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Certificate #4338.01

FCC TEST REPORT

Report No: STS2210066W01

Issued for

Music Tribe Commercial MY Sdn. Bhd.

1-17-02, Suntech @ Penang Cybercity, LinTang Mayang Pasir
3, Bayan Baru, Pulau Pinang, Malaysia

Product Name:	High-Performance UHF Wireless In-Ear Monitoring System
Brand:	Behringer
Model Number:	UL 1000G2
Series Model(s):	N/A
FCC ID:	QWHUL1-T
Test Standard:	FCC Part 15.236

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Shenzhen STS Test Services Co., Ltd.

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TEST RESULT CERTIFICATION

Applicant's Name: Music Tribe Commercial MY Sdn. Bhd.
Address.....: 1-17-02, Suntech @ Penang Cybercity, LinTang Mayang Pasir 3,
Bayan Baru, Pulau Pinang, Malaysia
Manufacturer's Name.....: Music Tribe Commercial MY Sdn. Bhd.
Address.....: 1-17-02, Suntech @ Penang Cybercity, LinTang Mayang Pasir 3,
Bayan Baru, Pulau Pinang, Malaysia

Product Description

Product Name: High-Performance UHF Wireless In-Ear Monitoring System
Brand: Behringer
Model Number: UL 1000G2
Series Model(s).....: N/A

Test Standards: FCC Part 15.236

Test Procedure.....: ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test:
Date of receipt of test item: 19 Oct. 2022
Date of performance of tests.....: 19 Oct. 2022 ~ 11 Nov. 2022
Date of Issue: 11 Nov. 2022
Test Result.....: Pass

Testing Engineer :

(Chris Chen)

Technical Manager :

(Sean she)

Authorized Signatory :

(Bovey Yang)





Table of Contents	Page
1. SUMMARY OF TEST RESULTS	5
1.1 TEST FACTORY	6
1.2 MEASUREMENT UNCERTAINTY	6
2. GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF THE EUT	7
2.2 DESCRIPTION OF THE TEST MODES	9
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	9
2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	10
2.5 TEST EQUIPMENT	11
3. PART 15.236 REQUIREMENTS	12
3.1 RADIATED SPURIOUS EMISSION	12
3.2 EMISSION MASK	12
3.3 FREQUENCY STABILITY VS. TEMPERATURE & VOLTAGE	24
3.4 OCCUPIED BANDWIDTH	28
3.5 RADIATED POWER	31
PHOTOS OF TEST SETUP	34

**Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	11 Nov. 2022	STS2210066W01	ALL	Initial Issue





1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

The EUT has been tested according to FCC CFR 47:

Part 15.236: Operation of wireless microphones in the bands 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-698 MHz.

Emission			
Standard	Item	Limit	Result
FCC 15.236(g)	Radiated Spurious Emission	Refer to 300 422-1 V1.4.2 (8.4)	PASS
FCC 15.236(d)(1)	EIRP	≤50 mW	PASS
FCC 15.215	Occupied Bandwidth	--	PASS
FCC 15.236(f)(3)	Frequency tolerance	±0.005%	PASS
FCC 15.236(g)	Necessary Bandwidth (Mask)	Refer to 300 422-1 V1.4.2 (8.3)	PASS

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report.



1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 0.68\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.988\text{dB}$
3	All emissions, radiated 9K-30MHz	$\pm 2.84\text{dB}$
4	All emissions, radiated 30M-1GHz	$\pm 4.39\text{dB}$
5	All emissions, radiated 1G-6GHz	$\pm 5.10\text{dB}$
6	All emissions, radiated >6G	$\pm 5.48\text{dB}$
7	Conducted Emission (9KHz-150KHz)	$\pm 2.79\text{dB}$
8	Conducted Emission (150KHz-30MHz)	$\pm 2.80\text{dB}$



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	High-Performance UHF Wireless In-Ear Monitoring System
Brand Name:	Behringer
Model Name:	UL 1000G2
Series Model :	N/A
Model Difference description:	UL 1000G2-T (UHF Wireless Transmitter) UL 1000G2-R (UHF Wireless Belt-Pack Receiver) UL 1000G2 is a bundle of Transmitter and Receiver. UL 1000G2-R is receiver which will be sold separately, it's same receiver with the one in UL 1000G2.
Emission Bandwidth:	42.968KHz
Rating:	Transmitter: DC 12V, 500mA Receiver: DC 3V
Adapter:	Input: 100~240V~50/60HZ 0.5A Output:12.0V, 0.6A, 7.2W
Operation Frequency Range	584 - 608 MHz
Antenna Type	Omni Directional
Antenna Gain	Transmitter: -0.25dBi Receiver: 0.5dBi
Maximum Transmitter Power:	0.03656W(1.563dBm)
Modulation mode / type:	FM
Frequency Tolerance:	0.0002%
Temperature Range:	-20°C-50°C
Test frequency list:	Please refer to the Note 4.
Software version number:	V1.1
Hardware version number:	Transmitter: V1.2 Receiver: V1
Connecting I/O Port(s):	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.



3. Channel List:

Frequency Band: 584 - 608 MHz (USA & Australia)

Channel	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	Group 10
1	584.400	585.250	584.200	585.775	585.100	584.425	584.700	585.550	584.500	586.075
2	587.500	586.500	585.675	586.500	587.225	586.400	587.800	586.800	585.975	586.800
3	589.575	588.225	586.800	590.200	588.550	589.425	589.875	588.525	587.100	590.500
4	591.050	590.725	588.450	591.600	590.575	591.475	591.350	591.025	588.750	591.900
5	593.425	592.350	589.750	592.700	592.900	593.775	593.725	592.650	590.050	593.000
6	595.200	593.550	592.200	594.250	596.500	597.675	595.500	593.850	592.500	594.550
7	598.450	597.800	594.325	595.500	597.750	599.800	598.750	598.100	594.525	595.800
8	599.650	598.575	598.225	599.100	599.300	602.250	599.950	598.875	598.525	599.400
9	601.275	600.950	600.525	601.425	600.400	603.550	601.575	601.250	600.825	601.725
10	603.775	602.425	602.575	603.450	601.800	605.200	604.075	602.725	602.875	603.750
11	605.500	604.500	605.600	604.775	603.500	606.325	605.800	604.800	605.900	605.075
12	606.750	607.600	607.575	606.900	606.225	607.800	607.050	607.900	607.875	607.200

4. Test frequency list

Test Channel List	
Test Channel	Test Frequency (MHz)
L	584.20
M	596.50
H	607.90

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above listed frequency for testing.

2.2 DESCRIPTION OF THE TEST MODES

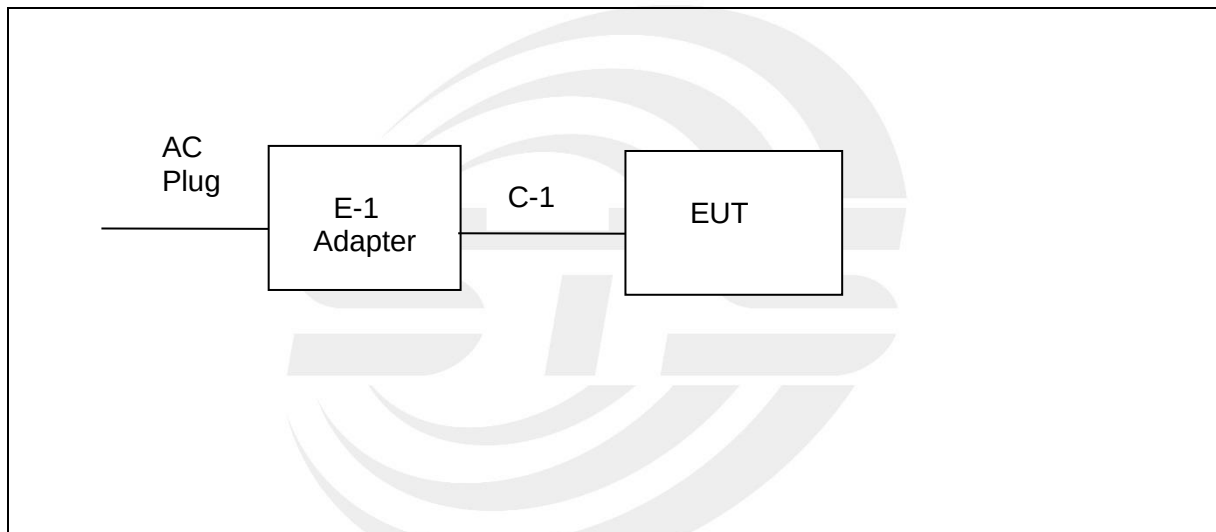
To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Low Channel
Mode 2	Middle Channel
Mode 3	High Channel

Note:

(1) Due to the different configuration and test, in this list only some worse mode. The worst test data of the worse mode is reported by this report.

