ACCREDITED
TESTING LABORATORY
CERTIFICATE #4820.01

BACL
Bay Area Compliance Labs Corp.

FCC PART 15.249

TEST REPORT

For

Shenzhen Jiayz photo industrial ., Ltd

A16 Building,Intelligent Terminal Industrial Park of Silicon Valley Power, Guanlan, Longhua District, Shenzhen, China

FCC ID: 2ARN3-BLINK500PRXUC

Report Type:	**Product Type:**
Original Report	2.4GHz Dual-Channel Wireless Microphone

Report Number:	RSZ210302810-00A
Report Date:	2021-05-06
Reviewed By:	Ivan Cao Assistant Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:	2.4GHz Dual-Channel Wireless Microphone
EUT Model:	Blink500 Pro RXUC
Operation Frequency:	2406-2474MHz
Antenna Gain▲:	2.39 dBi
Modulation Type:	GFSK
Rated Input Voltage:	DC 5V from USB port
Serial Number:	RSZ210302810-RF-S1
EUT Received Date:	2021.03.03
EUT Received Status:	Good

Objective

This type approval report is prepared on behalf of ***Shenzhen Jiayz photo industrial ., Ltd*** in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Rules Part 15, Subpart C, and section 15.203, 15.205, 15.209, 15.215 and 15.249 rules.

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 %
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
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

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

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

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk "★".

SYSTEM TEST CONFIGURATION

Justification

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

The device employs total 18 channels as below:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2406	10	2442
2	2410	11	2446
3	2414	12	2450
4	2418	13	2454
5	2422	14	2458
6	2426	15	2462
7	2430	16	2466
8	2434	17	2470
9	2438	18	2474

EUT was tested with channel 1, 9 and 18.

EUT Exercise Software

The software " engineering mode "was used for testing and the maximum power was configured as below which was provided by the manufacturer▲:

Channel	Test Frequency (MHz)	Power level Setting
Low	2406	Default
Middle	2438	Default
High	2474	Default

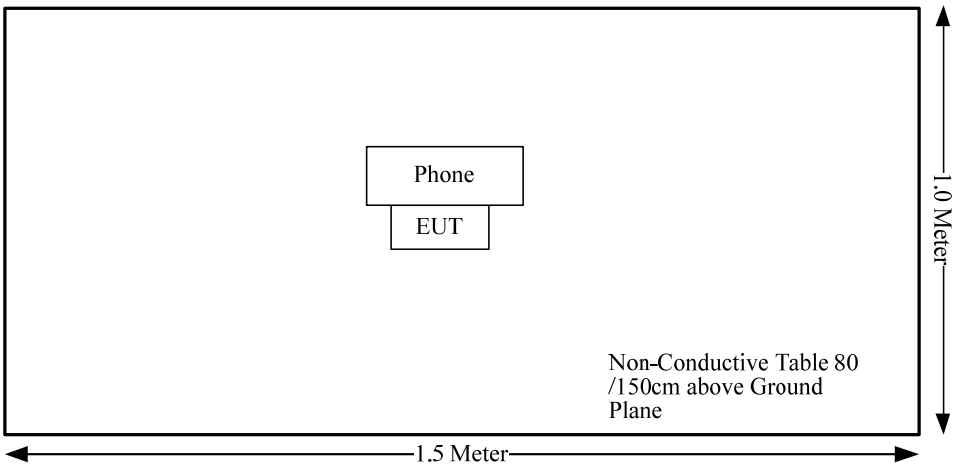
Equipment Modifications

No modifications were made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
huawei	phone	TAS-AN00	TAS-AN00-1

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207(a)	Conduction Emissions	Not Applicable
15.205, §15.209, §15.249	Radiated Emissions	Compliance
§15.215 (c)	20 dB Bandwidth	Compliance

Not Applicable: the device was powered by USB from mobile phone.

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 internal PCB Antenna permanently attached to the unit, the antenna gain is2.39 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliant.

