

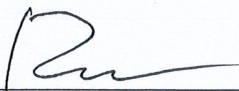
RADIO TEST REPORT

The device described below is tested by Dongguan Nore Testing Center Co., Ltd. to determine the maximum emission levels emanating from the device, the severe levels which the device can endure and E.U.T.'s performance criterion. The test results, data evaluation, test procedures, and equipment of configurations shown in this report were made in accordance with the procedures in ANSI C63.10(2013).

Applicant : Talent Audio
Address : Talent Audio 705 Pleasant Valley Dr. Springboro OH Springboro Guam (USA)
Manufacturer /Factory : AVA AUDIO ELECTRONIC TECHNOLOGY CO., LTD
Address : Second floor, Hall 3, Wenfei Industry, A4 NO.2 Area, Chan Ye Zhuan Yi Industry, Enping City, Guangdong, China
E.U.T. : Handheld Wireless Microphone
Brand Name : N/A
Model No. : UWH1, UWH2(For model difference, refer to section 1.)
FCC ID : 2AOVBUWH1
Measurement Standard : FCC PART 15.236, KDB206526 D01
Date of Receiver : January 02, 2018
Date of Test : January 02, 2018 to January 15, 2018
Date of Report : January 15, 2018

This Test Report is Issued Under the Authority of :

Prepared by


Rose Hu / Engineer

Approved & Authorized Signer


Lori Fan / Authorized Signatory

This test report is for the customer shown above and their specific product only. This report applies to above tested sample only and shall not be reproduced in part without written approval of Dongguan Nore Testing Center Co., Ltd.

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Revision History of This Test Report

Report Number	Description	Issued Date
NTC1801007FV00	Initial Issue	2018-01-15

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test

Product Name	: Handheld Wireless Microphone
Main Model Name	: UWH1
Additional Model Name	: UWH2
Model difference	: Both of models have the same circuit schematic, construction, PCB Layout and critical components. Their difference in model number due to trading purpose. UWH1 is used for one-channel receiver, and UWH2 is used for two-channel receiver.
Brand Name	: N/A
Power Supply	: 2* DC 1.5V AA Battery
Adapter	: N/A
Test voltage	: 2* DC 1.5V AA Battery
Hardware version	: V1.0
Software version	: V1.0
Serial number	: N/A
Note	: All tests were carried on model UWH1.

Technical parameters

Frequency Range	: 500.0-560.9MHz
Modulation	: FM
Antenna Type	: Integral antenna
Antenna Gain	: 0dBi

Channel List

Channel A				Channel B			
No.	Frequency MHz	No.	Frequency MHz	No.	Frequency MHz	No.	Frequency MHz
1	500	42	515.3	1	532.2	42	546.6
2	500.3	43	516.8	2	532.5	43	546.9
3	500.6	44	517.1	3	532.8	44	547.2
4	500.9	45	517.4	4	533.1	45	547.5
5	501.2	46	517.7	5	533.4	46	547.8
6	501.5	47	518	6	533.7	47	548.1
7	501.8	48	518.3	7	534	48	548.4
8	502.1	49	518.6	8	534.3	49	548.7
9	502.4	50	518.9	9	534.6	50	549
10	502.7	51	519.2	10	534.9	51	549.3
11	505.3	52	519.5	11	535.2	52	549.6
12	505.6	53	520	12	535.5	53	549.9
13	505.9	54	520.3	13	536	54	550.2
14	506.2	55	520.6	14	536.3	55	550.5
15	506.5	56	520.9	15	536.6	56	552
16	506.8	57	521.2	16	536.9	57	553.2
17	507.1	58	521.5	17	537.2	58	553.5
18	507.4	59	522.4	18	537.5	59	553.8
19	507.7	60	522.7	19	537.8	60	554.1
20	508	61	523	20	538.1	61	554.4
21	508.3	62	523.3	21	538.4	62	554.7
22	508.6	63	523.6	22	538.7	63	555
23	508	64	523.9	23	539	64	555.3
24	509	65	524.2	24	539.3	65	555.6
25	509.3	66	524.5	25	540	66	555.9
26	509.6	67	524.8	26	540.6	67	556.2
27	510.5	68	525.1	27	540.9	68	556.5
28	510.8	69	525.4	28	541.2	69	556.8
29	511.1	70	525.7	29	541.5	70	557.1
30	511.4	71	526	30	541.8	71	557.4
31	512	72	526.3	31	542.1	72	558
32	512.3	73	526.6	32	542.4	73	558.6
33	512.6	74	529.5	33	542.7	74	558.9
34	512.9	75	529.8	34	543	75	559.2
35	513.2	76	530.4	35	543.3	76	559.5
36	513.5	77	530.7	36	543.6	77	560
37	513.8	78	531	37	544.5	78	560.3
38	514.1	79	531.3	38	544.8	79	560.6
39	514.4	80	531.6	39	545.1	80	560.9
40	514.7	81	531.9	40	545.4	---	---
41	515	---	---	41	546	---	---

Note: According to section 15.31(m), regards to the operating frequency range over 10MHz, the Lowest, Middle, and the Highest frequency of channel were selected to perform the test. The selected frequency see below:

Frequency MHz
500.0
532.2
560.9

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: 2AOVBUWH1 filing to comply with Section 15.236 of the FCC Part 15(2016), Subpart C Rule.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013) & ETSI EN 300422-1 V1.4.2(2011-08). Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters. All other measurements were made in accordance with the procedures in 47 CFR part 2.

1.4 Equipment Modifications

Not available for this EUT intended for grant.

1.5 Support Device

N/A

1.6 Test Facility and Location

Site Description

EMC Lab : Listed by CNAS, August 14, 2015
The certificate is valid until August 13, 2018
The Laboratory has been assessed and proved to
be in compliance with CNAS/CL01
The Certificate Registration Number is L5795.

Listed by A2LA, November 01, 2017
The certificate is valid until December 31, 2019
The Laboratory has been assessed and proved to
be in compliance with ISO17025
The Certificate Registration Number is 4429.01

Listed by FCC, November 06, 2017
The Designation Number is CN1214
Test Firm Registration Number: 907417

Listed by Industry Canada, June 08, 2017
The Certificate Registration Number. Is 46405-9743

Name of Firm : Dongguan Nore Testing Center Co., Ltd.
(Dongguan NTC Co., Ltd.)

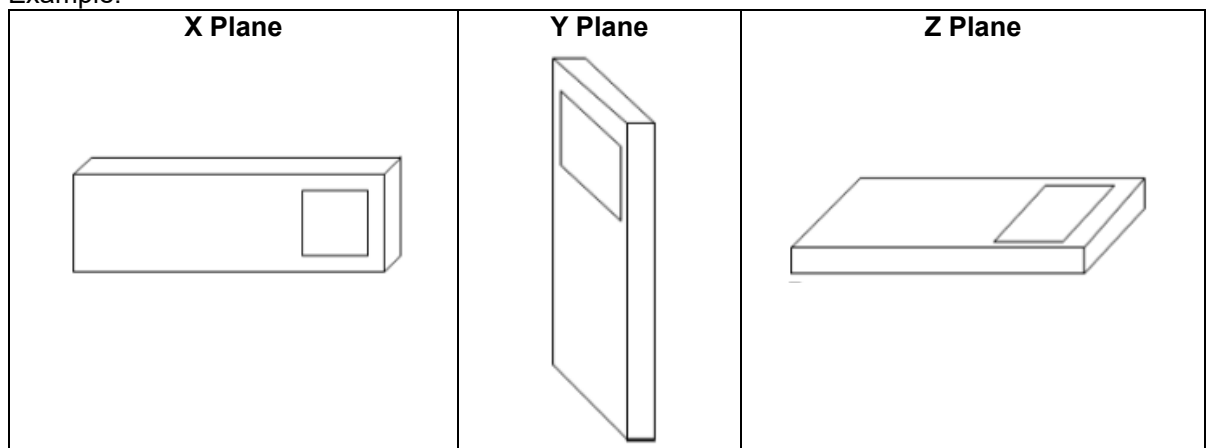
Site Location : Building D, Gaosheng Science & Technology Park,
Zhouxi Longxi Road, Nancheng District, Dongguan
City, Guangdong Province, China

1.7 Summary of Test Results

FCC Rules	Description Of Test	Uncertainty	Result
§15.207 (a)	AC Power Conducted Emission	±1.06dB	Not applicable
§15.236(d)	RF Output Power	±1.06dB	Compliant
§15.236(f)	Occupied Bandwidth	±1.42 x10 ⁻⁴ %	Compliant
§15.236(f)(3)	Frequency stability	±1.06dB	Compliance
§15.236(g)	Transmitter Spurious Emissions & Emission mask	±3.70dB & ±1.70dB	Compliance
§15.203	Antenna Requirement	N/A	Compliant

- Note: 1. The EUT operating multiple positions, so the EUT shall be performed three orthogonal planes. The worst plane is Z.
2. Due to this EUT is powered by battery only, the AC Power Conducted Emission is not applicable.
3. The EUT has been tested as an independent unit. And Continual transmitting in maximum power (The new battery be used during test)

Example:



2. System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 Special Accessories

Not available for this EUT intended for grant.

2.3 Description of test modes

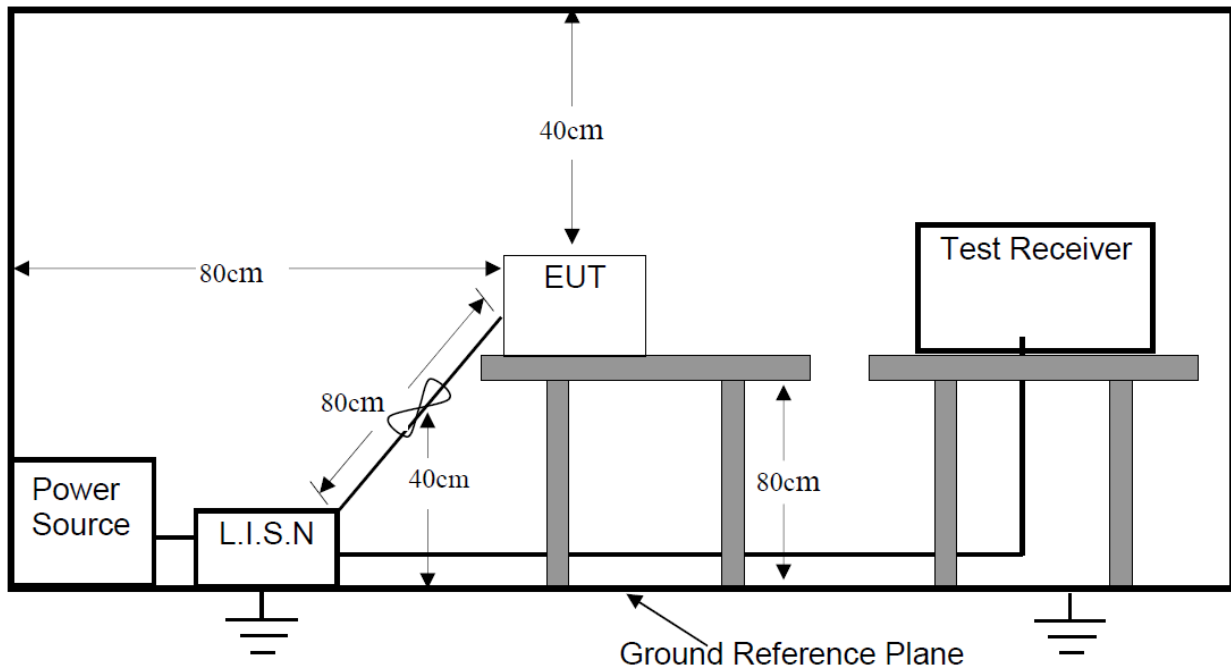
The EUT has been tested under continuous operating condition (The duty cycle >98%). Test program used to control the EUT staying in continuous transmitting mode.

