





ISO/IEC17025 Accredited Lab.

Report No: FCC0901101-2 File reference No: 2009-03-03

Applicant: MMP LLC

Product: RiffMaster PS 2/3 wireless Guitar Receiver

Model No: RiffMaster M1

Brand Name: RiffMaster }

Test Standards: FCC Part 15 Subpart C, Paragraph 15.249

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.4&FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: March 03, 2009

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

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Report No: 0901101-2 Page 2 of 47

Date: 2009-03-03



Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

IC- Registration No.: IC5205A-01

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-01.



Report No: 0901101-2

Date: 2009-03-03



Test Report Conclusion Content

| | - · · · · · · · · · · · · · · · · · · · | |
|------|---|----|
| 1.0 | General Details | 4 |
| 1.1 | Test Lab Details. | 4 |
| 1.2 | Applicant Details | 4 |
| 1.3 | Description of EUT | 4 |
| 1.4 | Submitted Sample | 4 |
| 1.5 | Test Duration. | 4 |
| 1.6 | Test Uncertainty. | 5 |
| 1.7 | Test By | 5 |
| 2.0 | List of Measurement Equipment. | 5 |
| 3.0 | Technical Details | 7 |
| 3.1 | Summary of Test Results | 7 |
| 3.2 | Test Standards. | 7 |
| 4.0 | EUT Modification. | 7 |
| 5.0 | Power Line Conducted Emission Test. | 8 |
| 5.1 | Schematics of the Test. | 8 |
| 5.2 | Test Method and Test Procedure. | 8 |
| 5.3 | Configuration of the EUT | 8 |
| 5.4 | EUT Operating Condition. | 9 |
| 5.5 | Conducted Emission Limit. | 9 |
| 5.6 | Test Result. | 9 |
| 6.0 | Radiated Emission test | 12 |
| 5.1 | Test Method and Test Procedure. | 12 |
| 5.2 | Configuration of the EUT | 12 |
| 5.3 | EUT Operation Condition. | 12 |
| 5.4 | Radiated Emission Limit. | 13 |
| 5.5 | Test Result. | 14 |
| 7.0 | Band Edge. | 27 |
| 7.1 | Test Method and Test Procedure. | 27 |
| 7.2 | Radiated Test Setup. | 27 |
| 7.3 | Configuration of the EUT | 27 |
| 7.4 | EUT Operating Condition. | 27 |
| 7.5 | Band Edge Limit. | 28 |
| 7.6 | Band Edge Test Result. | 29 |
| 8.0 | Antenna Requirement. | 30 |
| 9.0 | 20dB bandwidth measurement | 31 |
| 10.0 | FCC ID Label | 34 |
| 11.0 | Photo of Test Setup and EUT View. | 35 |

Report No: 0901101-2 Page 4 of 47

Date: 2009-03-03



1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

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Shenzhen, CHINA.

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Site on File with the Federal Communications Commission – United Sates

Registration Number: 899988

For 3m & 10 m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A-01

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: Datel Design and Development, Inc

Address: Bldg3,Baozhou Ind ,Estate 117 Jiuwei Road ,Xixiang Bao'an Shenzhen 518126PRC China

RiffMaster #

Telephone: 727-431-0651 Fax: 727-431-0652

1.3 Description of EUT

Brand Name:

Product: RiffMaster PS 2/3 wireless Guitar Receiver

Manufacturer: Topway Electrical Appliance Co.,Ltd

Model Number: RiffMaster M1

Additional Model Name N/A
Additional Trade Name N/A

Rating: DC5.0V, connect to PS 2/3

Modulation Type: GFSK

Operation Frequency 2402-2480MHz

Antenna Designation Printed antenna, which is built-in, designed as an indispensable part of the EUT.

1.4 Submitted Sample

1 Sample

1.5 Test Duration

2009-1-20 to 2009-03-03

The report refers only to the sample tested and does not apply to the bulk.

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Page 5 of 47

Report No: 0901101-2 Date: 2009-03-03

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer

The sample tested by

Print Name: Terry Tang

| 2.0 | | Test Equi | ipments | | |
|----------------------------------|---------------|-----------|-----------------------|--------------|------------|
| Instrument Type | Manufacturer | Model | Serial No. | Date of Cal. | Due Date |
| ESPI Test Receiver | ROHDE&SCHWARZ | ESPI 3 | 100379 | 2008-12-05 | 2009-12-04 |
| Absorbing Clamp | ROHDE&SCHWARZ | MDS-21 | 100126 | 2008-12-05 | 2009-12-04 |
| TWO Line-V-NETW | ROHDE&SCHWARZ | EZH3-Z5 | 100294 | 2008-12-05 | 2009-12-04 |
| TWO Line-V-NETW | ROHDE&SCHWARZ | EZH3-Z5 | 100253 | 2008-12-05 | 2009-12-04 |
| Ultra Broadband ANT | ROHDE&SCHWARZ | HL562 | 100157 | 2008-12-05 | 2009-12-04 |
| ESDV Test Receiver | ROHDE&SCHWARZ | ESDV | 100008 | 2008-04-26 | 2009-04-25 |
| 4-WIRE ISN | ROHDE&SCHWARZ | ENY 41 | 830663/044 | 2009-02-18 | 2010-02-17 |
| GG ENY22 Double 2-Wire ISN | ROHDE&SCHWARZ | ENY22 | 83066/016 | 2009-02-18 | 2010-02-17 |
| Impuls-Begrenzer | ROHDE&SCHWARZ | ESH3-Z2 | 100281 | 2009-02-18 | 2010-02-17 |
| System Controller | CT | SC100 | - | 2009-02-18 | 2010-02-17 |
| Printer | EPSON | РНОТО ЕХЗ | CFNH234850 | 2009-02-18 | 2010-02-17 |
| FM-AM Signal Generator | JUNGJIN | SG-150M | 389911177 | 2009-02-18 | 2010-02-17 |
| Color TV Pattern Generator | PHILIPS | PM5418 | LO621747 | 2009-02-18 | 2010-02-17 |
| Computer | IBM | 8434 | 1S8434KCE99BLX LO* | - | - |
| Oscillator | KENWOOD | AG-203D | 3070002 | 2009-02-18 | 2010-02-17 |

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Page 6 of 47

Report No: 0901101-2

Date: 2009-03-03

| | | | /p | | |
|---------------------------------|------------------------|------------|-------------|------------|------------|
| Spectrum Analyzer | HAMEG | HM5012 | · · | 2008-04-26 | 2009-04-25 |
| Power Supply | LW | APS1502 | - | - | - |
| 5K VA AC Power Source | California Instruments | 5001iX | 56060 | 2009-02-18 | 2010-02-17 |
| CDN | EM TEST | CDN M2/M3 | - | 2009-02-18 | 2010-02-17 |
| Attenuation | EM TEST | ATT6/75 | - | 2009-02-18 | 2010-02-17 |
| Resistance | EM TEST | R100 | - | 2009-02-18 | 2010-02-17 |
| Electromagnetic Injection Clamp | LITTHI | EM101 | 35708 | 2009-02-18 | 2010-02-17 |
| Signal Generator | ROHDE&SCHWARZ | SMT03 | 100029 | 2009-02-18 | 2010-02-17 |
| Power Amplifier | AR | 150W1000 | 300999 | 2009-02-18 | 2010-02-17 |
| Field probe | Holaday | HI-6005 | 105152 | 2009-02-18 | 2010-02-17 |
| Bilog Antenna | Chase | CBL6111C | 2576 | 2009-02-18 | 2010-02-17 |
| ESPI Test Receiver | ROHDE&SCHWARZ | ESI26 | 838786/013 | 2009-02-18 | 2010-02-17 |
| 3m OATS | | | N/A | 2009-02-18 | 2010-02-17 |
| Horn Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170265 | 2008-08-18 | 2009-08-17 |
| Horn Antenna | SCHWARZBECK | BBHA 9120D | 9120D-631 | 2008-04-26 | 2009-04-25 |