2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED





2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND 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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-1	Adapter	N/A	HP12D-1200600-AI	N/A	N/A
C-1	DC Cable	N/A	N/A	120cm	NO

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
N/A	N/A	N/A	N/A	N/A	N/A

Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



2.5 TEST EQUIPMENT

RF Radiation Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2022.03.02	2023.03.01
Wireless Communications Test Set	R&S	CMW 500	117239	2022.03.01	2023.02.28
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2022.07.04	2023.07.03
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2022.09.29	2023.09.28
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2022.09.29	2023.09.28
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Video Controller	SKET	FCS C-3	N/A	N/A	N/A
Bilog Antenna	TESEQ	CBL6111D	34678	2022.09.30	2024.09.29
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2021.10.11	2023.10.10
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	N/A	N/A	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC Power Supply	Zhaoxin	RXN 605D	20R605D11010081	N/A	N/A
Test SW	EMC Test Software	15.2.0.339			
RF Connected Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2022.03.02	2023.03.01
Universal Radio communication tester	R&S	CMU200	111058	2022.09.28	2023.09.27
Signal Generator	Agilent	N5182A	MY46240556	2022.09.28	2023.09.27
Signal Analyzer	Agilent	N9020A	MY52440124	2022.03.01	2023.02.28
Audio analyzer	R&S	UPL	N/A	2022.03.07	2023.03.06
Temperature & Humidity Test Chamber	Safety test	AG80L	171200018	2022.03.01	2023.02.28
Programmable Power Supply	Agilent	E3642A	MY40002025	2022.09.29	2023.09.28
Attenuator	HP	8494B	DC-18G	2022.03.02	2023.03.01
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A

3. Part 15.236 REQUIREMENTS

3.1 RADIATED SPURIOUS EMISSION

TEST LIMITS

According to Part 15.236 (g) and ETSI EN 300 422-1 V1.4.2 section 8.4.3, the limit will following below table.

Table 3: Limits for spurious emissions

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 μ W
Standby	2 nW	2 nW	20 nW

3.2 EMISSION MASK

TEST LIMITS

- a. - According to Part 15.236 (g) and ETSI EN 300 422-1 V1.4.2 Clause 8.3.1.2,
The transmitter output spectrum shall be within the mask defined in figure 3 where B is the declared channel bandwidth

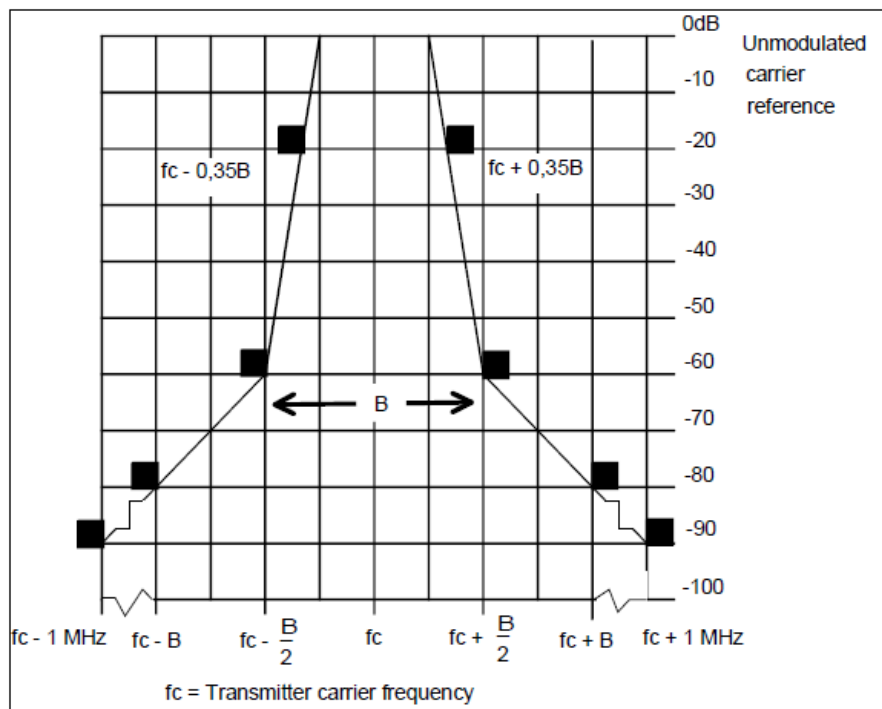


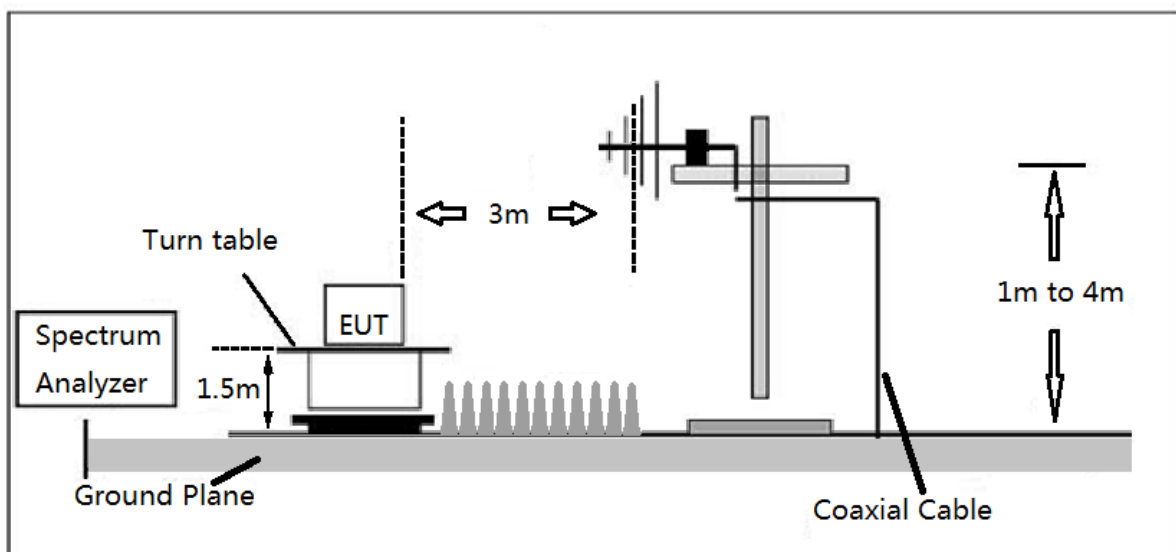
Figure 3: Spectrum mask for analogue systems in all bands

TEST PROCEDURE

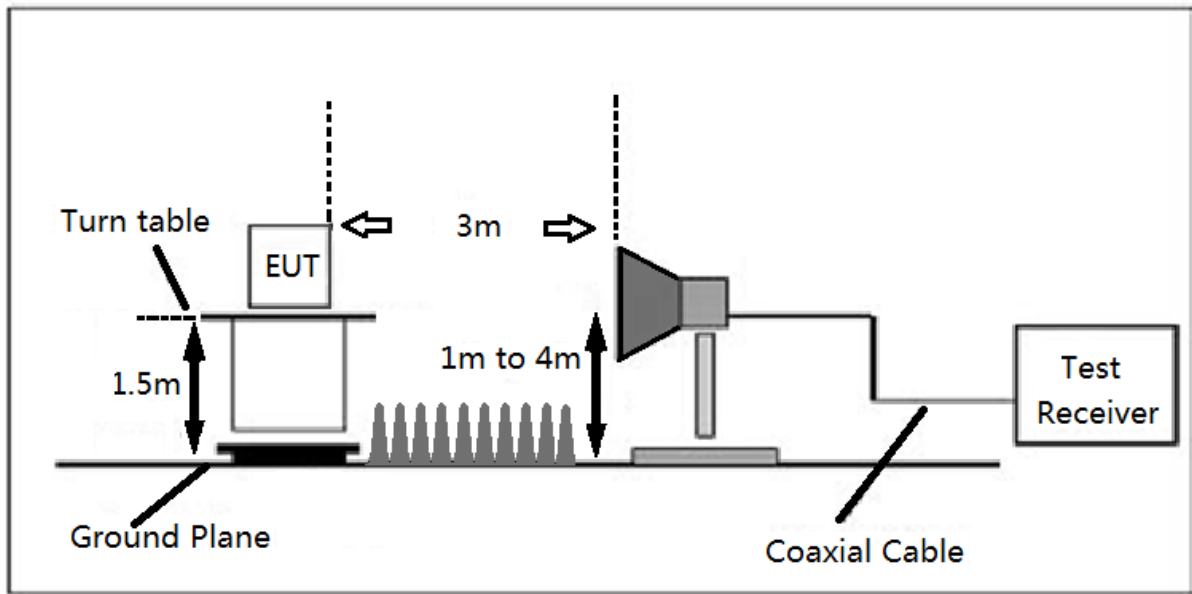
- a. On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
- b. The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- c. The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- d. The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- f. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- i. The measurement shall be repeated with the test antenna set to horizontal polarization.
- j. Replace the antenna with a proper Antenna (substitution antenna).
- k. The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- l. The substitution antenna shall be connected to a calibrated signal generator.
- m. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- n. The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- o. The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- p. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- q. The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