2.4 EUT Exercise

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

3. Conducted Emissions Test

3.1 Test SET-UP (Block Diagram of Configuration)



3.2 Test Condition

Test Requirement: FCC Part 15.207

Frequency Range: 150KHz ~ 30MHz

Detector: RBW 9KHz, VBW 30KHz

Operation Mode: TX Mode

3.3 Measurement Results

Not applicable.

4. Max. Conducted Output Power

4.1 Measurement Procedure

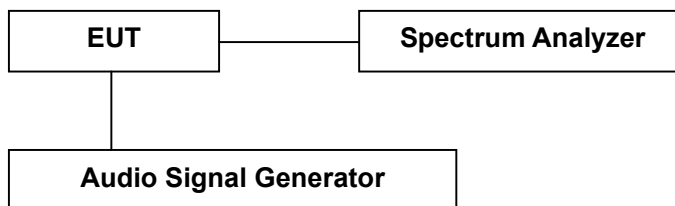
1. The maximum peak output power was measured with a Spectrum analyzer connected to antenna terminal while EUT was operating in unmodulated situation.
2. Power was supplied to the battery input connector a power supply. The power supply was set for +3.0VDC. The spectrum analyzer was connected at antenna terminal to measure RF Power of carrier.
3. A Multimeter was connected in series with final RF stage to measure the current; A multimeter was used to measure final RF stage supply voltage. Then the voltage v.s. current of the final RF stage can be showed.

4.2 Test Limit

Maximum Conducted Output power at Antenna Terminals, FCC Rules 15.236(d):

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

4.3 Test SET-UP (Block Diagram of Configuration)

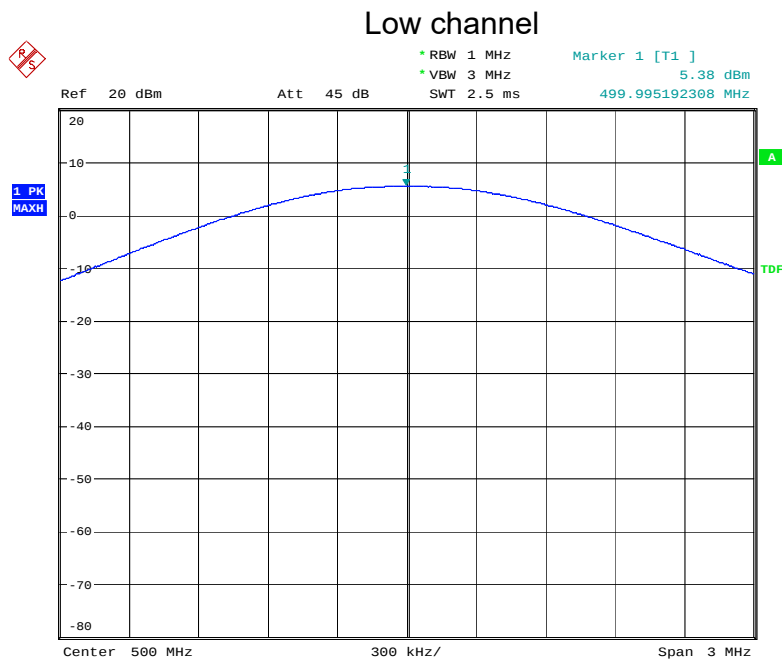


4.4 Measurement Results

Please refer to following table.

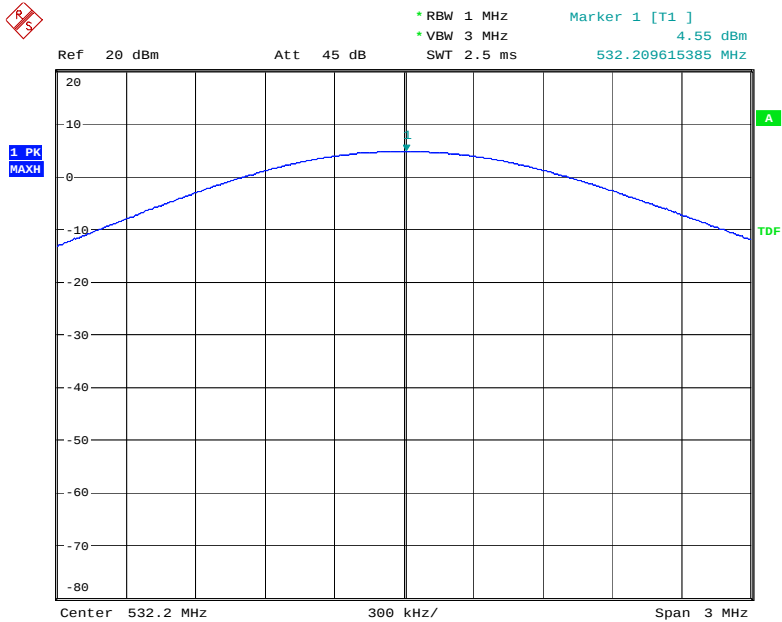
Temperature :	24 °C	Humidity :	50 %
Test By:	Sance	Test Date :	January 13, 2018
Test Result:	PASS		

Frequency MHz	Peak Output Power dBm	Limit dBm
Low Channel: 500.0	5.38	17
Middle Channel: 532.2	4.55	17
High Channel: 560.9	4.01	17



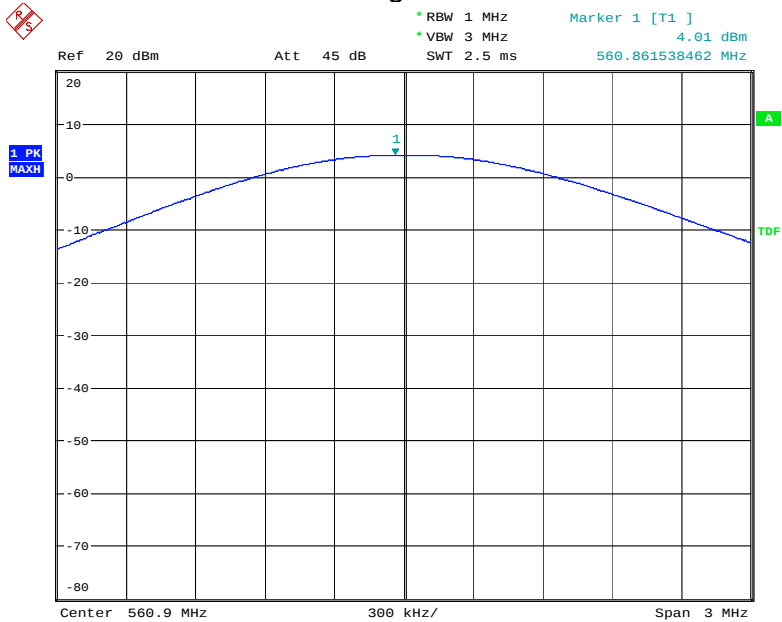
Date: 13.JAN.2018 15:30:33

Middle channel



Date: 13.JAN.2018 15:29:54

High channel



Date: 13.JAN.2018 15:29:30

5. Occupied Bandwidth

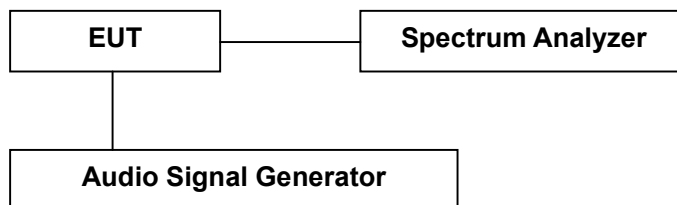
5.1 Measurement Procedure

According to FCC 15.236(f), The operating frequency within a permissible band of operation as defined in paragraph (c) must comply with the following requirements.

- (1) The frequency selection shall be offset from the upper or lower band limits by 25KHz or an integral multiple thereof.
- (2) One or more adjacent 25KHz segments within the assignable frequencies may be combined to form a channel whose maximum bandwidth shall not exceed 200KHz. The operating bandwidth shall not exceed 200KHz.

According the ANSI C6.10-2013 section 6.9 for additional test set-up procedure, the occupied bandwidth of emission was measured with a spectrum analyzer connected to the antenna terminal while EUT was operating in 2.5KHz tone at an input level 16dB grater than necessary to produce 50 percent modulation. Then mark the -26dB Bandwidth and reord it.

5.2 Test SET-UP (Block Diagram of Configuration)



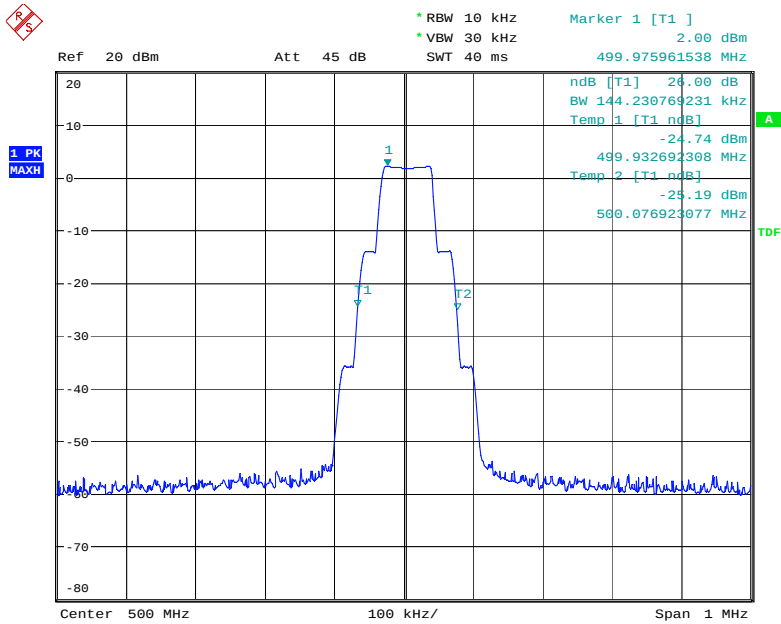
5.3 Measurement Results

Please refer to following table and plots.

