



## FCC 47 CFR PART 15 SUBPART C

### TEST REPORT

For

**Product Name: 802.11 bgn Enterprise Access point with plastic shell and internal antenna**

**Brand Name: DCN**

**Model No.: DCWL-7942AP**

**Series Model: N/A**

**FCC ID: DCN00 DCWL7942AP50**

**Test Report Number:**

**C130809R02-RPW**

**Issued for**

**Digital China Networks (Beijing) Limited**

**Digital Technology Plaza ,No.9 shangdi 9th street, Haidian District Beijing China**

**Issued by**

**Compliance Certification Services Inc.**

**Kun shan Laboratory**

**No.10 Weiye Rd., Innovation park, Eco&Tec,  
Development Zone, Kunshan City, Jiangsu, China**

**TEL: 86-512-57355888**

**FAX: 86-512-57370818**



**Note:** This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by A2LA or any government agencies. The test results in the report only apply to the tested sample.



## TABLE OF CONTENTS

<b>1. TEST RESULT CERTIFICATION.....</b>	<b>3</b>
<b>2. EUT DESCRIPTION.....</b>	<b>4</b>
<b>3. TEST METHODOLOGY .....</b>	<b>5</b>
3.1. EUT CONFIGURATION .....	5
3.2. EUT EXERCISE .....	5
3.3. GENERAL TEST PROCEDURES.....	5
3.4. FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS.....	6
3.5. DESCRIPTION OF TEST MODES.....	7
<b>4. INSTRUMENT CALIBRATION.....</b>	<b>8</b>
4.1. MEASURING INSTRUMENT CALIBRATION .....	8
<b>5. FACILITIES AND ACCREDITATIONS .....</b>	<b>10</b>
5.1. FACILITIES .....	10
5.2. EQUIPMENT .....	10
5.3. LABORATORY ACCREDITATIONS AND LISTING .....	10
5.4. TABLE OF ACCREDITATIONS AND LISTINGS .....	11
<b>6. SETUP OF EQUIPMENT UNDER TEST .....</b>	<b>12</b>
6.1. SETUP CONFIGURATION OF EUT .....	12
6.2. SUPPORT EQUIPMENT.....	12
<b>7. FCC PART 15.247 REQUIREMENTS.....</b>	<b>13</b>
7.1. 6DB BANDWIDTH .....	13
7.2. POWER OUTPUT .....	24
7.3. PEAK POWER SPECTRAL DENSITY .....	35
7.4. SPURIOUS EMISSIONS .....	46
7.5. RADIATED EMISSIONS .....	56
7.6. POWERLINE CONDUCTED EMISSIONS .....	86



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## 1. TEST RESULT CERTIFICATION

<b>Product Name:</b>	802.11 bgn Enterprise Access point with plastic shell and internal antenna
<b>Trade Name:</b>	DCN
<b>Model Name.:</b>	DCWL-7942AP
<b>Series Model:</b>	N/A
<b>Applicant Discrepancy:</b>	Initial
<b>Device Category:</b>	PORTABLE
<b>Date of Test:</b>	August 25, 2013
<b>Applicant:</b>	<b>Digital China Networks (Beijing) Limited</b> Digital Technology Plaza ,No.9 shangdi 9th street, Haidian District Beijing China
<b>Manufacturer:</b>	<b>Digital China Networks (Beijing) Limited</b> Digital Technology Plaza ,No.9 shangdi 9th street, Haidian District Beijing China
<b>Application Type:</b>	Certification

## APPLICABLE STANDARDS

STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart C	No non-compliance noted

## We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

**Approved by:**

Jeff.Fang  
RF Manager  
Compliance Certification Service Inc.

**Tested by:**

Blent.Wang  
Test Engineer  
Compliance Certification Service Inc.



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## 2. EUT DESCRIPTION

<b>Product Name:</b>	802.11 bgn Enterprise Access point with plastic shell and internal antenna
<b>Brand Name:</b>	DCN
<b>Model Name:</b>	DCWL-7942AP
<b>Series Model:</b>	N/A
<b>Model Discrepancy:</b>	N/A
<b>Power Adapter Power Rating :</b>	Brand Name: Model No.:CPS024014 Input: AC 100-240V/50/60HZ 0.55A Output: DC 12V/2A
<b>Frequency Range:</b>	IEEE 802.11b/g/HT20: 2412 MHz~ 2462 MHz IEEE 802.11n HT40:2422MHz~2452MHz
<b>Transmit Power:</b>	IEEE 802.11b: 18.83dBm (76.38mW) IEEE 802.11g: 16.55dBm (45.19mW) draft 802.11n Standard-20 MHz Channel mode: 17.11dBm (51.42mW) draft 802.11n Wide-40 MHz Channel mode: 16.74dBm (47.25mW)
<b>Modulation Technique:</b>	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: DSSS /OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20/40 : OFDM (64QAM, 16QAM, QPSK, BPSK)
<b>Number of Channels:</b>	IEEE 802.11b/g: 11 Channels IEEE 802.11n HT20 :11 Channels IEEE 802.11n HT40: 7 Channels
<b>Antenna Specification:</b>	3.0 dBi gain (Max)

### Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for **FCC ID: DCN00 DCWL7942AP50** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.



## 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 2009 and FCC CFR 47 15.207, 15.209 and 15.247.

### 3.1. EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

### 3.2. EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

### 3.3. GENERAL TEST PROCEDURES

#### Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 2009 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

#### Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4 2009.



## 3.4. FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 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	2655 - 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	<sup>(2)</sup>
13.36 - 13.41			

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.



## 3.5. DESCRIPTION OF TEST MODES

The EUT transmitting and receiving with one (chain 0) antenna working at b/g mode, so one antenna working configuration was used for b/g mode testing in this report.

The EUT transmitting and receiving with two antennas simultaneously working at n mode, so 2x2 configuration was used for all testing in this report.

The worst-case data rates are determined to be as follows for each mode based on investigation by measuring the average power, peak power and PPSD across all data rates, bandwidths, and modulations.

The worst-case data rates:

IEEE802.11b mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 11Mbps data rate was chosen for full testing.

IEEE802.11g mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 54Mbps data rate was chosen for full testing.

IEEE802.11n HT20 mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 65Mbps data rate was chosen for full testing.

IEEE802.11n HT40 mode:

Channel Low (2422MHz)

Channel Mid (2437MHz)

Channel High (2452MHz) with 135Mbps data rate was chosen for full testing.



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## 4. INSTRUMENT CALIBRATION

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

#### Equipment Used for Emissions Measurement

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	2014-5-12
DETECTOR NEGATIVE	Agilent	8473B	MY42240176	2014-5-12
OSCILLOSCOPE	Agilent	DSO6104A	MY44002585	2014-3-24
Peak and Avg Power Sensor	Agilent	E9327A	US40441788	2014-3-24
EPM-P Series Power Meter	Agilent	E4416A	GB41292714	2014-5-12
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	2014-5-12
DC POWER SUPPLY	GW instek	GPS-3303C	E903131	2014-5-12
Temp. / Humidity Chamber	Kingson	THS-M1	242	2014-3-12
Test Software	EZ-EMC			

#### 977 Chamber

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	2014-5-12
EMI Test Receiver	R&S	ESPI3	101026	2014-3-15
Pre-Amplifier	MINI	ZFL-1000VH2	d041703	2014-5-12
Pre-Amplifier	Miteq	NSP4000-NF	870629	2014-5-12
Bilog Antenna	Sunol	JB1	A110204-2	2014-5-12
Horn-antenna	SCHWARZBECK	BBHA9120D	D:266	2014-6-7
Turn Table	CT	CT123	4165	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R
Controller	CT	CT1OO	95637	N.C.R
Test Software	EZ-EMC			



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

Conducted Emission				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI TEST RECEIVER	R&S	ESCI3	100781	2014-3-15
V (V-LISN)	Schwarzbeck	NNLK 8129	8129-143	2014-3-15
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	SN:05012	2014-3-15
TRANSIENT LIMITER	SCHAFFNER	CFL9206	1710	2014-4-7
Test Software		EZ-EMC		

**Remark:** The measurement uncertainty is less than +/- 2.81dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

Expanded Uncertainty (95% CONFIDENCE INTERVAL): K=2



## 5. FACILITIES AND ACCREDITATIONS

### 5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at CCS China Kunshan Lab at 10#Weiye Rd, Innovation Park Eco. & Tec. Development Zone Kunshan city JiangSu, (215300), CHINA.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 2009 and CISPR Publication 22.

### 5.2. EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

### 5.3. LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 200581-0 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC5743 for 10m chamber 10m, IC5743 for 10m chamber 3m.



## 5.4. TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC Part 15/18 (using ANSI C63.4 :2009); VCCI V3; CNS 13438; CNS 13439; CNS 13803; CISPR 11; EN 55011; CISPR 13; EN 55013; CISPR 22:2005; CISPR 22:1997 +A1 :2000+A2 :2002; EN 55022:2006; EN55022 :1998 +A1 :2001+A2 :2003; EN 61000-6-3 (excluding discontinuous interference); EN 61000-6-4; AS/NZS CISPR 22; CAN/CSA-CEI/IEC CISPR 22; EN 61000-3-2; EN 61000-3-3; EN550024; EN 61000-4-2; EN 61000-4-3; EN61000-4-4; EN 61000-4-5; EN 61000-4-6; IEC 61000-4-8; EN 61000-4-11; IEC61000-3-2; IEC61000-3-3; IEC 61000-4-2; IEC 61000-4-3; IEC 61000-4-4; IEC 61000-4-5; IEC 61000-4-6; IEC 61000-4-8; IEC 61000-4-11; EN 300 220-3; EN 300 328; EN 300 330-2; EN 300 440-1; EN 300-440-2; EN 300 893; EN 301 489-01; EN 301 489-3; EN 301 489-07; EN 301 489-17; 47 CFR FCC Part 15, 22, 24	
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	 93105, 90471
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	<b>VCCI</b> R-1600 C-1707 G-216

\* No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.



## 6. SETUP OF EQUIPMENT UNDER TEST

### 6.1. SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### 6.2. SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID
1.	Notebook	DELL	E5430	CN8YYW1	N/A

**Remark:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



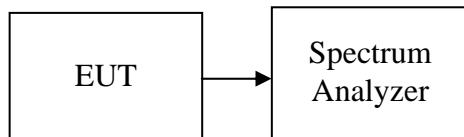
## 7. FCC PART 15.247 REQUIREMENTS

### 7.1. 6DB BANDWIDTH

#### LIMIT

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500 kHz.

#### Test Configuration



#### TEST PROCEDURE

KDB 558074 D01 DTS Measurement Guidance v03r01 dated 04-09-2013.

#### TEST RESULTS

*No non-compliance noted*

#### Test Data

##### **IEEE 802.11b mode**

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	8.964	>500	PASS
Mid	2437	9.389		PASS
High	2462	9.028		PASS

##### **IEEE 802.11g mode**

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.480	>500	PASS
Mid	2437	16.542		PASS
High	2462	16.521		PASS

##### **802.11n Standard-20 MHz Channel mode / Chain 0**

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.561	>500	PASS
Mid	2437	17.747		PASS
High	2462	17.726		PASS



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## 802.11n Standard-40 MHz Channel mode / Chain 0

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2422	36.374	>500	PASS
Mid	2437	36.532		PASS
High	2452	36.459		PASS

## 802.11n Standard-20 MHz Channel mode / Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.667	>500	PASS
Mid	2437	17.692		PASS
High	2462	17.680		PASS

## 802.11n Standard-40 MHz Channel mode / Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2422	36.501	>500	PASS
Mid	2437	36.528		PASS
High	2452	36.496		PASS



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

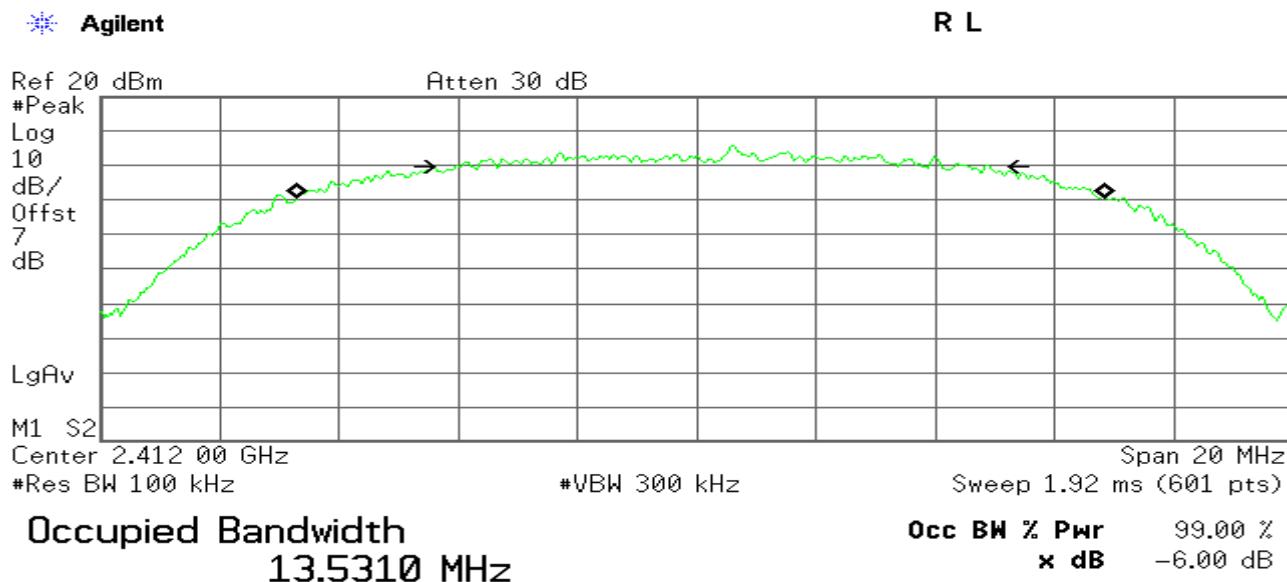
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

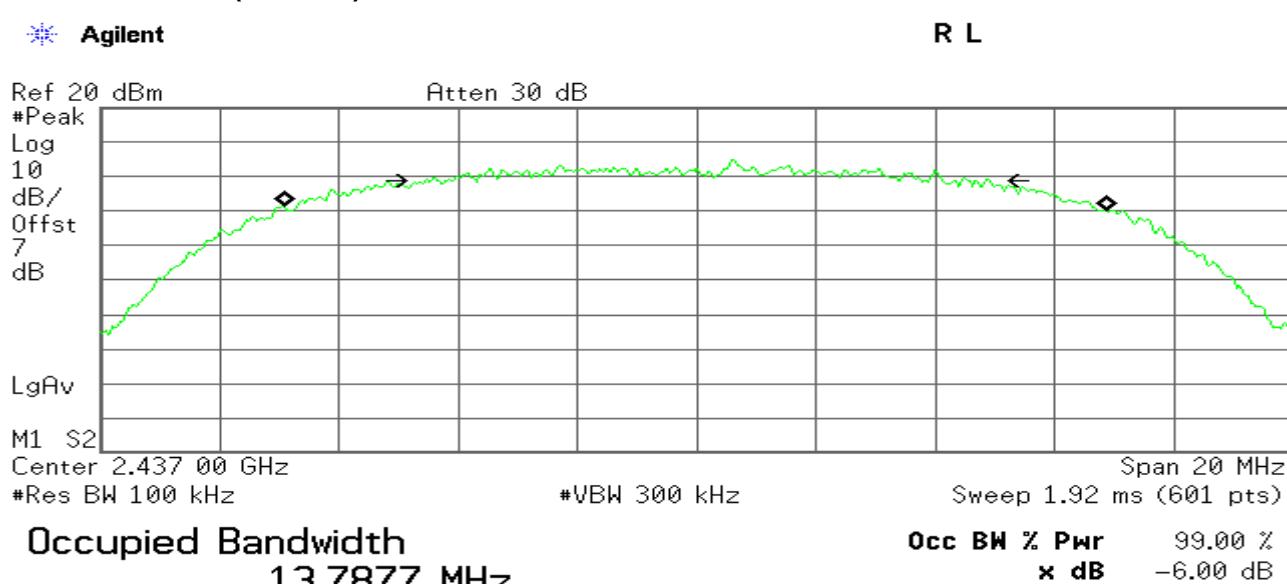
## Test Plot

### IEEE 802.11b MODE

#### 6dB Bandwidth (CH Low)



#### 6dB Bandwidth (CH Mid)





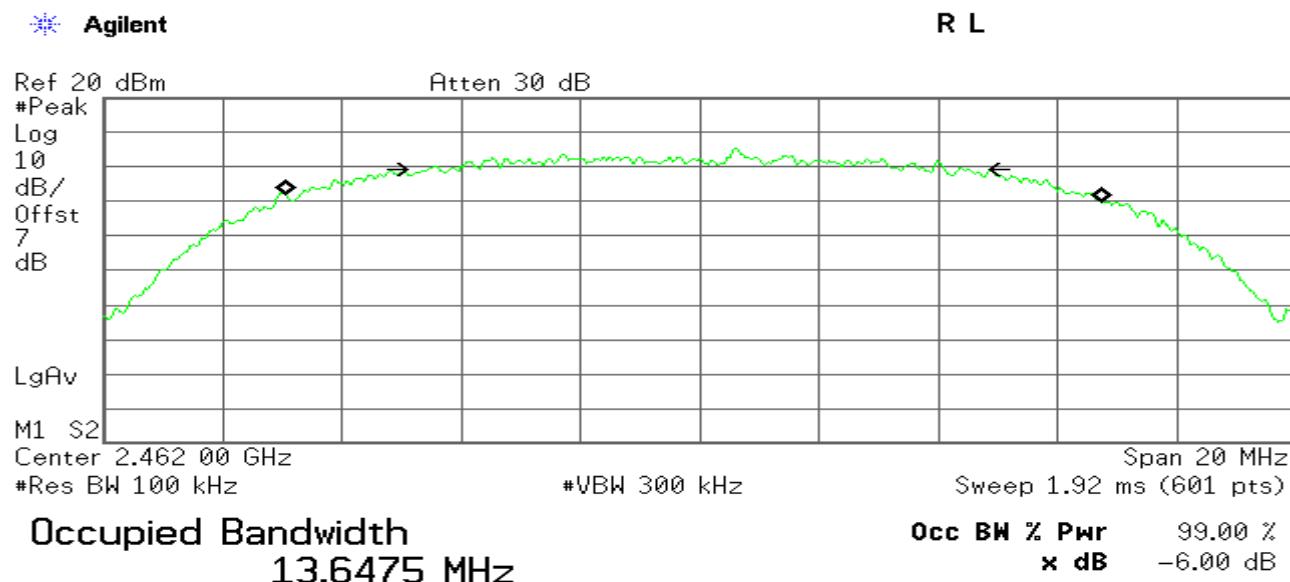
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

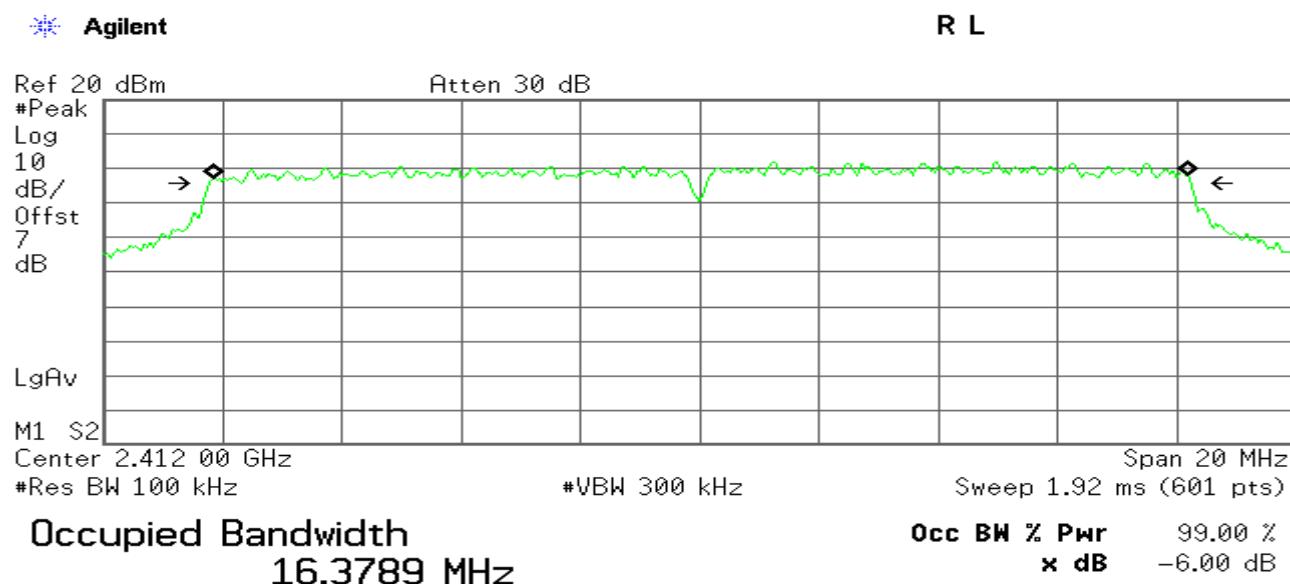
## 6dB Bandwidth (CH High)



Transmit Freq Error -105.921 kHz  
x dB Bandwidth 9.028 MHz

## IEEE 802.11g MODE

### 6dB Bandwidth (CH Low)



Transmit Freq Error 11.712 kHz  
x dB Bandwidth 16.480 MHz



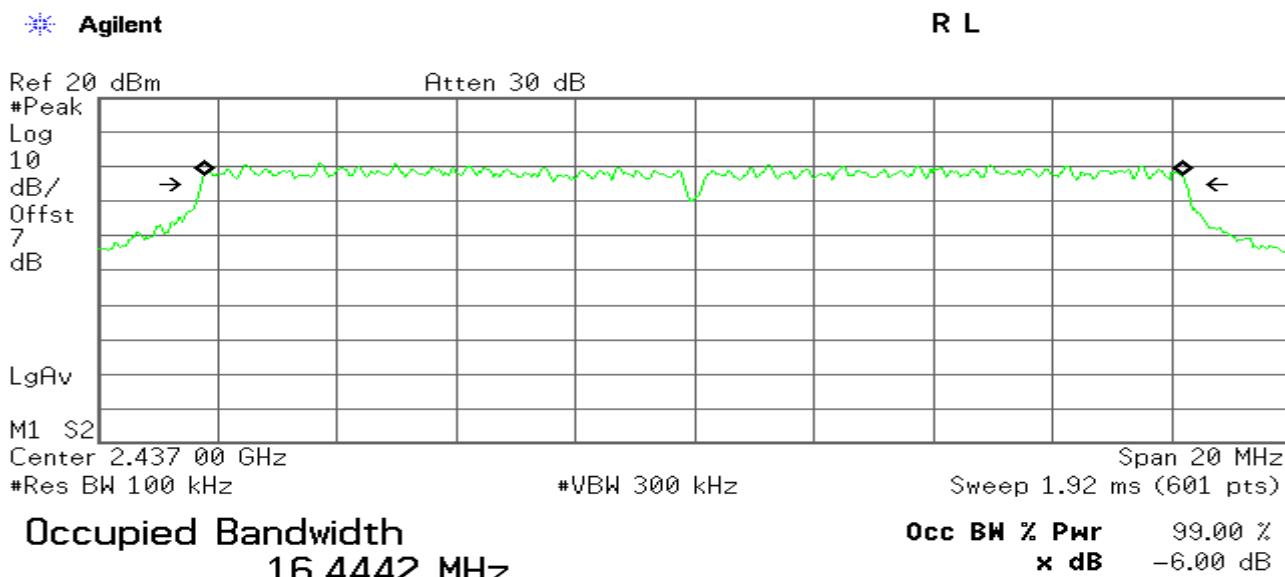
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

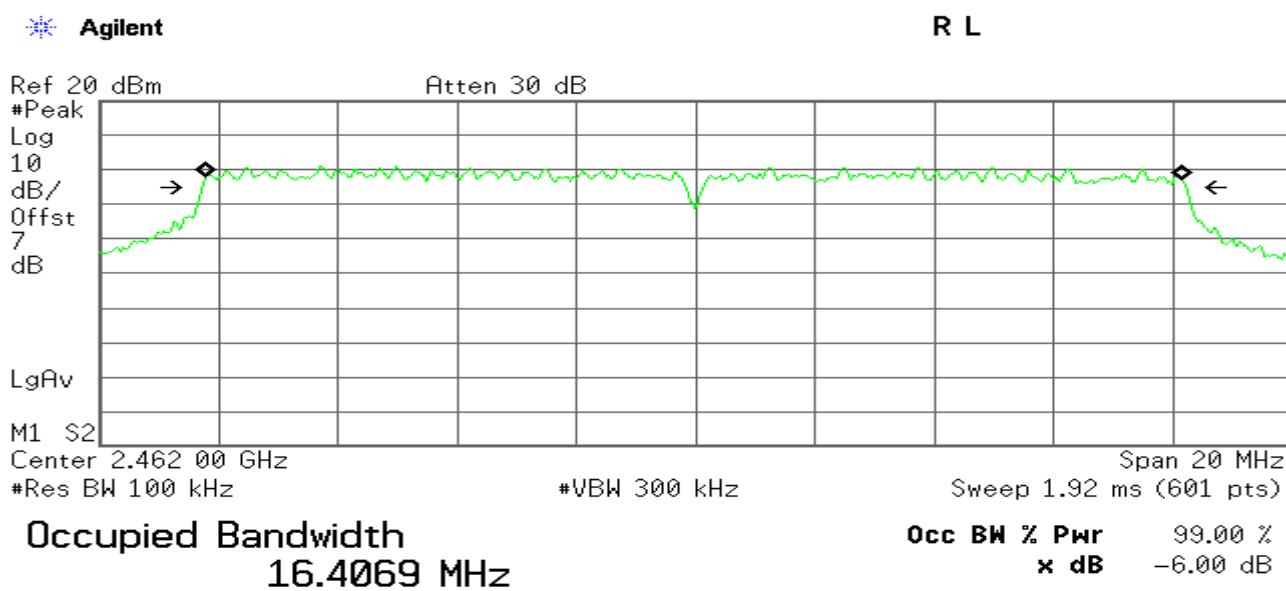
Date of Issue :August 28, 2013

## 6dB Bandwidth (CH Mid)



Transmit Freq Error -23.306 kHz  
x dB Bandwidth 16.542 MHz

## 6dB Bandwidth (CH High)



Transmit Freq Error -29.189 kHz  
x dB Bandwidth 16.521 MHz



# Compliance Certification Services Inc.

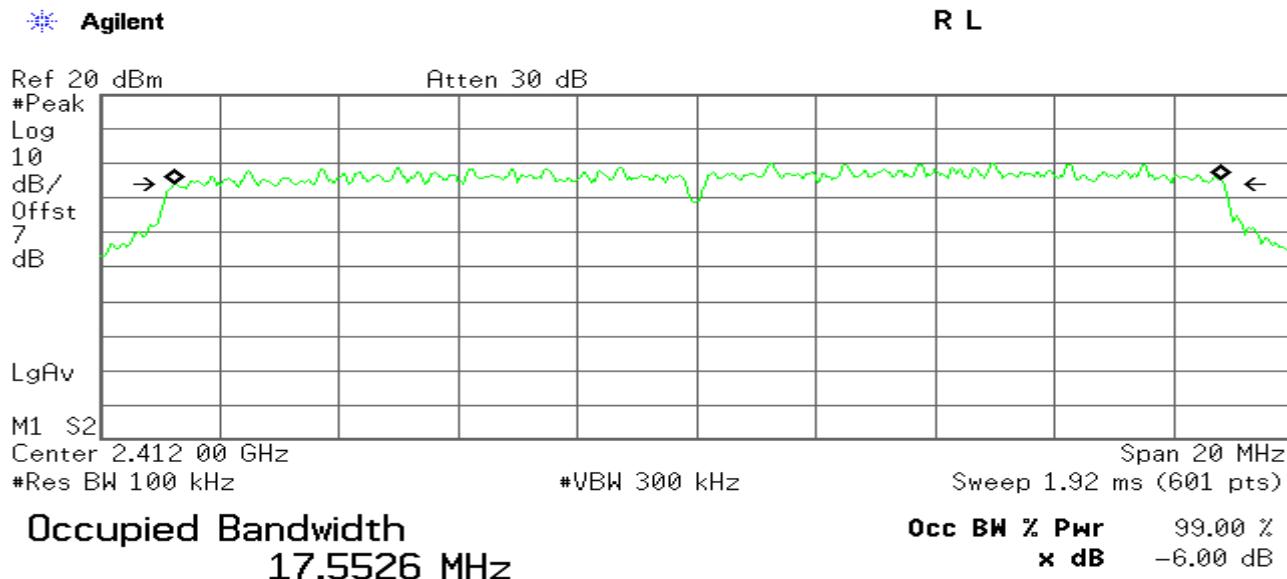
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

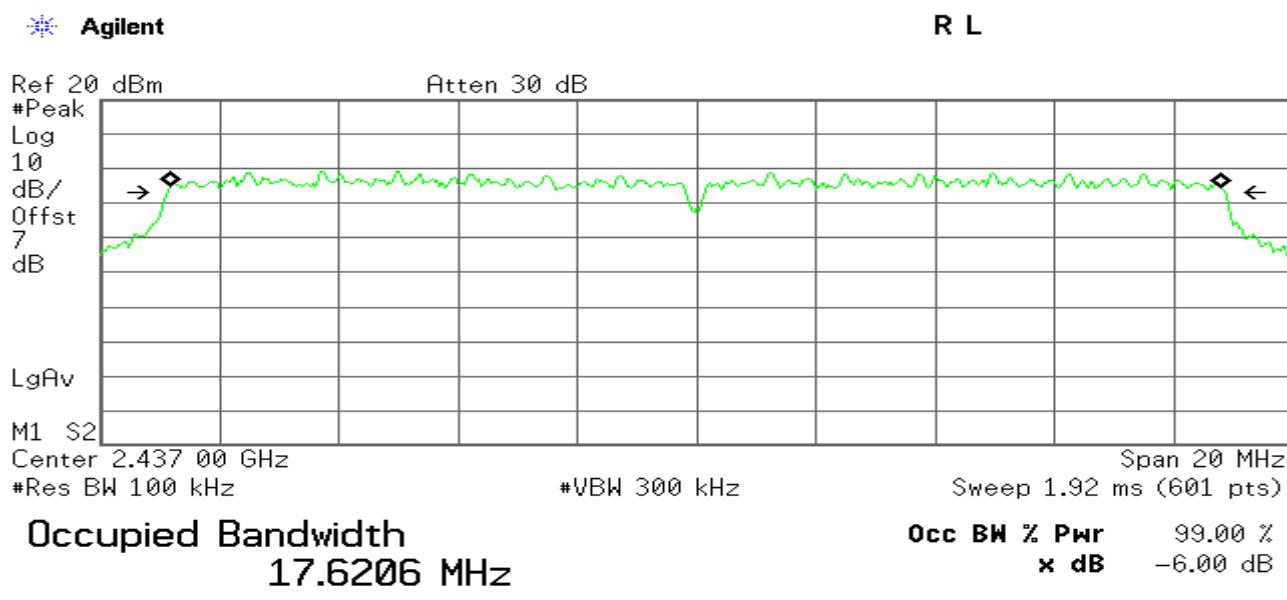
## 802.11n Standard-20 MHz Channel mode / Chain 0

### 6dB Bandwidth (CH Low)



Transmit Freq Error 13.433 kHz  
x dB Bandwidth 17.561 MHz

### 6dB Bandwidth (CH Mid)



Transmit Freq Error -16.060 kHz  
x dB Bandwidth 17.747 MHz



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

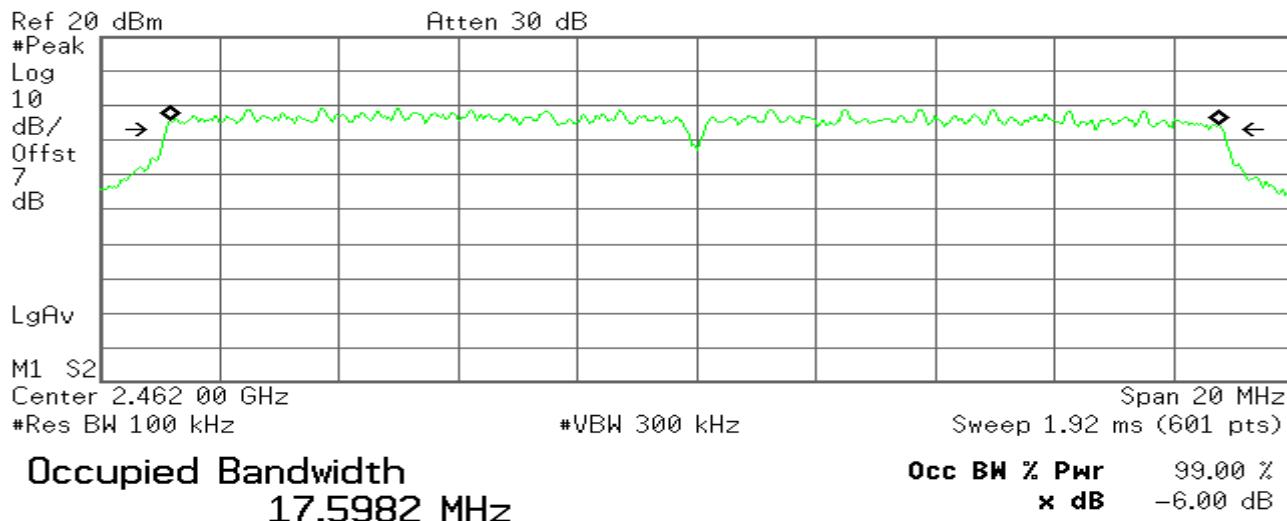
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## 6dB Bandwidth (CH High)

\* Agilent

R L



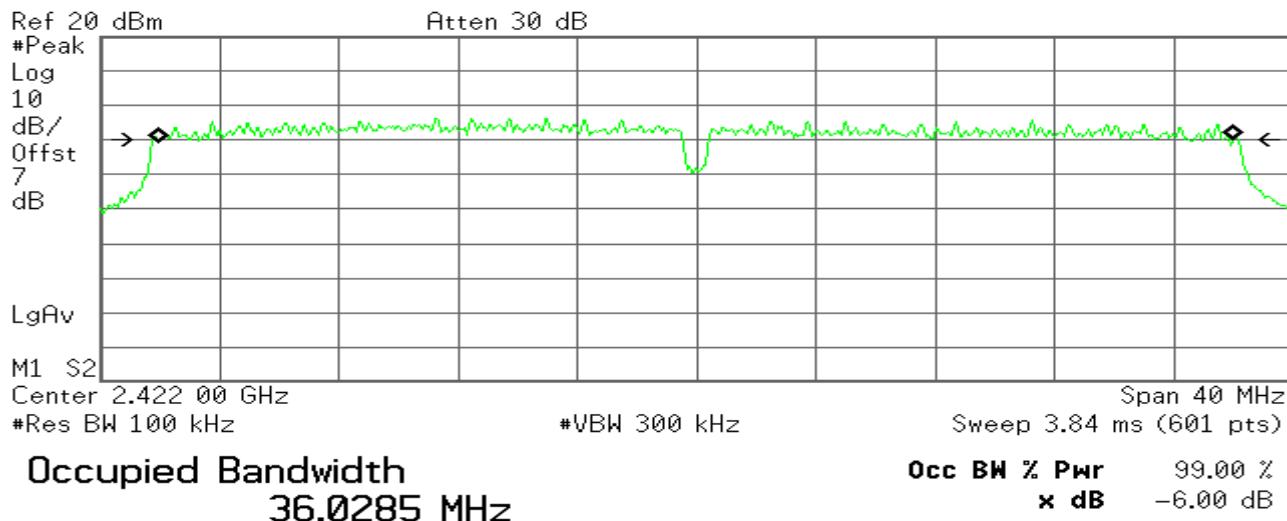
Transmit Freq Error -41.078 kHz  
x dB Bandwidth 17.726 MHz

## 802.11n Standard-40 MHz Channel mode / Chain 0

### 6dB Bandwidth (CH Low)

\* Agilent

R L



Transmit Freq Error -15.982 kHz  
x dB Bandwidth 36.374 MHz



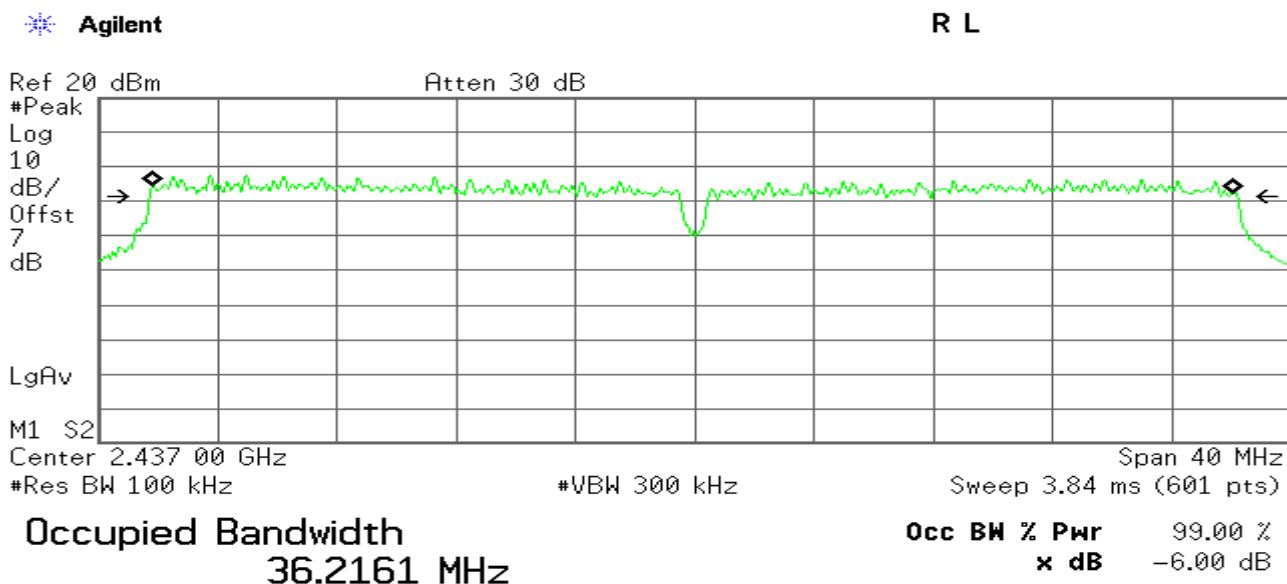
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

