

TEST REPORT

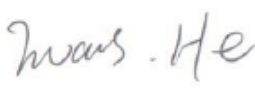
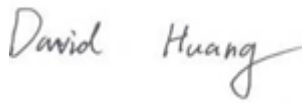
Applicant:	GUANGDONG SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD
Address:	NO.2 West Xingye Road Laimei Industrial Area Chenghai Shantou Guangdong China

Manufacturer or Supplier	GUANGDONG SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD
Address	NO.2 West Xingye Road Laimei Industrial Area Chenghai Shantou Guangdong China
Product:	DRONE
Brand Name:	N/A
Model:	X15T
Additional Model & Model Difference	W2、TG1004S etc. See item 3.1
Date of tests:	Oct. 19 to Nov. 28, 2019

the tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart C, Section 15.249**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Evans He Project Engineer / EMC Department	Approved by David Huang Supervisor / EMC Department
	 Date: Nov. 29, 2019

This report is governed by, and incorporates by reference, CPS Conditions of Service as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1 SUMMARY OF TEST RESULTS	4
2 MEASUREMENT UNCERTAINTY	4
3 GENERAL INFORMATION	5
3.1 GENERAL DESCRIPTION OF EUT	5
3.2 DESCRIPTION OF TEST MODES	6
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS	8
3.4 DESCRIPTION OF SUPPORT UNITS.....	8
4. TEST TYPES AND RESULTS	9
4.1 RADIATED EMISSION MEASUREMENT	9
4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT	9
4.1.2 TEST INSTRUMENTS.....	10
4.1.3 TEST PROCEDURES.....	11
4.1.4 DEVIATION FROM TEST STANDARD	11
4.1.5 TEST SETUP	12
4.1.6 EUT OPERATING CONDITIONS	13
4.1.7 TEST RESULTS	14
4.2 20dB BANDWIDTH MEASUREMENT	21
4.2.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT	21
4.2.2 TEST INSTRUMENTS.....	21
4.2.3 TEST PROCEDURE.....	22
4.2.4 DEVIATION FROM TEST STANDARD	22
4.2.5 TEST SETUP.....	22
4.2.6 EUT OPERATING CONDITIONS	22
4.2.7 TEST RESULTS.....	23
5. PHOTOGRAPHS OF THE TEST CONFIGURATION	25
6. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	26



Test Report No.: RF191012N019

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF191012N019	Original release	Nov. 29, 2019

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.249)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
§15.203	Antenna Requirement	PASS	No antenna connector is used
§15.207 (a)	Conducted Emission	N/A	Powered from battery
§15.205	Restricted Band of Operation	PASS	Compliant
§15.209 §15.249(a)	Radiated Emission	PASS	Compliant
§15.215(c)	20dB Bandwidth Test	PASS	Compliant

NOTE: Test Lab Information:

Lab: Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch

Test Lab Address: Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
South Side of Zhoushi Road, Bao'an District Shenzhen, Guangdong, 518108,
People's Republic of China

2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	9kHz~30MHz	2.16dB
	30MHz ~ 1GMHz	3.74dB
	1GHz ~ 18GHz	4.66dB
	18GHz ~ 40GHz	4.67dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	DRONE
MODEL NO.	X15T
ADDITIONAL MODELS	W2、TG1004S、TG1004T、TG1004C、TF1002、TG1005、TF1003、TF1003P、SH1001
FCC ID	QV7-GC88752-36
NOMINAL VOLTAGE	Remote Control(TX): DC 6V from Battery
MODULATION TECHNOLOGY	GFSK
OPERATING FREQUENCY	2408-2472MHz
ANTENNA TYPE	Single wire,1dBi Gain for Remote Control
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB Line : Unshielded, Detachable 50cm

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 191012N019) for detailed product photo.
4. Additional models (see about table) are identical with the test model X15T except the color of the appearance and model name for trading purpose.

3.2 DESCRIPTION OF TEST MODES

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and packet type. The worst case was found when the EUT was positioned on Y axis for radiated emission. The EUT was tested under the following mode.

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE<1G	RE≥1G	PLC	BW	
A	√	√	-	√	DC 6V from Battery

Where **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission

RE≥1G: Radiated Emission above 1GHz
BW: 20db bandwidth

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

Following channel(s) was (were) selected for the test as listed below.

TESTED CHANNEL	TESTED FREQUENCY
Low	2408 MHz
Middle	2442 MHz
High	2472 MHz

Channel List

CHANNEL	FREQUENCY (GHZ)	CHANNEL	FREQUENCY (GHZ)	CHANNEL	FREQUENCY (GHZ)
1	2.408GHz	23	2.430GHz	45	2.452GHz
2	2.409GHz	24	2.431GHz	46	2.453GHz
3	2.410GHz	25	2.432GHz	47	2.454GHz
4	2.411GHz	26	2.433GHz	48	2.455GHz
5	2.412GHz	27	2.434GHz	49	2.456GHz
6	2.413GHz	28	2.435GHz	50	2.457GHz
7	2.414GHz	29	2.436GHz	51	2.458GHz
8	2.415GHz	30	2.437GHz	52	2.459GHz
9	2.416GHz	31	2.438GHz	53	2.460GHz
10	2.417GHz	32	2.439GHz	54	2.461GHz
11	2.418GHz	33	2.440GHz	55	2.462GHz
12	2.419GHz	34	2.441GHz	56	2.463GHz
13	2.420GHz	35	2.442GHz	57	2.464GHz
14	2.421GHz	36	2.443GHz	58	2.465GHz
15	2.422GHz	37	2.444GHz	59	2.466GHz
16	2.423GHz	38	2.445GHz	60	2.467GHz
17	2.424GHz	39	2.446GHz	61	2.468GHz
18	2.425GHz	40	2.447GHz	62	2.469GHz
19	2.426GHz	41	2.448GHz	63	2.470GHz
20	2.427GHz	42	2.449GHz	64	2.471GHz
21	2.428GHz	43	2.450GHz	65	2.472GHz
22	2.429GHz	44	2.451GHz		