Temperature :	22 °C	Humidity :	53 %
Test By:	Sance	Test Date :	January 13, 2018
Test Result:	PASS		

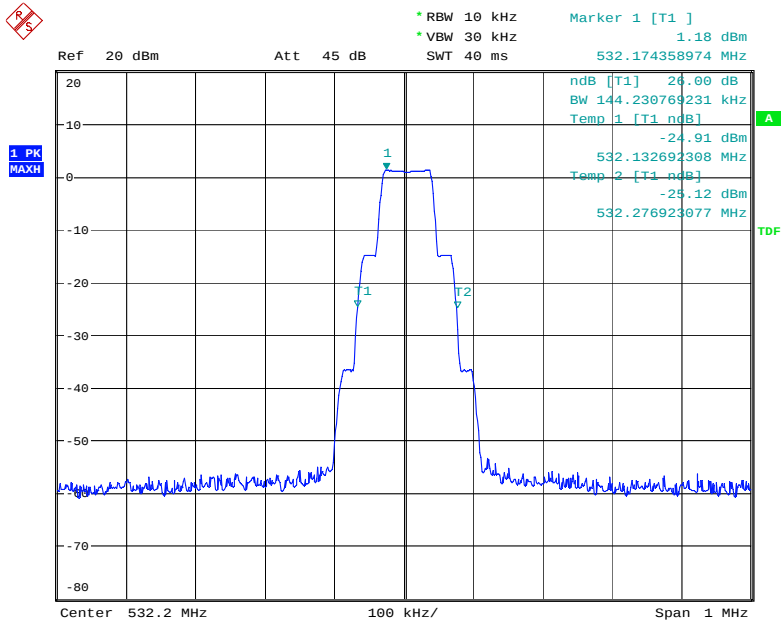
Frequency MHz	99% Bandwidth kHz	-26dB Bandwidth kHz	Limit
Low Channel: 500.0	105.8	144.2	<200KHz
Middle Channel: 532.2	105.8	144.2	<200KHz
High Channel: 560.9	105.8	144.2	<200KHz

-26dB bandwidth Low Channel



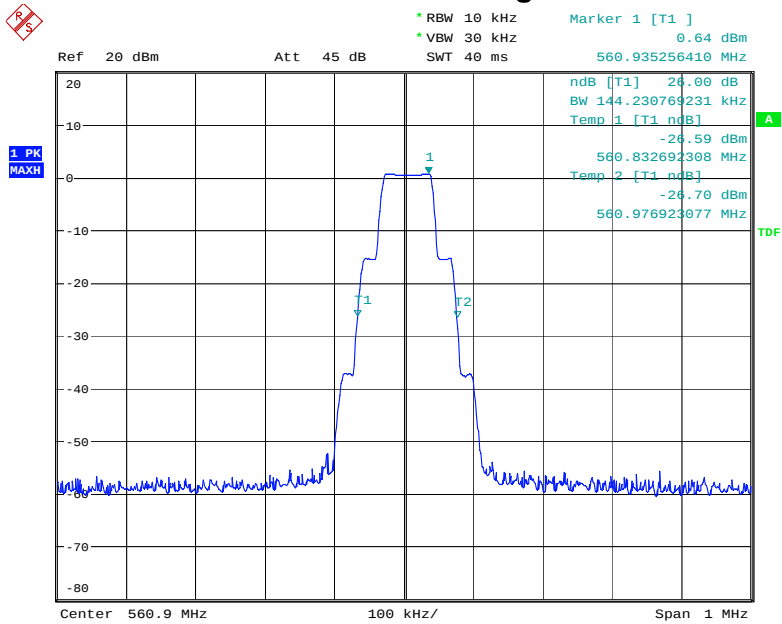
Date: 13.JAN.2018 15:31:39

-26dB bandwidth Middle Channel



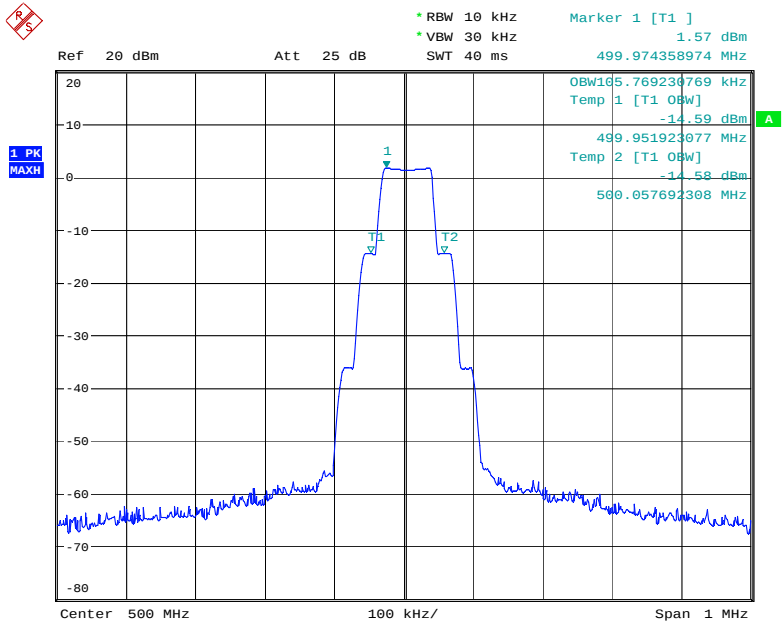
Date: 13.JAN.2018 15:32:05

-26dB bandwidth High Channel



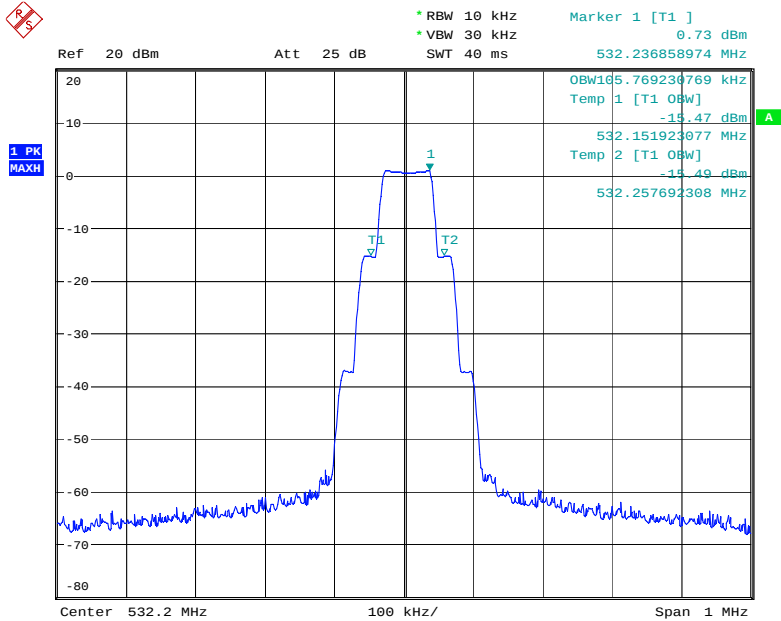
Date: 13.JAN.2018 15:32:32

99% bandwidth Low Channel



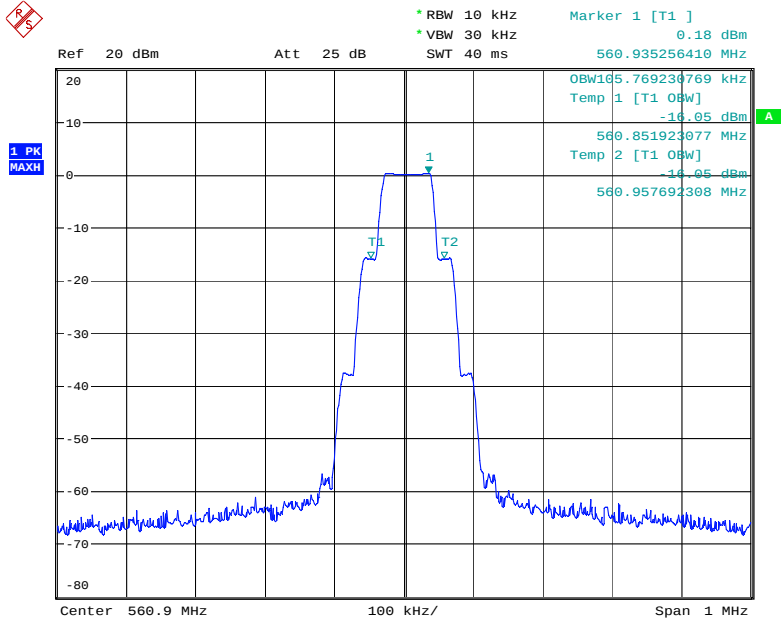
Date: 13.JAN.2018 15:25:34

99% bandwidth Middle Channel



Date: 13.JAN.2018 15:27:57

99% bandwidth High Channel



Date: 13.JAN.2018 15:28:31

6. Frequency Stability

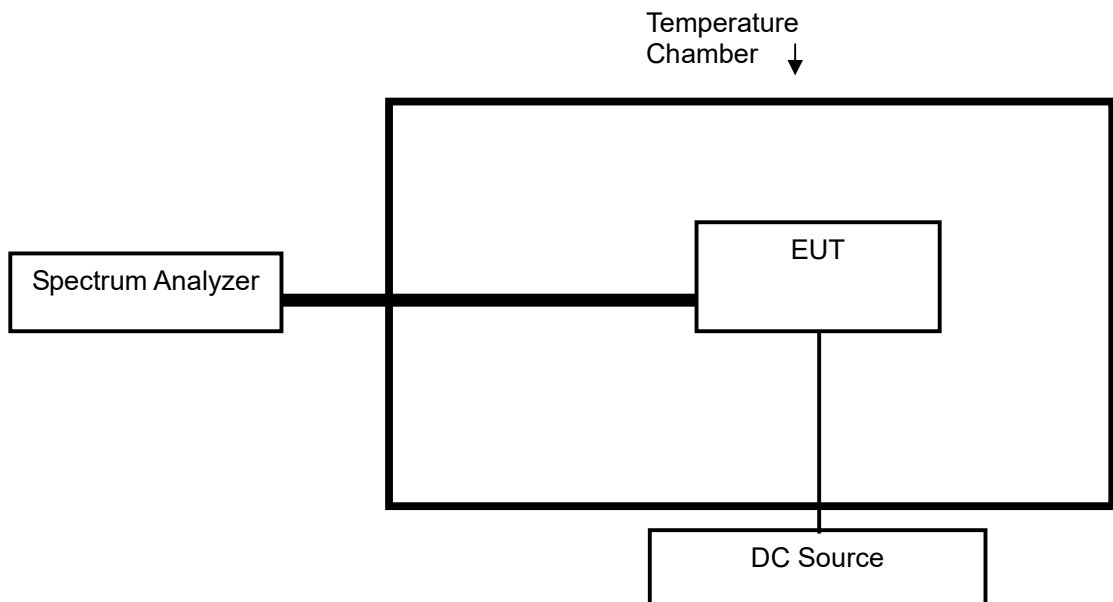
6.1 Measurement Procedure

According to FCC 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.

