

## FCC PART 15.247

### TEST REPORT

For

## SZ DJI TECHNOLOGY CO., LTD

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Shenzhen, Guangdong, China

**FCC ID: SS3-M1X1708**

<b>Report Type:</b> Original Report	<b>Product Name:</b> Mavic Pro Platinum
<b>Report Number:</b>	RDG170729002-00A
<b>Report Date:</b>	2017-08-17
<b>Reviewed By:</b>	Allen Qiao RF Supervisor <i>Allen Qiao</i>
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**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).

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## GENERAL INFORMATION

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### Product Description for Equipment under Test (EUT)

The *SZ DJI TECHNOLOGY CO., LTD*'s product, model number: *MIX (FCC ID: SS3-MIX1708)* (the "EUT") in this report was a *Mavic Pro Platinum*, rated input voltage: DC11.4V from lithium battery, the battery can remove from the EUT and charged by adapter.

#### Adapter 1 information:

Manufacturer: AcTel Electronic (Dong guan) Co., Ltd./China  
Model: F1C50  
Input: AC 100-240V, 1.4A, 50-60Hz  
Total Output Power: 50W Max;  
Output: DC13.05V, 3.83A(Main); DC5.0V, 2.0A Total(USB)

#### Adapter 2 information:

Manufacturer: Shenzhen Huntkey Electronics Co., Ltd.  
Model: F1C50  
Input: AC 100-240V, 1.4A, 50-60Hz  
Total Output Power: 50W Max;  
Output: DC13.05V, 3.83A(Main); DC5.0V, 2.0A Total(USB)

#### Battery 1 information:

Manufacturer: Sunwoda Electronic Co., LTD.  
Model: FB1-3830 mAh-11.4V  
Max Charge Voltage: 13.05V  
Nominal Voltage: 11.4V  
Rated Capacity: 3830mAh

#### Battery 2 information:

Manufacturer: Dongguan Amperex Technology Limited  
Model: FB1-3830 mAh-11.4V  
Max Charge Voltage: 13.05V  
Nominal Voltage: 11.4V  
Rated Capacity: 3830mAh, 43.6Wh

*The measurement and test data of the Spurious Emissions in this report was gathered from production sample serial number: 170729002 (Assigned by BACL, Dongguan). The EUT was received on 2017-07-29.*

### Objective

This report is prepared on behalf of *SZ DJI TECHNOLOGY CO., 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: SS3-M1X1708.  
FCC Part 15B JBP submissions with FCC ID: SS3-M1X1708.  
Part of system granted with FCC ID: SS3-GL200A1606.

## 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	±1.5 dB
Temperature	±1 °C
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.

## SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§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*

**Note:**

Compliance\*:The device is the Updated Version based on the model: M1P(FCC ID: SS3-M1P1607), which was granted on 2016-09-25.

The device have identical RF part with the original version: WIFI module and it`s antenna have not been changed; Radio part for 1.4MHz/10MHz/20MHz mode and it`s antenna have not been changed, the changes made to this board only for electronic speed control part.

Since the identical RF parameters, the RF port conducted test results please refer to the original version test report No. RDG160806002-00A in the attachment, which was issued by Bay Area Compliance Laboratories Corp. (Dongguan) on 2016-08-20.

Compliance\*\*: the changes have not made to the EUT battery and it`s adapter, the result of AC line conducted Emissions please refer to the original version test report No. RDG160806002-00A in the attachment, which was issued by Bay Area Compliance Laboratories Corp. (Dongguan) on 2016-08-20.

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

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

The device employed 1.4MHz, 10MHz, 20MHz modes and Wi-Fi 802.11b, 802.11g, 802.11n ht20 modes, 1.4MHz, 10MHz, 20MHz only support SISO mode at antenna chain 0 or chain 1, Wi-Fi 802.11b/g/n ht20 mode support SISO and MIMO modes.

For 1.4MHz mode, 38 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2403.5	20	2441.5
2	2405.5	...	...
...	...	...	...
...	...	...	...
...	...	37	2475.5
19	2439.5	38	2477.5

For 10MHz mode, 73channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2405.5	38	2442.5
2	2406.5	...	...
...	...	...	...
...	...	...	...
...	...	73	2477.5
37	2441.5	/	/

For 20MHz mode, 63channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2410.5	33	2442.5
2	2411.5	...	...
...	...	...	...
...	...	...	...
...	...	63	2472.5
32	2441.5	/	/

For 802.11b, 802.11g, and 802.11n20 modes, 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	/	/

### EUT Exercise Software

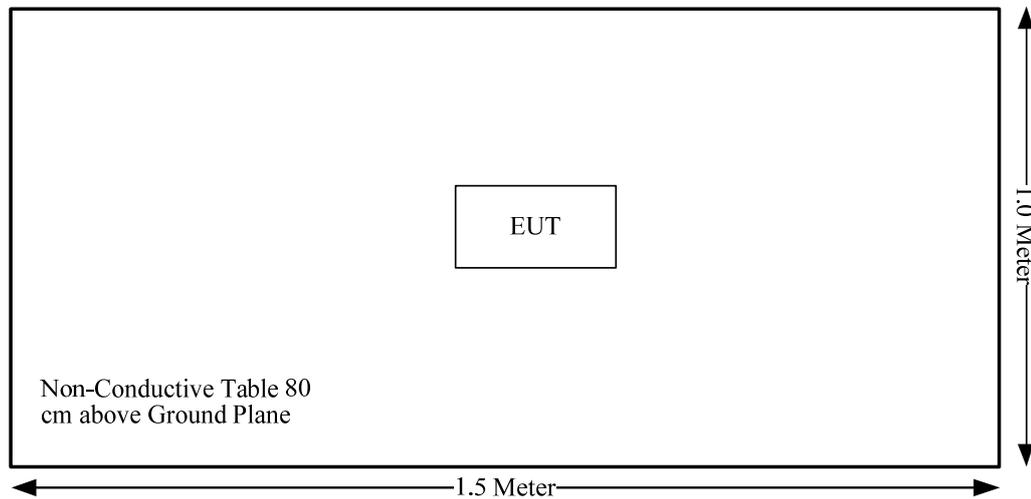
The software “DJI-RF Certification” was used for testing, which was provided by manufacturer. The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates bandwidths, and modulations. All test configuration and duty cycle information please refer to the original version test report.

### Equipment Modifications

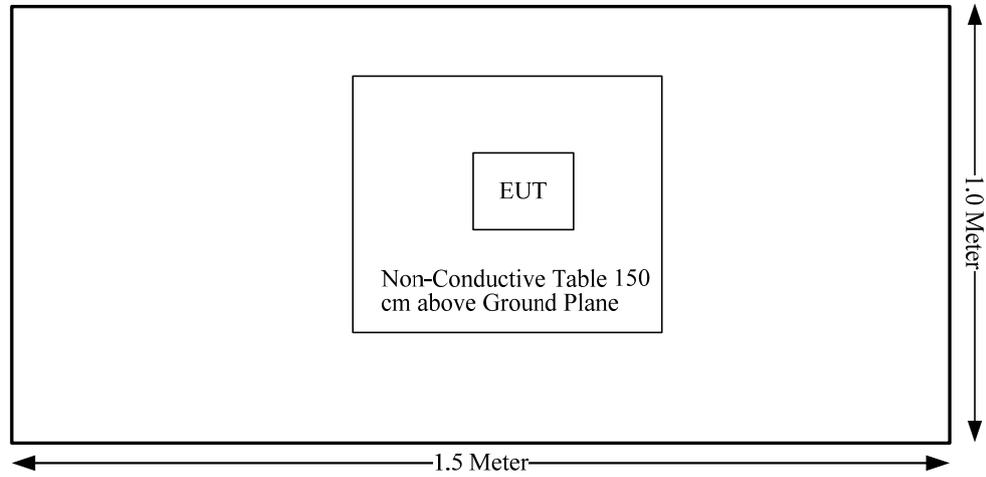
No modification was made to the EUT.

### Block Diagram of Test Setup

Radiation test below 1GHz:



Radiation test above 1GHz:



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

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

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

### Calculated Formulary:

Predication of MPE limit at a given distance

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

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:**

Modes	Frequency Range (MHz)	Antenna Gain		Maximum Power Including Tolerance		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
		(dBi)	(numeric)	(dBm)	(mW)			
1.4MHz	2403.5-2477.5	3.93	2.47	30	1000.00	20.00	0.4920	1.0
10MHz	2405.5-2477.5	3.93	2.47	30	1000.00	20.00	0.4920	1.0
20MHz	2410.5-2472.5	3.93	2.47	30	1000.00	20.00	0.4920	1.0
802.11b	2412-2462	3.93	2.47	25	316.23	20.00	0.1556	1.0
802.11g	2412-2462	3.93	2.47	25	316.23	20.00	0.1556	1.0
802.11 n20	2412-2462	3.93	2.47	25	316.23	20.00	0.1556	1.0
802.11a	5180-5825	5.05	3.20	16	39.81	20.00	0.0253	1.0
802.11 n20	5180-5825	5.05	3.20	16	39.81	20.00	0.0253	1.0

## Note:

The Maximum Power Including Tolerance was declared by manufacturer.  
All of the modes can't transmit simultaneously.

**Result: Compliance,** The device meet FCC MPE at 20 cm distance

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## **FCC §15.203 - ANTENNA REQUIREMENT**

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### **Applicable Standard**

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

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

### **Antenna Connector Construction**

The EUT has 2 internal antennas arrangement, and the antennas gain are [3.93dBi@2.4GHz](#), [5.05dBi@5GHz](#), fulfill the requirement of the item. Please refer to the internal photos.

**Result:** Compliance.

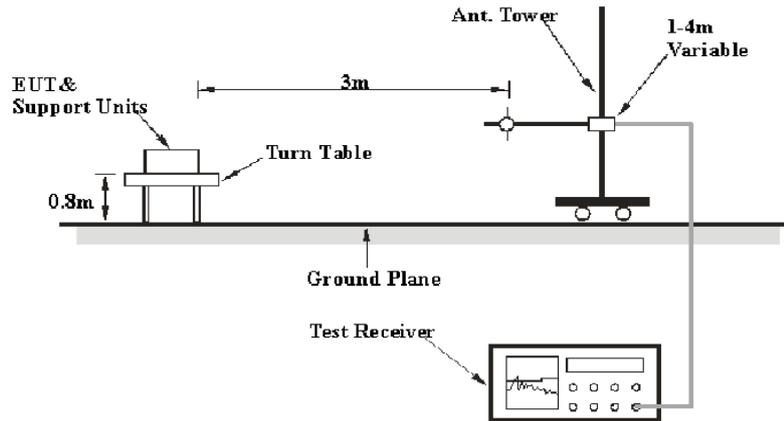
## FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

### Applicable Standard

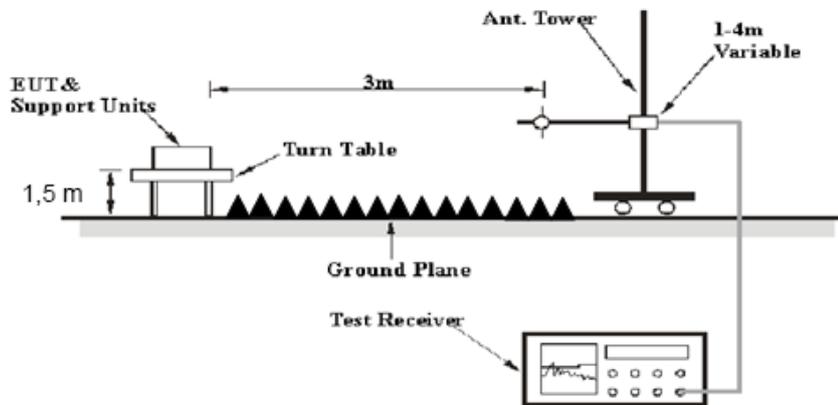
FCC §15.247 (d); §15.209; §15.205;

### EUT Setup

#### Below 1GHz:



#### Above 1GHz:



The radiated emission tests were performed in the 3 meters distance, 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:

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

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

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

**Test 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 Technologies	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
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

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

**Test Data****Environmental Conditions**

<b>Temperature:</b>	27.6~27.9 °C
<b>Relative Humidity:</b>	30~33 %
<b>ATM Pressure:</b>	99.8 kPa

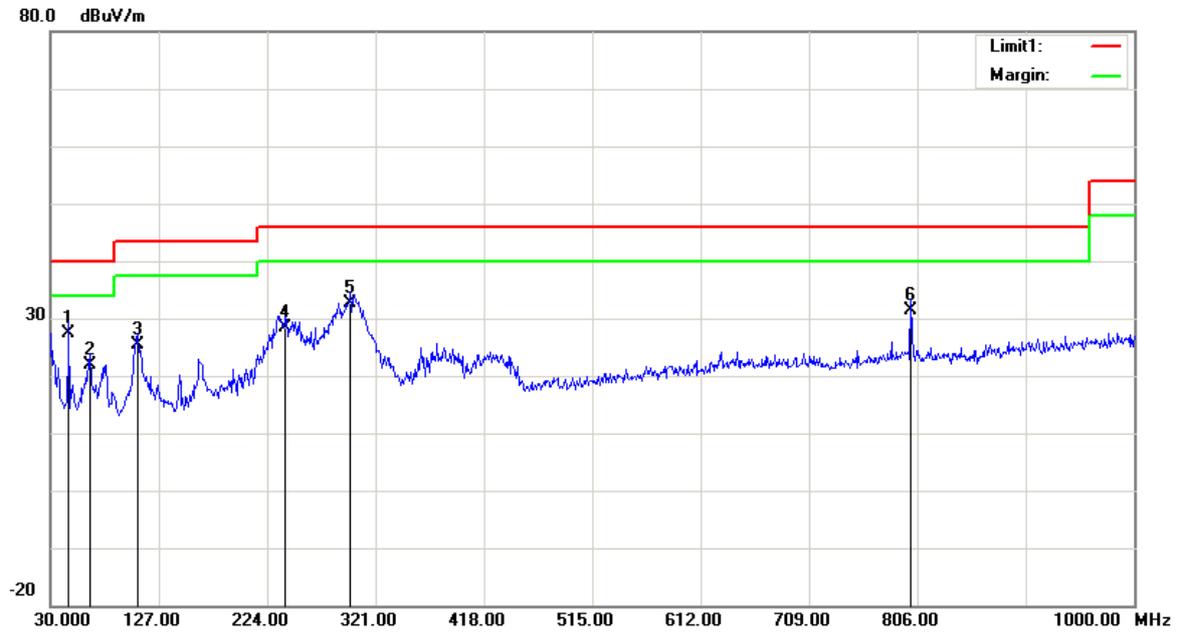
*The testing was performed by Tony Zeng on 2017-08-09 & 2017-08-11.*

*Test Result: Compliance, please Refer to the following data*

*Test Mode: Transmitting*

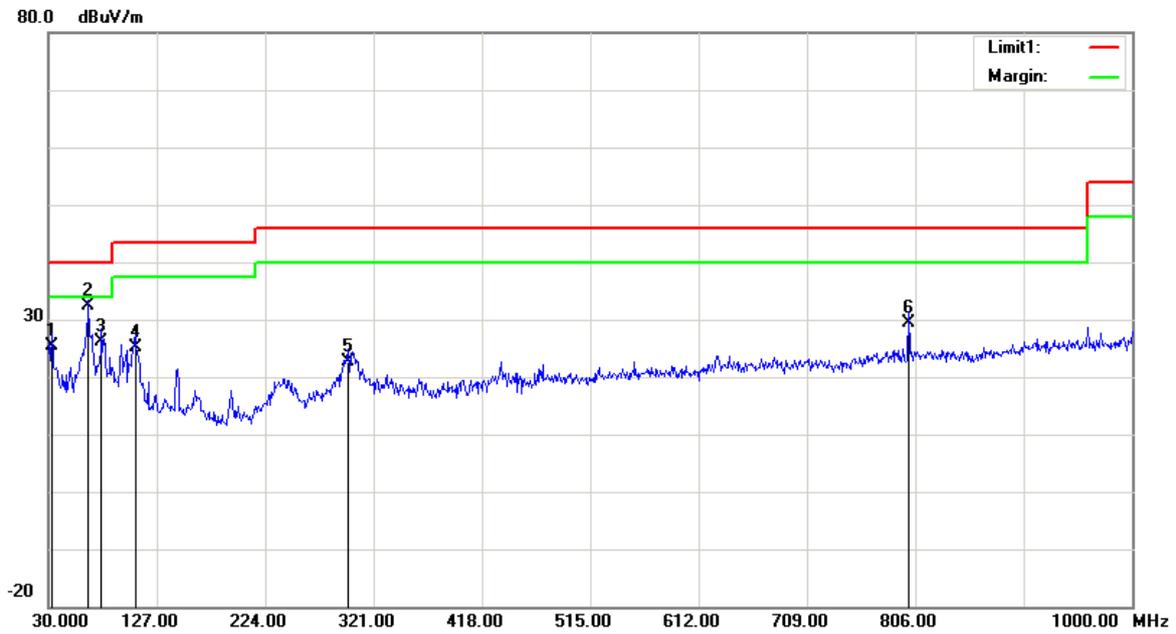
1) 30MHz-1GHz(802.11b mode middle channel was the worst):

Horizontal:



Frequency (MHz)	Receiver Reading (dBμV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
46.4900	43.37	QP	-16.07	27.30	40.00	12.70
65.8900	39.67	QP	-17.77	21.90	40.00	18.10
107.6000	38.54	QP	-13.04	25.50	43.50	18.00
240.4900	40.56	QP	-12.16	28.40	46.00	17.60
298.6900	42.67	QP	-10.07	32.60	46.00	13.40
800.1800	33.30	QP	-2.00	31.30	46.00	14.70

**Vertical:**



Frequency (MHz)	Receiver Reading (dBμV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
32.9100	32.08	QP	-6.58	25.50	40.00	14.50
65.8900	50.17	QP	-17.77	32.40	40.00	7.60
77.5300	43.53	QP	-17.33	26.20	40.00	13.80
107.6000	38.24	QP	-13.04	25.20	43.50	18.30
298.6900	32.77	QP	-10.07	22.70	46.00	23.30
800.1800	31.50	QP	-2.00	29.50	46.00	16.50

2) 1-25GHz:

1.4M Mode(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)					
Low Channel: 2403.5 MHz									
2403.5	76.18	PK	H	28.11	3.11	0.00	107.40	N/A	N/A
2403.5	66.03	AV	H	28.11	3.11	0.00	97.25	N/A	N/A
2403.5	85.92	PK	V	28.11	3.11	0.00	117.14	N/A	N/A
2403.5	55.68	AV	V	28.11	3.11	0.00	86.90	N/A	N/A
2390	35.97	PK	V	28.08	3.10	0.00	67.15	74.00	6.85
2390	22.28	AV	V	28.08	3.10	0.00	53.46	54.00	0.54
4807	49.37	PK	V	32.91	4.31	35.48	51.11	74.00	22.89
4807	34.59	AV	V	32.91	4.31	35.48	36.33	54.00	17.67
7210.5	47.35	PK	V	35.75	5.45	35.97	52.58	74.00	21.42
7210.5	32.43	AV	V	35.75	5.45	35.97	37.66	54.00	16.34
6245	46.55	PK	V	34.25	4.96	35.80	49.96	74.00	24.04
6245	31.37	AV	V	34.25	4.96	35.80	34.78	54.00	19.22
Middle Channel: 2441.5 MHz									
2441.5	75.91	PK	H	28.18	3.11	0.00	107.20	N/A	N/A
2441.5	45.53	AV	H	28.18	3.11	0.00	76.82	N/A	N/A
2441.5	91.29	PK	V	28.18	3.11	0.00	122.58	N/A	N/A
2441.5	62.12	AV	V	28.18	3.11	0.00	93.41	N/A	N/A
4883	50.24	PK	V	33.07	4.40	35.54	52.17	74.00	21.83
4883	36.11	AV	V	33.07	4.40	35.54	38.04	54.00	15.96
7324.5	47.96	PK	V	36.04	5.53	35.98	53.55	74.00	20.45
7324.5	32.75	AV	V	36.04	5.53	35.98	38.34	54.00	15.66
5985	46.83	PK	V	34.29	4.66	35.85	49.93	74.00	24.07
5985	32.26	AV	V	34.29	4.66	35.85	35.36	54.00	18.64
6395	46.51	PK	V	34.22	5.14	35.76	50.11	74.00	23.89
6395	31.63	AV	V	34.22	5.14	35.76	35.23	54.00	18.77
High Channel: 2477.5 MHz									
2477.5	75.69	PK	H	28.26	3.10	0.00	107.05	N/A	N/A
2477.5	45.45	AV	H	28.26	3.10	0.00	76.81	N/A	N/A
2477.5	90.98	PK	V	28.26	3.10	0.00	122.34	N/A	N/A
2477.5	62.79	AV	V	28.26	3.10	0.00	94.15	N/A	N/A
2483.5	35.26	PK	V	28.27	3.10	0.00	66.63	74.00	7.37
2483.5	22.57	AV	V	28.27	3.10	0.00	53.94	54.00	0.06
4955	50.52	PK	V	33.21	4.42	35.59	52.56	74.00	21.44
4955	36.14	AV	V	33.21	4.42	35.59	38.18	54.00	15.82
7432.5	47.86	PK	V	36.32	5.60	35.98	53.80	74.00	20.20
7432.5	32.45	AV	V	36.32	5.60	35.98	38.39	54.00	15.61
6425	46.73	PK	V	34.22	5.18	35.76	50.37	74.00	23.63
6425	32.16	AV	V	34.22	5.18	35.76	35.80	54.00	18.20

10M Mode (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)					
Low Channel: 2405.5 MHz									
2405.5	69.11	PK	H	28.11	3.11	0.00	100.33	N/A	N/A
2405.5	55.63	AV	H	28.11	3.11	0.00	86.85	N/A	N/A
2405.5	78.67	PK	V	28.11	3.11	0.00	109.89	N/A	N/A
2405.5	65.09	AV	V	28.11	3.11	0.00	96.31	N/A	N/A
2390	28.75	PK	V	28.08	3.10	0.00	59.93	74.00	14.07
2390	12.73	AV	V	28.08	3.10	0.00	43.91	54.00	10.09
4811	48.79	PK	V	32.92	4.31	35.48	50.54	74.00	23.46
4811	33.64	AV	V	32.92	4.31	35.48	35.39	54.00	18.61
7216.5	46.82	PK	V	35.76	5.46	35.97	52.07	74.00	21.93
7216.5	32.53	AV	V	35.76	5.46	35.97	37.78	54.00	16.22
6115	45.68	PK	V	34.28	4.81	35.82	48.95	74.00	25.05
6115	31.29	AV	V	34.28	4.81	35.82	34.56	54.00	19.44
Middle Channel: 2441.5 MHz									
2441.5	74.54	PK	H	28.18	3.11	0.00	105.83	N/A	N/A
2441.5	53.65	AV	H	28.18	3.11	0.00	84.94	N/A	N/A
2441.5	83.87	PK	V	28.18	3.11	0.00	115.16	N/A	N/A
2441.5	70.73	AV	V	28.18	3.11	0.00	102.02	N/A	N/A
4883	49.16	PK	V	33.07	4.40	35.54	51.09	74.00	22.91
4883	34.52	AV	V	33.07	4.40	35.54	36.45	54.00	17.55
7324.5	48.46	PK	V	36.04	5.53	35.98	54.05	74.00	19.95
7324.5	33.25	AV	V	36.04	5.53	35.98	38.84	54.00	15.16
5895	46.83	PK	V	34.26	4.62	35.85	49.86	74.00	24.14
5895	32.55	AV	V	34.26	4.62	35.85	35.58	54.00	18.42
6375	45.76	PK	V	34.23	5.12	35.77	49.34	74.00	24.66
6375	31.27	AV	V	34.23	5.12	35.77	34.85	54.00	19.15
High Channel: 2477.5 MHz									
2477.5	49.17	PK	H	28.26	3.10	0.00	80.53	N/A	N/A
2477.5	36.82	AV	H	28.26	3.10	0.00	68.18	N/A	N/A
2477.5	60.67	PK	V	28.26	3.10	0.00	92.03	N/A	N/A
2477.5	47.13	AV	V	28.26	3.10	0.00	78.49	N/A	N/A
2483.5	28.65	PK	V	28.27	3.10	0.00	60.02	74.00	13.98
2483.5	13.53	AV	V	28.27	3.10	0.00	44.90	54.00	9.10
4955	48.64	PK	V	33.21	4.42	35.59	50.68	74.00	23.32
4955	33.58	AV	V	33.21	4.42	35.59	35.62	54.00	18.38
7432.5	46.37	PK	V	36.32	5.60	35.98	52.31	74.00	21.69
7432.5	32.34	AV	V	36.32	5.60	35.98	38.28	54.00	15.72
6235	45.39	PK	V	34.25	4.95	35.80	48.79	74.00	25.21
6235	31.16	AV	V	34.25	4.95	35.80	34.56	54.00	19.44

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
	Reading (dB $\mu$ V)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Additional Channel: 2406.5 MHz									
2406.5	79.87	PK	V	28.11	3.11	0.00	111.09	N/A	N/A
2406.5	66.89	AV	V	28.11	3.11	0.00	98.11	N/A	N/A
2390	28.81	PK	V	28.08	3.10	0.00	59.99	74.00	14.01
2390	13.85	AV	V	28.08	3.10	0.00	45.03	54.00	8.97
Additional Channel: 2407.5 MHz									
2407.5	81.25	PK	V	28.12	3.11	0.00	112.48	N/A	N/A
2407.5	67.27	AV	V	28.12	3.11	0.00	98.50	N/A	N/A
2390	30.14	PK	V	28.08	3.10	0.00	61.32	74.00	12.68
2390	13.08	AV	V	28.08	3.10	0.00	44.26	54.00	9.74
Additional Channel: 2408.5 MHz									
2408.5	82.21	PK	V	28.12	3.11	0.00	113.44	N/A	N/A
2408.5	68.55	AV	V	28.12	3.11	0.00	99.78	N/A	N/A
2390	31.06	PK	V	28.08	3.10	0.00	62.24	74.00	11.76
2390	13.99	AV	V	28.08	3.10	0.00	45.17	54.00	8.83
Additional Channel: 2409.5 MHz									
2409.5	83.29	PK	V	28.12	3.11	0.00	114.52	N/A	N/A
2409.5	69.58	AV	V	28.12	3.11	0.00	100.81	N/A	N/A
2390	30.01	PK	V	28.08	3.10	0.00	61.19	74.00	12.81
2390	13.33	AV	V	28.08	3.10	0.00	44.51	54.00	9.49
Additional Channel: 2411.5 MHz									
2411.5	84.11	PK	V	28.12	3.11	0.00	115.34	N/A	N/A
2411.5	70.94	AV	V	28.12	3.11	0.00	102.17	N/A	N/A
2390	30.24	PK	V	28.08	3.10	0.00	61.42	74.00	12.58
2390	13.59	AV	V	28.08	3.10	0.00	44.77	54.00	9.23
Additional Channel: 2462.5 MHz									
2462.5	83.96	PK	V	28.23	3.10	0.00	115.29	N/A	N/A
2462.5	69.19	AV	V	28.23	3.10	0.00	100.52	N/A	N/A
2483.5	26.82	PK	V	28.27	3.10	0.00	58.19	74.00	15.81
2483.5	13.09	AV	V	28.27	3.10	0.00	44.46	54.00	9.54
Additional Channel: 2464.5 MHz									
2464.5	83.31	PK	V	28.23	3.10	0.00	114.64	N/A	N/A
2464.5	69.03	AV	V	28.23	3.10	0.00	100.36	N/A	N/A
2483.5	26.39	PK	V	28.27	3.10	0.00	57.76	74.00	16.24
2483.5	12.98	AV	V	28.27	3.10	0.00	44.35	54.00	9.65
Additional Channel: 2466.5 MHz									
2466.5	79.23	PK	V	28.23	3.10	0.00	110.56	N/A	N/A
2466.5	64.77	AV	V	28.23	3.10	0.00	96.10	N/A	N/A
2483.5	28.45	PK	V	28.27	3.10	0.00	59.82	74.00	14.18
2483.5	13.41	AV	V	28.27	3.10	0.00	44.78	54.00	9.22
Additional Channel: 2468.5 MHz									
2468.5	78.46	PK	V	28.24	3.10	0.00	109.80	N/A	N/A
2468.5	64.79	AV	V	28.24	3.10	0.00	96.13	N/A	N/A
2483.5	28.43	PK	V	28.27	3.10	0.00	59.80	74.00	14.20
2483.5	13.62	AV	V	28.27	3.10	0.00	44.99	54.00	9.01

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
	Reading (dB $\mu$ V)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Additional Channel: 2469.5 MHz									
2469.5	76.21	PK	V	28.24	3.10	0.00	107.55	N/A	N/A
2469.5	61.09	AV	V	28.24	3.10	0.00	92.43	N/A	N/A
2483.5	29.05	PK	V	28.27	3.10	0.00	60.42	74.00	13.58
2483.5	13.27	AV	V	28.27	3.10	0.00	44.64	54.00	9.36
Additional Channel: 2470.5 MHz									
2470.5	74.44	PK	V	28.24	3.10	0.00	105.78	N/A	N/A
2470.5	59.97	AV	V	28.24	3.10	0.00	91.31	N/A	N/A
2483.5	26.36	PK	V	28.27	3.10	0.00	57.73	74.00	16.27
2483.5	13.16	AV	V	28.27	3.10	0.00	44.53	54.00	9.47
Additional Channel: 2471.5 MHz									
2471.5	74.59	PK	V	28.24	3.10	0.00	105.93	N/A	N/A
2471.5	60.55	AV	V	28.24	3.10	0.00	91.89	N/A	N/A
2483.5	28.59	PK	V	28.27	3.10	0.00	59.96	74.00	14.04
2483.5	13.07	AV	V	28.27	3.10	0.00	44.44	54.00	9.56
Additional Channel: 2472.5 MHz									
2472.5	72.47	PK	V	28.25	3.10	0.00	103.82	N/A	N/A
2472.5	58.91	AV	V	28.25	3.10	0.00	90.26	N/A	N/A
2483.5	27.67	PK	V	28.27	3.10	0.00	59.04	74.00	14.96
2483.5	13.21	AV	V	28.27	3.10	0.00	44.58	54.00	9.42
Additional Channel: 2473.5 MHz									
2473.5	71.52	PK	V	28.25	3.10	0.00	102.87	N/A	N/A
2473.5	58.09	AV	V	28.25	3.10	0.00	89.44	N/A	N/A
2483.5	30.98	PK	V	28.27	3.10	0.00	62.35	74.00	11.65
2483.5	13.36	AV	V	28.27	3.10	0.00	44.73	54.00	9.27
Additional Channel: 2474.5 MHz									
2474.5	68.26	PK	V	28.25	3.10	0.00	99.61	N/A	N/A
2474.5	54.79	AV	V	28.25	3.10	0.00	86.14	N/A	N/A
2483.5	29.93	PK	V	28.27	3.10	0.00	61.30	74.00	12.70
2483.5	13.76	AV	V	28.27	3.10	0.00	45.13	54.00	8.87
Additional Channel: 2475.5 MHz									
2475.5	66.32	PK	V	28.25	3.10	0.00	97.67	N/A	N/A
2475.5	52.15	AV	V	28.25	3.10	0.00	83.50	N/A	N/A
2483.5	28.91	PK	V	28.27	3.10	0.00	60.28	74.00	13.72
2483.5	13.68	AV	V	28.27	3.10	0.00	45.05	54.00	8.95
Additional Channel: 2476.5 MHz									
2476.5	65.39	PK	V	28.25	3.10	0.00	96.74	N/A	N/A
2476.5	51.25	AV	V	28.25	3.10	0.00	82.60	N/A	N/A
2483.5	29.81	PK	V	28.27	3.10	0.00	61.18	74.00	12.82
2483.5	13.41	AV	V	28.27	3.10	0.00	44.78	54.00	9.22

20M Mode (Chain 0 was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
	Reading (dB $\mu$ V)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2410.5 MHz									
2410.5	62.17	PK	H	28.12	3.11	0.00	93.40	N/A	N/A
2410.5	49.25	AV	H	28.12	3.11	0.00	80.48	N/A	N/A
2410.5	73.26	PK	V	28.12	3.11	0.00	104.49	N/A	N/A
2410.5	59.55	AV	V	28.12	3.11	0.00	90.78	N/A	N/A
2390	27.68	PK	V	28.08	3.10	0.00	58.86	74.00	15.14
2390	14.34	AV	V	28.08	3.10	0.00	45.52	54.00	8.48
4821	49.17	PK	V	32.94	4.33	35.49	50.95	74.00	23.05
4821	34.43	AV	V	32.94	4.33	35.49	36.21	54.00	17.79
7231.5	47.11	PK	V	35.80	5.47	35.97	52.41	74.00	21.59
7231.5	32.24	AV	V	35.80	5.47	35.97	37.54	54.00	16.46
6425	46.62	PK	V	34.22	5.18	35.76	50.26	74.00	23.74
6425	32.03	AV	V	34.22	5.18	35.76	35.67	54.00	18.33
Middle Channel: 2441.5 MHz									
2441.5	76.73	PK	H	28.18	3.11	0.00	108.02	N/A	N/A
2441.5	63.54	AV	H	28.18	3.11	0.00	94.83	N/A	N/A
2441.5	82.85	PK	V	28.18	3.11	0.00	114.14	N/A	N/A
2441.5	69.08	AV	V	28.18	3.11	0.00	100.37	N/A	N/A
4883	48.76	PK	V	33.07	4.40	35.54	50.69	74.00	23.31
4883	33.69	AV	V	33.07	4.40	35.54	35.62	54.00	18.38
7324.5	46.85	PK	V	36.04	5.53	35.98	52.44	74.00	21.56
7324.5	31.49	AV	V	36.04	5.53	35.98	37.08	54.00	16.92
5965	46.52	PK	V	34.29	4.65	35.85	49.61	74.00	24.39
5965	32.43	AV	V	34.29	4.65	35.85	35.52	54.00	18.48
6315	45.97	PK	V	34.24	5.05	35.78	49.48	74.00	24.52
6315	31.28	AV	V	34.24	5.05	35.78	34.79	54.00	19.21
High Channel: 2472.5 MHz									
2472.5	51.38	PK	H	28.25	3.10	0.00	82.73	N/A	N/A
2472.5	38.75	AV	H	28.25	3.10	0.00	70.10	N/A	N/A
2472.5	65.56	PK	V	28.25	3.10	0.00	96.91	N/A	N/A
2472.5	54.48	AV	V	28.25	3.10	0.00	85.83	N/A	N/A
2483.5	27.16	PK	V	28.27	3.10	0.00	58.53	74.00	15.47
2483.5	13.58	AV	V	28.27	3.10	0.00	44.95	54.00	9.05
4945	48.61	PK	V	33.19	4.42	35.59	50.63	74.00	23.37
4945	33.57	AV	V	33.19	4.42	35.59	35.59	54.00	18.41
7417.5	46.25	PK	V	36.29	5.59	35.98	52.15	74.00	21.85
7417.5	31.38	AV	V	36.29	5.59	35.98	37.28	54.00	16.72
5968	45.76	PK	V	34.29	4.65	35.85	48.85	74.00	25.15
5968	31.17	AV	V	34.29	4.65	35.85	34.26	54.00	19.74

