# FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Sony Corporation

Home Audio System

| Brand Name | Model No. |
|---|---|
| SONY | GTK-XB5 |

FCC ID: AK8GTKXB5

Prepared for : Sony Corporation
1-7-1 Konan, Minato-ku, Tokyo 108-0075 Japan

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
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Report Number : ACS-F16114

Date of Test : Apr.29~May.23, 2016

Date of Report : Jun.03, 2016

# TABLE OF CONTENTS

Description Page

**1. SUMMARY OF STANDARDS AND RESULTS ..... 1-1**
1.1. Description of Standards and Results ..... 1-1
**2. GENERAL INFORMATION ..... 2-1**
2.1. Description of Device (EUT) ..... 2-1
2.2. Tested Supporting System Details ..... 2-2
2.3. Block Diagram of connection between EUT and simulators ..... 2-2
2.4. Test information ..... 2-2
2.5. Test Facility ..... 2-3
2.6. Measurement Uncertainty (95% confidence levels, k=2) ..... 2-3
**3. POWER LINE CONDUCTED EMISSION TEST ..... 3-1**
3.1. Test Equipments ..... 3-1
3.2. Block Diagram of Test Setup ..... 3-1
3.3. Power Line Conducted Emission Test Limits ..... 3-2
3.4. Configuration of EUT on Test ..... 3-2
3.5. Operating Condition of EUT ..... 3-2
3.6. Test Procedure ..... 3-2
3.7. Power Line Conducted Emission Test Results ..... 3-2
**4. RADIATED EMISSION MEASUREMENT ..... 4-1**
4.1. Test Equipments ..... 4-1
4.2. Block Diagram of Test Setup ..... 4-1
4.3. Radiated Emission Limit Standard: ..... 4-3
4.4. EUT Configuration on Test ..... 4-3
4.5. Operating Condition of EUT ..... 4-3
4.6. Test Procedure ..... 4-3
4.7. Radiated Emission Test Results ..... 4-4
**5. CONDUCTED SPURIOUS EMISSIONS ..... 5-1**
5.1. Test Equipments ..... 5-1
5.2. Limit ..... 5-1
5.3. Test Procedure ..... 5-1
5.4. Test result ..... 5-1
**6. 20 DB BANDWIDTH TEST ..... 6-1**
6.1. Test Equipments ..... 6-1
6.2. Limit ..... 6-1
6.3. Test Results ..... 6-1
**7. CARRIER FREQUENCY SEPARATION TEST ..... 7-1**
7.1. Test Equipments ..... 7-1
7.2. Limit ..... 7-1
7.3. Test Results. ..... 7-1
**8. NUMBER OF HOPPING FREQUENCY TEST ..... 8-1**
8.1. Test Equipments ..... 8-1
8.2. Limit ..... 8-1
8.3. Test Results ..... 8-1
**9. DWELL TIME ..... 9-1**
9.1. Test Equipments ..... 9-1

9.2. Limit ..... 9-1
9.3. Test Results ..... 9-1

**10. MAXIMUM PEAK OUTPUT POWER TEST ..... 10-1**

10.1. Test Equipments ..... 10-1
10.2. Limit ..... 10-1
10.3. Test Procedure ..... 10-1
10.4. Test Results ..... 10-1

**11. BAND EDGE COMPLIANCE TEST ..... 11-1**

11.1. Test Equipments ..... 11-1
11.2. Limit ..... 11-1
11.3. Test Produce ..... 11-1
11.4. Test Results ..... 11-1

**12. ANTENNA REQUIREMENT ..... 12-1**

12.1. Standard Applicable ..... 12-1
12.2. Antenna Connected Construction ..... 12-1

**13. DEVIATION TO TEST SPECIFICATIONS ..... 13-1**

**14. PHOTOGRAPH OF TEST ..... 14-1**

14.1. Photos of Power Line Conducted Emission Test ..... 14-1
14.2. Photos of Radiated Emission Test ..... 14-3

**15. PHOTOGRAPHS OF EUT ..... 15-1**

# TEST REPORT CERTIFICATION

Applicant : Sony Corporation

Product : Home Audio System

FCC ID : AK8GTKXB5

(A) Brand Name & Model No.

| Brand Name | Model No. |
|---|---|
| SONY | GTK-XB5 |

(B) Serial No. : N/A

(C) Test Voltage : AC 120V/60Hz

Tested for comply with:
FCC CRF 47 Part 15 Subpart C: 2014

Test procedure used:
ANSI C63.10: 2013

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements. 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 and IC requirements. This report contains data that are not covered by the NVLAP accreditation.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

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.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Apr.29~May.23, 2016 Report of date: Jun.03, 2016

Prepared by : Kayli He
Kayli He / Assistant

Reviewed by :
Sunny Lu/ Assistant Manager

AUDIX® 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: David Jin

Approved & Authorized Signer :
David Jin / Manager

# 1. SUMMARY OF STANDARDS AND RESULTS

## 1.1.Description of Standards and Results

The EUT has 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<br>ANSI C63.10 2013 | PASS |
| Radiated Emission Test | FCC Part 15 15.209<br>FCC Part 15 15.247(d)<br>ANSI C63.10 2013 | PASS |
| Conducted Spurious Emissions | FCC Part 15: 15.247(a)(1)<br>ANSI C63.10 2013 | PASS |
| Carrier Frequency Separation Test | FCC Part 15: 15.247(a)(1)<br>ANSI C63.10 2013 | PASS |
| 20dB Bandwidth Test | FCC Part 15: 15.215<br>ANSI C63.10 2013 | PASS |
| Number Of Hopping Frequency Test | FCC Part 15: 15.247(a)(1)(iii)<br>ANSI C63.10 2013 | PASS |
| Dwell Time Test | FCC Part 15: 15.247(a)(1)(iii)<br>ANSI C63.10 2013 | PASS |
| Maximum Peak Output Power Test | FCC Part 15 15.247(b)(1)\<br>ANSI C63.10 2013 | PASS |
| Band Edge Compliance Test | FCC Part 15 15.247(d)<br>ANSI C63.10 2013 | PASS |

# 2. GENERAL INFORMATION

## 2.1. Description of Device (EUT)

Product : Home Audio System

Brand Name & Model No. :

| Brand Name | Model No. |
|---|---|
| SONY | GTK-XB5 |

FCC ID : AK8GTKXB5

Radio : Bluetooth V3.0+EDR; NFC Rx

Operation Frequency : Bluetooth : 2402-2480MHz;
NFC: 13.56MHz

Channel Number : Bluetooth: 79 channels;
NFC: 1 channel

Modulation Technology : Bluetooth: GFSK, π/4DQPSK,8DPSK;
NFC: ASK

Antenna Assembly Gain : PCB Antenna, 2.4dBi PK gain

Applicant : Sony Corporation
1-7-1 Konan, Minato-ku, Tokyo 108-0075 Japan

Date of Test : Apr.29~May.23, 2016

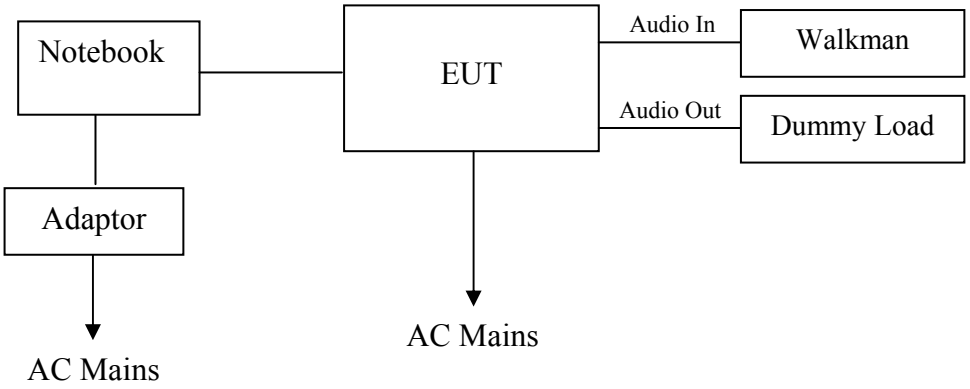
Date of Receipt : Apr.29, 2016

Remark: : This report only for Bluetooth V3.0+EDR.

## 2.2. Tested Supporting System Details

| No. | Description | ACS No. | Manufacturer | Model | Serial Number |
|---|---|---|---|---|---|
| 1. | Notebook | N/A | SONY | SVF143A1QT | N/A |
| | | Power Cord: Unshielded, Detachable, 1.8m<br>Power Adaptor: Manufacturer: DELL, M/N: LA65NS1-00<br>Cable: Unshielded, Detachable, 4.0m(Bond one ferrite core) | | | |
| 2. | Walkman | Walkman | --- | Sony | NWZ-B172F |

## 2.3. Block Diagram of connection between EUT and simulators




**(EUT: Home Audio System)**

## 2.4. Test information

A special software was used to control EUT work in Continuous TX mode(GFSK, π/4DQPSK,8-DPSK Modulation), 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: π/4DQPSK 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. | | | |

## 2.5. Test Facility

Site Description

| | | |
|---|---|---|
| Name of Firm | : | Audix Technology (Shenzhen) Co., Ltd.<br>No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park,Nantou, Shenzhen, Guangdong, China |
| 3m Anechoic Chamber | : | Certificated by FCC, USA<br>Registration Number: 90454<br>Valid Date: Dec.30, 2017 |
| 3m & 10m Anechoic Chamber | : | Certificated by FCC, USA<br>Registration Number: 794232<br>Valid Date: Jul.12, 2016 |
| EMC Lab. | : | Certificated by Industry Canada<br>Registration Number: IC 5183A-1<br>Valid Date: May.14, 2017 |
| | : | Certificated by DAkkS, Germany<br>Registration No: D-PL-12151-01-00<br>Valid Date: Dec.15, 2016 |
| | : | Accredited by NVLAP, USA<br>NVLAP Code: 200372-0<br>Valid Date: Mar.31, 2017 |

## 2.6. Measurement Uncertainty (95% confidence levels, k=2)

| Test Item | Uncertainty |
|---|---|
| Uncertainty for Conduction emission test in No. 1 Conduction | 3.2dB(150KHz to 30MHz) |
| Uncertainty for Radiation Emission test in 3m chamber | 2.8dB(30~200MHz, Polarization: H) |
| | 2.8dB(30~200MHz, Polarization: V) |
| | 2.8dB(200M~1GHz, Polarization: H) |
| | 2.8dB(200M~1GHz, Polarization: V) |
| Uncertainty for Radiation Emission test in 3m chamber (1GHz-18GHz) | 5.8dB(1~6GHz, Distance: 3m) |
| | 5.8dB(6~18GHz, Distance: 3m) |
| Uncertainty for Radiated Spurious Emission test in RF chamber | 3.6dB |
| Uncertainty for Conduction Spurious emission test | 2.0dB |
| Uncertainty for Output power test | 0.8dB |
| Uncertainty for Bandwidth test | 83kHz |
| Uncertainty for DC power test | 0.1% |
| Uncertainty for test site temperature and humidity | 0.6℃ |
| | 3% |

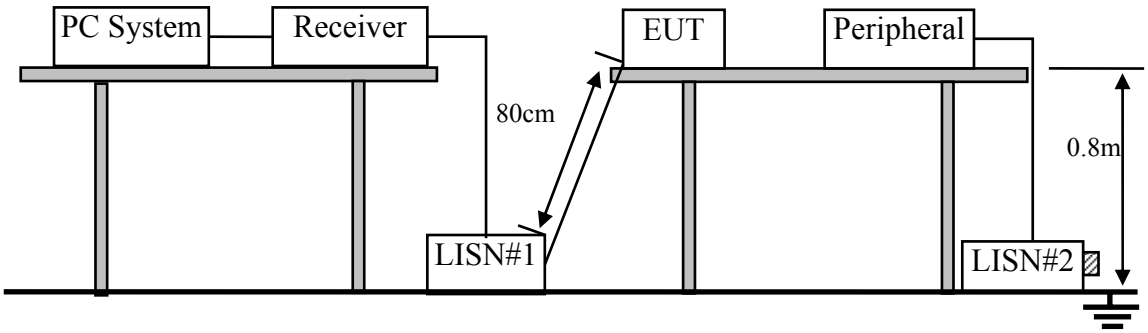
# 3. POWER LINE CONDUCTED EMISSION TEST

## 3.1.Test Equipments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | 1# Shielding Room | AUDIX | N/A | N/A | Apr.17,16 | 1 Year |
| 2. | Test Receiver | Rohde & Schwarz | ESCI | 100842 | Apr.24,16 | 1 Year |
| 3. | L.I.S.N.#1 | Rohde & Schwarz | ESH2-Z5 | 100429 | Oct.18,15 | 1 Year |
| 4. | L.I.S.N.#2 | Kyoritsu | K NW-403D | 8-1750-2 | Apr.24,16 | 1 Year |
| 5. | Terminator | Hubersuhner | 50Ω | No.1 | May.05.16 | 1 Year |
| 6. | Terminator | Hubersuhner | 50Ω | No.2 | May.05.16 | 1 Year |
| 7. | RF Cable | MIYAZAKI | 3D-2W | No.1 | Apr.24,16 | 1Year |
| 8. | Coaxial Switch | Anritsu | MP59B | 6200766906 | Apr.23,16 | 1 Year |
| 9. | Test Software | AUDIX | e3 | 6.100913a | N/A | N/A |
| Note: N/A means Not applicable. | | | | | | |

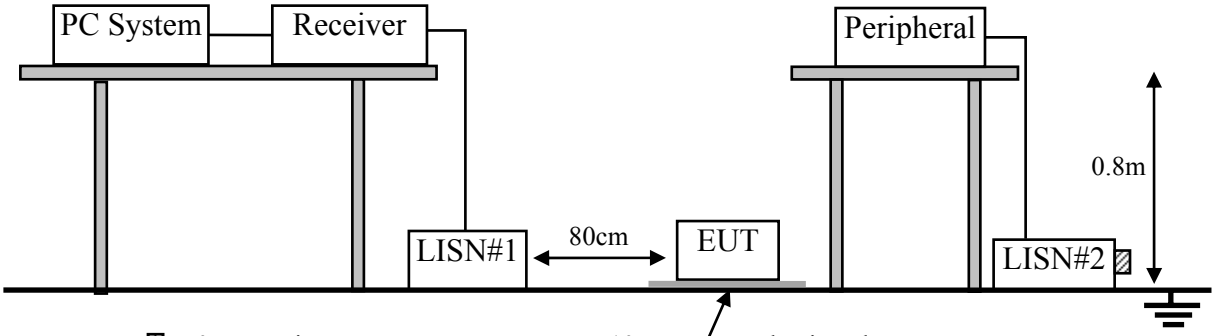
## 3.2.Block Diagram of Test Setup

EUT is horizontal:




:50Ω Terminator

EUT is vertical:




:50Ω Terminator 10cm non-conductive plan

## 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. Home Audio System (EUT)

Model No. : GTK-XB5
Serial No. : N/A

3.4.2. Support Equipment: As Tested Supporting System Details, 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. Turn on the power of all equipments.

3.5.3. PC runs test software to control EUT work in BT 3.0 Tx mode.

## 3.6.Test Procedure

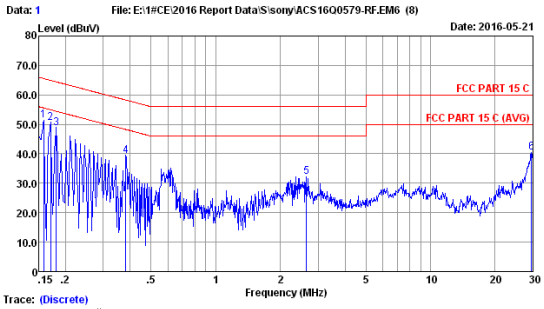
The EUT was placed on a non-metallic table, 80cm above the ground plane for EUT is horizontal; The EUT was placed on the 10cm non-conductive plan for EUT is vertical. The EUT Power Via PC connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC lines 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: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESCI) is set at 9kHz.

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

## 3.7.Power Line Conducted Emission Test Results

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

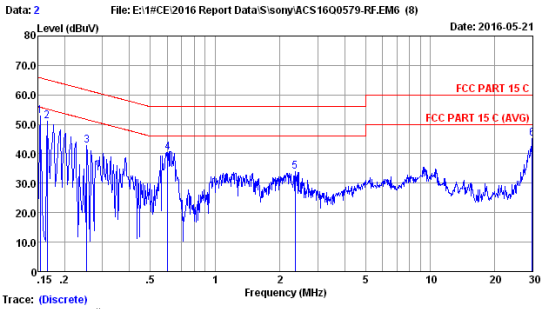



Site no :1# Conduction
Dis./Lisn :2016 KNW-242C VA
Limit :FCC PART 15 C
Env./Ins. :23*C/52%
EUT :Home Audio System M/N:GTK-XB5
Power Rating :AC 120V/60Hz
Test Mode :TX Mode
H Place

Data No :1
LISN phase:
Engineer :THOMAX

| No | Freq (MHz) | LISN Factor (dB) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.158 | 0.15 | 0.02 | 51.06 | 51.23 | 65.56 | 14.33 | QP |
| 2 | 0.170 | 0.15 | 0.02 | 50.20 | 50.37 | 64.94 | 14.57 | QP |
| 3 | 0.182 | 0.15 | 0.02 | 48.47 | 48.64 | 64.42 | 15.78 | QP |
| 4 | 0.381 | 0.16 | 0.03 | 39.21 | 39.40 | 58.25 | 18.85 | QP |
| 5 | 2.650 | 0.20 | 0.08 | 31.84 | 32.12 | 56.00 | 23.88 | QP |
| 6 | 29.527 | 0.95 | 0.25 | 39.16 | 40.36 | 60.00 | 19.64 | 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.

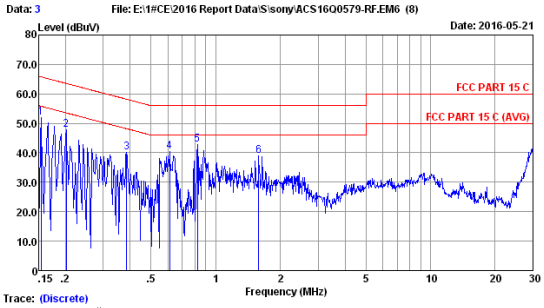



Site no :1# Conduction
Dis./Lisn :2016 KNW-242C VB
Limit :FCC PART 15 C
Env./Ins. :23*C/52%
EUT :Home Audio System M/N:GTK-XB5
Power Rating :AC 120V/60Hz
Test Mode :TX Mode
H Place

Data No :2
LISN phase:
Engineer :THOMAX

| No | Freq (MHz) | LISN Factor (dB) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.154 | 0.33 | 0.02 | 52.35 | 52.70 | 65.78 | 13.08 | QP |
| 2 | 0.166 | 0.33 | 0.02 | 50.84 | 51.19 | 65.16 | 13.97 | QP |
| 3 | 0.253 | 0.39 | 0.02 | 42.42 | 42.83 | 61.64 | 18.81 | QP |
| 4 | 0.601 | 0.43 | 0.04 | 40.11 | 40.58 | 56.00 | 15.42 | QP |
| 5 | 2.358 | 0.48 | 0.08 | 33.35 | 33.91 | 56.00 | 22.09 | QP |
| 6 | 29.841 | 1.15 | 0.25 | 43.84 | 45.24 | 60.00 | 14.76 | 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.

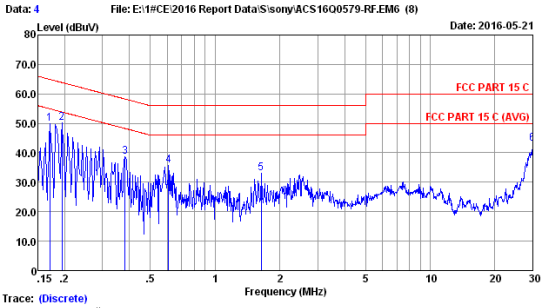



Site no :1# Conduction
Dis./Lisn :2016 KNW-242C VA
Limit :FCC PART 15 C
Env./Ins. :23*C/52%
EUT :Home Audio System M/N:GTK-XB5
Power Rating :AC 120V/60Hz
Test Mode :TX Mode
V Place

Data No :3
LISN phase:
Engineer :THOMAX

| No | Freq (MHz) | LISN Factor (dB) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.154 | 0.15 | 0.02 | 51.66 | 51.83 | 65.78 | 13.95 | QP |
| 2 | 0.202 | 0.15 | 0.02 | 47.64 | 47.81 | 63.54 | 15.73 | QP |
| 3 | 0.385 | 0.16 | 0.03 | 40.01 | 40.20 | 58.17 | 17.97 | QP |
| 4 | 0.611 | 0.17 | 0.04 | 40.16 | 40.37 | 56.00 | 15.63 | QP |
| 5 | 0.822 | 0.18 | 0.05 | 42.52 | 42.75 | 56.00 | 13.25 | QP |
| 6 | 1.585 | 0.18 | 0.07 | 38.78 | 39.03 | 56.00 | 16.97 | 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.




