

**FCC – Test Report**

Date: 2009-11-12

**No. 52892**

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**LABORATORY - REPORT**

**APPLICANT:** S.T.I. ELECTRONICS LIMITED  
**ADDRESS:** Room 1308, 13/F., Lippo Sun Plaza  
28 Canton Road  
Tsim Sha Tsui, Kowloon  
Hong Kong  
**DATE OF SAMPLE RECEIVED:** 2009-09-23  
**DATE OF TESTING:** 2009-09-30 to 2009-10-07

**DESCRIPTION OF SAMPLE:**

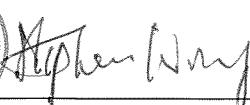
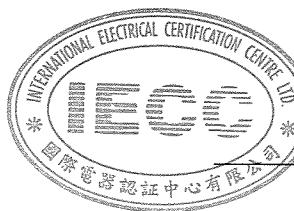
Product: Spheric Speaker iPod Docking  
Product class: Class B Computing Device Peripheral  
Model No.: IPD-4200  
FCC ID number: XUPIPD-4200  
Rating: AC/DC adaptor : KSS24\_240\_1000U, Input : AC 100-240V 50/60Hz  
600mA, Output : DC 24V 1000mA

**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'

**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](mailto: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

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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	10/9/2009	9/9/2010
Test Receiver	Rohde & Schwarz	ESHS 30	839667/002	07/01/2009	06/01/2010
Artificial Mains Network (LISN)	Schwarzbeck	NSLK 8127	8127309	11/02/2009	10/02/2010
Antenna	Schaffner	CBL6111C	2791	22/07/2008	21/07/2010
Antenna Mast System	Schwarzbeck	AM9104	--	--	--
Turntable with Controller	Drehtisch	DT312	--	--	--

**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	VLCDS23585-1W	90S040201520
Printer	HP	6L	JPZT102346
Ethernet router	D-Link	DES-1008D	DRE9158000047

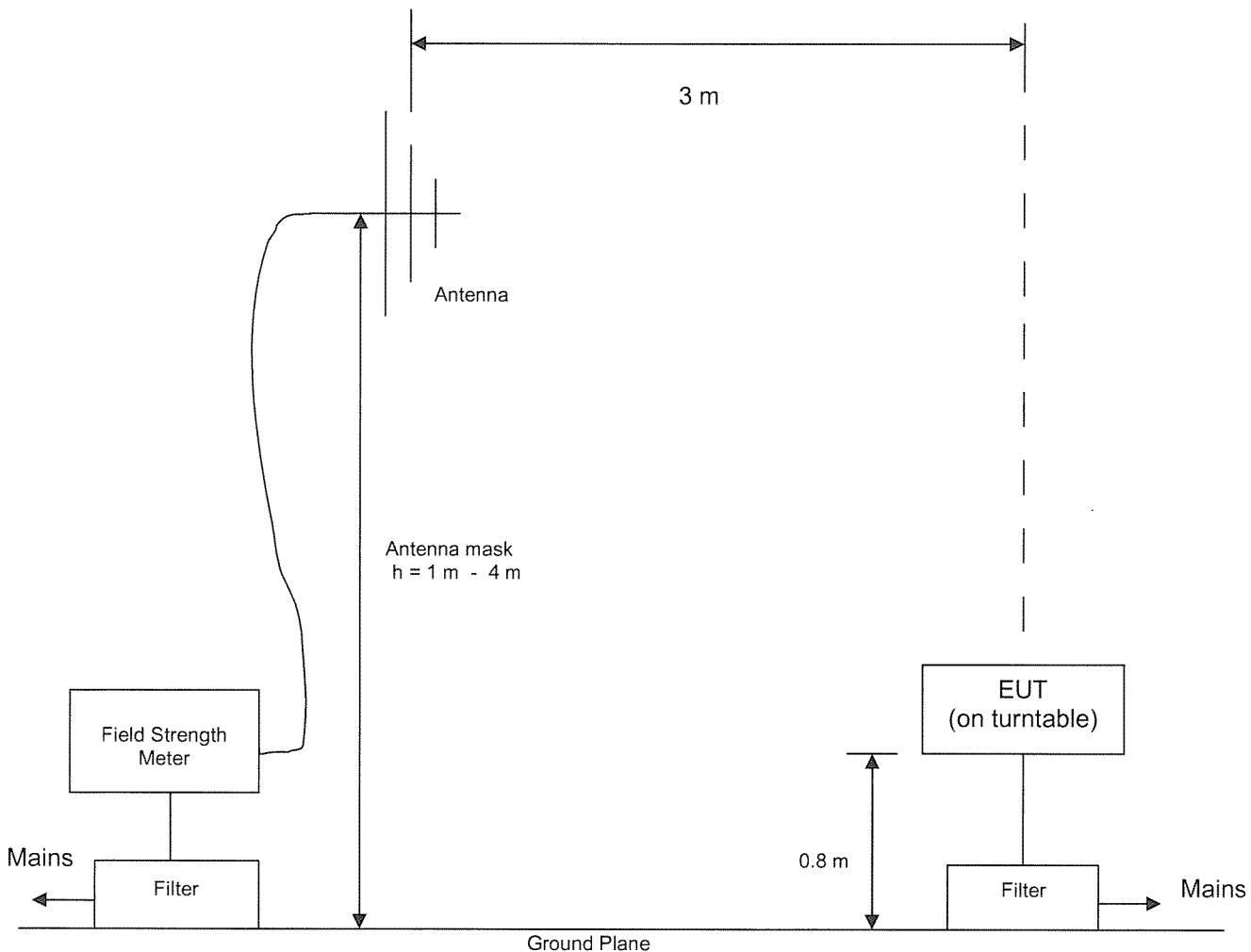
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## Radiated Emission Test Setup (3 m diatance)



