

APPLICATION FOR CERTIFICATION

On Behalf of

Sonos, Inc

Zone Player

Model No. : ZP100

Contains TX module : FCC ID: SBVCR002

Prepared for : Sonos, Inc
223 E. De La Guerra St. Santa Barbara,
CA 93101, U.S.A.

Prepared by : Audix Corporation
Technical Division EMC Department
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei County, Taiwan, R.O.C.

Tel : (02) 2609-9301, 2609-2133
Fax: (02) 2609-9303

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Date of Test : May 18, 2006
Date of Report : May 24, 2006

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TEST REPORT CERTIFICATION

Applicant : Sonos, Inc
 Manufacturer : Inventec Electronics (M) Sdn Bhd.
 EUT Description : Zone Player
 Contains TX module : FCC ID: SBVCR002
 (A) MODEL NO. : ZP100
 (B) SERIAL NO. : N/A
 (C) BRAND : SONOS
 (D) POWER SUPPLY : ~115/230Vac, 50-60Hz, Switchable
 (E) TEST VOLTAGE : AC 120V/60Hz

Measurement Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C, FEBRUARY 2006
AND ANSI C63.4/2003

(FCC CFR 47 Part 15C, §15.205, §15.209 and §15.247)

The device described above was tested by AUDIX CORPORATION to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits.

The measurement results are contained in this test report and AUDIX CORPORATION is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX CORPORATION.

Date of Test: May 18, 2006

Prepared by: Tina Huang Jun 02, 2006
(Tina Huang/Assistant)

Test Engineer: Henning Chang 6.02.2006
(Henning Chang/Supervisor)

Approved & Authorized Signer: Ben Cheng Jun. 02. 2006
(Ben Cheng/Section Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

| | | |
|---------------------------|---|--|
| Description | : | Zone Player This device is a digital music system using a wired or wireless connection. |
| Model Number | : | ZP100 |
| Contains TX module | : | FCC ID: SBVCR002 |
| Brand Name | : | SONOS |
| Applicant | : | Sonos, Inc 223 E. De La Guerra St. Santa Barbara, CA 93101, U.S.A. |
| Manufacturer | : | Inventec Electronics (M) Sdn. Bhd. Plot 102, Bayan Lepas Industrial Estate, 11900 Bayan Lepas, Penang, Malaysia. |
| Wireless LAN Card | : | HON HAI Precision Inc. Co., Ltd., M/N: AR5BMB5, Part No.: T60N874.06 IEEE 802.11g |
| Interfaces of EUT | : | <ul style="list-style-type: none"> • Speaker (Right/Left channel) • Analog Subwoofer Out (RCA x1) • Analog Audio Out (RCA x2) • Analog Audio In (RCA x2) • 10/100 Base-T Ethernet RJ45 x4 • AC In x1 |
| AC Power Cord (2Pin) | : | Non-Shielded, Detachable, 2.0m |
| Date of Receipt of Sample | : | May 17, 2006 |
| Date of Test | : | May 18, 2006 |

Remark:

The FCC reports to refer to the WiFi card as Sonos WiFi card FCC ID SBVCR002.

1.2. Tested Supporting System Details

1.2.1. PARTNER NOTEBOOK PC

Model Number : 2378
 Serial Number : N/A
 FCC ID : By DoC
 Manufacturer : IBM
 Power Adapter : IBM, M/N 02K6808
 DC Cord: Non-Shielded, Undetachable, 1.0m
 AC Cord: Non-Shielded, Detachable, 1.8m
 RJ45 LAN Cable *1EA : Non-Shielded, Detachable, 20m

1.2.2. PARTNER CONTROLLER

Model Number : CR100
 Serial Number : N/A
 FCC ID : By DoC
 Manufacturer : Inventec Electronics (M) Sdn. Bhd.
 I.T.E. Power Supply : UNIFIUE, M/N UIA324-06
 S/N 410-0215062, BSMI ID. D53003
 I/O: AC 100-240V, 50/60Hz, 0.6A
 O/P: DC 6V, 3.8A
 DC Cord: Shielded, Undetachable, 1.85m
 Bonded a ferrite core
 AC Power Cord : Non-Shielded, Detachable, 2.0m

1.2.3. 8 OHM LOAD #1

Model Number : N/A
 Serial Number : N/A
 Manufacturer : Sonos
 Audio Cable *1EA : Non-Shielded, Detachable, 2.1m

1.2.4. 8 OHM LOAD #2

Model Number : N/A
 Serial Number : N/A
 Manufacturer : Sonos
 Audio Cable *1EA : Non-Shielded, Detachable, 2.1m

1.2.5. AUDIO INPUT/OUTPUT LOAD

Model Number : N/A
 Serial Number : N/A
 Manufacturer : Sonos
 Audio Cable-In *1EA : Non-Shielded, Detachable, 1.8m
 Audio Cable-Out *2EA : Non-Shielded, Detachable, 1.8m

1.2.6. ETHERNET TERMINATOR (100 OHM)

Model Number : N/A
 Serial Number : N/A
 Manufacturer : Sonos
 RJ45 LAN Cable *3EA : Non-Shielded, Detachable, 1.8m

1.3. Description of Test Facility

Name of Firm : **Audix Corporation**
Technical Division EMC Department
 No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei County 24443, Taiwan, R.O.C.

Test Location & Facility (AC) : **Semi-Anechoic Chamber**
 No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei County 24443, Taiwan, R.O.C.
 May 15, 2006 File on
 Federal Communication Commission
 Registration Number: 90993

NVLAP Lab. Code : 200077-0
 (NVLAP is a NATA accredited body under Mutual Recognition Agreement)

1.4. Measurement Uncertainty

| Test Item | Frequency Range | Uncertainty (dB) |
|----------------------------------|-----------------|------------------|
| Radiation Test (Distance: 3m) | 30MHz~300MHz | ±2.91dB |
| | 300MHz~1000MHz | ±2.94dB |
| | Above 1GHz | ± 5.02dB |

Remark : Uncertainty = $ku_c(y)$

2. RADIATED EMISSION MEASUREMENT

2.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

2.1.1. For Frequency 30MHz~1000MHz (at Semi-Anechoic Chamber)

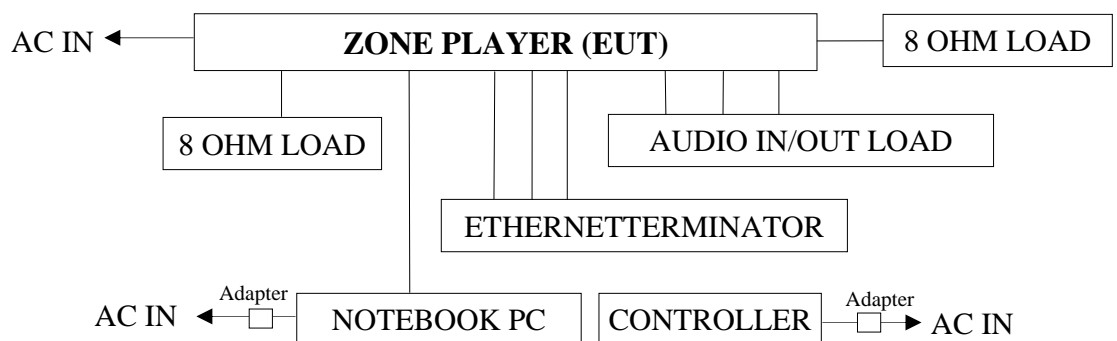
| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|----------------------|--------------|-----------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | HP | 8593EM | 3826A00248 | Sep. 26, 05' | Sep. 25, 06' |
| 2. | Test Receiver | R & S | ESCS30 | 100265 | Sep. 27, 05' | Sep. 25, 06' |
| 3. | Pre-Amplifier | HP | 8447D | 2944A06305 | Mar. 09, 06' | Mar. 08, 07' |
| 4. | Biconical Antenna | CHASE | VBA6106A | 1264 | Nov. 11, 05' | Nov. 10, 06' |
| 5. | Log Periodic Antenna | Schwarzbeck | UHALP91 08-A | 0139 | Nov. 19, 05' | Nov. 18, 06' |

2.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

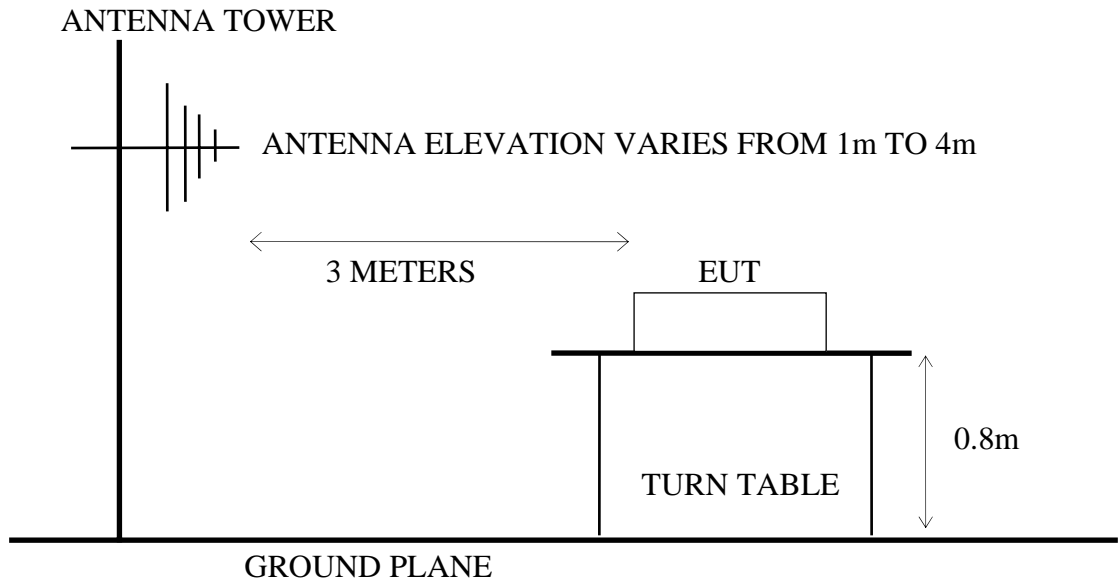
| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-----------------------|--------------|-----------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | HP | 8593EM | 3826A00248 | Sep. 26, 05' | Sep. 25, 06' |
| 2. | Pre-Amplifier | HP | 8449B | 3008A01284 | Jul. 05, 05' | Jul. 04, 06' |
| 3. | 3.5G High Pass Filter | HP | 84300- 80038 | 005 | Jan. 11, 06' | Jan. 10, 07' |
| 4. | Horn Antenna | EMCO | 3115 | 9609-4927 | Jul. 08, 05' | Jul. 07, 06' |

