FCC PART 15.247

TEST REPORT

For

SZ DJI TECHNOLOGY CO., LTD

14th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan, Shenzhen, Guangdong, China

FCC ID: SS3-GL3581511

Report Type:	**Product Type:**
Original Report	Remote Controller

Test Engineer:	Allen Qiao
Report Number:	RDG151112003-00A
Report Date:	2015-11-24
Reviewed By:	Sula Huang RF Leader
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *SZ DJI TECHNOLOGY CO., LTD*'s product, model number: *GL358wB (FCC ID: SS3-GL3581511)* (the "EUT") in this report was a *Remote Controller* (Called C1 by applicant), which measures approximately: 16.6 cm (L) x15.8 cm (W) x 8.9 cm(H), rated input voltage: DC 7.2V from lithium rechargeable battery or DC 17.4V from adapter.

Adapter information: dji
Model: A14-057N1A
Input: AC 100-240V, 1.8A, 50-60Hz
Output: DC 17.4V, 3.3A

** All measurement and test data in this report was gathered from production sample serial number: 151112003. (Assigned by BACL.Dongguan). The EUT was received on 2015-11-13.*

Objective

This report is prepared on behalf of *SZ DJI TECHNOLOGY CO., LTD* in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communications Commission's 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)

FCC Part 15C DXX submissions with FCC ID: SS3-GL3581511
Submitted with the Part of a system with ID: SS3-WM3251511

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

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 Communications 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 06, 2015.

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.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in Engineering Mode, which was provided by the manufacturer.

The system supports 802.11g and n ht20 mode, both modes supports MIMO function. And 11 channels employed by the system:

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	/	/

For 802.11g, 802.11n 20 modes were tested with Channel 1, 6 and 11.

The worst-case data rates (54Mbps for 802.11g and MCS7 for 802.11 n ht20) 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.

EUT Exercise Software

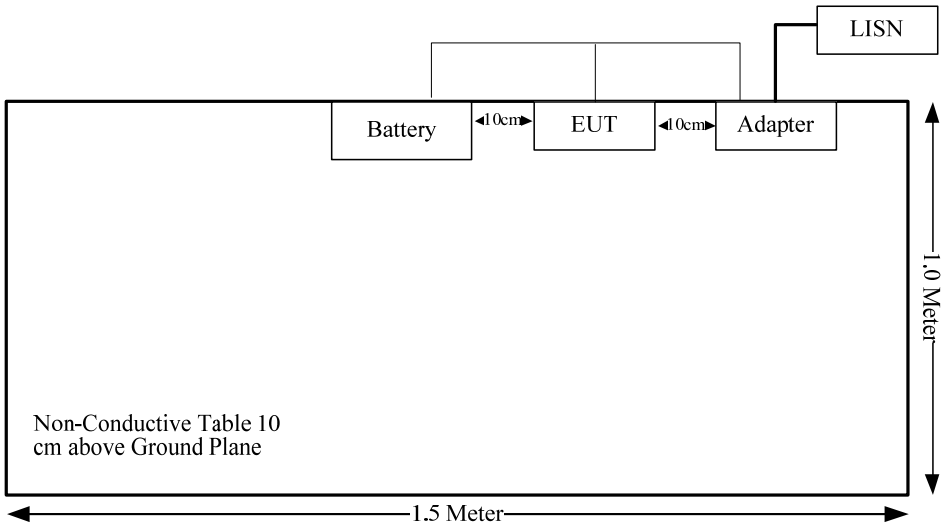
The worst condition (maximum power with 100% duty cycle) was setting by the software as following table:

Software and version			DJI-RF Certification		
Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Power Level	
				Chain 0	Chain 1
802.11 g	Low	2412	54	30	30
	Middle	2437	54	30	30
	High	2462	54	30	30
802.11 n20	Low	2412	MCS7	30	30
	Middle	2437	MCS7	30	30
	High	2462	MCS7	30	30

Equipment Modifications

No modification was made to the EUT.

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1093	RF 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 Bandwidth	Compliance
§15.247(b)(3)	Maximum Peak Conducted Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

FCC §1.1310 & §2.1093 - RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RDG151112003-20A.

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:

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

Antenna Connector Construction

The EUT has 2 internal antennas arrangement, the left antenna gain is 2.95dBi for 2.4G, the right antenna gain is 3.16dBi for 2.4G and 2.38dBi for 5.8G, fulfill the requirement of the item. Please refer to the internal photos.

Result: Compliance.

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：

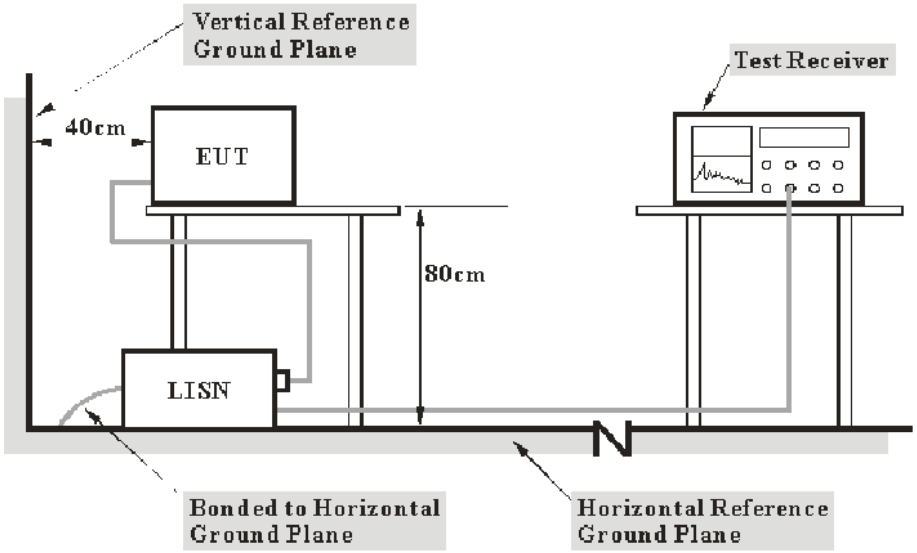
If U_{lab} is less than or equal to U_{cispr} of Table 1, then:
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
– non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
If U_{lab} is greater than U_{cispr} of 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 ($U_{lab} - U_{cispr}$), 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_{cispr}

Measurement	U_{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 (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter 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 was connected to the first 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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2015-10-20	2016-10-20
R&S	L.I.S.N	ESH2-Z5	892107/021	2015-06-09	2016-06-09
R&S	Two-line V-network	ENV 216	3560.6550.12	2014-12-11	2015-12-11
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

*** 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 FCC Part 15.207, with the worst margin reading of:

14.4 dB at **13.315918 MHz** in the **Line** conducted mode

Test Data

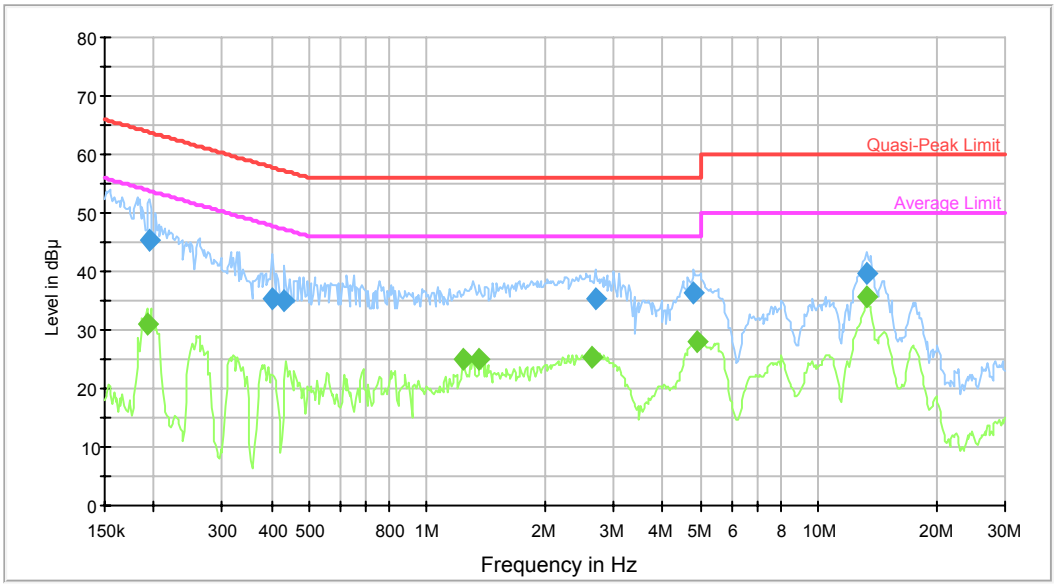
Environmental Conditions

Temperature:	27°C
Relative Humidity:	53 %
ATM Pressure:	100.6kPa

The testing was performed by Allen Qiao on 2015-11-13

Test Mode: Transmitting

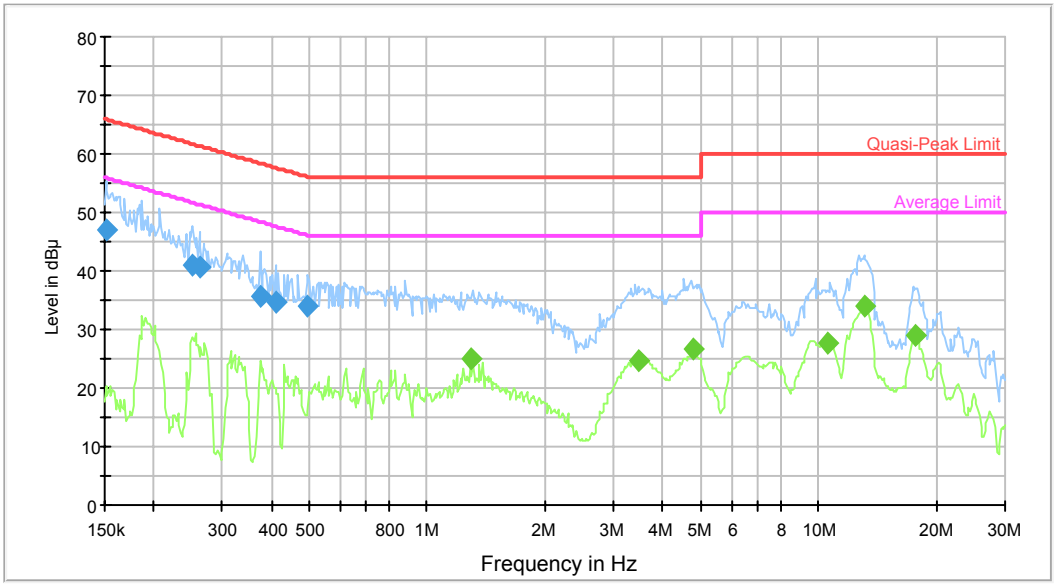
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.195114	45.3	9.000	L1	0.2	18.5	63.8	Compliance
0.402900	35.3	9.000	L1	0.2	22.5	57.8	Compliance
0.432855	34.9	9.000	L1	0.2	22.3	57.2	Compliance
2.684134	35.4	9.000	L1	0.2	20.6	56.0	Compliance
4.802010	36.2	9.000	L1	0.3	19.8	56.0	Compliance
13.315918	39.7	9.000	L1	0.7	20.3	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.193566	31.1	9.000	L1	0.2	22.8	53.9	Compliance
1.239175	25.0	9.000	L1	0.2	21.0	46.0	Compliance
1.363512	25.1	9.000	L1	0.2	20.9	46.0	Compliance
2.641698	25.4	9.000	L1	0.2	20.6	46.0	Compliance
4.879149	28.0	9.000	L1	0.3	18.0	46.0	Compliance
13.315918	35.6	9.000	L1	0.7	14.4	50.0	Compliance

AC120 V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.151200	46.9	9.000	N	0.2	19.0	65.9	Compliance
0.251783	41.0	9.000	N	0.2	20.7	61.7	Compliance
0.262017	40.6	9.000	N	0.2	20.8	61.4	Compliance
0.375019	35.6	9.000	N	0.2	22.8	58.4	Compliance
0.409372	34.7	9.000	N	0.2	23.0	57.7	Compliance
0.495646	34.0	9.000	N	0.2	22.1	56.1	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
1.289541	25.1	9.000	N	0.3	20.9	46.0	Compliance
3.463707	24.7	9.000	N	0.3	21.3	46.0	Compliance
4.802010	26.8	9.000	N	0.3	19.2	46.0	Compliance
10.568557	27.6	9.000	N	0.4	22.4	50.0	Compliance
13.210237	34.1	9.000	N	0.7	15.9	50.0	Compliance
17.739864	29.0	9.000	N	1.2	21.0	50.0	Compliance

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：

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 ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

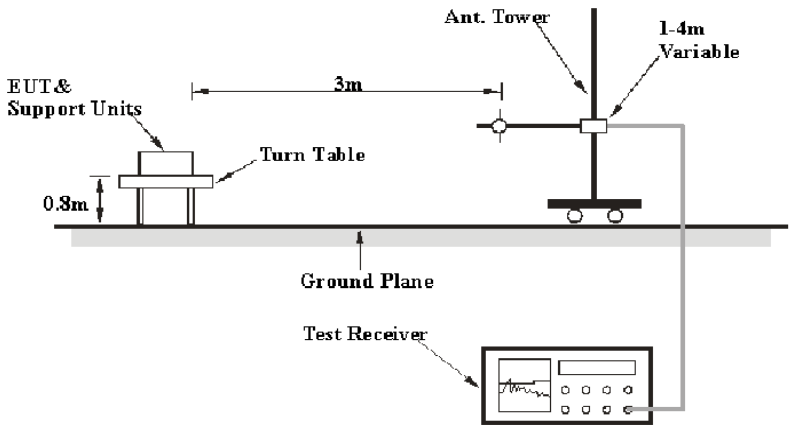
Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:
30M~200MHz: 5.0 dB
200M~1GHz: 6.2 dB
1G~6GHz: 4.45 dB
6G~18GHz: 5.23 dB

Table 2 – Values of U_{cispr}

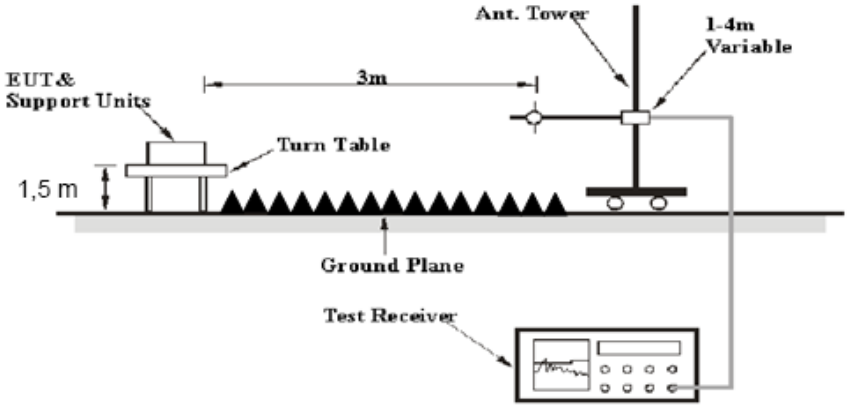
Measurement	U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

The spacing between the peripherals was 10 cm.