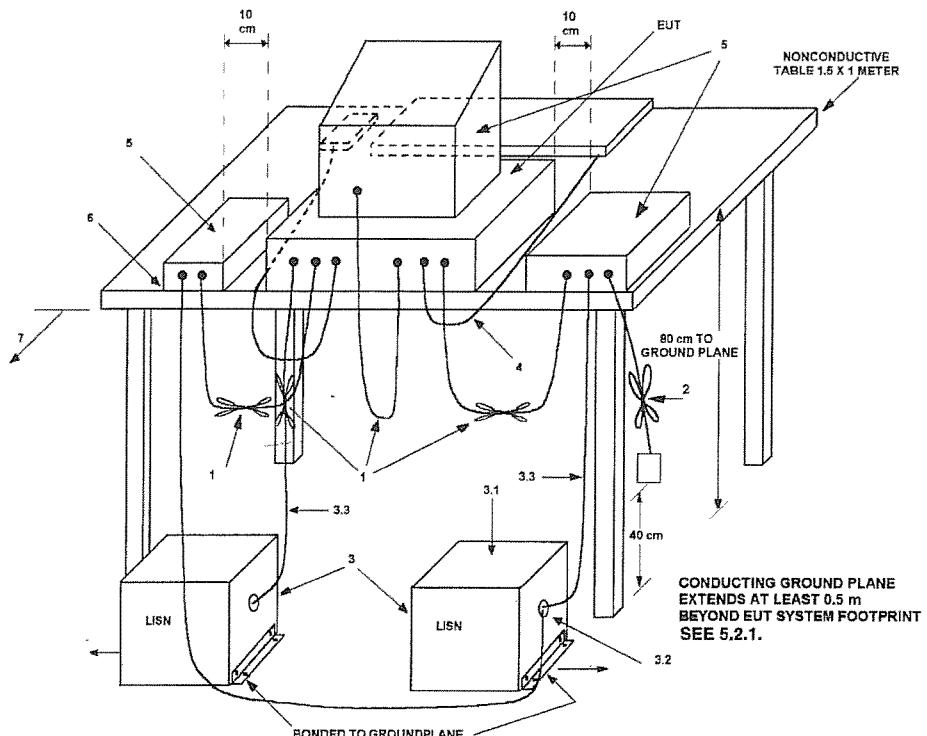
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## Conducted Emission Test Setup



## 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).

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## Test Procedure

### Radiated Emission :

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 under various modes with supply at rated AC voltage (i.e AC120V 60Hz) to the AC/DC adaptor. 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.

During the data transfer mode (i-Tunes operation), the sample was operated with the host computer. 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.

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 B Section 15.107.

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

During the data transfer mode (i-Tunes operation), the sample was operated with the host computer. 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.

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## Test Results

### Radiated Emission :

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 9 - 11 for measurement data.

### Conducted Emission :

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 12 - 19 for measurement data.

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**Radiated Emission**

Acc: FCC Part 15 Subpart B (15.109)

**IECC Ref:** 52892  
**Model:** IPD-4200  
**Applicant:** S.T.I. ELECTRONICS LIMITED  
**Ser.Nr.:** --  
**Set under test:** Spheric Speaker iPod Docking  
**Operating mode:** Data Transfer (iTunes operation)

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)
30	< 16.0	< 16.0	19.1	< 35.1	< 35.1	40.0
59.5	< 16.0	29.0	6.2	< 22.2	35.2	40.0
70	< 16.0	< 16.0	7.0	< 23.0	< 23.0	40.0
100	< 16.0	< 16.0	9.5	< 25.5	< 25.5	43.5
300	< 16.0	< 16.0	14.2	< 30.2	< 30.2	46.0
500	< 16.0	< 16.0	18.9	< 34.9	< 34.9	46.0
1000	< 16.0	< 16.0	26.2	< 42.2	< 42.2	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 : ON

**IT 5/6**

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## Radiated Emission

Acc: FCC Part 15 Subpart B (15.109)

<b>IECC Ref:</b>	52892					
<b>Model:</b>	IPD-4200					Test Equipment
<b>Applicant:</b>	S.T.I. ELECTRONICS LIMITED					Receiver: Rohde & Schwarz ESCS 30
<b>Ser.Nr.:</b>	--					Antenna: Schaffner CBL6111C
<b>Set under test:</b>	Spheric Speaker iPod Docking					
<b>Operating mode:</b>	AUX IN (External MP3 source)					

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	19.1	< 35.1	< 35.1	40.0
55.9	< 16.0	28.0	6.7	< 22.7	34.7	40.0
85	27.0	< 16.0	8.5	35.5	< 24.5	40.0
100	< 16.0	< 16.0	9.5	< 25.5	< 25.5	43.5
300	< 16.0	< 16.0	14.2	< 30.2	< 30.2	46.0
500	< 16.0	< 16.0	18.9	< 34.9	< 34.9	46.0
1000	< 16.0	< 16.0	26.2	< 42.2	< 42.2	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 : ON

**IT 5/6**

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**Radiated Emission**

Acc: FCC Part 15 Subpart B (15.109)

