FCC PART 15.247

TEST REPORT

For

LUXPAD TABLET

YangGuangGaoErFU Building,No 7008 SHENNAN Road, FuTian, SHENZHEN,China

FCC ID: 2ANIRASTROTAB7S

Report Type:	**Product Name:**
Original Report	Tablet

Report Number:	RDG170809004-00C
Report Date:	2017-08-25
Reviewed By:	Jerry Zhang EMC Manager
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

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The ***LUXPAD TABLET*** 's product, model number: ***Astro Phablet 7s (FCC ID: 2ANIRASTROTAB7S)*** (the "EUT") in this report was a ***Tablet ,*** which was measured approximately: 19.6 cm (L) x11.6 cm (W) x 2 cm (H), DC3.7V from Battery or DC 5V from adapter.

Adapter Information:
Input: AC100-240V, 0.3A, 50/60Hz
Output: DC5V, 2000mA

**All measurement and test data in this report was gathered from production sample serial number: 170809004 (Assigned by BACL, Dongguan). The EUT was received on 2017-07-24.*

Objective

This report is prepared on behalf of **LUXPAD TABLET** 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 15C DSS submissions with FCC ID: 2ANIRASTROTAB7S.
FCC Part 15B JBP submissions with FCC ID: 2ANIRASTROTAB7S.
FCC Part 22H, 24E PCE submissions with FCC ID: 2ANIRASTROTAB7S.

Test Methodology

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

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

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: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~26.5GHz: 5.23 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

Bay Area Compliance Laboratories Corp. (Dongguan) has been accredited to ISO 17025 by CNAS(Lab code: L5662). And accredited to ISO 17025 by NVLAP(Test Laboratory Accreditation Certificate Number 500069-0), the FCC Designation No. CN5002 under the KDB 974614 D01.

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

Bay Area Compliance Laboratories Corp. (Dongguan) was registered with ISED Canada under ISED Canada Registration Number 3062D.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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

For 2.4GHz band, total 11 channels are provided:

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 were tested with Channel 3, 6 and 9.

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

For Bluetooth LE mode, 40 channels are provided for testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2442
1	2404	…	…
…	…	…	…
…	…	…	…
..	…	38	2478
19	2440	39	2480

EUT was tested with channel 0, 19 and 39.

EUT Exercise Software

The "Engineer Mode" was used for testing, which was provided by manufacturer. The maximum power was configured as below table, that provided by the manufacturer:

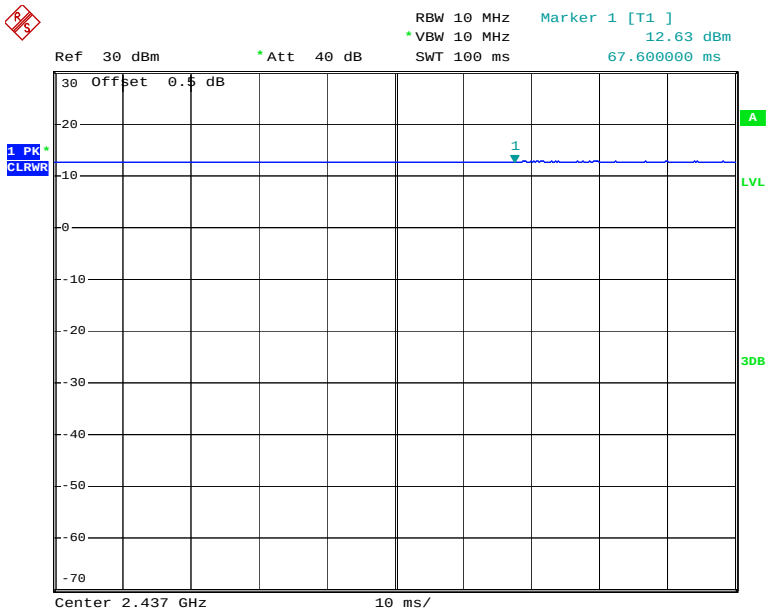
Test Mode	Test Software Version	Engineer Mode		
802.11b	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	1Mbps	1Mbps	1Mbps
	Power Level Setting	57	65	64
802.11g	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting	108	127	106
802.11n 20	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting	111	127	113
802.11n 40	Test Frequency	2422MHz	2437MHz	2452MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting	15.5	16	15.5

Note: BLE mode configured as maximum power by the system default setting.

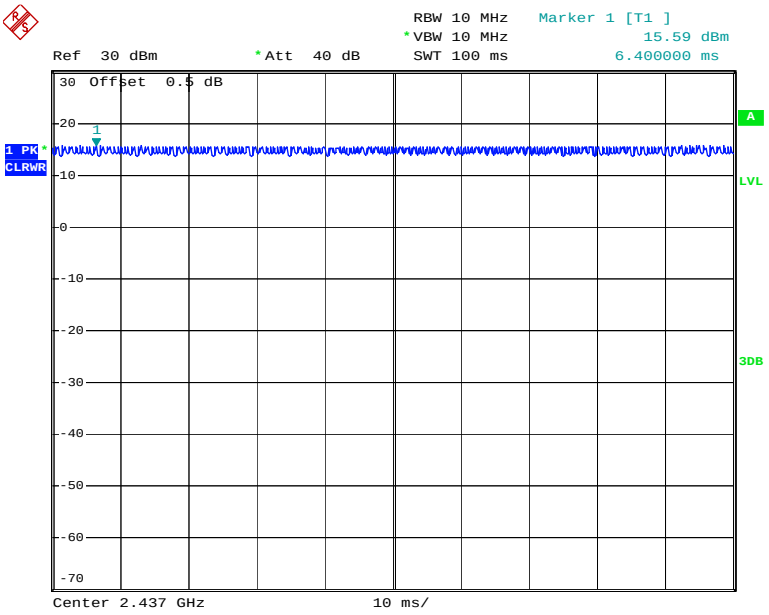
The maximum duty cycle as following table:

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%
BLE	0.400	0.624	64.1%

802.11b



802.11g



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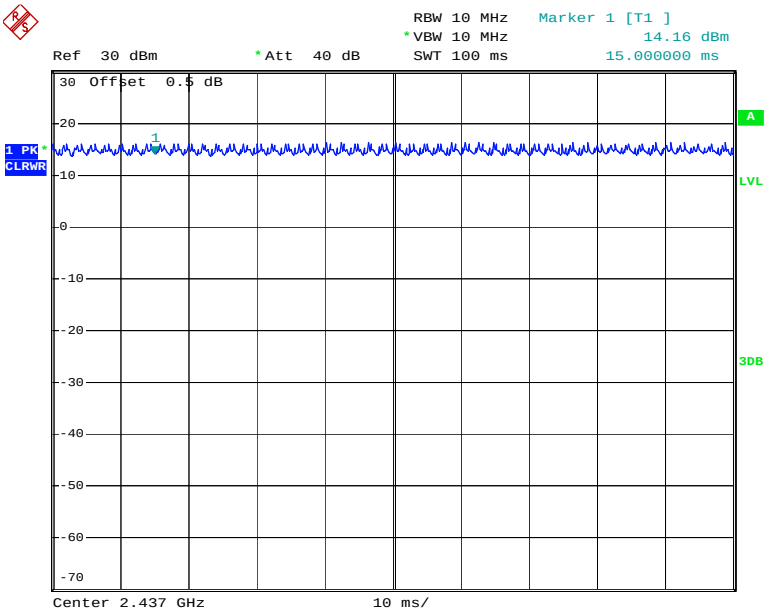
802.11n 20



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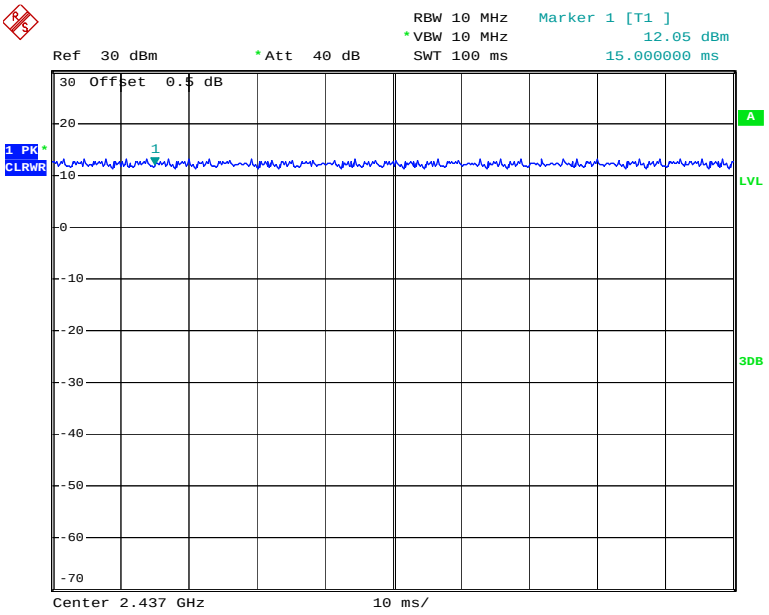
802.11n 40



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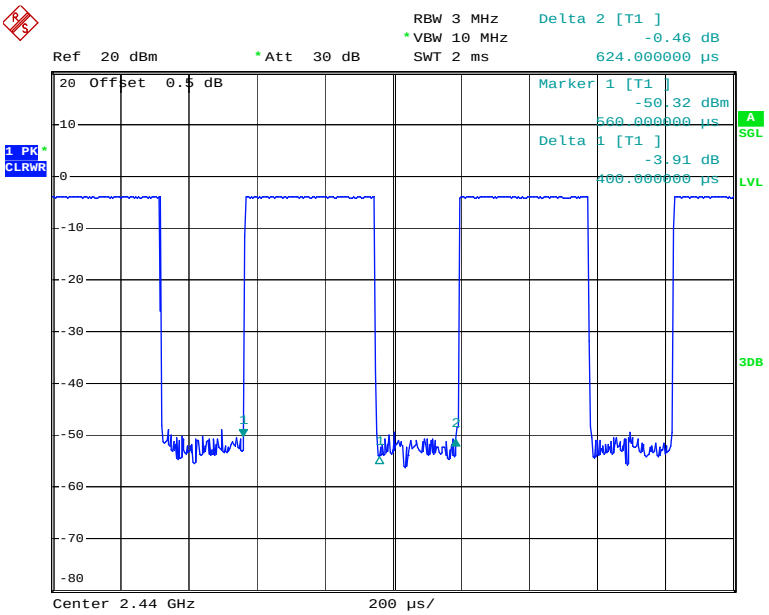
BLE



Date: 23.AUG.2017 08:54:03

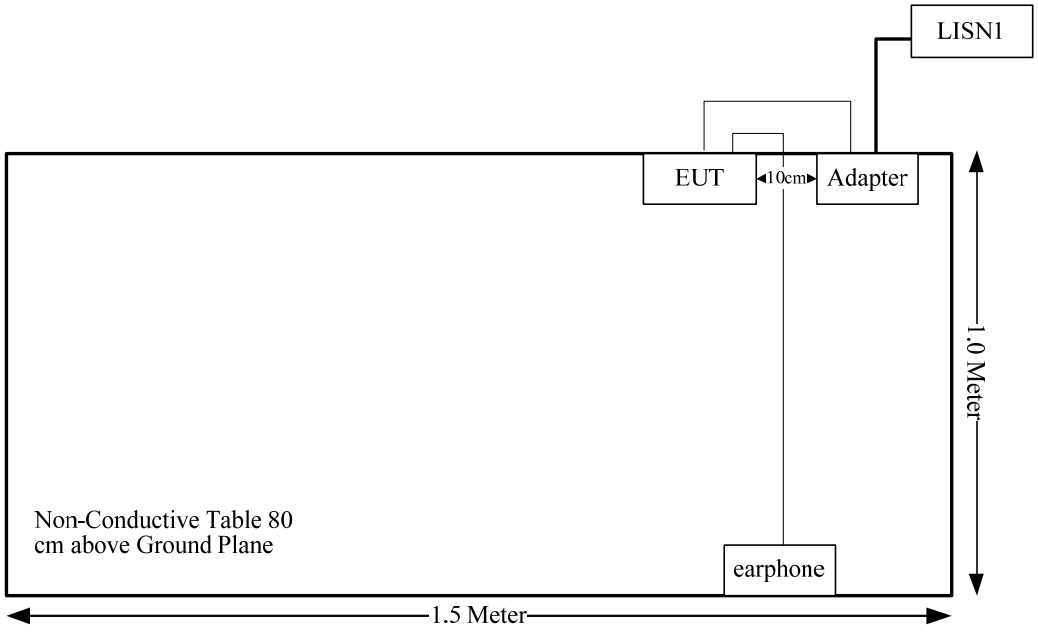
Equipment Modifications

No modification was made to the EUT.

External Cable

Cable Description	Shielding Type	Ferrite Core	Length (cm)	From Port	To
Adapter Cable	No	No	98.5	Adapter	EUT
Earphone Cable	No	No	112	EUT	Earphone

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1093	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.205, §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 & §2.1093- 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:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- 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 2 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 < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Measurement Result

For WLAN, the max conducted power including tune-up tolerance is 9.5 dBm (8.91 mW).
[(max. power of channel, mW)/(min. test separation distance, mm)][√f(GHz)]
= 8.91/5*(√2.480) = 2.8< 3.0

So the stand-alone SAR evaluation for WLAN is not necessary.