2.2. Test Setup

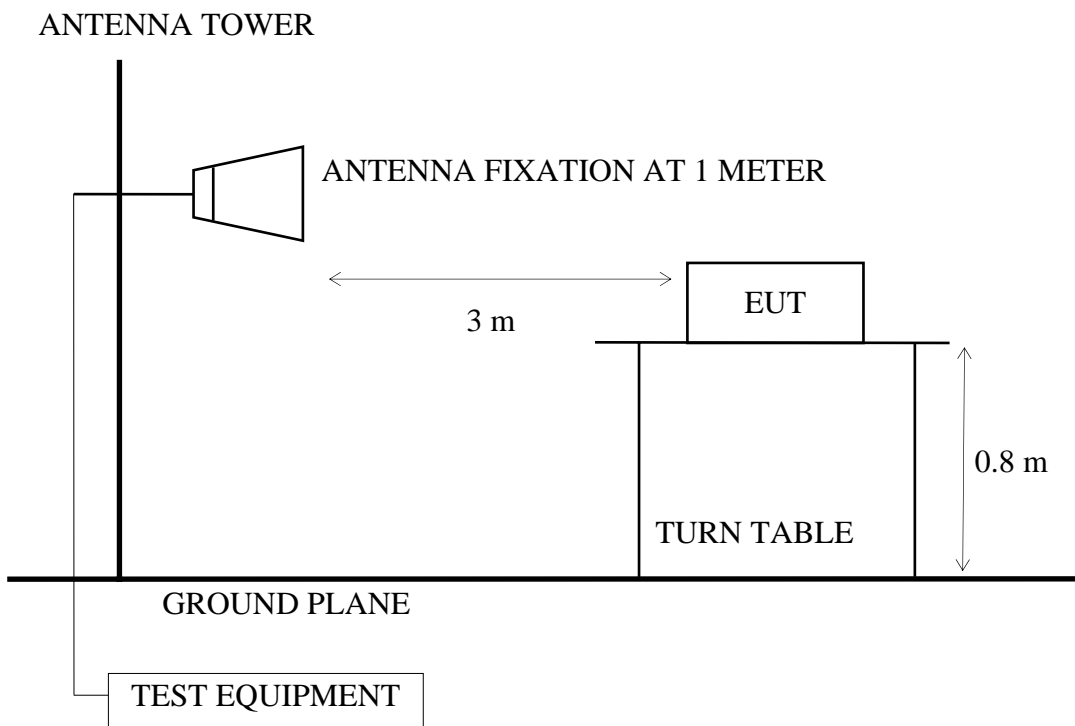
2.2.1. Block Diagram of connection between EUT and simulators



2.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



2.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



2.3. Radiated Emission Limits (§15.209)

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

- Remark :
- (1) Emission level ($\text{dB}\mu\text{V/m}$) = 20 log Emission level ($\mu\text{V/m}$)
 - (2) The tighter limit applies at the edge between two frequency bands.
 - (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
 - (4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
 - (5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

2.4. Operating Condition of EUT

- 2.4.1. Setup the EUT and simulator as shown on 2.2.
- 2.4.2. Turn on the power of all equipment.
- 2.4.3. Run the notebook PC (IBM ThinkPad) test software “dsp-write” to set EUT (Zone Player) transmitter channel through RJ45 Ethernet during the testing.

2.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to FCC ANSI C63.4-2003 regulation.

The bandwidth of the R&S Test Receiver ESCS30 was set at 120kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked.

2.6. Radiated Emission Measurement Results

PASSED. All the emissions not reported below are too low against the official limits.

EUT : Zone Player M/N : ZP100

Test Date : May 18, 2006 Temperature : 25°C Humidity : 51%

For Frequency Range 30MHz~1000MHz:

The EUT with following test modes were performed during this section testing and all the test results are listed in section 2.6.1.

| No. | Test Mode | Test Frequency | Reference Test Data No. | | | |
|-----|--------------|----------------|-------------------------|----------|-------------|----------|
| | | | 30-300MHz | | 300-1000MHz | |
| | | | Horizontal | Vertical | Horizontal | Vertical |
| 1. | Transmitting | 2412MHz (CH1) | # 9 | # 10 | # 7 | # 8 |
| 2. | | 2437MHz (CH6) | # 8 | # 7 | # 6 | # 5 |
| 3. | | 2462MHz (CH11) | # 8 | # 7 | # 5 | # 6 |
| 4. | Receiver | --- | # 8 | # 7 | # 6 | # 5 |

* Above all final readings were measured with Quasi-Peak detector.

For Frequency above 1GHz:

The EUT with following test modes were performed during this section testing and all the test results are listed in section 2.6.2.

| No. | Test Mode | Test Frequency |
|-----|--------------|----------------|
| 1. | Transmitting | 2412MHz (CH1) |
| 2. | | 2437MHz (CH6) |
| 3. | | 2462MHz (CH11) |

* Above all final readings were measured with Peak detector and Average detector.

For Restricted Bands:

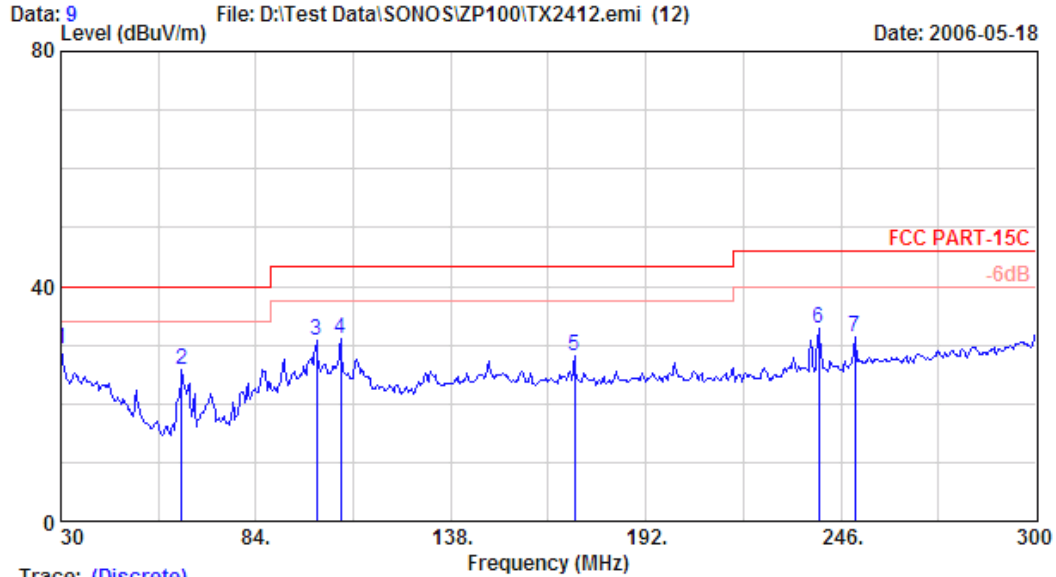
The EUT was tested in restricted bands and all the test results are listed in section 2.6.3. (The restricted bands defined in part 15.205(a))

| No. | Test Mode | Reference Test Data No. | | | | |
|-----|--------------|-------------------------|------------|-----|----------|-----|
| | | Frequency Range | Horizontal | | Vertical | |
| 1. | Transmitting | 2412MHz (CH1) | Peak | # 1 | Peak | # 2 |
| | | | Average | # 4 | Average | # 3 |
| 2. | | 2462MHz (CH11) | Peak | # 8 | Peak | # 7 |
| | | | Average | # 5 | Average | # 6 |

2.6.1. 30MHz~ 1000MHz Frequency Range Measurement Result



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



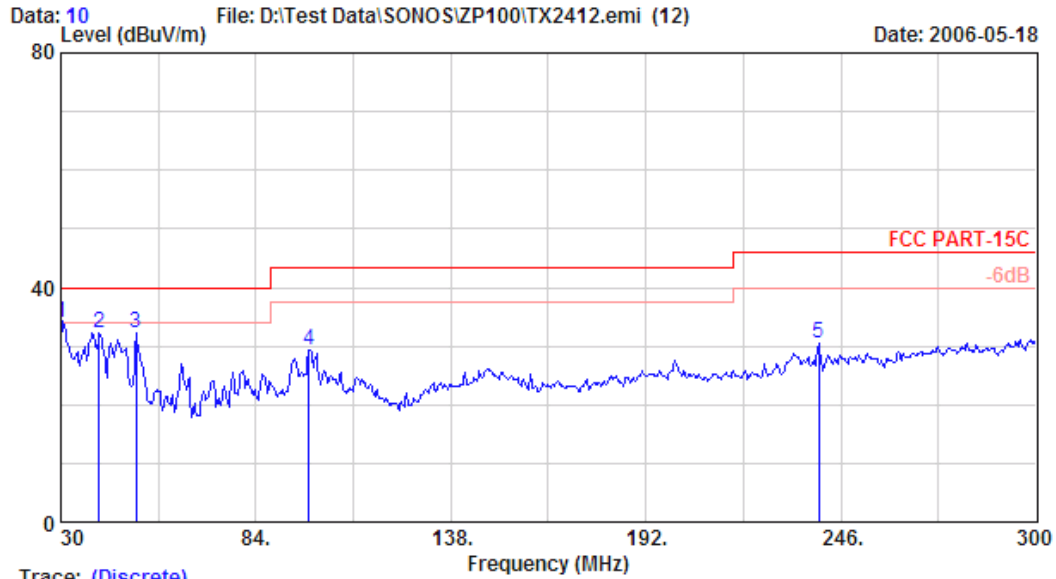
Site no. : A/C Chamber Data no. : 9
 Dis. / Ant. : 3m VBA6106A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : 8593EM 25°C/51% Engineer : Alvin Yang
 EUT : Zone Player M/N:ZP100
 Power Rating : 120Vac/60Hz
 Test Mode : TX2412MHz

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 30.000 | 24.86 | 1.10 | 3.32 | 29.28 | 40.00 | 10.72 | |
| 2 | 63.480 | 11.87 | 1.67 | 12.12 | 25.67 | 40.00 | 14.33 | |
| 3 | 100.740 | 17.17 | 2.10 | 11.51 | 30.78 | 43.50 | 12.72 | |
| 4 | 107.490 | 17.87 | 2.20 | 10.93 | 31.00 | 43.50 | 12.50 | |
| 5 | 172.290 | 21.04 | 2.80 | 4.16 | 28.01 | 43.50 | 15.49 | |
| 6 | 239.790 | 23.05 | 3.40 | 6.45 | 32.89 | 46.00 | 13.11 | |
| 7 | 249.780 | 23.78 | 3.50 | 4.01 | 31.29 | 46.00 | 14.71 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttmc@ttmc.com.tw



Trace: (Discrete)

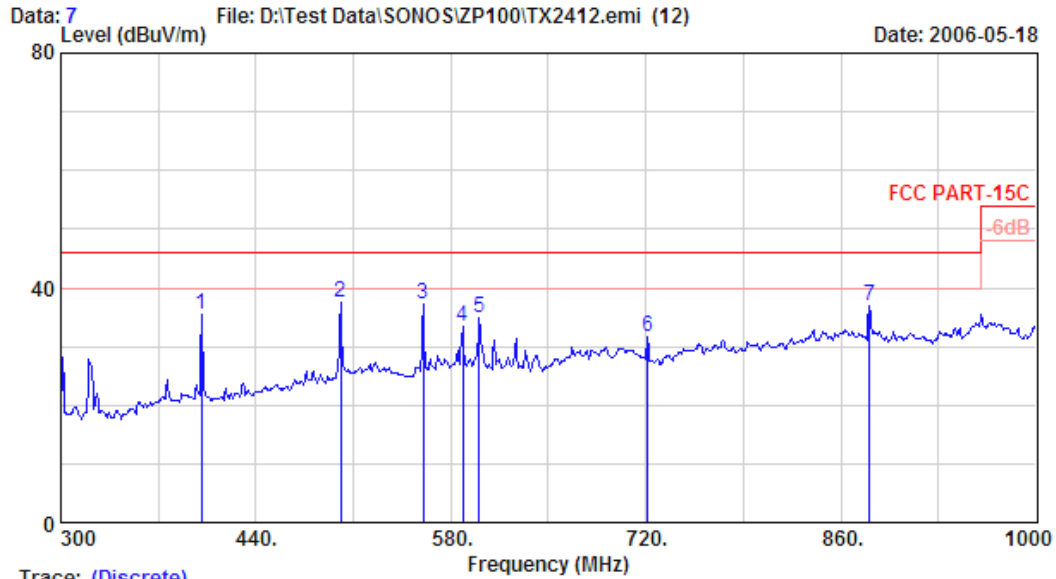
| | |
|-------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 10 |
| Dis. / Ant. : 3m VBA6106A | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2412MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 30.000 | 23.60 | 1.10 | 9.17 | 33.87 | 40.00 | 6.13 | |
| 2 | 40.530 | 20.16 | 1.30 | 10.91 | 32.37 | 40.00 | 7.63 | |
| 3 | 50.790 | 15.69 | 1.50 | 14.94 | 32.13 | 40.00 | 7.87 | |
| 4 | 98.580 | 17.61 | 2.10 | 9.67 | 29.38 | 43.50 | 14.12 | |
| 5 | 239.790 | 24.27 | 3.40 | 2.82 | 30.48 | 46.00 | 15.52 | |

