

FCC PART 15.249 TEST REPORT

For

Zhejiang Libiao Robotics Co., Ltd.

Building 22 Project Y Xixi art collection Village Fangxi Road, Hangzhou, Zhejiang, China

FCC ID: 2AQQMLBCRB30

Report Type: Original Report	Product Type: Crossbelt Robot
Test Engineer:	Winnie Yang
Report Number:	RSA200511002-00A
Report Date:	2020-06-15
Reviewed By:	Oscar Ye EMC Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu province, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 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. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
MEASUREMENT UNCERTAINTY	4
TEST FACILITY	4
SYSTEM TEST CONFIGURATION.....	5
JUSTIFICATION	5
EUT EXERCISE SOFTWARE	6
SUPPORT EQUIPMENT LIST AND DETAILS	6
EXTERNAL I/O CABLE.....	6
BLOCK DIAGRAM OF TEST SETUP	7
SUMMARY OF TEST RESULTS	9
TEST EQUIPMENT LIST	10
FCC§15.203 - ANTENNA REQUIREMENT.....	11
APPLICABLE STANDARD	11
ANTENNA CONNECTOR CONSTRUCTION	11
FCC §15.207 (A) – AC LINE CONDUCTED EMISSIONS	12
APPLICABLE STANDARD	12
EUT SETUP	12
EMI TEST RECEIVER SETUP.....	12
TEST PROCEDURE	12
FACTOR & OVER LIMIT CALCULATION.....	13
TEST RESULTS SUMMARY	13
TEST DATA	13
FCC§15.205, §15.209&§15.249- RADIATED EMISSIONS & OUT OF BAND EMISSION.....	16
APPLICABLE STANDARD	16
EUT SETUP	16
TEST EQUIPMENT SETUP	17
TEST PROCEDURE	17
CORRECTED AMPLITUDE & MARGIN CALCULATION	18
TEST RESULTS SUMMARY	18
TEST DATA	18
FCC §15.215(C) – 20 DB BANDWIDTH TESTING.....	24
APPLICABLE STANDARD	24
TEST PROCEDURE	24
TEST DATA	24

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Zhejiang Libiao Robotics Co., Ltd.
Tested Model:	LBCRB30
Product Type:	Crossbelt Robot
Power Supply:	DC 4.6V from lithium batteries
RF Function:	SRD
Operating Band/Frequency:	904.25~926.25 MHz
Channel Number:	89
Channel Separation:	250 kHz
Antenna Type:	Spring Antenna
Maximum Antenna Gain	-5.02 dBi

All measurement and test data in this report was gathered from production sample serial number: 20200511002. (Assigned by BACL, Kunshan). The EUT was received on 2020-05-11.

Objective

This type approval report is prepared on behalf of *Zhejiang Libiao Robotics Co., Ltd.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commission rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209, 15.249 and 15.215 rules.

Related Submittal(s)/Grant(s)

FCC Part 15.225 DXX Submittal with FCC ID: 2AQQMLBCRB30
Part of system Grant with FCC ID: 2AQQMLBAP-102LU-900

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 radiated and conducted emissions measurement was performed at Bay Area Compliance Lab Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19 dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0°C
Humidity		6%

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Justification

Channel list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
9	904.25	41	912.25	73	920.25
10	904.5	42	912.5	74	920.5
11	904.75	43	912.75	75	920.75
12	905	44	913	76	921
13	905.25	45	913.25	77	921.25
14	905.5	46	913.5	78	921.5
15	905.75	47	913.75	79	921.75
16	906	48	914	80	922
17	906.25	49	914.25	81	922.25
18	906.5	50	914.5	82	922.5
19	906.75	51	914.75	83	922.75
20	907	52	915	84	923
21	907.25	53	915.25	85	923.25
22	907.5	54	915.5	86	923.5
23	907.75	55	915.75	87	923.75
24	908	56	916	88	924
25	908.25	57	916.25	89	924.25
26	908.5	58	916.5	90	924.5
27	908.75	59	916.75	91	924.75
28	909	60	917	92	925
29	909.25	61	917.25	93	925.25
30	909.5	62	917.5	94	925.5
31	909.75	63	917.75	95	925.75
32	910	64	918	96	926
33	910.25	65	918.25	97	926.25
34	910.5	66	918.5	/	/
35	910.75	67	918.75	/	/
36	911	68	919	/	/
37	911.25	69	919.25	/	/
38	911.5	70	919.5	/	/
39	911.75	71	919.75	/	/
40	912	72	920	/	/

EUT was tested with channel 9, 53, 97.

EUT Exercise Software

RF test tool: Test RF

Pre-scan with all the data rates, and the worst case was performed as below:

Frequency(MHz)	Power Setting
904.25	50
915.25	48
926.25	45

Support Equipment List and Details

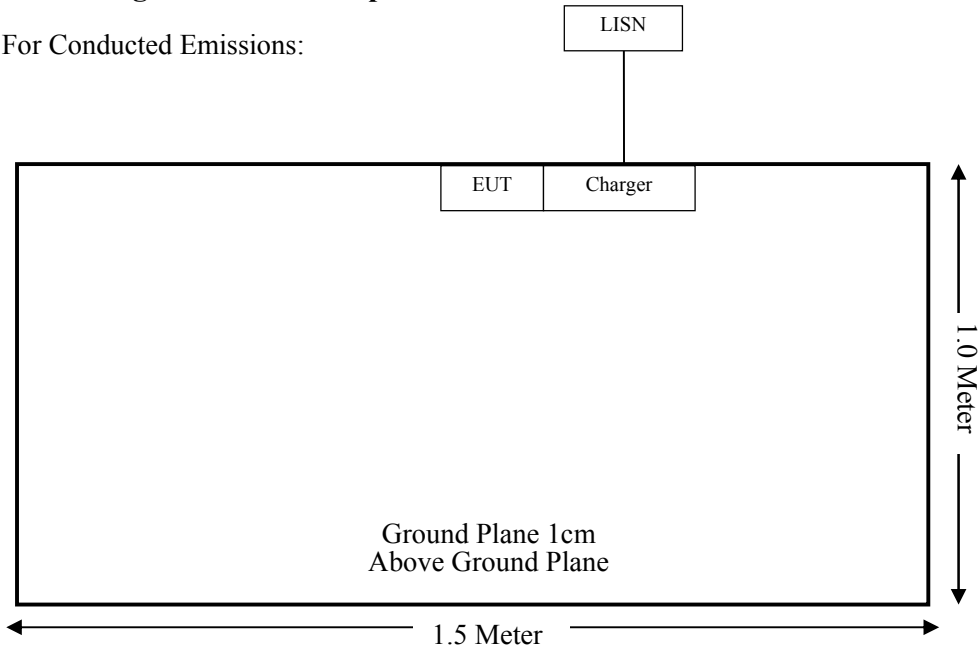
Manufacturer	Description	Model	Serial Number
MEAN WELL	Charger	RSP-320-5	/

External I/O Cable

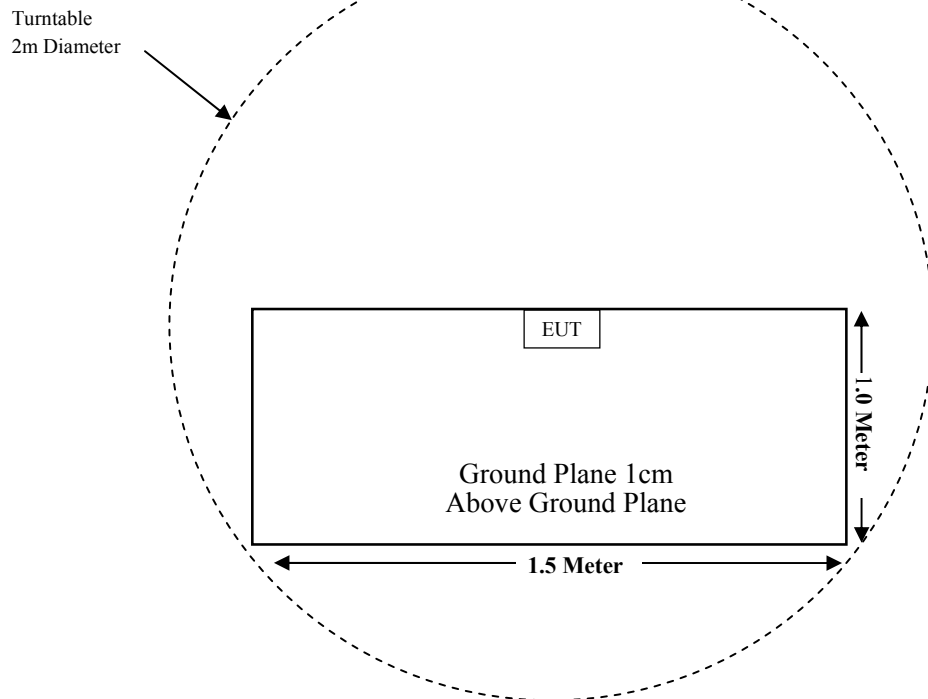
Cable Description	Length (m)	From Port	To
Power cable	1.0	Charger	AC source

Block Diagram of Test Setup

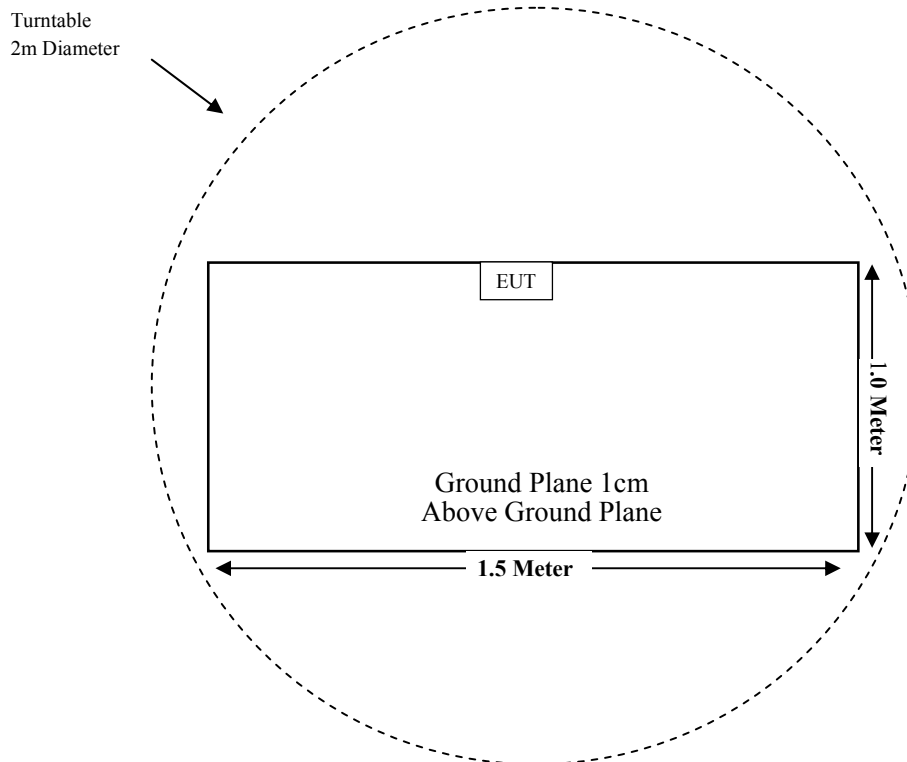
For Conducted Emissions:



For Radiated Emissions(Below 1GHz):



For Radiated Emissions(Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	AC Line Conducted Emissions	Compliant
15.205, §15.209, §15.249	Radiated Emissions& Out of Band Emission	Compliant
§15.215 (c)	20 dB Bandwidth	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber 1#)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2019-12-14	2020-12-13
Sunol Sciences	Broadband Antenna	JB3	A090413-1	2017-12-26	2020-12-25
Sonoma Instrument	Pre-amplifier	310N	171205	2019-08-14	2020-08-13
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-8	008	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2019-08-15	2020-08-14
Radiated Emission Test (Chamber 2#)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2020-04-01	2021-03-31
ETS-LINDGREN	Horn Antenna	3115	9207-3900	2017-07-15	2020-07-14
MICRO-TRONICS	Band Reject Filter	BRC50722	G013	2019-08-05	2020-08-04
A.H.Systems,inc	Amplifier	PAM-0118P	512	2020-02-20	2021-02-19
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-6	006	2019-12-12	2020-12-11
MICRO-COAX	Coaxial Cable	Cable-11	011	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-12	012	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-13	013	2019-08-15	2020-08-14
RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	ESIB26	100146	2019-12-14	2020-12-13
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048/027	2019-12-14	2020-12-13
Narda	Attenuator	10dB	010	2019-08-15	2020-08-14
Hangzhou Meari	RF Cable	Hangzhou Meari C01	C01	Each Time	/
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2019-08-05	2020-08-04
Rohde & Schwarz	LISN	ENV216	101115	2019-12-14	2020-12-13
Audix	Test Software	e3	V9	/	/
Rohde & Schwarz	Pulse limiter	ESH3-Z2	357.8810.52	2020-01-10	2021-01-09
MICRO-COAX	Coaxial Cable	Cable-15	015	2019-08-15	2020-08-14

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

FCC§15.203 - ANTENNA REQUIREMENT

Applicable Standard

For intentional device, 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.

Antenna Connector Construction

The EUT has a Spring Antenna gain is -5.02 dBi, which was permanently attached to the EUT, fulfill the requirement of this section, please refer to the EUT photos.

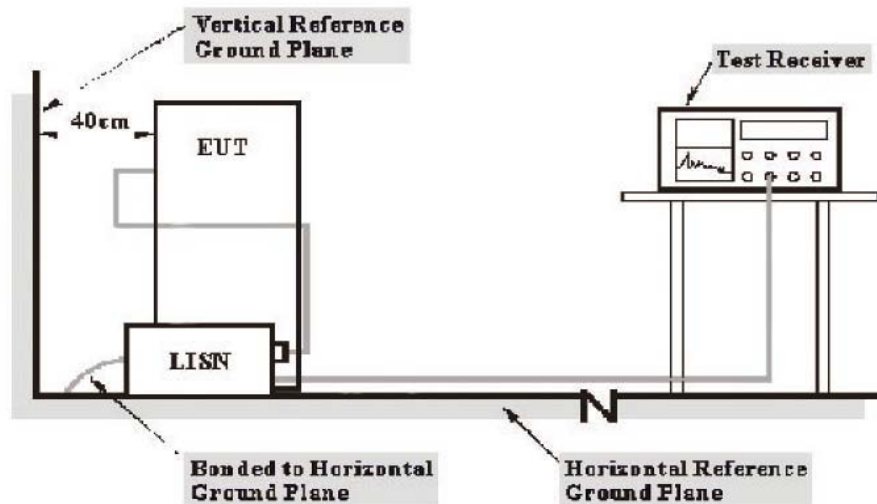
Result: Compliant.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 30 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.

EMI Test Receiver Setup

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

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

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

Test Procedure

During the conducted emission test, the Charger was connected to the outlet of the LISN.

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

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

Factor & Over Limit Calculation

The factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Factor (dB)} = \text{LISN VDF (dB)} + \text{Cable Loss (dB)} + \text{Transient Limiter Attenuation (dB)}$$

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of 7dB means the emission is 7 dB above the limit. The equation for Over Limit calculation is as follows:

$$\text{Over Limit (dB)} = \text{Read level (dB}\mu\text{V)} + \text{Factor (dB)} - \text{Limit (dB}\mu\text{V)}$$