Page 7 of 47

Report No: 0901101-2 Date: 2009-03-03



3.0 Technical Details

3.1 Summary of test results

| Standard | Test Type | Result | Notes |
|--|-------------------------------------|--------|----------|
| FCC Part 15, Paragraph 15.207 | Conducted Emission Test | PASS | Complies |
| FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit | Field Strength of Fundamental | PASS | Complies |
| FCC Part 15, Paragraph 15.209 | Radiated Emission Test | PASS | Complies |
| CCC Part 15 Subpart C Paragraph 15.249(d) Limit | Band Edge Test | PASS | Complies |

3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249

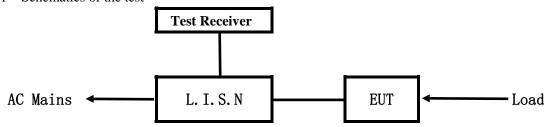
4.0 EUT Modification

No modification by Shenzhen Timeway Technology Consulting Co.,Ltd

Report No: 0901101-2 Date: 2009-03-03 **Power Line Conducted Emission Test**

5.

Schematics of the test

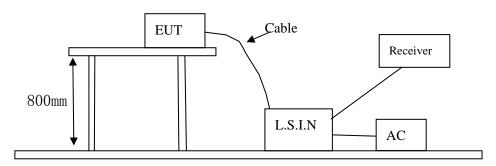


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 -2003.

Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2003. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

One channels are provided to the EUT

EUT A.

| Device | Manufacturer | Model | FCC ID |
|-------------------|-------------------------------------|---------------|-------------|
| RiffMAster PS 2/3 | Topway Electrical Appliance Co.,Ltd | RiffMaster M1 | W3NGRMPSREC |
| wireless Guitar | | | |
| Receiver | | | |

B. Internal Device

| Device | Manufacturer | Model | FCC ID/DOC |
|--------|--------------|-------|------------|
| N/A | | | |

The report refers only to the sample tested and does not apply to the bulk.

Page 9 of 47

Report No: 0901101-2 Date: 2009-03-03



C. Peripherals

| Device | Manufacturer | Model | FCC ID/DOC | Cable |
|--------|--------------|-------|------------|-------|
| N/A | | | | |

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2003

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

| Eraguanay/MIJa) | Class A Lir | nits (dB µ V) | Class B Limits (dB µ V) | | |
|------------------|------------------|---------------|-------------------------|---------------|--|
| Frequency(MHz) | Quasi-peak Level | Average Level | Quasi-peak Level | Average Level | |
| $0.15 \sim 0.50$ | 79.0 | 66.0 | 66.0~56.0* | 56.0~46.0* | |
| $0.50 \sim 5.00$ | 73.0 | 60.0 | 56.0 | 46.0 | |
| 5.00 ~ 30.00 | 73.0 | 60.0 | 60.0 | 50.0 | |

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Report No: 0901101-2

Date: 2009-03-03

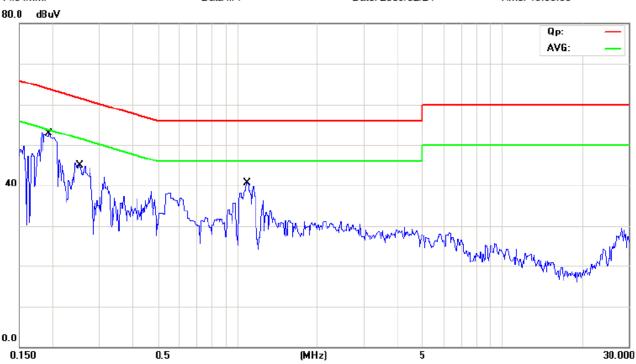
Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Connected to PS2
Working Voltage: 120V~ 60Hz
Model: RiffMaster M1

Results: Pass

Please refer to following diagram for individual

File :MMP Data :#4 Date: 2009/02/24 Time: 15:05:00



| Eraguanay | | Reading | Limi | t | | |
|-----------------|------------|---------|------------|---------|------------|---------|
| Frequency (MHz) | Live | ; | Neutr | al | (dB µ | V) |
| (WITIZ) | Quasi-peak | Average | Quasi-peak | Average | Quasi-peak | Average |
| 0.1921 | | | 51.24 | 18.54 | 63.95 | 53.95 |
| 1.0876 | | | 36.64 | 12.54 | 56.00 | 46.00 |
| 0.2522 | | | 42.71 | 10.91 | 61.68 | 51.68 |

Note: Plot shown above result from a pre-scan

Report No: 0901101-2

Date: 2009-03-03

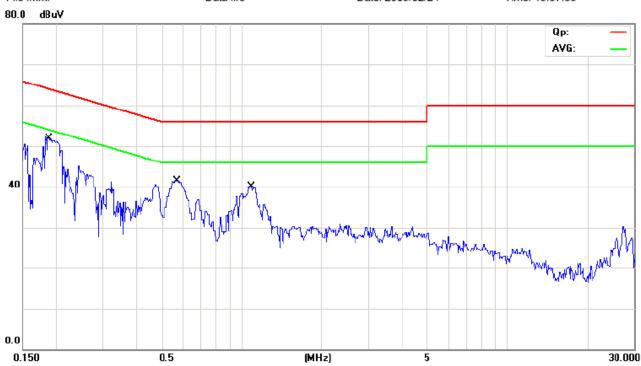
Conducted Emission on Live Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Connected to PS2 Working Voltage: 120V~ 60Hz Model: RiffMaster

Results: Pass

Please refer to following diagram for individual

File:MMP Data:#5 Date: 2009/02/24 Time: 15:07:53 dBuV



| Eraguanav | | Reading | Limit | | | |
|-----------------|------------|----------|------------|---------|------------|---------|
| Frequency (MHz) | Live | ; | Neutr | al | (dB µ | V) |
| (MHZ) | Quasi-peak | Average | Quasi-peak | Average | Quasi-peak | Average |
| 0.1884 | 50.84 | 22.04 | | | 64.11 | 54.1 |
| 0.5676 | 39.54 | 11.94 | | | 56.00 | 46.00 |
| 1.0811 | 36.23 | 12.63 | | | 56.00 | 46.00 |

Note: Plot shown above result from a pre-scan

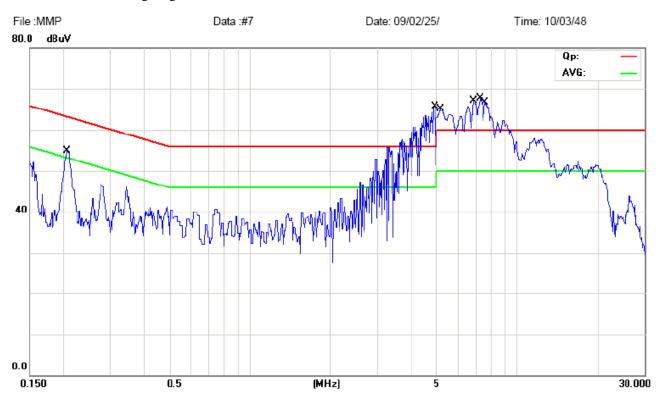
Report No: 0901101-2 Date: 2009-03-03 TEST REPORT

Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Connected to PS3
Working Voltage: 120V~ 60Hz
Model: RiffMaster M1

Results: Pass

Please refer to following diagram for individual



| Eraguanav | | Reading | Limit | | | |
|-----------------|------------|--------------|------------|-----------------------|------------|---------|
| Frequency (MHz) | Live | Live Neutral | | Neutral (dB \(\mu \) | | V) |
| (MITIZ) | Quasi-peak | Average | Quasi-peak | Average | Quasi-peak | Average |
| 0.2090 | | | 48.96 | 42.56 | 63.24 | 53.24 |
| 4.9050 | | | 54.96 | 39.46 | 56.00 | 46.00 |
| 5.2214 | | | 55.81 | 38.91 | 60.00 | 50.00 |
| 6.9137 | | | 58.90 | 48.40 | 60.00 | 50.00 |
| 7.2924 | | | 58.94 | 45.34 | 60.00 | 50.00 |
| 7.6687 | | | 59.98 | 46.18 | 60.00 | 50.00 |

Note: Plot shown above result from a pre-scan

Report No: 0901101-2

Date: 2009-03-03

Conducted Emission on Live Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Connected to PS3
Working Voltage: 120V~ 60Hz
Model: RiffMaster

Results: Pass

Please refer to following diagram for individual

File :MMP Data :#6 Date: 09/02/25/ Time: 9/57/41

80.0 d3uV

40

0.0 5 (MHz) 5 30.000

| Eraguanav | Reading(dB µ V) | | | | Limit | |
|--------------------|-----------------|---------|------------|---------|------------|---------|
| Frequency (MHz) | Live | ; | Neutral | | (dB µ V) | |
| (WITIZ) | Quasi-peak | Average | Quasi-peak | Average | Quasi-peak | Average |
| 4.8487 | 53.84 | 40.64 | | | 56.00 | 46.00 |
| 5.2836 | 59.08 | 48.98 | | | 60.00 | 50.00 |
| 6.5753 | 35.94 | 26.44 | | | 60.00 | 50.00 |
| 6.9290 | 58.69 | 48.79 | | | 60.00 | 50.00 |
| 7.3100 | 58.73 | 49.03 | | | 60.00 | 50.00 |
| 7.6760 | 59.08 | 48.78 | | | 60.00 | 50.00 |

Note: Plot shown above result from a pre-scan

The report refers only to the sample tested and does not apply to the bulk.

Page 14 of 47

Report No: 0901101-2 Date: 2009-03-03



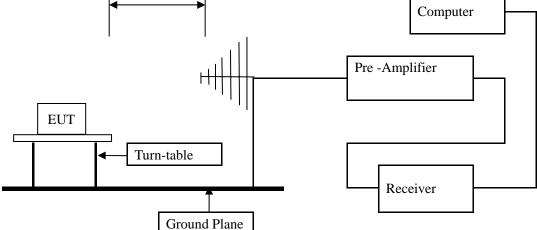
6 **Radiated Emission Test**

6.1 Test Method and test Procedure:

Block diagram of Test setup

- (1) The EUT was tested according to ANSI C63.4 -2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988
- The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up (2) is according to ANSI C63.4-2003.
- (3) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz. Measurements were made at 3 meters.
- The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency. (4)
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

Distance = 3m



- 6.2 Configuration of The EUT Same as section 5.3 of this report
- **EUT Operating Condition** 6.3 Same as section 5.4 of this report.

Page 15 of 47

Report No: 0901101-2 Date: 2009-03-03



6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

| Ī | Fundamental Frequency | Field Strength of Fundamental (3m) | | | Field Strength of Harmonics (3m) | | |
|---|-----------------------|------------------------------------|--------------|------------|----------------------------------|--------------|-----------|
| | (MHz) | mV/m | dBuV/m | | uV/m | dBu | V/m |
| | 2400-2483.5 | 50 | 94 (Average) | 114 (Peak) | 500 | 54 (Average) | 74 (Peak) |

Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
- 2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

| Frequency Range (MHz) | Distance (m) | Field strength (dB µ V/m) |
|-----------------------|--------------|---------------------------|
| 30-88 | 3 | 40.0 |
| 88-216 | 3 | 43.5 |
| 216-960 | 3 | 46.0 |
| Above 960 | 3 | 54.0 |

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.
- 5. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK and AV detector.

Report No: 0901101-2 Page 16 of 47

Date: 2009-03-03



6.5 Test result

\mathbf{A} **Fundamental & Harmonics Radiated Emission Data**

| Product: | RiffMaster PS 2/3 Wireless Guitar | Test Mode: | Low Channel |
|---------------|------------------------------------|--------------|-------------|
| Test Item: | Fundamental Radiated Emission Data | Temperature: | 25℃ |
| Test Voltage: | 5VDC | Humidity: | 56% |
| Test Result: | Pass | | |

| Frequency | Emission PK/AV | Horiz / | Limits PK/AV | Margin |
|-----------|----------------|---------|--------------|-------------|
| (MHz) | (dBuV/m) | Vert | (dBuV/m) | (dB) |
| 2402 | 78.7/66.5 | Н | 114/94 | -35.3/-27.5 |
| 2402 | 82.2/69.1 | V | 114/94 | -31.8/-24.9 |
| 4804 | 43.7(PK) | V | 74/54 | -10.3 |
| 4804 | | Н | 74/54 | |
| 7206 | | H/V | 74/54 | |
| 9608 | | H/V | 74/54 | |
| 12010 | | H/V | 74/54 | |
| 14412 | | H/V | 74/54 | |
| 16814 | | H/V | 74/54 | |
| 19216 | | H/V | 74/54 | |
| 21618 | | H/V | 74/54 | |
| 24020 | | H/V | 74/54 | |

Page 17 of 47

| Product: | RiffMaster PS 2/3 Wireless Guitar | Test Mode: | Middle Channel | | | | |
|---------------|------------------------------------|--------------|----------------|--|--|--|--|
| Test Item: | Fundamental Radiated Emission Data | Temperature: | 25℃ | | | | |
| Test Voltage: | 5VDC | Humidity: | 56% | | | | |
| Test Result: | Pass | | | | | | |

| Frequency | Emission PK/AV | Horiz / | Limits PK/AV | Margin |
|-----------|----------------|---------|--------------|-------------|
| (MHz) | (dBuV/m) | Vert | (dBuV/m) | (dB) |
| 2441 | 79.2/67.1 | Н | 114/94 | -34.8/-26.9 |
| 2441 | 82.8/70.3 | V | 114/94 | -31.2/-23.7 |
| 4882 | 45.8(PK) | V | 74/54 | -8.2 |
| 4882 | | Н | 74/54 | |
| 7323 | | H/V | 74/54 | |
| 9764 | | H/V | 74/54 | |
| 12205 | | H/V | 74/54 | |
| 14646 | | H/V | 74/54 | |
| 17087 | | H/V | 74/54 | |
| 19528 | | H/V | 74/54 | |
| 21969 | | H/V | 74/54 | |
| 24410 | | H/V | 74/54 | |