FCC§15.205, §15.209&§15.249- RADIATED EMISSIONS

Applicable Standard

As per FCC§15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

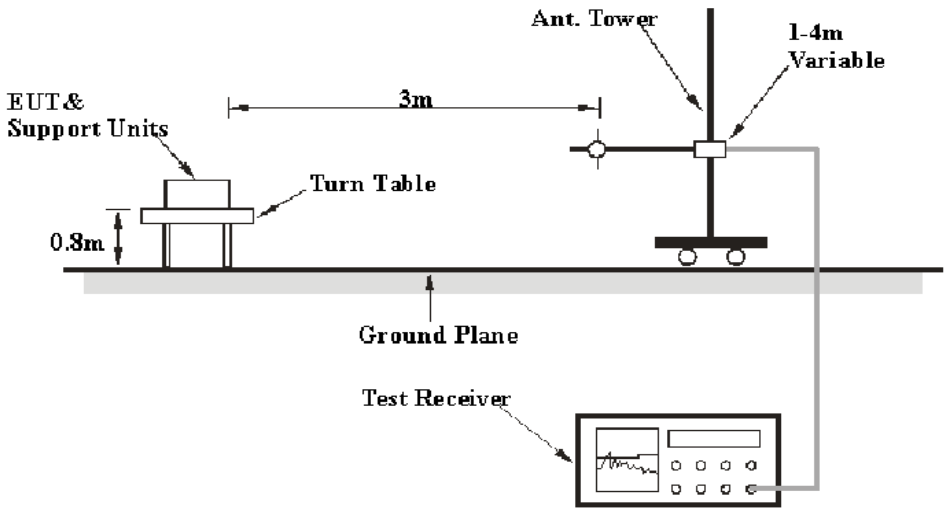
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

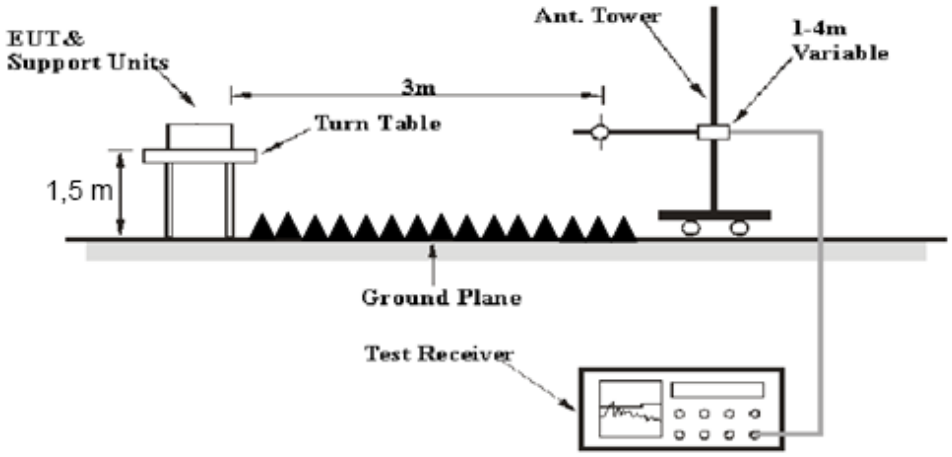
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

EUT Setup

Below 1 GHz:



1-25 GHz:



The radiated emission below 1GHz tests were performed in the 10 meters chamber test site, above 1GHz tests were performed in the 3 meters chamber test site B, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.249 limits.

Test Equipment Setup

The system was investigated from 30 MHz to 25 GHz.

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

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	AV

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz - 1 GHz, peak and average detection modes for frequencies above 1 GHz.

Corrected Amplitude & Margin Calculation

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

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

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

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiation Below 1GHz					
Sunol Sciences	Antenna	JB3	A060611-2	2020-08-25	2023-08-25
R&S	EMI Test Receiver	ESCI	100224	2020-09-12	2021-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-02	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2020-09-24	2021-09-24
Sonoma	Amplifier	310N	185914	2020-10-13	2021-10-13
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Radiation Above 1GHz					
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2020-12-05	2023-12-04
Agilent	Spectrum Analyzer	E4440A	SG43360054	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-2.4J2.4J-50	C-0700-02	2020-06-27	2021-06-27
Mini-Circuit	Amplifier	ZVA-213-S+	54201245	2020-09-05	2021-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2020-06-27	2021-06-27
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
E-Microwave	Band-stop Filters	OBSF-2400-2483.5-S	OE01601525	2020-06-16	2021-06-16
Mini Circuits	High Pass Filter	VHF-6010+	31118	2020-06-16	2021-06-16

