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-GL300F1609

Report Type:	Product Type:
Original Report	C1

Report Number:	RDG160820014-00A
Report Date:	2016-09-27
Reviewed By:	Dean Liu RF Engineer
Approved By:	Jerry Zhang EMC Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.(Dongguan). This report may contain data or test methods that are not covered by the NVLAP accreditation scope and shall be marked with an asterisk "*" and noted.

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *SZ DJI TECHNOLOGY CO., LTD*'s product, model number: *GL300F (FCC ID: SS3-GL300F1609)* (the "EUT") in this report was a *C1,* which was measured approximately: 18.2 cm (L) x17.14 cm (W) x 10.52 cm(H), rated input voltage: DC 7.4V from lithium-ion Polymer battery or DC17.5Vfrom adapter.

Adapter Information:
MODEL:PH4C100
INPUT:100-240V~1.4A ,50-60Hz
OUTPUT:17.5V, 5.7A(Total)
17.5V, 0~2A(Output 1)
17.5V, 0~5.7A(Output 2)

** All measurement and test data in this report was gathered from production sample serial number: 160820014 (Assigned by BACL Dongguan). The EUT was received on 2016-08-31.*

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-GL300F1609.

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.

For 2.4GHz band, the device employed LB mode, 45 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2404	24	2443.1
2	2405.7	…	…
…	…	…	…
…	…	44	2477.1
…	…	45	2478.8
23	2441.4	/	/

EUT Exercise Software

The software "DJI-RF Certification" was used for testing, which was provided by manufacturer. The maximum power and duty cycle was configured by system default setting. The default setting level as below:

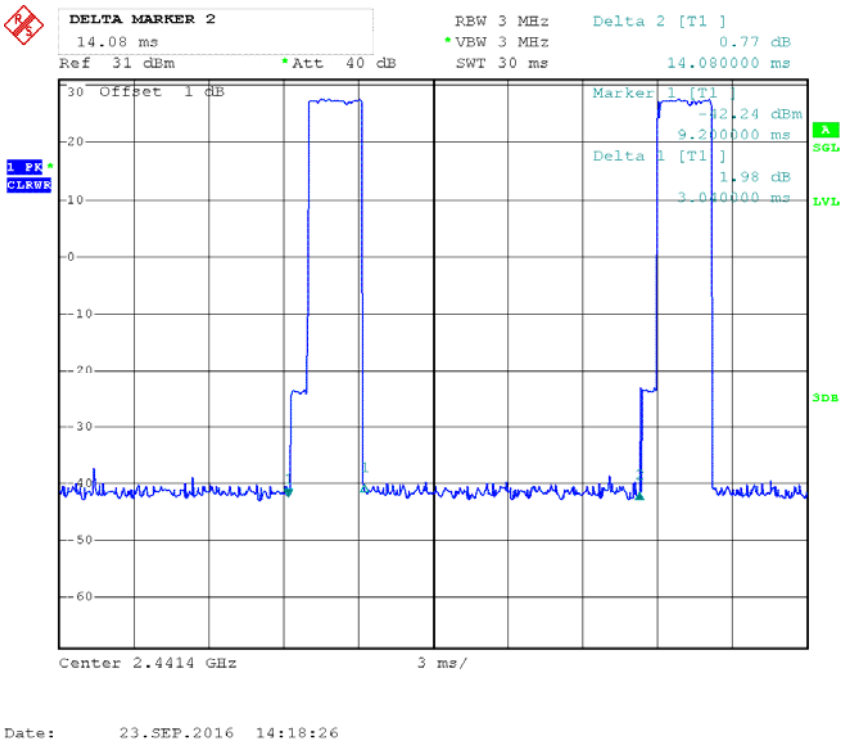
Antenna 0					
Test Software Version	DJI-RF Certification				
Frequency (MHz)	2404	2405.8	2407.4~2475.4	2477.1	2478.8
Power Level Setting	18	20	23	20	18

All test items performed at Low, Middle and High Channel, and for difference power level setting configured by software(LB mode),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_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)
LB	3.04	14.08	21.59

The minimum transmission duration(T) is 3.04ms in LB mode.



Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

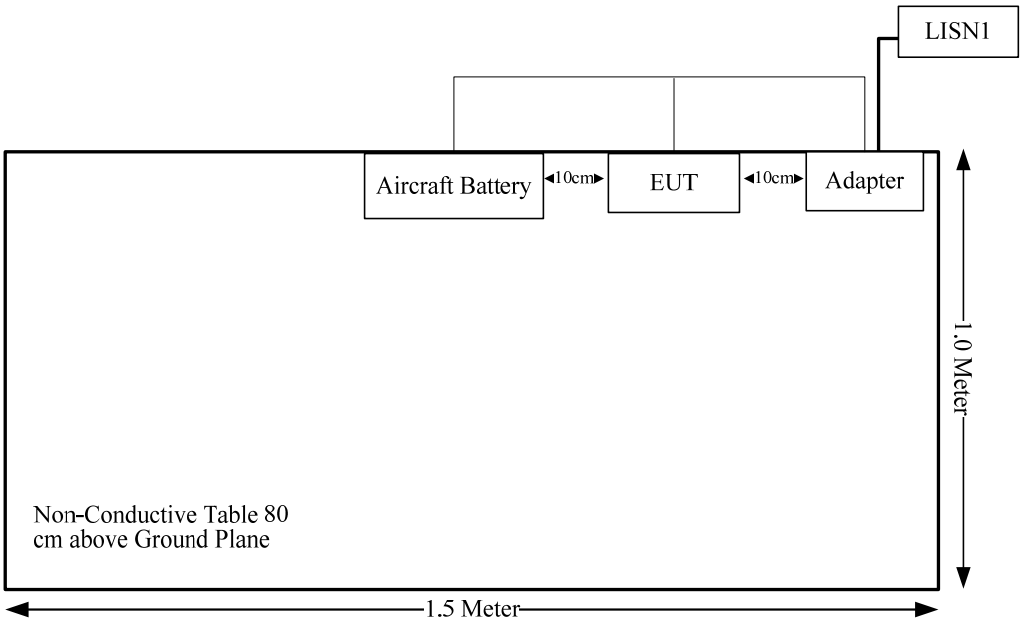
Manufacturer	Description	Model	Serial Number
DJI	Aircraft Battery	*PH4*	/