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
30MHz – 1000 MHz	120 kHz	300 kHz	120kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

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.

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:

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	2015-08-03	2016-08-02
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
Agilent	Spectrum Analyzer	E4440A	SG43360054	2014-12-04	2015-12-04
ETS-Lindgren	Horn Antenna	3115	9808-5557	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2015-02-19	2016-02-19
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2014-06-16	2017-06-15
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2015-09-06	2016-09-06

*** 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 FCC Title 47, Part 15, Section 15.205, 15.209 and 15.247, with the worst margin reading of:

6.62 dB at **2483.5 MHz** in the **Vertical** polarization for 802.11n20 mode

Test Data

Environmental Conditions

Temperature:	25.4°C
Relative Humidity:	64 %
ATM Pressure:	100.8kPa

The testing was performed by Allen Qiao on 2015-11-17.

802.11g Mode

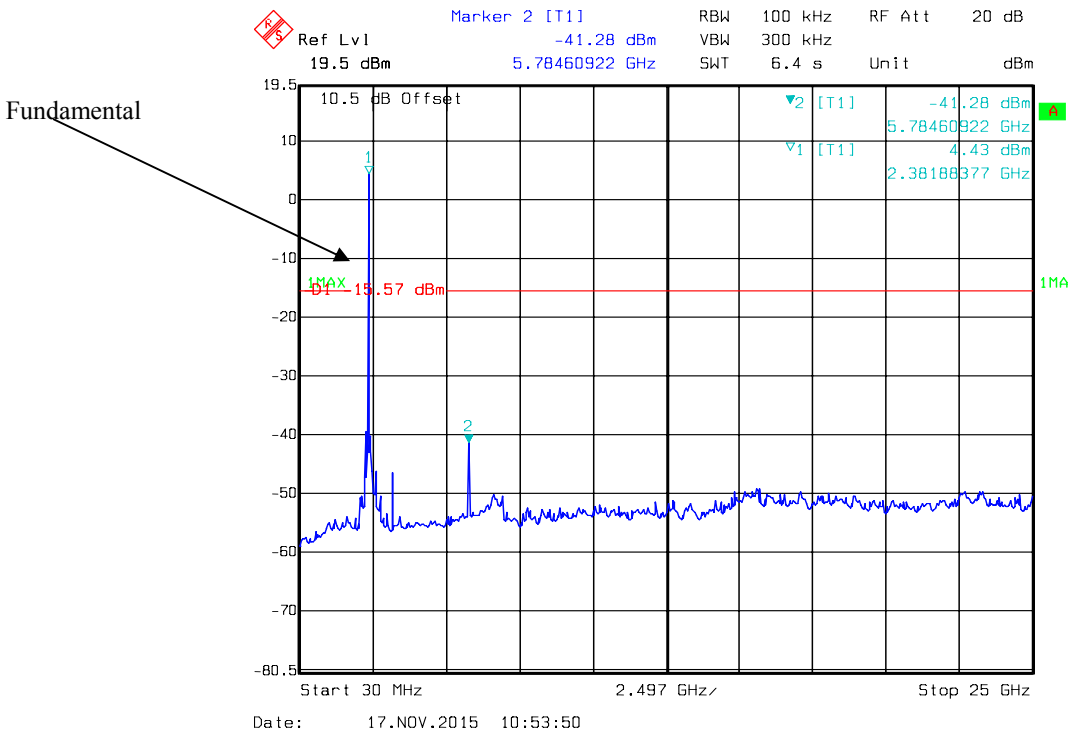
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	73.45	PK	H	25.67	3.68	0.00	102.80	N/A	N/A
2412	62.34	AV	H	25.67	3.68	0.00	91.69	N/A	N/A
2412	81.09	PK	V	25.67	3.68	0.00	110.44	N/A	N/A
2412	69.98	AV	V	25.67	3.68	0.00	99.33	N/A	N/A
2390	31.3	PK	V	25.61	3.63	0.00	60.54	74.00	13.46
2390	17.37	AV	V	25.61	3.63	0.00	46.61	54.00	7.39
4824	33.35	PK	V	30.64	5.03	27.41	41.61	74.00	32.39
4824	20.09	AV	V	30.64	5.03	27.41	28.35	54.00	25.65
7236	32.43	PK	V	34.17	6.65	25.90	47.35	74.00	26.65
7236	19.22	AV	V	34.17	6.65	25.90	34.14	54.00	19.86
9648	30.08	PK	V	36.06	8.55	27.46	47.23	74.00	26.77
9648	16.86	AV	V	36.06	8.55	27.46	34.01	54.00	19.99
3250	37.77	PK	V	28.00	6.31	27.33	44.75	74.00	29.25
3250	24.52	AV	V	28.00	6.31	27.33	31.50	54.00	22.50
287.4	34.1	QP	H	13.87	2.04	21.51	28.50	46.00	17.50
Middle Channel: 2437 MHz									
2437	72.29	PK	H	25.74	3.75	0.00	101.78	N/A	N/A
2437	61.31	AV	H	25.74	3.75	0.00	90.80	N/A	N/A
2437	79.88	PK	V	25.74	3.75	0.00	109.37	N/A	N/A
2437	68.74	AV	V	25.74	3.75	0.00	98.23	N/A	N/A
4874	32.72	PK	V	30.77	5.14	27.42	41.21	74.00	32.79
4874	19.62	AV	V	30.77	5.14	27.42	28.11	54.00	25.89
7311	32.1	PK	V	34.35	6.74	25.88	47.31	74.00	26.69
7311	18.88	AV	V	34.35	6.74	25.88	34.09	54.00	19.91
9748	29.61	PK	V	36.30	8.61	27.24	47.28	74.00	26.72
9748	16.43	AV	V	36.30	8.61	27.24	34.10	54.00	19.90
4390	34.7	PK	V	29.82	4.96	26.90	42.58	74.00	31.42
4390	21.34	AV	V	29.82	4.96	26.90	29.22	54.00	24.78
3250	37.45	PK	V	28.00	6.31	27.33	44.43	74.00	29.57
3250	24.12	AV	V	28.00	6.31	27.33	31.10	54.00	22.90
287.4	34.5	QP	H	13.87	2.04	21.51	28.90	46.00	17.10
High Channel: 2462 MHz									
2462	72.69	PK	H	25.80	3.75	0.00	102.24	N/A	N/A
2462	61.57	AV	H	25.80	3.75	0.00	91.12	N/A	N/A
2462	80.21	PK	V	25.80	3.75	0.00	109.76	N/A	N/A
2462	69.13	AV	V	25.80	3.75	0.00	98.68	N/A	N/A
2483.5	32.62	PK	V	25.86	3.67	0.00	62.15	74.00	11.85
2483.5	17.79	AV	V	25.86	3.67	0.00	47.32	54.00	6.68
4924	33.08	PK	V	30.90	5.34	27.43	41.89	74.00	32.11
4924	19.92	AV	V	30.90	5.34	27.43	28.73	54.00	25.27
7386	32.22	PK	V	34.53	6.83	25.86	47.72	74.00	26.28
7386	19.12	AV	V	34.53	6.83	25.86	34.62	54.00	19.38
9848	29.87	PK	V	36.54	8.66	26.94	48.13	74.00	25.87
9848	16.66	AV	V	36.54	8.66	26.94	34.92	54.00	19.08
3250	37.56	PK	V	28.00	6.31	27.33	44.54	74.00	29.46
3250	24.3	AV	V	28.00	6.31	27.33	31.28	54.00	22.72
287.4	34.3	QP	H	13.87	2.04	21.51	28.70	46.00	17.30

802.11n20 Mode

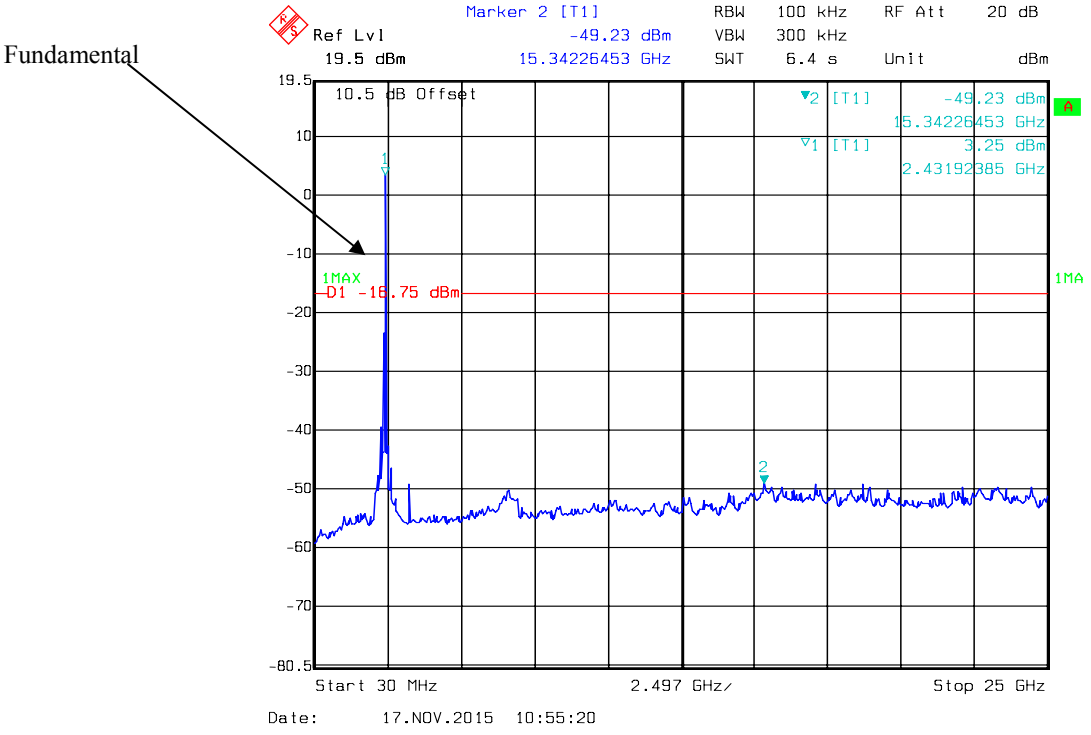
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	73.22	PK	H	25.67	3.68	0.00	102.57	N/A	N/A
2412	62.16	AV	H	25.67	3.68	0.00	91.51	N/A	N/A
2412	81.43	PK	V	25.67	3.68	0.00	110.78	N/A	N/A
2412	70.33	AV	V	25.67	3.68	0.00	99.68	N/A	N/A
2390	29.38	PK	V	25.61	3.63	0.00	58.62	74.00	15.38
2390	17.5	AV	V	25.61	3.63	0.00	46.74	54.00	7.26
4824	33.67	PK	V	30.64	5.03	27.41	41.93	74.00	32.07
4824	20.39	AV	V	30.64	5.03	27.41	28.65	54.00	25.35
7236	32.4	PK	V	34.17	6.65	25.90	47.32	74.00	26.68
7236	19.41	AV	V	34.17	6.65	25.90	34.33	54.00	19.67
9648	30.17	PK	V	36.06	8.55	27.46	47.32	74.00	26.68
9648	16.82	AV	V	36.06	8.55	27.46	33.97	54.00	20.03
3250	39.17	PK	V	28.00	6.31	27.33	46.15	74.00	27.85
3250	25.85	AV	V	28.00	6.31	27.33	32.83	54.00	21.17
287.4	34.7	QP	H	13.87	2.04	21.51	29.10	46.00	16.90
Middle Channel: 2437 MHz									
2437	72.05	PK	H	25.74	3.75	0.00	101.54	N/A	N/A
2437	61.12	AV	H	25.74	3.75	0.00	90.61	N/A	N/A
2437	80.29	PK	V	25.74	3.75	0.00	109.78	N/A	N/A
2437	69.17	AV	V	25.74	3.75	0.00	98.66	N/A	N/A
4874	33.12	PK	V	30.77	5.14	27.42	41.61	74.00	32.39
4874	20.05	AV	V	30.77	5.14	27.42	28.54	54.00	25.46
7311	31.96	PK	V	34.35	6.74	25.88	47.17	74.00	26.83
7311	18.93	AV	V	34.35	6.74	25.88	34.14	54.00	19.86
9748	29.77	PK	V	36.30	8.61	27.24	47.44	74.00	26.56
9748	16.43	AV	V	36.30	8.61	27.24	34.10	54.00	19.90
4405	36.48	PK	V	29.82	4.95	26.90	44.35	74.00	29.65
4405	23.14	AV	V	29.82	4.95	26.90	31.01	54.00	22.99
3250	38.82	PK	V	28.00	6.31	27.33	45.80	74.00	28.20
3250	25.41	AV	V	28.00	6.31	27.33	32.39	54.00	21.61
287.4	34.4	QP	H	13.87	2.04	21.51	28.80	46.00	17.20
High Channel: 2462 MHz									
2462	72.54	PK	H	25.80	3.75	0.00	102.09	N/A	N/A
2462	61.47	AV	H	25.80	3.75	0.00	91.02	N/A	N/A
2462	80.76	PK	V	25.80	3.75	0.00	110.31	N/A	N/A
2462	69.58	AV	V	25.80	3.75	0.00	99.13	N/A	N/A
2483.5	32.07	PK	V	25.86	3.67	0.00	61.60	74.00	12.40
2483.5	17.85	AV	V	25.86	3.67	0.00	47.38	54.00	6.62
4924	33.56	PK	V	30.90	5.34	27.43	42.37	74.00	31.63
4924	20.3	AV	V	30.90	5.34	27.43	29.11	54.00	24.89
7386	32.14	PK	V	34.53	6.83	25.86	47.64	74.00	26.36
7386	19.14	AV	V	34.53	6.83	25.86	34.64	54.00	19.36
9848	29.88	PK	V	36.54	8.66	26.94	48.14	74.00	25.86
9848	16.58	AV	V	36.54	8.66	26.94	34.84	54.00	19.16
3250	39.1	PK	V	28.00	6.31	27.33	46.08	74.00	27.92
3250	25.61	AV	V	28.00	6.31	27.33	32.59	54.00	21.41
287.4	34.3	QP	H	13.87	2.04	21.51	28.70	46.00	17.30

