FCC – Test Report

Date: 2009-07-24

No. 52504-1

LABORATORY - REPORT

APPLICANT:	FORMATION LTD.
ADDRESS:	Suite 915-918, 9/F., Corporation Square 8 Lam Lok Street Kowloon Bay, Kowloon Hong Kong
DATE OF SAMPLE RECEIVED:	2009-07-10
DATE OF TESTING:	2009-07-14 to 2009-07-21

DESCRIPTION OF SAMPLE:

Product:	Babyboom Speaker
Brand name:	--
Model number:	CEW210
Product class:	Low Power Communication Device - Transmitter
FCC ID number:	UU7CEW210T
Rating:	AC/DC Adaptor, Input : AC120V 60Hz, Output : DC9V or DC 7.5V (AAA size battery x 5)

CONDITION OF TEST SAMPLE:	The received sample was under good condition.
INVESTIGATIONS REQUESTED:	Measurements to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C - Intentional Radiators.
RESULTS:	See the attached sheets.
CONCLUSIONS:	From the measurement data obtained, the tested sample was considered to have COMPLIED with the requirements for the relevant clauses of Federal Communications Commission Rules as specified above.

INTERNATIONAL ELECTRICAL CERTIFICATION CENTRE LTD. IECC

Stephen C.N. Wong
Technical Manager

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Test Location

International Electrical Certification Centre Ltd.
Unit 602-605, 31 Lok Yip Road, On Lok Tsuen, Fanling, N.T., Hong Kong
Tel : +852 23052570
Fax : +852 27564480
Email : info@iecc.com.hk

Summary of Test Results

Radiated Emission:

Test result: O.K.
Test data: See attached data sheet

Conducted Emission:

Test result: O.K.
Test data: See attached data sheet

Measurement of Emissions within Band Edges

Test result: O.K.
Test data: See attached data sheet

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TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Date
Test Receiver	Rohde & Schwarz	ESCS 30	100388	26/8/2008	25/8/2009
Test Receiver	Rohde & Schwarz	ESHS 30	839667/002	07/01/2009	06/01/2010
Artificial Mains Network (LISN)	Schwarzbeck	NSLK 8127	8127312	2/12/2008	1/12/2009
Antenna	Schaffner	CBL6111C	2791	22/07/2008	21/07/2010
Antenna Mast System	Schwarzbeck	AM9104	--	--	--
Turntable with Controller	Drehtisch	DT312	--	--	--
Spectrum Analyzer with Q. Peak	Advantest	R3132	140101852	1/06/2009	31/05/2010

