

FCC – Test Report

Date: 2010-10-22

No. 54250

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LABORATORY - REPORT

APPLICANT: HONG KONG MODERN MARKETING MANUFACTURING LIMITED
ADDRESS: Room 1024, 10/F., Beverley Commercial centre
87-105 Chatham Road
Tsim Sha Tsui, Kowloon
Hong Kong

DATE OF SAMPLE RECEIVED: 2010-07-19
DATE OF TESTING: 2010-08-04 to 2010-10-06

DESCRIPTION OF SAMPLE:

Product: REVOLUTION - 2 Speed Turntable with USB
Product class: - Class B Computing Device Peripheral
- Low Power Communication Device Transmitter
(FM frequency setting – 88.1 MHz and 89.9 MHz)
Model No.: CR6002A
FCC ID number: S4W6002A
Rating: AC/DC adaptor : RGD41090600, Input : AC 120V 60Hz 0.15A,
Output : DC 9V 600mA, or DC 9V (AA size battery x 6)

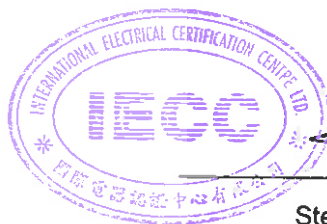
CONDITION OF TEST SAMPLE: The received sample was under good condition.

INVESTIGATIONS REQUESTED:

- Measurements to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart B – 'Unintentional Radiators'
- Measurements to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C – Intentional Radiators

RESULTS: See the attached test 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.



Stephen C.N. Wong
Technical Manager

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Test Locations

International Electrical Certification Centre Ltd.
Units 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	ESVS 30	828525/006	20/04/2010	19/04/2011
Test Receiver	Rohde & Schwarz	ESHS 30	839667/002	19/05/2010	18/05/2011
Artificial Mains Network (LISN)	Schwarzbeck	NSLK 8127	8127312	11/01/2010	10/01/2011
Antenna (30 - 300MHz)	Schwarzbeck	BBA9106, VHA9103	—	02/01/2009	01/01/2012
Antenna (300 - 1000MHz)	Schwarzbeck	UHALP9107, VHA9103	--	05/01/2009	04/01/2012
Antenna Mast System	Schwarzbeck	AM9104	--	--	--
Turntable with Controller	Drehtisch	DT312	—	—	--
Spectrum Analyzer with Q. Peak	Advantest	R3132	140101852	20/05/2010	19/05/2011

TEST SUPPORT UNITS

The sample was tested with the following PC system :

Equipment	Manufacturer	Model	Serial No.
NoteBook	DELL	PP10S	H8893 A02
Keyboard (external)	DELL	SK-8115	--
Mouse	HP	--	RK679PA#AB2
Monitor (external)	ViewSonic	VLCD523585-1W	90S040201520
Printer	HP	6L	JPZT102346
Ethernet router	D-Link	DES-1008D	DRE9158000047

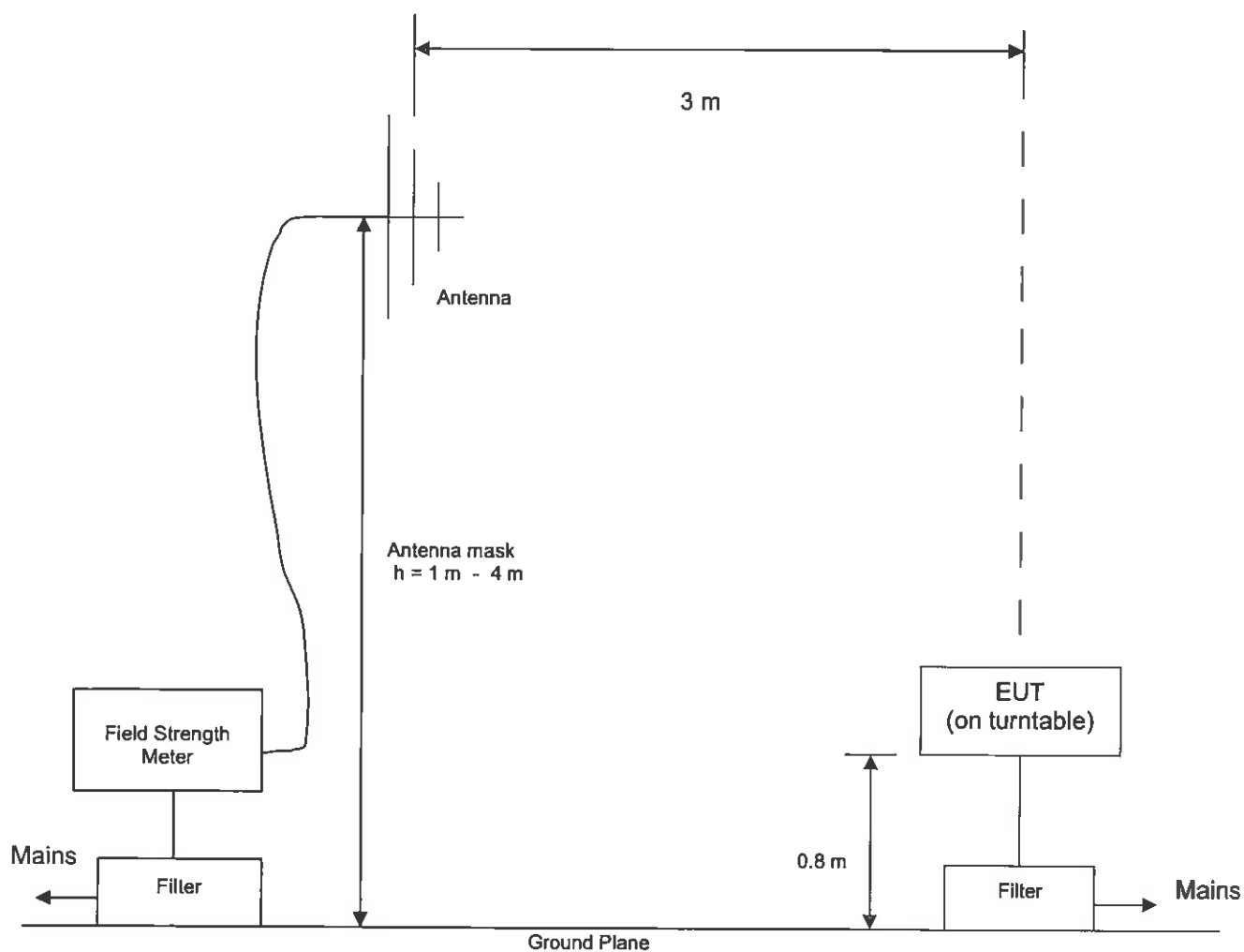
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Radiated Emission Test Setup (3 m distance)



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Test Procedure

Radiated Emission :

(1) For Class B Computing Device Peripheral :

The EUT was tested according to ANSI 63.4-2003 for the requirements of FCC Part 15 Subpart B Section 15.109.

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 AC/DC adaptor. The sample was operated under record playing mode and the playing signal was recorded to the host computer. The table is 0.8 meter above the reference ground plane on the Test Site and can rotate 360 degrees to determine the position of the maximum emission level. Broad-band antennas 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.

The computer system included a notebook computer, an external keyboard, a mouse, an external monitor, a printer and an ethernet router was connected to the sample during the test.

An initial pre-scan was performed to find out the maximum emission level of the sample placed at 3 orthogonal planes. Final measurement 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.

(2) For FM Transmitter operation :

The EUT was tested according to ANSI 63.4-2003 for the requirements of FCC Part 15 Subpart C Section 15.209 and 15.239.

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 AC/DC adaptor. The sample was operated under record playing mode and with the FM transmitter turned on. The table is 0.8 meter above the reference ground plane on the Open Area 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.

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 Area 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).

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Conducted Emission :

(1) For Class B Computing Device Peripheral :

The EUT was tested according to ANSI 63.4-2003 for the requirements of FCC Part 15 Subpart B Section 15.107.

During the test, the sample was placed on a wooden table and operated with supply at rated AC voltage (i.e. AC120V 60Hz) via the LISN to the AC/DC adaptor. The sample was operated under record playing mode and the playing signal was recorded to the host computer. The table is 0.8 meter above the floor. The LISN was connected to the test receiver for conducted emission measurement (150kHz – 30MHz).

The computer system included a notebook computer, an external keyboard, a mouse, an external monitor, a printer and an ethernet router was connected to the sample during the test.

(2) For FM Transmitter operation :

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 with supply at rated AC voltage (i.e. AC120V 60Hz) via the LISN to the AC/DC adaptor. The sample was operated under record playing mode and with the FM transmitter turned on. The table is 0.8 meter above the floor. The LISN was connected to the test receiver for conducted emission measurement (150kHz – 30MHz).