Page 18 of 47

Report No: 0901101-2 Date: 2009-03-03

| Product: | RiffMaster PS 2/3 Wireless Guitar | Test Mode: | High Channel | | | | |
|---------------|------------------------------------|--------------|--------------|--|--|--|--|
| Test Item: | Fundamental Radiated Emission Data | Temperature: | 25℃ | | | | |
| Test Voltage: | 5VDC | Humidity: | 56% | | | | |
| Test Result: | Pass | | | | | | |

| Frequency | Emission PK/AV | Horiz / | Limits PK/AV | Margin |
|-----------|----------------|---------|--------------|-------------|
| (MHz) | (dBuV/m) | Vert | (dBuV/m) | (dB) |
| 2480 | 79.8/68.5 | Н | 114/94 | -34.2/-25.5 |
| 2480 | 83.6/71.2 | V | 114/94 | -30.4/-22.8 |
| 4960 | 48.2(PK) | V | 74/54 | -5.8 |
| 4960 | | H/V | 74/54 | |
| 7440 | | H/V | 74/54 | |
| 9920 | | H/V | 74/54 | |
| 12400 | | H/V | 74/54 | |
| 14880 | | H/V | 74/54 | |
| 17360 | | H/V | 74/54 | |
| 19840 | | H/V | 74/54 | |
| 22320 | | H/V | 74/54 | |
| 24800 | | H/V | 74/54 | |

Note: (1) PK= Peak, AV= Average

(2) Emission Level = Reading Level + Probe Factor + Cable Loss.

(3)Margin=Emission-Limits

(4)According to section 15.35(b), the peak limit is 20dB higher than the average limit

Page 19 of 47

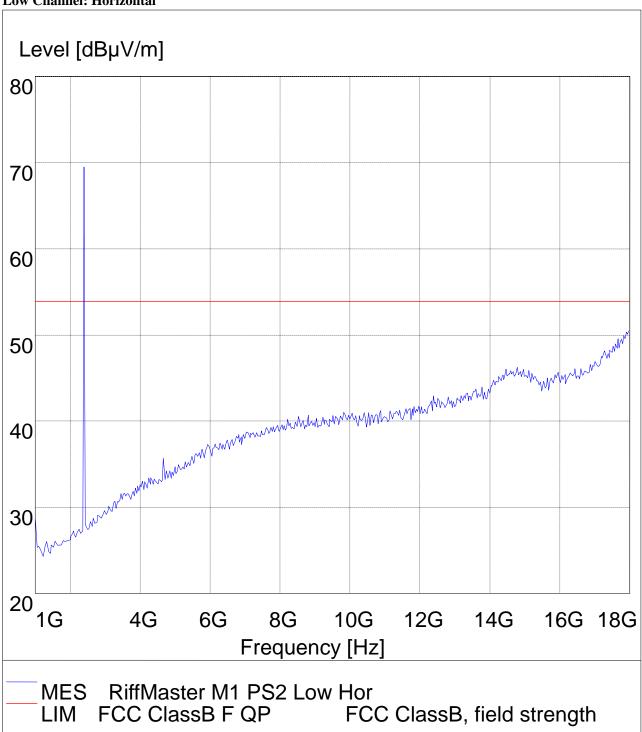
Report No: 0901101-2

Date: 2009-03-03



Please refer to the following test plots for details:

Low Channel: Horizontal



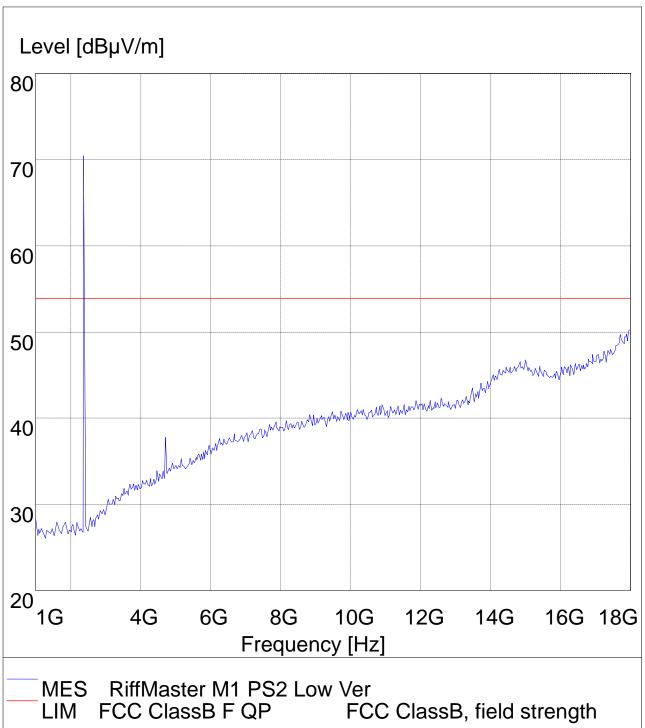
The report refers only to the sample tested and does not apply to the bulk.

Page 20 of 47

Report No: 0901101-2 Date: 2009-03-03



Low Channel: Vertical

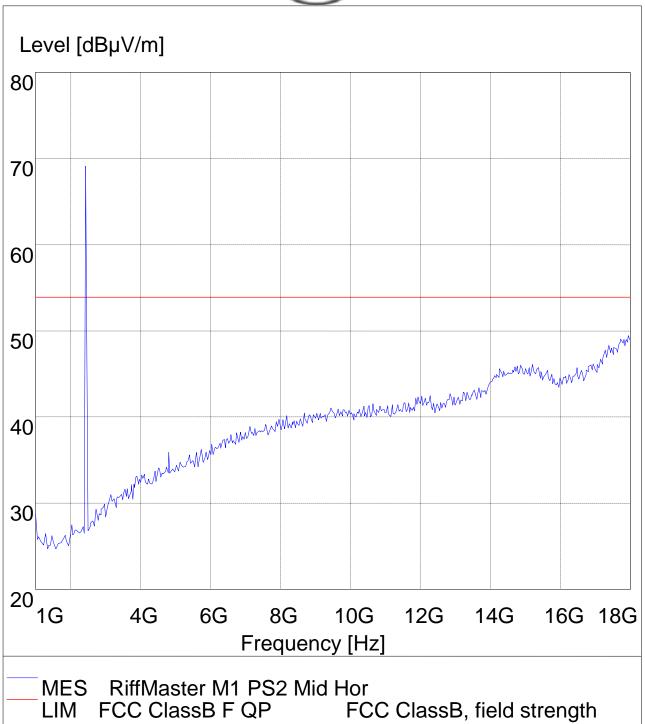


Page 21 of 47

Report No: 0901101-2 Date: 2009-03-03



Middle Channel: Horizontal



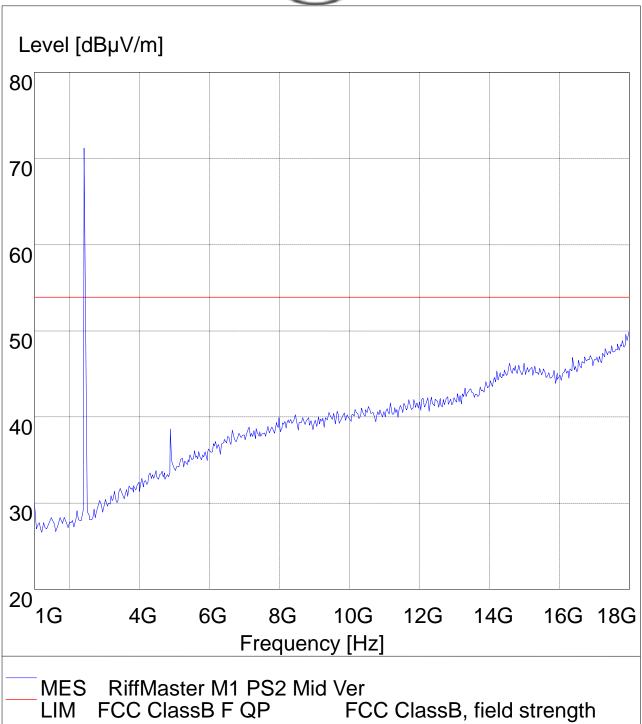
The report refers only to the sample tested and does not apply to the bulk.

