FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

EGOMAN DIGITAL CORP.

USB WiFi Dongle

Model No.: DW220XWXX

FCC ID: 2ACC2DW220

Prepared for : EGOMAN DIGITAL CORP.
5/F, Block B, Hainengda Science Park, No.3 Baolong 4th Road,
Longgang District, Shenzhen, China.

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-F14151
Date of Test	:	Apr.27~May.01, 2014
Date of Report	:	May.07, 2014

TABLE OF CONTENTS

TEST REPORT CERTIFICATION

Applicant	:	EGOMAN DIGITAL CORP.
Manufacturer	:	EGOMAN DIGITAL CORP.
EUT Description	:	USB WiFi Dongle
FCC ID	:	2ACC2DW220
(A) MODEL NO.	:	DW220XWXX
(B) SERIAL NO.	:	N/A
(C) POWER SUPPLY	:	DC 5V From PC
(D) TEST VOLTAGE	:	DC 5V From PC Input AC 120V/60Hz

Tested for comply with:
FCC Rules and Regulations Part 15 Subpart C: 2013

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. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC and IC requirements. This report contains data that are not covered by the NVLAP accreditation.

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 : Apr.27~ May.01, 2014 Report of date: May.07, 2014

Prepared by : Sonia Lee /Assistant

Reviewed by : Sunny Lu / Assistant Manager

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:

Approved & Authorized Signer : David Jin / 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	:	USB WiFi Dongle
Model Number	:	DW220XWXX
FCC ID	:	2ACC2DW220
Operation Frequency	:	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE802.11n HT20: 2412MHz—2462MHz IEEE802.11n HT40: 2422MHz—2452MHz
Channel Number	:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7Channels
Modulation Technology	:	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)
Antenna Assembly Gain& Type	:	PK gain 2.56dBi SMD Ceramic antenna
Applicant	:	EGOMAN DIGITAL CORP. 5/F, Block B, Hainengda Science Park, No.3 Baolong 4th Road, Longgang District, Shenzhen, China.
Manufacturer	:	EGOMAN DIGITAL CORP. 5/F, Block B, Hainengda Science Park, No.3 Baolong 4th Road, Longgang District, Shenzhen, China.
Date of Test	:	Apr.27~May.01, 2014
Date of Receipt	:	Apr.26, 2014
Sample Type	:	Prototype production

2.2.Test Information

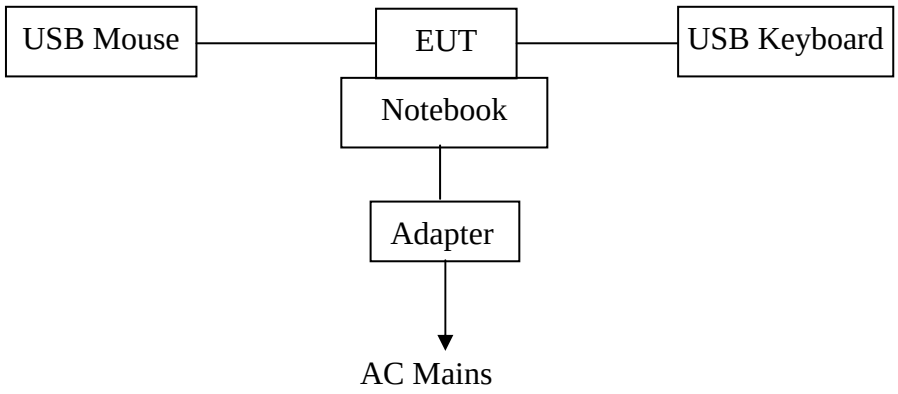
A special test software was used to control EUT work in Continuous TX mode(100% duty cycle), and select test channel, wireless mode and data rate.

Tested mode, channel, and data rate information			
Mode	data rate (Mpbs)(see Note)	Channel	Frequency (MHz)
IEEE 802.11b	11	Low :CH1	2412
	11	Middle: CH6	2437
	11	High: CH11	2462
IEEE 802.11g	54	Low :CH1	2412
	54	Middle: CH6	2437
	54	High: CH11	2462
IEEE 802.11n HT20	6.5	Low :CH1	2412
	6.5	Middle: CH6	2437
	6.5	High: CH11	2462
IEEE 802.11n HT40	13.5	Low :CH1	2422
	13.5	Middle: CH4	2437
	13.5	High: CH7	2452
Note1: According exploratory test, EUT will have maximum PK output power in those data rate, so those data rate were used for all test.			

2.3.Tested Supporting System Details

No.	Description	ACS No.	Manufacturer	Model	Serial Number	Approved type
1	Notebook	N/A	DELL	PP09S	N/A	☑FCC DoC ☑BSMI ID: R41108
		Power Cord: Unshielded, Detachabled, 1.8m Power Adapter: Manufacturer: DELL, M/N: LA65NS1-00 Cable: Unshielded, Detachabled, 4.0m(Bond one ferrite core)				
2	USB Mouse	ACS-EMC-M03R	DELL	M0C5UO	512023253	☑ FCC DoC ☑BSMI ID: R41108
		Power Cord: shielded, Undetachable, 2.0m				
3	USB Keyboard	ACS-EMC- K03R	DELL	SK-8115	CN-ODJ313-71616-711-04WJ	☑ FCC DoC ☑BSMI ID: T3A002
		Power Cord: shielded, Undetachable, 2.0m				

2.4.Block Diagram of Test Setup



(EUT: USB WiFi Dongle)

2.5. 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: Oct.31, 2015

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

: Certificated by DAkkS, Germany
Registration No: D-PL-12151-01-00
Valid Date: Dec.15, 2016

: Accredited by NVLAP, USA
NVLAP Code: 200372-0
Valid Date: Mar.31, 2015

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

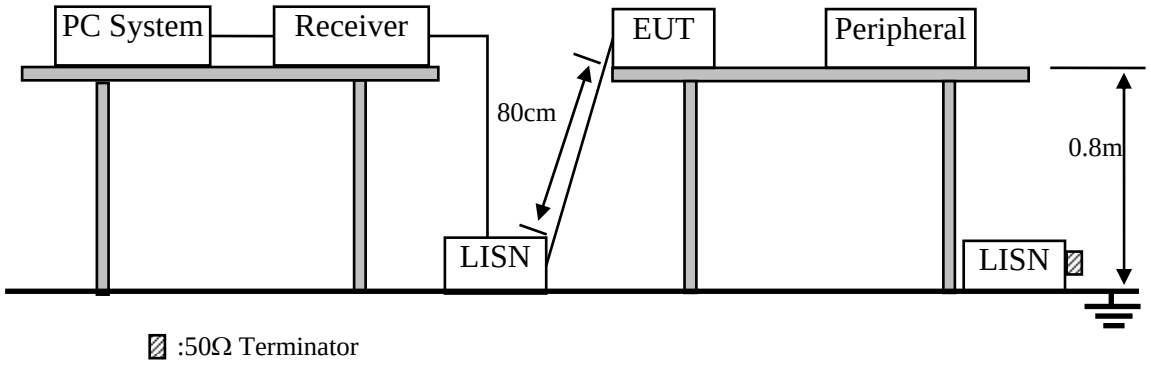
Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	3.10 dB(150kHz to 30MHz)
Uncertainty for Radiation Emission test in 3m chamber	3.22 dB(30~200MHz, Polarize: H)
	3.23 dB(30~200MHz, Polarize: V)
	3.49 dB(200M~1GHz, Polarize: H)
	3.39 dB(200M~1GHz, Polarize: V)
Uncertainty for Radiation Emission test in 3m chamber (1GHz-18GHz)	4.97 dB (Distance: 3m Polarize: V)
	4.99 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	Oct.31, 13	1 Year
2.	L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	100429	Jan.22, 14	1 Year
3.	L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 13	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	May.08, 13	1 Year
5.	Terminator	Hubersuhner	50Ω	No. 2	May.08, 13	1 Year
6.	RF Cable	Hubersuhner	RG58	0100.6954.20#	Jan.22, 14	1Year
7.	Coaxial Switch	Anritsu	MP59B	M50564	May.08, 13	1 Year
8.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101838	Jan.22, 14	1 Year

3.2.Block Diagram of Test Setup



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. USB WiFi Dongle (EUT)

Model Number : DW220XWXX
Serial Number : N/A

3.4.2. Support Equipment: As Tested Supporting System Details, in Section 2.2.

3.5. Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

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

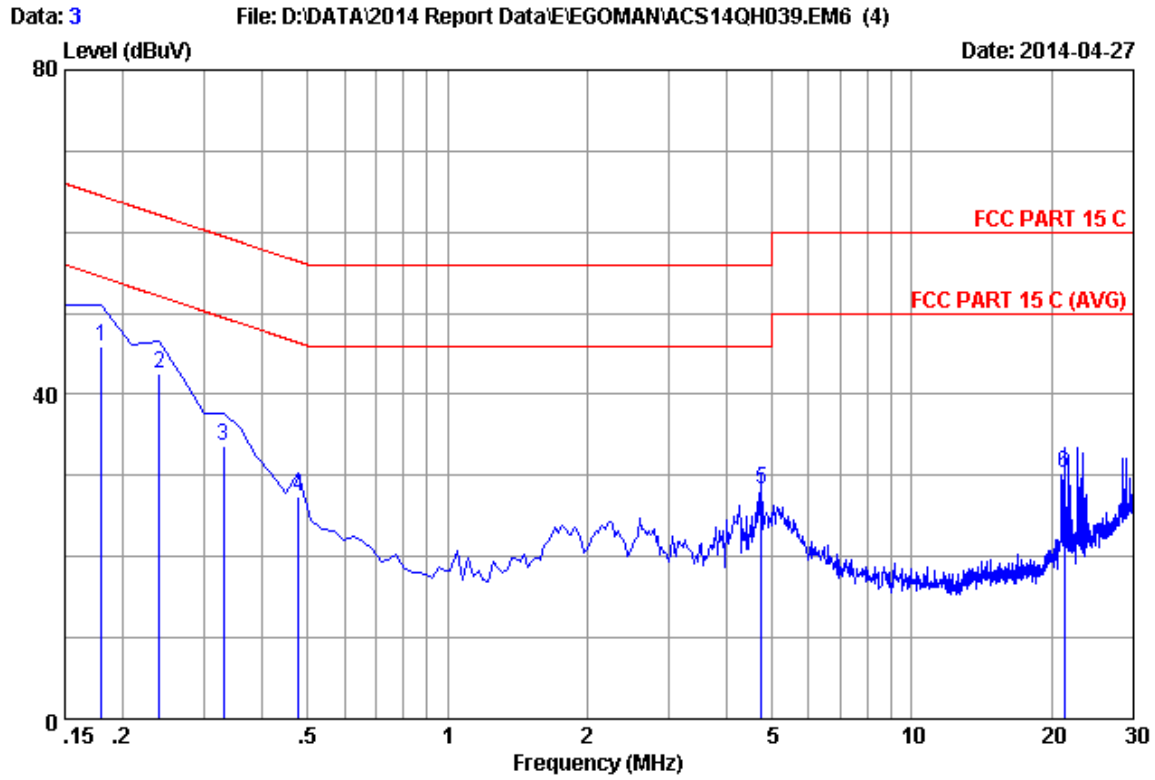
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The 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 9kHz.

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

3.7. Power Line Conducted Emission Test Results

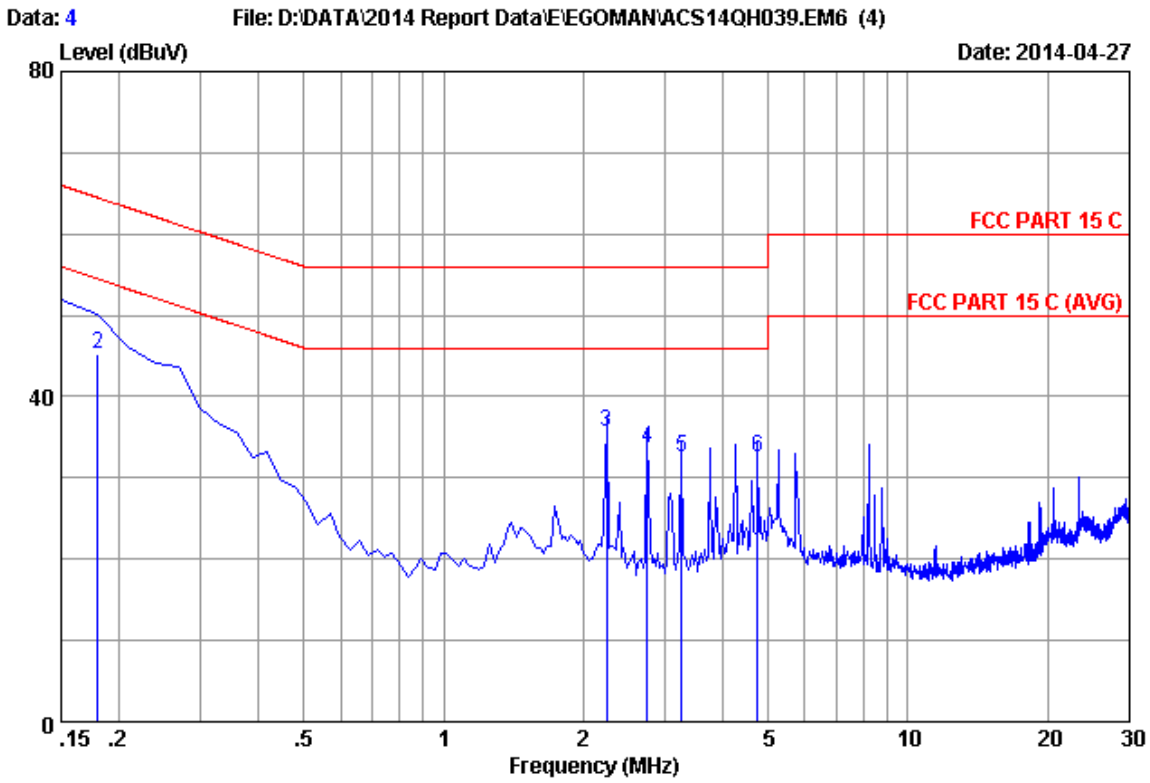
PASS. **(**All emissions not reported below are too low against the prescribed limits.)



Site no :1#conduction Data No :3
Dis./Ant. :** 2014 ESH2-Z5 LINE
Limit :FCC PART 15 C
Env./Ins. :24.7*C/52% Engineer :Leo-Li
EUT :USB WiFi Dongle M/N:DW220XWXX
Power Rating :DC 5V From PC Input AC 120V/60Hz
Test Mode :Tx Mode

No	Freq (MHz)	ISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17985	0.13	9.88	35.99	46.00	64.49	18.49	QP
2	0.23955	0.13	9.88	32.66	42.67	62.11	19.44	QP
3	0.32910	0.14	9.88	23.69	33.71	59.47	25.76	QP
4	0.47835	0.15	9.88	17.34	27.37	56.37	29.00	QP
5	4.747	0.26	9.95	18.03	28.24	56.00	27.76	QP
6	21.254	0.85	10.09	19.41	30.35	60.00	29.65	QP

Remarks: 1.Emission Level=ISN 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.



Site no :1#conduction Data No :4
Dis./Ant. :** 2014 ESH2-Z5 NEUTRAL
Limit :FCC PART 15 C
Env./Ins. :24.7*C/52% Engineer :Leo-Li
EUT :USB WiFi Dongle M/N:DW220XWXX
Power Rating :DC 5V From PC Input AC 120V/60Hz
Test Mode :Tx Mode

No	Freq (MHz)	ISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.13	9.87	36.97	46.97	66.00	19.03	QP
2	0.17985	0.13	9.88	35.13	45.14	64.49	19.35	QP
3	2.240	0.21	9.91	25.52	35.64	56.00	20.36	QP
4	2.747	0.23	9.92	23.44	33.59	56.00	22.41	QP
5	3.254	0.25	9.92	22.39	32.56	56.00	23.44	QP
6	4.747	0.28	9.95	22.38	32.61	56.00	23.39	QP

Remarks: 1.Emission Level=ISN 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

4.1.1. For frequency range 30MHz~1000MHz (At Anechoic Chamber)

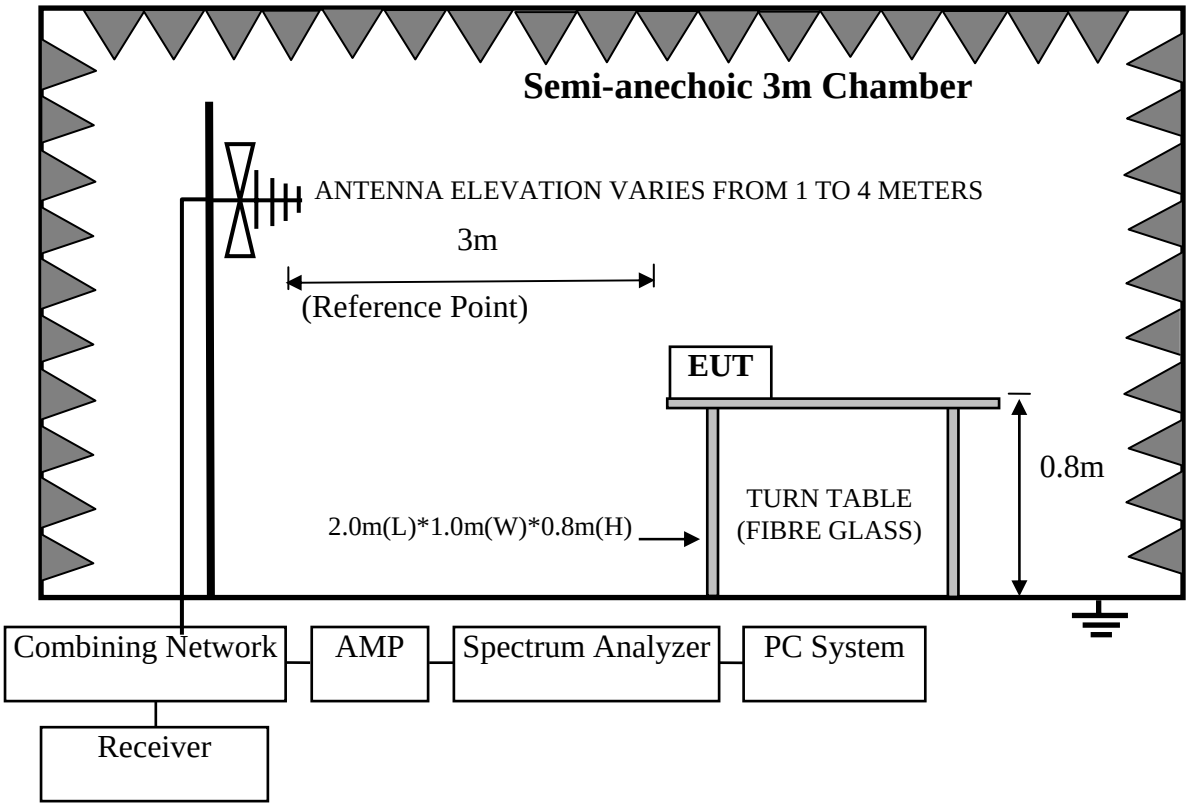
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Nov.24, 13	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 13	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 13	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 13	1 Year
5	Bilog Antenna	TESEQ	CBL6112D	35375	May.30, 13	1 Year
6	RF Cable	MIYAZAKI	CFD400-NL	3# Chamber No.1	May.08, 13	1 Year
7	Coaxial Switch	Anritsu	MP59B	M74389	May.08, 13	1 Year

4.1.2. For frequency range 1GHz~25GHz (At Anechoic Chamber)

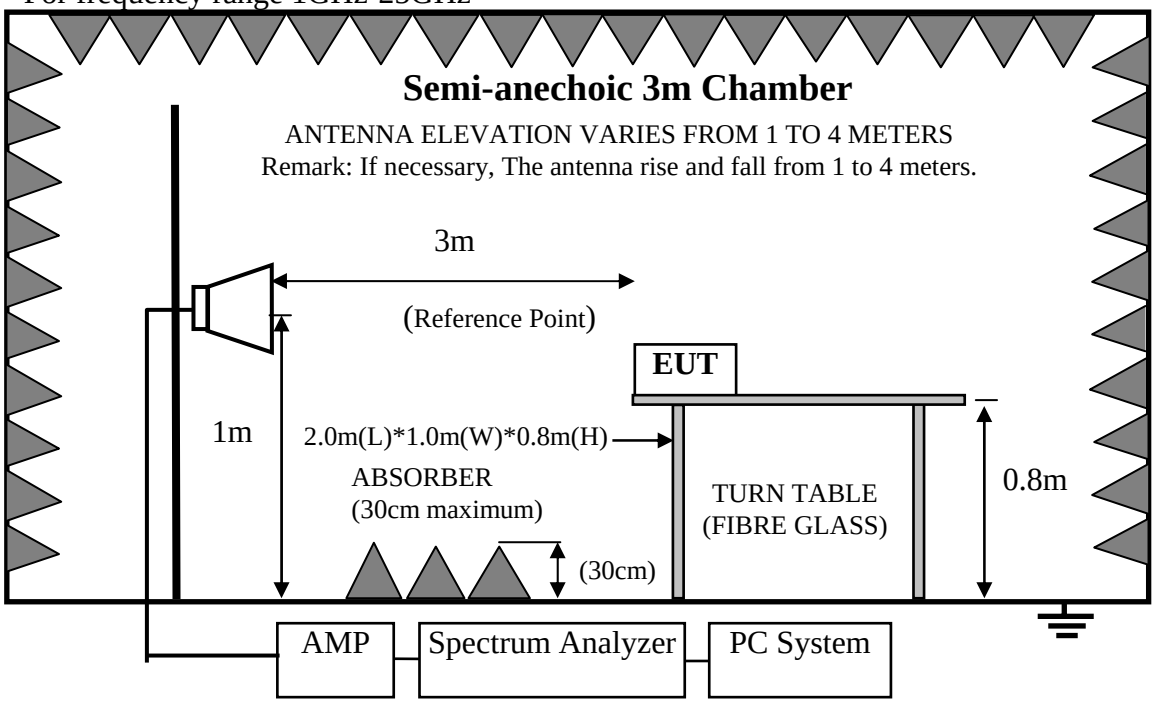
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4407B	MY41440292	May.08, 13	1 Year
2	Horn Antenna	EMCO	3115	9607-4580	Aug.28, 13	1 Year
3	Amplifier	Agilent	8449B	3008A00863	May.08, 13	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX106	77980/6	May.08, 13	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX106	77977/6	May.08, 13	1 Year
6	Horn Antenna	EMCO	3116	00060089	Aug.28, 13	1 Year

4.2.Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range 1GHz-25GHz



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.

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

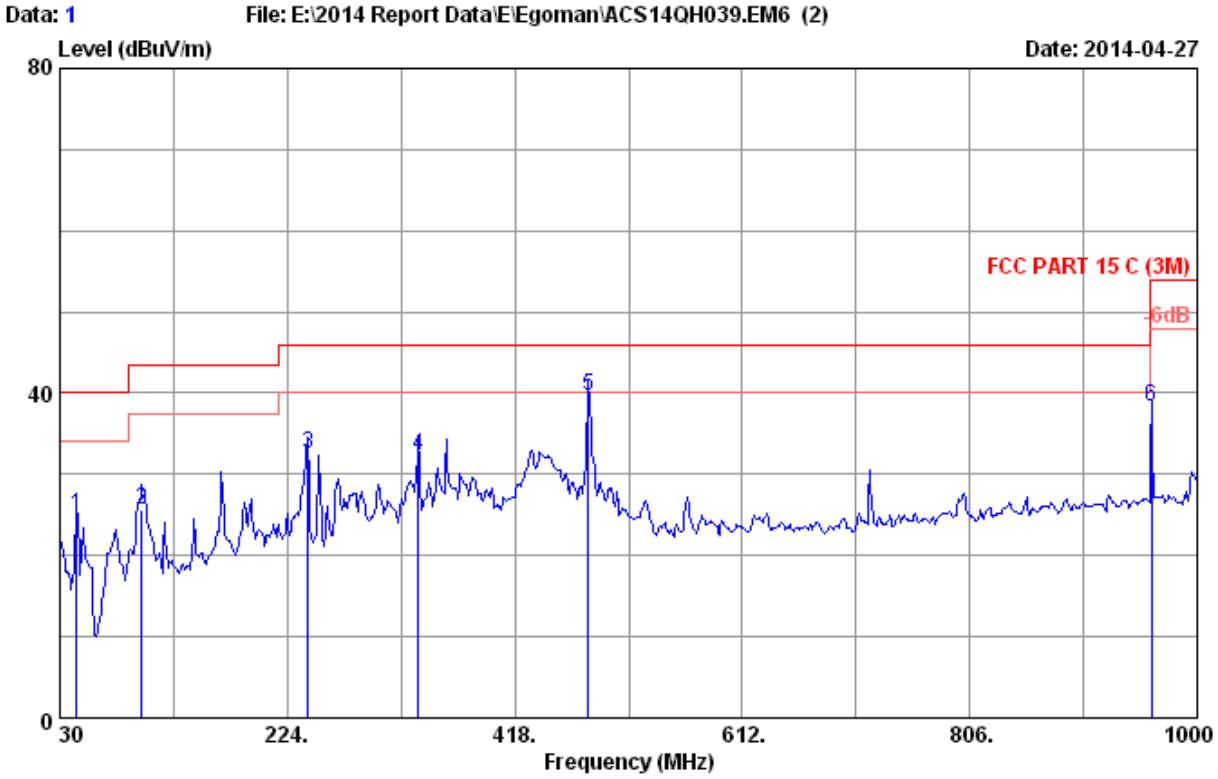
4.7.Radiated Emission Test Results

PASS.

All the emissions from 30MHz to 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.

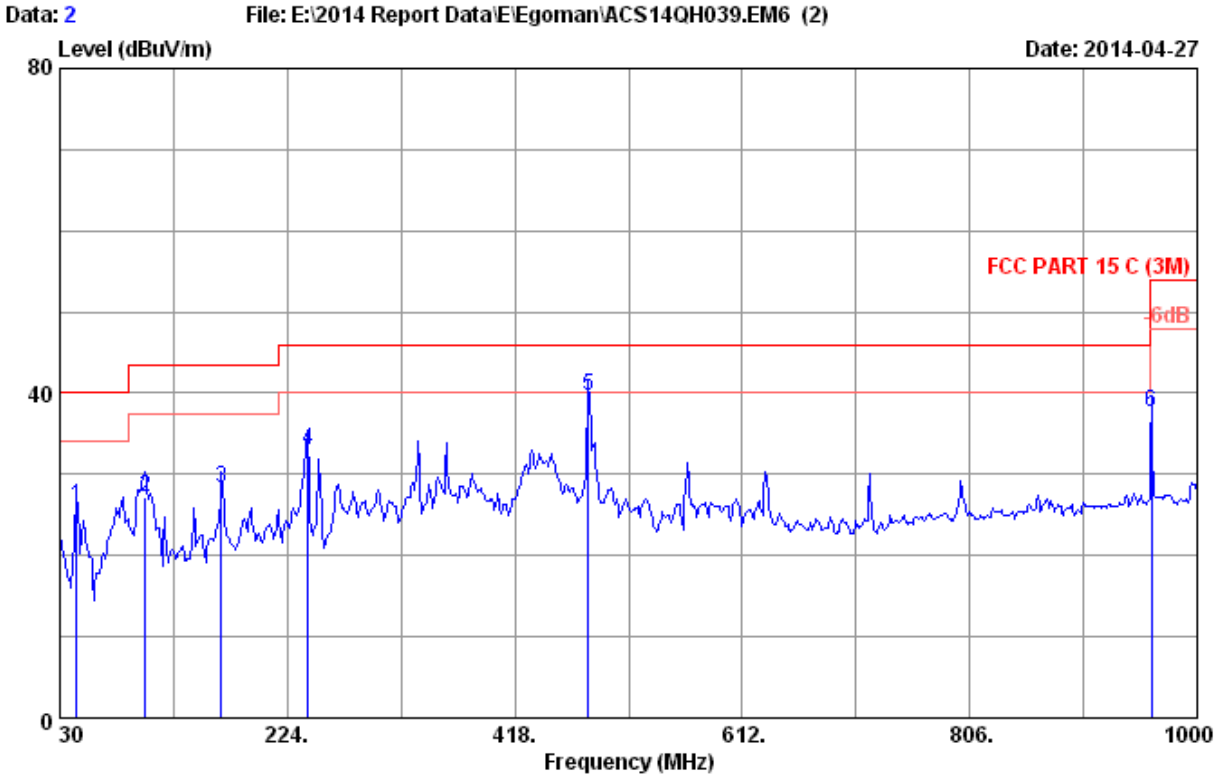
Frequency: 30MHz~1GHz



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 24*C/65% Engineer : Leo-Li
EUT : USB WiFi Dongle M/N:DW220XWXX
Power rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	44.550	11.53	1.09	12.38	25.00	40.00	15.00	QP
2	99.840	11.18	1.41	13.14	25.73	43.50	17.77	QP
3	241.460	12.35	1.95	18.27	32.57	46.00	13.43	QP
4	335.550	14.82	2.27	15.19	32.28	46.00	13.72	QP
5	481.050	17.80	2.70	19.16	39.66	46.00	6.34	QP
6	961.200	22.20	4.12	12.01	38.33	54.00	15.67	QP

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

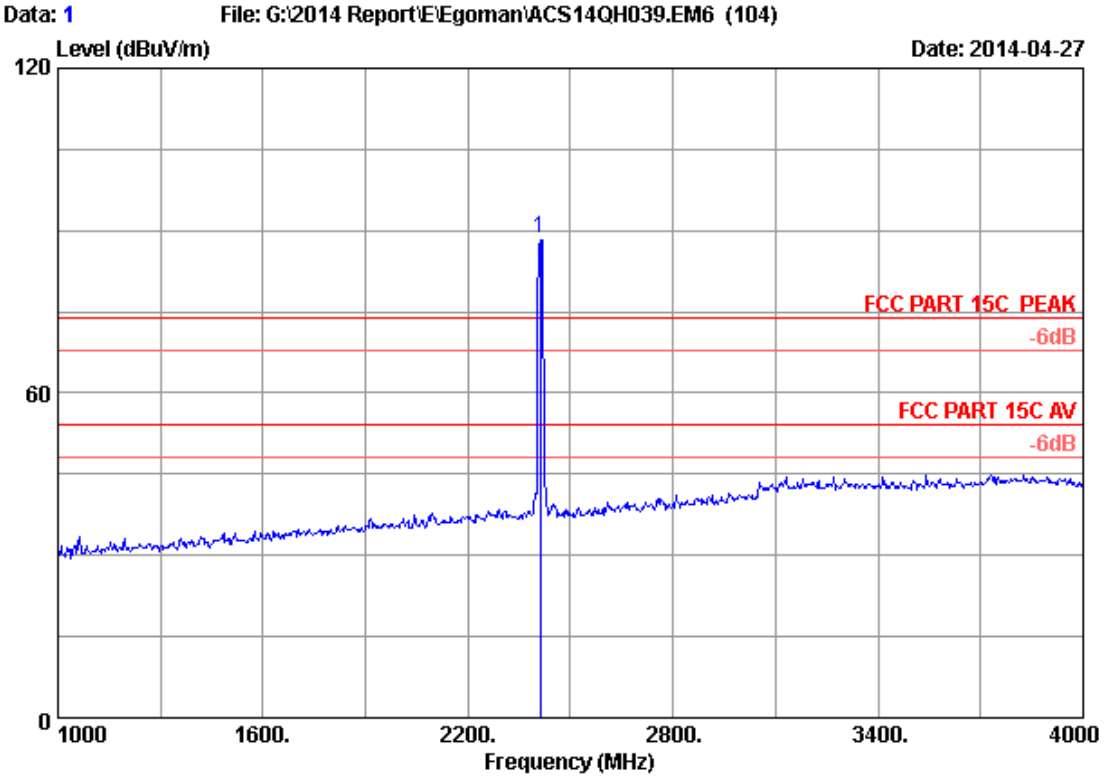


Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 24*C/65% Engineer : Leo-Li
EUT : USB WiFi Dongle M/N:DW220XWXX
Power rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	44.550	11.53	1.09	13.52	26.14	40.00	13.86	QP
2	102.750	11.61	1.42	14.22	27.25	43.50	16.25	QP
3	167.740	10.41	1.67	16.31	28.39	43.50	15.11	QP
4	241.460	12.35	1.95	18.63	32.93	46.00	13.07	QP
5	481.050	17.80	2.70	19.20	39.70	46.00	6.30	QP
6	961.200	22.20	4.12	11.25	37.57	54.00	16.43	QP

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

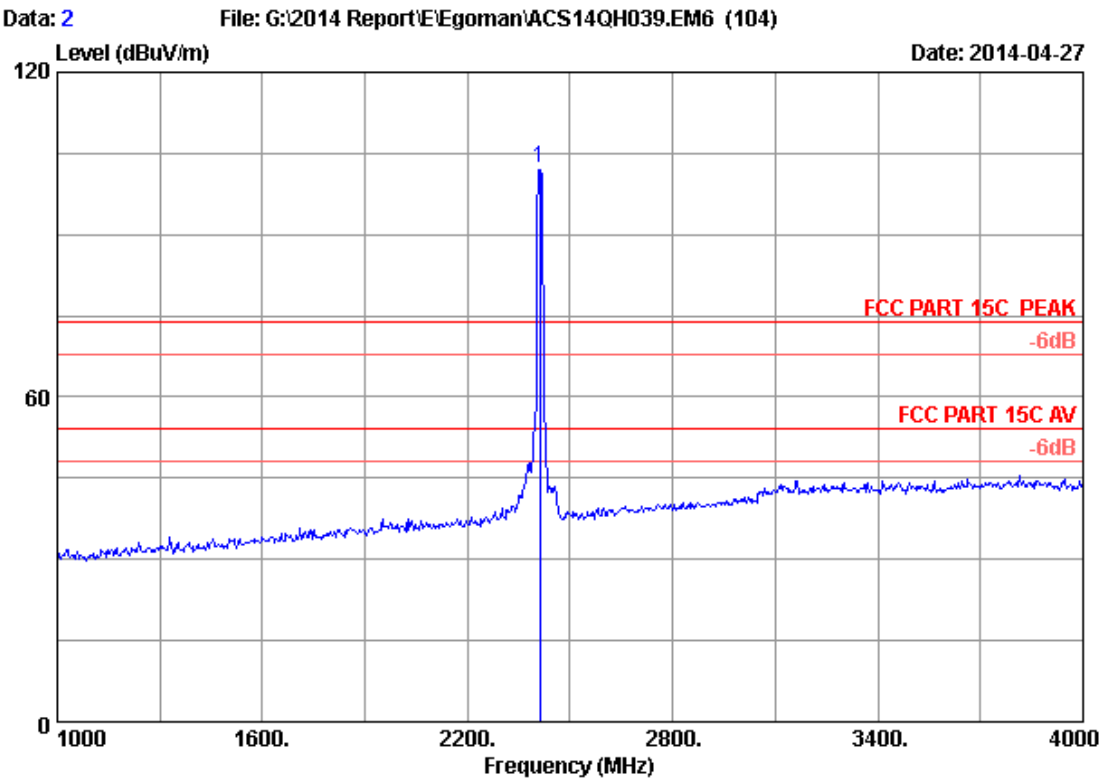
Frequency: 1GHz~18GHz



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	28.21	5.81	35.70	90.28	88.60	74.00	-14.60	Peak

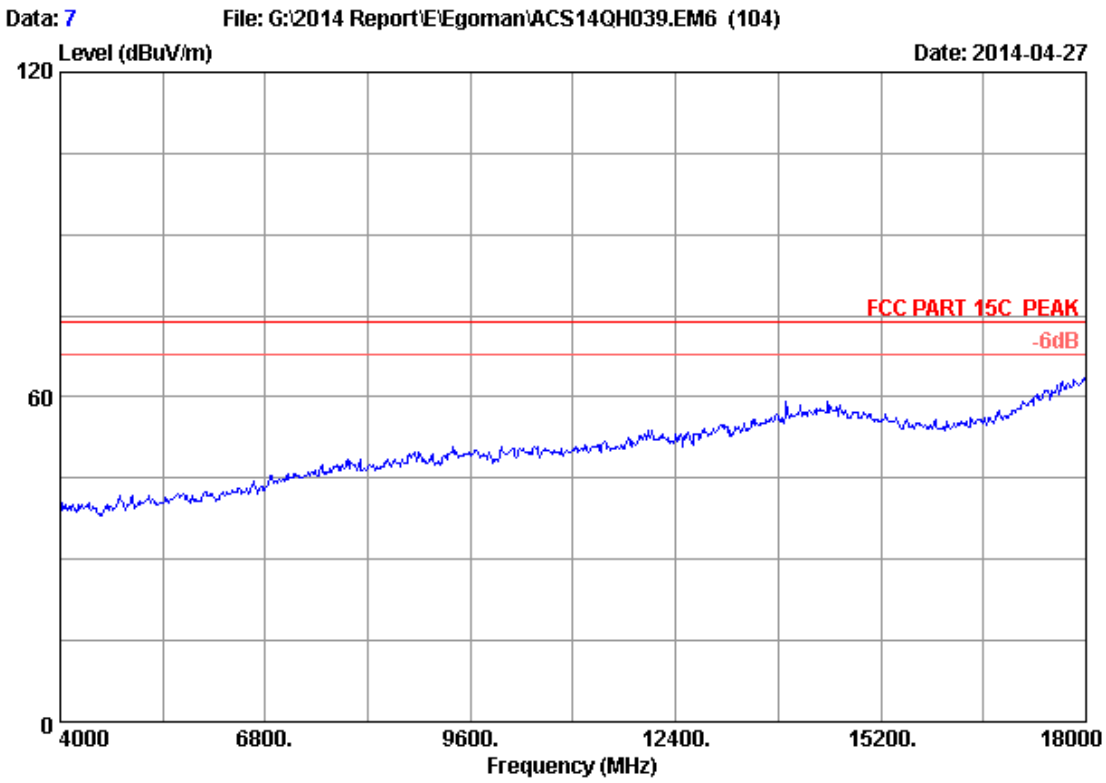
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



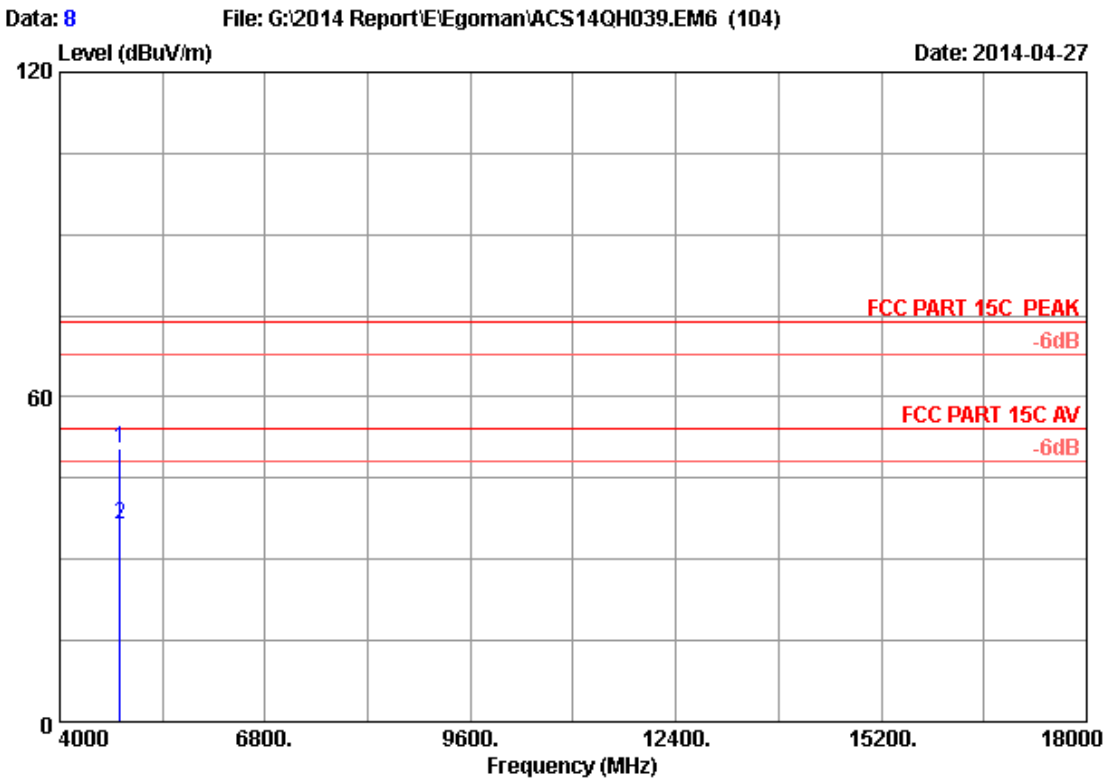
Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	28.21	5.81	35.70	104.07	102.39	74.00	-28.39	Peak

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



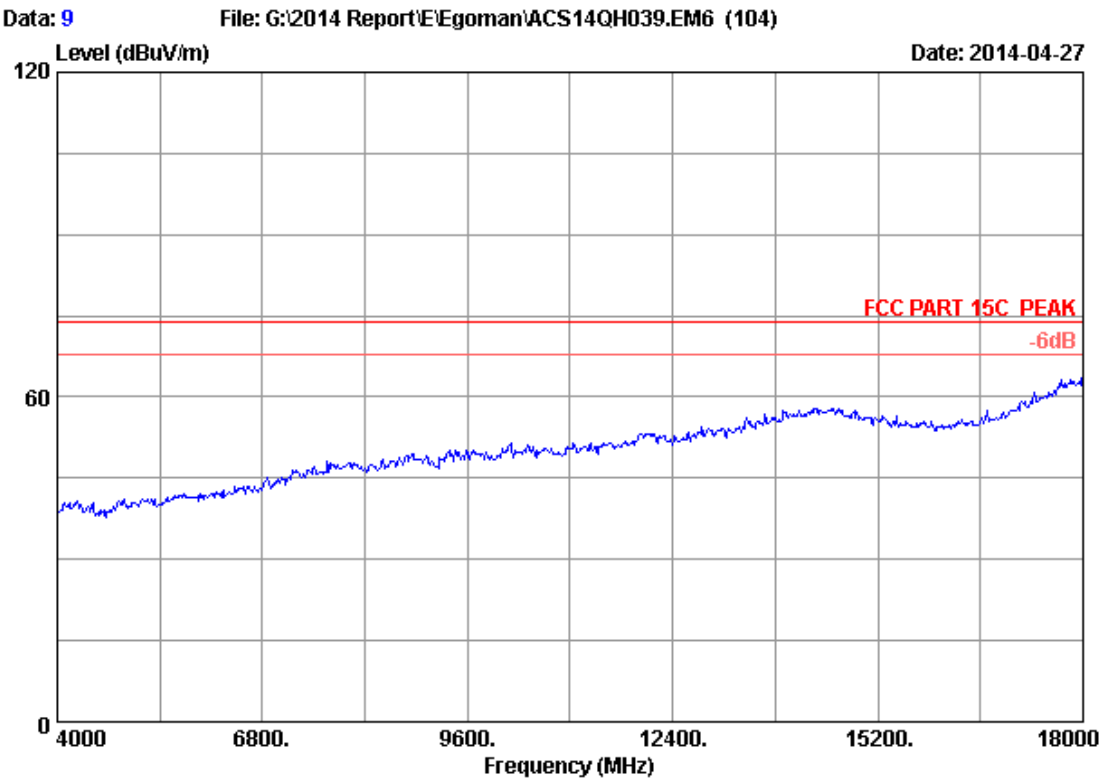

```
Site no.      : 3m Chamber                    Data no.   : 7
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11b    2412MHz Tx
M/N           : DW220XWXX
```



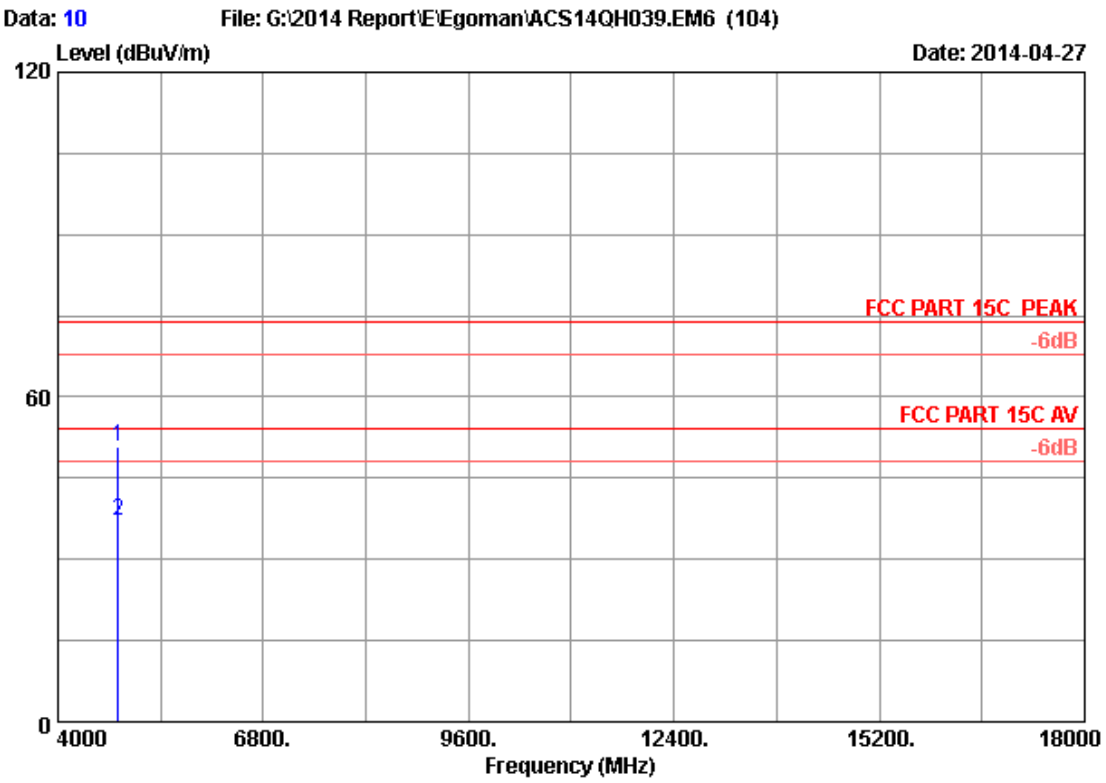
Site no. : 3m Chamber Data no. : 8
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	32.88	8.58	35.70	44.78	50.54	74.00	23.46	Peak
2	4824.000	32.88	8.58	35.70	30.69	36.45	54.00	17.55	Average

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



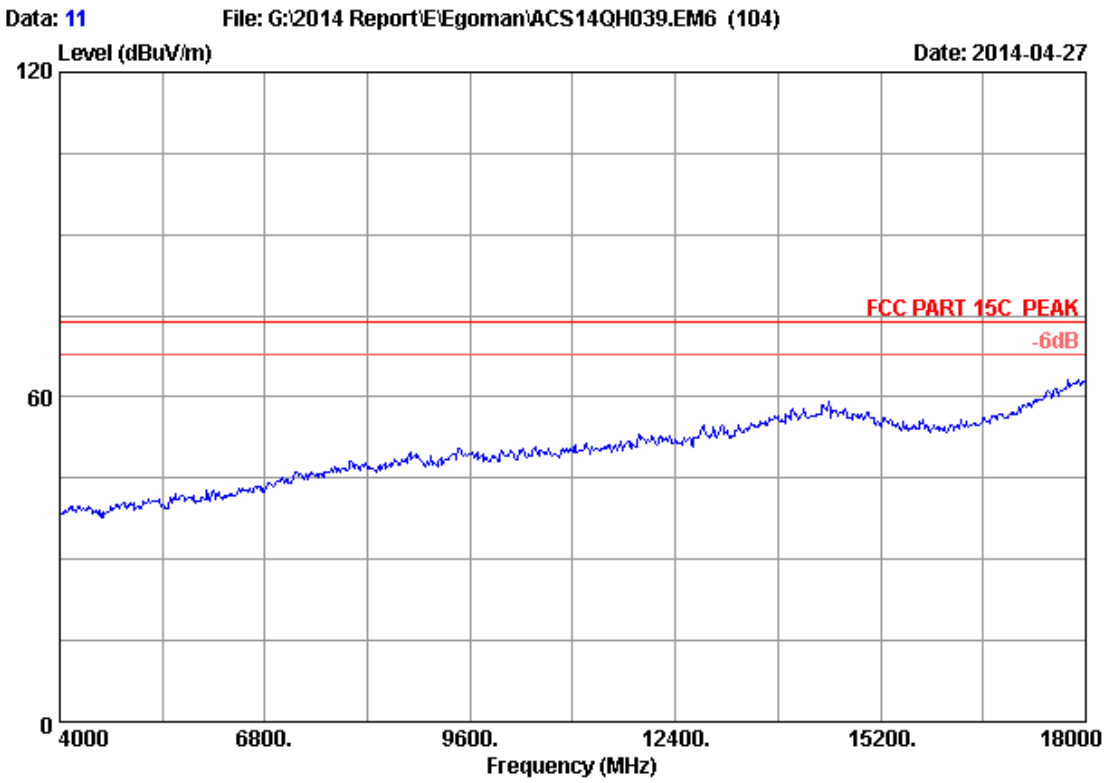

```
Site no.      : 3m Chamber                    Data no.   : 9
Dis. / Ant.   : 3m   2013 3115 (4580)        Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                     Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11b    2412MHz Tx
M/N           : DW220XWXX
```



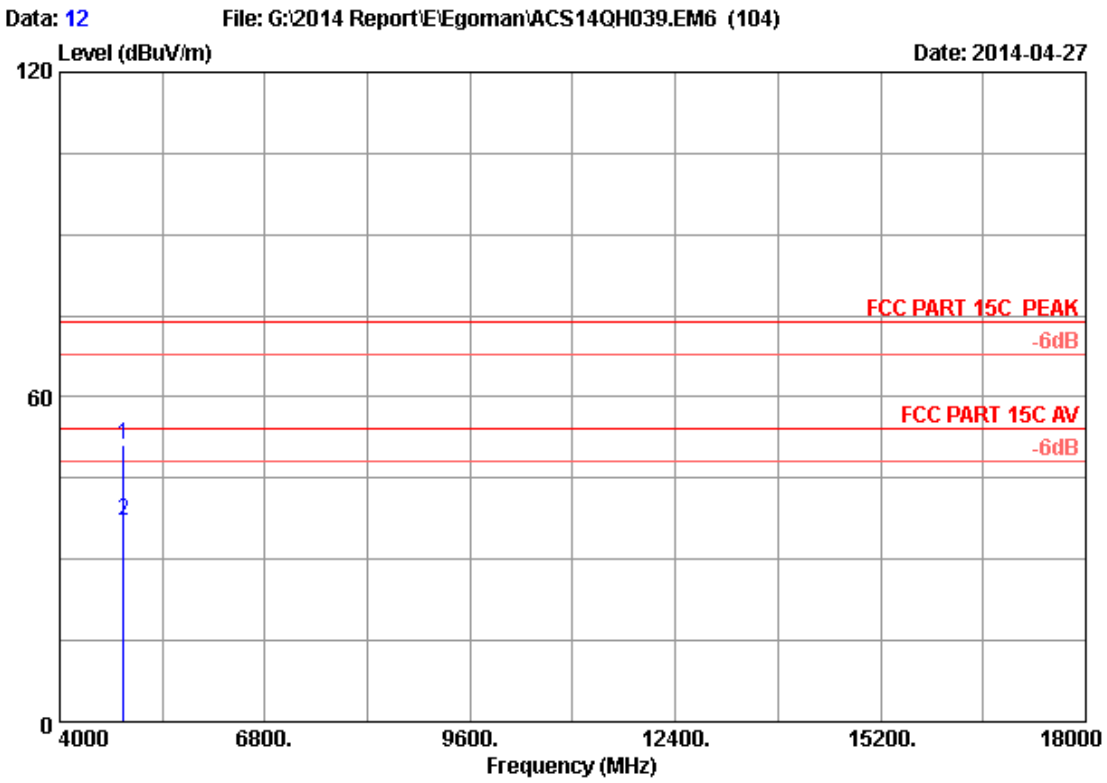
Site no. : 3m Chamber Data no. : 10
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	32.88	8.58	35.70	45.12	50.88	74.00	23.12	Peak
2	4824.000	32.88	8.58	35.70	31.23	36.99	54.00	17.01	Average

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



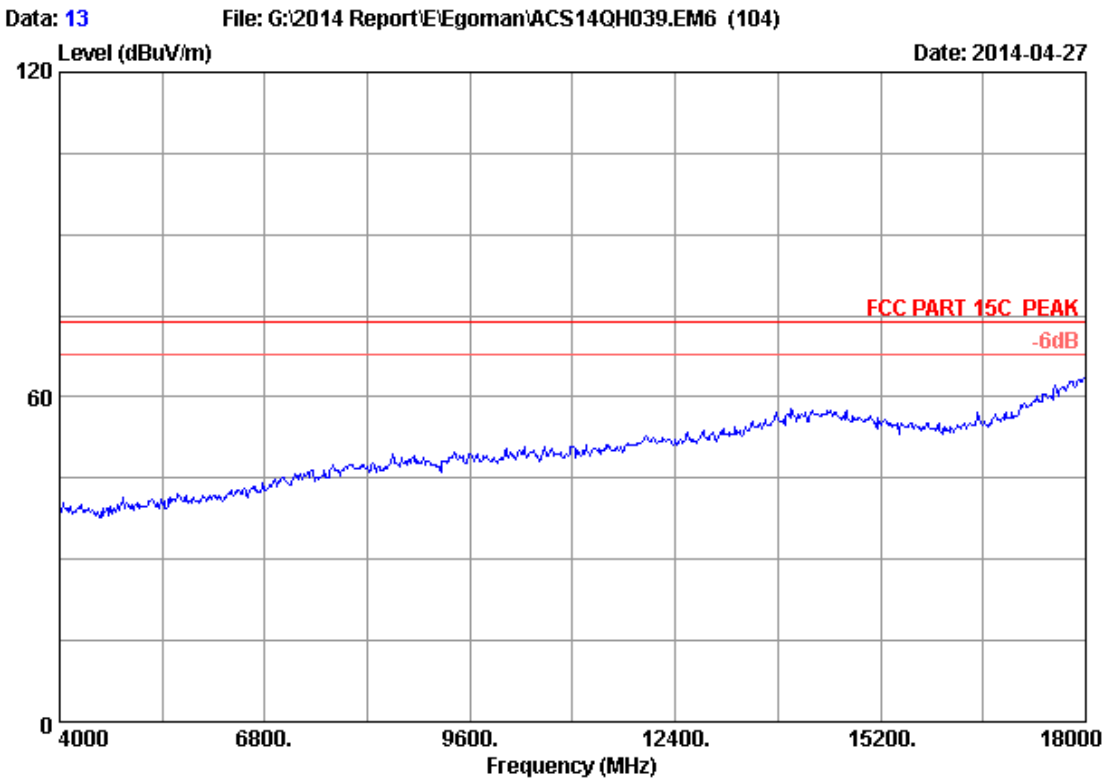

```
Site no.      : 3m Chamber                    Data no.   : 11
Dis. / Ant.   : 3m   2013 3115 (4580)        Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                     Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11b    2437MHz Tx
M/N           : DW220XWXX
```



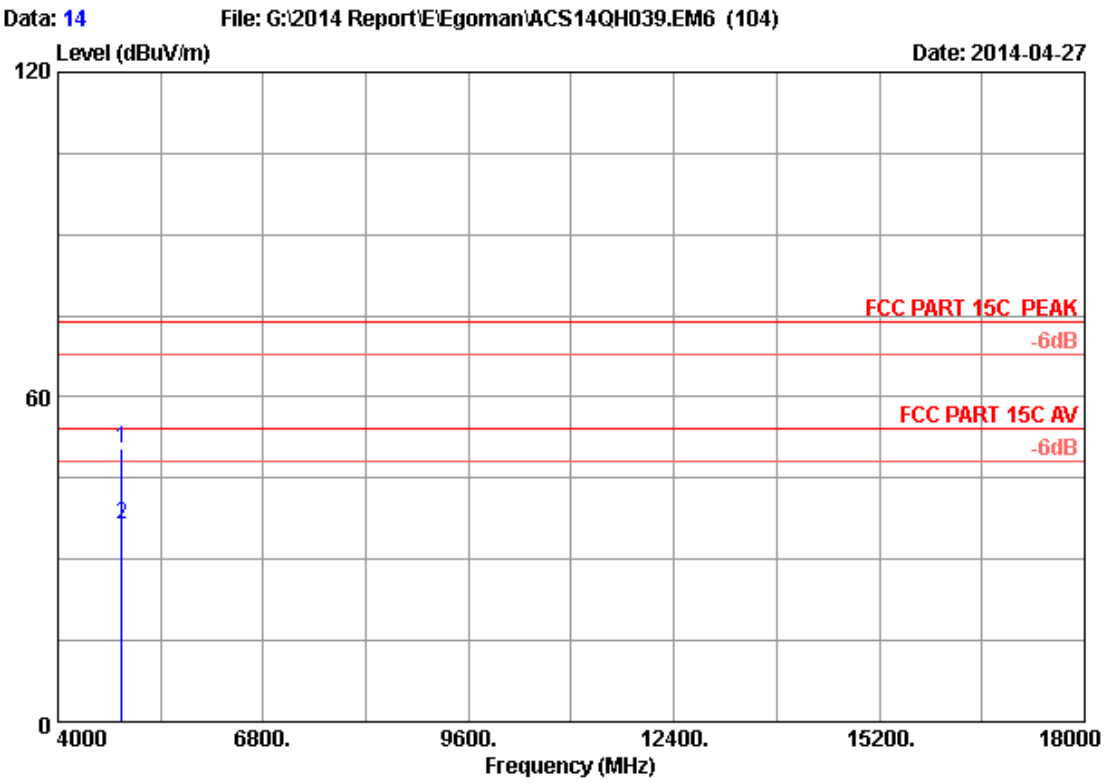
Site no. : 3m Chamber Data no. : 12
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	45.09	50.99	74.00	23.01	Peak
2	4874.000	32.97	8.63	35.70	31.37	37.27	54.00	16.73	Average

