



FCC ID: AK8RDPX60IP

APPLICATION FOR CERTIFICATION

On Behalf of

Sony Corporation

Personal Audio Docking System

Model Number: RDP-X60iP

FCC ID: AK8RDPX60IP

Prepared for : Sony Corporation  
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Date of Report : Dec.03, 2010

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### TEST REPORT CERTIFICATION

Applicant : Sony Corporation  
 EUT Description : Personal Audio Docking System  
 MODEL NO. : RDP-X60iP  
 FCC ID : AK8RDPX60IP  
 POWER SUPPLY : DC 20V From Adapter input AC 120V/60Hz  
 TEST VOLTAGE : AC 100~240V,50/60Hz

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C 2008

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 for 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 tests. Also, this report shows that EUT is technically compliant with 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 : Nov.30~Dec.01, 2010 Report of date: Dec.03,2010

Prepared by :  Reviewer by :   
 Annie Wu / Supervisor Jamy Yu / Supervisor

Approved & Authorized Signer :

信華科技(深圳)有限公司  
 Audix Technology (Shenzhen) Co., Ltd.  
 EMC 部門報告專用章  
 Stamp only for EMC Dept. Report  
  
 Signature: \_\_\_\_\_  
 Ken Lu / 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
Power Line Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.10 :2009	PASS
Radiated Emission Test	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS
Carrier Frequency Separation Test	FCC Part 15: 15.247(a)(1) ANSI C63.10 :2009	PASS
20dB Bandwidth Test	FCC Part 15: 15.215 ANSI C63.10 :2009	PASS
Number Of Hopping Frequency Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2009	PASS
Dwell Time Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2009	PASS
Maximum Peak Output Power Test	FCC Part 15: 15.247(b)(1)\ ANSI C63.10 :2009	PASS
Band Edge Compliance Test	FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

Product name	:	Personal Audio Docking System
Model Number	:	RDP-X60iP
FCC ID	:	AK8RDPX60IP
Radio	:	Bluetooth V2.1 +EDR
Operation frequency	:	2402MHz-2480MHz
Modulation	:	GFSK, $\pi/4$ -DQPSK, 8-DPSK
Antenna	:	Integrated Patch Antenna, 0dBi Gain
Applicant	:	Sony Corporation 1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japan
Date of Test	:	Nov.30~Dec.01, 2010
Date of Receipt	:	Nov.30, 2010
Sample Type	:	Prototype production

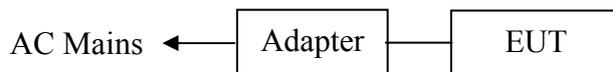
## 2.2. Test information

The test software “bluesuite.exe” was used to control EUT work in Continuous TX mode, and select test channel.

Tested mode, channel, and data rate information			
Mode	data rate (Mbps)	Channel	Frequency (MHz)
Tx Mode GFSK modulation	1	Low :CH 0	2402
	1	Middle: CH39	2441
	1	High: CH78	2480
Tx Mode 8-DPSK modulation	3	Low :CH 0	2402
	3	Middle: CH39	2441
	3	High: CH78	2480

Note:  $\pi/4$ DQPSK modulation is same type modulation with 8-DPSK, and according exploratory test, 8-DPSK will have worse emissions, so the final test were only performed with GFSK and 8-DPSK modulation.

## 2.3. Block diagram of connection between the EUT and simulators



**(EUT: Personal Audio Docking System)**

## 2.4. 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 : Mar.31, 2009 File on  
Federal Communication Commission  
Registration Number: 90454

3m & 10m Anechoic Chamber : Dec. 30, 2009 File on  
Federal Communication Commission  
Registration Number: 794232

EMC Lab. : Accredited by DATech, German  
Registration Number: DAT-P-091/99-01  
Feb. 02, 2009

Accredited by NVLAP, USA  
NVLAP Code: 200372-0  
Apr. 01, 2010

## 2.5. Test Uncertainty (95% confidence levels, k=2)

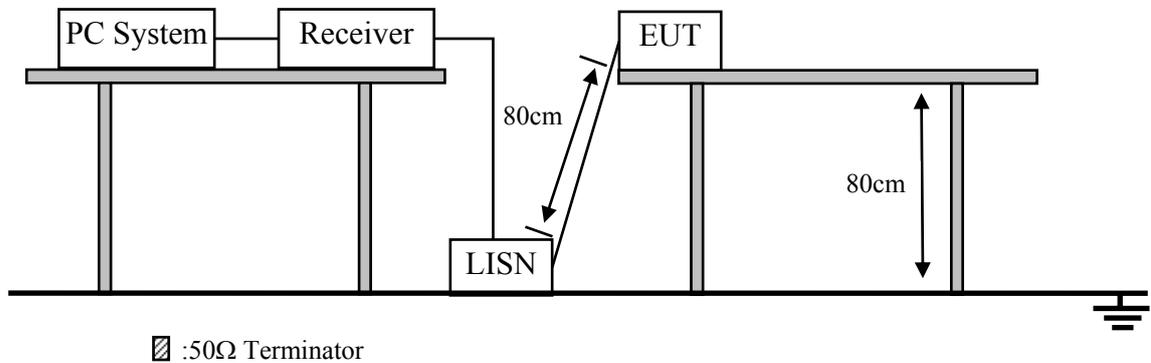
Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	3.64 dB (9kHz to 150kHz)
	3.22 dB(150kHz to 30MHz)
Uncertainty for Radiation Emission test in 3m chamber	4.20 dB (Polarize: V)
	4.66 dB (Polarize: H)
Uncertainty for Radiated Spurious Emission test in RF chamber	2.70 dB(Bilog antenna 30M~1000MHz)
	2.27 dB(Horn antenna 1000M~12750MHz)
Uncertainty for Conduction Spurious emission test	2.12 dB
Uncertainty for Output power test	0.97 dB
Uncertainty for Power density test	2.21 dB
Uncertainty for Frequency range test	$1 \times 10^{-9}$
Uncertainty for Bandwidth test	$1 \times 10^{-9}$
Uncertainty for DC power test	0.038 %
Uncertainty for test site temperature and humidity	0.3°C
	2%

### 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.18, 09	1 Year
2.	L.I.S.N.#1	Kyoritsu	KNW-242C	8-1920-1	May.08, 10	1 Year
3.	Terminator	Hubersuhner	50Ω	No. 1	May.08, 10	1 Year
4.	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 10	1 Year
5.	Coaxial Switch	Anritsu	MP59B	M55367	May.08, 10	1 Year
6.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 10	1 Year

#### 3.2. Block Diagram of Test Setup



#### 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. Personal Audio Docking System (EUT)

Model Number : RDP-X60iP  
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 modes (TX) and measured it.

### 3.6. Test Procedure

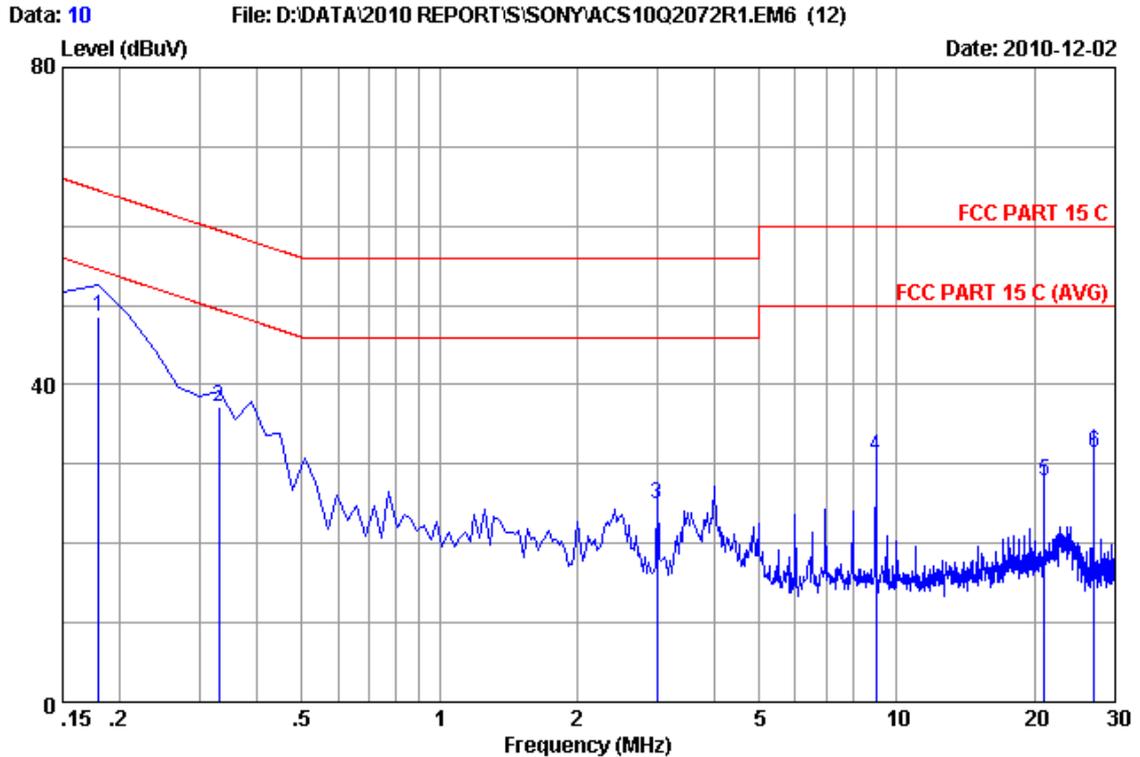
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#3). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). Both the 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 ANSI C63.10: 2009 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 result are reported on Section 3.7.

### 3.7. Power Line Conducted Emission Test Results

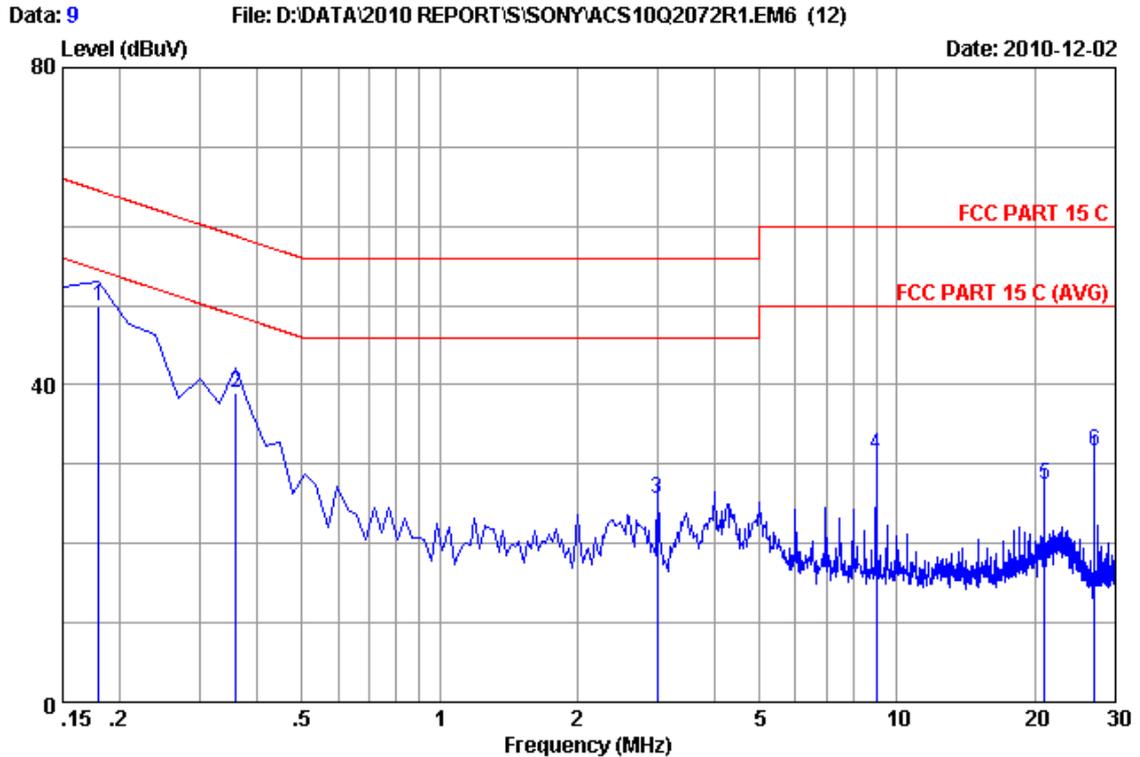
**PASS.** (All emissions not reported below are too low against the prescribed limits.)



Site no :1#conduction Data No :10  
 Dis./Ant. \*\*: 2010 KNW242C VA  
 Limit :FCC PART 15 C  
 Env./Ins. :Temp:23' Humi:54% Engineer :Leo-Li  
 EUT :Personal Audio Docking System  
 Power Rating :DC 20V From Adapter Input AC 120V/60Hz  
 Test Mode :Tx Mode  
 M/N :RDP-X60iP

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17985	0.07	9.88	38.64	48.59	64.49	15.90	QP
2	0.32910	0.07	9.88	27.37	37.32	59.47	22.15	QP
3	2.986	0.07	9.92	14.89	24.88	56.00	31.12	QP
4	8.986	0.14	9.98	20.92	31.04	60.00	28.96	QP
5	20.985	0.47	10.09	17.30	27.86	60.00	32.14	QP
6	26.985	0.72	10.14	20.53	31.39	60.00	28.61	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+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.



Site no :1#conduction Data No :9  
 Dis./Ant. \*\*: 2010 KNW242C VB  
 Limit :FCC PART 15 C  
 Env./Ins. :Temp:23' Humi:54% Engineer :Leo-Li  
 EUT :Personal Audio Docking System  
 Power Rating :DC 20V From Adapter Input AC 120V/60Hz  
 Test Mode :Tx Mode  
 M/N :RDP-X60iP

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17985	0.05	9.88	40.04	49.97	64.49	14.52	QP
2	0.35895	0.07	9.88	29.13	39.08	58.75	19.67	QP
3	2.986	0.08	9.92	15.58	25.58	56.00	30.42	QP
4	8.986	0.17	9.98	21.10	31.25	60.00	28.75	QP
5	20.985	0.41	10.09	16.84	27.34	60.00	32.66	QP
6	26.985	0.60	10.14	20.82	31.56	60.00	28.44	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+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.

## 4. RADIATED EMISSION TEST

### 4.1. Test Equipment

Frequency rang: 30~1000MHz

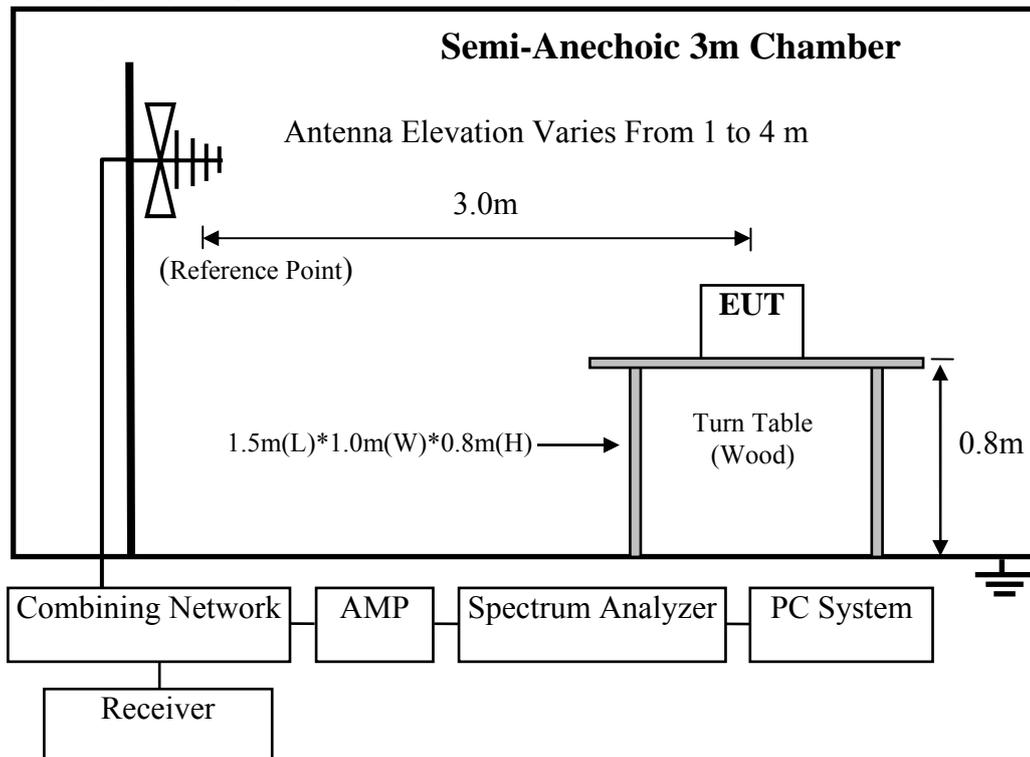
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Dec.05,09	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 10	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 10	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 10	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Dec.14, 09	1 Year
6	RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 10	1 Year
7	Coaxial Switch	Anritsu	MP59B	M73989	May.08, 10	1 Year

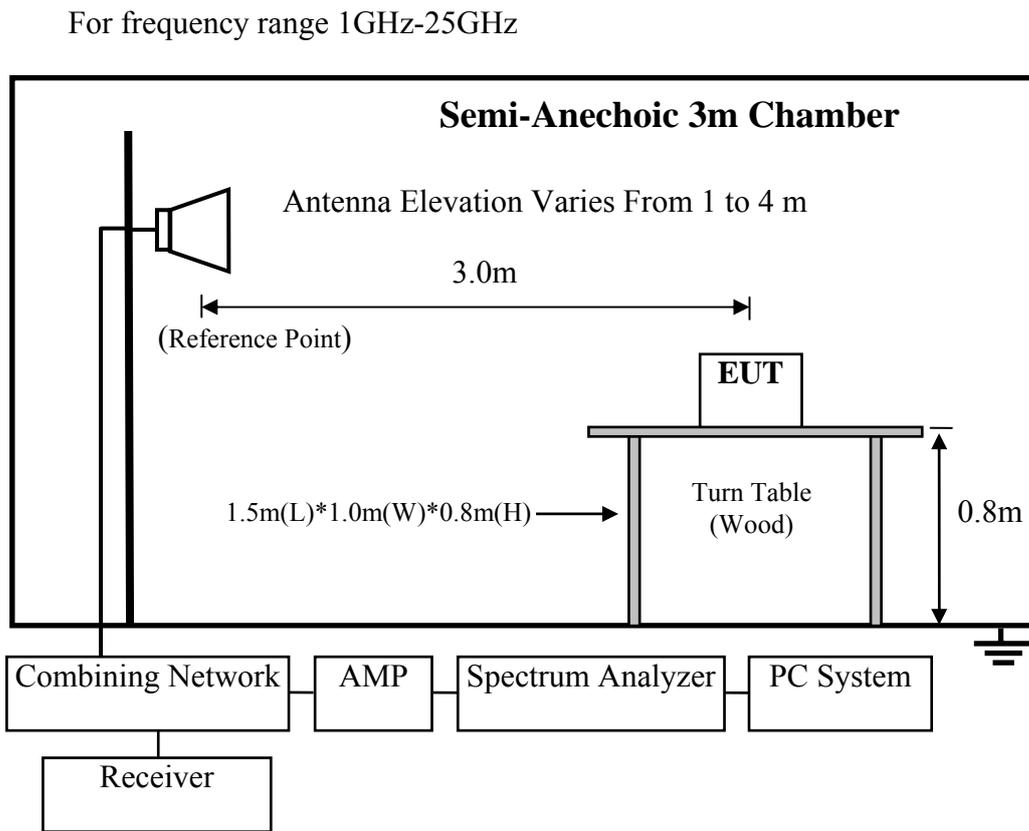
Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 10	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	Nov.25, 09	1.5 Year
3	Horn Antenna	EMCO	3116	00060089	Nov.25, 09	1.5 Year
4	Amplifier	Agilent	8449B	3008A00863	May.08, 10	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	May.08, 10	1 Year
6	RF Cable	Hubersuhner	SUCOFLEX102	29091/2	May.08, 10	1 Year

### 4.2. Block Diagram of Test Setup

For frequency range 30MHz-1000MHz





### 4.3. Radiated Emission Limit

#### 4.3.1. 15.209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
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 960MHz	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

- Remark :
- (1) Emission level  $\text{dB}\mu\text{V} = 20 \log$  Emission level  $\mu\text{V}/\text{m}$
  - (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.

4.3.2. 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

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. Personal Audio Docking System(EUT)

Model Number : RDP-X60iP  
 Serial Number : N/A

4.4.2. Support 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 worked in test mode (Tx Mode) 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 working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a 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.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz, and VBW is set at 10Hz, RBW is set at 1MHz for average emissions measurements above 1GHz.

The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

#### 4.7. Radiated Emission Test Results

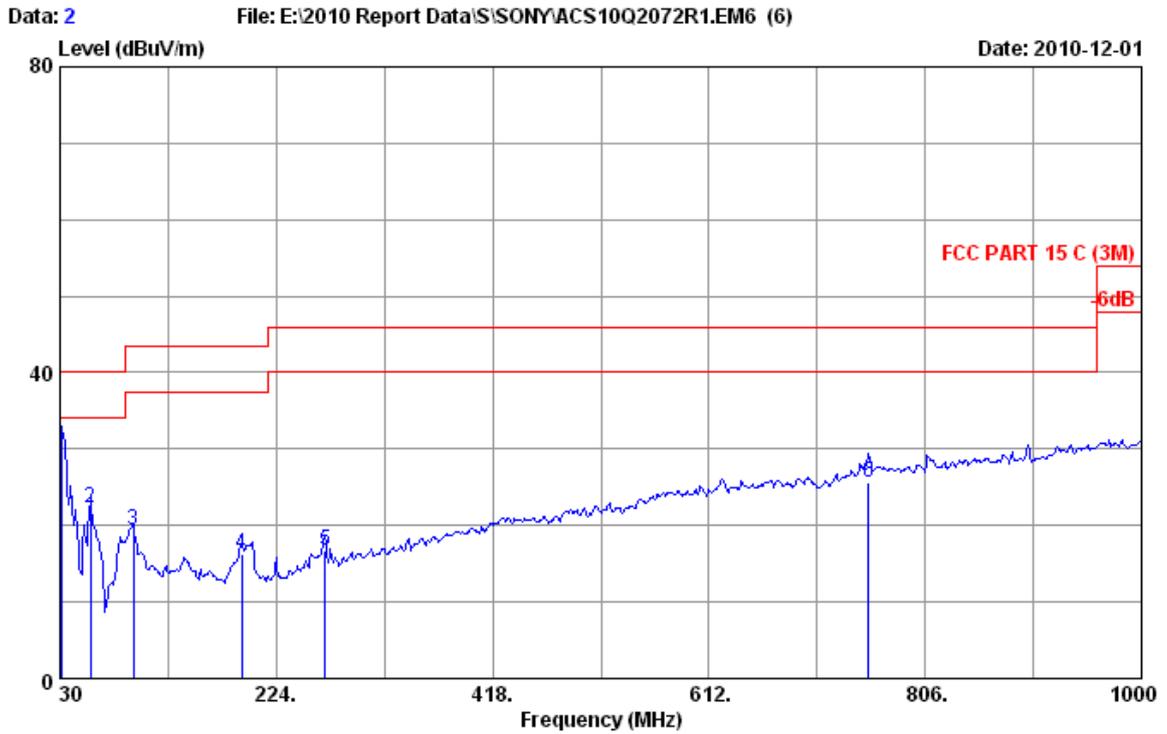
##### **PASS**

All the emissions from 30MHz to 25 GHz are comply with 15.209 limits

Note: The points 2402MHz, 2441MHz, 2480MHz are fundamental emissions of device, and no need to comply with the radiated emissions limit, just for reference in here.