External Cable

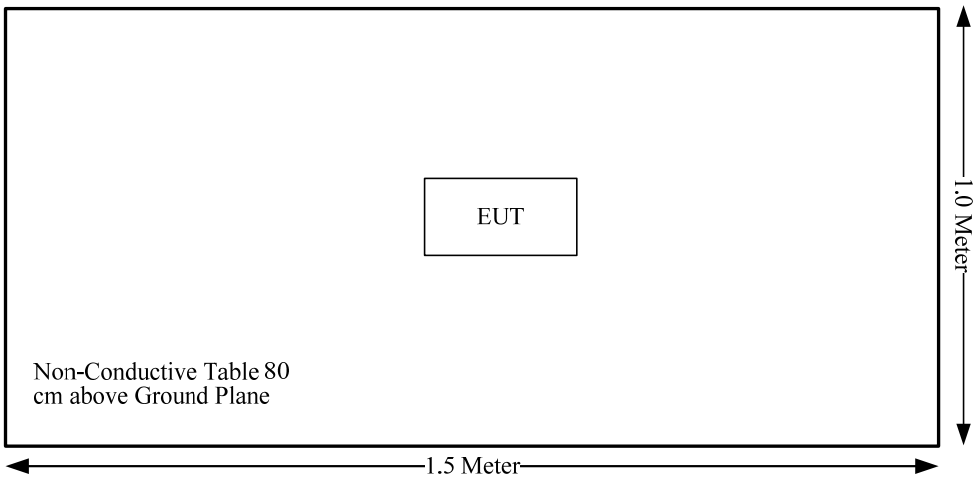
Cable Description	Shielding Type	Ferrite Core	Length(m)	From Port	To
DC cable	Yes	Yes	1	Adapter	Battery& Remote

Block Diagram of Test Setup

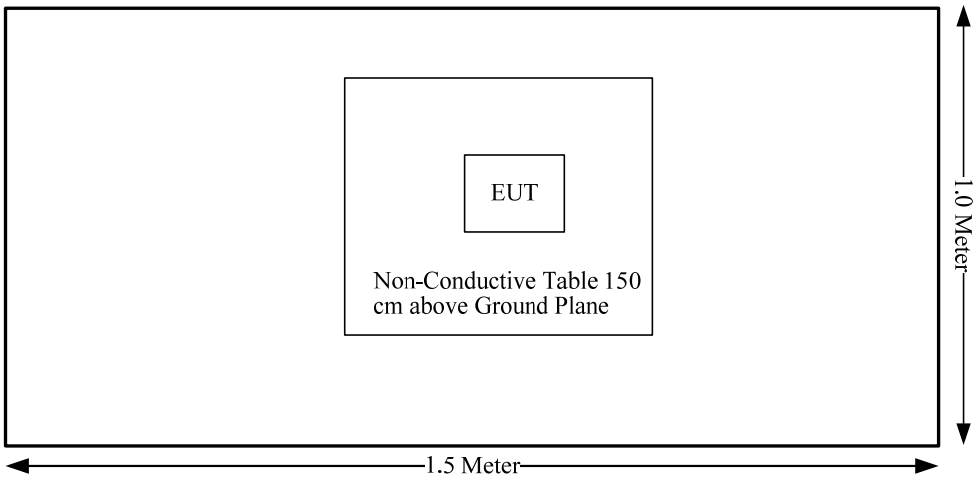
AC Line Conducted Test:



Radiation test below 1GHz:



Radiation test above 1GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1093	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Bandwidth	Compliance
§15.247(b)(3)	Maximum Peak Conducted Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

Test time: 2016-09-21 ~ 2016-09-23.

FCC §15.247 (i) & §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

According to§15.247(i),§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: RDG160820014-20C.

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 un-detachable external antenna for LB, one for Transmitting, one for receiving, the antenna gain is 3.3dBi@ 2.4GHz band, 4.48dBi @ 5.8GHz band, that 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：

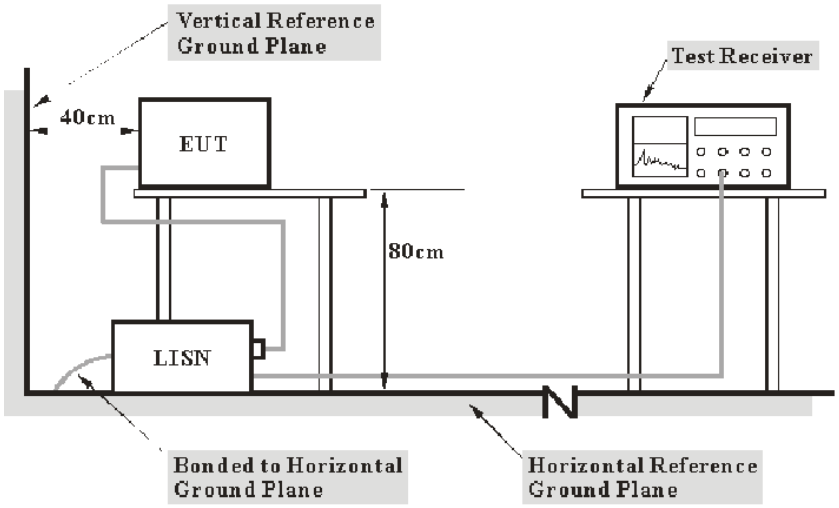
If U_{lab} is less than or equal to U_{cispr} of Table 1, then:
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
– non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
If U_{lab} is greater than U_{cispr} of 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 V/60 Hz AC power source

EMI Test Receiver Setup

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

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

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

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$
$C_f = A_C + VDF$

Herein,
V_C (cord. Reading): corrected voltage amplitude
V_R: reading voltage amplitude
A_c: attenuation caused by cable loss
VDF: voltage division factor of AMN
C_f: Correction Factor

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

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2015-12-10	2016-12-09
R&S	L.I.S.N	ESH2-Z5	892107/021	2016-09-01	2017-08-31
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 in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

During the conducted emission test, the adapter was connected to thefirst 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