<b>IECC Ref:</b>	52892	
<b>Model:</b>	IPD-4200	Test Equipment
<b>Applicant:</b>	S.T.I. ELECTRONICS LIMITED	Receiver: Rohde & Schwarz ESCS 30
<b>Ser.Nr.:</b>	--	Antenna: Schaffner CBL6111C
<b>Set under test:</b>	Spheric Speaker iPod Docking	
<b>Operating mode:</b>	iPod Playing	

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	19.1	< 35.1	< 35.1	40.0
55.9	< 16.0	28.0	6.7	< 22.7	34.7	40.0
85	27.0	< 16.0	8.5	35.5	< 24.5	40.0
100	< 16.0	< 16.0	9.5	< 25.5	< 25.5	43.5
300	< 16.0	< 16.0	14.2	< 30.2	< 30.2	46.0
500	< 16.0	< 16.0	18.9	< 34.9	< 34.9	46.0
1000	< 16.0	< 16.0	26.2	< 42.2	< 42.2	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 : ON

I T 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Class B (15.107)

Model: IPD-4200

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

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009

Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER

(L)

TEST W/ REFERENCE COMPUTER

--

RFI suppression parts:

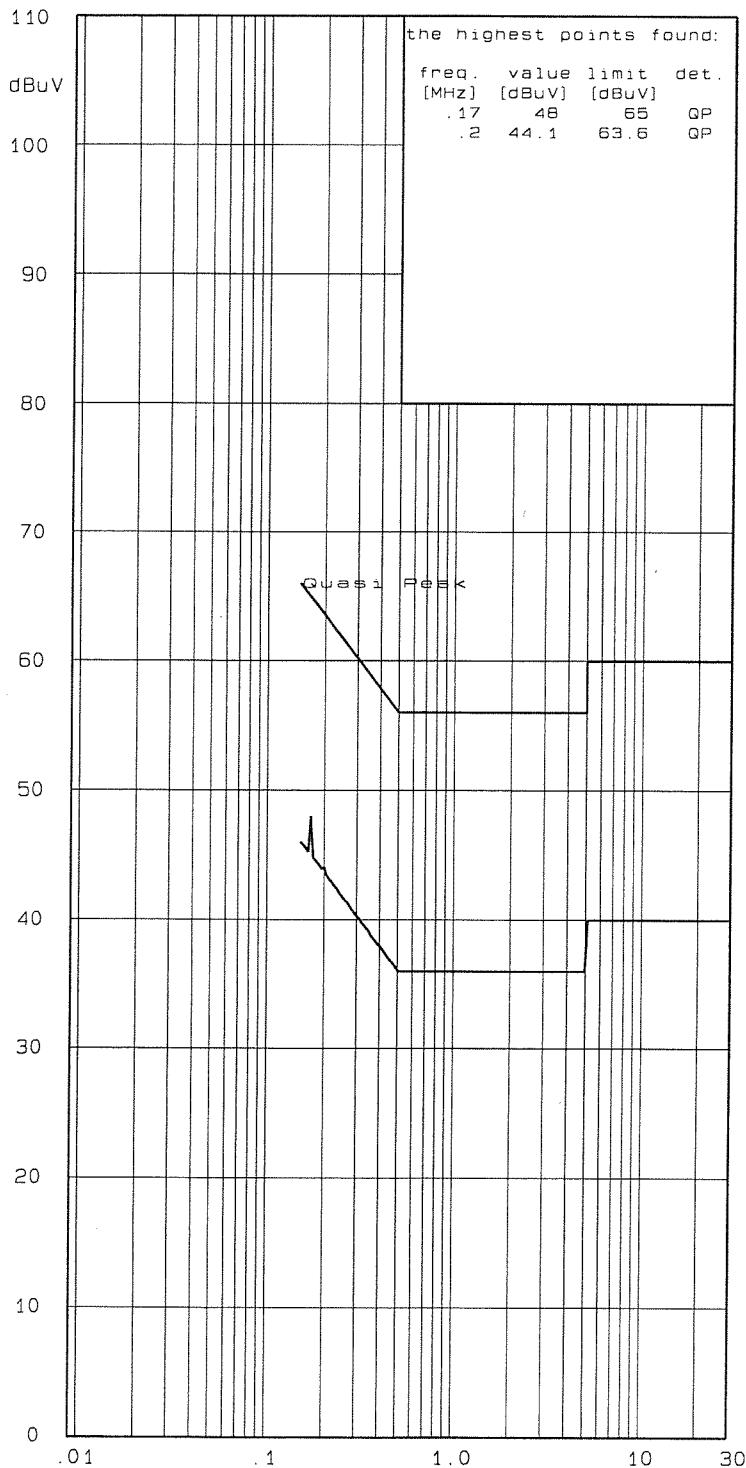
--

\* two dB safety margin for  
type approval necessary

Operator: WH

Result: 

