



March 31, 2009

Maxwise Production Enterprise Limited  
Unit 1501, At Tower, 180 Electric Road,  
North Point, Hong Kong.

Dear Ken :

Enclosed you will find your file copy of a Part 15 Certification (FCC ID: Q2VMGP2P30811R).

For your reference, TCB will normally take another 20 days for reviewing the report. Approval will then be granted when no query is sorted.

Please contact me if you have any questions regarding the enclosed material.

Sincerely,

A handwritten signature in black ink, appearing to read "Yannie Wang". The signature is fluid and cursive, with the first name "Yannie" and the last name "Wang" clearly distinguishable.

Yannie Wang  
Assistant Manager

Enclosure



## TEST REPORT

Report No: GZ08110139-2

Applicant Name : Maxwise Production Enterprise Limited  
& Address : Unit 1501, At Tower, 180 Electric Road, North Point, Hong Kong.

Sample Description  
Product : Wireless Guitar  
Model No. : PSE3302  
Additional Model No : PSE3304, RT3301, BHR1000, MWWG001, MWWG002, MWWG003  
Electrical Rating : Power by PS2 or PS3  
FCC ID : Q2VMGP2P30811R

Date Received : 5 November 2008  
Date Test Conducted : 5 November 2008 – 13 March 2009

Test standards : FCC Part 15: 2007


Test Result : Pass

Conclusion : The submitted samples complied with the above rules/standards.

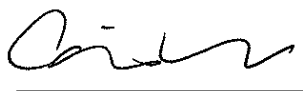
Remark : None.

\*\*\*\*\*End of Page\*\*\*\*\*

*Prepared By:*

  
**Ryan Liang**  
**Engineer**  
**Intertek Guangzhou**

*Checked By:*

 *Signature*  
**Carrie Chen**  
**Project Engineer**  
**Intertek Guangzhou**  
**31 March 2009** *Date*

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TRF no.: FCC 15C\_TXa

**Intertek Testing Services Shenzhen Ltd. Guangzhou Branch**  
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, China  
Tel / Fax: 86-20-8213 9688/86-20-3205 7538

# INTERTEK TESTING SERVICES

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## LIST OF EXHIBITS

### *INTRODUCTION*

<i>EXHIBIT 1:</i>	General Description
<i>EXHIBIT 2:</i>	System Test Configuration
<i>EXHIBIT 3:</i>	Test Results
<i>EXHIBIT 4:</i>	Equipment Photographs
<i>EXHIBIT 5:</i>	Product Labelling
<i>EXHIBIT 6:</i>	Technical Specifications
<i>EXHIBIT 7:</i>	Instruction Manual
<i>EXHIBIT 8:</i>	Miscellaneous Information

# INTERTEK TESTING SERVICES

## MEASUREMENT/TECHNICAL REPORT

**Maxwise Production Enterprise Limited**  
**Model No: PSE3302**

**FCC ID: Q2VMGP2P30811R**

**March 31, 2009**

This report concerns (check one :) Original Grant ☒ Class II Change

Equipment Type: Low Power Transmitter (example: computer, printer, modem, etc.)

Deferred grant requested per 47 CFR 0.457(d) (1) (ii)? Yes \_\_\_\_\_ No ☒

If yes, defer until: \_\_\_\_\_

date

Company Name agrees to notify the Commission by: \_\_\_\_\_

date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes \_\_\_\_\_ No ☒

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [9-20-07 Edition] provision.

Report prepared by:

Ryan Liang  
Intertek Testing Services Shenzhen Ltd.  
Guangzhou Branch  
Block E, No.7-2 Guang Dong Software  
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# INTERTEK TESTING SERVICES

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## INTERTEK TESTING SERVICES

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### List of attached file

Exhibit type	File Description	filename
Test Report	Test Report	report.pdf
Operation Description	Technical Description	descri.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
Test Report	Bandwidth Plot	bw.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Letter of Agency	letter.pdf

# **INTERTEK TESTING SERVICES**

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## **EXHIBIT 1**

### **GENERAL DESCRIPTION**

## INTERTEK TESTING SERVICES

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### 1.0 **General Description**

#### 1.1 Product Description

This Equipment Under Test (EUT) is the 2.4GHz wireless guitar transceiver. This EUT is powered by PS2 or PS3. The main function of the EUT is used to dongle receive 2.4GHZ GFSK modulation signal which is transmitted from the wireless guitar transmitter that is sold together and transmit there signal to the PS2 or PS3.