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



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 Tel:+886-2-26092133 Fax:+886-2-26099303
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Trace: (Discrete)

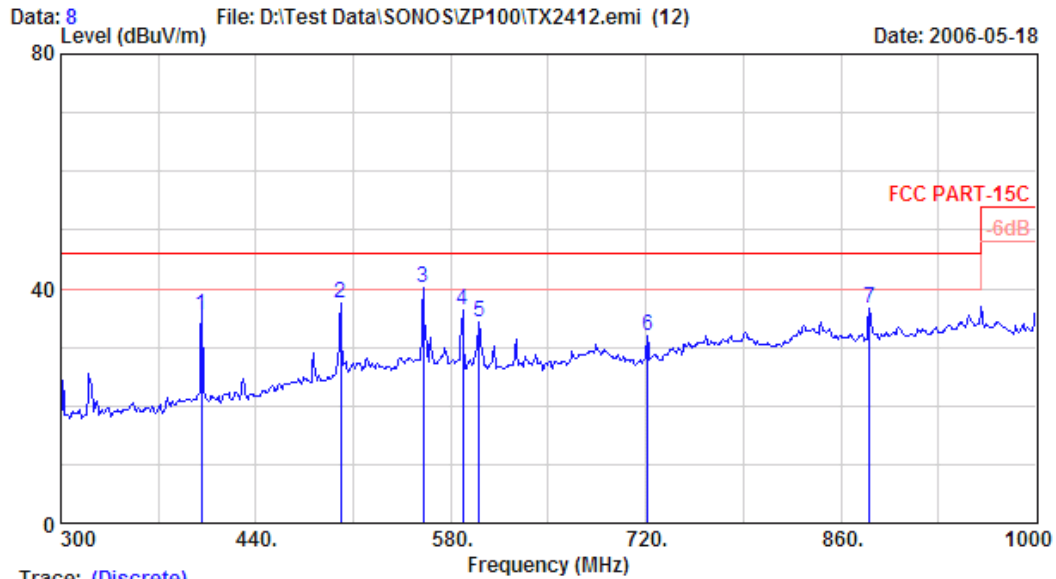
| | |
|------------------------------------|------------------------|
| Site no. : A/C Chamber | Data no. : 7 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : HORIZONTAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2412MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 400.800 | 17.63 | 4.80 | 13.13 | 35.56 | 46.00 | 10.44 | |
| 2 | 500.900 | 18.91 | 6.50 | 12.14 | 37.56 | 46.00 | 8.44 | |
| 3 | 560.400 | 20.03 | 6.70 | 10.45 | 37.18 | 46.00 | 8.82 | |
| 4 | 588.400 | 21.02 | 6.30 | 6.00 | 33.32 | 46.00 | 12.68 | |
| 5 | 600.300 | 21.31 | 6.30 | 7.21 | 34.82 | 46.00 | 11.18 | |
| 6 | 721.400 | 22.21 | 6.50 | 2.99 | 31.70 | 46.00 | 14.30 | |
| 7 | 880.300 | 25.34 | 7.30 | 4.27 | 36.91 | 46.00 | 9.09 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Trace: (Discrete)

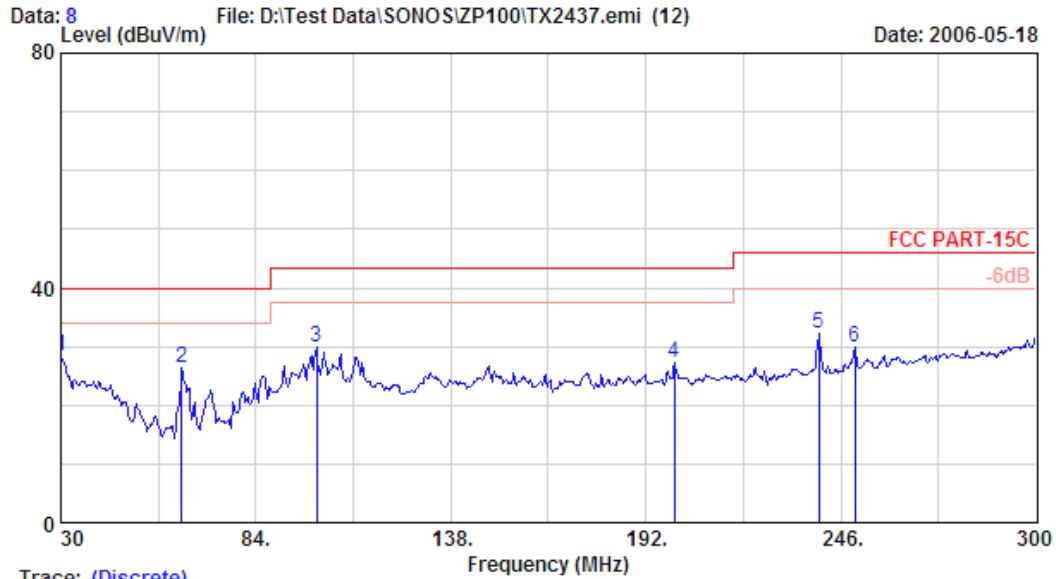
| | |
|------------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 8 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2412MHz | |

| | Ant. Factor | Cable Loss | Emission Reading | Emission Level | Limits | Margin | Remark |
|-------------|-------------|------------|------------------|----------------|----------|--------|--------|
| Freq. (MHz) | (dB/m) | (dB) | (dBμV) | (dBμV/m) | (dBμV/m) | (dB) | |
| 1 | 17.54 | 4.80 | 13.22 | 35.56 | 46.00 | 10.44 | |
| 2 | 19.84 | 6.50 | 11.06 | 37.40 | 46.00 | 8.60 | |
| 3 | 22.08 | 6.70 | 11.38 | 40.16 | 46.00 | 5.84 | |
| 4 | 21.52 | 6.30 | 8.38 | 36.20 | 46.00 | 9.80 | |
| 5 | 21.65 | 6.30 | 6.27 | 34.22 | 46.00 | 11.78 | |
| 6 | 22.11 | 6.50 | 3.30 | 31.91 | 46.00 | 14.09 | |
| 7 | 25.31 | 7.30 | 4.11 | 36.72 | 46.00 | 9.28 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
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 Tel:+886-2-26092133 Fax:+886-2-26099303
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Trace: (Discrete)

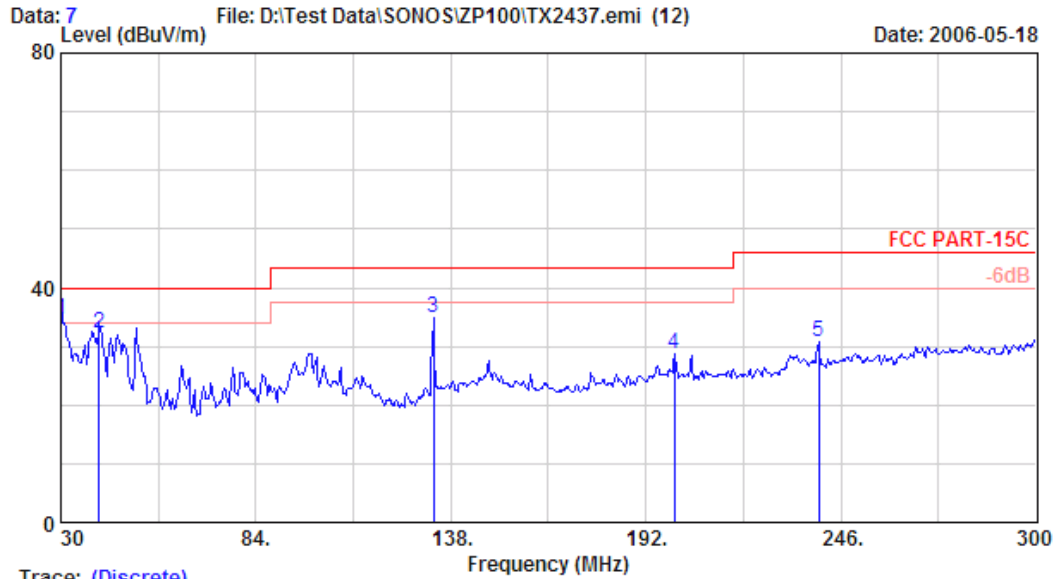
| | |
|-------------------------------|------------------------|
| Site no. : A/C Chamber | Data no. : 8 |
| Dis. / Ant. : 3m VBA6106A | Ant. pol. : HORIZONTAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2437MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 30.000 | 24.86 | 1.10 | 2.54 | 28.50 | 40.00 | 11.50 | |
| 2 | 63.480 | 11.87 | 1.67 | 12.76 | 26.31 | 40.00 | 13.69 | |
| 3 | 100.740 | 17.17 | 2.10 | 10.76 | 30.03 | 43.50 | 13.47 | |
| 4 | 199.830 | 22.08 | 3.00 | 2.15 | 27.23 | 43.50 | 16.27 | |
| 5 | 239.790 | 23.05 | 3.40 | 5.88 | 32.32 | 46.00 | 13.68 | |
| 6 | 249.780 | 23.78 | 3.50 | 2.71 | 29.99 | 46.00 | 16.01 | |

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



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 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
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Trace: (Discrete)

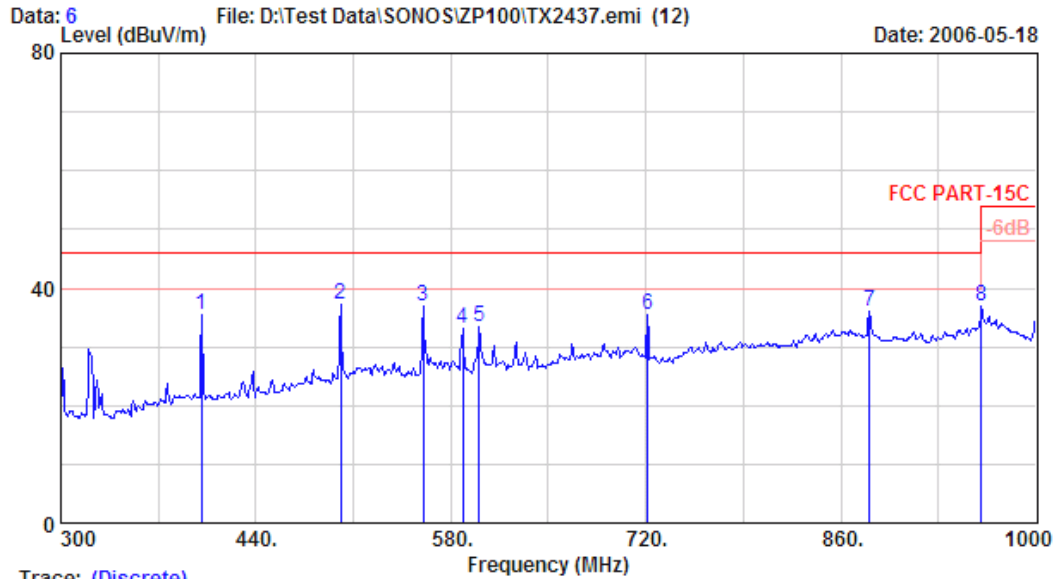
| | |
|-------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 7 |
| Dis. / Ant. : 3m VBA6106A | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25°C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2437MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 30.000 | 23.60 | 1.10 | 36.36 | 34.56 | 40.00 | 5.44 | |
| 2 | 40.530 | 20.16 | 1.30 | 37.15 | 32.18 | 40.00 | 7.83 | |
| 3 | 133.140 | 19.13 | 2.40 | 39.38 | 34.82 | 43.50 | 8.68 | |
| 4 | 199.830 | 22.86 | 3.00 | 28.80 | 28.86 | 43.50 | 14.64 | |
| 5 | 239.790 | 24.27 | 3.40 | 28.94 | 30.85 | 46.00 | 15.15 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Trace: (Discrete)