Site no :1# Conduction
Dis./Lisn :2016 KNW-242C VB
Limit :FCC PART 15 C
Env./Ins. :23*C/52%
EUT :Home Audio System M/N:GTK-XB5
Power Rating :AC 120V/60Hz
Test Mode :TX Mode
V Place

Data No :4
LISN phase:
Engineer :THOMAX

| No | Freq (MHz) | LISN Factor (dB) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.170 | 0.33 | 0.02 | 49.40 | 49.75 | 64.94 | 15.19 | QP |
| 2 | 0.194 | 0.38 | 0.02 | 49.90 | 50.30 | 63.84 | 13.54 | QP |
| 3 | 0.381 | 0.40 | 0.03 | 38.19 | 38.62 | 58.25 | 19.63 | QP |
| 4 | 0.608 | 0.43 | 0.04 | 35.20 | 35.67 | 56.00 | 20.33 | QP |
| 5 | 1.636 | 0.47 | 0.07 | 32.40 | 32.94 | 56.00 | 23.06 | QP |
| 6 | 30.000 | 1.15 | 0.25 | 41.72 | 43.12 | 60.00 | 16.88 | 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.

# 4. RADIATED EMISSION MEASUREMENT

## 4.1.Test Equipments

Frequency range: 30~1000MHz

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | 3#Chamber | AUDIX | N/A | N/A | Mar.28,16 | 1 Year |
| 2. | EMI Spectrum | Agilent | E4407B | MY41440292 | Apr.24,16 | 1 Year |
| 3. | Test Receiver | Rohde & Schwarz | ESVS10 | 834468/011 | Apr.24,16 | 1 Year |
| 4. | Amplifier | HP | 8447D | 2648A04738 | Apr.24,16 | 1 Year |
| 5. | Bi-log Antenna | TESEQ | CBL6112D | 35375 | Jun.30,15 | 1 Year |
| 6. | RF Cable | MIYAZAKI | CFD400-NW(3.5M) | No.3 | Apr.24,16 | 1 Year |
| 7. | RF Cable | MIYAZAKI | CFD400-LW(22M) | No.7 | Apr.24,16 | 1 Year |
| 8. | Coaxial Switch | Anritsu | MP59B | 6201397222 | Apr.23,16 | 1 Year |
| 9. | Test Software | AUDIX | e3 | 6.2009-5-21a(n) | N/A | N/A |
| Note: N/A means Not applicable. | | | | | | |

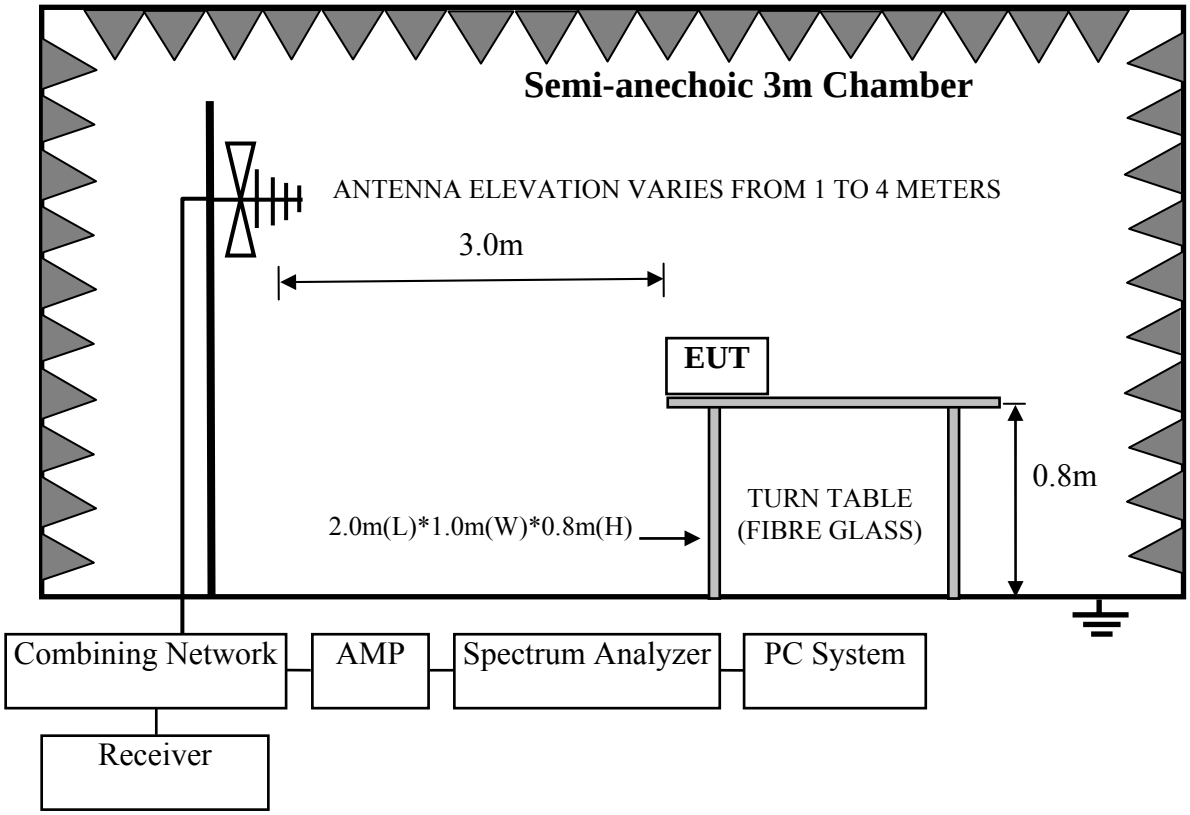
Frequency range: above 1000MHz

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum Analyzer | Agilent | E4446A | US44300459 | Apr.24,16 | 1 Year |
| 2. | Horn Antenna | ETS | 3115 | 9510-4877 | Oct.15,15 | 1 Year |
| 3. | Amplifier | Agilent | 8449B | 3008A02495 | Apr.24,16 | 1 Year |
| 4. | RF Cable | Hubersuhner | SUCOFLEX104 | 274094/4 | Apr.24,16 | 1 Year |
| 5. | Horn Antenna | ETS | 3116 | 00060089 | Oct.15,15 | 1 Year |
| 6. | Test Software | AUDIX | e3 | 6.2009-5-21a(n) | N/A | N/A |
| Note: N/A means Not applicable. | | | | | | |

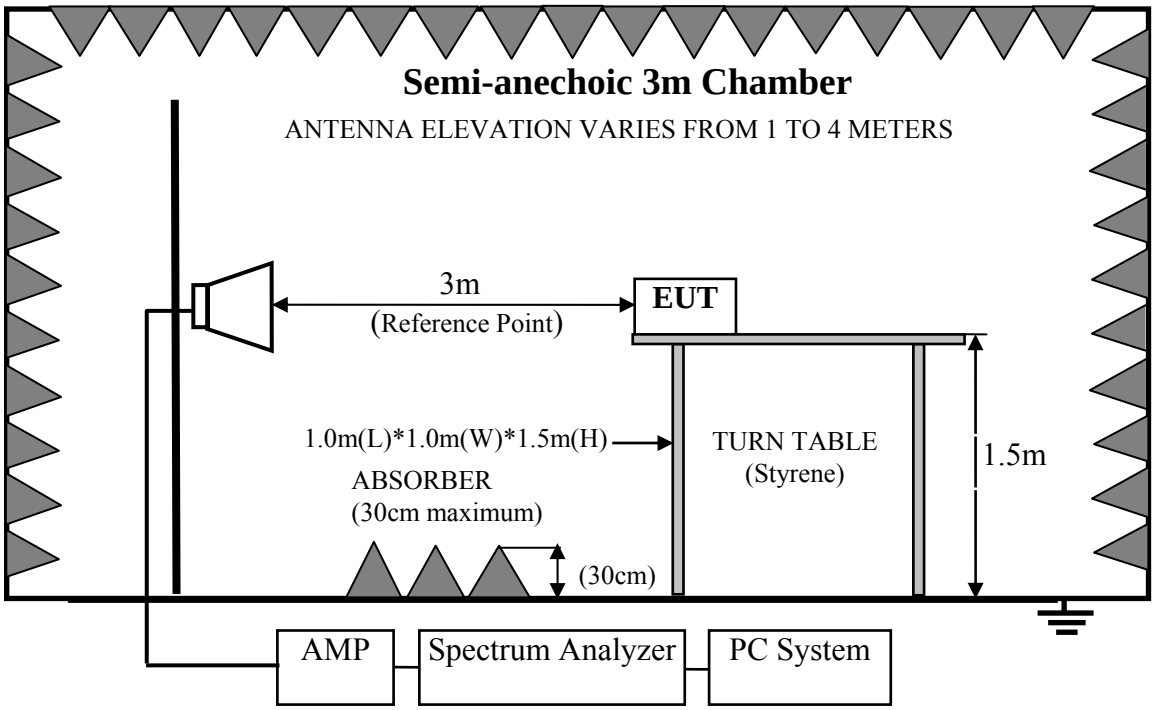
## 4.2.Block Diagram of Test Setup

**EUT is horizontal:**

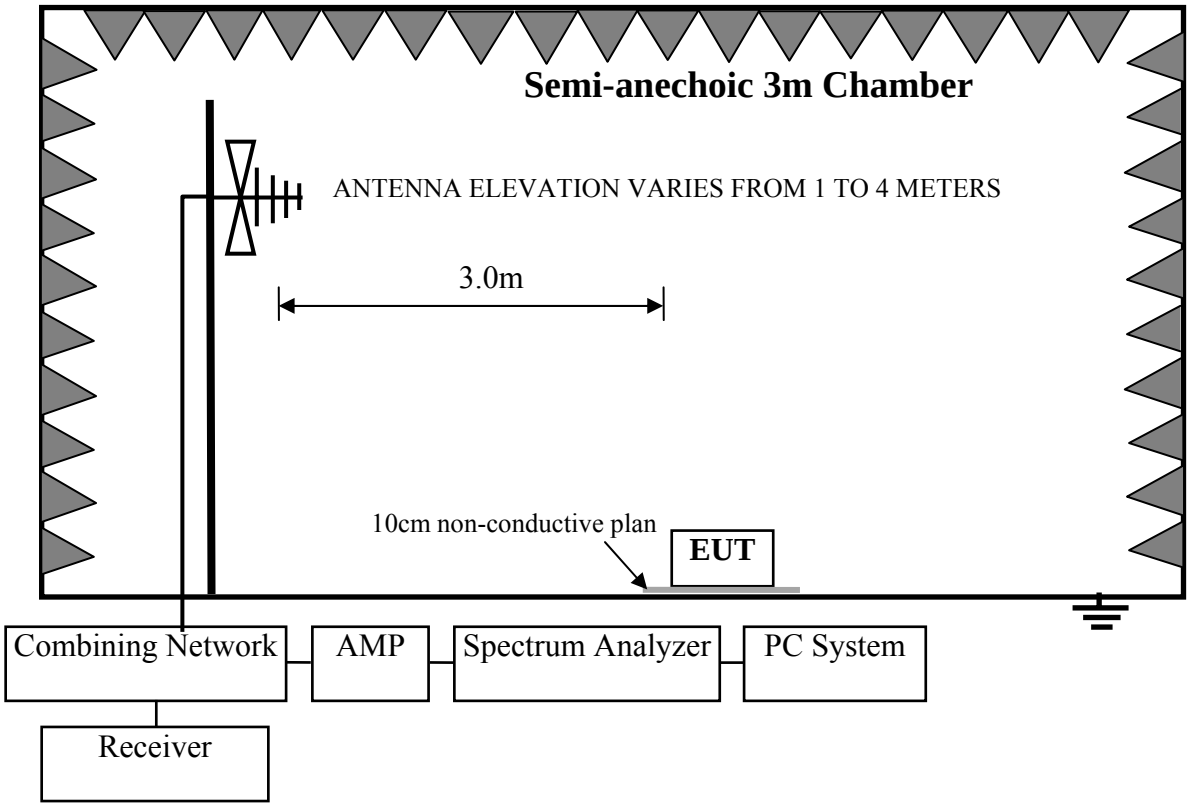
For frequency range 30MHz-1000MHz



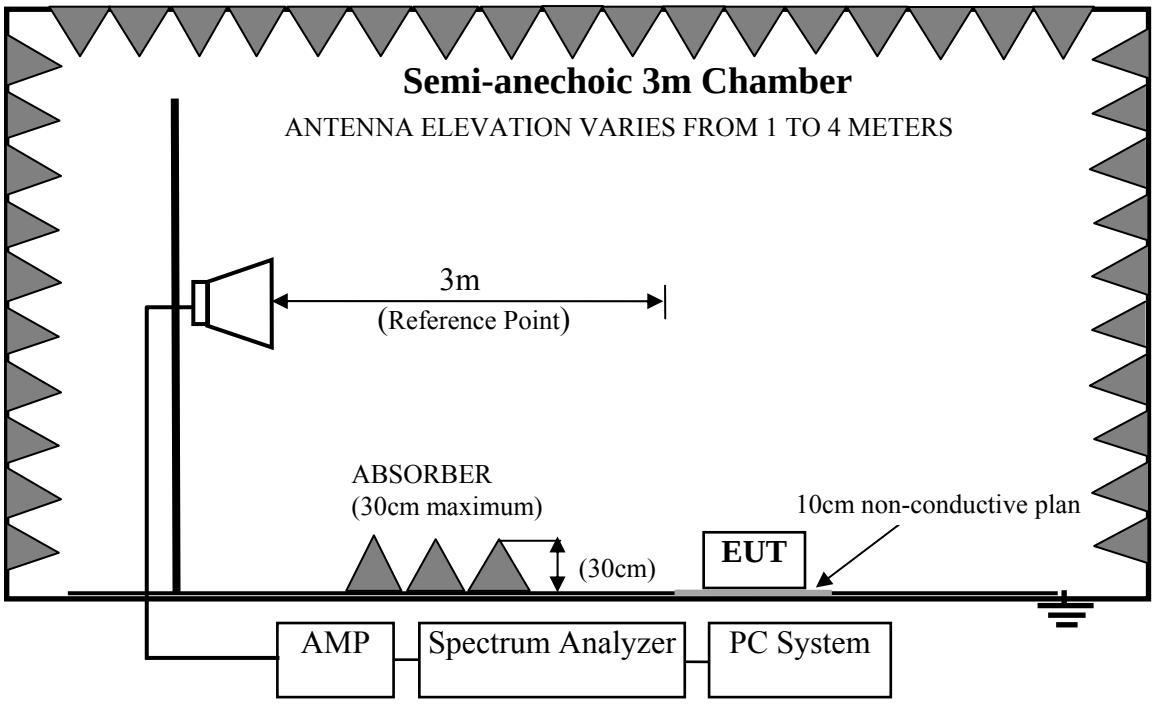

For frequency range 1GHz-25GHz



**EUT is vertical:**
For frequency range 30MHz-1000MHz




For frequency range 1GHz-25GHz



## 4.3. Radiated Emission Limit Standard:

| FREQUENCY MHz | DISTANCE Meters | FIELD STRENGTHS LIMIT | |
|---|---|---|---|
| | | μV/m | dB(μV)/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 1000MHz | 3 | 74.0 dB(μV)/m (Peak)<br>54.0 dB(μV)/m (Average) | |

Remarks： (1) Emission level dBμV = 20 log Emission level μV/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) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490kHz and above 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

## 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. Home Audio System (EUT)

Model No. : GTK-XB5
Serial No. : N/A

## 4.5. Operating Condition of EUT

4.5.1. Setup the EUT and simulator as shown as Section 4.2.

4.5.2. Turn on the power of all equipments.

4.5.3. Let EUT work in BT 3.0 Tx mode.

## 4.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground for frequency 30MHz~1000MHz, 1.5 meter high above ground for frequency above 1GHz and put the absorbing with 2.4m(L)*2.4m(W)*0.3m(H) on the ground for EUT is horizontal; EUT placed on the 10cm non-conductive plan for EUT is vertical. 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 for frequency 30MHz~1000MHz, and the Horm antenna is used as receiving antenna for frequency above 1GHz. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10-2013 on radiated emission Test.

This test was performed with EUT in X, Y, Z position, and the worse case was found when EUT in X position as the test photo indicated.

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

The bandwidth of the Spectrum's RBW is set at 1MHz and VBW is set at 3MHz for peak emissions measurement above 1GHz

This device is pulse Modulated, a duty cycle factor was used to calculate average level based measured peak level.

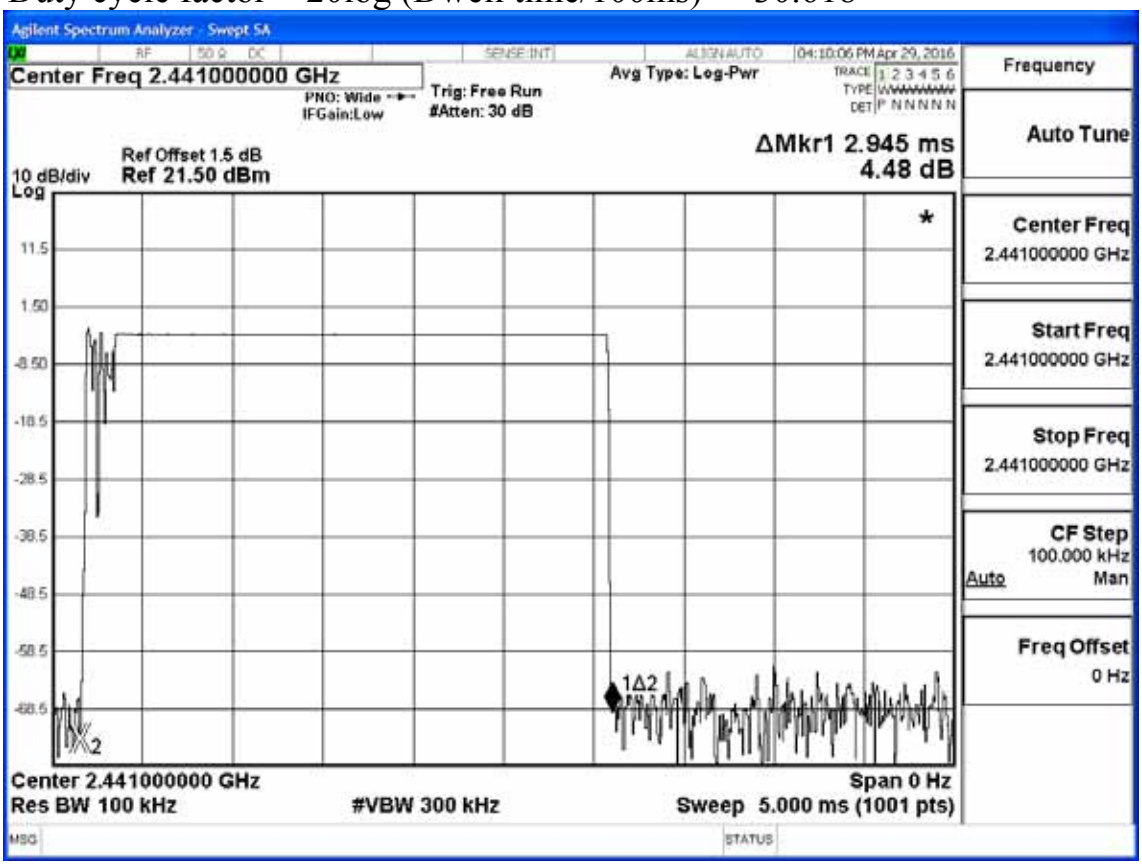
The frequency ranges from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25GHz, So the radiated emissions from 18GHz to 25GHz were not record.