Antenna Type: PCB antenna

The model: PSE3304, RT3301, BHR1000, MWWG001, MWWG002, MWWG003 are the same as the test model PSE3302 in hardware and software aspect. The only differences are the appearance, trade name and model no for trading purpose.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

#### 1.2 Related Submittal(s) Grants

This is an application for certification of the transceiver. The transmitter associated with this transceiver, has FCC ID: Q2VMGP2P30811.



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## INTERTEK TESTING SERVICES

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### 1.3 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). All measurements were performed in Semi-Anechoic Chamber. For each scan, the procedure for maximizing emissions in Appendices D and E were followed. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the “**Justification Section**” of this Application.

Conducted emission measurements were performed according to the procedures in ANSI C63.4 (2003). All measurements were performed in a shielded room. The EUT was connected to AC power source through an Artificial Mains Network which provides a 50Ω linear impedance and was set to achieve the maximum emission level.

The table-top EUT was placed on a 0.8m height non-metallic table above earthed ground plane(Ground Reference Plane). The vertical conducting plane or wall of a screened room shall be located 0.4m to the rear of the EUT and keeps a distance of at least 0.8m from any other of the conducting surface. The Artificial Mains Network is situated at a distance of 0.8m from the EUT.

During the test, mains lead of EUT excess 0.8m was folded back and forth parallel to the lead so as to form a horizontal bundle with a length between 0.3m and 0.4m.

The bandwidth of test receiver was set at 9 kHz. The frequency range from 150 kHz to 30MHz was checked.

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## INTERTEK TESTING SERVICES

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### 1.4 Test Facility

The Semi-Anechoic Chamber and shielded room facility used to collect the radiated data is **Intertek Testing Services Shenzhen Ltd.** located at 6/F., Block D, HuaHan Building, Langshan Road, Nanshan District, Shenzhen, China. This test facility and site measurement data have been fully placed on file with the FCC.

Radiated Emission Test equipment:

Test equipment (26 MHz - 3 GHz )

Equipment No.	Equipment	Manufacturer	Model No.	Calibration date	Due Date
SZ062-04	RF Cable	RADIAL	RG 213U	10-Nov-08	10-Nov-09
SZ061-03	BiConiLog Antenna	ETS	3142C	6-May-08	12-May-09
SZ185-01	EMI Receiver	R&S	ESCI	17-Jun-08	17-Jun-09
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	25-Oct-08	25-Oct-09

Test equipment: (1 GHz - 18 GHz and 18 GHz - 26.5 GHz )

Equipment No.	Equipment	Manufacturer	Model No.	Calibration date	Due Date
SZ062-05	RF Cable	RADIAL	RG 213U	18-Aug-08	18-Aug-09
SZ061-08	Double - Ridged Waveguide Horn Antenna	ETS	3115	17-Jul-08	17-Jul-09
SZ061-07	Pyramidal Horn Antenna	ETS	3160-09	14-Mar-08	14-Mar-09
SZ181-04	Preamplifier	Agilent	8449B	09-Mar-08	09-Mar-09
SZ056-03	Spectrum Analyzer	R&S	FSP30	30-Apr-08	30-Apr-09
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	25-Oct-08	25-Oct-09

### Conducted Emission

Equipment No.	Equipment	Manufacturer	Model No.	Calibration date	Due Date
SZ062-03	RF Cable	RADIAL	RG 213U	10-Nov-08	10-Nov-09
SZ185-02	EMI Test Receiver	R&S	ESCI	28-Nov-08	28-Nov-09
SZ187-01	Two-Line V-Network	R&S	ENV216	01-Dec-08	01-Dec-09
SZ187-02	Two-Line V-Network	R&S	ENV216	01-Dec-08	01-Dec-09
SZ188-03	Shielding Room	ETS	RFD-100	15-Sep-07	15-Sep-10

## **INTERTEK TESTING SERVICES**

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### **EXHIBIT 2**

### **SYSTEM TEST CONFIGURATION**

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## INTERTEK TESTING SERVICES

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### 2.0 **System Test Configuration**

#### 2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2003).

The EUT was powered from USB which provide by PS2 or PS3.