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

Test Data

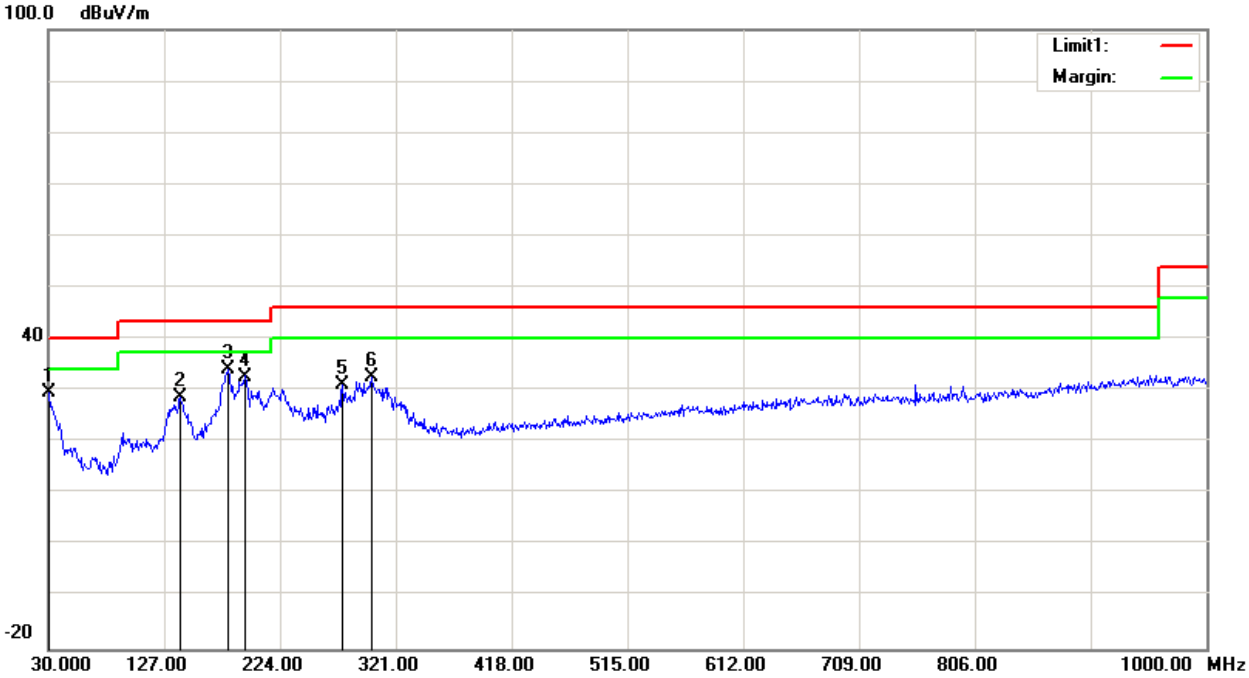
Environmental Conditions

Test Items	Radiation Below 1GHz	Radiation Above 1GHz
Temperature:	26.6°C	22.6°C
Relative Humidity:	54 %	30 %
ATM Pressure:	101.5kPa	102.1 kPa
Tester:	King wang	Lee Li
Test Date:	2021-03-20	2021-03-23