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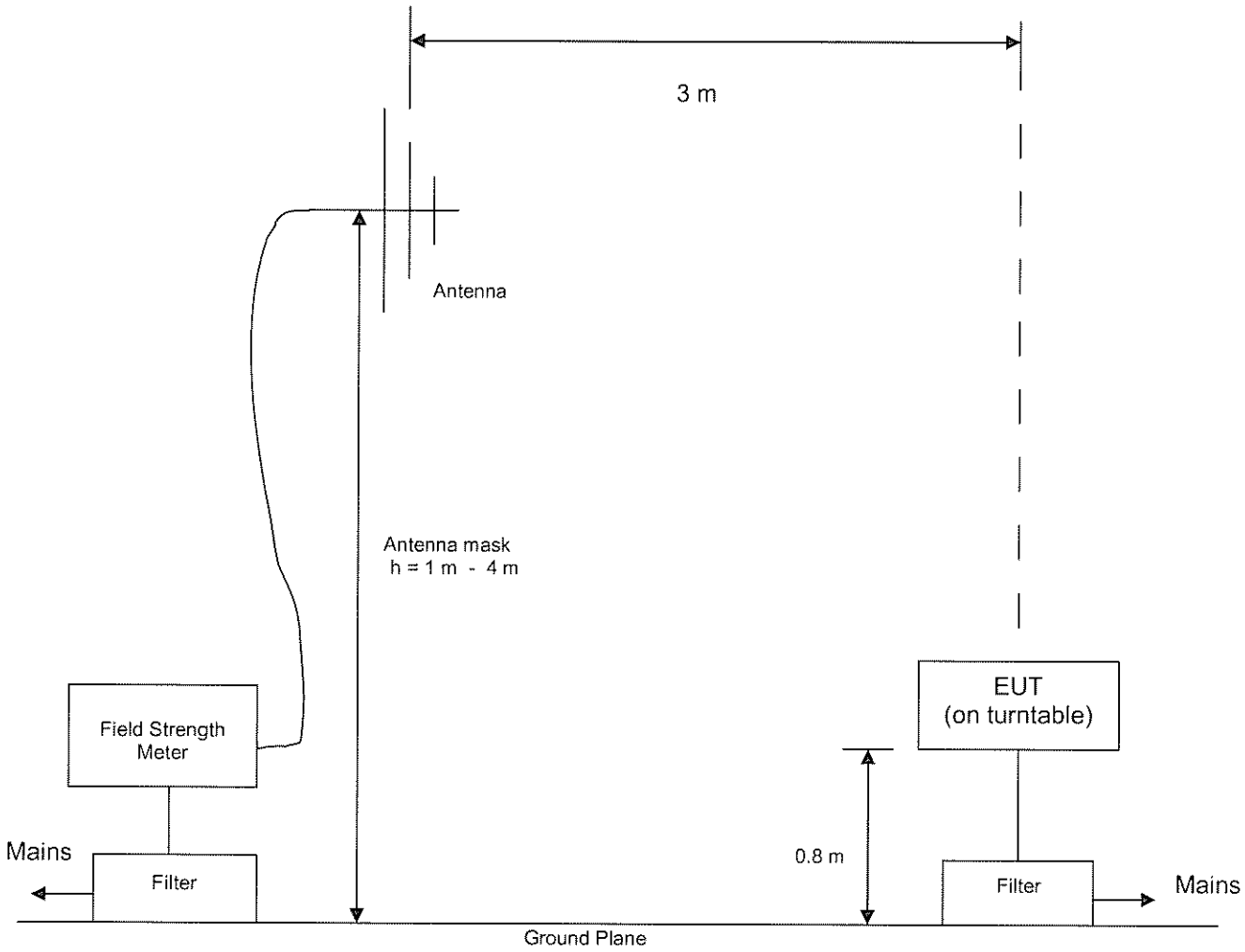
Radiated Emission Test Setup (3 m diatance) (> 30MHz)



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香港新界粉嶺安樂村樂業路31號6樓602-605室
Tel 電話: (852) 2305 2570
Fax 傳真: (852) 2756 4480
E-mail 電子郵件: info@iecc.com.hk
Home Page 網頁: http://www.iecc.com.hk

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Address 地址: Flat A, 2/F., Block 3, 56 Shuiyin Road, Guangzhou, P.R. of China.
廣州市水蔭路56號3棟2A室 Postcode 郵政編號: 510075
IECC (Guangzhou) Services Co., Ltd 廣州時正進技術服務有限公司
Tel 電話 (86-20) 8768 4838
Fax 傳真 (86-20) 8768 3918
E-mail 電子郵件: info@iecc.net.cn
Home Page 網頁: http://www.iecc.net.cn

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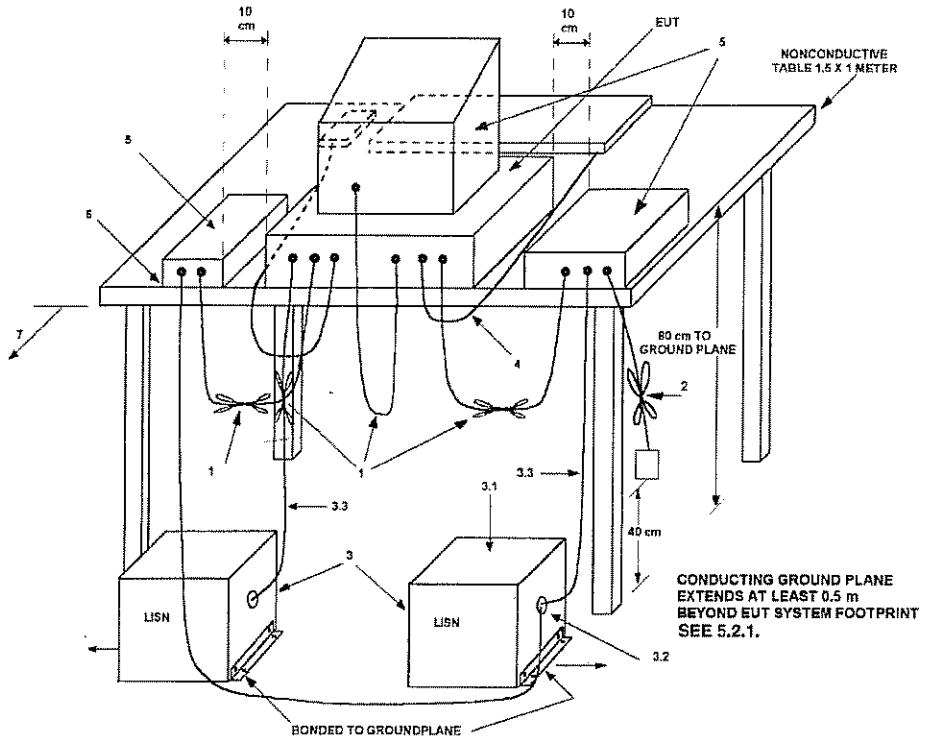
Conducted Emission Test Setup