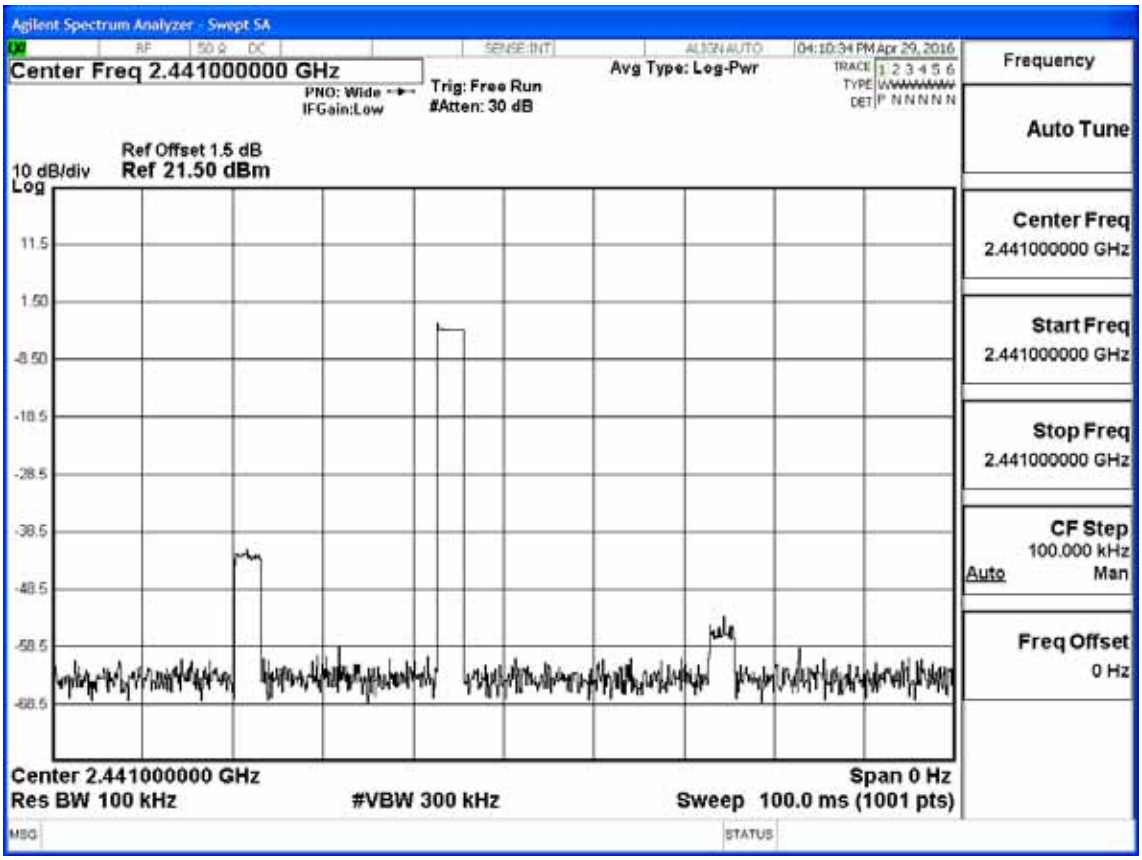
## 4.7.Radiated Emission Test Results

**PASS.**

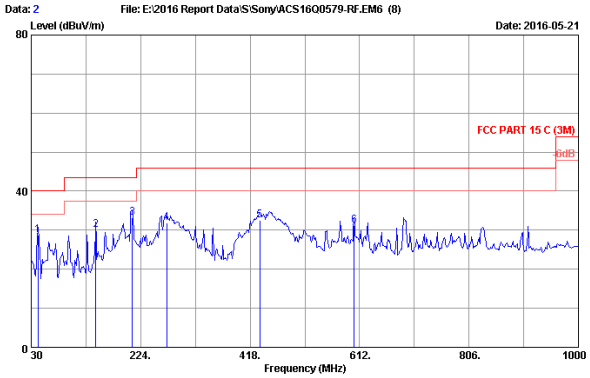
All the emissions from 30MHz to 25GHz were complying with the 15.209 Limit.
Note: The duty cycle factor for calculate average level is -30.618dB, and average limit is 20dB below peak limit, so if peak measured level comply with average limit, the average level was deemed to comply with average limit.

Duty cycle factor = 20log (Dwell time/100ms) = -30.618



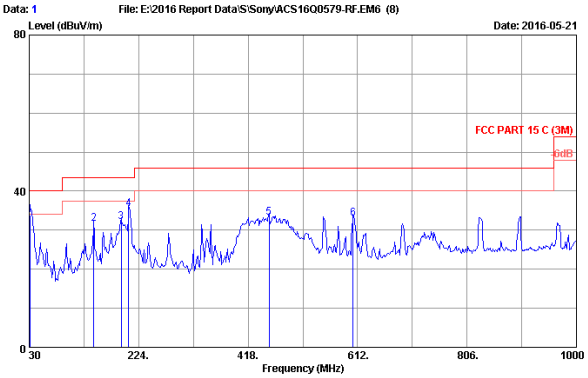
# Frequency: 30MHz~1GHz




Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23°C/51% Engineer : THOMAX
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : TX Mode
H Place

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 41.640 | 13.28 | 0.71 | 14.66 | 28.65 | 40.00 | 11.35 | QP |
| 2 | 144.460 | 11.89 | 1.29 | 16.98 | 30.16 | 43.50 | 13.34 | QP |
| 3 | 209.450 | 10.79 | 1.54 | 20.88 | 33.21 | 43.50 | 10.29 | QP |
| 4 | 270.560 | 14.09 | 1.79 | 16.03 | 31.91 | 46.00 | 14.09 | QP |
| 5 | 435.460 | 17.43 | 2.31 | 12.86 | 32.60 | 46.00 | 13.40 | QP |
| 6 | 602.300 | 19.32 | 2.77 | 9.22 | 31.31 | 46.00 | 14.69 | QP |

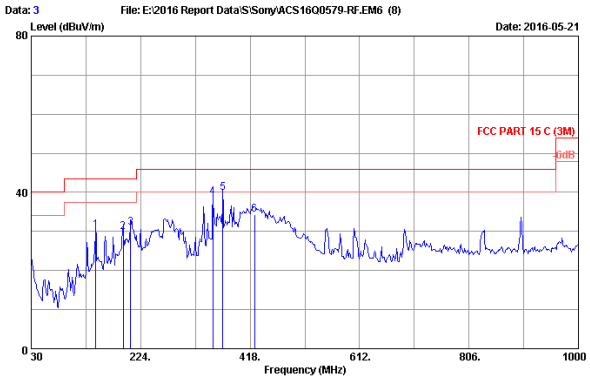
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23°C/51% Engineer : THOMAX
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : TX Mode
H Place

| 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 | 19.06 | 0.61 | 14.29 | 33.96 | 40.00 | 6.04 | QP |
| 2 | 144.460 | 11.89 | 1.29 | 18.36 | 31.54 | 43.50 | 11.96 | QP |
| 3 | 192.960 | 10.39 | 1.49 | 20.32 | 32.20 | 43.50 | 11.30 | QP |
| 4 | 206.540 | 10.73 | 1.54 | 23.06 | 35.33 | 43.50 | 8.17 | QP |
| 5 | 454.860 | 17.72 | 2.38 | 13.20 | 33.30 | 46.00 | 12.70 | QP |
| 6 | 604.240 | 19.33 | 2.77 | 10.99 | 33.09 | 46.00 | 12.91 | QP |

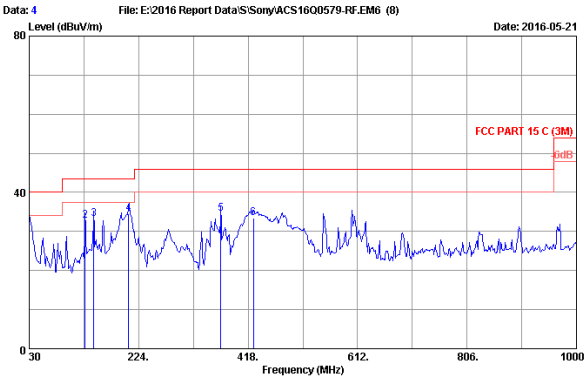
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 3
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23°C/51% Engineer : THOMAX
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : TX Mode
V Place

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 144.460 | 11.89 | 1.29 | 17.04 | 30.22 | 43.50 | 13.28 | QP |
| 2 | 192.960 | 10.39 | 1.49 | 17.99 | 29.87 | 43.50 | 13.63 | QP |
| 3 | 206.540 | 10.73 | 1.54 | 18.64 | 30.91 | 43.50 | 12.59 | QP |
| 4 | 352.040 | 15.62 | 2.05 | 21.03 | 38.70 | 46.00 | 7.30 | QP |
| 5 | 369.500 | 16.09 | 2.12 | 21.64 | 39.85 | 46.00 | 6.15 | QP |
| 6 | 425.760 | 17.29 | 2.29 | 14.81 | 34.39 | 46.00 | 11.61 | QP |

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

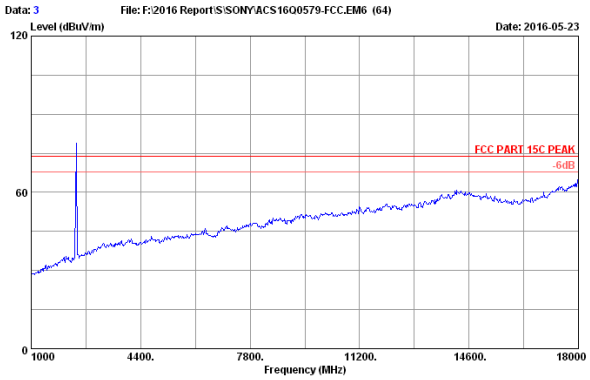



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23°C/51% Engineer : THOMAX
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : TX Mode
V Place

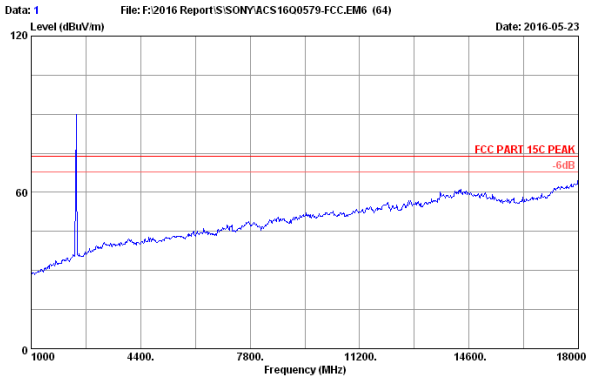
| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 30.000 | 20.30 | 0.51 | 11.36 | 32.17 | 40.00 | 7.83 | QP |
| 2 | 128.940 | 12.76 | 1.21 | 18.77 | 32.74 | 43.50 | 10.76 | QP |
| 3 | 144.460 | 11.89 | 1.29 | 19.97 | 33.15 | 43.50 | 10.35 | QP |
| 4 | 206.540 | 10.73 | 1.54 | 22.26 | 34.53 | 43.50 | 8.97 | QP |
| 5 | 369.500 | 16.09 | 2.12 | 16.22 | 34.43 | 46.00 | 11.57 | QP |
| 6 | 427.700 | 17.32 | 2.29 | 13.84 | 33.45 | 46.00 | 12.55 | QP |

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

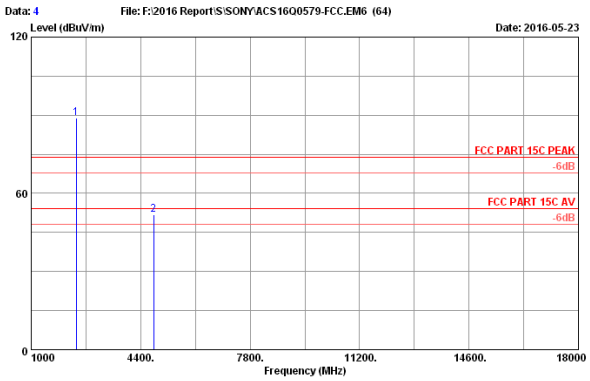
## Frequency: 1GHz~18GHz




Site no. : 3m Chamber Data no. : 3
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : V Place



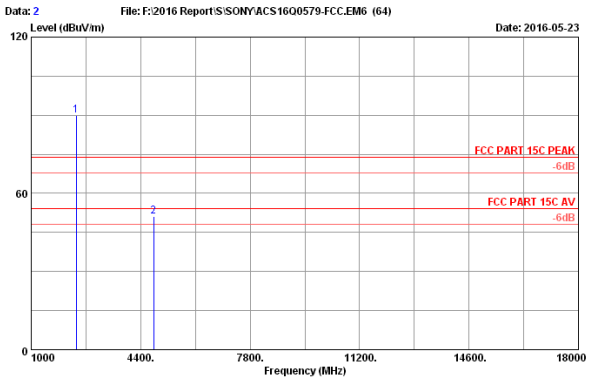

Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : V Place




Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 89.86 | 88.84 | 74.00 | -14.84 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 44.84 | 51.87 | 74.00 | 22.13 | Peak |

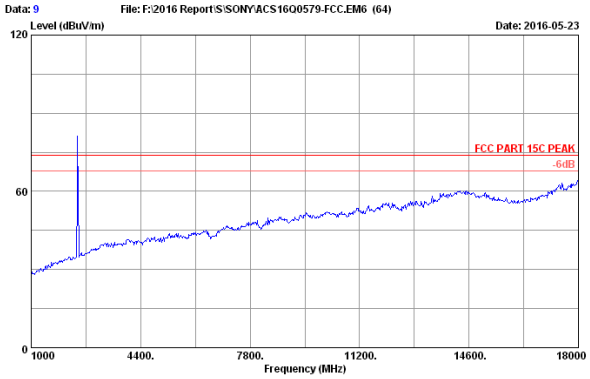
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



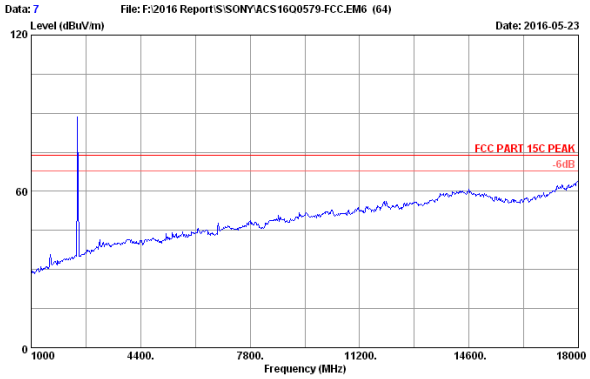

Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 90.85 | 89.83 | 74.00 | -15.83 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 44.10 | 51.13 | 74.00 | 22.87 | Peak |

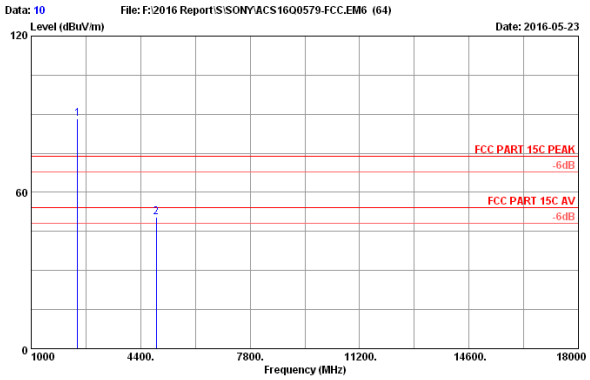
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 9
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : V Place



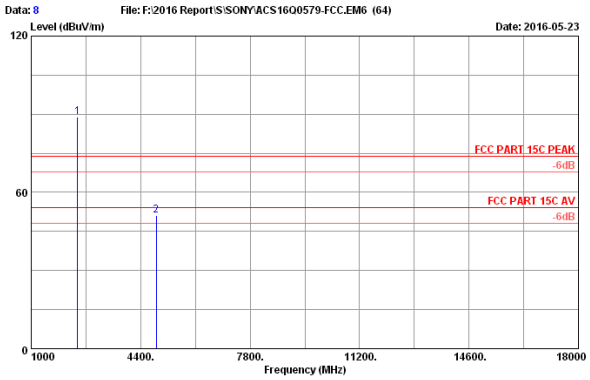

Site no. : 3m Chamber Data no. : 7
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : V Place




Site no. : 3m Chamber Data no. : 10
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : V Place

| No. | 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 | 28.33 | 7.39 | 36.60 | 89.05 | 88.17 | 74.00 | -14.17 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 43.27 | 50.51 | 74.00 | 23.49 | Peak |

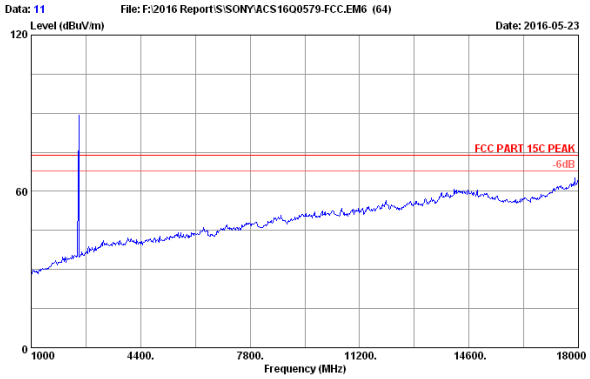
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



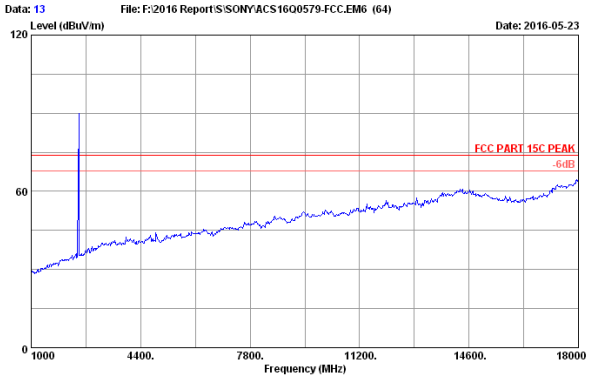

Site no. : 3m Chamber Data no. : 8
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : V Place

| No. | 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 | 28.33 | 7.39 | 36.60 | 89.87 | 88.99 | 74.00 | -14.99 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 44.03 | 51.27 | 74.00 | 22.73 | Peak |

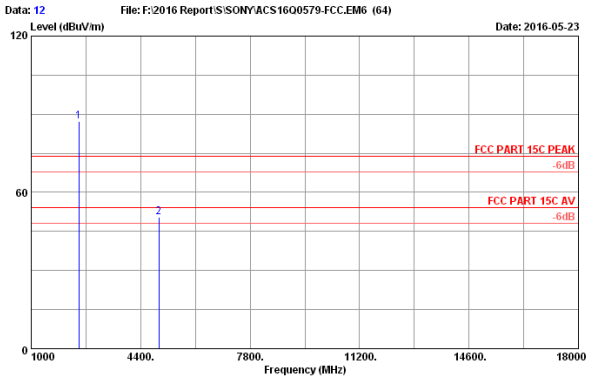
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 11
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : V Place



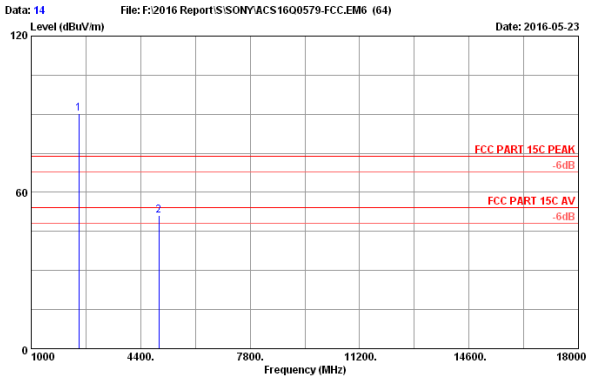

Site no. : 3m Chamber Data no. : 13
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : V Place




Site no. : 3m Chamber Data no. : 12
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 88.03 | 87.29 | 74.00 | -13.29 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 43.11 | 50.58 | 74.00 | 23.42 | Peak |

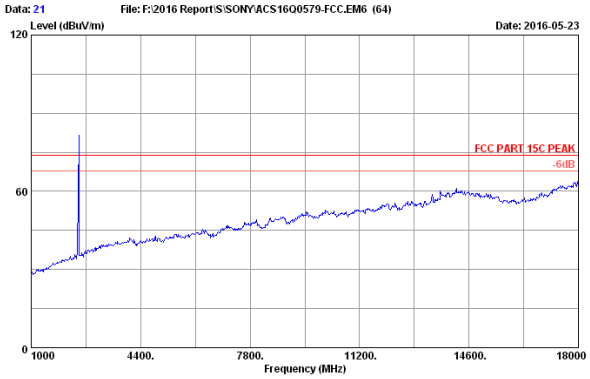
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



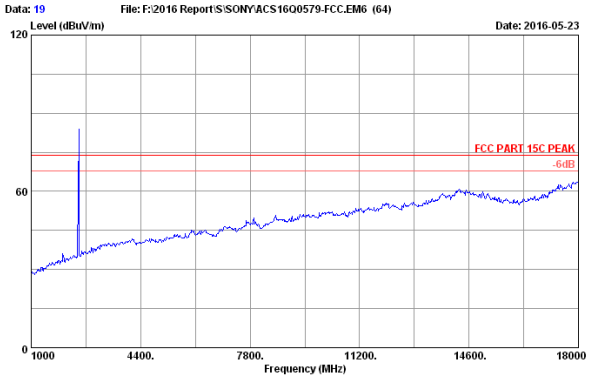

Site no. : 3m Chamber Data no. : 14
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 91.10 | 90.36 | 74.00 | -16.36 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 43.54 | 51.01 | 74.00 | 22.99 | Peak |

