

FCC PART 15.247 TEST REPORT

For

TECHVIEW, INC

8016 NW 68 STREET, MIAMI, FL33166, UNITED STATES

FCC ID: 2ACJGR150S

Report Type: Product Type:

Original Report Router inalámbrico N150

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Report Number: RDG140917006-00

Report Date: 2014-09-30

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TABLE OF CONTENTS

GENERAL INFORMATION	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
Objective	4
RELATED SUBMITTAL(S)/GRANT(S)	
TEST METHODOLOGY	
TEST FACILITY	
SYSTEM TEST CONFIGURATION	5
DESCRIPTION OF TEST CONFIGURATION	5
EQUIPMENT MODIFICATIONS	5
EUT Exercise Software	
SUPPORT EQUIPMENT LIST AND DETAILS	
EXTERNAL CABLE	
BLOCK DIAGRAM OF TEST SETUP	
SUMMARY OF TEST RESULTS	7
FCC §15.247 (i) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)	8
APPLICABLE STANDARD	
FCC §15.203 - ANTENNA REQUIREMENT	
APPLICABLE STANDARD	
Antenna Connector Construction	
FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS	10
APPLICABLE STANDARD	10
MEASUREMENT UNCERTAINTY	10
EUT SETUP	
EMI TEST RECEIVER SETUP	
TEST PROCEDURE	
CORRECTED AMPLITUDE & MARGIN CALCULATION	
TEST RESULTS SUMMARY	
TEST DATA	
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS	
APPLICABLE STANDARD	
MEASUREMENT UNCERTAINTY	
EUT SETUP	
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP	
TEST PROCEDURE	
CORRECTED AMPLITUDE & MARGIN CALCULATION	
TEST EQUIPMENT LIST AND DETAILS.	17
TEST RESULTS SUMMARY	
TEST DATA	
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH	28
APPLICABLE STANDARD	
TEST PROCEDURE	28
TEST EQUIPMENT LIST AND DETAILS.	28

TEST DATA	28
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER	36
APPLICABLE STANDARD	36
TEST PROCEDURE	
TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	36
FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE	38
APPLICABLE STANDARD	38
TEST PROCEDURE	38
TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	38
FCC §15.247(e) - POWER SPECTRAL DENSITY	43
APPLICABLE STANDARD	43
TEST PROCEDURE	43
TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	43

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *TECHVIEW, INC*'s product, model number: *R150S(FCC ID: 2ACJGR150S) or* ("EUT") in this report is a *Router inalámbrico N150*, which was measured approximately: 16.0 cm (L) x13.0 cm (W) x 3.2 cm (H), rated input voltage: DC 9.0V from adapter.

Report No.: RDG140917006-00

Adapter information:
Model:TEA09U-09060
Input:AC100-240V,50/60Hz,0.3A
Out put:9V,0.6A
Manufacturer:SHENZHEN HEWEISHUN NETWORK TECHNOLOGY CO,LTD

All measurement and test data in this report was gathered from production sample serial number: 140917006. (Assigned by applicant). The EUT was received on 2014-09-17.

Objective

This report is prepared on behalf of *TECHVIEW*, *INC* in accordance with Part 2-Subpart J, Part 15-Subparts A, B and C of the Federal Communications Commission rules.

The tests were performed in order to determine the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

N/A

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 02, 2012. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

FCC Part 15.247 Page 4 of 50

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in testing mode, which was provided by manufacturer. For 2.4GHz band, 11 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

Report No.: RDG140917006-00

For 802.11b, 802.11g, and 802.11n ht20 modes were tested with Channel 1, 6 and 11.For 802.11n ht40 mode were tested with Channel 3, 6 and 9.

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

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

The software "MTool_2.0.0.3" was used for testing, which was provided by manufacturer. The worst condition (maximum power with 100% duty cycle) was setting by the software as following table:

Test Mode	Test Software Version	MTool_2.0.0.3			
	Test Frequency	2412MHz	2437MHz	2462MHz	
802.11b	Data Rate	1Mbps	1Mbps	1Mbps	
002.11D	Power Level Setting	68	68	68	
	Test Frequency	2412MHz	2437MHz	2462MHz	
902 11a	Data Rate	6Mbps	6Mbps	6Mbps	
802.11g	Power Level Setting	53	53	53	
	Test Frequency	2412MHz	2437MHz	2462MHz	
802.11n	Data Rate	MCS0	MCS0	MCS0	
ht20	Power Level Setting	50	50	48	
	Test Frequency	2422MHz	2437MHz	2452MHz	
802.11n	Data Rate	MCS0	MCS0	MCS0	
ht40	Power Level Setting	44	44	44	

FCC Part 15.247 Page 5 of 50

Support Equipment List and Details

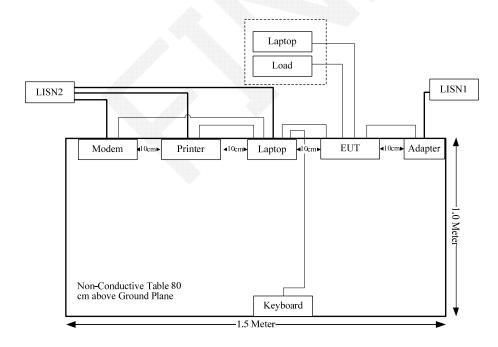
Manufacturer	Description	Model	Serial Number
DELL	Laptop	PP11L	QDS-BRCM1017
HP	Printer	C3941A	JPTVOB2337
DELL	Keyboard	L100	CNORH656658907BL05DC
SAST	Modem	AEM-2100	0293
DELL	Laptop	PP11L	1CVM0C1

Report No.: RDG140917006-00

External Cable

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	То
Serial Cable	Yes	No	1.2	Serial Port of Laptop	Modem
Parallel Cable	Yes	No	1.2	ParallelPort of Laptop	Printer
Keyboard Cable	Yes	Yes	1.8	USB Port of Laptop	Keyboard
RJ45 Cable*1	Yes	No	1.0	EUT	Laptop
RJ45 Cable*4	Yes	No	10	EUT	Latop/Load

Block Diagram of Test Setup



FCC Part 15.247 Page 6 of 50

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1091	Maximum Permissible Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum conducted output power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

Report No.: RDG140917006-00

FCC Part 15.247 Page 7 of 50

FCC §15.247 (i) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247(i)and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Report No.: RDG140917006-00

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

	(B) Limits for General Population/Uncontrolled Exposure					
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)		
0.3–1.34	614	1.63	*(100)	30		
1.34–30	824/f	2.19/f	*(180/f²)	30		
30–300	27.5	0.073	0.2	30		
300–1500	/	/	f/1500	30		
1500-100,000	/	/	1.0	30		

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary:

Predication of MPE limit at a given distance

 $S = PG/4\pi R^2 = power density (in appropriate units, e.g. mW/cm^2);$

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Mode Frequence		Ante	enna Gain		ucted wer	Evaluation Distance	Power Density	MPE Limit
	(MHz)	(dBi)	(numeric)	(dBm)	(mW)	(cm)	(mW/cm^2)	(mW/cm^2)
802.11b	2412	5	3.16	19.69	93.11	20.00	0.05861	1.0
802.11g	2412	5	3.16	20.43	110.41	20.00	0.06949	1.0
802.11n HT20	2412	5	3.16	19.45	88.10	20.00	0.05546	1.0
802.11n HT40	2422	5	3.16	17.49	56.10	20.00	0.03531	1.0

Result: The device meet FCC MPE at 20 cm distance

FCC Part 15.247 Page 8 of 50

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

Report No.: RDG140917006-00

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Antenna Connector Construction

This product used one external un-detachable antenna, the maximum gain is 5.0 dBi, which fulfill the requirement of this section, please refer to the EUT photos.

Result: Compliance.