1. Setup the configuration of the ambient temperature from -20 degrees to 50 degrees with sufficient time. And measure the different power of the EUT with an artificial power from highest to end point voltage.
2. Set frequency counter center frequency to the right frequency needs to be measured.

6.2 Test SET-UP (Block Diagram of Configuration)

Test Configuration:



6.3 Measurement Results

Please refer to following table and plots.

Temperature :	22 °C	Humidity :	53 %
Test By:	Sance	Test Date :	January 13, 2018
Test Result:	PASS		

Test conditions		Frequency Error		
Temperature (°C)	Voltage (V)	500.0MHz	532.2MHz	560.9MHz
25	3.0	500.015	532.210	560.909
	2.55	500.012	532.208	560.908
	3.45	500.013	532.201	560.911
-20	3.0	500.014	532.200	560.910
	2.55	500.013	532.200	560.913
	3.45	500.010	532.210	560.903
55	3.0	500.013	532.211	560.905
	2.55	500.018	532.205	560.905
	3.45	500.018	532.200	560.911
Max. frequency error (ppm)		-36.00	-20.67	23.18
Limit(ppm)		±50ppm		

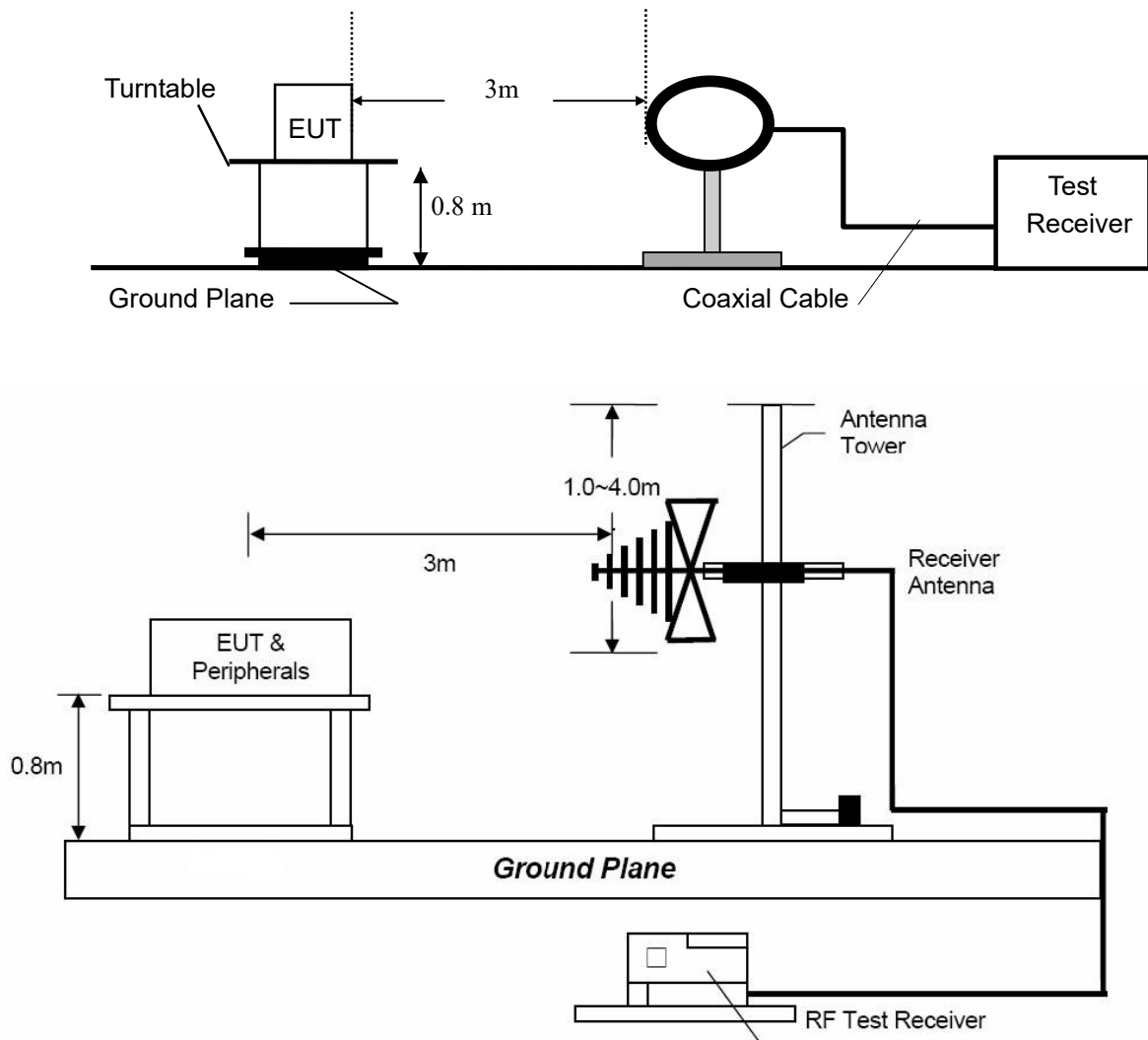
7. Radiated Spurious Emissions & Emission Mask

7.1 Requirement

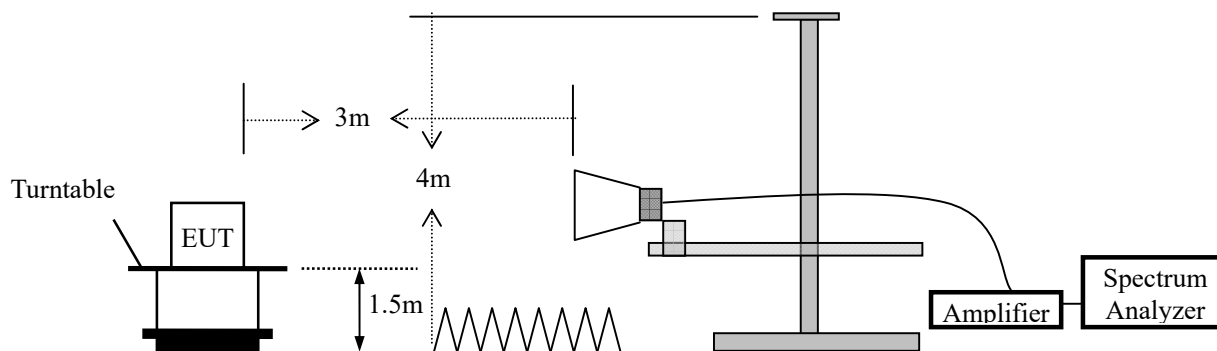
According to FCC 15.236(g), Emission within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in Section 8.3 of ETSI EN 300422-1 V1.4.2(2011-08). Emissions outside this band shall comply with the limit specified at the edges of the ETSI mask.

7.2 Test SET-UP (Block Diagram of Configuration)

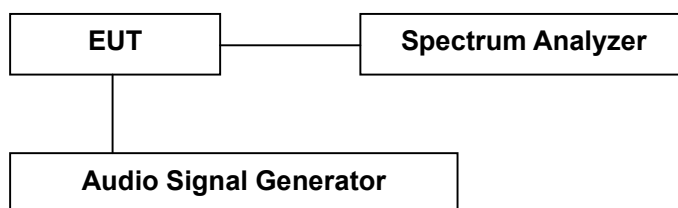
7.2.1 Radiated Emission Test Set-Up, Frequency Below 30MHz



7.2.2 Radiated Emission Test Set-Up, Frequency above 1GHz



7.2.3 Emission Mask Test set-up.



7.3 Measurement Procedure

7.3.1 Radiated spurious emission test procedure:

- a. Below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi- anechoic chamber room.
- b. For the radiated emission test above 1GHz:
The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter full anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The height of antenna 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.
- e. 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. The test-receiver system was set to peak detect function and specified bandwidth with maximum hold mode.
- f. A Quasi-peak measurement was then made for that frequency point for below 1GHz test. Peak and /or AVG for above 1GHz emission test.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

Frequency Band (MHz)	Level	Resolution Bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	3 MHz
	Average	1 MHz	10 Hz or 3MHz

7.3.2 Emission Mask test procedure:

Necessary Bandwidth (BN) for Analogue Systems Method of Measurement

The arrangement of test equipment as shown in figure B.1 shall be used. Note that the noise meter conforms to (quasi peak) without weighting filter (flat).

With the Low Frequency (LF) audio signal generator set to 500 Hz, the audio input level to the EUT shall be adjusted to 8 dB below the limiting threshold (-8 dB (lim)) as declared by the manufacturer.

The corresponding audio output level from the demodulator shall be measured and recorded.

The input impedance of the noise meter shall be sufficiently high to avoid more than 0,1 dB change in input level when the meter is switched between input and output.

The audio input level shall be increased by 20 dB, i.e. to +12 dB (lim), and the corresponding change in output level shall be measured.

It shall be checked that the audio output level has increased by ≤ 10 dB.

If this condition is not met, the initial audio input level shall be increased from -8 dB (lim) in 1 dB steps until the above condition is fulfilled, and the input level recorded in the test report. This level replaces the value derived from the manufacturer's declaration and is defined as -8 dB (lim).

If the transmitter incorporates more than one audio input, e.g. stereo systems, the second and subsequent channels shall be simultaneously driven from the same noise source, attenuated to a level of -6 dB (lim).