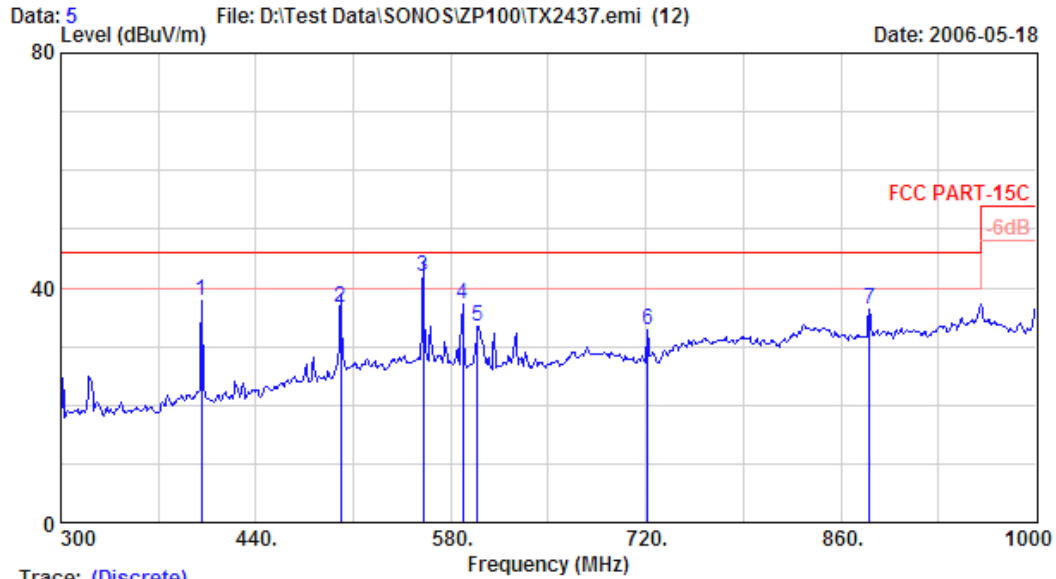
| | |
|------------------------------------|------------------------|
| Site no. : A/C Chamber | Data no. : 6 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : HORIZONTAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2437MHz | |

| | Ant. Factor | Cable Loss | Emission Reading | Emission Level | Limits | Margin | Remark |
|-------------|-------------|------------|------------------|----------------|----------|--------|--------|
| Freq. (MHz) | (dB/m) | (dB) | (dBµV) | (dBµV/m) | (dBµV/m) | (dB) | |
| 1 | 17.63 | 4.80 | 39.54 | 35.36 | 46.00 | 10.64 | |
| 2 | 18.91 | 6.50 | 38.64 | 37.26 | 46.00 | 8.74 | |
| 3 | 20.03 | 6.70 | 37.28 | 36.95 | 46.00 | 9.05 | |
| 4 | 21.02 | 6.30 | 32.88 | 33.03 | 46.00 | 12.97 | |
| 5 | 21.31 | 6.30 | 32.99 | 33.40 | 46.00 | 12.60 | |
| 6 | 22.21 | 6.50 | 34.22 | 35.56 | 46.00 | 10.44 | |
| 7 | 25.34 | 7.30 | 30.43 | 36.02 | 46.00 | 9.98 | |
| 8 | 26.46 | 7.60 | 29.73 | 36.97 | 54.00 | 17.03 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Trace: (Discrete)

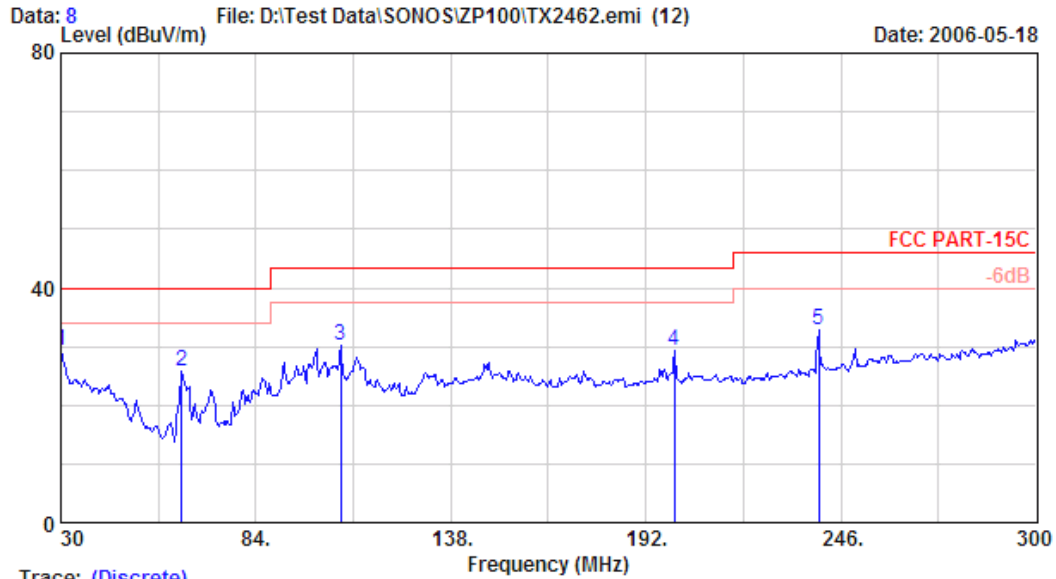
| | |
|------------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 5 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2437MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 400.800 | 17.54 | 4.80 | 41.99 | 37.72 | 46.00 | 8.28 | |
| 2 | 500.900 | 19.84 | 6.50 | 37.10 | 36.64 | 46.00 | 9.36 | |
| 3 | 560.400 | 22.08 | 6.70 | 40.32 | 42.05 | 46.00 | 3.95 | |
| 4 | 588.400 | 21.52 | 6.30 | 36.54 | 37.19 | 46.00 | 8.81 | |
| 5 | 598.900 | 21.62 | 6.30 | 32.71 | 33.43 | 46.00 | 12.57 | |
| 6 | 721.400 | 22.11 | 6.50 | 31.60 | 32.84 | 46.00 | 13.16 | |
| 7 | 880.300 | 25.31 | 7.30 | 30.80 | 36.36 | 46.00 | 9.64 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttmc@ttmc.com.tw



Trace: (Discrete)

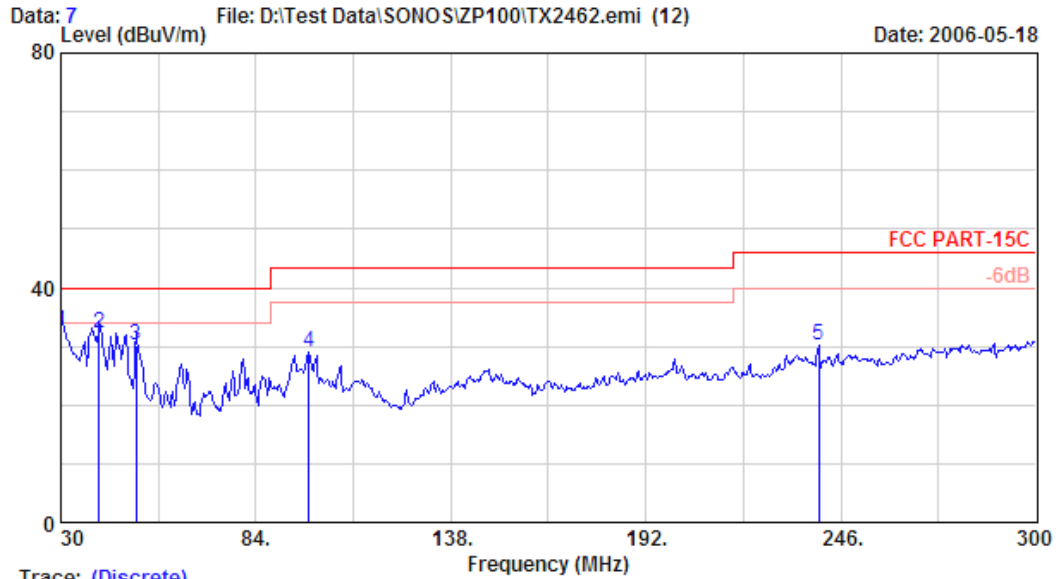
| | |
|-------------------------------|------------------------|
| Site no. : A/C Chamber | Data no. : 8 |
| Dis. / Ant. : 3m VBA6106A | Ant. pol. : HORIZONTAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25°C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2462MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 30.000 | 24.86 | 1.10 | 3.49 | 29.45 | 40.00 | 10.55 | |
| 2 | 63.480 | 11.87 | 1.67 | 12.24 | 25.79 | 40.00 | 14.21 | |
| 3 | 107.490 | 17.87 | 2.20 | 10.21 | 30.28 | 43.50 | 13.22 | |
| 4 | 199.830 | 22.08 | 3.00 | 4.19 | 29.27 | 43.50 | 14.23 | |
| 5 | 239.790 | 23.05 | 3.40 | 6.36 | 32.80 | 46.00 | 13.20 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttmc@ttmc.com.tw



Trace: (Discrete)

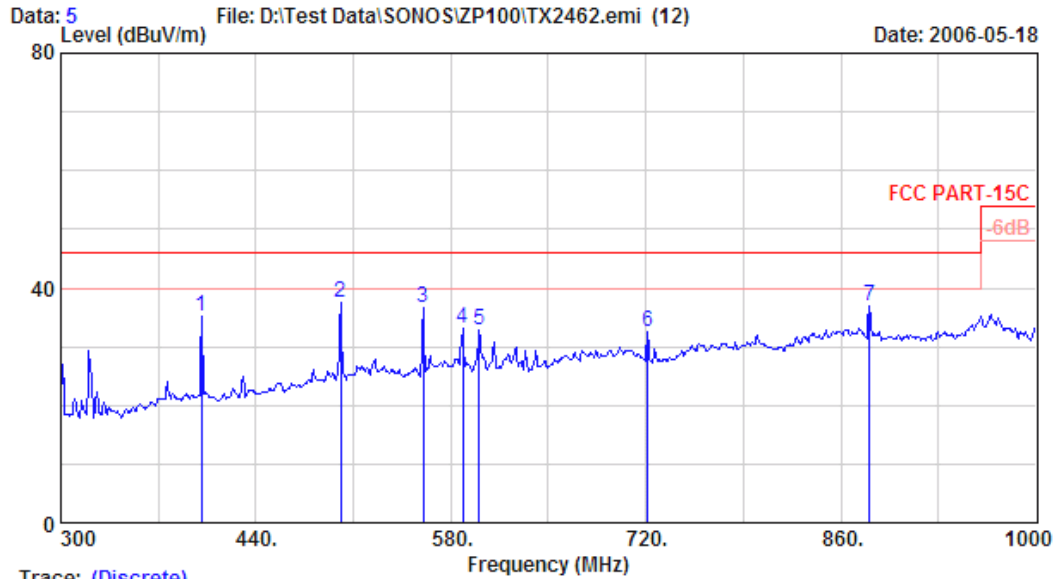
| | |
|-------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 7 |
| Dis. / Ant. : 3m VBA6106A | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2462MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 30.000 | 23.60 | 1.10 | 7.83 | 32.53 | 40.00 | 7.47 | |
| 2 | 40.530 | 20.16 | 1.30 | 10.90 | 32.36 | 40.00 | 7.64 | |
| 3 | 50.790 | 15.69 | 1.50 | 12.98 | 30.16 | 40.00 | 9.84 | |
| 4 | 98.580 | 17.61 | 2.10 | 9.25 | 28.96 | 43.50 | 14.54 | |
| 5 | 239.790 | 24.27 | 3.40 | 2.63 | 30.29 | 46.00 | 15.71 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Trace: (Discrete)