LEGEND:

1) Interconnecting cables that hang closer than 40 cm to the groundplane shall be folded back and forth in the center forming a bundle 30 to 40 cm long (see 6.1.4 and 11.2.4).
2) 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 (see 6.1.4).
3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω. LISN can be placed on top of, or immediately beneath, reference groundplane (see 5.2.3 and 7.2.1).
   3.1) All other equipment powered from additional LISN(s).
   3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
   3.3) LISN at least 80 cm from nearest part of EUT chassis.
4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use (See 6.2.1.3 and 11.2.4).
5) Non-EUT components of EUT system being tested (see also Figure 13).
6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop (see 6.2.1.1 and 6.2.1.2).
7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the groundplane (see 5.2.2 for options).

Test Procedure

Radiated Emission :

The EUT was tested according to ANSI 63.4-2003 for the requirements of FCC Part 15 Subpart C Section 15.209 and 15.235.

During the test, the sample was placed on a turn table and operated with supply at rated AC voltage (i.e AC120V 60Hz) to the host adaptor. The table is 0.8 meter above the reference ground plane on the Open Aera Test Site and can rotate 360 degrees to determine the position of the maximum emission level. A broad-band antenna for the frequency range 30 - 1000 MHz, connected with 10 meters coaxial cable to the test receiver was used for measurement. The antenna is capable of measuring both horizontal and vertical polarizations. The antenna was raised from 1 to 4 meters to find out the maximum emission level from the EUT.

During the test, a reference MP3 player was connected to the input terminal of the sample and was playing a MP3 song at maximum volume. The signal was transmitted via the test sample with the telescopic antenna of the sample fully extended.

An initial pre-scan was performed to find out the maximum emission level of the sample placed at 3 orthogonal planes. Final measurement (30 MHz –1000 MHz) was then performed to record the data for the emissions under worst-case condition for combination of the antenna orientation / height and turn table position.

Note : The Open Aera Test Site located at IECC was placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules (FCC Registration No. : 97774).

Conducted Emission :

The EUT was tested according to ANSI 63.4-2003 for the requirements of FCC Part 15 Subpart C Section 15.207.

During the test, the sample was placed on a wooden table and operated under different modes with supply at rated AC voltage (i.e AC120V 60Hz) via the LISN to the host adaptor. The table is 0.8 meter above the floor. A reference MP3 player was connected to the input terminal of the sample and was playing a MP3 song at maximum volume. The signal was transmitted via the test sample with the telescopic antenna of the sample fully extended. The LISN was connected to the test receiver for conducted emission measurement (150kHz – 30MHz).

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Test Results

Radiated Emission :

Test Requirement:	FCC Part 15 Subpart C Section 15.209 and 15.235
Test Method:	ANSI C63.4 : 2003
Deviations from Standard Test Method:	Nil
Frequency Range:	30MHz – 1000MHz
Measurement Distance:	3 m
Detector:	Peak / Average (for fundamental frequency) Quasi-Peak (for frequencies outside the operation band)

Refer to page 9 for measurement data.

Conducted Emission :

Test Requirement:	FCC Part 15 Subpart C Section 15.207
Test Method:	ANSI C63.4 : 2003
Deviations from Standard Test Method:	Nil
Frequency Range:	150kHz – 30MHz
Detector:	Quasi-Peak / Average

Refer to page 10 - 11 for measurement data.

Interference Radiation

Date : 2009-07-24

Measurement of Radiated Emissions
Acc: FCC Part 15 Subpart C (15.235 & 15.209)

IECC Ref: 52504-1
Model: CEW210
Applicant: FORMATION LTD.