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



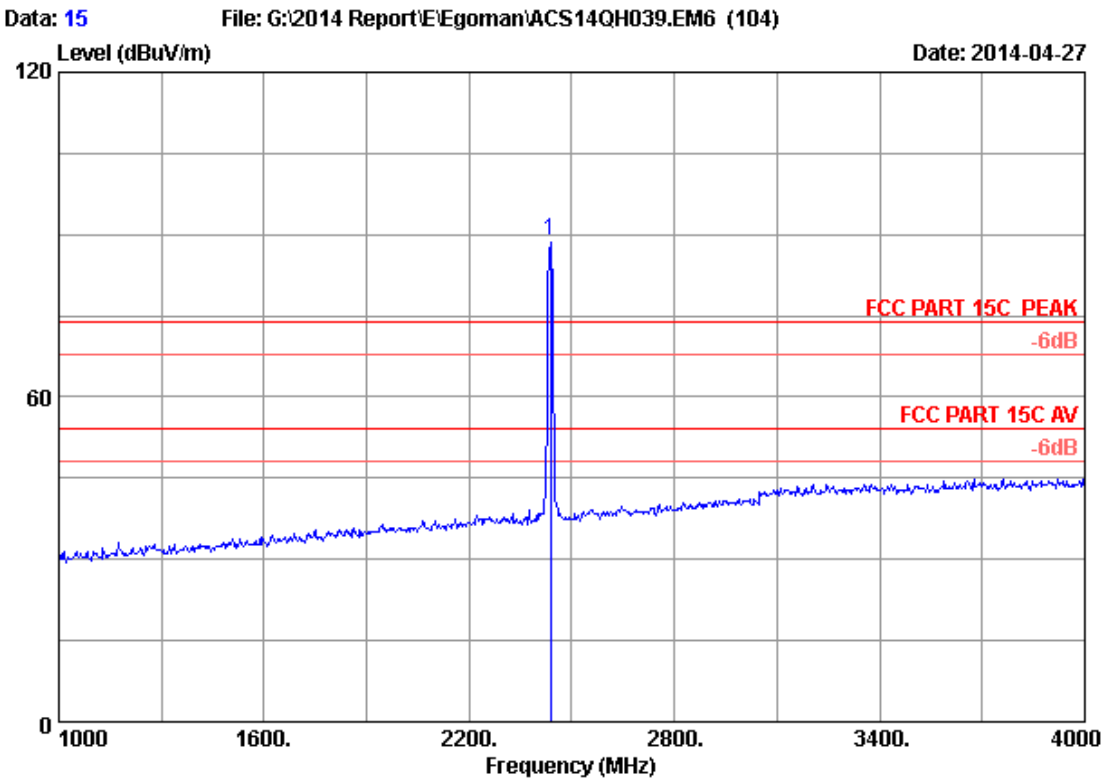

```
Site no.      : 3m Chamber                    Data no.   : 13
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11b    2437MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 14
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	44.59	50.49	74.00	23.51	Peak
2	4874.000	32.97	8.63	35.70	30.53	36.43	54.00	17.57	Average

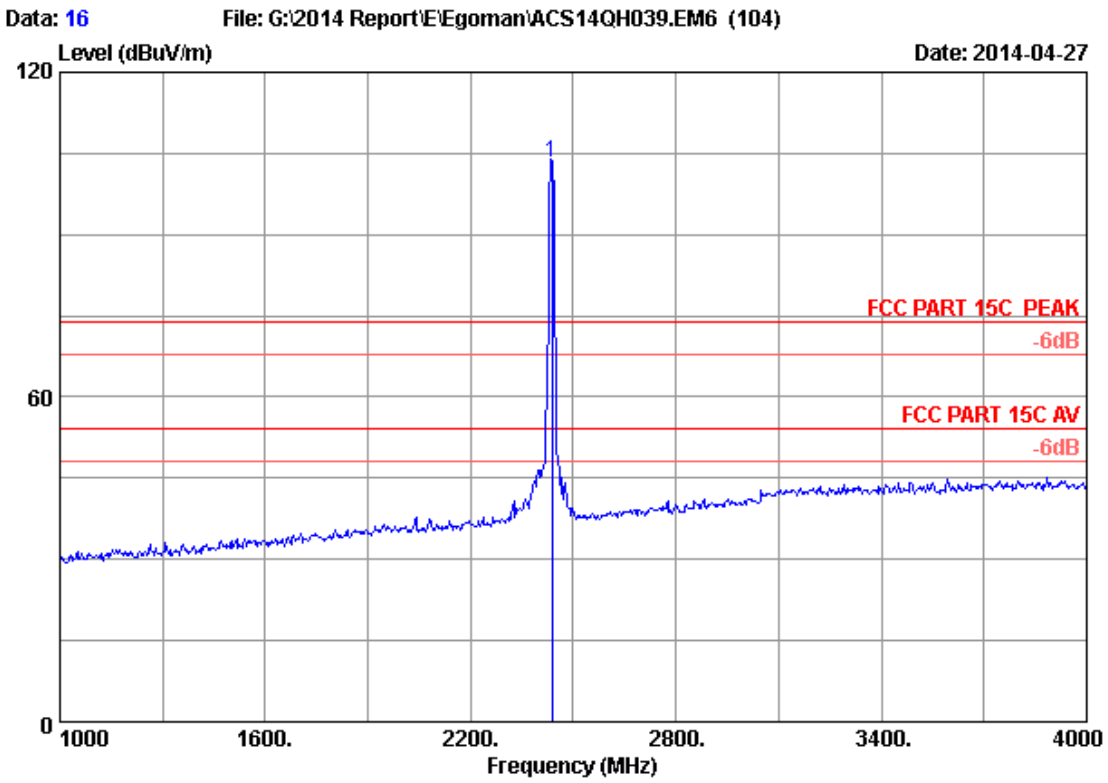
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 15
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	90.48	88.89	74.00	-14.89	Peak

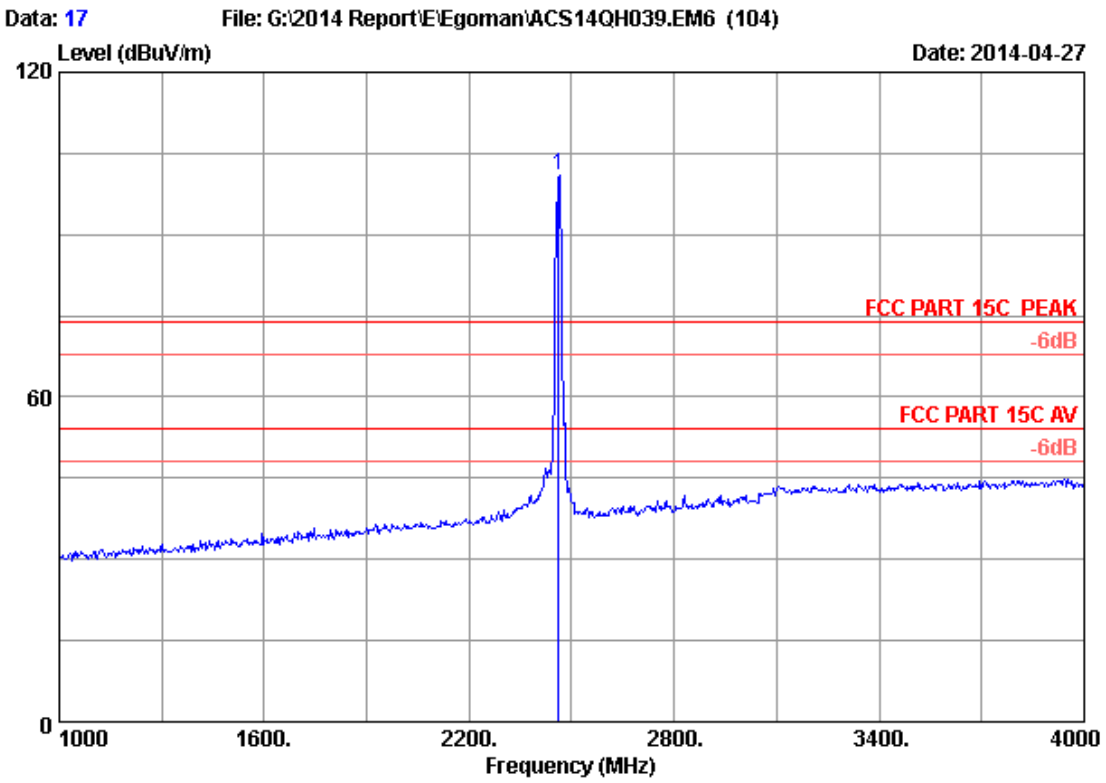
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 16
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	104.79	103.20	74.00	-29.20	Peak

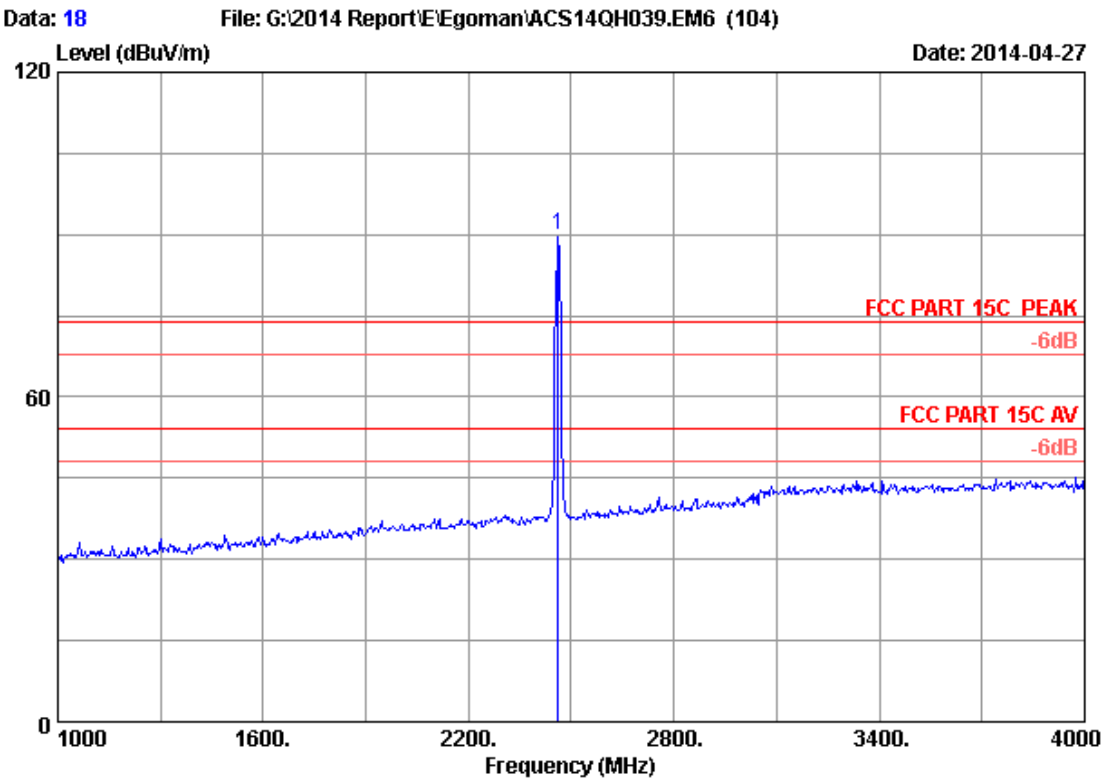
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 17
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.000	28.32	5.89	35.70	102.33	100.84	74.00	-26.84	Peak

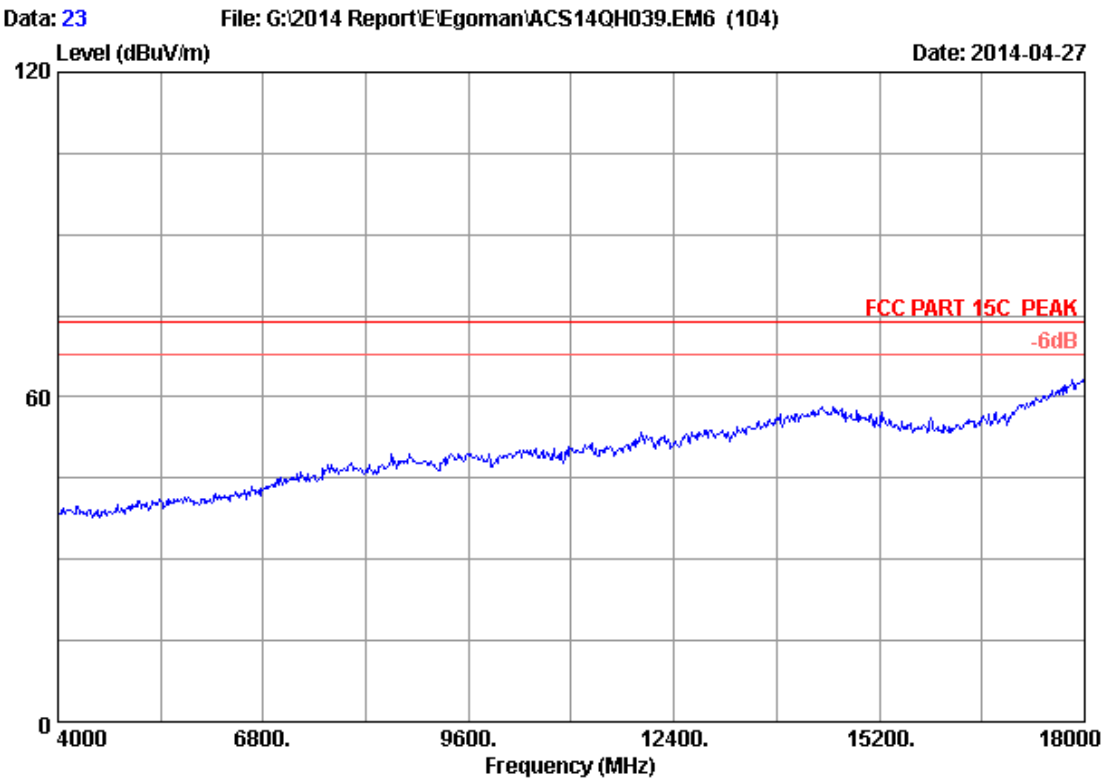
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



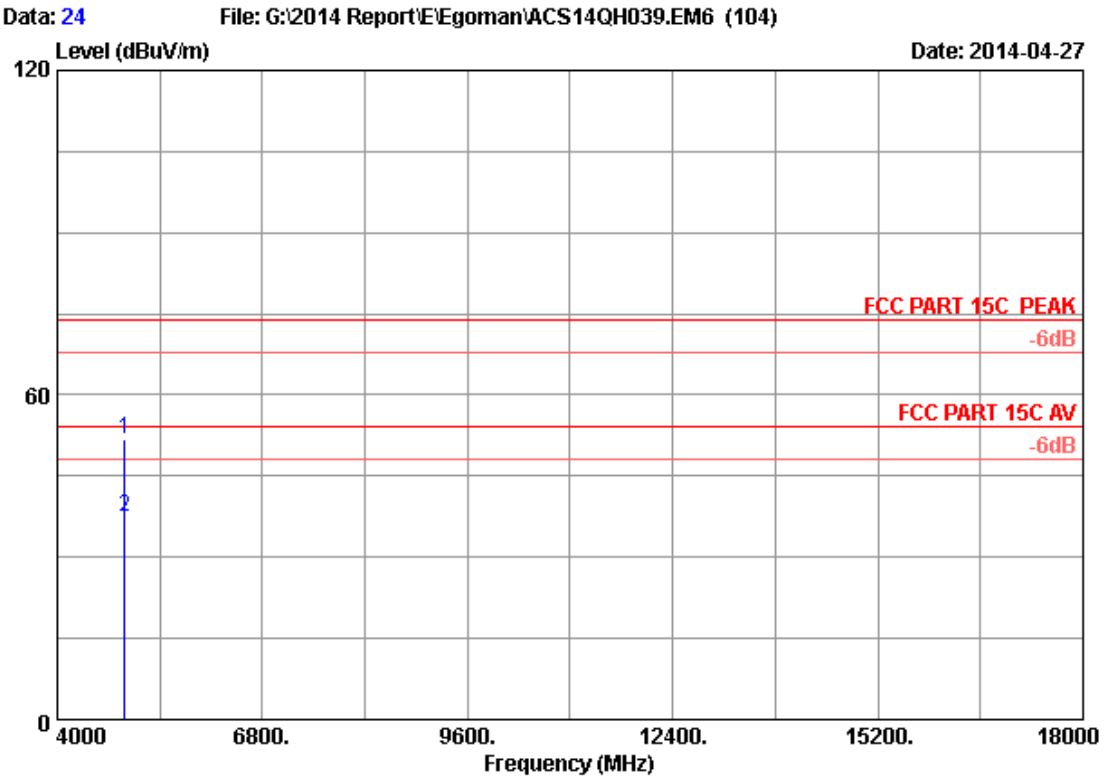
Site no. : 3m Chamber Data no. : 18
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.000	28.32	5.89	35.70	91.27	89.78	74.00	-15.78	Peak

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



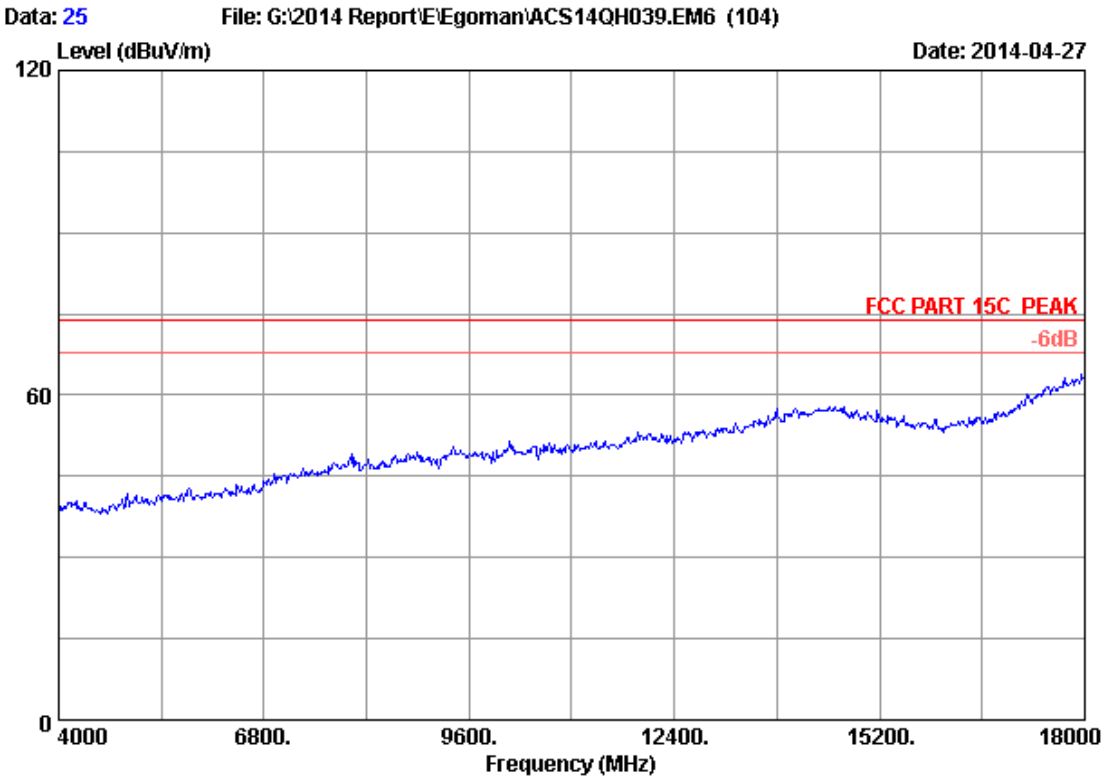
Site no. : 3m Chamber Data no. : 23
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX



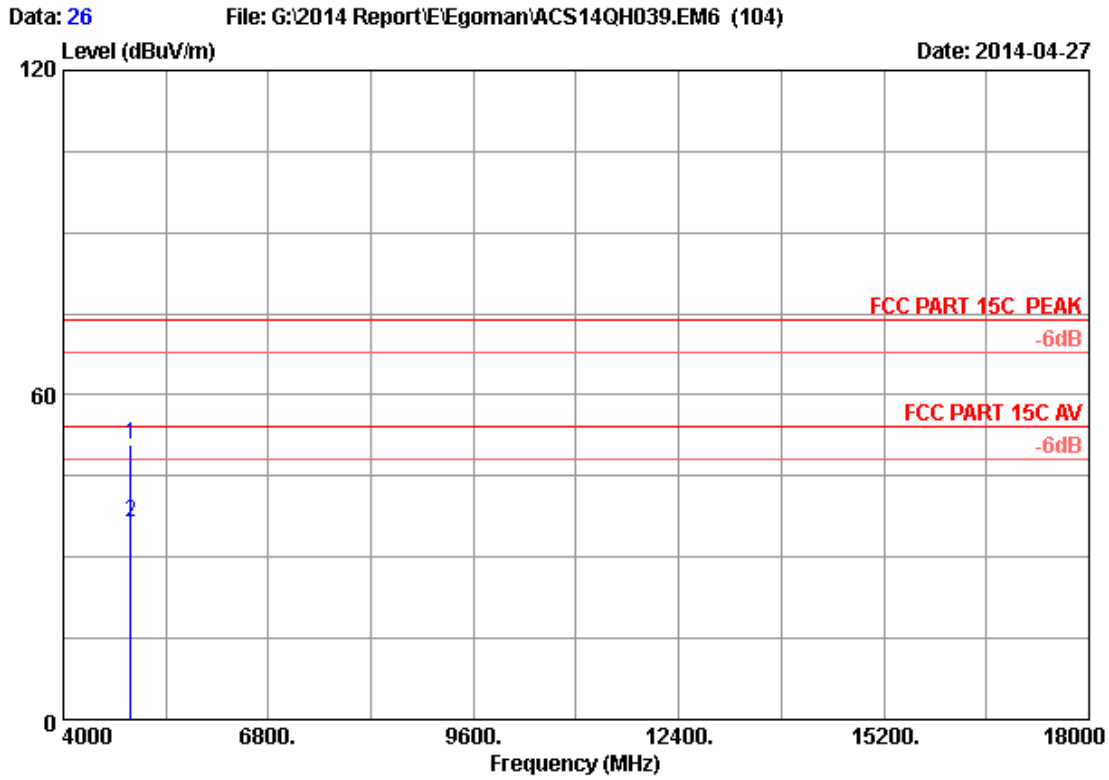
Site no. : 3m Chamber Data no. : 24
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	33.06	8.69	35.70	45.63	51.68	74.00	22.32	Peak
2	4924.000	33.06	8.69	35.70	31.24	37.29	54.00	16.71	Average

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



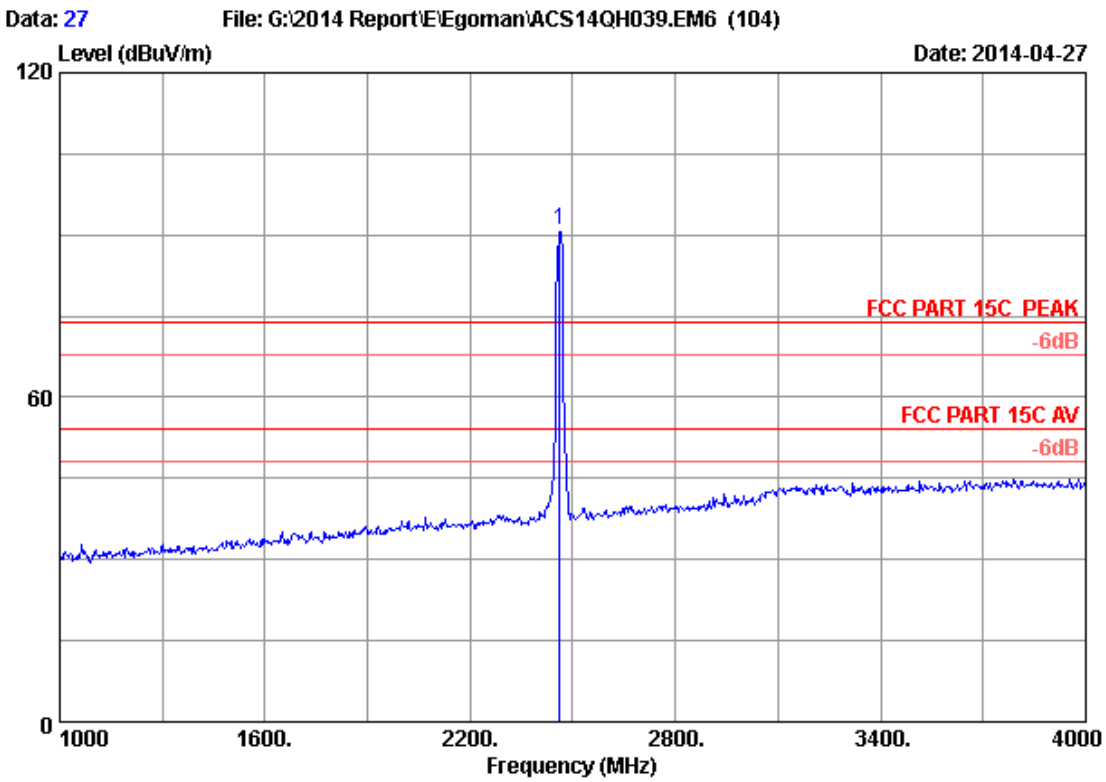

```
Site no.      : 3m Chamber                      Data no.  : 25
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer  : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11b    2462MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	33.06	8.69	35.70	44.83	50.88	74.00	23.12	Peak
2	4924.000	33.06	8.69	35.70	30.35	36.40	54.00	17.60	Average

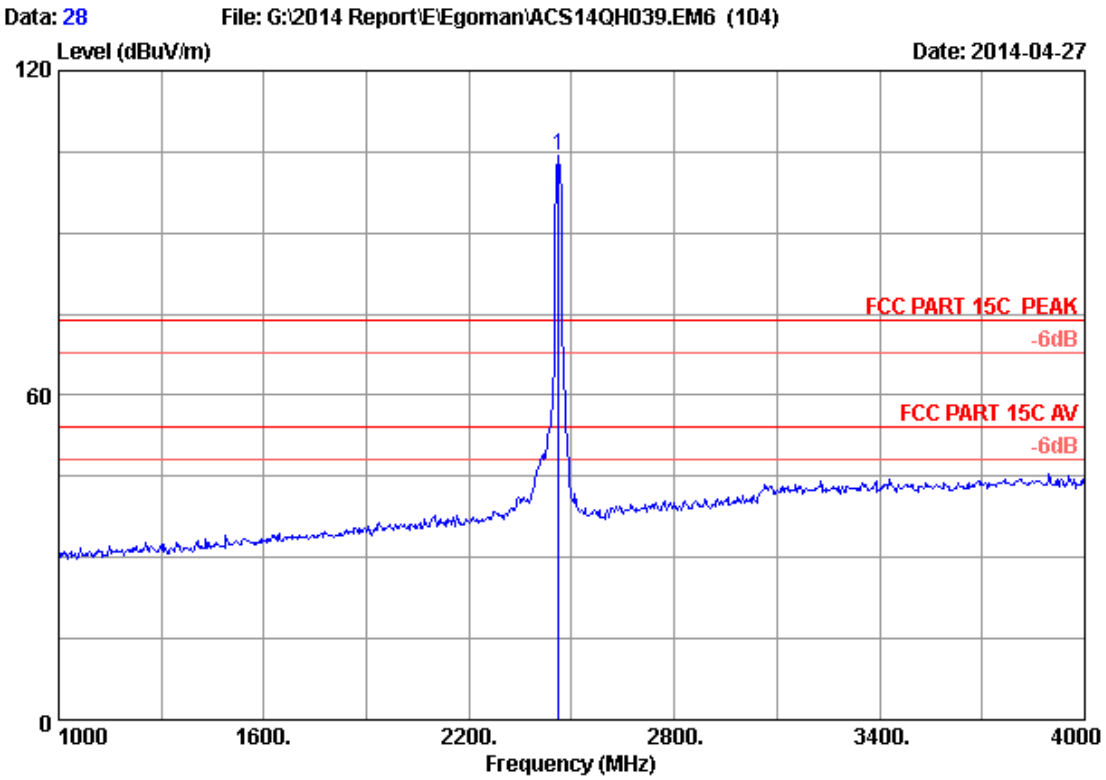
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 27
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.000	28.32	5.89	35.70	92.30	90.81	74.00	-16.81	Peak

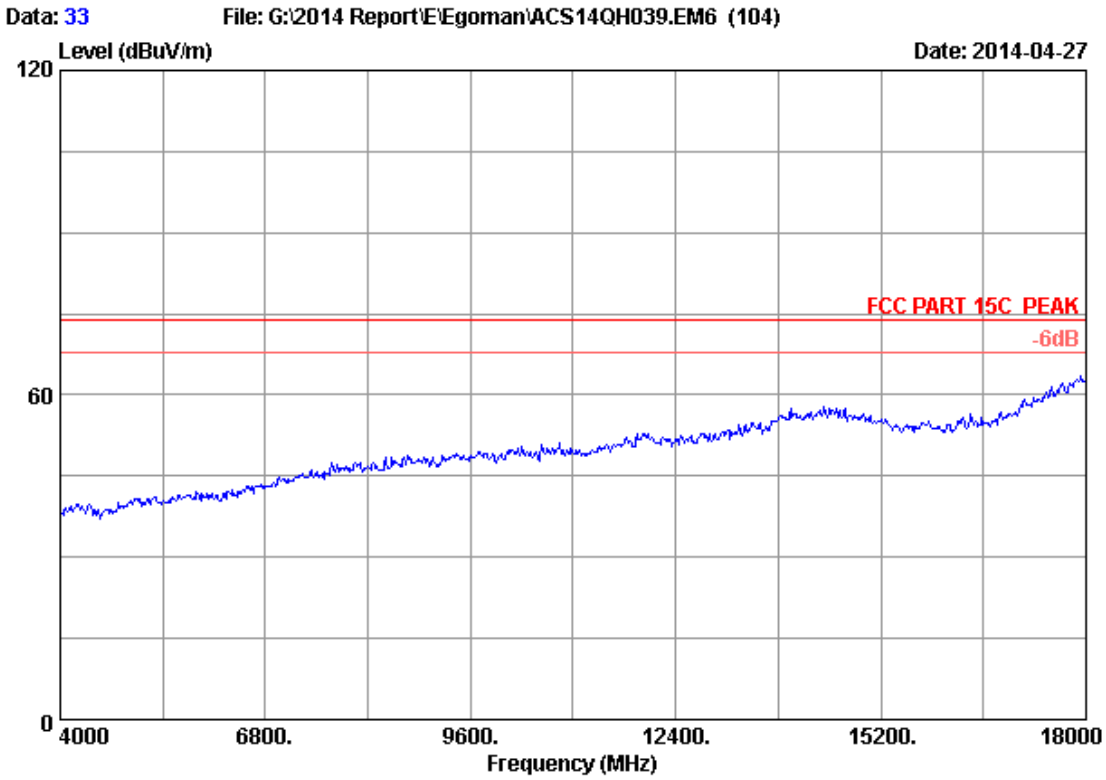
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



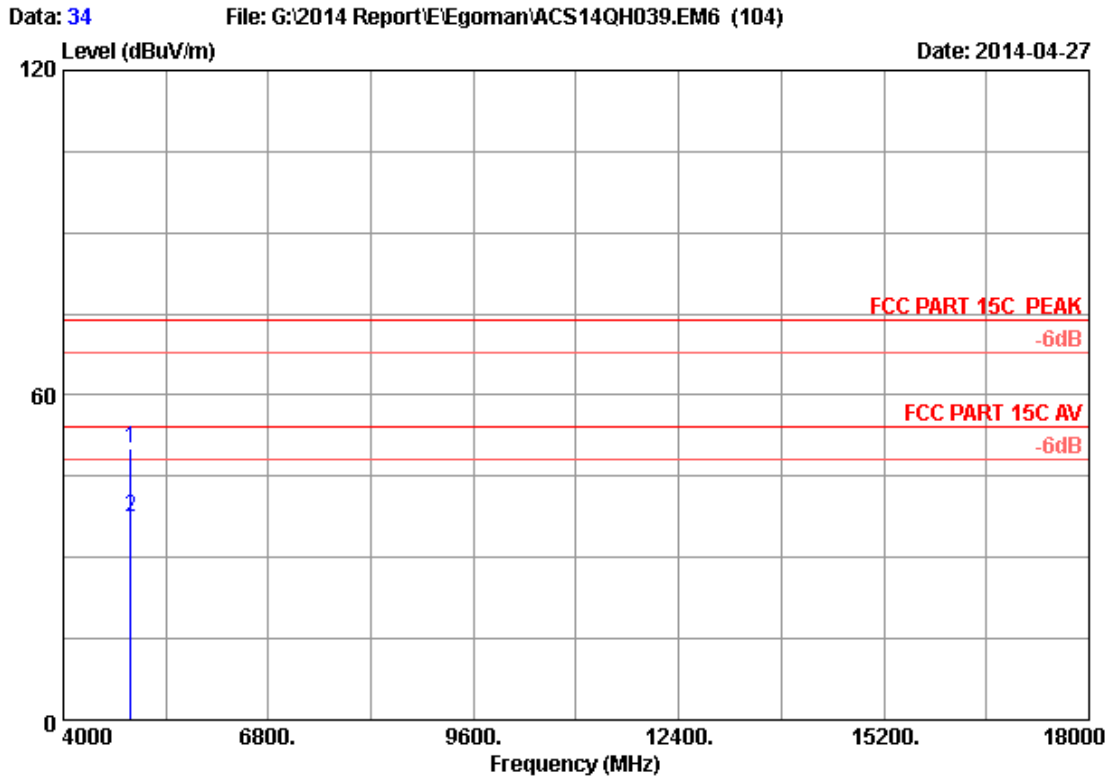
Site no. : 3m Chamber Data no. : 28
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.000	28.32	5.89	35.70	105.87	104.38	74.00	-30.38	Peak

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



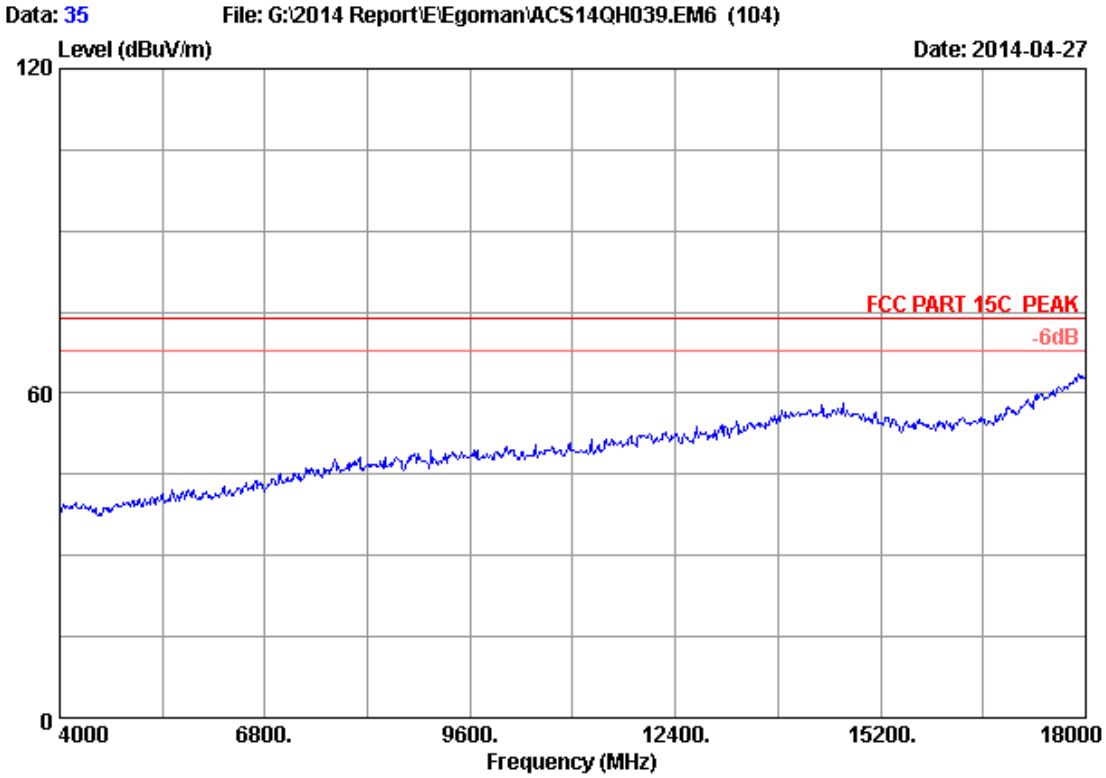

```
Site no.      : 3m Chamber                    Data no.   : 33
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11g  2462MHz Tx
M/N           : DW220XWXX
```



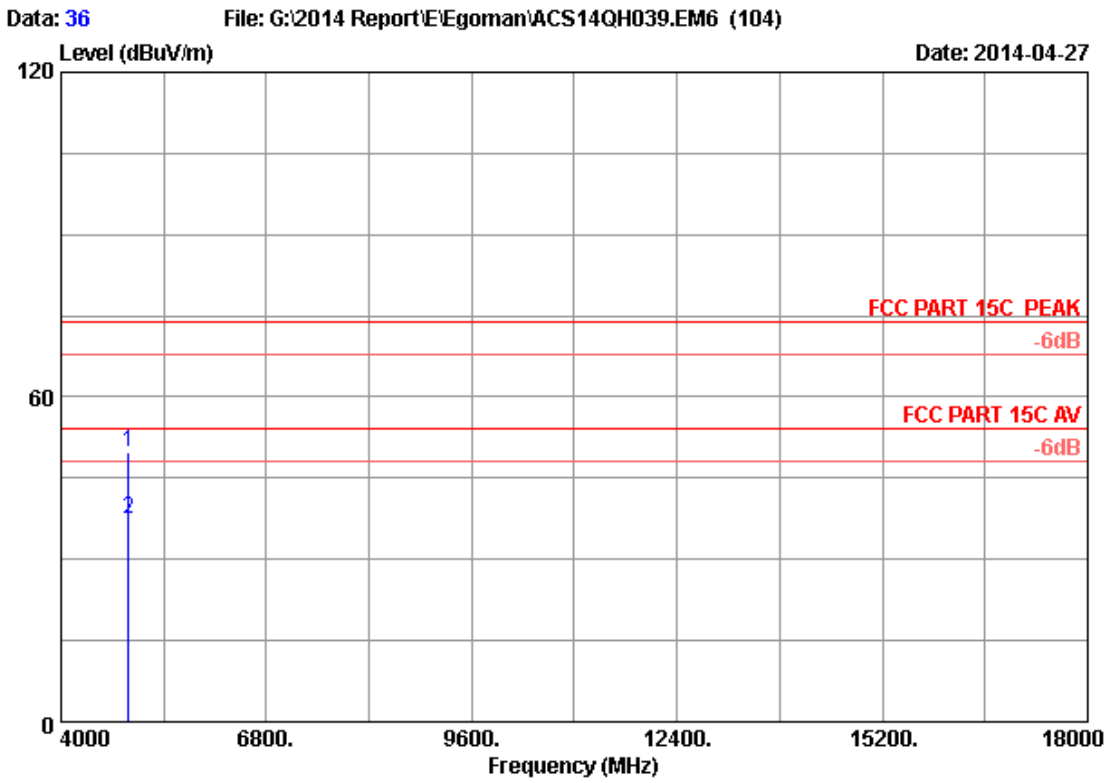
Site no. : 3m Chamber Data no. : 34
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	33.06	8.69	35.70	44.13	50.18	74.00	23.82	Peak
2	4924.000	33.06	8.69	35.70	31.25	37.30	54.00	16.70	Average

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



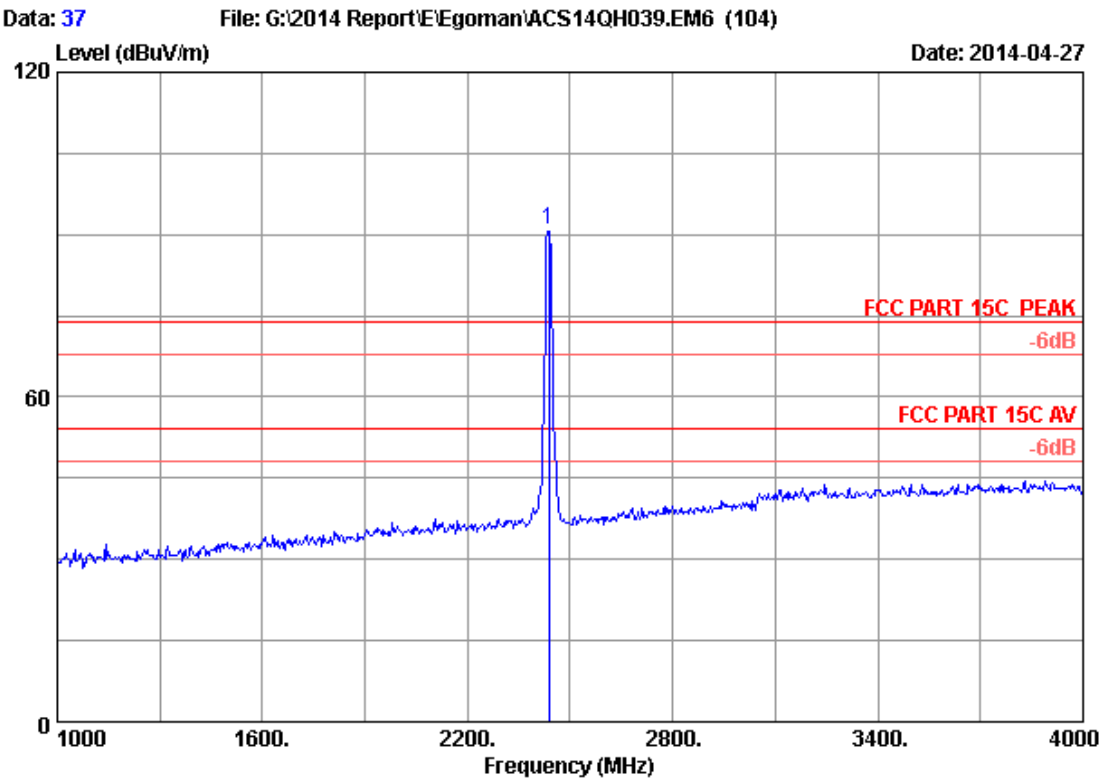

```
Site no.      : 3m Chamber                    Data no.   : 35
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11g  2462MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 36
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	33.06	8.69	35.70	43.73	49.78	74.00	24.22	Peak
2	4924.000	33.06	8.69	35.70	31.24	37.29	54.00	16.71	Average

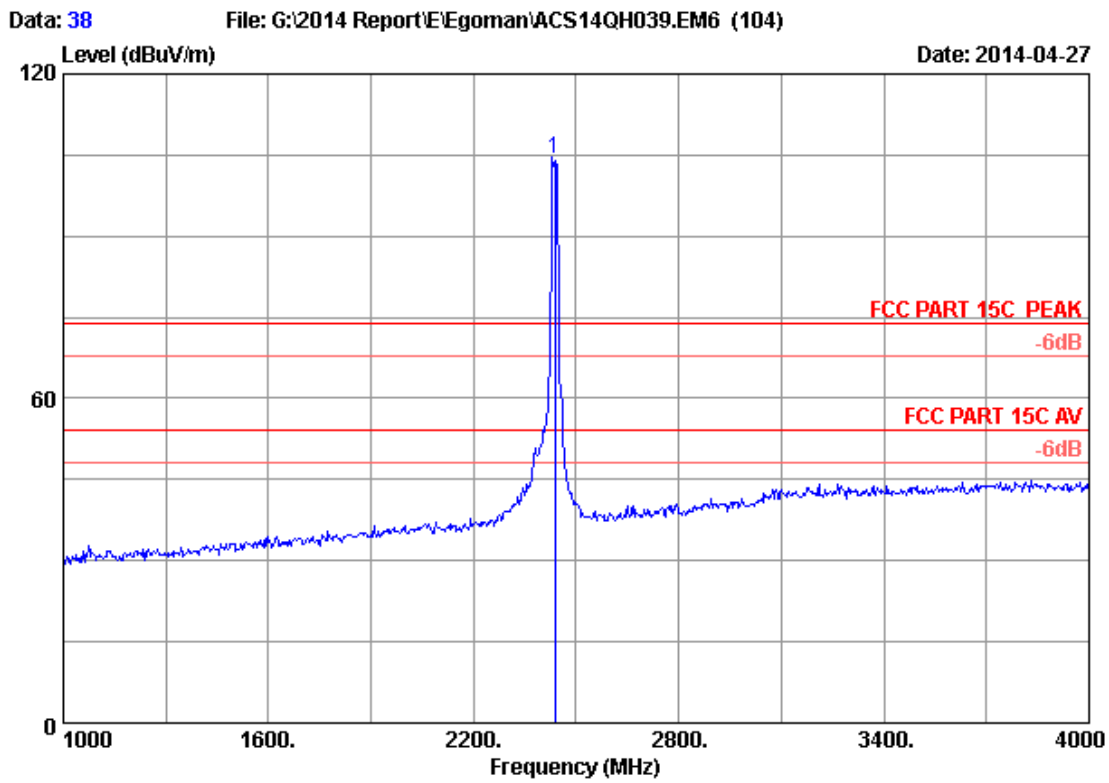
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 37
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	92.38	90.79	74.00	-16.79	Peak

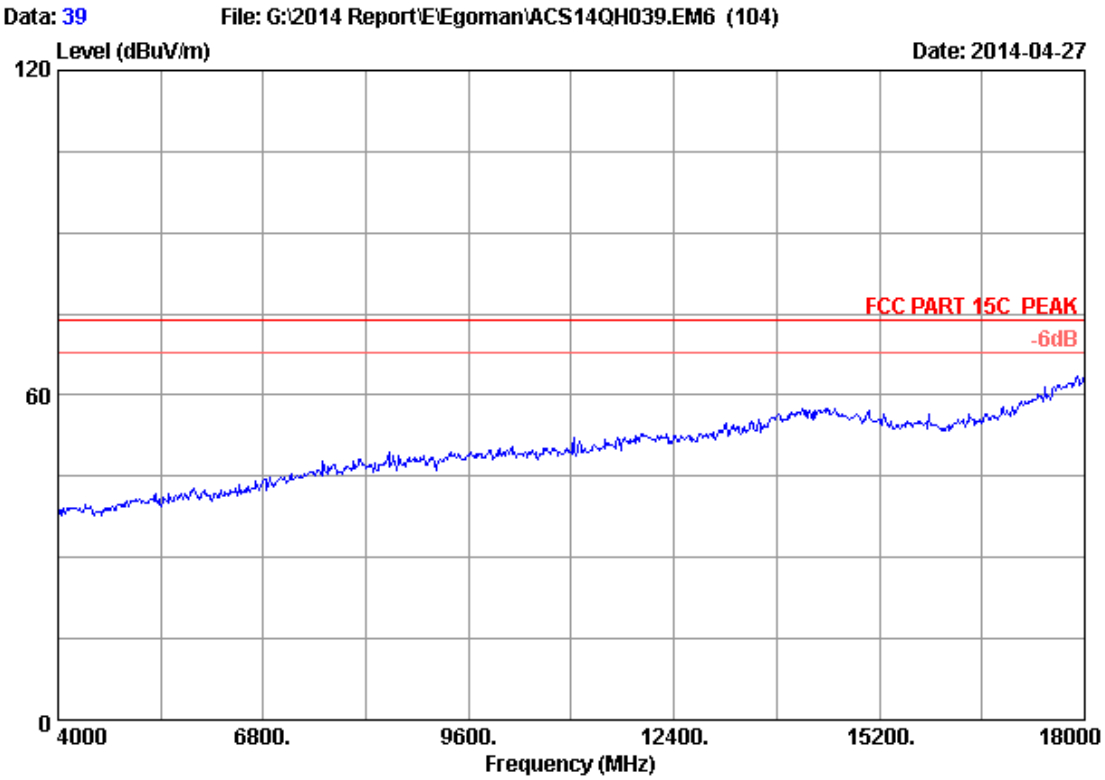
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



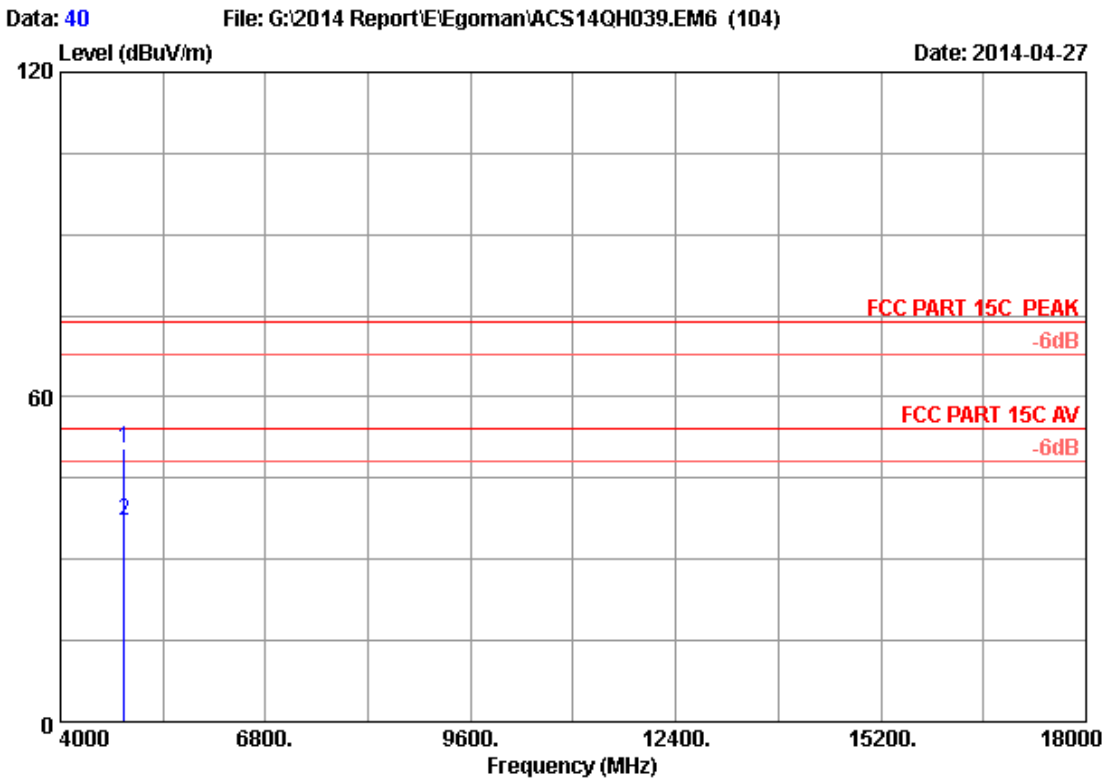
Site no. : 3m Chamber Data no. : 38
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	105.86	104.27	74.00	-30.27	Peak

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



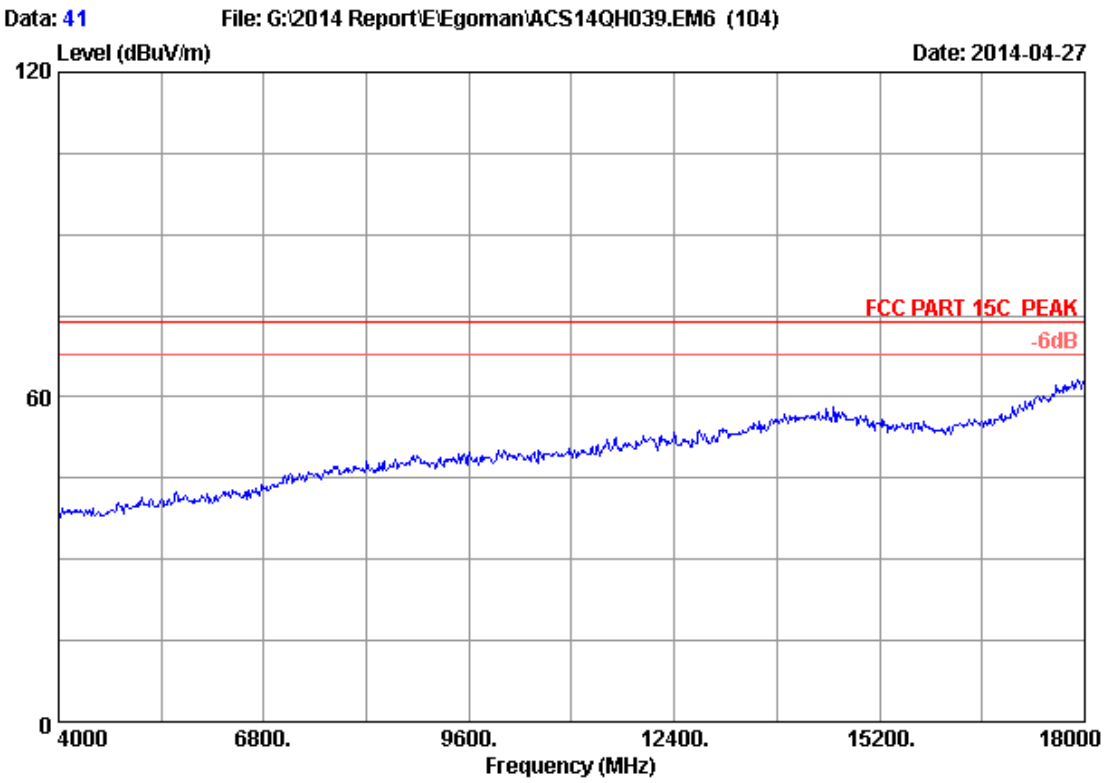

```
Site no.      : 3m Chamber                      Data no.   : 39
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11g  2437MHz Tx
M/N           : DW220XWXX
```



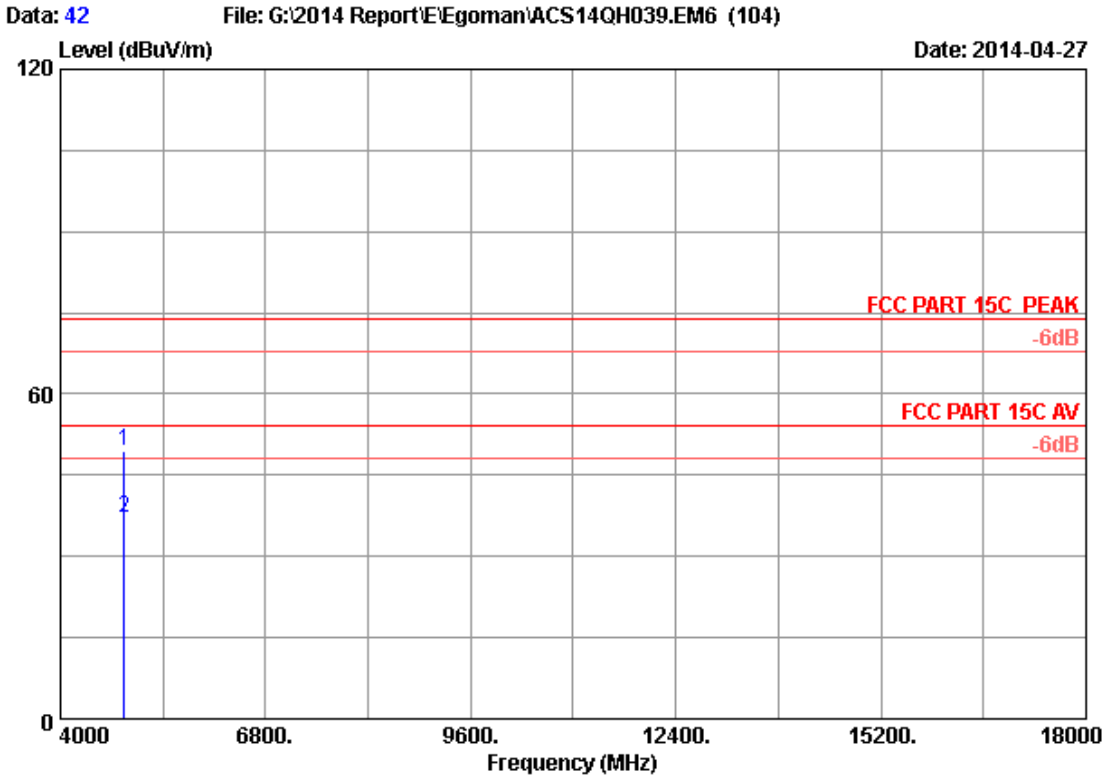
Site no. : 3m Chamber Data no. : 40
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	44.57	50.47	74.00	23.53	Peak
2	4874.000	32.97	8.63	35.70	31.27	37.17	54.00	16.83	Average

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



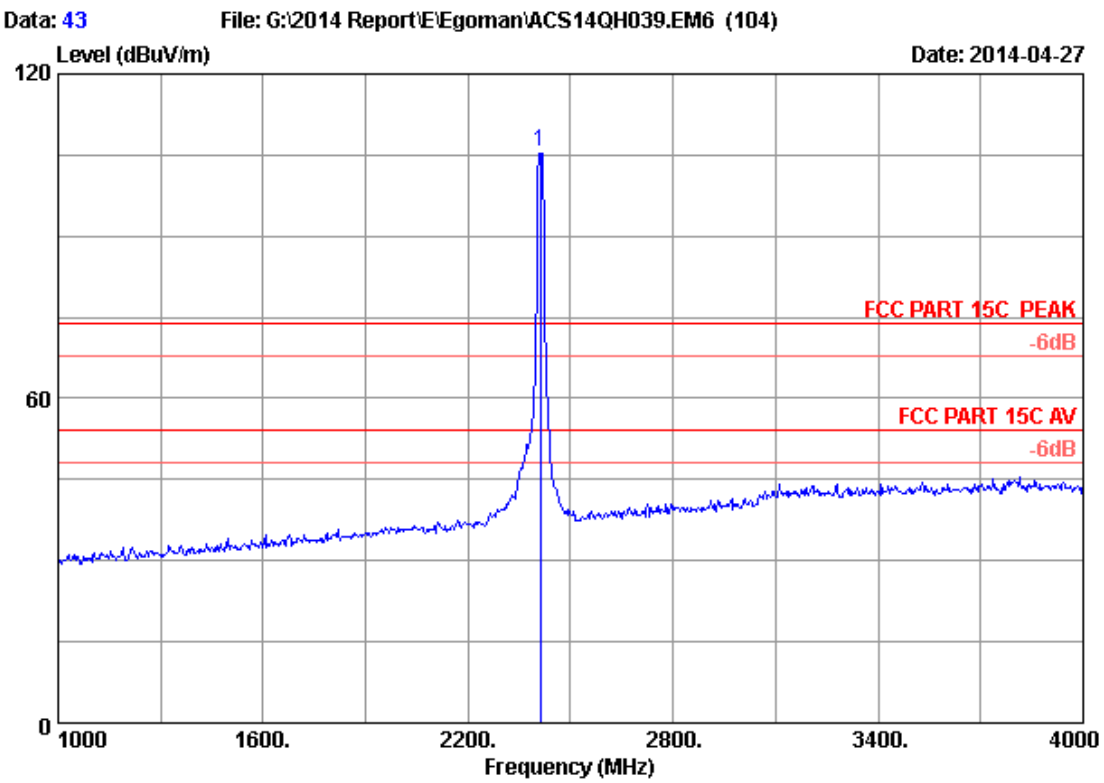

```
Site no.      : 3m Chamber                    Data no.   : 41
Dis. / Ant.   : 3m   2013 3115 (4580)        Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                     Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11g  2437MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 42
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	43.70	49.60	74.00	24.40	Peak
2	4874.000	32.97	8.63	35.70	31.04	36.94	54.00	17.06	Average

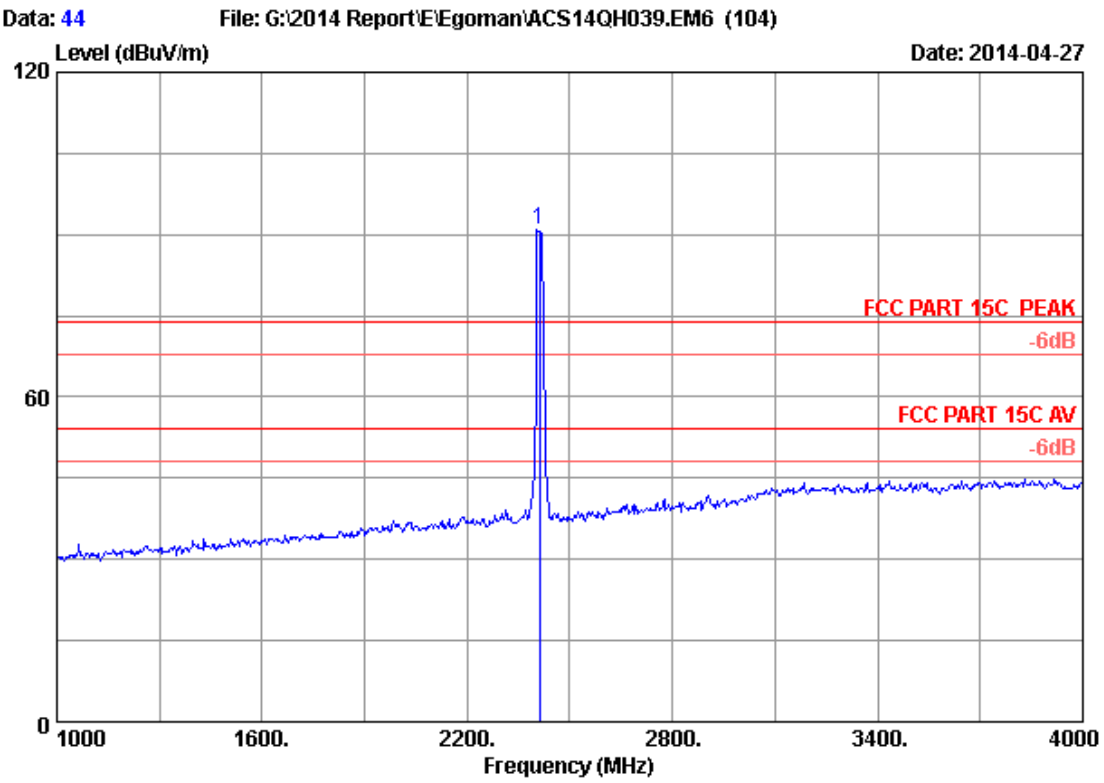
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 43
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	28.21	5.81	35.70	107.36	105.68	74.00	-31.68	Peak