FCC Part 15.247 Page 9 of 50

FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner:

Report No.: RDG140917006-00

If U_{lab} is less than or equal to U_{cispr} of Table 1, then:

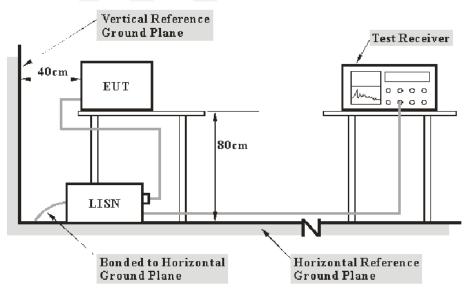
- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit. If U_{lab} is greater than U_{cispr} of Table 1, then:
- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} U_{cispr})$, exceeds the disturbance limit;
- non compliance is deemed to occur if any measured disturbance level, increased by $(U_{\text{lab}} U_{\text{cispr}})$, exceeds the disturbance limit.

Based on CISPR 16-4-2-2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Dongguan) is 3.46 dB (150 kHz to 30 MHz).

Table 1 – Values of
$$U_{\text{cispr}}$$

Measurement	$U_{ m cispr}$
Conducted disturbance at mains port using AMN (150 kHz to 30 MHz)	3.4 dB

EUT Setup



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMIN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

FCC Part 15.247 Page 10 of 50

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 limits.

Report No.: RDG140917006-00

The spacing between the peripherals was 10 cm.

The adapter of EUT was connected to a 120 VAC/60 Hz power source

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W	
150 kHz – 30 MHz	9 kHz	

Test Procedure

During the conducted emission test, the adapter of EUT was connected to thefirst LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

$$C_f = A_C + VDF$$

Herein,

V_C (cord. Reading): corrected voltage amplitude

 V_R : reading voltage amplitude A_c : attenuation caused by cable loss VDF: voltage division factor of AMN

C_f: Correction Factor

The "Margin" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

FCC Part 15.247 Page 11 of 50

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2013-11-20	2014-11-20
R&S	L.I.S.N	ESH3-Z5	843331/015	2013-09-25	2014-09-25
R&S	Two-line V-network	ENV 216	3560.6550.12	2014-01-22	2015-01-22
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

Report No.: RDG140917006-00

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

5.2 dB at 4.577832 MHz in the Line conducted mode

Test Data

Environmental Conditions

	Antopologopologopolog
Temperature:	28 °C
Relative Humidity:	61 %
ATM Pressure:	100.7 kPa

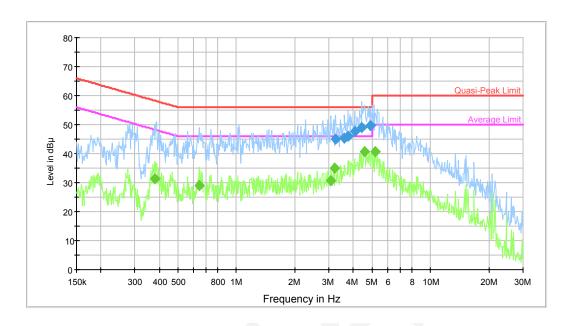
The testing was performed by Dean Liu on 2014-09-23.

FCC Part 15.247 Page 12 of 50

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Mode: Transmitting

AC120 V, 60 Hz, Line:



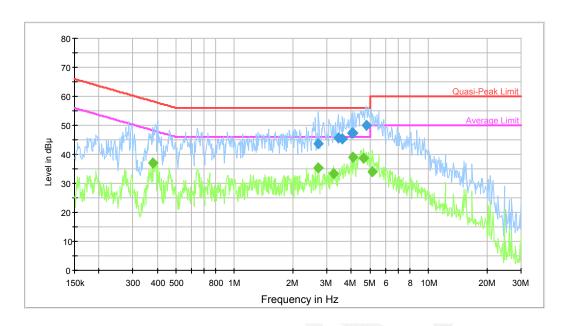
Report No.: RDG140917006-00

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
3.249802	45.1	9.000	L1	10.6	10.9	56.0	Compliance
3.604490	45.5	9.000	L1	10.7	10.5	56.0	Compliance
3.750995	46.1	9.000	L1	10.7	9.9	56.0	Compliance
4.062112	47.5	9.000	L1	10.7	8.5	56.0	Compliance
4.434225	49.0	9.000	L1	10.7	7.0	56.0	Compliance
4.918182	49.6	9.000	L1	10.7	6.4	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.378019	31.5	9.000	L1	10.6	16.8	48.3	Compliance
0.644717	28.9	9.000	L1	10.5	17.1	46.0	Compliance
3.073500	30.5	9.000	L1	10.6	15.5	46.0	Compliance
3.224010	35.0	9.000	L1	10.6	11.0	46.0	Compliance
4.577832	40.8	9.000	L1	10.7	5.2	46.0	Compliance
5.200299	40.6	9.000	L1	10.7	9.4	50.0	Compliance

FCC Part 15.247 Page 13 of 50

AC120 V, 60 Hz, Neutral:



Report No.: RDG140917006-00

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
2.705607	43.6	9.000	N	10.6	12.4	56.0	Compliance
3.436218	45.5	9.000	N	10.7	10.5	56.0	Compliance
3.604490	45.5	9.000	N	10.7	10.5	56.0	Compliance
4.029873	47.4	9.000	N	10.8	8.6	56.0	Compliance
4.094608	47.4	9.000	N	10.8	8.6	56.0	Compliance
4.763898	50.0	9.000	N	10.8	6.0	56.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.378019	37.1	9.000	N	10.9	11.2	48.3	Compliance
2.705607	35.3	9.000	N	10.6	10.7	46.0	Compliance
3.249802	33.2	9.000	N	10.7	12.8	46.0	Compliance
4.094608	39.0	9.000	N	10.8	7.0	46.0	Compliance
4.651370	38.7	9.000	N	10.8	7.3	46.0	Compliance
5.159027	34.0	9.000	N	10.8	16.0	50.0	Compliance

FCC Part 15.247 Page 14 of 50

FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner:

Report No.: RDG140917006-00

If U_{lab} is less than or equal to U_{cispr} of Table 2, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit. If U_{lab} is greater than U_{cispr} of Table 2, then:
- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} U_{cispr})$, exceeds the disturbance limit;
- non compliance is deemed to occur if any measured disturbance level, increased by $(U_{\text{lab}} U_{\text{cispr}})$, exceeds the disturbance limit.

Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:

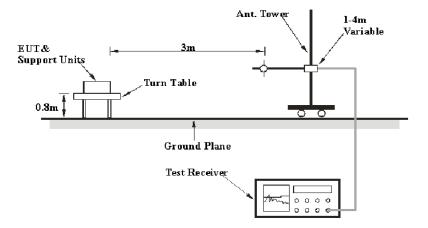
30M~200MHz: 5.0 dB 200M~1GHz: 6.2 dB 1G~6GHz: 4.45 dB 6G~18GHz: 5.23 dB

Table 2 – Values of U_{cispr}

Measurement	$U_{ m cispr}$
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

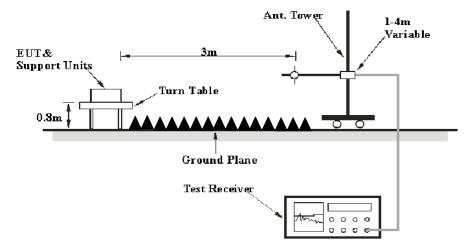
EUT Setup

Below 1GHz:



FCC Part 15.247 Page 15 of 50

Above 1GHz:



Report No.: RDG140917006-00

The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209, and FCC 15.247 limits. The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter of EUT was connected to a 120 VAC/60 Hz power source

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
AUUVE I UHZ	1MHz	10 Hz	/	Ave.

