TEST REPORT

Application No.:	SZEM2101001365CR
Applicant:	DongGuanProyee Technology Company Ltd
Address of Applicant:	Building 2, No. 871, Dalang Section, Guanzhang Road, Dalang Town, Dongguan City, Guangdong Province, China
Manufacturer:	DongGuanProyee Technology Company Ltd
Address of Manufacturer:	Building 2, No. 871, Dalang Section, Guanzhang Road, Dalang Town, Dongguan City, Guangdong Province, China
Factory:	DongGuanProyee Technology Company Ltd
Address of Factory:	Building 2, No. 871, Dalang Section, Guanzhang Road, Dalang Town, Dongguan City, Guangdong Province, China
Equipment Under Test (EUT):	
EUT Name:	Wireless Microphone
Model No.:	voical lark
FCC ID :	2AY2FVOCALLARK-1
Standard(s) :	47 CFR Part 15, Subpart C 15.236
Date of Receipt:	2021-01-29
Date of Test:	2021-02-22 to 2021-03-05
Date of Issue:	2021-03-31
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu
EMC Laboratory Manager

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Revision Record				
Version	***Chapter***	***Date***	***Modifier***	***Remark***
01		*2021-03-31*		*Original*

Authorized for issue by:				
		Harry Wu /Project Engineer		
		Eric Fu /Reviewer		

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2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart C 15.236	N/A	47 CFR Part 15, Subpart C 15.203	Pass

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.236	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Occupied Bandwidth	47 CFR Part 15, Subpart C 15.236	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.236f(2)	Pass
Frequency Tolerance	47 CFR Part 15, Subpart C 15.236	ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.236f(3)	Pass
RF Output Power	47 CFR Part 15, Subpart C 15.236	ANSI C63.10 (2013) Section 11.9.1	47 CFR Part 15, Subpart C 15.236(d)(1)	Pass
Necessary Bandwidth	47 CFR Part 15, Subpart C 15.236	EN 300 422-1 V1.4.2 8.3.2	47 CFR Part 15, Subpart C 15.236(g)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.236	EN 300 422-1 V1.4.2 8.4.2	47 CFR Part 15, Subpart C 15.236(g)	Pass

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4 General Information

4.1 Details of E.U.T.

Power Supply:	DC 3.7V, 320mAh Rechargeable Battery
Cable:	Type C Cable: 50cm, Unshielded
Operation Frequency:	590.777 – 607.662MHz
Modulation Type:	FM Modulation
Number of Channels:	18
Antenna Type:	FPC Antenna
Antenna Gain:	0dBi

Channel List (MHz)					
590.777	591.554	592.331	593.108	593.885	594.662
595.439	596.216	596.993	597.770	602.223	603.000
603.777	604.554	605.331	606.108	606.885	607.662

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	Apple	A1443	REF. No.SEA05D08A

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 7.25 x 10^{-8}
2	Occupied Bandwidth	± 3%
3	Necessary Bandwidth	± 3%
4	Conduction emission	± 3.0dB (150kHz to 30MHz)
5	RF Output Power	± 0.75dB
6	Frequency Tolerance	± 7.25 x 10^{-8}
7	Radiated Spurious emission test	± 4.5dB (Below 1GHz)
		± 4.8dB (Above 1GHz)
8	Temperature test	± 1℃
9	Humidity test	± 3%
10	Supply voltages	± 1%
11	Time	± 3%

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4.4 Test Location

All tests were performed at:

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No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

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5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2019-06-13	2022-06-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020-07-10	2021-07-09
LISN	Rohde & Schwarz	ENV216	SEM007-01	2020-09-23	2021-09-22
LISN	ETS-LINDGREN	3816/2	SEM007-02	2020-04-01	2021-03-31
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2020-03-24	2021-03-23

Occupied Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A

RF Output Power					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09

Necessary Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09

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Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A

Frequency Tolerance					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Programmable Temperature&Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-24	2021-03-23

Radiated Spurious Emissions					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
EXA Signal Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2020-11-14	2023-11-13
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-04-01	2021-03-31

Radiated Emissions					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-07-19	2023-07-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2020-11-02	2021-11-01
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-02	2019-05-24	2022-05-23
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2020-04-01	2021-03-31
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A

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Coaxial Cable	SGS	N/A	SEM025-01	2020-07-10	2021-07-09

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-04-07	2021-04-06

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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

Standard Requirement:

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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.

Antenna location: Refer to internal photo.

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7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207
Test Method: ANSI C63.10 (2013) Section 6.2
Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

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7.1.1 E.U.T. Operation

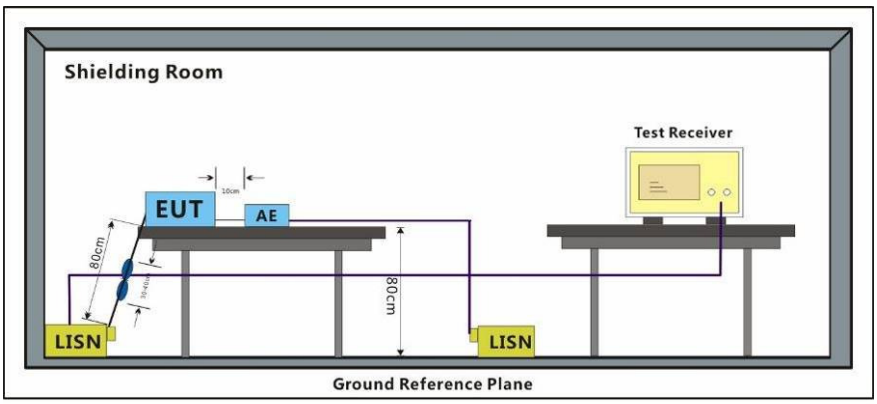
Operating Environment:

Temperature: 23.1 °C Humidity: 50.3 % RH Atmospheric Pressure: 1010 mbar

7.1.1 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with modulation

7.1.2 Test Setup Diagram



7.1.3 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor

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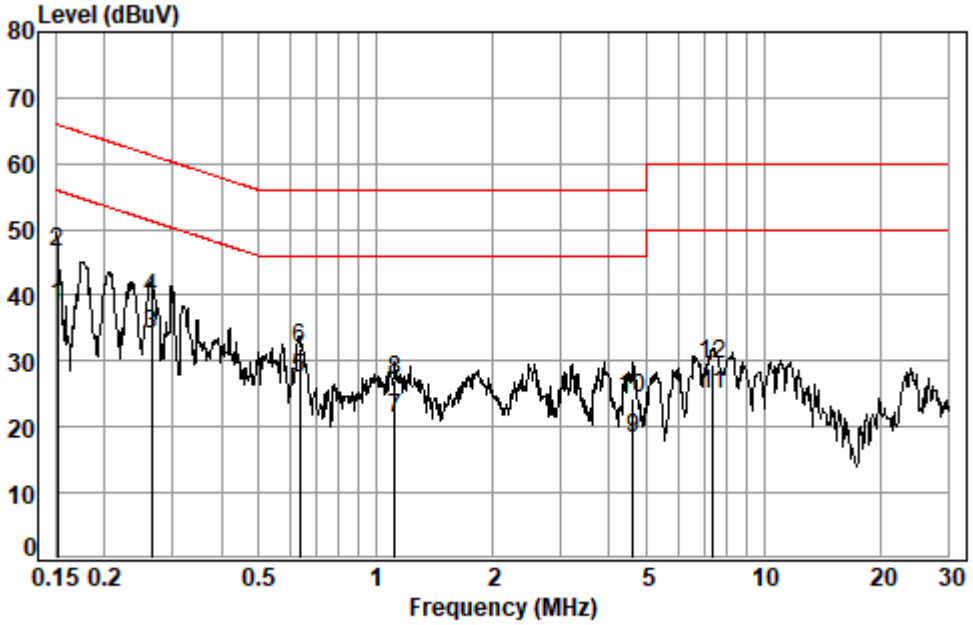
Mode:02; Line:Live Line



