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FEDERAL COMMUNICATIONS COMMISSION
Registration number: 282399

Report No.: GLEMR060800885RFI
Page: 1 of 14
FCC ID: UHDXIANXINTOYS


TEST REPORT

Application No. : GLEMR060800885RF
Applicant: SHANTOU CITY CHENGHAI ZONE GUANGYI XIANXIN PLASTIC
TOYS FACTORY.
FCC ID: UHDXIANXINTOYS
Fundamental Frequency : 27.129MHz(1#)
26.978MHz(2#)
Equipment Under Test (EUT):
Name: Walkie Talkies
Model No.: 1228-2/99,168-1/99,178-1/99,182-1/99,197-1/99,198-1/99,1218-
1/99,1278-1/99,1238-1/99,258-1/99
Standards: FCC PART 15, SUBPART C : 2004
Section 15.227 & FCC PART 2 Section 2.1047
Date of Receipt: 01 Aug 2006
Date of Test: 01 Aug to 11 Aug 2006
Date of Issue: 14 Aug 2006

Test Result :	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Jerry Chen
Manager

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf
This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.
All test results in this report can be traceable to National or International Standards.

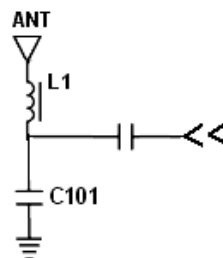
2 Test Summary

Test	Test Requirement	Standard Paragraph	Result
Radiated Emission (30MHz to 1000MHz)	FCC PART 15 :2004	Section 15.227	PASS①
Occupied Bandwidth	FCC PART 15 :2004	Section 15.215	PASS
Modulation Characteristics	FCC PART 2	Section 2.1047	PASS

Remark:

① The EUT passed the Radiated Emission test after modification, please refer to the following information for further details.

Changed the circuit diagram as the following figure shown:



C101:27pF

Both Walkie-talkies were tested, since the carrier frequency different.

Item No.: 1228-2/99,168-1/99,178-1/99,182-1/99,197-1/99,198-1/99,1218-1/99,1278-1/99,
1238-1/99,258-1/99.

Only the item 1228-2/99 was tested, since the circuit design, PCB layout, electrical parts and internal wiring of items 168-1/99,178-1/99,182-1/99,197-1/99,198-1/99,1218-1/99,1278-1/99, 1238-1/99,258-1/99. were identical to the basic item 1228-2/99.



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4 General Information

4.1 Client Information

Applicant Name: SHANTOU CITY CHENGHAI ZONE GUANGYI XIANXIN PLASTIC TOYS FACTORY.

Applicant Address: Zhenxing Road Pumei, Chenghai Zone Shantou City, Guangdong P.R.China.

4.2 Details of E.U.T.

Name: Walkie Talkies

Model No.: 1228-2/99, 168-1/99, 178-1/99, 182-1/99, 197-1/99, 198-1/99, 1218-1/99, 1278-1/99, 1238-1/99, 258-1/99

Power Supply: 9.0V DC (6x1.5V DC Button Cell)

Power Cord: N/A-

4.3 Description of Support Units

The EUT was tested as an independent unit: a 27MHz radio transmitter.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic & Technology Development District Guangzhou, China 510663

Tel: +86 20 82155555

Fax: +86 20 82075059

No tests were sub-contracted.

4.5 Other Information Requested by the Customer

None.



4.6 Test Facility

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

- **NVLAP – Lab Code: 200611-0**
SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0. Effective through December 31, 2006.
- **ACA**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **VCCI**
The 3m Semi-anechoic chamber and Shielded Room (11.5m x 4m x 4m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1599 and C-1706 respectively.
Date of Registration: June 01, 2005. Valid until February 22, 2008
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**
Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAL – LAB Code: L0141**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **FCC – Registration No.: 282399**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002. With the above and NVLAP's accreditation, SGS-CSTC is an authorised test laboratory for the DoC process.
- **Industry Canada (IC)**
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5169.