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Test Results

Radiated Emission :

(1) For Class B Computing Device Peripheral :

Test Requirement:	FCC Part 15 Subpart B Section 15.109
Test Method:	ANSI C63.4 : 2003
Deviations from Standard Test Method:	Nil
Frequency Range:	30MHz – 1000MHz
Measurement Distance:	3 m
Class:	Class B
Detector:	Quasi-Peak

Refer to page 11 for measurement data.

(2) For FM Transmitter operation :

Test Requirement:	FCC Part 15 Subpart C Section 15.209 and 15.239
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 12-13 for measurement data.

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Conducted Emission :

(1) For Class B Computing Device Peripheral :

Test Requirement:	FCC Part 15 Subpart B Section 15.107
Test Method:	ANSI C63.4 : 2003
Deviations from Standard Test Method:	Nil
Frequency Range:	150kHz – 30MHz
Class:	Class B
Detector:	Quasi-Peak / Average

Refer to page 14 - 21 for measurement data.

(2) For FM Transmitter operation :

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
Class:	Class B
Detector:	Quasi-Peak / Average

Refer to page 22 - 25 for measurement data.

IT 5/6

Date : 2010-10-22

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Radiated Emission

Acc: FCC Part 15 Subpart B (15.109)

IECC Ref: 54520

Model: CR6002A

Applicant: HONG KONG MODERN MARKETING
MANUFACTURING LIMITED

Test Equipment

Receiver: Rohde & Schwarz ESVS 30

Antenna: Schwarzbeck BBA9106 & UHALP9107

Ser.Nr.: -

Set under test: REVOLUTION - 2 Speed Turntable with USB

Operating mode: Data Transfer (Recording record playing signal to computer)

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)
30	< 16.0	< 16.0	20.2	< 36.2	< 36.2	40.0
36.01	< 16.0	20.5	16.7	< 32.7	37.2	40.0
48	21.0	25.0	11.2	32.2	36.2	40.0
60	19.5	28.5	8.6	28.1	37.1	40.0
84	21.5	17.0	7.8	29.3	24.8	40.0
144	21.0	< 16.0	14.9	35.9	< 30.9	43.5
432.04	24.0	< 16.0	19.2	43.2	< 35.2	46.0
500	< 16.0	< 16.0	20.6	< 36.6	< 36.6	46.0
700	< 16.0	< 16.0	24.0	< 40.0	< 40.0	46.0
1000	< 16.0	< 16.0	27.1	< 43.1	< 43.1	54.0

The measurement results indicate that the test unit meets the FCC requirements.

Note :

1. The above measured data 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 test data were obtained with the sample placed normally on the table.

Operator : WH

Interference Radiation

Date : 2010-10-22

 Measurement of Radiated Emissions
 Acc: FCC Part 15 Subpart C (15.239 & 15.209)

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IECC Ref: 54250
 Model: CR6002A
 Applicant: HONG KONG MODERN MARKETING
 MANUFACTURING LIMITED
 Ser.Nr.: --

Test Equipment
 Receiver: Rohde & Schwarz ESVS 30
 Antenna: Schwarzbeck BBA9106 & UHALP9107

Set under test: REVOLUTION - 2 Speed Turntable with USB
 Connected sets: -
 Operating mode: Record Playing with FM Transmitter ON

Transmission frequency : 88.1 MHz

Peak
Av.

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)
88.1	32.5	34	8.1	40.6	42.1	68.0
88.1	31	32	8.1	39.1	40.1	48.0
30	< 16	< 16	20.2	< 36.2	< 36.2	40.0
176.2	20.5	< 16	16.8	37.3	< 32.8	43.5
264.3	19	< 16	18.0	37.0	< 34.0	46.0
352.4	18	< 16	18.0	36.0	< 34.0	46.0
440.5	< 16	< 16	19.4	< 35.4	< 35.4	46.0
528.6	< 16	< 16	21.1	< 37.1	< 37.1	46.0
616.7	< 16	< 16	22.8	< 38.8	< 38.8	46.0
704.8	< 16	< 16	24.1	< 40.1	< 40.1	46.0
792.9	< 16	< 16	24.5	< 40.5	< 40.5	46.0
881	< 16	< 16	25.7	< 41.7	< 41.7	46.0
969.1	< 16	< 16	26.7	< 42.7	< 42.7	54.0
1000	< 16	< 16	27.1	< 43.1	< 43.1	54.0

The measurement results indicate that the test unit meets the FCC requirements.

- 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 placed normally on the table.
 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 : WH

Interference Radiation

Date : 2010-10-22

Measurement of Radiated Emissions
Acc: FCC Part 15 Subpart C (15.239 & 15.209)

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IECC Ref: 54250
Model: CR6002A
Applicant: HONG KONG MODERN MARKETING
MANUFACTURING LIMITED
Ser.Nr.: --

Test Equipment
Receiver: Rohde & Schwarz ESVS 30
Antenna: Schwarzbeck BBA9106 & UHALP9107

Set under test: REVOLUTION - 2 Speed Turntable with USB
Connected sets: -
Operating mode: Record Playing with FM Transmitter ON

Transmission frequency : 89.9 MHz

Peak
Av.

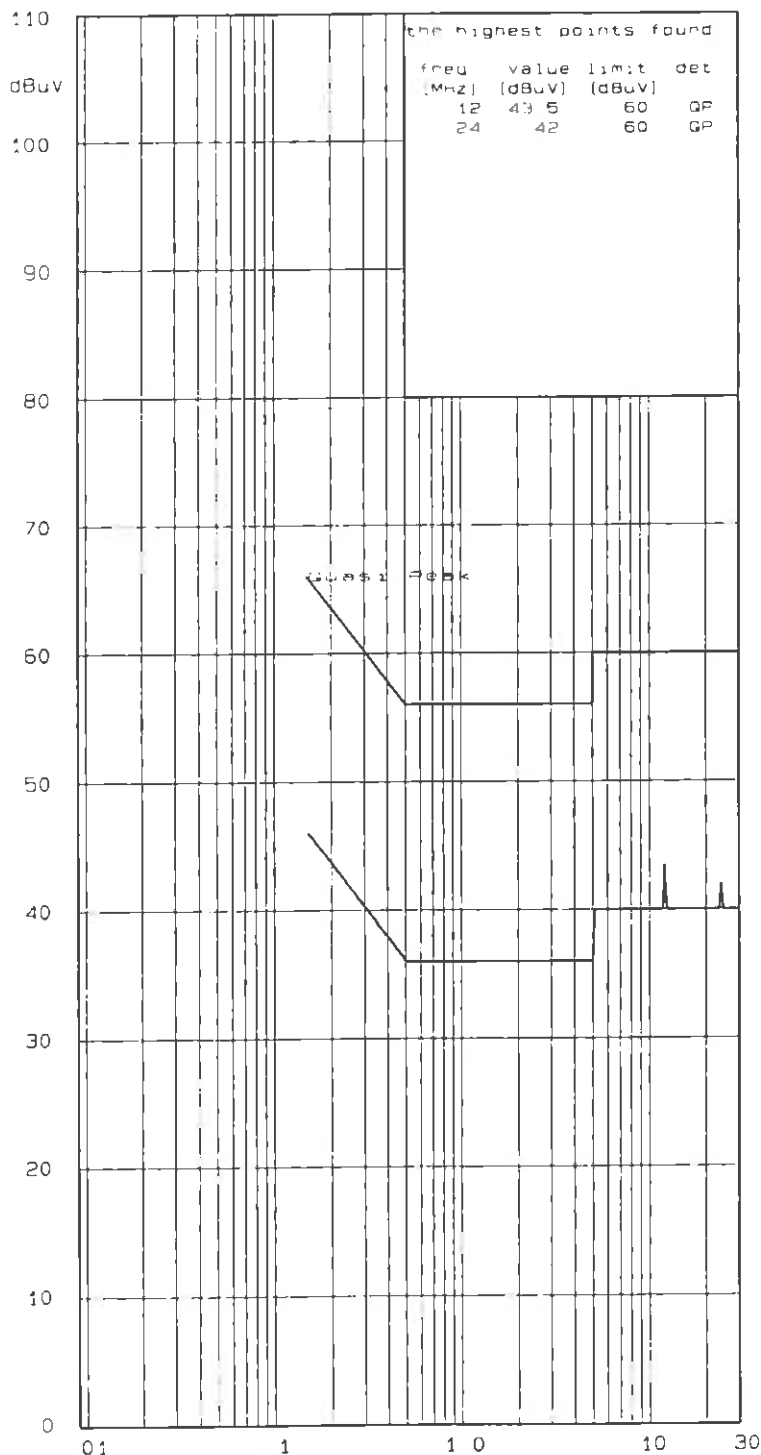
Frequency (MHz)	Horz. Reading dB(μV)	Vert. Reading dB(μV)	Corr. Factor (dB)	Horiz. Test Result dB(μV/m)	Vert. Test Result dB(μV/m)	Limit dB(μV/m)
89.9	33	34.5	8.3	41.3	42.8	68.0
89.9	32	33	8.3	40.3	41.3	48.0
30	< 16	< 16	20.2	< 36.2	< 36.2	40.0
179.8	19	< 16	17.0	36.0	< 33.0	43.5
269.7	20	< 16	18.4	38.4	< 34.4	46.0
359.6	< 16	< 16	18.3	< 34.3	< 34.3	46.0
449.5	< 16	< 16	19.6	< 35.6	< 35.6	46.0
539.4	< 16	< 16	21.3	< 37.3	< 37.3	46.0
629.3	< 16	< 16	23.0	< 39.0	< 39.0	46.0
719.2	< 16	< 16	24.3	< 40.3	< 40.3	46.0
809.2	< 16	< 16	24.6	< 40.6	< 40.6	46.0
899	< 16	< 16	26.1	< 42.1	< 42.1	46.0
988.9	< 16	< 16	27.0	< 43.0	< 43.0	54.0
1000	< 16	< 16	27.1	< 43.1	< 43.1	54.0