The transmitter RF output spectrum shall be measured, using a spectrum analyser with the following settings:

- | | |
|-------------------------------|---|
| - centre frequency: | fc: Transmitter (Tx) nominal frequency; |
| - dispersion (Span): | fc - 1 MHz to fc + 1 MHz; |
| - Resolution BandWidth (RBW): | 1 kHz; |
| - Video BandWidth (VBW): | 1 kHz; - detector: Peak hold. |

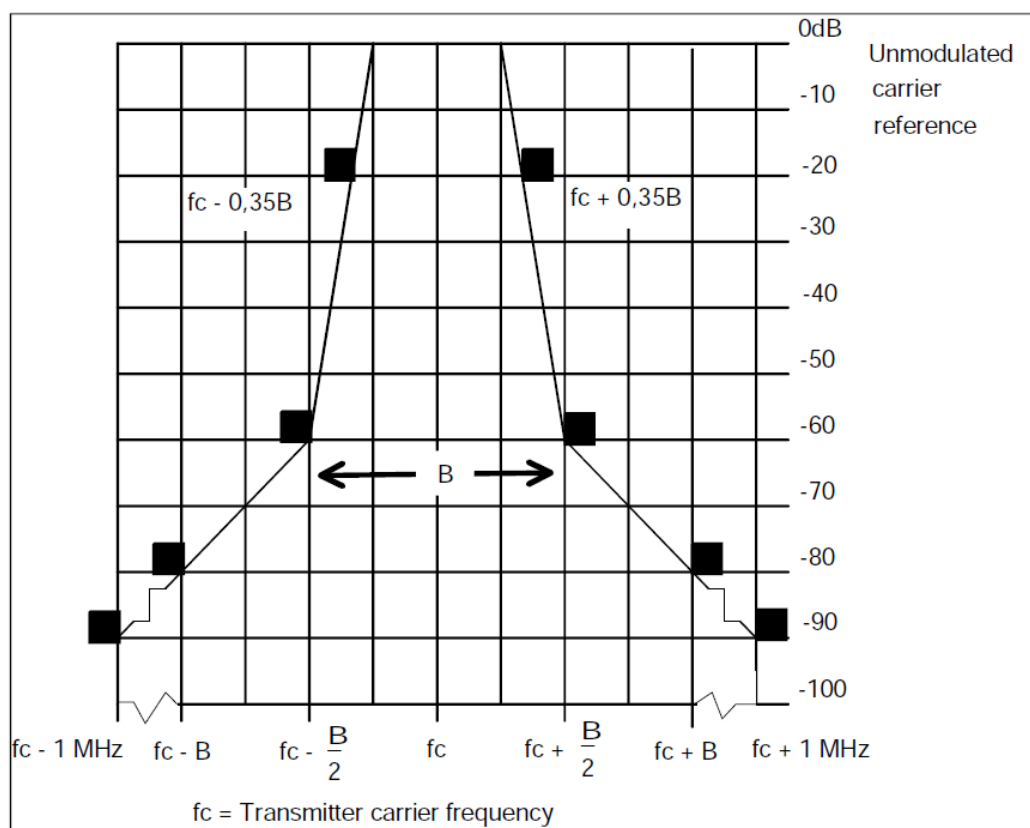
7.4 Limit

Limits for spurious emissions

State	Frequency		
	47MHz to 74MHz 87.5MHz to 137MHz 174MHz to 230MHz 470MHz to 862MHz	Other frequencies Blow 1000MHz	Frequency above 1000MHz
Operation	4nW(-54dBm)	250nW(-36dBm)	1uW(-30dBm)
Standby	2nW(-57dBm)	2nW(-57dBm)	20nW(-57dBm)

Measured valued for equipment in each frequency band must fall below the values given in table above.

Limits for Emission Mask



7.5 Measurement Results

Please refer to following plots.



Dongguan NTC Co., Ltd.
Tel: +86-769-22022444 Fax: +86-769-22022799
Web: [Http://www.ntc-c.com](http://www.ntc-c.com)

Radiated Emission Measurement

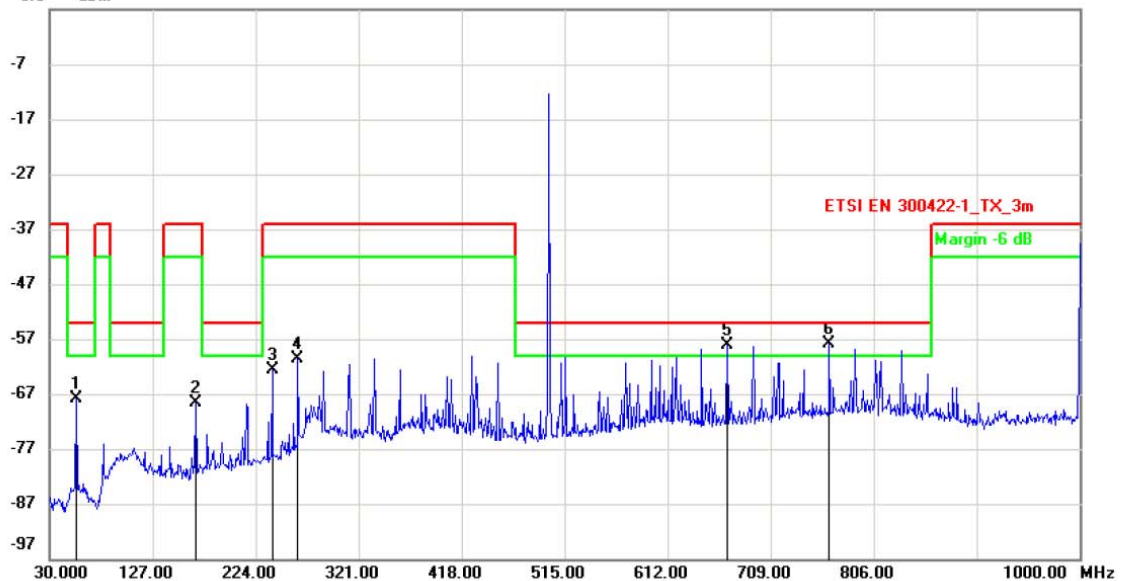
File :UWH1

Data :#26

Date: 2018-1-14

Time: 14:02:35

3.0 dBm



Site: Limit: ETSI EN 300422-1_TX_3m
EUT: Handheld Wireless Microphone
M/N: UWH1
Mode: TX
Note: Low (500.0MHz)

Polarization: **Horizontal**
Power: DC3V
Distance: 3m

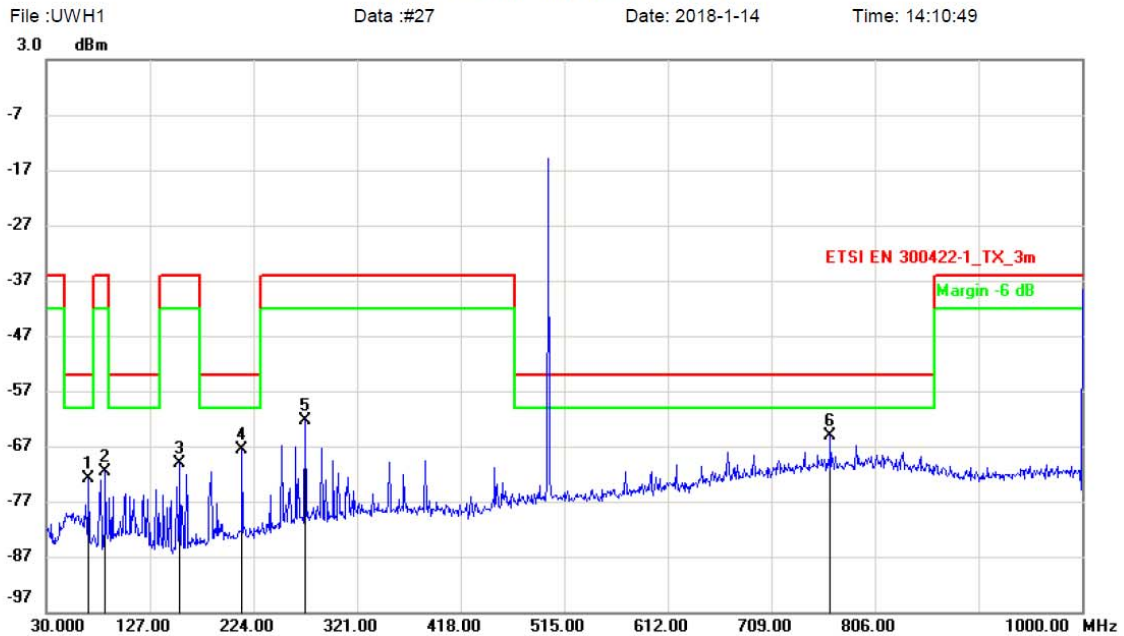
Temperature: 26
Humidity: 47 %

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1		55.2200	-65.19	-2.78	-67.97	-54.00	-13.97	QP		
2		167.7400	-68.85	0.14	-68.71	-36.00	-32.71	QP		
3		239.5200	-65.51	2.99	-62.52	-36.00	-26.52	QP		
4		263.7700	-64.38	3.71	-60.67	-36.00	-24.67	QP		
5	!	668.2600	-68.91	10.83	-58.08	-54.00	-4.08	QP		
6	*	764.2900	-71.09	13.17	-57.92	-54.00	-3.92	QP		



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Radiated Emission Measurement



Site Polarization: **Vertical** Temperature: 26
Limit: ETSI EN 300422-1_TX_3m Power: DC3V Humidity: 47 %
EUT: Handheld Wireless Microphone Distance: 3m
M/N: UWH1
Mode: TX
Note: Low (500.0MHz)

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1		69.7699	-70.65	-2.32	-72.97	-54.00	-18.97	QP		
2		85.2900	-68.53	-3.08	-71.61	-36.00	-35.61	QP		
3		155.1300	-66.74	-3.34	-70.08	-36.00	-34.08	QP		
4		213.3300	-66.52	-1.10	-67.62	-54.00	-13.62	QP		
5		272.5000	-64.36	1.92	-62.44	-36.00	-26.44	QP		
6	*	764.2900	-78.21	13.17	-65.04	-54.00	-11.04	QP		



