

### SGS-CSTC Standards Technical Services Ltd.

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology

Development District, Guangzhou, Guangdong, China 510663

Telephone: +86 (0) 20 82155555 +86 (0) 20 82075059 Fax:

Email: sgs internet operations@sgs.com

FEDERAL COMMUNICATIONS COMMISSION

Registration number: 282399

Report No.:GLEMO080902889RFT

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FCC ID: O7X-PS2AA-GIT

## .TEST REPORT

Application No.: GLEMO080902889RF Applicant: Pelican Accessories FCC ID: O7X-PS2AA-GIT 2402-2481MHz **Frequency Band** 

**Equipment Under Test (EUT):** 

Name: PS2 A&A G.H./R.B. Guitar

Model No .: PL6635, PL6636

Serial No.: Not supplied by client

FCC PART 15 SUBPART C: 2008 Standards:

Please refer to section 2 for further details.

Date of Receipt: 17 September, 2008

Date of Test: 17 to 22 September 2008

Date of Issue: 22 September 2008

**Test Result:** PASS \*

In the configuration tested, the EUT complied with the standards specified above.

#### Authorized Signature:

#### Stephen Guo

#### Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.



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### 2 Test Summary

| Test                             | Test Requirement  | Stanadard Paragraph | Result |
|----------------------------------|-------------------|---------------------|--------|
| Field Strength of<br>Fundamental | FCC PART 15 :2008 | Section 15.249 (a)  | PASS   |
| Field Strength of                | FCC PART 15 :2008 | Section 15.249 (a)  | PASS   |
| Unwanted Emissions               | FCC FART 15 .2006 | Section 15.249 (d)  | FASS   |
| Occupied Bandwidth               | FCC PART 15 :2008 | Section 15.249      | PASS   |
| Band Edges                       | FCC PART 15 :2008 | Section 15.249 (d)  | PASS   |

#### Remark:

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

♣Item No.: PL6635, PL6636.

Only the Item **PL6636** was tested, since the electrical circuit design, PCB layout, Electrical Parts and internal wiring are identical to the basic model, Except their external structures and colors are different.



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### 4 General Information

### 4.1 Client Information

Applicant Name: Pelican Accessories

Applicant Address: 1840 East 27th Street, Vernon city, California

### 4.2 General Description of E.U.T.

Product Name: PS2 A&A G.H./R.B. Guitar

Model: PL6635, PL6636

Power Supply: DC6V (Size: 4×1.5'AA' Battery)

Adaptor: N/A
Power Cord: N/A

### 4.3 Description of EUT operation

Type of Modulation FHSS/GFSK

Frequency Band 2402MHz ~ 2481MHz Antenna Type Integrate Antenna

### 4.4 Standards Applicable for Testing

The standard used was FCC PART 15, SUBPART C (2008) section 15.249.

#### 4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory,

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

### 4.6 Other Information Requested by the Customer

None.



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### 4.7 Test Facility

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

NVLAP – Lab Code: 200611-0

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

FCC – Registration No.: 282399

SGS-CSTC Standards Technical Services Co., Ltd., 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 282399, May 31, 2002. With the above and NVLAP's accreditation, SGS-CSTC is an authorized test laboratory for the DoC process.



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### 5 Equipments Used during Test