TEST CONFIGURATION

(A) Radiated Emission Test-Up Frequency Above 30MHz



(B) Radiated Emission Test-Up Frequency Above 1GHz

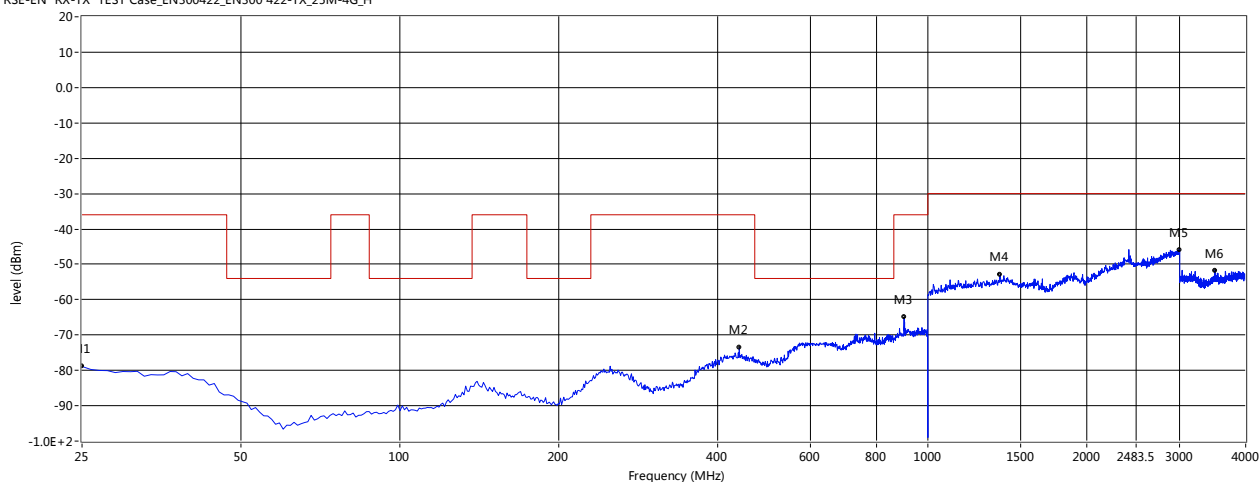


**TEST RESULTS**

Radiated Spurious Emission:

Low channel
Horizontal

RSE-EN RX-TX TEST Case_EN300422_EN300 422-TX_25M-4G_H

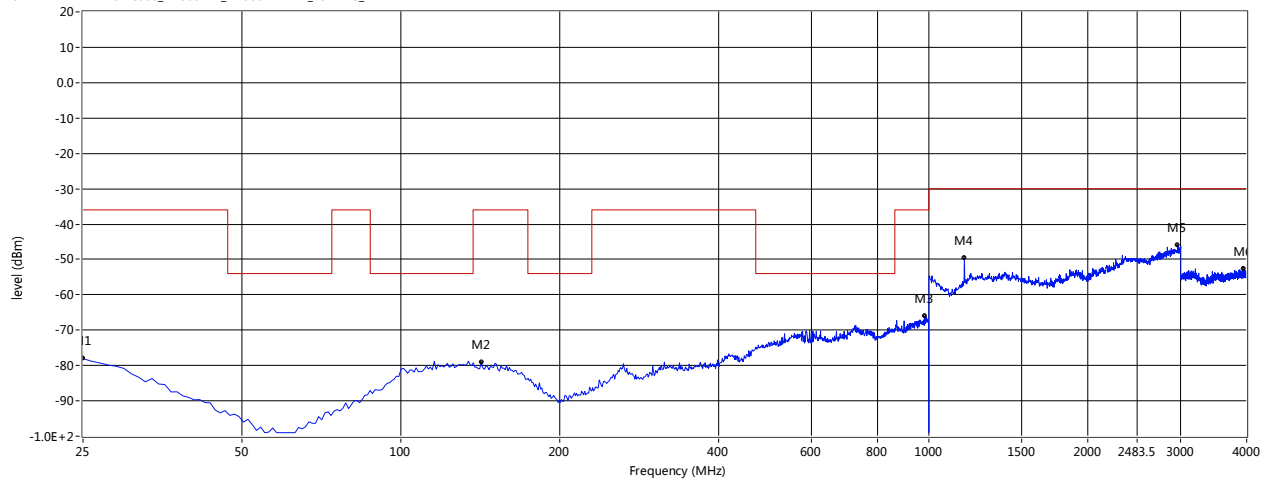


Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
25.000	-78.89	-1.95	-36.0	-42.89	360.00	Horizontal	Vertical	Pass
439.375	-73.55	3.84	-36.0	-37.55	165.40	Horizontal	Vertical	Pass
901.525	-65.00	8.88	-36.0	-29.00	270.90	Horizontal	Vertical	Pass
1372.000	-52.89	13.78	-30.0	-22.89	351.60	Horizontal	Vertical	Pass
3000.000	-45.86	21.25	-30.0	-15.86	85.10	Horizontal	Vertical	Pass
3497.000	-51.75	3.74	-30.0	-21.75	102.30	Horizontal	Vertical	Pass



Vertical

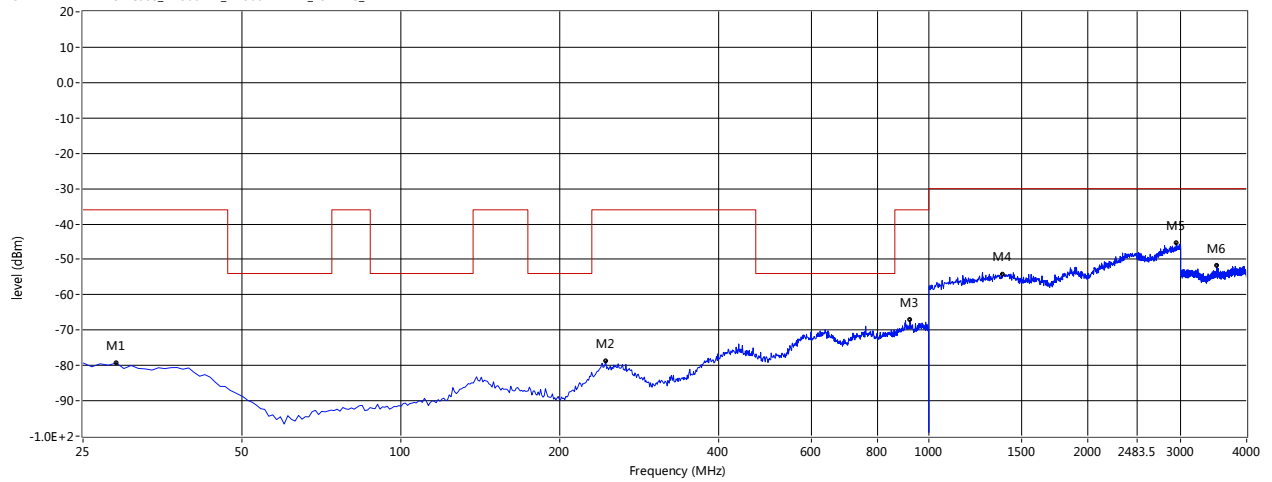
RSE-EN RX-TX TEST Case_EN300422_EN300 422-TX_25M-4G_V