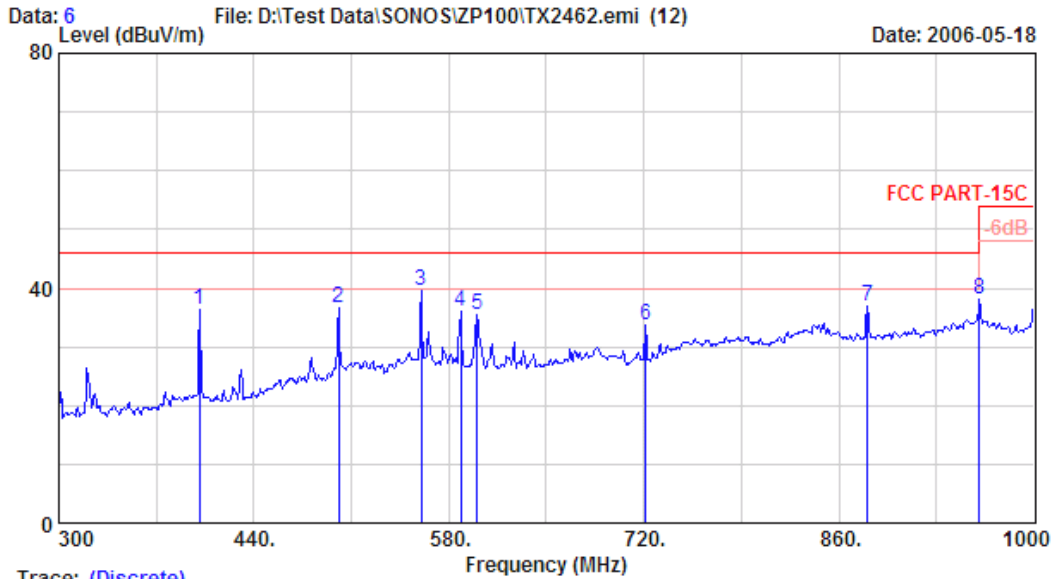
| | |
|------------------------------------|------------------------|
| Site no. : A/C Chamber | Data no. : 5 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : HORIZONTAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2462MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 400.800 | 17.63 | 4.80 | 12.84 | 35.27 | 46.00 | 10.73 | |
| 2 | 500.900 | 18.91 | 6.50 | 11.98 | 37.40 | 46.00 | 8.60 | |
| 3 | 560.400 | 20.03 | 6.70 | 9.93 | 36.66 | 46.00 | 9.34 | |
| 4 | 588.400 | 21.02 | 6.30 | 5.79 | 33.10 | 46.00 | 12.90 | |
| 5 | 600.300 | 21.31 | 6.30 | 5.21 | 32.82 | 46.00 | 13.18 | |
| 6 | 721.400 | 22.21 | 6.50 | 3.89 | 32.60 | 46.00 | 13.40 | |
| 7 | 880.300 | 25.34 | 7.30 | 4.23 | 36.87 | 46.00 | 9.13 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttemc@ttemc.com.tw



Trace: (Discrete)

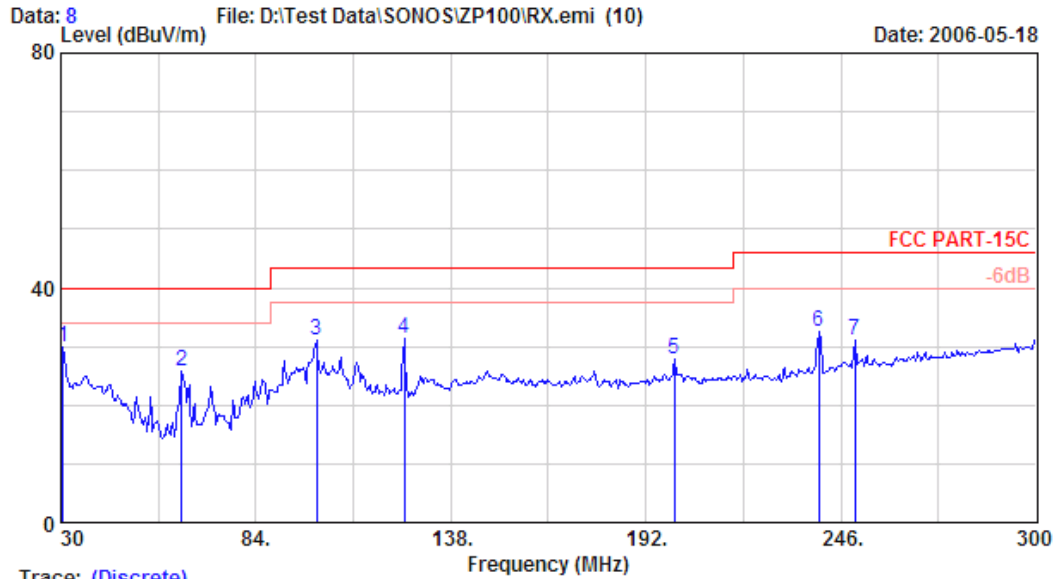
| | |
|------------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 6 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25°C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : TX2462MHz | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 400.800 | 17.54 | 4.80 | 14.10 | 36.44 | 46.00 | 9.56 | |
| 2 | 500.900 | 19.84 | 6.50 | 10.26 | 36.60 | 46.00 | 9.40 | |
| 3 | 560.400 | 22.08 | 6.70 | 10.80 | 39.58 | 46.00 | 6.42 | |
| 4 | 588.400 | 21.52 | 6.30 | 8.18 | 36.00 | 46.00 | 10.00 | |
| 5 | 600.300 | 21.65 | 6.30 | 7.54 | 35.49 | 46.00 | 10.51 | |
| 6 | 721.400 | 22.11 | 6.50 | 5.04 | 33.65 | 46.00 | 12.35 | |
| 7 | 880.300 | 25.31 | 7.30 | 4.46 | 37.07 | 46.00 | 8.93 | |
| 8 | 960.800 | 27.14 | 7.60 | 3.44 | 38.18 | 54.00 | 15.82 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttmc@ttmc.com.tw



Trace: (Discrete)

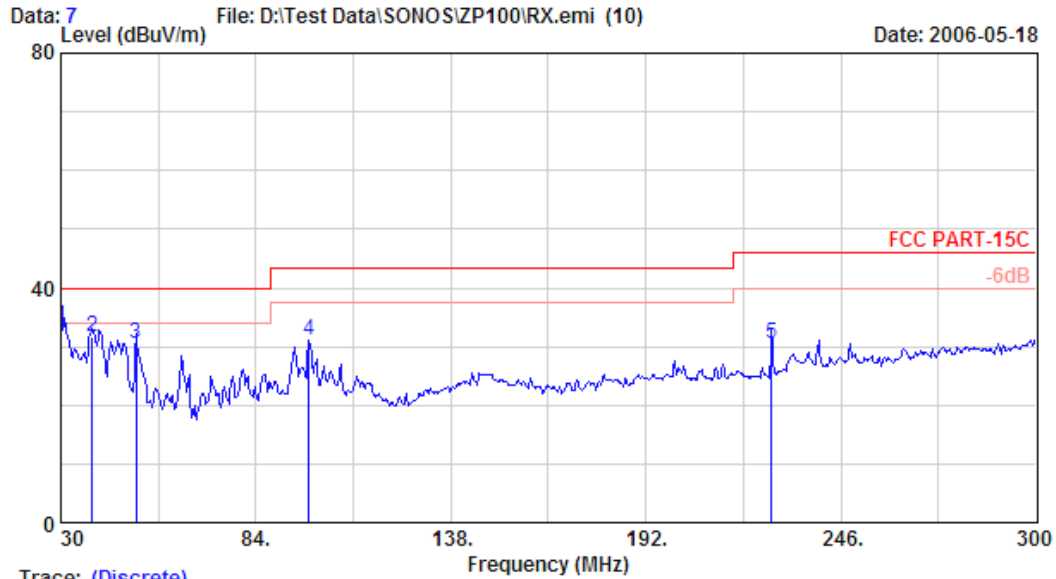
| | |
|-------------------------------|------------------------|
| Site no. : A/C Chamber | Data no. : 8 |
| Dis. / Ant. : 3m VBA6106A | Ant. pol. : HORIZONTAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25°C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : RX | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 30.540 | 24.76 | 1.10 | 4.12 | 29.99 | 40.00 | 10.01 | |
| 2 | 63.480 | 11.87 | 1.67 | 12.19 | 25.74 | 40.00 | 14.26 | |
| 3 | 100.740 | 17.17 | 2.10 | 11.81 | 31.08 | 43.50 | 12.42 | |
| 4 | 125.040 | 19.38 | 2.30 | 9.56 | 31.24 | 43.50 | 12.26 | |
| 5 | 199.830 | 22.08 | 3.00 | 2.64 | 27.72 | 43.50 | 15.78 | |
| 6 | 239.790 | 23.05 | 3.40 | 6.02 | 32.46 | 46.00 | 13.54 | |
| 7 | 249.780 | 23.78 | 3.50 | 3.66 | 30.94 | 46.00 | 15.06 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



Trace: (Discrete)

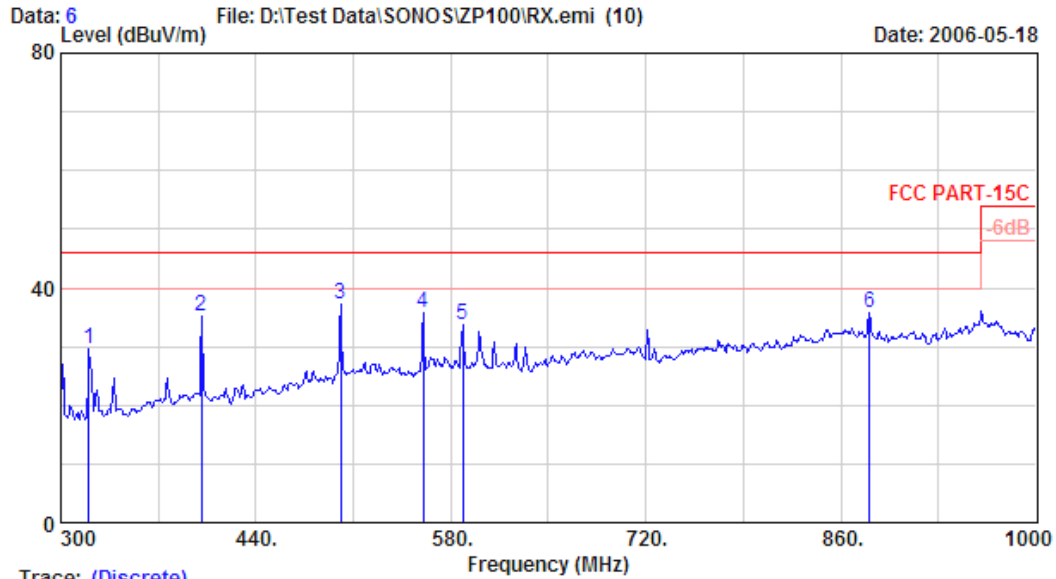
| | |
|-------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 7 |
| Dis. / Ant. : 3m VBA6106A | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : RX | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|-------------------|----------------------------|--------------------|----------------|--------|
| 1 | 30.000 | 23.60 | 1.10 | 8.74 | 33.44 | 40.00 | 6.56 | |
| 2 | 38.640 | 20.85 | 1.20 | 9.58 | 31.63 | 40.00 | 8.37 | |
| 3 | 50.790 | 15.69 | 1.50 | 13.28 | 30.46 | 40.00 | 9.54 | |
| 4 | 98.580 | 17.61 | 2.10 | 11.38 | 31.09 | 43.50 | 12.41 | |
| 5 | 226.830 | 22.71 | 3.30 | 4.34 | 30.36 | 46.00 | 15.64 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