Note: If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

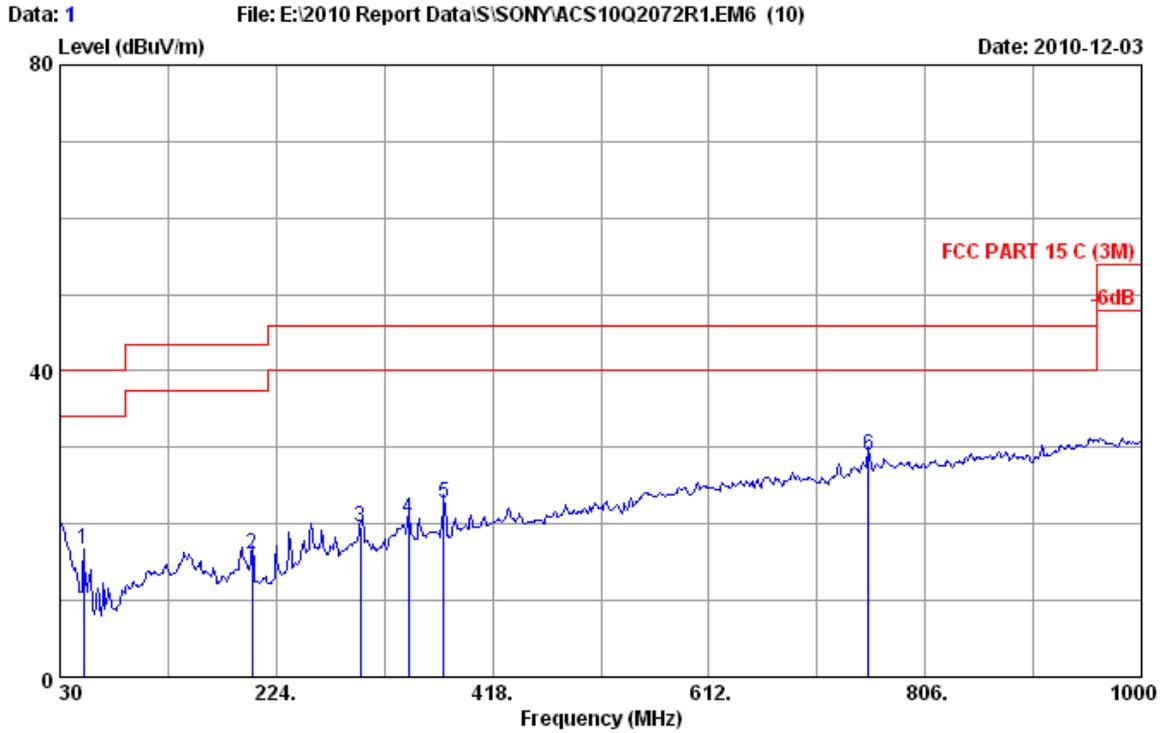
**Frequency: 30MHz~1GHz**



Site no. : 3m Chamber Data no. : 2  
 Dis. / Ant. : 3m 2010 CBL6112D Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24°C/56% Engineer : Paul Tian  
 EUT : Personal Audio Docking System  
 Power rating : DC 20V From Adapter input AC 120V/60Hz  
 Test Mode : Tx Mode  
 M/N:RDP-X60iP

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	31.940	18.46	0.63	11.29	30.38	40.00	9.62	QP
2	57.160	7.16	0.83	14.22	22.21	40.00	17.79	QP
3	95.960	10.96	1.09	7.30	19.35	43.50	24.15	QP
4	192.960	9.82	1.64	4.81	16.27	43.50	27.23	QP
5	267.650	13.50	2.28	1.00	16.78	46.00	29.22	QP
6	755.560	20.35	4.72	0.59	25.66	46.00	20.34	QP

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



Site no. : 3m Chamber Data no. : 1  
 Dis. / Ant. : 3m 2010 CBL6112D Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24°C/56% Engineer : Paul Tian  
 EUT : Personal Audio Docking System  
 Power rating : DC 20V From Adapter input AC 120V/60Hz  
 Test Mode : Tx Mode  
 M/N:RDP-X60iP

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	51.340	9.04	0.79	6.82	16.65	40.00	23.35	QP
2	202.660	10.13	1.75	4.17	16.05	43.50	27.45	QP
3	299.660	13.90	2.48	3.16	19.54	46.00	26.46	QP
4	342.340	14.90	2.66	3.24	20.80	46.00	25.20	QP
5	374.350	15.58	2.80	4.45	22.83	46.00	23.17	QP
6	755.560	20.35	4.72	4.01	29.08	46.00	16.92	QP

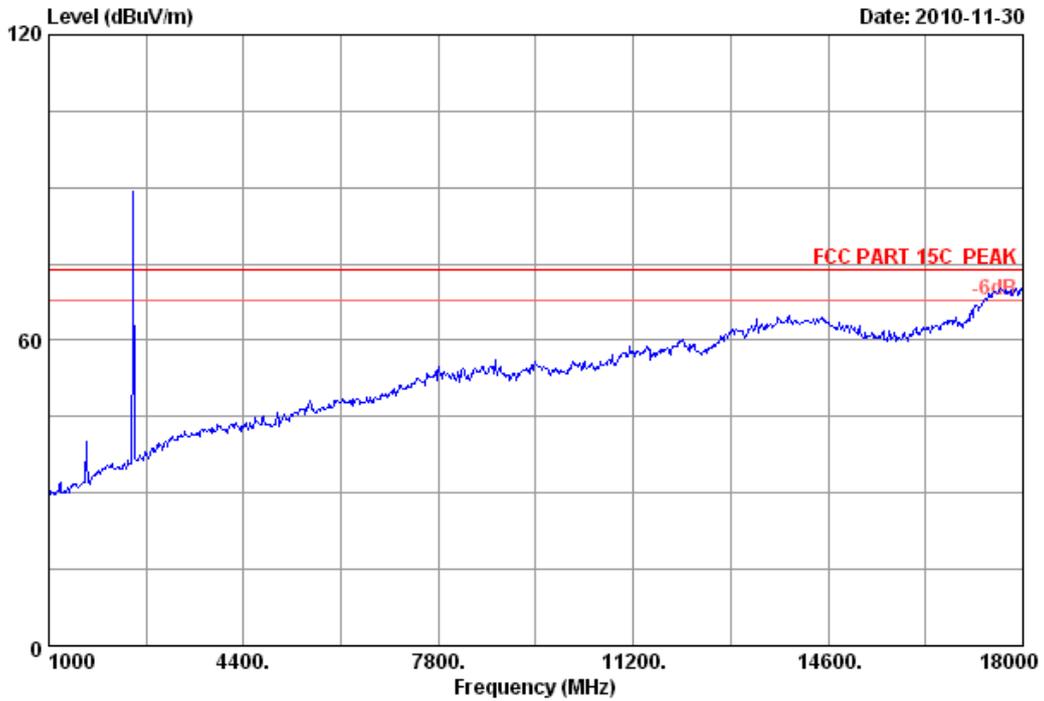
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Frequency: 1GHz~18GHz**

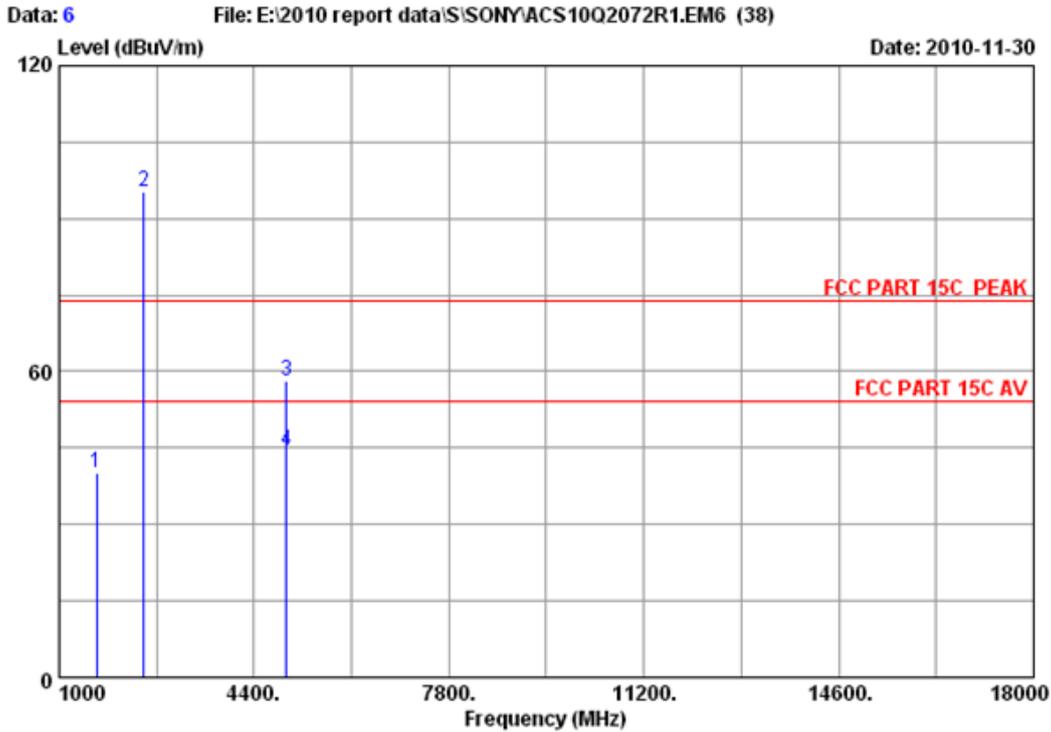
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Date: 2010-11-30



Site no.	: 3m Chamber	Data no. :	5
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: 8DPSK 2480MHz		
M/N	: RDP-X60iP		

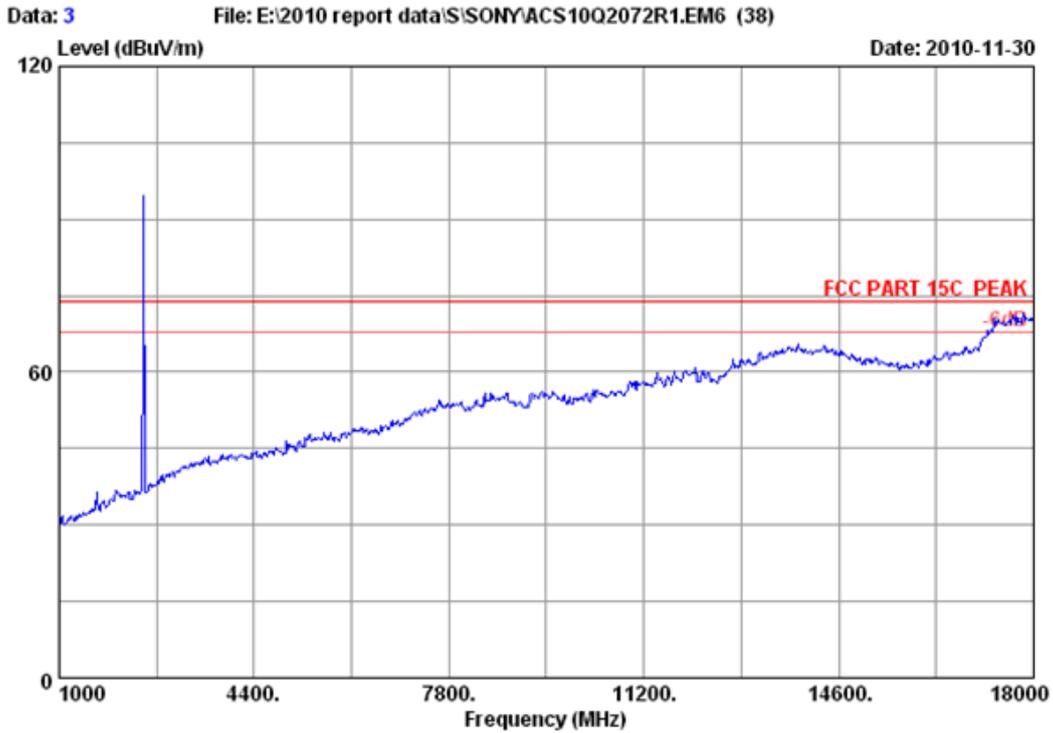


Site no. : 3m Chamber Data no. : 6  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2480MHz  
 M/N : RDP-X60iP

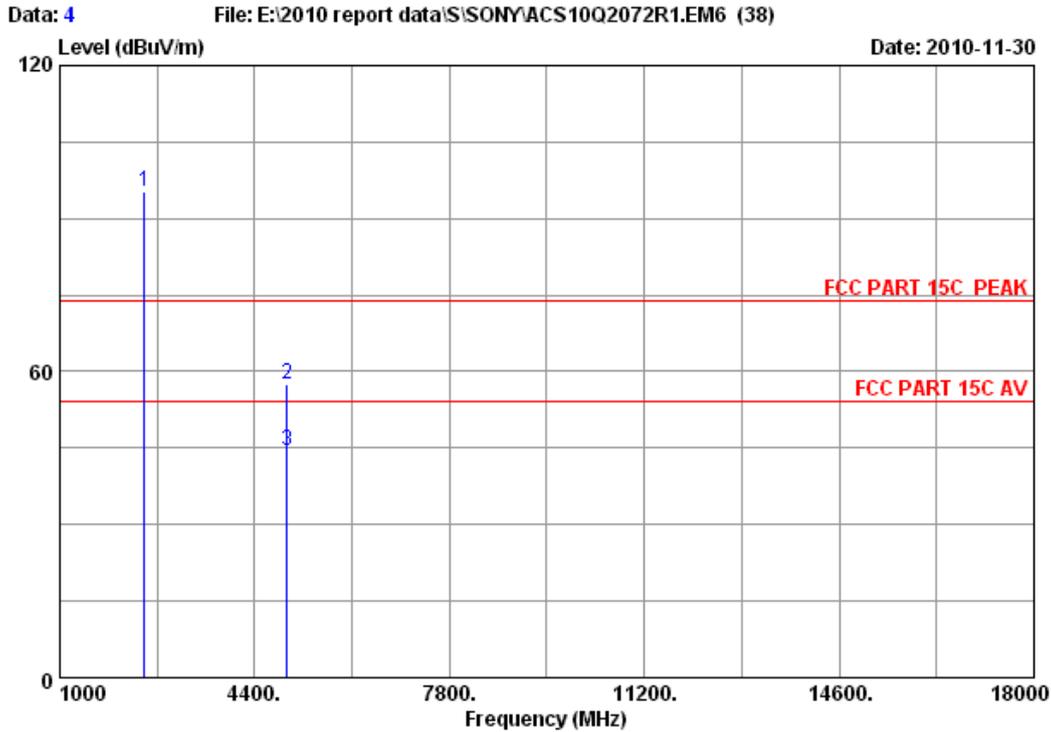
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1646.000	27.24	5.99	36.92	43.91	40.22	74.00	33.78	Peak
2	2480.000	29.49	7.58	36.60	94.63	95.10	74.00	-21.10	Peak
3	4960.000	34.54	10.80	34.95	47.88	58.27	74.00	15.73	Peak
4	4960.000	34.54	10.80	34.95	34.16	44.55	54.00	9.45	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.



Site no. : 3m Chamber Data no. : 3  
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : 23°C/54% Engineer : Leo-Li  
EUT : Personal Audio Docking System  
Power : DC 20V From Adapter input AC 120V/60Hz  
Test mode : 8DPSK 2480MHz  
M/N : RDP-X60iP

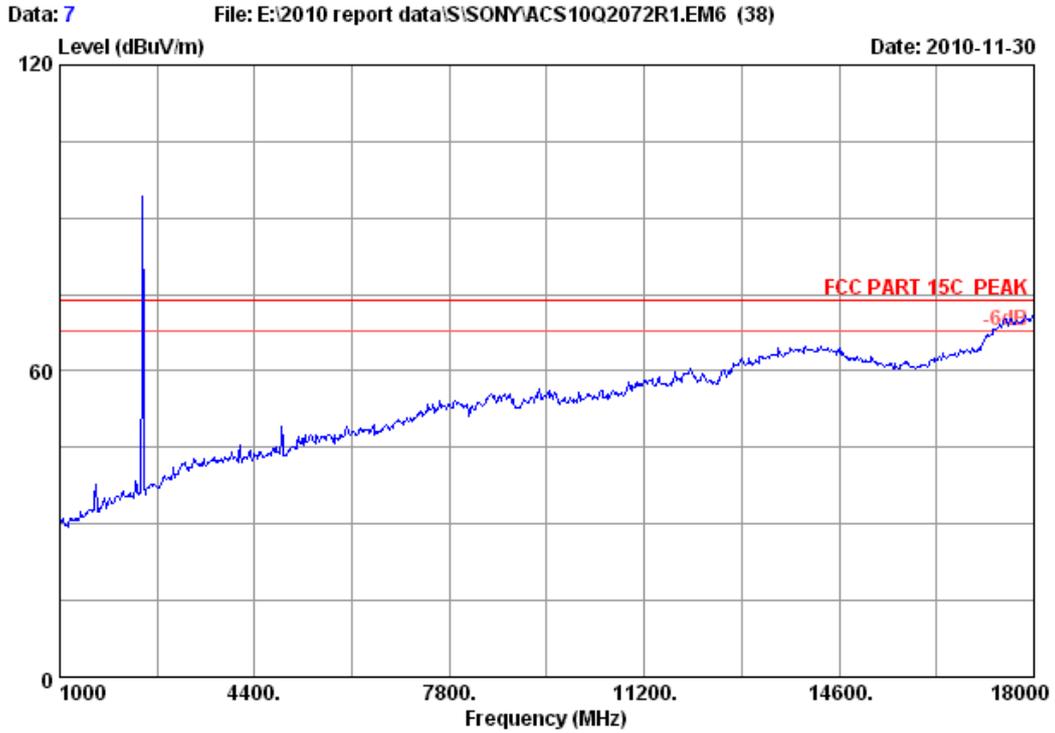


Site no. : 3m Chamber Data no. : 4  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2480MHz  
 M/N : RDP-X60iP

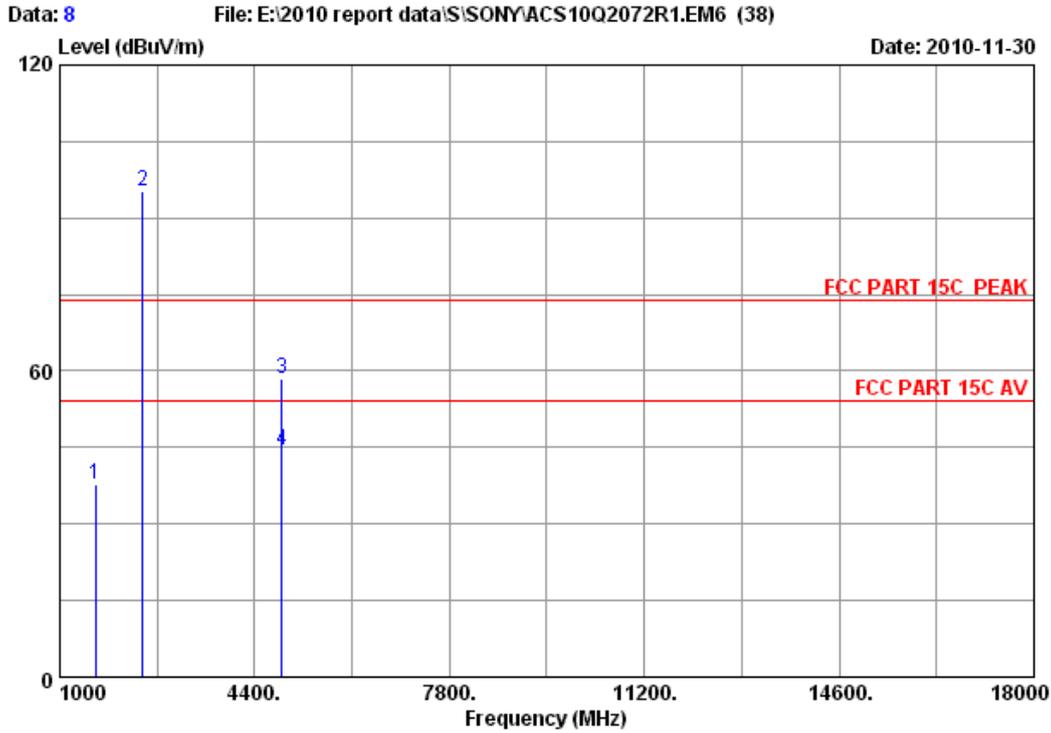
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.000	29.49	7.58	36.60	94.64	95.11	74.00	-21.11	Peak
2	4960.000	34.54	10.80	34.95	47.10	57.49	74.00	16.51	Peak
3	4960.000	34.54	10.80	34.95	33.97	44.36	54.00	9.64	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.



Site no.	: 3m Chamber	Data no. :	7
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: 8DPSK 2441MHz		
M/N	: RDP-X60iP		

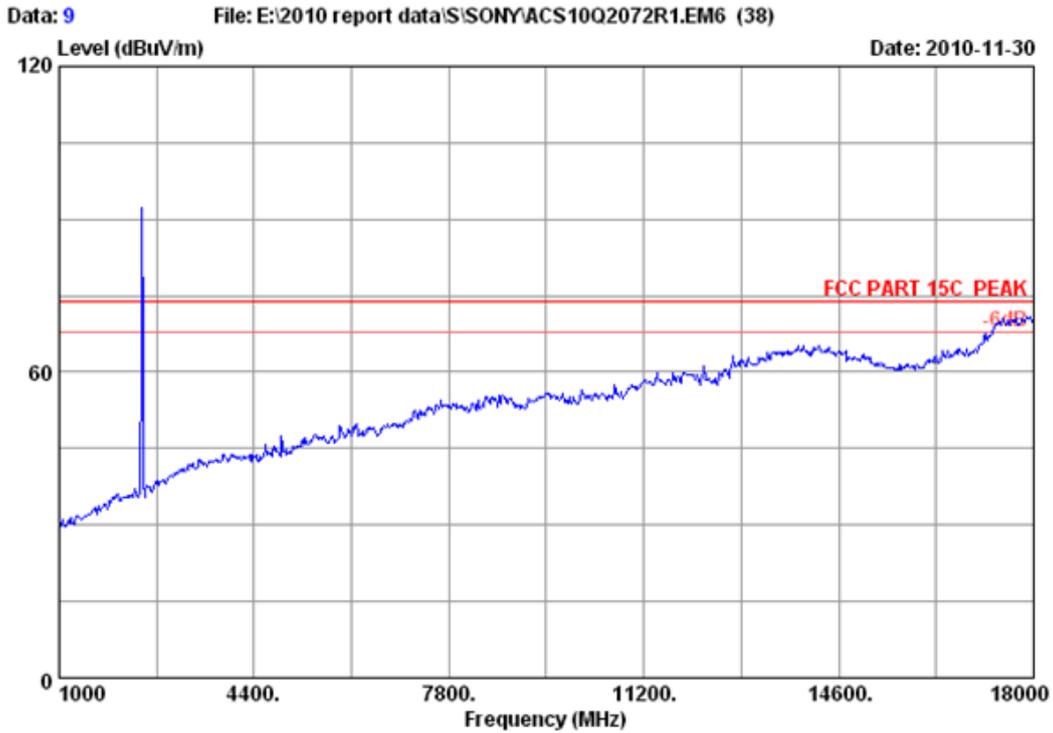


Site no. : 3m Chamber Data no. : 8  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2441MHz  
 M/N : RDP-X60iP

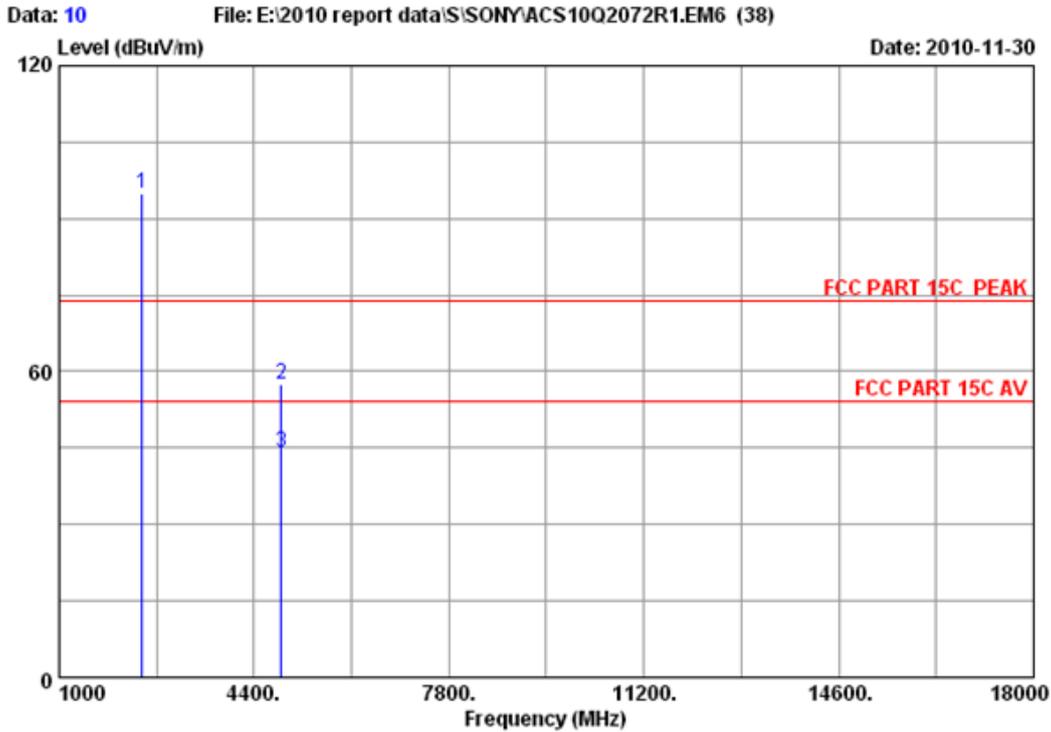
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1629.000	27.15	5.95	36.92	41.60	37.78	74.00	36.22	Peak
2	2441.000	29.47	7.50	36.61	94.88	95.24	74.00	-21.24	Peak
3	4882.000	34.41	10.71	35.03	48.34	58.43	74.00	15.57	Peak
4	4882.000	34.41	10.71	35.03	34.35	44.44	54.00	9.56	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.



Site no.	: 3m Chamber	Data no. :	9
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: 8DPSK 2441MHz		
M/N	: RDP-X60iP		

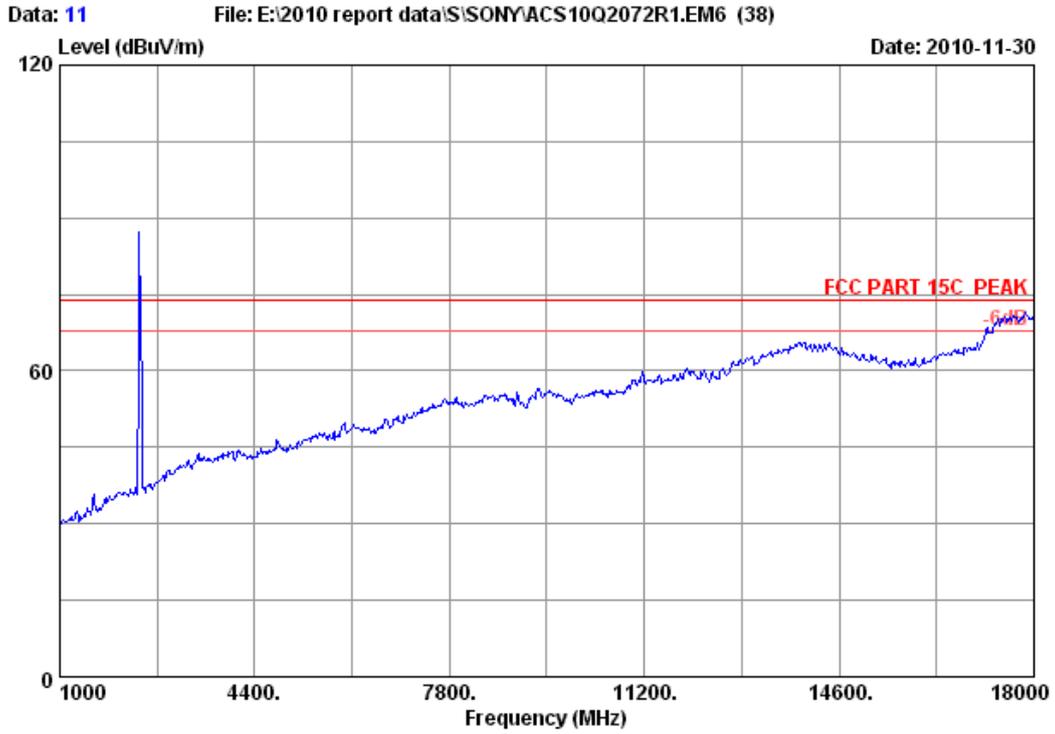


Site no. : 3m Chamber Data no. : 10  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2441MHz  
 M/N : RDP-X60iP

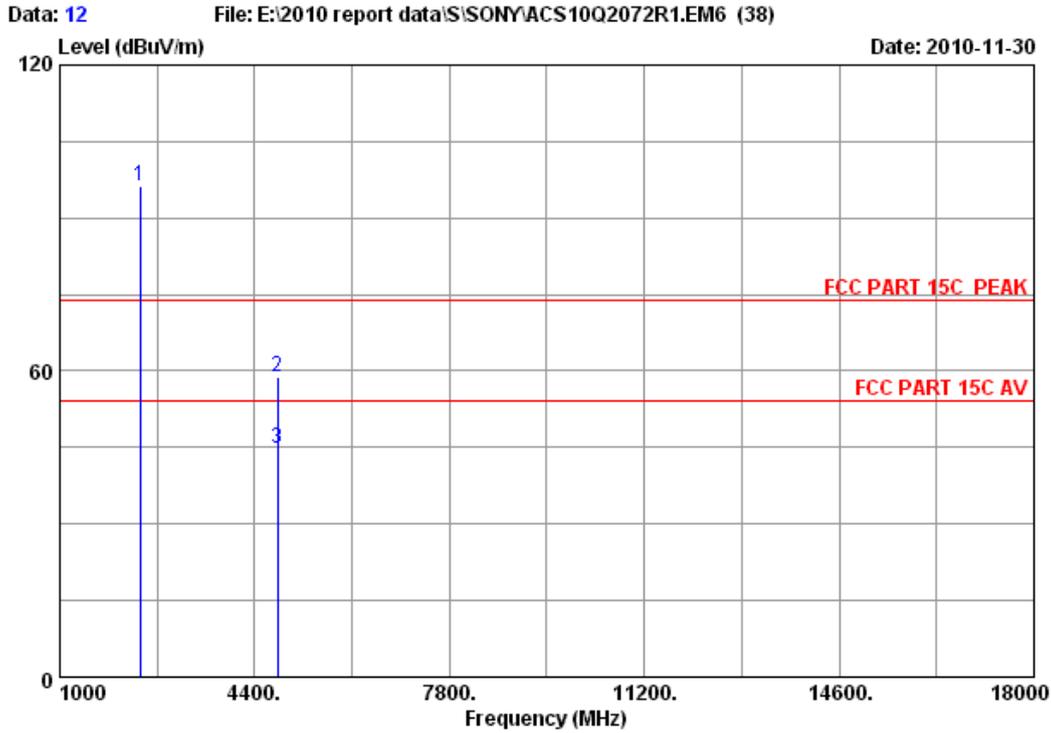
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	29.47	7.50	36.61	94.72	95.08	74.00	-21.08	Peak
2	4882.000	34.41	10.71	35.03	47.25	57.34	74.00	16.66	Peak
3	4882.000	34.41	10.71	35.03	34.01	44.10	54.00	9.90	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.



