Industry Canada
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JMR Compliance Engineering

NVLAP®

**NVLAP LAB CODE: 200413-0**

**June 19, 2001**

# Test Record

## Product Verification

## According to FCC Part 18
**for**

## Technical Consumer Products, Inc.

## MODEL: ET-27W

# TABLE OF CONTENTS

## Introduction – Test Plan

This report describes the results of conducted emission measurements made on an fluorescent lamp which falls under the class of unintentional radiator by the FCC Rules and Regulations.
**As per customer request only conducted emission test was applied to the EUT.**
This EUT is designated: **Compact Fluorescent Lamp**
Model: **ET –27W**

The **ET –27W** is designed and manufactured by **Technical Consumer Products,Inc**.

The EUT should be in full compliance with the FCC Part 18 Regulations using the methods of ANSI C63.4.

## 1.0 CERTIFICATION OF TEST DATA

### Verification statement.

The data, data evaluation and equipment configuration represented herein are a true and accurate representation of the test sample (EUT), and EMC characteristics and measurements obtained as of the dates and the times of the test under the conditions specified and to the methods of ANSI C63.4: 1992.

All measurements are traceable to the National Institute of Standards and Technology (NIST).

The test results provided with this report, indicate that the equipment tested:
**Compact Fluorescent Lamp Model: ET-27W**
is compliant with the following Rules and Regulations without any modifications of the design:

A. 47 Code of Federal Regulations, Part 18, Subpart 18.307 Conduction limits.
B. ANSI C63.4: 1992

Tests performed by:

_____
Mike Chechelnik
EMC Engineer

Report prepared by:

_____
Mike Chechelnik
EMC Engineer

Report approved by:

_____
Leon Kogan
Technical Director,

JMR Compliance Engineering, 20400 Plummer Street, Chatsworth CA 91311.
E-mail:emc@jmr.com

## 2.0 GENERAL INFORMATION

### 2.1 Client Information

| | |
|---|---|
| Company Name: | Technical Consumer Products, Inc. |
| Contact: | Paul Fisher |
| Company Address: | 300 Lena Drive<br>Aurora, OH 44202 |
| Phone: | (330)-995-6111 |

### 2.2 Administrative Data

| | |
|---|---|
| Device tested: | **Compact Fluorescent Lamp** |
| Model: | ET-27W |
| Accessories: | N/A |
| Expository Statement: | This device is intended for use in residential and commercial environments. |
| Purpose of test: | Demonstrate compliance with FCC Rules, Part 18 |
| Date of test: | 06/18/01 |
| Place of the test: | JMR Electronics, Inc.<br>Compliance Engineering Laboratory<br>20400 Plummer Street<br>Chatsworth, CA 91311<br>Phone: 818 993-4801 |

# 3.0 Description of Equipment Under Test (EUT)

## 3.1 Brief Description of the EUT

The EUT is a compact fluorescent lamp.

**Power Supply**: **110V AC**

## 3.2 Cabling Configuration

**Power Cords:**

| | |
|---|---|
| Unit | EUT |
| MFG | Generic |
| Shielded | No |

## 3.3 Photographs of the EUT

## 3.4 EUT Modifications

**None**

## 3.5 Photographs of EUT Modifications

**N/A**

# 4.0 Conducted Emissions

## 4.1 Test Specifications

| | |
|---|---|
| Specification: | ANSI C63.4: 1992 |
| Title: | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz. |
| Specification: | FCC 47 CFR, Part 18 Title: Code of Federal Regulations |
| Specification: | JMR Work Procedure W090-5205 |
| Title: | Conducted Emission Test |

### 4.1.1 Test Requirements.

The EUT must meet FCC 47 CFR, Part 18 requirements.

## 4.2 Conducted Emissions Test

### 4.2.1 Procedures of Conducted Emission Test

Conducted emission test is done in the "Peak Detector" mode for Line 1, which is high line to ground. Then the RFI emissions are measured from Line 2, or neutral to ground. When Peak amplitudes are found to be above the limits, or within 10 dB of the limits, a Quasi-Peak Detector Mode and Average Detector Mode for the line or lines with excessive RFI is then performed.

For AC power line conducted tests, the following option may be exercised if the EUT Peak Mode emissions exceed the average limit when performing the tests. If the level of the emission measured using instrumentation with Quasi-Peak detection is 6 dB, or more, higher than the level of the same emission measured with instrumentation having an Average Detector with a 9 kHz minimum bandwidth, that emission is considered to be broadband and the level obtained with the Quasi-Peak detector may be reduced by 13 dB for comparison to the limit.

The EUT is configured as a system with peripherals connected, so that at least one interface port of each type is connected to one external peripheral when tested for conducted emissions according to ANSI C63.4.

The test data was obtained using a Hewlett Packard 8546A EMI Receiver (9 kHz - 6.5 GHz) and HP 85876A EMI Measurement Software.

The conducted test for table-top configurations is performed on a 1.0 X 2.5 X 0.8 meter non-metallic test table which is set up inside a shielded test room, measuring 12

feet by 10 feet by 9 feet tall. The separation between the EUT and screen room wall is 0.4 m, according to ANSI C63.4.