Trace: (Discrete)

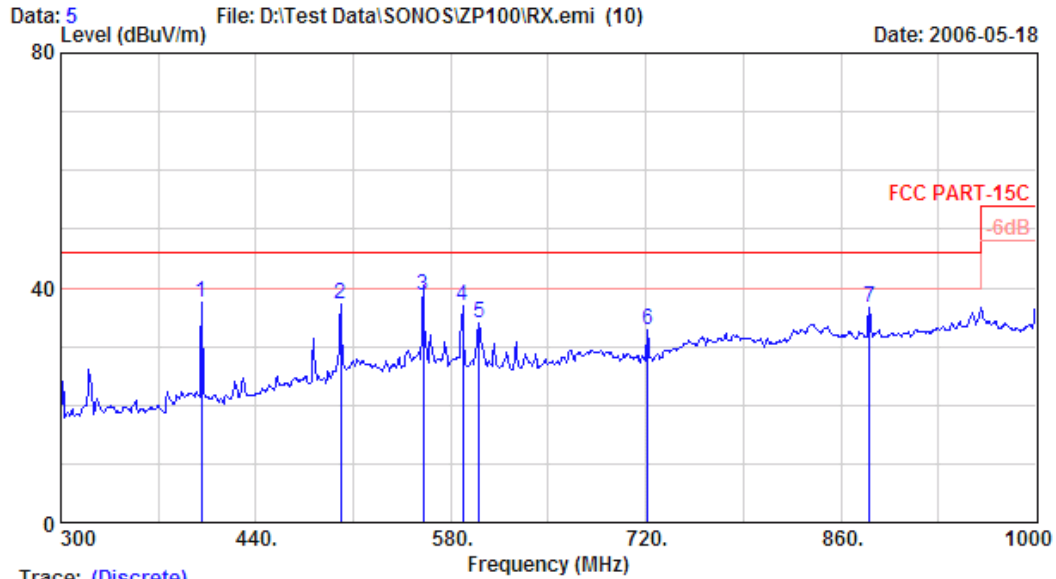
| | |
|------------------------------------|------------------------|
| Site no. : A/C Chamber | Data no. : 6 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : HORIZONTAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : RX | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 320.300 | 14.99 | 4.20 | 10.36 | 29.54 | 46.00 | 16.46 | |
| 2 | 400.800 | 17.63 | 4.80 | 12.70 | 35.13 | 46.00 | 10.87 | |
| 3 | 500.900 | 18.91 | 6.50 | 11.93 | 37.35 | 46.00 | 8.65 | |
| 4 | 560.400 | 20.03 | 6.70 | 9.03 | 35.76 | 46.00 | 10.24 | |
| 5 | 588.400 | 21.02 | 6.30 | 6.49 | 33.80 | 46.00 | 12.20 | |
| 6 | 880.300 | 25.34 | 7.30 | 3.01 | 35.65 | 46.00 | 10.35 | |

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



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



Trace: (Discrete)

| | |
|------------------------------------|-----------------------|
| Site no. : A/C Chamber | Data no. : 5 |
| Dis. / Ant. : 3m UHALP9108-A(0139) | Ant. pol. : VERTICAL |
| Limit : FCC PART-15C | |
| Env. / Ins. : 8593EM 25*C/51% | Engineer : Alvin Yang |
| EUT : Zone Player M/N:ZP100 | |
| Power Rating : 120Vac/60Hz | |
| Test Mode : RX | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBµV) | Emission Level (dBµV/m) | Limits (dBµV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 400.800 | 17.54 | 4.80 | 15.31 | 37.65 | 46.00 | 8.35 | |
| 2 | 500.900 | 19.84 | 6.50 | 10.81 | 37.15 | 46.00 | 8.85 | |
| 3 | 560.400 | 22.08 | 6.70 | 9.80 | 38.58 | 46.00 | 7.42 | |
| 4 | 588.400 | 21.52 | 6.30 | 9.02 | 36.84 | 46.00 | 9.16 | |
| 5 | 600.300 | 21.65 | 6.30 | 5.92 | 33.87 | 46.00 | 12.13 | |
| 6 | 721.400 | 22.11 | 6.50 | 4.12 | 32.73 | 46.00 | 13.27 | |
| 7 | 880.300 | 25.31 | 7.30 | 3.96 | 36.57 | 46.00 | 9.43 | |

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

2.6.2. Above 1GHz Frequency Range Measurement Results

Date of Test : May 18, 2006 Temperature : 25°C

EUT : Zone Player Humidity : 51%

Test Mode : Transmitting Mode, Frequency: 2412MHz (CH1)

| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dB μ V | Meter Reading Horizontal dB μ V/m | Emission Level Horizontal dB μ V/m | Limits dB | Margin |
|---------|------------------------|---------------------|-----------------------|---------------------------------------|--|-----------|--------|
| Peak | 2212.960 | 28.25 | 6.12 | 9.58 | 43.95 | 74.00 | 30.05 |
| Average | 2212.960 | 28.25 | 6.12 | 5.29 | 39.66 | 54.00 | 14.34 |
| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dB μ V | Meter Reading Vertical dB μ V/m | Emission Level Vertical dB μ V/m | Limits dB | Margin |
| Peak | 2212.690 | 28.25 | 6.12 | 11.24 | 45.61 | 74.00 | 28.39 |
| Average | 2212.960 | 28.25 | 6.12 | 8.06 | 42.43 | 54.00 | 11.57 |

- Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

Date of Test : May 18, 2006 Temperature : 25°C

EUT : Zone Player Humidity : 51%

Test Mode : Transmitting Mode, Frequency: 2437MHz (CH6)

| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dBμV | Meter Reading Horizontal dBμV/m | Emission Level Horizontal dBμV/m | Limits dB | Margin |
|---------|------------------------|---------------------|-----------------|---------------------------------|----------------------------------|-----------|--------|
| Peak | 2238.160 | 28.31 | 6.16 | 11.31 | 45.78 | 74.00 | 28.22 |
| Average | 2238.160 | 28.31 | 6.16 | 8.08 | 42.55 | 54.00 | 11.45 |
| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dBμV | Meter Reading Vertical dBμV/m | Emission Level Vertical dBμV/m | Limits dB | Margin |
| Peak | 2238.160 | 28.31 | 6.16 | 12.92 | 47.39 | 74.00 | 26.61 |
| Average | 2238.160 | 28.31 | 6.16 | 9.66 | 44.13 | 54.00 | 9.87 |

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

Date of Test : May 18, 2006 Temperature : 25°C

EUT : Zone Player Humidity : 51%

Test Mode : Transmitting Mode, Frequency: 2462MHz (CH11)

| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dBμV | Meter Reading Horizontal dBμV/m | Emission Level Horizontal dBμV/m | Limits dB | Margin |
|---------|------------------------|---------------------|-----------------|---------------------------------|----------------------------------|-----------|--------|
| Peak | 2258.320 | 28.35 | 6.17 | 6.78 | 41.30 | 74.00 | 32.70 |
| Average | 2258.320 | 28.35 | 6.17 | 7.01 | 41.53 | 54.00 | 12.47 |
| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dBμV | Meter Reading Vertical dBμV/m | Emission Level Vertical dBμV/m | Limits dB | Margin |
| Peak | 1734.160 | 26.60 | 7.07 | 12.10 | 45.77 | 74.00 | 28.23 |
| | 2258.320 | 28.35 | 6.17 | 14.51 | 49.03 | 74.00 | 24.97 |
| Average | 1734.160 | 26.60 | 7.07 | 7.69 | 41.36 | 54.00 | 12.64 |
| | 2258.320 | 28.35 | 6.17 | 10.75 | 45.27 | 54.00 | 8.73 |

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

2.6.3. Restricted Bands Measurement Results

Date of Test : May 18, 2006 Temperature : 25°C

EUT : Zone Player Humidity : 51%

Test Mode : Transmitting Mode, Frequency: 2412MHz (CH1)

| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dBμV | Meter Reading Horizontal dBμV/m | Emission Level Horizontal dBμV/m | Limits dB | Margin |
|-----------|------------------------|---------------------|-----------------|---------------------------------|----------------------------------|-----------|--------|
| Peak * | 2389.940 | 28.59 | 6.34 | 16.95 | 51.88 | 74.00 | 22.12 |
| Average * | 2389.940 | 28.59 | 6.34 | -0.14 | 34.79 | 54.00 | 19.21 |

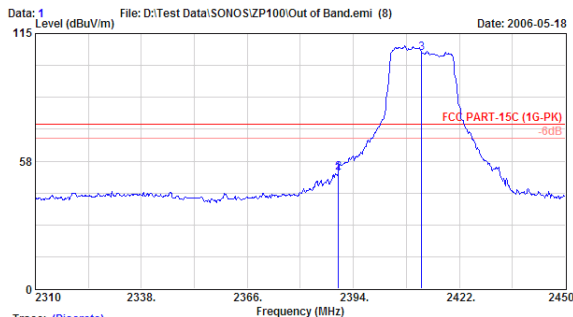
- Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2310-2390MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



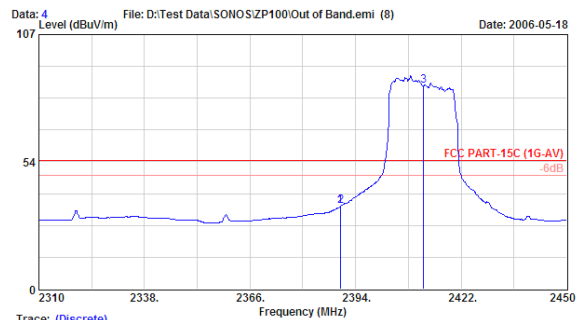
AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



Trace: (Discrete)
 Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : 8593EM 25°C/51% Engineer : Alvin Yang
 EUT : Zone Player M/N:2P100
 Power Rating : 120Vac/60Hz
 Test Mode : TX2412MHz

| Trace | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Remark |
|-------|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1 | 2389.940 | 28.59 | 6.34 | 16.95 | 51.88 | 74.00 | 22.12 | Peak |
| 2 | 2390.080 | 28.59 | 6.34 | 17.47 | 52.41 | 74.00 | 21.59 | Peak |
| 3 | 2412.060 | 28.64 | 6.36 | 71.28 | 106.29 | 74.00 | -32.29 | Peak |