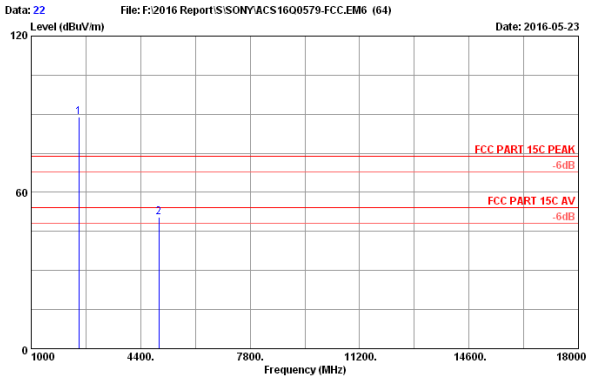
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 21
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : V Place



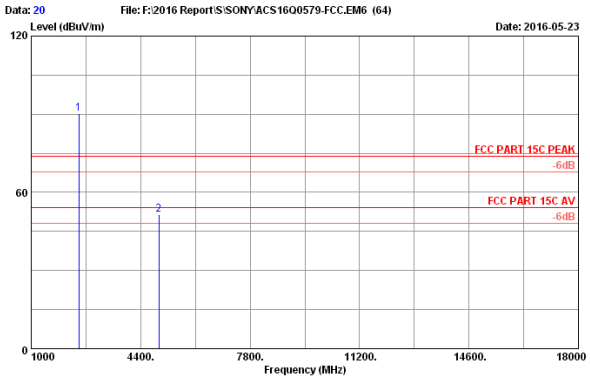

Site no. : 3m Chamber Data no. : 19
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : V Place




Site no. : 3m Chamber Data no. : 22
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 89.80 | 89.06 | 74.00 | -15.06 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 43.12 | 50.59 | 74.00 | 23.41 | Peak |

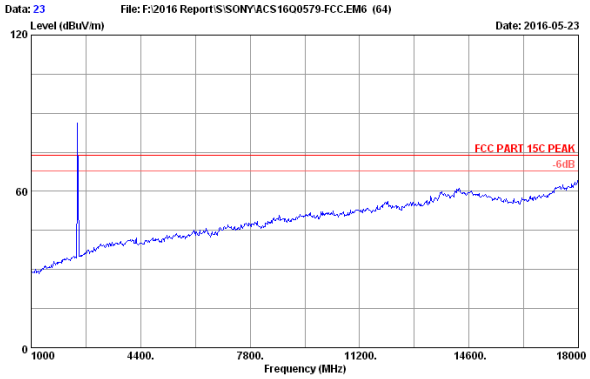
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



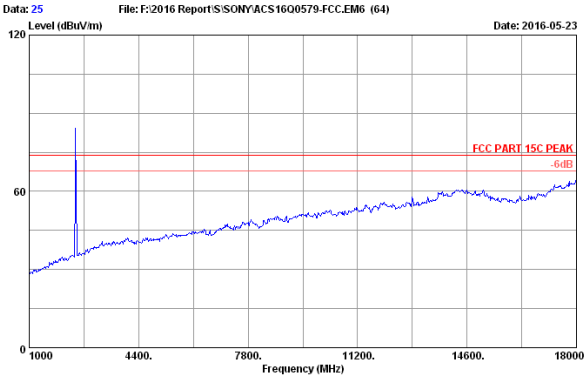

Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 90.84 | 90.10 | 74.00 | -16.10 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 44.02 | 51.49 | 74.00 | 22.51 | Peak |

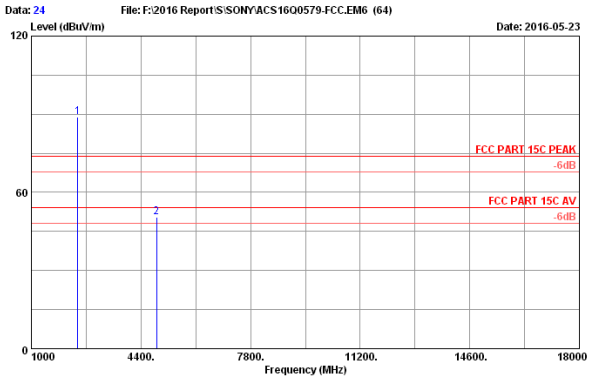
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 23
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : V Place




Site no. : 3m Chamber Data no. : 25
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : V Place




Site no. : 3m Chamber Data no. : 24
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : V Place

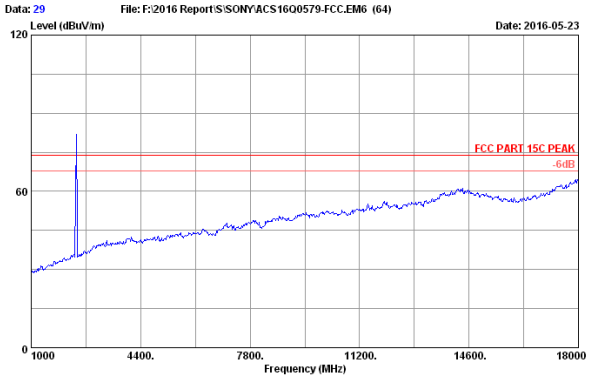
| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | AMP factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2441.000 | 28.33 | 7.39 | 36.60 | 89.80 | 88.92 | 74.00 | -14.92 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 43.27 | 50.51 | 74.00 | 23.49 | Peak |

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

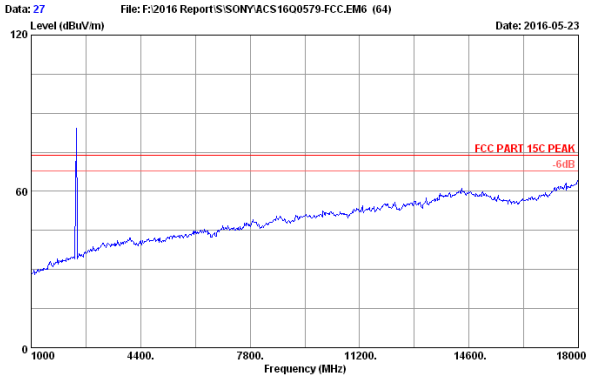
Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : V Place

| No. | 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 | 28.33 | 7.39 | 36.60 | 89.98 | 89.10 | 74.00 | -15.10 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 44.04 | 51.28 | 74.00 | 22.72 | Peak |

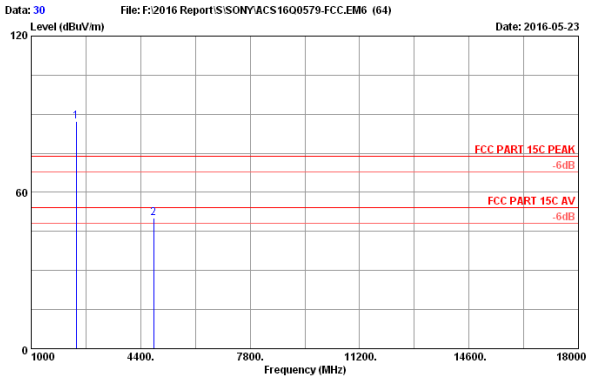
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 29
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : V Place



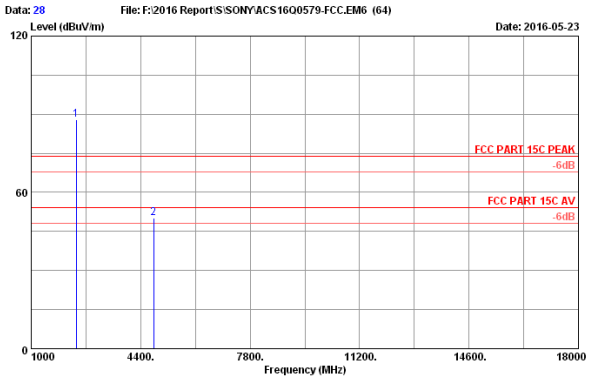

Site no. : 3m Chamber Data no. : 27
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : V Place




Site no. : 3m Chamber Data no. : 30
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 88.16 | 87.14 | 74.00 | -13.14 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 43.25 | 50.28 | 74.00 | 23.72 | Peak |

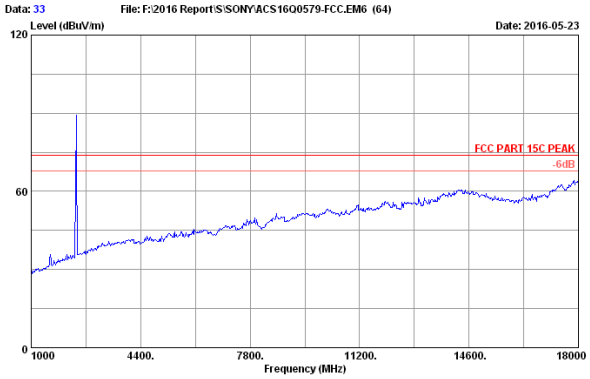
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



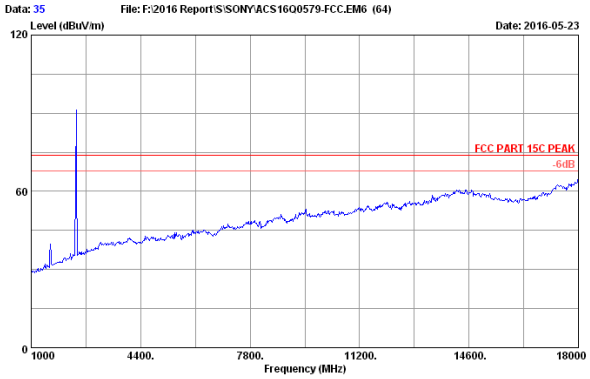

Site no. : 3m Chamber Data no. : 28
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 88.85 | 87.83 | 74.00 | -13.83 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 43.13 | 50.16 | 74.00 | 23.84 | Peak |

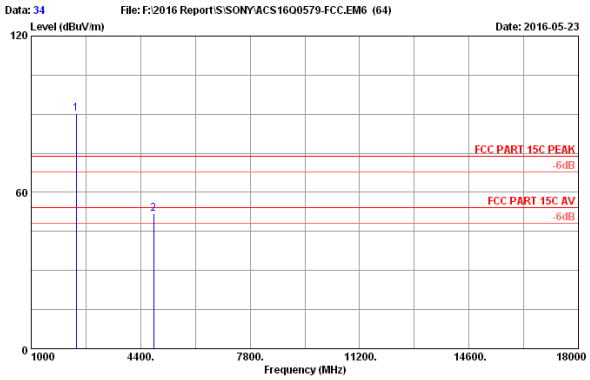
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 33
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : H Place



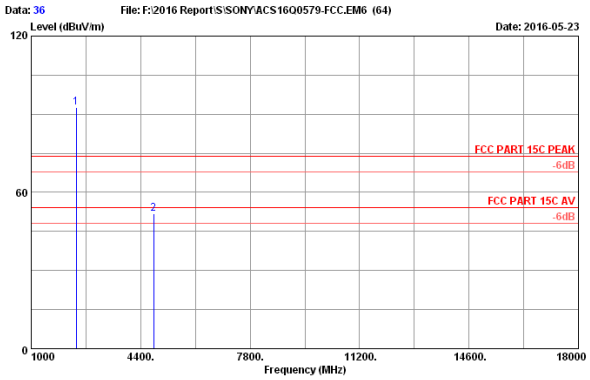

Site no. : 3m Chamber Data no. : 35
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : H Place




Site no. : 3m Chamber Data no. : 34
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 91.38 | 90.36 | 74.00 | -16.36 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 44.82 | 51.85 | 74.00 | 22.15 | Peak |

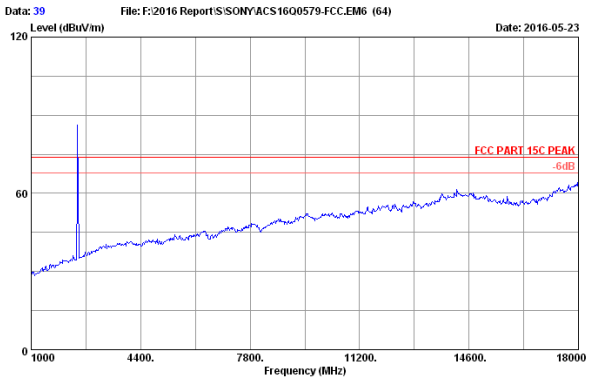
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



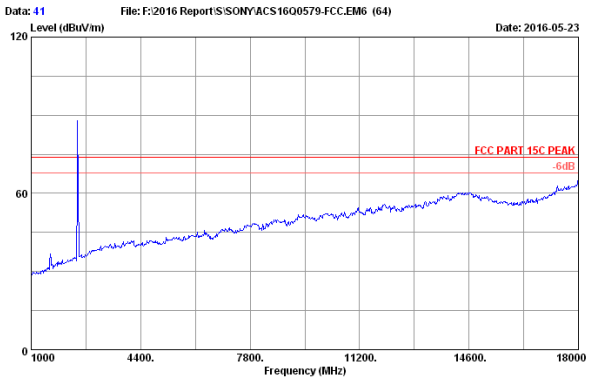

Site no. : 3m Chamber Data no. : 36
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 93.76 | 92.74 | 74.00 | -18.74 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 44.94 | 51.97 | 74.00 | 22.03 | Peak |

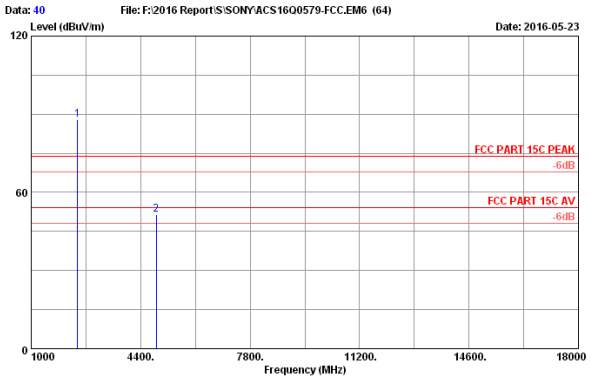
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 39
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : H Place



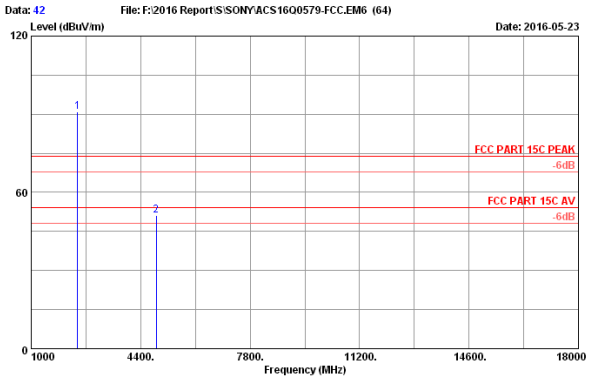

Site no. : 3m Chamber Data no. : 41
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : H Place




Site no. : 3m Chamber Data no. : 40
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : H Place

| No. | 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 | 28.33 | 7.39 | 36.60 | 88.85 | 87.97 | 74.00 | -13.97 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 44.16 | 51.40 | 74.00 | 22.60 | Peak |

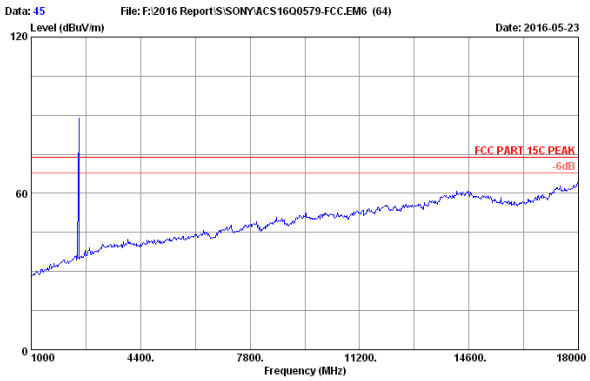
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



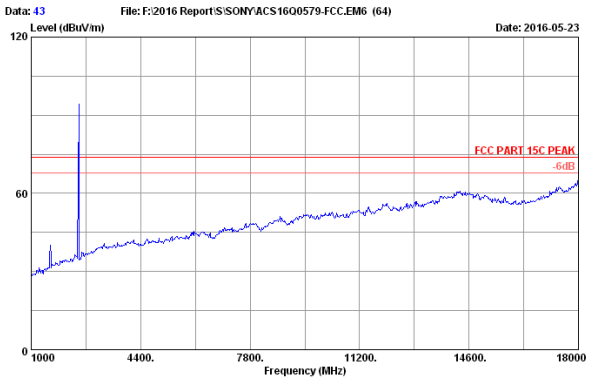

Site no. : 3m Chamber Data no. : 42
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2441MHz Tx Mode
M/N : H Place

| No. | 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 | 28.33 | 7.39 | 36.60 | 91.82 | 90.94 | 74.00 | -16.94 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 43.84 | 51.08 | 74.00 | 22.92 | Peak |

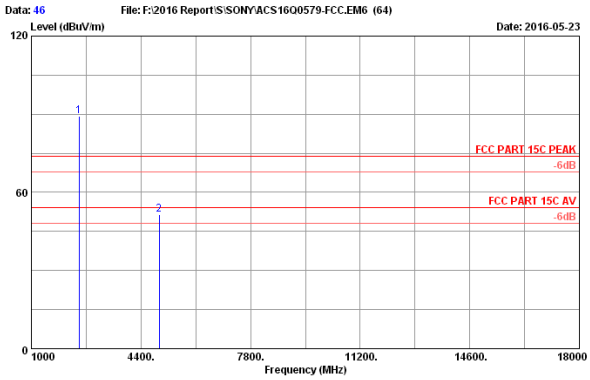
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 45
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : H Place



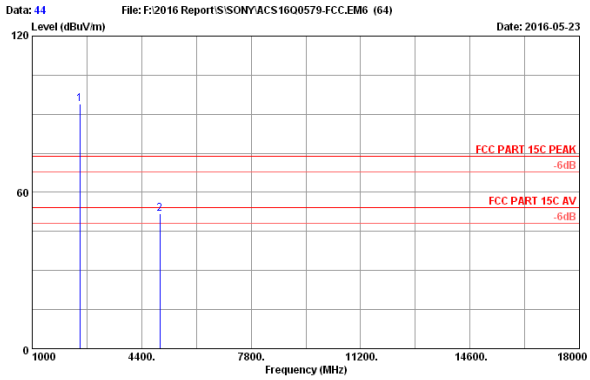

Site no. : 3m Chamber Data no. : 43
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : H Place




Site no. : 3m Chamber Data no. : 46
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 90.12 | 89.38 | 74.00 | -15.38 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 44.14 | 51.61 | 74.00 | 22.39 | Peak |

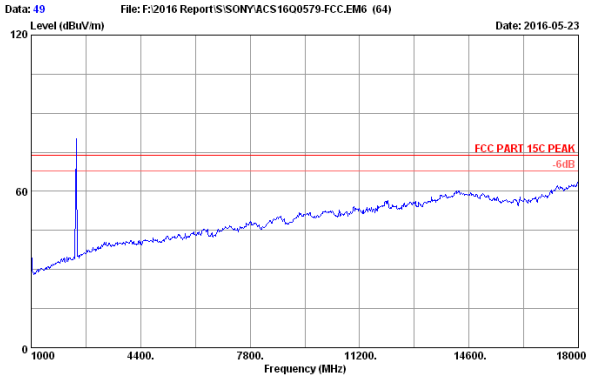
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



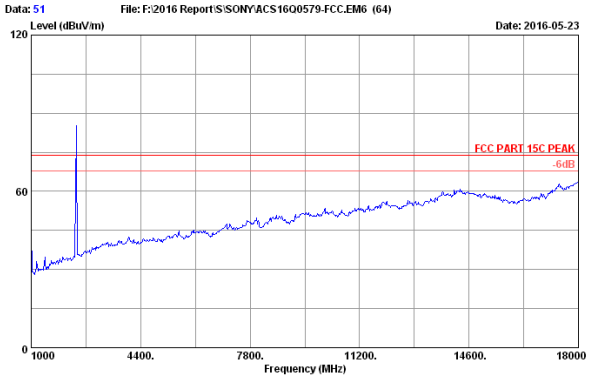

Site no. : 3m Chamber Data no. : 44
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 94.61 | 93.87 | 74.00 | -19.87 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 44.23 | 51.70 | 74.00 | 22.30 | Peak |