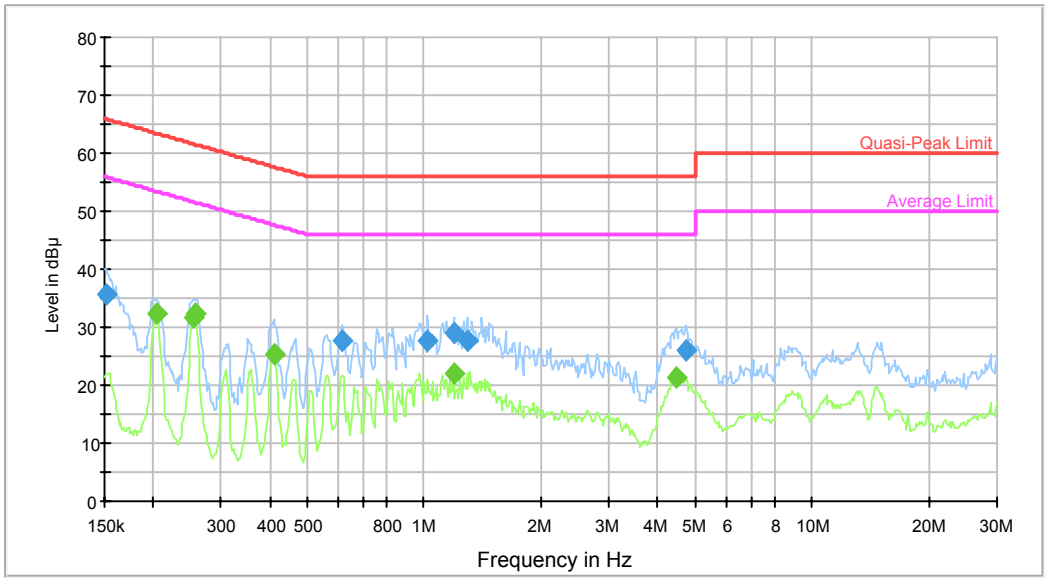
Temperature:	29.6 °C
Relative Humidity:	49 %
ATM Pressure:	100 kPa

The testing was performed by Robin Zheng on 2016-09-22.

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

Test Mode: Charging

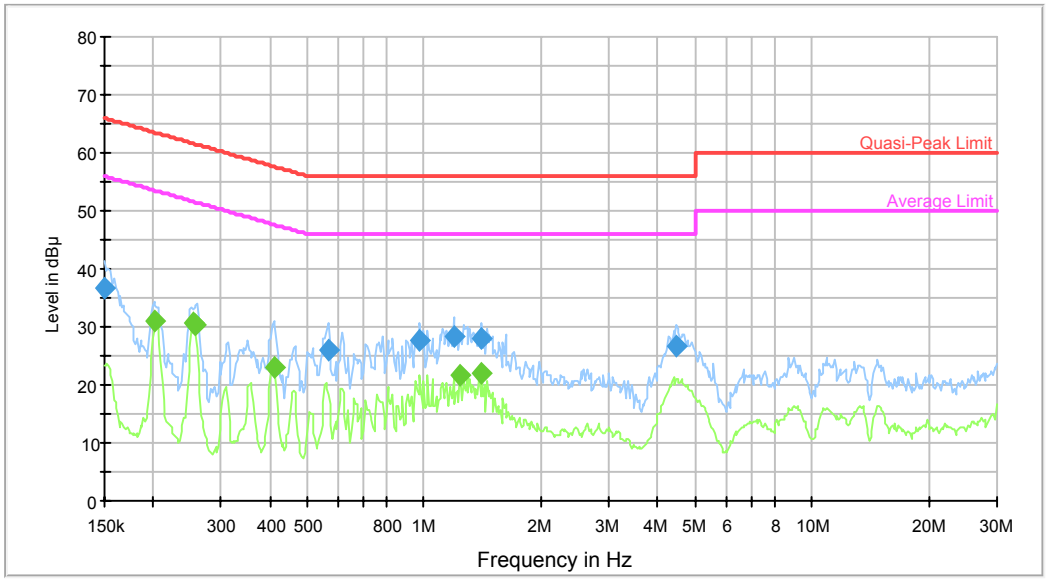
AC120V, 60Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.151200	35.8	9.000	L1	9.7	30.1	65.9	Compliance
0.614619	27.6	9.000	L1	9.7	28.4	56.0	Compliance
1.023481	27.7	9.000	L1	9.7	28.3	56.0	Compliance
1.190776	28.9	9.000	L1	9.7	27.1	56.0	Compliance
1.289541	27.7	9.000	L1	9.7	28.3	56.0	Compliance
4.726090	26.1	9.000	L1	9.7	29.9	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV	Comment
0.204669	32.2	9.000	L1	9.6	21.2	53.4	Compliance
0.253797	31.7	9.000	L1	9.6	19.9	51.6	Compliance
0.255827	32.3	9.000	L1	9.6	19.3	51.6	Compliance
0.409372	25.5	9.000	L1	9.7	22.2	47.7	Compliance
1.190776	22.0	9.000	L1	9.7	24.0	46.0	Compliance
4.469698	21.4	9.000	L1	9.7	24.6	46.0	Compliance

AC120V, 60Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	36.5	9.000	N	9.6	29.5	66.0	Compliance
0.567545	25.9	9.000	N	9.6	30.1	56.0	Compliance
0.975701	27.8	9.000	N	9.7	28.2	56.0	Compliance
1.190776	28.3	9.000	N	9.7	27.7	56.0	Compliance
1.407671	27.9	9.000	N	9.7	28.1	56.0	Compliance
4.469698	26.6	9.000	N	9.7	29.4	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.203045	31.1	9.000	N	9.6	22.4	53.5	Compliance
0.253797	30.6	9.000	N	9.6	21.0	51.6	Compliance
0.255827	30.4	9.000	N	9.6	21.2	51.6	Compliance
0.409372	22.9	9.000	N	9.6	24.8	47.7	Compliance
1.239175	21.6	9.000	N	9.7	24.4	46.0	Compliance
1.407671	21.9	9.000	N	9.7	24.1	46.0	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.

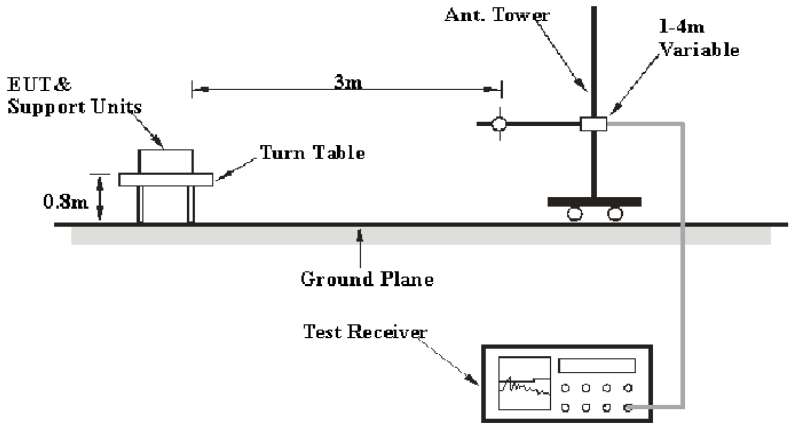
Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is: 30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical; 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical; 1G~6GHz: 4.45 dB, 6G~18GHz: 5.23 dB.

