FCC CERTIFICATION TEST REPORT

for

I-TEC ELECTRONICS

IPOD FM Transmiter

Model Number : T1055

Prepared for : I-TEC ELECTRONICS
Address : 5255,NW 159th STREET MIAMI,FL33014 U.S.A

Prepared By : NS Electromagnetic Technology Co., Ltd.
Address : Chenwu Industrial Zone, Houjie Town, Dongguan City, Guangdong, China

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Report Number : NSE-F0609169
Date of Test : Sep. 25, 2006
Date of Report : Sep. 28, 2006

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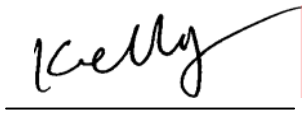
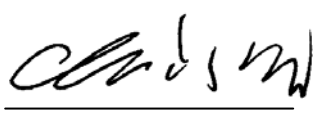
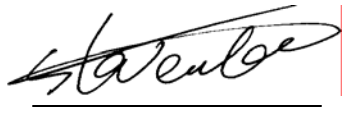
NS Electromagnetic Technology Co., Ltd.

Applicant: **Address:**	I-TEC ELECTRONICS 5255,NW 159th STREET MIAMI,FL33014 U.S.A		
Manufacturer: **Address:**	STAR ORIENT #2 West Puyuan Road Sang Yuan Industrial Zone DongCheng Area, Dongguan City ,Guangdong ,China		
E.U.T:	IPOD FM Transmiter		
Model Number:	T1055		
Trade Name:		**Serial No.:**	------
Date of Receipt:	Aug. 10, 2006	**Date of Test:**	Sep. 25, 2006
Test Specification:	FCC Part 15 Subpart C, 2005 ; ANSI C63.4:2003		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.		

Issue Date: Sep. 26, 2006

Tested by:	Reviewed by:	Approved by:
		
Kelly / Engineer	Chris Du / Supervisor	Steven Lee / Manager

Other Aspects:

None.

Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested

This test report is based on a single evaluation of one sample of above mentioned products, It is not permitted to be duplicated in extracts without written approval of NS Electromagnetic Technology Co., Ltd..

1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

Description	:	IPOD FM Transmiter
Model No.	:	T1055
System Input Voltage	:	DC 12V
Operational frequency		88.1MHz-107.9MHz

1.3.Operation Modes

1.3.1. TX: 88.1MHz

1.3.2. TX: 98MHz

1.3.3. TX: 107.9MHz

2. TEST SITES

2.1. Test Facilities

EMC Lab : Certificated by TUV Rheinland, Germany.
Date of registration: July 28, 2003

Certificated by FCC, USA
Registration No.: 897109
Date of registration: October 10, 2003

Certificated by VCCI, Japan
Registration No.: R-1798 & C-1926
Date of registration: January 30, 2004

Certificated by CNAL, CHINA
Registration No.: L1744
Date of registration: November 25, 2004

Certificated by Intertek ETL SEMKO
Registration No.: TMP-013
Date of registration: June 11, 2005

Certificated by TUV/PS, Hong Kong
Date of registration: December 1, 2005

Certificated by Industry Canada
Registration No.: 5936
Date of registration: March 24, 2006

Name of Firm : NS Electromagnetic Technology Co., Ltd.

Site Location : Chenwu Industrial Zone, Houjie Town, Dongguan City, Guangdong, China

2.2. List of Test and Measurement Instruments

2.2.1. For conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	Rohde & Schwarz	ESCS30	100199	Jun. 3,06	Jun. 3,07
L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	100071	Jun. 3,06	Jun. 3,07
L.I.S.N.#2(AUX)	Rohde & Schwarz	ESH3-Z5	100317	Jun. 3,06	Jun. 3,07