Conducted Spurious Emissions at Antenna Port

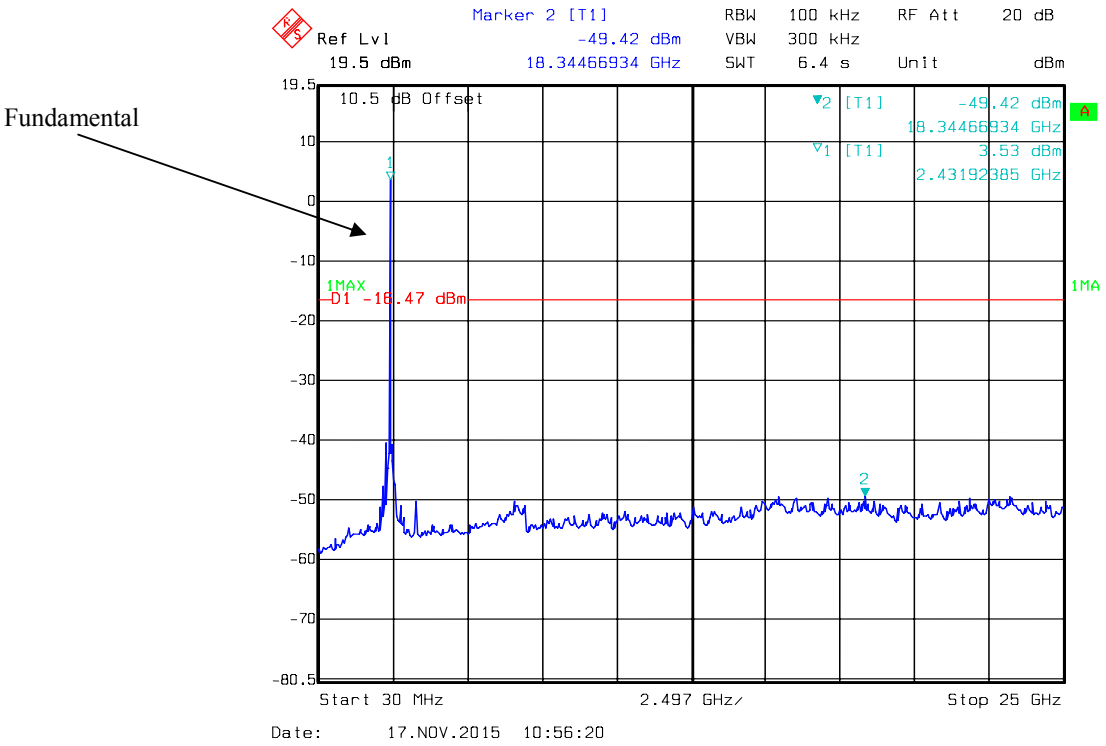
Chain 0 802.11g Low Channel



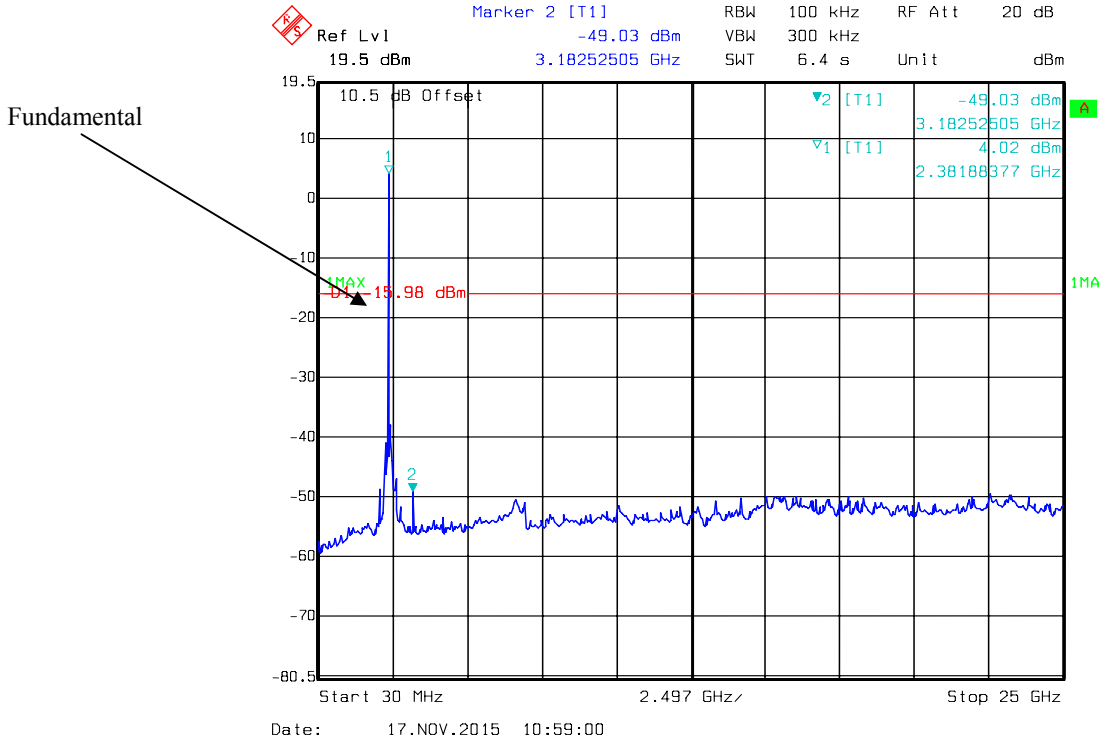
Chain 0 802.11g Middle Channel



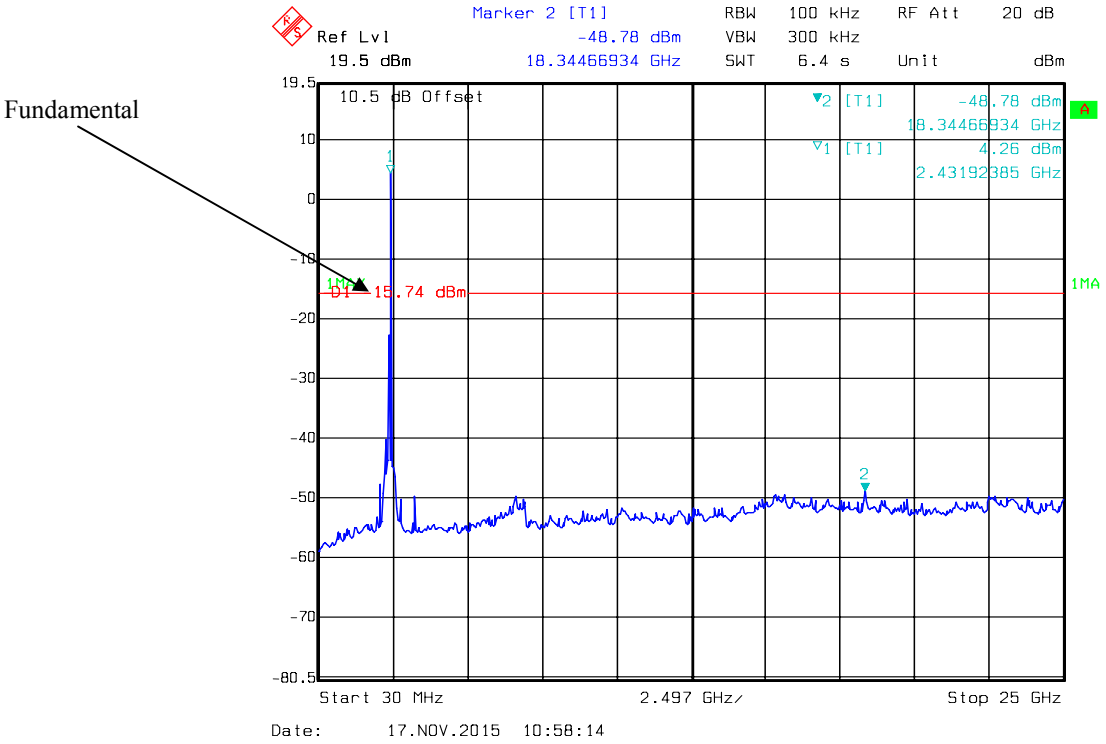
Chain 0 802.11g High Channel



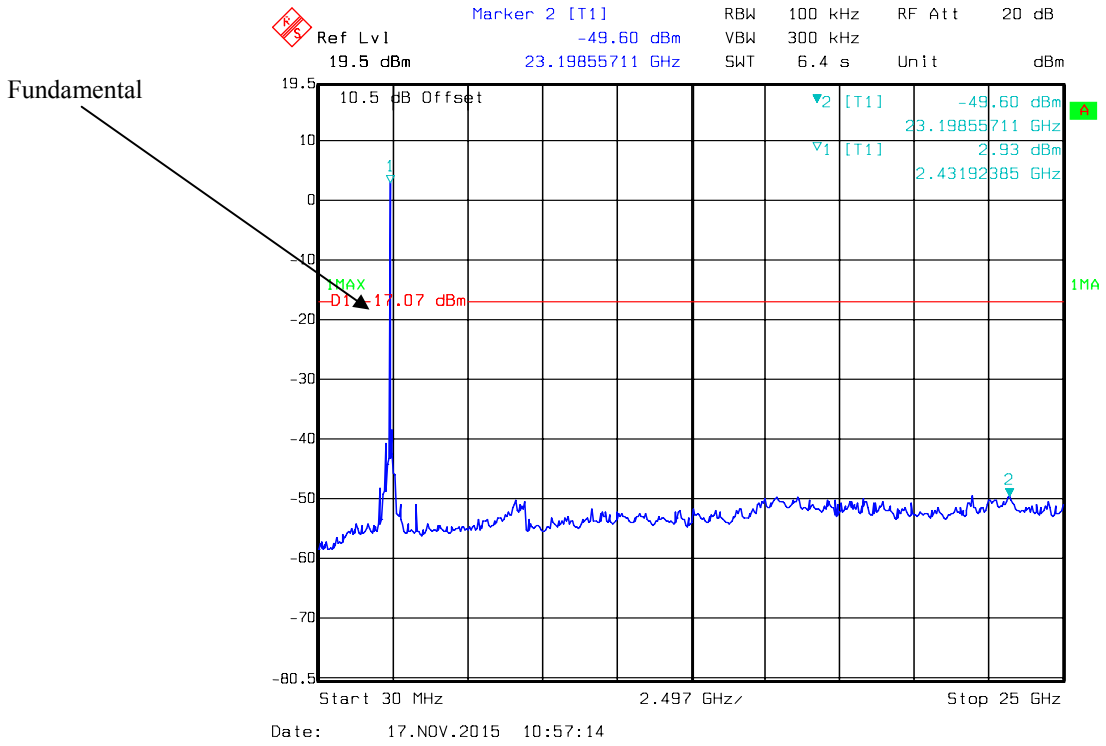
Chain 0 802.11n20 Low Channel



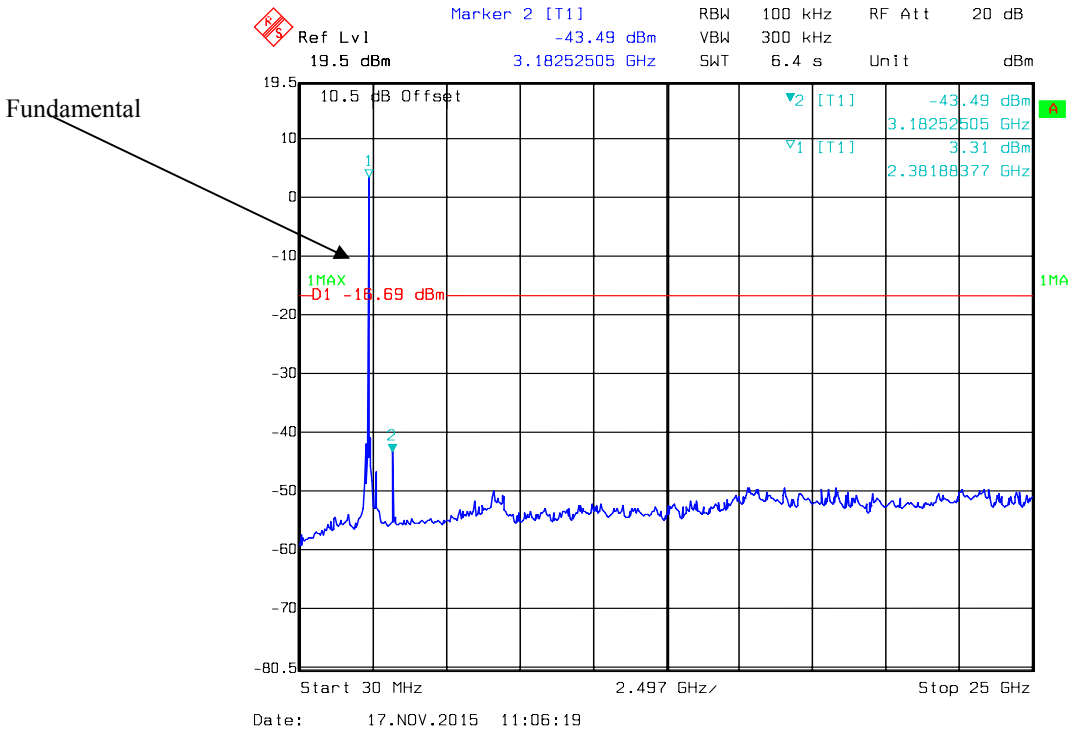
Chain 0 802.11n20 Middle Channel



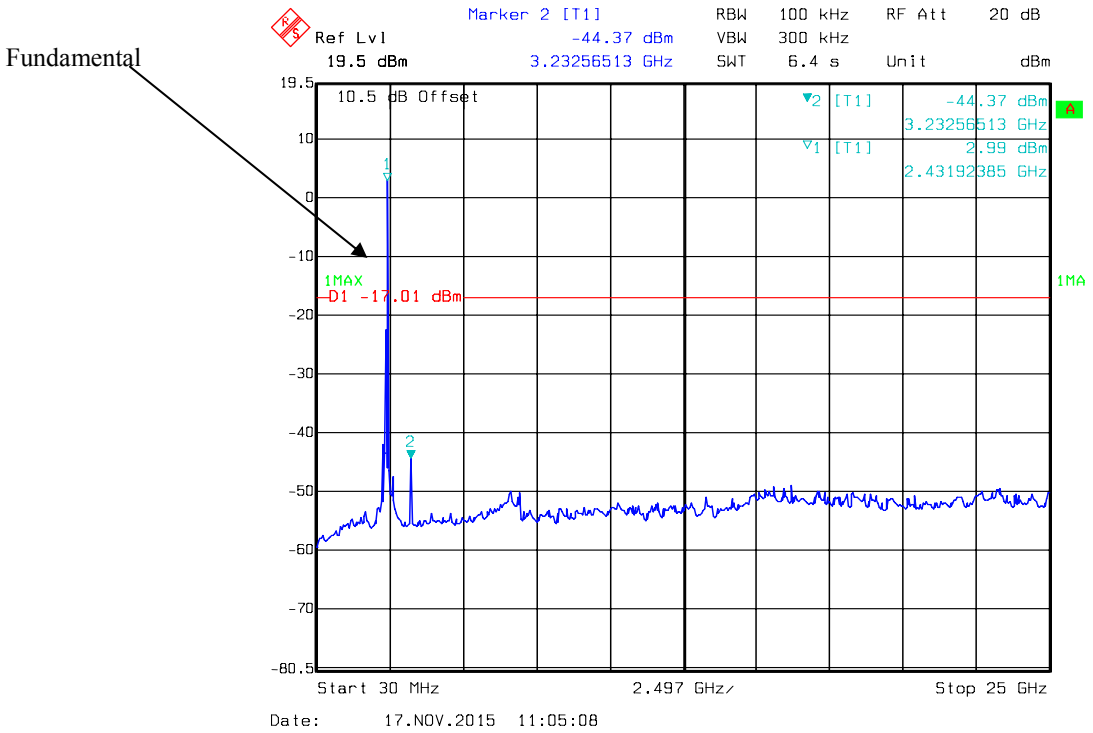
Chain 0 802.11n20 High Channel



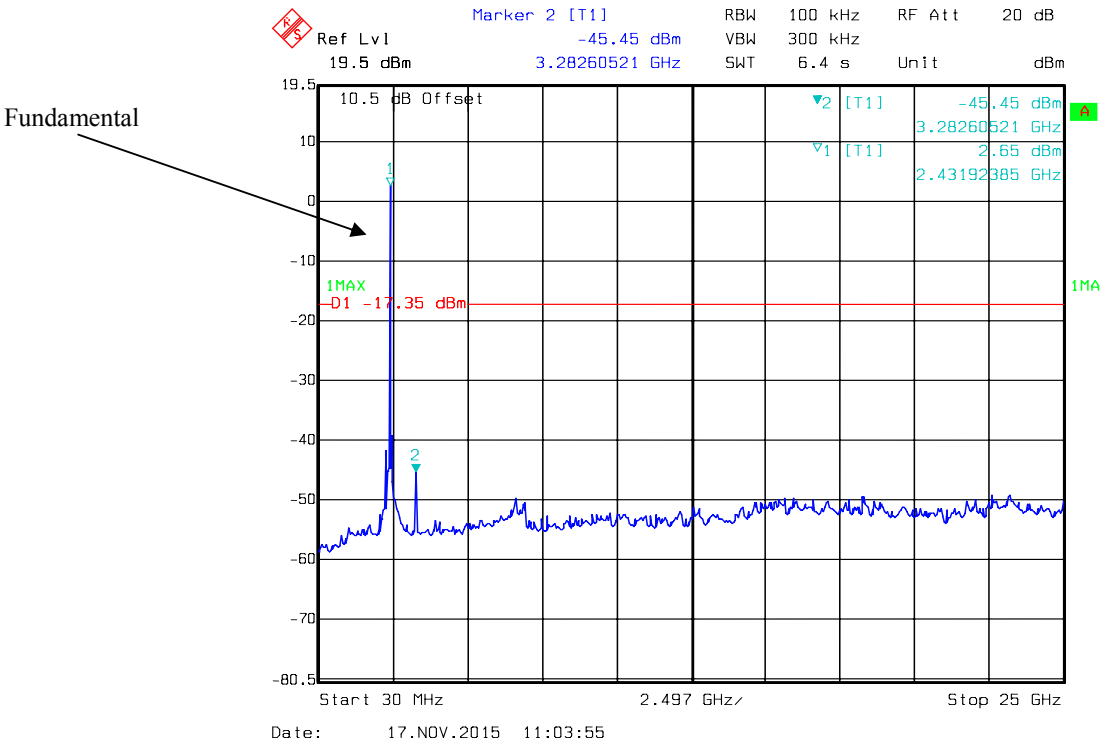
Chain 1 802.11g Low Channel



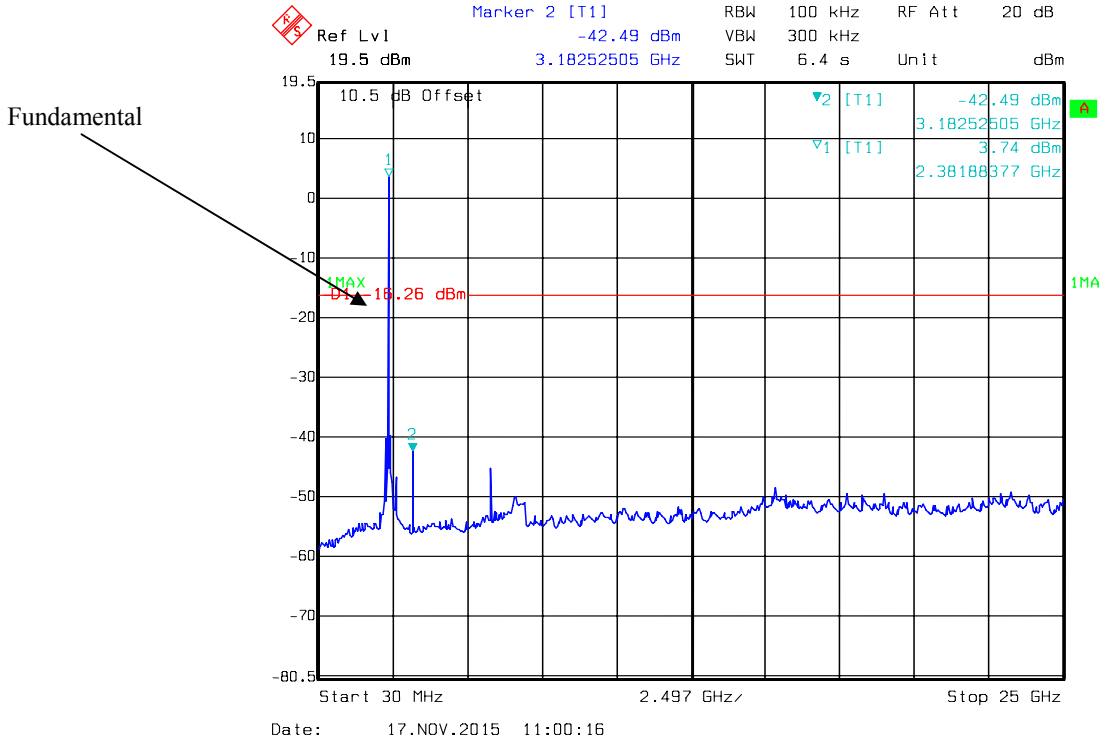
Chain 1 802.11g Middle Channel



