

FCC RADIO TEST REPORT

Prepared For	PUU-JIUH CO.,LTD.
Product Name:	NO.580 WEN SHIN SOUTH ROAD,402 TAICHUNG,TAIWAN.
Trade Name:	N/A
Model Name :	RFD-973T
FCC ID:	RAVRFD-973T
Prepared By	DongGuan Precise Testing Service Co.,Ltd.
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Report No.	PTS20130120F
Test Date:	Jan. 02 ~ Jan 06, 2013
Date of Report :	Jan 06, 2013

VERIFICATION OF COMPLIANCE

Applicant:	PUU-JIUH CO.,LTD.
Address	NO.580 WEN SHIN SOUTH ROAD,402 TAICHUNG,TAIWAN.
Manufacturer Name:	ALITEAM INC.
Address:	1F, No. 5, Lane 162, Jingye 3rd Rd., Taipei 104, Taiwan
Product Description:	wireless speaker
Brand Name:	N/A
Model Name:	RFD-973T
Model difference:	N/A
Test procedure	ANSI C63.4-2003
Standards	FCC Part15.249

Prepared by :



Assistant

Reviewer :



Supervisor

Approved & Authorized Signer :



Jacky Ou / Manager

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.249)			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	Pass	
15.203	Antenna Requirement	Pass	
15.249	Radiated Spurious Emission	Pass	
15.249	Occupied Bandwidth	Pass	

1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

FCC FRN Registration No.:238937; IC Registration No.:9270A-1

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded 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	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	wireless speaker
Trade Name	N/A
Model Name	RFD-973T
Serial Model	N/A
Model Difference	N/A
Product Description	The EUT is a wireless speaker
	Operation Frequency: 2402~2480MHz
	Modulation Type: GFSK
	Antenna Designation: PCB Antenna
	Antenna Gain(Peak) 1.0 dBi
	max. Field Strength 85.06dBuV/m@3m (AV)
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.
Channel List	Please refer to the Note 2.
Adapter	Input: AC 100-240V, 50/60Hz, 0.5A Output: DC 5V, 1.0A
Battery	N/A

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Channel	Frequency (MHz)
01	2402
02	2403
.....
40	2441
41	2442
.....
78	2479
79	2480

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB Antenna	NA	1.0	Antenna

2.2 DESCRIPTION OF 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	CH1
Mode 2	CH40
Mode 3	CH79
Mode 4	Link Mode

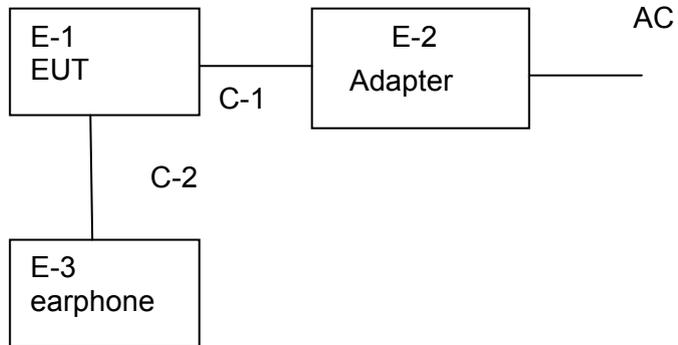
For Conducted Emission	
Final Test Mode	Description
Mode 4	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	CH1
Mode 2	CH40
Mode 3	CH79

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	wireless speaker	N/A	RFD-973T	N/A	EUT
E-2	Adapter	N/A	DS-5	N/A	
E-3	earphone	N/A	TS213		

Item	Shielded Type	Ferrite Core	Length	Note
C-1	No	No	0.5M	
C-2	No	No	1.0M	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	160400005	Jul. 06. 2012	Jul. 05. 2013	1 year
2	Test Receiver	R&S	ESPI	101318	Jul. 06. 2012	Jul. 05. 2013	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	Jul. 06. 2012	Jul. 05. 2013	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	Jul. 06. 2012	Jul. 05. 2013	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	Jul. 06. 2012	Jul. 05. 2013	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	Jul. 06. 2012	Jul. 05. 2013	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	Jul. 06. 2012	Jul. 05. 2013	1 year
8	Amplifier	EM	EM-30180	060538	Jul. 06. 2012	Jul. 05. 2013	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	Jul. 06. 2012	Jul. 05. 2013	1 year
10	Power Meter	R&S	NRVS	100696	Jul. 06. 2012	Jul. 05. 2013	1 year
11	Power Sensor	R&S	URV5-Z4	0395.161905	Jul. 06. 2012	Jul. 05. 2013	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	Jul. 06. 2012	Jul. 05. 2013	1 year
2	LISN	R&S	ENV216	101313	Jul. 06. 2012	Jul. 05. 2013	1 year
3	LISN	EMCO	3816/2	00042990	Jul. 06. 2012	Jul. 05. 2013	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	Jul. 06. 2012	Jul. 05. 2013	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	Jul. 06. 2012	Jul. 05. 2013	1 year
6	Absorbing clamp	R&S	MOS-21	100423	Jul. 06. 2012	Jul. 05. 2013	1 year

3. TEST RESULT

3.1 ANTENNA REQUIREMENT

3.1.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

3.1.2 EUT ANTENNA

The EUT antenna is integral Antenna. It comply with the standard requirement.

3.2 CONDUCTED EMISSION MEASUREMENT

3.2.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5			66 - 56 *	56 - 46 *	CISPR
0.50 -5.0			56.00	46.00	CISPR
5.0 -30.0			60.00	50.00	CISPR

0.15 -0.5			66 - 56 *	56 - 46 *	LP002.
0.50 -5.0			56.00	46.00	LP002.
5.0 -30.0			60.00	50.00	LP002.

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

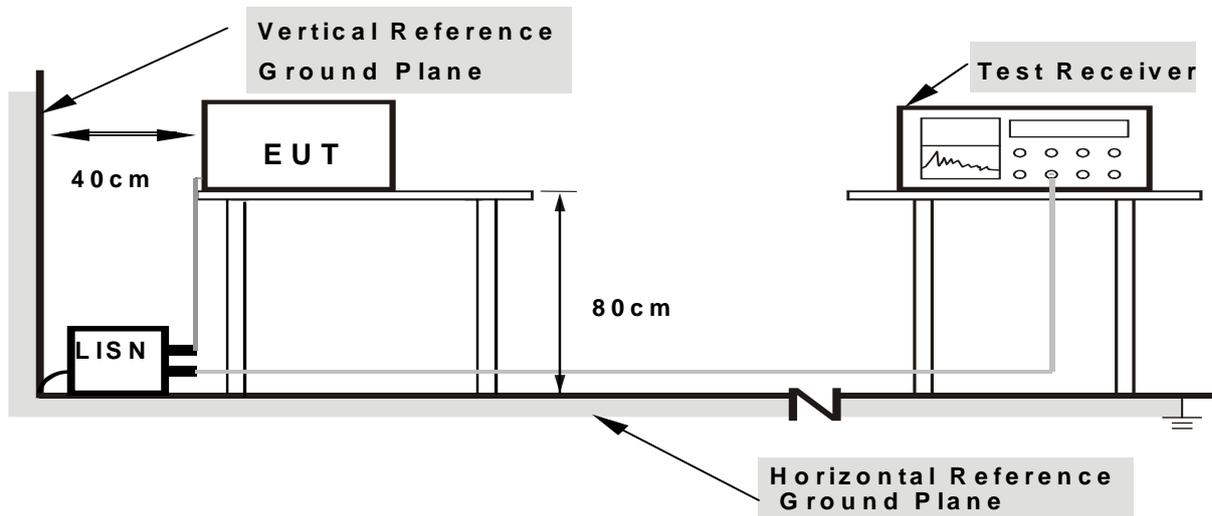
3.2.2 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.2.3 DEVIATION FROM TEST STANDARD