Test Mode: Transmitting

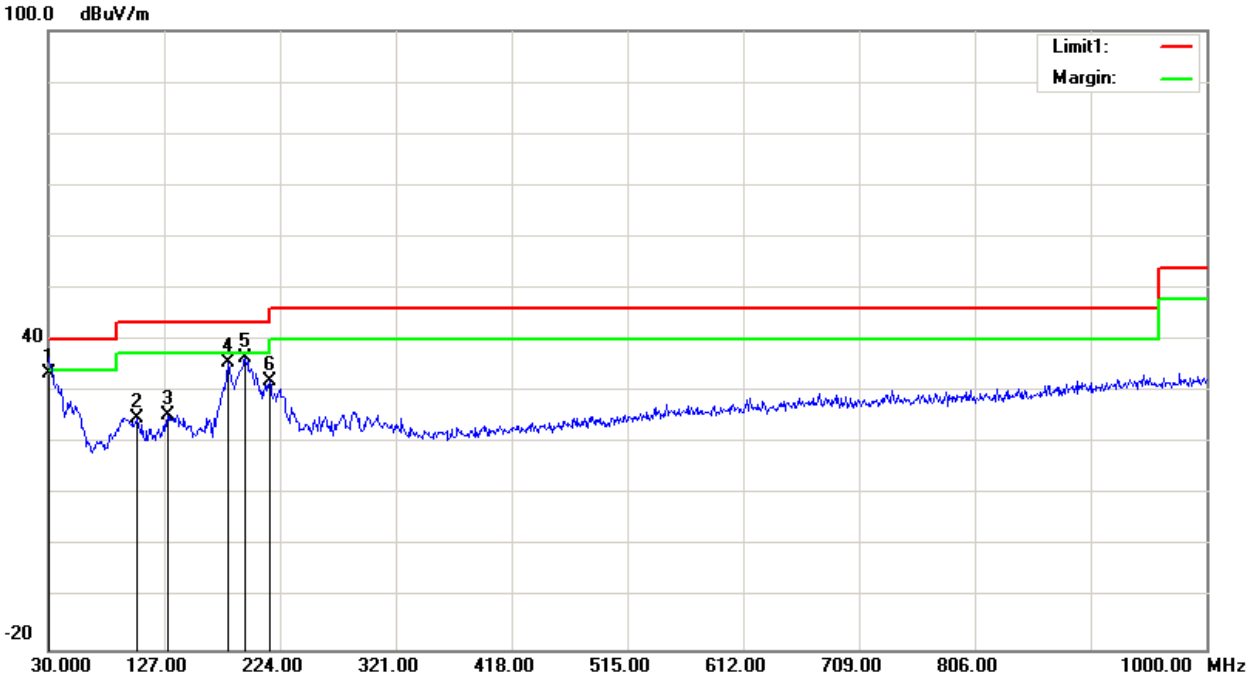
1) 30MHz-1GHz(High channel was the worst)

Horizontal:



Frequency (MHz)	Reading (dBµV)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	33.77	peak	-4.10	29.67	40.00	10.33
140.5800	37.94	peak	-9.22	28.72	43.50	14.78
180.3500	44.04	peak	-9.83	34.21	43.50	9.29
194.9000	42.73	peak	-9.93	32.80	43.50	10.70
276.3800	39.66	peak	-8.60	31.06	46.00	14.94
300.6300	40.06	peak	-7.35	32.71	46.00	13.29

Vertical:

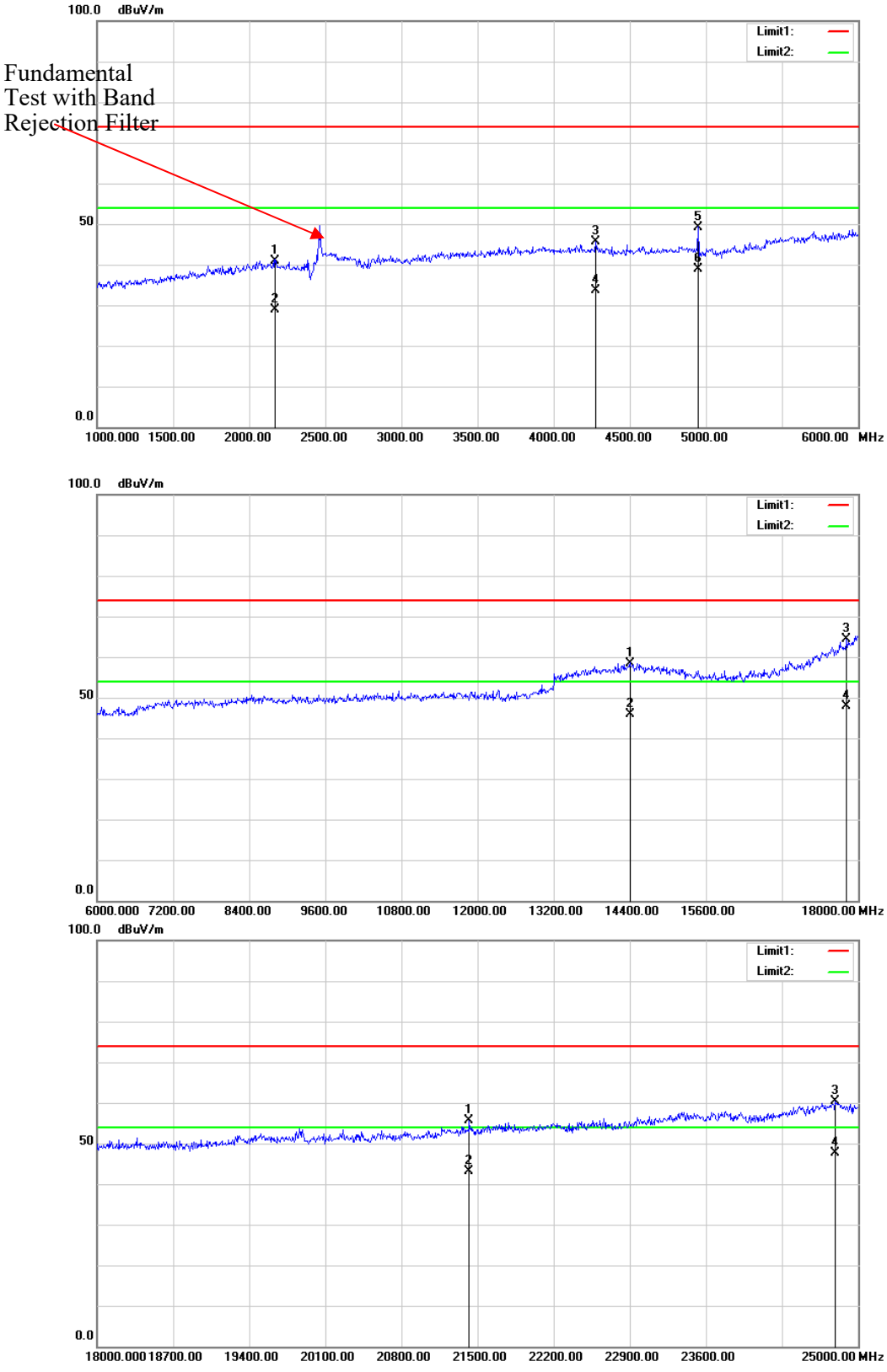


Frequency (MHz)	Reading (dBµV)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	37.66	QP	-4.10	33.56	40.00	6.44
104.6900	38.56	peak	-13.58	24.98	43.50	18.52
129.9100	35.09	peak	-9.68	25.41	43.50	18.09
180.3500	45.53	peak	-9.83	35.70	43.50	7.80
194.9000	46.42	peak	-9.93	36.49	43.50	7.01
215.2700	43.32	peak	-11.19	32.13	43.50	11.37

2) 1GHz-25GHz:

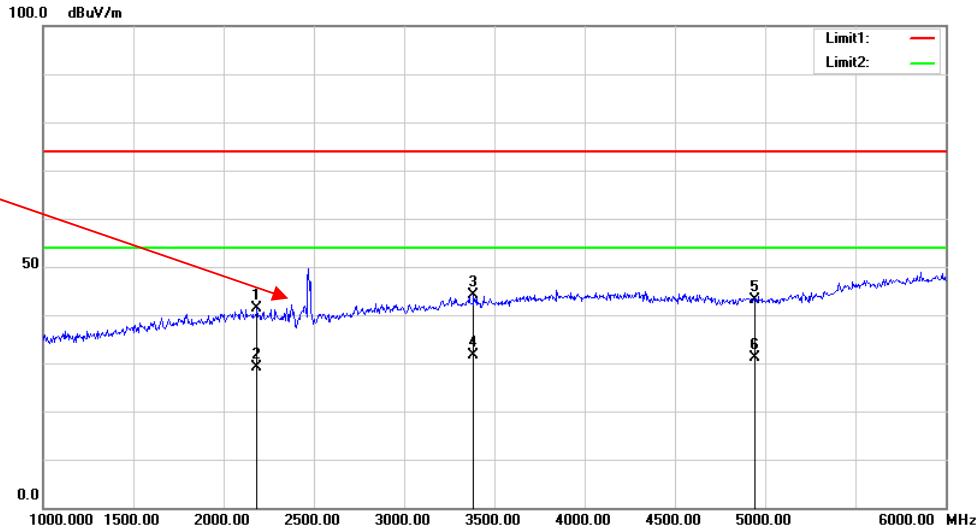
Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Limit	Margin
	Reading	Detector	Polar	Factor					
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dB
Low Channel 2406 MHz									
2406.00	66.21	PK	H	28.11	1.80	0.00	96.12	113.98	17.86
2406.00	62.86	AV	H	28.11	1.80	0.00	92.77	93.98	1.21
2406.00	59.80	PK	V	28.11	1.80	0.00	89.71	113.98	24.27
2406.00	56.49	AV	V	28.11	1.80	0.00	86.40	93.98	7.58
2400.00	26.75	PK	H	28.10	1.80	0.00	56.65	74.00	17.35
2400.00	15.35	AV	H	28.10	1.80	0.00	45.25	54.00	8.75
4812.00	37.07	PK	H	32.92	3.18	25.61	47.56	74.00	26.44
4812.00	26.31	AV	H	32.92	3.18	25.61	36.80	54.00	17.20
7218.00	35.22	PK	H	35.77	4.80	25.62	50.17	74.00	23.83
7218.00	23.35	AV	H	35.77	4.80	25.62	38.30	54.00	15.70
Middle Channel 2438 MHz									
2438.00	64.54	PK	H	28.18	1.82	0.00	94.54	113.98	19.44
2438.00	61.30	AV	H	28.18	1.82	0.00	91.30	93.98	2.68
2438.00	58.07	PK	V	28.18	1.82	0.00	88.07	113.98	25.91
2438.00	54.61	AV	V	28.18	1.82	0.00	84.61	93.98	9.37
4876.00	37.64	PK	H	33.05	3.27	25.65	48.31	74.00	25.69
4876.00	27.62	AV	H	33.05	3.27	25.65	38.29	54.00	15.71
7314.00	35.08	PK	H	36.02	4.63	25.72	50.01	74.00	23.99
7314.00	23.20	AV	H	36.02	4.63	25.72	38.13	54.00	15.87
High Channel 2474 MHz									
2474.00	63.31	PK	H	28.25	1.84	0.00	93.40	113.98	20.58
2474.00	60.07	AV	H	28.25	1.84	0.00	90.16	93.98	3.82
2474.00	54.56	PK	V	28.25	1.84	0.00	84.65	113.98	29.33
2474.00	51.07	AV	V	28.25	1.84	0.00	81.16	93.98	12.82
2483.50	26.39	PK	H	28.27	1.84	0.00	56.50	74.00	17.50
2483.50	13.80	AV	H	28.27	1.84	0.00	43.91	54.00	10.09
4948.00	38.35	PK	H	33.20	3.24	25.64	49.15	74.00	24.85
4948.00	27.96	AV	H	33.20	3.24	25.64	38.76	54.00	15.24
7422.00	35.18	PK	H	36.30	4.45	25.83	50.10	74.00	23.90
7422.00	23.30	AV	H	36.30	4.45	25.83	38.22	54.00	15.78

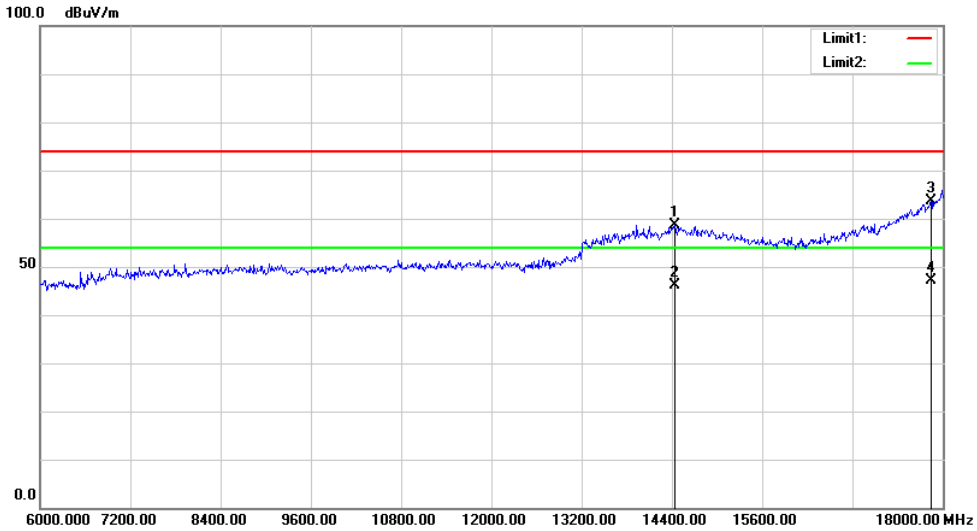
Test plots(High Channel was the worst):
Horizontal