Table 2 – Values of U_{cispr}

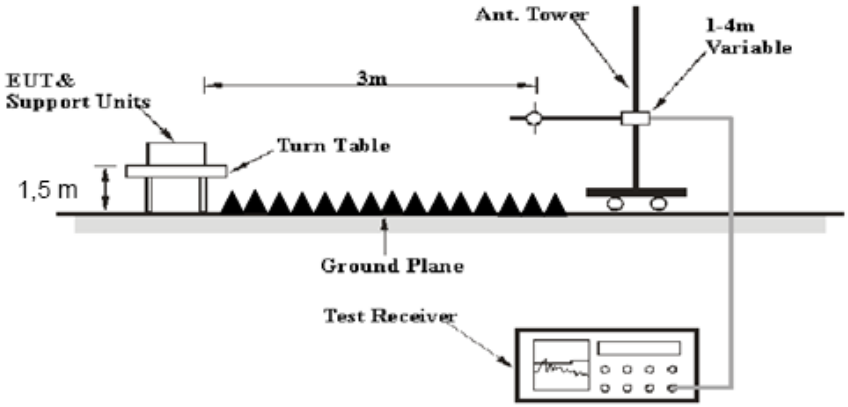
Measurement	U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

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:

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

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

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2016-09-01	2017-09-01
Sunol Sciences	Antenna	JB3	A060611-1	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2016-09-01	2017-09-01
Agilent	Spectrum Analyzer	E4440A	SG43360054	2015-11-23	2016-11-22
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
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 Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2014-06-16	2017-06-15
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2016-09-06	2017-09-06
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 in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

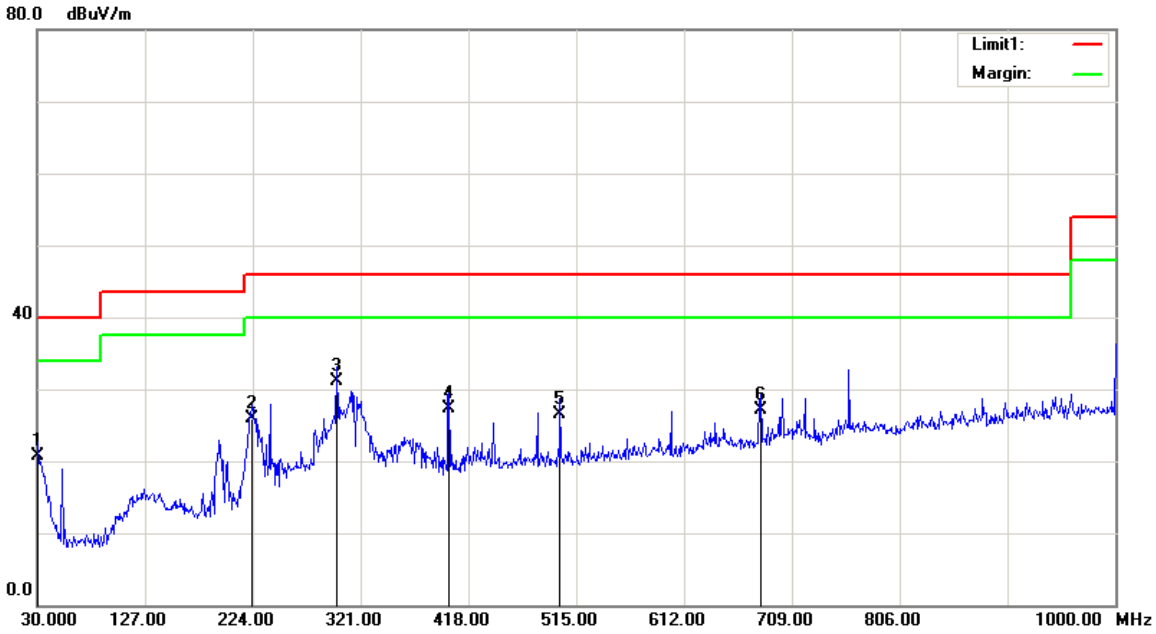
Temperature:	26.9 °C
Relative Humidity:	39 %
ATM Pressure:	100.9 kPa

The testing was performed by Robin Zheng on 2016-09-22.

Test Result: Compliance, please Refer to the following data

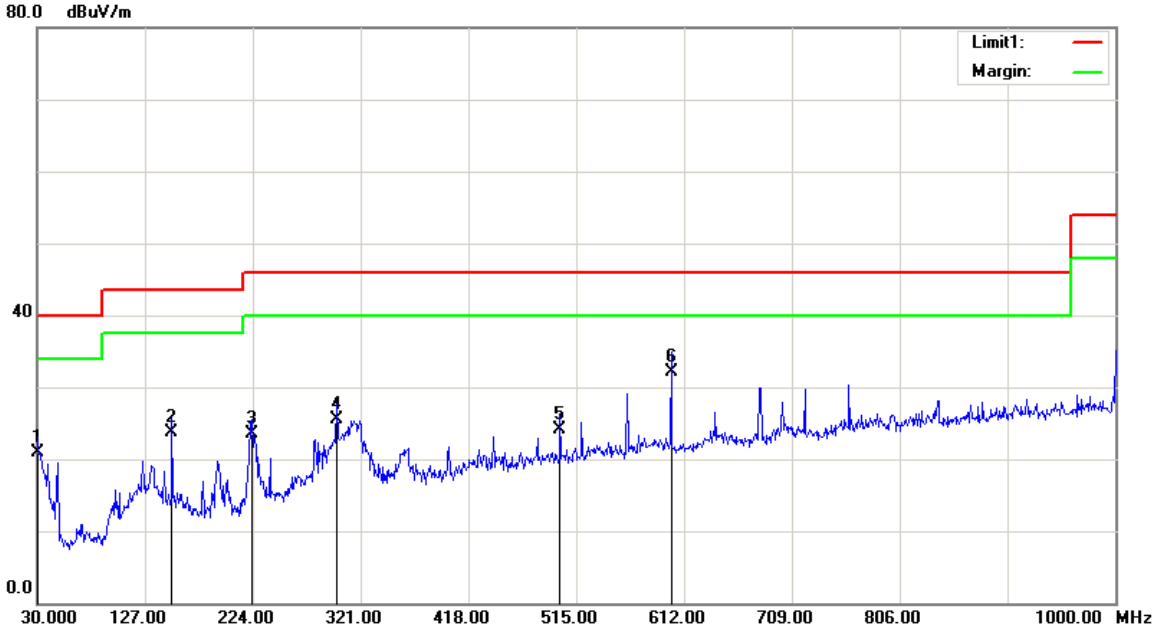
Test Mode: Transmitting(Middle channel is the worst)