The measurement results indicate that the test unit meets the FCC requirements.

- 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 placed normally on the table.
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 : WH

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref -No . 54250

Product TURNTABLE W/ USB

Sample 01

Date 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets

--

Operating mode

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(L)
EUT ADAPTOR

RFI suppression parts

--

* two dB safety margin for
type approval necessary

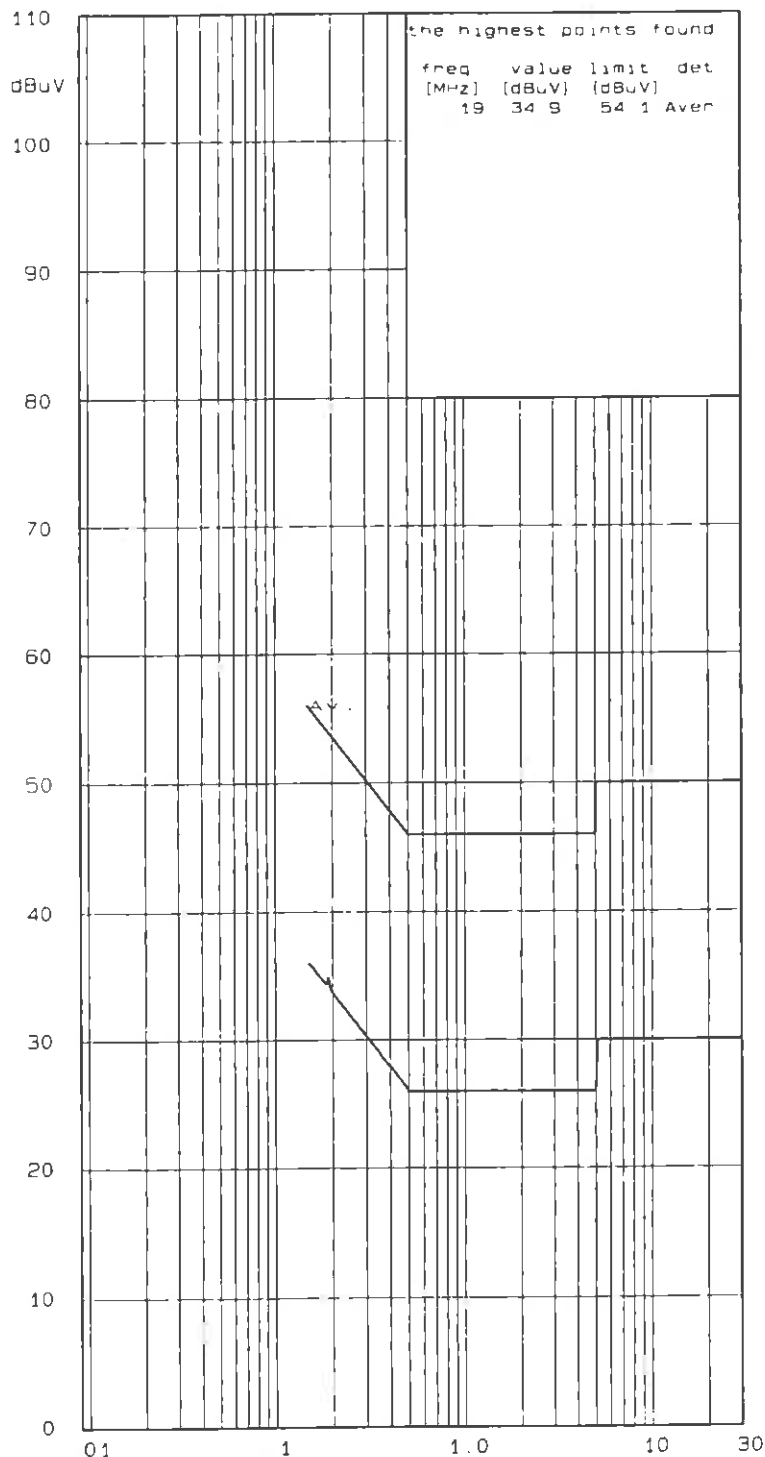
Operator: KT

Result ☒ pass [✓] ☐ fail []

IECC

f [MHz]

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref -No . 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(L)
EUT ADAPTOR

RFI suppression parts:

--

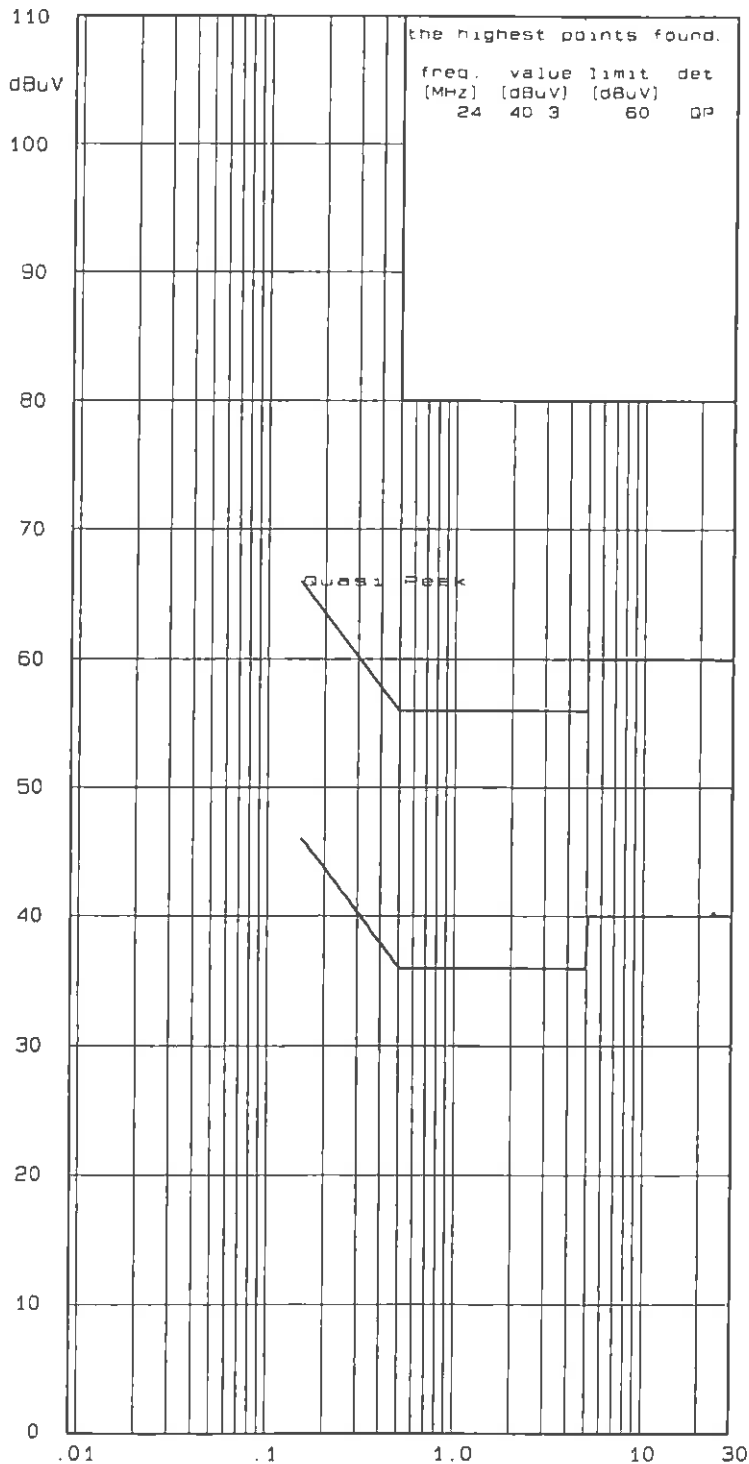
* two dB safety margin for
type approval necessary