|         | RE in Chamber                     |                      |               |                      |            |                            |
|---------|-----------------------------------|----------------------|---------------|----------------------|------------|----------------------------|
| No:     | Test Equipment                    | Manufacturer         | Model No.     | Model No. Serial No. |            | Cal.Due date<br>(dd-mm-yy) |
| EMC0525 | Compact Semi-<br>Anechoic Chamber | ChangZhou<br>ZhongYu | N/A           | N/A                  | N/A        | N/A                        |
| EMC0522 | EMI Test Receiver                 | Rohde & Schwarz      | ESIB26        | 100249               | 28-01-2008 | 28-01-2009                 |
| N/A     | EMI Test Software                 | Audix                | E3            | N/A                  | N/A        | N/A                        |
| EMC0514 | Coaxial cable                     | SGS                  | N/A           | N/A                  | 04-12-2007 | 04-12-2008                 |
| EMC0524 | Bi-log Type Antenna               | Schaffner -Chase     | CBL6112B      | 2966                 | 12-08-2008 | 12-08-2009                 |
| EMC0519 | Bilog Type Antenna                | Schaffner -Chase     | CBL6143       | 5070                 | 12-08-2008 | 12-08-2009                 |
| EMC0517 | Horn Antenna                      | Rohde & Schwarz      | HF906         | 100095               | 12-08-2008 | 12-08-2009                 |
| EMC0040 | Spectrum Analyzer                 | Rohde & Schwarz      | FSP30         | 100324               | 05-12-2008 | 05-12-2009                 |
| EMC0520 | 0.1-1300 MHz<br>Pre-Amplifier     | HP                   | 8447D OPT 010 | 2944A0625<br>2       | 11-03-2008 | 11-03-2009                 |
| EMC0521 | 1-26.5 GHz<br>Pre-Amplifier       | Agilent              | 8449B         | 3008A0164<br>9       | 11-03-2008 | 11-03-2009                 |
| EMC0075 | 310N Amplifier                    | Sonama               | 310N          | 272683               | 10-09-2008 | 10-09-2009                 |
| EMC0523 | Active Loop Antenna               | EMCO                 | 6502          | 00042963             | 09-08-2008 | 09-08-2010                 |
| EMC0530 | 10m Semi- Anechoic<br>Chamber     | ETS                  | N/A           | N/A                  | 10-08-2008 | 10-08-2009                 |

|         | Conducted Emission |                                    |                            |                  |                         |                            |  |  |  |  |  |
|---------|--------------------|------------------------------------|----------------------------|------------------|-------------------------|----------------------------|--|--|--|--|--|
| No:     | Test Equipment     | Manufacturer                       | Model No.                  | Serial No.       | Cal. Date<br>(dd-mm-yy) | Cal.Due date<br>(dd-mm-yy) |  |  |  |  |  |
| EMC0306 | Shielding Room     | Zhong Yu                           | 8 x 3 x 3.8 m <sup>3</sup> | N/A              | N/A                     | N/A                        |  |  |  |  |  |
| EMC0102 | LISN               | Schaffner Chase                    | MNZ050D/1                  | 1421             | 14-12-2007              | 14-12-2008                 |  |  |  |  |  |
| EMC0118 | Two-line v-netwok  | Rohde & Schwarz                    | ENV216                     | 3560.6550.<br>02 | 16-082007               | 16-082008                  |  |  |  |  |  |
| EMC0506 | EMI Test Receiver  | Rohde & Schwarz                    | ESCS30                     | 100085           | 14-12-2007              | 14-12-2008                 |  |  |  |  |  |
| EMC0107 | Coaxial Cable      | SGS                                | 2m                         | N/A              | 24-11-2007              | 26-11-2008                 |  |  |  |  |  |
| EMC0106 | Voltage Probe      | SGS                                | N/A                        | N/A              | N/A                     | N/A                        |  |  |  |  |  |
| EMC0120 | 8 Line LISN        | Fischer Custom Communications Inc. | FCC-TLISN-T8-<br>02        | 20550            | 21-02-2008              | 21-02-2009                 |  |  |  |  |  |
| EMC0121 | 4 Line LISN        | Fischer Custom Communications Inc. | FCC-TLISN-T4-<br>02        | 20549            | 21-02-2008              | 21-02-2009                 |  |  |  |  |  |
| EMC0122 | 2 Line LISN        | Fischer Custom Communications Inc. | FCC-TLISN-T2-<br>02        | 20548            | 21-02-2008              | 21-02-2009                 |  |  |  |  |  |

|         | General used equipment   |       |    |          |            |            |  |  |  |  |  |
|---------|--|-------|----|----------|------------|------------|--|--|--|--|--|
| No:     | Test Equipment Manufacturer Model No. Serial No. Cal. Date (dd-mm-yy) (dd-mr |       |    |          |            |            |  |  |  |  |  |
| EMC0006 | DMM  | Fluke | 73 | 70681569 | 27-09-2007 | 27-09-2008 |  |  |  |  |  |
| EMC0007 | DMM  | Fluke | 73 | 70671122 | 27-09-2007 | 27-09-2008 |  |  |  |  |  |



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### 6 Test Result

### 6.1 E.U.T. Operation

Input voltage: DC 6V (Size: 4×1.5'AA')

Requirements: 15.31(e): For intentional radiators, measurements of the variation of

the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the

equipment tests shall be performed using a new battery.

