Bio-Mate Technology Taiwan Co., Ltd. 7F-5,NO16,Jain Ba Rd, Chung-Ho City, Taipei Hsien, Taiwan.

Pederal Communications Commission Authorization and Evaluation Division 7435 Oakland Mills Road Columbia, MD 21046

To whom it may concern:

This is to serve as proper written authorization that Spectrum Research and Testing Laboratory, Inc., 15200, Shady Grove Rd., Rockville, MD. 20850, will act as our representative in all matters relating to FCC applications for equipment approval. This includes the signing of all related documents, the transmitting of required fees, and receiving correspondence and notifications from the FCC. All acts performed by Spectrum Research and Testing Laboratory, Inc., especially modifications to our equipment under testing will be carried out on our behalf.

Meantime, the applicant certifies that in the case of an individual applicant (e.g., corporation), no party to the applicant/is subject to a denial of federal benefits, that includes FCC benial of federal benefits, that includes FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S.C. 862. For a definition of a "party" for these purposes see 47 C.F.R. 1.2002 (b).

If you have any questions regarding our applications for equipment approval, please contact Spectrum Research and Testing Laboratory, Inc. by calling (301) 670-2818.

Respectfully,

Effective Dates:

Class B Certification Application

Under Part 15, Subpart B

EUT: WIRELESS HEADPHONES

MODEL: UF434

FCC ID: ONOBM001

SRT REPORT # T9G19-1

PREPARED FOR:

BIO-MATE TECHNOLOGY TAIWAN CO., LTD. 7F-5, NO. 16, JAIN BA RD., CHUNG-HO CITY, TAIPEI HSIEN, TAIWAN, R.O.C.

EMI TESTING REPORT

EUT : WIRELESS HEADPHONES MODEL: UF-434 FCC ID : ONOBM001

PREPARED FOR:

BIO-MATE TECHNOLOGY TAIWAN CO., LTD. 7F-5, NO. 16, JAIN BA RD., CHUNG-HO CITY, TAIPEI HSIEN, TAIWAN, R.O.C.

PREPARED BY:

SPECTRUM RESEARCH & TESTING LABORATORY INC. NO. 101-10, LING 8, SHAN-TONG LI CHUNG-LI CITY, TAOYUAN, TAIWAN, R.O.C. TEL: (03) 4987684 FAX: (03) 4986528

PAGE: 2 OF 60

TABLE OF CONTENTS

1.	TEST REPORT CERTIFICATION	4
2.	TEST STATEMENT	
	2.1 TEST STATEMENT	5
	2.2 DEPARTURE FROM DOCUMENT POLICIES,	•
•	PROCEDURE OR SPECIFICATIONS, TEST STATEMENT	5
3.	EUT MODIFICATIONS	6
4.	CONDUCTED POWER LINE TEST	
	4.1 TEST EQUIPMENT	7
	4.2 TEST PROCEDURE	7
	4.3 TEST SETUP	8
	4.4 CONFIGURATION OF THE EUT	9-10
	4.5 EUT OPERATING CONDITION	11
	4.6 EMISSION LIMITS	11
	4.7 EMISSION TEST RESULTS	12-14
5.	RADIATED EMISSION TEST	
	5.1 TEST EQUIPMENT	15
	5.2 TEST PROCEDURE	16
	5.3 TEST SETUP	16-17
	5.4 CONFIGURATION OF THE EUT	18
	5.5 EUT OPERATING CONDITION	18
	5.6 EMISSION LIMITS	18
	5.7 RADIATION EMISSION TEST RESULTS	19-30
6.	BANDWIDTH	
	6.1 LIMIT	31
	6.2 RESULTS	32-37
7	DUOTOS OF TESTING	20.60





REPORT#: T9G19-1

1. TEST REPORT CERTIFICATION

APPLICANT: BIO-MATE TECHNOLOGY CO., LTD.

ADDRESS: 11F, NO. 33, SEC. 1, MIN-SHENG RD.

PAN-CHIAO CITY, TAIWAN, R.O.C.

EUT DESCRIPTION : WIRELESS HEADPHONES

(A) POWER SUPPLY : FROM ADAPTOR (120V/60Hz)

(B) MODEL

: UF-434

(C) FCC ID

ONOBM001

FINAL TEST DATE :

10/28/1999

MEASUREMENT PROCEDURE USED :

- *PART 15 SUBPART B OF FCC RULES AND REGULATIONS (47 CFR PART 15)
- *TEST PROCEDURE AND DATA ARE TRACEABLE TO NATIONAL OR INTERNATIONAL STANDARDS.

We hereby certify that :

The measurements contained in this report were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable.

TESTING ENGINEER : Liki Wu DATE 10/19/99

SUPERVISOR

: 1 100 DATE 10/28 /881

APPROVED BY

DATE Oct : 3 99'

Johnson Ho

PAGE: 4 OF 46

Bio-Mate Technology Taiwan Co., Ltd. 7F-5,NO16,Jain Ba Rd, Chung-Ho City, Taipei Hsien, Taiwan.

Federal Communications Commission Authorization and Evaluation Division 7435 Oakland Mills Road Columbia, MD 21046

To whom it may concern:

This is to serve as proper notice that our company agrees to make all modifications to FCC ID: ONOBMOOL as listed in section 3.0 of modification to submitted by Spectrum Research and Testing Laboratory, Inc.

Respectfully,

(Name, Surname)

(Position/Title)

DATE: 1999/11/>

Effective Dates:

From 1999/11/3 to 2000/11/3

REPORT#: <u>T9G19-1</u>

2. TEST STATEMENT

2.1 TEST STATEMENT

- 1. This letter is to explain the test condition of this project. The EUT be tested as the following stats.
- The data was shown in this report reflects the worst case data for the condition as listed above.
 Please disregard any other oricessir(s) speed shown in this user manual.
- 3. EUT conditions:

operating frequency:

	Transmitter	Headphone
Channel 1	434.0100MHz	388.9653MHz
Channel 2	434.2480MHz	388.9658MHz
Channel 3	434,5050MHz	388.9660MHz

EUT will include one TX and one RX.