5 Test Results

5.1 Test Instruments

No:	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (dd-mm-yy)	Cal.Duedate (dd-mm-yy)
1	Temperature Chamber	TERCHY	MHG-800RR	0118	05-12-2005	05-12-2006
2	D.C. Power Supply	Instek	PS-3030	9862036	Check when used	
3	DMM	Fluke	73	70681569 or 70671122	12-09-2005	12-09-2006
4	Impact 3m Semi- Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	06-03-2006	06-03-2007
5	Biconical Antenna (Rx)	Rohde & Schwarz	HK116	100032	30-01-2006	30-01-2007
6	Biconical Antenna (Tx)	Rohde & Schwarz	HK116	100033	10-05-2006	09-05-2007
7	Log-Perd. Dipole Antenna (Rx)	Rohde & Schwarz	HL223	100039	11-06-2006	10-06-2007
8	Log-Perd. Dipole Antenna (Tx)	Rohde & Schwarz	HL223	100040	10-05-2006	09-05-2007
9	Horn Antenna (Rx)	Rohde & Schwarz	HF906	100095	11-06-2006	10-06-2007
10	Horn Antenna (Tx)	Rohde & Schwarz	HF906	100096	10-06-2006	09-06-2007
11	Bilog Type Antenna	Schaffner Chase	CBL6143	5070	14-01-2006	13-01-2007
12	Bilog Type Antenna	Schaffner Chase	CBL6112B	2966	31-10-2005	31-10-2006
13	0.1-1300 MHz Pre Amplifier	HP	8447D OPT 010	2944A06252	16-01-2006	16-01-2007
14	1-26.5GHz Pre Amplifier	Agilent	8449B	3008A01649	06-03-2006	06-03-2007
15	Antenna Mask (Tx)	HD-GmbH	AS620M	620/408	06-03-2006	06-03-2007
16	Antenna Mask (Rx)	HD-GmbH	MA240	240/619	N/A	N/A
17	Turntable	HD-GmbH	DT430	EMC0509	N/A	N/A
18	Turntable & Antenna Mask Controller	HD-GmbH	HD100	EMC0510	N/A	N/A
19	EMI Test Software	Rohde & Schwarz	ES-K1	EMC0512	N/A	N/A
20	Coaxial cable	Rohde & Schwarz	N/A	EMC0514	04-11-2005	03-11-2006
21	EMI Test Receiver	Rohde & Schwarz	ESIB26	100249	04-11-2005	03-11-2006
22	Spectrum Analyzer	Rohde & Schwarz	FSP30	100324	05-12-2005	05-12-2006
23	Signal Generator	Rohde & Schwarz	SMR20	100416	05-12-2005	05-12-2006
24	Radio Communication Monitor	Rohde & Schwarz	CMS54	100137	05-12-2005	05-12-2006
25	Power Meter	Rohde & Schwarz	NRVS	825770/074	20-12-2005	20-12-2006
26	Audio Analyzer	Rohde & Schwarz	UPL	100855	16-08-2005	16-08-2006
27	Digital Oscilloscope	Tektronix	TDS3012	B015508	16-08-2005	16-08-2006
28	Temp. Humidity	Shenzhen Tai Kong	THG-1	EMC0054	04-01-2006	04-01-2007



5.2 E.U.T. Operation

Input voltage:	9.0V DC (6x1.5V DC Button Cell)
Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	1013 mbar
EUT Operation:	Test the EUT in transmitting mode.

5.3 Test Procedure & Measurement Data

5.3.1 Radiated Emissions

Test Requirement:	FCC Part15 C Section 15.227
Test Method:	ANSI C63.4 section 8 & 13
Test Date:	01 Aug 2006 (Initial test) 11 Aug 2006 (Test after modification)
Measurement Distance:	3m (Semi-Anechoic Chamber and OATS)
Requirements:	Carrier frequency will not exceed 80dBuV/m at 3m. Out of band emissions shall not exceed: 40.0 dB μ V/m between 30MHz & 88MHz 43.5 dB μ V/m between 88MHz & 216MHz 46.0 dB μ V/m between 216MHz & 960MHz 54.0 dB μ V/m above 960MHz
Detector:	Peak Scan (120kHz resolution bandwidth)



Test Procedure: For testing performed with the loop antenna, testing was performed in accordance to ANSI C63.4 section 8.2.1. The center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

Intentional emission:**Horizontal.**

Test Frequency (MHz)	Peak (dB μ V/m)			Limits (dB μ V/m)	Margin (dB)		
	X	Y	Z		X	Y	Z
27.129	42.0	43.1	45.6	100.0	58.0	56.9	54.4
26.978	35.3	36.2	38.5	100.0	64.7	63.5	61.5

Test Frequency (MHz)	Average (dB μ V/m)			Limits (dB μ V/m)	Margin (dB)		
	X	Y	Z		X	Y	Z
27.129	41.2	42.0	44.2	80.0	38.8	38.0	35.8
26.978	34.5	35.2	37.2	80.0	45.5	44.8	42.8

Vertical.

