

FCC PART 15.247

TEST REPORT

For

Elanview Technology Co.,Ltd

Room 605, Building F, No 7001,Zhongchun Road, Minhang District, Shanghai, P.R. China

FCC ID: 2AEKJ-T02

Report Type: Original Report	Product Type: Remote
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Note: This test report is prepared for the customer shown above and for the equipment described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The Elanview Technology Co.,Ltd's product, model number: T02 (FCC ID: 2AEKJ-T02) or the "EUT" in this report is a Remote, which was measured approximately: 148.5mm(L)x155mm(W)x58mm(H). rated input voltage: DC 5.0V From USB Port (Built-in a 3.7V rechargeable battery).

**All measurement and test data in this report was gathered from production sample serial number: 20160630009.*

(Assigned by BACL, Kunshan). The EUT supplied by the applicant was received on 2016-06-30.

Objective

This report is prepared on behalf of Elanview Technology Co.,Ltd in accordance with Part 2-Subpart J, Part 15-Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and 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 C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices and FCC KDB558074 D01 DTS Meas Guidance v03r05.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement uncertainty with RF radiated emission is 5.91 dB for 30MHz-1GHz.and 4.92 dB for above 1GHz, 1.95dB for conducted measurement.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the Chenghu Lake Road, Kunshan Development Zone No.248, Kunshan, Jiangsu, China

Test site at Bay Area Compliance Laboratories Corp. (Kunshan) 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 November 06, 2014. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 815570. 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

For 802.11b, 802.11g and 802.11n-HT20 mode, 11 channels are provided to testing:

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

EUT was tested with Channel 1, 6 and 11.

For 802.11n-HT40 mode, 7 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	8	2447
4	2427	9	2452
5	2432	/	/
6	2437	/	/
7	2442	/	/

EUT was tested with Channel 3, 6 and 9.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

Realtek 8189ES Test Tool

The worst condition(maximum power with 100% duty cycle) was performed under:

802.11b: Data rate:1 Mbps, Power level: 17

802.11g: Data rate: 6 Mbps, Power level: 16

802.11n-HT20: Data rate: MCS0, Power level: 16

802.11n-HT40: Data rate: MCS0, Power level: 16

Support Equipment List and Details

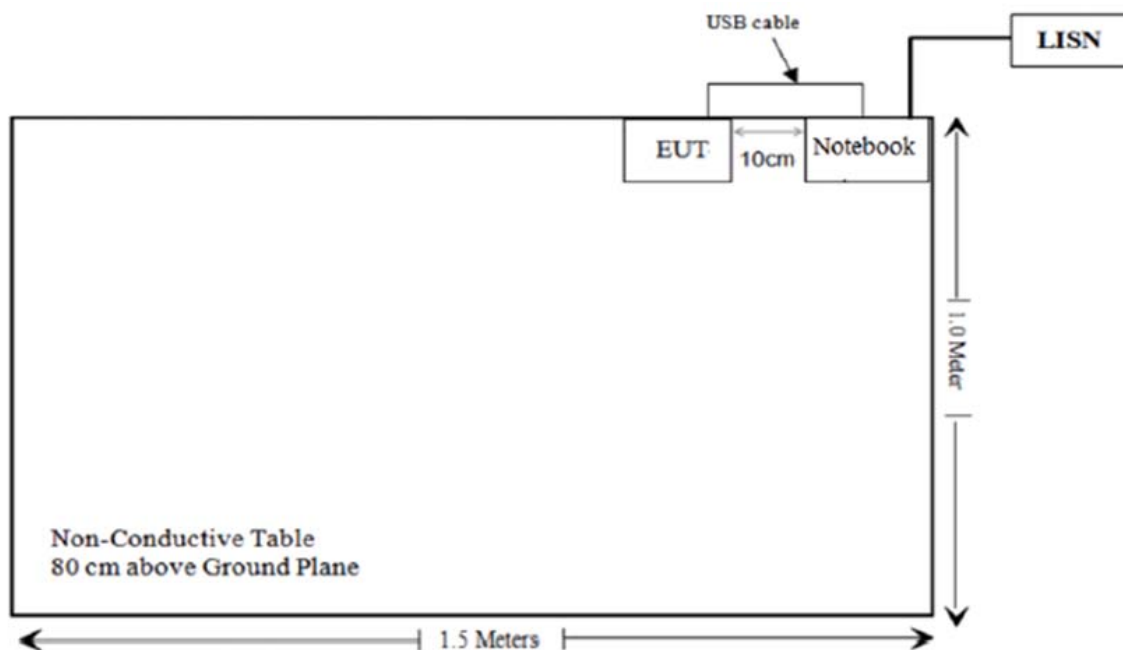
Manufacturer	Description	Model	Serial Number
DELL	Notebook	GX620	D65874152

External I/O Cable

Cable Description	Length (m)	From Port	To
USB Cable	0.8	Notebook	EUT

Block Diagram of Test Setup

For conducted emission



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b) (1)& §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 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

FCC§15.247 (i), §1.1310 & §2.1093 –RF EXPOSURE

Applicable Standard

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

According to KDB447498 D01 General RF Exposure Guidance v06:

For 100 MHz to 6 GHz and *test separation distances* > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):³²

- 1) {[Power allowed at *numeric threshold* for 50 mm in step a)] + [(test separation distance – 50 mm)·(f_(MHz)/150)]} mW, for 100 MHz to 1500 MHz
- 2) {[Power allowed at *numeric threshold* for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step b below

The test exclusions are applicable only when the minimum test separation distance is > 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is 12 cm, a distance of 12 cm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Measurement Result

Step 1

The maximum conducted peak output power = (X mW) at 2412~2462MHz
 [(max. power of channel, mW)/(min. test separation distance, mm)] [√ f(GHz)]
 =(X /50)*(√ 2.412) = 7.5 referred to as the numeric thresholds in the step b
 X=50*7.5/(√ 2.412)=256.235 mW , X is the power of distance 50mm

Step 2

{[Power allowed at *numeric threshold* for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW,
 for > 1500 MHz and ≤ 6 GHz
 {X+(120mm-50mm)*10}mw = 956.23 mw =29.8dBm > target power :18dBm

Note: The target power : 17±1dBm, which declared by the Manufacturer.
 the minimum separation distance is 12 cm

So the stand-alone SAR evaluation is not necessary.

EUT Photo and Antenna Location



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.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has PCB antenna arrangement for wifi, which the antenna gain is 3.0 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

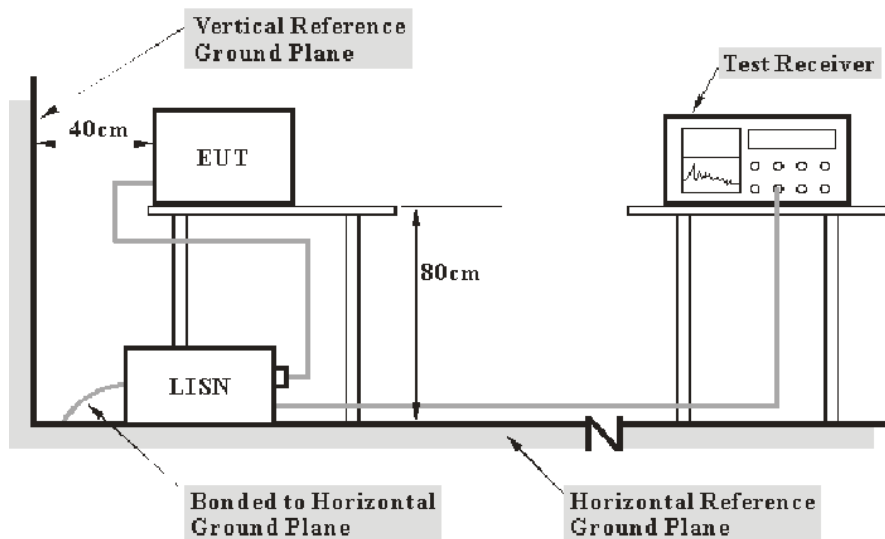
Measurement Uncertainty

Input quantities to be considered for conducted disturbance measurements may be receiver reading, attenuation of the connection between LISN and receiver, LISN voltage division factor, LISN VDF frequency interpolation and receiver related input quantities, etc.

Based on CISPR 16-4-2:2011, the expanded combined standard uncertainty of conducted disturbance test at Bay Area Compliance Laboratories Corp. (Kunshan) is shown as below. And the uncertainty will not be taken into consideration for the test data recorded in the report.

Port	Expanded Measurement uncertainty
AC Mains	3.26 dB (k=2, 95% level of confidence)
CAT 3	3.70 dB (k=2, 95% level of confidence)
CAT 5	3.86 dB (k=2, 95% level of confidence)
CAT 6	4.64 dB (k=2, 95% level of confidence)

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 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 outlet of the 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.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	934115/007	2015-11-12	2016-11-11
Rohde & Schwarz	LISN	ESH3-Z5	862770/011	2015-11-12	2016-11-11
Rohde & Schwarz	LISN	ESH3-Z5	892239/018	2016-07-04	2017-07-03
FCC	ISN	FCC-TLISN-T8-02	20376	2016-06-23	2017-06-22
MICRO-COAX	Coaxial line	UFB-293B-1-0480-50X50	97F0173	2015-10-01	2016-10-01
Rohde & Schwarz	CE Test software	EMC 32	V 09.10.0	--	--

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Correction Factor} = \text{LISN VDF} + \text{Cable Loss}$$

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

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Results Summary

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

9.88dB at 0.175000 MHz in the **Neutral** conducted mode

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

In BACL, $U_{(Lm)}$ is less than U_{cispr} , if L_m is less than L_{lim} , it implies that the EUT complies with the limit.

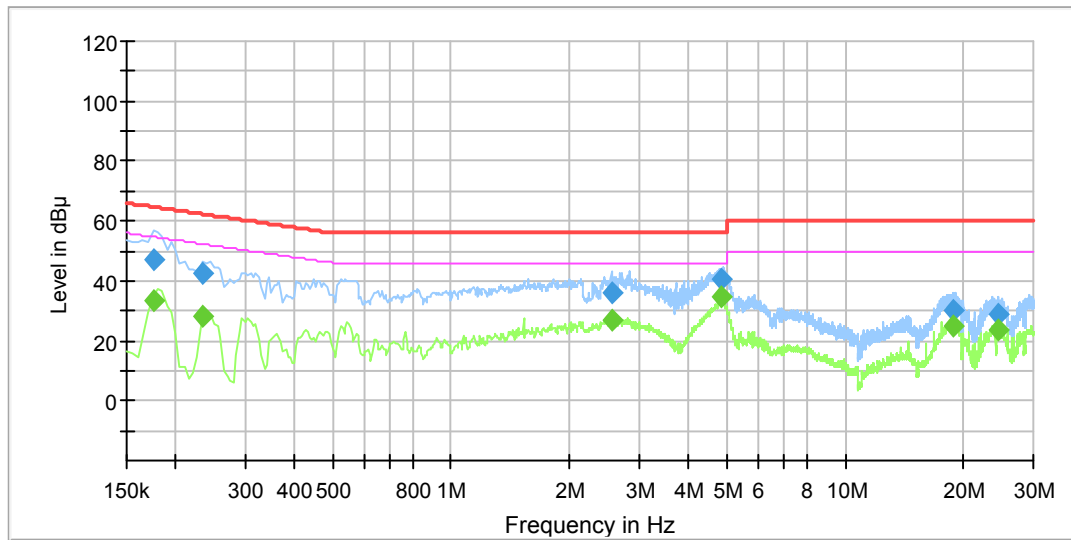
Test Data

Environmental Conditions

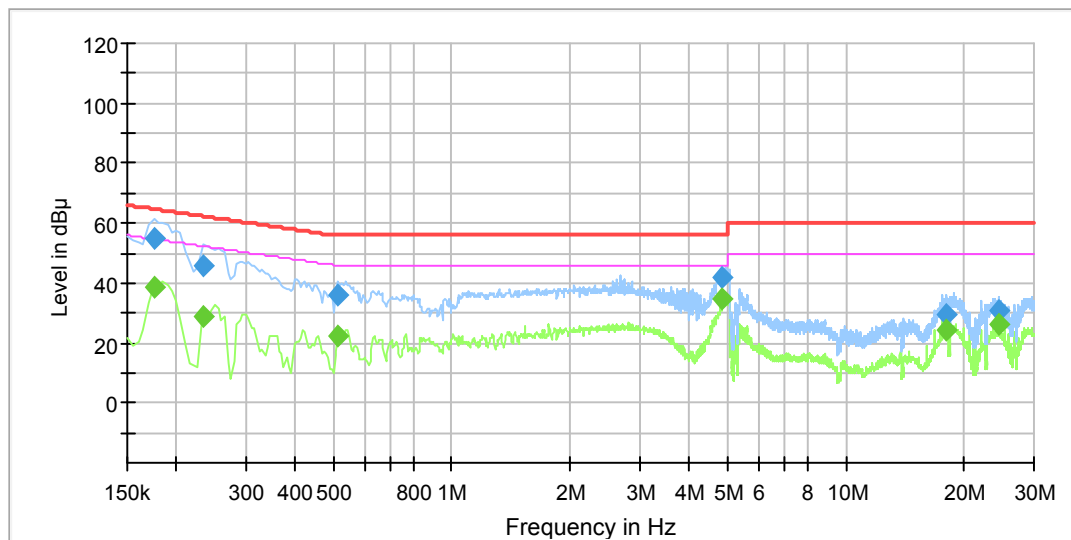
Temperature:	23 °C
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Chris Wang on 2016-08-06.