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
	Reading (dB $\mu$ V)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Additional Channel: 2411.5 MHz									
2411.5	74.12	PK	V	28.12	3.11	0.00	105.35	N/A	N/A
2411.5	60.41	AV	V	28.12	3.11	0.00	91.64	N/A	N/A
2390	28.54	PK	V	28.08	3.10	0.00	59.72	74.00	14.28
2390	14.27	AV	V	28.08	3.10	0.00	45.45	54.00	8.55
Additional Channel: 2412.5 MHz									
2412.5	74.98	PK	V	28.13	3.11	0.00	106.22	N/A	N/A
2412.5	61.27	AV	V	28.13	3.11	0.00	92.51	N/A	N/A
2390	28.44	PK	V	28.08	3.10	0.00	59.62	74.00	14.38
2390	14.13	AV	V	28.08	3.10	0.00	45.31	54.00	8.69
Additional Channel: 2413.5 MHz									
2413.5	76.54	PK	V	28.13	3.11	0.00	107.78	N/A	N/A
2413.5	62.13	AV	V	28.13	3.11	0.00	93.37	N/A	N/A
2390	27.34	PK	V	28.08	3.10	0.00	58.52	74.00	15.48
2390	13.99	AV	V	28.08	3.10	0.00	45.17	54.00	8.83
Additional Channel: 2414.5 MHz									
2414.5	77.41	PK	V	28.13	3.11	0.00	108.65	N/A	N/A
2414.5	62.99	AV	V	28.13	3.11	0.00	94.23	N/A	N/A
2390	26.42	PK	V	28.08	3.10	0.00	57.60	74.00	16.40
2390	14.85	AV	V	28.08	3.10	0.00	46.03	54.00	7.97
Additional Channel: 2415.5 MHz									
2415.5	78.27	PK	V	28.13	3.11	0.00	109.51	N/A	N/A
2415.5	63.85	AV	V	28.13	3.11	0.00	95.09	N/A	N/A
2390	27.28	PK	V	28.08	3.10	0.00	58.46	74.00	15.54
2390	13.71	AV	V	28.08	3.10	0.00	44.89	54.00	9.11
Additional Channel: 2418.5 MHz									
2418.5	79.13	PK	V	28.14	3.11	0.00	110.38	N/A	N/A
2418.5	64.71	AV	V	28.14	3.11	0.00	95.96	N/A	N/A
2390	28.14	PK	V	28.08	3.10	0.00	59.32	74.00	14.68
2390	14.57	AV	V	28.08	3.10	0.00	45.75	54.00	8.25
Additional Channel: 2423.5 MHz									
2423.5	80.99	PK	V	28.15	3.11	0.00	112.25	N/A	N/A
2423.5	65.57	AV	V	28.15	3.11	0.00	96.83	N/A	N/A
2390	27.43	PK	V	28.08	3.10	0.00	58.61	74.00	15.39
2390	13.42	AV	V	28.08	3.10	0.00	44.60	54.00	9.40
Additional Channel: 2424.5 MHz									
2424.5	81.97	PK	V	28.15	3.11	0.00	113.23	N/A	N/A
2424.5	68.82	AV	V	28.15	3.11	0.00	100.08	N/A	N/A
2390	31.15	PK	V	28.08	3.10	0.00	62.33	74.00	11.67
2390	14.46	AV	V	28.08	3.10	0.00	45.64	54.00	8.36
Additional Channel: 2428.5 MHz									
2428.5	82.63	PK	V	28.16	3.11	0.00	113.90	N/A	N/A
2428.5	68.68	AV	V	28.16	3.11	0.00	99.95	N/A	N/A
2390	32.01	PK	V	28.08	3.10	0.00	63.19	74.00	10.81
2390	14.38	AV	V	28.08	3.10	0.00	45.56	54.00	8.44

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)					
Additional Channel: 2446.5 MHz									
2446.5	82.35	PK	V	28.19	3.11	0.00	113.65	N/A	N/A
2446.5	62.71	AV	V	28.19	3.11	0.00	94.01	N/A	N/A
2483.5	39.27	PK	V	28.27	3.10	0.00	70.64	74.00	3.36
2483.5	13.87	AV	V	28.27	3.10	0.00	45.24	54.00	8.76
Additional Channel: 2449.5 MHz									
2449.5	81.29	PK	V	28.20	3.11	0.00	112.60	N/A	N/A
2449.5	61.85	AV	V	28.20	3.11	0.00	93.16	N/A	N/A
2483.5	38.41	PK	V	28.27	3.10	0.00	69.78	74.00	4.22
2483.5	15.01	AV	V	28.27	3.10	0.00	46.38	54.00	7.62
Additional Channel: 2452.5 MHz									
2452.5	79.43	PK	V	28.21	3.10	0.00	110.74	N/A	N/A
2452.5	60.99	AV	V	28.21	3.10	0.00	92.30	N/A	N/A
2483.5	37.55	PK	V	28.27	3.10	0.00	68.92	74.00	5.08
2483.5	14.15	AV	V	28.27	3.10	0.00	45.52	54.00	8.48
Additional Channel: 2454.5 MHz									
2454.5	77.37	PK	V	28.21	3.10	0.00	108.68	N/A	N/A
2454.5	60.13	AV	V	28.21	3.10	0.00	91.44	N/A	N/A
2483.5	36.69	PK	V	28.27	3.10	0.00	68.06	74.00	5.94
2483.5	14.29	AV	V	28.27	3.10	0.00	45.66	54.00	8.34
Additional Channel: 2456.5 MHz									
2456.5	75.71	PK	V	28.21	3.10	0.00	107.02	N/A	N/A
2456.5	59.27	AV	V	28.21	3.10	0.00	90.58	N/A	N/A
2483.5	35.83	PK	V	28.27	3.10	0.00	67.20	74.00	6.80
2483.5	14.43	AV	V	28.27	3.10	0.00	45.80	54.00	8.20
Additional Channel: 2458.5 MHz									
2458.5	74.85	PK	V	28.22	3.10	0.00	106.17	N/A	N/A
2458.5	58.41	AV	V	28.22	3.10	0.00	89.73	N/A	N/A
2483.5	34.97	PK	V	28.27	3.10	0.00	66.34	74.00	7.66
2483.5	13.57	AV	V	28.27	3.10	0.00	44.94	54.00	9.06
Additional Channel: 2460.5 MHz									
2460.5	74.39	PK	V	28.22	3.10	0.00	105.71	N/A	N/A
2460.5	59.55	AV	V	28.22	3.10	0.00	90.87	N/A	N/A
2483.5	34.11	PK	V	28.27	3.10	0.00	65.48	74.00	8.52
2483.5	14.71	AV	V	28.27	3.10	0.00	46.08	54.00	7.92
Additional Channel: 2465.5 MHz									
2465.5	73.53	PK	V	28.23	3.10	0.00	104.86	N/A	N/A
2465.5	58.69	AV	V	28.23	3.10	0.00	90.02	N/A	N/A
2483.5	33.25	PK	V	28.27	3.10	0.00	64.62	74.00	9.38
2483.5	13.85	AV	V	28.27	3.10	0.00	45.22	54.00	8.78
Additional Channel: 2466.5 MHz									
2466.5	72.67	PK	V	28.23	3.10	0.00	104.00	N/A	N/A
2466.5	57.83	AV	V	28.23	3.10	0.00	89.16	N/A	N/A
2483.5	32.39	PK	V	28.27	3.10	0.00	63.76	74.00	10.24
2483.5	13.99	AV	V	28.27	3.10	0.00	45.36	54.00	8.64
Additional Channel: 2467.5 MHz									
2467.5	71.11	PK	V	28.24	3.10	0.00	102.45	N/A	N/A
2467.5	56.97	AV	V	28.24	3.10	0.00	88.31	N/A	N/A
2483.5	31.53	PK	V	28.27	3.10	0.00	62.90	74.00	11.10
2483.5	15.13	AV	V	28.27	3.10	0.00	46.50	54.00	7.50

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)					
Additional Channel: 2468.5 MHz									
2468.5	70.25	PK	V	28.24	3.10	0.00	101.59	N/A	N/A
2468.5	56.11	AV	V	28.24	3.10	0.00	87.45	N/A	N/A
2483.5	30.67	PK	V	28.27	3.10	0.00	62.04	74.00	11.96
2483.5	14.27	AV	V	28.27	3.10	0.00	45.64	54.00	8.36
Additional Channel: 2470.5 MHz									
2470.5	69.39	PK	V	28.24	3.10	0.00	100.73	N/A	N/A
2470.5	55.25	AV	V	28.24	3.10	0.00	86.59	N/A	N/A
2483.5	29.81	PK	V	28.27	3.10	0.00	61.18	74.00	12.82
2483.5	13.41	AV	V	28.27	3.10	0.00	44.78	54.00	9.22
Additional Channel: 2471.5 MHz									
2471.5	68.74	PK	V	28.24	3.10	0.00	100.08	N/A	N/A
2471.5	54.21	AV	V	28.24	3.10	0.00	85.55	N/A	N/A
2483.5	28.77	PK	V	28.27	3.10	0.00	60.14	74.00	13.86
2483.5	14.25	AV	V	28.27	3.10	0.00	45.62	54.00	8.38

## 802.11b Mode(MIMO mode 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)					
Low Channel: 2412 MHz									
2412	69.37	PK	H	28.12	3.11	0.00	100.60	N/A	N/A
2412	67.44	AV	H	28.12	3.11	0.00	98.67	N/A	N/A
2412	76.46	PK	V	28.12	3.11	0.00	107.69	N/A	N/A
2412	71.88	AV	V	28.12	3.11	0.00	103.11	N/A	N/A
2390	27.02	PK	V	28.08	3.10	0.00	58.20	74.00	15.80
2390	13.95	AV	V	28.08	3.10	0.00	45.13	54.00	8.87
4824	50.54	PK	V	32.95	4.33	35.49	52.33	74.00	21.67
4824	40.11	AV	V	32.95	4.33	35.49	41.90	54.00	12.10
7236	45.66	PK	V	35.81	5.47	35.97	50.97	74.00	23.03
7236	33.21	AV	V	35.81	5.47	35.97	38.52	54.00	15.48
4526	46.59	PK	V	32.35	4.17	35.26	47.85	74.00	26.15
4526	33.25	AV	V	32.35	4.17	35.26	34.51	54.00	19.49
Middle Channel: 2437 MHz									
2437	72.61	PK	H	28.17	3.11	0.00	103.89	N/A	N/A
2437	68.21	AV	H	28.17	3.11	0.00	99.49	N/A	N/A
2437	83.38	PK	V	28.17	3.11	0.00	114.66	N/A	N/A
2437	79.29	AV	V	28.17	3.11	0.00	110.57	N/A	N/A
4874	49.65	PK	V	33.05	4.39	35.53	51.56	74.00	22.44
4874	38.24	AV	V	33.05	4.39	35.53	40.15	54.00	13.85
7311	52.11	PK	V	36.01	5.52	35.97	57.67	74.00	16.33
7311	39.69	AV	V	36.01	5.52	35.97	45.25	54.00	8.75
5613	46.55	PK	V	34.15	4.55	35.85	49.40	74.00	24.60
5613	34.12	AV	V	34.15	4.55	35.85	36.97	54.00	17.03
5812	46.15	PK	V	34.22	4.71	35.85	49.23	74.00	24.77
5812	32.87	AV	V	34.22	4.71	35.85	35.95	54.00	18.05
High Channel: 2462 MHz									
2462	68.91	PK	H	28.22	3.10	0.00	100.23	N/A	N/A
2462	65.28	AV	H	28.22	3.10	0.00	96.60	N/A	N/A
2462	81.32	PK	V	28.22	3.10	0.00	112.64	N/A	N/A
2462	77.43	AV	V	28.22	3.10	0.00	108.75	N/A	N/A
2483.5	27.83	PK	V	28.27	3.10	0.00	59.20	74.00	14.80
2483.5	16.36	AV	V	28.27	3.10	0.00	47.73	54.00	6.27
4924	46.69	PK	V	33.15	4.42	35.57	48.69	74.00	25.31
4924	33.26	AV	V	33.15	4.42	35.57	35.26	54.00	18.74
7386	46.67	PK	V	36.20	5.57	35.98	52.46	74.00	21.54
7386	33.66	AV	V	36.20	5.57	35.98	39.45	54.00	14.55
4689	46.58	PK	V	32.68	4.26	35.39	48.13	74.00	25.87
4689	32.11	AV	V	32.68	4.26	35.39	33.66	54.00	20.34

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)					
Additional Channels: 2417 MHz									
2417	78.91	PK	V	28.13	3.11	0.00	110.15	N/A	N/A
2417	74.98	AV	V	28.13	3.11	0.00	106.22	N/A	N/A
2390	27.12	PK	V	28.08	3.10	0.00	58.30	74.00	15.70
2390	13.44	AV	V	28.08	3.10	0.00	44.62	54.00	9.38
Additional Channels: 2457 MHz									
2457	78.29	PK	V	28.21	3.10	0.00	109.60	N/A	N/A
2457	73.89	AV	V	28.21	3.10	0.00	105.20	N/A	N/A
2483.5	32.35	PK	V	28.27	3.10	0.00	63.72	74.00	10.28
2483.5	20.88	AV	V	28.27	3.10	0.00	52.25	54.00	1.75

802.11g Mode(MIMO mode 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)					
Low Channel: 2412 MHz									
2412	66.39	PK	H	28.12	3.11	0.00	97.62	N/A	N/A
2412	55.28	AV	H	28.12	3.11	0.00	86.51	N/A	N/A
2412	74.73	PK	V	28.12	3.11	0.00	105.96	N/A	N/A
2412	64.38	AV	V	28.12	3.11	0.00	95.61	N/A	N/A
2390	29.48	PK	V	28.08	3.10	0.00	60.66	74.00	13.34
2390	16.85	AV	V	28.08	3.10	0.00	48.03	54.00	5.97
4824	48.26	PK	V	32.95	4.33	35.49	50.05	74.00	23.95
4824	36.23	AV	V	32.95	4.33	35.49	38.02	54.00	15.98
7236	47.26	PK	V	35.81	5.47	35.97	52.57	74.00	21.43
7236	35.22	AV	V	35.81	5.47	35.97	40.53	54.00	13.47
5532	46.61	PK	V	34.11	4.50	35.85	49.37	74.00	24.63
5532	33.21	AV	V	34.11	4.50	35.85	35.97	54.00	18.03
Middle Channel: 2437 MHz									
2437	72.11	PK	H	28.17	3.11	0.00	103.39	N/A	N/A
2437	61.49	AV	H	28.17	3.11	0.00	92.77	N/A	N/A
2437	79.61	PK	V	28.17	3.11	0.00	110.89	N/A	N/A
2437	69.04	AV	V	28.17	3.11	0.00	100.32	N/A	N/A
4874	49.18	PK	V	33.05	4.39	35.53	51.09	74.00	22.91
4874	36.54	AV	V	33.05	4.39	35.53	38.45	54.00	15.55
7311	49.57	PK	V	36.01	5.52	35.97	55.13	74.00	18.87
7311	37.04	AV	V	36.01	5.52	35.97	42.60	54.00	11.40
3974	46.58	PK	V	32.34	3.90	35.34	47.48	74.00	26.52
3974	33.72	AV	V	32.34	3.90	35.34	34.62	54.00	19.38
5356	46.72	PK	V	33.87	4.52	35.79	49.32	74.00	24.68
5356	33.46	AV	V	33.87	4.52	35.79	36.06	54.00	17.94
High Channel: 2462 MHz									
2462	66.39	PK	H	28.22	3.10	0.00	97.71	N/A	N/A
2462	55.06	AV	H	28.22	3.10	0.00	86.38	N/A	N/A
2462	74.37	PK	V	28.22	3.10	0.00	105.69	N/A	N/A
2462	61.88	AV	V	28.22	3.10	0.00	93.20	N/A	N/A
2483.5	33.55	PK	V	28.27	3.10	0.00	64.92	74.00	9.08
2483.5	18.13	AV	V	28.27	3.10	0.00	49.50	54.00	4.50
4924	50.19	PK	V	33.15	4.42	35.57	52.19	74.00	21.81
4924	39.68	AV	V	33.15	4.42	35.57	41.68	54.00	12.32
7386	49.29	PK	V	36.20	5.57	35.98	55.08	74.00	18.92
7386	38.89	AV	V	36.20	5.57	35.98	44.68	54.00	9.32
6932	46.57	PK	V	35.06	5.31	35.92	51.02	74.00	22.98
6932	34.12	AV	V	35.06	5.31	35.92	38.57	54.00	15.43

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
	Reading (dB $\mu$ V)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Additional Channels: 2417 MHz									
2417	78.02	PK	V	28.13	3.11	0.00	109.26	N/A	N/A
2417	66.92	AV	V	28.13	3.11	0.00	98.16	N/A	N/A
2390	33.29	PK	V	28.08	3.10	0.00	64.47	74.00	9.53
2390	17.07	AV	V	28.08	3.10	0.00	48.25	54.00	5.75
Additional Channels: 2422 MHz									
2422	79.25	PK	V	28.14	3.11	0.00	110.50	N/A	N/A
2422	67.59	AV	V	28.14	3.11	0.00	98.84	N/A	N/A
2390	32.65	PK	V	28.08	3.10	0.00	63.83	74.00	10.17
2390	17.09	AV	V	28.08	3.10	0.00	48.27	54.00	5.73
2452	79.87	PK	V	28.20	3.10	0.00	111.17	N/A	N/A
2452	67.25	AV	V	28.20	3.10	0.00	98.55	N/A	N/A
2483.5	36.44	PK	V	28.27	3.10	0.00	67.81	74.00	6.19
2483.5	18.02	AV	V	28.27	3.10	0.00	49.39	54.00	4.61
Additional Channels: 2457 MHz									
2457	78.11	PK	V	28.21	3.10	0.00	109.42	N/A	N/A
2457	66.13	AV	V	28.21	3.10	0.00	97.44	N/A	N/A
2483.5	36.31	PK	V	28.27	3.10	0.00	67.68	74.00	6.32
2483.5	17.15	AV	V	28.27	3.10	0.00	48.52	54.00	5.48

## 802.11 n ht20 Mode(MIMO mode 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)					
Low Channel: 2412 MHz									
2412	66.61	PK	H	28.12	3.11	0.00	97.84	N/A	N/A
2412	55.06	AV	H	28.12	3.11	0.00	86.29	N/A	N/A
2412	74.95	PK	V	28.12	3.11	0.00	106.18	N/A	N/A
2412	63.19	AV	V	28.12	3.11	0.00	94.42	N/A	N/A
2390	39.62	PK	V	28.08	3.10	0.00	70.80	74.00	3.20
2390	19.16	AV	V	28.08	3.10	0.00	50.34	54.00	3.66
4824	50.32	PK	V	32.95	4.33	35.49	52.11	74.00	21.89
4824	39.21	AV	V	32.95	4.33	35.49	41.00	54.00	13.00
7236	51.22	PK	V	35.81	5.47	35.97	56.53	74.00	17.47
7236	40.13	AV	V	35.81	5.47	35.97	45.44	54.00	8.56
5633	46.36	PK	V	34.15	4.58	35.85	49.24	74.00	24.76
5633	33.25	AV	V	34.15	4.58	35.85	36.13	54.00	17.87
Middle Channel: 2437 MHz									
2437	72.92	PK	H	28.17	3.11	0.00	104.20	N/A	N/A
2437	60.42	AV	H	28.17	3.11	0.00	91.70	N/A	N/A
2437	79.43	PK	V	28.17	3.11	0.00	110.71	N/A	N/A
2437	69.12	AV	V	28.17	3.11	0.00	100.40	N/A	N/A
4874	49.55	PK	V	33.05	4.39	35.53	51.46	74.00	22.54
4874	38.89	AV	V	33.05	4.39	35.53	40.80	54.00	13.20
7311	47.59	PK	V	36.01	5.52	35.97	53.15	74.00	20.85
7311	36.22	AV	V	36.01	5.52	35.97	41.78	54.00	12.22
6521	46.53	PK	V	34.24	5.27	35.75	50.29	74.00	23.71
6521	32.51	AV	V	34.24	5.27	35.75	36.27	54.00	17.73
4866	46.25	PK	V	33.03	4.38	35.53	48.13	74.00	25.87
4866	32.21	AV	V	33.03	4.38	35.53	34.09	54.00	19.91
High Channel: 2462 MHz									
2462	67.21	PK	H	28.22	3.10	0.00	98.53	N/A	N/A
2462	56.29	AV	H	28.22	3.10	0.00	87.61	N/A	N/A
2462	74.58	PK	V	28.22	3.10	0.00	105.90	N/A	N/A
2462	62.67	AV	V	28.22	3.10	0.00	93.99	N/A	N/A
2483.5	38.45	PK	V	28.27	3.10	0.00	69.82	74.00	4.18
2483.5	17.93	AV	V	28.27	3.10	0.00	49.30	54.00	4.70
4924	50.02	PK	V	33.15	4.42	35.57	52.02	74.00	21.98
4924	39.06	AV	V	33.15	4.42	35.57	41.06	54.00	12.94
7386	49.03	PK	V	36.20	5.57	35.98	54.82	74.00	19.18
7386	37.76	AV	V	36.20	5.57	35.98	43.55	54.00	10.45
5478	46.36	PK	V	34.06	4.49	35.84	49.07	74.00	24.93
5478	33.42	AV	V	34.06	4.49	35.84	36.13	54.00	17.87

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
	Reading (dB $\mu$ V)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Additional Channels: 2417 MHz									
2417	76.21	PK	V	28.13	3.11	0.00	107.45	N/A	N/A
2417	65.09	AV	V	28.13	3.11	0.00	96.33	N/A	N/A
2390	34.26	PK	V	28.08	3.10	0.00	65.44	74.00	8.56
2390	15.09	AV	V	28.08	3.10	0.00	46.27	54.00	7.73
Additional Channels: 2422MHz									
2422	77.82	PK	V	28.14	3.11	0.00	109.07	N/A	N/A
2422	66.14	AV	V	28.14	3.11	0.00	97.39	N/A	N/A
2390	35.02	PK	V	28.08	3.10	0.00	66.20	74.00	7.80
2390	16.47	AV	V	28.08	3.10	0.00	47.65	54.00	6.35
Additional Channels: 2452MHz									
2452	77.95	PK	V	28.20	3.10	0.00	109.25	N/A	N/A
2452	67.84	AV	V	28.20	3.10	0.00	99.14	N/A	N/A
2483.5	32.02	PK	V	28.27	3.10	0.00	63.39	74.00	10.61
2483.5	16.25	AV	V	28.27	3.10	0.00	47.62	54.00	6.38
Additional Channels: 2457 MHz									
2457	76.64	PK	V	28.21	3.10	0.00	107.95	N/A	N/A
2457	66	AV	V	28.21	3.10	0.00	97.31	N/A	N/A
2483.5	31.69	PK	V	28.27	3.10	0.00	63.06	74.00	10.94
2483.5	16.07	AV	V	28.27	3.10	0.00	47.44	54.00	6.56

**ATTACHMENT**

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# FCC PART 15.247

## TEST REPORT

For

### SZ DJI TECHNOLOGY CO., LTD

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

**FCC ID: SS3-M1P1607**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Mavic Pro
<b>Test Engineer:</b> <u>Kira Liu</u>	<i>Kira Liu</i>
<b>Report Number:</b> <u>RDG160806002-00A</u>	
<b>Report Date:</b> <u>2016-08-20</u>	
<b>Reviewed By:</b> <u>Ivan Cao</u> Assistant Manager	<i>Ivan Cao</i>
<b>Test Laboratory:</b>	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 <a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a>

**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).

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## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

The *SZ DJI TECHNOLOGY CO., LTD*'s product, model number: *MIP (FCC ID: SS3-MIP1607)* (the "EUT") in this report was a *Mavic Pro*, which was measured approximately: 303.3mm (L) x 249.5mm (W) x 75.2mm(H), DC11.4V from lithium battery, the battery can remove from the EUT and charged by adapter.

#### Adapter 1 information:

Manufacturer: AcTel Electronic (Dong guan) Co., Ltd./China

Model: F1C50

Input: AC 100-240V, 1.4A, 50-60Hz

Total Output Power: 50W Max;

Output: DC13.05V, 3.83A(Main); DC5.0V, 2.0A Total(USB)

#### Adapter 2 information:

Manufacturer: Shenzhen Huntkey Electronics Co., Ltd.

Model: F1C50

Input: AC 100-240V, 1.4A, 50-60Hz

Total Output Power: 50W Max;

Output: DC13.05V, 3.83A(Main); DC5.0V, 2.0A Total(USB)

#### Battery 1 information:

Manufacturer: Sunwoda Electronic Co., LTD.

Model: FB1-3830 mAh-11.4V

Max Charge Voltage: 13.05V

Nominal Voltage:11.4V

Rated Capacity: 3830mAh

#### Battery 2 information:

Manufacturer: Dongguan Amperex Technology Limited

Model: FB1-3830 mAh-11.4V

Max Charge Voltage: 13.05V

Nominal Voltage:11.4V

Rated Capacity: 3830mAh, 43.6Wh

*\* All measurement and test data in this report was gathered from production sample serial number: 160806002. (Assigned by BACL.Dongguan). The EUT was received on 2016-08-01.*

### Objective

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

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

### Related Submittal(s)/Grant(s)

FCC Part 15E NII submissions with FCC ID: SS3-M1P1607.

FCC Part 15B JBP submissions with FCC ID: SS3-M1P1607.

Part of system submissions with FCC ID: SS3-GL200A1606.

### **Test Methodology**

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

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

### **Test Facility**

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

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 06, 2015.

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

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

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

The device employed 1.4MHz, 10MHz, 20MHz modes and Wi-Fi 802.11b, 802.11g, 802.11n ht20 modes, 1.4MHz, 10MHz, 20MHz only support SISO mode at antenna chain 0 or chain 1, Wi-Fi 802.11b/g/n ht20 mode support SISO and MIMO modes.

For 1.4MHz mode, 38 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2403.5	20	2441.5
2	2405.5	...	...
...	...	...	...
...	...	...	...
...	...	37	2475.5
19	2439.5	38	2477.5

For 10MHz mode, 73channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2405.5	38	2442.5
2	2406.5	...	...
...	...	...	...
...	...	...	...
...	...	73	2477.5
37	2441.5	/	/

For 20MHz mode, 63channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2410.5	33	2442.5
2	2411.5	...	...
...	...	...	...
...	...	...	...
...	...	63	2472.5
32	2441.5	/	/

For 802.11b, 802.11g, and 802.11n20 modes, 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	/	/

**EUT Exercise Software**

The software “DJI-RF Certification” was used for testing, which was provided by manufacturer. 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 802.11b/g/n mode, the maximum power was as below setting, the power setting was provided by the manufacturer:

Antenna 0&1						
Test Mode	Test Software Version	DJI-RF Certification				
802.11b	Frequency (MHz)	2412	2417	2422-2452	2457	2462
	Data Rate	1Mbps	1Mbps	1Mbps	1Mbps	1Mbps
	Power Level Setting	18	22	22	22	18
802.11g	Data Rate	6Mbps	6Mbps	6Mbps	6Mbps	6Mbps
	Power Level Setting	12	17	18	17	12
HT20	Data Rate	MCS0	MCS0	MCS0	MCS0	MCS0
	Power Level Setting	12	16	18	16	12

For 1.4MHz, 10MHz, 20MHz modes were configured maximum power by system default setting. The default setting level as below:

Antenna 0&1										
Test Mode	Test Software Version	DJI-RF Certification								
1.4MHz	Frequency (MHz)	2403.5-2477.5								
	Power Level Setting	18								
10MHz	Frequency (MHz)	2405.5	2406.5	2407.5	2408.5	2409.5 ~ 2410.5	2411.5 ~ 2462.5	2462.5 ~ 2464.5	2465.5 ~ 2466.5	2467.5 ~ 2468.5
	Power Level Setting	13	14	15	16	17	18	17	16	15
	Frequency (MHz)	2469.5	2470.5	2471.5	2472.5	2473.5	2474.5	2475.5	2476.5	2477.5
	Power Level Setting	13	12	11	9	7	6	5	4	-4
20MHz	Frequency (MHz)	2410.5	2411.5	2412.5	2413.5	2414.5	2415.5 ~ 2417.5	2418.5 ~ 2422.5	2423.5	2424.5 ~ 2427.5
	Power Level Setting	9	10	11	12	13	14	15	16	17
	Frequency (MHz)	2428.5 ~ 2446.5	2447.5 ~ 2449.5	2450.5 ~ 2452.5	2453.5 ~ 2454.5	2455.5 ~ 2456.5	2457.5 ~ 2458.5	2459.5 ~ 2460.5	2461.5 ~ 2465.5	2466.5
	Power Level Setting	18	17	16	15	14	13	12	11	10
	Frequency (MHz)	2467.5	2468.5	2469.5 ~ 2470.5	2471.5	2472.5	/	/	/	/
	Power Level Setting	9	8	7	6	5	/	/	/	/

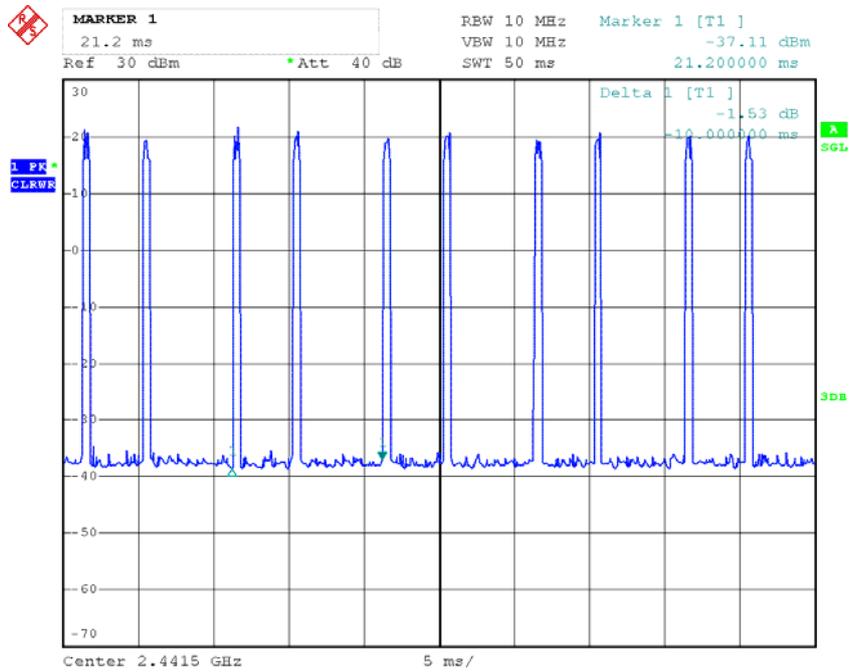
For difference power level setting configured by software(802.11b/g/n mode) or system default(1.4MHz/10MHz/20MHz), all test items performed at Low, Middle and High Channel, output power, radiation bandedge test with additional channels according to the power setting and power test results.

The software configured maximum duty cycle as below:

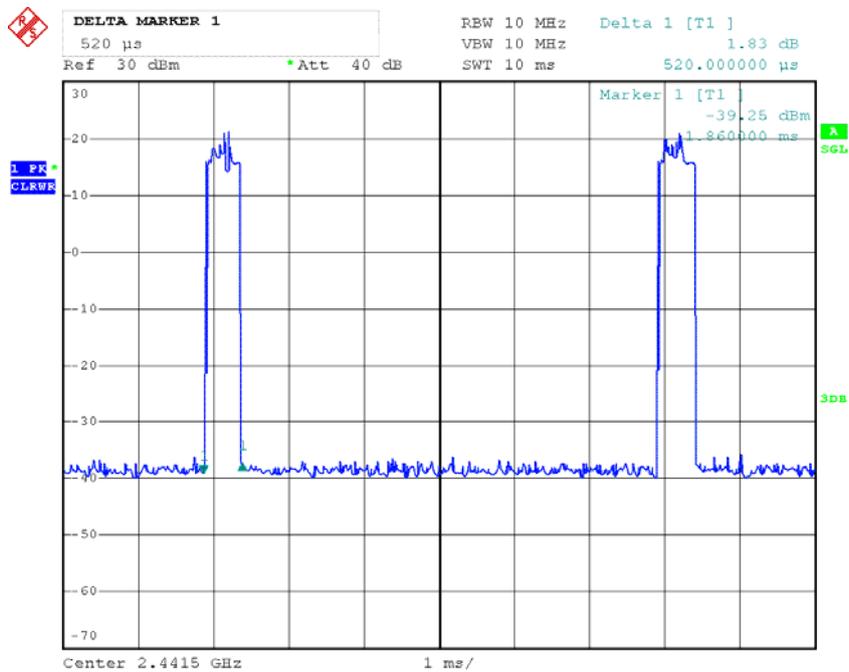
Mode	T <sub>on</sub> (ms)	T <sub>on+off</sub> (ms)	Duty Cycle (%)
1.4MHz	0.52*2=1.04	10	10.4%
10MHz	5.3+3.2=8.5	10.1	84.16%
20MHz	5.3+3.3=8.6	10.1	85.15%
802.11b	20	20	100%
802.11g	2.12	2.14	99.07%
802.11n ht20	1.98	2.0	99%

The minimum transmission duration(T) is 0.52ms in 1.4MHz mode, 3.2ms in 10MHz mode, 3.3ms in 20MHz mode.

### 1.4MHz

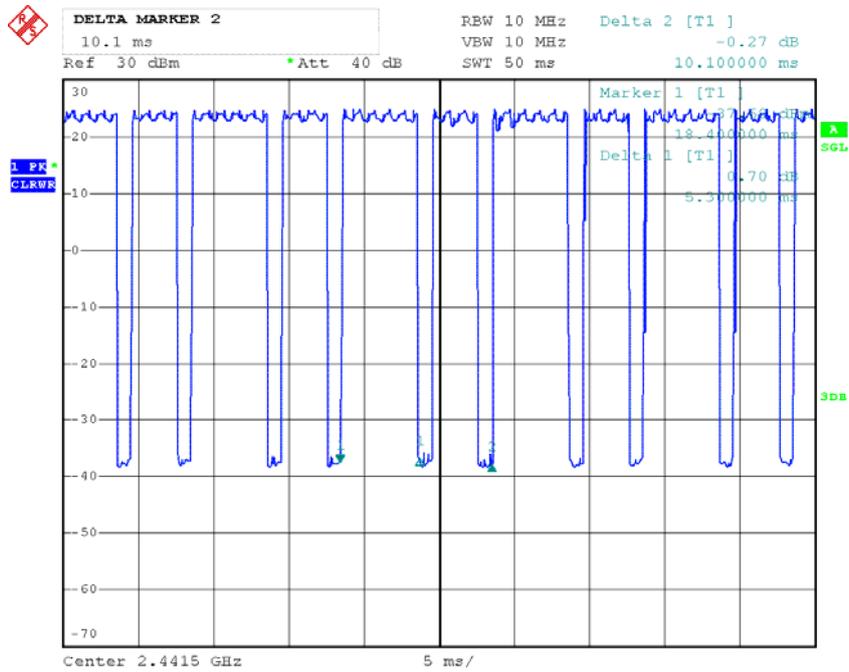


Date: 25.AUG.2016 00:09:17

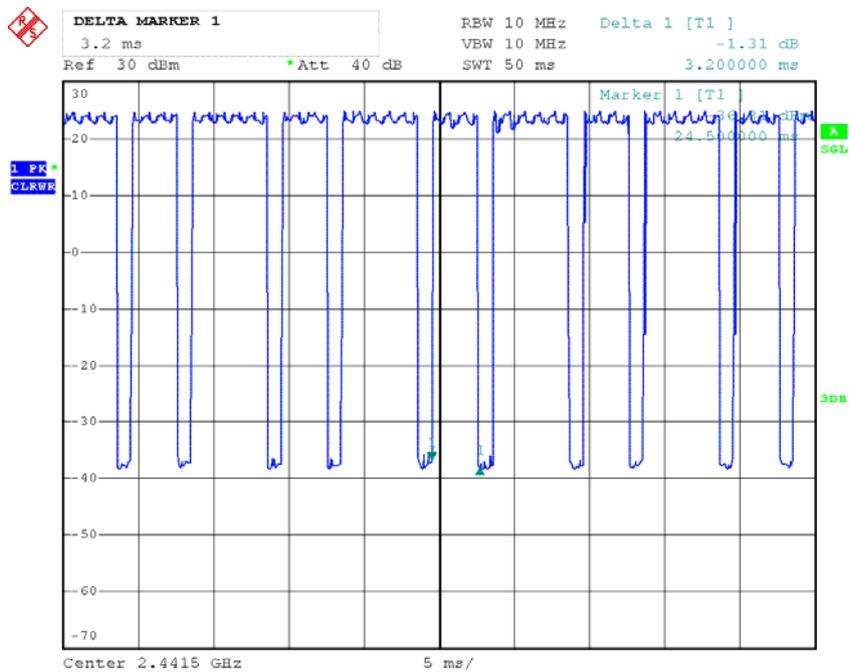


Date: 25.AUG.2016 00:09:54

### 10MHz

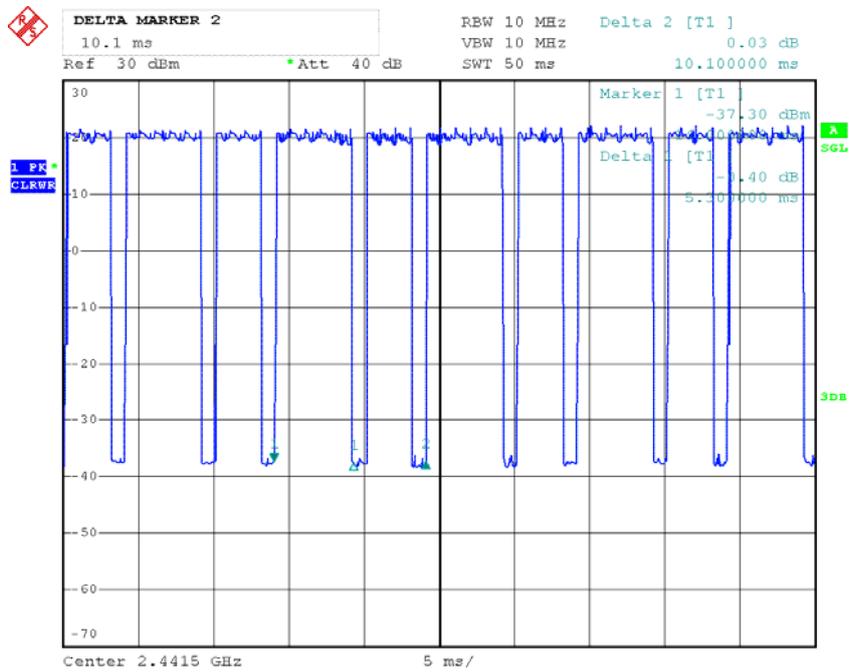


Date: 25.AUG.2016 00:06:18

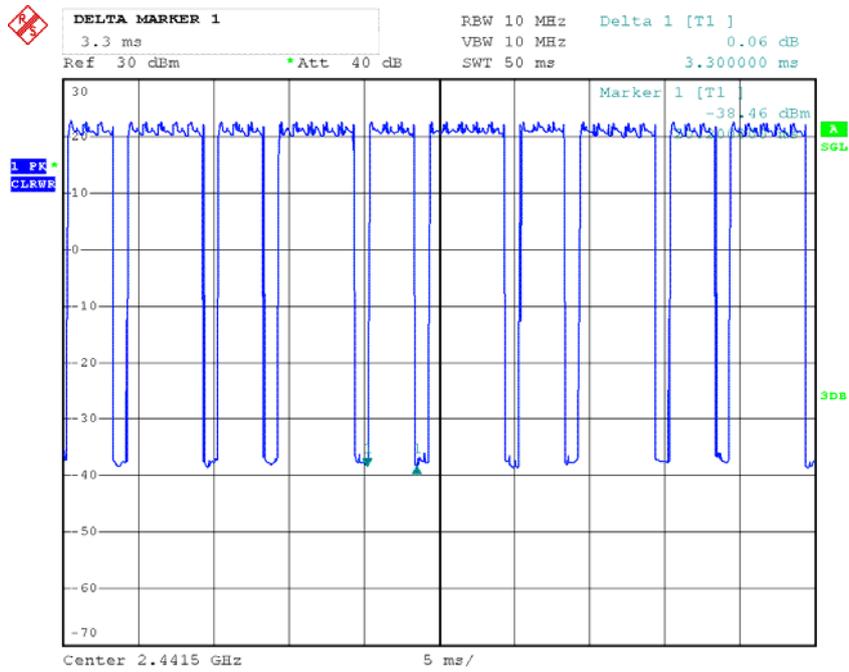


Date: 25.AUG.2016 00:06:45

### 20MHz

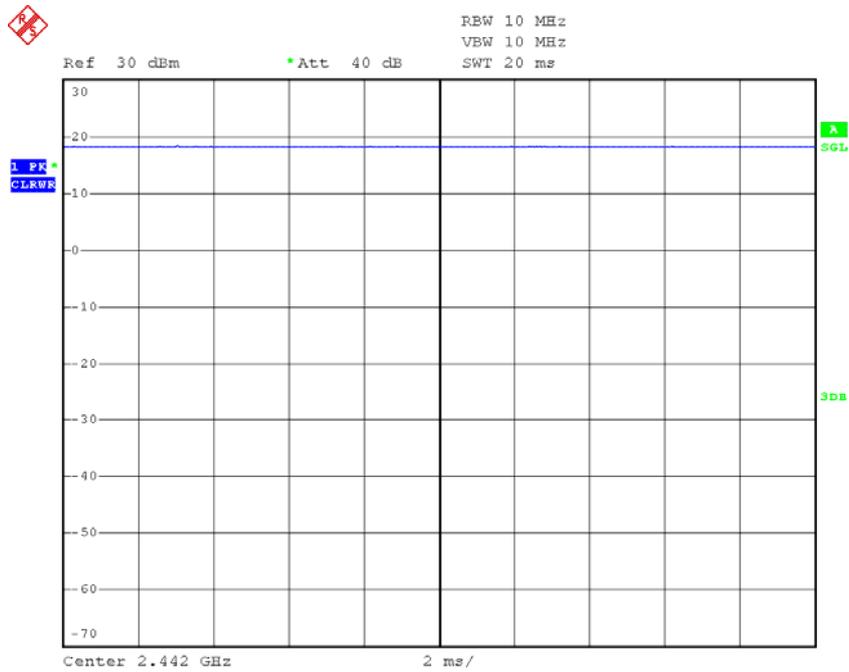


Date: 25.AUG.2016 01:43:04



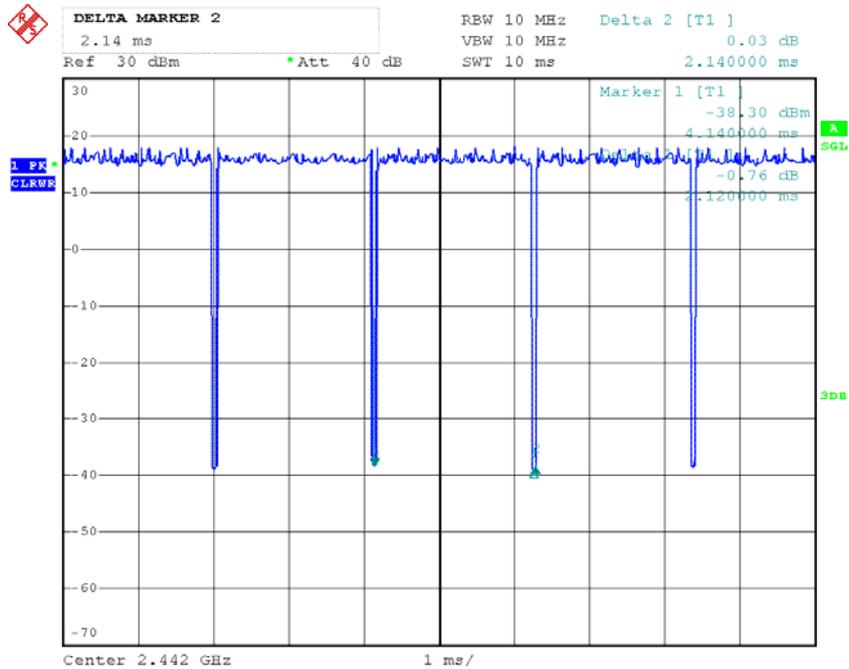
Date: 25.AUG.2016 00:08:14

### 802.11b



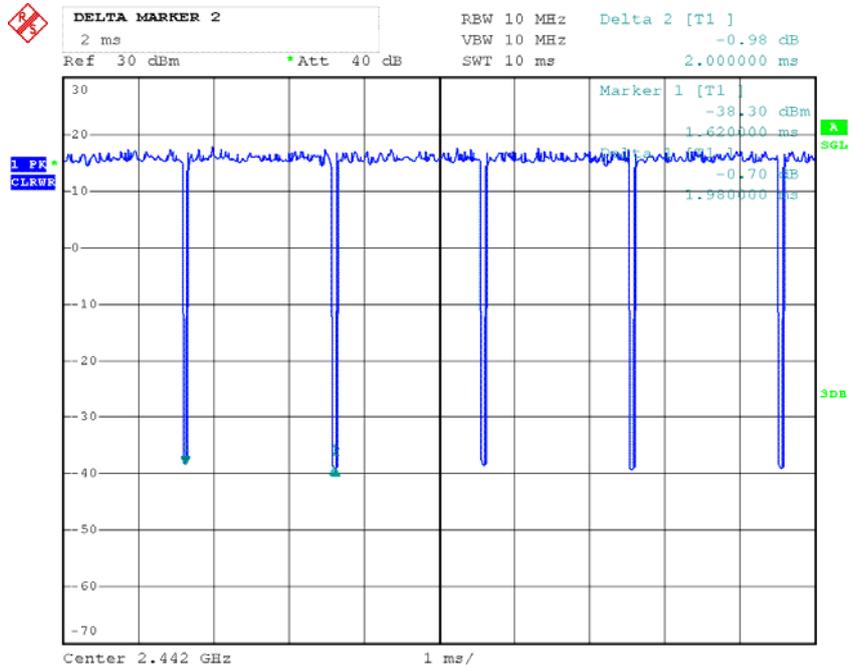
Date: 25.AUG.2016 02:06:15

### 802.11g



Date: 25.AUG.2016 02:11:53

802.11n ht20



Date: 25.AUG.2016 02:10:03

**Equipment Modifications**

No modification was made to the EUT.

**Support Equipment List and Details**

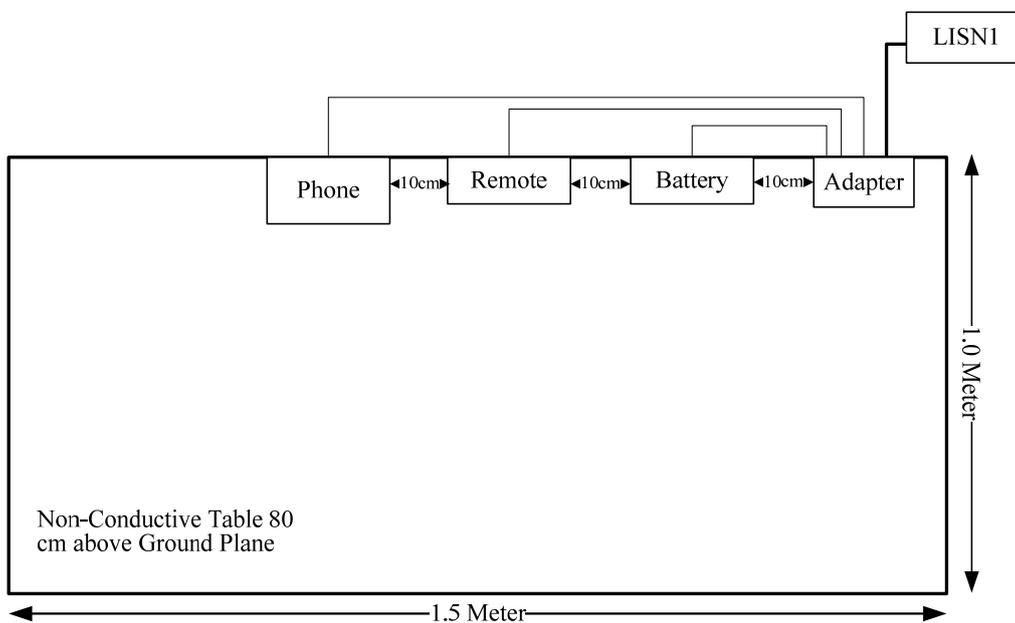
Manufacturer	Description	Model	Serial Number
DJI	Remote	GL200A	/
Apple	iPhone	A1524	X3CY0TCP17CCCTY

**External Cable**

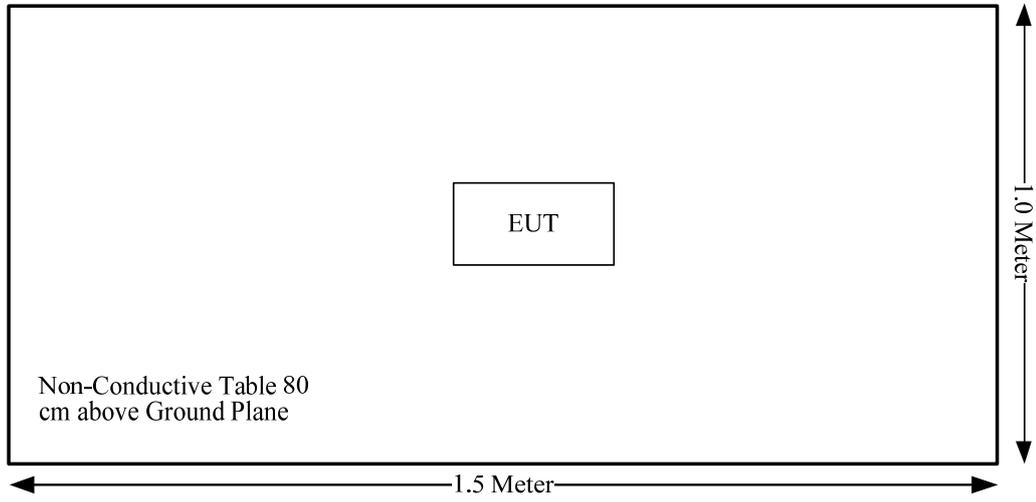
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Adapter 1 DC cable	yes	No	1.98	Adapter	Battery & Remote
Adapter 2 DC cable	yes	No	1.98	Adapter	Battery & Remote
USB Cable	Yes	No	1.0	Adapter	iPhone

**Block Diagram of Test Setup**

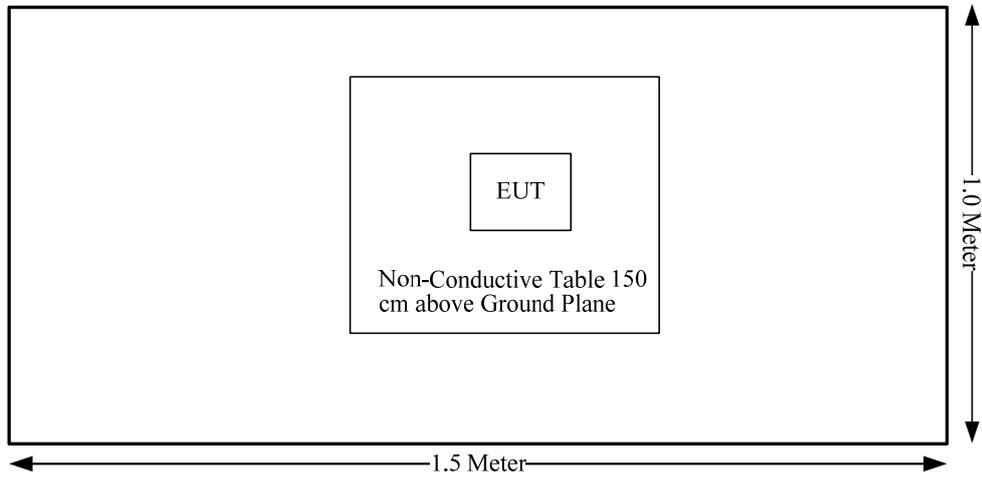
AC Line Conducted Test:



Radiation test below 1GHz:



Radiation test above 1GHz:



**SUMMARY OF TEST RESULTS**

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Result</b>
§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
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Bandwidth	Compliance
§15.247(b)(3)	Maximum Peak Conducted Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

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

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

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

**Calculated Formulary:**

Predication of MPE limit at a given distance

S = PG/4πR<sup>2</sup> = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

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:**

Modes	Frequency Range (MHz)	Antenna Gain		Maximum Power Including Tolerance		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
		(dBi)	(numeric)	(dBm)	(mW)			
1.4MHz	2403.5-2477.5	3.93	2.47	30	1000.00	20.00	0.4920	1.0
10MHz	2405.5-2477.5	3.93	2.47	30	1000.00	20.00	0.4920	1.0
20MHz	2410.5-2472.5	3.93	2.47	30	1000.00	20.00	0.4920	1.0
802.11b	2412-2462	3.93	2.47	25	316.23	20.00	0.1556	1.0
802.11g	2412-2462	3.93	2.47	25	316.23	20.00	0.1556	1.0
802.11n ht20	2412-2462	3.93	2.47	25	316.23	20.00	0.1556	1.0
802.11a	5180-5825	5.05	3.20	16	39.81	20.00	0.0253	1.0
802.11n ht20	5180-5825	5.05	3.20	16	39.81	20.00	0.0253	1.0

## Note:

The Maximum Power Including Tolerance was declared by manufacturer.  
All of the modes can't transmit simultaneously.

**Result: Compliance,** 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 has 2 internal antennas arrangement, and the antennas gain are [3.93dBi@2.4GHz](#), [5.05dBi@5GHz](#), fulfill the requirement of the item. Please refer to the internal photos.

**Result:** Compliance.

**§15.207 (a) – CONDUCTED EMISSIONS**

**Applicable Standard**

FCC §15.207(a)

**Measurement Uncertainty**

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

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

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If  $U_{lab}$  is greater than  $U_{cispr}$  of Table 1, then:

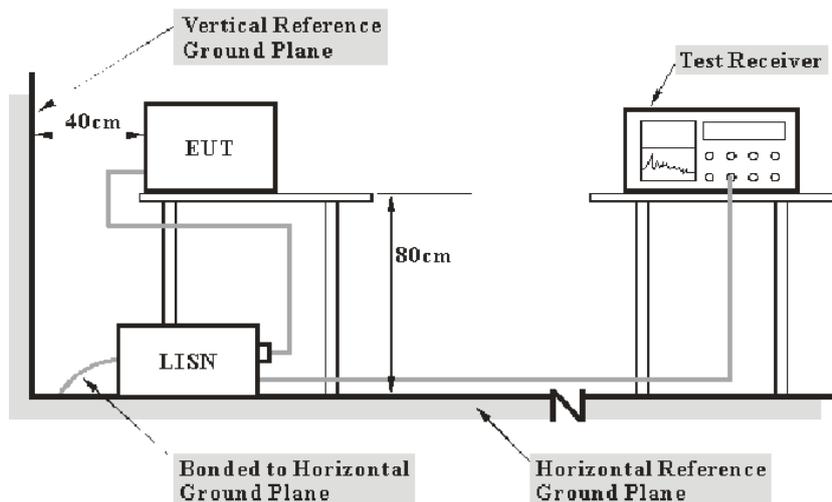
- compliance is deemed to occur if no measured disturbance level, increased by  $(U_{lab} - U_{cispr})$ , exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by  $(U_{lab} - U_{cispr})$ , exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Dongguan) is 3.12 dB (150 kHz to 30 MHz).

Table 1 – Values of  $U_{cispr}$

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

**EUT Setup**



- Note: 1. Support units were connected to second LISN.  
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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

The spacing between the peripherals was 10 cm.

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

### EMI Test Receiver Setup

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

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

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

### Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

$$C_f = A_C + VDF$$

Herein,

$V_C$  (cord. Reading): corrected voltage amplitude

$V_R$ : reading voltage amplitude

$A_C$ : attenuation caused by cable loss

VDF: voltage division factor of AMN

$C_f$ : Correction Factor

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

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

### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2015-12-10	2016-12-09
R&S	L.I.S.N	ESH2-Z5	892107/021	2016-07-16	2017-07-15
R&S	Two-line V-network	ENV 216	3560.6550.12	2015-11-26	2016-11-25
N/A	Coaxial Cable	1.8m	N/A	2016-05-06	2017-05-06
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

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

**Test Procedure**

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

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

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

**Test Data****Environmental Conditions**

<b>Temperature:</b>	29 °C
<b>Relative Humidity:</b>	55 %
<b>ATM Pressure:</b>	100 kPa

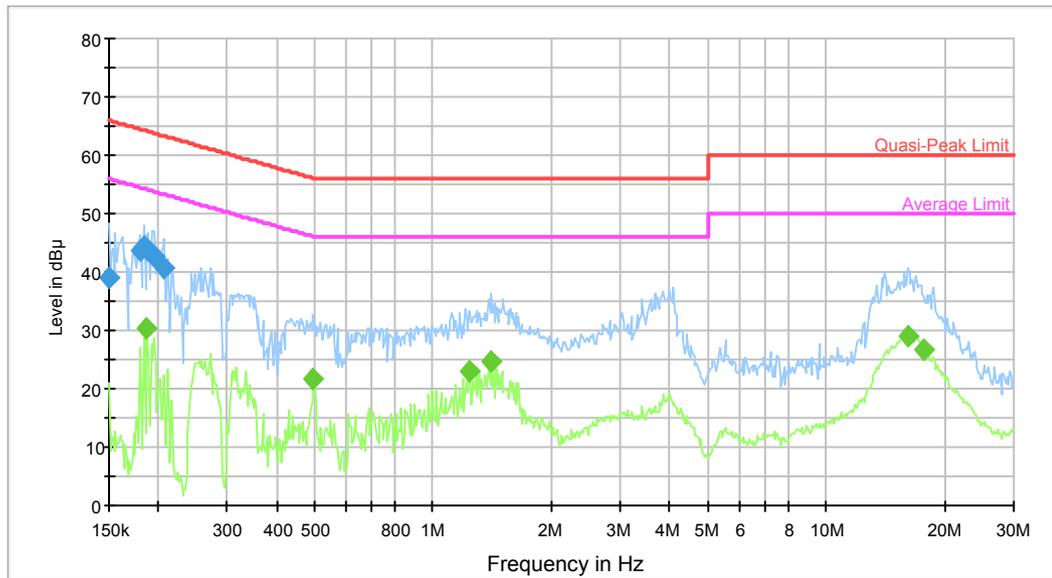
*The testing was performed by Emily Wang on 2016-08-10.*

*Test Result: Compliance, please refer to the below data and plots.*

Test Mode: Charging

Adapter #1&Battery 1

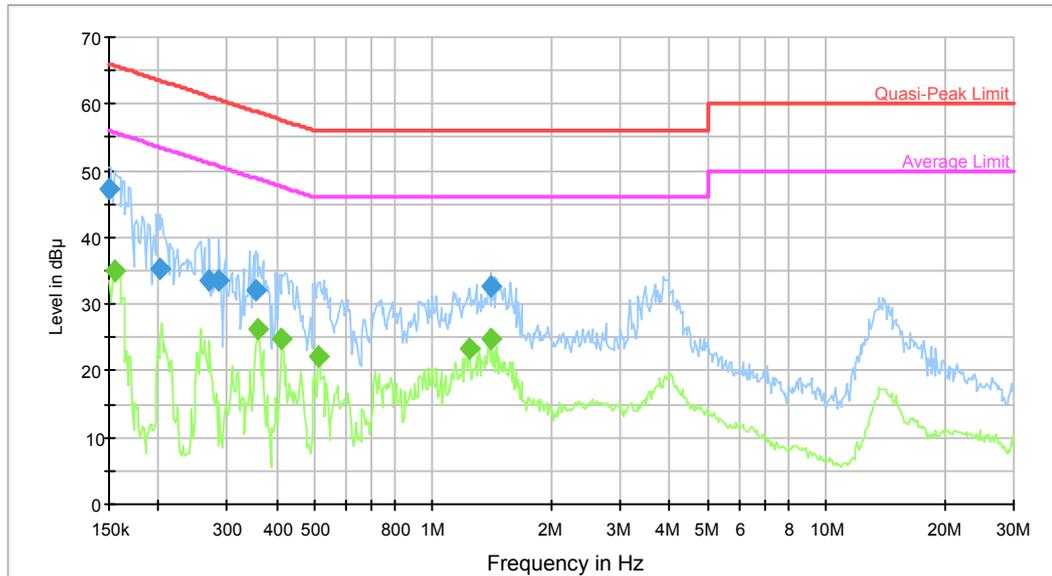
AC120V, 60Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	39.0	9.000	L1	10.2	27.0	66.0	Compliance
0.180171	43.6	9.000	L1	10.2	20.9	64.5	Compliance
0.184529	44.3	9.000	L1	10.2	20.0	64.3	Compliance
0.188994	43.5	9.000	L1	10.2	20.6	64.1	Compliance
0.195114	42.8	9.000	L1	10.2	21.0	63.8	Compliance
0.207957	40.8	9.000	L1	10.2	22.5	63.3	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Comment
0.187494	30.3	9.000	L1	10.2	23.8	54.1	Compliance
0.495646	21.8	9.000	L1	10.1	24.3	46.1	Compliance
1.239175	23.2	9.000	L1	10.4	22.8	46.0	Compliance
1.407671	24.5	9.000	L1	10.4	21.5	46.0	Compliance
16.122185	29.0	9.000	L1	10.7	21.0	50.0	Compliance
17.739864	26.7	9.000	L1	10.8	23.3	50.0	Compliance

**AC120V, 60Hz, Neutral:**

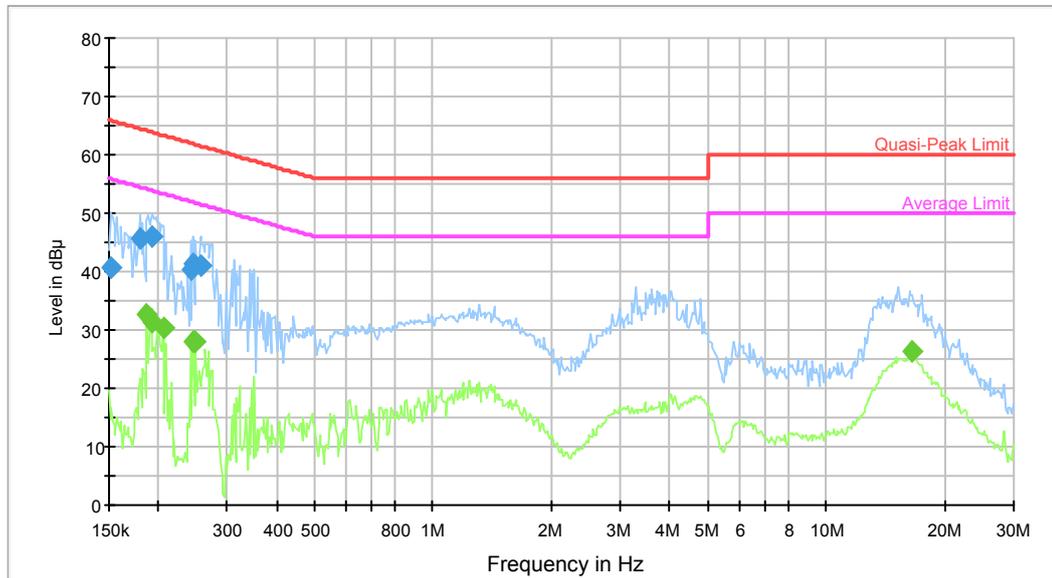


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	47.2	9.000	N	10.2	18.8	66.0	Compliance
0.201433	35.2	9.000	N	10.2	28.4	63.6	Compliance
0.270502	33.6	9.000	N	10.2	27.5	61.1	Compliance
0.286019	33.4	9.000	N	10.2	27.2	60.6	Compliance
0.354674	32.0	9.000	N	10.3	26.9	58.9	Compliance
1.407671	32.6	9.000	N	10.4	23.4	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.154858	35.0	9.000	N	10.2	20.7	55.7	Compliance
0.360371	26.3	9.000	N	10.3	22.4	48.7	Compliance
0.412647	24.8	9.000	N	10.2	22.8	47.6	Compliance
0.511698	22.1	9.000	N	10.1	23.9	46.0	Compliance
1.239175	23.2	9.000	N	10.4	22.8	46.0	Compliance
1.407671	24.7	9.000	N	10.4	21.3	46.0	Compliance

**Adapter #1&Battery 2**

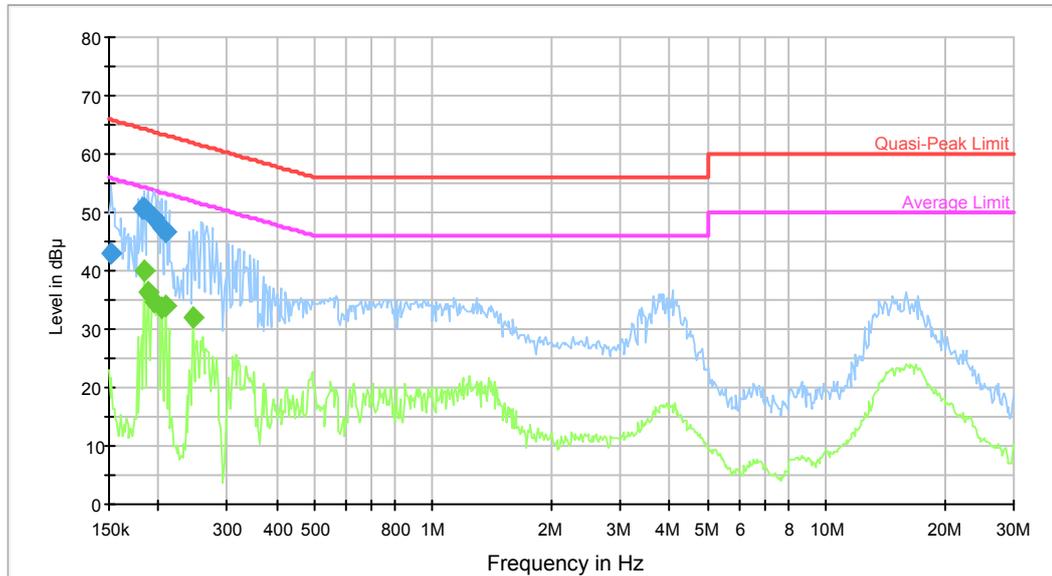
**AC120V, 60Hz, Line:**



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.152410	40.7	9.000	L1	10.2	25.2	65.9	Compliance
0.180171	45.6	9.000	L1	10.2	18.9	64.5	Compliance
0.193566	45.9	9.000	L1	10.2	18.0	63.9	Compliance
0.241949	40.4	9.000	L1	10.2	21.6	62.0	Compliance
0.245835	41.3	9.000	L1	10.2	20.6	61.9	Compliance
0.255827	40.9	9.000	L1	10.2	20.7	61.6	Compliance

Frequency (MHz)	Average ((dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.187494	32.7	9.000	L1	10.2	21.4	54.1	Compliance
0.192030	31.3	9.000	L1	10.2	22.6	53.9	Compliance
0.206306	30.4	9.000	L1	10.2	23.0	53.4	Compliance
0.245835	28.1	9.000	L1	10.2	23.8	51.9	Compliance
0.249785	27.9	9.000	L1	10.2	23.9	51.8	Compliance
16.512221	26.2	9.000	L1	10.7	23.8	50.0	Compliance

**AC120V, 60Hz, Neutral:**

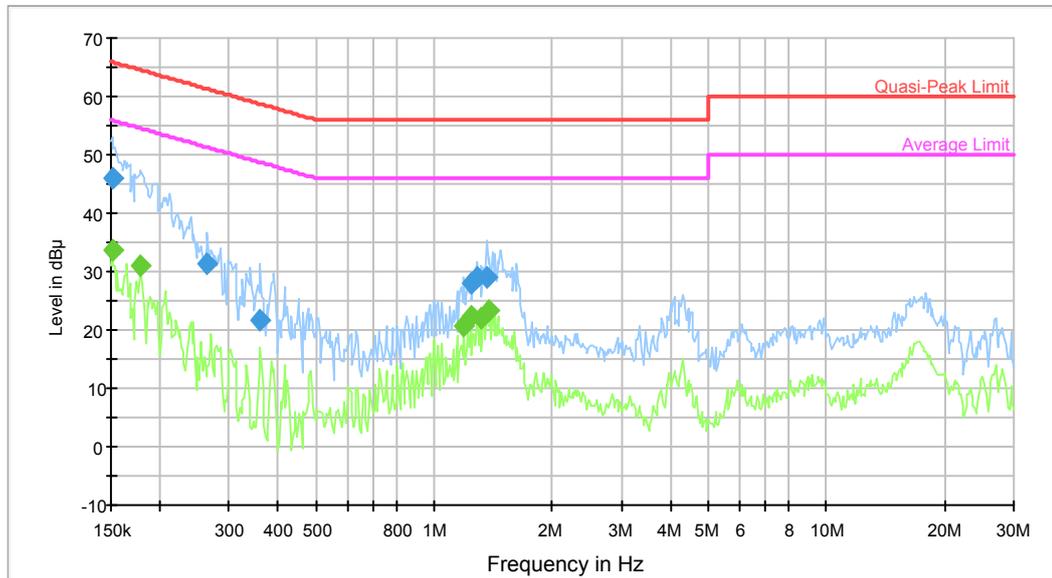


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.152410	43.0	9.000	N	10.2	22.9	65.9	Compliance
0.181612	50.6	9.000	N	10.1	13.8	64.4	Compliance
0.184529	50.6	9.000	N	10.1	13.7	64.3	Compliance
0.195114	49.0	9.000	N	10.2	14.8	63.8	Compliance
0.204669	47.4	9.000	N	10.2	16.0	63.4	Compliance
0.209621	46.6	9.000	N	10.2	16.6	63.2	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.184529	39.8	9.000	N	10.1	14.5	54.3	Compliance
0.188994	36.2	9.000	N	10.2	17.9	54.1	Compliance
0.195114	34.7	9.000	N	10.2	19.1	53.8	Compliance
0.204669	33.5	9.000	N	10.2	19.9	53.4	Compliance
0.209621	34.0	9.000	N	10.2	19.2	53.2	Compliance
0.245835	31.9	9.000	N	10.2	20.0	51.9	Compliance

**Adapter #2&Battery 1**

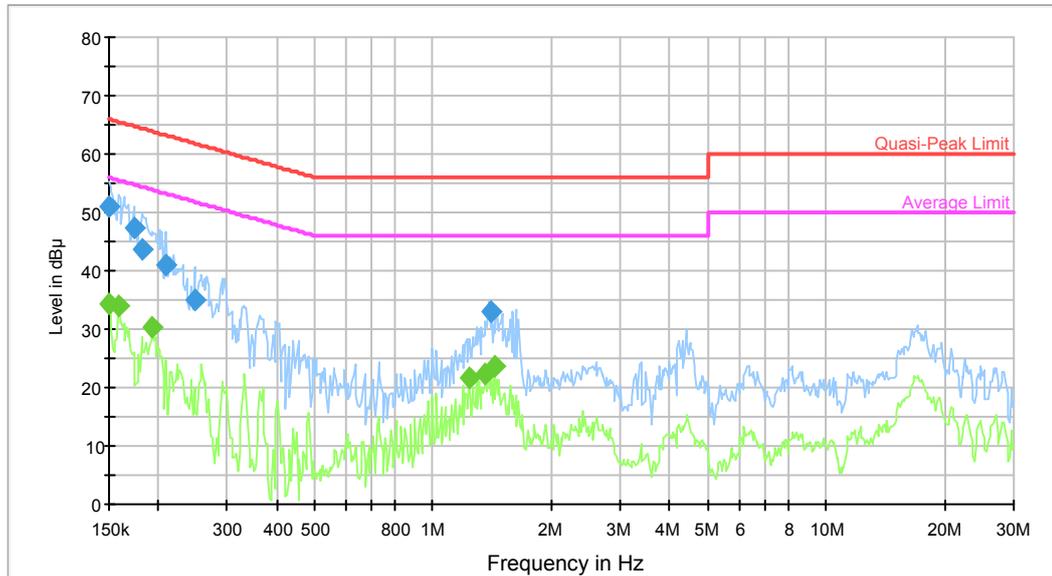
**AC120V, 60Hz, Line:**



Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.151200	46.0	9.000	L1	10.2	19.9	65.9	Compliance
0.264113	31.5	9.000	L1	10.2	29.8	61.3	Compliance
0.360371	21.8	9.000	L1	10.3	36.9	58.7	Compliance
1.239175	27.9	9.000	L1	10.4	28.1	56.0	Compliance
1.289541	29.0	9.000	L1	10.4	27.0	56.0	Compliance
1.363512	29.1	9.000	L1	10.4	26.9	56.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.151200	33.8	9.000	L1	10.2	22.1	55.9	Compliance
0.178741	30.8	9.000	L1	10.1	23.7	54.5	Compliance
1.190776	20.7	9.000	L1	10.4	25.3	46.0	Compliance
1.239175	22.5	9.000	L1	10.4	23.5	46.0	Compliance
1.310256	21.9	9.000	L1	10.4	24.1	46.0	Compliance
1.385415	23.3	9.000	L1	10.4	22.7	46.0	Compliance

**AC120V, 60Hz, Neutral:**

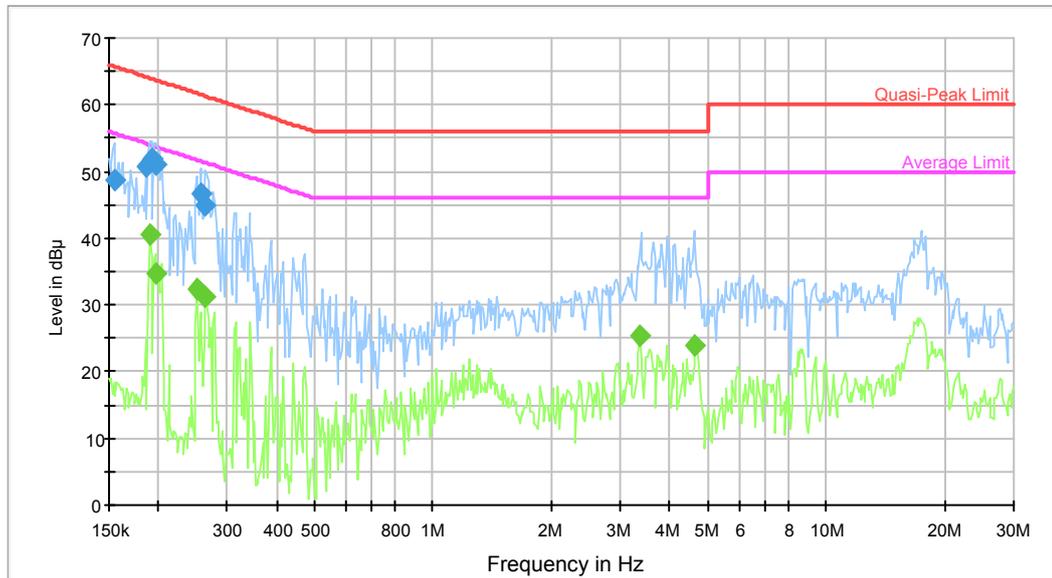


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	51.0	9.000	N	10.2	15.0	66.0	Compliance
0.173134	47.2	9.000	N	10.1	17.6	64.8	Compliance
0.181612	43.5	9.000	N	10.1	20.9	64.4	Compliance
0.209621	40.9	9.000	N	10.2	22.3	63.2	Compliance
0.247802	35.0	9.000	N	10.2	26.8	61.8	Compliance
1.407671	32.9	9.000	N	10.4	23.1	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	34.4	9.000	N	10.2	21.6	56.0	Compliance
0.158604	34.0	9.000	N	10.1	21.5	55.5	Compliance
0.193566	30.5	9.000	N	10.2	23.4	53.9	Compliance
1.239175	21.8	9.000	N	10.4	24.2	46.0	Compliance
1.363512	22.2	9.000	N	10.4	23.8	46.0	Compliance
1.430284	23.6	9.000	N	10.4	22.4	46.0	Compliance

**Adapter #2&Battery 2**

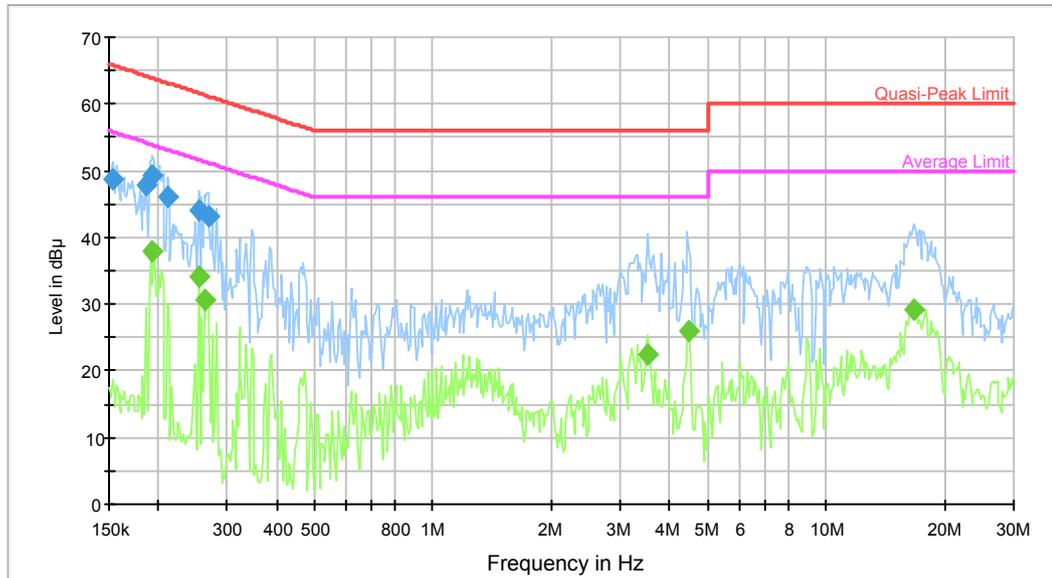
**AC120V, 60Hz, Line:**



Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.154858	48.6	9.000	L1	10.2	17.1	65.7	Compliance
0.186006	50.8	9.000	L1	10.2	13.4	64.2	Compliance
0.192030	52.0	9.000	L1	10.2	12.0	64.0	Compliance
0.196675	51.0	9.000	L1	10.2	12.7	63.7	Compliance
0.255827	46.8	9.000	L1	10.2	14.8	61.6	Compliance
0.264113	44.9	9.000	L1	10.2	16.4	61.3	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.190505	40.6	9.000	L1	10.2	13.4	54.0	Compliance
0.196675	34.7	9.000	L1	10.2	19.0	53.7	Compliance
0.251783	32.5	9.000	L1	10.2	19.2	51.7	Compliance
0.264113	31.3	9.000	L1	10.2	20.0	51.3	Compliance
3.355051	25.3	9.000	L1	10.6	20.7	46.0	Compliance
4.651370	23.9	9.000	L1	10.7	22.1	46.0	Compliance

**AC120V, 60Hz, Neutral:**



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.153629	48.6	9.000	N	10.2	17.2	65.8	Compliance
0.186006	47.8	9.000	N	10.2	16.4	64.2	Compliance
0.193566	49.4	9.000	N	10.2	14.5	63.9	Compliance
0.211298	46.0	9.000	N	10.2	17.2	63.2	Compliance
0.253797	43.9	9.000	N	10.2	17.7	61.6	Compliance
0.268355	43.3	9.000	N	10.2	17.9	61.2	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.192030	37.8	9.000	N	10.2	16.1	53.9	Compliance
0.253797	34.2	9.000	N	10.2	17.4	51.6	Compliance
0.262017	30.6	9.000	N	10.2	20.8	51.4	Compliance
3.519348	22.6	9.000	N	10.6	23.4	46.0	Compliance
4.469698	26.0	9.000	N	10.7	20.0	46.0	Compliance
16.777473	29.0	9.000	N	10.7	21.0	50.0	Compliance

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

**Applicable Standard**

FCC §15.247 (d); §15.209; §15.205;

**Measurement Uncertainty**

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

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

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If  $U_{lab}$  is greater than  $U_{cispr}$  of Table 2, then:

- compliance is deemed to occur if no measured disturbance level, increased by  $(U_{lab} - U_{cispr})$ , exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by  $(U_{lab} - U_{cispr})$ , exceeds the disturbance limit.