4. NVLAP logo is to be approved by management (it is according to NVLAP requirement if it need) before use.

2.2 DEPARTURE FROM DOCUMENT POLICIES, PROCEDURE OR SPECIFICATIONS, THE STATEMENT

A Did	have	•							
-	dep ificat		from	docume	nt policies	&	procedures	or	from
Yes			,	No _			•		
If	yes,	the	description	on as	below.				

- B. The certificate and report shall not be reproduced except in full, without the written approval of SRT laboratory.
- C. The report must not be used by the client to claim product endorsement by NVLAP or any agency the government.
- D. This product is a prototype product.
- E. The effect that the results relate only to the items tested.

NVLAD

PAGE: 5 OF 60

Approved

FCC ID: ONOBMOO1 REPORT#: T9G19-1

3. EUT MODIFICATIONS

The following accessories were added to the EUT during testing:

- 1). Changed RF module Rc from $2k\Omega$ to $3.3k\Omega$.
- 2). Reduce antenna length from 16cm to 3cm.



4. CONDUCTED POWER LINE TEST

4.1 TEST EQUIPMENT

The following test equipment were used during the conducted power line test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DATE OF CAL. & CAL. CENTER		FINAL TEST
SPECTRUM	9 KHz TO 1	HP	8590L/	AUGUST 1999	1Y	
ANALYZER	GHz		3624A01317	ETC		
EMI TEST	9 KHz TO 30	ROHDE &	ESHS30/	AUGUST 1999	1Y	
RECEIVER	MHz	SCHWARZ	826003/008	ETC		V
LISN	50 uH, 50 ohm	SOLAR	9252-50-	AUGUST 1999	1 Y	
		ELECTRONICS	R24-BNC/	ETC		√
			951315			
LISN	50uH, 50 ohm	SOLAR	9252-50-	AUGUST 1999	1 Y	
		ELECTRONICS	R24-BNC/	ETC		√
			951318			
SIGNAL	9 KHz TO 1080	ROHDE &	SMY01/	APRIL 1999	1 Y	1
GENERATOR	MHz	SCHWARZ	841104/019	ETC		V
POWER	0 TO 300 VAC	AFC	AFC-1KW/	MARCH 1999	1Y	1
CONVERTER	VAC 47-500 Hz		850510	ETC		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

4.2 TEST PROCEDURE

The EUT was tested according to ANSI C63.4-1992. The frequency spectrum from 0.45 MHz to 30 MHz was investigated. The LISN used was 50 ohm/50 uHenry as specified by section 5.1 of ANSI C63.4-1992. Cables and peripherals were moved to find the maximum emission levels for each frequency.

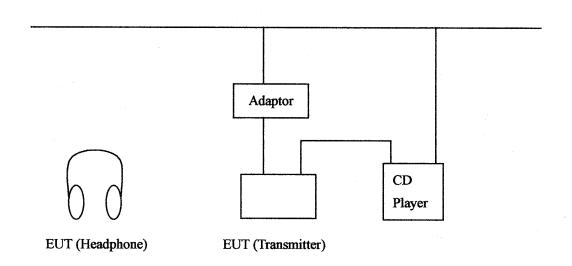


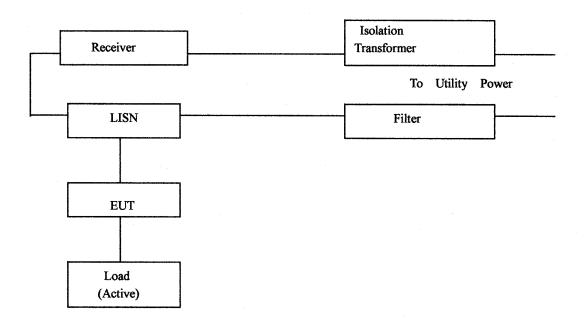
Spectrum Research & Testing Lab.

FCC ID: ONOBMOO1

REPORT#: T9G19-1

4.3 TEST SETUP







Approved

4.4 CONFIGURATION OF THE EUT

The EUT was configured according to ANSI C63.4-1992. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

DEVICE	MANUFACTURER	MODEL#	FCCID	
WIRELESS	BIO-MATE TECHNOLOGY	UF-434	ONOBM001	
HEADPHONES	TAIWAN CO., LTD.			

B. INTERNAL DEVICES

DEVICE	MANUFACTURER	MODEL#	FCCID / DoC
— NONE —			

C. PERIPHERALS

DEVICE	MANUFAC- TURER	MODEL #	FCCID / DoC	CABLE
CD PLAYER	PANASONIC	SL-SX500	N/A	1.8m unshielded power cord 1.2m unshielded data cable
ADAPTOR	HON-KWANG	D6300-05	N/A	1.8m unshielded power cord
	7777			

- REMARK:

(1). Cable - S1 : Single point shielding

S2 : 360° shielding S3 : Double shielding

(2). Cables - All 1m or greater in length – bundled according to ANSI C63.4 – 1992.



Approved

4.5 EUT OPERATING CONDITION

Operating condition is according to ANSI C63.4 - 1992.

1. EUT power on.

2. Operation frequency:

	Transmitter	Headphone
Channel 1	434.0100MHz	388.9653MHz
Channel 2	434.2480MHz	388.9658MHz
Channel 3	434.5050MHz	388.9660MHz

4.6 CONDUCTED POWER LINE EMISSION LIMITS

FREQUENCY RANGE (MHz)	CLASS B
0.45 - 1.705	48.0 dBuV
1.705 - 30	48.0 dBuV

NOTE: In the above table, the toghter limit applies at the band edges.