Site no.	: 3m Chamber	Data no. :	11
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: 8DPSK 2402MHz		
M/N	: RDP-X60iP		

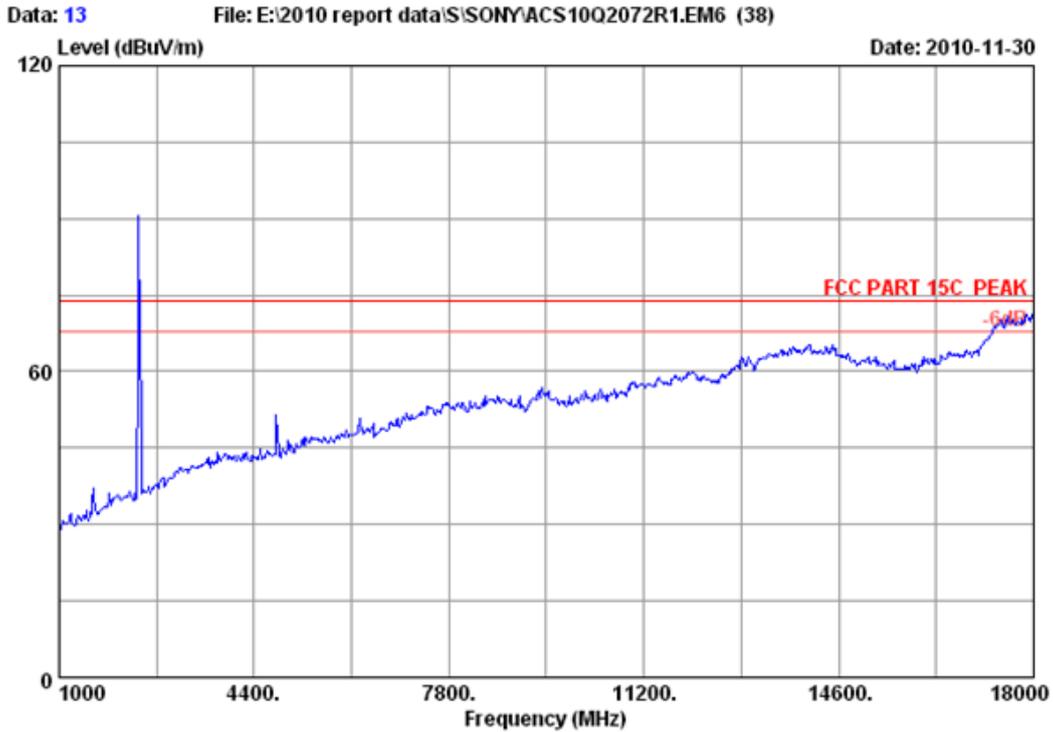


Site no. : 3m Chamber Data no. : 12  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2402MHz  
 M/N : RDP-X60iP

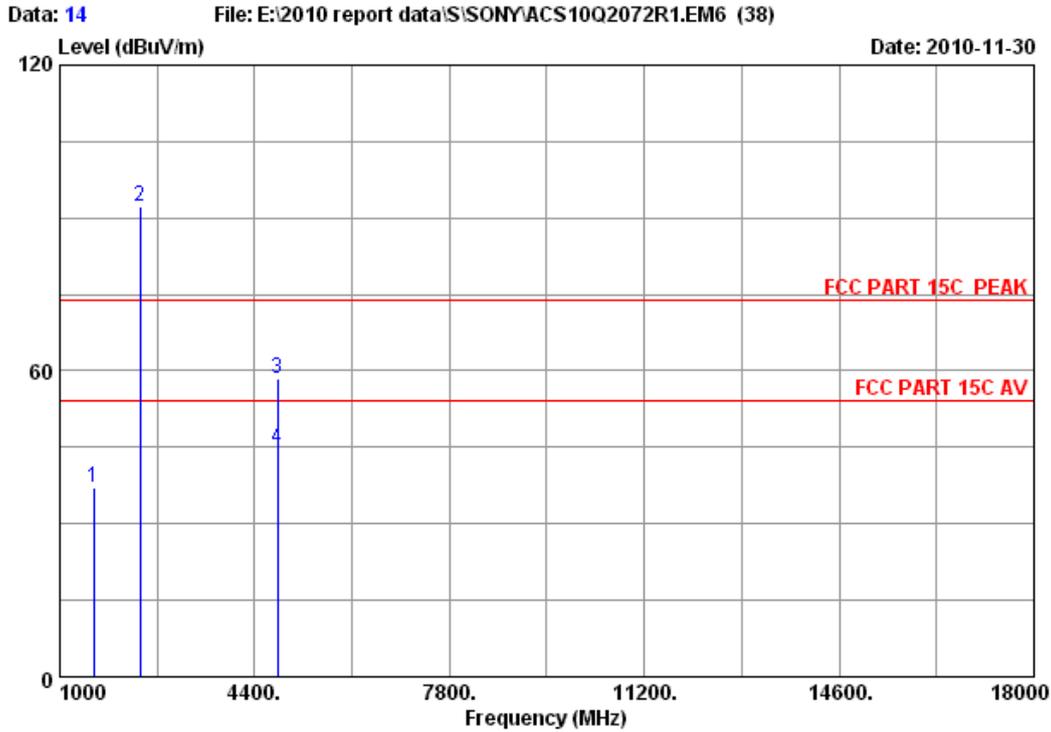
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.000	29.44	7.43	36.62	95.88	96.13	74.00	-22.13	Peak
2	4804.000	34.30	10.62	35.10	49.05	58.87	74.00	15.13	Peak
3	4804.000	34.30	10.62	35.10	35.00	44.82	54.00	9.18	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.



Site no.	: 3m Chamber	Data no. :	13
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: 8DPSK 2402MHz		
M/N	: RDP-X601P		

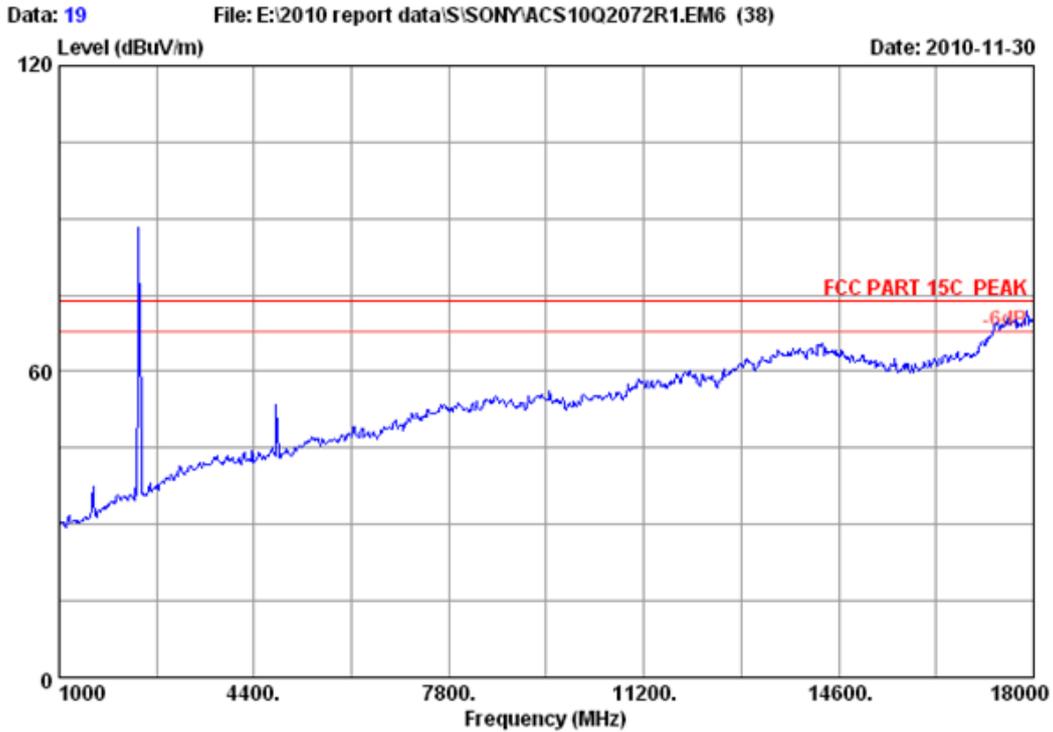


Site no. : 3m Chamber Data no. : 14  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2402MHz  
 M/N : RDP-X60iP

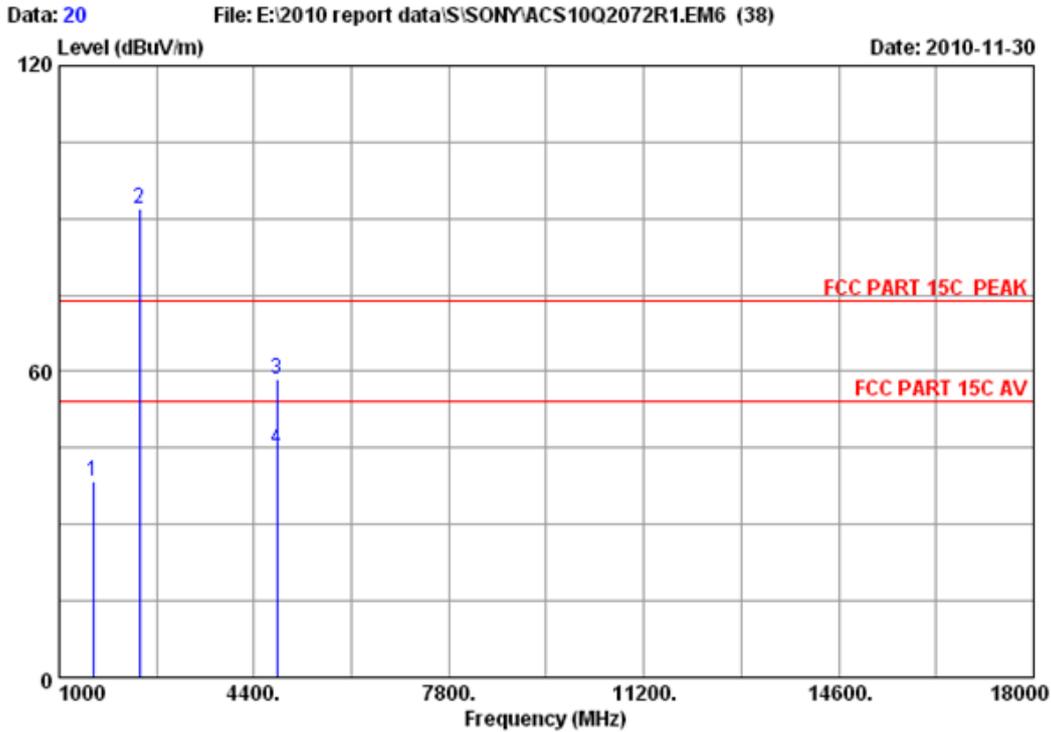
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1595.000	26.96	5.88	36.95	41.17	37.06	74.00	36.94	Peak
2	2402.000	29.44	7.43	36.62	91.98	92.23	74.00	-18.23	Peak
3	4804.000	34.30	10.62	35.10	48.75	58.57	74.00	15.43	Peak
4	4804.000	34.30	10.62	35.10	34.95	44.77	54.00	9.23	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.



Site no.	: 3m Chamber	Data no. :	19
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: GFSK 2402MHz		
M/N	: RDP-X60iP		

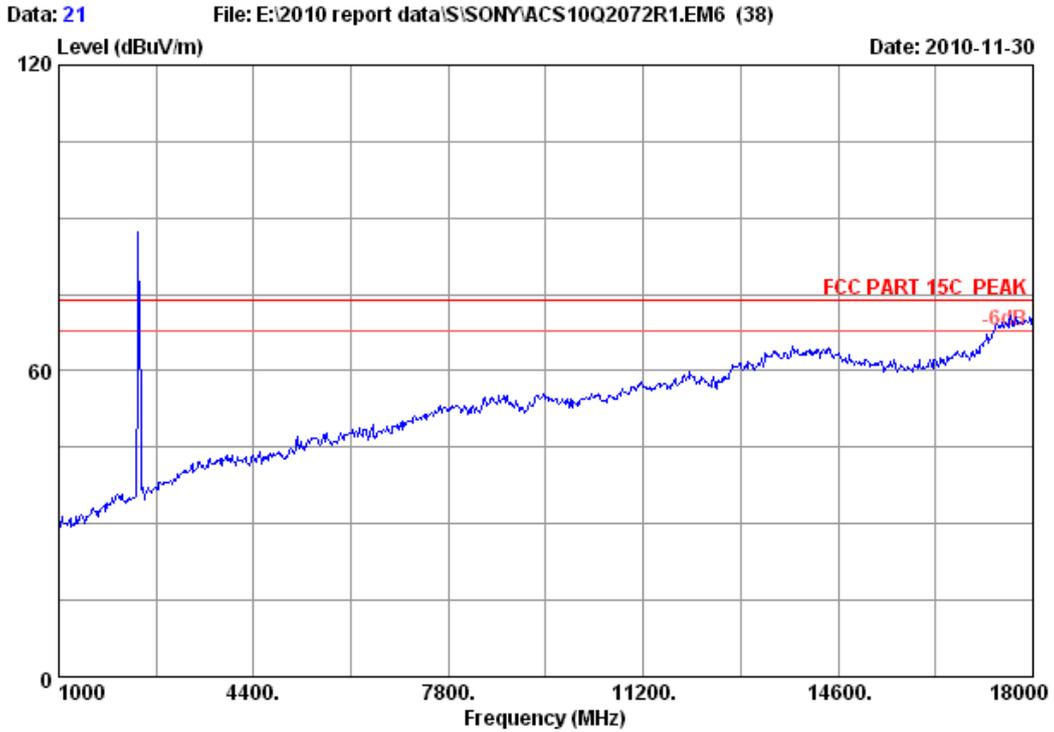


Site no. : 3m Chamber Data no. : 20  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2402MHz  
 M/N : RDP-X60iP

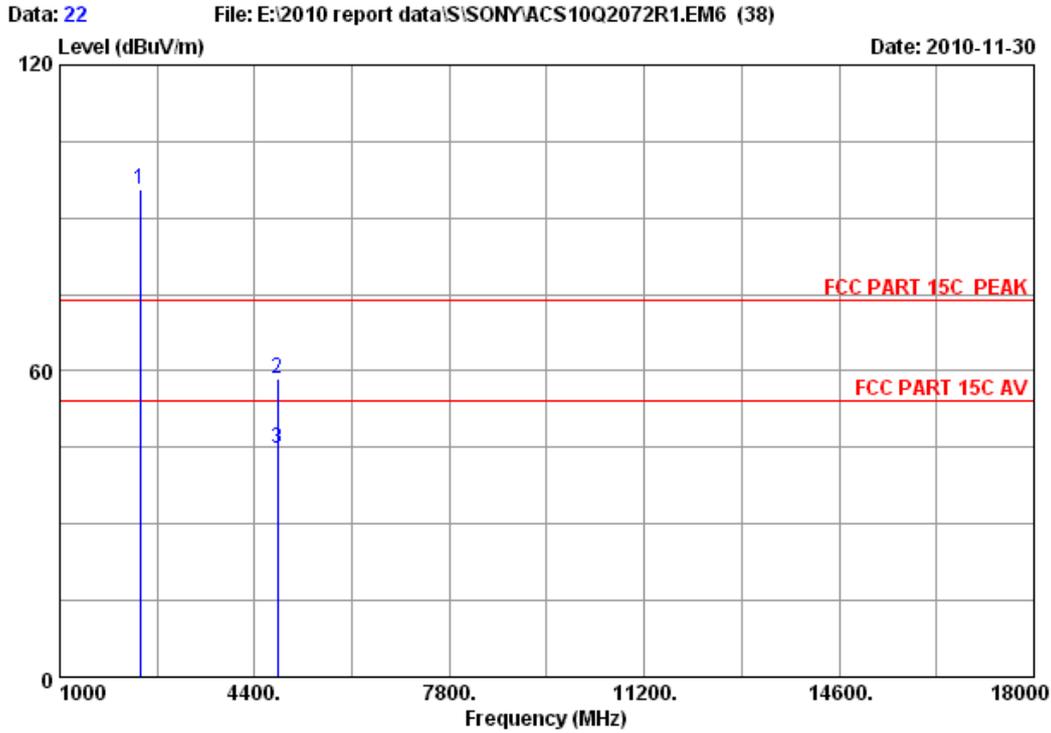
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1595.000	26.96	5.88	36.95	42.67	38.56	74.00	35.44	Peak
2	2402.000	29.44	7.43	36.62	91.73	91.98	74.00	-17.98	Peak
3	4804.000	34.30	10.62	35.10	48.68	58.50	74.00	15.50	Peak
4	4804.000	34.30	10.62	35.10	34.85	44.67	54.00	9.33	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.



Site no. : 3m Chamber Data no. : 21  
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : 23°C/54% Engineer : Leo-Li  
EUT : Personal Audio Docking System  
Power : DC 20V From Adapter input AC 120V/60Hz  
Test mode : GFSK 2402MHz  
M/N : RDP-X60iP

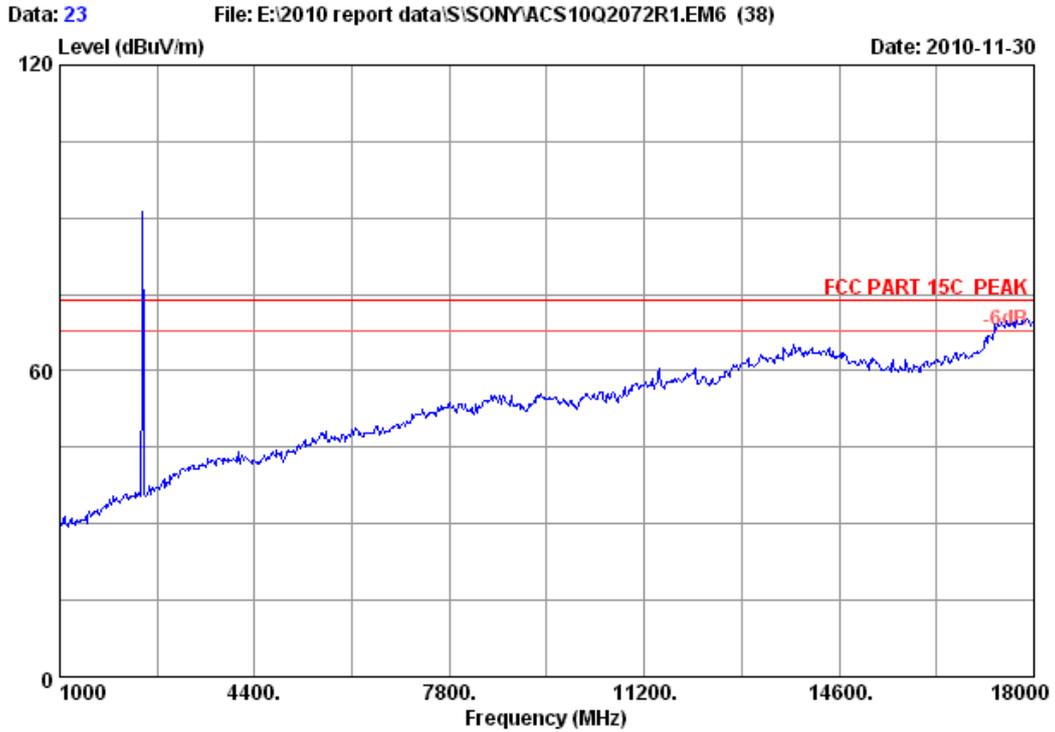


Site no. : 3m Chamber Data no. : 22  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2402MHz  
 M/N : RDP-X60iP

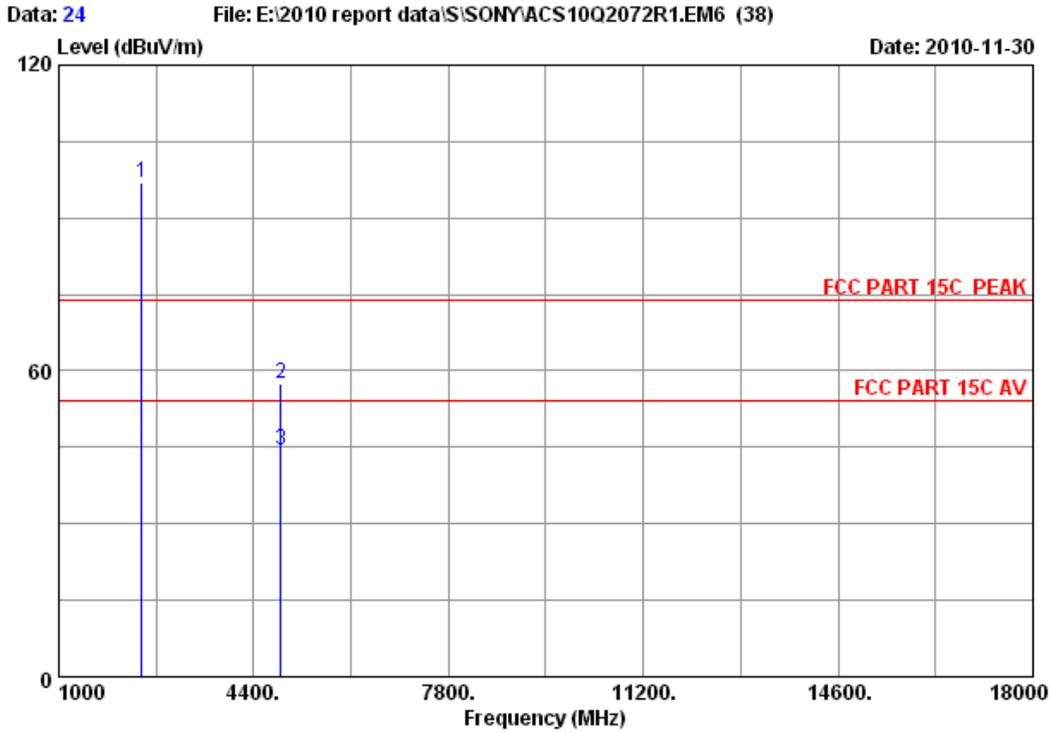
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2402.000	29.44	7.43	36.62	95.35	95.60	74.00	-21.60	Peak
2	4804.000	34.30	10.62	35.10	48.81	58.63	74.00	15.37	Peak
3	4804.000	34.30	10.62	35.10	34.85	44.67	54.00	9.33	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.



Site no. : 3m Chamber Data no. : 23  
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : 23\*C/54% Engineer : Leo-Li  
EUT : Personal Audio Docking System  
Power : DC 20V From Adapter input AC 120V/60Hz  
Test mode : GFSK 2441MHz  
M/N : RDP-X60iP

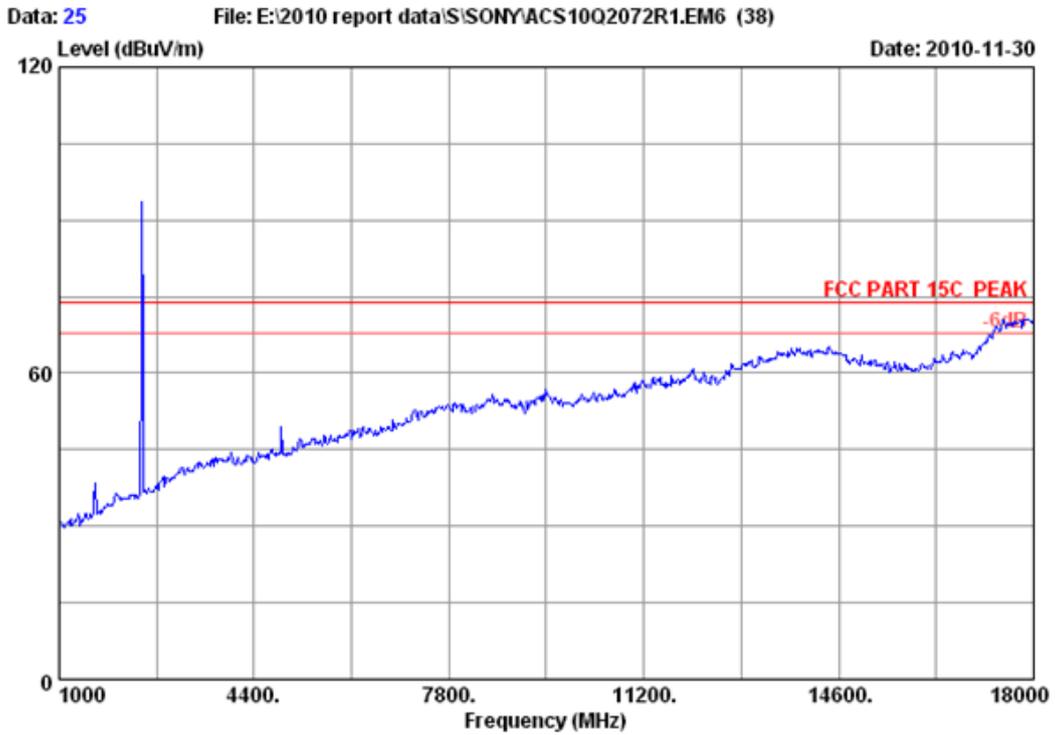


Site no. : 3m Chamber Data no. : 24  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2441MHz  
 M/N : RDP-X60iP

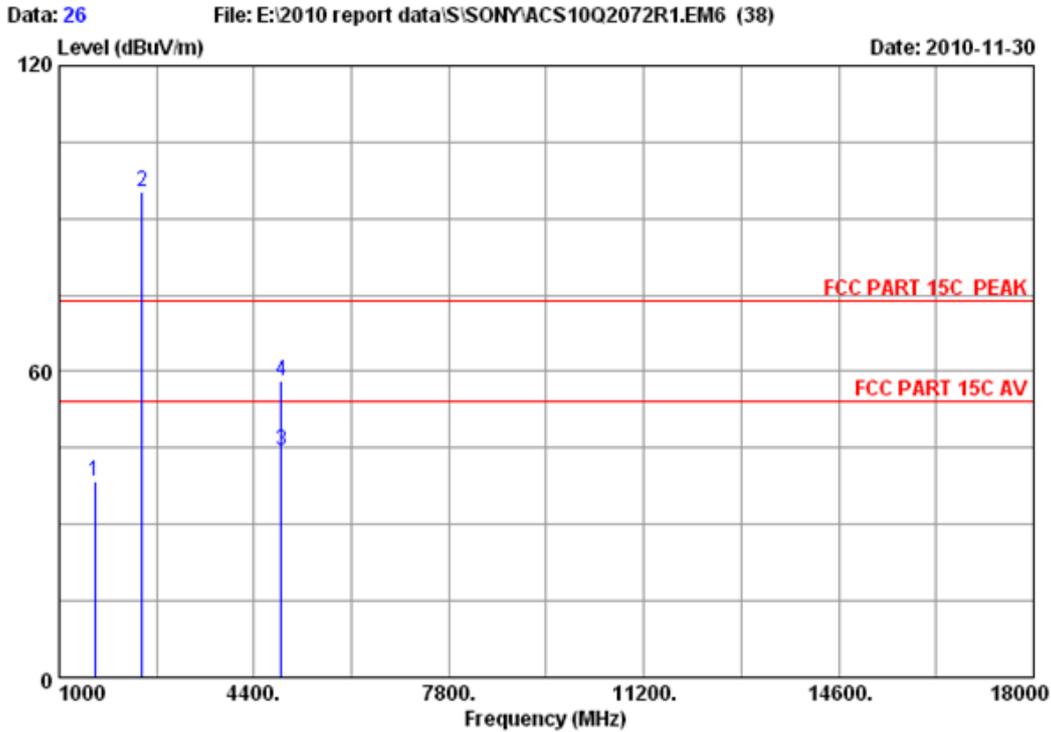
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	29.47	7.50	36.61	96.74	97.10	74.00	-23.10	Peak
2	4882.000	34.41	10.71	35.03	47.42	57.51	74.00	16.49	Peak
3	4882.000	34.41	10.71	35.03	34.35	44.44	54.00	9.56	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.