For Bluetooth LE, the max conducted power including tune-up tolerance is -2.5 dBm (0.56 mW).
[(max. power of channel, mW)/(min. test separation distance, mm)][√f(GHz)]
= 0.56/5*(√2.480) = 0.2< 3.0

So the stand-alone SAR evaluation for Bluetooth LE is not necessary.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

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

Antenna Connector Construction

The EUT has one internal antenna arrangement for BT and WIFI, and the antenna gain is 0.9 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

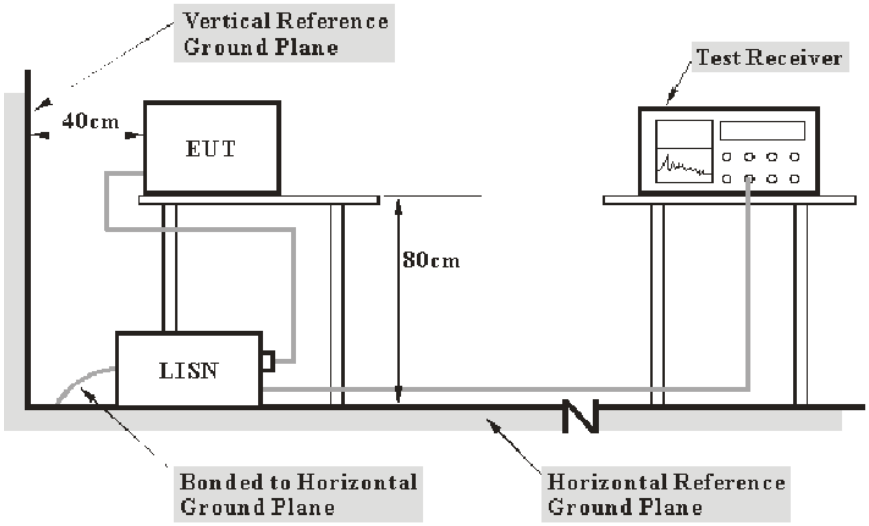
Result: Compliance.

FCC §15.207 (a)– AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207(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	2016-12-08	2017-12-08
R&S	L.I.S.N	ESH2-Z5	892107/021	2016-09-01	2017-09-01
R&S	Two-line V-network	ENV 216	3560.6550.12	2016-12-08	2017-12-08
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
Unknown	Coaxial Cable	2m	Con-1	2016-09-01	2017-09-01

*** 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).

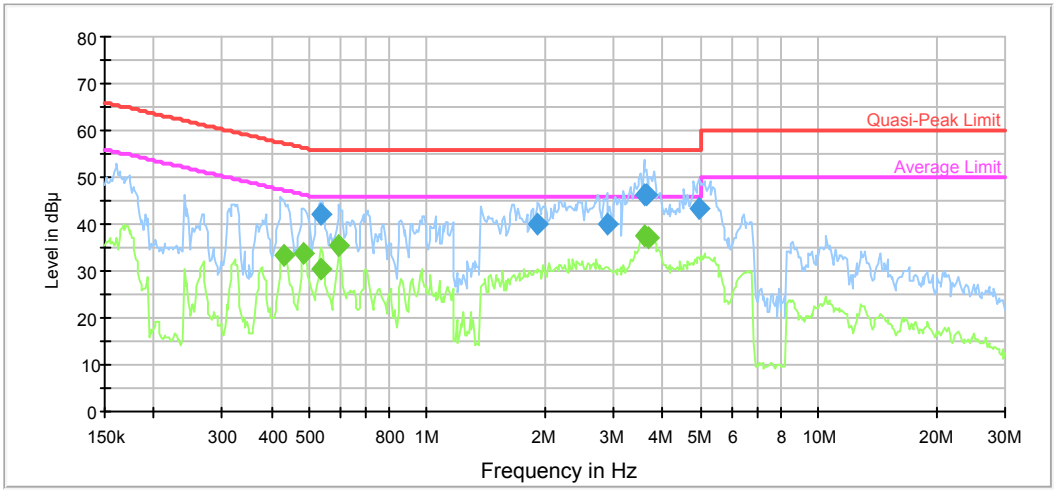
Test Data
Environmental Conditions

Temperature:	26.8 °C
Relative Humidity:	44 %
ATM Pressure:	100.2 kPa

The testing was performed by Ade Xiao on 2017-08-14.

Test Mode: Transmitting (Wi-Fi mode was the worst)

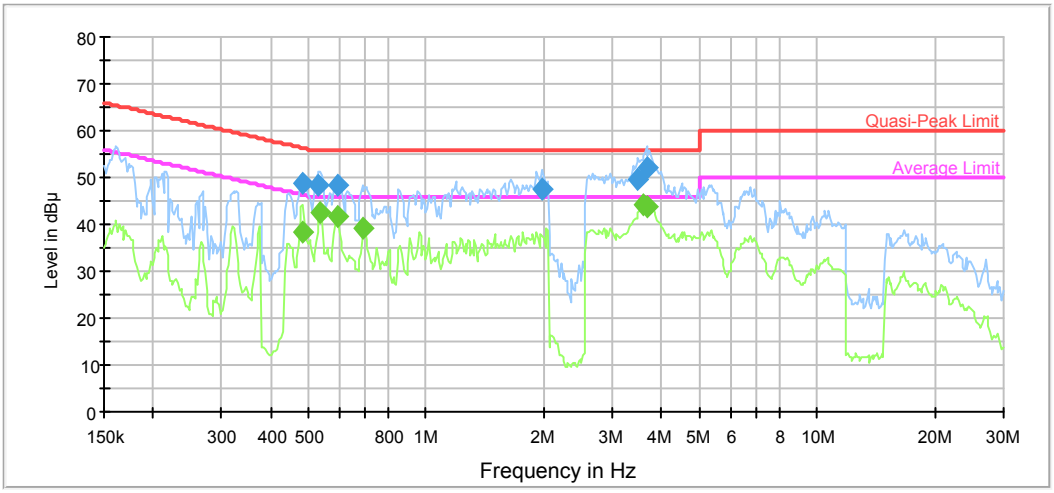
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.536756	42.2	9.000	L1	9.9	13.8	56.0	Compliance
1.920710	40.2	9.000	L1	9.7	15.8	56.0	Compliance
2.883693	39.9	9.000	L1	9.8	16.1	56.0	Compliance
3.575883	46.2	9.000	L1	9.8	9.8	56.0	Compliance
3.633326	46.4	9.000	L1	9.8	9.6	56.0	Compliance
4.957528	43.3	9.000	L1	9.8	12.7	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.432855	33.5	9.000	L1	9.9	13.7	47.2	Compliance
0.483938	33.8	9.000	L1	9.9	12.5	46.3	Compliance
0.536756	30.4	9.000	L1	9.9	15.6	46.0	Compliance
0.595338	35.4	9.000	L1	9.8	10.6	46.0	Compliance
3.575883	37.5	9.000	L1	9.8	8.5	46.0	Compliance
3.662393	36.9	9.000	L1	9.8	9.1	46.0	Compliance

AC120 V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.483938	48.9	9.000	N	9.9	7.4	56.3	Compliance
0.532496	48.2	9.000	N	9.9	7.8	56.0	Compliance
0.595338	48.4	9.000	N	9.8	7.6	56.0	Compliance
1.982914	47.4	9.000	N	9.7	8.6	56.0	Compliance
3.491417	49.6	9.000	N	9.8	6.4	56.0	Compliance
3.662393	51.9	9.000	N	9.8	4.1	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.483938	38.3	9.000	N	9.9	8.0	46.3	Compliance
0.536756	42.6	9.000	N	9.9	3.4	46.0	Compliance
0.590613	41.7	9.000	N	9.8	4.3	46.0	Compliance
0.692650	39.1	9.000	N	9.8	6.9	46.0	Compliance
3.575883	44.2	9.000	N	9.8	1.8	46.0	Compliance
3.662393	43.8	9.000	N	9.8	2.2	46.0	Compliance

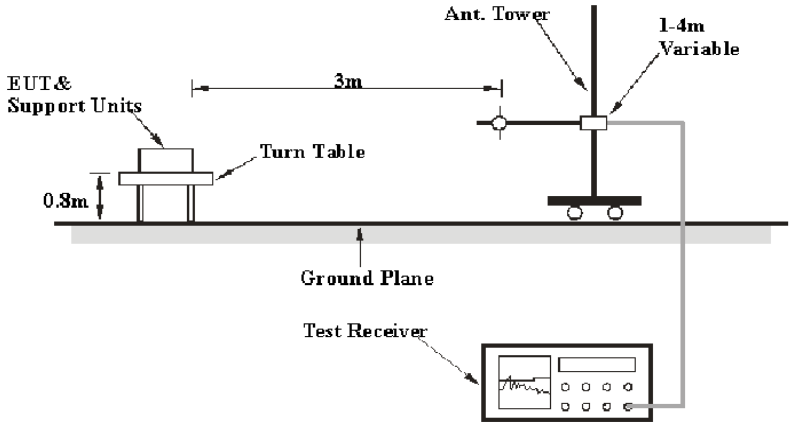
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

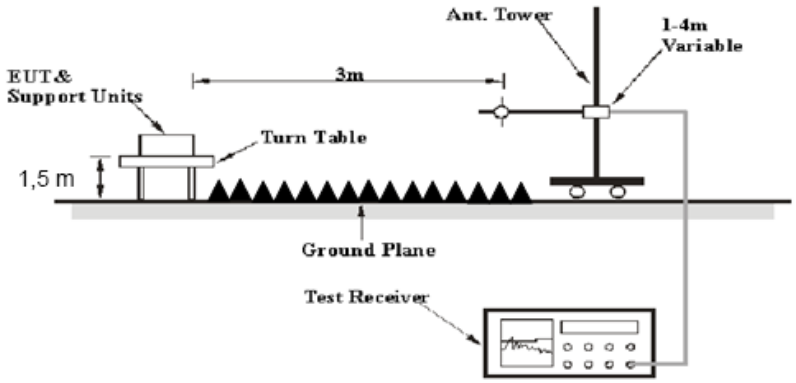
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1GHz:



Above 1GHz:



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

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

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

30MHz-1000MHz:

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

1GHz- 25GHz:

Detector	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
Ave.	>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	100224	2016-09-01	2017-08-31
Sunol Sciences	Antenna	JB3	A060611-1	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2016-09-01	2017-09-01
R&S	Spectrum Analyzer	FSU 26	200256	2016-12-08	2017-12-08
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-06-16	2020-06-15
Mini-Circuit	Amplifier	ZVA-213-S+	SN054201245	2017-02-19	2018-02-19
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2016-09-06	2017-09-06
Unknown	Coaxial Cable	Chamber A-1	4m	2016-09-01	2017-09-01
Unknown	Coaxial Cable	Chamber B-1	0.75m	2016-09-01	2017-09-01
Unknown	Coaxial Cable	Chamber A-2	10m	2016-09-01	2017-09-01
Unknown	Coaxial Cable	Chamber B-2	8m	2016-09-01	2017-09-01

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

Test Data

Environmental Conditions

Temperature:	28.3 °C
Relative Humidity:	32 %
ATM Pressure:	100.3 kPa

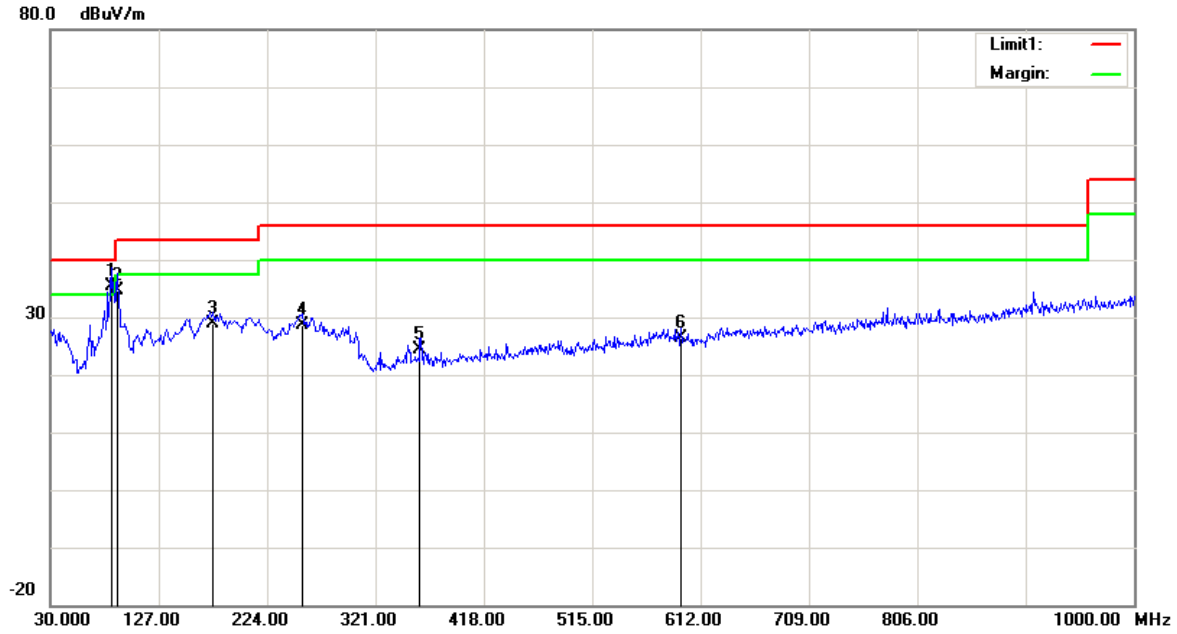
** The testing was performed by Blake Yang on 2017-08-15.*

Test Result: Compliance, please Refer to the following data

Test Mode: Transmitting

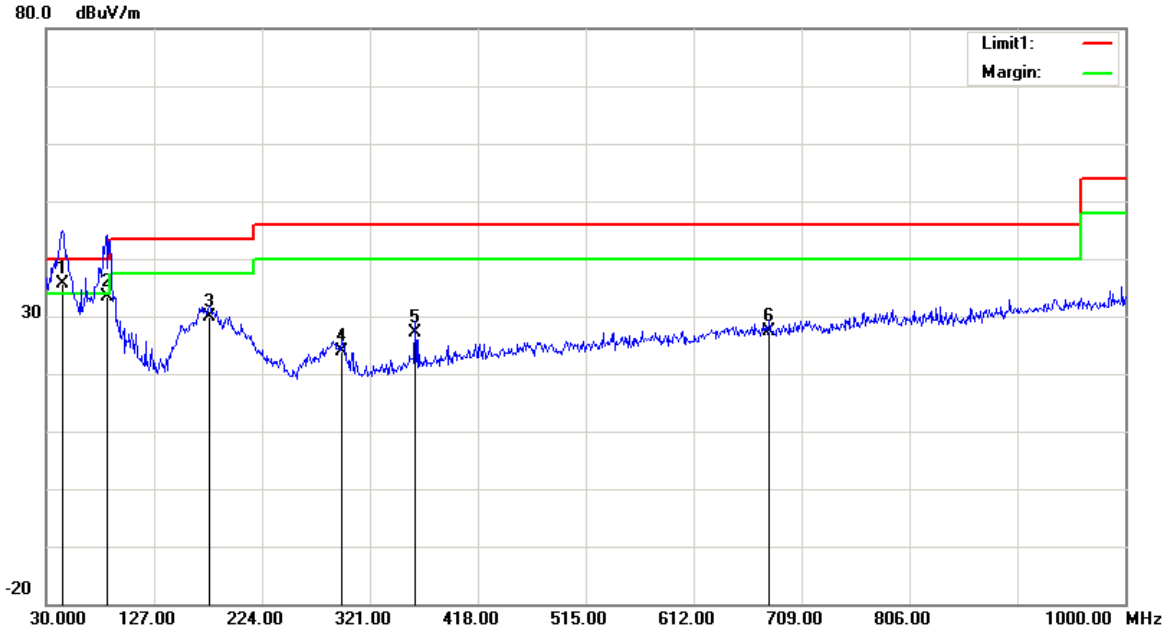
1) 30MHz-1GHz(802.11b middle channel was the worst)