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	19.67	QP	1.03	20.70	40.00	19.30
223.0300	34.66	QP	-8.76	25.90	46.00	20.10
299.6600	37.01	QP	-5.91	31.10	46.00	14.90
400.5400	31.09	QP	-3.69	27.40	46.00	18.60
500.4500	28.21	QP	-1.61	26.60	46.00	19.40
680.8700	26.30	QP	0.90	27.20	46.00	18.80

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	19.97	QP	1.03	21.00	40.00	19.00
151.2500	30.91	QP	-7.21	23.70	43.50	19.80
223.0300	32.26	QP	-8.76	23.50	46.00	22.50
299.6600	31.51	QP	-5.91	25.60	46.00	20.40
500.4500	25.81	QP	-1.61	24.20	46.00	21.80
600.3600	32.53	QP	-0.33	32.20	46.00	13.80

Above 1G(addition channel bandedge test performed at worst polarization):

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)					
2404 MHz									
2404	82.36	PK	H	25.65	3.66	0.00	111.67	N/A	N/A
2404	70.49	AV	H	25.65	3.66	0.00	99.80	N/A	N/A
2404	90.61	PK	V	25.65	3.66	0.00	119.92	N/A	N/A
2404	78.55	AV	V	25.65	3.66	0.00	107.86	N/A	N/A
2390	24.36	PK	V	25.61	3.63	0.00	53.60	74.00	20.40
2390	12.41	AV	V	25.61	3.63	0.00	41.65	54.00	12.35
4808	60.04	PK	V	30.60	5.06	27.41	68.29	74.00	5.71
4808	43.85	AV	V	30.60	5.06	27.41	52.10	54.00	1.90
7212	45.36	PK	V	34.11	6.62	25.91	60.18	74.00	13.82
7212	28.96	AV	V	34.11	6.62	25.91	43.78	54.00	10.22
2237	48.63	PK	V	25.22	3.41	27.30	49.96	74.00	24.04
2237	32.06	AV	V	25.22	3.41	27.30	33.39	54.00	20.61
2441.4 MHz									
2441.4	84.52	PK	H	25.75	3.77	0.00	114.04	N/A	N/A
2441.4	72.37	AV	H	25.75	3.77	0.00	101.89	N/A	N/A
2441.4	92.68	PK	V	25.75	3.77	0.00	122.20	N/A	N/A
2441.4	79.85	AV	V	25.75	3.77	0.00	109.37	N/A	N/A
4882.8	59.68	PK	V	30.80	5.20	27.42	68.26	74.00	5.74
4882.8	44.12	AV	V	30.80	5.20	27.42	52.70	54.00	1.30
7324.2	46.14	PK	V	34.38	6.75	25.88	61.39	74.00	12.61
7324.2	31.58	AV	V	34.38	6.75	25.88	46.83	54.00	7.17
6627	34.08	PK	V	32.63	6.20	26.59	46.32	74.00	27.68
6627	23.87	AV	V	32.63	6.20	26.59	36.11	54.00	17.89
4120	33	PK	V	29.88	4.98	27.12	40.74	74.00	33.26
4120	20.69	AV	V	29.88	4.98	27.12	28.43	54.00	25.57
2478.8 MHz									
2478.8	83.49	PK	H	25.84	3.69	0.00	113.02	N/A	N/A
2478.8	71.32	AV	H	25.84	3.69	0.00	100.85	N/A	N/A
2478.8	91.81	PK	V	25.84	3.69	0.00	121.34	N/A	N/A
2478.8	80.45	AV	V	25.84	3.69	0.00	109.98	N/A	N/A
2483.5	27.31	PK	V	25.86	3.67	0.00	56.84	74.00	17.16
2483.5	14.14	AV	V	25.86	3.67	0.00	43.67	54.00	10.33
4957.6	47.59	PK	V	30.99	5.35	27.43	56.50	74.00	17.50
4957.6	32.8	AV	V	30.99	5.35	27.43	41.71	54.00	12.29
7436.4	39.68	PK	V	34.65	6.88	25.96	55.25	74.00	18.75
7436.4	24.95	AV	V	34.65	6.88	25.96	40.52	54.00	13.48
2085.4	47.75	PK	V	24.82	3.29	27.40	48.46	74.00	25.54
2085.4	30.6	AV	V	24.82	3.29	27.40	31.31	54.00	22.69

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,2405.7 MHz									
2405.7	91.34	PK	V	25.65	3.67	0.00	120.66	N/A	N/A
2405.7	79.13	AV	V	25.65	3.67	0.00	108.45	N/A	N/A
2390	25.03	PK	V	25.61	3.63	0.00	54.27	74.00	19.73
2390	12.84	AV	V	25.61	3.63	0.00	42.08	54.00	11.92
Additional channel,2406.4 MHz									
2407.4	92.28	PK	V	25.66	3.67	0.00	121.61	N/A	N/A
2407.4	79.67	AV	V	25.66	3.67	0.00	109.00	N/A	N/A
2390	24.18	PK	V	25.61	3.63	0.00	53.42	74.00	20.58
2390	12.23	AV	V	25.61	3.63	0.00	41.47	54.00	12.53
Additional channel,2475.4 MHz									
2475.4	92.73	PK	V	25.84	3.70	0.00	122.27	N/A	N/A
2475.4	81.67	AV	V	25.84	3.70	0.00	111.21	N/A	N/A
2483.5	28.31	PK	V	25.86	3.67	0.00	57.84	74.00	16.16
2483.5	13.51	AV	V	25.86	3.67	0.00	43.04	54.00	10.96
Additional channel,2477.1 MHz									
2477.1	91.58	PK	V	25.84	3.69	0.00	121.11	N/A	N/A
2477.1	79.78	AV	V	25.84	3.69	0.00	109.31	N/A	N/A
2483.5	27.56	PK	V	25.86	3.67	0.00	57.09	74.00	16.91
2483.5	13.67	AV	V	25.86	3.67	0.00	43.20	54.00	10.80

