

APPLICATION FOR CERTIFICATION
On Behalf of

Philips Consumer Electronics Company

Digital Audio Player

Model Number	Brand Name
SA5285BT/37	PHILIPS

Prepared for : Philips Consumer Electronics Company
3029 East Governor John Sevier Highway, Knoxville,
Tennessee, 37914, United States

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
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Report Number : ACS-F08114
Date of Test : Feb.19~29, 2008
Date of Report : Mar.03, 2008

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Reg. No.: DAT-P-091/99-01

TEST REPORT CERTIFICATION

Applicant : Philips Consumer Electronics Company
 Factory (1) : Success Bright Industries -Goodview
 Factory (2) : Shenzhen Sang Fei Consumer Communications Co., Ltd
 Factory (3) : Philips Ltd. Assembly Centre Hungary (PACH)
 EUT Description : Digital Audio Player

(A) MODEL NO. & BRAND NAME :

Model Number	Brand Name
SA5285BT/37	PHILIPS

 (B) SERIAL NO. : N/A
 (C) POWER SUPPLY : DC 3.7V

Test Procedure Used:
 FCC Rules and Regulations Part 15 Subpart C 2007

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both radiated and conducted emissions.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Date of Test: Feb.19-29, 2008

Prepared by:

YoYo Wang
 YoYo Wang / Assistant

Reviewer:

Iceeman Hu
 Iceeman Hu / Supervisor



Approved & Authorized Signer:

Ken Lu / Deputy Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.4: 2003 DA 00-705	PASS
Radiated Emission Test	FCC Part 15: 15.247(d) ANSI C63.4: 2003 DA 00-705	PASS
Carrier Frequency Separation Test	FCC Part 15: 15.247(a)(1) DA 00-705	PASS
20 dB Bandwidth Test	FCC Part 15: 15.247(a)(1) DA 00-705	PASS
Number Of Hopping Frequency Test	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Dwell Time Test	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Maximum Peak Output Power Test	FCC Part 15: 15.247(b)(1) DA 00-705	PASS
Band Edge Compliance Test	FCC Part 15: 15.247(d) DA 00-705	PASS
MPE ESTIMATION	FCC Part 2: 2.1093	PASS

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Description : Digital Audio Player
This product is a Digital Audio Player with Bluetooth function, and it can transmit music to other Bluetooth Receiver. For detail information please see the user manual of this product.

Model Number &
Brand Name

Model Number	Brand Name
SA5285BT/37	PHILIPS

The “X” used in the series model SA528X/YY represents 0 to 9. All models included in this series models are identical in electrical, mechanical and physical, constructions except with different accessory (e g: FM radio earphone) and packaging used and colour of cosmetic. The marking artwork of all models included in these series model are exactly identical except with different model number and various safety marking.

Except the following(s) :	Stroke number, Packaging and memory size are differences /YY
	/07 denote sales for U.S.A. and the packaging in Blister type /17 denote sales for Canada and the packaging in Blister type /37 denote sales for USA and Canada and the packaging in Blister type

Remarks: All series model do not by-back with the AC-DC adaptor and plastic painting color as non-conductive type.

Operation frequency : 2.402GHz-----2.480GHz

Operation Channel : 79Channels

Radio Technology : Bluetooth

Antenna Assembly : 1.7dBi(maximum)
Gain

Power Supply : Battery 3.7V or DC 5V form PC USB port, and the worst case is DC 5V Form computer USB port in exploratory measurements, So all the final test data below were only DC 5V recorded.

Applicant : Philips Consumer Electronics Company
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China

Factory (2) Shenzhen Sang Fei Consumer Communications Co., Ltd
11 Science and Technology Road, ShenZhen Hi-tech Industrial
Park, Nanshan District, ShenZhen, PRC

Factory (3) Philips Ltd. Assembly Centre Hungary (PACH)
Szekesfehervar Holland fasor 6. H-8000 Hungary

USB Cable : Unshielded, Detachable, 1.5m

Earphone : Manufacturer: CommTech Technology Macao Commercial
Offshore Ltd.
M/N: SHE9700

Date of Test : Feb.19~29, 2008

Date of Receipt : Feb.18, 2008

Sample Type : Series Production

2.2. Tested Supporting System Details

2.2.1. Notebook

Manufacturer : Compaq
M/N : EVON410C
Adaptor : Manufacturer: DELTA ELECTRONICS INC.
M/N: ADP-60JB
S/N: DND9937121108
Cable: Unshielded, Detachable, 4.0m

2.2.2. RS232 Cable : Unshielded, Detachable, 1.5m

2.3. Test Facility

Site Description

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block, Shenzhen
Science & Industrial Park, Nantou,
Shenzhen, Guangdong, China

3m Anechoic Chamber : Jun. 13, 2006 File on Federal
Communication Commission
Registration Number: 90454

3m & 10m Anechoic Chamber : Jan. 31, 2007 File on Federal
Communication Commission
Registration Number: 794232

EMC Lab. : Accredited by DATech, German
Registration Number: DAT-P-091/99-01
Feb. 02, 2004

Accredited by NVLAP, USA
NVLAP Code: 200372-0
Apr. 01, 2007

2.4. Measurement Uncertainty

No.	Item	Uncertainty	Remark
1.	Conducted Emission Test	1.22dB	
2.	Radiated Emission Test	3.14dB	3m Chamber
3.	Radiated Emission Test	3.18dB	10m Chamber
4.	RF frequency	$\pm 0.5 \times 10^{-7}$	
5.	RF power, conducted	± 3 dB	

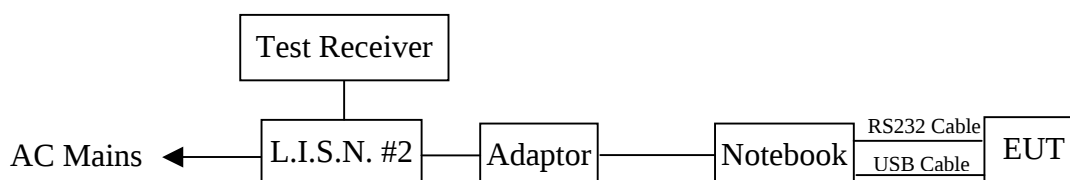
3. POWER LINE CONDUCTED EMISSION TEST

3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	838693/001	Dec.19, 07	1 Year
2.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May 11, 07	1 Year
3.	Terminator	Hubersuhner	50Ω	No. 1	May 11, 07	1 Year
4.	RF Cable	MIYAZAKI	5D-2W	LISN Cable 1#	Jan.09, 08	1/2 Year
5.	Coaxial Switch	Anritsu	MP59B	M55367	Jan.09, 08	1/2 Year
6.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100340	Jan.09, 08	1/2 Year

3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: Digital Audio Player)

3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB (μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1.Digital Audio Player (EUT)

Model Number : SA5285BT/37

Serial Number : N/A

3.4.2.Support Equipment : As Tested Supporting System Detail, in Section 2.2..

3.5.Operating Condition of EUT

3.5.1.Setup the EUT and simulator as shown as Section 3.2.

3.5.2.Turned on the power of all equipment.

3.5.3.Let the EUT worked in test mode (TX) and measured it.

3.6.Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). Please refer the block diagram of the test setup and photographs. Power on the PC and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC Part 15C on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS10) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

The test results are reported on Section 3.7.

3.7.Power Line Conducted Emission Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)

The EUT with the following test modes was tested and selected (mode 1) to read Q.P values and average values, all the test results are listed in next pages.

EUT: Digital Audio Player Model No. : SA5285BT/37

Test Date: Feb.20, 2008 Temperature: 23℃ Humidity: 54%

The details of test modes are as follows :

No.	Test Mode	Reference Test Data No.	
		VA	VB
1.	TX Mode	# 5	# 6

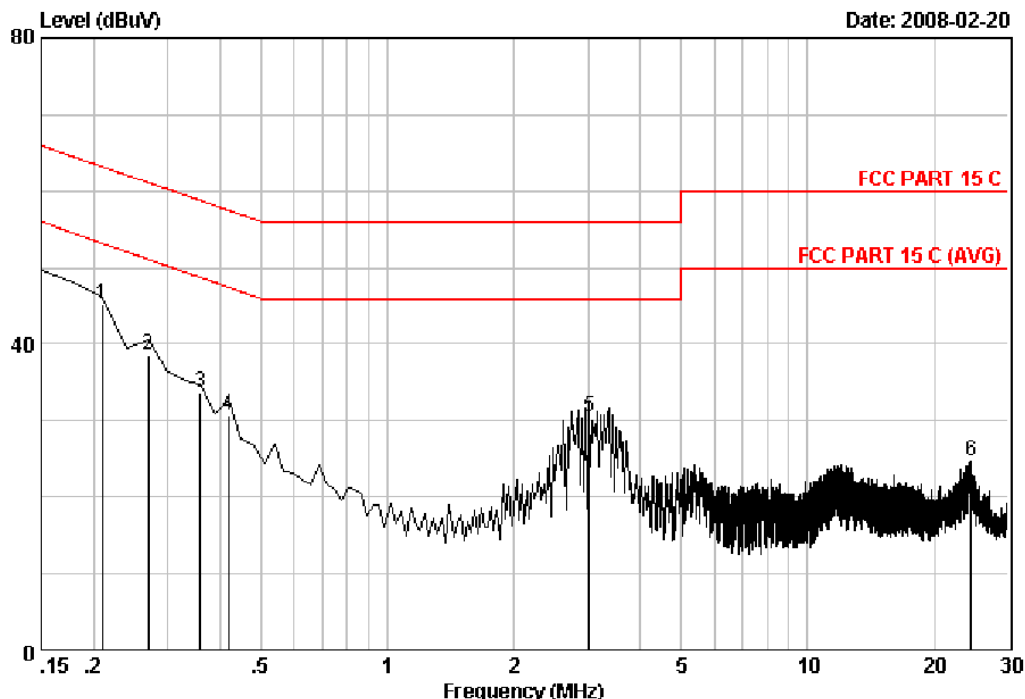


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Data: 5

File: D:\emc_002\DATA\2008 Report\PHILIPS\ACS8QH009.EMI (10)

Date: 2008-02-20



Site no : AUDIX No.1 Conduction Data no : 5
Dis./Ant. : — KNU407 VA (1#)
Limit : FCC PART 15 C
Env./Ins. : Temp:23' Humi:54% ESHS10 Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating : DC 5V From PC 120W/60Hz
Test Mode : Tx Mode
Memo :

No	Freq	LISN Factor	Cable Loss	Reading	Emission Level	Limits	Margin	Remark
1	0.21	0.15	10.15	34.88	45.18	63.22	18.04	QP
2	0.27	0.13	10.15	28.22	38.50	61.14	22.64	QP
3	0.36	0.10	10.14	23.42	33.66	58.75	25.09	QP
4	0.42	0.08	10.14	20.55	30.77	57.47	26.70	QP
5	3.02	0.08	10.17	20.23	30.48	56.00	25.52	QP
6	24.48	0.55	10.34	13.89	24.78	60.00	35.22	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
2.If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.
Scan setting:9kHz-149.9kHz step(100Hz) IF B/W 0.2kHz Meas.Time:100ms
150kHz-30MHz step(10kHz) IF B/W 10kHz Meas.Time:100ms
Final Setting:IF B/W 9kHz Meas.Time:1sec

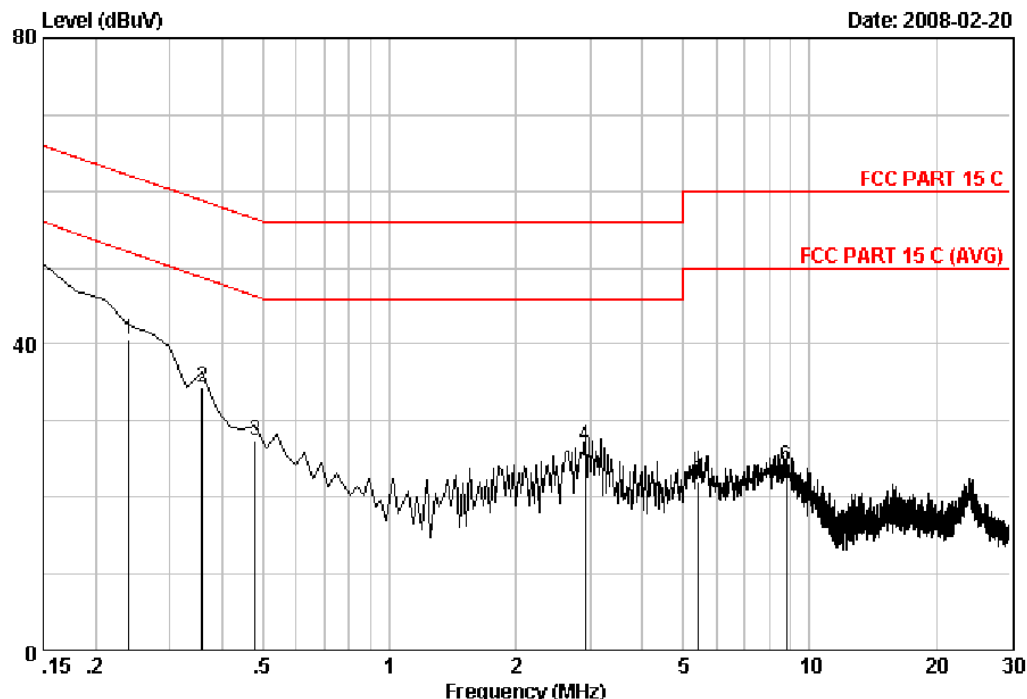


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Data: 6

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Date: 2008-02-20



Site no : AUDIX No.1 Conduction Data no : 6
 Dis./Ant. : — KNU407 VB (1#)
 Limit : FCC PART 15 C
 Env./Ins. : Temp:23' Humi:54% ESHS10 Engineer : Jamy
 EUT : Digital Audio Player M/N:SA5285BT/37
 Power Rating : DC 5V From PC 120W/60Hz
 Test Mode : Tx Mode
 Memo :

