



**FCC CFR47 PART 18 SUBPART C  
ISM EQUIPMENY**

**TEST REPORT**

**FOR**

**MICROWAVE OVEN**

**MODEL NUMBER: R-414**

**MAGNETRON MODEL: 2M246, 2M167B, 2M226, 2M253J(L) -VFU**

**FCC ID: APYDMR0154**

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**LAB CODE:200065-0**

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## 1. VERIFICATION OF COMPLIANCE

**COMPANY NAME:** SHARP CORPORATION  
22-22 NAGAIKE-CHO,  
ABENO-KU RELIABILITY CONTROL GROUP  
OSAKA, JAPAN, 545-8522

**EUT DESCRIPTION:** MICROWAVE OVEN

**MODEL NUMBER:** R-414

**SERIAL NUMBER:** 188731

**MAGNETRON MODEL:** 2M246, 2M167B, 2M226, 2M253J(L) – (VFU)

**DATE TESTED:** FEBUARY 10-16, 3005

| APPLICABLE STANDARDS  |                         |
|-----------------------|-------------------------|
| STANDARD              | TEST RESULTS            |
| FCC PART 18 SUBPART C | NO NON-COMPLIANCE NOTED |

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved By



THU CHAN / EMC SUPERVISOR  
COMPLIANCE CERTIFICATION SERVICES

Tested By



CHIN PANG / EMC TECHNICIAN  
COMPLIANCE CERTIFICATION

## 2. PRODUCT DESCRIPTION

The equipment under test is a microwave oven sold for consumer use. Model: R-414 is a 1200W microwave oven with digital controls panel.

Magnetron Model: 2M167B, 2M246 and 2M253J(L)--VBA

## 3. TEST FACILITY

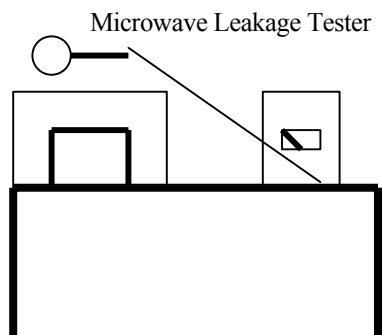
The open area test sites and conducted measurement facilities used to collect the radiated data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

## 4. ACCREDITATION AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code:200065-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (reference no: 31040/SIT (1300B3) and 31040/SIT(1300F2))

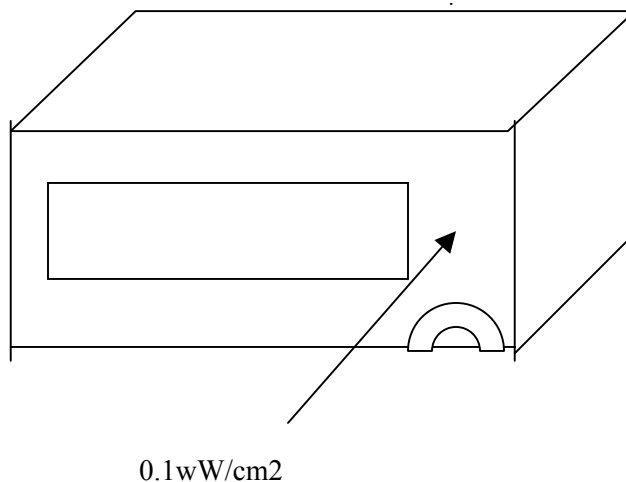
## 5. RADIO NOISE EMISSION MEASUREMENTS

### 5.1. RADIATION HAZARD MEASUREMENT



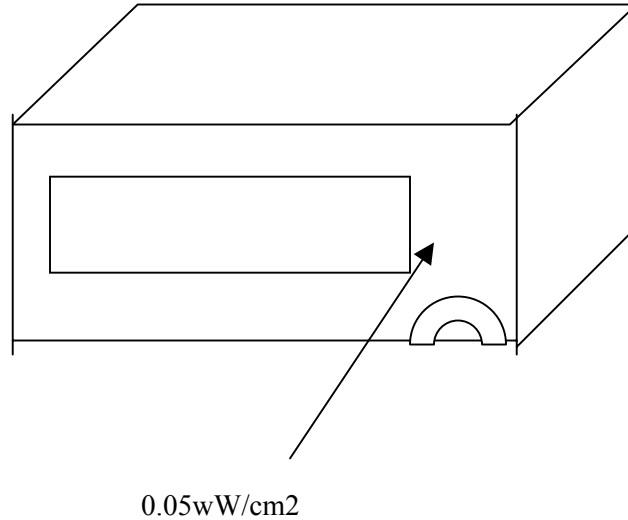
A 700-ml water load was placed in the center of the oven. The power setting was set to 10 (100) maximum power. While the oven was operating, the STE probe was moved slowly around the door seams to check for leakage.

#### 5.1.1. MAGNETRON-2M246



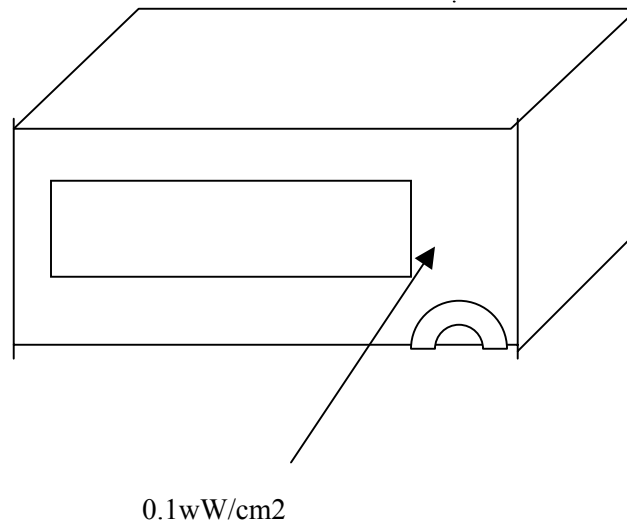
|   | Maximum Leakage<br>(mW/cm2) | Limit<br>(mW/cm2) |
|---|-----------------------------|-------------------|
| Figure shown above for the<br>location of maximum leakage | 0.1                         | 1.00              |
| All Others  | 0.05                        | 1.00              |

### 5.1.2. MAGNETRON-2M167B



|   | Maximum Leakage<br>(mW/cm2) | Limit<br>(mW/cm2) |
|---|-----------------------------|-------------------|
| Figure shown above for the<br>location of maximum leakage | 0.05                        | 1.00              |
| All Others  | 0.02                        | 1.00              |

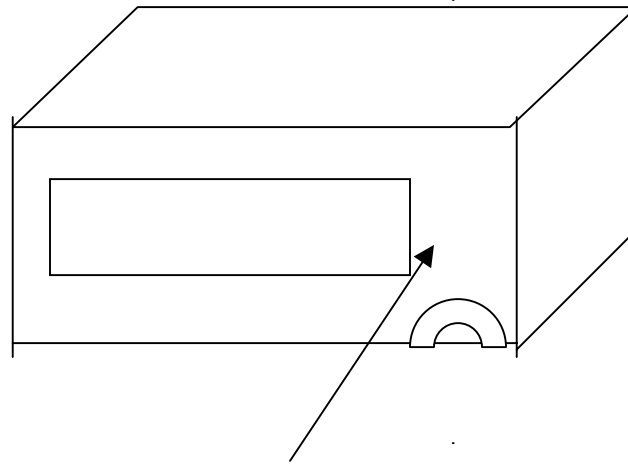
### 5.1.3. MAGNETRON-2M226



|   | Maximum Leakage<br>(mW/cm2) | Limit<br>(mW/cm2) |
|---|-----------------------------|-------------------|
| Figure shown above for the<br>location of maximum leakage | 0.1                         | 1.00              |
| All Others  | 0.02                        | 1.00              |



#### 5.1.4. MAGNETRON-2M253J(L)



0.2wW/cm2

|   | Maximum Leakage<br>(mW/cm2) | Limit<br>(mW/cm2) |
|---|-----------------------------|-------------------|
| Figure shown above for the<br>location of maximum leakage | 0.2                         | 1.00              |
| All Others  | 0.1                         | 1.00              |

## 5.2. INPUT POWER

Input power and current were measured using a wattmeter and an amp-meter. A 700 ml water load was placed in the center of the oven and the oven was set to 10 (100%) maximum power. A 700-ml water load was chosen for its compatibility. Manufacturers to determine their input ratings commonly use this procedure.

### 5.2.1. MAGNETRON-2M246B

| Input Voltage<br>(Vac) | Input Current<br>(Amps) | Measured Input<br>Power (Watts) |
|------------------------|-------------------------|---------------------------------|
| 115                    | 14.90                   | 1713.5                          |

### 5.2.2. MAGNETRON-2M167B

| Input Voltage<br>(Vac) | Input Current<br>(Amps) | Measured Input<br>Power (Watts) |
|------------------------|-------------------------|---------------------------------|
| 115                    | 15.0                    | 1725                            |

### 5.2.3. MAGNETRON-2M226

| Input Voltage<br>(Vac) | Input Current<br>(Amps) | Measured Input<br>Power (Watts) |
|------------------------|-------------------------|---------------------------------|
| 115                    | 15.5                    | 1767                            |

### 5.2.4. MAGNETRON - 2M253J(L)

| Input Voltage<br>(Vac) | Input Current<br>(Amps) | Measured Input<br>Power (Watts) |
|------------------------|-------------------------|---------------------------------|
| 115                    | 15.6                    | 1794                            |

Based on the measured input power, the EUT was found to be operating within the intended specifications.

### 5.3. RF OUTPUT POWER MEASUREMENT

The Caloric Method was used to determine maximum output power. The initial temperature of a 1000-ml water load was measured.

The water load was placed in the center of the oven. The oven was operated at maximum output power for 120 seconds. Then the temperature of the water was re-measured.

#### 5.3.1. MAGNETRON-2M246

| Start Temp<br>(°C) | Final Temp<br>(°C) | Elapsed Time<br>(120 sec) | RF Power<br>(Watts) |
|--------------------|--------------------|---------------------------|---------------------|
| 19.5               | 39.6               | 120                       | 703.5               |
| 18.0               | 38.2               | 120                       | 707                 |
| 18.0               | 38.5               | 120                       | 717.5               |

Average of 3 Trials: 709.3W

#### 5.3.2. MAGNETRON-2M167B

| Start Temp<br>(°C) | Final Temp<br>(°C) | Elapsed Time<br>(120 sec) | RF Power<br>(Watts) |
|--------------------|--------------------|---------------------------|---------------------|
| 18.1               | 40.2               | 120                       | 773.5               |
| 18.3               | 40.4               | 120                       | 773.5               |
| 18.7               | 40.7               | 120                       | 770                 |

Average of 3 Trials : 772.3 W

#### 5.3.3. MAGNETRON-2M226

| Start Temp<br>(°C) | Final Temp<br>(°C) | Elapsed Time<br>(120 sec) | RF Power<br>(Watts) |
|--------------------|--------------------|---------------------------|---------------------|
| 18                 | 39.6               | 120                       | 756                 |
| 18.3               | 40                 | 120                       | 759.5               |
| 18.5               | 40.5               | 120                       | 770                 |

Average of 3 Trials: 761.8 W

#### 5.3.4. MAGNETRON - 2M253J(L)

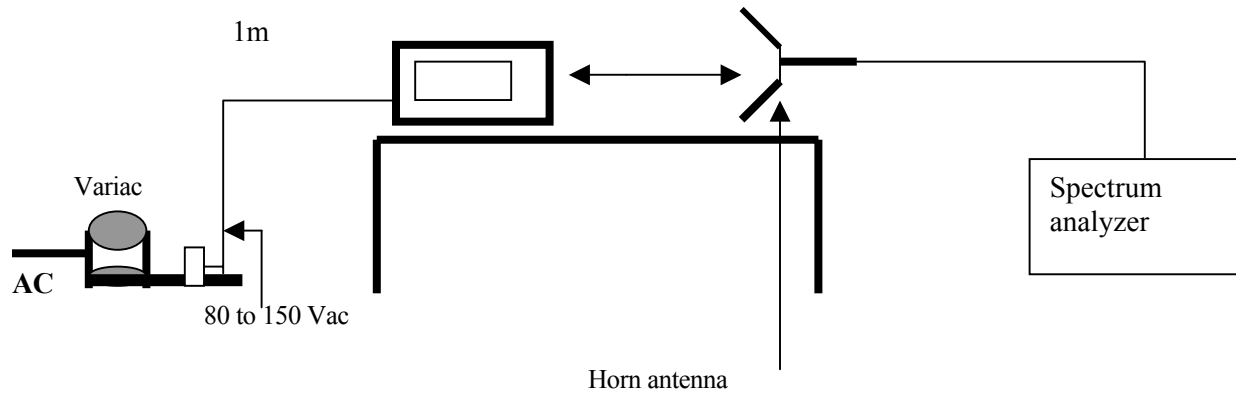
| Start Temp<br>(°C) | Final Temp<br>(°C) | Elapsed Time<br>(120 sec) | RF Power<br>(Watts) |
|--------------------|--------------------|---------------------------|---------------------|
| 19.4               | 41.3               | 120                       | 761.5               |
| 19.9               | 42.0               | 120                       | 773.5               |
| 21.1               | 42.3               | 120                       | 777                 |

Average of 3 Trials: 770 W

$$\text{Power} = \frac{(4.2 \text{ Joules/Cal}) \times (\text{Volume in ml}) \times (\text{Temp. Rise})}{\text{Time in seconds}}$$

The measured output was found to be OVER 500Watts. Therefore, in accordance with section 18.305 of Subpart B, the measured out-of-band emissions were compared to the  $25 \sqrt{\text{Power}/500}$  @ 300m limit.

## 5.4. OPERATING FREQUENCY MEASUREMENTS



Operating Frequency Measurement Set-up

## 5.5. VARIATION IN OPERATING FREQUENCY WITH TIME

The operating frequency was measured using a spectrum analyzer. Starting with the EUT at room temperature, a 1000-ml water load was placed in the center of the oven and the oven was operated at maximum output power.

The fundamental operating frequency was monitor until the water load was reduced to 20% of the original load.

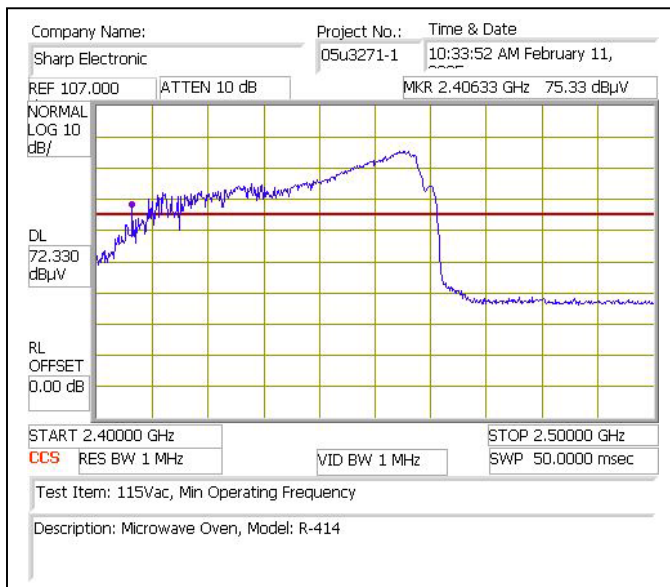
The results of this test are as follows.

Initial load: 1000 ml

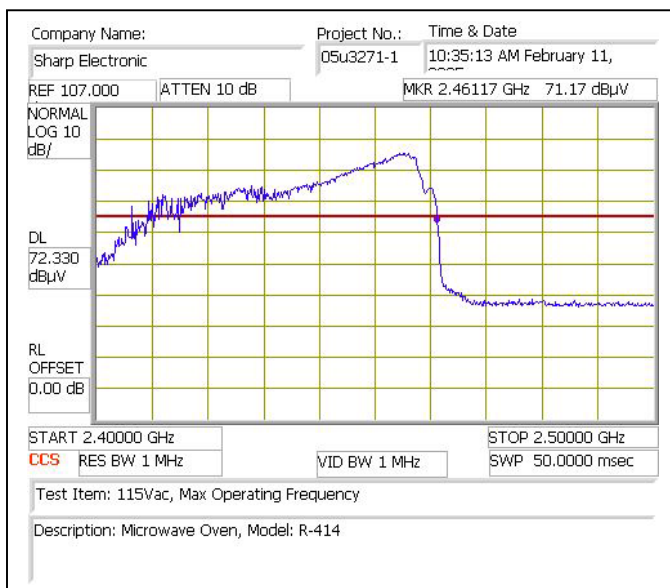
Load at completion of test: 200 ml

### 5.5.1. MAGNETRON-2M246

|   |                    |
|---|--------------------|
|   | <b>115Vac(MHz)</b> |
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2406.33</b>     |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>2461.17</b>     |



**Minimum Frequency @ 115Vac**

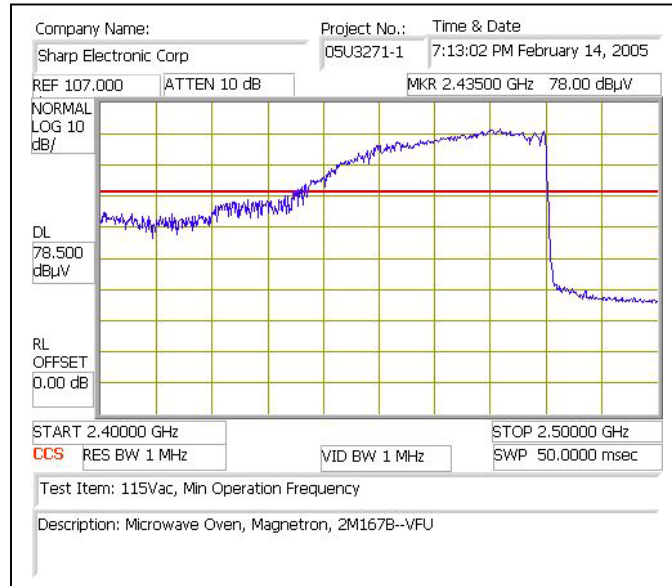


**Maximum Frequency @ 115Vac**

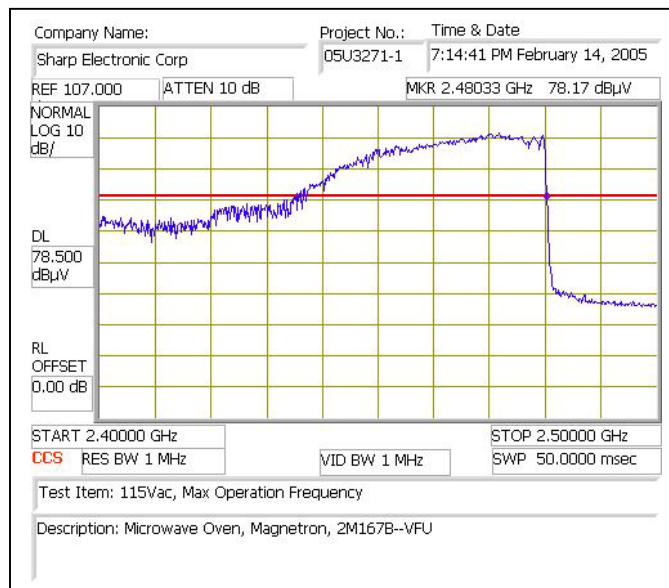
### 5.5.2. MAGNETRON-2M167B

|   |                    |
|---|--------------------|
|   | <b>115Vac(MHz)</b> |
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2435</b>        |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>2480.33</b>     |