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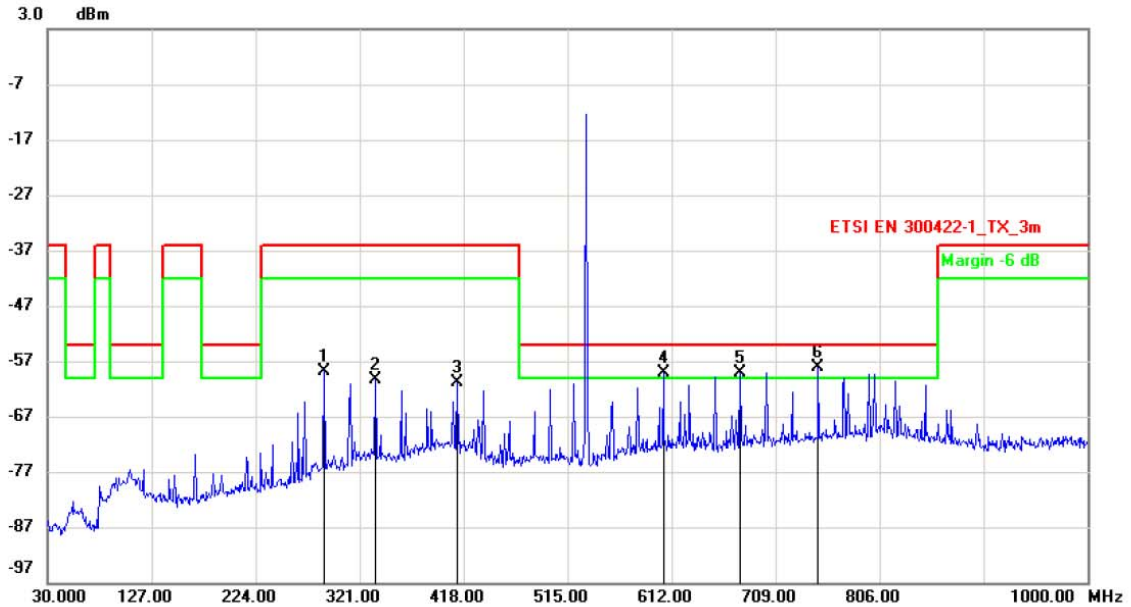
Radiated Emission Measurement

File :UWH1

Data :#29

Date: 2018-1-14

Time: 14:26:46



Site

Polarization: **Horizontal**

Temperature: 26

Limit: ETSI EN 300422-1_TX_3m

Power: DC3V

Humidity: 47 %

EUT: Handheld Wireless Microphone

Distance: 3m

M/N: UWH1

Mode: TX

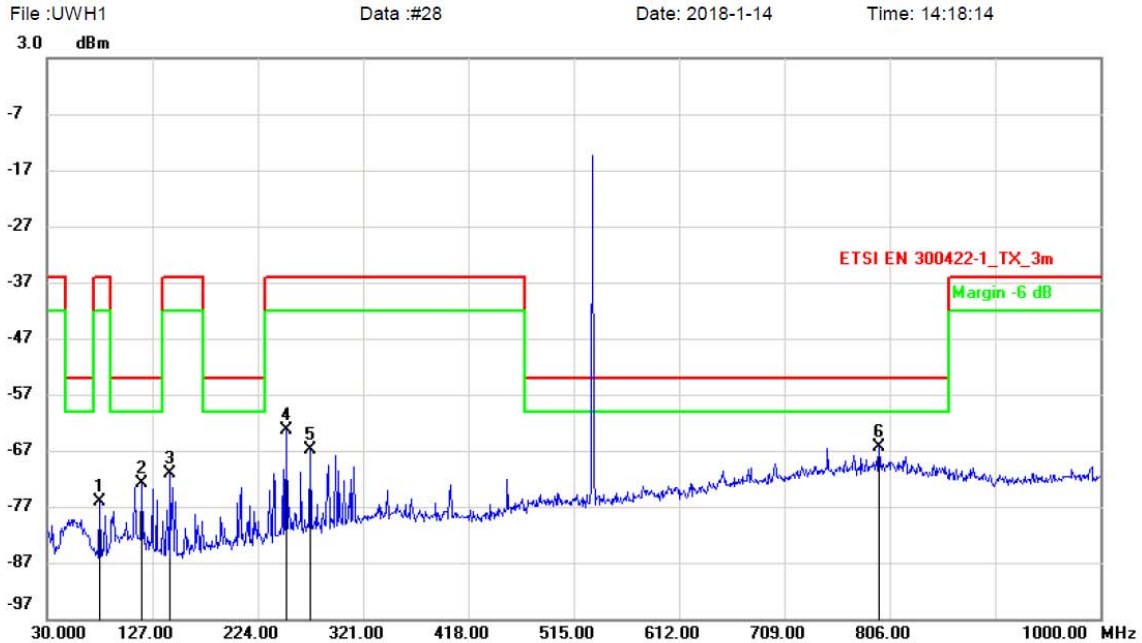
Note: Mid (532.2MHz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1		288.0200	-63.02	4.24	-58.78	-36.00	-22.78	QP		
2		335.5500	-65.91	5.64	-60.27	-36.00	-24.27	QP		
3		412.1800	-67.12	6.32	-60.80	-36.00	-24.80	QP		
4	!	604.2400	-69.51	10.43	-59.08	-54.00	-5.08	QP		
5	!	676.0200	-70.20	11.03	-59.17	-54.00	-5.17	QP		
6	*	748.7700	-71.04	12.95	-58.09	-54.00	-4.09	QP		



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Radiated Emission Measurement



Site	Polarization: Vertical	Temperature: 26
Limit: ETSI EN 300422-1_TX_3m	Power: DC3V	Humidity: 47 %
EUT: Handheld Wireless Microphone	Distance: 3m	
M/N: UWH1		
Mode: TX		
Note: Mid (532.2MHz)		

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		78.5000	-72.10	-4.09	-76.19	-36.00	-40.19	peak			
2		117.3000	-71.43	-1.40	-72.83	-54.00	-18.83	peak			
3		143.4900	-67.66	-3.57	-71.23	-36.00	-35.23	peak			
4		250.1900	-64.63	1.36	-63.27	-36.00	-27.27	peak			
5		272.5000	-68.73	1.92	-66.81	-36.00	-30.81	peak			
6	*	796.3000	-80.05	13.60	-66.45	-54.00	-12.45	peak			



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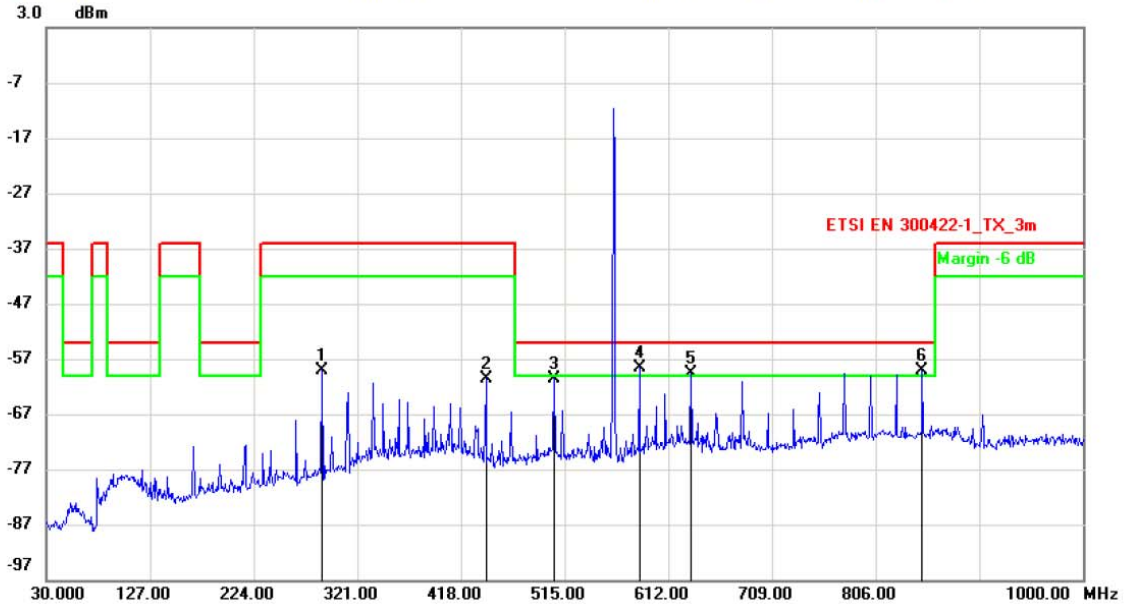
Radiated Emission Measurement

File :UWH1

Data :#30

Date: 2018-1-14

Time: 14:35:12



Site

Polarization: **Horizontal**

Temperature: 26

Limit: ETSI EN 300422-1_TX_3m

Power: DC3V

Humidity: 47 %

EUT: Handheld Wireless Microphone

Distance: 3m

M/N: UWH1

Mode: TX

Note: High (560.9MHz)

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1		288.0200	-63.35	4.25	-59.10	-36.00	-23.10	QP		
2		441.2800	-67.69	6.96	-60.73	-36.00	-24.73	QP		
3		505.3000	-69.14	8.40	-60.74	-54.00	-6.74	QP		
4	*	584.8400	-68.56	9.97	-58.59	-54.00	-4.59	QP		
5	!	633.3400	-70.05	10.34	-59.71	-54.00	-5.71	QP		
6	!	849.6500	-71.95	12.77	-59.18	-54.00	-5.18	QP		



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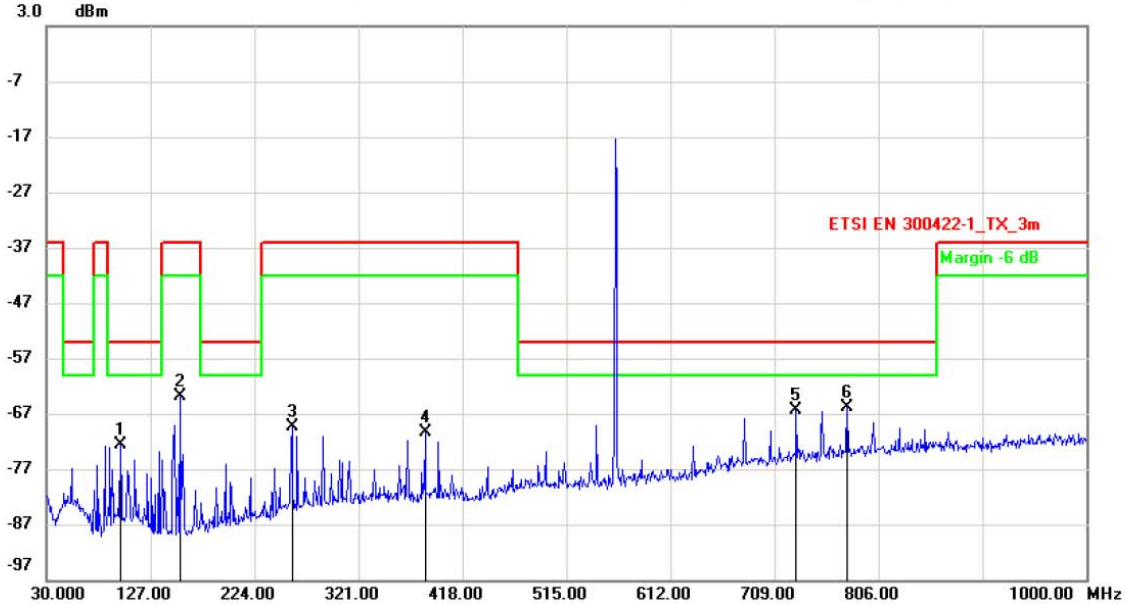
Radiated Emission Measurement

