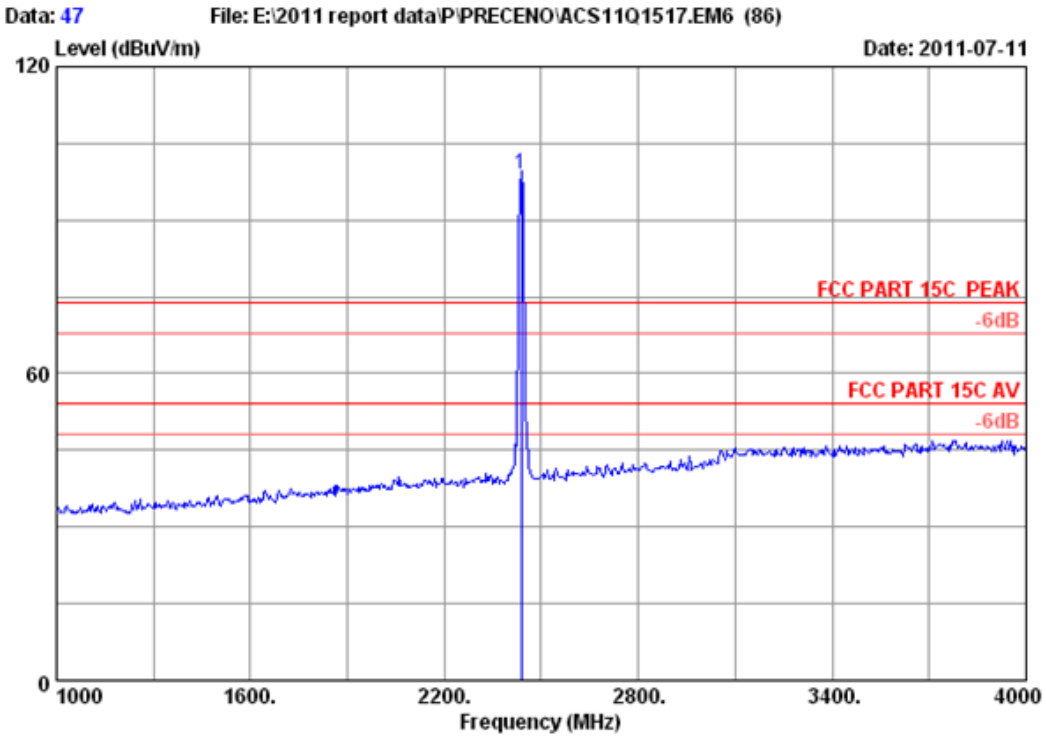
Site no. : 3m Chamber Data no. : 45
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH6 2437 MHz Tx
M/N : 330



Site no. : 3m Chamber Data no. : 46
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH6 2437 MHz Tx
M/N : 330

	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	4874.000	32.98	9.62	34.60	43.58	51.58	74.00	22.42	Peak
2	4874.000	32.98	9.62	34.60	31.80	39.80	54.00	14.20	Average

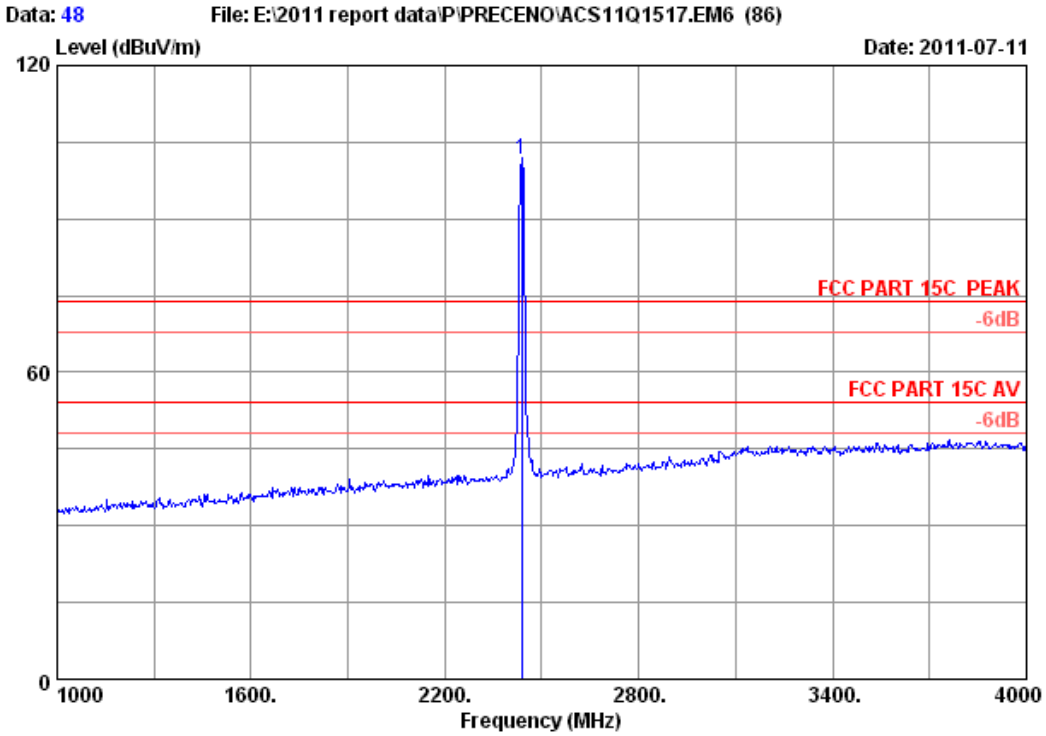
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 47
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH6 2437 MHz Tx
M/N : 330

	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	2437.000	28.03	6.81	34.44	98.48	98.88	74.00	-24.88	Peak

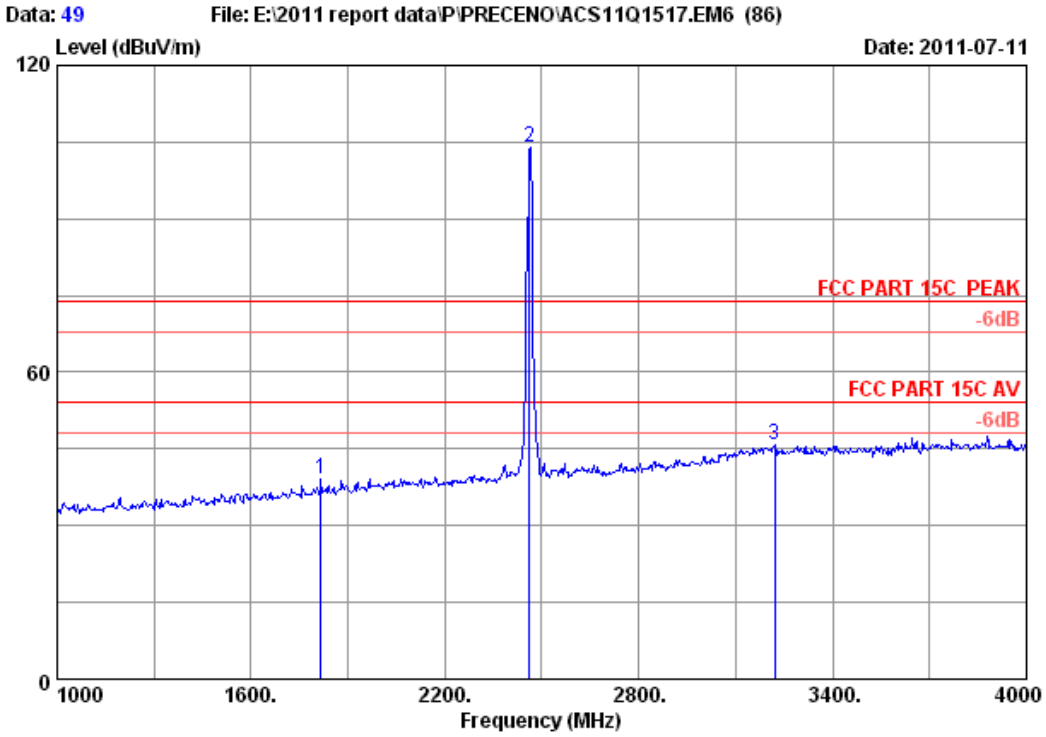
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 48
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH6 2437 MHz Tx
M/N : 330

	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	2437.000	28.03	6.81	34.44	101.05	101.45	74.00	-27.45	Peak

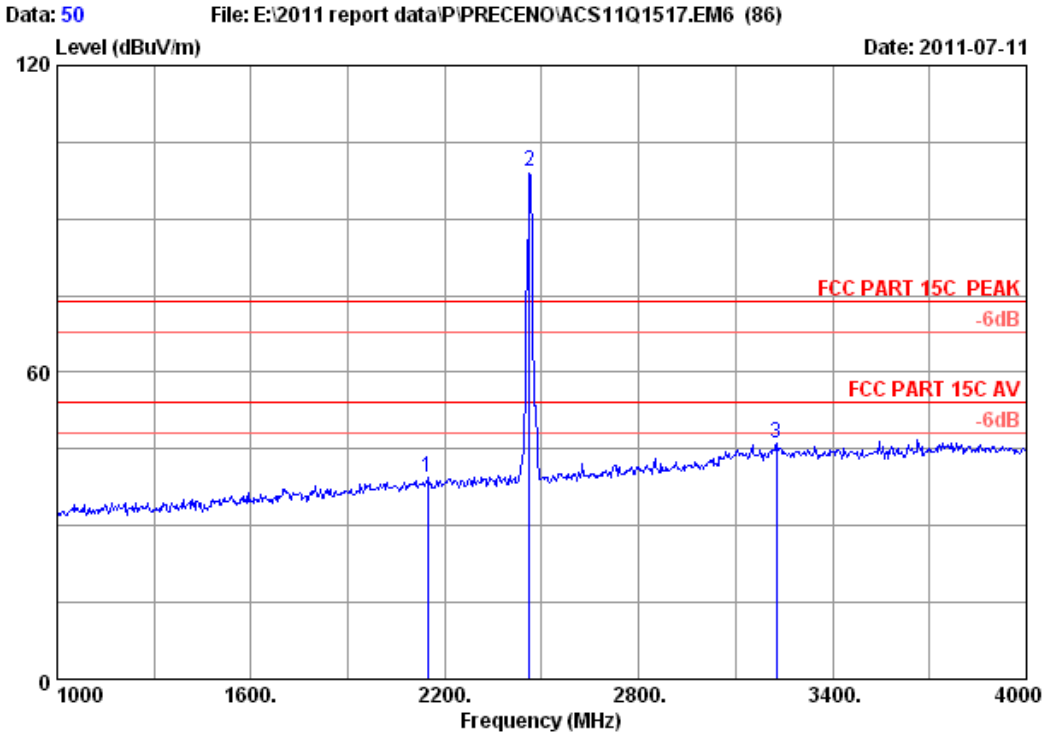
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 49
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	1816.000	26.63	5.72	34.49	41.10	38.96	74.00	35.04	Peak
2	2462.000	28.05	6.84	34.44	103.52	103.97	74.00	-29.97	Peak
3	3220.000	30.49	8.00	34.52	41.72	45.69	74.00	28.31	Peak

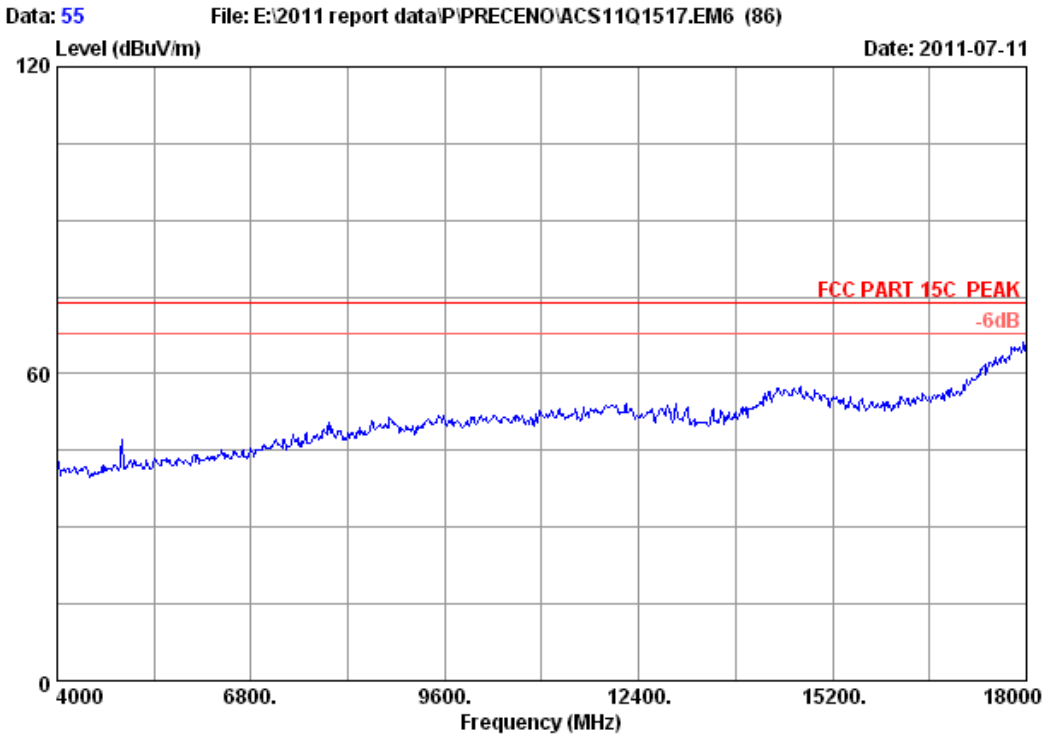
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



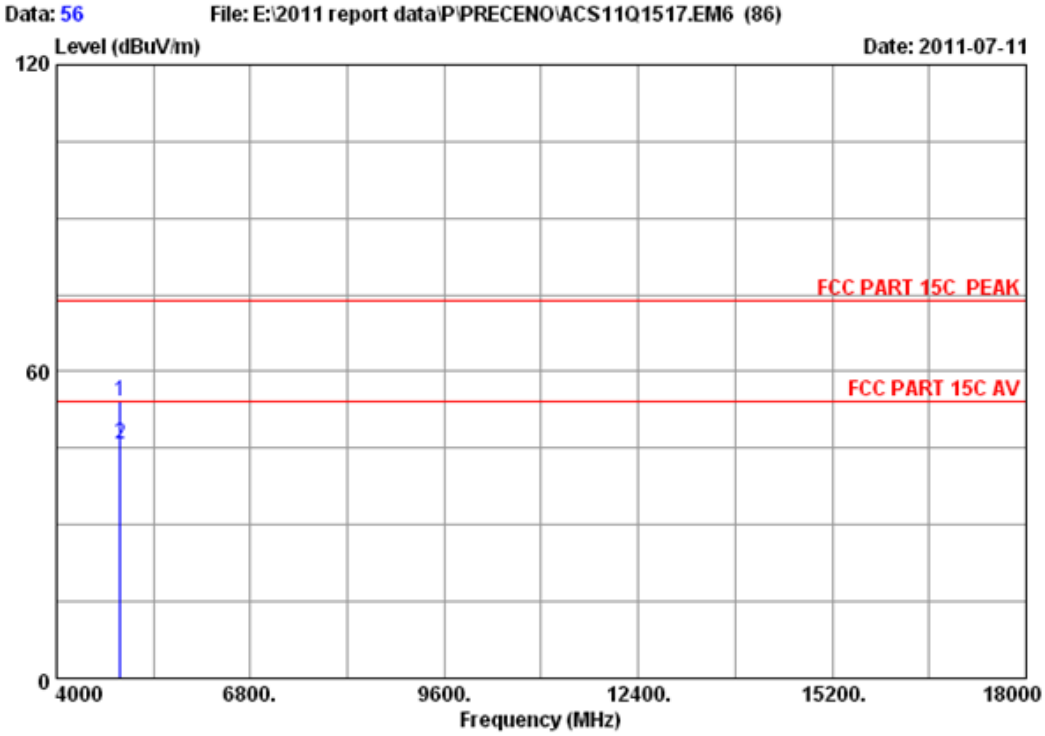
Site no. : 3m Chamber Data no. : 50
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	2146.000	27.59	6.31	34.42	40.02	39.50	74.00	34.50	Peak
2	2462.000	28.05	6.84	34.44	98.87	99.32	74.00	-25.32	Peak
3	3226.000	30.49	8.00	34.52	42.03	46.00	74.00	28.00	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.



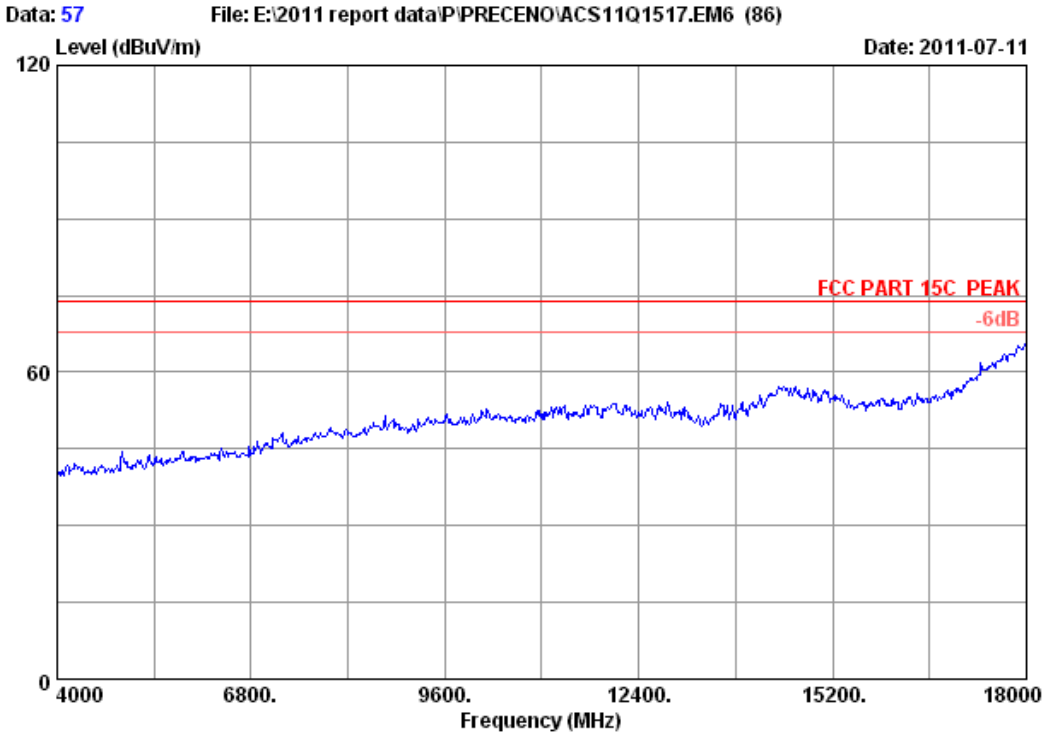

```
Site no.      : 3m Chamber              Data no. :  55
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11b     CH11     2462 MHz   Tx
M/N           : 330
```



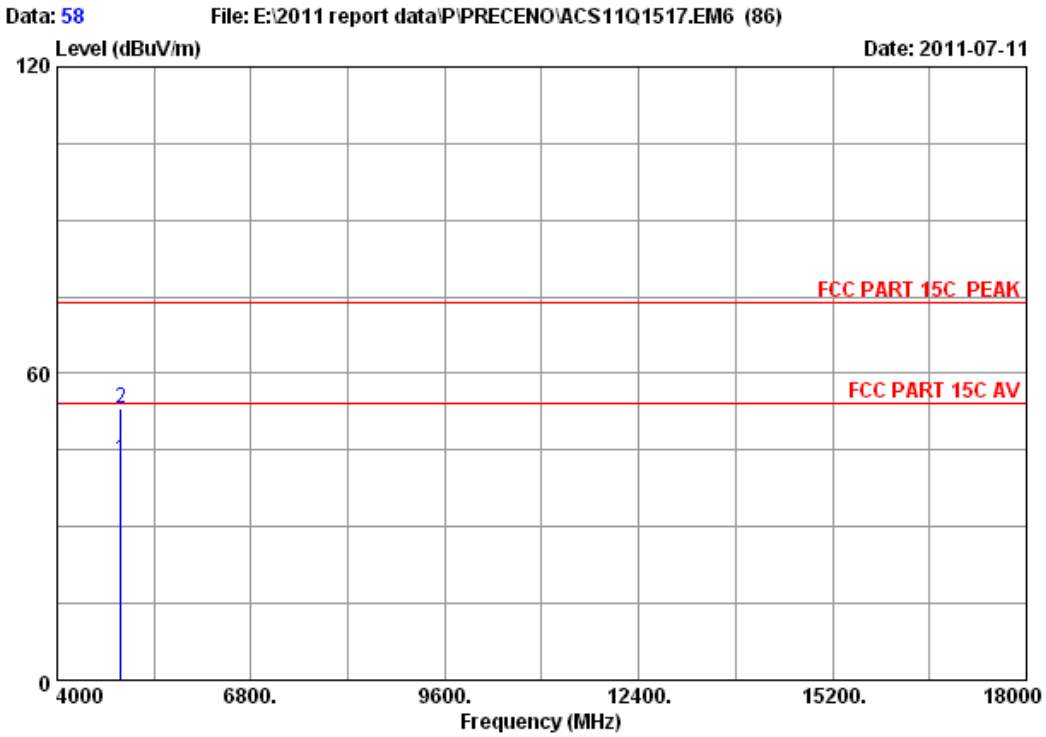
Site no. : 3m Chamber Data no. : 56
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	4924.000	33.08	9.66	34.60	45.96	54.10	74.00	19.90	Peak
2	4924.000	33.08	9.66	34.60	37.63	45.77	54.00	8.23	Average

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.



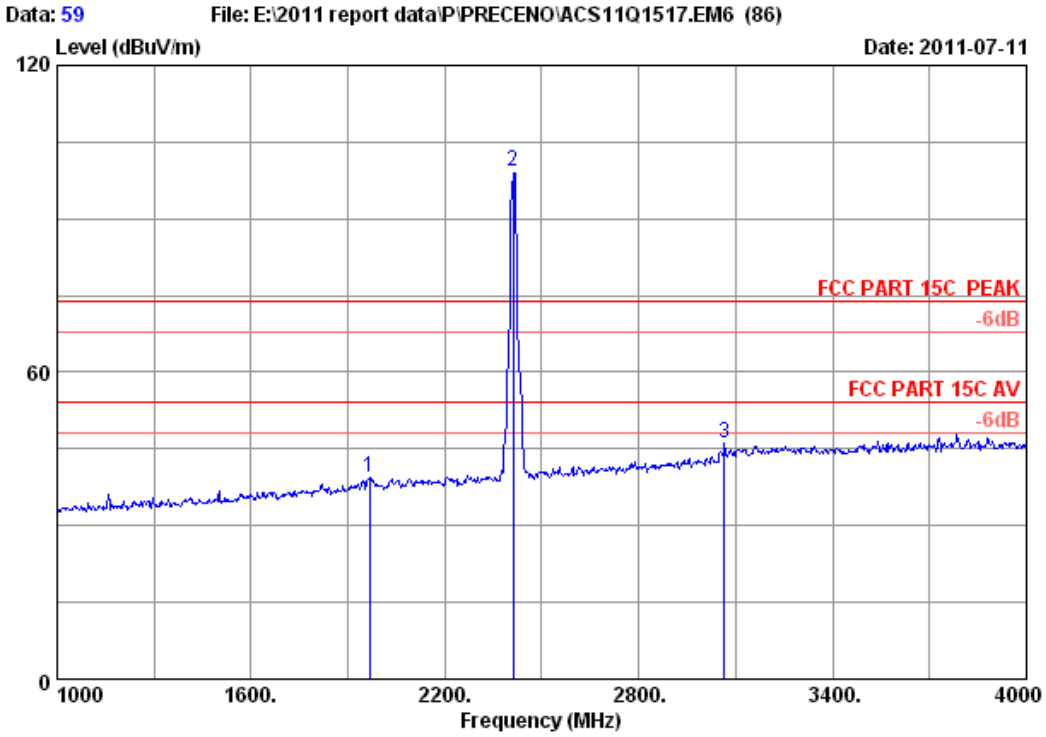

```
Site no.      : 3m Chamber              Data no. :  57
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11b     CH11     2462 MHz    Tx
M/N           : 330
```



Site no. : 3m Chamber Data no. : 58
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	4924.000	33.08	9.66	34.60	34.99	43.13	54.00	10.87	Average
2	4924.000	33.08	9.66	34.60	44.86	53.00	74.00	21.00	Peak

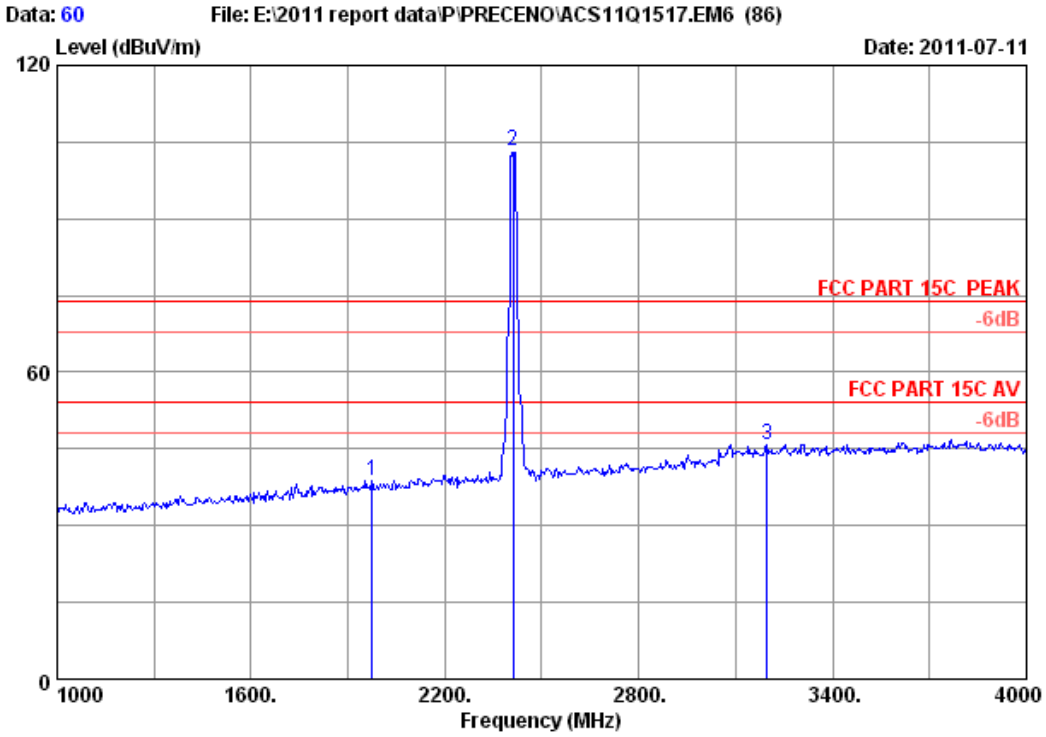
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 59
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	1966.000	27.26	6.00	34.41	40.65	39.50	74.00	34.50	Peak
2	2412.000	27.98	6.78	34.44	98.86	99.18	74.00	-25.18	Peak
3	3064.000	30.11	7.84	34.51	42.60	46.04	74.00	27.96	Peak

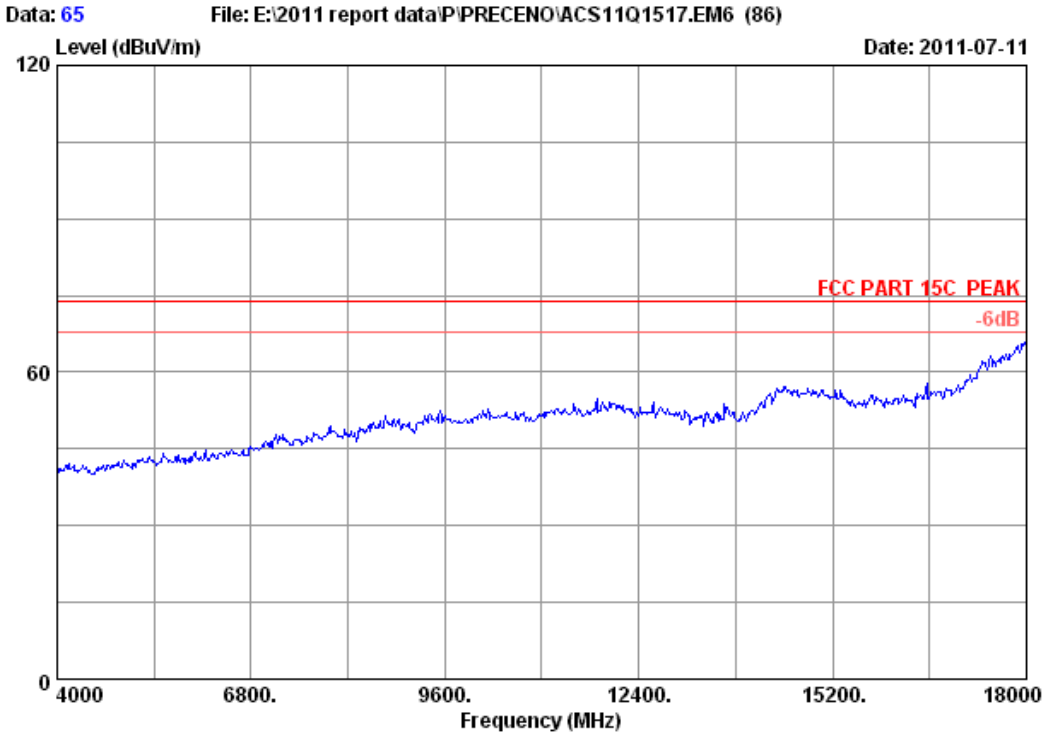
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



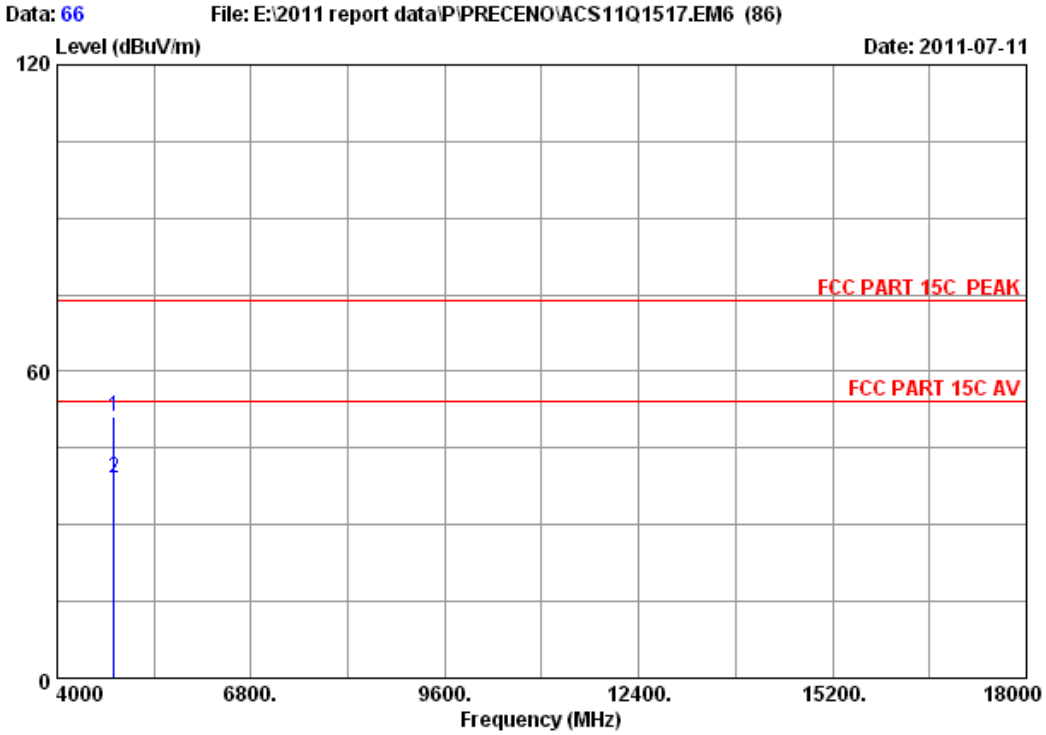
Site no. : 3m Chamber Data no. : 60
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	1975.000	27.26	6.00	34.41	39.86	38.71	74.00	35.29	Peak
2	2412.000	27.98	6.78	34.44	102.87	103.19	74.00	-29.19	Peak
3	3196.000	30.42	7.96	34.52	41.98	45.84	74.00	28.16	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.