Page 22 of 47

Report No: 0901101-2 Date: 2009-03-03



Middle Channel :: Vertical

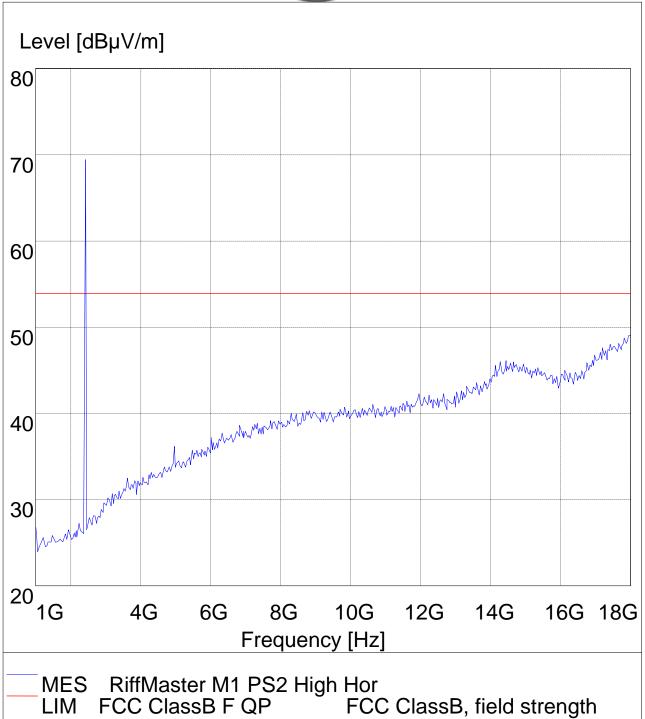


Page 23 of 47

Report No: 0901101-2 Date: 2009-03-03



High Channel: Horizontal



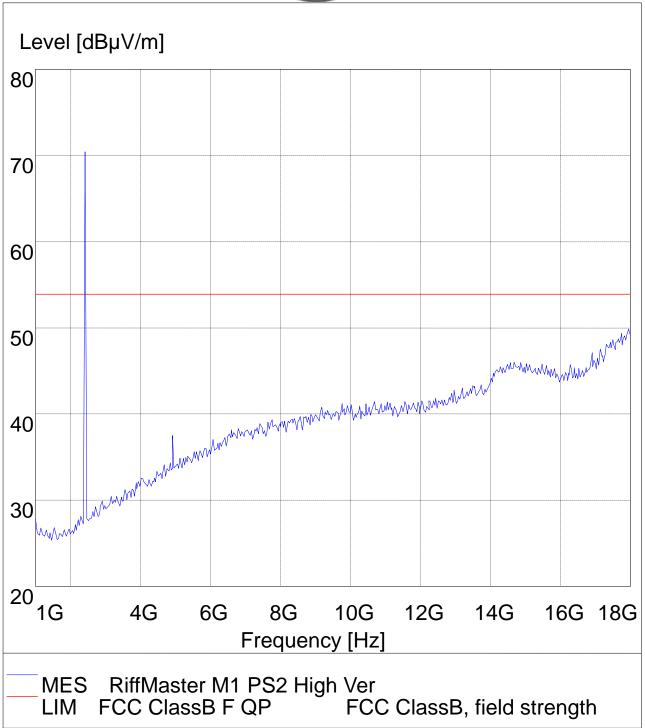
The report refers only to the sample tested and does not apply to the bulk.

Page 24 of 47

Report No: 0901101-2 Date: 2009-03-03



High Channel: Vertical



18-25G

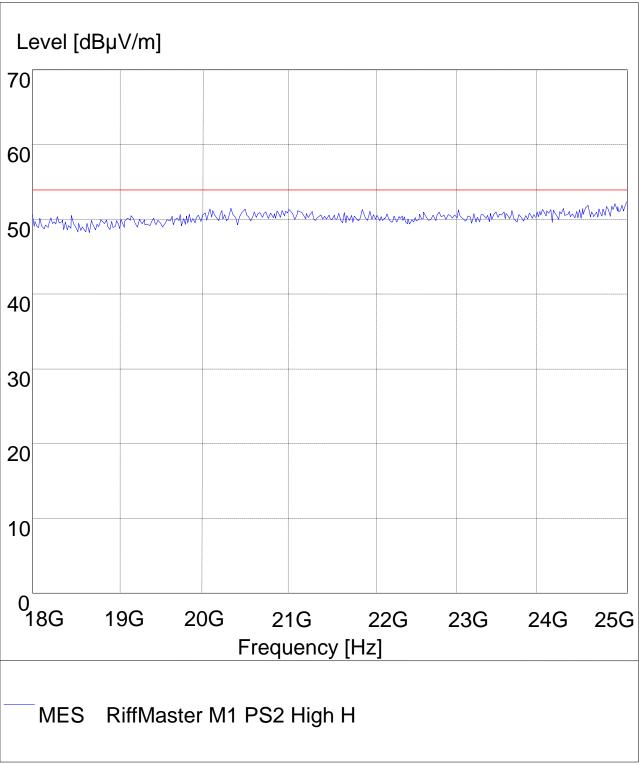
The report refers only to the sample tested and does not apply to the bulk.

Page 25 of 47

Report No: 0901101-2 Date: 2009-03-03



High Channel



18-25G

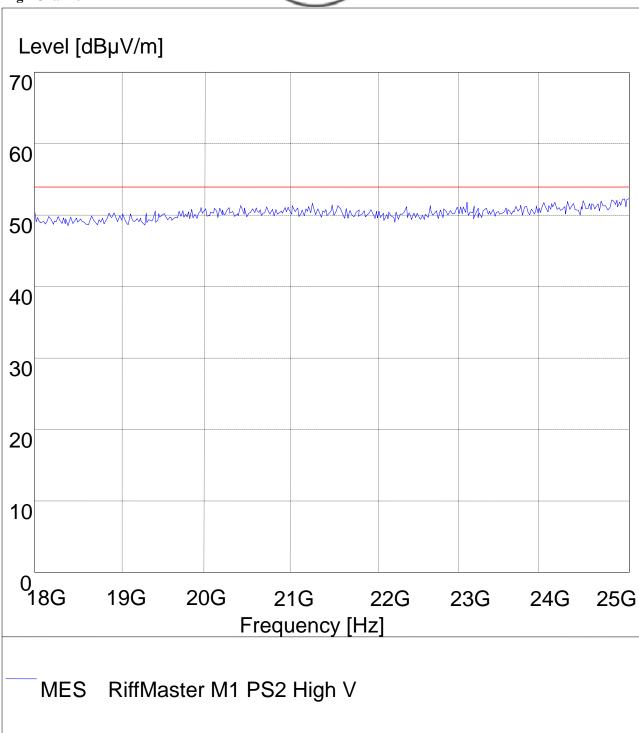
The report refers only to the sample tested and does not apply to the bulk.