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emission at and above 30 MHz, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The unit was operated with PS2 or PS3, and was plug in the PS2 or PS3 which place in the edge of the turntable.

The equipment under test (EUT) was configured for testing in a fixed frequency. The EUT was placed on the edge of the turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

When the unit is power on, the unit will transmit continuously.

#### 2.2 EUT Exercising Software

There was no special software to exercise the device. Once the button is depressed, the unit transmits the typical signal.

#### 2.3 Special Accessories

No special accessories equipment is used.

**2.4 Equipment Modification**

Any modifications installed previous to testing by Maxwise Production Enterprise Limited will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services.

**2.5 Measurement Uncertainty**

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

**2.6 Support Equipment List and Description**

1) SONY Playstation 2 with AV cable model No: SCPH-50001 (provide by Maxwise Production Enterprise Limited)

2) SONY Playstation 3 with AV cable model No: CECHH01 (provide by Maxwise Production Enterprise Limited)

3) Disnep TV Model MD20050 (provide by Intertek)

All the items listed under section 2.0 of this report are

*Confirmed by:*

*Yannie Wang*  
*Assistant Manager*  
Intertek Testing Services Shenzhen Ltd.  
Guangzhou Branch

*Agent for Maxwise Production Enterprise Limited*



Signature

March 31, 2009

Date

**EXHIBIT 3**  
**TEST RESULTS**

## INTERTEK TESTING SERVICES

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### 3.0 **Test Results**

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

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## INTERTEK TESTING SERVICES

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### 3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD + AV$$

Where      FS = Field Strength in dB $\mu$ V/m  
             RA = Receiver Amplitude (including preamplifier) in dB $\mu$ V  
             CF = Cable Attenuation Factor in dB  
             AF = Antenna Factor in dB  
             AG = Amplifier Gain in dB  
             PD = Pulse Desensitization in dB  
             AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD + AV$$

Assume a receiver reading of 62.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

RA = 62.0 dB $\mu$ V  
AF = 7.4 dB  
CF = 1.6 dB  
AG = 29.0 dB  
PD = 0 dB

AV = -10 dB

$$FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 \text{ dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(32 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$$



## INTERTEK TESTING SERVICES

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### 3.2 Radiated Emission Result

#### 3.2.1 Radiated Emission Configuration Photograph

Worst Case at Radiated Emission consistent with Section 15.249  
at  
4961.940 MHz when working with PS2

Worst Case at Radiated Emission consistent with Section 15.209  
at  
589.817 MHz when working with PS2

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos.pdf.

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**INTERTEK TESTING SERVICES**

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**3.2.2 Radiated Emission Data**

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Consistent with Section 15.249 Radiated Judgements: Passed by 3.0 dB

Consistent with Section 15.209 Radiated Judgements: Passed by 3.9 dB

**TEST PERSONNEL:**

  
\_\_\_\_\_  
*Signature*

Ryan Liang, Compliance Engineer  
*Typed/Printed Name*

March 31, 2009  
*Date*

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited

Date of Test: February 20, 2009

Model No: PSE3302

Operation: EUT on

We test the EUT on low channel, middle channel and high channel when workings with PS2, the test result are in table 1 to table 3.

Table 1

### Radiated Emissions testing with PS2

Polarization	Frequency (MHz)	Reading (dBμV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2401.920	92.5	36.7	28.5	--	84.3	94.0	-9.7
Horizontal	4803.960	51.4	36.2	33.7	--	48.9	54.0	-5.1
Horizontal	7205.960	52.8	36.2	33.4	--	50.0	54.0	-4.0
Vertical	2401.910	93.2	36.7	28.5	--	85.0	94.0	-9.0
Vertical	4839.650	52.1	36.2	33.7	--	49.6	54.0	-4.4
Vertical	7205.975	53.3	36.2	33.4	--	50.5	54.0	-3.5

Table 2

### Radiated Emissions testing with PS2

Polarization	Frequency (MHz)	Reading (dBμV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2441.000	90.1	36.7	28.5	--	81.9	94.0	-12.1
Horizontal	4881.960	52.3	36.2	33.7	--	49.8	54.0	-4.2
Horizontal	7322.892	50.5	36.2	33.4	--	47.7	54.0	-6.3
Vertical	2441.140	92.5	36.7	28.5	--	84.3	94.0	-9.7
Vertical	4882.180	52.3	36.2	33.7	--	49.8	54.0	-4.2
Vertical	7323.200	51.4	36.2	33.4	--	48.6	54.0	-5.5