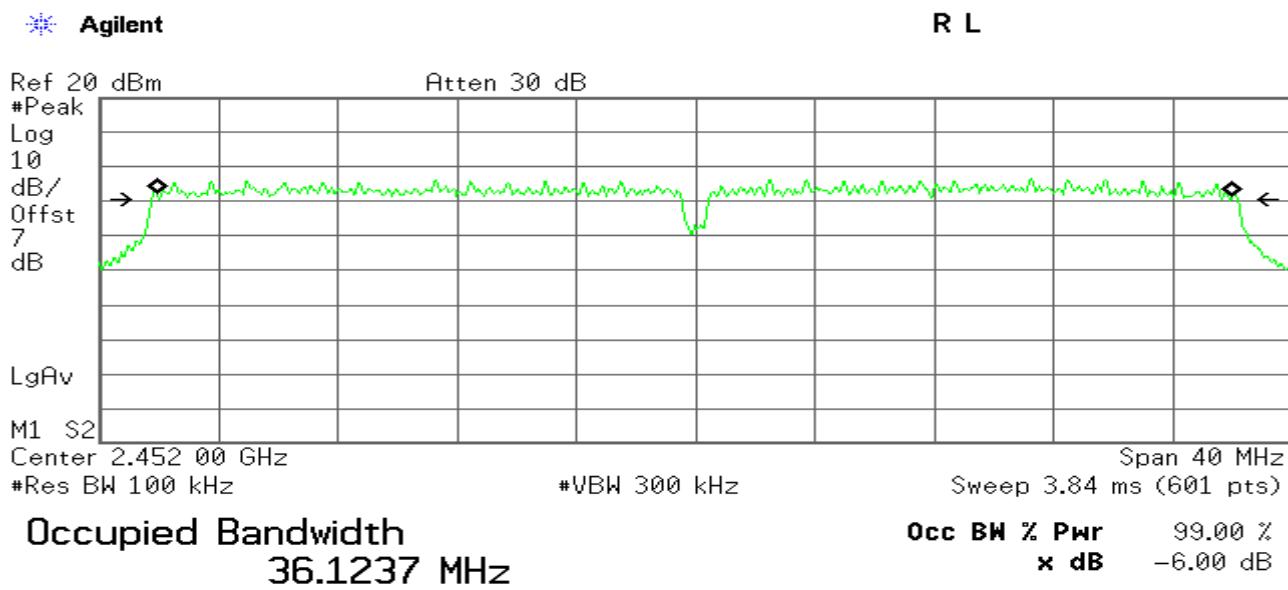
Date of Issue :August 28, 2013

## 6dB Bandwidth (CH Mid)



Transmit Freq Error      -56.879 kHz  
x dB Bandwidth      36.532 MHz

## 6dB Bandwidth (CH High)



Transmit Freq Error      -33.872 kHz  
x dB Bandwidth      36.459 MHz



# Compliance Certification Services Inc.

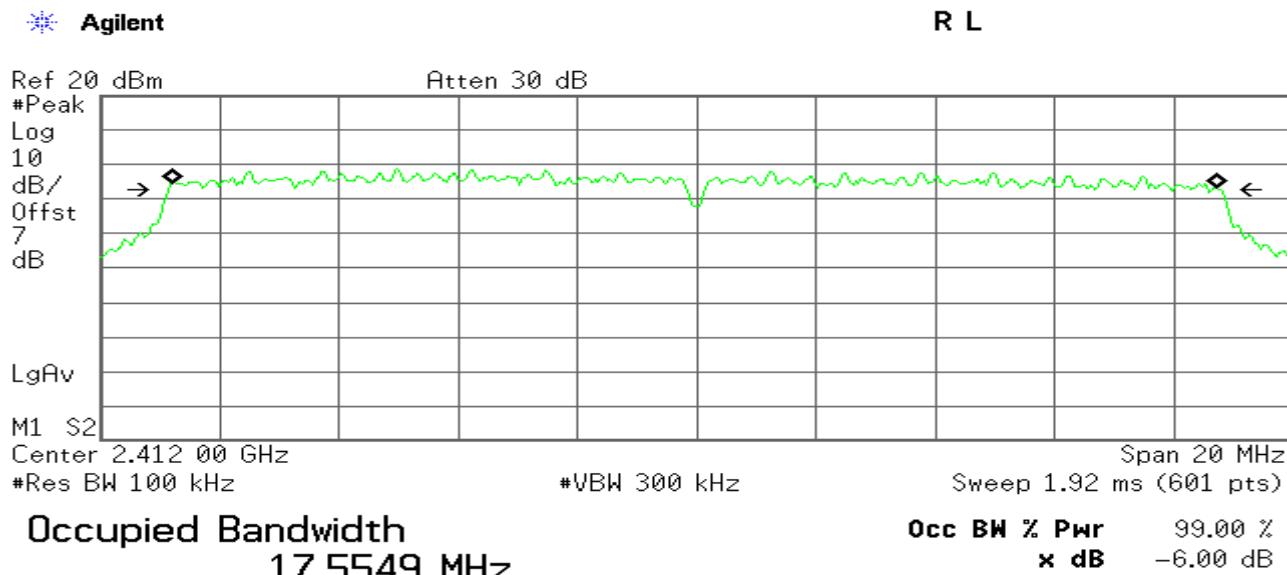
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

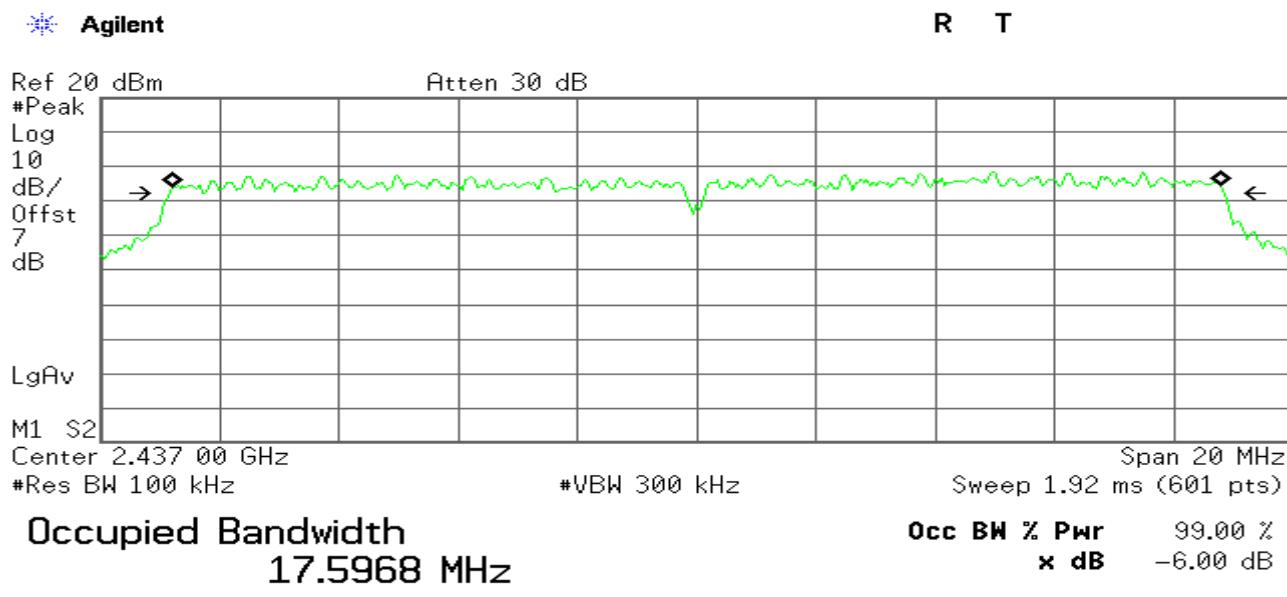
## 802.11n Standard-20 MHz Channel mode / Chain 1

### 6dB Bandwidth (CH Low)



Transmit Freq Error -32.697 kHz  
x dB Bandwidth 17.667 MHz

### 6dB Bandwidth (CH Mid)



Transmit Freq Error 635.703 Hz  
x dB Bandwidth 17.692 MHz



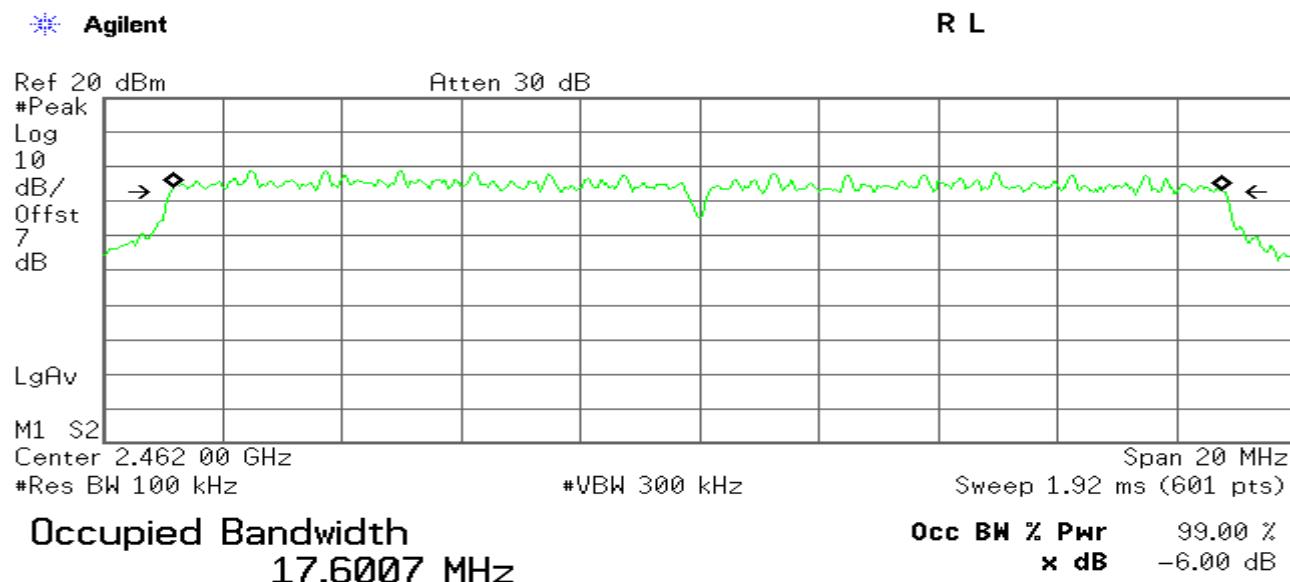
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

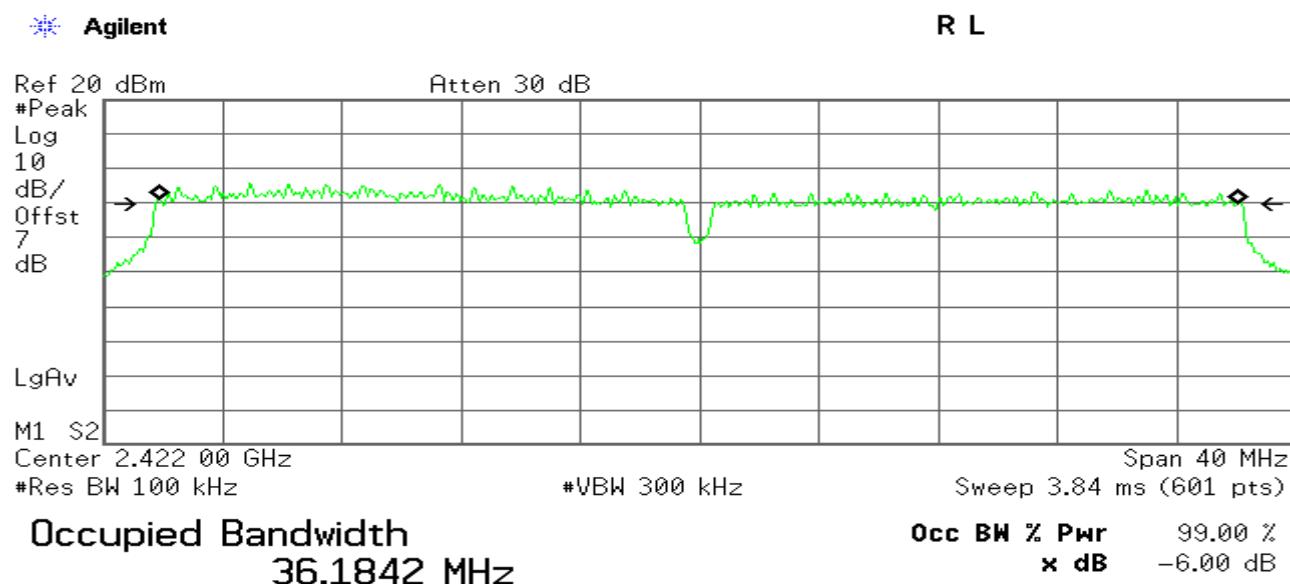
## 6dB Bandwidth (CH High)



Transmit Freq Error -31.082 kHz  
x dB Bandwidth 17.680 MHz

## 802.11n Standard-40 MHz Channel mode / Chain 1

### 6dB Bandwidth (CH Low)



Transmit Freq Error -31.899 kHz  
x dB Bandwidth 36.501 MHz



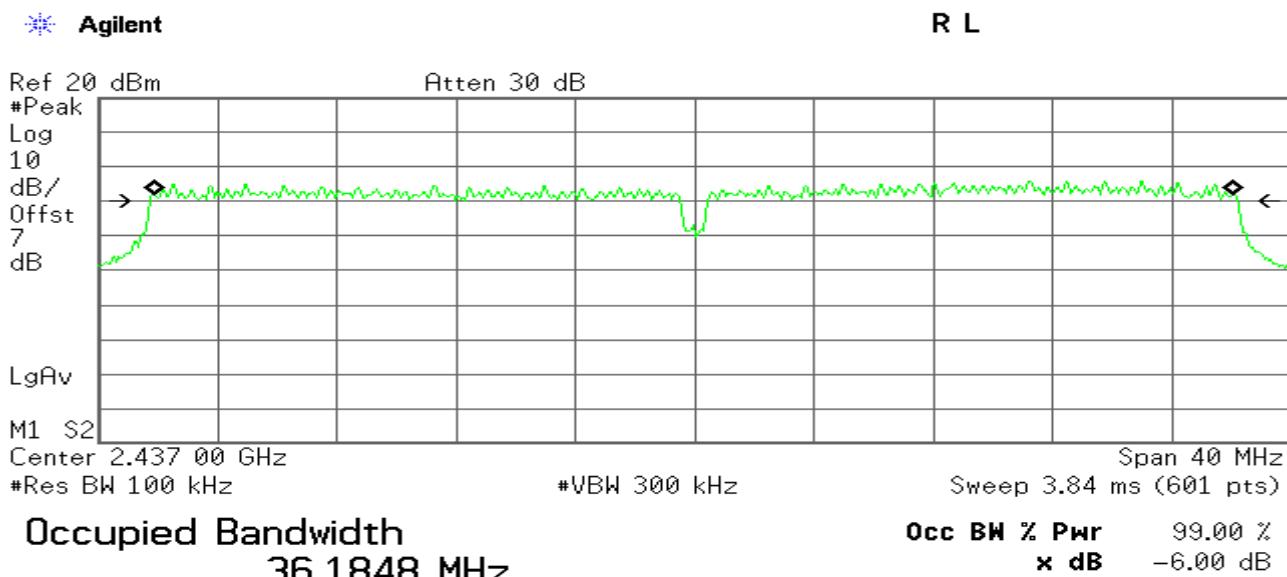
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

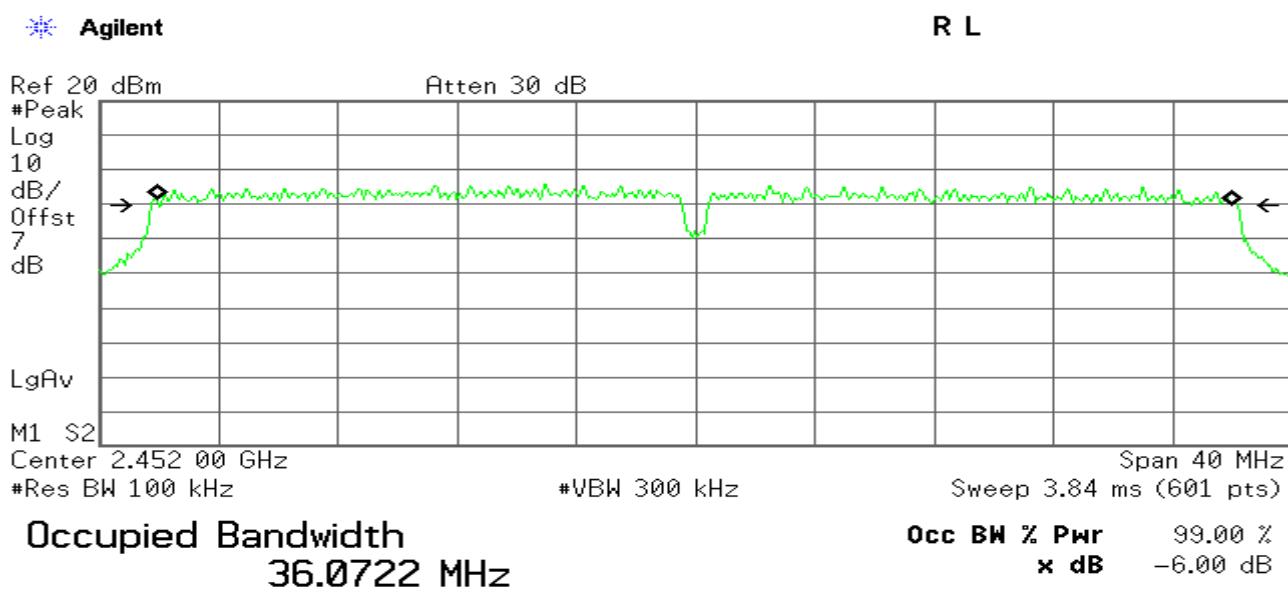
Date of Issue :August 28, 2013

## 6dB Bandwidth (CH Mid)



Transmit Freq Error -31.618 kHz  
x dB Bandwidth 36.528 MHz

## 6dB Bandwidth (CH High)



Transmit Freq Error -52.171 kHz  
x dB Bandwidth 36.496 MHz



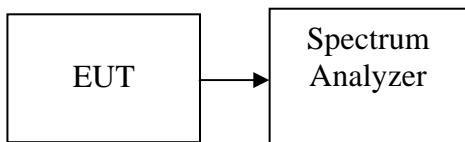
## 7.2. POWER OUTPUT

### LIMIT

The maximum peak output power of the intentional radiator shall not exceed the following:

1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.
2. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### Test Configuration



### TEST PROCEDURE

KDB 558074 D01 DTS Measurement Guidance v03r01 dated 04-09-2013..

### TEST RESULTS

*No non-compliance noted*



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## Test Data

### Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2412	<b>18.83</b>	<b>76.38</b>	30.00	PASS
Mid	2437	17.91	61.80	30.00	PASS
High	2462	18.21	66.22	30.00	PASS

### Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2412	<b>16.55</b>	<b>45.19</b>	30.00	PASS
Mid	2437	16.32	42.85	30.00	PASS
High	2462	16.30	42.66	30.00	PASS

### Test mode: 802.11n Standard-20 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2412	14.51	13.65	<b>17.11</b>	<b>51.42</b>	30.00	PASS
Mid	2437	14.19	13.19	16.73	47.09	30.00	PASS
High	2462	14.22	13.40	16.84	48.30	30.00	PASS

### Total maximum conducted power Chain 0+Chain 1:

Maximum Conducted Output Power(dBm)= $10\log(10^{(chain0outputpower/10)}+ 10^{(chain1outputpower/10)})$

### Test mode: 802.11n Wide-40 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2422	13.78	12.90	16.37	43.38	30.00	PASS
Mid	2437	14.24	13.16	<b>16.74</b>	<b>47.25</b>	30.00	PASS
High	2452	14.12	13.04	16.62	45.96	30.00	PASS

### Total maximum conducted power Chain 0+Chain 1:

Maximum Conducted Output Power(dBm)= $10\log(10^{(chain0outputpower/10)}+ 10^{(chain1outputpower/10)})$



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

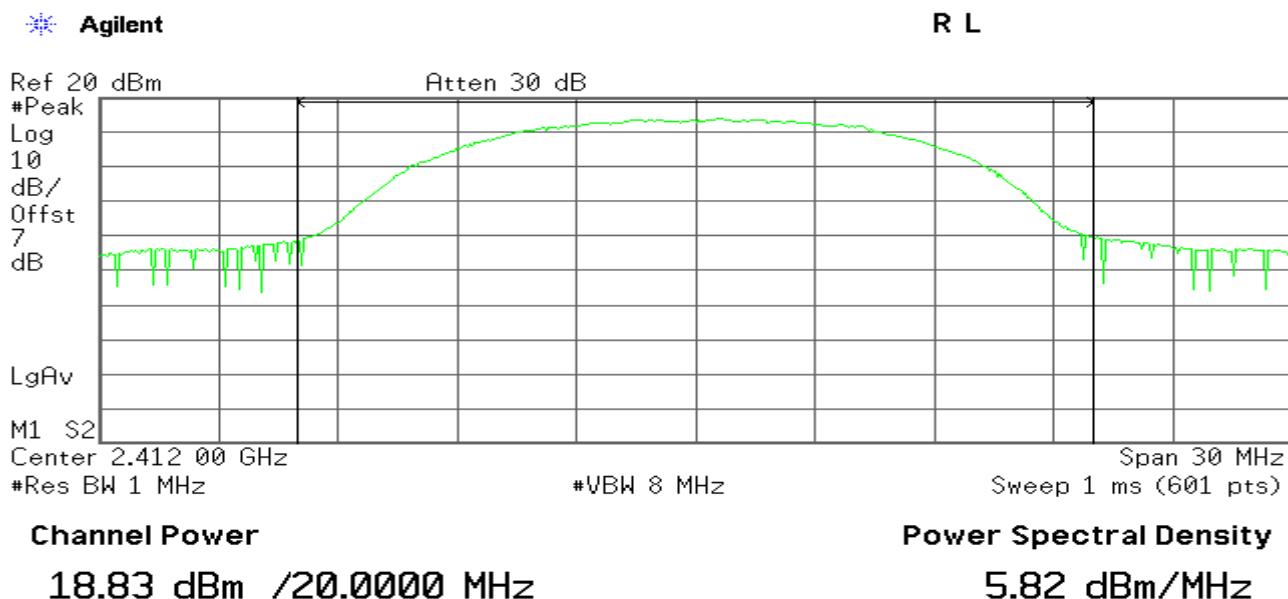
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

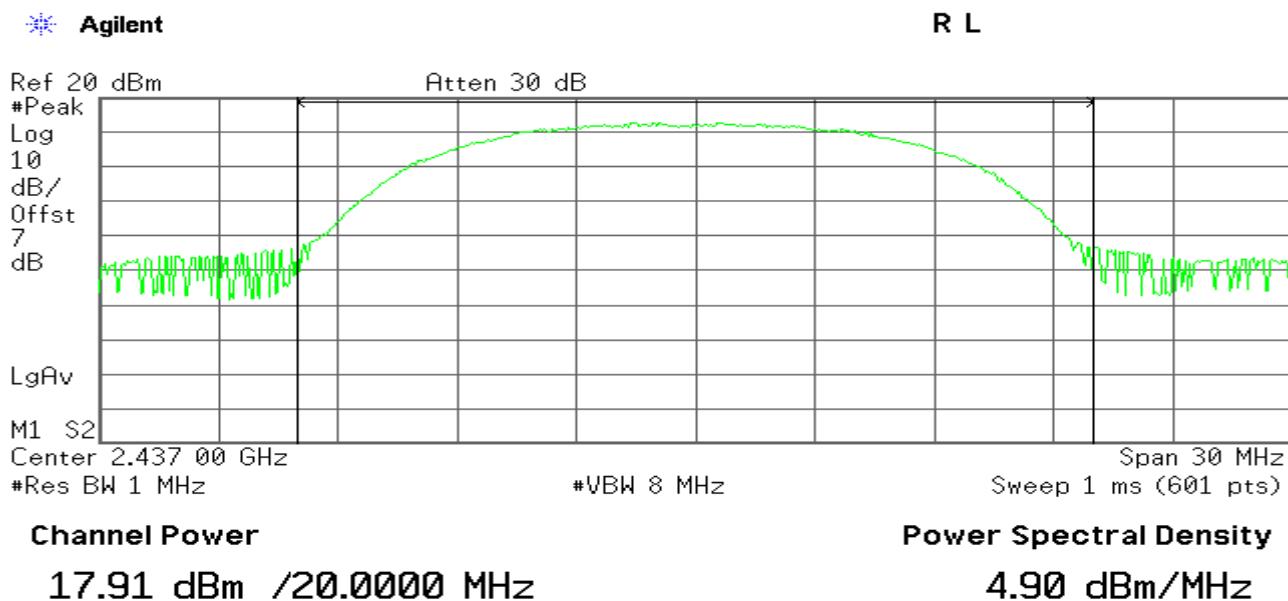
## Test Plot

### IEEE 802.11b mode

#### **Peak Power (CH Low)**



#### **Peak Power (CH Mid)**





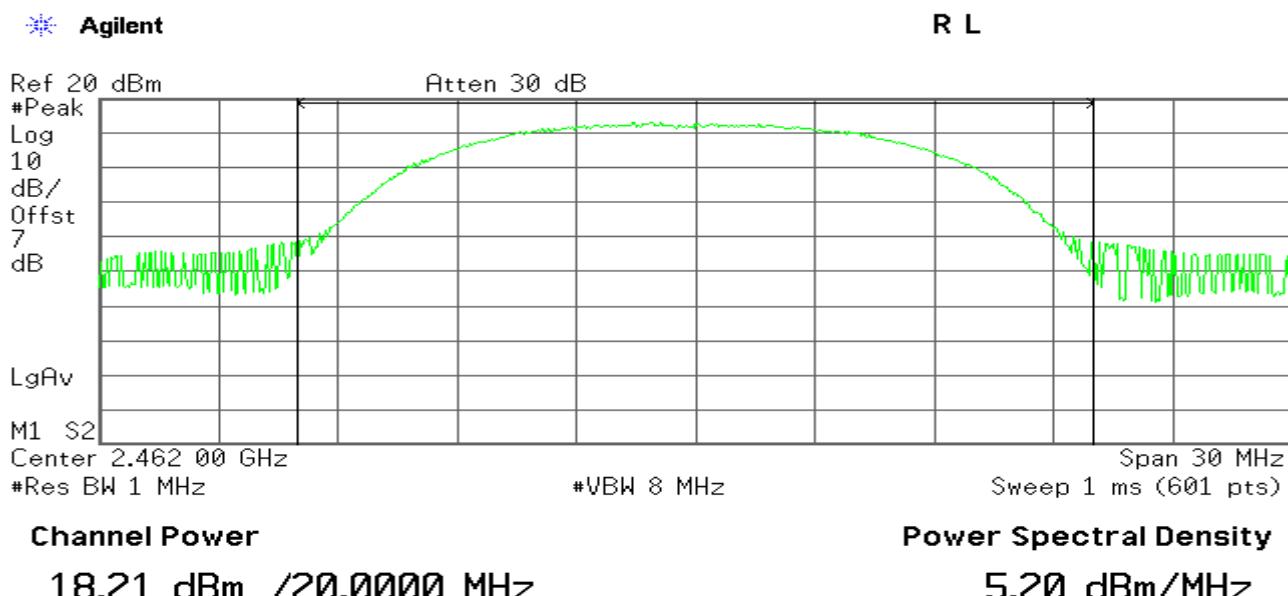
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

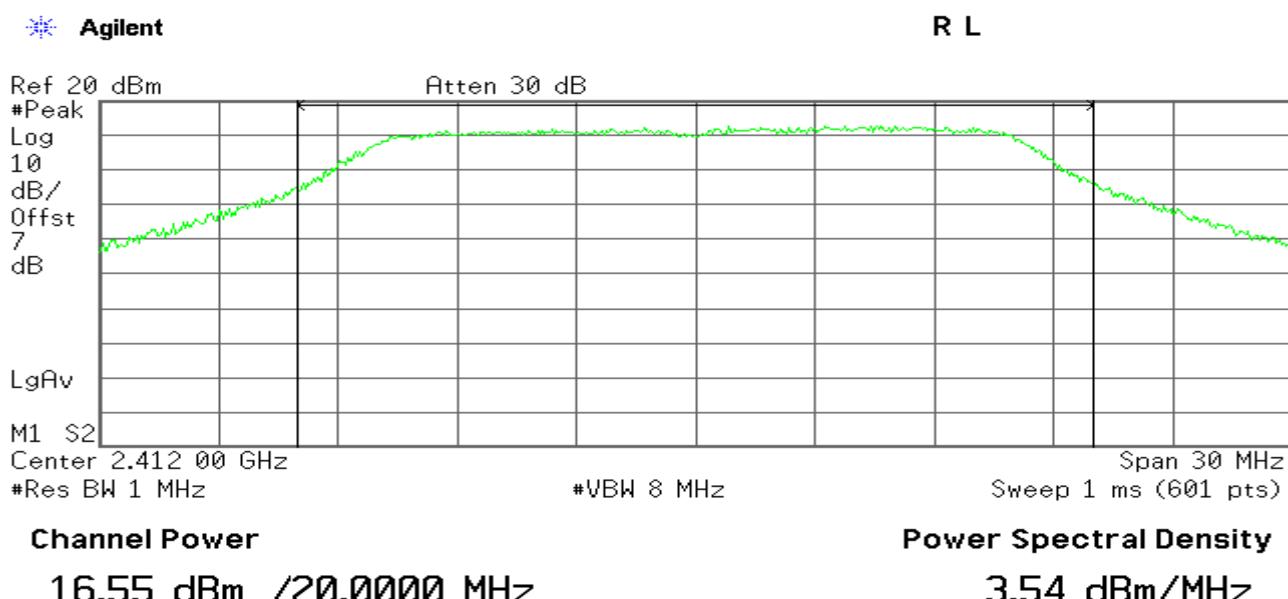
Date of Issue :August 28, 2013

## Peak Power (CH High)



## IEEE 802.11g mode

### Peak Power (CH Low)





# Compliance Certification Services Inc.

Report No: C130809R02-RPW

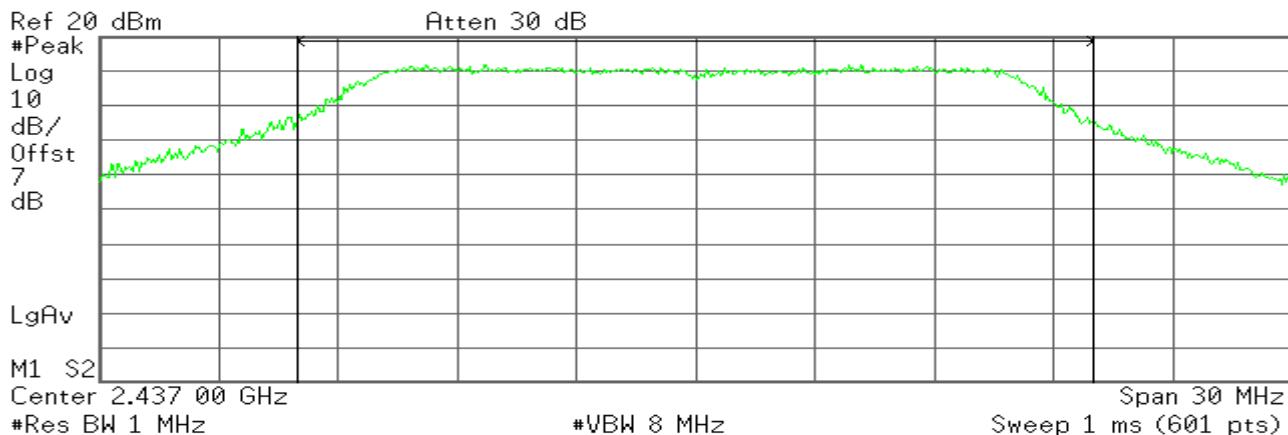
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## Peak Power (CH Mid)

Agilent

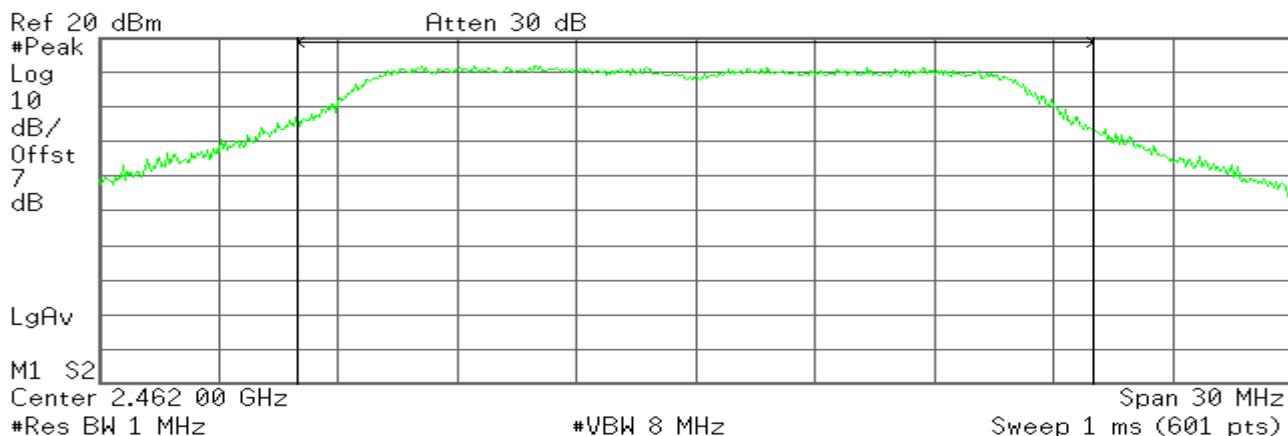
R L



## Peak Power (CH High)

Agilent

R L





# Compliance Certification Services Inc.

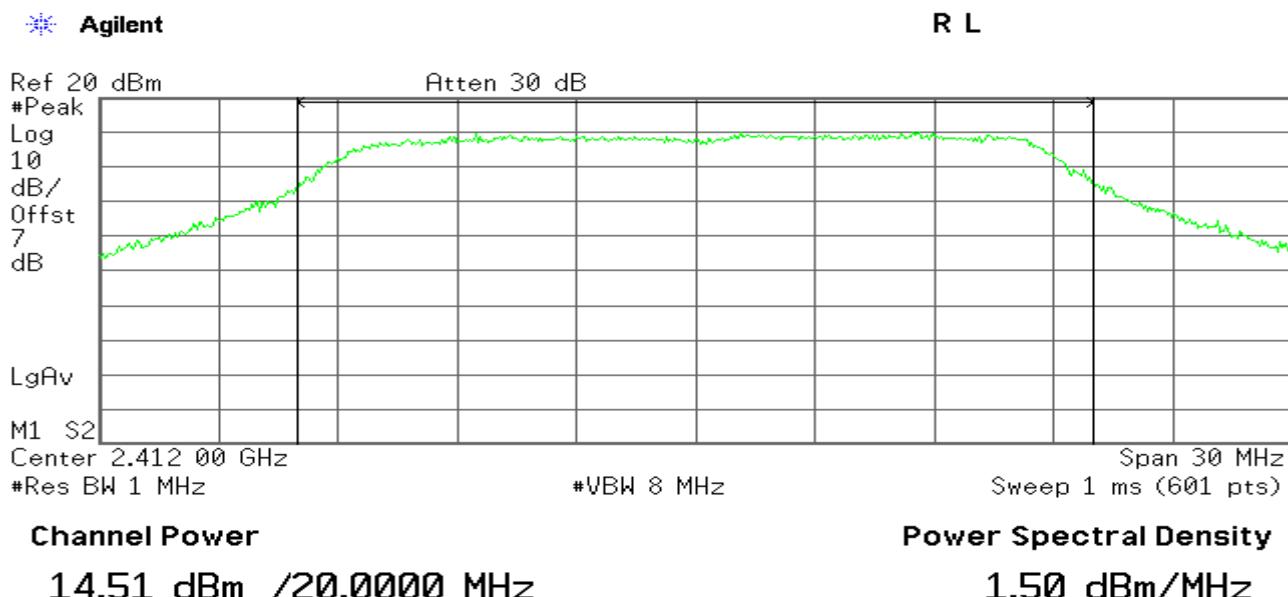
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

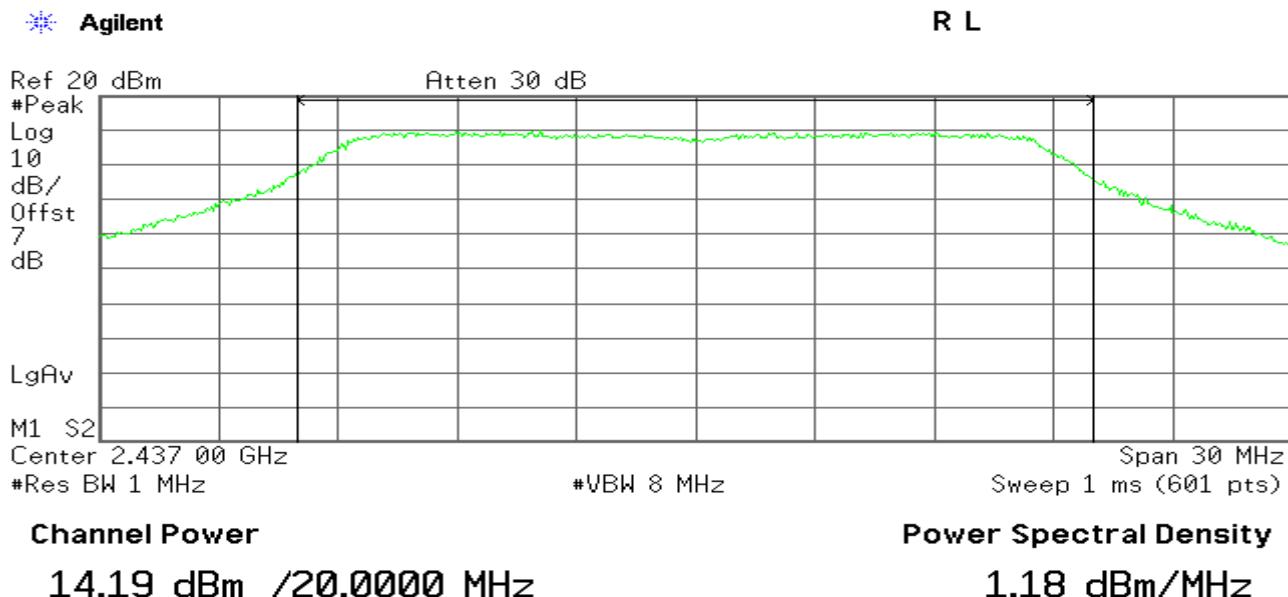
Date of Issue :August 28, 2013

## 802.11n Standard-20 MHz Channel mode / Chain 0

### Peak Power (CH Low)



### Peak Power (CH Mid)





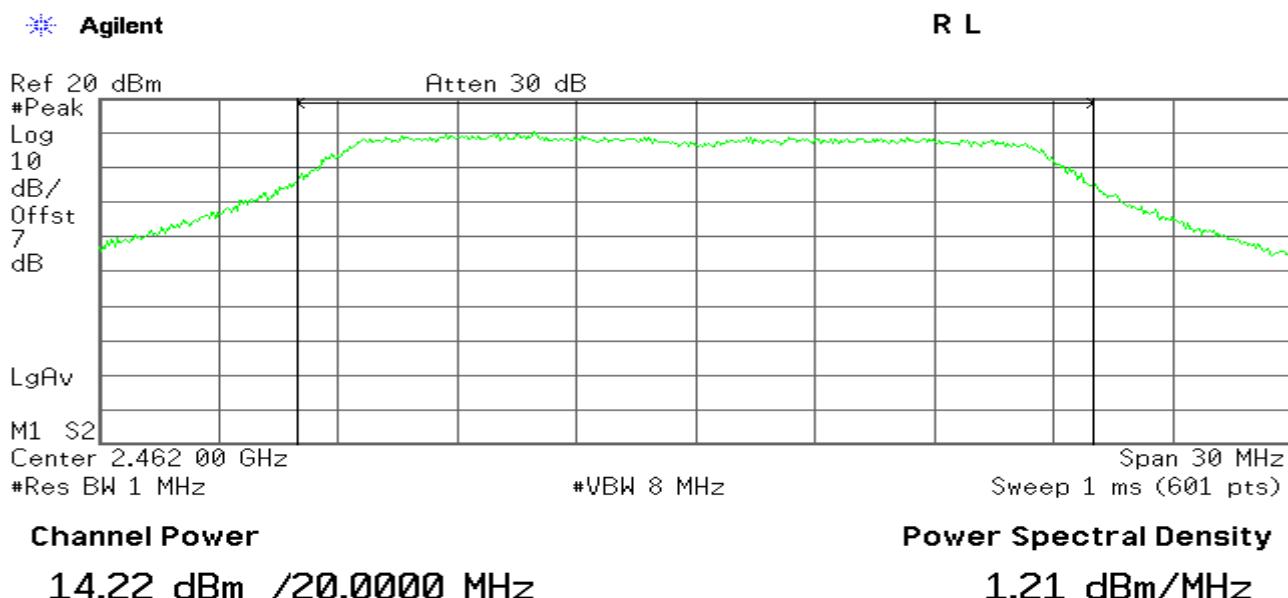
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