No deviation

3.2.4 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

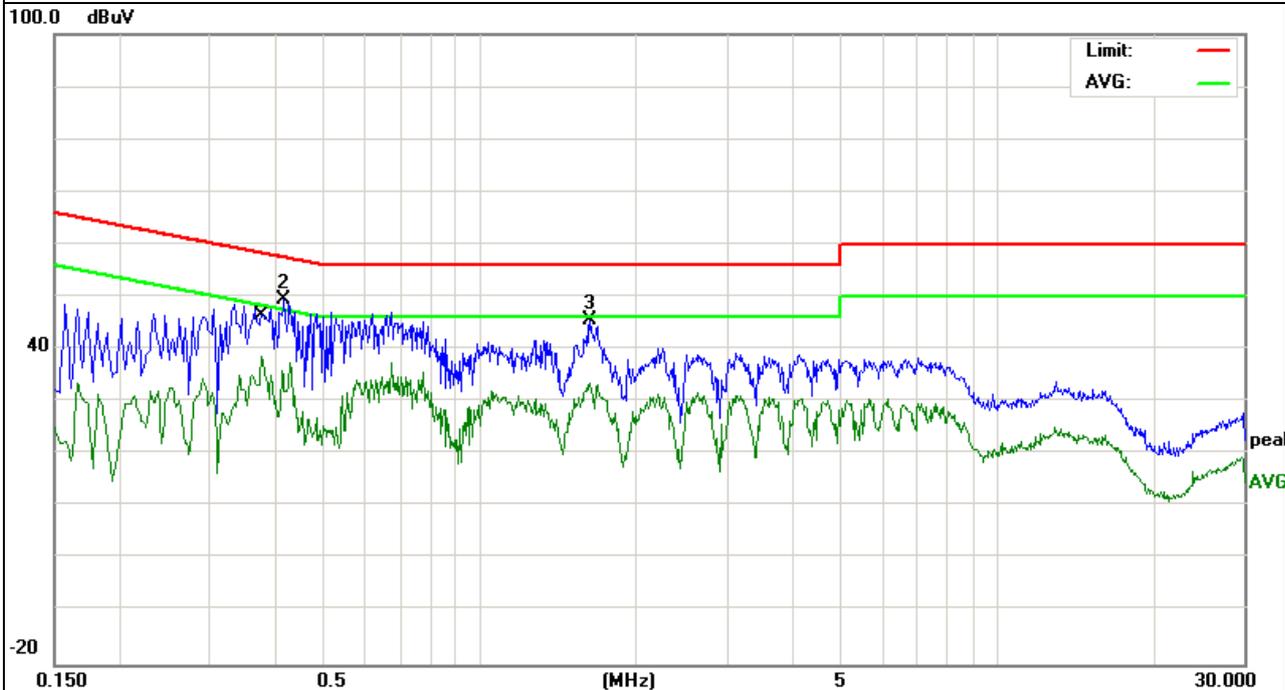
3.2.5 TEST RESULT

EUT :	wireless speaker	Model Name. :	RFD-973T
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5.0V from adapter AC 120V/60Hz	Test Mode :	Mode 4

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Detector Type
0.378	28.2	10.42	38.62	48.32	-9.7	AVG
0.418	39	10.41	49.41	57.49	-8.08	peak
1.63	35.07	10.42	45.49	56	-10.51	peak
1.63	23.01	10.42	33.43	46	-12.57	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

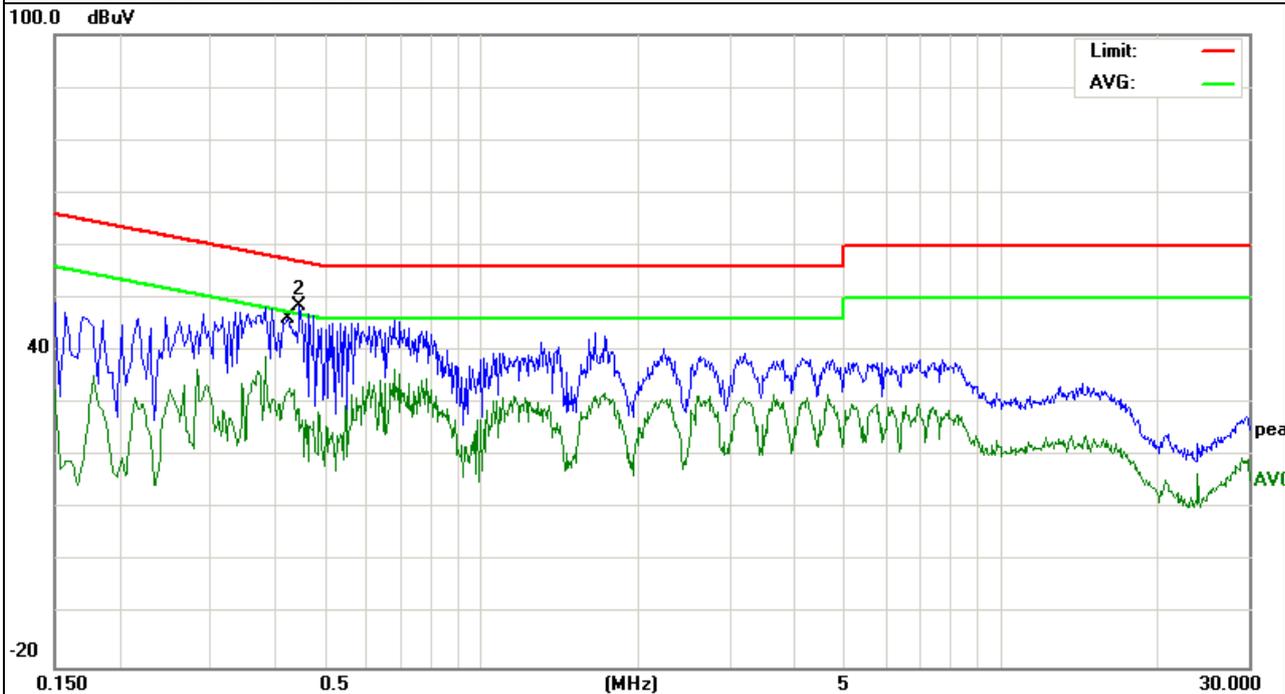


EUT :	wireless speaker	Model Name. :	RFD-973T
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5.0V from adapter AC 120V/60Hz	Test Mode :	Mode 4

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Detector Type
0.426	22.57	10.41	32.98	47.33	-14.35	AVG
0.446	38.13	10.41	48.54	56.95	-8.41	peak

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



3.3 RADIATED EMISSION MEASUREMENT

3.3.1 Radiated Emission Limits (FCC 15.209)

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBUV/m)=20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.249)

Frequency of Emission (MHz)	Field Strength of fundamental ((millivolts /meter)	Field Strength of Harmonics (microvolts/meter)
2400 - 2483.5	50	500

Notes:

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.3.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

