

## **Songwave Electronics Co.**

### **Application For Certification (FCC ID: Q9420041101)**

#### **RF Lighting Device**

**Sample Description : Neon CD Clock Radio  
Model : TBCDACR**

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 18, Subpart C for RF lighting devices, mention 47 CFR [10-1-2002]

0419833  
BC/ec  
11 November, 2004

- The test results reported in this report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
- This report shall not be reproduced except in full without prior authorization from Intertek Testing Services Hong Kong Limited.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

**FCC ID: Q9420041101**

**Intertek Testing Services Hong Kong Ltd.**

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# INTERTEK TESTING SERVICES

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## MEASUREMENT/TECHNICAL REPORT

**Songwave Electronics Co.**  
- MODEL: TBCDACR  
FCC ID: Q9420041101

**11 November, 2004**

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

Equipment Type: RF Lighting

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

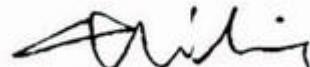
If yes, defer until: \_\_\_\_\_ date

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 18.123? Yes  No

If no, assumed Part 18 for RF lighting device - the new 47 CFR Part 18 [10-1-2002 Edition] provision.



Report prepared by:

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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	Conducted Emission	conducted photos.pdf
Test Report	Conducted Emission Test Result	conducted.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

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**EXHIBIT 1**

**GENERAL DESCRIPTION**

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## 1.0 General Description

### 1.1 Product Description

The equipment under test is an Neon CD Clock Radio. The unit contain CD player, AM/FM radio, clock and neon light. There are 16 buttons, 4 indicators and 1 AC line cord on the unit. The operation frequency of neon light part is 25kHz.

CD player and Radio:

For the key 'OFF/CD/Radio', slide to off position for power off the unit. Slide to CD position for CD function or slide to radio position for radio listening. Press the open key to open the CD door. Another function keys are (play/ pause, fast rewind, fast forward, stop, shuffle, repeat and volume control). Tune the radio station by using the tuning control button. There are 4 indicators place at the back of the unit (shuffle on/off indicator, repeat all indicator, introduction indicator and repeat indicator).

Clock:

There are 3 function keys for setting the clock (alarm setting knob, snooze and time setting knob).

Neon light:

Connect 120 V AC source to the AC line cord. The input AC source will be converted to a DC source by a rectifier and a regulator circuit. Then, a high frequency pulse circuit driving the neon tube.

There is a switch at the bottom of the front panel. Slide switch to 'Off' position for neon light off. Slide to 'Alarm' position for neon light on when alarm on. Slide to 'On' position for neon light on.

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

### 1.2 Related Submittal(s) Grants

The CD Clock Radio part is considered under verification and the test data was shown in separate report.

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### **1.3 Test Methodology**

AC mains line-conducted emission measurements were performed according to the procedures in MP-5.

### **1.4 Test Facility**

Conducted measurement facility used to collect the emission data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC.

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### 1.5 Equipment List

#### Disturbance Voltage Tests for FCC Part 18

Equipment	Registration No.	Manufacturer	Model No.	Serial No.	Calibration Due Date
EMI Test Receiver	EW-0015	R&S	ESHS30	827128/009	January 30, 2005
LISN	EW-0090	R&S	ESH3-Z5	840731/0013	April 23, 2005
Pulse Limiter	EW-0698	R&S	ESH3-Z2	830.836/033	May 25, 2005

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**EXHIBIT 2**

**SYSTEM TEST CONFIGURATION**

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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 MP-5.

The EUT was powered by 120VAC.

#### 2.2 EUT Exercising Software

There was no special software to exercise the device. Once the Neon light is turned on, it emits the RF noise.

#### 2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

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### 2.4 Equipment Modification

Any modifications installed previous to testing by Songwave Electronics Co. will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services.

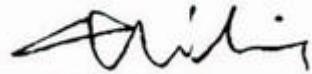
### 2.5 Support Equipment List and Description

This product was tested in a standalone configuration.

All the items listed under section 2.0 of this report are

*Confirmed by:*

*Billy Chow  
Senior Supervisor  
Intertek Testing Services Hong Kong Ltd.  
Agent for Songwave Electronics Co.*



Signature

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11 November, 2004

Date

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**EXHIBIT 3**

**EMISSION RESULTS**

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### 3.0 **Emission Results**

The operating frequency of this product is 25kHz. According to Section 18.309 frequency range of measurement, radiated emission testing is not necessary for RF lighting devices operating below 1.705MHz.

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### 3.1 Line Conducted Configuration Photograph

Worst Case Line-Conducted Configuration  
at  
0.49MHz

For electronic filing, the worst case line-conducted configuration photograph are saved with filename: conducted photos.pdf.

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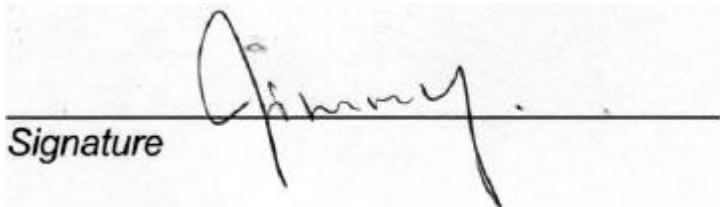
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### 3.2 Line Conducted Emission Configuration Data

For electronic filing, the graph and data table of the worst case conducted emission is saved with filename: conducted.pdf.

Judgement: Passed by -11.8dB

#### ***TEST PERSONNEL:***

  
*Signature*

Jimmy Woo, Compliance Engineer  
*Typed/Printed Name*

5 November, 2004

*Date*

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**EXHIBIT 4**

**EQUIPMENT PHOTOGRAPHS**

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### 4.0 Equipment Photographs

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

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**EXHIBIT 5**

**PRODUCT LABELLING**

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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

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**EXHIBIT 6**

**TECHNICAL SPECIFICATIONS**

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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.

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**EXHIBIT 7**

**INSTRUCTION MANUAL**

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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.