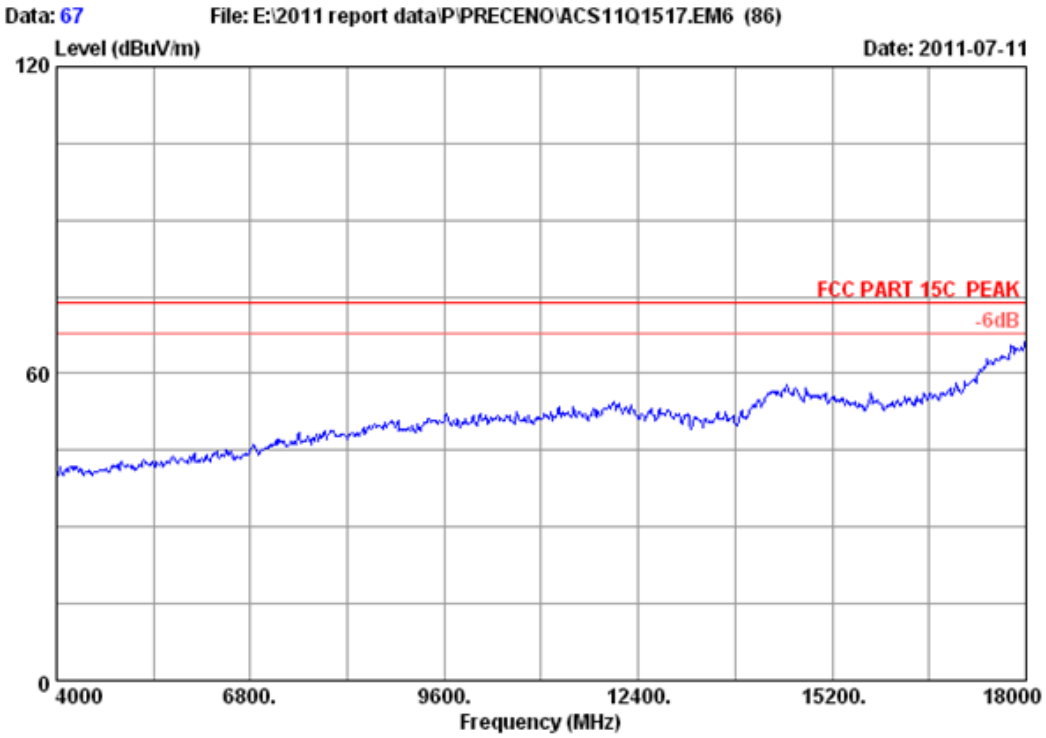

```
Site no.      : 3m Chamber              Data no. :  65
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11g     CH1     2412 MHz   Tx
M/N           : 330
```



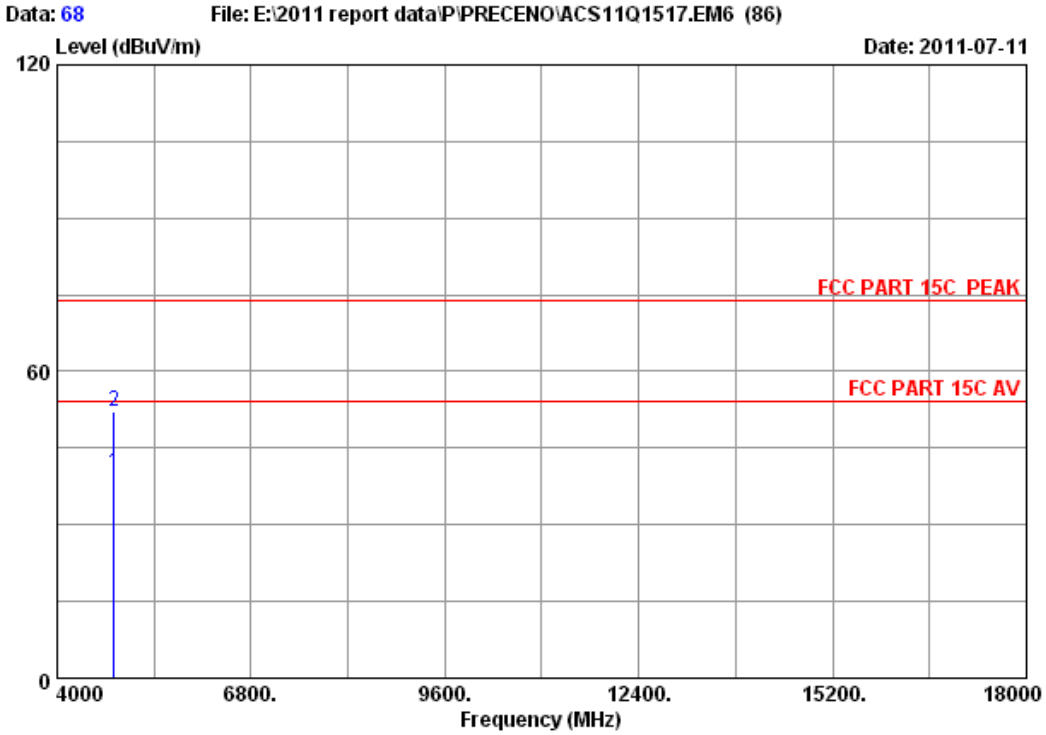
Site no. : 3m Chamber Data no. : 66
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	4824.000	32.89	9.57	34.60	43.25	51.11	74.00	22.89	Peak
2	4824.000	32.89	9.57	34.60	31.26	39.12	54.00	14.88	Average

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.



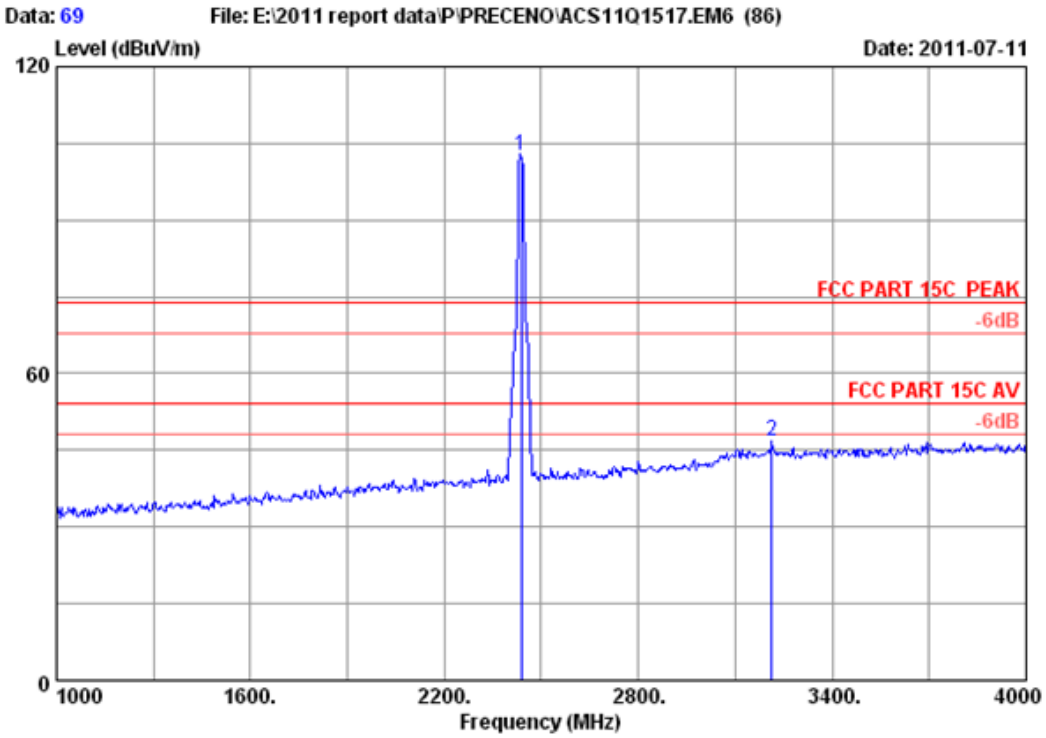

```
Site no.      : 3m Chamber              Data no. :  67
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11g     CH1     2412 MHz   Tx
M/N           : 330
```



Site no. : 3m Chamber Data no. : 68
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	4824.000	32.89	9.57	34.60	32.13	39.99	54.00	14.01	Average
2	4824.000	32.89	9.57	34.60	44.25	52.11	74.00	21.89	Peak

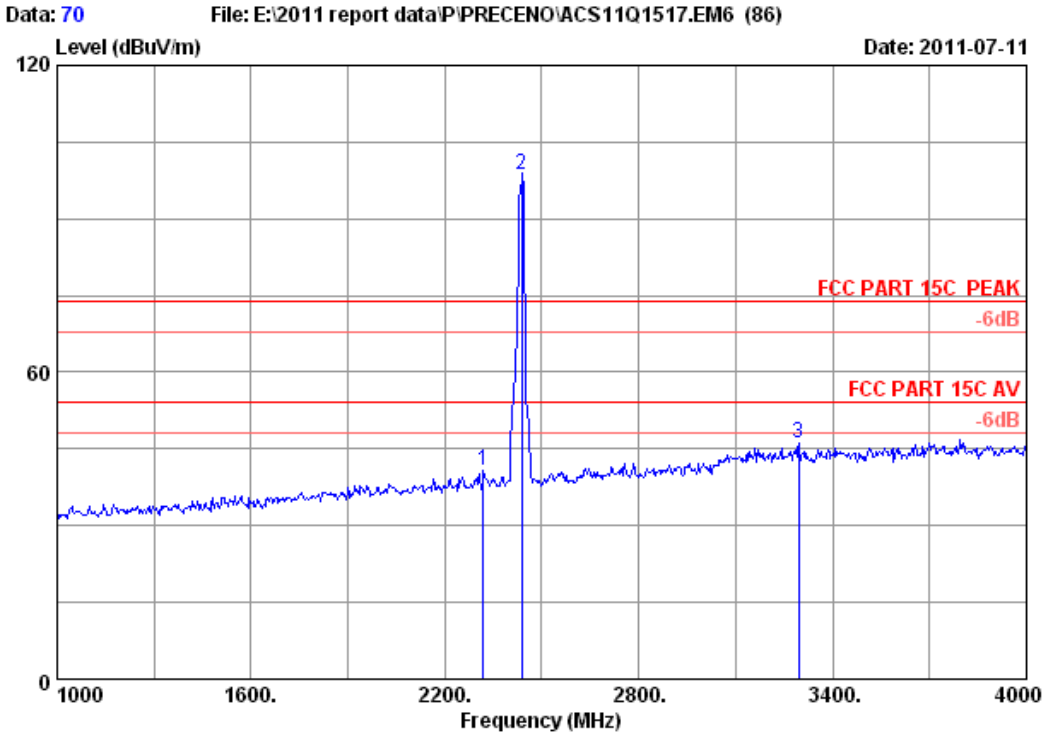
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 69
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH6 2437 MHz Tx
M/N : 330

	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	2437.000	28.03	6.81	34.44	102.19	102.59	74.00	-28.59	Peak
2	3214.000	30.46	7.98	34.52	42.83	46.75	74.00	27.25	Peak

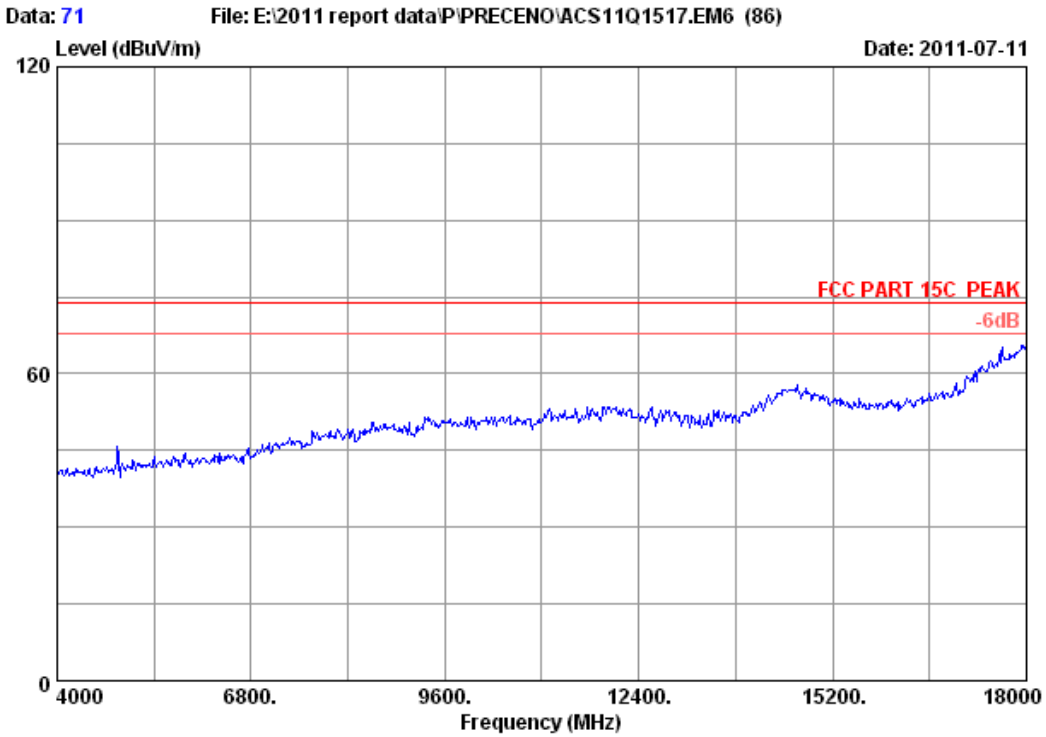
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



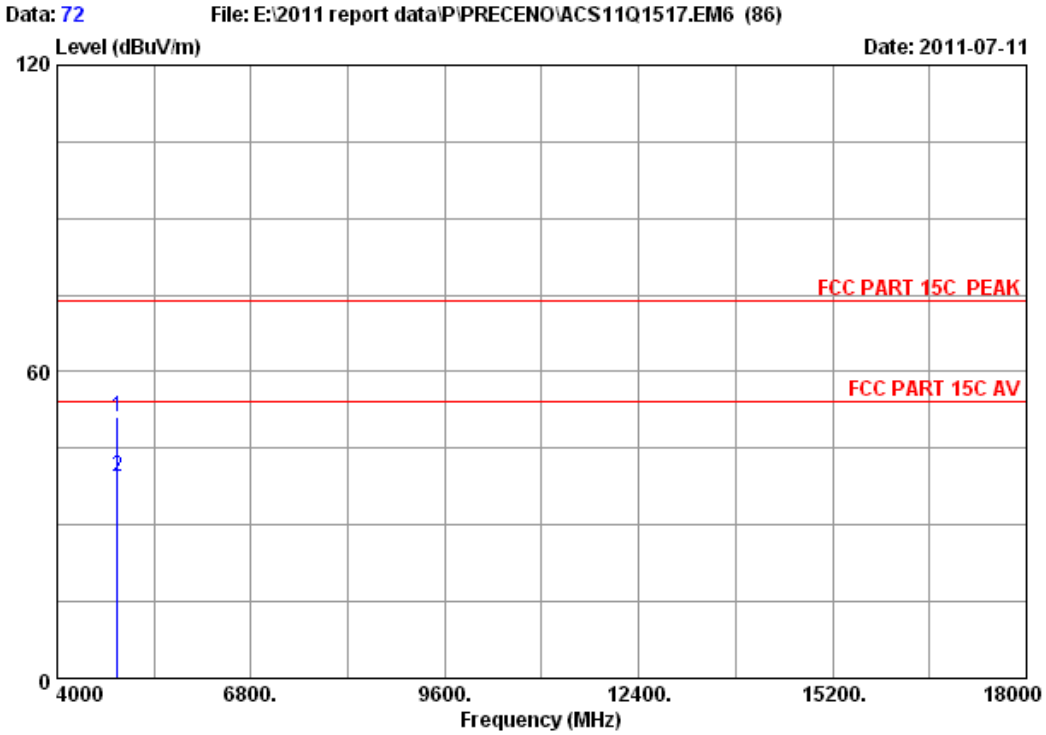
Site no. : 3m Chamber Data no. : 70
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH6 2437 MHz Tx
M/N : 330

	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	2320.000	27.86	6.59	34.43	40.70	40.72	74.00	33.28	Peak
2	2437.000	28.03	6.81	34.44	98.12	98.52	74.00	-24.52	Peak
3	3295.000	30.64	8.07	34.53	41.92	46.10	74.00	27.90	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.



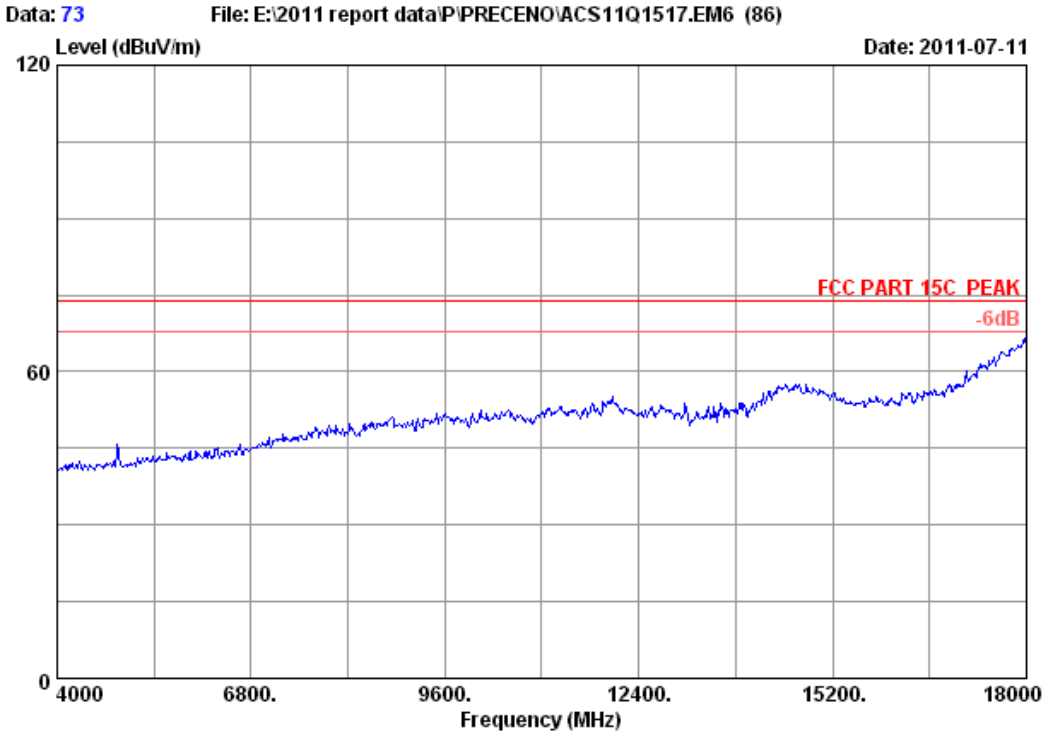

```
Site no.      : 3m Chamber              Data no. :  71
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11g     CH6     2437 MHz   Tx
M/N           : 330
```



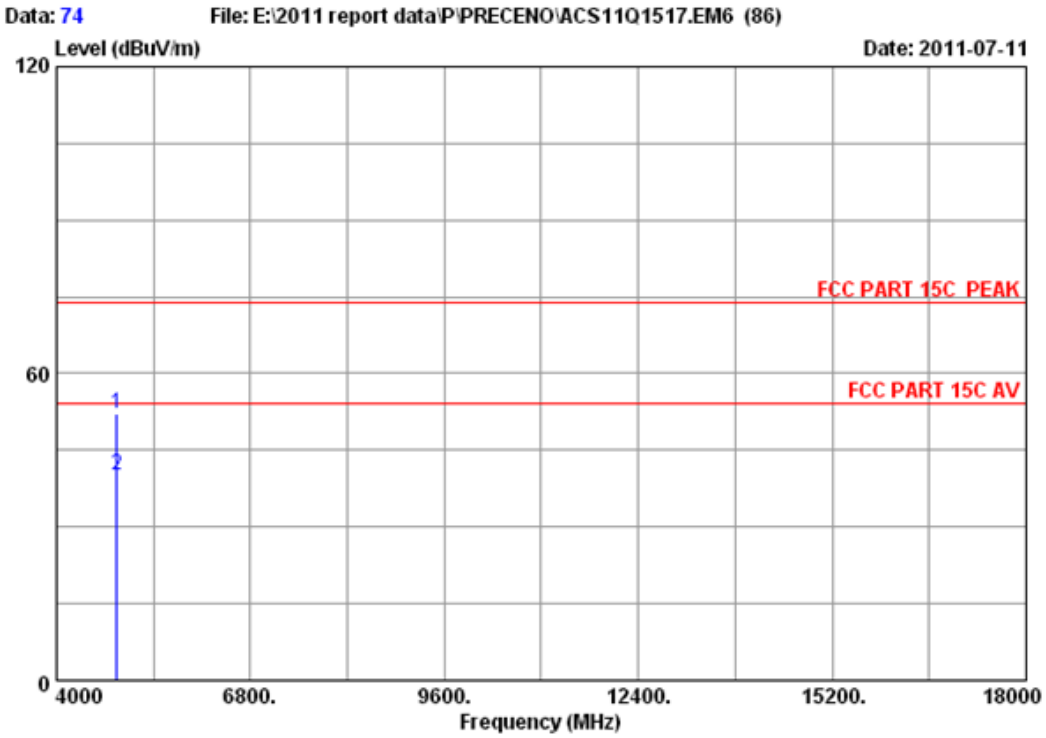
Site no. : 3m Chamber Data no. : 72
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH6 2437 MHz Tx
M/N : 330

	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	4874.000	32.98	9.62	34.60	43.27	51.27	74.00	22.73	Peak
2	4874.000	32.98	9.62	34.60	31.57	39.57	54.00	14.43	Average

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.