4.7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from <u>0.45</u> MHz to <u>30</u> MHz was investigated. All readinges are quasi-peak values with a resolution bandwidth of 9 KHz.

Temperature : 31 °C

Humidity: 46 %RH

FREQUENCY (MHz)	LINE1 (dBuV)	LINE2 (dBuV)	LIMIT (dBuV)
1.42	4.6	*	48.0
4.23	0.6	*	48.0
15.24	9.3	*	48.0
16.93	*	2.2	48.0
29.64	31.2	18.5	48.0

REMARKS: (1). * = Measurement does not apply for this frequency

(2). Uncertainty in conducted emission measured is <+/-2dB

(3). Any departure from specification: N/A

(4). Channel 1

Roldison

SIGNED BY TESTING ENGINEER:

PAGE: 12 OF 60

4.7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from <u>0.45</u> MHz to <u>30</u> MHz was investigated. All readinges are quasi-peak values with a resolution bandwidth of 9 KHz.

Temperature : 31 °C

Humidity: 46 %RH

FREQUENCY (MHz)	LINE1 (dBuV)	LINE2 (dBuV)	LIMIT (dBuV)
1.42	3.3	*	48.0
4.94	*	2.1	48.0
6.11	2.0	*	48.0
9.85	3.6	*	48.0
14.64	2.4	*	48.0
16.93	*	2.0	48.0
29.64	31.5	18.4	48.0
·			

REMARKS: (1). * = Measurement does not apply for this frequency

(2). Uncertainty in conducted emission measured is <+/-2dB

(3). Any departure from specification: N/A

(4). Channel 2

Roldison

SIGNED BY TESTING ENGINEER:

PAGE: 13 OF 60

REPORT#: T9G19-1

4.7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from <u>0.45</u> MHz to <u>30</u> MHz was investigated. All readinges are quasi-peak values with a resolution bandwidth of 9 KHz.

Temperature : 31 °C

Humidity: 46 %RH

FREQUENCY (MHz)	LINE1 (dBuV)	LINE2 (dBuV)	LIMIT (dBuV)
1.42	2.0	1.5	48.0
9.52	6.0	*	48.0
16.58	6.9	0.3	48.0
29.64	28.5	21.7	48.0
	-		

REMARKS: (1). * = Measurement does not apply for this frequency

(2). Uncertainty in conducted emission measured is <+/-2dB

(3). Any departure from specification: N/A

(4). Channel 3

Toldison

SIGNED BY TESTING ENGINEER:

PAGE: 14 OF 60

5. RADIATED EMISSION TEST

5.1 TEST EQUIPMENT

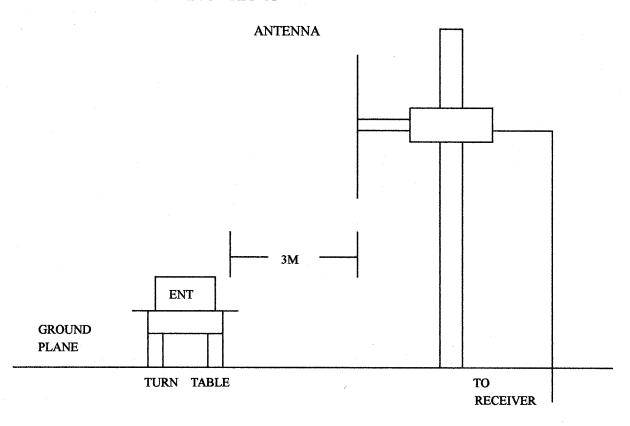
The following test equipment were used during the radiated emission test :

EQIPMENT /	SPECIFICA-	MANUFACTUR	MODEL#/	DATE OF CAL.	DUE	FINAL
FACILITIES	TIONS	- ER	SERIAL#	& CAL. CENTER	DATE	TEST
RECEIVER	20 MHz TO	R & S	ESVS30/	APRIL 1999	1Y	1
	1000 MHz		841977/003	ETC		
SPECTRUM	100 Hz TO	HP	8568B/	OCT. 1998	1 Y	
ANALYZER	1500 MHz		3019A05294	ETC		
SPECTRUM	9 KHz TO	HP	8593E/	MAY 1999	1Y	
ANALYZER	22 GHz		3322A00670	ETC	·	
SPECTRUM	100 Hz TO	IFR	A-7550/	JULY 1999	1Y	
ANALYZER	1000 MHz		2684/1248	ETC		
SIGNAL	9 KHz TO	ROHDE &	SMY01/	APRIL 1999	1Y	1
GENERATOR	1080 MHz	SCHWARZ	841104/019	ETC		-
DIPOLE	28 MHz TO	EMCO	3121C/	MARCH 1999	1 Y	
ANTENNA	1000 MHz		9003-534	SRT		
DIPOLE	28 MHz TO	EMCO	3121C/	SEP. 1999	1 Y	
ANTENNA	1000 MHz		9611-1239	SRT		
BI-LOG	26 MHz TO	EMCO	3142/	SEP. 1999	1 Y	1
ANTENNA	2000 MHz		9608-1073	SRT		
BI-LOG	26 MHz TO	EMCO	3143/	SEP. 1999	1 Y	
ANTENNA	1100 MHz		9509-1152	SRT		
PRE-AMPLIFIER	0.1 MHz TO	HP	8447D/	APRIL 1999	1 Y	
	1300 MHz		2944A08402	ETC		
PRE-AMPLIFIER	0.1 MHz TO	HP	8447D/	AUGUST 1999	1 Y	
	1300 MHz		2944A06412	ETC		
HORN	1 GHz TO	EMCO	3115/	JAN. 1999	1 Y	
ANTENNA	18 GHz		9012-3619	EMCO		

5.2 TEST PROCEDURE

- (1). The EUT was tested according to ANSI C63.4-1992. The radiated test was performed at SRT lab's open site. this site is on file with the FCC laboratory division, reference 31040/SIT.
- (2). The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-1992.
- (3). The frequency spectrum from 30 MHz to 4.5 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz. Measurements were made at <u>3</u> meters.
- (4). The antenna high were varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5). The antenna polarization: Vertical polarization and horizontal polarization.