Site no.	: 3m Chamber	Data no. :	25
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: GFSK 2441MHz		
M/N	: RDP-X60iP		

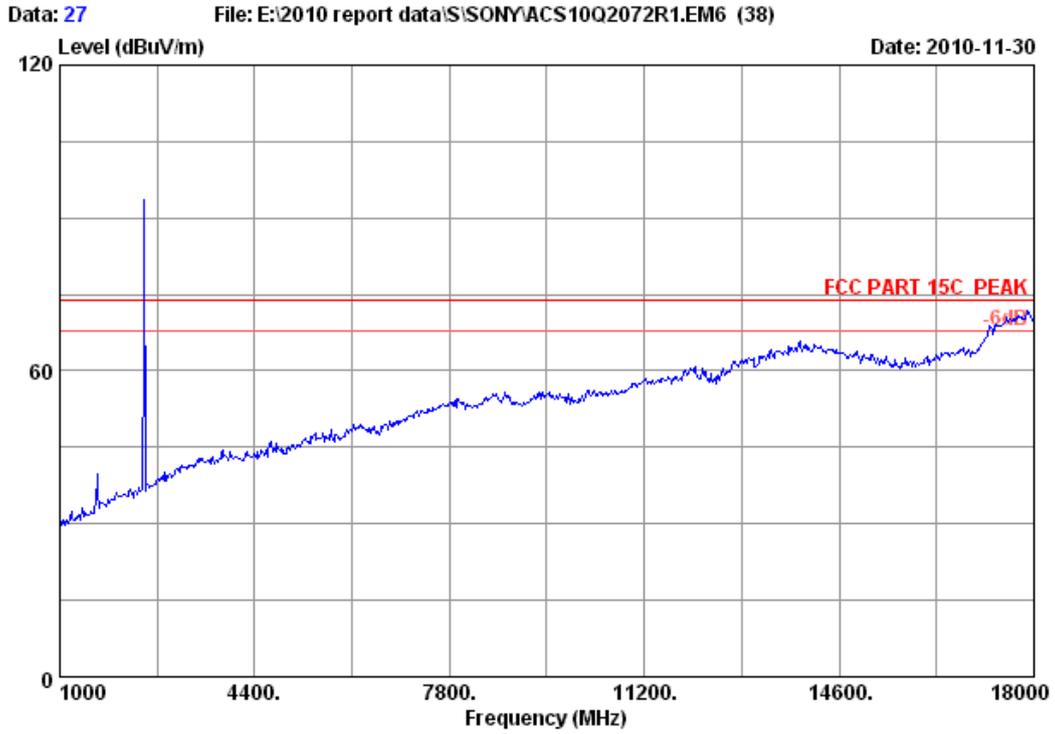


Site no. : 3m Chamber Data no. : 26  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2441MHz  
 M/N : RDP-X60iP

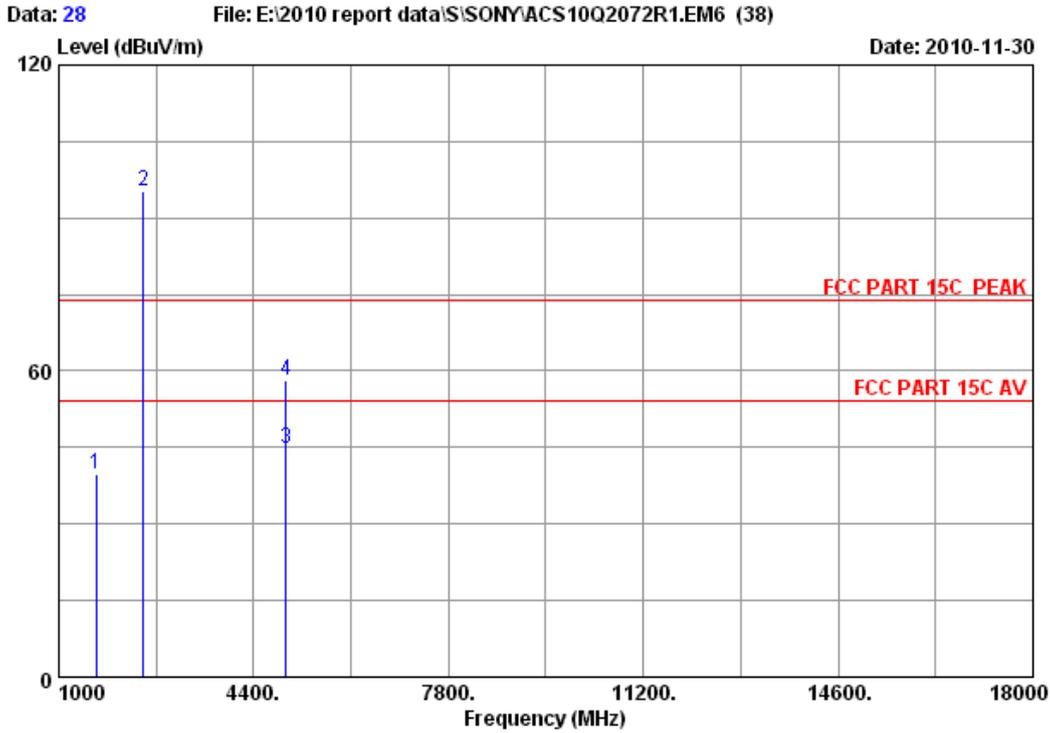
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1629.000	27.15	5.95	36.92	42.28	38.46	74.00	35.54	Peak
2	2441.000	29.47	7.50	36.61	94.90	95.26	74.00	-21.26	Peak
3	4882.000	34.41	10.71	35.03	34.48	44.57	54.00	9.43	Average
4	4882.000	34.41	10.71	35.03	48.21	58.30	74.00	15.70	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.



Site no.	: 3m Chamber	Data no. :	27
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: GFSK 2480MHz		
M/N	: RDP-X60iP		

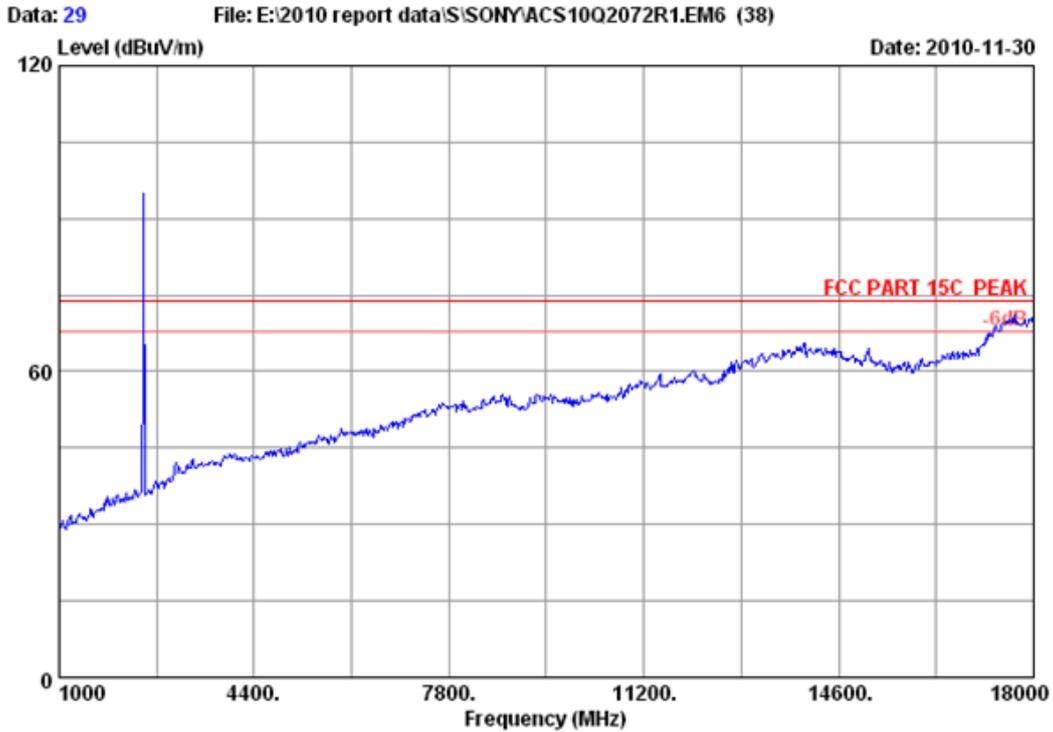


Site no. : 3m Chamber Data no. : 28  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2480MHz  
 M/N : RDP-X60iP

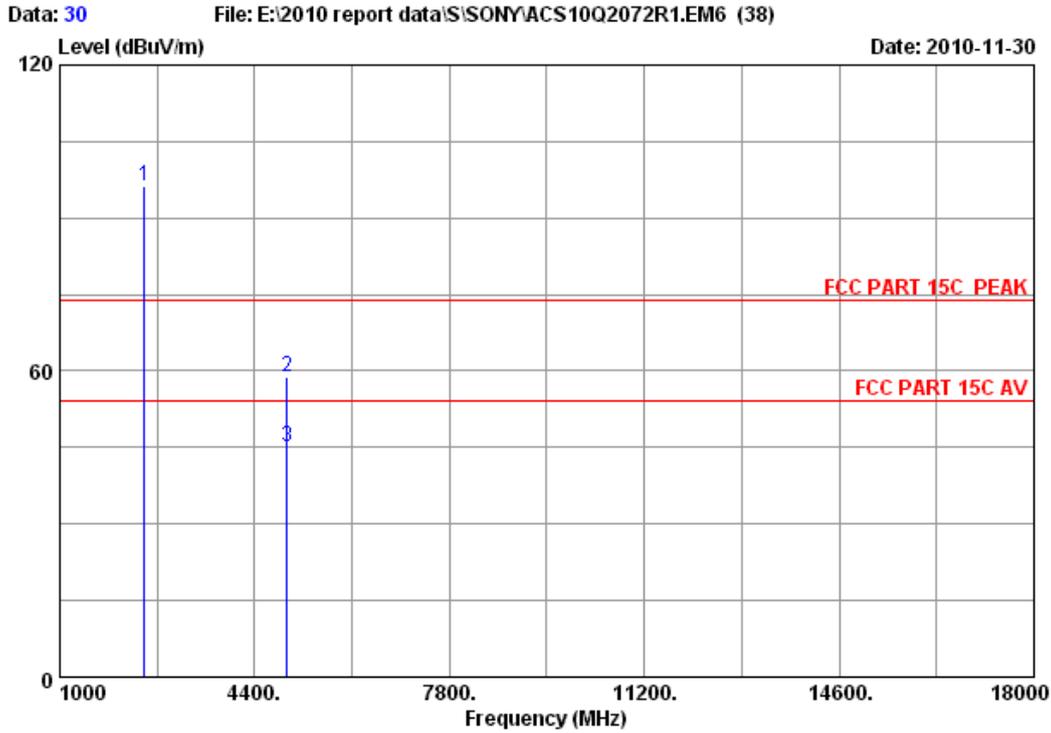
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1646.000	27.24	5.99	36.92	43.60	39.91	74.00	34.09	Peak
2	2480.000	29.49	7.58	36.60	94.69	95.16	74.00	-21.16	Peak
3	4960.000	34.54	10.80	34.95	34.28	44.67	54.00	9.33	Average
4	4960.000	34.54	10.80	34.95	47.75	58.14	74.00	15.86	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.



Site no.	: 3m Chamber	Data no. :	29
Dis. / Ant.	: 3m 3115(0911)	Ant. pol. :	VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer :	Leo-Li
EUT	: Personal Audio Docking System		
Power	: DC 20V From Adapter input AC 120V/60Hz		
Test mode	: GFSK 2480MHz		
M/N	: RDP-X60iP		



Site no. : 3m Chamber Data no. : 30  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2480MHz  
 M/N : RDP-X60iP

	Ant. 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	2480.000	29.49	7.58	36.60	95.77	96.24	74.00	-22.24	Peak
2	4960.000	34.54	10.80	34.95	48.58	58.97	74.00	15.03	Peak
3	4960.000	34.54	10.80	34.95	34.70	45.09	54.00	8.91	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.

## 5. CONDUCTED SPURIOUS EMISSIONS

### 5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,10	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,10	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,10	1Year

### 5.2. Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

### 5.3. Test Procedure

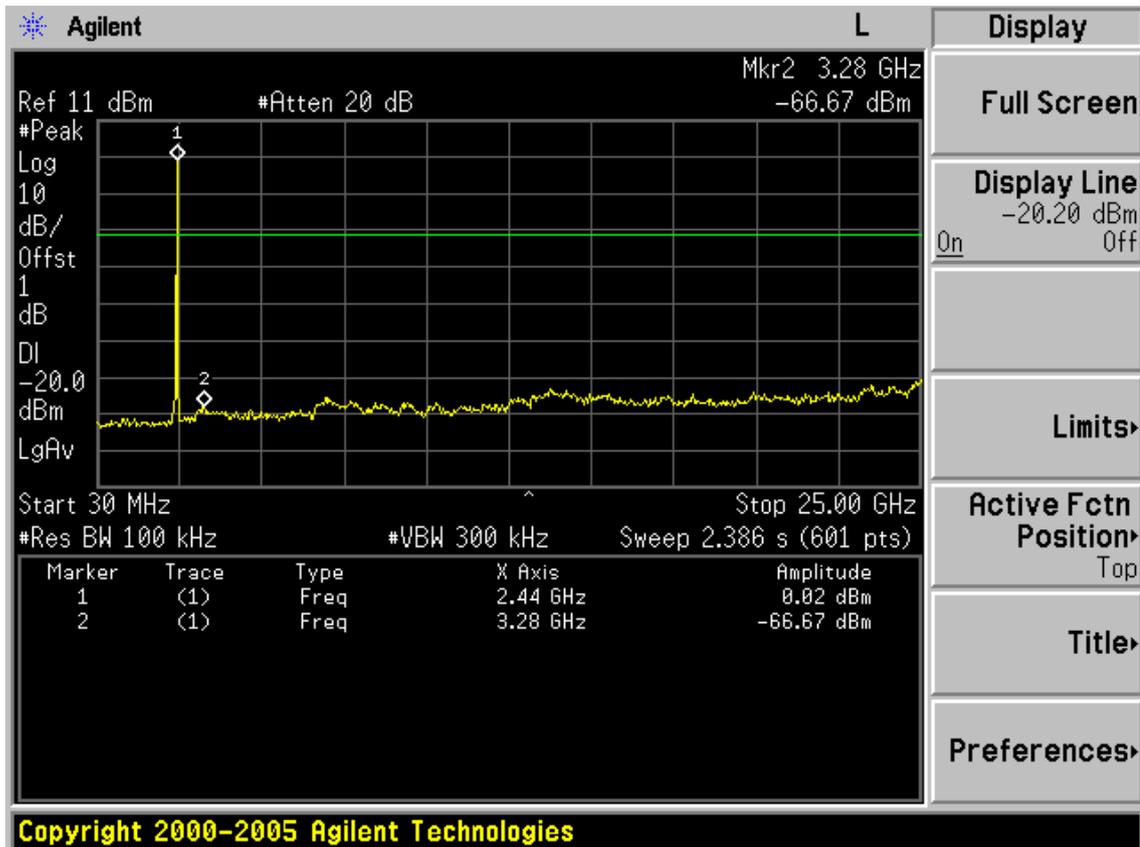
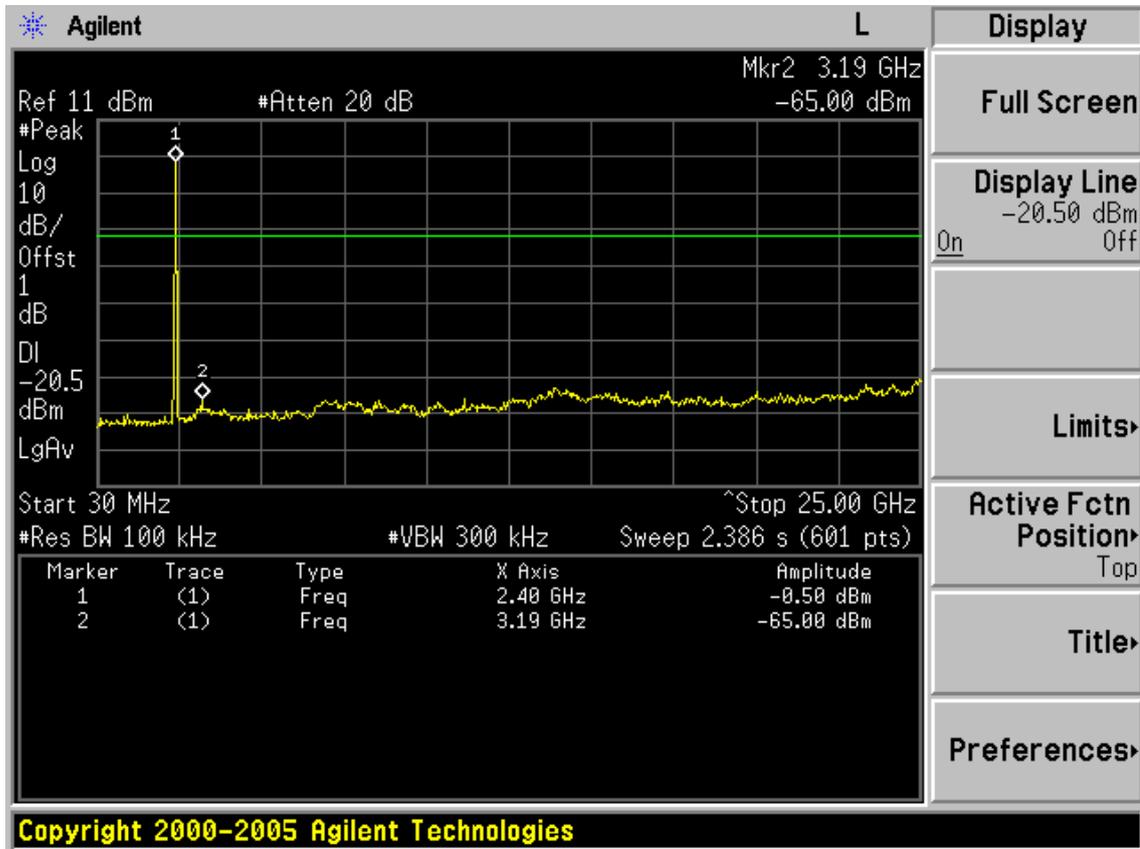
- 1, Connected the EUT's antenna port to spectrum analyzer by 20dB attenuator.
- 2, Measure all the conducted emissions from antenna port by spectrum analyzer as below set:

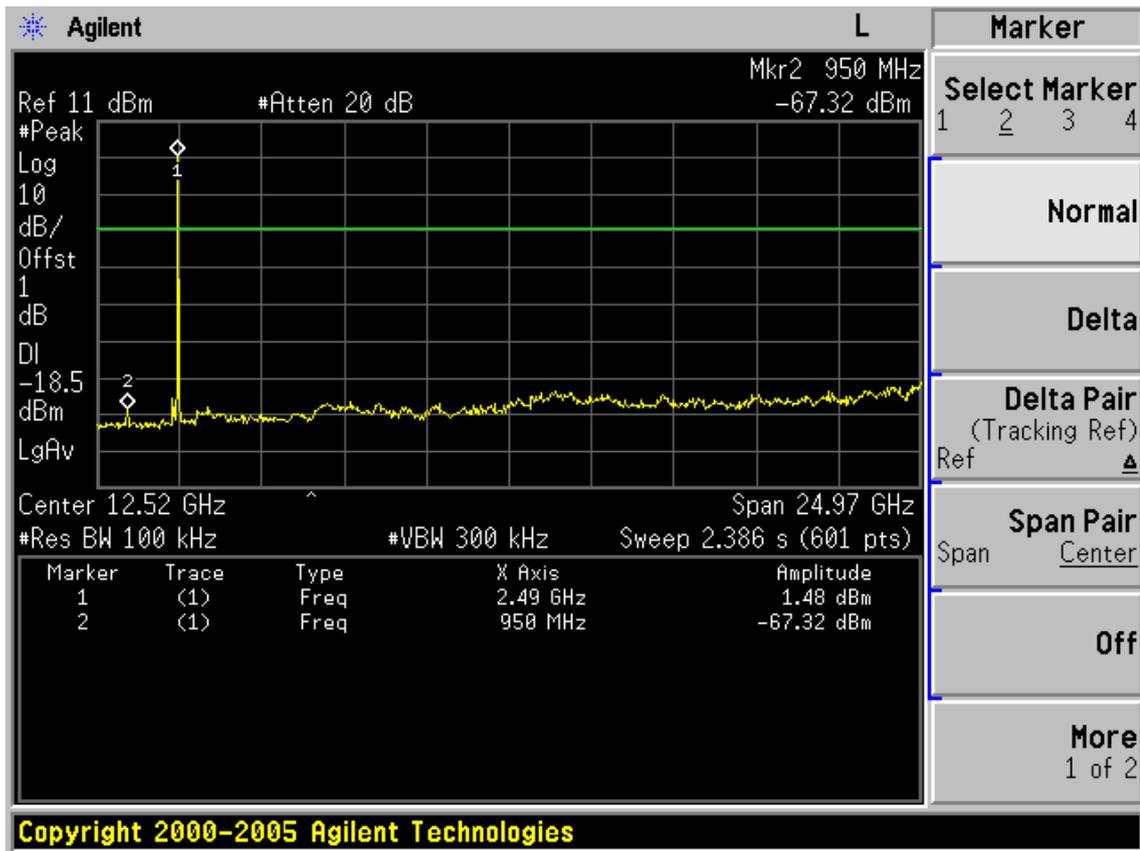
RBW=100KHz; VBW=300KHz; Detector: Peak; Sweep time: Auto

Note: The cable loss and attenuator loss were offset into spectrum analyzer as an amplitude offset.