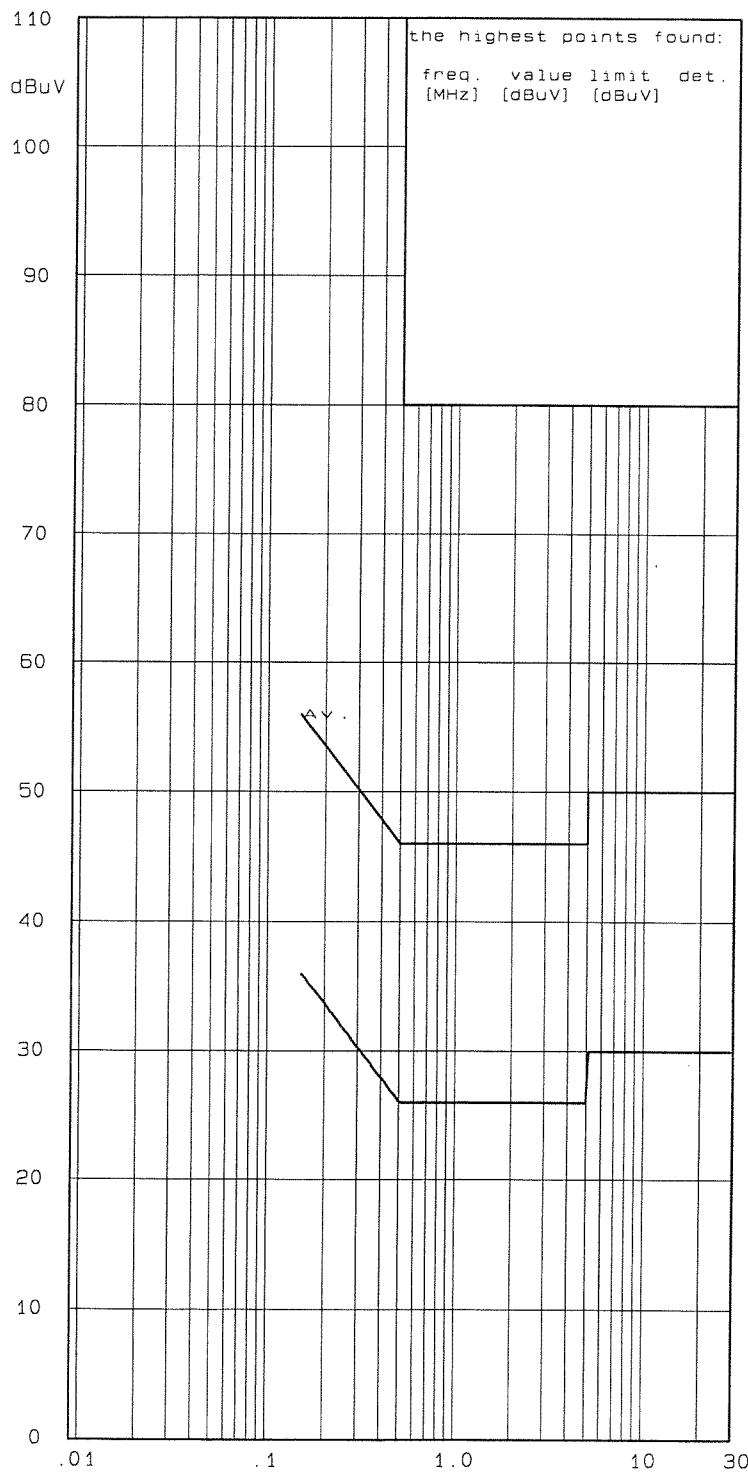
IECC



I T 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Class B (15.107)



Model: IPD-4200

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

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009

Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER

(L)

TEST W/ REFERENCE COMPUTER

--

RFI suppression parts:

--

\* two dB safety margin for  
type approval necessary

Operator: WH

Result: 

IECC

I T 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Class B (15.107)

Model: IPOD-4200

Sp1./Ser.No.: 01/--

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009

Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER

(N)

TEST W/ REFERENCE COMPUTER

--

RFI suppression parts:

--

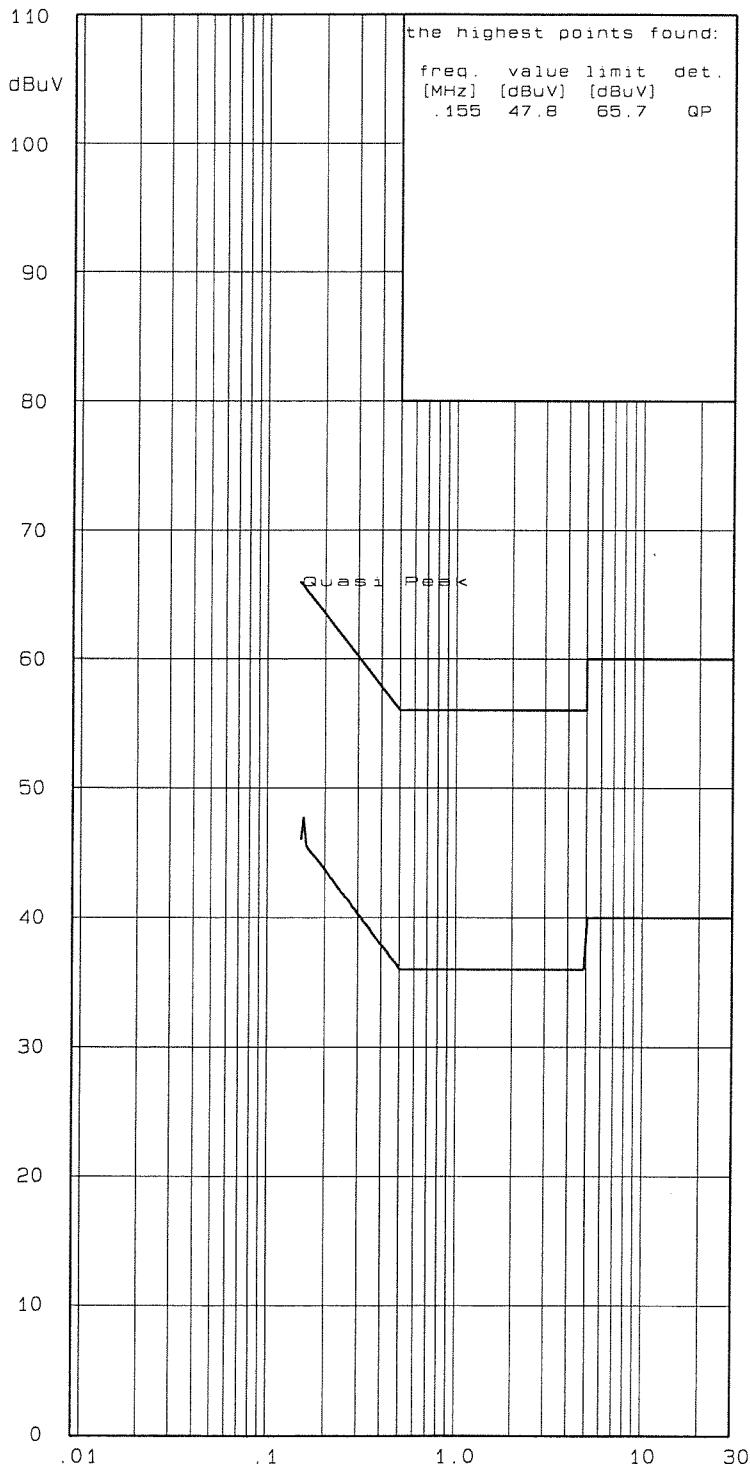
\* two dB safety margin for  
type approval necessary