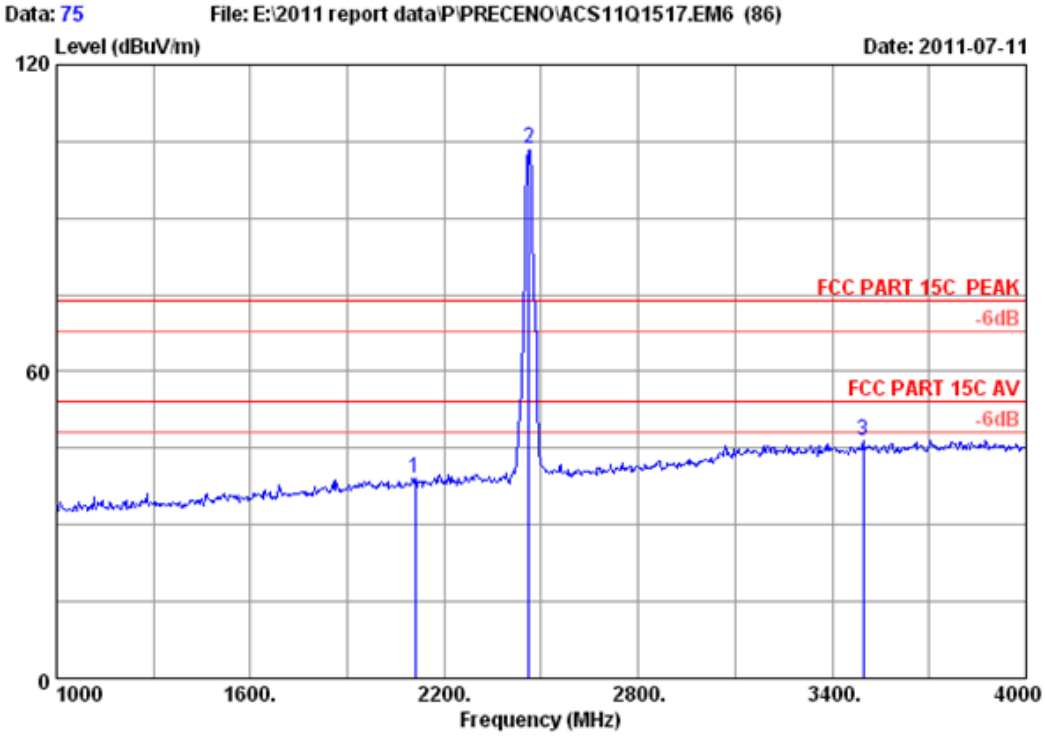

```
Site no.      : 3m Chamber              Data no. :  73
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11g     CH6     2437 MHz   Tx
M/N           : 330
```



Site no. : 3m Chamber Data no. : 74
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH6 2437 MHz Tx
M/N : 330

	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	4874.000	32.98	9.62	34.60	44.23	52.23	74.00	21.77	Peak
2	4874.000	32.98	9.62	34.60	32.17	40.17	54.00	13.83	Average

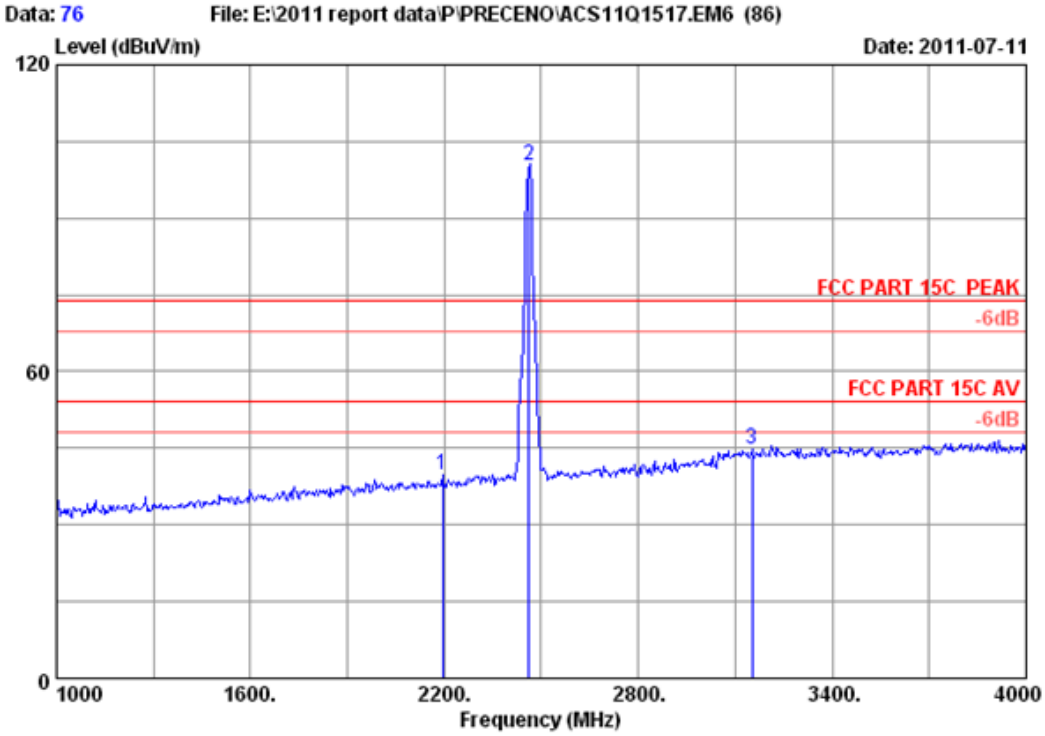
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 75
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	2110.000	27.54	6.25	34.41	39.69	39.07	74.00	34.93	Peak
2	2462.000	28.05	6.84	34.44	103.21	103.66	74.00	-29.66	Peak
3	3496.000	31.10	8.26	34.55	41.61	46.42	74.00	27.58	Peak

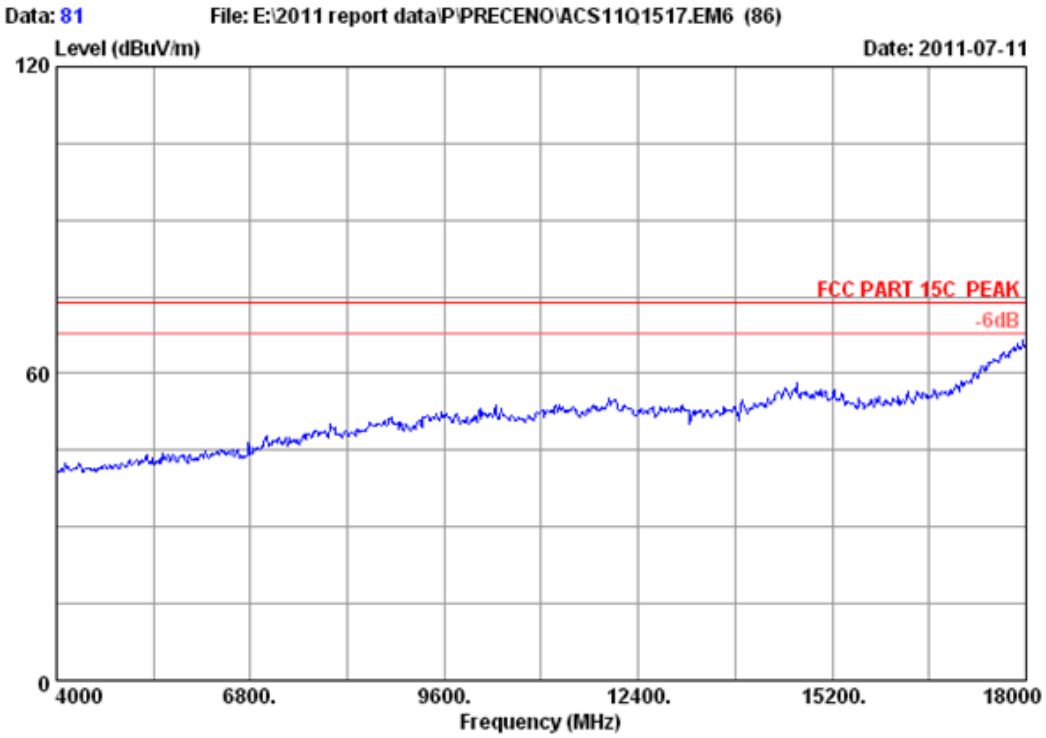
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



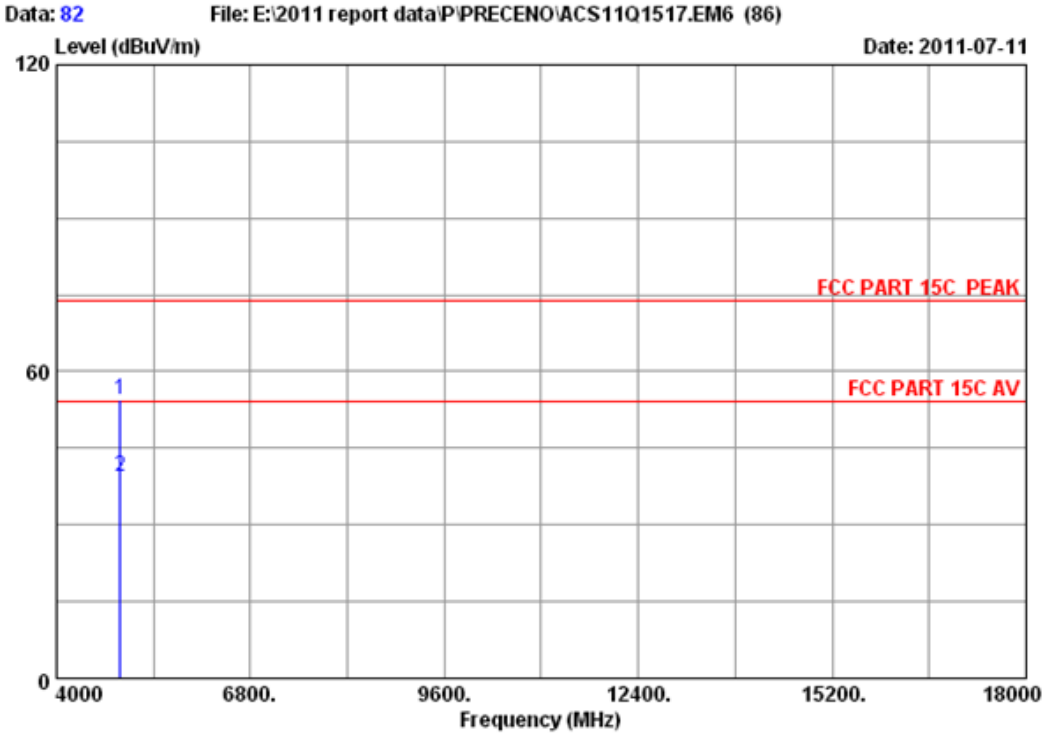
Site no. : 3m Chamber Data no. : 76
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	2194.000	27.67	6.38	34.42	39.99	39.62	74.00	34.38	Peak
2	2462.000	28.05	6.84	34.44	99.74	100.19	74.00	-26.19	Peak
3	3151.000	30.34	7.93	34.51	40.96	44.72	74.00	29.28	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.



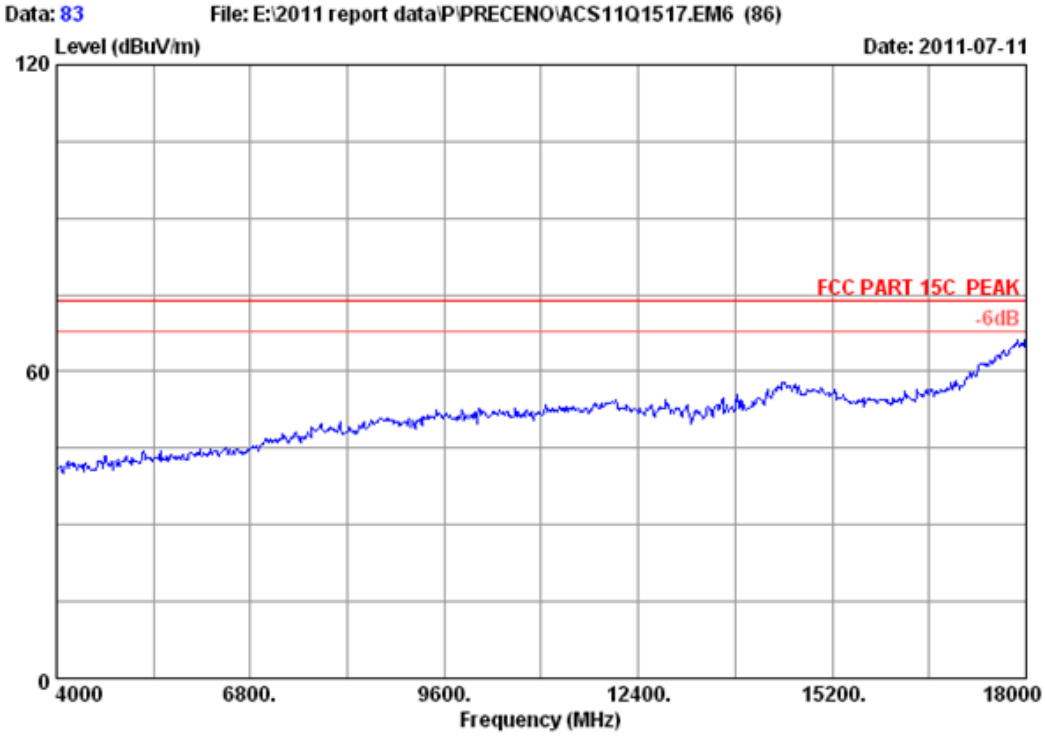

```
Site no.      : 3m Chamber              Data no. :  81
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11g     CH11     2462 MHz   Tx
M/N           : 330
```



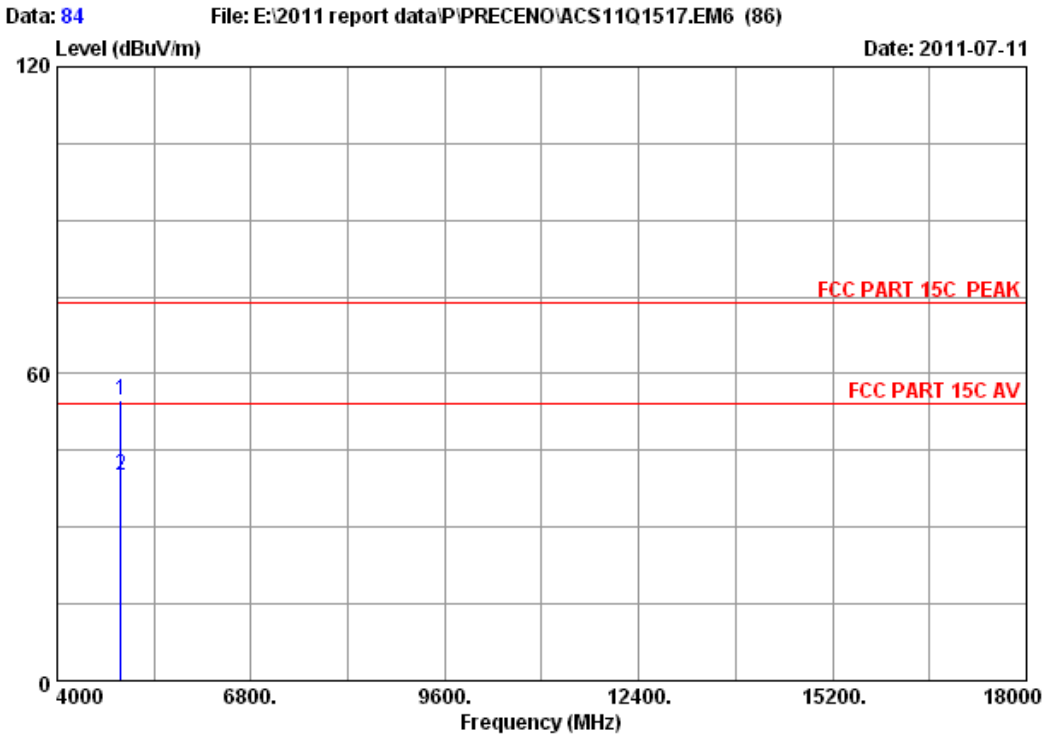
Site no. : 3m Chamber Data no. : 82
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	4924.000	33.08	9.66	34.60	46.37	54.51	74.00	19.49	Peak
2	4924.000	33.08	9.66	34.60	31.24	39.38	54.00	14.62	Average