Site : Shielding Room
Condition: Line
Job No. : 01365CR
Test mode: 02

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1516	0.03	9.70	28.52	38.25	55.91	-17.66	Average
2	0.1516	0.03	9.70	36.86	46.59	65.91	-19.32	QP
3	0.2644	0.05	9.74	24.22	34.01	51.29	-17.28	Average
4	0.2644	0.05	9.74	29.84	39.63	61.29	-21.66	QP
5	0.6372	0.08	9.77	17.52	27.37	46.00	-18.63	Average
6	0.6372	0.08	9.77	22.07	31.92	56.00	-24.08	QP
7	1.1233	0.10	9.79	11.53	21.42	46.00	-24.58	Average
8	1.1233	0.10	9.79	17.05	26.94	56.00	-29.06	QP
9	4.5979	0.16	9.91	8.33	18.40	46.00	-27.60	Average
10	4.5979	0.16	9.91	14.40	24.47	56.00	-31.53	QP
11	7.4071	0.16	10.06	14.60	24.82	50.00	-25.18	Average
12	7.4071	0.16	10.06	19.15	29.37	60.00	-30.63	QP

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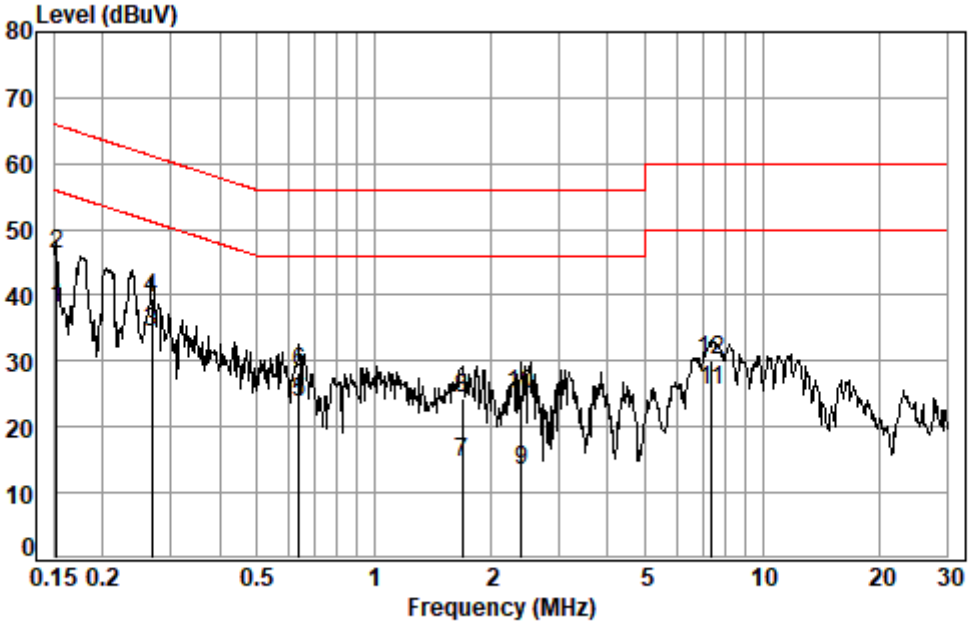
Mode:02; Line:Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 01365CR
Test mode: 02

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1524	0.03	9.71	28.17	37.91	55.87	-17.96	Average
2	0.1524	0.03	9.71	36.48	46.22	65.87	-19.65	QP
3	0.2672	0.05	9.73	24.51	34.29	51.20	-16.91	Average
4	0.2672	0.05	9.73	29.88	39.66	61.20	-21.54	QP
5	0.6406	0.08	9.77	13.80	23.65	46.00	-22.35	Average
6	0.6406	0.08	9.77	18.52	28.37	56.00	-27.63	QP
7	1.6891	0.12	9.80	4.62	14.54	46.00	-31.46	Average
8	1.6891	0.12	9.80	14.34	24.26	56.00	-31.74	QP
9	2.3962	0.13	9.82	3.31	13.26	46.00	-32.74	Average
10	2.3962	0.13	9.82	14.84	24.79	56.00	-31.21	QP
11	7.4071	0.16	10.07	15.41	25.64	50.00	-24.36	Average
12	7.4071	0.16	10.07	19.92	30.15	60.00	-29.85	QP

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7.2 Occupied Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.236f(2)
Test Method: ANSI C63.10 (2013) Section 6.9
Limit: <200 kHz

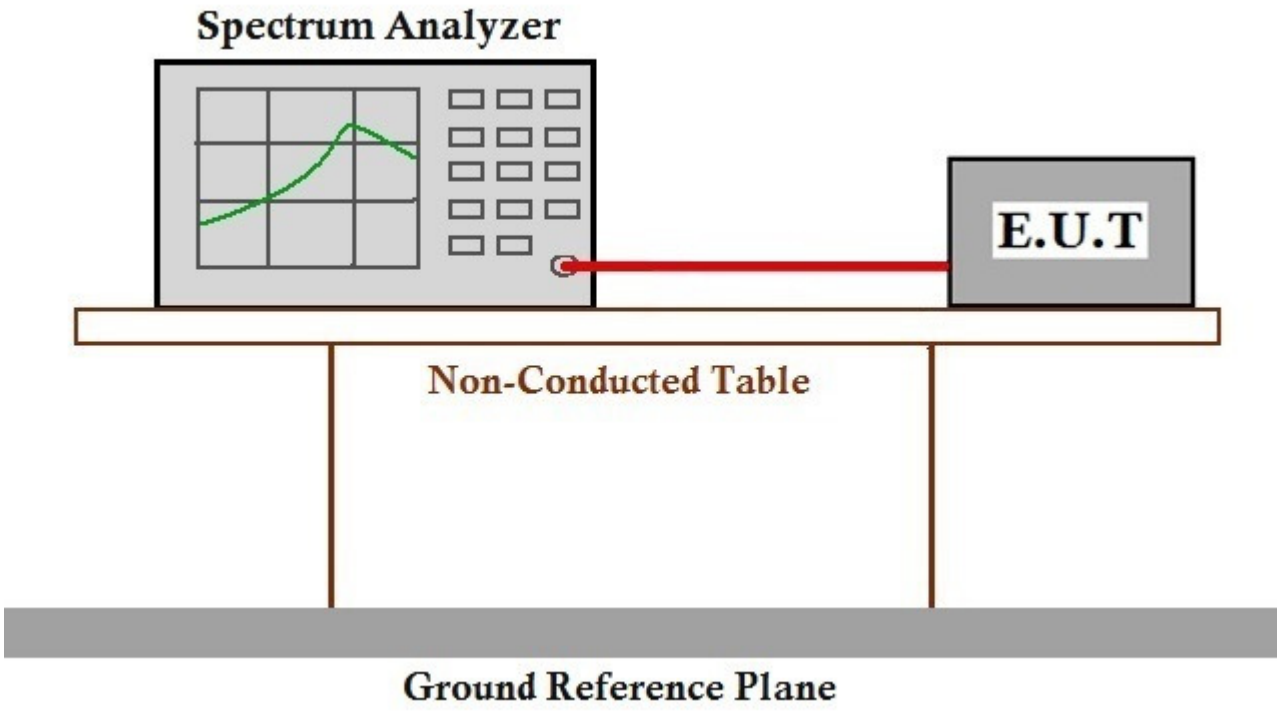
7.2.1 E.U.T. Operation

Operating Environment:
Temperature: 22.4 °C Humidity: 48.6 % RH Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with modulation