Note: The more detailed channel, please refer to the product specifications

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE	26deg. C, 56%RH	DC 6V from Battery	Caden
BW	26deg. C, 56%RH	DC 6V from Battery	Aaron
PLC	-	-	-

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C, Section 15.249

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	-	-	-	-	-

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	-

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

According to §15.249(a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field strength of fundamental (milli-volts/meter)	Field strength of harmonics (micro-volts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESL6	1300.5001K06-10 0262-eQ	Apr. 04, 19	Apr. 03, 20
Bilog Antenna	Sunol Sciences	JB6	A110712	Apr. 08, 19	Apr. 07, 20
Active Antenna	CMO-POWER	AL-130	121031	Mar. 27, 19	Mar. 26, 20
Signal Amplifier	HP	8447E	443008	Mar. 28, 19	Mar. 27, 20
Spectrum	Agilent	E4446A	MY46180622	May. 08,19	May. 07,20
MXA signal analyzer	Agilent	N9020A	MY49100060	Mar. 28, 19	Mar. 27, 20
Horn Antenna	COM-POWER	HAH-118	71259	Mar. 22, 19	Mar. 21, 20
Horn Antenna	COM-POWER	HAH-118	71283	Mar. 20, 19	Mar. 19, 20
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170147	Jun. 30, 19	Jun. 29, 20
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170242	Jun. 30, 19	Jun. 29, 20
AMPLIFIER	EM Electornic Corporation	EM01G26G	60613	Mar. 28, 19	Mar. 27, 20
AMPLIFIER	Emc Instruments Corporation	Emc012645	980077	Jan. 04, 19	Jan. 03,20
3m Semi-anechoic Chamber	SAEMC	9m*6m*6m	N/A	Oct. 18,18	Oct. 17,21
Test Software	EZ-EMC	ICP-03A1	N/A	N/A	N/A

NOTE:

1. The test was performed in 966 Chamber (a 3m Semi-anechoic chamber).
2. The calibration interval of the above test instruments is 12 months (Except 3m Semi-anechoic Chamber).And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
3. The horn antenna is used only for the measurement of emission frequency above1GHz if tested
4. The FCC Site Registration No. is 749762.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 1.5 meters (above 1GHz) and 0.8 meters (below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
- g. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

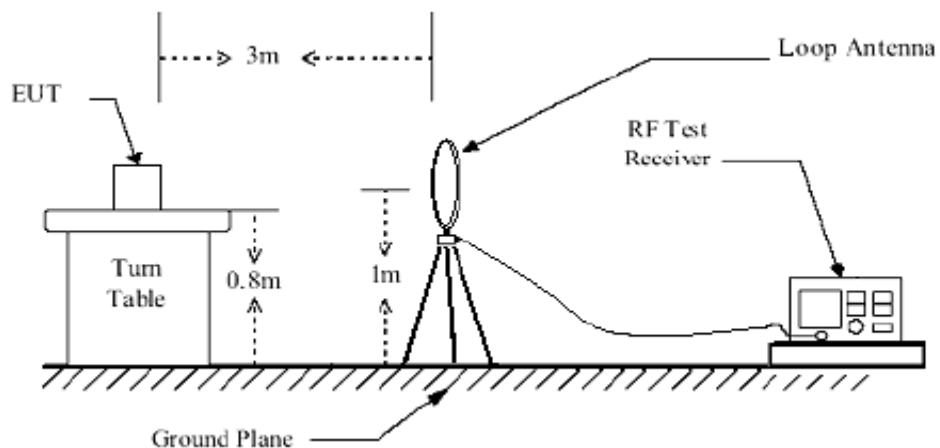
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file test setup photo.