2.2.2. For radiated emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	Rohde & Schwarz	ESCS30	100340	Jun. 3,06	Jun. 3,07
Spectrum Analyzer	HP	8590L	3412A00251	Jun. 3,06	Jun. 3,07
Amplifier	Agilent	8447D	2944A10488	May 2,06	May 2,07
Bilog Antenna	EMCO	3142B	00022050	May 2,06	May 2,07

2.2.3. For frequency range test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	Rohde & Schwarz	ESCS30	100340	Jun. 3,06	Jun. 3,07
Bilog Antenna	EMCO	3142B	00022050	May 2,06	May 2,07

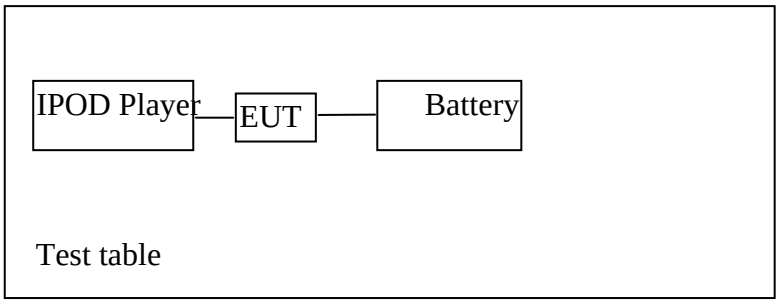
3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

3.2. Block Diagram of Test Set-up

System Diagram of Connections Between EUT and Simulators



(EUT:IPOD FM Transmiter)

Note: 1) we test lie orientation, side orientation and stand orientation. The stand orientation is the worst mode, so only the worst mode test data was included in the report.
2) IPOD player input EUT an audio signal, and IPOD player were turned up the highest volume.

3.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4 & 5.

3.4. Special Accessories and Auxiliary Equipment

None.

3.5.Countermeasures to Achieve EMC Compliance

None.

4. EMISSION TEST RESULTS

4.1. Conducted Emission Test

According to paragraph of FCC Part 15 Section 15.207, measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation, and which do not operate from the AC power lines or contain provision for operation while connected to the AC power.

4.2. Radiated Emission Test

RESULT	**:**	**Pass**
Test procedure	:	ANSI C63.4:2003
Frequency range	:	30～1000MHz
Test Site	:	966 Chamber
FCC Rules	:	FCC Part 15 Subpart C &15.239/&15.209/&15.35/&15.205

Test Setup

Date of testing	:	Sep. 25, 2006
Input Voltage	:	DC 12V
Operation Mode	:	TX: 88.1MHz; 98 MHz ,107.9MHz

Standard Limits:

The field strength of any emission within the permitted 200kHz band shall not exceed 250microvolts meter at 3meters.The emission limit in this paragraph is based on measurement instrumentation employ an average detector.The provisions in &15.35 for limiting peak emission apply.

The field strength of any emissions radiated on any frequency outside of the specified 200kHz band shall not exceed the general radiated emission limits in &15.209.