Ser.Nr.: --

Set under test: Babyboom Speaker
Connected sets: -
Operating mode: Operated with an audio signal from a host MP3 player (maximum volume)

Test Equipment
Receiver: Rohde & Schwarz ESCS 30
Antenna: Schaffner CBL6111C

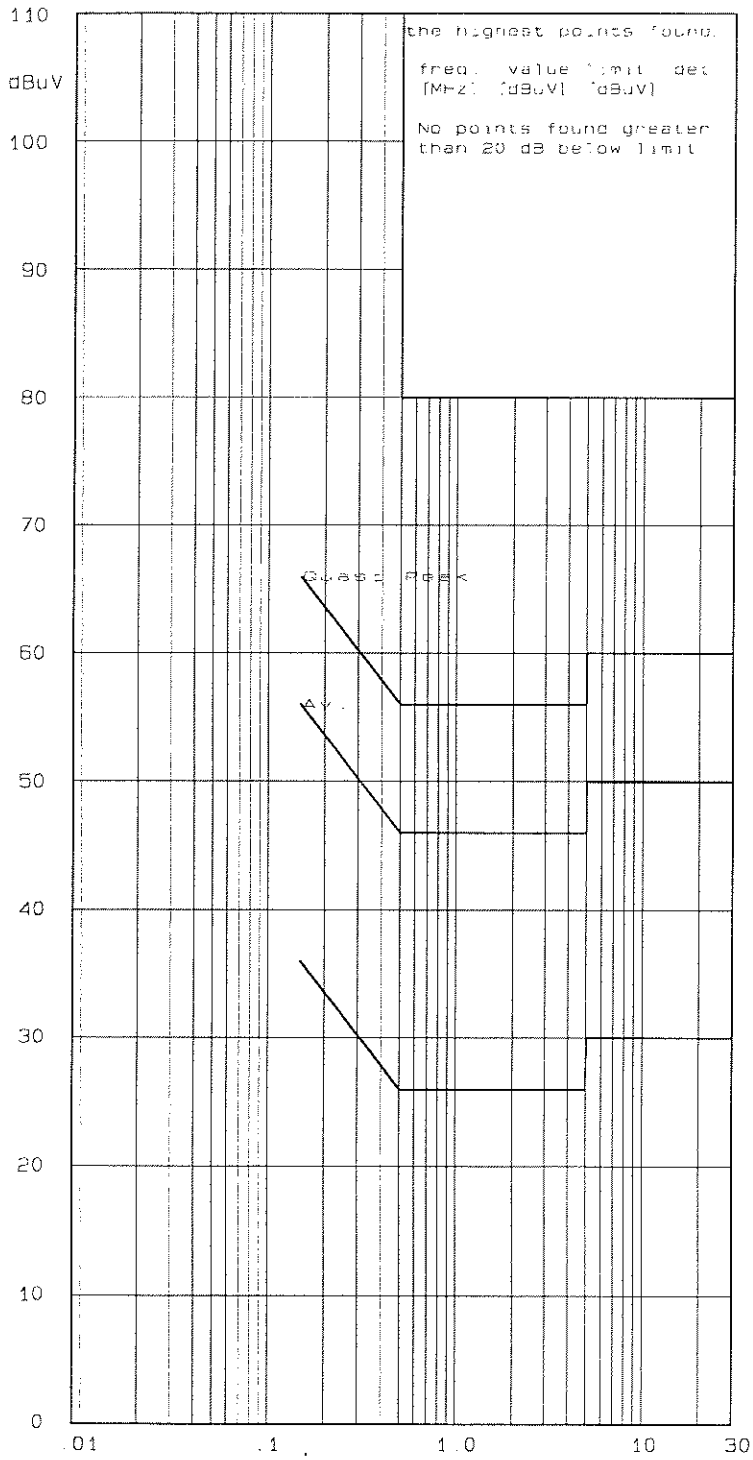
	Frequency (MHz)	Horz. Reading dB(μV)	Vert. Reading dB(μV)	Corr. Factor (dB)	Horiz. Test Result dB(μV/m)	Vert. Test Result dB(μV/m)	Limit dB(μV/m)
Peak	49.85	27	48	7.8	34.8	55.8	100.0
Av.	49.85	26	47	7.8	33.8	54.8	80.0
	30	< 16	< 16	19.1	< 35.1	< 35.1	40.0
	100	< 16	< 16	9.5	< 25.5	< 25.5	43.5
	300	< 16	< 16	14.2	< 30.2	< 30.2	46.0
	348.95	21	< 16	15.2	36.2	< 31.2	46.0
	500	< 16	< 16	18.9	< 34.9	< 34.9	46.0
	700	< 16	< 16	22.3	< 38.3	< 38.3	46.0
	1000	< 16	< 16	26.2	< 42.2	< 42.2	54.0

Note : 1. Unless otherwise indicated, the recorded readings are in quasi-peak values.
2. The above results were the worst case results with the sample positioned in all 3 axis during the test. The worst case data were recorded with the antenna of the sample fully extended.
3. Due to the transmitted signal is not in pulse waveform, the average value of the radiation at the fundamental frequency is recorded by direct measurement. Calculation from time domain plots is not applicable.