The EUT is powered through an appropriate Line Impedance Stabilization Network (LISN), bonded to the ground plane as described in CISPR 16.
The power input cables to the LISN and the RFI measurement system are arranged so that they will not influence the measurement results. To ensure that RFI from the auxiliary instrumentation or support equipment does not influence the test readings, the LISN power is isolated from other power by RFI filters. Excess power cord is folded back and forth to form a non-inductive bundle.

## 4.3 Test Equipment Used

### 4.3.1 Conducted Emission Test

| Device | Model No. | Serial No. | Last Cal. | Next Cal |
|---|---|---|---|---|
| Cable 1 | RG-214/U | CBL-001 | 06/21/00 | 06/21/01 |
| Analyzer | HP85462A | 3325A00120 | 03/22/01 | 03/22/02 |
| Preselector | HP85460A | 3330A00117 | 03/22/01 | 03/22/02 |
| QPeak Adapter | HP85462 Internal | Internal | 03/22/01 | 03/22/02 |
| Pre-Amplifier | None | | | |
| LISN | 3825/2 LISN | 9406-2232 | 08/25/00 | 08/25/01 |
| Switch 1 | N/A | N/A | N/A | N/A |
| Attenuator 1 | 33-10-34 | BA9146 | 06/21/00 | 06/21/01 |
| Temperature and Humidity Recorder | Dickson TH8-24C | 5097755 | 09/21/00 | 09/21/01 |

## 4.4 Photographs of Test Set-Up

# Conducted Emission Test

(Front View)

# Conducted Emission Test

(Rear View)

## 4.5 Test Results

### 4.5.1 Conducted Emissions Test Results

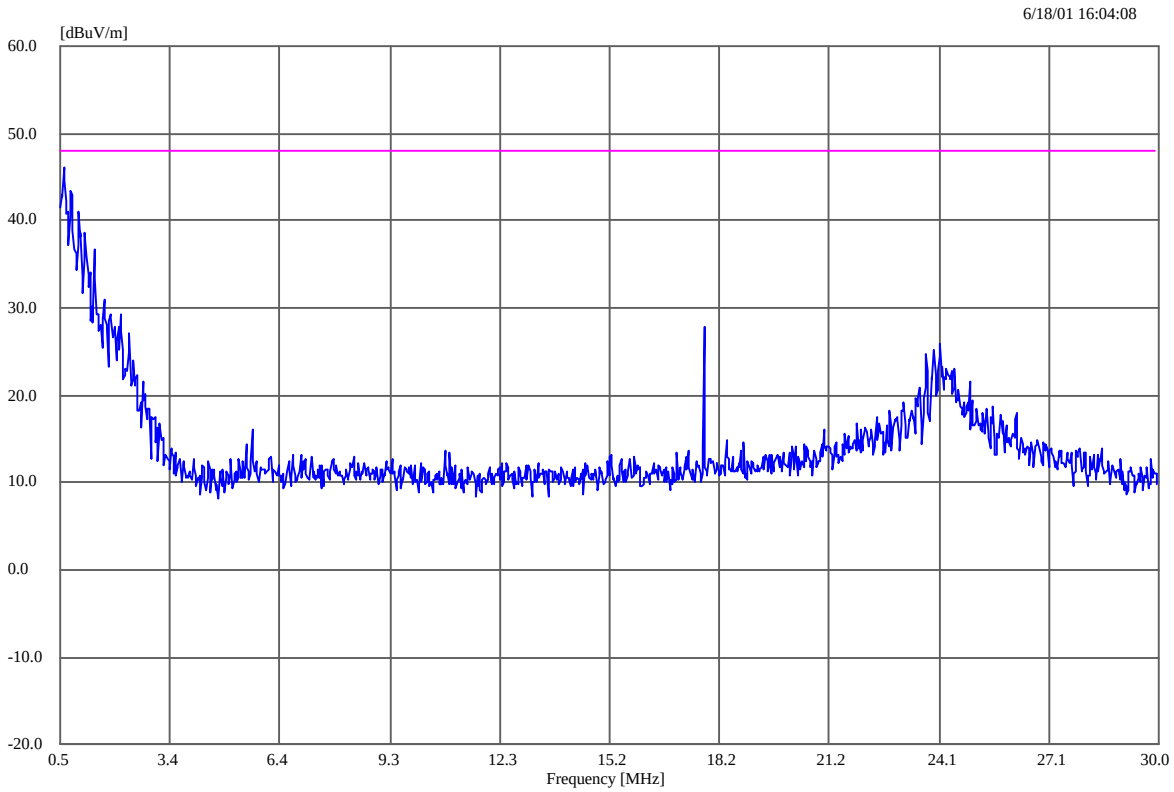
Measurements expanded uncertainty equals 2.62 dB with 95% confidence level.