Test Frequency (MHz)	Peak (dB μ V/m)			Limits (dB μ V/m)	Margin (dB)		
	X	Y	Z		X	Y	Z
27.129	56.3	55.7	57.2	100.0	43.7	44.3	42.8
26.978	54.2	55.6	57.8	100.0	45.8	44.4	42.2

Test Frequency (MHz)	Average (dB μ V/m)			Limits (dB μ V/m)	Margin (dB)		
	X	Y	Z		X	Y	Z
27.129	55.2	54.1	56.3	80.0	24.8	25.9	23.7
26.978	53.2	54.8	56.7	80.0	26.8	25.2	23.3

Y: EUT as per photograph in section 5.3.3 of this report.

X: As Y, but rotate EUT by 90° clockwise.

Z: As X, but rotate EUT by 90° vertically.



Other emissions (1# ,27.129MHz)

Vertical:

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1 Max	488.305	46.88	18.79	2.17	25.81	42.03	46.00 -3.97 QP
2 Max	515.427	45.53	19.29	2.25	25.88	41.20	46.00 -4.80 QP
3 Max	596.814	43.82	19.76	2.49	25.80	40.28	46.00 -5.72 QP
4 Max	623.938	44.82	20.70	2.55	25.78	42.30	46.00 -3.70 QP
5 Max	651.074	44.94	20.47	2.61	25.75	42.28	46.00 -3.72 QP
6 Max	678.174	44.11	20.63	2.66	25.72	41.68	46.00 -4.32 QP

Horizontal:

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	488.305	35.26	18.11	2.17	25.81	29.73	46.00 -16.27 QP
2	515.427	33.80	18.26	2.25	25.88	28.44	46.00 -17.56 QP
3 Max	596.814	42.69	19.66	2.49	25.80	39.04	46.00 -6.96 QP
4	623.938	40.17	20.02	2.55	25.78	36.96	46.00 -9.04 QP
5	651.074	35.72	20.64	2.61	25.75	33.23	46.00 -12.77 QP
6	678.174	32.26	20.90	2.66	25.72	30.10	46.00 -15.90 QP

Other emissions (2# ,26.978MHz)

Vertical:

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1 Max	512.430	47.71	18.16	2.24	25.89	42.22	46.00 -3.78 QP
2 Max	539.345	48.40	18.74	2.33	25.86	43.61	46.00 -2.39 QP
3 Max	566.293	45.90	19.94	2.41	25.83	42.42	46.00 -3.58 QP
4 Max	593.249	45.87	19.76	2.48	25.81	42.31	46.00 -3.69 QP
5 Max	620.235	44.60	20.06	2.55	25.78	41.42	46.00 -4.58 QP
6 Max	647.172	45.10	20.74	2.60	25.75	42.68	46.00 -3.32 QP

Horizontal:

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	512.430	32.23	18.16	2.24	25.89	26.74	46.00 -19.26 QP
2	539.346	32.02	18.74	2.33	25.86	27.23	46.00 -18.77 QP
3	566.293	34.52	19.94	2.41	25.83	31.04	46.00 -14.96 QP
4 Max	593.249	35.71	19.76	2.48	25.81	32.15	46.00 -13.85 QP
5	620.235	32.52	20.06	2.55	25.78	29.35	46.00 -16.65 QP
6	647.172	31.52	20.74	2.60	25.75	29.10	46.00 -16.90 QP



Remark:

According to 15.35 (b) When average radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.255.

Test Results: The unit does meet the FCC Part 15 C Section 15.227 requirements.