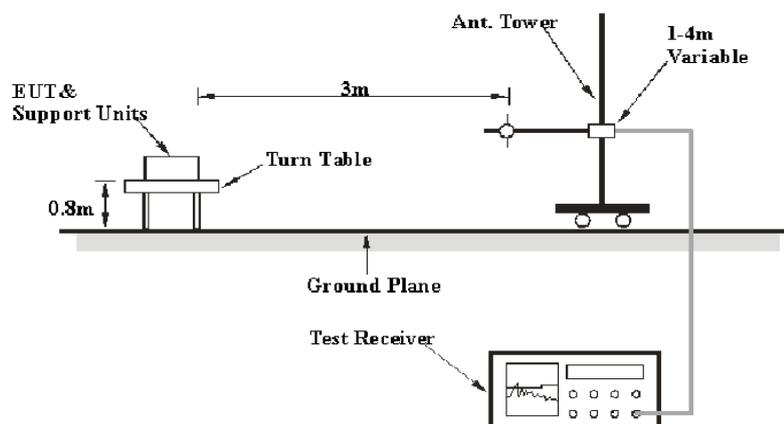
Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is: 30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical; 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical; 1G~6GHz: 4.45 dB, 6G~18GHz: 5.23 dB.

Table 2 – Values of  $U_{cispr}$

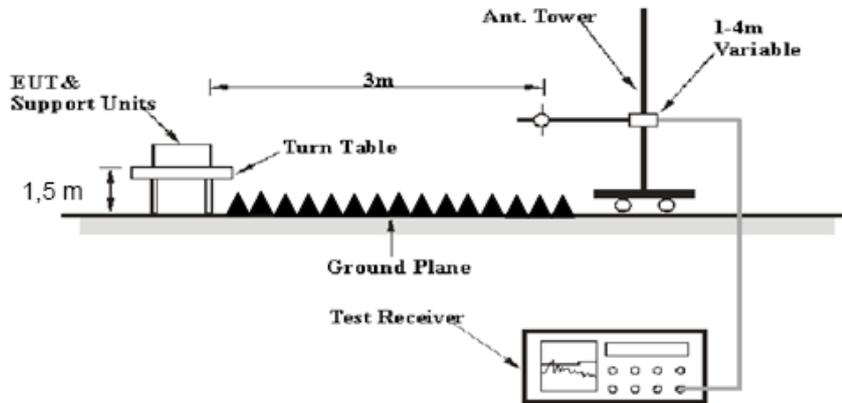
Measurement	$U_{cispr}$
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

**EUT Setup**

**Below 1GHz:**



**Above 1GHz:**



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

The spacing between the peripherals was 10 cm.

**EMI Test Receiver & Spectrum Analyzer Setup**

The system was investigated from 30 MHz to 25 GHz.

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

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

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

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

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

## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2016-08-03	2017-08-02
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
Agilent	Spectrum Analyzer	E4440A	SG43360054	2015-11-23	2016-11-22
ETS-Lindgren	Horn Antenna	3115	9808-5557	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2016-02-19	2017-02-19
R&S	Spectrum Analyzer	FSP 38	100478	2016-05-09	2017-05-09
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2014-06-16	2017-06-15
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2015-09-06	2016-09-06
N/A	Coaxial Cable	14m	N/A	2016-05-06	2017-05-06
N/A	Coaxial Cable	8m	N/A	2016-05-06	2017-05-06
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

## Test Data

### Environmental Conditions

Temperature:	26.8 °C
Relative Humidity:	65 %
ATM Pressure:	100 kPa

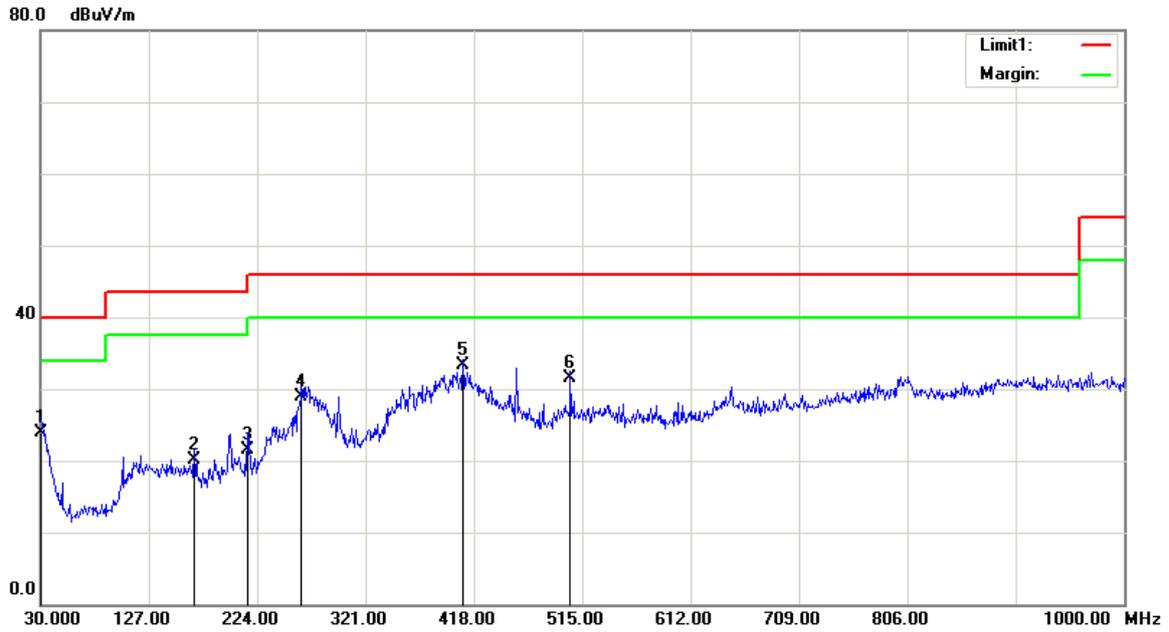
*The testing was performed by Kira Liu on 2016-08-10.*

*Test Result: Compliance, please Refer to the following data*

Test Mode: Transmitting

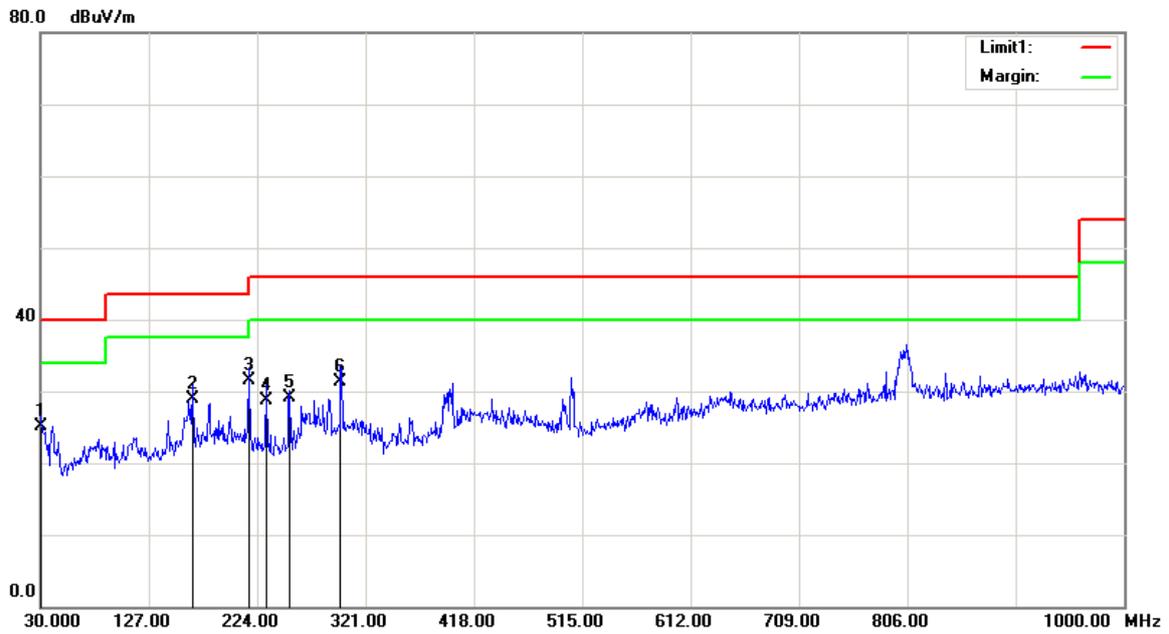
Below 1GHz(802.11b mode middle channel was the worst)

Horizontal:



Frequency (MHz)	Receiver Reading (dBμV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
30.9700	23.68	QP	0.22	23.90	40.00	16.10
167.7400	27.83	QP	-7.73	20.10	43.50	23.40
215.2700	30.51	QP	-8.91	21.60	43.50	21.90
263.7700	35.38	QP	-6.48	28.90	46.00	17.10
408.3000	36.85	QP	-3.45	33.40	46.00	12.60
504.3300	32.97	QP	-1.37	31.60	46.00	14.40

**Vertical:**



Frequency (MHz)	Receiver Reading (dBμV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
30.0000	24.15	QP	0.95	25.10	40.00	14.90
165.8000	36.47	QP	-7.57	28.90	43.50	14.60
216.2400	40.49	QP	-8.89	31.60	46.00	14.40
231.7600	36.69	QP	-7.99	28.70	46.00	17.30
253.1000	36.92	QP	-7.72	29.20	46.00	16.80
298.6900	37.24	QP	-5.84	31.40	46.00	14.60

**Above 1G:**

802.11b Mode(MIMO mode 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)					
Low Channel: 2412 MHz									
2412	70.46	PK	H	25.67	3.68	0.00	99.81	N/A	N/A
2412	67.65	AV	H	25.67	3.68	0.00	97.00	N/A	N/A
2412	77.66	PK	V	25.67	3.68	0.00	107.01	N/A	N/A
2412	74.9	AV	V	25.67	3.68	0.00	104.25	N/A	N/A
2390	27.1	PK	V	25.61	3.63	0.00	56.34	74.00	17.66
2390	16.33	AV	V	25.61	3.63	0.00	45.57	54.00	8.43
4824	38.19	PK	V	30.64	5.03	27.41	46.45	74.00	27.55
4824	34.61	AV	V	30.64	5.03	27.41	42.87	54.00	11.13
7236	32.59	PK	V	34.17	6.65	25.90	47.51	74.00	26.49
7236	29.35	AV	V	34.17	6.65	25.90	44.27	54.00	9.73
3185	40.31	PK	V	27.79	6.35	27.38	47.07	74.00	26.93
3185	32.05	AV	V	27.79	6.35	27.38	38.81	54.00	15.19
Middle Channel: 2437 MHz									
2437	73.32	PK	H	25.74	3.75	0.00	102.81	N/A	N/A
2437	69.68	AV	H	25.74	3.75	0.00	99.17	N/A	N/A
2437	80.65	PK	V	25.74	3.75	0.00	110.14	N/A	N/A
2437	76.64	AV	V	25.74	3.75	0.00	106.13	N/A	N/A
4874	41.24	PK	V	30.77	5.14	27.42	49.73	74.00	24.27
4874	37.89	AV	V	30.77	5.14	27.42	46.38	54.00	7.62
7311	34.19	PK	V	34.35	6.74	25.88	49.40	74.00	24.60
7311	30.1	AV	V	34.35	6.74	25.88	45.31	54.00	8.69
3196	35.92	PK	V	27.83	6.15	27.37	42.53	74.00	31.47
3196	23.69	AV	V	27.83	6.15	27.37	30.30	54.00	23.70
3990	37.13	PK	V	29.88	4.84	27.21	44.64	74.00	29.36
3990	25.68	AV	V	29.88	4.84	27.21	33.19	54.00	20.81
High Channel: 2462 MHz									
2462	67.89	PK	H	25.80	3.75	0.00	97.44	N/A	N/A
2462	64.85	AV	H	25.80	3.75	0.00	94.40	N/A	N/A
2462	75.55	PK	V	25.80	3.75	0.00	105.10	N/A	N/A
2462	72.36	AV	V	25.80	3.75	0.00	101.91	N/A	N/A
2483.5	26.15	PK	V	25.86	3.67	0.00	55.68	74.00	18.32
2483.5	15	AV	V	25.86	3.67	0.00	44.53	54.00	9.47
4924	39.51	PK	V	30.90	5.34	27.43	48.32	74.00	25.68
4924	35.96	AV	V	30.90	5.34	27.43	44.77	54.00	9.23
7386	32.95	PK	V	34.53	6.83	25.86	48.45	74.00	25.55
7386	29.72	AV	V	34.53	6.83	25.86	45.22	54.00	8.78
3190	40.63	PK	V	27.81	6.26	27.38	47.32	74.00	26.68
3190	32.38	AV	V	27.81	6.26	27.38	39.07	54.00	14.93

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)					
Additional Channels: 2417 MHz									
2417	79.94	PK	V	25.68	3.7	0	109.32	N/A	N/A
2417	77.73	AV	V	25.68	3.7	0	107.11	N/A	N/A
2390	28.56	PK	V	25.61	3.63	0	57.8	74.00	16.2
2390	18.79	AV	V	25.61	3.63	0	48.03	54.00	5.97
Additional Channels: 2457 MHz									
2457	79.81	PK	V	25.79	3.76	0	109.36	N/A	N/A
2457	77.12	AV	V	25.79	3.76	0	106.67	N/A	N/A
2483.5	28.41	PK	V	25.86	3.67	0	57.94	74.00	16.06
2483.5	18.69	AV	V	25.86	3.67	0	48.22	54.00	5.78

802.11g Mode(MIMO mode 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)					
Low Channel: 2412 MHz									
2412	67.77	PK	H	25.67	3.68	0.00	97.12	N/A	N/A
2412	57.78	AV	H	25.67	3.68	0.00	87.13	N/A	N/A
2412	75.67	PK	V	25.67	3.68	0.00	105.02	N/A	N/A
2412	65.75	AV	V	25.67	3.68	0.00	95.10	N/A	N/A
2390	32.93	PK	V	25.61	3.63	0.00	62.17	74.00	11.83
2390	17.45	AV	V	25.61	3.63	0.00	46.69	54.00	7.31
4824	34.18	PK	V	30.64	5.03	27.41	42.44	74.00	31.56
4824	22.61	AV	V	30.64	5.03	27.41	30.87	54.00	23.13
7236	32.5	PK	V	34.17	6.65	25.90	47.42	74.00	26.58
7236	20.98	AV	V	34.17	6.65	25.90	35.90	54.00	18.10
3196	39.75	PK	V	27.83	6.15	27.37	46.36	74.00	27.64
3196	30.21	AV	V	27.83	6.15	27.37	36.82	54.00	17.18
Middle Channel: 2437 MHz									
2437	72.19	PK	H	25.74	3.75	0.00	101.68	N/A	N/A
2437	61.54	AV	H	25.74	3.75	0.00	91.03	N/A	N/A
2437	80.44	PK	V	25.74	3.75	0.00	109.93	N/A	N/A
2437	69.85	AV	V	25.74	3.75	0.00	99.34	N/A	N/A
4874	36.99	PK	V	30.77	5.14	27.42	45.48	74.00	28.52
4874	25.29	AV	V	30.77	5.14	27.42	33.78	54.00	20.22
7311	33.22	PK	V	34.35	6.74	25.88	48.43	74.00	25.57
7311	21.67	AV	V	34.35	6.74	25.88	36.88	54.00	17.12
2950	40.44	PK	V	27.07	6.61	27.54	46.58	74.00	27.42
2950	30.93	AV	V	27.07	6.61	27.54	37.07	54.00	16.93
3997	38.56	PK	V	29.89	4.84	27.20	46.09	74.00	27.91
3997	30.13	AV	V	29.89	4.84	27.20	37.66	54.00	16.34
High Channel: 2462 MHz									
2462	64.96	PK	H	25.80	3.75	0.00	94.51	N/A	N/A
2462	54.21	AV	H	25.80	3.75	0.00	83.76	N/A	N/A
2462	73.74	PK	V	25.80	3.75	0.00	103.29	N/A	N/A
2462	63.33	AV	V	25.80	3.75	0.00	92.88	N/A	N/A
2483.5	30.47	PK	V	25.86	3.67	0.00	60.00	74.00	14.00
2483.5	15.95	AV	V	25.86	3.67	0.00	45.48	54.00	8.52
4924	36.55	PK	V	30.90	5.34	27.43	45.36	74.00	28.64
4924	25.97	AV	V	30.90	5.34	27.43	34.78	54.00	19.22
7386	32.87	PK	V	34.53	6.83	25.86	48.37	74.00	25.63
7386	21.36	AV	V	34.53	6.83	25.86	36.86	54.00	17.14
2950	40.14	PK	V	27.07	6.61	27.54	46.28	74.00	27.72
2950	30.63	AV	V	27.07	6.61	27.54	36.77	54.00	17.23

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)					
Additional Channels: 2417 MHz									
2417	79.22	PK	V	25.68	3.7	0	108.6	N/A	N/A
2417	69.38	AV	V	25.68	3.7	0	98.76	N/A	N/A
2390	35.26	PK	V	25.61	3.63	0	64.5	74	9.5
2390	18.47	AV	V	25.61	3.63	0	47.71	54	6.29
Additional Channels: 2422 MHz									
2422	80.56	PK	V	25.7	3.71	0	109.97	N/A	N/A
2422	70.42	AV	V	25.7	3.71	0	99.83	N/A	N/A
2390	36.13	PK	V	25.61	3.63	0	65.37	74	8.63
2390	19.51	AV	V	25.61	3.63	0	48.75	54	5.25
Additional Channels: 2452 MHz									
2452	80.78	PK	V	25.78	3.78	0	110.34	N/A	N/A
2452	70.14	AV	V	25.78	3.78	0	99.7	N/A	N/A
2483.5	35.11	PK	V	25.86	3.67	0	64.64	74	9.36
2483.5	19.64	AV	V	25.86	3.67	0	49.17	54	4.83
Additional Channels: 2457 MHz									
2457	80.39	PK	V	25.79	3.76	0	109.94	N/A	N/A
2457	69.95	AV	V	25.79	3.76	0	99.5	N/A	N/A
2483.5	35.08	PK	V	25.86	3.67	0	64.61	74	9.39
2483.5	19.41	AV	V	25.86	3.67	0	48.94	54	5.06

802.11 n ht20 Mode(MIMO mode 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)					
Low Channel: 2412 MHz									
2412	68.67	PK	H	25.67	3.68	0.00	98.02	N/A	N/A
2412	57.41	AV	H	25.67	3.68	0.00	86.76	N/A	N/A
2412	75.86	PK	V	25.67	3.68	0.00	105.21	N/A	N/A
2412	65.4	AV	V	25.67	3.68	0.00	94.75	N/A	N/A
2390	41.18	PK	V	25.61	3.63	0.00	70.42	74.00	3.58
2390	19.19	AV	V	25.61	3.63	0.00	48.43	54.00	5.57
4824	33.18	PK	V	30.64	5.03	27.41	41.44	74.00	32.56
4824	21.84	AV	V	30.64	5.03	27.41	30.10	54.00	23.90
7236	32.56	PK	V	34.17	6.65	25.90	47.48	74.00	26.52
7236	20.3	AV	V	34.17	6.65	25.90	35.22	54.00	18.78
3199	37.87	PK	V	27.84	6.10	27.37	44.44	74.00	29.56
3199	29.64	AV	V	27.84	6.10	27.37	36.21	54.00	17.79
Middle Channel: 2437 MHz									
2437	71.96	PK	H	25.74	3.75	0.00	101.45	N/A	N/A
2437	61.38	AV	H	25.74	3.75	0.00	90.87	N/A	N/A
2437	79.77	PK	V	25.74	3.75	0.00	109.26	N/A	N/A
2437	69.02	AV	V	25.74	3.75	0.00	98.51	N/A	N/A
4874	35.93	PK	V	30.77	5.14	27.42	44.42	74.00	29.58
4874	23.57	AV	V	30.77	5.14	27.42	32.06	54.00	21.94
7311	33.37	PK	V	34.35	6.74	25.88	48.58	74.00	25.42
7311	21.21	AV	V	34.35	6.74	25.88	36.42	54.00	17.58
3196	38.58	PK	V	27.83	6.15	27.37	45.19	74.00	28.81
3196	30.33	AV	V	27.83	6.15	27.37	36.94	54.00	17.06
3992	37.62	PK	V	29.88	4.84	27.21	45.13	74.00	28.87
3992	25.11	AV	V	29.88	4.84	27.21	32.62	54.00	21.38
High Channel: 2462 MHz									
2462	64.84	PK	H	25.80	3.75	0.00	94.39	N/A	N/A
2462	53.8	AV	H	25.80	3.75	0.00	83.35	N/A	N/A
2462	74	PK	V	25.80	3.75	0.00	103.55	N/A	N/A
2462	62.93	AV	V	25.80	3.75	0.00	92.48	N/A	N/A
2483.5	31.52	PK	V	25.86	3.67	0.00	61.05	74.00	12.95
2483.5	16.88	AV	V	25.86	3.67	0.00	46.41	54.00	7.59
4924	33.56	PK	V	30.90	5.34	27.43	42.37	74.00	31.63
4924	22.22	AV	V	30.90	5.34	27.43	31.03	54.00	22.97
7386	32.94	PK	V	34.53	6.83	25.86	48.44	74.00	25.56
7386	20.66	AV	V	34.53	6.83	25.86	36.16	54.00	17.84
3192	38.24	PK	V	27.81	6.22	27.38	44.89	74.00	29.11
3192	29.99	AV	V	27.81	6.22	27.38	36.64	54.00	17.36

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)					
Additional Channels: 2417 MHz									
2417	78.56	PK	V	25.68	3.7	0	107.94	N/A	N/A
2417	65.38	AV	V	25.68	3.7	0	94.76	N/A	N/A
2390	38.48	PK	V	25.61	3.63	0	67.72	74	6.28
2390	20.56	AV	V	25.61	3.63	0	49.8	54	4.2
Additional Channels: 2422 MHz									
2422	79.78	PK	V	25.7	3.71	0	109.19	N/A	N/A
2422	66.59	AV	V	25.7	3.71	0	96	N/A	N/A
2390	39.63	PK	V	25.61	3.63	0	68.87	74	5.13
2390	21.64	AV	V	25.61	3.63	0	50.88	54	3.12
Additional Channels: 2452 MHz									
2452	79.84	PK	V	25.78	3.78	0	109.4	N/A	N/A
2452	66.31	AV	V	25.78	3.78	0	95.87	N/A	N/A
2483.5	39.08	PK	V	25.86	3.67	0	68.61	74	5.39
2483.5	20.01	AV	V	25.86	3.67	0	49.54	54	4.46
Additional Channels: 2457 MHz									
2452	79.12	PK	V	25.78	3.78	0	108.68	N/A	N/A
2452	66.22	AV	V	25.78	3.78	0	95.78	N/A	N/A
2483.5	39.88	PK	V	25.86	3.67	0	69.41	74	4.59
2483.5	20.57	AV	V	25.86	3.67	0	50.1	54	3.9

1.4M Mode(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)					
Low Channel: 2403.5 MHz									
2403.5	85.17	PK	H	25.65	3.66	0.00	114.48	N/A	N/A
2403.5	56.72	AV	H	25.65	3.66	0.00	86.03	N/A	N/A
2403.5	93.88	PK	V	25.65	3.66	0.00	123.19	N/A	N/A
2403.5	66.62	AV	V	25.65	3.66	0.00	95.93	N/A	N/A
2390	24.69	PK	V	25.61	3.63	0.00	53.93	74.00	20.07
2390	13.41	AV	V	25.61	3.63	0.00	42.65	54.00	11.35
4807	33.75	PK	V	30.60	5.06	27.41	42.00	74.00	32.00
4807	20.19	AV	V	30.60	5.06	27.41	28.44	54.00	25.56
7210.5	37.43	PK	V	34.11	6.62	25.91	52.25	74.00	21.75
7210.5	25.14	AV	V	34.11	6.62	25.91	39.96	54.00	14.04
3990	36.57	PK	V	29.88	4.84	27.21	44.08	74.00	29.92
3990	25.51	AV	V	29.88	4.84	27.21	33.02	54.00	20.98
Middle Channel: 2441.5 MHz									
2441.5	84.85	PK	H	25.75	3.77	0.00	114.37	N/A	N/A
2441.5	56.05	AV	H	25.75	3.77	0.00	85.57	N/A	N/A
2441.5	93.99	PK	V	25.75	3.77	0.00	123.51	N/A	N/A
2441.5	65.45	AV	V	25.75	3.77	0.00	94.97	N/A	N/A
4883	37.01	PK	V	30.80	5.20	27.42	45.59	74.00	28.41
4883	24.15	AV	V	30.80	5.20	27.42	32.73	54.00	21.27
7324.5	40.16	PK	V	34.38	6.75	25.88	55.41	74.00	18.59
7324.5	26.57	AV	V	34.38	6.75	25.88	41.82	54.00	12.18
3187	37.09	PK	V	27.80	6.31	27.38	43.82	74.00	30.18
3187	24.62	AV	V	27.80	6.31	27.38	31.35	54.00	22.65
3688	35.86	PK	V	29.21	4.61	27.32	42.36	74.00	31.64
3688	23.14	AV	V	29.21	4.61	27.32	29.64	54.00	24.36
High Channel: 2477.5 MHz									
2477.5	84.47	PK	H	25.84	3.69	0.00	114.00	N/A	N/A
2477.5	55.34	AV	H	25.84	3.69	0.00	84.87	N/A	N/A
2477.5	93.43	PK	V	25.84	3.69	0.00	122.96	N/A	N/A
2477.5	64.18	AV	V	25.84	3.69	0.00	93.71	N/A	N/A
2483.5	28.2	PK	V	25.86	3.67	0.00	57.73	74.00	16.27
2483.5	14.09	AV	V	25.86	3.67	0.00	43.62	54.00	10.38
4955	38.33	PK	V	30.98	5.35	27.43	47.23	74.00	26.77
4955	24.62	AV	V	30.98	5.35	27.43	33.52	54.00	20.48
7432.5	40.45	PK	V	34.64	6.88	25.95	56.02	74.00	17.98
7432.5	25.31	AV	V	34.64	6.88	25.95	40.88	54.00	13.12
4414	39.6	PK	V	29.82	4.97	26.92	47.47	74.00	26.53
4414	30.11	AV	V	29.82	4.97	26.92	37.98	54.00	16.02

10M Mode(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)					
Low Channel: 2405.5 MHz									
2405.5	72.75	PK	H	25.65	3.67	0.00	102.07	N/A	N/A
2405.5	60.15	AV	H	25.65	3.67	0.00	89.47	N/A	N/A
2405.5	81.22	PK	V	25.65	3.67	0.00	110.54	N/A	N/A
2405.5	68.14	AV	V	25.65	3.67	0.00	97.46	N/A	N/A
2390	30.93	PK	V	25.61	3.63	0.00	60.17	74.00	13.83
2390	15.16	AV	V	25.61	3.63	0.00	44.40	54.00	9.60
4811	33.54	PK	V	30.61	5.05	27.41	41.79	74.00	32.21
4811	20.1	AV	V	30.61	5.05	27.41	28.35	54.00	25.65
7216.5	33.49	PK	V	34.12	6.63	25.91	48.33	74.00	25.67
7216.5	20.01	AV	V	34.12	6.63	25.91	34.85	54.00	19.15
3193	43.79	PK	V	27.82	6.21	27.38	50.44	74.00	23.56
3193	32.47	AV	V	27.82	6.21	27.38	39.12	54.00	14.88
Middle Channel: 2441.5 MHz									
2441.5	76.14	PK	H	25.75	3.77	0.00	105.66	N/A	N/A
2441.5	63.39	AV	H	25.75	3.77	0.00	92.91	N/A	N/A
2441.5	84.69	PK	V	25.75	3.77	0.00	114.21	N/A	N/A
2441.5	71.6	AV	V	25.75	3.77	0.00	101.12	N/A	N/A
4883	35.98	PK	V	30.80	5.20	27.42	44.56	74.00	29.44
4883	21.07	AV	V	30.80	5.20	27.42	29.65	54.00	24.35
7324.5	34.58	PK	V	34.38	6.75	25.88	49.83	74.00	24.17
7324.5	20.65	AV	V	34.38	6.75	25.88	35.90	54.00	18.10
3193	39.43	PK	V	27.82	6.21	27.38	46.08	74.00	27.92
3193	31.02	AV	V	27.82	6.21	27.38	37.67	54.00	16.33
3694	39.27	PK	V	29.23	4.63	27.32	45.81	74.00	28.19
3694	30.51	AV	V	29.23	4.63	27.32	37.05	54.00	16.95
High Channel: 2477.5 MHz									
2477.5	52.98	PK	H	25.84	3.69	0.00	82.51	N/A	N/A
2477.5	40.16	AV	H	25.84	3.69	0.00	69.69	N/A	N/A
2477.5	61.78	PK	V	25.84	3.69	0.00	91.31	N/A	N/A
2477.5	48.01	AV	V	25.84	3.69	0.00	77.54	N/A	N/A
2483.5	33.37	PK	V	25.86	3.67	0.00	62.90	74.00	11.10
2483.5	18.2	AV	V	25.86	3.67	0.00	47.73	54.00	6.27
4955	35.74	PK	V	30.98	5.35	27.43	44.64	74.00	29.36
4955	23.01	AV	V	30.98	5.35	27.43	31.91	54.00	22.09
7432.5	33.34	PK	V	34.64	6.88	25.95	48.91	74.00	25.09
7432.5	20.11	AV	V	34.64	6.88	25.95	35.68	54.00	18.32
3193	41.03	PK	V	27.82	6.21	27.38	47.68	74.00	26.32
3193	30.95	AV	V	27.82	6.21	27.38	37.60	54.00	16.40

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)					
Additional Channels: 2406.5 MHz									
2406.5	81.41	PK	V	25.66	3.67	0	110.74	N/A	N/A
2406.5	68.36	AV	V	25.66	3.67	0	97.69	N/A	N/A
2390	30.98	PK	V	25.61	3.63	0	60.22	74	13.78
2390	15.37	AV	V	25.61	3.63	0	44.61	54	9.39
Additional Channels: 2407.5 MHz									
2407.5	81.63	PK	V	25.66	3.67	0	110.96	N/A	N/A
2407.5	68.58	AV	V	25.66	3.67	0	97.91	N/A	N/A
2390	30.82	PK	V	25.61	3.63	0	60.06	74	13.94
2390	15.29	AV	V	25.61	3.63	0	44.53	54	9.47
Additional Channels: 2408.5 MHz									
2408.5	81.94	PK	V	25.66	3.67	0	111.27	N/A	N/A
2408.5	70.03	AV	V	25.66	3.67	0	99.36	N/A	N/A
2390	30.63	PK	V	25.61	3.63	0	59.87	74	14.13
2390	15.14	AV	V	25.61	3.63	0	44.38	54	9.62
Additional Channels: 2409.5 MHz									
2409.5	82.77	PK	V	25.66	3.68	0	112.11	N/A	N/A
2409.5	69.88	AV	V	25.66	3.68	0	99.22	N/A	N/A
2390	30.56	PK	V	25.61	3.63	0	59.8	74	14.2
2390	15.09	AV	V	25.61	3.63	0	44.33	54	9.67
Additional Channels: 2411.5 MHz									
2411.5	84.56	PK	V	25.67	3.68	0	113.91	N/A	N/A
2411.5	71.41	AV	V	25.67	3.68	0	100.76	N/A	N/A
2390	30.47	PK	V	25.61	3.63	0	59.71	74	14.29
2390	15.02	AV	V	25.61	3.63	0	44.26	54	9.74
Additional Channels: 2462.5 MHz									
2462.5	84.49	PK	V	25.8	3.75	0	114.04	N/A	N/A
2462.5	72.26	AV	V	25.8	3.75	0	101.81	N/A	N/A
2483.5	34.61	PK	V	25.86	3.67	0	64.14	74	9.86
2483.5	20.52	AV	V	25.86	3.67	0	50.05	54	3.95
Additional Channels: 2464.5 MHz									
2464.5	84.16	PK	V	25.81	3.74	0	113.71	N/A	N/A
2464.5	72.03	AV	V	25.81	3.74	0	101.58	N/A	N/A
2483.5	34.12	PK	V	25.86	3.67	0	63.65	74	10.35
2483.5	20.33	AV	V	25.86	3.67	0	49.86	54	4.14
Additional Channels: 2466.5 MHz									
2466.5	79.62	PK	V	25.81	3.73	0	109.16	N/A	N/A
2466.5	66.58	AV	V	25.81	3.73	0	96.12	N/A	N/A
2483.5	34.03	PK	V	25.86	3.67	0	63.56	74	10.44
2483.5	20.17	AV	V	25.86	3.67	0	49.7	54	4.3
Additional Channels: 2468.5 MHz									
2468.5	79.01	PK	V	25.82	3.72	0	108.55	N/A	N/A
2468.5	66.03	AV	V	25.82	3.72	0	95.57	N/A	N/A
2483.5	33.97	PK	V	25.86	3.67	0	63.5	74	10.5
2483.5	18.56	AV	V	25.86	3.67	0	48.09	54	5.91