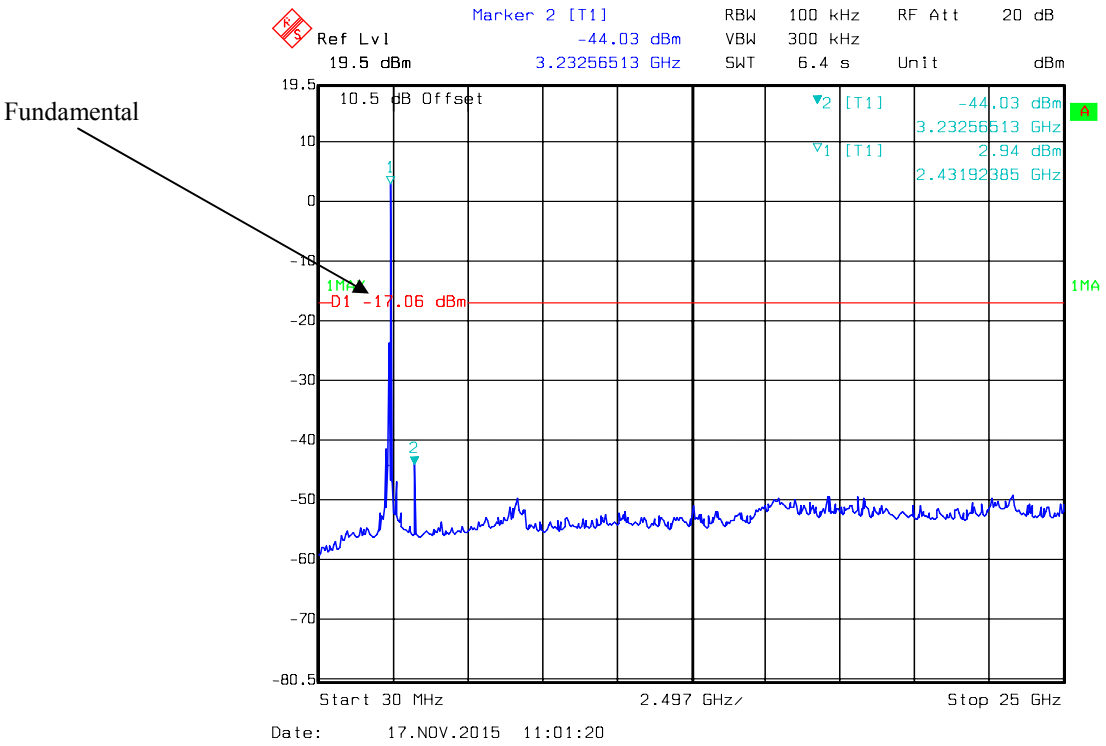
Chain 1 802.11g High Channel



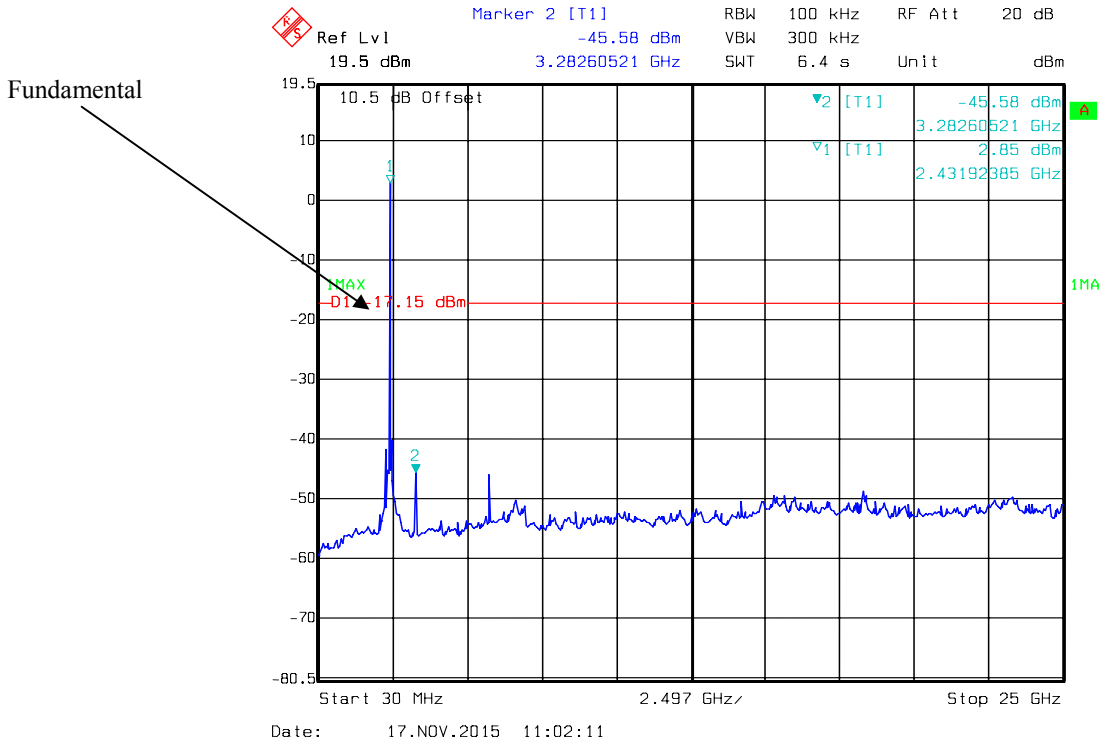
Chain 1 802.11n20 Low Channel



Chain 1 802.11n20 Middle Channel



Chain 1 802.11n20 High Channel



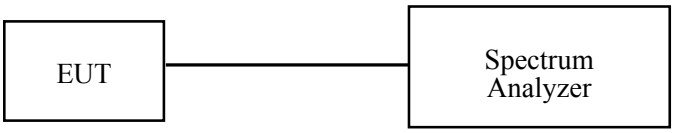
FCC §15.247(a) (2) – 6dB BANDWIDTH

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.

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 it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	831259/019	2015-07-28	2016-07-27

*** 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:	26.6 °C
Relative Humidity:	56 %
ATM Pressure:	100.8 kPa

The testing was performed by Allen Qiao on 2015-11-14.