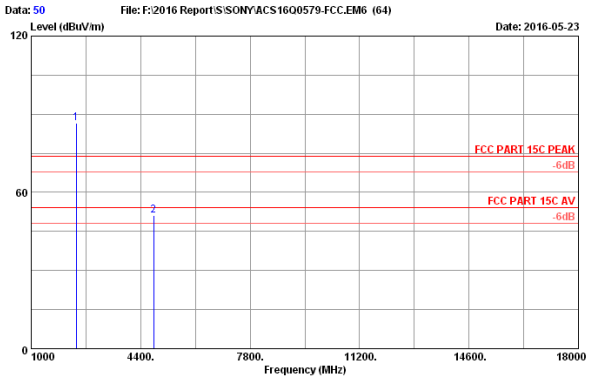
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 49
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : H Place



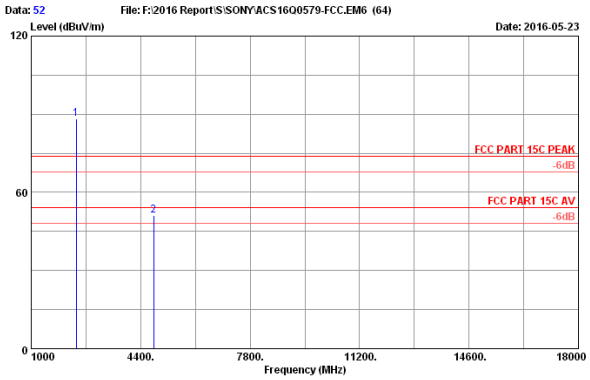

Site no. : 3m Chamber Data no. : 51
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : H Place




Site no. : 3m Chamber Data no. : 50
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 87.73 | 86.71 | 74.00 | -12.71 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 44.16 | 51.19 | 74.00 | 22.81 | Peak |

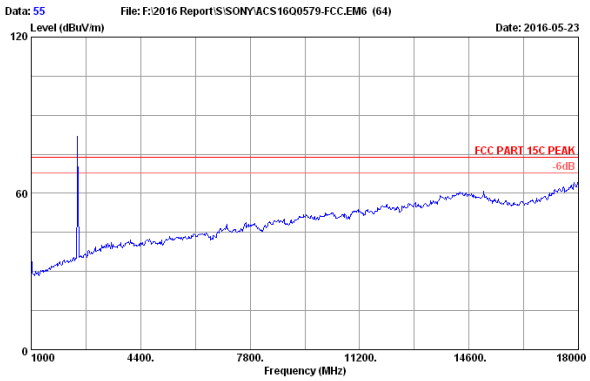
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



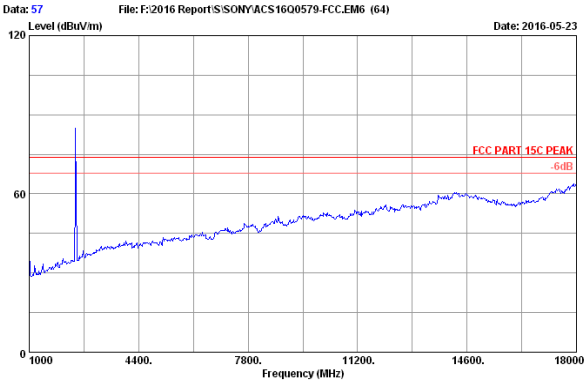

Site no. : 3m Chamber Data no. : 52
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 28.28 | 7.32 | 36.62 | 89.39 | 88.37 | 74.00 | -14.37 | Peak |
| 2 | 4804.000 | 33.11 | 9.46 | 35.54 | 44.06 | 51.09 | 74.00 | 22.91 | Peak |

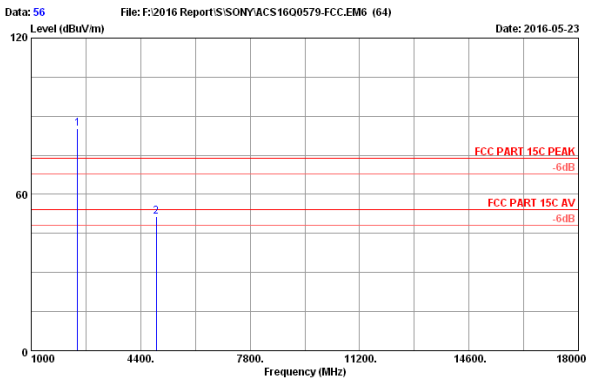
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 55
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : H Place



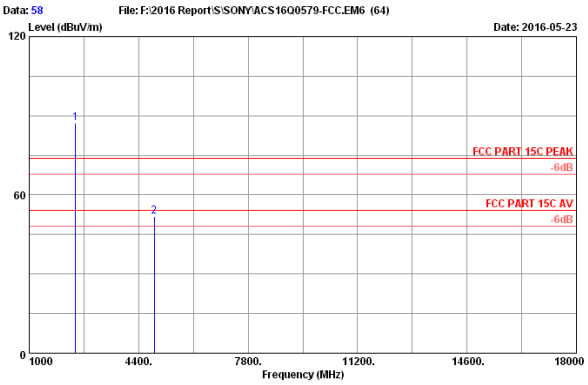

Site no. : 3m Chamber Data no. : 57
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : H Place




Site no. : 3m Chamber Data no. : 56
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : H Place

| No. | 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 | 28.33 | 7.39 | 36.60 | 86.02 | 85.14 | 74.00 | -11.14 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 44.08 | 51.32 | 74.00 | 22.68 | Peak |

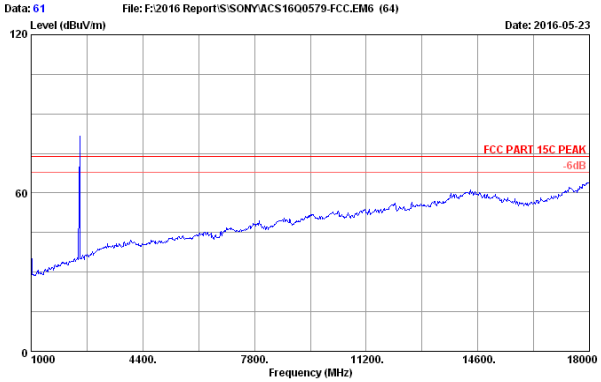
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



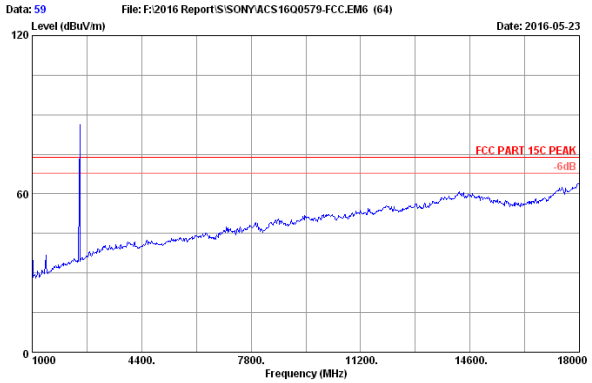

Site no. : 3m Chamber Data no. : 58
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2441MHz Tx Mode
M/N : H Place

| No. | 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 | 28.33 | 7.39 | 36.60 | 88.23 | 87.35 | 74.00 | -13.35 | Peak |
| 2 | 4882.000 | 33.26 | 9.49 | 35.51 | 44.52 | 51.76 | 74.00 | 22.24 | Peak |

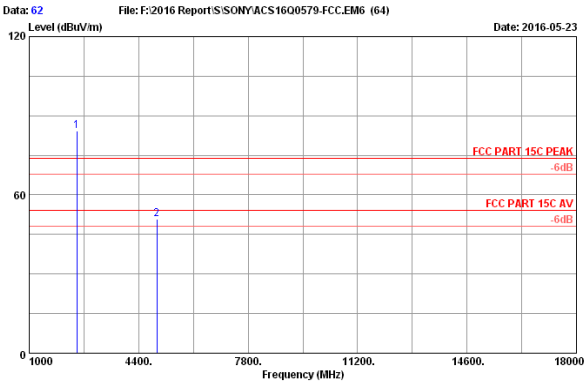
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 3m Chamber Data no. : 61
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : H Place



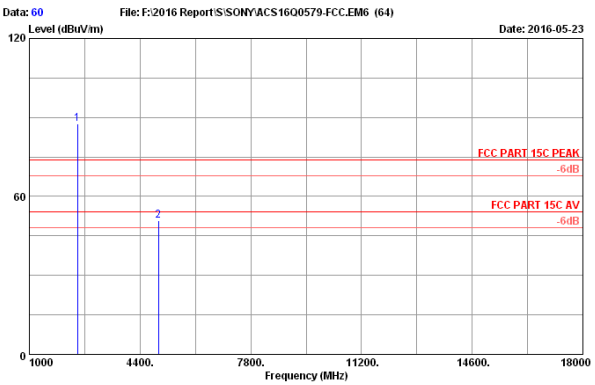

Site no. : 3m Chamber Data no. : 59
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : H Place




Site no. : 3m Chamber Data no. : 62
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 84.99 | 84.25 | 74.00 | -10.25 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 43.44 | 50.91 | 74.00 | 23.09 | Peak |

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




Site no. : 3m Chamber Data no. : 60
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 28.38 | 7.47 | 36.59 | 88.22 | 87.48 | 74.00 | -13.48 | Peak |
| 2 | 4960.000 | 33.42 | 9.52 | 35.47 | 43.46 | 50.93 | 74.00 | 23.07 | Peak |

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

# 5. CONDUCTED SPURIOUS EMISSIONS

## 5.1.Test Equipments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum | Agilent | N9030A | MY51380221 | Oct.17,15 | 1Year |
| 2. | Attenuator (20dB) | Agilent | 8491B | MY39262165 | Apr.23,16 | 1 Year |
| 3. | RF Cable | Marvelous Microwave Inc | SFL402105FLEX | NO.1 | Oct.17,15 | 1 Year |

## 5.2.Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in 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.

## 5.3.Test Procedure

The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions with peak detector.

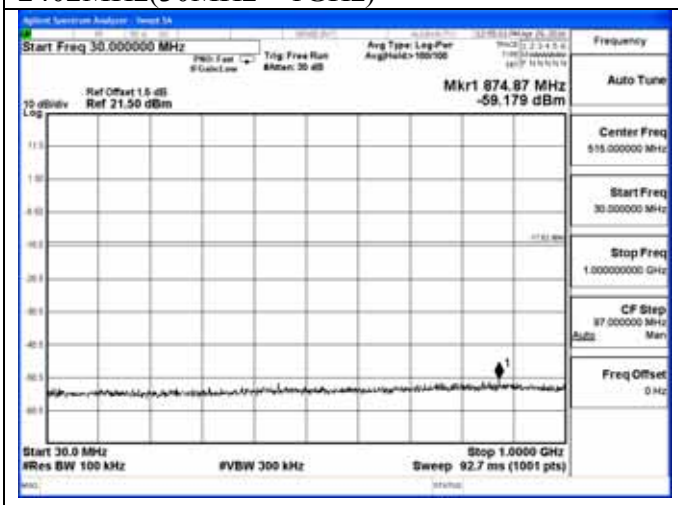
## 5.4.Test result

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

**Hopping off**

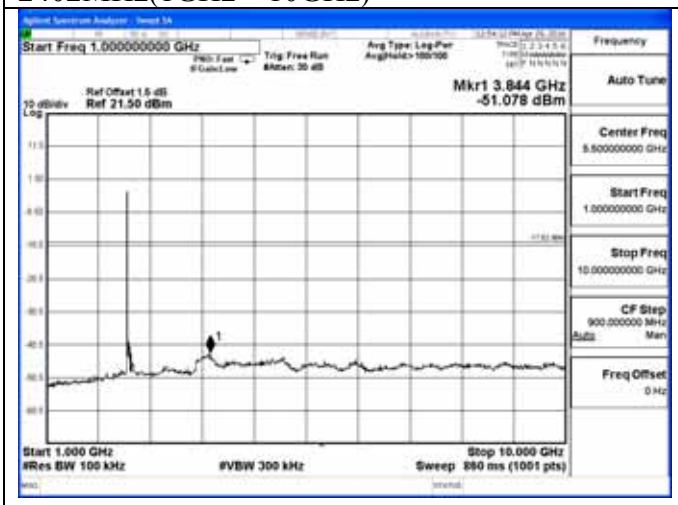
**GFSK**

2402MHz(30MHz – 1GHz)

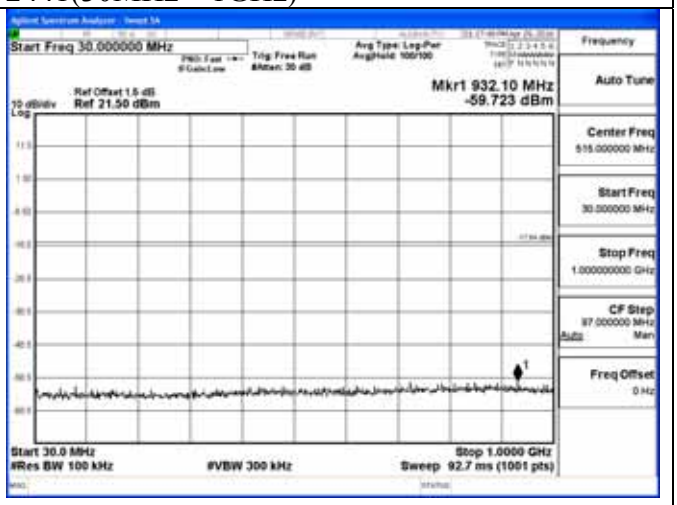



2402MHz(10GHz – 25GHz)

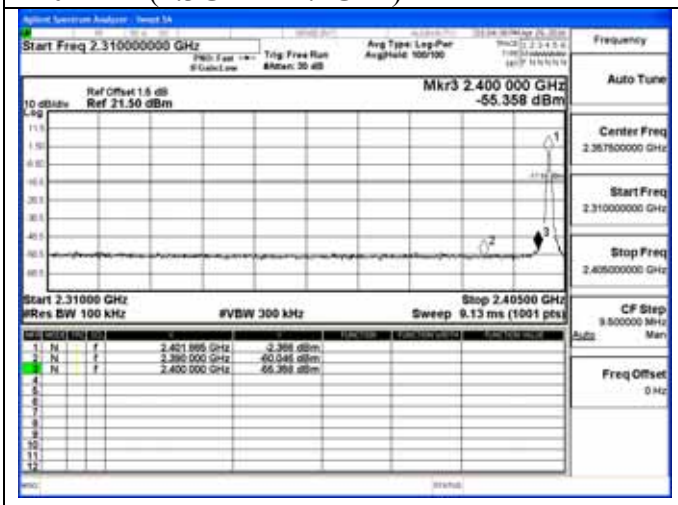
2402MHz(1GHz – 10GHz)



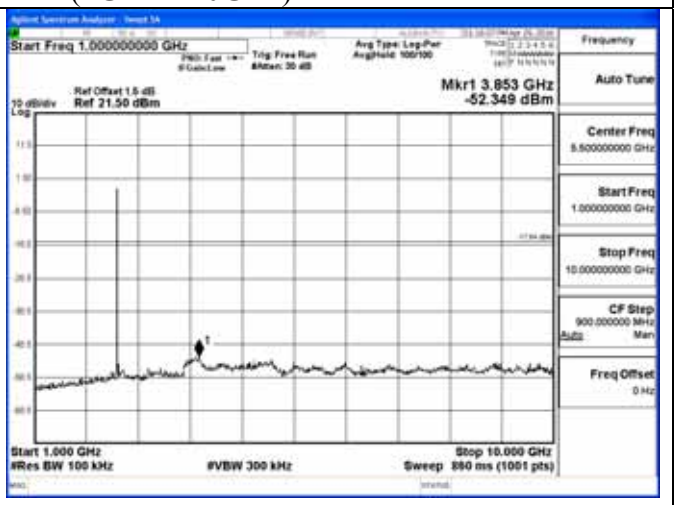

2441(30MHz – 1GHz)

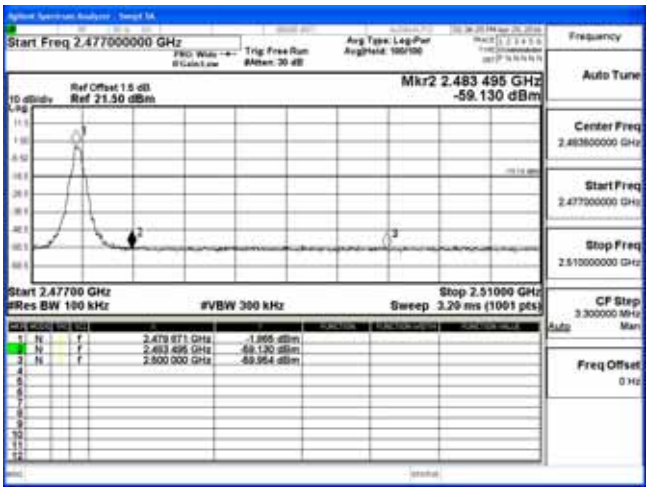
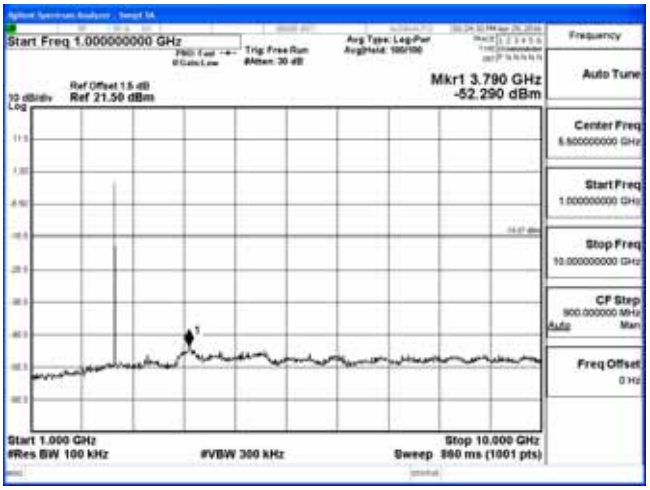



2402MHz(2.3GHz – 2.4GHz)

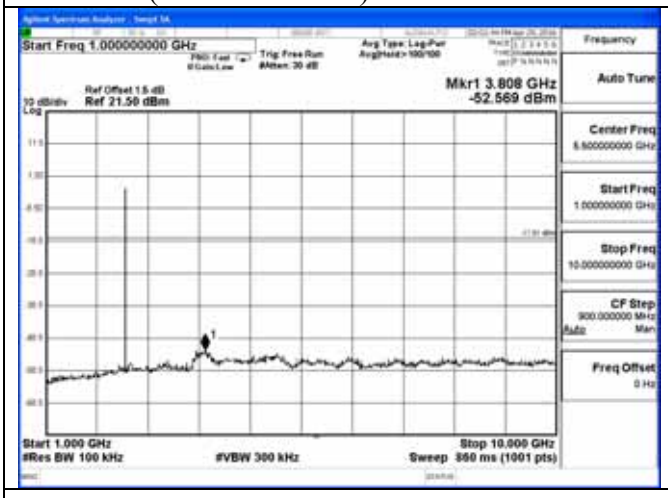



2441(1GHz – 10GHz)

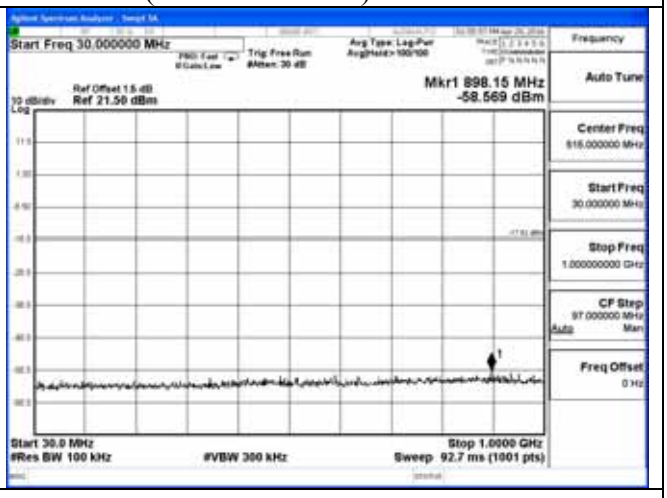


| 2441(10GHz – 25GHz) | 2480MHz(2.4GHz – 2.5GHz) |
|---|---|
| |   |
| | |
| 2480MHz(30MHz – 1GHz) | 2480MHz(10GHz – 25GHz) |
| | |
| | **8-DPSK** |
| 2480MHz(1GHz – 10GHz) | 2402MHz(30MHz – 1GHz) |
|   | |