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)					
Additional Channels: 2469.5 MHz									
2469.5	76.95	PK	V	25.82	3.72	0	106.49	N/A	N/A
2469.5	64.11	AV	V	25.82	3.72	0	93.65	N/A	N/A
2483.5	33.52	PK	V	25.86	3.67	0	63.05	74	10.95
2483.5	18.18	AV	V	25.86	3.67	0	47.71	54	6.29
Additional Channels: 2470.5 MHz									
2470.5	76.18	PK	V	25.82	3.72	0	105.72	N/A	N/A
2470.5	63.85	AV	V	25.82	3.72	0	93.39	N/A	N/A
2483.5	33.47	PK	V	25.86	3.67	0	63	74	11
2483.5	18.09	AV	V	25.86	3.67	0	47.62	54	6.38
Additional Channels: 2471.5 MHz									
2471.5	75.46	PK	V	25.83	3.71	0	105	N/A	N/A
2471.5	62.31	AV	V	25.83	3.71	0	91.85	N/A	N/A
2483.5	33.21	PK	V	25.86	3.67	0	62.74	74	11.26
2483.5	17.81	AV	V	25.86	3.67	0	47.34	54	6.66
Additional Channels: 2472.5 MHz									
2472.5	73.18	PK	V	25.83	3.71	0	102.72	N/A	N/A
2472.5	60.24	AV	V	25.83	3.71	0	89.78	N/A	N/A
2483.5	32.49	PK	V	25.86	3.67	0	62.02	74	11.98
2483.5	16.88	AV	V	25.86	3.67	0	46.41	54	7.59
Additional Channels: 2473.5 MHz									
2473.5	70.98	PK	V	25.83	3.71	0	100.52	N/A	N/A
2473.5	58.21	AV	V	25.83	3.71	0	87.75	N/A	N/A
2483.5	32.42	PK	V	25.86	3.67	0	61.95	74	12.05
2483.5	16.67	AV	V	25.86	3.67	0	46.2	54	7.8
Additional Channels: 2474.5 MHz									
2474.5	68.84	PK	V	25.83	3.7	0	98.37	N/A	N/A
2474.5	56.79	AV	V	25.83	3.7	0	86.32	N/A	N/A
2483.5	32.54	PK	V	25.86	3.67	0	62.07	74	11.93
2483.5	16.83	AV	V	25.86	3.67	0	46.36	54	7.64
Additional Channels: 2475.5 MHz									
2475.5	66.84	PK	V	25.84	3.7	0	96.38	N/A	N/A
2475.5	53.71	AV	V	25.84	3.7	0	83.25	N/A	N/A
2483.5	32.38	PK	V	25.86	3.67	0	61.91	74	12.09
2483.5	16.76	AV	V	25.86	3.67	0	46.29	54	7.71
Additional Channels: 2476.5 MHz									
2476.5	65.93	PK	V	25.84	3.69	0	95.46	N/A	N/A
2476.5	52.27	AV	V	25.84	3.69	0	81.8	N/A	N/A
2483.5	33.87	PK	V	25.86	3.67	0	63.4	74	10.6
2483.5	17.56	AV	V	25.86	3.67	0	47.09	54	6.91

20M Mode(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)					
Low Channel: 2410.5 MHz									
2410.5	66.25	PK	H	25.67	3.68	0.00	95.60	N/A	N/A
2410.5	50.55	AV	H	25.67	3.68	0.00	79.90	N/A	N/A
2410.5	76.65	PK	V	25.67	3.68	0.00	106.00	N/A	N/A
2410.5	61.11	AV	V	25.67	3.68	0.00	90.46	N/A	N/A
2390	31.02	PK	V	25.61	3.63	0.00	60.26	74.00	13.74
2390	16.6	AV	V	25.61	3.63	0.00	45.84	54.00	8.16
4821	33.64	PK	V	30.63	5.03	27.41	41.89	74.00	32.11
4821	20.14	AV	V	30.63	5.03	27.41	28.39	54.00	25.61
7231.5	32.5	PK	V	34.16	6.64	25.90	47.40	74.00	26.60
7231.5	29.68	AV	V	34.16	6.64	25.90	44.58	54.00	9.42
3193	44.21	PK	V	27.82	6.21	27.38	50.86	74.00	23.14
3193	31.57	AV	V	27.82	6.21	27.38	38.22	54.00	15.78
Middle Channel: 2441.5 MHz									
2441.5	75.63	PK	H	25.75	3.77	0.00	105.15	N/A	N/A
2441.5	60.01	AV	H	25.75	3.77	0.00	89.53	N/A	N/A
2441.5	84.13	PK	V	25.75	3.77	0.00	113.65	N/A	N/A
2441.5	69.15	AV	V	25.75	3.77	0.00	98.67	N/A	N/A
4883	34.12	PK	V	30.80	5.20	27.42	42.70	74.00	31.30
4883	19.69	AV	V	30.80	5.20	27.42	28.27	54.00	25.73
7324.5	33.78	PK	V	34.38	6.75	25.88	49.03	74.00	24.97
7324.5	20.17	AV	V	34.38	6.75	25.88	35.42	54.00	18.58
3193	43.25	PK	V	27.82	6.21	27.38	49.90	74.00	24.10
3193	33.47	AV	V	27.82	6.21	27.38	40.12	54.00	13.88
4401	38.44	PK	V	29.82	4.94	26.89	46.31	74.00	27.69
4401	30.18	AV	V	29.82	4.94	26.89	38.05	54.00	15.95
High Channel: 2472.5 MHz									
2472.5	60.69	PK	H	25.83	3.71	0.00	90.23	N/A	N/A
2472.5	46.11	AV	H	25.83	3.71	0.00	75.65	N/A	N/A
2472.5	70.28	PK	V	25.83	3.71	0.00	99.82	N/A	N/A
2472.5	54.9	AV	V	25.83	3.71	0.00	84.44	N/A	N/A
2483.5	37.98	PK	V	25.86	3.67	0.00	67.51	74.00	6.49
2483.5	16.57	AV	V	25.86	3.67	0.00	46.10	54.00	7.90
4945	33.68	PK	V	30.96	5.36	27.43	42.57	74.00	31.43
4945	20.19	AV	V	30.96	5.36	27.43	29.08	54.00	24.92
7417.5	33.57	PK	V	34.60	6.86	25.91	49.12	74.00	24.88
7417.5	20.06	AV	V	34.60	6.86	25.91	35.61	54.00	18.39
3964	39.48	PK	V	29.82	4.85	27.23	46.92	74.00	27.08
3964	30.41	AV	V	29.82	4.85	27.23	37.85	54.00	16.15

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)					
Additional Channels: 2411.5 MHz									
2411.5	77.32	PK	V	25.67	3.68	0	106.67	N/A	N/A
2411.5	62.41	AV	V	25.67	3.68	0	91.76	N/A	N/A
2390	29.31	PK	V	25.61	3.63	0	58.55	74	15.45
2390	16.78	AV	V	25.61	3.63	0	46.02	54	7.98
Additional Channels: 2412.5 MHz									
2412.5	78.11	PK	V	25.67	3.69	0	107.47	N/A	N/A
2412.5	63.39	AV	V	25.67	3.69	0	92.75	N/A	N/A
2390	30.32	PK	V	25.61	3.63	0	59.56	74	14.44
2390	16.92	AV	V	25.61	3.63	0	46.16	54	7.84
Additional Channels: 2413.5 MHz									
2413.5	78.89	PK	V	25.68	3.69	0	108.26	N/A	N/A
2413.5	63.54	AV	V	25.68	3.69	0	92.91	N/A	N/A
2390	29.26	PK	V	25.61	3.63	0	58.5	74	15.5
2390	16.31	AV	V	25.61	3.63	0	45.55	54	8.45
Additional Channels: 2414.5 MHz									
2414.5	80.08	PK	V	25.68	3.69	0	109.45	N/A	N/A
2414.5	63.79	AV	V	25.68	3.69	0	93.16	N/A	N/A
2390	29.21	PK	V	25.61	3.63	0	58.45	74	15.55
2390	16.17	AV	V	25.61	3.63	0	45.41	54	8.59
Additional Channels: 2415.5 MHz									
2415.5	80.63	PK	V	25.68	3.69	0	110	N/A	N/A
2415.5	64.23	AV	V	25.68	3.69	0	93.6	N/A	N/A
2390	29.16	PK	V	25.61	3.63	0	58.4	74	15.6
2390	16.08	AV	V	25.61	3.63	0	45.32	54	8.68
Additional Channels: 2418.5 MHz									
2418.5	81.12	PK	V	25.69	3.7	0	110.51	N/A	N/A
2418.5	65.71	AV	V	25.69	3.7	0	95.1	N/A	N/A
2390	29.52	PK	V	25.61	3.63	0	58.76	74	15.24
2390	15.98	AV	V	25.61	3.63	0	45.22	54	8.78
Additional Channels: 2423.5 MHz									
2423.5	81.78	PK	V	25.7	3.72	0	111.2	N/A	N/A
2423.5	66.02	AV	V	25.7	3.72	0	95.44	N/A	N/A
2390	29.36	PK	V	25.61	3.63	0	58.6	74	15.4
2390	15.71	AV	V	25.61	3.63	0	44.95	54	9.05
Additional Channels: 2424.5 MHz									
2424.5	82.47	PK	V	25.7	3.72	0	111.89	N/A	N/A
2424.5	66.83	AV	V	25.7	3.72	0	96.25	N/A	N/A
2390	29.42	PK	V	25.61	3.63	0	58.66	74	15.34
2390	15.68	AV	V	25.61	3.63	0	44.92	54	9.08
Additional Channels: 2428.5 MHz									
2428.5	83.71	PK	V	25.71	3.73	0	113.15	N/A	N/A
2428.5	66.94	AV	V	25.71	3.73	0	96.38	N/A	N/A
2390	29.37	PK	V	25.61	3.63	0	58.61	74	15.39
2390	15.62	AV	V	25.61	3.63	0	44.86	54	9.14

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)					
Additional Channels: 2446.5 MHz									
2446.5	82.56	PK	V	25.76	3.78	0	112.1	N/A	N/A
2446.5	64.81	AV	V	25.76	3.78	0	94.35	N/A	N/A
2483.5	30.41	PK	V	25.86	3.67	0	59.94	74	14.06
2483.5	16.74	AV	V	25.86	3.67	0	46.27	54	7.73
Additional Channels: 2449.5 MHz									
2449.5	80.98	PK	V	25.77	3.79	0	110.54	N/A	N/A
2449.5	64.92	AV	V	25.77	3.79	0	94.48	N/A	N/A
2483.5	31.24	PK	V	25.86	3.67	0	60.77	74	13.23
2483.5	17.03	AV	V	25.86	3.67	0	46.56	54	7.44
Additional Channels: 2452.5 MHz									
2452.5	79.03	PK	V	25.78	3.78	0	108.59	N/A	N/A
2452.5	63.18	AV	V	25.78	3.78	0	92.74	N/A	N/A
2483.5	30.74	PK	V	25.86	3.67	0	60.27	74	13.73
2483.5	17.12	AV	V	25.86	3.67	0	46.65	54	7.35
Additional Channels: 2454.5 MHz									
2454.5	77.81	PK	V	25.78	3.77	0	107.36	N/A	N/A
2454.5	62.23	AV	V	25.78	3.77	0	91.78	N/A	N/A
2483.5	30.82	PK	V	25.86	3.67	0	60.35	74	13.65
2483.5	17.09	AV	V	25.86	3.67	0	46.62	54	7.38
Additional Channels: 2456.5 MHz									
2456.5	77.22	PK	V	25.79	3.77	0	106.78	N/A	N/A
2456.5	62.18	AV	V	25.79	3.77	0	91.74	N/A	N/A
2483.5	30.74	PK	V	25.86	3.67	0	60.27	74	13.73
2483.5	16.94	AV	V	25.86	3.67	0	46.47	54	7.53
Additional Channels: 2458.5 MHz									
2458.5	76.84	PK	V	25.79	3.76	0	106.39	N/A	N/A
2458.5	61.53	AV	V	25.79	3.76	0	91.08	N/A	N/A
2483.5	30.82	PK	V	25.86	3.67	0	60.35	74	13.65
2483.5	16.97	AV	V	25.86	3.67	0	46.5	54	7.5
Additional Channels: 2460.5 MHz									
2460.5	75.63	PK	V	25.8	3.75	0	105.18	N/A	N/A
2460.5	60.42	AV	V	25.8	3.75	0	89.97	N/A	N/A
2483.5	30.66	PK	V	25.86	3.67	0	60.19	74	13.81
2483.5	16.84	AV	V	25.86	3.67	0	46.37	54	7.63
Additional Channels: 2465.5 MHz									
2465.5	74.31	PK	V	25.81	3.73	0	103.85	N/A	N/A
2465.5	59.23	AV	V	25.81	3.73	0	88.77	N/A	N/A
2483.5	30.74	PK	V	25.86	3.67	0	60.27	74	13.73
2483.5	16.69	AV	V	25.86	3.67	0	46.22	54	7.78
Additional Channels: 2466.5 MHz									
2466.5	73.61	PK	V	25.81	3.73	0	103.15	N/A	N/A
2466.5	58.39	AV	V	25.81	3.73	0	87.93	N/A	N/A
2483.5	30.56	PK	V	25.86	3.67	0	60.09	74	13.91
2483.5	16.51	AV	V	25.86	3.67	0	46.04	54	7.96

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)					
Additional Channels: 2467.5 MHz									
2467.5	72.78	PK	V	25.82	3.73	0	102.33	N/A	N/A
2467.5	58.56	AV	V	25.82	3.73	0	88.11	N/A	N/A
2483.5	30.94	PK	V	25.86	3.67	0	60.47	74	13.53
2483.5	16.73	AV	V	25.86	3.67	0	46.26	54	7.74
Additional Channels: 2468.5 MHz									
2468.5	71.63	PK	V	25.82	3.72	0	101.17	N/A	N/A
2468.5	57.54	AV	V	25.82	3.72	0	87.08	N/A	N/A
2483.5	30.66	PK	V	25.86	3.67	0	60.19	74	13.81
2483.5	16.58	AV	V	25.86	3.67	0	46.11	54	7.89
Additional Channels: 2470.5 MHz									
2470.5	70.74	PK	V	25.82	3.72	0	100.28	N/A	N/A
2470.5	55.69	AV	V	25.82	3.72	0	85.23	N/A	N/A
2483.5	30.63	PK	V	25.86	3.67	0	60.16	74	13.84
2483.5	16.57	AV	V	25.86	3.67	0	46.1	54	7.9
Additional Channels: 2471.5 MHz									
2471.5	70.13	PK	V	25.83	3.71	0	99.67	N/A	N/A
2471.5	55.62	AV	V	25.83	3.71	0	85.16	N/A	N/A
2483.5	30.59	PK	V	25.86	3.67	0	60.12	74	13.88
2483.5	16.47	AV	V	25.86	3.67	0	46	54	8

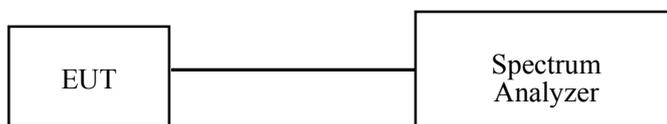
## FCC §15.247(a) (2) – 6dB BANDWIDTH

### Applicable Standard

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

### Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-11-23	2016-11-22
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
R&S	Test Receiver	ESPI	100120	2015-12-10	2016-12-09
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

### Test Data

#### Environmental Conditions

<b>Temperature:</b>	30.4~31.6 °C
<b>Relative Humidity:</b>	48~56 %
<b>ATM Pressure:</b>	100~100.2 kPa

*The testing was performed by Kira Liu 2016-08-01 to 2016-08-09.*

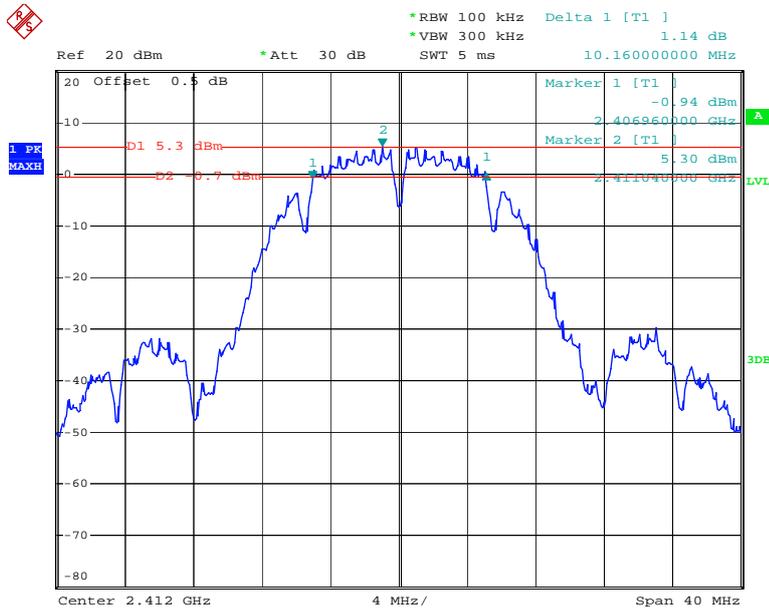
**Test Result:** Compliance.

Please refer to the following tables and plots.

*Test Mode: Transmitting(Test performed at Chain 0)*

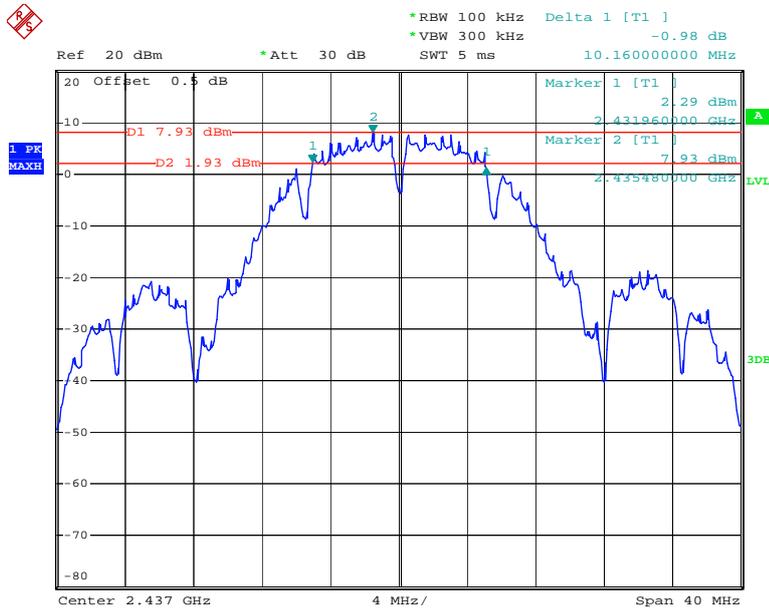
Test mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
802.11b	Low	2412	10.16	$\geq 0.5$
	Middle	2437	10.16	$\geq 0.5$
	High	2462	10.16	$\geq 0.5$
802.11g	Low	2412	16.4	$\geq 0.5$
	Middle	2437	16.4	$\geq 0.5$
	High	2462	16.48	$\geq 0.5$
802.11n20	Low	2412	17.6	$\geq 0.5$
	Middle	2437	17.6	$\geq 0.5$
	High	2462	17.68	$\geq 0.5$
1.4MHz	Low	2403.5	1.11	$\geq 0.5$
	Middle	2441.5	1.13	$\geq 0.5$
	High	2477.5	1.12	$\geq 0.5$
10MHz	Low	2405.5	9.00	$\geq 0.5$
	Middle	2441.5	9.00	$\geq 0.5$
	High	2477.5	9.00	$\geq 0.5$
20MHz	Low	2410.5	18.08	$\geq 0.5$
	Middle	2441.5	18.08	$\geq 0.5$
	High	2472.5	18.00	$\geq 0.5$