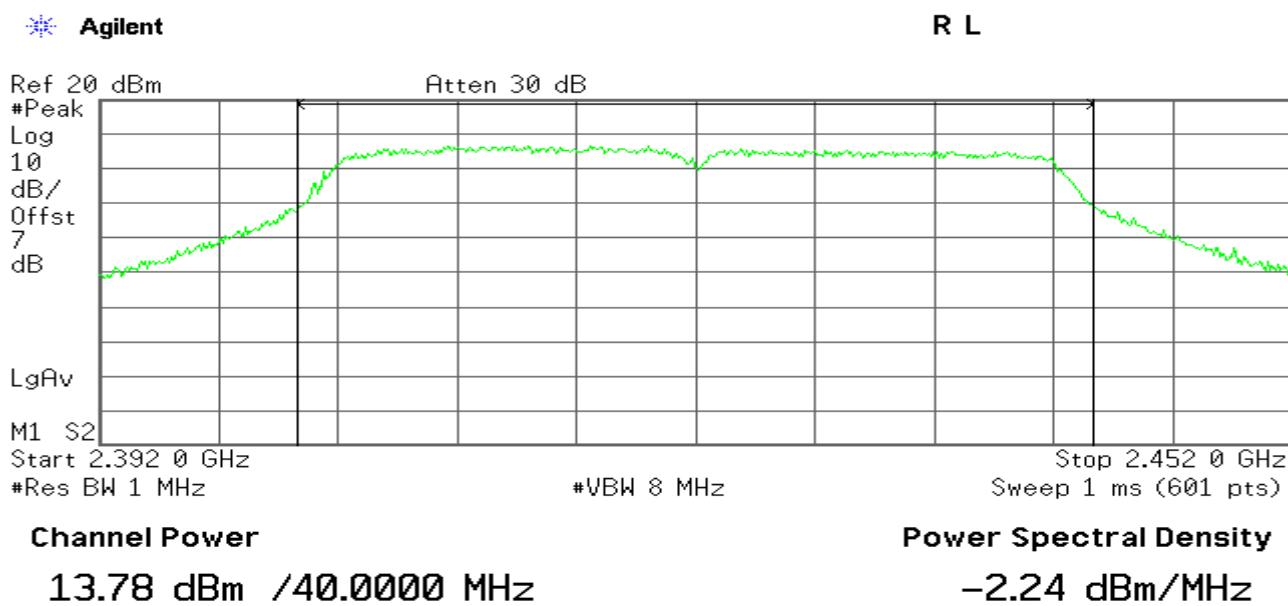
Date of Issue :August 28, 2013

## Peak Power (CH High)



## 802.11n Standard-40 MHz Channel mode / Chain 0

### Peak Power (CH Low)





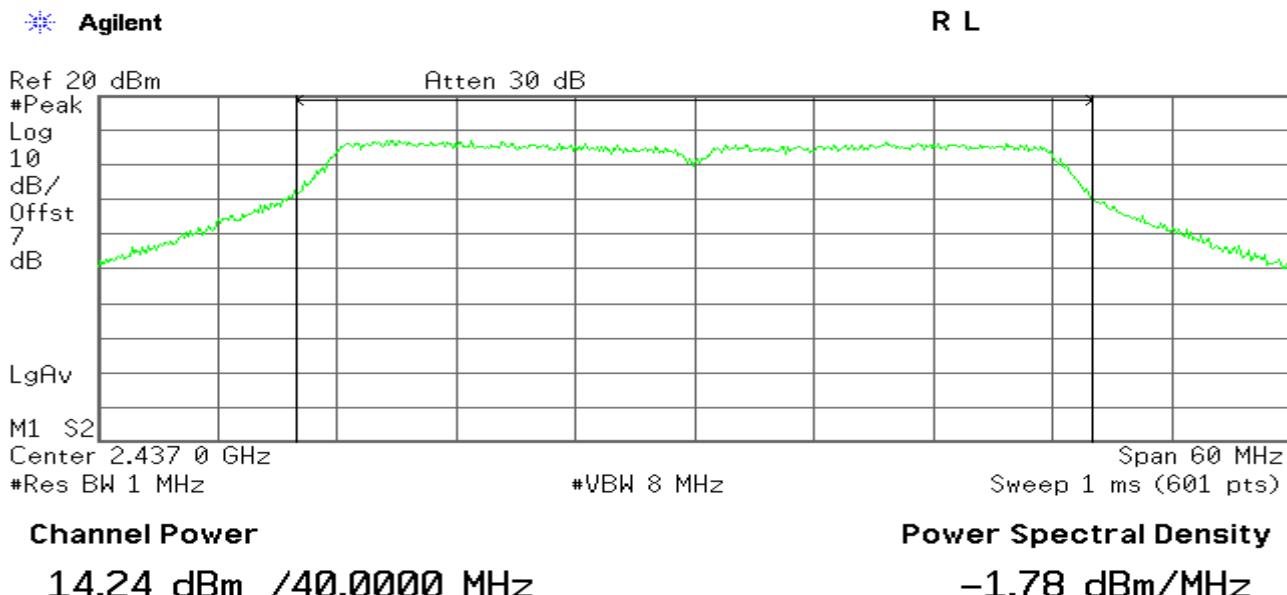
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

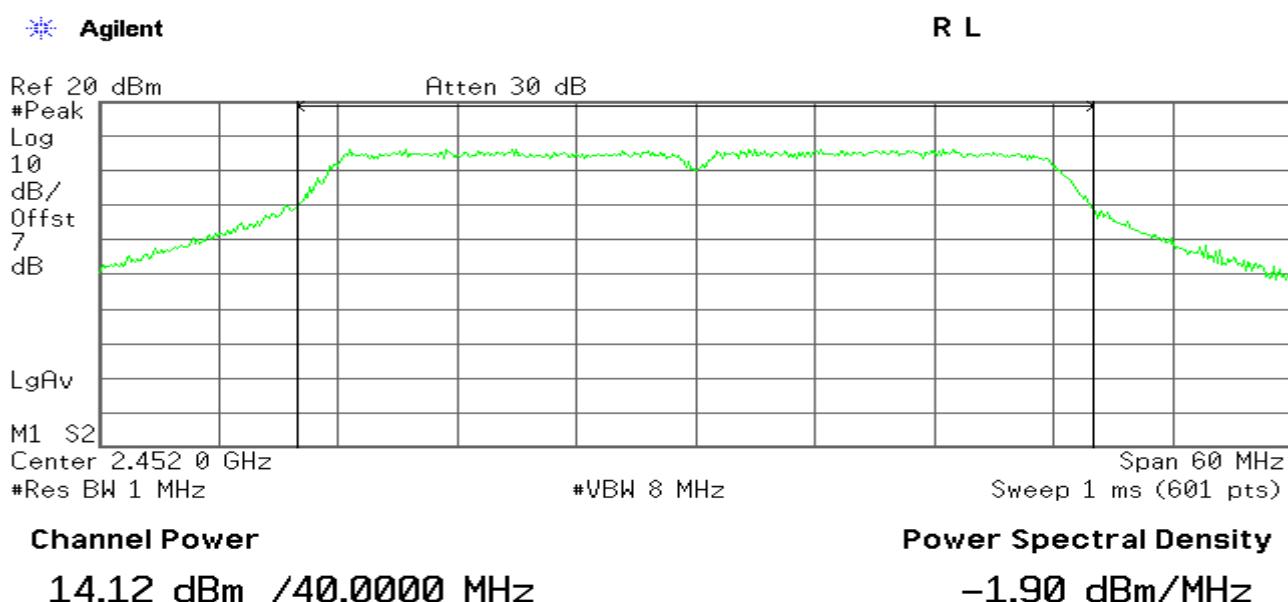
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## Peak Power (CH Mid)



## Peak Power (CH High)





# Compliance Certification Services Inc.

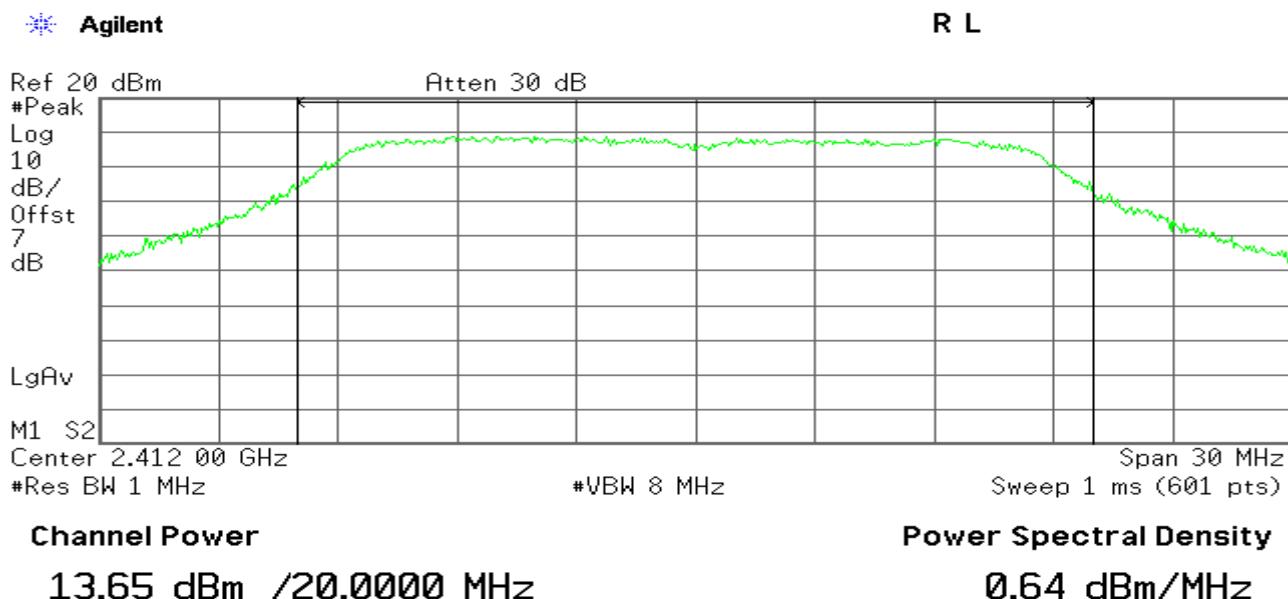
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

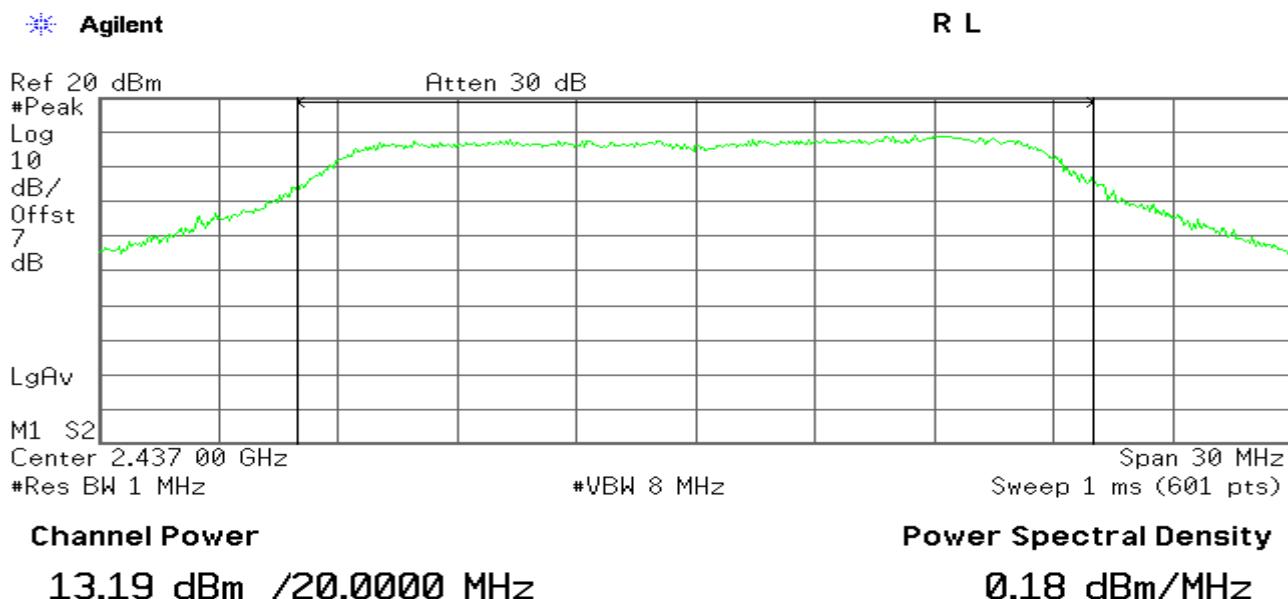
Date of Issue :August 28, 2013

## 802.11n Standard-20 MHz Channel mode / Chain 1

### Peak Power (CH Low)



### Peak Power (CH Mid)





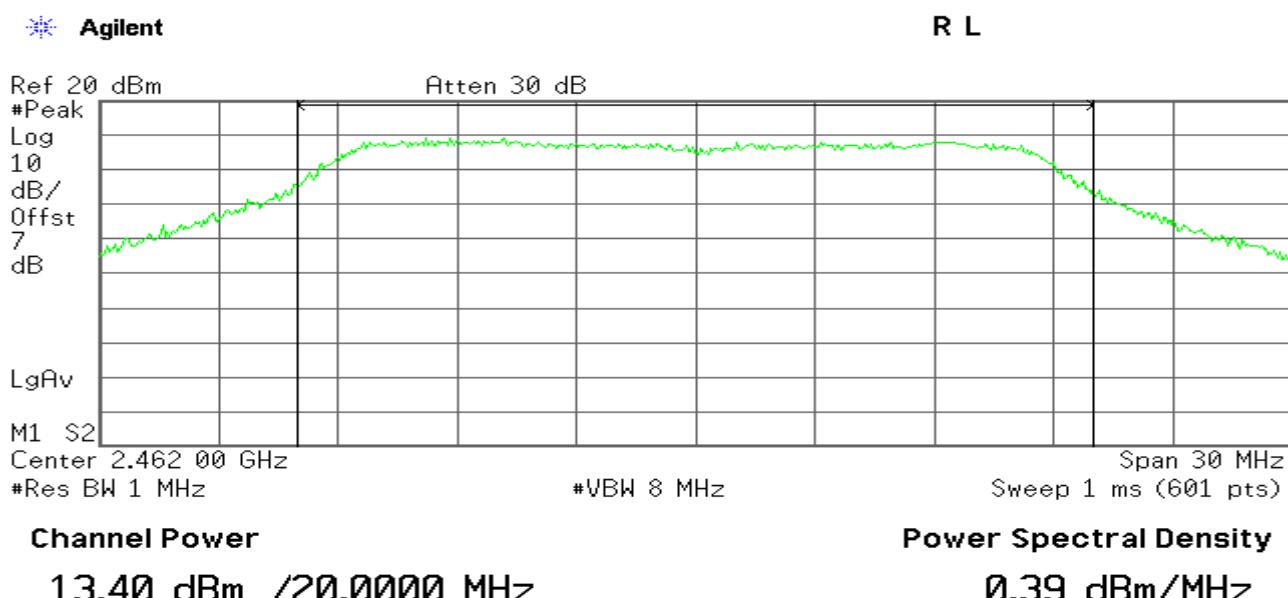
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

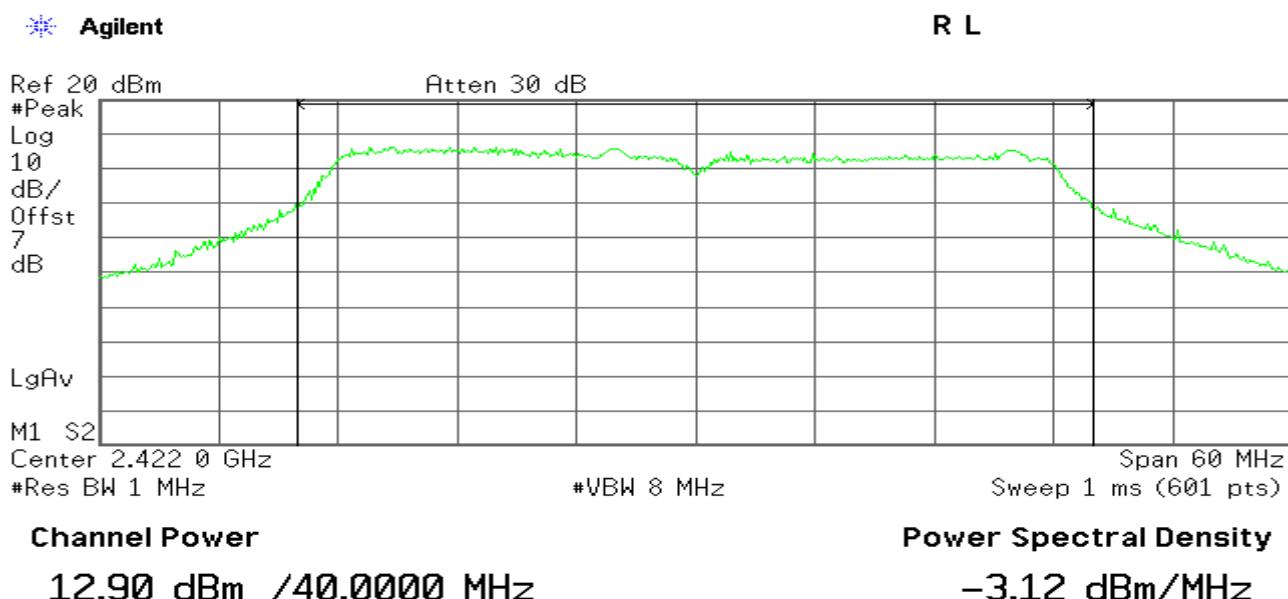
Date of Issue :August 28, 2013

## Peak Power (CH High)



## 802.11n Standard-40 MHz Channel mode / Chain 1

### Peak Power (CH Low)





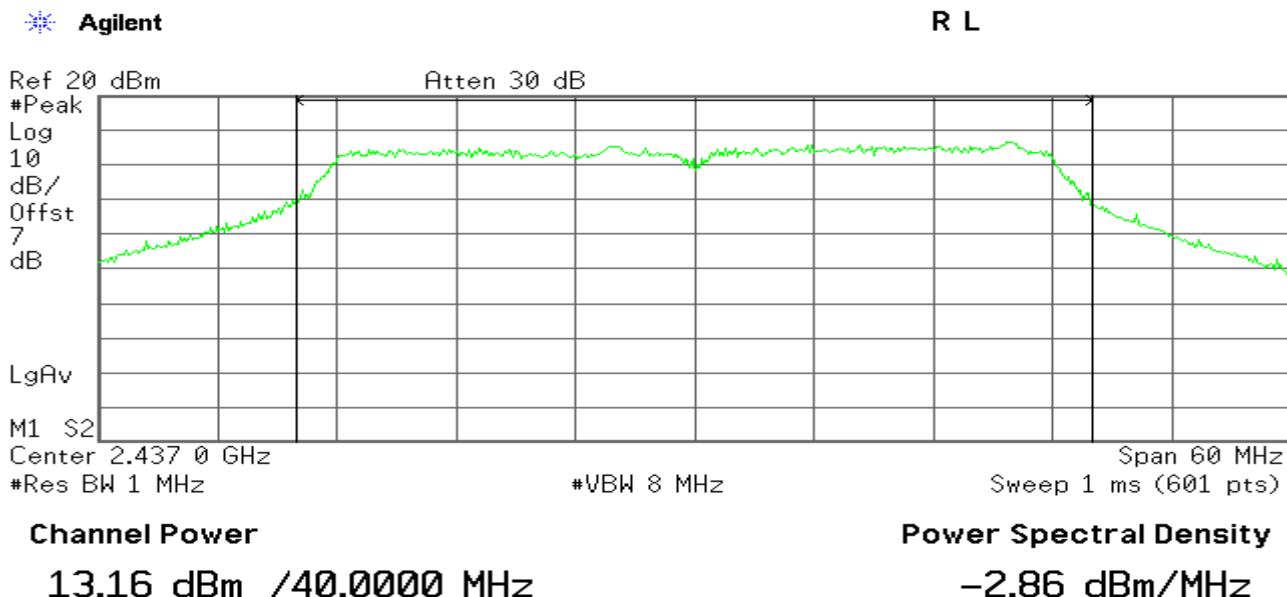
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

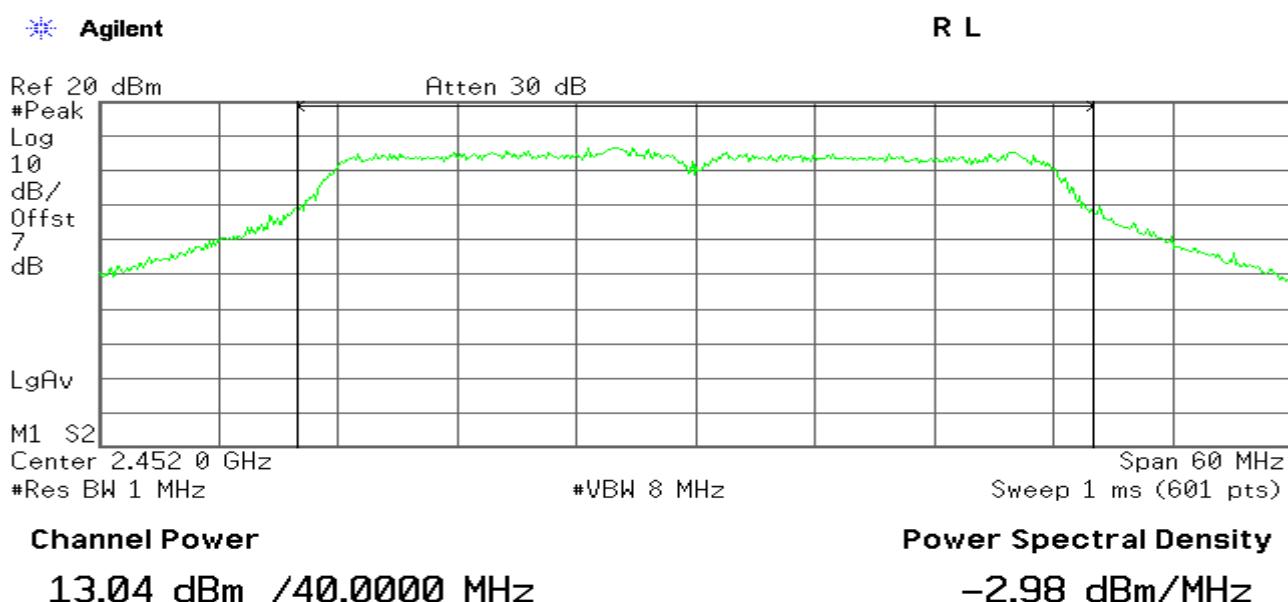
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## Peak Power (CH Mid)



## Peak Power (CH High)



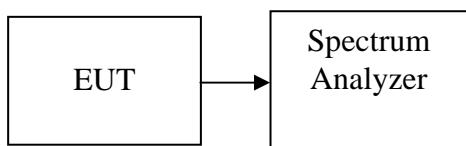


## 7.3. PEAK POWER SPECTRAL DENSITY

### LIMIT

1. According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
2. According to §15.247(f), the digital modulation operation of the hybrid system, with the frequency hopping turned off, shall comply with the power density requirements of paragraph (d) of this section.

### Test Configuration



### TEST PROCEDURE

KDB 558074 D01 DTS Measurement Guidance v03r01 dated 04-09-2013..

### TEST RESULTS

*No non-compliance noted*



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## Test Data

### Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-7.71	8.00	PASS
Mid	2437	-8.99	8.00	PASS
High	2462	-8.91	8.00	PASS

### Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.50	8.00	PASS
Mid	2437	-12.13	8.00	PASS
High	2462	-12.28	8.00	PASS

### Test mode: 802.11n Wide-40 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2412	-14.70	-14.61	-11.64	8.00	PASS
Mid	2437	-13.70	-14.96	-11.27	8.00	PASS
High	2462	-14.28	-14.15	-11.20	8.00	PASS

### Total PPSD Chain 0+Chain 1:

Total PPSD(dBm)= $10\log(10^{(chain0PPSD/10)}+ 10^{(chain1PPSD/10)})$

### Test mode: 802.11n Wide-40 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2422	-14.95	-15.85	-12.37	8.00	PASS
Mid	2437	-15.44	-16.49	-12.92	8.00	PASS
High	2452	-16.18	-15.85	-13.00	8.00	PASS

### Total PPSD Chain 0+Chain 1:

Total PPSD(dBm)= $10\log(10^{(chain0PPSD/10)}+ 10^{(chain1PPSD/10)})$



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

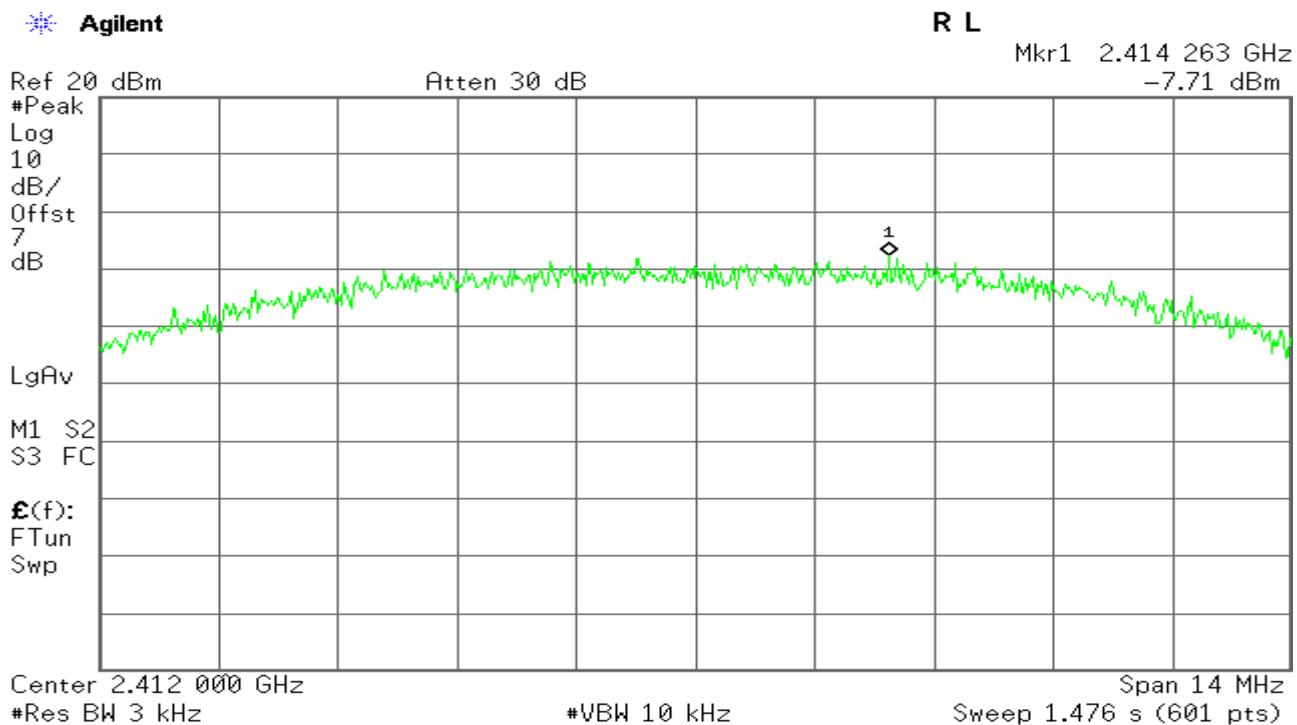
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

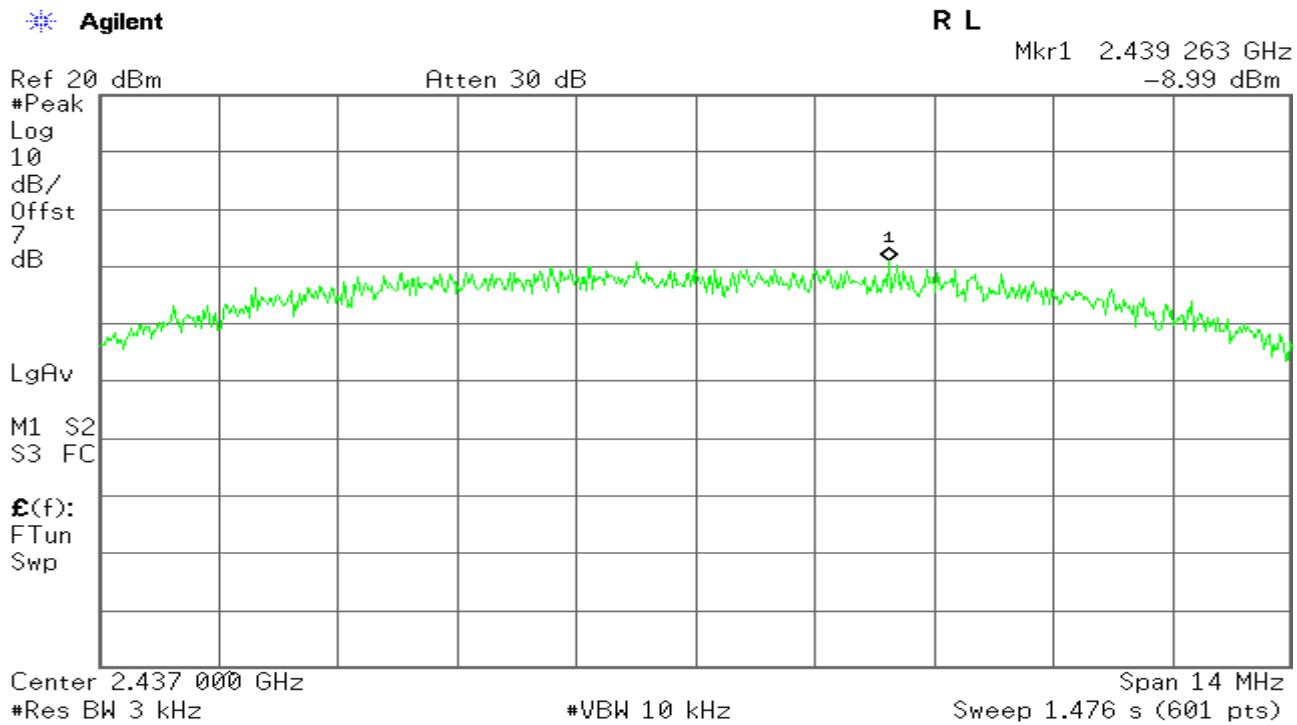
## Test Plot

### IEEE 802.11b mode

#### PPSD (CH Low)



#### PPSD (CH Mid)





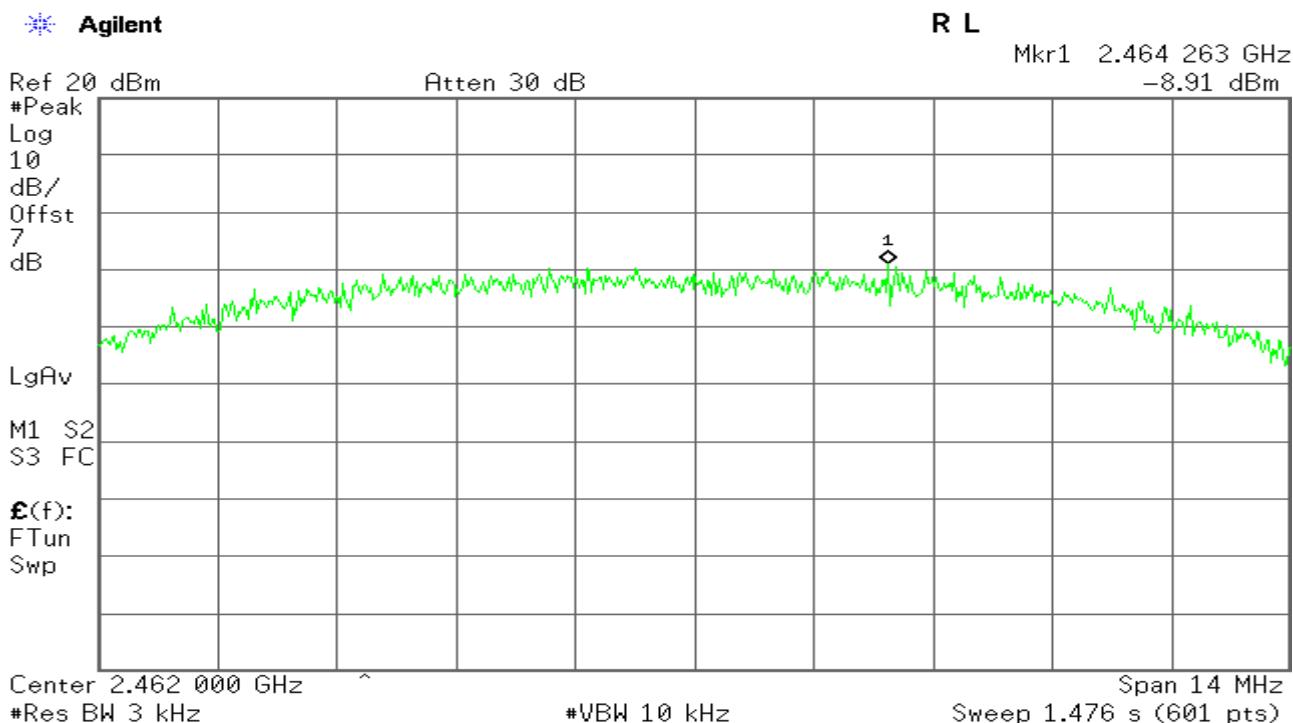
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

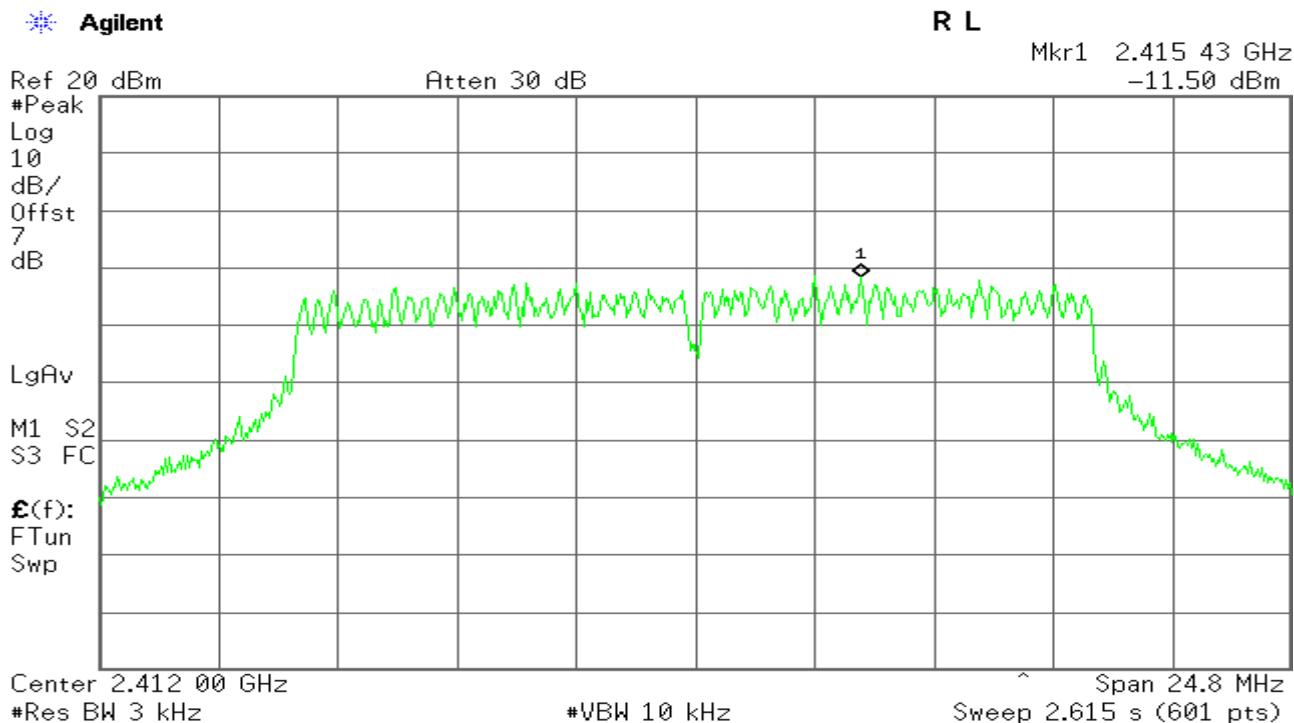
Date of Issue :August 28, 2013

## PPSD (CH High)



## IEEE 802.11g mode

### PPSD (CH Low)





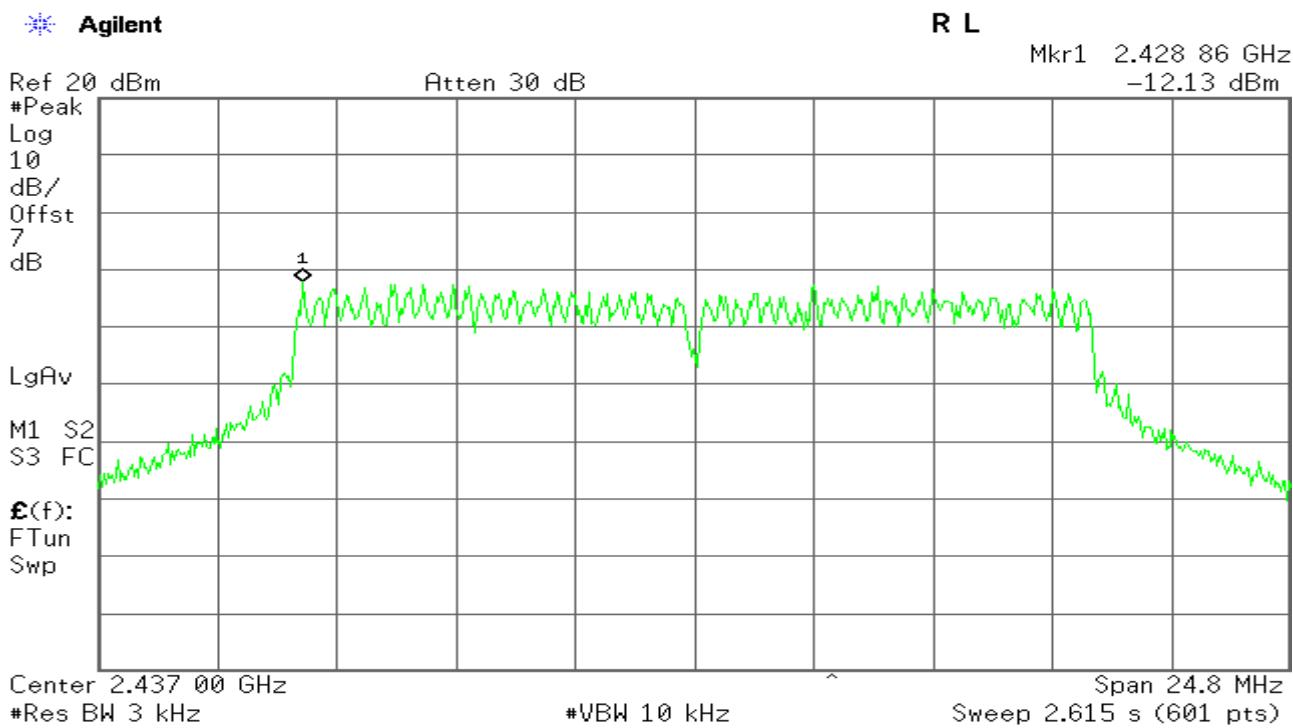
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

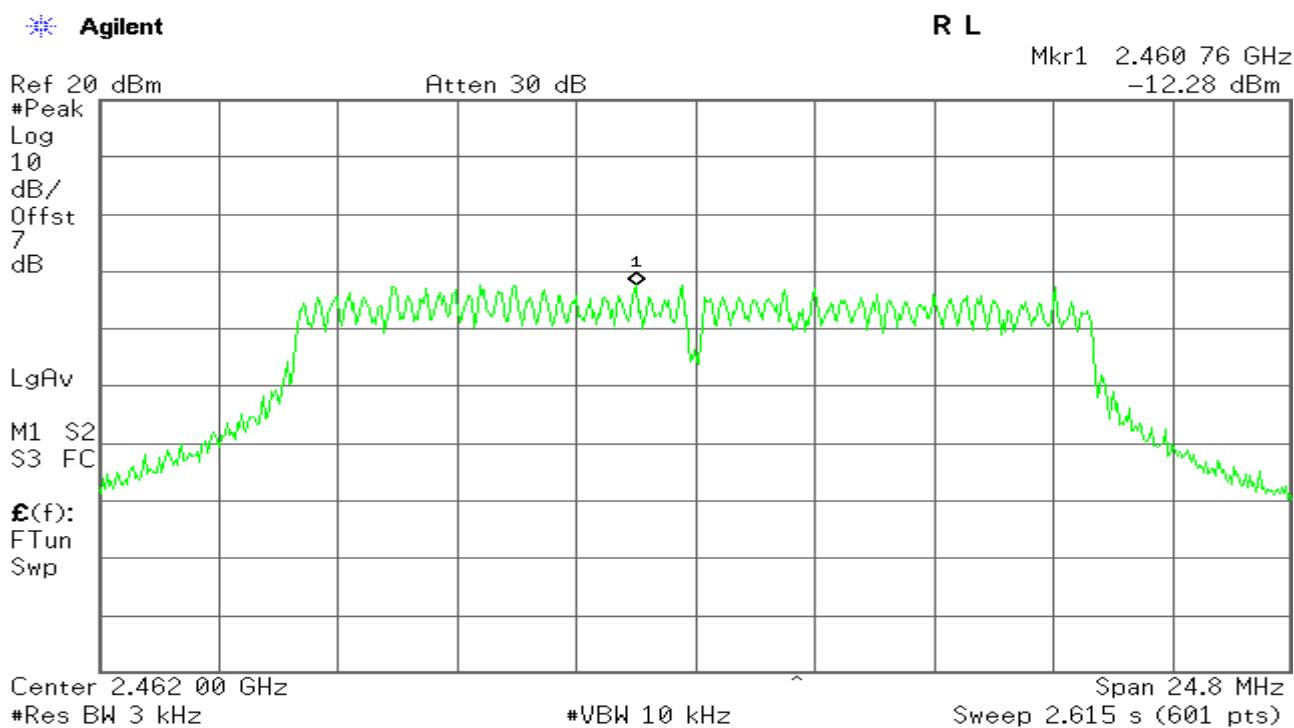
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## PPSD (CH Mid)