5.3 RADIATED TEST SET-UP

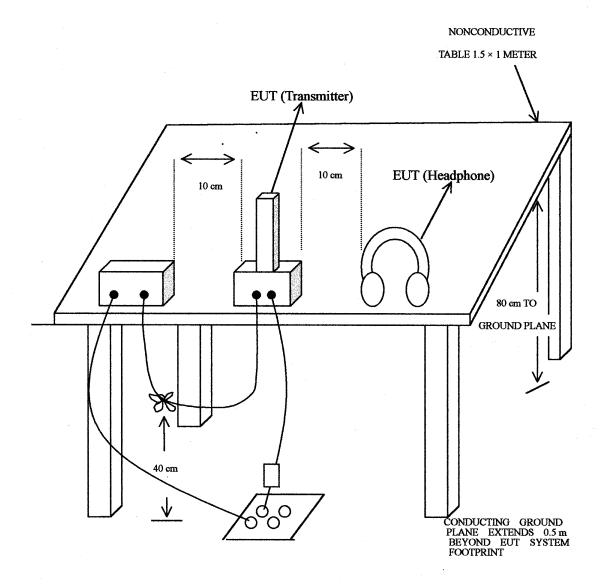




5.3 RADIATED TEST SET-UP

ANSI C63.4-1992

ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE IN THE RANGE OF 9 KHz TO 40 GHz





5.4 CONFIGURATION OF THE THE EUT

Same as section 4.4 of this report

5.5 EUT OPERATING CONDITION

Same as section 4.5 of this report.

5.6 REDIATED EMISSION LIMITS

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

CLASS B

FREQUENCY (MHz)	DISTANCE (m)	FIELS STRENGTH (dBuV/m)
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
ABOVE 960	3	54.0

- NOTE: 1. In the emission tables above, the tighter limit applies at the band edges.
 - 2. Distance refers to the distance between measuring instrument, antenna, and the closest point of any part of the device or system.

PAGE: 18 OF 60

5.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature:	25	°C	Humidity:	51	%RH
remperature.			numaity:	31	70KH

FREQ.	FACTOR	ANT. FACTOR		DING uV)	EMISSION (dBuV/m)		LIMITS	
(MHz)	(dB)	(dB/m)	HORIZ	VERT	HORIZ	VERT	(dBuV/m	
32.8175	0.7	17.5	10.8	11.1	29.0	29.3	40.0	
181.2450	1.7	10.3	15.0	14.5	27.0	26.5	43.5	
367.1254	2.6	15.8	13.4	12.7	31.8	31.1	46.0	
434.0100	2.7	17.4	20.1	21.5	40.2	41.6	46.0	
868.0200	4.1	23.4	10.4	11.1	37.9	38.6	46.0	

REMARKS	:	(1)	. *= Measurement	does	not	apply	for	this	frequency.

- (2). Uncertainty in radiated emission measured is <+/-4dB
- (3). Any departure from specification: N/A
- (4). Factor will include cable loss and correction factor.
- (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB)+Ant. factor(dB/m)+reading(dBuV)$
- (6). Transmitter
- (7). Channel 1: 434.0100MHz

					Modern
SIGNED	BY	TESTING	ENGINEER	:	-



PAGE: 19 OF 60

FCC

REPORT#: T9G19-1

5.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature: 25 °C Humidity: 51 %RH

FREQ.	FACTOR	ANT. FACTOR		DING uV)	EMISSION (dBuV/m)		LIMITS	
(MHz)	(dB)	(dB/m)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)	
32.8175	0.7	17.5	11.0	11.3	29.2	29.5	40.0	
181.2450	1.7	10.3	15.1	14.6	27.1	26.6	43.5	
367.1254	2.6	15.8	13.7	12.9	32.1	31.3	46.0	
434.2480	2.7	17.4	21.1	22.0	41.2	42.1	46.0	
868.4960	4.1	23.4	10.6	11.4	38.1	38.9	46.0	

REMARKS	:	(1)	. *= Measurement	does	not	apply	for	this	frequency.
---------	---	-----	------------------	------	-----	-------	-----	------	------------

- (2). Uncertainty in radiated emission measured is <+/-4dB
- (3). Any departure from specification: N/A
- (4). Factor will include cable loss and correction factor.
- (5). Sample calculation

20 $\log (emission) uV/m = Factor(dB)+Ant. factor(dB/m)+reading(dBuV)$

011

- (6). Transmitter
- (7). Channel 2: 434.2480MHz

					lodison
SIGNED	BY	TESTING	ENGINEER	:	



FCC

5.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

reinperature	Temperature:	25°C	Humidity:	51	%RI
--------------	--------------	------	-----------	----	-----

FREQ.	FACTOR	ANT. FACTOR		DING aV)	EMISSION (dBuV/m)		LIMITS	
(MHz)	(dB)	(dB/m)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)	
32.8175	0.7	17.5	11.2	11.8	29.4	30.0	40.0	
181.2450	1.7	10.3	15.4	14.9	27.4	26.9	43.5	
367.1254	2.6	15.8	14.0	13.2	32.4	31.6	46.0	
434.5050	2.7	17.4	21.3	22.2	41.4	42.3	46.0	
869.0100	4.1	23.4	10.8	11.6	38.3	39.1	46.0	

