TESTING LABORATORY
CERTIFICATE #4820.01

FCC PART 15.247

TEST REPORT

For

ZIONCOM ELECTRONICS (SHENZHEN) LTD.

Building A1-A2, Lantian Science and Technology Park, Xinyu Road,Xinqiao Henggang Block, Shajing Street, Baoan District, Shenzhen,China

FCC ID: X7DIP04348

Report Type:	**Product Name:**
Original Report	AC1200 Wireless Dual Band Gigabit Router

Report Number:	RDG180816001-00A
Report Date:	2018-12-04
Reviewed By:	Jerry Zhang EMC Manager Jerry Zhang
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan). This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA* or any agency of the Federal Government. * This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "*".

TABLE OF CONTENTS

GENERAL INFORMATION **4**
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4
OBJECTIVE 4
RELATED SUBMITTAL(S)/GRANT(S) 4
TEST METHODOLOGY 4
MEASUREMENT UNCERTAINTY 5
TEST FACILITY 5
SYSTEM TEST CONFIGURATION **6**
DESCRIPTION OF TEST CONFIGURATION 6
EUT EXERCISE SOFTWARE 6
EQUIPMENT MODIFICATIONS 9
LOCAL SUPPORT EQUIPMENT LIST AND DETAILS 9
SUPPORT CABLE LIST AND DETAILS 9
BLOCK DIAGRAM OF TEST SETUP 10
SUMMARY OF TEST RESULTS **11**
FCC §15.247 (i) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE) **12**
APPLICABLE STANDARD 12
FCC §15.203 - ANTENNA REQUIREMENT **14**
APPLICABLE STANDARD 14
ANTENNA CONNECTOR CONSTRUCTION 14
FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS **15**
APPLICABLE STANDARD 15
EUT SETUP 15
EMI TEST RECEIVER SETUP 15
TEST PROCEDURE 16
CORRECTED AMPLITUDE & MARGIN CALCULATION 16
TEST EQUIPMENT LIST AND DETAILS 16
TEST DATA 17
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS **19**
APPLICABLE STANDARD 19
EUT SETUP 19
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP 20
TEST PROCEDURE 20
CORRECTED AMPLITUDE & MARGIN CALCULATION 20
TEST EQUIPMENT LIST AND DETAILS 21
TEST DATA 21
FCC §15.247(a) (2)–6 dB EMISSION BANDWIDTH **30**
APPLICABLE STANDARD 30
TEST PROCEDURE 30
TEST EQUIPMENT LIST AND DETAILS 30
TEST DATA 30
FCC §15.247(b) (3) - MAXIMUM PEAK CONDUCTED OUTPUT POWER **38**
APPLICABLE STANDARD 38
TEST PROCEDURE 38
TEST EQUIPMENT LIST AND DETAILS 38

TEST DATA 39

FCC §15.247(d)– 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE.....40

APPLICABLE STANDARD 40
TEST PROCEDURE 40
TEST EQUIPMENT LIST AND DETAILS.....40
TEST DATA 41

FCC §15.247(e) - POWER SPECTRAL DENSITY 50

APPLICABLE STANDARD 50
TEST PROCEDURE 50
TEST EQUIPMENT LIST AND DETAILS.....50
TEST DATA 50

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:		AC1200 Wireless Dual Band Gigabit Router
EUT Model:		A3100R
Multiple Model:		IP04348
FCC ID:		X7DIP04348
Rated Input Voltage:		9VDC from adapter
Adapter Information	**Model:**	DCP005C09080U
	Input:	AC 100-240V, 50/60Hz, 0.2A
	Output:	DC 9V, 0.8A
External Dimension:		190mm(L)*134mm(W)*32mm(H)
Serial Number:		180816001
EUT Received Date:		2018-08-21

Note: The series product, model IP04348 are electrically identical with the model A3100R, we selected A3100R for fully testing .The difference between them was explained in the attached declaration letter.

Objective

This report is prepared on behalf of *ZIONCOM ELECTRONICS (SHENZHEN) LTD.* in accordance with Part 2, Subpart J, Part 15, Subparts A and C of the Federal Communications Commission's rules.

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

Related Submittal(s)/Grant(s)

FCC Part 15E NII submissions with FCC ID: X7DIP04348.

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 558074 D01 15.247 Meas Guidance v05.

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

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.55 dB,200M~1GHz: 5.92 dB,1G~6GHz: 4.98 dB, 6G~18GHz: 5.89 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.5 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

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 Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier : CN0022.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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

The device has 3 external antennas for 2.4GHz and 2 external antennas for 5GHz. For 2.4GHz band, 2T3R was employed, ANT 5(2.4G Chain 0) and ANT 6(2.4G Chain 1) for transmitting and receiving, ANT 7 only for Receiving.

Total 11 channels are provided for 2.4GHz band:

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

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations. The device supports SISO in all modes, and MIMO in 802.11n modes, per pretest, MIMO 2TX mode was the worst mode and reported for 802.11n modes.

EUT Exercise Software

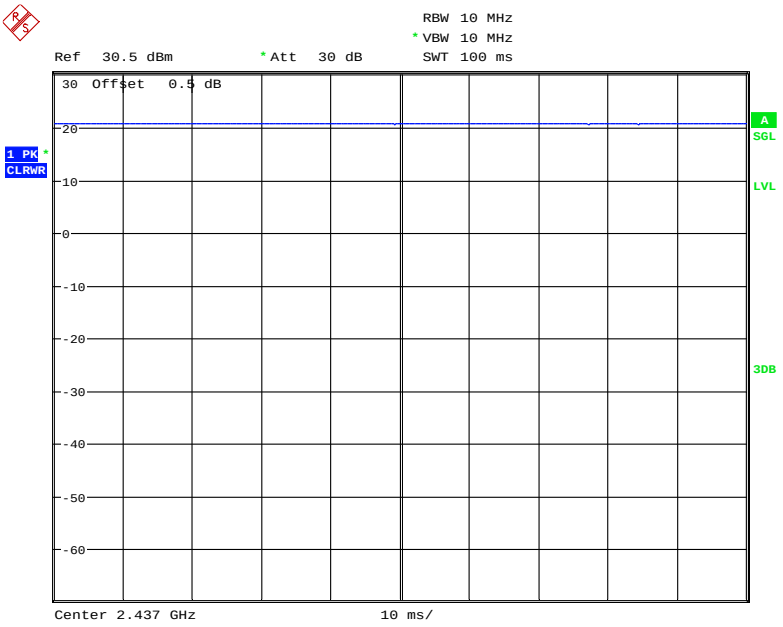
The software “MP-TOOL” was used for testing, which was provided by manufacturer. The maximum power was configured as below table, that provided by the manufacturer:

Mode	Channel	Frequency (MHz)	Data rate	Power level	
				Chain 0	Chain 1
802.11b	Low	2412	1 Mbps	48	48
	Middle	2437	1 Mbps	48	48
	High	2462	1 Mbps	45	45
802.11g	Low	2412	6 Mbps	43	43
	Middle	2437	6 Mbps	44	44
	High	2462	6 Mbps	44	44
802.11n ht20	Low	2412	MCS8	40	42
	Middle	2437	MCS8	40	42
	High	2462	MCS8	40	42
802.11n ht40	Low	2422	MCS8	40	42
	Middle	2437	MCS8	40	42
	High	2452	MCS8	40	42

The maximum duty cycle as following table:

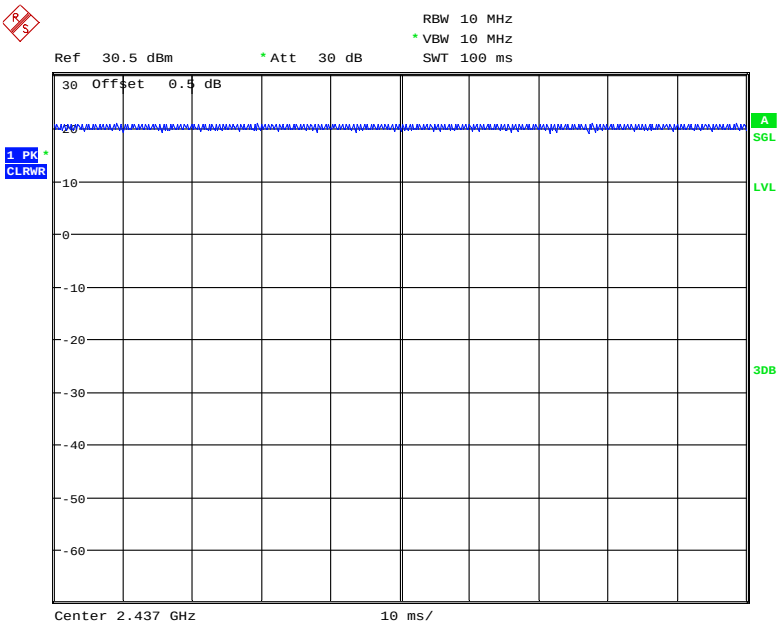
Test mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)
802.11b	100	100	100
802.11g	100	100	100
802.11n ht20	100	100	100
802.11n ht40	100	100	100

802.11b



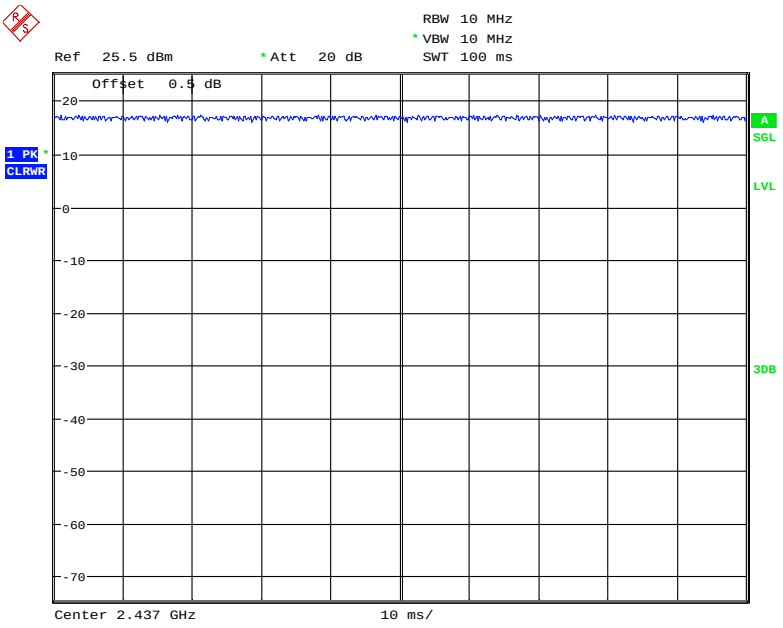
Date: 30.NOV.2018 09:25:55

802.11g



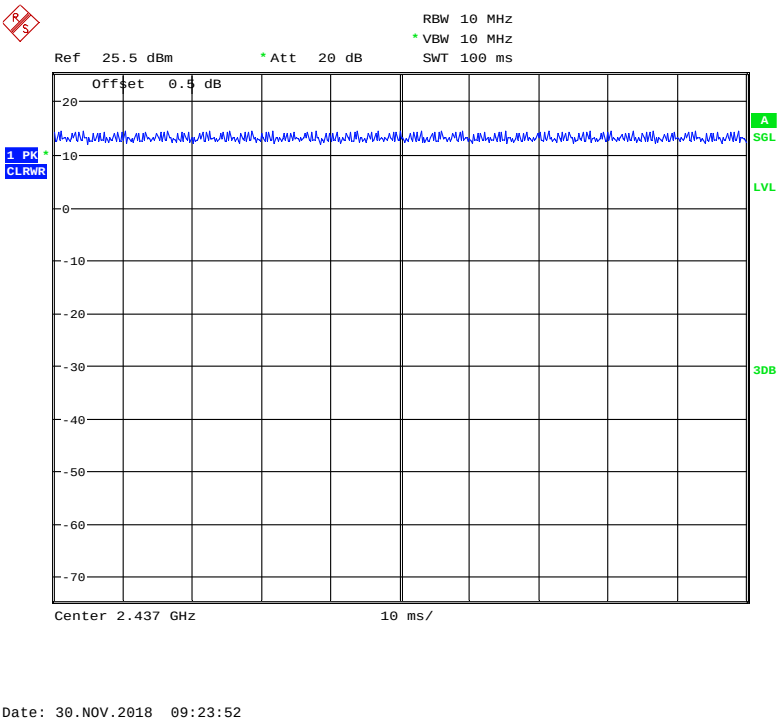
Date: 30.NOV.2018 09:26:19

802.11n ht20



Date: 30.NOV.2018 09:24:20

802.11n ht40



Equipment Modifications

No modification was made to the EUT.

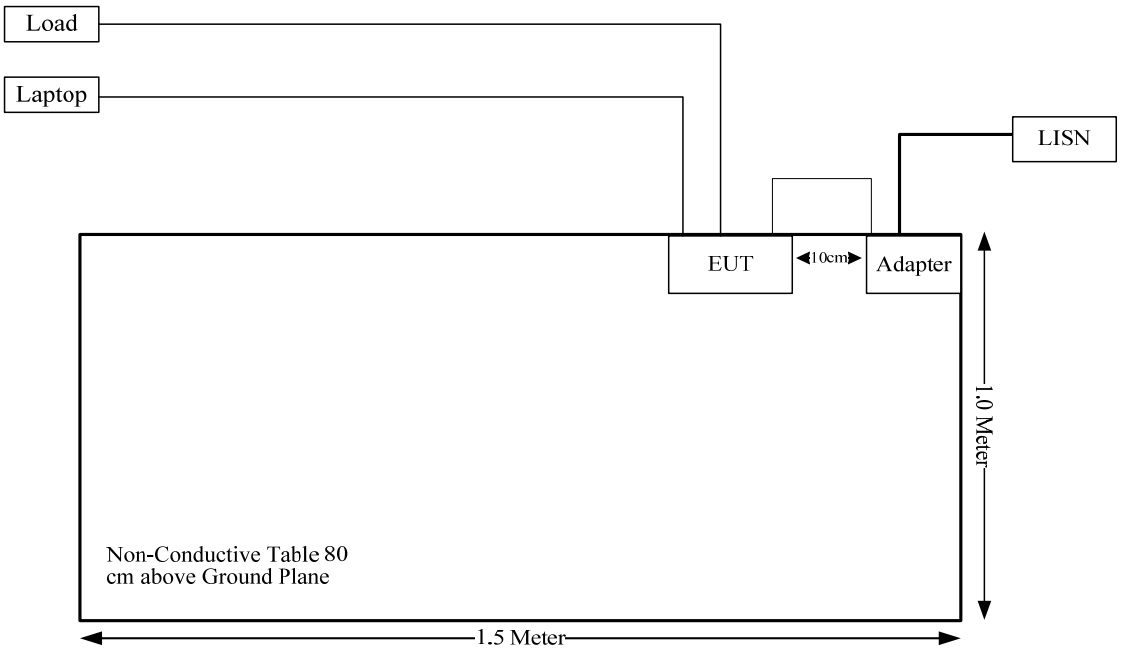
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Laptop	PP11L	QDS-BRCM1232
Un-known	Load	/	

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 Cable*2	Yes	No	10	EUT	Load
RJ45 Cable	Yes	No	10	EUT	Laptop
Adapter Cable	No	No	1.2	Adapter	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1091	Maximum Permissible Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB 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 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

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

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

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

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

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

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculated Data:

Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
	(dBi)	(numeric)	(dBm)	(mW)			
2412-2462	5	3.16	26	398.11	20.00	0.25	1.0
5150-5250	5	3.16	15	31.62	20.00	0.02	1.0
5725-5850	5	3.16	15	31.62	20.00	0.02	1.0

The 2.4GHz band and 5GHz band can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$=S_{2.4}/S_{limit-2.4} + S_5/S_{limit-5}$

=0.25/1+0.02/1

=0.27

< 1.0

Result: The device meet FCC MPE at 20 cm distance

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 have 3 external antennas for 2.4G Band, which were permanently attached to the Unit, all antenna gains are 5dBi. Please refer to the EUT photo.

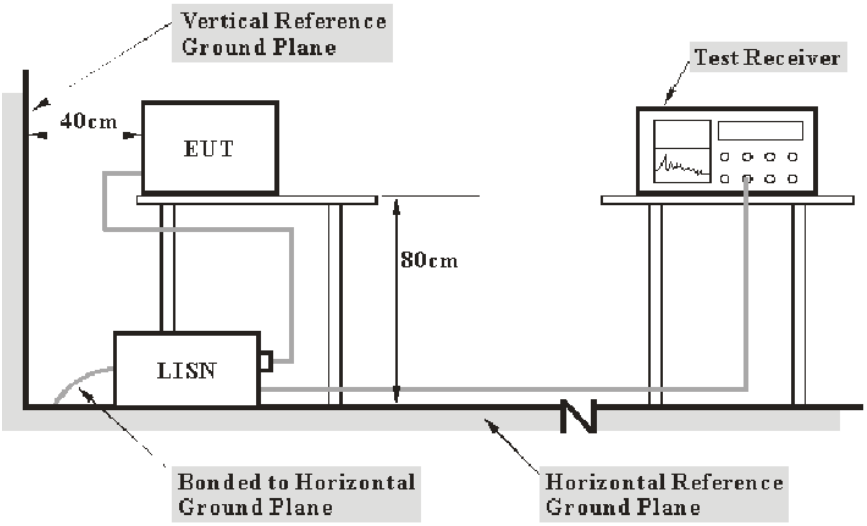
Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207(a)

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.

The spacing between the peripherals was 10 cm.

The adapter was connected to the main LISN with a 120 V/60 Hz AC 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 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	2017-12-11	2018-12-11
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-01	2017-09-05	2018-09-05
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
R&S	Two-line V-network	ENV 216	101614	2017-12-08	2018-12-08

*** 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

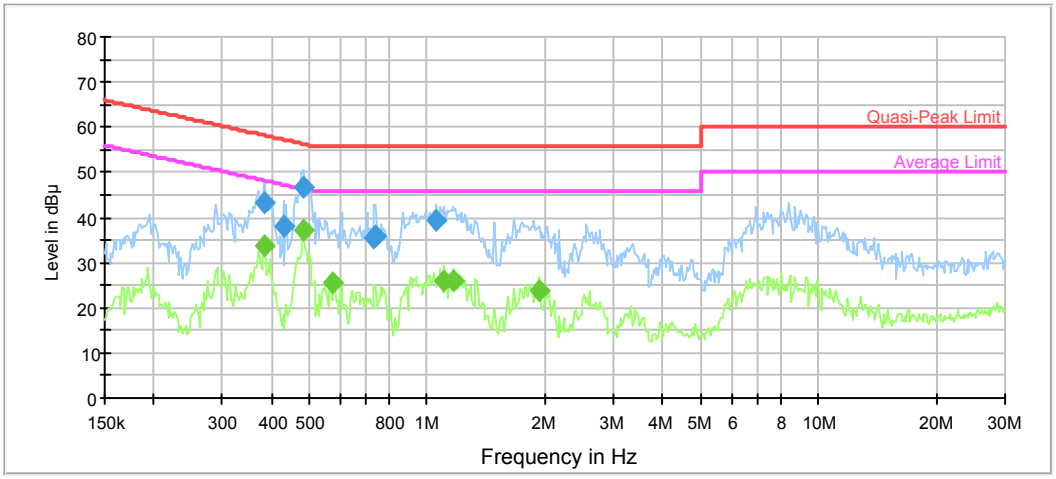
Environmental Conditions

Temperature:	27.6℃
Relative Humidity:	49 %
ATM Pressure:	100.7kPa

The testing was performed by Lily Xie on 2018-09-02.

Test Mode: Transmitting (Wi-Fi 802.11b mode high channel was the worst)

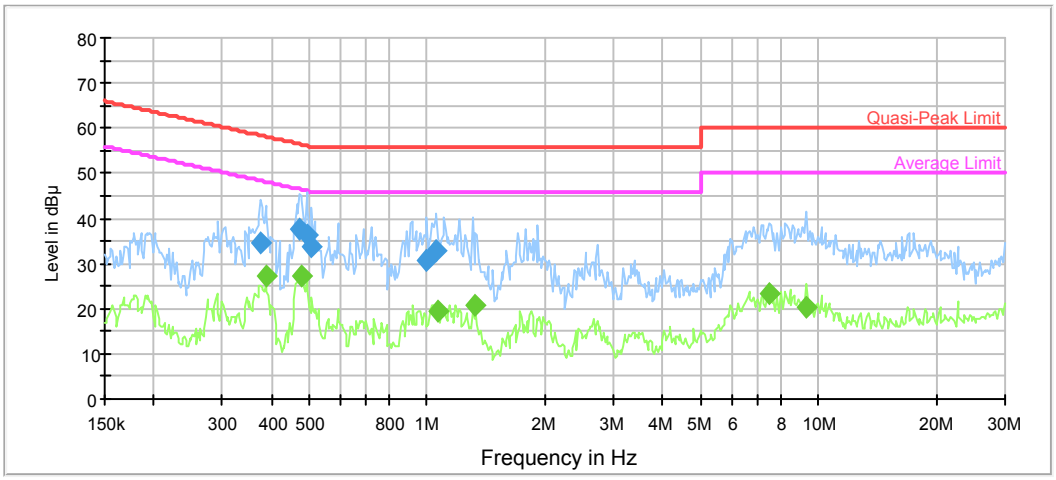
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.384091	43.2	9.000	L1	10.0	15.0	58.2	Compliance
0.429420	38.2	9.000	L1	9.9	19.1	57.3	Compliance
0.483938	46.8	9.000	L1	9.9	9.5	56.3	Compliance
0.732382	35.5	9.000	L1	9.8	20.5	56.0	Compliance
0.738241	35.9	9.000	L1	9.8	20.1	56.0	Compliance
1.056628	39.4	9.000	L1	9.8	16.6	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.384091	33.8	9.000	L1	10.0	14.4	48.2	Compliance
0.483938	37.0	9.000	L1	9.9	9.3	46.3	Compliance
0.576662	25.4	9.000	L1	9.8	20.6	46.0	Compliance
1.108371	26.1	9.000	L1	9.8	19.9	46.0	Compliance
1.162648	26.0	9.000	L1	9.8	20.0	46.0	Compliance
1.936076	23.7	9.000	L1	9.7	22.3	46.0	Compliance

AC120 V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.375019	34.6	9.000	N	10.0	23.8	58.4	Compliance
0.472507	37.5	9.000	N	9.9	19.0	56.5	Compliance
0.491712	36.3	9.000	N	9.9	19.8	56.1	Compliance
0.507637	33.5	9.000	N	9.9	22.5	56.0	Compliance
0.999305	30.9	9.000	N	9.8	25.1	56.0	Compliance
1.056628	32.9	9.000	N	9.8	23.1	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.387164	27.1	9.000	N	10.0	21.0	48.1	Compliance
0.480097	27.4	9.000	N	9.9	18.9	46.3	Compliance
1.065081	19.3	9.000	N	9.8	26.7	46.0	Compliance
1.331304	20.8	9.000	N	9.7	25.2	46.0	Compliance
7.502618	23.3	9.000	N	9.8	26.7	50.0	Compliance
9.303518	20.4	9.000	N	9.9	29.6	50.0	Compliance

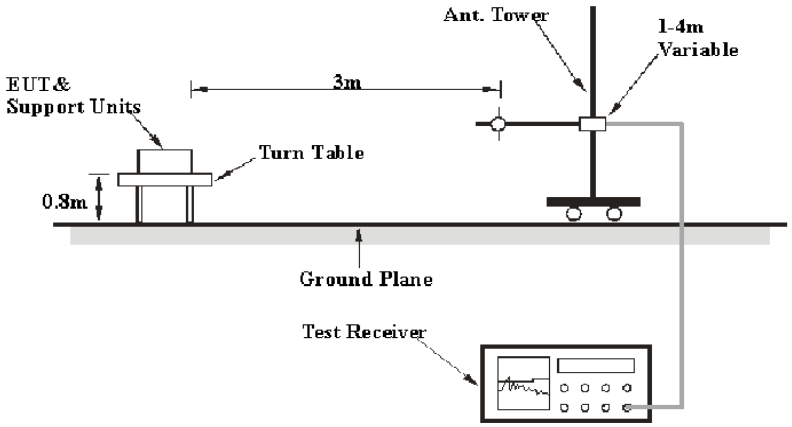
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

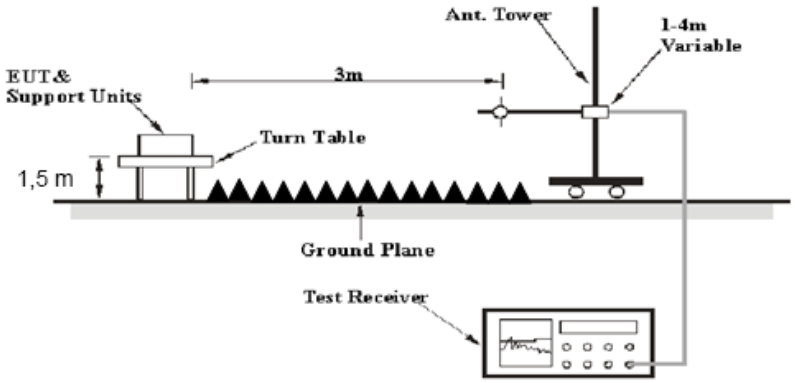
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission Below 1GHz tests were performed in the 10 meters chamber test site, above 1GHz tests were performed in the 3 meters chamber test site A, 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:

30MHz-1000MHz:

Measurement	RBW	Video B/W	IF B/W
QP	120 kHz	300 kHz	120kHz

1GHz- 25GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	1/T

Note: T is minimum transmission duration

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 Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + 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	100035	2018-08-03	2019-08-03
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Sunol Sciences	Antenna	JB3	A060611-3	2017-07-21	2019-07-21
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-02	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-02	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-2200-01	2017-09-05	2018-09-05
HP	Amplifier	8447F	2443A01912	2017-09-05	2018-09-05
Rohde & Schwarz	Signal Analyzer	FSIQ26	831929/005	2017-08-31	2018-08-31
TDK RF	Horn Antenna	HRN-0118	130 084	2016-01-05	2019-01-04
MICRO-COAX	Coaxial Cable	UFA147-1-2362-100100	64639 231029-001	2018-02-24	2019-02-28
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2017-09-05	2018-09-05
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2016-11-18	2019-11-18
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2018-06-27	2019-06-27
E-Microwave	Band-stop Filters	OBSF-2400-2483.5-S	OE01601525	2018-06-16	2019-06-16
Micro-tronics	High Pass Filter	HPM50111	S/N-G217	2018-06-16	2019-06-16

*** 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:	26.6~26.9 °C
Relative Humidity:	41~50 %
ATM Pressure:	99.6~99.9 kPa

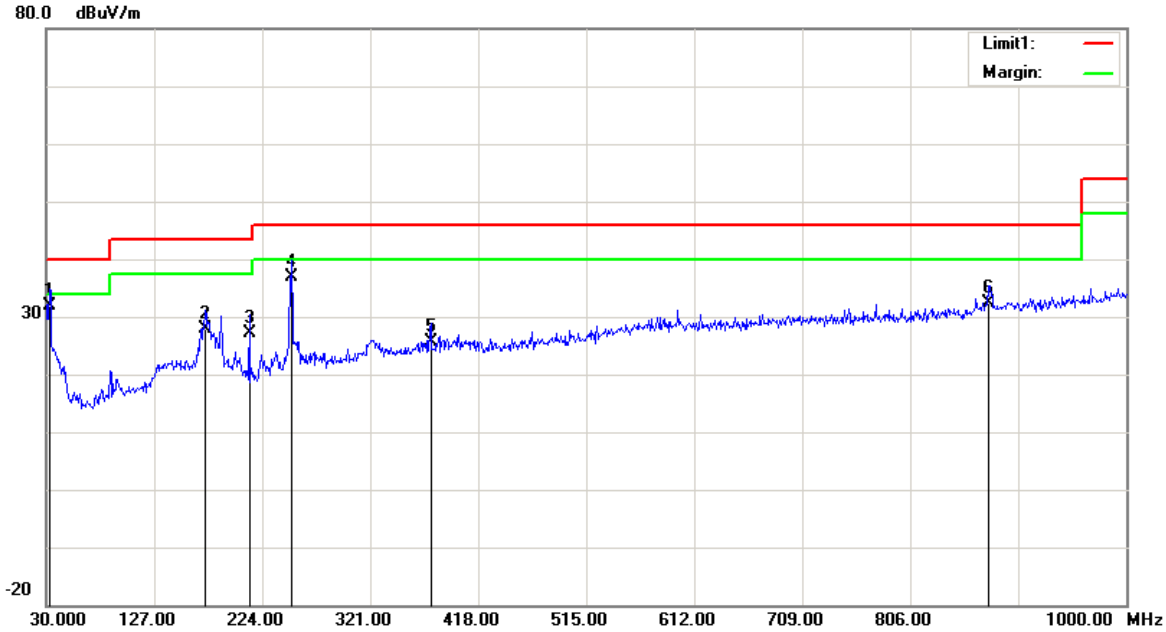
** The testing was performed by Vito Chen and Neil Liao on 2018-08-23 & 2018-08-29*

Test Result: Compliance, please Refer to the following data

Test Mode: Transmitting

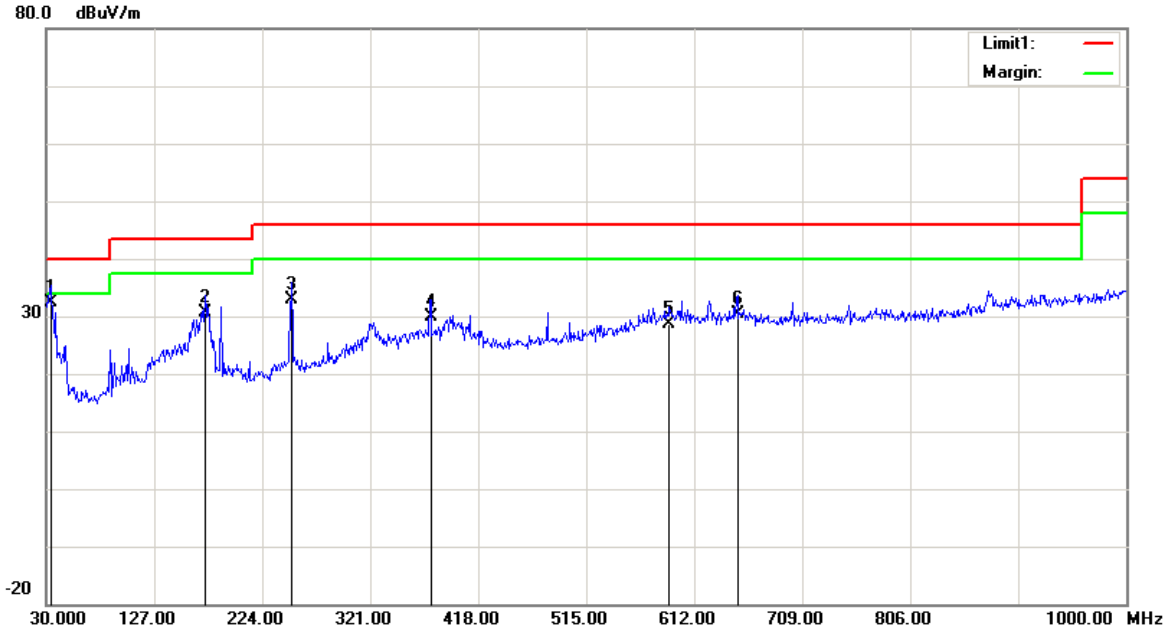
1) 30MHz-1GHz(802.11b high channel was the worst)

Horizontal:



Frequency (MHz)	Receiver Reading (dBuV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
32.9100	35.22	QP	-3.42	31.80	40.00	8.20
172.5900	35.17	QP	-7.17	28.00	43.50	15.50
212.3600	36.23	QP	-9.03	27.20	43.50	16.30
250.1900	44.39	QP	-7.59	36.80	46.00	9.20
375.3200	28.50	QP	-2.80	25.70	46.00	20.30
875.8400	25.39	QP	7.01	32.40	46.00	13.60

Vertical:



Frequency (MHz)	Receiver Reading (dBuV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
33.8800	36.28	QP	-3.88	32.40	40.00	7.60
172.5900	37.87	QP	-7.17	30.70	43.50	12.80
250.1900	40.39	QP	-7.59	32.80	46.00	13.20
375.3200	32.70	QP	-2.80	29.90	46.00	16.10
589.6900	26.08	QP	2.62	28.70	46.00	17.30
650.8000	26.98	QP	3.52	30.50	46.00	15.50

2) 1-25GHz:

802.11b (Chain 0 was the worst):

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/m)					
Low Channel: 2412 MHz									
2412.00	67.51	PK	H	24.84	3.35	0.00	95.70	N/A	N/A
2412.00	63.50	AV	H	24.84	3.35	0.00	91.69	N/A	N/A
2412.00	84.48	PK	V	24.84	3.35	0.00	112.67	N/A	N/A
2412.00	79.47	AV	V	24.84	3.35	0.00	107.66	N/A	N/A
2390.00	29.73	PK	V	24.80	3.33	0.00	57.86	74.00	16.14
2390.00	19.73	AV	V	24.80	3.33	0.00	47.86	54.00	6.14
4824.00	47.80	PK	V	29.75	4.58	27.41	54.72	74.00	19.28
4824.00	44.98	AV	V	29.75	4.58	27.41	51.90	54.00	2.10
7236.00	39.99	PK	V	33.98	5.62	27.22	52.37	74.00	21.63
7236.00	30.59	AV	V	33.98	5.62	27.22	42.97	54.00	11.03
Middle Channel: 2437 MHz									
2437.00	67.54	PK	H	24.89	3.36	0.00	95.79	N/A	N/A
2437.00	63.24	AV	H	24.89	3.36	0.00	91.49	N/A	N/A
2437.00	84.50	PK	V	24.89	3.36	0.00	112.75	N/A	N/A
2437.00	79.54	AV	V	24.89	3.36	0.00	107.79	N/A	N/A
4874.00	47.72	PK	V	29.85	4.57	27.54	54.60	74.00	19.40
4874.00	44.78	AV	V	29.85	4.57	27.54	51.66	54.00	2.34
7311.00	40.19	PK	V	34.10	5.68	27.28	52.69	74.00	21.31
7311.00	30.79	AV	V	34.10	5.68	27.28	43.29	54.00	10.71
High Channel: 2462 MHz									
2462.00	70.43	PK	H	24.93	3.37	0.00	98.73	N/A	N/A
2462.00	64.70	AV	H	24.93	3.37	0.00	93.00	N/A	N/A
2462.00	84.84	PK	V	24.93	3.37	0.00	113.14	N/A	N/A
2462.00	80.04	AV	V	24.93	3.37	0.00	108.34	N/A	N/A
2483.50	31.78	PK	V	24.97	3.38	0.00	60.13	74.00	13.87
2483.50	18.67	AV	V	24.97	3.38	0.00	47.02	54.00	6.98
4924.00	48.27	PK	V	29.95	4.57	27.51	55.28	74.00	18.72
4924.00	45.89	AV	V	29.95	4.57	27.51	52.90	54.00	1.10
7386.00	37.79	PK	V	34.22	5.74	27.18	50.57	74.00	23.43
7386.00	28.45	AV	V	34.22	5.74	27.18	41.23	54.00	12.77

802.11g (Chain 0 was the worst):

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/m)					
Low Channel: 2412 MHz									
2412.00	72.41	PK	H	24.84	3.35	0.00	100.60	N/A	N/A
2412.00	63.53	AV	H	24.84	3.35	0.00	91.72	N/A	N/A
2412.00	84.56	PK	V	24.84	3.35	0.00	112.75	N/A	N/A
2412.00	75.31	AV	V	24.84	3.35	0.00	103.50	N/A	N/A
2390.00	44.19	PK	V	24.80	3.33	0.00	72.32	74.00	1.68
2390.00	24.30	AV	V	24.80	3.33	0.00	52.43	54.00	1.57
4824.00	44.36	PK	V	29.75	4.58	27.41	51.28	74.00	22.72
4824.00	31.43	AV	V	29.75	4.58	27.41	38.35	54.00	15.65
7236.00	46.54	PK	V	33.98	5.62	27.22	58.92	74.00	15.08
7236.00	34.87	AV	V	33.98	5.62	27.22	47.25	54.00	6.75
Middle Channel: 2437 MHz									
2437.00	71.76	PK	H	24.89	3.36	0.00	100.01	N/A	N/A
2437.00	62.91	AV	H	24.89	3.36	0.00	91.16	N/A	N/A
2437.00	85.80	PK	V	24.89	3.36	0.00	114.05	N/A	N/A
2437.00	76.41	AV	V	24.89	3.36	0.00	104.66	N/A	N/A
4874.00	46.31	PK	V	29.85	4.57	27.54	53.19	74.00	20.81
4874.00	33.30	AV	V	29.85	4.57	27.54	40.18	54.00	13.82
7311.00	47.87	PK	V	34.10	5.68	27.28	60.37	74.00	13.63
7311.00	34.95	AV	V	34.10	5.68	27.28	47.45	54.00	6.55
High Channel: 2462 MHz									
2462.00	72.33	PK	H	24.93	3.37	0.00	100.63	N/A	N/A
2462.00	63.90	AV	H	24.93	3.37	0.00	92.20	N/A	N/A
2462.00	85.68	PK	V	24.93	3.37	0.00	113.98	N/A	N/A
2462.00	75.88	AV	V	24.93	3.37	0.00	104.18	N/A	N/A
2483.50	41.38	PK	V	24.97	3.38	0.00	69.73	74.00	4.27
2483.50	23.48	AV	V	24.97	3.38	0.00	51.83	54.00	2.17
4924.00	46.80	PK	V	29.95	4.57	27.51	53.81	74.00	20.19
4924.00	33.65	AV	V	29.95	4.57	27.51	40.66	54.00	13.34
7386.00	46.93	PK	V	34.22	5.74	27.18	59.71	74.00	14.29
7386.00	35.01	AV	V	34.22	5.74	27.18	47.79	54.00	6.21

802.11n ht20(2Tx was the worst)

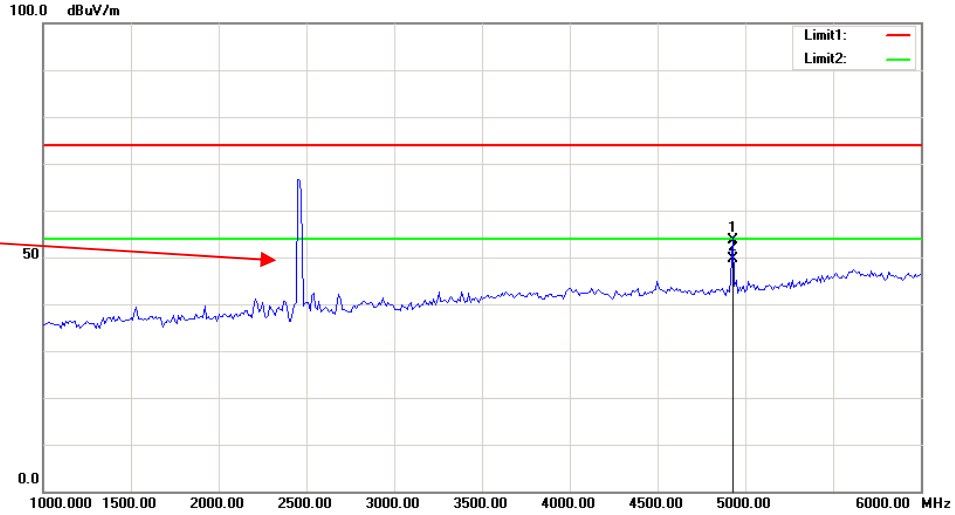
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB/m)					
Low Channel: 2412 MHz									
2412.00	75.12	PK	H	24.84	3.35	0.00	103.31	N/A	N/A
2412.00	65.83	AV	H	24.84	3.35	0.00	94.02	N/A	N/A
2412.00	85.90	PK	V	24.84	3.35	0.00	114.09	N/A	N/A
2412.00	74.75	AV	V	24.84	3.35	0.00	102.94	N/A	N/A
2390.00	39.07	PK	V	24.80	3.33	0.00	67.20	74.00	6.80
2390.00	21.26	AV	V	24.80	3.33	0.00	49.39	54.00	4.61
4824.00	45.85	PK	V	29.75	4.58	27.41	52.77	74.00	21.23
4824.00	32.31	AV	V	29.75	4.58	27.41	39.23	54.00	14.77
7236.00	44.33	PK	V	33.98	5.62	27.22	56.71	74.00	17.29
7236.00	31.36	AV	V	33.98	5.62	27.22	43.74	54.00	10.26
Middle Channel: 2437 MHz									
2437.00	72.60	PK	H	24.89	3.36	0.00	100.85	N/A	N/A
2437.00	63.52	AV	H	24.89	3.36	0.00	91.77	N/A	N/A
2437.00	86.79	PK	V	24.89	3.36	0.00	115.04	N/A	N/A
2437.00	87.05	AV	V	24.89	3.36	0.00	115.30	N/A	N/A
4874.00	45.43	PK	V	29.85	4.57	27.54	52.31	74.00	21.69
4874.00	31.43	AV	V	29.85	4.57	27.54	38.31	54.00	15.69
7311.00	44.99	PK	V	34.10	5.68	27.28	57.49	74.00	16.51
7311.00	31.02	AV	V	34.10	5.68	27.28	43.52	54.00	10.48
High Channel: 2462 MHz									
2462.00	75.33	PK	H	24.93	3.37	0.00	103.63	N/A	N/A
2462.00	64.95	AV	H	24.93	3.37	0.00	93.25	N/A	N/A
2462.00	85.97	PK	V	24.93	3.37	0.00	114.27	N/A	N/A
2462.00	74.24	AV	V	24.93	3.37	0.00	102.54	N/A	N/A
2483.50	35.63	PK	V	24.97	3.38	0.00	63.98	74.00	10.02
2483.50	20.06	AV	V	24.97	3.38	0.00	48.41	54.00	5.59
4924.00	45.99	PK	V	29.95	4.57	27.51	53.00	74.00	21.00
4924.00	31.58	AV	V	29.95	4.57	27.51	38.59	54.00	15.41
7386.00	45.39	PK	V	34.22	5.74	27.18	58.17	74.00	15.83
7386.00	31.83	AV	V	34.22	5.74	27.18	44.61	54.00	9.39

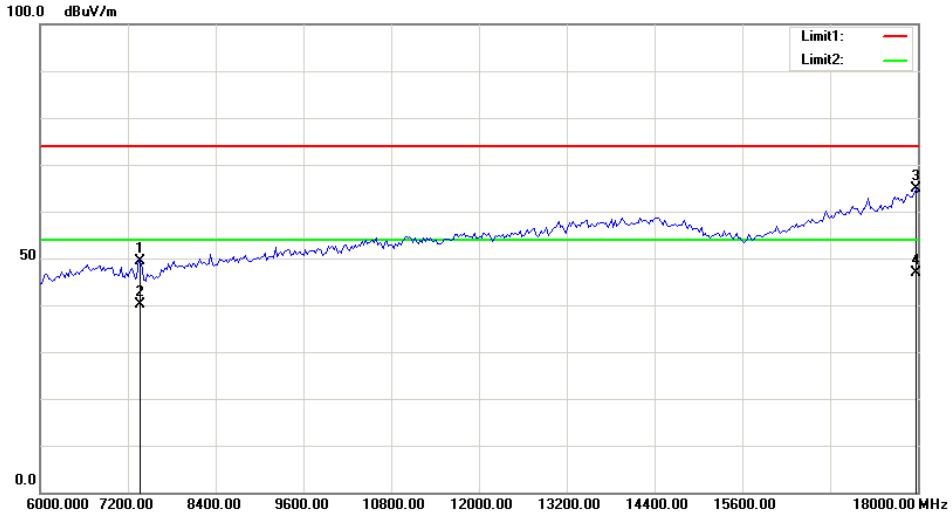
802.11n ht40(2Tx was the worst)

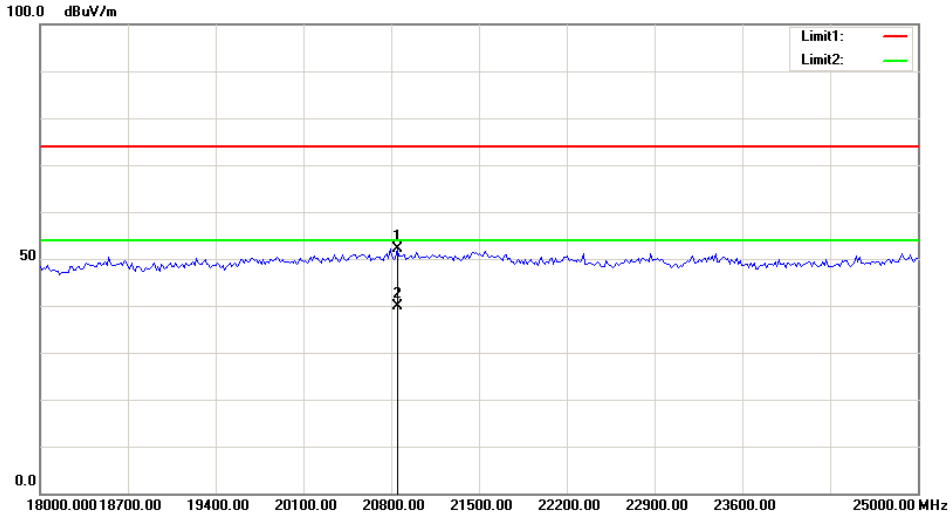
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB/m)					
Low Channel: 2422 MHz									
2422.00	69.57	PK	H	24.86	3.35	0.00	97.78	N/A	N/A
2422.00	59.81	AV	H	24.86	3.35	0.00	88.02	N/A	N/A
2422.00	81.07	PK	V	24.86	3.35	0.00	109.28	N/A	N/A
2422.00	70.41	AV	V	24.86	3.35	0.00	98.62	N/A	N/A
2390.00	37.83	PK	V	24.80	3.33	0.00	65.96	74.00	8.04
2390.00	24.50	AV	V	24.80	3.33	0.00	52.63	54.00	1.37
4844.00	45.53	PK	V	29.79	4.57	27.46	52.43	74.00	21.57
4844.00	32.96	AV	V	29.79	4.57	27.46	39.86	54.00	14.14
7266.00	41.29	PK	V	34.03	5.64	27.25	53.71	74.00	20.29
7266.00	28.57	AV	V	34.03	5.64	27.25	40.99	54.00	13.01
Middle Channel: 2437 MHz									
2437.00	70.82	PK	H	24.89	3.36	0.00	99.07	N/A	N/A
2437.00	59.93	AV	H	24.89	3.36	0.00	88.18	N/A	N/A
2437.00	83.16	PK	V	24.89	3.36	0.00	111.41	N/A	N/A
2437.00	72.58	AV	V	24.89	3.36	0.00	100.83	N/A	N/A
4874.00	42.45	PK	V	29.85	4.57	27.54	49.33	74.00	24.67
4874.00	30.82	AV	V	29.85	4.57	27.54	37.70	54.00	16.30
7311.00	44.20	PK	V	34.10	5.68	27.28	56.70	74.00	17.30
7311.00	31.68	AV	V	34.10	5.68	27.28	44.18	54.00	9.82
High Channel: 2452 MHz									
2452.00	69.84	PK	H	24.91	3.37	0.00	98.12	N/A	N/A
2452.00	58.93	AV	H	24.91	3.37	0.00	87.21	N/A	N/A
2452.00	82.55	PK	V	24.91	3.37	0.00	110.83	N/A	N/A
2452.00	71.01	AV	V	24.91	3.37	0.00	99.29	N/A	N/A
2483.50	39.82	PK	V	24.97	3.38	0.00	68.17	74.00	5.83
2483.50	22.80	AV	V	24.97	3.38	0.00	51.15	54.00	2.85
4904.00	43.32	PK	V	29.91	4.56	27.58	50.21	74.00	23.79
4904.00	30.63	AV	V	29.91	4.56	27.58	37.52	54.00	16.48
7356.00	40.90	PK	V	34.17	5.72	27.22	53.57	74.00	20.43
7356.00	29.58	AV	V	34.17	5.72	27.22	42.25	54.00	11.75

Test plots(802.11 b mode chain 0 high channel was the worst)
Horizontal:

Fundamental Test with Band Rejection Filter

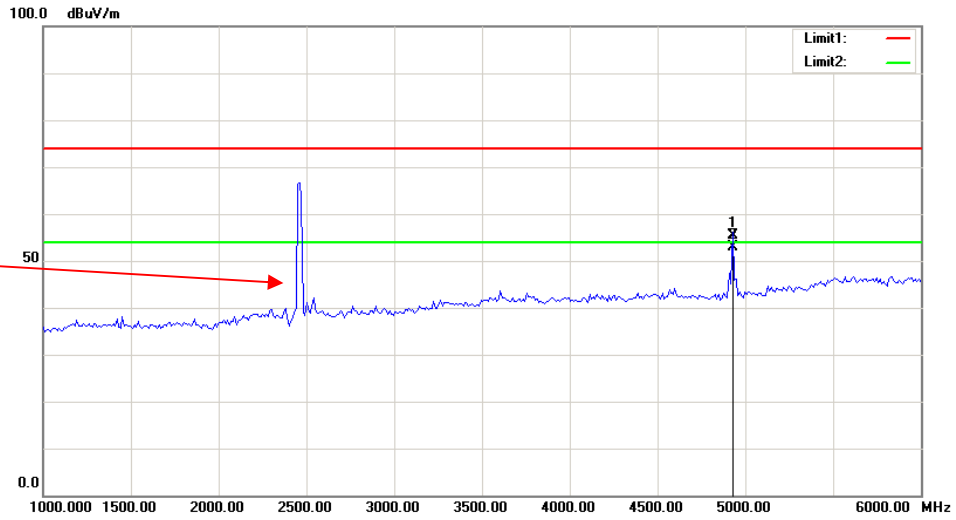


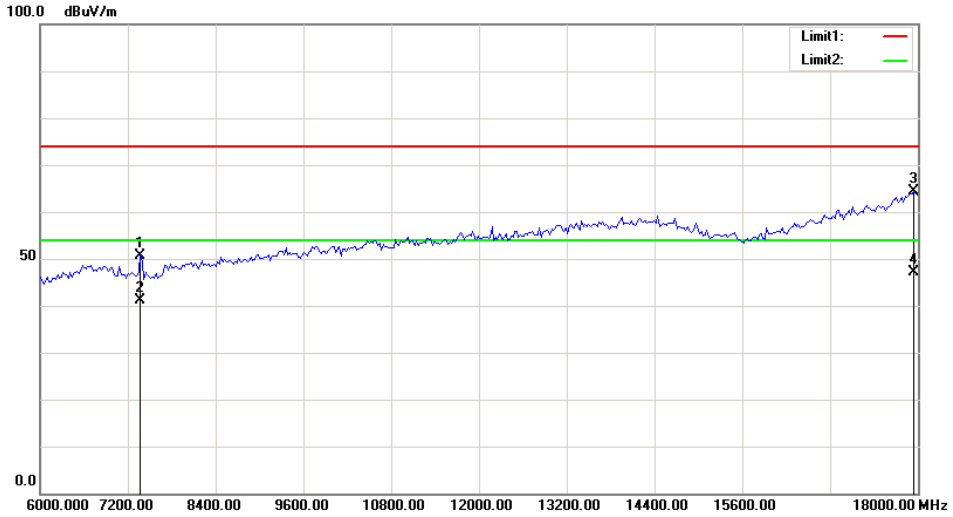


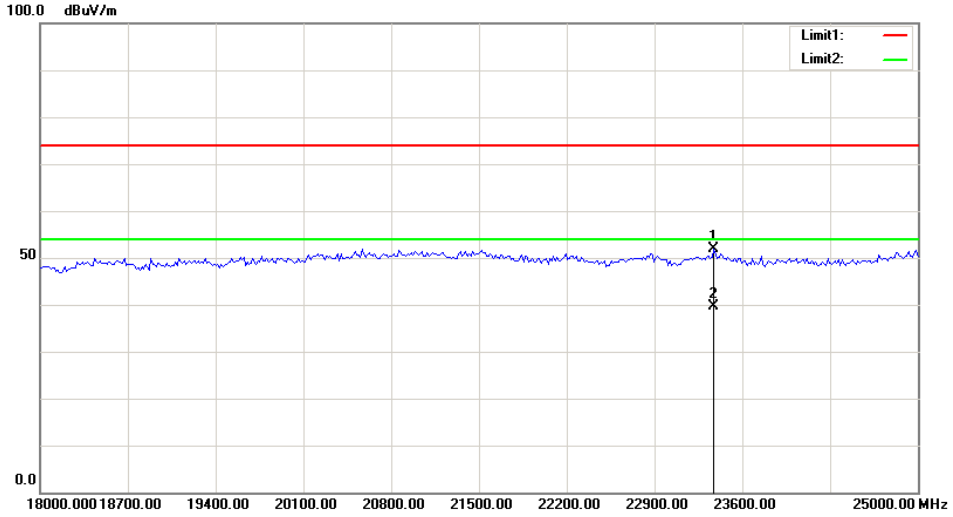


Vertical:

Fundamental Test with Band Rejection Filter







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

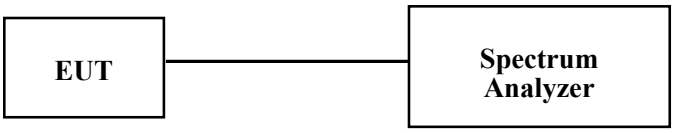
Applicable Standard

According to FCC §15.247(a) (2)

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

Test Procedure

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



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2018-01-04	2019-01-04
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	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 Data

Environmental Conditions

Temperature:	25.4°C
Relative Humidity:	53 %
ATM Pressure:	100.5 kPa

** The testing was performed by Nami Quan on 2018-11-29.*

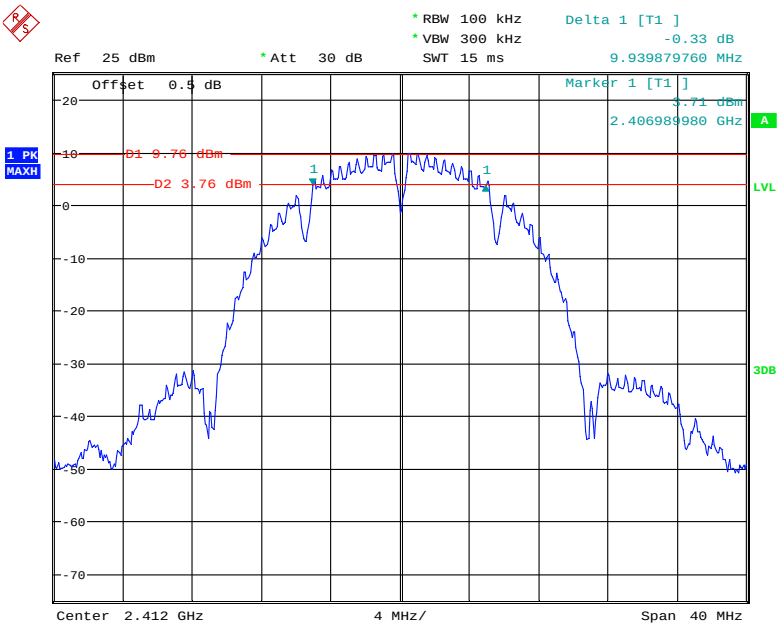
Test Mode: Transmitting

Test Result: Compliance.

Test performed at chain 0, please refer to the following table and plots.

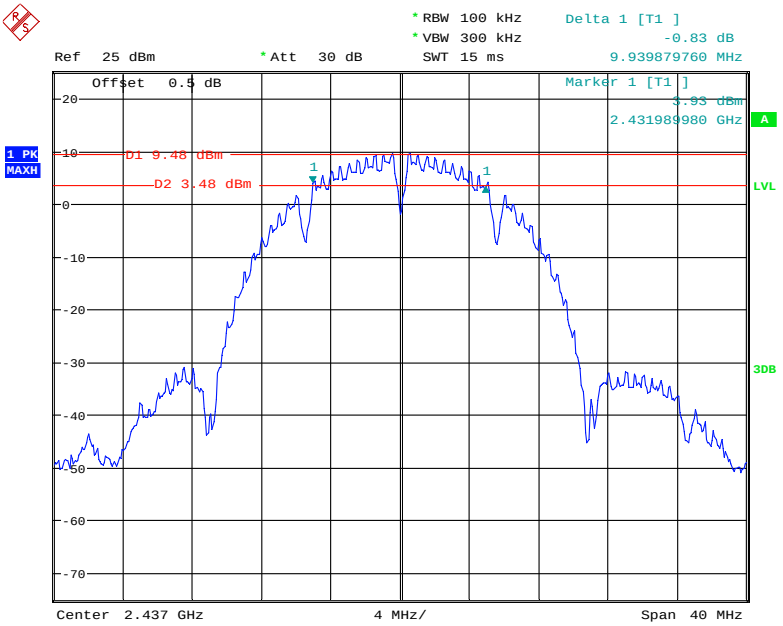
Test mode	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)
802.11b	2412	9.940	≥0.5
	2437	9.940	≥0.5
	2462	9.940	≥0.5
802.11g	2412	16.273	≥0.5
	2437	16.513	≥0.5
	2462	16.433	≥0.5
802.11n ht20	2412	17.555	≥0.5
	2437	17.555	≥0.5
	2462	17.475	≥0.5
802.11n ht40	2422	36.232	≥0.5
	2437	36.232	≥0.5
	2452	36.232	≥0.5

802.11b Low Channel



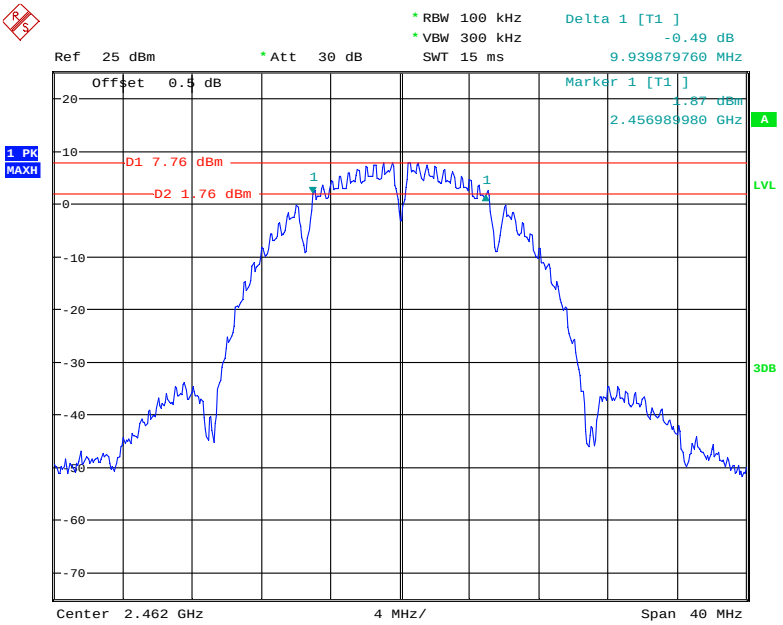
Date: 29.NOV.2018 15:56:46

802.11b Middle Channel



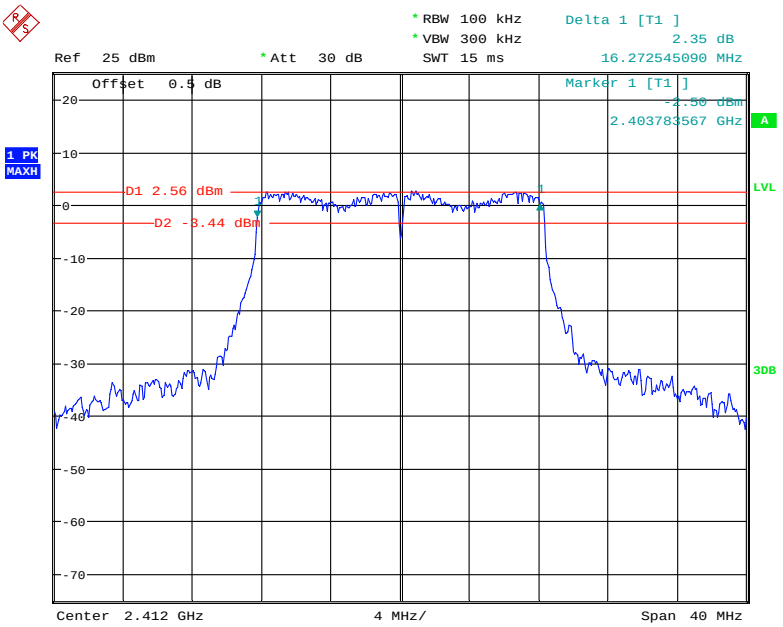
Date: 29.NOV.2018 15:59:11

802.11b High Channel



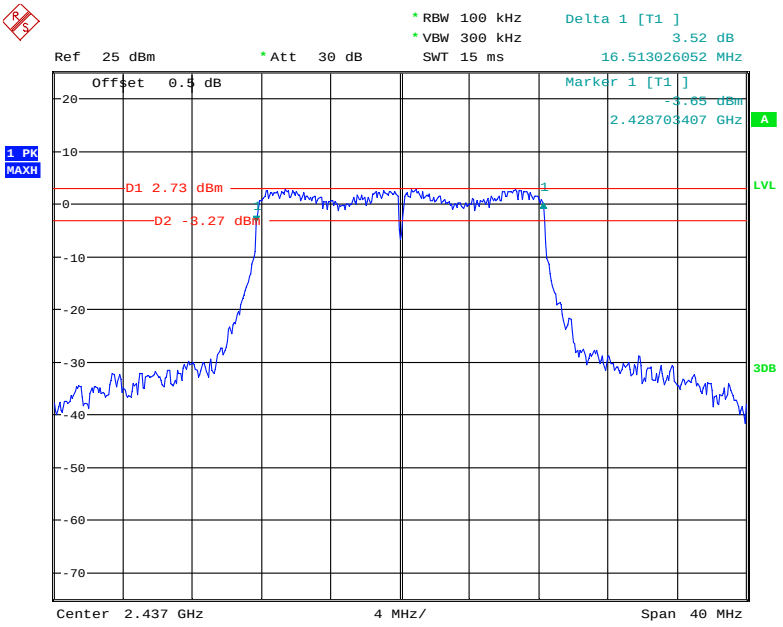
Date: 29.NOV.2018 16:01:20

802.11g Low Channel



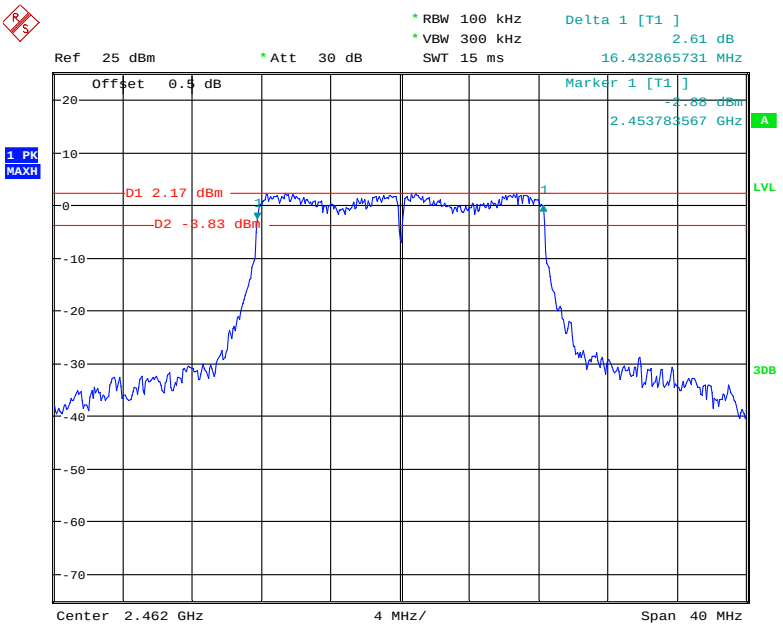
Date: 29.NOV.2018 16:04:10

802.11g Middle Channel



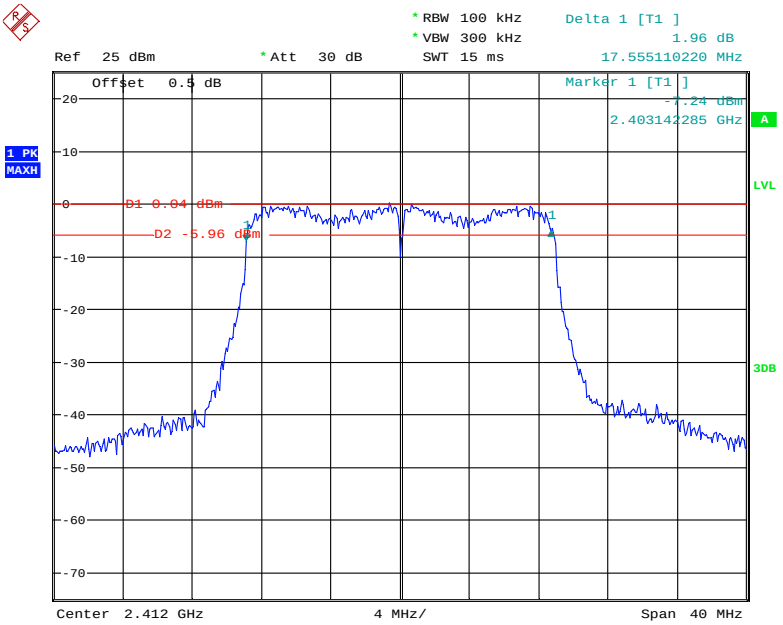
Date: 29.NOV.2018 16:06:49

802.11g High Channel



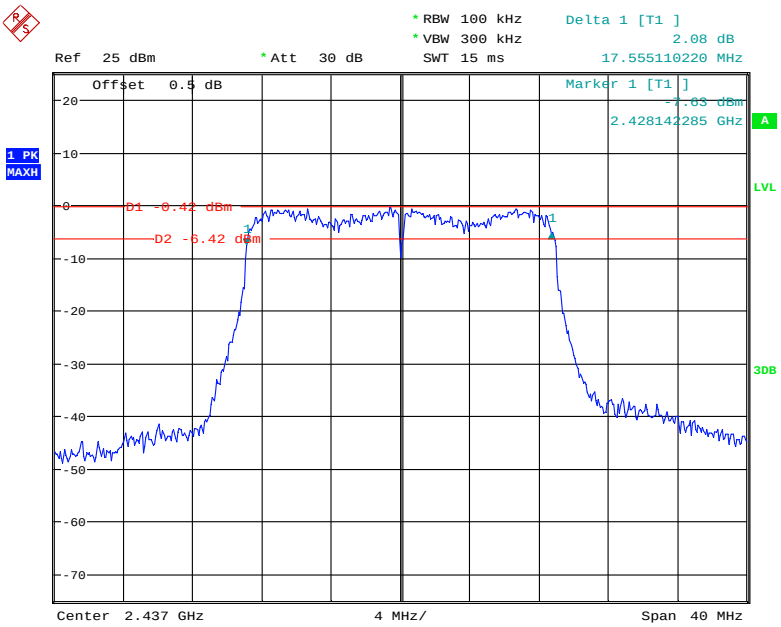
Date: 29.NOV.2018 16:10:18

802.11n ht20 Low Channel



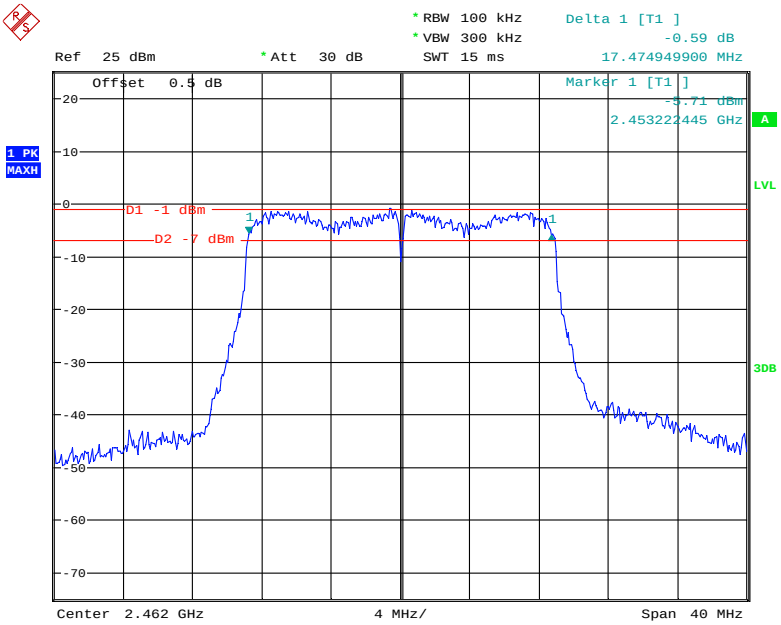
Date: 29.NOV.2018 16:35:01

802.11n ht20 Middle Channel



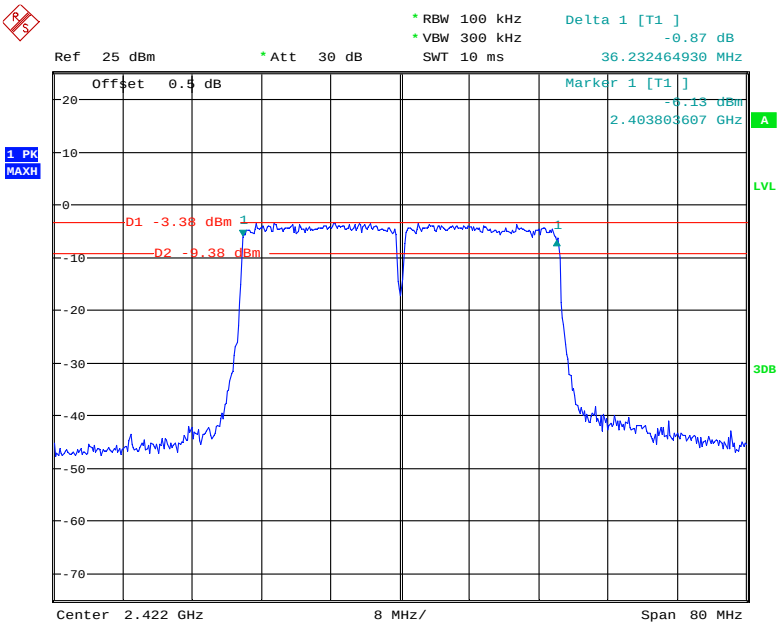
Date: 29.NOV.2018 16:38:15

802.11n ht20 High Channel



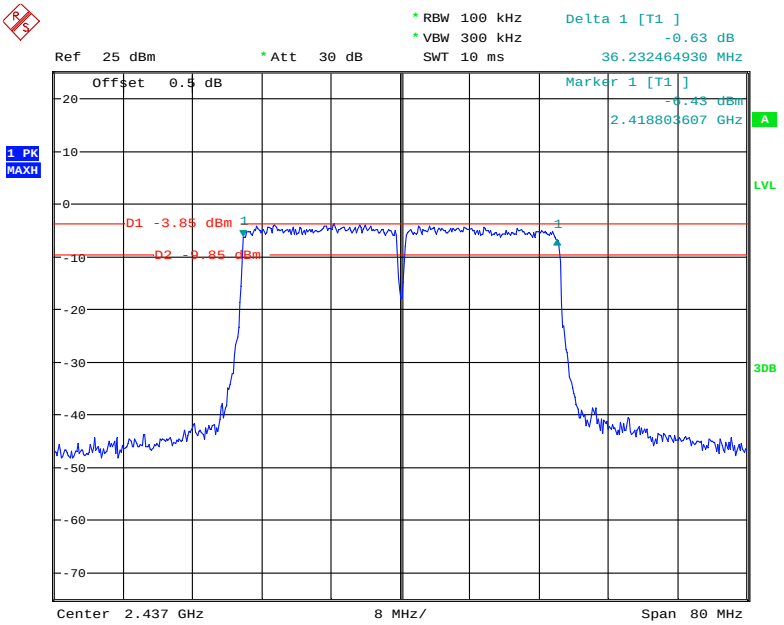
Date: 29.NOV.2018 16:40:57

802.11n ht40 Low Channel



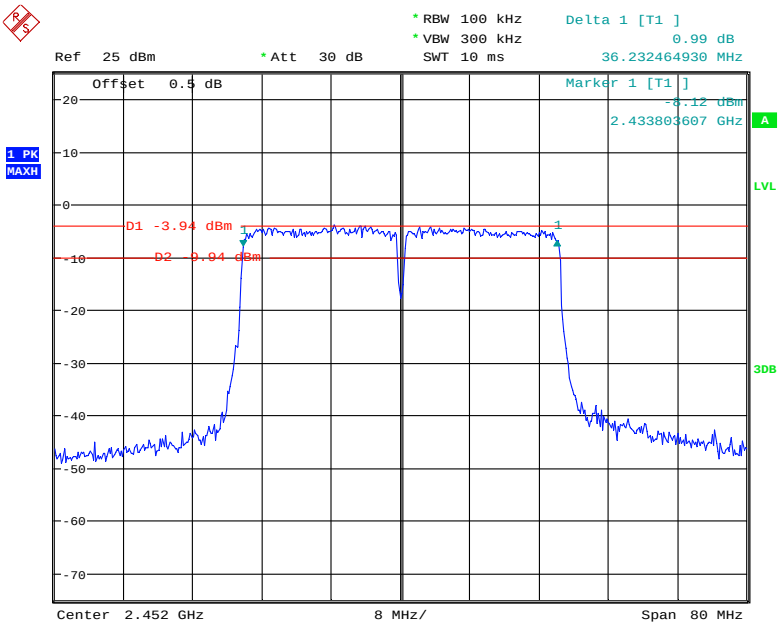
Date: 29.NOV.2018 16:22:34

802.11n ht40 Middle Channel



Date: 29.NOV.2018 16:27:16

802.11n ht40 High Channel



Date: 29.NOV.2018 16:30:39

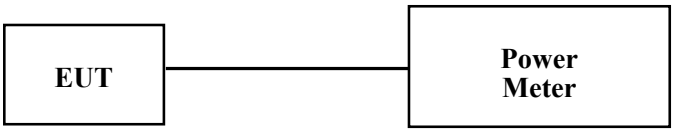
FCC §15.247(b) (3) - MAXIMUM PEAK CONDUCTED OUTPUT POWER

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. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to test equipment.
3. Add a correction factor to the display.
4. Set the power Meter to test Peak output power, record the result as peak power.
5. Set the power meter to test average output power, record the result as average power.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	USB Wideband Power Sensor	U2022XA	MY5417006	2017-12-11	2018-12-11
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	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 Data

Environmental Conditions

Temperature:	25.4°C
Relative Humidity:	53 %
ATM Pressure:	100.5 kPa

** The testing was performed by Nami Quan on 2018-11-29.*

Test Mode: Transmitting

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

Test mode	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Total (dBm)	Limit (dBm)
		Chain 0	Chain 1		
802.11b	2412	22.16	20.99	/	30
	2437	21.93	20.57	/	30
	2462	20.05	19.12	/	30
802.11g	2412	24.80	23.06	/	30
	2437	24.80	23.13	/	30
	2462	24.66	22.99	/	30
802.11n ht20	2412	22.71	22.90	25.82	30
	2437	22.58	22.65	25.63	30
	2462	22.16	22.42	25.30	30
802.11n ht40	2422	22.46	22.71	25.60	30
	2437	23.01	22.74	25.89	30
	2452	22.15	22.64	25.41	30

Note: the maximum antenna gain is 5 dBi, the device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
So:
Directional gain = G_{ANT} + Array Gain = 5dBi < 6dBi

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

Applicable Standard

According to FCC§15.247(d):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	FSU 26	200256	2018-01-04	2019-01-04
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	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 Data

Environmental Conditions

Temperature:	25.4°C
Relative Humidity:	53 %
ATM Pressure:	100.5 kPa

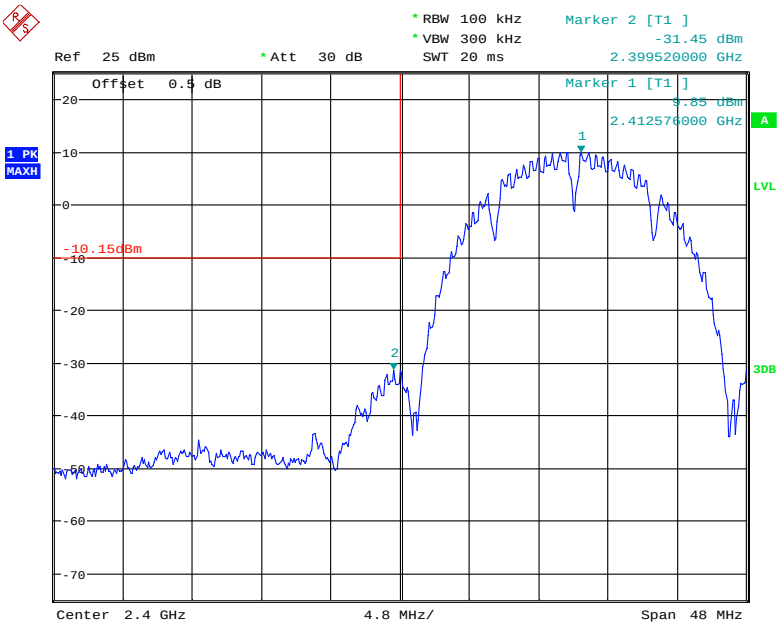
** The testing was performed by Nami Quan on 2018-11-29.*

Test mode: Transmitting

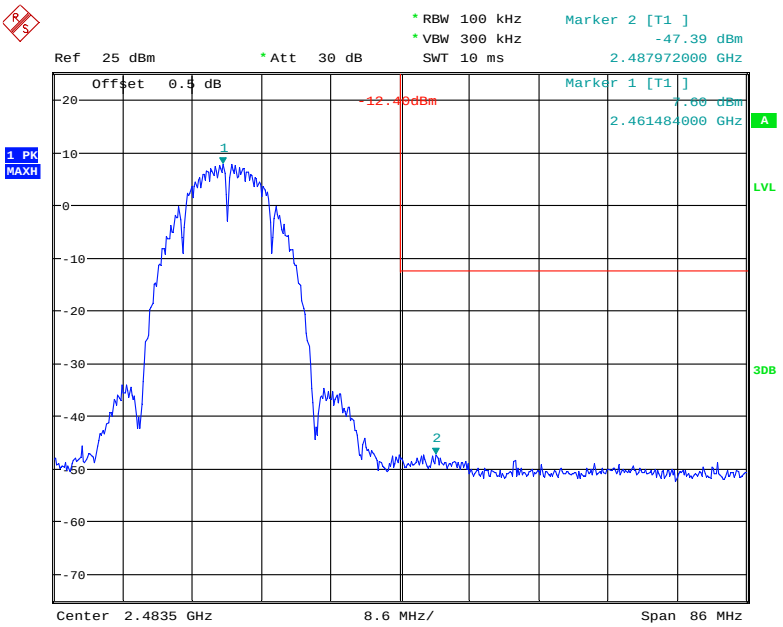
Test Result: Compliant. Please refer to following plots.

Chain 0:

802.11b: Band Edge, Left Side

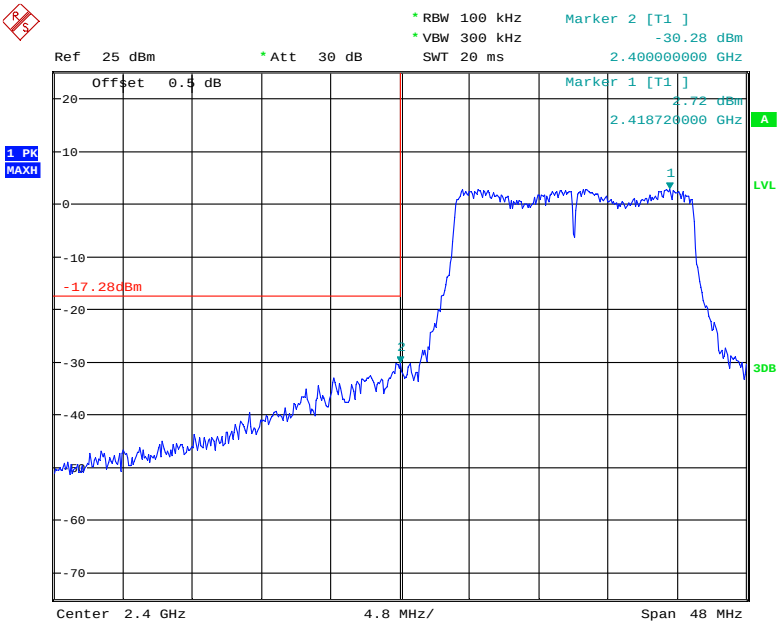


802.11b: Band Edge, Right Side



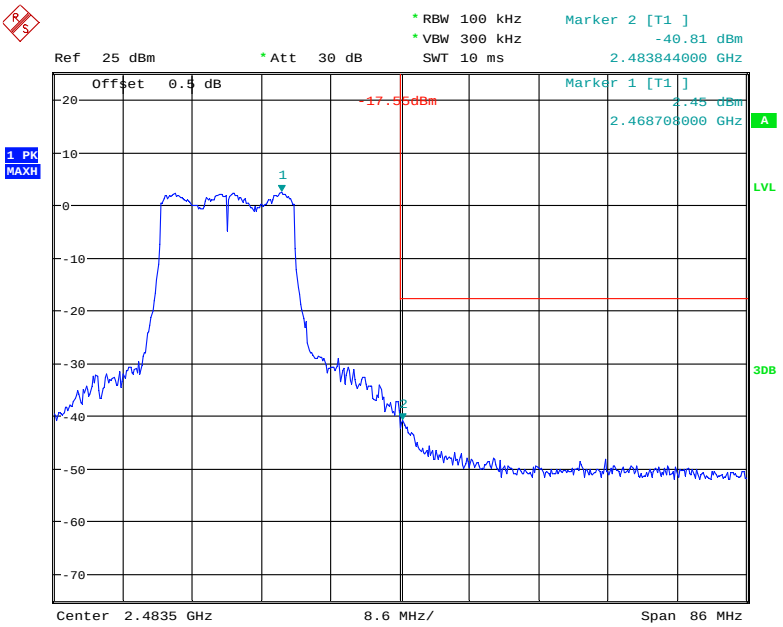
Date: 29.NOV.2018 16:03:21

802.11g: Band Edge, Left Side



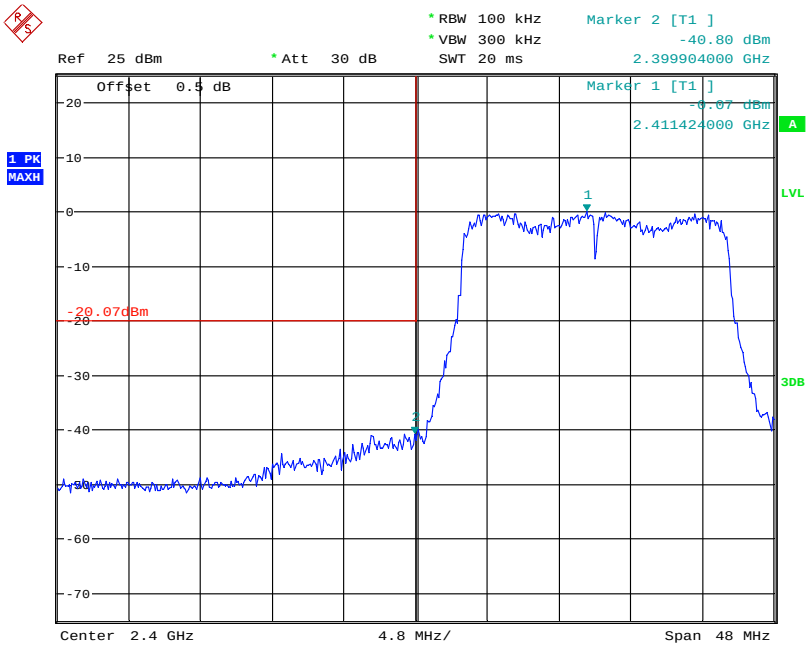
Date: 29.NOV.2018 16:06:17

802.11g: Band Edge, Right Side



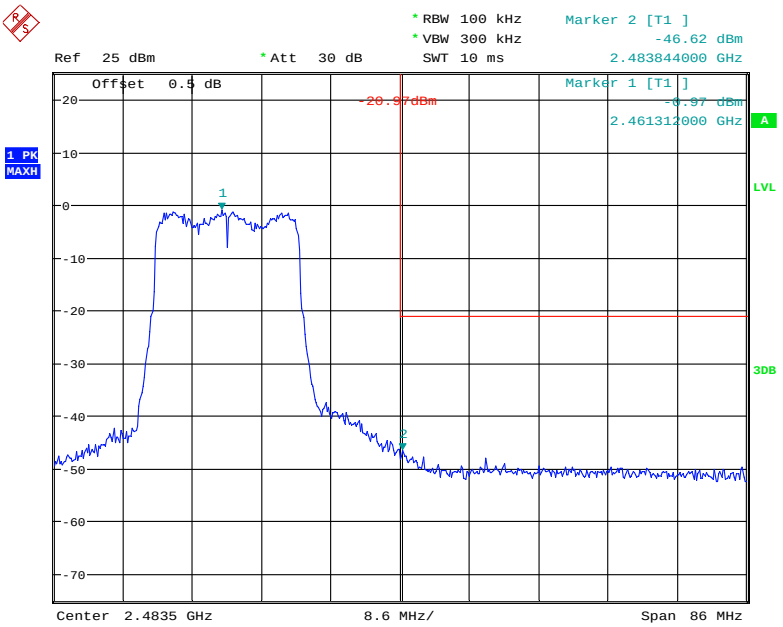
Date: 29.NOV.2018 16:12:29

802.11n ht20 Band Edge, Left Side



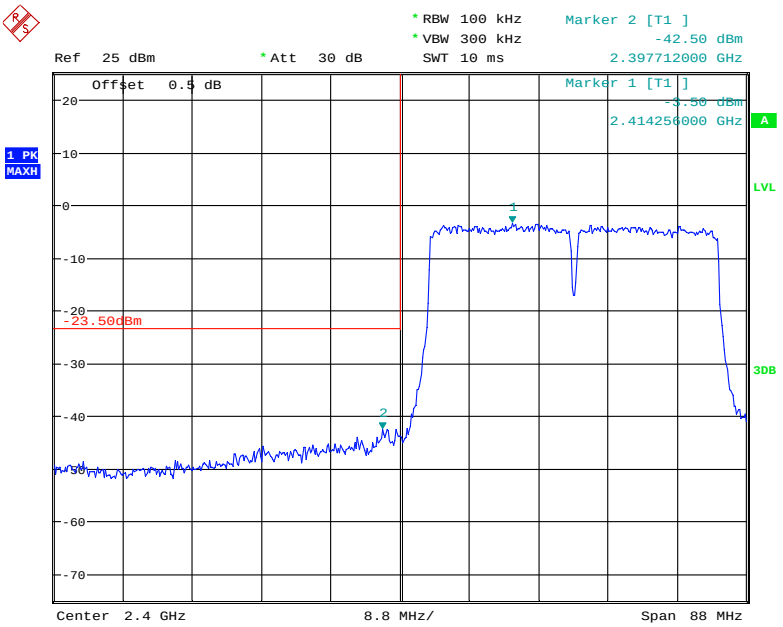
Date: 29.NOV.2018 16:37:35

802.11n ht20 Band Edge, Right Side



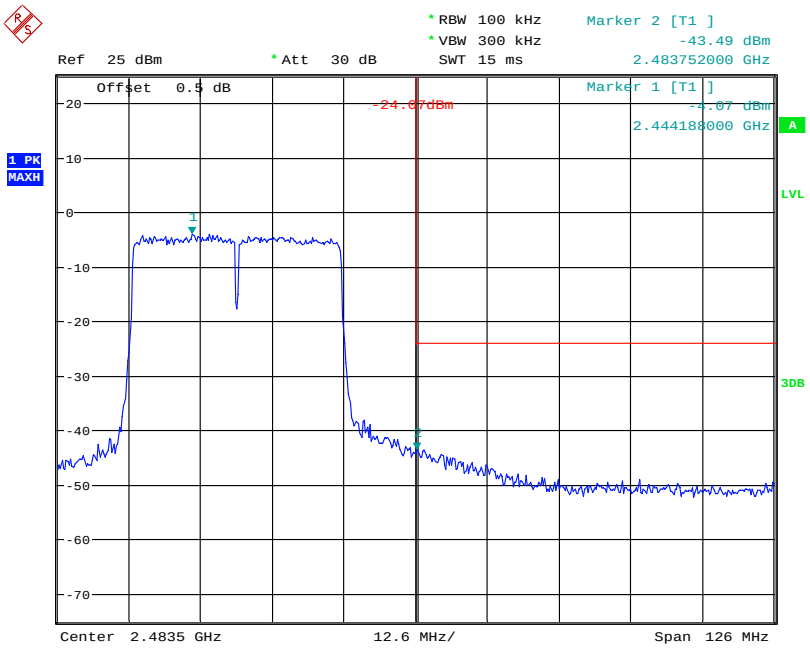
Date: 29.NOV.2018 16:43:39

802.11n ht40: Band Edge, Left Side



Date: 29.NOV.2018 16:26:24

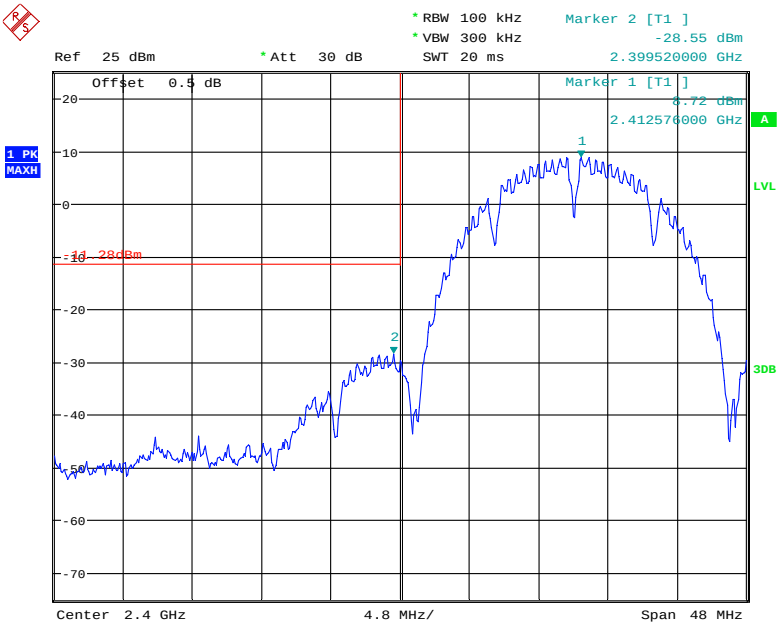
802.11n ht40 Band Edge, Right Side



Date: 29.NOV.2018 16:34:15

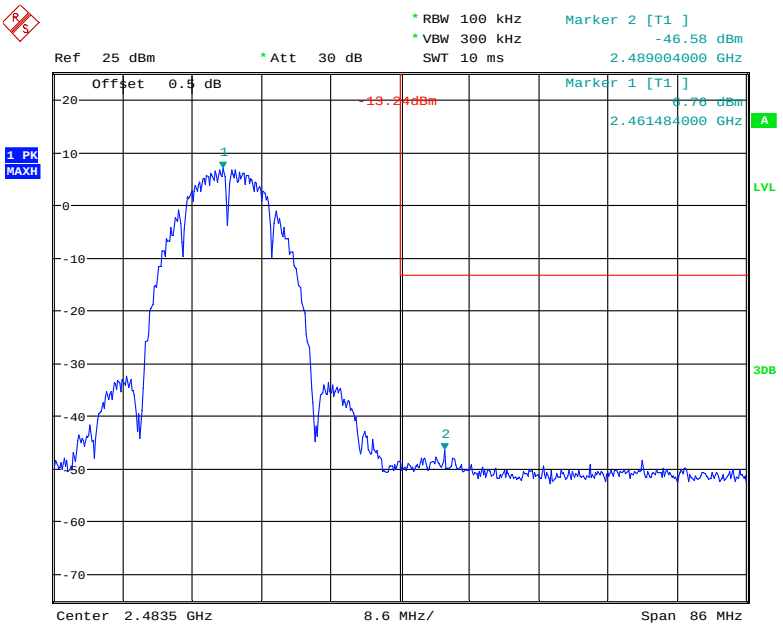
Chain 1:

802.11b: Band Edge, Left Side



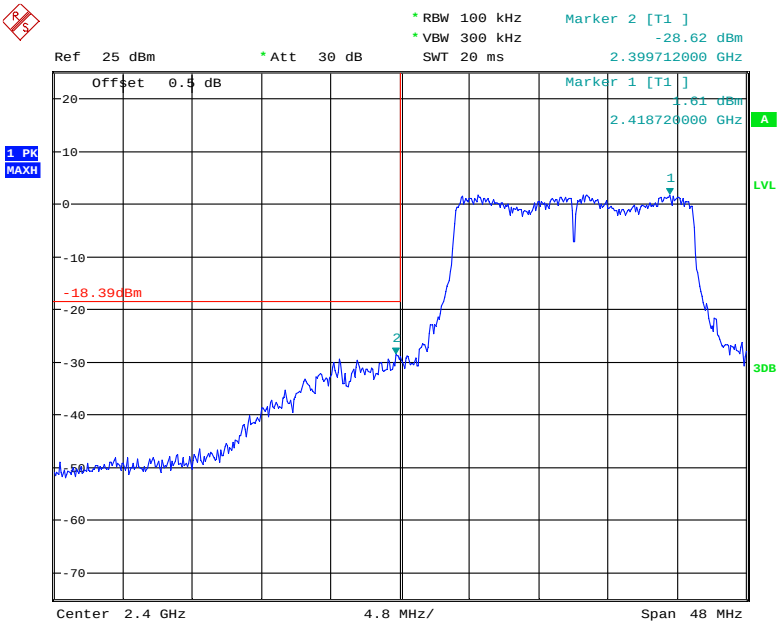
Date: 29.NOV.2018 17:01:40

802.11b: Band Edge, Right Side



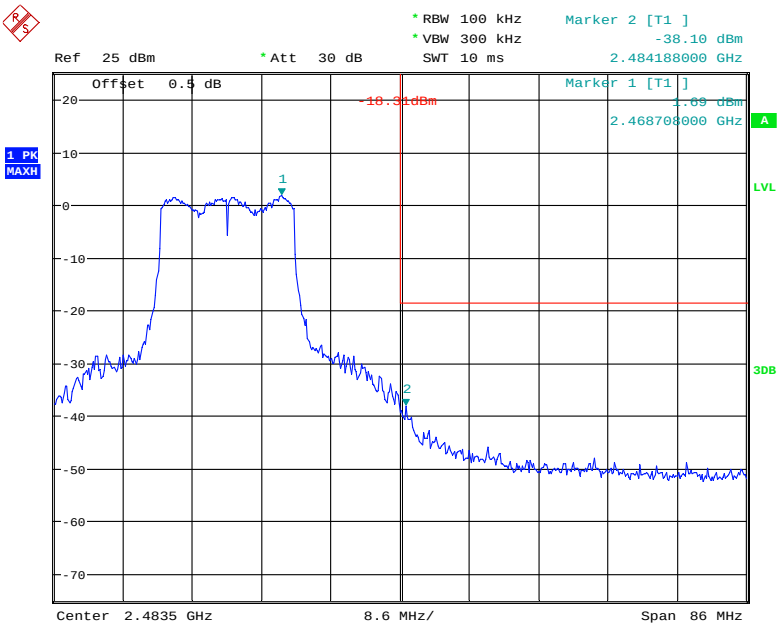
Date: 29.NOV.2018 17:04:48

802.11g: Band Edge, Left Side



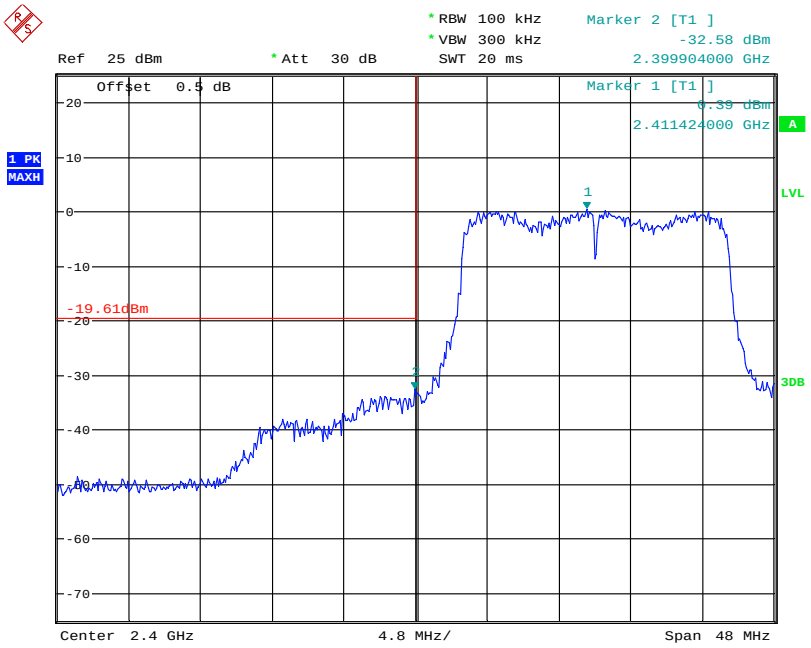
Date: 29.NOV.2018 17:06:14

802.11g: Band Edge, Right Side



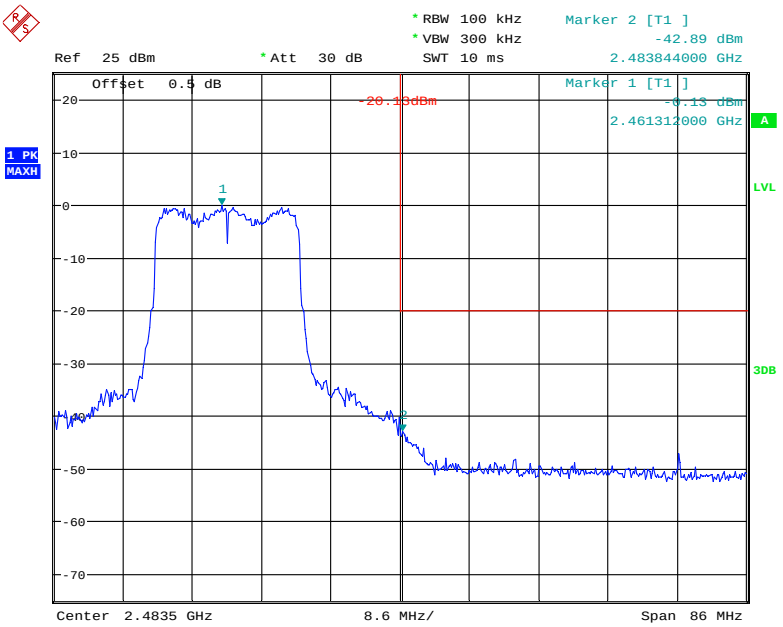
Date: 29.NOV.2018 17:08:19

802.11n ht20 Band Edge, Left Side



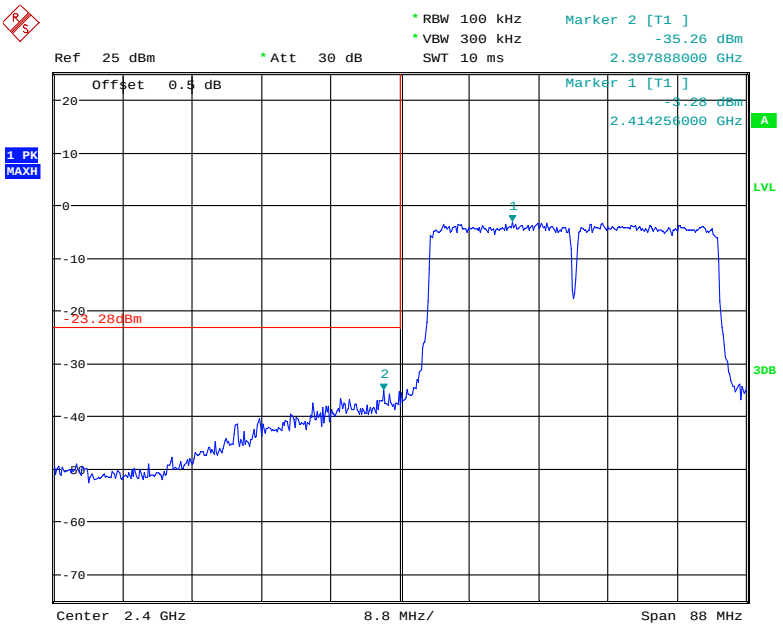
Date: 29.NOV.2018 16:53:26

802.11n ht20 Band Edge, Right Side



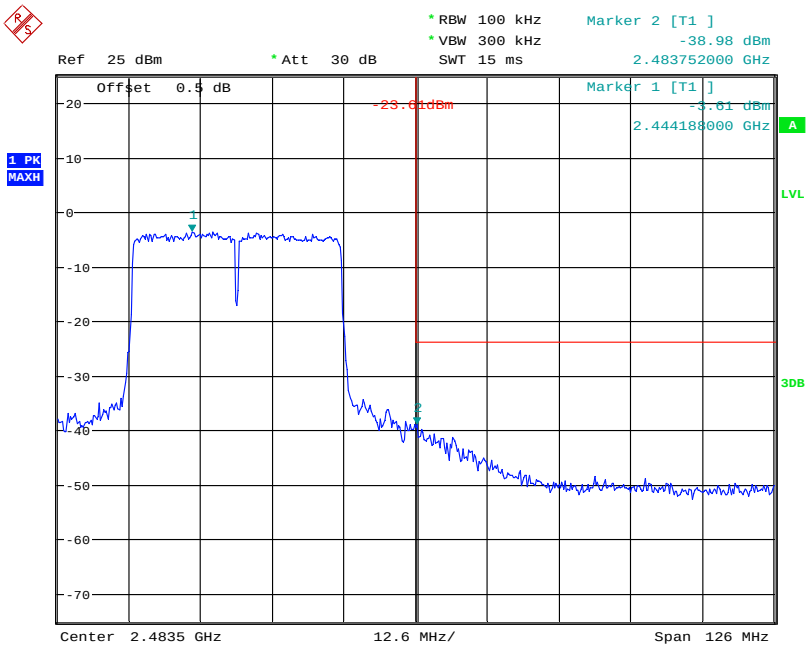
Date: 29.NOV.2018 16:51:07

802.11n ht40: Band Edge, Left Side



Date: 29.NOV.2018 16:56:26

802.11n ht40 Band Edge, Right Side



Date: 29.NOV.2018 17:00:14

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	FSU 26	200256	2018-01-04	2019-01-04
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	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 Data

Environmental Conditions

Temperature:	25.4°C
Relative Humidity:	53 %
ATM Pressure:	100.5 kPa

** The testing was performed by Nami Quan on 2018-11-29.*

Test Result: Compliance

Test Mode: Transmitting

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

Test mode	Frequency (MHz)	Conducted Power Spectral Density (dBm/3kHz)		Total (dBm/3kHz)	Limit (dBm/3kHz)
		Chain 0	Chain 1		
802.11b	2412	-10.15	-11.16	/	≤8
	2437	-10.51	-11.48	/	≤8
	2462	-12.27	-13.01	/	≤8
802.11g	2412	-11.30	-12.29	/	≤8
	2437	-11.30	-12.01	/	≤8
	2462	-11.72	-12.25	/	≤8
802.11n ht20	2412	-13.00	-13.15	-10.06	≤8
	2437	-13.49	-12.87	-10.16	≤8
	2462	-14.19	-13.24	-10.68	≤8
802.11n ht40	2422	-14.14	-13.95	-11.03	≤8
	2437	-15.30	-14.06	-11.63	≤8
	2452	-14.79	-15.25	-12.00	≤8

Note: the maximum antenna gain is 5 dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01,for power spectral density (PSD) measurements on the devices:

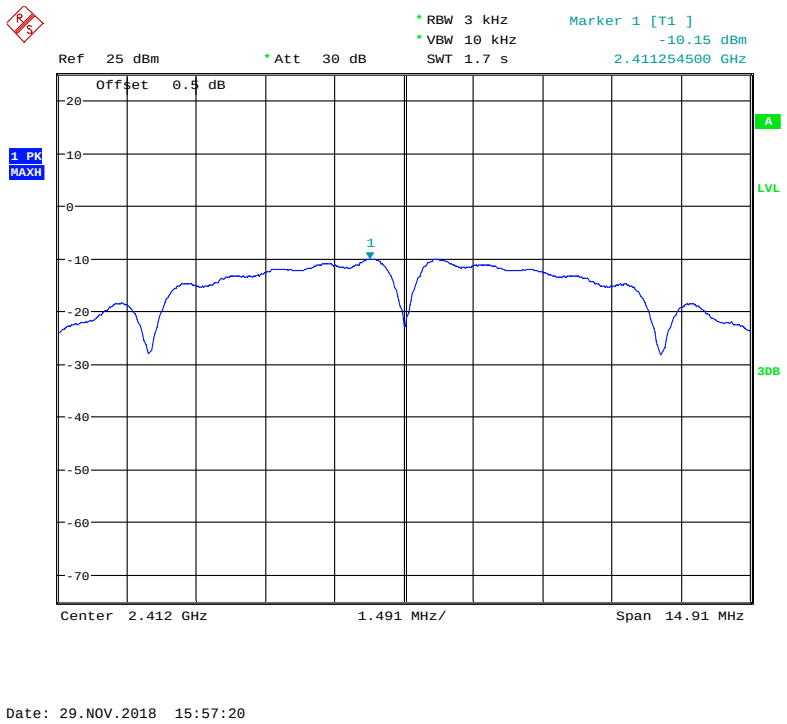
$$\text{Array Gain} = 10 \log(N_{ANT}/N_{SS}) \text{ dB.}$$

So:

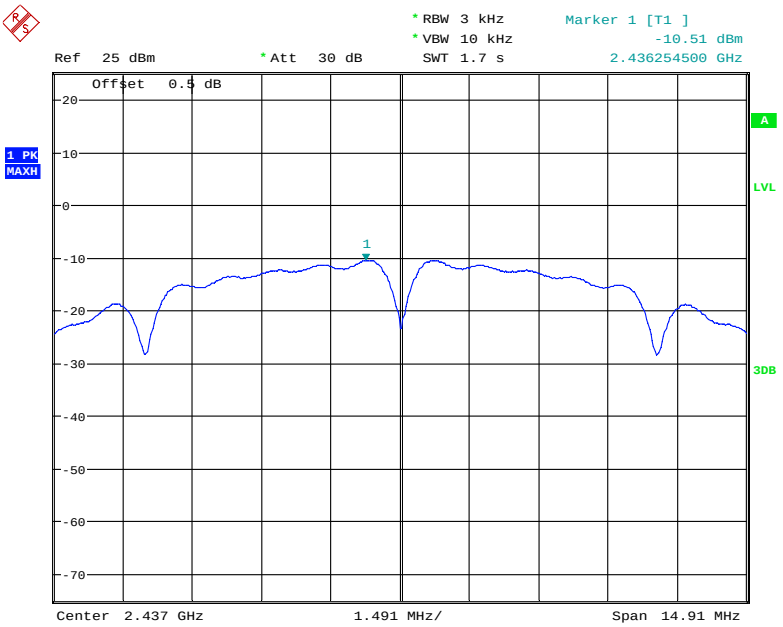
$$\text{Directional gain} = G_{ANT} + \text{Array Gain} = 5+10*\log(2/2) = 5 \text{ dBi}$$

Chain 0:

Power Spectral Density, 802.11b Low Channel

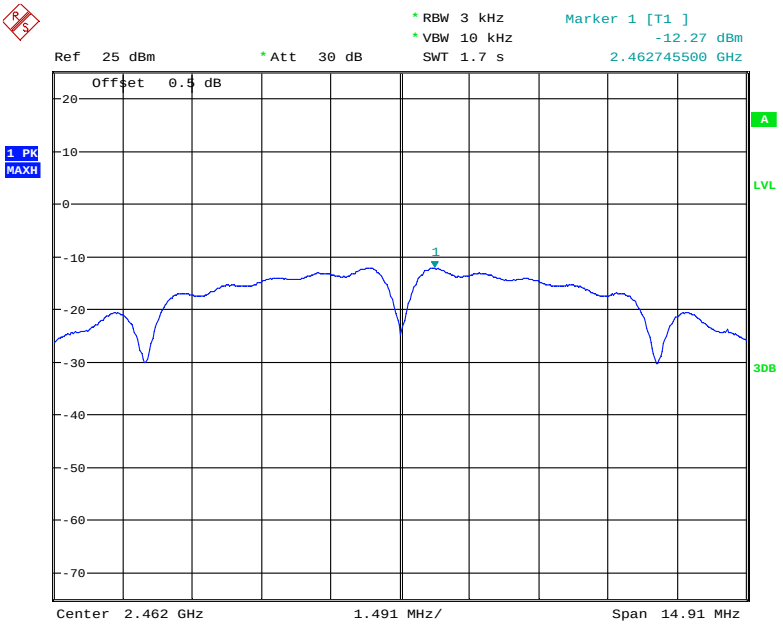


Power Spectral Density, 802.11b Middle Channel



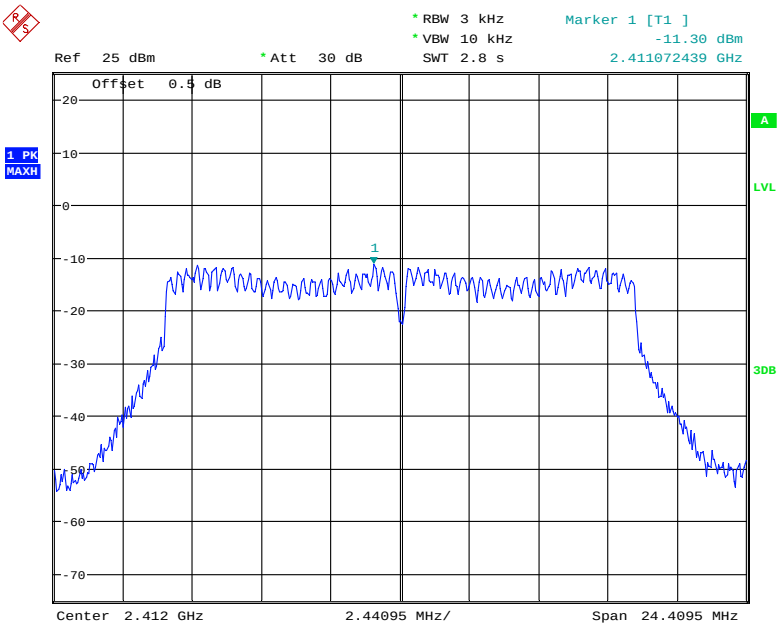
Date: 29.NOV.2018 15:59:44

Power Spectral Density, 802.11b High Channel



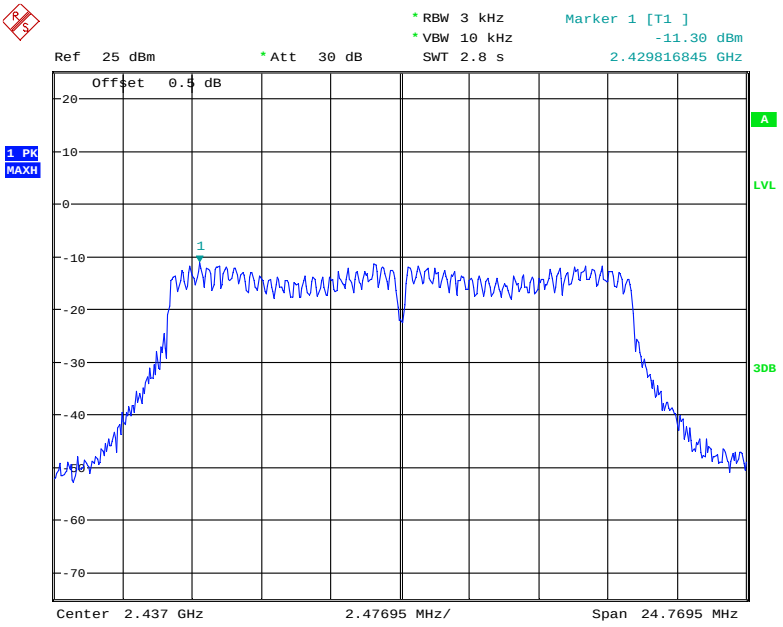
Date: 29.NOV.2018 16:01:53

Power Spectral Density, 802.11g Low Channel



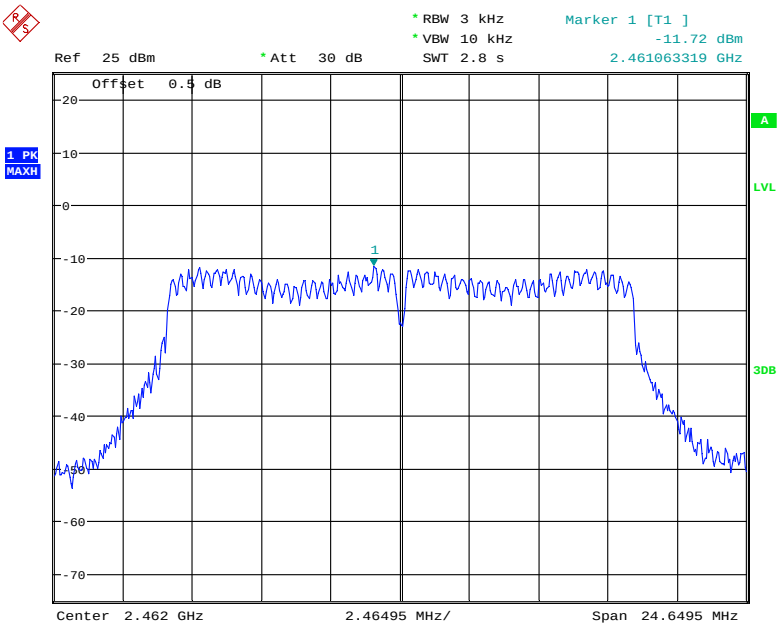
Date: 29.NOV.2018 16:04:59

Power Spectral Density, 802.11g Middle Channel



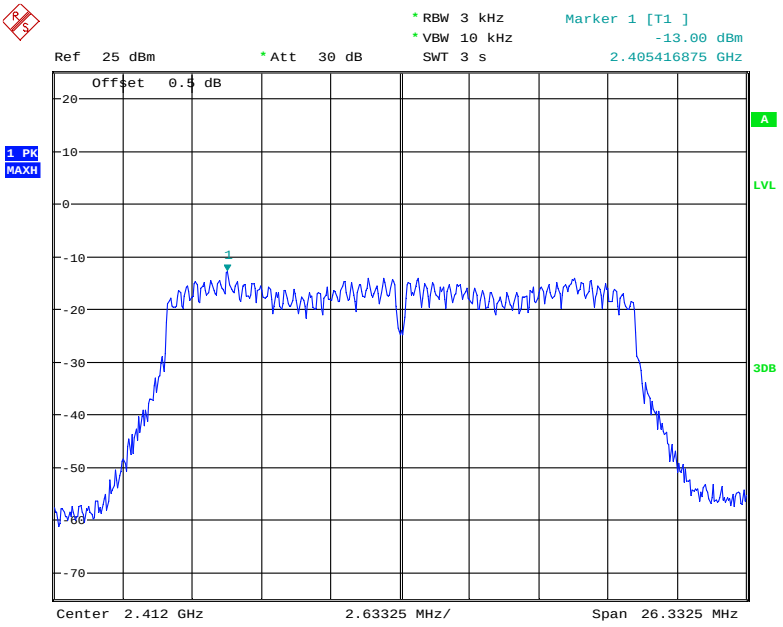
Date: 29.NOV.2018 16:07:35

Power Spectral Density, 802.11g High Channel



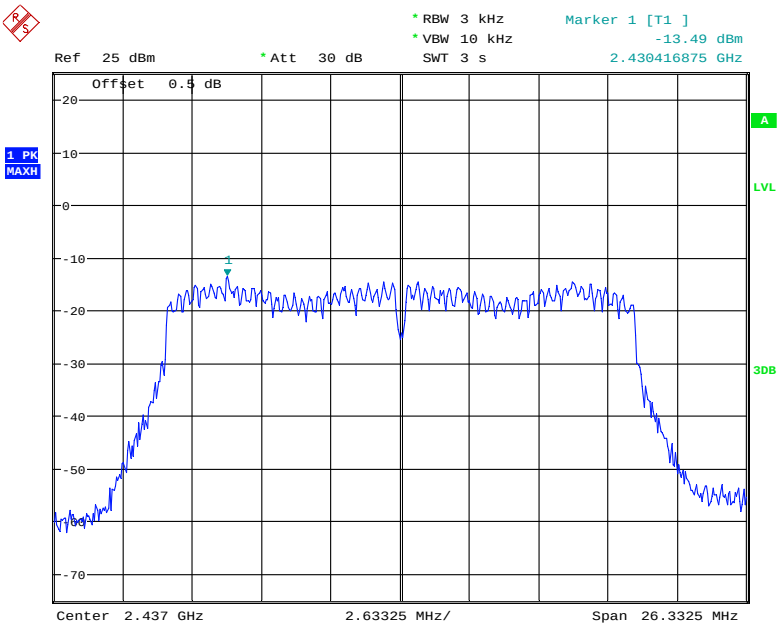
Date: 29.NOV.2018 16:11:07

Power Spectral Density, 802.11n ht20 Low Channel



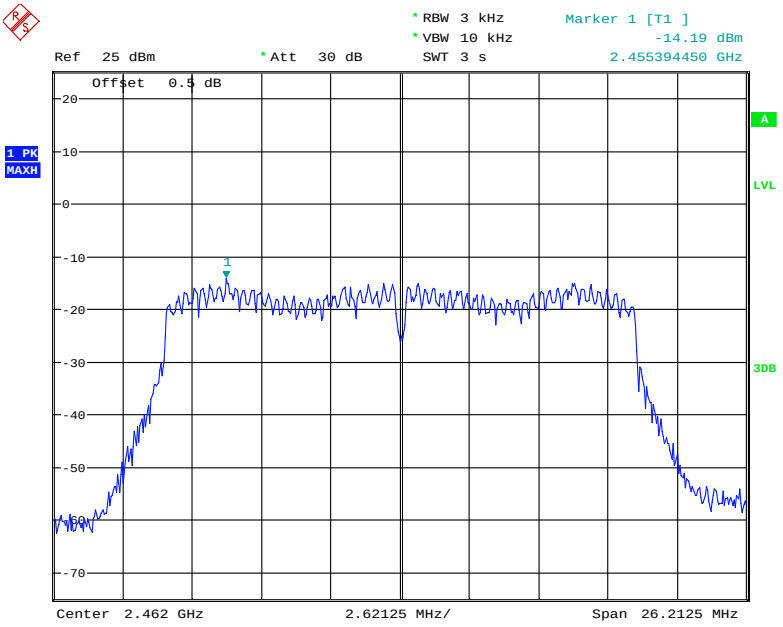
Date: 29.NOV.2018 16:36:10

Power Spectral Density, 802.11n ht20 Middle Channel



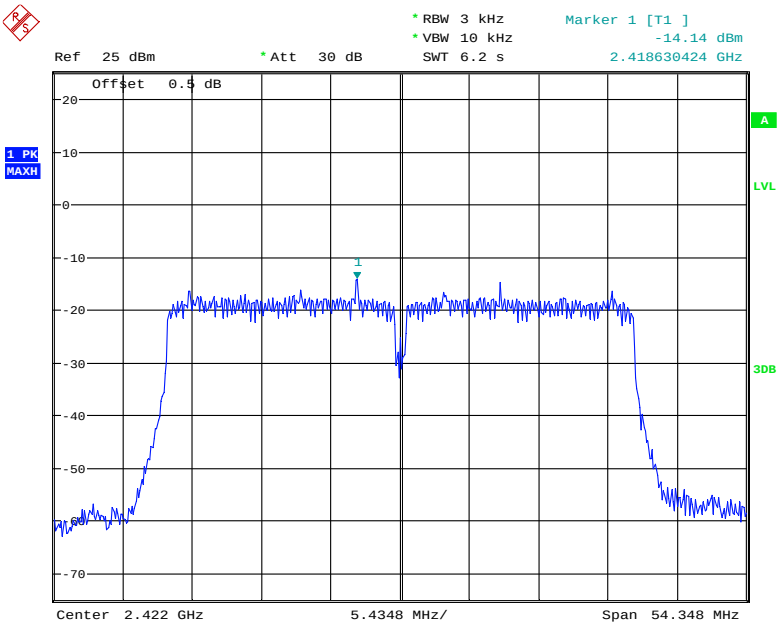
Date: 29.NOV.2018 16:39:24

Power Spectral Density, 802.11n ht20 High Channel



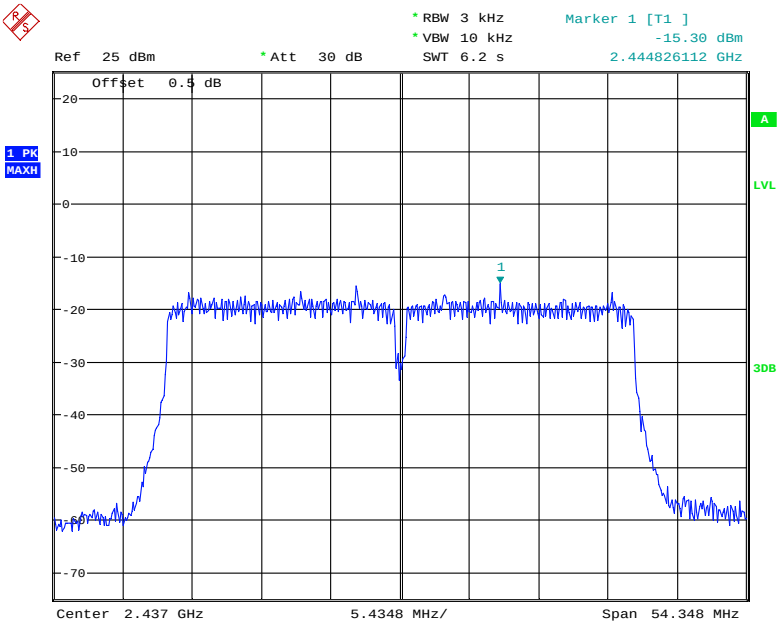
Date: 29.NOV.2018 16:42:20

Power Spectral Density, 802.11n ht40 Low Channel



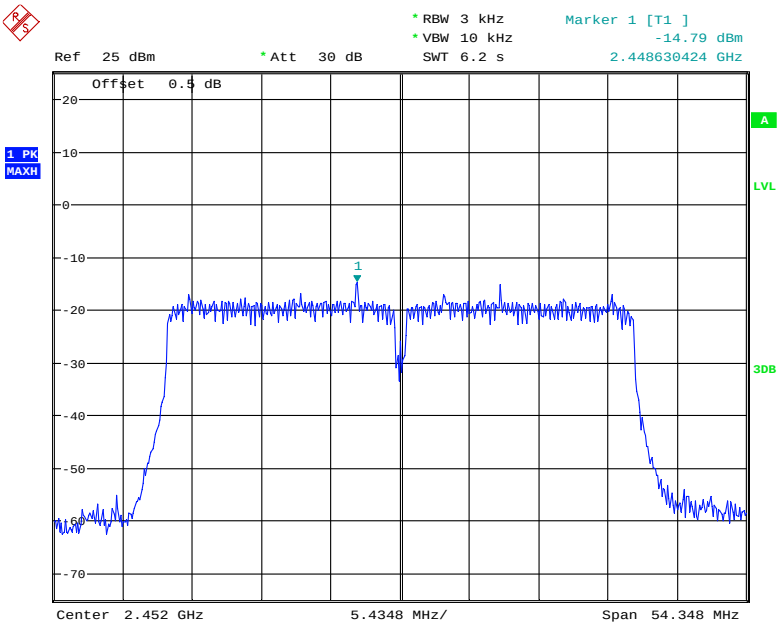
Date: 29.NOV.2018 16:25:03

Power Spectral Density, 802.11n ht40 Middle Channel



Date: 29.NOV.2018 16:29:03

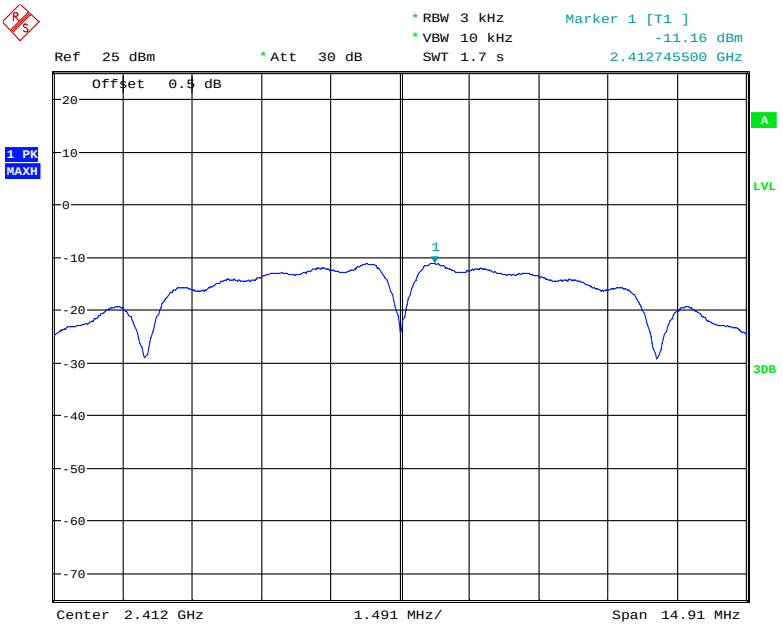
Power Spectral Density, 802.11n ht40 High Channel