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



Trace: (Discrete)
 Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : 8593EM 25°C/51% Engineer : Alvin Yang
 EUT : Zone Player M/N:2P100
 Power Rating : 120Vac/60Hz
 Test Mode : TX2412MHz

| Trace | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Remark |
|-------|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|---------|
| 1 | 2389.940 | 28.59 | 6.34 | -0.14 | 34.79 | 54.00 | 19.21 | Average |
| 2 | 2390.080 | 28.59 | 6.34 | 0.05 | 34.99 | 54.00 | 19.01 | Average |
| 3 | 2412.060 | 28.64 | 6.36 | 50.47 | 85.48 | 54.00 | -31.48 | Average |

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

Date of Test : May 18, 2006 Temperature : 25°C

EUT : Zone Player Humidity : 51%

Test Mode : Transmitting Mode, Frequency: 2412MHz (CH1)

| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dB μ V | Meter Reading Vertical dB μ V/m | Emission Level Vertical dB μ V/m | Limits dB | Margin |
|-----------|------------------------|---------------------|-----------------------|-------------------------------------|--------------------------------------|-----------|--------|
| Peak * | 2389.660 | 28.59 | 6.34 | 21.29 | 56.22 | 74.00 | 17.78 |
| Average * | 2389.940 | 28.59 | 6.34 | -3.33 | 31.60 | 54.00 | 22.40 |

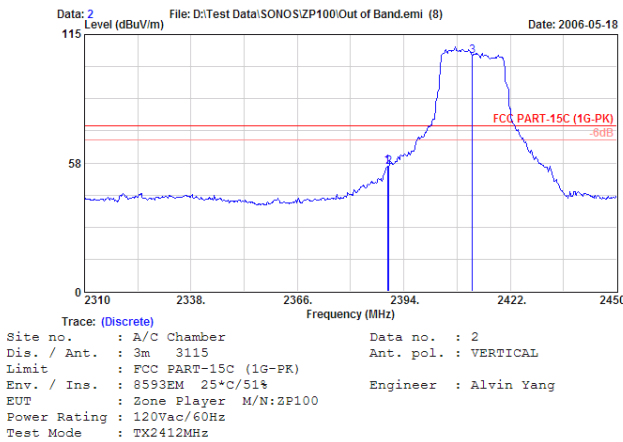
- Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2310-2390MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



AUDIX Corp. EMC Laboratory
 No.33-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw

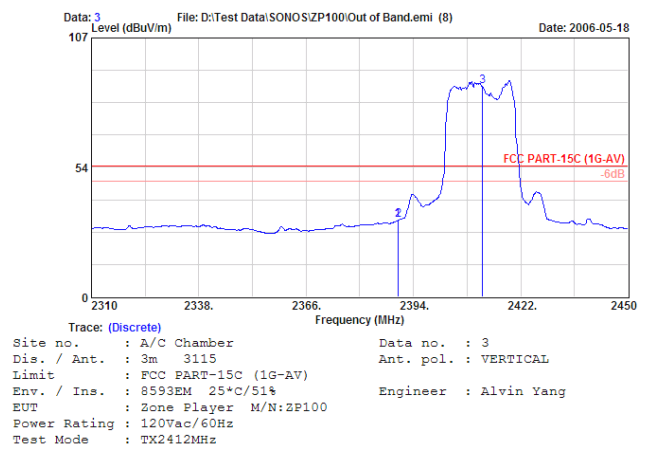


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 No.33-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|----------------------|-------------------------------|-----------------------|-------------|--------|
| 1 2389.660 | 28.59 | 6.34 | 21.29 | 56.23 | 74.00 | 17.77 | Peak |
| 2 2390.080 | 28.59 | 6.34 | 20.57 | 55.51 | 74.00 | 18.49 | Peak |
| 3 2412.060 | 28.64 | 6.36 | 70.37 | 105.38 | 74.00 | -31.38 | Peak |

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



| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|----------------------|-------------------------------|-----------------------|-------------|---------|
| 1 2389.940 | 28.59 | 6.34 | -3.33 | 31.61 | 54.00 | 22.39 | Average |
| 2 2390.080 | 28.59 | 6.34 | -3.23 | 31.71 | 54.00 | 22.29 | Average |
| 3 2412.060 | 28.64 | 6.36 | 51.81 | 86.82 | 54.00 | -32.82 | Average |

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

Date of Test : May 18, 2006 Temperature : 25°C

EUT : Zone Player Humidity : 51%

Test Mode : Transmitting Mode, Frequency: 2462MHz (CH11)

| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dB μ V | Meter Reading Horizontal dB μ V/m | Emission Level Horizontal dB μ V/m | Limits dB | Margin |
|-----------|------------------------|---------------------|-----------------------|---------------------------------------|--|-----------|--------|
| Peak * | 2483.620 | 28.77 | 6.45 | 8.87 | 44.09 | 74.00 | 29.91 |
| Average * | 2483.620 | 28.77 | 6.45 | -6.50 | 28.72 | 54.00 | 25.28 |

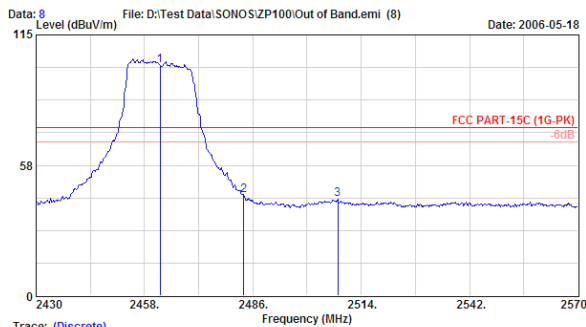
- Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2483.5-2500MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



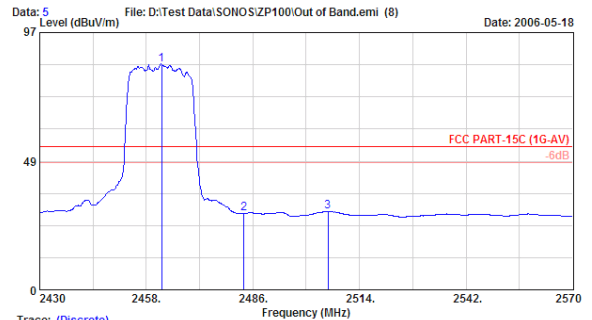
AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttenc@ttenc.com.tw



Trace: (Discrete) File: D:\Test Data\SONOS\ZP100\Out of Band.emi (8) Date: 2006-05-18
 Site no. : A/C Chamber Data no. : 8
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : 8593EM 25°C/51% Engineer : Alvin Yang
 EUT : Zone Player M/N: ZP100
 Power Rating : 120Vac/60Hz
 Test Mode : TX2462MHz

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|-------------------------------|-------------------------------|-----------------------|-------------|--------|
| 1 | 2462.060 | 28.74 | 6.42 | 66.39 | 101.55 | 74.00 | -27.55 | Peak |
| 2 | 2483.620 | 28.77 | 6.45 | 8.87 | 44.09 | 74.00 | 29.91 | Peak |
| 3 | 2507.980 | 28.83 | 6.48 | 7.39 | 42.71 | 74.00 | 31.29 | Peak |

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



Trace: (Discrete) File: D:\Test Data\SONOS\ZP100\Out of Band.emi (8) Date: 2006-05-18
 Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : 8593EM 25°C/51% Engineer : Alvin Yang
 EUT : Zone Player M/N: ZP100
 Power Rating : 120Vac/60Hz
 Test Mode : TX2462MHz

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|-------------------------------|-------------------------------|-----------------------|-------------|---------|
| 1 | 2462.060 | 28.74 | 6.42 | 49.77 | 84.93 | 54.00 | -30.93 | Average |
| 2 | 2483.620 | 28.77 | 6.45 | -6.50 | 28.72 | 54.00 | 25.28 | Average |
| 3 | 2505.740 | 28.83 | 6.48 | -5.87 | 29.44 | 54.00 | 24.56 | Average |

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

Date of Test : May 18, 2006 Temperature : 25°C

EUT : Zone Player Humidity : 51%

Test Mode : Transmitting Mode, Frequency: 2462MHz (CH11)

| | Emission Frequency MHz | Antenna Factor dB/m | Cable Loss dB μ V | Meter Reading Vertical dB μ V/m | Emission Level Vertical dB μ V/m | Limits dB | Margin |
|-----------|------------------------|---------------------|-----------------------|-------------------------------------|--------------------------------------|-----------|--------|
| Peak * | 2484.180 | 28.77 | 6.45 | 21.25 | 56.47 | 74.00 | 17.53 |
| Average * | 2483.620 | 28.77 | 6.45 | -6.20 | 29.02 | 54.00 | 24.98 |

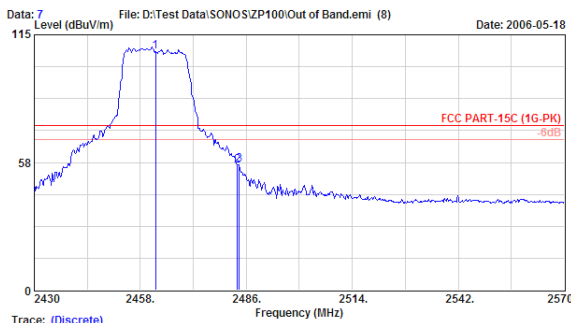
- Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2483.5-2500MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttmc@ttmc.com.tw



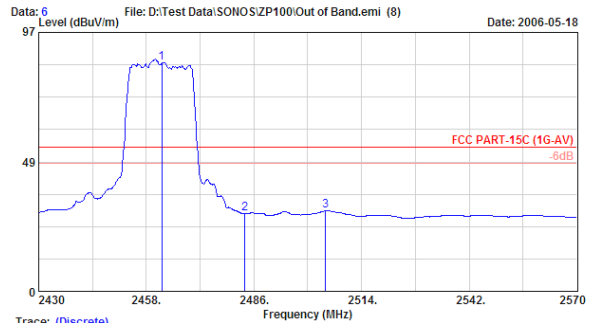
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 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei County, Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:ttmc@ttmc.com.tw



Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : 8593EM 25°C/51% Engineer : Alvin Yang
 EUT : Zone Player M/N:2P100
 Power Rating : 120Vac/60Hz
 Test Mode : TX2462MHz

| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|-------------------------------|-------------------------------|-----------------------|-------------|--------|
| 1 2462.060 | 28.74 | 6.42 | 72.40 | 107.56 | 74.00 | -33.56 | Peak |
| 2 2483.620 | 28.77 | 6.45 | 20.93 | 56.16 | 74.00 | 17.84 | Peak |
| 3 2484.180 | 28.77 | 6.45 | 21.25 | 56.47 | 74.00 | 17.53 | Peak |

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. : A/C Chamber Data no. : 6
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : 8593EM 25°C/51% Engineer : Alvin Yang
 EUT : Zone Player M/N:2P100
 Power Rating : 120Vac/60Hz
 Test Mode : TX2462MHz

| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|-------------------------------|-------------------------------|-----------------------|-------------|---------|
| 1 2462.060 | 28.74 | 6.42 | 50.60 | 85.76 | 54.00 | -31.76 | Average |
| 2 2483.620 | 28.77 | 6.45 | -6.20 | 29.02 | 54.00 | 24.98 | Average |
| 3 2504.620 | 28.83 | 6.47 | -5.07 | 30.24 | 54.00 | 23.76 | Average |