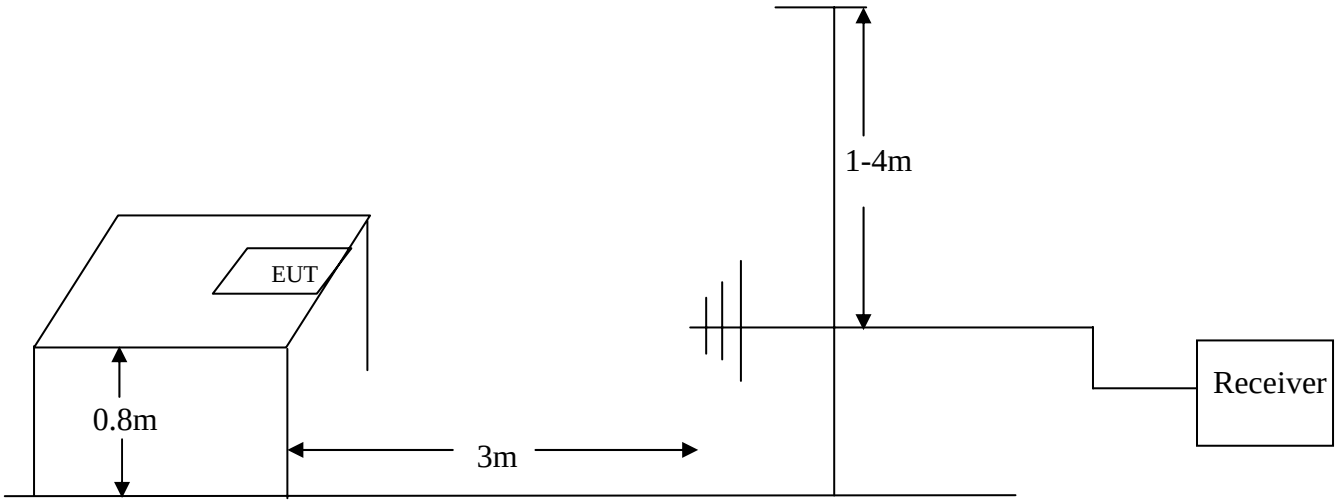
The EUT was placed on a rotatable table which was 0.8 meter above ground. The rotatable table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower, the measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna was used as a receiving antenna.

The bandwidth setting on the test receiver was 120 KHz.

The EUT was tested in Chamber Site.

The test data of the worst case condition(s) was reported on the following pages.

4.2.1. Test set-up diagram



4.2.2. Test Data

EUT**:**	IPOD FM Transmiter	Temperature**:**	24℃
M/N**:**	T1055	Humidity**:**	54%
Test Mode:	TX 88.1MHz	Test Engineer**:**	Kelly

Frequency	Factor	Meter Reading Horizontal	Emission Level Horizontal	Over Limits	Limits	Detector
MHz	dB	dBμV	dBμV/m	dB	dBμV/m	
43.580	15.10	8.40	23.50	-16.50	40.00	QP
88.101	12.20	32.12	44.32	-3.68	48.00	Average
88.101	12.20	35.16	47.36	-20.64	68.00	Peak
176.340	**14.00**	**26.44**	**40.44**	**-3.06**	**43.50**	**QP**
264.303	16.75	20.85	37.60	-8.40	46.00	QP
352.405	19.12	15.40	34.52	-11.48	46.00	QP
440.505	20.27	15.87	36.14	-9.86	46.00	QP
706.090	26.14	5.89	32.03	-13.97	46.00	QP

Remark: The worst emission was detected at **176.340MHz** with corrected signal level of **40.44dBμV/m**(Limit is **43.50 dBμV/m**) when the antenna was at **Horizontal** polarization and at **1.60m** high and the turn table was at**35°**.

Frequency	Factor	Meter Reading Vertical	Emission Level Vertical	Over Limits	Limits	Detector
MHz	dB	dBμV	dBμV/m	dB	dBμV/m	
30.000	21.80	0.10	21.90	-18.10	40.00	QP
88.101	**12.20**	**27.34**	**39.54**	**-8.46**	**48.00**	**Average**
88.101	12.20	29.82	42.02	-25.98	68.00	Peak
176.340	14.00	16.33	30.33	-13.17	43.50	QP
264.303	16.75	10.13	26.88	-19.12	46.00	QP
352.405	19.12	9.22	28.34	-17.66	46.00	QP
440.505	20.27	14.58	34.85	-11.15	46.00	QP
706.090	26.14	5.50	31.64	-14.36	46.00	QP

Remark: The worst emission was detected at **88.101MHz** with corrected signal level of **39.54dBμV/m** (Limit is **48.00 dBμV/m**) when the antenna was at **Vertical** polarization and at **1.00m** high and the turn table was at **270°**.