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. :  83
Dis. / Ant.   : 3m   2011 3115 4580      Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 23*C/54%                Engineer  : Leo-Li
EUT           : WIMM One
Power         : DC 5V From Adapter Input AC 120V/60Hz
Test mode     : 11g     CH11     2462 MHz    Tx
M/N           : 330
```



Site no. : 3m Chamber Data no. : 84
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	4924.000	33.08	9.66	34.60	46.78	54.92	74.00	19.08	Peak
2	4924.000	33.08	9.66	34.60	31.86	40.00	54.00	14.00	Average

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 Analyzer	Agilent	E4446A	US44300459	May.08,11	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,11	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,11	1Year

5.2.Limit

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

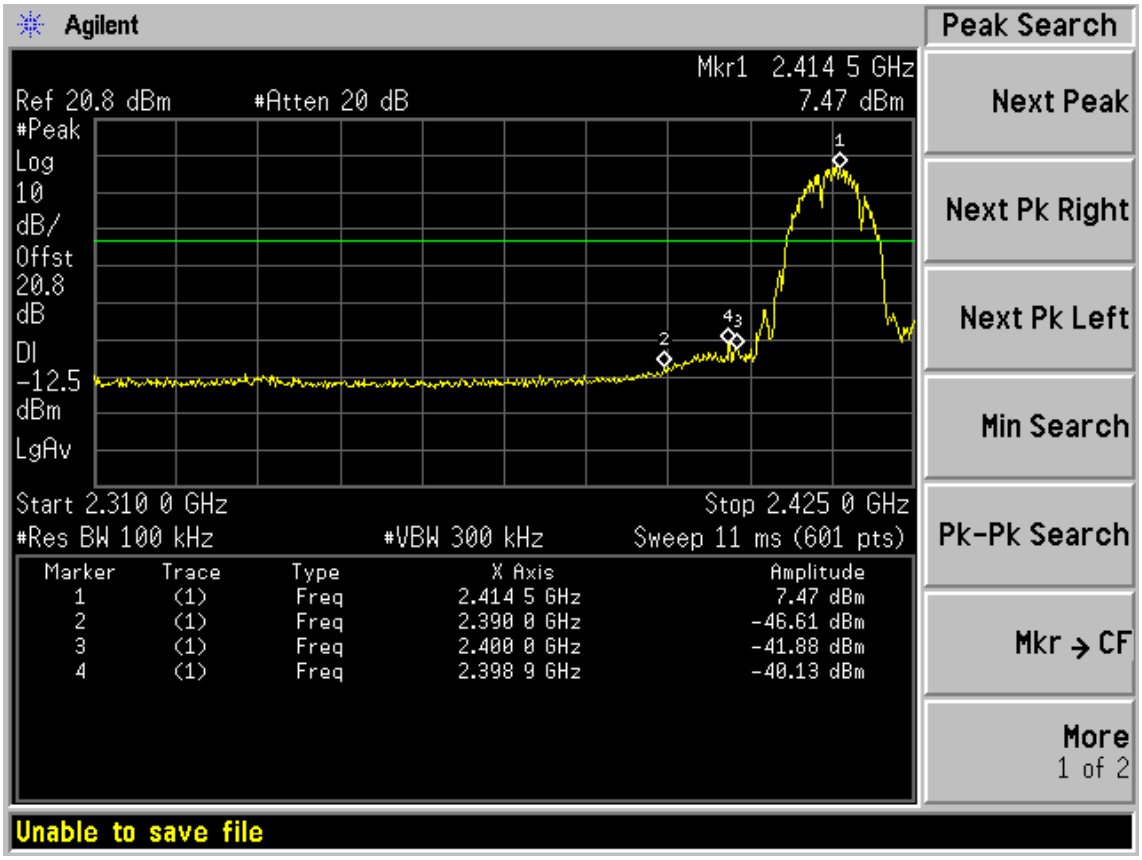
5.3.Test Procedure

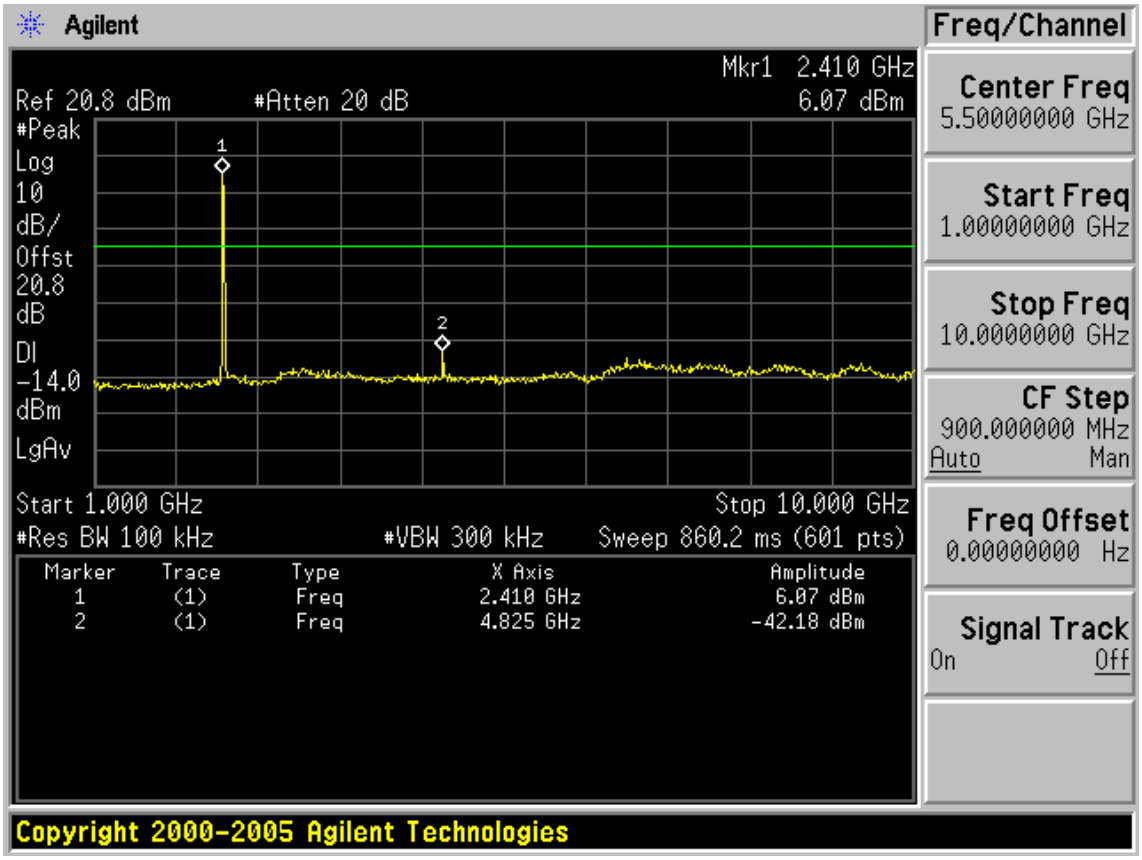
The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions detected.

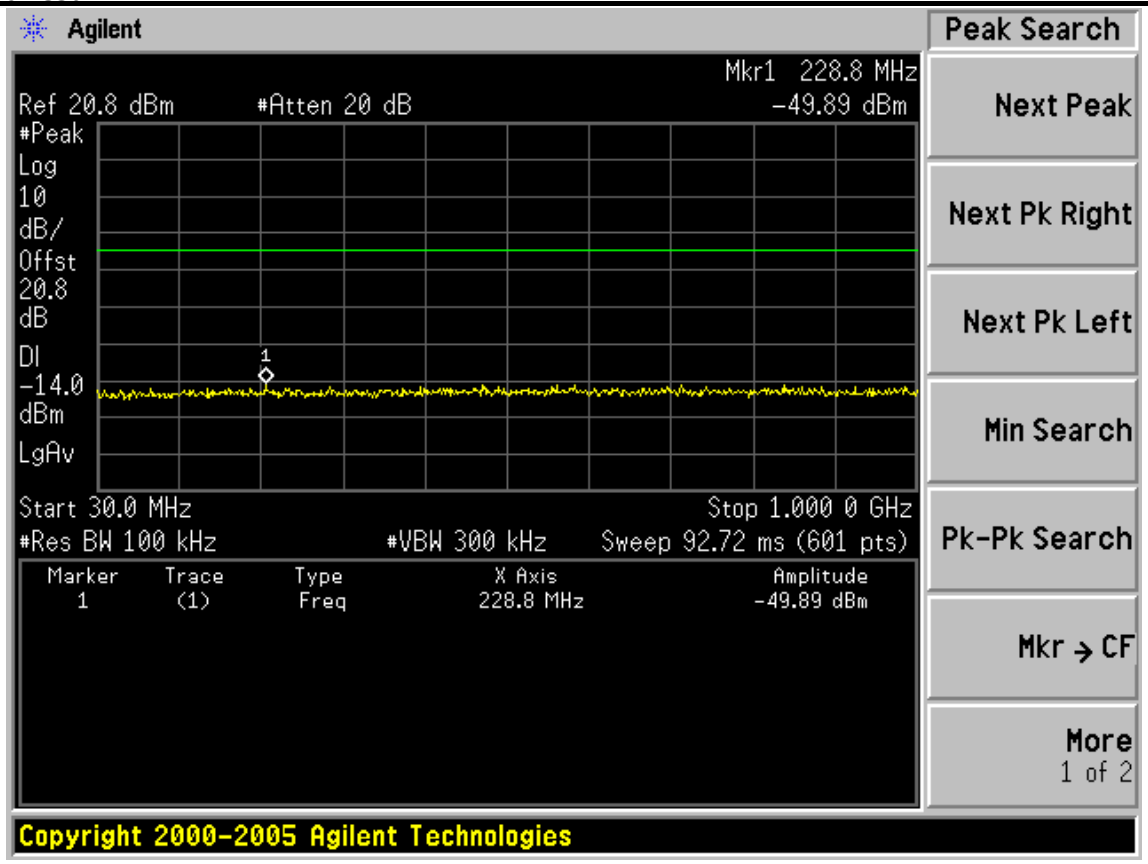
Conducted emission test data:

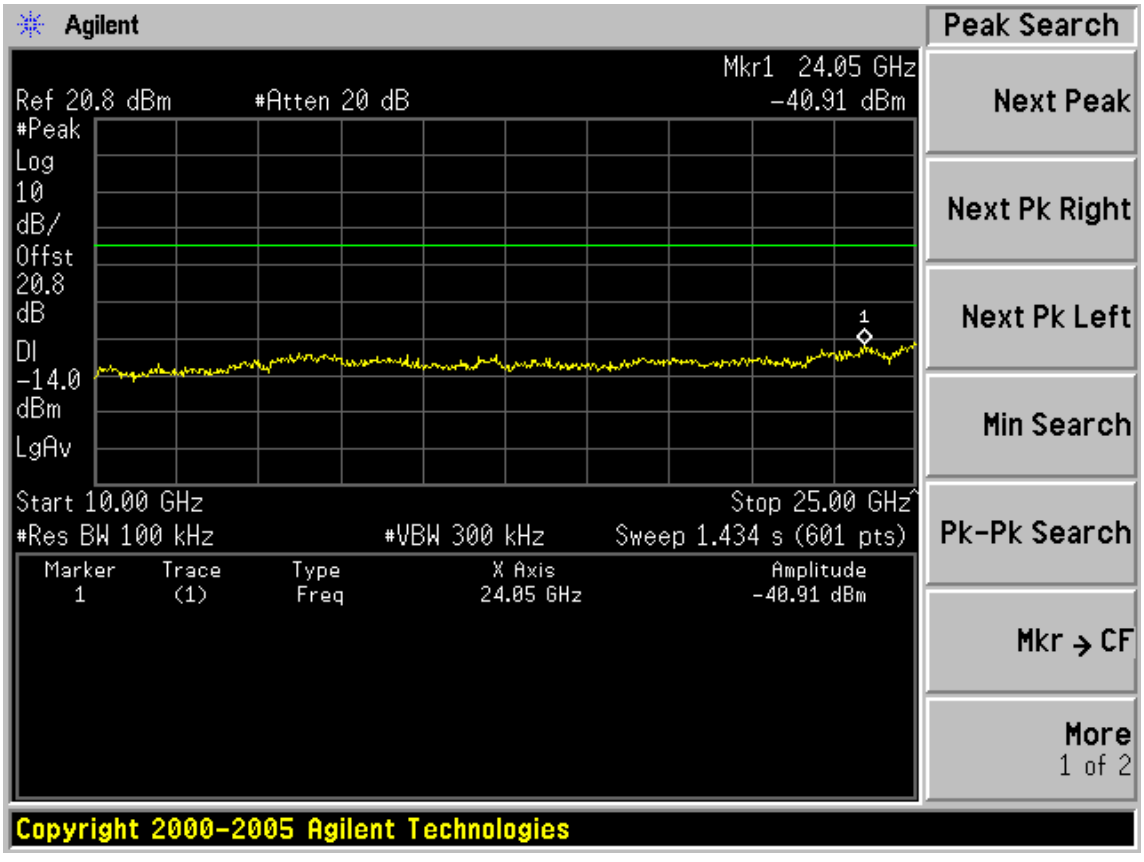
Test Mode: IEEE 802.11b

Test CH1: 2412MHz

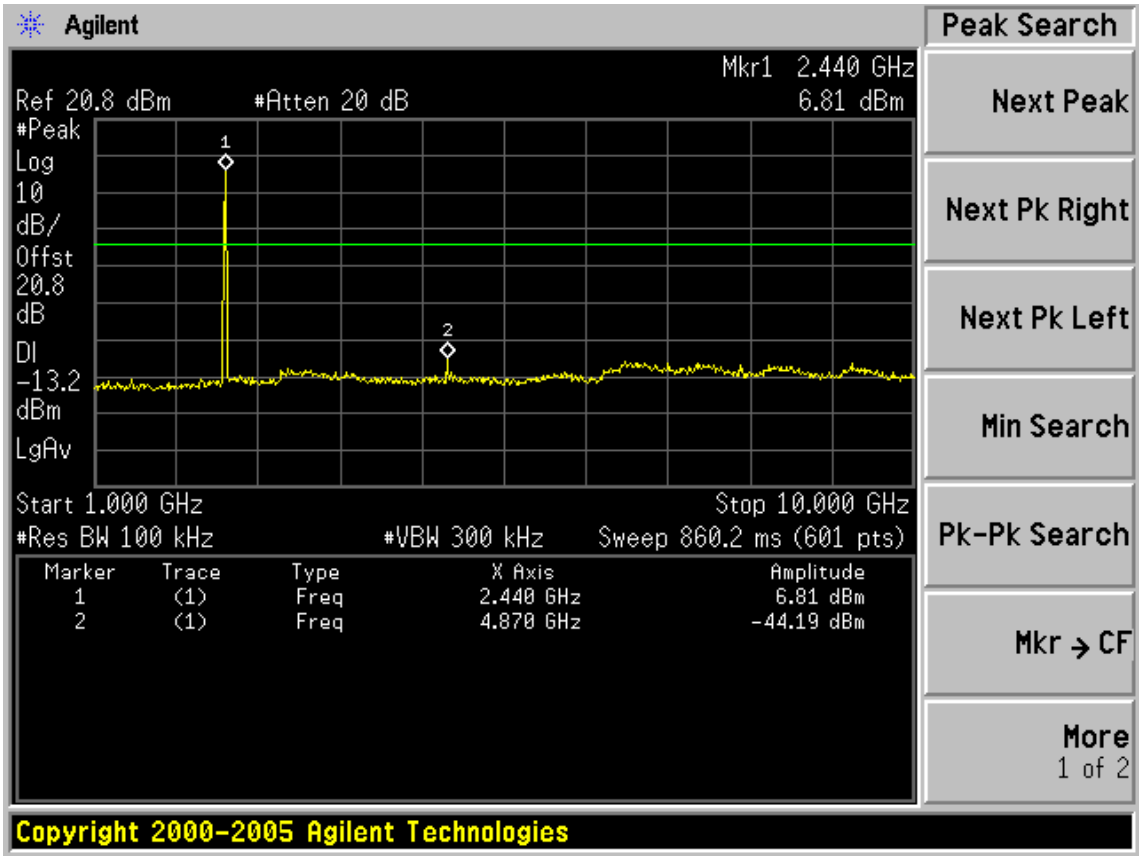


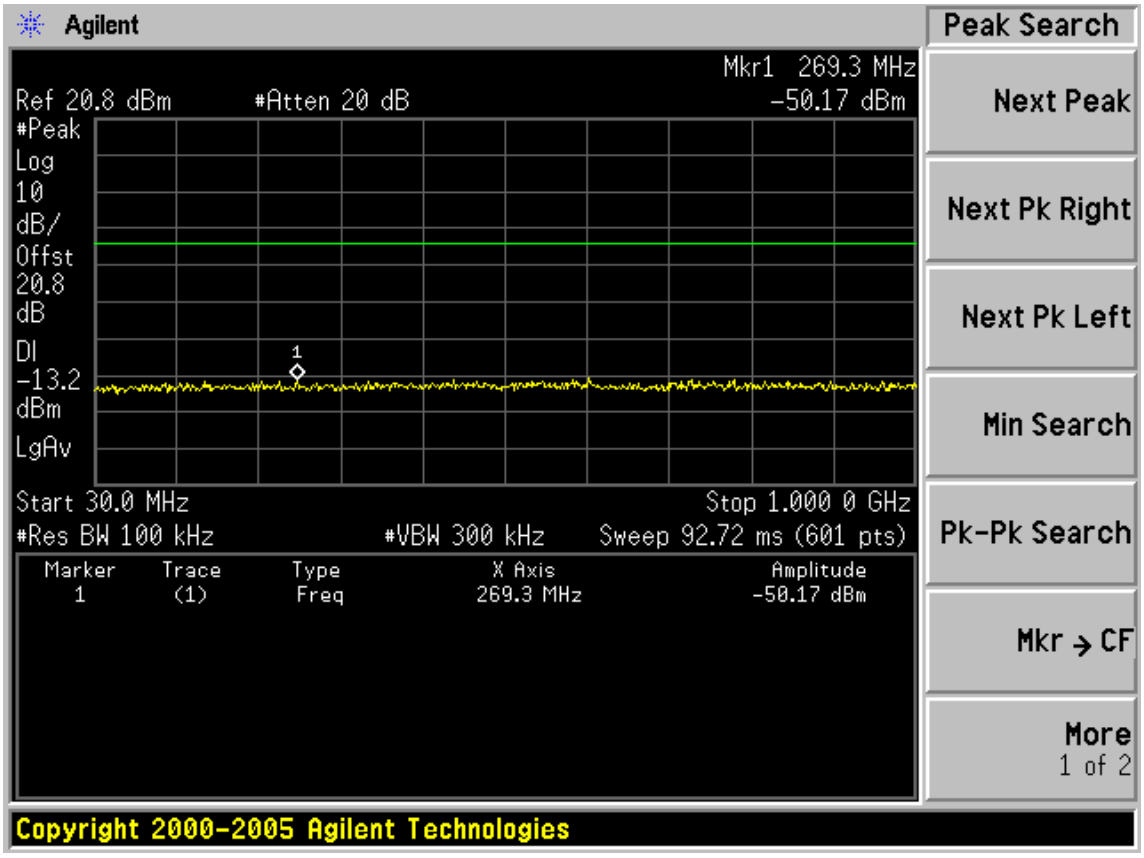


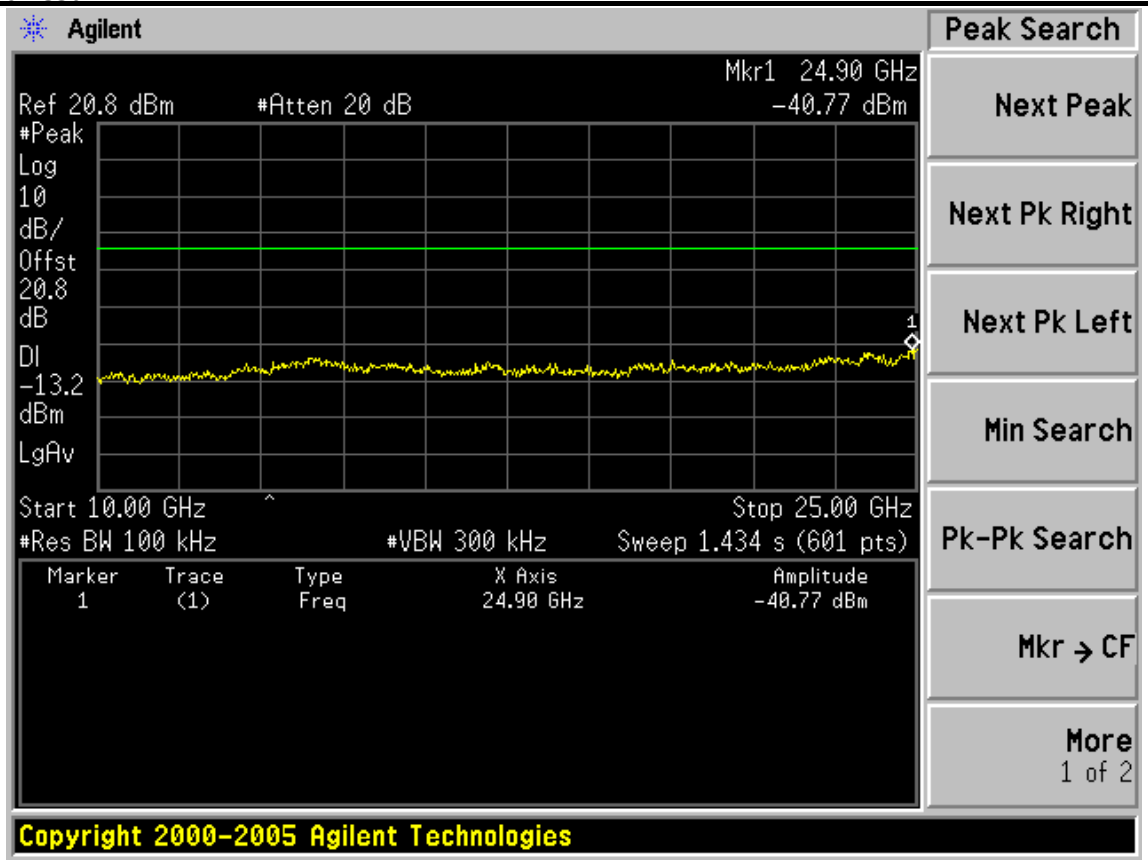

Agilent
Peak Search
Mkr1 228.8 MHz
Ref 20.8 dBm
#Atten 20 dB
-49.89 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-14.0
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 228.8 MHz -49.89 dBm
Copyright 2000-2005 Agilent Technologies


Agilent
Peak Search
Mkr1 24.05 GHz
Ref 20.8 dBm
#Atten 20 dB
-40.91 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-14.0
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.05 GHz -40.91 dBm
Copyright 2000-2005 Agilent Technologies

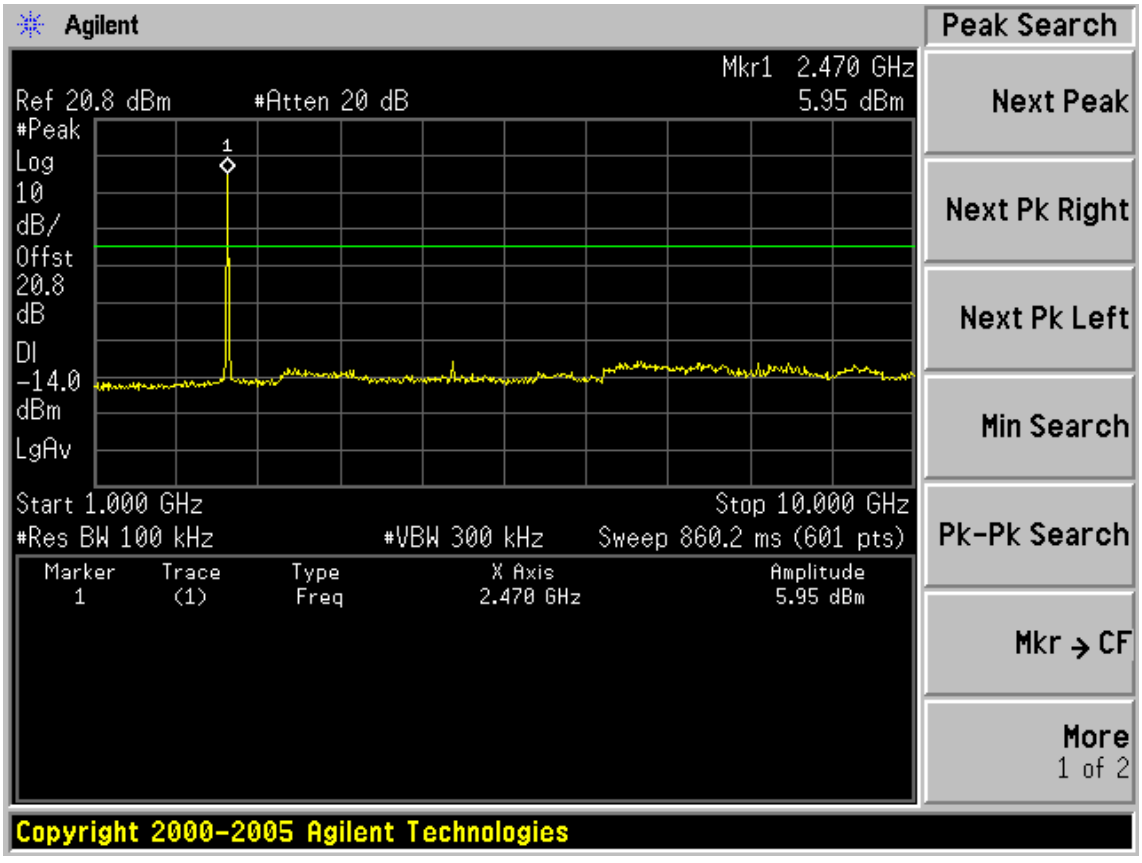
Test CH6: 2437MHz

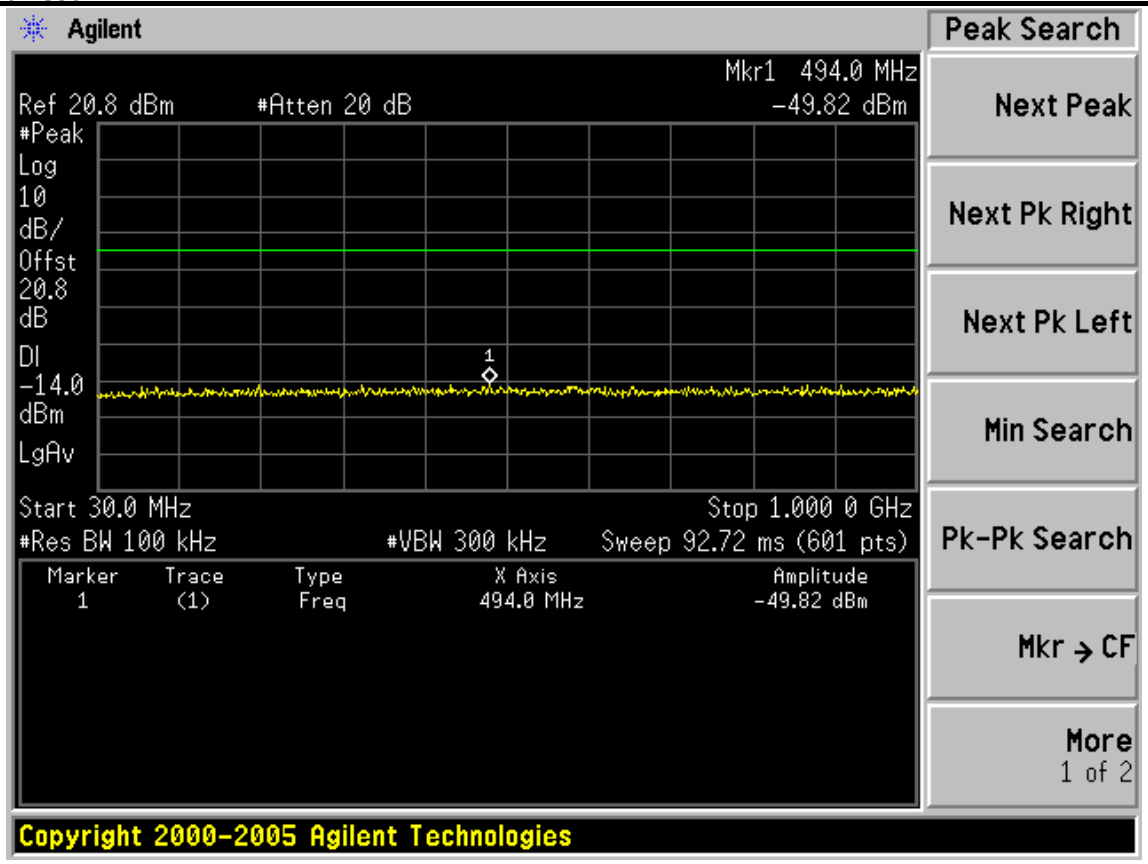


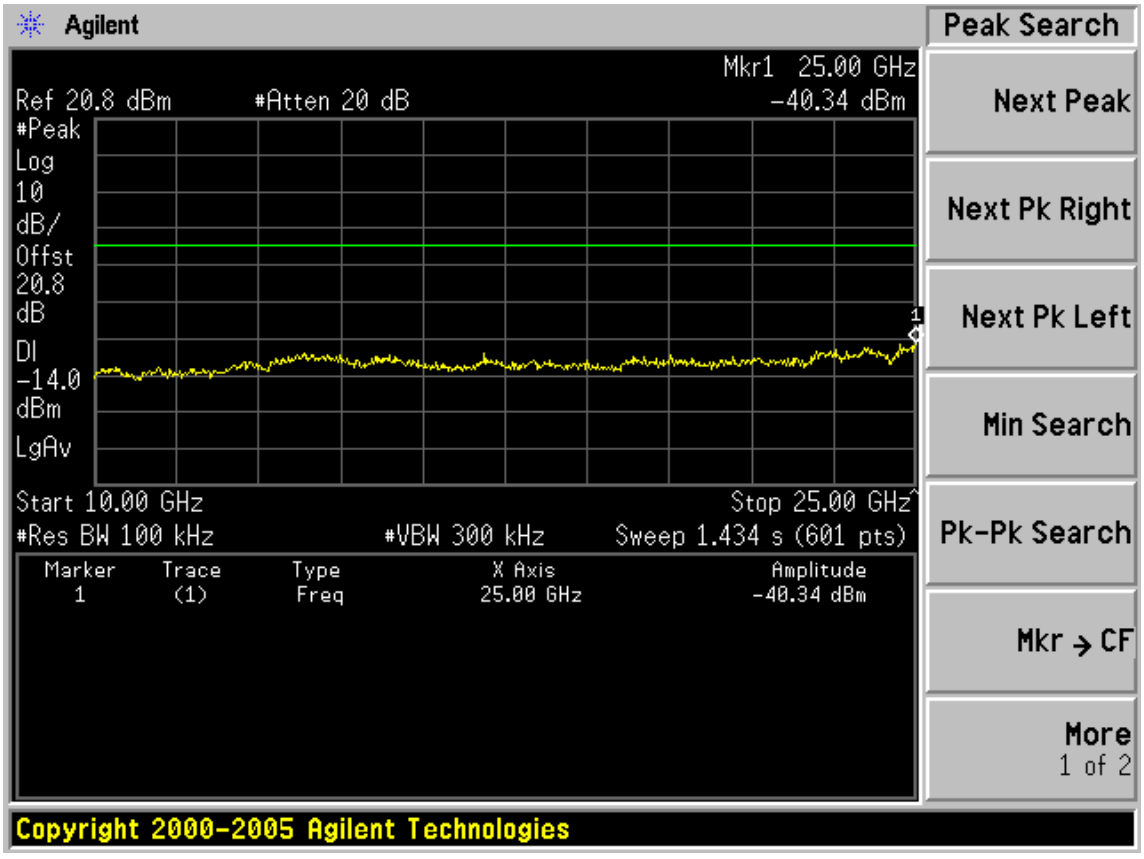


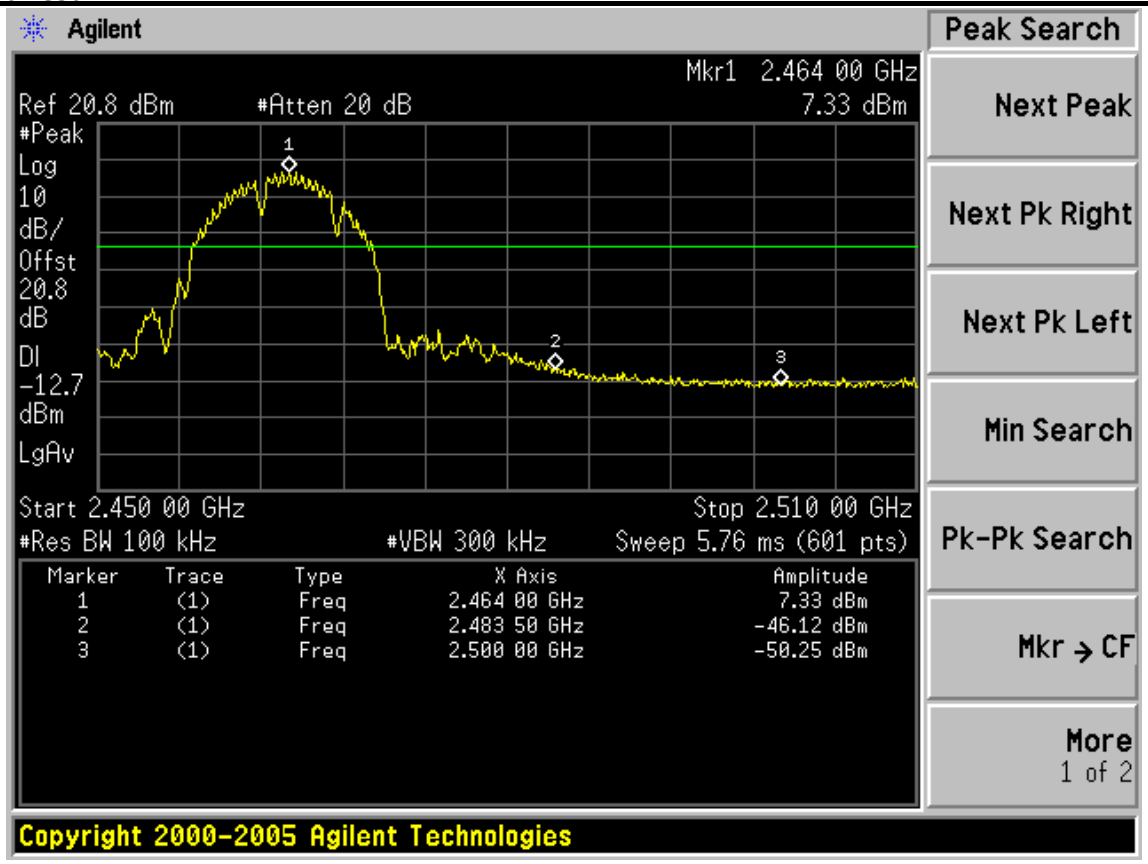


Test CH11: 2462MHz

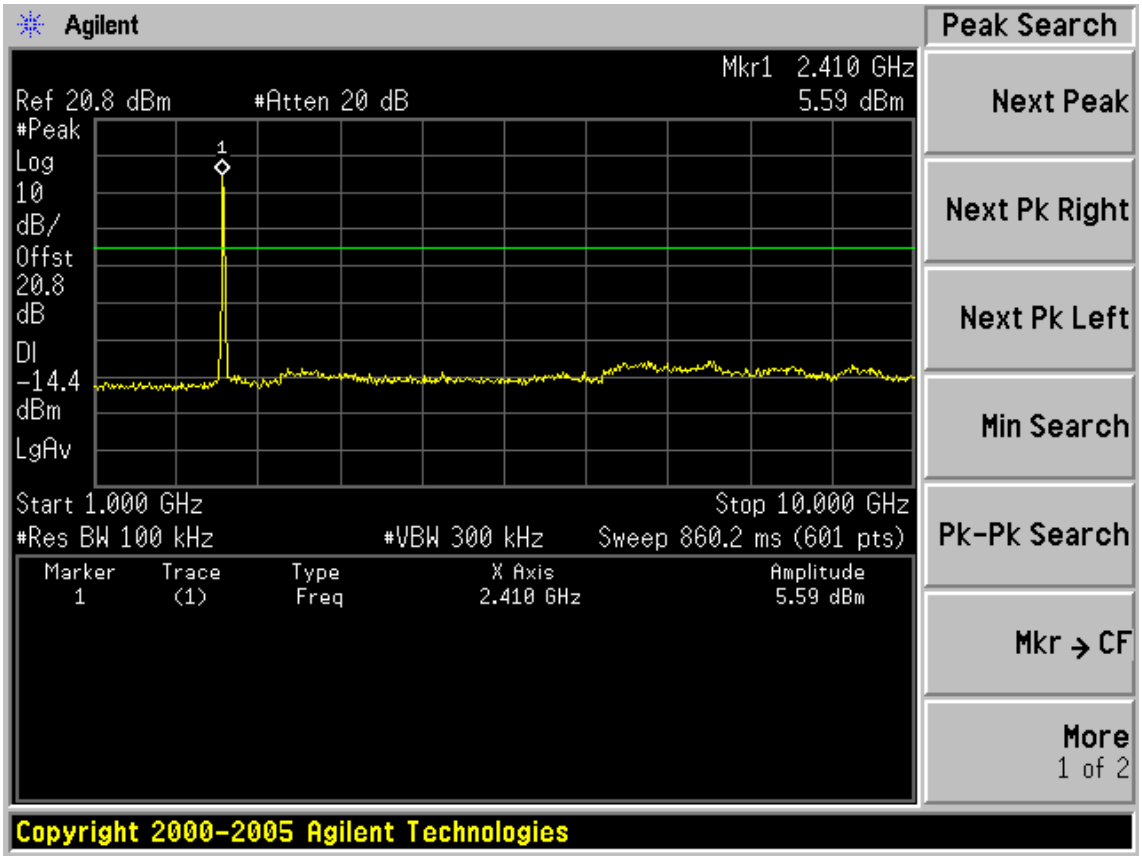


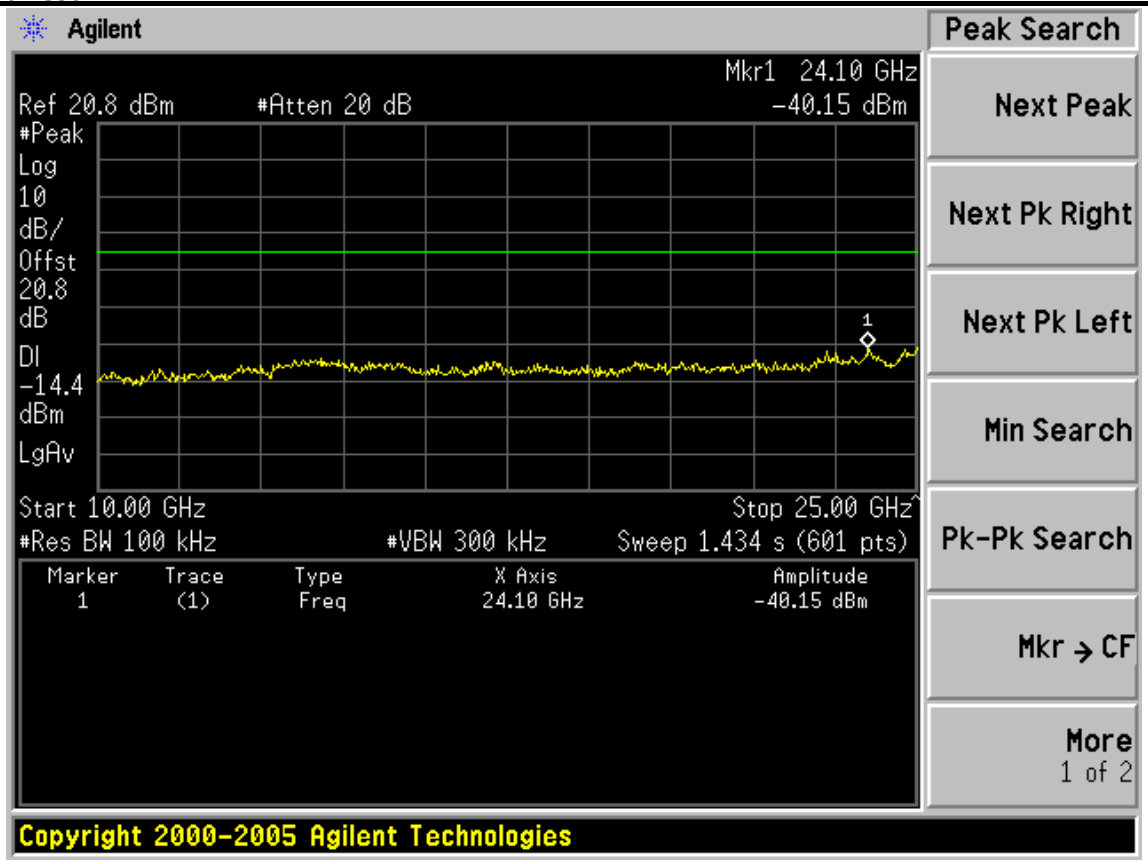

Agilent
Peak Search
Mkr1 494.0 MHz
Ref 20.8 dBm
#Atten 20 dB
-49.82 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-14.0
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 494.0 MHz -49.82 dBm
Copyright 2000-2005 Agilent Technologies

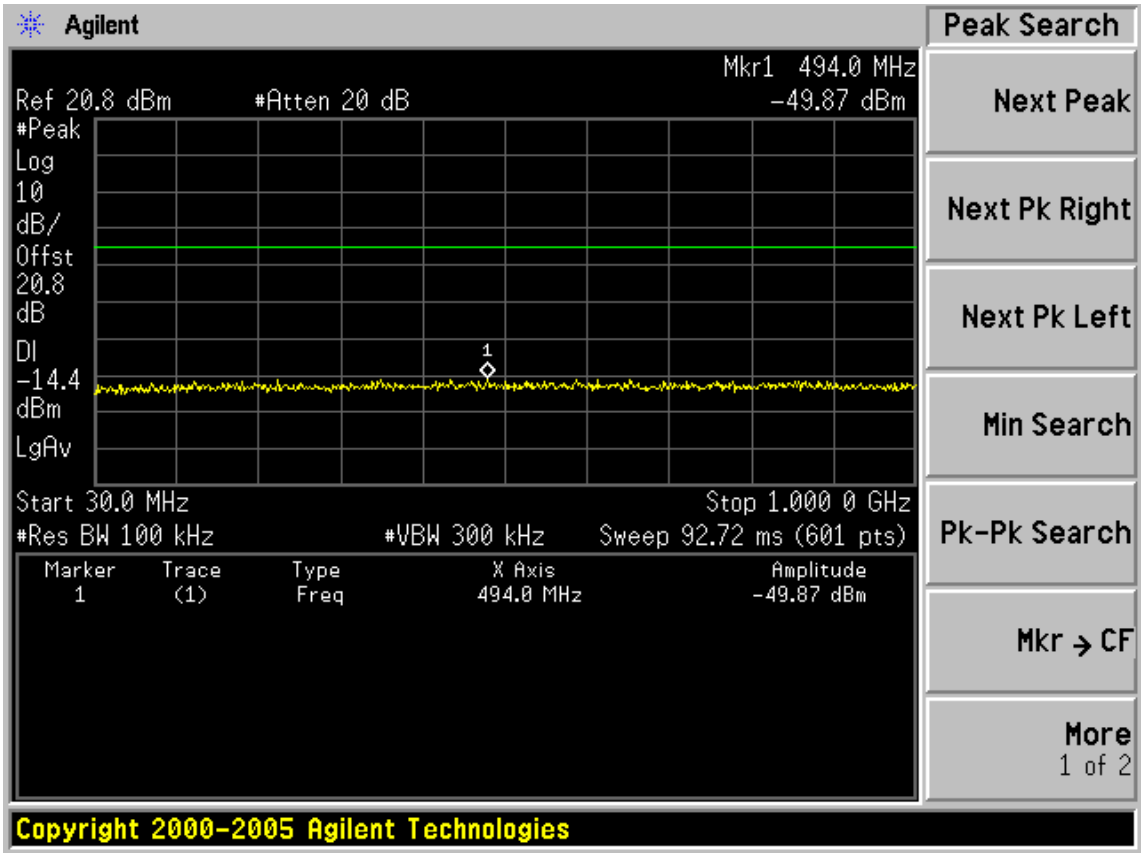

Agilent
Peak Search
Mkr1 25.00 GHz
Ref 20.8 dBm
#Atten 20 dB
-40.34 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-14.0
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 25.00 GHz -40.34 dBm
Copyright 2000-2005 Agilent Technologies

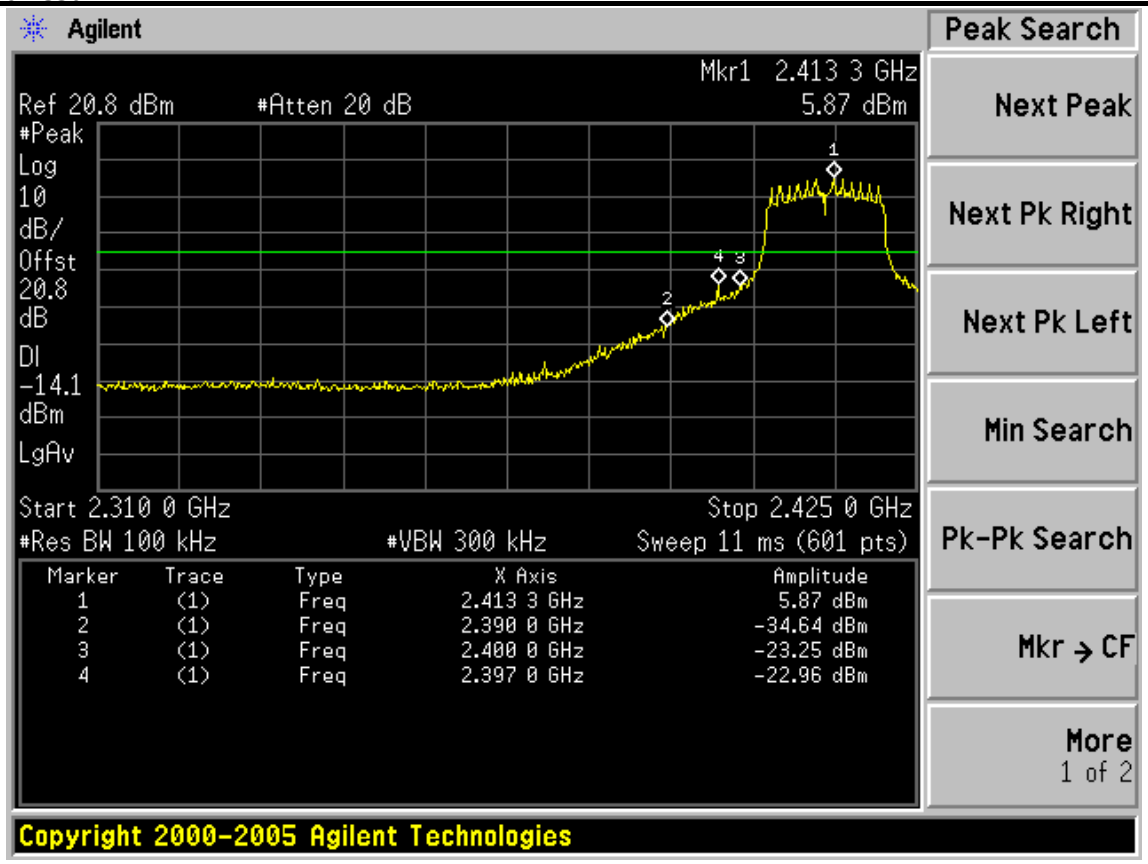


Test Mode: IEEE 802.11g
Test CH1: 2412MHz

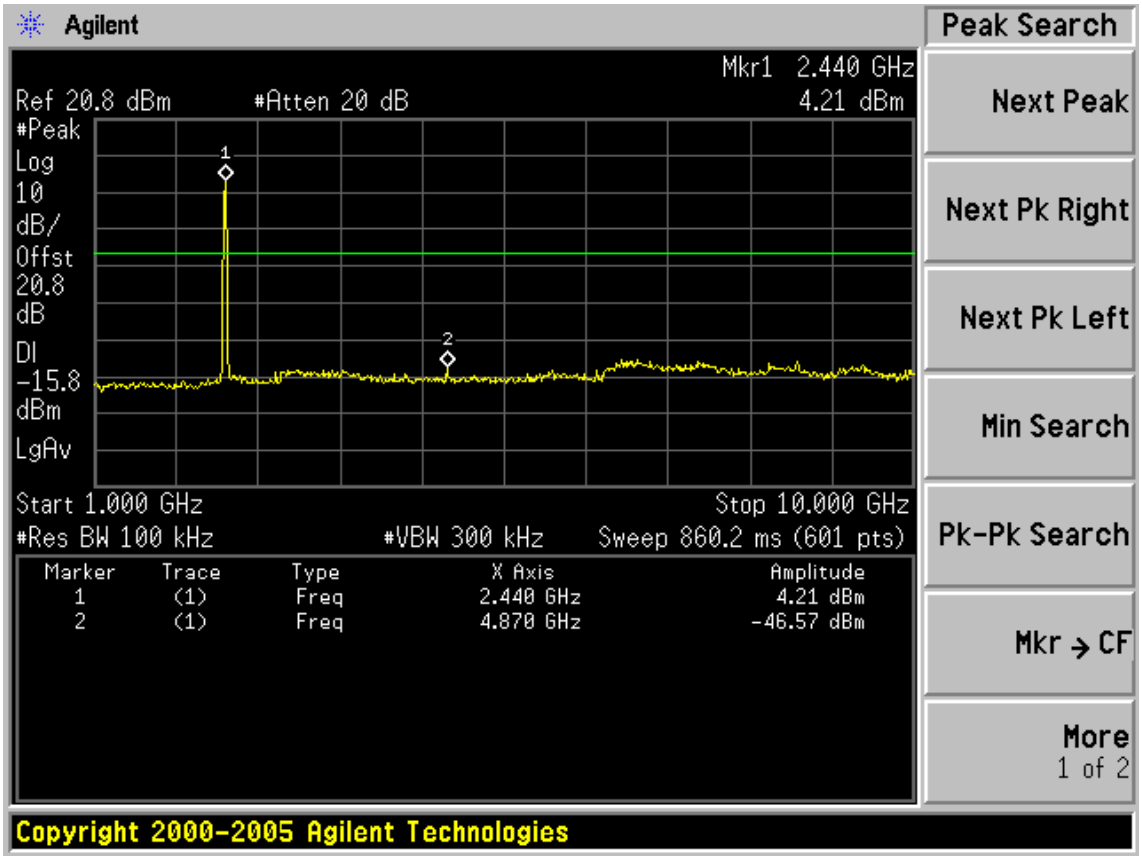


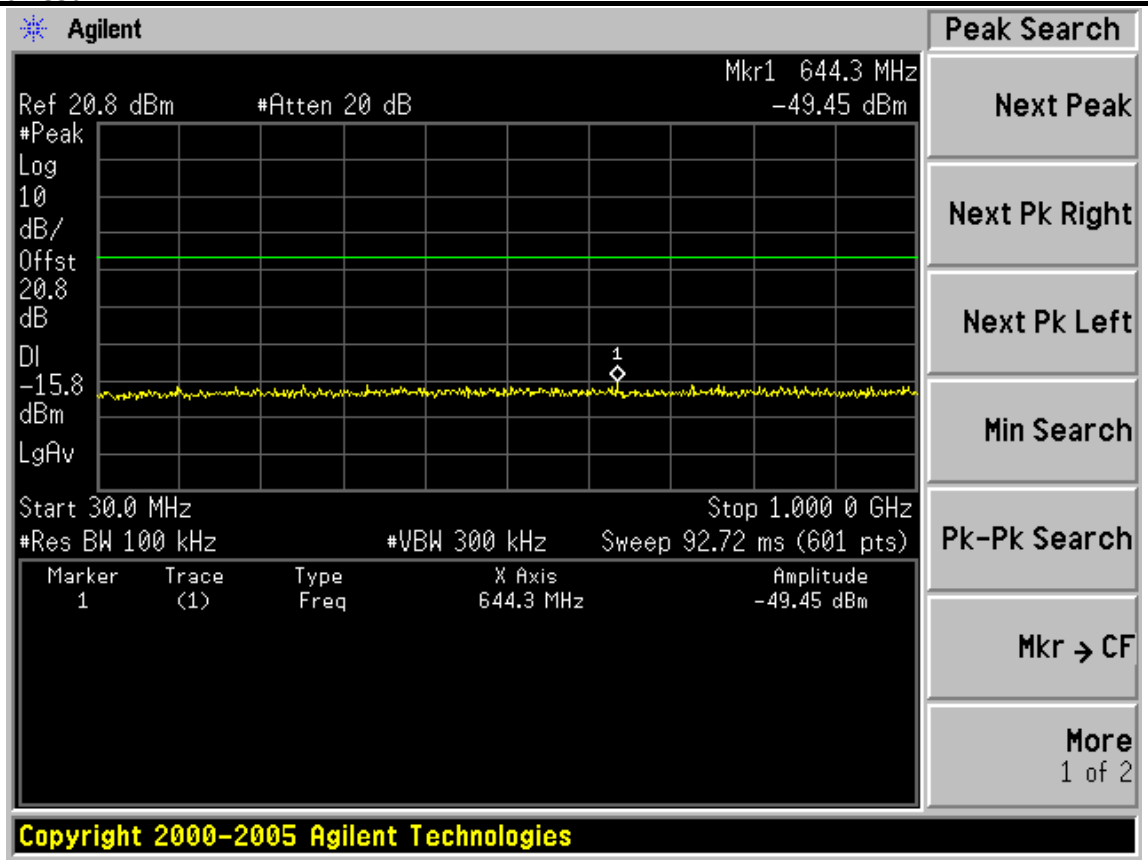

Agilent
Peak Search
Mkr1 24.10 GHz
Ref 20.8 dBm
#Atten 20 dB
-40.15 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-14.4
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.10 GHz -40.15 dBm
Copyright 2000-2005 Agilent Technologies

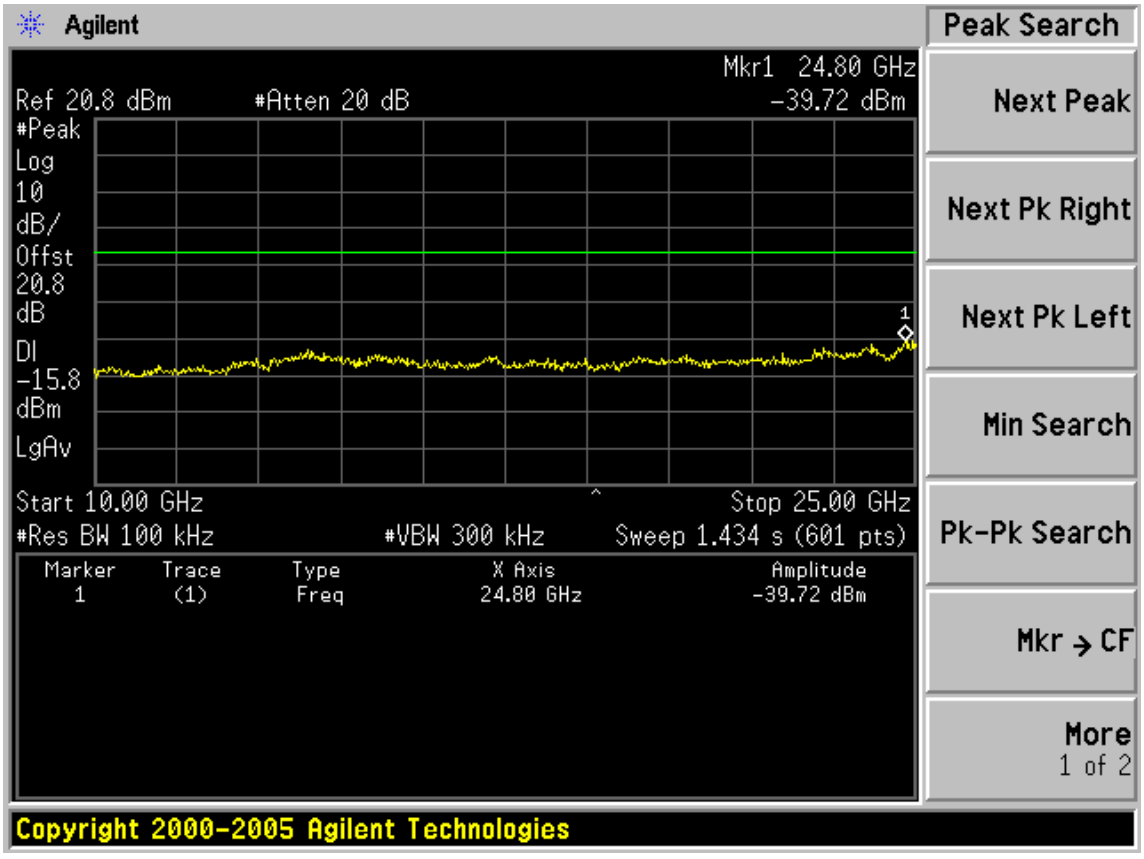

Agilent