Test Mode: Transmitting

AC 120V/60 Hz, Line

Frequency (MHz)	QuasiPeak (dBμV)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.175000	---	33.49	9.000	L1	11.0	21.23	54.72	Compliance
0.175000	46.83	---	9.000	L1	11.0	17.89	64.72	Compliance
0.235000	---	28.24	9.000	L1	11.0	24.03	52.27	Compliance
0.235000	42.70	---	9.000	L1	11.0	19.57	62.27	Compliance
2.550000	---	26.76	9.000	L1	11.2	19.24	46.00	Compliance
2.550000	36.12	---	9.000	L1	11.2	19.88	56.00	Compliance
4.830000	---	34.82	9.000	L1	11.3	11.18	46.00	Compliance
4.830000	40.62	---	9.000	L1	11.3	15.38	56.00	Compliance
18.800000	---	24.95	9.000	L1	11.4	25.05	50.00	Compliance
18.800000	30.06	---	9.000	L1	11.4	29.94	60.00	Compliance
24.445000	---	23.42	9.000	L1	11.4	26.58	50.00	Compliance
24.445000	28.61	---	9.000	L1	11.4	31.39	60.00	Compliance

AC 120V/60 Hz, Neutral

Frequency (MHz)	QuasiPeak (dBμV)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.175000	---	38.50	9.000	N	11.0	16.22	54.72	Compliance
0.175000	54.84	---	9.000	N	11.0	9.88	64.72	Compliance
0.235000	---	29.03	9.000	N	11.0	23.24	52.27	Compliance
0.235000	45.95	---	9.000	N	11.0	16.32	62.27	Compliance
0.515000	---	22.60	9.000	N	11.0	23.40	46.00	Compliance
0.515000	36.14	---	9.000	N	11.0	19.86	56.00	Compliance
4.870000	---	34.93	9.000	N	11.4	11.07	46.00	Compliance
4.870000	41.67	---	9.000	N	11.4	14.33	56.00	Compliance
18.025000	---	24.30	9.000	N	11.4	25.70	50.00	Compliance
18.025000	29.48	---	9.000	N	11.4	30.52	60.00	Compliance
24.455000	---	26.18	9.000	N	11.4	23.82	50.00	Compliance
24.455000	30.94	---	9.000	N	11.4	29.06	60.00	Compliance

Note:

- 1) Corr.=LISN VDF (Voltage Division Factor) + Cable Loss
- 2) Corrected Amplitude = Reading + Corr.
- 3) Margin = Limit –Corrected Amplitude

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

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

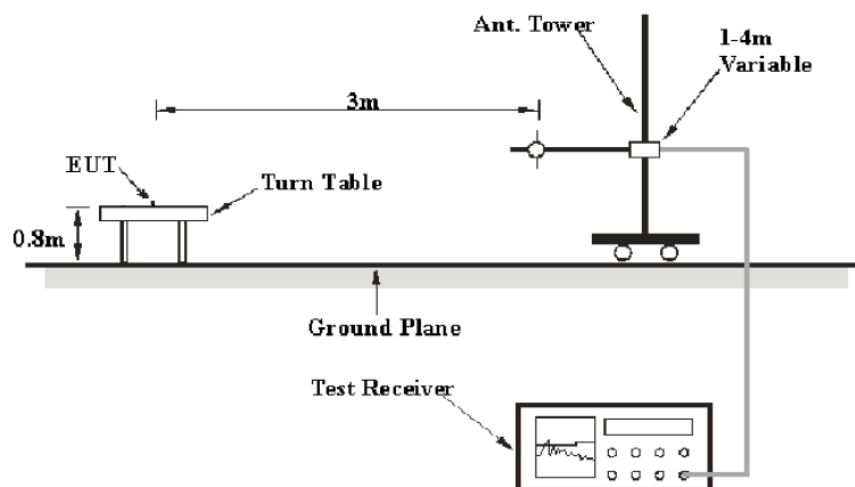
Measurement Uncertainty

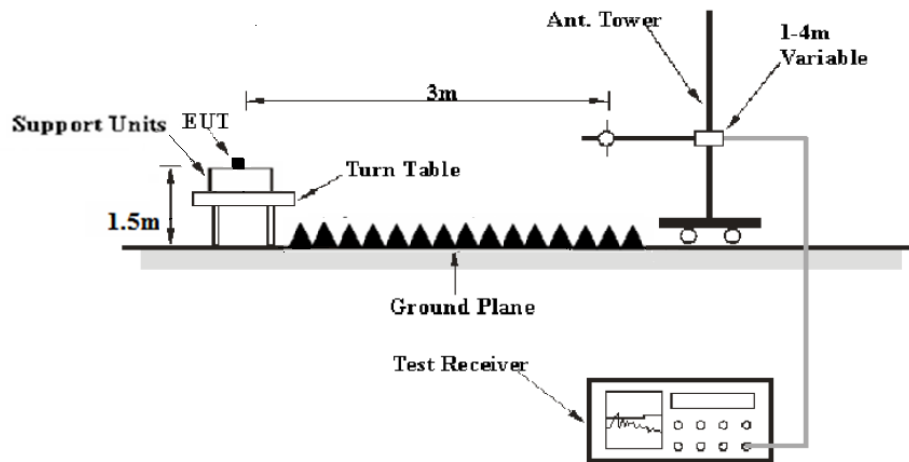
All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR 16-4-2:2011, the expanded combined standard uncertainty of radiation emissions at Bay Area Compliance Laboratories Corp. (Kunshan) is 5.91 dB for 30MHz-1GHz and 4.92 dB for above 1GHz, 1.95dB for conducted measurement at antenna port. And the uncertainty will not be taken into consideration for the test data recorded in the report

EUT Setup

Below 1 GHz:



Above 1GHz:

The radiated emission tests were performed in the 3 meters 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.

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	100 kHz	300 kHz	120 kHz	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.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sonoma Instrunent	Amplifier	330	171377	2015-09-16	2016-09-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2015-11-12	2016-11-11
Sunol Sciences	Broadband Antenna	JB3	A090314-2	2015-11-07	2016-11-06
ETS	Horn Antenna	3115	6229	2015-11-07	2016-11-06
EMCO	Horn Antenna	3116	9510-2384	2015-11-07	2016-11-06
Rohde & Schwarz	SIGNAL ANALYZER	FSV40	101116	2016-07-04	2017-07-03
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2015-11-12	2016-11-11
Mini	Pre-amplifier	ZVA-183-S+	857001418	2015-09-16	2016-09-15
DUCOMMUN	Pre-amplifier	ALN-22093530-01	990147	2015-09-16	2016-09-15
champrotek	Chamber	Chamber A	1#	2015-09-17	2016-09-16
R&S	Auto test Software	EMC32	V 09.10.0	-	-
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-12-16	2016-12-15
BACL	RF cable	KS-LAB-010	KS-LAB-010	2015-12-16	2016-12-15

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

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

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

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:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247.

1.60 dB at 2390 MHz in the Horizontal polarization for 802.11n-HT40 Mode

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies with the limit if

In BACL, $L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$, if L_m is less than L_{lim} , it implies that the EUT complies with the limit.

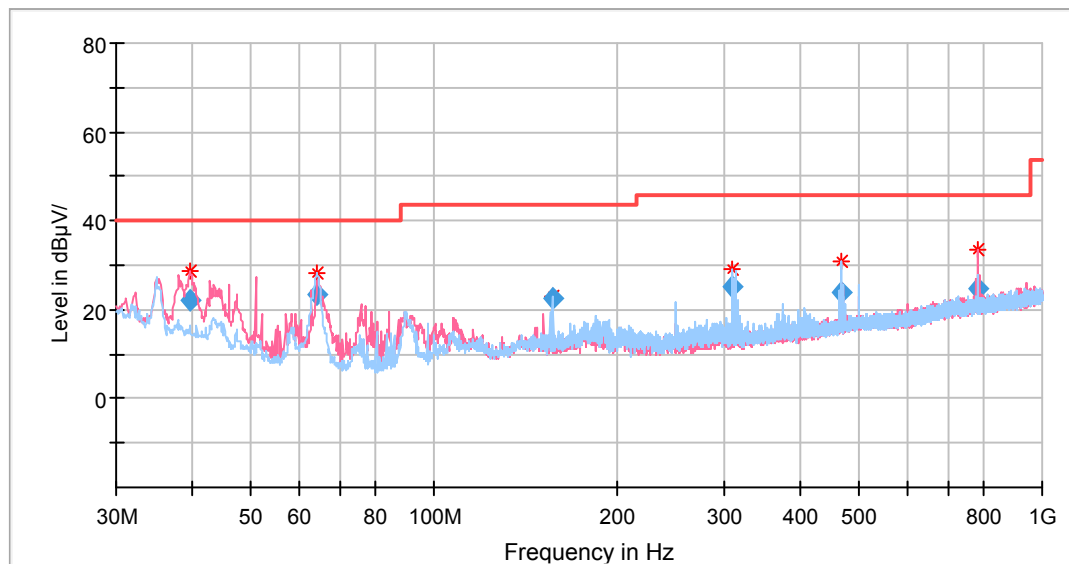
Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Chris Wang on 2016-08-08&2016-08-09.

30 MHz-1 GHz:

EUT operation mode: Transmitting



Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dB μ V/m)	Margin (dB)
39.578750	32.39	QP	323.0	199.0	V	-10.1	22.29	40.00	17.71
64.071250	40.21	QP	295.0	199.0	H	-17.0	23.21	40.00	16.79
156.221250	34.82	QP	102.0	199.0	H	-12.3	22.52	43.50	20.98
310.330000	35.56	QP	102.0	101.0	H	-10.2	25.36	46.00	20.64
468.682500	30.19	QP	130.0	199.0	H	-6.5	23.69	46.00	22.31
781.265000	26.76	QP	246.0	199.0	V	-1.9	24.86	46.00	21.14

1GHz-25GHz*EUT operation mode: Transmitting***802.11b Mode**

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dB μ V/m)	Margin (dB)
Low Channel (2412 MHz)									
2412	97.17	PK	120.0	150.0	V	4.9	102.07	/	/
2412	94.52	Ave	120.0	150.0	V	4.9	99.42	/	/
2412	99.3	PK	69.0	150.0	H	4.9	104.20	/	/
2412	96.00	Ave	69.0	150.0	H	4.9	100.90	/	/
2206	43.92	PK	56.0	200.0	H	4.7	48.62	74	25.38
2206	22.35	Ave	56.0	200.0	H	4.7	27.05	54	26.95
2384	33.68	Ave	56.0	150.0	H	4.9	38.58	54	15.42
2384	65.46	PK	56.0	150.0	H	4.9	70.36	74	3.64
2390	65.73	PK	228.0	150.0	H	4.9	70.63	74	3.37
2390	31.68	Ave	228.0	150.0	H	4.9	36.58	54	17.42
4824	38.64	PK	53.0	150.0	H	13.8	52.44	74	21.56
4824	24.91	Ave	53.0	150.0	H	13.8	38.71	54	15.29
7236	16.72	Ave	60.0	200.0	V	19.8	36.52	54	17.48
7236	30.59	PK	60.0	200.0	V	19.8	50.39	74	23.61
Middle Channel (2437 MHz)									
2437	98.75	PK	5.0	150.0	V	4.9	103.65	/	/
2437	95.2	Ave	5.0	150.0	V	4.9	100.10	/	/
2437	96.93	PK	225.0	200.0	H	4.9	101.83	/	/
2437	93.37	Ave	225.0	200.0	H	4.9	98.27	/	/
1589	39.39	PK	163.0	150.0	V	2.8	42.19	74	31.81
1589	23.40	Ave	163.0	150.0	V	2.8	26.20	54	27.80
2248	45.16	PK	332.0	150.0	H	4.7	49.86	74	24.14
2248	23.07	Ave	332.0	150.0	H	4.7	27.77	54	26.23
4874	39.58	PK	323.0	150.0	H	13.6	53.18	74	20.82
4874	29.03	Ave	323.0	150.0	H	13.6	42.63	54	11.37
6695	21.33	Ave	47.0	200.0	V	17.9	39.23	54	14.77
6695	34.27	PK	47.0	200.0	V	17.9	52.17	74	21.83
7311	30.06	PK	245.0	150.0	H	20.0	50.06	74	23.94
7311	16.70	Ave	245.0	150.0	H	20.0	36.70	54	17.30

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBµV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
High Channel (2462 MHz)									
2462	100.32	PK	112.0	150.0	V	5.0	105.32	/	/
2462	96.72	Ave	112.0	150.0	V	5.0	101.72	/	/
2462	99.24	PK	70.0	150.0	H	5.0	104.24	/	/
2462	93.62	Ave	70.0	150.0	H	5.0	98.62	/	/
2483.5	28.23	Ave	135.0	200.0	H	5.0	33.23	54	20.77
2483.5	60.82	PK	135.0	200.0	H	5.0	65.82	74	8.18
2490	33.22	Ave	325.0	150.0	H	5.0	38.22	54	15.78
2490	63.97	PK	325.0	150.0	H	5.0	68.97	74	5.03
2234	45.79	PK	248.0	200.0	H	4.7	50.49	74	23.51
2234	23.96	Ave	248.0	200.0	H	4.7	28.66	54	25.34
4924	38.18	PK	331.0	200.0	H	13.8	51.98	74	22.02
4924	26.86	Ave	331.0	200.0	H	13.8	40.66	54	13.34
7386	16.72	Ave	199.0	200.0	H	20.2	36.92	54	17.08
7386	30.07	PK	199.0	200.0	H	20.2	50.27	74	23.73

802.11g Mode

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Low Channel (2412 MHz)									
2412	98.62	PK	250.0	100.0	V	4.9	103.52	/	/
2412	94.51	Ave	250.0	100.0	V	4.9	99.41	/	/
2412	99.51	PK	72.0	150.0	H	4.9	104.41	/	/
2412	94.96	Ave	72.0	150.0	H	4.9	99.86	/	/
1589	23.40	Ave	162.0	150.0	V	2.8	26.20	54	27.80
1589	38.79	PK	162.0	150.0	V	2.8	41.59	74	32.41
2382	29.96	Ave	67.0	150.0	H	4.9	34.86	54	19.14
2382	55.31	PK	67.0	150.0	H	4.9	60.21	74	13.79
2390	57.57	PK	326.0	150.0	H	4.9	62.47	74	11.53
2390	32.25	Ave	326.0	150.0	H	4.9	37.15	54	16.85
4824	42.00	PK	326.0	200.0	H	13.4	55.40	74	18.60
4824	26.68	Ave	326.0	200.0	H	13.4	40.08	54	13.92
7236	30.16	PK	13.0	200.0	V	19.8	49.96	74	24.04
7236	16.72	Ave	13.0	200.0	V	19.8	36.52	54	17.48