Horizontal:



Frequency (MHz)	Receiver Reading (dBuV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
84.3200	46.69	QP	-11.19	35.50	40.00	4.50
90.1400	45.60	QP	-10.90	34.70	43.50	8.80
175.5000	36.46	QP	-7.56	28.90	43.50	14.60
256.0100	34.80	QP	-6.20	28.60	46.00	17.40
360.7700	27.44	QP	-3.04	24.40	46.00	21.60
594.5400	26.03	QP	0.27	26.30	46.00	19.70

Vertical:



Frequency (MHz)	Receiver Reading (dBuV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
44.5500	45.14	QP	-9.54	35.60	40.00	4.40
84.3200	44.69	QP	-11.19	33.50	40.00	6.50
176.4700	37.49	QP	-7.59	29.90	43.50	13.60
295.7800	28.14	QP	-4.24	23.90	46.00	22.10
361.7400	30.16	QP	-3.06	27.10	46.00	18.90
679.9000	25.59	QP	1.71	27.30	46.00	18.70

2) 1-25GHz:

802.11b Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	68.77	PK	H	24.84	5.33	0.00	98.94	N/A	N/A
2412	64.68	AV	H	24.84	5.33	0.00	94.85	N/A	N/A
2412	54.6	PK	V	24.84	5.33	0.00	84.77	N/A	N/A
2412	50.34	AV	V	24.84	5.33	0.00	80.51	N/A	N/A
2390	28.95	PK	H	24.80	5.30	0.00	59.05	74.00	14.95
2390	16.69	AV	H	24.80	5.30	0.00	46.79	54.00	7.21
4824	41.76	PK	H	29.75	7.35	27.41	51.45	74.00	22.55
4824	36.11	AV	H	29.75	7.35	27.41	45.80	54.00	8.20
7236	37.54	PK	H	33.98	9.01	27.22	53.31	74.00	20.69
7236	23.96	AV	H	33.98	9.01	27.22	39.73	54.00	14.27
3286	38.17	PK	H	26.56	6.16	27.21	43.68	74.00	30.32
3286	24.87	AV	H	26.56	6.16	27.21	30.38	54.00	23.62
Middle Channel: 2437 MHz									
2437	65.64	PK	H	24.89	5.35	0.00	95.88	N/A	N/A
2437	61.34	AV	H	24.89	5.35	0.00	91.58	N/A	N/A
2437	53.61	PK	V	24.89	5.35	0.00	83.85	N/A	N/A
2437	49.36	AV	V	24.89	5.35	0.00	79.60	N/A	N/A
4874	41.24	PK	H	29.85	7.42	27.54	50.97	74.00	23.03
4874	35.73	AV	H	29.85	7.42	27.54	45.46	54.00	8.54
7311	37.47	PK	H	34.10	9.06	27.28	53.35	74.00	20.65
7311	23.8	AV	H	34.10	9.06	27.28	39.68	54.00	14.32
4217	38.28	PK	H	28.59	6.90	27.34	46.43	74.00	27.57
4217	24.93	AV	H	28.59	6.90	27.34	33.08	54.00	20.92
3547	37.95	PK	H	27.29	6.43	26.70	44.97	74.00	29.03
3547	24.58	AV	H	27.29	6.43	26.70	31.60	54.00	22.40
High Channel: 2462 MHz									
2462	63.68	PK	H	24.93	5.37	0.00	93.98	N/A	N/A
2462	59.38	AV	H	24.93	5.37	0.00	89.68	N/A	N/A
2462	53.53	PK	V	24.93	5.37	0.00	83.83	N/A	N/A
2462	49.36	AV	V	24.93	5.37	0.00	79.66	N/A	N/A
2483.5	29.91	PK	H	24.97	5.39	0.00	60.27	74.00	13.73
2483.5	16.97	AV	H	24.97	5.39	0.00	47.33	54.00	6.67
4924	41.32	PK	H	29.95	7.49	27.51	51.25	74.00	22.75
4924	35.81	AV	H	29.95	7.49	27.51	45.74	54.00	8.26
7386	37.65	PK	H	34.22	9.10	27.18	53.79	74.00	20.21
7386	23.75	AV	H	34.22	9.10	27.18	39.89	54.00	14.11
4579	38.46	PK	H	29.26	7.01	27.41	47.32	74.00	26.68
4579	25.11	AV	H	29.26	7.01	27.41	33.97	54.00	20.03

802.11g Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	70.02	PK	H	24.84	5.33	0.00	100.19	N/A	N/A
2412	61.17	AV	H	24.84	5.33	0.00	91.34	N/A	N/A
2412	56.46	PK	V	24.84	5.33	0.00	86.63	N/A	N/A
2412	47.55	AV	V	24.84	5.33	0.00	77.72	N/A	N/A
2390	28.96	PK	H	24.80	5.30	0.00	59.06	74.00	14.94
2390	16.99	AV	H	24.80	5.30	0.00	47.09	54.00	6.91
4824	40.01	PK	H	29.75	7.35	27.41	49.70	74.00	24.30
4824	32.17	AV	H	29.75	7.35	27.41	41.86	54.00	12.14
7236	37.57	PK	H	33.98	9.01	27.22	53.34	74.00	20.66
7236	24.16	AV	H	33.98	9.01	27.22	39.93	54.00	14.07
2853	37.87	PK	H	25.49	5.73	27.85	41.24	74.00	32.76
2853	24.46	AV	H	25.49	5.73	27.85	27.83	54.00	26.17
Middle Channel: 2437 MHz									
2437	67.65	PK	H	24.89	5.35	0.00	97.89	N/A	N/A
2437	58.82	AV	H	24.89	5.35	0.00	89.06	N/A	N/A
2437	55.68	PK	V	24.89	5.35	0.00	85.92	N/A	N/A
2437	46.66	AV	V	24.89	5.35	0.00	76.90	N/A	N/A
4874	39.72	PK	H	29.85	7.42	27.54	49.45	74.00	24.55
4874	31.98	AV	H	29.85	7.42	27.54	41.71	54.00	12.29
7311	37.74	PK	H	34.10	9.06	27.28	53.62	74.00	20.38
7311	24.39	AV	H	34.10	9.06	27.28	40.27	54.00	13.73
3192	37.87	PK	H	26.28	6.06	27.29	42.92	74.00	31.08
3192	24.46	AV	H	26.28	6.06	27.29	29.51	54.00	24.49
4175	38.33	PK	H	28.52	6.90	27.31	46.44	74.00	27.56
4175	24.87	AV	H	28.52	6.90	27.31	32.98	54.00	21.02
High Channel: 2462 MHz									
2462	65.31	PK	H	24.93	5.37	0.00	95.61	N/A	N/A
2462	56.34	AV	H	24.93	5.37	0.00	86.64	N/A	N/A
2462	55.14	PK	V	24.93	5.37	0.00	85.44	N/A	N/A
2462	46.15	AV	V	24.93	5.37	0.00	76.45	N/A	N/A
2483.5	28.92	PK	H	24.97	5.39	0.00	59.28	74.00	14.72
2483.5	17	AV	H	24.97	5.39	0.00	47.36	54.00	6.64
4924	39.85	PK	H	29.95	7.49	27.51	49.78	74.00	24.22
4924	32.08	AV	H	29.95	7.49	27.51	42.01	54.00	11.99
7386	37.91	PK	H	34.22	9.10	27.18	54.05	74.00	19.95
7386	24.51	AV	H	34.22	9.10	27.18	40.65	54.00	13.35
3517	37.68	PK	H	27.23	6.40	26.71	44.60	74.00	29.40
3517	24.27	AV	H	27.23	6.40	26.71	31.19	54.00	22.81

802.11n20 Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	68.43	PK	H	24.84	5.33	0.00	98.60	N/A	N/A
2412	59.14	AV	H	24.84	5.33	0.00	89.31	N/A	N/A
2412	56.12	PK	V	24.84	5.33	0.00	86.29	N/A	N/A
2412	46.91	AV	V	24.84	5.33	0.00	77.08	N/A	N/A
2390	29.42	PK	H	24.80	5.30	0.00	59.52	74.00	14.48
2390	16.93	AV	H	24.80	5.30	0.00	47.03	54.00	6.97
4824	39.42	PK	H	29.75	7.35	27.41	49.11	74.00	24.89
4824	31.39	AV	H	29.75	7.35	27.41	41.08	54.00	12.92
7236	37.47	PK	H	33.98	9.01	27.22	53.24	74.00	20.76
7236	24.18	AV	H	33.98	9.01	27.22	39.95	54.00	14.05
3912	38.53	PK	H	28.02	6.81	27.05	46.31	74.00	27.69
3912	25.28	AV	H	28.02	6.81	27.05	33.06	54.00	20.94
Middle Channel: 2437 MHz									
2437	67.21	PK	H	24.89	5.35	0.00	97.45	N/A	N/A
2437	58.3	AV	H	24.89	5.35	0.00	88.54	N/A	N/A
2437	55.59	PK	V	24.89	5.35	0.00	85.83	N/A	N/A
2437	46.33	AV	V	24.89	5.35	0.00	76.57	N/A	N/A
4874	39.28	PK	H	29.85	7.42	27.54	49.01	74.00	24.99
4874	31.14	AV	H	29.85	7.42	27.54	40.87	54.00	13.13
7311	37.59	PK	H	34.10	9.06	27.28	53.47	74.00	20.53
7311	24.3	AV	H	34.10	9.06	27.28	40.18	54.00	13.82
2186	38.41	PK	H	24.43	5.11	27.85	40.10	74.00	33.90
2186	25.08	AV	H	24.43	5.11	27.85	26.77	54.00	27.23
3327	38.87	PK	H	26.68	6.20	27.11	44.64	74.00	29.36
3327	24.62	AV	H	26.68	6.20	27.11	30.39	54.00	23.61
High Channel: 2462 MHz									
2462	65.94	PK	H	24.93	5.37	0.00	96.24	N/A	N/A
2462	56.77	AV	H	24.93	5.37	0.00	87.07	N/A	N/A
2462	54.78	PK	V	24.93	5.37	0.00	85.08	N/A	N/A
2462	45.44	AV	V	24.93	5.37	0.00	75.74	N/A	N/A
2483.5	28.35	PK	H	24.97	5.39	0.00	58.71	74.00	15.29
2483.5	17.01	AV	H	24.97	5.39	0.00	47.37	54.00	6.63
4924	39.39	PK	H	29.95	7.49	27.51	49.32	74.00	24.68
4924	31.22	AV	H	29.95	7.49	27.51	41.15	54.00	12.85
7386	37.84	PK	H	34.22	9.10	27.18	53.98	74.00	20.02
7386	24.51	AV	H	34.22	9.10	27.18	40.65	54.00	13.35
3014	37.85	PK	H	25.74	5.87	27.63	41.83	74.00	32.17
3014	24.63	AV	H	25.74	5.87	27.63	28.61	54.00	25.39

802.11n40 Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2422 MHz									
2422	66.07	PK	H	24.86	5.34	0.00	96.27	N/A	N/A
2422	57.16	AV	H	24.86	5.34	0.00	87.36	N/A	N/A
2422	54.39	PK	V	24.86	5.34	0.00	84.59	N/A	N/A
2422	45.36	AV	V	24.86	5.34	0.00	75.56	N/A	N/A
2390	29.46	PK	H	24.80	5.30	0.00	59.56	74.00	14.44
2390	17.19	AV	H	24.80	5.30	0.00	47.29	54.00	6.71
4844	39.38	PK	H	29.79	7.38	27.46	49.09	74.00	24.91
4844	30.89	AV	H	29.79	7.38	27.46	40.60	54.00	13.40
7266	37.48	PK	H	34.03	9.03	27.25	53.29	74.00	20.71
7266	24.14	AV	H	34.03	9.03	27.25	39.95	54.00	14.05
2109	38.32	PK	H	24.30	5.03	27.91	39.74	74.00	34.26
2109	25.29	AV	H	24.30	5.03	27.91	26.71	54.00	27.29
Middle Channel: 2437 MHz									
2437	65.36	PK	H	24.89	5.35	0.00	95.60	N/A	N/A
2437	56.47	AV	H	24.89	5.35	0.00	86.71	N/A	N/A
2437	52.37	PK	V	24.89	5.35	0.00	82.61	N/A	N/A
2437	43.1	AV	V	24.89	5.35	0.00	73.34	N/A	N/A
4874	39.17	PK	H	29.85	7.42	27.54	48.90	74.00	25.10
4874	30.72	AV	H	29.85	7.42	27.54	40.45	54.00	13.55
7311	37.88	PK	H	34.10	9.06	27.28	53.76	74.00	20.24
7311	24.59	AV	H	34.10	9.06	27.28	40.47	54.00	13.53
3245	38.41	PK	H	26.44	6.11	27.25	43.71	74.00	30.29
3245	25.37	AV	H	26.44	6.11	27.25	30.67	54.00	23.33
4459	38.19	PK	H	29.03	6.90	27.51	46.61	74.00	27.39
4459	25.06	AV	H	29.03	6.90	27.51	33.48	54.00	20.52
High Channel: 2452 MHz									
2452	63.61	PK	H	24.91	5.36	0.00	93.88	N/A	N/A
2452	54.28	AV	H	24.91	5.36	0.00	84.55	N/A	N/A
2452	52.9	PK	V	24.91	5.36	0.00	83.17	N/A	N/A
2452	43.53	AV	V	24.91	5.36	0.00	73.80	N/A	N/A
2483.5	29.56	PK	H	24.97	5.39	0.00	59.92	74.00	14.08
2483.5	17.02	AV	H	24.97	5.39	0.00	47.38	54.00	6.62
4904	39.31	PK	H	29.91	7.47	27.58	49.11	74.00	24.89
4904	30.83	AV	H	29.91	7.47	27.58	40.63	54.00	13.37
7356	37.96	PK	H	34.17	9.08	27.22	53.99	74.00	20.01
7356	24.63	AV	H	34.17	9.08	27.22	40.66	54.00	13.34
2307	38.14	PK	H	24.65	5.22	28.00	40.01	74.00	33.99
2307	24.83	AV	H	24.65	5.22	28.00	26.70	54.00	27.30