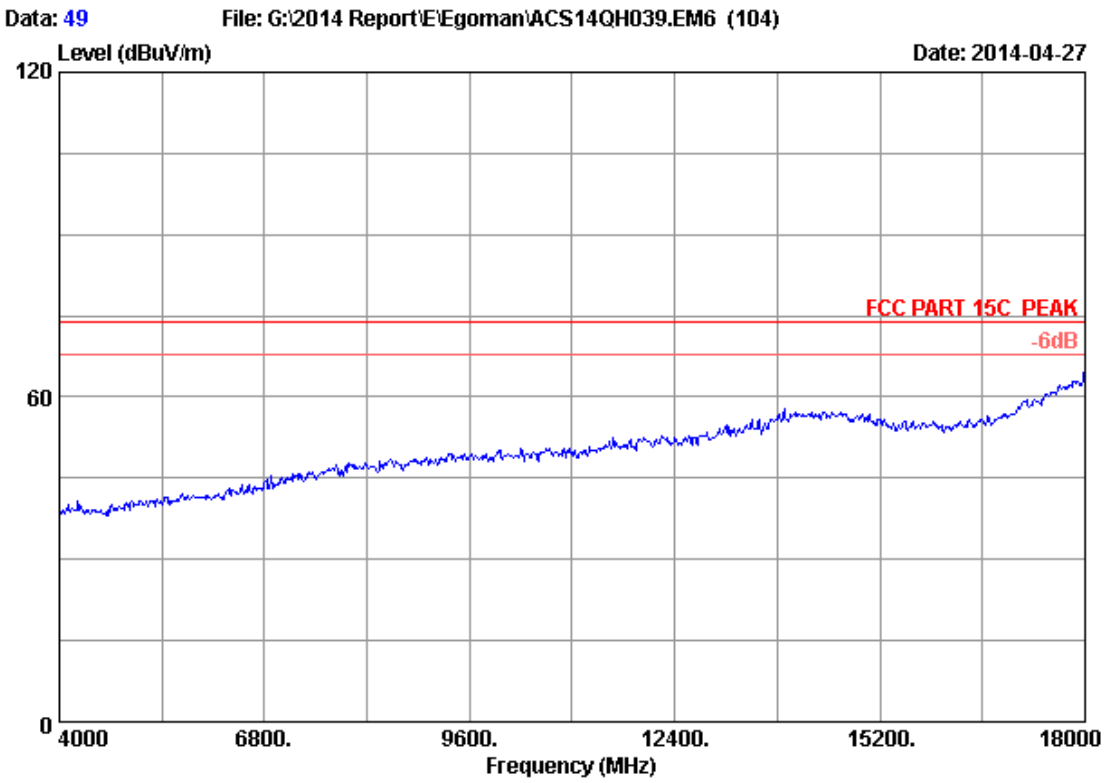
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 44
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	28.21	5.81	35.70	92.75	91.07	74.00	-17.07	Peak

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

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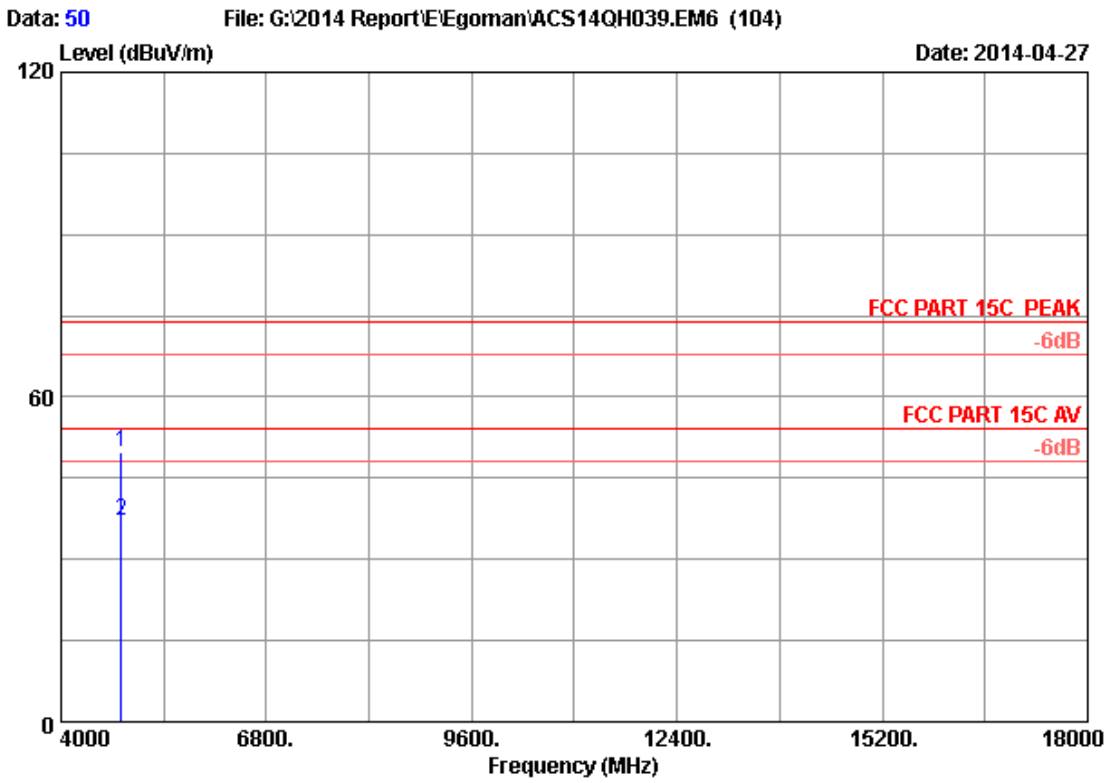
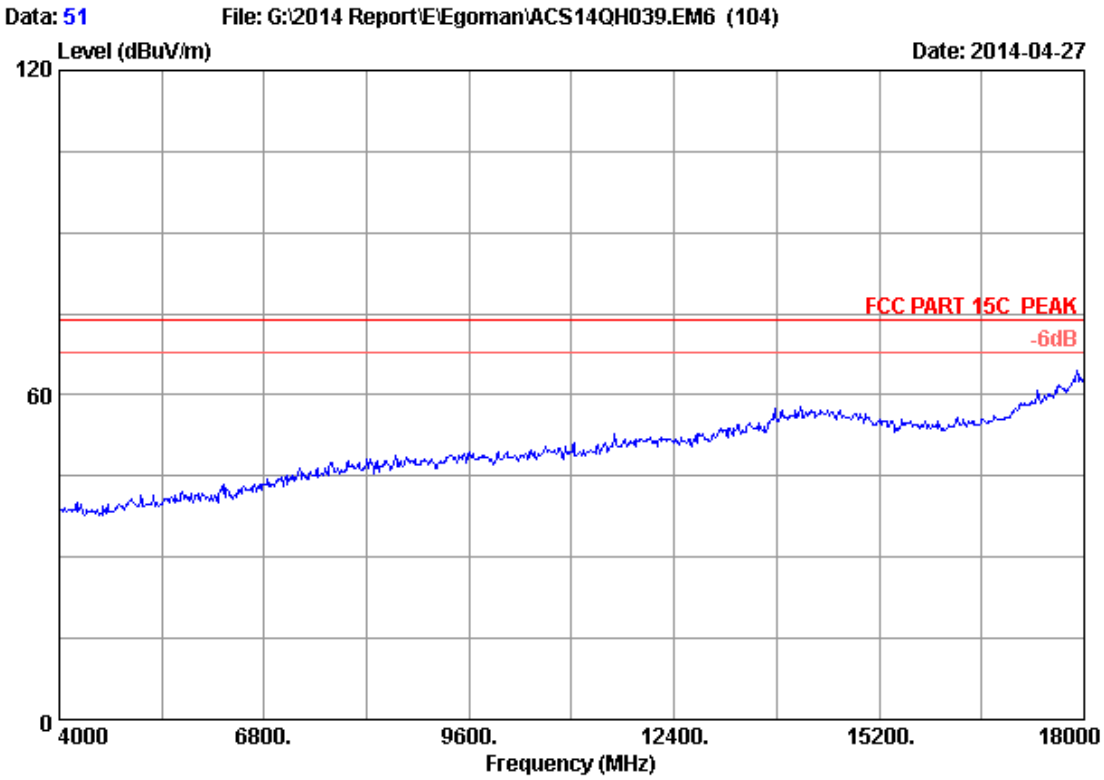
Site no.      : 3m Chamber                    Data no.  : 49
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer  : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11g  2412MHz Tx
M/N           : DW220XWXX
```



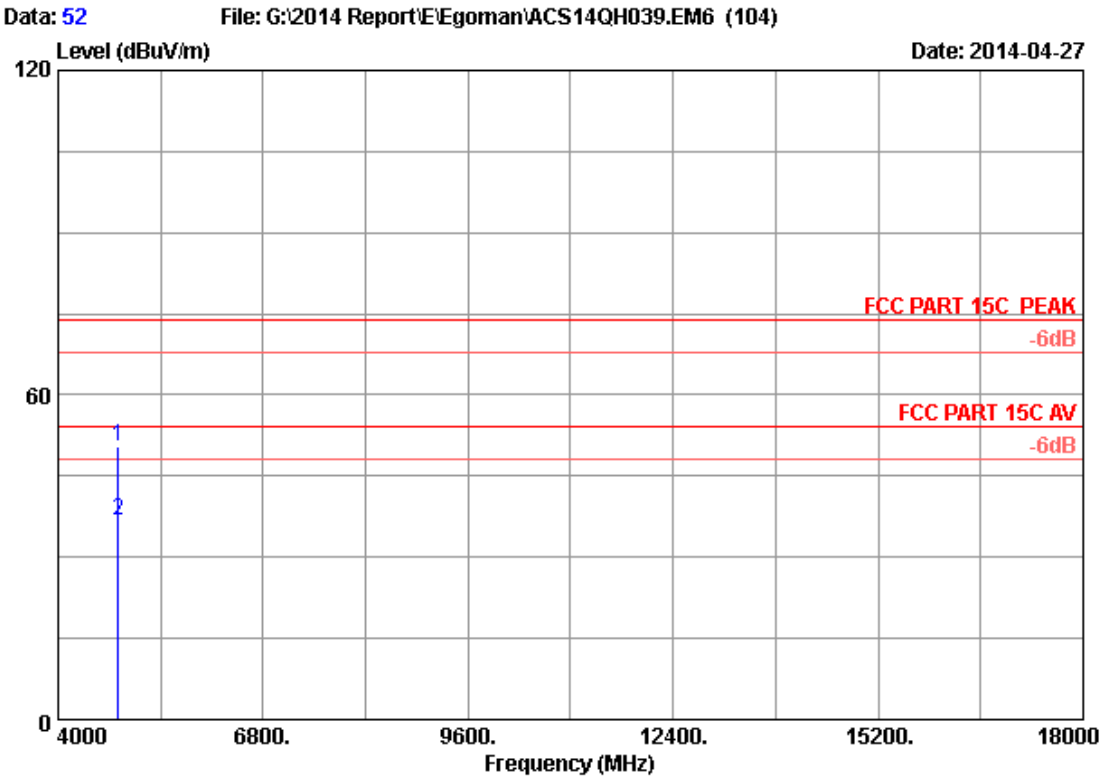
Site no. : 3m Chamber Data no. : 50
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	32.88	8.58	35.70	44.03	49.79	74.00	24.21	Peak
2	4824.000	32.88	8.58	35.70	31.25	37.01	54.00	16.99	Average

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



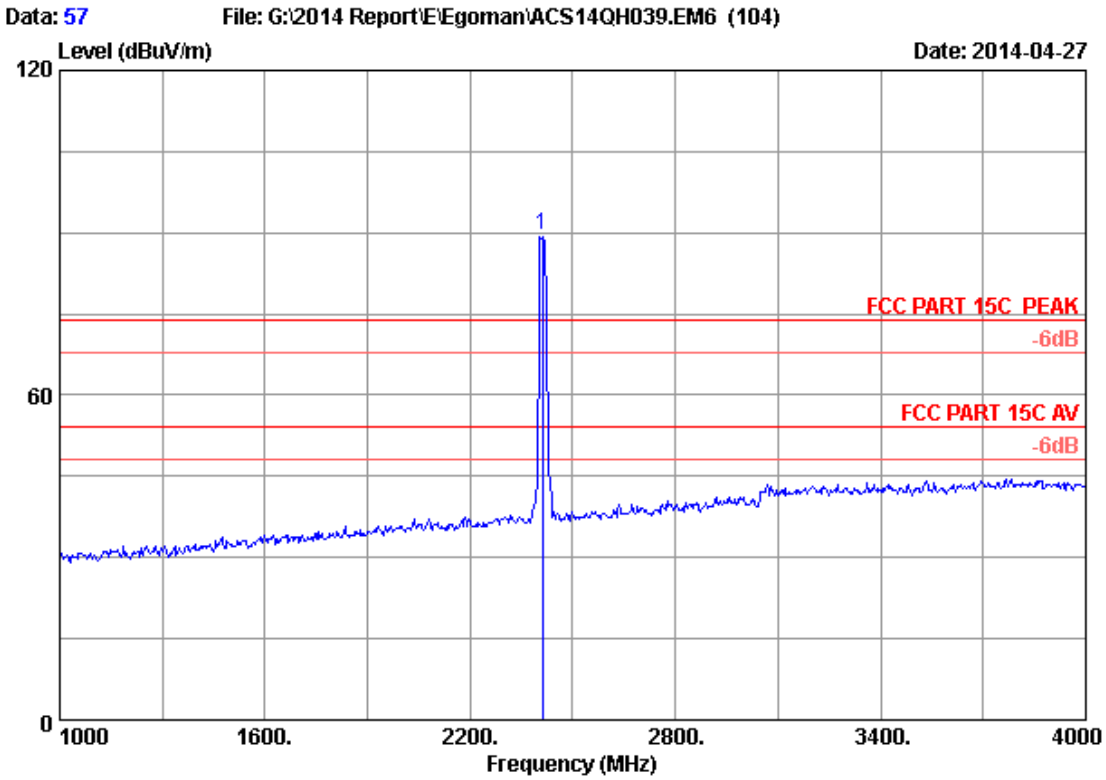

```
Site no.      : 3m Chamber                    Data no.   : 51
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11g  2412MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 52
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	32.88	8.58	35.70	44.81	50.57	74.00	23.43	Peak
2	4824.000	32.88	8.58	35.70	31.15	36.91	54.00	17.09	Average

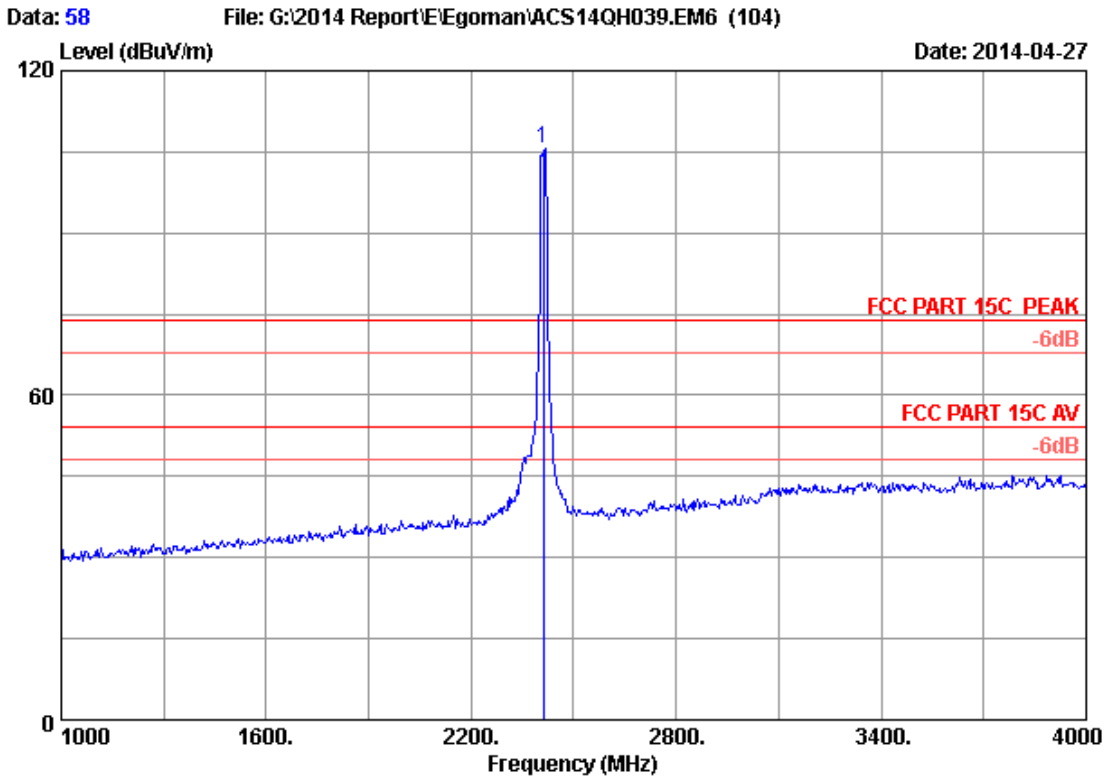
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 57
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	28.21	5.81	35.70	91.35	89.67	74.00	-15.67	Peak

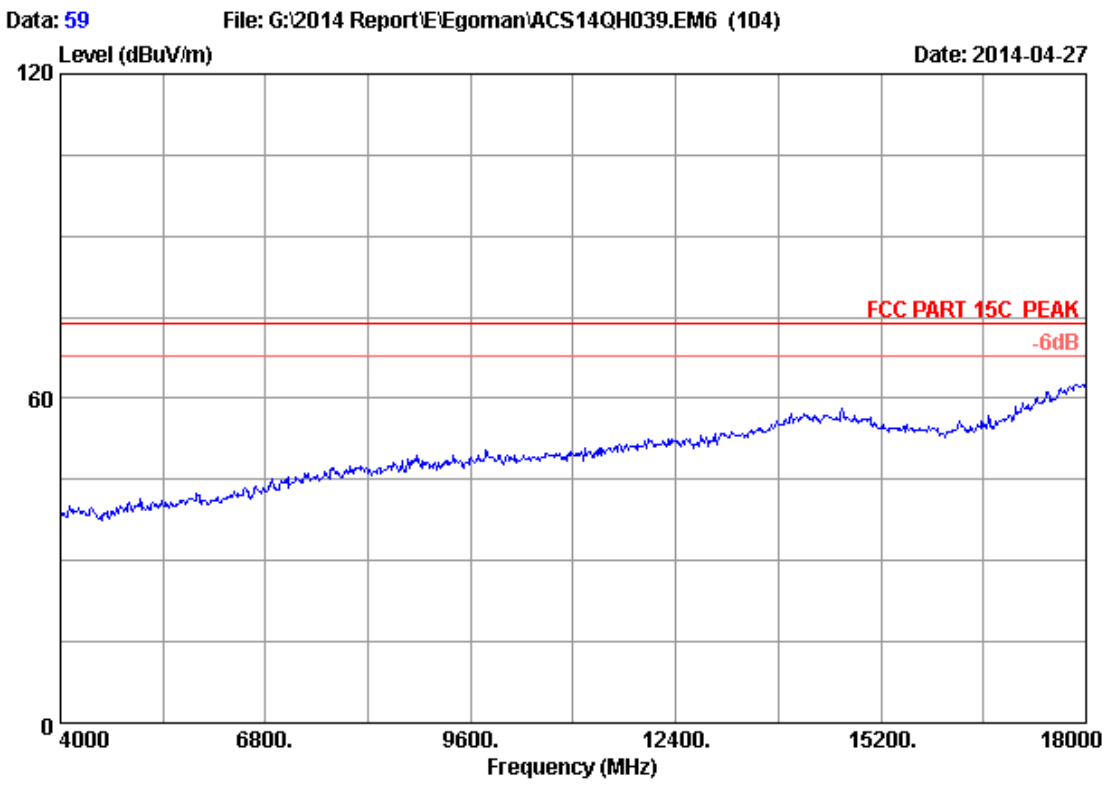
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



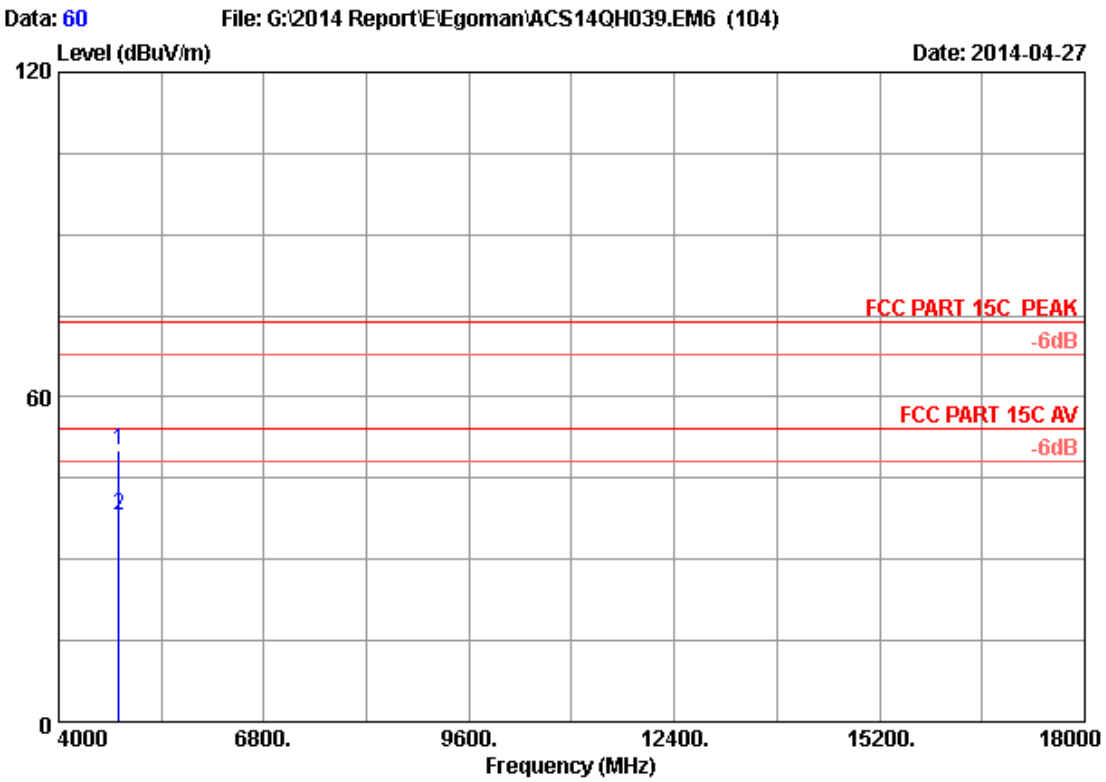
Site no. : 3m Chamber Data no. : 58
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	28.21	5.81	35.70	107.21	105.53	74.00	-31.53	Peak

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



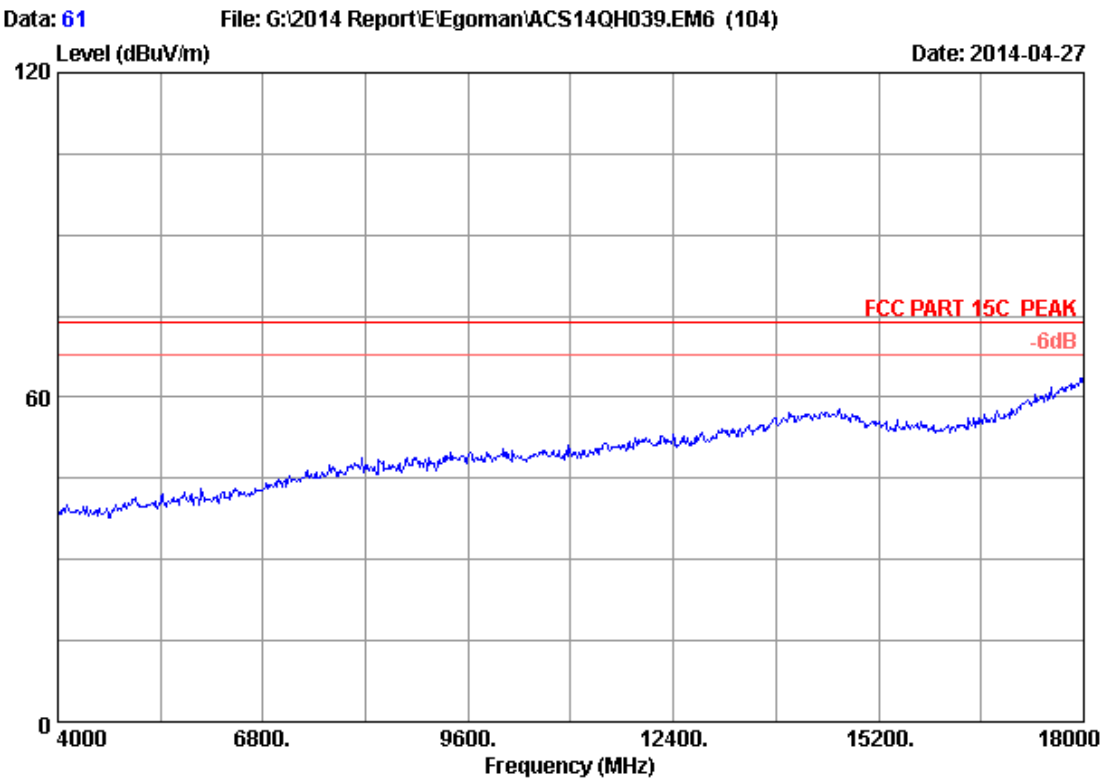

```
Site no.      : 3m Chamber                    Data no.  : 59
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer  : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2412MHz Tx
M/N           : DW220XWXX
```



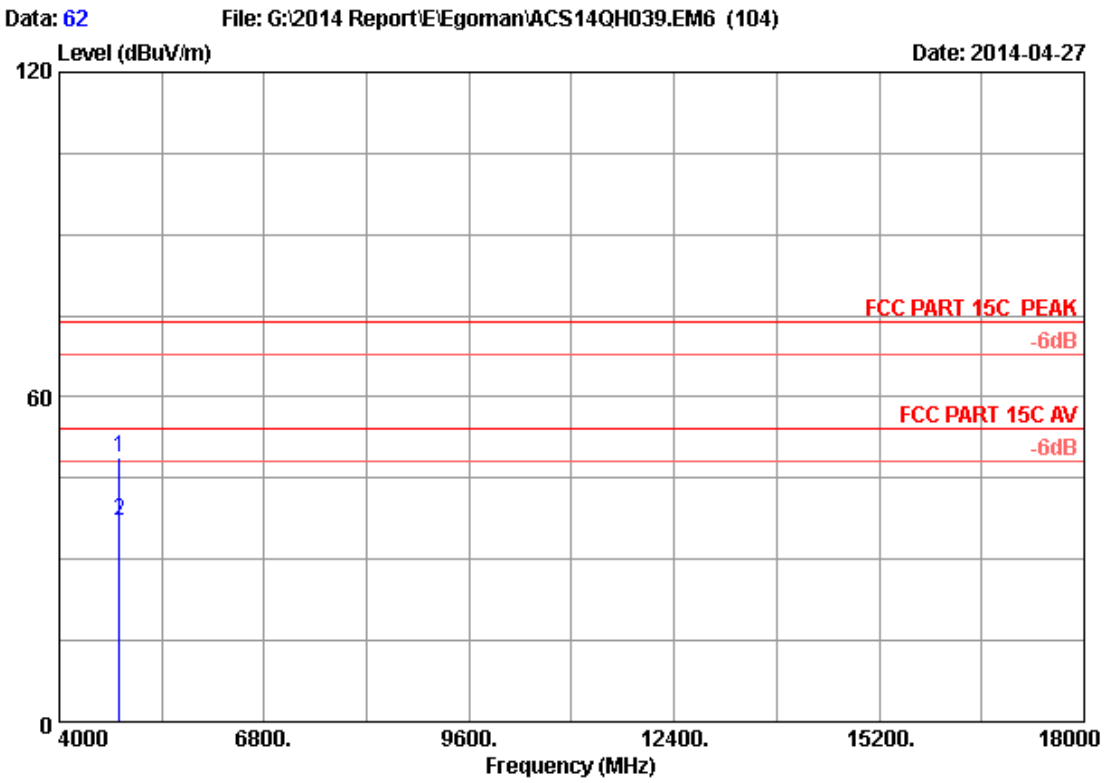
Site no. : 3m Chamber Data no. : 60
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	32.88	8.58	35.70	44.36	50.12	74.00	23.88	Peak
2	4824.000	32.88	8.58	35.70	32.34	38.10	54.00	15.90	Average

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



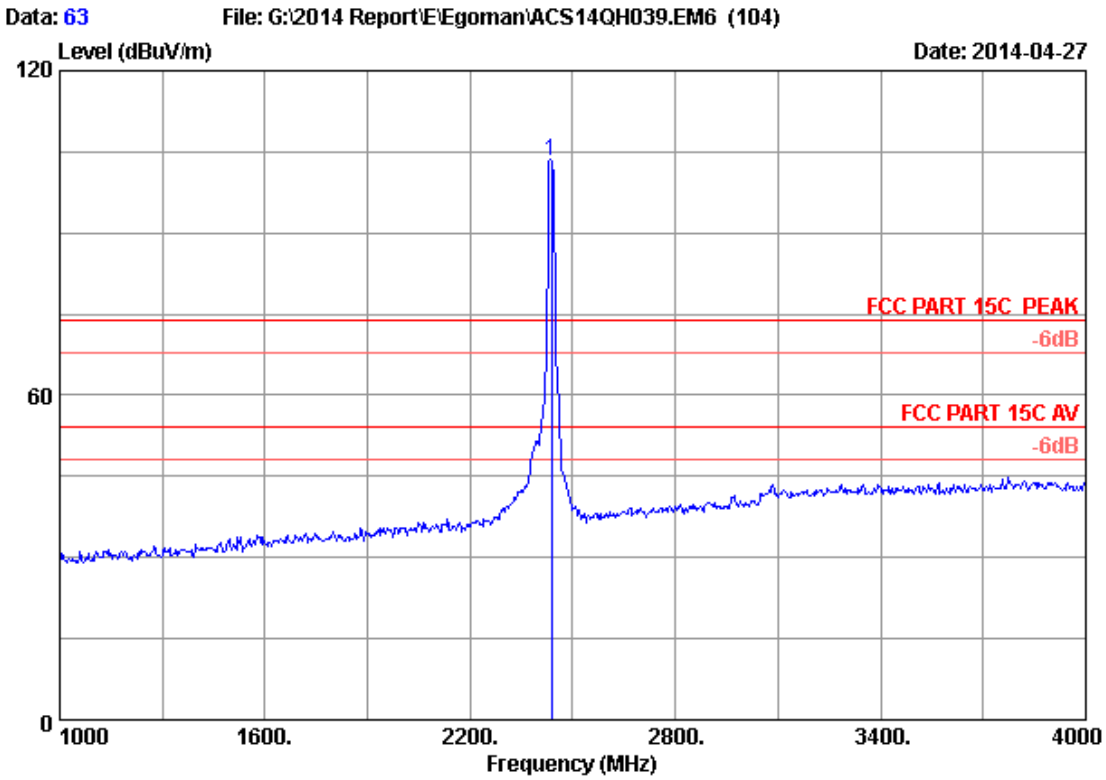

```
Site no.      : 3m Chamber                    Data no.   : 61
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2412MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 62
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	32.88	8.58	35.70	43.19	48.95	74.00	25.05	Peak
2	4824.000	32.88	8.58	35.70	31.32	37.08	54.00	16.92	Average

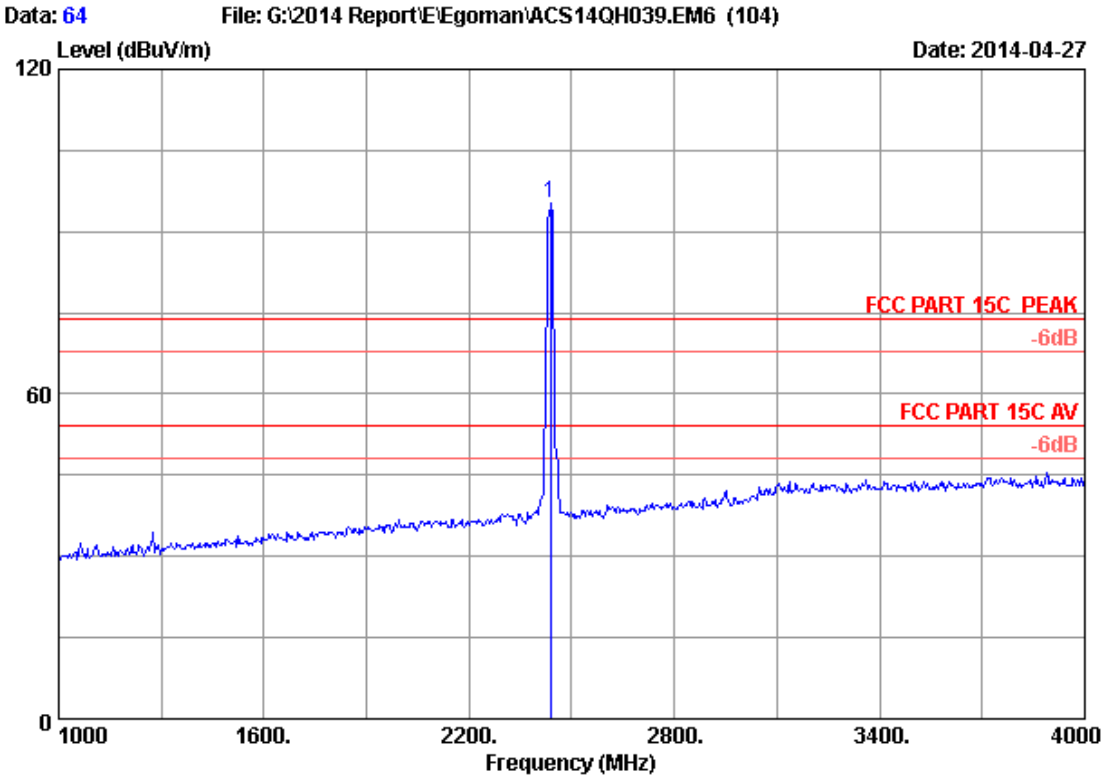
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 63
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	104.75	103.16	74.00	-29.16	Peak

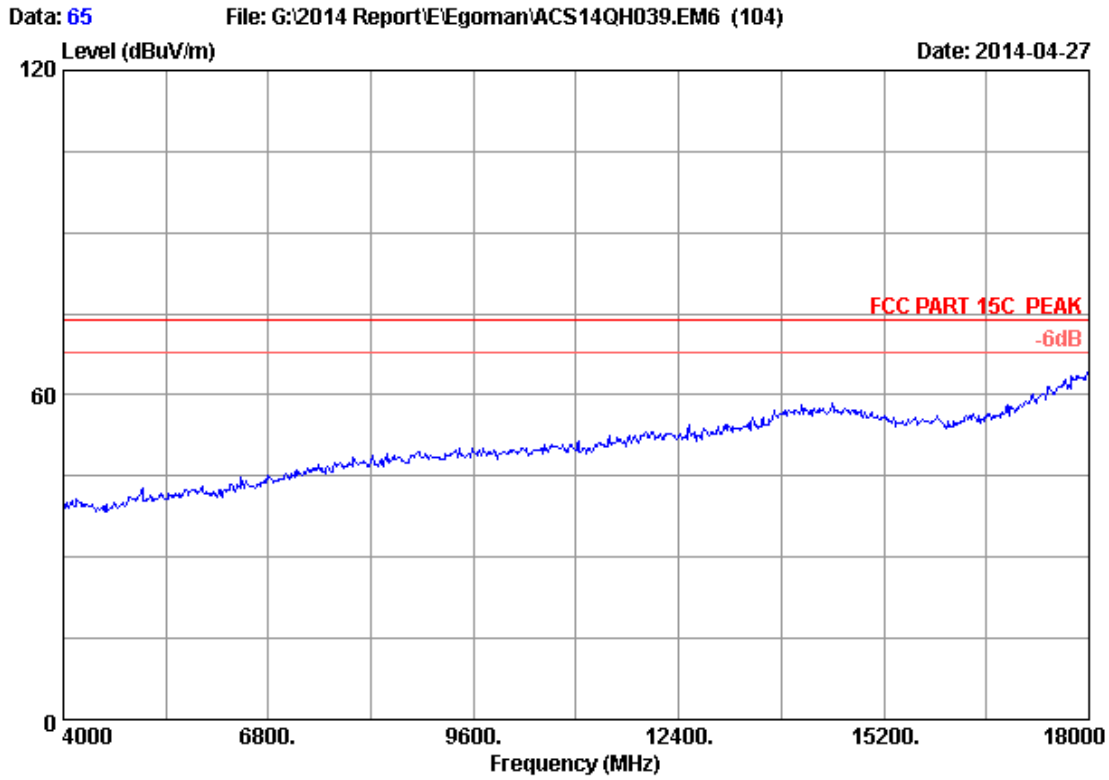
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



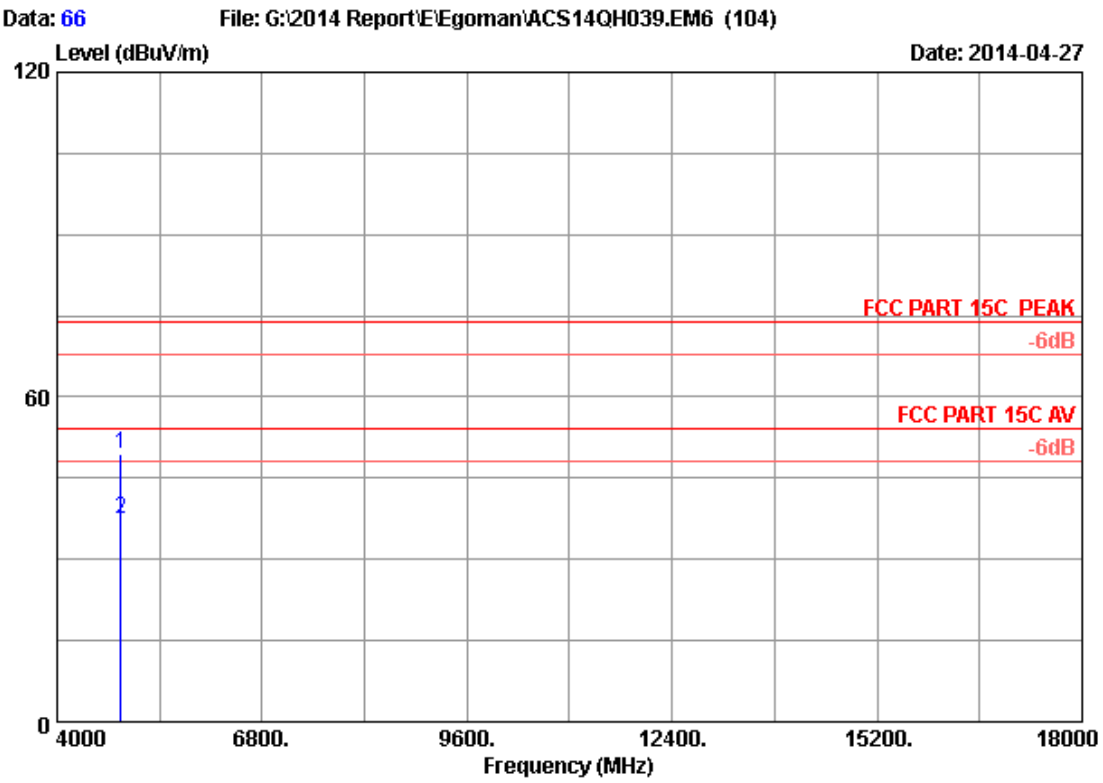
Site no. : 3m Chamber Data no. : 64
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	96.96	95.37	74.00	-21.37	Peak

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



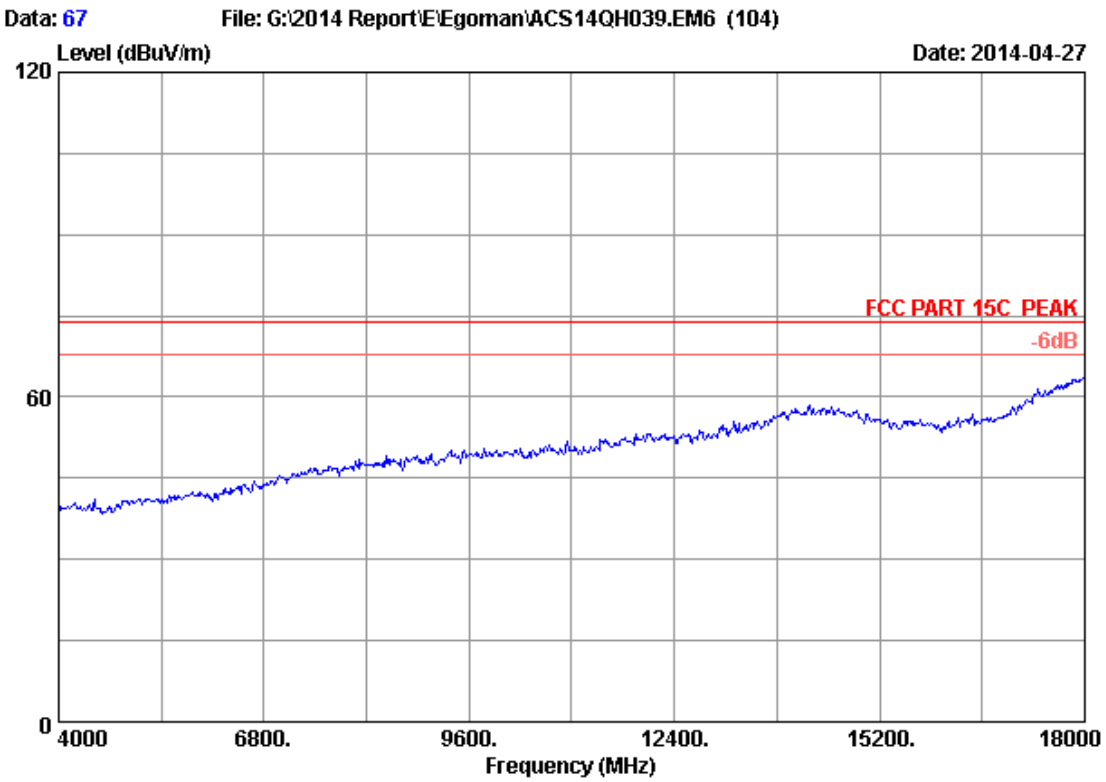

```
Site no.      : 3m Chamber                    Data no.   : 65
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2437MHz Tx
M/N           : DW220XWXX
```



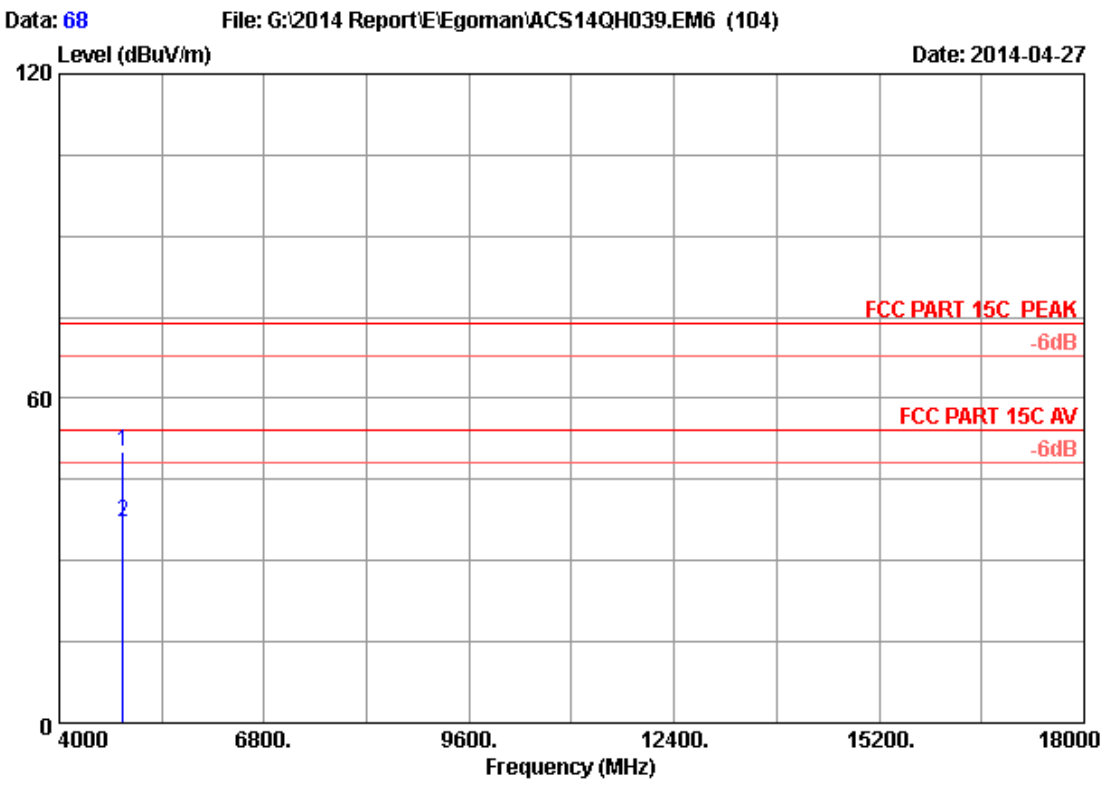
Site no. : 3m Chamber Data no. : 66
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	43.59	49.49	74.00	24.51	Peak
2	4874.000	32.97	8.63	35.70	31.43	37.33	54.00	16.67	Average

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



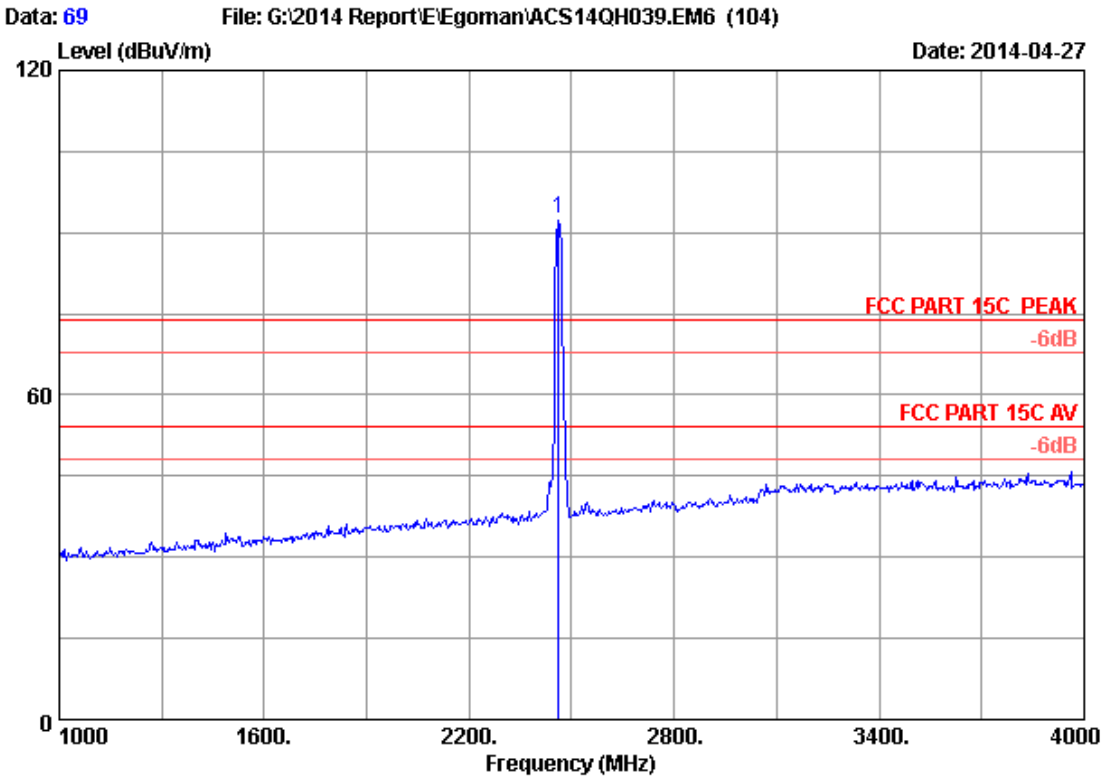

```
Site no.      : 3m Chamber                    Data no.  : 67
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer  : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2437MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 68
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	44.11	50.01	74.00	23.99	Peak
2	4874.000	32.97	8.63	35.70	31.23	37.13	54.00	16.87	Average

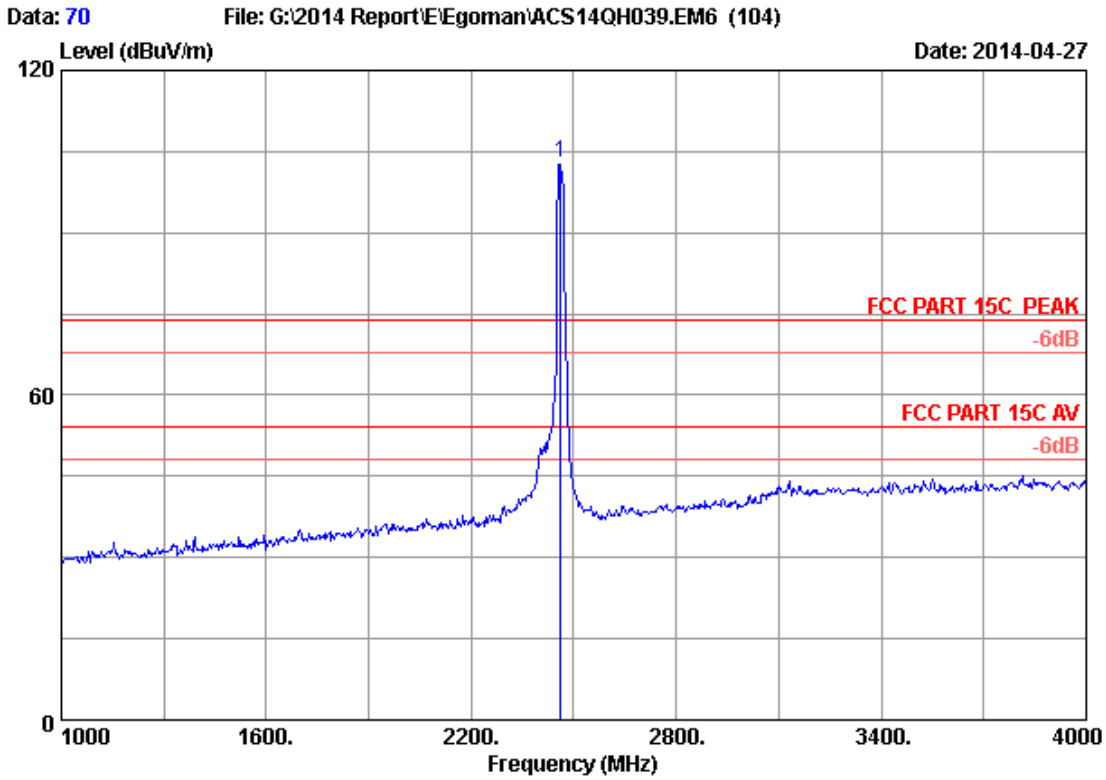
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 69
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.000	28.32	5.89	35.70	94.24	92.75	74.00	-18.75	Peak

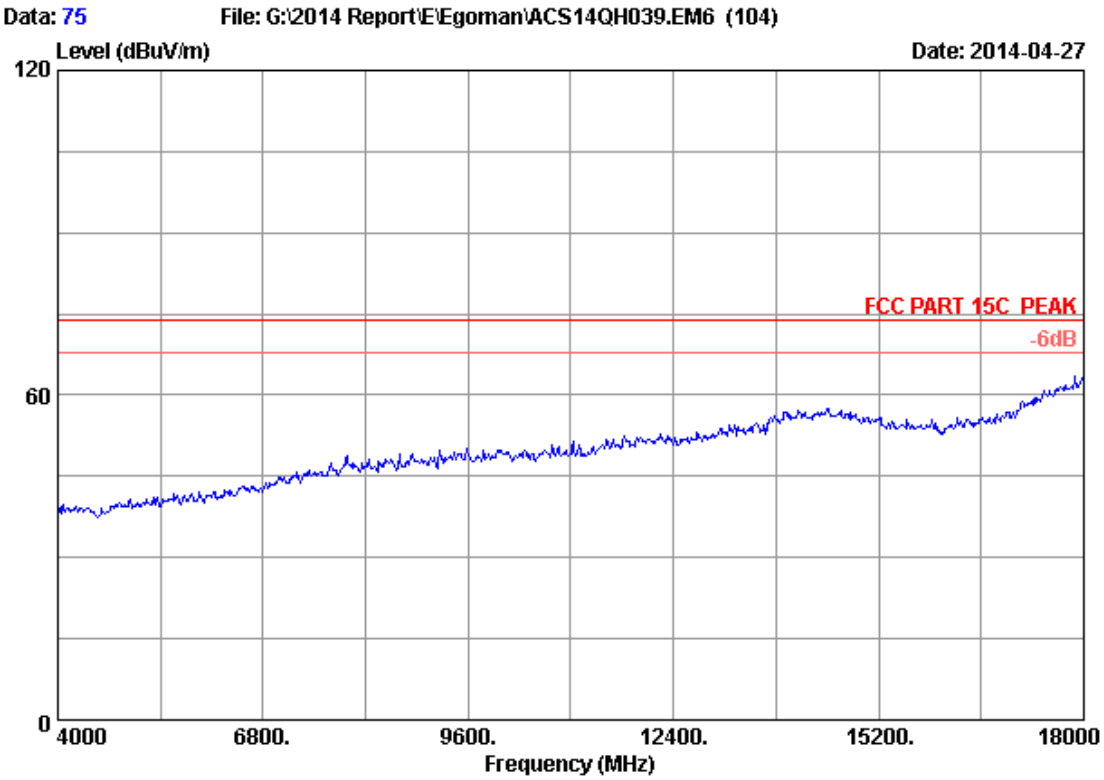
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



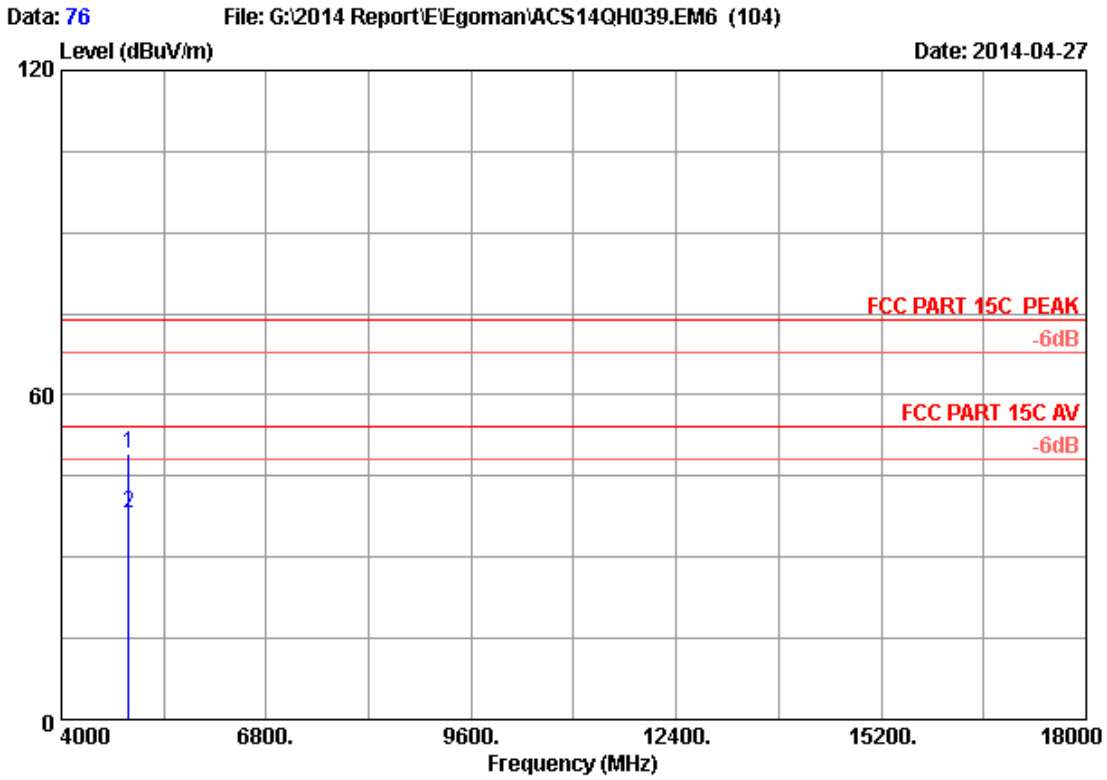
Site no. : 3m Chamber Data no. : 70
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.32	5.89	35.70	104.37	102.88	74.00	-28.88	Peak

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



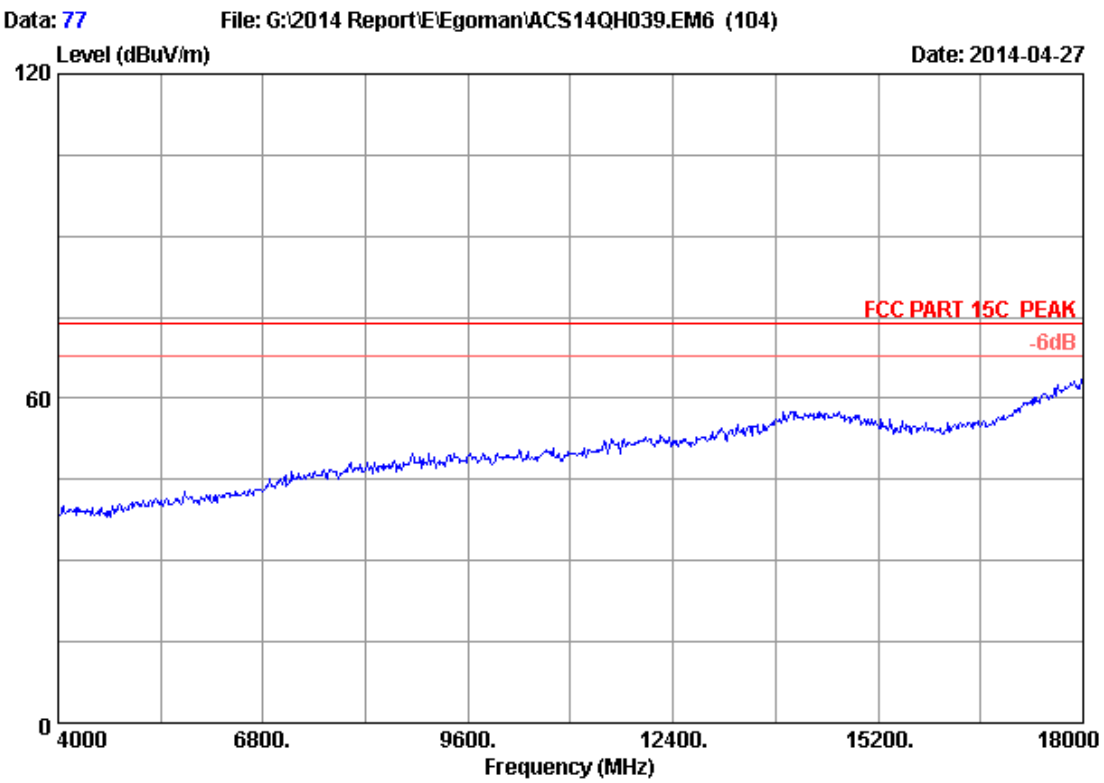

```
Site no.      : 3m Chamber                    Data no.   : 75
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2462MHz Tx
M/N           : DW220XWXX
```



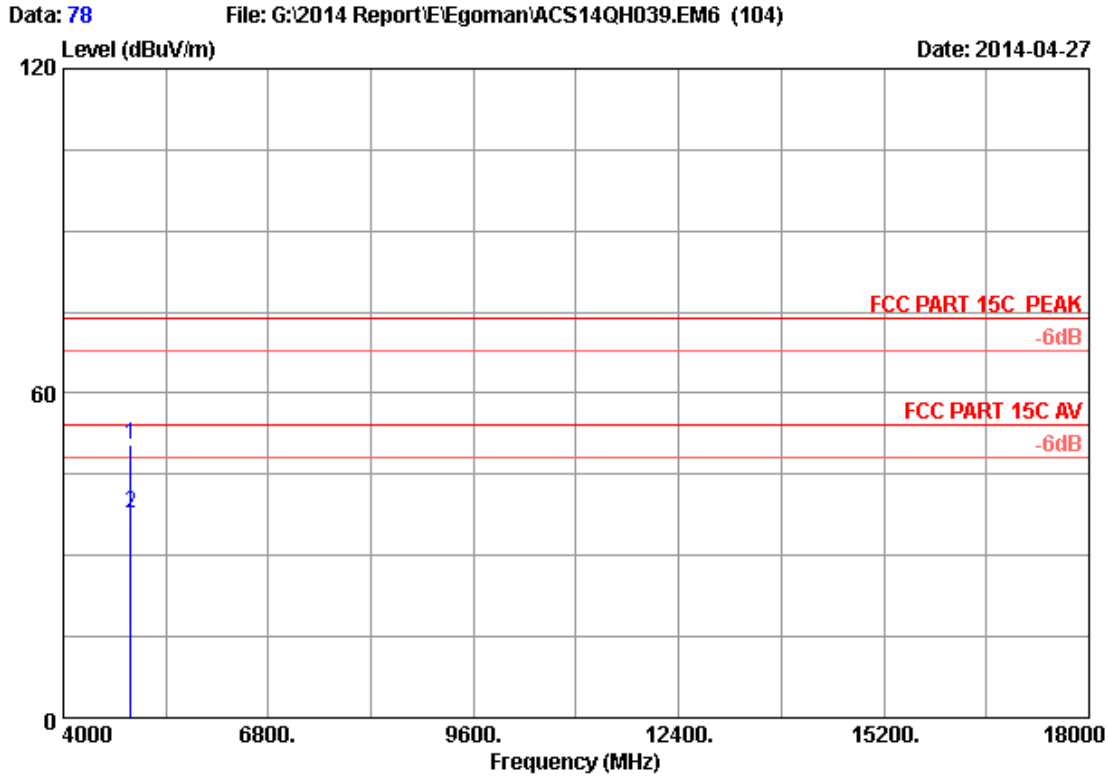
Site no. : 3m Chamber Data no. : 76
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	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	33.06	8.69	35.70	43.15	49.20	74.00	24.80	Peak
2	4924.000	33.06	8.69	35.70	32.01	38.06	54.00	15.94	Average