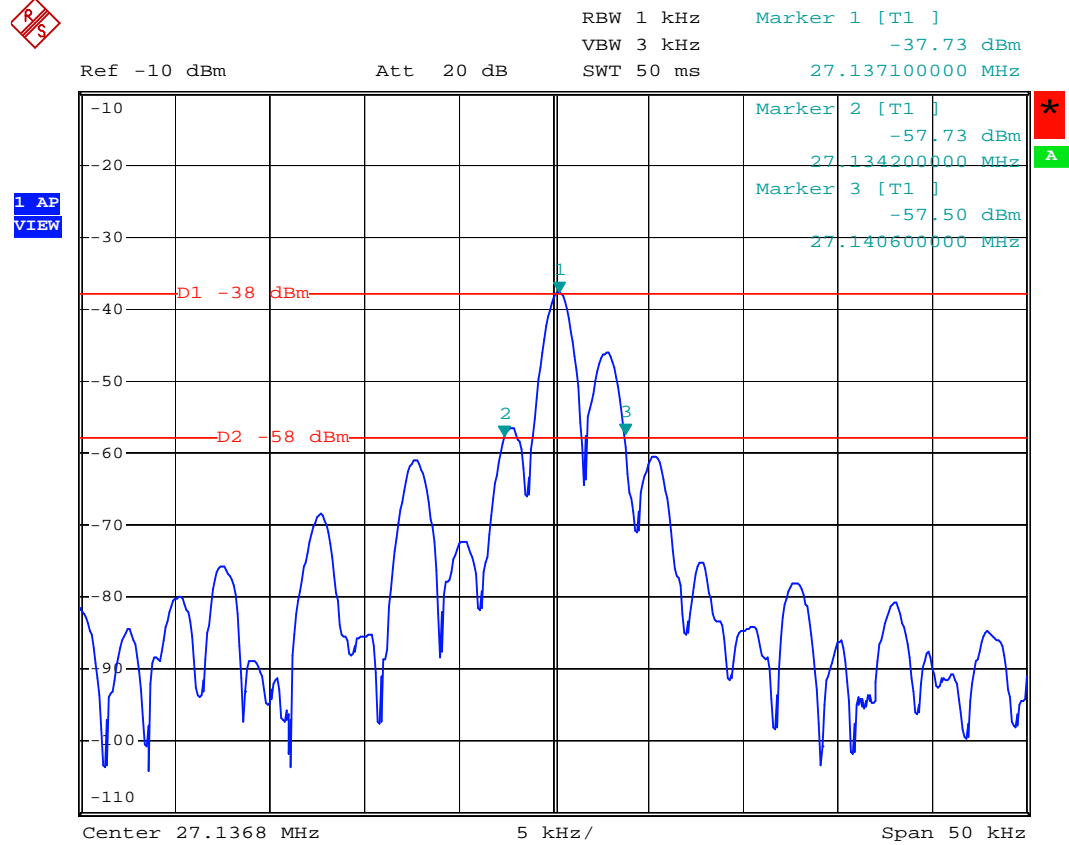
5.3.2 Occupied Bandwidth

Test Requirement:	FCC Part 15 C Section 15.215 (C)
Test Method:	ANSI C63.4 section 13 & FCC Part 2.1049 Operation within the band 26.960 – 27.280 MHz
Test Date:	01 Aug 2006 (Initial test) 11 Aug 2006 (Test after modification)
Requirements:	Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.
Test procedure:	Supply the EUT with nominal ac voltage, or install a new or a fully charged battery in the EUT. Turn on the EUT, and set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the specified bandwidth or -26dB. Adjust the spectrum analyzer resolution bandwidth, sweep rate, and frequency scan with consideration to the frequency used for modulation, so that the display is calibrated.
Method of measurement:	Supply The EUT with a 2.5kHz audio tone to produce 40% modulation depth (Maximum modulation depth of the EUT). The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector. The vertical Scale is set to 10dB per division. The horizontal scale is set to 5KHz per division.



The graph as below, represents the emissions take for this device.