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Middle Channel (2437 MHz)									
2437	97.23	PK	75.0	150.0	V	4.9	102.13	/	/
2437	93.91	Ave	75.0	150.0	V	4.9	98.81	/	/
2437	98.58	PK	312.0	150.0	H	4.9	103.48	/	/
2437	95.13	Ave	312.0	150.0	H	4.9	100.03	/	/
1084	37.41	PK	216.0	150.0	H	0.8	38.21	74	35.79
1084	23.09	Ave	216.0	150.0	H	0.8	23.89	54	30.11
1575	35.17	PK	167.0	150.0	V	2.8	37.97	74	36.03
1575	20.44	Ave	167.0	150.0	V	2.8	23.24	54	30.76
3062	34.58	PK	200.0	150.0	V	7.0	41.58	74	32.42
3062	21.29	Ave	200.0	150.0	V	7.0	28.29	54	25.71
4874	21.67	Ave	54.0	150.0	H	13.6	35.27	54	18.73
4874	35.32	PK	54.0	150.0	H	13.6	48.92	74	25.08
7311	29.88	PK	25.0	200.0	V	20.0	49.88	74	24.12
7311	16.70	Ave	25.0	200.0	V	20.0	36.70	54	17.30
High Channel (2462 MHz)									
2462	98.44	PK	330.0	200.0	V	5.0	103.44	/	/
2462	94.79	Ave	330.0	200.0	V	5.0	99.79	/	/
2462	99.58	PK	69.0	150.0	H	5.0	104.58	/	/
2462	95.93	Ave	69.0	150.0	H	5.0	100.93	/	/
2483.5	54.91	PK	336.0	150.0	H	5.0	59.91	74	14.09
2483.5	33.01	Ave	336.0	150.0	H	5.0	38.01	54	15.99
2488	52.78	PK	330.0	150.0	H	5.0	57.78	74	16.22
2488	31.33	Ave	330.0	150.0	H	5.0	36.33	54	17.67
3062	34.25	PK	90.0	150.0	V	7.0	41.25	74	32.75
3062	21.29	Ave	90.0	150.0	V	7.0	28.29	54	25.71
4924	22.40	Ave	327.0	150.0	H	13.7	36.10	54	17.90
4924	38.80	PK	327.0	150.0	H	13.7	52.50	74	21.50
7386	30.83	PK	238.0	200.0	H	20.2	51.03	74	22.97
7386	16.72	Ave	238.0	200.0	H	20.2	36.92	54	17.08

802.11n-HT20 Mode

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Low Channel (2412 MHz)									
2412	99.23	PK	190.0	200.0	V	4.9	104.13	/	/
2412	95.96	Ave	190.0	200.0	V	4.9	100.86	/	/
2412	99.02	PK	130.0	200.0	H	4.9	103.92	/	/
2412	96.19	Ave	130.0	200.0	H	4.9	101.09	/	/
2379	56.27	PK	237.0	150.0	H	4.9	61.17	74	12.83
2379	30.10	Ave	237.0	150.0	H	4.9	35.00	54	19.00
2390	34.83	Ave	232.0	150.0	H	4.9	39.73	54	14.27
2390	61.05	PK	232.0	150.0	H	4.9	65.95	74	8.05
3076	34.22	PK	205.0	150.0	V	7.0	41.22	74	32.78
3076	20.92	Ave	205.0	150.0	V	7.0	27.92	54	26.08
4824	26.07	Ave	324.0	200.0	H	13.3	39.37	54	14.63
4824	41.35	PK	324.0	200.0	H	13.3	54.65	74	19.35
7236	30.48	PK	37.0	200.0	H	19.8	50.28	74	23.72
7236	16.72	Ave	37.0	200.0	H	19.8	36.52	54	17.48
Middle Channel (2437 MHz)									
2437	98.66	PK	33.0	200.0	V	4.9	103.56	/	/
2437	95.30	Ave	33.0	200.0	V	4.9	100.20	/	/
2437	99.56	PK	234.0	200.0	H	4.9	104.46	/	/
2437	96.41	Ave	234.0	200.0	H	4.9	101.31	/	/
1070	20.42	Ave	230.0	150.0	H	0.8	21.22	54	32.78
1070	33.76	PK	230.0	150.0	H	0.8	34.56	74	39.44
3062	34.28	PK	86.0	150.0	V	7.0	41.28	74	32.72
3062	21.29	Ave	86.0	150.0	V	7.0	28.29	54	25.71
4874	25.98	Ave	331.0	150.0	H	13.6	39.58	54	14.42
4874	39.66	PK	331.0	150.0	H	13.6	53.26	74	20.74
6667	21.71	Ave	344.0	200.0	V	17.8	39.51	54	14.49
6667	35.40	PK	344.0	200.0	V	17.8	53.20	74	20.80
7311	30.66	PK	37.0	150.0	V	20.0	50.66	74	23.34
7311	16.70	Ave	37.0	150.0	V	20.0	36.70	54	17.30

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
High Channel (2462 MHz)									
2462	100.36	PK	187.00	220.0	V	5.0	105.36	/	/
2462	96.97	Ave	187.00	220.0	V	5.0	101.97	/	/
2462	99.39	PK	150.00	333.0	H	5.0	104.39	/	/
2462	95.88	Ave	150.00	333.0	H	5.0	100.88	/	/
2483.5	57.59	PK	333.0	150.0	H	5.0	62.59	74	11.41
2483.5	36.43	Ave	333.0	150.0	H	5.0	41.43	54	12.57
2488	31.82	Ave	68.0	150.0	H	5.0	36.82	54	17.18
2488	55.59	PK	68.0	150.0	H	5.0	60.59	74	13.41
3076	34.53	PK	90.0	150.0	V	7.0	41.53	74	32.47
3076	21.32	Ave	90.0	150.0	V	7.0	28.32	54	25.68
4924	23.64	Ave	332.0	150.0	H	13.8	37.44	54	16.56
4924	37.53	PK	332.0	150.0	H	13.8	51.33	74	22.67
7386	30.49	PK	97.0	200.0	H	20.2	50.69	74	23.31
7386	16.76	Ave	97.0	200.0	H	20.2	36.96	54	17.04

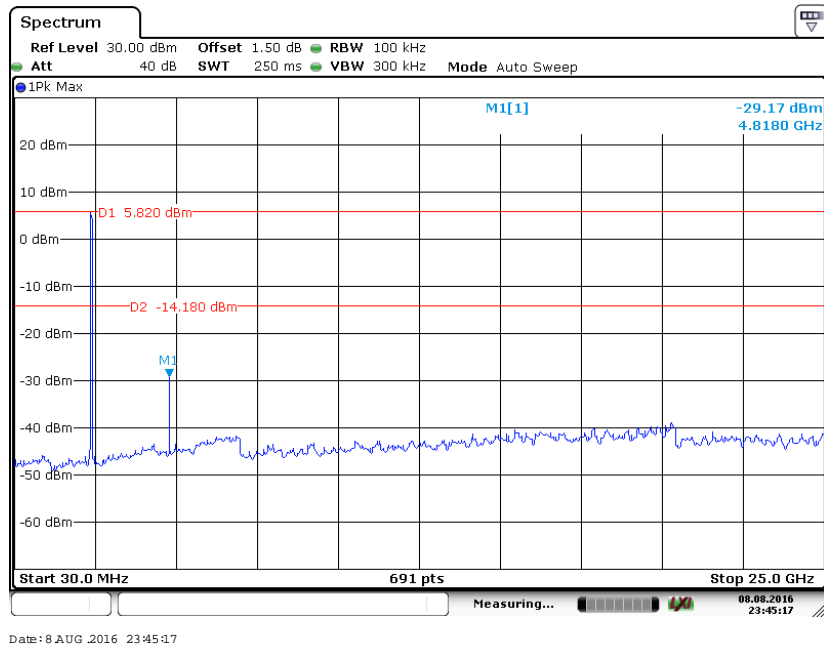
802.11n-HT40 Mode

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dB μ V/m)	Margin (dB)
Low Channel (2422 MHz)									
2422	95.23	PK	185.0	150.0	V	4.9	100.13	/	/
2422	92.55	Ave	185.0	150.0	V	4.9	97.45	/	/
2422	94.85	PK	67.0	200.0	H	4.9	99.75	/	/
2422	91.53	Ave	67.0	200.0	H	4.9	96.43	/	/
2384	34.05	Ave	240.0	150.0	H	4.9	38.95	54	15.05
2384	66.94	PK	240.0	150.0	H	4.9	71.84	74	2.16
2390	67.50	PK	49.0	150.0	H	4.9	72.40	74	1.60
2390	35.32	Ave	49.0	150.0	H	4.9	40.22	54	13.78
2234	50.43	PK	331.0	150.0	H	4.7	55.13	74	18.87
2234	22.02	Ave	331.0	150.0	H	4.7	26.72	54	27.28
4844	23.42	Ave	329.0	200.0	H	13.4	36.82	54	17.18
4844	38.57	PK	329.0	200.0	H	13.4	51.97	74	22.03
7266	30.74	PK	114.0	200.0	H	19.9	50.64	74	23.36
7266	16.67	Ave	114.0	200.0	H	19.9	36.57	54	17.43

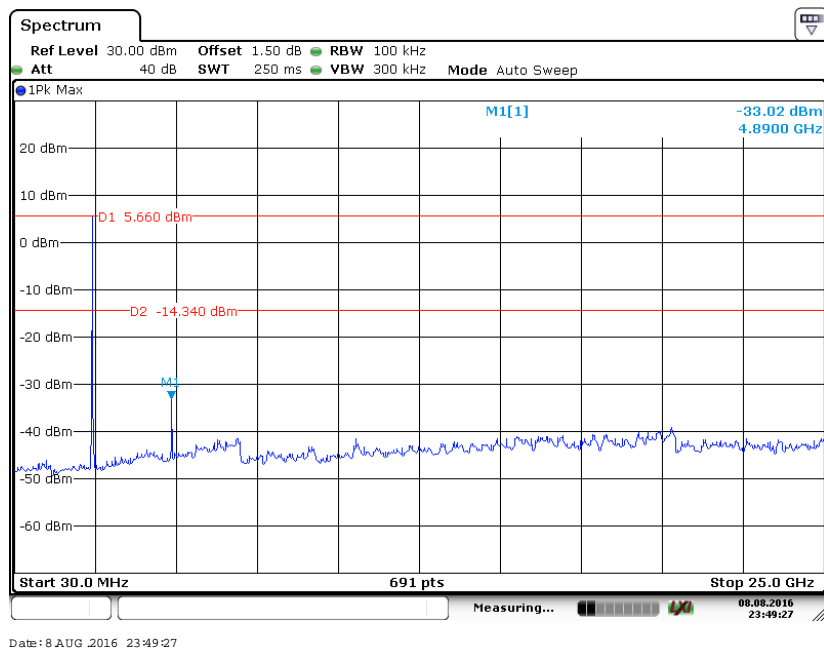
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dB μ V/m)	Margin (dB)
Middle Channel (2437MHz)									
2437	94.73	PK	125.0	200.0	V	4.9	99.63	/	/
2437	91.82	Ave	125.0	200.0	V	4.9	96.72	/	/
2437	95.12	PK	74.0	150.0	H	4.9	100.02	/	/
2437	91.79	Ave	74.0	150.0	H	4.9	96.69	/	/
2248	22.4	Ave	244.0	150.0	H	4.7	27.10	54	26.90
2248	52.48	PK	244.0	150.0	H	4.7	57.18	74	16.82
3062	34.11	PK	206.0	200.0	V	7.0	41.11	74	32.89
3062	21.29	Ave	206.0	200.0	V	7.0	28.29	54	25.71
4874	23.33	Ave	328.0	150.0	H	13.6	36.93	54	17.07
4874	38.28	PK	328.0	150.0	H	13.6	51.88	74	22.12
6653	22.04	Ave	171.0	200.0	V	17.8	39.84	54	14.16
6653	35.01	PK	171.0	200.0	V	17.8	52.81	74	21.19
7311	30.26	PK	326.0	150.0	H	20.0	50.26	74	23.74
7311	16.70	Ave	326.0	150.0	H	20.0	36.70	54	17.30
High Channel (2452MHz)									
2452	91.73	PK	140.0	200.0	V	5.0	96.73	/	/
2452	88.13	Ave	140.0	200.0	V	5.0	93.13	/	/
2452	92.88	PK	100.0	150.0	H	5.0	97.88	/	/
2452	89.22	Ave	100.0	150.0	H	5.0	94.22	/	/
2483.5	65.96	PK	42.0	150.0	H	5.0	70.96	74	3.04
2483.5	33.01	Ave	42.0	150.0	H	5.0	38.01	54	15.99
2486	67.39	PK	63.0	150.0	H	5.0	72.39	74	1.61
2486	34.43	Ave	63.0	150.0	H	5.0	39.43	54	14.57
2220	49.67	PK	242.0	150.0	H	4.7	54.37	74	19.63
2220	22.01	Ave	242.0	150.0	H	4.7	26.71	54	27.29
4904	35.12	PK	68.0	150.0	H	13.7	48.82	74	25.18
4904	20.02	Ave	68.0	150.0	H	13.7	33.72	54	20.28
7356	16.68	Ave	189.0	150.0	V	20.2	36.88	54	17.12
7356	30.31	PK	189.0	150.0	V	20.2	50.51	74	23.49

Spurious Emissions at Antenna Port

802.11b Low Channel



802.11b Middle Channel



Spectrum

Ref Level 30.00 dBm Offset 1.50 dB RBW 100 kHz
 Att 40 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep

● 1Pk Max

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

D1 5.500 dBm
D2 -14.500 dBm
M1[1] -34.32 dBm
4.9260 GHz

Start 30.0 MHz 691 pts Stop 25.0 GHz

Measuring... 08.08.2016 23:50:39

Spectrum

Ref Level 30.00 dBm Offset 1.50 dB RBW 100 kHz
 Att 40 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep

1Pk Max

M1[1] -39.19 dBm
 20.2840 GHz

D1 2.310 dBm

D2 -17.690 dBm

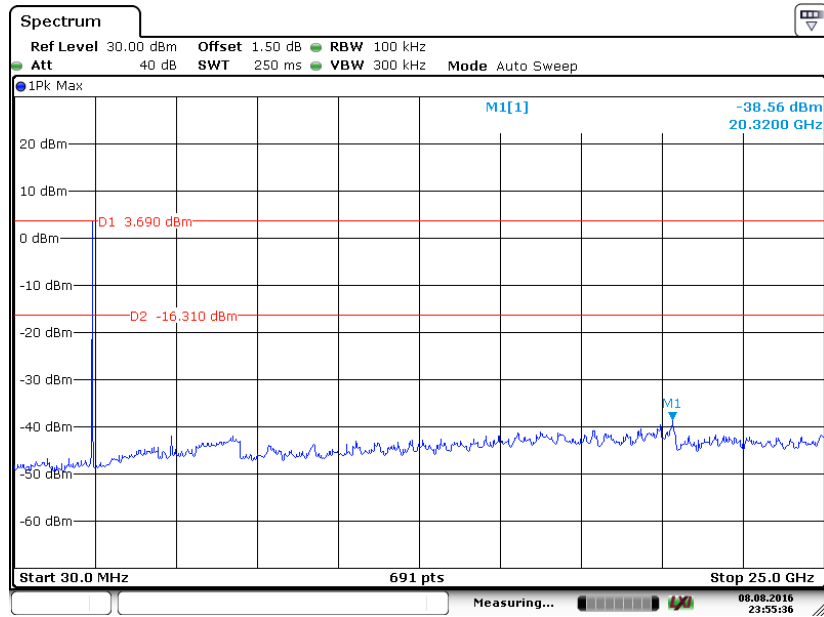
M1

Start 30.0 MHz 691 pts Stop 25.0 GHz

Measuring... 08.08.2016 23:53:36

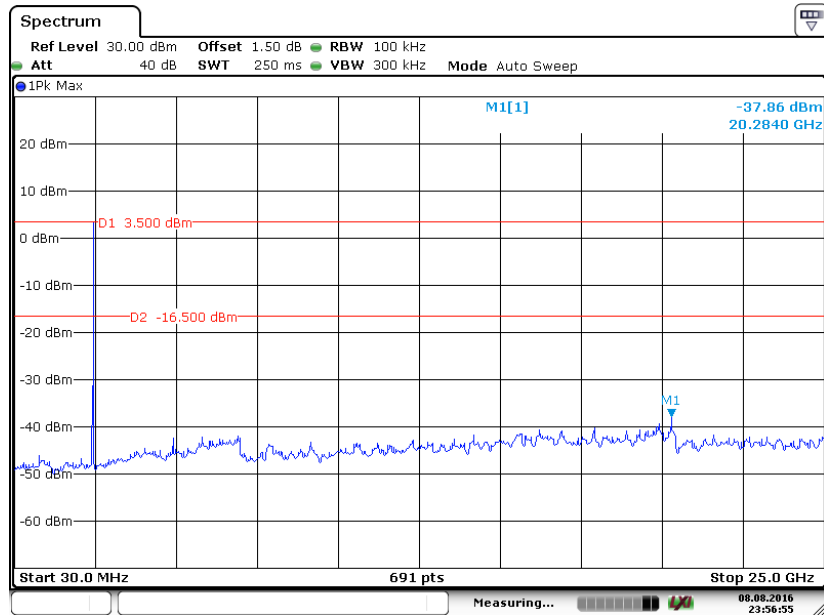
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802.11g Middle Channel



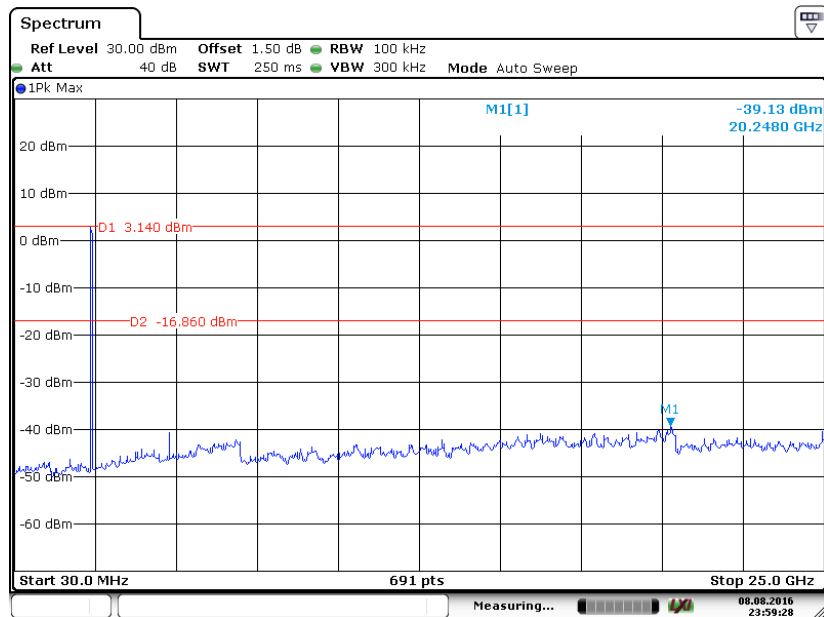
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802.11g High Channel



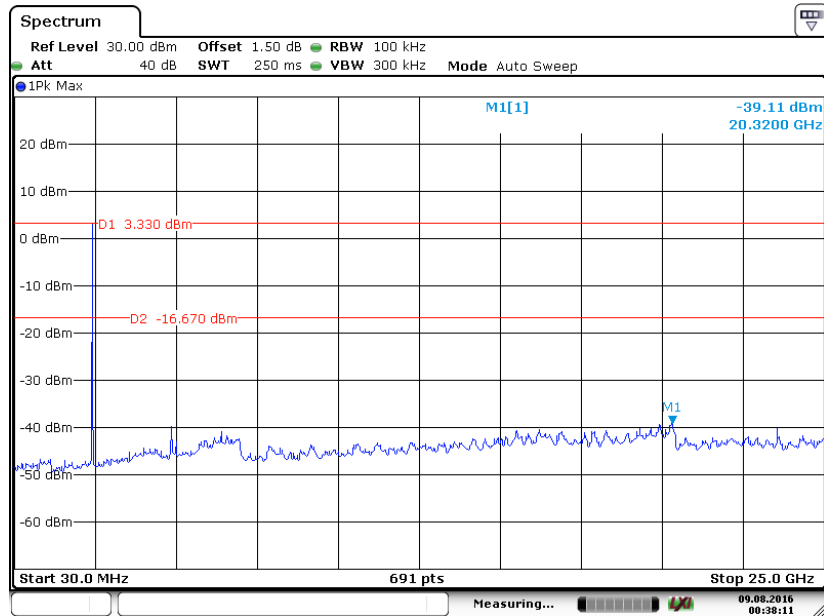
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802.11n-HT20 Low Channel



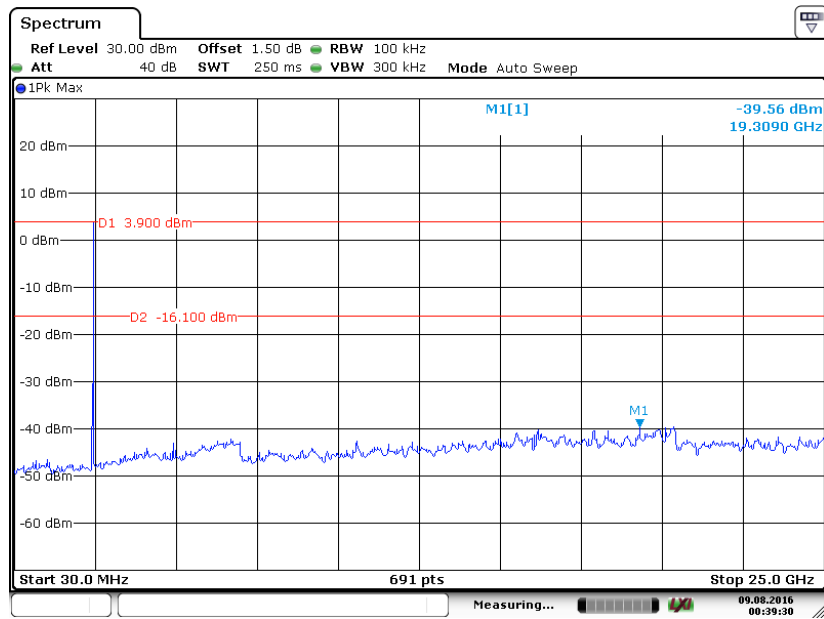
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802.11n-HT20 Middle Channel



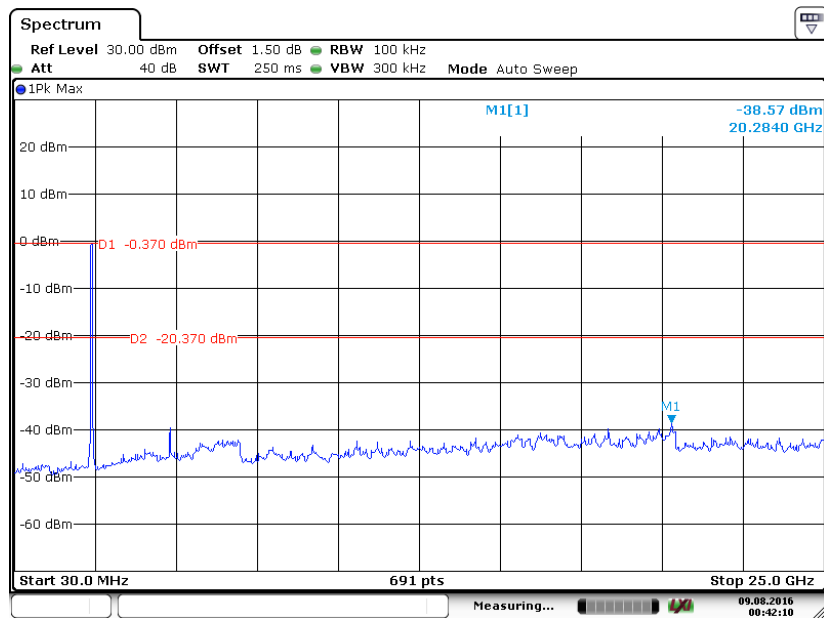
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802.11n-HT20 High Channel



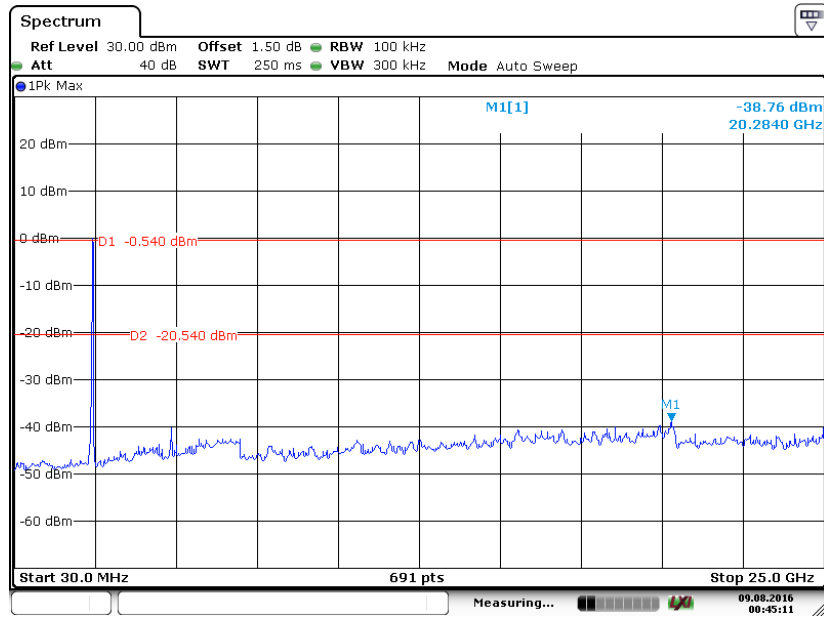
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802.11n-HT40 Low Channel



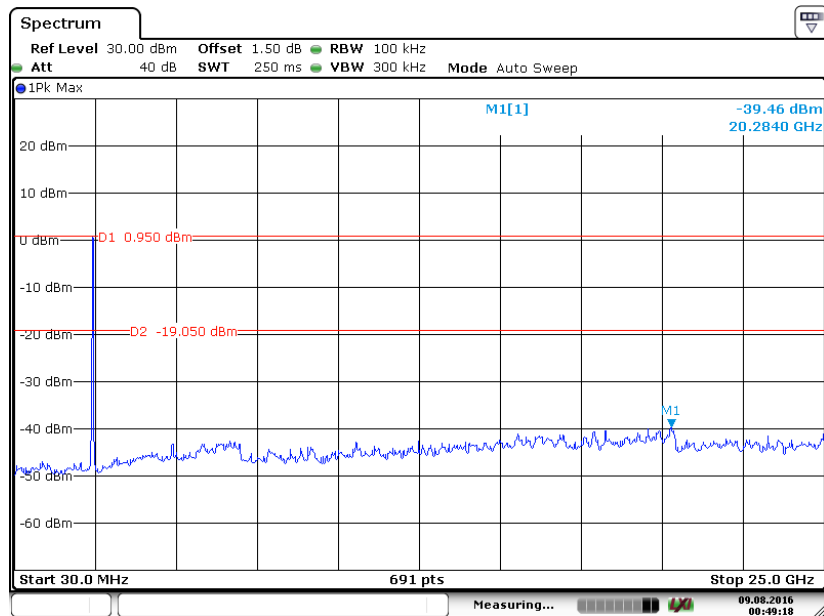
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802.11n-HT40 Middle Channel



Date: 9 AUG. 2016 00:45:12

802.11n-HT40 High Channel



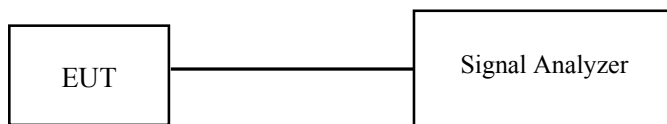
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FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH**Applicable Standard**

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.

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
Rohde & Schwarz	SIGNAL ANALYZER	FSV40	101116	2016-07-04	2017-07-03
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-12-16	2016-12-15

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	27 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Chris Wang on 2016-08-09.

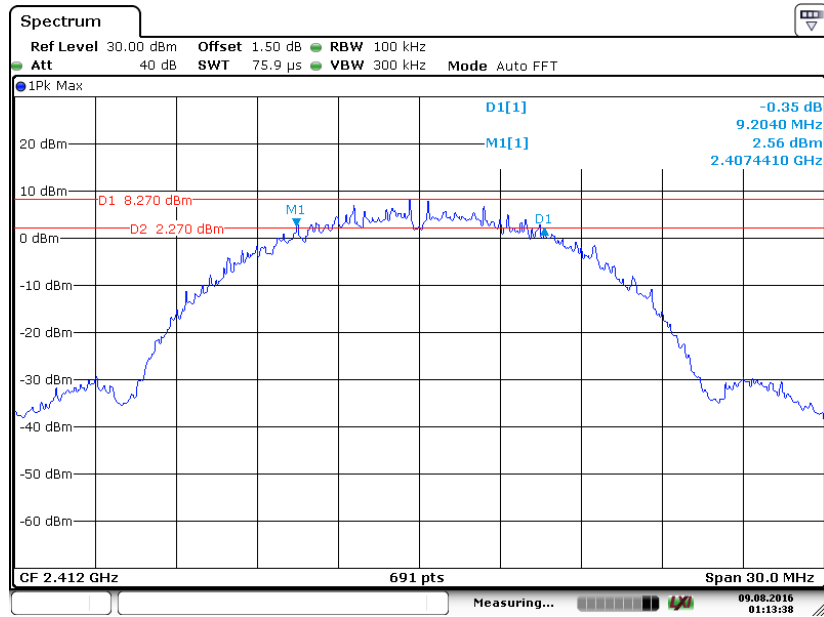
Test Result: Pass.

Please refer to the following tables and plots.

EUT operation mode: Transmitting

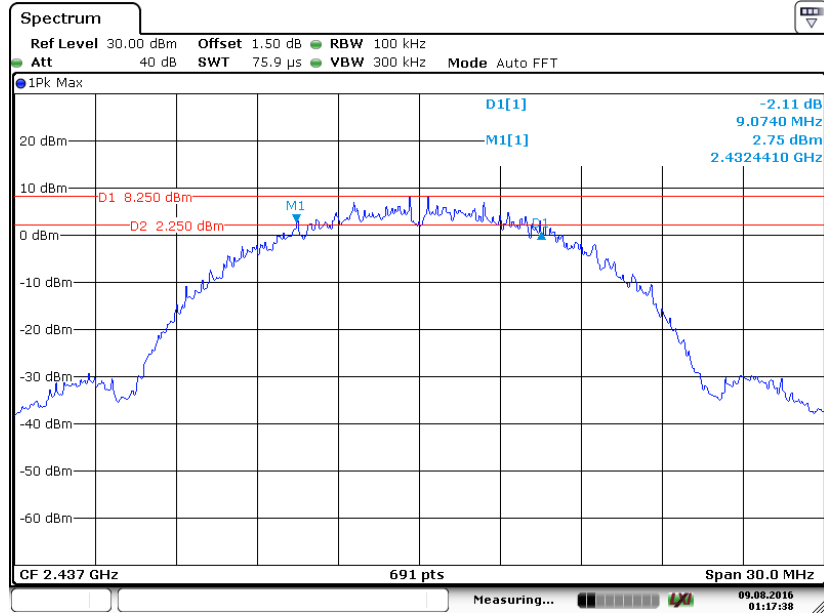
Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (kHz)
802.11b mode			
Low	2412	9.20	≥ 500
Middle	2437	9.07	≥ 500
High	2462	9.07	≥ 500
802.11g mode			
Low	2412	16.50	≥ 500
Middle	2437	16.45	≥ 500
High	2462	16.50	≥ 500
802.11n-HT20 mode			
Low	2412	17.71	≥ 500
Middle	2437	17.71	≥ 500
High	2462	17.76	≥ 500
802.11n-HT40 mode			
Low	2422	35.43	≥ 500
Middle	2437	35.51	≥ 500
High	2452	35.51	≥ 500

802.11b Low Channel



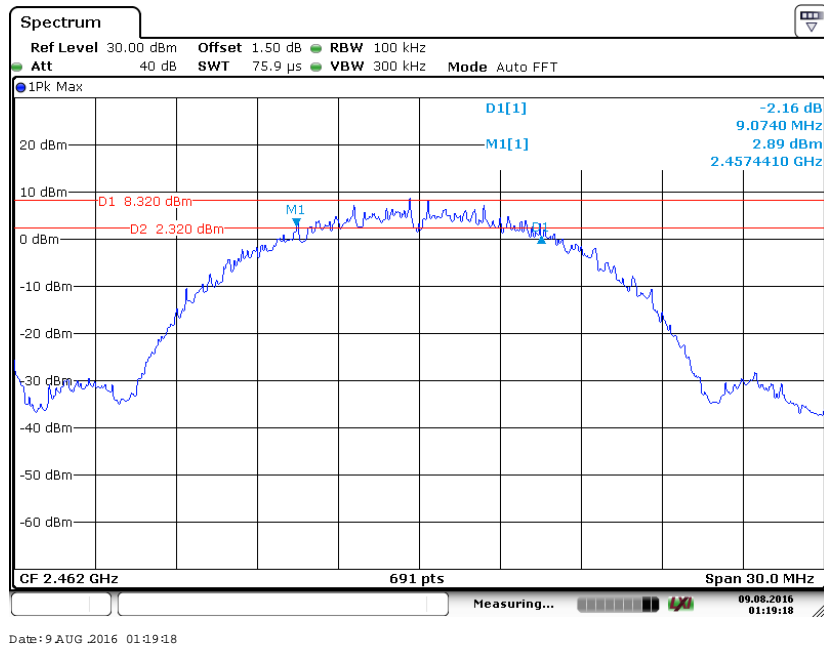
Date: 9 AUG. 2016 01:13:38

802.11b Middle Channel

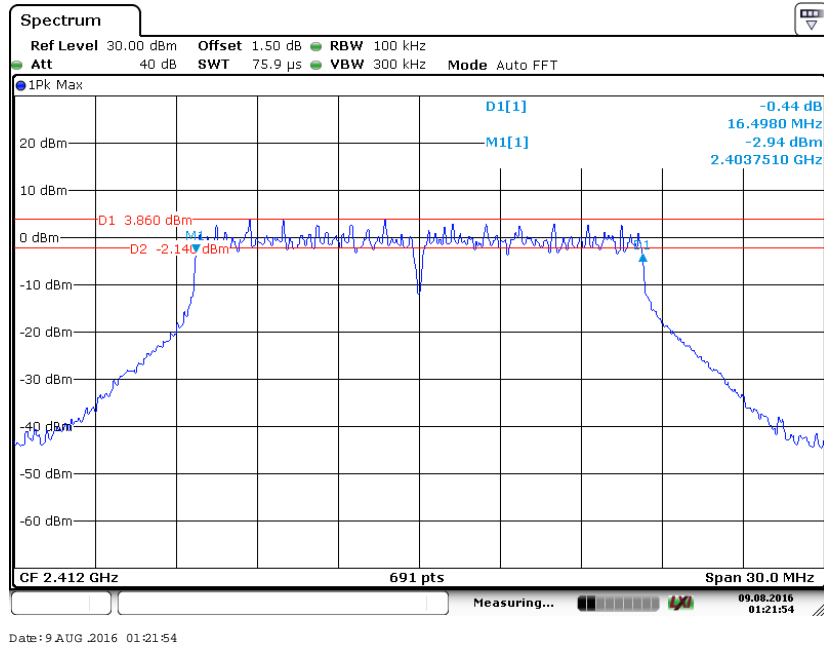


Date: 9 AUG. 2016 01:17:38

802.11b High Channel



802.11g Low Channel



Spectrum

Ref Level 30.00 dBm Offset 1.50 dB RBW 100 kHz
 Att 40 dB SWT 75.9 μ s VBW 300 kHz Mode Auto FFT

1Pk Max

D1[1] 1.48 dB
 16.4540 MHz
 -2.01 dBm
 2.4287510 GHz

D1 4.660 dBm
 D2 -1.340 dBm
 M1[1] -2.01 dBm

CF 2.437 GHz 691 pts Span 30.0 MHz

Measuring... 09.08.2016 01:25:16

Spectrum

Ref Level 30.00 dBm Offset 1.50 dB RBW 100 kHz
 Att 40 dB SWT 75.9 μ s VBW 300 kHz Mode Auto FFT

1Pk Max

D1[1] -0.78 dBm
 M1[1] 16.4980 MHz
 -2.35 dBm
 2.4537510 GHz

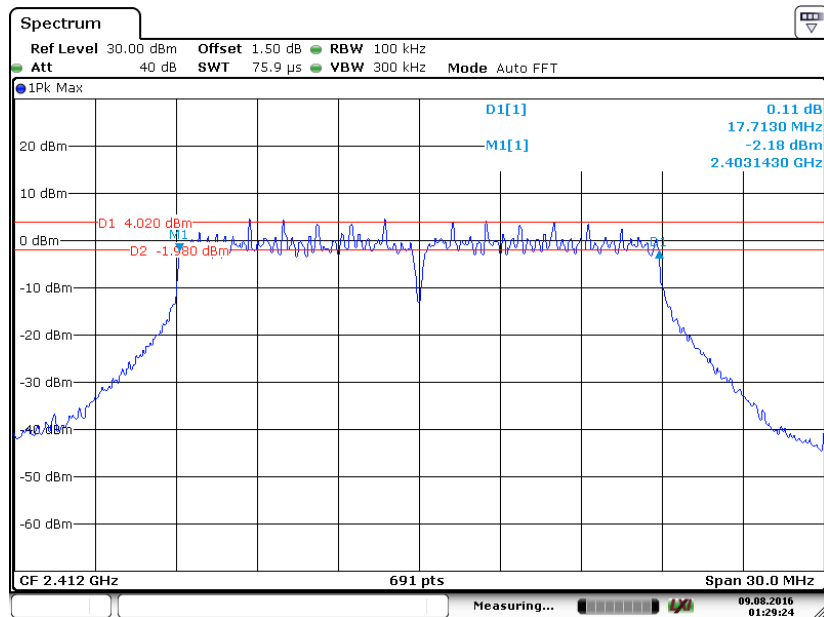
D1 3.960 dBm
 D2 -2.040 dBm

CF 2.462 GHz 691 pts Span 30.0 MHz

Measuring... 09.08.2016 01:27:00

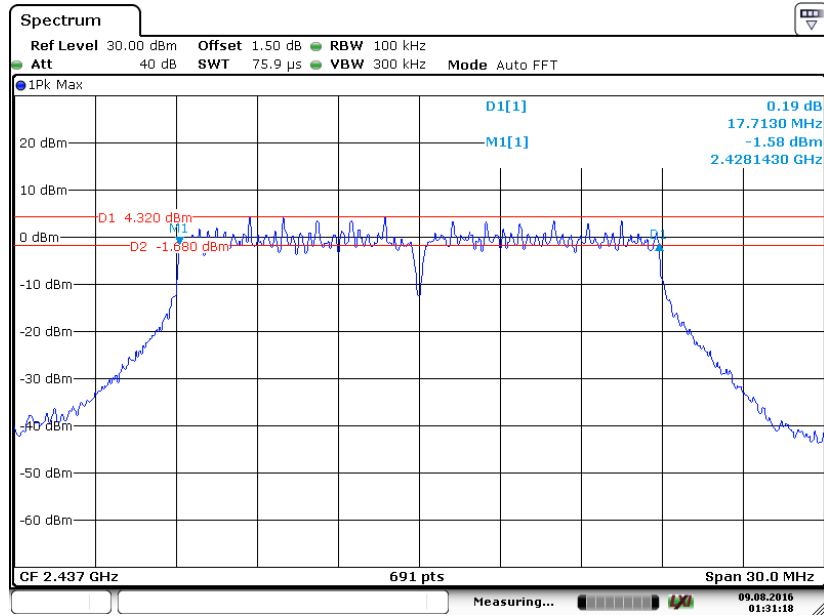
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802.11n-HT20 Low Channel