Peak Search
Mkr1 494.0 MHz
Ref 20.8 dBm
#Atten 20 dB
-49.87 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-14.4
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 494.0 MHz -49.87 dBm
Copyright 2000-2005 Agilent Technologies



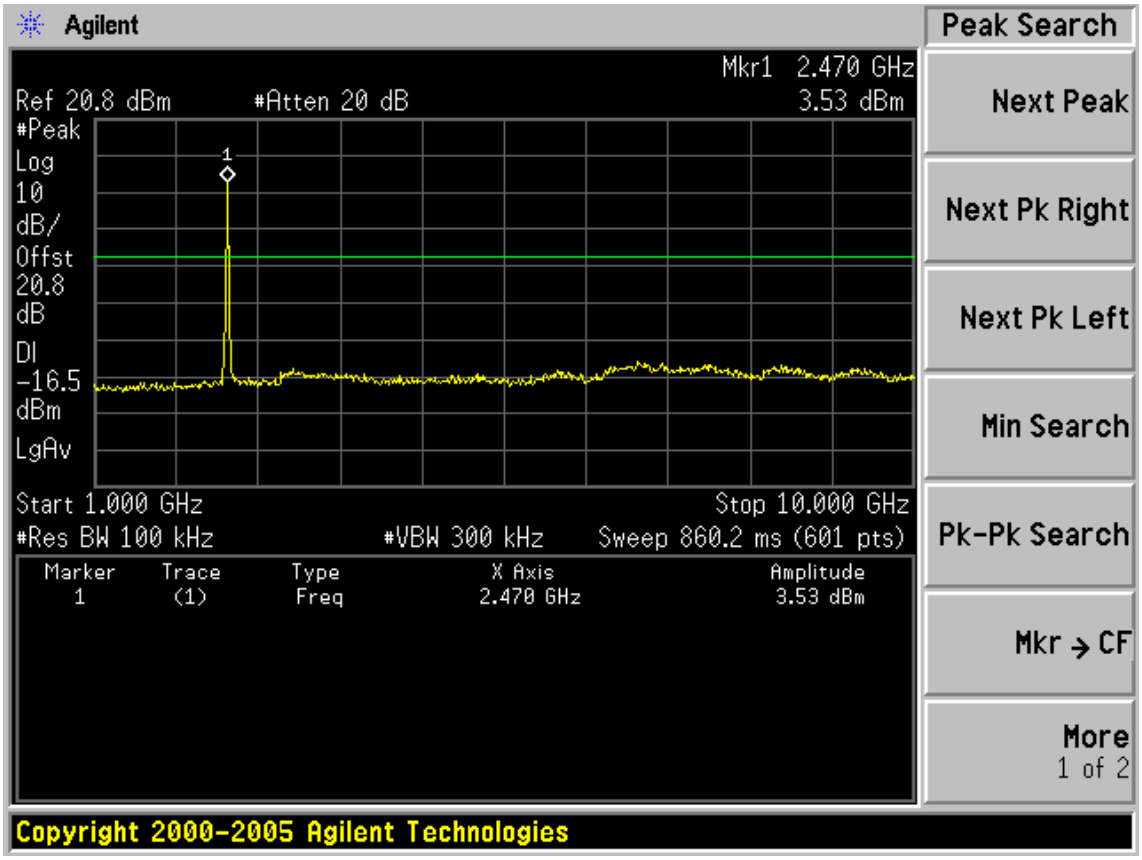
Test CH6: 2437MHz

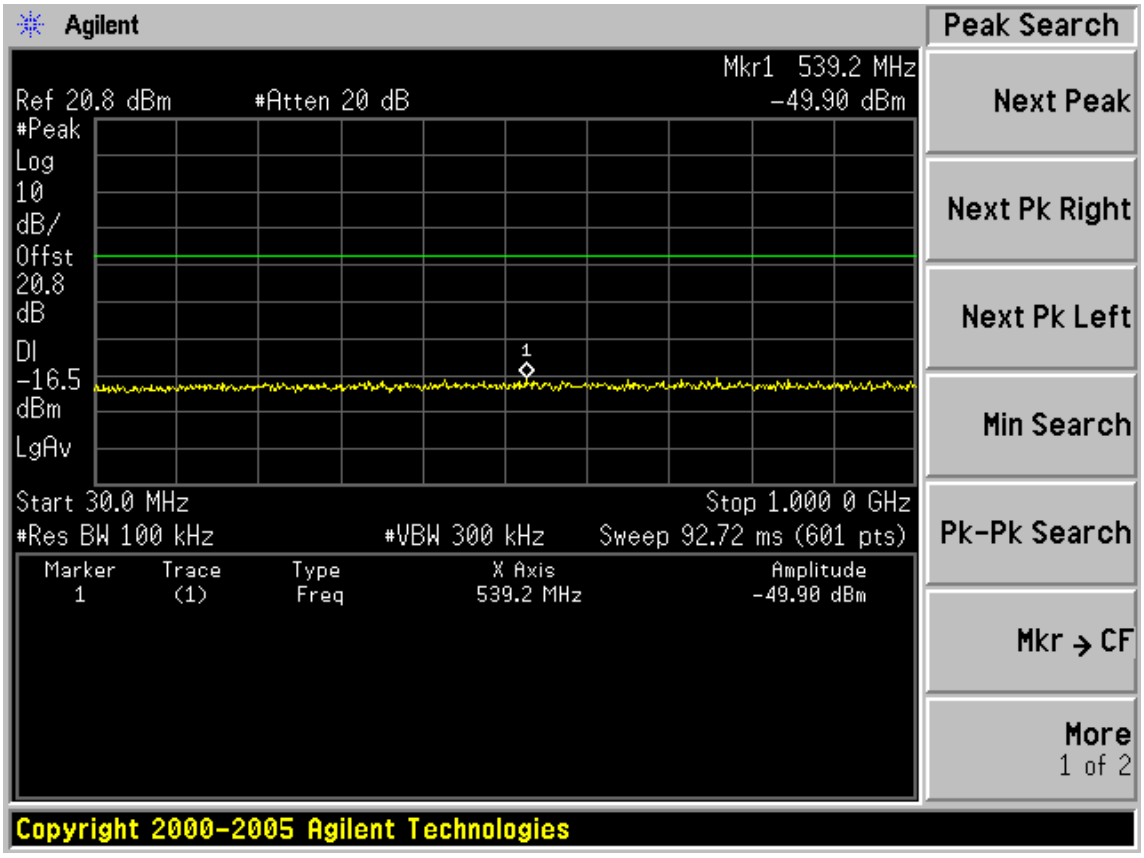


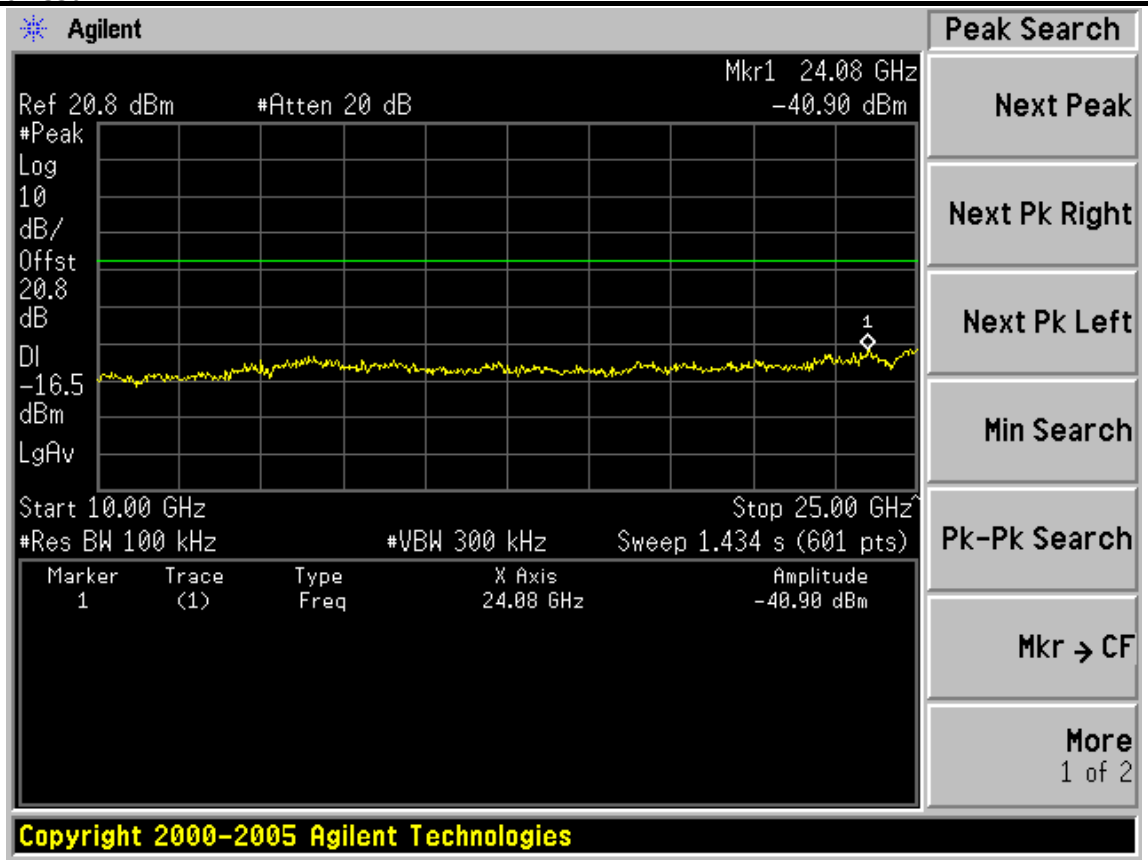

Agilent
Peak Search
Mkr1 644.3 MHz
Ref 20.8 dBm
#Atten 20 dB
-49.45 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-15.8
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 644.3 MHz -49.45 dBm
Copyright 2000-2005 Agilent Technologies

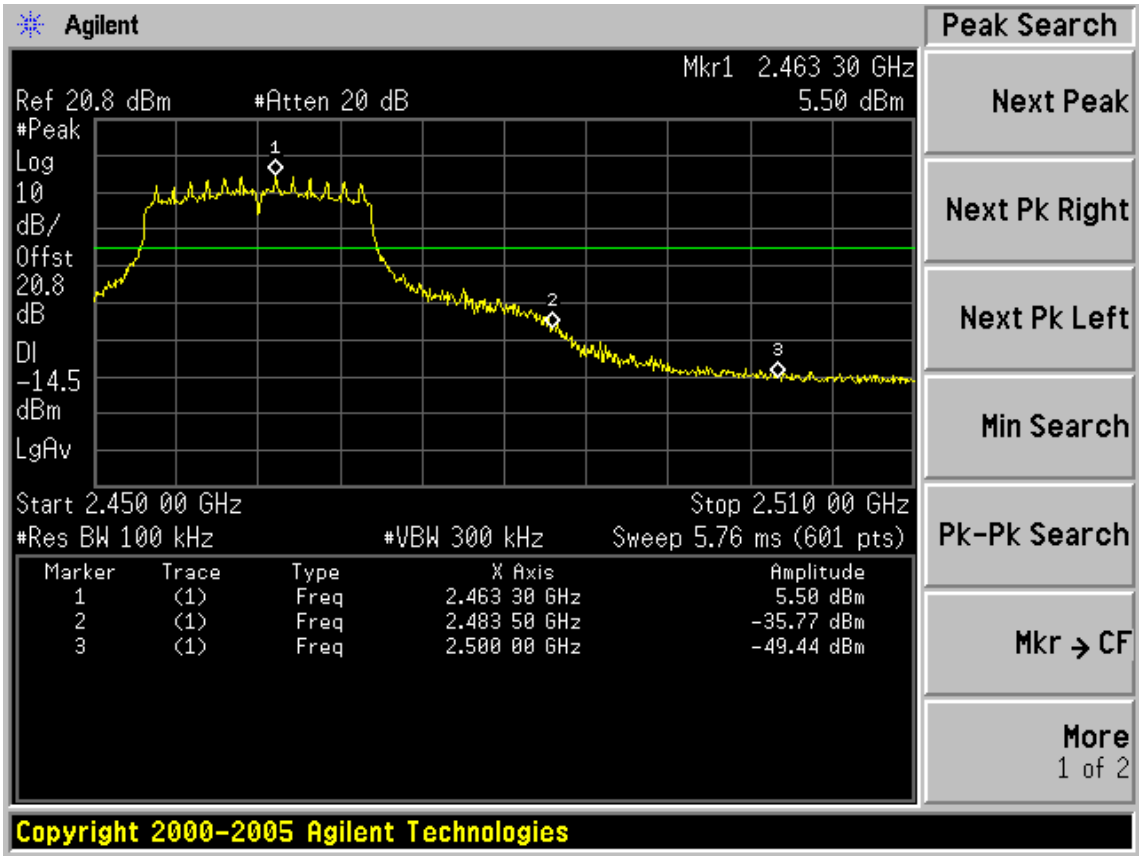

Agilent
Peak Search
Mkr1 24.80 GHz
Ref 20.8 dBm
#Atten 20 dB
-39.72 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-15.8
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.80 GHz -39.72 dBm
Copyright 2000-2005 Agilent Technologies

Test CH11: 2462MHz






Agilent
Peak Search
Mkr1 24.08 GHz
Ref 20.8 dBm
#Atten 20 dB
-40.90 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-16.5
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.08 GHz -40.90 dBm
Copyright 2000-2005 Agilent Technologies


Agilent
Peak Search
Mkr1 2.463 30 GHz
Ref 20.8 dBm
#Atten 20 dB
5.50 dBm
#Peak
Log
10
dB/
Offst
20.8
dB
Dl
-14.5
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 2.450 00 GHz
Stop 2.510 00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 5.76 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.463 30 GHz 5.50 dBm
2 (1) Freq 2.483 50 GHz -35.77 dBm
3 (1) Freq 2.500 00 GHz -49.44 dBm
Copyright 2000-2005 Agilent Technologies

6. BAND EDGE COMPLIANCE TEST

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,11	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	May.25, 11	1.5 Year
3.	Amplifier	Agilent	8449B	3008A02495	May.08, 11	1 Year
4.	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	May.08,11	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,11	1 Year
6.	RF Cable	Hubersuhner	SUCOFLEX102	28610/2	May.08,11	1 Year

6.2.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.

6.3.Test 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.

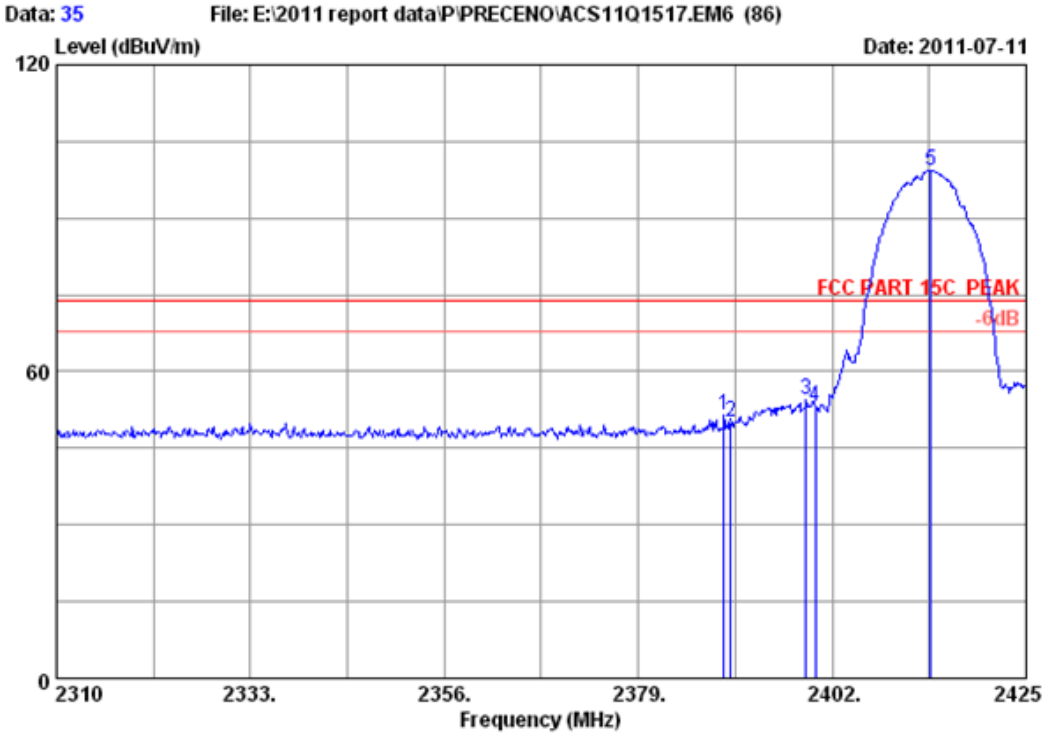
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

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

(a) PEAK: RBW=1MHz; VBW=3MHz ;Sweep=AUTO
(b) AVERAGE: RBW=1MHz ;VBW=10Hz ; Sweep=AUTO

6.4.Test Results

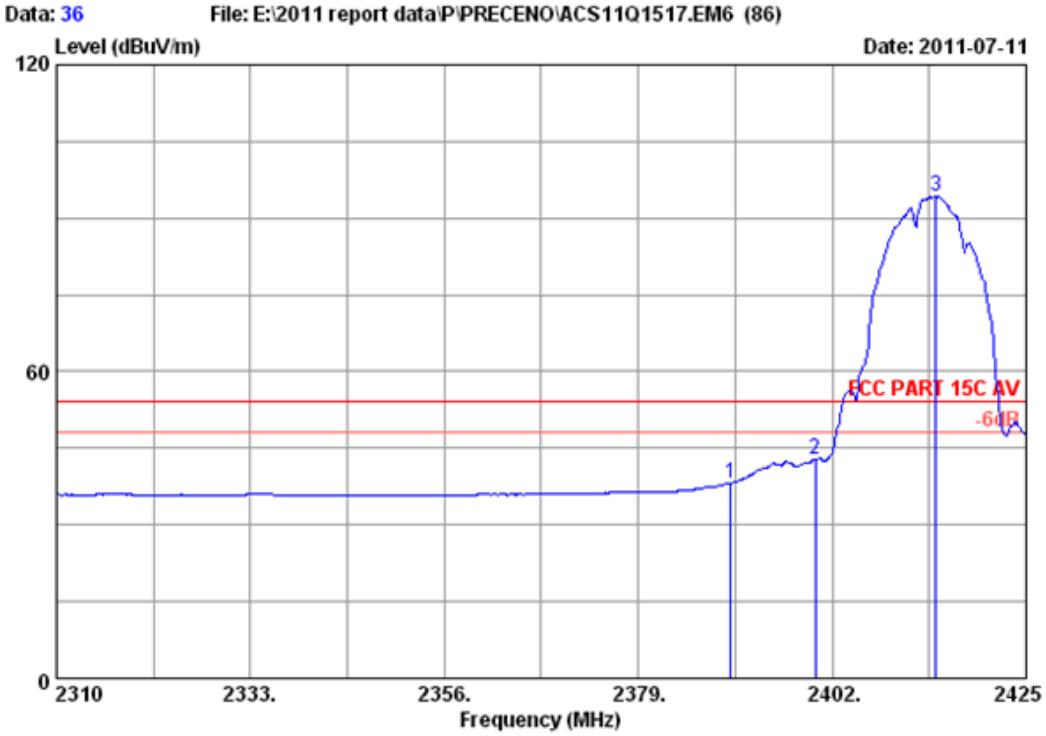
Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber Data no. : 35
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	2389.120	27.96	6.72	34.44	51.36	51.60	74.00	22.40	Peak
2	2390.000	27.96	6.72	34.44	49.95	50.19	74.00	23.81	Peak
3	2398.895	27.96	6.75	34.44	54.33	54.60	74.00	19.40	Peak
4	2400.000	27.96	6.75	34.44	52.81	53.08	74.00	20.92	Peak
5	2413.730	27.98	6.78	34.44	99.04	99.36	74.00	-25.36	Peak

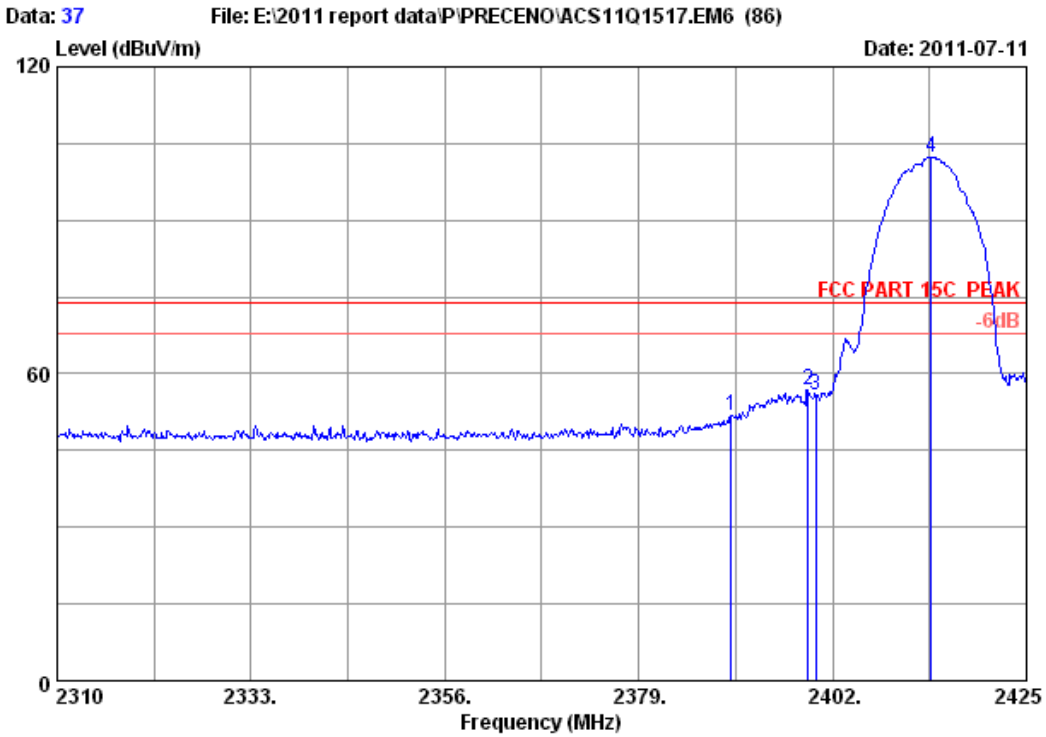
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 36
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	2390.000	27.96	6.72	34.44	38.00	38.24	54.00	15.76	Average