EUT**:**	IPOD FM Transmiter	Temperature**:**	25℃
M/N**:**	T1055	Humidity**:**	55%
Test Mode:	TX 98MHz	Test Engineer**:**	Kelly

Frequency	Factor	Meter Reading Horizontal	Emission Level Horizontal	Over Limits	Limits	Detector
MHz	dB	dBμV	dBμV/m	dB	dBμV/m	
98.000	12.67	32.50	45.17	-2.83	48.00	Average
98.000	12.67	36.23	48.90	-19.10	68.00	Peak
196.320	**14.51**	**26.30**	**40.81**	**-2.69**	**43.50**	**QP**
294.320	17.59	24.30	41.89	-4.11	46.00	QP
376.420	19.69	22.10	41.79	-4.21	46.00	QP
474.120	21.31	20.16	41.91	-4.09	46.00	QP
588.321	23.71	8.30	32.01	-13.99	46.00	QP
686.690	25.94	12.31	38.25	-7.72	46.00	QP

Remark: The worst emission was detected at **196.320MHz** with corrected signal level of **40.81dBμV/m**(Limit is **43.50 dBμV/m**) when the antenna was at **Horizontal** polarization and at **1.50m** high and the turn table was at **45°**.

Frequency	Factor	Meter Reading Vertical	Emission Level Vertical	Over Limits	Limits	Detector
MHz	dB	dBμV	dBμV/m	dB	dBμV/m	
98.000	12.67	29.79	42.63	-5.37	4800	Average
98.000	12.67	32.60	45.27	-22.73	68.00	Peak
196.320	**14.51**	**25.12**	**39.63**	**-3.87**	**43.50**	**QP**
294.320	17.59	17.29	34.88	-11.12	46.00	QP
376.420	19.69	19.36	39.05	-6.97	46.00	QP
474.120	21.31	19.86	41.17	-4.83	46.00	QP
588.321	23.71	11.28	34.99	-11.01	46.00	QP
686.690	25.94	9.80	35.74	-10.26	46.00	QP

Remark: The worst emission was detected at **196.320MHz** with corrected signal level of **39.63dBμV/m** (Limit is **43.50 dBμV/m**) when the antenna was at **Vertical** polarization and at **1.00m** high and the turn table was at **255°**.

EUT**:**	IPOD FM Transmiter	Temperature**:**	24℃
M/N**:**	T1055	Humidity**:**	54%
Test Mode:	TX 107.9MHz	Test Engineer**:**	Kelly

Frequency	Factor	Meter Reading Horizontal	Emission Level Horizontal	Over Limits	Limits	Detector
MHz	dB	dBμV	dBμV/m	dB	dBμV/m	
72.680	10.56	13.01	23.57	-16.43	40.00	QP
107.901	**12.37**	**33.63**	**46.00**	**-2.00**	**48.00**	**Average**
107.901	12.37	36.98	49.35	-18.65	68.00	Peak
215.802	15.16	22.79	37.95	-8.05	43.50	QP
323.703	18.37	16.30	34.67	-11.33	43.50	QP
431.604	20.20	13.74	33.94	-12.06	46.00	QP
509.18	21.69	5.63	27.32	-18.68	46.00	QP
730.340	26.41	4.71	31.12	-14.88	46.00	QP

Remark: The worst emission was detected at **107.901MHz** with corrected signal level of **46.00dBμV/m**(Limit is **48.00 dBμV/m**) when the antenna was at **Horizontal** polarization and at **1.55m** high and the turn table was at**50°**.

Frequency	Factor	Meter Reading Vertical	Emission Level Vertical	Over Limits	Limits	Detector
MHz	dB	dBμV	dBμV/m	dB	dBμV/m	
43.580	15.10	11.90	27.00	-13.00	40.00	QP
107.901	**12.37**	**27.18**	**39.55**	**-8.45**	**48.00**	**Average**
107.901	12.37	29.12	41.49	-26.51	68.00	Peak
215.802	15.16	19.21	34.37	-11.63	43.50	QP
323.703	18.37	7.23	25.60	-20.40	43.50	QP
431.604	20.20	11.73	31.93	-14.07	46.00	QP
703.180	26.09	3.66	29.75	-16.25	46.00	QP
868.080	28.32	4.01	32.33	-13.67	46.00	QP

Remark: The worst emission was detected at **107.901MHz** with corrected signal level of **39.55dBμV/m** (Limit is **43.50 dBμV/m**) when the antenna was at **Vertical** polarization and at **1.10m** high and the turn table was at **240°**

Notes: 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading

2. 0 ° was the table front facing the antenna. Degree was calculated from 0 ° clockwise facing the antenna.