4.1.4 DEVIATION FROM TEST STANDARD

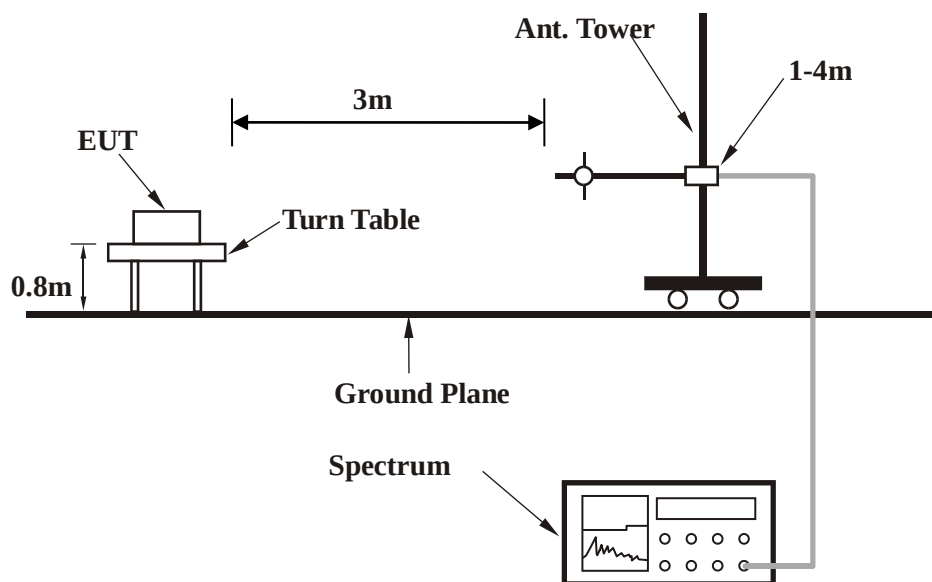
No deviation.

4.1.5 TEST SETUP

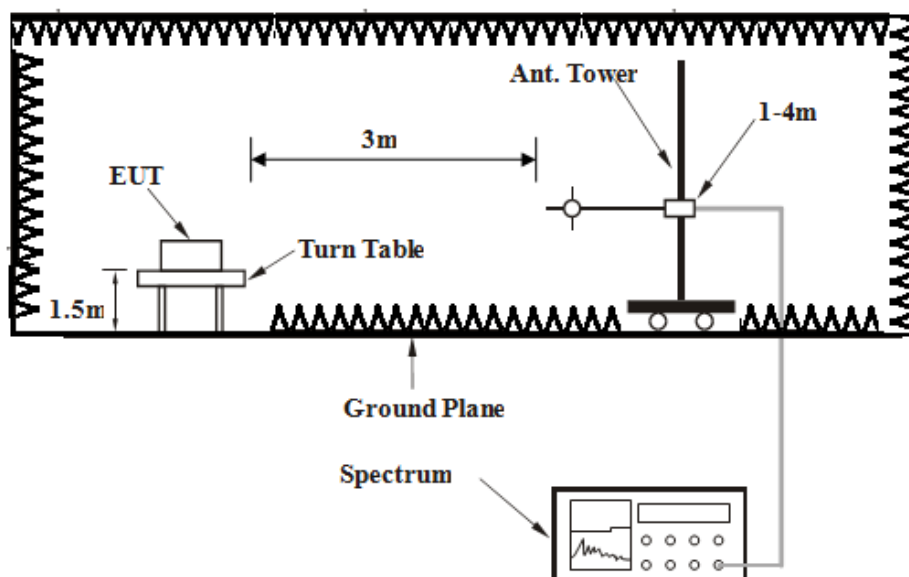
Below 30MHz test setup



Below 1GHz test setup



Above 1GHz test setup



Note: For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT OPERATING CONDITIONS

- a) Turned on the power of all equipment.
- b) EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