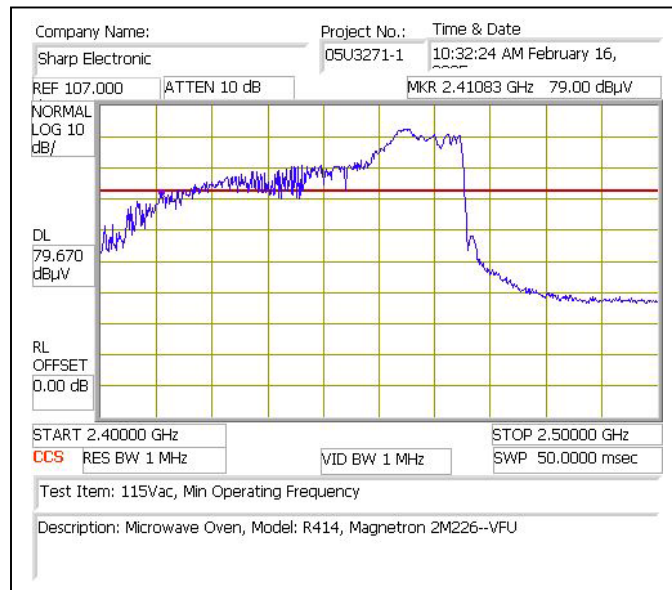
**Minimum Frequency @ 115Vac**



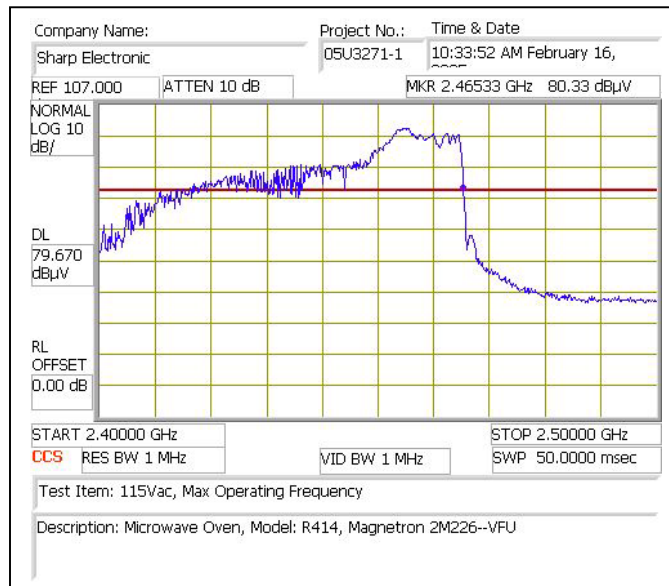
**Maximum Frequency @ 115Vac**

### 5.5.3. MAGNETRON-2M226

|   |                    |
|---|--------------------|
|   | <b>115Vac(MHz)</b> |
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2410.83</b>     |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>2465.33</b>     |



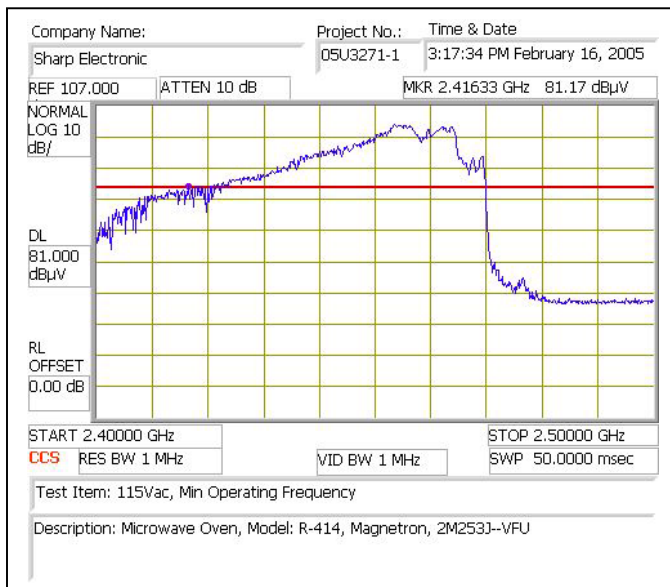
**Minimum Frequency @ 115Vac**



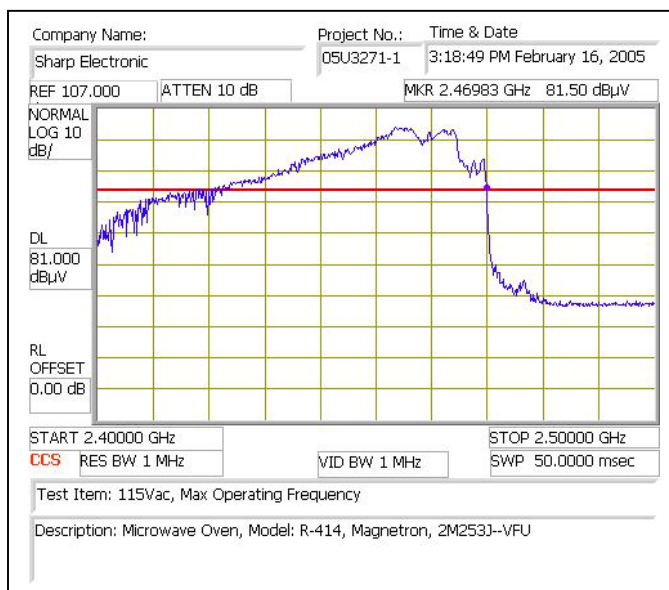
**Maximum Frequency @ 115Vac**

#### 5.5.4. MAGNETRON-2M253J(L)

|   |                    |
|---|--------------------|
|   | <b>115Vac(MHz)</b> |
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2416.33</b>     |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>2469.83</b>     |



**Minimum Frequency @ 115Vac**



**Maximum Frequency @ 115Vac**

## 5.6. VARIATION IN OPERATING FREQUENCY WITH VOLTAGE

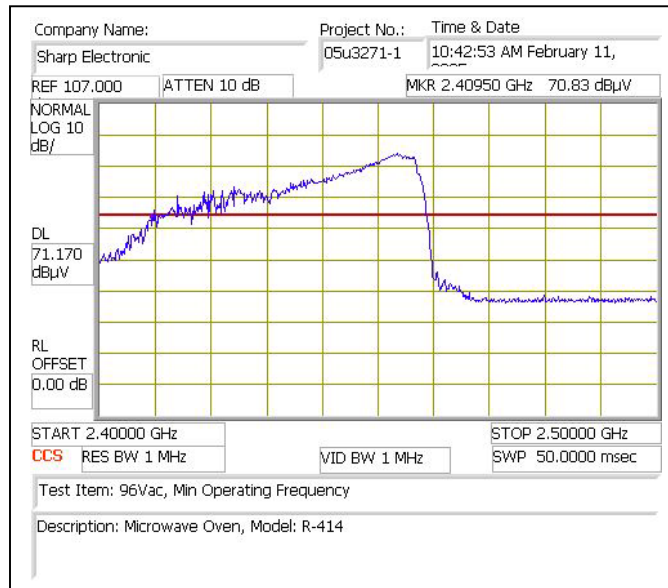
Following the above test, after operating the oven long enough to assure that stable operating temperature were obtained, the operating frequency was monitored as the input voltage was varied between 80 to 125 percent of the nominal rating.

The water load was maintained at 200 ml for the duration of the test.

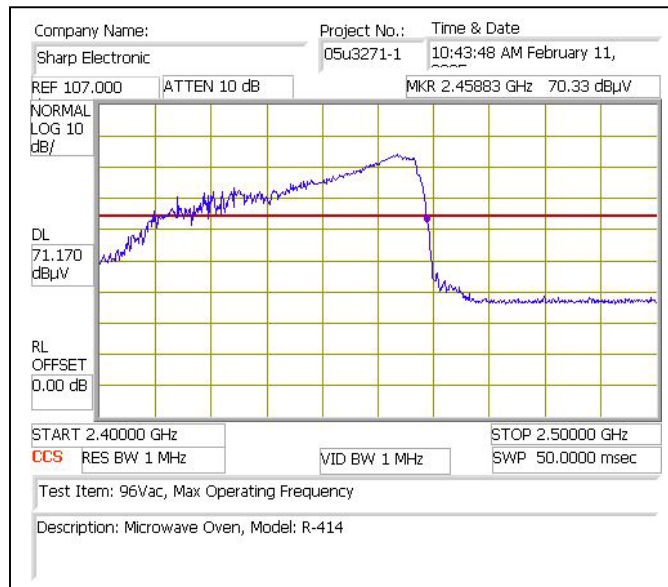
The results of this test are as follows:

### 5.6.1. MAGNETRON-2M246

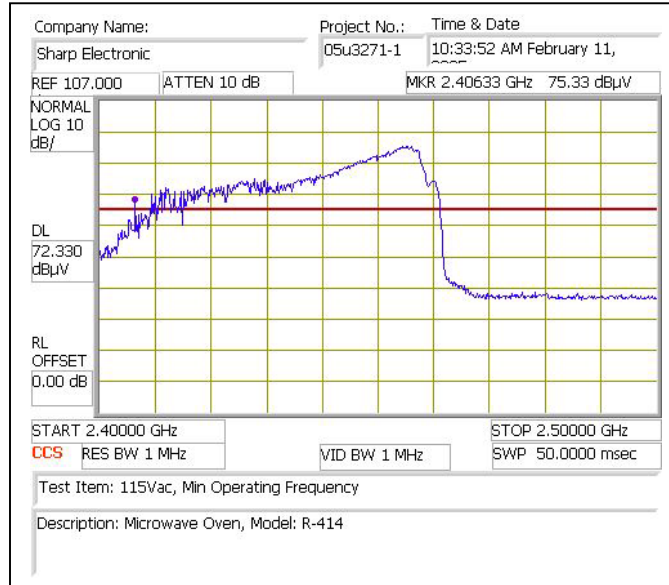
|   | <b>96Vac<br/>(MHz)</b> | <b>115Vac<br/>(MHz)</b> | <b>150Vac<br/>(MHz)</b> |
|---|------------------------|-------------------------|-------------------------|
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2409.50</b>         | <b>2406.33</b>          | <b>2412</b>             |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>2458.83</b>         | <b>2461.17</b>          | <b>2458.83</b>          |



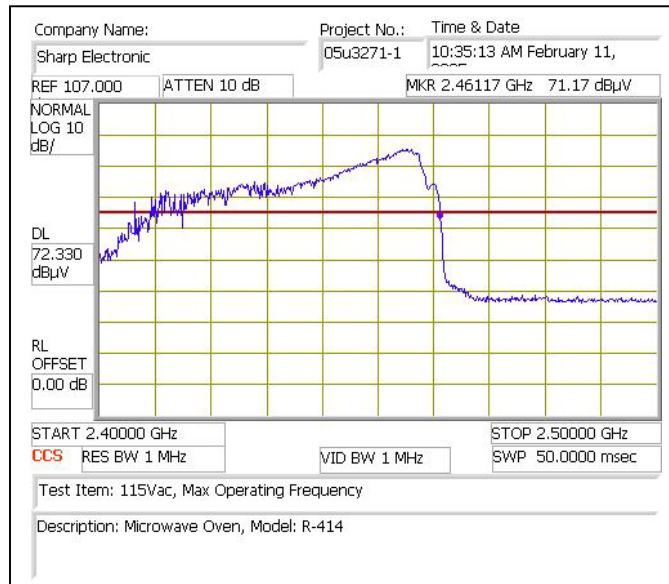
**Minimum Frequency @ 96Vac**



**Maximum Frequency @ 96Vac**

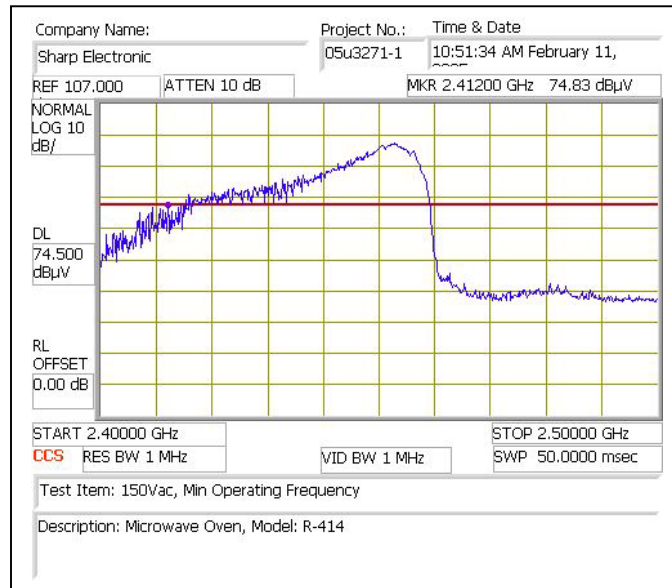


**Minimum Frequency @ 115Vac**

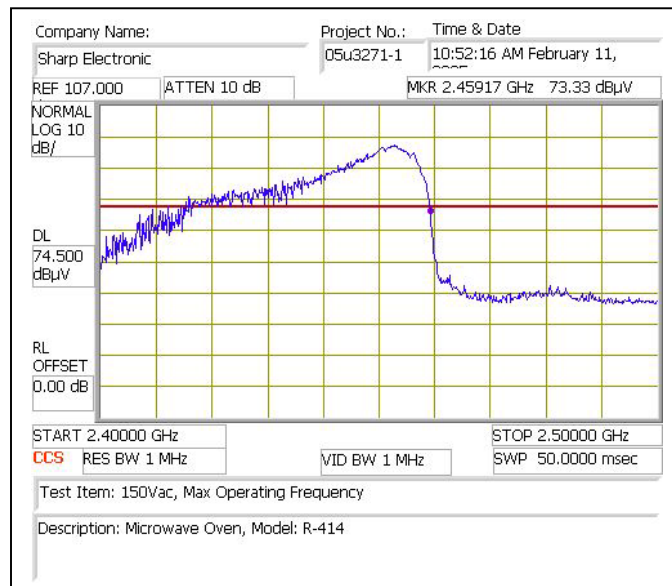


**Maximum Frequency @ 115Vac**





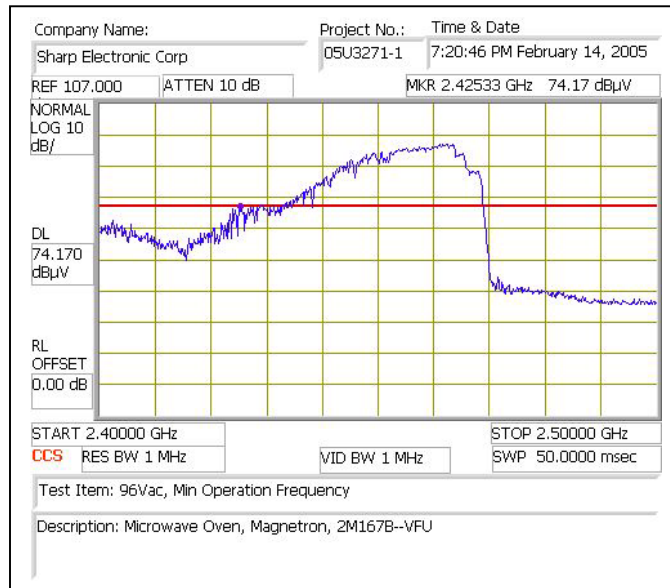
**Minimum Frequency @ 150Vac**



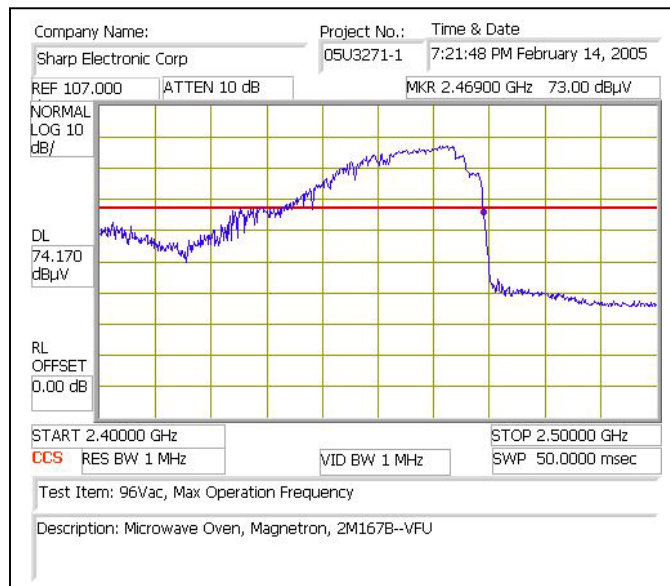
**Maximum Frequency @ 150Vac**

### 5.6.2. MAGNETRON-2M167B

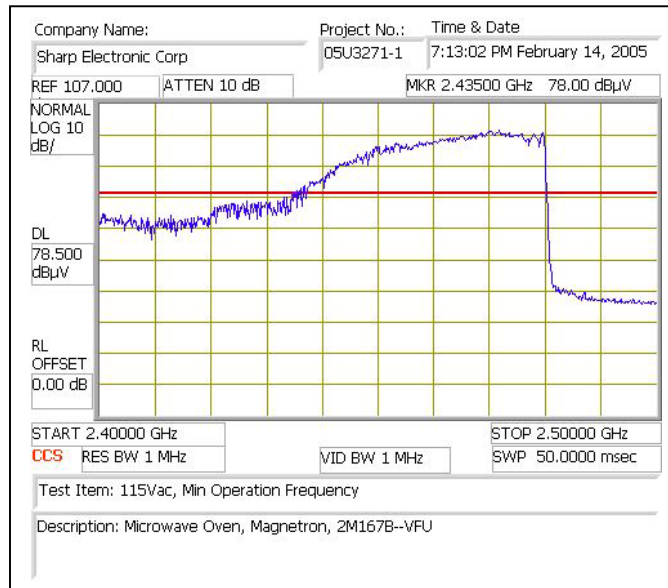
|   | <b>96Vac<br/>(MHz)</b> | <b>115Vac<br/>(MHz)</b> | <b>150Vac<br/>(MHz)</b> |
|---|------------------------|-------------------------|-------------------------|
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2425.33</b>         | <b>2435</b>             | <b>2432.83</b>          |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>24694</b>           | <b>2480.33</b>          | <b>2474.67</b>          |