3. Test uncertainty: ±4.76dB at a level of confidence of 95%.

4.3. Frequency Range Test

4.3.1 Test Standard:

FCC Part 15: 2005, Subpart C (Section: 15.239):

(a)Emisssions from the intentional radiator shall be confined within a band 200kHz wide centered on the operating frequency. The 200kHz band shall lie wholly within the frequency range of 88-108MHz.

(c)The field strength of any emissions radiated on any frequency outside of the specified 200kHz band shall not exceed the general radiated emission limits in § 15.209.

4.3.2. Test Result:

Pass.

1)To Section: 15.239(a) requirement, See the page 15.

2) To Section: 15.239(c) requirement , see test data 4.2.2.. Because of the highest fundamental level is 49.35dBμv, the level of down 20dB from the fundametal level which is subject to the general radiated emission limits in § 15.209. so the field strength of any emissions radiated on any frequency outside of the specified 200kHz band is also subject to the general radiated emission limits in § 15.209.

4.4. Bandwith Test

4.4.1 Test Standard:
FCC Part 15: 2005, Subpart C (Section: 15.215(c)):

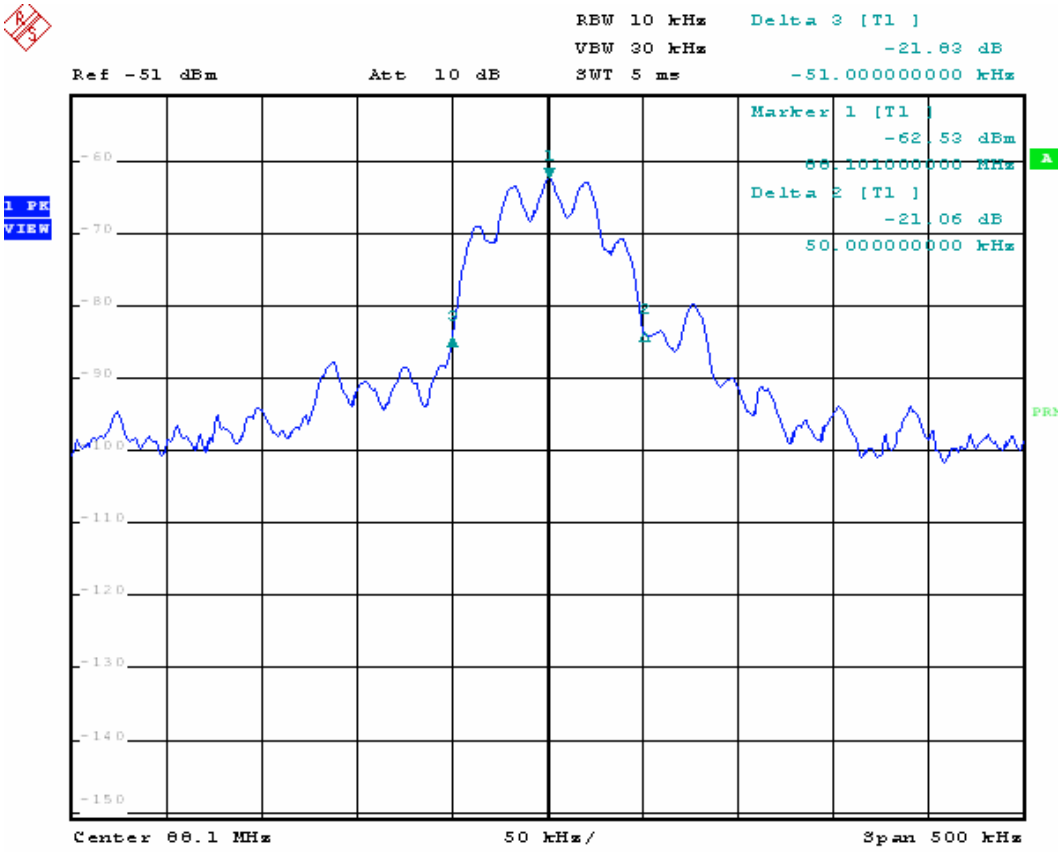
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated 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 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.