No	Freq	LISN Factor	Cable Loss	Reading	Emission Level	Limits	Margin	Remark
1	0.24	0.14	10.15	30.23	40.52	62.11	21.59	QP
2	0.36	0.10	10.14	24.15	34.39	58.75	24.36	QP
3	0.48	0.06	10.14	17.24	27.44	56.37	28.93	QP
4	2.93	0.08	10.17	16.57	26.82	56.00	29.18	QP
5	5.40	0.10	10.20	11.68	21.98	60.00	38.02	QP
6	8.81	0.15	10.24	13.57	23.96	60.00	36.04	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
 2.If the average limit is met when using a quasi-peak detector.
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.
 Scan setting:9kHz-149.9kHz step(100Hz) IF B/W 0.2kHz Meas.Time:100ms
 150kHz-30MHz step(10kHz) IF B/W 10kHz Meas.Time:100ms
 Final Setting:IF B/W 9kHz Meas.Time:1sec

4. RADIATED EMISSION TEST

4.1. Test Equipment

The following test equipments are used during the radiated emission test:

4.1.1. For Anechoic Chamber

Frequency rang: 30~1000MHz

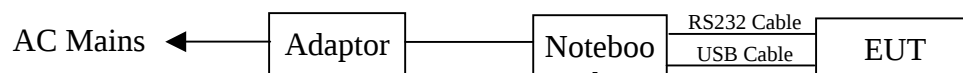
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Dec.20.07	1/2 Year
2.	EMI Spectrum	Agilent	E7403A	MY42000106	May 11, 07	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS20	830350/005	Dec.19, 07	1 Year
4.	Amplifier	HP	8447D	2944A04738	Jan.09, 08	1/2 Year
5.	Bilog Antenna	Schaffner	CBL6111C	2598	Feb.21, 08	1 Year
6.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.1	Jan.09, 08	1/2 Year
7.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.2	Jan.09, 08	1/2 Year
8.	RF Cable	FUJIKURAw	RG-55/U	3# Chamber No.3	Jan.09, 08	1/2 Year
9.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.4	Jan.09, 08	1/2 Year
10.	Coaxial Switch	Anritsu	MP59B	M73989	Jan.09, 08	1/2 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	Antenna	EMCO	3116	00060088	May 28, 07	1 Year
5.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

4.2. Block Diagram of Test Setup

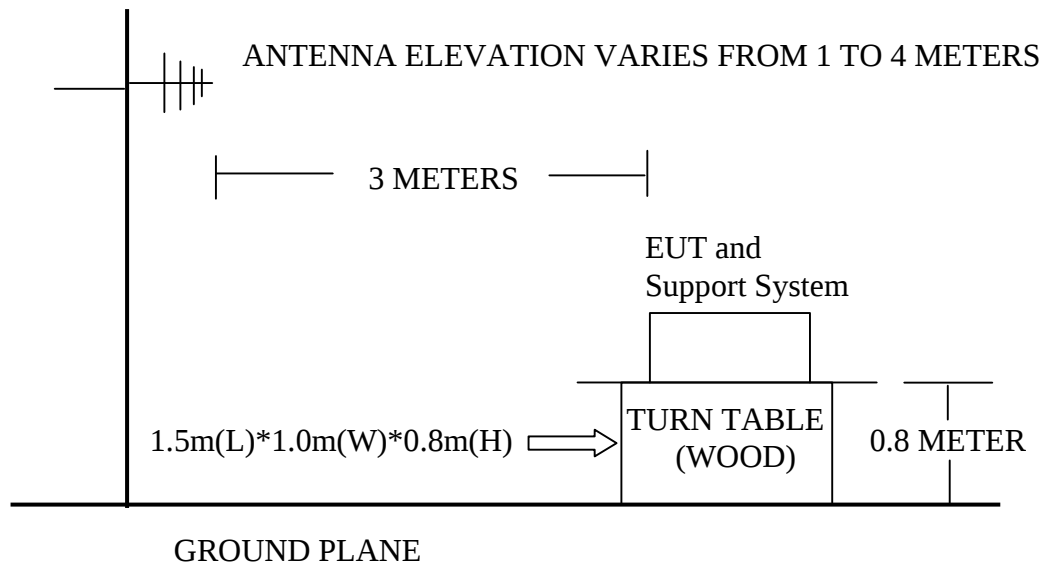
4.2.1. Block diagram of connection between the EUT and simulators



(EUT: Digital Audio Player)

4.2.2. In Anechoic Chamber

ANTENNA TOWER



4.3. Radiated Emission Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB (μV)/m (Peak) 54.0 dB (μV)/m (Average)	

- Remark :
- (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V/m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.4. EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.4.1. Digital Audio Player (EUT)

Model Number : SA5285BT/37
Serial Number : N/A

4.4.2. Supporting Equipment : As Tested Supporting System Detail, in Section 2.2.

4.5. Operating Condition of EUT

4.5.1. Setup the EUT as shown in Section 4.2.

4.5.2. Turned on the power of all equipment.

4.5.3. Let the EUT work in test mode (TX) and tested it.

4.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it work normally, we use a keyboard test software, let EUT working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position and all the final test data below were recorded in X position.

The bandwidth of the EMI test receiver (R&S ESVS20) is set at 120kHz.

frequency range from 30MHz to 1000 MHz.

The bandwidth of the VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emission above 1GHz

The frequency ranges from 30MHz to 10th harmonic (25GHz) are checked.

The test modes (TX Mode) are tested in Anechoic Chamber and all the scanning waveforms are reported with antenna in horizontal and vertical polarization on Section 4.7.

4.7. Radiated Emission Test Results

PASS.

The frequency range from 30MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 120kHz RBW below 1GHz and a Peak and Average detector with 1MHz RBW above 1GHz,

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 300kHz VBW below 1GHz and a Peak detector with 1MHz VBW above 1GHz, A average detector with 10Hz VBW above 1GHz

The radiated emissions from 18GHz to 25 GHz were Peak measured and complied with average limits, so the average level was deemed to meet average limits.

Test Date: Feb.19~29, 2008 Temperature: 24℃ Humidity: 56%

The details of test modes are as follows :

Test Mode	Frequency (MHz)	Test Mode	Reference Test Data No.	
			Horizontal	Vertical
1.	30~1000	Tx Mode	#2	#1
2.	1000~18000	Tx 2402MHz	#1(P), #2(Av)	#3(P), #4(Av)
3.		Tx 2441MHz	#7(P), #8(Av)	#5(P), #6(Av)
4.		Tx 2480MHz	#9(P), #10(Av)	#11(P), #12(Av)
5.	18000~25000	Tx 2402MHz	#34	#35
6.		Tx 2441MHz	#37	#36
7.		Tx 2480MHz	#38	#39
Note: “P” means “peak”, “Av” means “average”				

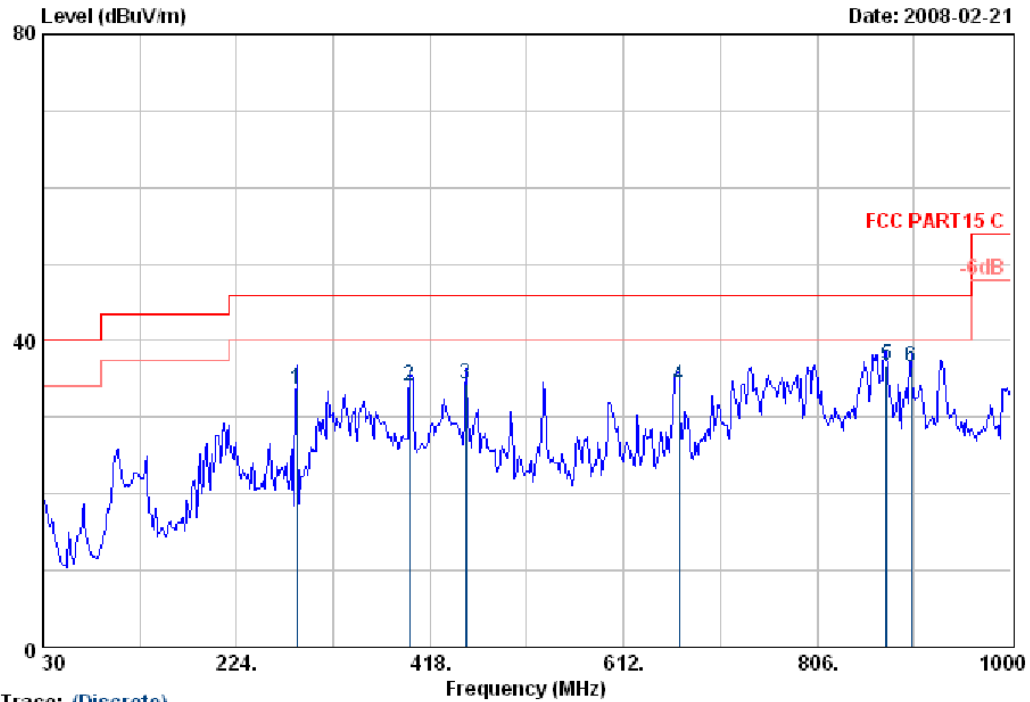


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Data: 2

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Date: 2008-02-21



Trace: (Discrete)

Site no. : 3# Chamber Radiation Data no. : 2
Dis. / Ant. : 3m 2598 Ant. pol. : HORIZONTAL
Limit : FCC PART15 C
Env. / Ins. : 24°C/56% ESVS20 Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating : DC 5V From PC 120V/60Hz
Test Mode : Tx Mode

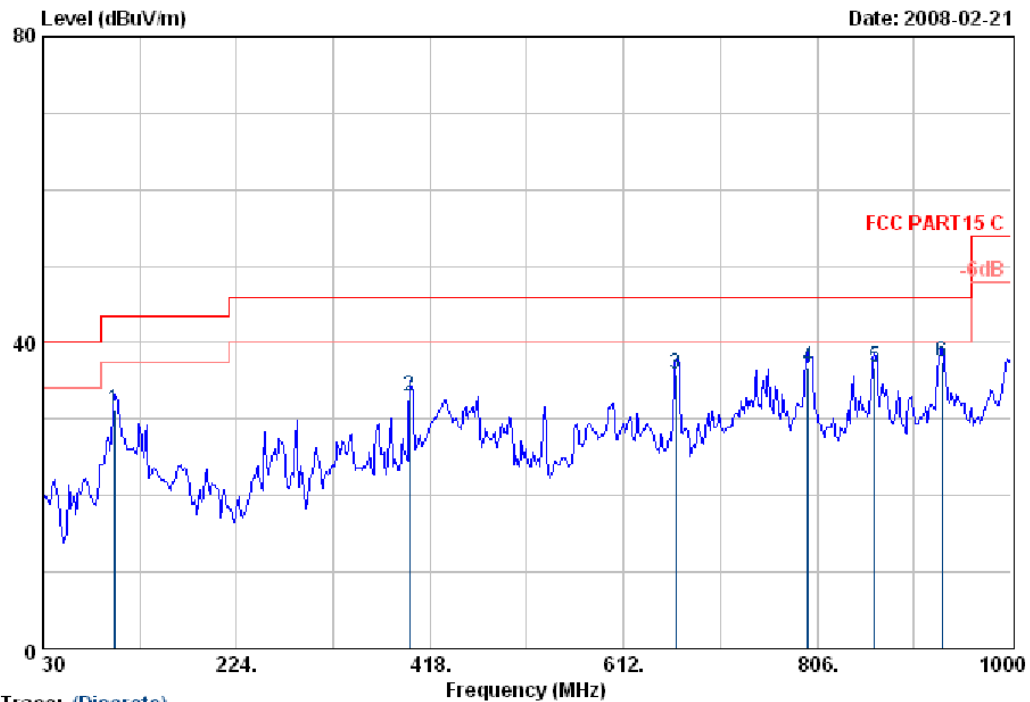
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	284.14	13.38	1.59	18.76	33.73	46.00	12.27	QP
2	397.63	16.42	1.85	15.82	34.09	46.00	11.91	QP
3	453.89	17.18	1.88	15.28	34.34	46.00	11.66	QP
4	667.29	20.50	2.29	11.35	34.14	46.00	11.86	QP
5	875.84	22.76	2.59	11.44	36.79	46.00	9.21	QP
6	900.09	22.90	2.52	11.09	36.51	46.00	9.49	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Data: 1 File: D:\2008 Test Datap\PHLIFS\ACS80H009.EMI (8)



Trace: (Discrete)

Site no.	: 3# Chamber Radiation	Data no.	: 1
Dis. / Ant.	: 3m 2598	Ant. pol.	: VERTICAL
Limit	: FCC PART15 C		
Env. / Ins.	: 24°C/56% ESVS20	Engineer	: Jamy
EUT	: Digital Audio Player	M/N:	SA5285BT/37
Power Rating	: DC 5V From PC 120V/60Hz		
Test Mode	: Tx Mode		

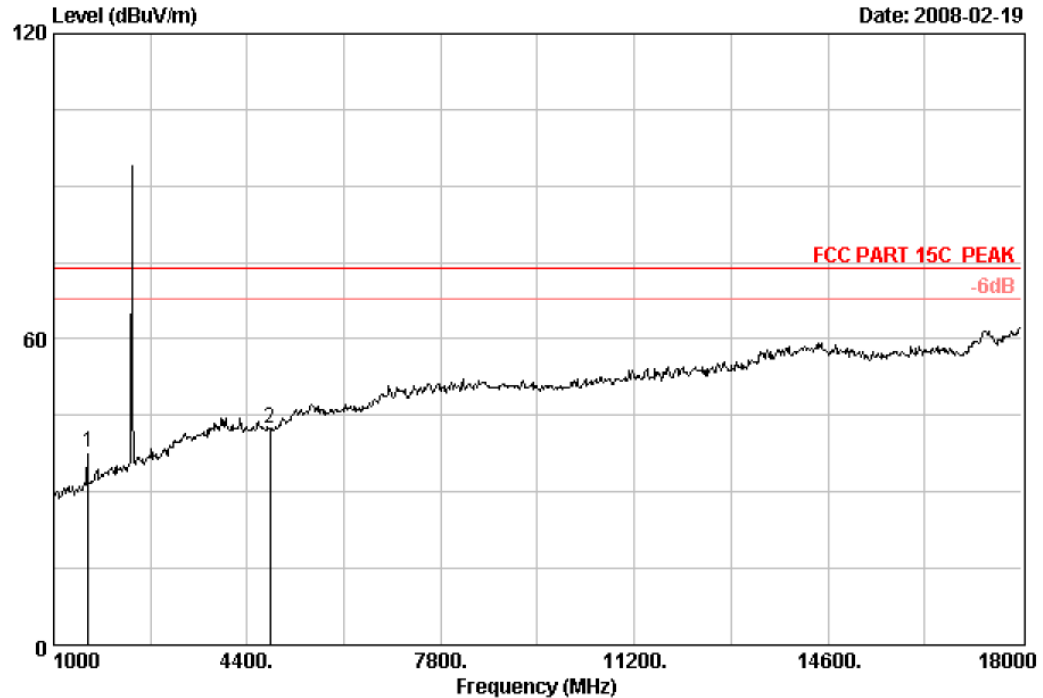
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	101.78	10.68	1.09	19.54	31.31	43.50	12.19	QP
2	397.63	16.42	1.85	14.70	32.97	46.00	13.03	QP
3	664.38	20.48	2.18	13.18	35.84	46.00	10.16	QP
4	797.27	21.86	2.63	12.23	36.72	46.00	9.28	QP
5	863.23	22.80	2.68	11.28	36.76	46.00	9.24	QP
6	931.13	23.64	2.73	11.16	37.53	46.00	8.47	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Postcode:518057