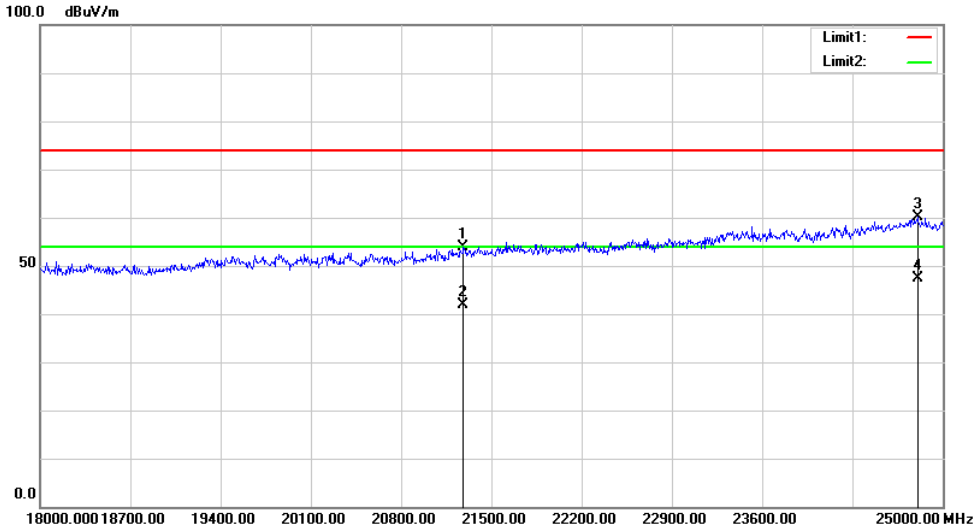


Vertical:

Fundamental Test with Band Rejection Filter







FCC §15.215(c) – 20 dB BANDWIDTH TESTING

Applicable Standard

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
3. 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	FSU 26	200256	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	N/A

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

Test Data

Environmental Conditions

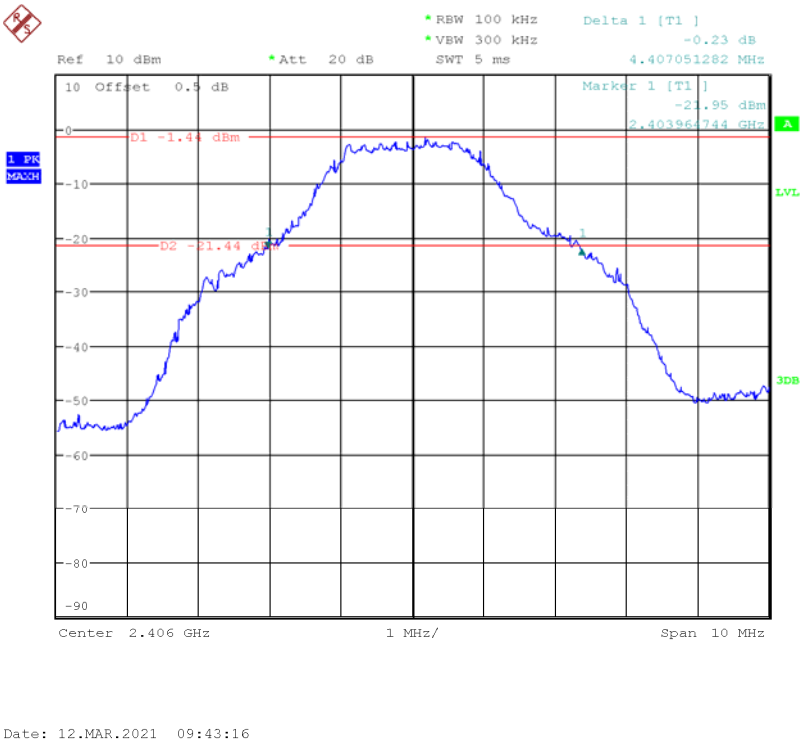
Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	101.2 kPa
Tester:	Taylor Li
Test Date:	2021-03-12