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
25.000	-78.05	-0.46	-36.0	-42.05	333.30	Vertical	Vertical	Pass
142.000	-79.13	-1.23	-36.0	-43.13	96.80	Vertical	Vertical	Pass
984.400	-65.91	10.46	-36.0	-29.91	14.00	Vertical	Vertical	Pass
1168.000	-49.59	12.00	-30.0	-19.59	47.30	Vertical	Vertical	Pass
2962.000	-45.90	20.35	-30.0	-15.90	68.30	Vertical	Vertical	Pass
3948.000	-52.66	3.17	-30.0	-22.66	56.90	Vertical	Vertical	Pass

Mid channel
Horizontal

RSE-EN RX-TX TEST Case_EN300422_EN300 422-TX_25M-4G_H

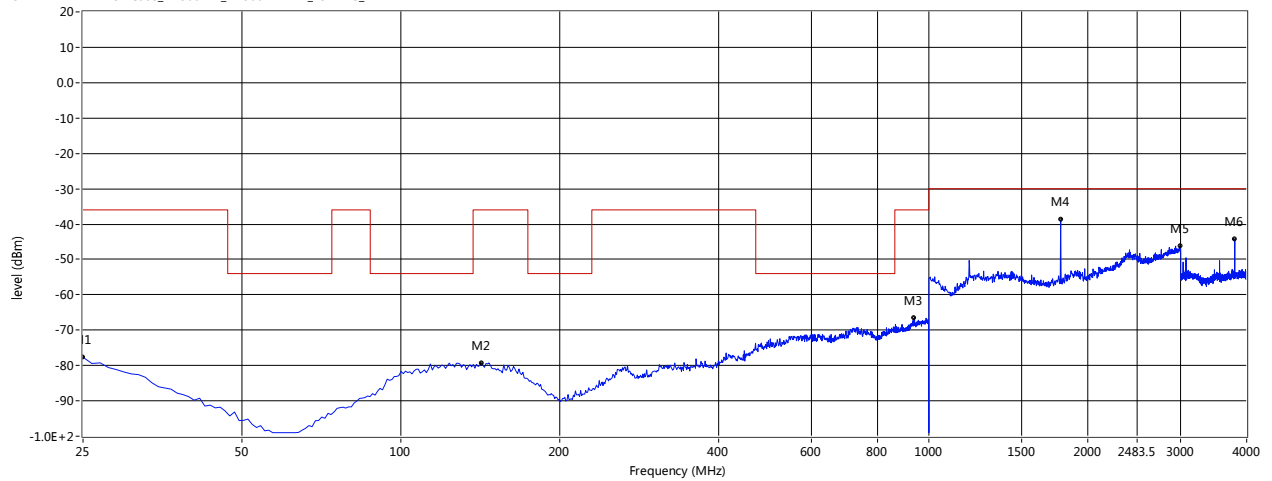


Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
28.900	-79.30	-1.92	-36.0	-43.30	311.70	Horizontal	Vertical	Pass
244.375	-78.89	-0.94	-36.0	-42.89	325.00	Horizontal	Vertical	Pass
921.025	-67.24	9.53	-36.0	-31.24	234.80	Horizontal	Vertical	Pass
1382.000	-53.87	13.92	-30.0	-23.87	123.30	Horizontal	Vertical	Pass
2942.000	-45.55	20.93	-30.0	-15.55	352.60	Horizontal	Vertical	Pass
3513.000	-51.81	3.68	-30.0	-21.81	355.40	Horizontal	Vertical	Pass



Vertical

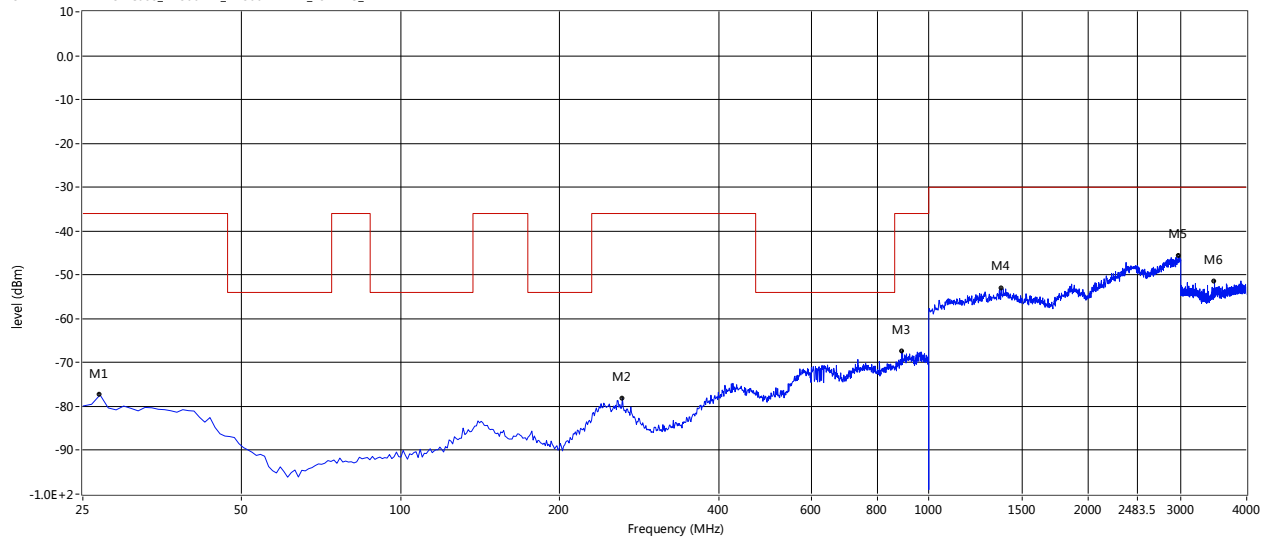
RSE-EN RX-TX TEST Case_EN300422_EN300 422-TX_25M-4G_V



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
25.000	-77.67	-0.46	-36.0	-41.67	34.60	Vertical	Vertical	Pass
142.000	-79.28	-1.23	-36.0	-43.28	257.80	Vertical	Vertical	Pass
939.550	-66.50	10.14	-36.0	-30.50	281.90	Vertical	Vertical	Pass
1778.000	-38.86	12.21	-30.0	-8.86	88.50	Vertical	Vertical	Pass
2996.000	-46.40	20.38	-30.0	-16.40	0.90	Vertical	Vertical	Pass
3797.000	-44.26	2.85	-30.0	-14.26	340.60	Vertical	Vertical	Pass

High channel
Horizontal

RSE-EN RX-TX TEST Case_EN300422_EN300 422-TX_25M-4G_H

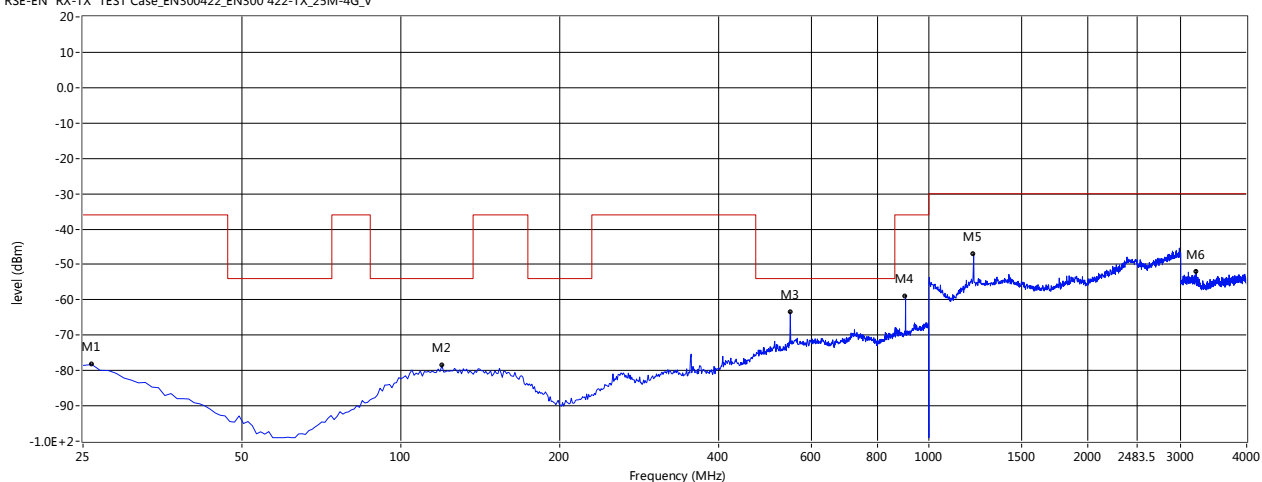


Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
26.950	-77.36	-1.94	-36.0	-41.36	134.70	Horizontal	Vertical	Pass
262.900	-78.21	-1.95	-36.0	-42.21	264.70	Horizontal	Vertical	Pass
888.850	-67.54	8.41	-36.0	-31.54	124.20	Horizontal	Vertical	Pass
1372.000	-53.19	13.78	-30.0	-23.19	218.00	Horizontal	Vertical	Pass
2980.000	-45.59	21.14	-30.0	-15.59	189.30	Horizontal	Vertical	Pass
3476.000	-51.41	3.43	-30.0	-21.41	38.40	Horizontal	Vertical	Pass