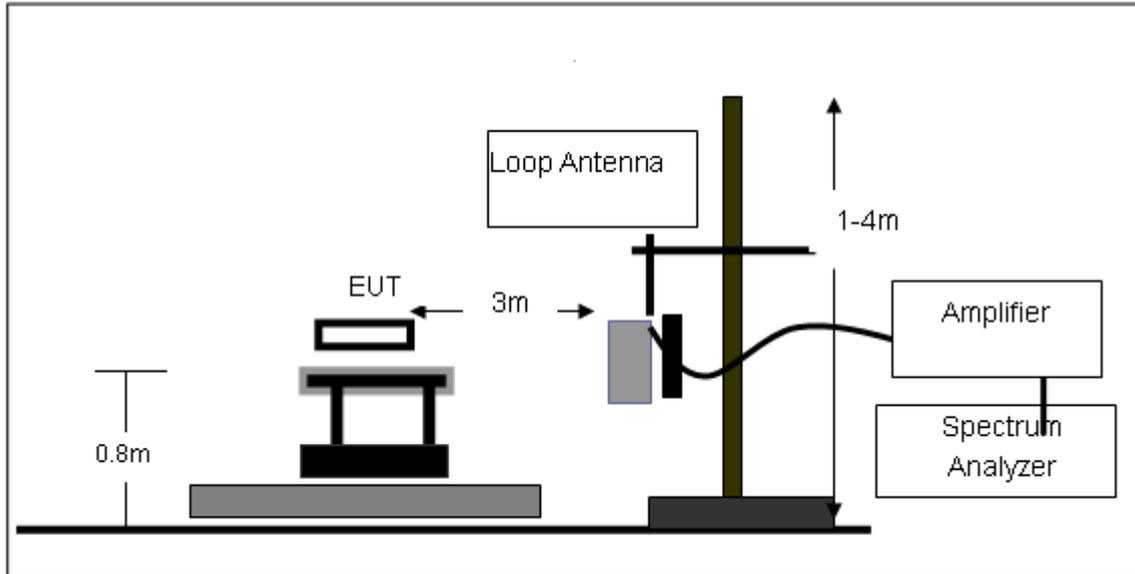
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.3.3 DEVIATION FROM TEST STANDARD

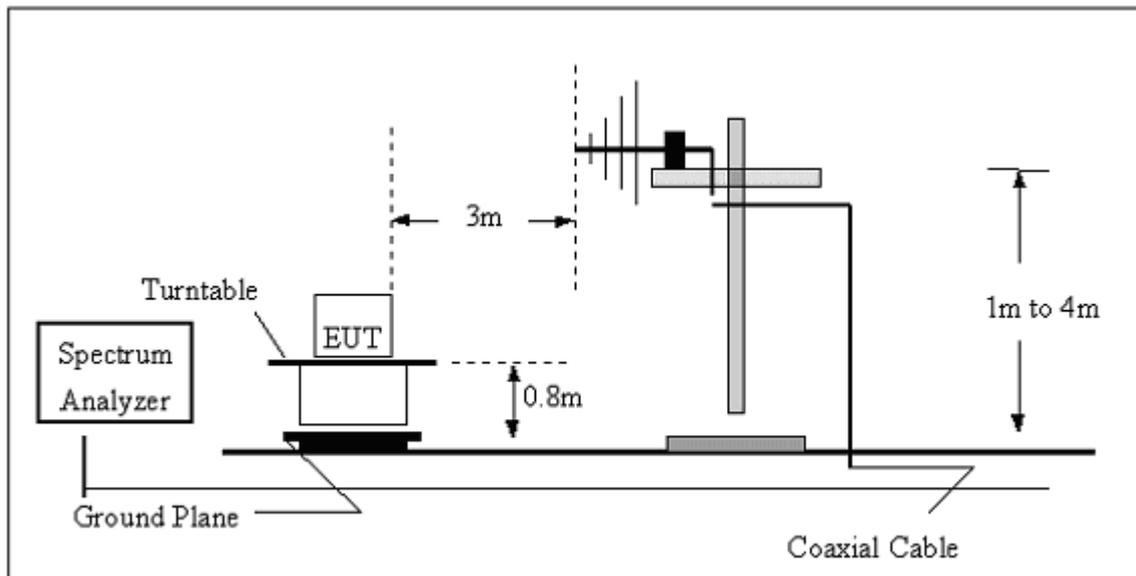
No deviation

3.3.4 TEST SETUP

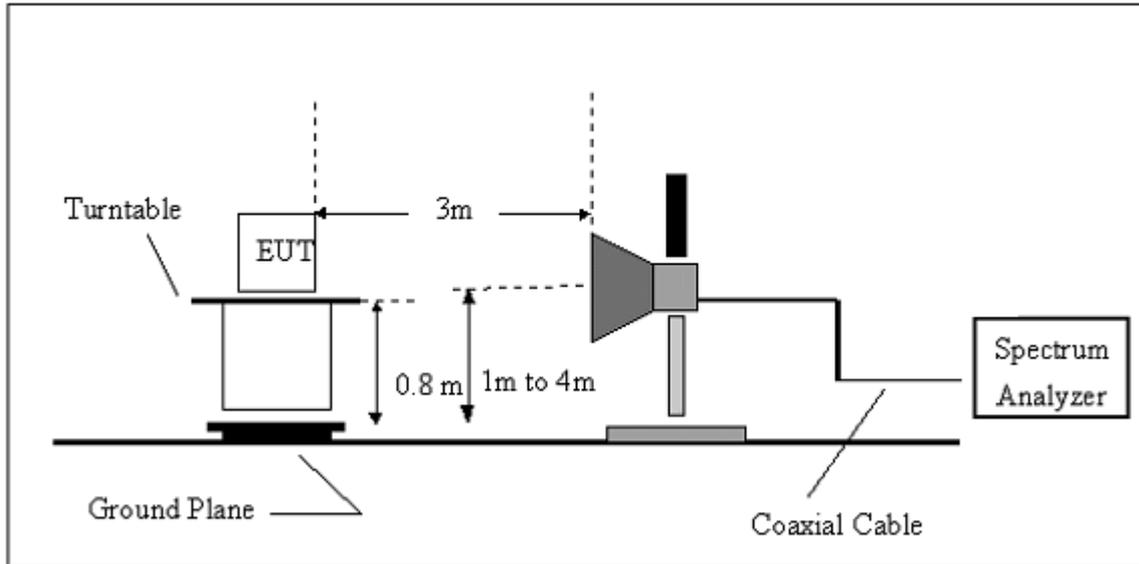
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



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



3.3.5 TEST RESULTS (BLOW 30MHz)

EUT :	wireless speaker	Model Name. :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $20 \log (\text{specific distance}/\text{test distance})(\text{dB})$;

Limit line = specific limits(dBuv) + distance extrapolation factor.

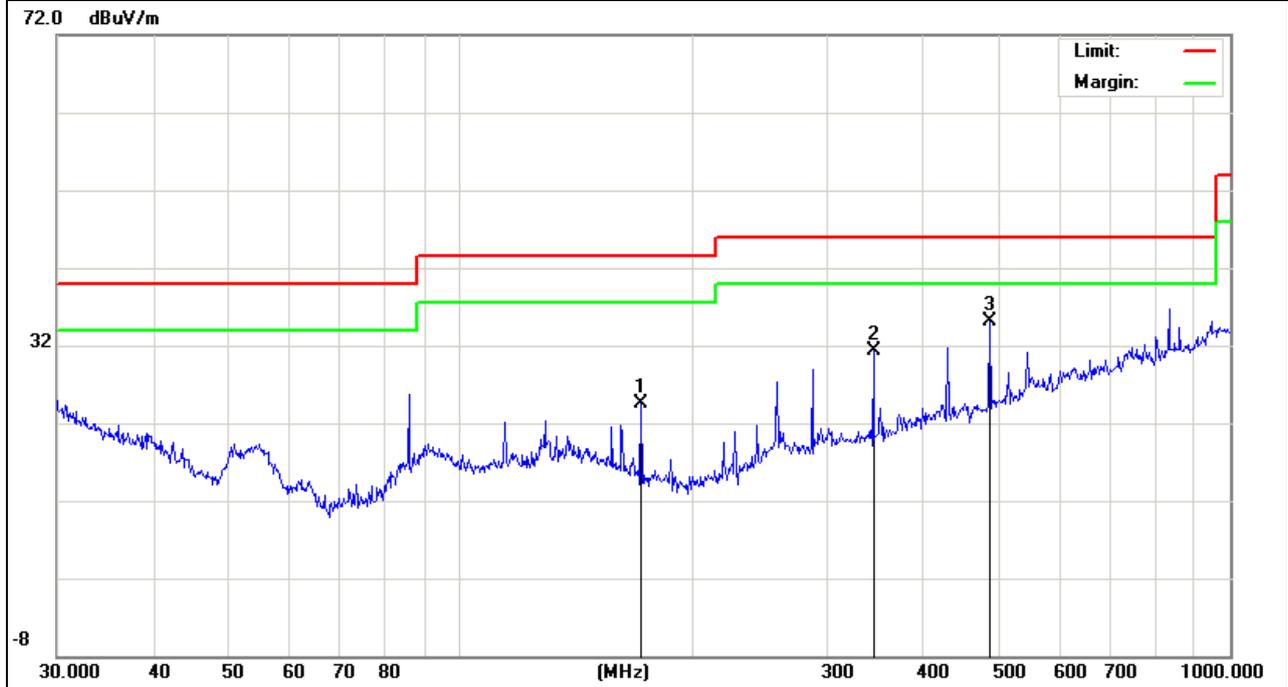
3.3.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
171.9945	14.6	9.89	24.49	43.5	-19.01	peak
344.3854	16.17	15.22	31.39	46	-14.61	peak
487.315	16.08	19.01	35.09	46	-10.91	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.