4.1.7 TEST RESULTS

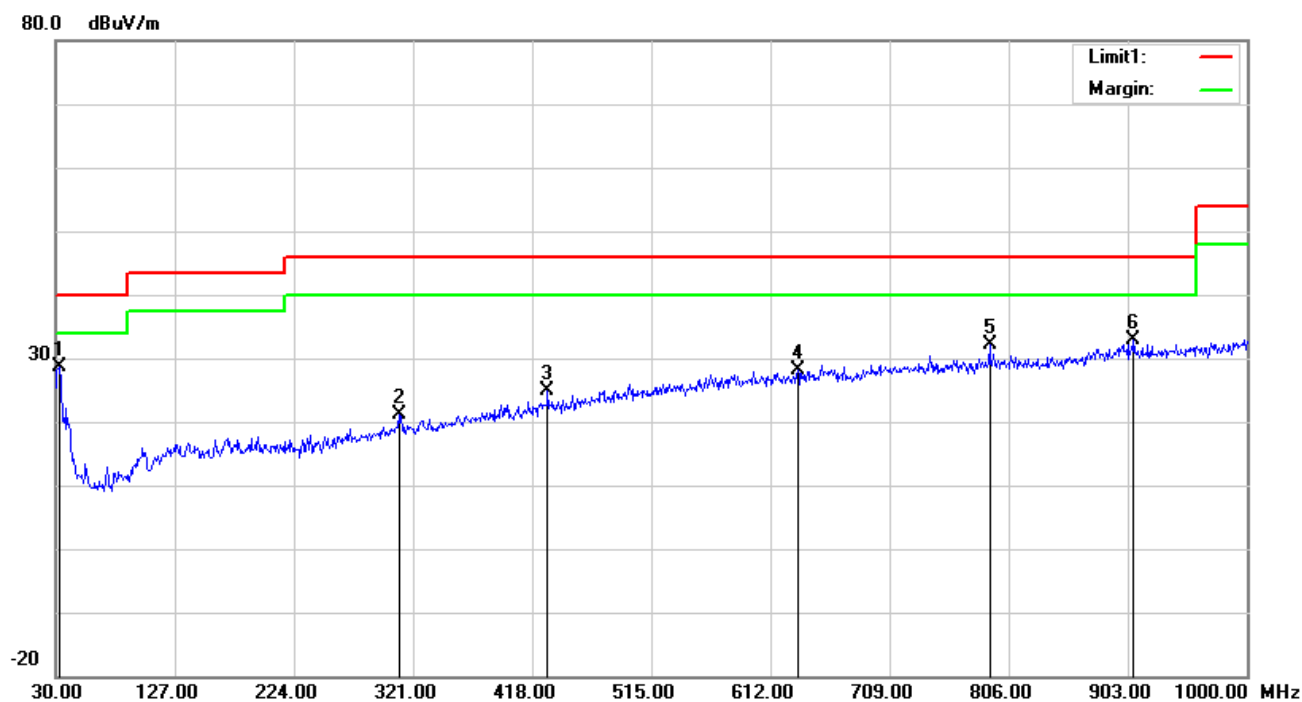
BELOW 1GHz WORST-CASE DATA

CHANNEL	TX Middle Channel	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & test distance: HORIZONTAL at 3 m										
No.	Frequency (MHz)	Reading (dBuV/m)	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	32.9100	32.61	18.24	22.26	0.14	28.73	40.00	-11.27	100	264
2	309.3600	27.65	13.89	22.26	1.74	21.02	46.00	-24.98	100	267
3	430.6100	27.81	16.94	21.95	1.98	24.78	46.00	-21.22	100	72
4	634.3100	26.72	20.49	21.50	2.34	28.05	46.00	-17.95	100	220
5	790.4800	28.60	22.11	21.17	2.54	32.08	46.00	-13.92	100	43
6	907.8500	27.28	23.74	20.87	2.66	32.81	46.00	-13.19	100	133

REMARKS:

1. Result (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Gain (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Result level – Limit value

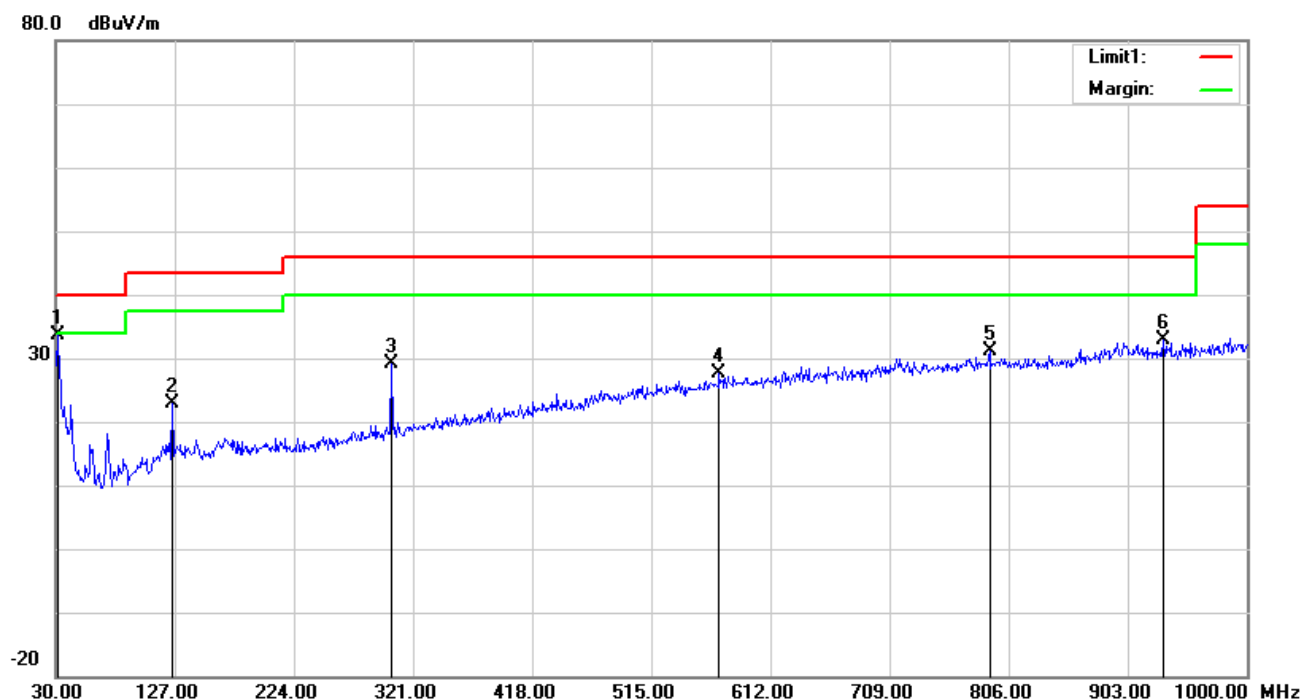


CHANNEL	TX Middle Channel	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & test distance: Vertical at 3 m										
No.	Frequency (MHz)	Reading (dBuV/m)	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	31.9400	36.91	18.86	22.27	0.14	33.64	40.00	-6.36	100	329
2	125.0600	32.55	11.70	22.37	1.02	22.90	43.50	-20.60	100	65
3	303.5400	35.85	13.77	22.28	1.73	29.07	46.00	-16.93	100	15
4	570.2900	27.10	19.95	21.65	2.29	27.69	46.00	-18.31	100	266
5	790.4800	27.74	22.11	21.17	2.54	31.22	46.00	-14.78	100	328
6	932.1000	27.57	23.49	20.82	2.68	32.92	46.00	-13.08	100	22