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



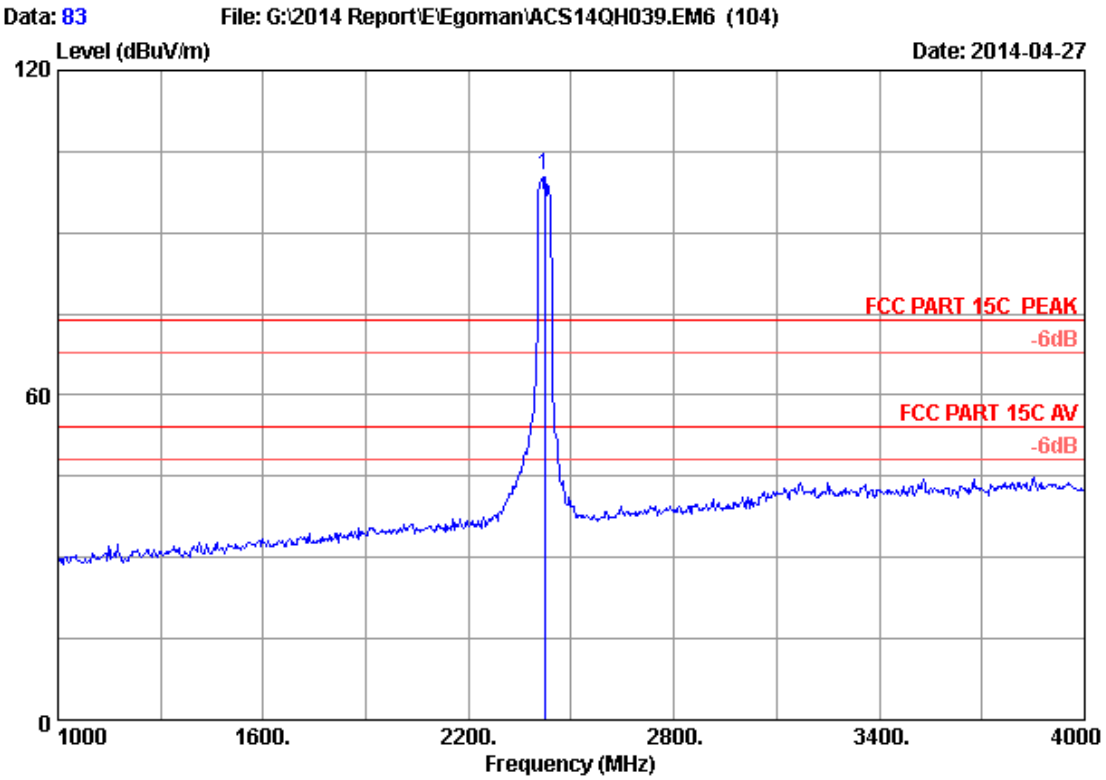

```
Site no.      : 3m Chamber                    Data no.   : 77
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2462MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 78
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	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	33.06	8.69	35.70	44.28	50.33	74.00	23.67	Peak
2	4924.000	33.06	8.69	35.70	31.64	37.69	54.00	16.31	Average

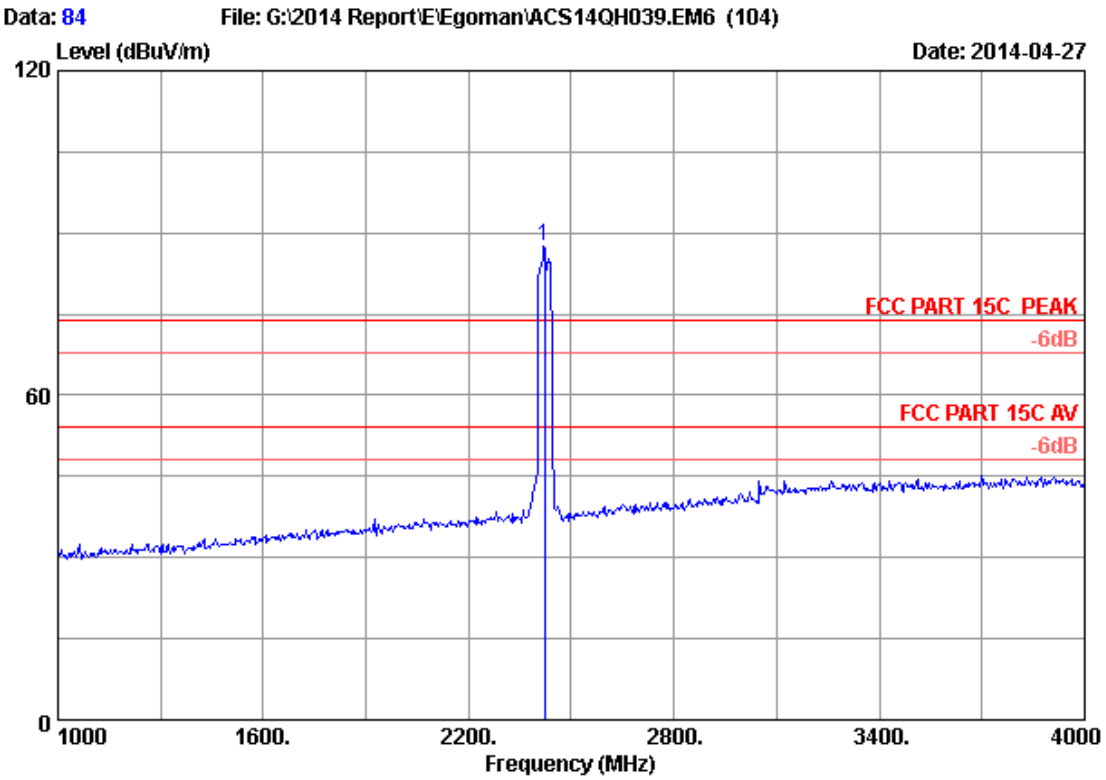
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 83
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	2422.000	28.23	5.83	35.70	102.23	100.59	74.00	-26.59	Peak

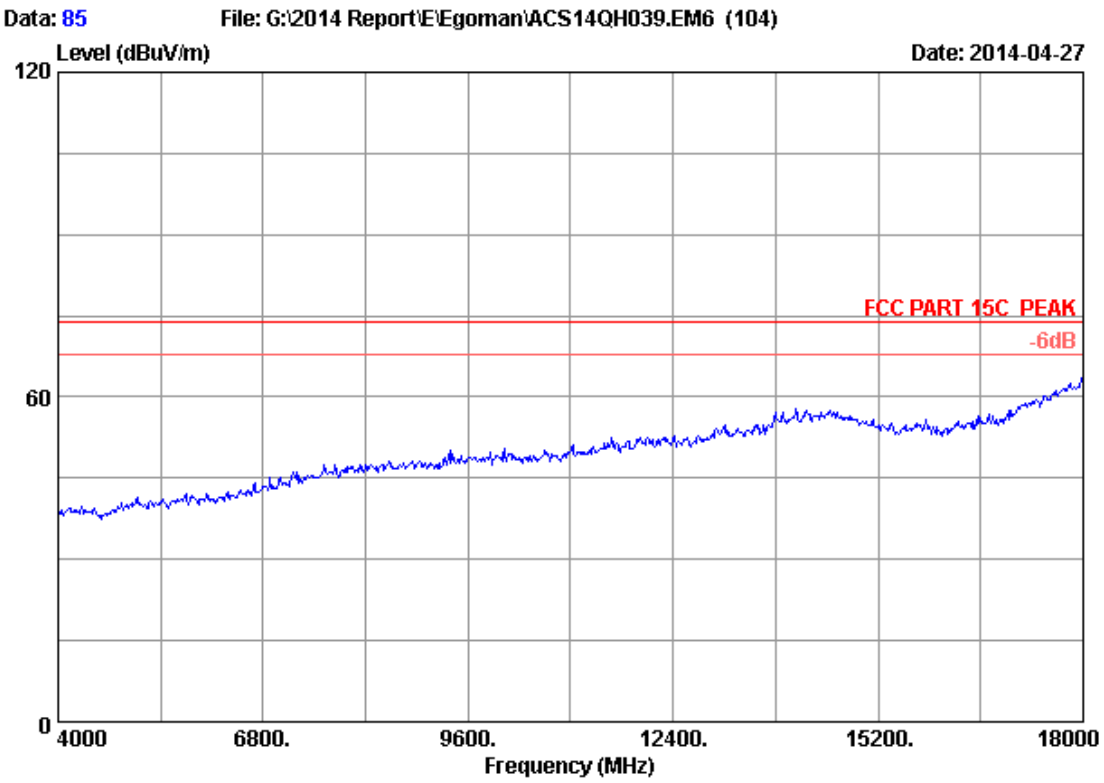
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 84
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	2422.000	28.23	5.83	35.70	89.24	87.60	74.00	-13.60	Peak

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

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Site no.      : 3m Chamber                      Data no.   : 85
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT40  2422MHz Tx
M/N           : DW220XWXX
```
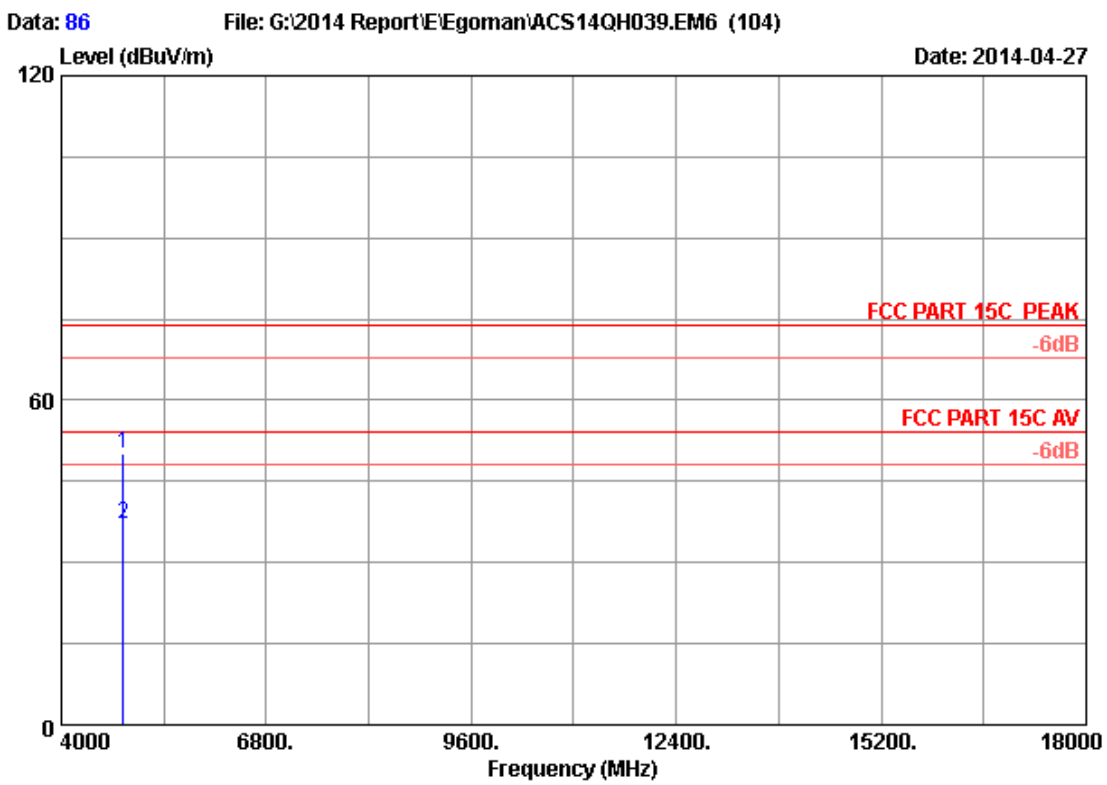
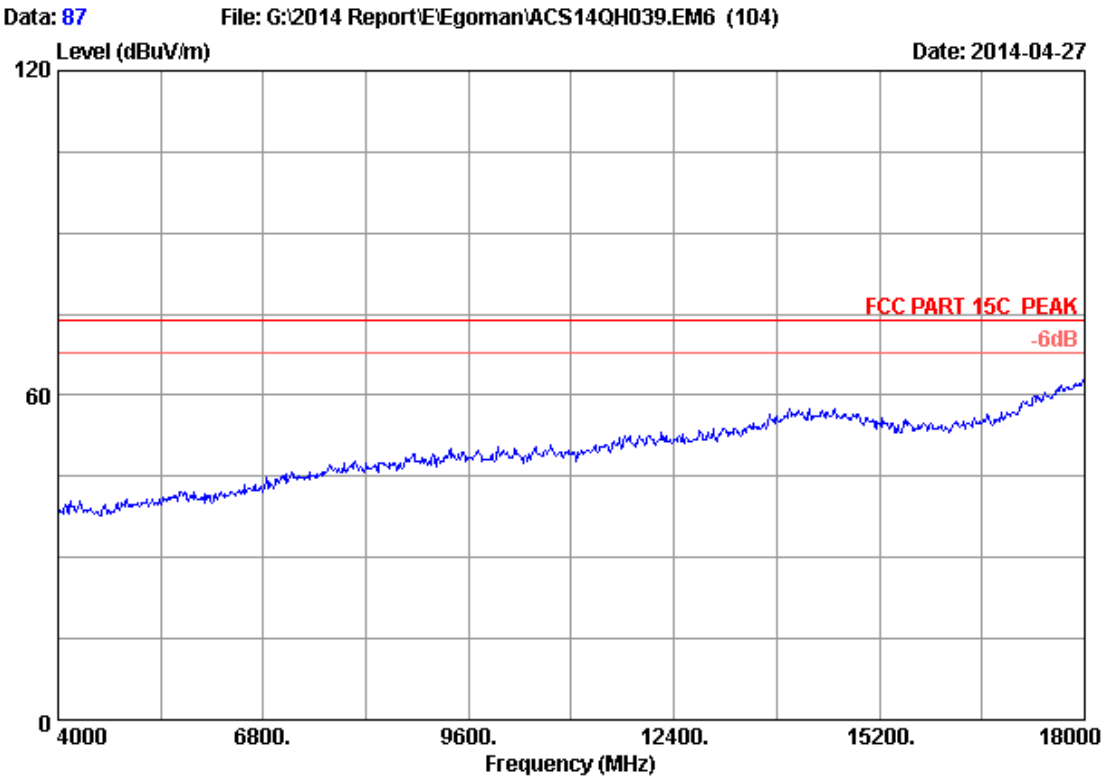



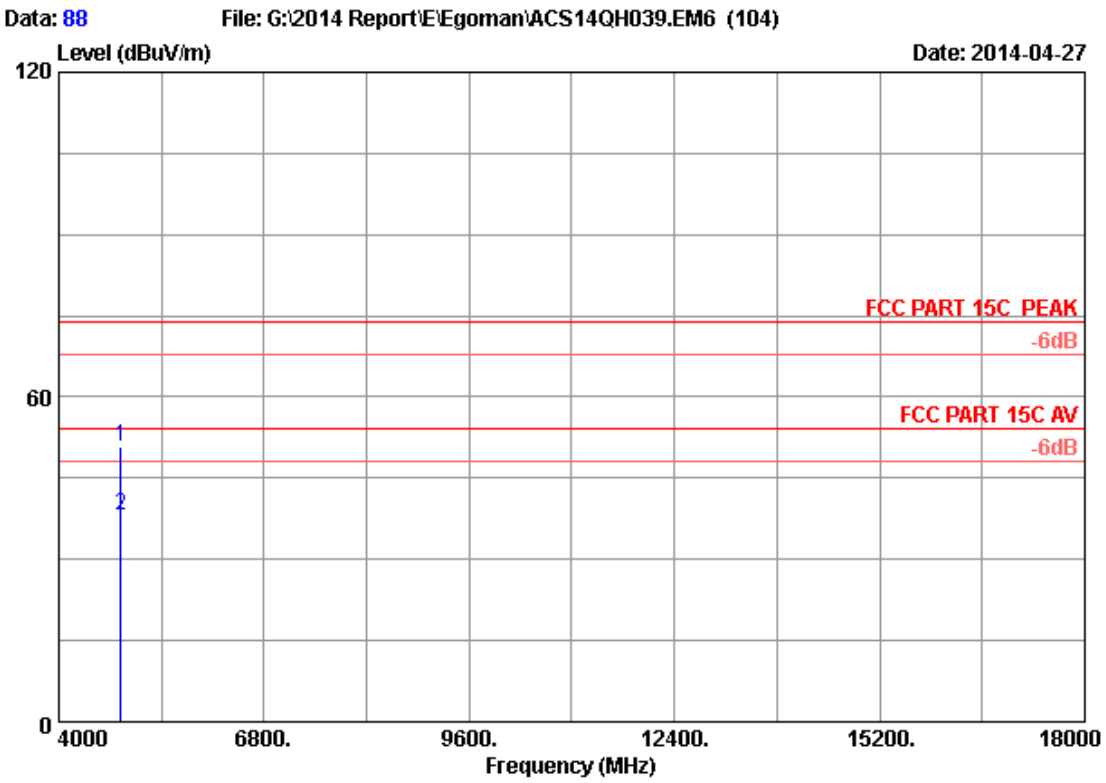
Site no. : 3m Chamber Data no. : 86
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	4844.000	32.92	8.60	35.70	44.31	50.13	74.00	23.87	Peak
2	4844.000	32.92	8.60	35.70	31.17	36.99	54.00	17.01	Average

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



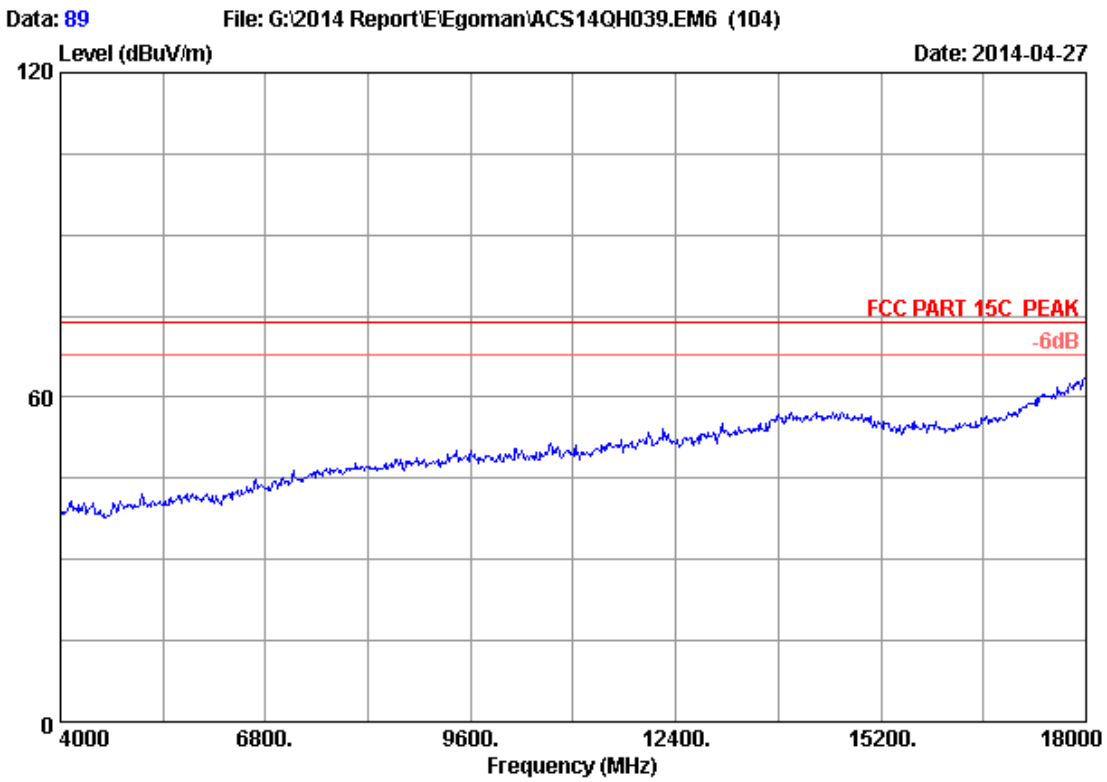

```
Site no.      : 3m Chamber                    Data no.   : 87
Dis. / Ant.   : 3m   2013 3115 (4580)        Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                     Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT40  2422MHz Tx
M/N           : DW220XWXX
```



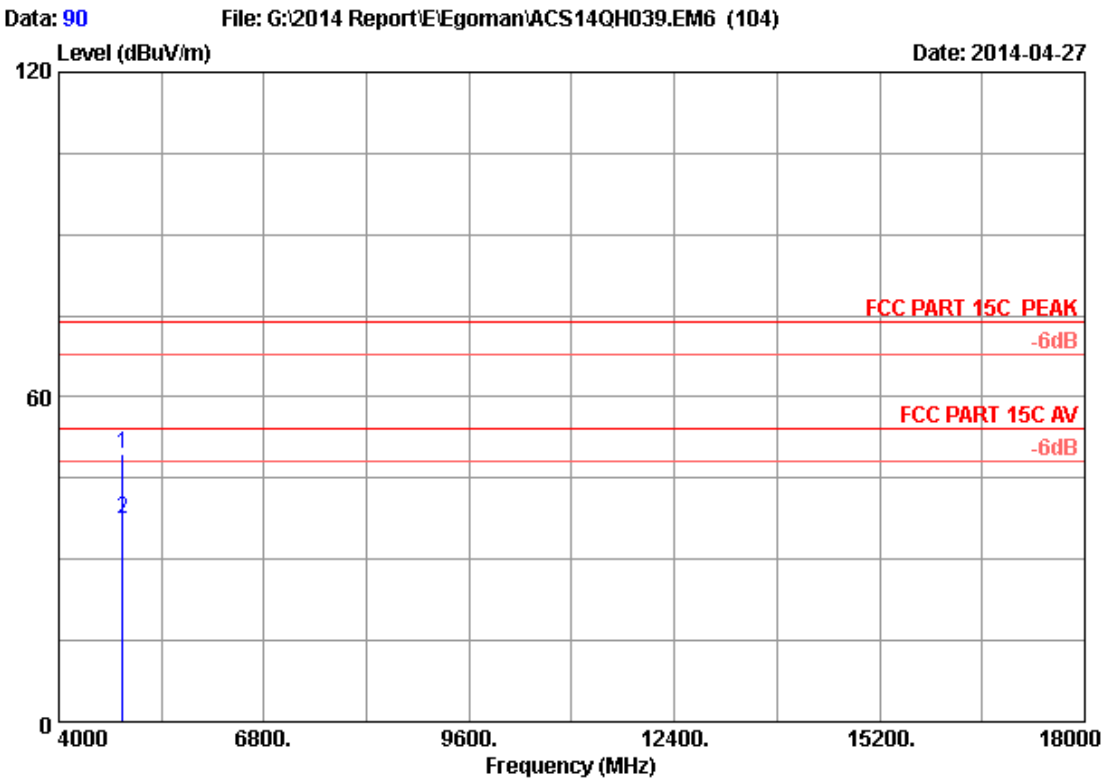
Site no. : 3m Chamber Data no. : 88
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	4844.000	32.92	8.60	35.70	45.03	50.85	74.00	23.15	Peak
2	4844.000	32.92	8.60	35.70	32.18	38.00	54.00	16.00	Average

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



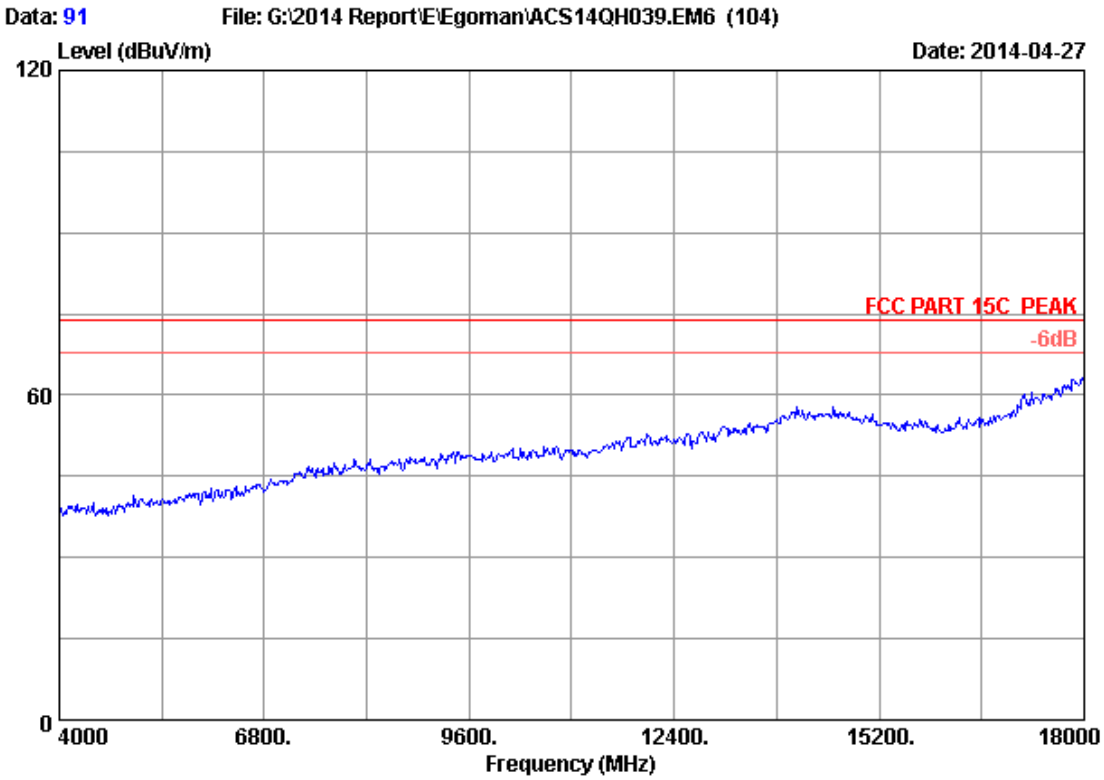

```
Site no.      : 3m Chamber                      Data no.   : 89
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT40  2437MHz Tx
M/N           : DW220XWXX
```



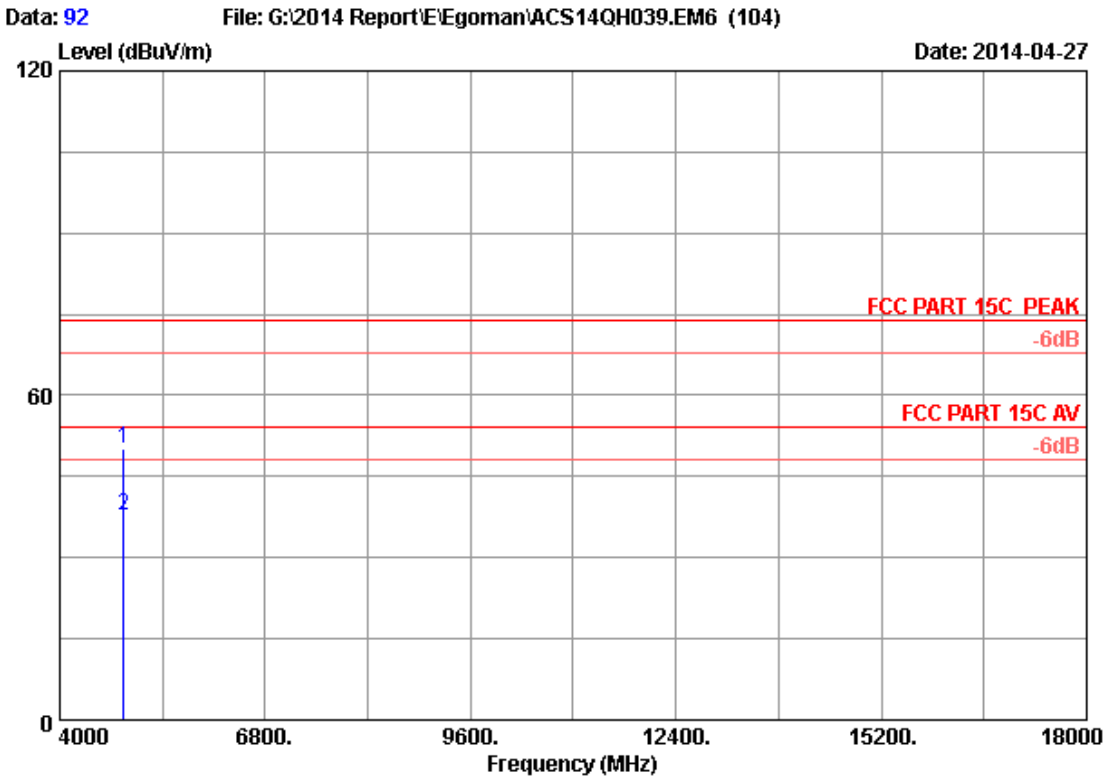
Site no. : 3m Chamber Data no. : 90
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	43.53	49.43	74.00	24.57	Peak
2	4874.000	32.97	8.63	35.70	31.48	37.38	54.00	16.62	Average

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



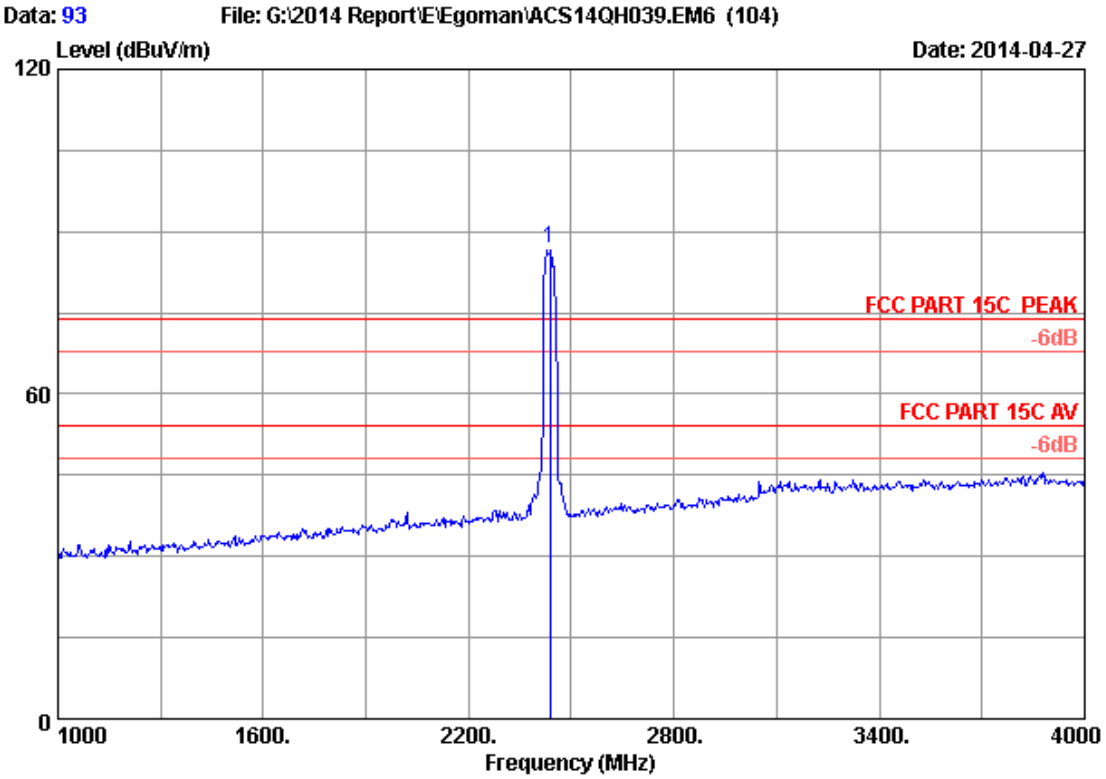

```
Site no.      : 3m Chamber                    Data no.   : 91
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT40  2437MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 92
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
M/N : DW220XWXX

No.	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	32.97	8.63	35.70	44.09	49.99	74.00	24.01	Peak
2	4874.000	32.97	8.63	35.70	31.86	37.76	54.00	16.24	Average

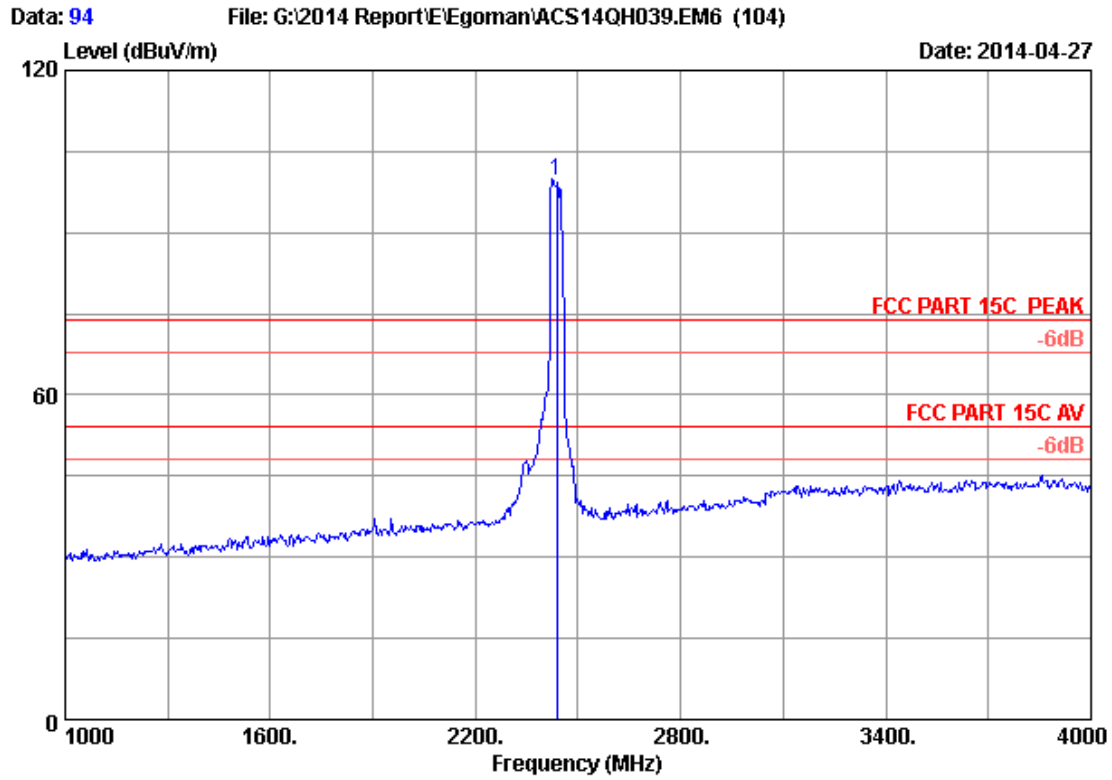
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 93
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	88.42	86.83	74.00	-12.83	Peak

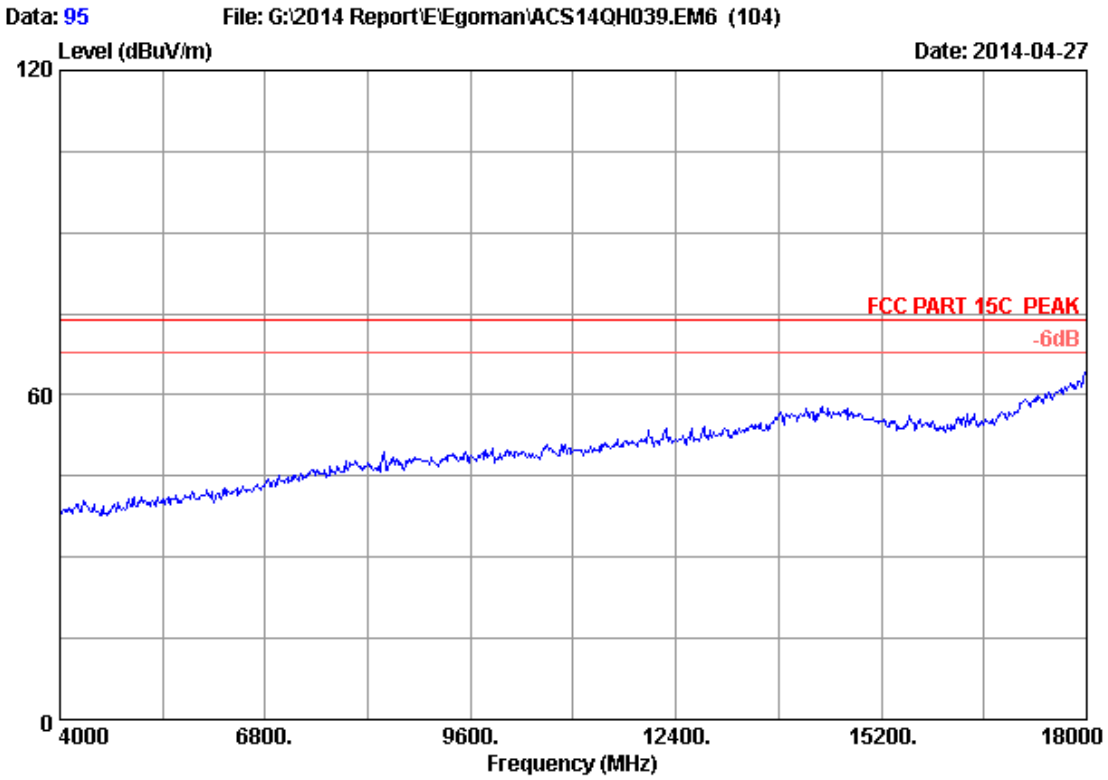
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



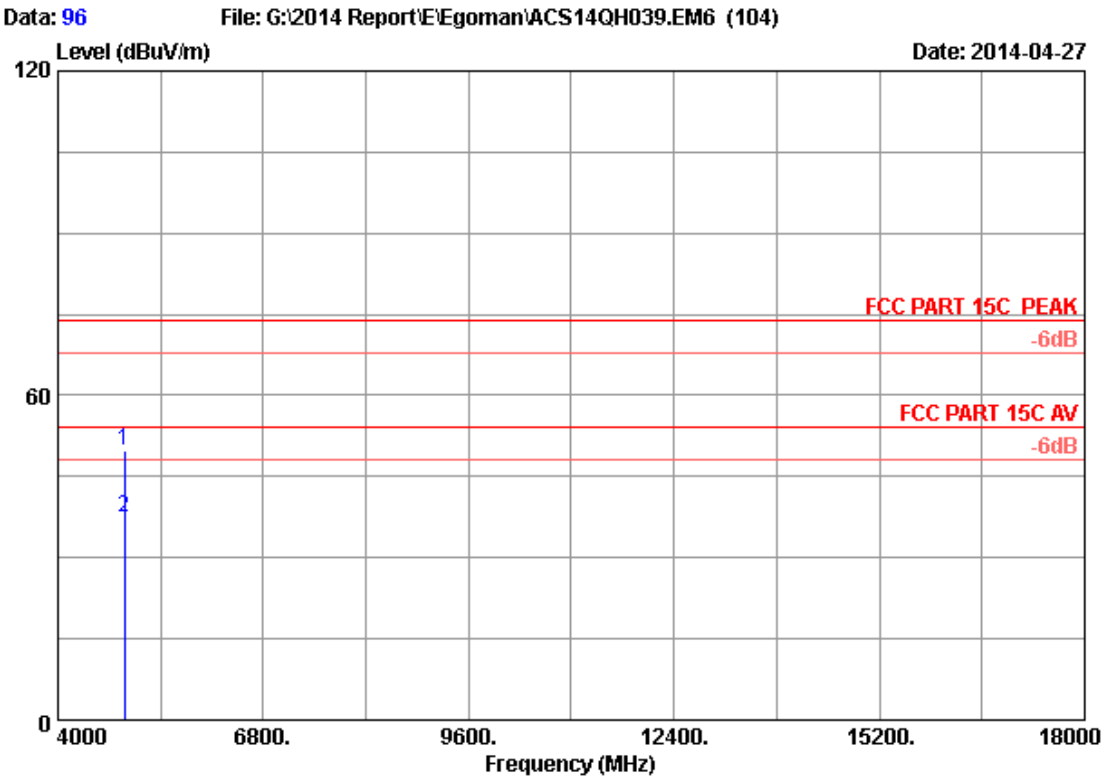
Site no. : 3m Chamber Data no. : 94
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
M/N : DW220XWXX

No.	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	28.26	5.85	35.70	101.36	99.77	74.00	-25.77	Peak

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



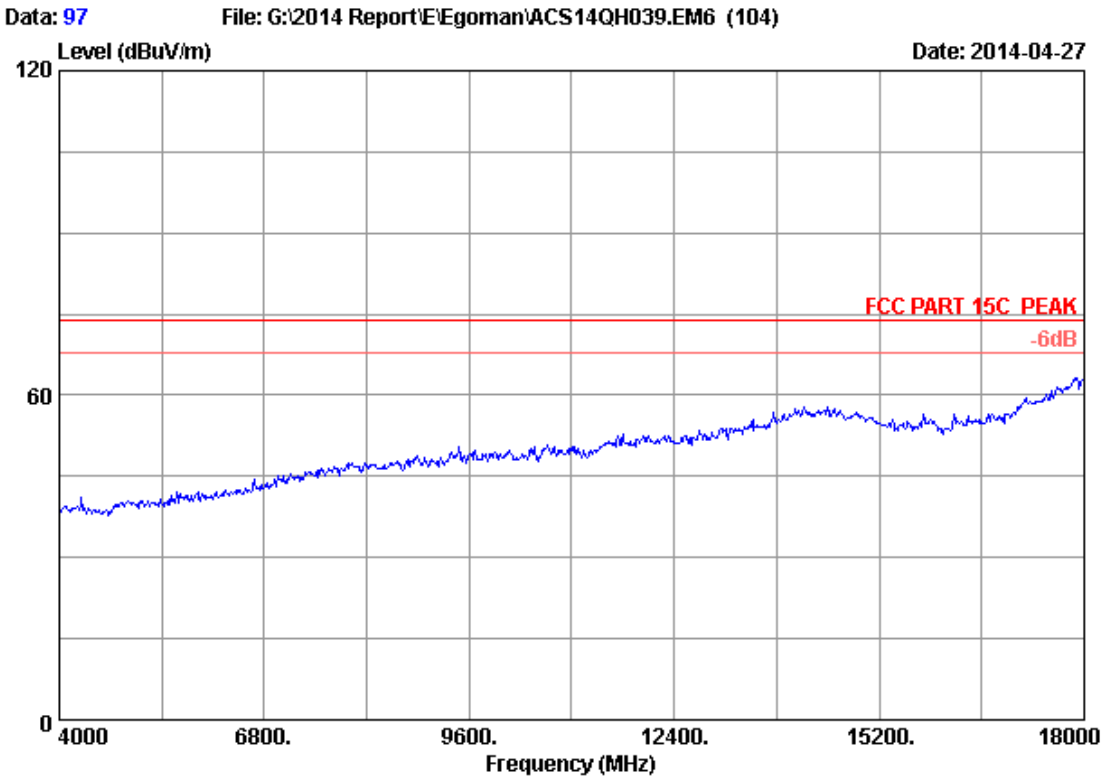

```
Site no.      : 3m Chamber                    Data no.   : 95
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating  : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT40  2452MHz Tx
M/N           : DW220XWXX
```



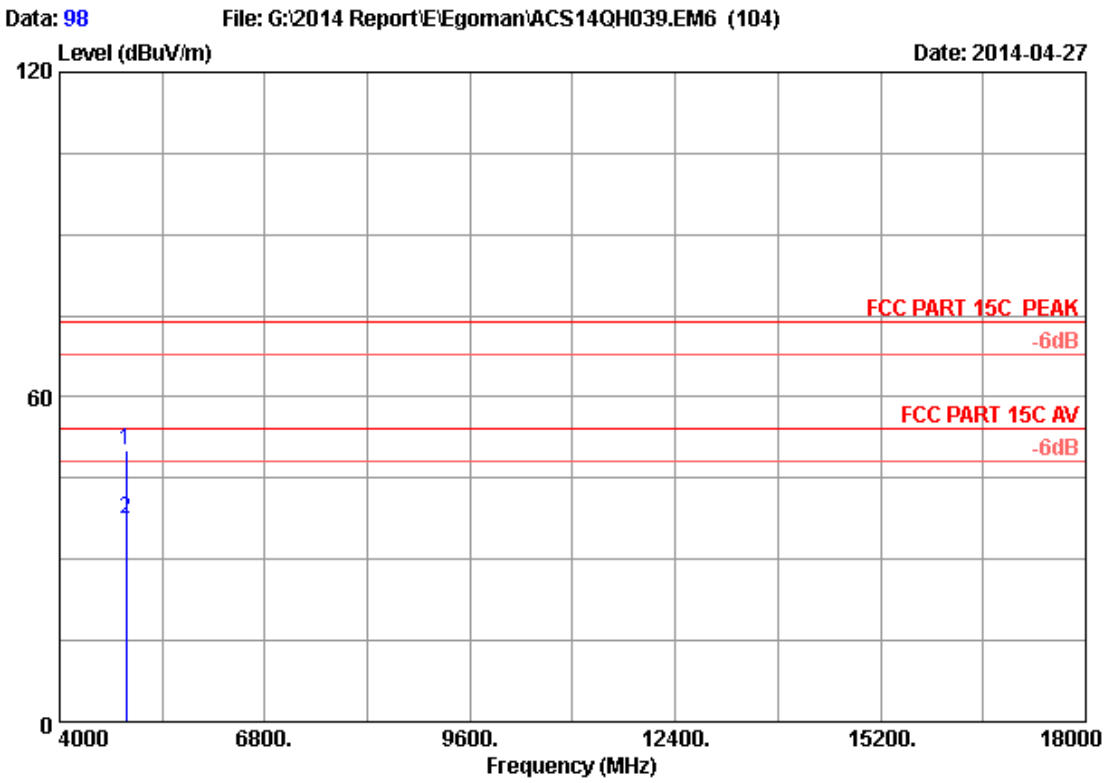
Site no. : 3m Chamber Data no. : 96
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	4904.000	33.03	8.66	35.70	43.65	49.64	74.00	24.36	Peak
2	4904.000	33.03	8.66	35.70	31.59	37.58	54.00	16.42	Average

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



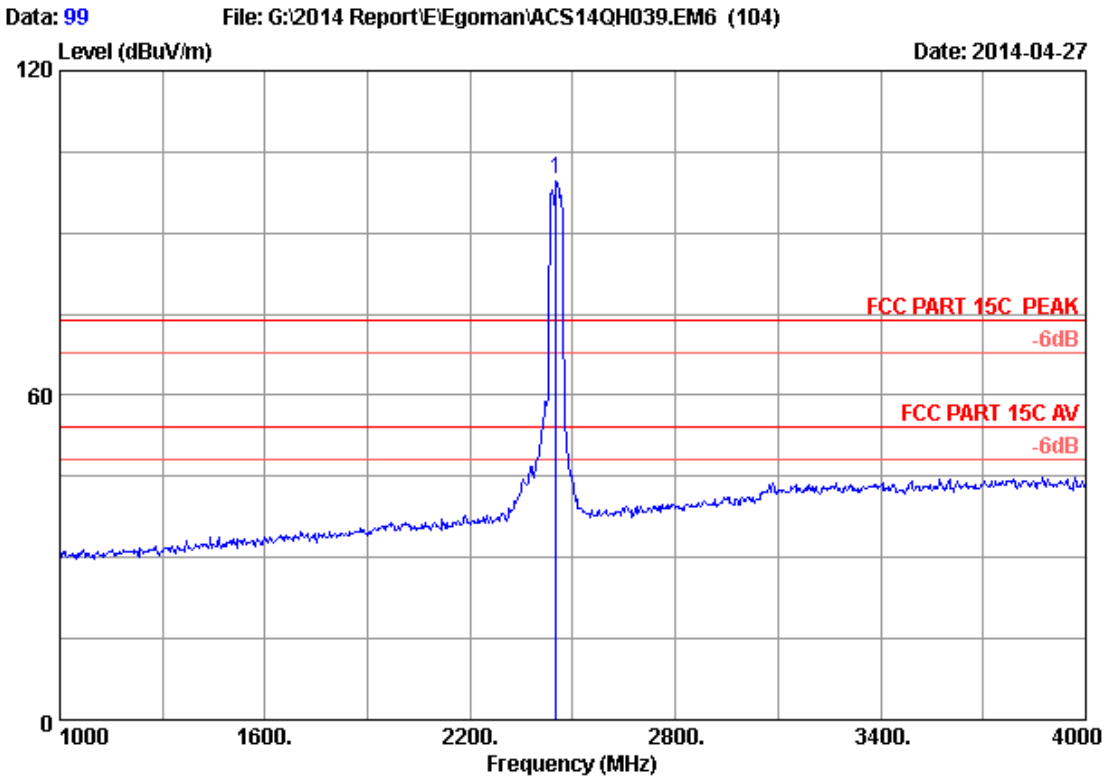