Test Procedure

During the radiated emission test, the adapter of EUT was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

FCC Part 15.247 Page 16 of 50

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Report No.: RDG140917006-00

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit –Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2014-05-09	2015-05-09
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447E	2434A02181	2014-09-01	2015-09-01
R&S	Spectrum Analyzer	FSEM	DE31388	2014-05-09	2015-05-09
ETS-Lindgren	Horn Antenna	3115	000 527 35	2012-09-06	2015-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2014-02-19	2015-02-19
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2014-06-16	2017-06-15
Quinstar	Amplifier	QLW- 18405536-JO	15964001001	2014-09-06	2015-09-06

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Results Summary

According to the recorded data in following table, the EUT complied with the <u>FCC Title 47, Part 15</u>, Section 15.205, 15.209 and 15.247, with the worst margin reading of:

3.67 dB at 4824MHz in the Vertical polarization for 802.11b Mode

Test Data

Environmental Conditions

Temperature:	26.5 °C
Relative Humidity:	51 %
ATM Pressure:	100.6 kPa

The testing was performed by Dean Liu on 2014-09-29.

FCC Part 15.247 Page 17 of 50

Test Mode: Transmitting

802.	11b Mode								
	R	eceiver	Rx A	ntenna	Cable	Amplifier	Corrected		
Frequency	Reading	Detector	Polar	Factor	loss	Gain	Amplitude	Limit	Margin
(MHz)	(dBµV)	(PK/QP/AV)	(H/V)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
	_("		/	ow Chanr	nel: 2/12	MHz	• /-		
2412	99.03	PK	Н	25.67	4.42	27.33	101.79	N/A	N/A
2412	94.55	AV	H	25.67	4.42	27.33	97.31	N/A N/A	N/A
2412	105.50	PK	V	25.67	4.42	27.33	108.26	N/A	N/A
2412	100.82	AV	V	25.67	4.42	27.33	103.58	N/A	N/A
2390	53.59	PK	V	25.61	4.39	27.32	56.27	74.00	17.73
2390	40.26	AV	V	25.61	4.39	27.32	42.94	54.00	11.06
4824	43.20	PK	V	30.64	6.03	27.41	52.46	74.00	21.54
4824	41.07	AV	V	30.64	6.03	27.41	50.33	54.00	3.67*
7236	31.36	PK	V	34.17	7.47	25.90	47.10	74.00	26.90
7236	23.69	AV	V	34.17	7.47	25.90	39.43	54.00	14.57
9648	29.47	PK	V	36.06	8.81	27.46	46.88	74.00	27.12
9648	18.39	AV	V	36.06	8.81	27.46	35.80	54.00	18.20
1828	35.83	PK	V	24.26	3.65	27.52	36.22	74.00	37.78
1828	23.42	AV	V	24.26	3.65	27.52	23.81	54.00	30.19
165.5	36.41	QP	V	12.36	1.55	21.44	28.88	43.50	14.62
			M	iddle Char					
2437	99.17	PK	Н	25.74	4.41	27.34	101.98	N/A	N/A
2437	94.86	AV	Н	25.74	4.41	27.34	97.67	N/A	N/A
2437	106.26	PK	V	25.74	4.41	27.34	109.07	N/A	N/A
2437	101.53	AV	V	25.74	4.41	27.34	104.34	N/A	N/A
4874	41.04	PK	V	30.77	6.09	27.42	50.48	74.00	23.52
4874	38.15	AV	V	30.77	6.09	27.42	47.59	54.00	6.41
7311	30.79	PK	V	34.35	7.51	25.88	46.77	74.00	27.23
7311	20.07	AV	V	34.35	7.51	25.88	36.05	54.00	17.95
9748	29.61	PK	V	36.30	8.83	27.24	47.50	74.00	26.50
9748	18.27	AV	V	36.30	8.83	27.24	36.16	54.00	17.84
1887	35.01	PK	V	24.37	3.64	27.51	35.51	74.00	38.49
1887	23.26	AV	V	24.37	3.64	27.51	23.76	54.00	30.24
165.5	36.49	QP	V	12.36	1.55	21.44	28.96	43.50	14.54
			Н	ligh Chani	nel: 2462	MHz			
2462	98.80	PK	Н	25.80	4.43	27.35	101.68	N/A	N/A
2462	93.93	AV	Н	25.80	4.43	27.35	96.81	N/A	N/A
2462	105.03	PK	V	25.80	4.43	27.35	107.91	N/A	N/A
2462	100.33	AV	V	25.80	4.43	27.35	103.21	N/A	N/A
2483.5	53.16	PK	V	25.86	4.49	27.36	56.15	74.00	17.85
2483.5	41.02	AV	V	25.86	4.49	27.36	44.01	54.00	9.99
4924	41.71	PK	V	30.90	5.97	27.43	51.15	74.00	22.85
4924	39.81	AV	V	30.90	5.97	27.43	49.25	54.00	4.75*
7386	31.07	PK	V	34.53	7.55	25.86	47.29	74.00	26.71
7386	20.82	AV	V	34.53	7.55	25.86	37.04	54.00	16.96
9848	29.11	PK	V	36.54	8.85	26.94	47.56	74.00	26.44
9848	19.76	AV	V	36.54	8.85	26.94	38.21	54.00	15.79
1793	34.52	PK	V	24.19	3.52	27.54	34.69	74.00	39.31
1793	22.57	AV	V	24.19	3.52	27.54	22.74	54.00	31.26
165.5	36.42	QP	V	12.36	1.55	21.44	28.89	43.50	14.61

Report No.: RDG140917006-00

FCC Part 15.247 Page 18 of 50

802 11g Mode

802.11g	Mode		1		•				
Enggnenov	Re	eceiver	Rx A	Antenna	Cable	Amplifier	Corrected	Limit	3.7
Frequency (MHz)	Reading (dBµV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)	loss (dB)	Gain (dB)	Amplitude (dBµV/m)	(dBµV/m)	Margin (dB)
			/	Low Channe	1· 2412 N	Mz			
2412	99.80	PK	Н	25.67	4.42	27.33	102.56	N/A	N/A
2412	88.86	AV	H	25.67	4.42	27.33	91.62	N/A N/A	N/A
2412	104.24	PK	V	25.67	4.42	27.33	107.00	N/A	N/A
2412	93.15	AV	V	25.67	4.42	27.33	95.91	N/A	N/A
2390	59.94	PK	V	25.61	4.39	27.32	62.62	74.00	11.38
2390	46.01	AV	V	25.61	4.39	27.32	48.69	54.00	5.31*
4824	39.61	PK	V	30.64	6.03	27.41	48.87	74.00	25.13
4824	27.29	AV	V	30.64	6.03	27.41	36.55	54.00	17.45
7236	30.14	PK	V	34.17	7.47	25.90	45.88	74.00	28.12
7236	19.07	AV	V	34.17	7.47	25.90	34.81	54.00	19.19
9648	29.49	PK	V	36.06	8.81	27.46	46.90	74.00	27.10
9648	18.67	AV	V	36.06	8.81	27.46	36.08	54.00	17.92
1782	35.45	PK	V	24.16	3.56	27.56	35.61	74.00	38.39
1782	23.85	AV	V	24.16	3.56	27.56	24.01	54.00	29.99
165.5	36.58	QP	V	12.36	1.55	21.44	29.05	43.50	14.45
		-	M	iddle Chanr	nel: 2437	MHz			
2437	97.40	PK	Н	25.74	4.41	27.34	100.21	N/A	N/A
2437	86.95	AV	Н	25.74	4.41	27.34	89.76	N/A	N/A
2437	104.17	PK	V	25.74	4.41	27.34	106.98	N/A	N/A
2437	93.40	AV	V	25.74	4.41	27.34	96.21	N/A	N/A
4874	39.24	PK	V	30.77	6.09	27.42	48.68	74.00	25.32
4874	25.17	AV	V	30.77	6.09	27.42	34.61	54.00	19.39
7311	30.32	PK	V	34.35	7.51	25.88	46.30	74.00	27.70
7311	19.44	AV	V	34.35	7.51	25.88	35.42	54.00	18.58
9748	29.21	PK	V	36.30	8.83	27.24	47.10	74.00	26.90
9748	18.10	AV	V	36.30	8.83	27.24	35.99	54.00	18.01
1793	35.75	PK	V	24.19	3.52	27.54	35.92	74.00	38.08
1793	23.82	AV	V	24.19	3.52	27.54	23.99	54.00	30.01
165.5	36.70	QP	V	12.36	1.55	21.44	29.17	43.50	14.33
0.1.5	06.15	200		High Channe			00.50		3771
2462	96.42	PK	H	25.80	4.43	27.35	99.30	N/A	N/A
2462	86.33	AV	H	25.80	4.43	27.35	89.21	N/A	N/A
2462	103.14	PK	V	25.80	4.43	27.35	106.02	N/A	N/A
2462	93.65	AV	V	25.80	4.43	27.35	96.53	N/A	N/A
2483.5	63.34	PK	V	25.86	4.49	27.36	66.33	74.00	7.67
2483.5	43.54	AV	V	25.86	4.49	27.36	46.53	54.00	7.47
4924	39.74	PK	V	30.90	5.97	27.43	49.18	74.00	24.82
4924	25.68	AV	V	30.90	5.97	27.43	35.12	54.00	18.88
7386	30.62	PK	V	34.53	7.55	25.86	46.84	74.00	27.16
7386	19.65	AV		34.53	7.55	25.86	35.87	54.00 74.00	18.13
9848	29.24	PK AV	V	36.54	8.85	26.94	47.69		26.31
9848	18.41	AV	V	36.54	8.85	26.94	36.86	54.00	17.14
1817 1817	35.57	PK	V	24.23	3.59	27.53	35.86	74.00	38.14
	23.62	AV	V	24.23	3.59	27.53	23.91	54.00	30.09
165.5	36.61	QP	V	12.36	1.55	21.44	29.08	43.50	14.42