Operator: KT

Result : pass (X) fail []

IECC

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref -No: 54250

Product: TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(N)
EUT ADAPTOR

RFI suppression parts:

--

* two dB safety margin for
type approval necessary

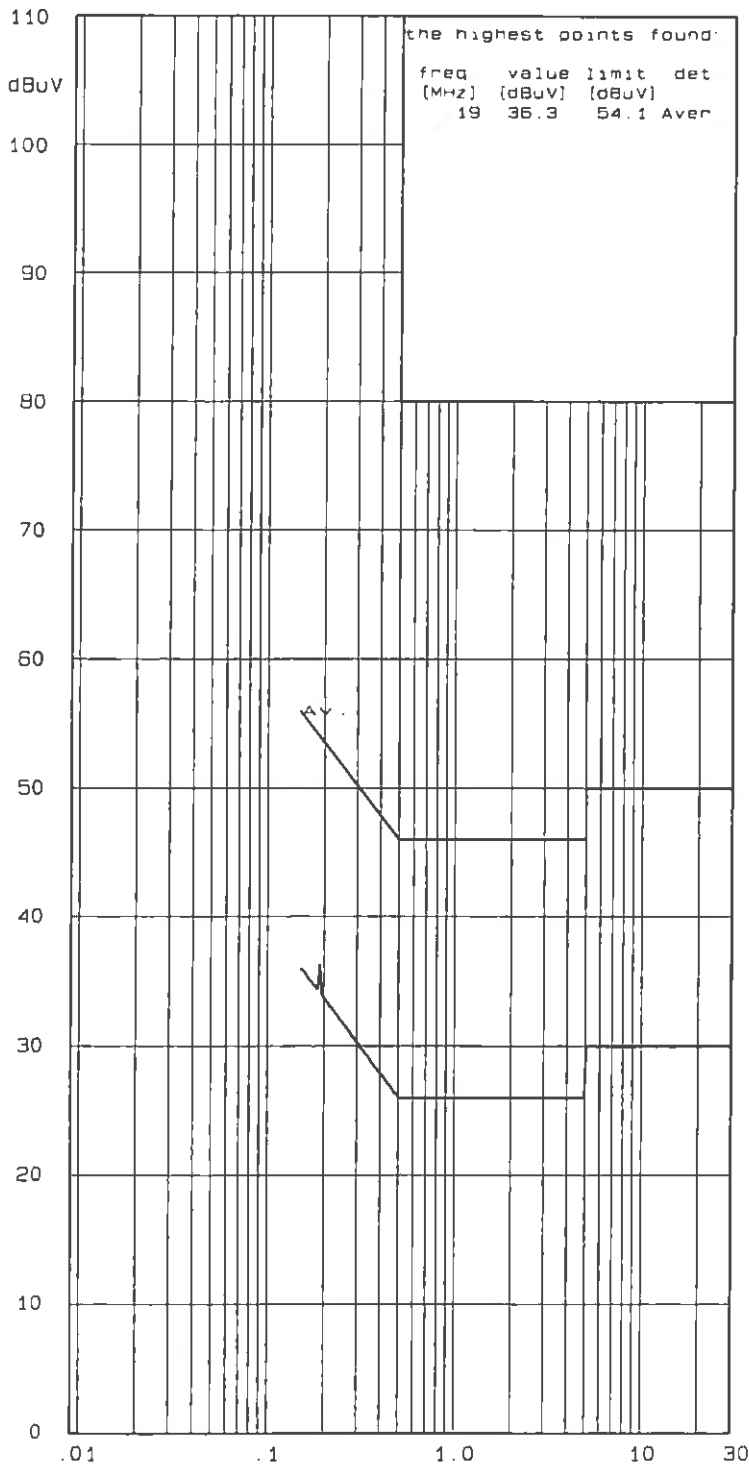
Operator: KT

Result : pass ☒ fail ☐

IECC

f [MHz]

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref.-No.: 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(N)
EUT ADAPTOR

RFI suppression parts:

--

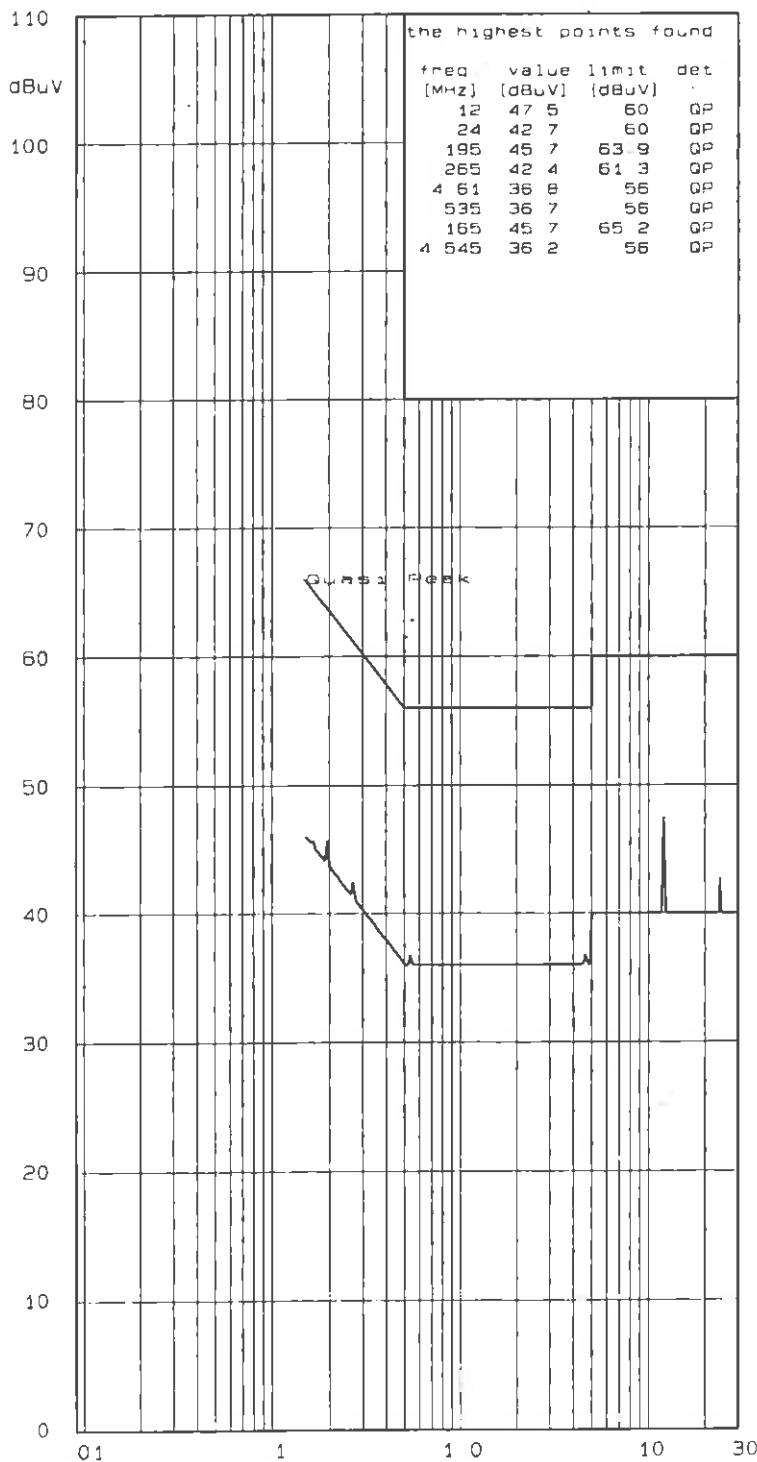
* two dB safety margin for
type approval necessary

Operator: KT

Result : pass [X] fail []

IECC

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref -No : 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(L)
COMPUTER ADAPTOR

RFI suppression parts:

--

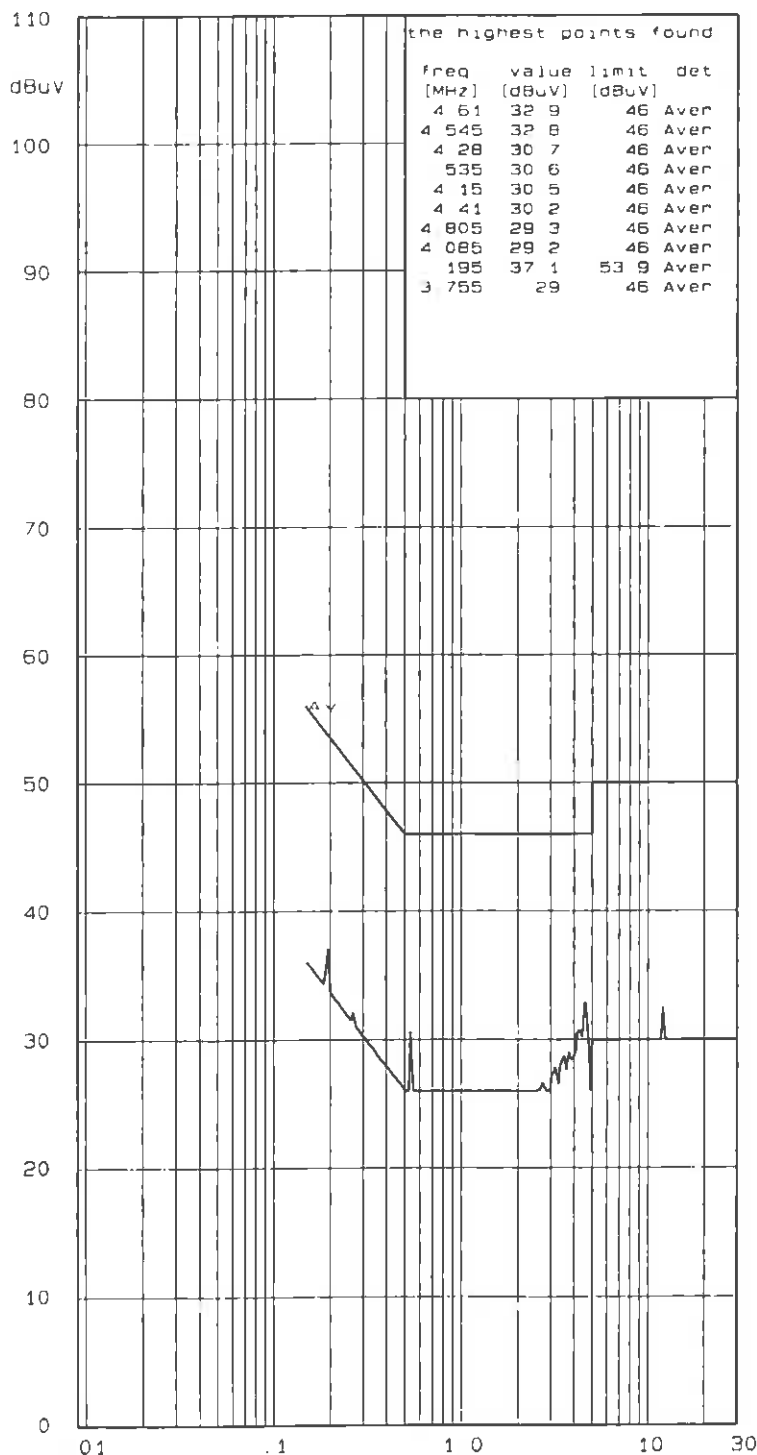
* two dB safety margin for
type approval necessary

Operator KT

Result pass [X] fail []

IECC

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref.-No.: 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(L)
COMPUTER ADAPTOR

RFI suppression parts:

--

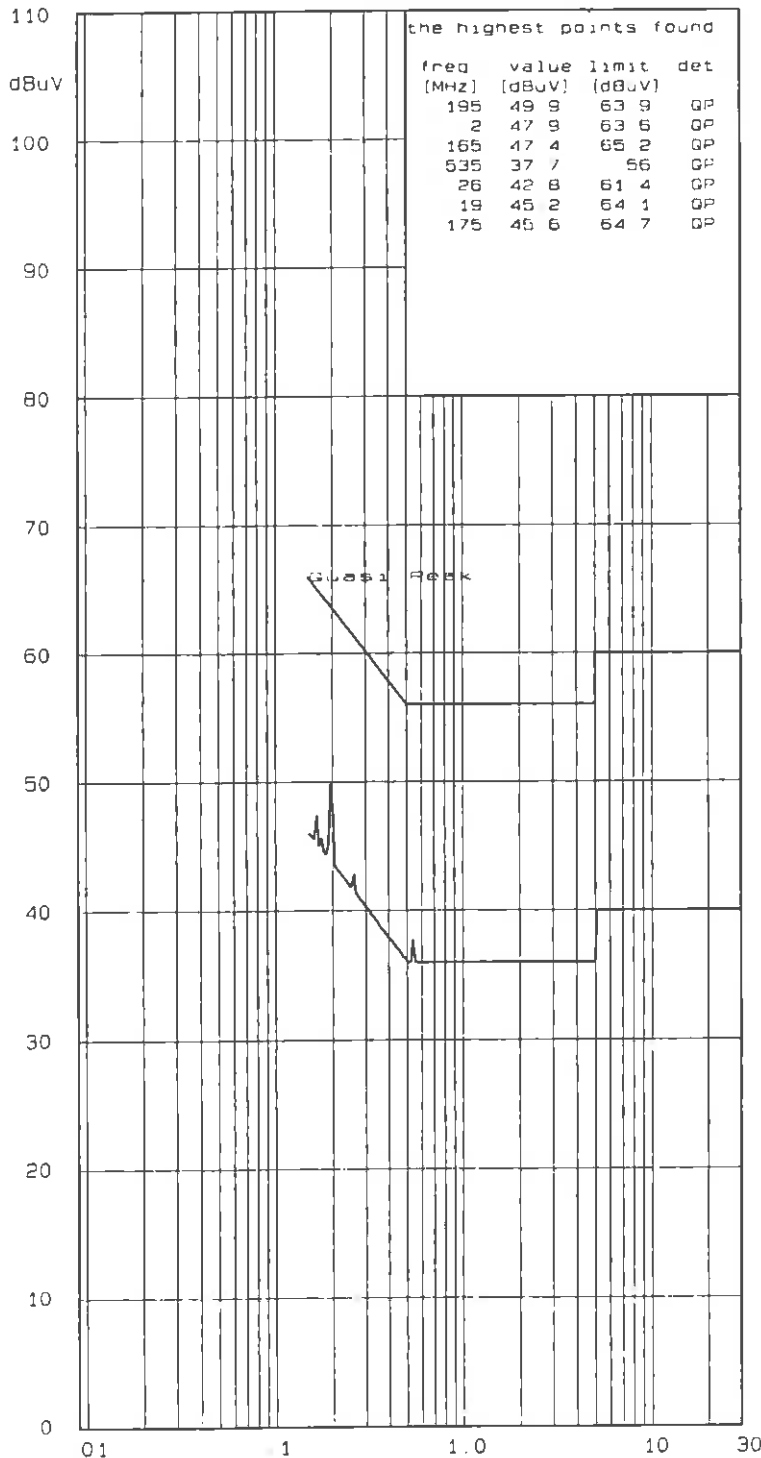
* two dB safety margin for
type approval necessary

Operator : KT

Result : pass ☒ fail ☐

IECC

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref. No.: 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(N)
COMPUTER ADAPTOR

RFI suppression parts:

--

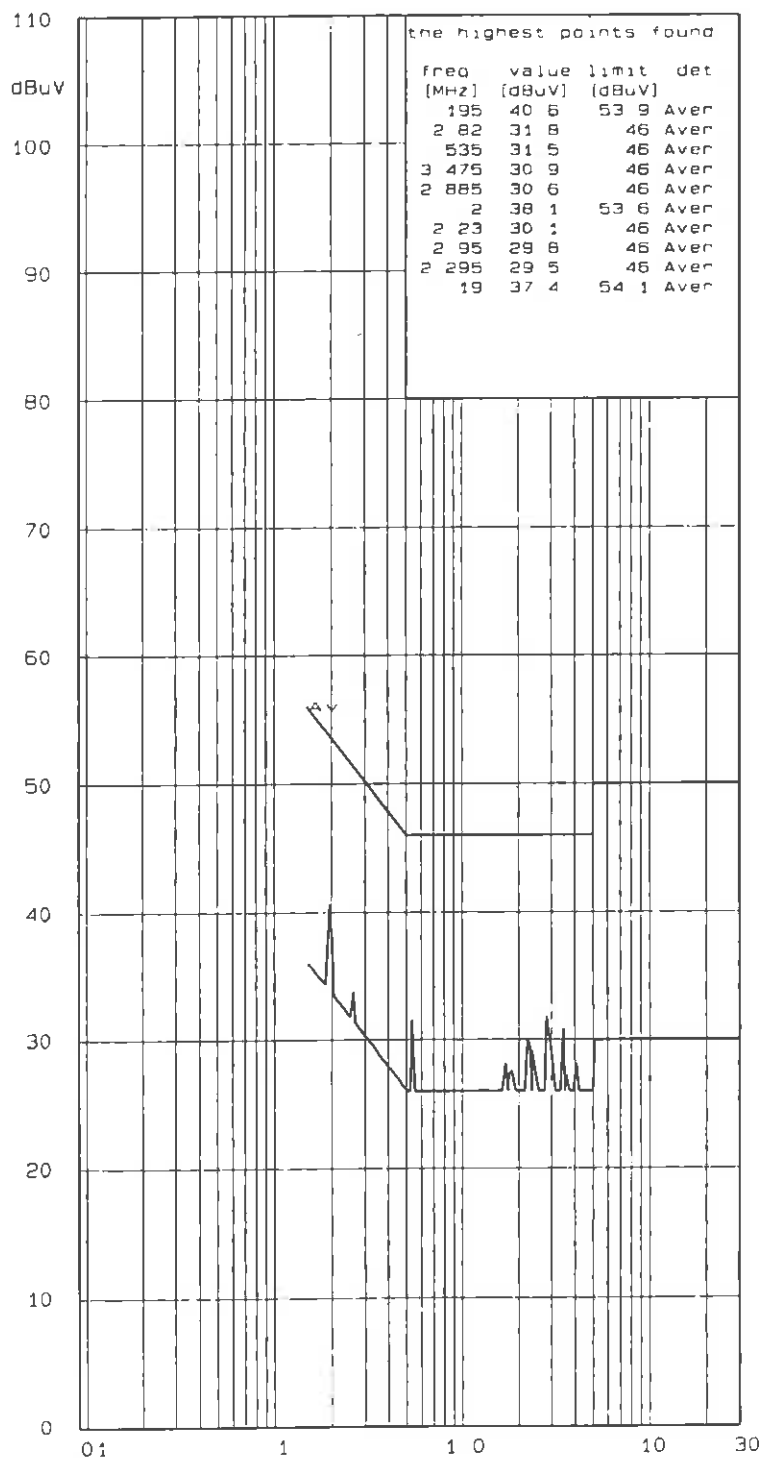
* two dB safety margin for
type approval necessary

Operator: KT

Result : pass [X] fail []

IECC

U 5/6

Interference voltage 150kHz – 30MHz
Acc. FCC Part 15 Subpart B Section 15.107

Ref.-No 54250

Product TURNTABLE W/ USB

Sample 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER
TEST W/ REFERENCE COMPUTER
(N)
COMPUTER ADAPTOR

RFI suppression parts:

--

* two dB safety margin for
type approval necessary

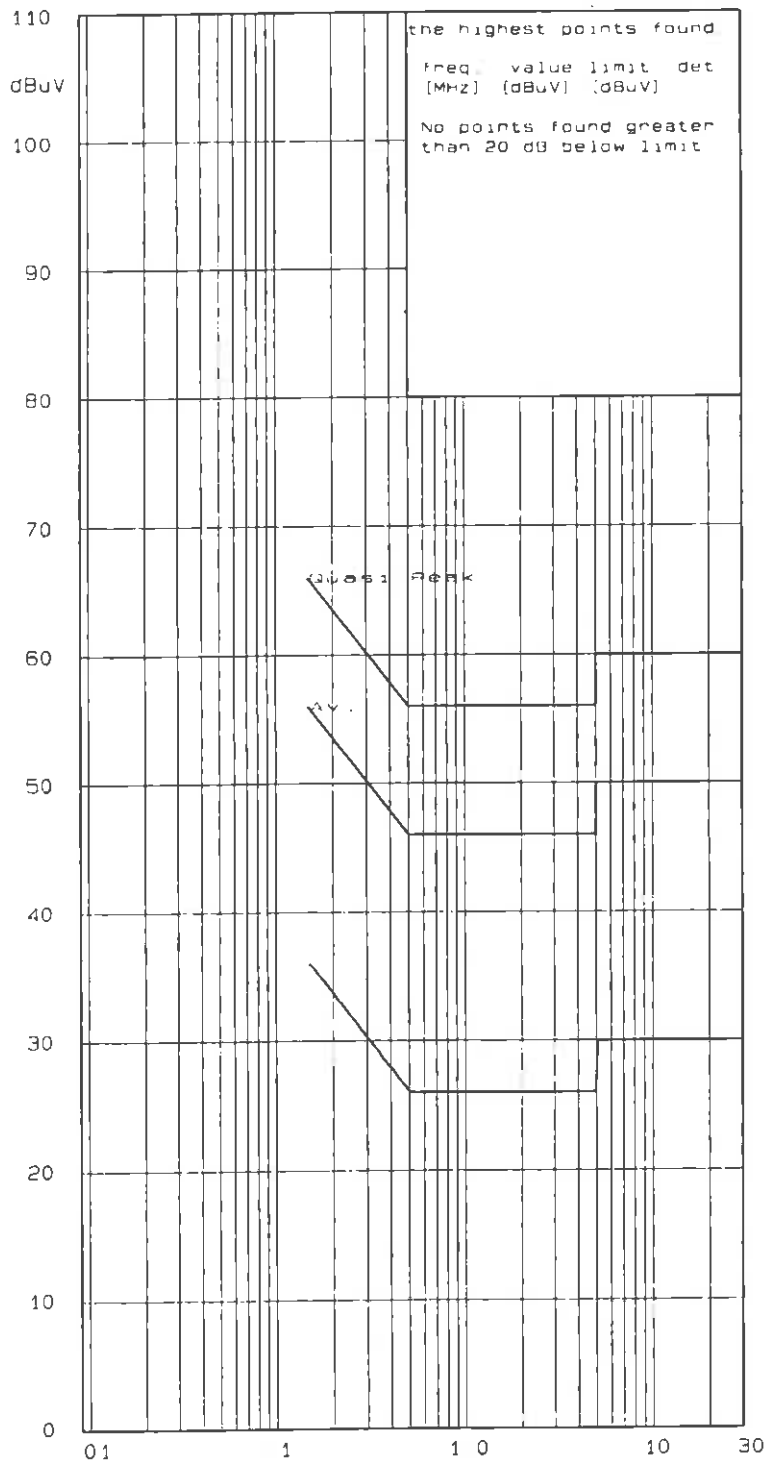
Operator: KT

Result : pass (X) fail ()

IECC

f [MHz]

U 5/6

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

Ref.-No.: 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets

--

Operating mode:

PHONO PLAYING
FM TRANSMITTER ON AT 88.1MHz
(L)

--

RFI suppression parts:

--

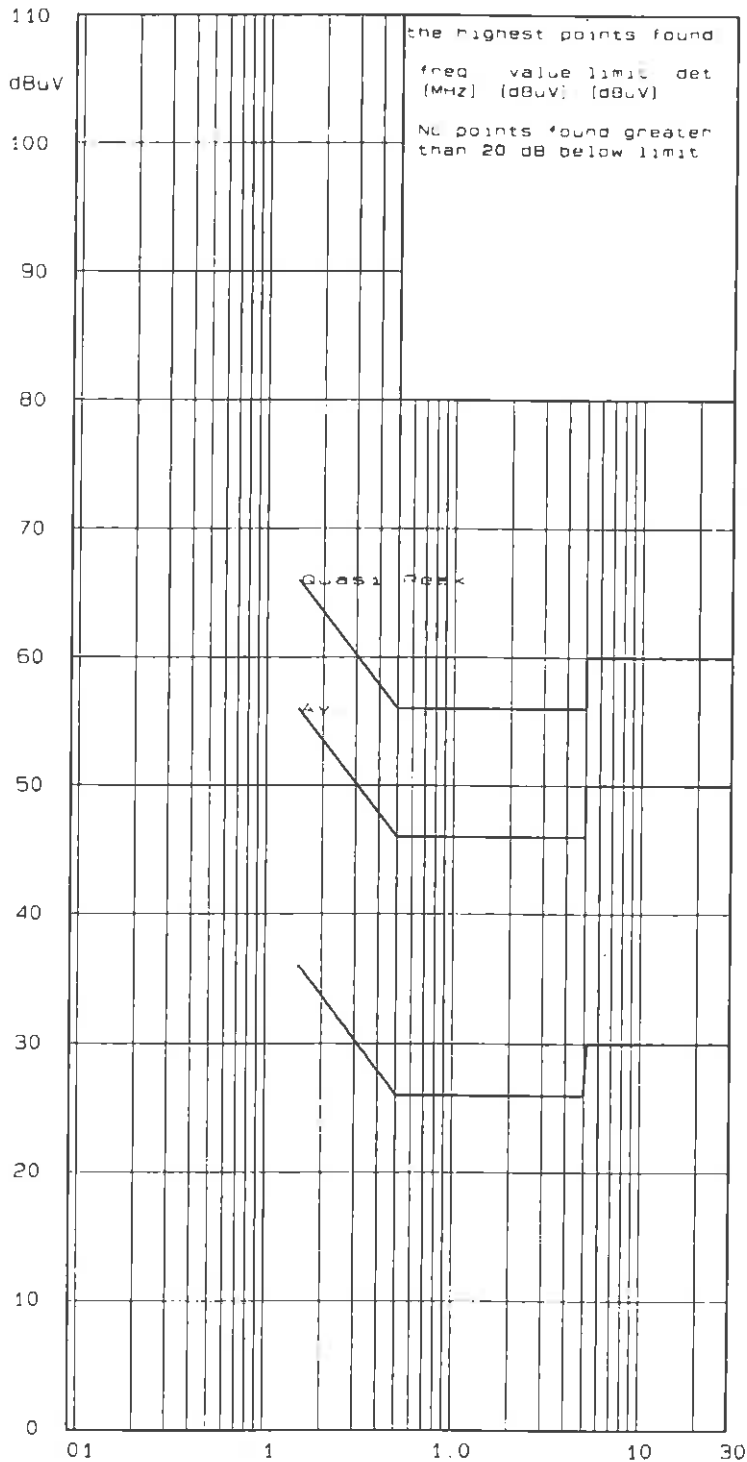
* two dB safety margin for
type approval necessary