File :UWH1

Data :#31

Date: 2018-1-14

Time: 14:43:21



Site

Polarization: **Vertical**

Temperature: 26

Limit: ETSI EN 300422-1_TX_3m

Power: DC3V

Humidity: 47 %

EUT: Handheld Wireless Microphone

Distance: 3m

M/N: UWH1

Mode: TX

Note: High (560.9MHz)

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1		98.8700	-68.30	-4.28	-72.58	-54.00	-18.58	QP		
2		154.1600	-57.16	-6.61	-63.77	-36.00	-27.77	QP		
3		258.9200	-67.70	-1.69	-69.39	-36.00	-33.39	QP		
4		383.0799	-71.06	0.58	-70.48	-36.00	-34.48	QP		
5		729.3700	-74.94	8.69	-66.25	-54.00	-12.25	QP		
6	*	776.9000	-75.34	9.53	-65.81	-54.00	-11.81	QP		

Frequency Range:	1-5.6GHz	Test Date :	January 13, 2018
Test Result:	PASS	Temperature :	24 °C
Measured Distance:	3m	Humidity :	47 %
Test By:	Sance		

Freq. (MHz)	Ant.Pol. (H/V)	Reading Level(dBm)	Factor (dB/m)	Emission Level (dBm)	Limit 3m (dBm)	Margin (dB)
		AV		AV	AV	
Operation Mode: TX Mode (Low)						
1000	V	-40.17	0.35	-39.82	-36.00	-3.82
1500	V	-45.09	3.43	-41.66	-30.00	-11.66

1000	H	-39.07	0.35	-38.72	-36.00	-2.72
1500	H	-45.96	3.43	-42.53	-30.00	-12.53

Operation Mode: TX Mode (Mid)						
1064.4	V	-39.89	1.01	-38.88	-30.00	-8.88
1596.6	V	-46.63	4.17	-42.46	-30.00	-12.46

1064.4	H	-38.65	1.01	-37.64	-30.00	-7.64
1596.6	H	-45.73	4.17	-41.56	-30.00	-11.56

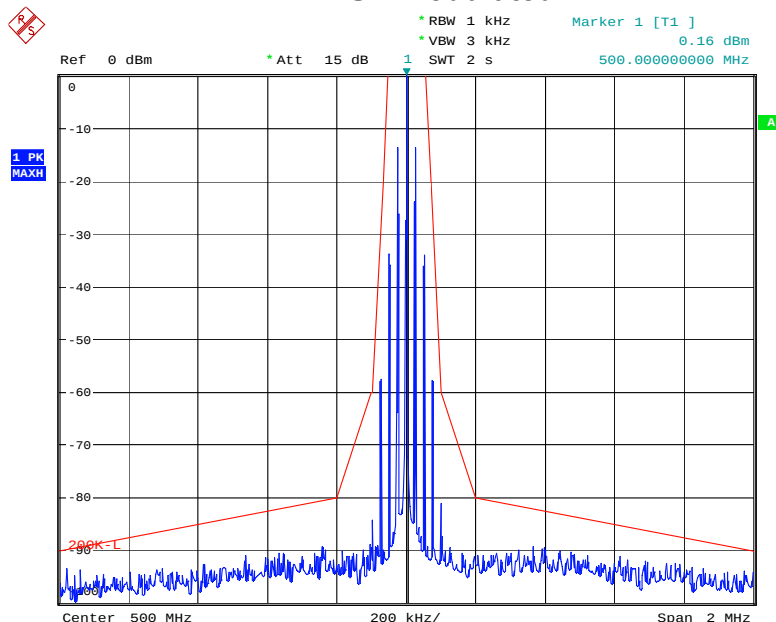
Operation Mode: TX Mode (High)						
1121.8	V	-39.59	1.37	-38.22	-30.00	-8.22
1682.7	V	-46.35	4.86	-41.49	-30.00	-11.49

1121.8	H	-39.33	1.37	-37.96	-30.00	-7.96
1682.7	H	-47.41	4.86	-42.55	-30.00	-12.55

Other harmonics emissions are lower than 10dB below the allowable limit.

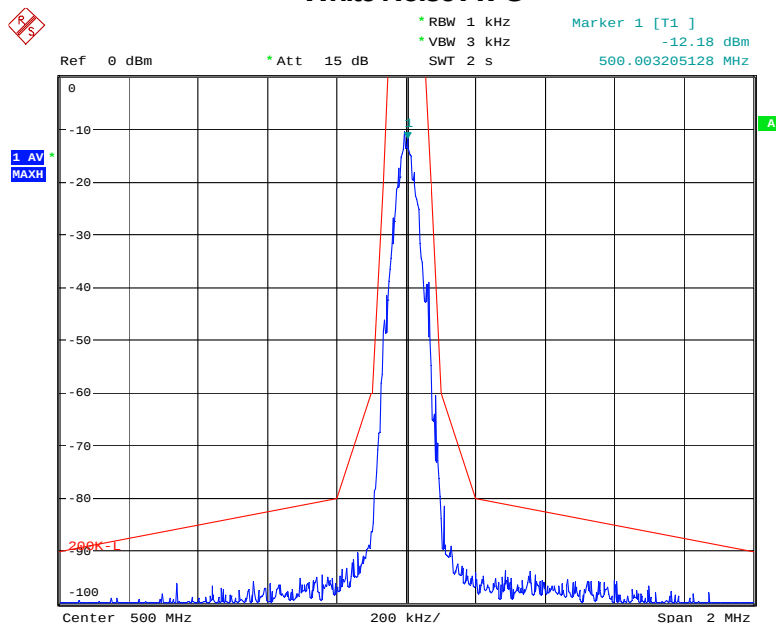
- Note:**
- (1) All Readings are Peak Value and AV.
 - (2) Emission Level= Reading Level + Factor
 - (3) Factor= Antenna Gain + Cable Loss – Amplifier Gain
 - (4) Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 10dB below the permissible limits.
 - (5) Measurement uncertainty : ± 3.7 dB.
 - (6) Horn antenna used for the emission over 1000MHz.

Mask Emission Low channel Un-modulated



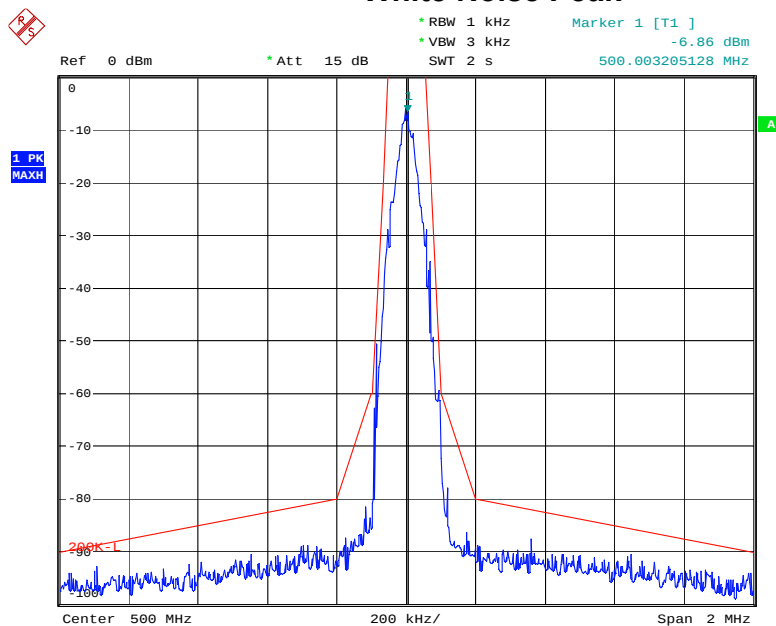
Date: 13.JAN.2018 16:33:38

White Noise AVG



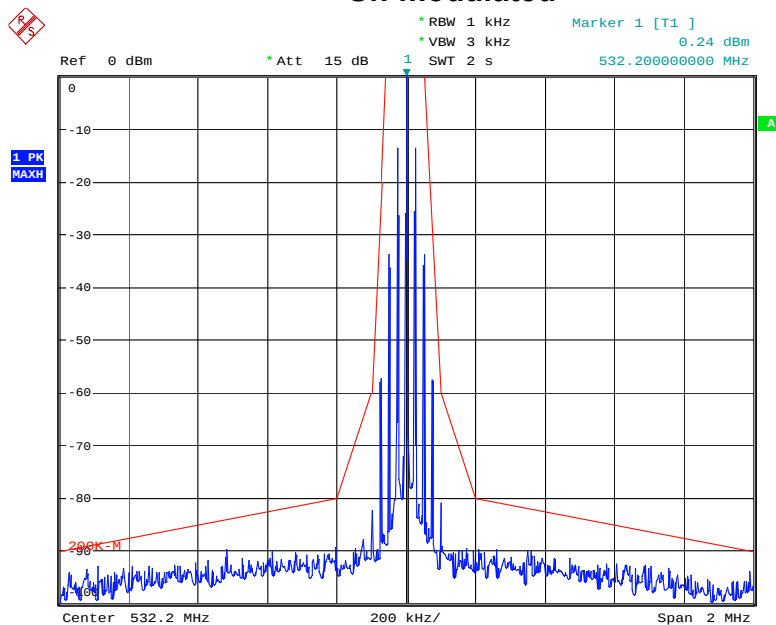
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White Noise Peak