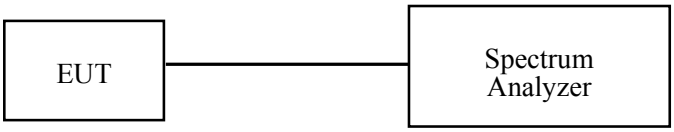
FCC §15.247(a) (2) – 6dB BANDWIDTH

Applicable Standard

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

Test Procedure

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



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	DE23437	2015-11-23	2016-11-22
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 in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	26.3 °C
Relative Humidity:	43 %
ATM Pressure:	100.9 kPa

The testing was performed by Robin Zheng on 2016-09-21.

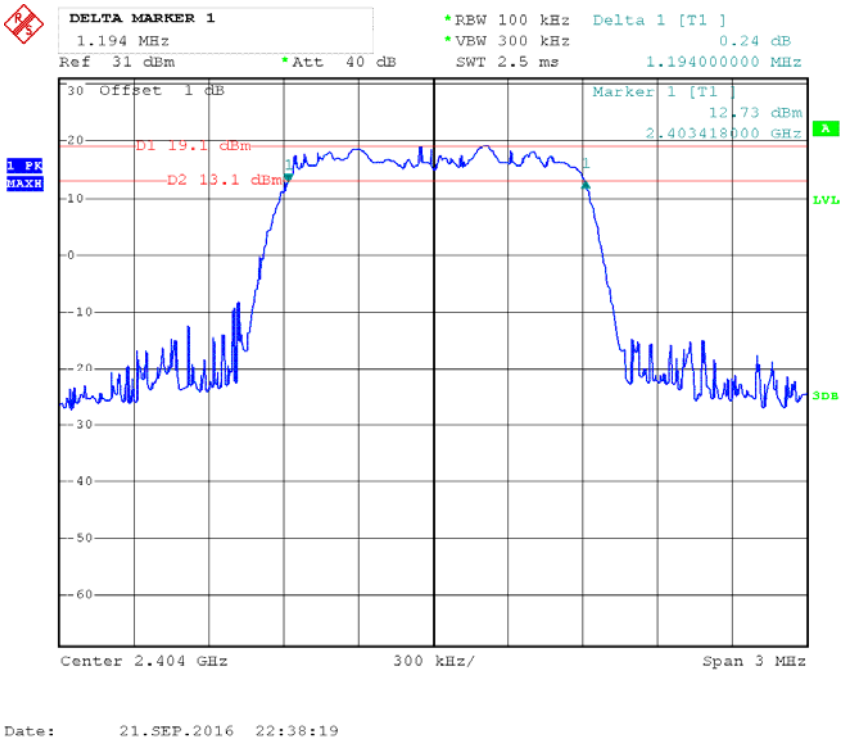
Test Result: Compliance.

Please refer to the following tables and plots.

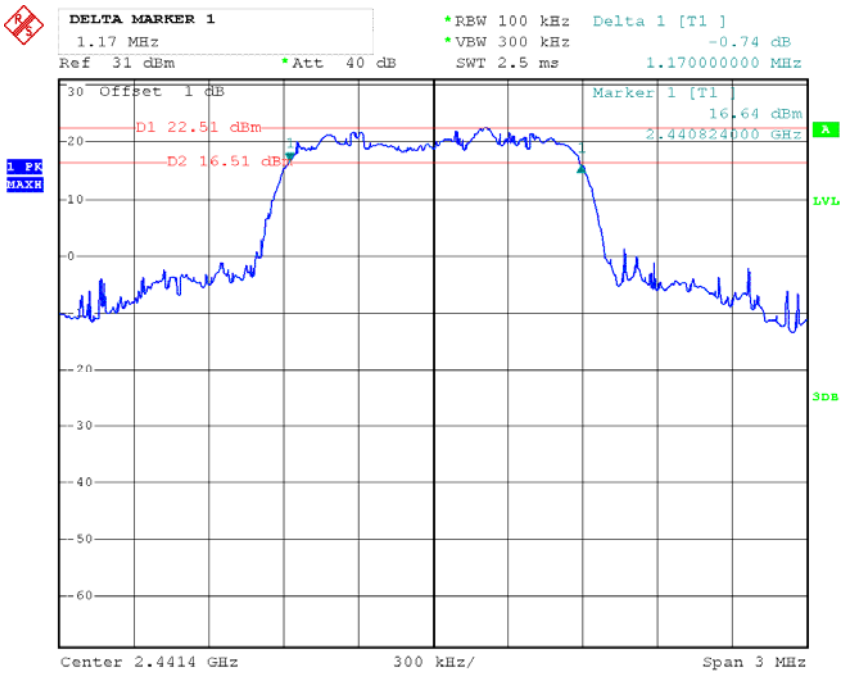
Test Mode: Transmitting

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
Low	2404	1.194	≥0.5
Middle	2441.4	1.17	≥0.5
High	2478.8	1.194	≥0.5