- frequency. (2). Uncertainty in radiated emission measured is <+/-4dB
- (3). Any departure from specification: N/A
- (4). Factor will include cable loss and correction factor.
- (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB)+Ant. factor(dB/m)+reading(dBuV)$
- (6). Transmitter
- (7). Channel 3: 434.5050MHz

					addison
SIGNED	BY	TESTING	ENGINEER	:	



PAGE: 21 OF 60

5.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature:	25	_ °C	Humidity:	51	%RH

FREQ.	FACTOR	ANT. FACTOR	REAI (dB		EMISSION (dBuV/m)		LIMITS	
(MHz)	(dB)	(dB/m)	HORIZ	VERT	HORIZ	VERT	(dBuV/m	
32.8175	0.7	17.5	9.5	9.9	27.7	28.1	40.0	
60.0021	0.9	8.9	13.5	13.4	23.3	23.2	40.0	
335.0214	2.4	15.2	12.9	13.4	30.5	31.0	46.0	
388,9653	2.7	16.2	22.9	21.8	41.8	40.7	46.0	
777.9306	3.9	22.1	14.8	13.7	40.8	39.7	46.0	

REMARKS	: (1) *=	Measu	rement

- does not apply for this frequency.
- (2). Uncertainty in radiated emission measured is <+/-4dB
- (3) Any departure from specification: N/A
- (4). Factor will include cable loss and correction factor.
- (5). Sample calculation
 - 20 \log (emission) uV/m = Factor(dB)+Ant. factor(dB/m)+reading(dBuV)
- (6). Headphone
- (7). Channel 1: 388.9653MHz

					Rodison
SIGNED	BY	TESTING	ENGINEER	:	

PAGE: 22 OF 60

REPORT#: <u>T9G19-1</u>

5.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature: 25 °C Humidity: 51 %RH

FREQ.	FACTOR	ANT. FACTOR	REAI (dB	DING uV)	EMISSION (dBuV/m)		LIMITS
(MHz)	(dB)	(dB/m)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)
32.8175	0.7	17.5	10.1	10.8	28.3	29.0	40.0
60.0021	0.9	8.9	13.8	14.0	23.6	23.8	40.0
335.0214	2.4	15.2	13.1	14.1	30.7	31.7	46.0
388.9658	2.7	16.2	23.1	22.4	42.0	41.3	46.0
777.9316	3.9	22.1	14.9	14.0	40.9	40.0	46.0
		·					

REMARKS: (1).*= Measurement does not apply for this frequency.

(2). Uncertainty in radiated emission measured is <+/-4dB

(3). Any departure from specification: N/A

(4). Factor will include cable loss and correction factor.

(5). Sample calculation

20 $\log (emission) uV/m = Factor(dB)+Ant. factor(dB/m)+reading(dBuV)$

(6). Headphone

(7). Channel 2: 388.9658MHz

					Roldison
SIGNED	BY	TESTING	ENGINEER	:	

NV LAD

PAGE: 23 OF 60

Approved

REPORT#: T9G19-1

5.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature:	25	°C	Humidity:	51	%RH
iomporature.			itamuty.		\01/T1

FREQ.	FACTOR	ANT. FACTOR		DING uV)	EMISSION (dBuV/m)		LIMITS
(MHz)	(dB)	(dB/m)	HORIZ	VERT	HORIZ	VERT	(dBuV/m
32.8175	0.7	17.5	10.3	11.0	28.5	29.2	40.0
60.0021	0.9	8.9	14.0	14.2	23.8	24.0	40.0
335.0214	2.4	15.2	13.4	14.3	31.0	31.9	46.0
388.9660	2.7	16.2	23.2	22.6	42.1	41.5	46.0
777.9320	3.9	22.1	15.1	14.2	41.1	40.2	46.0

EMARKS	:	(1)	. *= Measurement	does	not	annly	for

- (2). Uncertainty in radiated emission measured is <+/-4dB
- (3). Any departure from specification: N/A
- (4). Factor will include cable loss and correction factor.
- (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB)+Ant. factor(dB/m)+reading(dBuV)$

this frequency.

- (6). Headphone
- (7). Channel 3: 388.9660MHz

					Roldison
SIGNED	BY	TESTING	ENGINEER	:	



PAGE: 24 OF 60

FCC Approved

REPORT#: T9G19-1

5.7 RADIATED EMISSION TEST RESULT

The frequency spectrum from <u>1 GHz</u> to <u>4.5 GHz</u> was investigated. The measurements above <u>1</u> GHz with a resolution bandwidth of <u>1 MHz</u> are peak reading at a distance of <u>3</u> meters.

Temperature:	25	°C	Humidity	:51	%RH

FREQ.	FACTOR	ANT. FACTOR	PRE- AMP.	REAI (dB		EMIS (dBu	LMTS	
(GHz)	(dB)	(dB/m)	(dB)	HORIZ	VERT	HORIZ	VERT	(dBuV/m
1.3020	16.7	46.4	35.5	15.5	14.7	43.05	42.25	54.0
1.7360	16.7	46.4	35.5	10.9	10.5	38.45	38.05	54.0
								
	<u> </u>	-						
	ļ							
					·			
			 					

DEMARKS	•	(1)	. *= Measurement	does	not	annly	for	thic	frequency
KEIVLAKKS	٠	(1)	. '- Measurement	ances	поі	appiy	101	uns	nequency.

- (2). Uncertainty in radiated emission measured is <+/-4dB
- (3). Any departure from specification: N/A
- (4). Factor will include cable loss and correction factor.
- (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB) + Ant. factor(dB/m) Pre-Amp.(dB)$
 - + Reading(dBuV)
- (6). Transmitter
- (7). Channel 1

					Roldison
SIGNED	BY	TESTING	ENGINEER	:	

NV LAD Accredited

PAGE: 25 OF 60

FCC

REPORT#: T9G19-1

5.7 RADIATED EMISSION TEST RESULT

The frequency spectrum from $\underline{1}$ GHz to $\underline{4.5}$ GHz was investigated. The measurements above $\underline{1}$ GHz with a resolution bandwidth of $\underline{1}$ MHz are peak reading at a distance of $\underline{3}$ meters.