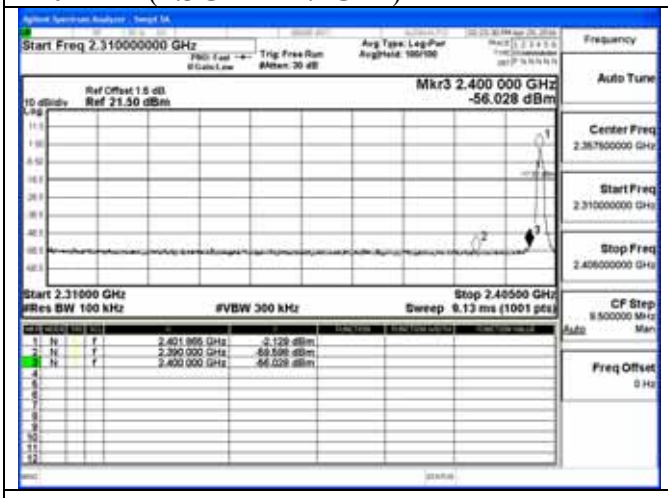
2402MHz(1GHz – 10GHz)



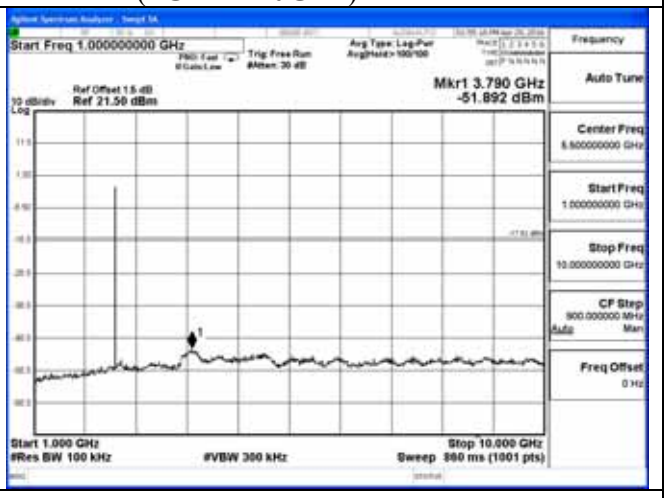

2441MHz (30MHz – 1GHz)



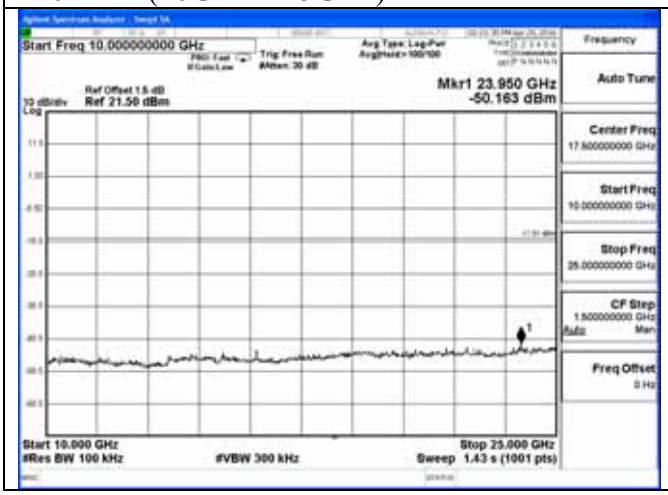

2402MHz(2.3GHz – 2.4GHz)



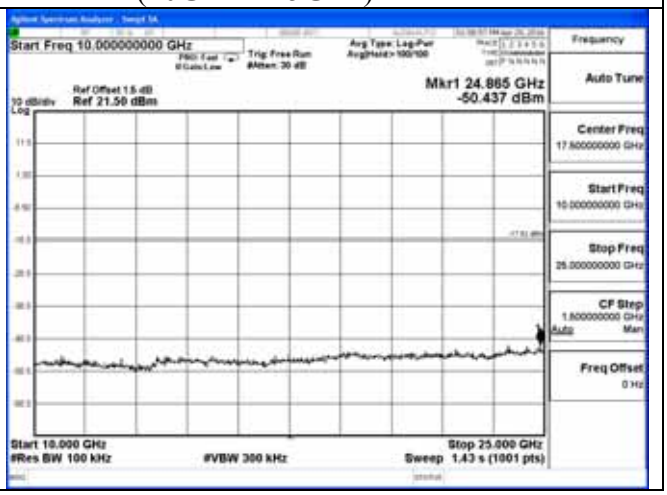

2441MHz(1GHz – 10GHz)



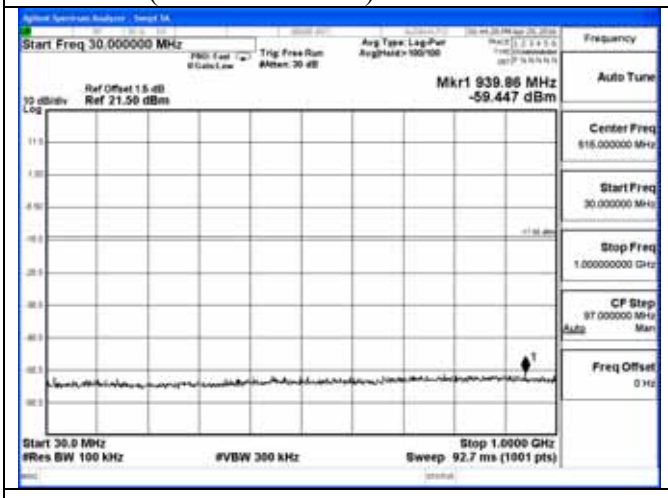

2402MHz(10GHz – 25GHz)



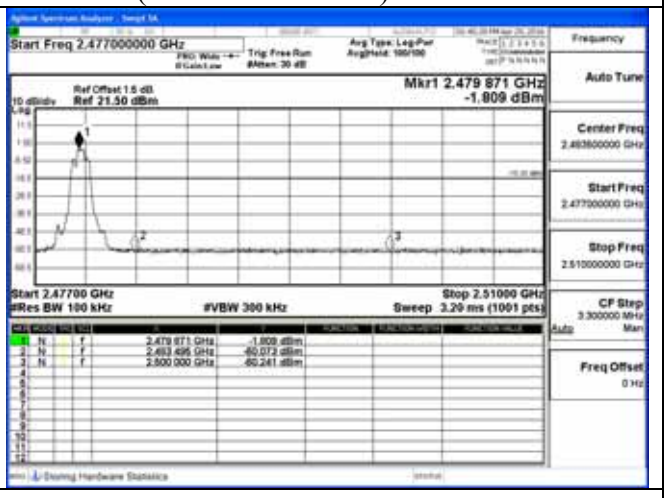

2441MHz(10GHz – 25GHz)



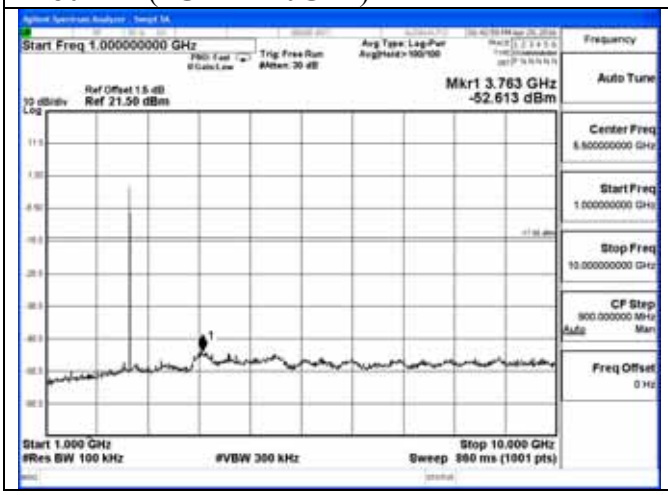
2480MHz(30MHz – 1GHz)



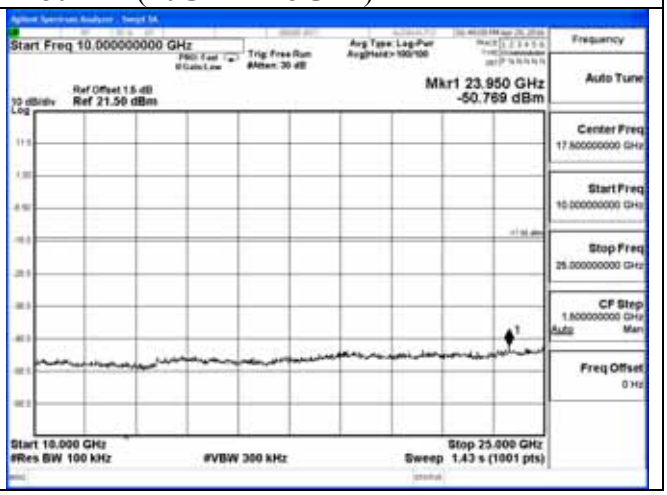

2480MHz(2.4GHz – 2.5GHz)

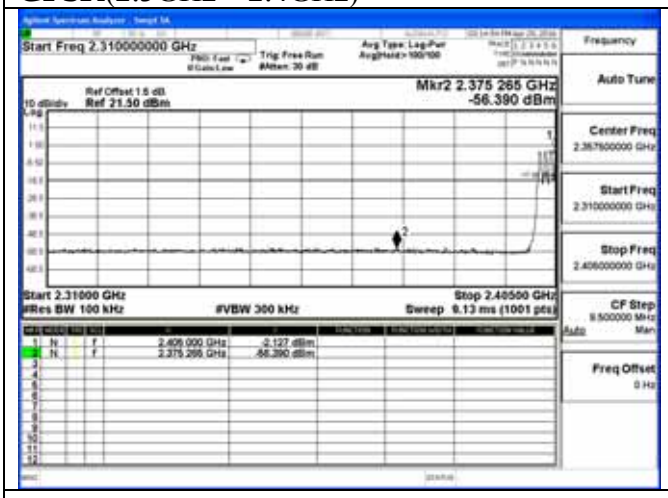
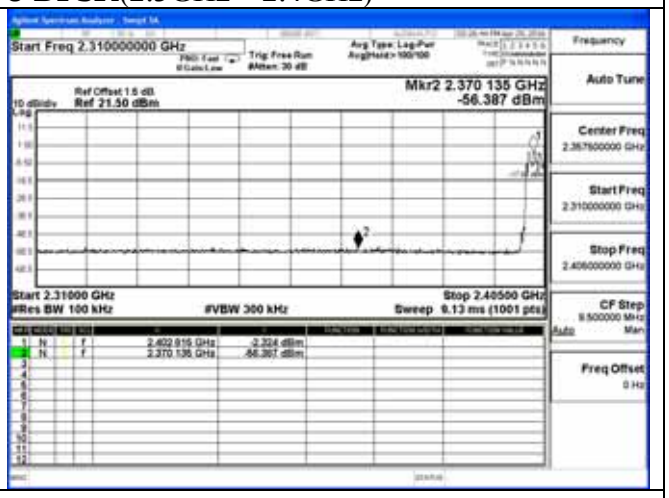
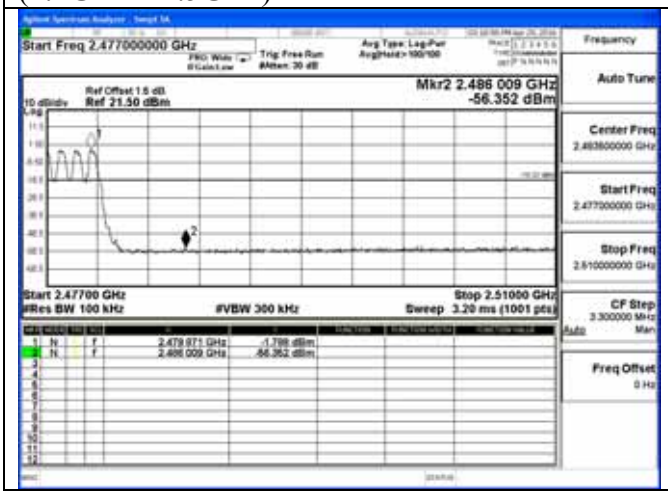
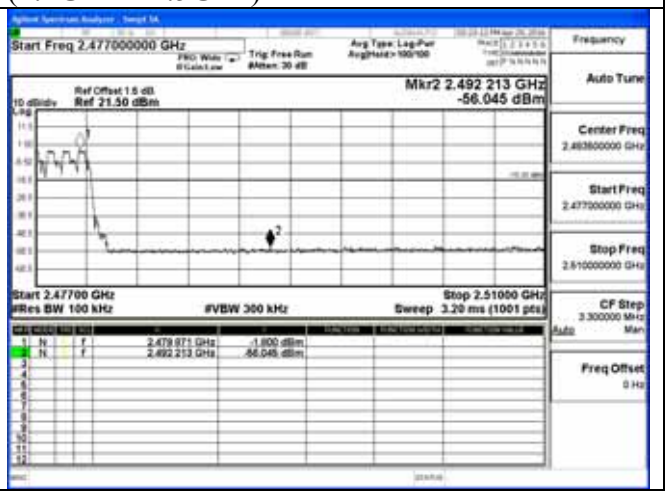



2480MHz(1GHz – 10GHz)




2480MHz(10GHz – 25GHz)



| **Hopping on** | |
|---|---|
| **GFSK**(2.3GHz – 2.4GHz) | **8-DPSK**(2.3GHz – 2.4GHz) |
|  |  |
| | |
| (2.4GHz – 2.5GHz) | (2.4GHz – 2.5GHz) |
|  |  |

# 6. 20 DB BANDWIDTH TEST

## 6.1.Test Equipments

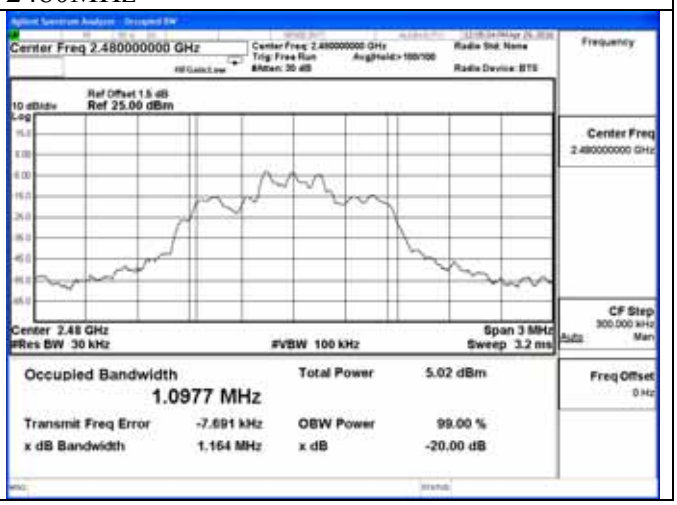
| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum | Agilent | N9030A | MY51380221 | Oct.18,15 | 1Year |
| 2. | RF Cable | Marvelous Microwave Inc | SFL402105FLEX | NO.1 | Oct.17.15 | 1 Year |

## 6.2.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 20dB 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.

## 6.3.Test Results

| | | | |
|---|---|---|---|
| EUT: Home Audio System | | | |
| M/N: GTK-XB5 | | | |
| Test date: 2016-04-29 | | Pressure: 101.8±1.0kpa | Humidity: 50.9±3.0% |
| Tested by: THOMAX | | Test site: RF site | Temperature:22.5±0.6 ℃ |
| Test Mode | Frequency ( MHz ) | 20dB bandwidth ( KHz ) | Limit (KHz) |
| GFSK | 2402 | 680.7 | N/A |
| | 2441 | 677.4 | N/A |
| | 2480 | 689.8 | N/A |
| 8-DPSK | 2402 | 1164.0 | N/A |
| | 2441 | 1163.0 | N/A |
| | 2480 | 1164.0 | N/A |
| Conclusion：PASS | | | |

| **GFSK** | **8-DPSK** |
|---|---|
| 2402MHz | 2402MHz |
| | |
| | |
| 2441MHz | 2441MHz |
| | |
| | |
| 2480MHz | 2480MHz |
| |  |

# 7. CARRIER FREQUENCY SEPARATION TEST

## 7.1.Test Equipments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum | Agilent | N9030A | MY51380221 | Oct.18,15 | 1Year |
| 2. | RF Cable | Marvelous Microwave Inc | SFL402105FLEX | NO.1 | Oct.17.15 | 1 Year |

## 7.2.Limit

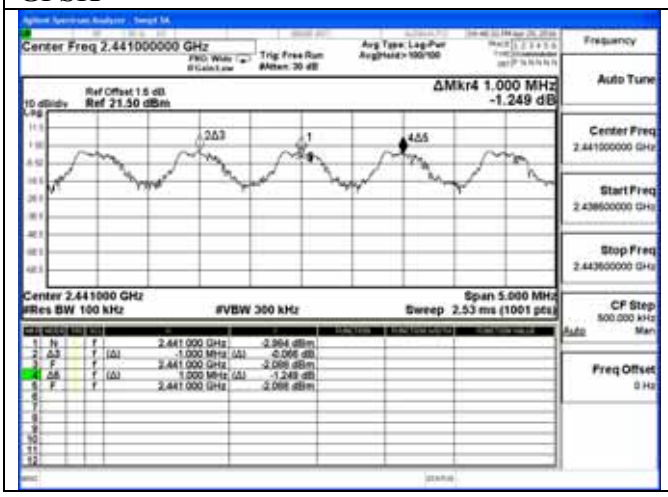
Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz 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 125mW.

## 7.3.Test Results.

| | | |
|---|---|---|
| EUT: Home Audio System | | |
| M/N: GTK-XB5 | | |
| Test date: 2016-04-29 | Pressure: 101.8±1.0kpa | Humidity: 50.9±3.0% |
| Tested by: THOMAX | Test site: RF site | Temperature:22.5±0.6 ℃ |

| Test Mode | Channel separation | Limit(KHz) | Conclusion |
|---|---|---|---|
| GFSK | 1.0MHz | 610.172 | PASS |
| 8-DPSK | 1.0MHz | 806.403 | PASS |

GFSK




8-DPSK

# 8. NUMBER OF HOPPING FREQUENCY TEST

## 8.1.Test Equipments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum | Agilent | N9030A | MY51380221 | Oct.18,15 | 1Year |
| 2. | RF Cable | Marvelous Microwave Inc | SFL402105FLEX | NO.1 | Oct.17.15 | 1 Year |

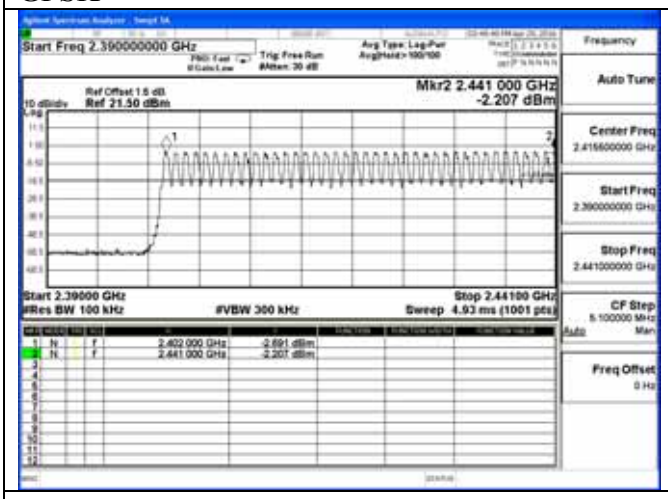
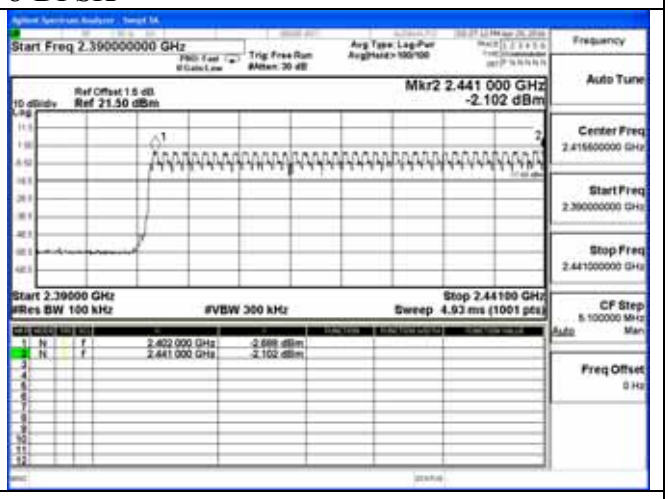
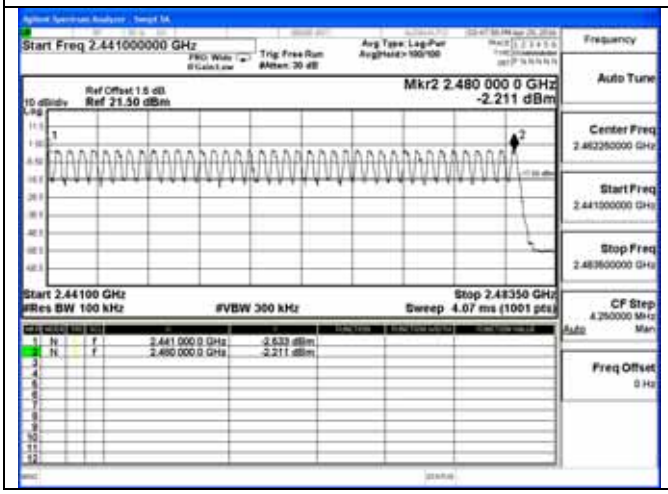
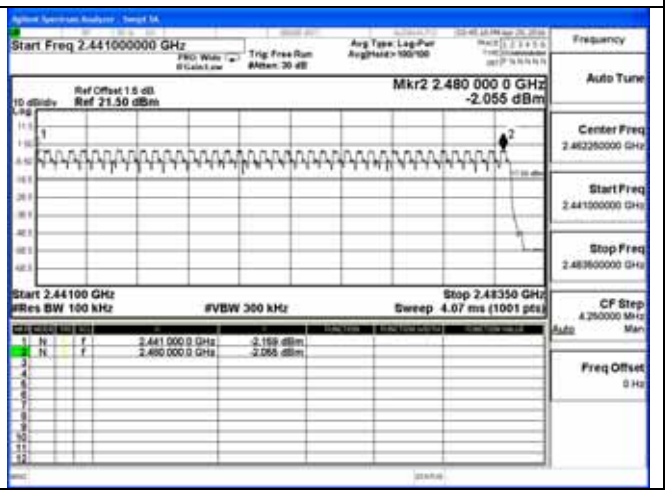
## 8.2.Limit