```
Site no.      : 3m Chamber                      Data no.   : 97
Dis. / Ant.   : 3m   2013 3115 (4580)       Ant. pol. : VERTICAL
Limit         : FCC PART 15C  PEAK
Env. / Ins.   : 24*C/56%                    Engineer   : Leo-Li
EUT           : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT40  2452MHz Tx
M/N           : DW220XWXX
```



Site no. : 3m Chamber Data no. : 98
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	4904.000	33.03	8.66	35.70	44.23	50.22	74.00	23.78	Peak
2	4904.000	33.03	8.66	35.70	31.41	37.40	54.00	16.60	Average

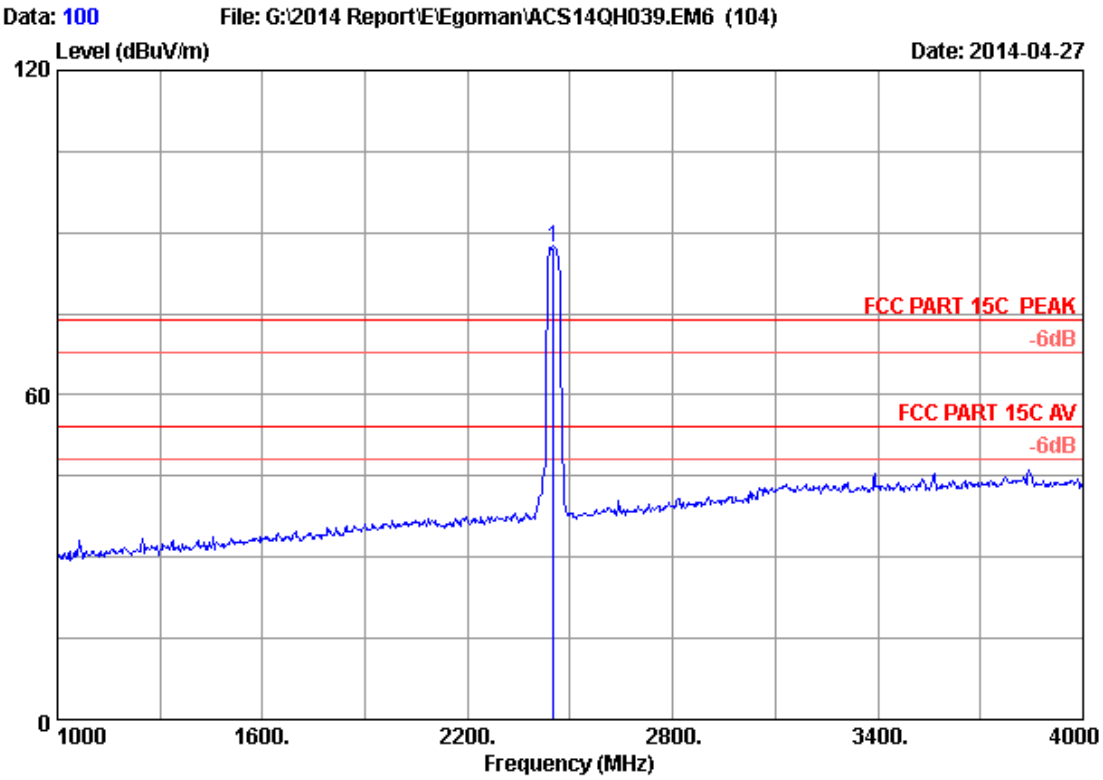
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 99
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	2452.000	28.29	5.87	35.70	101.39	99.85	74.00	-25.85	Peak

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



Site no. : 3m Chamber Data no. : 100
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	2452.000	28.29	5.87	35.70	88.77	87.23	74.00	-13.23	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
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	N9030A	MY51380221	Oct.31, 13	1Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,13	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,13	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.

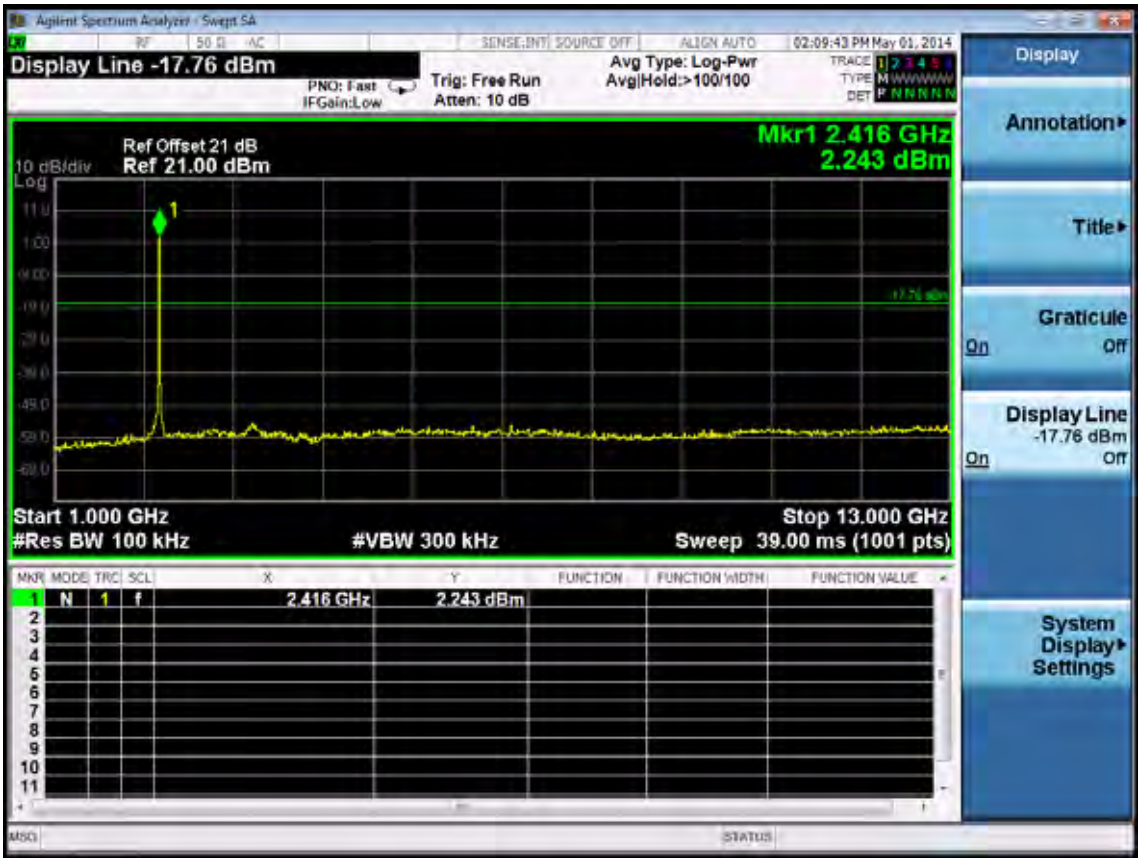
5.3.Test Procedure

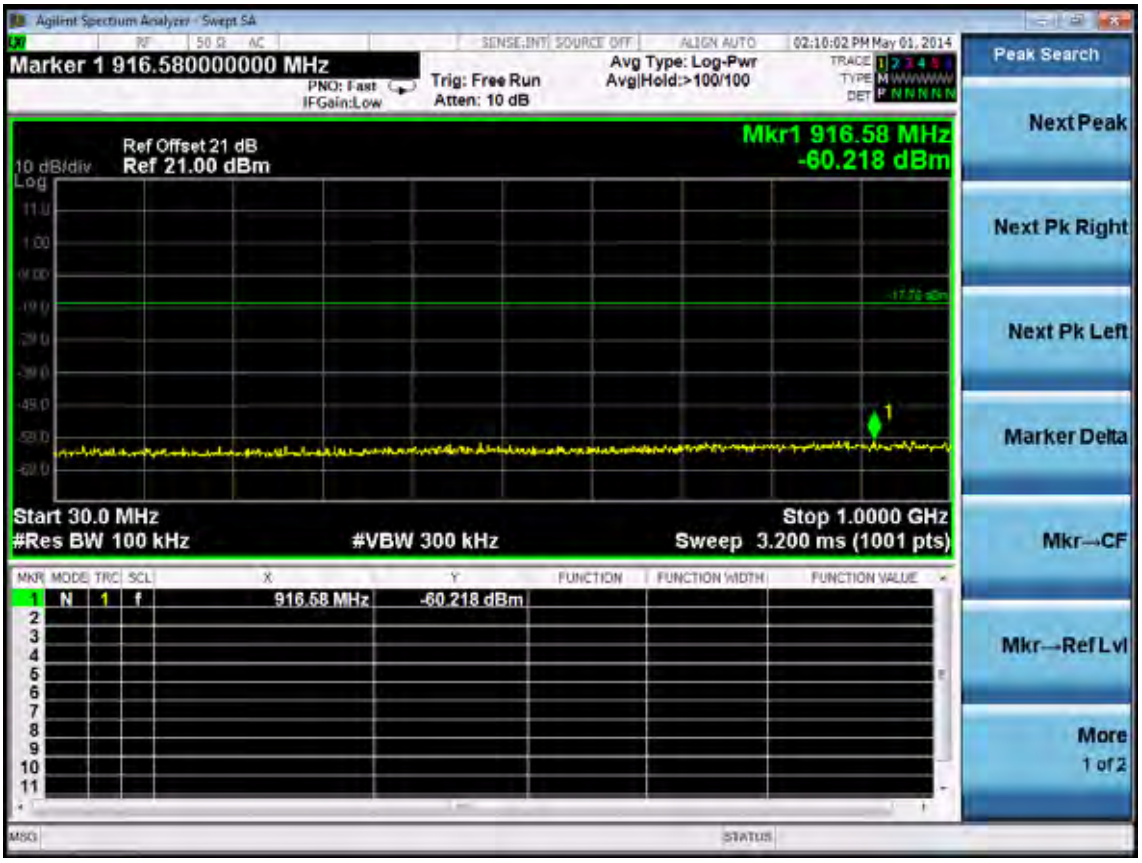
The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions detected.

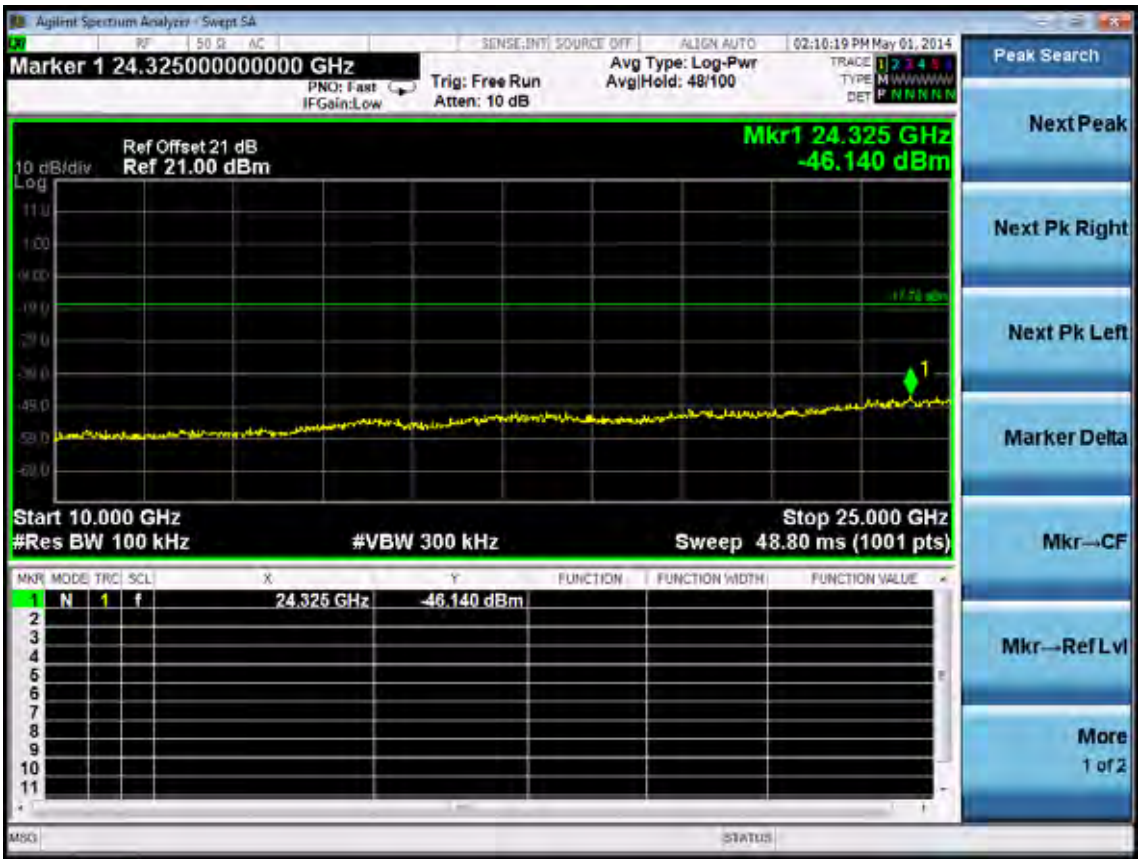
5.4.Test result

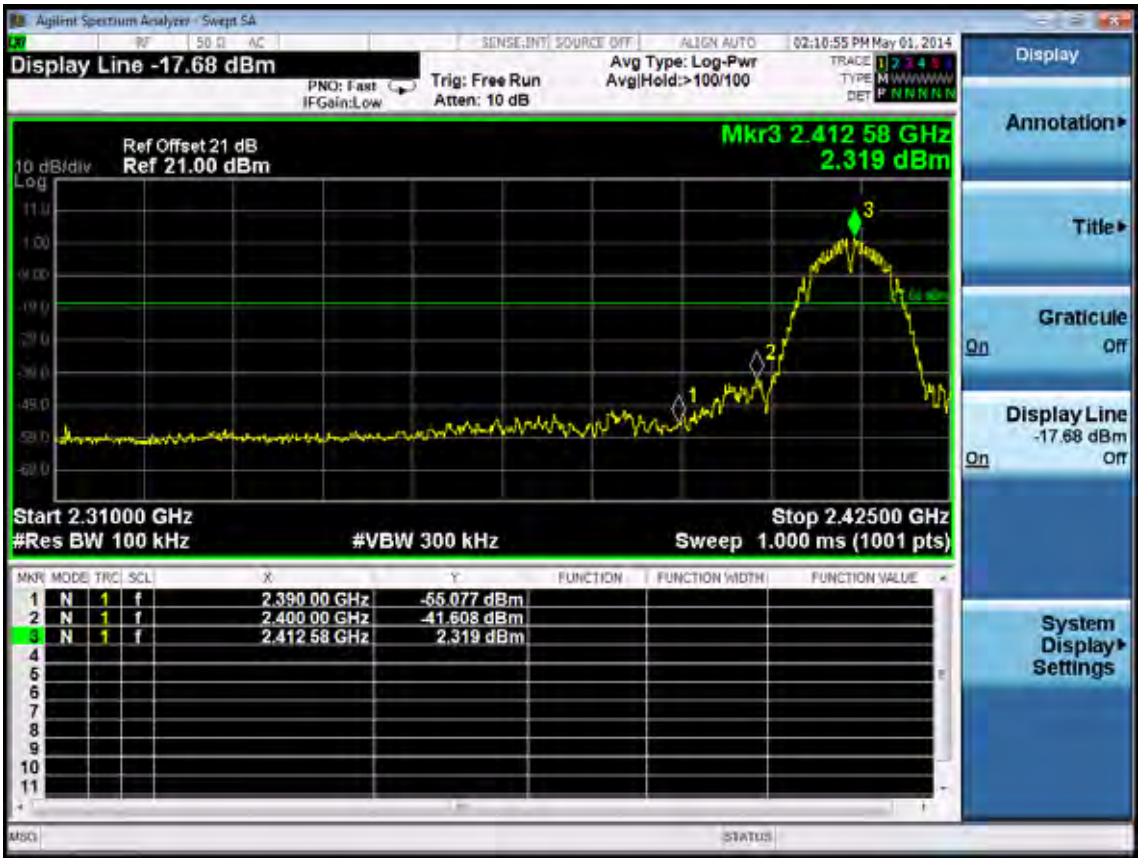
PASS (The testing data was attached in the next pages.)

Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz

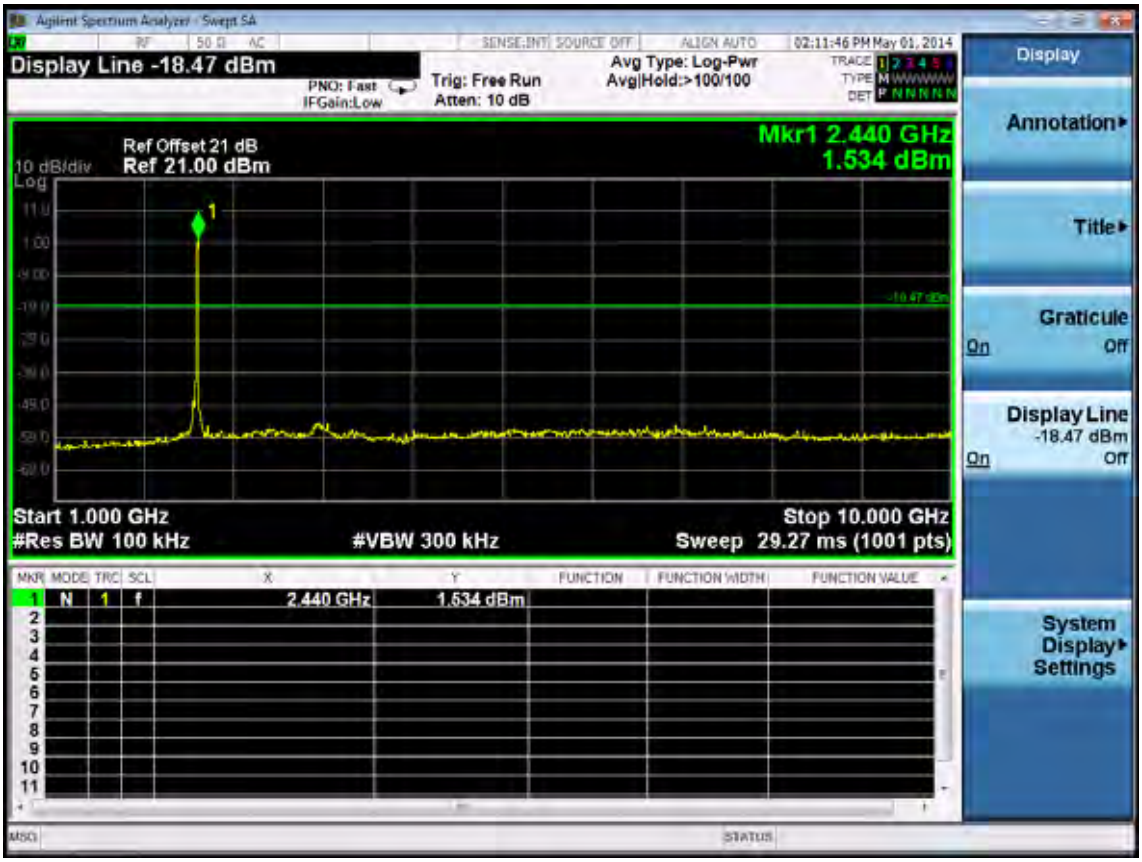


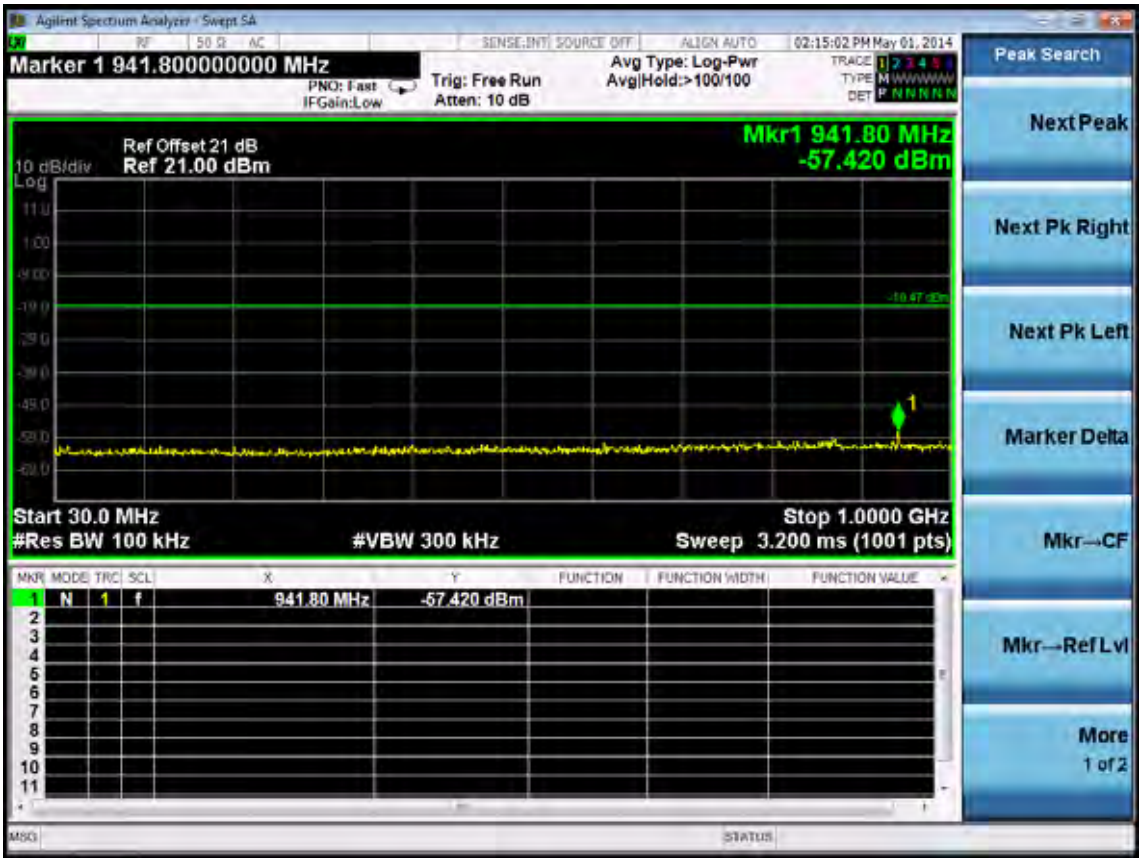


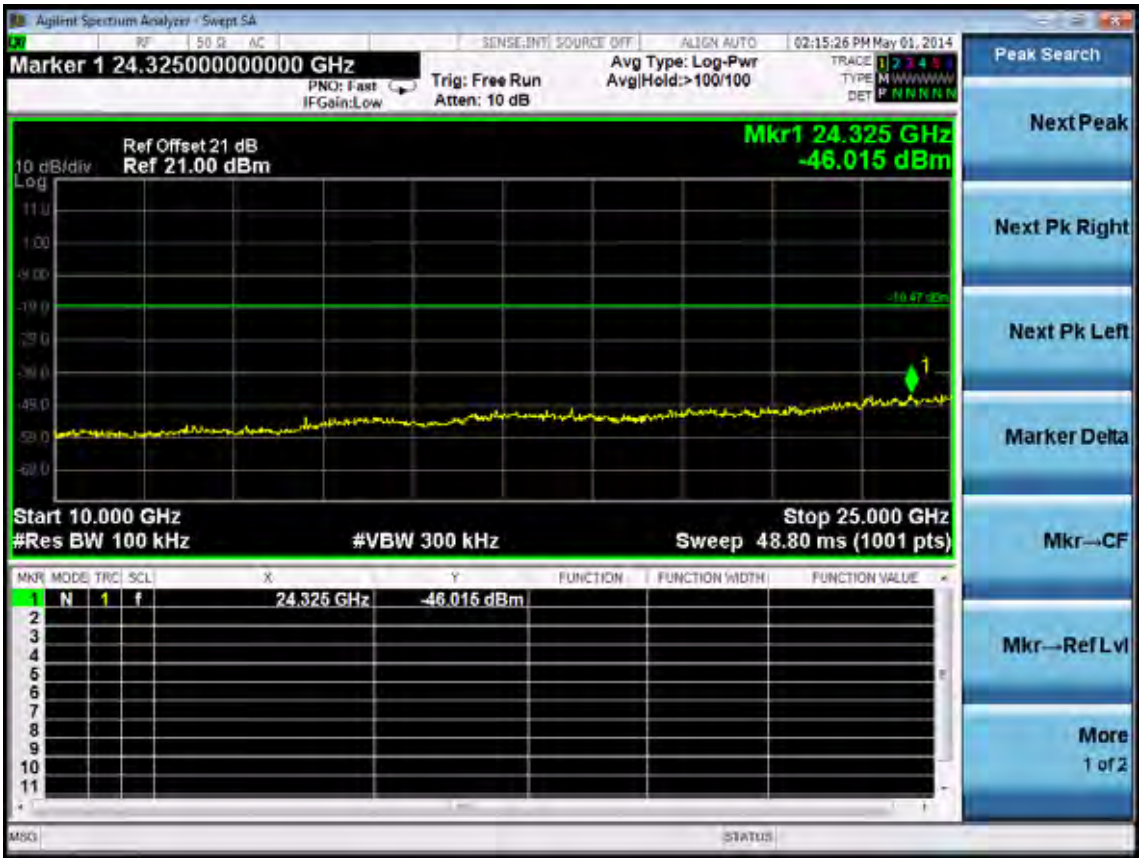

Agilent Spectrum Analyzer - Swept SA
02:10:19 PM May 01, 2014
Marker 1 24.325000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 48/100
Peak Search
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 24.325 GHz
-46.140 dBm
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 24.325 GHz -46.140 dBm


Agilent Spectrum Analyzer - Swept SA
02:10:55 PM May 01, 2014
Display Line -17.68 dBm
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Display
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr3 2.412 58 GHz
2.319 dBm
Annotation
Title
Graticule
On Off
Display Line
-17.68 dBm
On Off
Start 2.31000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42500 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.390 00 GHz -55.077 dBm
2 N 1 f 2.400 00 GHz -41.608 dBm
3 N 1 f 2.412 58 GHz 2.319 dBm
System
Display
Settings

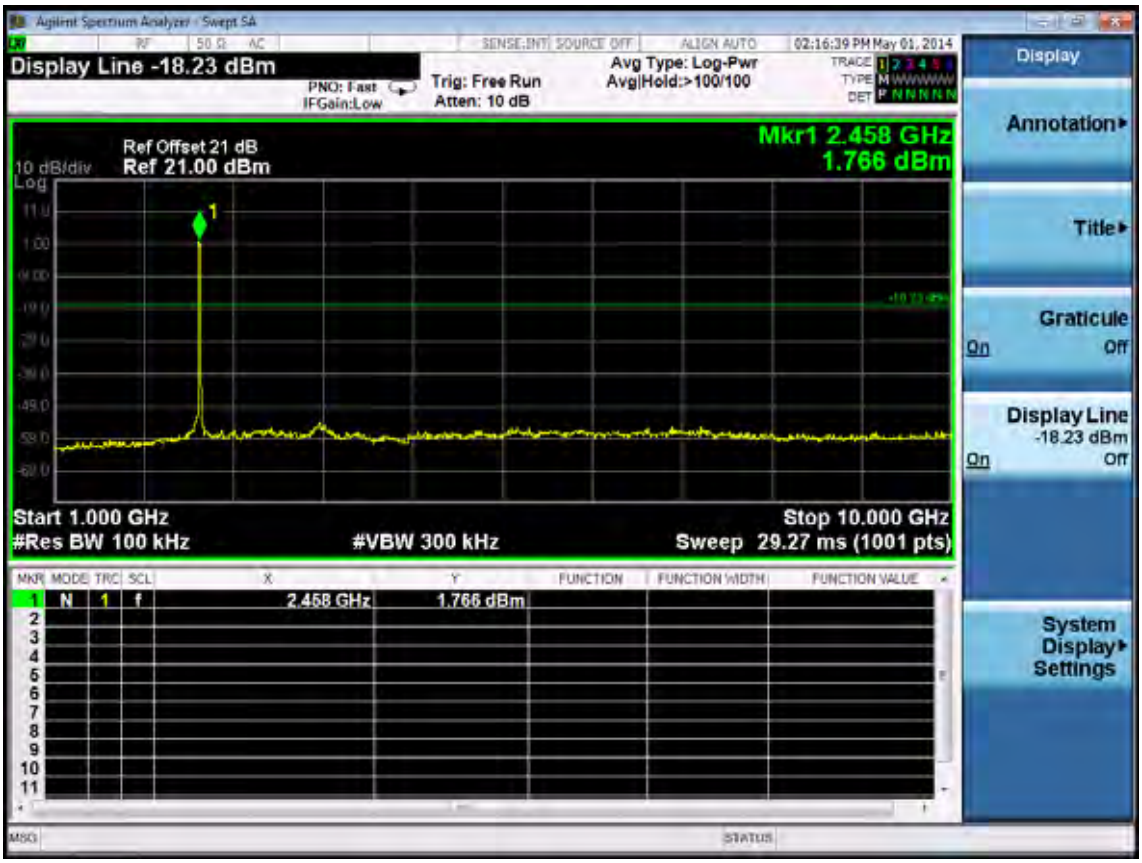
Test CH6: 2437MHz

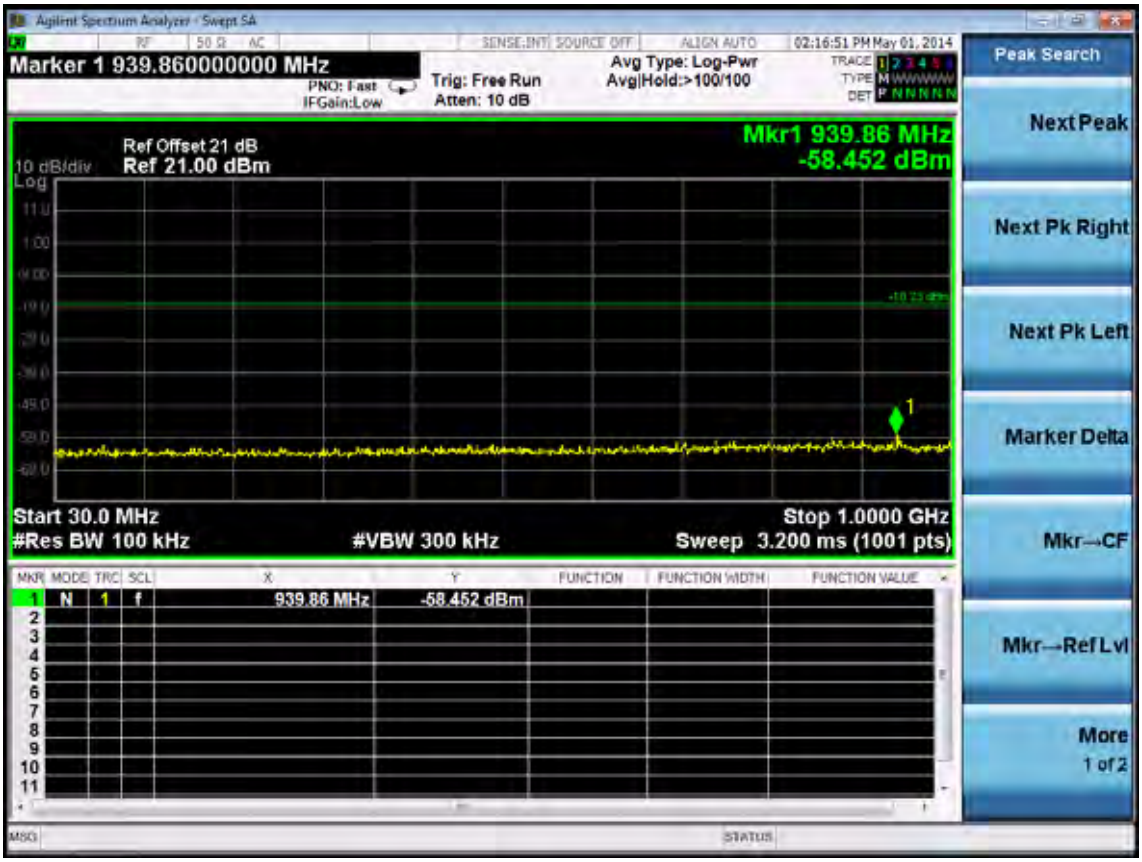


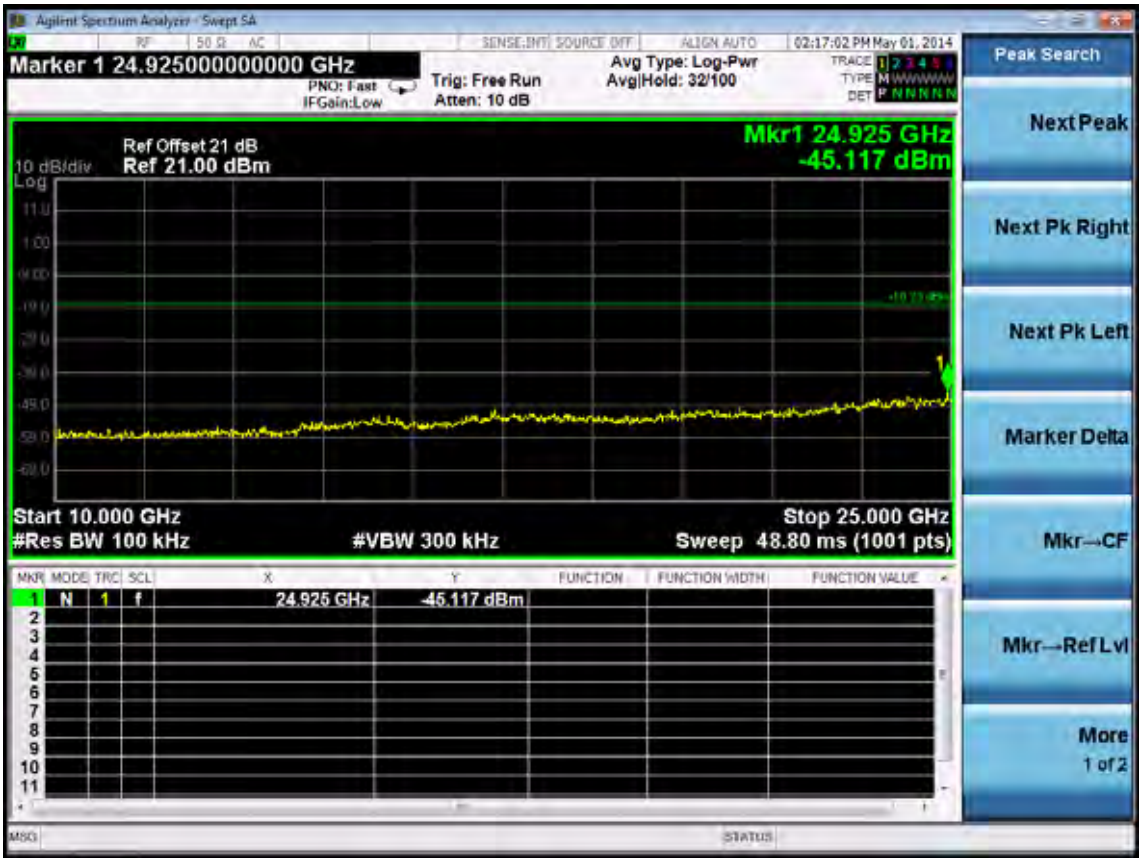


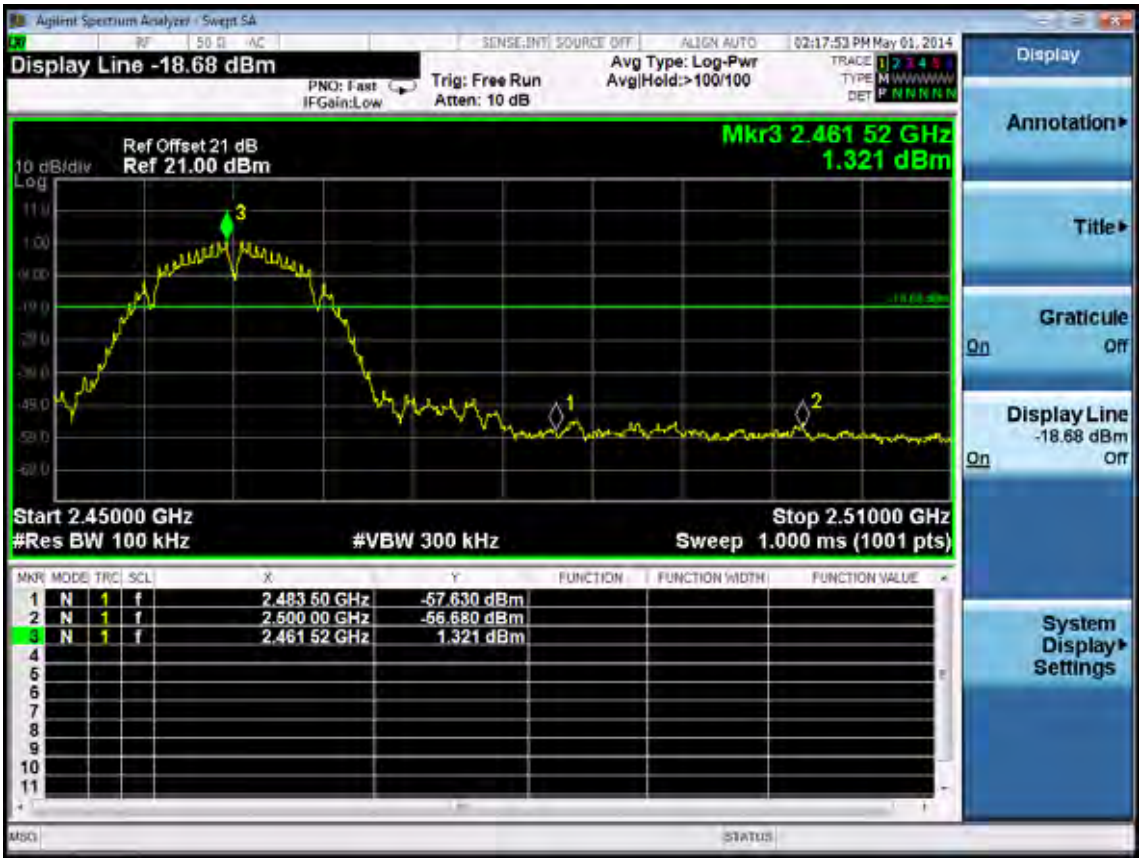


Test CH11: 2462MHz

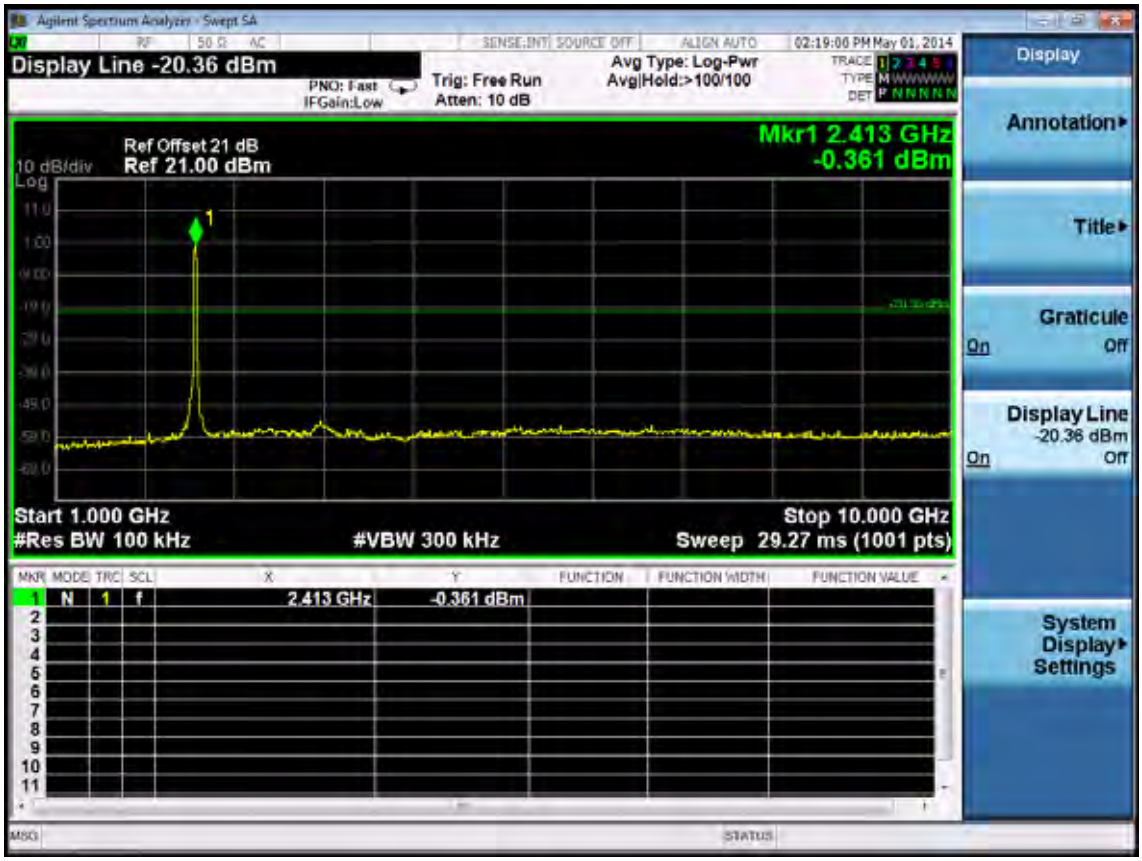


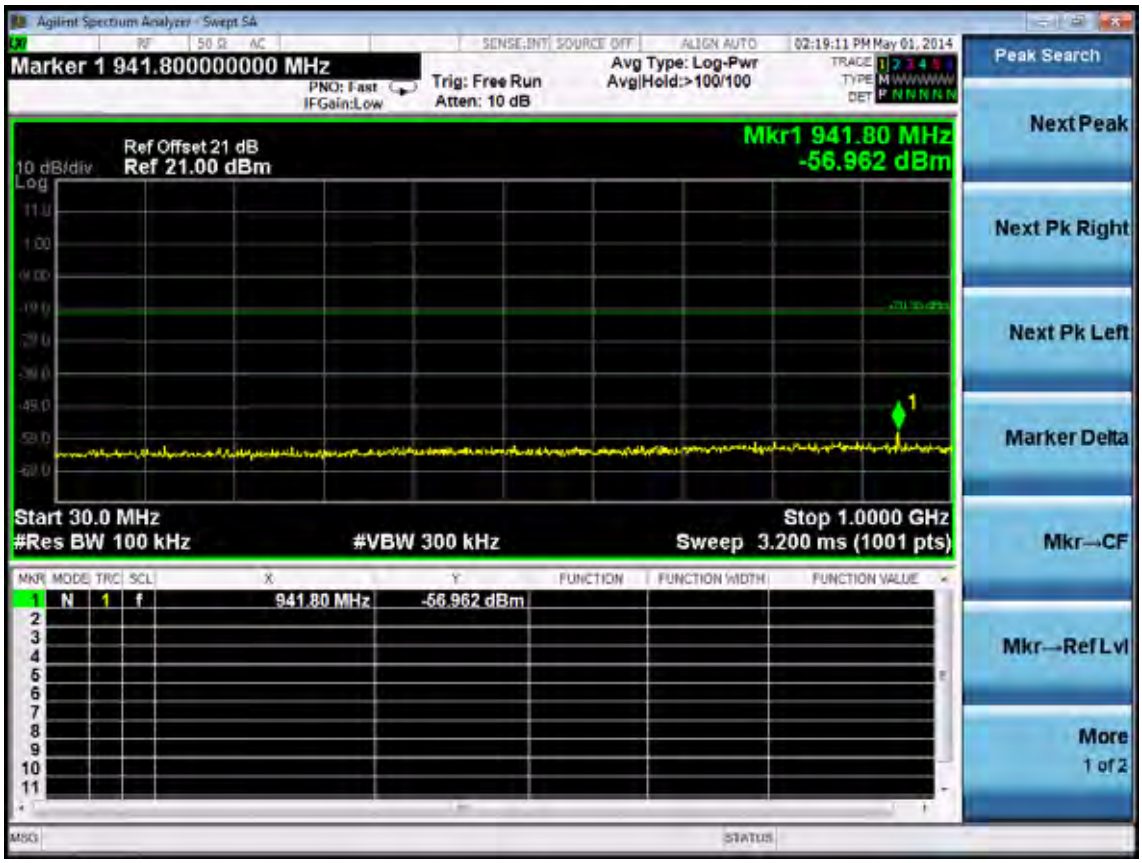

Agilent Spectrum Analyzer - Swept SA
Marker 1 939.860000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:16:51 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 939.86 MHz
-58.452 dBm
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 3.200 ms (1001 pts)
1 N 1 f 939.86 MHz -58.452 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

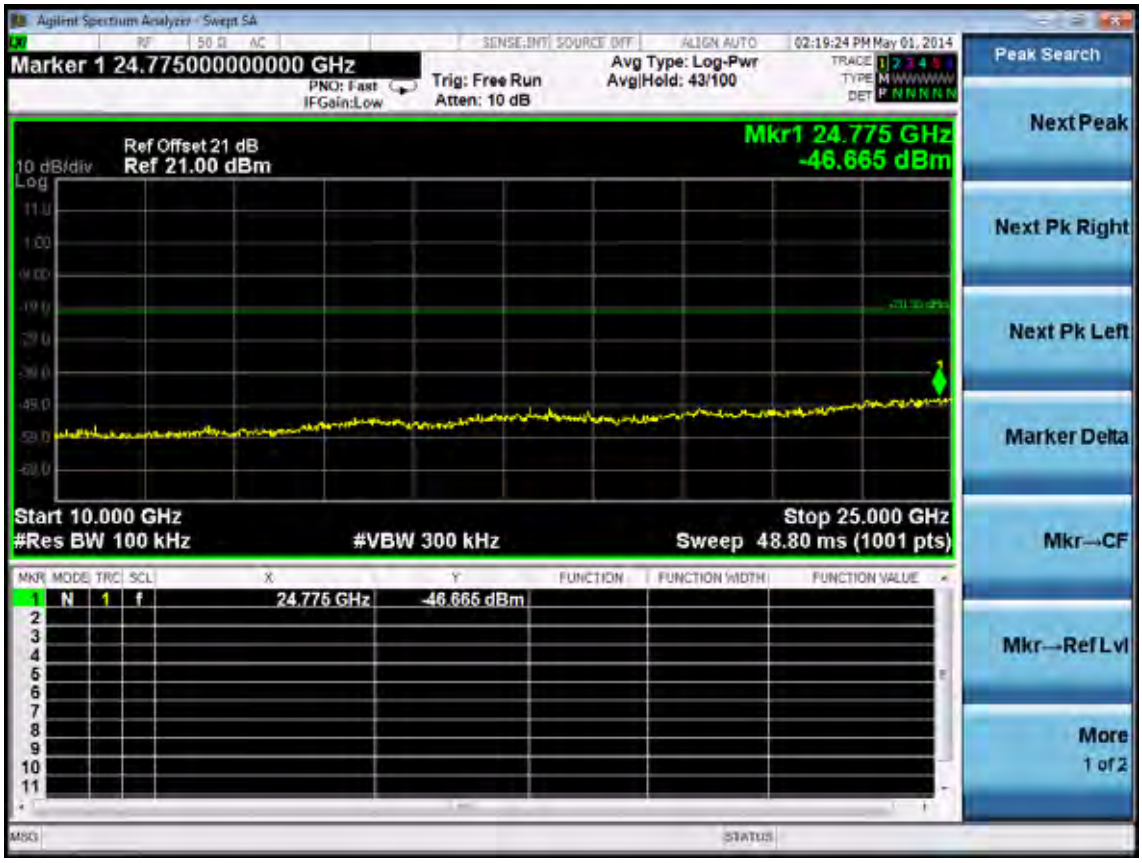

Agilent Spectrum Analyzer - Swept SA
Marker 1 24.925000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 32/100
02:17:02 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 24.925 GHz
-45.117 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 24.925 GHz -45.117 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2



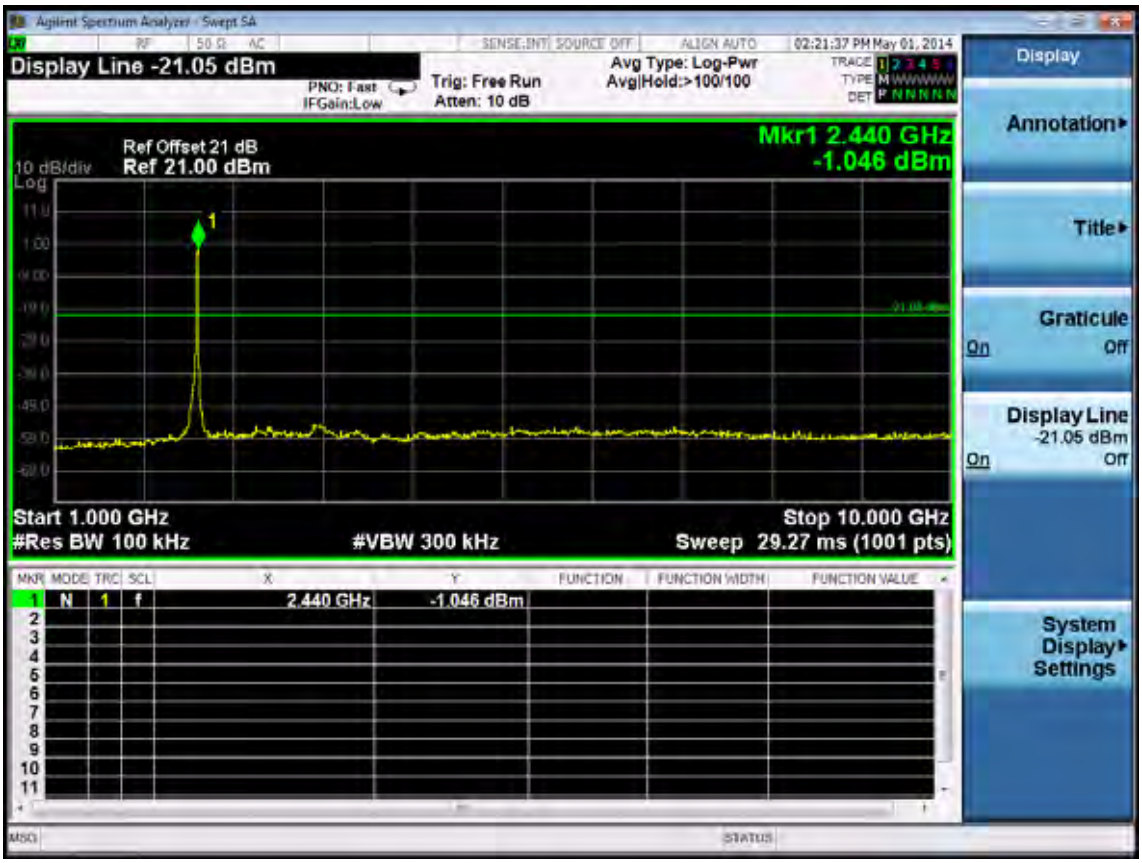
Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz

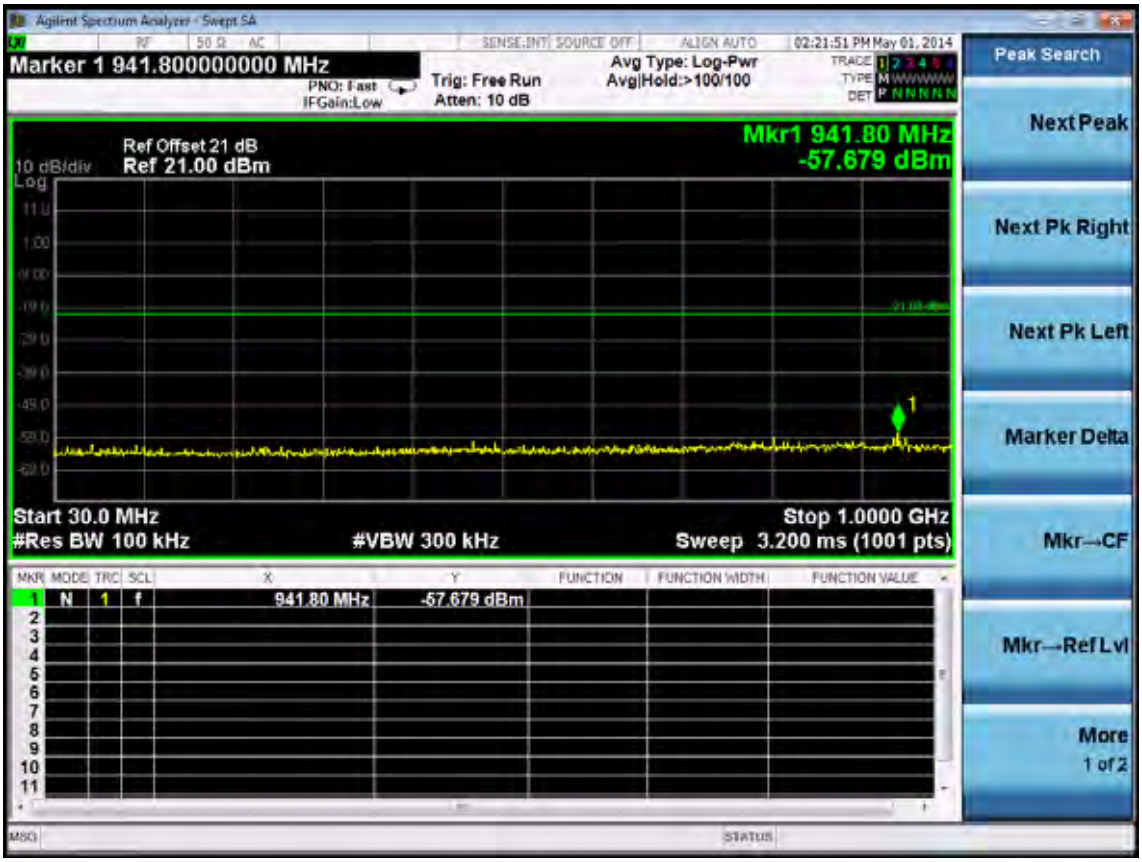


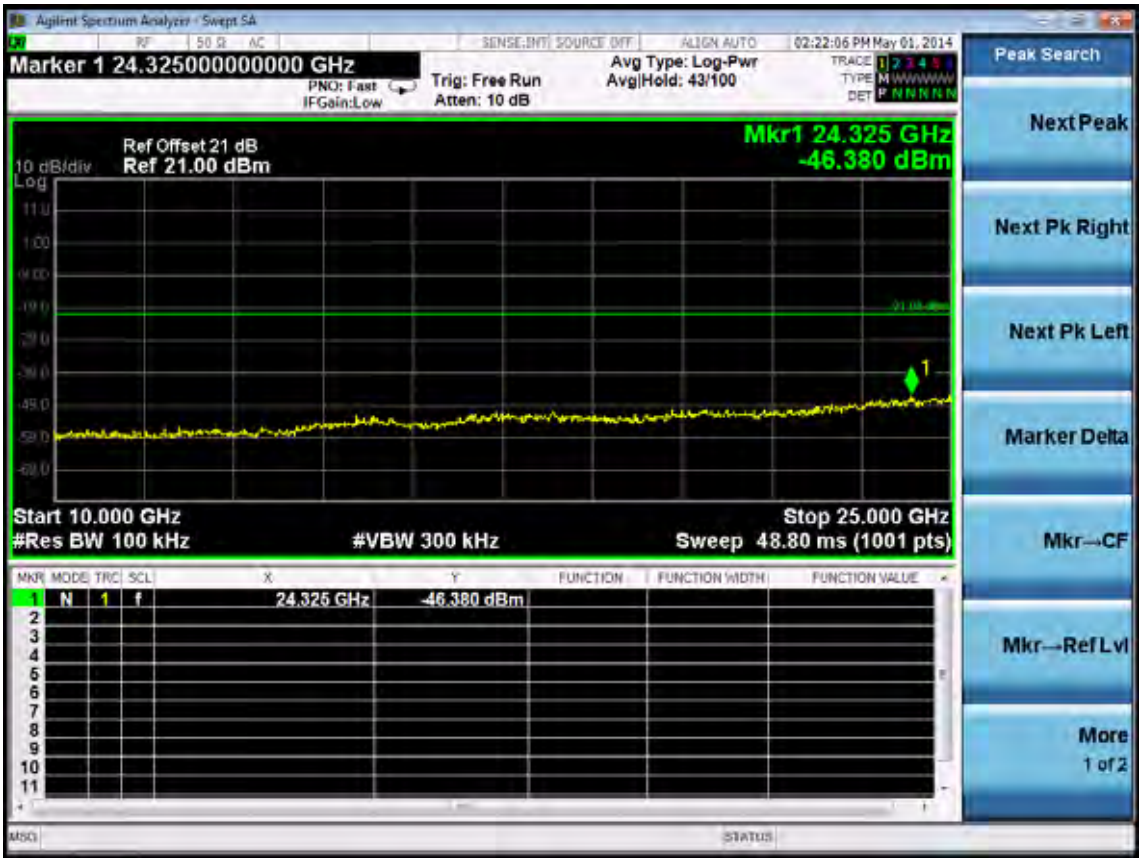

Agilent Spectrum Analyzer - Swept SA
Marker 1 941.800000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:19:11 PM May 01, 2014
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 941.80 MHz
-56.962 dBm
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 3.200 ms (1001 pts)
1 N 1 f 941.80 MHz -56.962 dBm


Agilent Spectrum Analyzer - Swept SA
Marker 1 24.775000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 43/100
02:19:24 PM May 01, 2014
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 24.775 GHz
-46.665 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 24.775 GHz -46.665 dBm

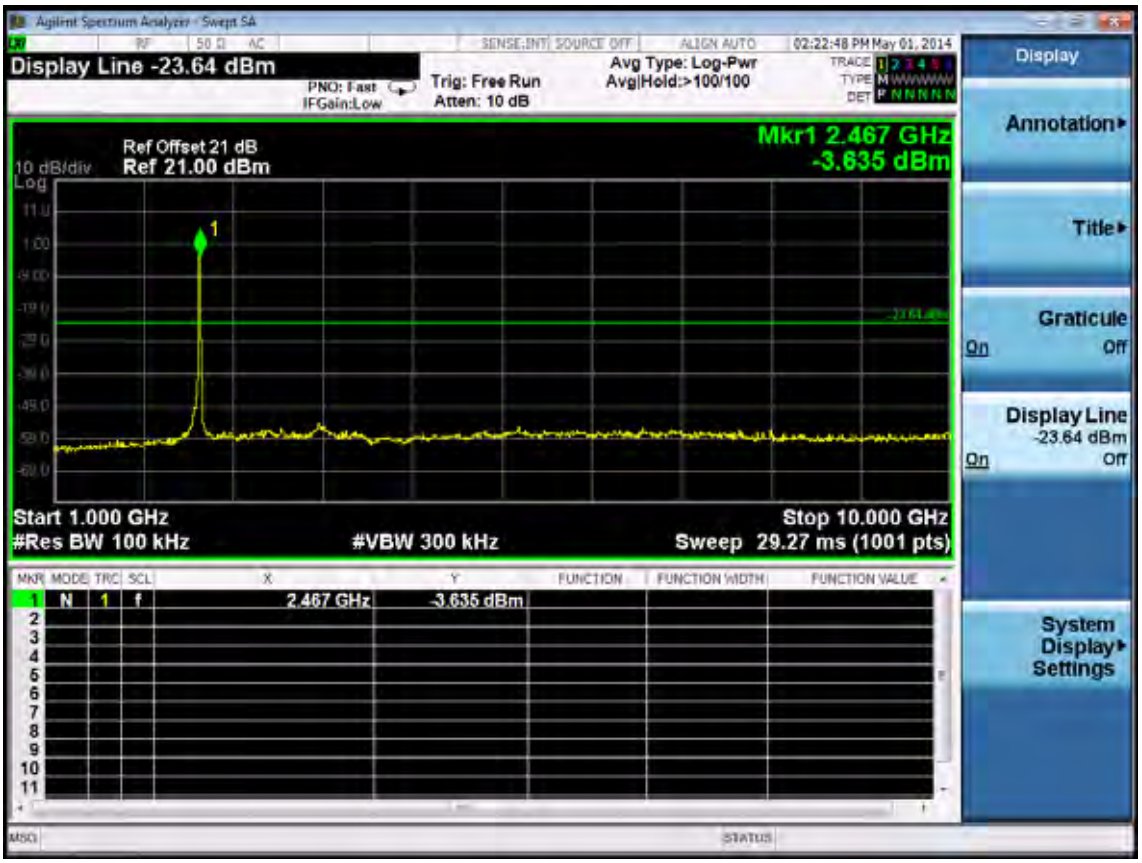
Test CH6: 2437MHz

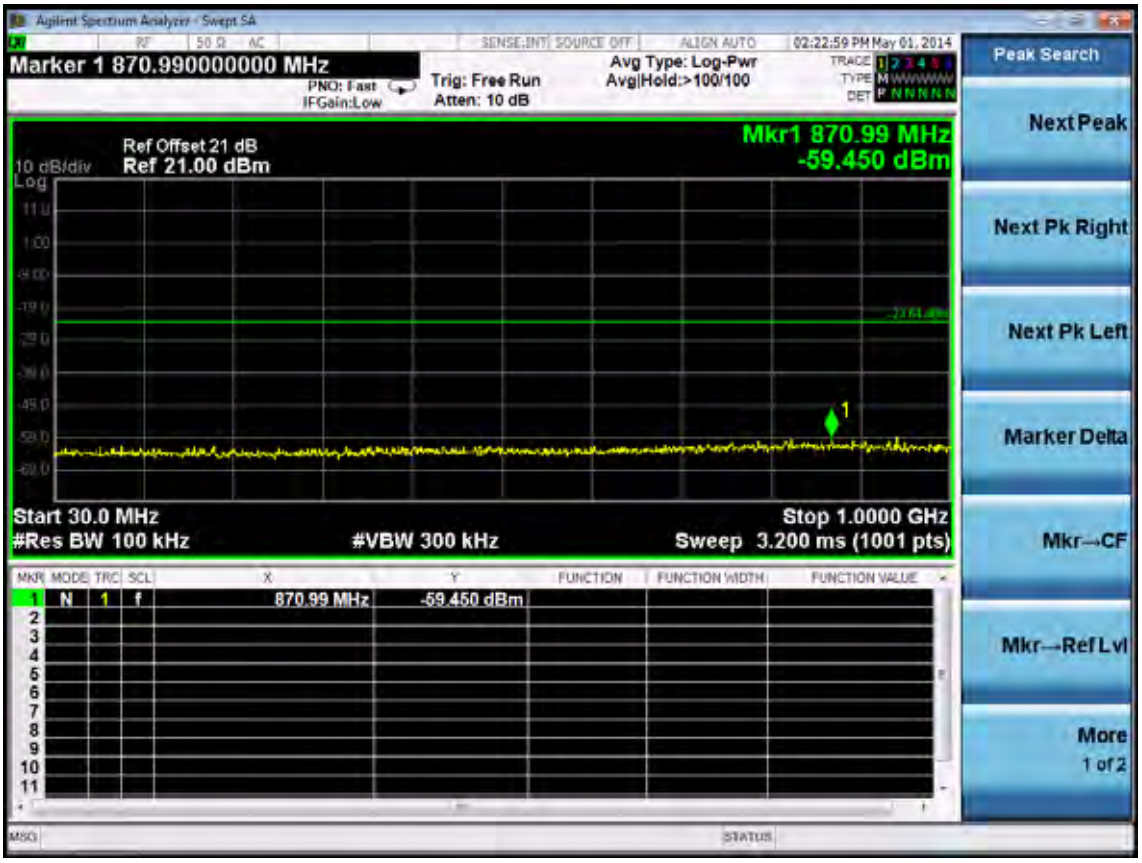


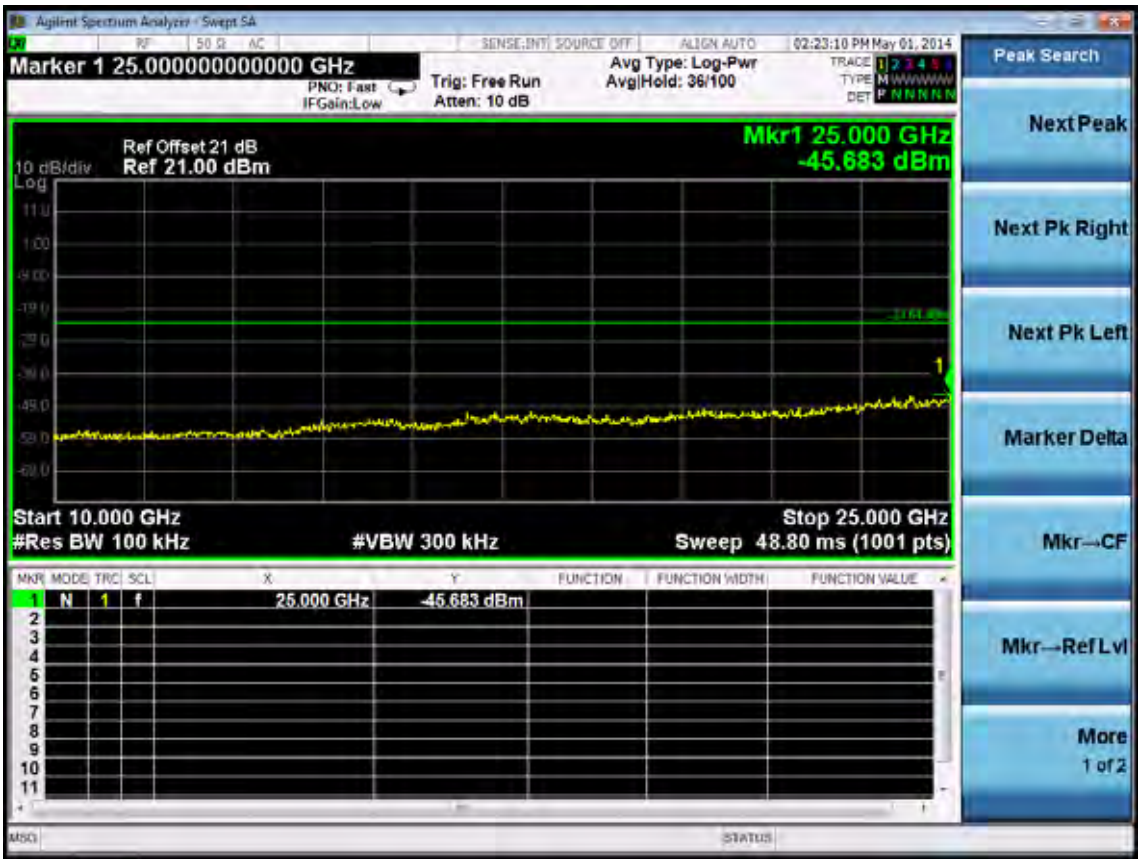

Agilent Spectrum Analyzer - Swept SA
Marker 1 941.800000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:21:51 PM May 01, 2014
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 941.80 MHz
-57.679 dBm
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 3.200 ms (1001 pts)
1 N 1 f 941.80 MHz -57.679 dBm
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Marker 1 24.325000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 43/100
02:22:06 PM May 01, 2014
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 24.325 GHz
-46.380 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 24.325 GHz -46.380 dBm
MSG
STATUS

Test CH11: 2462MHz

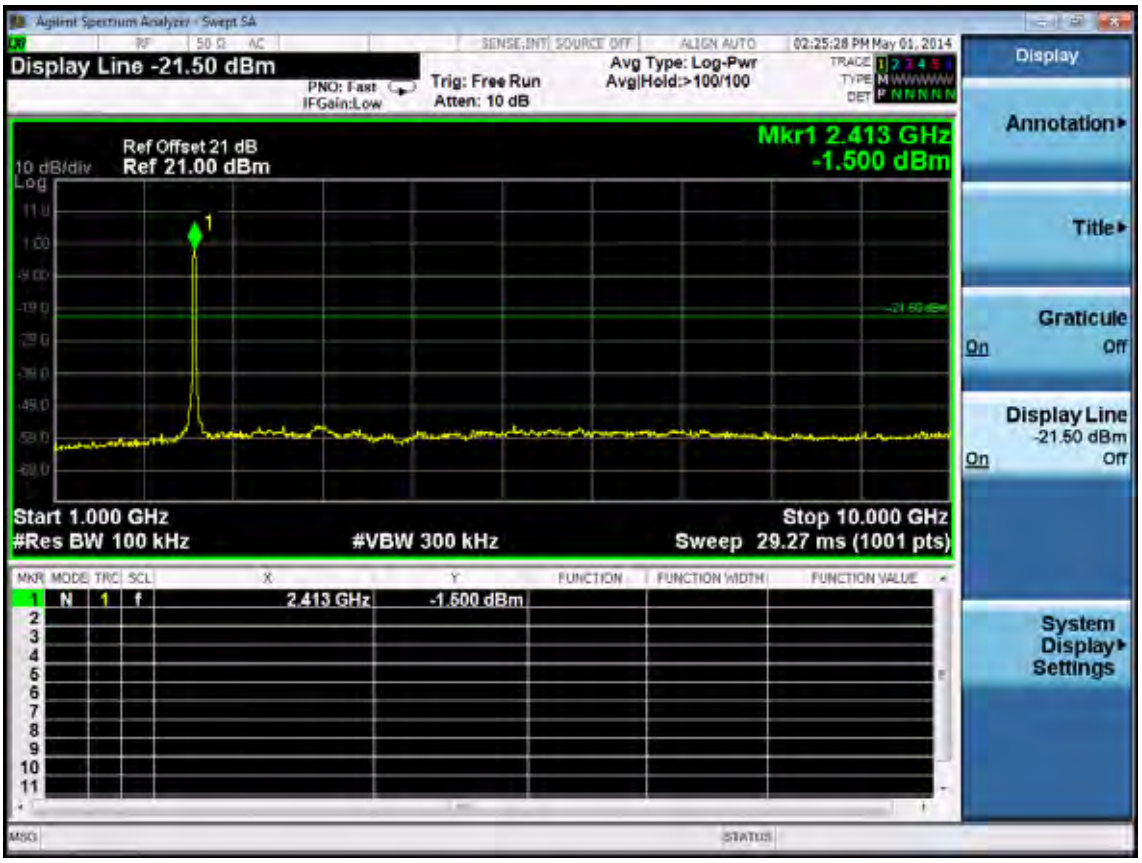


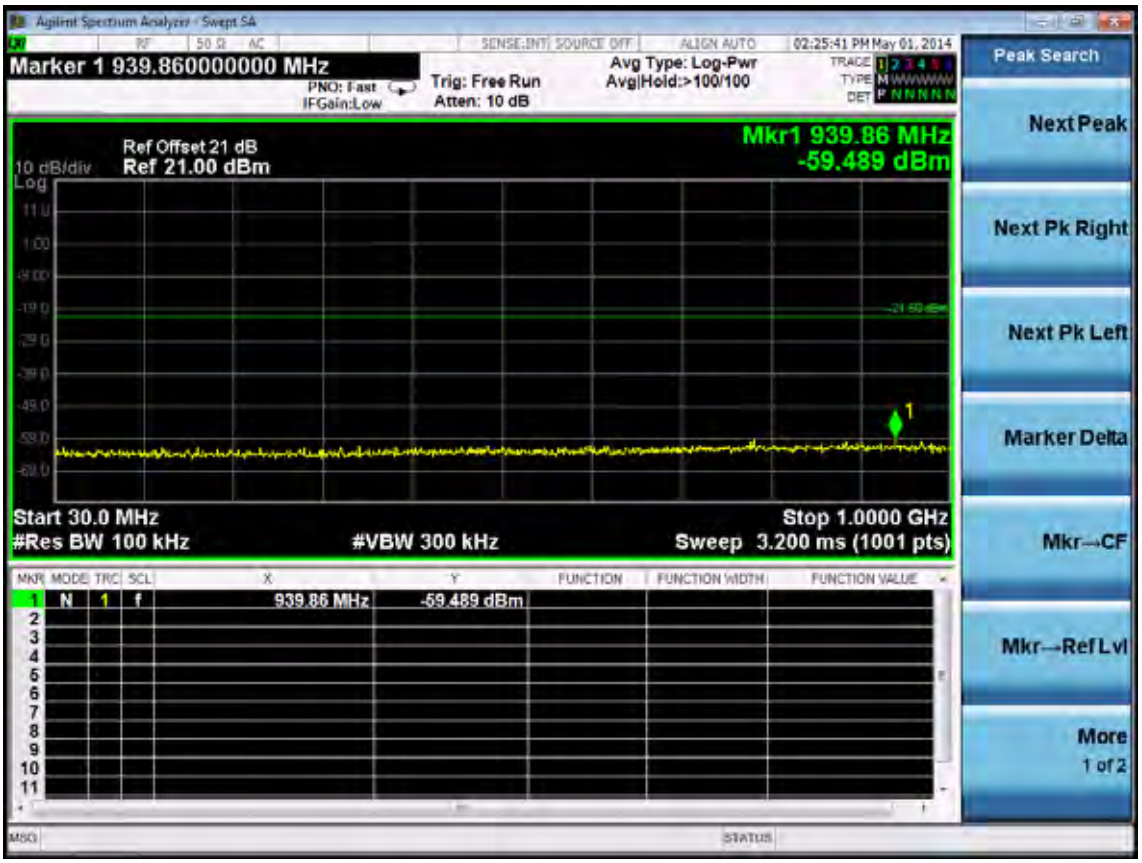


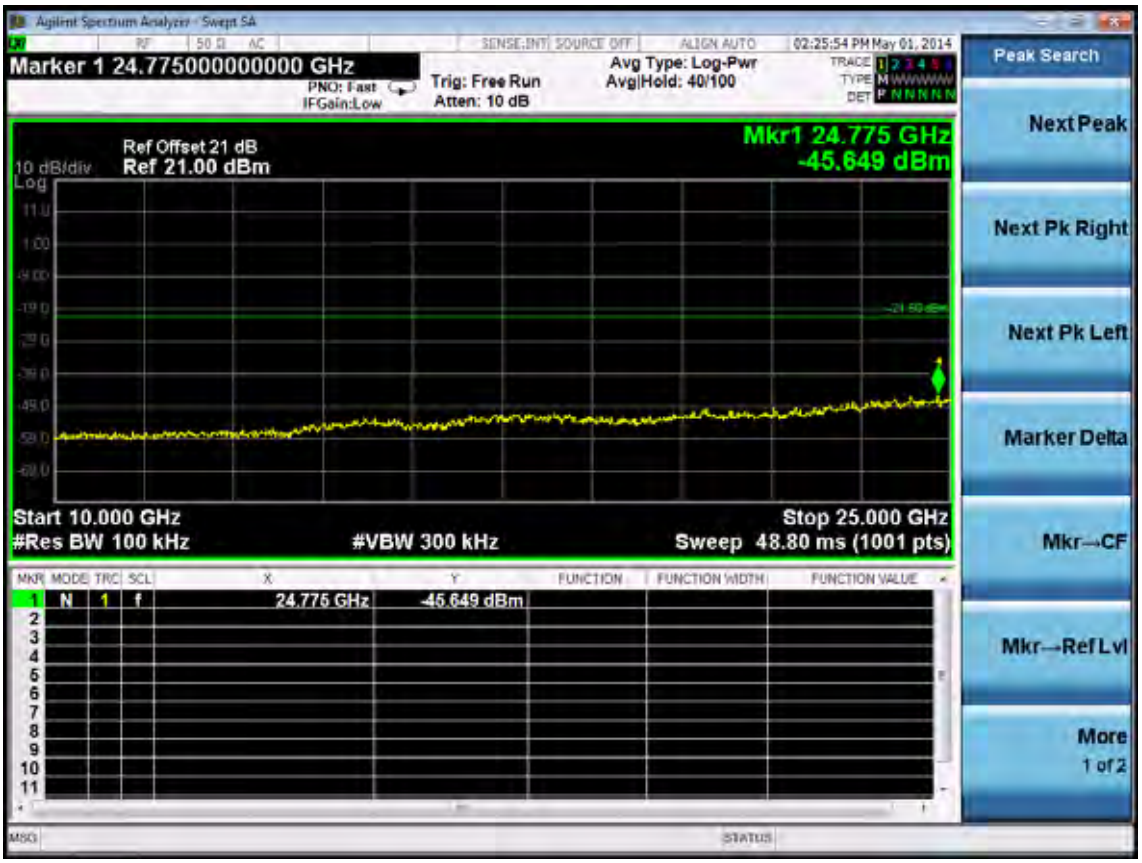

Agilent Spectrum Analyzer - Swept SA
Marker 1 25.000000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 36/100
02:23:10 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 25.000 GHz
-45.683 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 25.000 GHz -45.683 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Display Line -21.55 dBm
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:23:55 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr3 2.460 80 GHz
-1.554 dBm
Start 2.45000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.51000 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.483 50 GHz -44.964 dBm
2 N 1 f 2.500 00 GHz -54.815 dBm
3 N 1 f 2.460 80 GHz -1.554 dBm
Save
State
Trace
(+ State)
Data
(Export)
Trace 1
Screen
Image

Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz

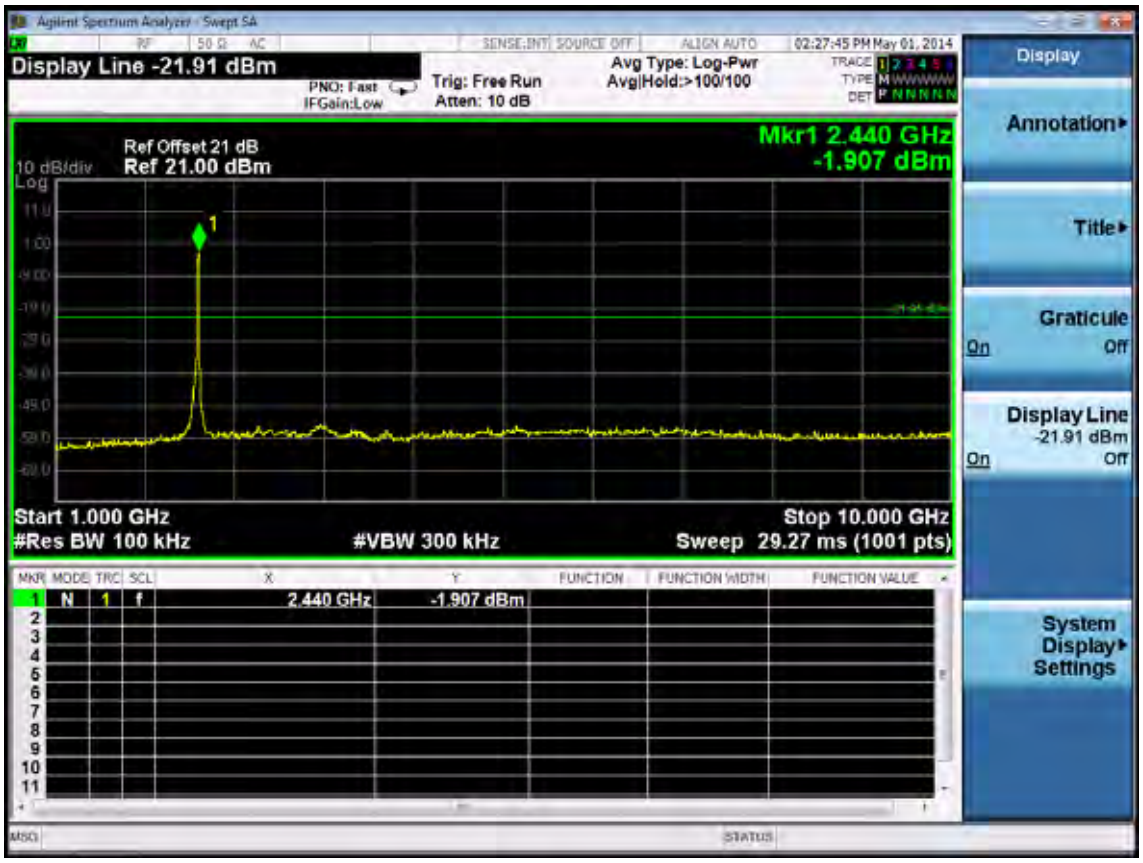


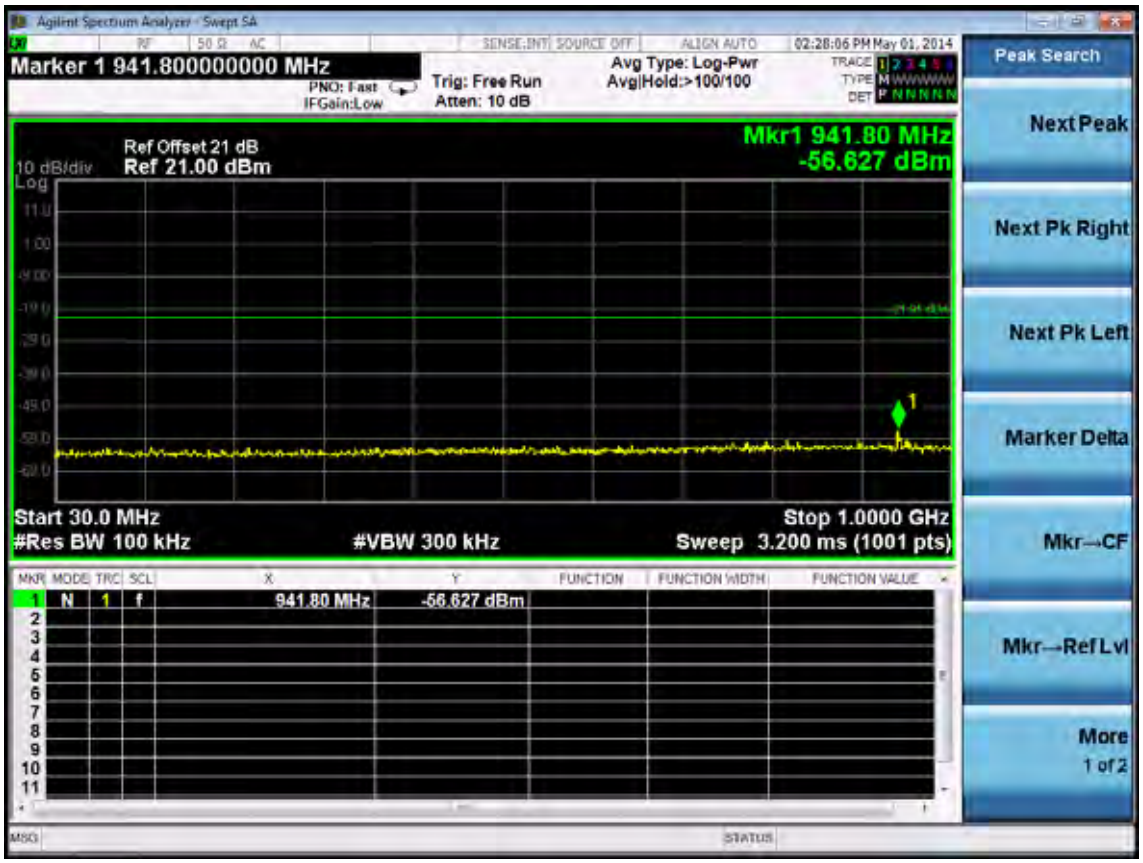


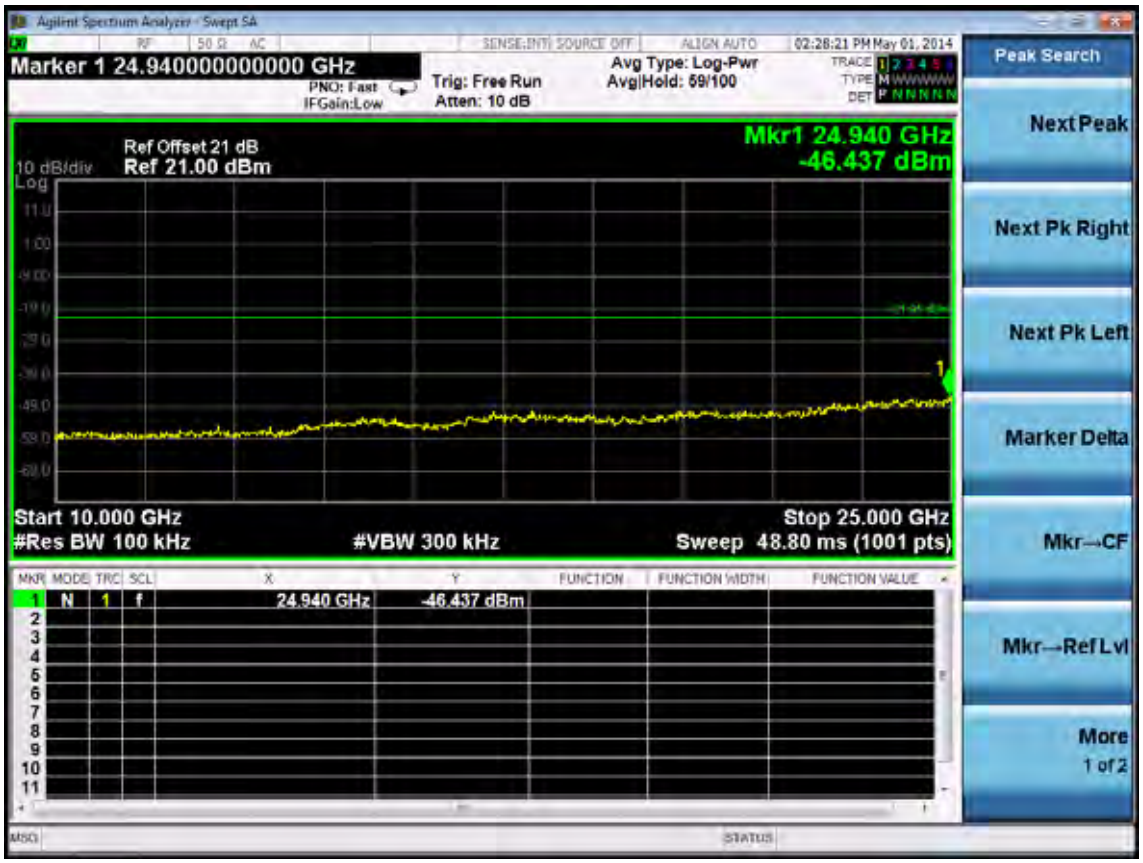

Agilent Spectrum Analyzer - Swept SA
02:25:54 PM May 01, 2014
Marker 1 24.775000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 40/100
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 24.775 GHz
-45.649 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 24.775 GHz -45.649 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
02:26:26 PM May 01, 2014
Display Line -24.69 dBm
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr3 2.410 86 GHz
-1.687 dBm
Start 2.31000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42500 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.390 00 GHz -45.160 dBm