Page 26 of 47

Report No: 0901101-2 Date: 2009-03-03



High Channel



B. General Radiated Emission Data

The report refers only to the sample tested and does not apply to the bulk.

Report No: 0901101-2

Date: 2009-03-03

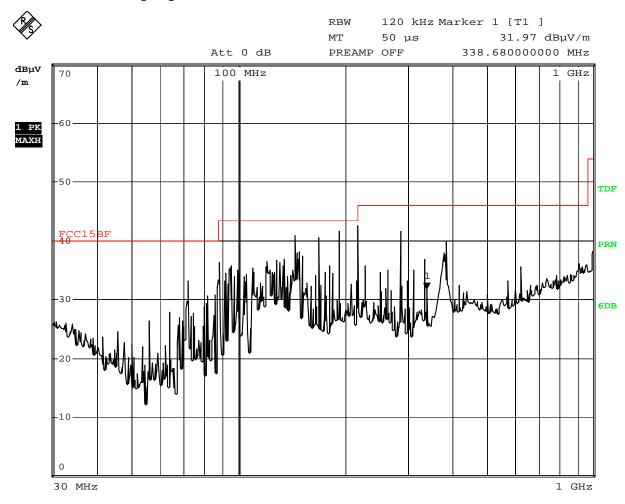


Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting Mode: Connected to PS3

Results: Pass

Please refer to following diagram for individual



Comment: 12v 7AH -V charging
Date: 2.MAR.2009 11:45:05

| Frequency (MHz) | Level@3m (dB μ V/m) | Antenna Polarity | Limit@3m (dB μ V/m) |
|-----------------|-------------------------|------------------|-------------------------|
| 144.00 | 40.79 | Н | 43.50 |
| 192.00 | 41.61 | Н | 43.50 |
| 216.00 | 42.49 | Н | 43.50 |

The report refers only to the sample tested and does not apply to the bulk.

Report No: 0901101-2

Date: 2009-03-03

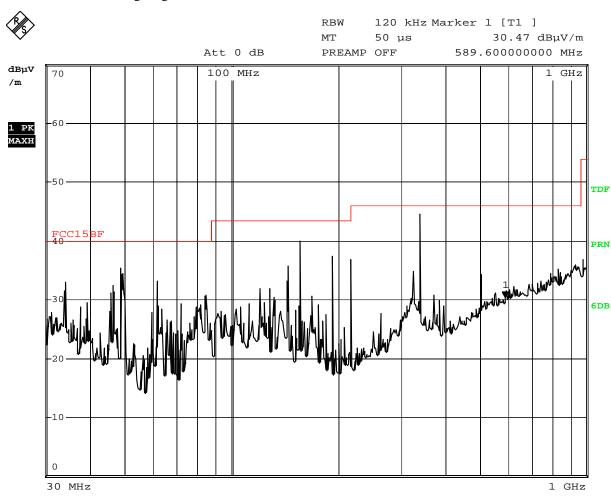


Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting Mode: Connected to PS3

Results: Pass

Please refer to following diagram for individual



Comment: 12v 7AH -V charging
Date: 2.MAR.2009 11:43:14

| Frequency (MHz) | Level@3m (dB μ V/m) | Antenna Polarity | Limit@3m (dB \u03b4 V/m) |
|-----------------|-------------------------|------------------|--------------------------|
| 48.48 | 35.41 | V | 40.00 |
| 156.08 | 40.05 | V | 43.50 |
| 338.68 | 44.59 | V | 46.00 |

Report No: 0901101-2 Date: 2009-03-03

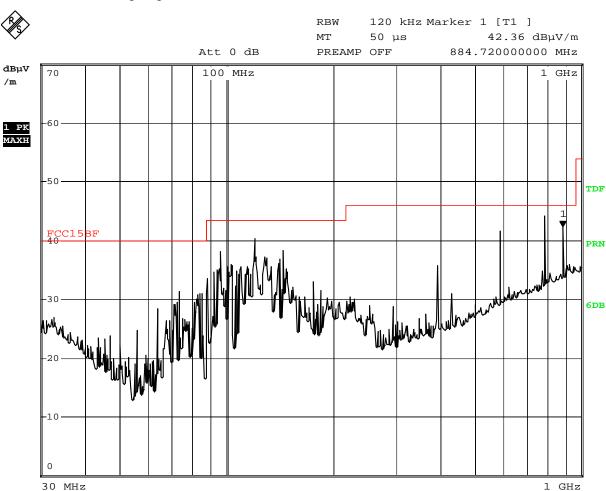


C. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting Mode: Connected to PS2

Results: Pass

Please refer to following diagram for individual



Comment: 12v 7AH -V charging
Date: 2.MAR.2009 11:30:05

| Frequency (MHz) | Level@3m (dB μ V/m) | Antenna Polarity | Limit@3m (dB \u03b4 V/m) |
|-----------------|-------------------------|------------------|--------------------------|
| 96.00 | 38.04 | Н | 43.50 |
| 120.08 | 40.24 | Н | 43.50 |
| 589.80 | 41.66 | Н | 46.00 |
| 786.40 | 44.21 | Н | 46.00 |

The report refers only to the sample tested and does not apply to the bulk.

Report No: 0901101-2

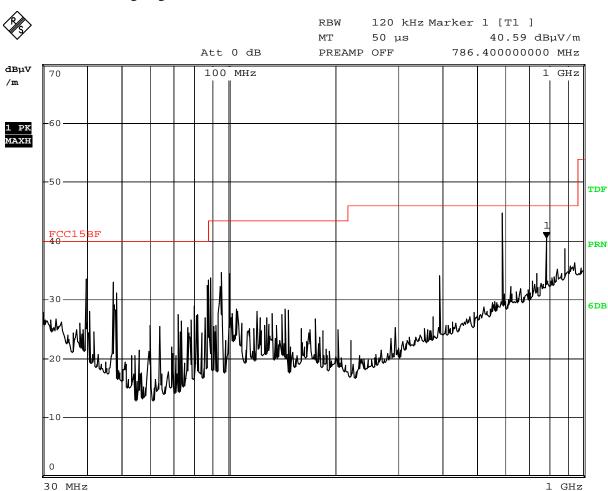
Date: 2009-03-03



EUT set Condition: Keep Tx transmitting Mode: Connected to PS2

Results: Pass

Please refer to following diagram for individual



Comment: 12v 7AH -V charging
Date: 2.MAR.2009 11:32:35

| Frequency (MHz) | Level@3m (dB μ V/m) | Antenna Polarity | Limit@3m (dB \mu V/m) |
|-----------------|-------------------------|------------------|-----------------------|
| 39.64 | 33.44 | V | 40.00 |
| 95.08 | 34.59 | V | 43.50 |
| 589.80 | 44.75 | V | 46.00 |

Report No: 0901101-2 Date: 2009-03-03

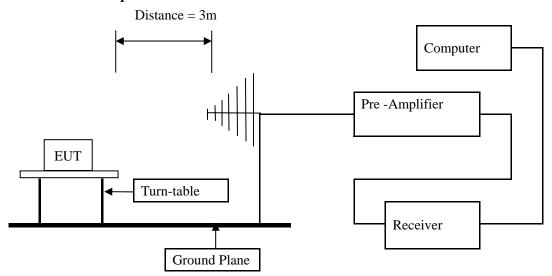


7. Band Edge

7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988
- (2) Set Spectrum as RBW=VBW=100kHz and Peak detector used
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

7. 2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

7.3 Configuration of The EUT

Same as section 5.3 of this report

7.4 EUT Operating Condition

Same as section 5.4 of this report.