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

## 8.3.Test Results

| | | |
|---|---|---|
| EUT: Home Audio System | | |
| M/N: GTK-XB5 | | |
| Test date: 2016-04-29 | Pressure: 101.8±1.0kpa | Humidity: 50.9±3.0% |
| Tested by: THOMAX | Test site: RF site | Temperature:22.5±0.6 ℃ |

| Test Mode | Number of channel | Limit | Conclusion |
|---|---|---|---|
| 8-DPSK | 79 | >=15 | PASS |
| GFSK | 79 | >=15 | PASS |

| GFSK | 8-DPSK |
|---|---|
|  |  |
|  |  |

Start Freq 2.390000000 GHz
Mkr2 2.441 000 GHz
-2.207 dBm
Start 2.39000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.44100 GHz
Sweep 4.93 ms (1001 pts)

Start Freq 2.390000000 GHz
Mkr2 2.441 000 GHz
-2.102 dBm
Start 2.39000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.44100 GHz
Sweep 4.93 ms (1001 pts)

Start Freq 2.441000000 GHz
Mkr2 2.480 000 0 GHz
-2.211 dBm
Start 2.44100 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 4.07 ms (1001 pts)

Start Freq 2.441000000 GHz
Mkr2 2.480 000 0 GHz
-2.055 dBm
Start 2.44100 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 4.07 ms (1001 pts)

# 9. DWELL TIME

## 9.1.Test Equipments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum | Agilent | N9030A | MY51380221 | Oct.18,15 | 1Year |
| 2. | RF Cable | Marvelous Microwave Inc | SFL402105FLEX | NO.1 | Oct.17.15 | 1 Year |

## 9.2.Limit

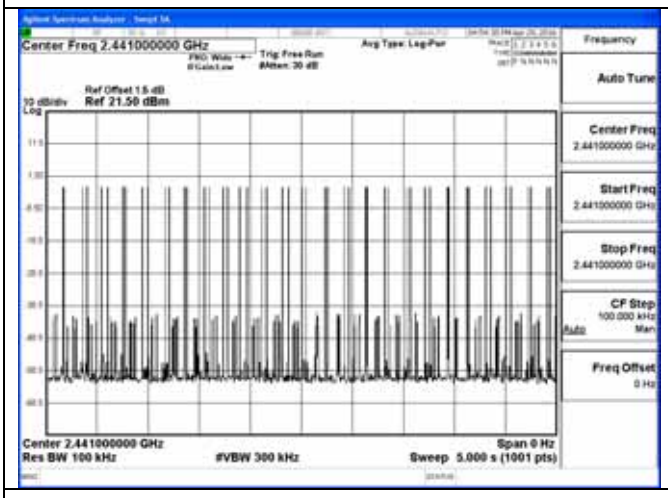
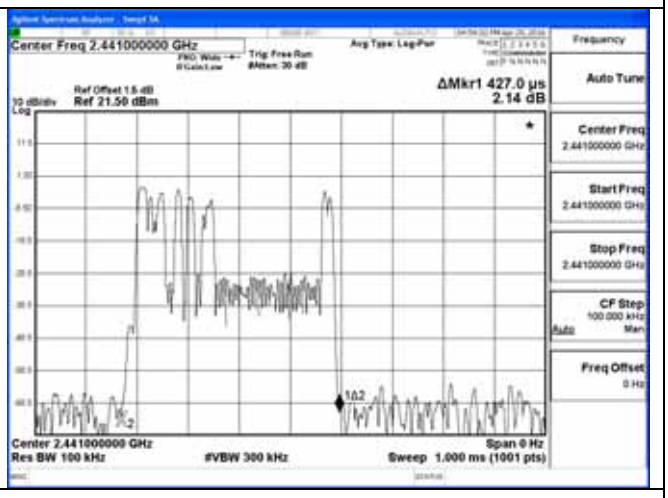
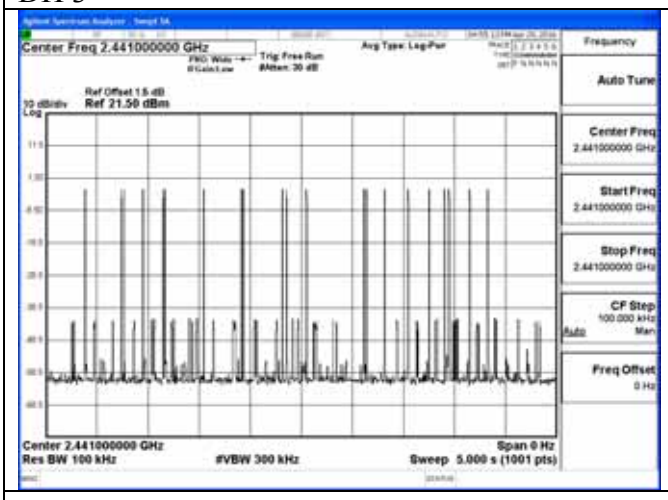
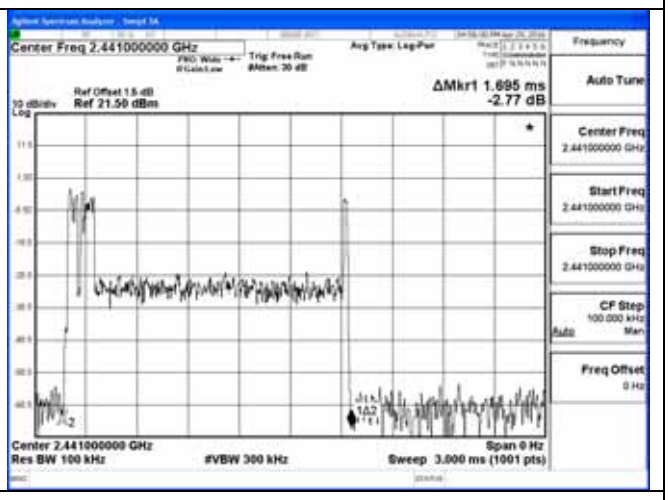
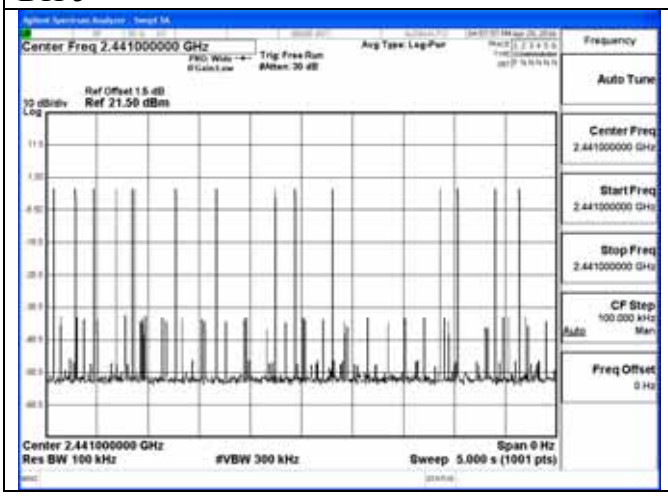
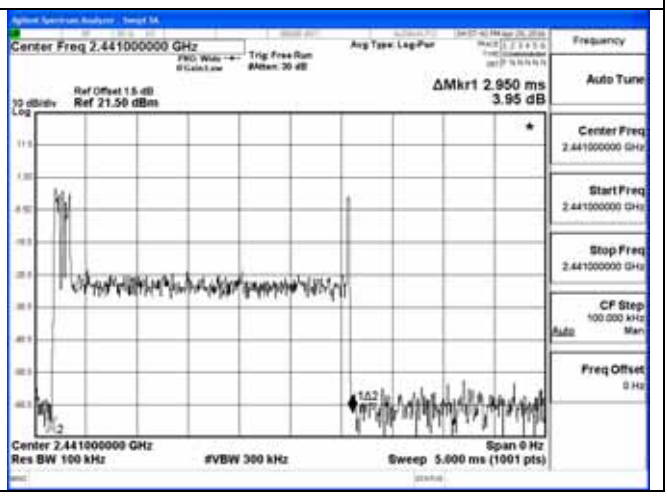
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

## 9.3.Test Results

| | | |
|---|---|---|
| EUT: Home Audio System | | |
| M/N: GTK-XB5 | | |
| Test date: 2016-04-29 | Pressure: 101.8±1.0kpa | Humidity: 50.9±3.0% |
| Tested by: THOMAX | Test site: RF site | Temperature:22.5±0.6 ℃ |

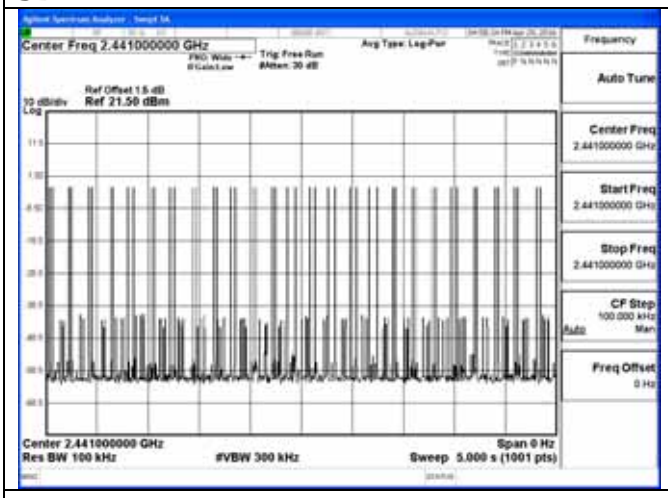
| Mode | | dwell time | Limit | Conclusion |
|---|---|---|---|---|
| GFSK | DH1 | 47 hops/5s*0.4*79chanels* 0.427 ms =126.836ms | ≦400ms | PASS |
| | DH3 | 21 hops/5s*0.4*79chanels* 1.695 ms =224.960ms | ≦400ms | PASS |
| | DH5 | 15 hops/5s*0.4*79chanels* 2.950 ms =279.660ms | ≦400ms | PASS |
| 8-DPSK | 3-DH1 | 50 hops/5s*0.4*79chanels* 0.442 ms =139.672ms | ≦400ms | PASS |
| | 3-DH3 | 24 hops/5s*0.4*79chanels* 1.683 ms =255.277ms | ≦400ms | PASS |
| | 3-DH5 | 14 hops/5s*0.4*79chanels* 2.950 ms =261.016ms | ≦400ms | PASS |

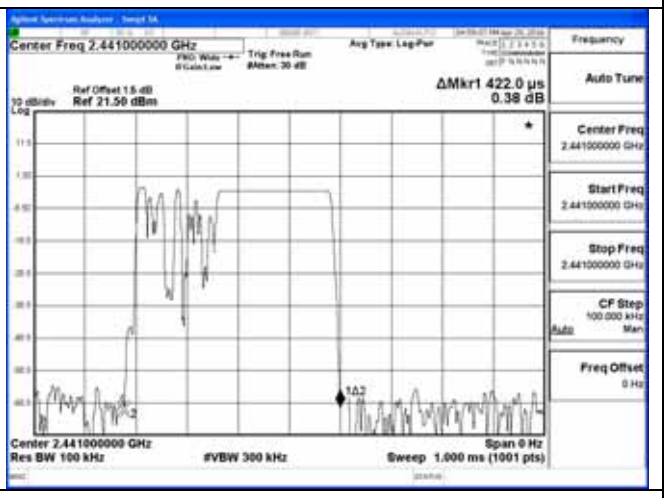
Note: All the lower levels were signaled from receiver and should not be considered in here.

| **GFSK** | |
|---|---|
| DH 1 | |
|  |  |
| | |
| DH 3 | |
|  |  |
| | |
| DH 5 | |
|  |  |

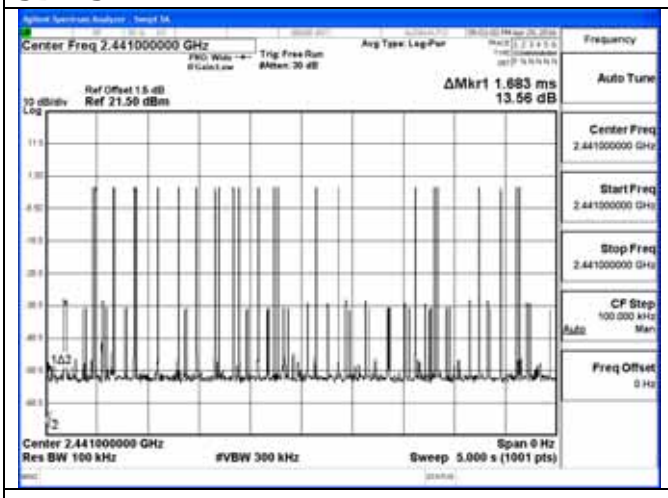
## 8-DPSK

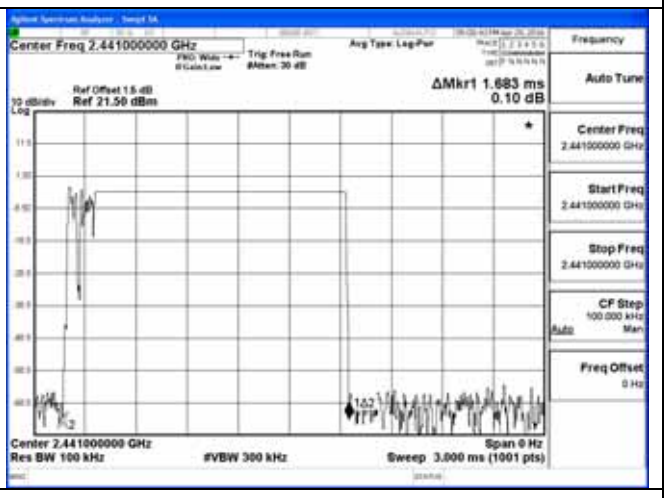
### 3DH 1



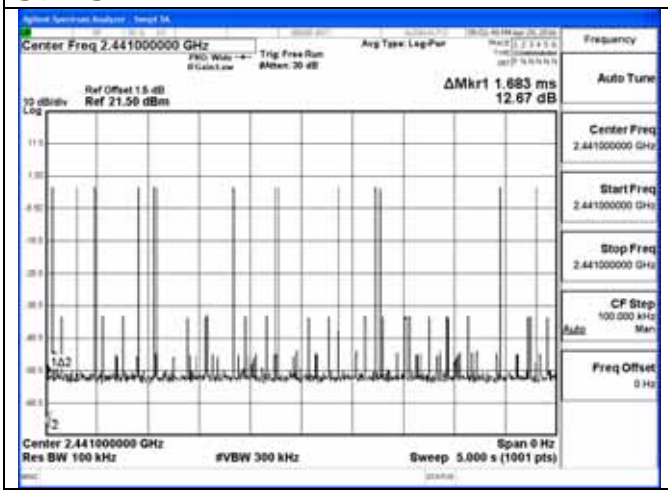



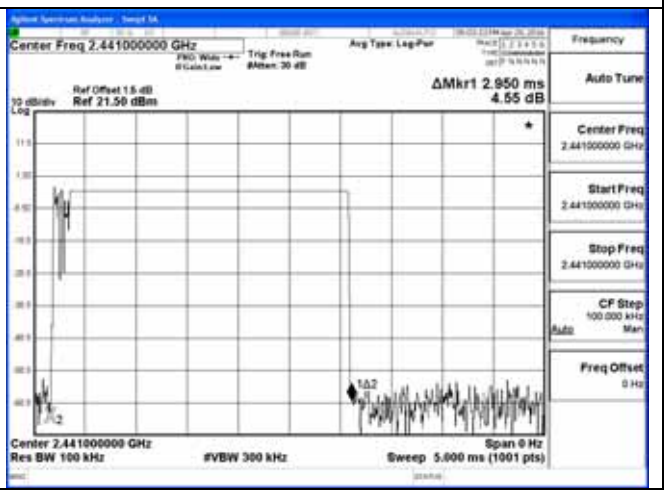

### 3DH 3




### 3DH 5



# 10. MAXIMUM PEAK OUTPUT POWER TEST

## 10.1. Test Equipments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum | Agilent | N9030A | MY51380221 | Oct.18,15 | 1Year |
| 2. | Power meter | Anritsu | ML2487A | 6K00002472 | Aug.21,15 | 1Year |
| 3. | Power sensor | Anritsu | MA2491A | 0033005 | Aug.21,15 | 1Year |
| 4. | Attenuator (20dB) | Agilent | 8491B | MY39262165 | Apr.23,16 | 1 Year |
| 5. | RF Cable | Marvelous Microwave Inc | SFL402105FLEX | NO.1 | Oct.17,15 | 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 5725-5850MHz band: 1 watt.

## 10.3. Test Procedure

Connected the EUT's antenna port to Power Sensor, and use power meter to test peak output power directly.

## 10.4. Test Results

| | | | |
|---|---|---|---|
| EUT: Home Audio System | | | |
| M/N: GTK-XB5 | | | |
| Test date: 2016-04-29 | | Pressure: 101.8±1.0kpa | Humidity: 50.9±3.0% |
| Tested by: THOMAX | | Test site: RF site | Temperature:22.5±0.6 ℃ |
| Test Mode | Frequency (MHz) | Peak output Power ( dBm ) | Limit (dBm) |
| GFSK | 2402 | -2.188 | 30 |
| | 2441 | -1.529 | 30 |
| | 2480 | -1.538 | 30 |
| 8-DPSK | 2402 | -1.802 | 30 |
| | 2441 | -1.197 | 30 |
| | 2480 | -1.423 | 30 |
| Conclusion: PASS | | | |

# 11. BAND EDGE COMPLIANCE TEST

## 11.1. Test Equipments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum | Agilent | E4446A | US44300459 | Apr.24,16 | 1 Year |
| 2. | Amp | HP | 8449B | 3008A02495 | Apr.24,16 | 1 Year |
| 3. | Horn Antenna | ETS | 3115 | 9510-4877 | Oct.15,15 | 1 Year |
| 4. | RF Cable | Hubersuhner | Sucoflex104 | 274094/4 | Apr.24,16 | 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

For upper band emissions that are up to two bandwidths(2MHz) away (2483.5MHz to 2485.5MHz）from the band-edge use below produce:

1. Choose a spectrum analyzer span that encompasses both the peak of the fundamental emission and the band-edge emission under investigation. Set the analyzer RBW to 100KHz and with a video bandwidth 300KHz. Record the peak levels of the fundamental emission and the relevant band-edge emission, Observe the stored trace and measure the amplitude delta between the peak of the fundamental and the peak of the band-edge emission. This is not a field strength measurement, it is only a relative measurement to determine the amount by which the emission drops at the band edge relative to the highest fundamental emission level.
2. Subtract the delta measured in step (1) from the maximum field strengths measured in clause 4 .The resultant field strengths are then used to determine band-edge compliance as required by Section 15.205

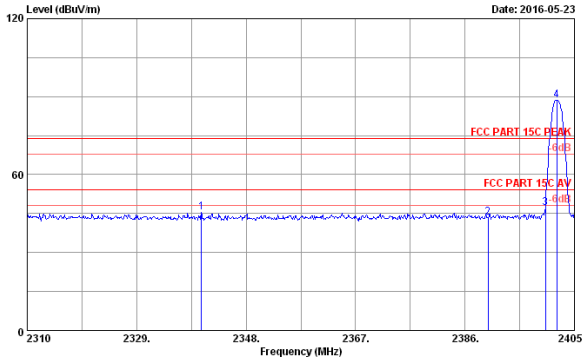
For emissions above two bandwidths away from the band-edge use below produce:

1. The EUT is placed on a insulating material (up to 12mm thick) 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) This is pulse Modulation device a duty cycle factor was used to calculate average level based measured peak level.