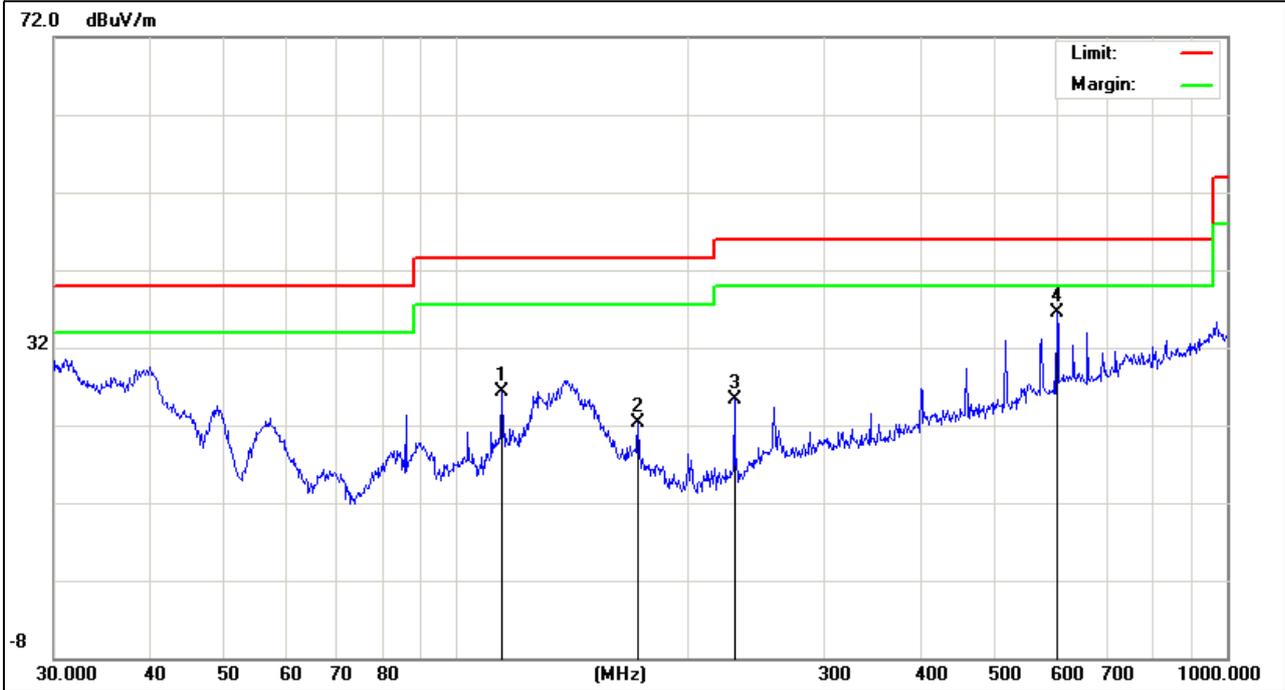


EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
114.5146	14.58	11.66	26.24	43.5	-17.26	peak
171.9945	12.46	9.89	22.35	43.5	-21.15	peak
229.2931	14.95	10.39	25.34	46	-20.66	peak
601.4265	15.29	21.15	36.44	46	-9.56	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.



3.3.7 TEST RESULTS (ABOVE 1000 MHZ)

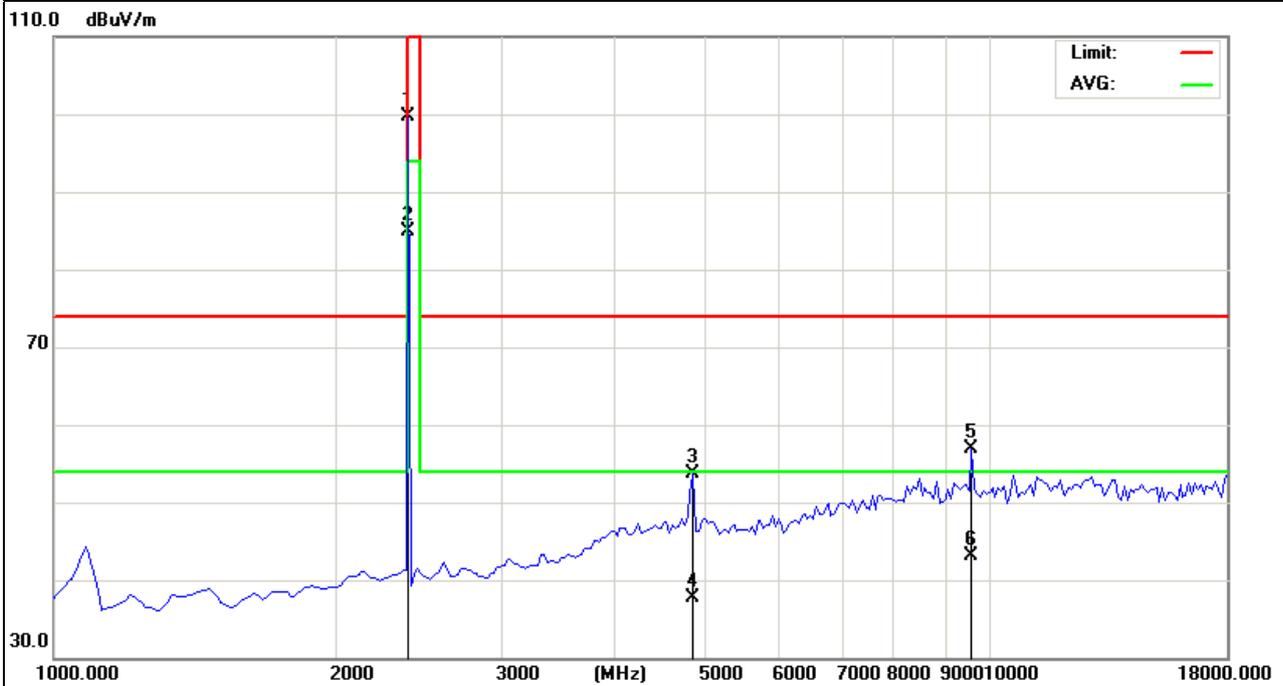
EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2402MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2402	112.63	-12.99	99.64	114.0 0	-14.36	peak
2402	97.96	-12.99	84.97	94	-9.03	AVG
4804	57.27	-3.57	53.7	74	-20.3	peak
4804	41.23	-3.57	37.66	54	-16.34	AVG
9608	55.06	1.78	56.84	74	-17.16	peak
9608	41.23	1.78	43.01	54	-10.99	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