2	2400.000	27.96	6.75	34.44	42.67	42.94	54.00	11.06	Average
3	2414.305	27.98	6.78	34.44	93.99	94.31	54.00	-40.31	Average

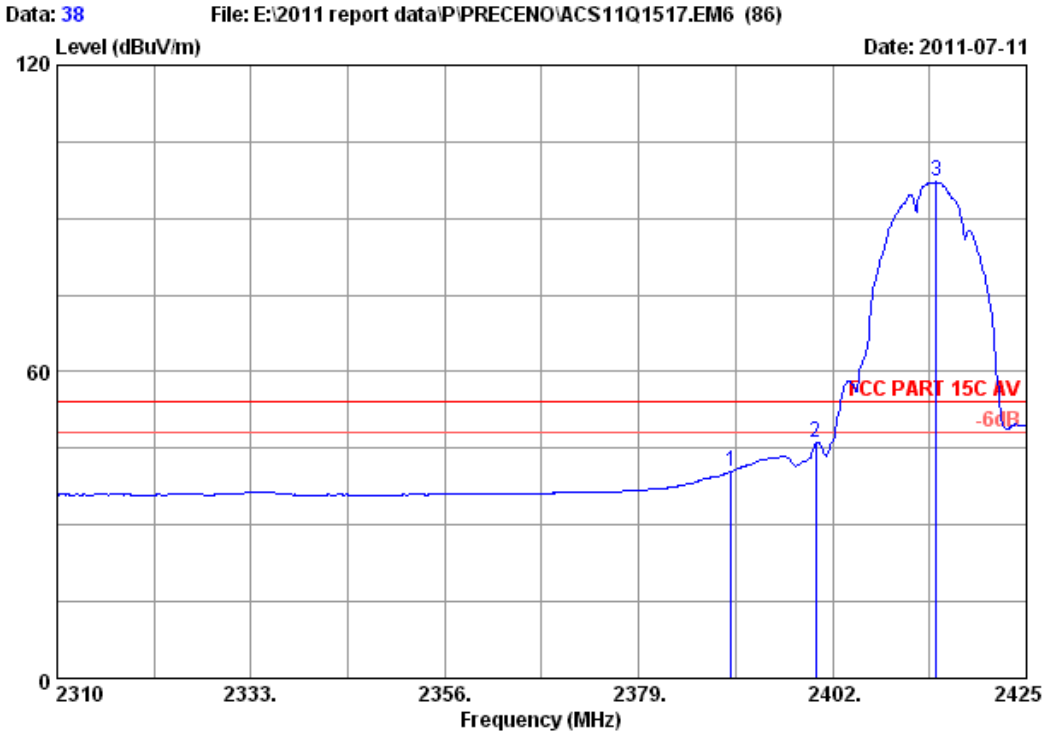
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 37
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	2390.000	27.96	6.72	34.44	51.64	51.88	74.00	22.12	Peak
2	2399.125	27.96	6.75	34.44	56.56	56.83	74.00	17.17	Peak
3	2400.000	27.96	6.75	34.44	55.48	55.75	74.00	18.25	Peak
4	2413.730	27.98	6.78	34.44	102.12	102.44	74.00	-28.44	Peak

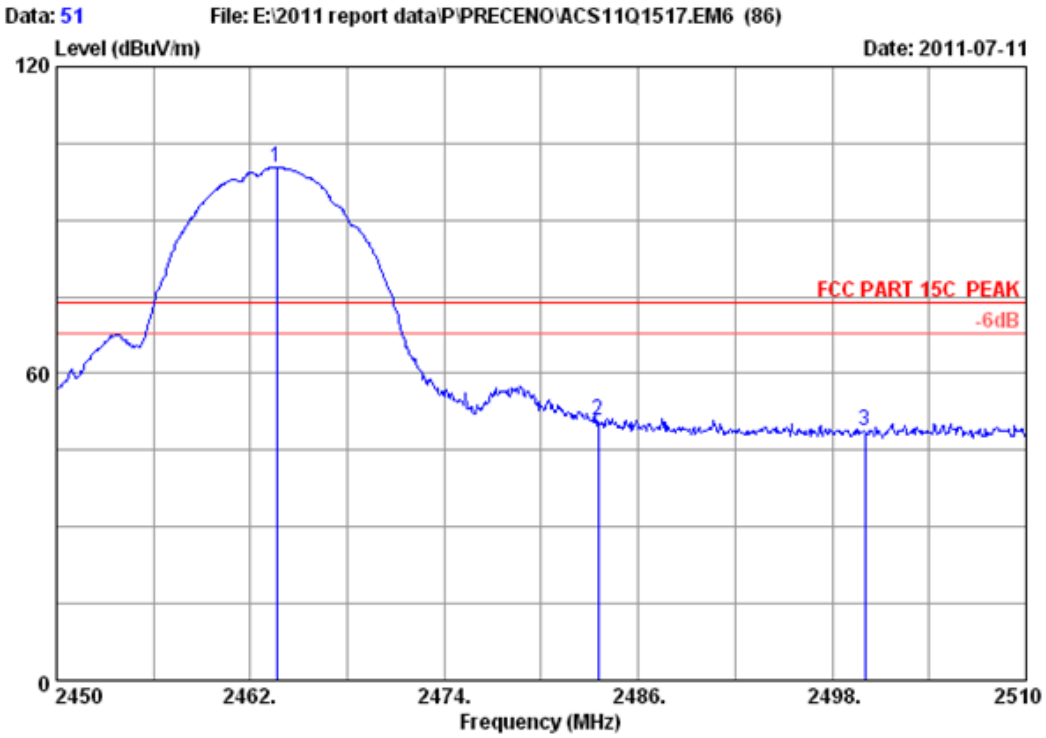
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 38
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH1 2412 MHz Tx
M/N : 330

	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	2390.000	27.96	6.72	34.44	40.27	40.51	54.00	13.49	Average
2	2400.000	27.96	6.75	34.44	45.73	46.00	54.00	8.00	Average
3	2414.305	27.98	6.78	34.44	96.87	97.19	54.00	-43.19	Average

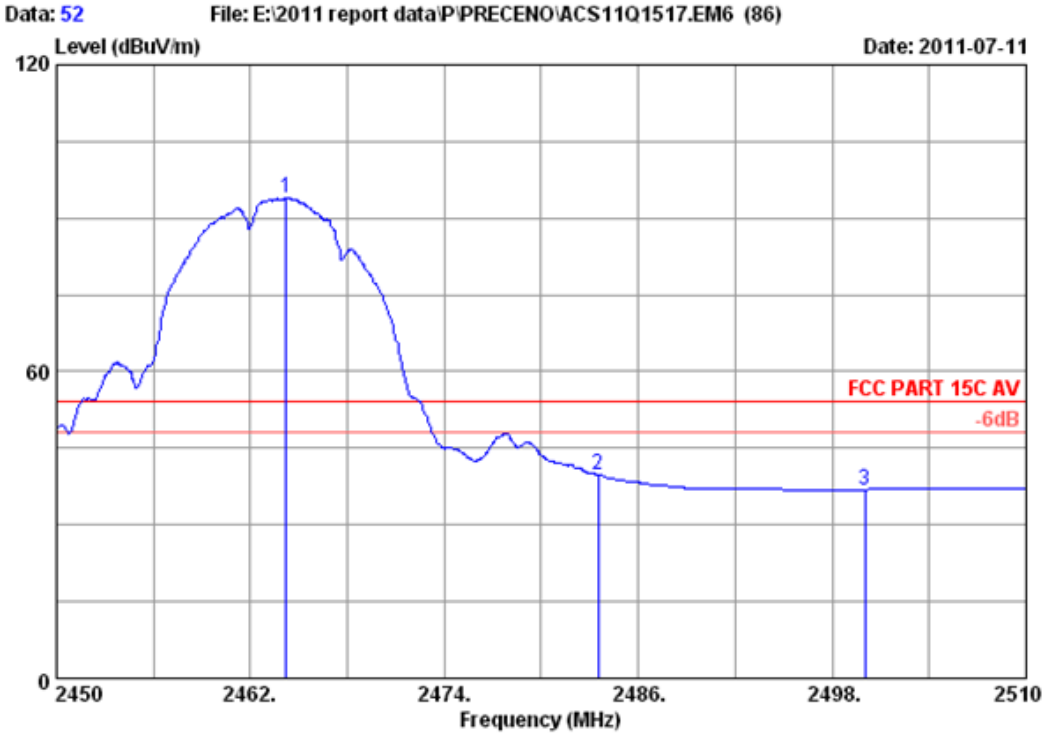
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 51
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	2463.620	28.05	6.84	34.45	99.92	100.36	74.00	-26.36	Peak
2	2483.500	28.08	6.90	34.45	50.28	50.81	74.00	23.19	Peak
3	2500.000	28.10	6.90	34.45	48.16	48.71	74.00	25.29	Peak

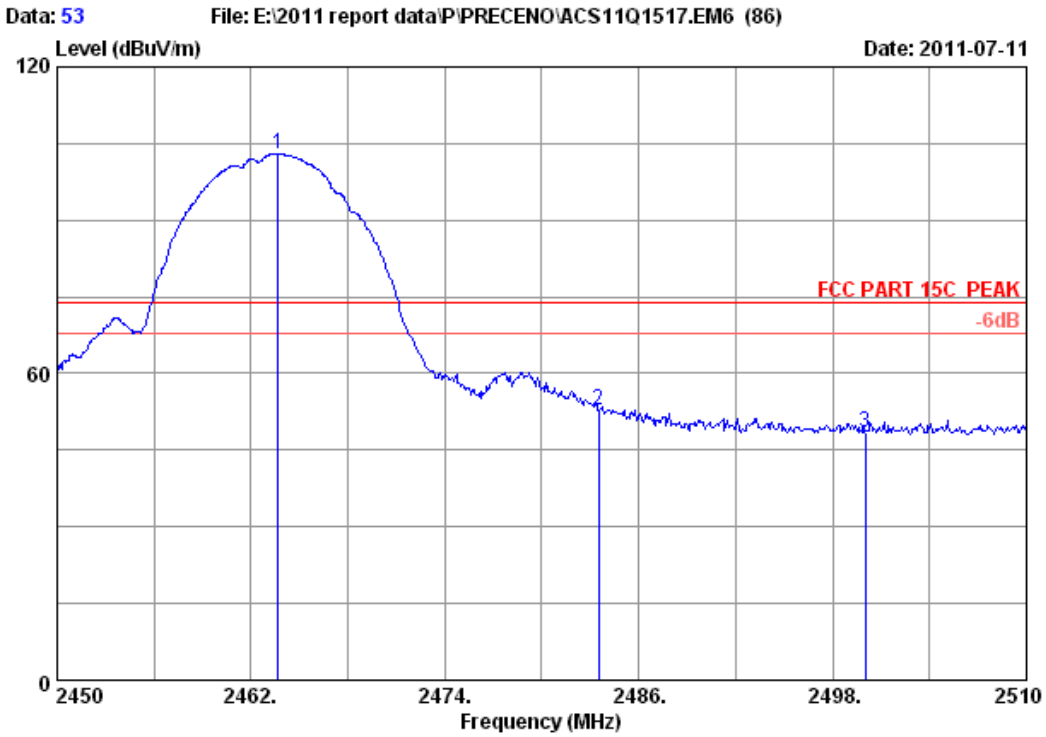
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 52
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	2464.220	28.05	6.84	34.45	93.46	93.90	54.00	-39.90	Average
2	2483.500	28.08	6.90	34.45	39.27	39.80	54.00	14.20	Average
3	2500.000	28.10	6.90	34.45	36.37	36.92	54.00	17.08	Average

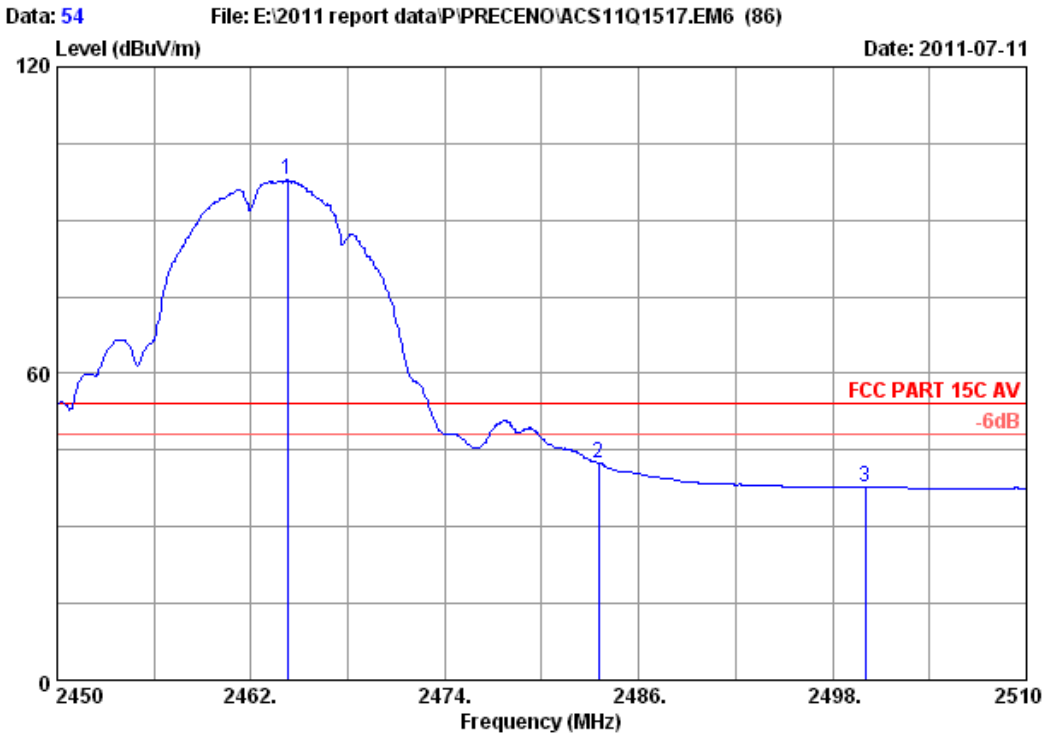
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 53
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	2463.680	28.05	6.84	34.45	102.61	103.05	74.00	-29.05	Peak
2	2483.500	28.08	6.90	34.45	52.22	52.75	74.00	21.25	Peak
3	2500.000	28.10	6.90	34.45	47.92	48.47	74.00	25.53	Peak

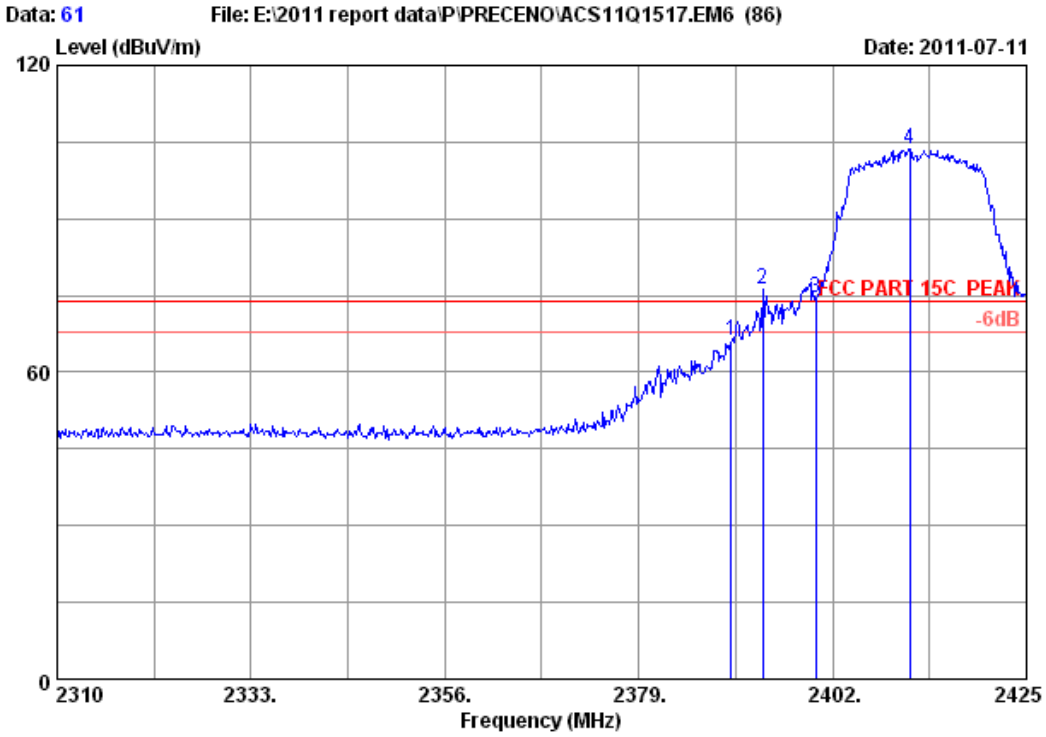
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 54
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11b CH11 2462 MHz Tx
M/N : 330

	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	2464.280	28.05	6.84	34.45	97.39	97.83	54.00	-43.83	Average
2	2483.500	28.08	6.90	34.45	42.00	42.53	54.00	11.47	Average
3	2500.000	28.10	6.90	34.45	37.14	37.69	54.00	16.31	Average

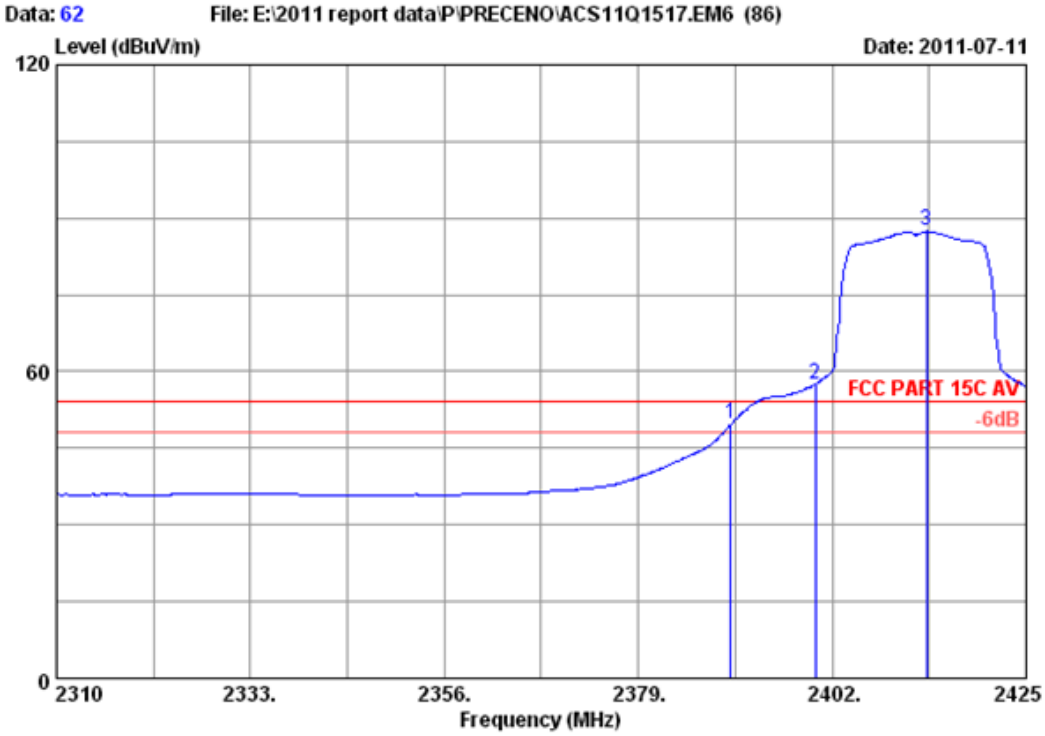
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 61
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	2390.000	27.96	6.72	34.44	65.88	66.12	74.00	7.88	Peak
2	2393.720	27.96	6.75	34.44	75.83	76.10	74.00	-2.10	Peak
3	2400.000	27.96	6.75	34.44	74.33	74.60	74.00	-0.60	Peak
4	2411.200	27.98	6.78	34.44	103.36	103.68	74.00	-29.68	Peak

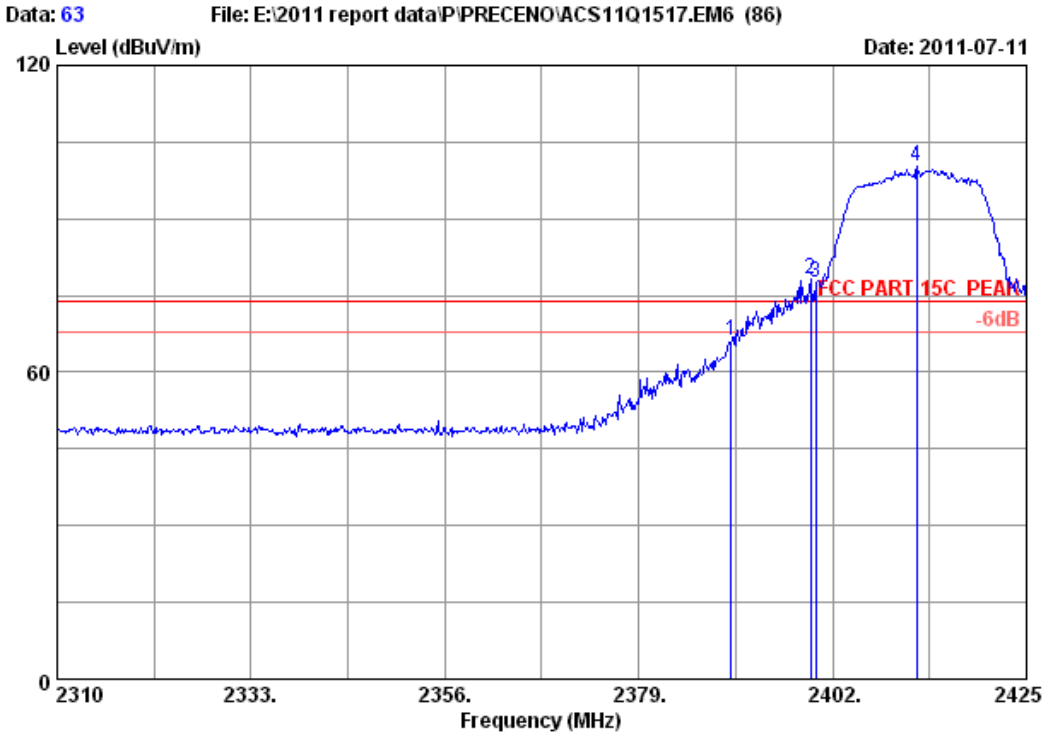
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 62
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	2390.000	27.96	6.72	34.44	49.48	49.72	54.00	4.28	Average
2	2400.000	27.96	6.75	34.44	57.37	57.64	54.00	-3.64	Average
3	2413.155	27.98	6.78	34.44	87.10	87.42	54.00	-33.42	Average

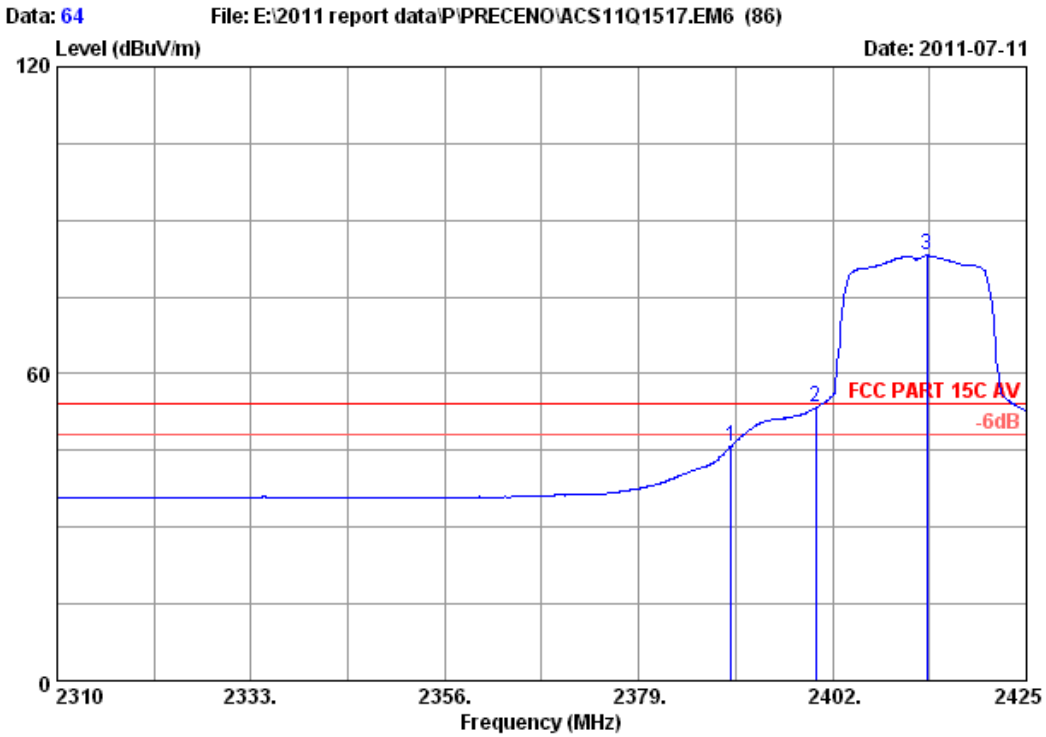
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 63