Test Result: Compliant. Please refer to following tables and plots

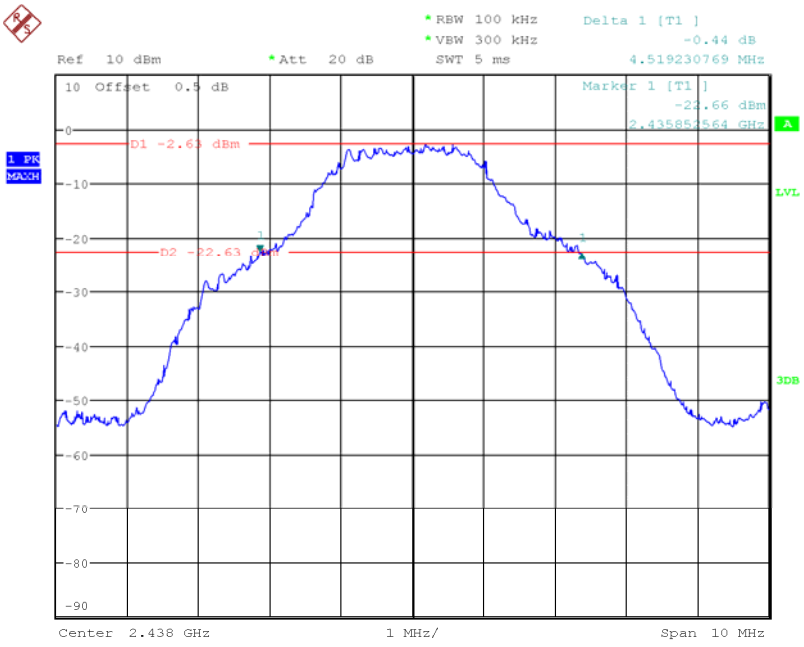
Test Mode: Transmitting

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	2406	4.407
Middle	2438	4.519
High	2474	4.808

2406 MHz



2438MHz



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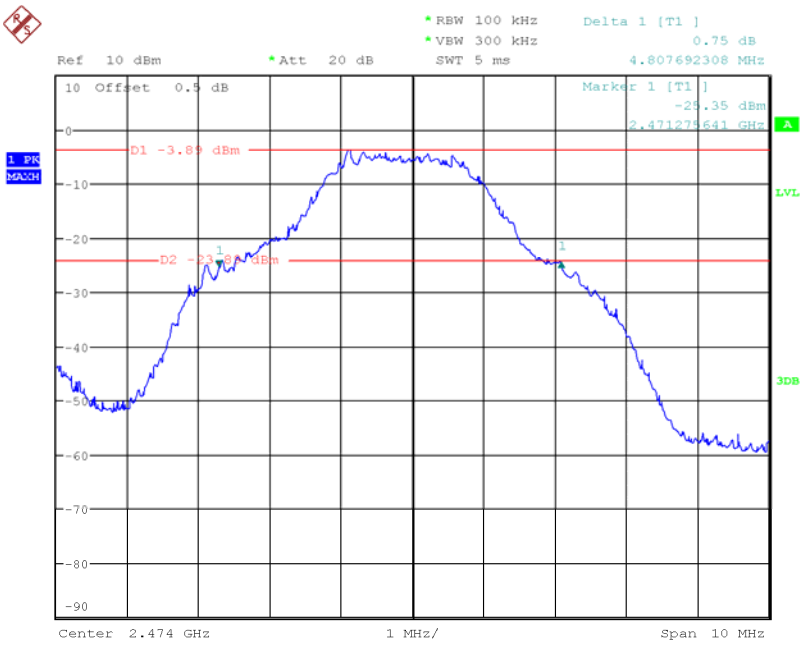
2474 MHz



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