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited

Date of Test: February 20, 2009

Model No: PSE3302

Operation: EUT on

Table 3

### Radiated Emissions testing with PS2

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2480.960	92.8	36.7	28.5	--	84.6	94.0	-9.4
Horizontal	4961.940	51.4	36.2	33.7	--	48.9	54.0	-5.1
Horizontal	7442.880	50.2	36.2	33.4	--	47.4	54.0	-6.6
Vertical	2481.040	93.8	36.7	28.5	--	85.6	94.0	-8.4
Vertical	4961.940	53.5	36.2	33.7	--	51.0	54.0	-3.0
Vertical	7442.920	51.9	36.2	33.4	--	49.1	54.0	-4.9

Notes: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Ryan Liang

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited  
Model No: PSE3302  
Operation: EUT on

Date of Test: February 20, 2009

We test the EUT on low channel, middle channel and high channel when workings with PS3, the test result are in table 4 to table 6.

Table 4

### Radiated Emissions testing with PS3

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2401.920	92.3	36.7	28.5	--	84.1	94.0	-9.9
Horizontal	4803.960	52.0	36.2	33.7	--	49.5	54.0	-4.5
Horizontal	7205.960	52.9	36.2	33.4	--	50.1	54.0	-3.9
Vertical	2401.910	92.5	36.7	28.5	--	84.3	94.0	-9.7
Vertical	4839.650	52.1	36.2	33.7	--	49.6	54.0	-4.4
Vertical	7205.975	53.5	36.2	33.4	--	50.7	54.0	-3.3

Table 5

### Radiated Emissions testing with PS3

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2440.980	91.2	36.7	28.5	--	83.0	94.0	-11.0
Horizontal	4482.080	51.9	36.2	33.7	--	49.4	54.0	-4.6
Horizontal	7322.960	50.2	36.2	33.4	--	47.4	54.0	-6.6
Vertical	2440.980	92.5	36.7	28.5	--	84.3	94.0	-9.7
Vertical	4881.980	51.3	36.2	33.7	--	48.8	54.0	-5.2
Vertical	7322.940	50.8	36.2	33.4	--	48.0	54.0	-6.0

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited

Date of Test: February 20, 2009

Model No: PSE3302

Operation: EUT on

Table 6

### Radiated Emissions testing with PS3

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2481.040	90.8	36.7	28.5	--	82.6	94.0	-11.4
Horizontal	4961.940	51.7	36.2	33.7	--	49.2	54.0	-4.8
Horizontal	7442.860	49.7	36.2	33.4	--	46.9	54.0	-7.2
Vertical	2481.040	97.0	36.7	28.5	--	88.8	94.0	-5.2
Vertical	4962.080	52.7	36.2	33.7	--	50.2	54.0	-3.8
Vertical	7442.970	51.0	36.2	33.4	--	48.2	54.0	-5.8

Notes: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Ryan Liang

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited  
Model No: PSE3302  
Operation: EUT on normal operation (transceiver)

Date of Test: February 20, 2009

Table 7

### Radiated Emissions testing with PS2

Polarization	Frequency (MHz)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
H	35.820	35.6	40.0	-4.4
H	152.029	37.9	43.5	-5.6
H	589.817	42.1	46.0	-3.9
V	35.820	36.0	40.0	-4.0
V	107.600	37.9	43.5	-5.6
V	143.490	39.1	43.5	-4.4

Notes:

1. QuasiPeak Detector Data unless otherwise stated.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Bilog Antenna is used for the emission below 1000MHz.

Test Engineer: Ryan Liang

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited  
Model No: PSE3302  
Operation: EUT on normal operation (transceiver)

Date of Test: February 20, 2009

Table 8

### Radiated Emissions testing with PS3

Polarization	Frequency (MHz)	Net at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
H	120.004	33.9	43.5	-9.6
H	132.017	36.4	43.5	-7.1
H	144.070	36.9	43.5	-6.6
H	168.110	33.8	43.5	-9.7
V	60.031	32.5	40.0	-7.5
V	124.970	36.1	43.5	-7.4
V	156.000	36.9	43.5	-6.6
V	168.110	34.8	43.5	-8.7

Notes:

1. QuasiPeak Detector Data unless otherwise stated.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Bilog Antenna is used for the emission below 1000MHz.