REMARKS:

1. Result (dBuV/m) = Reading (dBuV/m) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Gain (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Result level – Limit value



ABOVE 1GHz WORST-CASE DATA:

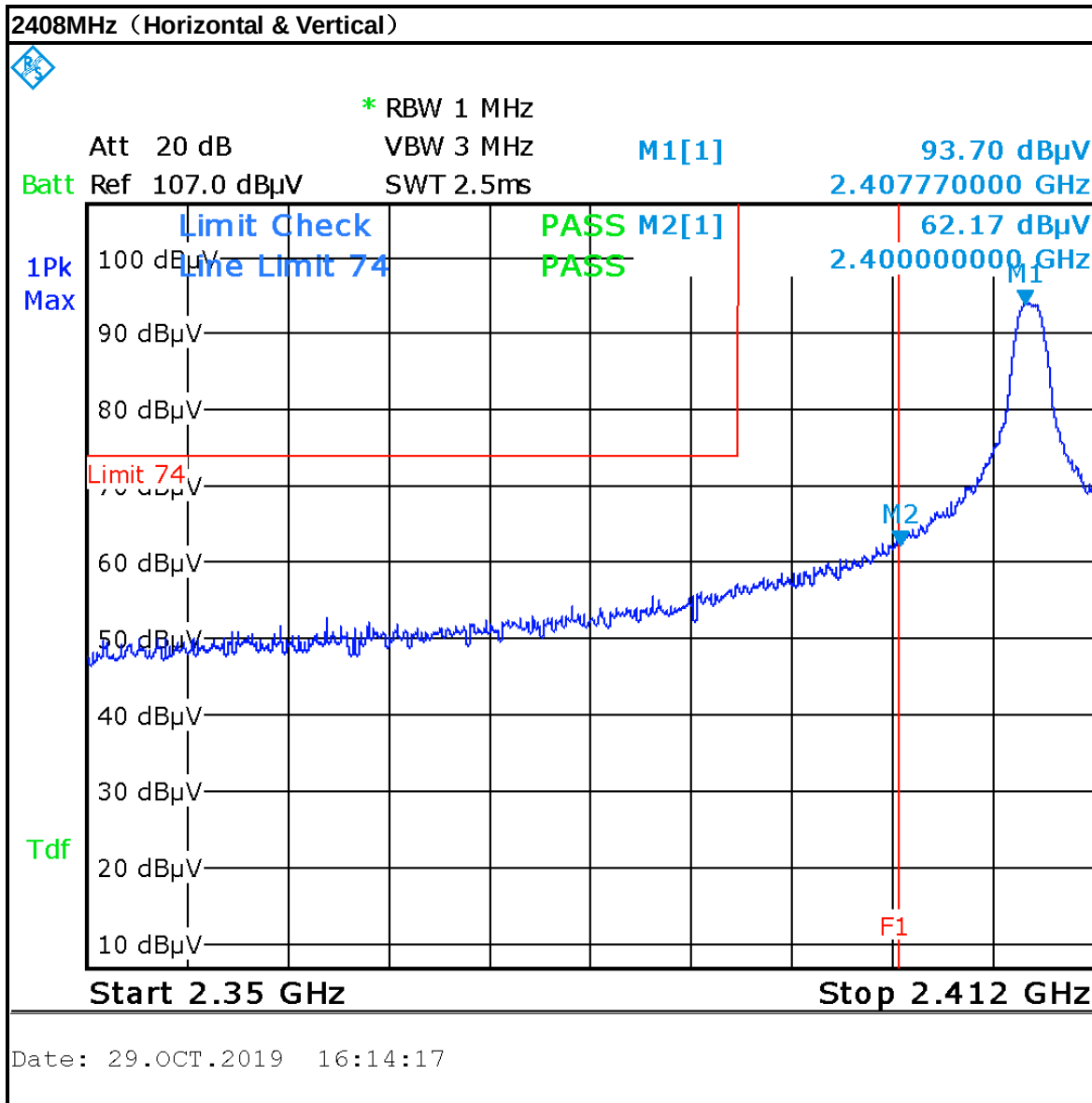
CHANNEL	TX Low Channel	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	DETECTO R(PK/AV)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2400	62.17	74	PK	-11.83	164	43	75.87	-13.7
2	2400	38.75	54	AV	-15.25	164	43	50.22	-13.7
3	* 2408	93.7	114	PK	-20.3	144	55	107.4	-13.7
4	* 2408	70.28	94	AV	-23.72	144	55	81.75	-13.7
5	4816	66.17	74	PK	-7.83	292	297	72.55	-6.38
6	4816	42.75	54	AV	-11.25	292	297	49.13	-6.38
7	3574	47.05	74	PK	-26.95	200	282	57.69	-10.64
8	3574	23.63	54	AV	-30.37	200	282	34.27	-10.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	DETECTO R(PK/AV)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2400	60.89	74	PK	-13.11	283	288	74.59	-13.7
2	2400	37.47	54	AV	-16.53	283	288	13.7	-13.7
3	* 2408	91.71	114	PK	-22.29	180	322	105.41	-13.7
4	* 2408	68.29	94	AV	-25.71	180	322	81.75	-13.7
5	4816	62.14	74	PK	-11.86	207	297	68.52	-6.38
6	4816	38.72	54	AV	-15.28	207	297	45.1	-6.38
7	3581	47.67	74	PK	-26.33	100	183	58.31	-10.64
8	3581	24.25	54	AV	-29.75	100	183	34.89	-10.64

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Gain (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

Band edge Plot



CHANNEL	TX Middle Channel	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	DETECTO R(PK/AV)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	* 2442	94.05	PK	114	-19.95	164	121	107.75	-13.7
2	* 2442	70.63	AV	94	-23.37	164	121	84.33	-13.7
3	4884	68.02	PK	74	-5.98	150	230	73.96	-5.94
4	4884	44.6	AV	54	-9.4	150	230	50.54	-5.94
5	4291	49.41	PK	74	-24.59	158	297	58.37	-8.96
6	4291	25.99	AV	54	-28.01	158	297	34.95	-8.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	DETECTO R(PK/AV)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	* 2442	91.9	PK	114	-22.1	139	192	105.6	-13.7
2	* 2442	68.48	AV	94	-25.52	139	192	82.18	-13.7
3	4884	68.96	PK	74	-5.04	141	158	74.9	-5.94
4	4884	45.54	AV	54	-8.46	141	158	51.48	-5.94
5	3581	47.04	PK	74	-26.96	165	297	56	-8.96
6	3581	23.62	AV	54	-30.38	165	297	32.58	-8.96

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Gain (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

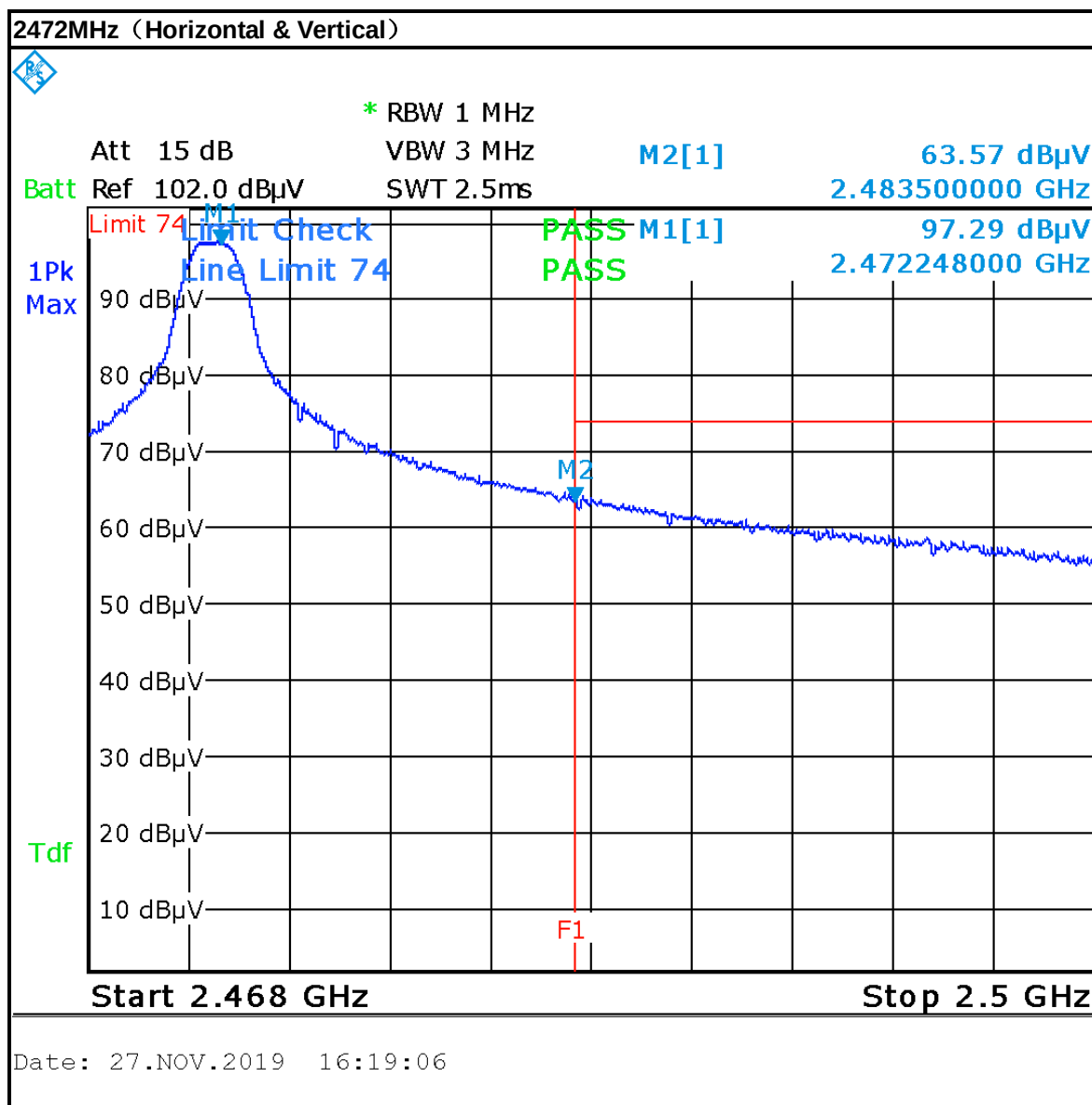
CHANNEL	TX High Channel	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	DETECTO R(PK/AV)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2483.5	63.57	PK	74	-10.43	153	71	80.9	-13.5
2	2483.5	40.15	AV	54	-13.85	153	71	13.5	-13.5
3	* 2472	97.29	PK	114	-16.71	151	41	107.9	-13.5
4	* 2472	73.87	AV	94	-20.13	151	41	13.5	-13.5
5	4944	64.98	PK	74	-9.02	151	297	70.42	-5.44
6	4944	41.56	AV	54	-12.44	151	297	47	-5.44
7	3587	47.04	PK	74	-26.96	141	101	57.68	-10.64
8	3587	23.62	AV	54	-30.38	141	101	34.26	-10.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	DETECTO R(PK/AV)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2483.5	62.04	PK	74	-11.96	153	189	75.24	-13.5
2	2483.5	38.62	AV	54	-15.38	153	189	13.5	-13.5
3	* 2472	95.5	PK	114	-18.5	144	50	102.61	-13.5
4	* 2472	72.08	AV	94	-21.92	144	50	13.5	-13.5
5	4944	65.4	PK	74	-8.6	153	297	70.84	-5.44
6	4944	41.98	AV	54	-12.02	153	297	47.42	-5.44
7	3725	47.56	PK	74	-26.44	161	183	58.2	-10.64
87	3725	24.14	AV	54	-29.86	161	183	34.78	-10.64