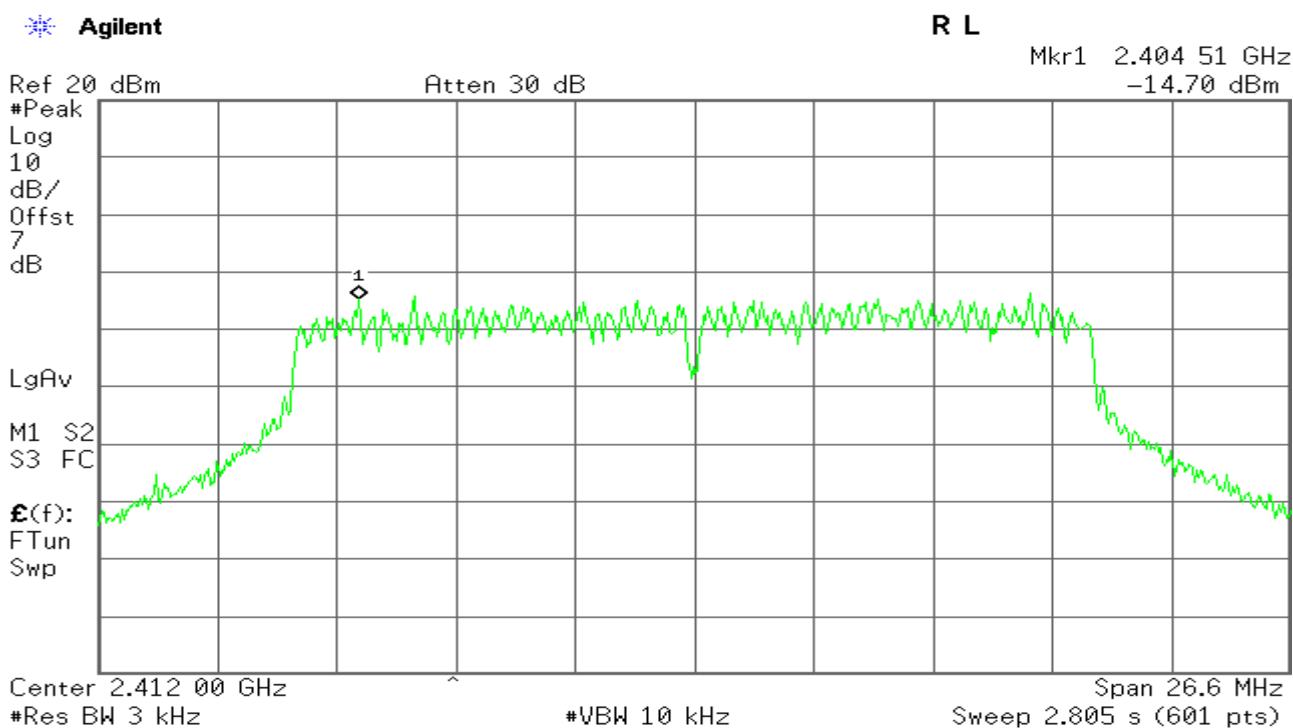
## PPSD (CH High)



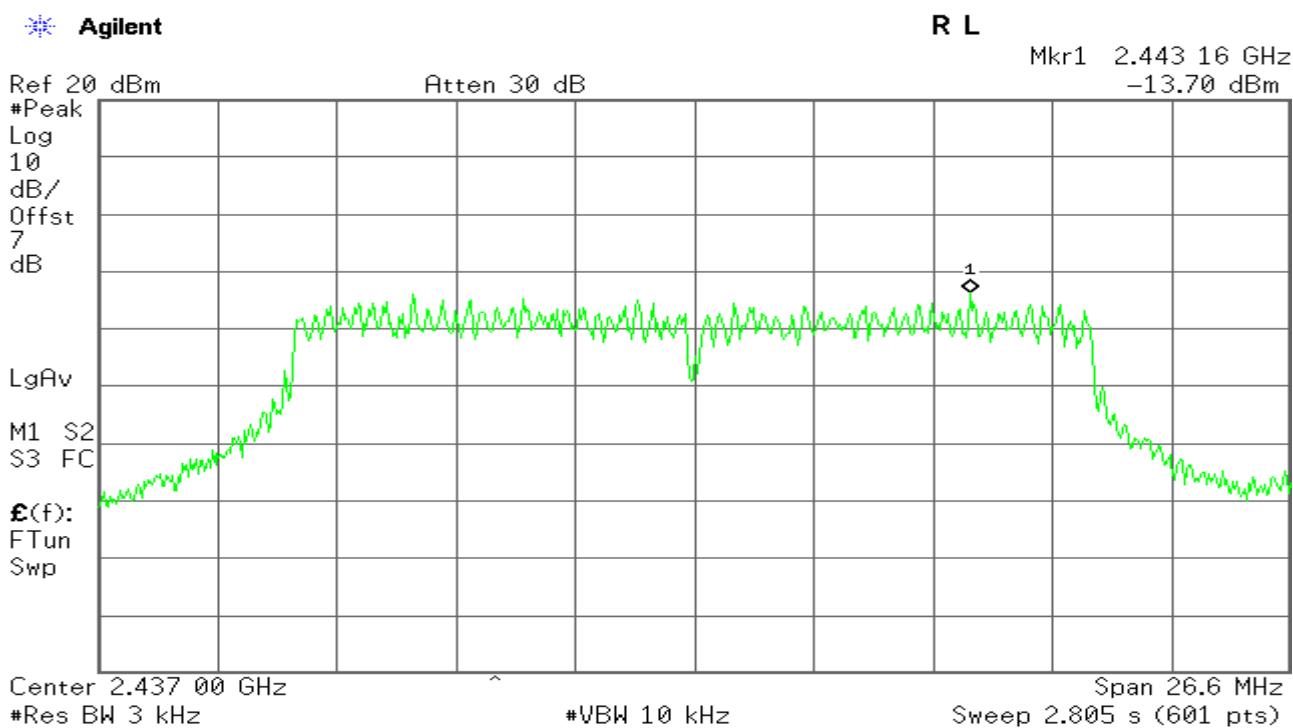


## 802.11n Standard-20 MHz Channel mode / Chain 0

### PPSD (CH Low)



### PPSD (CH Mid)





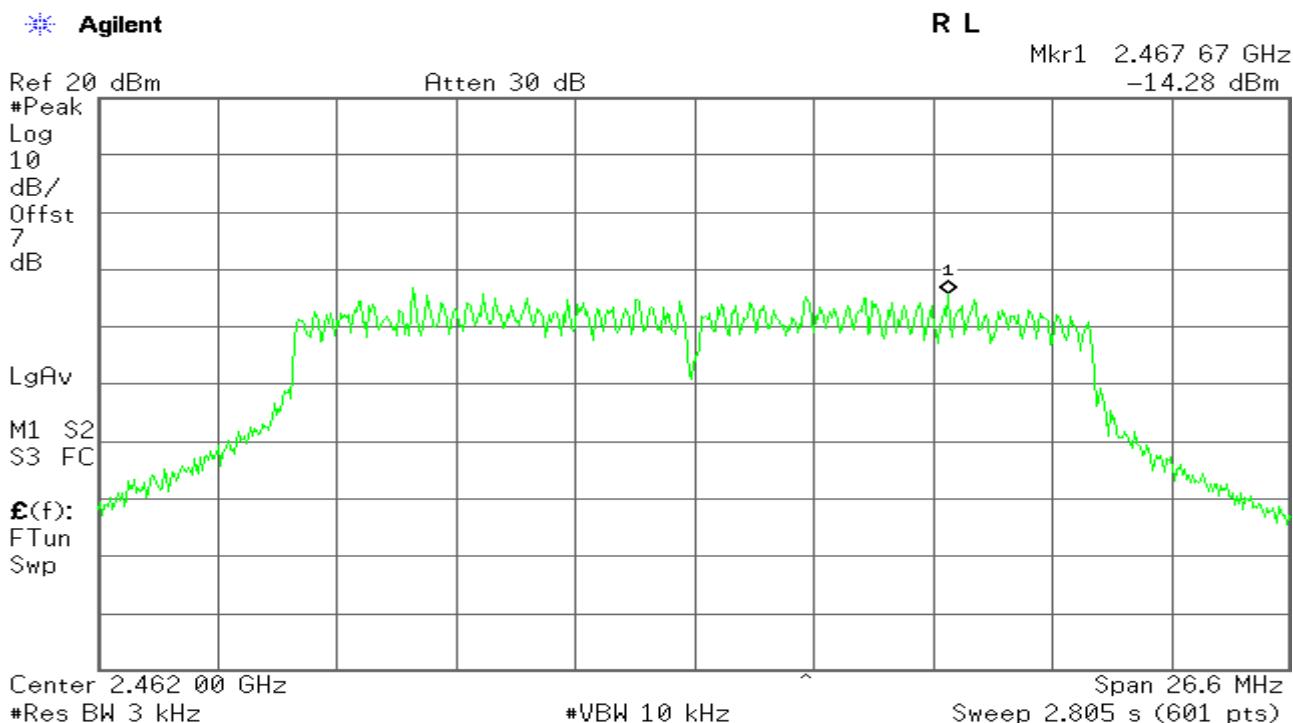
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

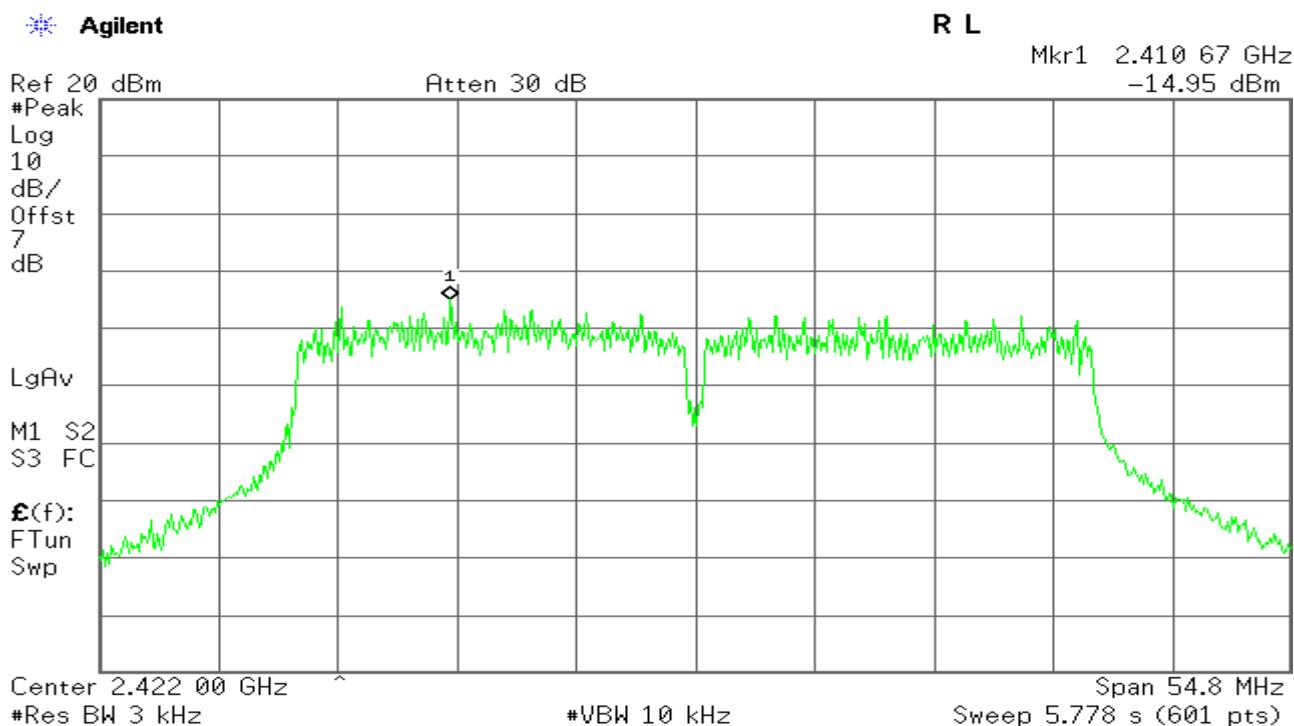
Date of Issue :August 28, 2013

## PPSD (CH High)



## 802.11n Standard-40 MHz Channel mode / Chain 0

### PPSD (CH Low)





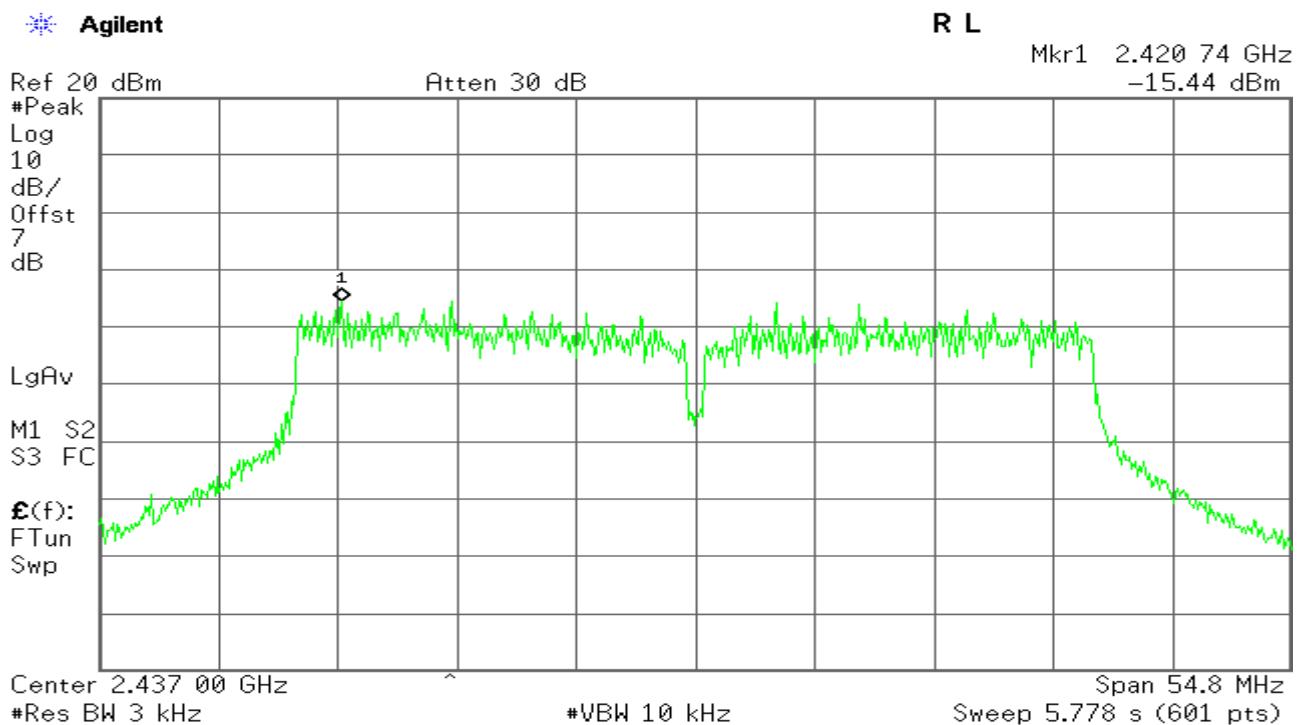
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

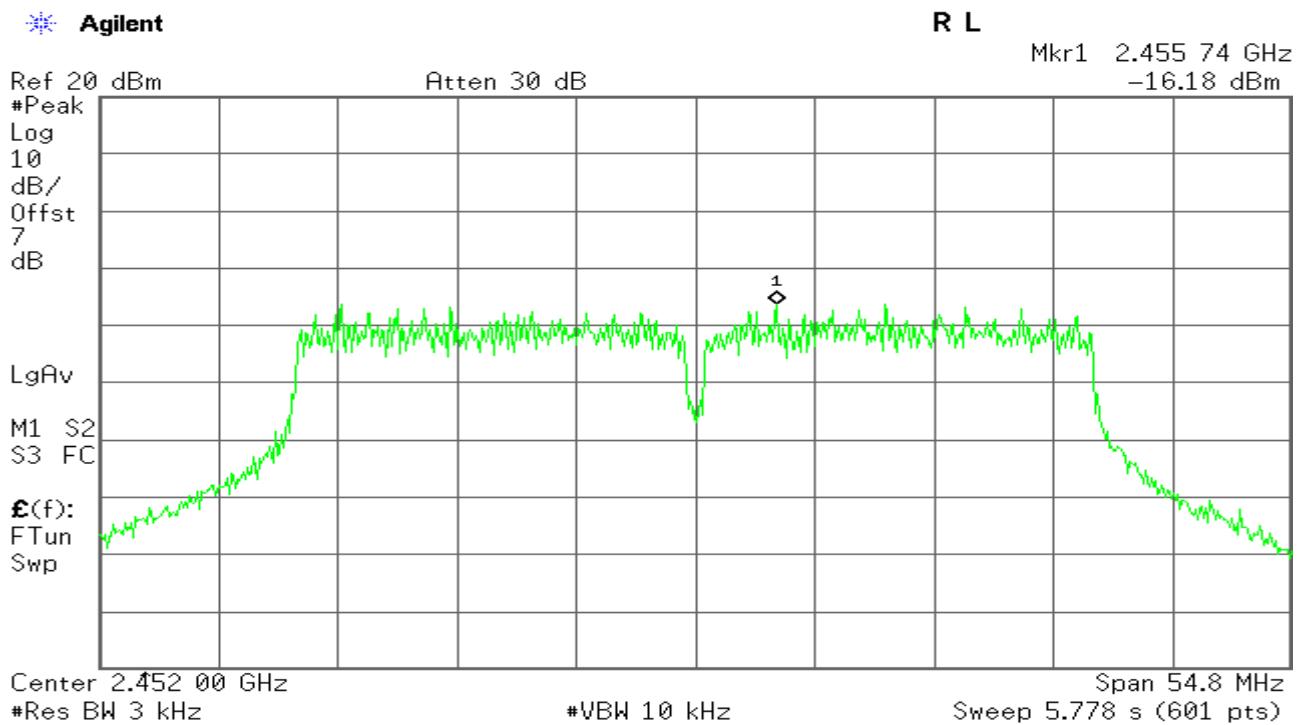
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## PPSD (CH Mid)



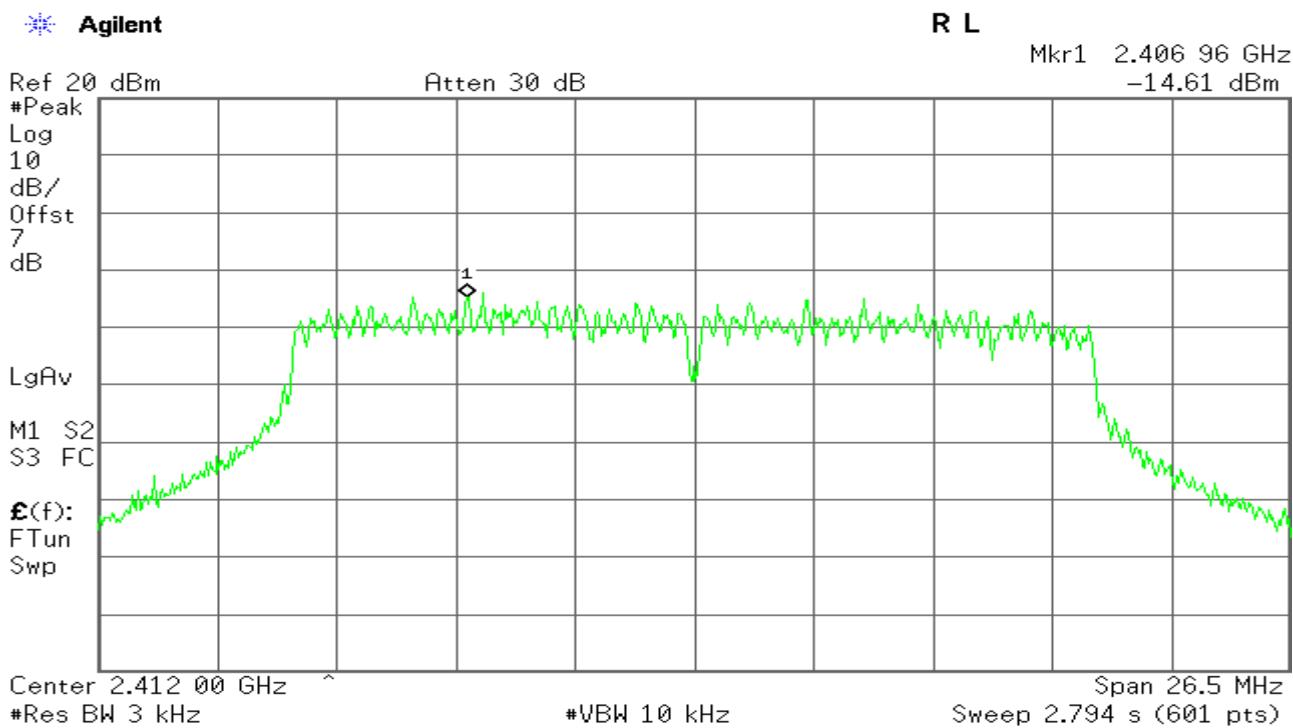
## PPSD (CH High)



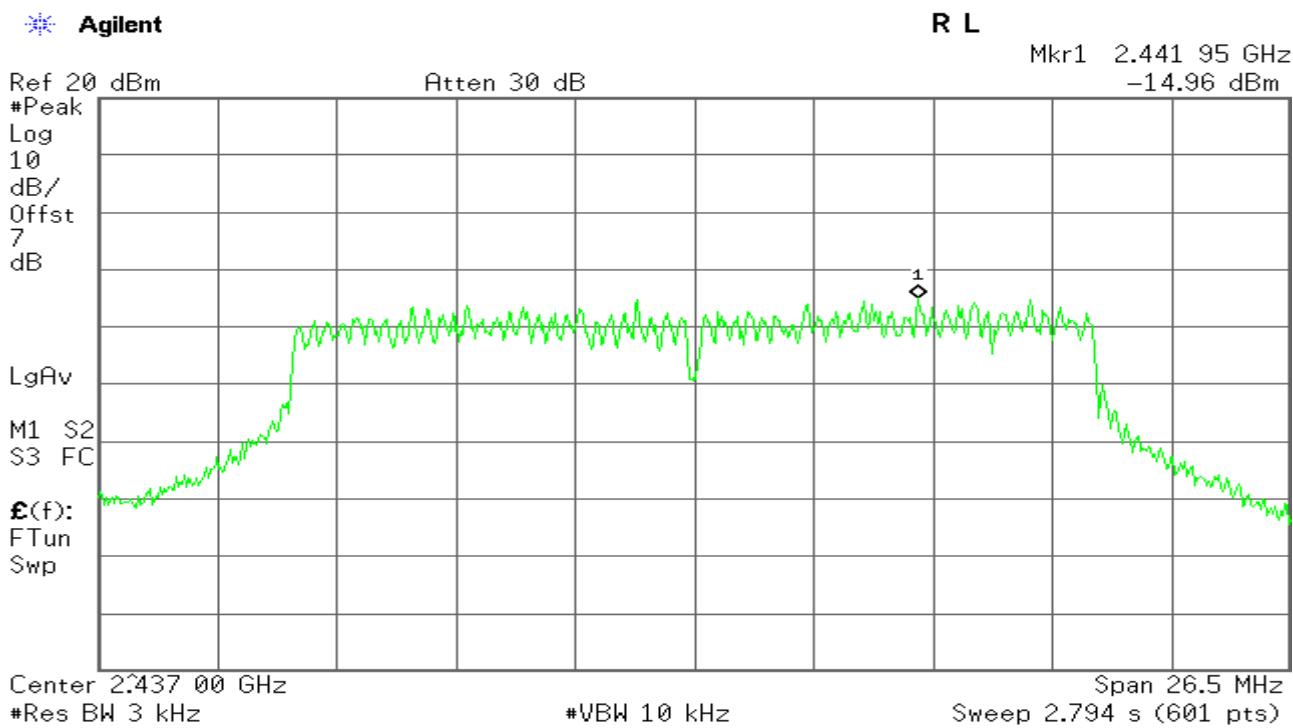


## 802.11n Standard-20 MHz Channel mode / Chain 1

### PPSD (CH Low)



### PPSD (CH Mid)





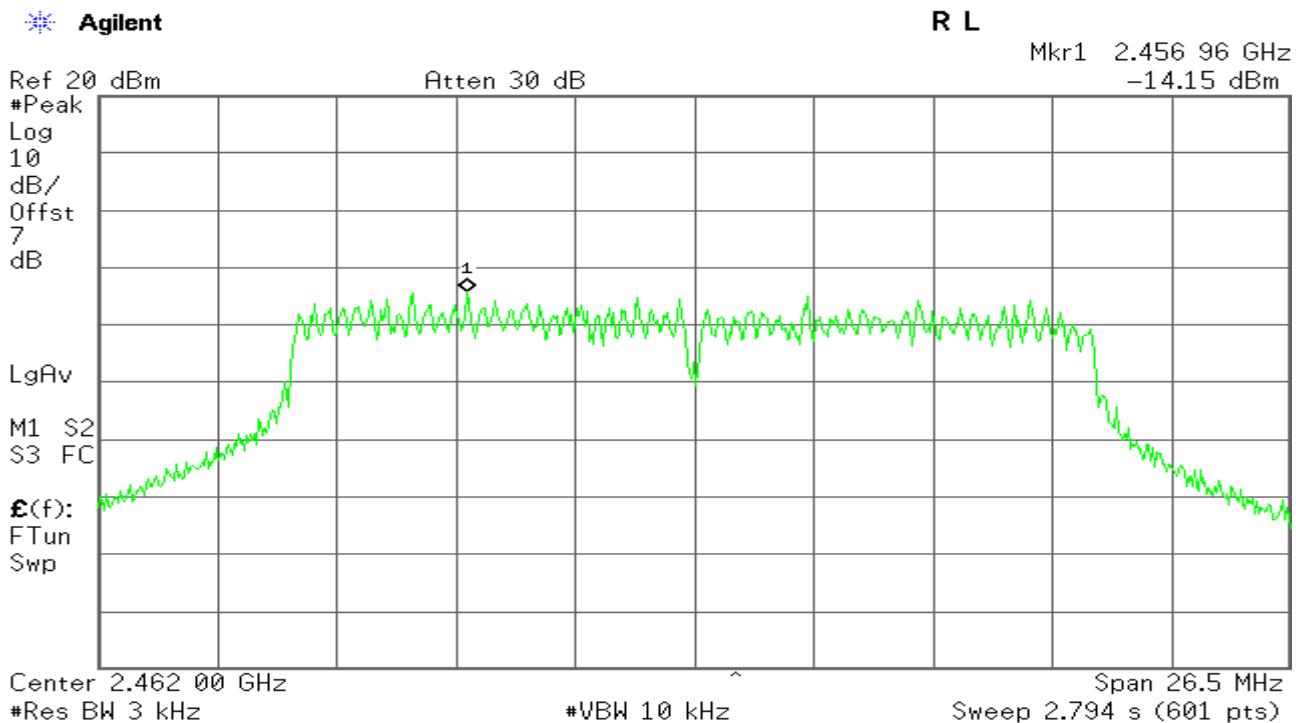
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

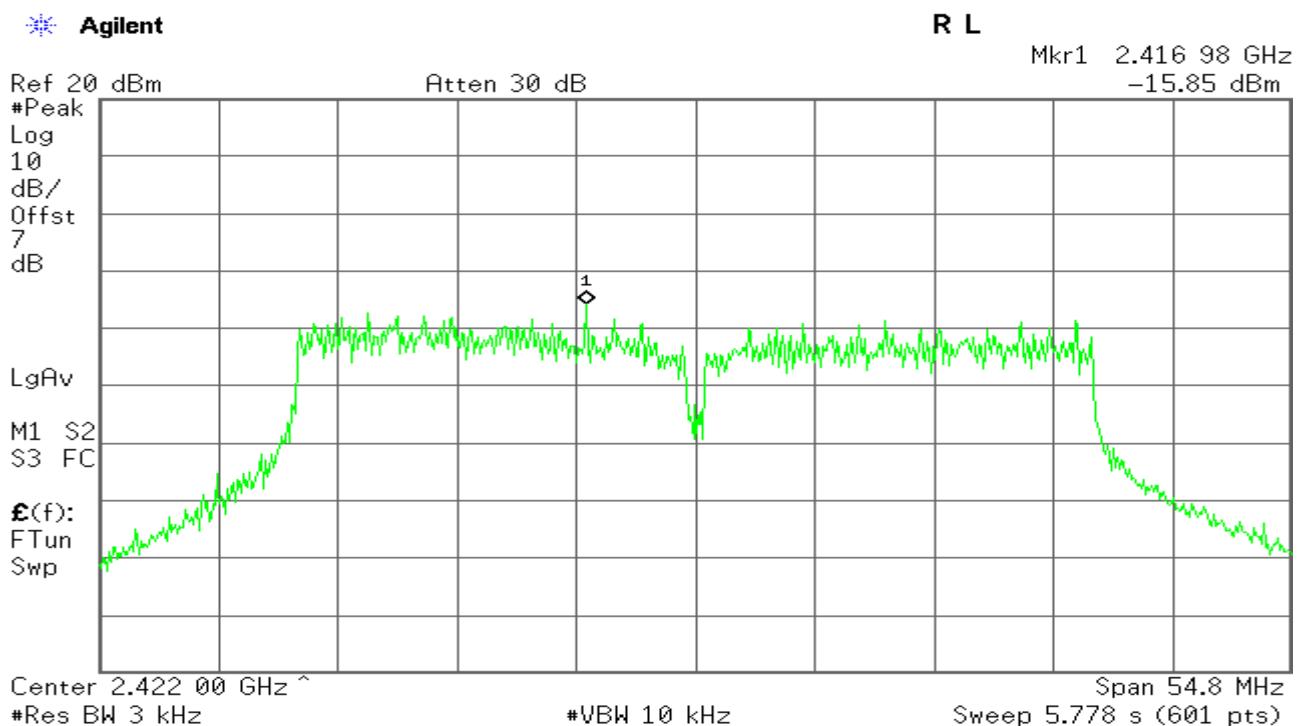
Date of Issue :August 28, 2013

## PPSD (CH High)



## 802.11n Standard-20 MHz Channel mode / Chain 1

### PPSD (CH Low)





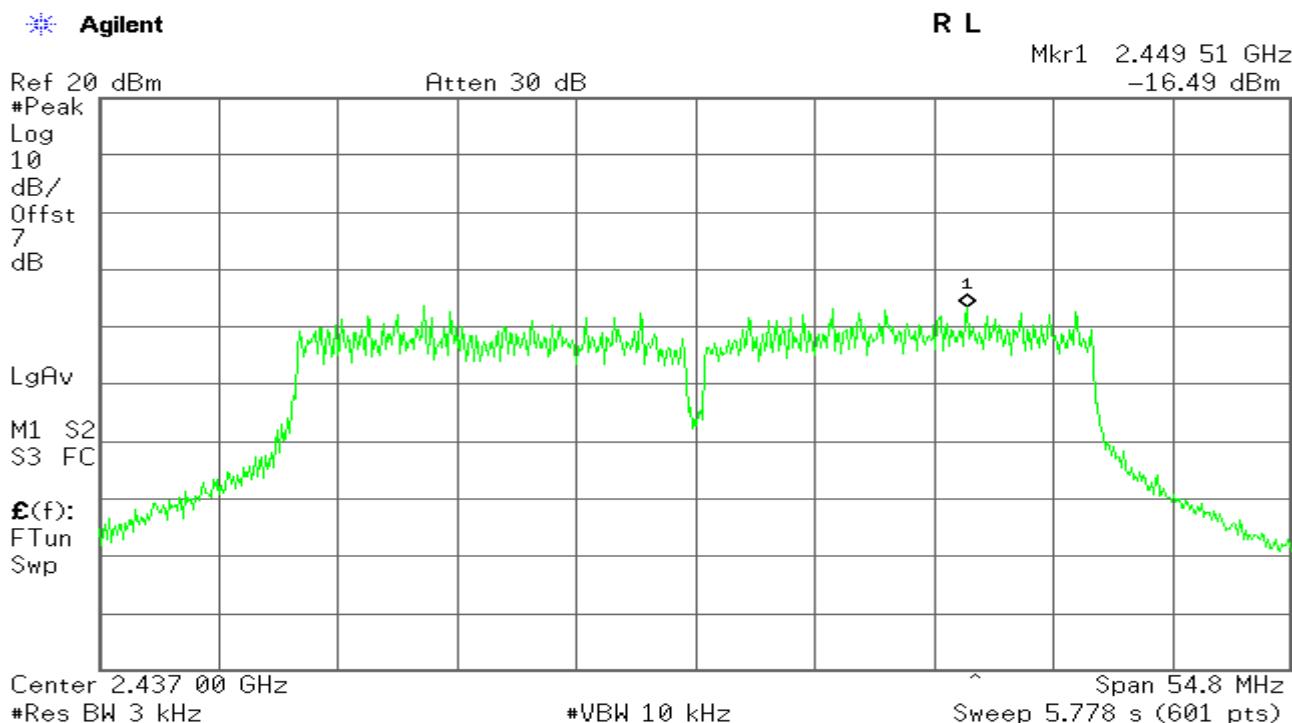
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

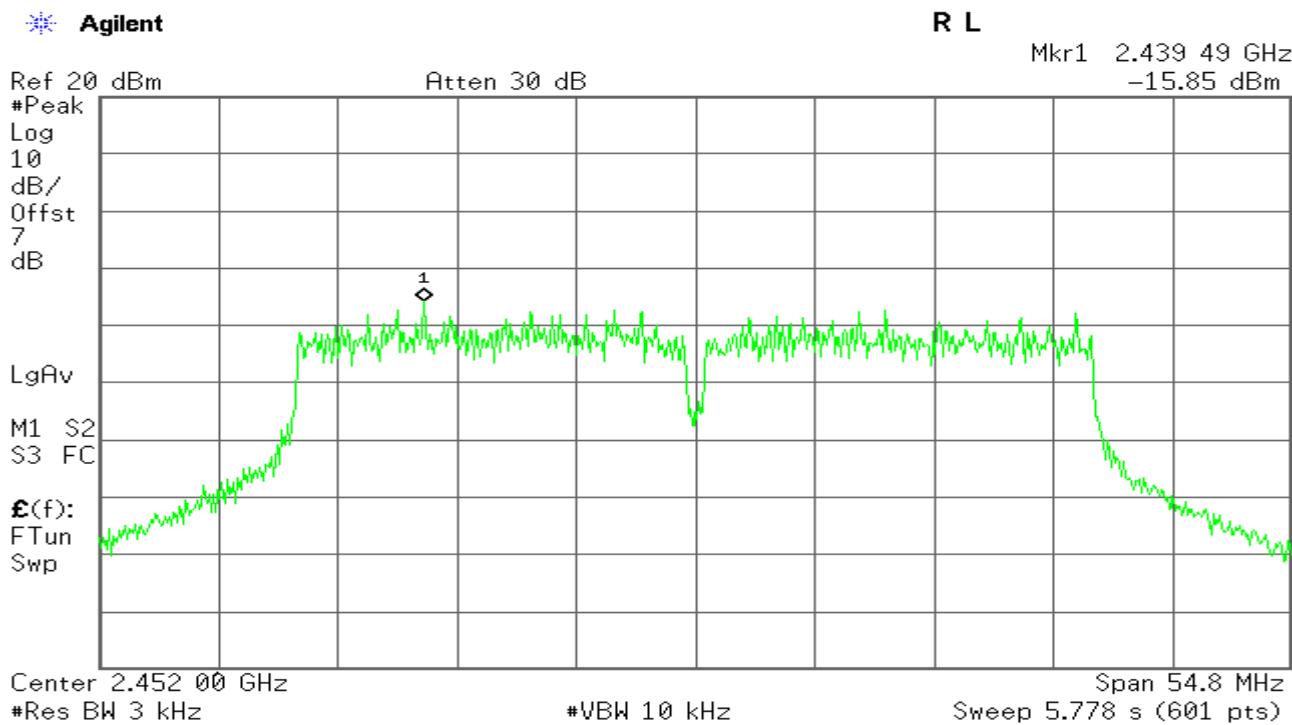
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## PPSD (CH Mid)



## PPSD (CH High)





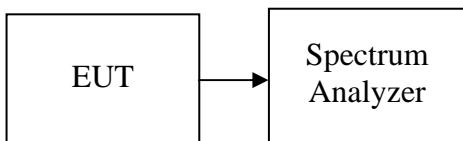
## 7.4. SPURIOUS EMISSIONS Conducted Measurement

### LIMIT

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see Section 15.205(c)).

Conducted power was measured based on the use of RMS averaging over a time interval, therefore the required attenuation is 30 dB.

### Test Configuration



### TEST PROCEDURE

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 1 MHz. The video bandwidth is set to 1 MHz.

Measurements are made over the 30MHz to 40GHz range with the transmitter set to the lowest, middle, and highest channels.