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

The detailed test data see: Appendix data

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7.3 RF Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.236d(1)
Test Method: ANSI C63.10 (2013) Section 11.9.1
Limit: 50mW EIRP

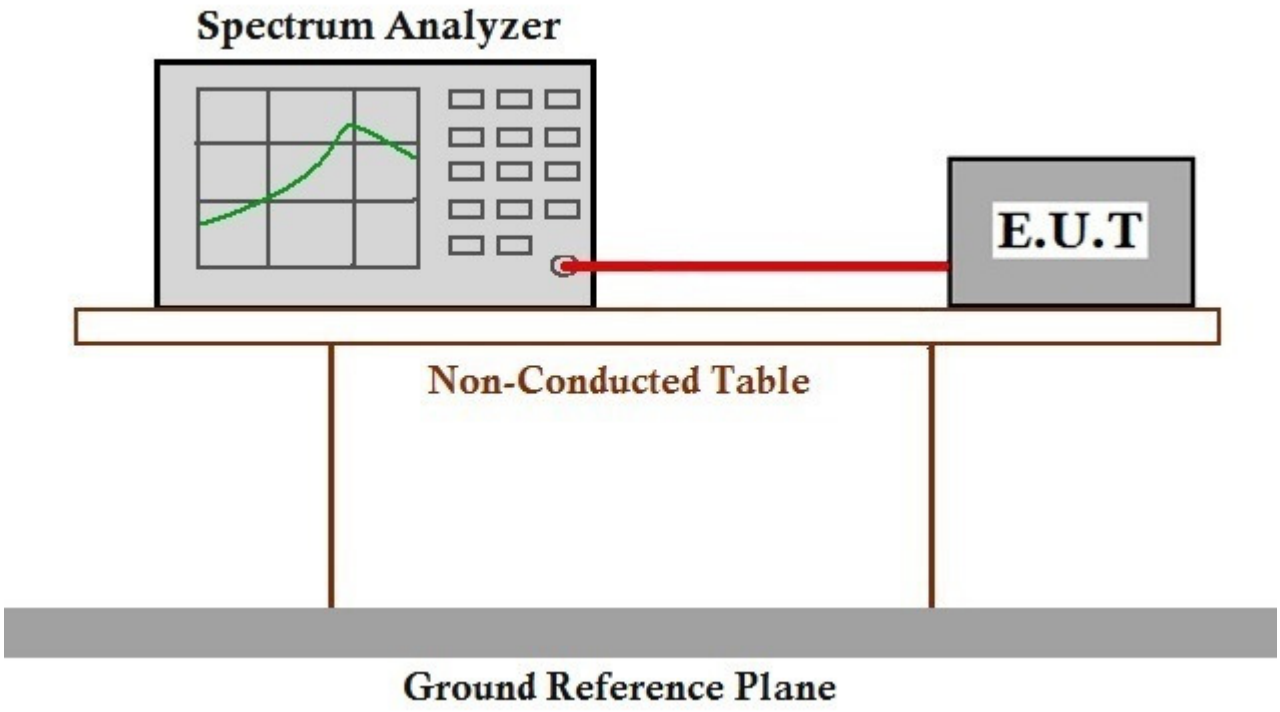
7.3.1 E.U.T. Operation

Operating Environment:
Temperature: 22.4 °C Humidity: 48.6 % RH Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with modulation

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

The detailed test data see: Appendix data.

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7.4 Frequency Tolerance

Test Requirement 47 CFR Part 15, Subpart C 15.236f(3)

Test Method: ANSI C63.10 (2013) Section 6.8

Limit:

The frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply Voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. Battery operated equipment shall be tested using a new battery.

7.4.1 E.U.T. Operation

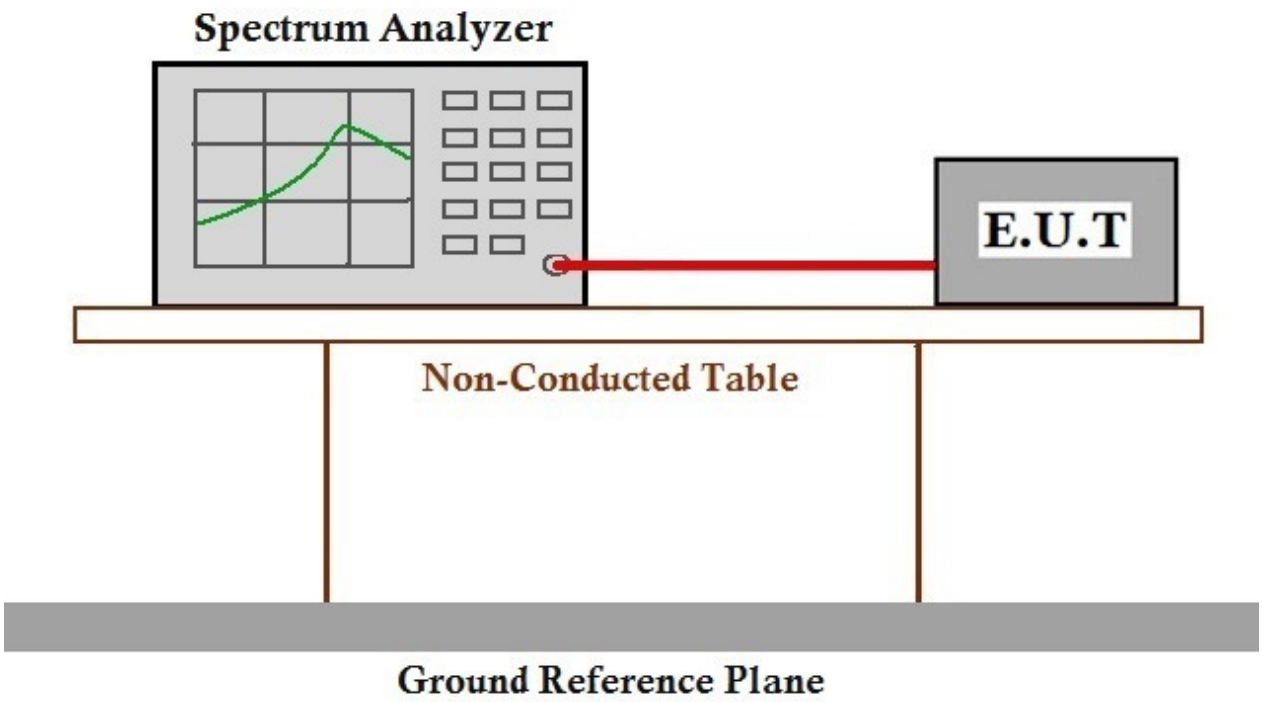
Operating Environment:

Temperature: 22.4 °C Humidity: 48.6 % RH Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with modulation

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

The detailed test data see: Appendix data.