Operator: WH

Result: OK

IECC

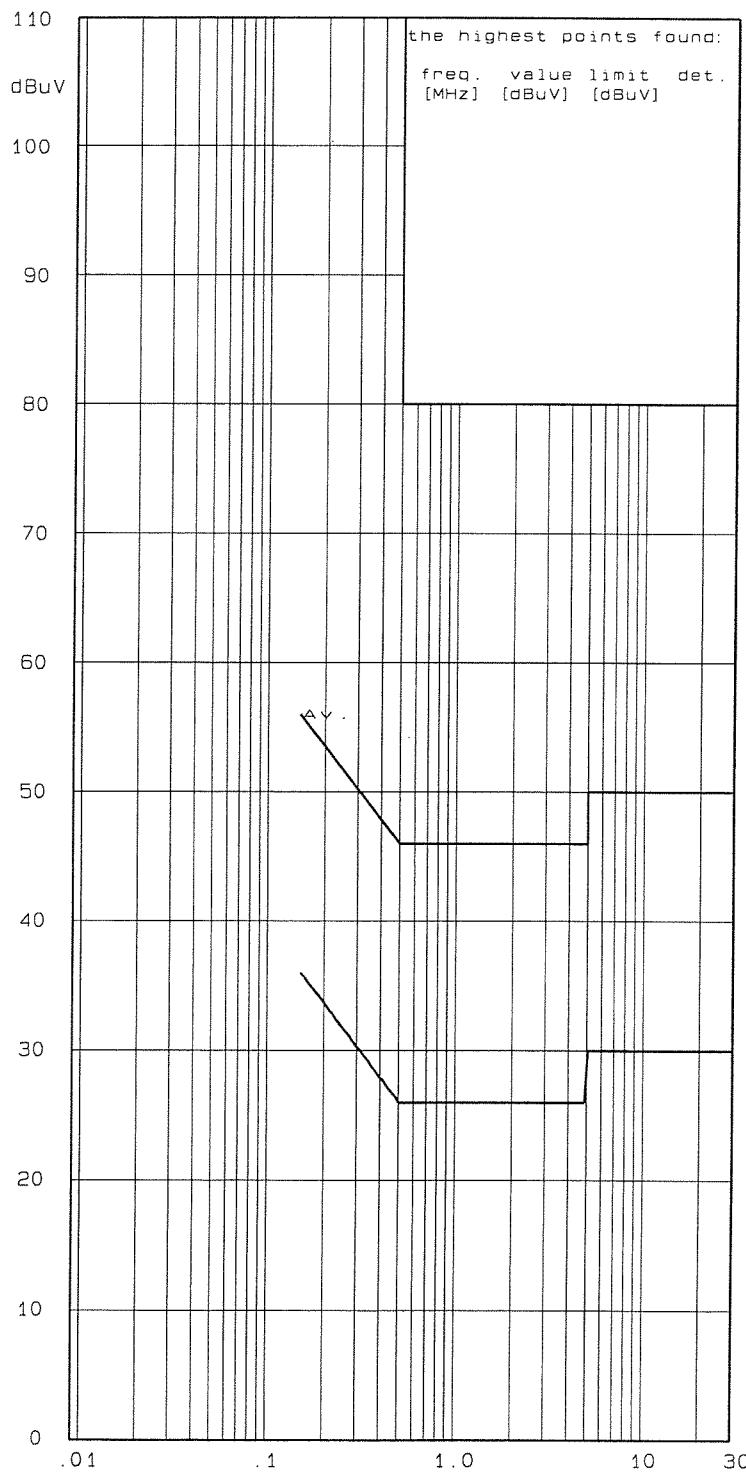
f [MHz]



I T 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Class B (15.107)



Model: IPD-4200

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

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009

Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

DATA TRANSFER  
(N)

TEST W/ REFERENCE COMPUTER

--

RFI suppression parts:

--

\* two dB safety margin for  
type approval necessary

Operator: WH

Result: 64

IECC

U 5 / 6

## Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107(a) Class B

Model: IPD-4200

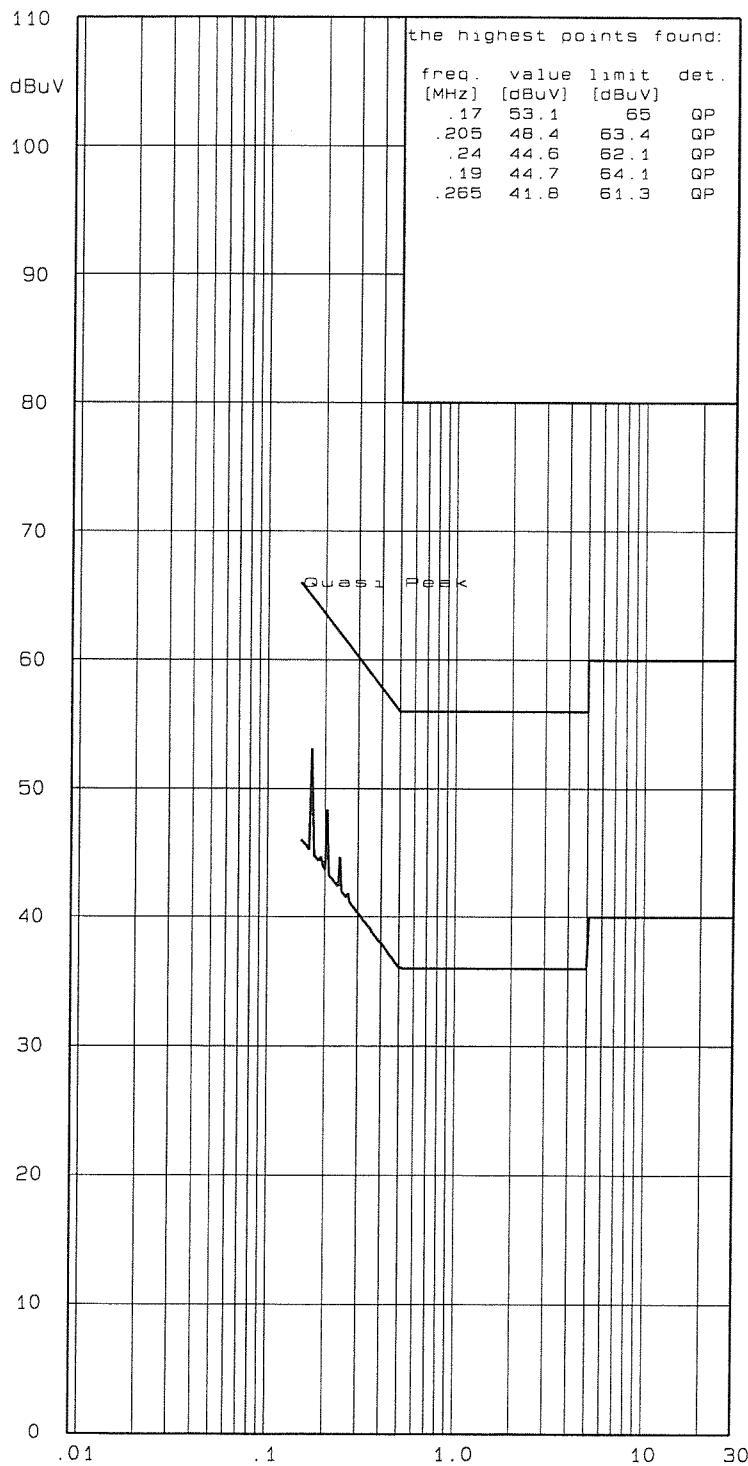
Spl./Ser.No.: 01/--

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009



Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

AUX  
(L)  
--

RFI suppression parts:

--

\* two dB safety margin for  
type approval necessary

Operator: WH

Result: *ok*

IECC

U 5/6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107(a) Class B

Model: IPOD-4200

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

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009

Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

AUX

(L)

--

RFI suppression parts:

--

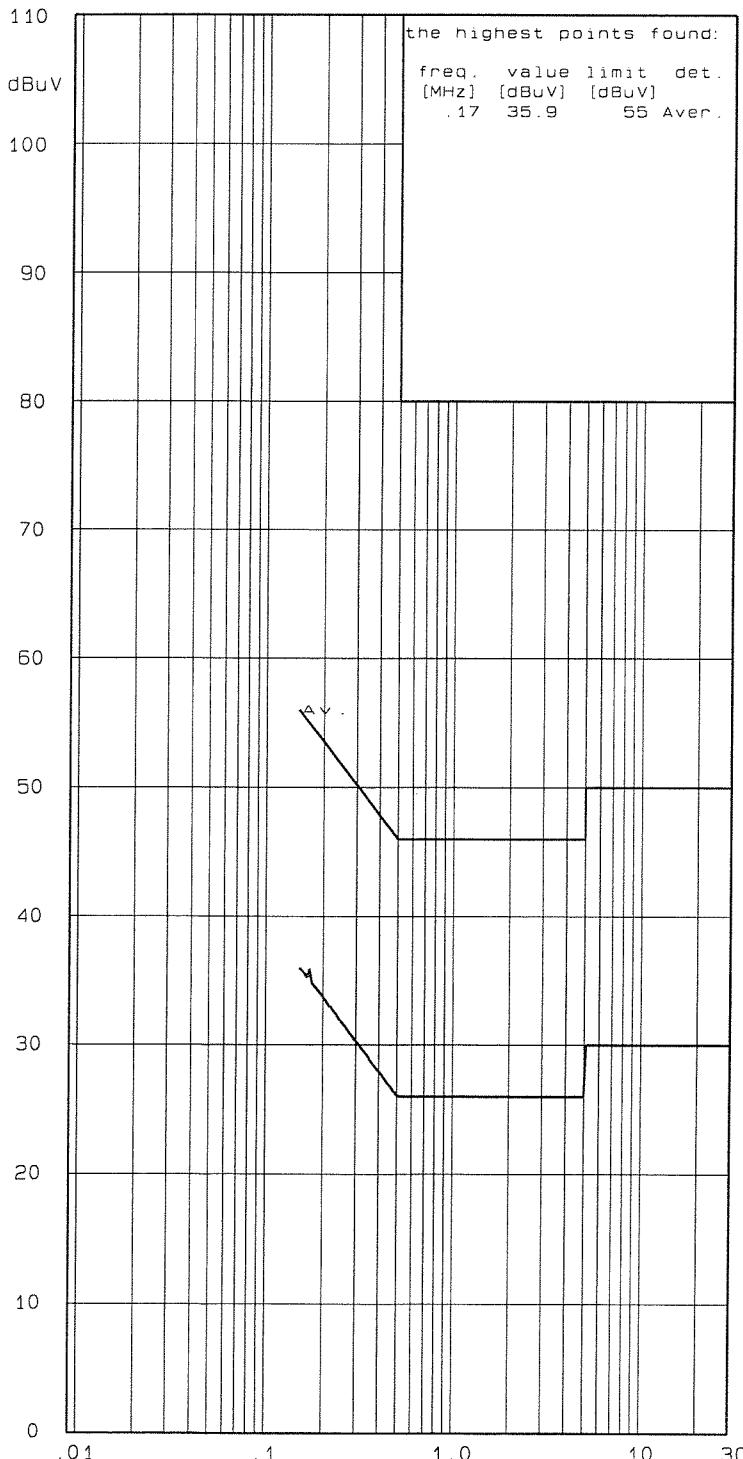
\* two dB safety margin for  
type approval necessary

Operator: WH

Result: OK

IECC

f [MHz]



U 5 / 6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107(a) Class B

Model: IPD-4200

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

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009

Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

AUX

(N)

--

RFI suppression parts:

--

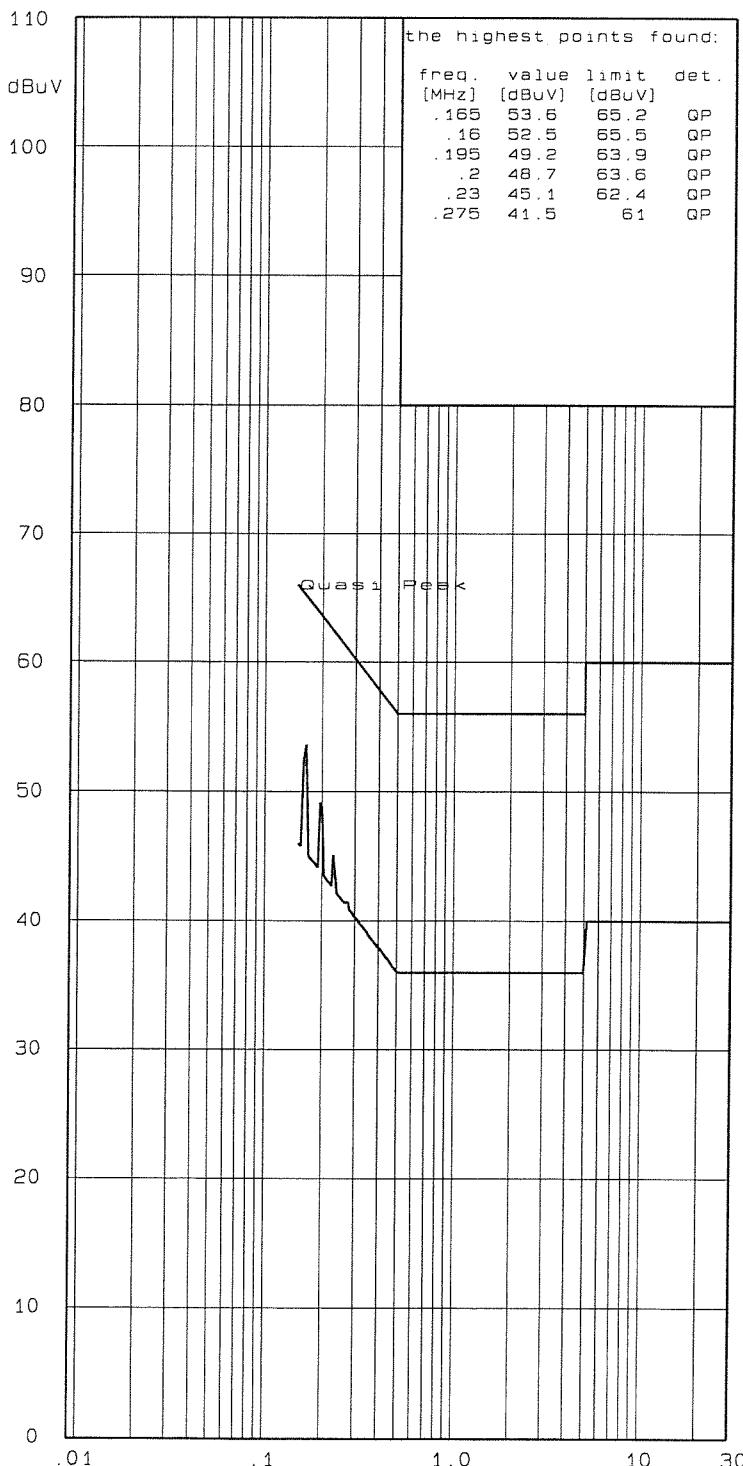
\* two dB safety margin for  
type approval necessary

Operator: WH

Result: *ok*

IECC

f [MHz]



**U 5 / 6**

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107 (a) Class B

Model: IPD-4200

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

Client : S.T.I. ELEC. LTD.