2 N 1 f 2.400 00 GHz -34.608 dBm
3 N 1 f 2.410 86 GHz -1.687 dBm
Display
Annotation
Title
Graticule
On Off
Display Line
-24.69 dBm
On Off
System
Display
Settings

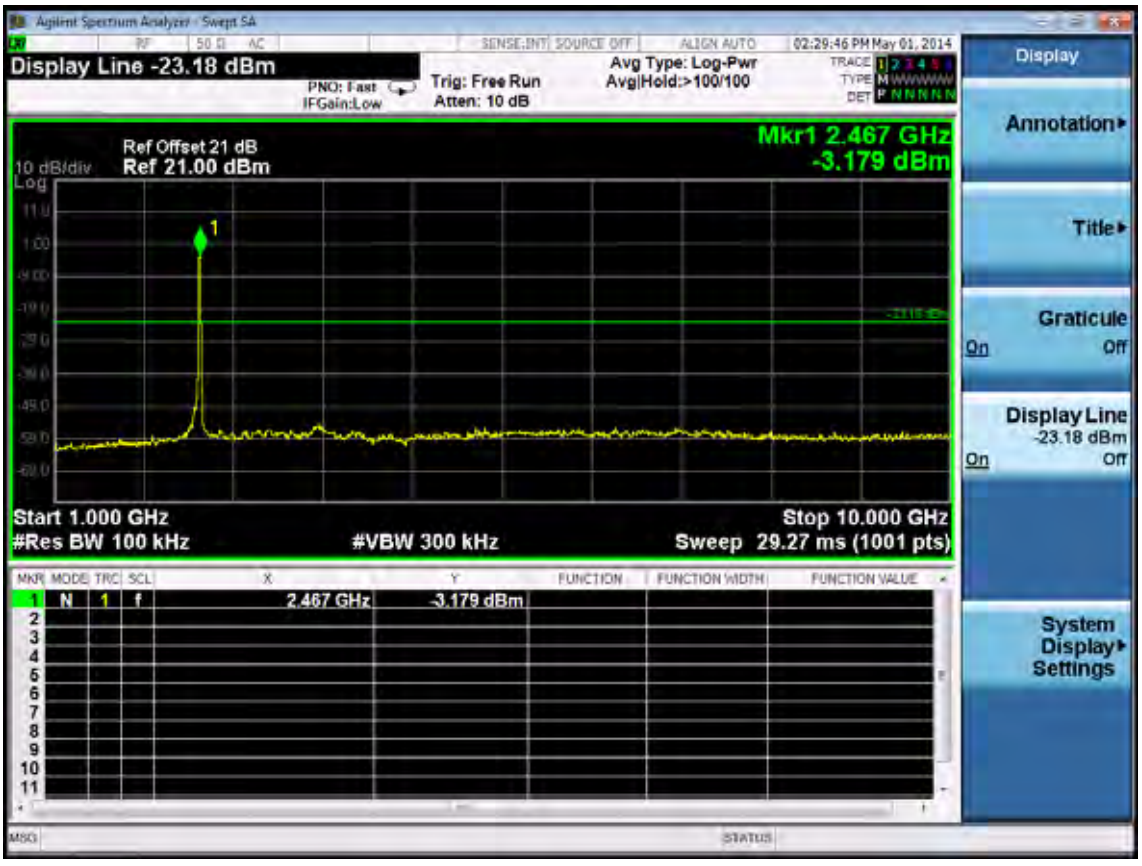
Test CH6: 2437MHz

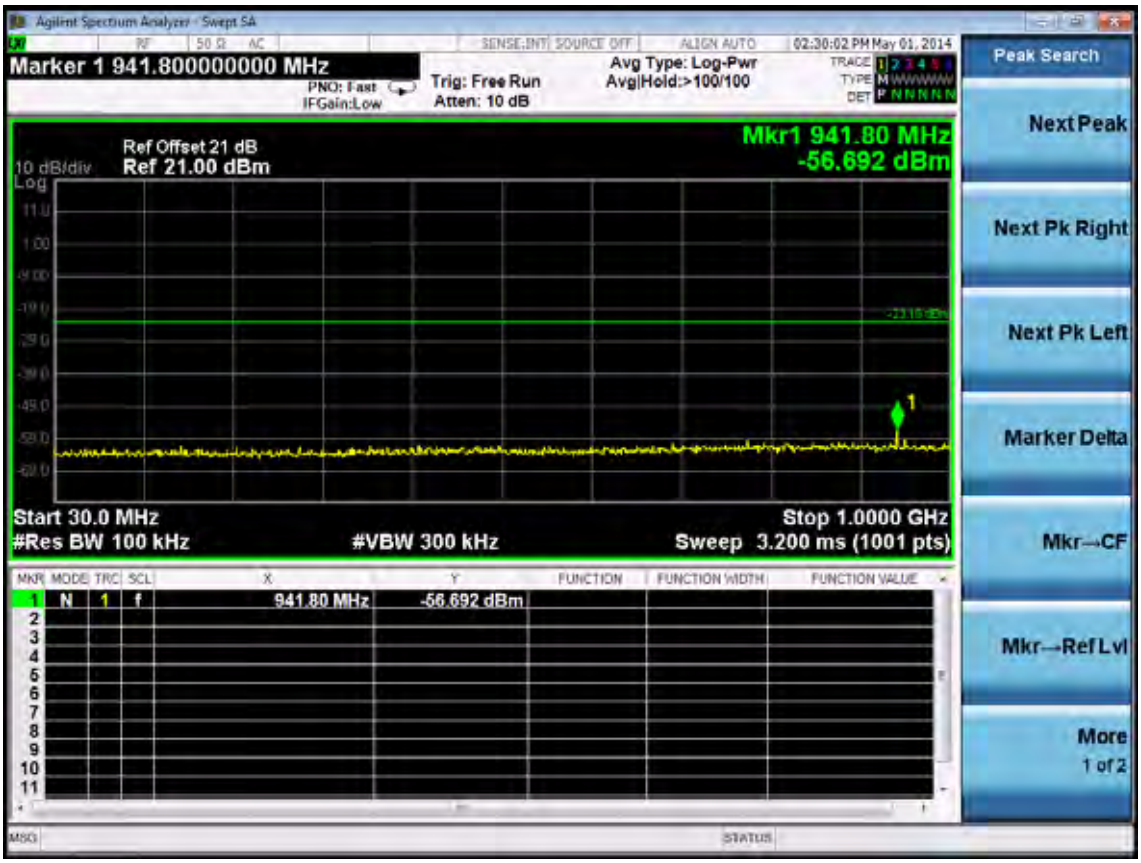


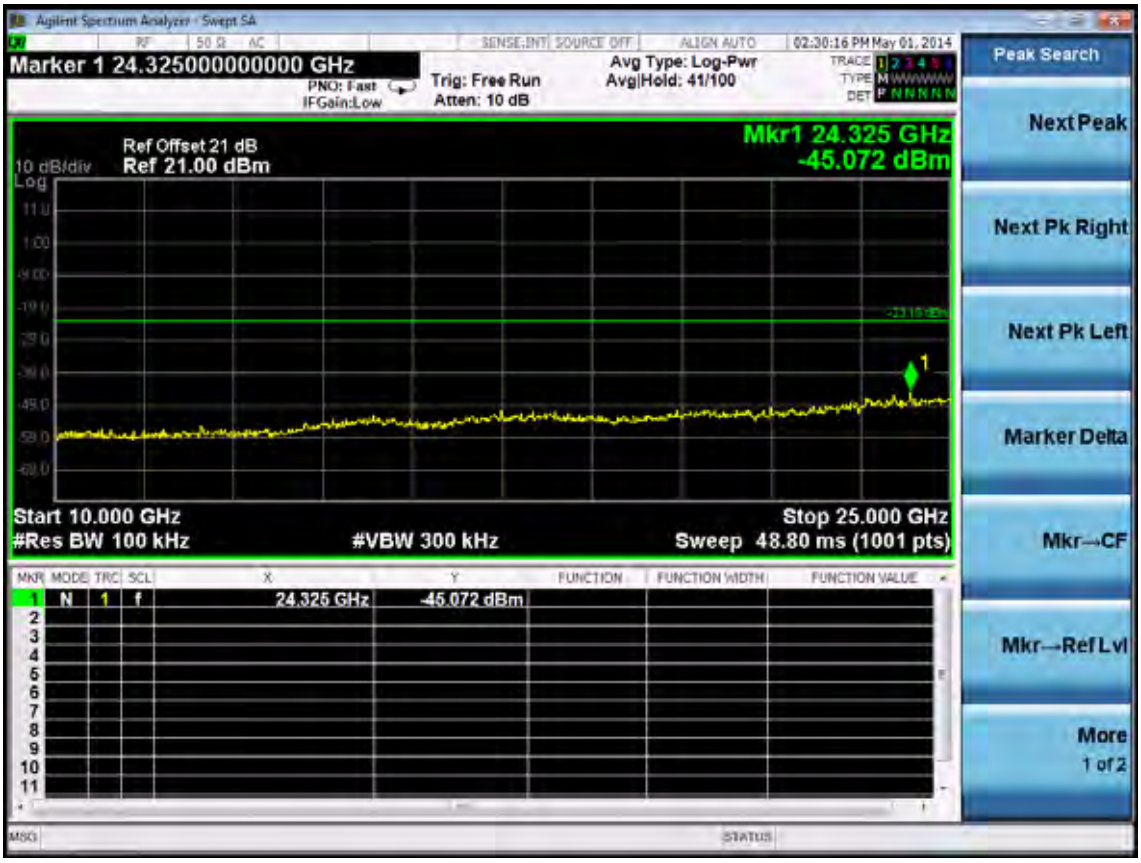




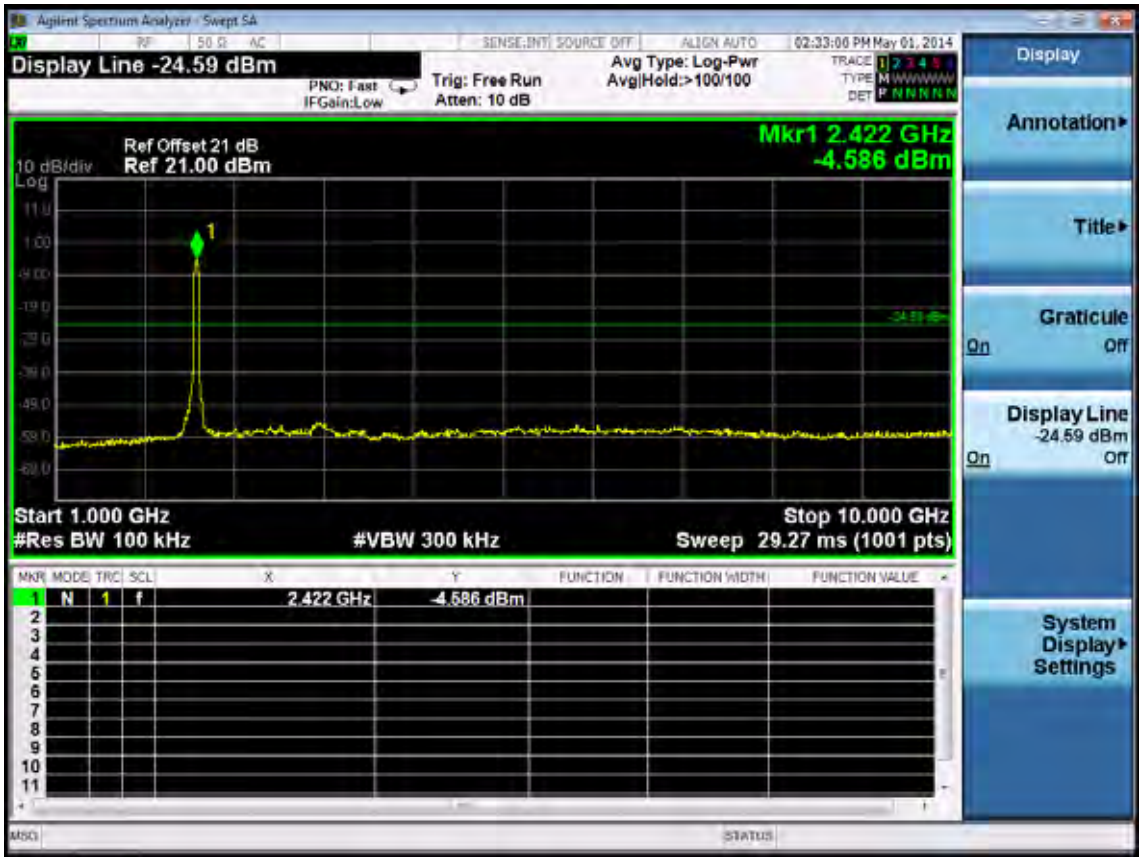
Test CH11: 2462MHz

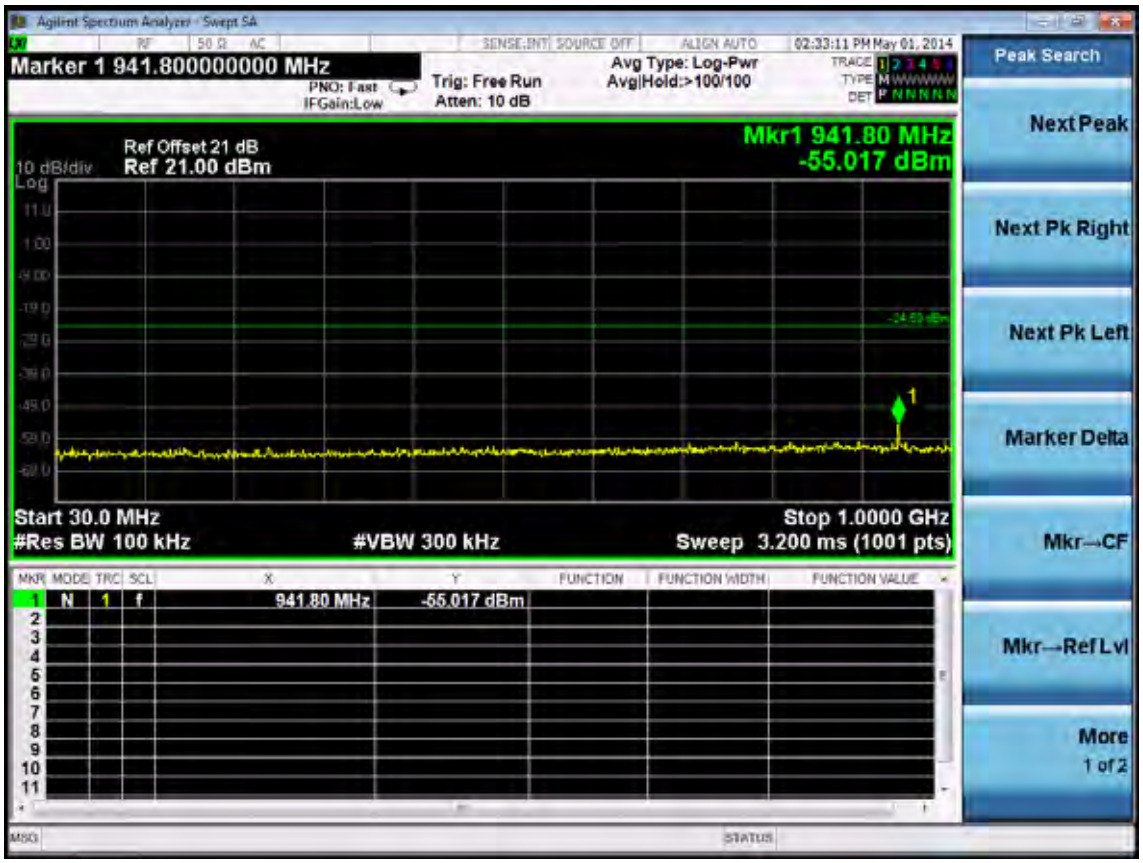


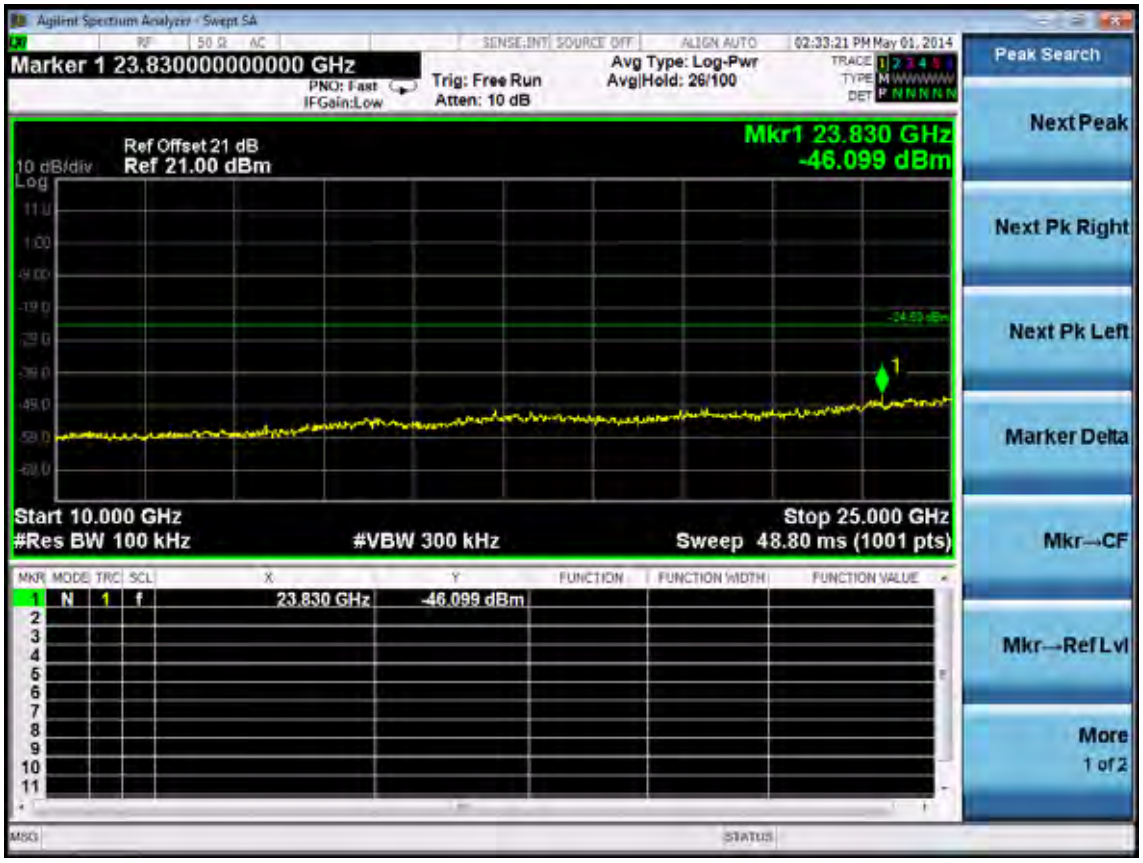

Agilent Spectrum Analyzer - Swept SA
Marker 1 941.800000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:30:02 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 941.80 MHz
-56.692 dBm
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 3.200 ms (1001 pts)
1 N 1 f 941.80 MHz -56.692 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 24.325000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 41/100
02:30:16 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 24.325 GHz
-45.072 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 24.325 GHz -45.072 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

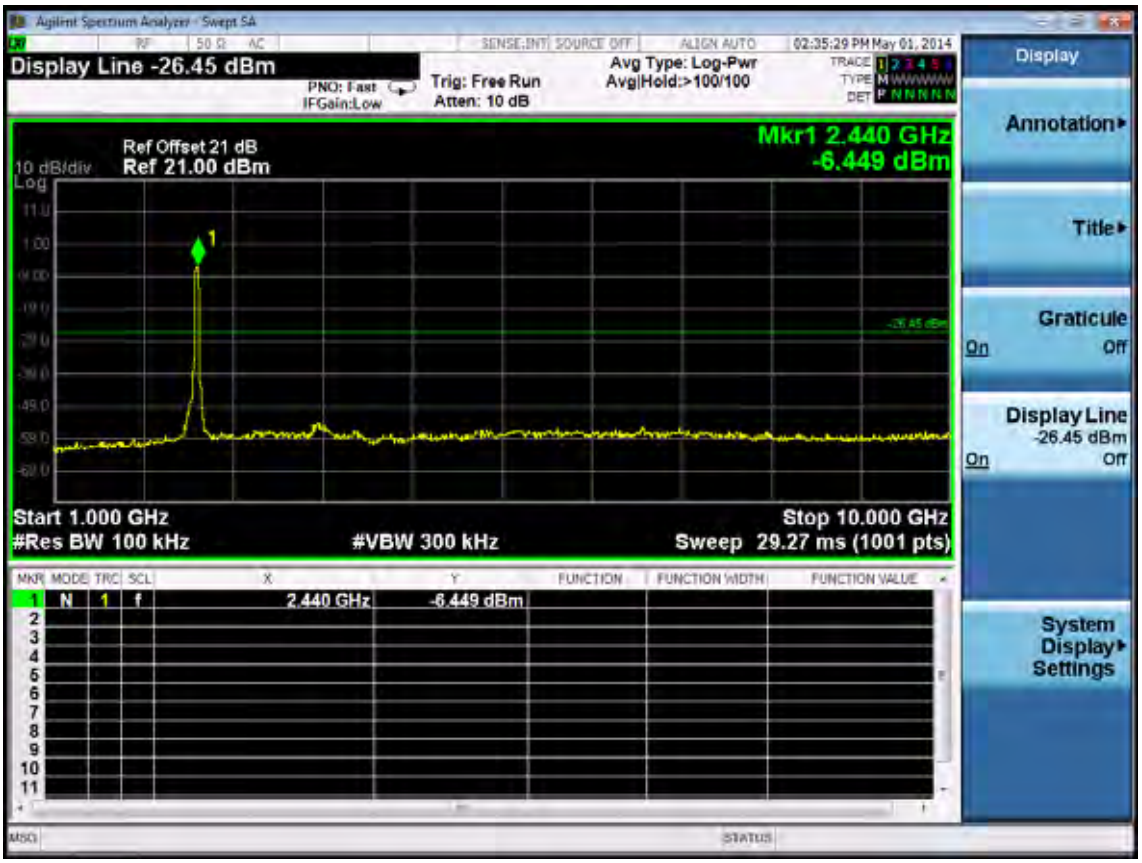
Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz

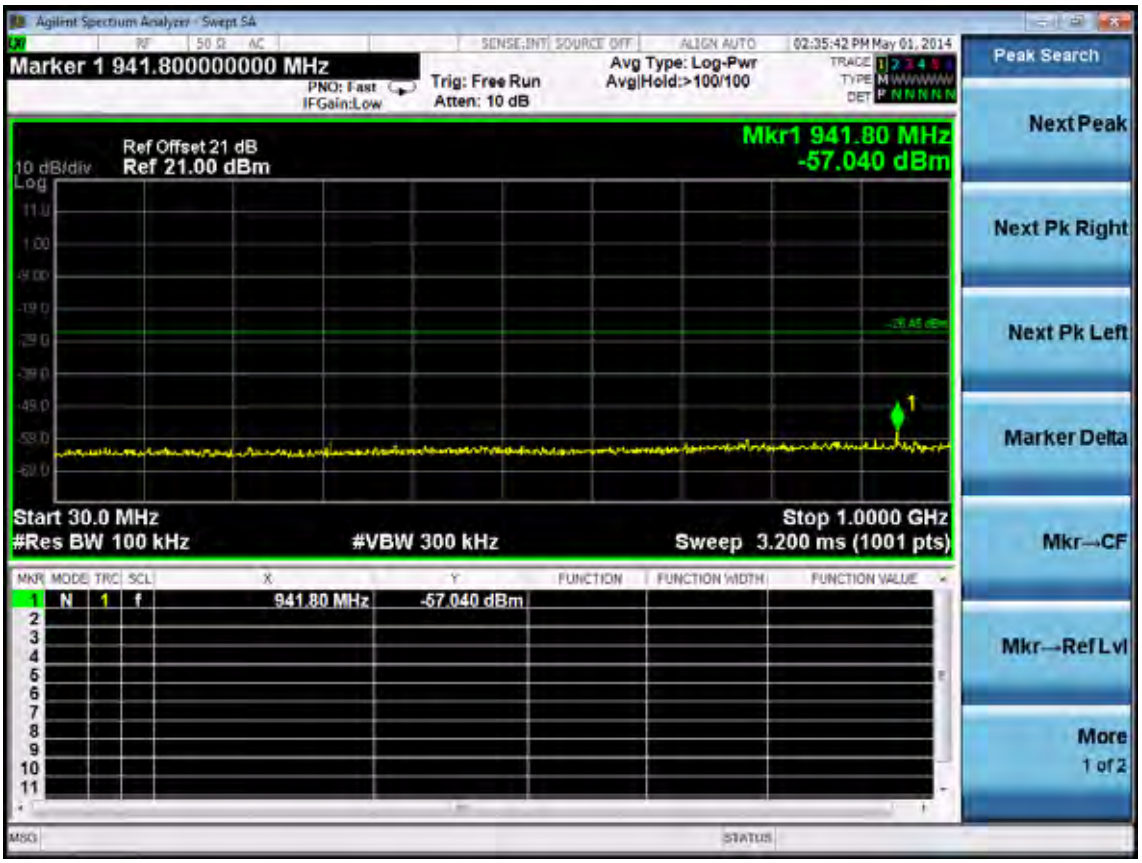


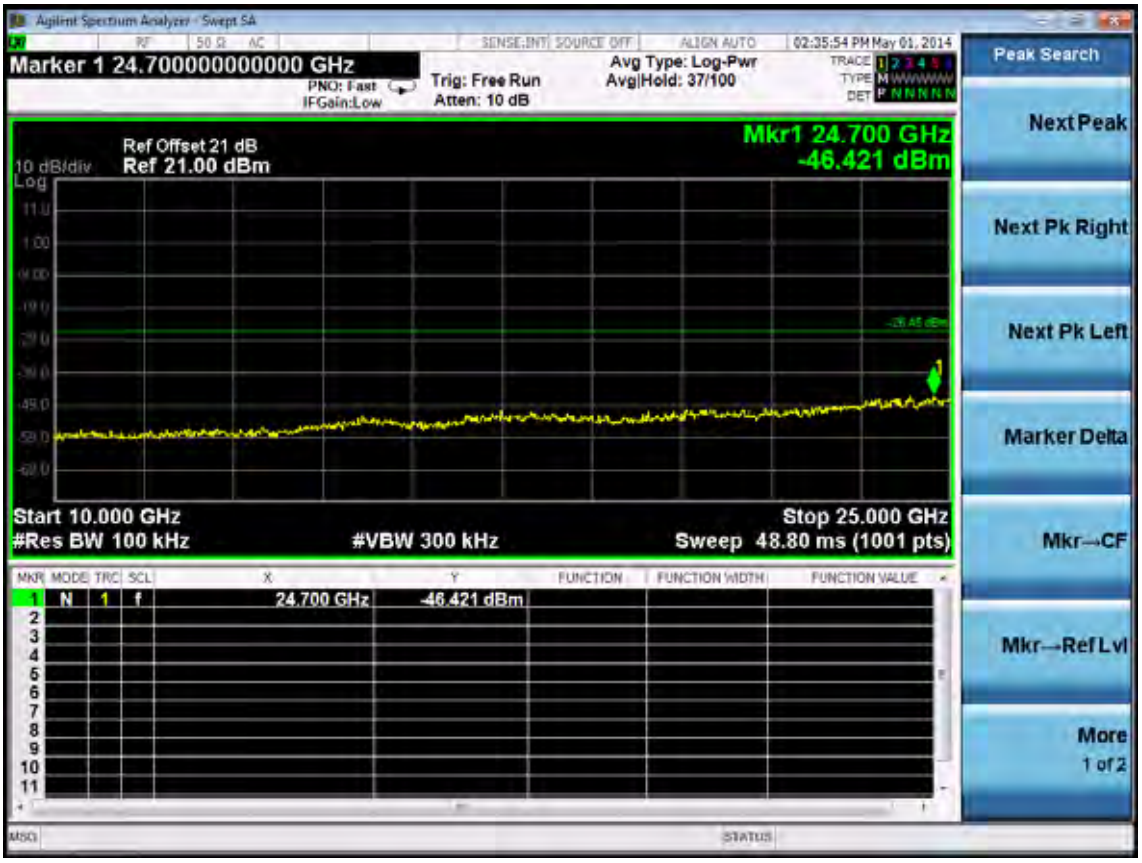

Agilent Spectrum Analyzer - Swept SA
Marker 1 941.800000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:33:11 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Ref 21.00 dBm
Log
Mkr1 941.80 MHz
-55.017 dBm
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 3.200 ms (1001 pts)
1 N 1 f 941.80 MHz -55.017 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 23.830000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 26/100
02:33:21 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Ref 21.00 dBm
Log
Mkr1 23.830 GHz
-46.099 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 23.830 GHz -46.099 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

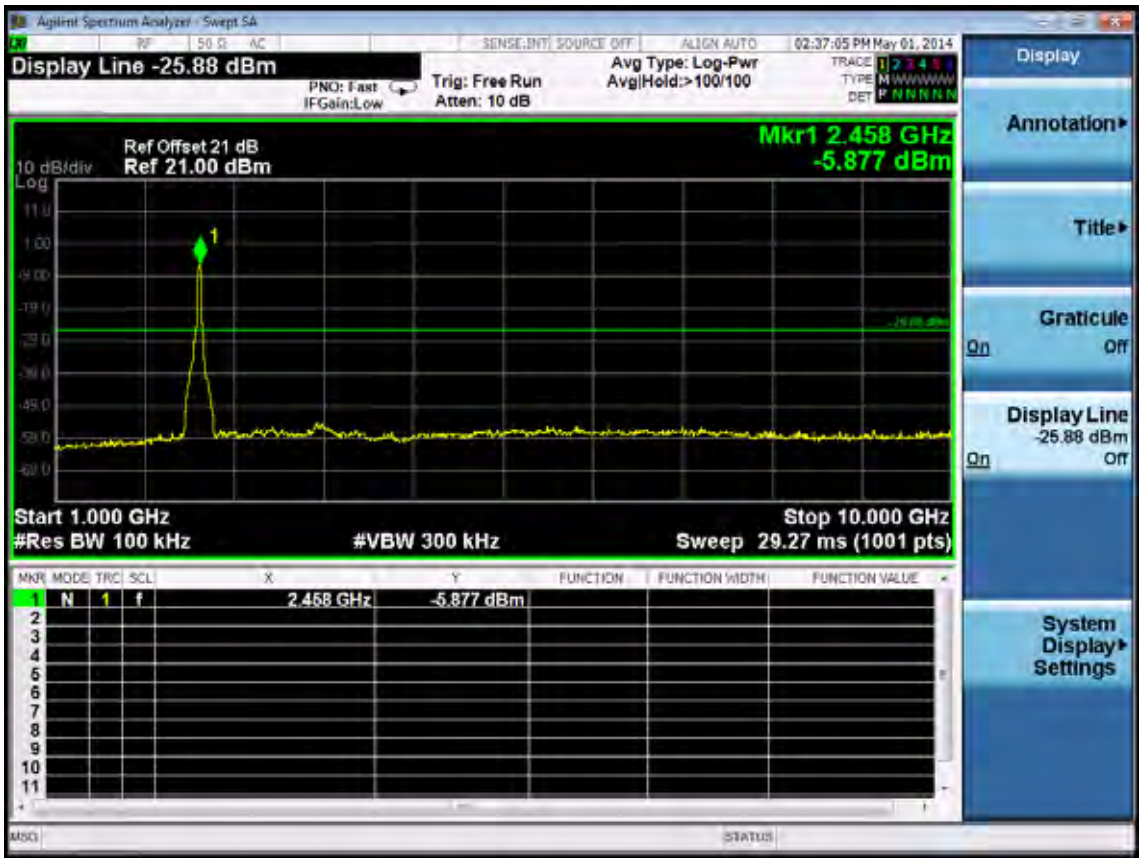
Test CH4: 2437MHz

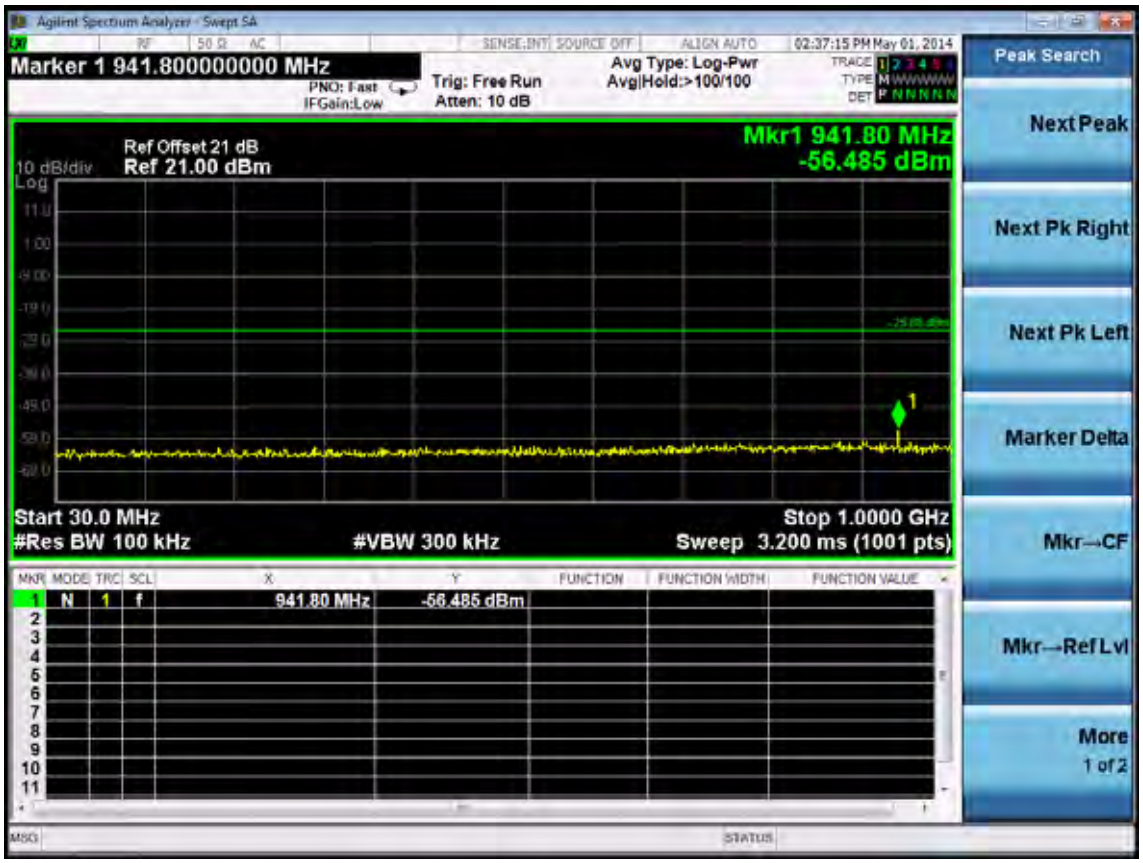


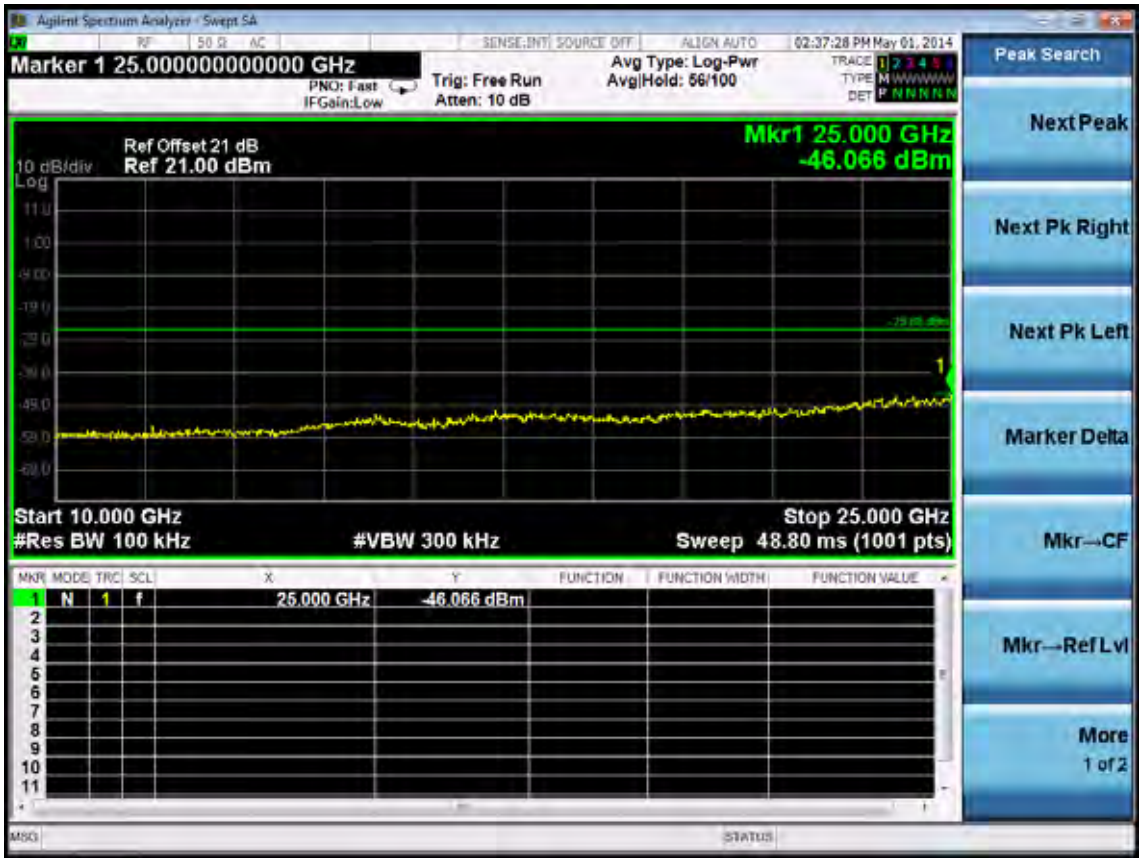

Agilent Spectrum Analyzer - Swept SA
Marker 1 941.800000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:35:42 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 941.80 MHz
-57.040 dBm
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 3.200 ms (1001 pts)
1 N 1 f 941.80 MHz -57.040 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 24.700000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 37/100
02:35:54 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Log
Ref 21.00 dBm
Mkr1 24.700 GHz
-46.421 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 24.700 GHz -46.421 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

Test CH7: 2452MHz






Agilent Spectrum Analyzer - Swept SA
Marker 1 25.000000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold: 56/100
02:37:28 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Ref 21.00 dBm
Log
Mkr1 25.000 GHz
-46.066 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 48.80 ms (1001 pts)
1 N 1 f 25.000 GHz -46.066 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Display Line -25.29 dBm
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:42:47 PM May 01, 2014
Ref Offset 21 dB
10 dB/div
Ref 21.00 dBm
Log
Mkr3 2.449 60 GHz
-5.290 dBm
Start 2.43000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.51000 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.483 50 GHz -43.740 dBm
2 N 1 f 2.500 00 GHz -48.558 dBm
3 N 1 f 2.449 60 GHz -5.290 dBm
Display
Annotation
Title
Graticule
On Off
Display Line
-25.29 dBm
On Off
System
Display
Settings

6. BAND EDGE COMPLIANCE TEST

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9607-4580	May.08, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	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.

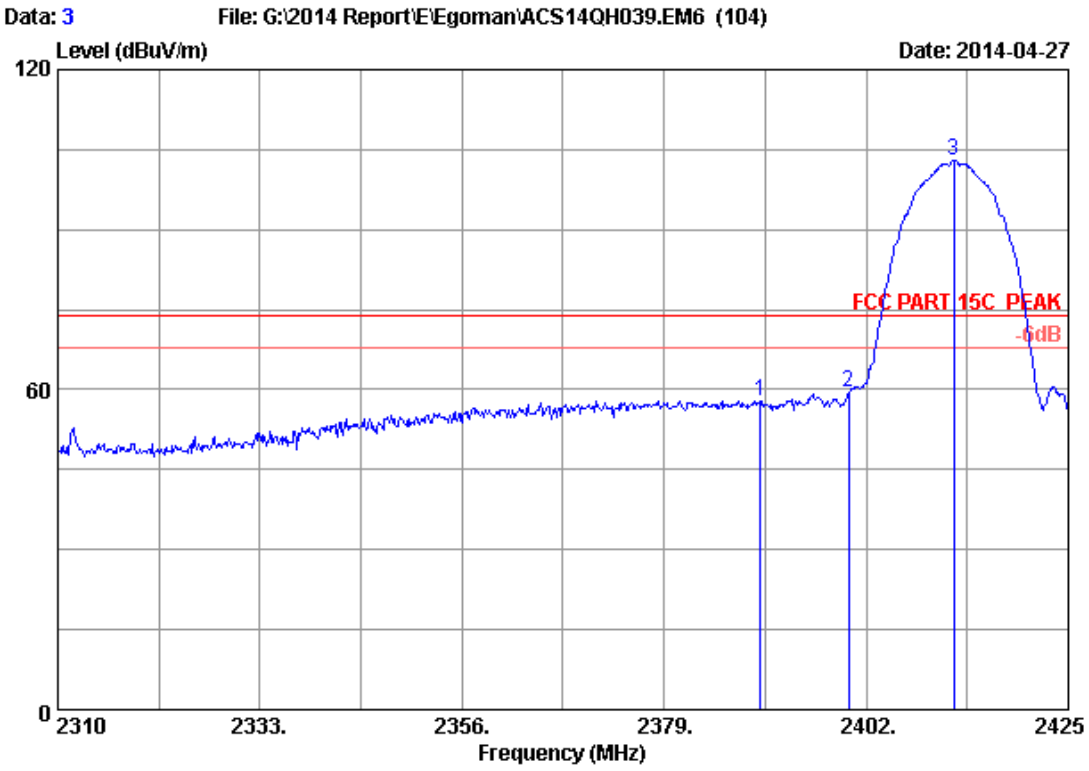
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

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

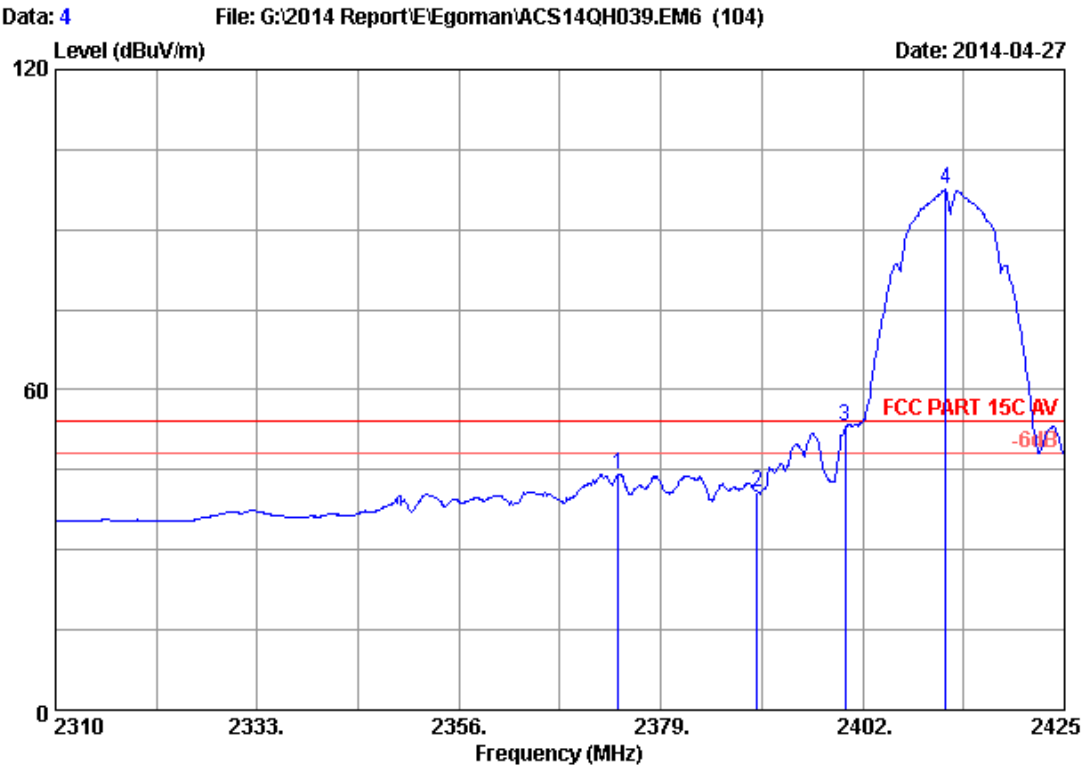
Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber Data no. : 3
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	59.44	57.68	74.00	16.32	Peak
2	2400.000	28.18	5.80	35.70	61.24	59.52	74.00	14.48	Peak
3	2412.005	28.21	5.81	35.70	104.77	103.09	74.00	-29.09	Peak

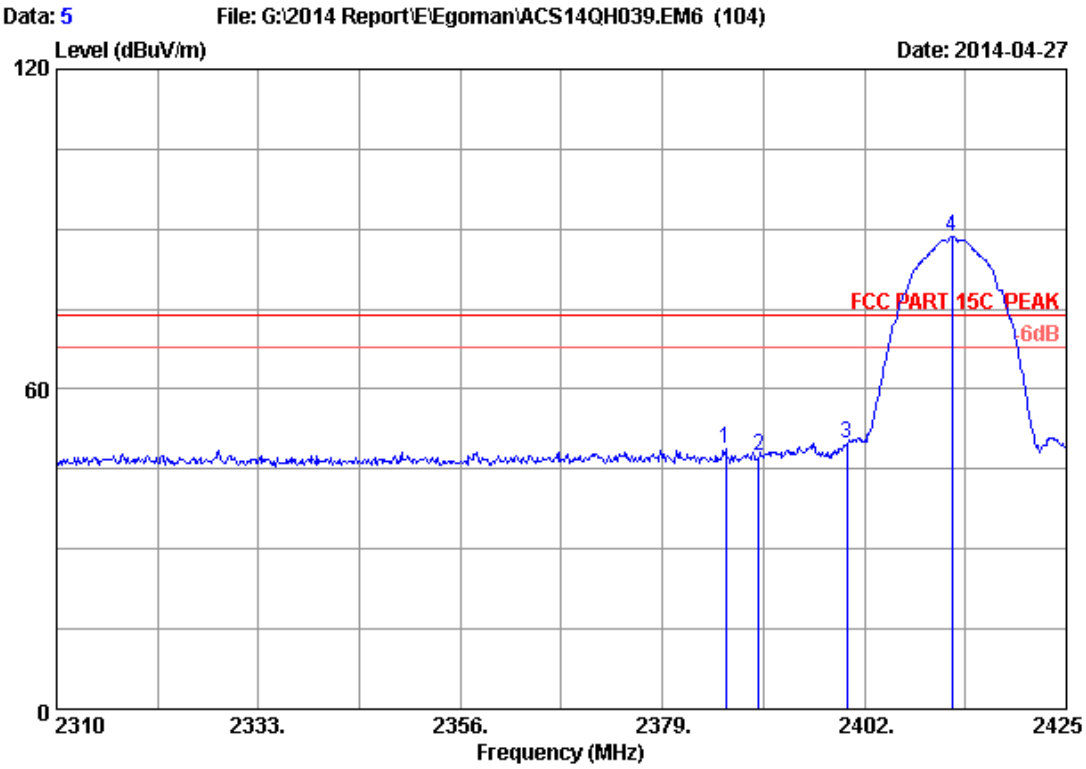
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	2374.170	28.12	5.76	35.70	46.04	44.22	54.00	9.78	Average
2	2390.000	28.16	5.78	35.70	42.66	40.90	54.00	13.10	Average
3	2400.000	28.18	5.80	35.70	54.81	53.09	54.00	0.91	Average
4	2411.430	28.21	5.81	35.70	99.12	97.44	54.00	-43.44	Average

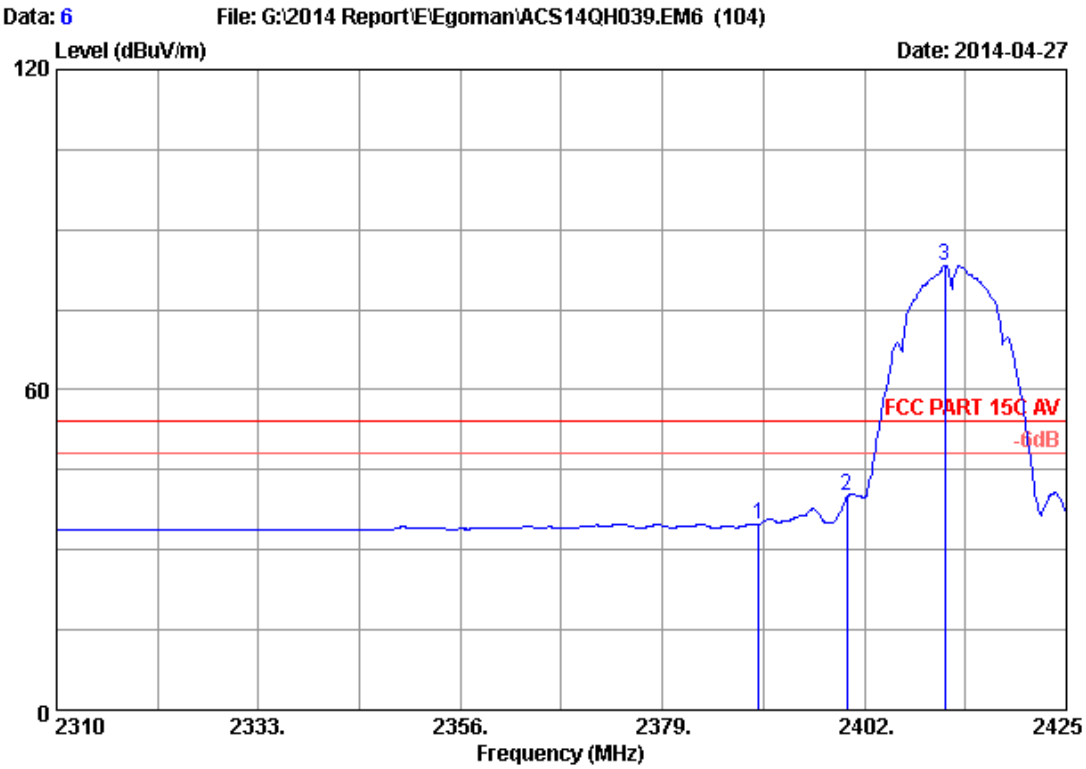
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 5
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	2386.245	28.15	5.78	35.70	50.47	48.70	74.00	25.30	Peak
2	2390.000	28.16	5.78	35.70	49.38	47.62	74.00	26.38	Peak
3	2400.000	28.18	5.80	35.70	51.57	49.85	74.00	24.15	Peak
4	2412.005	28.21	5.81	35.70	90.37	88.69	74.00	-14.69	Peak

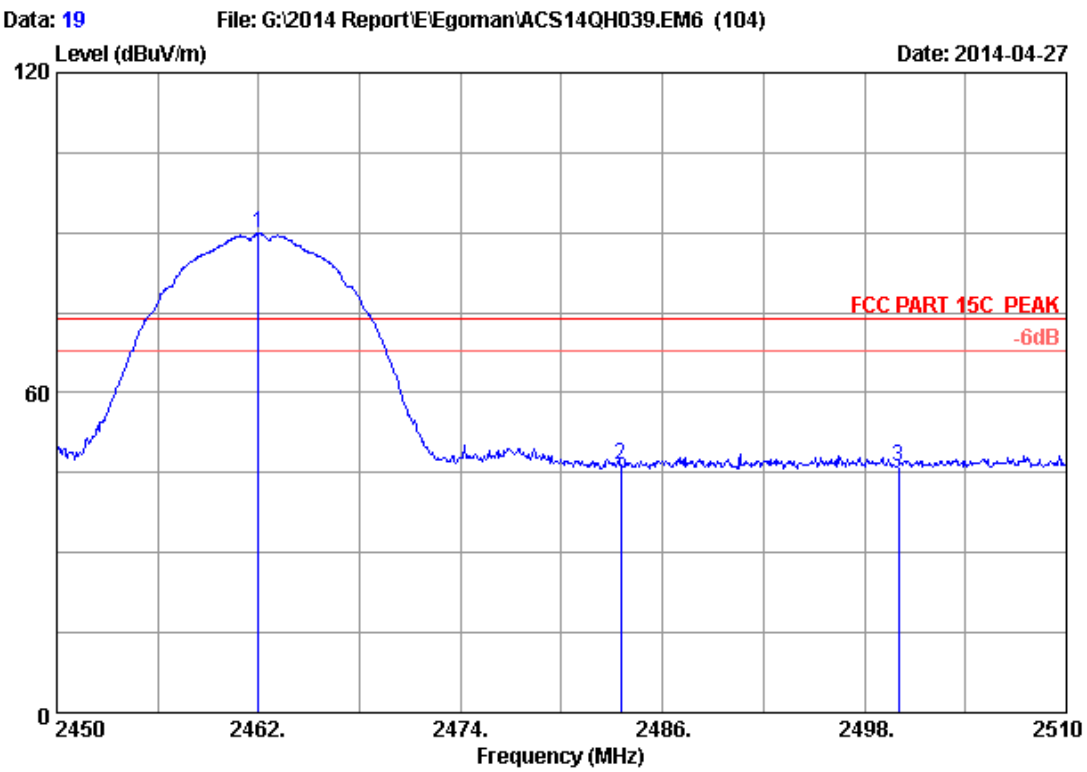
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	36.57	34.81	54.00	19.19	Average
2	2400.000	28.18	5.80	35.70	41.79	40.07	54.00	13.93	Average
3	2411.200	28.20	5.81	35.70	85.04	83.35	54.00	-29.35	Average

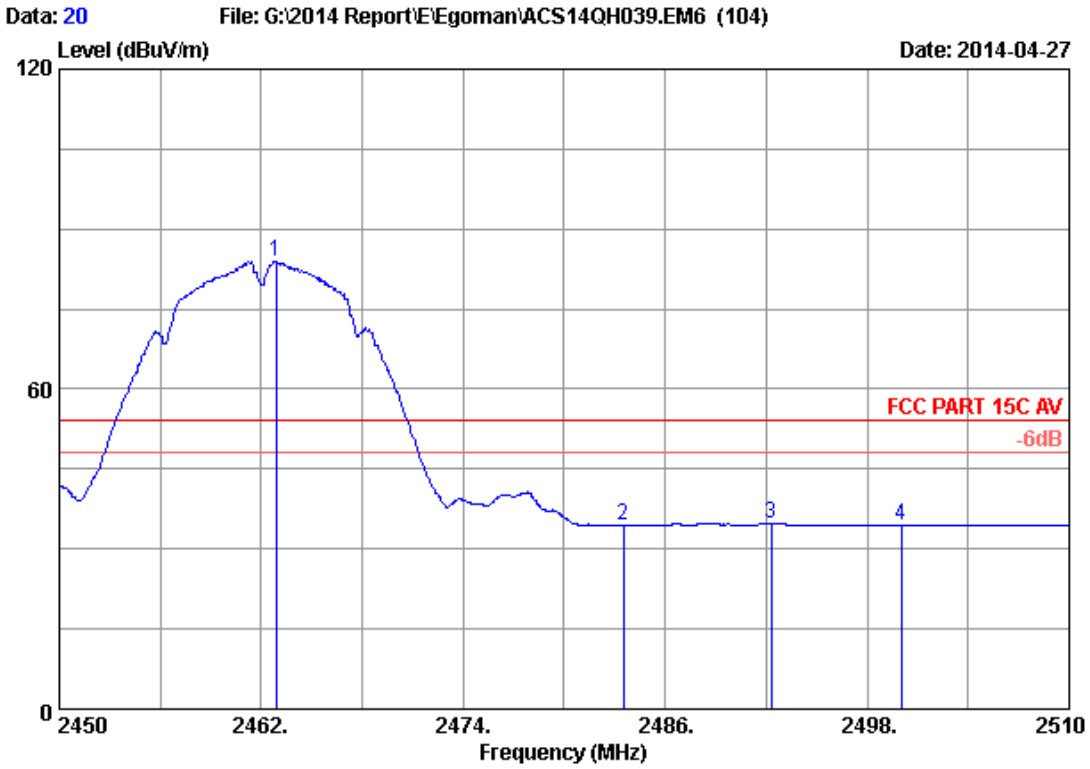
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 19
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.000	28.32	5.89	35.70	91.43	89.94	74.00	-15.94	Peak
2	2483.500	28.36	5.92	35.70	47.97	46.55	74.00	27.45	Peak
3	2500.000	28.40	5.94	35.70	47.55	46.19	74.00	27.81	Peak

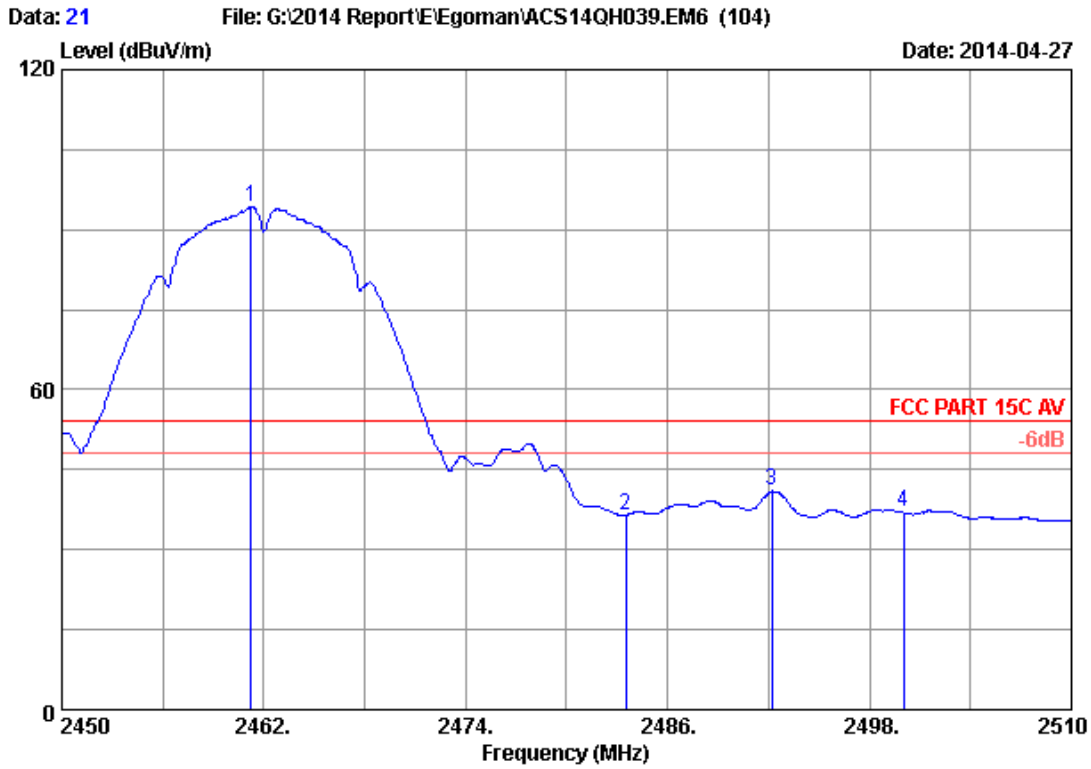
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.900	28.32	5.89	35.70	85.51	84.02	54.00	-30.02	Average
2	2483.500	28.36	5.92	35.70	35.79	34.37	54.00	19.63	Average
3	2492.300	28.38	5.93	35.70	36.27	34.88	54.00	19.12	Average
4	2500.000	28.40	5.94	35.70	35.74	34.38	54.00	19.62	Average

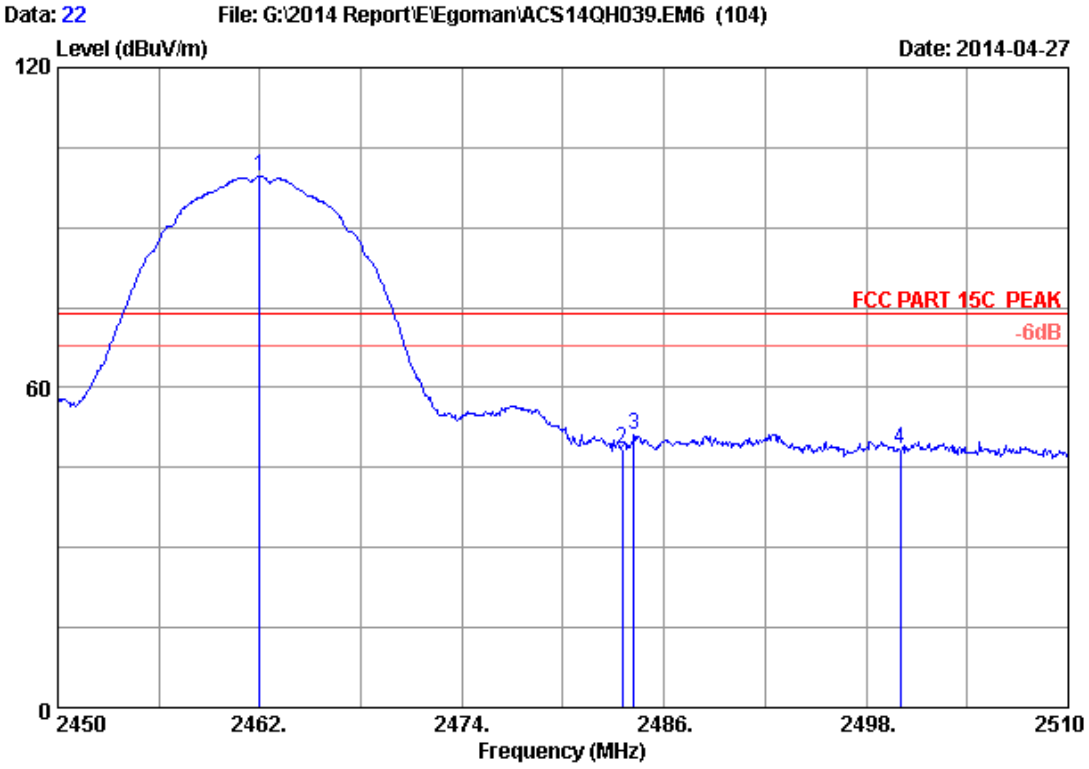
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 21
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	2461.220	28.31	5.89	35.70	95.77	94.27	54.00	-40.27	Average
2	2483.500	28.36	5.92	35.70	37.97	36.55	54.00	17.45	Average
3	2492.180	28.38	5.93	35.70	42.36	40.97	54.00	13.03	Average
4	2500.000	28.40	5.94	35.70	38.35	36.99	54.00	17.01	Average

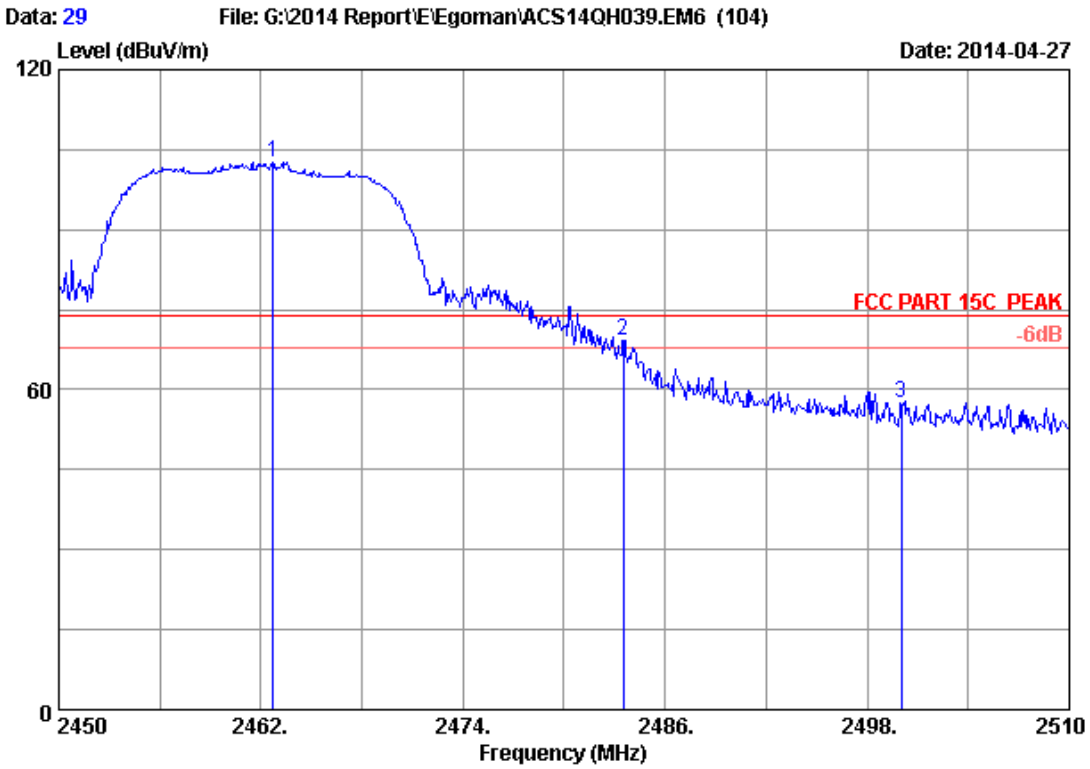
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 22
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.000	28.32	5.89	35.70	101.26	99.77	74.00	-25.77	Peak
2	2483.500	28.36	5.92	35.70	49.95	48.53	74.00	25.47	Peak
3	2484.200	28.37	5.92	35.70	52.65	51.24	74.00	22.76	Peak
4	2500.000	28.40	5.94	35.70	49.75	48.39	74.00	25.61	Peak

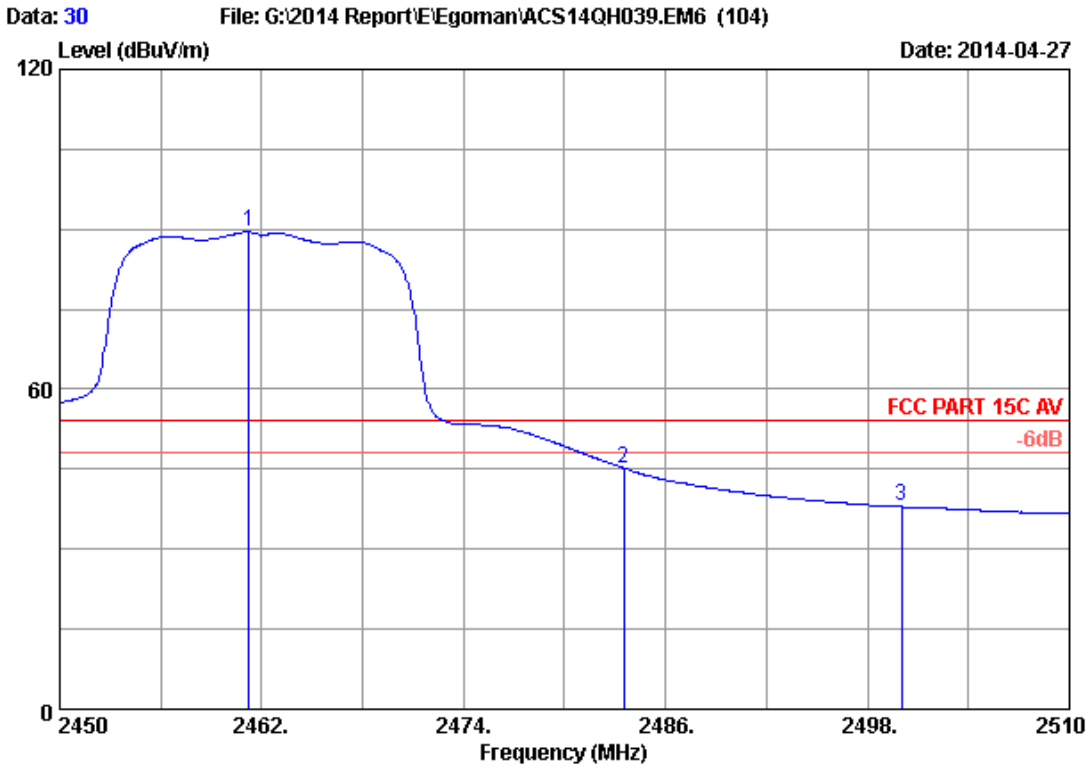
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 29
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	2462.720	28.32	5.89	35.70	104.19	102.70	74.00	-28.70	Peak