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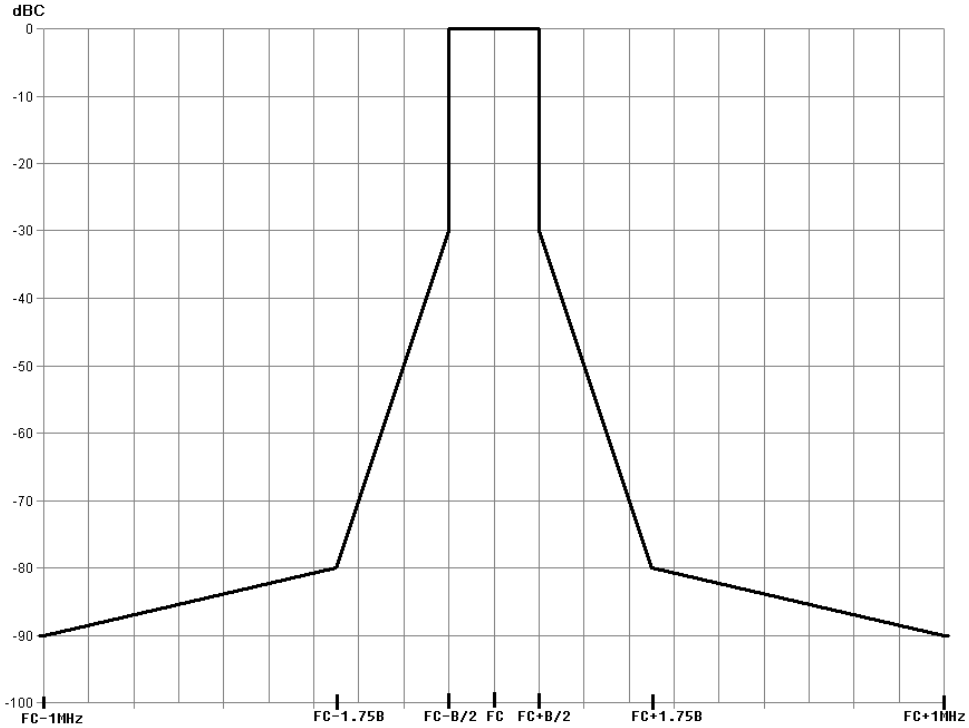
7.5 Necessary Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.236(g)

Test Method: EN 300 422-1 V1.4.2 8.3.2

Limit:



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7.5.1 E.U.T. Operation

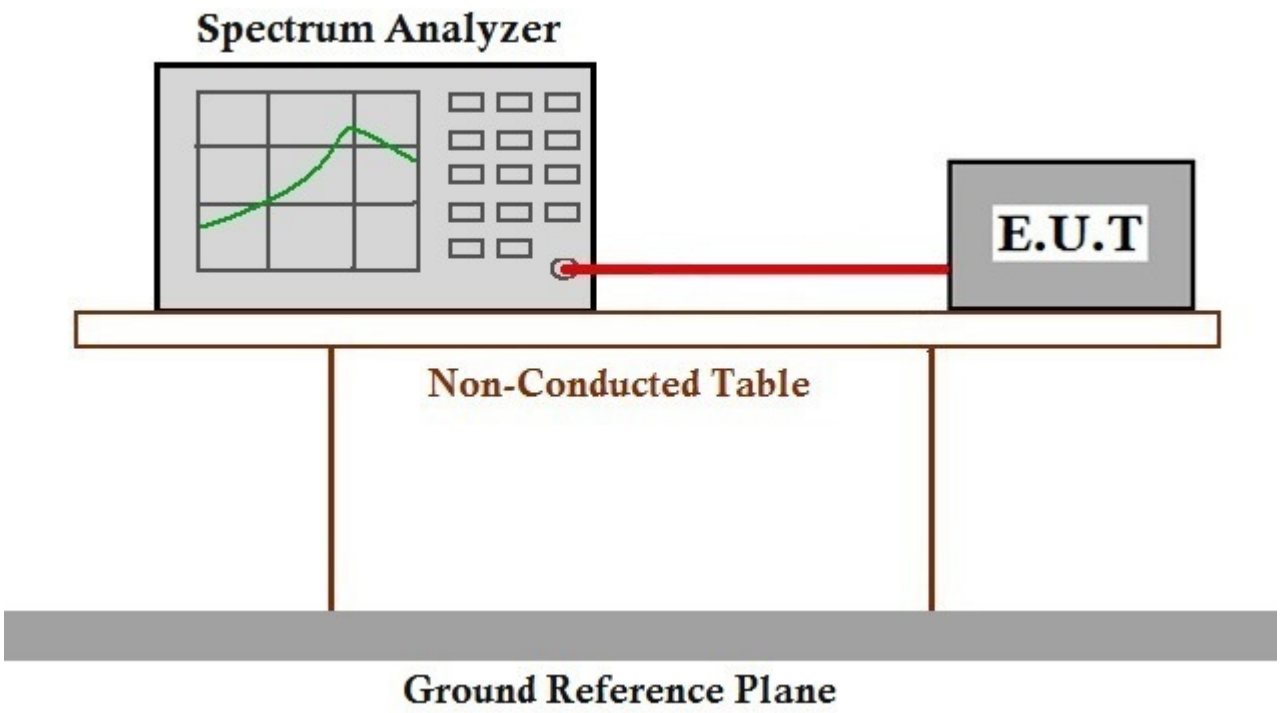
Operating Environment:

Temperature: 22.4 °C Humidity: 48.6 % RH Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with modulation

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

The detailed test data see: Appendix data

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7.6 Radiated Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.236(g), EN 300 422-1 V1.4.2 8.4.3
Test Method: EN 300 422-1 V1.4.2 8.4.2
Measurement Distance: 3m
Limit:

State	Frequency		
	47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other Frequencies below 1 000 MHz	Frequencies above 1 000 MHz
Operation	4 nW	250 nW	1 µW
Standby	2 nW	2 nW	20 nW

7.6.1 E.U.T. Operation

Operating Environment:
Temperature: 23.7 °C Humidity: 49.9 % RH Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with modulation

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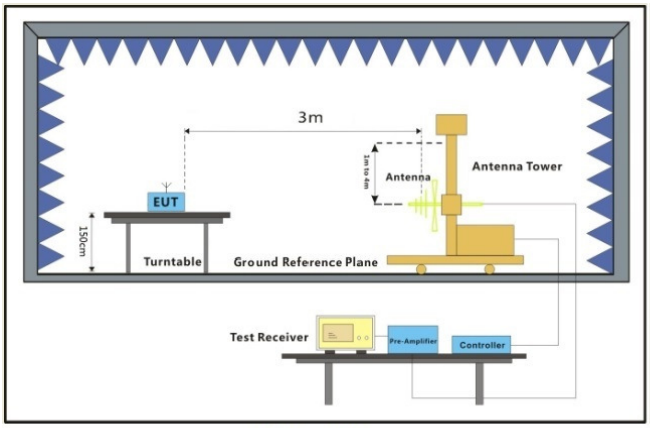
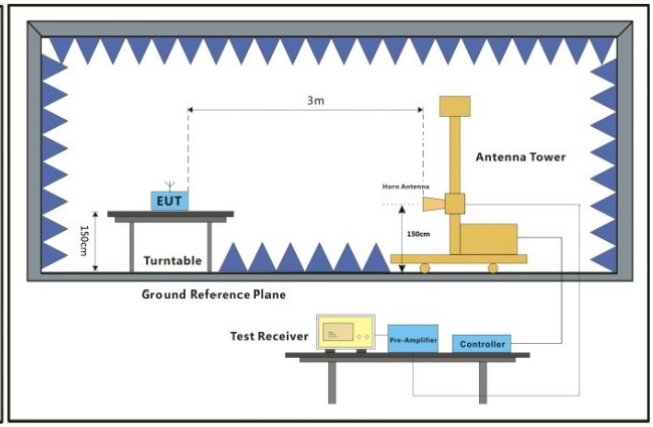
7.6.3 Test Setup Diagram



30MHz-1GHz



Above 1GHz

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7.6.4 Measurement Procedure and Data

a.The technique used to find the Spurious Emissions of the transmitter was a pre-calibration method which is measure the path loss from the measurement antenna to the substitution antenna and subtract this from the signal generator level to reach the measurement result. The method was performed to determine the actual ERP/EIRP emission levels of the EUT.

b. For below 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

d. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

e. The antenna 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.

f. 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.

g. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

h. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or RMS average method as specified and then reported in a data sheet.

i. Test the EUT in the lowest channel, the middle channel, the Highest channel.

j. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

k. Repeat above procedures until all frequencies measured was complete.