Low Channel



Middle Channel



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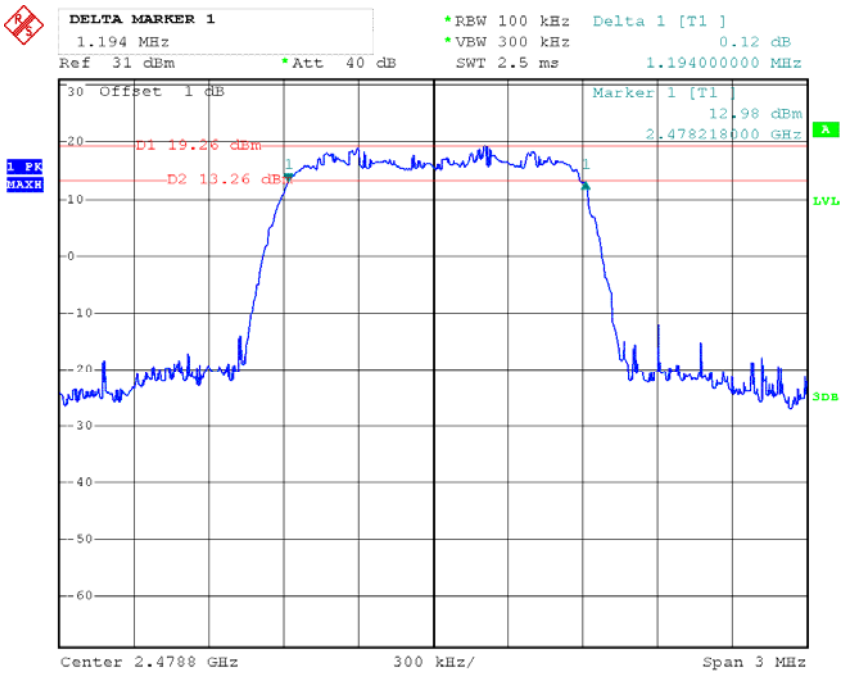
High Channel



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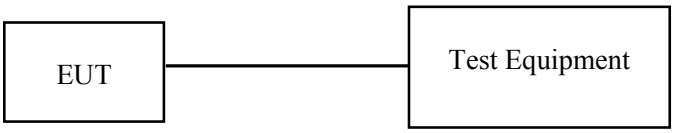
FCC §15.247(b) (3) - MAXIMUM PEAK CONDUCTED OUTPUT POWER

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 in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	25.8 °C
Relative Humidity:	32 %
ATM Pressure:	100.9 kPa

The testing was performed by Robin Zheng on 2016-09-21.

Test Mode: Transmitting

Frequency	Max Peak Conducted Output Power	Max Conducted Average Output Power	Limit
(MHz)	(dBm)	(dBm)	(dBm)
2404	24.78	19.69	30
2405.8	26.01	21.04	30
2407.4	27.45	22.98	30
2441.4	27.53	23.16	30
2475.4	27.42	22.78	30
2477.1	26.03	21.65	30
2478.8	24.93	19.81	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
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 in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

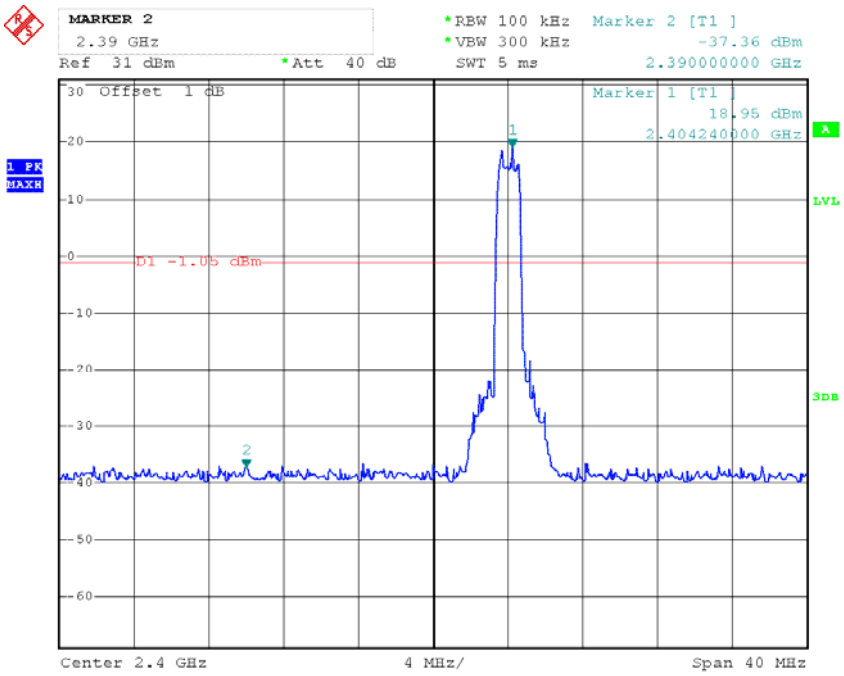
Temperature:	25.8 °C
Relative Humidity:	32 %
ATM Pressure:	100.9 kPa

The testing was performed by Robin Zheng on 2016-09-21.

Test mode: Transmitting

Test Result: Compliant. Please refer to following plots.

Band Edge, Left Side



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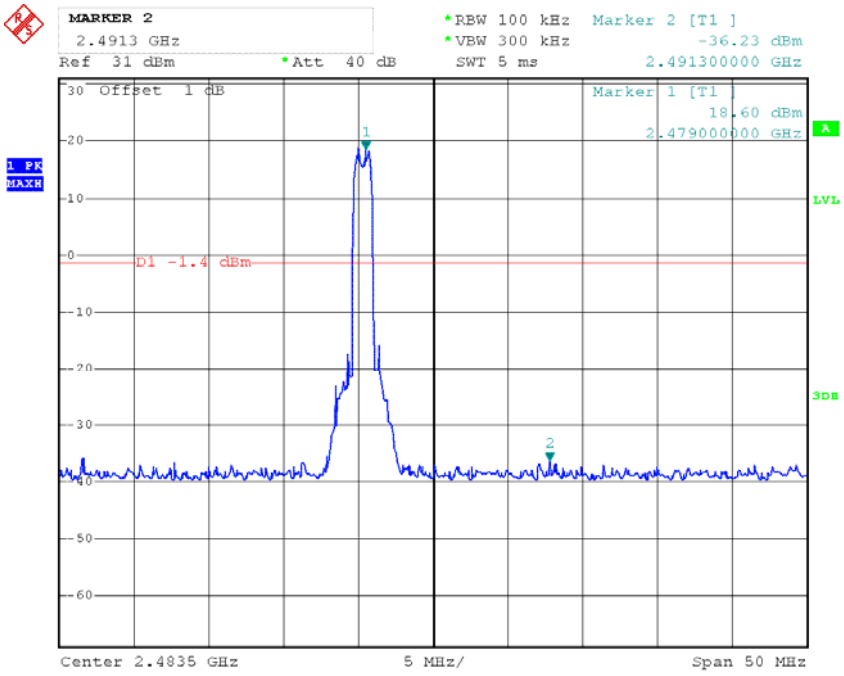
Band Edge, Right Side



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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
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 in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	25.8 °C
Relative Humidity:	32 %
ATM Pressure:	100.9 kPa

The testing was performed by Robin Zheng on 2016-09-21.