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data

Environmental Conditions

Temperature:	20°C
Relative Humidity:	50%
ATM Pressure:	101.2 kPa

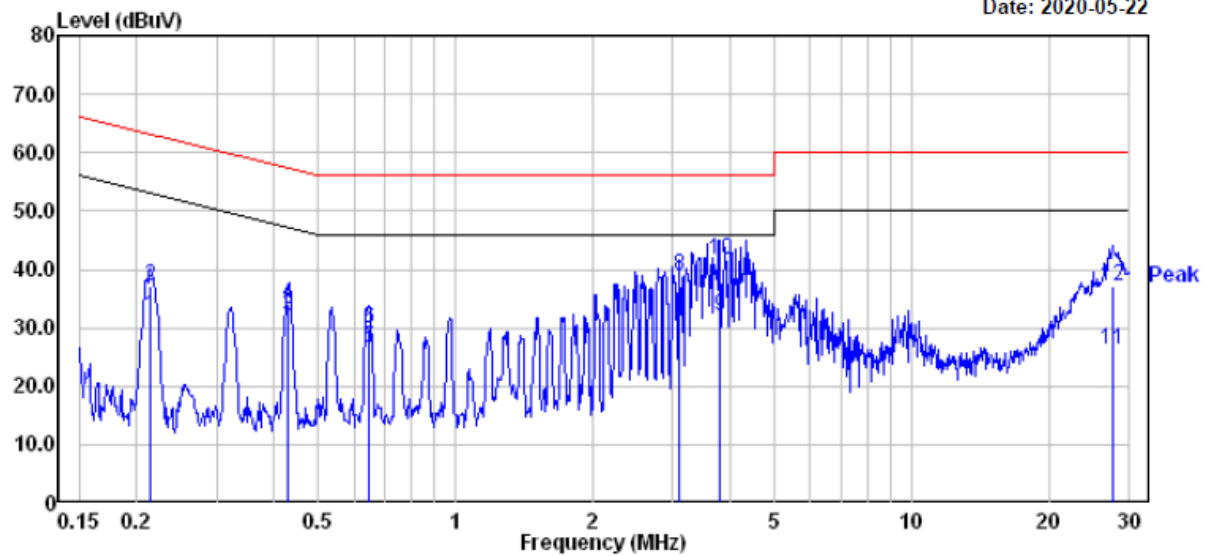
The testing was performed by Winnie Yang on 2020-05-22.

Test Result: Compliant.

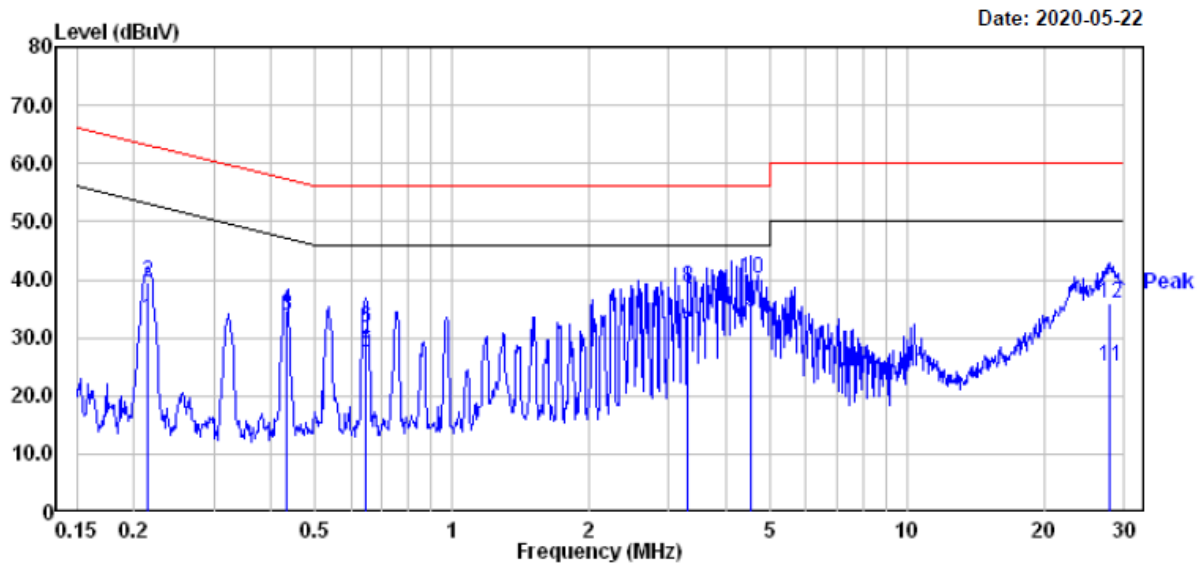
EUT operation mode: Charging

AC 120V/60 Hz, Line

Date: 2020-05-22



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.214	12.30	19.82	32.12	53.05	-20.93	Average
2	0.214	17.20	19.82	37.02	63.05	-26.03	QP
3	0.431	12.40	19.75	32.15	47.24	-15.09	Average
4	0.431	14.50	19.75	34.25	57.24	-22.99	QP
5	0.644	6.90	19.75	26.65	46.00	-19.35	Average
6	0.644	10.10	19.75	29.85	56.00	-26.15	QP
7	3.107	9.80	19.46	29.26	46.00	-16.74	Average
8	3.107	19.40	19.46	38.86	56.00	-17.14	QP
9	3.799	12.60	19.47	32.07	46.00	-13.93	Average
10	3.799	22.30	19.47	41.77	56.00	-14.23	QP
11	27.562	6.40	19.74	26.14	50.00	-23.86	Average
12	27.562	17.30	19.74	37.04	60.00	-22.96	QP