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

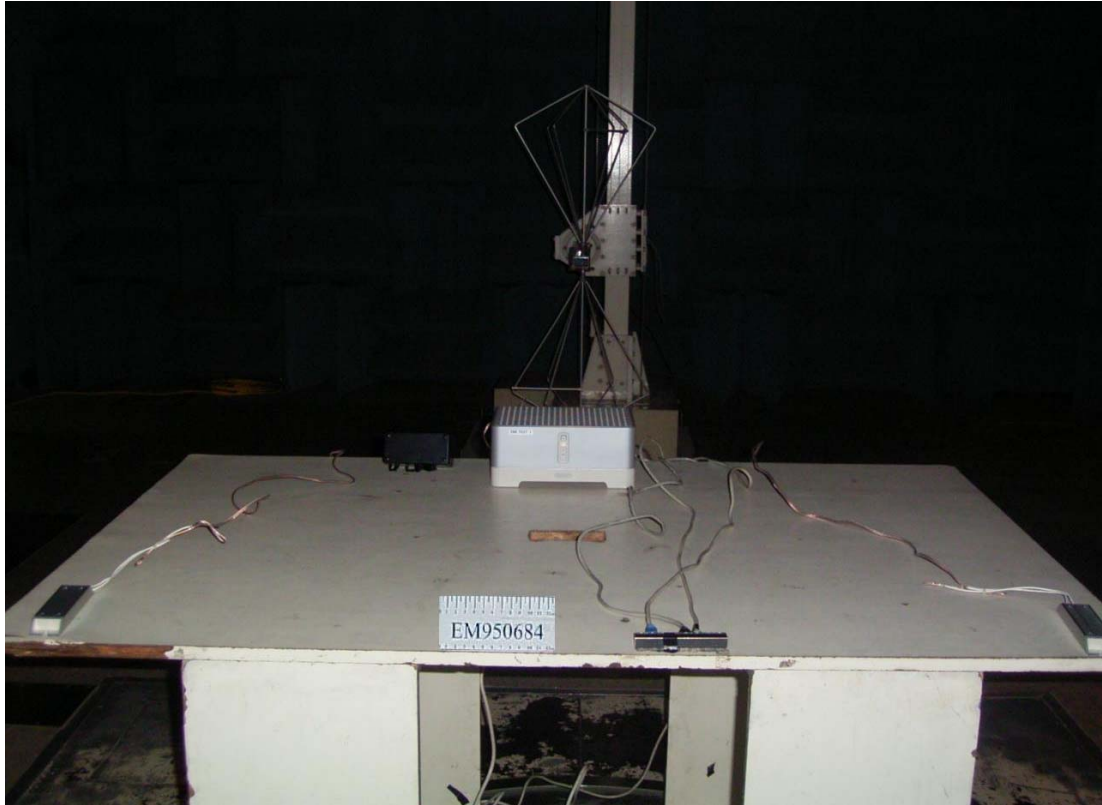
3. DEVIATION TO TEST SPECIFICATIONS

【NONE】

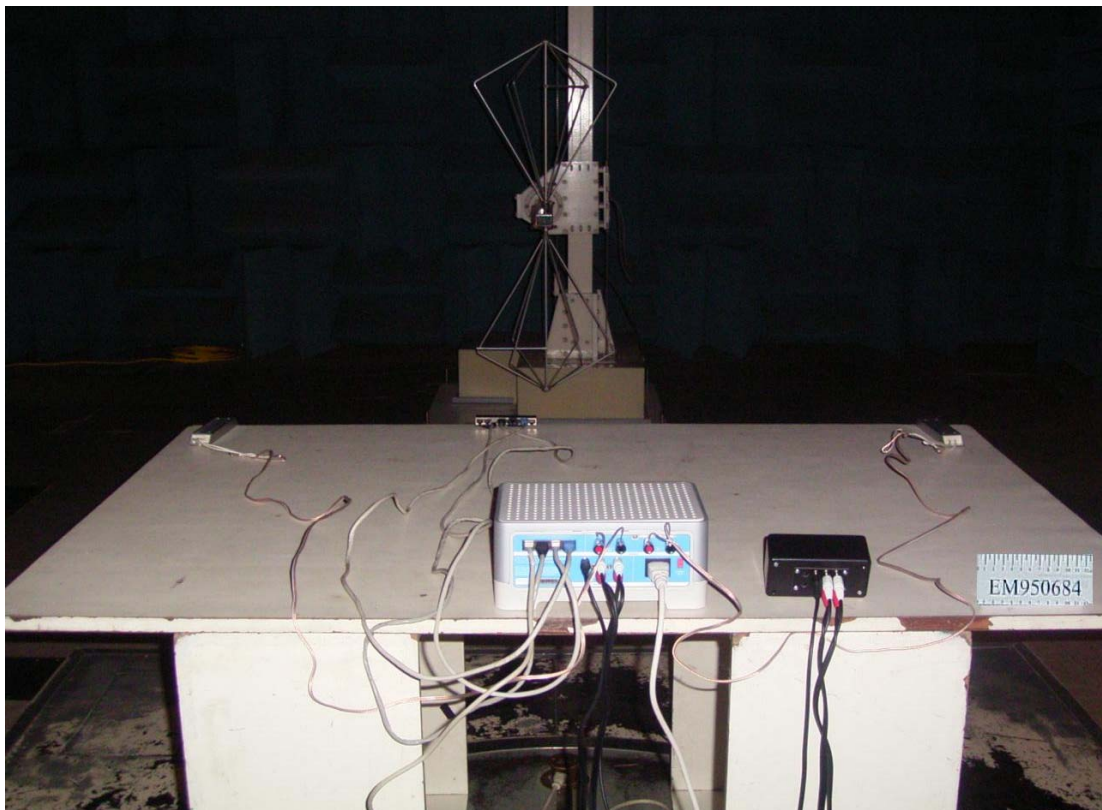
4. PHOTOGRAPHS

4.1. Photos of Radiated Measurement at Semi-Anechoic Chamber

4.1.1. Frequency Range 30MHz~1GHz

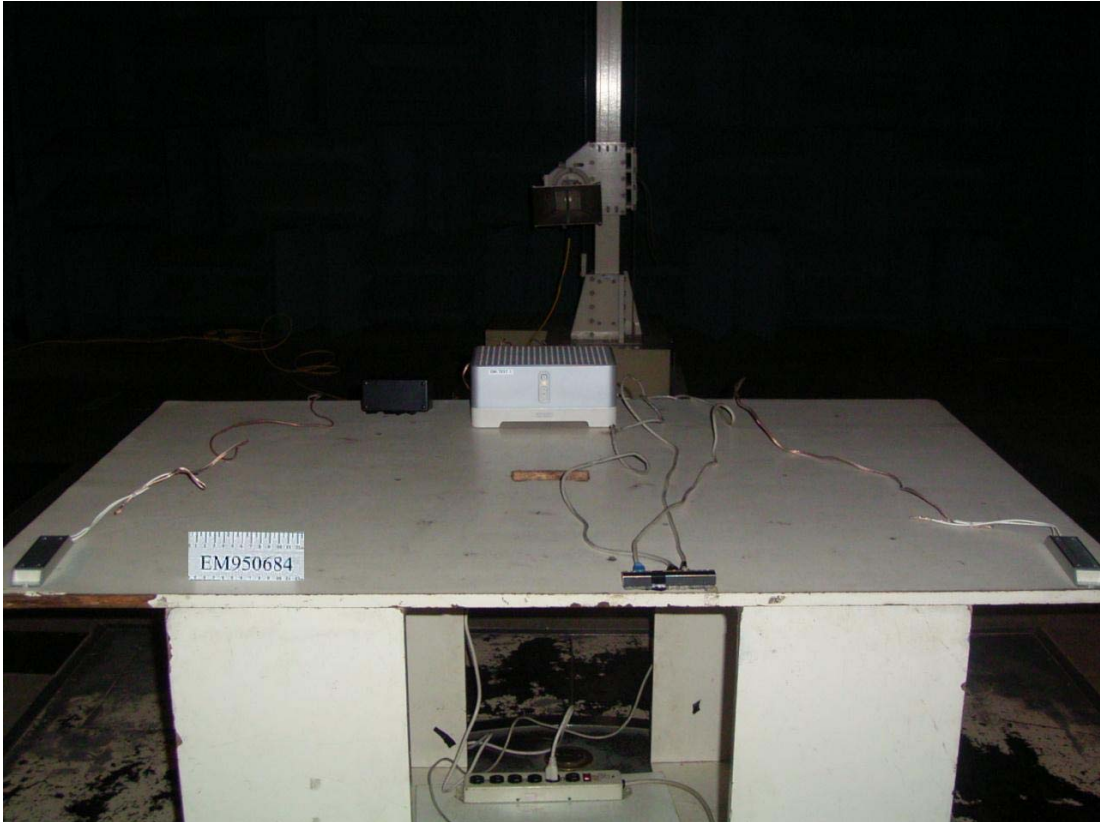


FRONT VIEW OF RADIATED MEASUREMENT

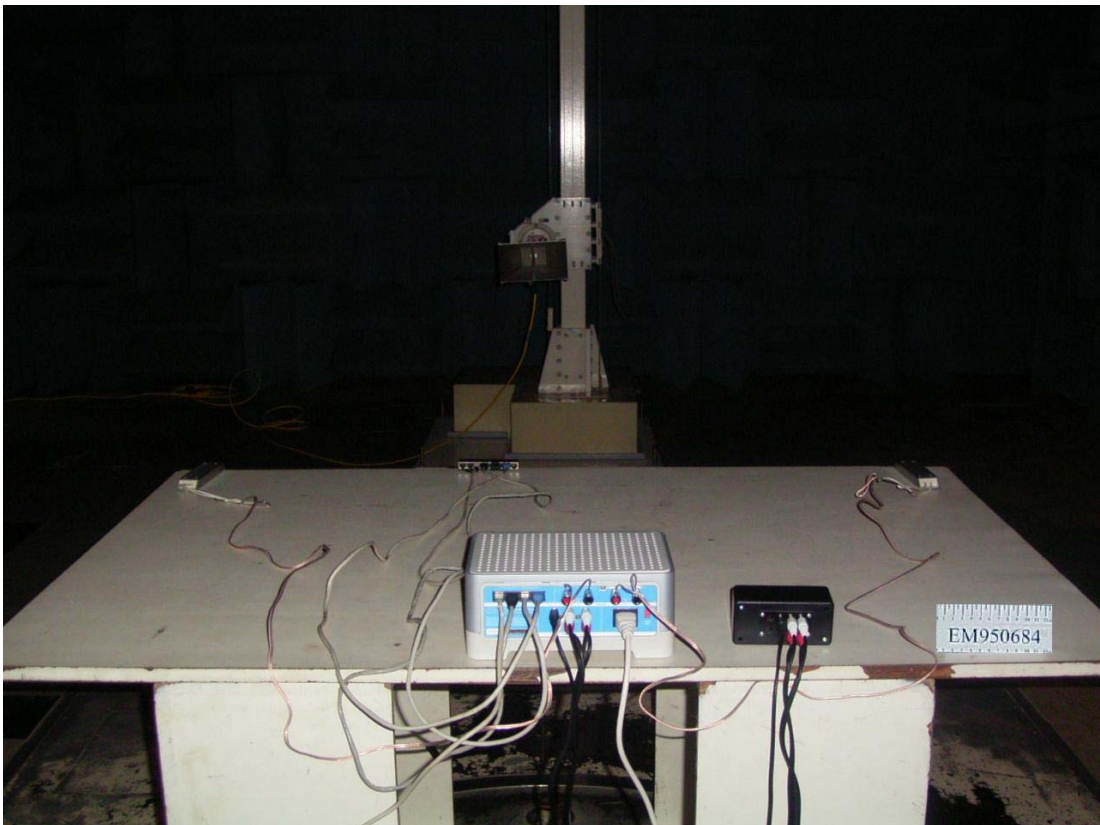


BACK VIEW OF RADIATED MEASUREMENT

4.1.2. Frequency Range: Above 1GHz



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT

PARTNER NOTEBOOK PC & CONTROLLER



VIEW OF RADIATED MEASUREMENT