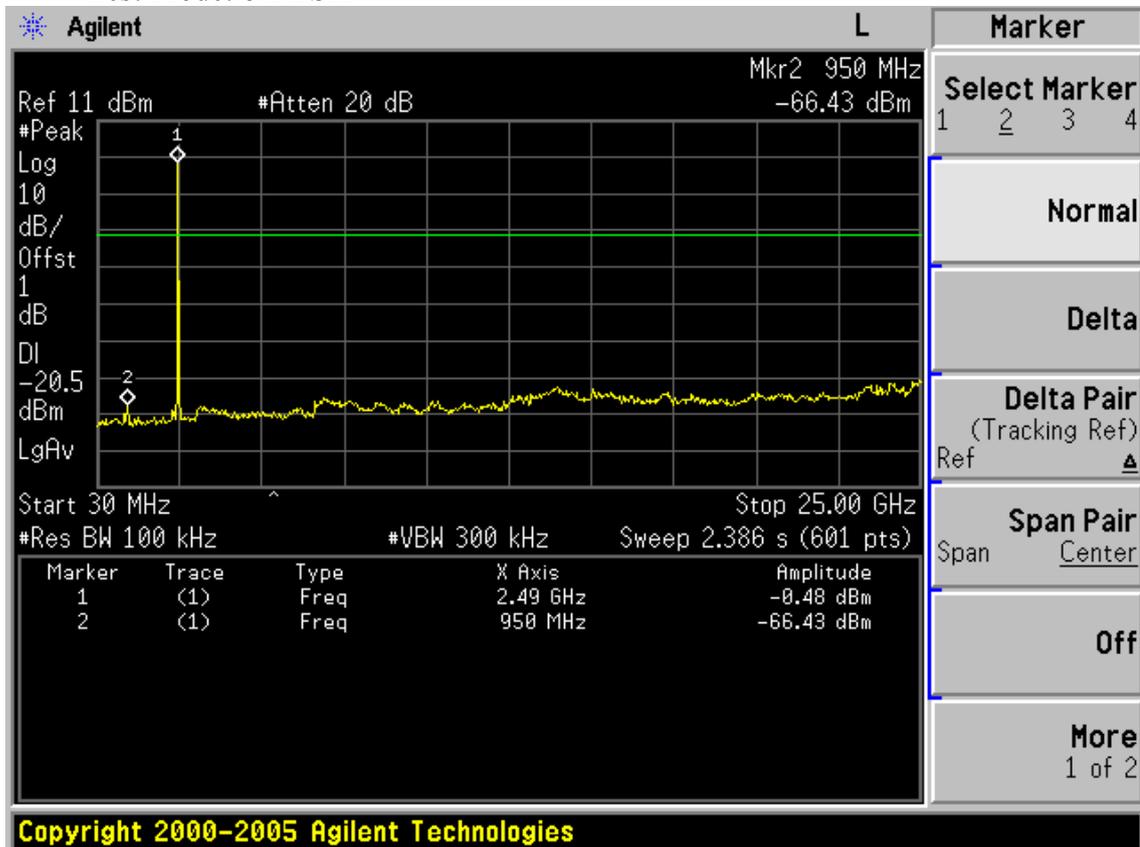
### 5.4. Test result

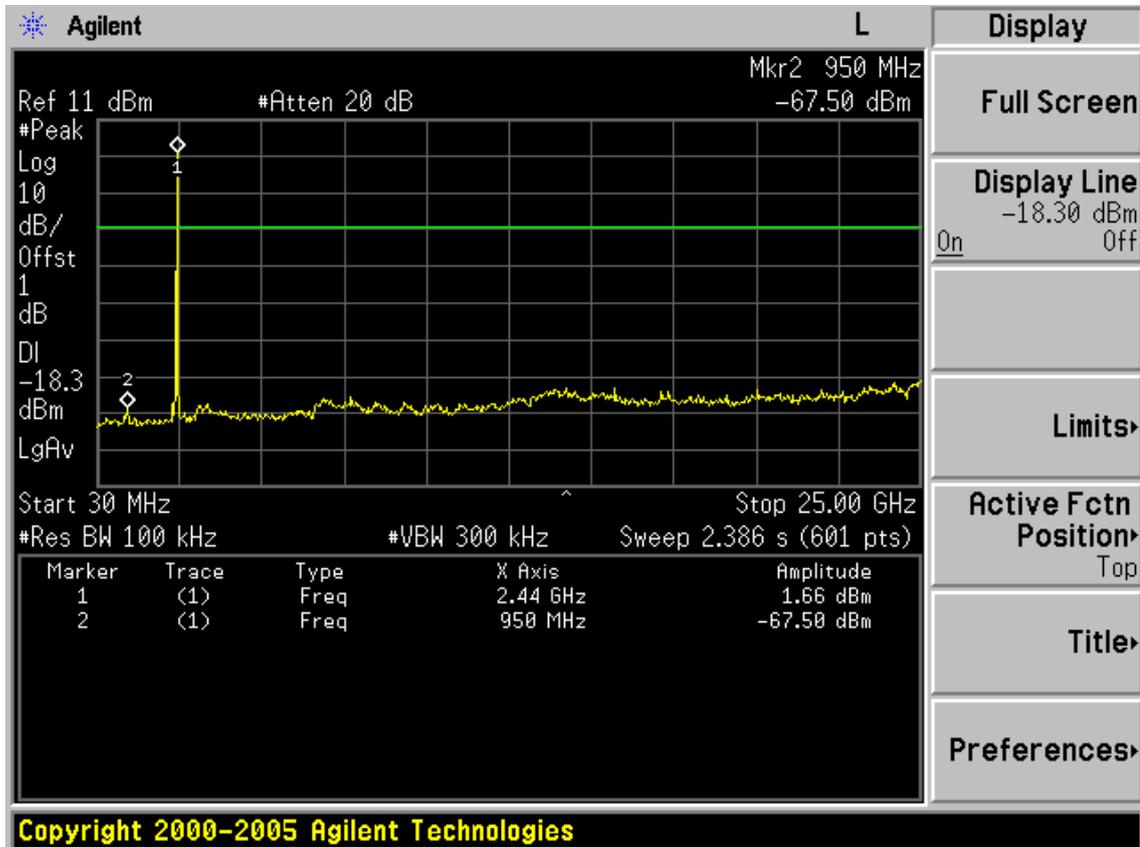
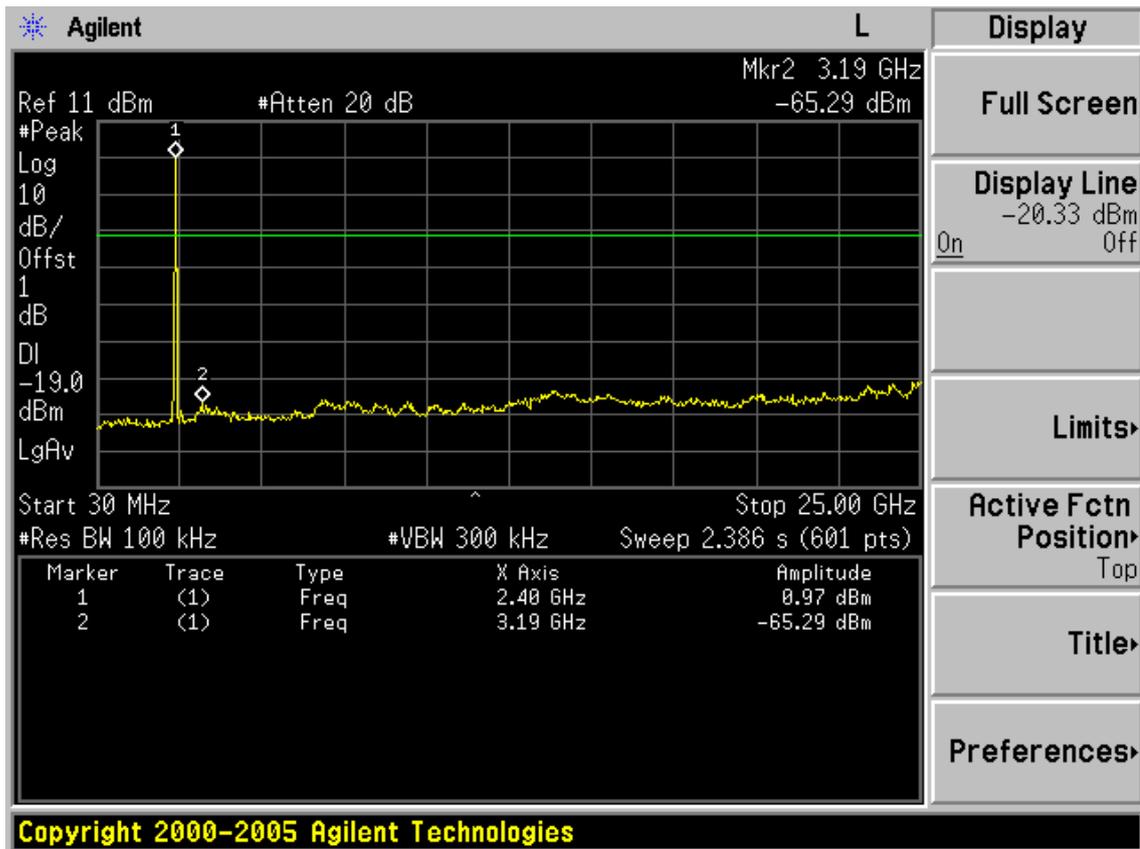
Test Mode: GFSK





Test Mode: 8-DPSK





## 6. CARRIER FREQUENCY SEPARATION TEST

### 6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 10	1 Year
2.	RF Cable	Hubersuhner	SUCOFLE X102	28618/2	May.08,10	1Year

### 6.2. Limit

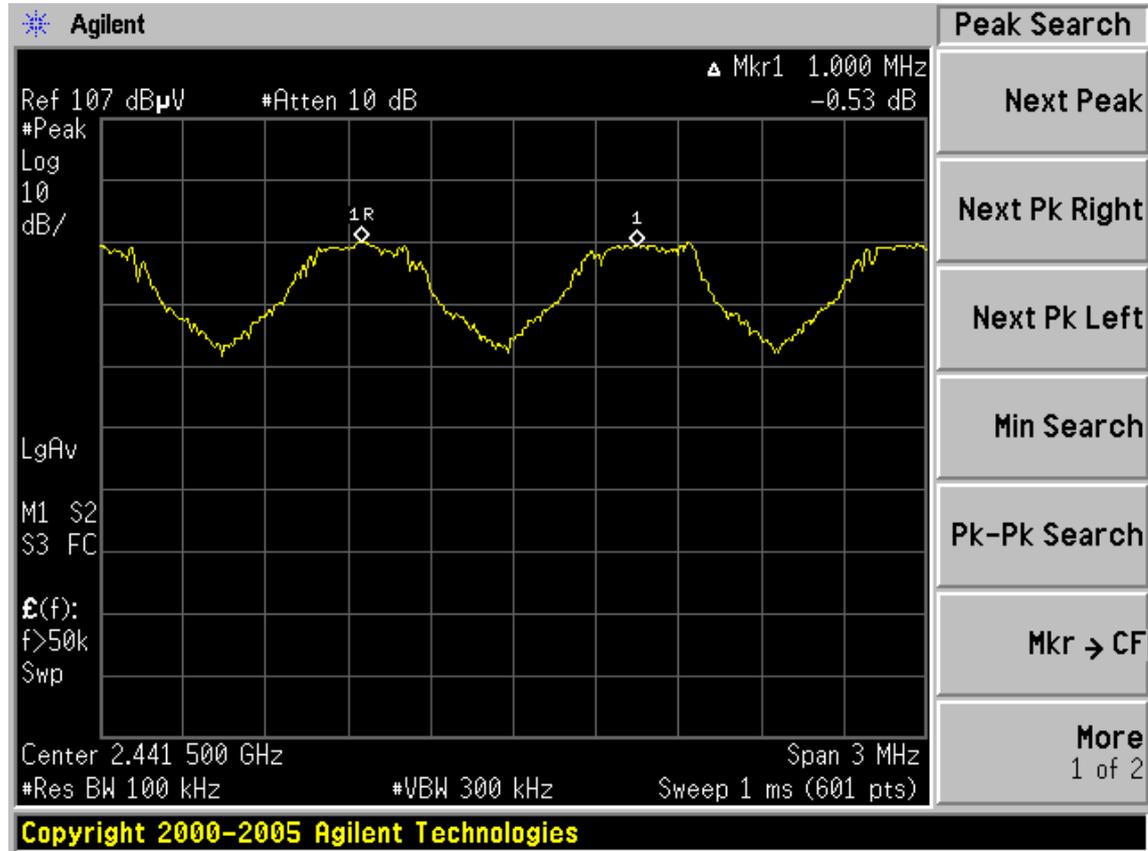
Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

### 6.3. Test Results.

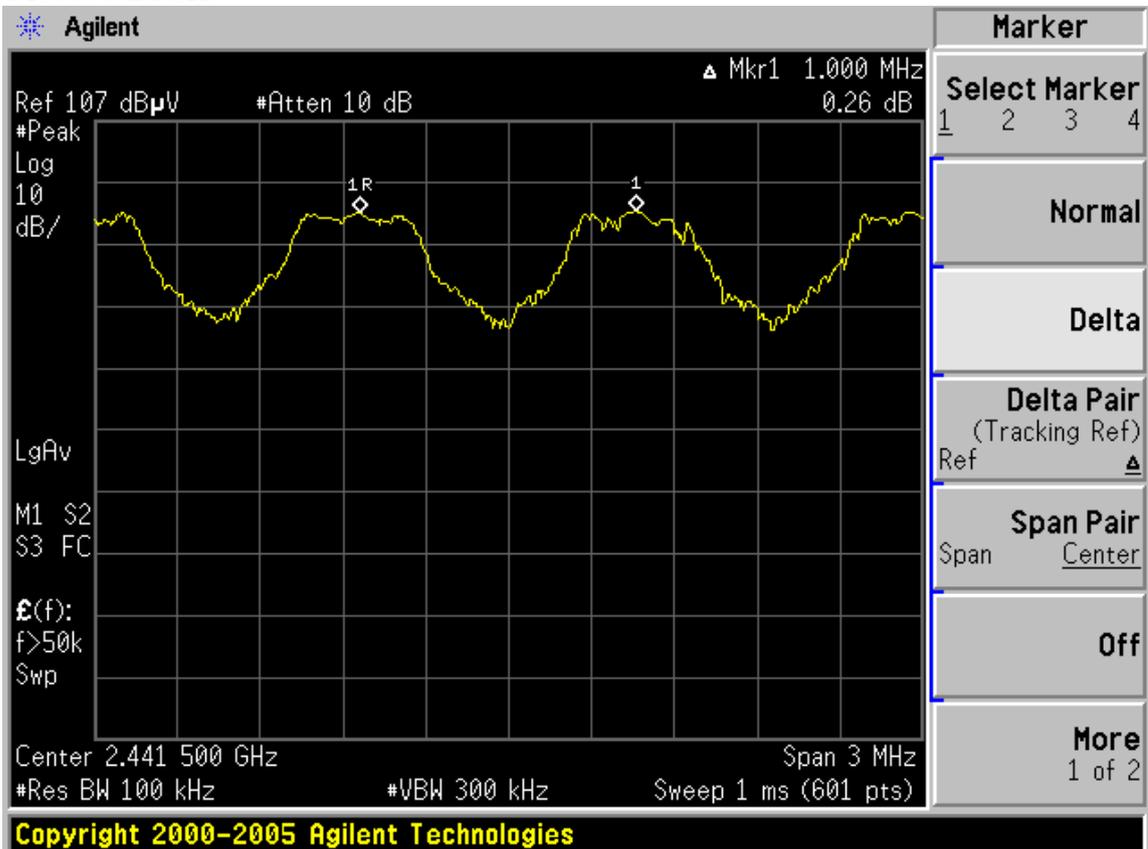
EUT: Personal Audio Docking System		
M/N: RDP-X60iP		
Test date:2010-11-30	Pressure:100.5 kpa	Humidity:53%
Tested by: Paul Tian	Test site: RF site	Temperature:25 °C

Mode	Channel separation	Conclusion
GFSK	1.00MHz	PASS
8-DPSK	1.00MHz	PASS

Mode: GFSK



Mode: 8-DPSK



## 7. 20 DB BANDWIDTH TEST

### 7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,10	1 Year
2.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,10	1Year

### 7.2. Limit

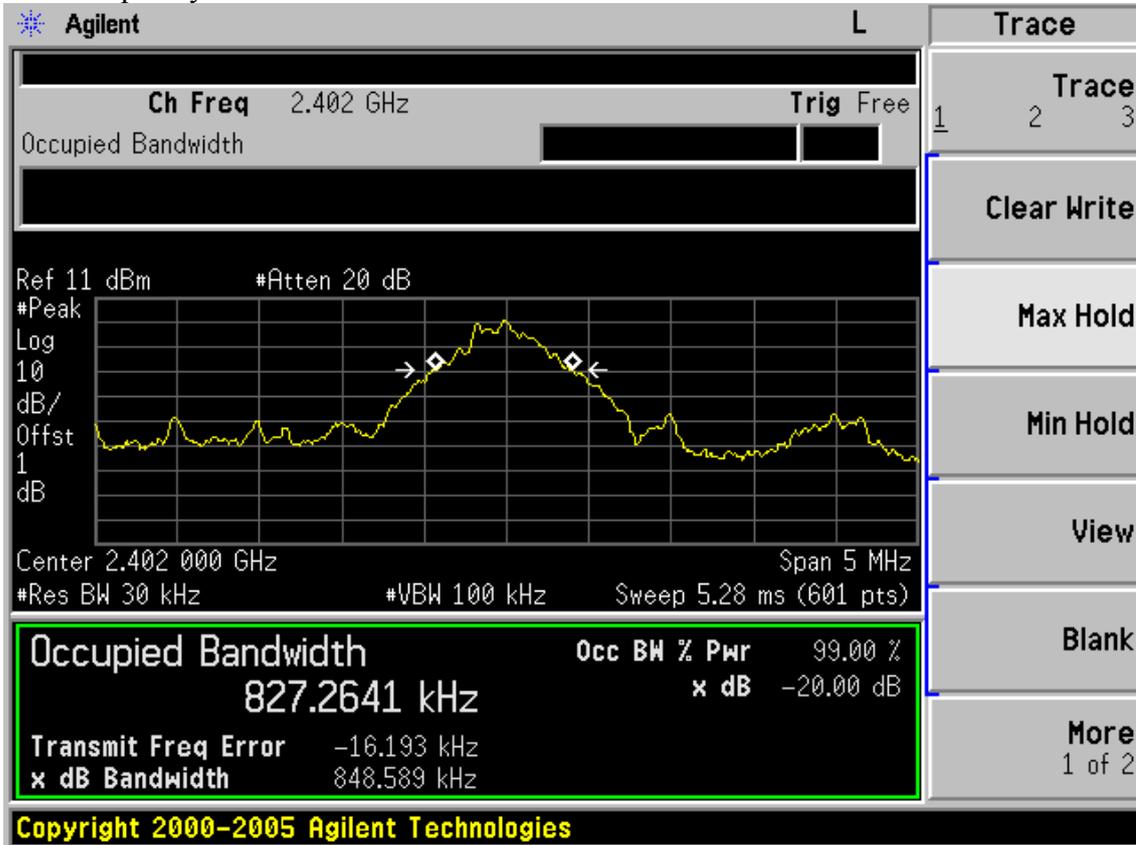
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### 7.3. Test Results

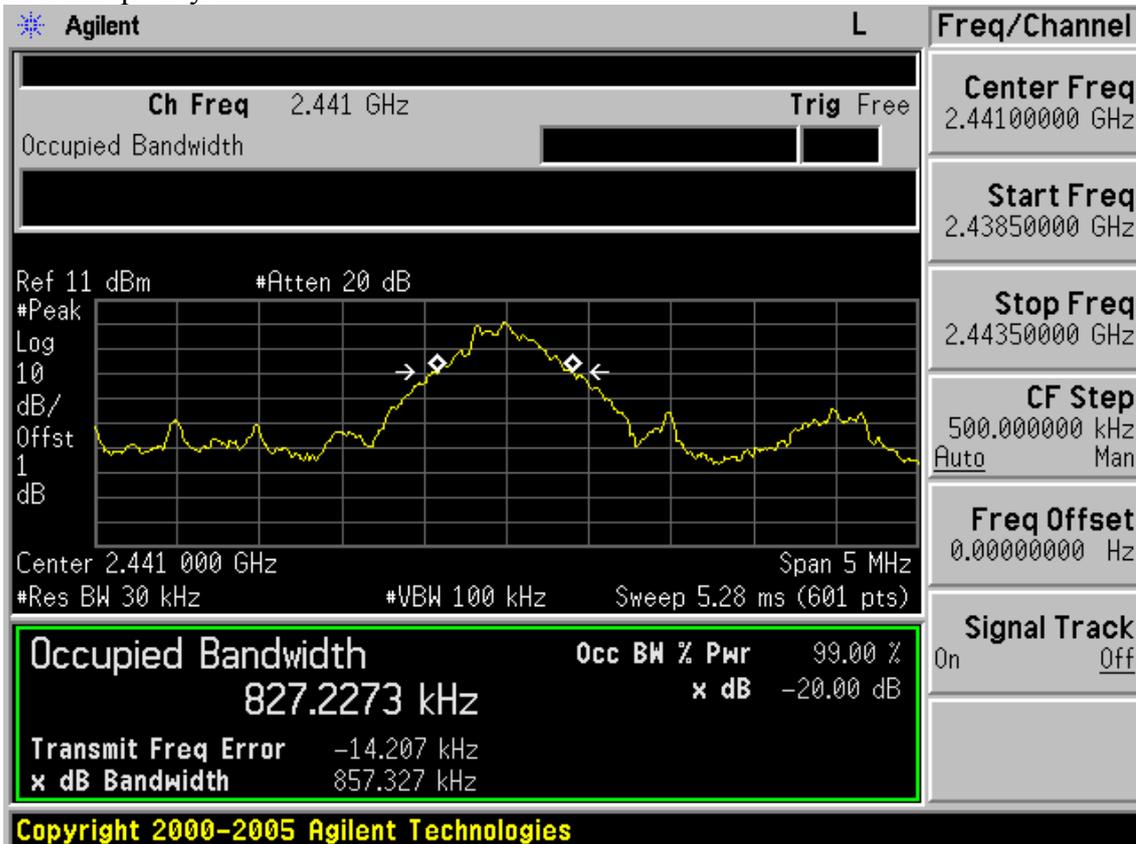
EUT: Personal Audio Docking System		
M/N: RDP-X60iP		
Test date: 2010-11-30	Pressure:100.5 kpa	Humidity:57 %
Tested by: Paul Tian	Test site: RF site	Temperature : 25 °C

Mode	Frequency (MHz)	20dB bandwidth (KHz)	Limit (KHz)
GFSK	2402	848.589	N/A
	2441	857.327	N/A
	2480	851.326	N/A
8-DPSK	2402	1210.00	N/A
	2441	1213.00	N/A
	2480	1213.00	N/A
Conclusion : PASS			

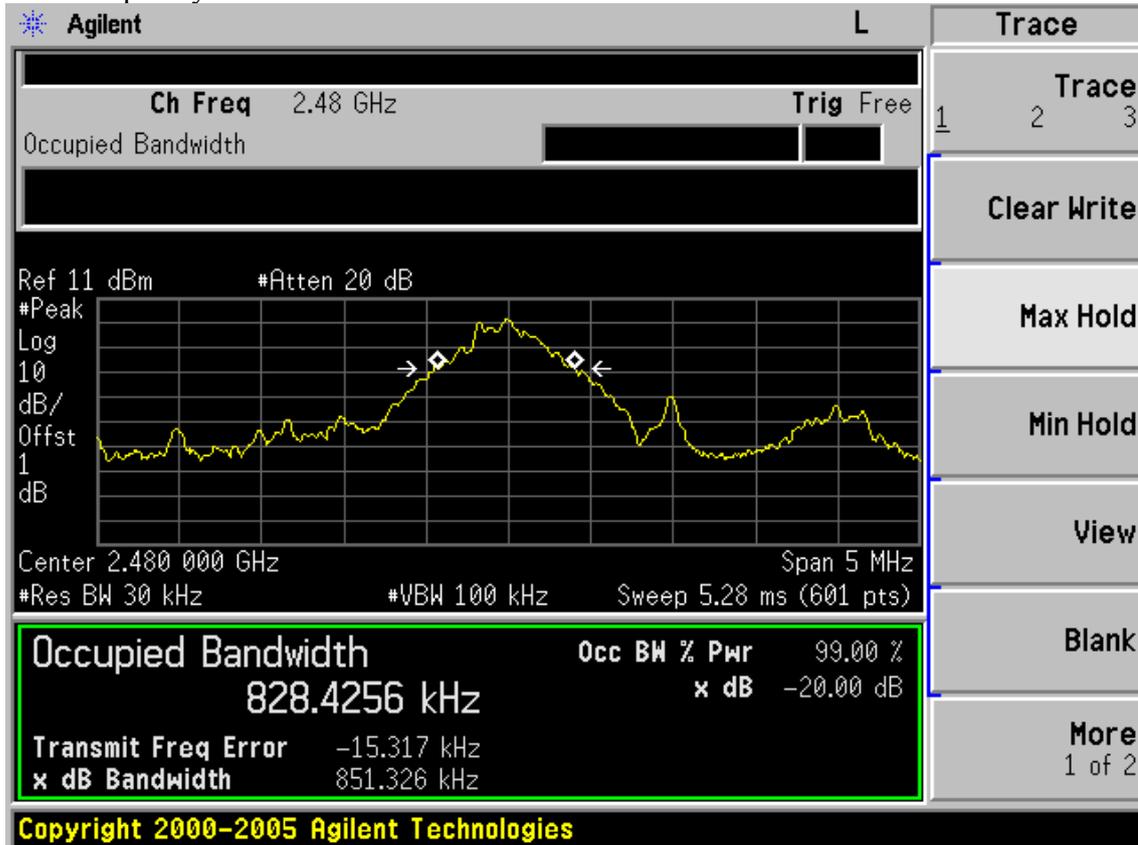
Test Mode: GFSK  
 Test Frequency: 2402MHz