Test Result: Compliance.

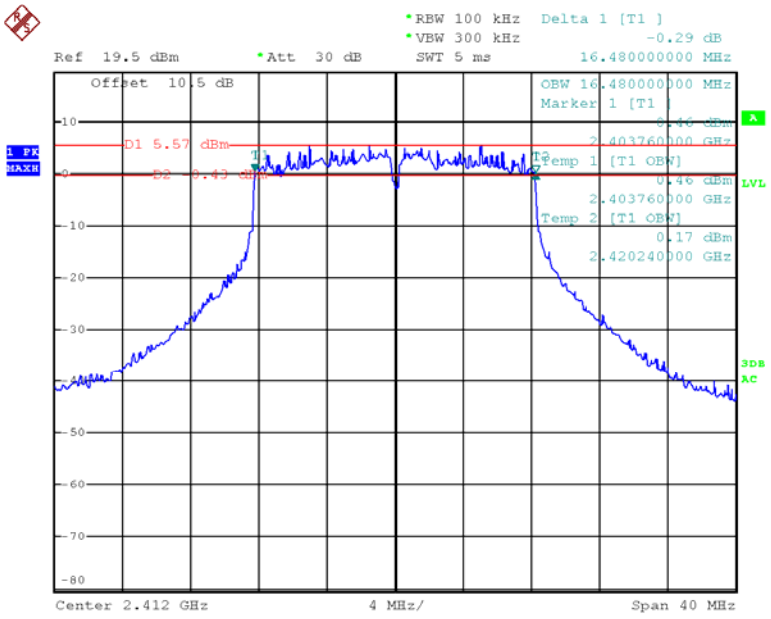
Please refer to the following tables and plots.

Test Mode: Transmitting

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
			Chain 0	Chain 1	
802.11 g	Low	2412	16.48	16.56	0.5
	Middle	2437	16.48	16.56	0.5
	High	2462	16.48	16.56	0.5
802.11 n20	Low	2412	17.76	17.76	0.5
	Middle	2437	17.6	17.68	0.5
	High	2462	17.76	17.68	0.5

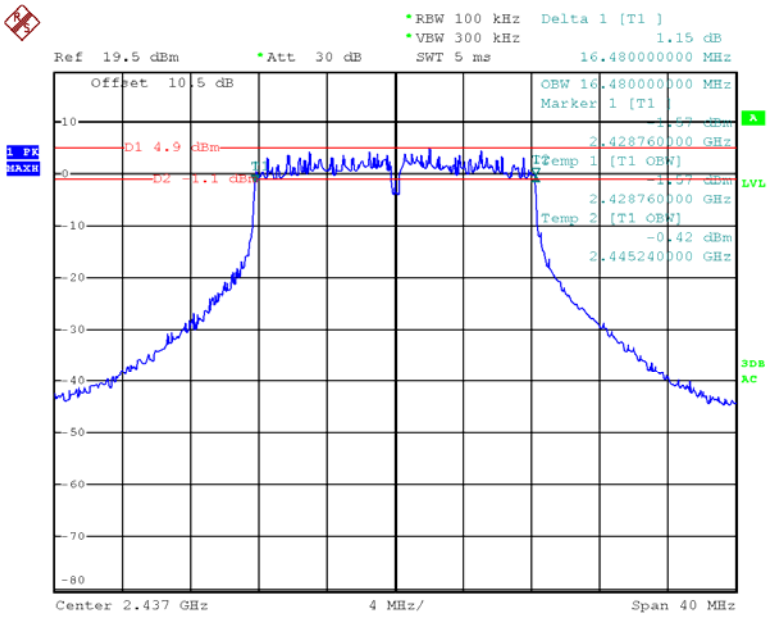
6 dB Bandwidth:

Chain 0 802.11g Low Channel



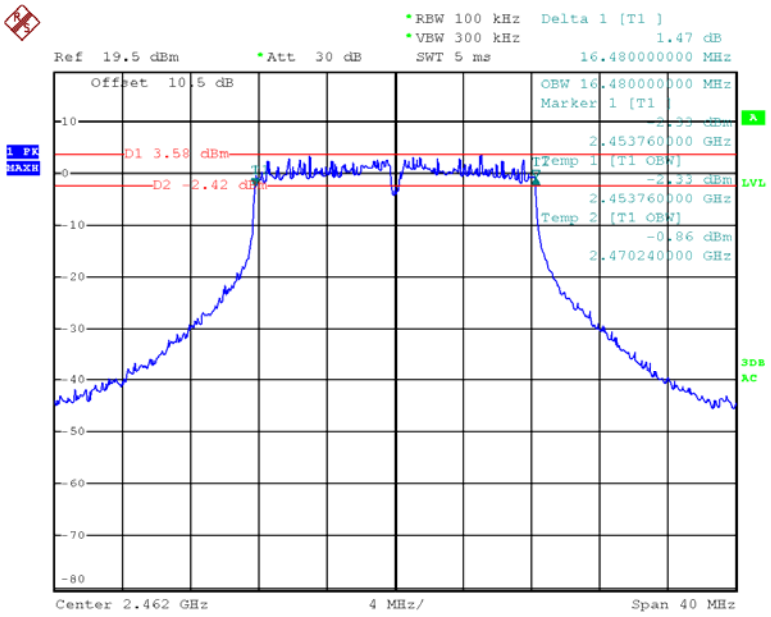
Date: 14.NOV.2015 10:40:47

Chain 0 802.11g Middle Channel

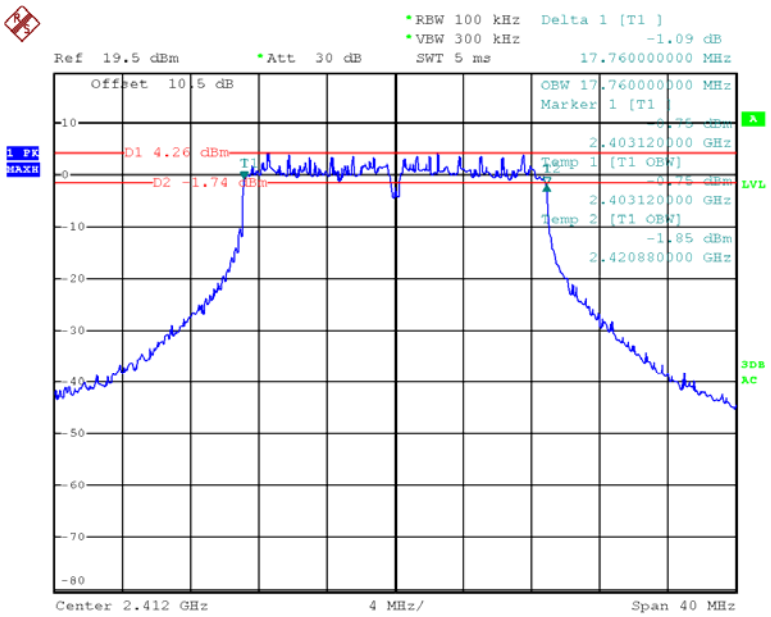


Date: 14.NOV.2015 10:41:37

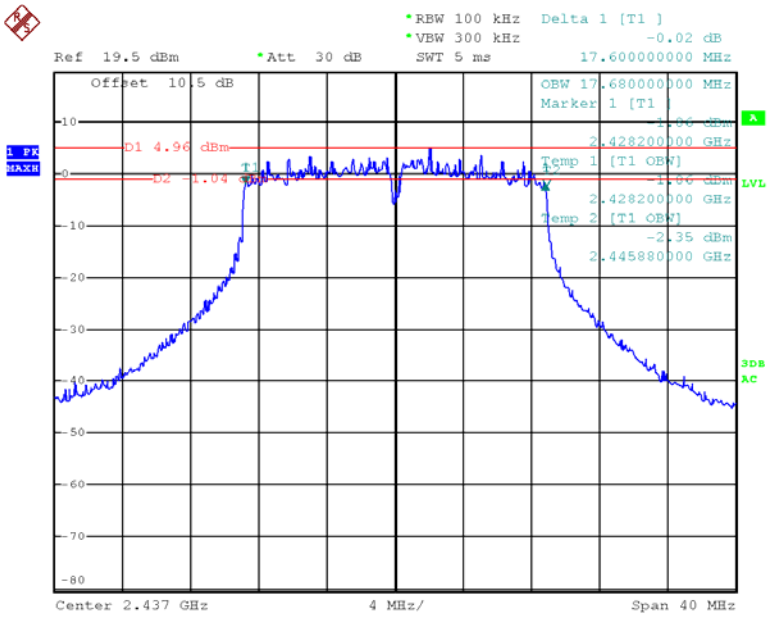
Chain 0 802.11g High Channel



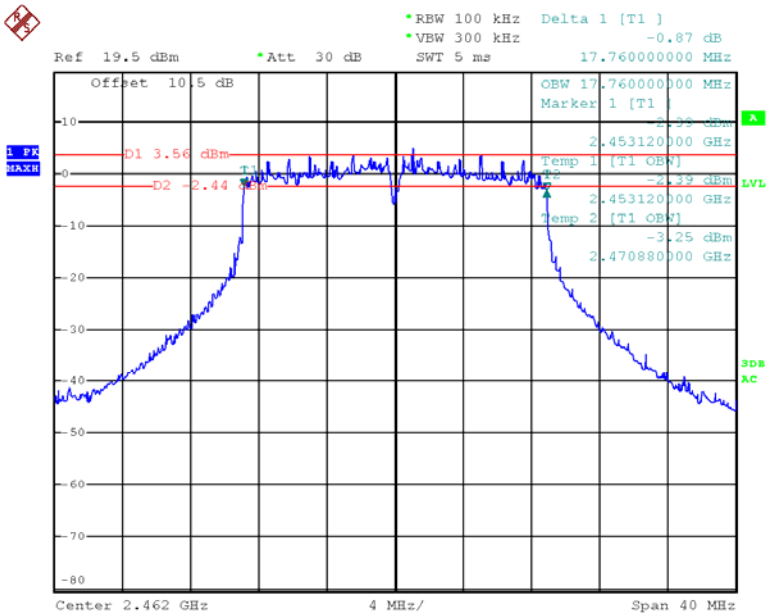
Chain 0 802.11n20 Low Channel



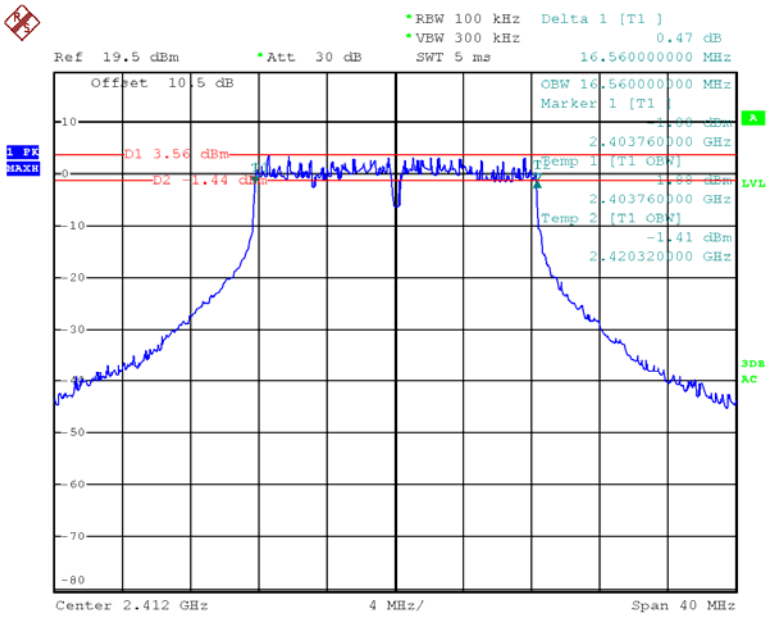
Chain 0 802.11n20 Middle Channel



Chain 0 802.11n20 High Channel

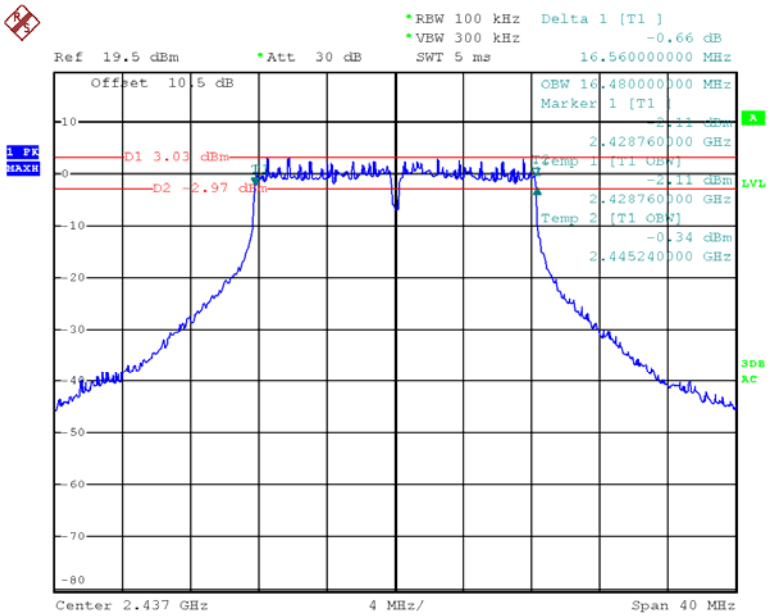


Chain 1 802.11g Low Channel



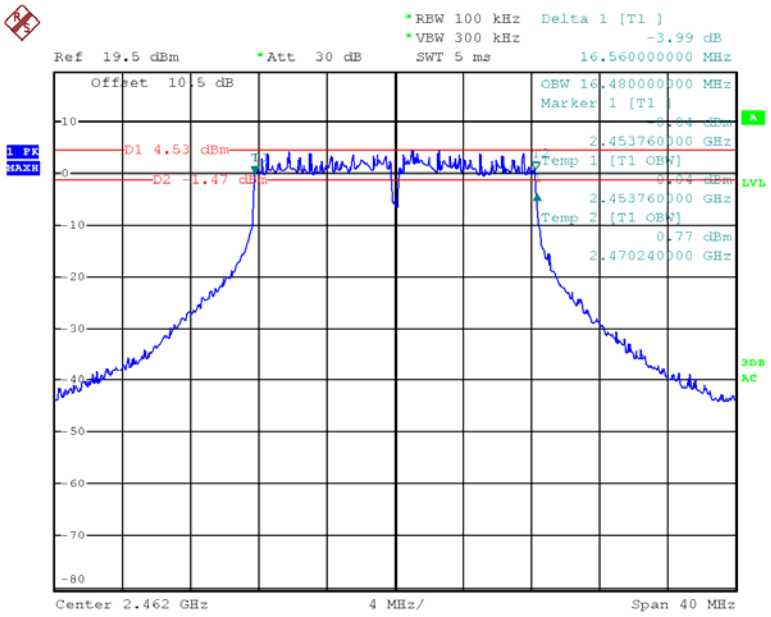
Date: 14.NOV.2015 10:59:20

Chain 1 802.11g Middle Channel



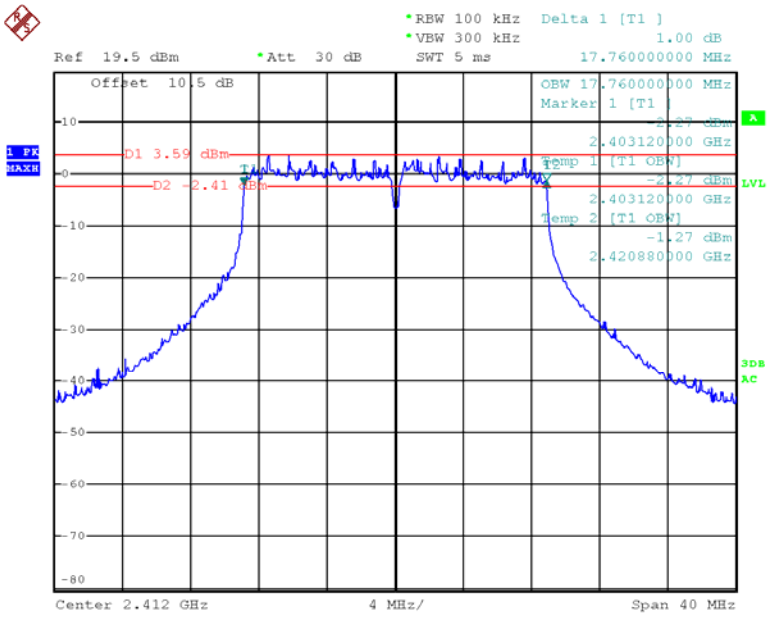
Date: 14.NOV.2015 11:03:10

Chain 1 802.11g High Channel



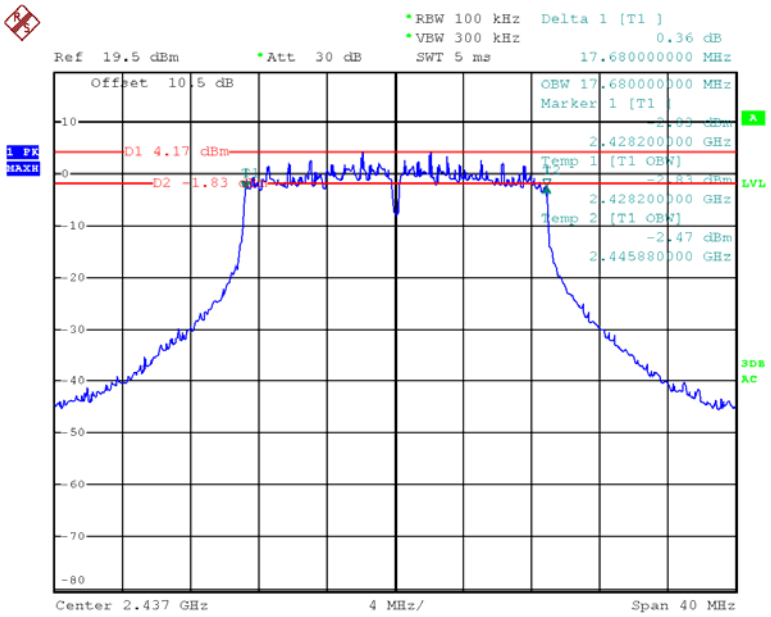
Date: 14.NOV.2015 11:21:02

Chain 1 802.11n20 Low Channel



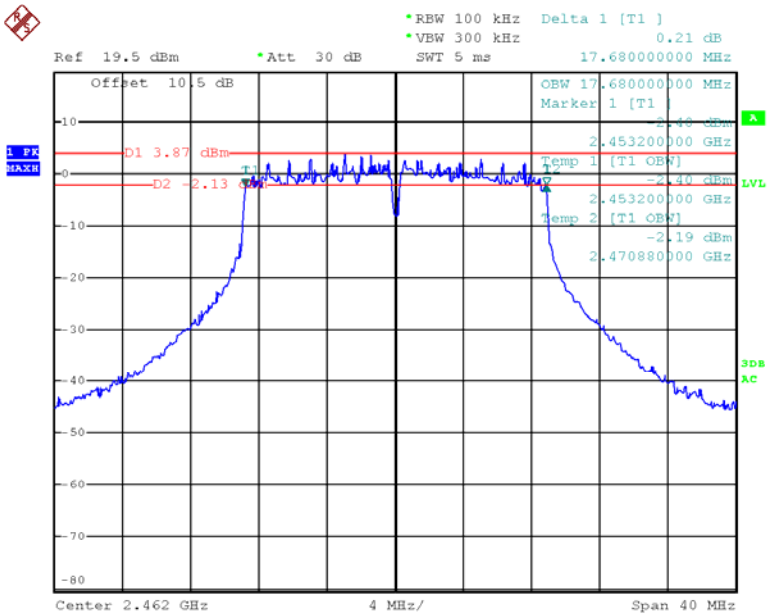
Date: 14.NOV.2015 10:58:28

Chain 1 802.11n20 Middle Channel



Date: 14.NOV.2015 10:57:25

Chain 1 802.11n20 High Channel



Date: 14.NOV.2015 10:56:34

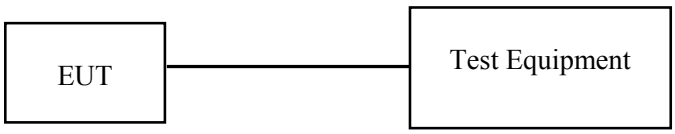
FCC §15.247(b) (3) - MAXIMUM PEAK CONDUCTED OUTPUT POWER

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.

Test Procedure

1. According to KDB 558074 D01 DTS Meas Guidance v03r03, 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 a Test Equipment.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54210016	2015-11-03	2016-11-03
Agilent	Wideband Power Sensor	N1921A	MY54170013	2015-11-03	2016-11-03
Agilent	P-Series Power Meter	N1912A	MY5000448	2015-11-03	2016-11-03

*** 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:	26.3 °C
Relative Humidity:	57 %
ATM Pressure:	99.6 kPa

The testing was performed by Allen Qiao on 2015-11-16.

Test Mode: Transmitting

Mode	Channel	Frequency (MHz)	Maximum Conducted Peak Output Power (dBm)			Limit (dBm)
			Chain 0	Chain 1	Total	
802.11 g	Low	2412	23.6	22.36	26.03	30
	Middle	2437	22.88	21.58	25.29	30
	High	2462	22.38	21.68	25.05	30
802.11 n20	Low	2412	22.96	22.23	25.62	30
	Middle	2437	22.5	21.52	25.05	30
	High	2462	22.19	21.72	24.97	30

Mode	Channel	Frequency (MHz)	Maximum Conducted Average Output Power (dBm)			Limit (dBm)
			Chain 0	Chain 1	Total	
802.11 g	Low	2412	14.64	14.46	17.56	30
	Middle	2437	14.17	13.46	16.84	30
	High	2462	13.65	13.8	16.74	30
802.11 n20	Low	2412	15.08	14.42	17.77	30
	Middle	2437	14.56	13.57	17.1	30
	High	2462	13.9	13.79	16.86	30

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

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 Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	831259/019	2015-07-28	2016-07-27

*** 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

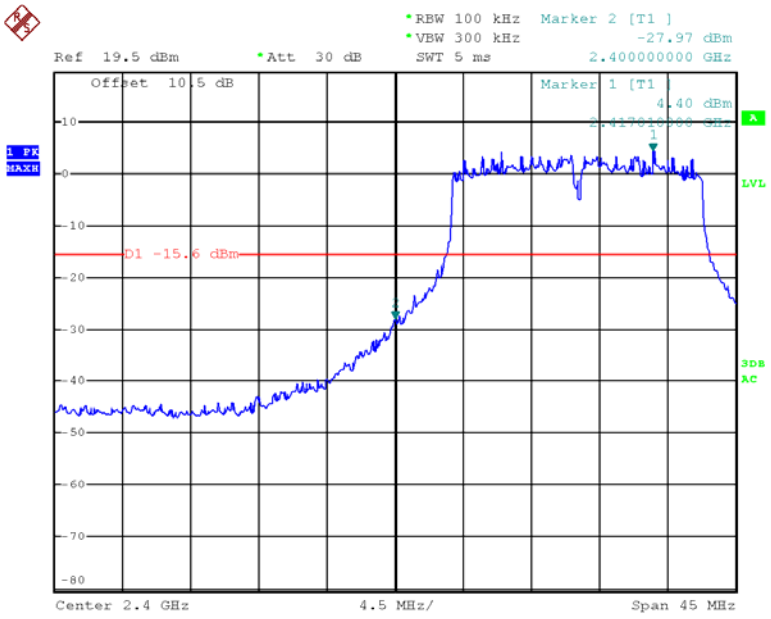
Temperature:	26.6 °C
Relative Humidity:	56 %
ATM Pressure:	100.8 kPa

The testing was performed by Allen Qiao on 2015-11-14.

Test Result: *Compliance*

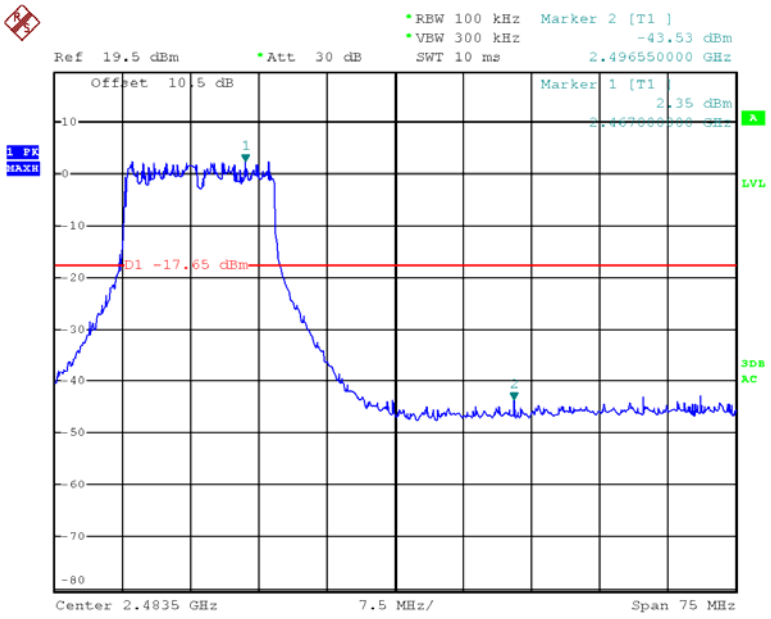
Please refer to following plots.