FCC Part 15.247 Page 19 of 50

^{*}Within measurement uncertainty!

802.11 n ht20 Mode

Б	Re	eceiver	Rx A	ntenna	Cable	Amplifier	Corrected	т,	М
Frequency (MHz)	Reading (dBµV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)	loss (dB)	Gain (dB)	Amplitude (dBμV/m)	Limit (dBµV/m)	Margin (dB)
	•		L	ow Chann	el: 2412	MHz			
2412	94.95	PK	Н	25.67	4.42	27.33	97.71	N/A	N/A
2412	83.56	AV	Н	25.67	4.42	27.33	86.32	N/A	N/A
2412	102.25	PK	V	25.67	4.42	27.33	105.01	N/A	N/A
2412	91.47	AV	V	25.67	4.42	27.33	94.23	N/A	N/A
2390	64.28	PK	V	25.61	4.39	27.32	66.96	74.00	7.04
2390	43.52	AV	V	25.61	4.39	27.32	46.20	54.00	7.80
4824	36.74	PK	V	30.64	6.03	27.41	46.00	74.00	28.00
4824	23.09	AV	V	30.64	6.03	27.41	32.35	54.00	21.65
7236	29.52	PK	V	34.17	7.47	25.90	45.26	74.00	28.74
7236	18.97	AV	V	34.17	7.47	25.90	34.71	54.00	19.29
9648	27.18	PK	V	36.06	8.81	27.46	44.59	74.00	29.41
9648	16.69	AV	V	36.06	8.81	27.46	34.10	54.00	19.90
1933	35.95	PK	V	24.47	3.73	27.50	36.65	74.00	37.35
1933	23.76	AV	V	24.47	3.73	27.50	24.46	54.00	29.54
165.5	36.85	QP	V	12.36	1.55	21.44	29.32	43.50	14.18
	•		Mi	ddle Chan	nel: 2437	7 MHz			
2437	96.60	PK	Н	25.74	4.41	27.34	99.41	N/A	N/A
2437	86.30	AV	Н	25.74	4.41	27.34	89.11	N/A	N/A
2437	103.10	PK	V	25.74	4.41	27.34	105.91	N/A	N/A
2437	91.92	AV	V	25.74	4.41	27.34	94.73	N/A	N/A
4874	36.59	PK	V	30.77	6.09	27.42	46.03	74.00	27.97
4874	23.11	AV	V	30.77	6.09	27.42	32.55	54.00	21.45
7311	29.43	PK	V	34.35	7.51	25.88	45.41	74.00	28.59
7311	18.84	AV	V	34.35	7.51	25.88	34.82	54.00	19.18
9748	27.33	PK	V	36.30	8.83	27.24	45.22	74.00	28.78
9748	16.74	AV	V	36.30	8.83	27.24	34.63	54.00	19.37
1856	35.35	PK	V	24.31	3.75	27.52	35.89	74.00	38.11
1856	23.17	AV	V	24.31	3.75	27.52	23.71	54.00	30.29
165.5	36.71	QP	V	12.36	1.55	21.44	29.18	43.50	14.32
			Н	igh Chann	el: 2462	MHz			
2462	95.42	PK	Н	25.80	4.43	27.35	98.30	N/A	N/A
2462	83.86	AV	Н	25.80	4.43	27.35	86.74	N/A	N/A
2462	102.74	PK	V	25.80	4.43	27.35	105.62	N/A	N/A
2462	91.99	AV	V	25.80	4.43	27.35	94.87	N/A	N/A
2483.5	65.56	PK	V	25.86	4.49	27.36	68.55	74.00	5.45*
2483.5	43.52	AV	V	25.86	4.49	27.36	46.51	54.00	7.49
4924	36.88	PK	V	30.90	5.97	27.43	46.32	74.00	27.68
4924	23.42	AV	V	30.90	5.97	27.43	32.86	54.00	21.14
7386	29.61	PK	V	34.53	7.55	25.86	45.83	74.00	28.17
7386	18.93	AV	V	34.53	7.55	25.86	35.15	54.00	18.85
9848	27.49	PK	V	36.54	8.85	26.94	45.94	74.00	28.06
9848	16.82	AV	V	36.54	8.85	26.94	35.27	54.00	18.73
2002	35.29	PK	V	24.61	3.82	27.48	36.24	74.00	37.76
2002	23.05	AV	V	24.61	3.82	27.48	24.00	54.00	30.00
165.5	36.76	QP	V	12.36	1.55	21.44	29.23	43.50	14.27

FCC Part 15.247 Page 20 of 50

^{*}Within measurement uncertainty!