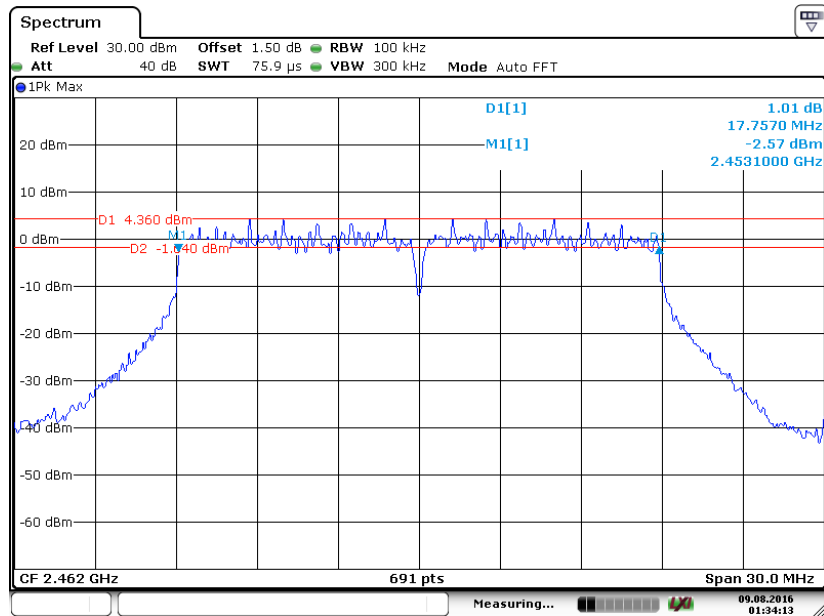
Date: 9 AUG. 2016 01:29:24

802.11n-HT20 Middle Channel



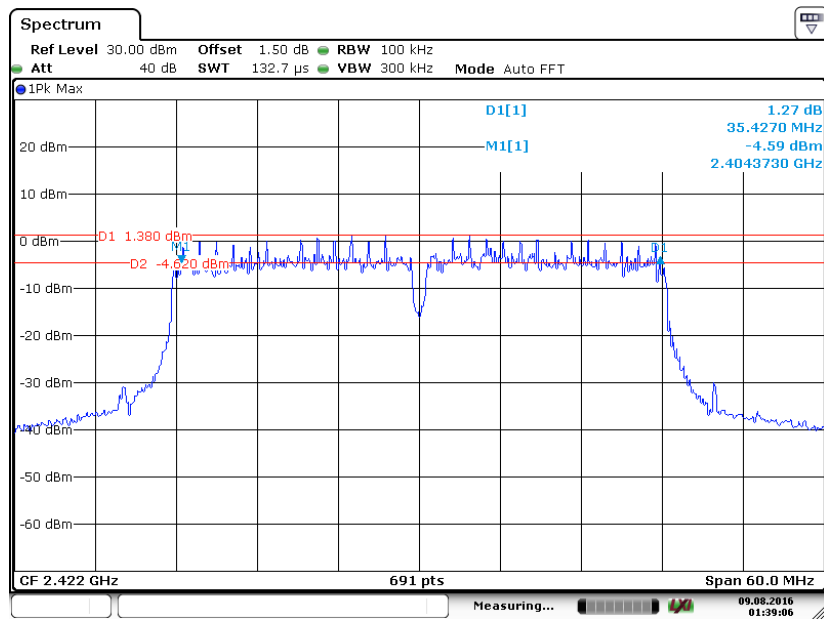
Date: 9 AUG. 2016 01:31:19

802.11n-HT20 High Channel



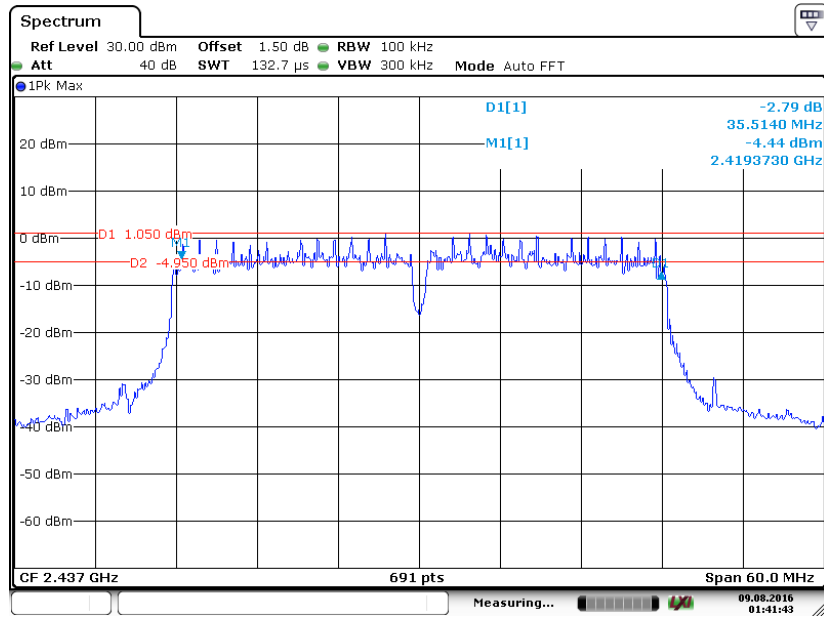
Date: 9 AUG. 2016 01:34:13

802.11n-HT40 Low Channel



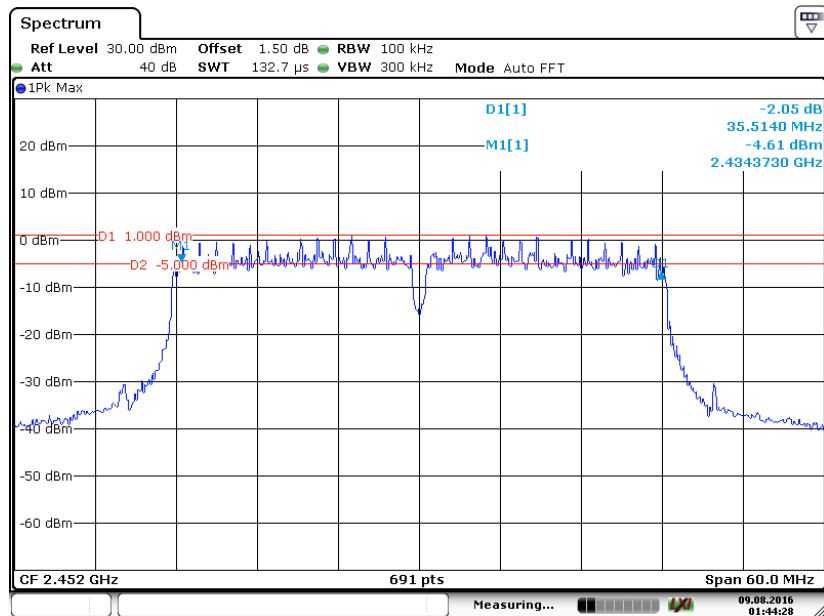
Date: 9 AUG. 2016 01:39:06

802.11n-HT40 Middle Channel



Date: 9 AUG. 2016 01:41:43

802.11n-HT40 High Channel



Date: 9 AUG. 2016 01:44:28

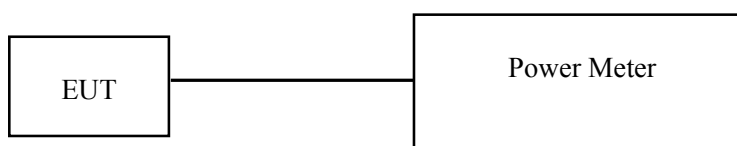
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

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.

Test Procedure

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 one 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
Rohde & Schwarz	OSP120 BASE UNIT	OSP120	101247	2016-07-04	2017-07-03
Rohde & Schwarz	Power Sensor	NRP-Z91	200014	2015-08-01	2017-07-31
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-12-16	2016-12-15

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	27 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Chris Wang on 2016-08-09

EUT operation mode: Transmitting

Channel	Frequency (MHz)	Max Conducted Average Output Power (dBm)	Max Conducted Peak Output Power (dBm)	Limit (dBm)	Result
802.11b					
Low	2412	17.56	23.48	30	Pass
Middle	2437	17.31	23.51	30	Pass
High	2462	17.44	23.34	30	Pass
802.11g					
Low	2412	16.67	22.57	30	Pass
Middle	2437	16.52	22.72	30	Pass
High	2462	16.49	22.61	30	Pass
802.11n-HT20					
Low	2412	16.54	22.63	30	Pass
Middle	2437	16.22	22.71	30	Pass
High	2462	16.37	22.47	30	Pass
802.11n-HT40					
Low	2422	16.33	22.44	30	Pass
Middle	2437	16.55	22.60	30	Pass
High	2452	16.39	22.53	30	Pass

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
Rohde & Schwarz	FSV40 Signal Analyzer	FSV40	101116	2016-07-04	2017-07-03
BACL	TS 8997 Cable-01	T-KS-EMC086	T-KS-EMC086	2015-12-10	2016-12-09

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

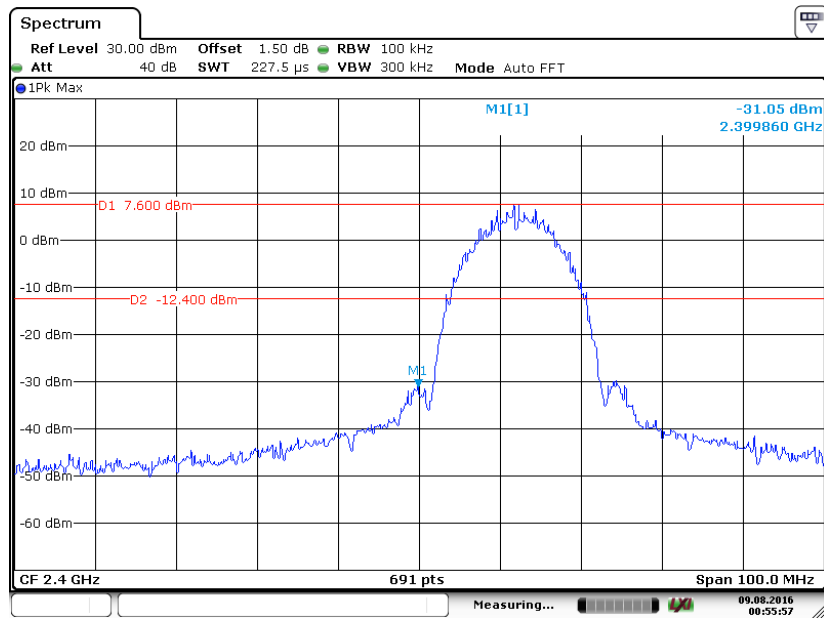
Temperature:	27 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Chris Wang on 2016-08-09.

EUT operation mode: Transmitting

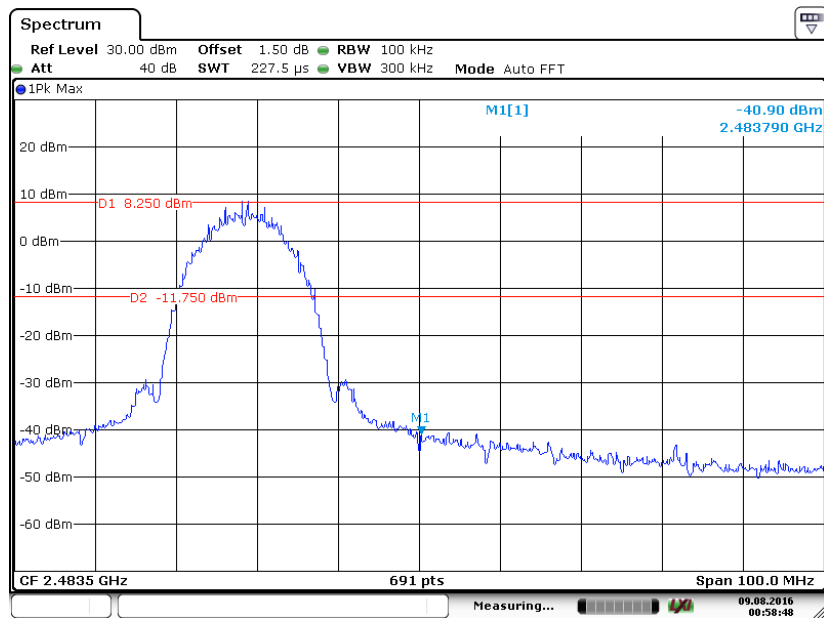
Please refer to the following table and plots.