### TEST RESULTS

*No non-compliance noted*



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

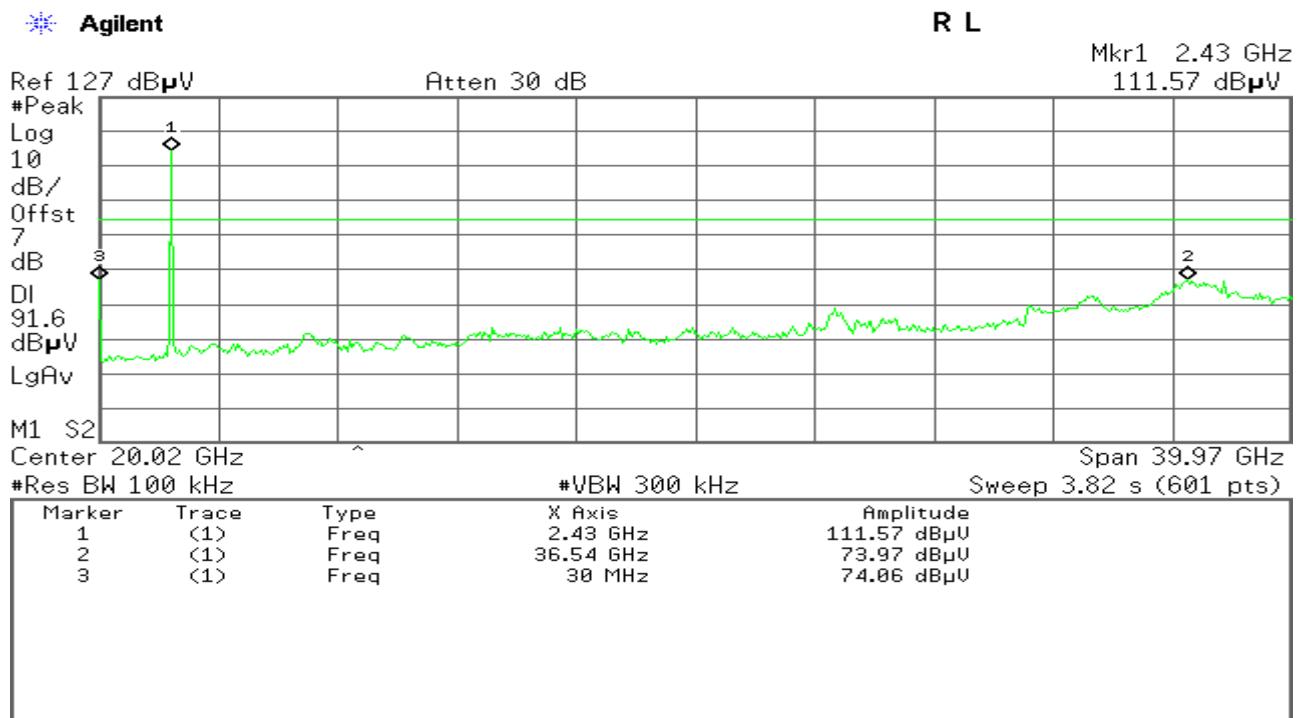
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

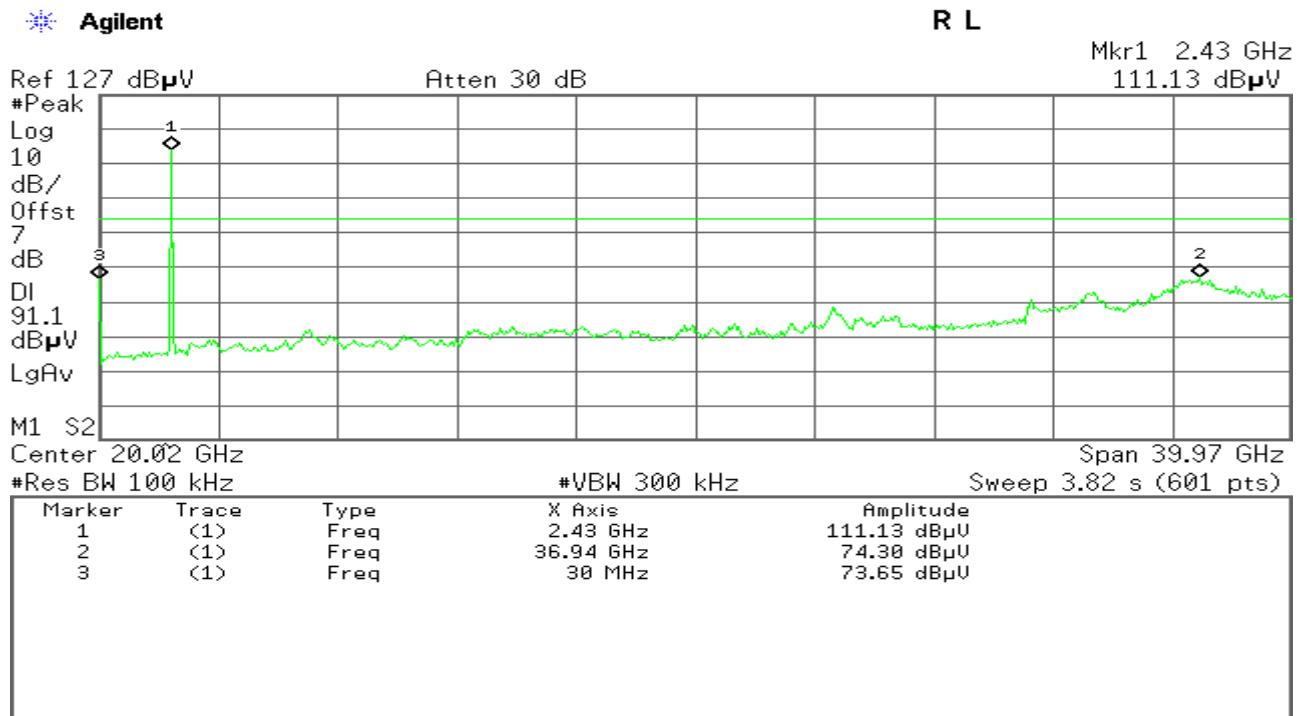
## Test Plot

### IEEE 802.11b mode

#### CH Low



#### CH Mid





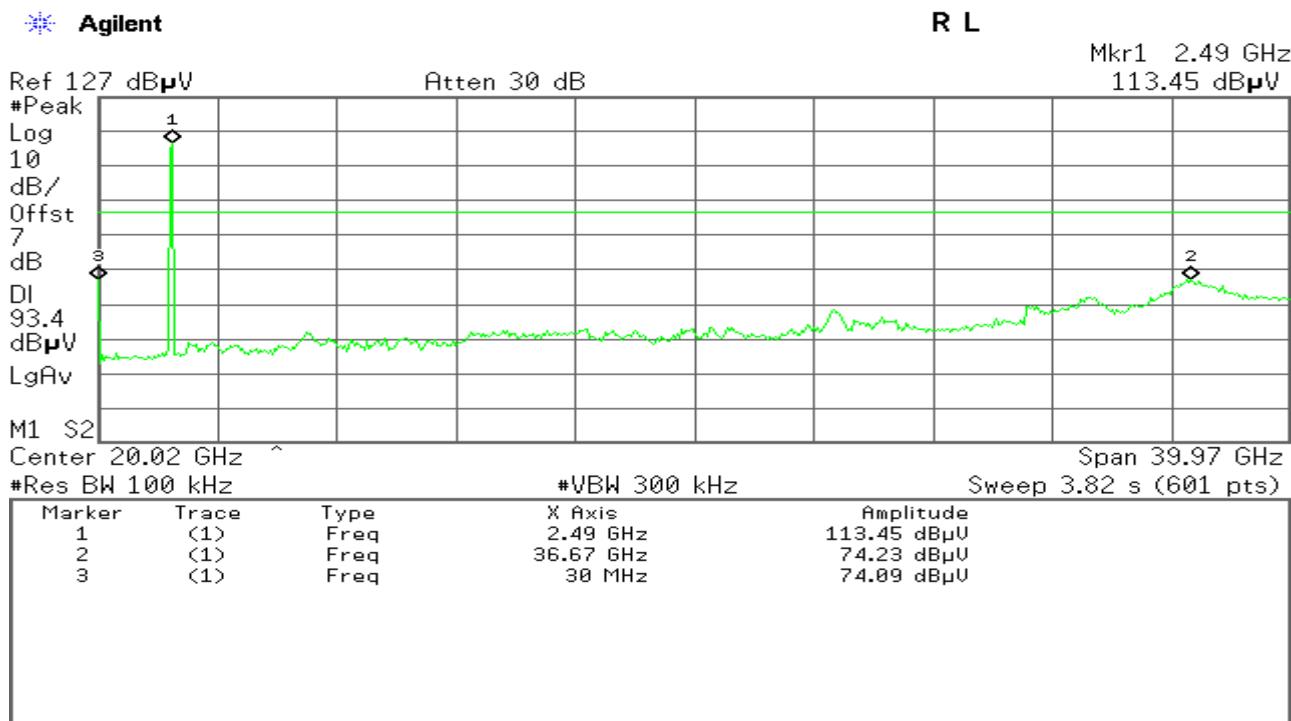
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

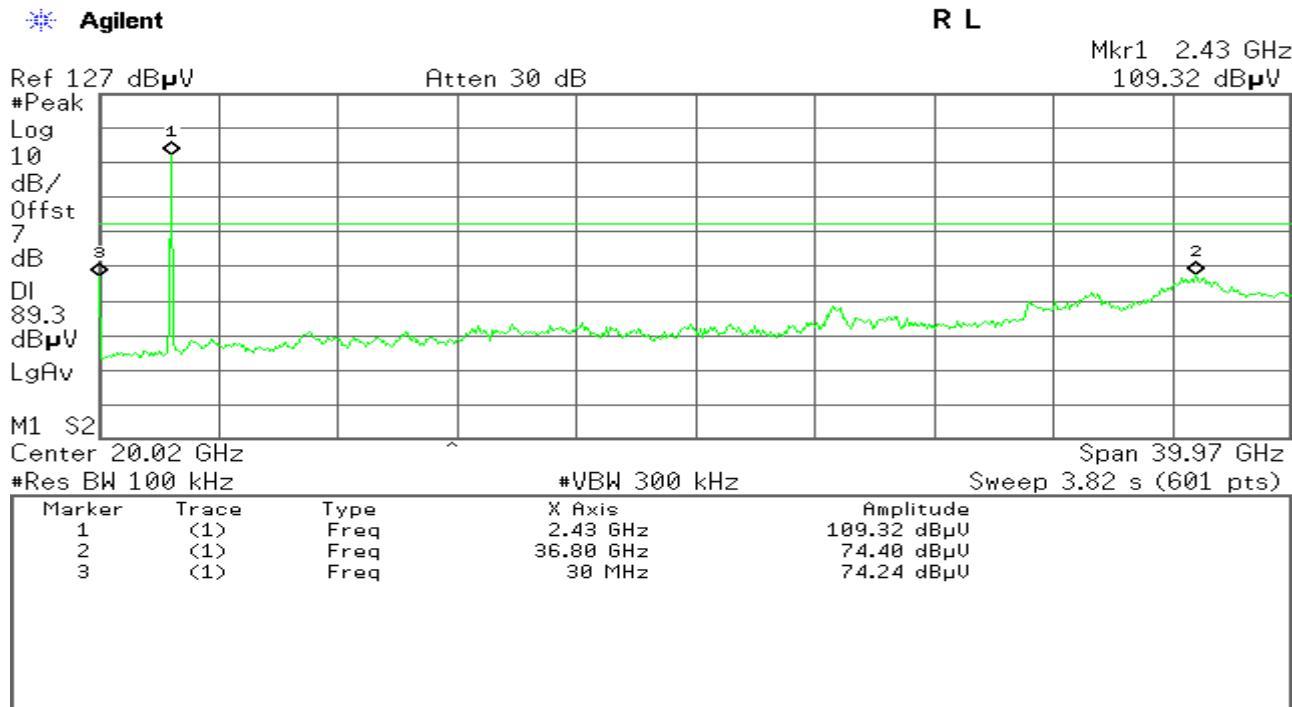
Date of Issue :August 28, 2013

## CH High



## IEEE 802.11g mode

### CH Low





# **Compliance Certification Services Inc.**

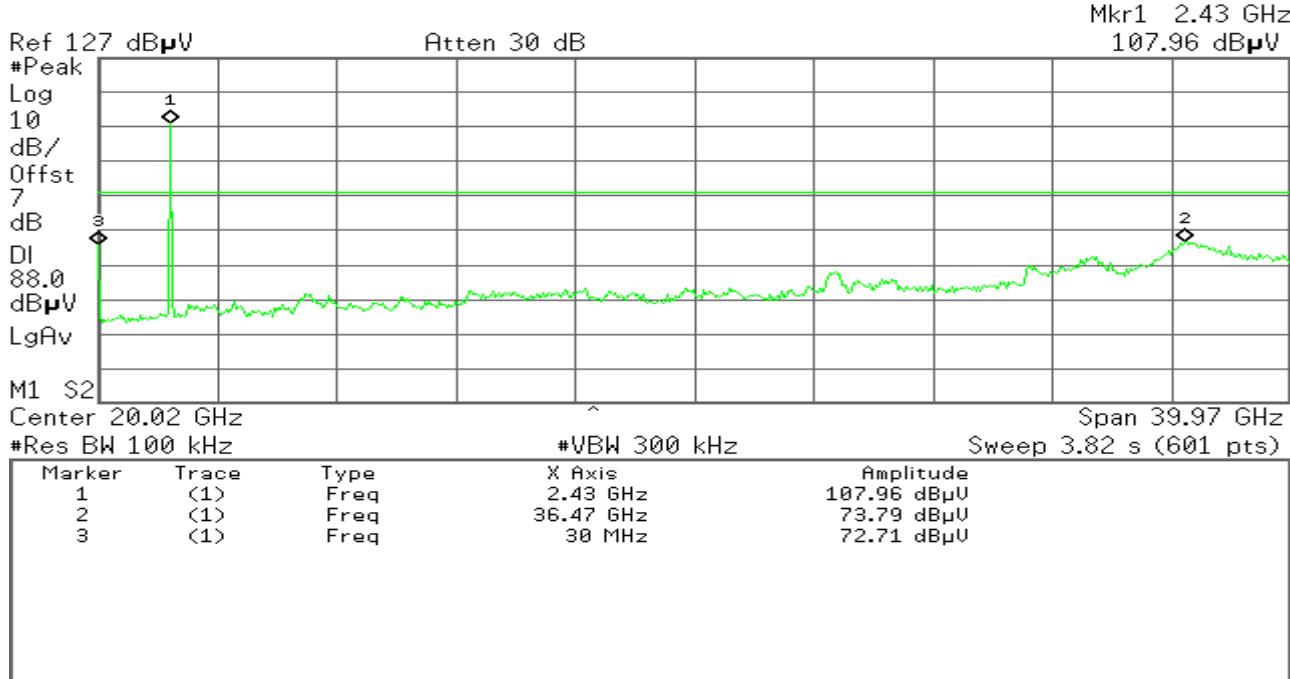
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

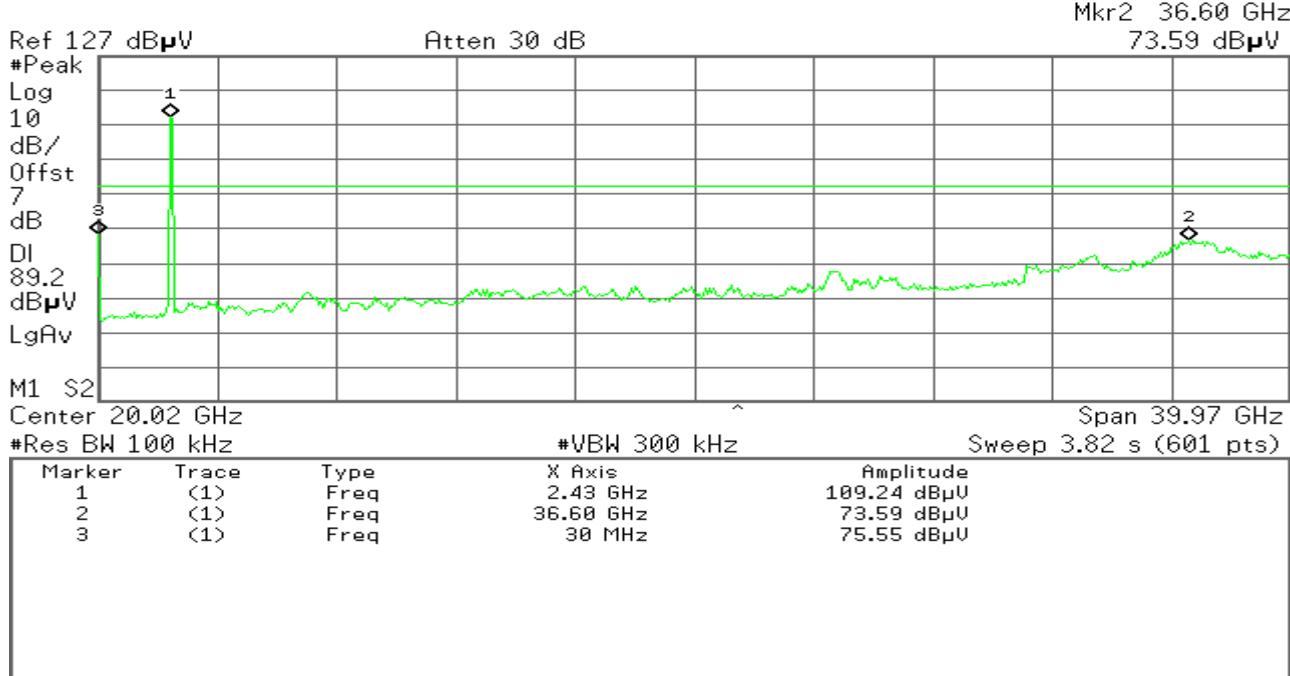
CH Mid

Agilent



## CH High

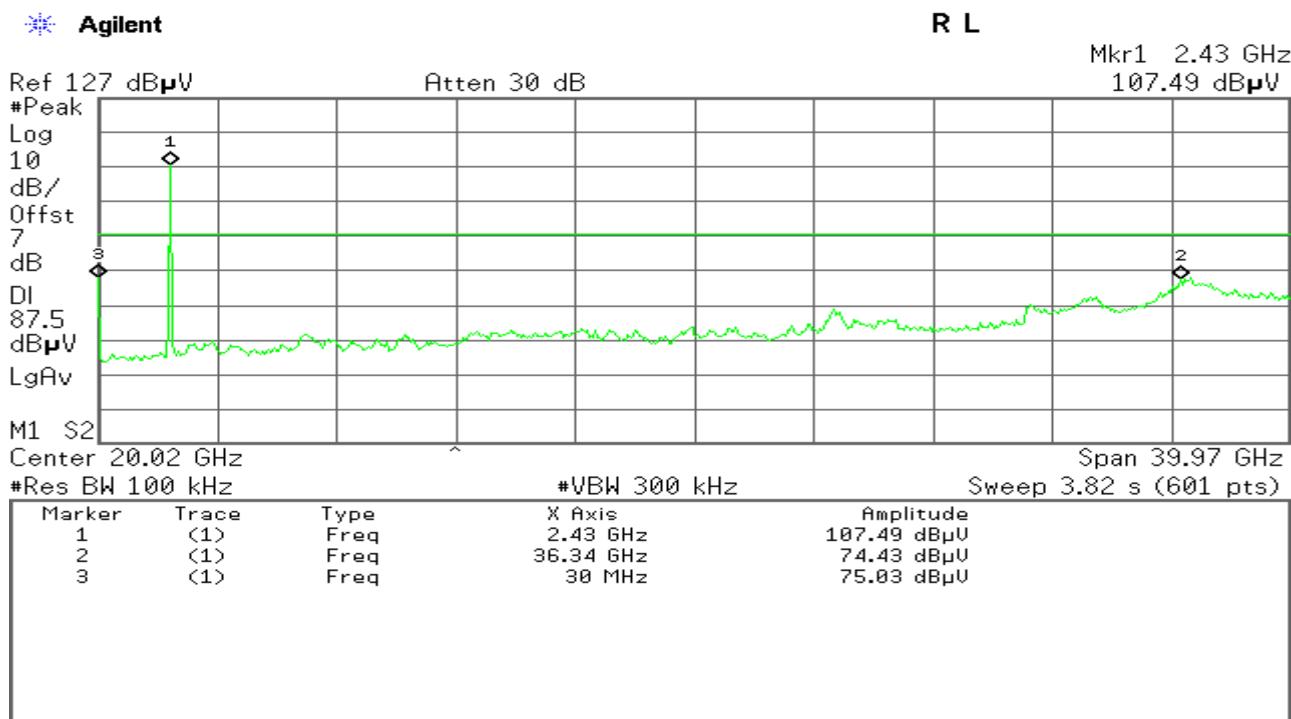
\* Agilent



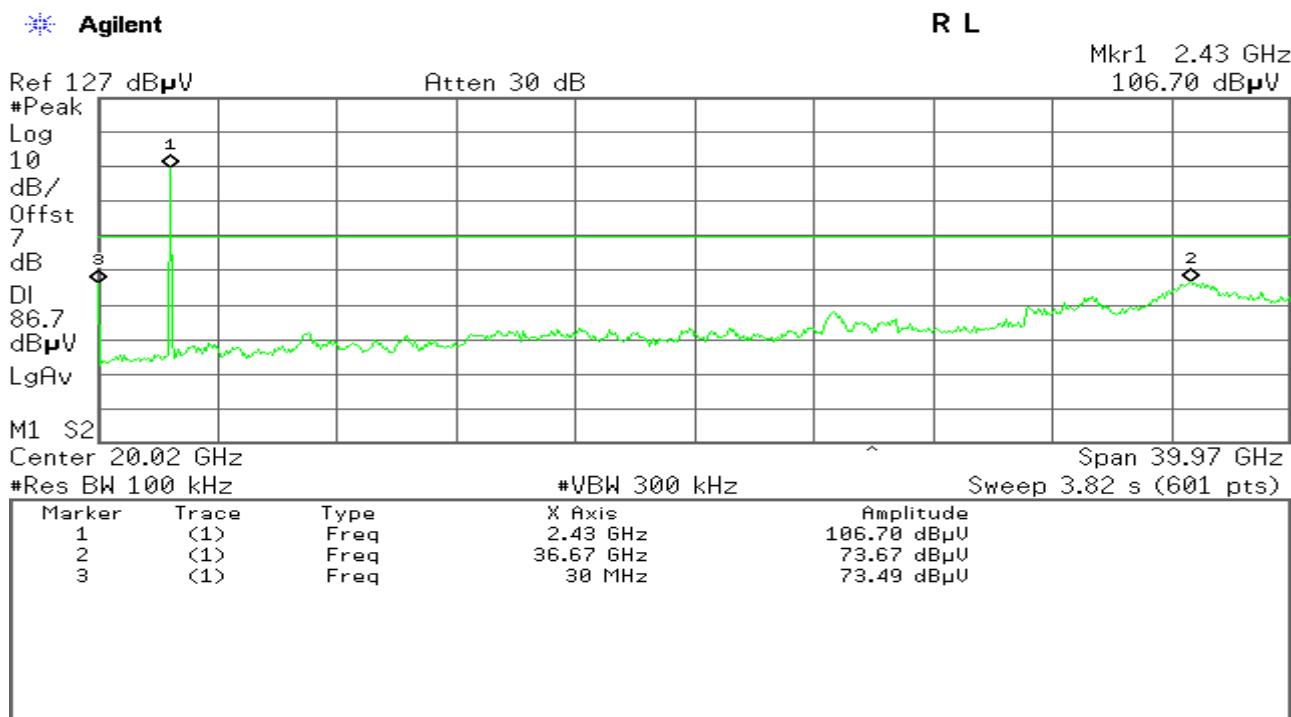


## 802.11n Standard-20 MHz Channel mode / Chain 0

### CH Low



### CH Mid





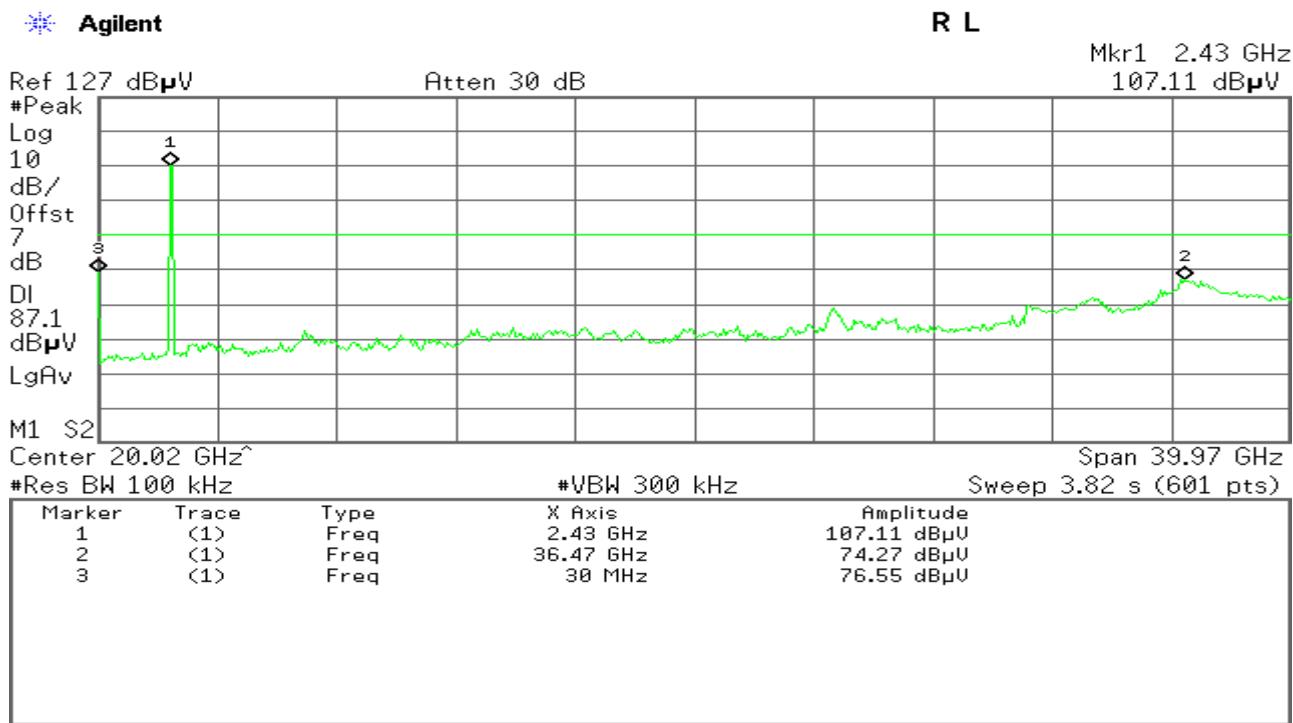
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

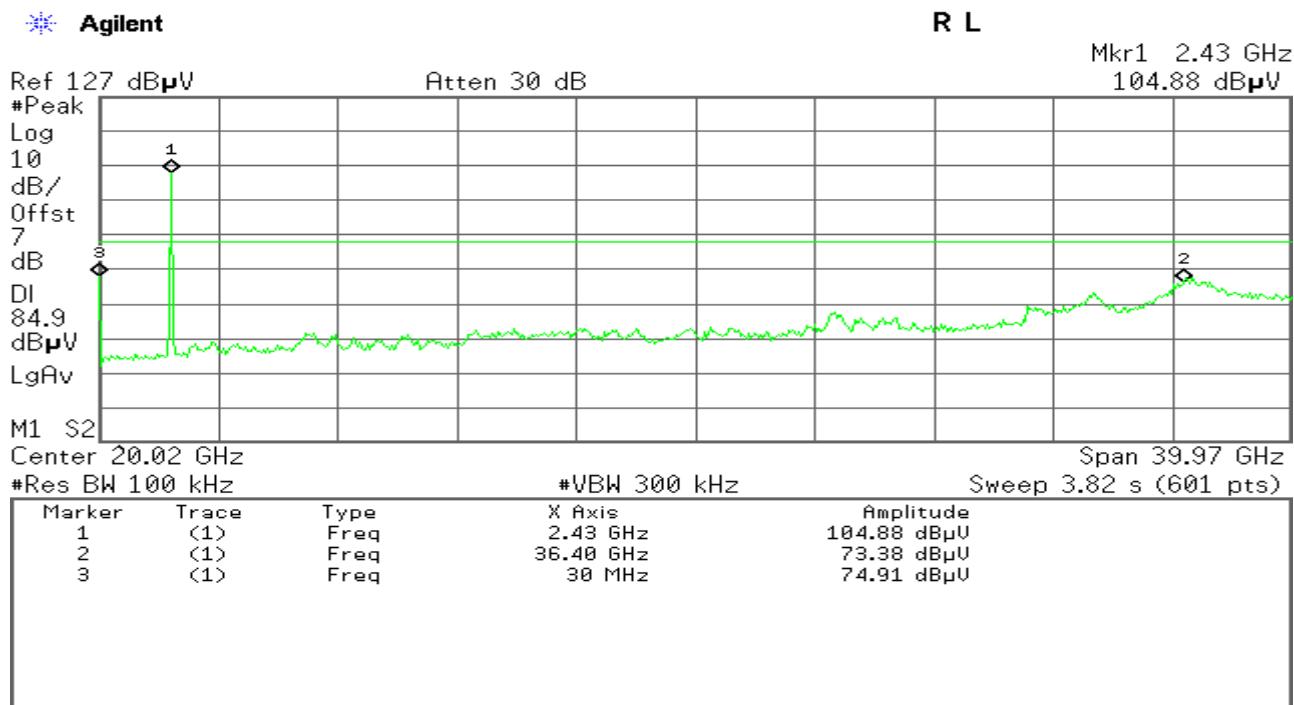
Date of Issue :August 28, 2013

## CH High



## 802.11n Standard-40 MHz Channel mode / Chain 0

### CH Low





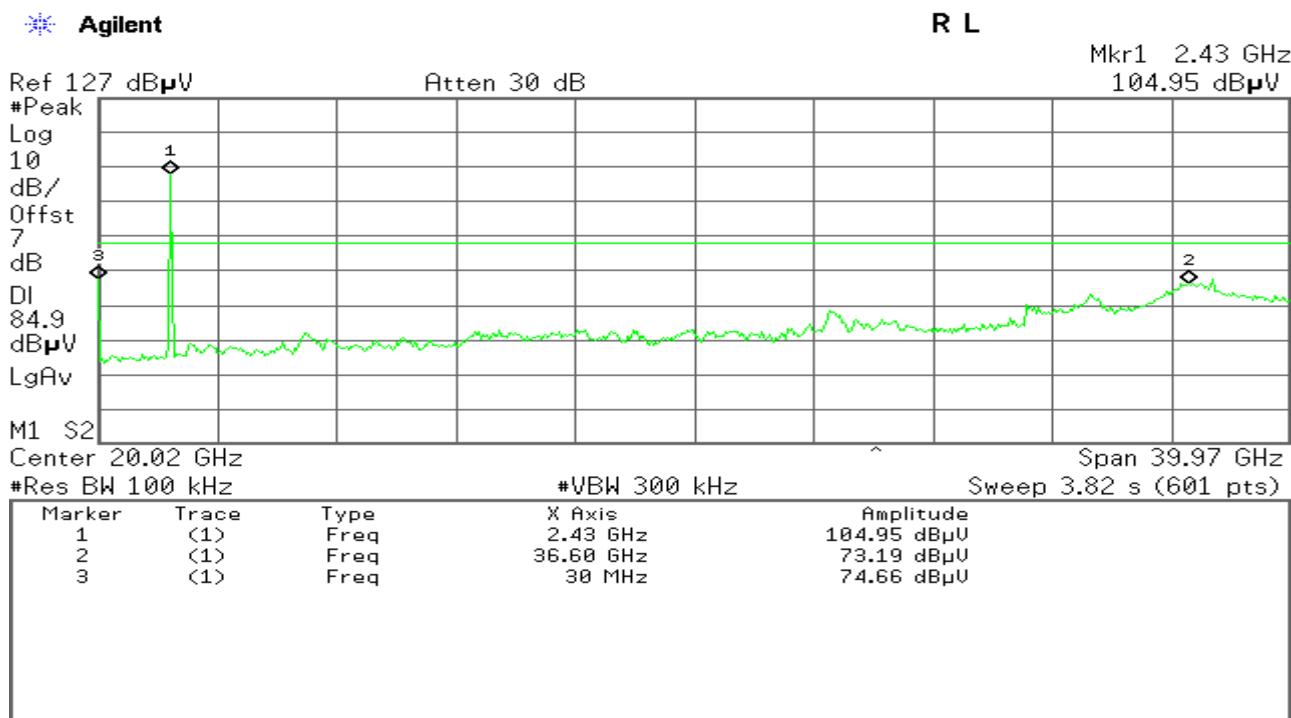
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

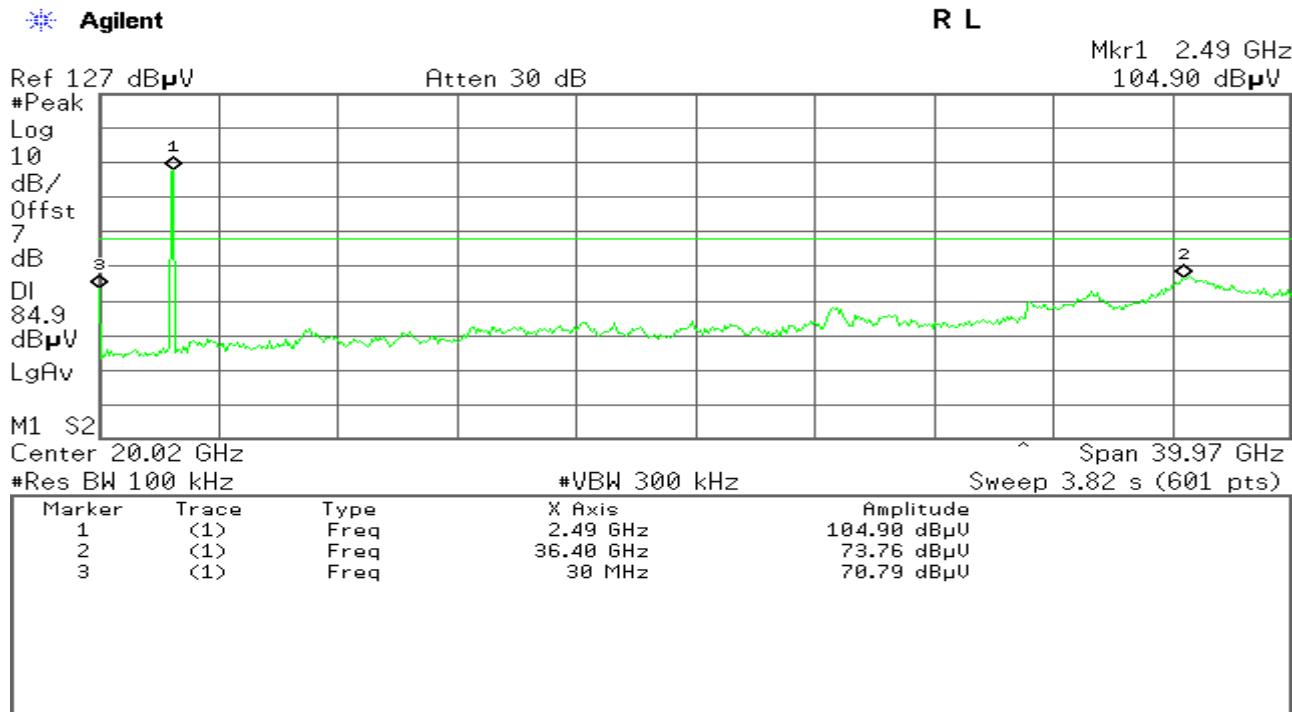
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## CH Mid



## CH High

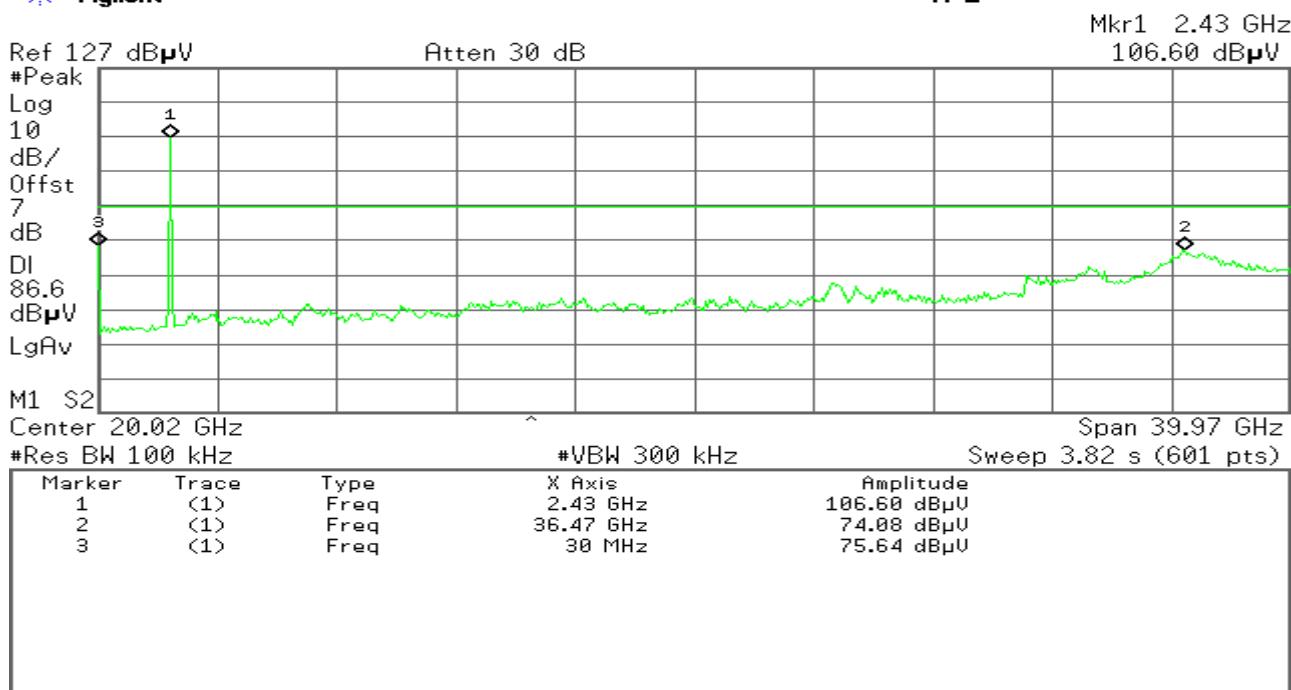




## 802.11n Standard-20 MHz Channel mode / Chain 1

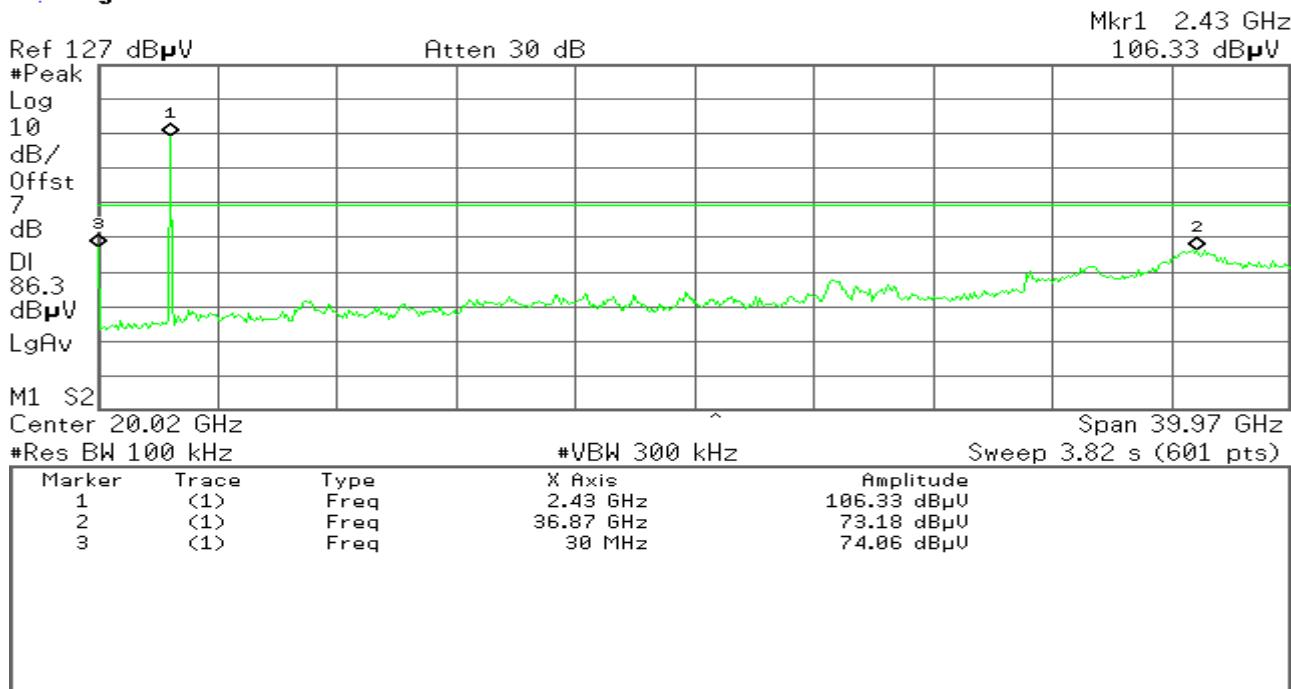
**CH Low**

\* Agilent



**CH Mid**

\* Agilent





# Compliance Certification Services Inc.

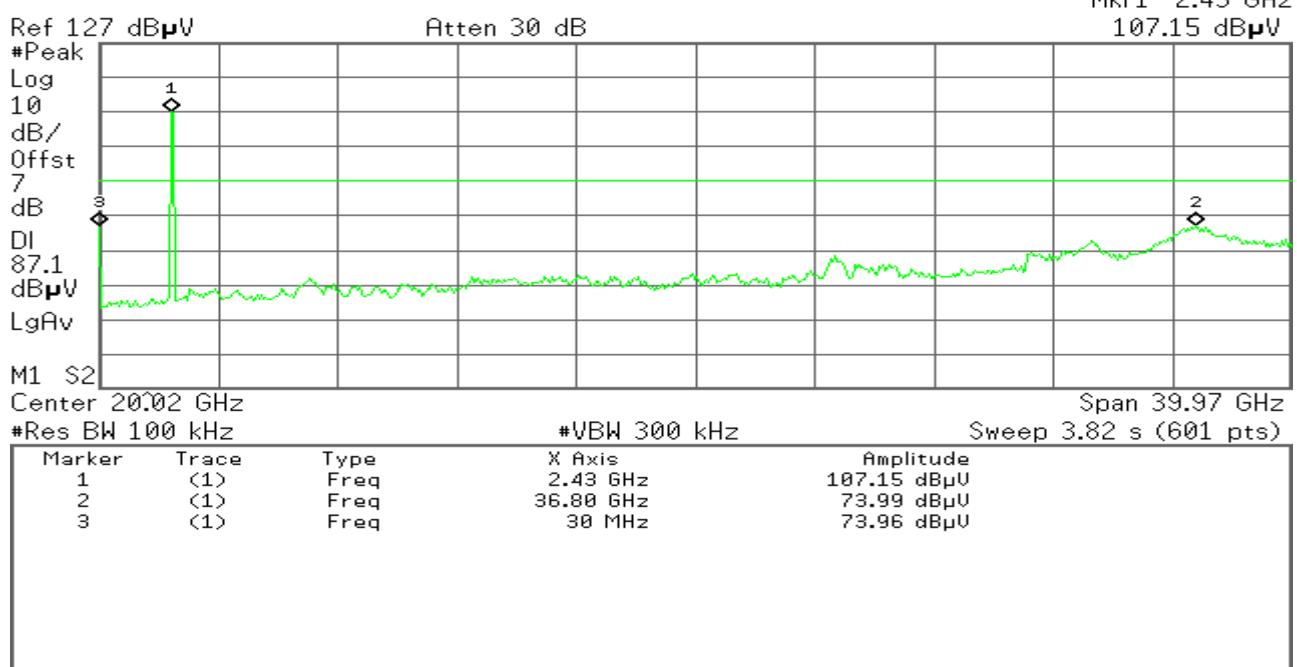
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## CH High