Room Ambient Temperature: 21°C±1°C
Relative Humidity: 47%±5%

**Line 1**

| Frequency MHz | QP dBuV/m | QP Lmt dBuV/m | DelLim-QP dB | Status |
|---|---|---|---|---|
| 0.466154 | 38.45 | 47.95 | -9.50 | PASS |
| 0.522881 | 43.76 | 47.95 | -4.19 | PASS |
| 0.648084 | 38.51 | 47.95 | -9.44 | PASS |
| 0.731910 | 40.92 | 47.95 | -7.03 | PASS |
| 0.768091 | 33.78 | 47.95 | -14.17 | PASS |
| 0.929179 | 36.07 | 47.95 | -11.88 | PASS |

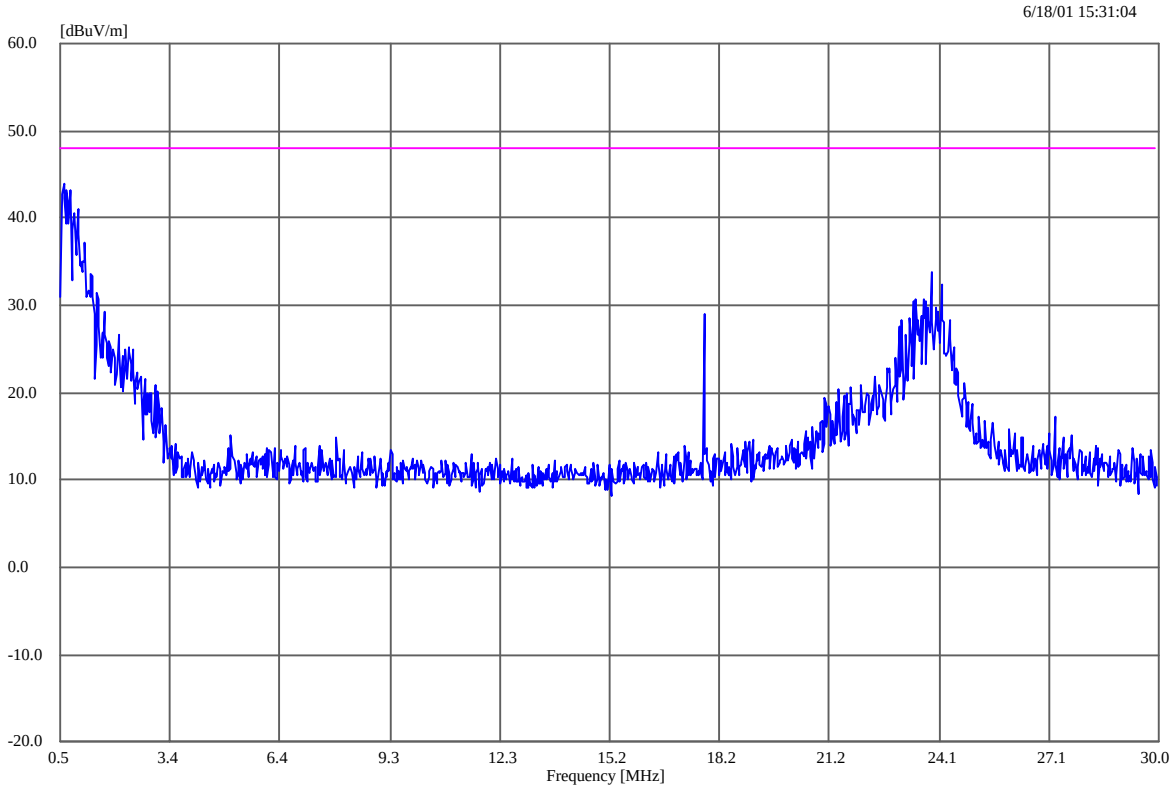
## Composite Trace



## Line 2

| Frequency MHz | QP dBuV/m | QP Lmt dBuV/m | DelLim-QP dB | Status |
|---|---|---|---|---|
| 0.434801 | 43.06 | 47.95 | -4.89 | PASS |
| 0.534843 | 41.07 | 47.95 | -6.88 | PASS |
| 0.636384 | 38.78 | 47.95 | -9.17 | PASS |
| 0.718933 | 42.68 | 47.95 | -5.27 | PASS |
| 0.900056 | 34.05 | 47.95 | -13.90 | PASS |

## Composite Trace


6/18/01 15:31:04
[dBuV/m]
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
0.5
3.4
6.4
9.3
12.3
15.2
18.2
21.2
24.1
27.1
30.0
Frequency [MHz]

# Appendix A.

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC GUIDE 25:1990
ISO 9002:1987

## Certificate of Accreditation

**JMR COMPLIANCE ENGINEERING**
CHATSWORTH, CA

*is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:*

**ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS**

March 31, 2002
*Effective through*

*David T. Alderman*
For the National Institute of Standards and Technology

NVLAP Lab Code: 200413-0

NVLAP-01C (11-98)

**FEDERAL COMMUNICATIONS COMMISSION**

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

August 20, 1998

IN REPLY REFER TO
31040/SIT
1300F2

JMR Electronics Inc.
20400 Plummer Street
Chatsworth, CA 91311

Attention: Leon Kogan

Re: Measurement facility located at Chatsworth
( 3 meter anechoic chamber )

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has also been added to our list of those who perform these measurement services for the public on a fee basis. An up-to-date list is available on the Internet at the FCC Website www.fcc.gov under Electronic Filing.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch