

Soft Lines International Limited

Application
For
Certification
(FCC ID: NLDAP-9FS)

ISM Equipment – Hair Remover

We hereby certify that the sample of the above item is considered to comply with the
requirements of FCC Part 18, Subpart C for ISM Equipment
Mention 47 CFR (10-1-2002)

WO#0314293
BLC/cyl
25 September, 2003

INTERTEK TESTING SERVICES

LIST OF EXHIBITS

INTRODUCTION

| | |
|-------------------|---------------------------|
| <i>EXHIBIT 1:</i> | General Description |
| <i>EXHIBIT 2:</i> | System Test Configuration |
| <i>EXHIBIT 3:</i> | Emission 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 |

INTERTEK TESTING SERVICES

MEASUREMENT/TECHNICAL REPORT

Soft Lines International Limited - MODEL: emjoi AP-9FS
FCC ID: NLDAP-9FS

25 September, 2003

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

Equipment Type: ISM Equipment

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.

Report prepared by:

Billy Chow
Intertek Testing Services
2/F., Garment Center,
576, Castle Peak Road,
HONG KONG
Phone: 852-2713-8491
Fax: 852-2742-5716

INTERTEK TESTING SERVICES

Table of Contents

| | |
|--|----|
| 1.0 General Description | 2 |
| 1.1 Product Description..... | 2 |
| 1.2 Related Submittal(s) Grants | 2 |
| 1.3 Test Methodology | 3 |
| 1.4 Test Facility..... | 3 |
| 1.5 Equipment List..... | 4 |
| 2.0 System Test Configuration | 6 |
| 2.1 Justification | 6 |
| 2.2 EUT Exercising Software | 6 |
| 2.3 Special Accessories | 6 |
| 2.4 Equipment Modification | 7 |
| 2.5 Support Equipment List and Description | 7 |
| 3.0 Emission Results | 9 |
| 3.1 Field Strength Calculation..... | 10 |
| 3.1 Field Strength Calculation (cont) | 11 |
| 3.2 Radiated Emission Configuration Photograph | 12 |
| 3.3 Radiated Emission Data | 13 |
| 3.4 Line Conducted Configuration Photograph (cont'd) | 15 |
| 3.5 Line Conducted Emission Data | 16 |
| 4.0 Equipment Photographs | 18 |
| 5.0 Product Labelling | 20 |
| 6.0 Technical Specifications | 22 |
| 7.0 Instruction Manual | 24 |

INTERTEK TESTING SERVICES

List of attached file

| Exhibit type | File Description | filename |
|-------------------|--------------------------------|--------------------|
| Cover Letter | Letter of Agency | letter.pdf |
| Test Report | Test Report | report.doc |
| Test Report | Technical Description | descri.pdf |
| Test Setup Photo | Config Photo | config photo.doc |
| Test Report | Conducted Emission Test Result | conducted.pdf |
| External Photo | External Photo | external photo.doc |
| Internal Photo | Internal Photo | internal photo.doc |
| 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 |

INTERTEK TESTING SERVICES

EXHIBIT 1

GENERAL DESCRIPTION

INTERTEK TESTING SERVICES

1.0 General Description 1.0 General Description

1.1 Product Description 1.1 Product Description

The equipment under test (EUT) is a hair remover . The EUT is operated with 27.125MHz and powered by a 24V a.c. AC adaptor. There are five buttons on the EUT, ON, HI, MED, LO and LIGHT. After turn on the EUT, the setting of the tweezers can be selected (HI, MED and LO). Besides there is a LIGHT button to control the ON/OFF of the light bulb.

The brief circuit description is saved with filename : descri.pdf.

1.2 Related Submittal(s) Grants 1.2 Related Submittal(s) Grants

This is a single application for certification of a consumer ISM equipment.

INTERTEK TESTING SERVICES

1.3 Test Methodology

1.3.1 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in MP-5. All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. 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.

1.4 Test Facility

1.4.1 Test Facility

The open area test site and 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.

INTERTEK TESTING SERVICES

1.5 Equipment List

1) Radiated Emission Test for FCC Part 18

| Equipment | Registration No. | Manufacturer | Model No. | Serial No. | Calibration Due Date |
|-------------------|------------------|--------------|-----------|-------------|----------------------|
| EMI Test Receiver | EW-0016 | R&S | ESVS30 | 8693342/008 | August 14, 2004 |
| Antenna Set | EW-0953 | EMCO | 3148 | 9909-1093 | June 1, 2004 |
| | EW-0954 | EMCO | 3104C | 9911-4872 | June 9, 2004 |
| | EW-1041 | EMCO | 3104C | 0003-4883 | September 30, 2004 |
| | EW-1042 | EMCO | 3148 | 0001-1109 | October 10, 2004 |
| EMI Test Receiver | EW-0017 | R&S | ESHS30 | 842053/002 | August 11, 2004 |