Date: 29.NOV.2018 16:32:50

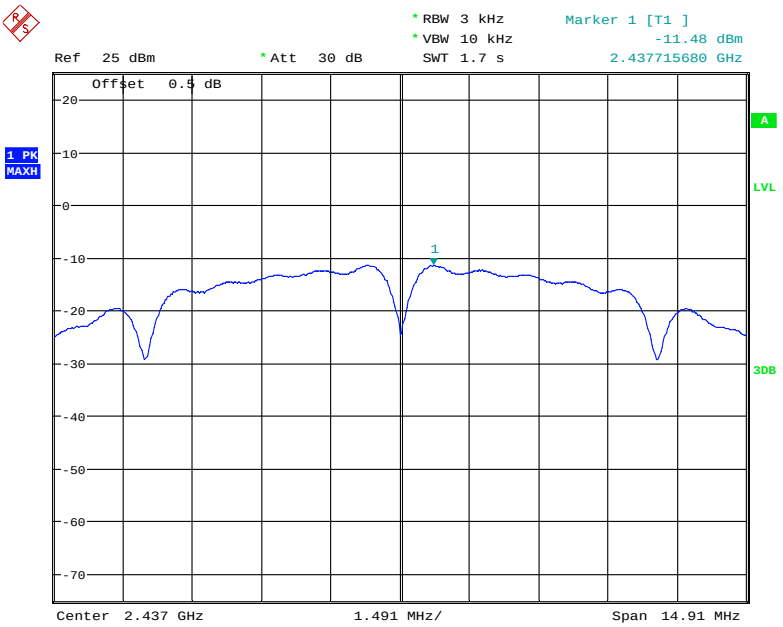
Chain 1:

Power Spectral Density, 802.11b Low Channel



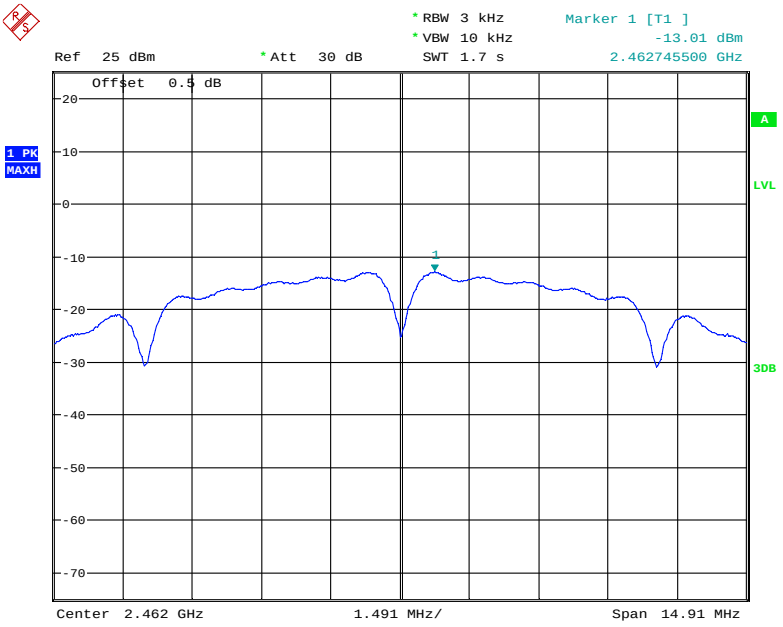
Date: 29.NOV.2018 17:01:14

Power Spectral Density, 802.11b Middle Channel



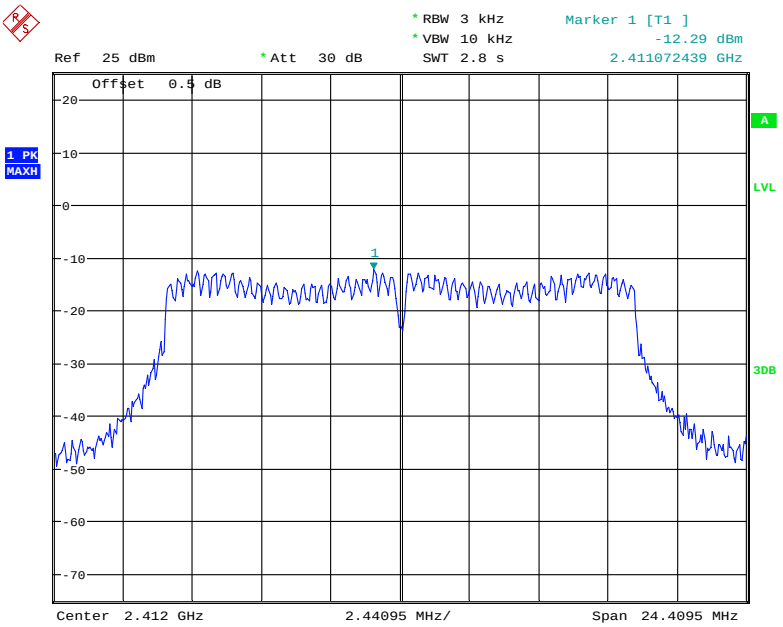
Date: 29.NOV.2018 17:03:10

Power Spectral Density, 802.11b High Channel



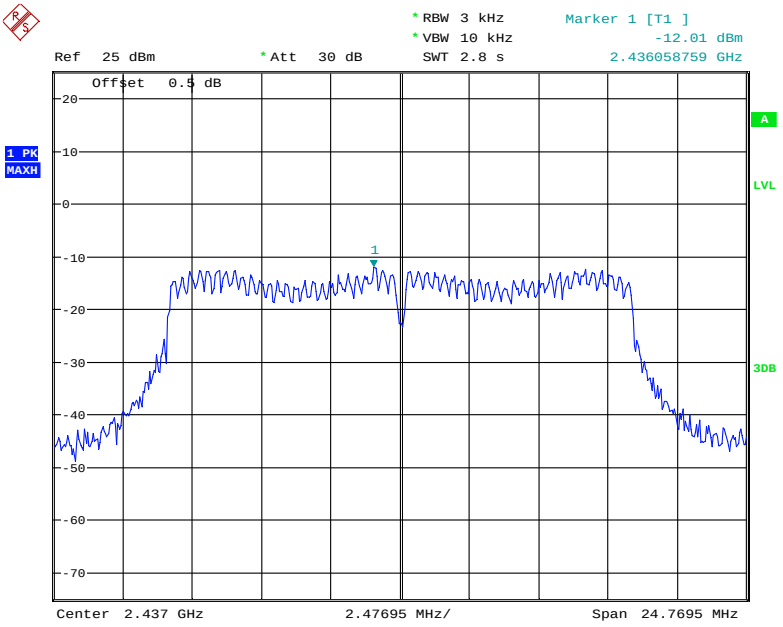
Date: 29.NOV.2018 17:04:25

Power Spectral Density, 802.11g Low Channel



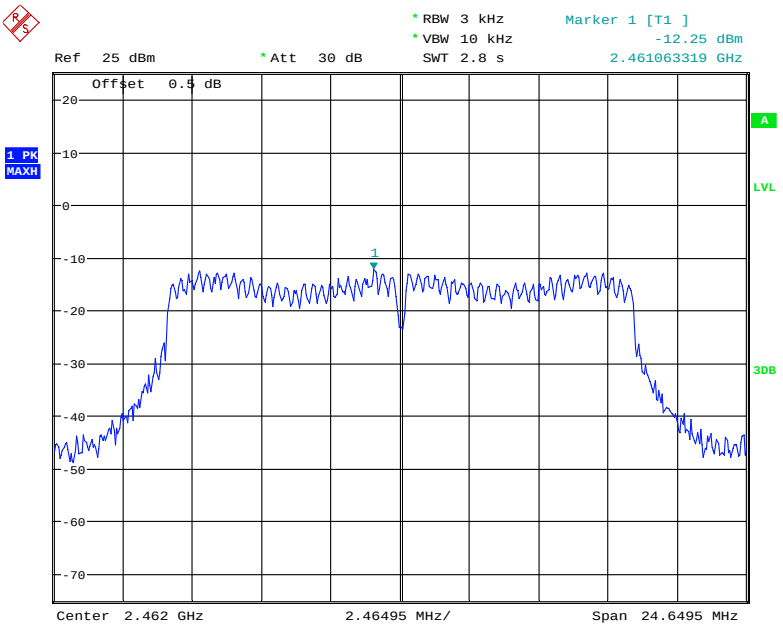
Date: 29.NOV.2018 17:05:56

Power Spectral Density, 802.11g Middle Channel



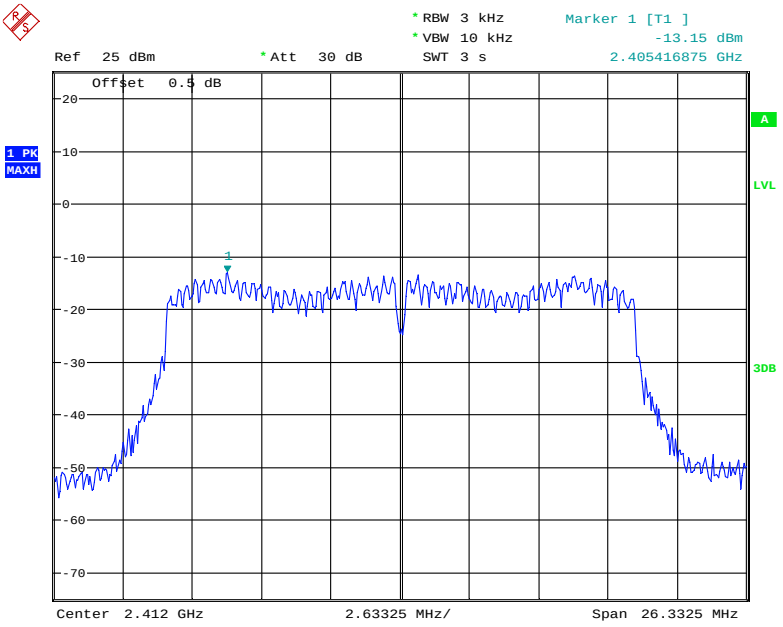
Date: 29.NOV.2018 17:07:04

Power Spectral Density, 802.11g High Channel



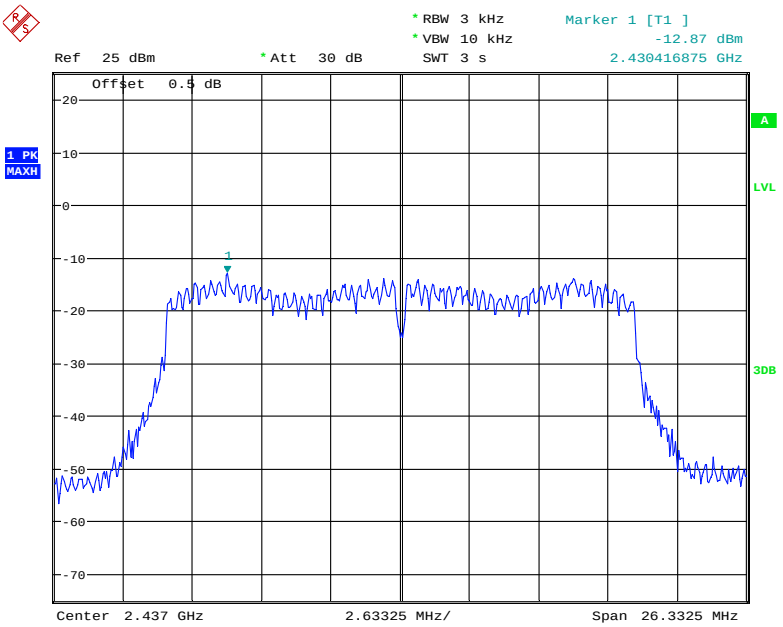
Date: 29.NOV.2018 17:07:49

Power Spectral Density, 802.11n ht20 Low Channel



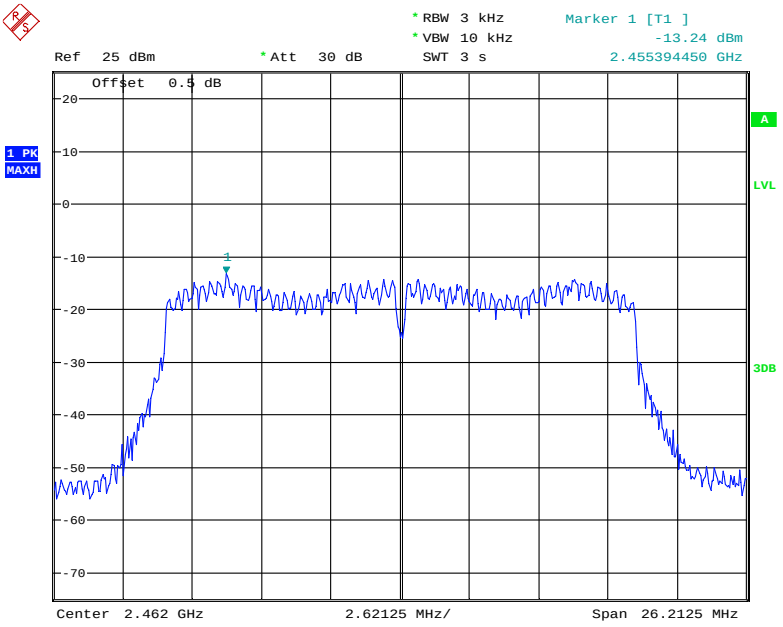
Date: 29.NOV.2018 16:51:53

Power Spectral Density, 802.11n ht20 Middle Channel



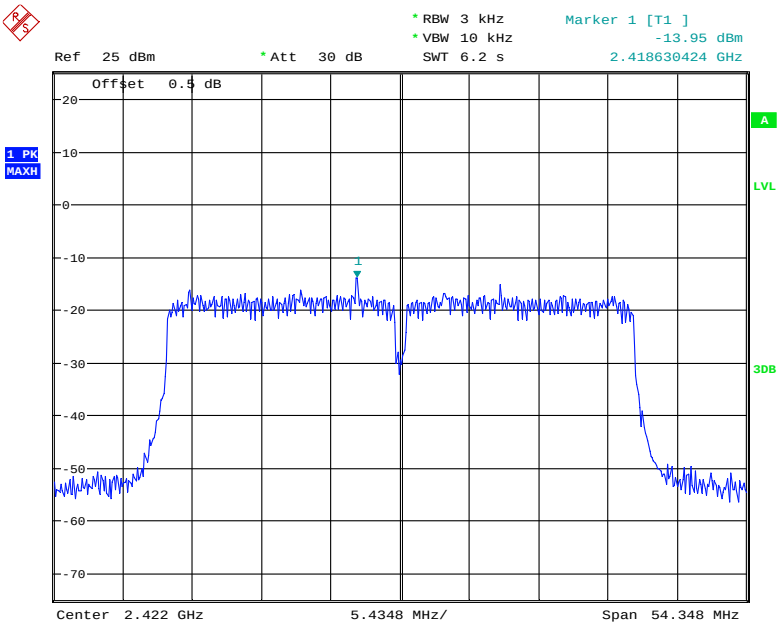
Date: 29.NOV.2018 16:54:18

Power Spectral Density, 802.11n ht20 High Channel



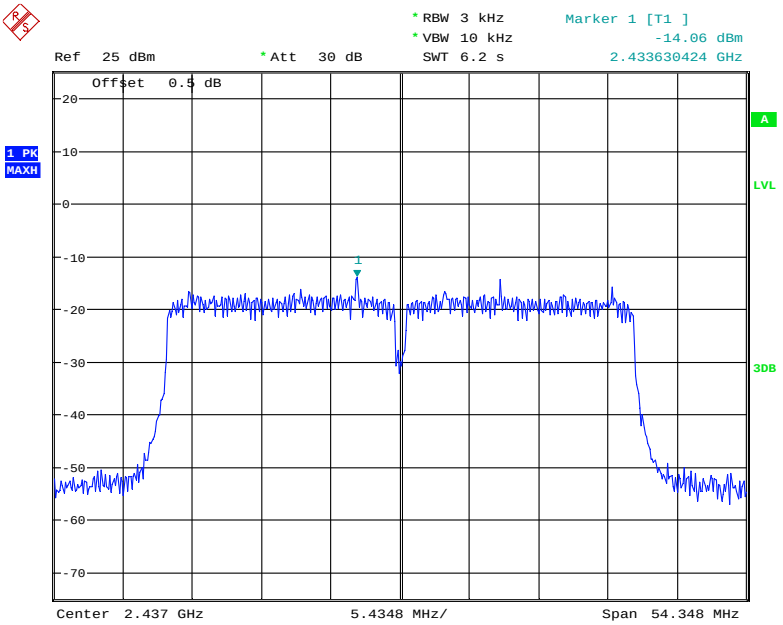
Date: 29.NOV.2018 16:49:45

Power Spectral Density, 802.11n ht40 Low Channel



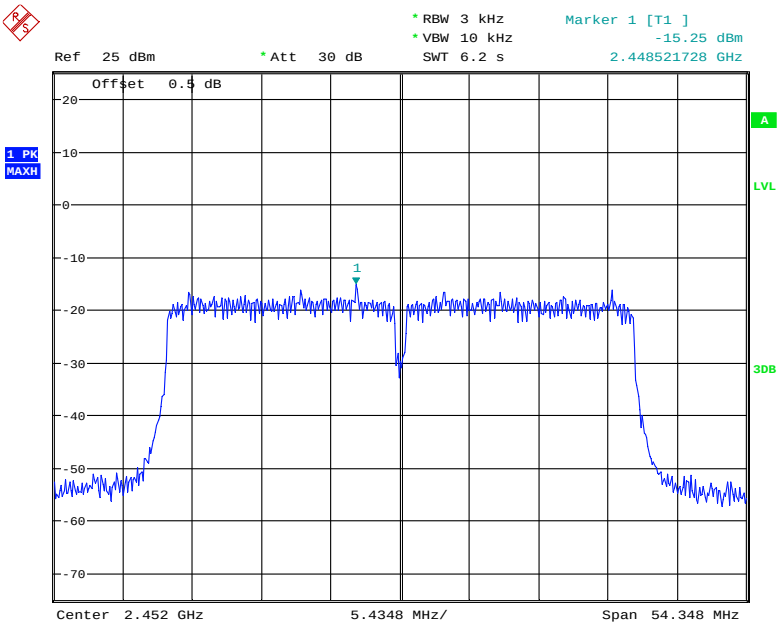
Date: 29.NOV.2018 16:56:04

Power Spectral Density, 802.11n ht40 Middle Channel



Date: 29.NOV.2018 16:58:05

Power Spectral Density, 802.11n ht40 High Channel



Date: 29.NOV.2018 16:59:48

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