Operating Environment:

Temperature: 26°C
Humidity: 56% RH
Atmospheric Pressure: 1005mbar

Test frequencies: According to the 15.31(m) Measurements on intentional radiators or

receivers, other than TV broadcast receivers, shall be performed and. if required reported for each band in which the device can be operated with the device operating at the number of frequencies in each band

specified in the following table:

| Frequency range over which device operates | Number of<br>frequencies | Location in the range of operation          |
|--|--------------------------|---|
| 1 MHz or less                              | 1                        | Middle                                      |
| 1 to 10 MHz                                | 2                        | 1 near top and 1 near bottom                |
| More than 10 MHz                           | 3                        | 1 near top. 1 near middle and 1 near bottom |



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#### 6.2 Test Procedure & Measurement Data

### 6.2.1 Field Strength of Fundamental& Field Strength of Unwanted Emissions

Test Requirement: FCC Part15 C Section 15.249(a) & (d)

Test Method: Based on FCC Part15 C Section 15.249 & ANSI C63.4

Test Date: 19 September, 2008 to 22 September, 2008

Measurement Distance: 3m (Semi-Anechoic Chamber)

Frequency range 30 MHz – 25GHz for transmitting mode.

Test instrumentation resolution bandwidth

120 kHz (30 MHz - 1000 MHz), 1 MHz (1000 MHz – 25GHz)

Operation: Receive antenna scan height 1 - 4 m, polarization Vertical/ Horizontal, a

turntable rotate through 360° in the horizontal plane and it is used to

support the test sample at 0.8m above the ground plane.

Requirements:

FCC Part 15.249(a)

| Fundamental Frequency | Field Strength of Fundamental | Field Strength of Harmonics |
|-----------------------|-------------------------------|-----------------------------|
| (MHz)                 | (dBuV/m @ 3m)                 | (dBuV/m @ 3m)               |
| 902 to 928            | 94.0                          | 54.0                        |
| 2400 to 2483.5        | 94.0                          | 54.0                        |
| 5725 to 5875          | 94.0                          | 54.0                        |
| 24000 to 24250        | 108.0                         | 68.0                        |

FCC Part 15.249(d)

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.

#### Remark

The fundamental frequency rang of the EUT is 2402MHz ~ 2481MHz.

The limit for average field strength dBuv/m for the fundamental frequency =  $94.0 \text{ dB}\mu\text{V/m}$ .

The limit for Peak field strength dBuv/m for the fundamental frequency = 114.0 dBμV/m.

No fundamental is allowed in the restricted bands.

The limit for average field strength  $dB\mu V/m$  for the harmonics = 54.0  $dB\mu V/m$ .

The limit for peak field strength  $dB\mu V/m$  for the harmonics = 74.0  $dB\mu V/m$ .

Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or 54.0 dB $\mu$ V/m in 15.209. Here the limit for the other emission is 54.0 dB $\mu$ V/m.



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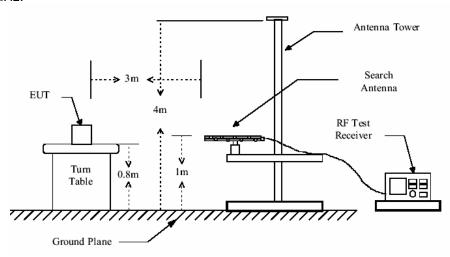
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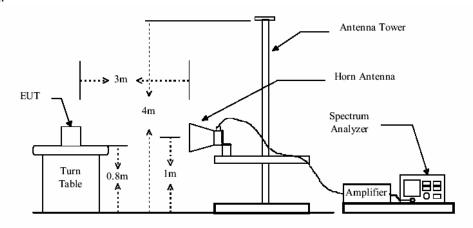
**Test Procedure:** The procedure uesd was ANSI Standard C63.4-2003. The receive was scanned from 30MHz to 25GHz. When an emission was found, the table was roated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery. Pretest the equipment on 3 axis, and the worst case emissions were reported.