BLE Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector	Polar (H/V)	Factor (dB)					
Low Channel: 2402 MHz									
2402	60.34	PK	H	24.82	5.68	0.00	90.84	N/A	N/A
2402	56.12	AV	H	24.82	5.68	0.00	86.62	N/A	N/A
2402	47.7	PK	V	24.82	5.68	0.00	78.20	N/A	N/A
2402	42.42	AV	V	24.82	5.68	0.00	72.92	N/A	N/A
2390	29.41	PK	V	24.80	5.67	0.00	59.88	74.00	14.12
2390	16.67	AV	V	24.80	5.67	0.00	47.14	54.00	6.86
4804	36.51	PK	V	29.71	7.97	27.36	46.83	74.00	27.17
4804	24.64	AV	V	29.71	7.97	27.36	34.96	54.00	19.04
7206	36.57	PK	V	33.93	9.77	27.19	53.08	74.00	20.92
7206	25.12	AV	V	33.93	9.77	27.19	41.63	54.00	12.37
2116	39.97	PK	V	24.31	5.61	27.91	41.98	74.00	32.02
2116	28.39	AV	V	24.31	5.61	27.91	30.40	54.00	23.60
Middle Channel: 2440 MHz									
2440	61.01	PK	H	24.89	5.68	0.00	91.58	N/A	N/A
2440	56.87	AV	H	24.89	5.68	0.00	87.44	N/A	N/A
2440	47.23	PK	V	24.89	5.68	0.00	77.80	N/A	N/A
2440	40.76	AV	V	24.89	5.68	0.00	71.33	N/A	N/A
4880	37.74	PK	V	29.86	8.03	27.55	48.08	74.00	25.92
4880	30.01	AV	V	29.86	8.03	27.55	40.35	54.00	13.65
2764	37.55	PK	V	25.37	6.01	27.89	41.04	74.00	32.96
2764	29.87	AV	V	25.37	6.01	27.89	33.36	54.00	20.64
2134	40.24	PK	V	24.34	5.62	27.89	42.31	74.00	31.69
2134	31.28	AV	V	24.34	5.62	27.89	33.35	54.00	20.65
High Channel: 2480 MHz									
2480	61.23	PK	H	24.96	5.69	0.00	91.88	N/A	N/A
2480	56.04	AV	H	24.96	5.69	0.00	86.69	N/A	N/A
2480	48.34	PK	V	24.96	5.69	0.00	78.99	N/A	N/A
2480	42.51	AV	V	24.96	5.69	0.00	73.16	N/A	N/A
2483.5	29.08	PK	V	24.97	5.69	0.00	59.74	74.00	14.26
2483.5	16.97	AV	V	24.97	5.69	0.00	47.63	54.00	6.37
4960	36.75	PK	V	30.02	8.10	27.37	47.50	74.00	26.50
4960	25.41	AV	V	30.02	8.10	27.37	36.16	54.00	17.84
7440	35.98	PK	V	34.30	9.95	27.22	53.01	74.00	20.99
7440	23.17	AV	V	34.30	9.95	27.22	40.20	54.00	13.80
3537	38.74	PK	V	27.27	7.02	26.70	46.33	74.00	27.67
3537	26.65	AV	V	27.27	7.02	26.70	34.24	54.00	19.76

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

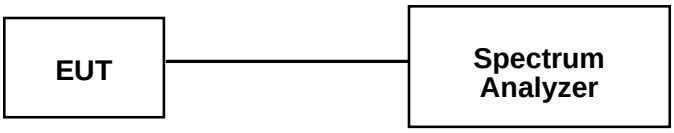
Applicable Standard

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	FSP 38	100478	2016-12-08	2017-12-08
Unknown	RF Cable	Unknown	C-4	Each Time	/

*** 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:	25.4~25.6 °C
Relative Humidity:	47~52 %
ATM Pressure:	100.3~100.5 kPa

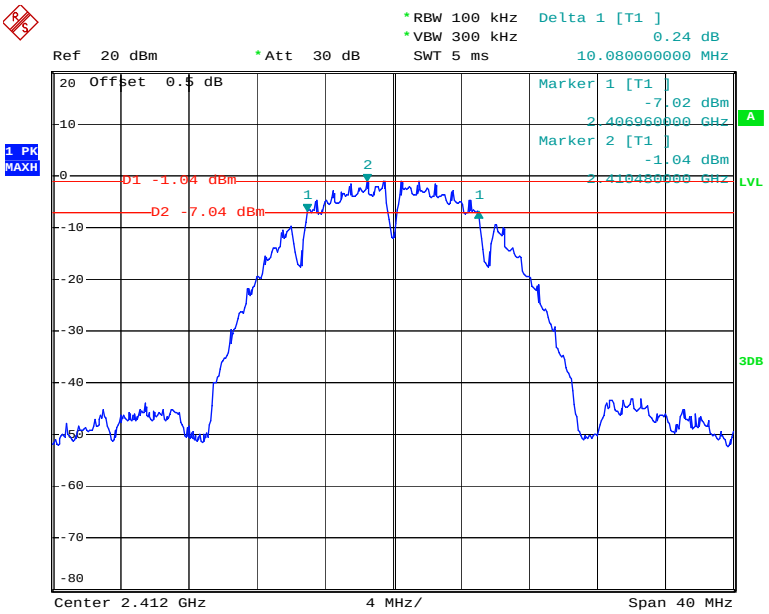
The testing was performed by Roger Luo on 2017-08-15 to 2017-08-19.

Test Mode: Transmitting

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

Test mode	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)
802.11b	Low	2412	10.08	≥0.5
	Middle	2437	10.08	≥0.5
	High	2462	10.08	≥0.5
802.11g	Low	2412	16.48	≥0.5
	Middle	2437	16.4	≥0.5
	High	2462	16.48	≥0.5
802.11n20	Low	2412	17.76	≥0.5
	Middle	2437	17.68	≥0.5
	High	2462	17.68	≥0.5
802.11n40	Low	2422	36.32	≥0.5
	Middle	2437	36.32	≥0.5
	High	2452	36.32	≥0.5
BLE	Low	2402	0.72	≥0.5
	Middle	2440	0.72	≥0.5
	High	2480	0.72	≥0.5

802.11b Low Channel



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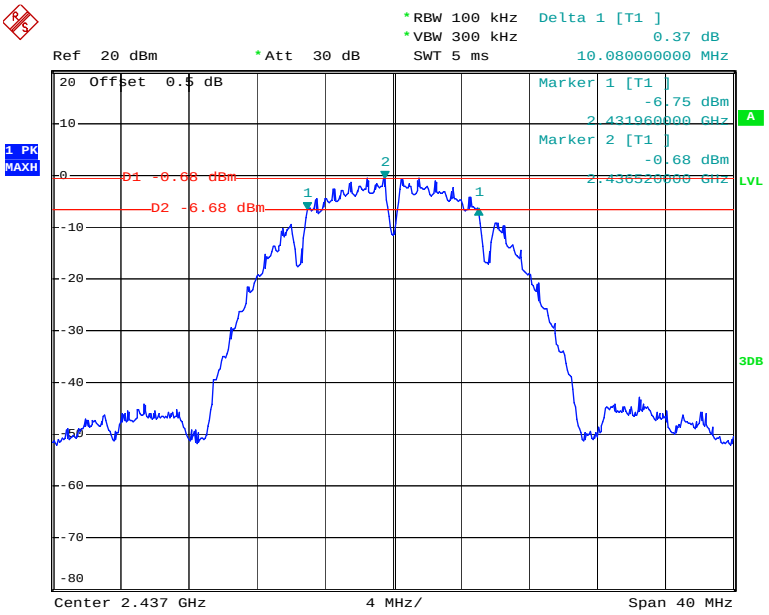
802.11b Middle Channel



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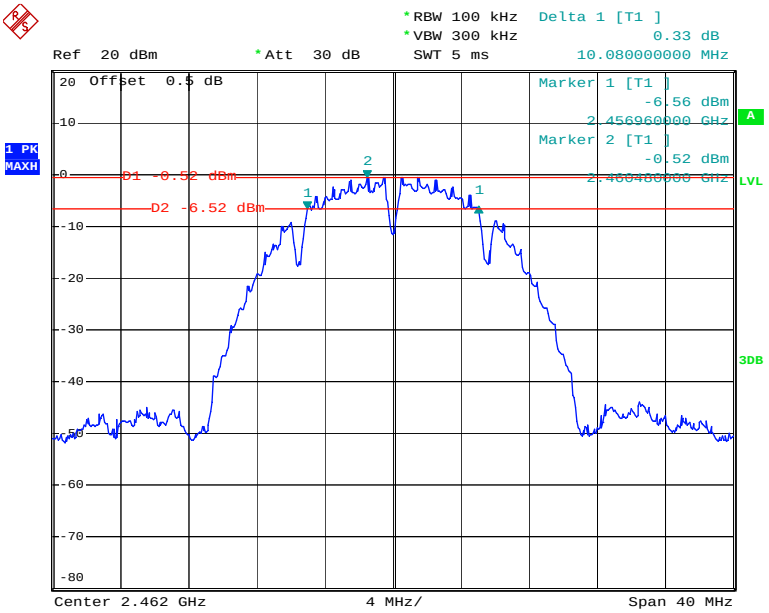
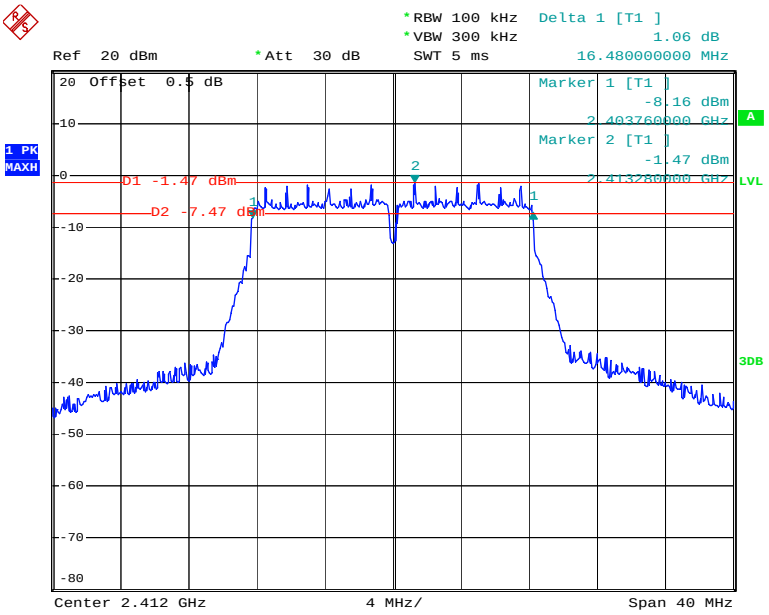
802.11b High Channel



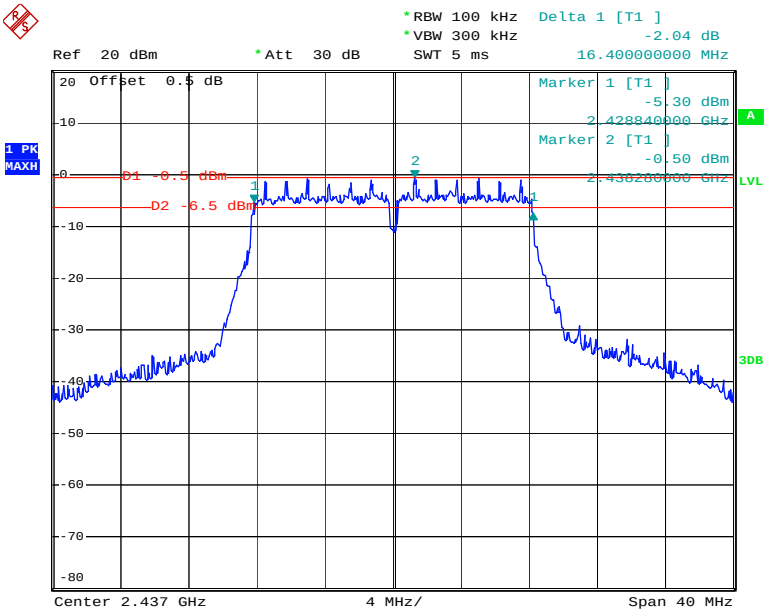
Date: 15.AUG.2017 14:48:33

802.11g Low Channel



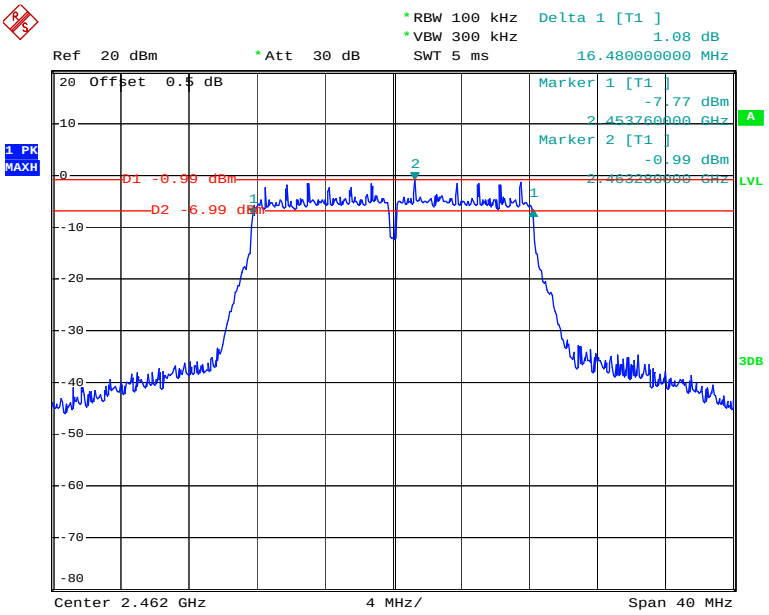
Date: 15.AUG.2017 14:50:16

802.11g Middle Channel



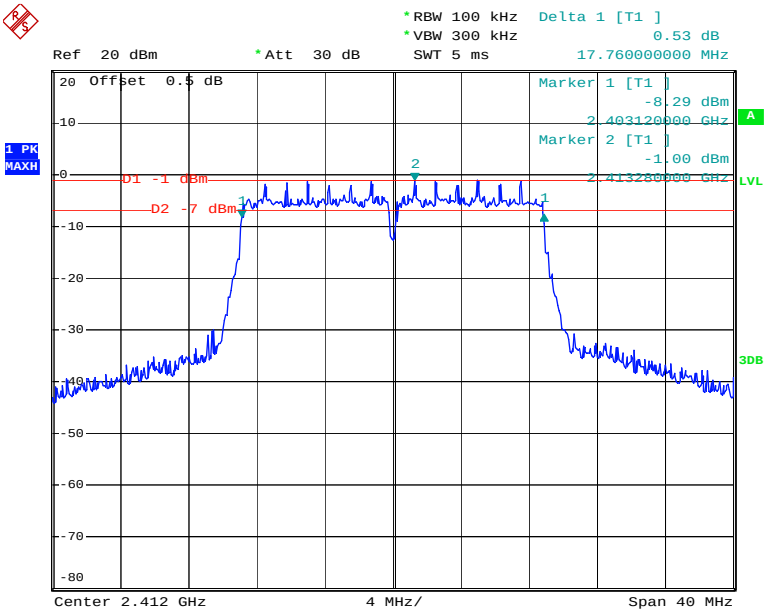
Date: 15.AUG.2017 15:07:10

802.11g High Channel



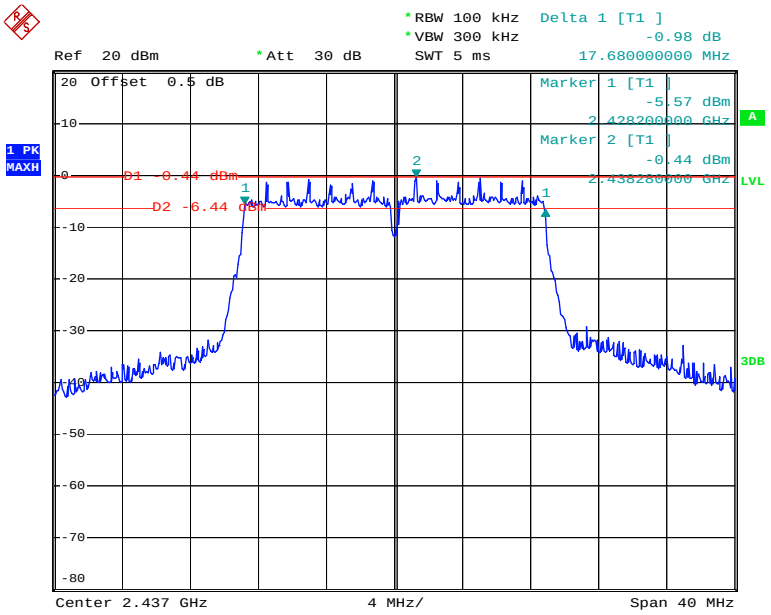
Date: 15.AUG.2017 15:05:09

802.11n ht20 Low Channel



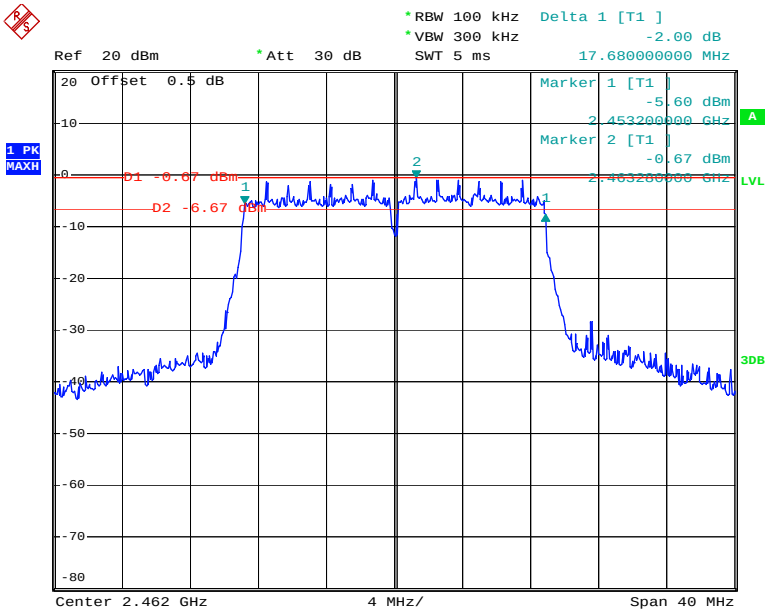
Date: 15.AUG.2017 15:09:14

802.11n ht20 Middle Channel



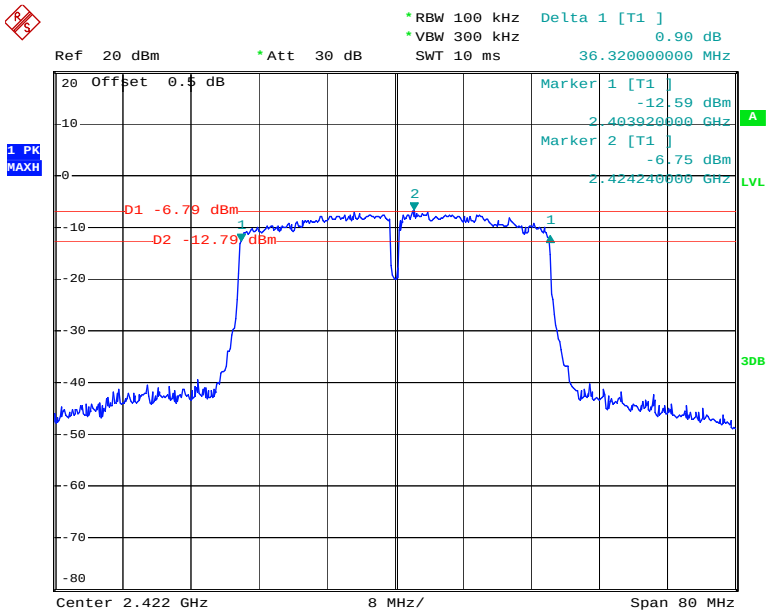
Date: 15.AUG.2017 15:11:02

802.11n ht20 High Channel



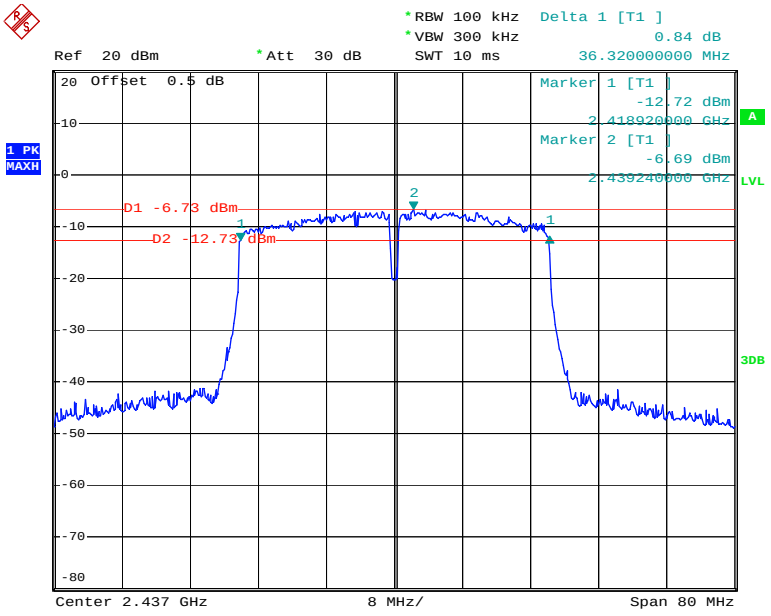
Date: 15.AUG.2017 15:12:28

802.11n ht40 Low Channel



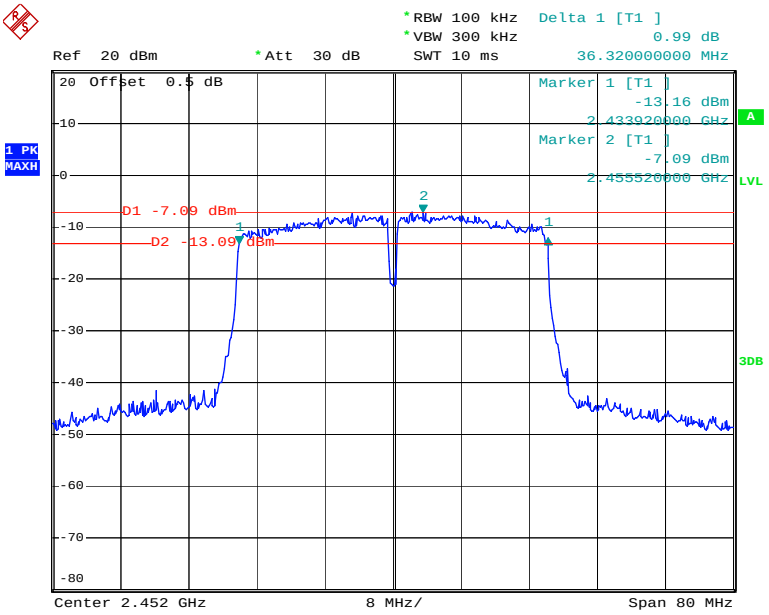
Date: 15.AUG.2017 15:14:39

802.11n ht40 Middle Channel



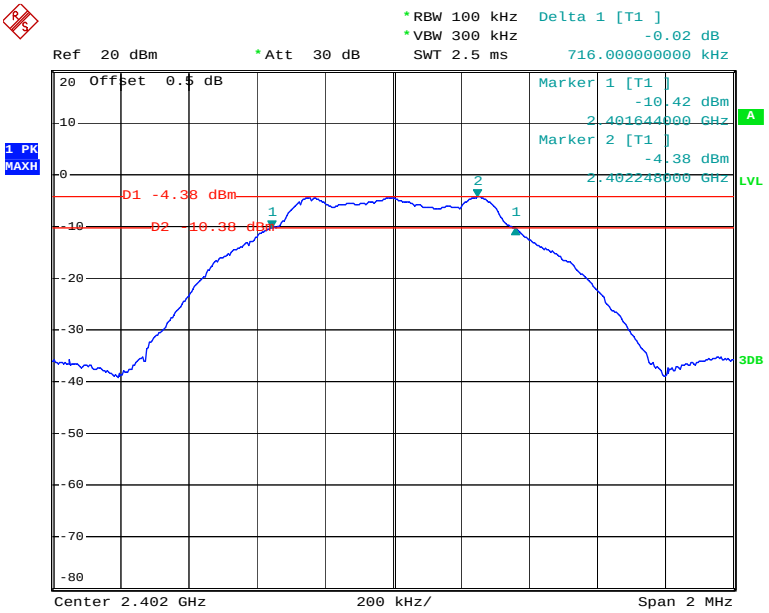
Date: 15.AUG.2017 15:16:37

802.11n ht40 High Channel



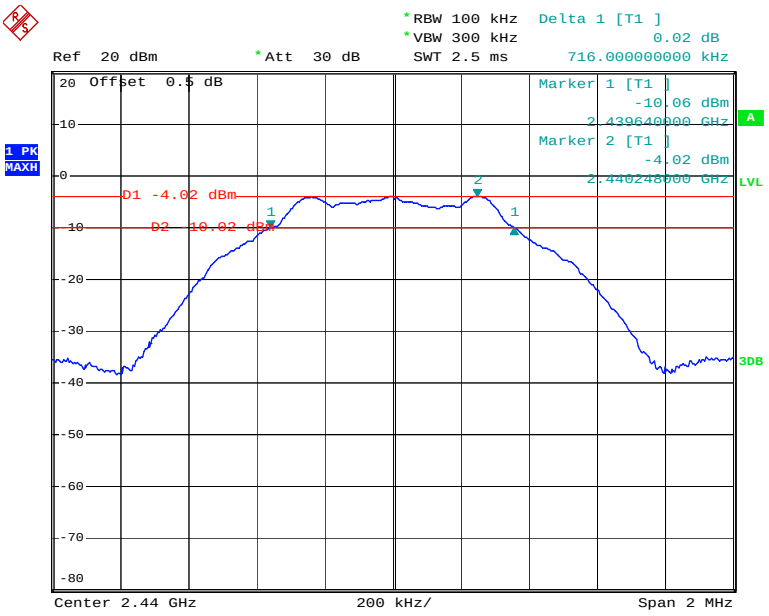
Date: 15.AUG.2017 15:18:33

BLE Low Channel



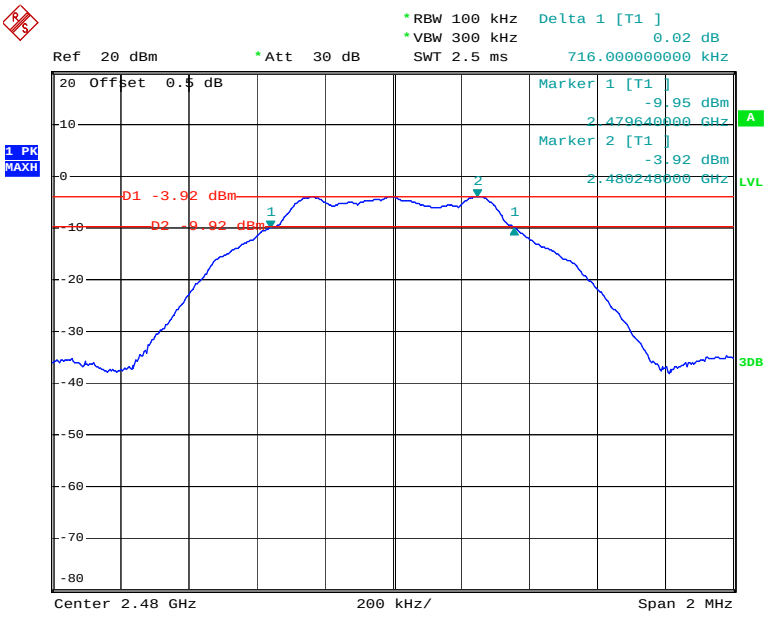
Date: 19.AUG.2017 09:59:23

BLE Middle Channel



Date: 19.AUG.2017 10:01:15

BLE High Channel



Date: 19.AUG.2017 10:02:29

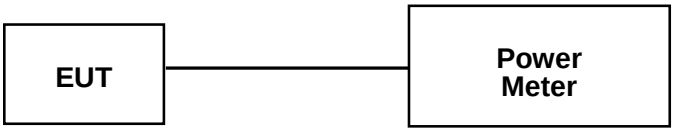
FCC §15.247(b) (3) - MAXIMUM PEAK CONDUCTED OUTPUT POWER

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	Wideband Power Sensor	N1921A	MY54210016	2016-11-03	2017-11-03
Agilent	Wideband Power Sensor	N1921A	MY54170013	2016-11-03	2017-11-03
Agilent	P-Series Power Meter	N1912A	MY5000448	2016-11-03	2017-11-03
Unknown	RF Cable	Unknown	C-4	Each Time	/

*** 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:	52 %
ATM Pressure:	100.3 kPa

The testing was performed by Roger Luo on 2017-08-15.