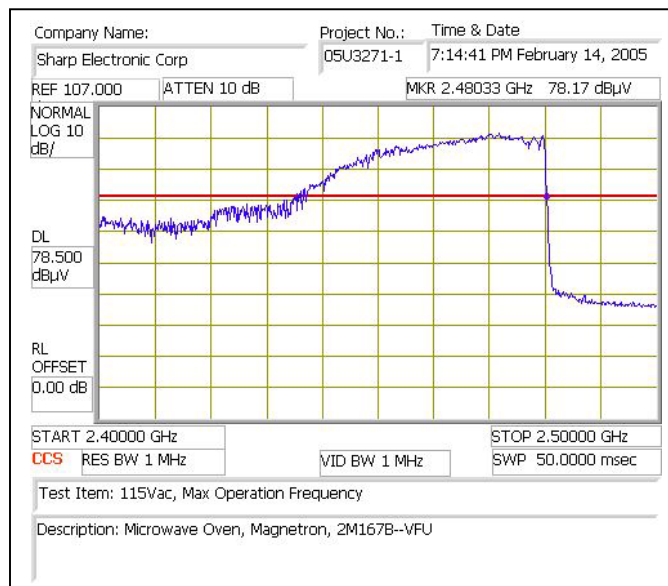
**Minimum Frequency @ 96Vac**



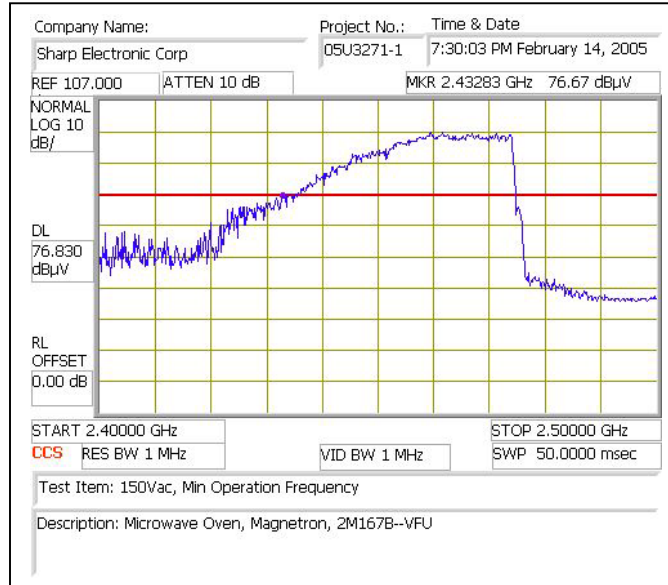
**Maximum Frequency @ 96Vac**



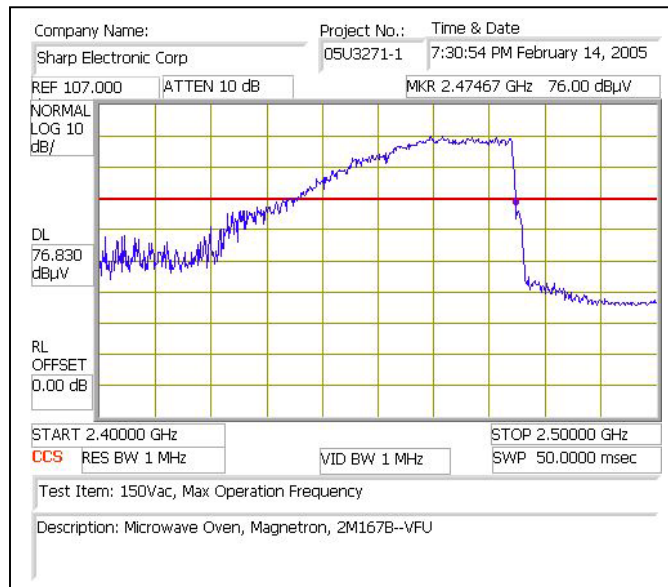
**Minimum Frequency @ 115Vac**



**Maximum Frequency @ 115Vac**



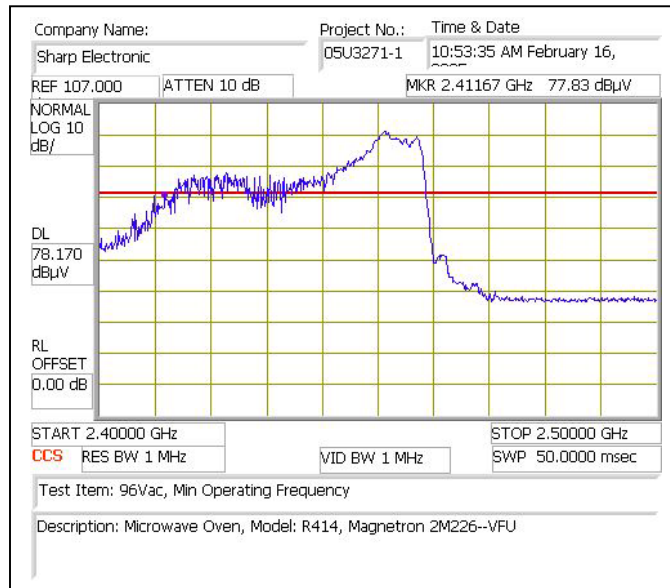
**Minimum Frequency @ 150Vac**



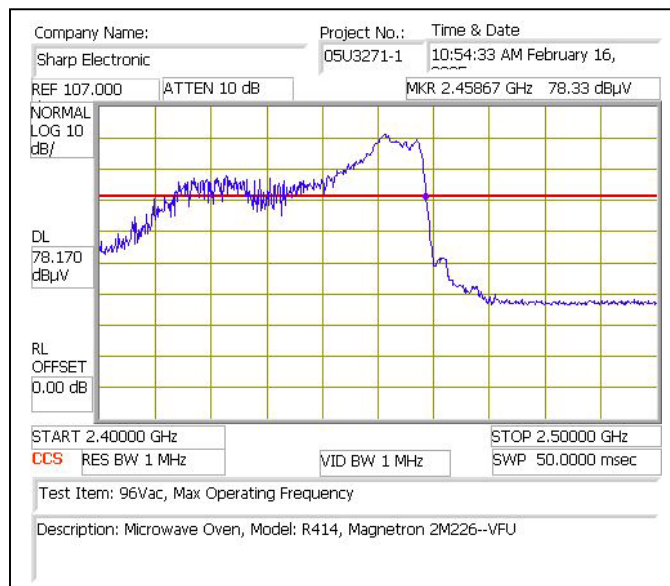
**Maximum Frequency @ 150Vac**

### 5.6.3. MAGNETRON-2M226

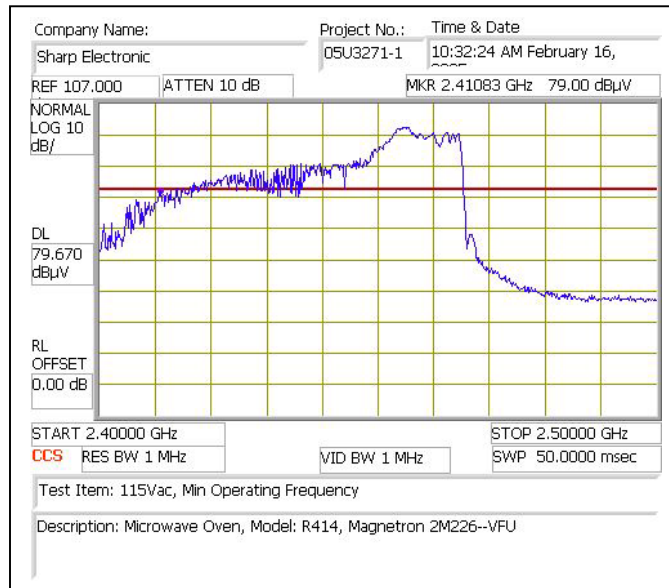
|   | <b>96Vac<br/>(MHz)</b> | <b>115Vac<br/>(MHz)</b> | <b>150Vac<br/>(MHz)</b> |
|---|------------------------|-------------------------|-------------------------|
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2411.67</b>         | <b>2410.83</b>          | <b>2405.50</b>          |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>2458.67</b>         | <b>2465.33</b>          | <b>2466</b>             |



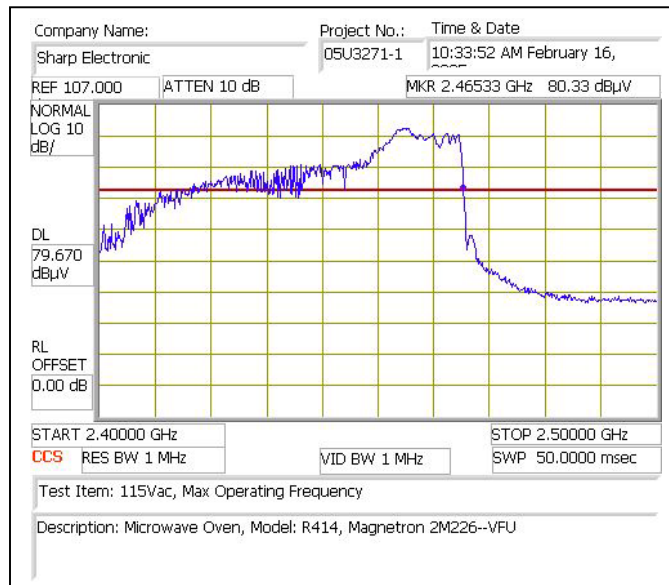
**Minimum Frequency @ 96Vac**



**Maximum Frequency @ 96Vac**

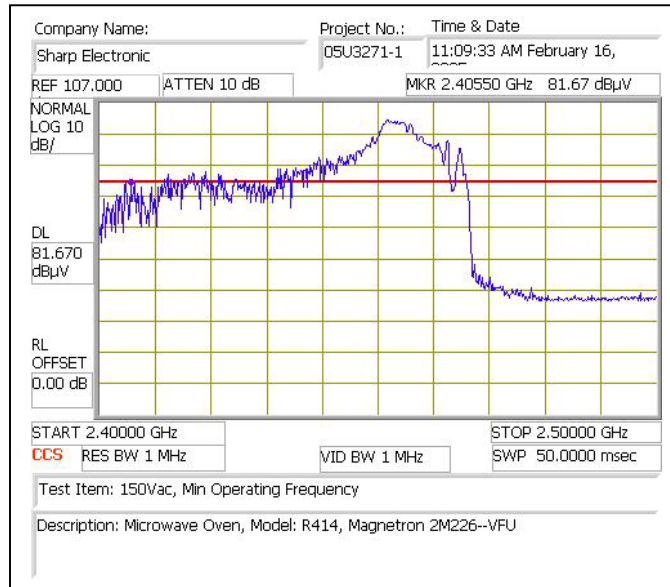


**Minimum Frequency @ 115Vac**

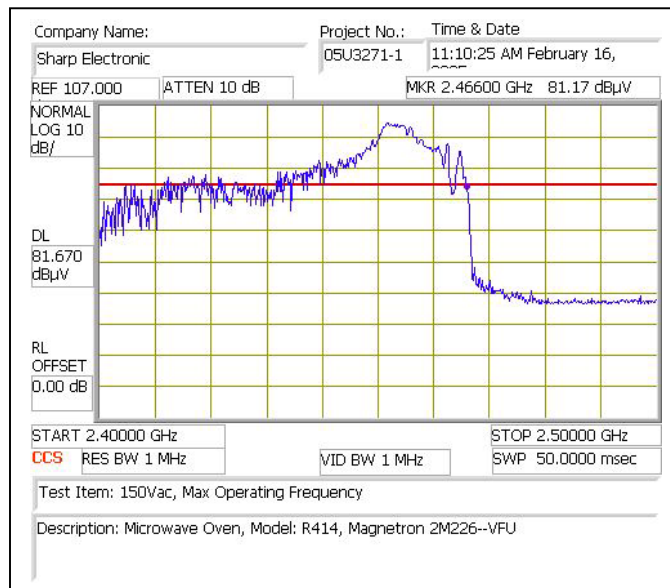


**Maximum Frequency @ 115Vac**





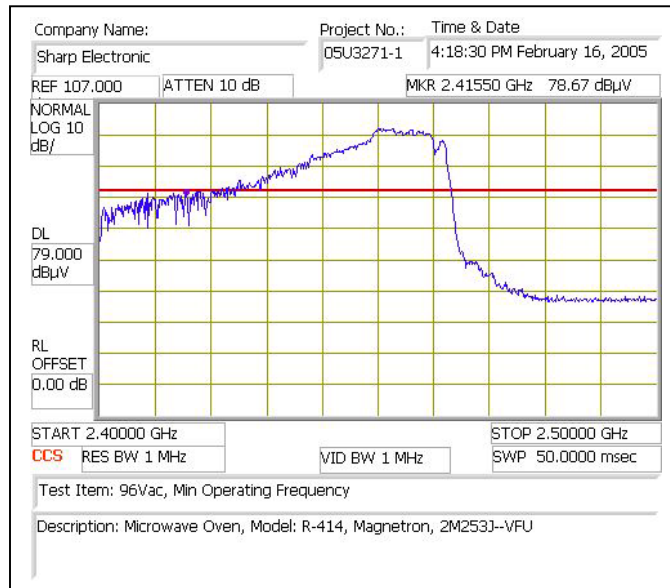
**Minimum Frequency @ 150Vac**



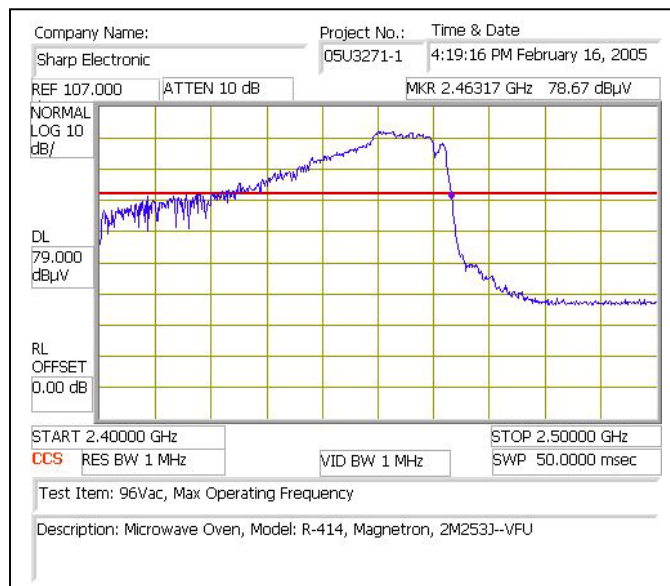
**Maximum Frequency @ 150Vac**

#### 5.6.4. MAGNETRON - 2M253J(L)

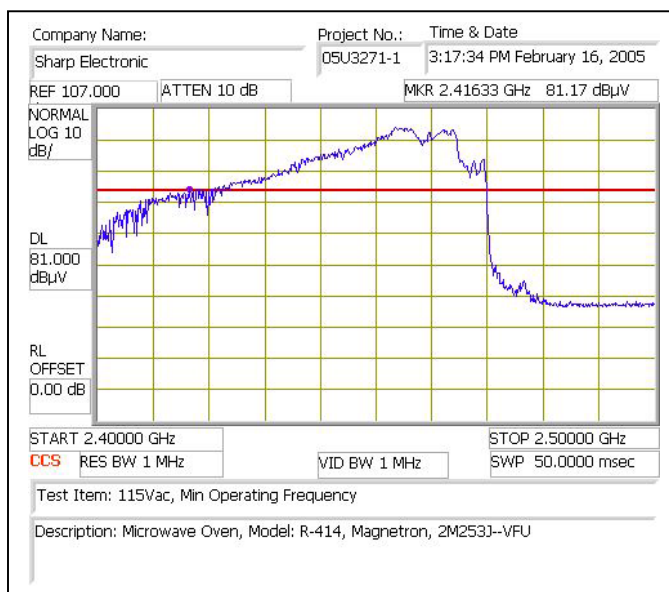
|   | <b>96Vac<br/>(MHz)</b> | <b>115Vac<br/>(MHz)</b> | <b>150Vac<br/>(MHz)</b> |
|---|------------------------|-------------------------|-------------------------|
| <b>Minimum Frequency<br/>(2400 MHz)</b> | <b>2415.50</b>         | <b>2416.33</b>          | <b>2416.83</b>          |
| <b>Maximum Frequency<br/>(2500 MHz)</b> | <b>2463.17</b>         | <b>2469.83</b>          | <b>2469.17</b>          |



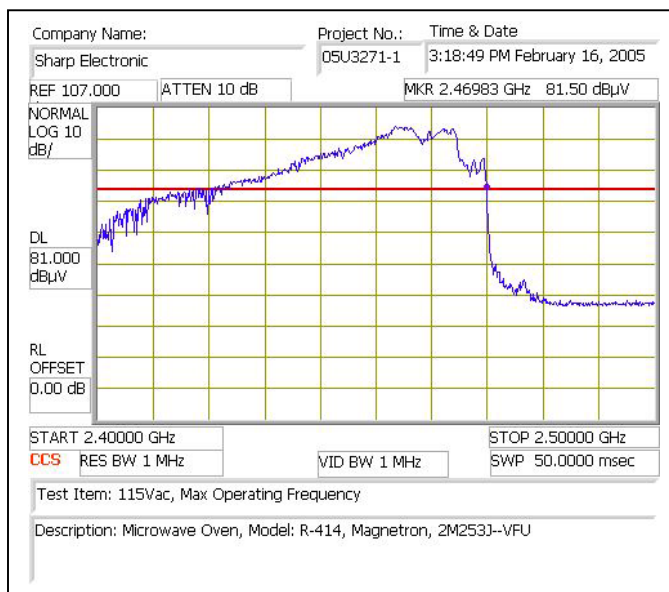
**Minimum Frequency @ 96Vac**



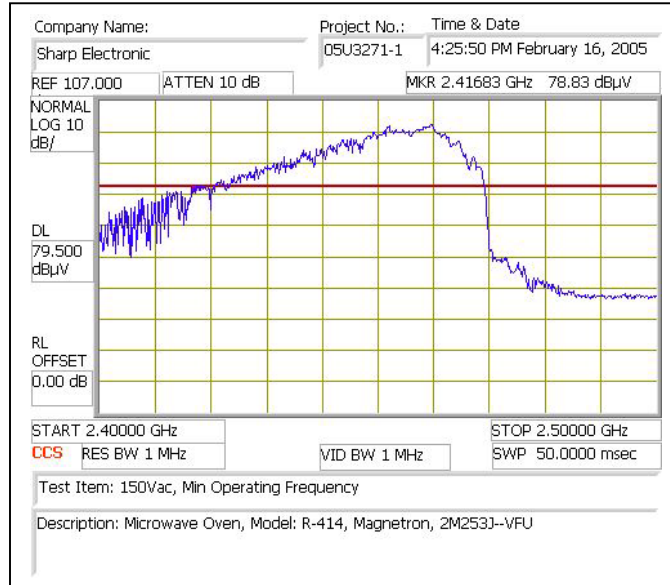
**Maximum Frequency @ 96Vac**



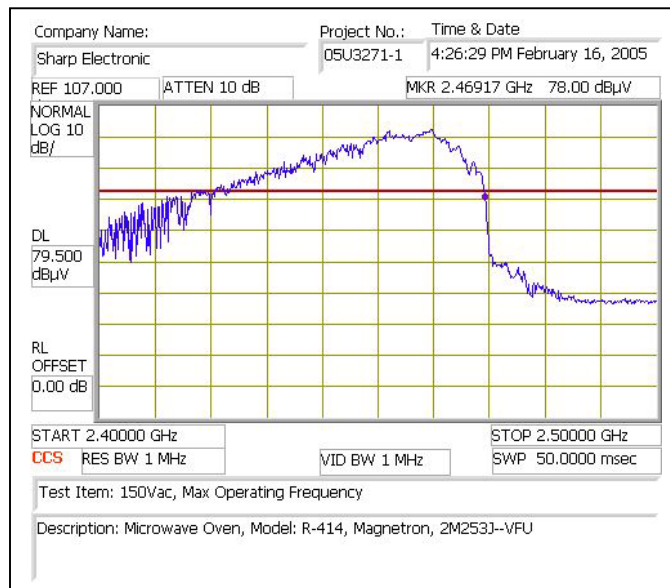
**Minimum Frequency @ 115Vac**



**Maximum Frequency @ 115Vac**



**Minimum Frequency @ 150Vac**



**Maximum Frequency @ 150Vac**

## 5.7. RADIATED EMISSIONS

Radiated emissions were measured over an inclusive frequency range to 100MHz through the sixth harmonic of the operating frequency. For this test, a 80cm high wooden table in an open laboratory area supported the device under test. The table was placed on a turntable.

The measurement antenna was placed 3 meters for measurements from 30 - 1000MHz and 1 meter for measurements from 1000 - 14,000MHz, respectively, for the device under test. The indicated frequency range was swept as the device under test was rotated along its vertical axis in 90° increments.