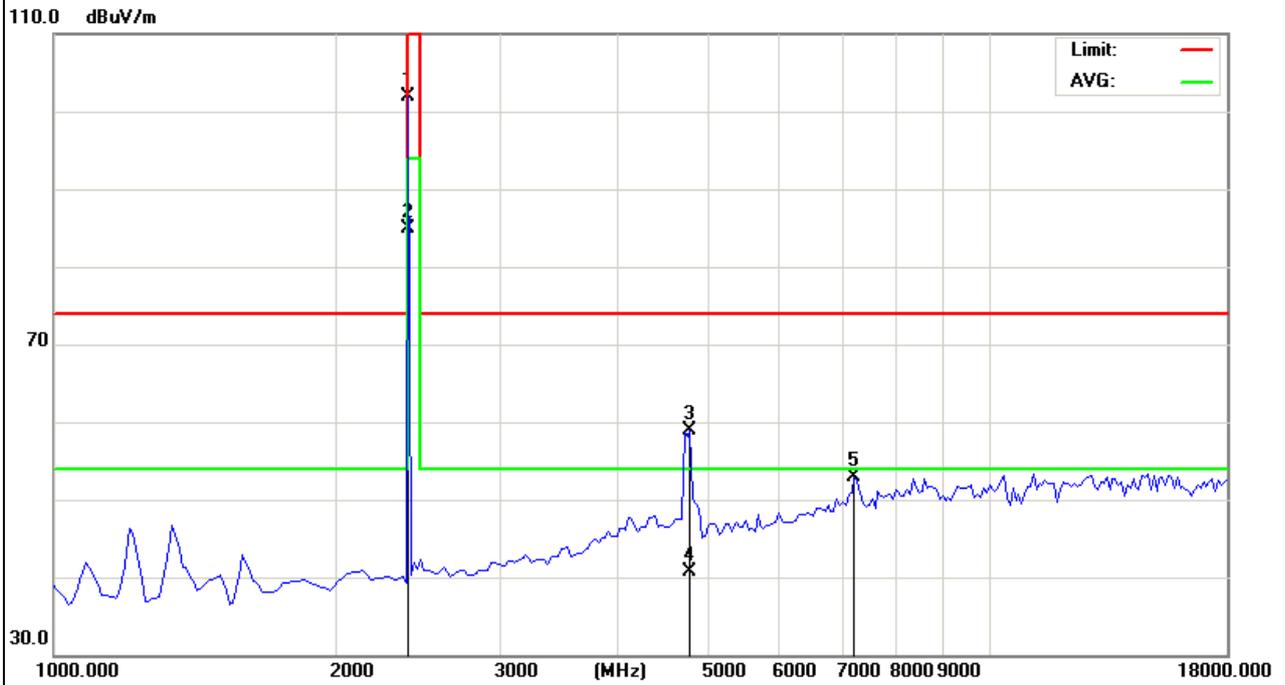
No emission above 18GHz.



EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2402MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2402	114.81	-12.99	101.82	114.0 0	-12.18	peak
2402	97.87	-12.99	84.88	94	-9.12	AVG
4804	62.49	-3.59	58.9	74	-15.1	peak
4804	44.23	-3.59	40.64	54	-13.36	AVG
7206	53.96	-0.96	53	74	-21	peak

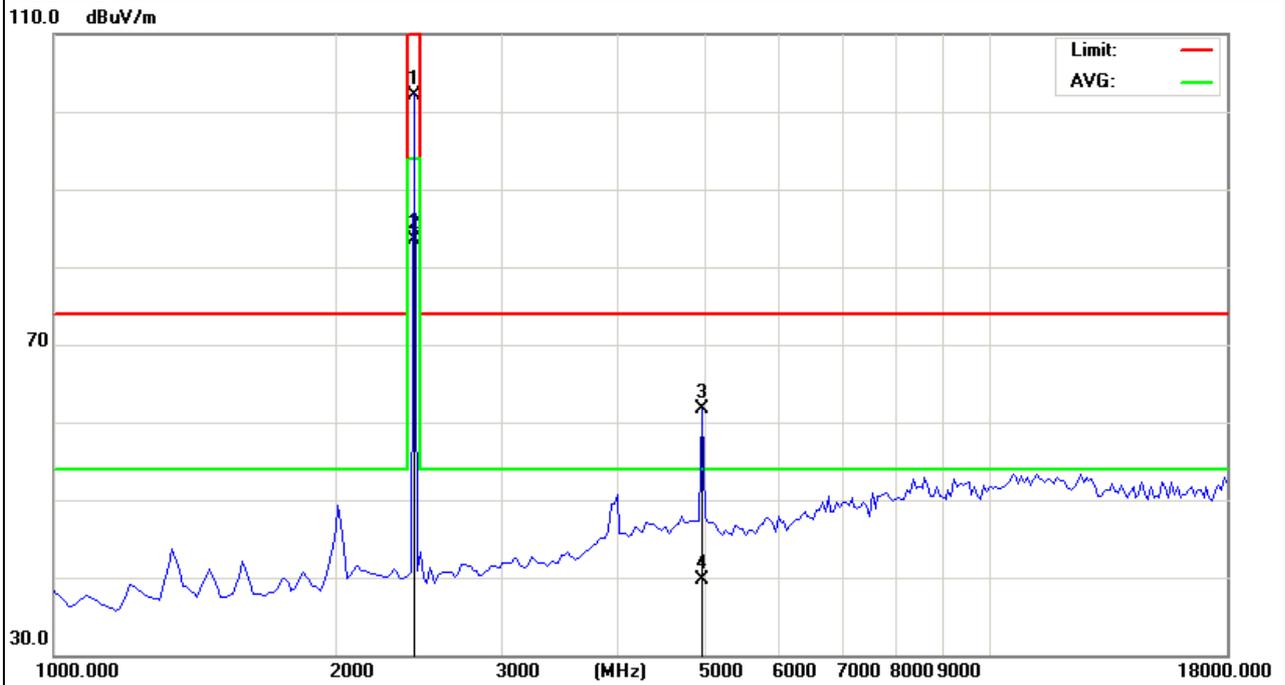
Remark:
 Factor = Antenna Factor + Cable Loss – Pre-amplifier.
 No emission above 18GHz.



EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2441MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2441	115.13	-12.93	102.2	114.0 0	-11.8	peak
2441	96.45	-12.93	83.52	94	-10.48	AVG
4882	65.25	-3.55	61.7	74	-12.3	peak
4882	43.21	-3.55	39.66	54	-14.34	AVG