AC 120V/60 Hz, Neutral

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.215	13.30	19.82	33.12	53.01	-19.89	Average
2	0.215	19.80	19.82	39.62	63.01	-23.39	QP
3	0.433	14.10	19.75	33.85	47.20	-13.35	Average
4	0.433	14.90	19.75	34.65	57.20	-22.55	QP
5	0.644	7.80	19.75	27.55	46.00	-18.45	Average
6	0.644	11.80	19.75	31.55	56.00	-24.45	QP
7	3.310	11.30	19.46	30.76	46.00	-15.24	Average
8	3.310	19.10	19.46	38.56	56.00	-17.44	QP
9	4.549	14.79	19.49	34.28	46.00	-11.72	Average
10	4.549	20.79	19.49	40.28	56.00	-15.72	QP
11	28.003	5.31	19.74	25.05	50.00	-24.95	Average
12	28.003	16.21	19.74	35.95	60.00	-24.05	QP

Note:

1) Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)

2) Over Limit (dB) = Read level (dBuV) + Factor (dB) - Limit (dBuV)

FCC§15.205, §15.209&§15.249- RADIATED EMISSIONS & OUT OF BAND EMISSION

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:

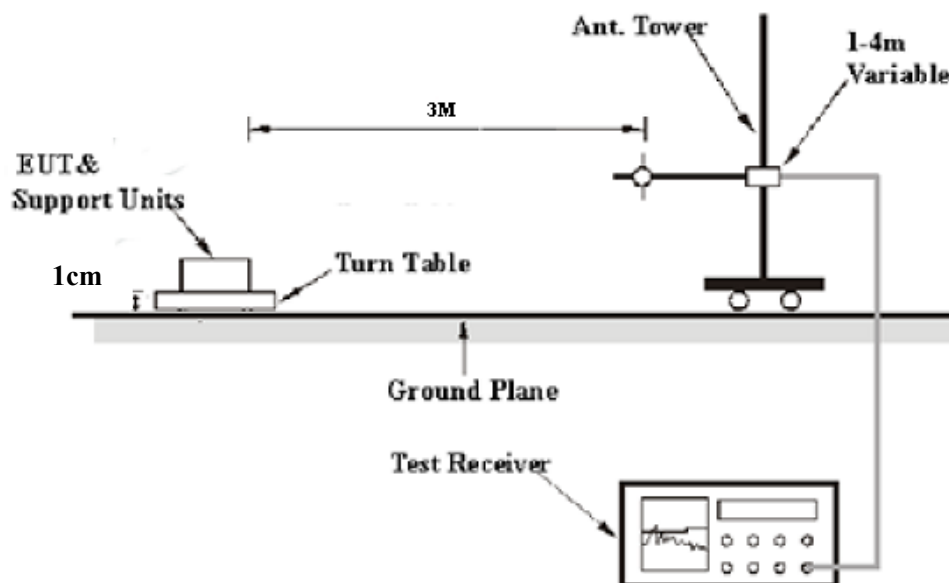
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24GHz-24.25GHz	250	2500

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

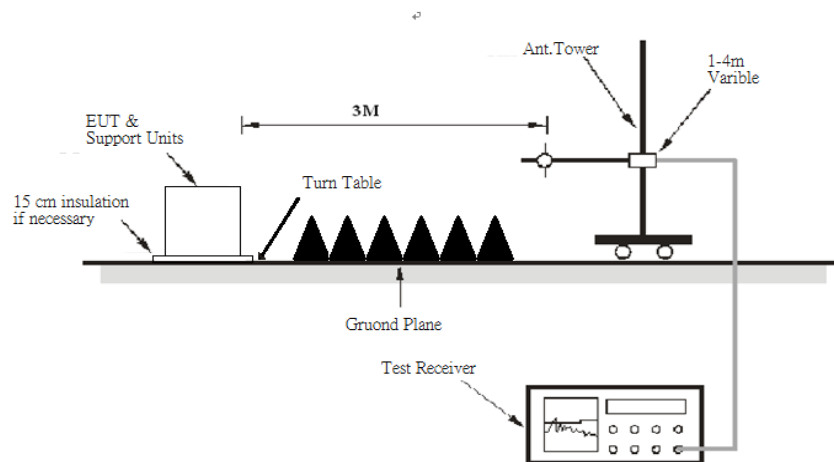
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission and out of band 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 15.209/15.205 and FCC 15.249 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

Test Equipment Setup

The system was investigated from 30 MHz to 10GHz.

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

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	PK
	1MHz	3 MHz	/	Ave

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:

$$\text{Corrected Amplitude (dB}\mu\text{V/m)} = \text{Meter Reading (dB}\mu\text{V)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Amplifier Gain (dB)}$$

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:

$$\text{Margin (dB)} = \text{Limit (dB}\mu\text{V/m)} - \text{Corrected Amplitude (dB}\mu\text{V/m)}$$

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 &15.205 & 15.249.

Test Data

Environmental Conditions

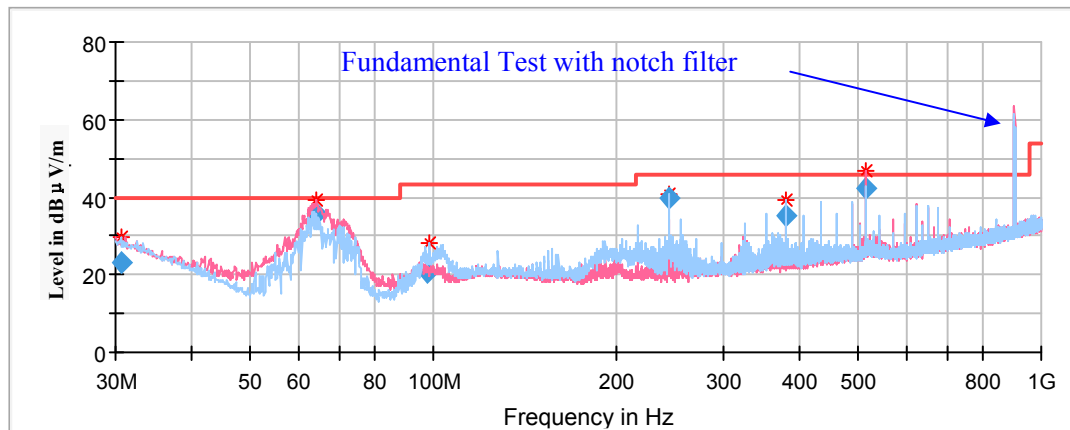
Temperature:	19.5°C
Relative Humidity:	50%
ATM Pressure:	101.1kPa

The testing was performed by Winnie Yang on 2020-05-26.