Product: SPEAKER IPOD DOCKING

IECC-No.: 52892

Date: 30 Sep 2009

Test equipment:

Rohde &amp; Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

AUX

(N)

--

RFI suppression parts:

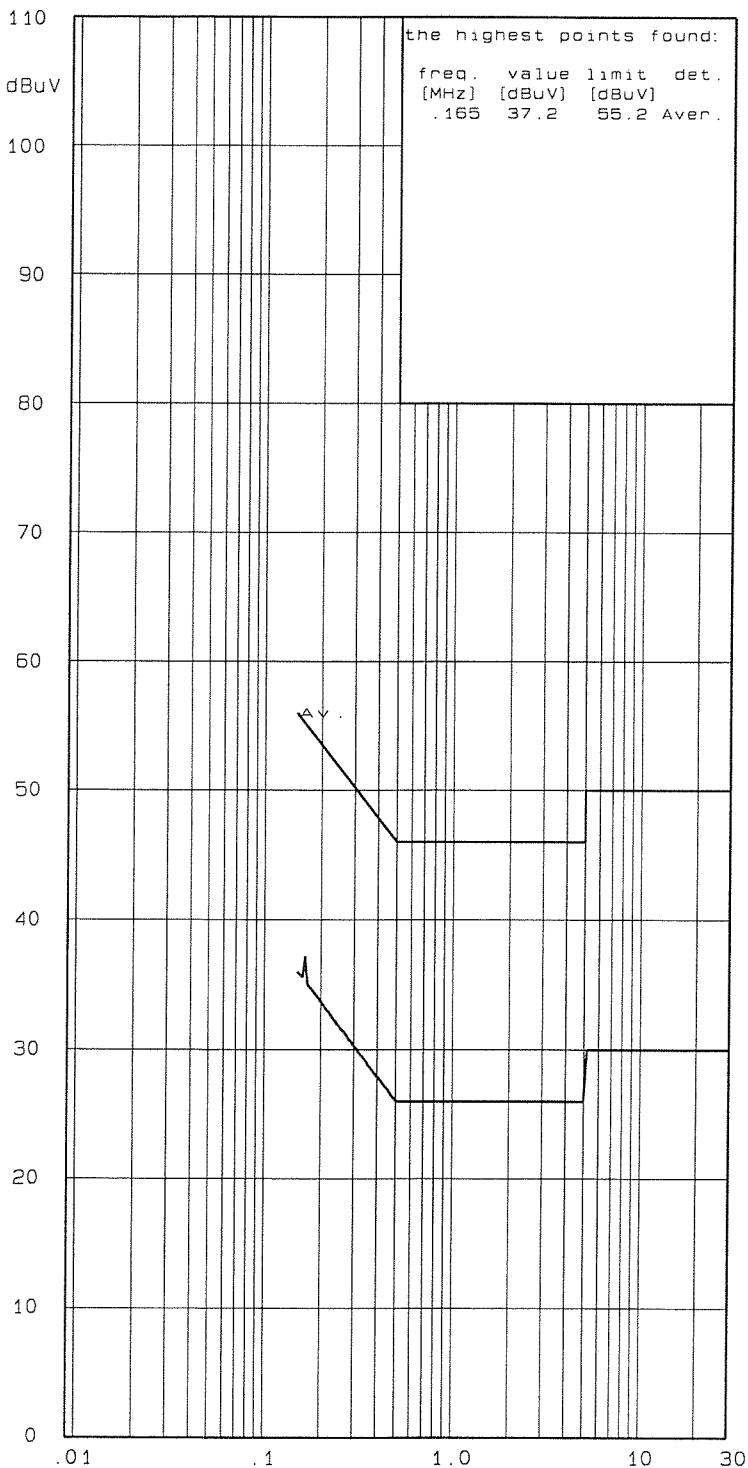
--

\* two dB safety margin for  
type approval necessary

Operator: WH

Result: 0 ✓

IECC



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### Photo of Sample



### Sample Outlook



### AC/DC Adaptor – Rating Plate

Address 地址: Units 602-605, 6/F., 31 Lok Yip Rd., On Lok Tsuen, Fanling, N.T., Hong Kong.  
China 中國: 香港新界粉嶺安樂村樂業路31號6樓602-605室  
Address 地址: IECC (Guangzhou) Services Co., Ltd. 廣州時並進技術服務有限公司  
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

Tel 電話: (852) 2305 2570  
Fax 傳真: (852) 2756 4480

Postcode 郵政編號: 510075

Tel 電話: (86-20) 8768 4838  
Fax 傳真: (86-20) 8768 3918

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E-mail 電子郵件: info@iecc.net.cn  
Home Page 網頁: <http://www.iecc.net.cn>