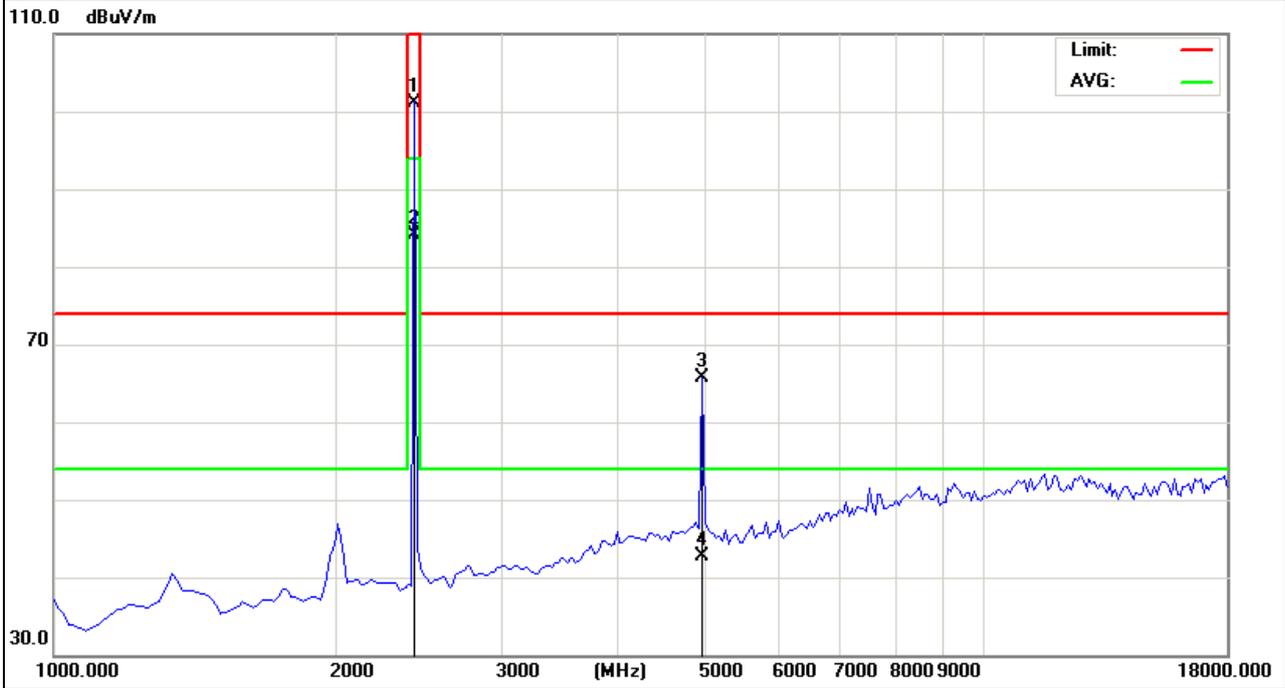
Remark:
 Factor = Antenna Factor + Cable Loss – Pre-amplifier.
 No emission above 18GHz.



EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2441MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2441	114.13	-12.93	101.2	114.0 0	-12.8	peak
2441	97.08	-12.93	84.15	94	-9.85	AVG
4882	69.24	-3.55	65.69	74	-8.31	peak
4882	46.21	-3.55	42.66	54	-11.34	AVG

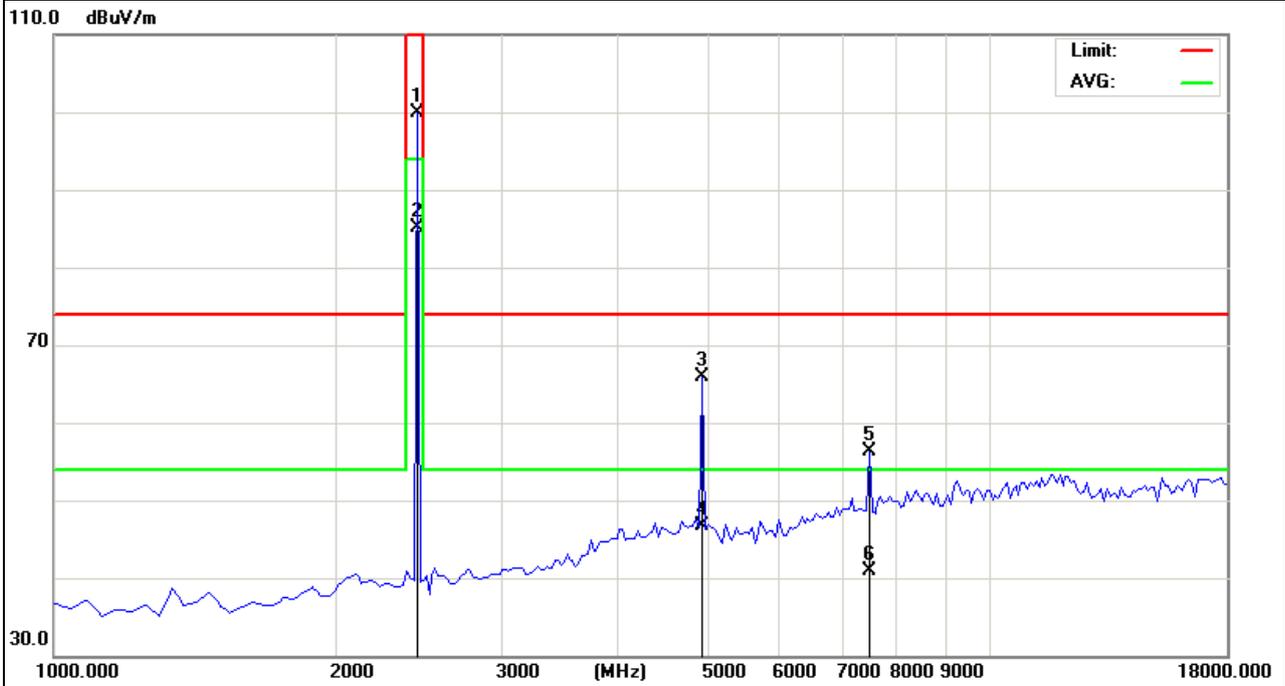
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2480MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2480	112.82	-12.92	99.9	114.0 0	-14.1	peak
2480	97.98	-12.92	85.06	94	-8.94	AVG
4960	69.42	-3.55	65.87	74	-8.13	peak
4960	50.28	-3.55	46.73	54	-7.27	AVG
7440	56.94	-0.68	56.26	74	-17.74	peak
7440	41.51	-0.68	40.83	54	-13.17	AVG

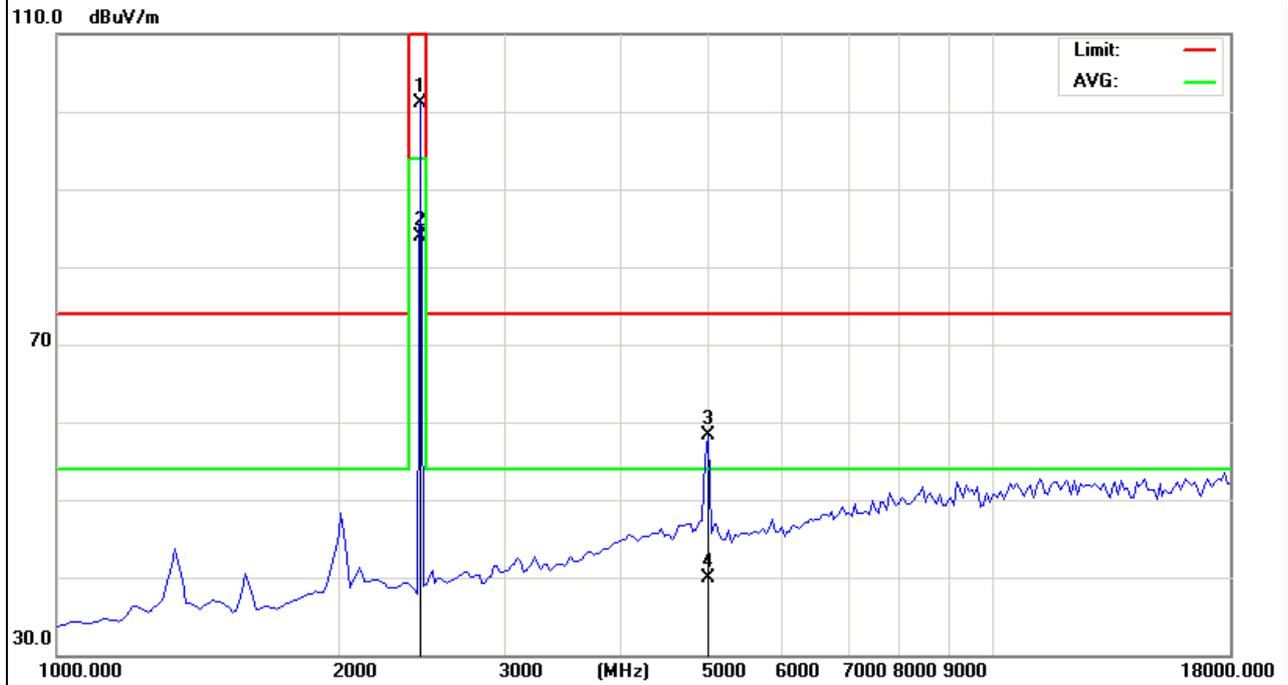
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2480MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2480	114.12	-12.92	101.2	114.0 0	-12.8	peak
2480	96.76	-12.92	83.84	94	-10.16	AVG
4960	62.2	-3.8	58.4	74	-15.6	peak
4960	43.66	-3.8	39.86	54	-14.14	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.