Data: 1 File: D:\2008 report data\PHILIPS.EMI (33)



Site no. : RF Chamber Data no. : 1
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2402MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1601.33	25.91	5.46	35.66	42.17	37.88	74.00	36.12	Peak
2	4804.00	33.98	10.53	34.50	32.43	42.44	74.00	31.56	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

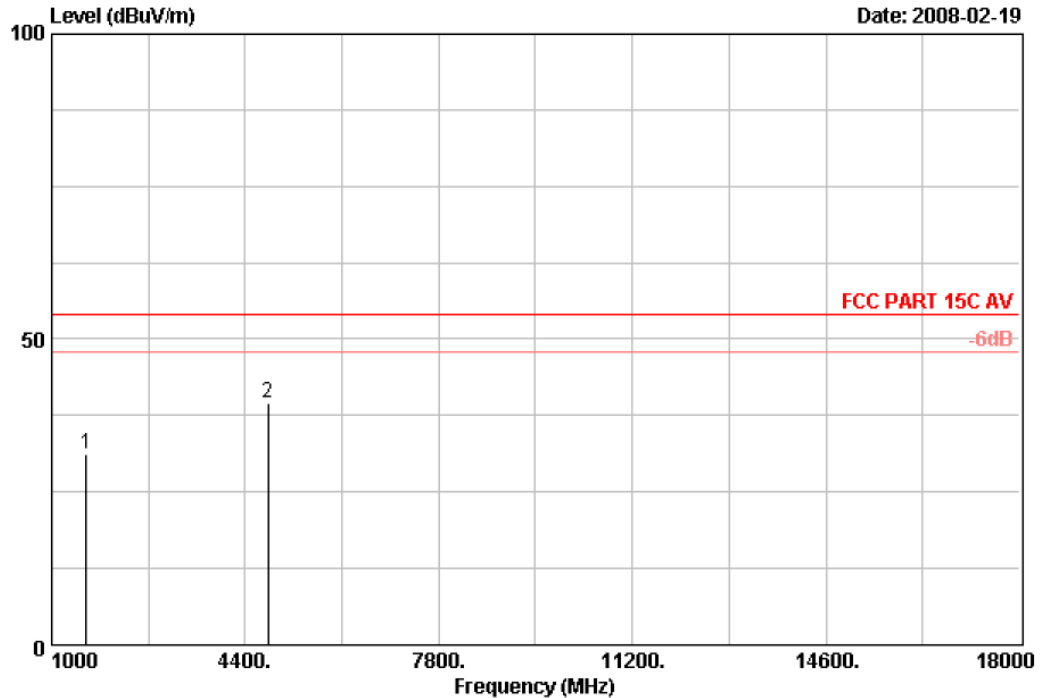


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Data: 2

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 2
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2402MHz

		Ant.	Cable	Amp		Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	1601.33	25.91	5.46	35.66	35.43	31.14	54.00	22.86	Average	
2	4804.00	33.98	10.53	34.50	29.42	39.43	54.00	14.57	Average	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

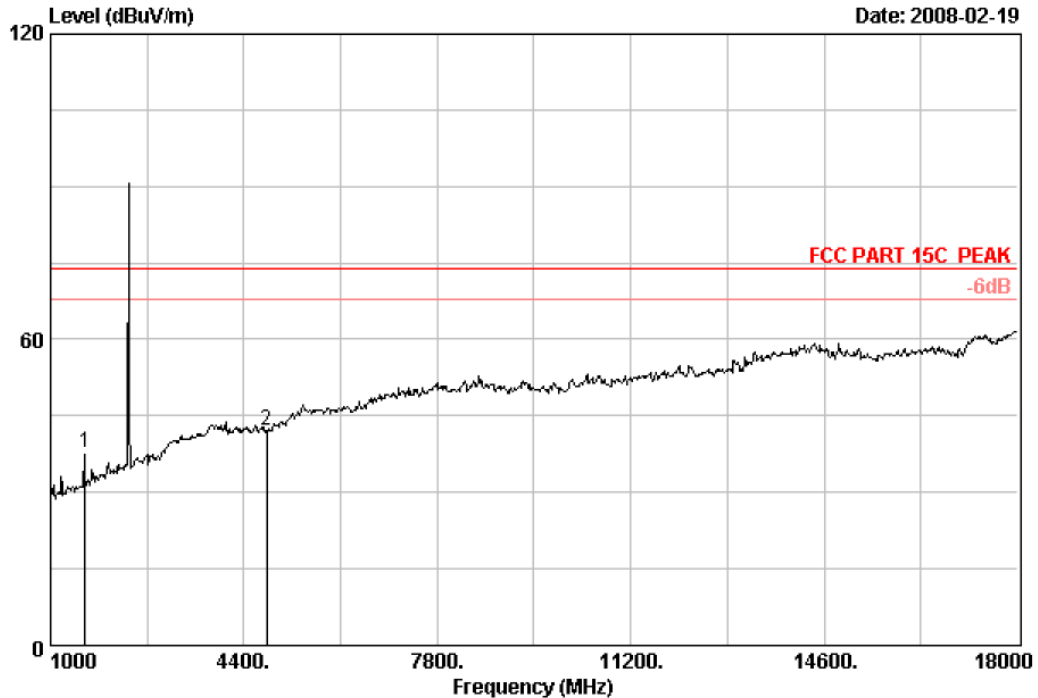


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Data: 3

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 3
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1601.33	25.91	5.46	35.66	42.19	37.90	74.00	36.10	Peak
2	4804.00	33.98	10.53	34.50	31.96	41.97	74.00	32.03	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

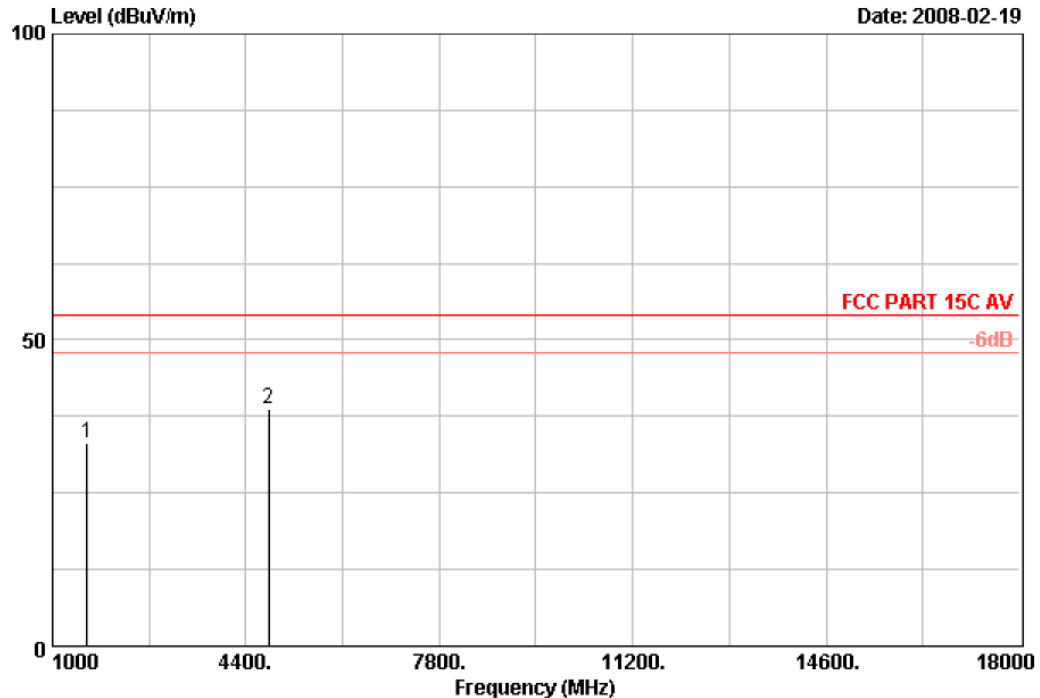


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Data: 4

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 4
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2402MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1601.33	25.91	5.46	35.66	37.37	33.08	54.00	20.92	Average
2	4804.00	33.98	10.53	34.50	28.75	38.76	54.00	15.24	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

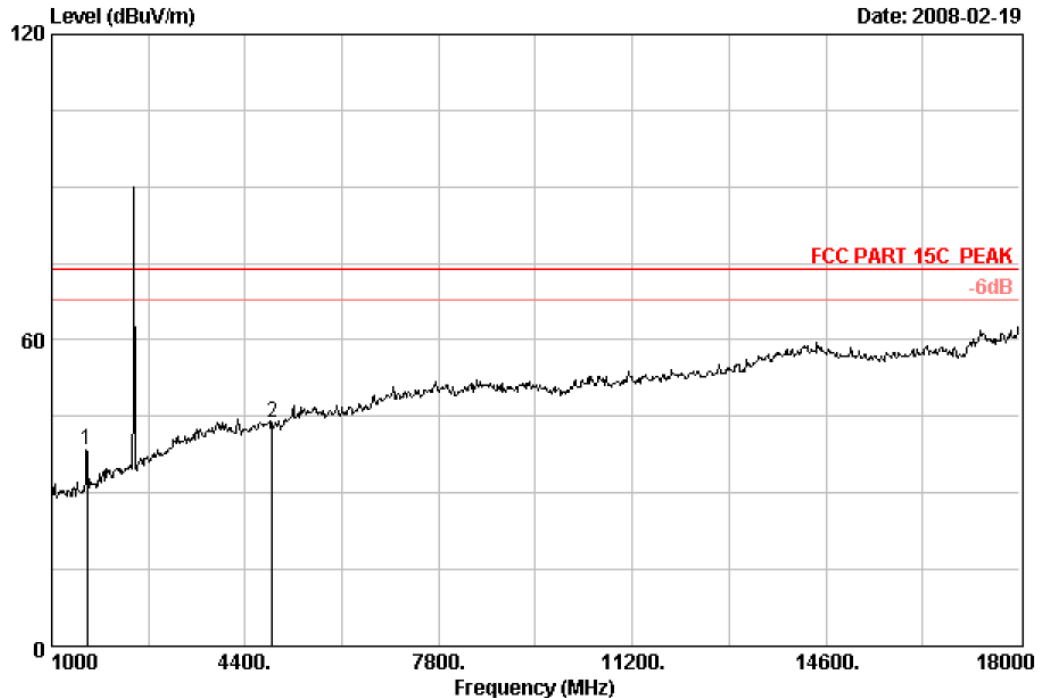


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Data: 7

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 7
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2441MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1627.33	26.09	5.50	35.64	42.52	38.47	74.00	35.53	Peak
2	4882.00	34.16	10.57	34.48	33.51	43.76	74.00	30.24	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

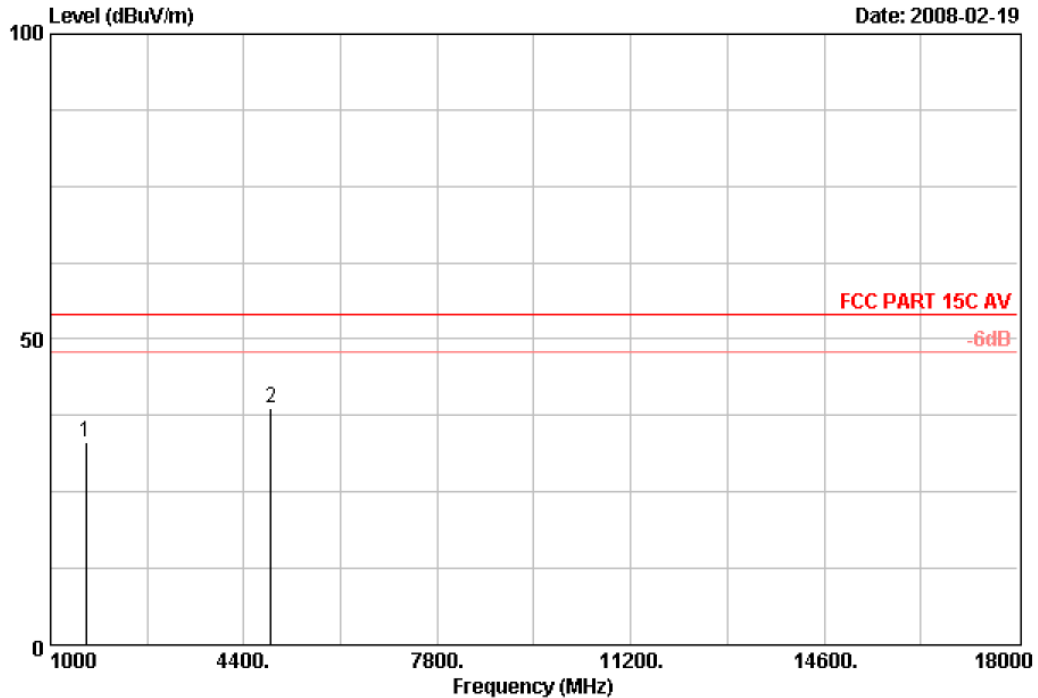


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Data: 8

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 8
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2441MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1627.33	26.09	5.50	35.64	37.16	33.11	54.00	20.89	Average
2	4882.00	34.16	10.57	34.48	28.56	38.81	54.00	15.19	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