Test Mode: Transmitting

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

Test mode	Channel	Frequency (MHz)	Max Peak Conducted Output Power (dBm)	Max Conducted Average Output Power (dBm)	Limit (dBm)
802.11b	Low	2412	12.66	9.26	30
	Middle	2437	12.88	9.4	30
	High	2462	12.76	9.25	30
802.11g	Low	2412	17.81	9.45	30
	Middle	2437	18.81	9.27	30
	High	2462	18.28	9.41	30
802.11n20	Low	2412	18.11	9.39	30
	Middle	2437	18.54	9.42	30
	High	2462	18.8	9.38	30
802.11n40	Low	2422	17.99	9.24	30
	Middle	2437	18.16	9.32	30
	High	2452	17.62	9.38	30
BLE	Low	2402	-3.2	/	30
	Middle	2440	-2.86	/	30
	High	2480	-2.71	/	30

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	FSP 38	100478	2016-12-08	2017-12-08
Unknown	RF Cable	Unknown	C-4	Each Time	/

*** 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

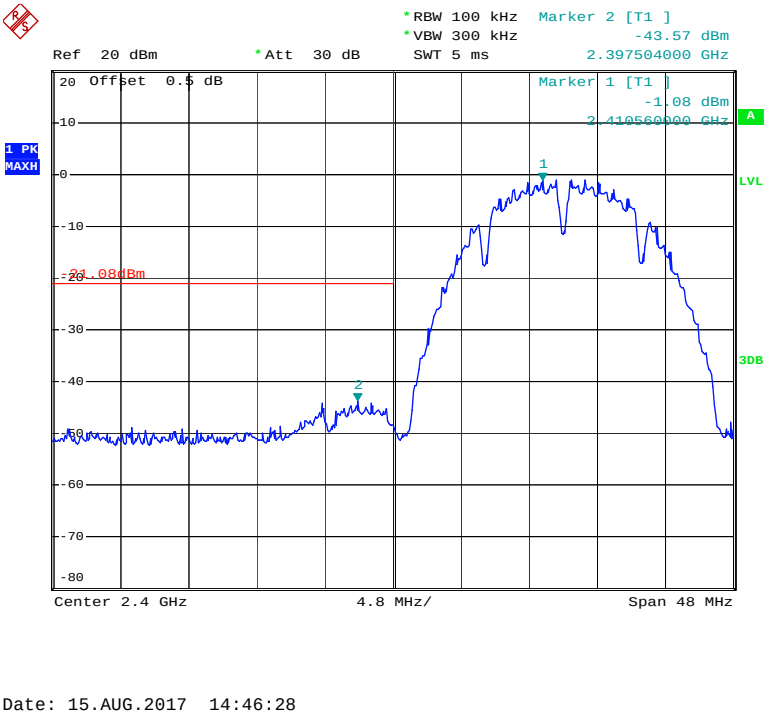
Temperature:	25.4~25.6 °C
Relative Humidity:	47~52 %
ATM Pressure:	100.3~100.5 kPa

The testing was performed by Roger Luo on 2017-08-15 to 2017-08-19.

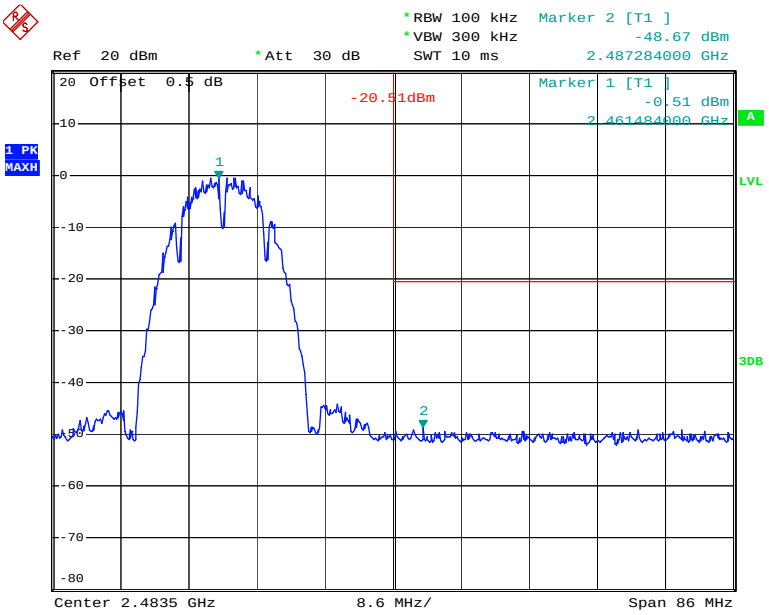
Test mode: Transmitting

Test Result: Compliant. Please refer to following plots.