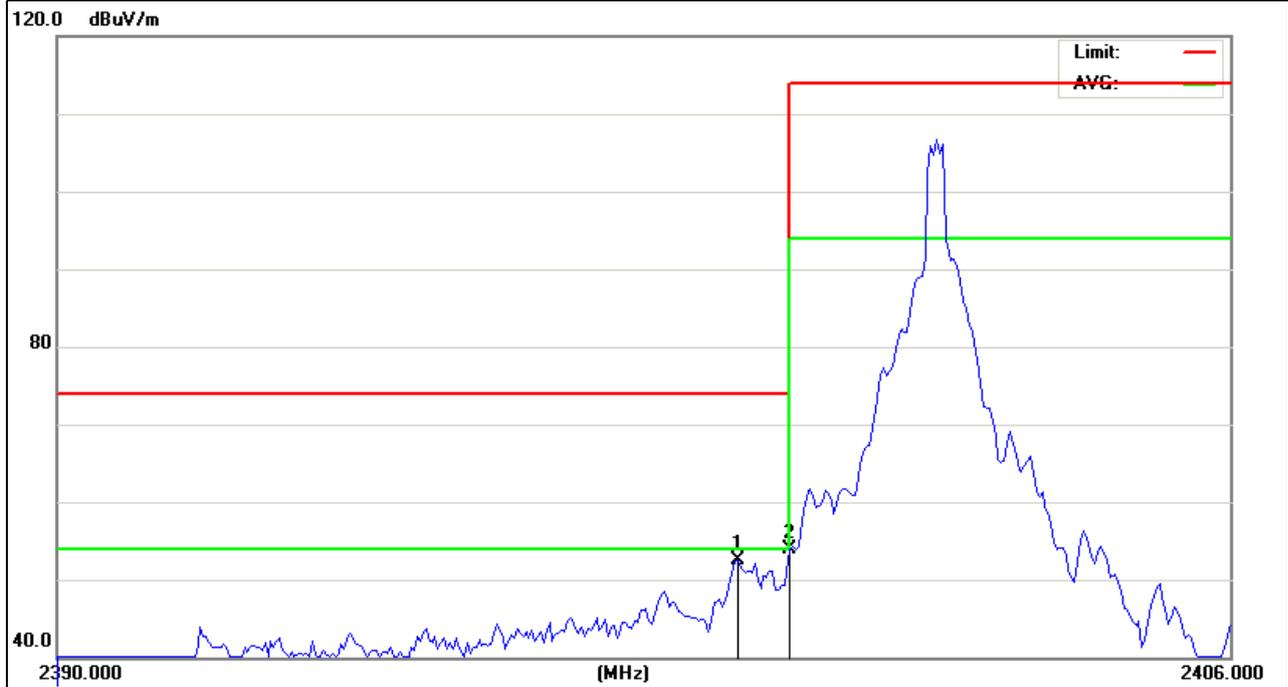


Band Edge Emission:

EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2402MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2399.28	65.51	-12.99	52.52	74	-21.48	peak
2400	66.9	-12.99	53.91	74	-20.09	peak

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

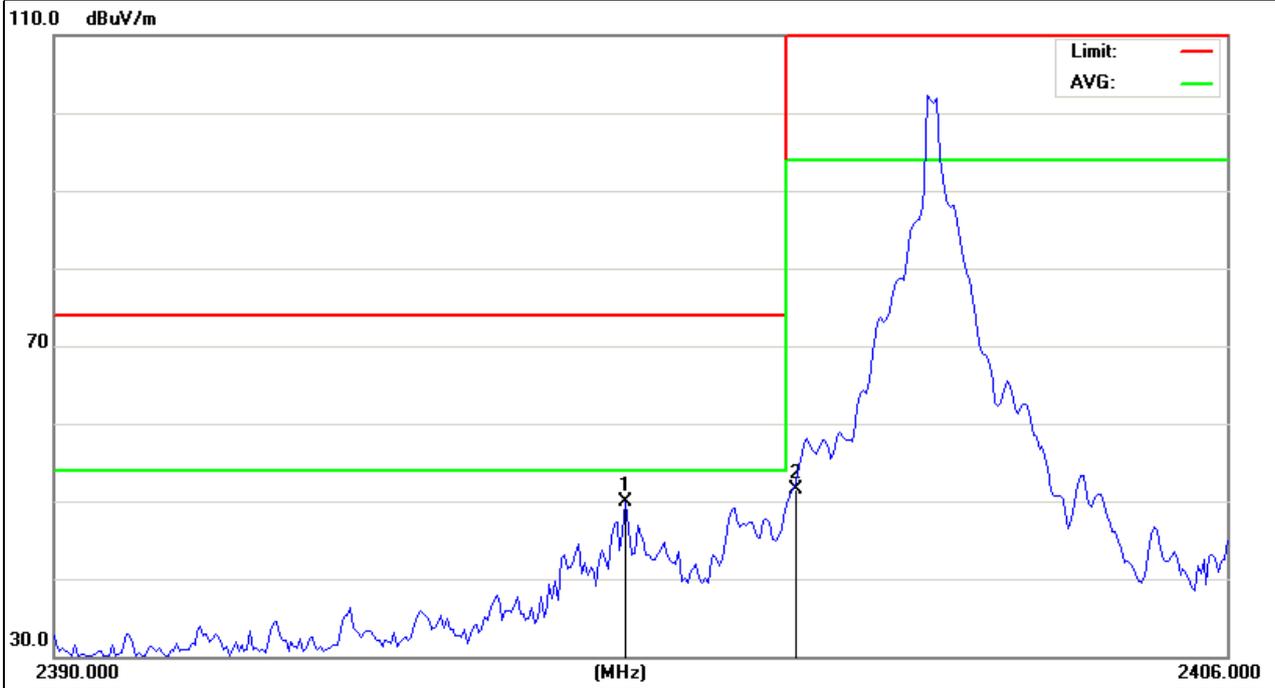


EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2402MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2397.8	62.81	-13	49.81	74	-24.19	peak
2400.00	64.46	-12.99	51.47	74	-22.53	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2480MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5	45.74	-12.78	32.96	74	-41.04	peak
2484.215	52.76	-12.78	39.98	74	-34.02	peak

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX /2480MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2483.5	51.11	-12.78	38.33	74	-35.67	peak
2484.313	59.91	-12.78	47.13	74	-26.87	peak

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



4. BANDWIDTH TEST

4.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 100KHz, VBW \geq RBW, Sweep time = Auto.

4.2 DEVIATION FROM STANDARD

No deviation.