Vertical

RSE-EN RX-TX TEST Case_EN300422_EN300 422-TX_25M-4G_V

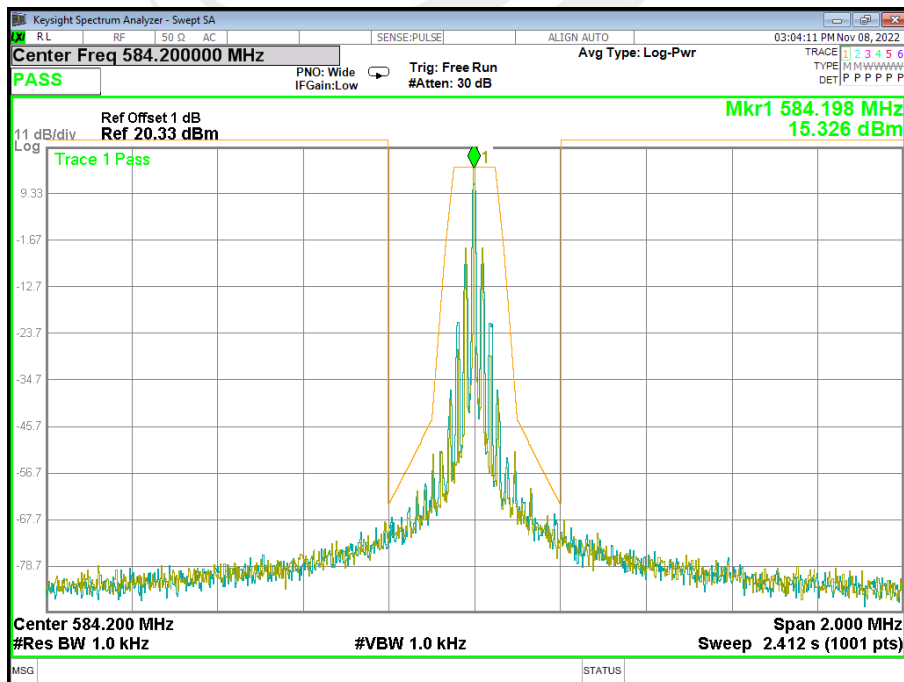
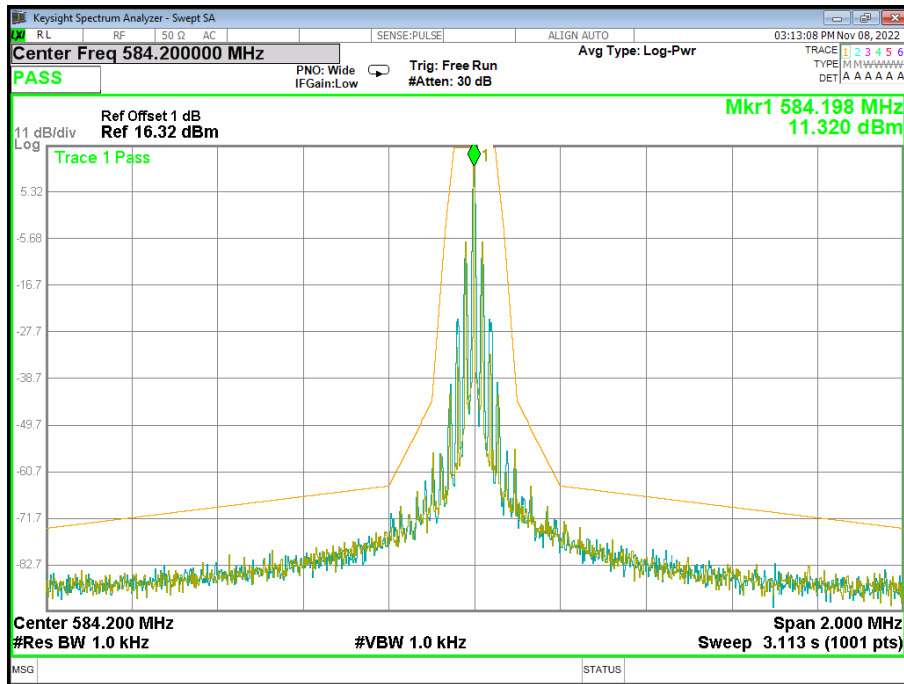


Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
25.975	-78.30	-1.09	-36.0	-42.30	96.10	Vertical	Vertical	Pass
119.575	-78.64	-1.92	-54.0	-24.64	348.80	Vertical	Vertical	Pass
546.625	-63.49	6.20	-54.0	-9.49	77.60	Vertical	Vertical	Pass
903.475	-58.96	8.32	-36.0	-22.96	40.20	Vertical	Vertical	Pass
1216.000	-47.10	13.58	-30.0	-17.10	120.80	Vertical	Vertical	Pass
3208.000	-52.10	2.56	-30.0	-22.10	73.60	Vertical	Vertical	Pass

**Emission Mask**

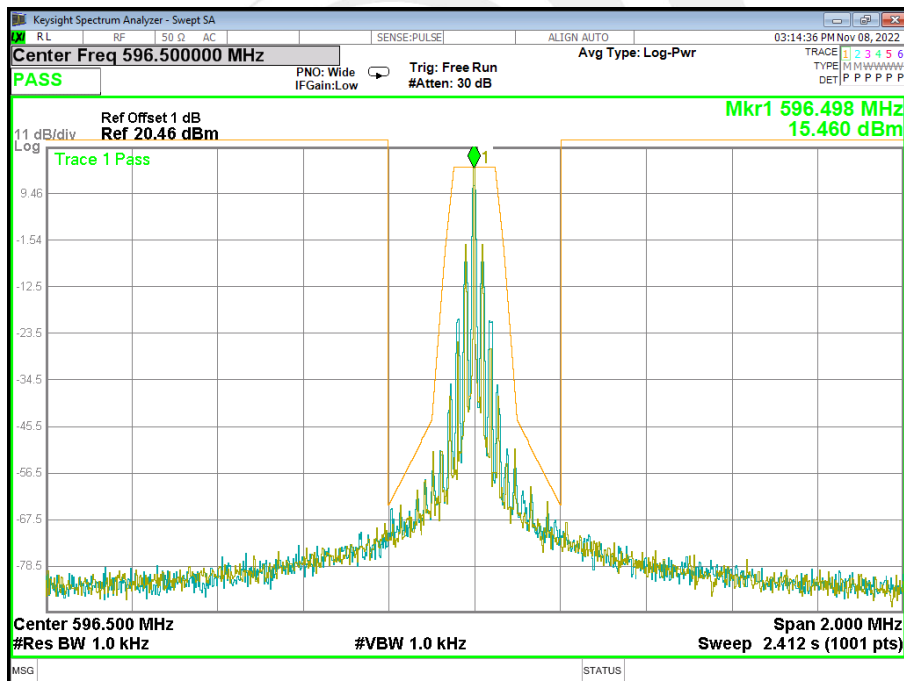
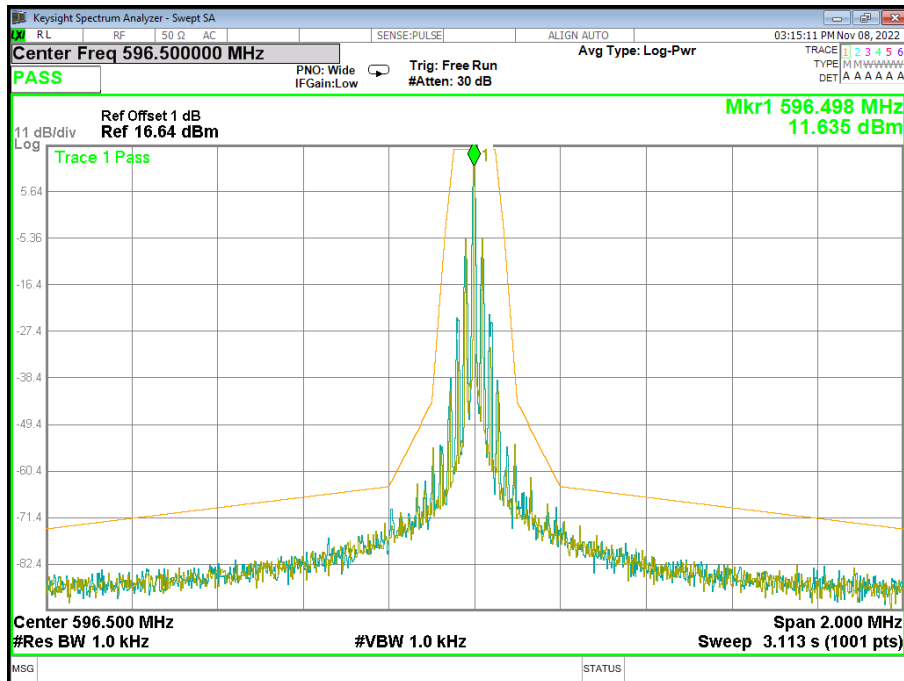
ETSI EN 300 422-1 V1.4.2 Clause 8.3.1.2 The Maximum Measurement of Necessary Bandwidth Test Plot:

Frequency(MHz)	Declared Bandwidth	B/2	0.35B
584.20	200K	100K	70K
596.50	200K	100K	70K
607.90	200K	100K	70K

Low CH

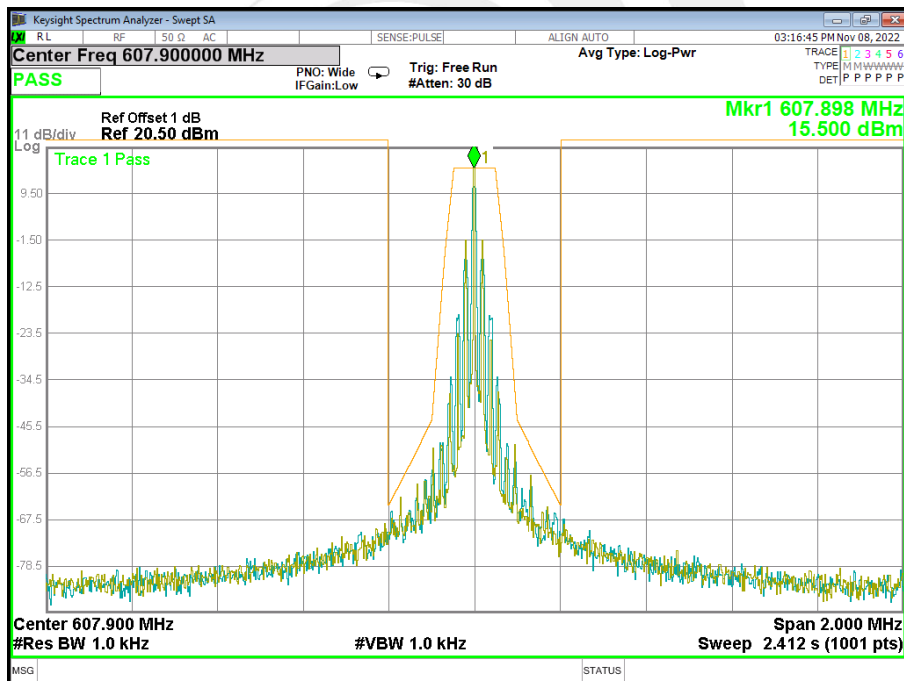
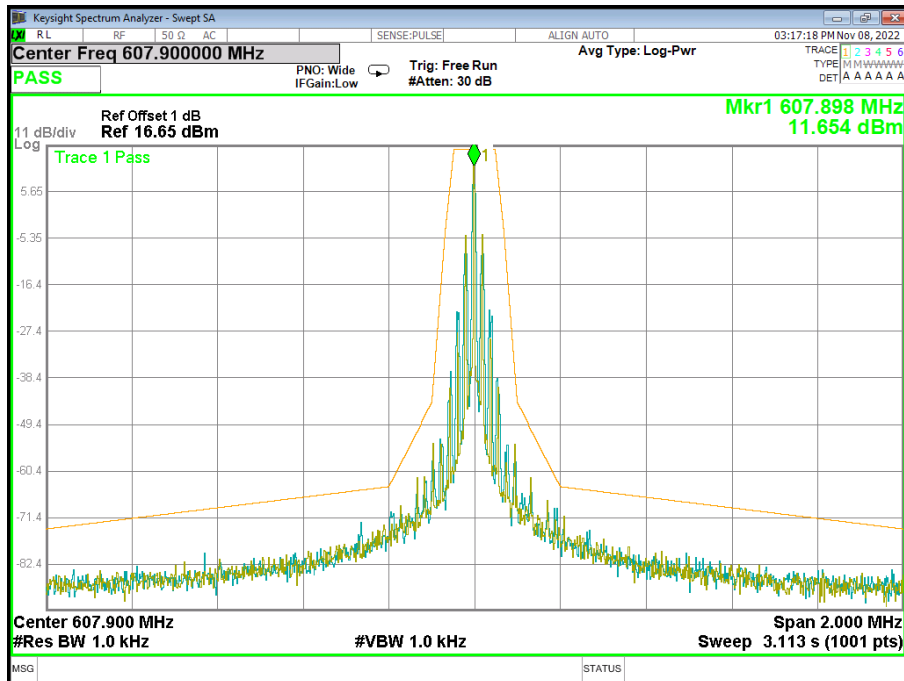


Mid CH





High CH

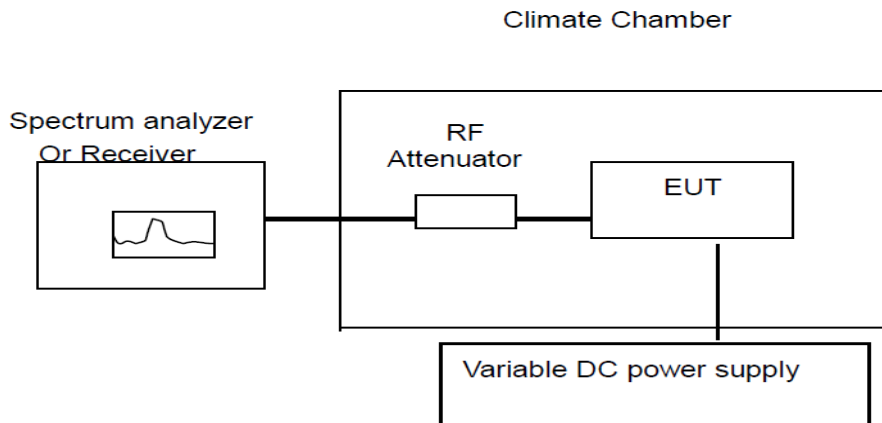


3.3 FREQUENCY STABILITY VS. TEMPERATURE & VOLTAGE

TEST LIMIT

According to Part 15.236 (f)(3), the frequency tolerance of the carrier signal shall be maintained within $\pm 0.005\%$ 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.

TEST CONFIGURATION



TEST PROCEDURE

The EUT was connected to an external DC power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber. The DC leads and the RF output cable, exited the chamber through an opening made for that purpose.

After the temperature stabilized the frequency output was recorded from the counter.

An external variable DC power supply was connected to the battery terminals of the equipment under test.

- b. For hand carried, battery powered equipment primary supply voltage was reduced to the battery operating end point as specified by the manufacturer. The output frequency was recorded for each battery voltage.