802.11b: Band Edge, Left Side

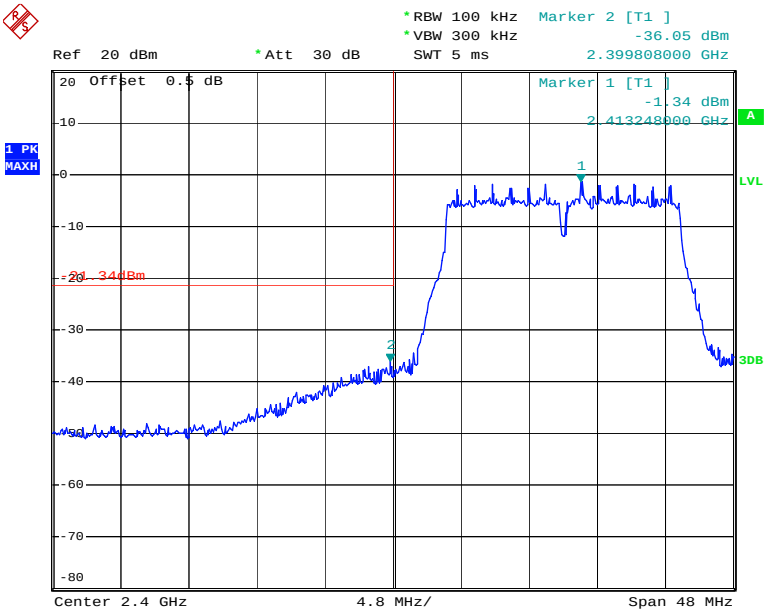


802.11b: Band Edge, Right Side



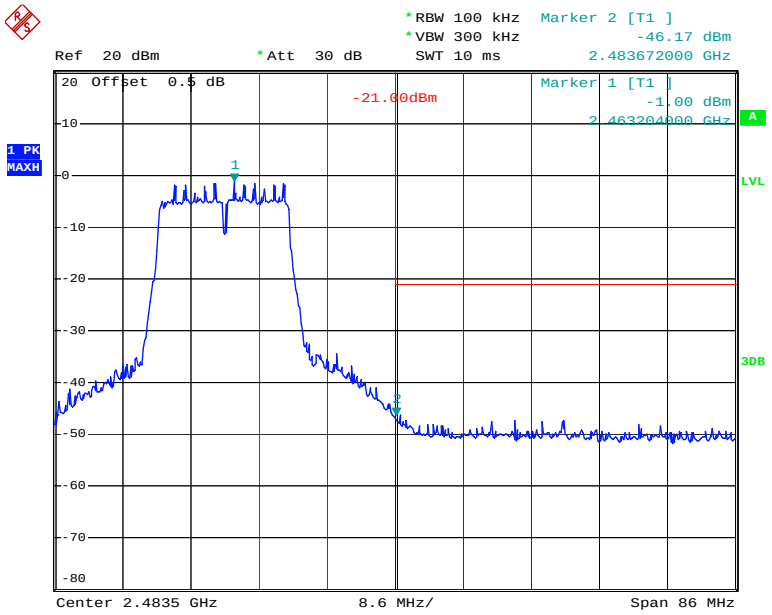
Date: 15.AUG.2017 14:49:24

802.11g: Band Edge, Left Side



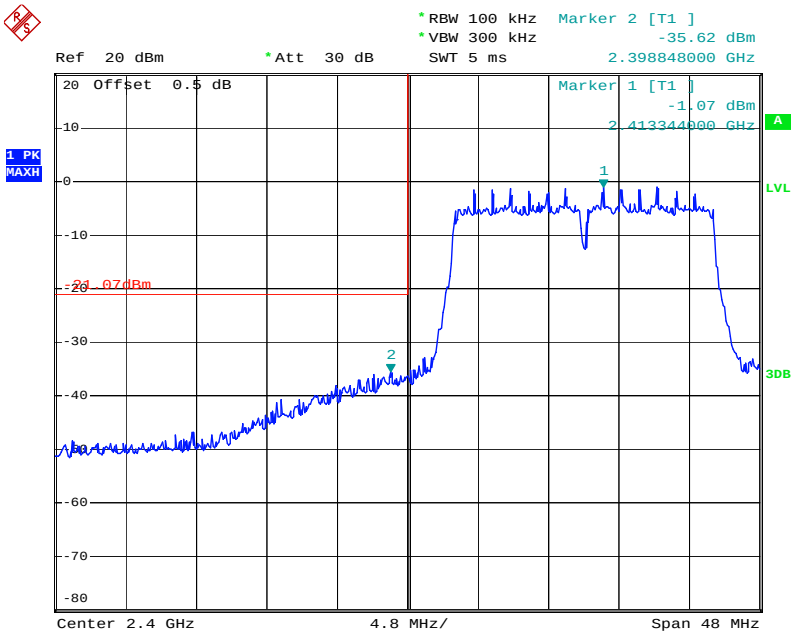
Date: 15.AUG.2017 14:51:34

802.11g: Band Edge, Right Side



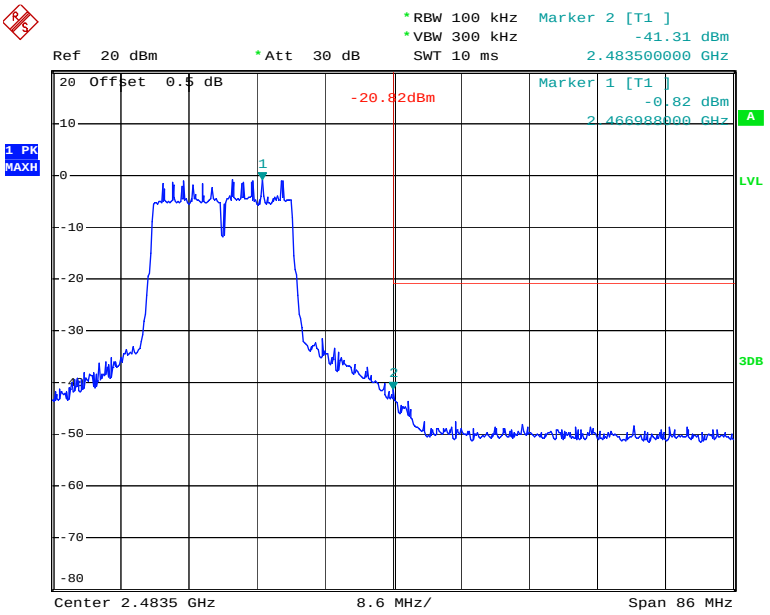
Date: 15.AUG.2017 15:06:09

802.11n ht20 Band Edge, Left Side



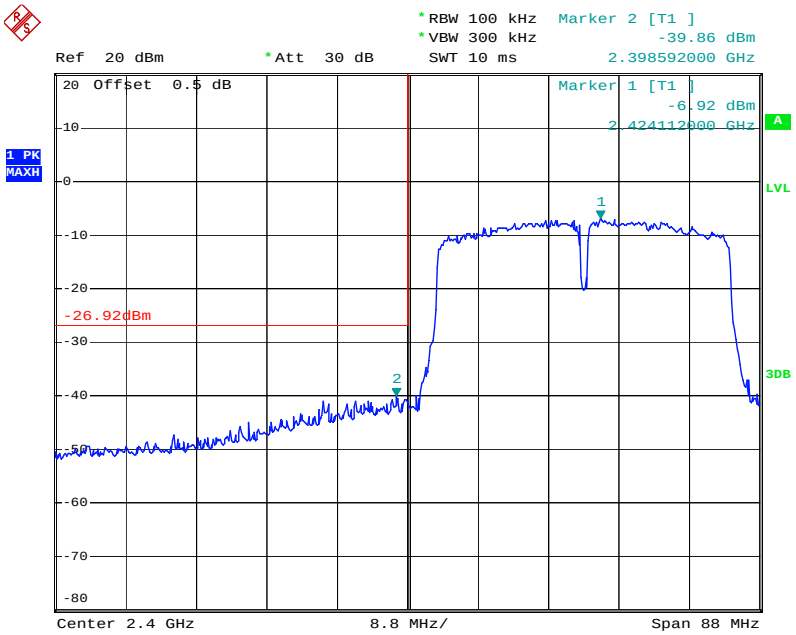
Date: 15.AUG.2017 15:10:06

802.11n ht20 Band Edge, Right Side



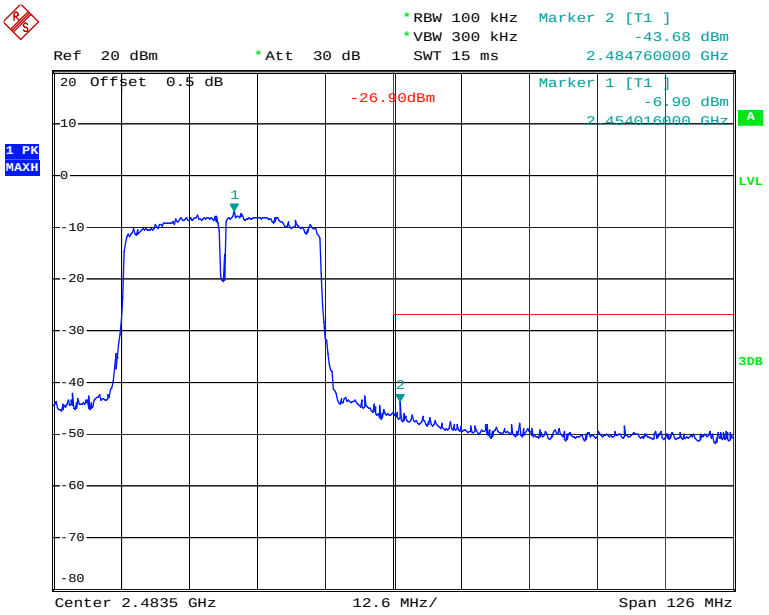
Date: 15.AUG.2017 15:13:26

802.11n ht40 Band Edge, Left Side



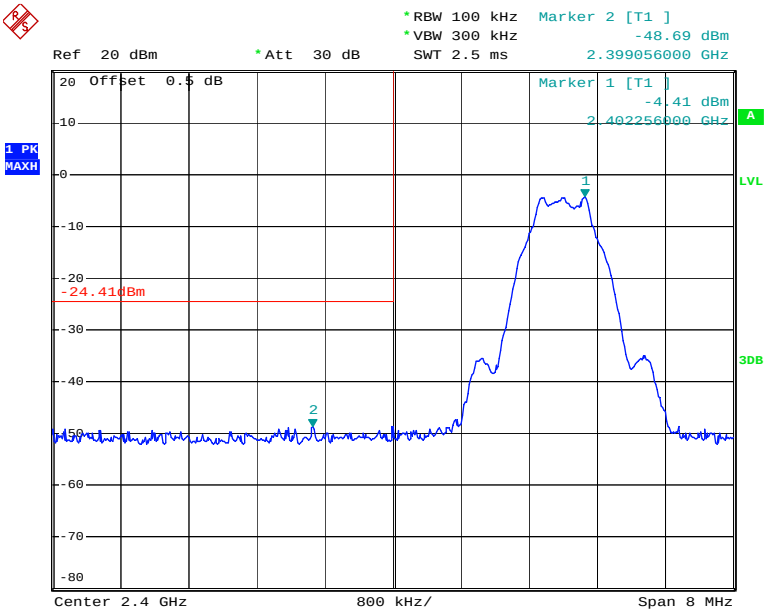
Date: 15.AUG.2017 15:15:57

802.11n ht40 Band Edge, Right Side



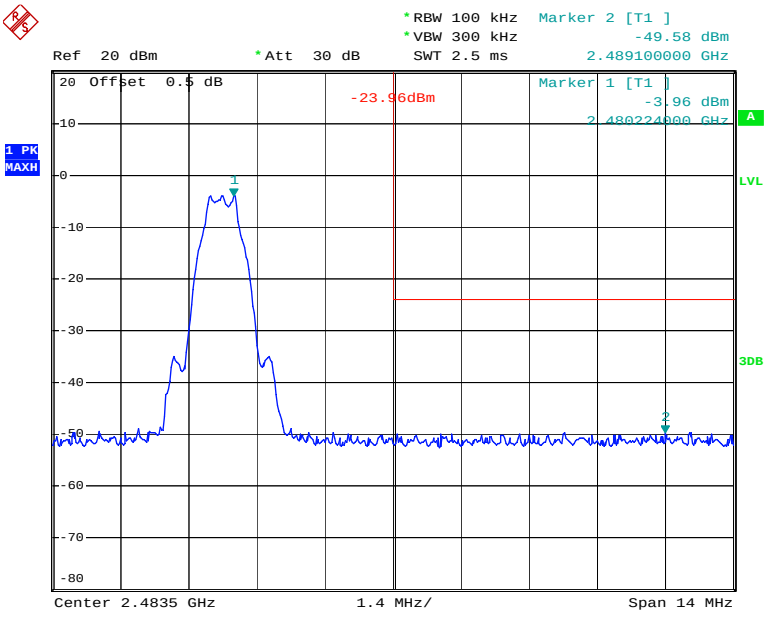
Date: 15.AUG.2017 15:19:48

BLE Band Edge, Left Side



Date: 19.AUG.2017 10:00:39

BLE Band Edge, Right Side



Date: 19.AUG.2017 10:03:29

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	FSP 38	100478	2016-12-08	2017-12-08
Unknown	RF Cable	Unknown	C-4	Each Time	/

*** 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:	25.4~25.6 °C
Relative Humidity:	47~52 %
ATM Pressure:	100.3~100.5 kPa

The testing was performed by Roger Luo on 2017-08-15 to 2017-08-19.

Test Result: Compliance

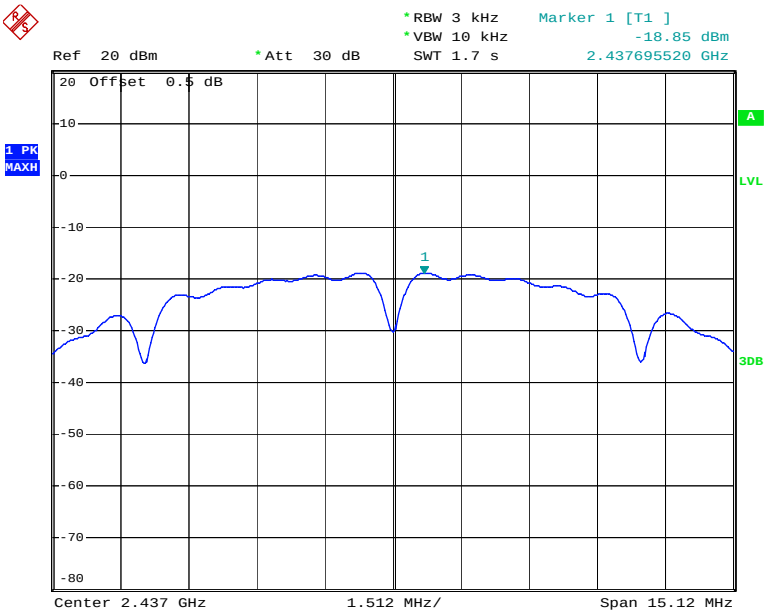
Test Mode: Transmitting

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

Test mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
802.11b	Low	2412	-19.16	≤8
	Middle	2437	-18.85	≤8
	High	2462	-18.66	≤8
802.11g	Low	2412	-15.98	≤8
	Middle	2437	-15.32	≤8
	High	2462	-15.5	≤8
802.11n20	Low	2412	-15.35	≤8
	Middle	2437	-15.62	≤8
	High	2462	-14.67	≤8
802.11n40	Low	2422	-19.8	≤8
	Middle	2437	-19.37	≤8
	High	2452	-19.76	≤8
BLE	Low	2402	-19.37	≤8
	Middle	2440	-18.84	≤8
	High	2480	-18.71	≤8

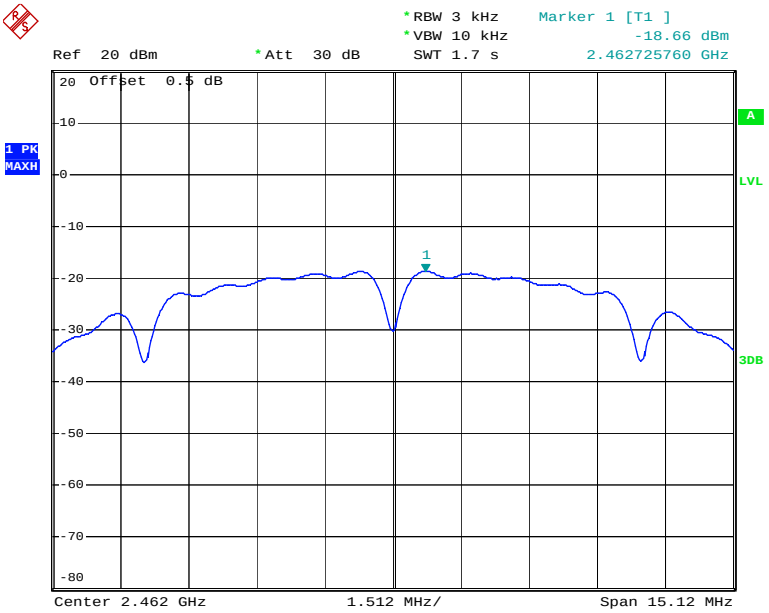
Power Spectral Density, 802.11b Low Channel