4.3 TEST SETUP

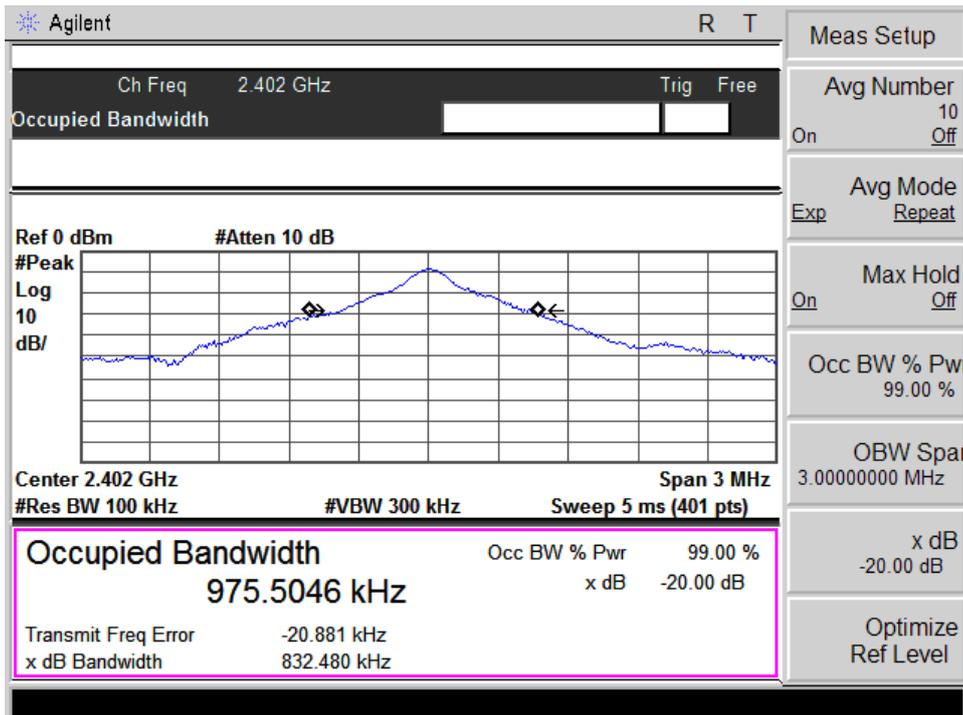


4.4 TEST RESULTS

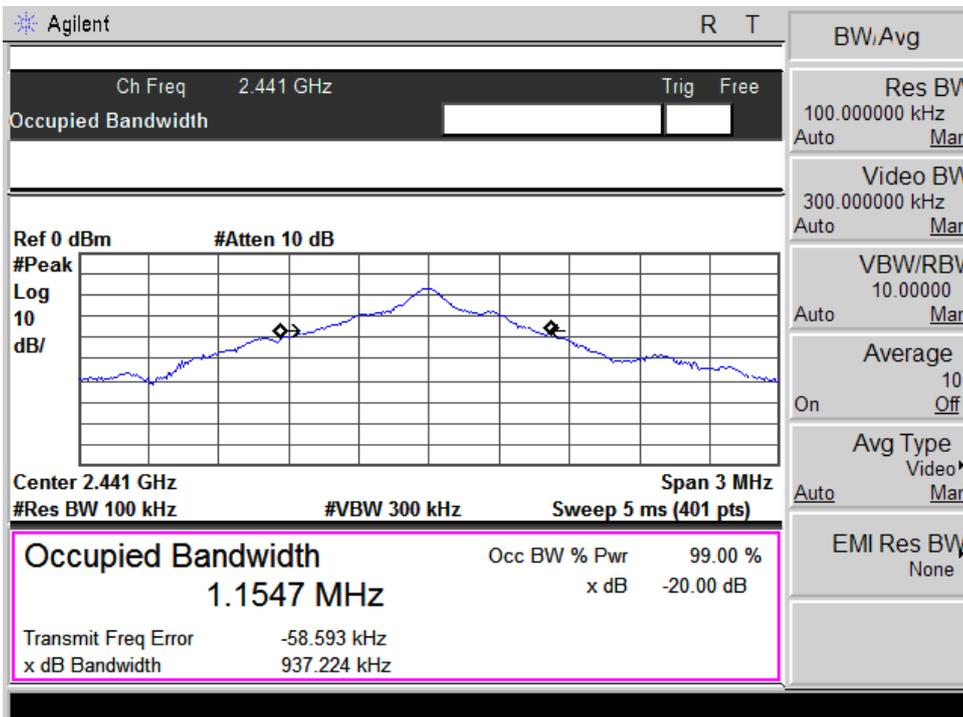
EUT :	wireless speaker	Model Name :	RFD-973T
Temperature :	26 °C	Relative Humidity :	53%
Pressure :	1020 hPa	Test Power :	DC 5.0V from adapter AC 120V/60Hz
Test Mode :	TX CH 1/40/79		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (MHz)	99% Bandwidth (MHz)
CH01	2402	0.832	0.975
CH40	2441	0.937	1.154
CH79	2480	0.944	1.137

The Lowest Channel: 2402MHz



The Middle Channel: 2441MHz

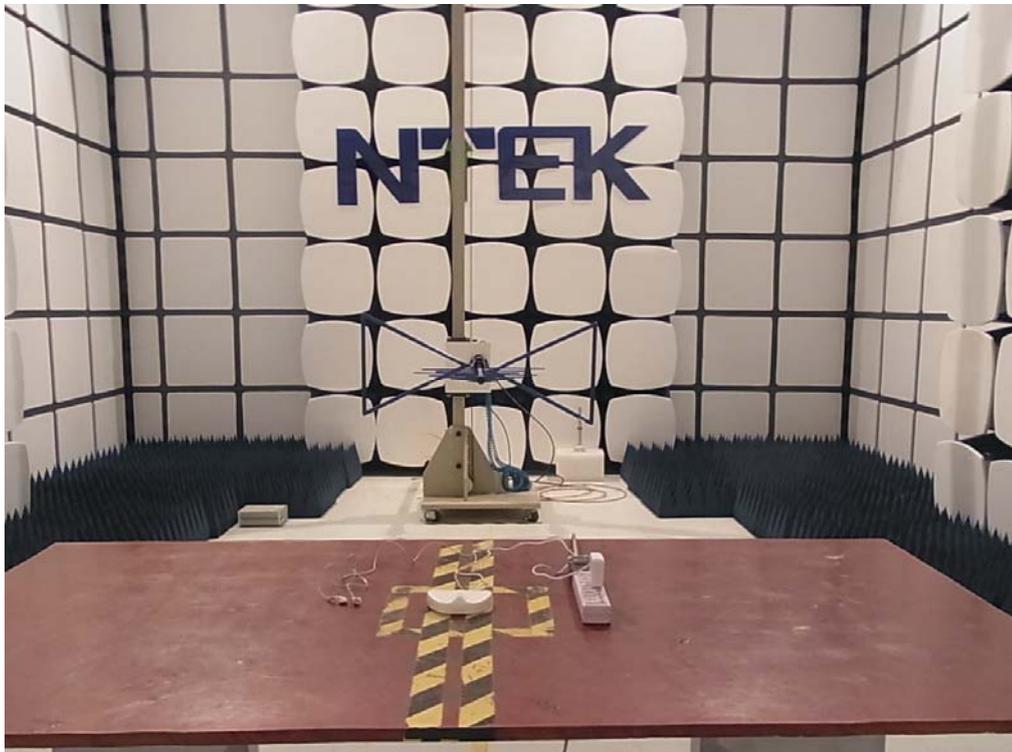


The High Channel:2480MHz

Agilent		R	T	Meas Setup	
Ch Freq 2.48 GHz		Trig Free		Avg Number 10	
Occupied Bandwidth				On Off	
Ref 0 dBm #Atten 10 dB				Avg Mode Exp Repeat	
				Max Hold On Off	
Center 2.48 GHz Span 3 MHz				Occ BW % Pwr 99.00 %	
#Res BW 100 kHz #VBW 300 kHz Sweep 5 ms (401 pts)				OBW Spar 3.00000000 MHz	
Occupied Bandwidth 1.1373 MHz		Occ BW % Pwr 99.00 %		x dB -20.00 dB	
Transmit Freq Error -64.592 kHz				Optimize Ref Level	
x dB Bandwidth 944.655 kHz					

5. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Measurement Photos