### 802.11b Low Channel



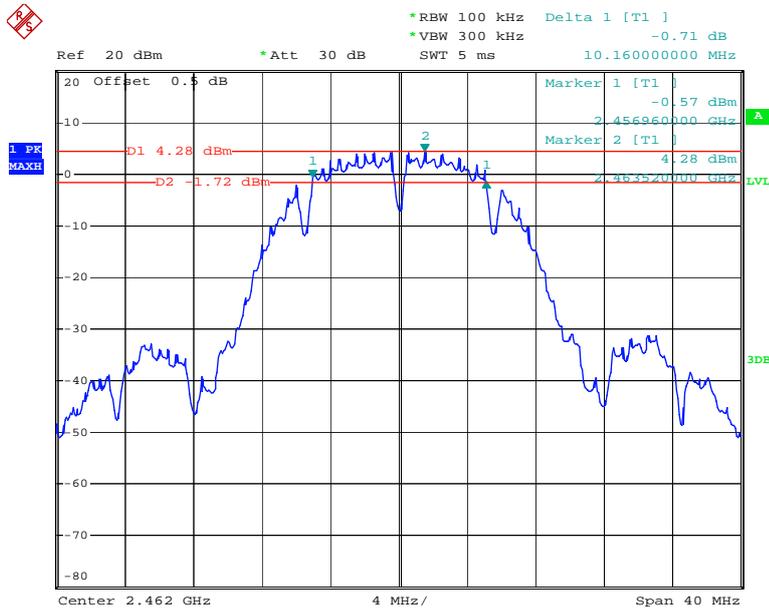
Date: 1.AUG.2016 16:06:44

### 802.11b Middle Channel



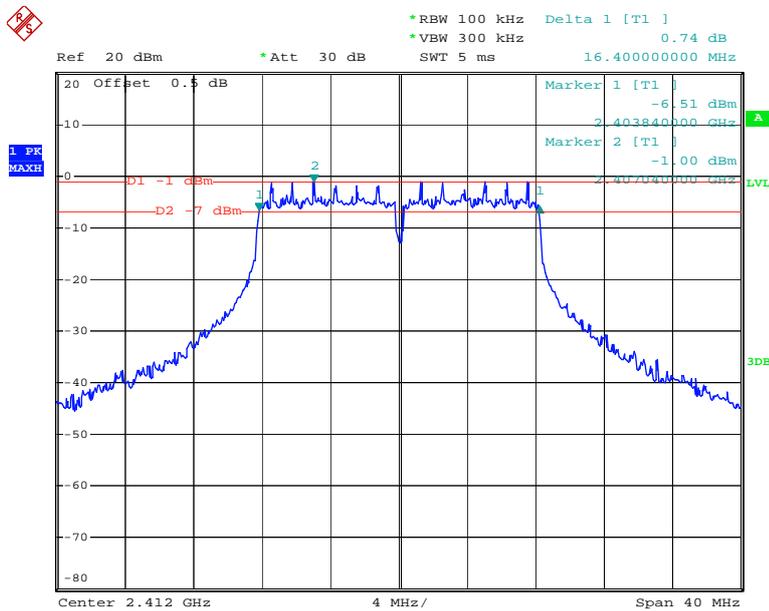
Date: 1.AUG.2016 16:08:17

### 802.11b High Channel



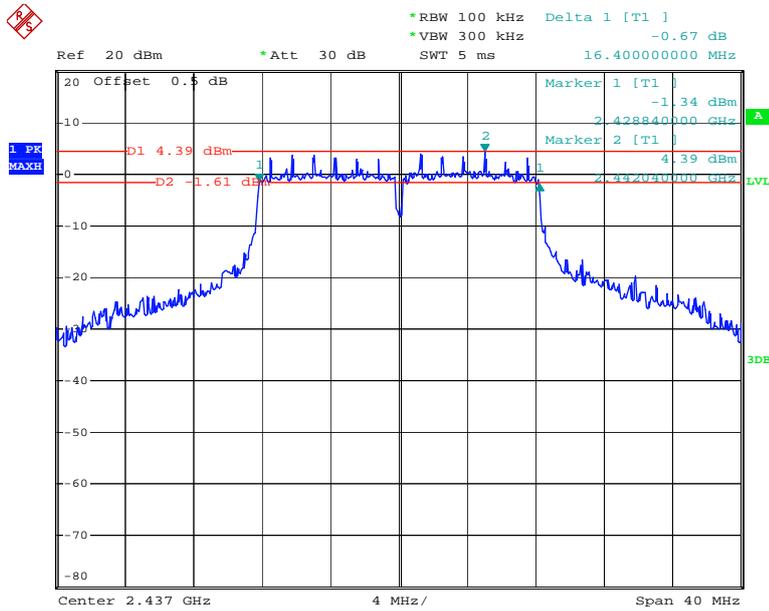
Date: 1.AUG.2016 16:09:31

### 802.11g Low Channel



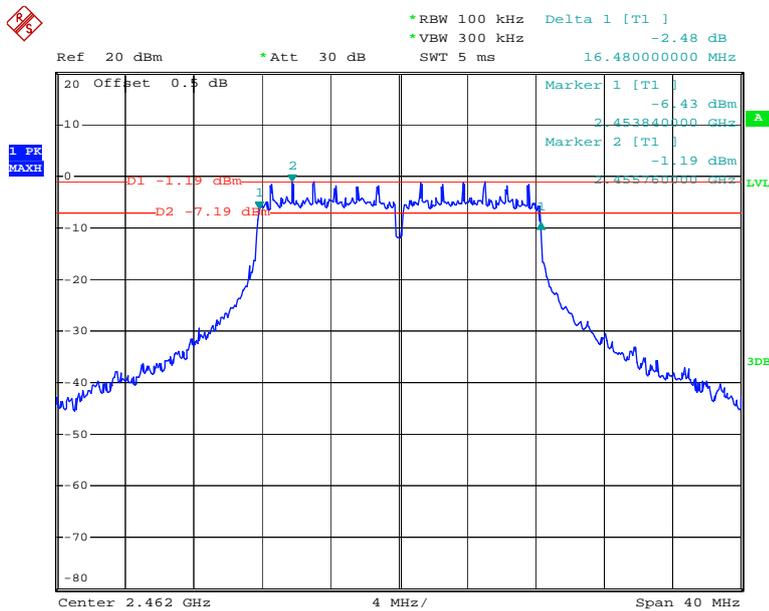
Date: 1.AUG.2016 16:12:10

### 802.11g Middle Channel



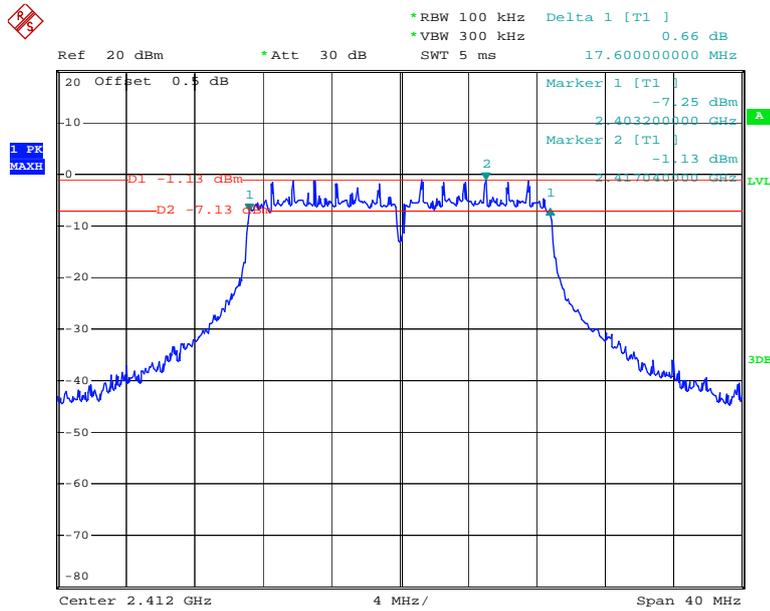
Date: 1.AUG.2016 16:13:40

### 802.11g High Channel



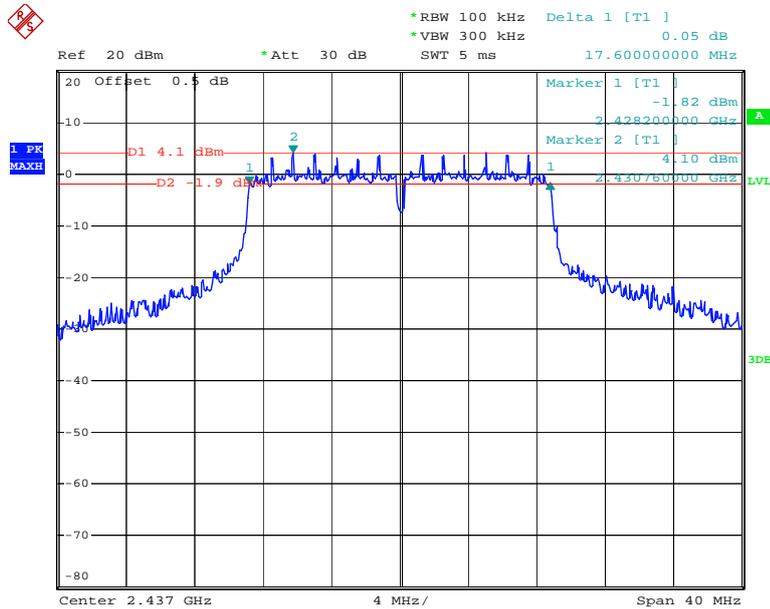
Date: 1.AUG.2016 17:27:41

### 802.11n ht20 Low Channel



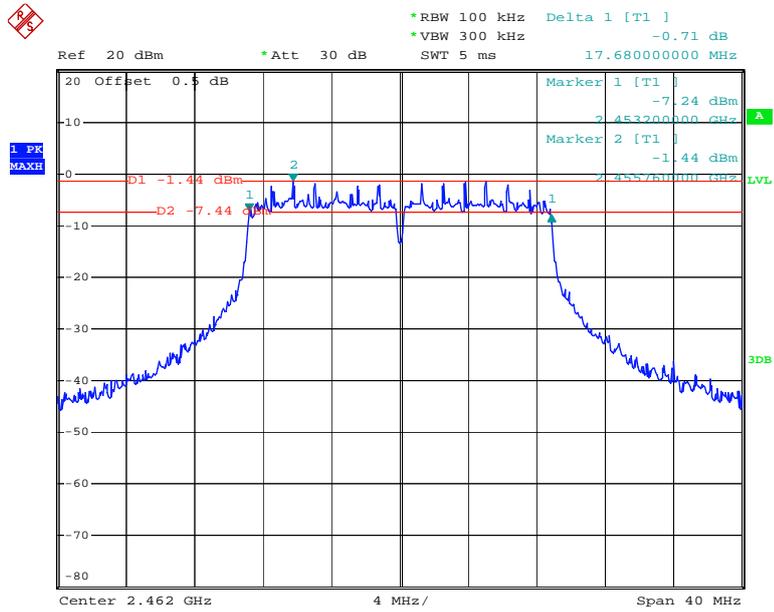
Date: 1.AUG.2016 16:25:23

### 802.11n ht20 Middle Channel



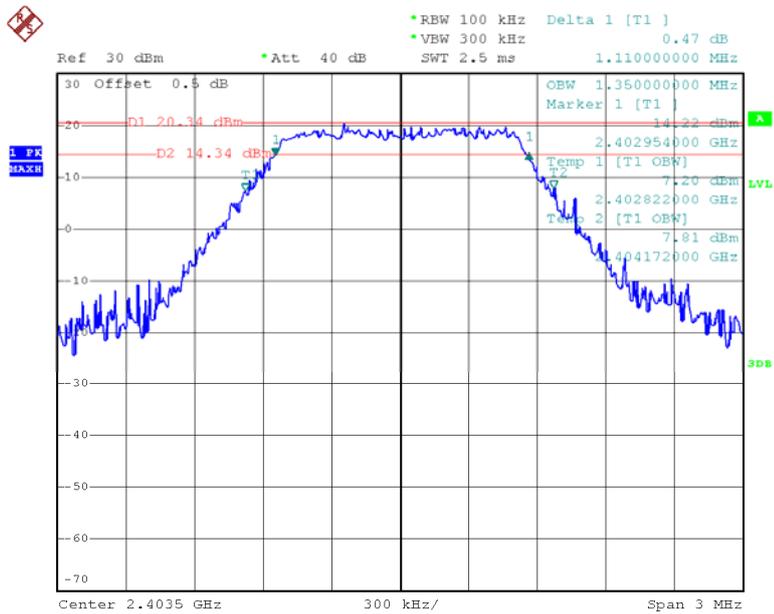
Date: 1.AUG.2016 16:27:12

### 802.11n ht20 High Channel



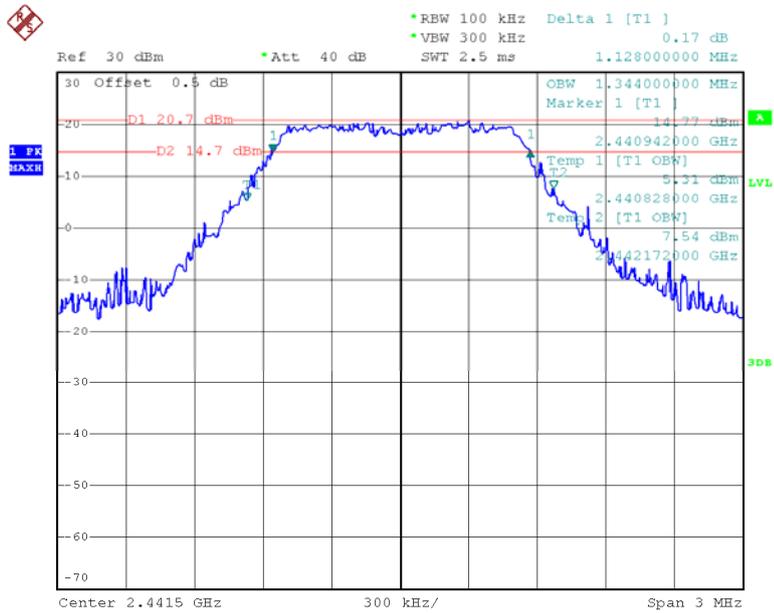
Date: 1.AUG.2016 16:28:32

### 1.4M Low Channel



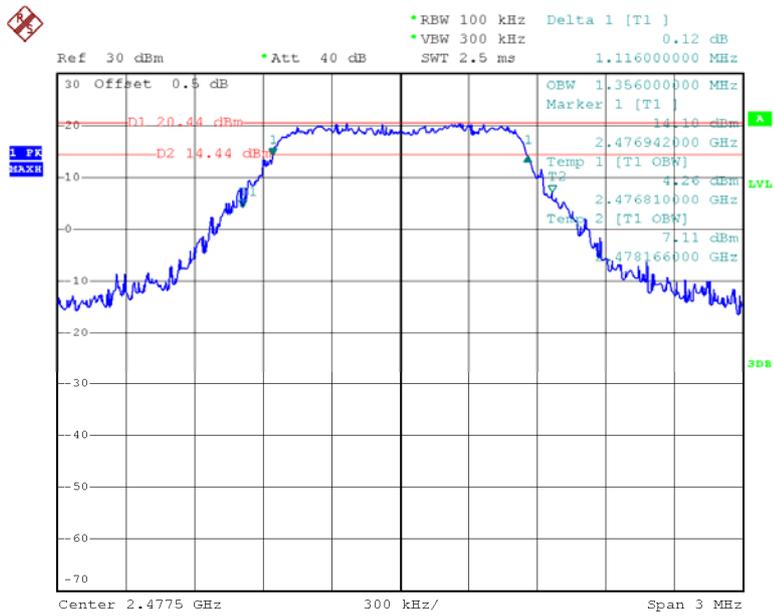
Date: 9.AUG.2016 10:22:48

### 1.4M Middle Channel



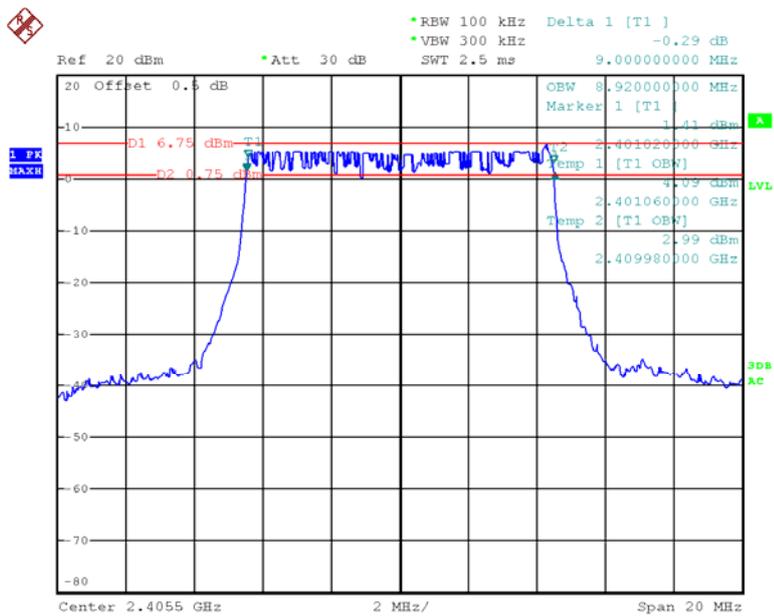
Date: 9.AUG.2016 09:34:03

### 1.4M High Channel



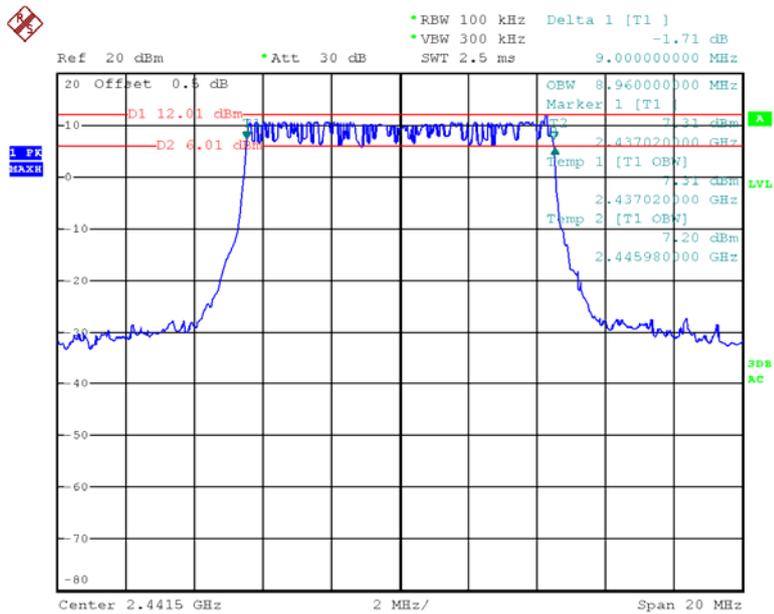
Date: 9.AUG.2016 09:37:58

### 10M Low Channel



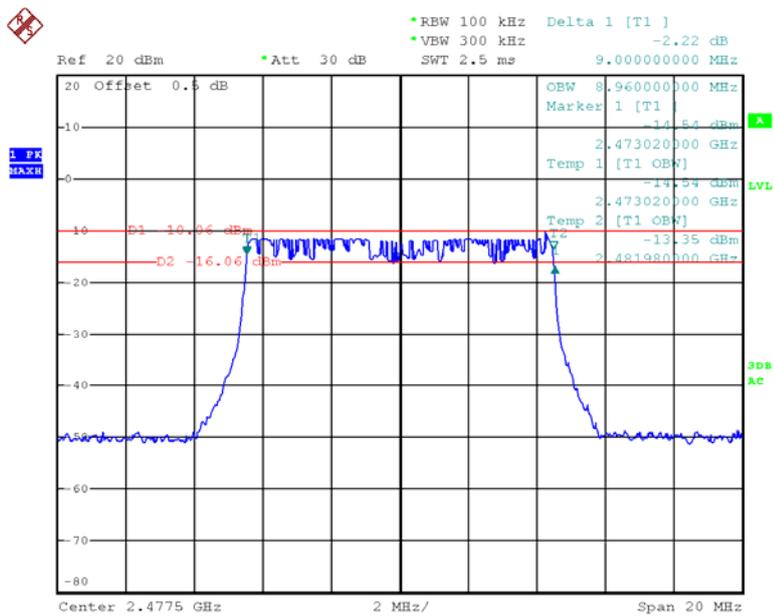
Date: 4.AUG.2016 18:41:44

### 10M Middle Channel



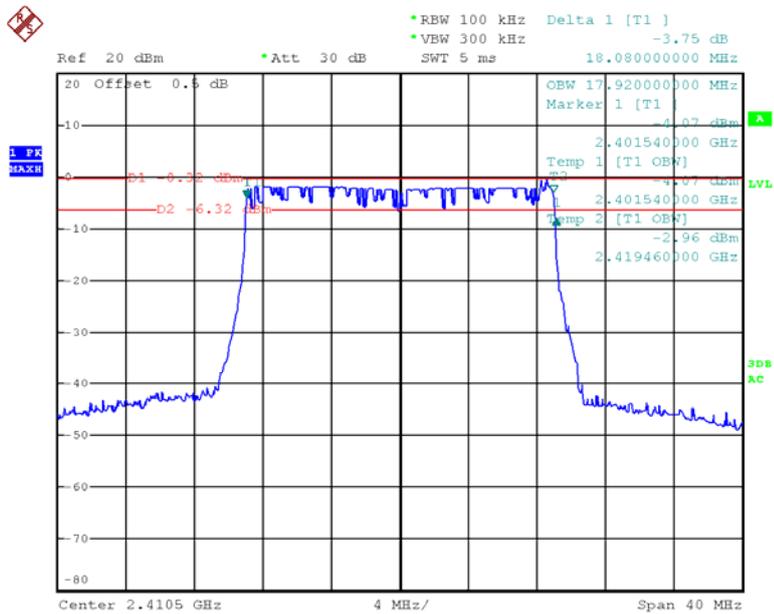
Date: 4.AUG.2016 18:44:37

### 10M High Channel



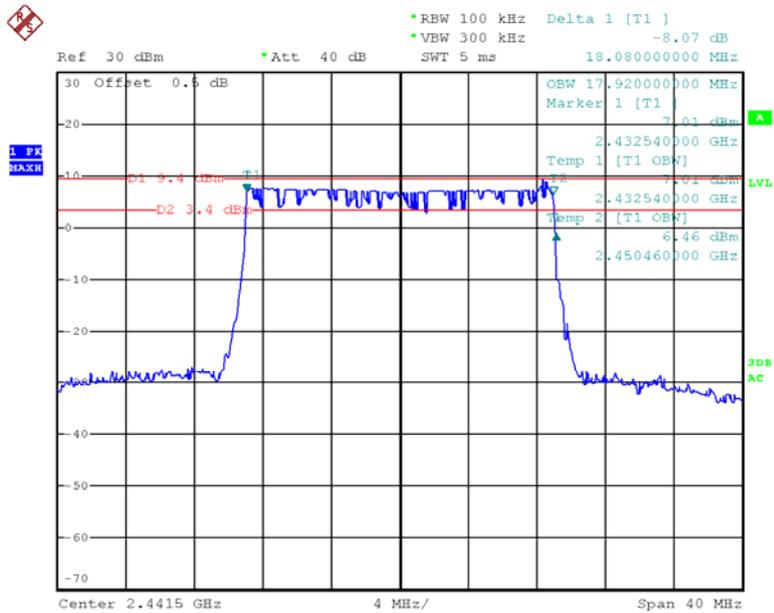
Date: 4.AUG.2016 18:46:51

### 20M Low Channel



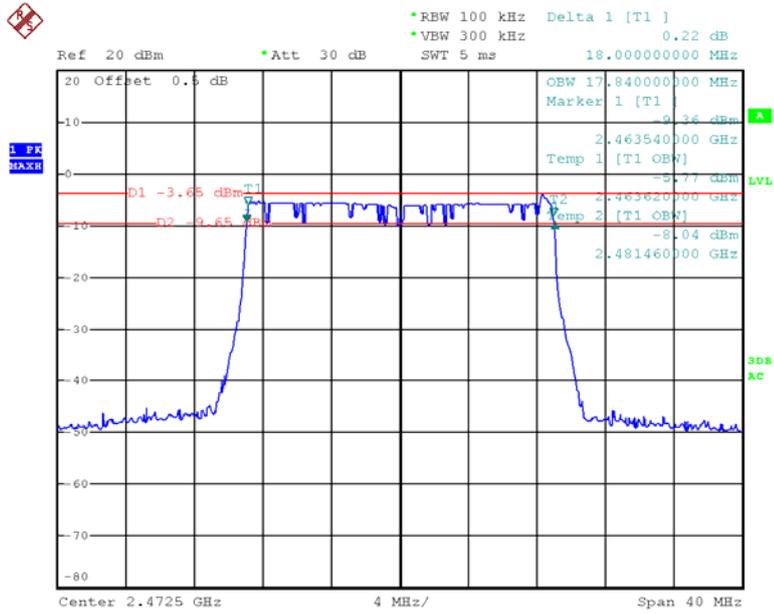
Date: 4.AUG.2016 19:05:56

### 20M Middle Channel



Date: 4.AUG.2016 19:08:13

### 20M High Channel



Date: 4.AUG.2016 19:10:30

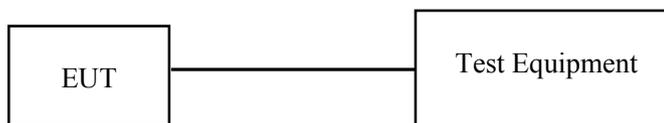
## FCC §15.247(b) (3) - MAXIMUM PEAK CONDUCTED OUTPUT POWER

### 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 a Test Equipment.



### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54210016	2015-11-03	2016-11-03
Agilent	Wideband Power Sensor	N1921A	MY54170013	2015-11-03	2016-11-03
Agilent	P-Series Power Meter	N1912A	MY5000448	2015-11-03	2016-11-03
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

**Test Data****Environmental Conditions**

<b>Temperature:</b>	30.4 °C
<b>Relative Humidity:</b>	48%
<b>ATM Pressure:</b>	100 kPa

The testing was performed by Kira Liu 2016-08-01.

Test Mode: Transmitting

Test Mode	Frequency	Conducted Peak Output Power (dBm)			Limits
	(MHz)	Chain 0	Chain 1	Total	(dBm)
802.11b	2412	19.03	17.26	21.24	30
	2417	20.58	20.46	23.53	30
	2437	21.77	20.4	24.15	30
	2457	19.87	20.06	22.98	30
	2462	18.41	16.78	20.68	30
802.11g	2412	16.64	15.42	19.08	30
	2417	18.29	18.08	21.20	30
	2422	21.35	20.59	24.00	30
	2437	21.51	20.66	24.12	30
	2452	21.42	20.19	23.86	30
	2457	18.95	18.23	21.62	30
802.11n 20	2462	16.03	14.83	18.48	30
	2412	16.15	14.84	18.55	30
	2417	18.42	18.08	21.26	30
	2422	21.07	20.42	23.77	30
	2437	21.32	20.43	23.91	30
	2452	21.06	20.33	23.72	30
	2457	18.69	18.44	21.58	30
2462	15.91	14.52	18.28	30	

Note: 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 NANT ≤ 4;

So:

Directional gain = GANT + Array Gain = 3.93dBi < 6dBi

Test Mode	Frequency	Conducted Peak Output Power (dBm)		Limits
	(MHz)	Chain 0	Chain 1	(dBm)
1.4M	2403.5	28.96	28.81	30
	2441.5	29.42	29.18	30
	2477.5	29.60	29.42	30
10M	2405.5	23.62	23.41	30
	2406.5	24.58	23.99	30
	2407.5	25.41	24.73	30
	2408.5	26.14	25.56	30
	2409.5	27.01	26.21	30
	2411.5	27.88	27.08	30
	2441.5	28.57	28.05	30
	2462.5	27.92	27.41	30
	2464.5	27.02	26.43	30
	2466.5	26.31	25.54	30
	2468.5	25.46	24.69	30
	2469.5	24.83	23.68	30
	2470.5	23.99	22.81	30
	2471.5	22.82	21.56	30
	2472.5	20.72	19.87	30
	2473.5	18.31	17.95	30
	2474.5	17.06	17.06	30
	2475.5	15.95	16.21	30
2476.5	14.84	15.02	30	
2477.5	6.41	7.02	30	
20M	2410.5	23.89	23.77	30
	2411.5	24.58	24.51	30
	2412.5	25.33	25.20	30
	2413.5	26.01	26.02	30
	2414.5	26.91	26.51	30
	2415.5	27.66	27.31	30
	2418.5	28.24	27.98	30
	2423.5	28.91	28.63	30
	2424.5	29.34	29.01	30
	2428.5	29.52	29.55	30
	2441.5	29.43	29.58	30
	2446.5	29.42	29.57	30
	2449.5	28.67	28.84	30
	2452.5	27.83	28.05	30
	2454.5	26.99	27.47	30
	2456.5	26.06	26.87	30
	2458.5	25.21	26.01	30
	2460.5	24.49	25.33	30
	2465.5	23.87	24.84	30
	2466.5	23.01	24.09	30
2467.5	22.35	23.34	30	
2468.5	21.69	22.67	30	
2470.5	21.03	21.69	30	
2471.5	20.68	21.02	30	
2472.5	20.31	20.30	30	

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

### Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

### Test Procedure

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

### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	DE23437	2015-11-23	2016-11-22
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
R&S	Test Receiver	ESPI	100120	2015-12-10	2016-12-09
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

### Test Data

#### Environmental Conditions

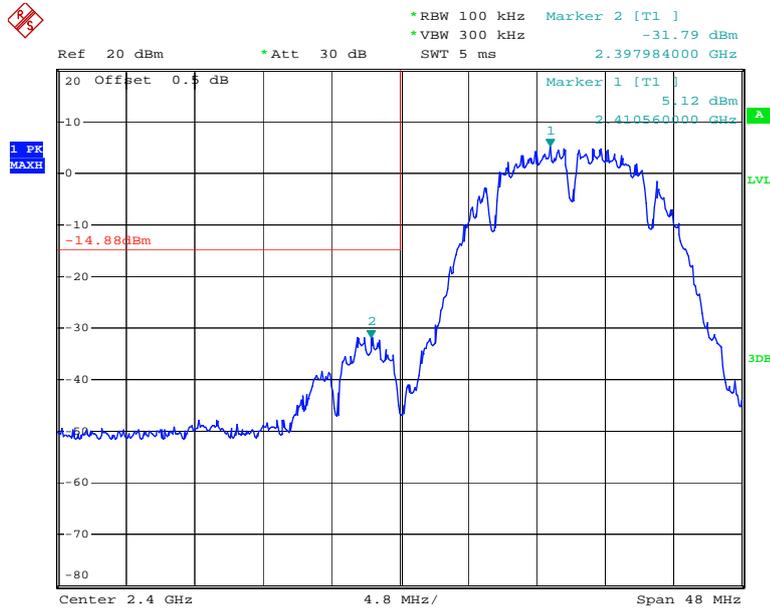
<b>Temperature:</b>	30.2~30.4 °C
<b>Relative Humidity:</b>	48~52 %
<b>ATM Pressure:</b>	99.7~100 kPa

*The testing was performed by Kira Liu from 2016-08-01 to 2016-08-09.*

*Test mode: Transmitting*

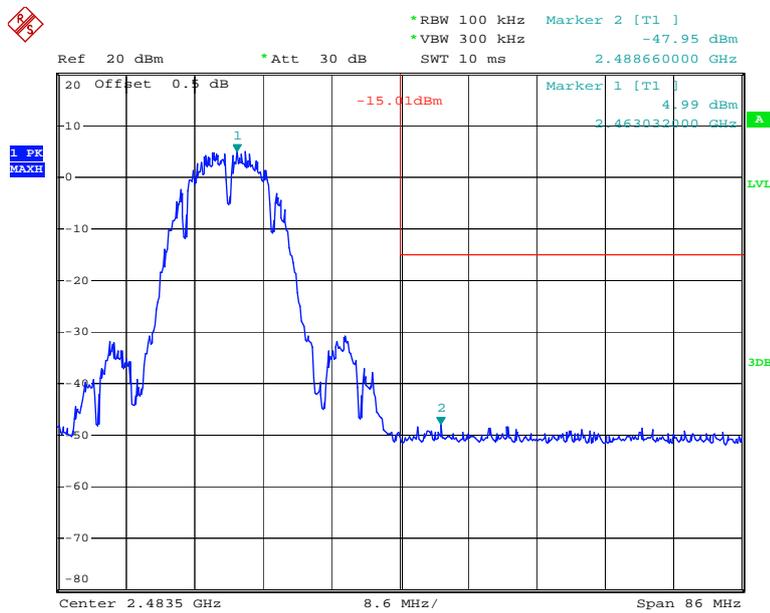
Test Result: Compliant. Please refer to following plots.