Remark:

1) Scan from 25MHz to 12.75GHz, The disturbance below 1GHz was very low and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

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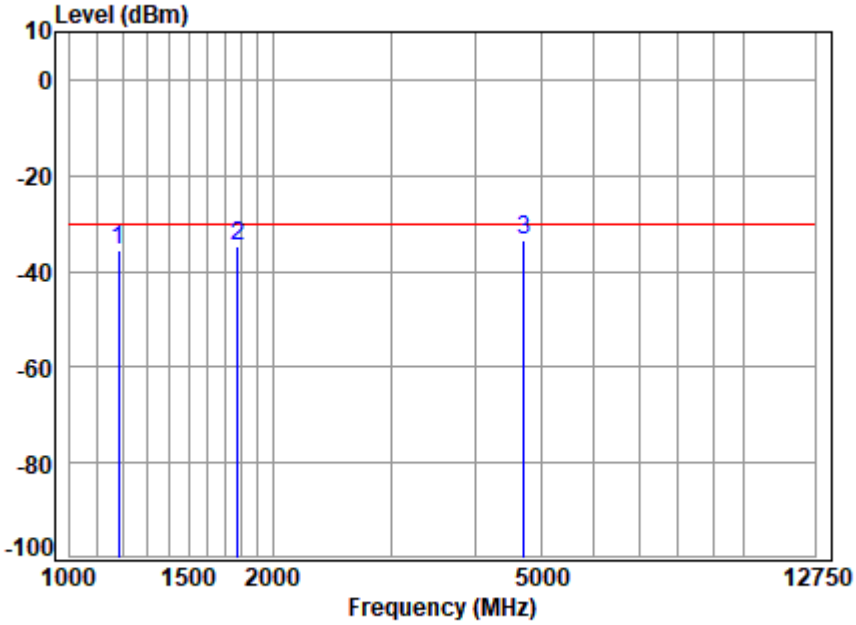
Above 1GHz

Mode:02; Polarization:Horizontal; Modulation:FM; ; Channel:Low



Condition: 3m HORIZONTAL
Job No.: 01365CR
Test mode: 590.777 TX SE
:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1181.25	-35.76	-30.00	-5.76
2	1771.88	-34.67	-30.00	-4.67
3	4725.60	-33.40	-30.00	-3.40

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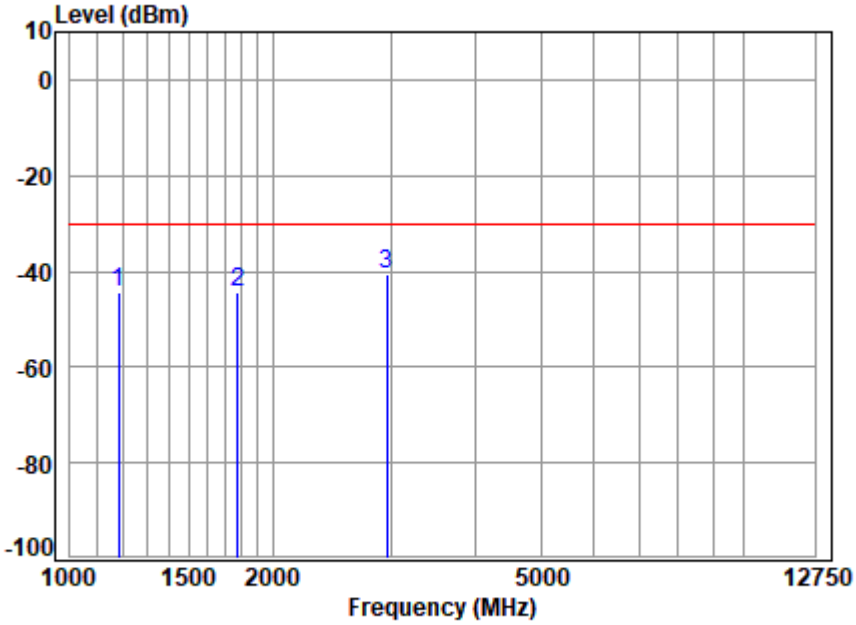
Mode:02; Polarization:Vertical; Modulation:FM; ; Channel:Low



Condition: 3m VERTICAL
Job No.: 01365CR
Test mode: 590.777 TX SE
:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1181.67	-44.44	-30.00	-14.44
2	1771.88	-44.35	-30.00	-14.35
3	2954.06	-40.49	-30.00	-10.49

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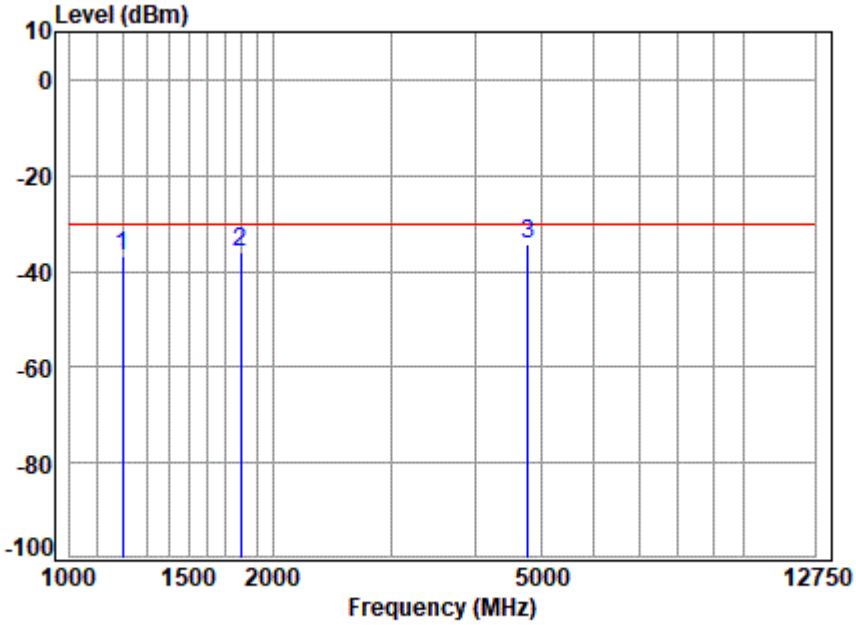
Mode:02; Polarization:Horizontal; Modulation:FM; ; Channel:middle



Condition: 3m HORIZONTAL
Job No.: 01365CR
Test mode: 597.770 TX SE
:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1195.41	-36.95	-30.00	-6.95
2	1793.43	-35.82	-30.00	-5.82
3	4782.00	-34.14	-30.00	-4.14

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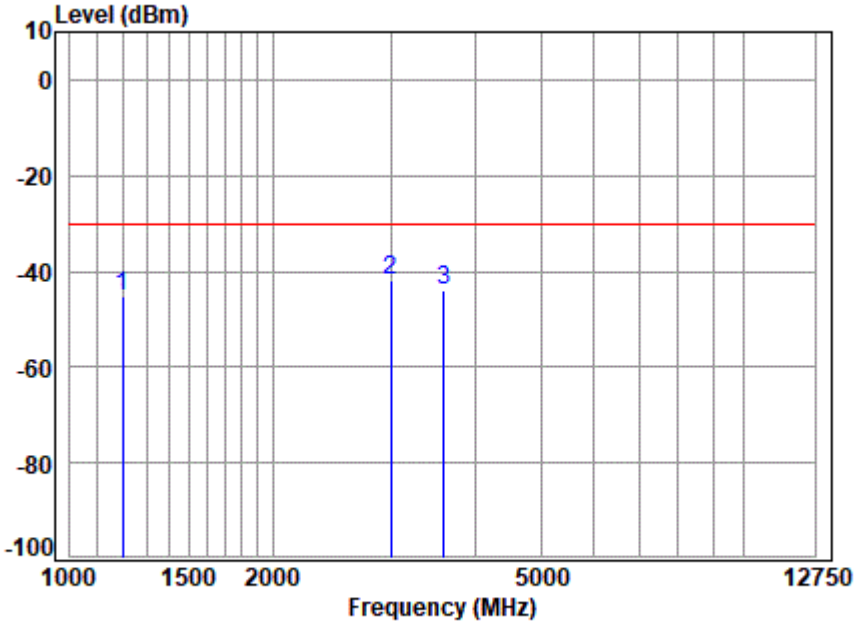
Mode:02; Polarization:Vertical; Modulation:FM; ; Channel:middle