Power Spectral Density, 802.11b Middle Channel



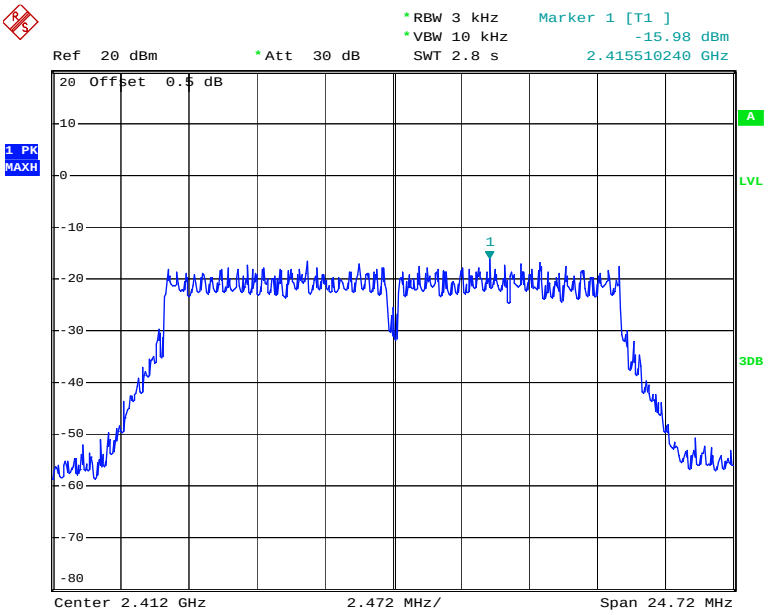
Date: 15.AUG.2017 14:47:36

Power Spectral Density, 802.11b High Channel



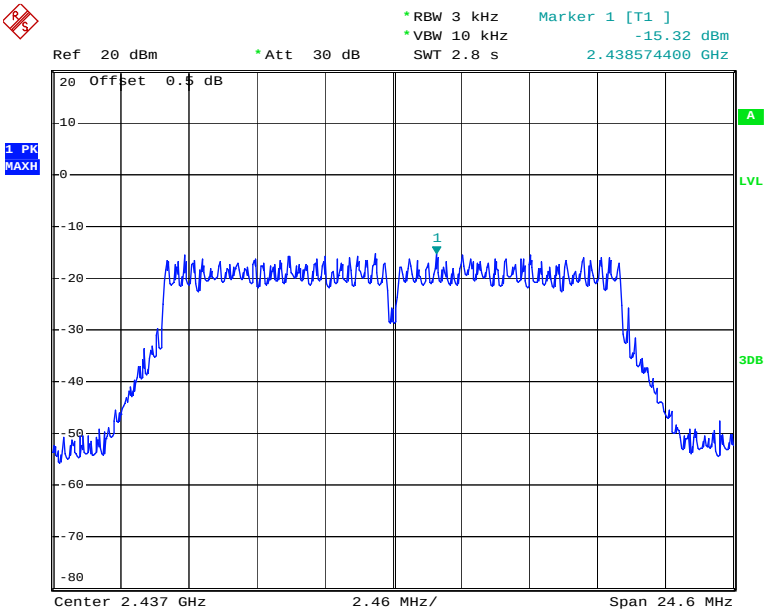
Date: 15.AUG.2017 14:49:07

Power Spectral Density, 802.11g Low Channel



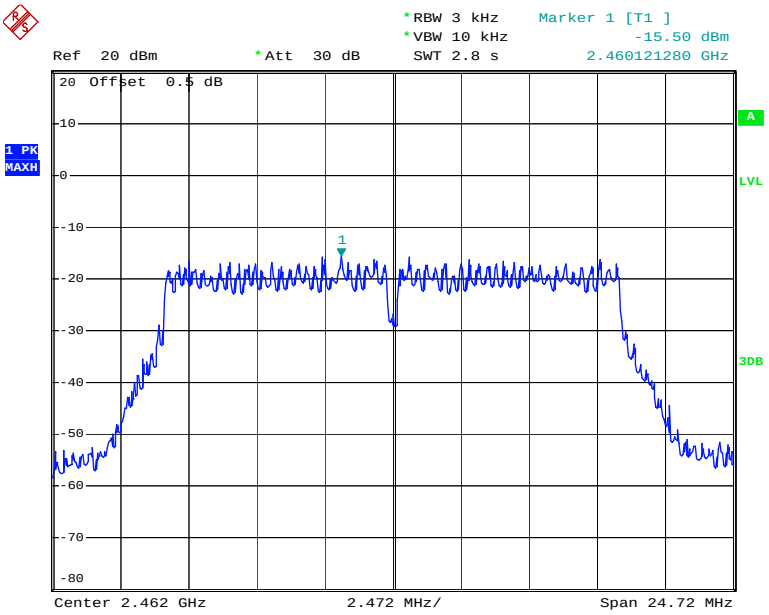
Date: 15.AUG.2017 14:50:50

Power Spectral Density, 802.11g Middle Channel



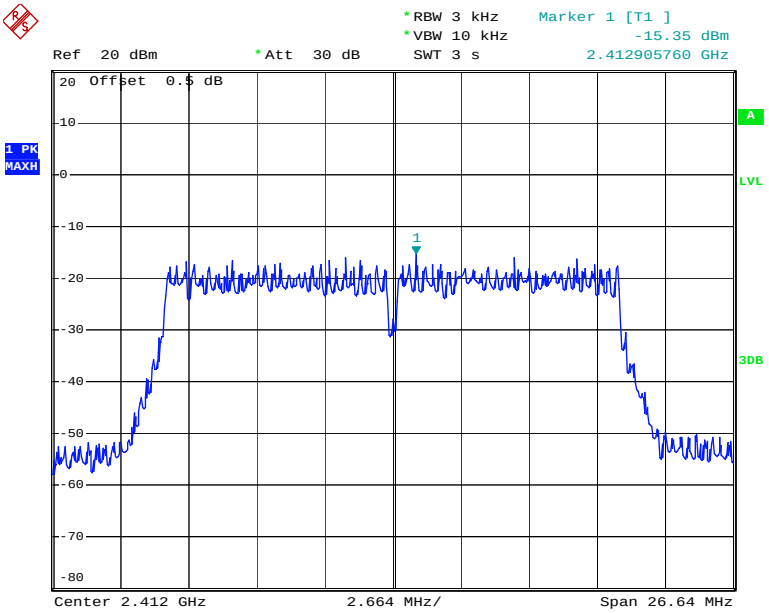
Date: 15.AUG.2017 15:07:52

Power Spectral Density, 802.11g High Channel



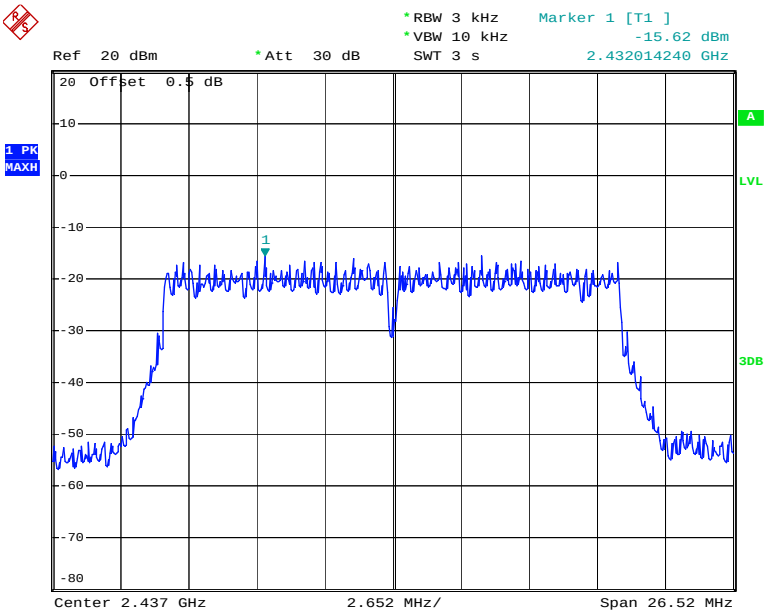
Date: 15.AUG.2017 15:05:50

Power Spectral Density, 802.11n ht20 Low Channel



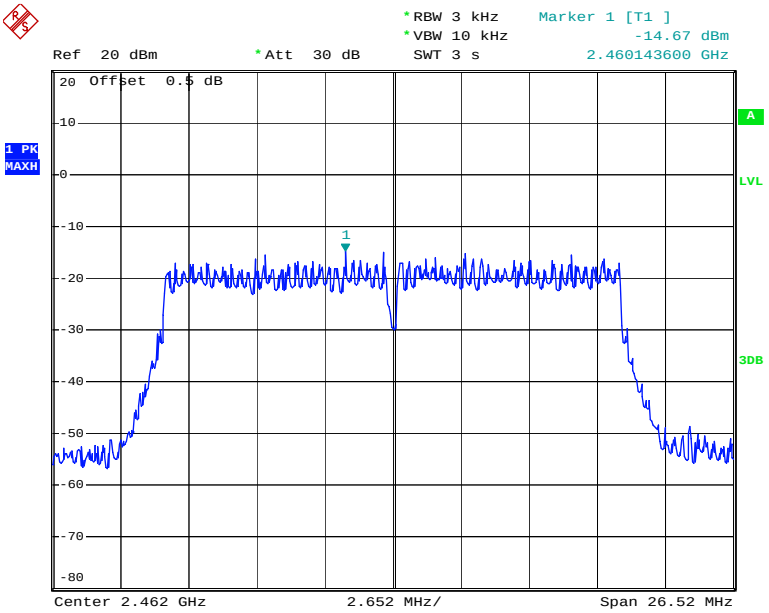
Date: 15.AUG.2017 15:09:47

Power Spectral Density, 802.11n ht20 Middle Channel



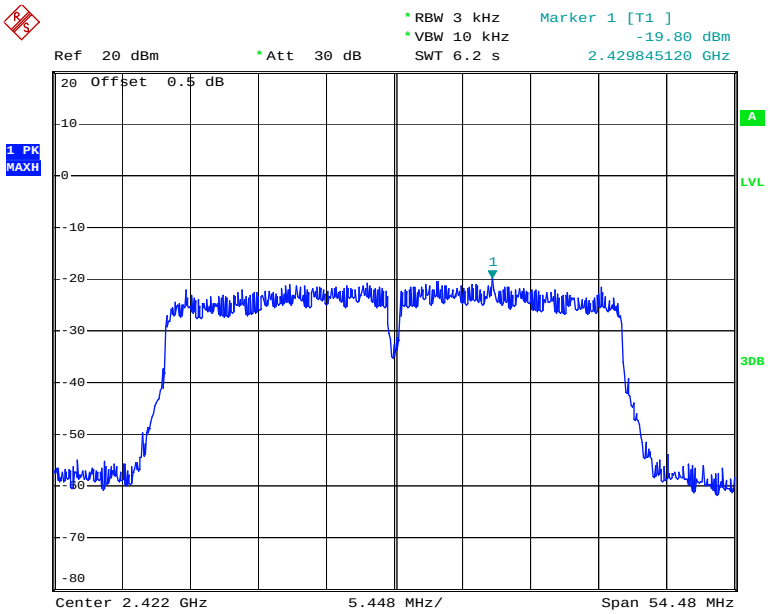
Date: 15.AUG.2017 15:11:35

Power Spectral Density, 802.11n ht20 High Channel



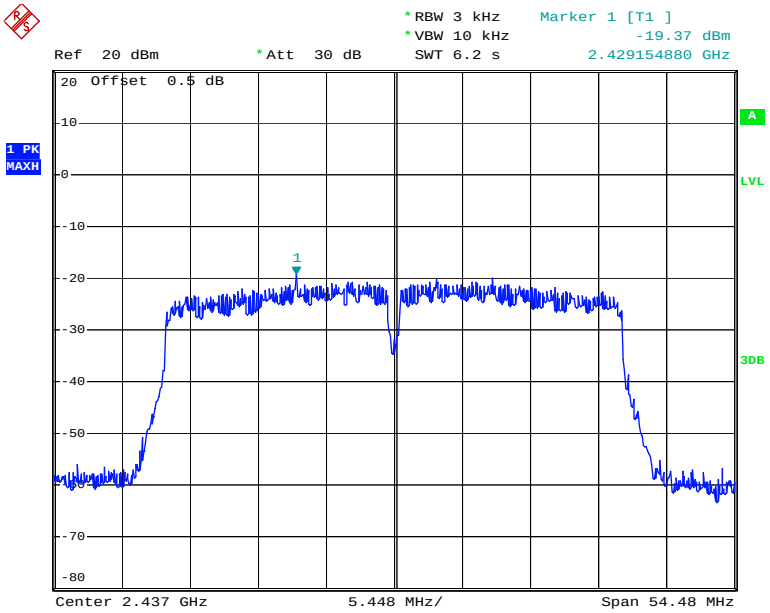
Date: 15.AUG.2017 15:13:07

Power Spectral Density, 802.11n ht40 Low Channel



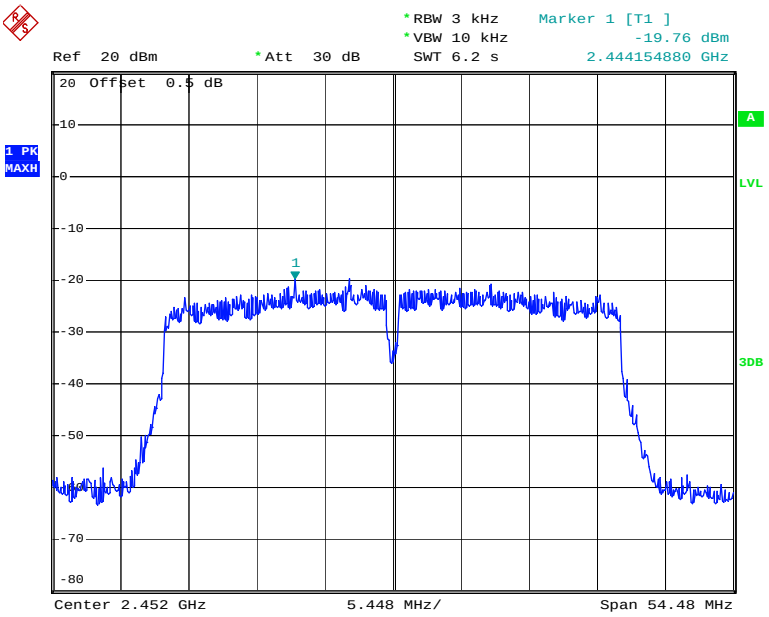
Date: 15.AUG.2017 15:15:38

Power Spectral Density, 802.11n ht40 Middle Channel



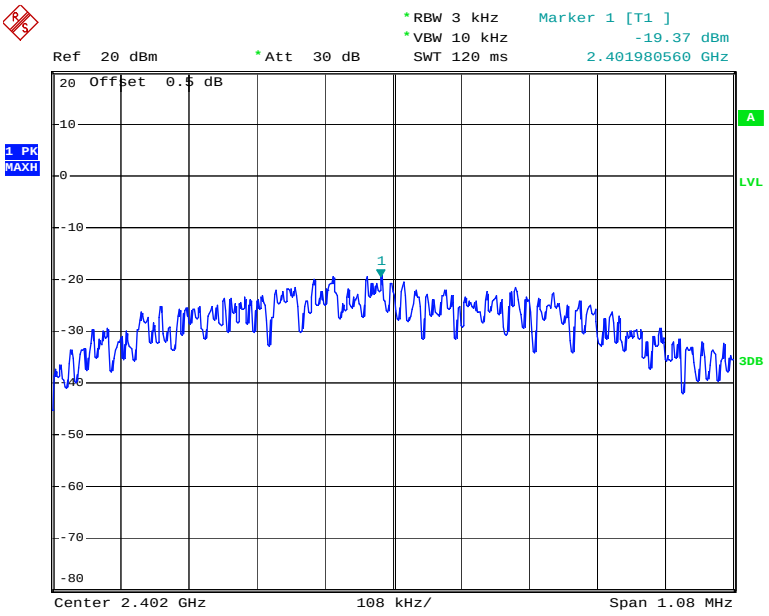
Date: 15.AUG.2017 15:17:46

Power Spectral Density, 802.11n ht40 High Channel



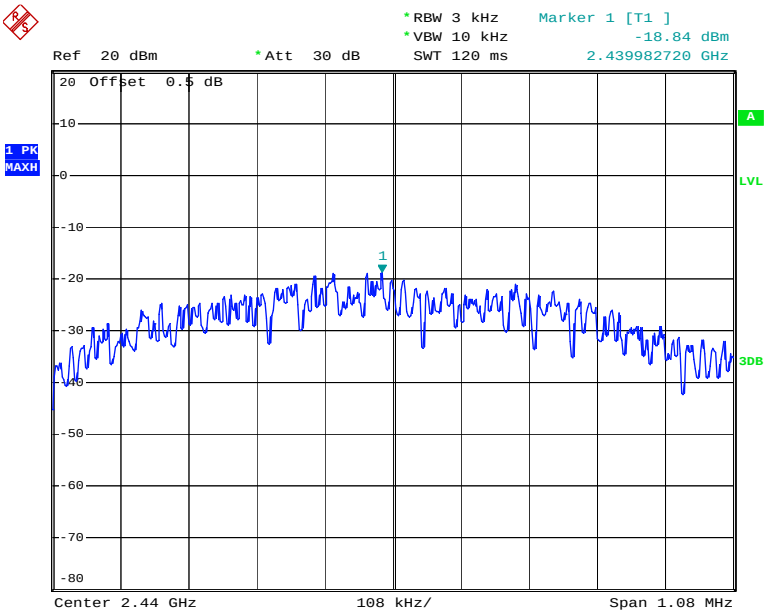
Date: 15.AUG.2017 15:19:22

Power Spectral Density, BLE Low Channel



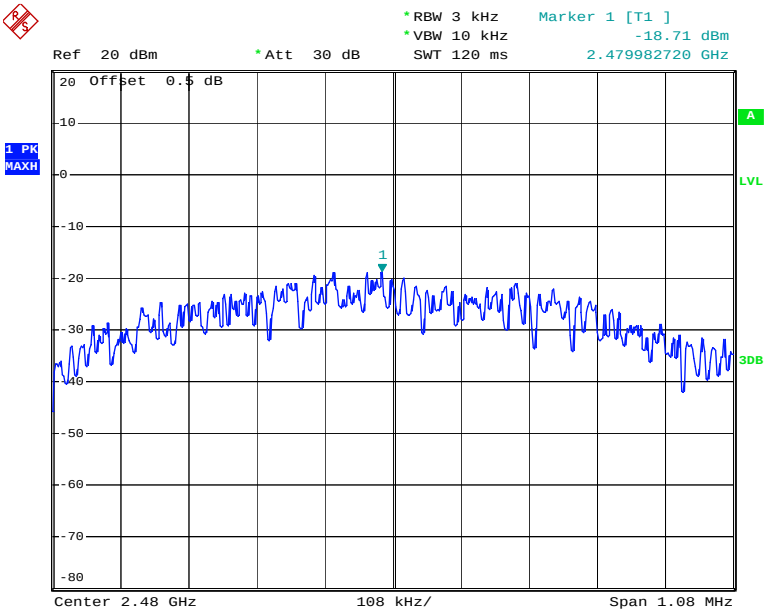
Date: 19.AUG.2017 10:00:02

Power Spectral Density, BLE Middle Channel



Date: 19.AUG.2017 10:01:55

Power Spectral Density, BLE High Channel



Date: 19.AUG.2017 10:03:09

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