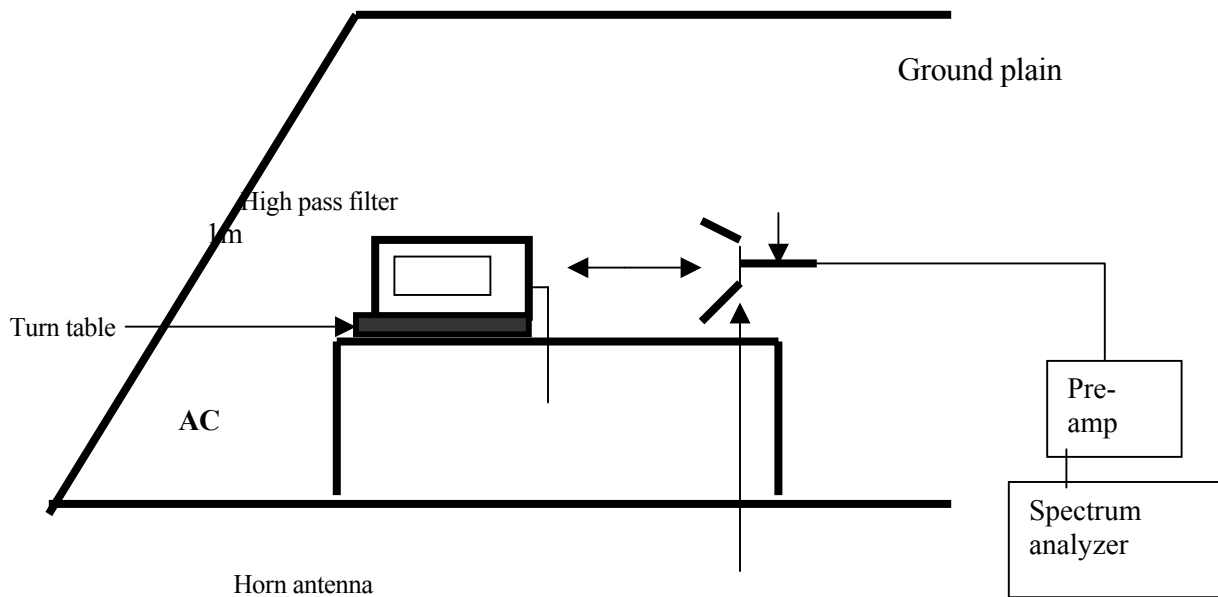
During the preliminary tests, the load consisted of 700-ml tap water placed in the center of the oven. The emissions were observed while the device under test was operated at maximum output power.

The level of the emissions near the edge of the designated ISM frequency band was measured. For this test, the load consisted of 700-ml water load located in the center of the oven.

The levels of the second and third harmonic were measured inclusively with a 300 ml and 700 ml water load alternately placed in the center and right front corner of the oven. Harmonics beyond the third were measured with a 700-ml load placed in the center of the oven. The data obtained during these tests is contained on the attached spreadsheet.

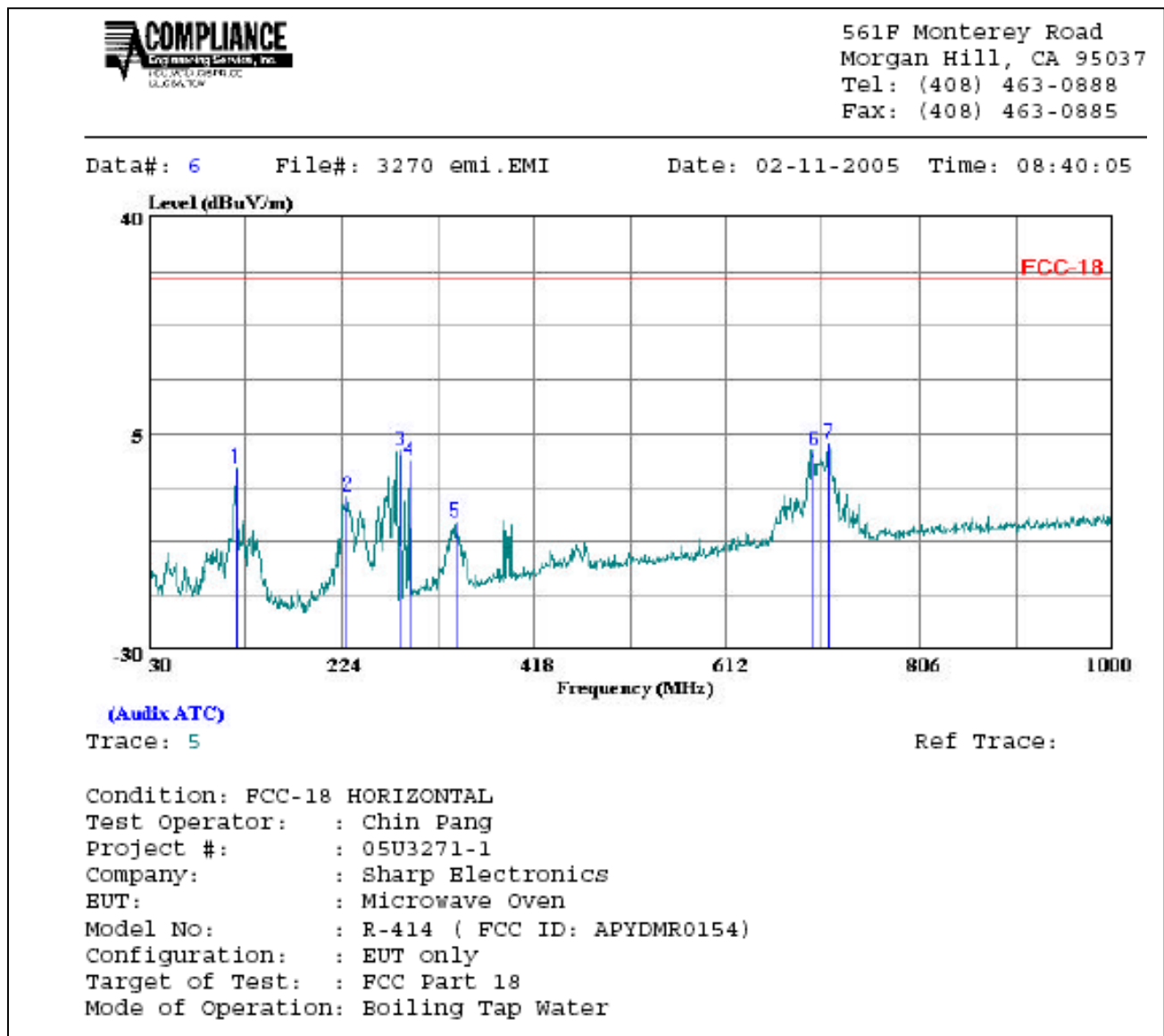
The maximum of all other out-of-band emissions were measured while a 700-ml load was placed in the center of the oven. Maximum readings were recorded after variations in antenna polarizations, height, device orientation, load position, and size. For frequencies above 1 GHz, the video bandwidth of the spectrum analyzer was set to simulate a linear average detection mode (10Hz).

For all emissions the equivalent 300 meters intensity was calculated assuming a linear decrease in the intensity of the RFI field with increased distance. In the operating modes and conditions described, there were no over-limit emissions discovered.



Radiated Emissions Configuration

### 5.7.1. MAGNETRON-2M246 (HORIZONTAL)

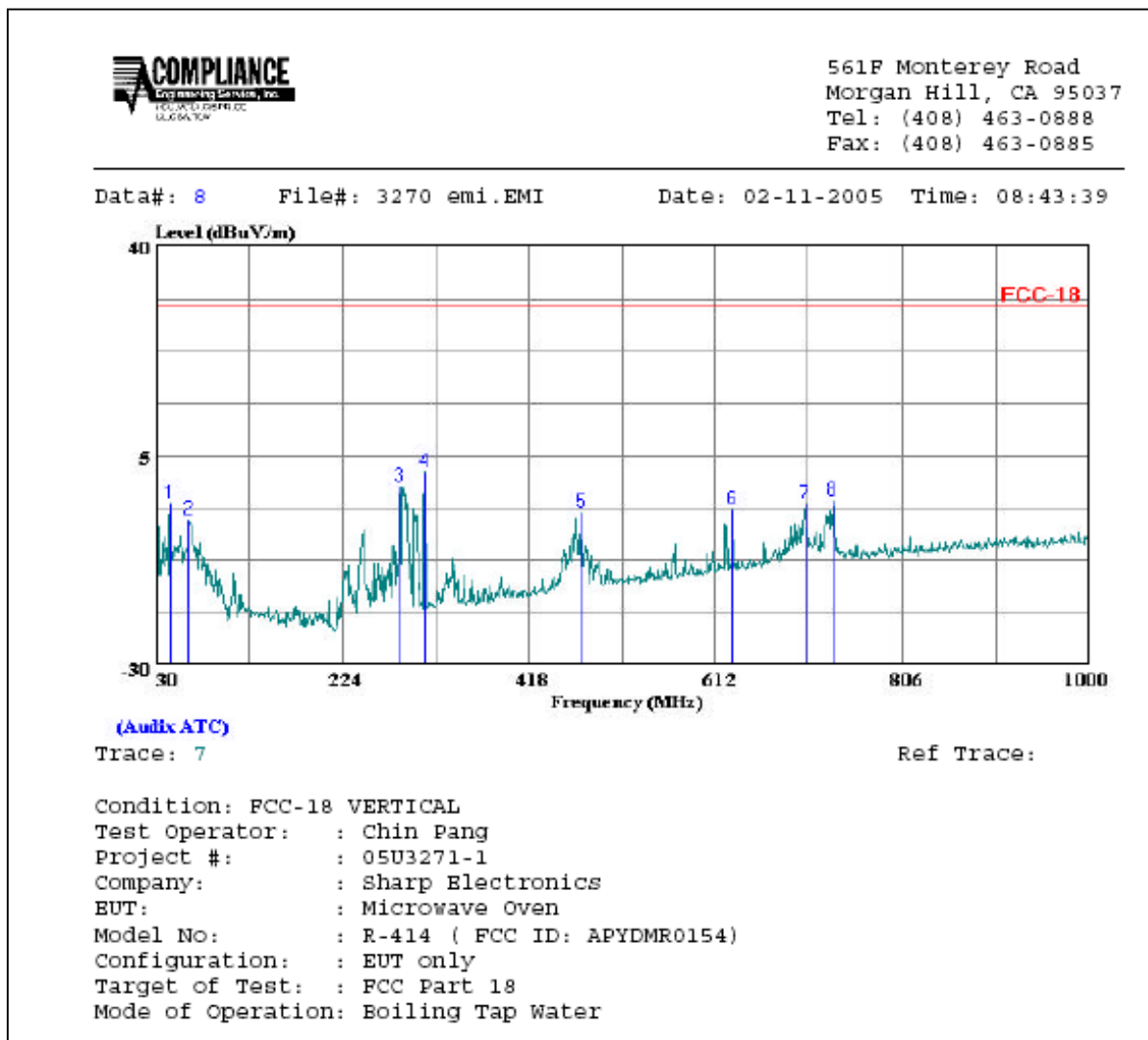




## HORIZONTAL DATA,

| Page: 1 |         |               |        |        |               |               |        |
|---------|---------|---------------|--------|--------|---------------|---------------|--------|
|         | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|         | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1       | 118.270 | 12.30         | -12.90 | -0.60  | 30.00         | -30.60        | Peak   |
| 2       | 229.820 | 9.20          | -14.59 | -5.39  | 30.00         | -35.39        | Peak   |
| 3       | 284.140 | 14.80         | -12.50 | 2.30   | 30.00         | -27.70        | Peak   |
| 4       | 292.870 | 12.70         | -12.15 | 0.55   | 30.00         | -29.45        | Peak   |
| 5       | 339.430 | 1.50          | -10.90 | -9.40  | 30.00         | -39.40        | Peak   |
| 6       | 700.270 | 5.40          | -3.24  | 2.16   | 30.00         | -27.84        | Peak   |
| 7       | 715.790 | 6.50          | -2.99  | 3.51   | 30.00         | -26.49        | Peak   |

## 5.7.2. MAGNETRON-2M246 (VERTICAL)



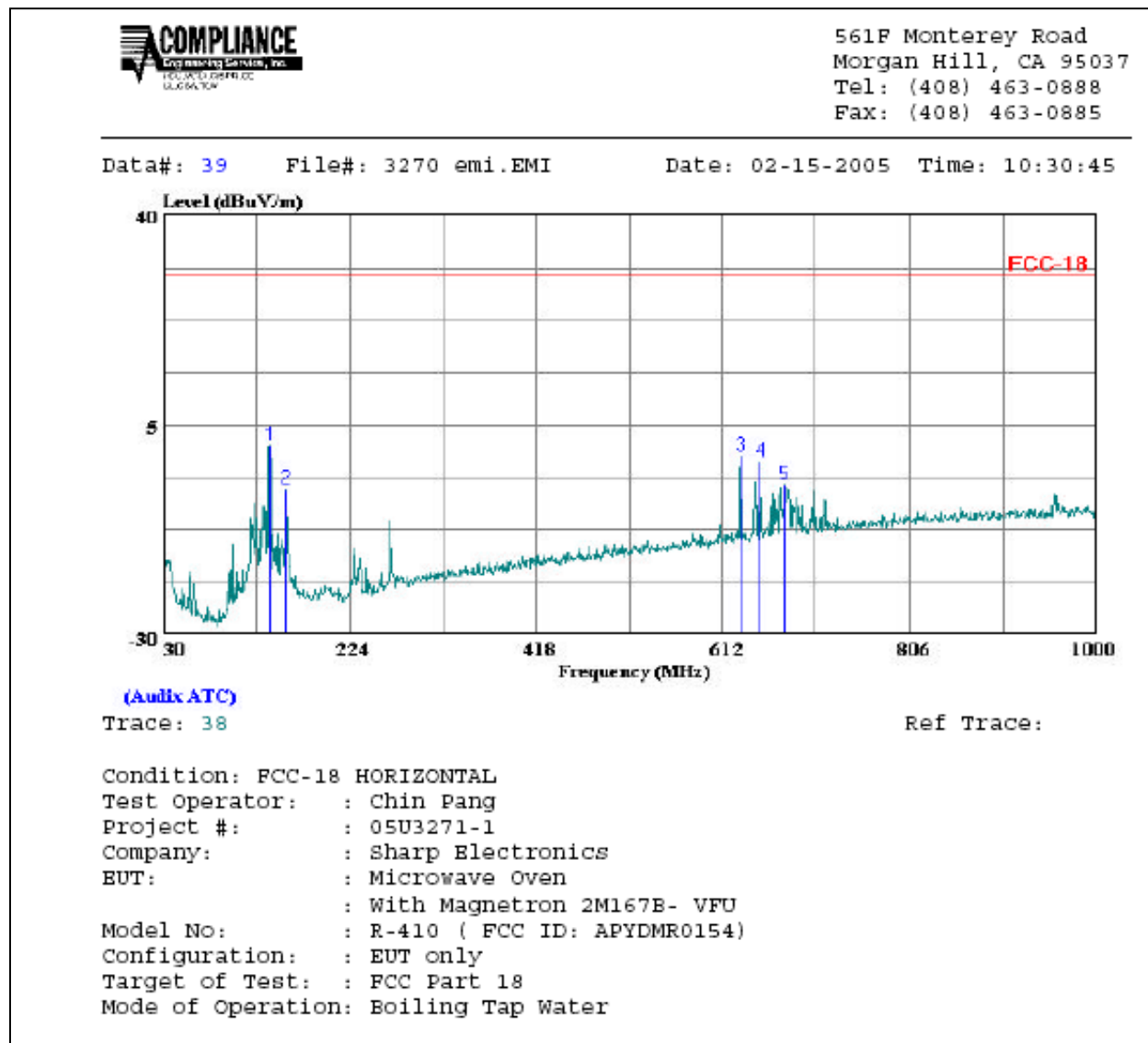
## VERTICAL DATA

Page: 1

|   | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|---------------|--------|--------|---------------|---------------|--------|
|   | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1 | 44.550  | 12.30         | -15.46 | -3.16  | 30.00         | -33.16        | Peak   |
| 2 | 63.950  | 13.00         | -18.89 | -5.89  | 30.00         | -35.89        | Peak   |
| 3 | 284.140 | 12.40         | -12.50 | -0.10  | 30.00         | -30.10        | Peak   |
| 4 | 309.360 | 13.70         | -11.55 | 2.15   | 30.00         | -27.85        | Peak   |
| 5 | 472.320 | 3.20          | -7.81  | -4.61  | 30.00         | -34.61        | Peak   |
| 6 | 630.430 | 0.80          | -4.77  | -3.97  | 30.00         | -33.97        | Peak   |
| 7 | 706.090 | 0.00          | -3.18  | -3.18  | 30.00         | -33.18        | Peak   |
| 8 | 735.190 | 0.00          | -2.64  | -2.64  | 30.00         | -32.64        | Peak   |

2

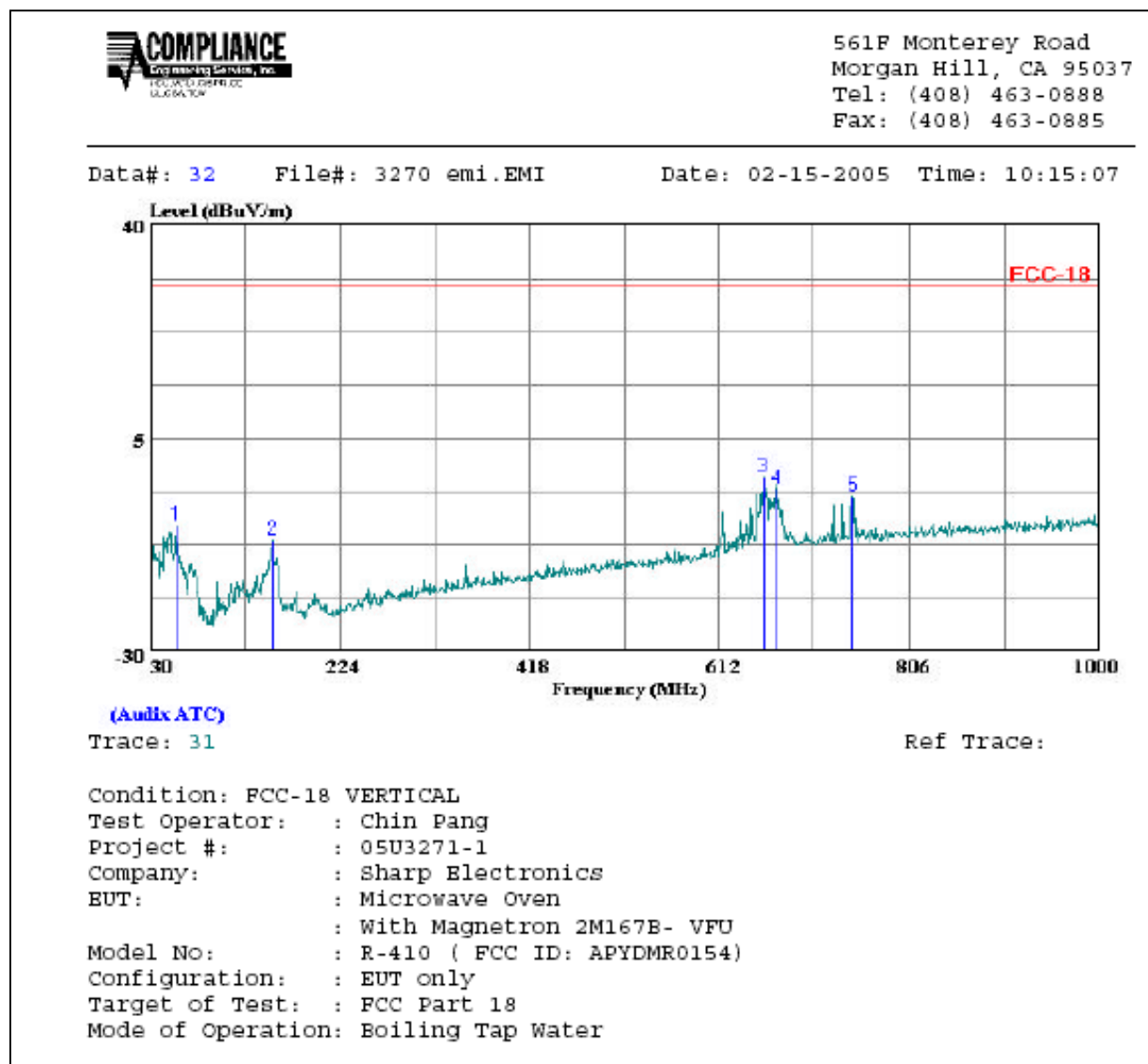
### 5.7.3. MAGNETRON-2M167B (HORIZONTAL)