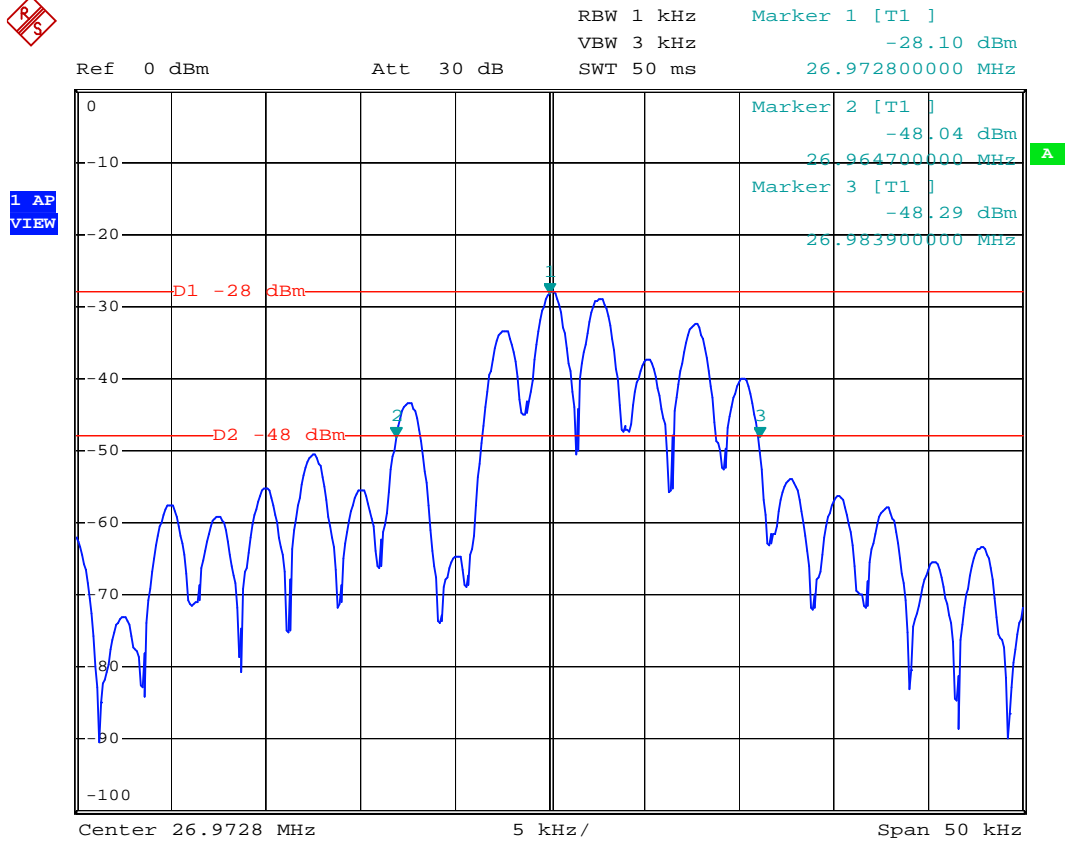
1#,27.129MHz



Date: 16.AUG.2006 18:16:12



2#, 26.978MHz



Date: 16.AUG.2006 17:58:43

The results: The unit does meet the FCC Part 15 C Section 15.215 requirements.

5.3.3 Modulation Characteristics

Test Requirement: FCC2.1047
Test Method: FCC2.1047
Test Date: 11 Aug 2006

Audio Frequency Response

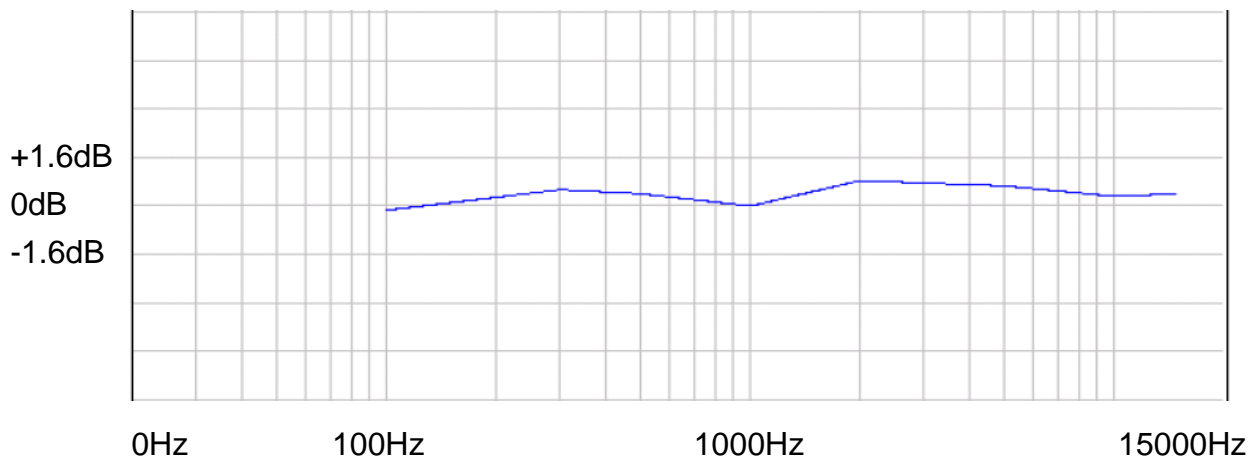
Test Procedure:

The RF output of the transceiver was connected to the Digital Oscilloscope. An audio signal generator was connect to the audio input of microphone.

The audio signal input level was adjusted to obtain 20% of the modulation depth at 1 kHz, and recorded as LEV_{REF} . With the audio signal generator level unchanged, set the generator frequency between 100 Hz to 15000 Hz. The transmitter LEV_{FREQ} were measured and the audio frequency response was calculated as $20\log_{10} [LEV_{FREQ} / LEV_{REF}]$

Test result:

The plot(s) of Aduio Frequency Response is presented hereinafter as reference.



0dB= 360mV, Frequency of Maximum Aduio Response , Hz =15000

Additional points:

Frequency(Hz)	Audio Response(dB)
100	-0.15
300	0.56
500	0.42
1000	0
2000	0.87
5000	0.69
10000	0.33
15000	0.42