Temperature:	25	°C	Humidity:	51	%RH

FREQ. FACTOR		ANT. FACTOR	PRE- AMP.	REAI (dB		EMIS (dBu	LMTS	
(GHz) (dB)	(dB)	(dB/m)	(dB)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)
1.3027	16.7	46.4	35.5	15.4	14.6	42.95	42.15	54.0
1.7369	16.7	46.4	35.5	10.8	10.2	38.35	37.75	54.0
		r	***************************************					

R	EN	fΑ	R	KS

- **S**: (1).*= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification: N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB) + Ant. factor(dB/m) Pre-Amp.(dB)$
 - + Reading(dBuV)
 - (6). Transmitter
 - (7). Channel 2

					iddison
SIGNED	BY	TESTING	ENGINEER	:	

NV LAD Accredited

PAGE: 26 OF 60

FCC

REPORT#: <u>T9G19-1</u>

5.7 RADIATED EMISSION TEST RESULT

The frequency spectrum from 1 GHz to 4.5 GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature: 25 °C Hu	ımidity :	51	%RH
-----------------------	-----------	----	-----

FREQ.	FACTOR	ANT. FACTOR	PRE- AMP.	REAI (dB	DING uV)	EMIS (dBu	LMTS	
(GHz)	(dB)	(dB/m)	(dB)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)
1.3035	16.7	46.4	35.5	16.0	14.8	43.55	42.35	54.0
1.7380	16.7	46.4	35.5	11.0	10.4	38.55	37.95	54.0
			······································					
			···				v	<u> </u>
	<u> </u>							

n	177	 *	Ke

- : (1). *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification: N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB) + Ant. factor(dB/m) Pre-Amp.(dB)$
 - + Reading(dBuV)
 - (6). Transmitter
 - (7). Channel 3

					Roldison
SIGNED	BY	TESTING	ENGINEER	:	

PAGE: 27 OF 60

REPORT#: T9G19-1

5.7 RADIATED EMISSION TEST RESULT

The frequency spectrum from $\underline{1}$ GHz to $\underline{4.5}$ GHz was investigated. The measurements above $\underline{1}$ GHz with a resolution bandwidth of $\underline{1}$ MHz are peak reading at a distance of $\underline{3}$ meters.

25	°C	Humidit	y :	51	%F	RH
	25	<u>25</u> °C	°C Humidit	°C Humidity:	°C	°C

FREQ.	FACTOR	ANT. FACTOR	PRE- AMP.	REAI (dB		EMIS (dBu		LMTS
(GHz)	(dB)	(dB/m)	(dB)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)
1.1668	16.7	46.4	35.5	14.9	13.6	42.45	41.15	54.0
1.7360	16.7	46.4	35.5	13.4	13.5	40.95	41.05	54.0
				·				
			· · · · · · · · · · · · · · · · · · ·			-		
- 1 1 1 1 1 1 1 1 1 1 								
								-
			*		· · · · · · · · · · · · · · · · · · ·		* ***	<u> </u>
			<u></u>			<u> </u>		

DEMADE	2

- : (1) . *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification: N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB) + Ant. factor(dB/m) Pre-Amp.(dB)$
 - + Reading(dBuV)
 - (6). Headphone
 - (7). Channel 1

					Roldison
SIGNED	BY	TESTING	ENGINEER	:	

NV LAP

PAGE: 28 OF 60

FCC Approved

REPORT#: T9G19-1

5.7 RADIATED EMISSION TEST RESULT

The frequency spectrum from 1 GHz to 4.5 GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature: 25 °C Humidity: 51 %RH

FREQ.	FACTOR	ANT. FACTOR	PRE- AMP.	REAI (dB		EMIS (dBu		LMTS
(GHz)	(dB)	(dB/m)	(dB)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)
1.1668	16.7	46.4	35.5	15.1	13.7	42.65	41.25	54.0
1.5558	16.7	46.4	35.5	13.5	13.7	41.05	41.25	54.0
· · · · · · · · · · · · · · · · · · ·								
· · · · · · · · · · · · · · · · · · ·			······································					
	,							
								

R	EM	T A	Di	VC.
ъ.	$\mathbf{v}_{\mathbf{v}}$	U.	AL.	GW2

- : (1). *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification: N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB) + Ant. factor(dB/m) Pre-Amp.(dB)$
 - + Reading(dBuV)
 - (6). Headphone
 - (7). Channel 2

					Roldison
SIGNED	BY	TESTING	ENGINEER	:	

NV LAD

PAGE: 29 OF 60

FCC Approved

REPORT#: T9G19-1

5.7 RADIATED EMISSION TEST RESULT

The frequency spectrum from $\underline{1}$ GHz to $\underline{4.5}$ GHz was investigated. The measurements above $\underline{1}$ GHz with a resolution bandwidth of $\underline{1}$ MHz are peak reading at a distance of $\underline{3}$ meters.