4.4.2.Test result

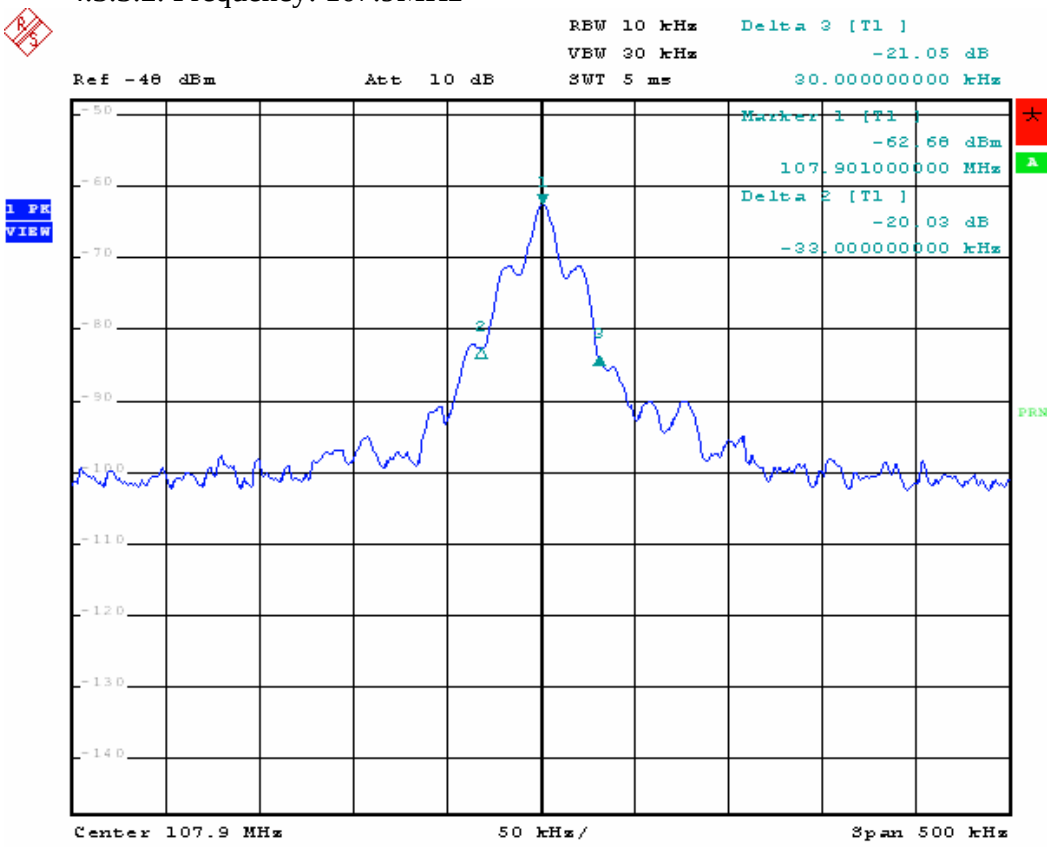
Fundamental Frequency (MHz)	Frequency error Down 20dB level(KHz)		Actual Bandwidth (KHz)	Bandwidth limit (KHz)	Result Pass/ Fail
88.10	Left	51	101	200	Pass
	Right	50			
107.9	Left	67	131	200	Pass
	Right	64			
107.9	Left	30	60	200	Pass
	Right	30			Pass

4.4.3. The plot of test result is attached as below:
EUT input an audio signal of music, and the IPOD player were turned up the highest volume. Test bandwidth is 150 KHz, is subject to the 200 KHz bandwidth requirment.