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	2390.000	27.96	6.72	34.44	65.98	66.22	74.00	7.78	Peak
2	2399.355	27.96	6.75	34.44	78.02	78.29	74.00	-4.29	Peak
3	2400.000	27.96	6.75	34.44	77.31	77.58	74.00	-3.58	Peak
4	2412.005	27.98	6.78	34.44	99.85	100.17	74.00	-26.17	Peak

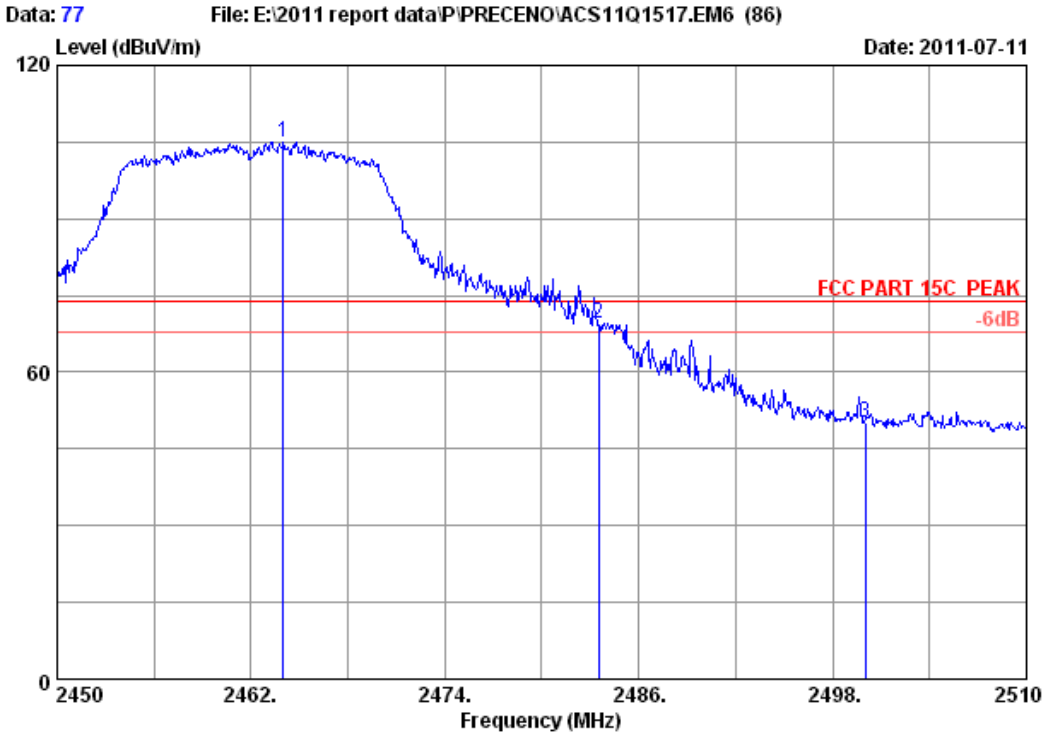
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 64
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH1 2412 MHz Tx
M/N : 330

	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	2390.000	27.96	6.72	34.44	45.69	45.93	54.00	8.07	Average
2	2400.000	27.96	6.75	34.44	53.16	53.43	54.00	0.57	Average
3	2413.155	27.98	6.78	34.44	82.77	83.09	54.00	-29.09	Average

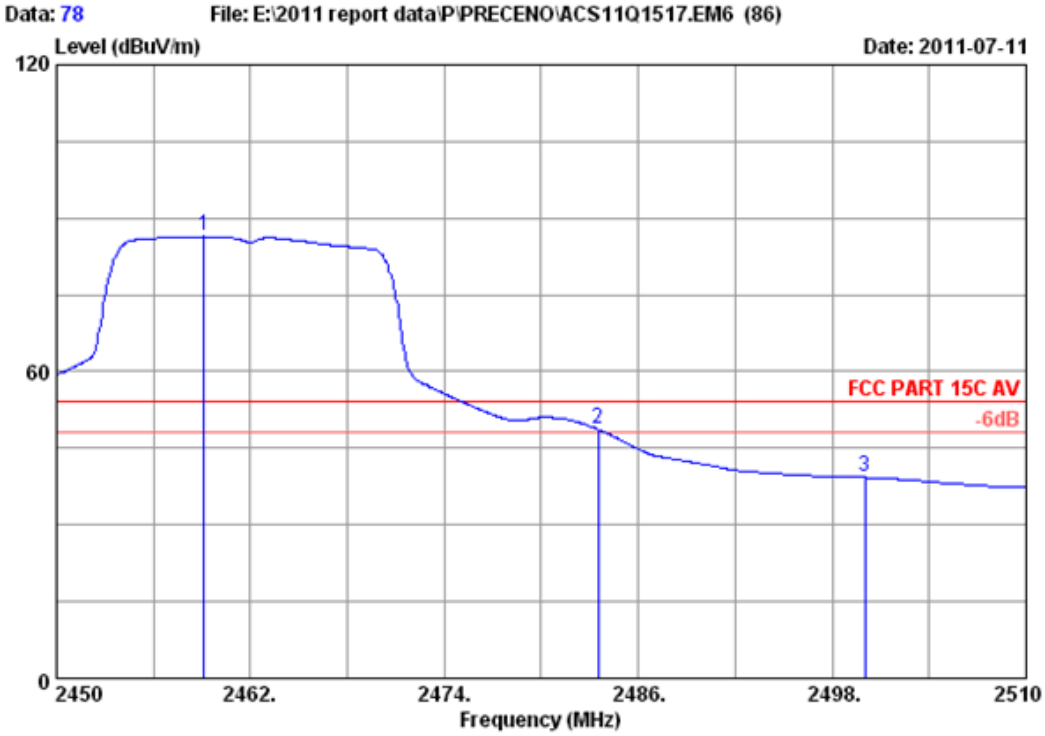
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 77
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	2463.980	28.05	6.84	34.45	104.51	104.95	74.00	-30.95	Peak
2	2483.500	28.08	6.90	34.45	69.01	69.54	74.00	4.46	Peak
3	2500.000	28.10	6.90	34.45	49.65	50.20	74.00	23.80	Peak

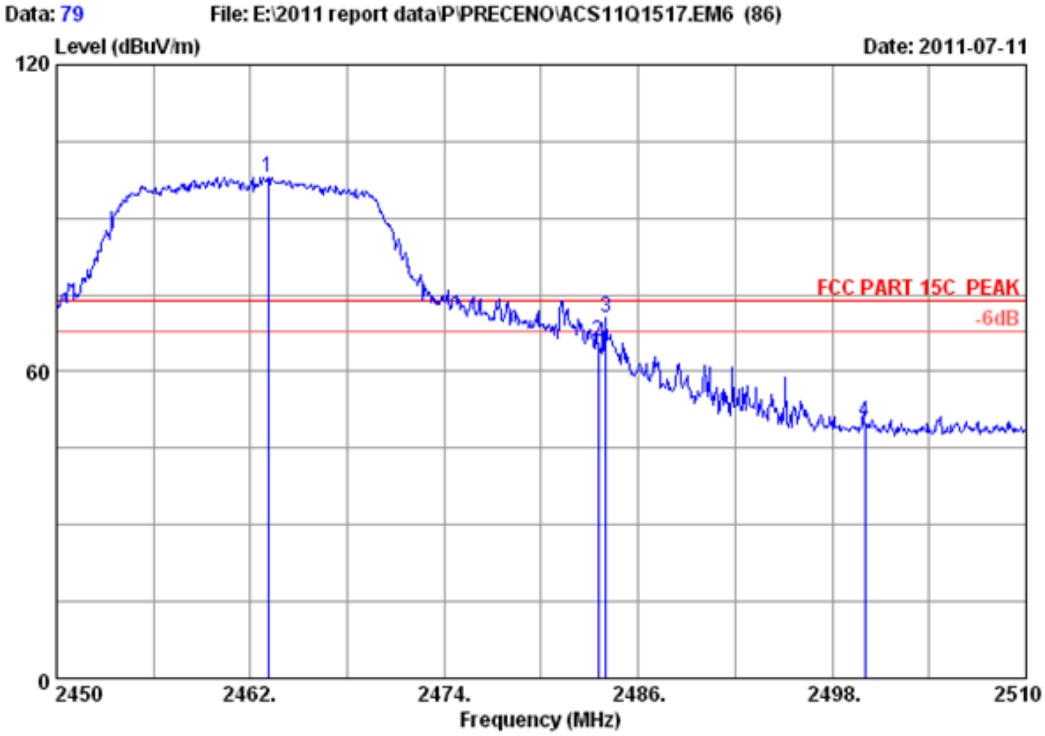
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 78
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	2459.120	28.05	6.84	34.44	85.96	86.41	54.00	-32.41	Average
2	2483.500	28.08	6.90	34.45	48.15	48.68	54.00	5.32	Average
3	2500.000	28.10	6.90	34.45	38.77	39.32	54.00	14.68	Average

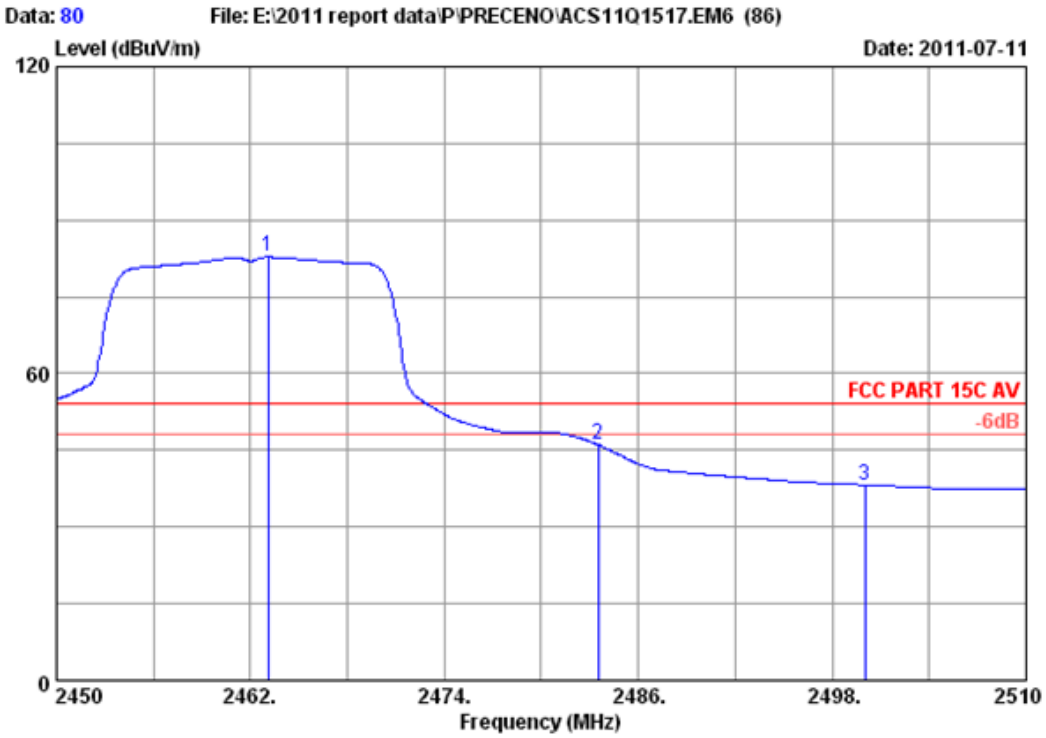
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 79
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	2463.080	28.05	6.84	34.45	97.65	98.09	74.00	-24.09	Peak
2	2483.500	28.08	6.90	34.45	65.41	65.94	74.00	8.06	Peak
3	2484.020	28.08	6.90	34.45	69.96	70.49	74.00	3.51	Peak
4	2500.000	28.10	6.90	34.45	49.52	50.07	74.00	23.93	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. : 80
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : WIMM One
Power : DC 5V From Adapter Input AC 120V/60Hz
Test mode : 11g CH11 2462 MHz Tx
M/N : 330

	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	2463.080	28.05	6.84	34.45	82.31	82.75	54.00	-28.75	Average
2	2483.500	28.08	6.90	34.45	45.60	46.13	54.00	7.87	Average
3	2500.000	28.10	6.90	34.45	37.64	38.19	54.00	15.81	Average

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.

7. 6dB Bandwidth Test

7.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,11	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,11	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,11	1Year

7.2.Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

7.3.Test Procedure

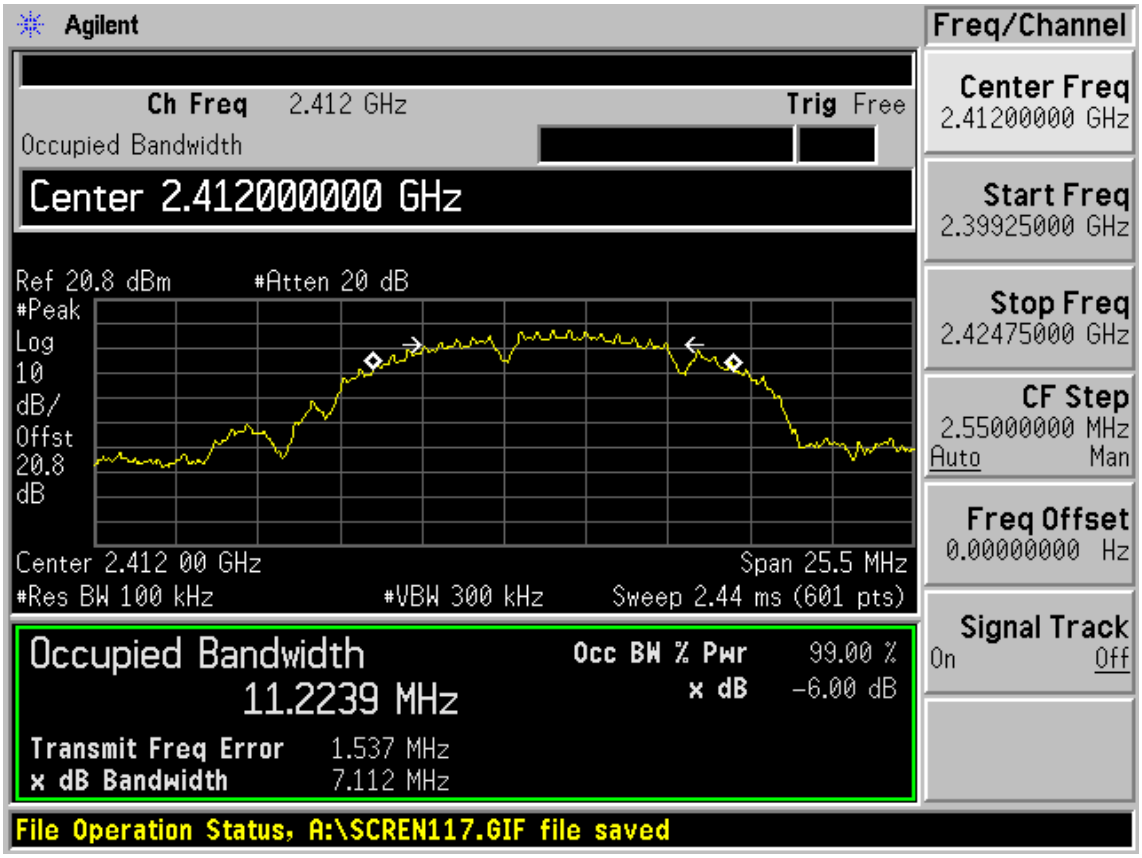
The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300 kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.4.Test Results

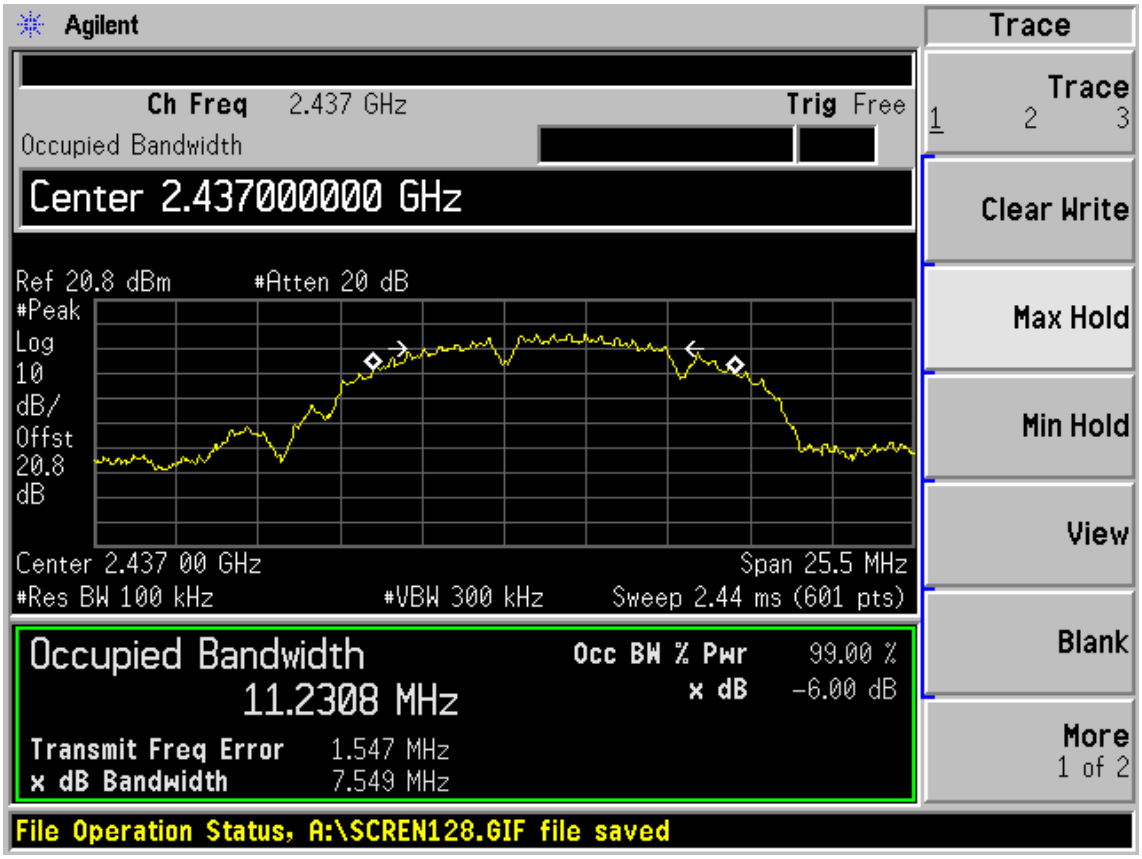
EUT: WIMM One		
M/N: 330		
Test date: 2011-07-17	Pressure: 101.1 kpa	Humidity: 55%
Tested by: Leo-Li	Test site: RF Site	Temperature：25 ℃

Cable loss: 0.8 dB		Attenuator loss: 20 dB	Antenna Gain: 2.0dBi
Test Mode	CH	6dB bandwidth （MHz）	Limit (KHz)
11b	CH1	7.112	>500
	CH6	7.549	>500
	CH11	7.572	>500
11g	CH1	15.145	>500
	CH6	15.181	>500