Operator : KT

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart C Section 15.207



Model: CEW210

Spl./Ser.No.: 01/--

Client : FORMATION LTD.

Product: BABYBOOM SPEAKER

IECC-No.: 52504

Date: 15 Jul 2009

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

OPERATE W/ REF. SOURCE SIGNAL
(L)
TX
--

RFI suppression parts:
--

* two dB safety margin for
type approval necessary

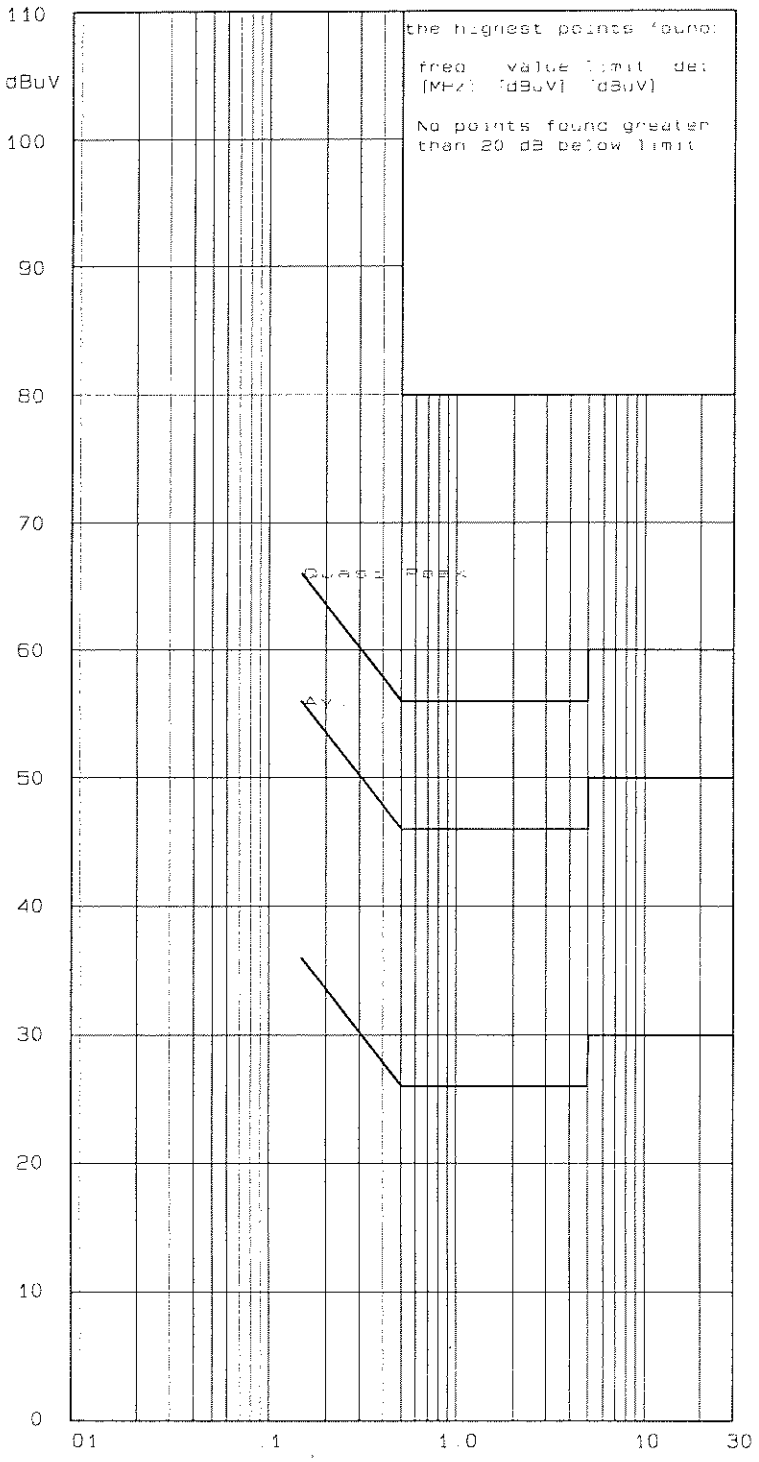
Operator: KT

Result:

IECC

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart C Section 15.207



Model: CEW210

Spl./Ser.No.: 01/--

Client : FORMATION LTD.