Test Mode: Transmitting

Spurious Emission Test:**30 MHz - 1 GHz**

(Pre-scan in the X,Y and Z axes of orientation, the worst case **in Z-axis of orientation** was recorded.)



Frequency (MHz)	Corrected Amplitude QuasiPeak (dBμV/m)	Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
		Height (cm)	Polar (H/V)				
30.72	23.28	200.0	V	13.0	-4.4	40.00	16.72
64.20	35.67	100.0	V	0.0	-17.7	40.00	4.33
97.79	20.85	200.0	H	336.0	-15.5	43.50	22.65
244.13	39.72	200.0	H	94.0	-12.1	46.00	6.28
379.69	35.37	100.0	H	140.0	-8.6	46.00	10.63
515.40	42.24	100.0	V	99.0	-6.0	46.00	3.76

Note:

Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)

Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)

Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV /m)

1GHz-10GHz

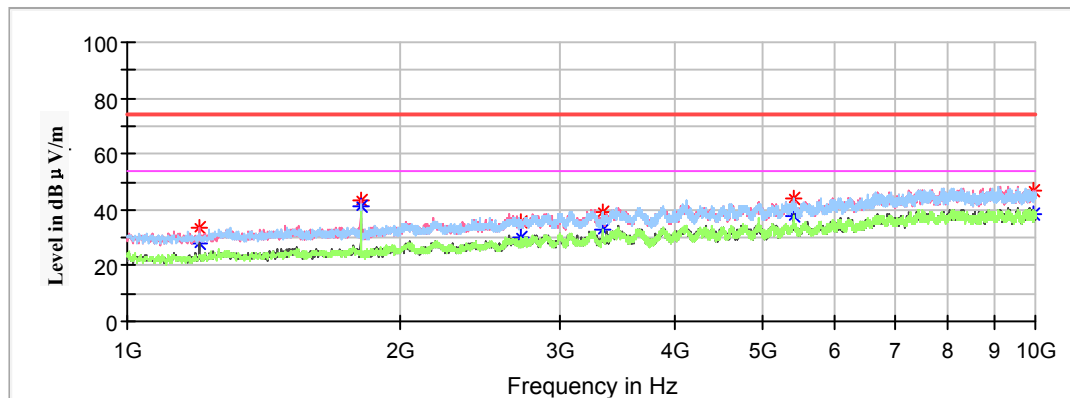
(Pre-scan in the X,Y and Z axes of orientation, the worst case X-axis of orientation was recorded.)

Note:

- Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) - Amplifier Factor (dB)
 Corrected Amplitude (dB μ V/m) = Corrected Factor (dB/m) + Reading (dB μ V)
 Margin (dB) = Limit (dB μ V/m) - Corrected Amplitude (dB μ V/m)

Low Channel: 904.25 MHz

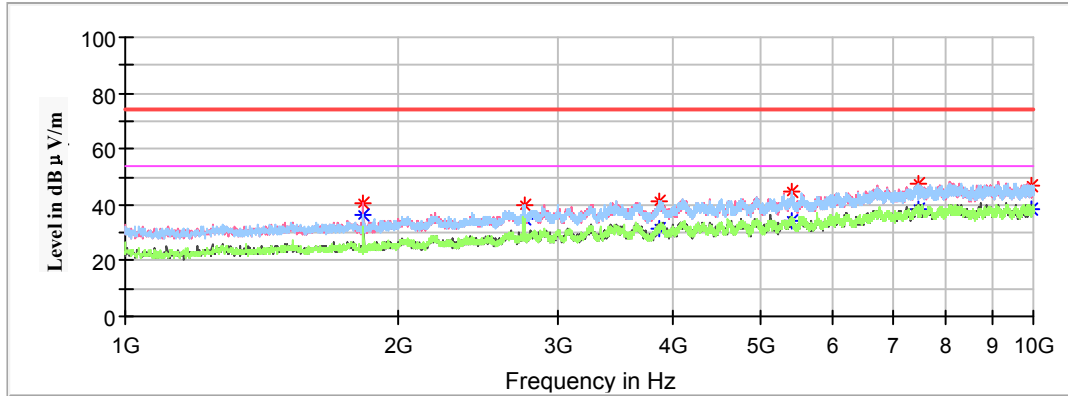
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dB μ V/m)	Margin (dB)
	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Height (cm)	Polar (H/V)				
1199.80	---	28.23	200.0	V	329.0	-18.0	54.00	25.77
1199.80	33.31	---	200.0	V	329.0	-18.0	74.00	40.69
1808.50	43.01	---	200.0	V	21.0	-15.2	74.00	30.99
1808.50	---	41.27	200.0	V	21.0	-15.2	54.00	12.73
2712.75	35.44	---	200.0	H	338.0	-11.4	74.00	38.56
2712.75	---	29.75	200.0	H	338.0	-11.4	54.00	24.25
3338.20	---	33.02	150.0	H	0.0	-9.2	54.00	20.98
3338.20	39.02	---	150.0	H	0.0	-9.2	74.00	34.98
5429.80	---	37.52	200.0	H	96.0	-4.1	54.00	16.48
5429.80	43.76	---	200.0	H	96.0	-4.1	74.00	30.24
9931.60	---	38.39	150.0	V	208.0	1.9	54.00	15.61
9931.60	47.13	---	150.0	V	208.0	1.9	74.00	26.87