### Chain 0-802.11b Band Edge, Left Side



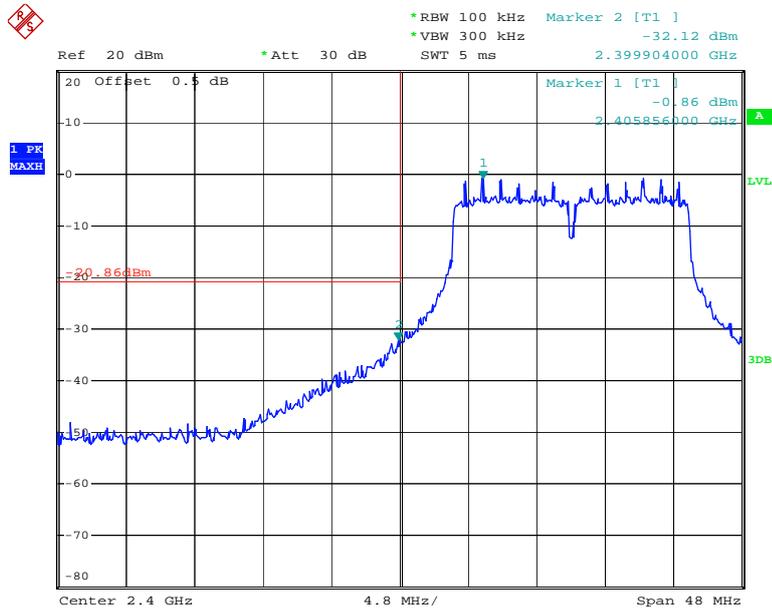
Date: 1.AUG.2016 16:07:33

### Chain 0-802.11b Band Edge, Right Side



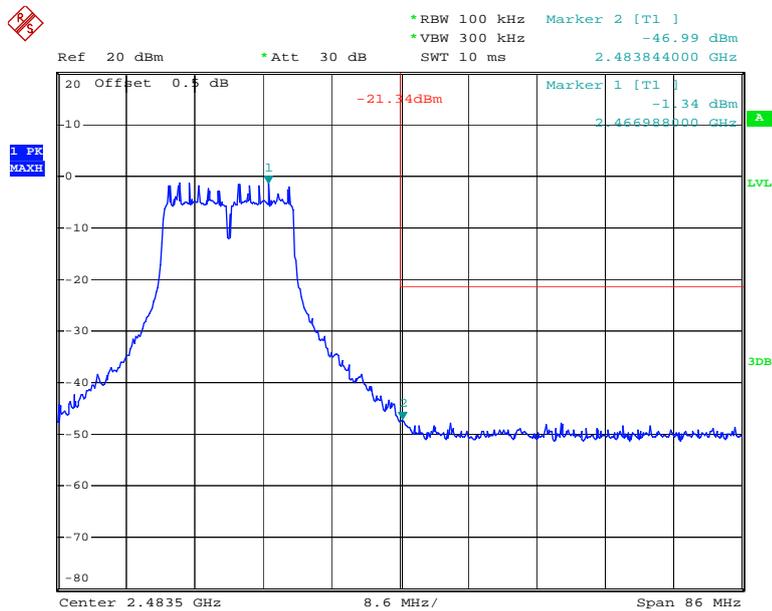
Date: 1.AUG.2016 16:10:15

**Chain 0-802.11g Band Edge, Left Side**



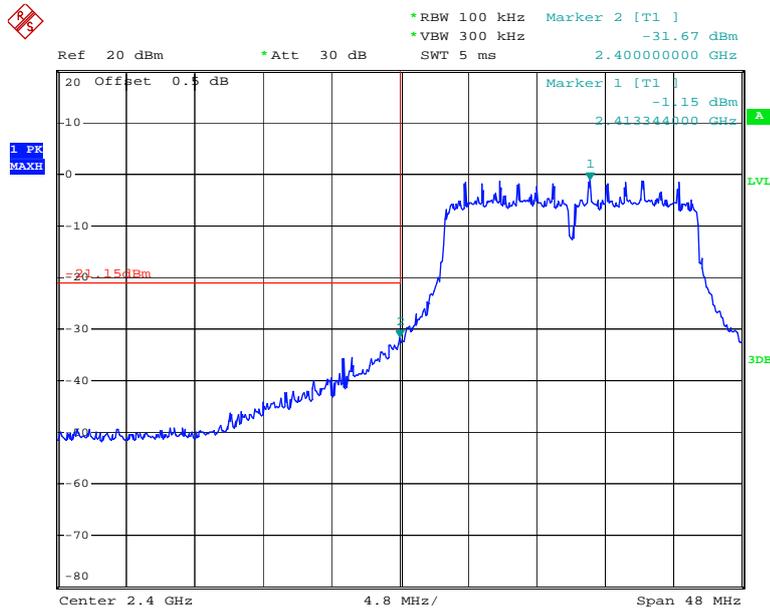
Date: 1.AUG.2016 16:12:57

**Chain 0-802.11g Band Edge, Right Side**



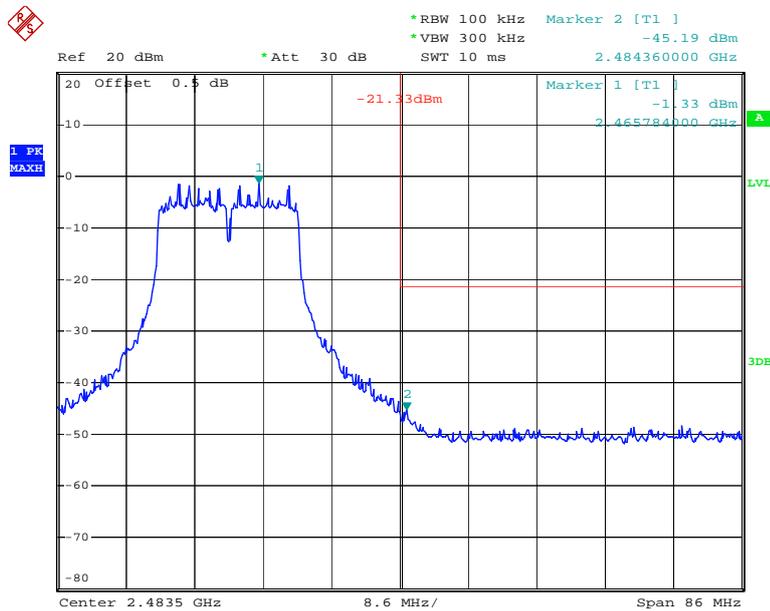
Date: 1.AUG.2016 16:16:05

**Chain 0-802.11n ht20 Band Edge, Left Side**



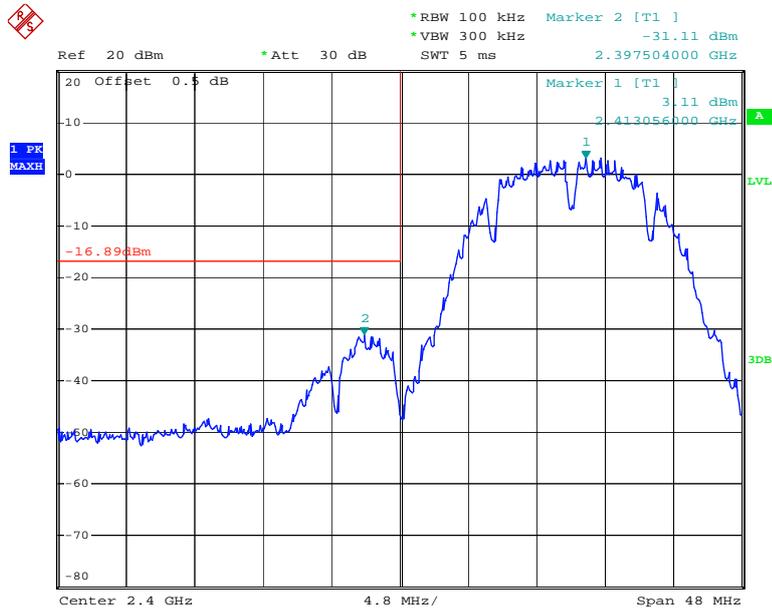
Date: 1.AUG.2016 16:26:21

**Chain 0-802.11n ht20 Band Edge, Right Side**



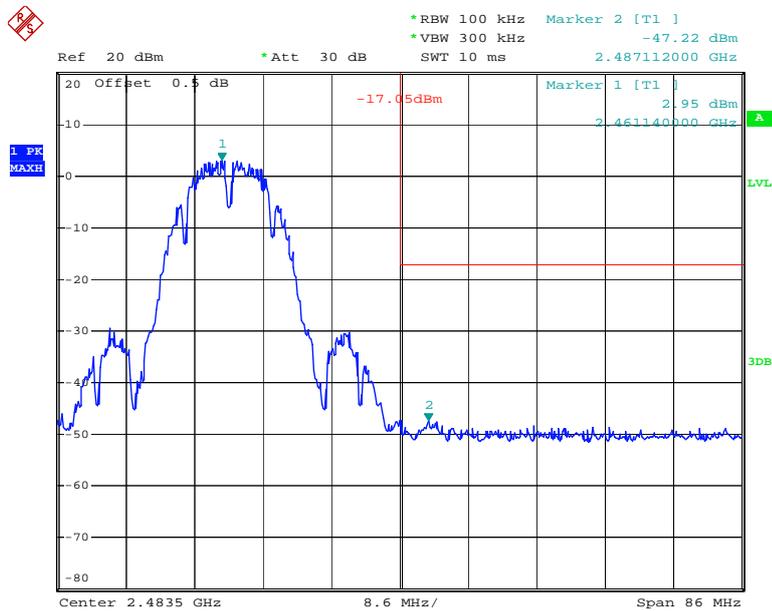
Date: 1.AUG.2016 16:29:21

### Chain 1-802.11b Band Edge, Left Side



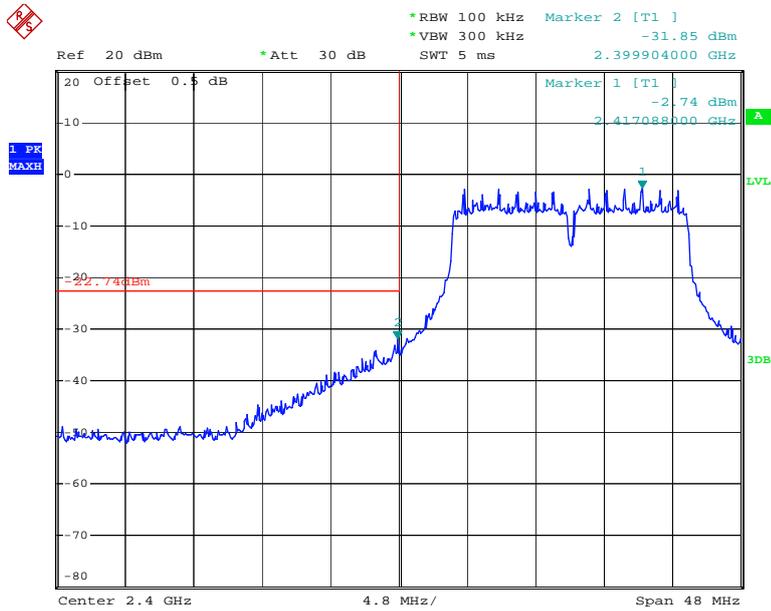
Date: 1.AUG.2016 16:33:32

### Chain 1-802.11b Band Edge, Right Side



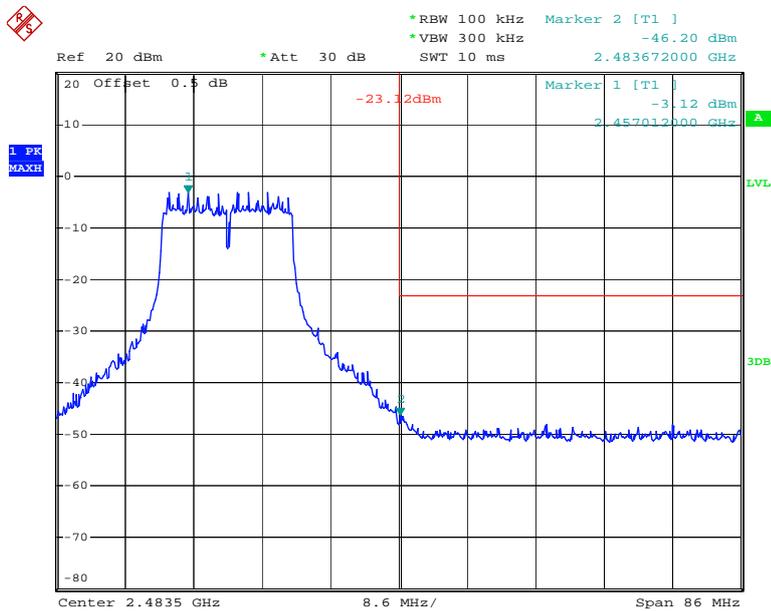
Date: 1.AUG.2016 16:36:25

### Chain 1-802.11g Band Edge, Left Side



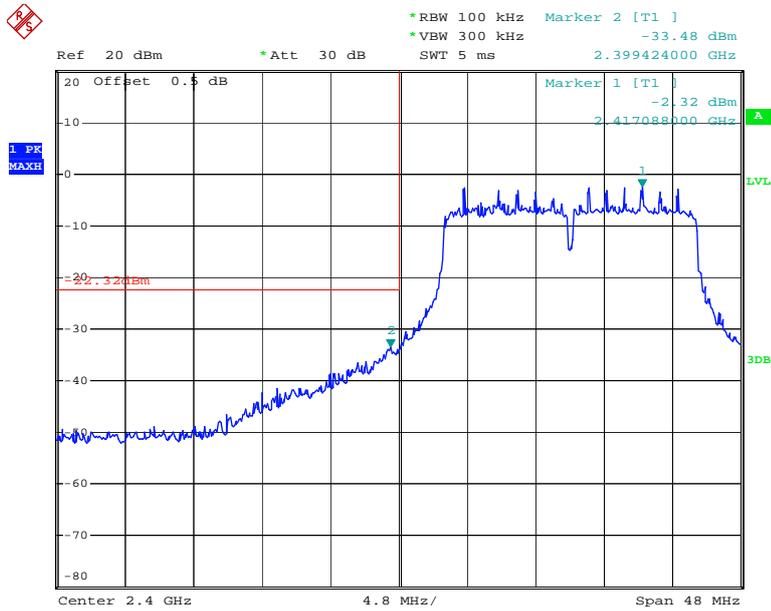
Date: 1.AUG.2016 16:40:44

### Chain 1-802.11g Band Edge, Right Side



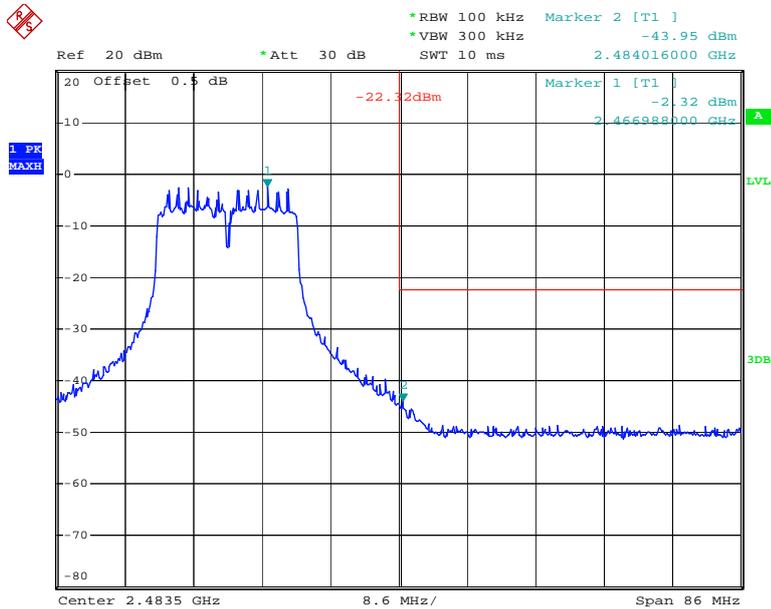
Date: 1.AUG.2016 16:43:56

### Chain 1-802.11n ht20 Band Edge, Left Side



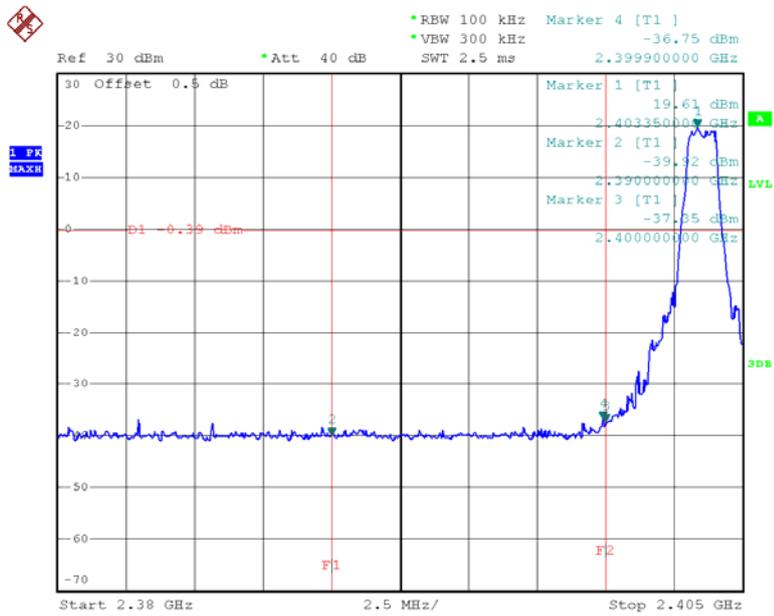
Date: 1.AUG.2016 16:45:33

### Chain 1-802.11n ht20 Band Edge, Right Side



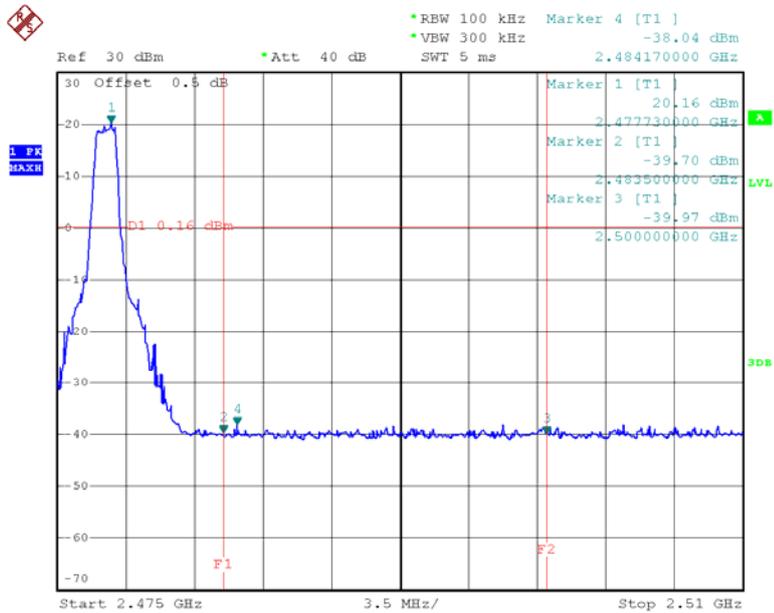
Date: 1.AUG.2016 16:49:01

**Chain 0-1.4M Band Edge, Left Side**



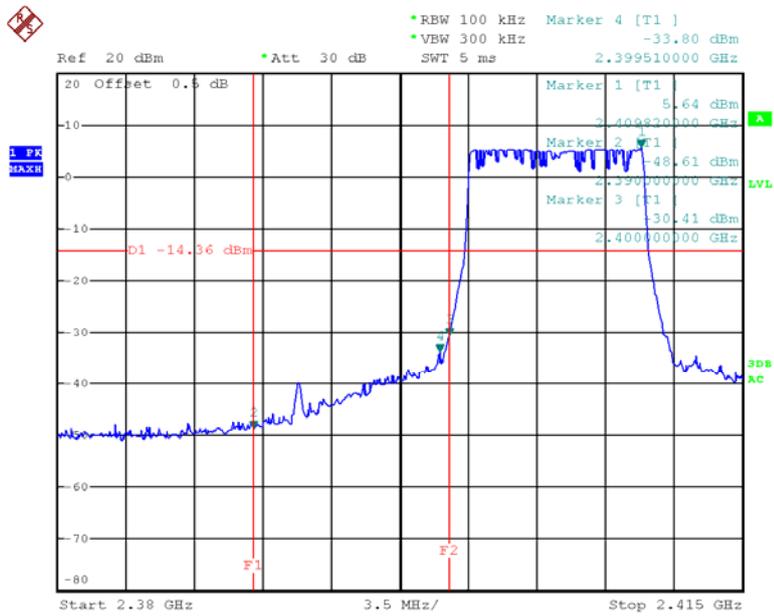
Date: 9.AUG.2016 09:45:01

**Chain 0-1.4M Band Edge, Right Side**



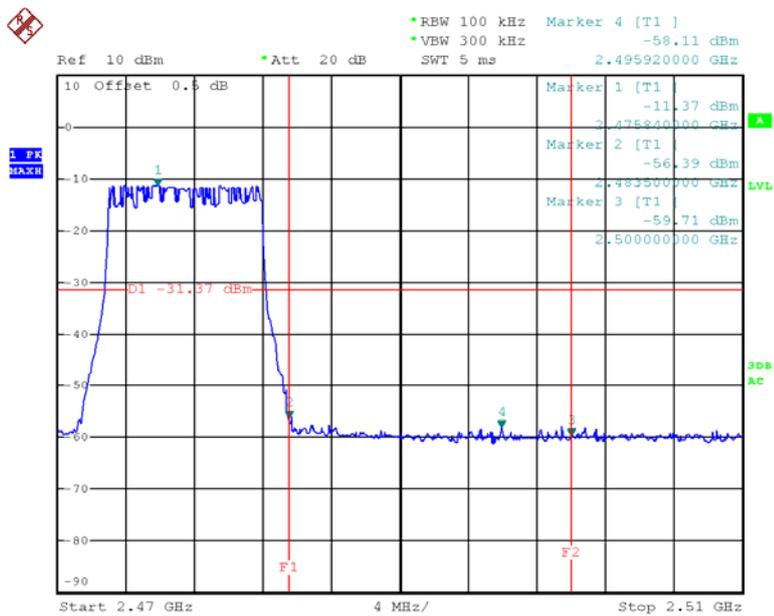
Date: 9.AUG.2016 09:41:02

### Chain 0-10M Band Edge, Left Side



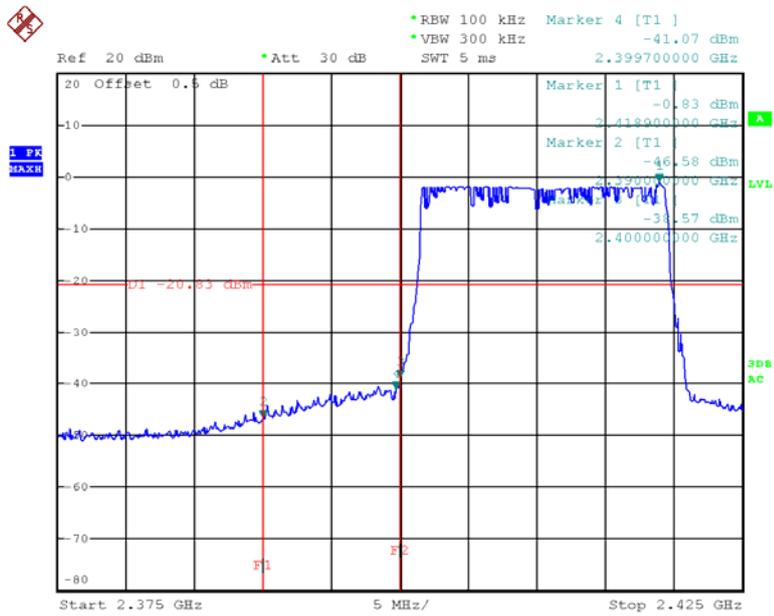
Date: 4.AUG.2016 18:52:11

### Chain 0-10M Band Edge, Right Side



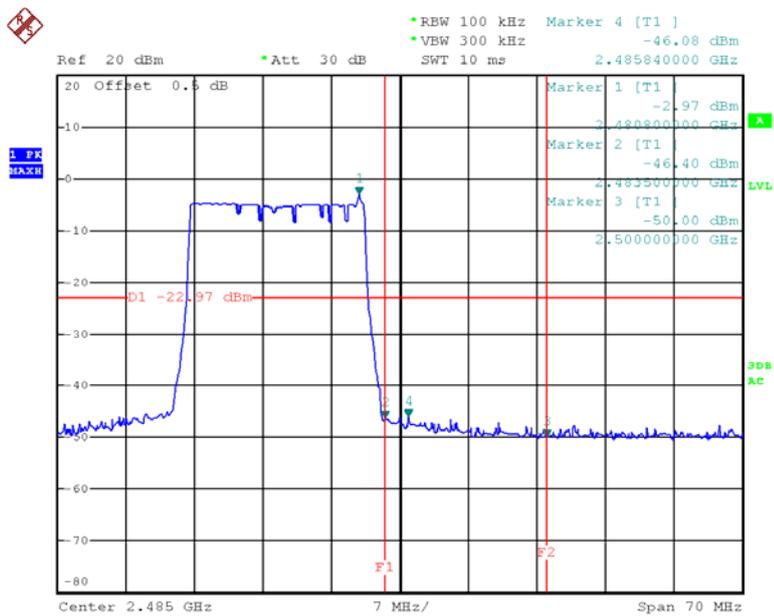
Date: 4.AUG.2016 18:49:36

**Chain 0-20M Band Edge, Left Side**



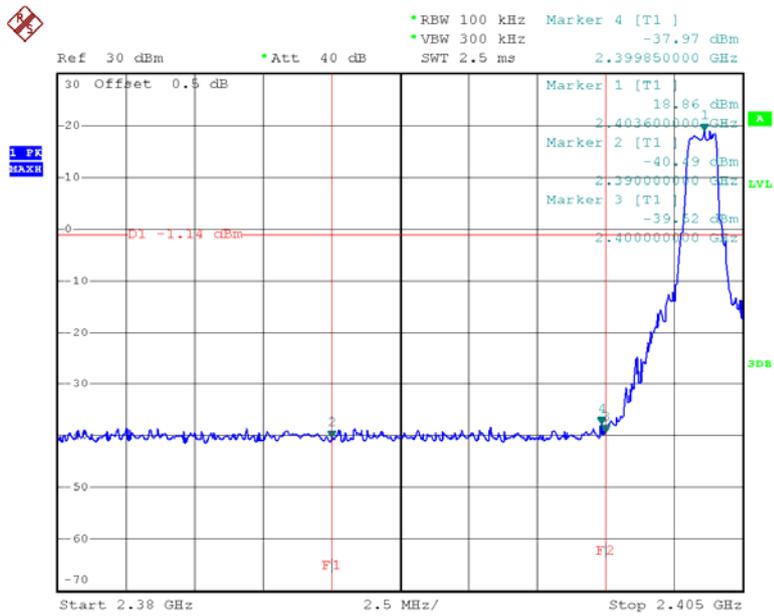
Date: 4.AUG.2016 19:54:47

**Chain 0-20M Band Edge, Right Side**



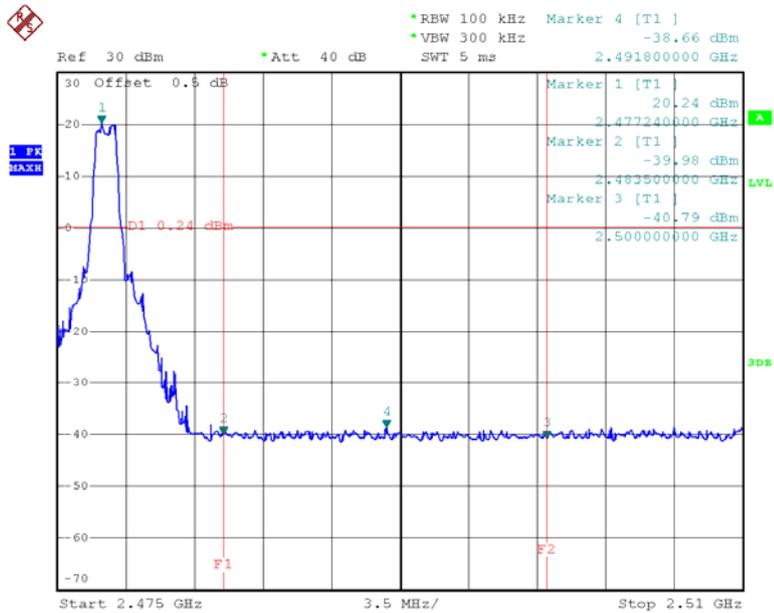
Date: 4.AUG.2016 19:52:49

**Chain 1-1.4M Band Edge, Left Side**



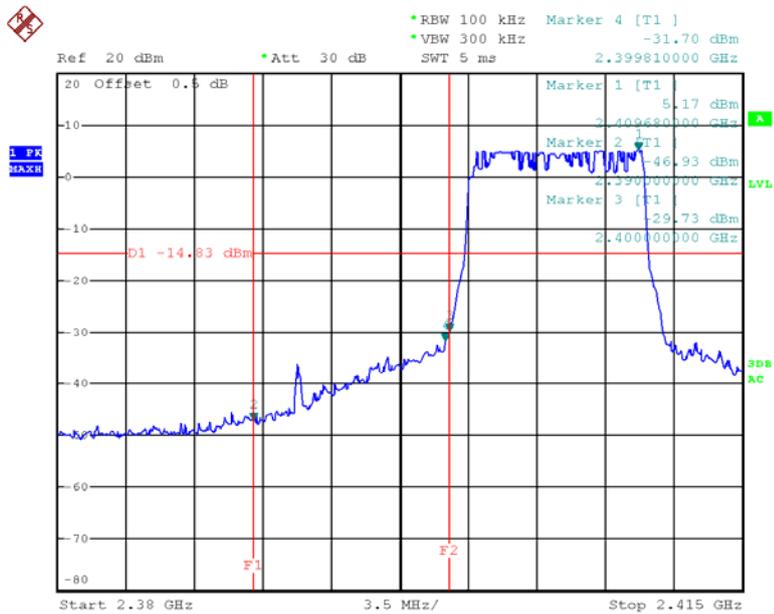
Date: 9.AUG.2016 10:09:42

**Chain 1-1.4M Band Edge, Right Side**



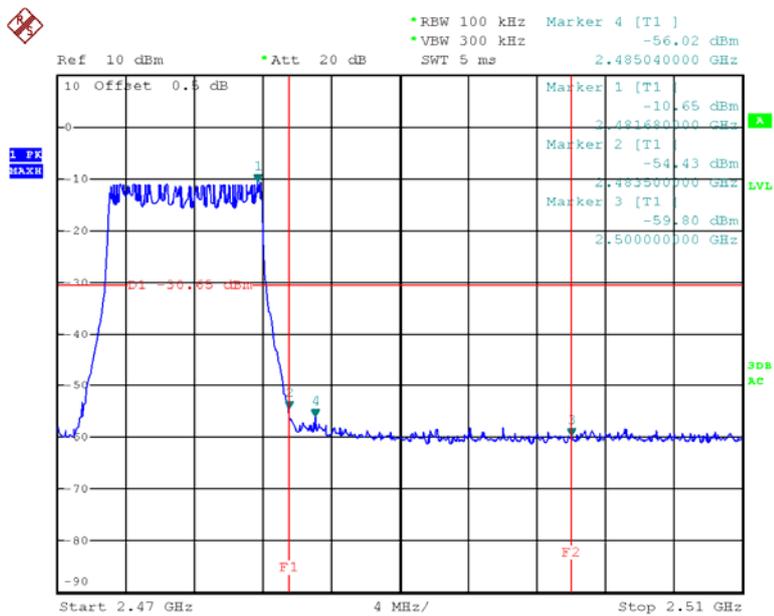
Date: 9.AUG.2016 10:07:19

### Chain 1-10M Band Edge, Left Side



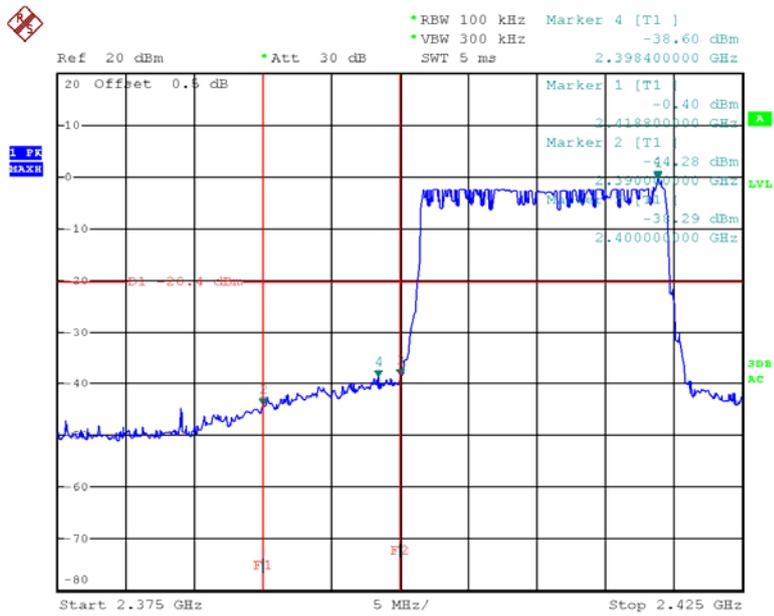
Date: 4.AUG.2016 21:12:24

### Chain 1-10M Band Edge, Right Side



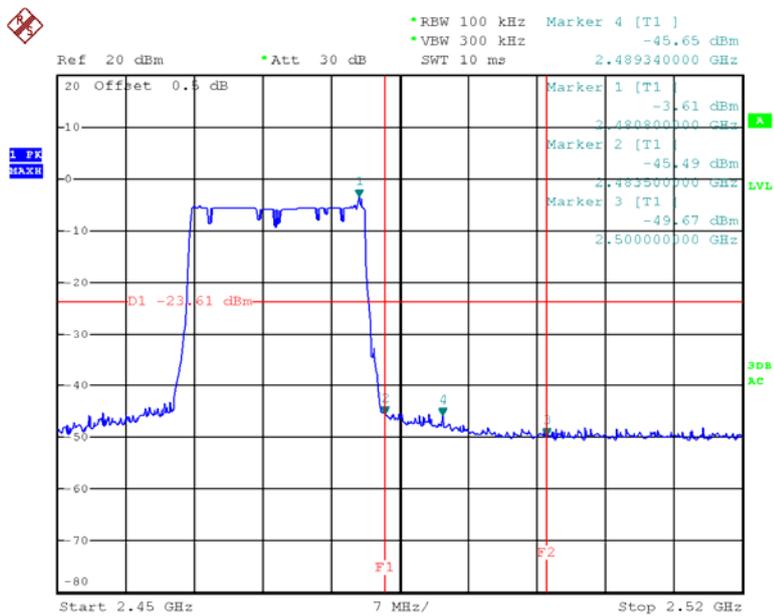
Date: 4.AUG.2016 21:13:49

### Chain 1-20M Band Edge, Left Side



Date: 4.AUG.2016 20:46:09

### Chain 1-20M Band Edge, Right Side



Date: 4.AUG.2016 20:44:10

## FCC §15.247(e) - POWER SPECTRAL DENSITY

### Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

### Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set the RBW = 3 kHz, VBW = 10 kHz, Set the span to 1.5 times the DTS bandwidth.
4. Use the peak marker function to determine the maximum amplitude level.

### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	DE23437	2015-11-23	2016-11-22
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
R&S	Test Receiver	ESPI	100120	2015-12-10	2016-12-09
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

### Test Data

#### Environmental Conditions

<b>Temperature:</b>	30.2~30.4 °C
<b>Relative Humidity:</b>	48~52 %
<b>ATM Pressure:</b>	99.7~100 kPa

*The testing was performed by Kira Liu from 2016-08-01 to 2016-08-09.*

**Test Result: Compliance**

*Test Mode: Transmitting*

Test mode	Channel	Frequency MHz	Power Spectral Density (dBm/3kHz)			Limits dBm/3kHz	Result
			Chain 0	Chain 1	Total		
802.11b	Low	2412	-10.12	-11.95	-7.93	7.07	Compliance
	Middle	2437	-7.95	-9.1	-5.48	7.07	Compliance
	High	2462	-10.56	-12.21	-8.3	7.07	Compliance
802.11g	Low	2412	-17.25	-18.8	-14.95	7.07	Compliance
	Middle	2437	-11.33	-12.72	-8.96	7.07	Compliance
	High	2462	-17.19	-18.86	-14.93	7.07	Compliance
802.11n20	Low	2412	-16.71	-17.7	-14.17	7.07	Compliance
	Middle	2437	-11.44	-12.83	-9.07	7.07	Compliance
	High	2462	-17.24	-17.61	-14.41	7.07	Compliance

Note: 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:

$$\text{Array Gain} = 10 \log(\text{NANT/NSS}) \text{ dB.}$$

So:

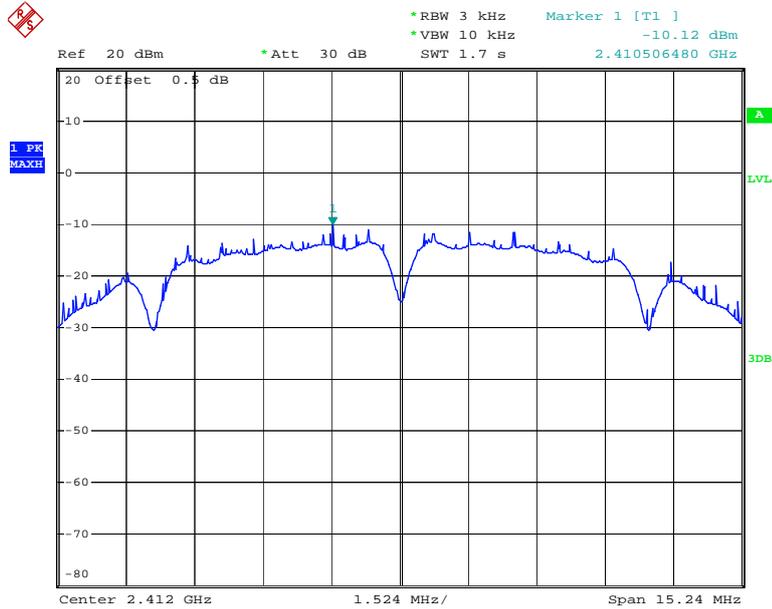
$$\text{Directional gain} = \text{GANT} + \text{Array Gain} = 3.93 + 10 * \log(2) = 6.93 \text{ dBi}$$

The Power density Limits was reduce 0.93dB

Test mode	Channel	Frequency MHz	Power Spectral Density (dBm/3kHz)		Limits dBm/3kHz	Result
			Chain 0	Chain 1		
1.4MHz	Low	2403.5	3.74	4.05	8	Compliance
	Middle	2441.5	4.81	4.33	8	Compliance
	High	2477.5	4.74	5.11	8	Compliance
10MHz	Low	2405.5	-12.96	-13.33	8	Compliance
	Middle	2441.5	-7.60	-8.15	8	Compliance
	High	2477.5	-29.73	-28.97	8	Compliance
20MHz	Low	2410.5	-18.25	-16.49	8	Compliance
	Middle	2441.5	-9.48	-7.80	8	Compliance
	High	2472.5	-22.14	-20.88	8	Compliance

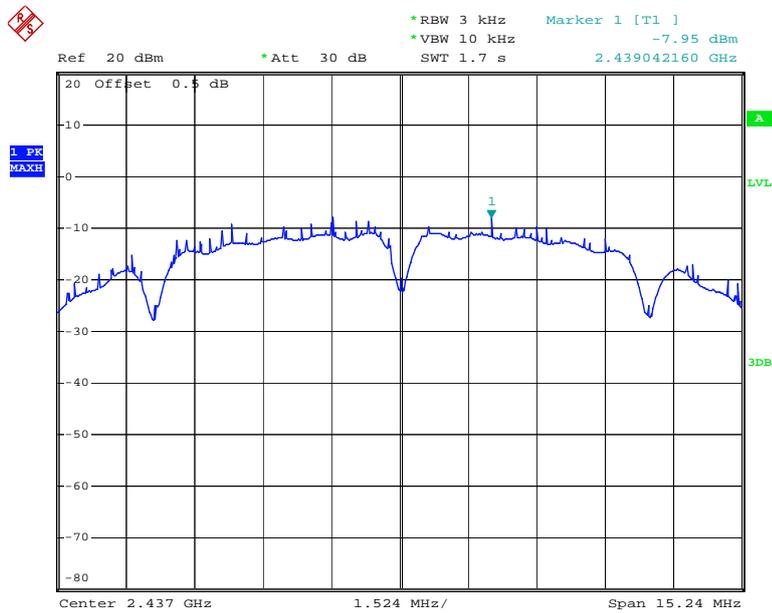
Please refer to the following plots

### Chain 0-Power Spectral Density, 802.11b Low Channel



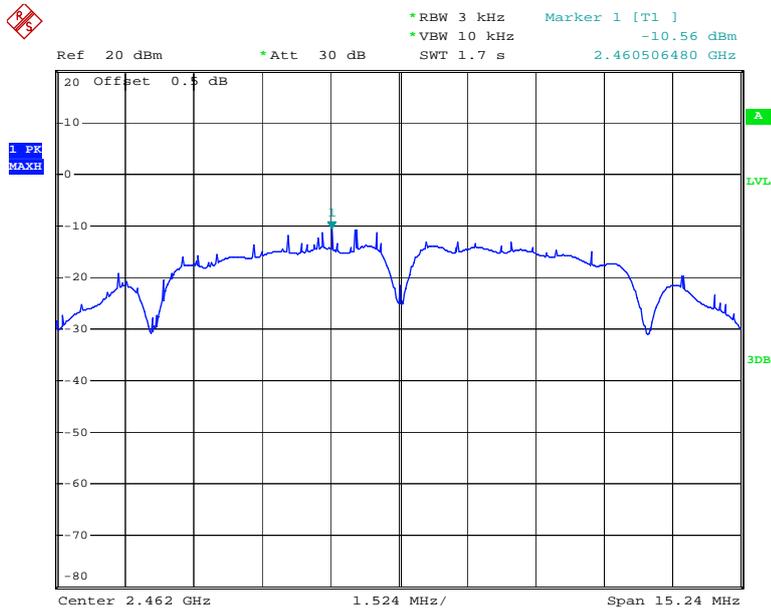
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### Chain 0-Power Spectral Density, 802.11b Middle Channel



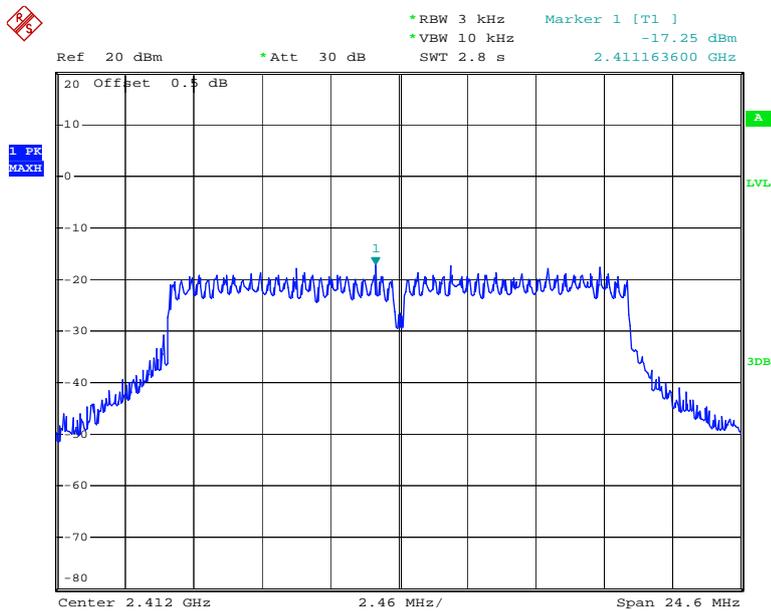
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### Chain 0-Power Spectral Density, 802.11b High Channel



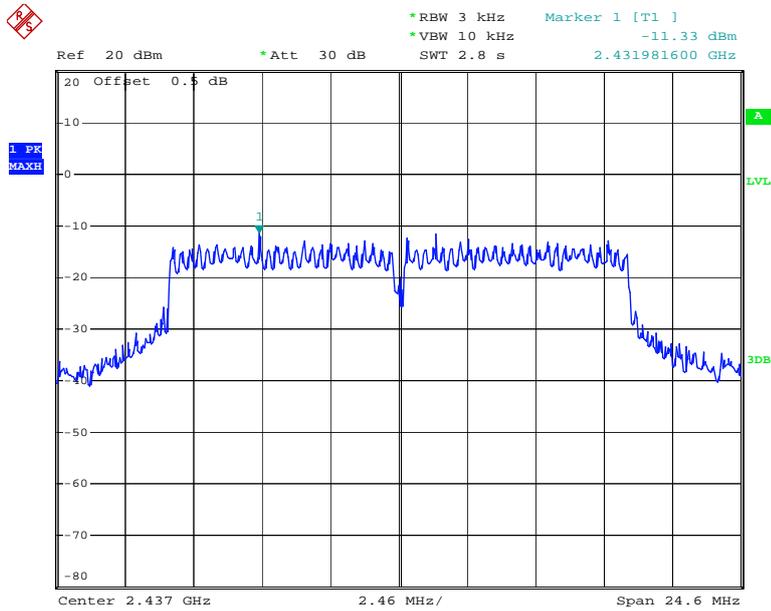
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### Chain 0-Power Spectral Density, 802.11g Low Channel



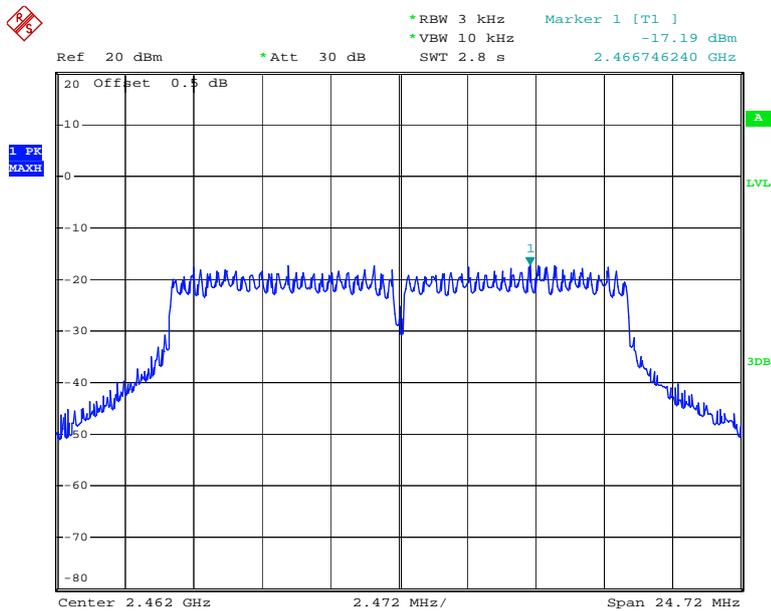
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### Chain 0-Power Spectral Density, 802.11g Middle Channel



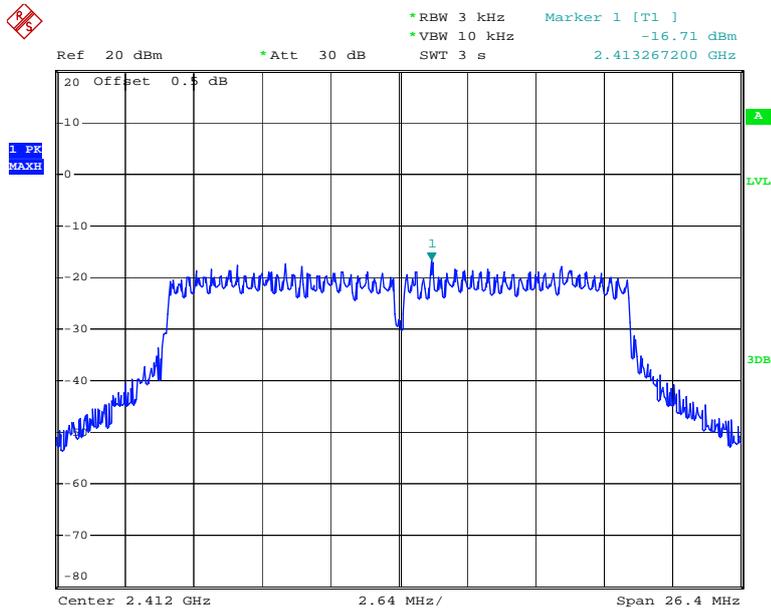
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### Chain 0-Power Spectral Density, 802.11g High Channel



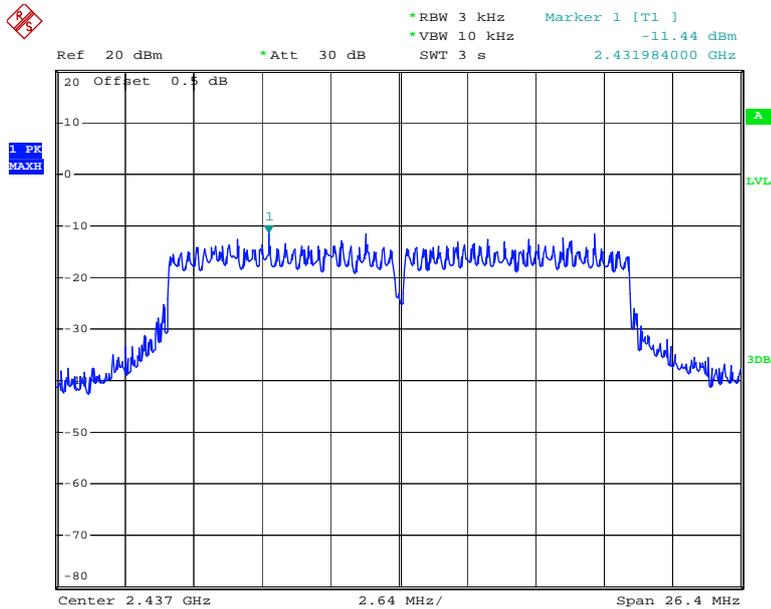
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### Chain 0-Power Spectral Density, 802.11n ht20 Low Channel



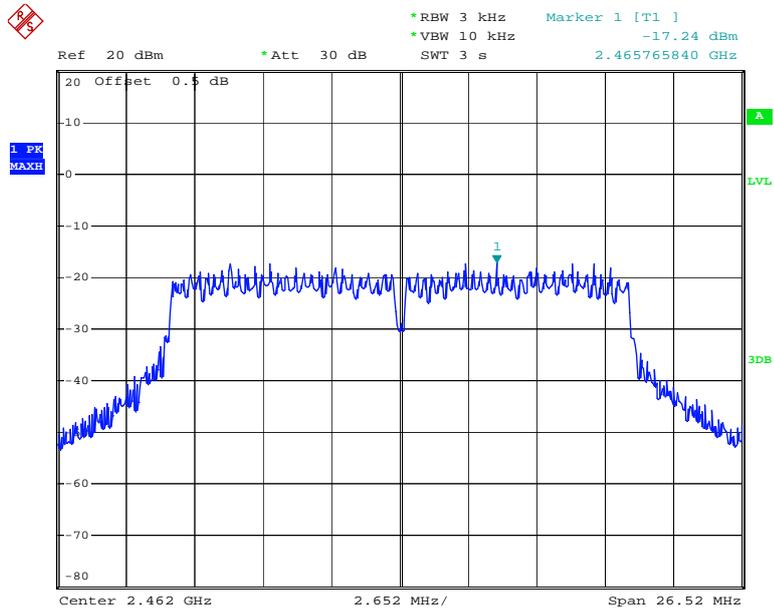
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### Chain 0-Power Spectral Density, 802.11n ht20 Middle Channel



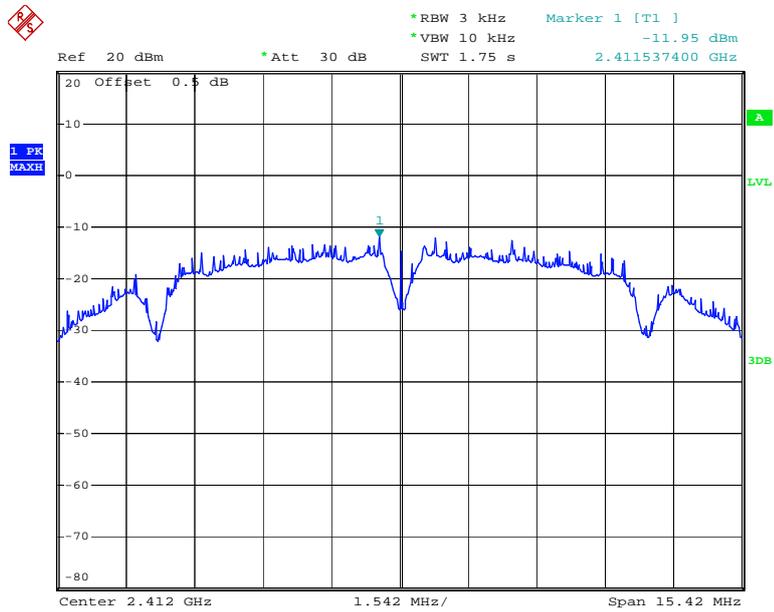
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### Chain 0-Power Spectral Density, 802.11n ht20 High Channel



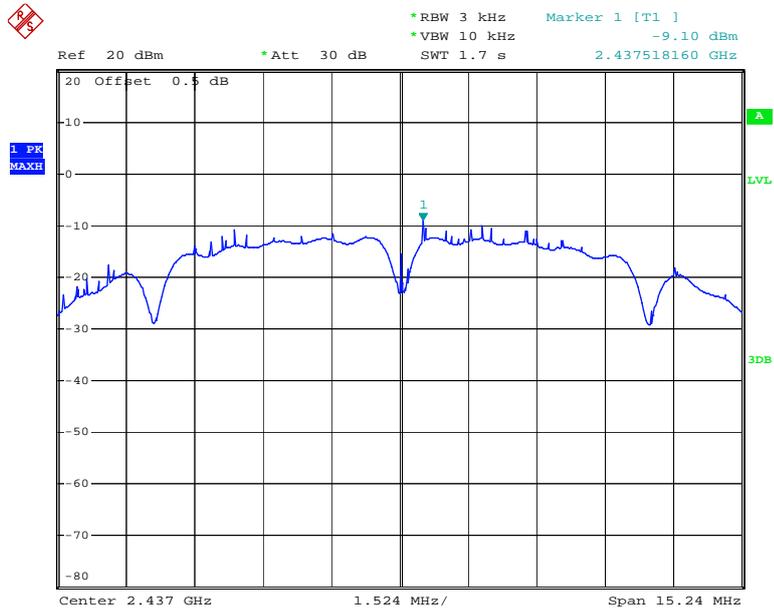
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### Chain 1-Power Spectral Density, 802.11b Low Channel



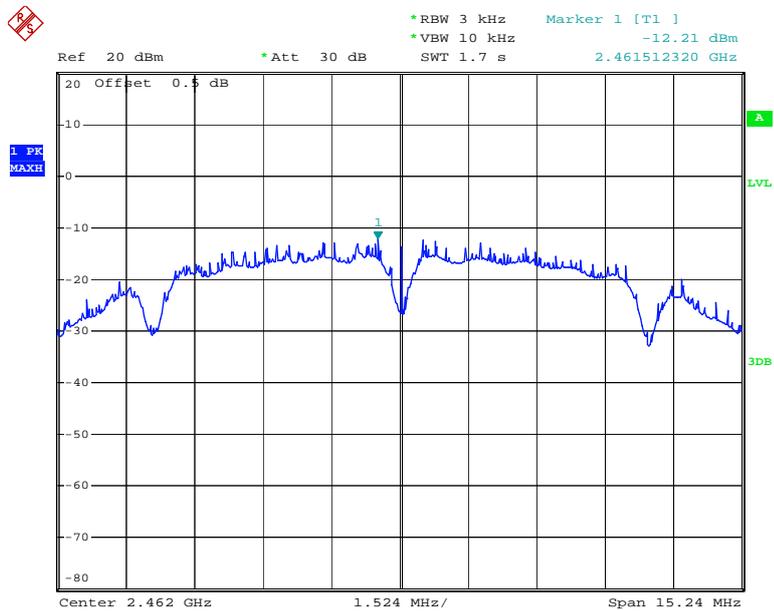
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### Chain 1-Power Spectral Density, 802.11b Middle Channel