Condition: 3m VERTICAL
Job No.: 01365CR
Test mode: 597.770 TX SE
:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1195.41	-45.23	-30.00	-15.23
2	2989.22	-41.84	-30.00	-11.84
3	3586.20	-44.04	-30.00	-14.04

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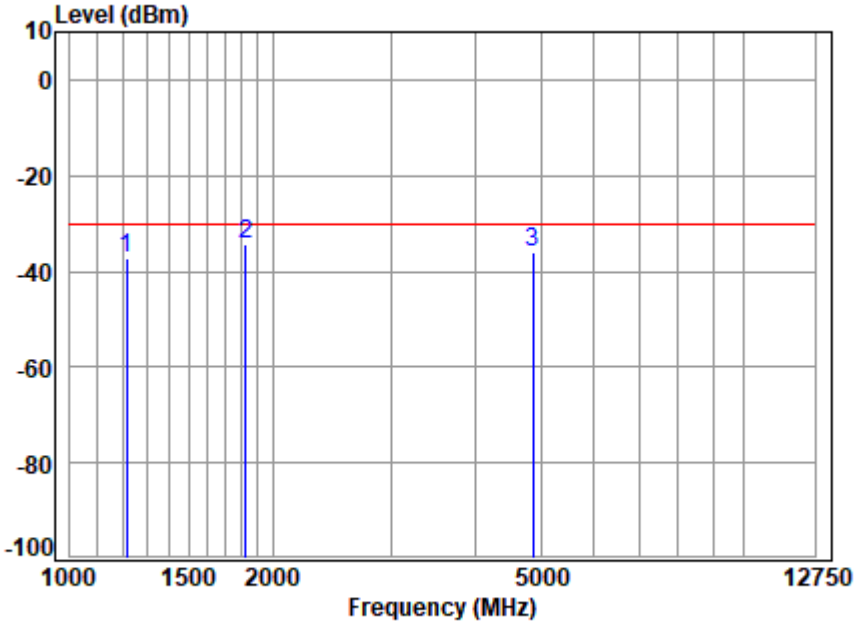
Mode:02; Polarization:Horizontal; Modulation:FM; ; Channel:High



Condition: 3m HORIZONTAL
Job No.: 01365CR
Test mode: 607.662 TX SE
:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1215.00	-37.15	-30.00	-7.15
2	1822.50	-34.22	-30.00	-4.22
3	4861.20	-36.14	-30.00	-6.14

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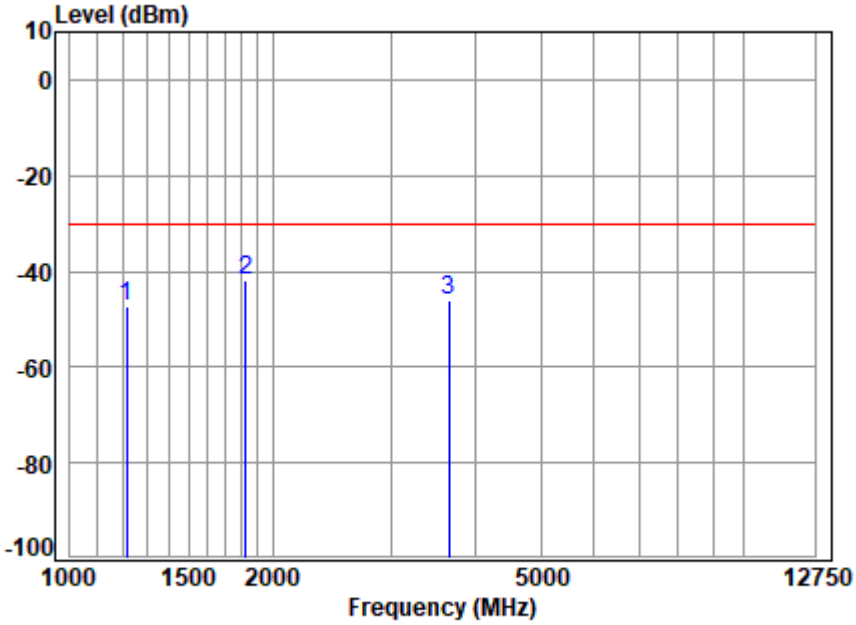
Mode:02; Polarization:Vertical; Modulation:FM; ; Channel:High



Condition: 3m VERTICAL
Job No.: 01365CR
Test mode: 607.662 TX SE
:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1215.00	-47.37	-30.00	-17.37
2	1822.97	-41.96	-30.00	-11.96
3	3646.20	-46.00	-30.00	-16.00

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8 Photographs

8.1 Test Setup Photos

Refer to Setup Photos

8.2 EUT Constructional Details (EUT Photos)

Refer to EUT External and Internal photos

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9 Appendix

1. Occupied Bandwidth

1.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Bandwidth		Verdict
				Test Result (KHz)	Limits (KHz)	
Tx	590.777	SISO	1	58.846	<200	PASS
	597.770	SISO	1	59.497	<200	PASS
	607.662	SISO	1	59.861	<200	PASS

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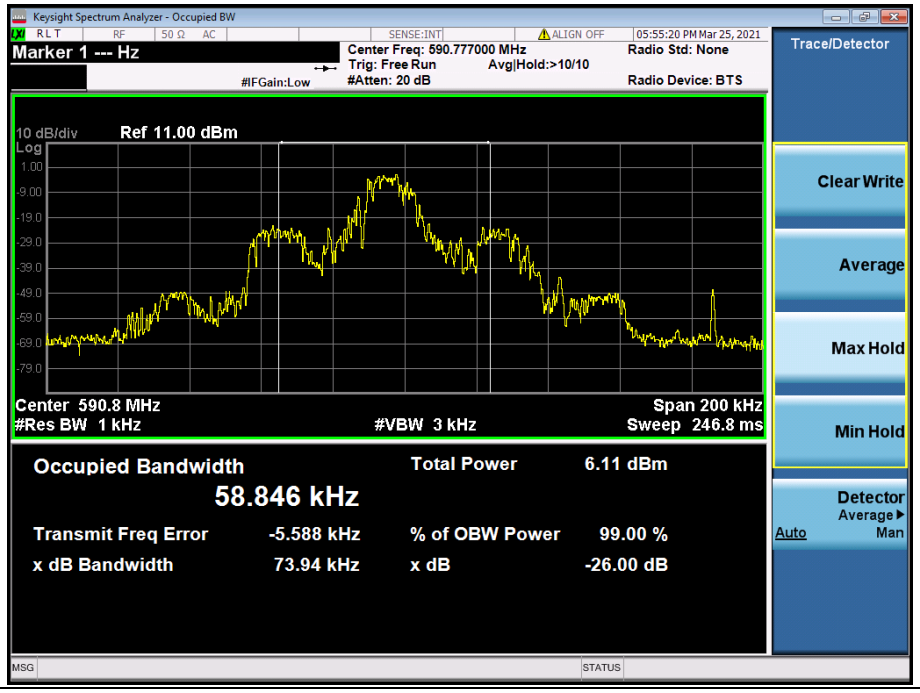
2.2 Test Graph – 99% Bandwidth