Chain 0 802.11g: Band Edge, Left Side



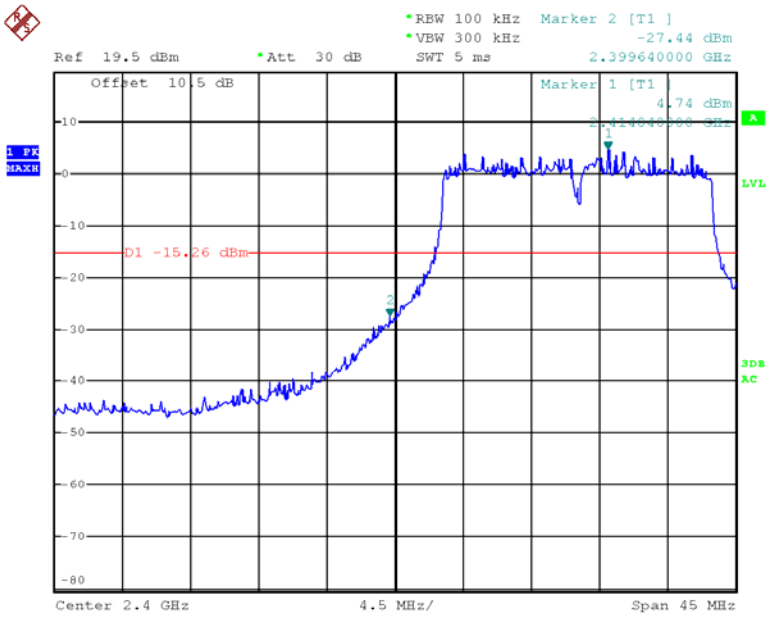
Date: 14.NOV.2015 10:50:20

Chain 0 802.11g: Band Edge, Right Side



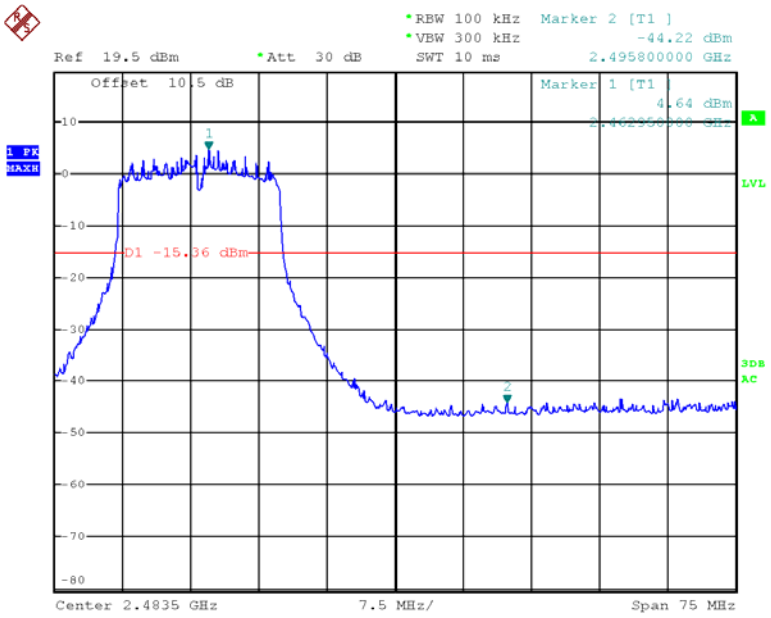
Date: 14.NOV.2015 10:51:40

Chain 0 802.11n20: Band Edge, Left Side



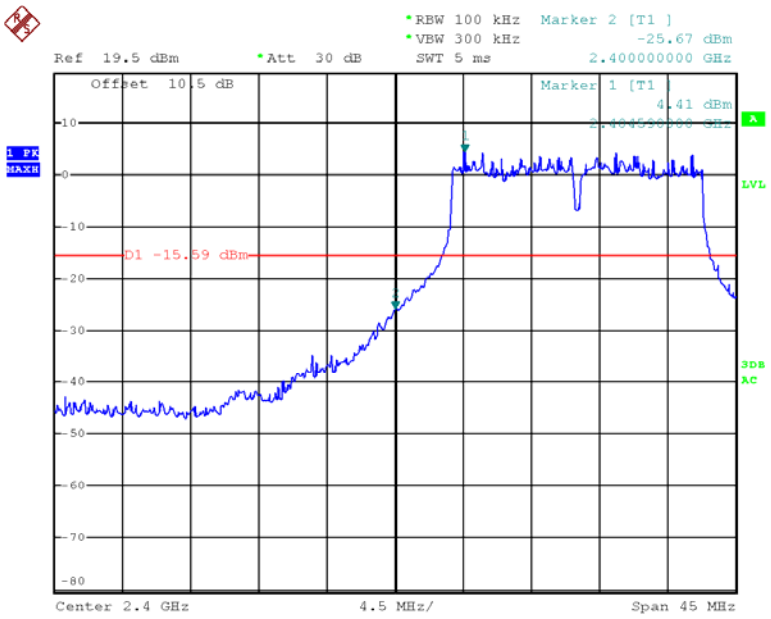
Date: 14.NOV.2015 10:48:45

Chain 0 802.11n20: Band Edge, Right Side



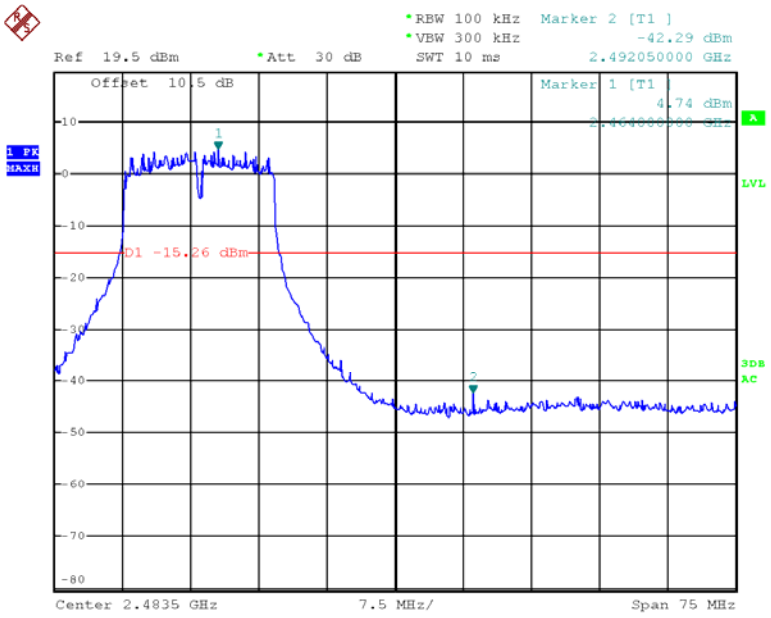
Date: 14.NOV.2015 10:53:45

Chain 1 802.11g: Band Edge, Left Side



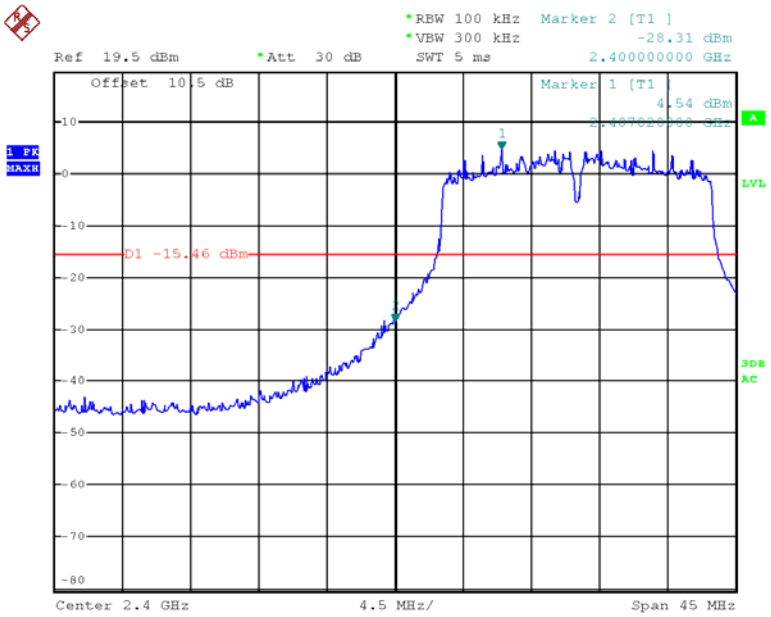
Date: 14.NOV.2015 11:27:36

Chain 1 802.11g: Band Edge, Right Side



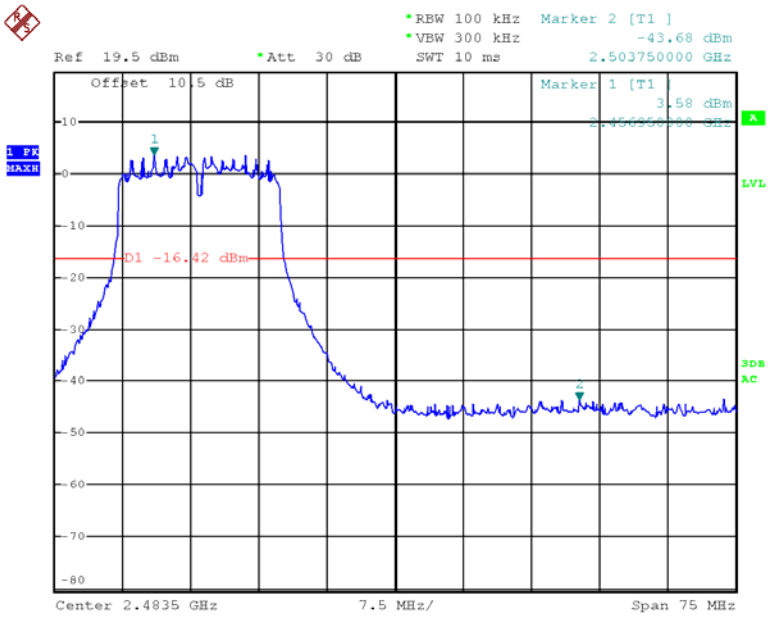
Date: 14.NOV.2015 11:23:20

Chain 1 802.11n20: Band Edge, Left Side



Date: 14.NOV.2015 11:26:42

Chain 1 802.11n20: Band Edge, Right Side



Date: 14.NOV.2015 11:25:10

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.

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 was set 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 the RBW = 3 kHz, VBW = 10 kHz, Set the span to 1.5 times the DTS bandwidth.
4. Use the peak marker function to determine the maximum amplitude level.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	831259/019	2015-07-28	2016-07-27

*** 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:	26.6-28.1 °C
Relative Humidity:	54-60 %
ATM Pressure:	100.8 kPa

The testing was performed by Allen Qiao on 2015-11-14 & 2015-11-17.

Test Mode: Transmitting

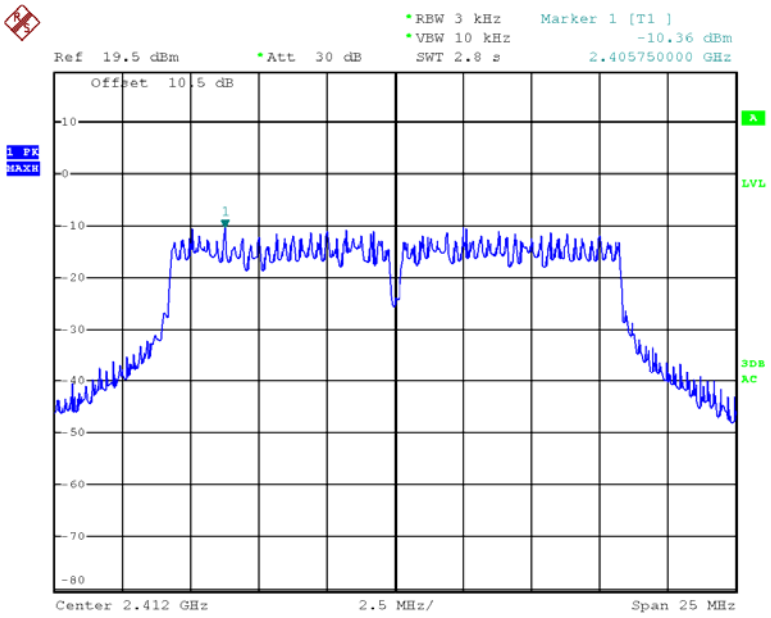
Test Result: Compliance

Test Mode: Transmitting

Mode	Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)			Limit (dBm/3kHz)
			Chain 0	Chain 1	Total	
802.11 g	Low	2412	-10.36	-10.13	-7.23	8
	Middle	2437	-10.94	-11.67	-8.28	8
	High	2462	-11.17	-11.56	-8.35	8
802.11 n20	Low	2412	-10.6	-10.23	-7.40	8
	Middle	2437	-11.09	-11.69	-8.37	8
	High	2462	-11.72	-11.12	-8.40	8