### **Test Configuration:**

30MHz to 1GHz:



#### Above 1GHz:





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The field strength is calculated by adding the Antenna Factor, Cable Factor & Peramplifier . The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Peramlifer Factor

### The following test results were performed on the Guitar:

1. Test in Channel lowest (2402MHz), keep in continuously transmitting status.

(a) Antenna polarization: Horizontal

| (a) / tintorina    |                         |                             |                       |                          |                   |                        |                       | ,       |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|---------|
| Frequency<br>(MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit<br>(dB) | Remark  |
| 2402.194           | 92.09                   | 28.55                       | 4.60                  | 34.77                    | 90.47             | 114.00                 | -23.53                | Peak    |
| 2402.194           | 91.09                   | 28.55                       | 4.60                  | 34.77                    | 88.46             | 94.00                  | -6.54                 | Average |
| 4804.000           | 50.85                   | 33.19                       | 6.90                  | 33.01                    | 57.93             | 74.00                  | -16.07                | Peak    |
| 4804.000           | 43.85                   | 33.19                       | 6.90                  | 33.01                    | 50.92             | 54.00                  | -3.08                 | Average |

(b) Antenna polarization: Vertical

| Frequency<br>(MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit<br>(dB) | Remark  |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|---------|
| 2402.194           | 89.88                   | 28.55                       | 4.60                  | 34.77                    | 88.26             | 114.00                 | -25.74                | Peak    |
| 2402.194           | 88.88                   | 28.55                       | 4.60                  | 34.77                    | 87.34             | 94.00                  | -6.66                 | Average |
| 4804.000           | 46.28                   | 33.19                       | 6.90                  | 33.01                    | 53.36             | 74.00                  | -20.64                | Peak    |
| 4804.000           | 34.28                   | 33.19                       | 6.90                  | 33.01                    | 41.30             | 54.00                  | -12.70                | Average |

2. Test in Channel middle (2441MHz), keep in continuously transmitting status.

(a) Antenna polarization: Horizontal

| (a) / tillollila   |                         |                             |                       |                          |                   | 1                      |                       | 1       |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|---------|
| Frequency<br>(MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit<br>(dB) | Remark  |
| 2441.000           | 93.87                   | 28.69                       | 4.60                  | 34.74                    | 92.42             | 114.00                 | -21.58                | Peak    |
| 2441.000           | 91.87                   | 28.69                       | 4.60                  | 34.74                    | 90.73             | 94.00                  | -3.27                 | Average |
| 4882.000           | 53.98                   | 33.27                       | 7.20                  | 32.97                    | 61.48             | 74.00                  | -12.52                | Peak    |
| 4882.000           | 44.98                   | 33.27                       | 7.20                  | 32.97                    | 52.21             | 54.00                  | -1.79                 | Average |



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(b) Antenna polarization: Vertical

| Frequency<br>(MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit<br>(dB) | Remark  |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|---------|
| 2441.000           | 86.32                   | 28.69                       | 4.60                  | 34.74                    | 84.87             | 94.00                  | -9.13                 | Average |
| 2441.000           | 89.32                   | 28.69                       | 4.60                  | 34.74                    | 87.42             | 114.00                 | -26.58                | Peak    |
| 4882.000           | 36.03                   | 33.27                       | 7.20                  | 32.97                    | 43.53             | 54.00                  | -10.47                | Average |
| 4882.000           | 46.03                   | 33.27                       | 7.20                  | 32.97                    | 53.34             | 75.00                  | -21.66                | Peak    |

<sup>3.</sup> Test in Channel highest (2481MHz), keep in continuously transmitting status.