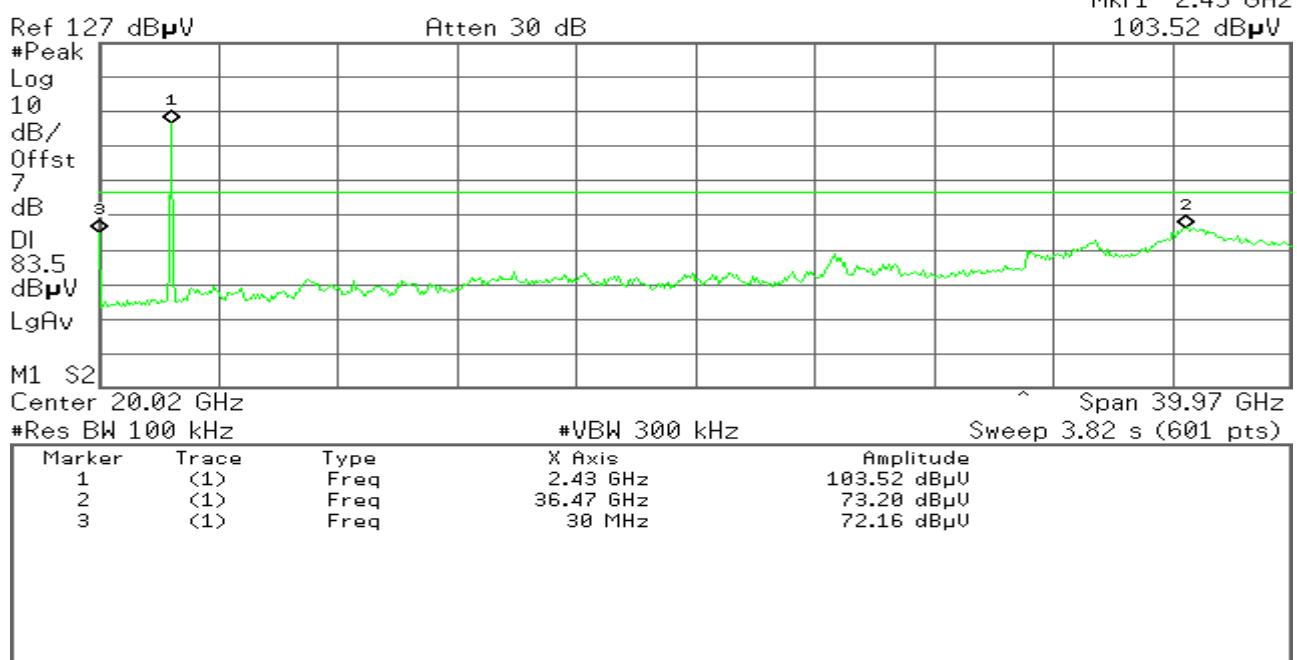
Agilent



## 802.11n Standard-40 MHz Channel mode / Chain 1

### CH Low

Agilent





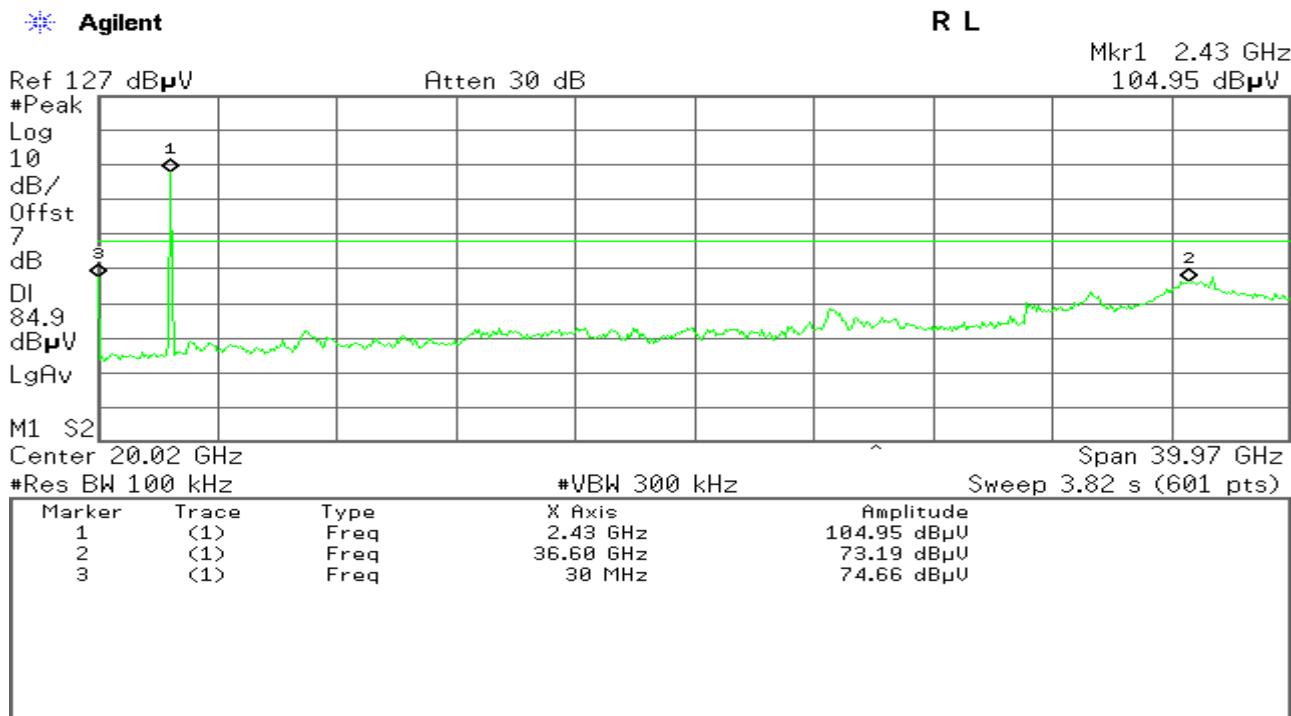
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

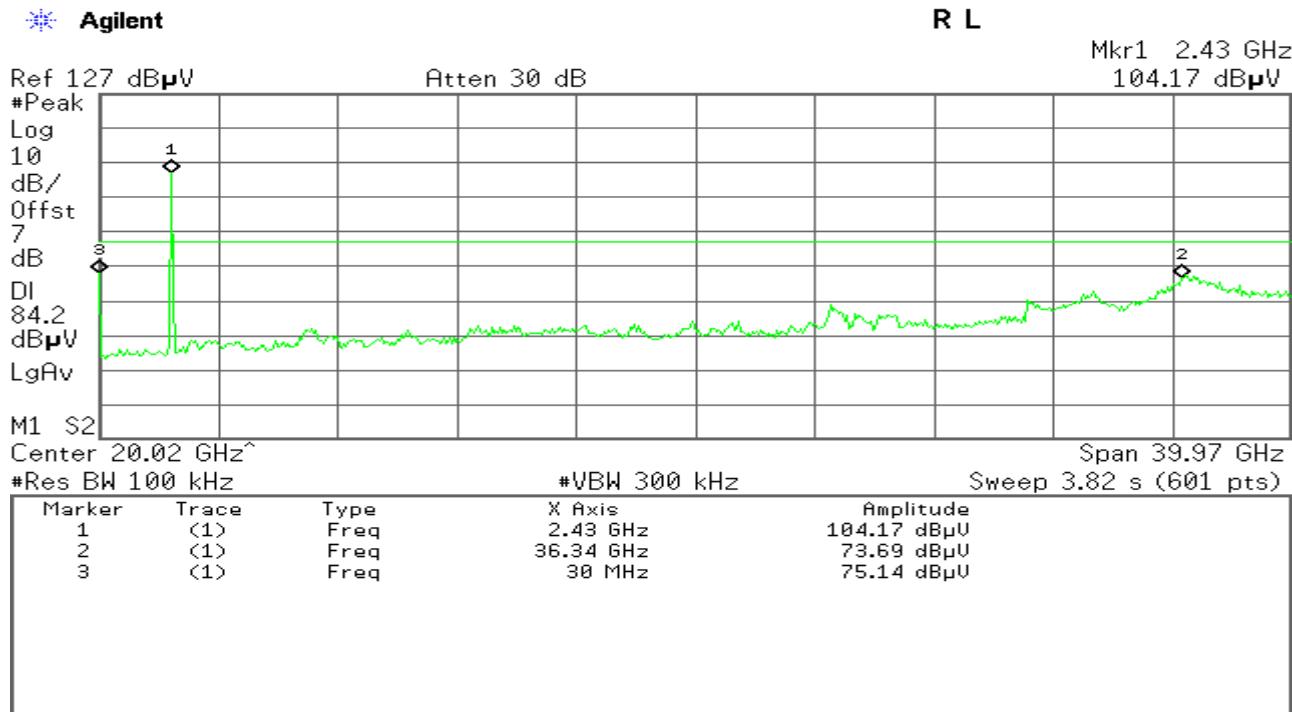
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## CH Mid



## CH High





# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## 7.5. RADIATED EMISSIONS

### LIMIT

Radiated emissions from 9 kHz to 25 GHz were measured according to the methods defines in ANSI C63.4-2009. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

1. According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

FREQUENCIES(MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE(meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

**Remark:** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

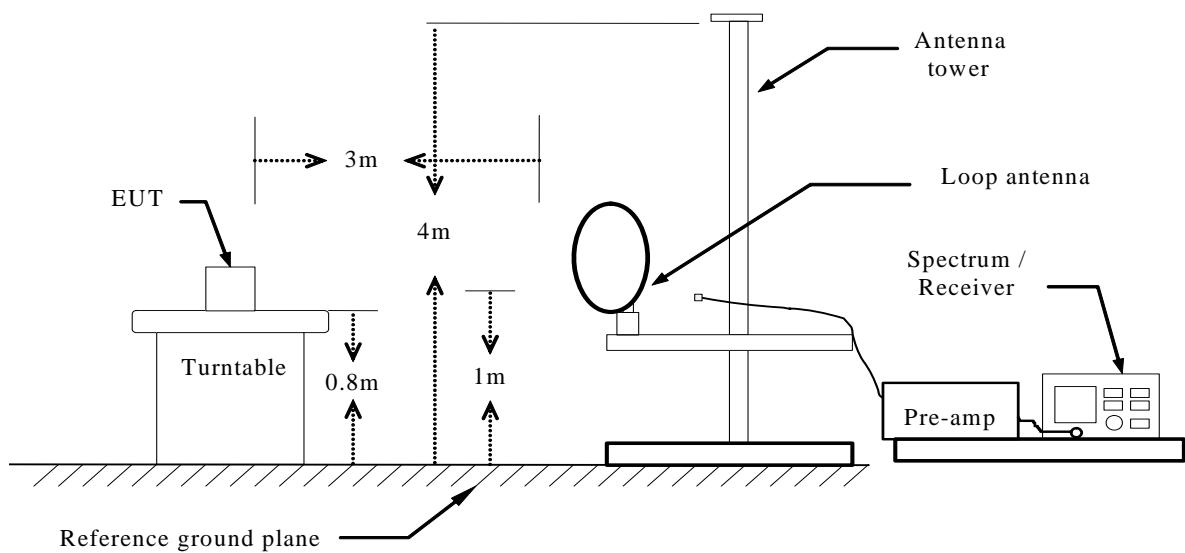
2. In the emission table above, the tighter limit applies at the band edges.

Frequency (MHz)	Field Strength ( $\mu$ V/m at 3-meter)	Field Strength (dB $\mu$ V/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

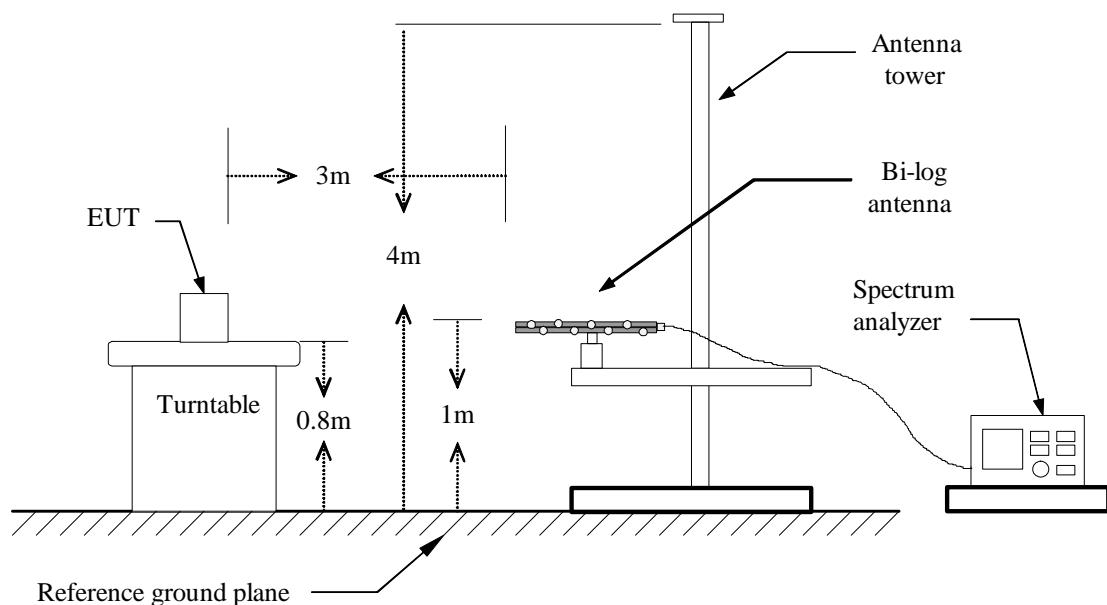
### Test Configuration



## Below 30MHz

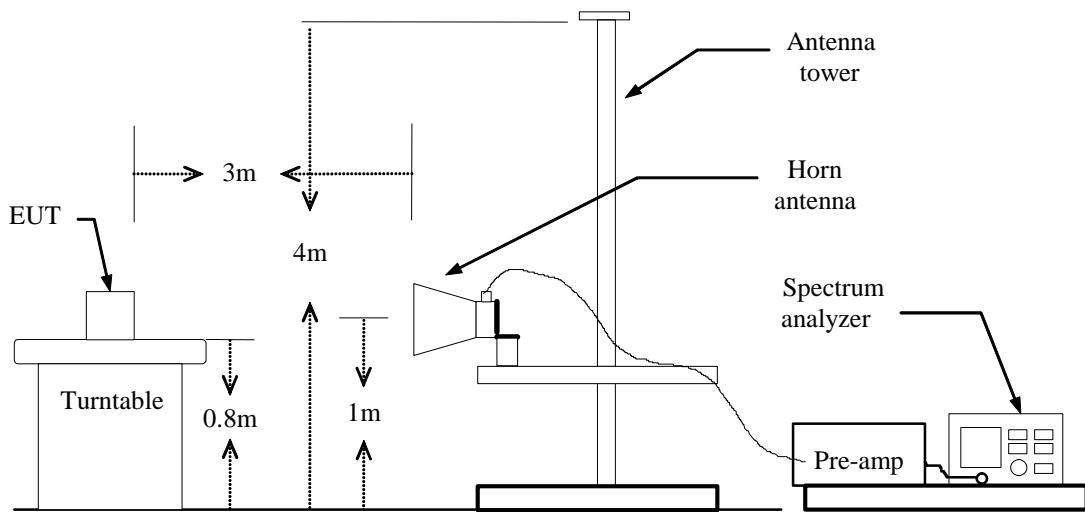


## Below 1 GHz





## Above 1 GHz



## TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be 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 emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

Below 1GHz:

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz:

(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

7. Repeat above procedures until the measurements for all frequencies are complete.

## TEST RESULTS



# Compliance Certification Services Inc.

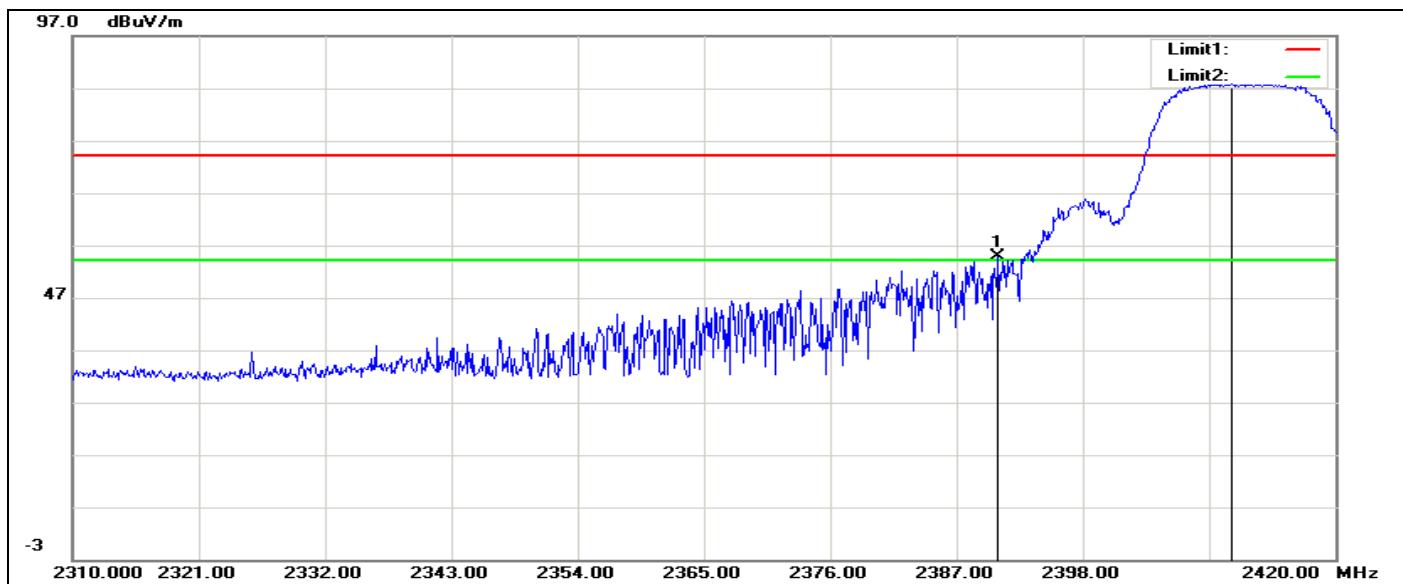
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

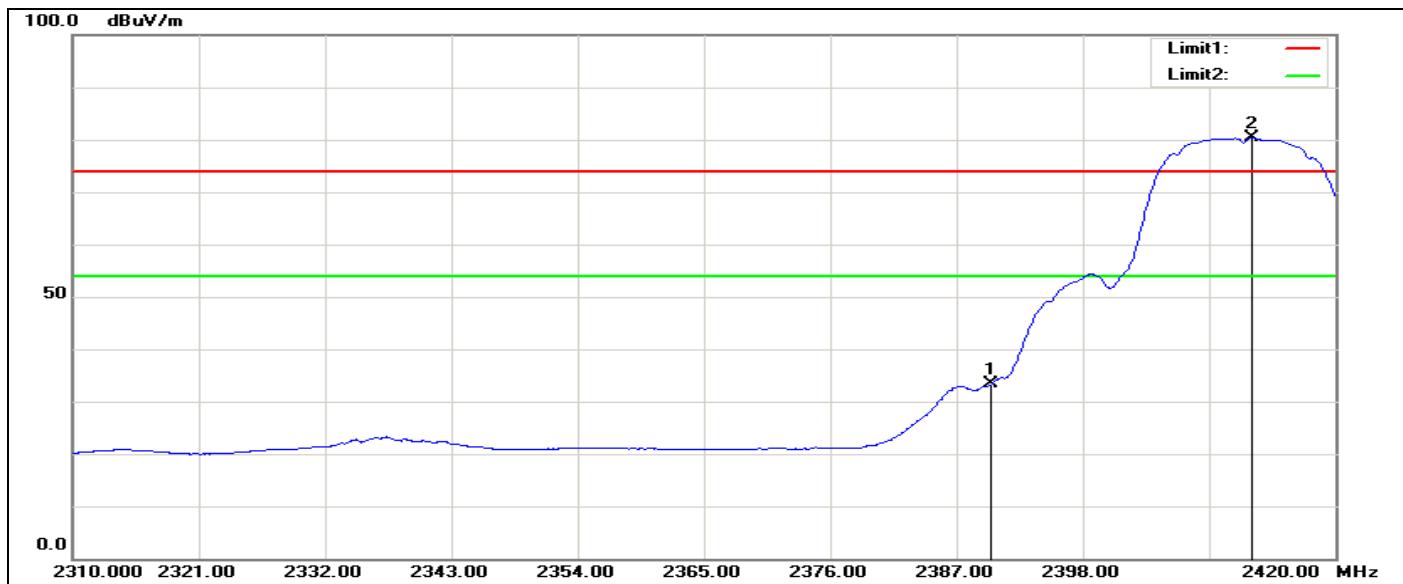
## RESTRICTED BANDEDGE (b Mode, Low Channel, Horizontal)

### PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.630	69.21	-14.29	54.92	74.00	-19.08	100	94	peak
2	2410.980	101.98	-14.21	87.77	74.00	13.77	100	53	peak

### AVG

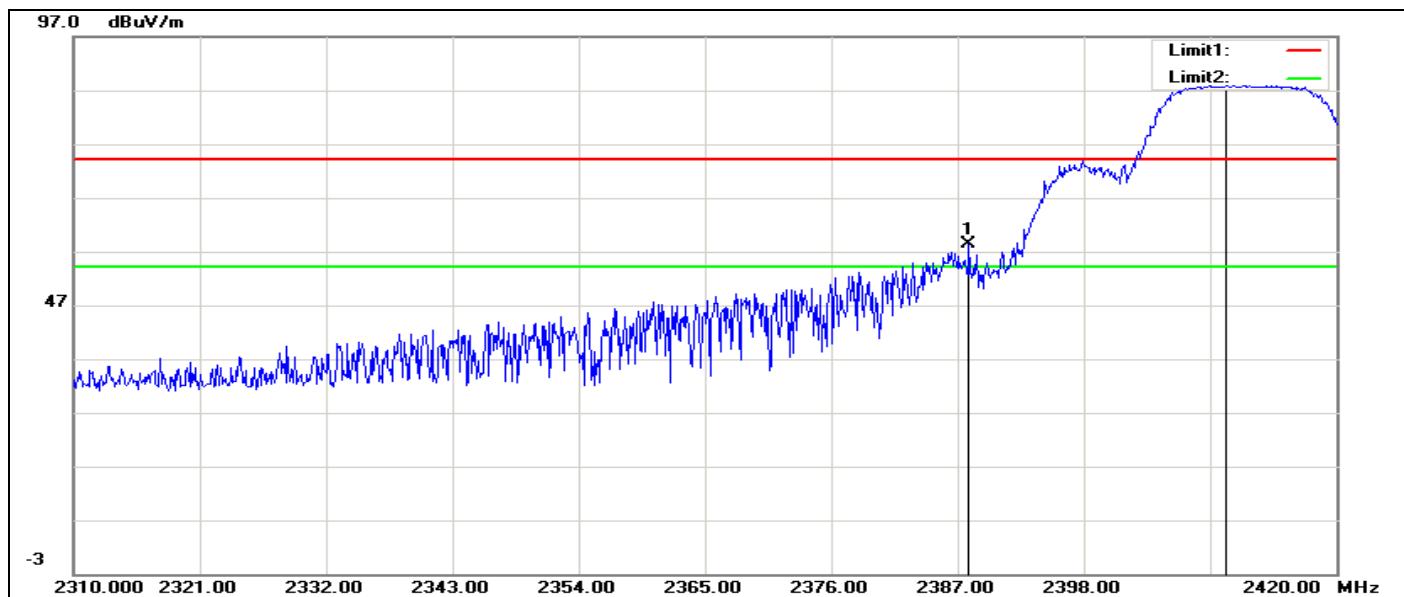


No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	47.64	-14.28	33.36	54.00	-20.64	100	96	peak
2	2412.740	94.51	-14.19	80.32	54.00	26.32	100	96	peak



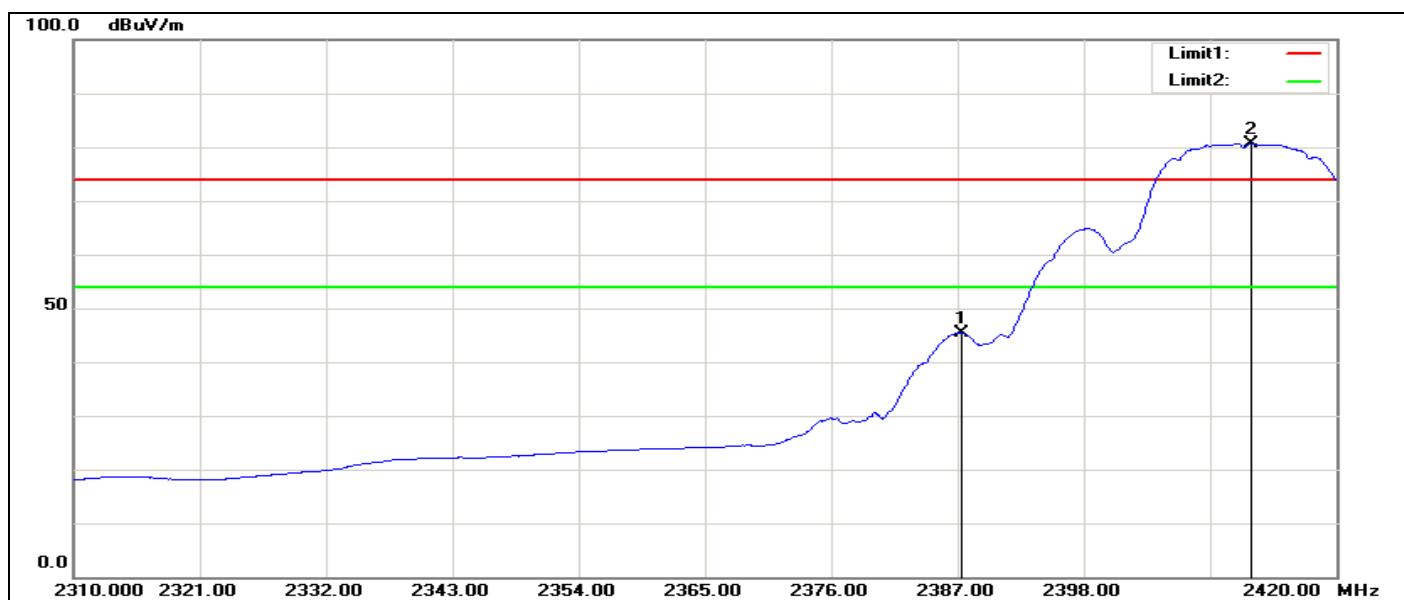
**RESTRICTED BANDEDGE (b Mode, Low Channel, Vertical)**

PEAK

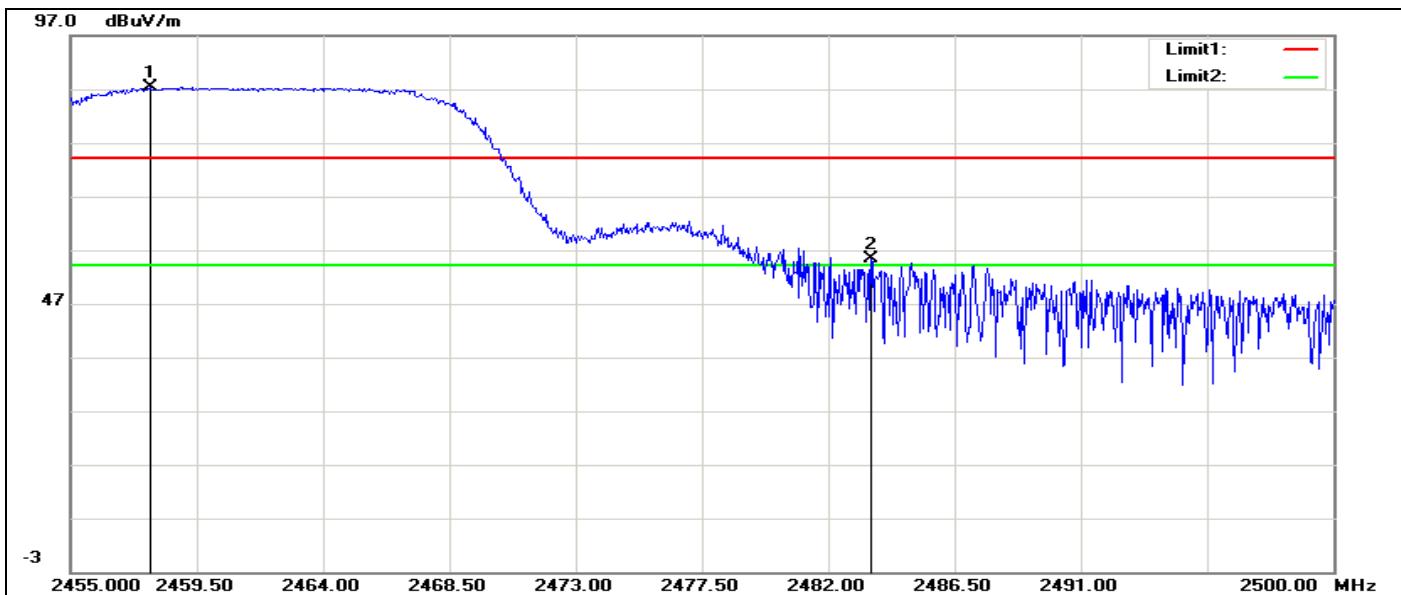


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2387.990	72.55	-14.29	58.26	74.00	-15.74	100	208	peak
2	2410.320	102.02	-14.21	87.81	74.00	13.81	100	91	peak

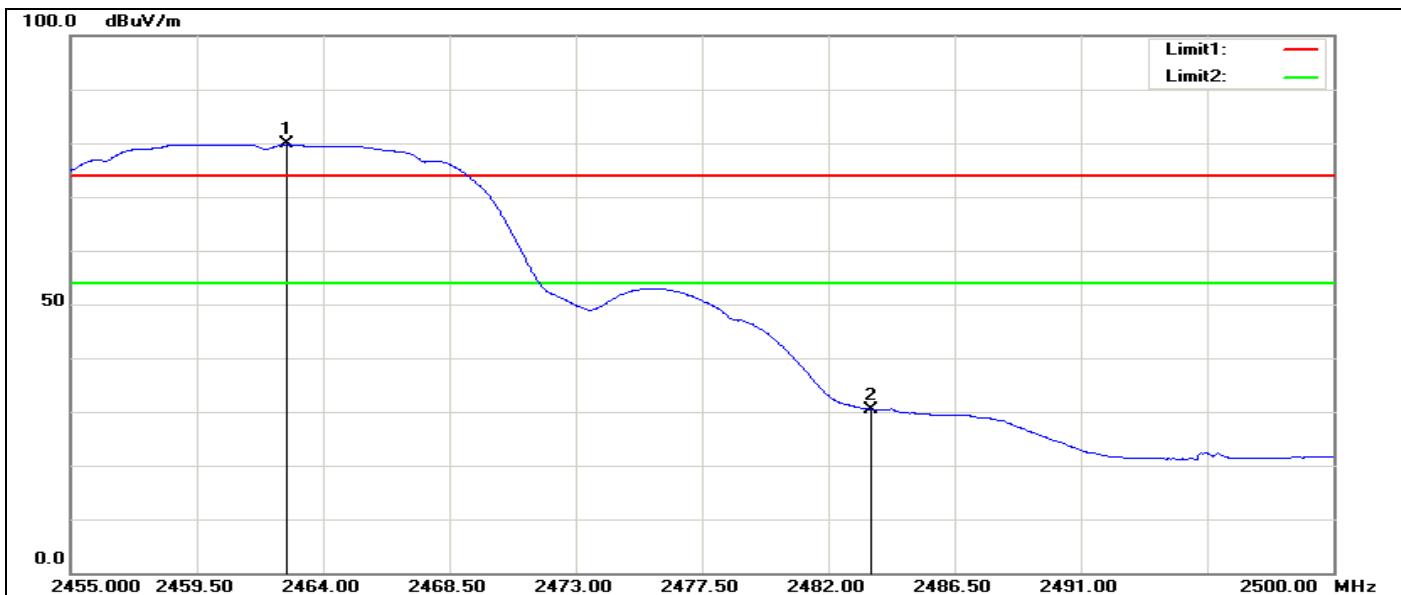
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2387.330	59.72	-14.29	45.43	54.00	-8.57	100	43	AVG
2	2412.630	94.92	-14.19	80.73	54.00	26.73	100	140	AVG

**RESTRICTED BANDEDGE (b Mode, High Channel, Horizontal)****PEAK**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2457.835	101.14	-13.85	87.29	74.00	13.29	100	94	peak
2	2483.530	68.98	-13.65	55.33	74.00	-18.67	100	17	peak

**AVG**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2462.695	93.57	-13.81	79.76	54.00	25.76	100	130	AVG
2	2483.500	44.14	-13.65	30.49	54.00	-23.51	100	17	AVG



# Compliance Certification Services Inc.

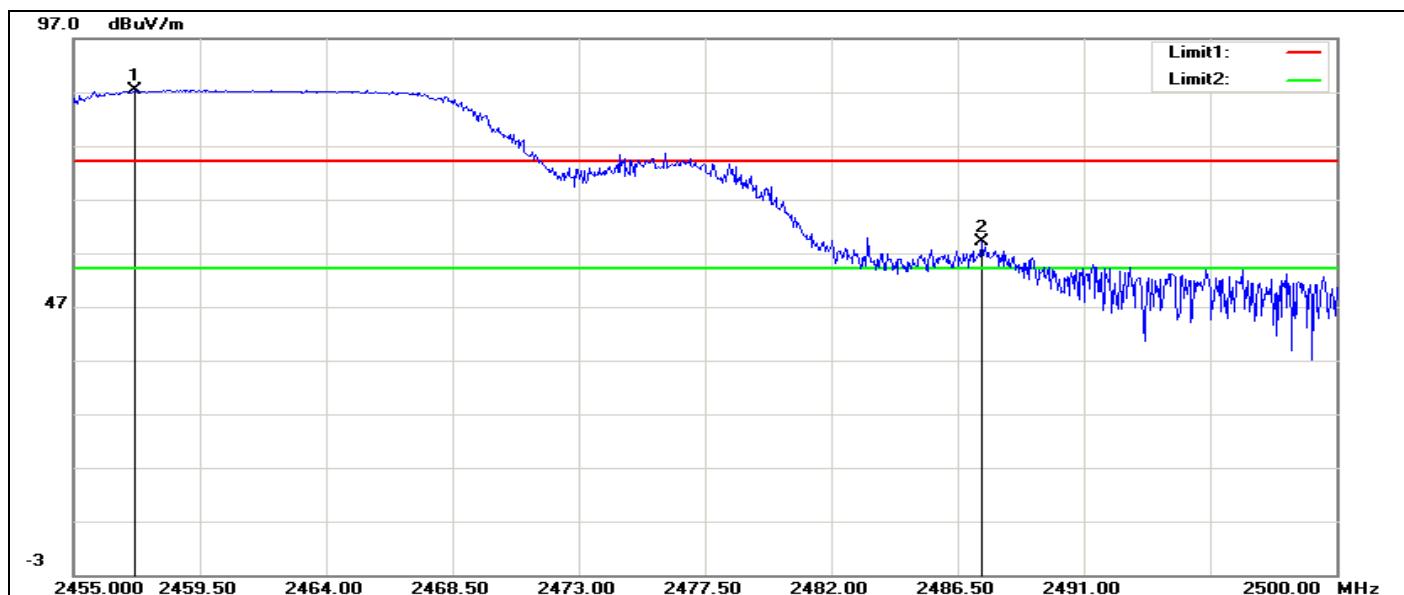
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

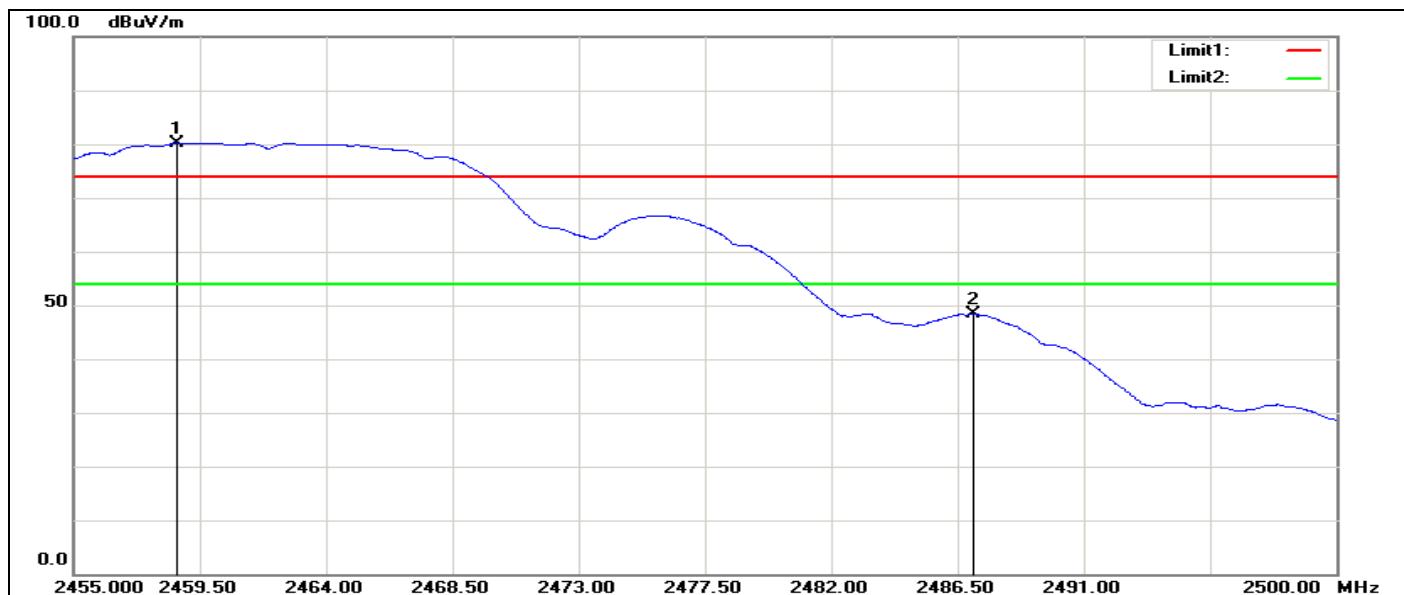
## RESTRICTED BANDEDGE (b Mode, High Channel, Vertical)

### PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2457.205	101.19	-13.85	87.34	74.00	13.34	100	90	peak
2	2487.355	72.82	-13.62	59.20	74.00	-14.80	100	207	peak

### AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2458.690	94.00	-13.83	80.17	54.00	26.17	100	197	AVG
2	2487.040	62.01	-13.62	48.39	54.00	-5.61	100	207	AVG



# Compliance Certification Services Inc.

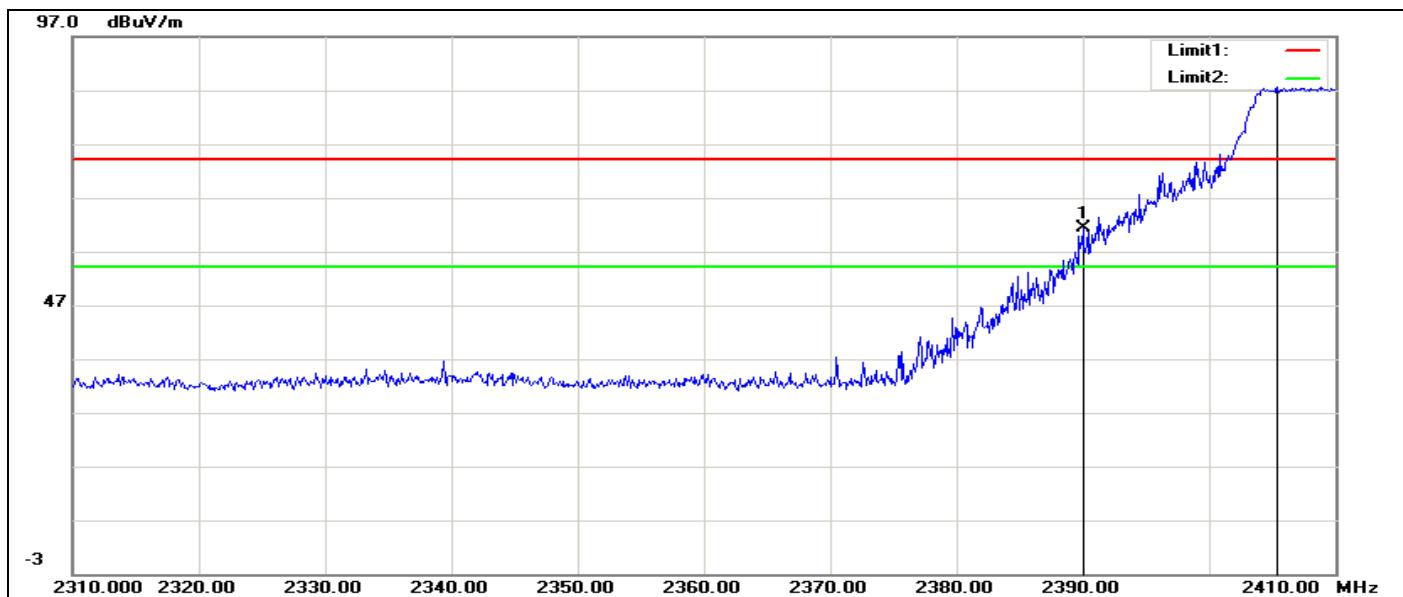
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