**TEST RESULTS**

- (1) Frequency stability versus input voltage (Supply Nominal voltage is DC 12V)
- (2) Frequency stability versus input voltage (Supply battery operating end point which shall be specified by the manufacturer DC 13.8V)

Reference Frequency: 584.20MHz					
Power Supply	Environment Temperature (°C)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
13.80	20	1336	0.0002	± 0.005	PASS
12.00	20	1352	0.0002		
10.20	20	1360	0.0002		
BEP	20	1361	0.0002		

Reference Frequency: 584.20MHz				
Environment Temperature(°C)	Frequency Deviation measured with time Elapse(30 minutes)			
	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
50	1258	0.0002	± 0.005	PASS
40	1317	0.0002		
30	1305	0.0002		
20	1360	0.0002		
10	1310	0.0002		
0	1307	0.0002		
-10	1259	0.0002		
-20	1298	0.0002		



Reference Frequency: 596.50MHz					
Power Supply	Environment Temperature (°C)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
13.80	20	1129	0.0002	±0.005	PASS
12.00	20	1056	0.0002		
10.20	20	1034	0.0002		
BEP	20	1072	0.0002		

Reference Frequency: 596.50MHz				
Environment Temperature(°C)	Frequency Deviation measured with time Elapse(30 minutes)			
	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
50	1037	0.0002	±0.005	PASS
40	1129	0.0002		
30	1017	0.0002		
20	1162	0.0002		
10	1158	0.0002		
0	1137	0.0002		
-10	1120	0.0002		
-20	1095	0.0002		



Reference Frequency: 607.90MHz					
Power Supply	Environment Temperature (°C)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
13.80	20	1058	0.000	±0.005	PASS
12.00	20	1033	0.0002		
10.20	20	1057	0.0002		
BEP	20	1029	0.0002		

Reference Frequency: 553.92MHz				
Environment Temperature(°C)	Frequency Deviation measured with time Elapse(30 minutes)			
	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Results
50	1017	0.0002	±0.005	PASS
40	1033	0.0002		
30	1028	0.0002		
20	1056	0.0002		
10	1045	0.0002		
0	1052	0.0002		
-10	1007	0.0002		
-20	1037	0.0002		



3.4 OCCUPIED BANDWIDTH

TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting : RBW= 3KHz, VBW $\geq$ RBW, Sweep time = Auto.

TEST CONFIGURATION



EUT OPERATION CONDITIONS

TX mode.

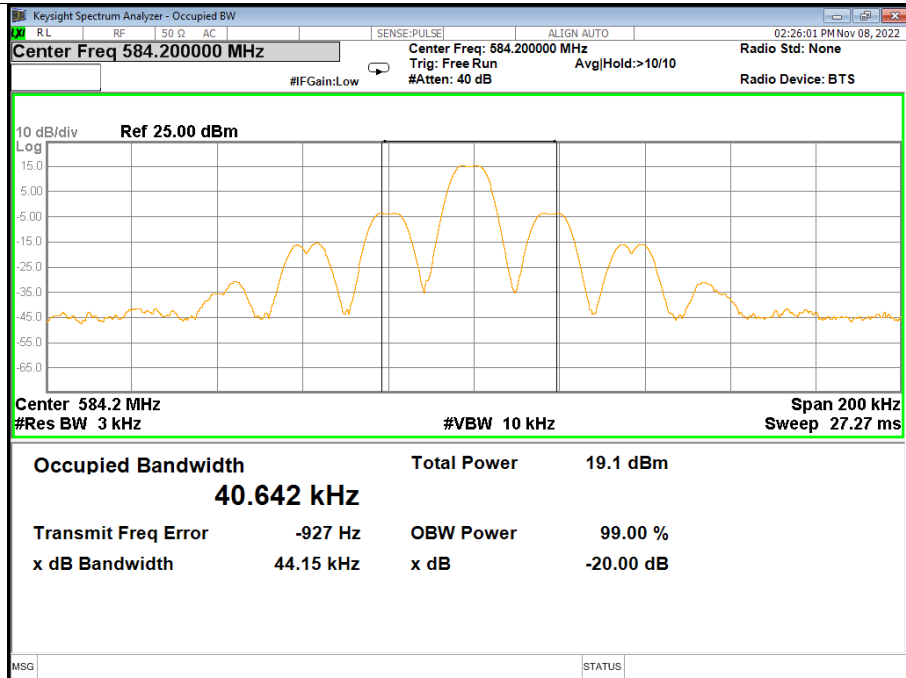




TEST RESULT

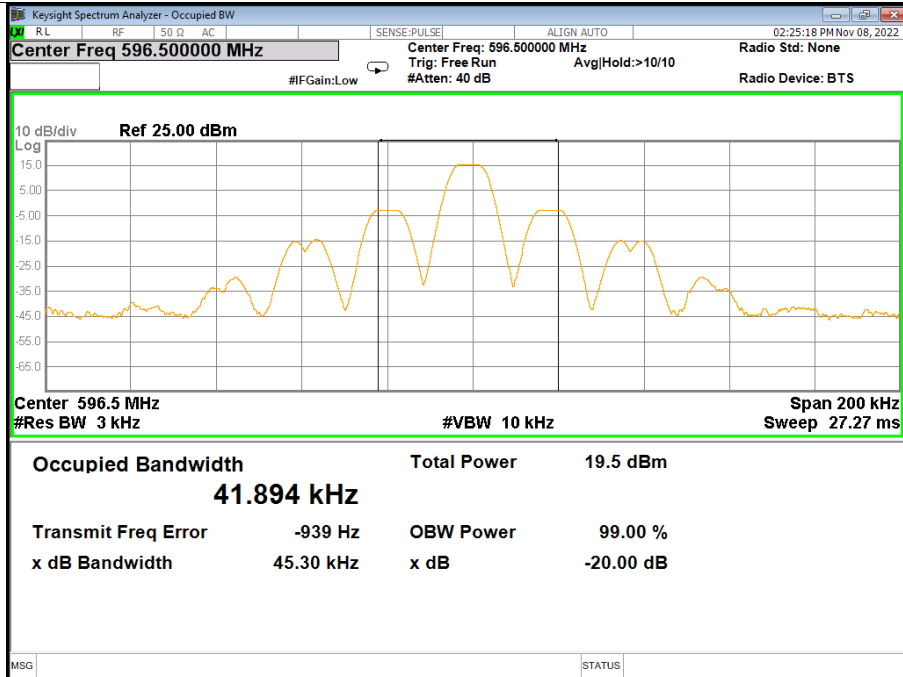
Frequency(MHz)	20 dB Bandwidth(KHz)	Result
584.20	44.15	Pass
596.50	45.30	Pass
607.90	46.21	Pass

Occupied bandwidth of Low Channel (Maximum)

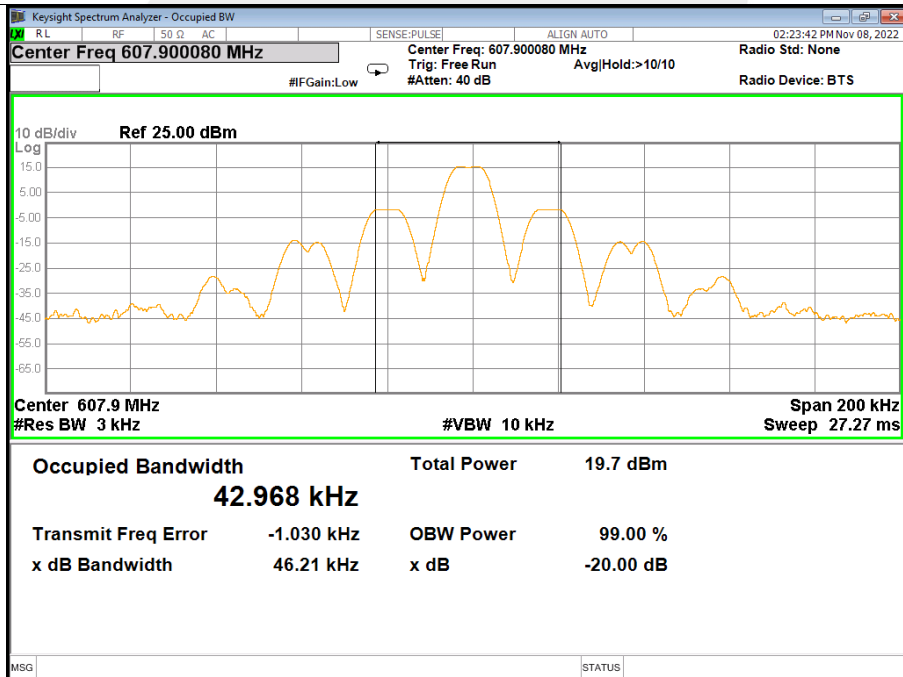




Occupied bandwidth of Mid Channel (Maximum)



Occupied bandwidth of High Channel (Maximum)