2	2483.500	28.36	5.92	35.70	70.58	69.16	74.00	4.84	Peak
3	2500.000	28.40	5.94	35.70	58.69	57.33	74.00	16.67	Peak

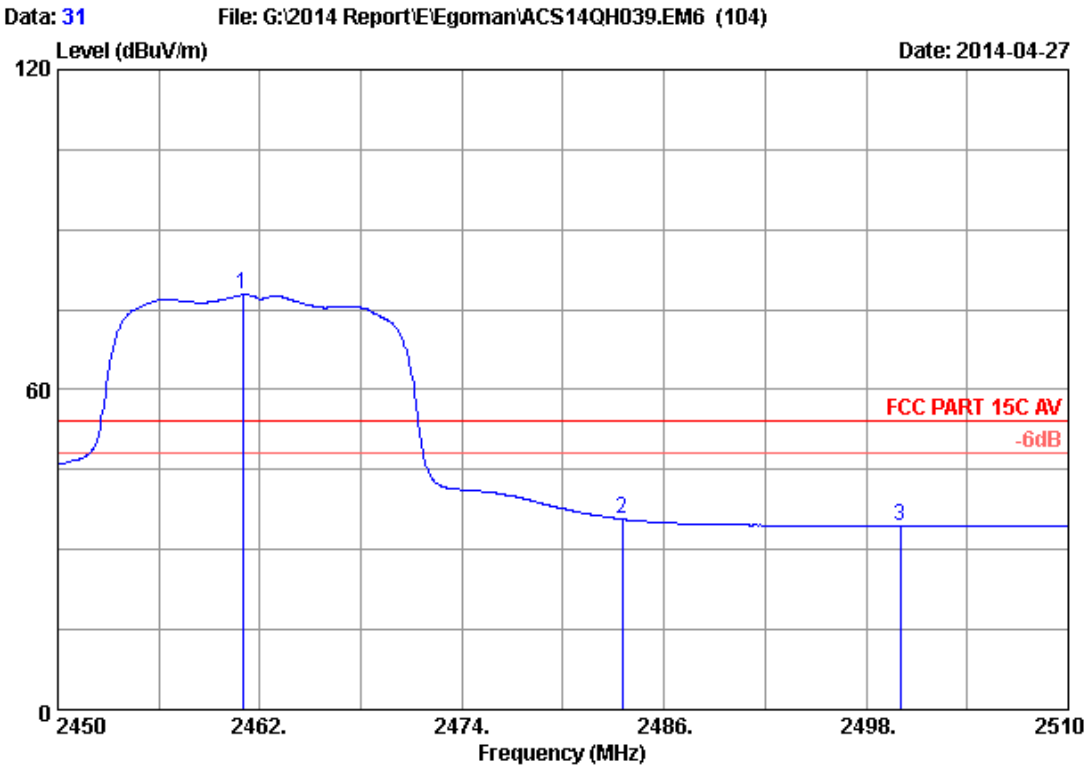
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 30
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	2461.220	28.31	5.89	35.70	91.02	89.52	54.00	-35.52	Average
2	2483.500	28.36	5.92	35.70	46.62	45.20	54.00	8.80	Average
3	2500.000	28.40	5.94	35.70	39.33	37.97	54.00	16.03	Average

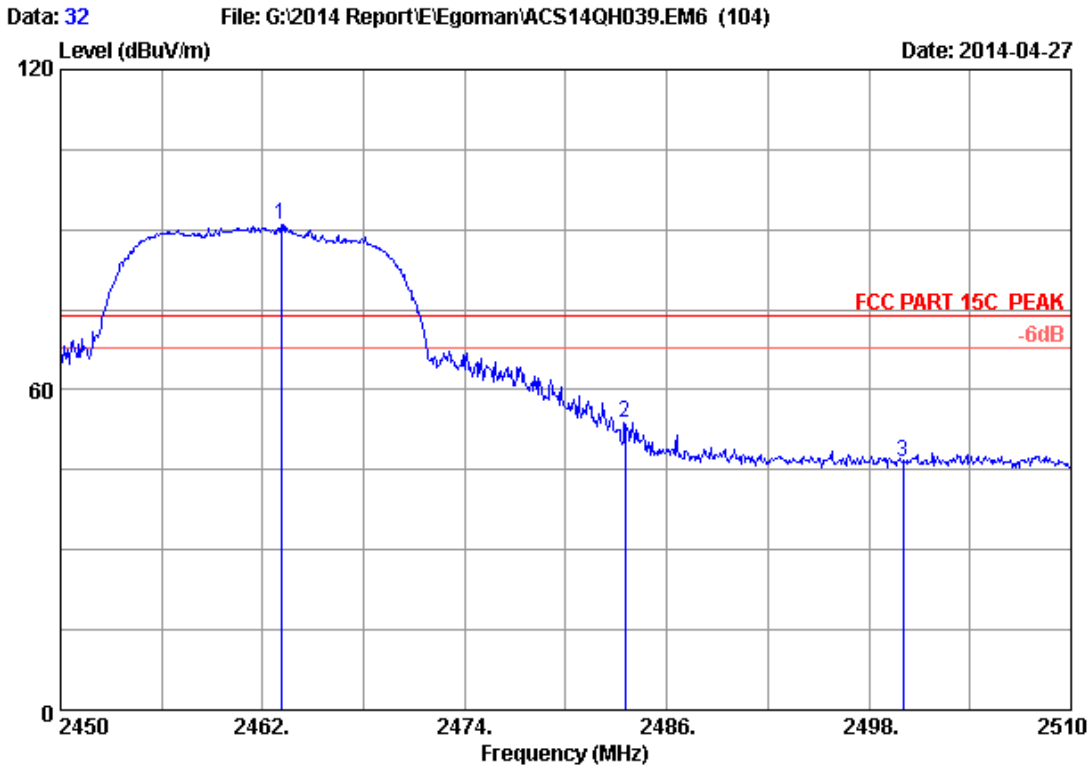
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 31
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	2460.980	28.31	5.89	35.70	79.29	77.79	54.00	-23.79	Average
2	2483.500	28.36	5.92	35.70	37.11	35.69	54.00	18.31	Average
3	2500.000	28.40	5.94	35.70	35.78	34.42	54.00	19.58	Average

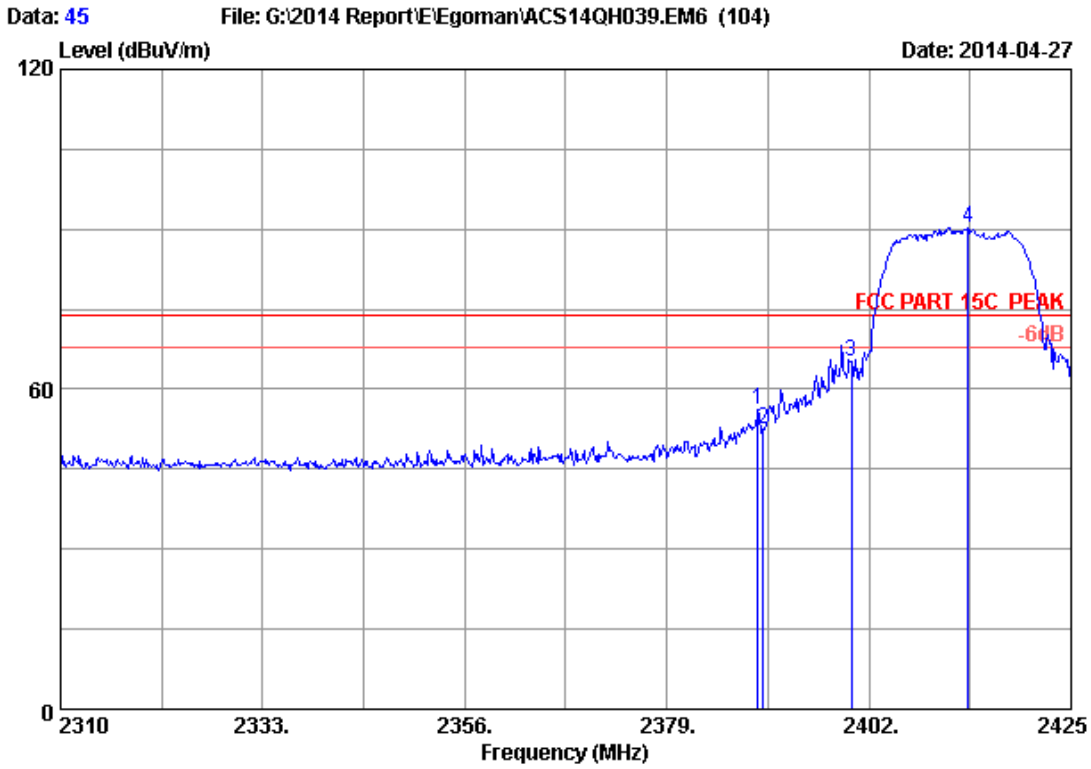
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 32
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
M/N : DW220XWXX

No.	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	28.32	5.89	35.70	92.33	90.84	74.00	-16.84	Peak
2	2483.500	28.36	5.92	35.70	55.40	53.98	74.00	20.02	Peak
3	2500.000	28.40	5.94	35.70	47.70	46.34	74.00	27.66	Peak

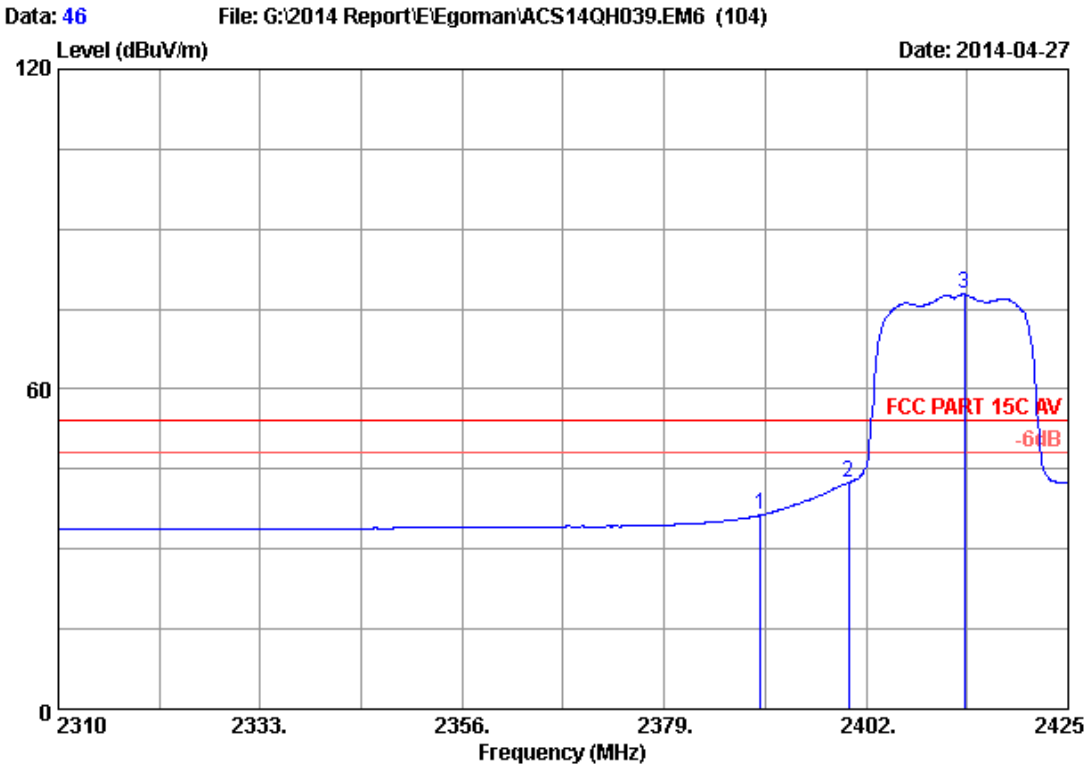
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 45
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	2389.350	28.16	5.78	35.70	58.01	56.25	74.00	17.75	Peak
2	2390.000	28.16	5.78	35.70	54.23	52.47	74.00	21.53	Peak
3	2400.000	28.18	5.80	35.70	67.03	65.31	74.00	8.69	Peak
4	2413.270	28.21	5.82	35.70	92.06	90.39	74.00	-16.39	Peak

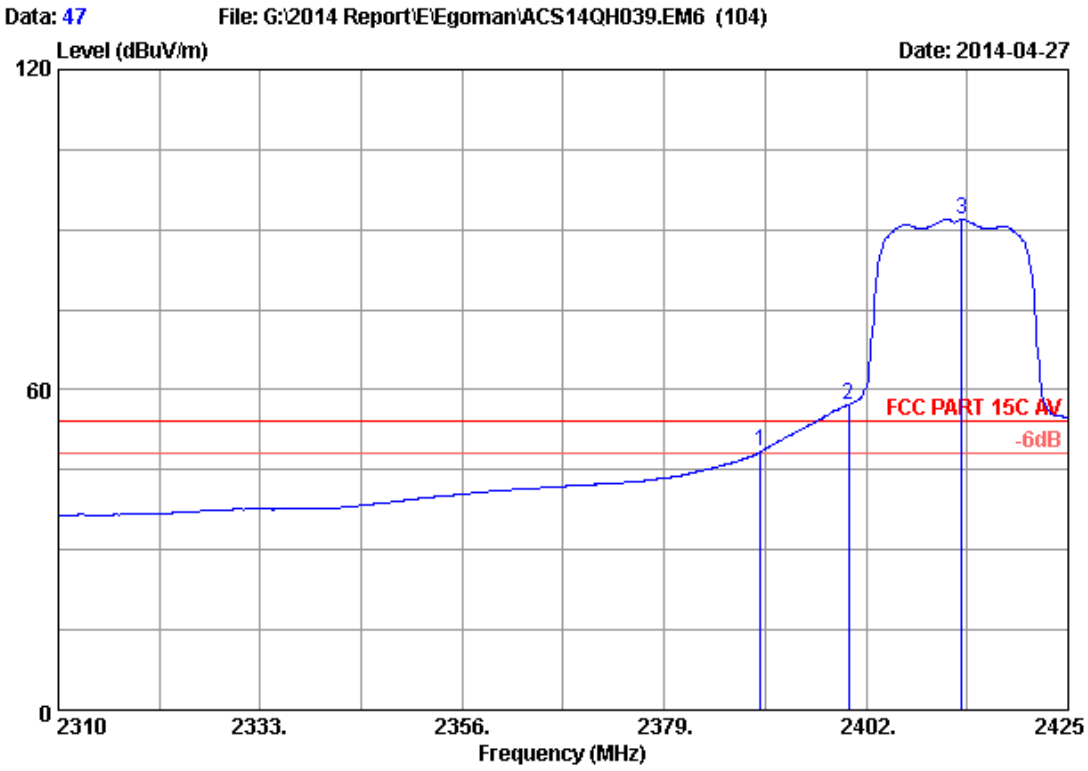
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 46
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	38.08	36.32	54.00	17.68	Average
2	2400.000	28.18	5.80	35.70	44.26	42.54	54.00	11.46	Average
3	2413.155	28.21	5.82	35.70	79.41	77.74	54.00	-23.74	Average

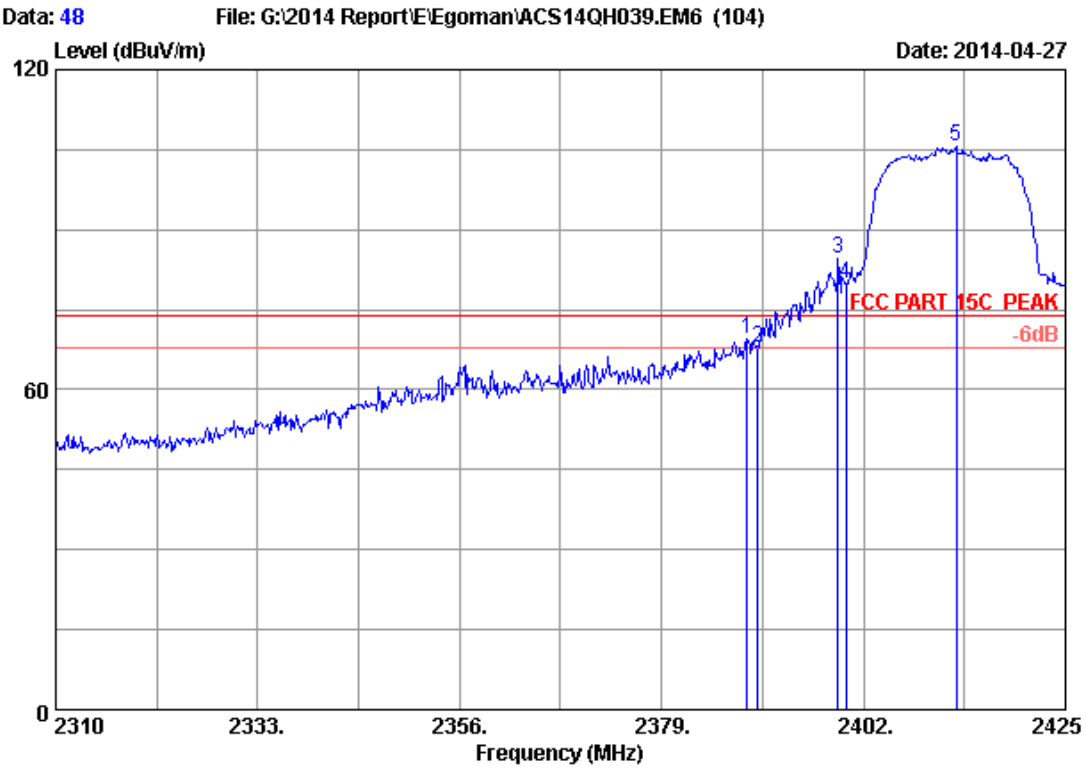
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 47
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	50.16	48.40	54.00	5.60	Average
2	2400.000	28.18	5.80	35.70	59.00	57.28	54.00	-3.28	Average
3	2412.925	28.21	5.82	35.70	93.63	91.96	54.00	-37.96	Average

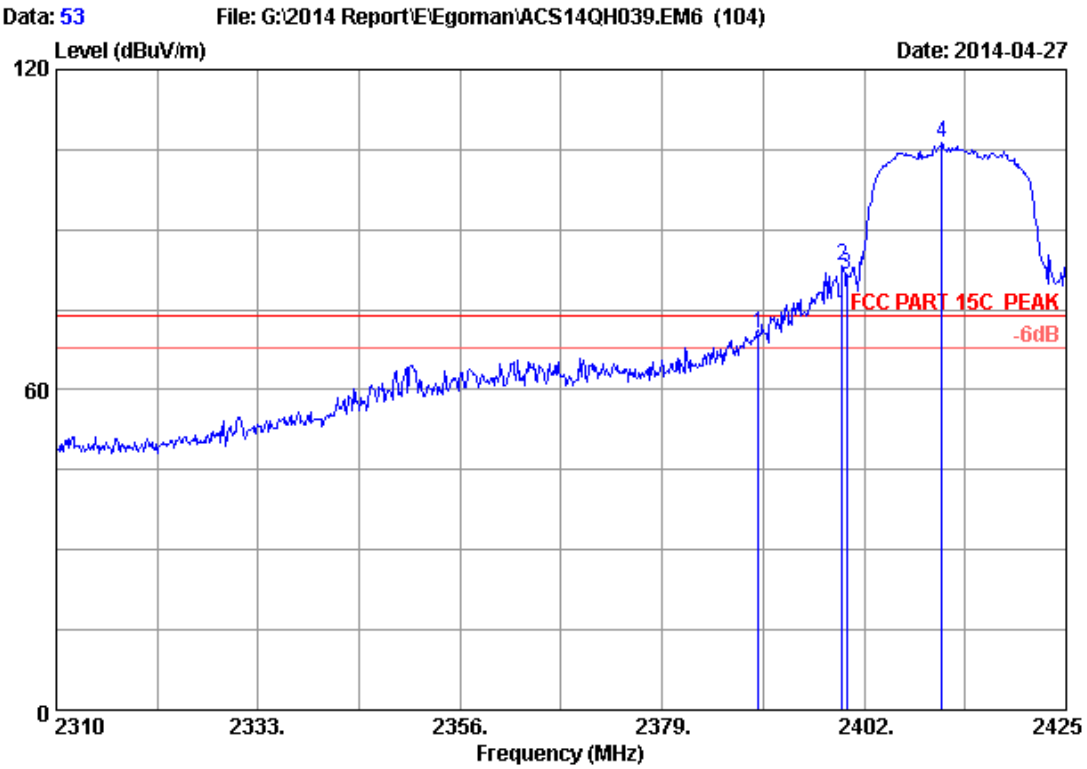
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 48
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
M/N : DW220XWXX

No.	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	2388.775	28.16	5.78	35.70	71.29	69.53	74.00	4.47	Peak
2	2390.000	28.16	5.78	35.70	69.69	67.93	74.00	6.07	Peak
3	2399.125	28.18	5.80	35.70	86.36	84.64	74.00	-10.64	Peak
4	2400.000	28.18	5.80	35.70	81.46	79.74	74.00	-5.74	Peak
5	2412.580	28.21	5.82	35.70	107.16	105.49	74.00	-31.49	Peak

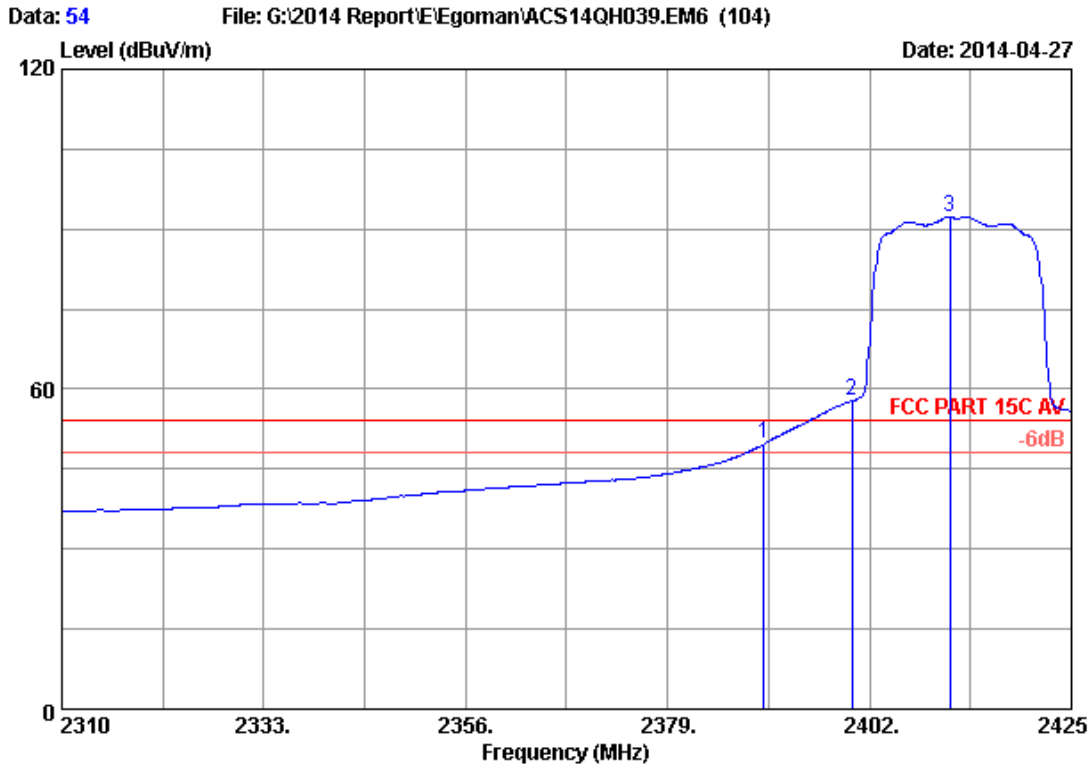
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 53
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	72.43	70.67	74.00	3.33	Peak
2	2399.470	28.18	5.80	35.70	84.88	83.16	74.00	-9.16	Peak
3	2400.000	28.18	5.80	35.70	83.14	81.42	74.00	-7.42	Peak
4	2410.855	28.20	5.81	35.70	107.94	106.25	74.00	-32.25	Peak

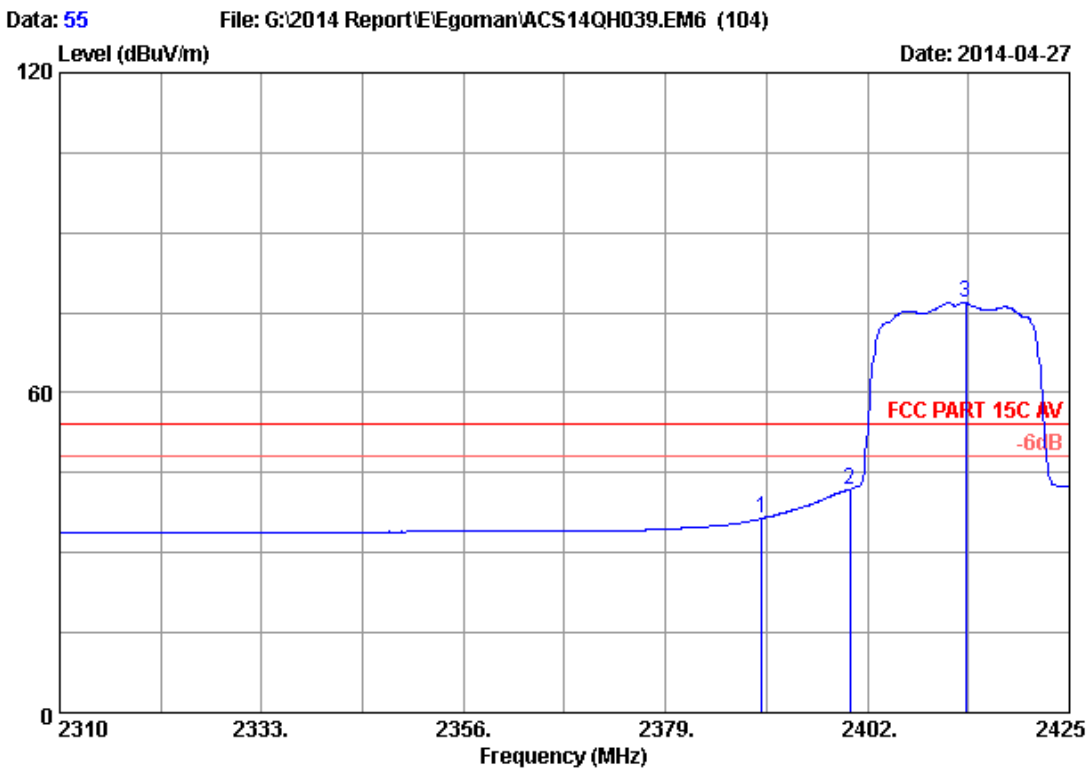
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 54
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	51.52	49.76	54.00	4.24	Average
2	2400.000	28.18	5.80	35.70	59.59	57.87	54.00	-3.87	Average
3	2411.200	28.20	5.81	35.70	94.09	92.40	54.00	-38.40	Average

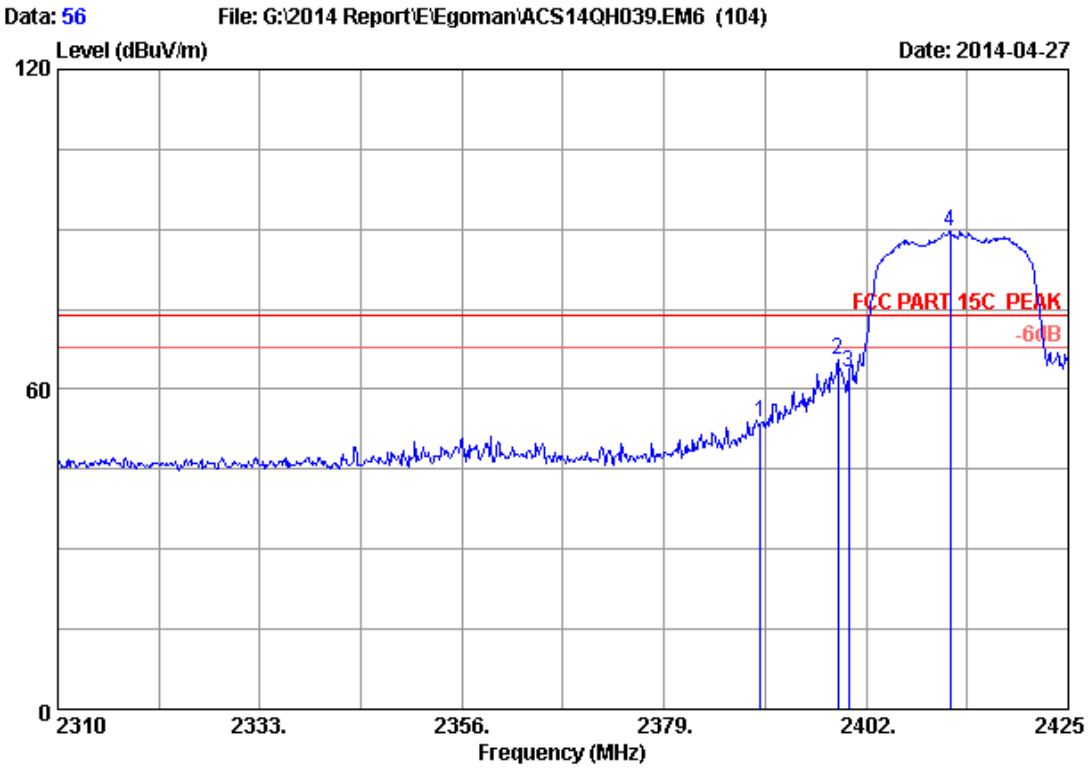
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 55
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	38.18	36.42	54.00	17.58	Average
2	2400.000	28.18	5.80	35.70	43.66	41.94	54.00	12.06	Average
3	2413.155	28.21	5.82	35.70	78.53	76.86	54.00	-22.86	Average

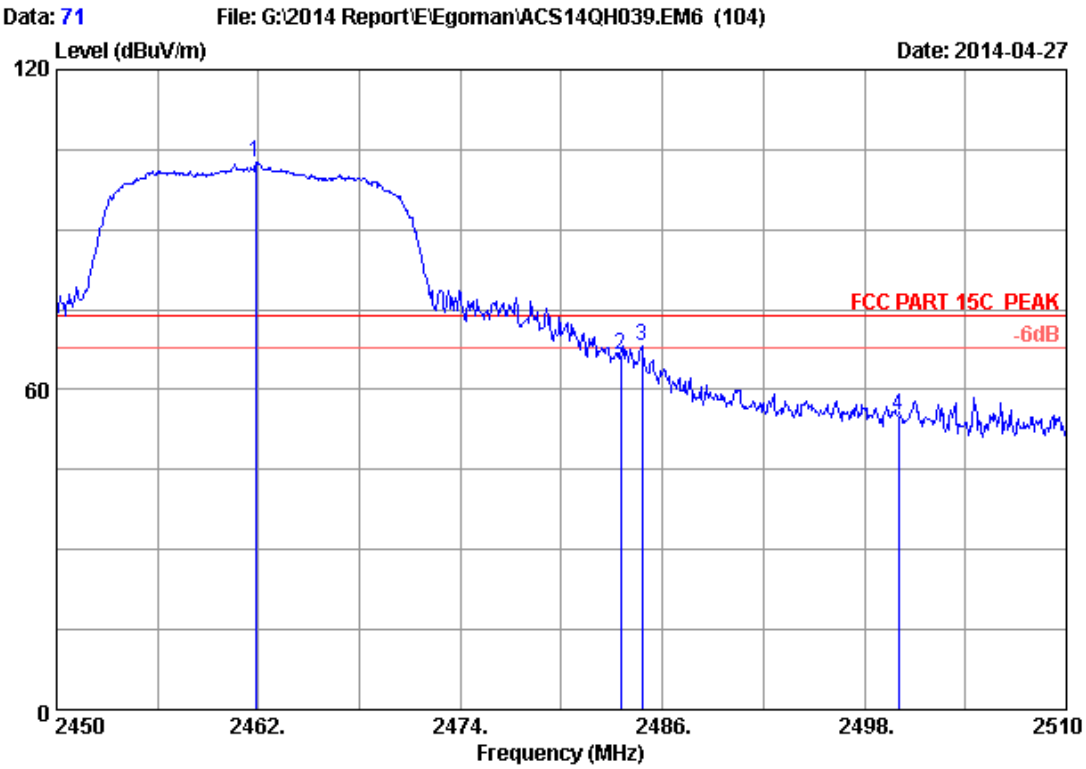
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 56
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	55.45	53.69	74.00	20.31	Peak
2	2398.780	28.18	5.80	35.70	67.24	65.52	74.00	8.48	Peak
3	2400.000	28.18	5.80	35.70	64.98	63.26	74.00	10.74	Peak
4	2411.545	28.21	5.81	35.70	91.23	89.55	74.00	-15.55	Peak

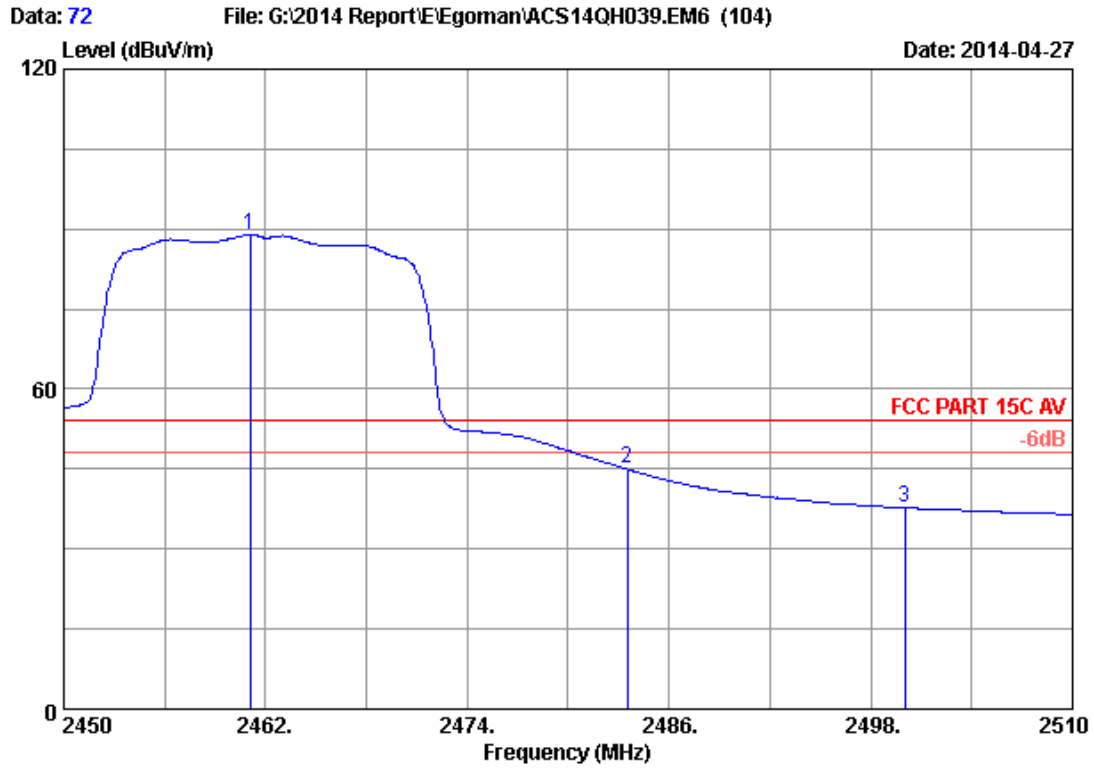
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 71
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	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	2461.820	28.32	5.89	35.70	104.16	102.67	74.00	-28.67	Peak
2	2483.500	28.36	5.92	35.70	67.88	66.46	74.00	7.54	Peak
3	2484.800	28.37	5.92	35.70	69.64	68.23	74.00	5.77	Peak
4	2500.000	28.40	5.94	35.70	56.64	55.28	74.00	18.72	Peak

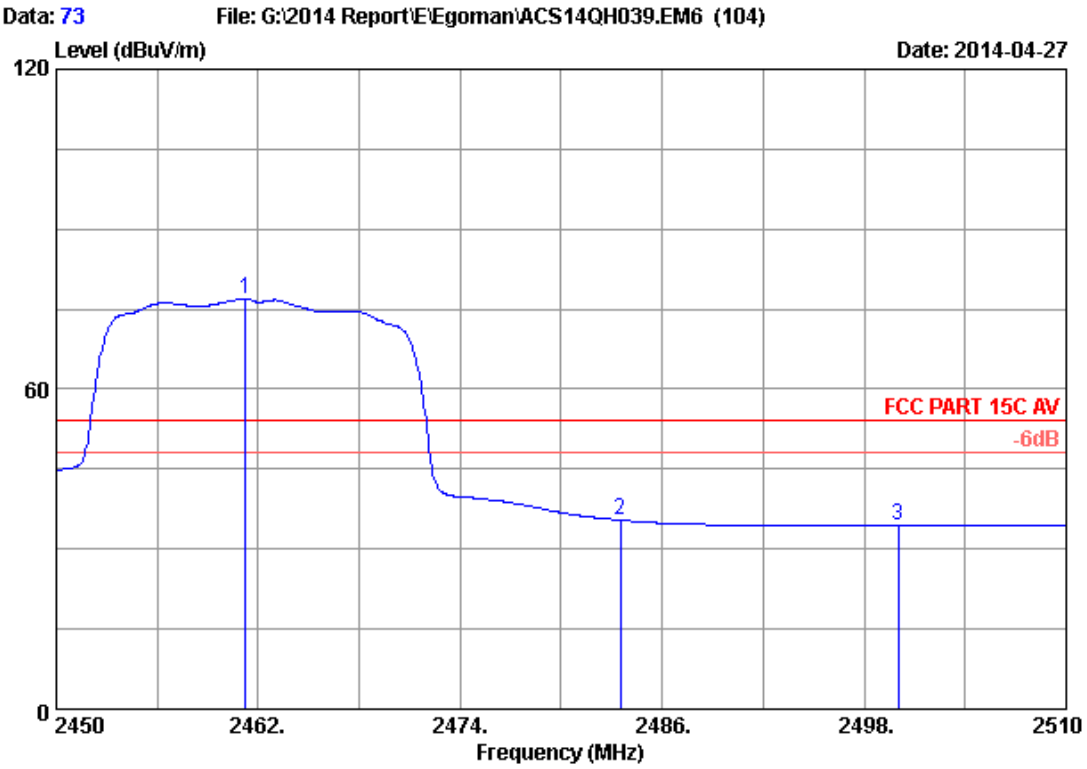
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 72
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	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	2461.100	28.31	5.89	35.70	90.43	88.93	54.00	-34.93	Average
2	2483.500	28.36	5.92	35.70	46.43	45.01	54.00	8.99	Average
3	2500.000	28.40	5.94	35.70	39.07	37.71	54.00	16.29	Average

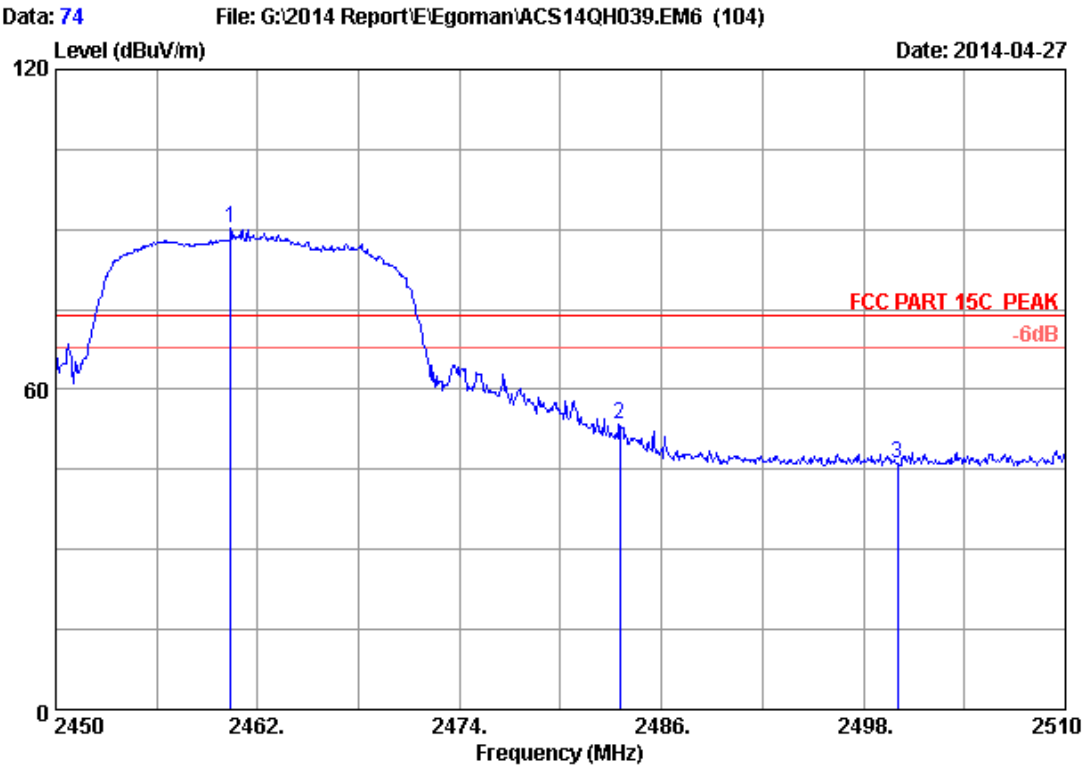
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 73
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	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	2461.220	28.31	5.89	35.70	78.45	76.95	54.00	-22.95	Average
2	2483.500	28.36	5.92	35.70	36.82	35.40	54.00	18.60	Average
3	2500.000	28.40	5.94	35.70	35.75	34.39	54.00	19.61	Average

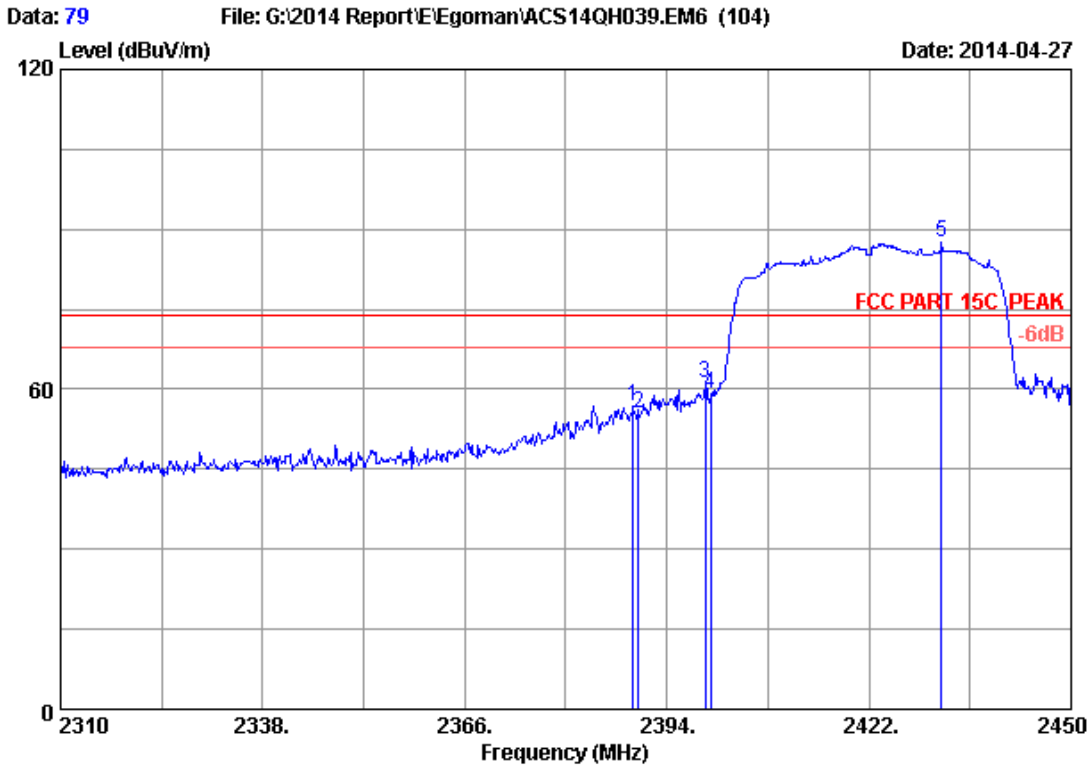
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 74
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
M/N : DW220XWXX

No.	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	2460.380	28.31	5.88	35.70	91.67	90.16	74.00	-16.16	Peak
2	2483.500	28.36	5.92	35.70	54.92	53.50	74.00	20.50	Peak
3	2500.000	28.40	5.94	35.70	47.57	46.21	74.00	27.79	Peak

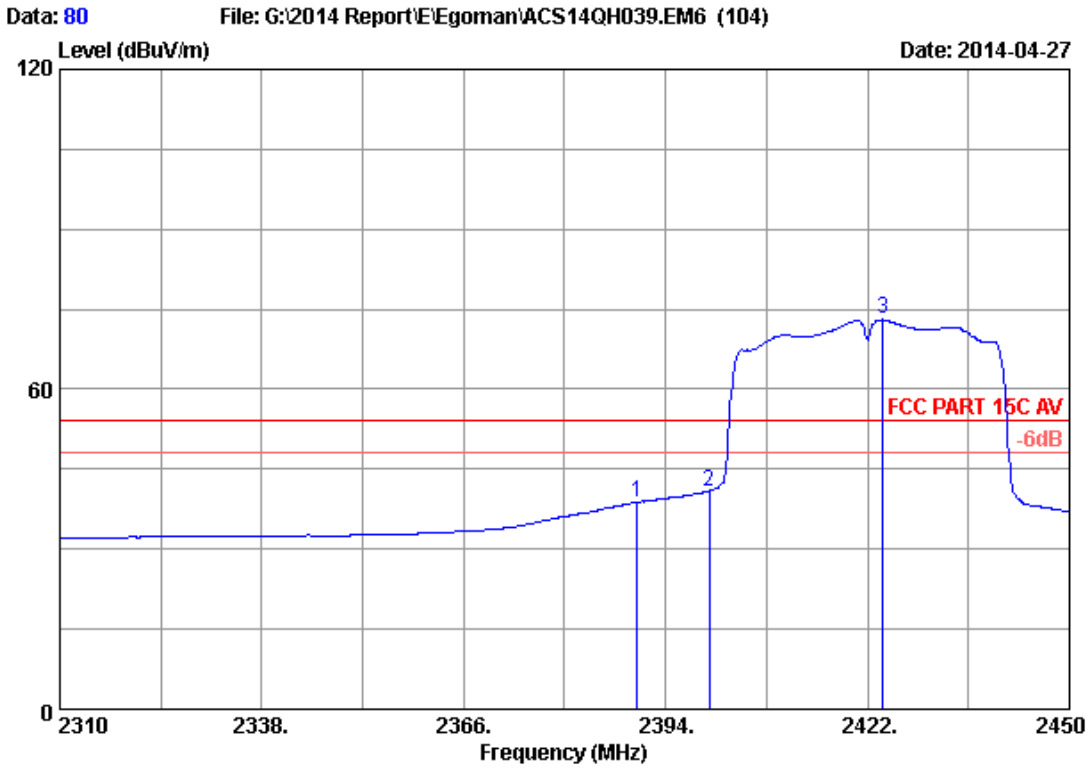
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 79
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	2389.380	28.16	5.78	35.70	58.70	56.94	74.00	17.06	Peak
2	2390.000	28.16	5.78	35.70	57.17	55.41	74.00	18.59	Peak
3	2399.320	28.18	5.80	35.70	62.82	61.10	74.00	12.90	Peak
4	2400.000	28.18	5.80	35.70	60.80	59.08	74.00	14.92	Peak
5	2432.080	28.25	5.84	35.70	89.20	87.59	74.00	-13.59	Peak

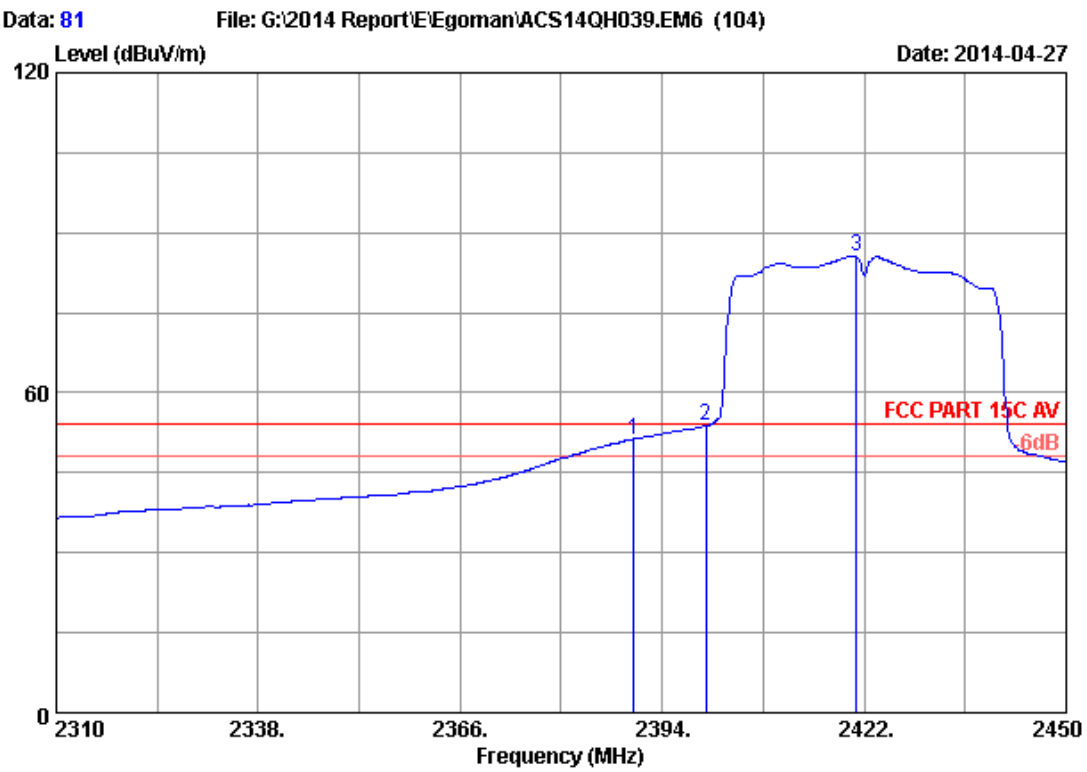
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 80
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	40.55	38.79	54.00	15.21	Average
2	2400.000	28.18	5.80	35.70	42.64	40.92	54.00	13.08	Average
3	2424.100	28.23	5.83	35.70	74.69	73.05	54.00	-19.05	Average

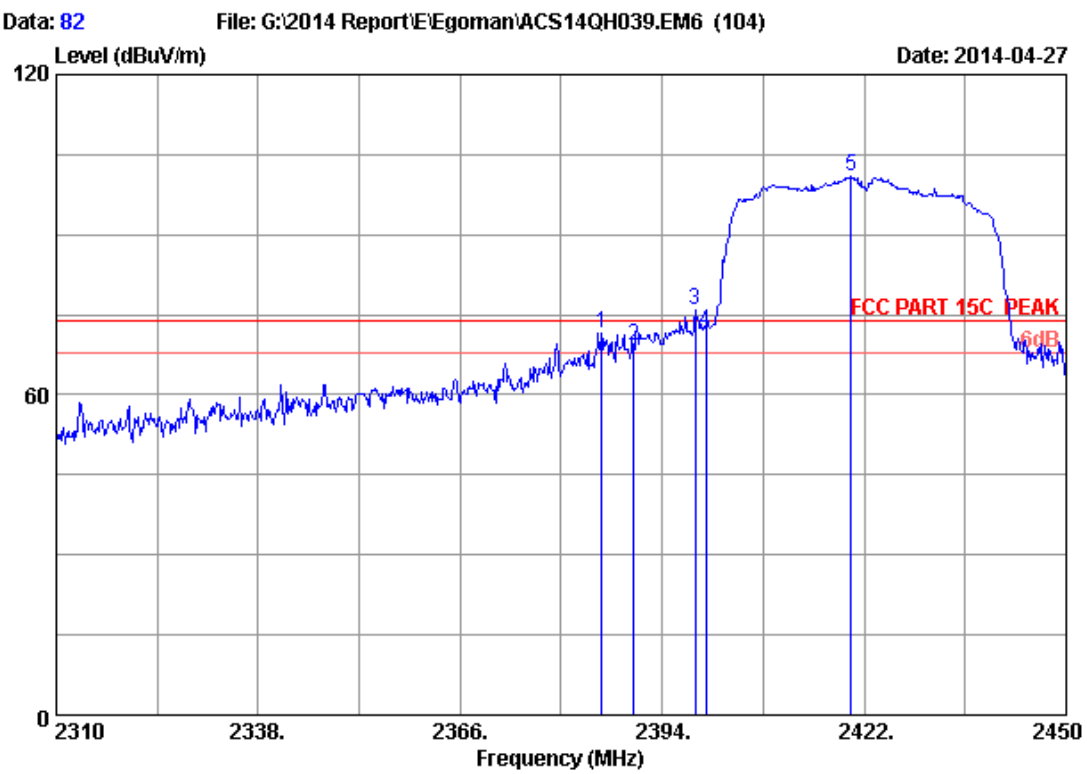
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 81
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	28.16	5.78	35.70	53.06	51.30	54.00	2.70	Average
2	2400.000	28.18	5.80	35.70	55.48	53.76	54.00	0.24	Average
3	2420.880	28.23	5.83	35.70	87.26	85.62	54.00	-31.62	Average

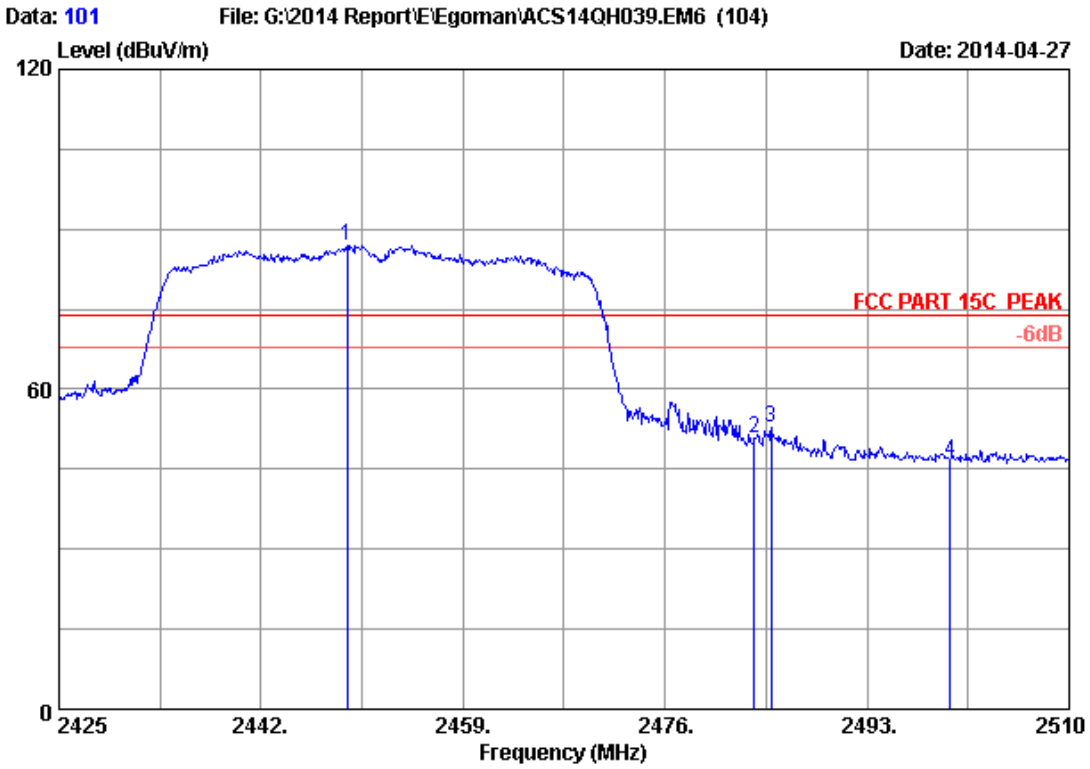
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 82
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
M/N : DW220XWXX