## HORIZONTAL DATA

| Page: 1 |         |               |        |        |               |               |        |
|---------|---------|---------------|--------|--------|---------------|---------------|--------|
|         | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|         | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1       | 140.580 | 14.50         | -13.00 | 1.50   | 30.00         | -28.50        | Peak   |
| 2       | 158.040 | 8.10          | -13.87 | -5.77  | 30.00         | -35.77        | Peak   |
| 3       | 631.400 | 4.60          | -4.75  | -0.15  | 30.00         | -30.15        | Peak   |
| 4       | 651.770 | 3.10          | -4.28  | -1.18  | 30.00         | -31.18        | Peak   |
| 5       | 676.990 | -1.30         | -3.64  | -4.94  | 30.00         | -34.94        | Peak   |

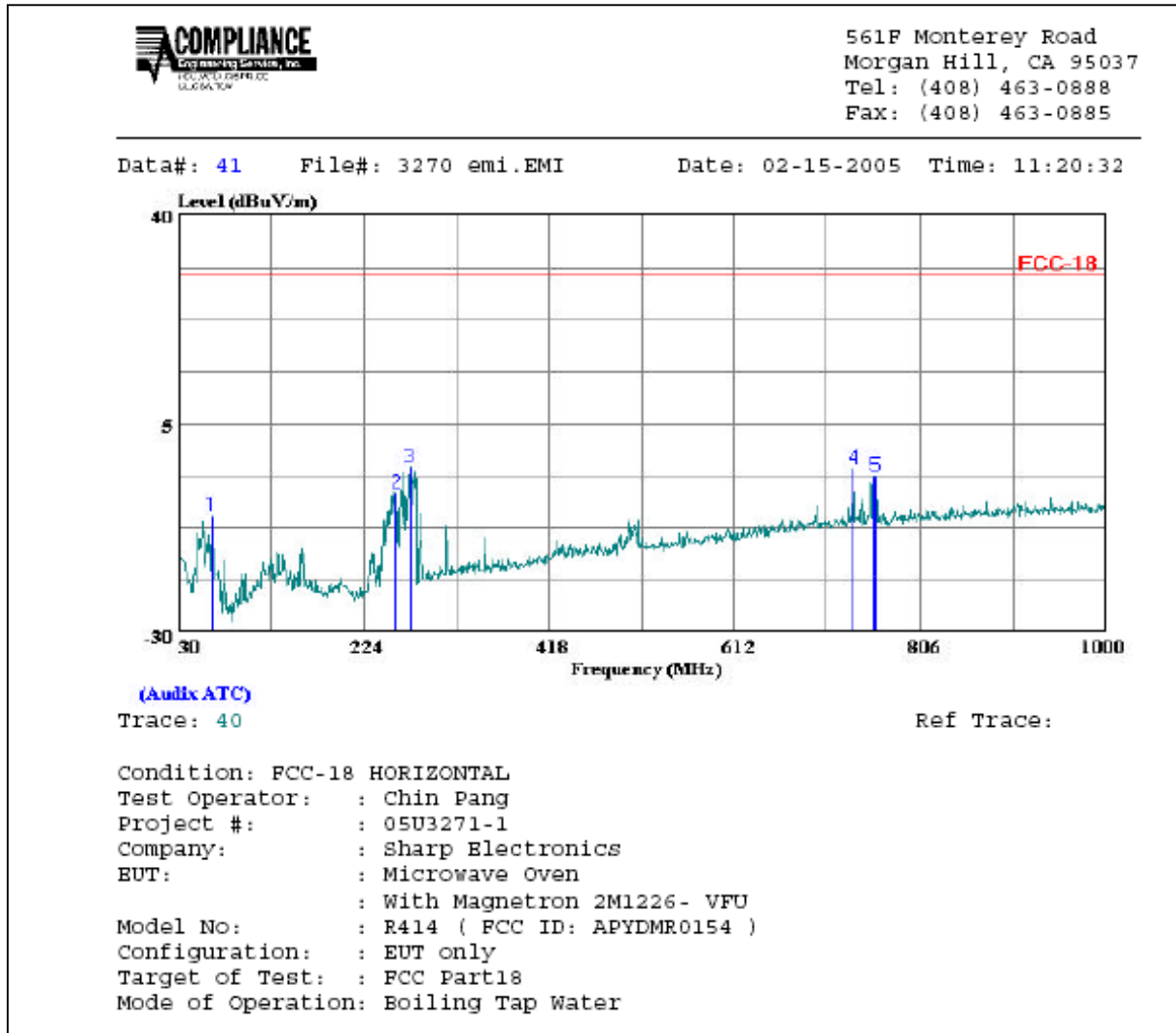
#### 5.7.4. MAGNETRON-2M167B (VERTICAL)



## VERTICAL DATA

| Page: 1 |         |               |        |        |               |               |        |
|---------|---------|---------------|--------|--------|---------------|---------------|--------|
|         | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|         | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1       | 56.190  | 9.90          | -19.39 | -9.49  | 30.00         | -39.49        | Peak   |
| 2       | 155.130 | 2.10          | -13.81 | -11.71 | 30.00         | -41.71        | Peak   |
| 3       | 657.590 | 2.80          | -4.13  | -1.33  | 30.00         | -31.33        | Peak   |
| 4       | 671.170 | 0.50          | -3.75  | -3.25  | 30.00         | -33.25        | Peak   |
| 5       | 748.770 | -2.10         | -2.49  | -4.59  | 30.00         | -34.59        | Peak   |

### 5.7.5. MAGNETRON-2M226 (HORIZONTAL)

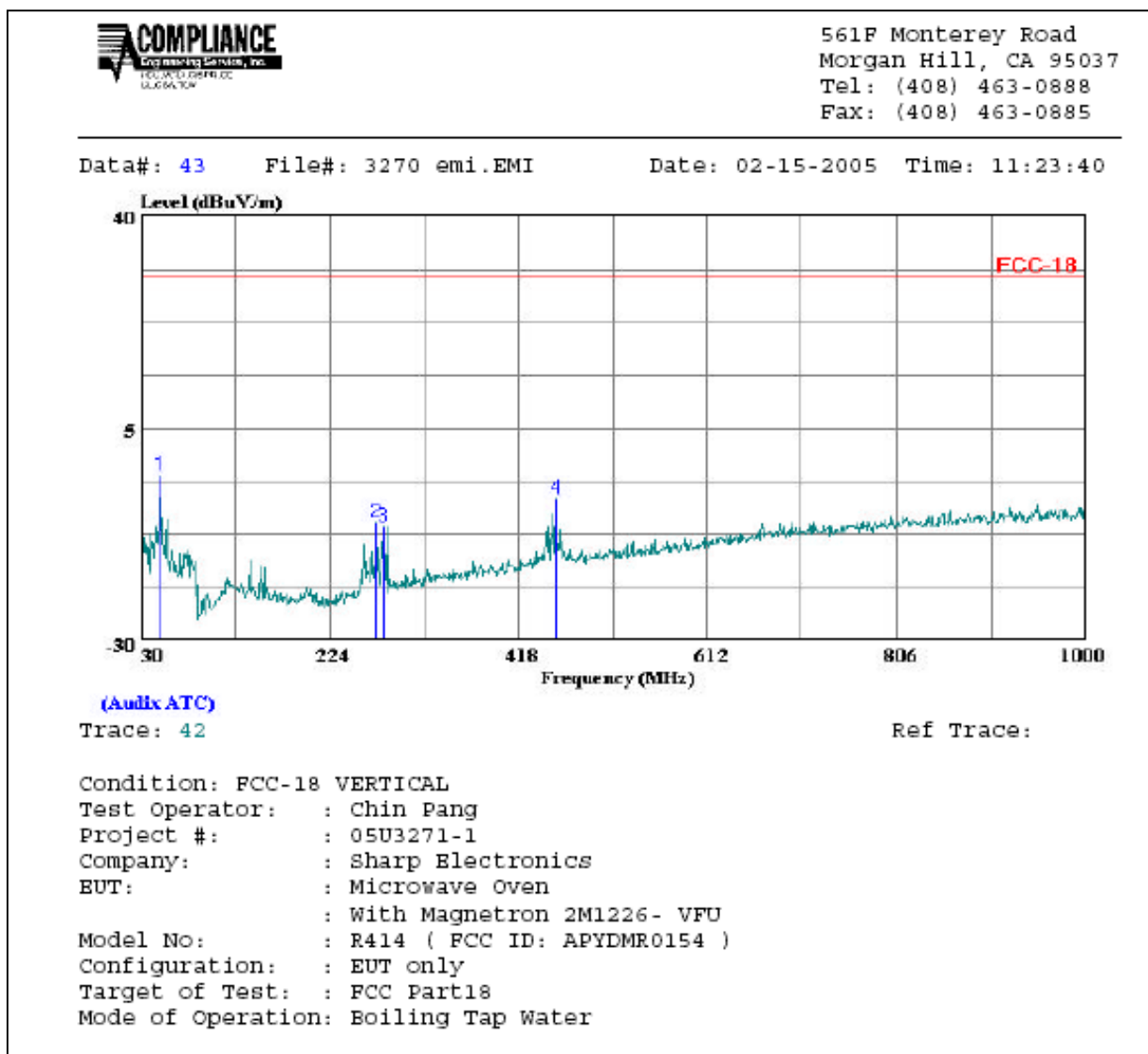




## HORIZONTAL DATA

| Page: 1 |         |               |        |        |               |               |        |
|---------|---------|---------------|--------|--------|---------------|---------------|--------|
|         | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|         | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1       | 64.920  | 8.30          | -18.83 | -10.53 | 30.00         | -40.53        | Peak   |
| 2       | 257.950 | 6.70          | -13.37 | -6.67  | 30.00         | -36.67        | Peak   |
| 3       | 272.500 | 10.40         | -12.88 | -2.48  | 30.00         | -32.48        | Peak   |
| 4       | 737.130 | 0.00          | -2.62  | -2.62  | 30.00         | -32.62        | Peak   |
| 5       | 759.440 | -1.40         | -2.43  | -3.83  | 30.00         | -33.83        | Peak   |

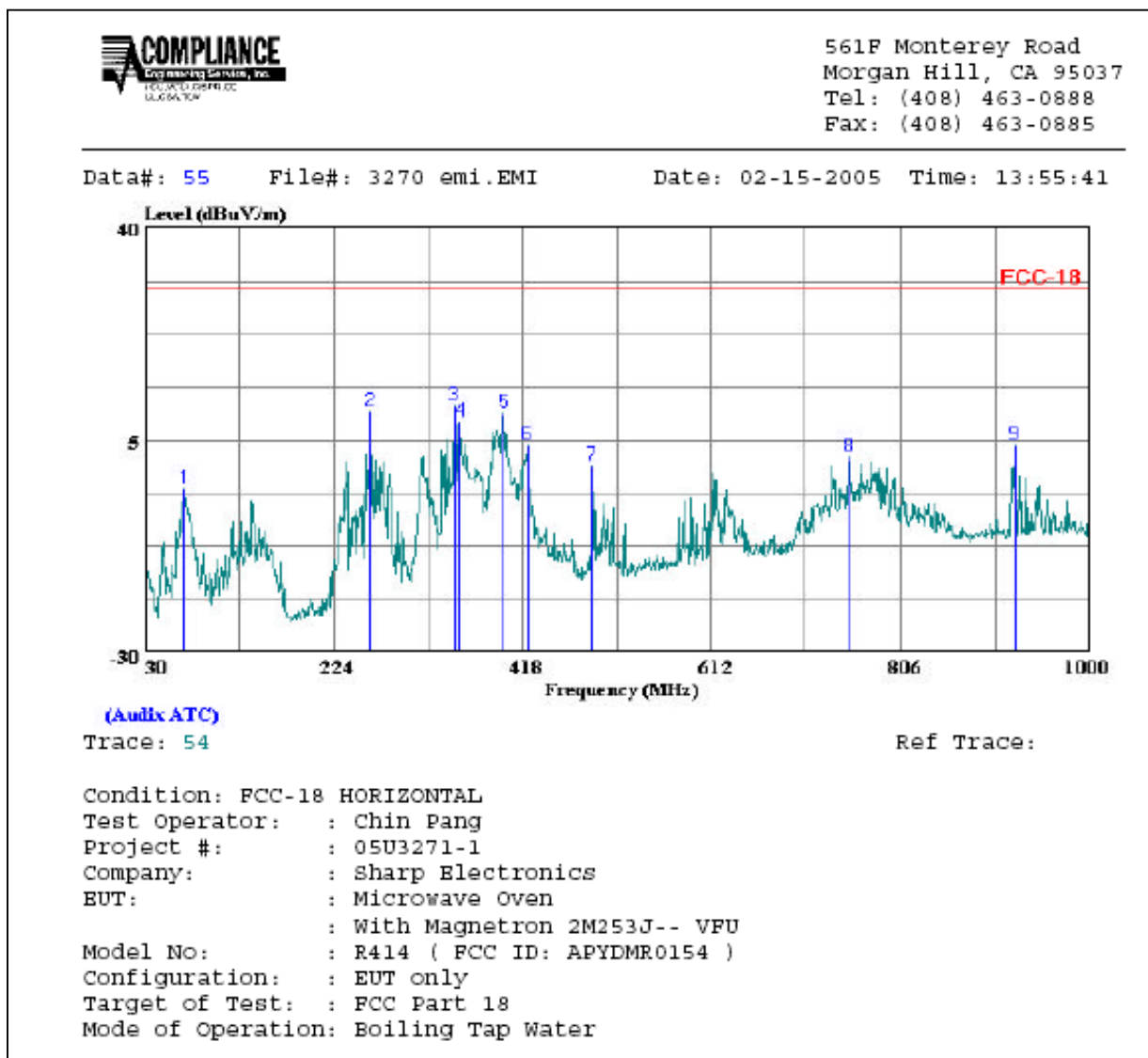
### 5.7.6. MAGNETRON-2M226 (VERTICAL)



## VERTICAL DATA

|   |         |               |        |        |               |               | Page: 1 |
|---|---------|---------------|--------|--------|---------------|---------------|---------|
|   | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark  |
|   | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |         |
| 1 | 49.400  | 15.30         | -18.09 | -2.79  | 30.00         | -32.79        | Peak    |
| 2 | 271.530 | 2.40          | -12.92 | -10.52 | 30.00         | -40.52        | Peak    |
| 3 | 279.290 | 1.30          | -12.65 | -11.35 | 30.00         | -41.35        | Peak    |
| 4 | 456.800 | 1.50          | -8.12  | -6.62  | 30.00         | -36.62        | Peak    |

### 5.7.7. MAGNETRON - 2M253J(L) (HORIZONTAL)

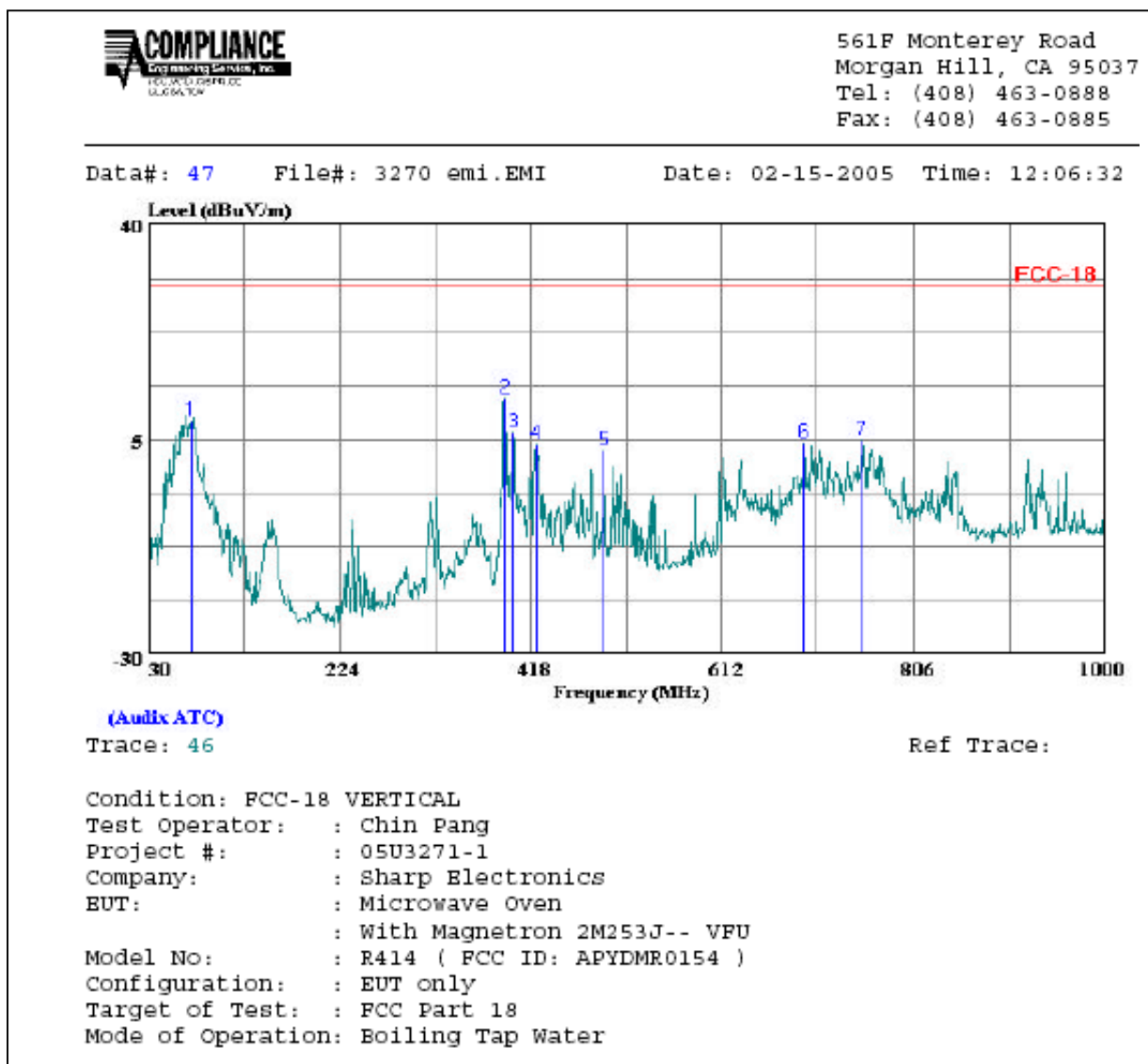


## HORIZONTAL DATA

Page: 1

|   | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|---------------|--------|--------|---------------|---------------|--------|
|   | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1 | 70.740  | 15.40         | -18.52 | -3.12  | 30.00         | -33.12        | Peak   |
| 2 | 261.830 | 22.90         | -13.24 | 9.67   | 30.00         | -20.34        | Peak   |
| 3 | 348.160 | 21.40         | -10.65 | 10.75  | 30.00         | -19.25        | Peak   |
| 4 | 353.980 | 18.70         | -10.58 | 8.12   | 30.00         | -21.88        | Peak   |
| 5 | 398.600 | 19.00         | -9.55  | 9.45   | 30.00         | -20.55        | Peak   |
| 6 | 422.850 | 13.10         | -8.92  | 4.18   | 30.00         | -25.82        | Peak   |
| 7 | 489.780 | 8.20          | -7.44  | 0.76   | 30.00         | -29.24        | Peak   |
| 8 | 754.590 | 4.60          | -2.45  | 2.15   | 30.00         | -27.85        | Peak   |

### 5.7.8. MAGNETRON - 2M253J(L) (VERTICAL)



## VERTICAL DATA

| Page: 1 |         |               |        |        |               |               |        |
|---------|---------|---------------|--------|--------|---------------|---------------|--------|
|         | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|         | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1       | 72.680  | 26.60         | -18.61 | 7.99   | 30.00         | -22.01        | Peak   |
| 2       | 391.810 | 21.50         | -9.71  | 11.79  | 30.00         | -18.21        | Peak   |
| 3       | 400.540 | 15.70         | -9.54  | 6.16   | 30.00         | -23.84        | Peak   |
| 4       | 422.850 | 13.00         | -8.92  | 4.08   | 30.00         | -25.92        | Peak   |
| 5       | 492.690 | 10.60         | -7.38  | 3.22   | 30.00         | -26.78        | Peak   |
| 6       | 695.420 | 7.80          | -3.31  | 4.49   | 30.00         | -25.51        | Peak   |
| 7       | 754.590 | 7.40          | -2.45  | 4.95   | 30.00         | -25.05        | Peak   |

### 5.8.1. MAGNETRON-2M246

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02/14/05

High Frequency Measurement

Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Chin Pang

Project #:05U3271-1

Company:Sharp Electronic Corp.