Product: BABYBOOM SPEAKER

IECC-No.: 52504

Date: 15 Jul 2009

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

OPERATE W/ REF. SOURCE SIGNAL (N)
TX
--

RFI suppression parts:
--

* two dB safety margin for type approval necessary

Operator: KT

Result: ok

IECC

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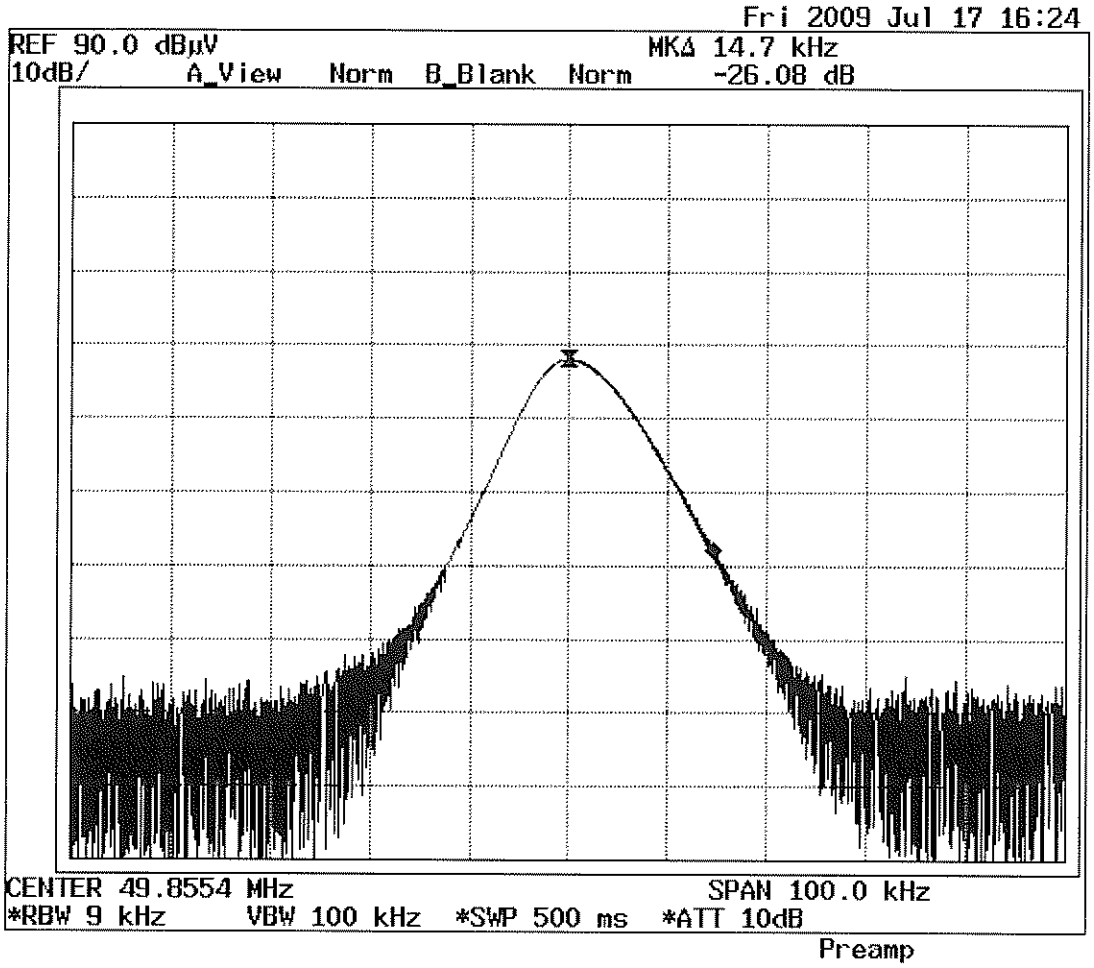
Measurement Data of Emissions within Band Edges



Result : The field strength of any emission within the operation band did not exceed 80 dB(µV/m) for average value or 100 dB(µV/m) for peak value. Refer to page 9 for the recorded value for the emission at the fundamental frequency.

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Photo of Sample

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