Operator: KT

Result : pass [☒] fail [☐]

IECC

U 5/6

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

Ref -No : 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

PHONO PLAYING
FM TRANSMITTER ON AT 88.1MHz
(N)

--

RFI suppression parts:

--

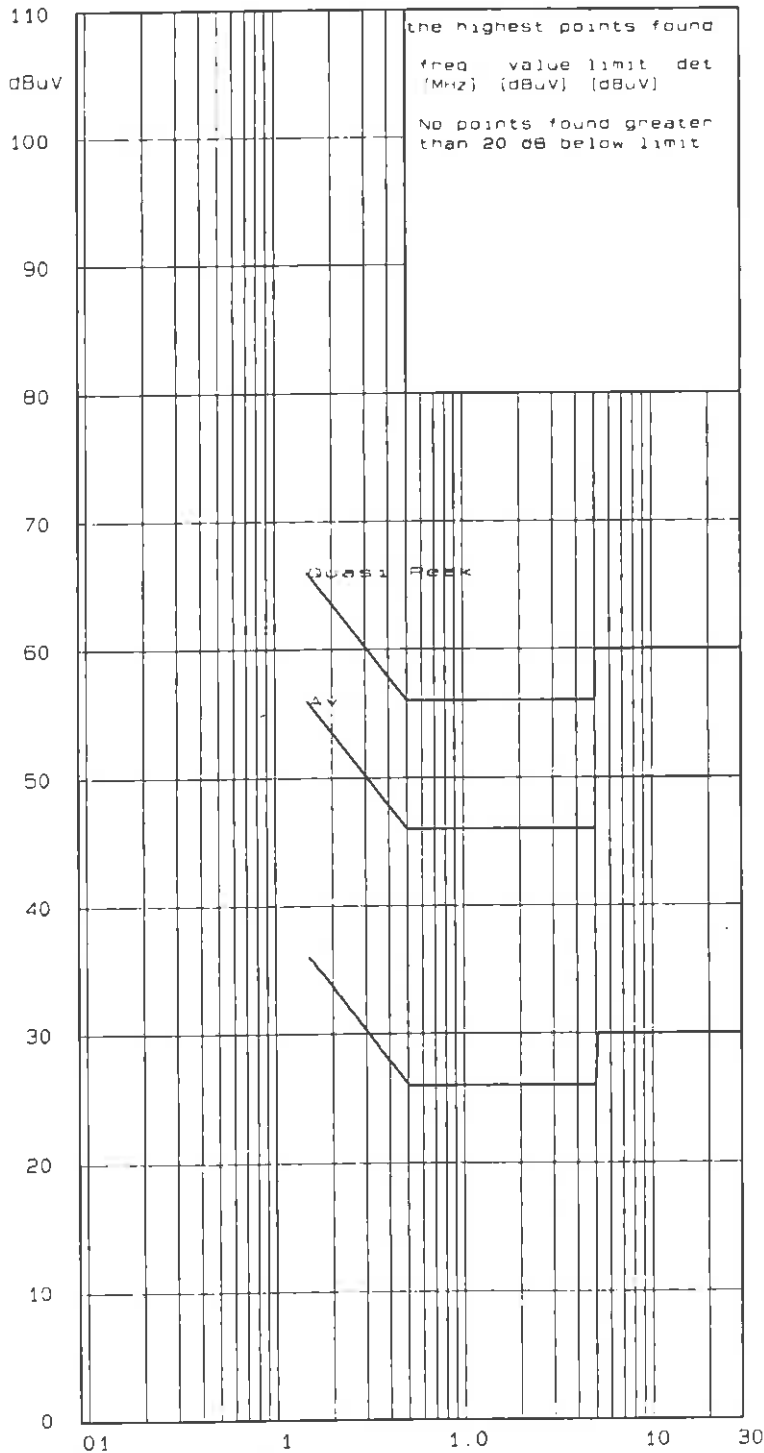
* two dB safety margin for
type approval necessary

Operator: KT

Result : pass ☒ fail ☐

IECC

U 5/6

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

Ref -No.: 54250

Product : TURNTABLE W/ USB

Sample : 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets

--

Operating mode

PHONO PLAYING
FM TRANSMITTER ON AT 89.9MHz
(L)

--

RFI suppression parts:

--

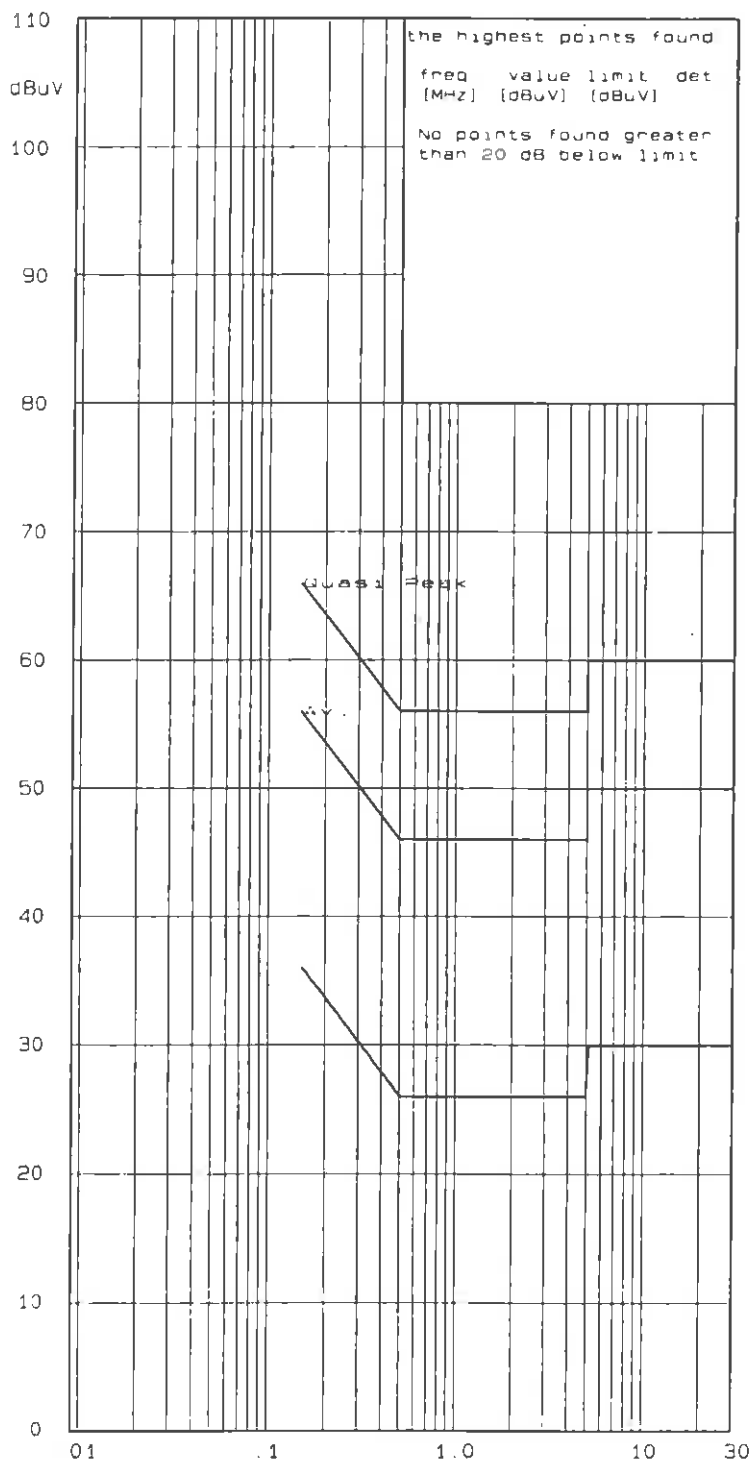
* two dB safety margin for
type approval necessary