7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Page 32 of 47

Report No: 0901101-2 Date: 2009-03-03



7.6 Test Result

| Product: | RiffMaster l | PS 2 | 2/3 Wirele | ess Guitar | Tes | t Mode: | | Low Cl | hannel | |
|---------------|--------------|------|------------|------------------|-----------|------------|--------------|-----------------------------|-------------------------------|-----|
| Mode | | | Transmitt | | _ | Voltage | | DC | | |
| Temperature | | | deg. C, | | | ımidity | 56% RH | | | |
| Test Result: | | | Pass | | | etector | | PK | | |
| 2400141 | PK (dBμV/m | 1) | 4 | 5.51 | | , | 74(dBµV/m) | | μV/m) | |
| 2400MHz | AV(dBμV/m | 1) | | | I | Limit | 54(dBμV/m) | | | |
| € M | Marke | r 1 | [T1] | | RBW | 1 MI | Iz RFAtt 0 | | | |
| Ref Lvl | | | 87.9 | 8 dB μ V | VBW | 1 M | Hz | | | |
| 97 dB μ V | | 2. | .402144 | 29 GHz | SWT | 5 m | s Ur | n i t | $\mathrm{dB}\mu\mathrm{V}$ | ′ |
| 97 | | | | | | ▼ 1 | [T1] | 87. | 98 dBμV | A |
| 90 | | | | | | _ | | 2. 40214 | 429 GHz | |
| | | | | | | ∇2 | [T1] | 50. 2.3 8 000 | $61~\mathrm{dB}\mu\mathrm{V}$ | |
| 80 | | | | | | | | 2./30000 | 000 0112 | |
| | | | | | | | | | | |
| 70 | | | | | | | | | | |
| 1MAX | | | | | | | | | | 1MA |
| | | | | | | | 2 | | ll _{lu} . | |
| 50 | | | | | | ا/س. | | | | |
| | | | | | الكلائسي | | | ! VI | | |
| 40 | | 1 11 | A le landa | <u>าภหมไปได้</u> | | | | | 1 110 | 1 |
| | | | | | | | | | | |
| 30 | | | | | יין יעוון | וויין עוט | U | | | 1 |
| | | | | | | | | | | |
| 20 | | | | | | | | | | |
| | | | | | | | | | | |
| 10 | | | | | | | | | | 1 |
| | | | | | | | | | | |
| -3 -3 | | | | | | | | | | j |
| Start 2.3 | 1 GHz | | | 11 1 | 1Hz/ | | | Stop 2 | .42 GHz | |
| Date: 20. | FEB.2009 | 12: | 30:44 | | | | | | | |

Note: Field Strength in restrict band measured in conventional manner

Page 33 of 47

Report No: 0901101-2 Date: 2009-03-03

| Product: | RiffMaster PS | 2/3 Wirel | ess Guitar | Tes | t Mode: | | High C | hannel | |
|----------------------------|--|-----------|--------------|-------|------------|------------|--------|---|-----|
| Mode | - | Transmitt | | | oltage | | DC6V | | |
| Temperature | | deg. C, | | Humio | | 56% RH | | | |
| Test Result: | | Pass | | De | etector | PK | | | |
| 2492 5MH- | PK (dBμV/m) | | 58.5 | | T ::4 | 74(dBµV/m) | | μV/m) | |
| 2483.5MHz | $AV(dB\mu V/m)$ | | | | Limit | 54(dBµV/m) | | | |
| (A) | Marker | 1 [T1] | | RBW | 1 MI | Hz RFAtt O | | 0 dB | |
| Ref Lvl | | | 9 dB μ V | VBW | 1 MI | | | | |
| $97 \text{ dB}\mu\text{V}$ | 2 | 2.479859 | 172 GHz | SWT | 5 m: | s U | nit | ${ m dB}\mu{ m V}$ | ' |
| 97 | | 1 | | | ▼ 1 | [T1] | 88. | 19 dBμV | Α |
| 90 | | | | | ∀2 | [T1] | 1 | 572 БНZ 56 dB <i>µ</i> V 000 GHz | |
| 70 | | | | | | | | | |
| 1MAX | | , | | | | | | | 1MA |
| 00 | | | V | | | <u> </u> | Thus. | | |
| 40 | | | | | | V | | | |
| | ************************************** | | | T WAR | | | | | |
| 30 | | | | | | | | | |
| 20 | | | | | | | | | |
| 10 | | | | | | | | | |
| | | | | | | | | | |
| Start 2.4 | 17 GHz | | 3 MH | Hz/ | | | Stop | 2.5 GHz | |
| Date: 20 | .FEB.2009 12 | :34:38 | | | | | | | |

Note: Field Strength in restrict band measured in conventional manner

Report No: 0901101-2 Page 34 of 47

Date: 2009-03-03



8.0 Antenna Requirement

Applicable Standard

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has a PCB permanent antenna, fulfill the requirement of this section.

Test Result: Pass



| Product: | RiffMaster I | RiffMaster PS 2/3 Wireless Guitar | | | t Mode: | Low Channel | | | | |
|------------------------------|---------------------------|-----------------------------------|-----------|-------------------|------------|-----------------------|---------------------|----------------------------|-----|--|
| Mode | | ng Transmit | | | oltage | 1 | DC5V | | | |
| Temperature | | 24 deg. C, | <u>U</u> | Humio | | 56% RH PK | | | | |
| Test Result: | | Pass | | | etector | | | | | |
| OdB Bandwidth | 0 | .7816MHz | | | | | | | | |
| <u>^</u> | Marke | r 1 [T1 r | ndB 1 | RBW | 100 kH | tz RF | Att | 0 dB | | |
| Ref Lvl | ndB | | .00 dB | VBW | 100 kH | | | | | |
| 97 dB μ V | BW 7 | 81.563126 | 625 kHz | SWT | 5 ms | s Ur | nit | $\mathrm{dB}\mu\mathrm{V}$ | | |
| 97 | | | | | ▼ 1 | [T1] | 87. | 59 dB <i>μ</i> V | | |
| 90 | | | | 1 | <u> </u> | | 2.4821 7 | ² 134 6Hz | Α | |
| | | | | | ndB | | 20 | .00 dB | | |
| 80 | | | / | \longrightarrow | BW V⊤1 | 78 | 1.56312 | 625 kHz | | |
| | | | / | | \ | | 68. 2.40162 | 41 dBμV 2425 GHz | | |
| 70 | | T 1 | | | T2 VI2 | -{ T 1 } - | 87. | 27 dB _# V | | |
| | | <i></i> | | | W. | | 2.40240 |)581 GHz | | |
| 1MAX 60 | | | | | Y24 | T 1] | 49. | 02 dB μ V | 1 M | |
| | | u W | | | , W | / hardly | 2.40350 | 1000 GHz | | |
| 50 - 1 - 14 | <u>, 194 Million 1949</u> | 1 /1 | | | | | Thypup | | | |
| 40 | Maliana . | | | | | | ן ו י | | | |
| 40 | | | | | | | | ₩ VIJ U | | |
| 30 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| ۷. | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| | | | | | | | | | | |
| -3 | | | | | | | | | | |
| Center 2. | 402 GHz | | 300 k | Hz/ | | | Spa | an 3 MHz | | |