## 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.

Data: 5 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

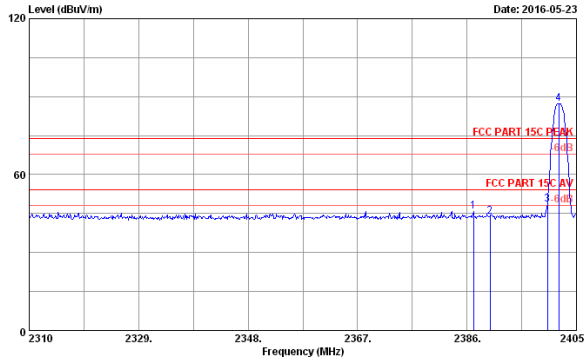



Site no. : 3m Chamber Data no. : 5
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 2340.210 | 28.21 | 7.20 | 36.64 | 46.54 | 45.31 | 74.00 | 28.69 | Peak |
| 2 | 2390.000 | 28.27 | 7.28 | 36.62 | 44.52 | 43.45 | 74.00 | 30.55 | Peak |
| 3 | 2400.000 | 28.28 | 7.32 | 36.62 | 48.17 | 47.15 | 74.00 | 26.85 | Peak |
| 4 | 2401.960 | 28.28 | 7.32 | 36.62 | 89.62 | 88.60 | 74.00 | -14.60 | Peak |

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

Data: 6 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

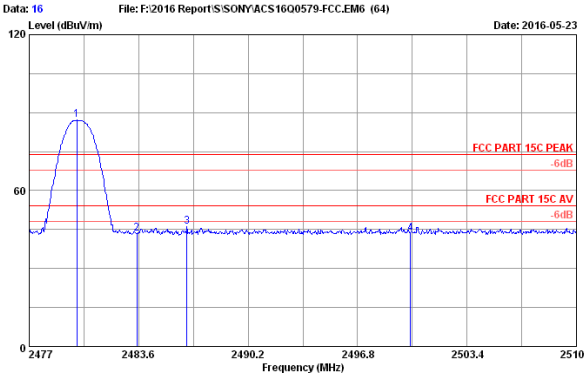



Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 2387.140 | 28.26 | 7.28 | 36.63 | 46.95 | 45.86 | 74.00 | 28.14 | Peak |
| 2 | 2390.000 | 28.27 | 7.28 | 36.62 | 44.81 | 43.74 | 74.00 | 30.26 | Peak |
| 3 | 2400.000 | 28.28 | 7.32 | 36.62 | 49.34 | 48.32 | 74.00 | 25.68 | Peak |
| 4 | 2401.960 | 28.28 | 7.32 | 36.62 | 88.42 | 87.40 | 74.00 | -13.40 | Peak |

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

Data: 16 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

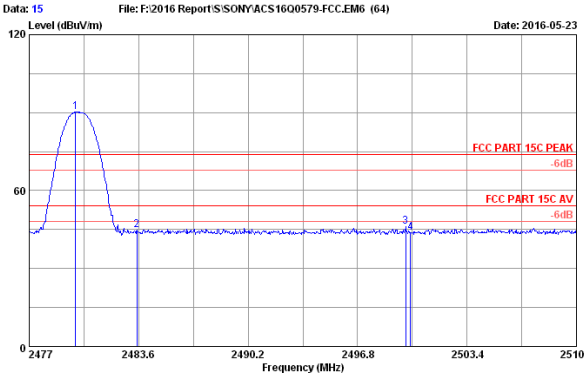



Site no. : 3m Chamber Data no. : 16
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 2479.871 | 28.38 | 7.47 | 36.59 | 87.83 | 87.09 | 74.00 | -13.09 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 44.31 | 43.61 | 74.00 | 30.39 | Peak |
| 3 | 2486.504 | 28.38 | 7.51 | 36.59 | 46.73 | 46.03 | 74.00 | 27.97 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 43.99 | 43.32 | 74.00 | 30.68 | Peak |

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

Data: 15 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

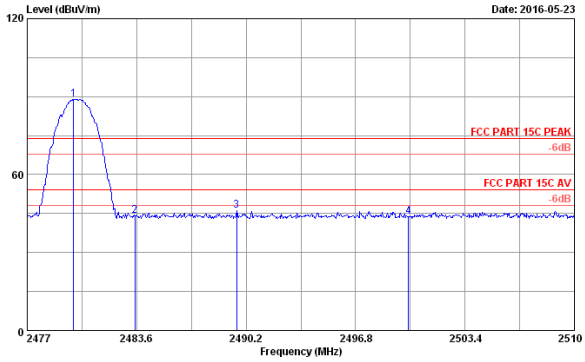



Site no. : 3m Chamber Data no. : 15
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 2479.805 | 28.38 | 7.47 | 36.59 | 90.96 | 90.22 | 74.00 | -16.22 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 45.44 | 44.74 | 74.00 | 29.26 | Peak |
| 3 | 2499.704 | 28.40 | 7.51 | 36.58 | 46.81 | 46.14 | 74.00 | 27.86 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 44.58 | 43.91 | 74.00 | 30.09 | Peak |

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

Data: 17 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

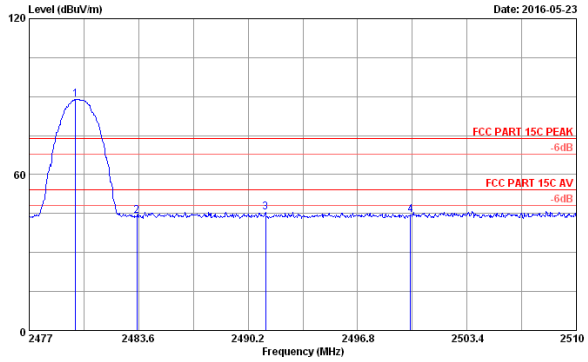



Site no. : 3m Chamber Data no. : 17
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 2479.805 | 28.38 | 7.47 | 36.59 | 89.60 | 88.86 | 74.00 | -14.86 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 44.69 | 43.99 | 74.00 | 30.01 | Peak |
| 3 | 2489.639 | 28.39 | 7.51 | 36.58 | 46.70 | 46.02 | 74.00 | 27.98 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 44.39 | 43.72 | 74.00 | 30.28 | Peak |

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

Data: 18 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

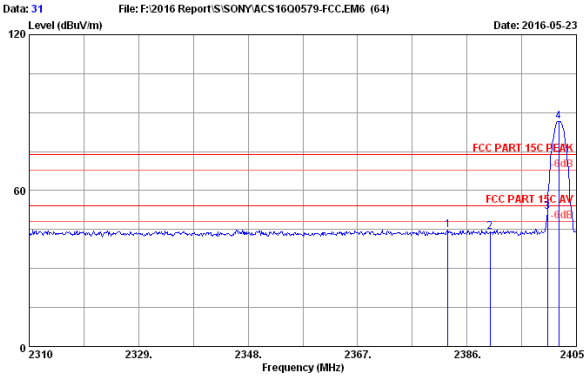



Site no. : 3m Chamber Data no. : 18
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : V Place

| No. | 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 | 2479.805 | 28.38 | 7.47 | 36.59 | 89.67 | 88.93 | 74.00 | -14.93 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 44.82 | 44.12 | 74.00 | 29.88 | Peak |
| 3 | 2491.256 | 28.39 | 7.51 | 36.58 | 46.23 | 45.55 | 74.00 | 28.45 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 45.28 | 44.61 | 74.00 | 29.39 | Peak |

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

Data: 31 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

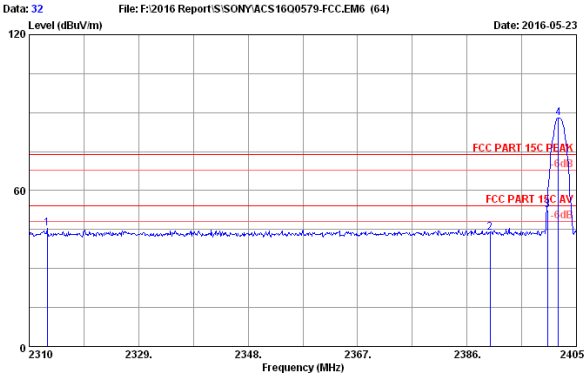



Site no. : 3m Chamber Data no. : 31
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 2382.675 | 28.26 | 7.28 | 36.63 | 45.84 | 44.75 | 74.00 | 29.25 | Peak |
| 2 | 2390.000 | 28.27 | 7.28 | 36.62 | 45.15 | 44.08 | 74.00 | 29.92 | Peak |
| 3 | 2400.000 | 28.28 | 7.32 | 36.62 | 52.83 | 51.81 | 74.00 | 22.19 | Peak |
| 4 | 2401.960 | 28.28 | 7.32 | 36.62 | 87.63 | 86.61 | 74.00 | -12.61 | Peak |

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

Data: 32 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

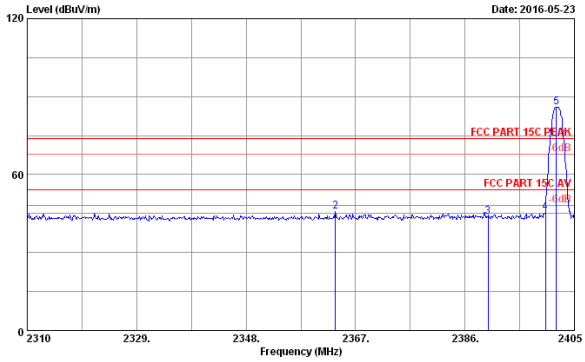



Site no. : 3m Chamber Data no. : 32
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : V Place

| No. | 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 | 2313.135 | 28.18 | 7.12 | 36.65 | 46.86 | 45.51 | 74.00 | 28.49 | Peak |
| 2 | 2390.000 | 28.27 | 7.28 | 36.62 | 44.94 | 43.87 | 74.00 | 30.13 | Peak |
| 3 | 2400.000 | 28.28 | 7.32 | 36.62 | 53.40 | 52.38 | 74.00 | 21.62 | Peak |
| 4 | 2401.865 | 28.28 | 7.32 | 36.62 | 88.97 | 87.95 | 74.00 | -13.95 | Peak |

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

Data: 38 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

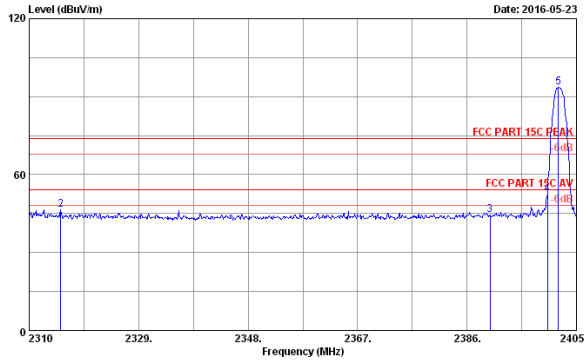



Site no. : 3m Chamber Data no. : 38
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 2310.000 | 28.17 | 7.12 | 36.67 | 44.92 | 43.54 | 74.00 | 30.46 | Peak |
| 2 | 2363.485 | 28.24 | 7.24 | 36.63 | 46.87 | 45.72 | 74.00 | 28.28 | Peak |
| 3 | 2390.000 | 28.27 | 7.28 | 36.62 | 45.00 | 43.93 | 74.00 | 30.07 | Peak |
| 4 | 2400.000 | 28.28 | 7.32 | 36.62 | 46.48 | 45.46 | 74.00 | 28.54 | Peak |
| 5 | 2401.865 | 28.28 | 7.32 | 36.62 | 87.01 | 85.99 | 74.00 | -11.99 | Peak |

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

Data: 37 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

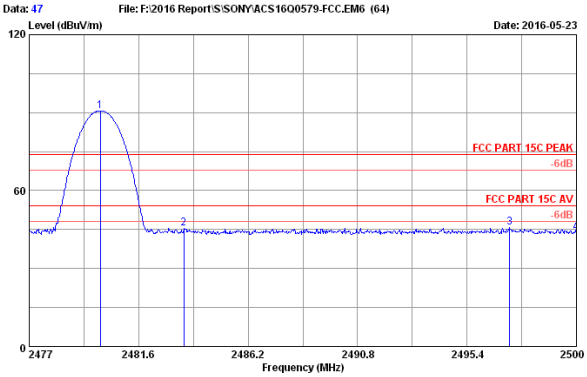



Site no. : 3m Chamber Data no. : 37
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 2310.000 | 28.17 | 7.12 | 36.67 | 45.42 | 44.04 | 74.00 | 29.96 | Peak |
| 2 | 2315.510 | 28.18 | 7.12 | 36.65 | 47.79 | 46.44 | 74.00 | 27.56 | Peak |
| 3 | 2390.000 | 28.27 | 7.28 | 36.62 | 45.51 | 44.44 | 74.00 | 29.56 | Peak |
| 4 | 2400.000 | 28.28 | 7.32 | 36.62 | 53.36 | 52.34 | 74.00 | 21.66 | Peak |
| 5 | 2401.865 | 28.28 | 7.32 | 36.62 | 94.54 | 93.52 | 74.00 | -19.52 | Peak |

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

Data: 47 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

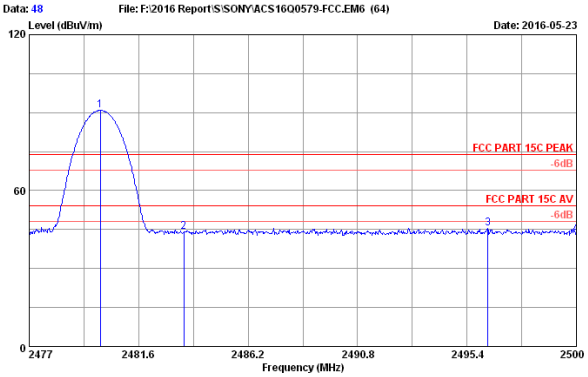



Site no. : 3m Chamber Data no. : 47
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 2479.990 | 28.38 | 7.47 | 36.59 | 91.47 | 90.73 | 74.00 | -16.73 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 46.05 | 45.35 | 74.00 | 28.65 | Peak |
| 3 | 2497.194 | 28.40 | 7.51 | 36.58 | 46.34 | 45.67 | 74.00 | 28.33 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 44.39 | 43.72 | 74.00 | 30.28 | Peak |

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

Data: 48 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

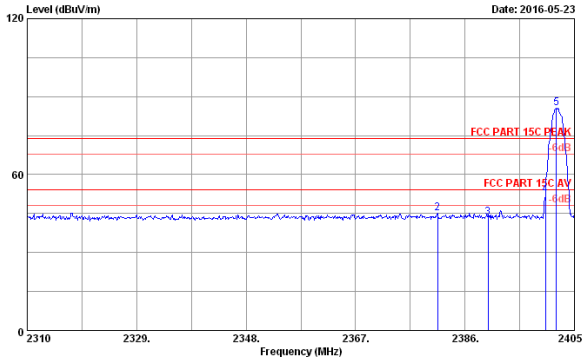



Site no. : 3m Chamber Data no. : 48
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : GFSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 2479.990 | 28.38 | 7.47 | 36.59 | 91.58 | 90.84 | 74.00 | -16.84 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 44.83 | 44.13 | 74.00 | 29.87 | Peak |
| 3 | 2496.274 | 28.40 | 7.51 | 36.58 | 46.24 | 45.57 | 74.00 | 28.43 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 43.63 | 42.96 | 74.00 | 31.04 | Peak |

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

Data: 54 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

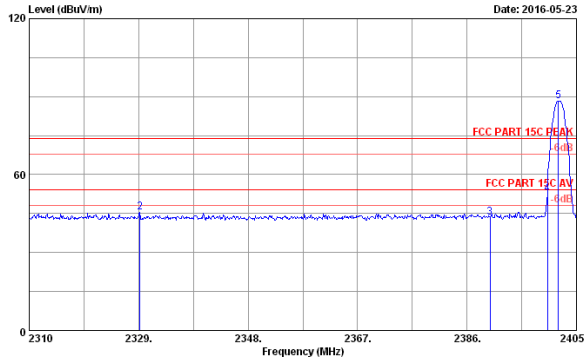



Site no. : 3m Chamber Data no. : 54
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 2310.000 | 28.17 | 7.12 | 36.67 | 45.27 | 43.89 | 74.00 | 30.11 | Peak |
| 2 | 2381.250 | 28.26 | 7.28 | 36.63 | 46.24 | 45.15 | 74.00 | 28.85 | Peak |
| 3 | 2390.000 | 28.27 | 7.28 | 36.62 | 44.69 | 43.62 | 74.00 | 30.38 | Peak |
| 4 | 2400.000 | 28.28 | 7.32 | 36.62 | 53.10 | 52.08 | 74.00 | 21.92 | Peak |
| 5 | 2401.865 | 28.28 | 7.32 | 36.62 | 86.45 | 85.43 | 74.00 | -11.43 | Peak |

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

Data: 53 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

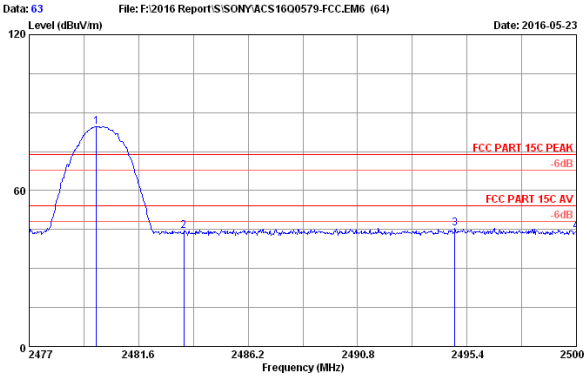



Site no. : 3m Chamber Data no. : 53
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2402MHz Tx Mode
M/N : H Place

| No. | 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 | 2310.000 | 28.17 | 7.12 | 36.67 | 44.18 | 42.80 | 74.00 | 31.20 | Peak |
| 2 | 2329.190 | 28.20 | 7.16 | 36.65 | 46.68 | 45.39 | 74.00 | 28.61 | Peak |
| 3 | 2390.000 | 28.27 | 7.28 | 36.62 | 44.45 | 43.38 | 74.00 | 30.62 | Peak |
| 4 | 2400.000 | 28.28 | 7.32 | 36.62 | 53.56 | 52.54 | 74.00 | 21.46 | Peak |
| 5 | 2401.865 | 28.28 | 7.32 | 36.62 | 89.40 | 88.38 | 74.00 | -14.38 | Peak |

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

Data: 63 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)

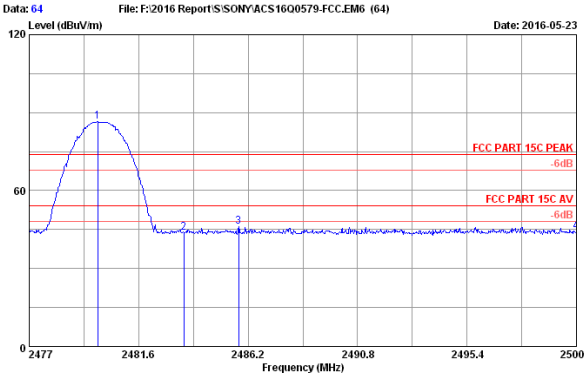



Site no. : 3m Chamber Data no. : 63
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 2479.829 | 28.38 | 7.47 | 36.59 | 85.25 | 84.51 | 74.00 | -10.51 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 45.08 | 44.38 | 74.00 | 29.62 | Peak |
| 3 | 2494.894 | 28.39 | 7.51 | 36.58 | 46.24 | 45.56 | 74.00 | 28.44 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 44.94 | 44.27 | 74.00 | 29.73 | Peak |

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

Data: 64 File: F:\2016 Report\S\SONY\ACS16Q0579-FCC.EM6 (64)




Site no. : 3m Chamber Data no. : 64
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54%
Engineer : Leo-Li
EUT : Home Audio System M/N:GTK-XB5
Power rating : AC 120V/60Hz
Test Mode : 8-DPSK 2480MHz Tx Mode
M/N : H Place

| No. | 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 | 2479.875 | 28.38 | 7.47 | 36.59 | 87.17 | 86.43 | 74.00 | -12.43 | Peak |
| 2 | 2483.500 | 28.38 | 7.51 | 36.59 | 44.44 | 43.74 | 74.00 | 30.26 | Peak |
| 3 | 2485.809 | 28.38 | 7.51 | 36.59 | 46.79 | 46.09 | 74.00 | 27.91 | Peak |
| 4 | 2500.000 | 28.40 | 7.51 | 36.58 | 44.80 | 44.13 | 74.00 | 29.87 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
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 antennas used for this product are PCB antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 2.4dBi

# 13. DEVIATION TO TEST SPECIFICATIONS

[NONE]