Middle Channel: 915.25 MHz

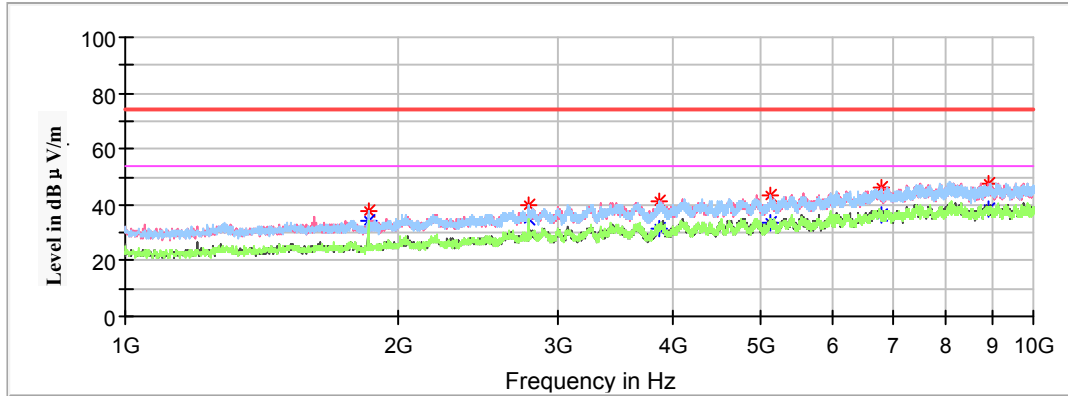
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV /m)	Average (dBμV /m)	Height (cm)	Polar (H/V)				
1830.50	---	36.53	200.0	V	33.0	-15.1	54.00	17.47
1830.50	40.77	---	200.0	V	33.0	-15.1	74.00	33.23
2745.75	40.10	---	150.0	H	23.0	-11.3	74.00	33.90
2745.75	---	35.18	150.0	H	23.0	-11.3	54.00	18.82
3878.20	41.18	---	200.0	H	9.0	-7.4	74.00	32.82
3878.20	---	31.76	200.0	H	9.0	-7.4	54.00	22.24
5418.10	44.78	---	150.0	H	94.0	-4.1	74.00	29.22
5418.10	---	34.43	150.0	H	94.0	-4.1	54.00	19.57
7453.00	47.31	---	150.0	H	341.0	0.9	74.00	26.69
7453.00	---	38.74	150.0	H	341.0	0.9	54.00	15.26
9929.80	---	38.18	200.0	H	352.0	1.9	54.00	15.82
9929.80	47.13	---	200.0	V	123.0	1.9	74.00	26.87

High Channel: 926.25 MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dB μ V/m)	Margin (dB)
	MaxPeak (dB μ V /m)	Average (dB μ V /m)	Height (cm)	Polar (H/V)				
1852.50	---	34.32	150.0	H	52.0	-15.0	54.00	19.68
1852.50	37.83	---	150.0	H	52.0	-15.0	74.00	36.17
2778.50	---	35.07	200.0	H	358.0	-11.1	54.00	18.93
2778.50	39.75	---	200.0	H	358.0	-11.1	74.00	34.25
3866.50	---	31.54	200.0	H	0.0	-7.5	54.00	22.46
3866.50	41.56	---	200.0	H	0.0	-7.5	74.00	32.44
5131.00	---	33.90	200.0	V	122.0	-4.8	54.00	20.10
5131.00	43.47	---	200.0	V	122.0	-4.8	74.00	30.53
6800.50	---	36.23	150.0	H	66.0	-0.5	54.00	17.77
6800.50	46.00	---	150.0	H	66.0	-0.5	74.00	28.00
8927.20	---	38.16	200.0	V	223.0	1.8	54.00	15.84
8927.20	47.38	---	200.0	V	223.0	1.8	74.00	26.62

Fundamental Test & Restricted Bands Emissions Test:

(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.)

Note:

1. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)

Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)

Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Frequency (MHz)	Corrected Amplitude	Detector	Rx Antenna		Turntable	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	(dBμV/m)		(PK/QP/Ave.)	Height (cm)	Polar (H/V)			
Channel Frequency: 904.25 MHz								
904.25	91.47	QP	200	H	242	0.10	94	2.53
904.25	92.09	QP	200	V	342	0.10	94	1.91
902.00	35.47	QP	200	H	194	1.10	46	10.53
902.00	34.53	QP	200	V	256	1.10	46	11.47
Channel Frequency: 915.25MHz								
915.25	91.79	QP	200	H	242	0.40	94	2.21
915.25	92.56	QP	200	V	342	0.40	94	1.44
Channel Frequency: 926.25 MHz								
962.25	91.5	QP	100	H	245	0.70	94	2.50
962.25	92.65	QP	100	V	245	0.70	94	1.35
928.00	35.85	QP	200	H	217	1.20	46	10.15
928.00	34.11	QP	200	V	217	1.20	46	11.89