No.	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	2385.600	28.15	5.78	35.70	73.34	71.57	74.00	2.43	Peak
2	2390.000	28.16	5.78	35.70	71.10	69.34	74.00	4.66	Peak
3	2398.620	28.18	5.79	35.70	77.65	75.92	74.00	-1.92	Peak
4	2400.000	28.18	5.80	35.70	73.65	71.93	74.00	2.07	Peak
5	2420.180	28.22	5.83	35.70	102.47	100.82	74.00	-26.82	Peak

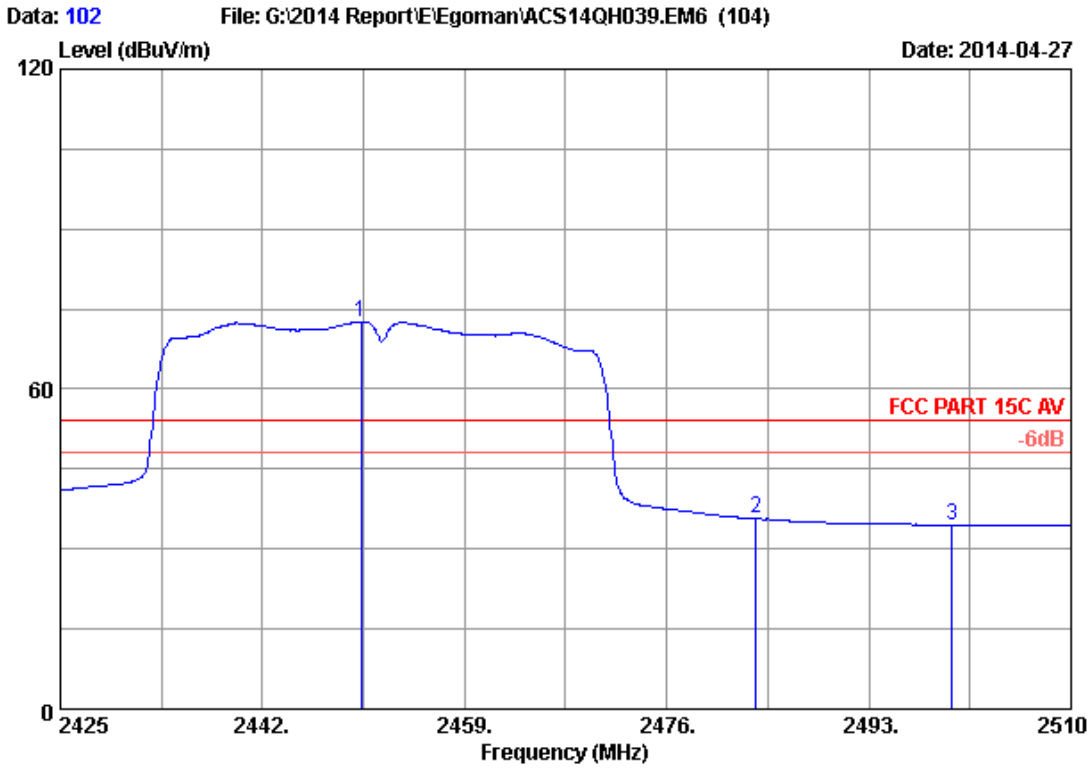
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 101
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	2449.225	28.29	5.87	35.70	88.42	86.88	74.00	-12.88	Peak
2	2483.500	28.36	5.92	35.70	52.36	50.94	74.00	23.06	Peak
3	2484.925	28.37	5.92	35.70	54.10	52.69	74.00	21.31	Peak
4	2500.000	28.40	5.94	35.70	47.69	46.33	74.00	27.67	Peak

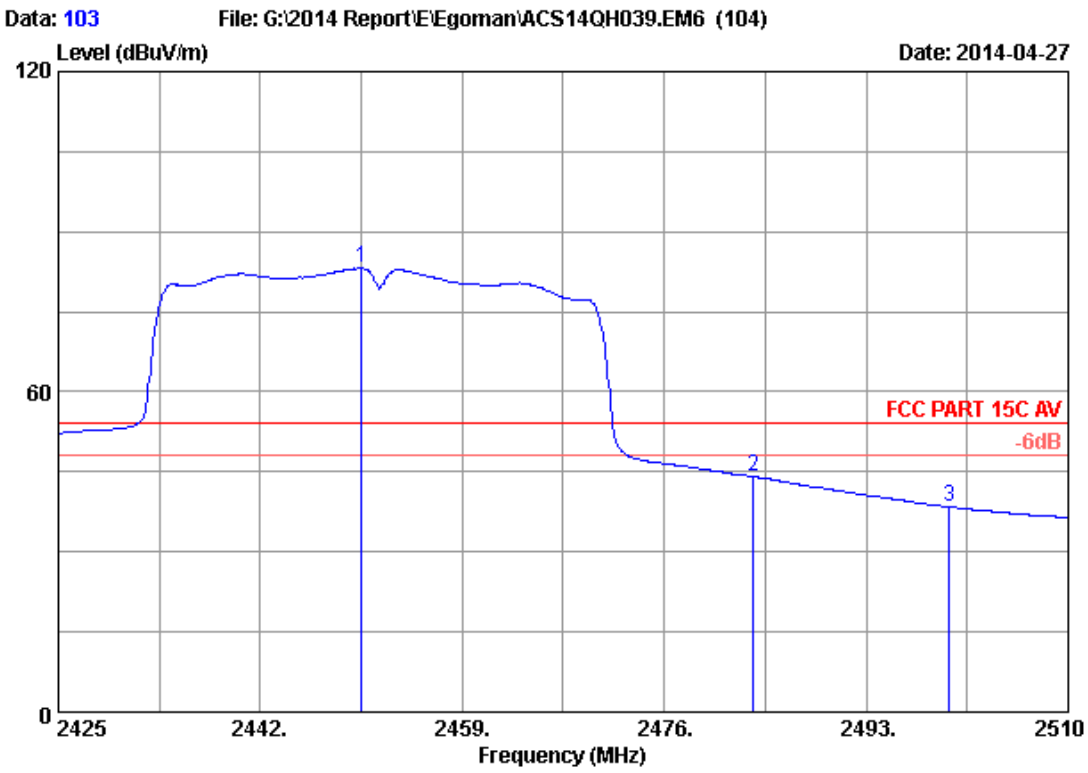
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 102
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	2450.330	28.29	5.87	35.70	74.21	72.67	54.00	-18.67	Average
2	2483.500	28.36	5.92	35.70	37.12	35.70	54.00	18.30	Average
3	2500.000	28.40	5.94	35.70	35.85	34.49	54.00	19.51	Average

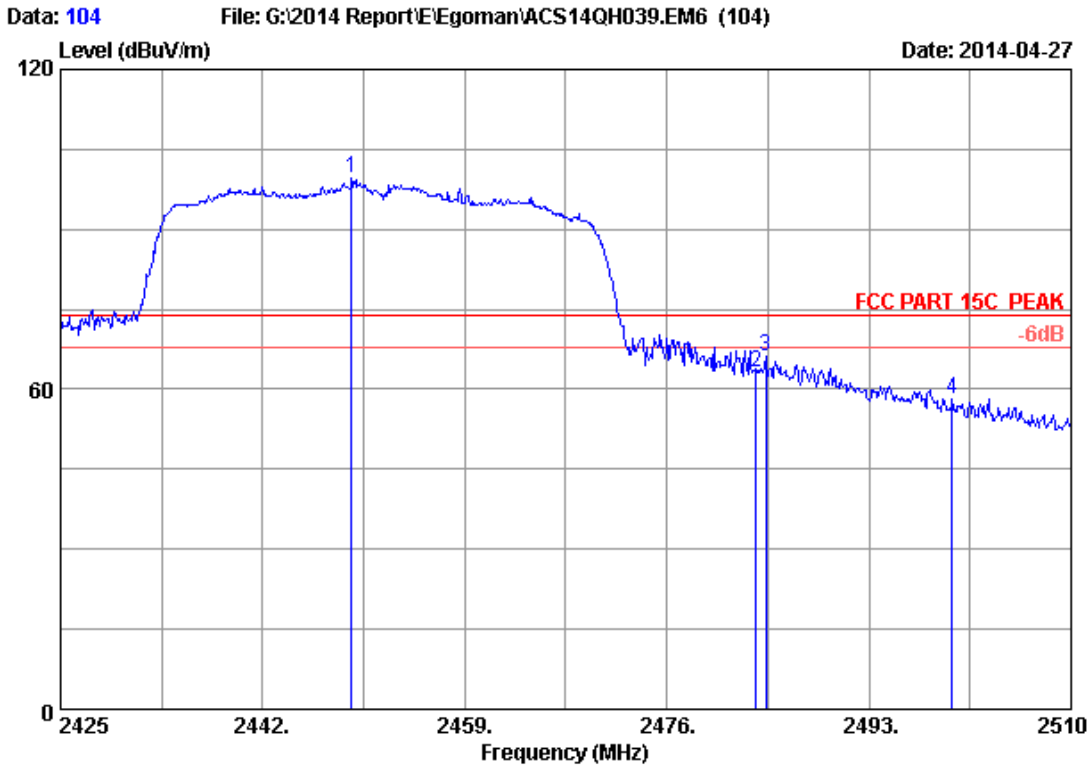
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 103
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	2450.500	28.29	5.87	35.70	84.65	83.11	54.00	-29.11	Average
2	2483.500	28.36	5.92	35.70	45.59	44.17	54.00	9.83	Average
3	2500.000	28.40	5.94	35.70	39.78	38.42	54.00	15.58	Average

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



Site no. : 3m Chamber Data no. : 104
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 24*C/56% Engineer : Leo-Li
EUT : USB WiFi Dongle
Power Rating : DC 5V From PC Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
M/N : DW220XWXX

No.	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	2449.480	28.29	5.87	35.70	101.05	99.51	74.00	-25.51	Peak
2	2483.500	28.36	5.92	35.70	64.68	63.26	74.00	10.74	Peak
3	2484.330	28.37	5.92	35.70	67.76	66.35	74.00	7.65	Peak
4	2500.000	28.40	5.94	35.70	59.40	58.04	74.00	15.96	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
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	N9030A	MY51380221	Oct.31, 13	1Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.08, 13	1Year
4.	HF Cable	Hubersuhner	Sucoflex104	-	May.08, 13	1 Year

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 300KHz RBW and 1MHz 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: USB WiFi Dongle		
M/N: DW220XWXX		
Test date:2014-05-01	Pressure: 101.4±1.0kpa	Humidity: 53.4±3.0 %
Tested by:Leo-Li	Test site: RF site	Temperature:23.6±0.6 ℃

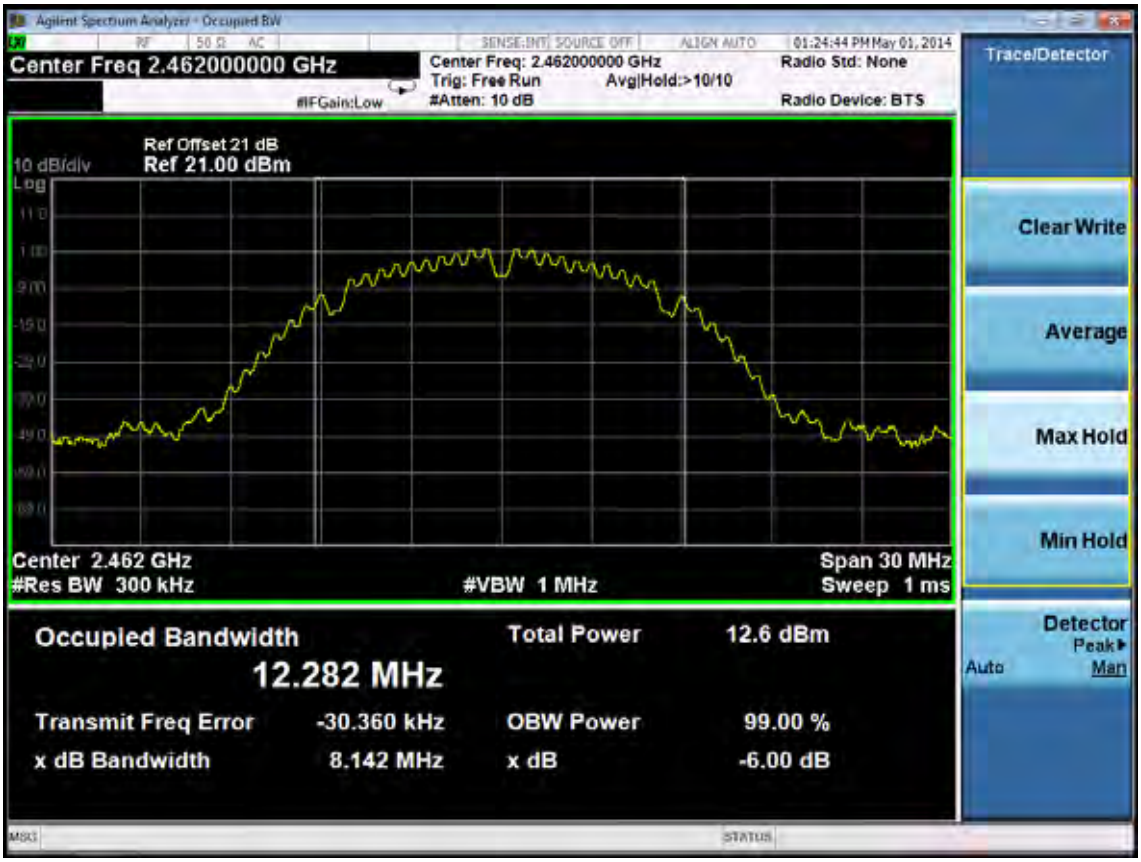
Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	CH	6dB bandwidth （MHz）	Limit (KHz)
11b	CH1	8.144	>500
	CH6	8.148	>500
	CH11	8.142	>500
11g	CH1	15.94	>500
	CH6	15.75	>500
	CH11	15.75	>500
11n HT20	CH1	17.37	>500
	CH6	17.44	>500
	CH11	17.40	>500
11n HT20	CH1	36.12	>500
	CH4	33.73	>500
	CH7	35.49	>500
Conclusion: PASS			

Test Mode: IEEE 802.11b TX

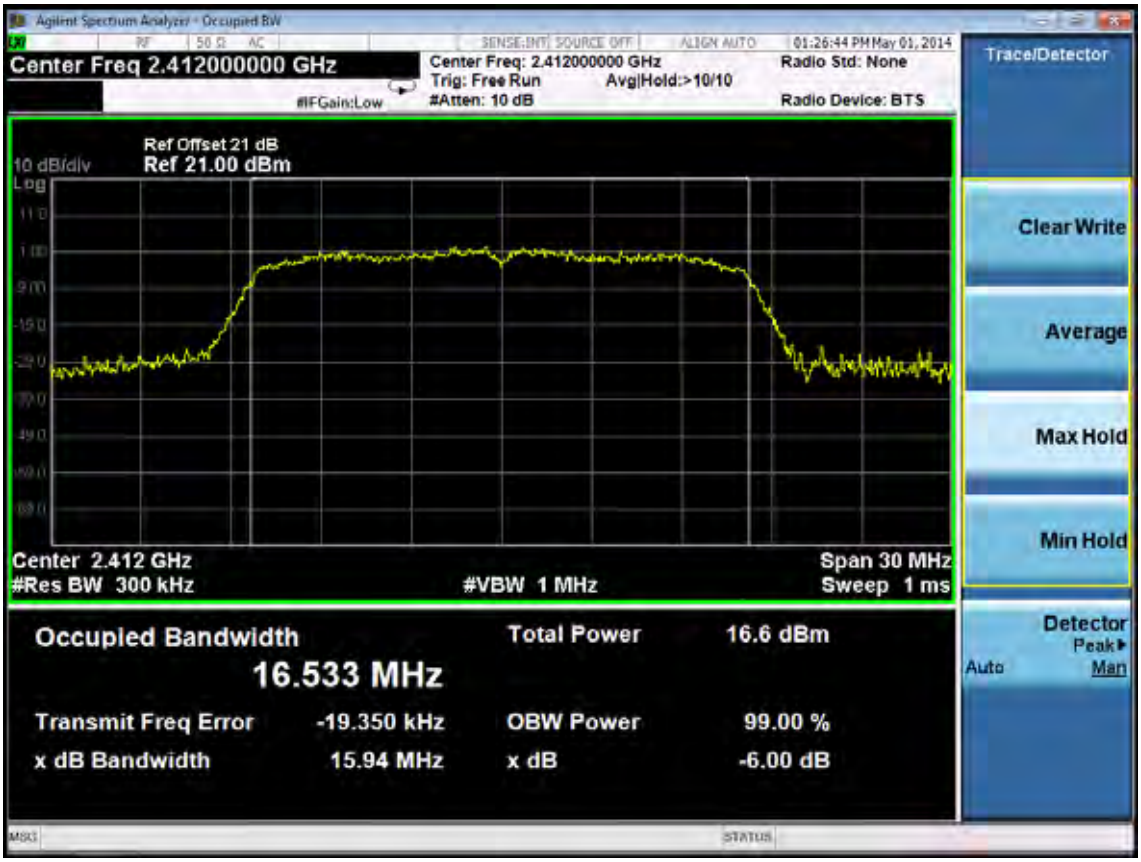
Test CH1: 2412MHz

Test CH6: 2437MHz

Test CH11: 2462MHz



Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz

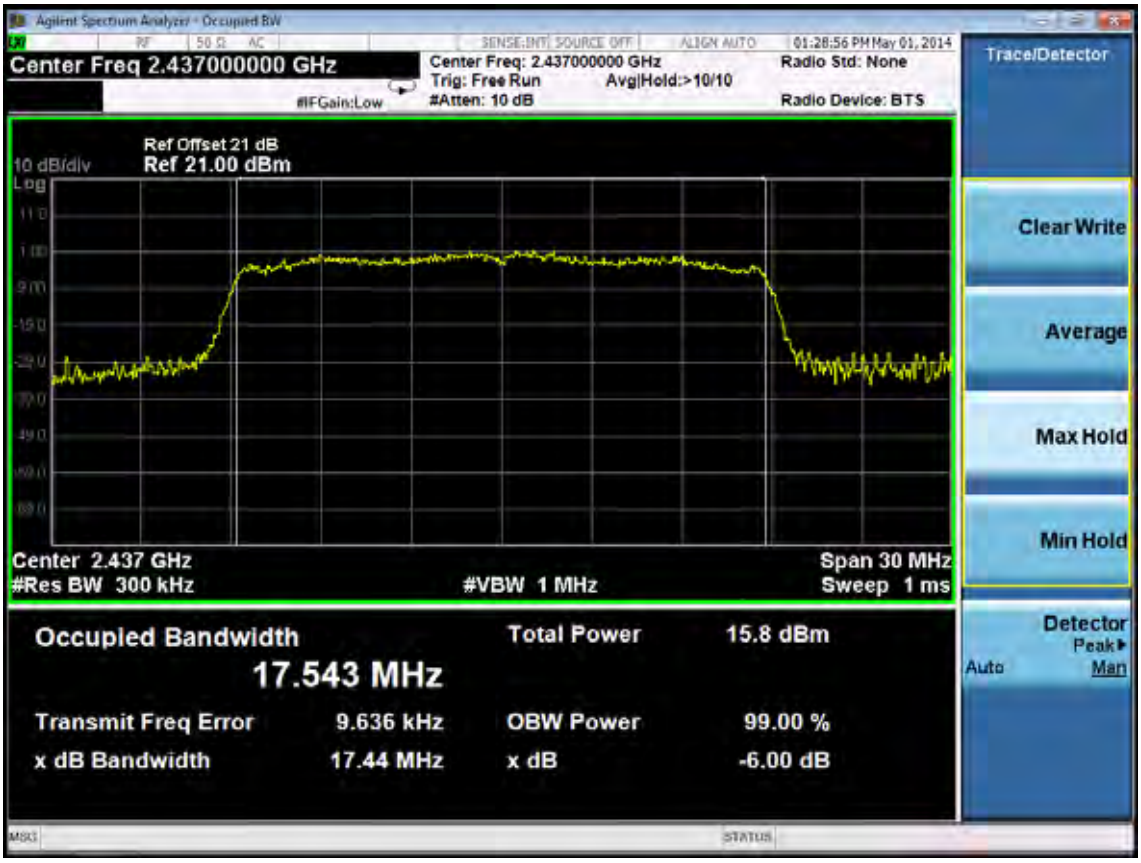


Test CH6: 2437MHz

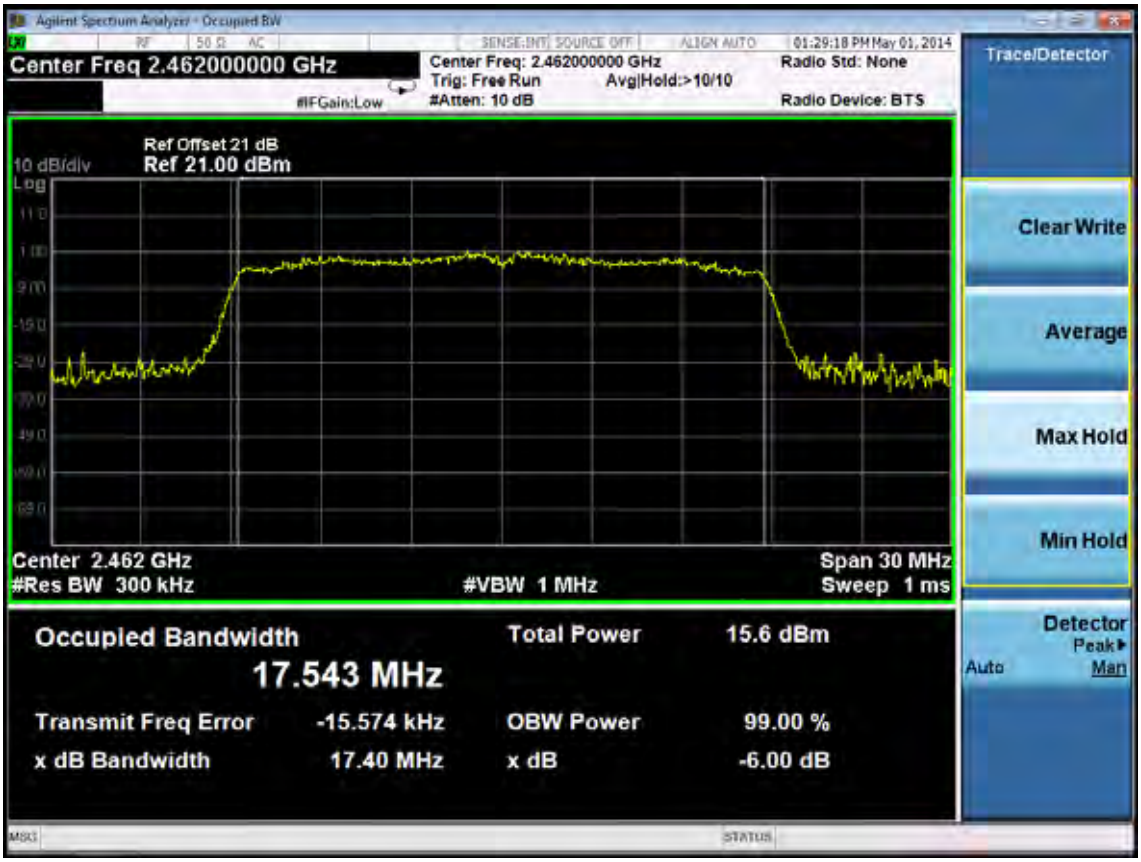
Test CH11: 2462MHz

Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz

Test CH6: 2437MHz



Test CH11: 2462MHz

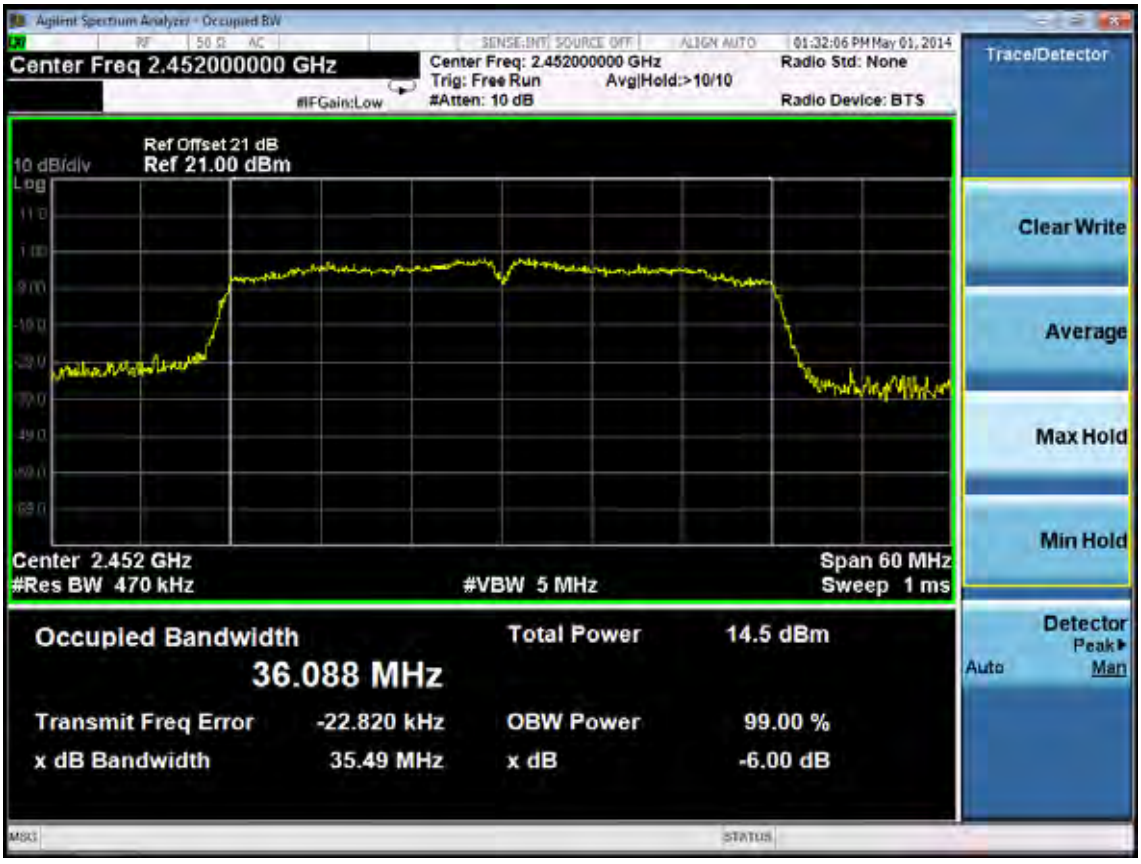


Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz

Test CH4: 2437MHz

Test CH7: 2452MHz



8. OUTPUT POWER TEST

8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.08, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 13	1Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 13	1Year
7.	Spectrum Analyzer	Agilent	N9030A	MY5138022	May.08, 13	1 Year

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 26dB attenuator.

2, For IEEE 802.11b/g and IEEE802.11n HT20 mode, use a PK power meter which's bandwidth is 20MHz and above 26dB bandwidth of signal to measure out each test modes' PK output power.

3, For IEEE802.11n HT40 mode, because the signal's bandwidth is about 40MHz and above 20MHz bandwidth of power sensor ML2491A. So used the test method per KDB558074.

1) Set the RBW=1MHz and VBW =3MHz
2) Set the span to a value that is 5-30% greater than EBW
3) Detector = peak
4) Sweep time = auto couple
5) Trace Mode = max hold
6) allow trace to fully stabilize
7) use the spectrum analyzer's integrated band power measurement function with band limits set equal to the EBW band edges.

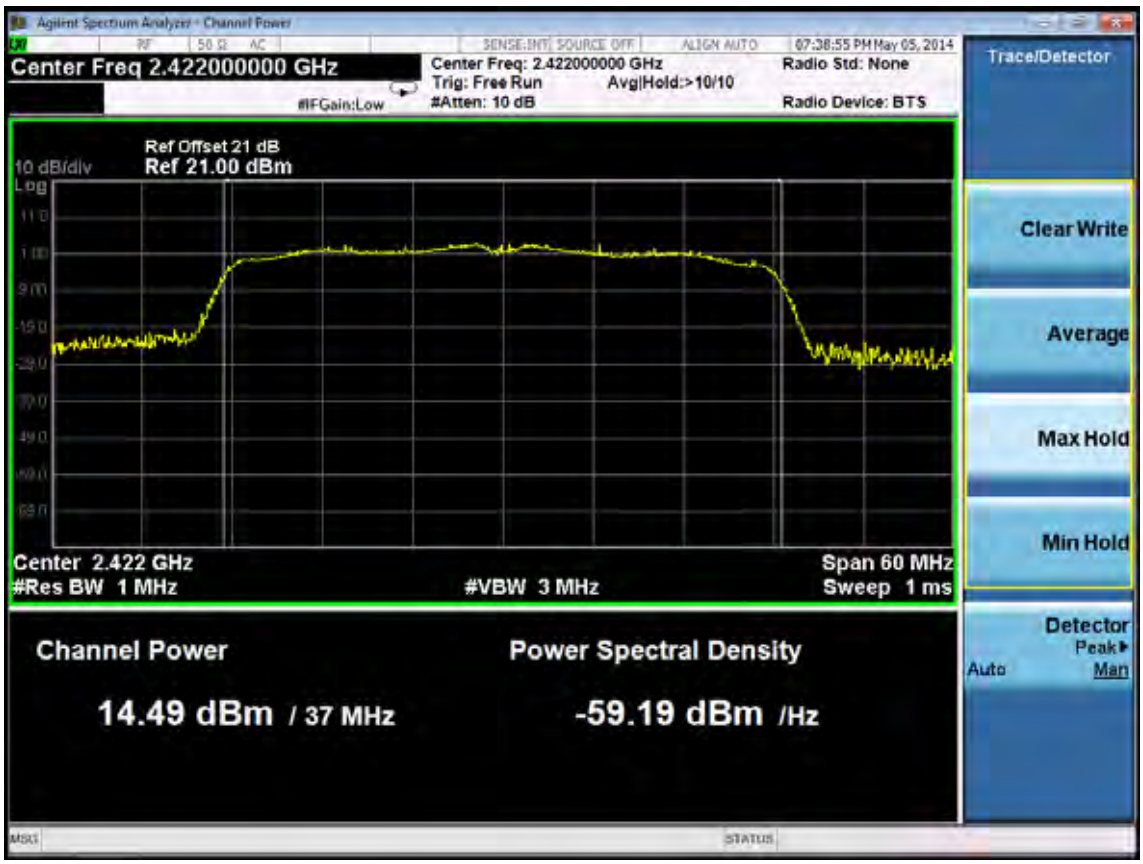
Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

8.4.Test Results

EUT: USB WiFi Dongle		
M/N: DW220XWXX		
Test date:2014-05-05	Pressure: 101.3±1.0kpa	Humidity: 52.9±3.0 %
Tested by:Leo-Li	Test site: RF site	Temperature: 22.5±0.6 ℃

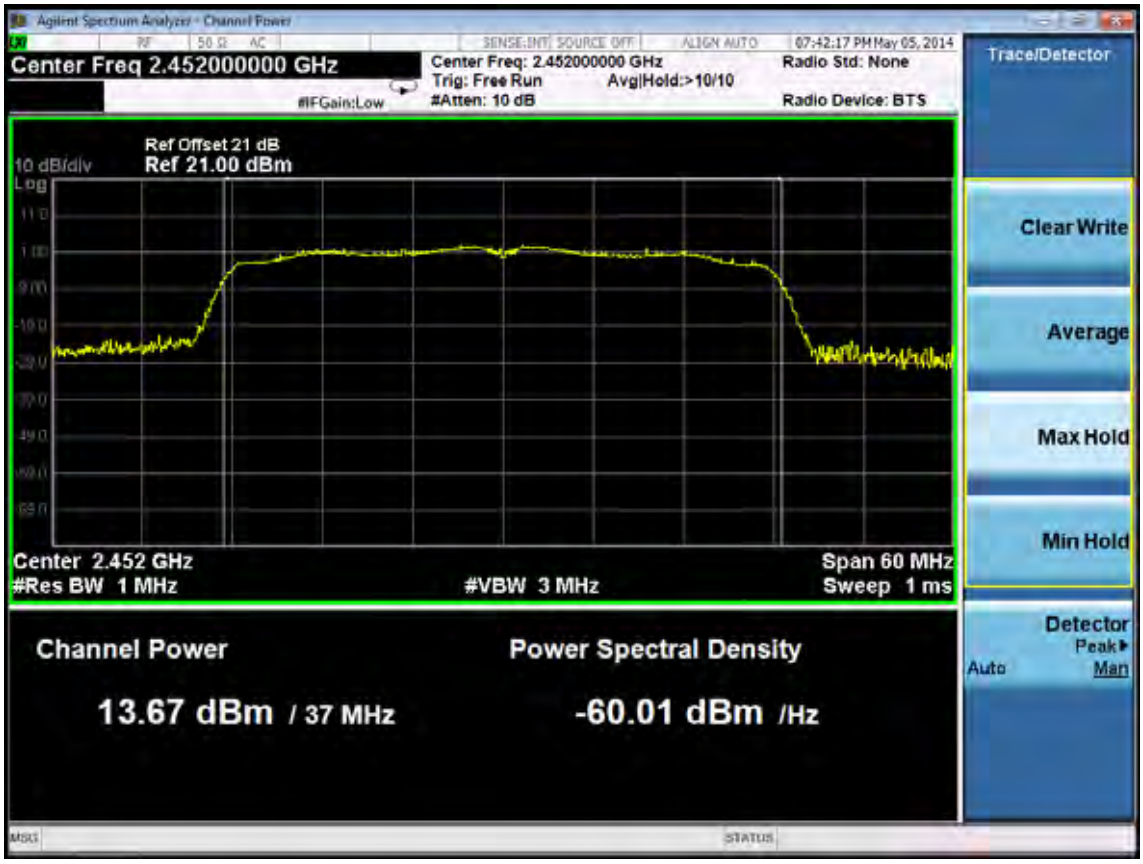
Cable loss: 1.0dB		Attenuator loss: 20 dB	
Test Mode	CH (MHz)	Peak output Power （dBm）	Limit (dBm)
11b	CH1	13.46	30
	CH6	13.45	30
	CH11	13.11	30
11g	CH1	14.15	30
	CH6	14.40	30
	CH11	14.85	30
11nHT20	CH1	14.29	30
	CH6	14.33	30
	CH11	14.67	30
11nHT40	CH1	14.49	30
	CH4	14.38	30
	CH7	13.67	30
Conclusion: PASS			

Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz



Test CH6: 2437MHz

Test CH11: 2452MHz



9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9607-4580	Aug.28, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year

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. Set the test frequency as center frequency, Set RBW=3KHz,VBW=10KHz,Span large enough capture the entire frequency, Read out maximum peak level frequency

3. Set the frequency read from produce 2 as center frequency, then set the span= 300KHz, Sweep time=Span/RBW, Then Max hold, read out each mode and each chain's Power density.

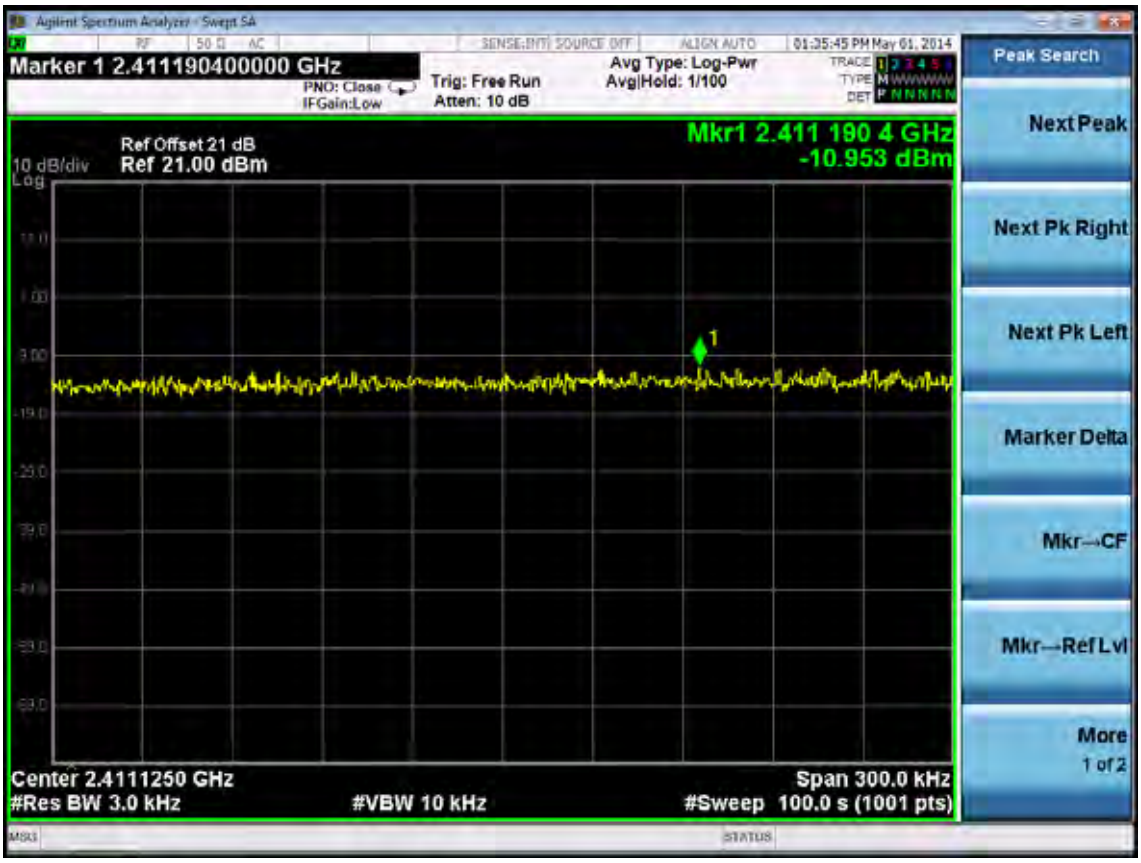
Note: The cable loss and attenuator loss were offset into measure device as an amplitude.

9.4.Test Results

EUT:USB WiFi Dongle		
M/N: DW220XWXX		
Test date:2014-05-01	Pressure: 101.4±1.0kpa	Humidity: 53.5±3.0 %
Tested by:Leo-Li	Test site: RF site	Temperature: 23.1±0.6 ℃

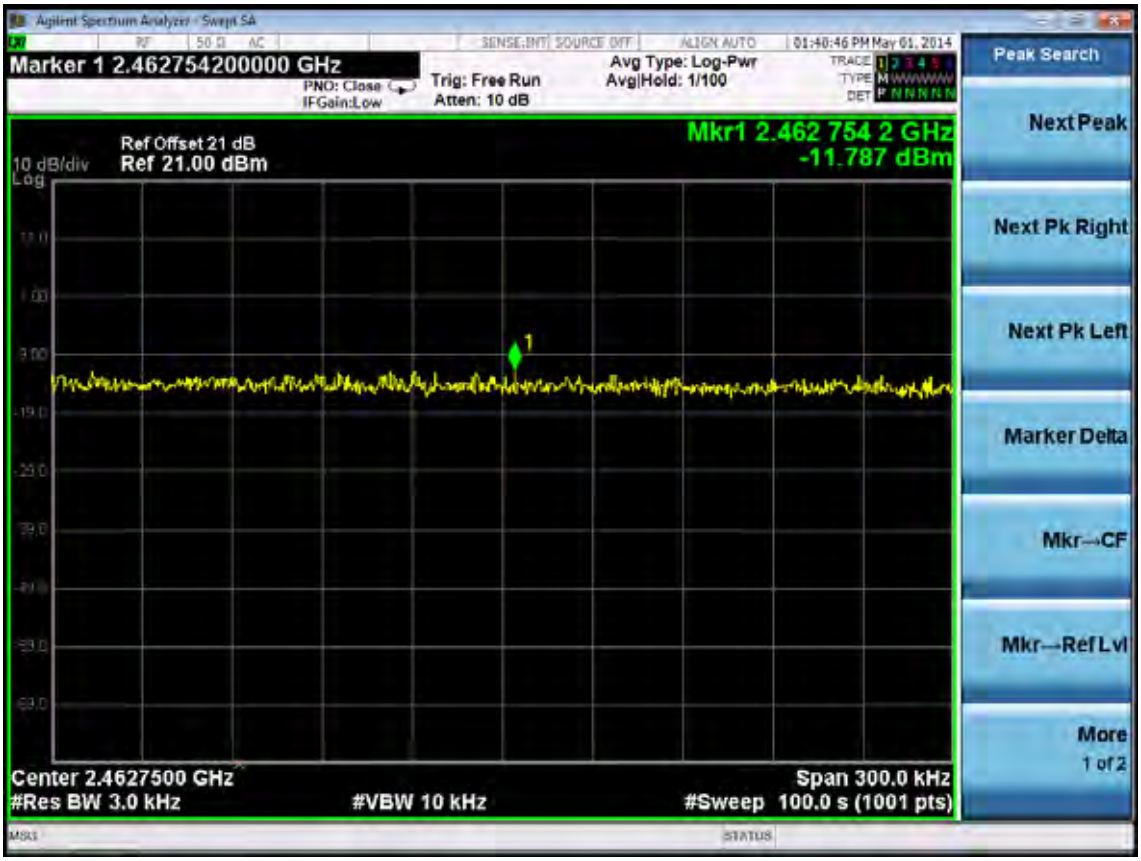
Duty cycle X: 100%			
Test Mode	CH	Result (dBm/MHz)	Limit （dBm/MHz）
11b	CH1	-10.953	8
	CH6	-11.671	8
	CH11	-11.787	8
11g	CH1	-13.775	8
	CH6	-14.221	8
	CH11	-14.504	8
11n HT20	CH1	-15.161	8
	CH6	-14.283	8
	CH11	-14.418	8
11nHT40	CH1	-15.147	8
	CH4	-16.006	8
	CH7	-16.451	8
Conclusion: PASS			

Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz



Test CH6: 2437MHz

Test CH11: 2462MHz



Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz

Test CH6: 2437MHz

Test CH11: 2462MHz

Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz

Test CH6: 2437MHz

Test CH11: 2462MHz

Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz

Test CH4: 2437MHz

Test CH7: 2452MHz

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 SMD ceramic antenna 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 2.56dBi.

11.DEVIATION TO TEST SPECIFICATIONS

[NONE]