(a) Antenna polarization: Horizontal

| Frequency<br>(MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit<br>(dB) | Remark  |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|---------|
| 2481.000           | 90.21                   | 28.78                       | 4.67                  | 34.72                    | 88.72             | 114.00                 | -25.28                | Peak    |
| 2481.000           | 89.21                   | 28.78                       | 4.67                  | 34.72                    | 87.94             | 94.00                  | -6.06                 | Average |
| 4962.000           | 53.16                   | 33.36                       | 7.33                  | 32.92                    | 60.93             | 74.00                  | -13.07                | Peak    |
| 4962.000           | 45.16                   | 33.36                       | 7.33                  | 32.92                    | 52.65             | 54.00                  | -1.35                 | Average |

(b) Antenna polarization: Vertical

|    | quency<br>MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit<br>(dB) | Remark  |
|----|----------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|---------|
| 24 | 481.000        | 89.77                   | 28.78                       | 4.67                  | 34.72                    | 88.50             | 114.00                 | -25.50                | Peak    |
| 24 | 481.000        | 88.77                   | 28.78                       | 4.67                  | 34.72                    | 87.50             | 94.00                  | -6.50                 | Average |
| 49 | 962.000        | 46.19                   | 33.36                       | 7.33                  | 32.92                    | 53.96             | 74.00                  | -20.04                | Peak    |
| 49 | 962.000        | 36.19                   | 33.36                       | 7.33                  | 32.92                    | 43.96             | 54.00                  | -10.04                | Average |

#### Remark:

- 1). According to 15.249 (e) As shown in Section 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.
- 2) Sweep from 30MHz to 25GHz, find the max radiated emissions and record it, when the emissions are too weak to be detected, it will not be reported.

### TEST RESULTS: The unit does meet the FCC requirements.



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#### **6.2.1.1** Radiated Emissions which fall in the restricted bands

Section 15.249(d) 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.

Test Method: Base on ANSI 63.4
Test Date: 27 September, 2008

Measurement Distance: 3m (Semi-Anechoic Chamber)

Limit: 40.0 dBμV/m between 30MHz & 88MHz;

 $43.5 \text{ dB}\mu\text{V/m}$  between 88MHz & 216MHz;  $46.0 \text{ dB}\mu\text{V/m}$  between 216MHz & 960MHz;

54.0 dBµV/m above 960MHz.

Detector: Peak for pre-scan:

100kHz resolution bandwidth and 100kHz video bandwidth within 1GHz. 1MHz resolution bandwidth and 1MHz video bandwidth above 1GHz

#### The emission below 1GHz:

Test Requirement:

Pretest the EUT in lowest, middle and highest channel. The worest case is in lowest channel.

### Vertical:

| Frequency (MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss (dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit (dB) | Remark |
|-----------------|-------------------------|-----------------------------|--------------------|--------------------------|-------------------|------------------------|--------------------|--------|
| 32.91           | 34.07                   | 21.24                       | 0.4                | 25.38                    | 30.33             | 40                     | -9.67              | QP     |
| 82.38           | 45.75                   | 7.82                        | 0.6                | 25.12                    | 29.05             | 40                     | -10.95             | QP     |
| 314.21          | 20.72                   | 14.87                       | 1.3                | 24.5                     | 12.39             | 46                     | -33.61             | QP     |
| 599.39          | 20.76                   | 19.72                       | 1.8                | 25.8                     | 16.48             | 46                     | -29.52             | QP     |
| 773.99          | 22.95                   | 20.28                       | 2.26               | 25.62                    | 19.87             | 46                     | -26.13             | QP     |
| 878.75          | 22.44                   | 21                          | 2.38               | 25.12                    | 20.7              | 46                     | -25.3              | QP     |

#### Horizontal:

| Frequency (MHz) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss (dB) | Preamp<br>Factor<br>(dB) | Level<br>(dBuV/m) | Limit Line<br>(dBuV/m) | Over<br>Limit (dB) | Remark |
|-----------------|-------------------------|-----------------------------|--------------------|--------------------------|-------------------|------------------------|--------------------|--------|
| 33.88           | 27.55                   | 22.94                       | 0.4                | 25.34                    | 25.55             | 40                     | -14.45             | QP     |
| 84.32           | 40.88                   | 9.3                         | 0.6                | 25.15                    | 25.63             | 40                     | -14.37             | QP     |
| 314.21          | 20.02                   | 17.53                       | 1.3                | 24.5                     | 14.35             | 46                     | -31.65             | QP     |
| 434.49          | 20.49                   | 16.45                       | 1.5                | 25.33                    | 13.11             | 46                     | -32.89             | QP     |
| 673.11          | 20.73                   | 19.93                       | 2.14               | 25.73                    | 17.07             | 46                     | -28.93             | QP     |
| 887.48          | 22.31                   | 20.68                       | 2.55               | 25.07                    | 20.47             | 46                     | -25.53             | QP     |