EUT Descr.:Microwave Oven, Magnetron, 2M167B--VFU

EUT M/N:R-414 ( FCC ID: APYDMR0154 )

Test Target:FCC Part 18

Mode Oper:TX, Boiling Tap Water

Test Equipment:

EMCO Horn 1-18GHz

Pre-amplifer 1-26GHz

Pre-amplifer 26-40GHz

Horn > 18GHz

Limit

T73; S/N: 6717 @3m

T87 Miteq 924342

FCC 15.209

Hi Frequency Cables

2 foot cable

3 foot cable

4 foot cable

12 foot cable

HPF

Reject Filter

3\_Chin

12\_Neelesh

HPF\_4.0GHz

Peak Measurements

RBW=VBW=1MHz

Average Measurements

RBW=1MHz ; VBW=10Hz

| f<br>GHz | Dist<br>(m) | Read Pk<br>dBuV | Read Avg.<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Fldr<br>dB | Peak<br>dBuV/m | Avg<br>dBuV/m | Pk Lim<br>dBuV/m | Avg Lim<br>dBuV/m | Pk Mar<br>dB | Avg Mar<br>dB | Notes<br>(V/H) |
|----------|-------------|-----------------|-------------------|------------|----------|-----------|--------------|------------|----------------|---------------|------------------|-------------------|--------------|---------------|----------------|
| 4.910    | 3.0         | 74.0            | 45.0              | 33.0       | 3.8      | -39.7     | -40.0        | 0.6        | 31.7           | 2.7           | 50.0             | 30.0              | -18.3        | -27.3         | V              |
| 7.350    | 3.0         | 81.0            | 47.6              | 35.9       | 4.9      | -40.3     | -40.0        | 0.6        | 42.1           | 8.7           | 50.0             | 30.0              | -7.9         | -21.3         | V              |
| 9.800    | 3.0         | 65.0            | 44.2              | 37.6       | 5.9      | -37.8     | -40.0        | 0.8        | 31.5           | 10.7          | 50.0             | 30.0              | -18.5        | -19.3         | V              |
| 12.250   | 3.0         | 61.0            | 42.6              | 38.8       | 6.6      | -39.4     | -40.0        | 0.9        | 27.9           | 9.5           | 50.0             | 30.0              | -22.1        | -20.5         | V              |
| 14.700   | 3.0         | 64.0            | 43.5              | 40.2       | 7.2      | -40.6     | -40.0        | 0.9        | 31.7           | 11.2          | 50.0             | 30.0              | -18.3        | -18.8         | V              |
| 17.150   | 3.0         | 60.0            | 40.8              | 42.3       | 7.9      | -41.3     | -40.0        | 1.5        | 30.3           | 11.1          | 50.0             | 30.0              | -19.7        | -18.9         | V              |
| 4.910    | 3.0         | 70.0            | 45.0              | 33.0       | 3.8      | -39.7     | -40.0        | 0.6        | 27.7           | 2.7           | 50.0             | 30.0              | -22.3        | -27.3         | H              |
| 7.350    | 3.0         | 83.2            | 48.5              | 35.9       | 4.9      | -40.3     | -40.0        | 0.6        | 44.3           | 9.6           | 50.0             | 30.0              | -5.7         | -20.4         | H              |
| 9.800    | 3.0         | 66.0            | 44.0              | 37.6       | 5.9      | -37.8     | -40.0        | 0.8        | 32.5           | 10.5          | 50.0             | 30.0              | -17.5        | -19.5         | H              |
| 12.250   | 3.0         | 60.0            | 39.0              | 38.8       | 6.6      | -39.4     | -40.0        | 0.9        | 26.9           | 5.9           | 50.0             | 30.0              | -23.1        | -24.1         | H              |
| 14.700   | 3.0         | 65.0            | 41.3              | 40.2       | 7.2      | -40.6     | -40.0        | 0.9        | 32.7           | 9.0           | 50.0             | 30.0              | -17.3        | -21.0         | H              |
| 17.150   | 3.0         | 63.3            | 41.0              | 42.3       | 7.9      | -41.3     | -40.0        | 1.5        | 33.6           | 11.3          | 50.0             | 30.0              | -16.4        | -18.7         | H              |
|          |             |                 |                   |            |          |           |              |            |                |               |                  |                   |              |               |                |
|          |             |                 |                   |            |          |           |              |            |                |               |                  |                   |              |               |                |
|          |             |                 |                   |            |          |           |              |            |                |               |                  |                   |              |               |                |

f

Measurement Frequency

Amp

Preamp Gain

Avg Lim

Average Field Strength Limit

Dist

Distance to Antenna

D Corr

Distance Correct to 3 meters

Pk Lim

Peak Field Strength Limit

Read

Analyzer Reading

Avg

Average Field Strength @ 3 m

Avg Mar

Margin vs. Average Limit

AF

Antenna Factor

Peak

Calculated Peak Field Strength

Pk Mar

Margin vs. Peak Limit

CL

Cable Loss

HPF

High Pass Filter

### 5.8.3. MAGNETRON-2M226

| 02/14/05 High Frequency Measurement                            |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
|--|-----------------------|--------------|-----------------------|--------------|-----|------------------------|--------------------------------|------------|--------------|---------------|--------|-------------------|------------------------------|---------|-------|--|--|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| Test Engr: Chin Pang   |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| Project #:05U3271-1  |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| Company:Sharp Electronic Corp.                                 |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| EUT Descrip.:Microwave Oven, Magnetron, 2M226--VFU             |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| EUT M/N:R-414 ( FCC ID: APYDMR0154 )                           |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| Test Target:FCC Part 18  |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| Mode Oper:TX, Boiling Tap Water                                |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| Test Equipment:  |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| EMCO Horn 1-18GHz  |                       |              | Pre-amplifier 1-26GHz |              |     | Pre-amplifier 26-40GHz |                                |            | Horn > 18GHz |               |        | Limit             |                              |         |       |  |  |
| T73; S/N: 6717 @3m   |                       |              | T87 Miteq 924342      |              |     |                        |                                |            |              |               |        | FCC 15.209        |                              |         |       |  |  |
| Hi Frequency Cables  |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| 2 foot cable   |                       | 3 foot cable |                       | 4 foot cable |     | 12 foot cable          |                                | HPF        |              | Reject Filter |        | Peak Measurements |                              |         |       |  |  |
| 3_Chin   |                       |              |                       |              |     | 12_Neelesh             |                                | HPF_4.0GHz |              |               |        | RBW=VBW=1MHz      |                              |         |       |  |  |
| Average Measurements   |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| RBW=1MHz ; VBW=10Hz  |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| f  | Dist                  | Read Pk      | Read Avg              | AF           | CL  | Amp                    | D Corr                         | Filtr      | Peak         | Avg           | Pk Lim | Avg Lim           | Pk Mar                       | Avg Mar | Notes |  |  |
| GHz  | (m)                   | dBuV         | dBuV                  | dB/m         | dB  | dB                     | dB                             | dB         | dBuV/m       | dBuV/m        | dBuV/m | dBuV/m            | dB                           | dB      | (V/H) |  |  |
| 4.910  | 3.0                   | 84.0         | 51.5                  | 33.0         | 3.8 | -39.7                  | -40.0                          | 0.6        | 41.7         | 9.2           | 50.0   | 30.0              | -8.3                         | -20.8   | V     |  |  |
| 7.350  | 3.0                   | 67.5         | 45.3                  | 35.9         | 4.9 | -40.3                  | -40.0                          | 0.6        | 28.6         | 6.4           | 50.0   | 30.0              | -21.4                        | -23.6   | V     |  |  |
| 9.800  | 3.0                   | 72.0         | 44.5                  | 37.6         | 5.9 | -37.8                  | -40.0                          | 0.8        | 38.5         | 11.0          | 50.0   | 30.0              | -11.5                        | -19.0   | V     |  |  |
| 12.250   | 3.0                   | 64.0         | 43.2                  | 38.8         | 6.6 | -39.4                  | -40.0                          | 0.9        | 30.9         | 10.1          | 50.0   | 30.0              | -19.1                        | -19.9   | V     |  |  |
| 14.700   | 3.0                   | 66.0         | 45.0                  | 40.2         | 7.2 | -40.6                  | -40.0                          | 0.9        | 33.7         | 12.7          | 50.0   | 30.0              | -16.3                        | -17.3   | V     |  |  |
| 17.150   | 3.0                   | 60.0         | 41.0                  | 42.3         | 7.9 | -41.3                  | -40.0                          | 1.5        | 30.3         | 11.3          | 50.0   | 30.0              | -19.7                        | -18.7   | V     |  |  |
| 4.910  | 3.0                   | 80.0         | 46.5                  | 33.0         | 3.8 | -39.7                  | -40.0                          | 0.6        | 37.7         | 4.2           | 50.0   | 30.0              | -12.3                        | -25.8   | H     |  |  |
| 7.350  | 3.0                   | 64.0         | 44.0                  | 35.9         | 4.9 | -40.3                  | -40.0                          | 0.6        | 25.1         | 5.1           | 50.0   | 30.0              | -24.9                        | -24.9   | H     |  |  |
| 9.800  | 3.0                   | 78.0         | 47.5                  | 37.6         | 5.9 | -37.8                  | -40.0                          | 0.8        | 44.5         | 14.0          | 50.0   | 30.0              | -5.5                         | -16.0   | H     |  |  |
| 12.250   | 3.0                   | 56.0         | 38.5                  | 38.8         | 6.6 | -39.4                  | -40.0                          | 0.9        | 22.9         | 5.4           | 50.0   | 30.0              | -27.1                        | -24.6   | H     |  |  |
| 14.700   | 3.0                   | 63.0         | 43.0                  | 40.2         | 7.2 | -40.6                  | -40.0                          | 0.9        | 30.7         | 10.7          | 50.0   | 30.0              | -19.3                        | -19.3   | H     |  |  |
| 17.150   | 3.0                   | 66.0         | 44.6                  | 42.3         | 7.9 | -41.3                  | -40.0                          | 1.5        | 36.3         | 14.9          | 50.0   | 30.0              | -13.7                        | -15.1   | H     |  |  |
|  |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
|  |                       |              |                       |              |     |                        |                                |            |              |               |        |                   |                              |         |       |  |  |
| f  | Measurement Frequency |              |                       |              |     | Amp                    | Preamp Gain                    |            |              |               |        | Avg Lim           | Average Field Strength Limit |         |       |  |  |
| Dist   | Distance to Antenna   |              |                       |              |     | D Corr                 | Distance Correct to 3 meters   |            |              |               |        | Pk Lim            | Peak Field Strength Limit    |         |       |  |  |
| Read   | Analyzer Reading      |              |                       |              |     | Avg                    | Average Field Strength @ 3 m   |            |              |               |        | Avg Mar           | Margin vs. Average Limit     |         |       |  |  |
| AF   | Antenna Factor        |              |                       |              |     | Peak                   | Calculated Peak Field Strength |            |              |               |        | Pk Mar            | Margin vs. Peak Limit        |         |       |  |  |
| CL   | Cable Loss            |              |                       |              |     | HPF                    | High Pass Filter               |            |              |               |        |                   |                              |         |       |  |  |

|   |  |              |                       |              |  |                        |  |            |              |               |  |                   |  |  |
|---|--|--------------|-----------------------|--------------|--|------------------------|--|------------|--------------|---------------|--|-------------------|--|--|
| 02/14/05 <b>High Frequency Measurement</b><br><b>Compliance Certification Services, Morgan Hill Open Field Site</b>   |  |              |                       |              |  |                        |  |            |              |               |  |                   |  |  |
| Test Engr: Chun Pang<br>Project #: 05U3271-1<br>Company: Sharp Electronic Corp.<br>EUT Descri.: Microwave Oven, Magnetron, 2M253J--VFU<br>EUT M/N: R-414 ( FCC ID: APYDMR0154 )<br>Test Target: FCC Part 18<br>Mode Oper: TX, Boiling Tap Water |  |              |                       |              |  |                        |  |            |              |               |  |                   |  |  |
| <b>Test Equipment:</b>  |  |              |                       |              |  |                        |  |            |              |               |  |                   |  |  |
| EMCO Horn 1-18GHz   |  |              | Pre-amplifier 1-26GHz |              |  | Pre-amplifier 26-40GHz |  |            | Horn > 18GHz |               |  | Limit             |  |  |
| T73; S/N: 6717 @3m  |  |              | T87 Miteq 924342      |              |  |                        |  |            |              |               |  | FCC 15.209        |  |  |
| Hi Frequency Cables   |  |              |                       |              |  |                        |  |            |              |               |  |                   |  |  |
| 2 foot cable  |  | 3 foot cable |                       | 4 foot cable |  | 12 foot cable          |  | HPF        |              | Reject Filter |  | Peak Measurements |  |  |
|   |  | 3_Chin       |                       |              |  | 12_Neelsh              |  | HPF_4.0GHz |              |               |  | RBW=VBW=1MHz      |  |  |
| Average Measurements  |  |              |                       |              |  |                        |  |            |              |               |  |                   |  |  |
| RBW=1MHz ; VBW=10Hz   |  |              |                       |              |  |                        |  |            |              |               |  |                   |  |  |

| f<br>GHz | Dist<br>(m) | Read Pk<br>dBuV | Read Avg.<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Filtr<br>dB | Peak<br>dBuV/m | Avg<br>dBuV/m | Pk Lim<br>dBuV/m | Avg Lim<br>dBuV/m | Pk Mar<br>dB | Avg Mar<br>dB | Notes<br>(V/H) |
|----------|-------------|-----------------|-------------------|------------|----------|-----------|--------------|-------------|----------------|---------------|------------------|-------------------|--------------|---------------|----------------|
| 4.910    | 3.0         | 81.0            | 49.5              | 33.0       | 3.8      | -39.7     | -40.0        | 0.6         | 38.7           | 7.2           | 50.0             | 30.0              | -11.3        | -22.8         | V              |
| 7.350    | 3.0         | 68.7            | 43.0              | 35.9       | 4.9      | -40.3     | -40.0        | 0.6         | 29.8           | 4.1           | 50.0             | 30.0              | -20.2        | -25.9         | V              |
| 9.800    | 3.0         | 80.5            | 45.0              | 37.6       | 5.9      | -37.8     | -40.0        | 0.8         | 47.0           | 11.5          | 50.0             | 30.0              | -3.0         | -18.5         | V              |
| 12.250   | 3.0         | 64.0            | 43.0              | 38.8       | 6.6      | -39.4     | -40.0        | 0.9         | 30.9           | 9.9           | 50.0             | 30.0              | -19.1        | -20.1         | V              |
| 14.700   | 3.0         | 60.2            | 42.5              | 40.2       | 7.2      | -40.6     | -40.0        | 0.9         | 27.9           | 10.2          | 50.0             | 30.0              | -22.1        | -19.8         | V              |
| 17.150   | 3.0         | 66.0            | 43.0              | 42.3       | 7.9      | -41.3     | -40.0        | 1.5         | 36.3           | 13.3          | 50.0             | 30.0              | -13.7        | -16.7         | V              |
| 4.910    | 3.0         | 84.0            | 47.3              | 33.0       | 3.8      | -39.7     | -40.0        | 0.6         | 41.7           | 5.0           | 50.0             | 30.0              | -8.3         | -25.0         | H              |
| 7.350    | 3.0         | 72.0            | 45.6              | 35.9       | 4.9      | -40.3     | -40.0        | 0.6         | 33.1           | 6.7           | 50.0             | 30.0              | -16.9        | -23.3         | H              |
| 9.800    | 3.0         | 73.0            | 44.0              | 37.6       | 5.9      | -37.8     | -40.0        | 0.8         | 39.5           | 10.5          | 50.0             | 30.0              | -10.5        | -19.5         | H              |
| 12.250   | 3.0         | 65.0            | 42.5              | 38.8       | 6.6      | -39.4     | -40.0        | 0.9         | 31.9           | 9.4           | 50.0             | 30.0              | -18.1        | -20.6         | H              |
| 14.700   | 3.0         | 60.0            | 39.6              | 40.2       | 7.2      | -40.6     | -40.0        | 0.9         | 27.7           | 7.3           | 50.0             | 30.0              | -22.3        | -22.7         | H              |
| 17.150   | 3.0         | 65.2            | 40.5              | 42.3       | 7.9      | -41.3     | -40.0        | 1.5         | 35.5           | 10.8          | 50.0             | 30.0              | -14.5        | -19.2         | H              |
|          |             |                 |                   |            |          |           |              |             |                |               |                  |                   |              |               |                |
|          |             |                 |                   |            |          |           |              |             |                |               |                  |                   |              |               |                |

|      |                       |        |                                |         |                              |
|------|-----------------------|--------|--------------------------------|---------|------------------------------|
| f    | Measurement Frequency | Amp    | Preamp Gain                    | Avg Lim | Average Field Strength Limit |
| Dist | Distance to Antenna   | D Corr | Distance Correct to 3 meters   | Pk Lim  | Peak Field Strength Limit    |
| Read | Analyzer Reading      | Avg    | Average Field Strength @ 3 m   | Avg Mar | Margin vs. Average Limit     |
| AF   | Antenna Factor        | Peak   | Calculated Peak Field Strength | Pk Mar  | Margin vs. Peak Limit        |
| CL   | Cable Loss            | HPF    | High Pass Filter               |         |                              |

## 5.9. CONDUCTED EMISSIONS

**Preliminary Conducted Emission Tests** were performed according to CCS test procedure no: CCSUE2004B and EN55011/CISPR11. The following preliminary tests were conducted to determine the worst mode of operation.

| <b>Preliminary Conducted Emission Test</b> |                |                      |                                     |
|--|----------------|----------------------|-------------------------------------|
| Frequency Range Investigated               |                | 150 kHz TO 30 MHz    |                                     |
| Mode of operation                          | Date           | Data Report/Plot No. | Worst Mode                          |
| <b>Boiling tap water</b>                   | <b>2/14/05</b> | <b>05U3271-1</b>     | <input checked="" type="checkbox"/> |

**Final Conducted Emission Test** was conducted by operating the worst mode as indicated above.

### 5.9.1. MAGNETRON-2M246

| <b>CONDUCTED EMISSIONS DATA (115VAC 60Hz)</b> |           |           |           |       |       |       |         |         |         |
|---|-----------|-----------|-----------|-------|-------|-------|---------|---------|---------|
| Freq.   | Reading   |           |           | Closs | Limit | EN_B  | Margin  |         | Remark  |
| (MHz)   | PK (dBuV) | QP (dBuV) | AV (dBuV) | (dB)  | QP    | AV    | QP (dB) | AV (dB) | L1 / L2 |
| 0.88  | 53.72     | --        | 15.22     | 0.00  | 56.00 | 46.00 | -2.28   | -30.78  | L1      |
| 1.49  | 58.66     | 41.20     | 11.90     | 0.00  | 56.00 | 46.00 | -14.80  | -34.10  | L1      |
| 1.73  | 52.76     | --        | 11.76     | 0.00  | 56.00 | 46.00 | -3.24   | -34.24  | L1      |
| 0.88  | 51.46     | --        | 14.41     | 0.00  | 56.00 | 46.00 | -4.54   | -31.59  | L2      |
| 1.84  | 49.70     | --        | 9.92      | 0.00  | 56.00 | 46.00 | -6.30   | -36.08  | L2      |
| 2.57  | 47.60     | --        | 12.91     | 0.00  | 56.00 | 46.00 | -8.40   | -33.09  | L2      |
| 6 Worst Data<br>Magnetron-2M246( VFU)         |           |           |           |       |       |       |         |         |         |

### 5.9.2. MAGNETRON-2M167B

| <b>CONDUCTED EMISSIONS DATA (115VAC 60Hz)</b> |           |           |           |       |       |       |         |         |         |
|---|-----------|-----------|-----------|-------|-------|-------|---------|---------|---------|
| Freq.   | Reading   |           |           | Closs | Limit | EN_B  | Margin  |         | Remark  |
| (MHz)   | PK (dBuV) | QP (dBuV) | AV (dBuV) | (dB)  | QP    | AV    | QP (dB) | AV (dB) | L1 / L2 |
| 0.74  | 44.70     | --        | 9.30      | 0.00  | 56.00 | 46.00 | -11.30  | -36.70  | L1      |
| 0.89  | 45.80     | --        | 10.25     | 0.00  | 56.00 | 46.00 | -10.20  | -35.75  | L1      |
| 2.49  | 44.84     | --        | 8.70      | 0.00  | 56.00 | 46.00 | -11.16  | -37.30  | L1      |
| 0.83  | 46.52     | --        | 12.04     | 0.00  | 56.00 | 46.00 | -9.48   | -33.96  | L2      |
| 0.94  | 49.90     | --        | 7.97      | 0.00  | 56.00 | 46.00 | -6.10   | -38.03  | L2      |
| 1.32  | 45.66     | --        | 12.08     | 0.00  | 56.00 | 46.00 | -10.34  | -33.92  | L2      |
| 6 Worst Data<br>Magnetron-2M167B ( VFU )      |           |           |           |       |       |       |         |         |         |

### 5.9.3. MAGNETRON-2M226

| CONDUCTED EMISSIONS DATA (115VAC 60Hz) |           |           |           |       |       |       |         |         |         |
|--|-----------|-----------|-----------|-------|-------|-------|---------|---------|---------|
| Freq.                                  | Reading   |           |           | Closs | Limit | EN B  | Margin  |         | Remark  |
| (MHz)                                  | PK (dBuV) | QP (dBuV) | AV (dBuV) | (dB)  | QP    | AV    | QP (dB) | AV (dB) | L1 / L2 |
| 1.34                                   | 46.17     | --        | 10.89     | 0.00  | 56.00 | 46.00 | -9.83   | -35.11  | L1      |
| 1.84                                   | 55.98     | --        | 17.20     | 0.00  | 56.00 | 46.00 | -0.02   | -28.80  | L1      |
| 2.54                                   | 50.70     | --        | 15.15     | 0.00  | 56.00 | 46.00 | -5.30   | -30.85  | L1      |
| 0.51                                   | 44.60     | --        | 6.88      | 0.00  | 56.00 | 46.00 | -11.40  | -39.12  | L2      |
| 1.66                                   | 50.18     | --        | 8.11      | 0.00  | 56.00 | 46.00 | -5.82   | -37.89  | L2      |
| 2.54                                   | 48.26     | --        | 11.77     | 0.00  | 56.00 | 46.00 | -7.74   | -34.23  | L2      |
| 6 Worst Data                           |           |           |           |       |       |       |         |         |         |
| Magnetron-2M226 ( VFU )                |           |           |           |       |       |       |         |         |         |

### 5.9.4. MAGNETRON-2M253J(L)

| CONDUCTED EMISSIONS DATA (115VAC 60Hz) |           |           |           |       |       |       |         |         |         |
|--|-----------|-----------|-----------|-------|-------|-------|---------|---------|---------|
| Freq.                                  | Reading   |           |           | Closs | Limit | EN B  | Margin  |         | Remark  |
| (MHz)                                  | PK (dBuV) | QP (dBuV) | AV (dBuV) | (dB)  | QP    | AV    | QP (dB) | AV (dB) | L1 / L2 |
| 0.78                                   | 58.20     | 43.70     | 20.48     | 0.00  | 56.00 | 46.00 | -12.30  | -25.52  | L1      |
| 1.93                                   | 57.04     | 45.60     | 18.87     | 0.00  | 56.00 | 46.00 | -10.40  | -27.13  | L1      |
| 2.88                                   | 58.78     | 46.50     | 23.22     | 0.00  | 56.00 | 46.00 | -9.50   | -22.78  | L1      |
| 0.61                                   | 48.96     | --        | 13.59     | 0.00  | 56.00 | 46.00 | -7.04   | -32.41  | L2      |
| 0.78                                   | 51.12     | --        | 12.46     | 0.00  | 56.00 | 46.00 | -4.88   | -33.54  | L2      |
| 2.92                                   | 51.66     | --        | 13.81     | 0.00  | 56.00 | 46.00 | -4.34   | -32.19  | L2      |
| 6 Worst Data                           |           |           |           |       |       |       |         |         |         |
| Magnetron-2M253J ( VFU )               |           |           |           |       |       |       |         |         |         |

C.F.(Correction Factor)=Insertion Loss + Cable Loss

Corrected Reading = Metering Reading + C.F.