	CH11	15.189	>500
Conclusion：PASS			

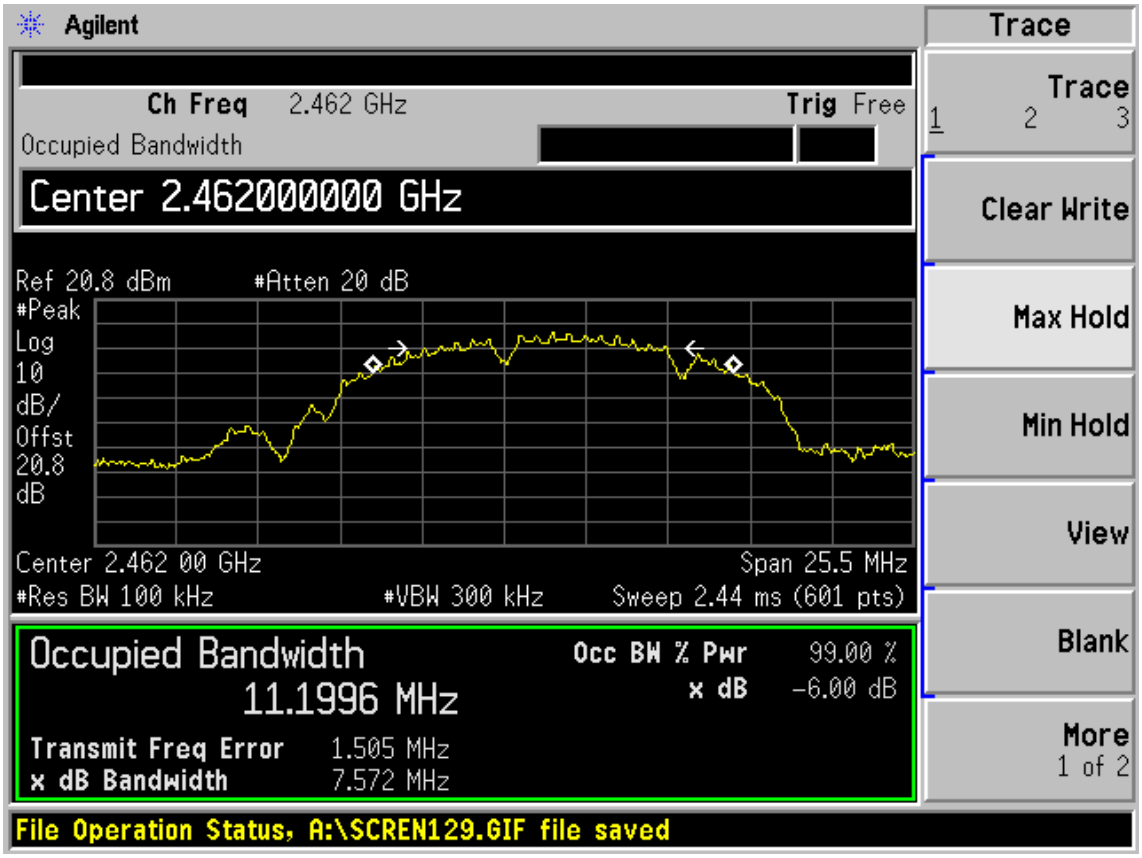
Test Mode: IEEE 802.11b
Test CH1: 2412MHz



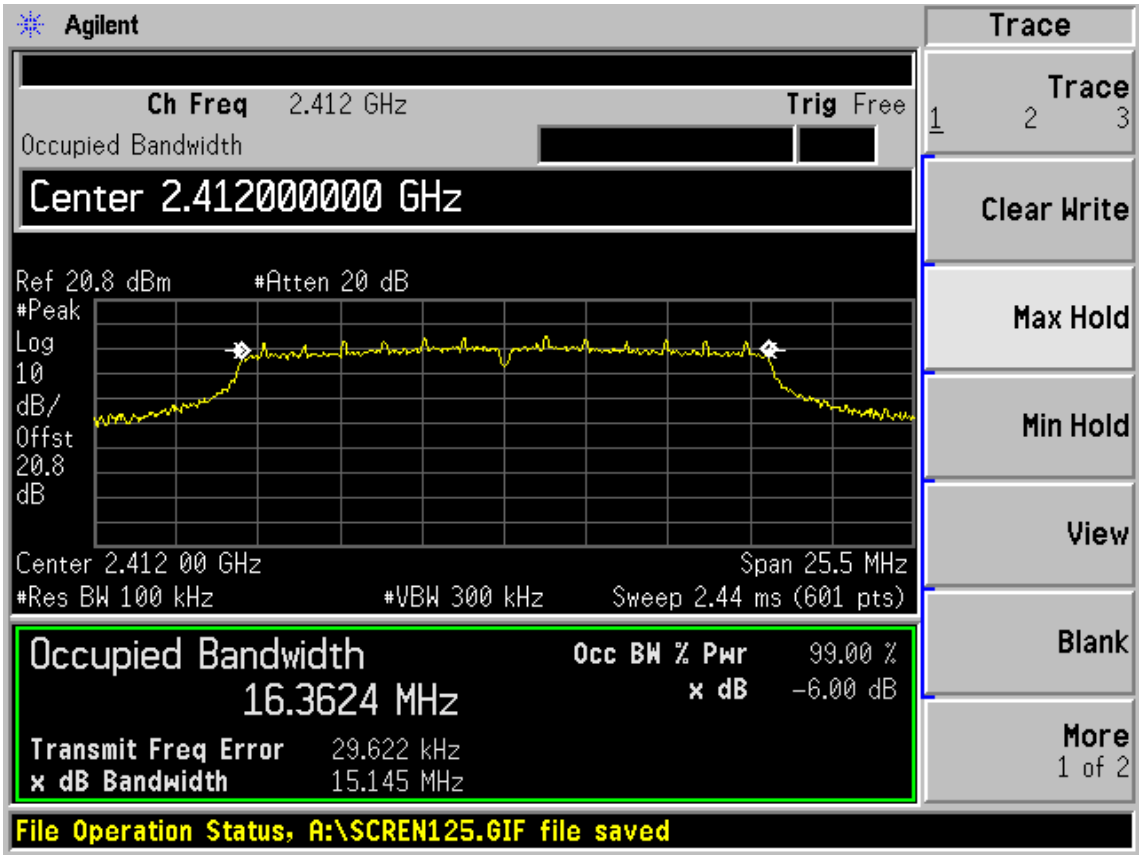
Test CH6: 2437MHz



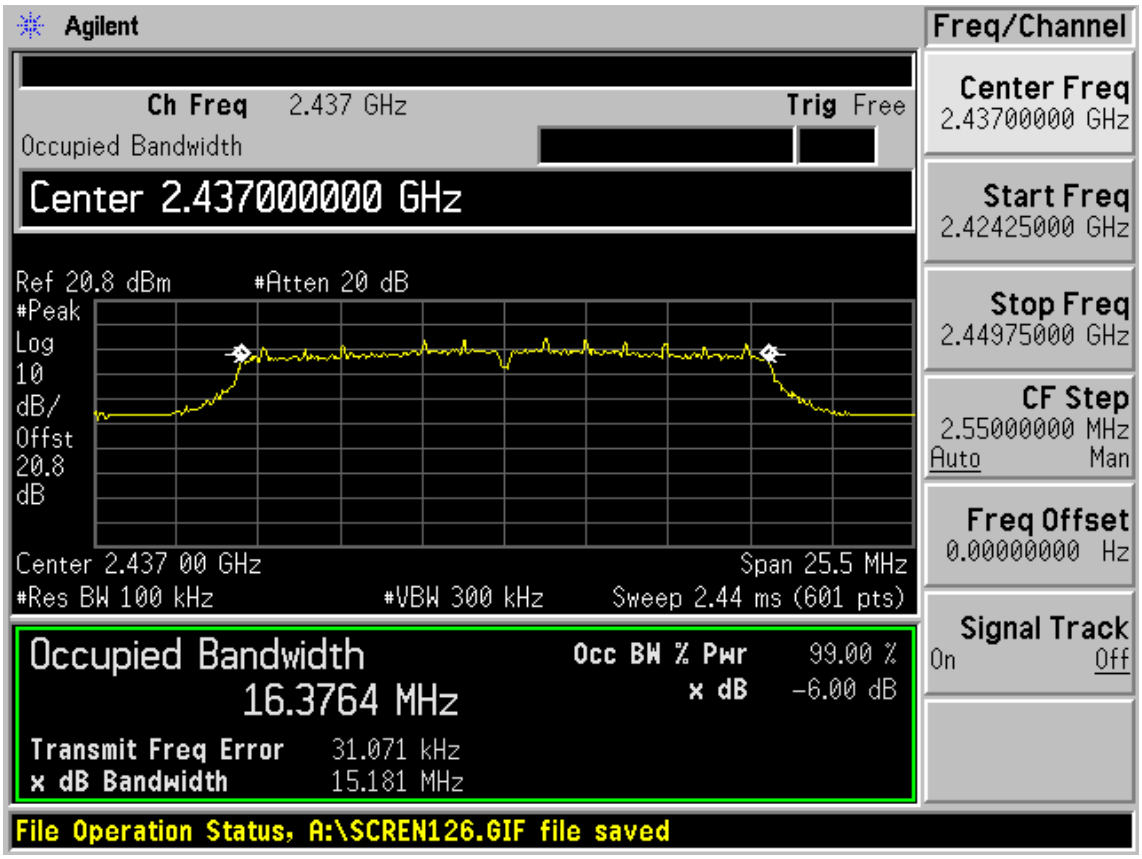
Test CH11: 2462MHz



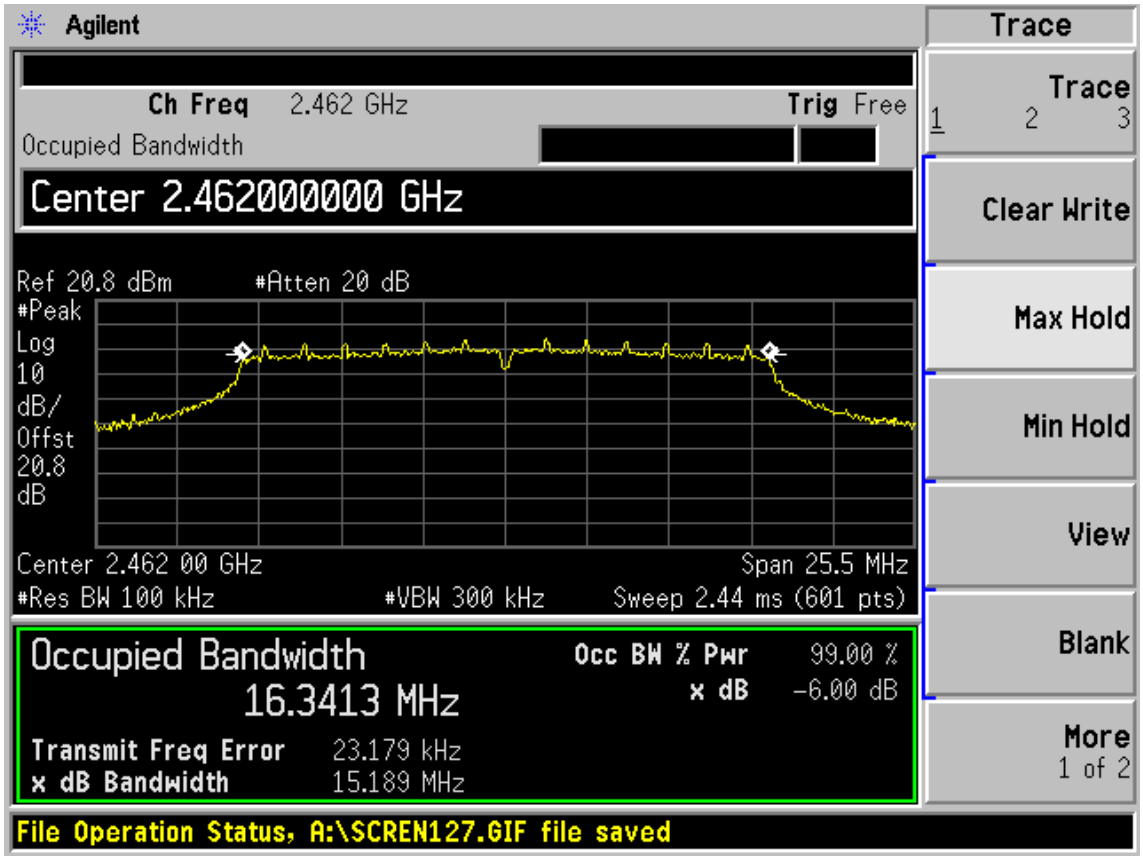
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



8. OUTPUT POWER TEST

8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Power meter	Anritsu	ML2487A	6K00002472	May.08,11	1Year
2.	Power sensor	Anritsu	MA2491A	0033005	May.08,11	1Year
3	Attenuator	Agilent	8491B	MY39262165	May.08,11	1 Year
4	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 11	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,11	1Year

8.2.Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, The Peak out put Power shall not exceed 1W(30dBm)

8.3.Test Procedure

1, Connected the EUT's antenna port to measure device by 20dB attenuator.

2, For IEEE 802.11b/g and IEEE802.11n HT20 mode, use a PK power meter which's bandwidth is above 6dB bandwidth of signal to measure out each test modes' PK output power.

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

8.4.Test Results

EUT: WIMM One			
M/N:330			
Test date: 2011-07-17	Pressure: 101.8 kpa		Humidity: 56%
Tested by: Leo-Li	Test site: RF site		Temperature: 25 ℃
Cable loss: 0.8 dB		Attenuator loss: 20 dB	
Test Mode	CH (MHz)	Peak output Power （dBm）	Limit (dBm)
11b	CH1	17.89	30
	CH6	17.82	30
	CH11	17.62	30
11g	CH1	22.40	30
	CH6	22.14	30
	CH11	22.01	30
Conclusion: PASS			

9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 11	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08, 11	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08, 11	1Year

9.2.Limit

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

9.3.Test Procedure

1, Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.

2, Follow the test procedure as described in ANSI C.10: 2009 Clause 6.11.2.3 to measure out each test modes and chain's power density with 3KHz.

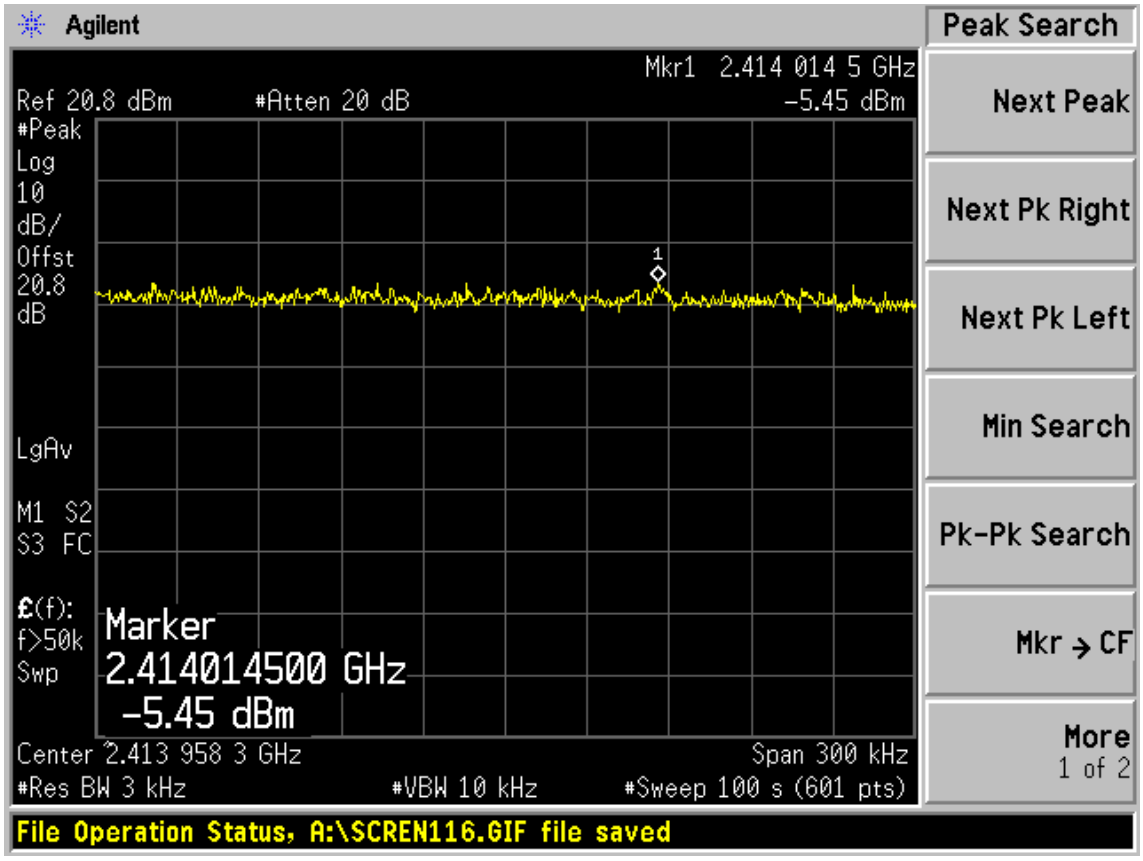
Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

9.4.Test Results

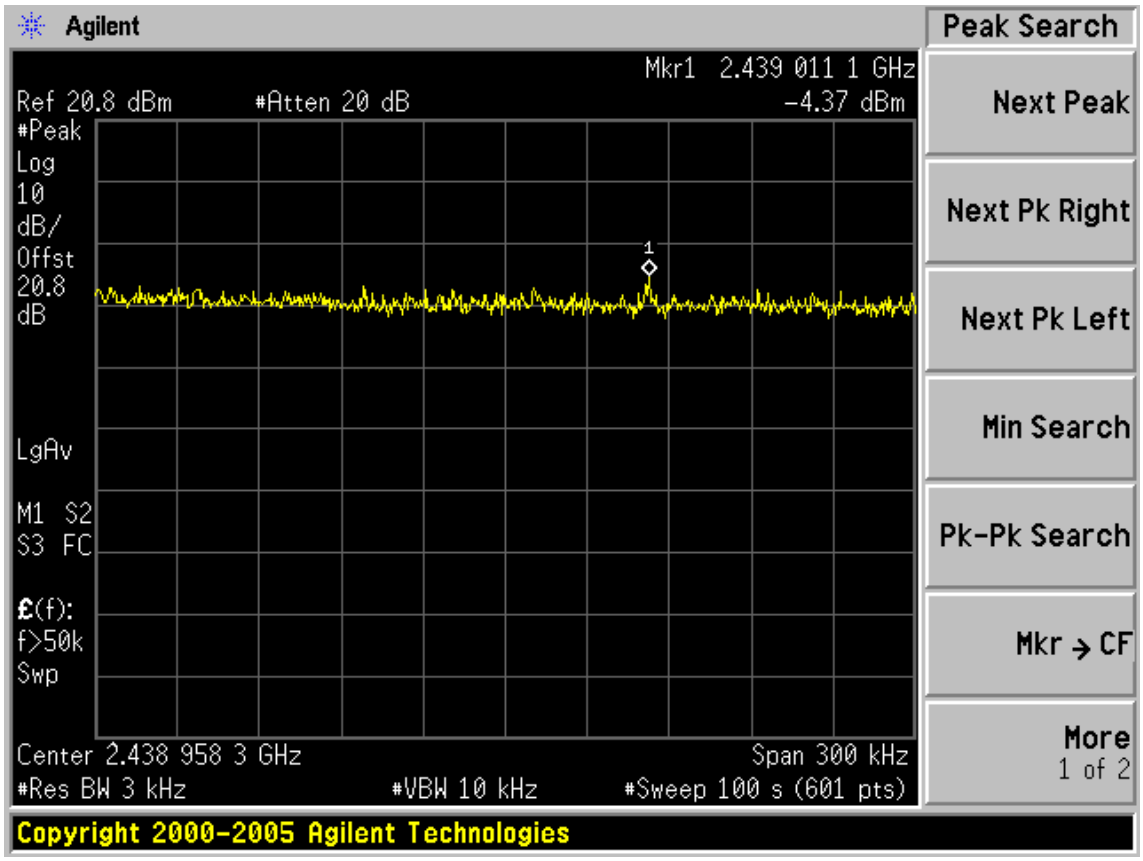
EUT:WIMM One		
M/N:330		
Test date:2011-7-17	Pressure: 101.5 kpa	Humidity: 56 %
Tested by: Leo-Li	Test site: RF Site	Temperature：25℃

Cable loss: 0.8 dB		Attenuator loss: 20 dB	
Test Mode	CH	Power density（dBm/3KHz）	Limit (dBm/3KHz)
		Result	
11b	CH1	-5.45	8
	CH6	-4.37	8
	CH11	-6.12	8
11g	CH1	-9.23	8
	CH6	-9.96	8
	CH11	-9.99	8
Conclusion：PASS			

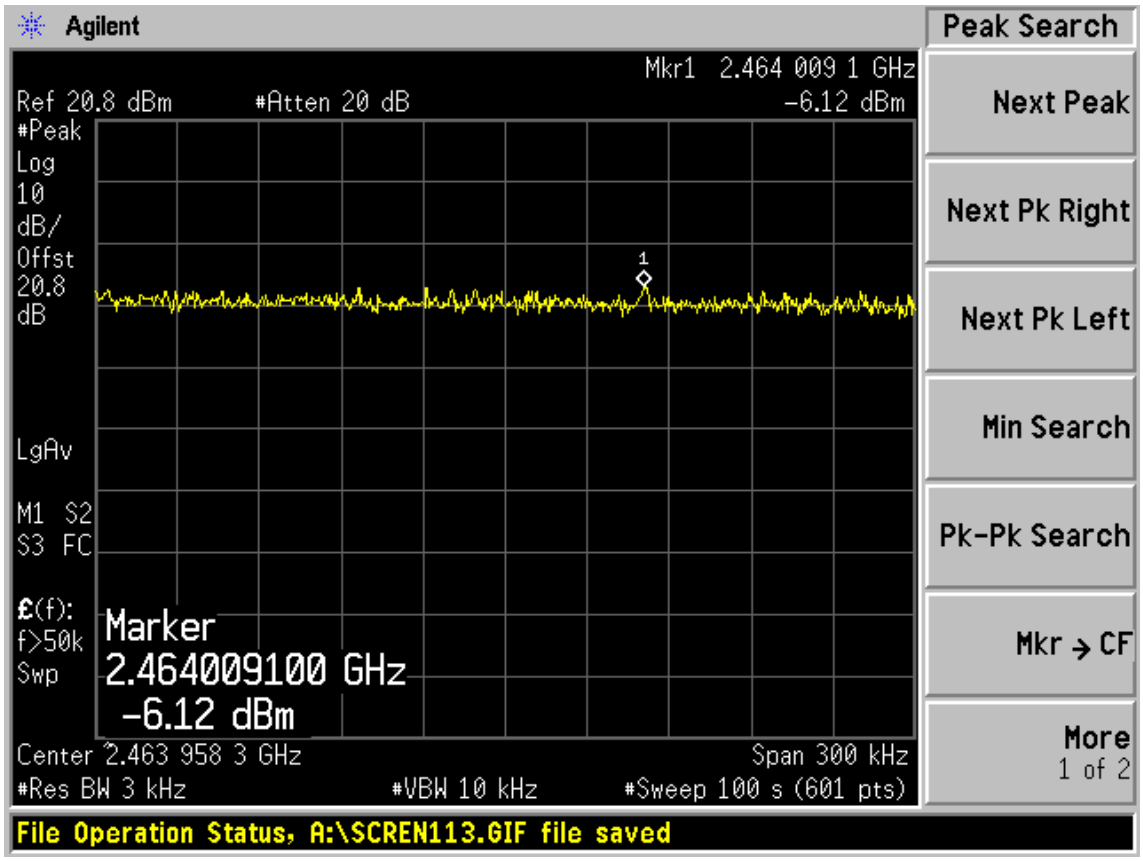
Test Mode: IEEE 802.11b
Test CH1: 2412MHz



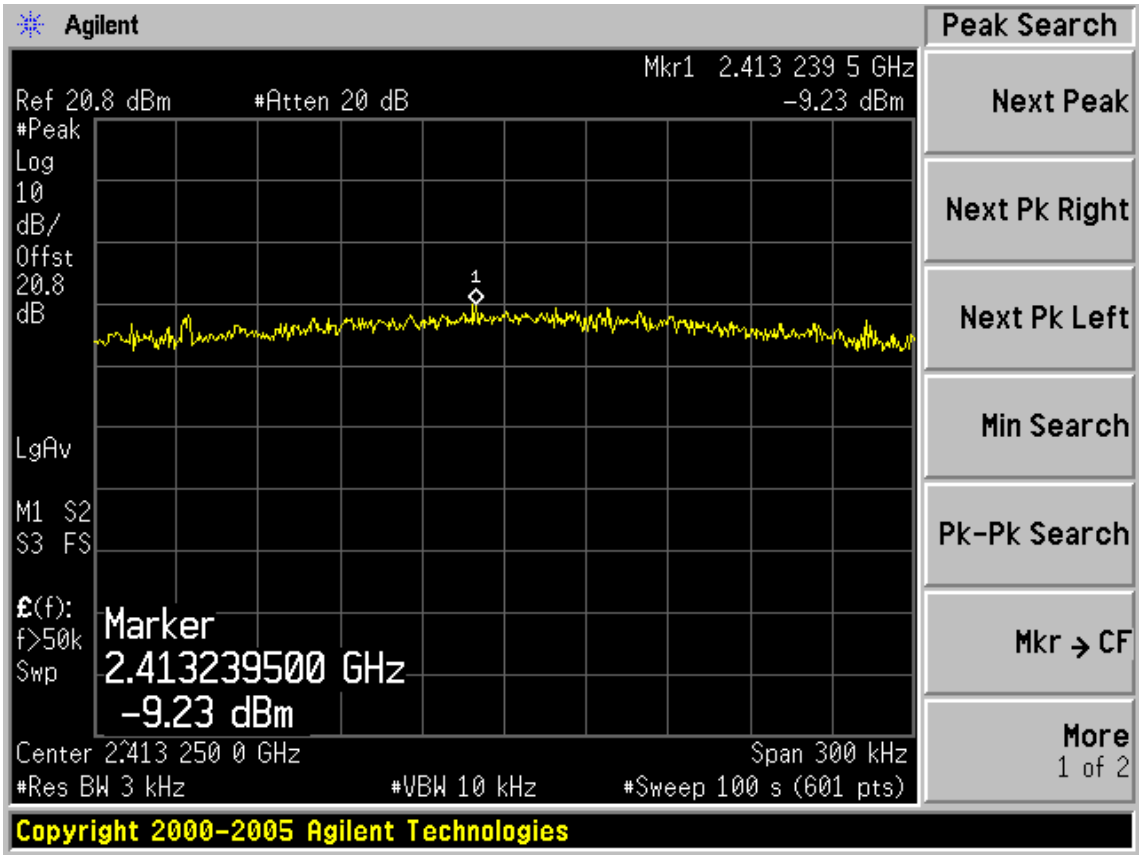
Test CH6: 2437MHz



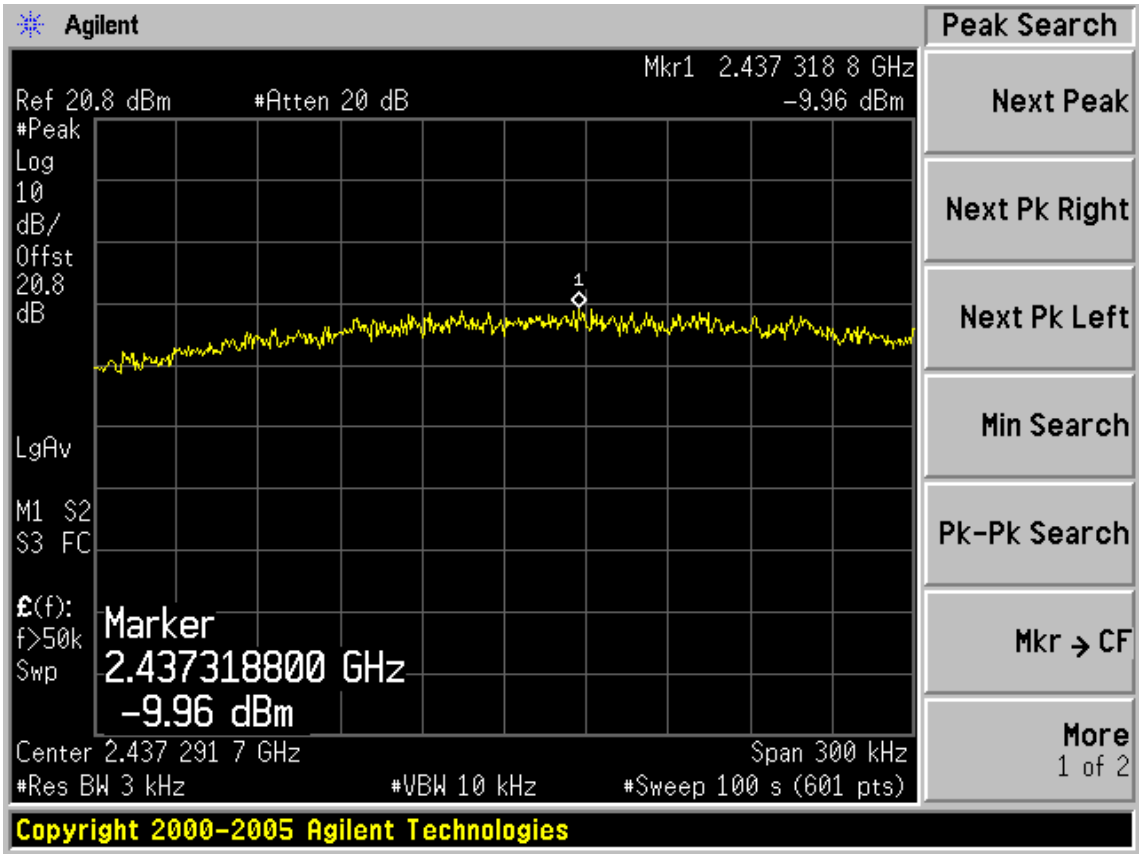
Test CH11: 2462MHz



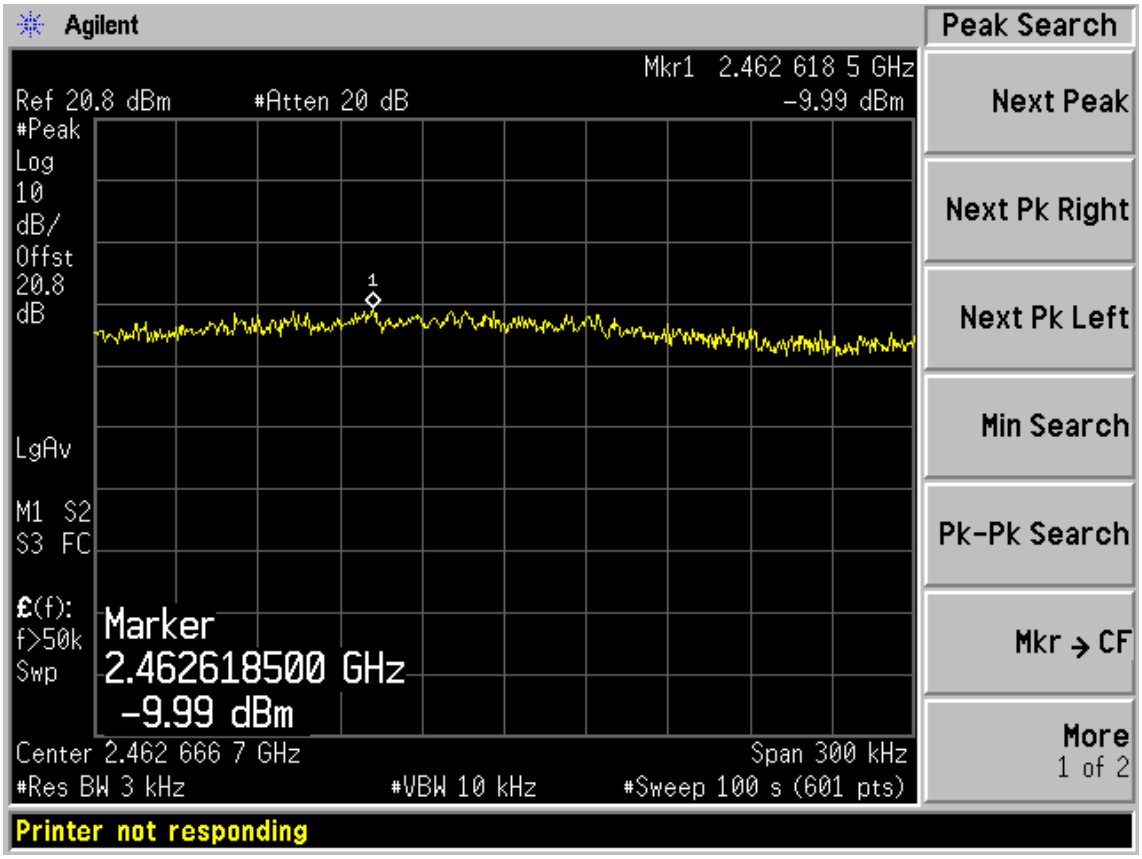
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



10. ANTENNA REQUIREMENT

10.1. STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

10.2. ANTENNA CONNECTED CONSTRUCTION

The antennas used for this product are IFA antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only -2.2dBi.

11.DEVIATION TO TEST SPECIFICATIONS

[NONE]