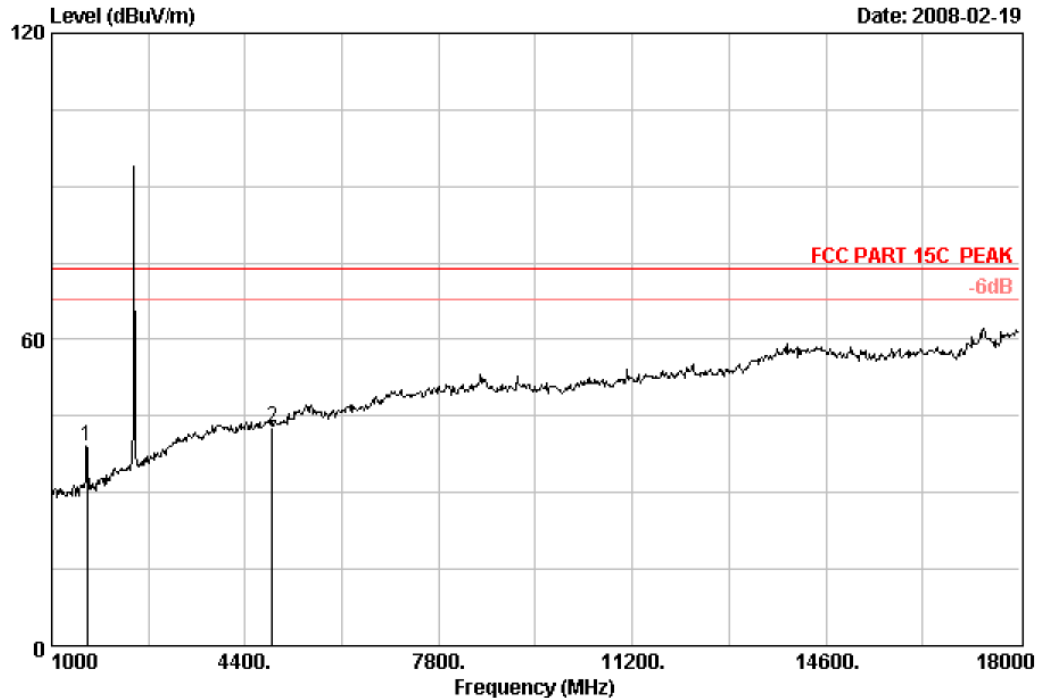


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Data: 5

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 5
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2441MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1627.33	26.09	5.50	35.64	43.25	39.20	74.00	34.80	Peak
2	4882.00	34.16	10.57	34.48	32.46	42.71	74.00	31.29	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

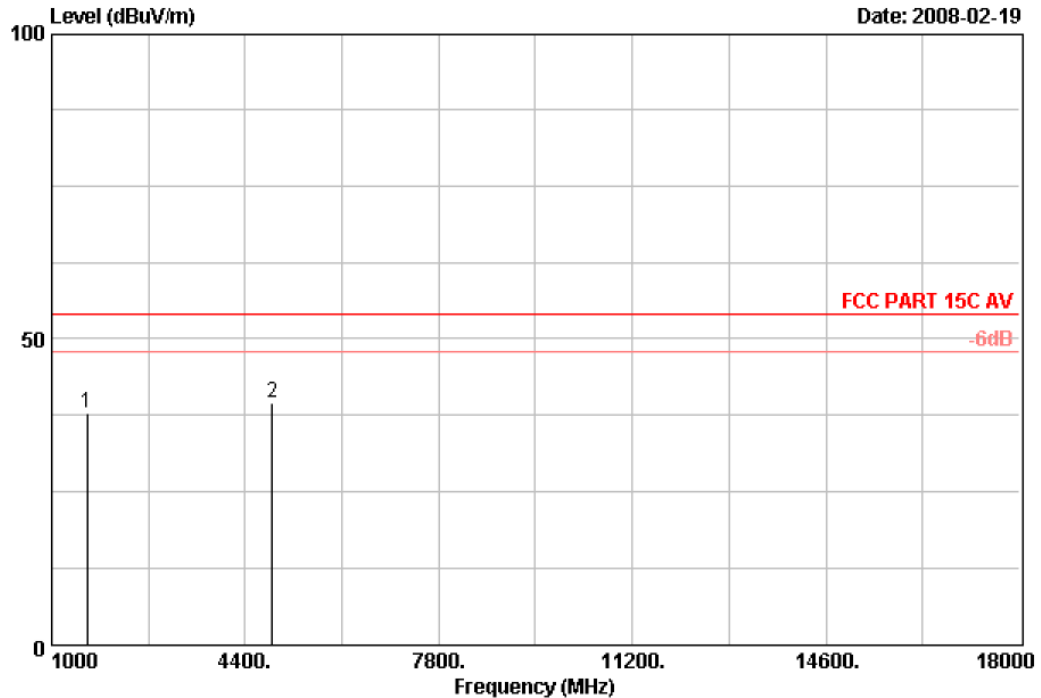


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Data: 6

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Date: 2008-02-19



Site no. : RF Chamber Data no. : 6
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2441MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1627.33	26.09	5.50	35.64	41.97	37.92	54.00	16.08	Average
2	4882.00	34.16	10.57	34.48	29.32	39.57	54.00	14.43	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

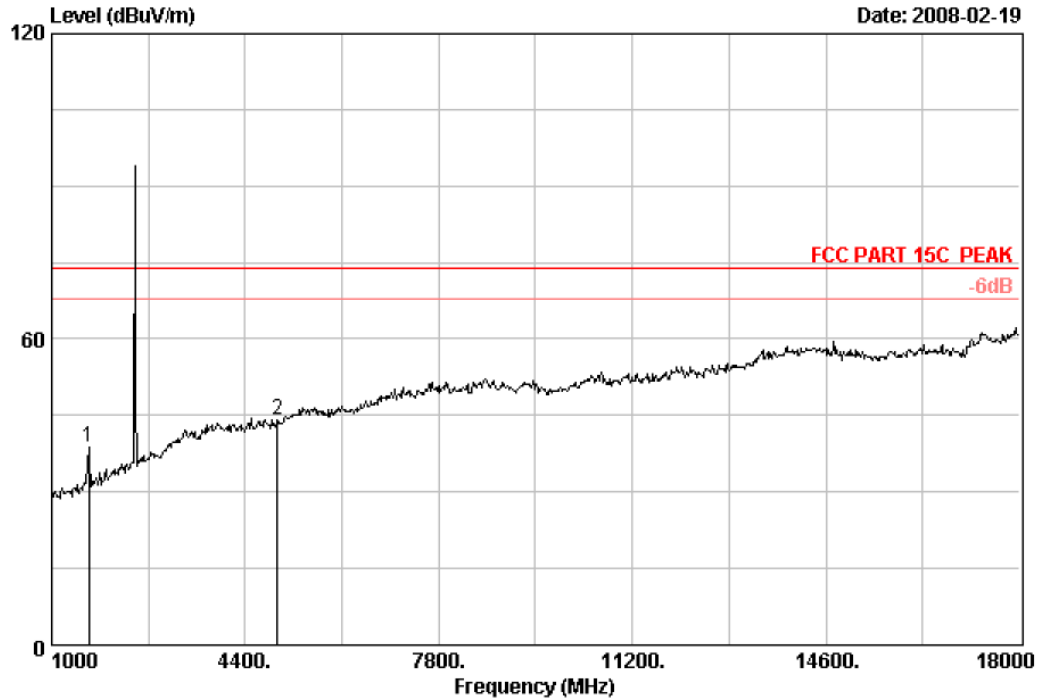


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Data: 9

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 9
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2480MHz

		Ant.	Cable	Amp		Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	1653.33	26.18	5.57	35.61	42.63	38.77	74.00	35.23	Peak	
2	4960.00	34.38	10.59	34.46	33.53	44.04	74.00	29.96	Peak	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

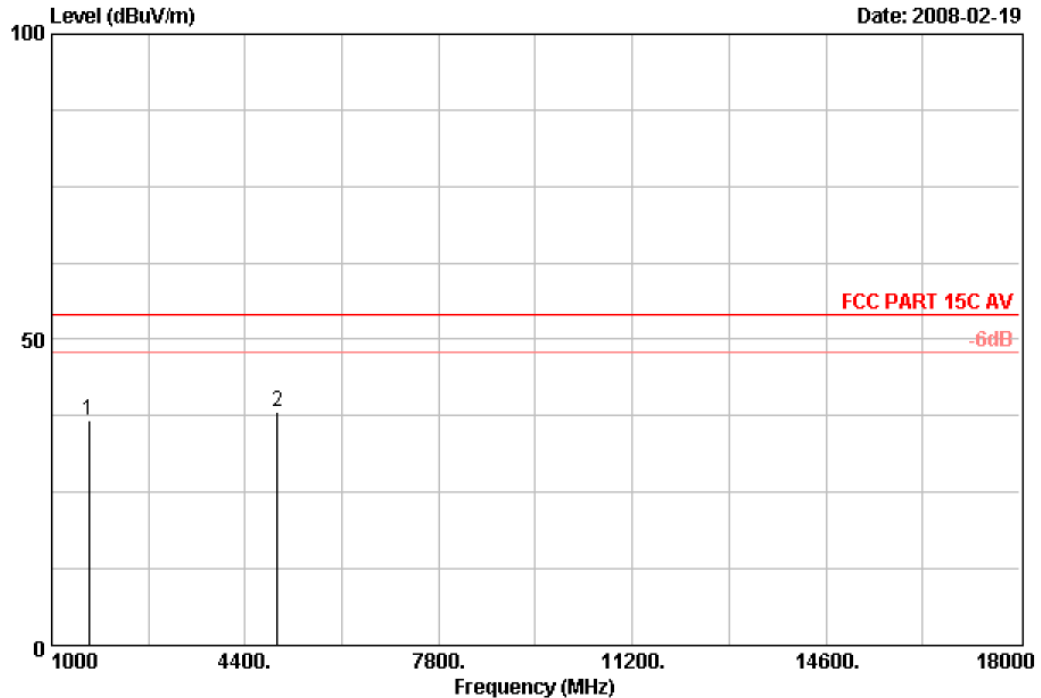


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Data: 10

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 10
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2480MHz

		Ant.	Cable	Amp		Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	1653.33	26.18	5.57	35.61	40.57	36.71	54.00	17.29	Average	
2	4960.00	34.38	10.59	34.46	27.52	38.03	54.00	15.97	Average	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

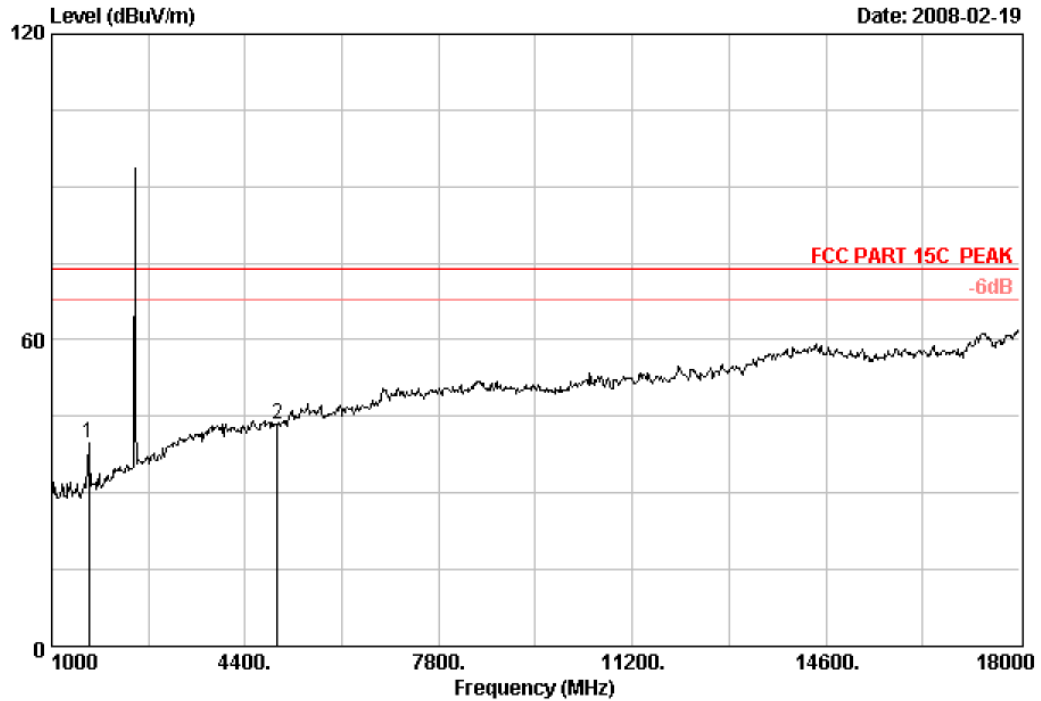


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Data: 11

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 11
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2480MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1653.33	26.18	5.57	35.61	43.71	39.85	74.00	34.15	Peak
2	4960.00	34.38	10.59	34.46	32.81	43.32	74.00	30.68	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

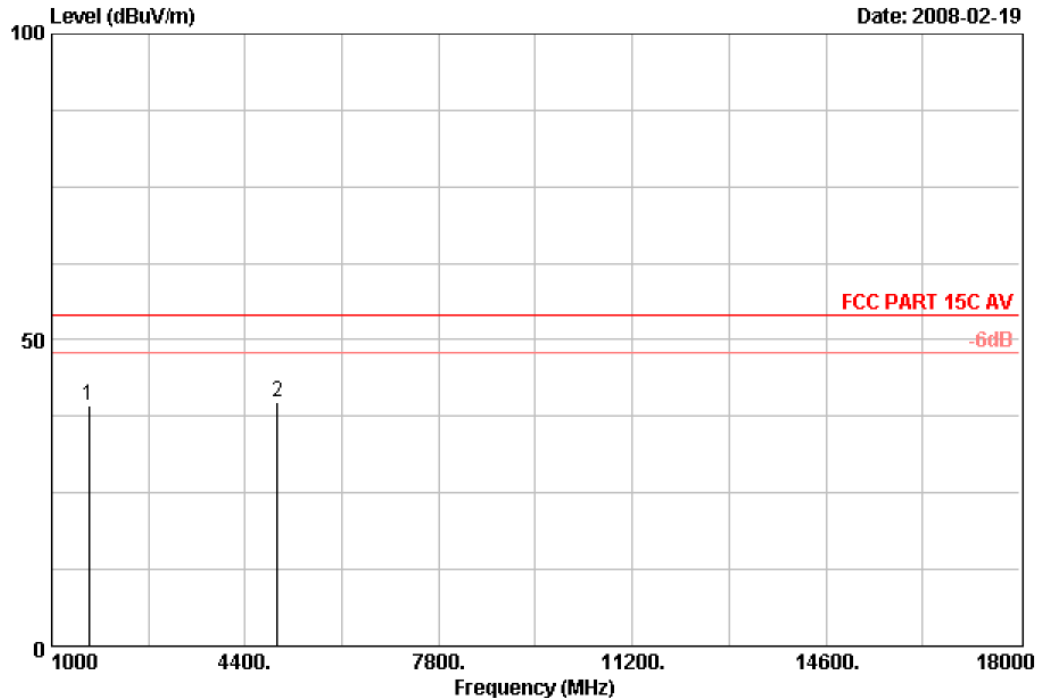


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Data: 12

File: D:\2008 report data\PHILIPS.EMI (33)