Test Frequency: 2441MHz

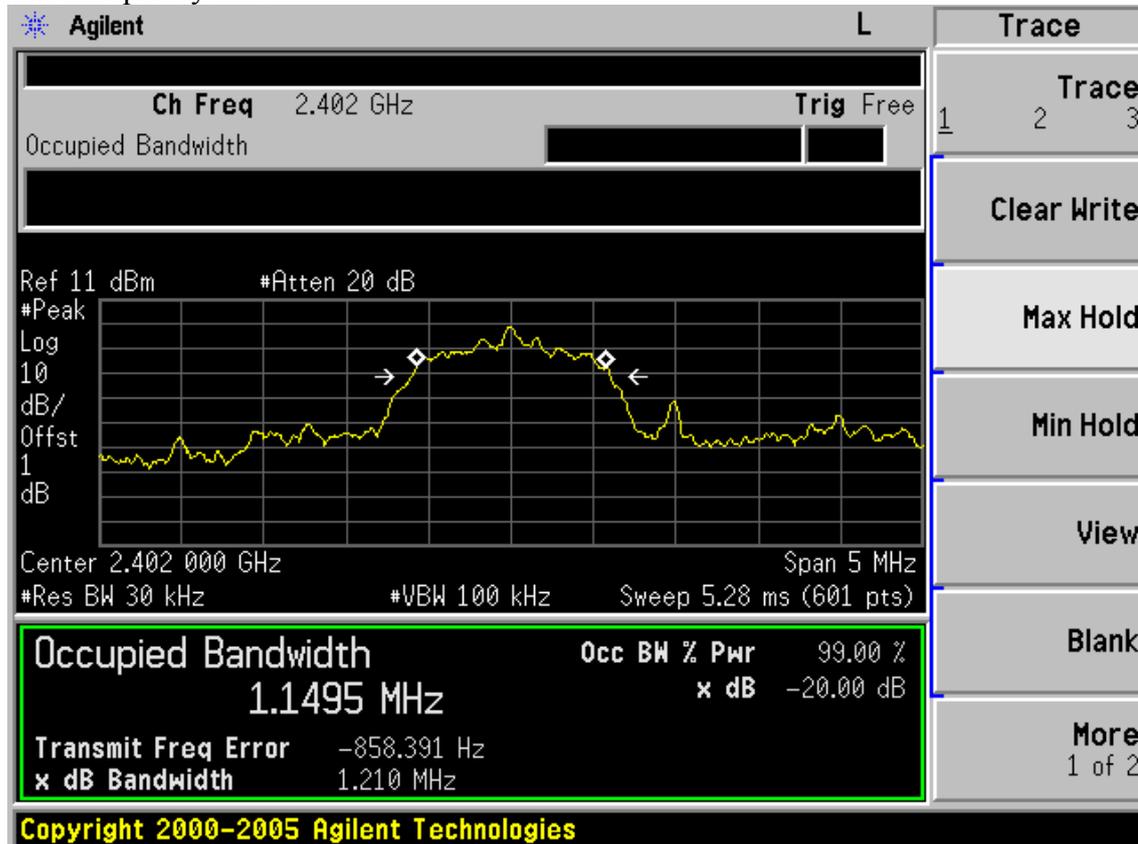


Test Frequency: 2480MHz

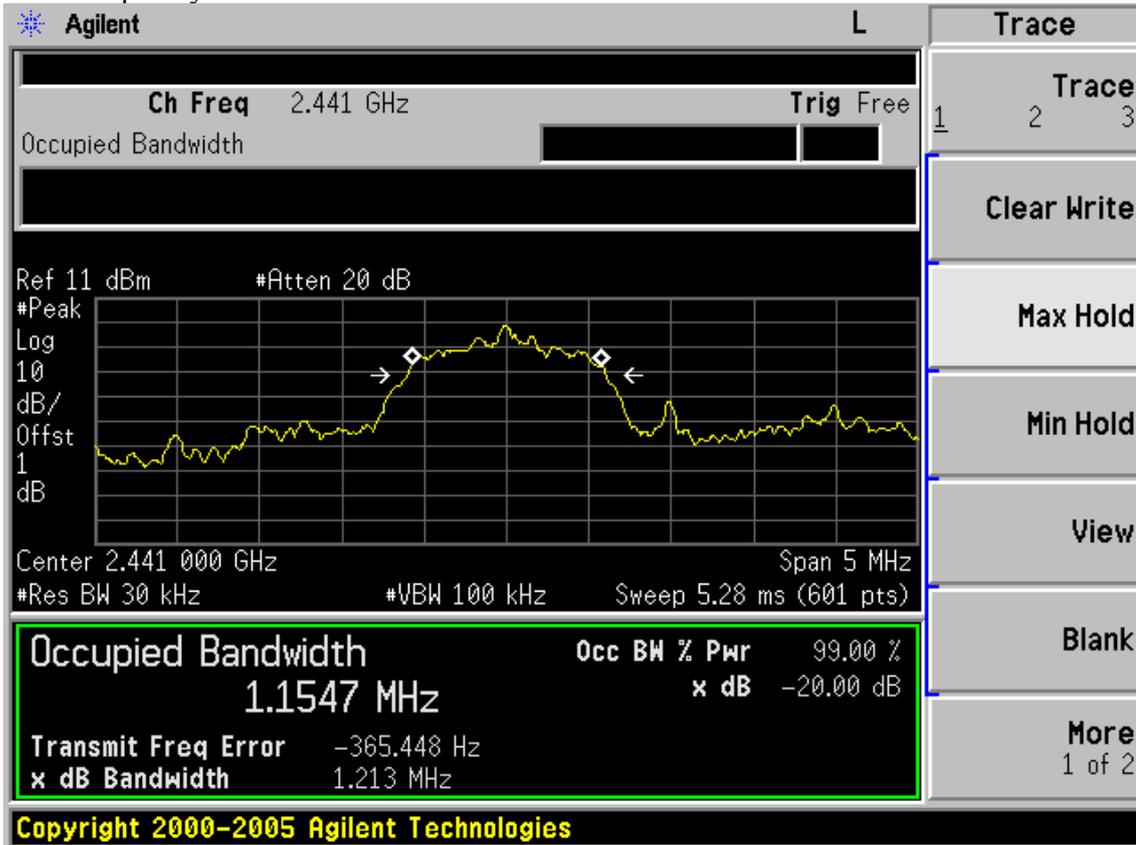


Test Mode: 8-DPSK

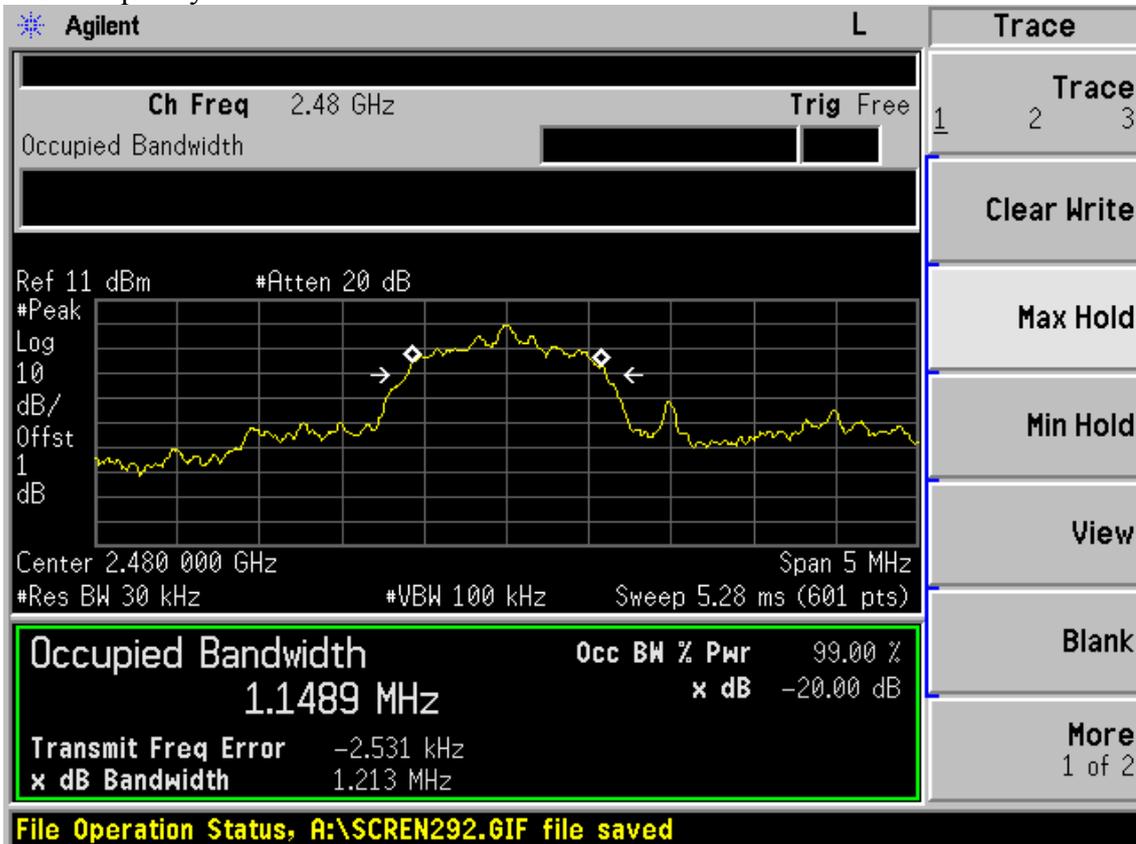
Test Frequency: 2402MHz



Test Frequency: 2441MHz



Test Frequency: 2480MHz



## 8. NUMBER OF HOPPING FREQUENCY TEST

### 8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 10	1 Year
2	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May,08, 10	1Year

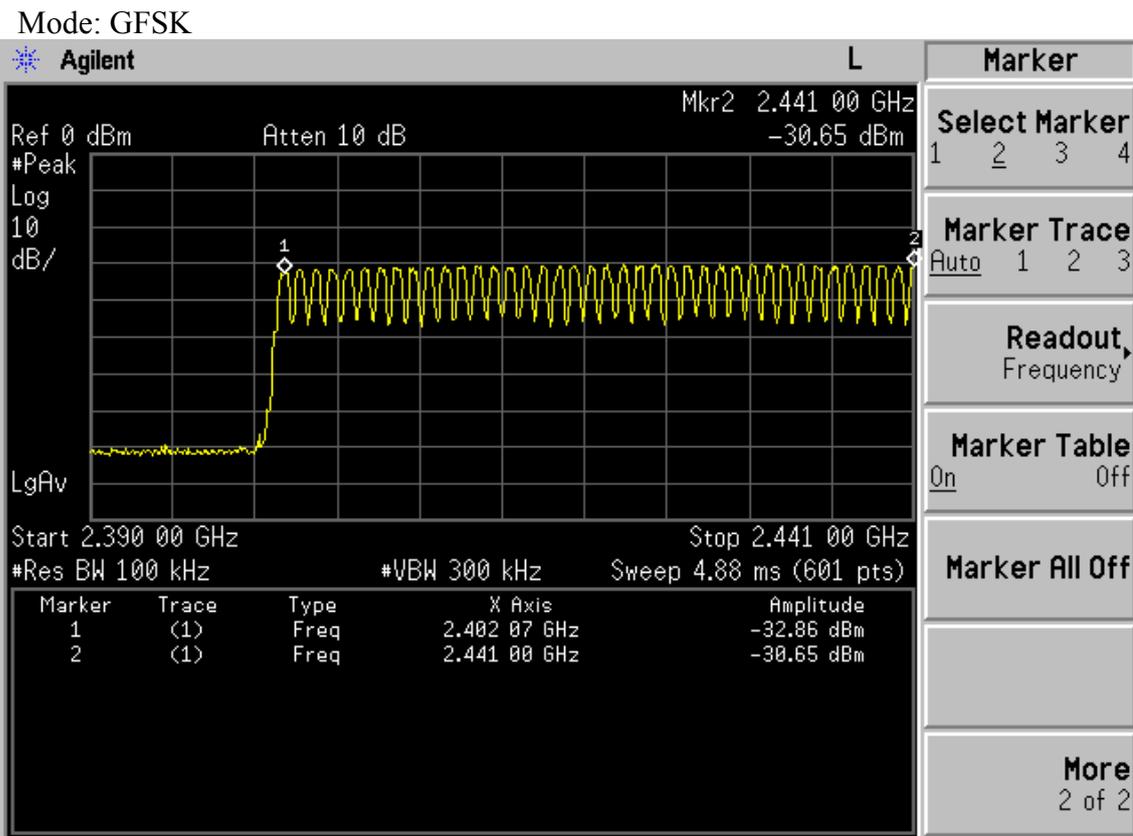
### 8.2. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

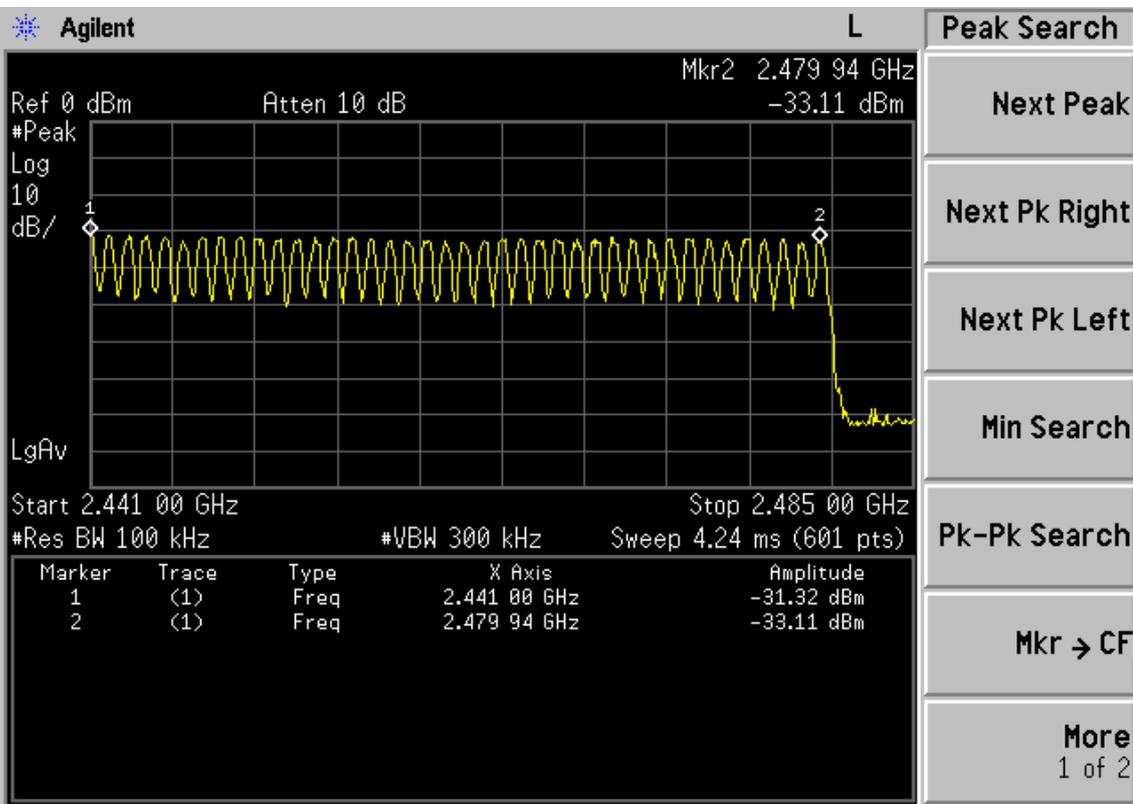
### 8.3. Test Result

EUT: Personal Audio Docking System		
M/N: RDP-X60iP		
Test date:2010-11-30	Pressure:100.5 kpa	Humidity:53%
Tested by: Paul Tian	Test site: RF site	Temperature:25 °C

Number of channel	Limit	Conclusion
79	$\geq 15$	PASS

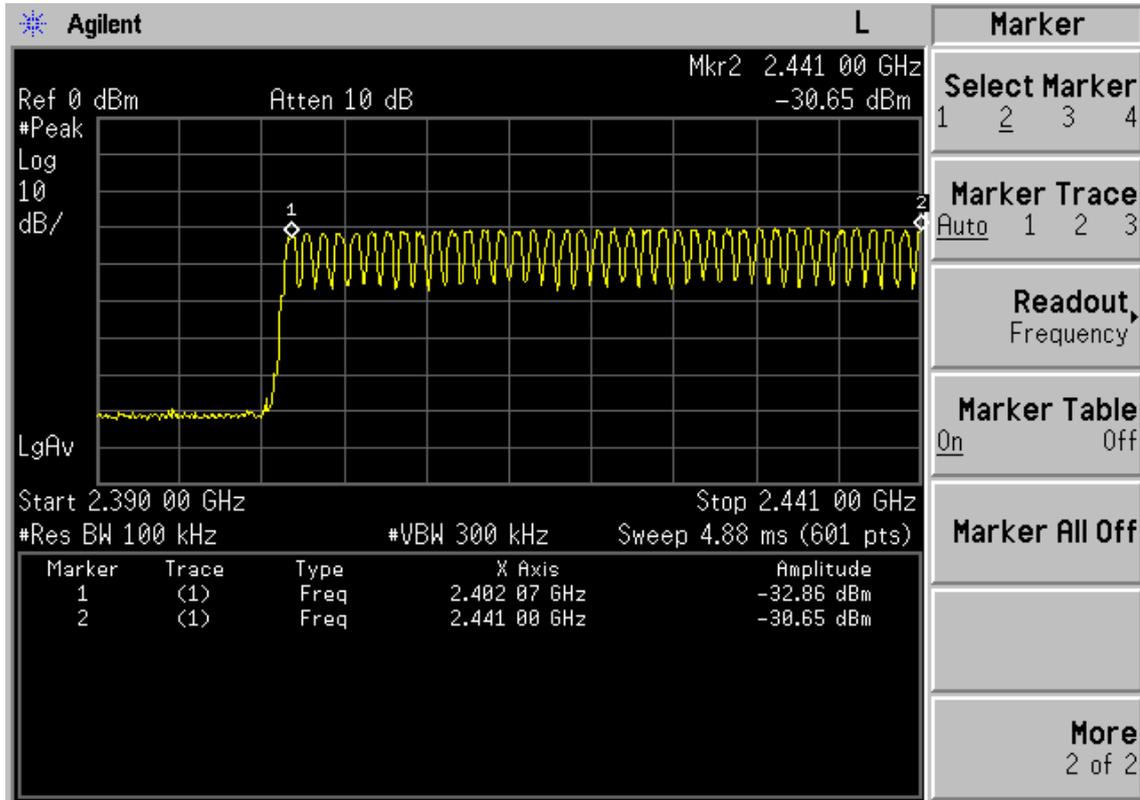


Copyright 2000-2005 Agilent Technologies

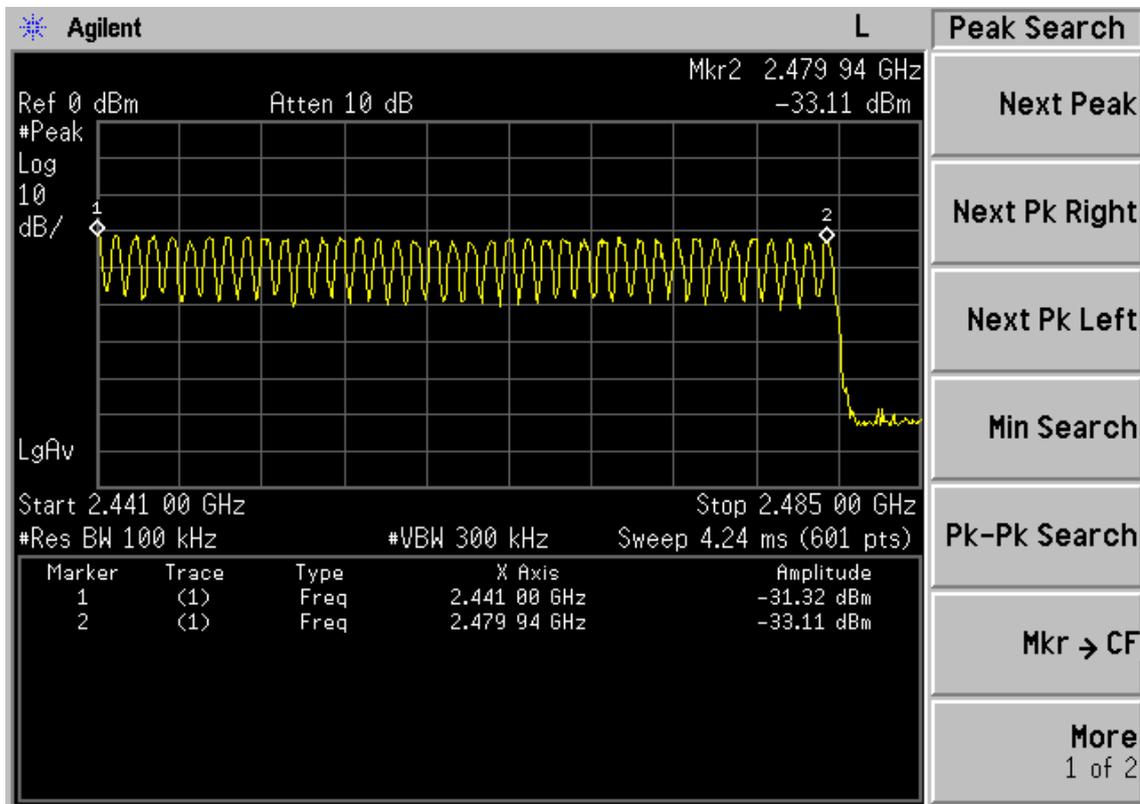


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Mode: 8DPSK



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## 9. DWELL TIME

### 9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,08, 10	1 Year
2	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May,08, 10	1Year

### 9.2. Limit

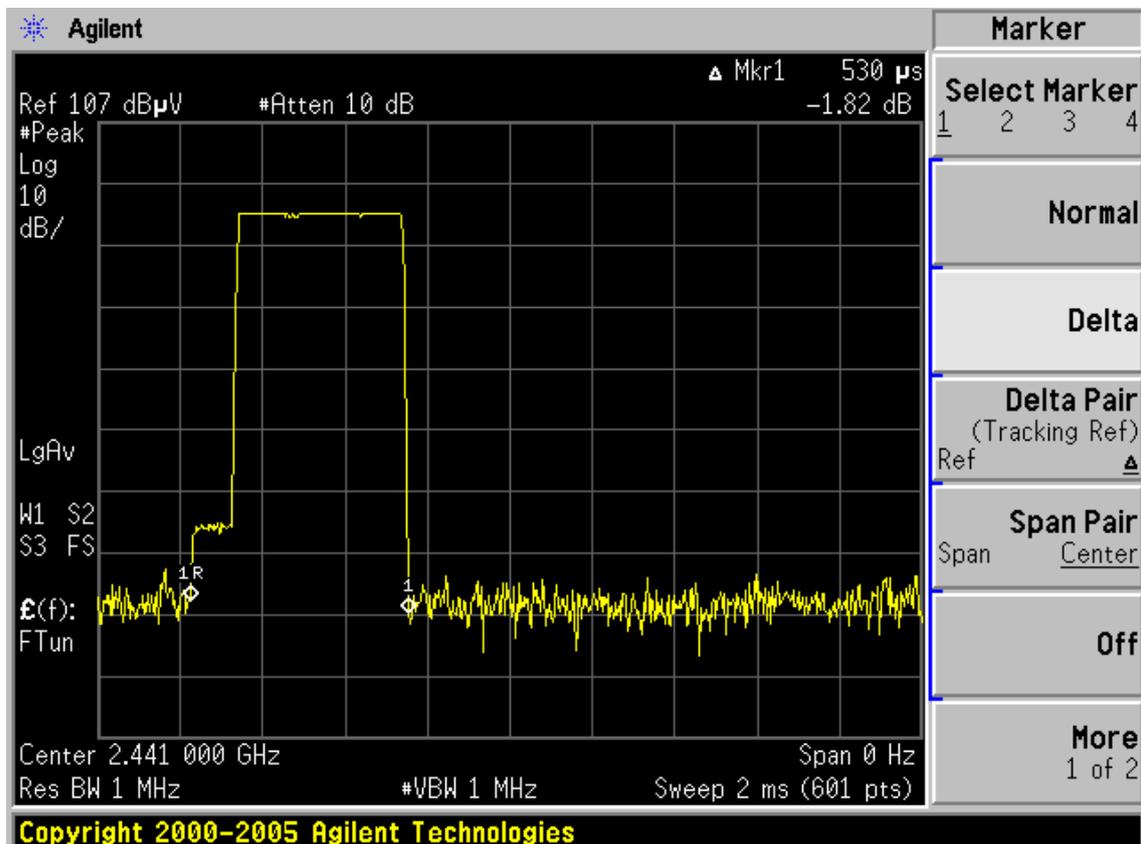
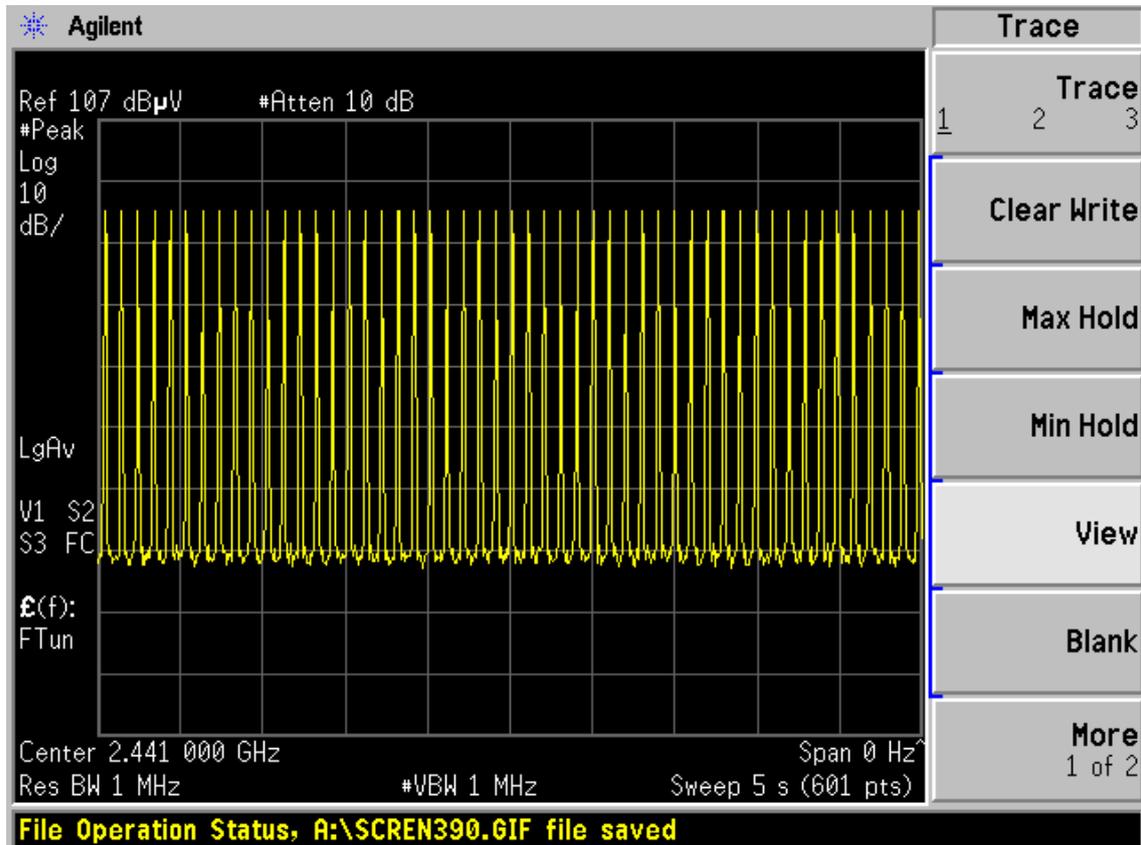
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

### 9.3. Test Results

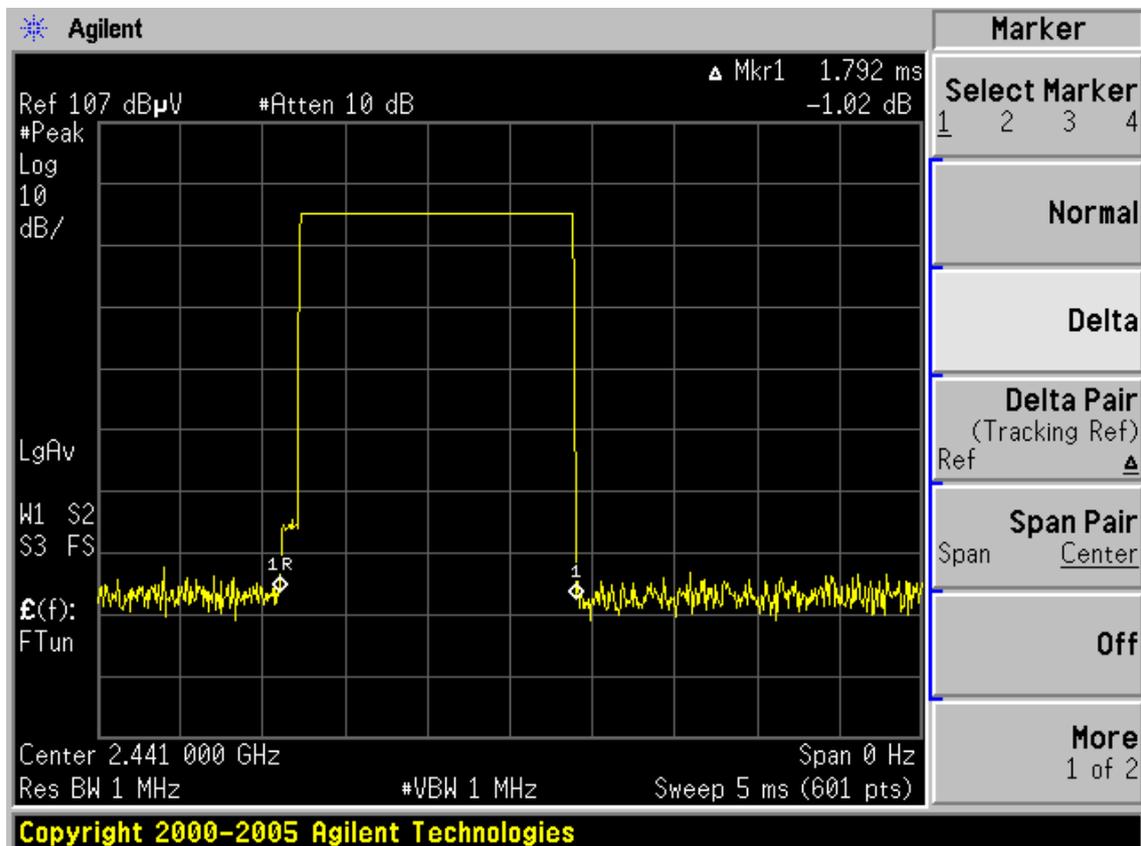
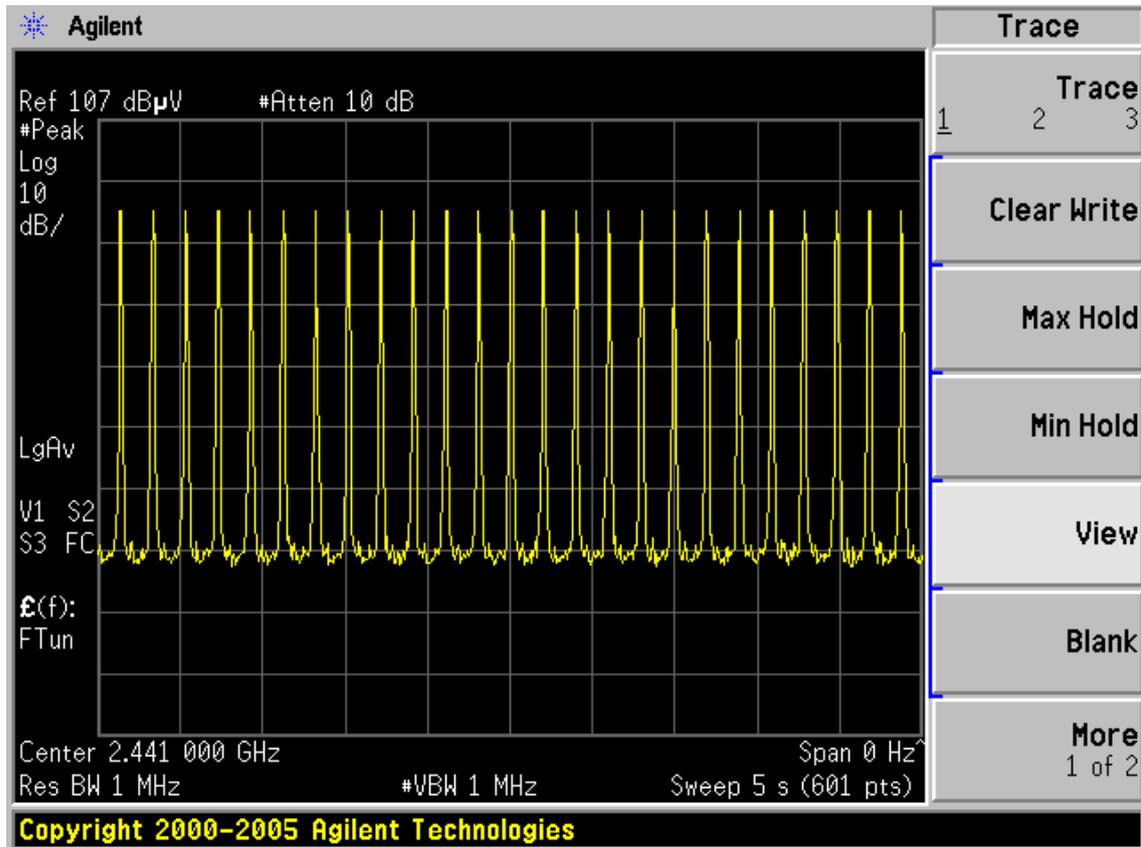
EUT: Personal Audio Docking System		
M/N: RDP-X60iP		
Test date: 2010-11-30	Pressure:100.1 kpa	Humidity:53%
Tested by: Paul Tian	Test site: RF site	Temperature:25 °C