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. Position the EUT on the test table without connection to measurement instrument. Turn on the EUT. 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 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Test Data

Environmental Conditions

Temperature:	20°C
Relative Humidity:	50%
ATM Pressure:	101.3kPa

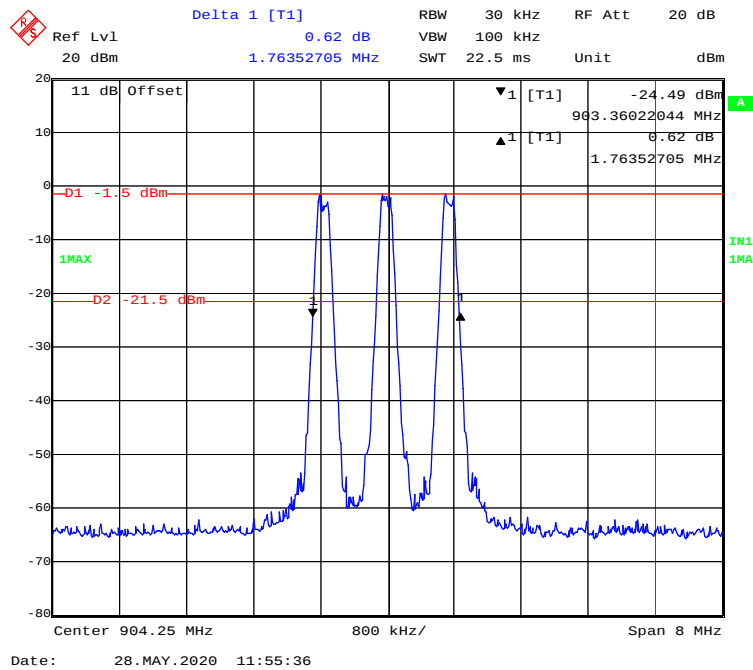
The testing was performed by Winnie Yang on 2020-05-28.

Test Result: Compliant.

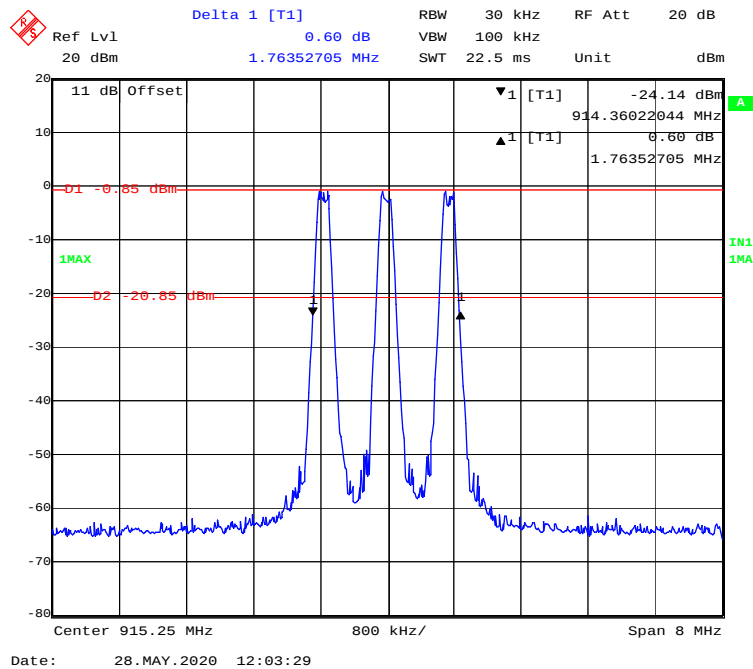
Test Mode: Transmitting

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	904.25	1.764
Middle	915.25	1.764
High	926.25	1.764

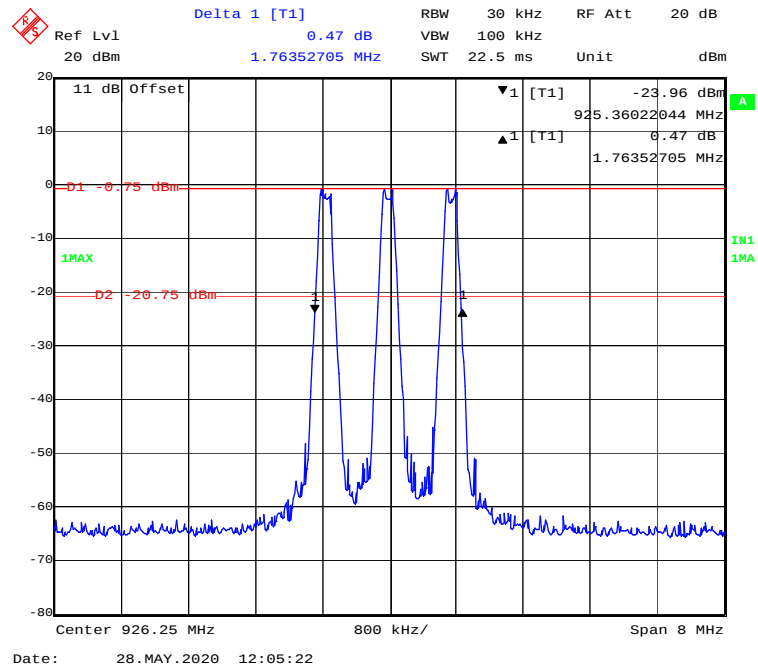
Low Channel



Middle Channel



High Channel



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