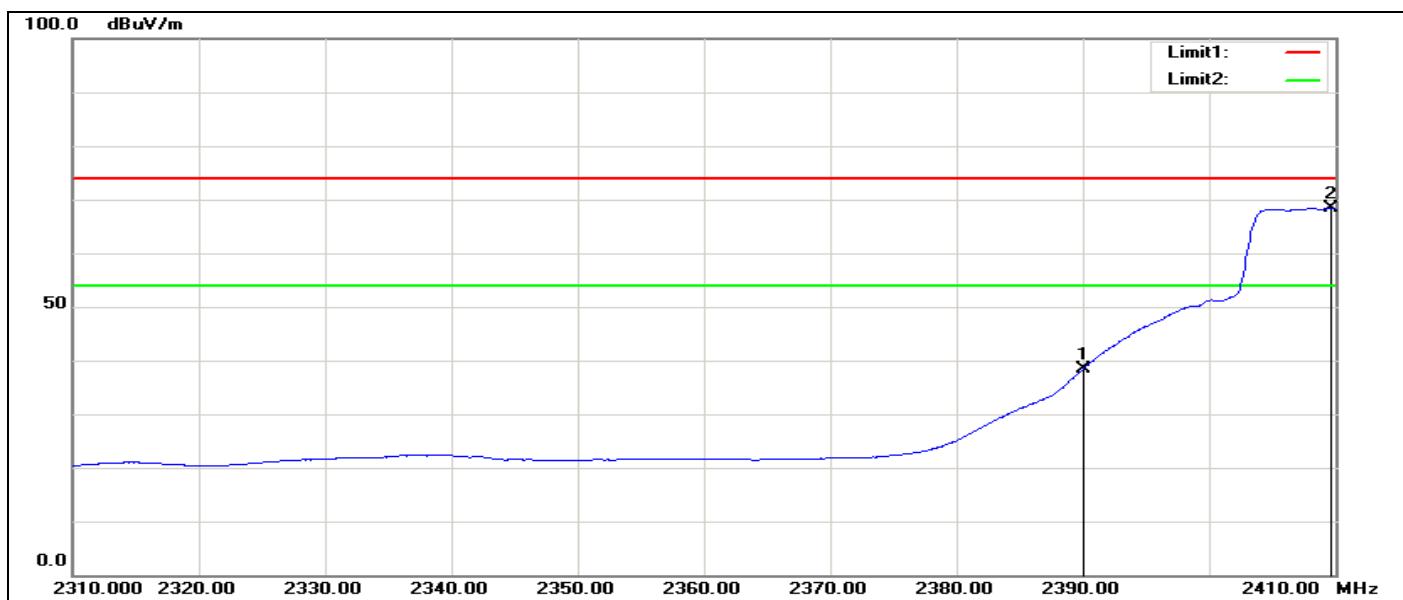
## RESTRICTED BANDEDGE (g Mode, Low Channel, Horizontal)

### PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	75.75	-14.28	61.47	74.00	-12.53	100	95	peak
2	2405.400	101.77	-14.24	87.53	74.00	13.53	100	54	peak

### AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	52.61	-14.28	38.33	54.00	-15.67	100	95	AVG
2	2409.600	82.63	-14.21	68.42	54.00	14.42	100	141	AVG



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013



# Compliance Certification Services Inc.

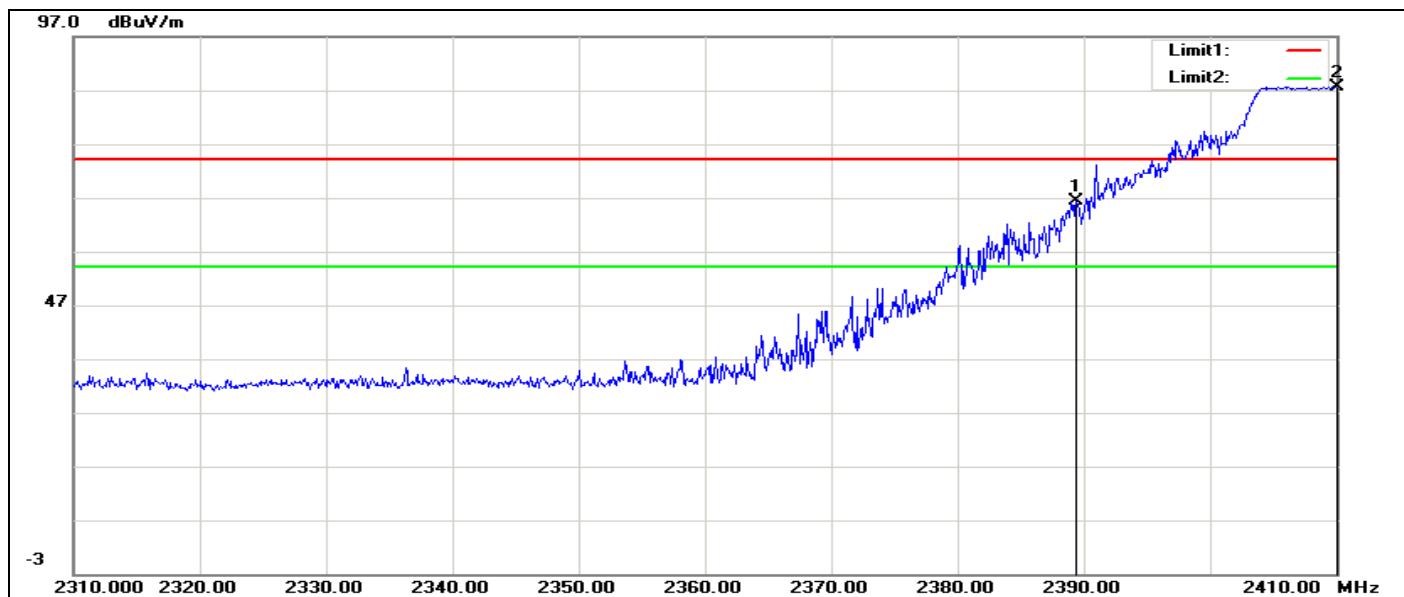
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

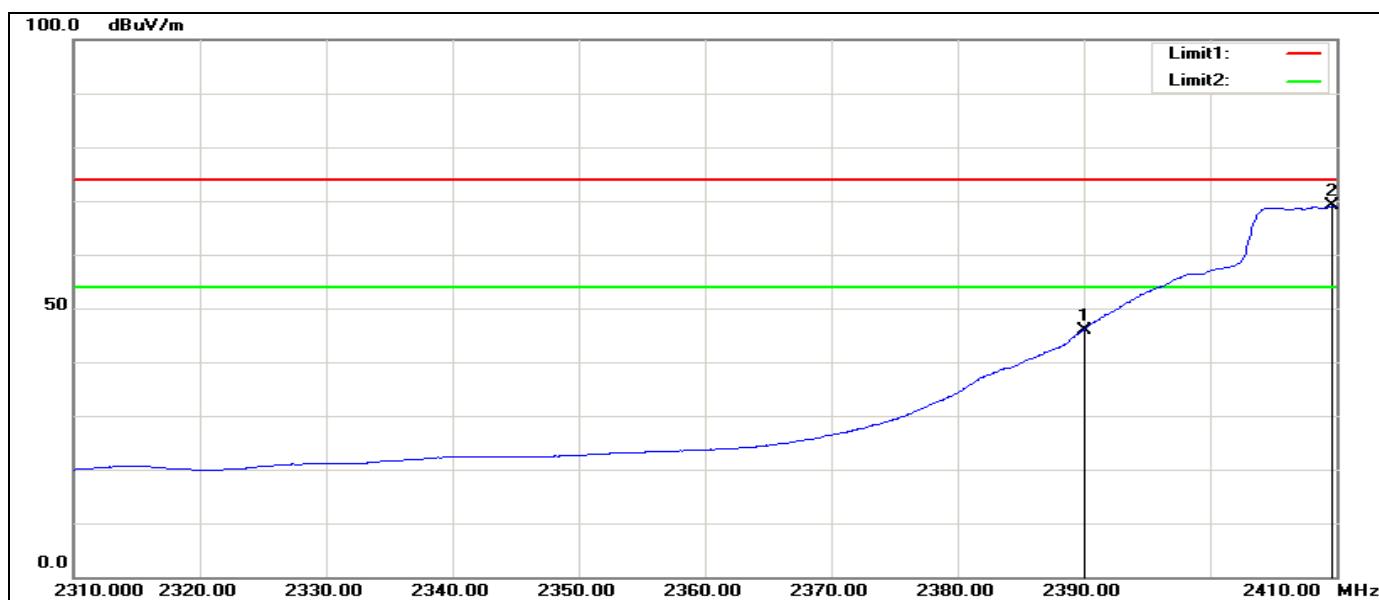
## RESTRICTED BANDEDGE (g Mode, Low Channel, Vertical)

### PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2389.400	80.66	-14.28	66.38	74.00	-7.62	100	207	peak
2	2410.000	101.88	-14.21	87.67	74.00	13.67	100	191	peak

### AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	60.25	-14.28	45.97	54.00	-8.03	100	207	AVG
2	2409.600	83.26	-14.21	69.05	54.00	15.05	100	298	AVG



# Compliance Certification Services Inc.

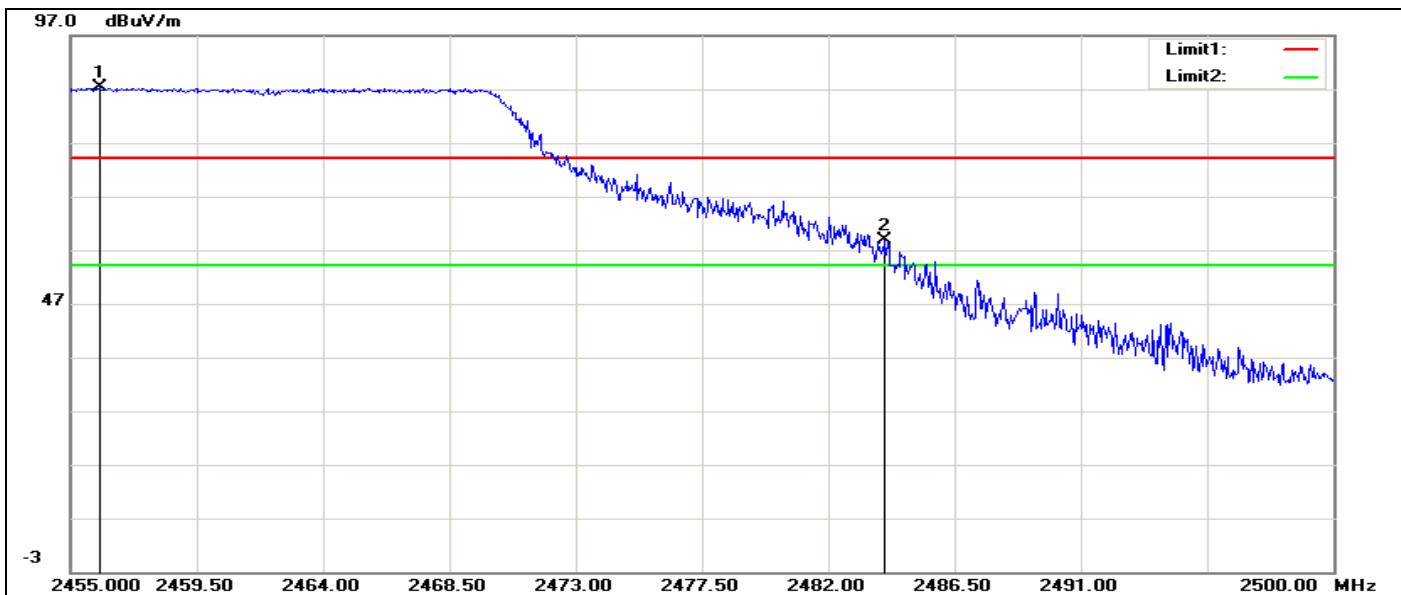
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

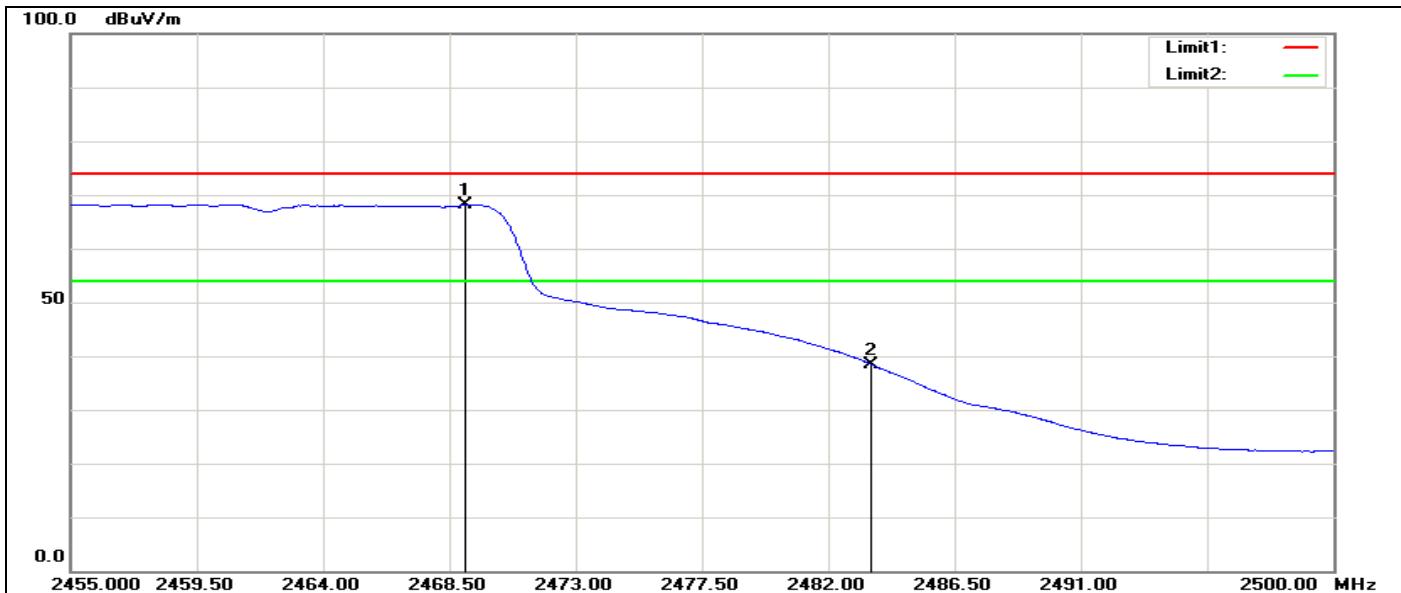
## RESTRICTED BANDEDGE (g Mode, High Channel, Horizontal)

### PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2456.035	101.13	-13.86	87.27	74.00	13.27	100	142	peak
2	2484.025	72.62	-13.65	58.97	74.00	-15.03	100	20	peak

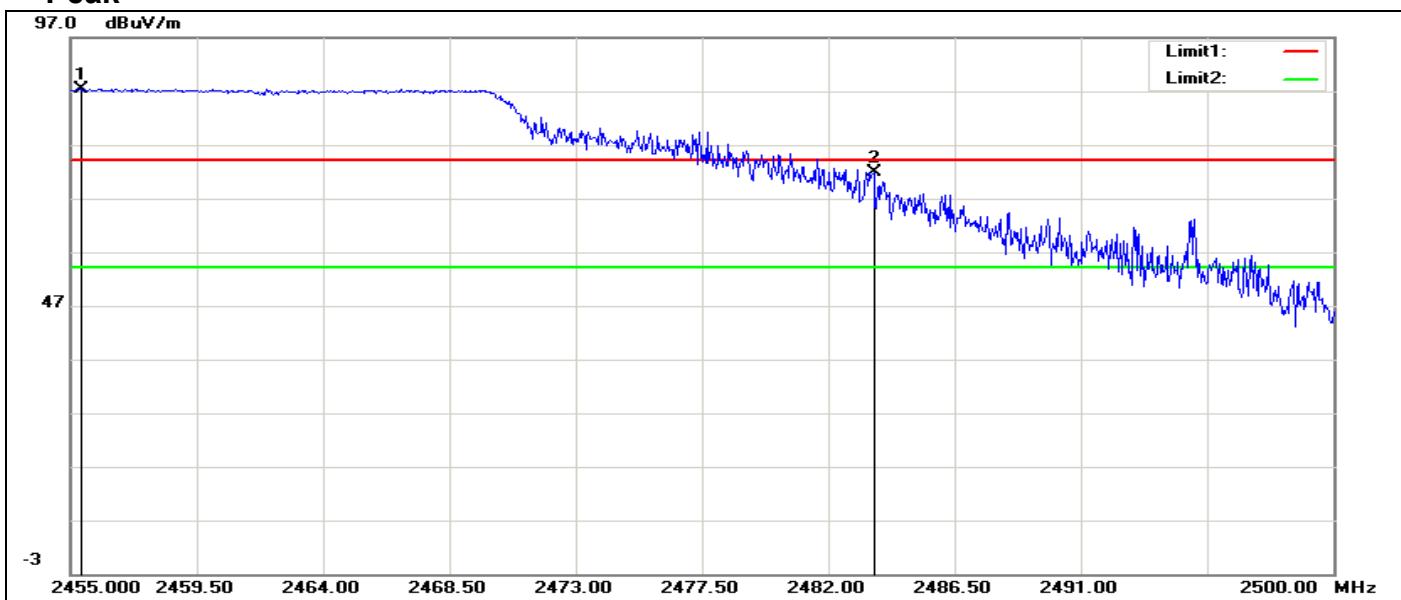
### AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2469.040	81.97	-13.76	68.21	54.00	14.21	100	142	AVG
2	2483.500	52.12	-13.65	38.47	54.00	-15.53	100	127	AVG

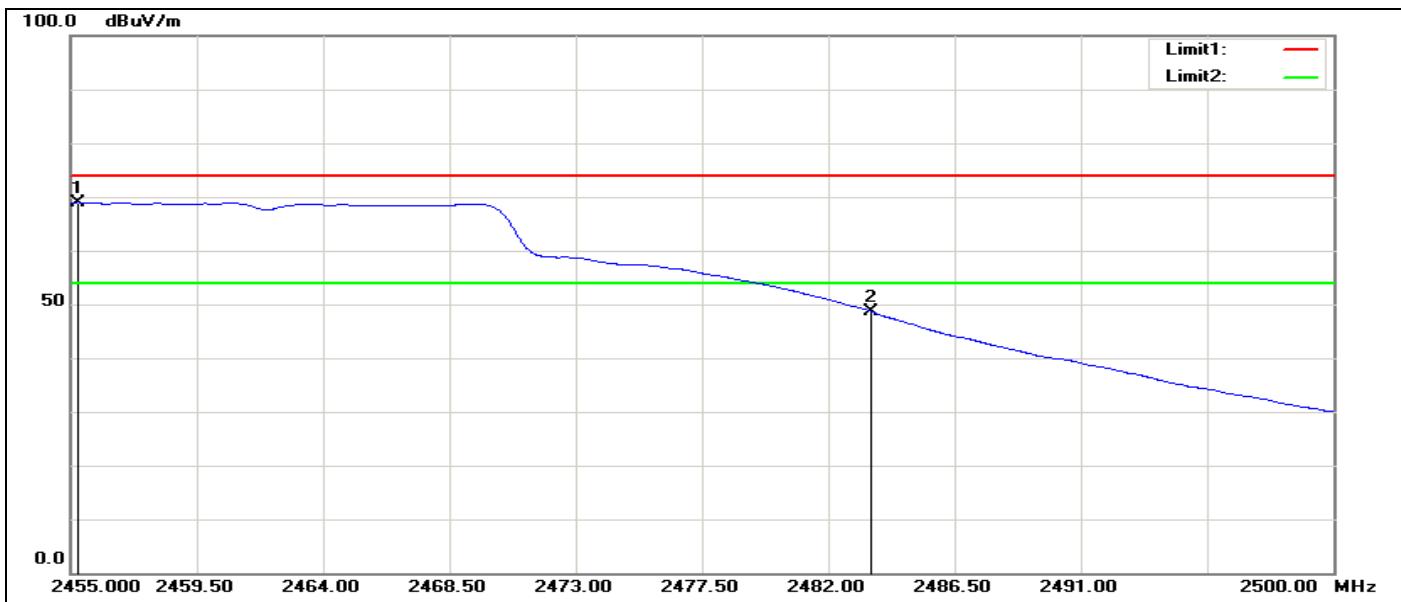


## RESTRICTED BANDEDGE (g Mode, High Channel, Vertical) Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2455.405	101.19	-13.86	87.33	74.00	13.33	100	198	peak
2	2483.620	85.40	-13.65	71.75	74.00	-2.25	100	207	peak

## AVG

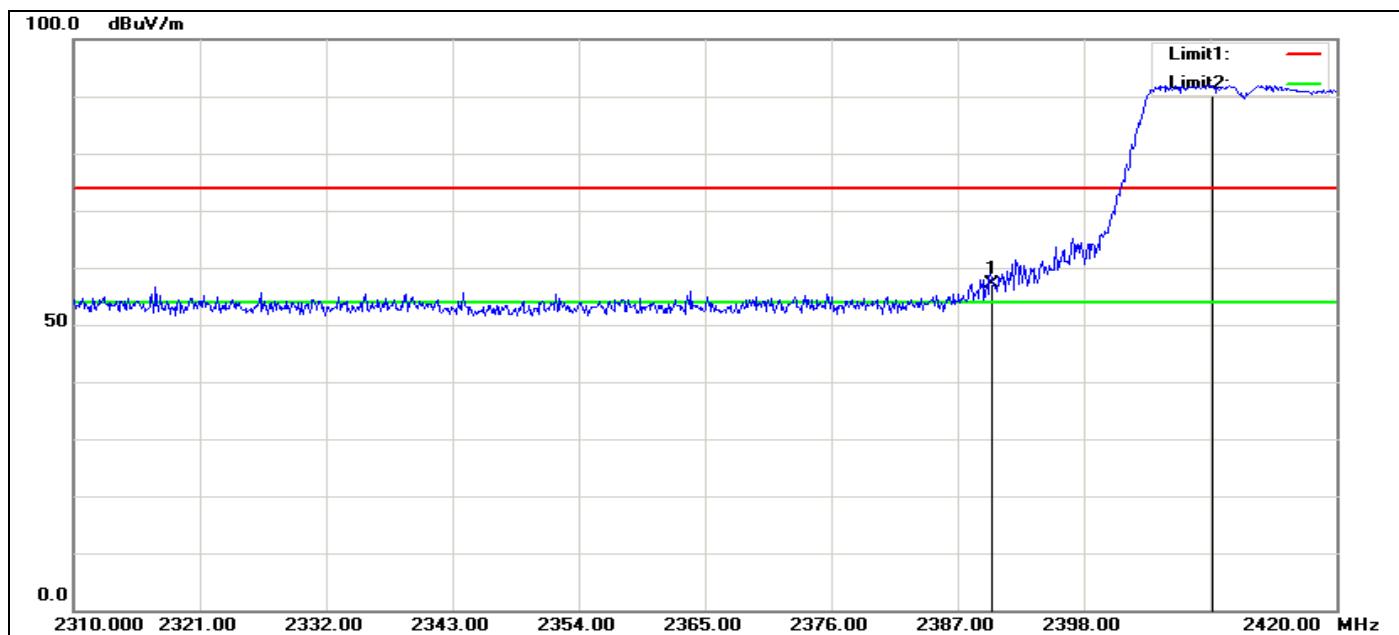


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2455.270	82.86	-13.86	69.00	54.00	15.00	100	360	AVG
2	2483.500	62.36	-13.65	48.71	54.00	-5.29	100	207	AVG



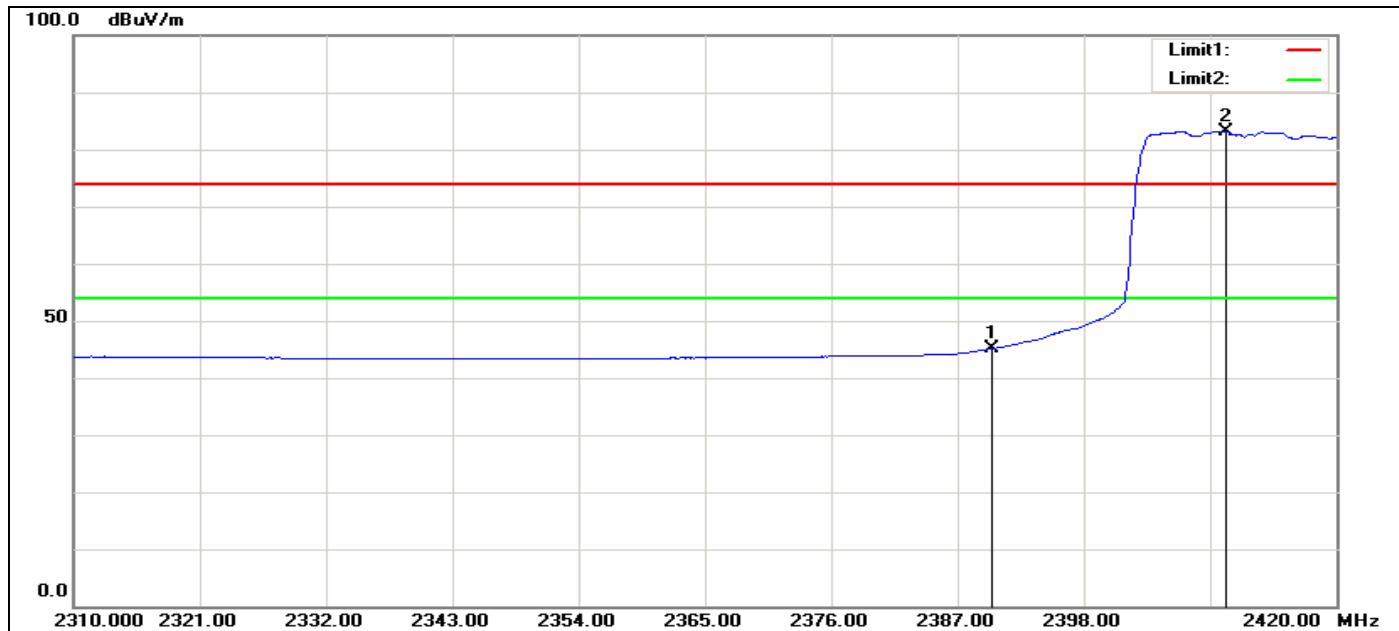
## RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, Low Channel, Horizontal)

## PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	26.34	30.82	57.16	74.00	-16.84	100	199	peak
2	2409.220	61.10	30.88	91.98	74.00	17.98	100	199	peak

AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	14.33	30.82	45.15	74.00	-28.85	100	198	peak
2	2410.320	52.20	30.88	83.08	74.00	9.08	100	197	peak



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

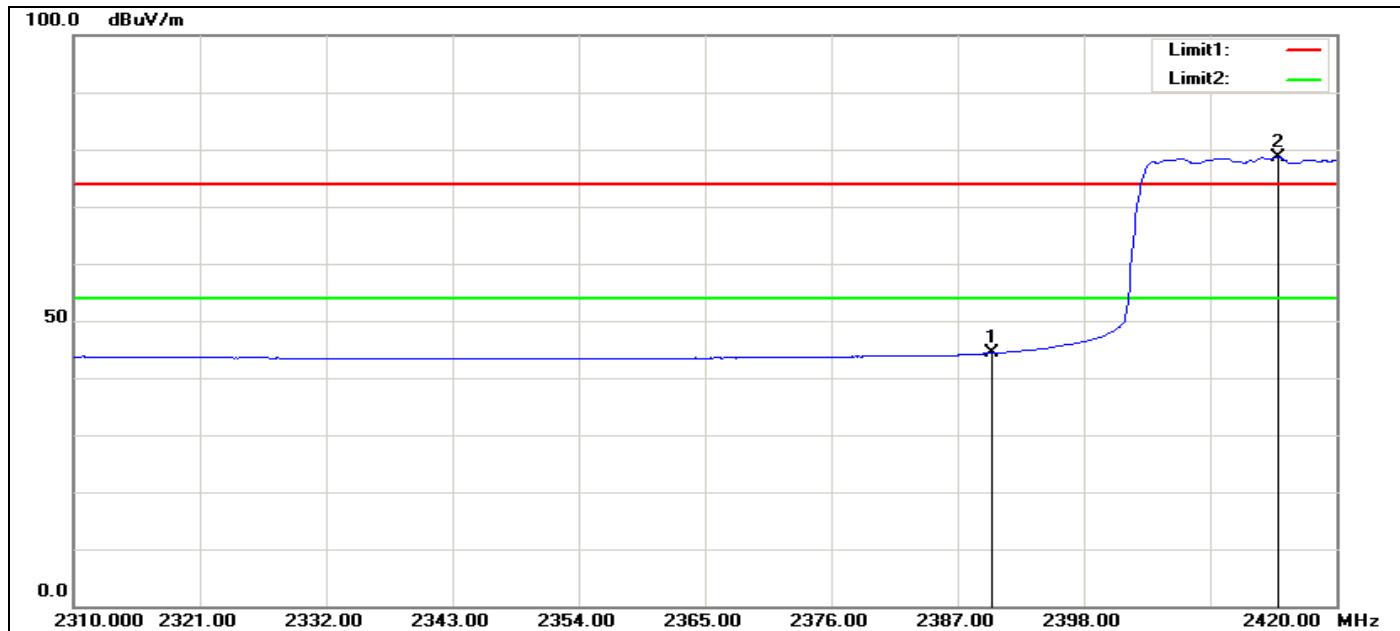
## RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, Low Channel, Vertical)

### PEAK

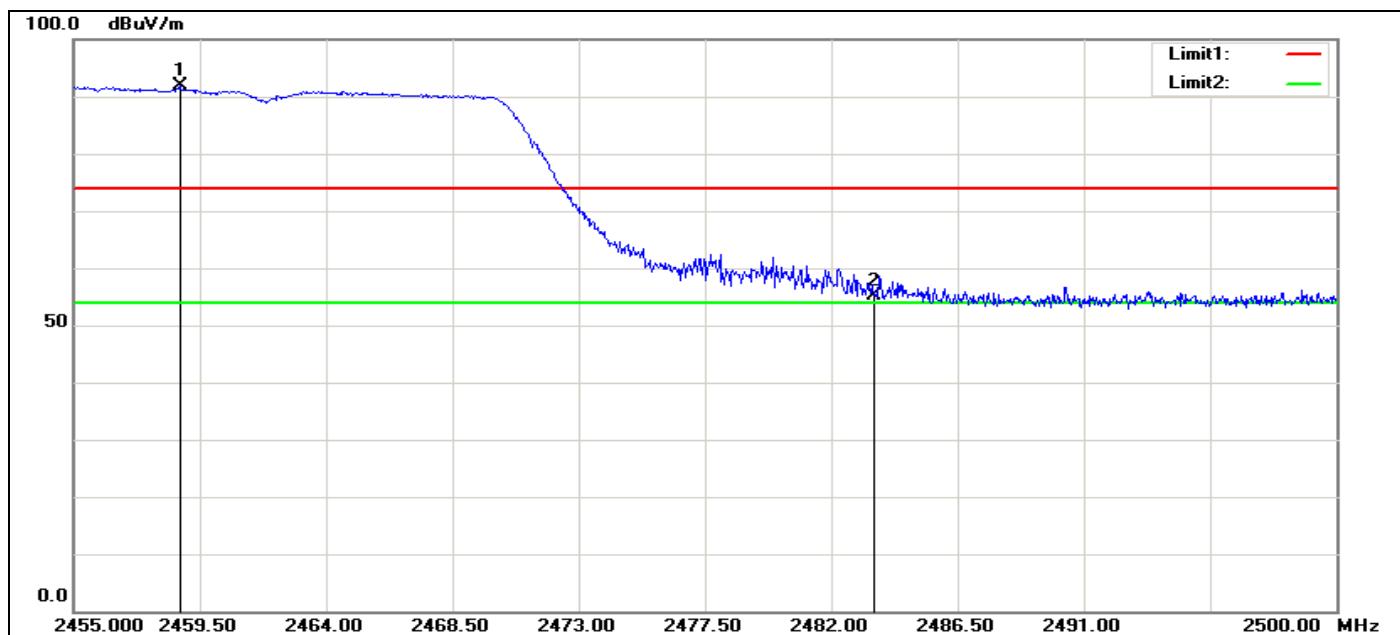


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	23.55	30.82	54.37	74.00	-19.63	100	193	peak
2	2413.510	56.59	30.90	87.49	74.00	13.49	100	192	peak

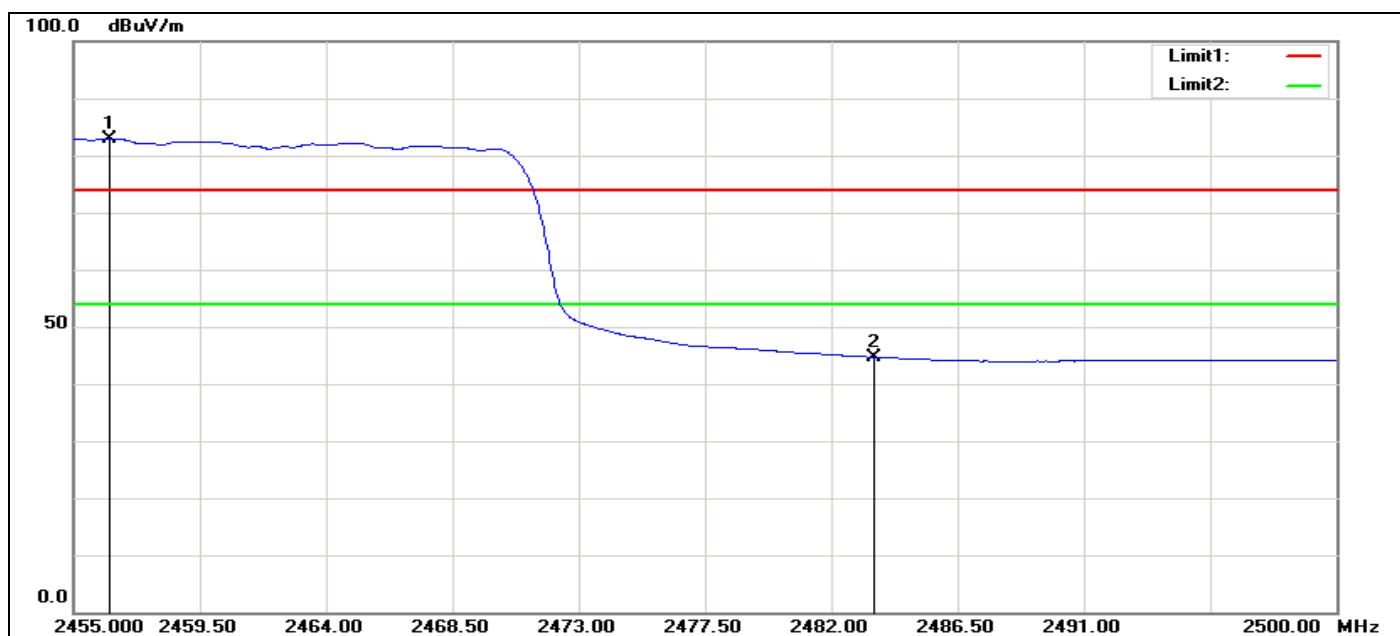
### AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	13.53	30.82	44.35	54.00	-9.65	100	190	AVG
2	2414.940	47.65	30.90	78.55	54.00	24.55	100	194	AVG

**RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, High Channel, Horizontal)****PEAK**

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2458.780	60.76	31.15	91.91	74.00	17.91	100	209	peak
2	2483.500	23.95	31.27	55.22	74.00	-18.78	100	210	peak

**AVG**

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2456.305	51.74	31.13	82.87	54.00	28.87	100	209	AVG



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

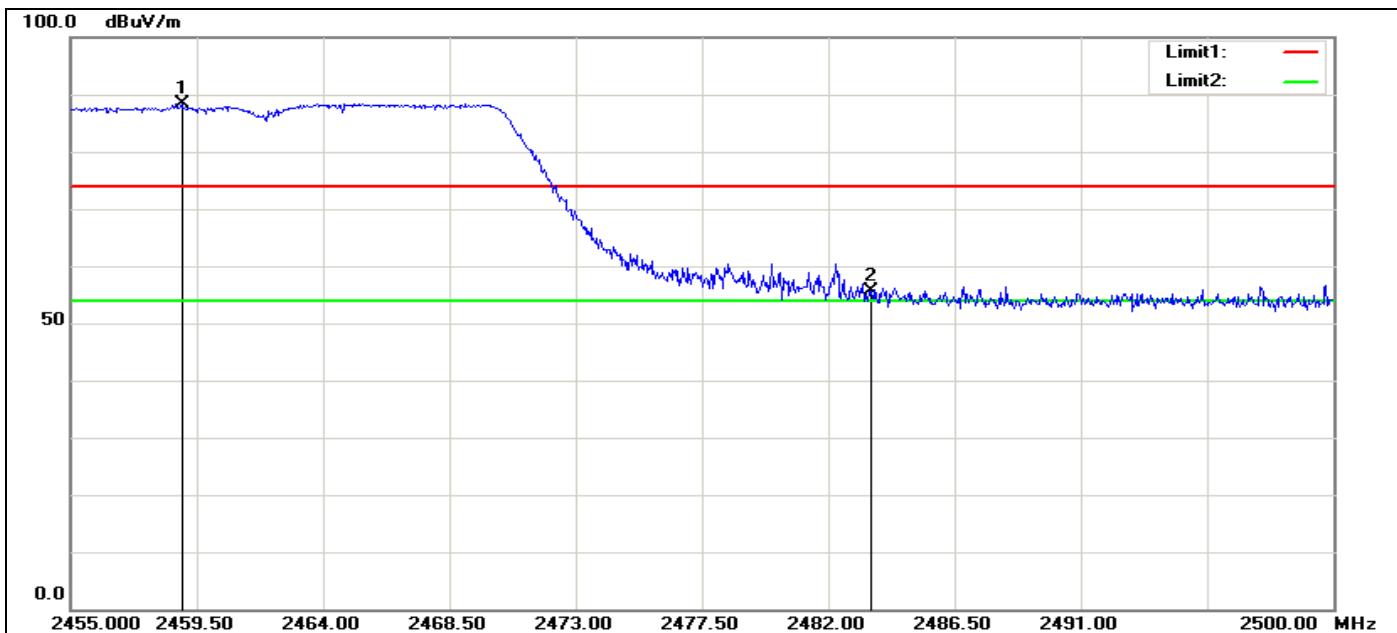
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

2	2483.500	13.41	31.27	44.68	54.00	-9.32	100	207	AVG
---	----------	-------	-------	-------	-------	-------	-----	-----	-----

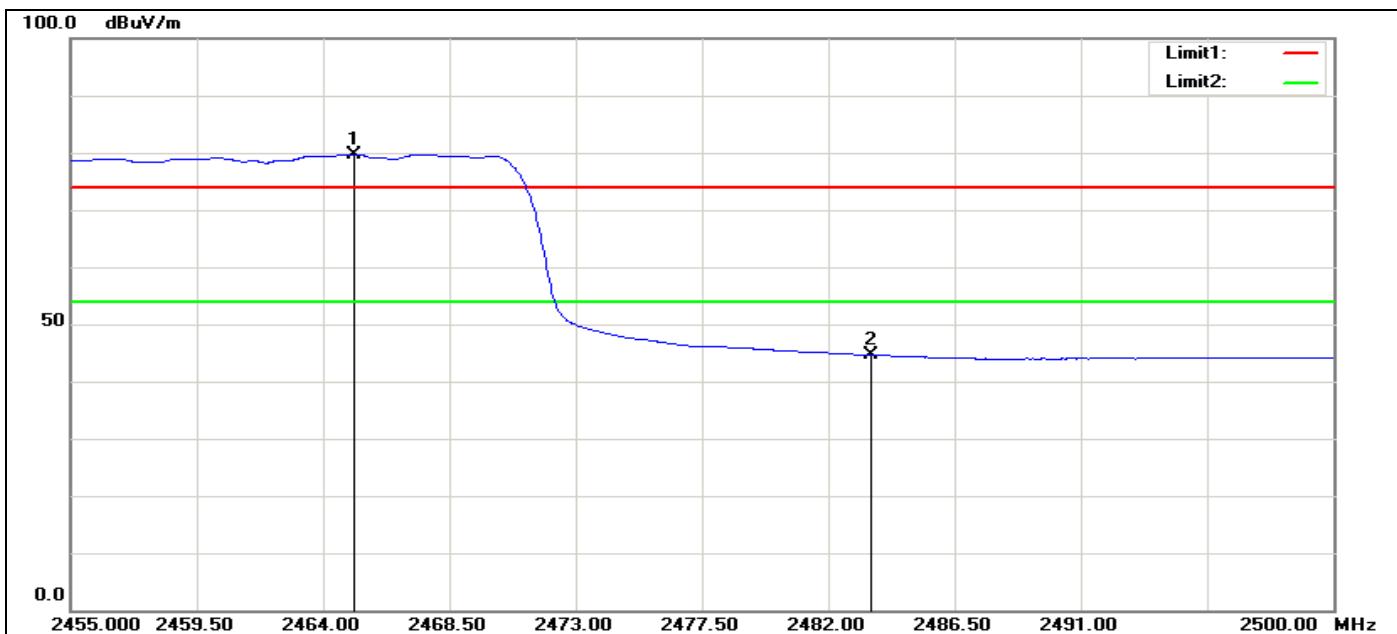
## RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, High Channel, Vertical)

### PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dB <sub>uV</sub> )	Factor(dB/m)	(dB <sub>uV/m</sub> )	(dB <sub>uV/m</sub> )	(dB)	(cm)	(deg.)	
1	2458.960	57.34	31.15	88.49	74.00	14.49	100	190	peak
2	2483.500	24.43	31.27	55.70	74.00	-18.30	100	191	peak

### AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dB <sub>uV</sub> )	Factor(dB/m)	(dB <sub>uV/m</sub> )	(dB <sub>uV/m</sub> )	(dB)	(cm)	(deg.)	