| Product: | Riff | Master PS | 2/3 Wirel | ess Guitar | Tes | t Mode: | | Middle Channel | | | |
|--------------------|-----------|-------------------------|-----------|------------|-------------------|--------------------------|-----------------|---------------------------|--|-----|--|
| Mode | | Keeping | Transmit | ting | Test V | oltage o | | DC5V 56% RH PK | | | |
| Temperature | | | deg. C, | * | Humie | | | | | | |
| Test Result: | | | Pass | | D | etector | | | | | |
| OdB Bandwidth | | 0.7 | 876MHz | | | | | | | | |
| Ref Lvl 97 dBμV | | Marker ndB BW 787 | | 00 dB | RBW VBW SWT | 100 kl 100 kl 5 m: | Hz | | 0 dB dB <i>μ</i> V | | |
| 97 | | | | | 1 | v ₁ | [T1] | 89. | , 22 dBμV | Α | |
| 90 | | | | | ~ | ndB | 7.0 | 2.44112 20 | 926 GHz .00 dB | | |
| 80 | | | T 4 | | | BW ▼T1 | [T1] | 7.57515 69. 2.44061 | 030 kHz 05 dBμV 222 GHz | | |
| 70 1MAX | | | | | | | [71] | 78. 2.44139 | 38 dBμV 980 GHz 54 dBμV | 1 M | |
| 50 4 4 4 4 | 4) (**/// | Mining | Ties C | | | . 2 | | 2.43950 | 000 GHz | | |
| 40 | | | | | | | | | * • * | | |
| 30 | | | | | | | | | | | |
| 20 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| -3 | | | | | | | | | | | |
| Center 2. | 441 GH | Hz | | 300 | ≺Hz/ | | | Spa | ın 3 MHz | | |

Page 37 of 47



| 9.2 20dB Bandwidt | th Measurement | | -)" | | | |
|--------------------------|----------------|------------------------|------------|------------------|-------------------|--|
| Product: | RiffMaster P. | S 2/3 Wireless Guita | ar Tes | st Mode: | High (| Channel |
| Mode | Keepin | g Transmitting | Test V | /oltage | DC | C5V |
| Temperature | 2 | 4 deg. C, | Humi | dity | 56% | 6 RH |
| Test Result: | | Pass | D | etector | P | PK |
| 20dB Bandwidth | 0. | 7575MHz | | | | |
| Ref Lvl | ndB | 1 [T1 ndB] 20.00 dB | RBW VBW | 100 k⊢ 100 k⊢ | łz | 0 dB |
| 97 dB μ V | BW 75 | 7.51503006 kHz | SWT | 5 ms | s Unit | dB μ V |
| 97 | | | 1 | ▼ 1 | [T1] 88 | .78 dBμV |
| | | /m | | ndB BW | 757.5150 | 0.00 dB 3006 kHz |
| 80 | | | \ | ∇ _{T 1} | [T1] 68 2.4796 | .71 dBμV 1824 GHz |
| 70 1MAX | | | | | [71] 68 2.4803 | . 85 dB;µ√ 7575 GHz 1 MA |
| 50 444 41114 | | Uphy w | | <u> </u> | | |
| 40 | | | | | TV V | |
| 30 | | | | | | |
| 20 | | | | | | |
| 10 | | | | | | |
| -3 | 40. 514 | | | | | 2. MI |
| Center 2. Date: 20. | | 300 2:39:12 | l kHz∕ | | Spi | an 3 MHz |

Page 38 of 47

Report No: 0901101-2 Date: 2009-03-03



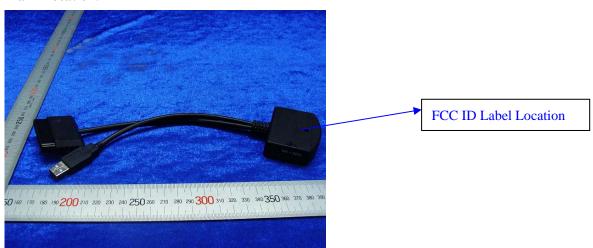
10.0 FCC ID Label

FCC ID: W3NGC574922

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



Report No: 0901101-2 Date: 2009-03-03



11.0 **Photo of testing**

11.1 Conducted test View--





The report refers only to the sample tested and does not apply to the bulk.

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Page 40 of 47

Report No: 0901101-2 Date: 2009-03-03



11.2 Radiated emission test view





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Page 41 of 47

Report No: 0901101-2 Date: 2009-03-03

11.3 Photo for the EUT





Page 42 of 47

Report No: 0901101-2

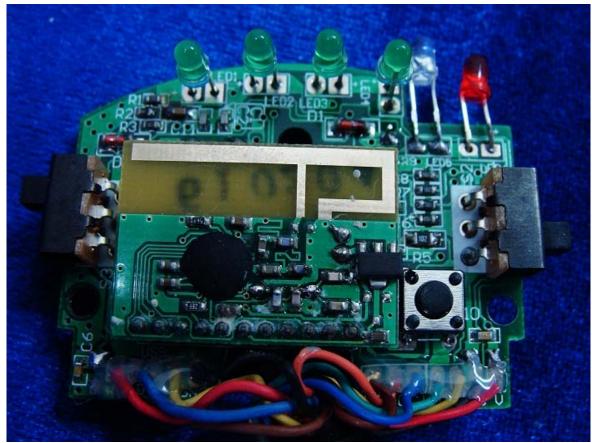
Date: 2009-03-03





Page 43 of 47





Page 44 of 47





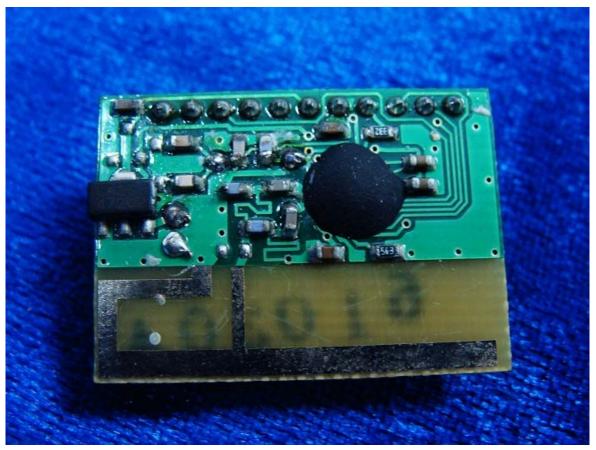
Page 45 of 47





Page 46 of 47



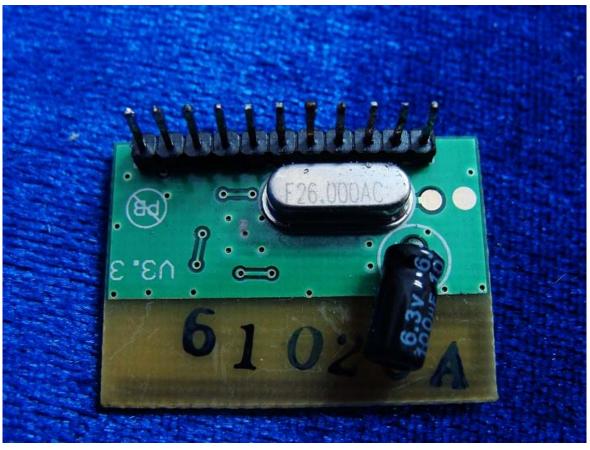


Page 47 of 47

Report No: 0901101-2

Date: 2009-03-03





-- End of the report--