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Gain (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

Band edge Plot



4.2 20dB BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT

According to FCC 15.215(c), 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.

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Wireless Connectivity Tester	R&S	CMW270	1201.0002K75	Nov. 29, 18	Nov. 28, 19
MXA VEXTOR SIGNAL	Agilent	n5182a	MY50140530	Mar. 28,19	Mar. 27,20
MXA signal analyzer	Agilent	n9020a	MY49100060	Mar. 28,19	Mar. 27,20
RF Control Unit	Tonscend	JS0806-2	188060112	Mar. 28,19	Mar. 27,20
Signal Generation	Agilent	E4421B	US40051152	Nov. 29, 18	Nov. 28, 19
DC Power Supply	Agilent	E3640A	MY40004013	Mar. 28,19	Mar. 27,20
Programmable Temperature & Humidity Chamber	Hongjin	HYC-TH-225 DH	DG-180746	Mar. 28,19	Mar. 27,20
Test System	Tonscend	JS 1120-3	N/A	N/A	N/A
Power Splitter	Weinschel	1580-1	TL177	Mar. 20,19	Mar. 19,20

NOTE:

1. The test was performed in RF Oven room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

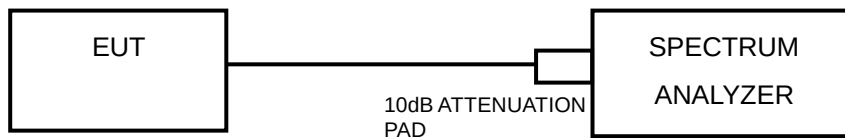
4.2.3 TEST PROCEDURE

- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. 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.
- c. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
- d. Repeat above procedures until all frequencies measured were complete.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



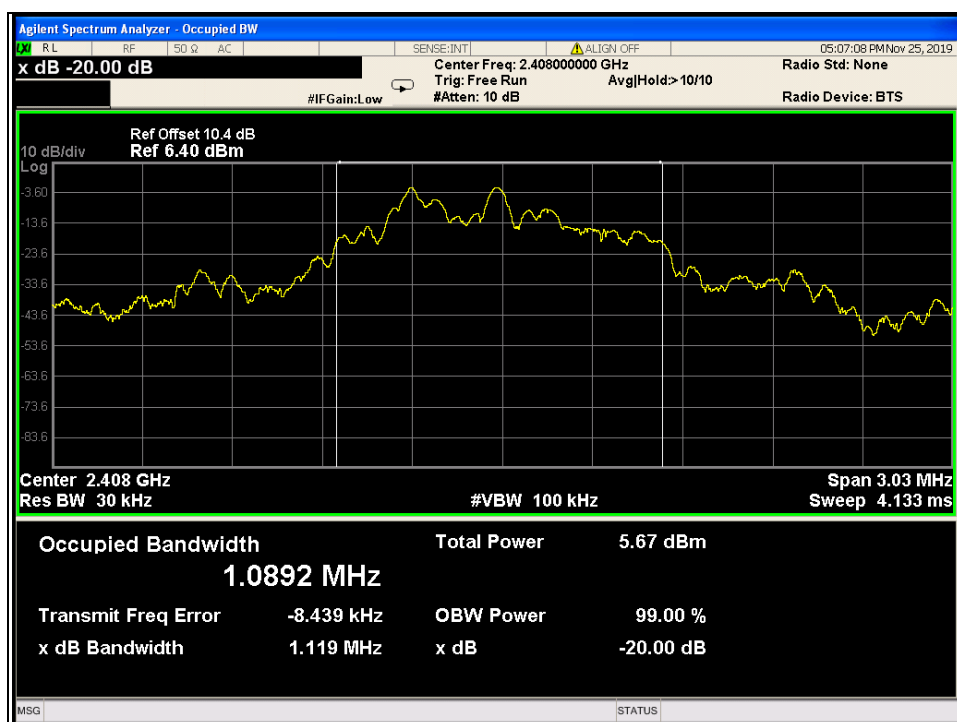
4.2.6 EUT OPERATING CONDITIONS

- a) Turned on the power of all equipment.
- b) EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