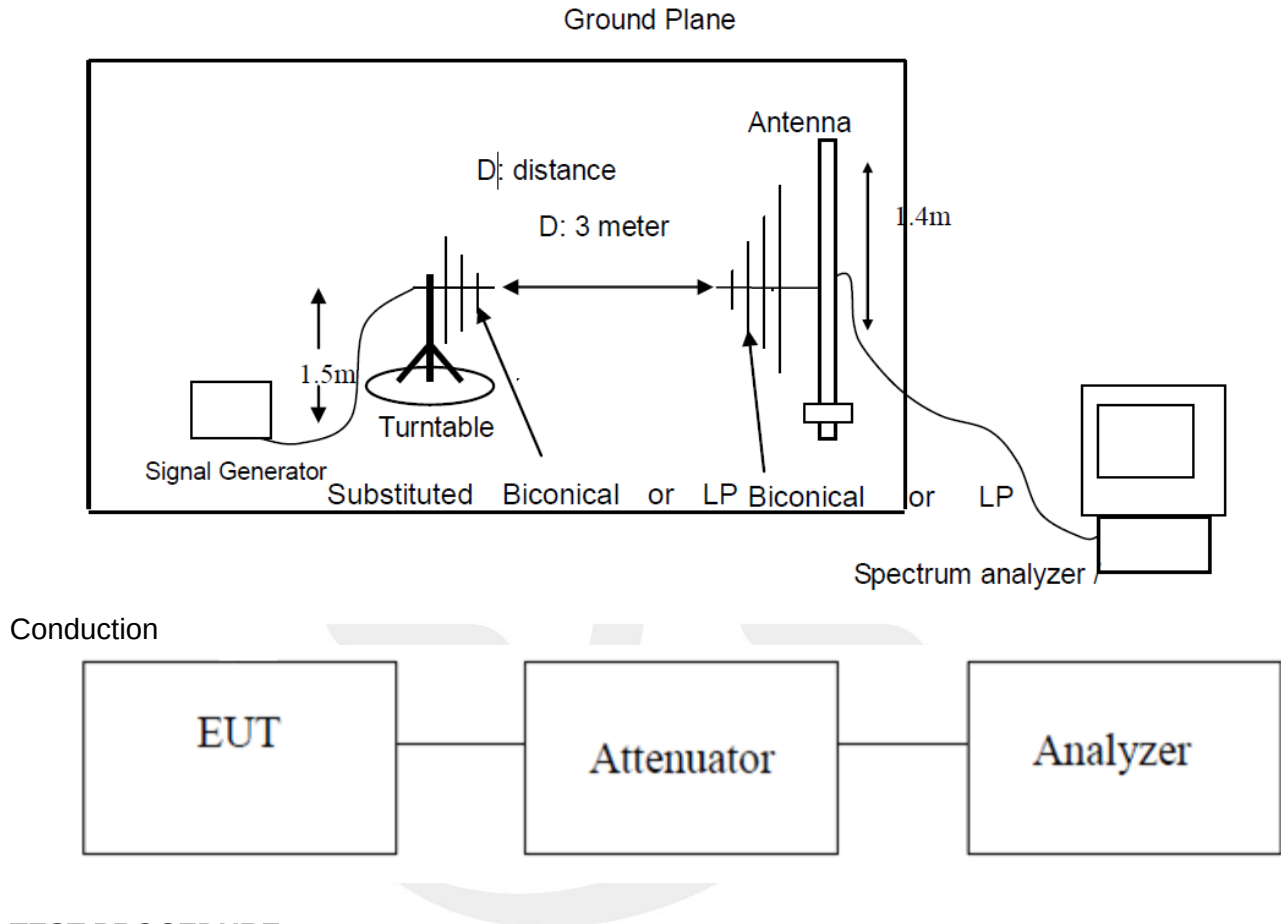
3.5 RADIATED POWER

TEST LIMIT

According to Part 15.236(d), the maximum radiated power shall not exceed the following:

- (1) In the bands allocated and assigned for broadcast television and in the 600 MHz service band: 50 mW EIRP
- (2) In the 600 MHz guard band and the 600 MHz duplex gap: 20 mW EIRP.

TEST CONFIGURATION



TEST PROCEDURE

- a. On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
- b. The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- c. The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- d. The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- f. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- i. The measurement shall be repeated with the test antenna set to horizontal polarization.



- j Replace the antenna with a proper Antenna (substitution antenna).
- k The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- l The substitution antenna shall be connected to a calibrated signal generator.
- m If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- n The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- o The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- p The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- q The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

TEST PROCEDURE (Conduction)

- a. The RF output of the transceiver was connected to the input of the spectrum analyzer through sufficient attenuation.
- b. Set the RBW $> 20\text{BW}$, VBW $> 3 \times \text{RBW}$.
- c. Detector = peak.
- d. Sweep time = auto couple.
- e. Trace mode = max hold.
- f. Allow trace to fully stabilize.
- g. Use the peak marker function to determine the maximum amplitude level.



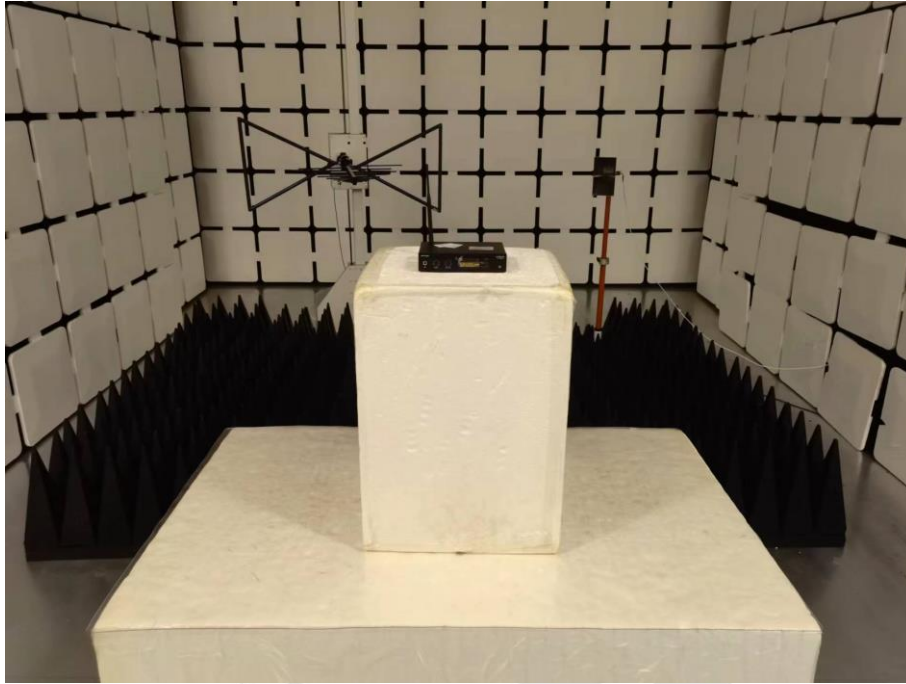
TEST RESULT

Maximum Equivalent Isotropically Radiated Power								
Ambient temperature: 22 °C			Relative humidity: 55%					
Frequency	S.G.Lev	Ant	Loss	EIRP	EIRP	Limit	Polarity	Result
(MHz)	(dBm)	(dBi)	(dB)	(dBm)	(mW)	(mW)		
584.20	13.86	3.00	1.6	15.26	33.57	50.00	H	Pass
584.20	14.18	3.00	1.6	15.58	36.14	50.00	V	Pass

Maximum Equivalent Isotropically Radiated Power								
Ambient temperature: 22 °C			Relative humidity: 55%					
Frequency	S.G.Lev	Ant	Loss	EIRP	EIRP	Limit	Polarity	Result
(MHz)	(dBm)	(dBi)	(dB)	(dBm)	(mW)	(mW)		
596.50	13.93	3.00	1.6	15.33	34.12	50.00	H	Pass
596.50	14.22	3.00	1.6	15.62	36.48	50.00	V	Pass

Maximum Equivalent Isotropically Radiated Power								
Ambient temperature: 22 °C			Relative humidity: 55%					
Frequency	S.G.Lev	Ant	Loss	EIRP	EIRP	Limit	Polarity	Result
(MHz)	(dBm)	(dBi)	(dB)	(dBm)	(mW)	(mW)		
607.90	13.97	3.00	1.6	15.37	34.43	50.00	H	Pass
607.90	14.23	3.00	1.6	15.63	36.56	50.00	V	Pass

PHOTOS OF TEST SETUP



※※※※※END OF THE REPORT※※※※※