Temperature:	25	°C	Humidity	:51_	%RH
--------------	----	----	----------	------	-----

FREQ.	FACTOR	ANT. FACTOR	PRE- AMP.	REAI (dB		EMIS (dBu		LMTS
(GHz)	(dB)	(dB/m)	(dB)	HORIZ	VERT	HORIZ	VERT	(dBuV/m)
1.1668	16.7	46.4	35.5	15.4	13.9	42.95	41.45	54.0
1.5558	16.7	46.4	35.5	13.8	14.1	41.35	41.65	54.0
·····			74-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-					-

DEMADES	

- : (1) *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification: N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation
 - 20 $\log (emission) uV/m = Factor(dB) + Ant. factor(dB/m) Pre-Amp.(dB)$
 - + Reading(dBuV)
 - (6). Headphone
 - (7). Channel 3

					Coldison
SIGNED	BY	TESTING	ENGINEER	:	**************************************

MAJVD

PAGE: 30 OF 60

Approved

Spectrum Research & Testing Lab. FCC ID: ONOBM001

6. BANDWITH

6.1 Limit

* Transmitter

Channel 1 : Minimum 20dB bandwidth = 130.0 KHz Channel 2 : Minimum 20dB bandwidth = 133.0 KHz Channel 3 : Minimum 20dB bandwidth = 208.0 KHz

* Headphone

Channel 1 : Minimum 20dB bandwidth = 10.75 KHz
Channel 2 : Minimum 20dB bandwidth = 11.50 KHz
Channel 3 : Minimum 20dB bandwidth = 10.88 KHz

6.2 Test Results

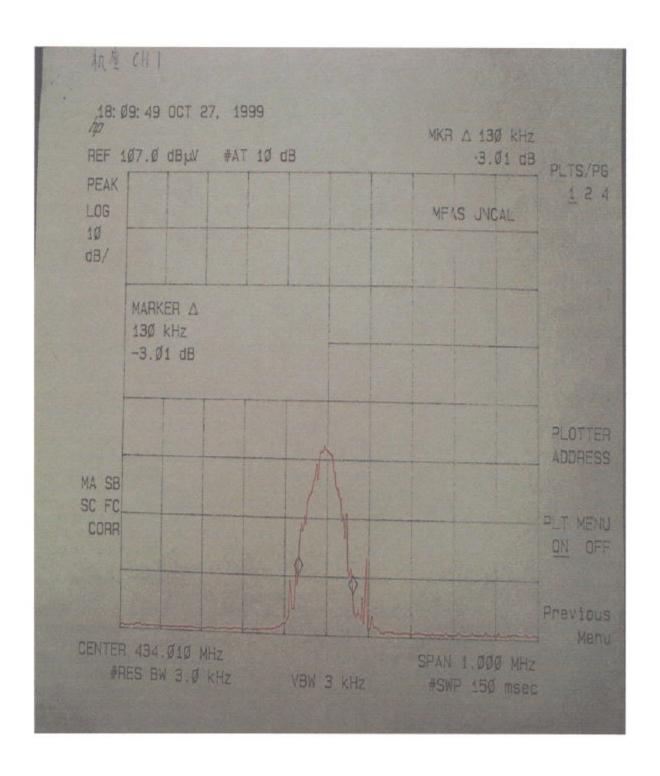
Please see attached plotter.

FCC

REPORT#: <u>T9G19-1</u>

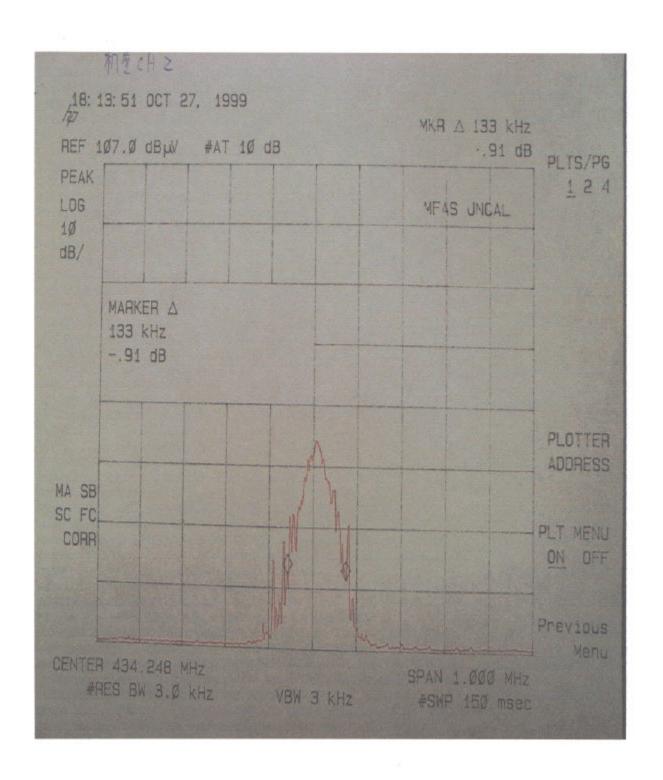
Spectrum Research & Testing Lab. FCC ID: ONOBM001 REPORT#: T9G19-1