802 11 n ht40 Mode

802.11 n ht40 Mode									
Frequency	Receiver				Cable	Amplifier	Corrected	Limit	Margin
(MHz)	Reading	Detector	Polar	Factor	loss	Gain	Amplitude	(dBµV/m)	(dB)
(11112)	(dBµV)	(PK/QP/AV)	(H/V)	(dB)	(dB)	(dB)	(dBµV/m)	(42 /4 / / / / / / / / / / / / / / / / /	(42)
Low Channel: 2422 MHz									
2422	91.66	PK	Н	25.70	4.41	27.33	94.44	N/A	N/A
2422	80.90	AV	Н	25.70	4.41	27.33	83.68	N/A	N/A
2422	97.23	PK	V	25.70	4.41	27.33	100.01	N/A	N/A
2422	86.96	AV	V	25.70	4.41	27.33	89.74	N/A	N/A
2390	64.98	PK	V	25.61	4.39	27.32	67.66	74.00	6.34
2390	45.54	AV	V	25.61	4.39	27.32	48.22	54.00	5.78*
4844	35.75	PK	V	30.69	6.08	27.42	45.10	74.00	28.90
4844	22.41	AV	V	30.69	6.08	27.42	31.76	54.00	22.24
7266	30.04	PK	V	34.24	7.48	25.89	45.87	74.00	28.13
7266	18.76	AV	V	34.24	7.48	25.89	34.59	54.00	19.41
9688	28.10	PK	V	36.15	8.82	27.37	45.70	74.00	28.30
9688	15.65	AV	V	36.15	8.82	27.37	33.25	54.00	20.75
1856	35.86	PK	V	24.31	3.75	27.52	36.40	74.00	37.60
1856	23.49	AV	V	24.31	3.75	27.52	24.03	54.00	29.97
165.5	36.87	QP	V	12.36	1.55	21.44	29.34	43.50	14.16
Middle Channel: 2437 MHz									
2437	92.69	PK	Н	25.74	4.41	27.34	95.50	N/A	N/A
2437	81.1	AV	Н	25.74	4.41	27.34	83.91	N/A	N/A
2437	97.92	PK	V	25.74	4.41	27.34	100.73	N/A	N/A
2437	86.8	AV	V	25.74	4.41	27.34	89.61	N/A	N/A
4874	35.58	PK	V	30.77	6.09	27.42	45.02	74.00	28.98
4874	22.71	AV	V	30.77	6.09	27.42	32.15	54.00	21.85
7311	30.15	PK	V	34.35	7.51	25.88	46.13	74.00	27.87
7311	18.68	AV	V	34.35	7.51	25.88	34.66	54.00	19.34
9748	28.26	PK	V	36.30	8.83	27.24	46.15	74.00	27.85
9748	15.79	AV	V	36.30	8.83	27.24	33.68	54.00	20.32
1574	35.07	PK	V	23.75	3.23	27.70	34.35	74.00	39.65
1574	23.16	AV	V	23.75	3.23	27.70	22.44	54.00	31.56
165.5	36.91	QP	V	12.36	1.55	21.44	29.38	43.50	14.12
			Н	igh Chann	el: 2452				
2452	91.11	PK	Н	25.78	4.41	27.35	93.95	N/A	N/A
2452	80.84	AV	Н	25.78	4.41	27.35	83.68	N/A	N/A
2452	97.71	PK	V	25.78	4.41	27.35	100.55	N/A	N/A
2452	87.32	AV	V	25.78	4.41	27.35	90.16	N/A	N/A
2483.5	65.17	PK	V	25.86	4.49	27.36	68.16	74.00	5.84*
2483.5	44.06	AV	V	25.86	4.49	27.36	47.05	54.00	6.95
4904	35.34	PK	V	30.85	6.06	27.43	44.82	74.00	29.18
4904	22.53	AV	V	30.85	6.06	27.43	32.01	54.00	21.99
7356	30.09	PK	V	34.45	7.53	25.87	46.20	74.00	27.80
7356	18.52	AV	V	34.45	7.53	25.87	34.63	54.00	19.37
9808	28.30	PK	V	36.44	8.84	27.09	46.49	74.00	27.51
9808	15.81	AV	V	36.44	8.84	27.09	34.00	54.00	20.00
1832	34.90	PK	V	24.26	3.67	27.52	35.31	74.00	38.69
1832	22.94	AV	V	24.26	3.67	27.52	23.35	54.00	30.65
165.5	36.97	QP	V	12.36	1.55	21.44	29.44	43.50	14.06

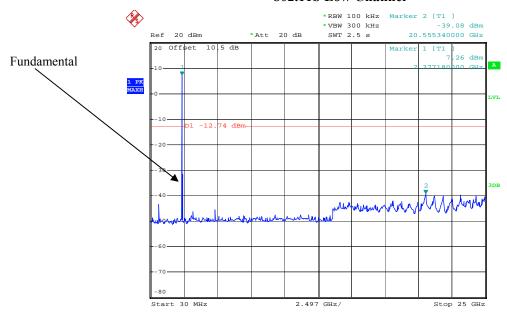
FCC Part 15.247 Page 21 of 50

^{*}Within measurement uncertainty!

Conducted Spurious Emissions at Antenna Port

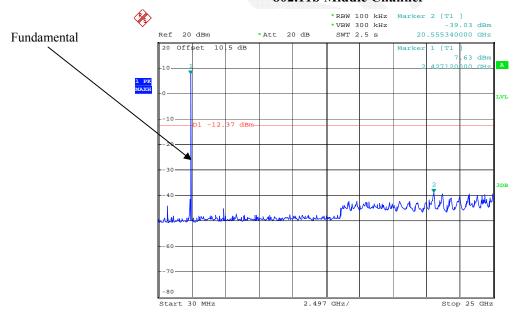
Report No.: RDG140917006-00

802.11b Low Channel



Date: 29.SEP.2014 21:15:32

802.11b Middle Channel

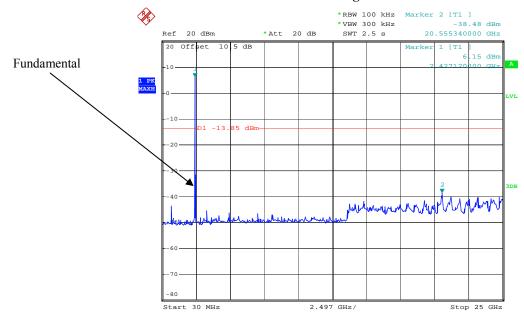


Date: 29.SEP.2014 21:19:59

FCC Part 15.247 Page 22 of 50

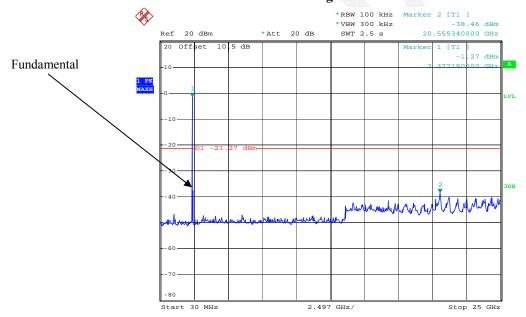
802.11b High Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:23:29

802.11g Low Channel

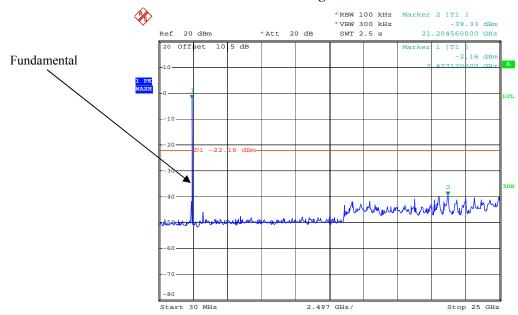


Date: 29.SEP.2014 21:50:06

FCC Part 15.247 Page 23 of 50

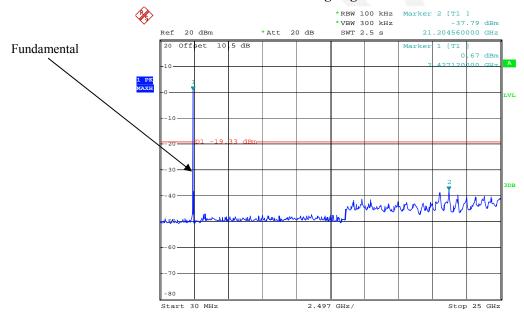
802.11g Middle Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:41:47

802.11g High Channel

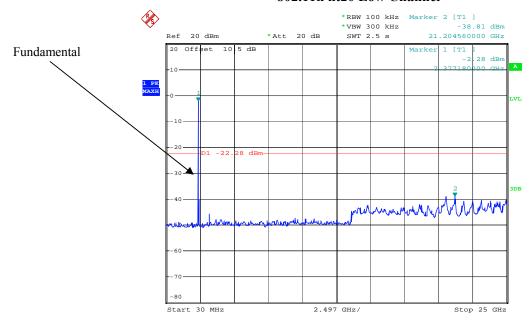


Date: 29.SEP.2014 21:36:31

FCC Part 15.247 Page 24 of 50

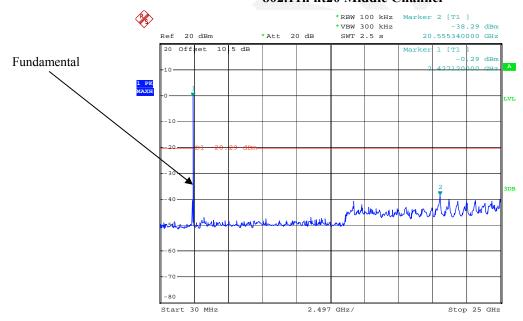
802.11n ht20 Low Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:58:30