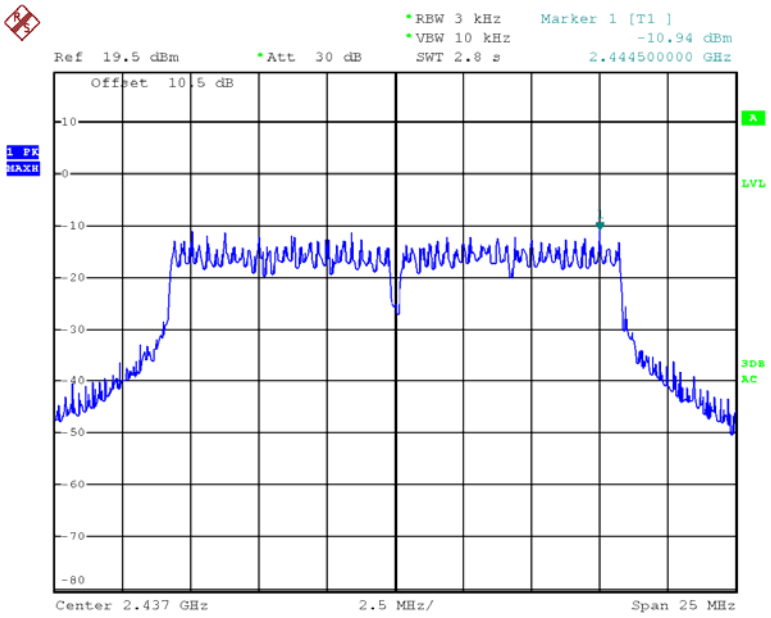
Please refer to the following plots

Chain 0 802.11g Low Channel



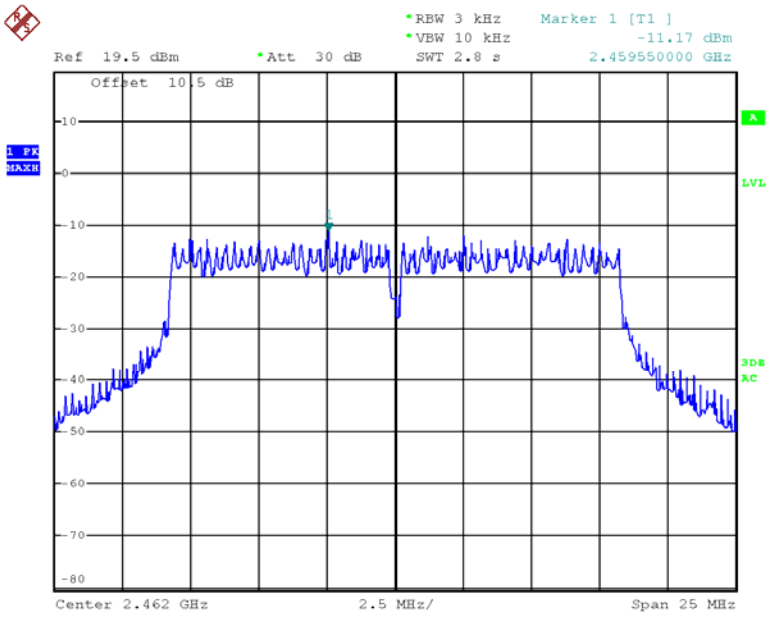
Date: 14.NOV.2015 12:00:54

Chain 0 802.11g Middle Channel



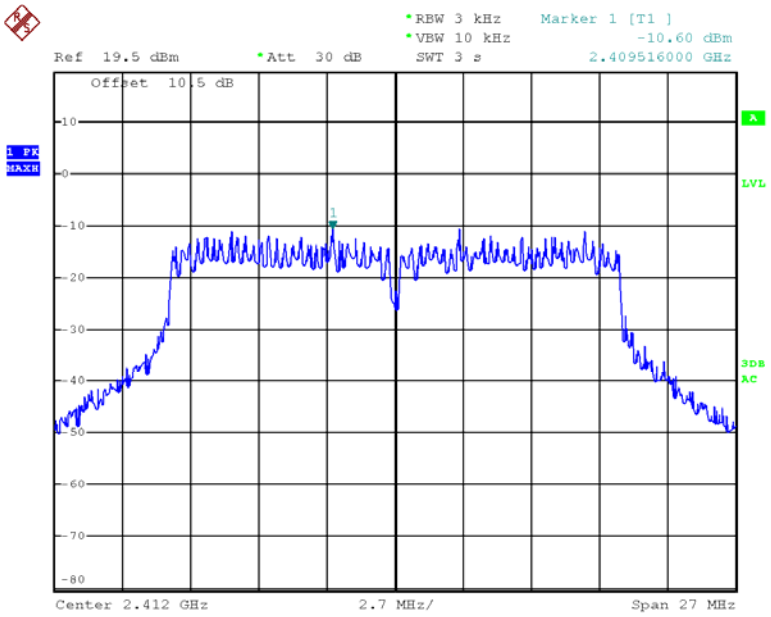
Date: 14.NOV.2015 12:01:31

Chain 0 802.11g High Channel



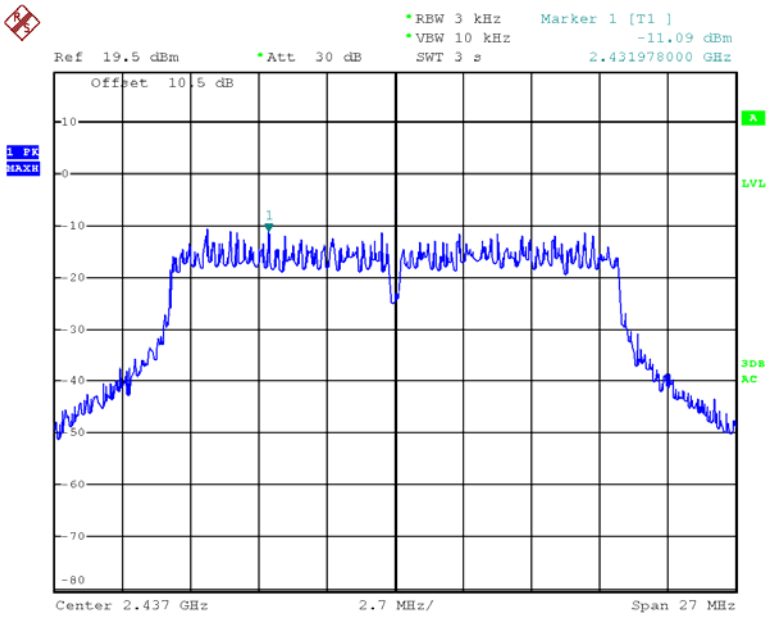
Date: 14.NOV.2015 12:02:10

Chain 0 802.11n20 Low Channel



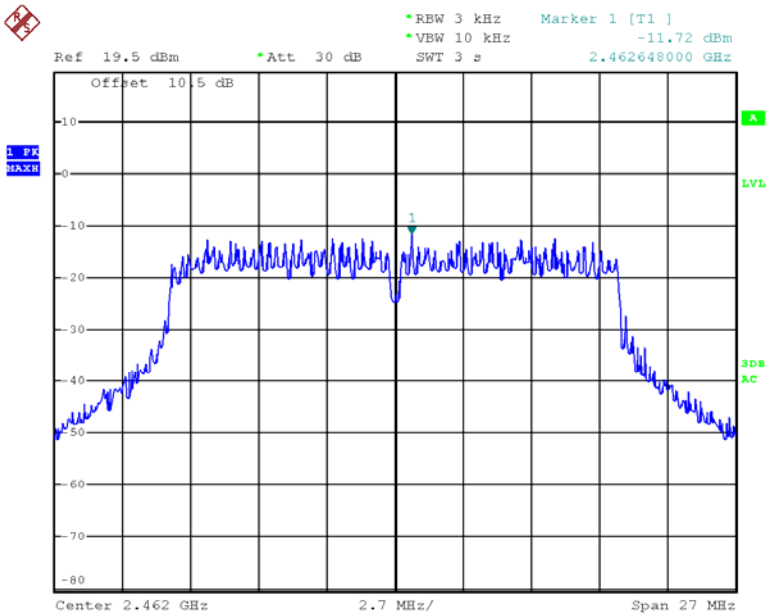
Date: 14.NOV.2015 11:58:42

Chain 0 802.11n20 Middle Channel



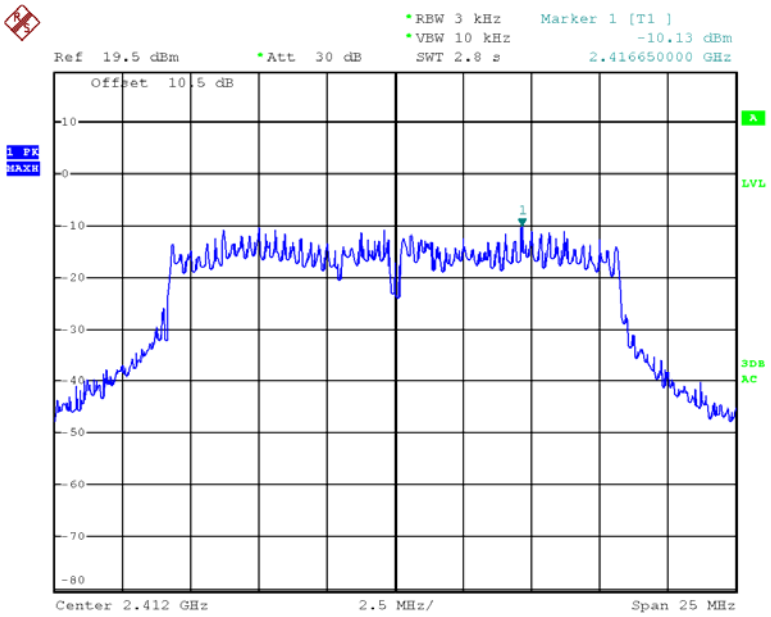
Date: 14.NOV.2015 11:56:51

Chain 0 802.11n20 High Channel



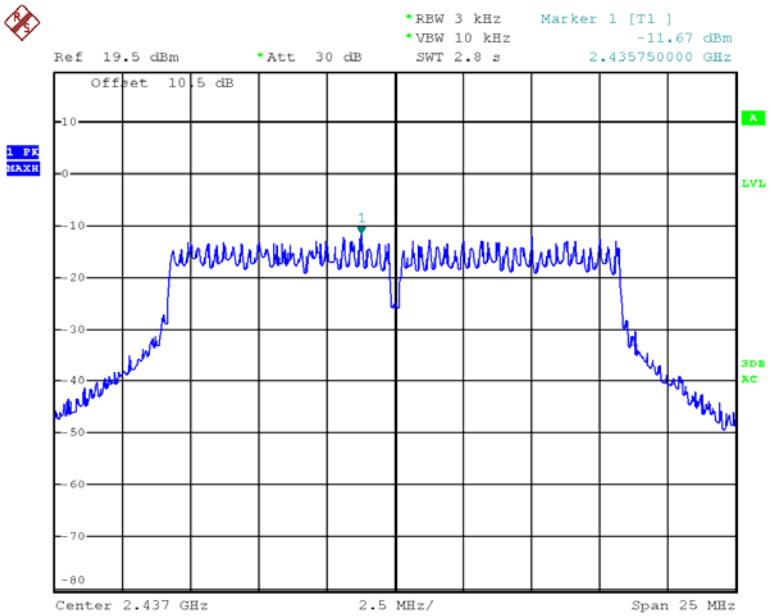
Date: 17.NOV.2015 11:38:27

Chain 1 802.11g Low Channel



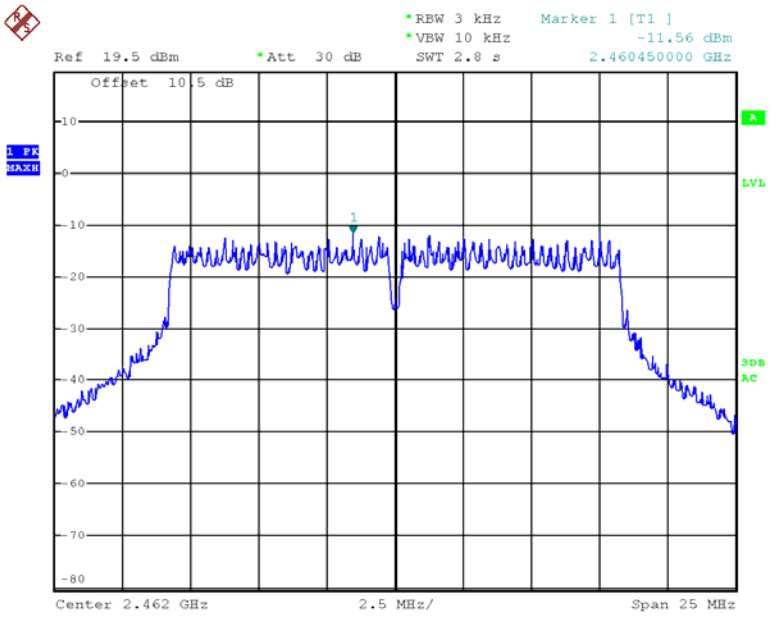
Date: 17.NOV.2015 11:28:21

Chain 1 802.11g Middle Channel



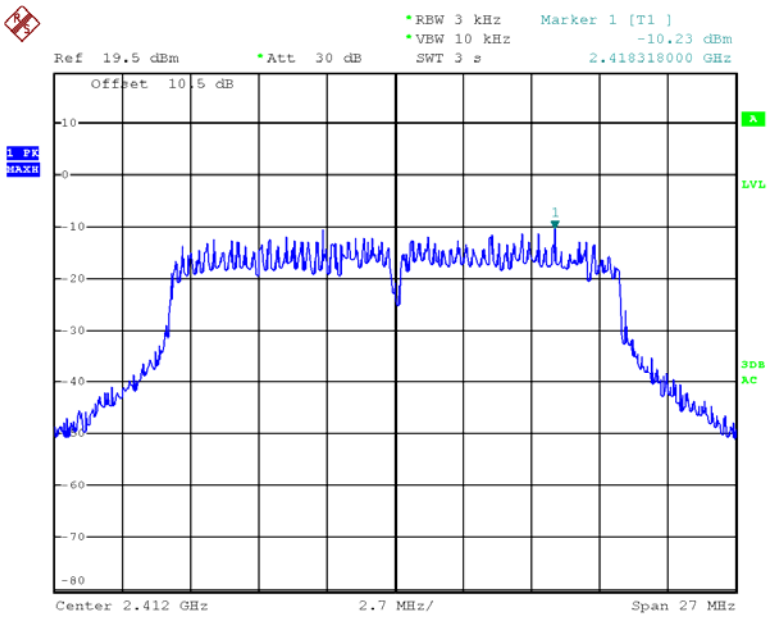
Date: 17.NOV.2015 11:29:22

Chain 1 802.11g High Channel



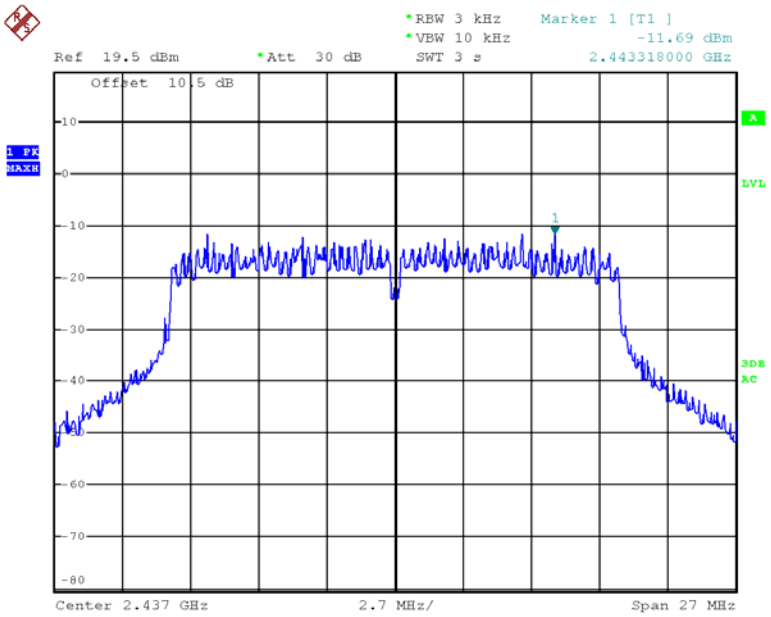
Date: 14.NOV.2015 11:30:42

Chain 1 802.11n20 Low Channel



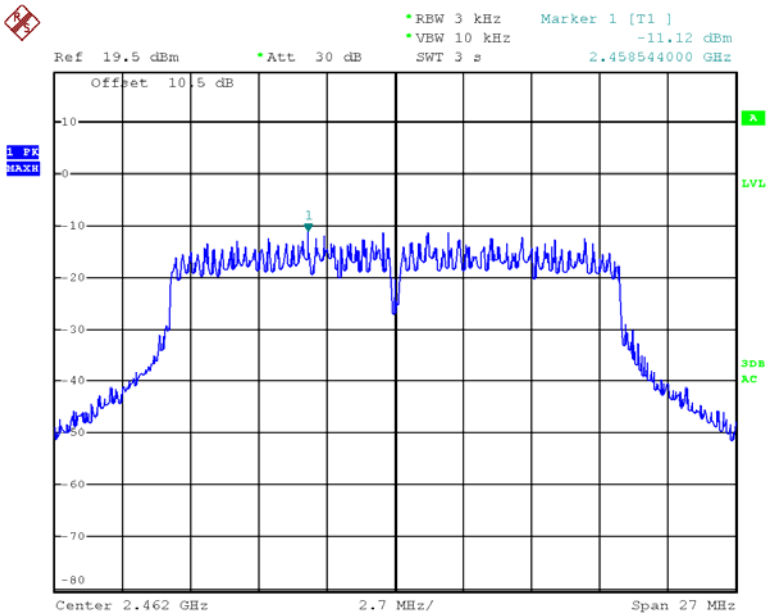
Date: 14.NOV.2015 11:34:38

Chain 1 802.11n20 Middle Channel



Date: 14.NOV.2015 11:33:24

Chain 1 802.11n20 High Channel



Date: 14.NOV.2015 11:32:32

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