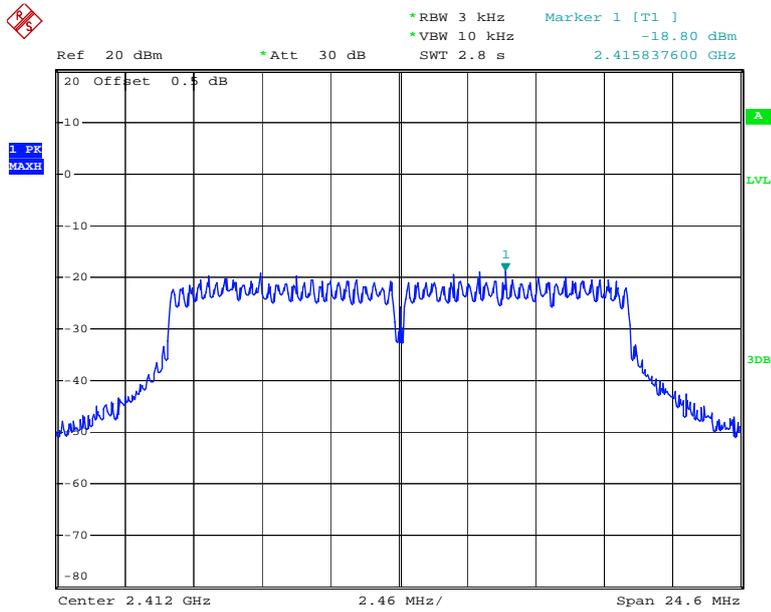
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### Chain 1-Power Spectral Density, 802.11b High Channel



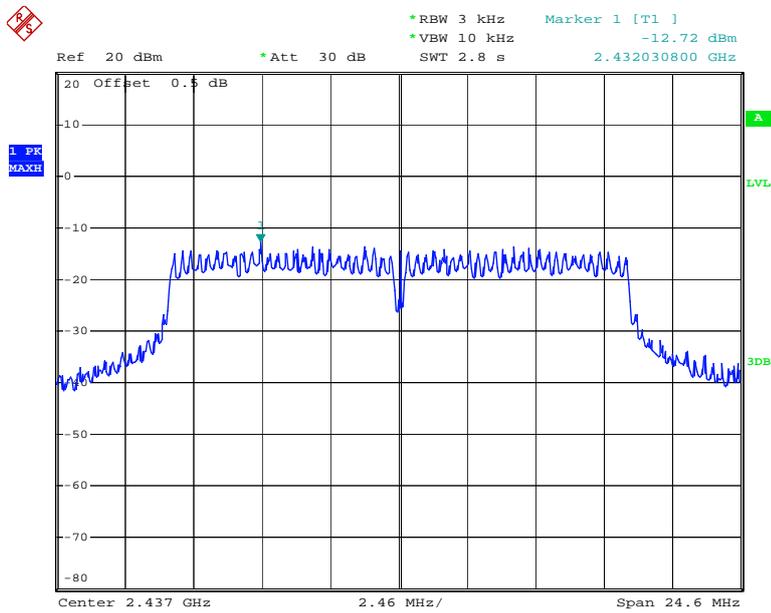
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### Chain 1-Power Spectral Density, 802.11g Low Channel



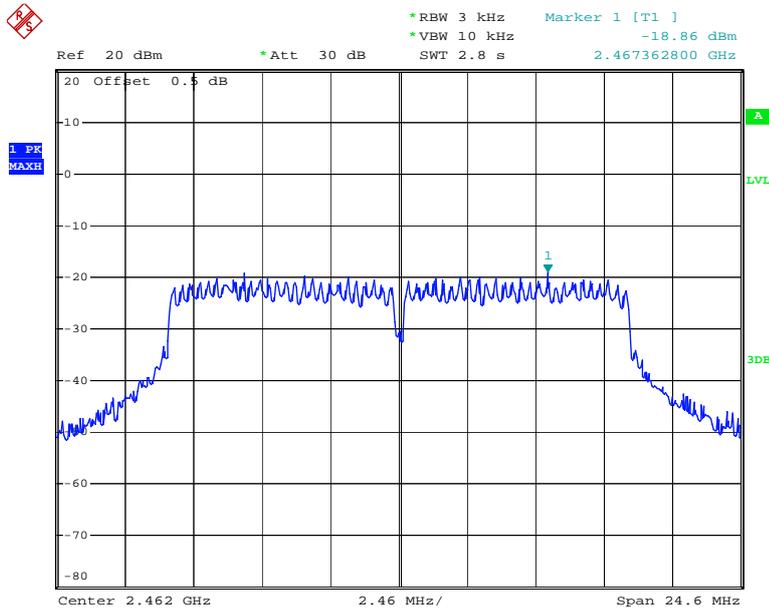
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### Chain 1-Power Spectral Density, 802.11g Middle Channel



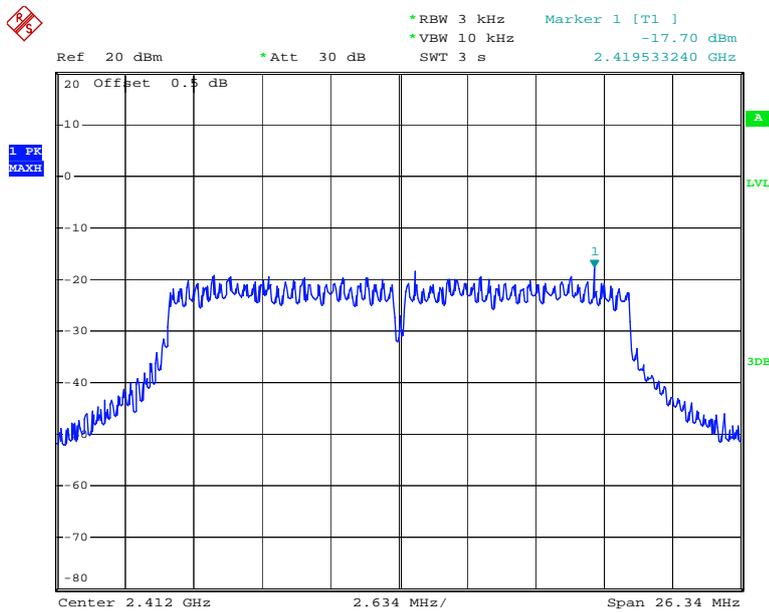
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### Chain 1-Power Spectral Density, 802.11g High Channel



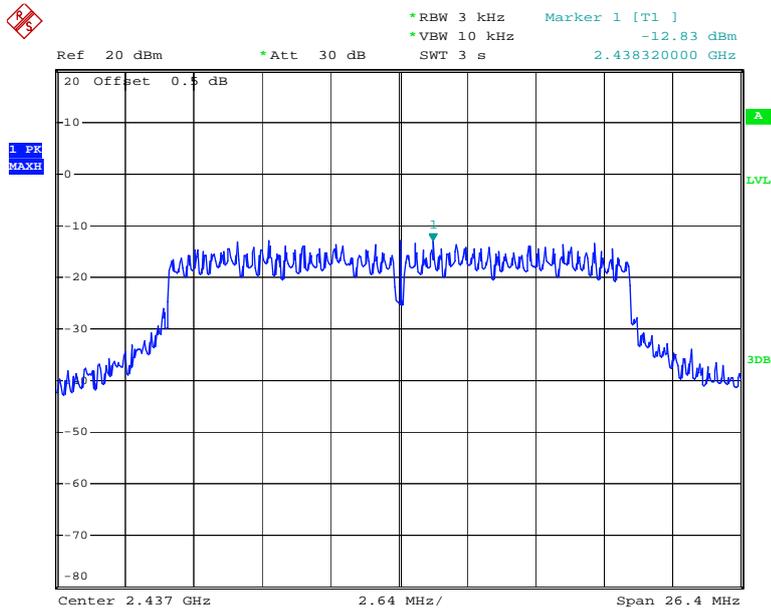
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### Chain 1-Power Spectral Density, 802.11n ht20 Low Channel



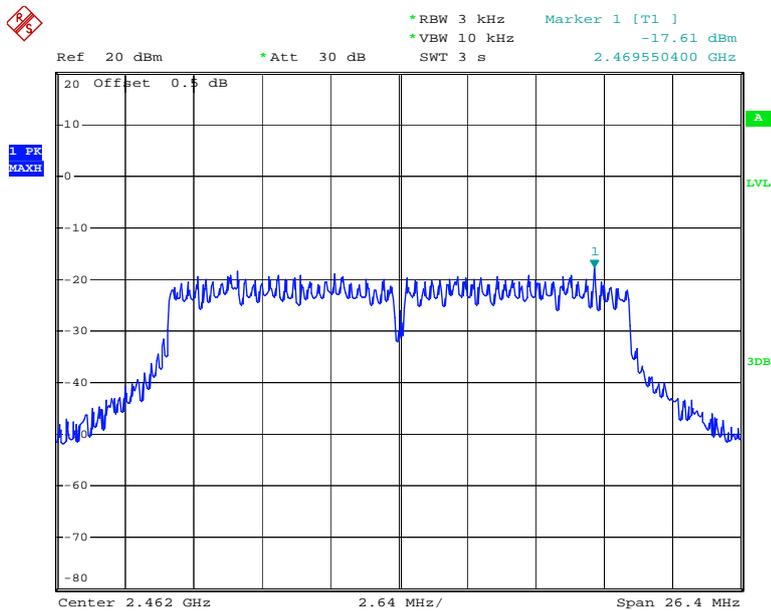
Date: 1.AUG.2016 17:08:15

### Chain 1-Power Spectral Density, 802.11n ht20 Middle Channel



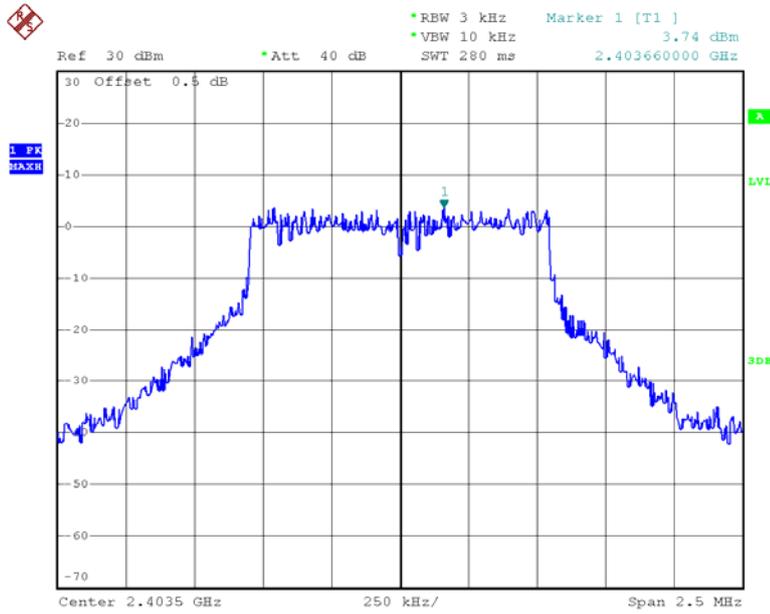
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### Chain 1-Power Spectral Density, 802.11n ht20 High Channel



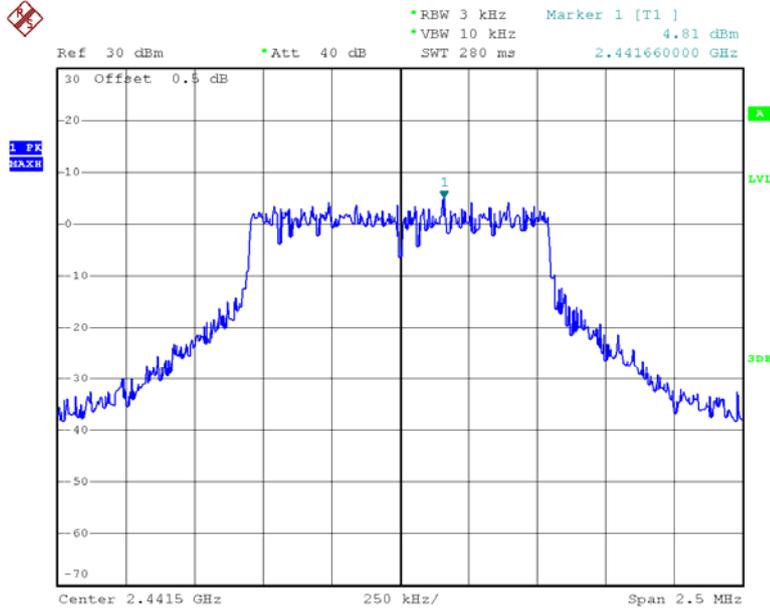
Date: 1.AUG.2016 17:19:27

### Chain 0-Power Spectral Density, 1.4M Low Channel



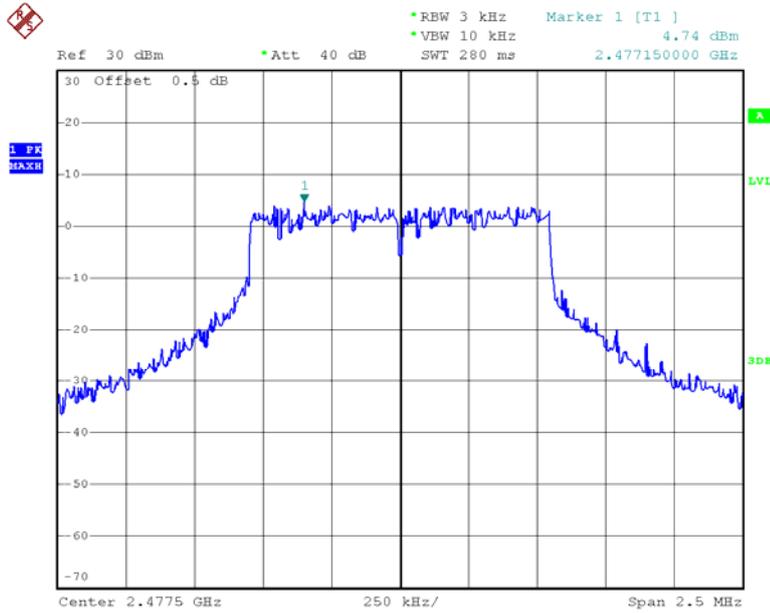
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### Chain 0-Power Spectral Density, 1.4M Middle Channel



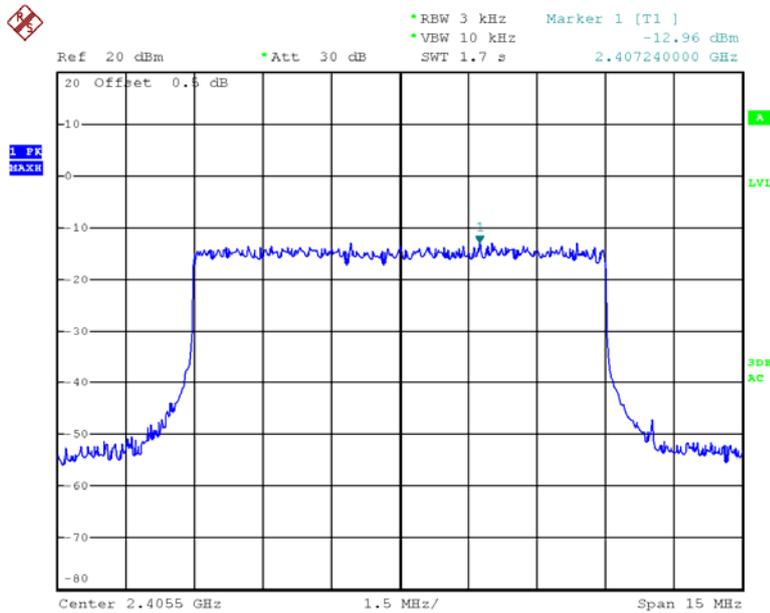
Date: 9.AUG.2016 09:48:55

### Chain 0-Power Spectral Density, 1.4M High Channel



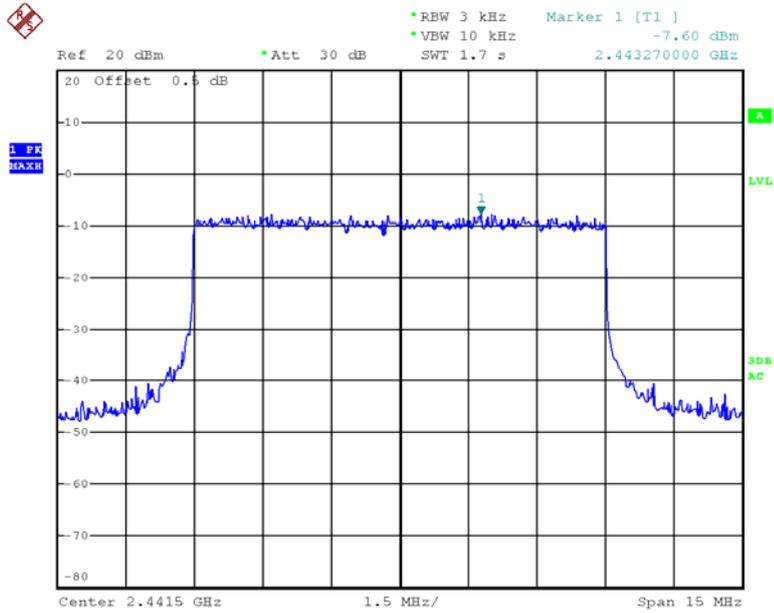
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### Chain 0-Power Spectral Density, 10M Low Channel



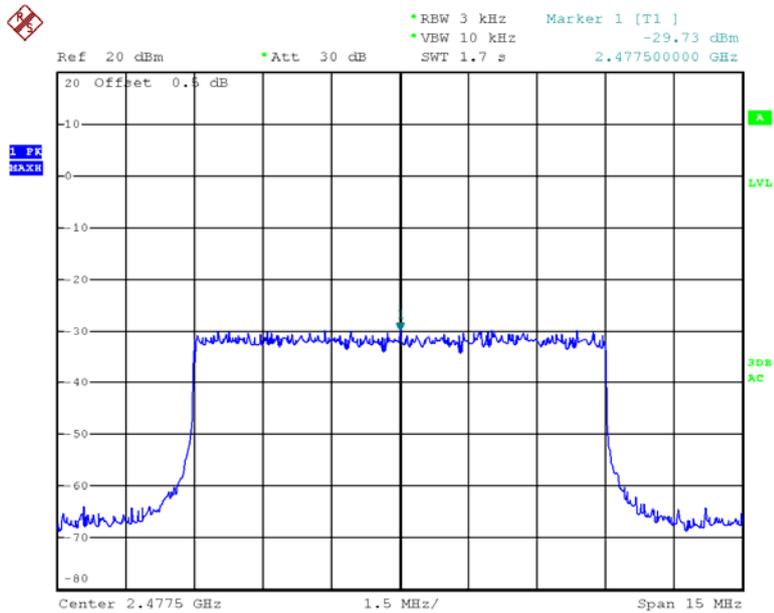
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### Chain 0-Power Spectral Density, 10M Middle Channel



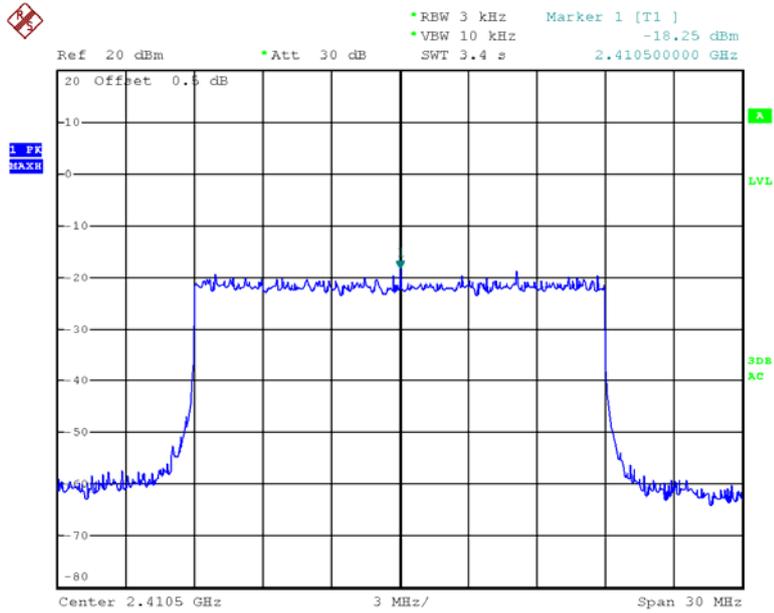
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### Chain 0-Power Spectral Density, 10M High Channel



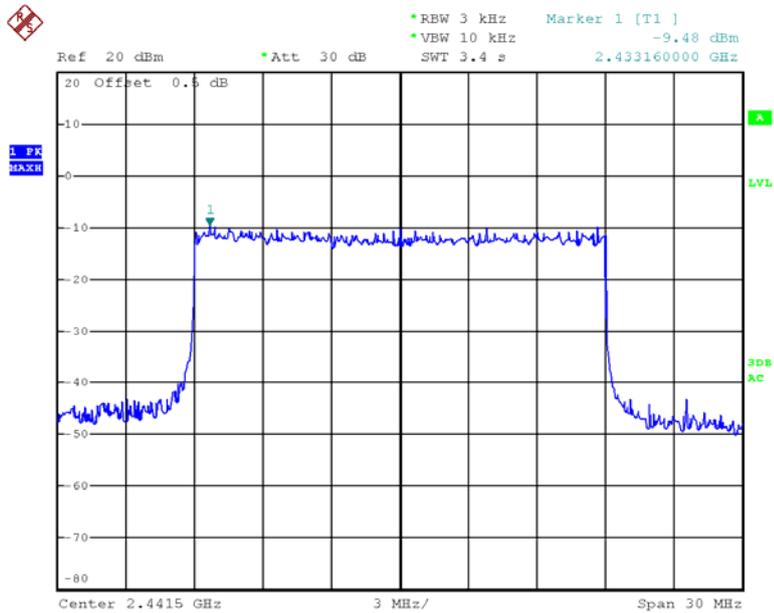
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### Chain 0-Power Spectral Density, 20M Low Channel



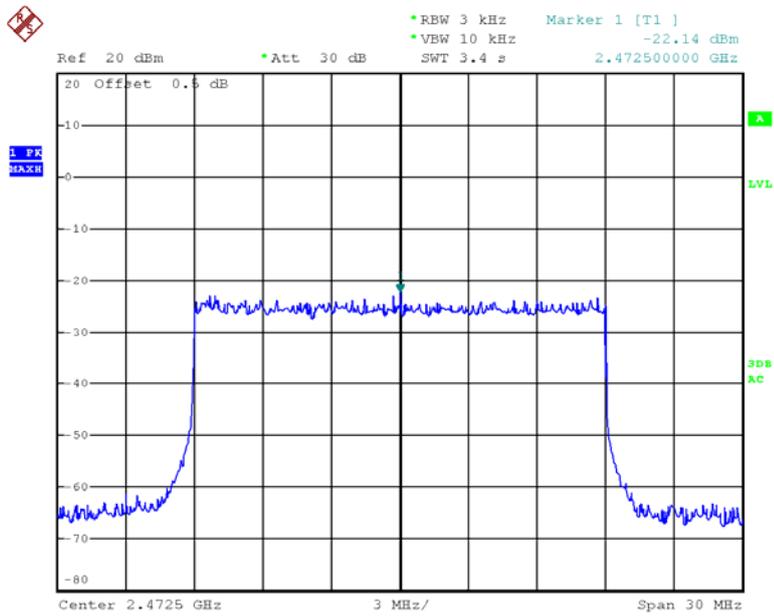
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### Chain 0-Power Spectral Density, 20M Middle Channel



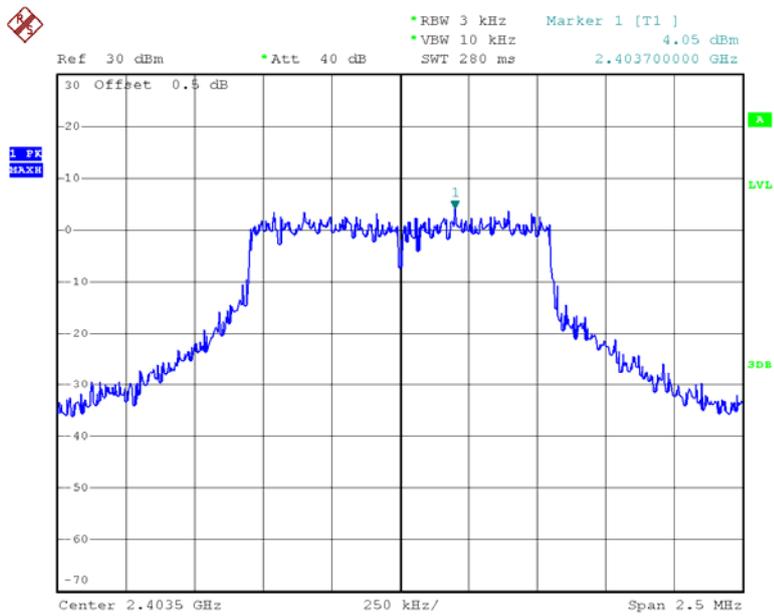
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### Chain 0-Power Spectral Density, 20M High Channel



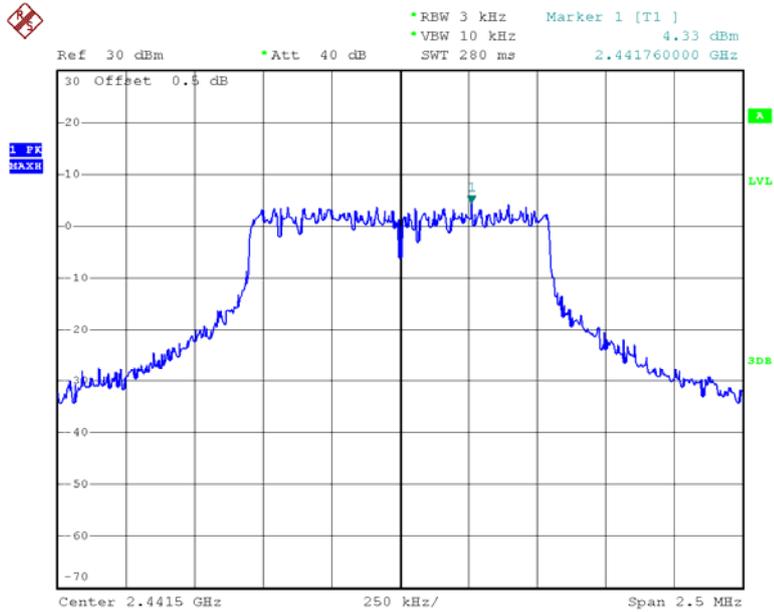
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### Chain 1-Power Spectral Density, 1.4M Low Channel



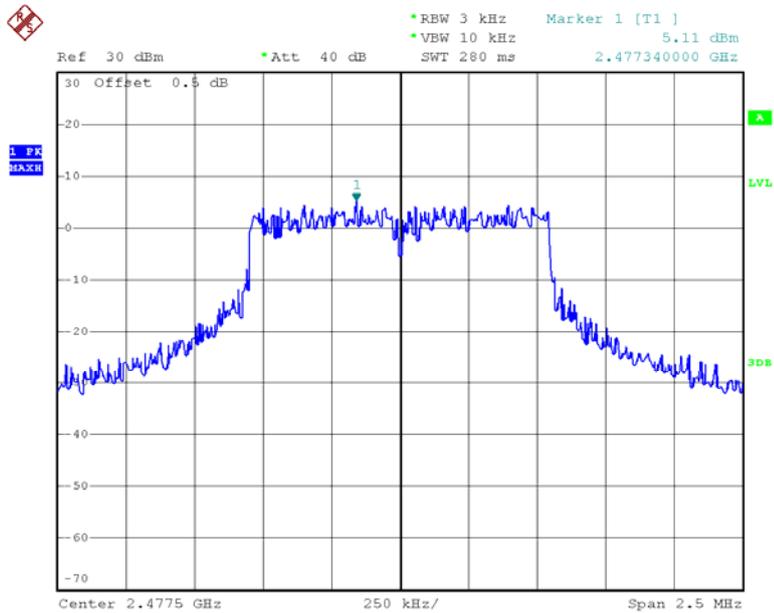
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### Chain 1-Power Spectral Density, 1.4M Middle Channel



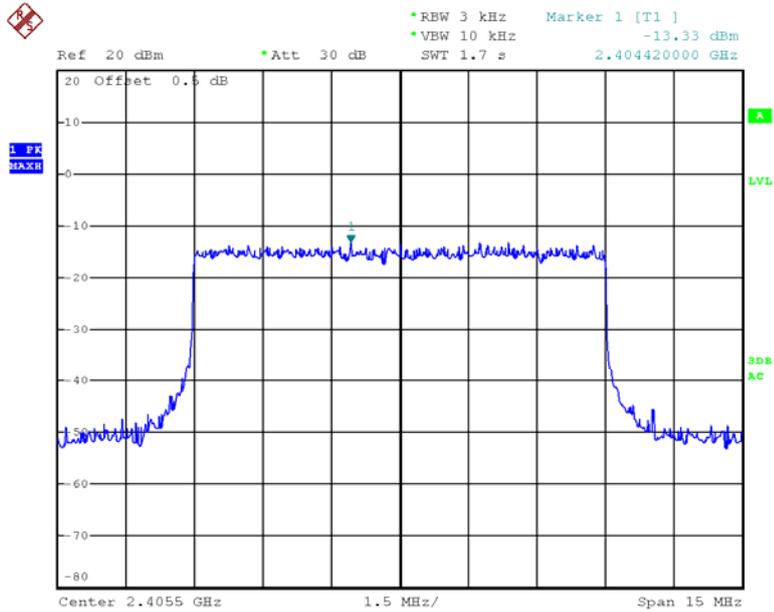
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### Chain 1-Power Spectral Density, 1.4M High Channel



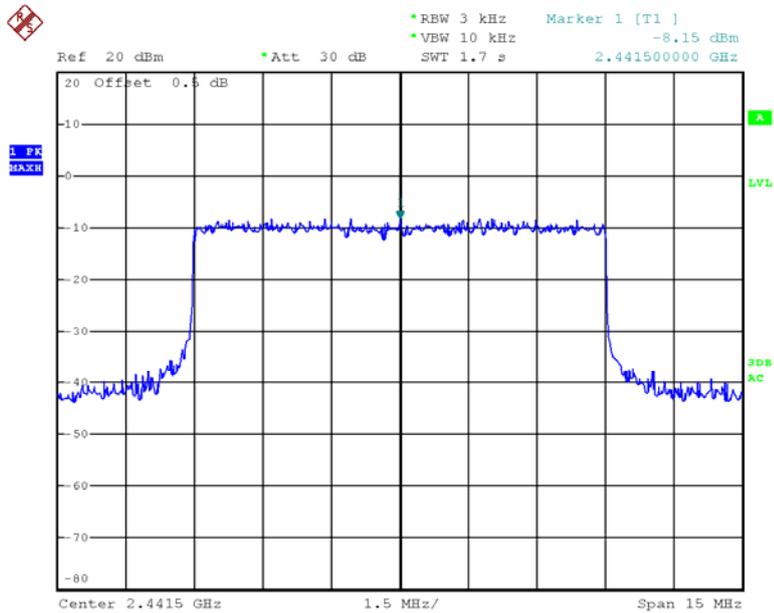
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### Chain 1-Power Spectral Density, 10M Low Channel



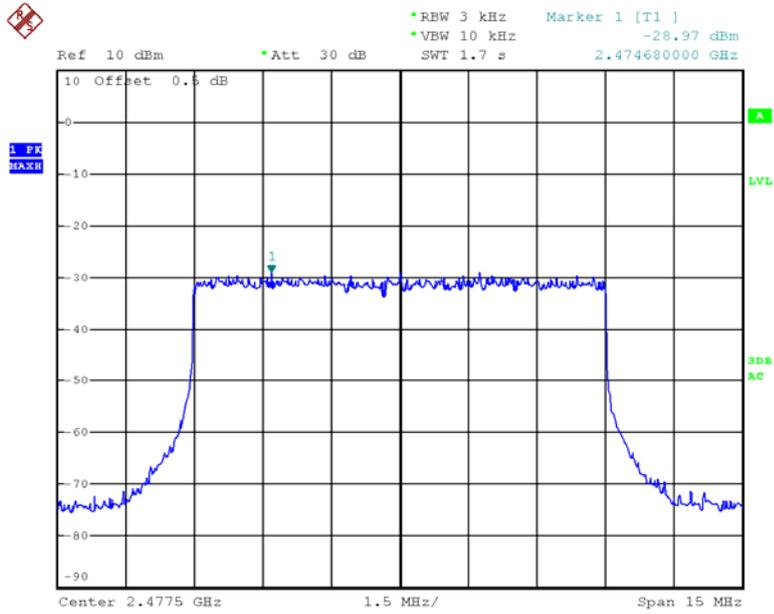
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### Chain 1-Power Spectral Density, 10M Middle Channel



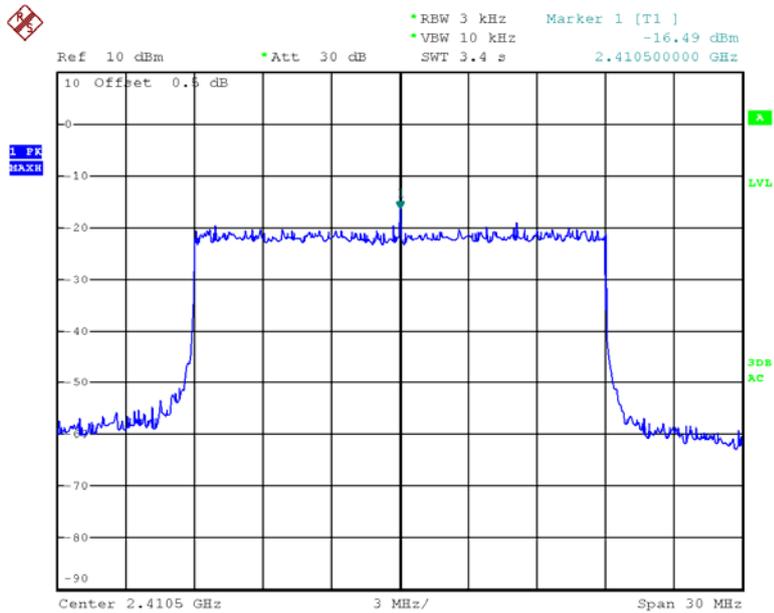
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### Chain 1-Power Spectral Density, 10M High Channel



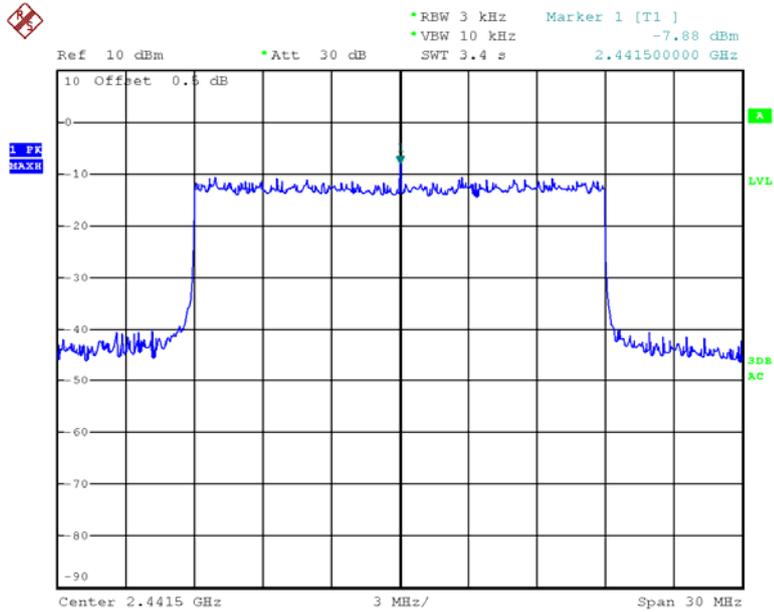
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### Chain 1-Power Spectral Density, 20M Low Channel



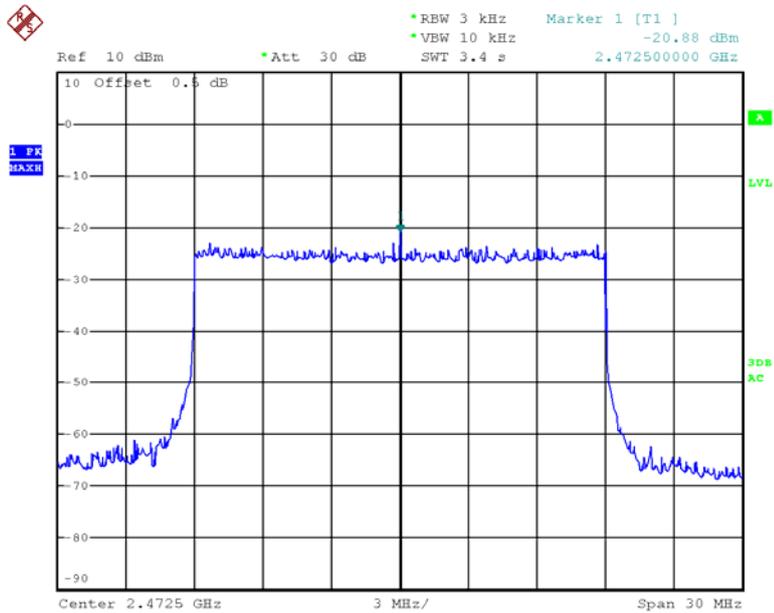
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### Chain 1-Power Spectral Density, 20M Middle Channel



Date: 4.AUG.2016 20:56:10

### Chain 1-Power Spectral Density, 20M High Channel



Date: 4.AUG.2016 20:55:35

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