802.11n ht20 Middle Channel

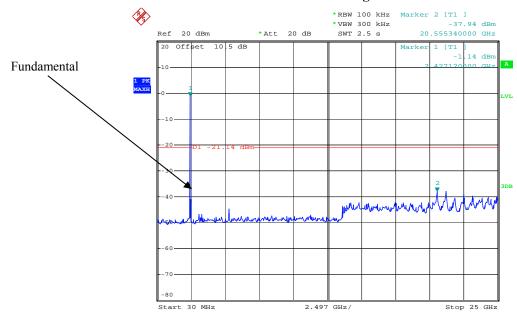


Date: 29.SEP.2014 22:04:31

FCC Part 15.247 Page 25 of 50

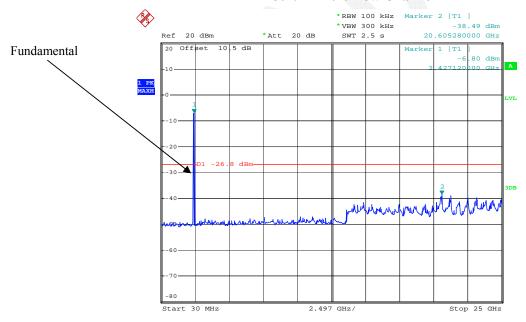
802.11n ht20 High Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 22:10:32

802.11n ht40 Low Channel

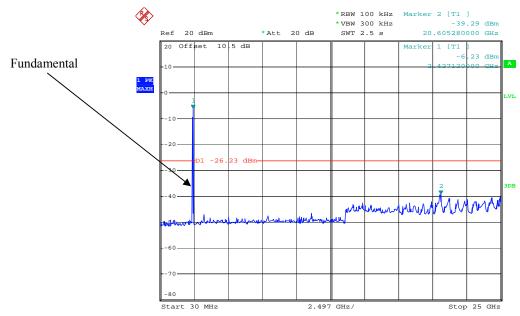


Date: 29.SEP.2014 22:15:34

FCC Part 15.247 Page 26 of 50

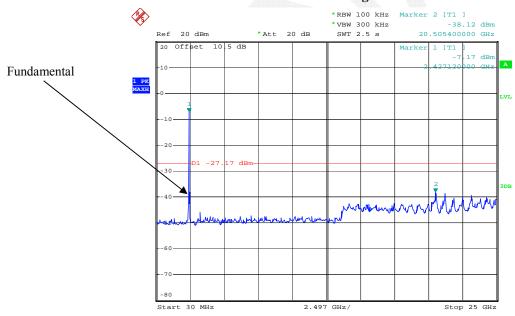
802.11n ht40 Middle Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 22:21:46

802.11n ht40 High Channel



Date: 29.SEP.2014 22:26:50

FCC Part 15.247 Page 27 of 50

FCC $\S15.247(a)$ (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Report No.: RDG140917006-00

Test Procedure

According to KDB 558074 D01 DTS Meas Guidance v03r02 clause8.1 Option 1:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) $\geq 3 \times RBW$.
- c) Detector = Peak.
- d) Trace mode = \max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.1 °C		
Relative Humidity:	62 %		
ATM Pressure:	100.6 kPa		

The testing was performed by Dean Liu on 2014-09-29.

Test Mode: Transmitting

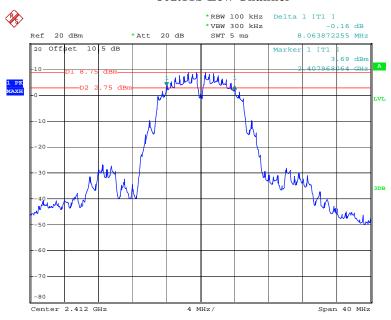
FCC Part 15.247 Page 28 of 50

Test mode	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (kHz)
	Low	2412	8.06	≥500
802.11b	Middle	2437	8.06	≥500
	High	2462	8.14	≥500
	Low	2412	15.09	≥500
802.11g	Middle	2437	15.09	≥500
	High	2462	15.09	≥500
	Low	2412	15.01	≥500
802.11n ht20	Middle	2437	15.09	≥500
	High	2462	15.09	≥500
	Low	2422	36.09	≥500
802.11nht40	Middle	2437	36.09	≥500
	High	2452	35.93	≥500

FCC Part 15.247 Page 29 of 50

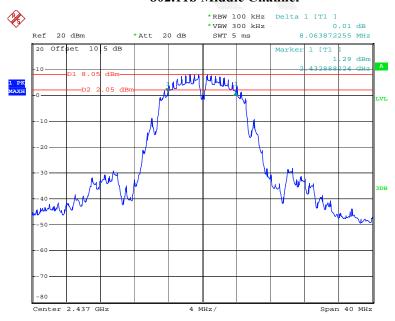
802.11b Low Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:12:57

802.11b Middle Channel

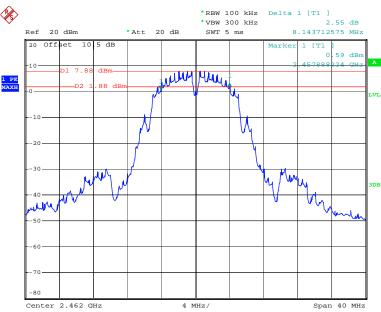


Date: 29.SEP.2014 21:17:14

FCC Part 15.247 Page 30 of 50

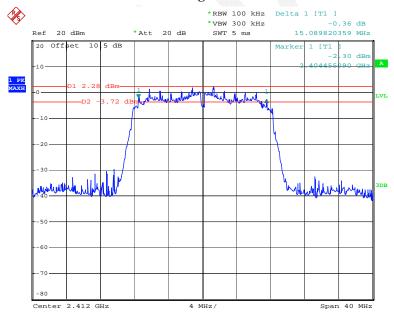
802.11b High Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:21:05

802.11g Low Channel

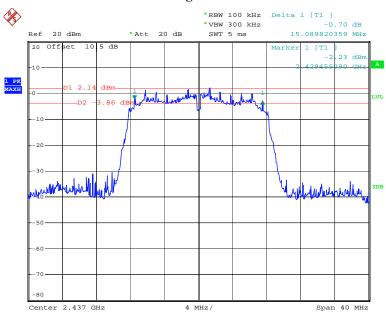


Date: 29.SEP.2014 21:44:19

FCC Part 15.247 Page 31 of 50

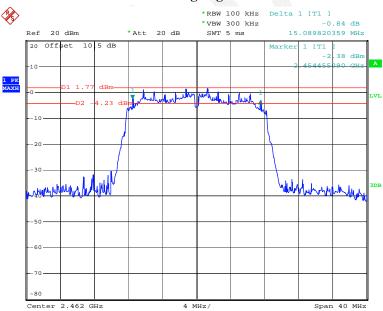
802.11g Middle Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:38:19

802.11g High Channel

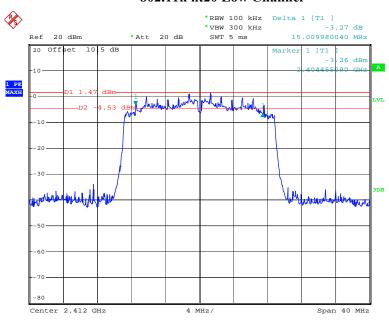


Date: 29.SEP.2014 21:32:53

FCC Part 15.247 Page 32 of 50

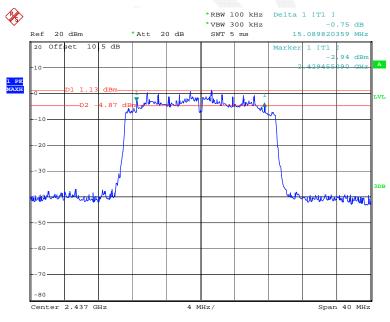
802.11n ht20 Low Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:51:33