Operator: KT

Result : pass [X] fail []

IECC

U 5/6

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

Ref.-No.: 54250

Product : TURNTABLE W/ USB

Sample 01

Date : 4 Aug 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

PHONO PLAYING
FM TRANSMITTER ON AT 89.9MHz
(N)

--

RFI suppression parts:

--

* two dB safety margin for
type approval necessary

Operator: KT

Result : pass [☒] fail [☐]

IECC

FCC – Test Report

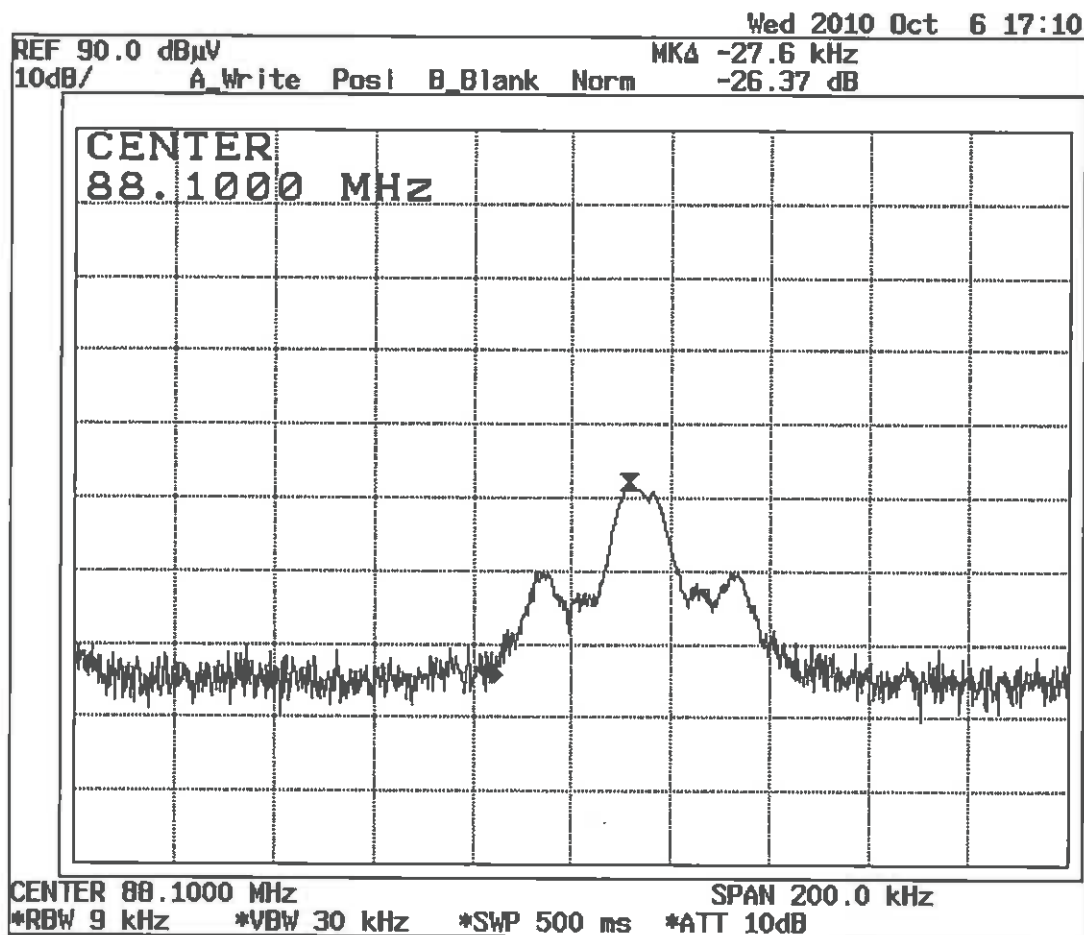
No. 54250

Date: 2010-10-22

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Measurement Data of Emissions within Band Edges

Operation Frequency : 88.1 MHz



Result : The field strength of any emission within the operation band did not exceed 68 dB(μV/m) for average value or 48 dB(μV/m) for peak value. Refer to page 12 for the recorded value for the emission at the fundamental frequency.

FCC – Test Report

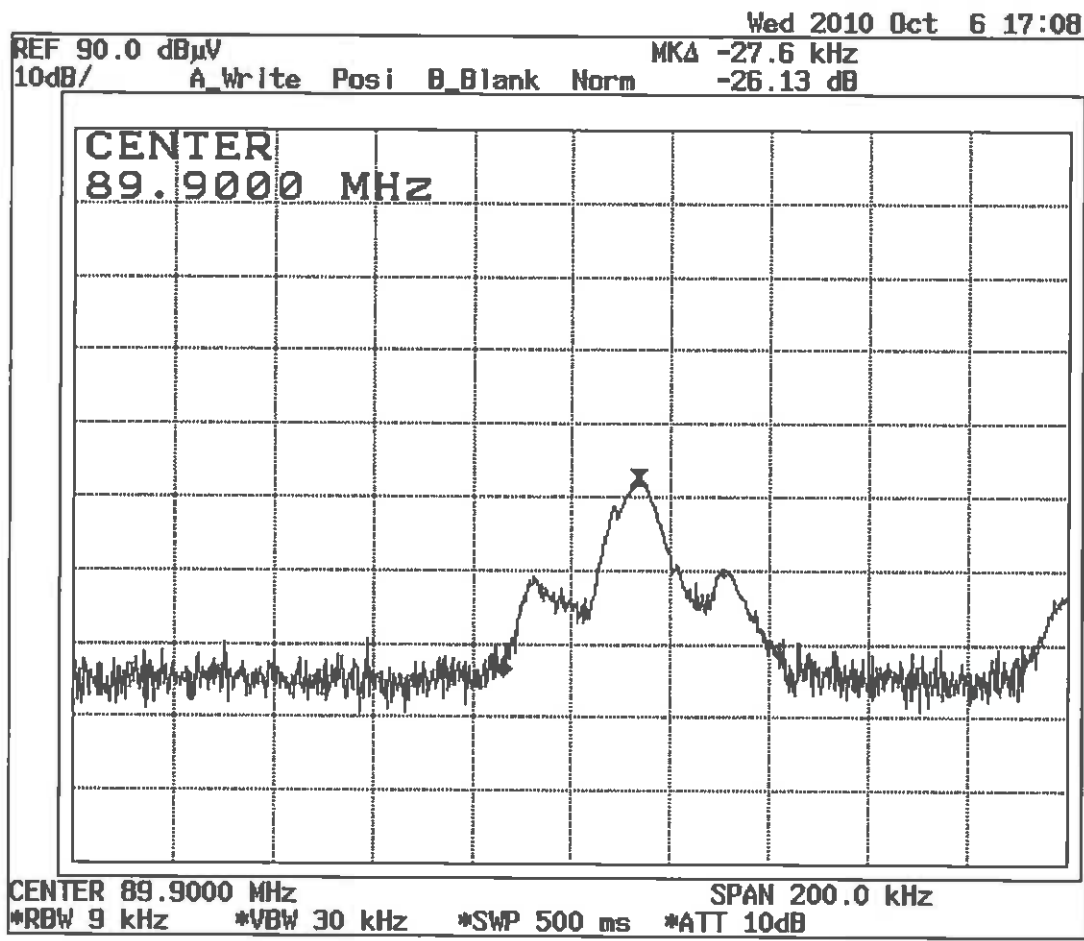
Date: 2010-10-22

No. 54250

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Measurement Data of Emissions within Band Edges

Operation Frequency : 89.9 MHz



Result : The field strength of any emission within the operation band did not exceed 68 dB(μV/m) for average value or 48 dB(μV/m) for peak value. Refer to page 13 for the recorded value for the emission at the fundamental frequency.

FCC – Test Report**No. 54250****Date: 2010-10-22****Page 28 of 28****Photo of Sample****Sample Outlook****AC/DC Adaptor – Rating Plate**