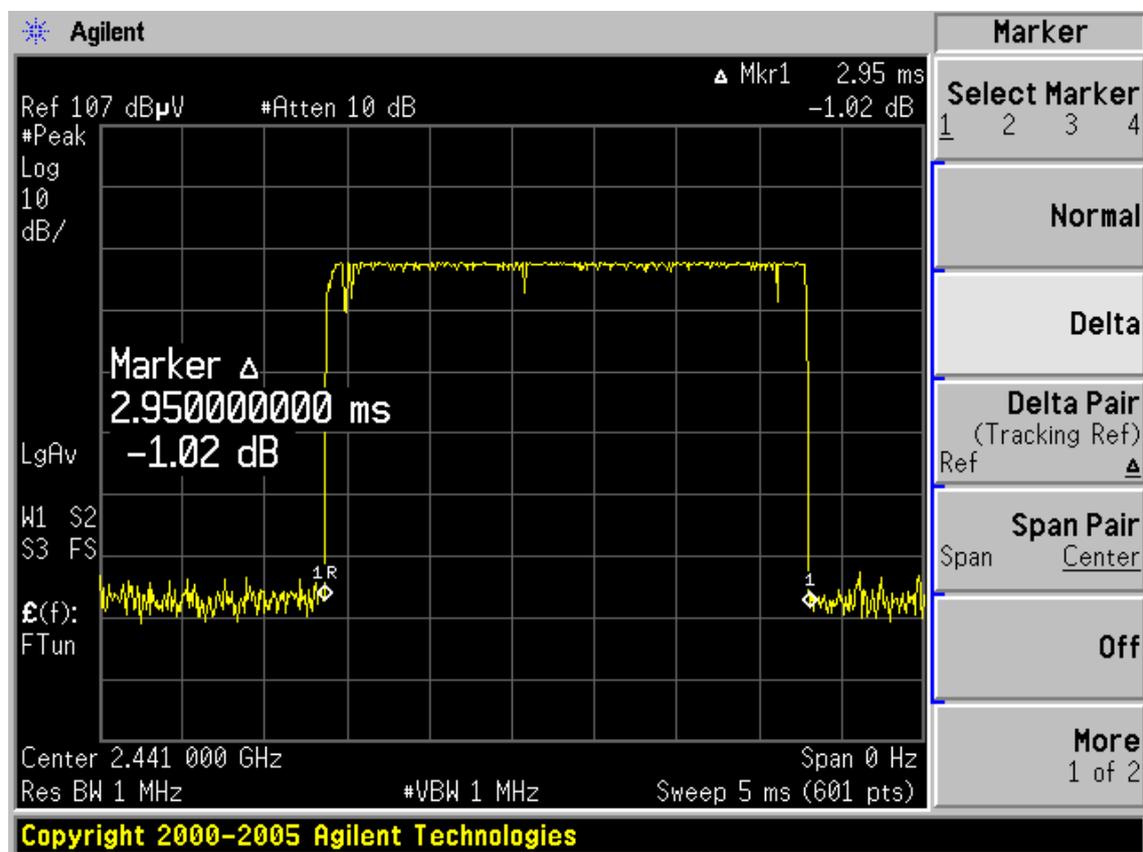
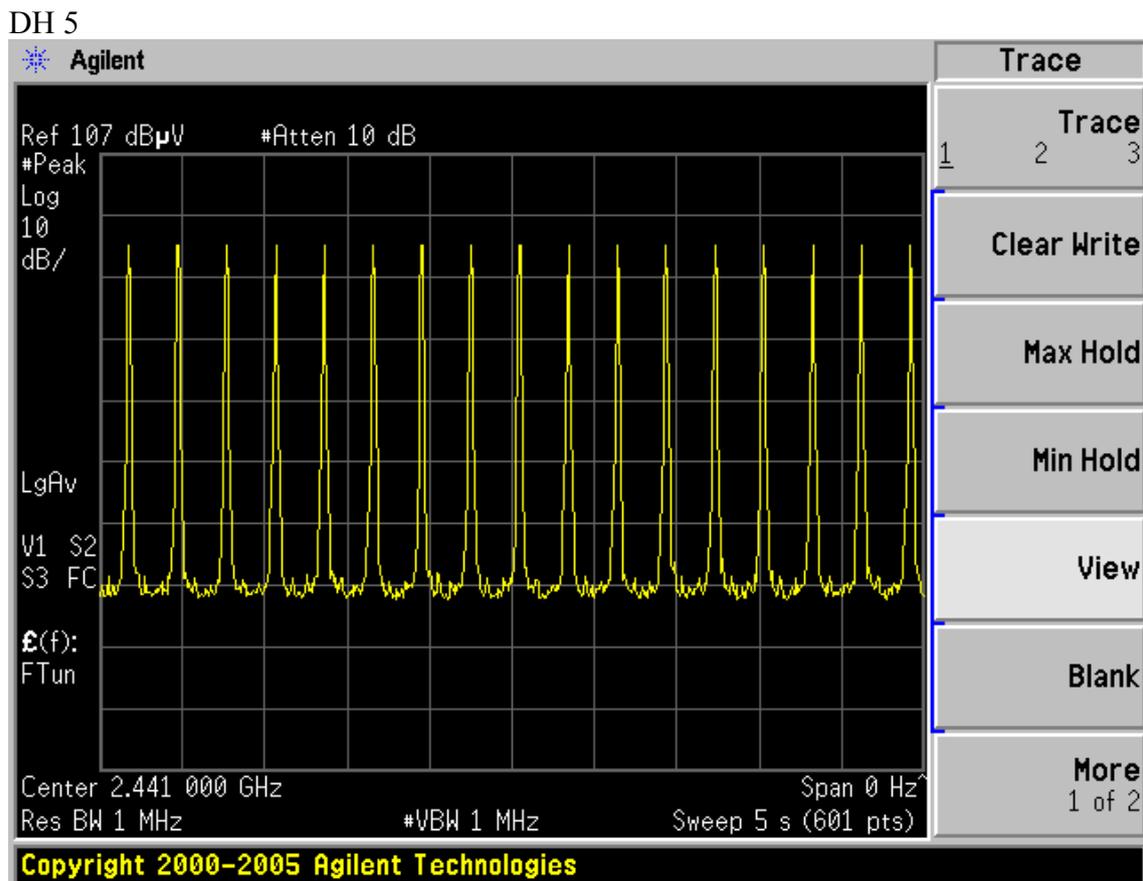
Mode	dwell time	Limit
DH1	$51\text{hops}/5\text{s} * 0.4 * 79\text{chanel} * 0.53\text{ms} = 170.83\text{ms}$	<400ms
DH3	$25\text{hops}/5\text{s} * 0.4 * 79\text{chanel} * 1.792\text{ms} = 283.14\text{ms}$	<400ms
DH5	$17\text{hops}/5\text{s} * 0.4 * 79\text{chanel} * 2.95\text{ms} = 316.95\text{ms}$	<400ms
3-DH1	$50\text{hops}/5\text{s} * 0.4 * 79\text{chanel} * 0.44\text{ms} = 139.04\text{ms}$	<400ms
3-DH3	$25\text{hops}/5\text{s} * 0.4 * 79\text{chanel} * 1.7\text{ms} = 268.6\text{ms}$	<400ms
3-DH5	$17\text{hops}/5\text{s} * 0.4 * 79\text{chanel} * 3.05\text{ms} = 327.69\text{ms}$	<400ms
Conclusion: PASS		

Modulation: GFSK  
DH 1

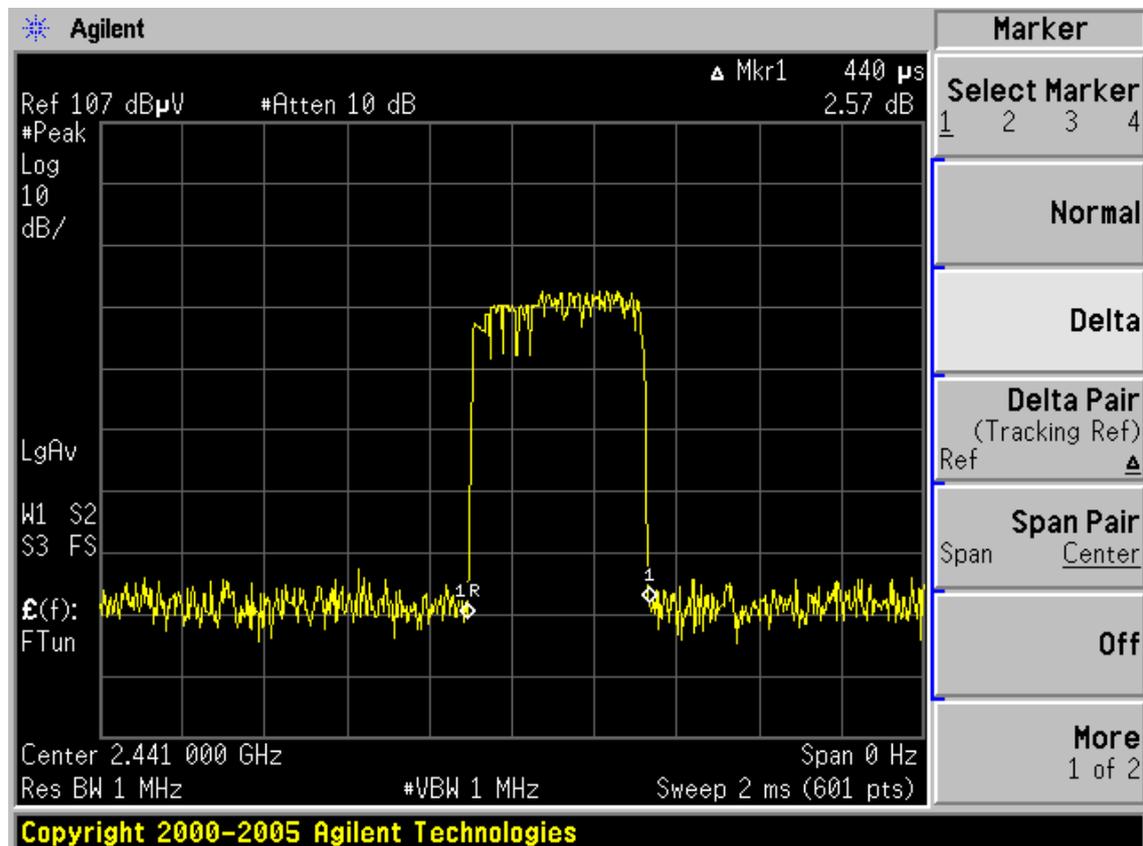
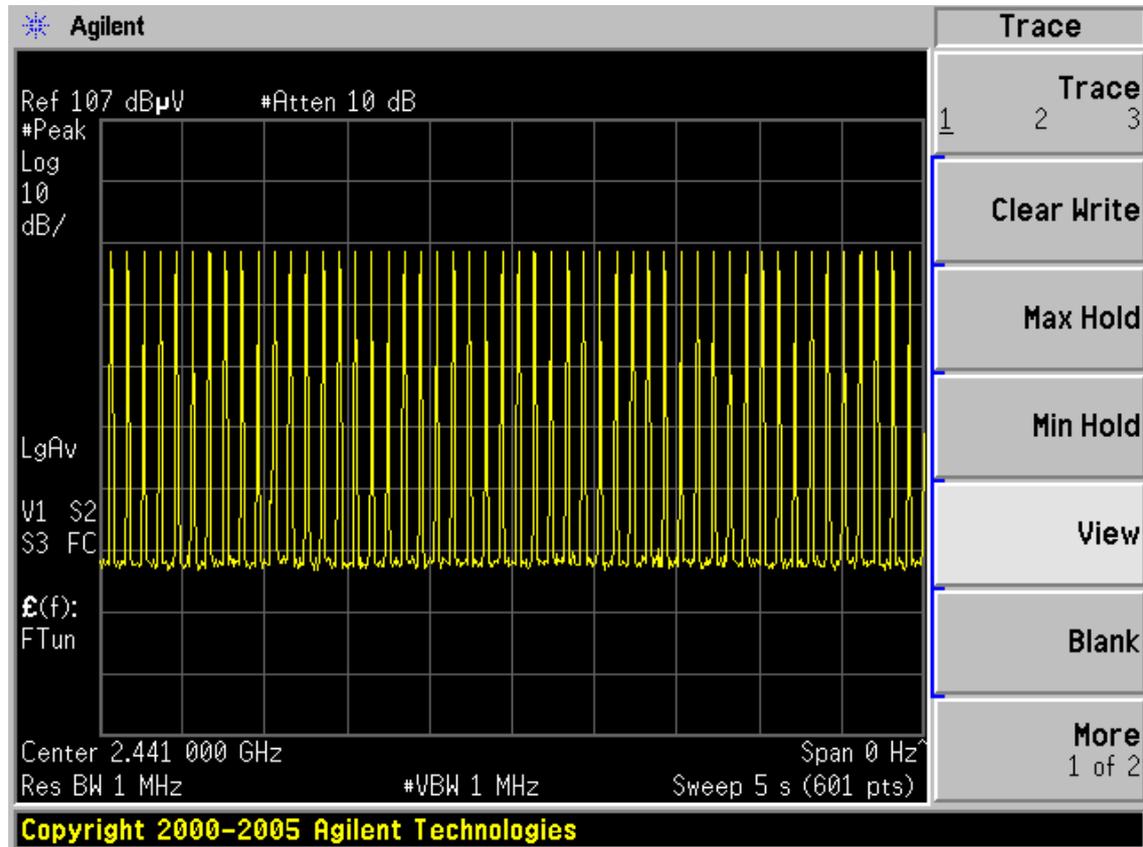


DH 3

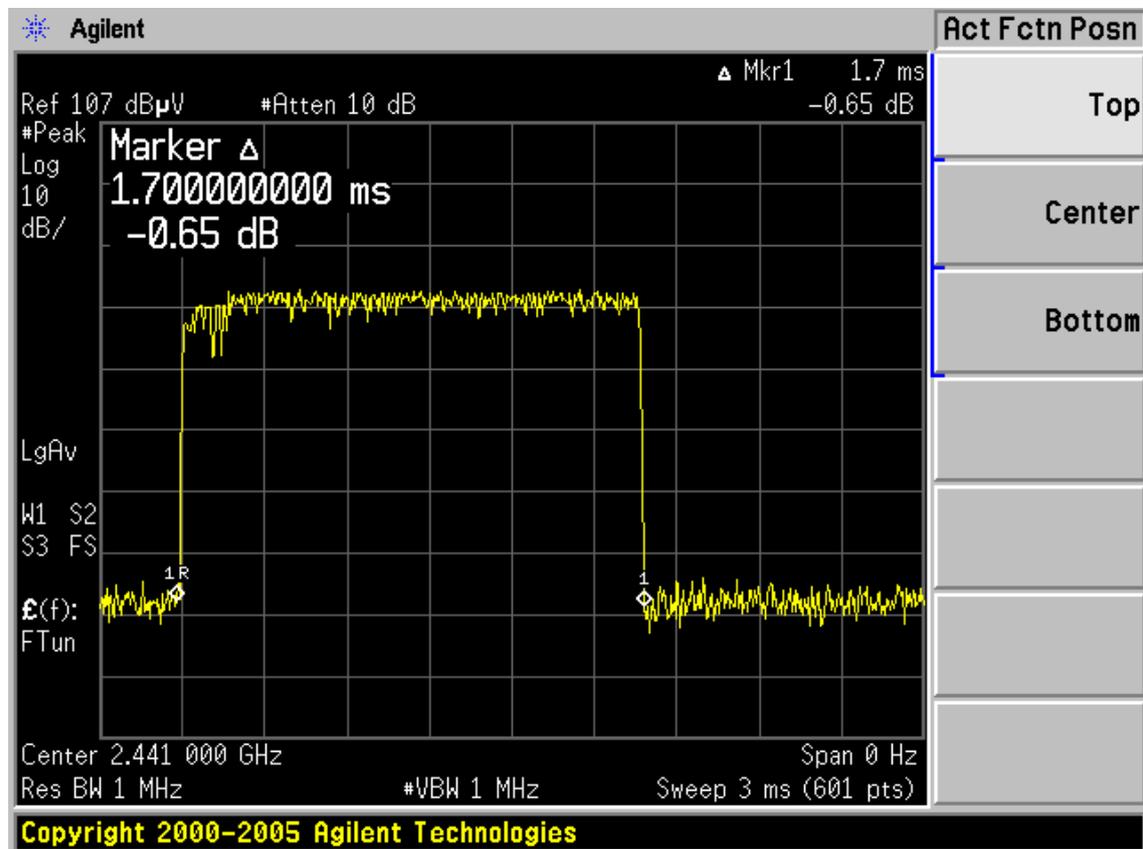
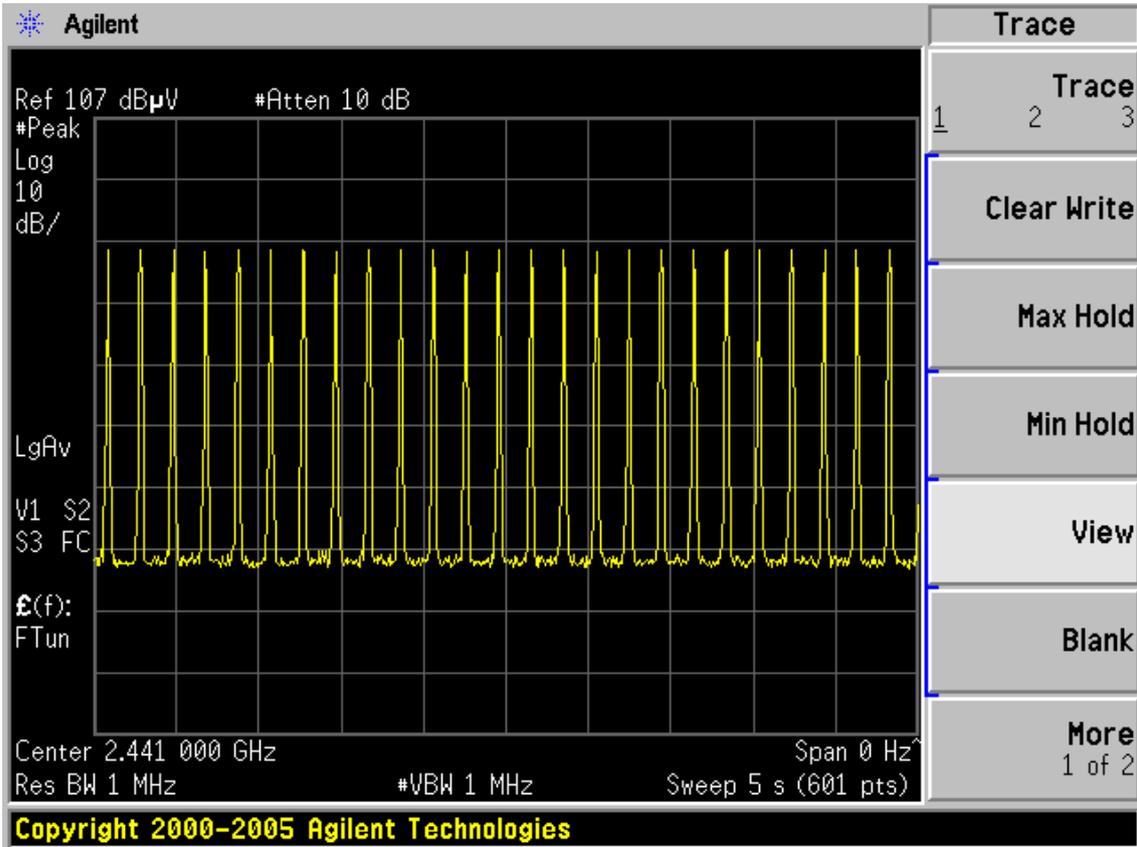




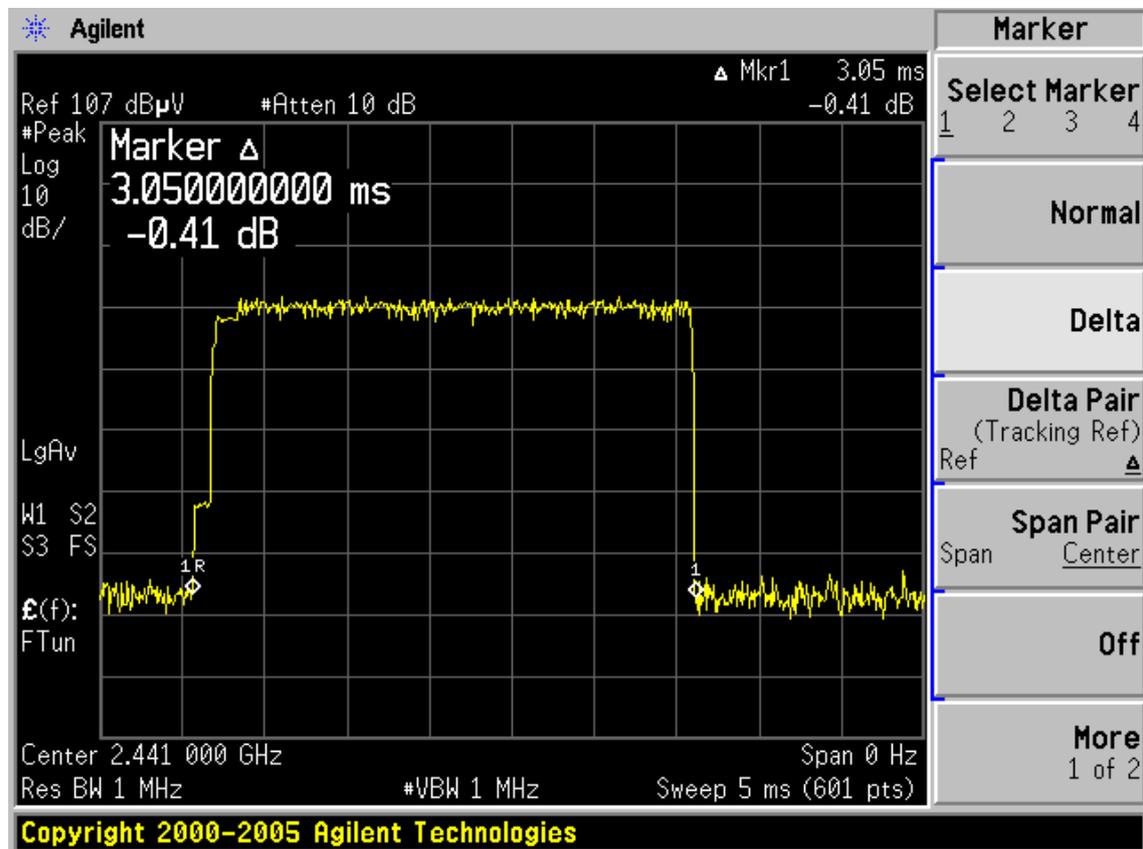
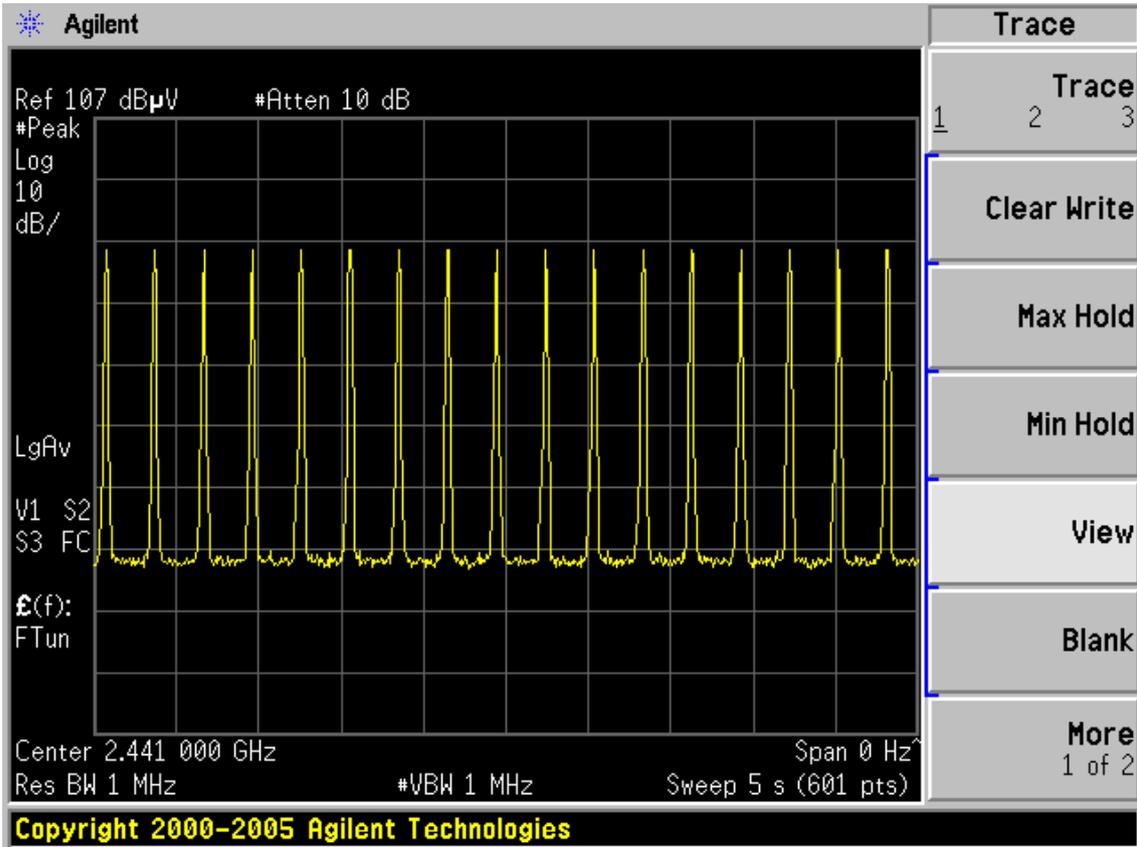
Modulation: 8-DPSK  
3-DH 1



3-DH3



3-DH5



## 10. MAXIMUM PEAK OUTPUT POWER TEST

### 10.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May.08, 10	1 Year
2.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 10	1 Year

### 10.2. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

### 10.3. Test Procedure

- 1, Connected the EUT's antenna port to Spectrum analyzer
- 2, Set Spectrum analyzer's RBW=2MHz, VBW=3MHz, measure the PK output power of device.