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

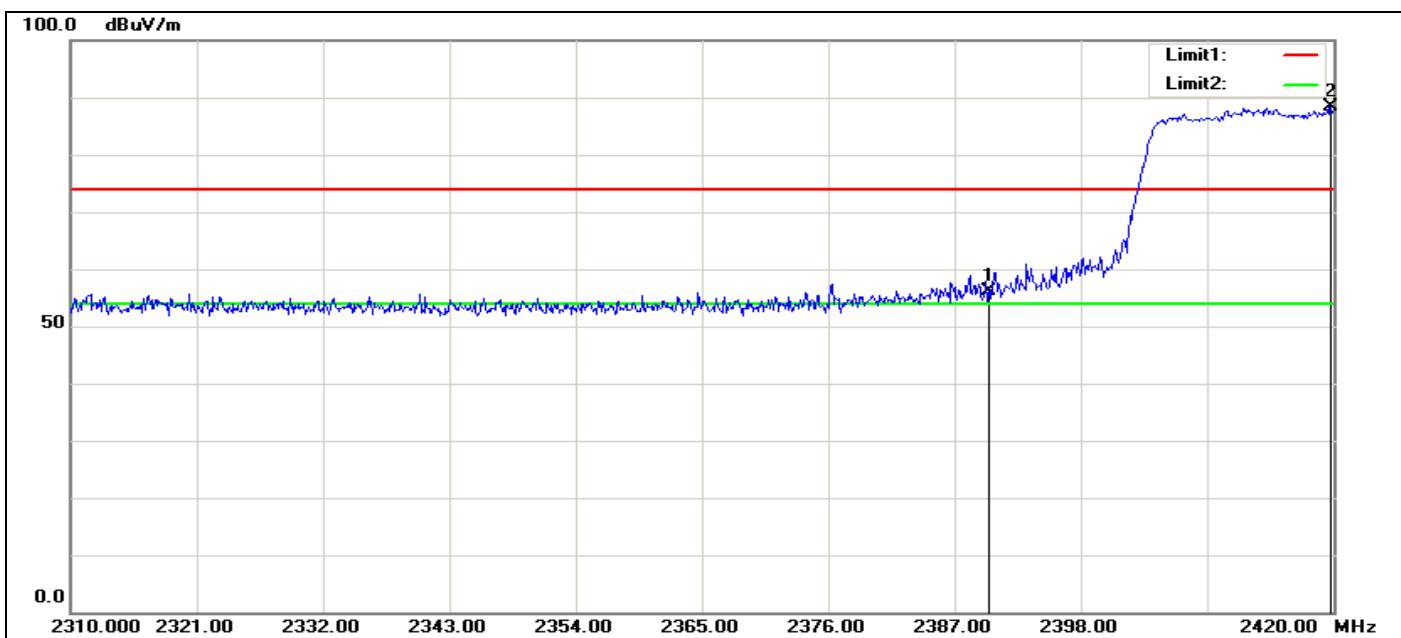
FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

1	2465.080	48.56	31.18	79.74	54.00	25.74	100	190	AVG
2	2483.500	13.35	31.27	44.62	54.00	-9.38	100	190	AVG

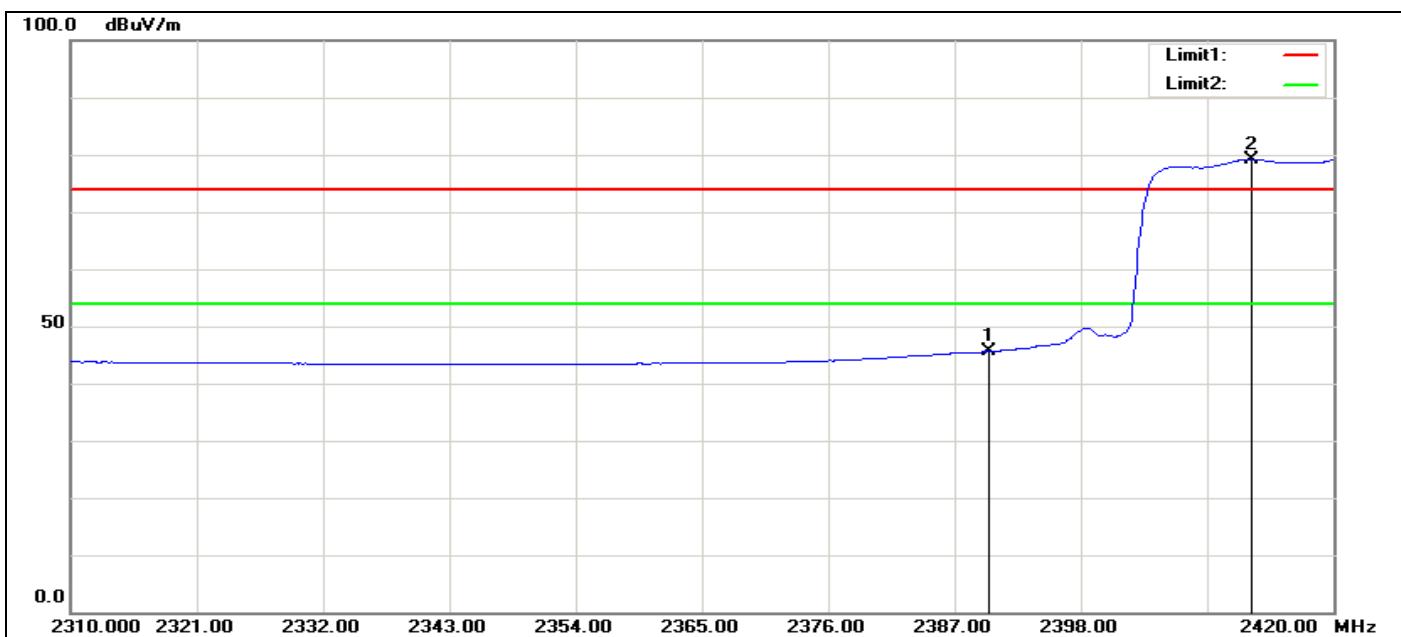
**RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, Low Channel, Horizontal)**

## PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	25.39	30.82	56.21	74.00	-17.79	100	207	peak
2	2419.780	57.51	30.94	88.45	74.00	14.45	100	208	peak

## AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
-----	-----------	---------	---------	--------	-------	--------	--------	--------	--------



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	14.78	30.82	45.60	74.00	-28.40	100	209	peak
2	2412.850	48.34	30.90	79.24	74.00	5.24	100	208	peak



# Compliance Certification Services Inc.

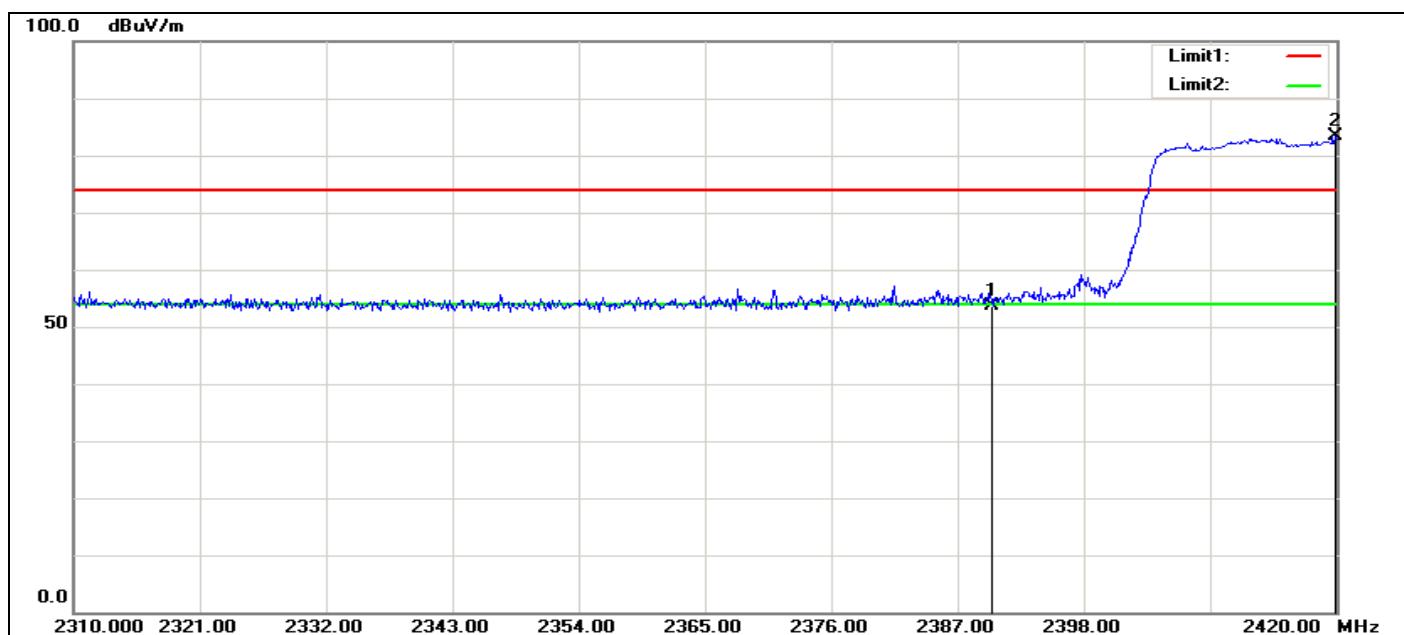
Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

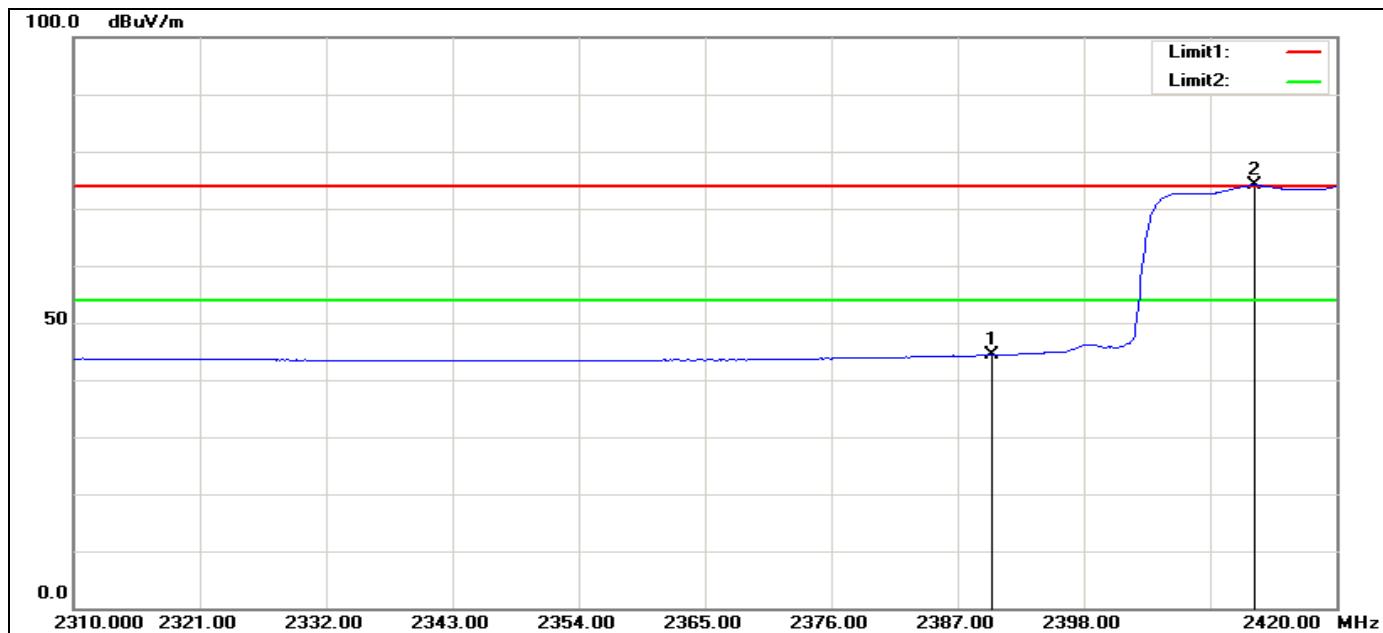
**RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, Low Channel, Vertical)**

## PEAK

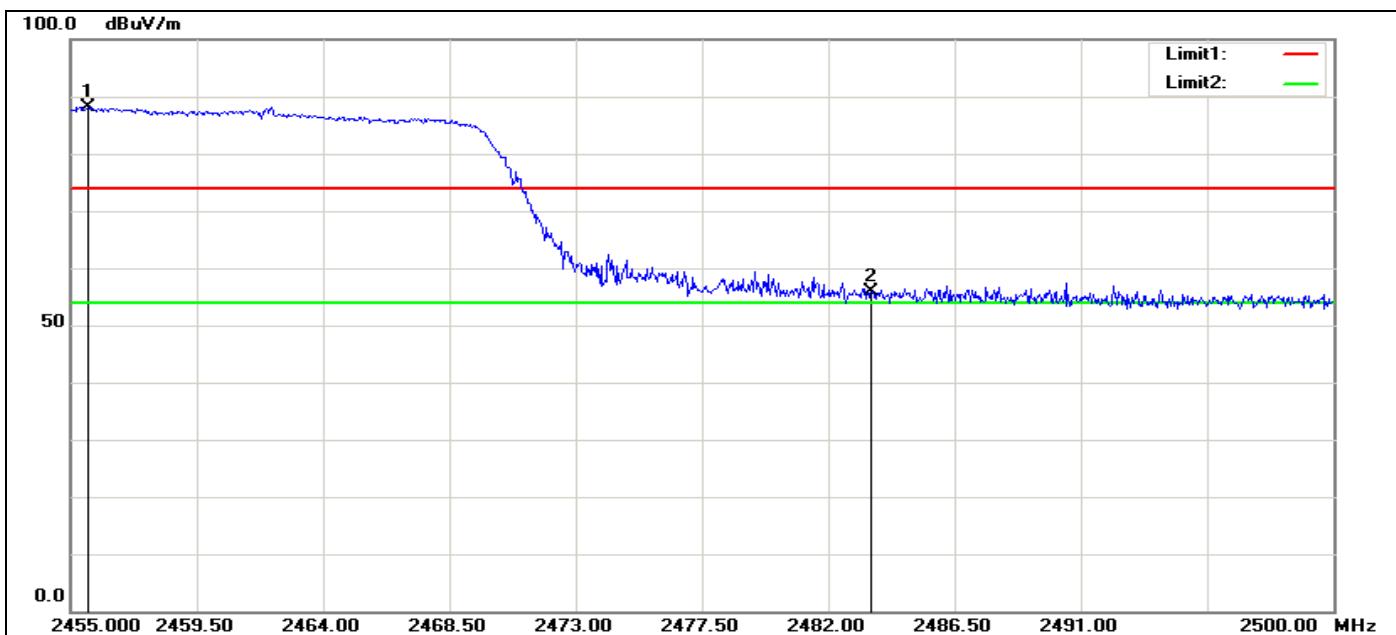


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	22.80	30.82	53.62	74.00	-20.38	100	187	peak
2	2419.890	52.36	30.94	83.30	74.00	9.30	100	190	peak

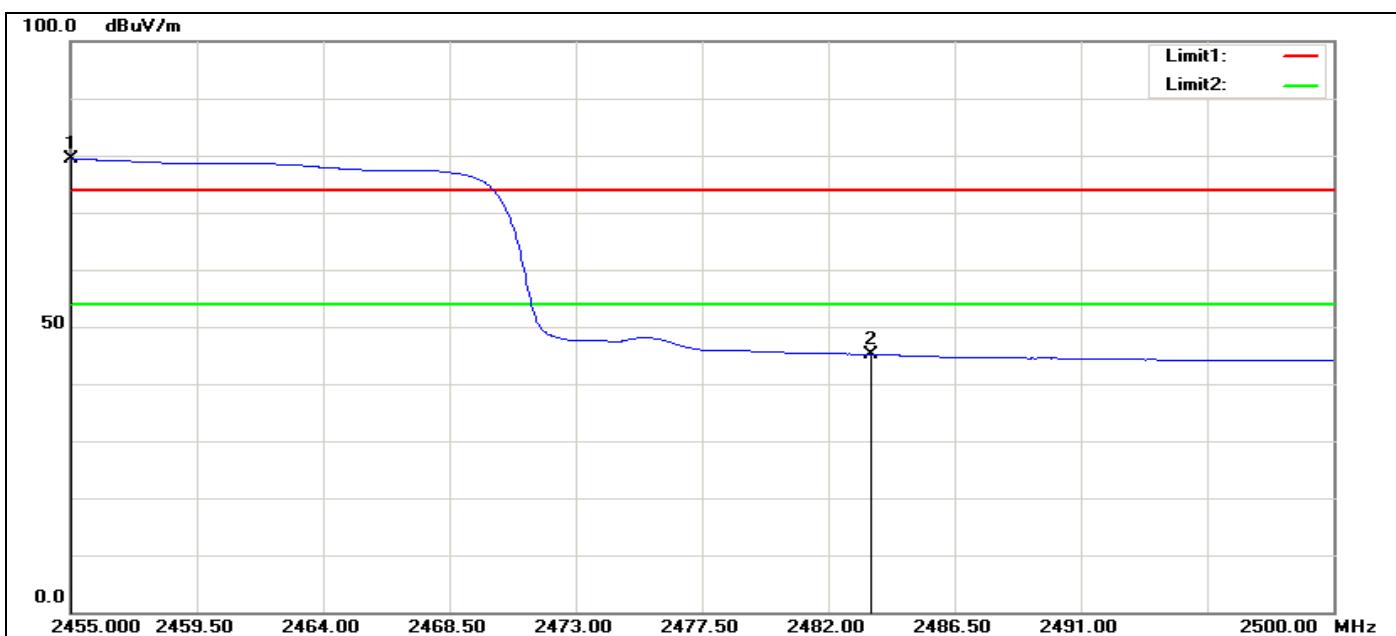
## AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	13.53	30.82	44.35	54.00	-9.65	100	191	AVG
2	2412.850	43.18	30.90	74.08	54.00	20.08	100	192	AVG

**RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, High Channel, Horizontal)****PEAK**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2455.630	56.97	31.13	88.10	74.00	14.10	100	207	peak
2	2483.500	24.60	31.27	55.87	74.00	-18.13	100	211	peak

**AVG**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2455.000	48.27	31.12	79.39	54.00	25.39	100	207	AVG



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

2	2483.500	13.87	31.27	45.14	54.00	-8.86	100	206	AVG
---	----------	-------	-------	-------	-------	-------	-----	-----	-----



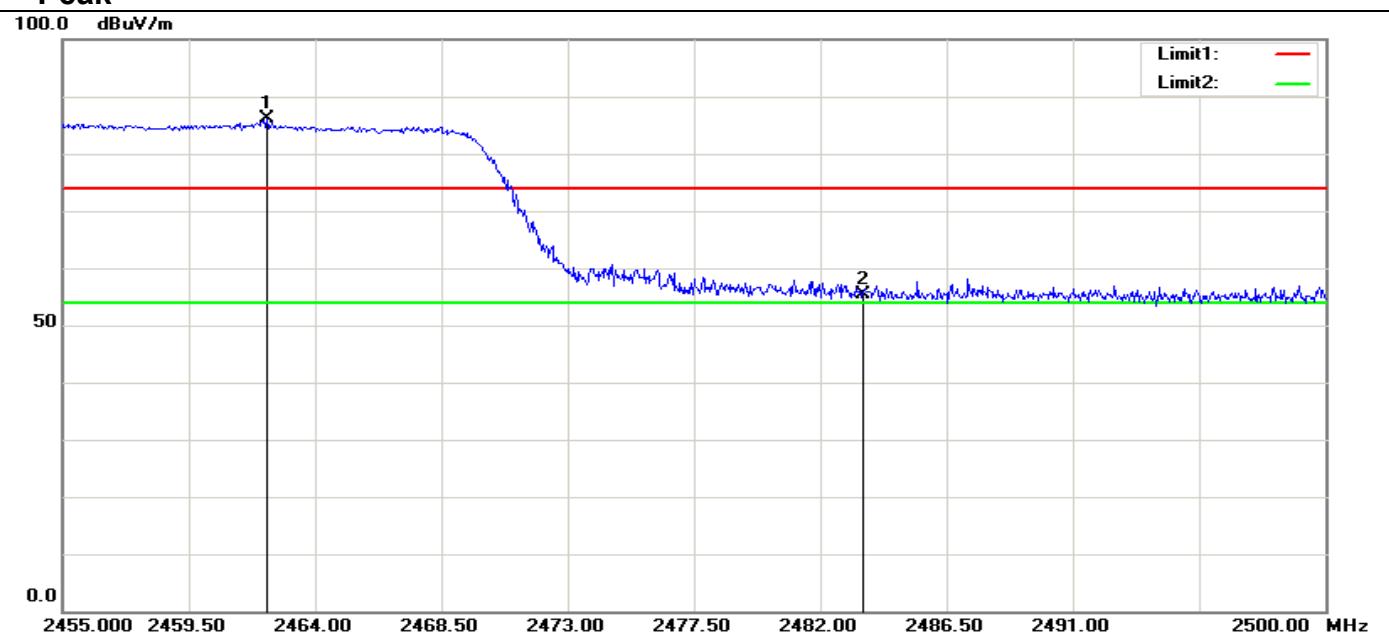
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

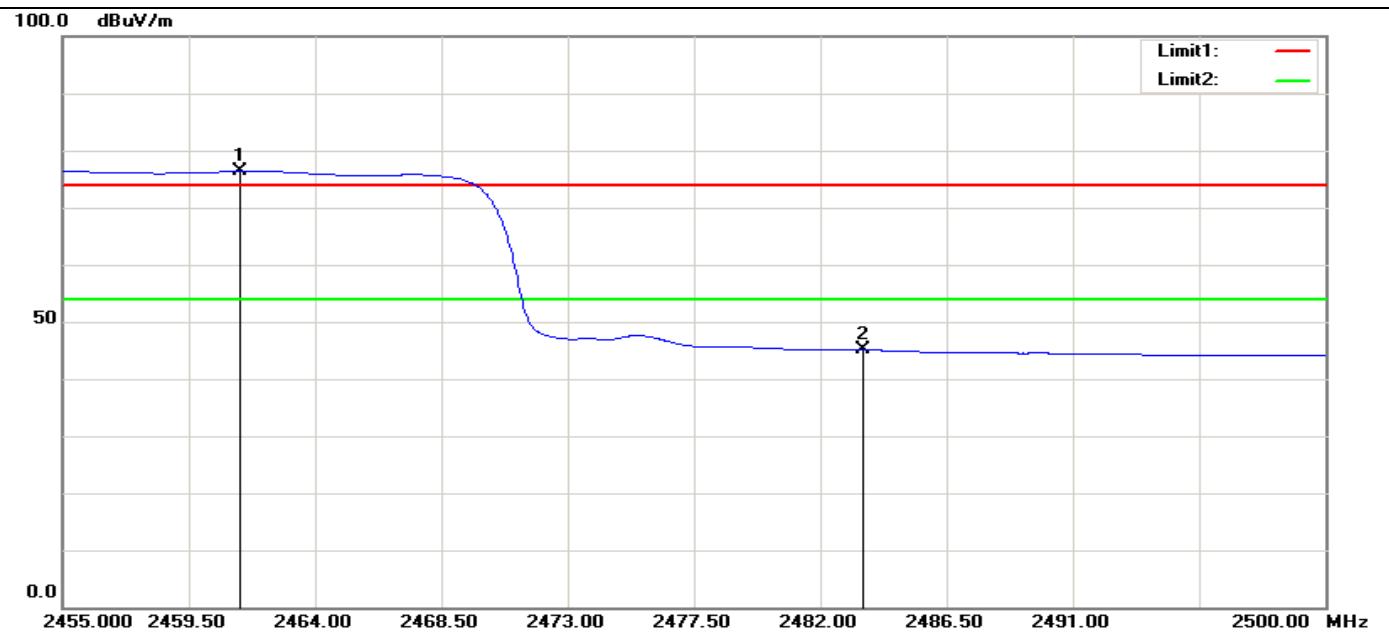
Date of Issue :August 28, 2013

## RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, High Channel, Vertical) Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2462.290	54.89	31.16	86.05	74.00	12.05	100	193	peak
2	2483.500	24.18	31.27	55.45	74.00	-18.55	100	192	peak

## AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2461.300	45.25	31.15	76.40	54.00	22.40	100	193	AVG
2	2483.500	13.77	31.27	45.04	54.00	-8.96	100	192	AVG



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## Below 1GHz

**Operation Mode:** Normal Link

**Test Date:** 2013-8-25

**Temperature:** 22°C

**Tested by:** Blent.Wang

**Humidity:** 48% RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.0000	H	13.06	22.71	35.77	40.00	-4.23	peak
125.0600	H	14.57	15.46	30.03	43.50	-13.47	peak
600.3600	H	22.93	20.60	43.53	46.00	-2.47	peak
728.4000	H	15.23	22.74	37.97	46.00	-8.03	peak
869.0500	H	15.16	24.95	40.11	46.00	-5.89	peak
959.2600	H	14.83	26.46	41.29	46.00	-4.71	peak
<hr/>							
30.9700	V	16.54	22.03	38.57	40.00	-1.43	peak
208.4800	V	20.81	13.16	33.97	43.50	-9.53	peak
600.3600	V	25.62	20.60	44.22	46.00	-1.78	peak
843.8300	V	14.59	25.20	39.79	46.00	-6.21	peak
930.1600	V	15.31	25.35	40.66	46.00	-5.34	peak
967.9900	V	15.26	26.36	41.62	54.00	-12.38	peak

## **Remark:**

1. Measuring frequencies from 30 MHz to the 1GHz (No emission found between lowest internal used/generated frequency to 30 MH).
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
4. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

## Above 1 GHz

**Operation Mode:** TX / IEEE 802.11b / CH Low

**Test Date:** 2013-8-25

**Temperature:** 22°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

### Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4824.000	50.21	-7.95	42.26	74.00	-31.74	100	315	peak
2	7232.000	44.90	-0.66	44.24	74.00	-29.76	100	334	peak

### Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4824.000	50.23	-7.95	42.28	74.00	-31.72	100	34	peak
2	7240.000	44.63	-0.68	43.95	74.00	-30.05	100	326	peak

**Operation Mode:** TX / IEEE 802.11b / CH Mid

**Test Date:** 2013-8-25

**Temperature:** 22°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

### Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4872.000	51.74	-7.71	44.03	74.00	-29.97	100	325	peak
2	7312.000	47.90	-0.85	47.05	74.00	-26.95	100	355	peak

### Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4876.000	53.09	-7.68	45.41	74.00	-28.59	100	121	peak
2	7312.000	47.22	-0.85	46.37	74.00	-27.63	100	288	peak



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:

Date of Issue :August 28, 2013

**Operation Mode:** TX / IEEE 802.11b / CH High

**Test Date:** 2013-8-25

**Temperature:** 22°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4923.990	51.63	-7.57	44.06	74.00	-29.94	100	311	peak
2	7385.160	48.03	-0.69	47.34	74.00	-26.66	100	360	peak

## Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4924.000	53.26	-7.57	45.69	74.00	-28.31	100	250	peak
2	7388.000	46.56	-0.69	45.87	74.00	-28.13	100	331	peak

**Operation Mode:** TX / IEEE 802.11g / CH Low

**Test Date:** 2013-8-25

**Temperature:** 24°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4823.980	53.51	-7.95	45.56	74.00	-28.44	97	294	peak
2	7237.865	47.76	-0.67	47.09	74.00	-26.91	105	355	peak

## Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4836.000	46.79	-7.89	38.90	74.00	-35.10	100	358	peak
2	7226.305	43.69	-0.64	43.05	74.00	-30.95	100	347	peak



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:

Date of Issue :August 28, 2013

**Operation Mode:** TX / IEEE 802.11g / CH Mid**Test Date:** 2013-8-25**Temperature:** 24°C**Tested by:** Blent.Wang**Humidity:** 48 % RH**Polarity:** Ver. / Hor.**Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4872.000	47.15	-7.71	39.44	74.00	-34.56	100	308	peak
2	7310.185	46.80	-0.86	45.94	74.00	-28.06	100	360	peak

**Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4872.000	48.08	-7.71	40.37	74.00	-33.63	100	31	peak
2	7308.000	46.07	-0.86	45.21	74.00	-28.79	100	341	peak

**Operation Mode:** TX / IEEE 802.11g / CH High**Test Date:** 2013-8-25**Temperature:** 24°C**Tested by:** Blent.Wang**Humidity:** 48 % RH**Polarity:** Ver. / Hor.**Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4924.000	48.47	-7.57	40.90	74.00	-33.10	100	320	peak
2	7388.000	45.50	-0.69	44.81	74.00	-29.19	100	356	peak

**Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4928.000	47.12	-7.57	39.55	74.00	-34.45	100	318	peak
2	7483.360	45.34	-0.34	44.00	74.00	-29.00	100	48	peak



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:

Date of Issue :August 28, 2013

**Operation Mode:** TX / draft 802.11gn Standard-20 MHz Channel mode (Chain 0 + Chain 1) / CH Low

**Test Date:** 2013-8-25

**Temperature:** 22°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4823.905	51.60	-7.95	43.65	74.00	-30.35	100	315	peak
2	7239.770	46.67	-0.68	45.99	74.00	-28.01	100	360	peak

## Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4913.665	50.19	-7.56	43.63	74.00	-30.37	100	35	peak
2	7236.845	47.56	-0.68	46.88	74.00	-27.12	100	326	peak

**Operation Mode:** TX / draft 802.11gn Standard-20 MHz Channel mode (Chain 0 + Chain 1) / CH Mid

**Test Date:** 2013-8-25

**Temperature:** 22°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4864.805	50.41	-7.74	42.67	74.00	-31.33	100	325	peak
2	7312.000	44.85	-0.85	44.00	74.00	-32.00	100	355	peak

## Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4880.000	46.90	-7.66	39.24	74.00	-34.76	100	34	peak
2	7456.000	45.70	-0.44	45.26	74.00	-28.74	100	335	peak



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:

Date of Issue :August 28, 2013

**Operation Mode:** TX / draft 802.11gn Standard-20 MHz Channel mode (Chain 0 + Chain 1) / CH High

**Test Date:** 2013-8-25**Temperature:** 22°C**Tested by:** Blent.Wang**Humidity:** 48 % RH**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4922.440	50.66	-7.57	43.09	74.00	-30.91	100	324	peak
2	7380.970	46.87	-0.70	46.17	74.00	-27.83	100	355	peak

## Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5050.900	54.01	-7.53	46.48	74.00	-27.52	100	34	peak
2	7467.345	44.68	-0.41	44.27	74.00	-29.73	100	334	peak

**Operation Mode:** TX / draft 802.11gn Wide-40 MHz Channel mode (Chain 0 + Chain 1) / CH Low

**Test Date:** 2013-8-25**Temperature:** 24°C**Tested by:** Blent.Wang**Humidity:** 48 % RH**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4884.000	46.88	-7.64	39.24	74.00	-34.76	100	325	peak
2	7268.000	48.30	-0.77	47.53	74.00	-26.47	100	355	peak

## Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4962.965	50.33	-7.58	42.75	74.00	-31.25	100	34	peak
2	7292.000	44.91	-0.86	44.05	74.00	-29.95	100	335	peak



# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

**Operation Mode:** TX / draft 802.11gn Wide-40 MHz Channel mode (Chain 0 + Chain 1) / CH Mid

**Test Date:** 2013-8-25

**Temperature:** 24°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4983.825	50.43	-7.59	42.84	74.00	-31.16	100	325	peak
2	7320.040	44.89	-0.83	44.06	74.00	-29.94	100	355	peak

## Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4999.795	49.44	-7.60	41.84	74.00	-32.16	100	34	peak
2	7456.000	44.12	-0.44	43.68	74.00	-30.32	100	335	peak

**Operation Mode:** TX / draft 802.11gn Wide-40 MHz Channel mode (Chain 0 + Chain 1) / CH High

**Test Date:** 2013-8-25

**Temperature:** 24°C

**Tested by:** Blent.Wang

**Humidity:** 48 % RH

**Polarity:** Ver. / Hor.

## Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4908.000	46.82	-7.56	39.26	74.00	-34.74	100	325	peak
2	7356.000	45.94	-0.76	45.18	74.00	-28.82	100	356	peak

## Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4964.000	53.07	-7.58	55.49	74.00	-28.51	100	361	Peak
2	7460.000	44.94	-0.43	44.51	74.00	-29.49	100	334	peak



## 7.6. POWERLINE CONDUCTED EMISSIONS

### LIMIT

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

\* Decreases with the logarithm of the frequency.

### Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

### TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

### Test Data



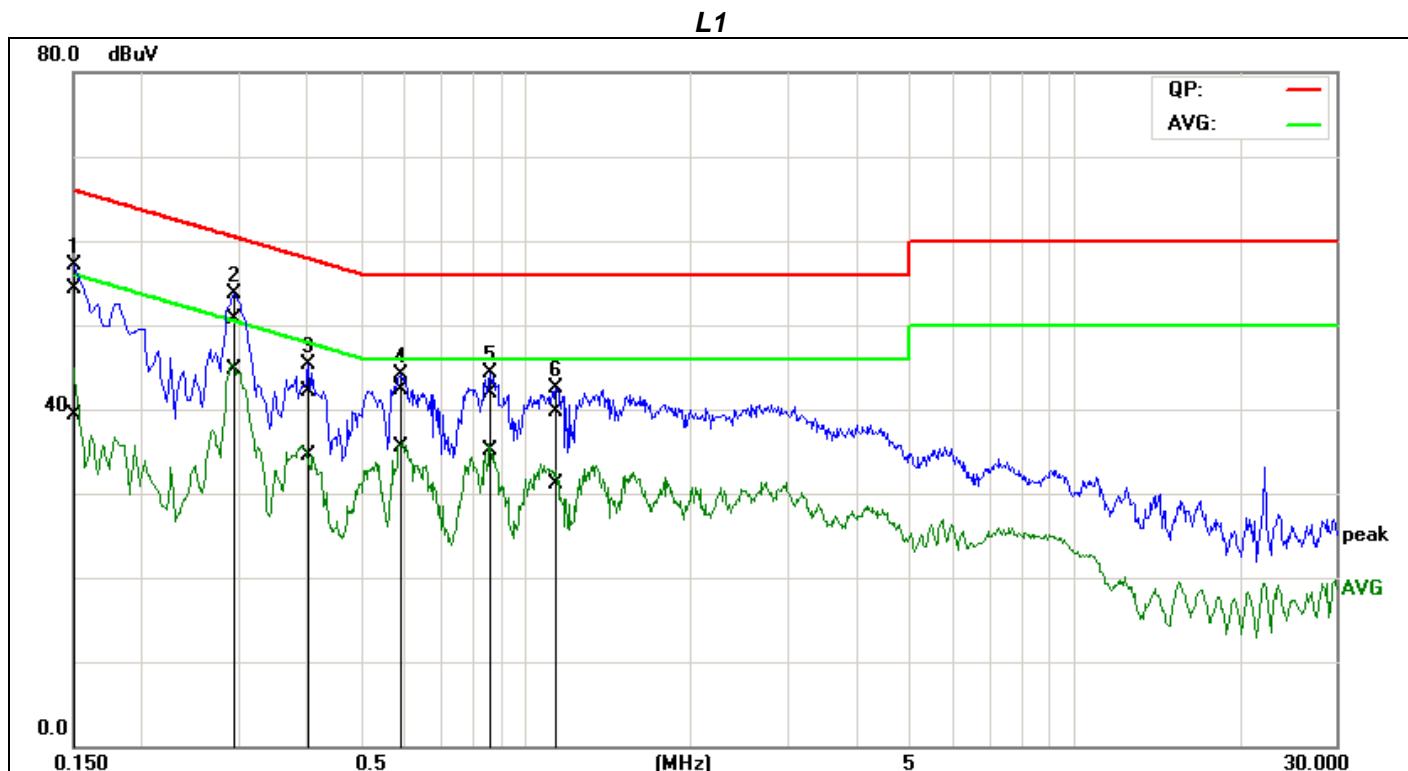
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDWL7942AP50

Date of Issue :August 28, 2013

Job No.:	C130809R02	Date:	2013-8-27
Company:	DCN	Time:	15:32:29
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Blent.Wang
Line:	L1	Test Voltage:	AC 120V/60Hz
Model:	DCWL-7942AP	Description:	



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1504	34.58	19.50	19.81	54.39	39.31	65.98	55.98	-11.59	-16.67	Pass
2*	0.2935	31.08	25.07	19.67	50.75	44.74	60.42	50.42	-9.67	-5.68	Pass
3	0.4014	22.42	14.67	19.75	42.17	34.42	57.82	47.82	-15.65	-13.40	Pass
4	0.5962	22.44	15.72	19.83	42.27	35.55	56.00	46.00	-13.73	-10.45	Pass
5	0.8672	22.07	15.33	19.84	41.91	35.17	56.00	46.00	-14.09	-10.83	Pass
6	1.1443	19.80	11.22	19.85	39.65	31.07	56.00	46.00	-16.35	-14.93	Pass

**Note:** 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).



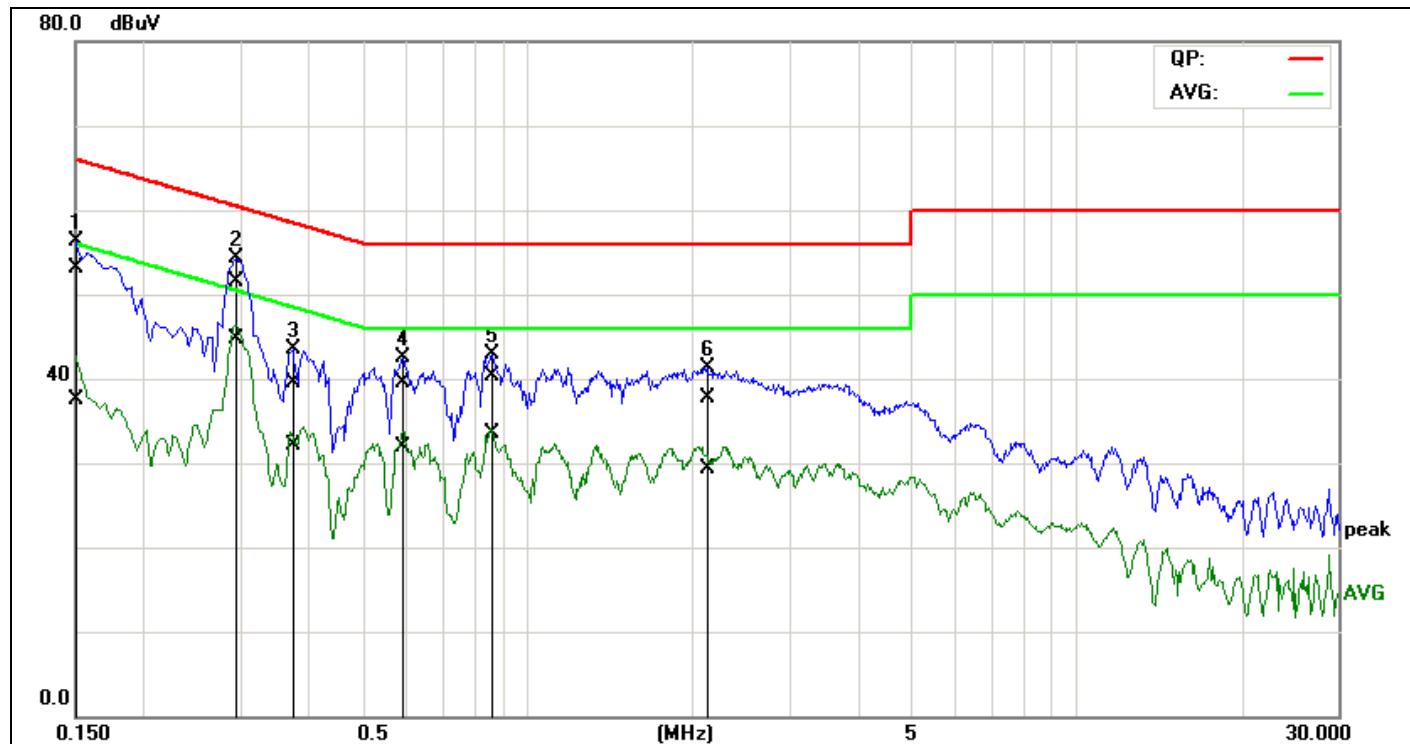
# Compliance Certification Services Inc.

Report No: C130809R02-RPW

FCC ID:  
2ABKCDCWL7942AP50

Date of Issue :August 28, 2013

Job No.:	C130809R02	Date:	2013-8-27
Company:	DCN	Time:	15:36:59
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Blent.Wang
Line:	L2	Test Voltage:	AC 120V/60Hz
Model:	DCWL-7942AP	Description:	



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1502	33.40	17.70	19.73	53.13	37.43	65.99	55.99	-12.86	-18.56	Pass
2	0.2960	31.89	24.90	19.71	51.60	44.61	60.35	50.35	-8.75	-5.74	Pass
3	0.3719	19.84	12.38	19.76	39.60	32.14	58.46	48.46	-18.86	-16.32	Pass
4	0.5857	19.60	11.98	19.84	39.44	31.82	56.00	46.00	-16.56	-14.18	Pass
5	0.8555	20.43	13.67	19.83	40.26	33.50	56.00	46.00	-15.74	-12.50	Pass
6*	2.1164	17.75	9.31	19.98	37.73	29.29	56.00	46.00	-18.27	-16.71	Pass

Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).