Margin=Corrected Reading - Limits

P=Peak Reading

L1=Hot

Q=Quasi-peak

L2=Neutral

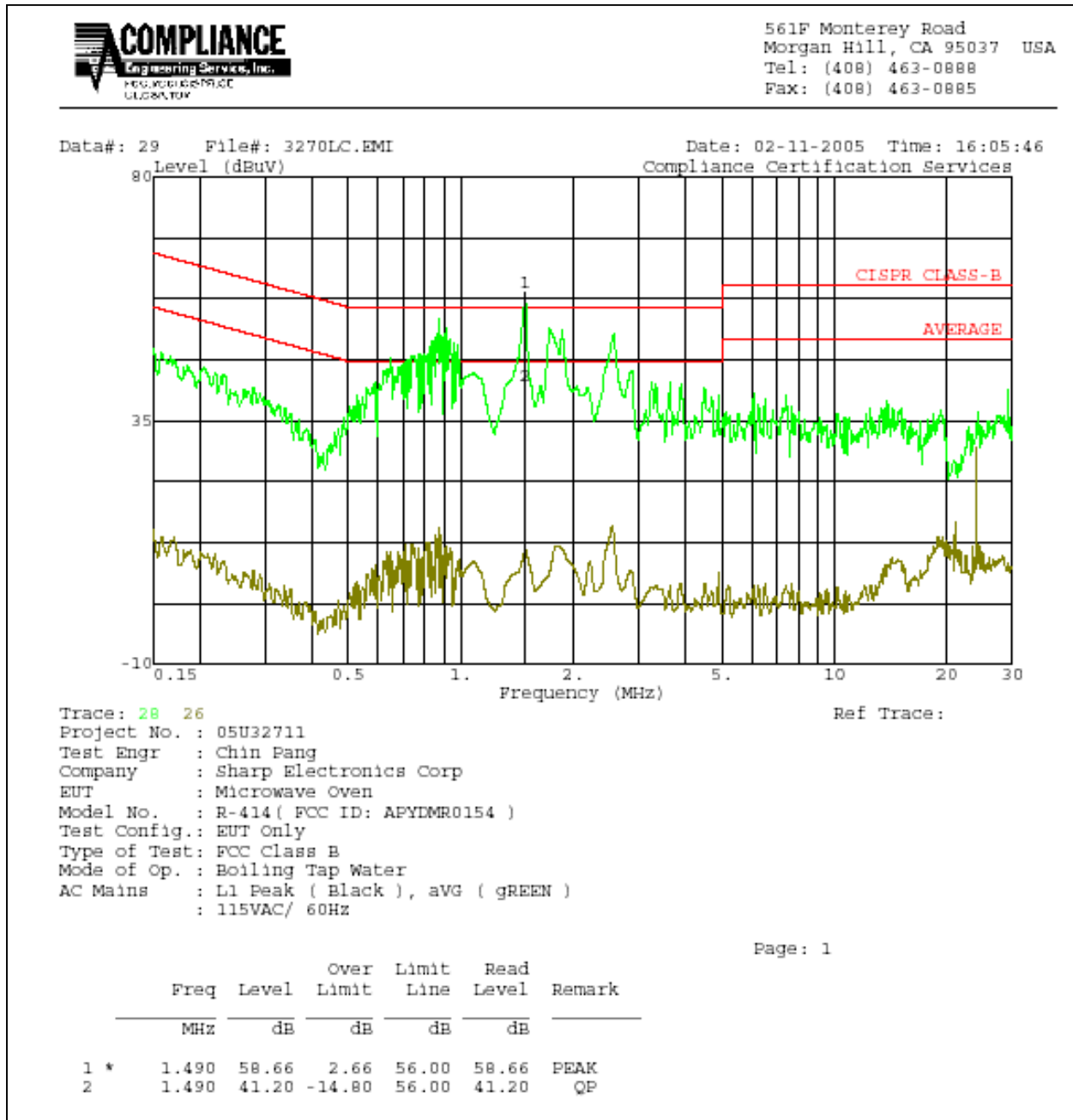
A=Average Reading

Comments: N/A

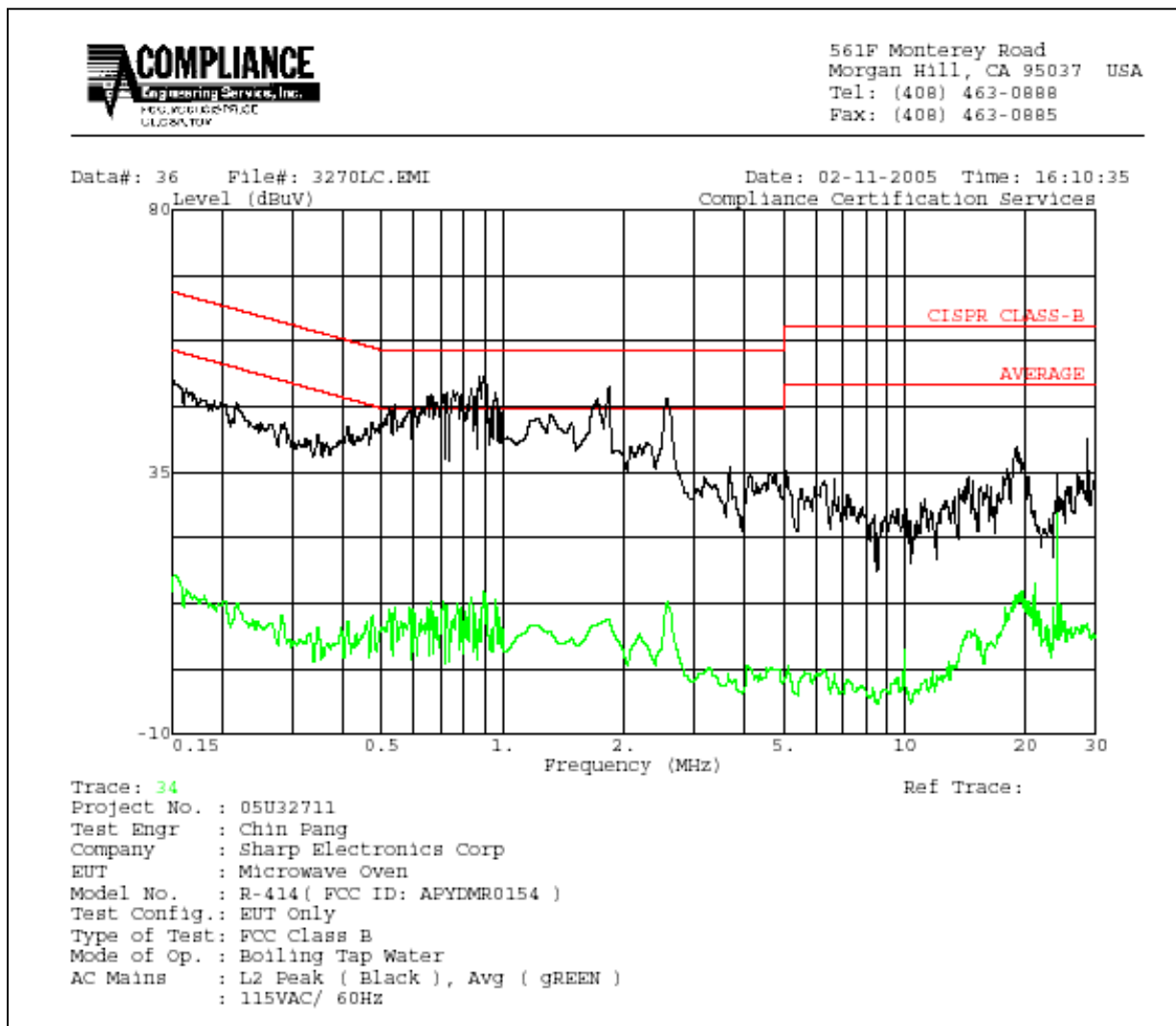
## Conducted Emission Plot

### MAGNETRON-2M246

#### LINE 1

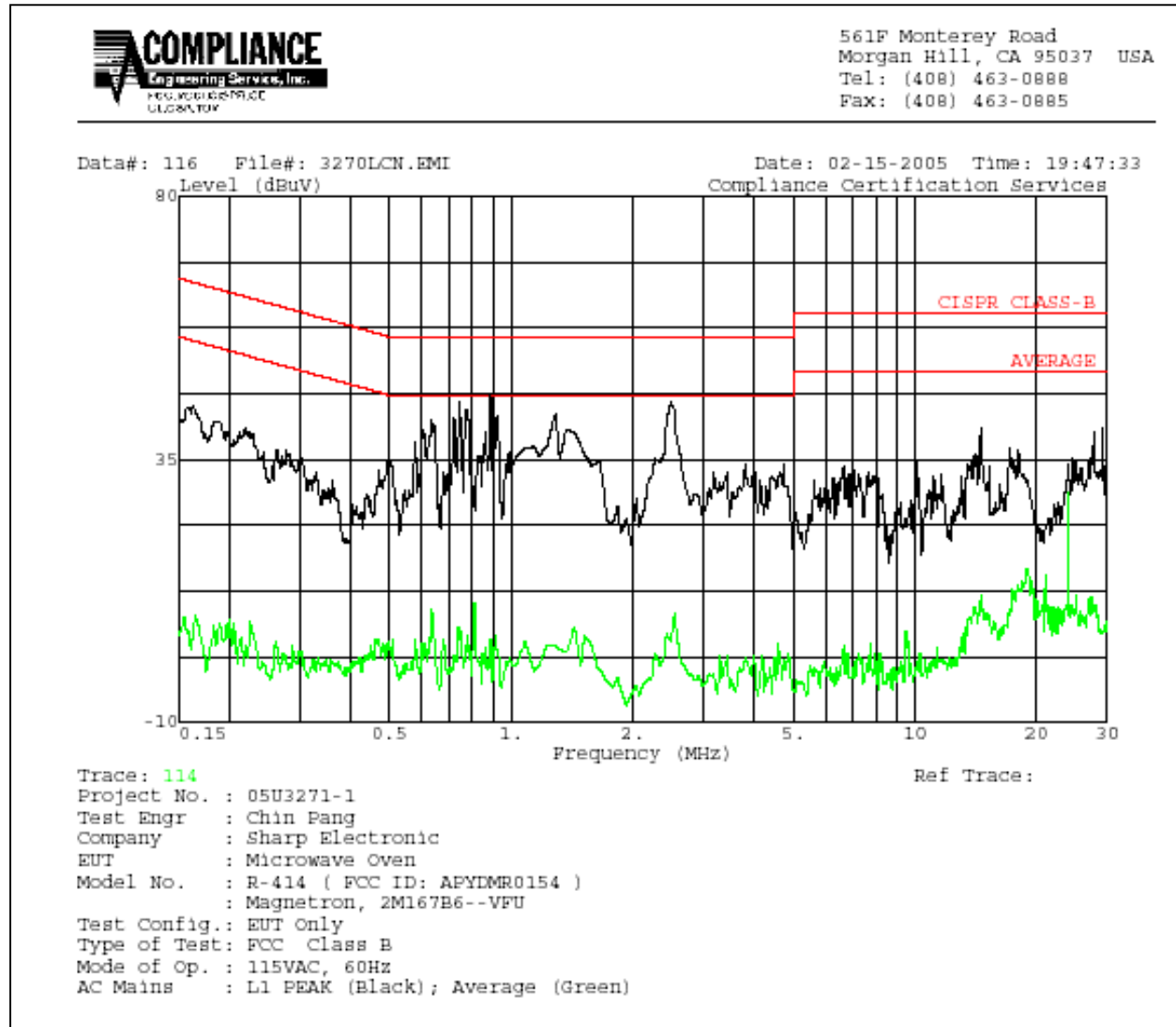


LINE 2



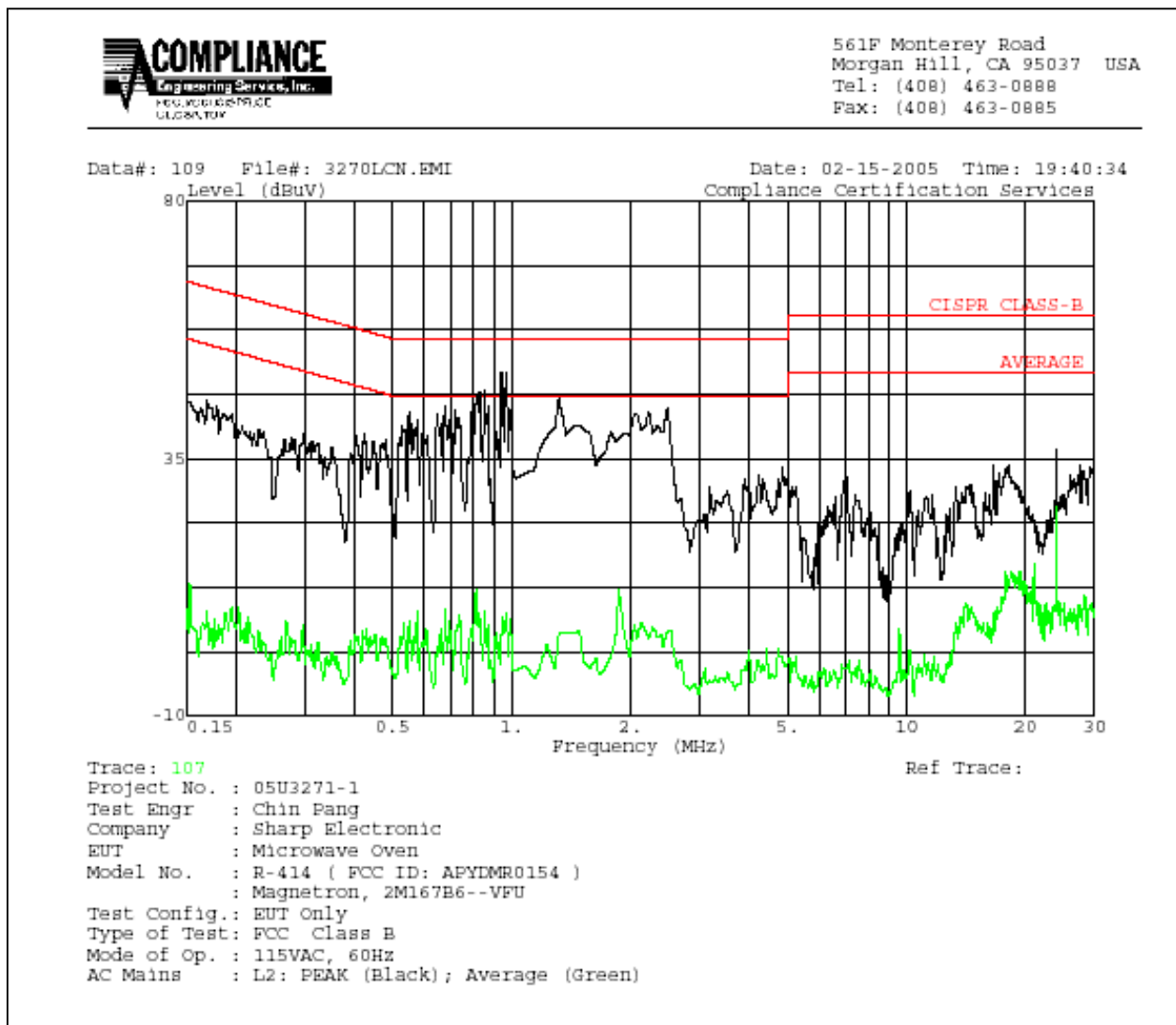
## MAGNETRON-2M167B

### LINE 1



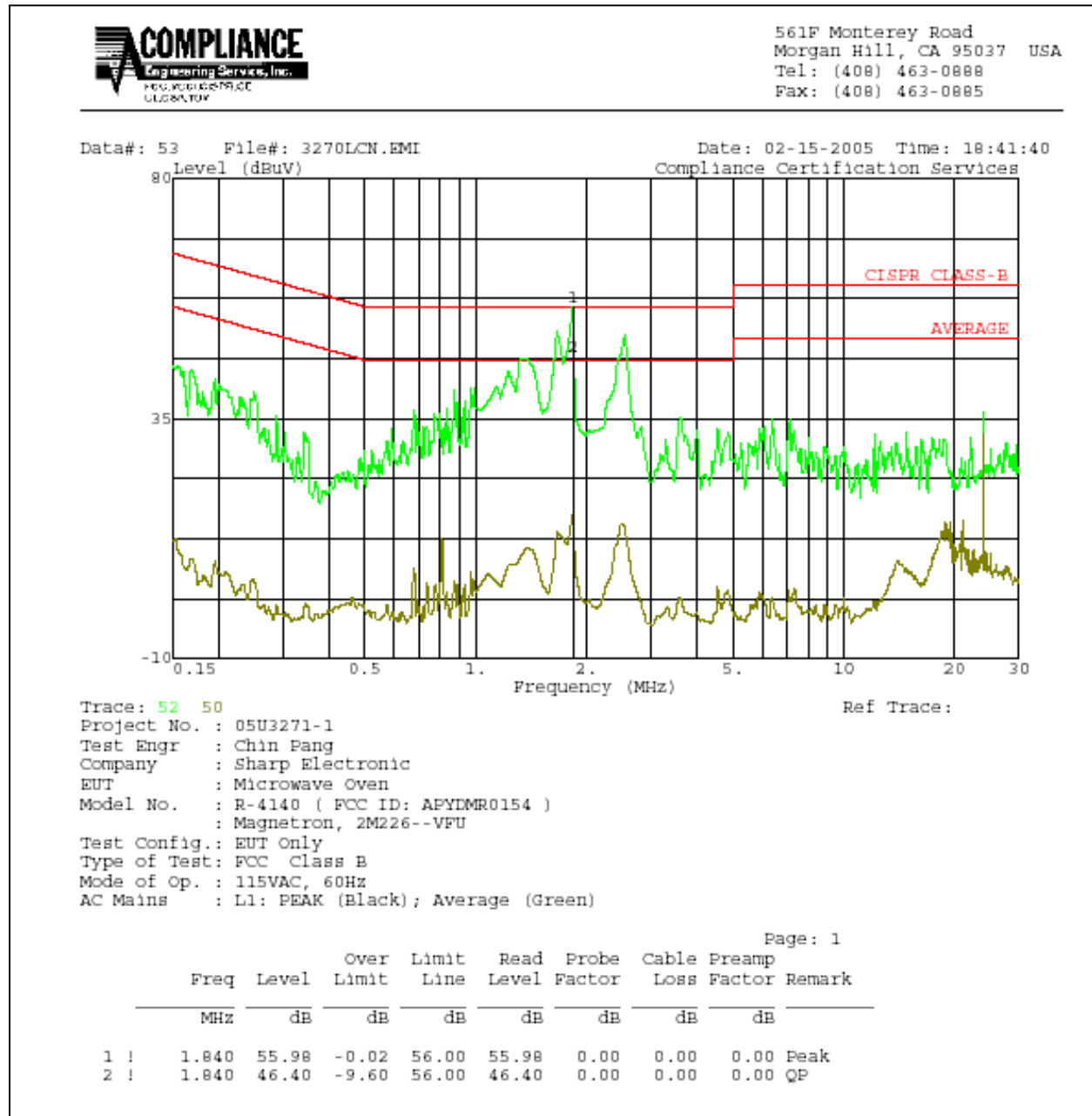


LINE 2

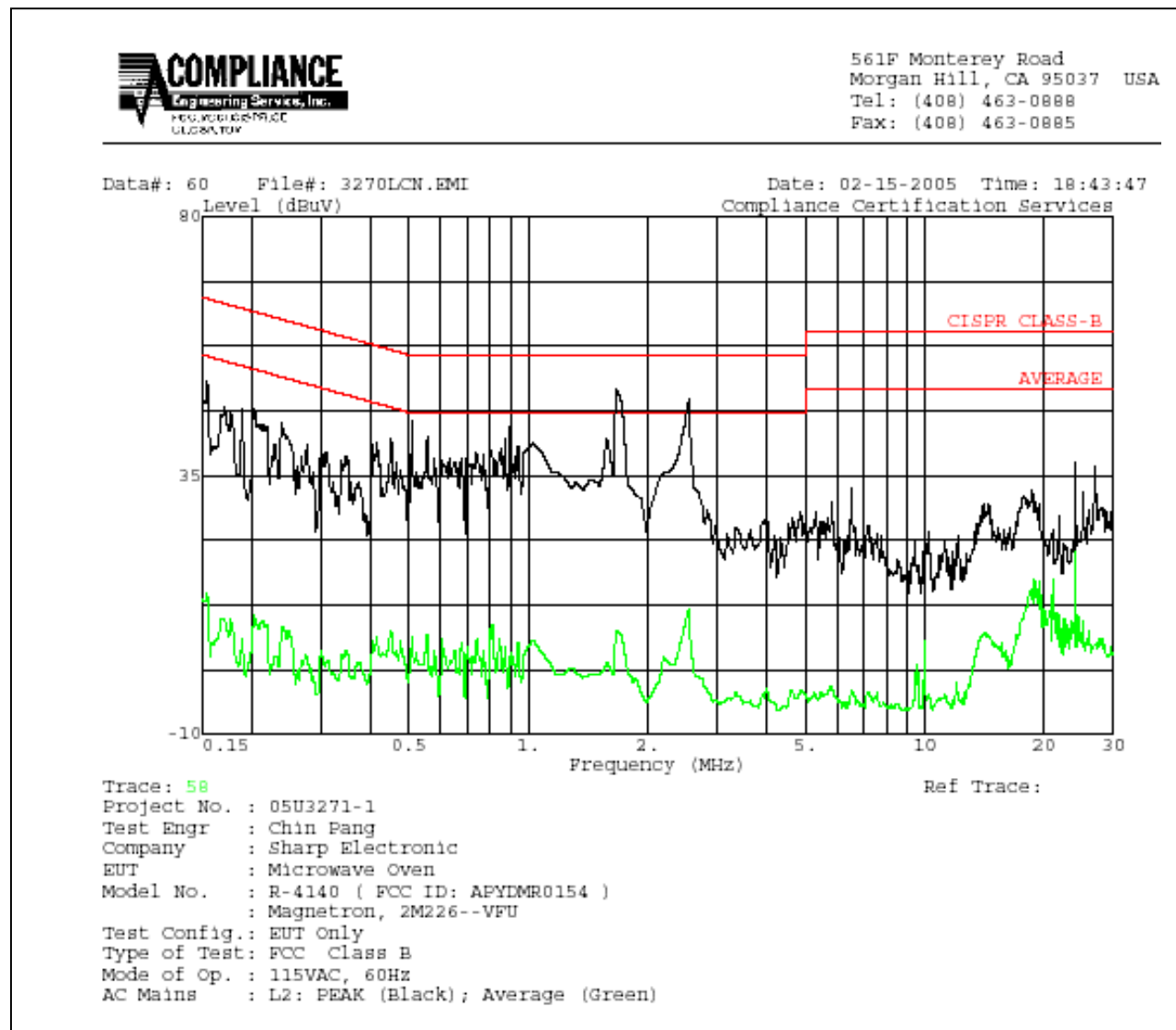


MAGNETRON-2M226

LINE 1

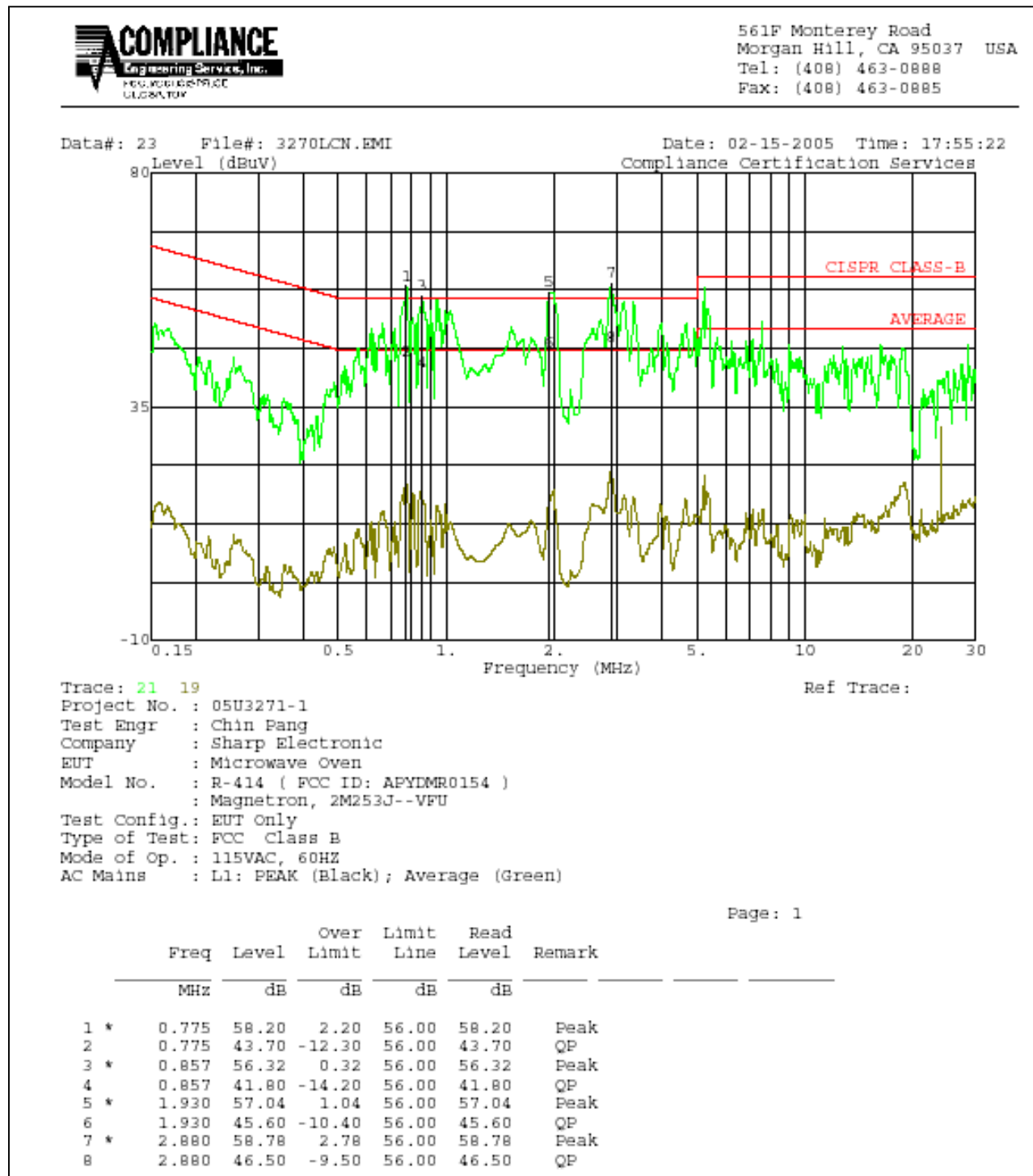


LINE 2

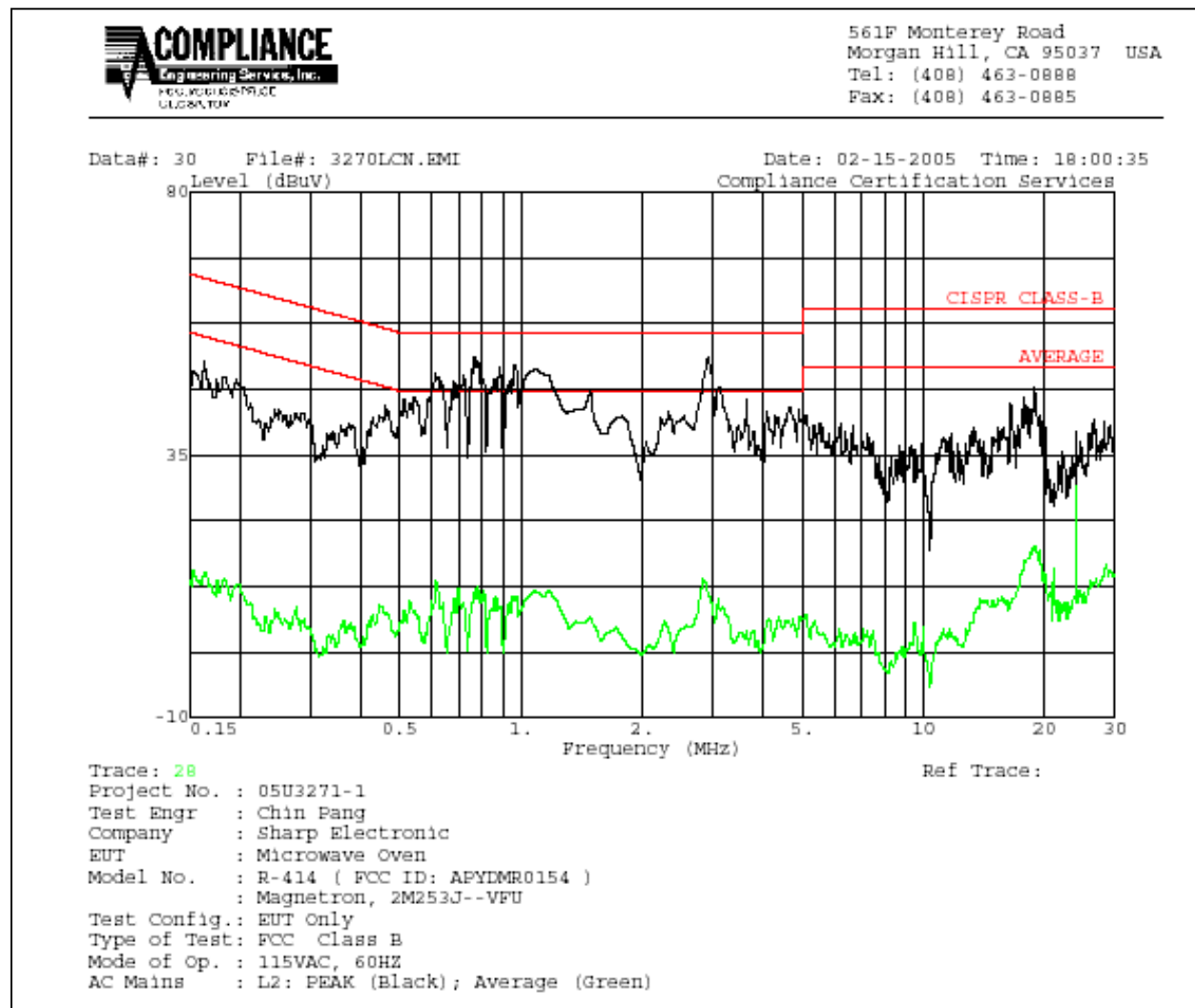


## MAGNETRON - 2M253J(L)

### LINE 1



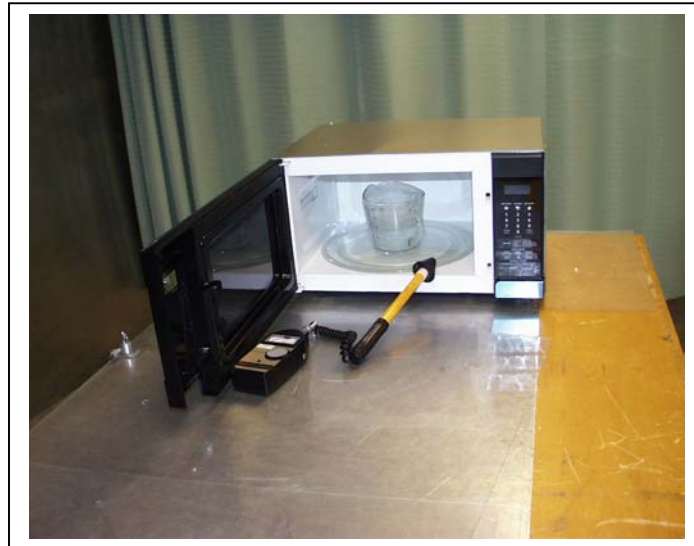
LINE 2



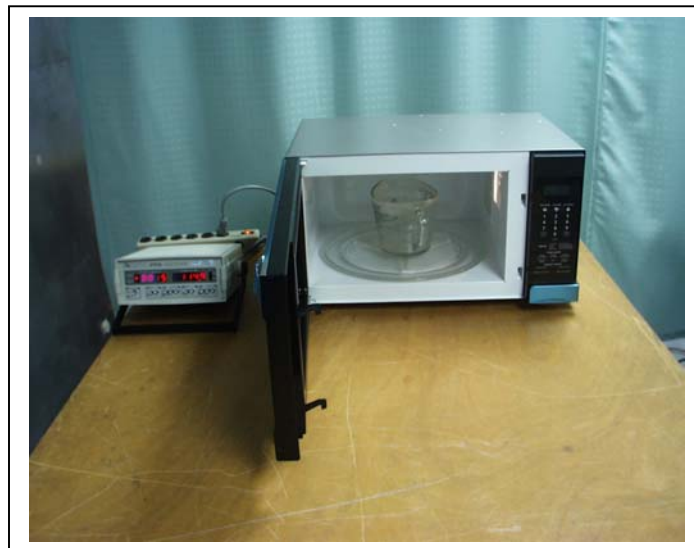
## 6. MEASUREMENT EQUIPMENT LIST

| TEST EQUIPMENT LIST                  |                           |                  |            |            |
|--------------------------------------|---------------------------|------------------|------------|------------|
| Name of Equipment                    | Manufacturer              | Model No.        | Serial No. | Due Date   |
| 30MHz---- 2Ghz                       | Sunol Sciences            | JB1 Antenna      | A121003    | 9/22/2005  |
| Quasi-Peak Adaptor                   | HP                        | 85650A           | 2811A01155 | 5/24/2005  |
| SA Display Section 2                 | HP                        | 85662A           | 2816A16696 | 5/24/2005  |
| SA RF Section, 1.5 GHz               | HP                        | 85680B           | 2814A04227 | 2/22/2005  |
| Preamplifier, 1300MHz                | HP                        | 8447D            | 2944A06833 | 8/17/2005  |
| Spectrum Analyzer                    | HP                        | 8565E            | 647695     | 10/14/2005 |
| EMI Test Receiver                    | R & S                     | ESHS 20          | 827129/006 | 10/22/2005 |
| LISN, 10 kHz ~ 30 MHz                | FCC                       | LISN-50/250-25-2 | 2023       | 8/30/2005  |
| Site A Line Stabilizer / Conditioner | Tripplite                 | LC-1800a         | A0051681   | CNR        |
| Digital Power Analyzer               | Valhalla                  | 2111A            | NA         | 4/20/2005  |
| Amplifier 1-26GHz                    | MITEQ                     | NSP2600-SP       | 924342     | 8/17/2005  |
| Antenna, Horn 1 ~ 18 GHz             | EMCO                      | 3115             | 6717       | 9/12/2005  |
| Ajustable Power Supply               | The Superior Electric Co. | Powerstat        | NA         | CNR        |
| Microwave Leakage Tester             | Simpson                   | 380-2            | 6-115310   | 9/28/2005  |

## 7. EUT SETUP PHOTOS



**Radiation Hazard Measurement**



**Operating Frequency Measurements**



**Radiation Measurement Below 1GHz**



**Radiation Measurements Above 1GHz**





**Line Conduction**

**END OF REPORT**