2) Disturbance Voltage Tests for FCC Part 18

| Equipment | Registration No. | Manufacturer | Model No. | Serial No. | Calibration Due Date |
|-------------------|------------------|--------------|-----------|-------------|----------------------|
| EMI Test Receiver | EW-0017 | R&S | ESHS30 | 842053/002 | August 11, 2004 |
| Absorbing Clamp | EW-0019 | R&S | MDS21 | 828228/006 | February 17, 2004 |
| | EW-0613 | R&S | MDS21 | 840031/001 | October 30, 2003 |
| LISN | EW-0090 | R&S | ESH3-Z5 | 840731/0013 | March 16, 2004 |

INTERTEK TESTING SERVICES

EXHIBIT 2

SYSTEM TEST CONFIGURATION

INTERTEK TESTING SERVICES

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 from a 24V a.c. AC adaptor.

For maximizing emissions, 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 standalone and placed in the center of the turntable.

2.1 Justification

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). It was turned ON in Hi RF mode and the hair removing tweezer was activated by a rubber band as the light mode had no RF noise measured. The EUT was placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

2.2 EUT Exercising Software

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

2.3 Special Accessories

2.3 Special Accessories

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

INTERTEK TESTING SERVICES

2.4 Equipment Modification

Any modifications installed previous to testing by Soft Lines International Limited 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 Soft Lines International Limited



Signature

25 September, 2003

Date

INTERTEK TESTING SERVICES

EXHIBIT 3

EMISSION RESULTS

INTERTEK TESTING SERVICES

3.0 Emission Results 3.0 Emission 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.

INTERTEK TESTING SERVICES

3.1 Field Strength Calculation

3.1.1 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 μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ 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:

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

INTERTEK TESTING SERVICES

3.1 Field Strength Calculation (cont'd) 3.1 Field Strength Calculation (cont)

Example

Assume a receiver reading of 62.0 dB μ 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 μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$RA = 62.0 \text{ dB}\mu\text{V}$$

$$AF = 7.4 \text{ dB}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

$$PD = 0 \text{ dB}$$

$$AV = -10 \text{ dB}$$

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

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

INTERTEK TESTING SERVICES

3.2 Radiated Emission Configuration Photograph3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at
0.014 MHz

For electronic filing, the front view and back view of test configuration photograph is saved with filename: config photo.doc.

INTERTEK TESTING SERVICES

3.3 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.

Judgement: Passed by 29.3 dB

TEST PERSONNEL:



Signature

Kenneth H. M. Lam, Compliance Engineer

Typed/Printed Name

25 September, 2003

Date

INTERTEK TESTING SERVICES

Company: Soft Lines International Limited
Model: emjoi AP-9FS

Date of Test: 20 September, 2003

Table 1

Radiated Emissions

| Frequency (MHz) | Reading (dB μ V/m) | Distance Factor (dB) | Calculated at 300m (dB μ V/m) | Limit at 300m (dB μ V/m) | Margin (dB) |
|-----------------|------------------------|----------------------|-----------------------------------|------------------------------|-------------|
| 0.014 | 38.6 | -40 | -1.4 | 27.9 | -29.3 |
| 0.028 | 37.2 | -40 | -2.8 | 27.9 | -30.7 |
| 0.048 | 35.4 | -40 | -4.6 | 27.9 | -32.5 |
| 0.052 | 33.6 | -40 | -6.4 | 27.9 | -34.3 |
| 5.362 | 32.4 | -40 | -7.6 | 27.9 | -35.5 |
| 17.254 | 30.5 | -40 | -9.5 | 27.9 | -37.4 |
| 30.481 | 27.9 | -40 | -12.1 | 27.9 | -40.0 |
| 41.269 | 30.2 | -40 | -9.8 | 27.9 | -37.7 |
| 60.841 | 28.6 | -40 | -11.4 | 27.9 | -39.3 |

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.

Test Engineer: Kenneth H. M. Lam

INTERTEK TESTING SERVICES

3.4 Line Conducted Configuration Photograph

Worst Case Line-Conducted Configuration

For electronic filing, the worst case line-conducted configuration photograph are saved with filename: config photo.doc

INTERTEK TESTING SERVICES

3.5 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

TEST PERSONNEL:



Signature

Kenneth H. M. Lam, Compliance Engineer
Typed/Printed Name

20 September, 2003
Date

INTERTEK TESTING SERVICES

EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

INTERTEK TESTING SERVICES

4.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photo.doc for external photo and internal photo.doc for internal photo.4.0

Equipment Photographs

EXHIBIT 5

PRODUCT LABELLING

INTERTEK TESTING SERVICES

5.0 Product Labelling 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

6.0 Technical Specifications 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.

INTERTEK TESTING SERVICES

EXHIBIT 7

INSTRUCTION MANUAL

INTERTEK TESTING SERVICES

7.0 Instruction Manual7.0 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.