Note: The cable loss was offset into measure device as an amplitude offset.

### 10.4. Test Results

EUT: Personal Audio Docking System		
M/N: RDP-X60iP		
Test date: 2010-11-30	Pressure: 100.3 kpa	Humidity: 54%
Tested by: Paul Tian	Test site: RF site	Temperature: 25 °C

Cable loss: 1dB		Attenuator loss: 10 dB	Antenna Gain: 0 dBi
Mode	CH	PK Output power(dBm)	Limit (dBm)
GFSK	CH1	1.66	30
	CH39	1.55	30
	CH79	2.42	30
8-DPSK	CH1	0.73	30
	CH39	0.71	30
	CH79	1.41	30
Conclusion: PASS			

## 11. BAND EDGE COMPLIANCE TEST

### 11.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,10	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	Nov.25, 09	1.5 Year
3.	Amplifier	Agilent	8449B	3008A02495	May.08, 10	1 Year
4.	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	May.08,10	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,10	1 Year
6.	RF Cable	Hubersuhner	SUCOFLEX102	28610/2	May.08,10	1 Year

### 11.2. Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

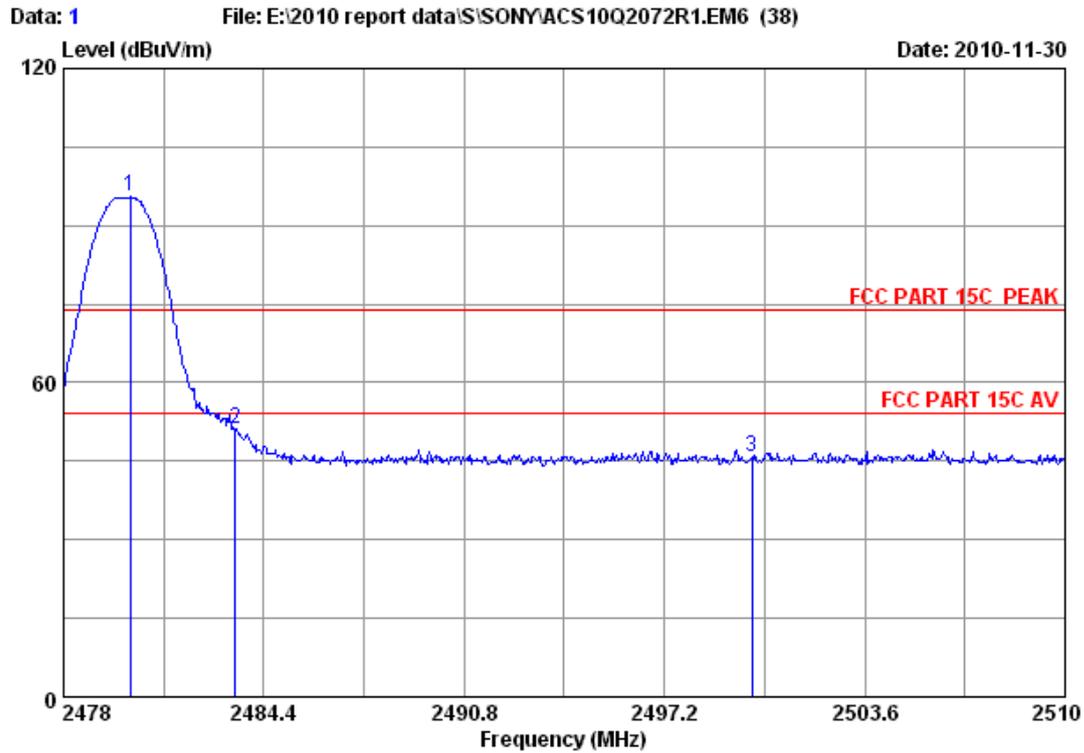
### 11.3. Test Produce

1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upperband-edges of the emission:
  - (a) PEAK: RBW=1MHz ;VBW=3MHz, PK detector, Sweep=AUTO
  - (b) Average: RBW=1MHz; VBW=10Hz, PK detector, Sweep =AUTO

### 11.4. Test Results

Pass (The testing data was attached in the next pages.)

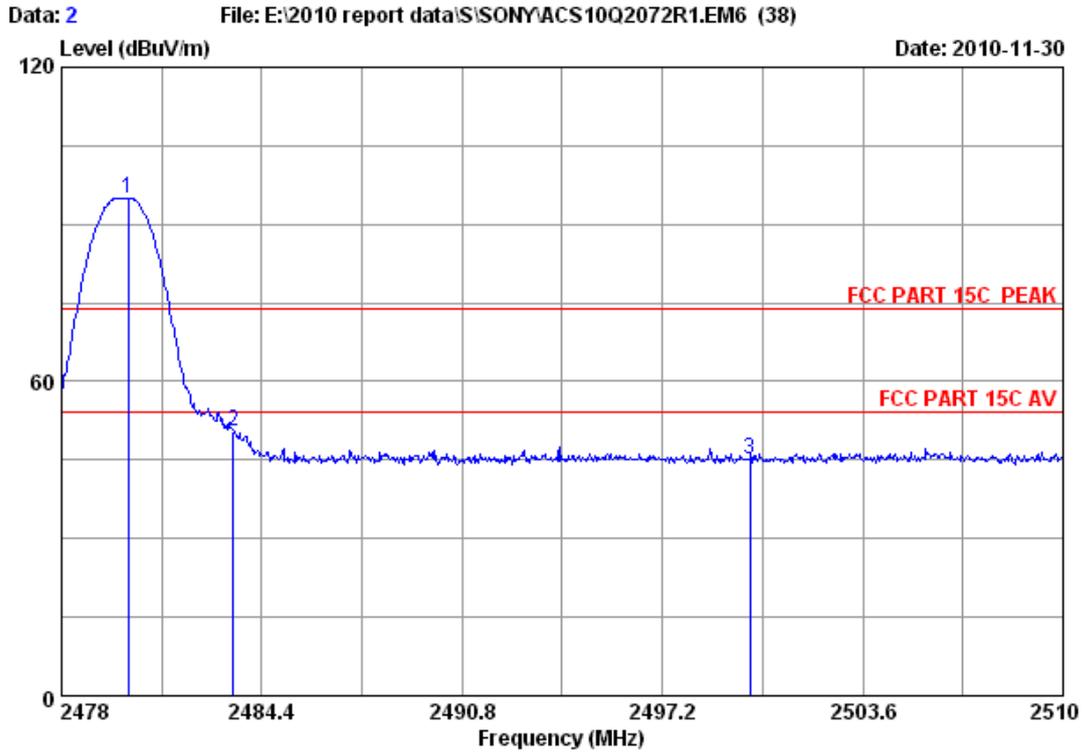
Note: If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.



Site no. : 3m Chamber Data no. : 1  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : SDPSK 2480MHz  
 M/N : RDP-X60iP

	Ant. 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	2480.144	29.49	7.58	36.60	94.98	95.45	74.00	-21.45	Peak
2	2483.500	29.49	7.58	36.60	50.67	51.14	74.00	22.86	Peak
3	2500.000	29.50	7.62	36.60	45.20	45.72	74.00	28.28	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.

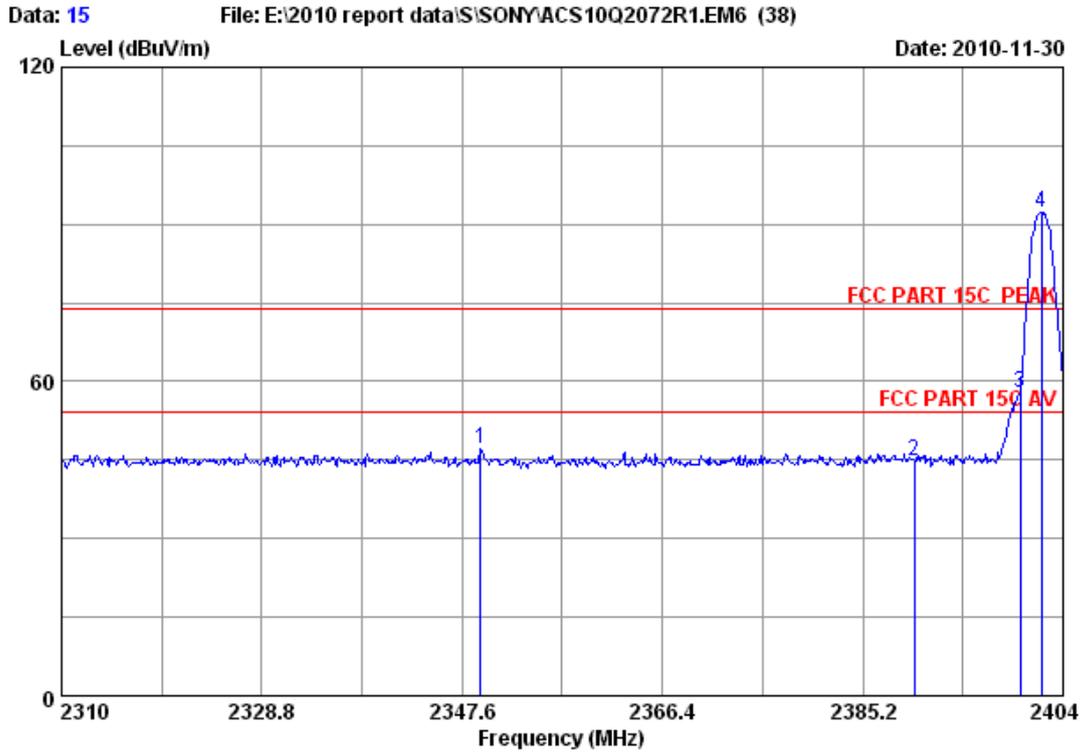


Site no. : 3m Chamber Data no. : 2  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2480MHz  
 M/N : RDP-X60iP

	Ant. 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	2480.144	29.49	7.58	36.60	94.58	95.05	74.00	-21.05	Peak
2	2483.500	29.49	7.58	36.60	50.04	50.51	74.00	23.49	Peak
3	2500.000	29.50	7.62	36.60	44.65	45.17	74.00	28.83	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.

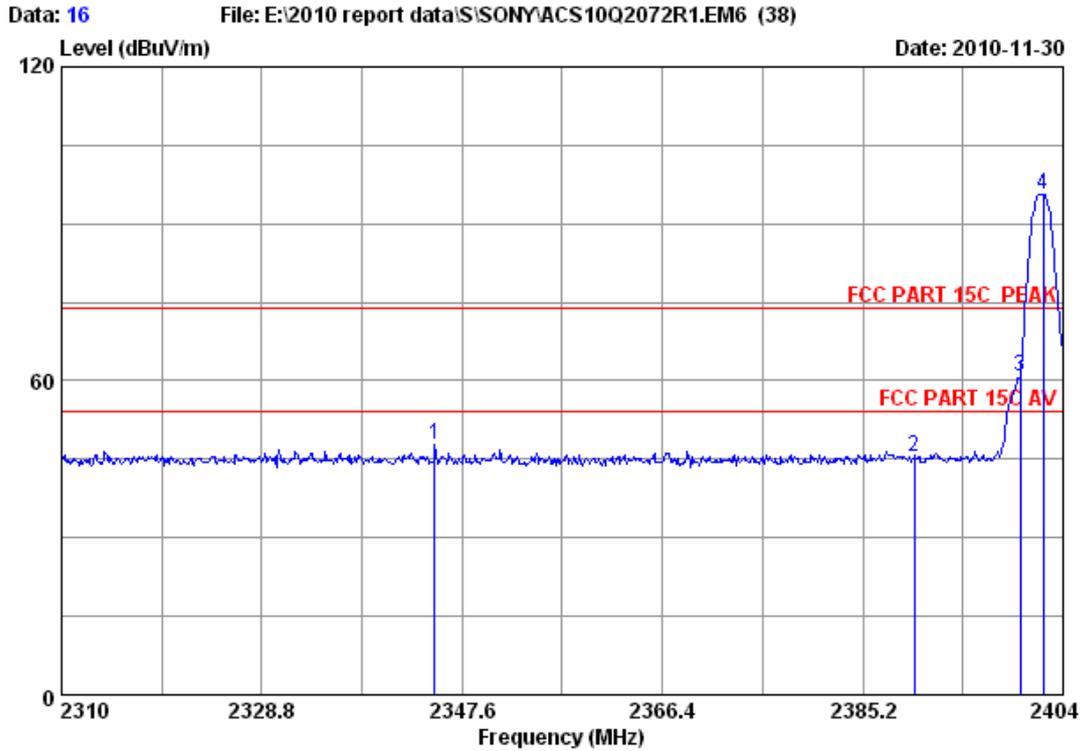


Site no. : 3m Chamber Data no. : 15  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2402MHz  
 M/N : RDP-X60iP

	Ant. 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	2349.292	29.41	7.31	36.63	46.90	46.99	74.00	27.01	Peak
2	2390.000	29.44	7.39	36.62	44.48	44.69	74.00	29.31	Peak
3	2400.000	29.44	7.43	36.62	57.52	57.77	74.00	16.23	Peak
4	2401.932	29.44	7.43	36.62	91.93	92.18	74.00	-18.18	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.

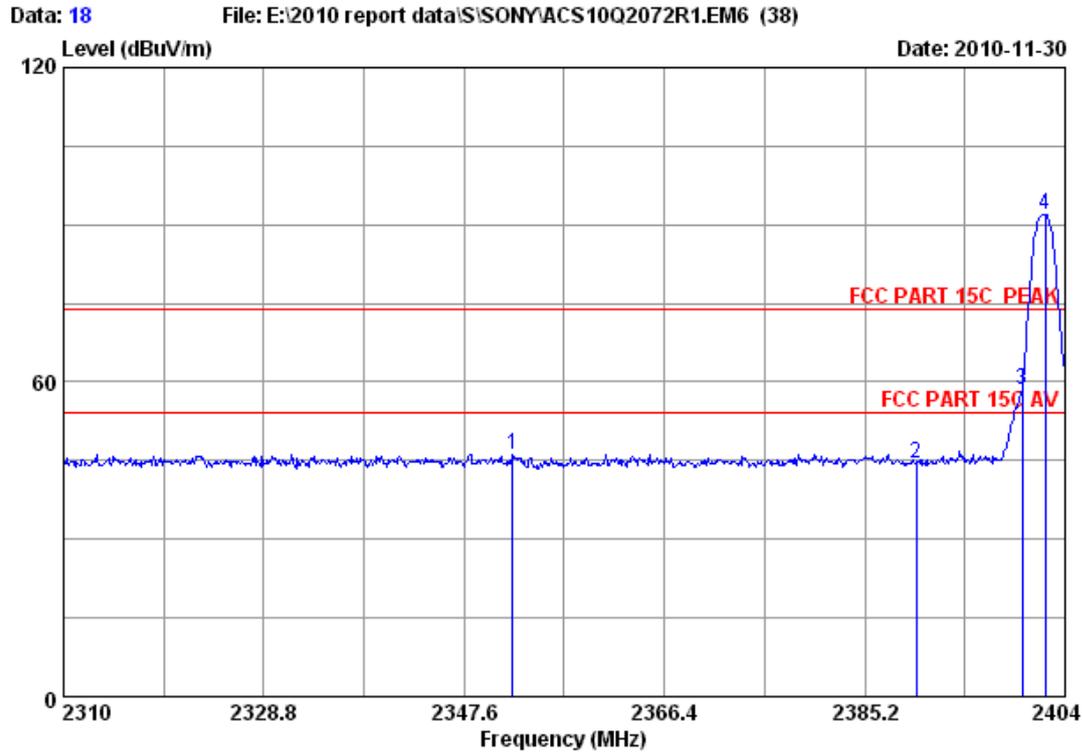


Site no. : 3m Chamber Data no. : 16  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : 8DPSK 2402MHz  
 M/N : RDP-X60iP

	Ant. 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	2345.062	29.41	7.31	36.63	47.66	47.75	74.00	26.25	Peak
2	2390.000	29.44	7.39	36.62	45.30	45.51	74.00	28.49	Peak
3	2400.000	29.44	7.43	36.62	60.53	60.78	74.00	13.22	Peak
4	2402.120	29.44	7.43	36.62	95.43	95.68	74.00	-21.68	Peak

Remarks:

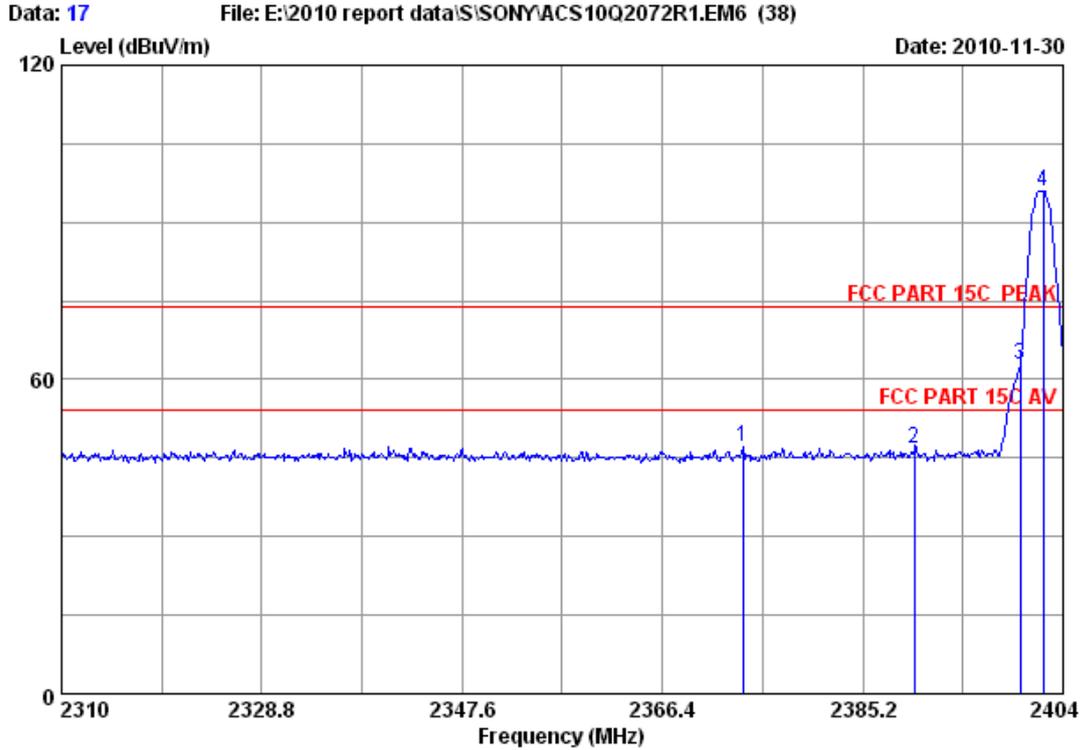
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 18  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2402MHz  
 M/N : RDP-X60iP

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2352.112	29.42	7.31	36.63	46.03	46.13	74.00	27.87	Peak
2	2390.000	29.44	7.39	36.62	44.41	44.62	74.00	29.38	Peak
3	2400.000	29.44	7.43	36.62	58.40	58.65	74.00	15.35	Peak
4	2402.120	29.44	7.43	36.62	91.63	91.88	74.00	-17.88	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.

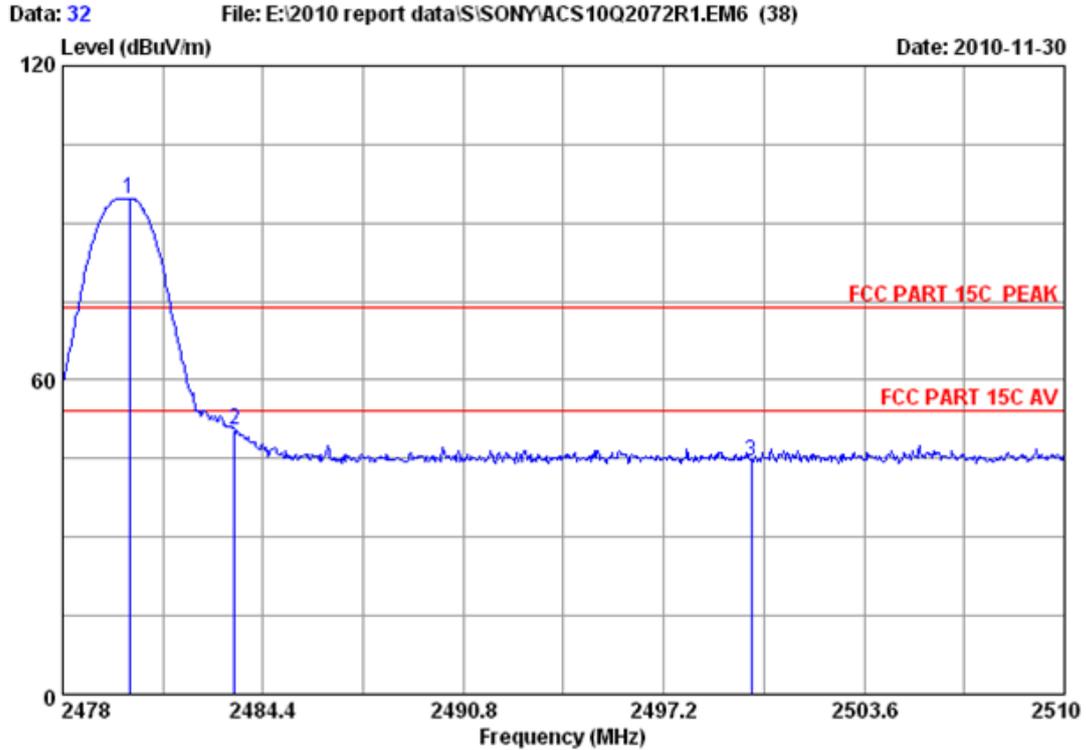


Site no. : 3m Chamber Data no. : 17  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2402MHz  
 M/N : RDP-X60iP

	Ant. 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	2373.920	29.43	7.35	36.62	46.95	47.11	74.00	26.89	Peak
2	2390.000	29.44	7.39	36.62	46.50	46.71	74.00	27.29	Peak
3	2400.000	29.44	7.43	36.62	62.46	62.71	74.00	11.29	Peak
4	2402.120	29.44	7.43	36.62	95.71	95.96	74.00	-21.96	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.

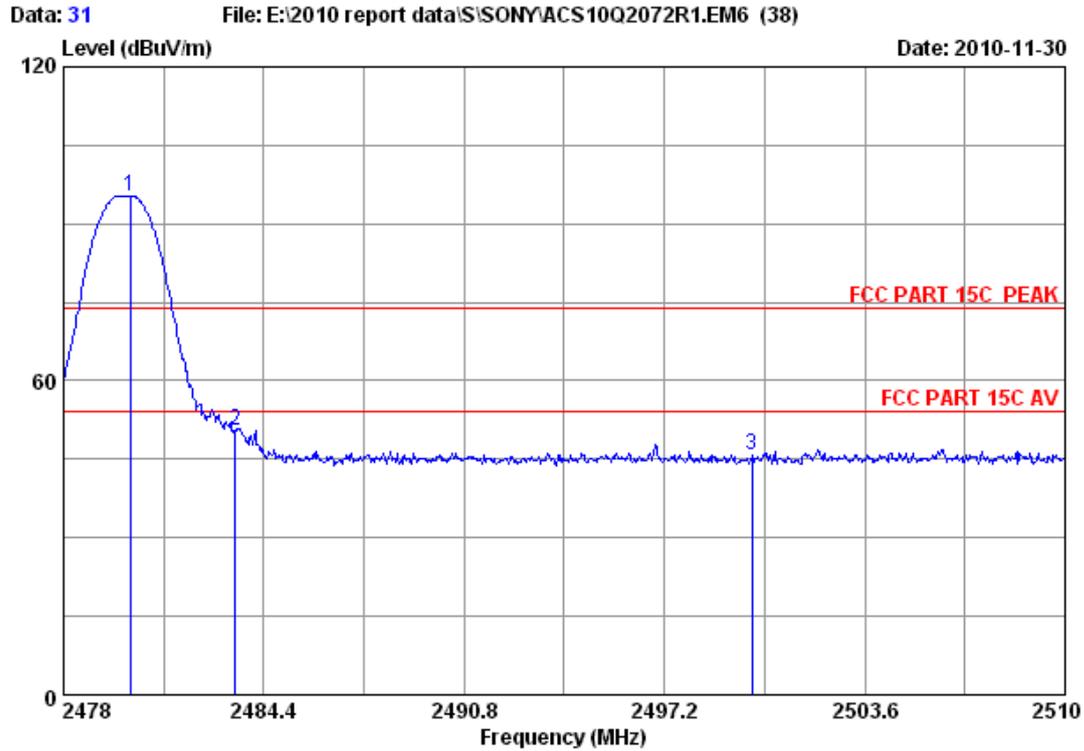


Site no. : 3m Chamber Data no. : 32  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2480MHz  
 M/N : RDP-X60iP

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.144	29.49	7.58	36.60	94.27	94.74	74.00	-20.74	Peak
2	2483.500	29.49	7.58	36.60	50.00	50.47	74.00	23.53	Peak
3	2500.000	29.50	7.62	36.60	44.07	44.59	74.00	29.41	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.



Site no. : 3m Chamber Data no. : 31  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Leo-Li  
 EUT : Personal Audio Docking System  
 Power : DC 20V From Adapter input AC 120V/60Hz  
 Test mode : GFSK 2480MHz  
 M/N : RDP-X60iP

	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	2480.144	29.49	7.58	36.60	94.95	95.42	74.00	-21.42	Peak
2	2483.500	29.49	7.58	36.60	50.11	50.58	74.00	23.42	Peak
3	2500.000	29.50	7.62	36.60	45.13	45.65	74.00	28.35	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.

## **12. ANTENNA REQUIREMENT**

### **12.1. STANDARD APPLICABLE**

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **12.2. ANTENNA CONNECTED CONSTRUCTION**

The antenna used for this product is a integral Patch antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of this antenna is only 0dBi.

### **13.DEVIATION TO TEST SPECIFICATIONS**

[ NONE ]