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#### The emission above 1GHz:

#### 1. Low Channel

| Frequency<br>(MHz) | Antenna<br>factors<br>(dB/m) | Cable<br>loss(dB) | Preamp<br>factor(dB) | Peak<br>Reading<br>Level<br>(dB <sub>µ</sub> V) | Average<br>Reading<br>Level<br>(dBµV) | Peak<br>Emission<br>Level<br>(dBµV/m) | Average<br>Emission<br>Level<br>(dBµV/m) |
|--------------------|------------------------------|-------------------|----------------------|---|---------------------------------------|---------------------------------------|--|
| 2390.000           | 27.88                        | 4.65              | 34.30                | 49.8  | 32.0                                  | 48.0                                  | 30.2                                     |
| 2483.500           | 28.74                        | 4.80              | 34.73                | 51.4  | 31.3                                  | 50.2                                  | 31.1                                     |

#### 2. Middle Channel

| Frequency<br>(MHz) | Antenna<br>factors<br>(dB/m) | Cable<br>loss(dB) | Preamp<br>factor(dB) | Peak<br>Reading<br>Level<br>(dBµV) | Average<br>Reading<br>Level<br>(dBµV) | Peak Emission Level (dBµV/m) | Average<br>Emission<br>Level<br>(dBµV/m) |
|--------------------|------------------------------|-------------------|----------------------|------------------------------------|---------------------------------------|------------------------------|--|
| 2390.000           | 27.88                        | 4.65              | 34.30                | 50.4                               | 31.5                                  | 48.6                         | 29.8                                     |
| 2483.500           | 28.74                        | 4.80              | 34.73                | 52.0                               | 32.0                                  | 50.3                         | 30.3                                     |

3. High Channel

| Frequency<br>(MHz) | Antenna<br>factors<br>(dB/m) | Cable<br>loss(dB) | Preamp<br>factor(dB) | Peak<br>Reading<br>Level<br>(dBµV) | Average<br>Reading<br>Level<br>(dBµV) | Peak<br>Emission<br>Level<br>(dBμV/m) | Average<br>Emission<br>Level<br>(dBµV/m) |
|--------------------|------------------------------|-------------------|----------------------|------------------------------------|---------------------------------------|---------------------------------------|--|
| 2390.000           | 27.88                        | 4.65              | 34.30                | 51.1                               | 31.3                                  | 49.3                                  | 29.6                                     |
| 2483.500           | 28.74                        | 4.80              | 34.73                | 53.2                               | 32.6                                  | 51.4                                  | 30.8                                     |

The unit does meet the FCC requirements.



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### 6.2.2 Occupied Bandwidth & Band Edge

Test Requirement: FCC Part 15 C Section 15.249
Test Method: ANSI C63.4 and FCC Part 2.1049

Operation within the band 2400-2483.5MHz

Test Date: 18 September, 2008

Requirements: 15.249 (d) 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.

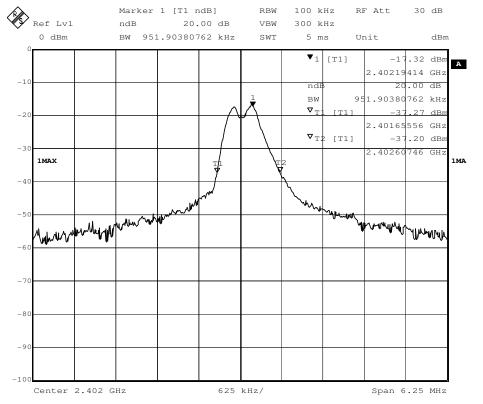
Method of A small sample of the transmitter output was fed into the Spectrum

measurement: Analyzer and the attached plot was taken.