802.11n ht20 Middle Channel

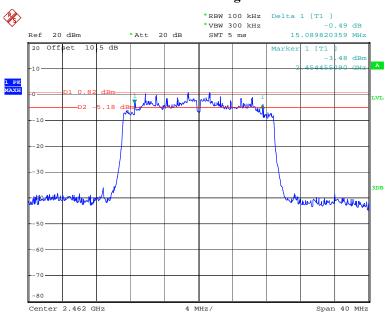


Date: 29.SEP.2014 21:59:33

FCC Part 15.247 Page 33 of 50

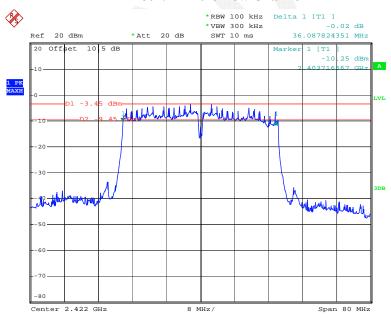
802.11n ht20 High Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 22:05:28

802.11n ht40 Low Channel

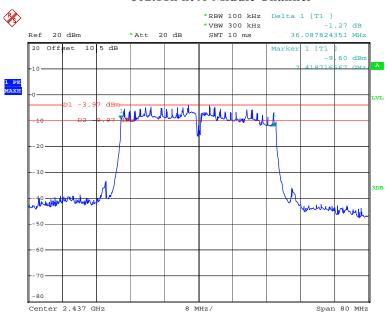


Date: 29.SEP.2014 22:11:45

FCC Part 15.247 Page 34 of 50

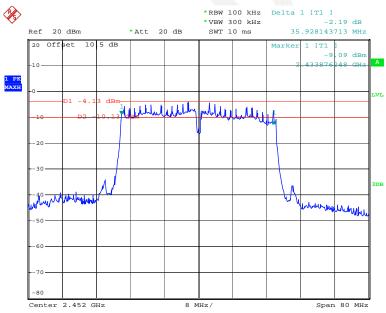
802.11n ht40 Middle Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 22:17:13

802.11n ht40 High Channel



Date: 29.SEP.2014 22:22:44

FCC Part 15.247 Page 35 of 50

FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Report No.: RDG140917006-00

Test Procedure

According to KDB 558074 D01 DTS Meas Guidance v03r02 clause9.2.2.2

- 1. Place the EUT on a bench and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to test equipment.
- 3. Add a correction factor to the display.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54210016	2013-12-12	2014-12-12
Agilent	Wideband Power Sensor	N1921A	MY54170013	2013-12-12	2014-12-12
Agilent	P-Series Power Meter	N1912A	MY5000448	2013-12-12	2014-12-12

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.1 °C		
Relative Humidity:	62 %		
ATM Pressure:	100.6 kPa		

The testing was performed by Dean Liu on 2014-09-29.

FCC Part 15.247 Page 36 of 50

Test Mode: Transmitting

Test Result: Compliant. Please refer to the following table.

Test mode	Channel	Frequency	Max Peak Conducted Limit Output Power		Result
		(MHz)	(dBm)	(dBm)	
802.11b	Low	2412	19.69	30	PASS
	Middle	2437	19.1	30	PASS
	High	2462	19.01	30	PASS
802.11g	Low	2412	20.43	30	PASS
	Middle	2437	20.08	30	PASS
	High	2462	19.98	30	PASS
802.11n ht20	Low	2412	19.45	30	PASS
	Middle	2437	19.27	30	PASS
	High	2462	19.07	30	PASS
802.11n ht40	Low	2422	17.49	30	PASS
	Middle	2437	17.36	30	PASS
	High	2452	17.14	30	PASS

Report No.: RDG140917006-00

FCC Part 15.247 Page 37 of 50

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Report No.: RDG140917006-00

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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 §15.205(c)).

Test Procedure

- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- 2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- 3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
- 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- 5. Repeat above procedures until all measured frequencies were complete.

Test Equipment List and Details

Manufacturer Description		Model Serial		Calibration	Calibration
		Number		Date	Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.1 °C	
Relative Humidity:	62 %	
ATM Pressure:	100.6 kPa	

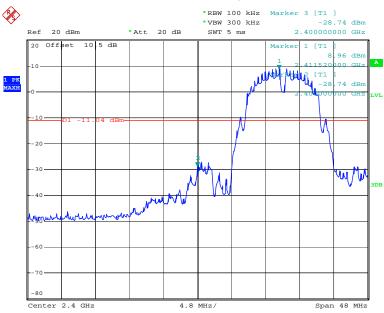
The testing was performed by Dean Liu on 2014-09-29.

Test mode: Transmitting

FCC Part 15.247 Page 38 of 50

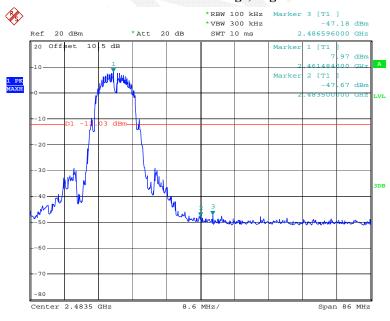
802.11b: Band Edge, Left Side

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:16:09

802.11b: Band Edge, Right Side

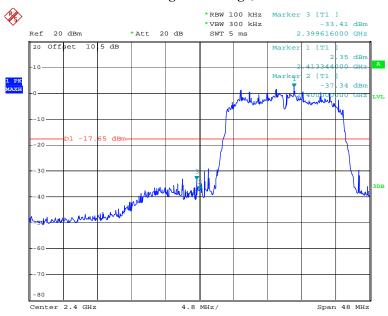


Date: 29.SEP.2014 21:23:50

FCC Part 15.247 Page 39 of 50

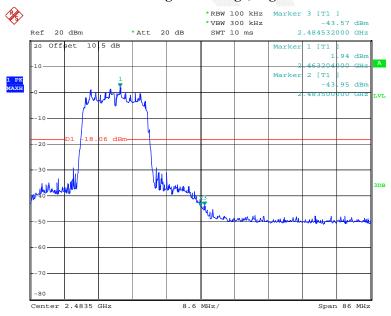
802.11g: Band Edge, Left Side

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:50:27

802.11g: Band Edge, Right Side

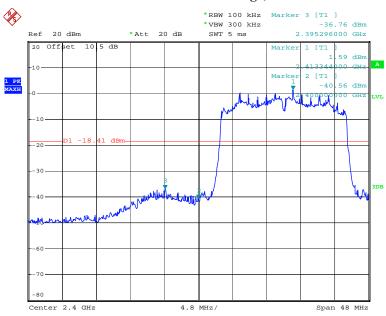


Date: 29.SEP.2014 21:37:19

FCC Part 15.247 Page 40 of 50

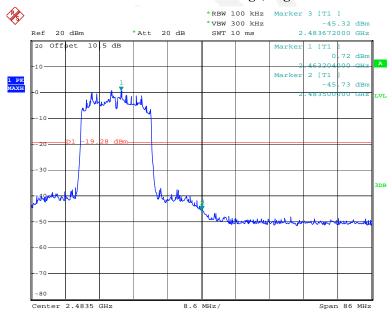
802.11n ht20 Band Edge, Left Side

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:58:51

802.11n ht20 Band Edge, Right Side

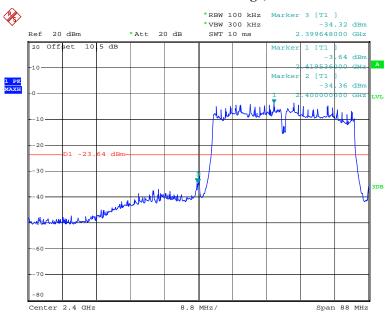


Date: 29.SEP.2014 22:10:53

FCC Part 15.247 Page 41 of 50

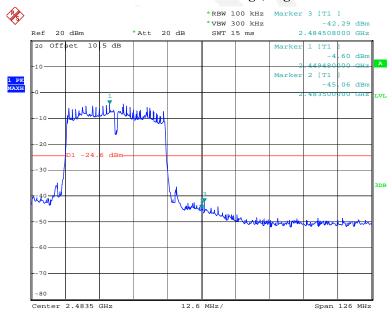
802.11n ht40 Band Edge, Left Side

Report No.: RDG140917006-00



Date: 29.SEP.2014 22:16:05

802.11n ht40 Band Edge, Right Side



Date: 29.SEP.2014 22:27:10

FCC Part 15.247 Page 42 of 50

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

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. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Report No.: RDG140917006-00

Test Procedure

According to KDB 558074 D01 DTS Meas Guidance v03r02 clause10.2:

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to: $3 \text{ kHz} \le \text{RBW} \le 100 \text{ kHz}$.
- d) Set the VBW $\geq 3 \times RBW$.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- i) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2014-05-09	2015-05-09

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.1 °C	
Relative Humidity:	62 %	
ATM Pressure:	100.6 kPa	

The testing was performed by Dean Liu on 2014-09-29.