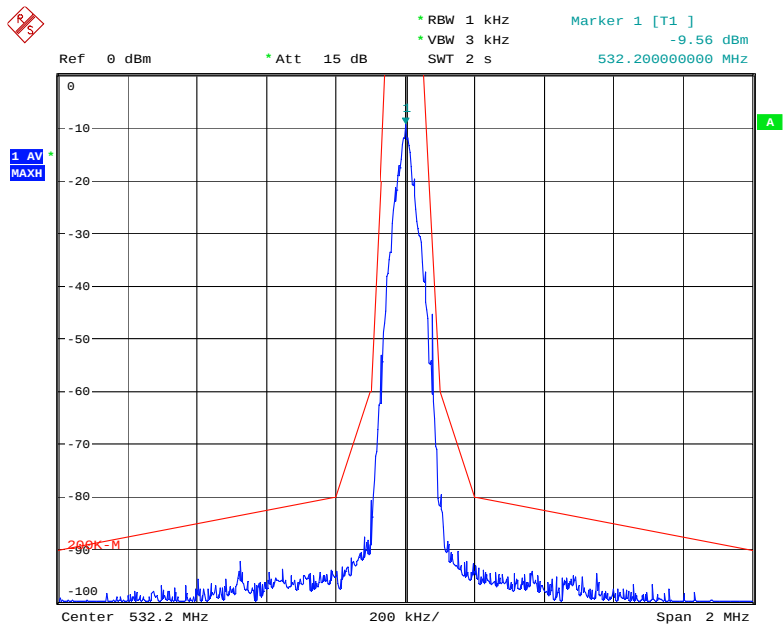
Date: 13.JAN.2018 16:34:23

Middle channel Un-modulated



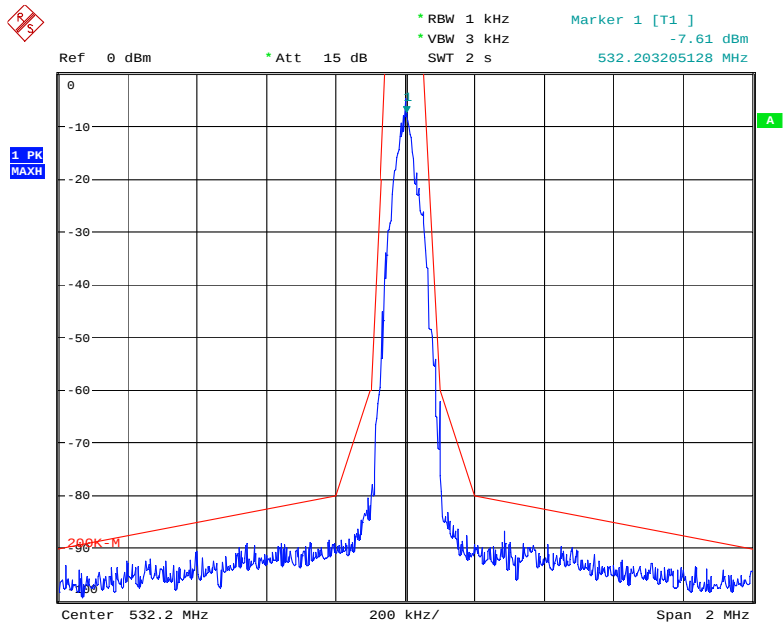
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White Noise AVG



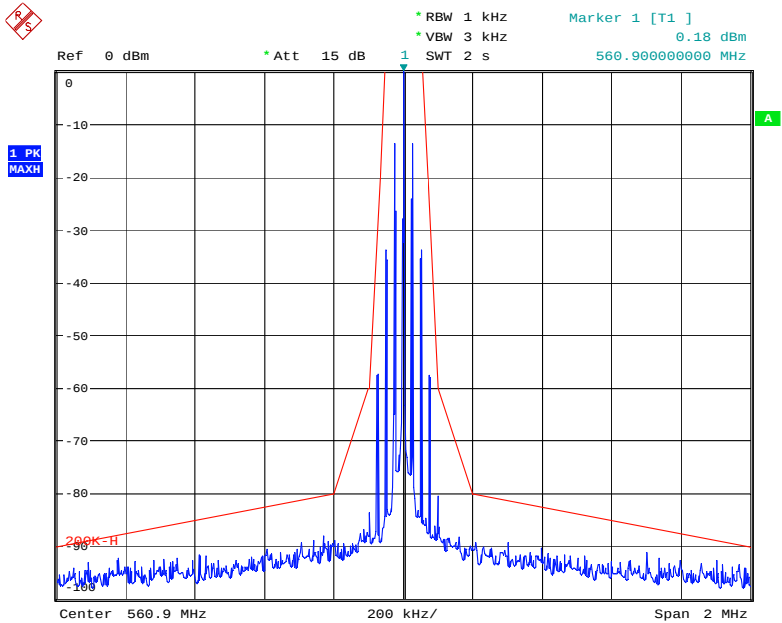
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White Noise Peak



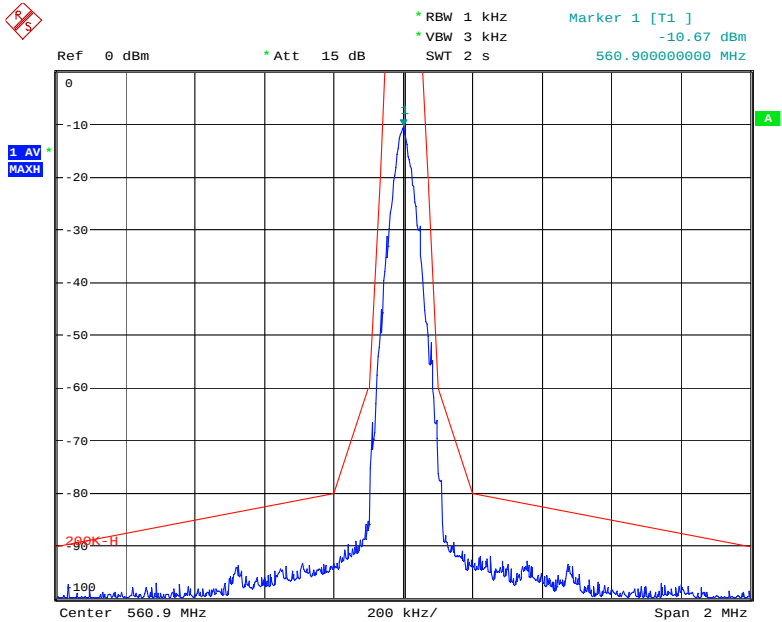
Date: 13.JAN.2018 16:32:06

High channel
Un-modulated

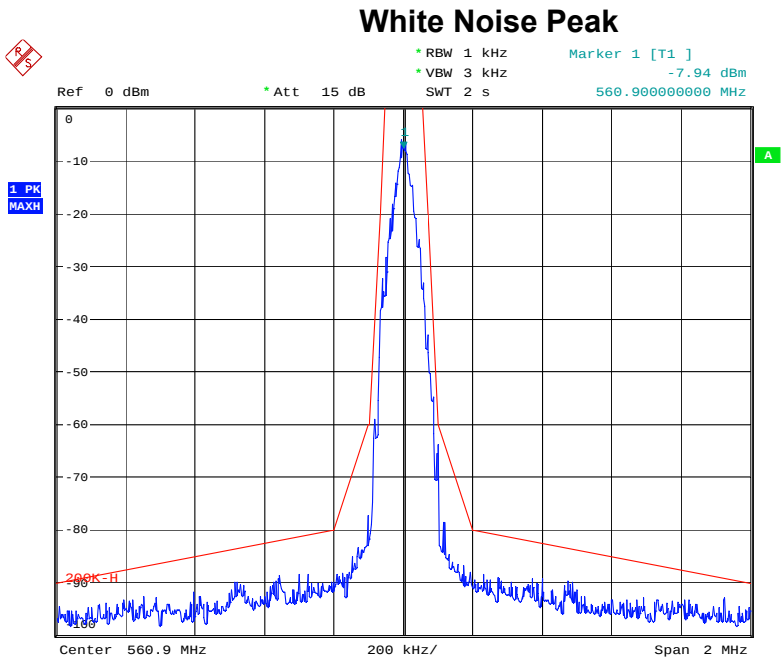


Date: 13.JAN.2018 16:22:50

White Noise AVG



Date: 13.JAN.2018 16:30:54



Date: 13.JAN.2018 16:28:40

8. Antenna requirement

8.1 Measurement Procedure

Not applicable.
From 206256 D01 Wireless Microphone Certification v02:
Compliance with Section 15.203 antenna requirements
does not apply to devices operated under Section 15.236.

8.2 Measurement Results

The antenna is integral antenna and no consideration of replacement, and the best case gain of the antenna is 0dBi. So, the antenna is consider meet the requirement.

9. Test Equipment List

Description	Manufacturer	Model Number	Serial Number	Characteristics	Calibration Date	Calibration Due Date
Test Receiver	Rohde & Schwarz	ESCI7	100837	9KHz~7GHz	Mar. 14, 2017	Mar. 13, 2018
Antenna	Schwarzbeck	VULB9162	9162-010	30MHz~7GHz	Mar. 15, 2017	Mar. 14, 2018
Cable	Huber+Suhner	CBL2-NN-1M	22390001	9KHz~7GHz	Mar. 14, 2017	Mar. 13, 2018
Cable	Huber+Suhner	CIL02	N/A	9KHz~7GHz	Mar. 14, 2017	Mar. 13, 2018
RF Cable	Huber+Suhner	SF-104	MY16559/4	9KHz~25GHz	Apr. 25, 2017	Apr. 25, 2018
Power Amplifier	HP	HP 8447D	1145A00203	100KHz~1.3GHz	Mar. 14, 2017	Mar. 13, 2018
Horn Antenna	Schwarzbeck	BBHA9170	9170-242	15GHz~40GHz	Mar. 14, 2017	Mar. 13, 2018
Horn Antenna	Com-Power	AH-118	071078	1GHz~18GHz	Mar. 15, 2017	Mar. 14, 2018
RF Cable	Huber+Suhner	SF-104	N/A	9KHz~40GHz	Apr. 25, 2017	Apr. 24, 2018
Loop antenna	Daze	ZA30900A	0708	9KHz~30MHz	Apr. 25, 2017	Apr. 24, 2018
Spectrum Analyzer	Rohde & Schwarz	FSU26	200409/026	20Hz~26.5GHz	Apr. 25, 2017	Apr. 24, 2018
Spectrum Analyzer	Rohde & Schwarz	FSV40	101003	10Hz~40GHz	April. 06, 2017	April. 05, 2018
Pre-Amplifier	EMCI	EMC 184045	980102	18GHz~40GHz	Nov. 03, 2017	Nov. 02, 2018
Pre-Amplifier	Agilent	8449B	3008A02964	1GHz~26.5GHz	Apr. 25, 2017	Apr. 24, 2018
L.I.S.N.	Rohde & Schwarz	ENV 216	101317	9KHz~30MHz	Mar. 14, 2017	Mar. 13, 2018
Temporary antenna connector	TESCOM	SS402	N/A	9KHz-25GHz	N/A	N/A
Power Meter	Anritsu	ML2495A	1139001	100k-65GHz	Nov. 03, 2017	Nov. 02, 2018
Power Sensor	Anritsu	MA2411B	100345	300M-40GHz	Nov. 03, 2017	Nov. 02, 2018
DC Source	HUAYI	HY5003-2	N/A	---	Dec. 23, 2017	Dec. 22, 2018
Temperature & Humidity Chamber	BELL	BE-TH-408	N/A	---	Dec. 23, 2017	Dec. 22, 2018
Audio Signal Generator	LW	LW-1212BL	160704883	N/A	N/A	N/A
Audio Spectrum Analyzer	Rohde&Schwarz	UPV	100894	N/A	Aug. 30, 2017	Aug. 29, 2018

Note: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

---End---