* Transmitter: Channel 1

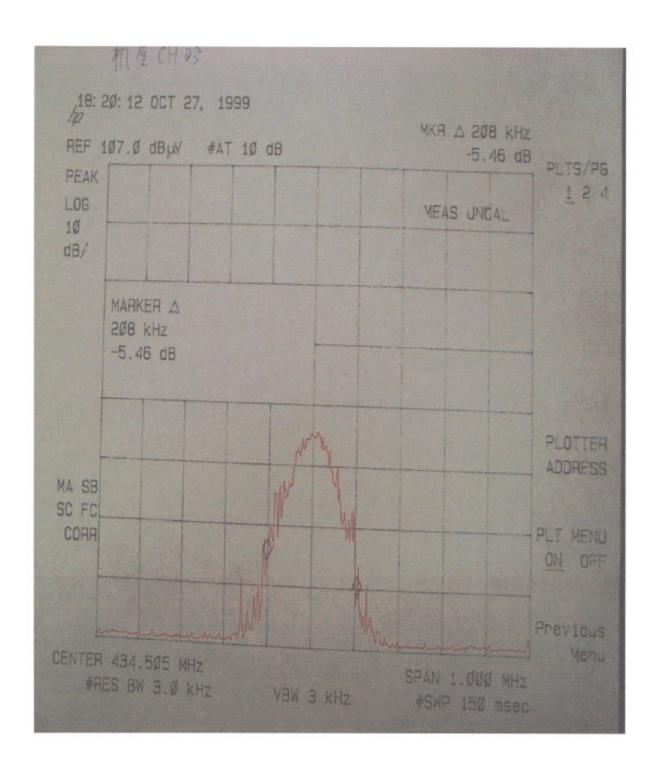


Spectrum Research & Testing Lab. FCC ID: ONOBM001 REPORT#: T9G19-1

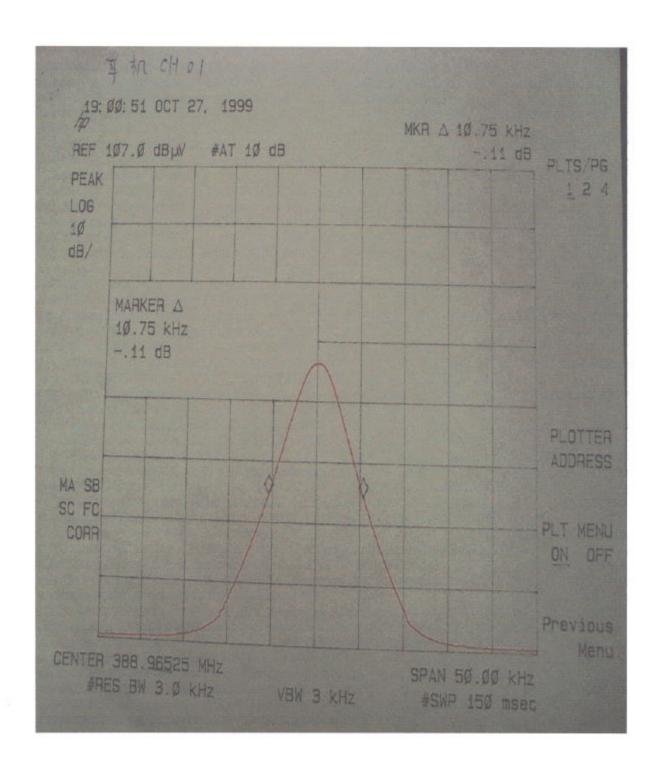
* Transmitter: Channel 2



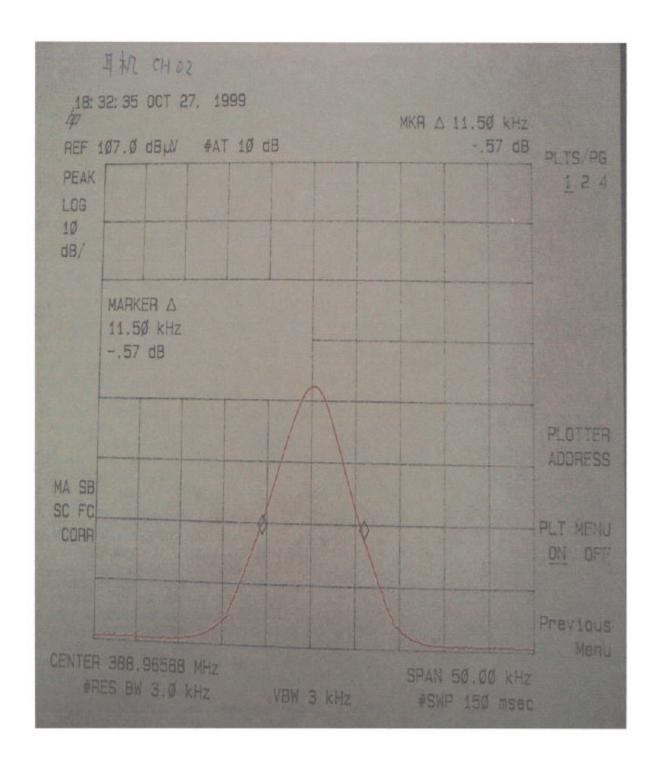
* Transmitter: Channel 3



* Headphone: Channel 1

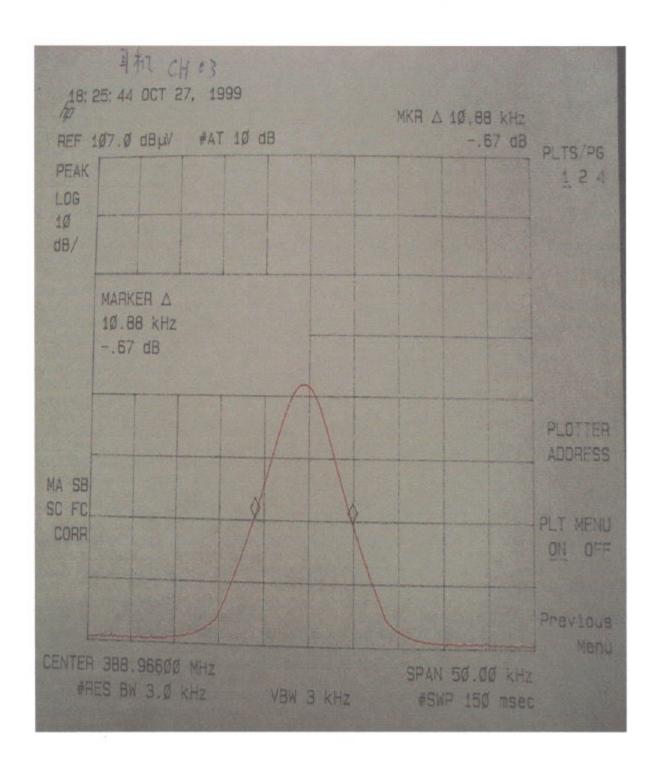


* Headphone : Channel 2



PAGE: 36 OF 60

* Headphone: Channel 3



PAGE: 37 OF 60