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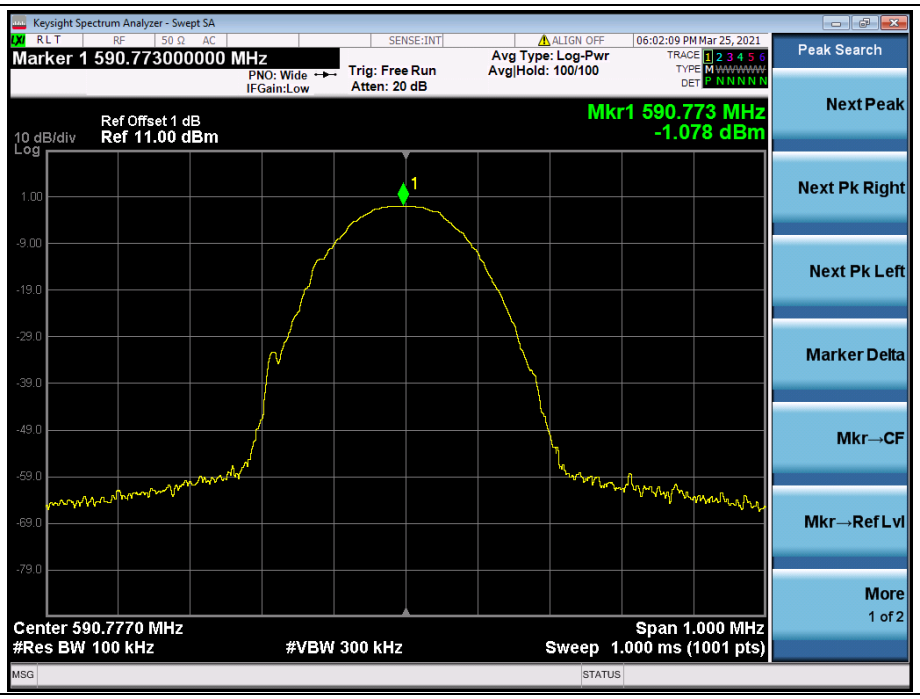
2. RF Output Power

2.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Measured Peak Output Power (mW)	Limits (mW)	Verdict
			Ant 1			
Tx	590.777	SISO	-1.078	0.780	50.0	PASS
	597.770	SISO	-1.142	0.769	50.0	PASS
	607.662	SISO	-1.424	0.720	50.0	PASS

2.2 Test Graph



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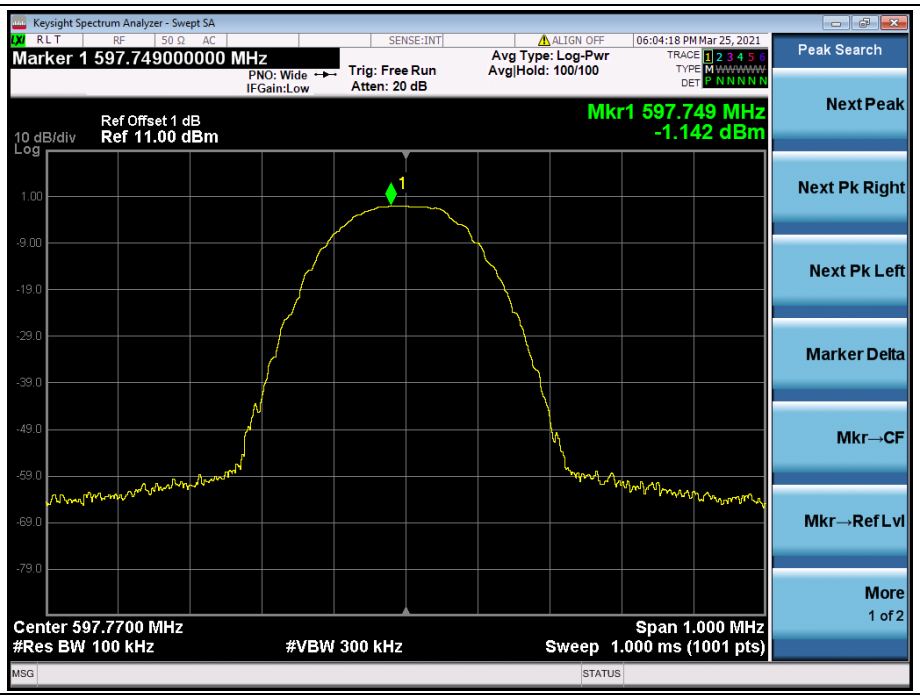