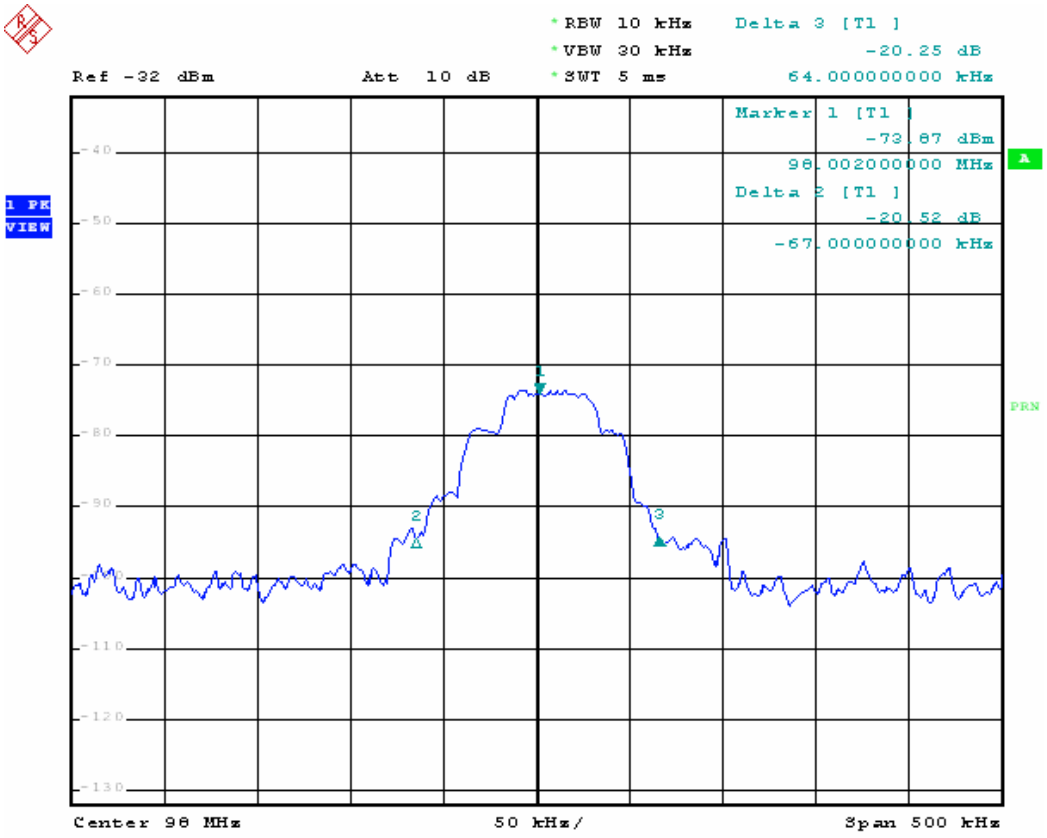
4.3.3.1. Frequency: 88.1MHz



4.3.3.2. Frequency: 107.9MHz



4.3.3.3. Frequency: 98MHz


RBW 10 kHz
VBW 30 kHz
SWT 5 ms
Delta 3 [T1]
-20.25 dB
64.000000000 kHz
Ref -32 dBm
Att 10 dB
Marker 1 [T1]
-73.87 dBm
98.002000000 MHz
Delta 2 [T1]
-20.52 dB
-67.000000000 kHz
1 PK
VIEW
A
PRN
-40
-50
-60
-70
-80
-90
-100
-110
-120
-130
Center 98 MHz
50 kHz/
Span 500 kHz