FCC Part 15.247 Page 43 of 50

Test Mode: Transmitting

Test Result: Compliant. Please refer to the following table and plots

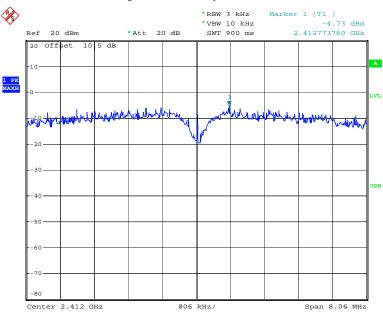
Test mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11b	Low	2412	-4.73	≤8	PASS
	Middle	2437	-5.33	≤8	PASS
	High	2462	-3.85	≤8	PASS
802.11g	Low	2412	-11.16	≤8	PASS
	Middle	2437	-11.26	≤8	PASS
	High	2462	-11.58	≤8	PASS
802.11n ht20	Low	2412	-13.09	≤8	PASS
	Middle	2437	-12.09	≤8	PASS
	High	2462	-12.44	≤8	PASS
802.11n ht40	Low	2422	-17.79	≤8	PASS
	Middle	2437	-18.16	≤8	PASS
	High	2452	-17.91	≤8	PASS

Report No.: RDG140917006-00

FCC Part 15.247 Page 44 of 50

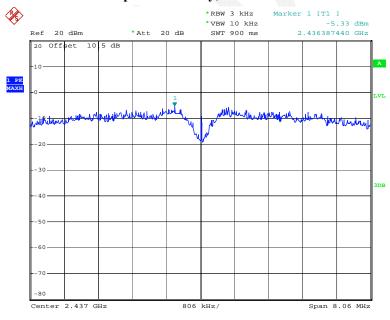
Power Spectral Density, 802.11b Low Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:14:57

Power Spectral Density, 802.11b Middle Channel

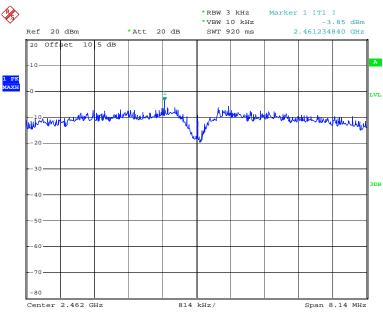


Date: 29.SEP.2014 21:19:13

FCC Part 15.247 Page 45 of 50

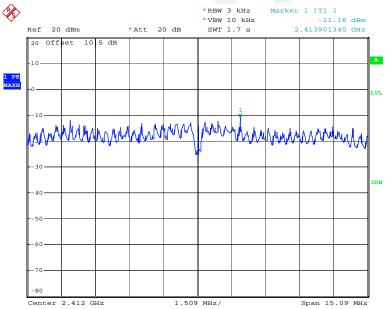
Power Spectral Density, 802.11b High Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:22:55

Power Spectral Density, 802.11g Low Channel

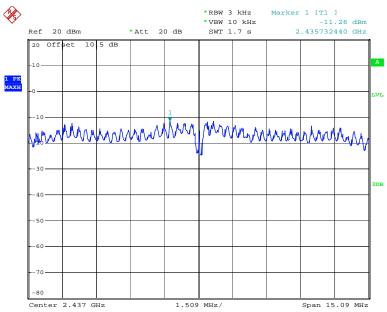


Date: 29.SEP.2014 21:47:31

FCC Part 15.247 Page 46 of 50

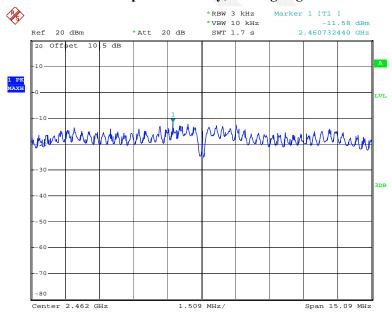
Power Spectral Density, 802.11g Middle Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:41:21

Power Spectral Density, 802.11g High Channel

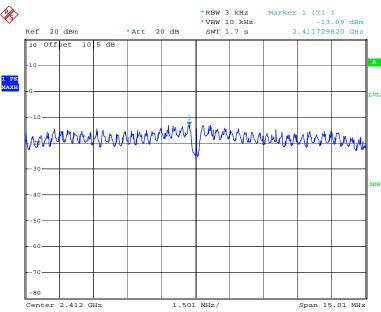


Date: 29.SEP.2014 21:35:47

FCC Part 15.247 Page 47 of 50

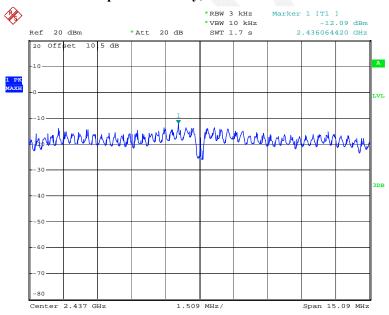
Power Spectral Density, 802.11n ht20 Low Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 21:54:52

Power Spectral Density, 802.11n ht20 Middle Channel

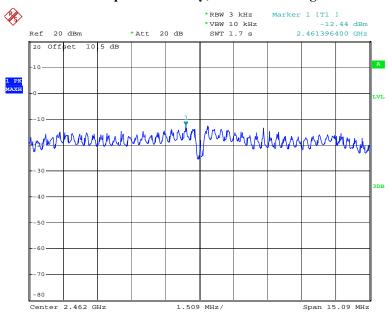


Date: 29.SEP.2014 22:02:47

FCC Part 15.247 Page 48 of 50

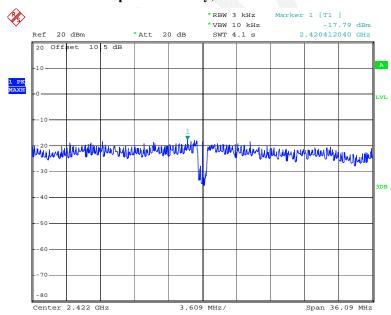
Power Spectral Density, 802.11n ht20 High Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 22:08:53

Power Spectral Density, 802.11n ht40 Low Channel

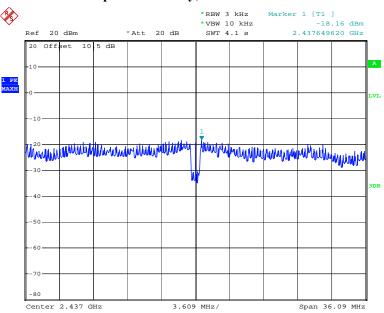


Date: 29.SEP.2014 22:14:56

FCC Part 15.247 Page 49 of 50

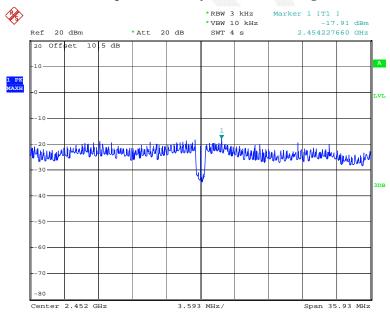
Power Spectral Density, 802.11n ht40 Middle Channel

Report No.: RDG140917006-00



Date: 29.SEP.2014 22:21:24

Power Spectral Density, 802.11n ht40 High Channel



Date: 29.SEP.2014 22:26:06

***** END OF REPORT *****

FCC Part 15.247 Page 50 of 50