Date: 2008-02-19



Site no. : RF Chamber Data no. : 12
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2480MHz

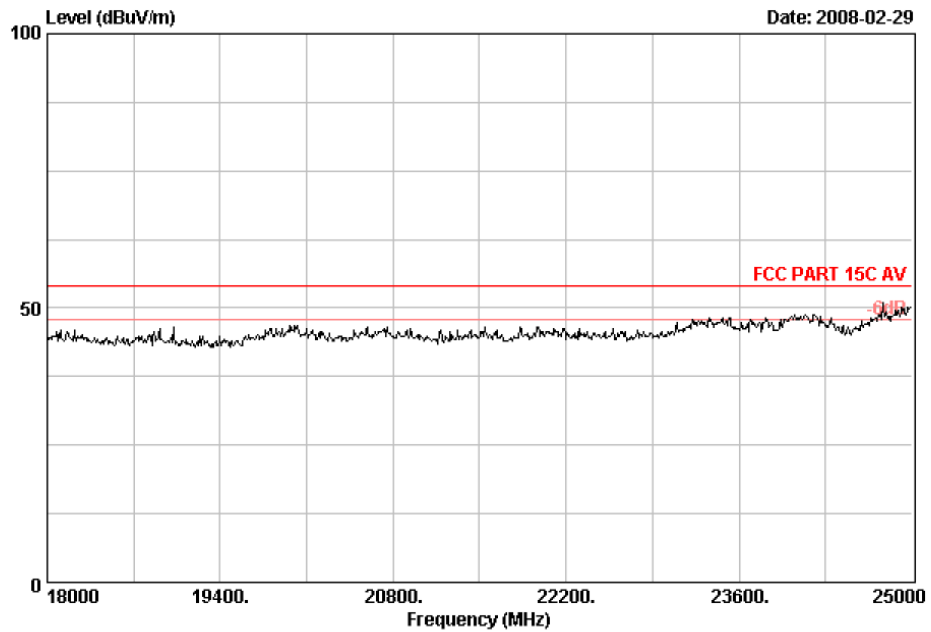
		Ant.	Cable	Amp		Emission			
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1653.33	26.18	5.57	35.61	43.20	39.34	54.00	14.66	Average
2	4960.00	34.38	10.59	34.46	29.31	39.82	54.00	14.18	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



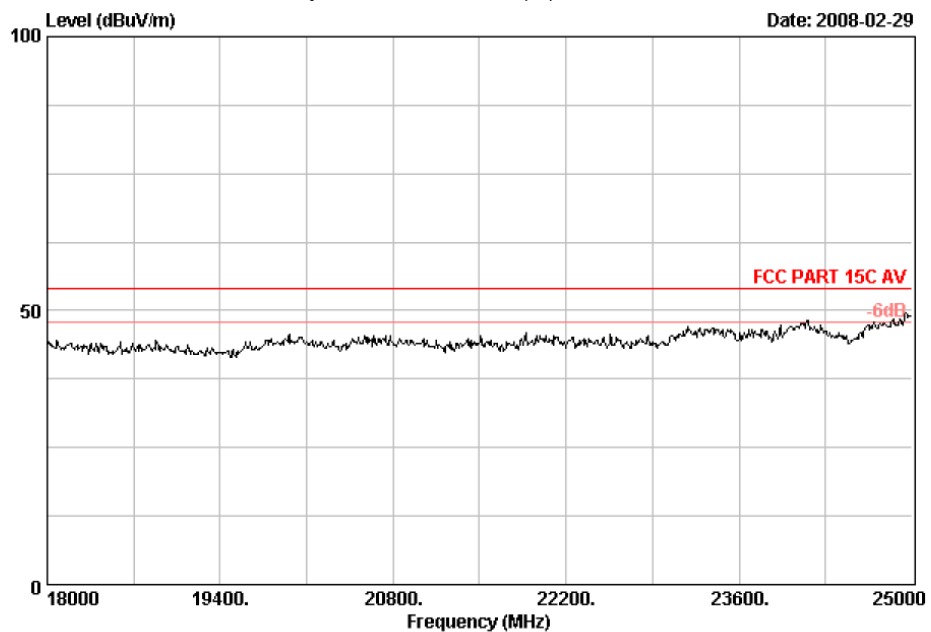
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Site no. : RF Chamber Data no. : 34
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2402MHz

Data: 35 File: D:\2008 report data\PHILIPS.EMI (39)

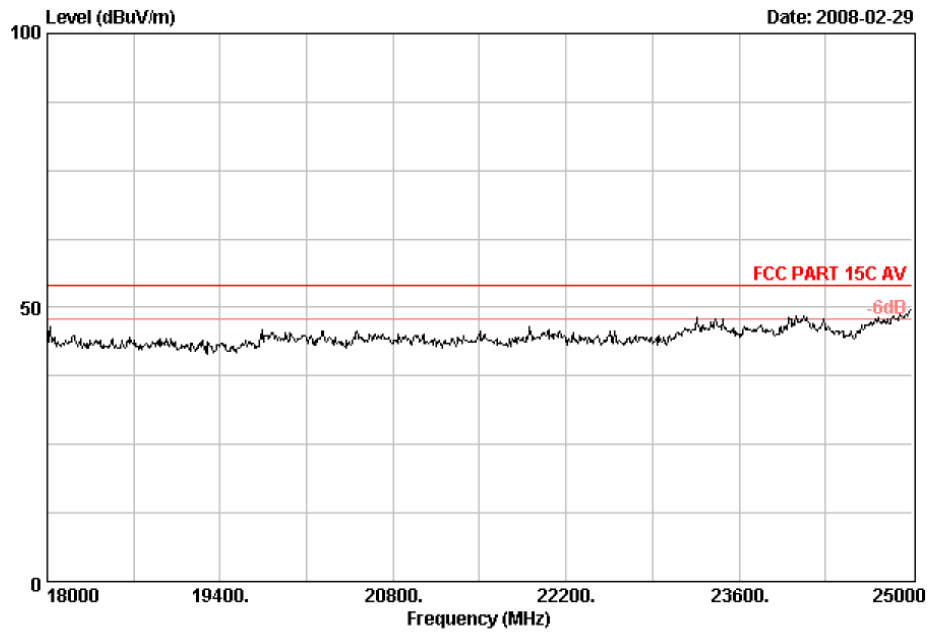


Site no. : RF Chamber Data no. : 35
Dis. / Ant. : 3m Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2402MHz



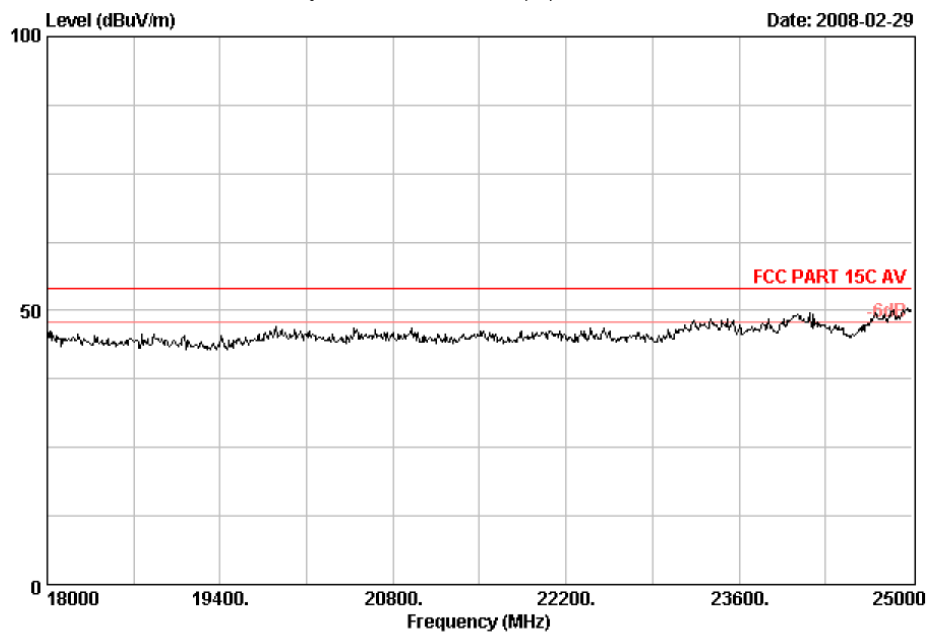
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Postcode:518057

Data: 37 File: D:\2008 report data\PHILIPS.EMI (39)



Site no. : RF Chamber Data no. : 37
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2441MHz

Data: 36 File: D:\2008 report data\PHILIPS.EMI (39)

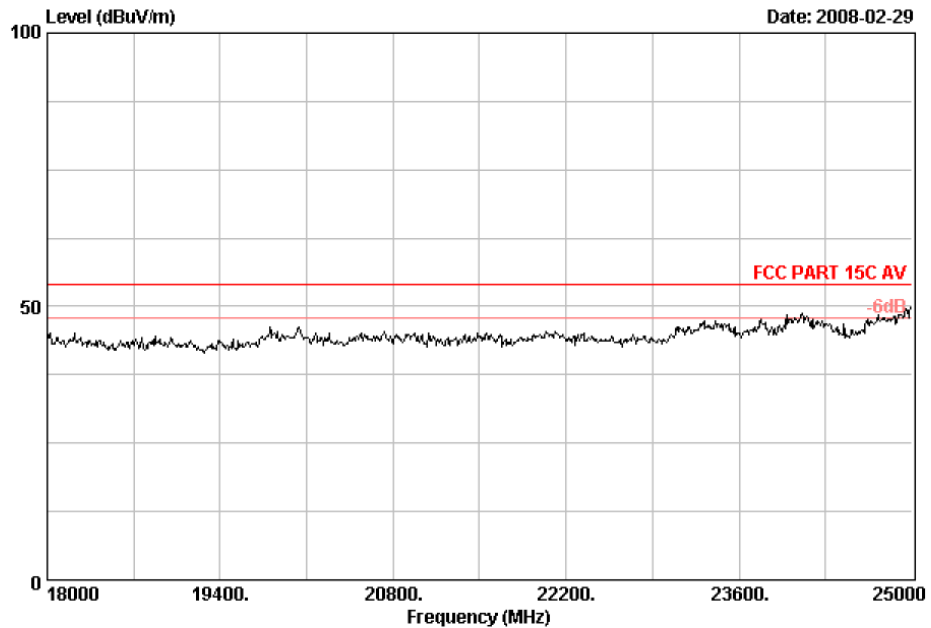


Site no. : RF Chamber Data no. : 36
Dis. / Ant. : 3m Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2441MHz



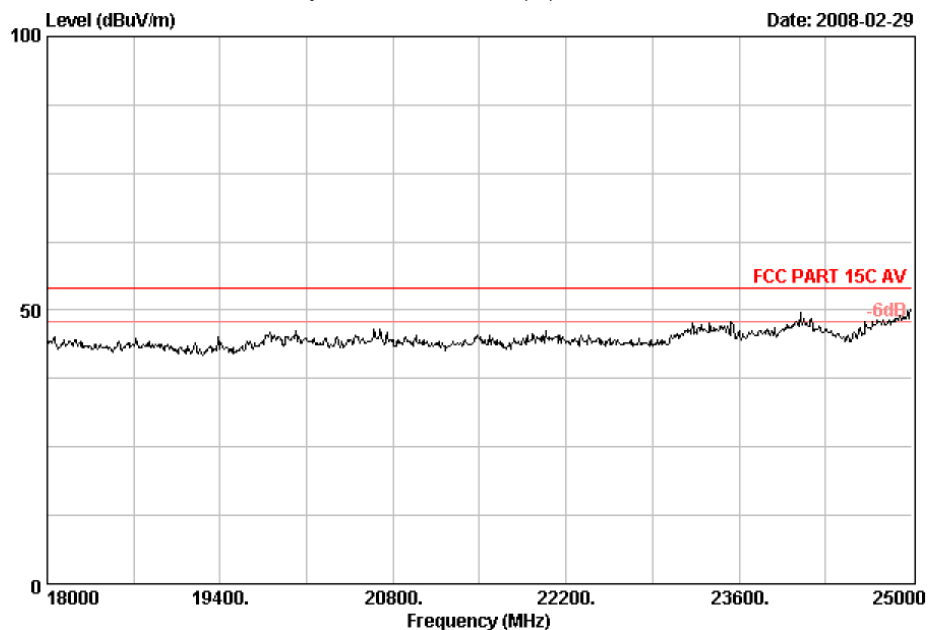
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Postcode:518057

Data: 38 File: D:\2008 report data\PHILIPS.EMI (39)



Site no. : RF Chamber Data no. : 38
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2480MHz