### For Controller:

### The occupied bandwidth as below:

Lowest Channel:2402MHz:



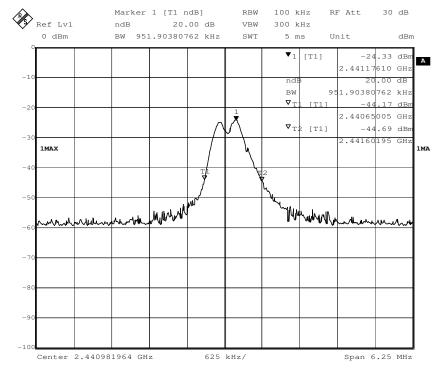


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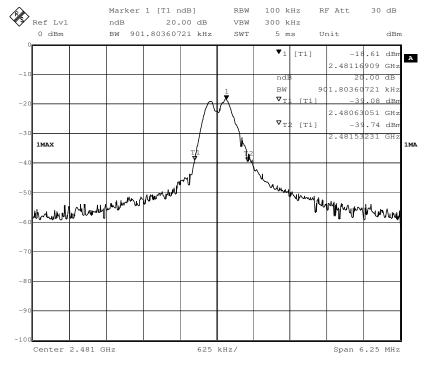
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#### Middle Channel 2441MHz:



#### Highest Channel 2481MHz:





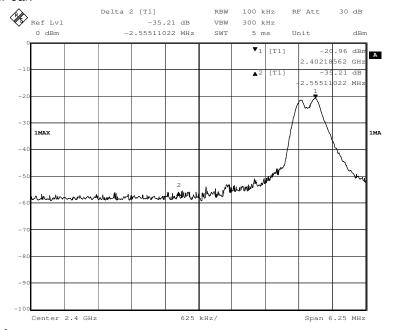
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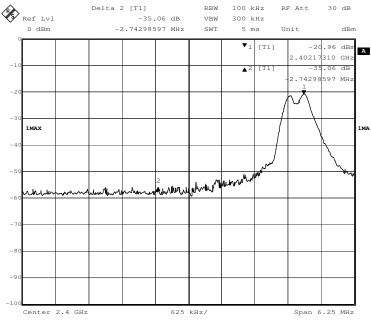
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### The Band Edge Emission as below:

Lowest Band Edage 2400MHz Detector mode:Peak



### Detector mode:Average



For 2400MHz bandedge checked with 2402MHz frequency operated, the delta shown at the plots are 35.21dB for peak detector mode and 35.06dB for Average detector mode.

With the peak value 90.47BuV/m and average value at 88.46dBuV/m presented at the report for the fundamental, the spurious emission level at 2400MHz were 55.26dBuV/m for peak and 53.4 dBuV/m for average.

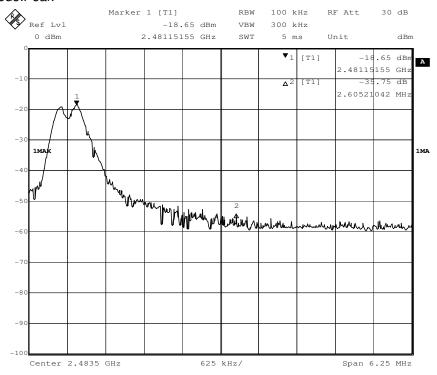


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### Highest Band Edge 2483.5MHz Detector mode:Peak



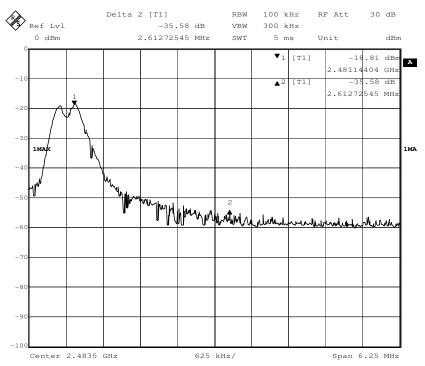


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### Detector mode:Average



For 2483.5MHz bandedge checked with 2480MHz frequency operated, the delta shown at the plots are 35.75dB for peak detector mode and 35.58dB for Average detector mode.

With the peak value 88.72dBuV/m and average value at 87.94dBuV/m presented at the report for the fundamental, the spurious emission level at 2483.5MHz were 52.97dBuV/m for peak and 52.36dBuV/m for average.

The test result for the Emissions radiated outside of the specified frequency bands , please refer to the section 6.2.1 of this report.

The results: The unit does meet the FCC requirements.