802.11b: Band Edge, Left Side



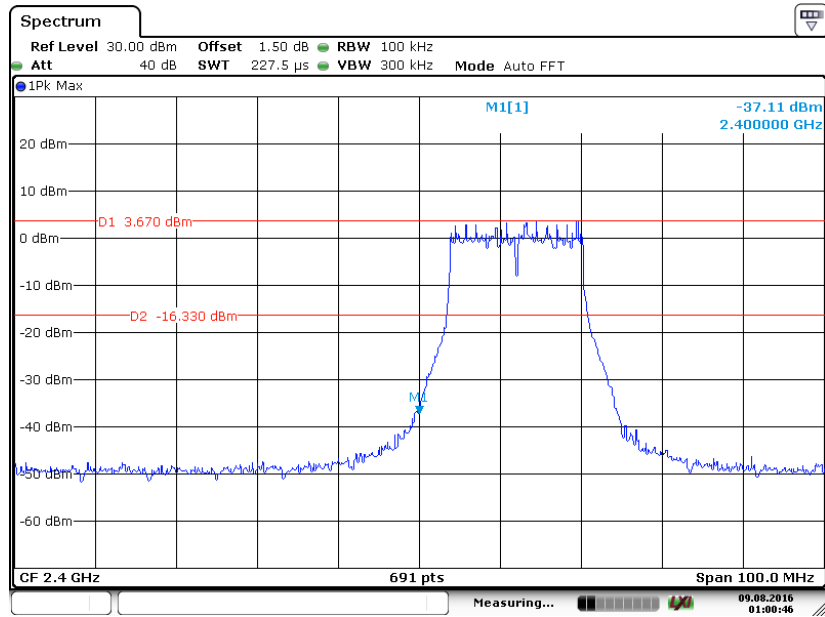
Date: 9 AUG 2016 00:55:57

802.11b: Band Edge, Right Side



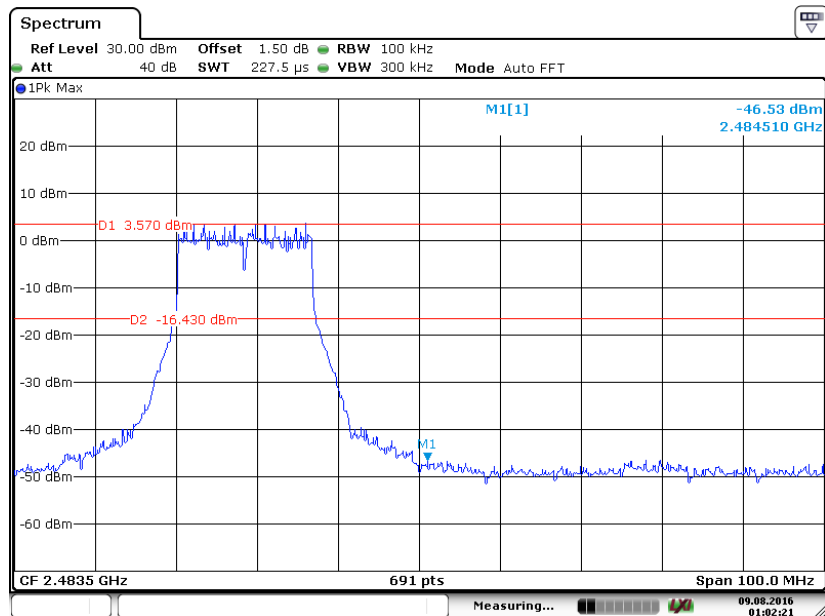
Date: 9 AUG 2016 00:58:49

802.11g: Band Edge, Left Side



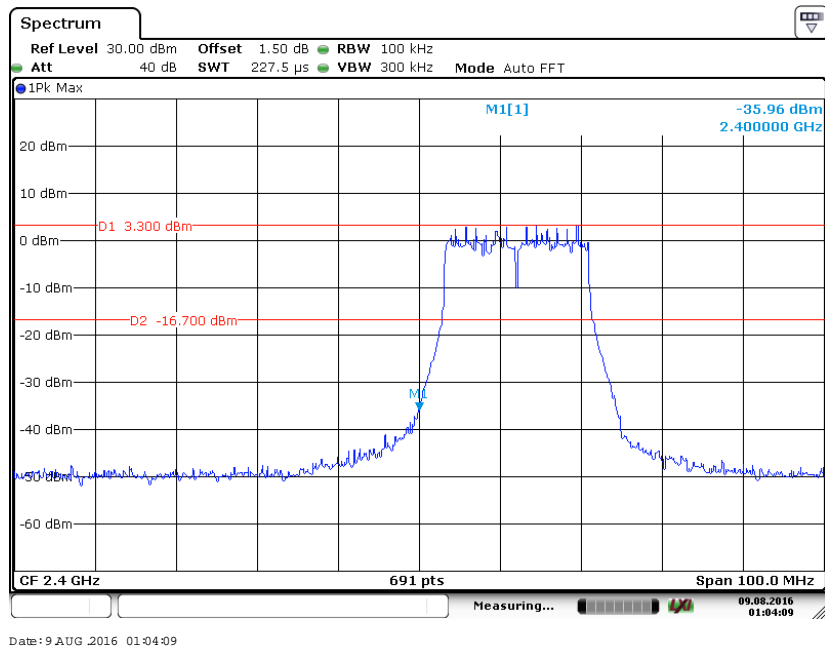
Date: 9 AUG. 2016 01:00:46

802.11g: Band Edge, Right Side

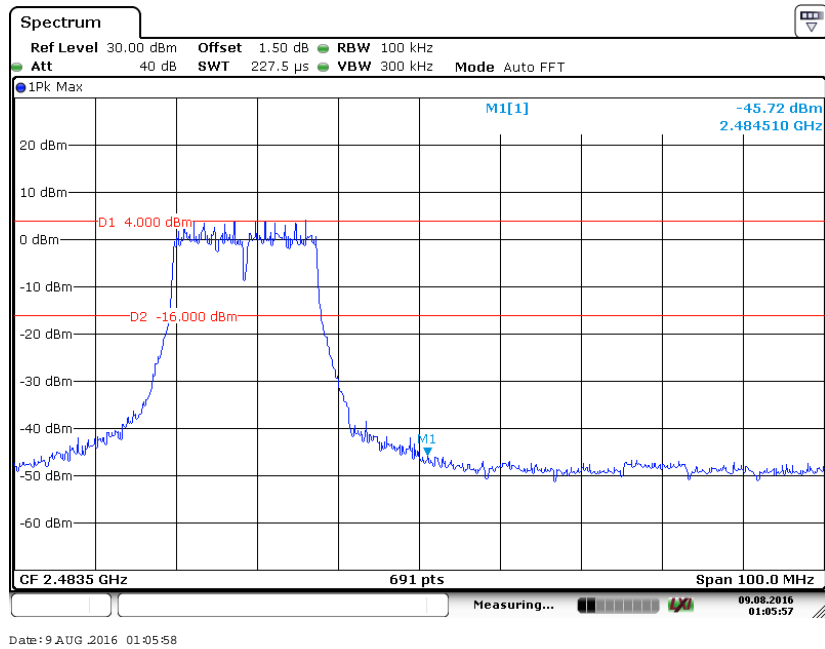


Date: 9 AUG. 2016 01:02:22

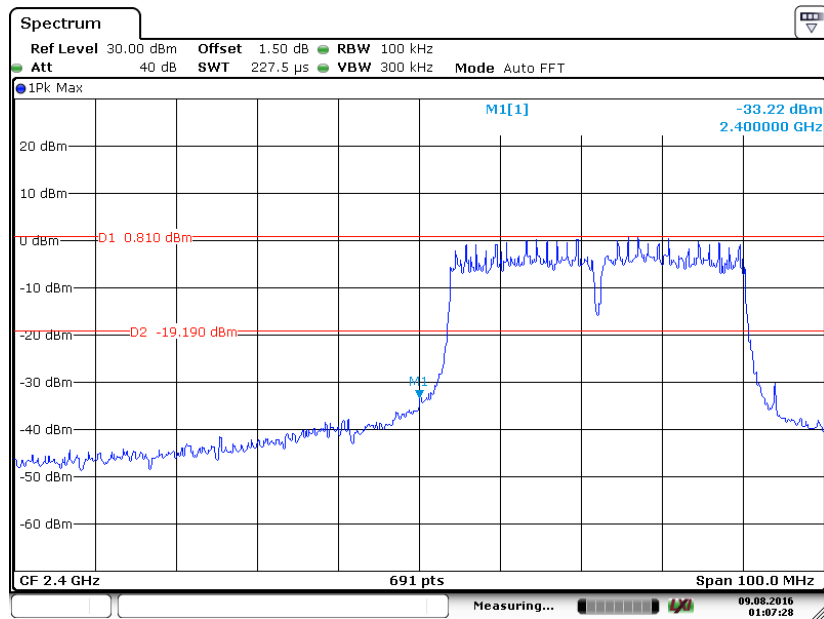
802.11n-HT20: Band Edge, Left Side



802.11n-HT20: Band Edge, Right Side

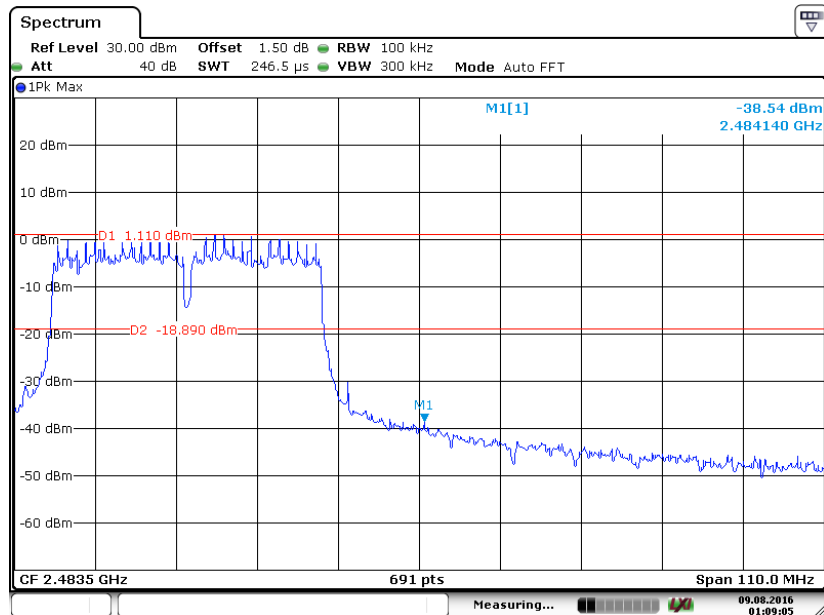


802.11n-HT40: Band Edge, Left Side



Date: 9 AUG. 2016 01:07:28

802.11n-HT40: Band Edge, Right Side



Date: 9 AUG. 2016 01:09:05

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

According to KDB558074 D01 DTS Meas Guidance v03r05.

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW to: $3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$.
3. Set the VBW $\geq 3 \times \text{RBW}$.
4. Set the span to 1.5 times the DTS bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. 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
Rohde & Schwarz	SIGNAL ANALYZER	FSV40	101116	2016-07-04	2017-07-03
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-12-16	2016-12-15

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	27 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

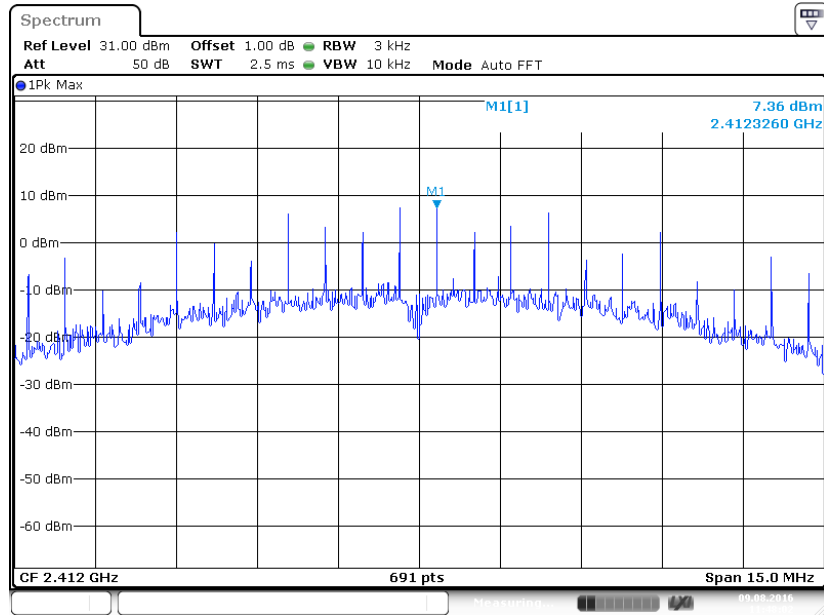
The testing was performed by Chris Wang on 2016-08-09.

EUT operation mode: Transmitting

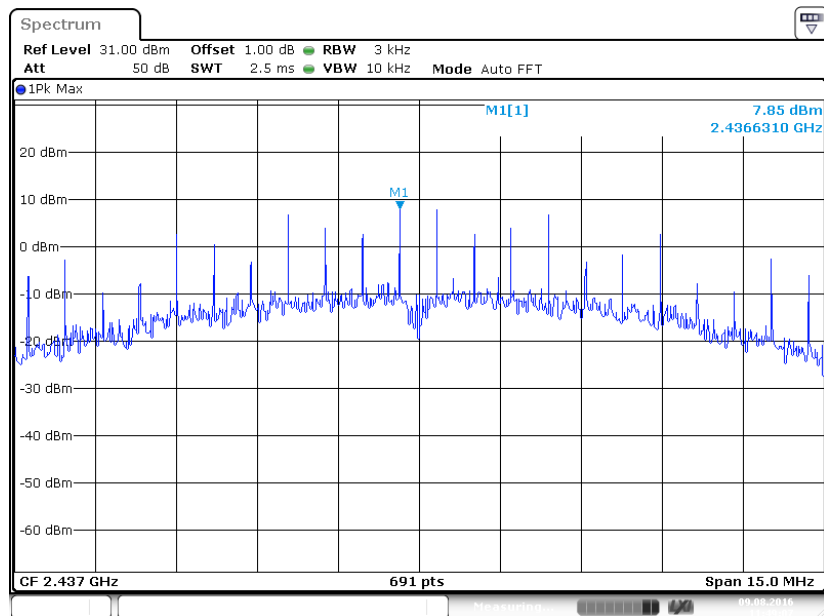
Test Result: Pass

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
802.11b mode			
Low	2412	7.36	≤ 8
Middle	2437	7.85	≤ 8
High	2462	7.89	≤ 8
802.11g mode			
Low	2412	-12.51	≤ 8
Middle	2437	-11.93	≤ 8
High	2462	-12.25	≤ 8
802.11n-HT20 mode			
Low	2412	-12.48	≤ 8
Middle	2437	-12.33	≤ 8
High	2462	-12.04	≤ 8
802.11n-HT40 mode			
Low	2422	-15.31	≤ 8
Middle	2437	-15.04	≤ 8
High	2452	-14.89	≤ 8

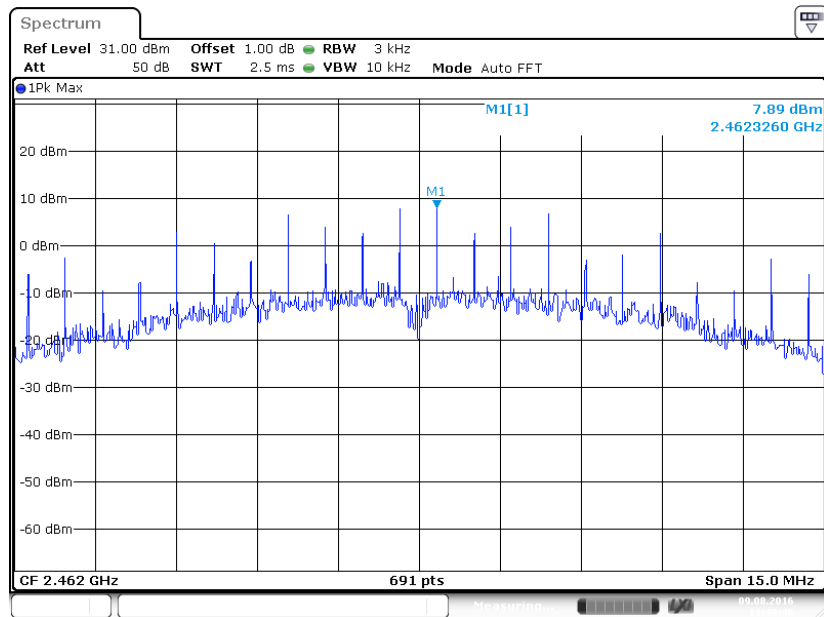
Power Spectral Density, 802.11b Low Channel



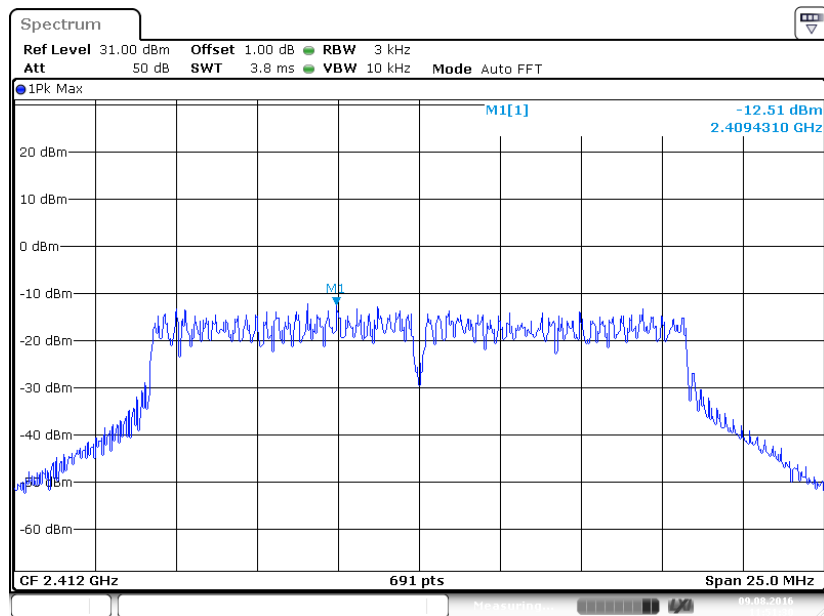
Power Spectral Density, 802.11b Middle Channel