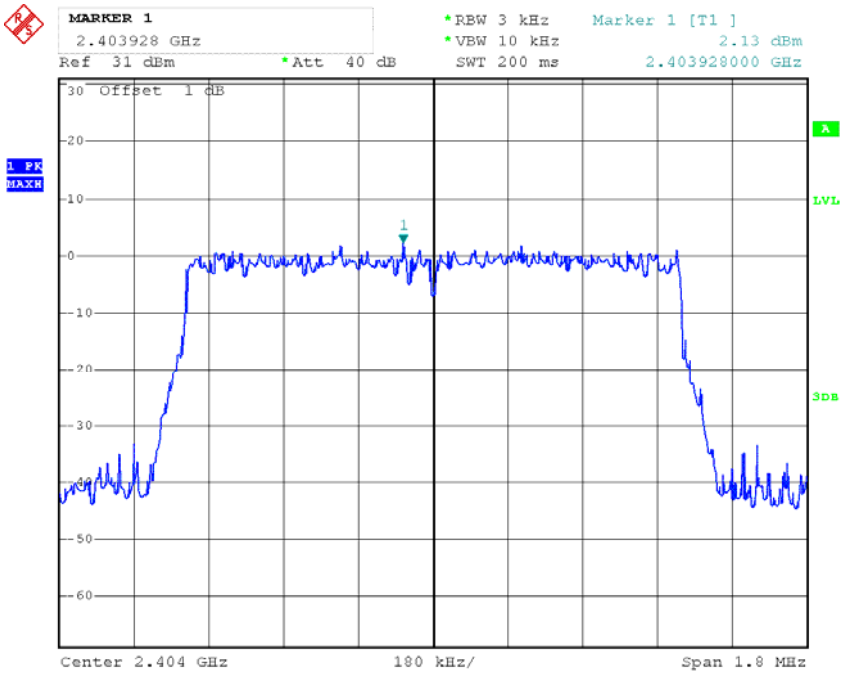
Test Result: Compliance

Test Mode: Transmitting

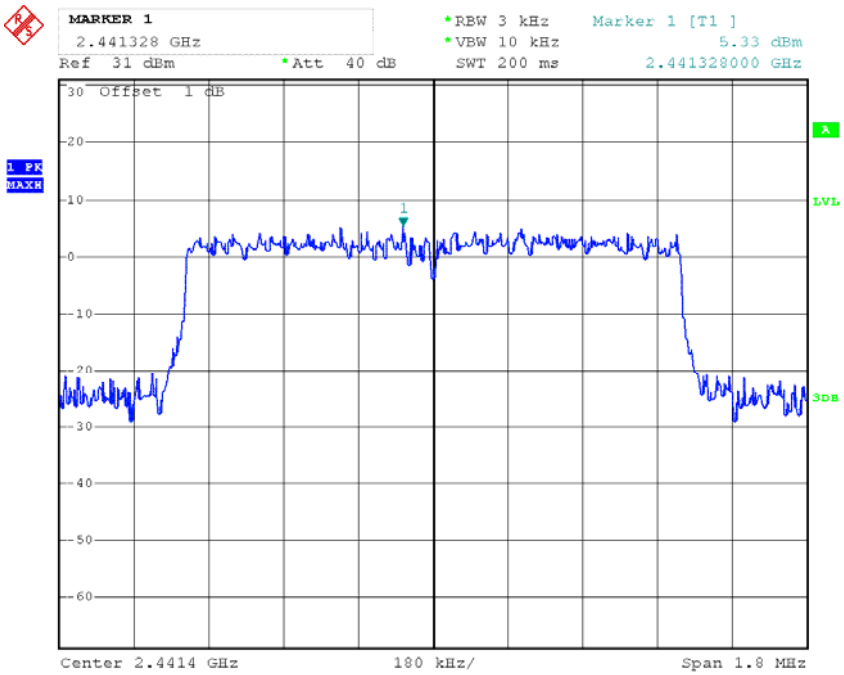
Channel	Frequency	Power Spectral Density	Limits	Result
	MHz	(dBm/3kHz)	dBm/3kHz	
Low	2404	2.13	8	Compliance
Middle	2441.4	5.33	8	Compliance
High	2478.8	2.03	8	Compliance

Please refer to the following plots

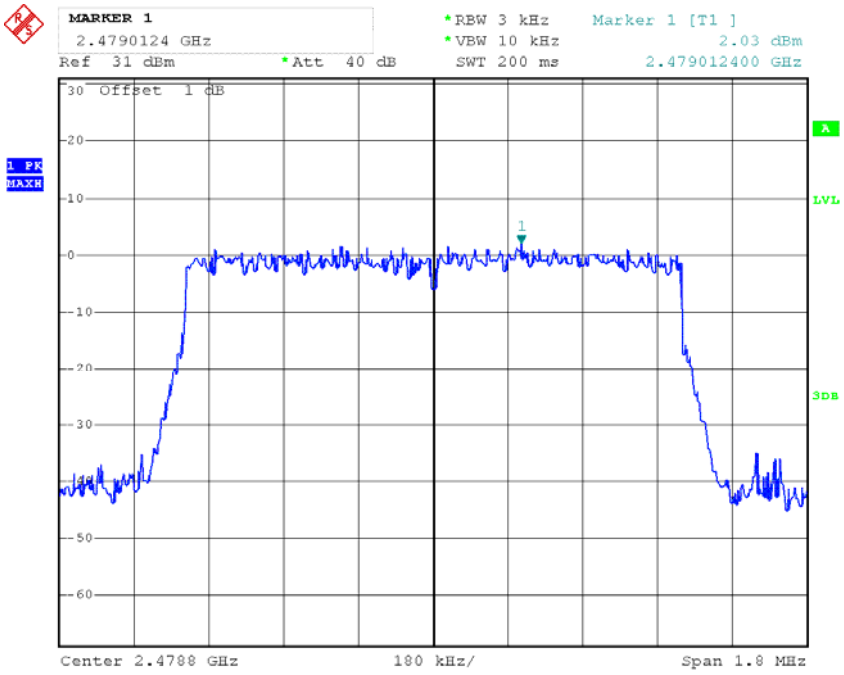
Power Spectral Density, Low Channel



Power Spectral Density, Middle Channel



Power Spectral Density, High Channel



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