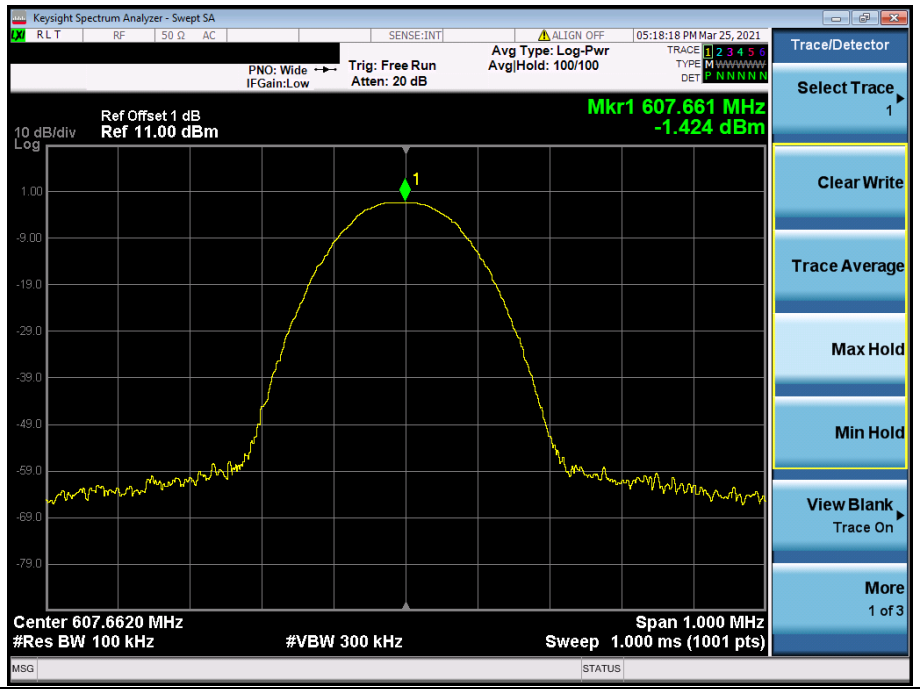

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3. Frequency Tolerance

3.1 Test Result

Voltage (%)	Power (VDC)	Temp (℃)	Nominal Frequency (MHz)	Measured Frequency (MHz)	Deviation (%)	Limit (%)	Result
115%	4.255	20	590.777	590.71376	-0.00010	±0.005	PASS
			597.770	597.68190	-0.00014	±0.005	PASS
			607.662	607.61301	-0.00007	±0.005	PASS
85%	3.145	20	590.777	590.70887	-0.00010	±0.005	PASS
			597.770	597.68055	-0.00014	±0.005	PASS
			607.662	607.61447	-0.00007	±0.005	PASS
100%	3.7	-20	590.777	590.69800	-0.00012	±0.005	PASS
			597.770	597.70617	-0.00010	±0.005	PASS
			607.662	607.57743	-0.00013	±0.005	PASS
		-10	590.777	590.71925	-0.00009	±0.005	PASS
			597.770	597.70104	-0.00011	±0.005	PASS
			607.662	607.57551	-0.00013	±0.005	PASS
		-0	590.777	590.69853	-0.00012	±0.005	PASS
			597.770	597.68744	-0.00013	±0.005	PASS
			607.662	607.58490	-0.00012	±0.005	PASS
		10	590.777	590.71832	-0.00009	±0.005	PASS
			597.770	597.70347	-0.00010	±0.005	PASS
			607.662	607.61444	-0.00007	±0.005	PASS
		20	590.777	590.71368	-0.00010	±0.005	PASS
			597.770	597.68437	-0.00013	±0.005	PASS
			607.662	607.59219	-0.00011	±0.005	PASS
		30	590.777	590.68851	-0.00014	±0.005	PASS
			597.770	597.70546	-0.00010	±0.005	PASS
			607.662	607.59926	-0.00010	±0.005	PASS
		40	590.777	590.72535	-0.00008	±0.005	PASS
			597.770	597.71538	-0.00008	±0.005	PASS
			607.662	607.57351	-0.00014	±0.005	PASS
		50	590.777	590.69955	-0.00012	±0.005	PASS
			597.770	597.68182	-0.00014	±0.005	PASS
			607.662	607.58588	-0.00012	±0.005	PASS

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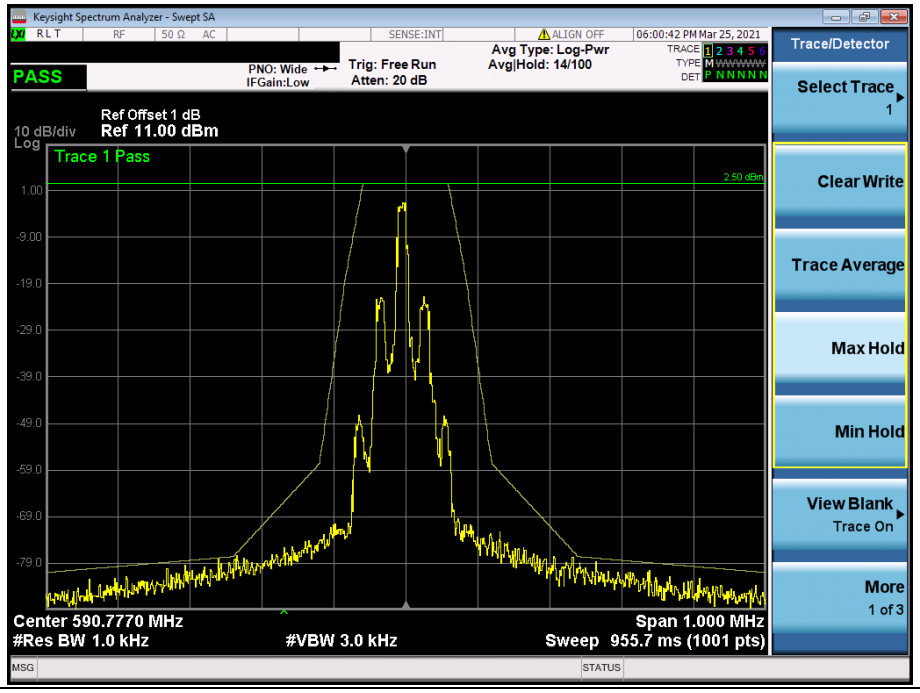
4. Necessary Bandwidth

5.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	Test Result	Verdict
Tx	590.777	SISO	1	Refer to test graph	PASS
	597.770	SISO	1	Refer to test graph	PASS
	607.662	SISO	1	Refer to test graph	PASS

5.2 Test Graph



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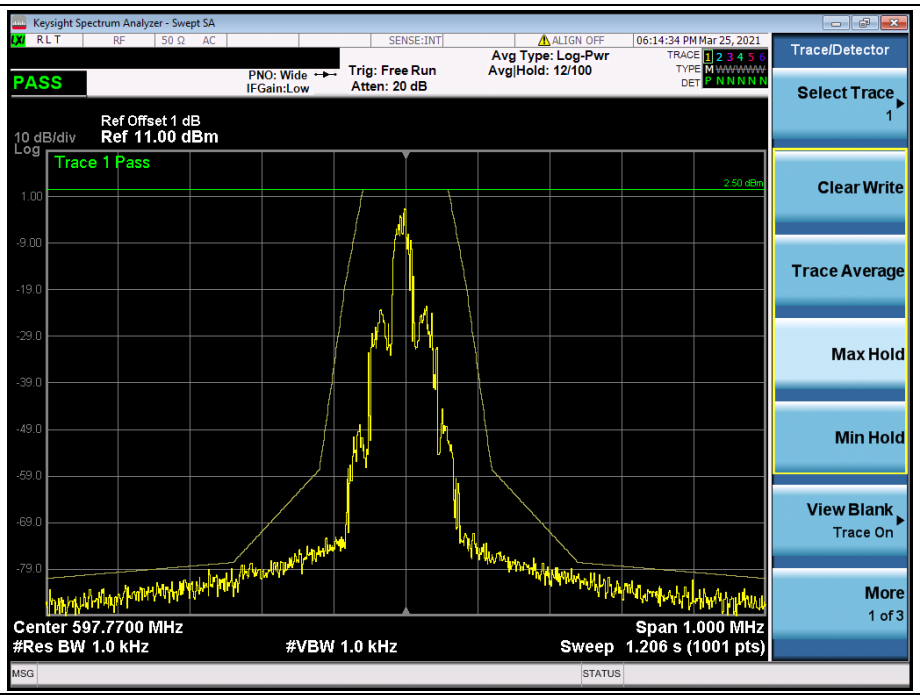

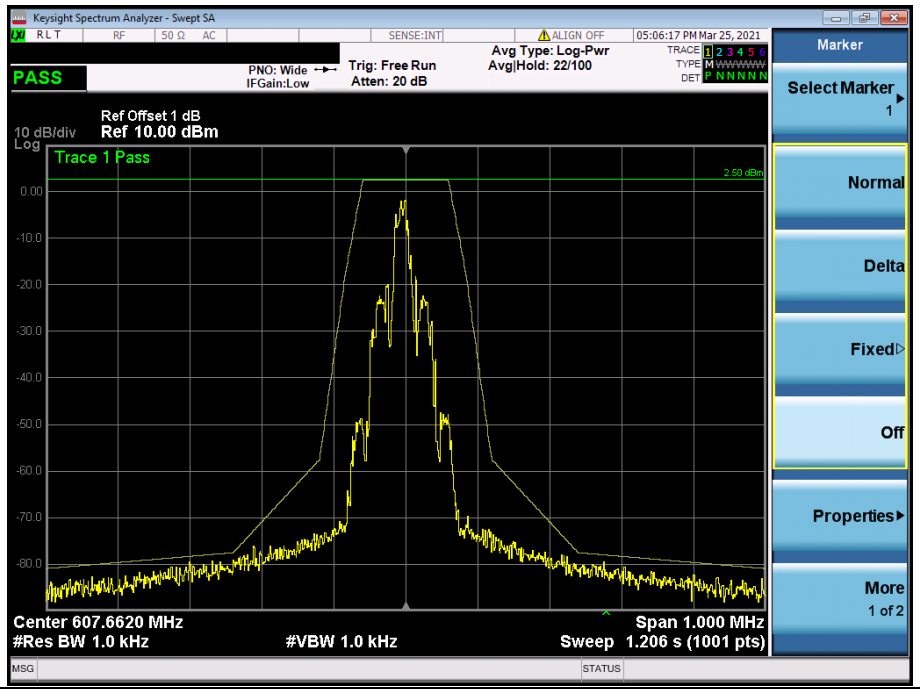

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