Test Engineer: Ryan Liang



## INTERTEK TESTING SERVICES

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### 3.3 Conducted Emission results

#### 3.3.1 Conducted Emission Configuration Photograph

Worst Case Radiated Emission  
at  
0.794 MHz when working with PS3

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

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**INTERTEK TESTING SERVICES**

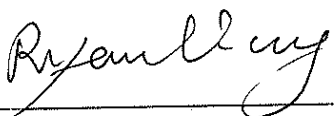
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**3.3.2 Conducted Emission Data**

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 4.22 dB when working with PS3

**TEST PERSONNEL:**

  
\_\_\_\_\_  
Signature

Ryan Liang, Compliance Engineer  
Typed/Printed Name

March 31, 2009  
Date

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited

Date of Test: February 20, 2009

Model No: PSE3302

Operation: EUT on normal operation (transceiver)

Table 10

### Conducted Emissions with PS2

Frequency [MHz]	Quasi-Peak		Average	
	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]
0.160	<55	65.5	<45	55.5
0.202	55.0	63.5	44.9	53.5
0.270	50.1	61.1	41.6	51.1
0.550	<46	56.0	<36	46.0
1.000	<46	56.0	<36	46.0
1.400	<46	56.0	<36	46.0
2.000	<46	56.0	<36	46.0
3.500	<46	56.0	<36	46.0
6.000	<50	60.0	<40	50.0
10.000	<50	60.0	<40	50.0
22.000	<50	60.0	<40	50.0

Test Engineer: Ryan Liang

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## INTERTEK TESTING SERVICES

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Applicant: Maxwise Production Enterprise Limited

Date of Test: February 20, 2009

Model No: PSE3302

Operation: EUT on normal operation (transceiver)

Table 11

### Conducted Emissions with PS3

Frequency [MHz]	Quasi-Peak		Average	
	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]
0.194	50.0	63.9	46.5	53.9
0.240	<52	62.1	<42	52.1
0.566	41.9	56.0	39.9	46.0
0.794	44.4	56.0	41.8	46.0
1.000	<46	56.0	<36	46.0
1.250	40.2	56.0	36.5	46.0
2.000	<46	56.0	<36	46.0
3.500	<46	56.0	<36	46.0
6.000	<50	60.0	<40	50.0
10.000	<50	60.0	<40	50.0
17.870	48.1	60.0	42.5	50.0
22.000	<50	60.0	<40	50.0
30.000	<50	60.0	<40	50.0

Test Engineer: Ryan Liang

## **INTERTEK TESTING SERVICES**

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### **EXHIBIT 4**

### **EQUIPMENT PHOTOGRAPHS**

## INTERTEK TESTING SERVICES

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### 4.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.pdf & internal photos.pdf.

**EXHIBIT 5**  
**PRODUCT LABELLING**

## INTERTEK TESTING SERVICES

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### 5.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.



**EXHIBIT 6**  
**TECHNICAL SPECIFICATIONS**

## INTERTEK TESTING SERVICES

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### 6.0 **Technical Specifications**

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

**EXHIBIT 7**  
**INSTRUCTION MANUAL**

## INTERTEK TESTING SERVICES

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### 7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

## **INTERTEK TESTING SERVICES**

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### **EXHIBIT 8**

### **MISCELLANEOUS INFORMATION**

## INTERTEK TESTING SERVICES

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### 8.0 **Miscellaneous Information**

This miscellaneous information includes details of the measured bandwidth, the test procedure.

### 8.1 Bandwidth Plot

Pursuant to FCC part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered.

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## INTERTEK TESTING SERVICES

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### 8.2 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 - 2003.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. For line conducted emissions, the range scanned is 150 kHz to 30 MHz.



## INTERTEK TESTING SERVICES

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### 8.2 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.4 - 2003.

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 KHz for emission from 30 MHz to 1000 MHz. Where transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the restricted bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, but those measurements taken at a closer distance are so marked.

### 8.3 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF*.

The effective period ( $T_{\text{eff}}$ ) was approximately 1618  $\mu\text{s}$ , With a resolution bandwidth (3 dB) of 1 MHz, the pulse desensitivity factor was 0dB.