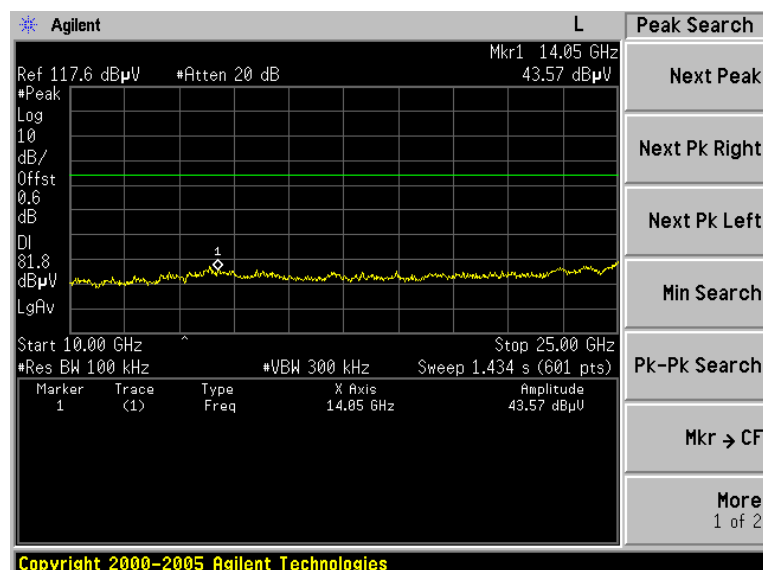
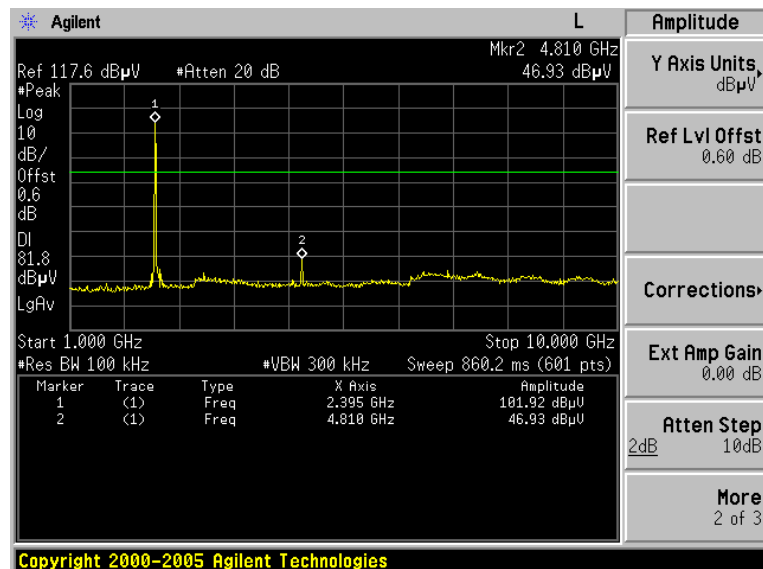
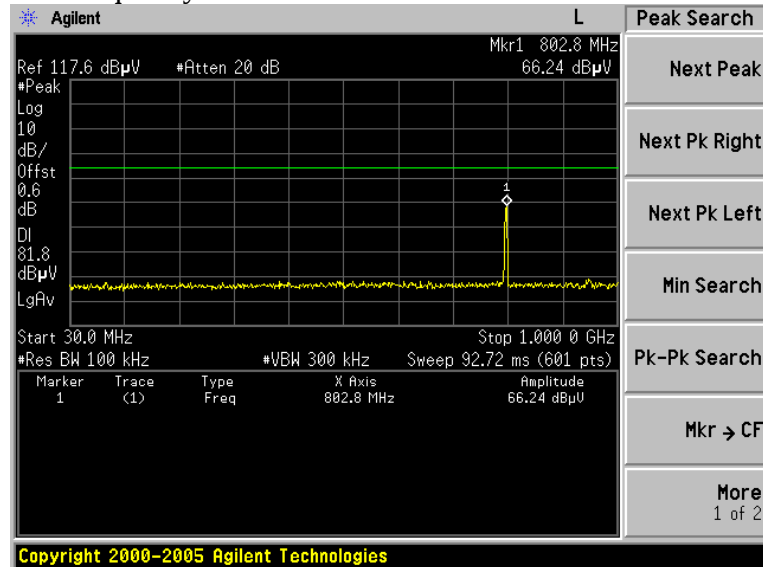
Data: 39 File: D:\2008 report data\PHILIPS.EMI (39)



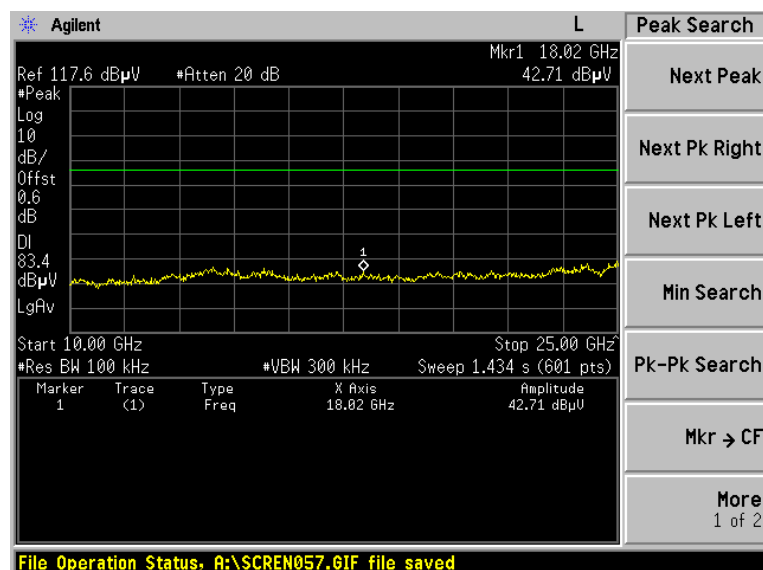
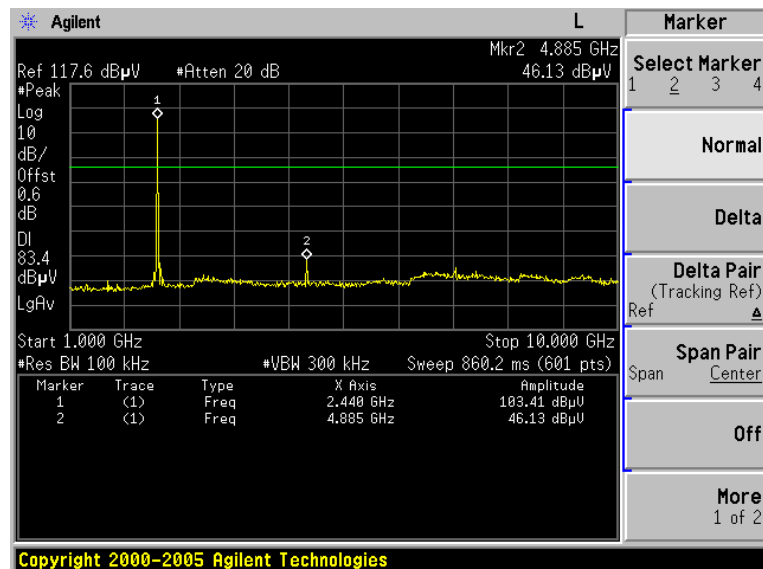
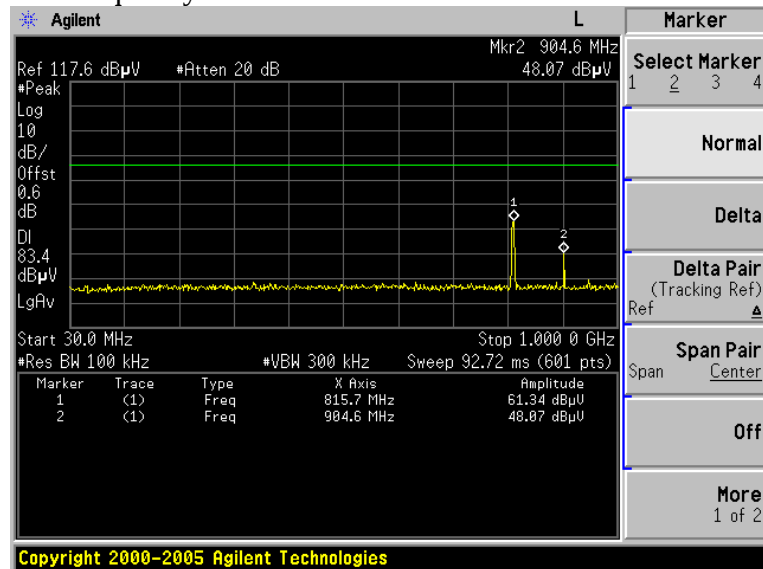
Site no. : RF Chamber Data no. : 39
Dis. / Ant. : 3m Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Digital Audio Player M/N:SA5285BT/37
Power Rating: DC 5V
Test Mode : TX 2480MHz

Conducted emission test data:

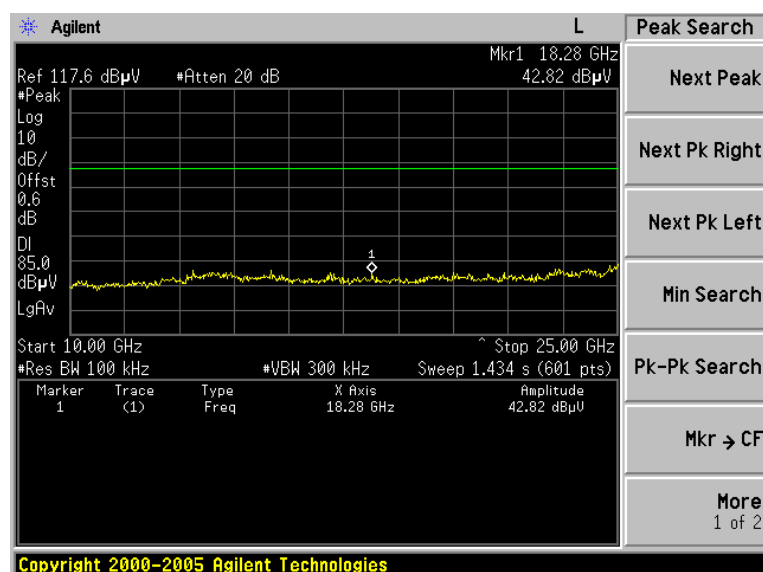
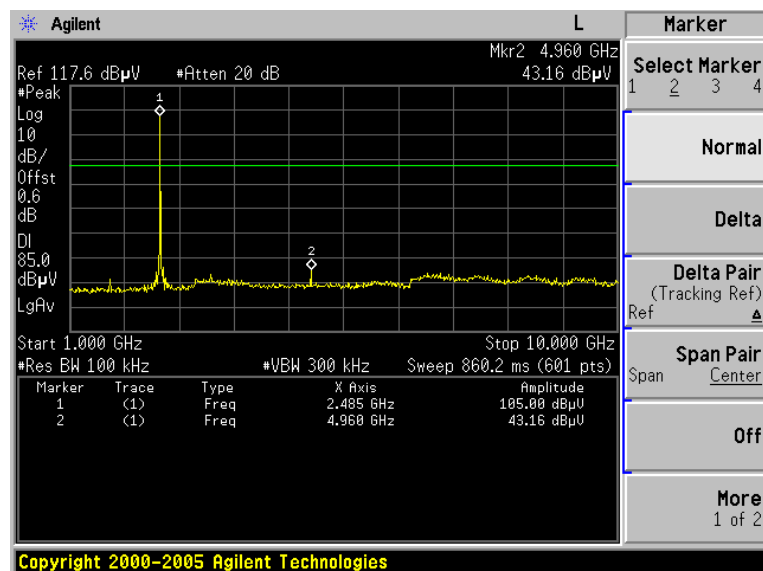
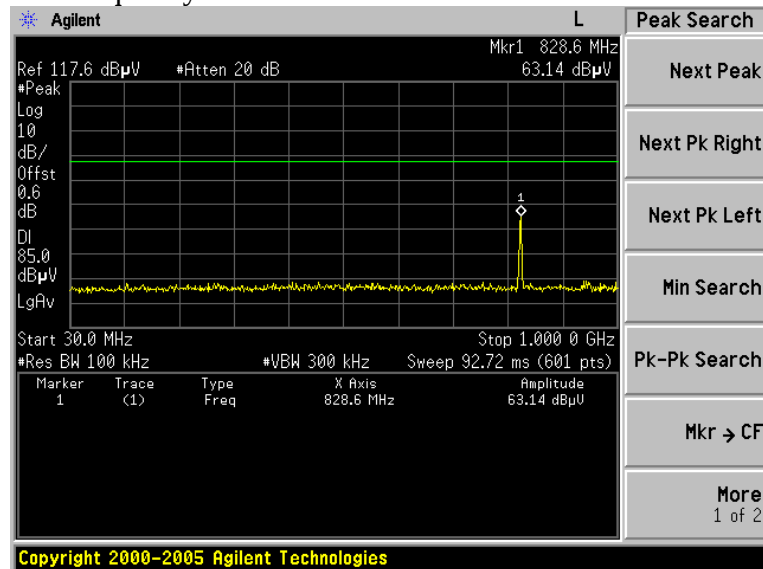
Test Frequency: 2402MHz



Test Frequency: 2441MHz



Test Frequency: 2480MHz



5. CARRIER FREQUENCY SEPARATION TEST

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

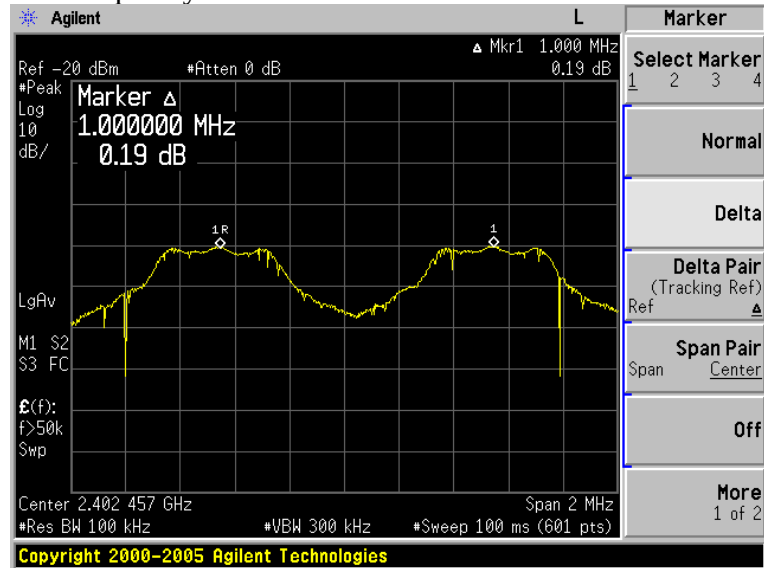
5.2. Test Information

EUT:	Digital Audio Player
M/N:	SA5285BT/37
Test Date:	Feb.29, 2008
Ambient Temperature:	23°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)
Test mode:	TX (Hopping on)
Test Frequency:	Low: 2402MHz Mid: 2441MHz High: 2480MHz
Test By:	Jamy