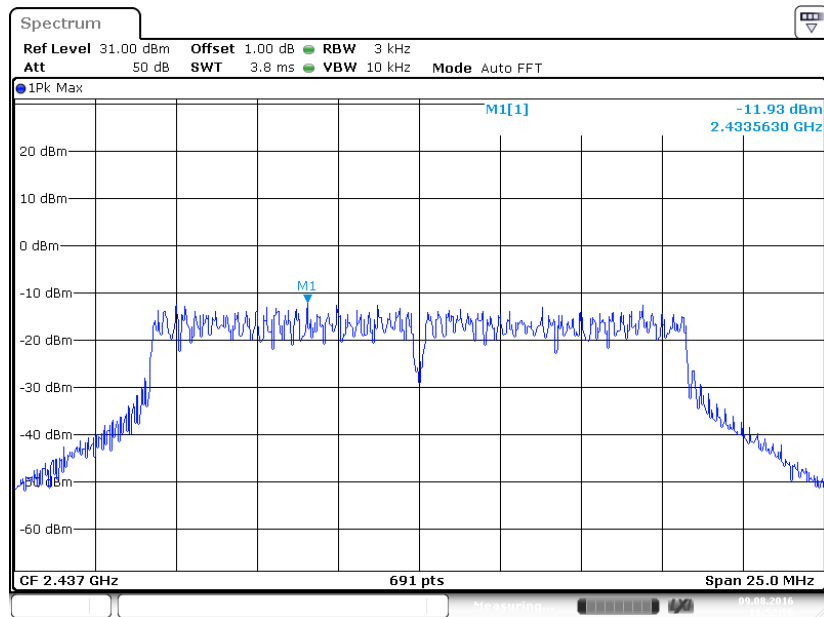
Power Spectral Density, 802.11b High Channel



Power Spectral Density, 802.11g Low Channel

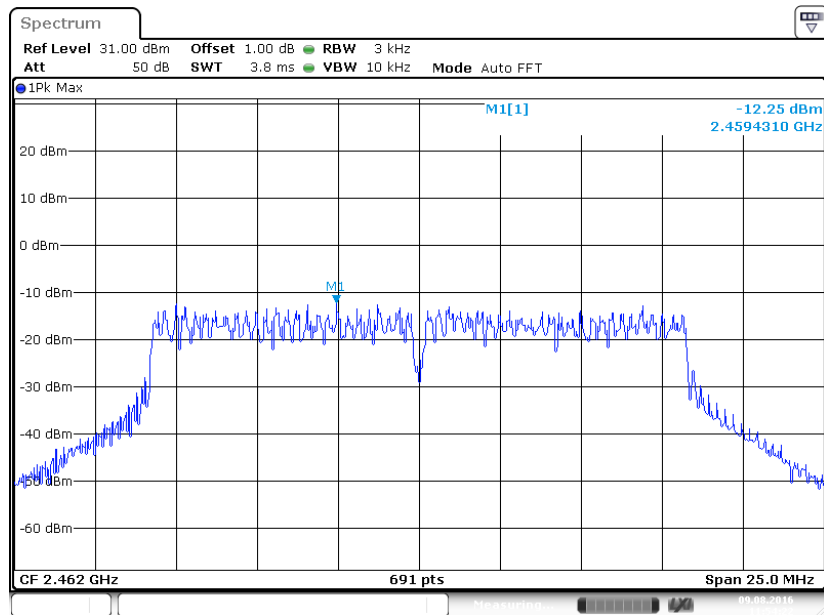


Power Spectral Density, 802.11g Middle Channel



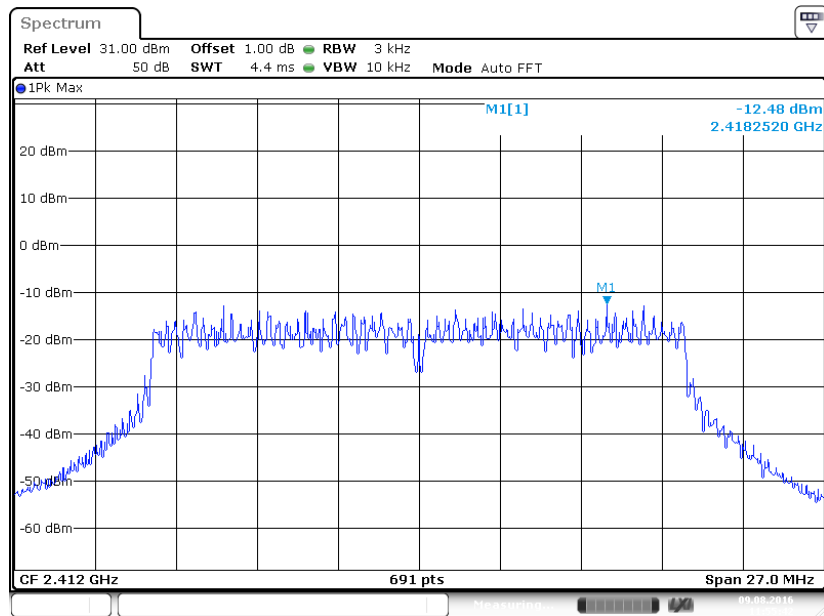
Date: 9 AUG 2016 11:52:57

Power Spectral Density, 802.11g High Channel



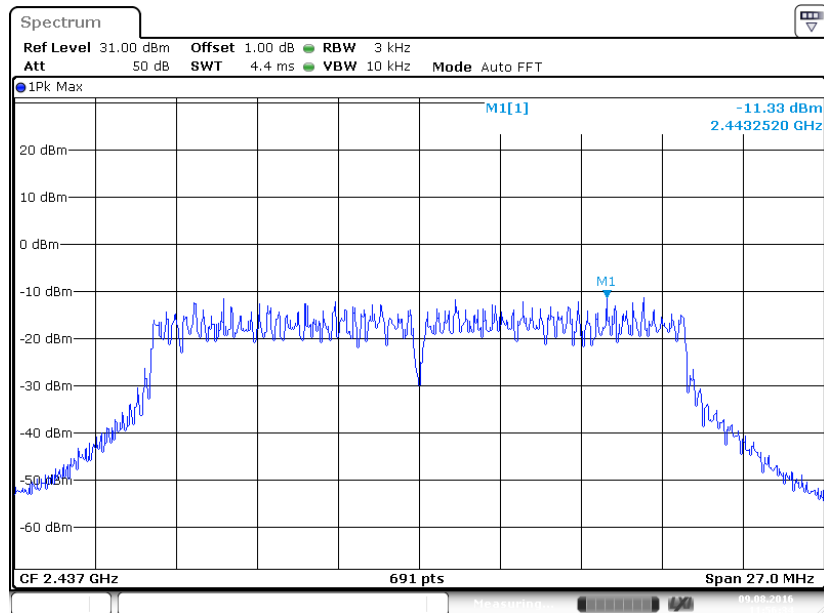
Date: 9 AUG 2016 11:54:22

Power Spectral Density, 802.11n-HT20 Low Channel



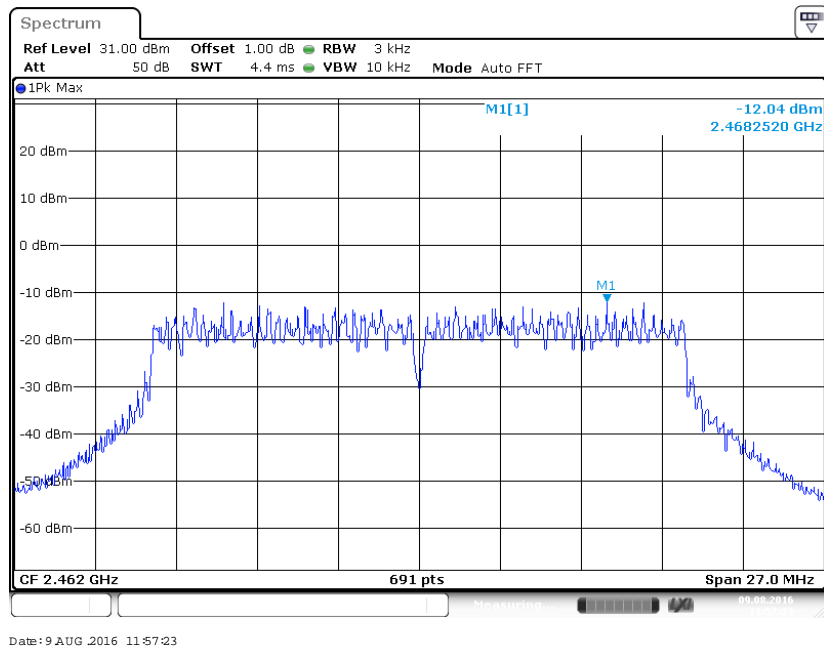
Date: 9 AUG. 2016 11:55:41

Power Spectral Density, 802.11n-HT20 Middle Channel

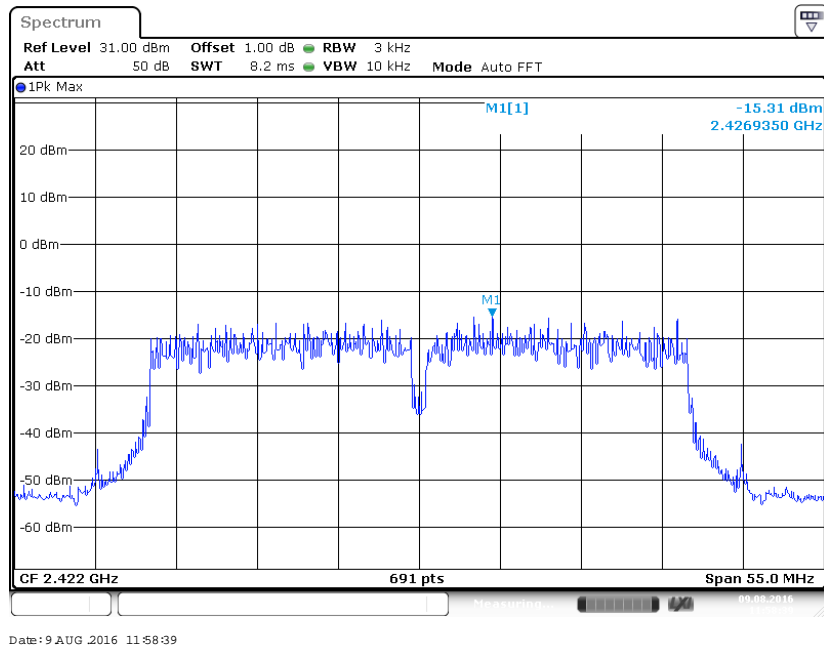


Date: 9 AUG. 2016 11:56:35

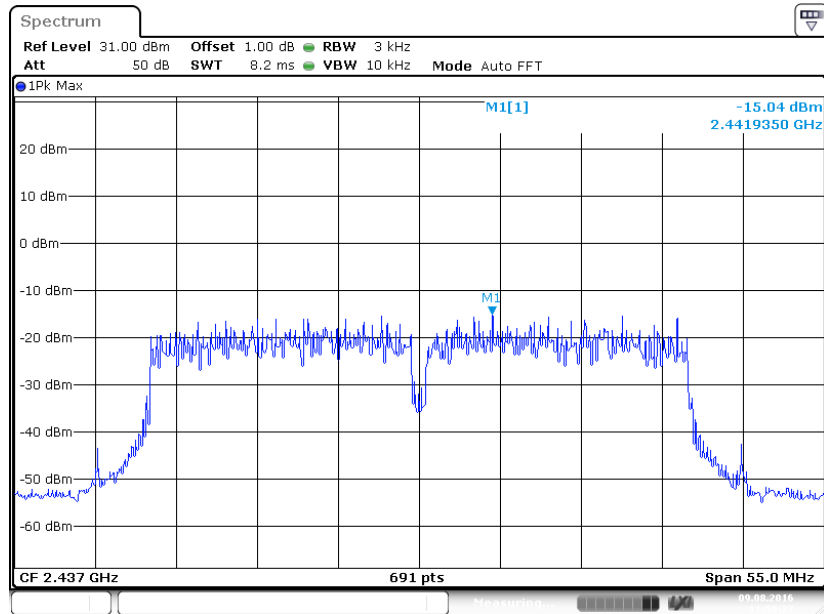
Power Spectral Density, 802.11n-HT20 High Channel



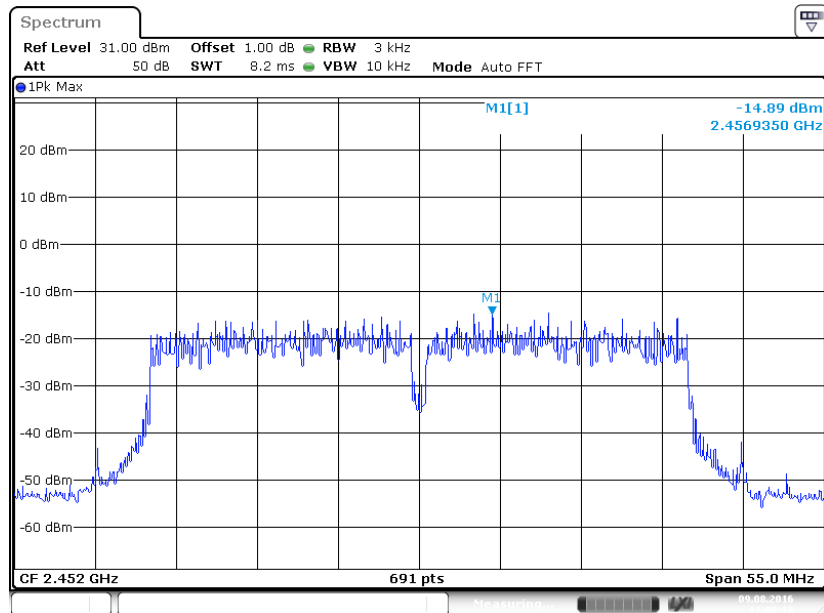
Power Spectral Density, 802.11n-HT40 Low Channel



Power Spectral Density, 802.11n-HT40 Middle Channel



Power Spectral Density, 802.11n-HT40 High Channel



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