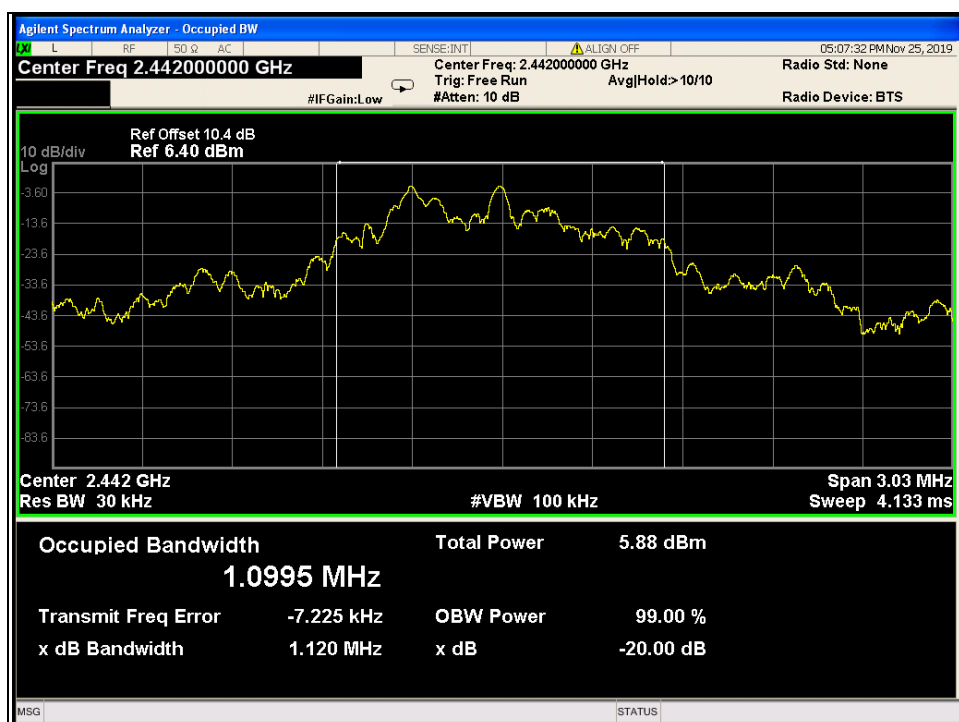
4.2.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)
Low	2408	1.119
Middle	2442	1.120
High	2472	1.124

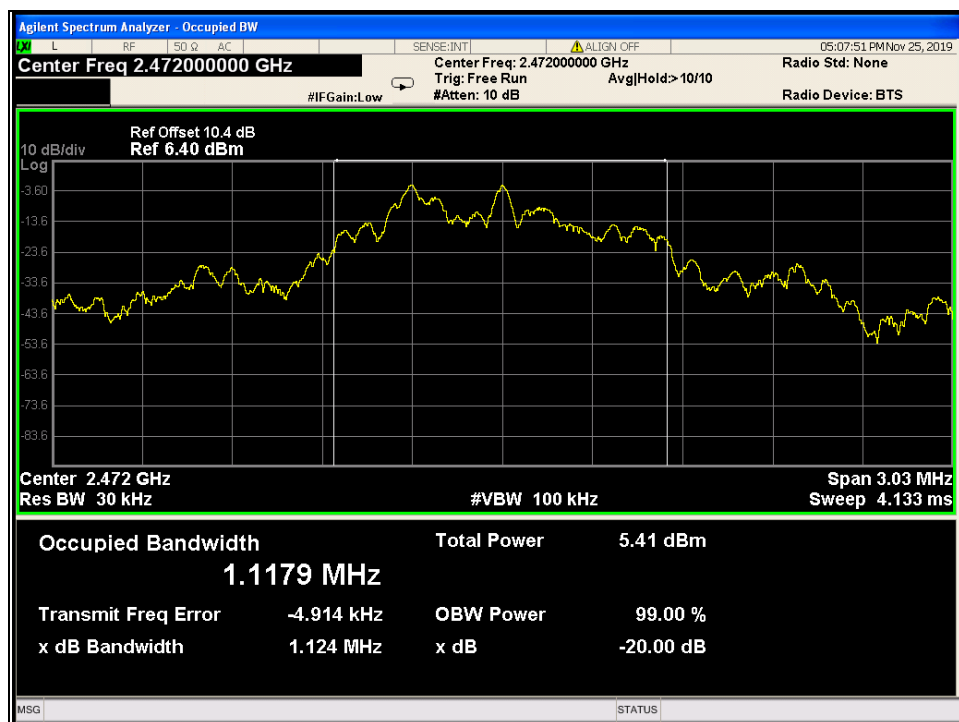
Test Data: Low channel



Test Data: Middle channel



Test Data: High channel





Test Report No.: RF191012N019

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---