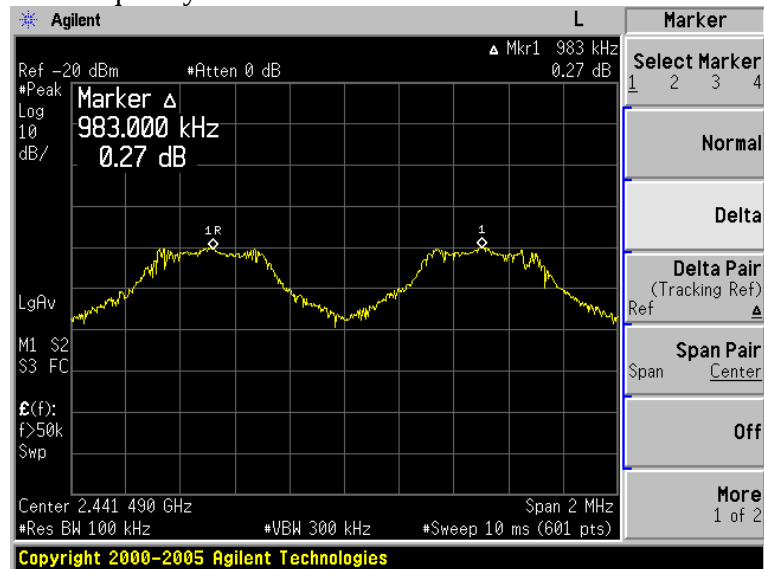
5.3. Test Results

CH	Channel separation	Limit	Conclusion
Low	1MHz	>the 20dB Bandwidth or 25kHz (whichever is greater)	PASS
Mid	983kHz	>the 20dB Bandwidth or 25kHz (whichever is greater)	PASS
High	993kHz	>the 20dB Bandwidth or 25kHz (whichever is greater)	PASS

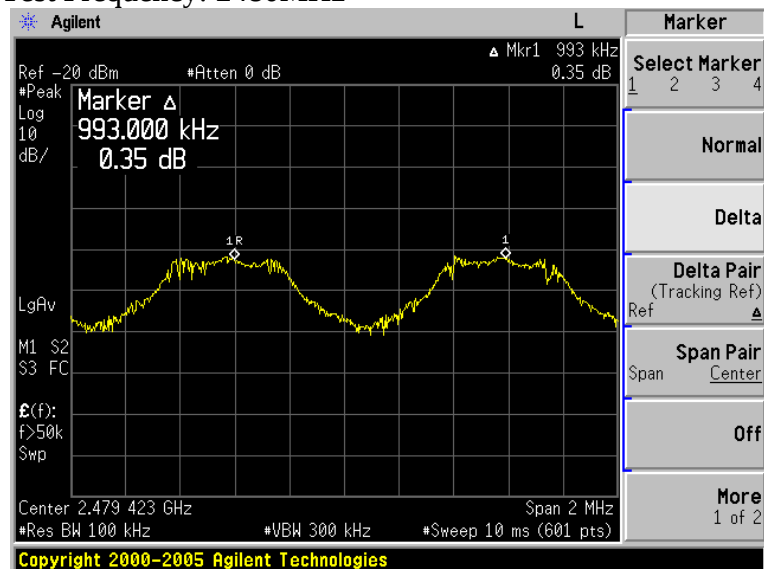
Test Frequency: 2402MHz



Test Frequency: 2441MHz



Test Frequency: 2480MHz



6. 20 DB BANDWIDTH TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

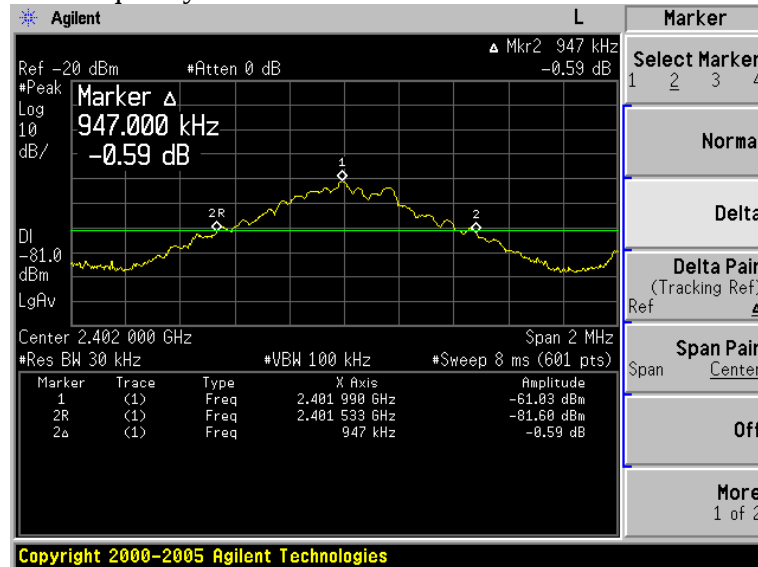
6.2. Test Information

EUT:	Digital Audio Player
M/N:	SA5285BT/37
Test Date:	Feb.29, 2008
Ambient Temperature:	23°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)
Test mode:	TX (Hopping off)
Test Frequency:	Low: 2402MHz Mid: 2441MHz High: 2480MHz
Test By:	Jamy

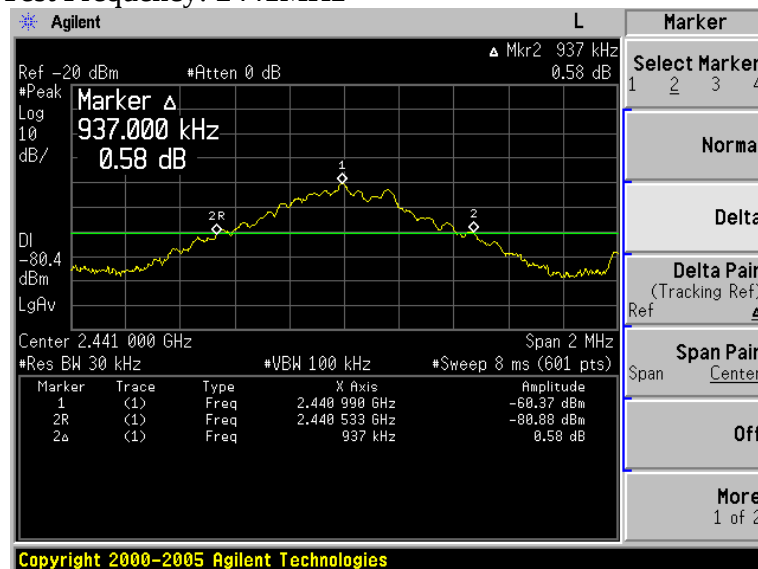
6.3. Test Results

CH	20dB Bandwidth (kHz)	Limit (kHz)	Conclusion
(Low)	947	---	PASS
(Mid)	937	---	PASS
(High)	930	---	PASS

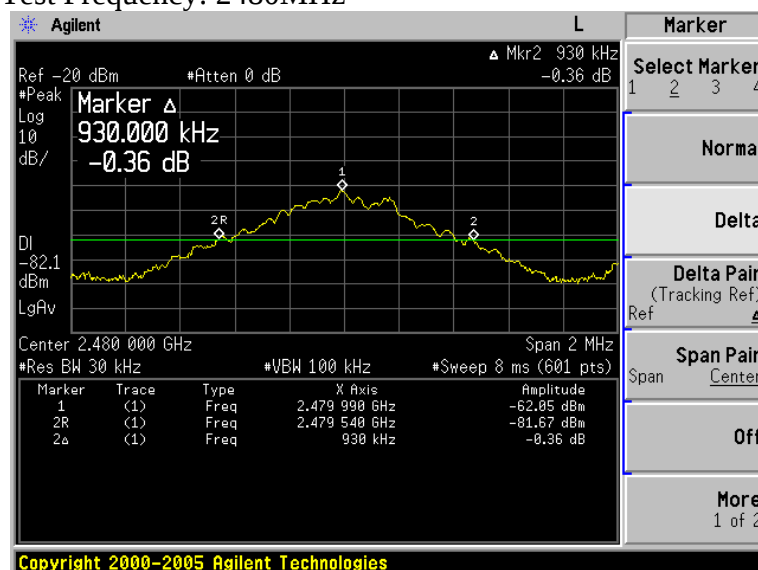
Test Frequency: 2402MHz



Test Frequency: 2441MHz



Test Frequency: 2480MHz



7. NUMBER OF HOPPING FREQUENCY TEST

7.1. Test Equipment

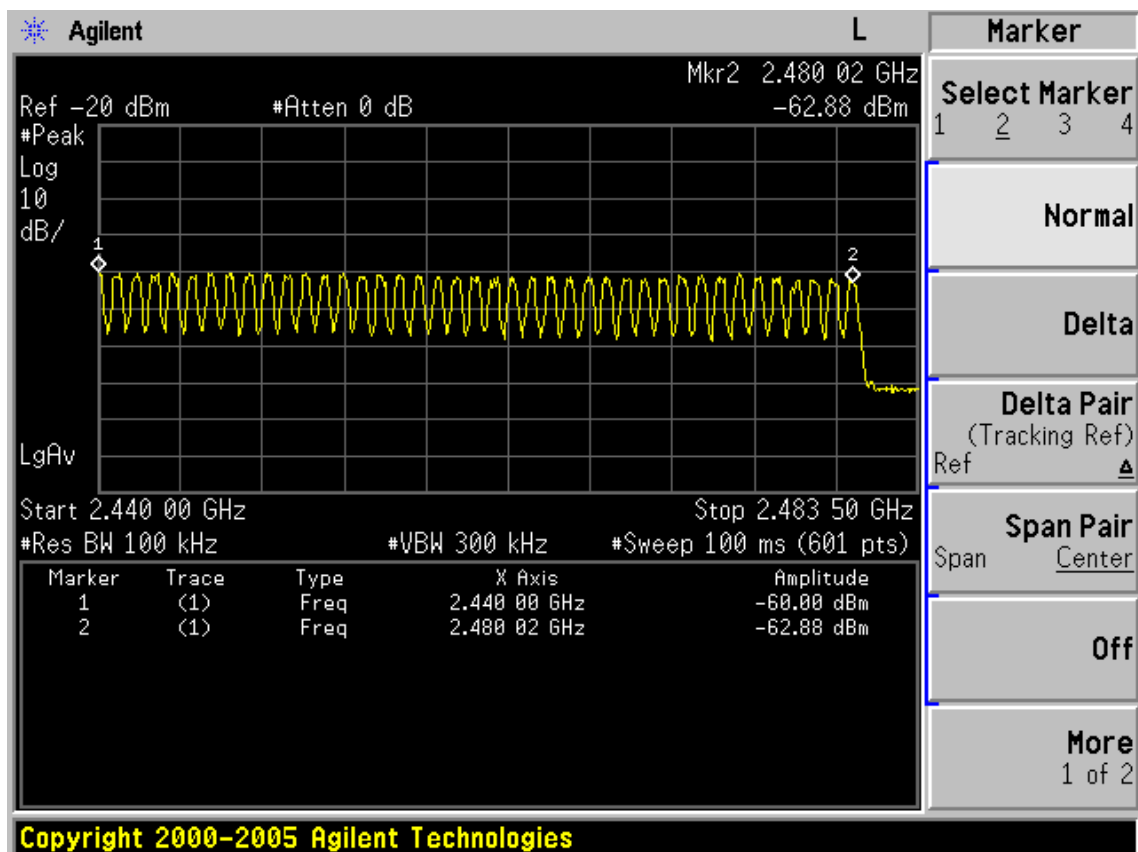
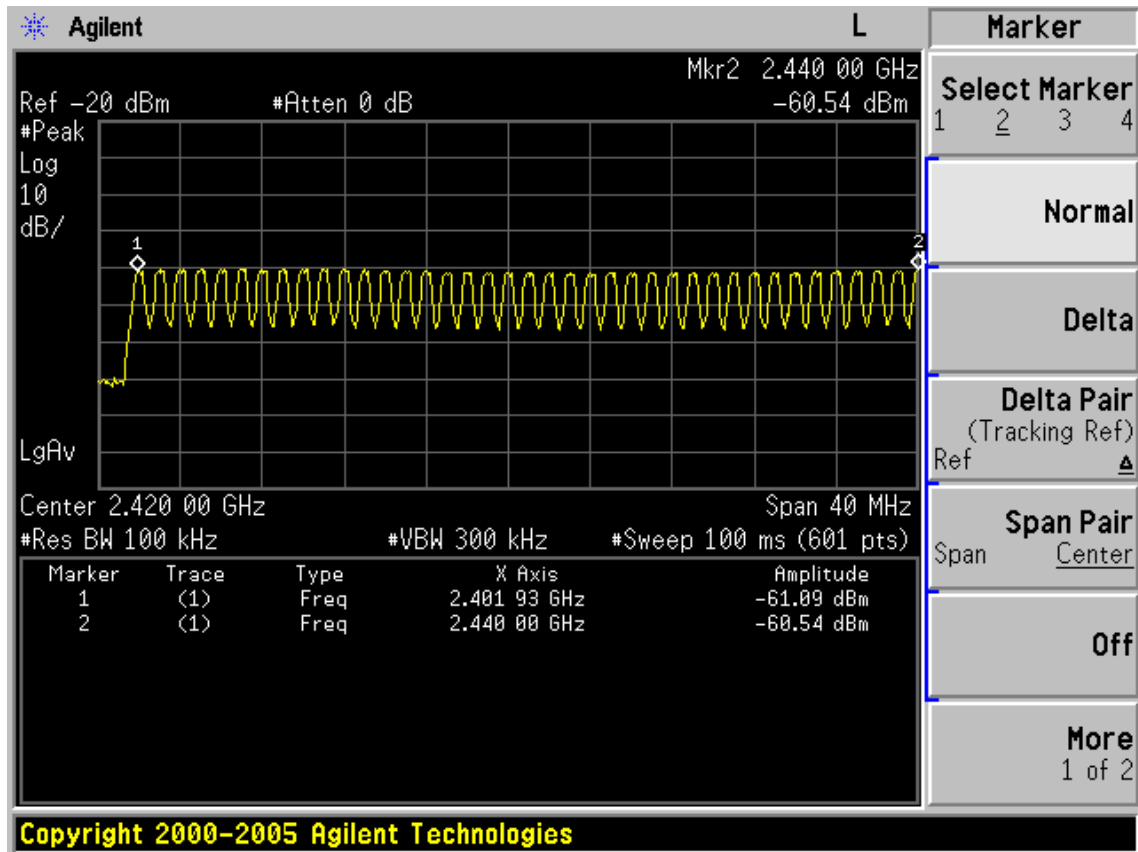
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

7.2. Test Information

EUT:	Digital Audio Player
M/N:	SA5285BT/37
Test Date:	Feb.29, 2008
Ambient Temperature:	23°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)(iii)
Test mode:	TX (Hopping on)
Test Frequency:	From 2402MHz to 2480MHz
Test By:	Jamy

7.3. Test Results

Number of channel	Limit	Conclusion
79	>=15	PASS



8. DWELL TIME TEST

8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

8.2. Test Information

EUT:	Digital Audio Player
M/N:	SA5285BT/37
Test Date:	Feb.29, 2008
Ambient Temperature:	23°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)(iii)
Test mode:	Transmitting, Hopping off
Test Frequency:	Normal
Test By:	Jamy

8.3. Test Results

This system hopping 50,25,17 hops in any 5s, and for each hop it transmit 2 pulses, the pulse dwell are 440μs, 1.1775ms, 3.027ms, so the dwell times are:

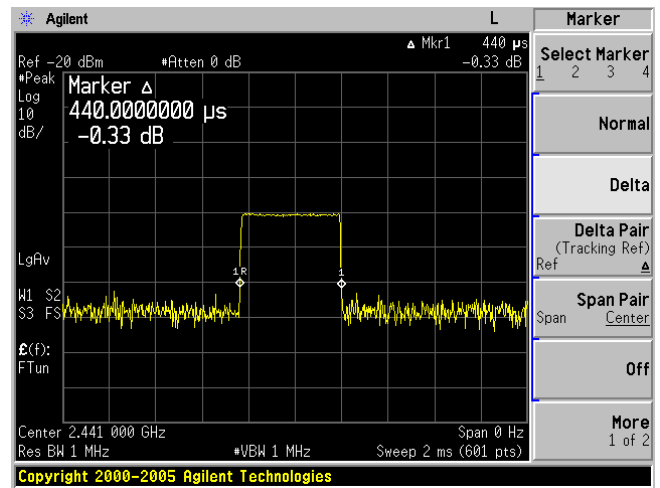
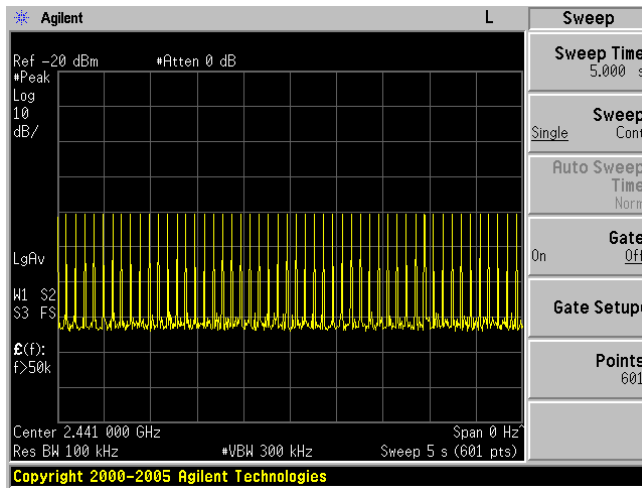
$$DH1: 50/5*31.6*0.440=139.04ms$$

$$DH3: 25/5*31.6*1.775=280.45ms$$

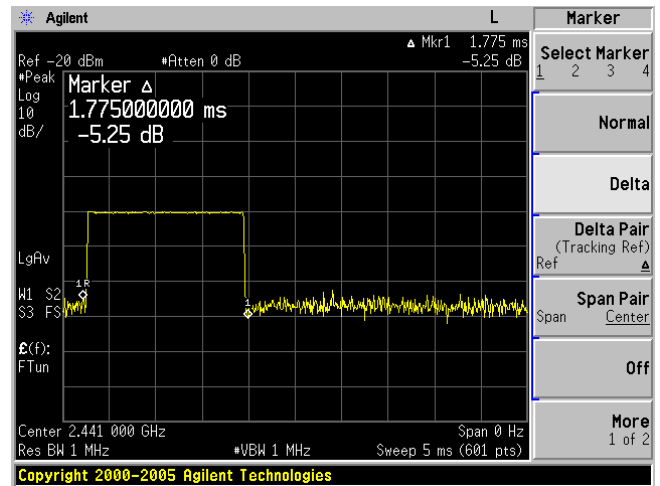
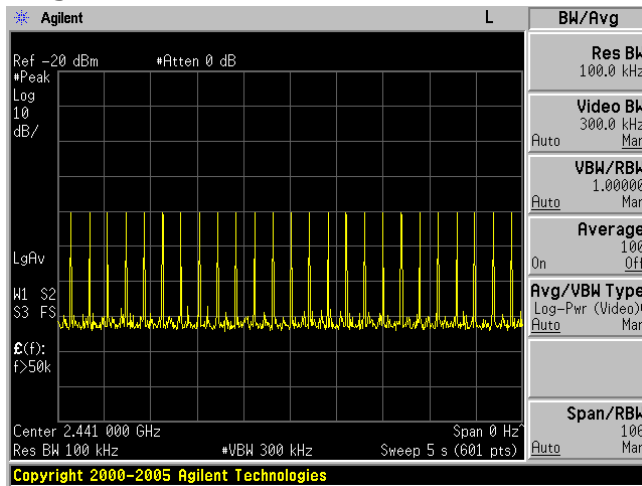
$$DH5: 17/5*31.6*3.027=325.22ms$$

dwell time	Limit	Conclusion
DH1: 139.04ms	<400ms	PASS
DH3: 280.45ms	<400ms	PASS
DH5: 325.22ms	<400ms	PASS

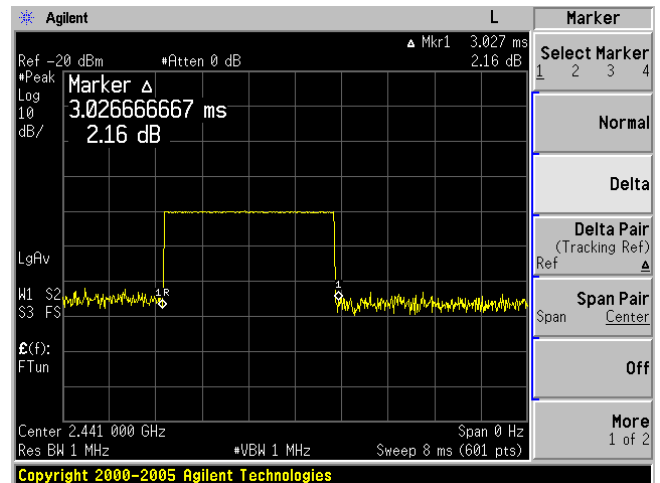
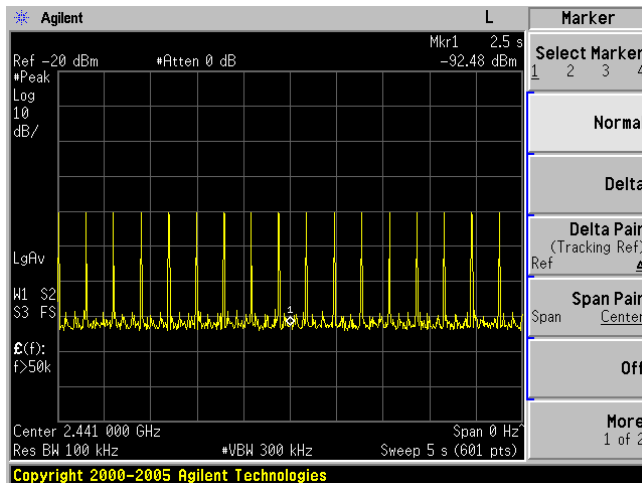
DH1



DH3



DH5



9. MAXIMUM PEAK OUTPUT POWER TEST

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2	Attenuator	Agilent	8491B	MY39262165	May,11, 07	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX	182769/4	May,11, 07	1Year
4	RF Cable	Hubersuhner	SUCOFLEX	182768/4	May,11, 07	1Year

9.2. Test Information

EUT:	Digital Audio Player
M/N:	SA5285BT/37
Test Date:	Feb.29, 2008
Ambient Temperature:	24°C
Relative Humidity:	58%
Test standard:	FCC PART 15C: 15.247(b)(1)
Test mode:	TX (Hopping off)
Test Frequency:	Low: 2402MHz Mid: 2441MHz High: 2480MHz
Test By:	Jamy

9.3. Test Results

CH	Frequency (MHz)	Read(PK) (dBm)	Cable loss (dB)	Atten loss (dB)	Result (dBm)	Limit (dBm)	Conclusion
Low	2402.00	0.45	0.6	0	1.05	30	PASS
Mid	2441.00	1.07	0.6	0	1.67	30	PASS
High	2480.00	0.35	0.6	0	0.95	30	PASS
Note: Result=Read+Cable loss+Atten loss							

10.BAND EDGE COMPLIANCE TEST

10.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

10.2.Test Information

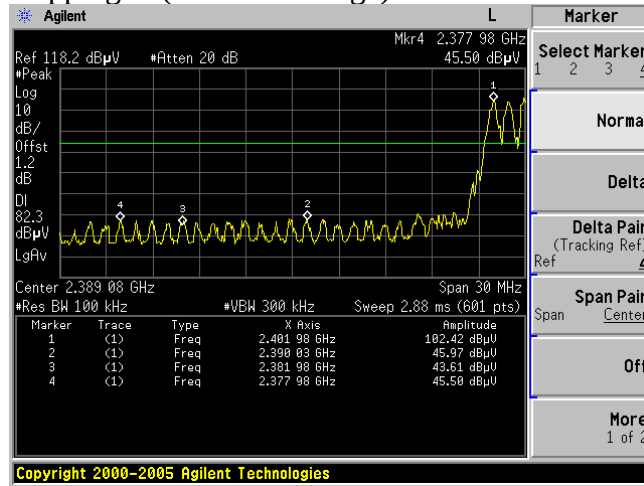
EUT:	Digital Audio Player
M/N:	SA5285BT/37
Test Date:	Feb.29, 2008
Ambient Temperature:	23℃
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(d)
Test mode:	TX (Hopping on and Hopping off)
Test Frequency:	Low: 2402MHz High: 2480MHz
Test By:	Jamy

10.3.Test Results

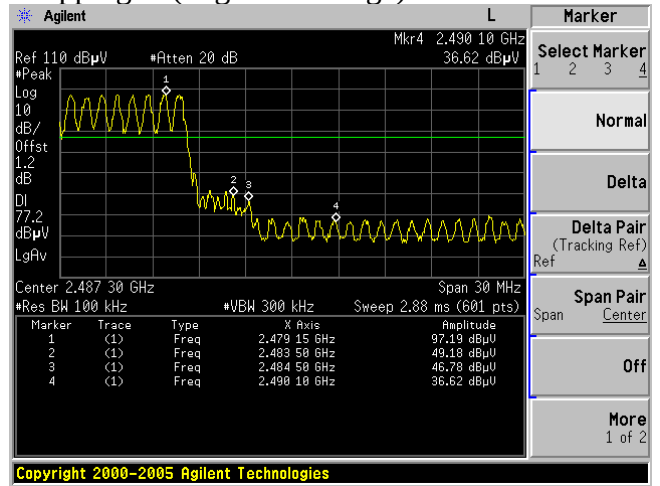
PASS.

The testing data was attached in the next pages.

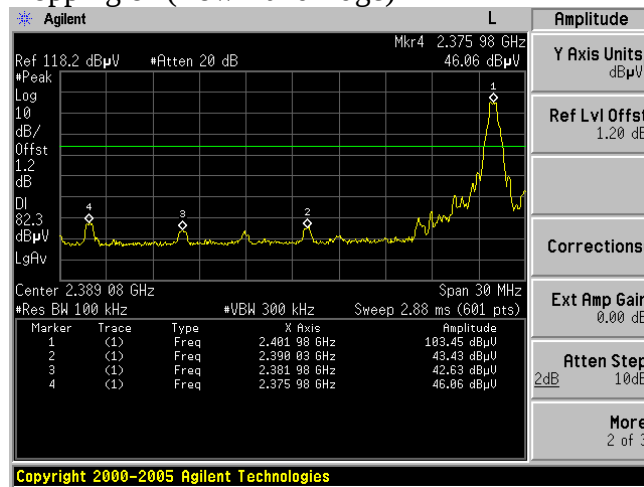
Hopping on(Low Band Edge)



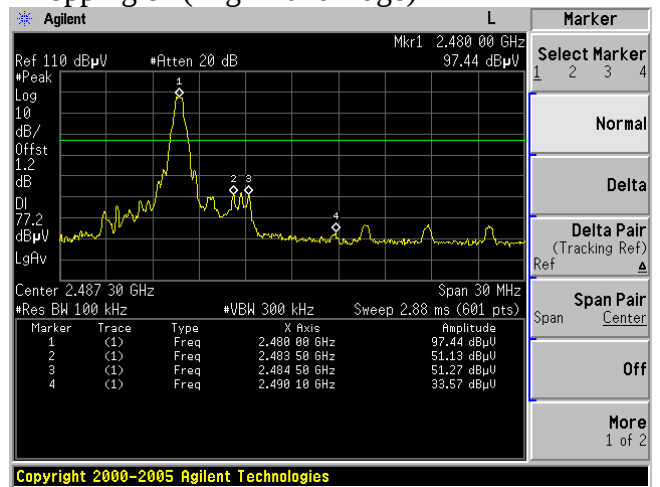
Hopping on(High Band Edge)



Hopping off(Low Band Edge)



Hopping off(High Band Edge)



Note: All the peak level in restricted band complied with average limits, so the average level was deemed to comply with average limits.

11.MPE ESTIMATION

11.1.Limit for General Population / Uncontrolled Exposures

Frequency	Power density (mW/cm ²)	Averaging time (minutes)
300MHz~1.5GHz	F/1500	30
1.5GHz~100GHz	1.0	30

Frequency (MHz)	Power density (mW/cm ²)	Averaging time (minutes)
2402	0.60	30
2441	0.61	30
2480	0.62	30

Note: F = Frequency in MHz

11.2.Estimation Result

Channel	Frequency(MHz)	Peak output power(dBm)	antenna gain(dBi)	antenna gain (Linear)
CH1	2402	1.05	1.7	1.48
CH40	2441	1.67	1.7	1.48
CH79	2480	0.95	1.7	1.48

Channel	Frequency(MHz)	Peak output power to antenna (mW)	Power density at 20cm(mW/ cm ²)
CH1	2402	1.27	0.000037
CH40	2441	1.47	0.000043
CH79	2480	1.24	0.000036

12.DEVIATION TO TEST SPECIFICATIONS

[NONE]