

**MEASUREMENT AND TECHNICAL REPORT**

OMRON CORPORATION  
2075 Miyoshi  
Okayama, JAPAN

**DATE: 20 October 2004**

|                                                                                                                                                                     |                                                                                                                 |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------|
| <b>This Report Concerns:</b>                                                                                                                                        | Original Grant:                                                                                                 | Class II Change: X |
| <b>Equipment Type:</b> WD30M                                                                                                                                        |                                                                                                                 |                    |
| <b>Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?</b>                                                                                                         | Yes:<br><b>Defer until:</b>                                                                                     | No: X              |
| Company Name <b>agrees to notify the Commission by:</b><br><b>of the intended date of announcement of the product so that the grant can be issued on that date.</b> | N/A                                                                                                             |                    |
| <b>Transition Rules Request per 15.37?</b>                                                                                                                          | Yes:                                                                                                            | No: X*             |
| (*) FCC Part 15, Paragraph(s) 15.205(A) and 15.209(a)                                                                                                               |                                                                                                                 |                    |
| <b>Report Prepared by:</b>                                                                                                                                          | TÜV AMERICA, INC<br>10040 Mesa Rim Road<br>San Diego, CA 92121-2912<br>Phone: 858 678 1400<br>Fax: 858 546 0364 |                    |

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## 1.0 GENERAL INFORMATION

### 1.1 Product Description

WD30 Wireless Stations

### 1.2 Related Submittal Grant

None

### 1.3 Tested System Details

The FCC ID's for all equipment, plus descriptions of all cables used in the tested system are:

None

### 1.4 Test Methodology

Purpose of Test: To demonstrate compliance with the following tests.

| TEST     | FCC CFR 47#                  | PASS/FAIL |
|----------|------------------------------|-----------|
| Radiated | Part 15, Paragraph 15.205(a) | Pass      |
| Radiated | Part 15, Paragraph 15.209(a) | Pass      |

Testing was performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983.

### 1.5 Test Facility

The open area test site and conducted measurement data were tested by:

TÜV AMERICA, INC  
10040 Mesa Rim Road  
San Diego, CA 92121-2912  
Phone: 858 678 1400  
Fax: 858 546 0364

The Test Site Data and performance comply with ANSI C63.4 and are registered with the FCC, 7435 Oakland Mills Road, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

## **2.0 SYSTEM TEST CONFIGURATION**

### **2.1 Justification**

The EUT was initially tested for FCC emissions in the following configuration:

See Test Setup Photos Exhibit

### **2.2 EUT Exercise Software**

None

### **2.3 Special Accessories**

None

### **2.4 Equipment Modifications**

None

### **2.5 Configuration of Test System**

See Test Setup Photos Exhibit

**3.0 RADIATED EMISSIONS EQUIPMENT/DATA****Test Conditions: RADIATED MISSIONS: FCC Part 15, Paragraphs 15.205(a) and 209(a)****The RADIATED SPURIOUS EMISSIONS measurements were performed at the San Diego Testing Facility:**

☐ - Test not applicable

Roof (Small Open Area Test Site)

**Test Equipment Used:**

| Model No.            | Prop. No.       | Description               | Manufacturer    | Serial No. | Cal Date |
|----------------------|-----------------|---------------------------|-----------------|------------|----------|
| HP8566B              | 744             | Spectrum Analyzer         | Hewlett Packard | 2618A02913 | 01/05    |
| 3115                 | 251             | Double Ridge Horn Antenna | EMCO            | 2495       | 01/05    |
| AMF-5D-010180-35-10P | 719             | PreAmplifier              | Miteq           | 549460     | *        |
| Cables               | 733/656/<br>651 | HF Cables                 | Micropore       | --         | *        |

**Remarks:** One year calibration cycle for all test equipment and sites. (\*) Verified.

REPORT No: SC403883      TESTER: Jim Owen      SPEC: FCC Part 15 para 15.209(a)  
 CUSTOMER: Omron      TEST DIST: 3 Meters  
 E U T: WD30M      TEST SITE: Roof  
 EUT MODE: Transmit - 2401 Chan. 1      BICONICAL: N/A  
 DATE: August 24, 2004      LOG: N/A  
 NOTES: OTHER: 0

above 1GHz: RBW & VBW 1 MHz for Pk; RBW 1MHz and VBW 10Hz for AVG  
 below 1GHz: RBW & VBW 100 kHz for Pk; RBW 100kHz and VBW 10Hz for AVG  
 CF = Antenna Factor + Cable Loss - Preamplifier Gain + Preselector Loss

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| FREQ<br>(MHz) | VERTICAL<br>(dBuV) |      | HORIZONTAL<br>(dBuV) |      | CF (dB/m) | MAX LEVEL<br>(dBuV/m) |      | SPEC LIMIT<br>(dBuV/m) |    | MARGIN<br>(dB) |       | EUT Rotation | Antenna<br>Height | Notes                          |
|---------------|--------------------|------|----------------------|------|-----------|-----------------------|------|------------------------|----|----------------|-------|--------------|-------------------|--------------------------------|
|               | pk                 | av   | pk                   | av   |           | pk                    | av   | pk                     | av | pk             | av    |              |                   |                                |
| 2401          | 44.5               | 44.5 | 35.4                 | 35.4 | 34.5842   | 79.08                 | 79.1 |                        |    | 79.08          | 79.1  | 78           | 1                 | Antenna Flat                   |
| 2401          | 40.9               | 40.9 | 37.1                 | 37.1 | 34.5842   | 75.48                 | 75.5 |                        |    | 75.48          | 75.5  | 8            | 1.1               | Antenna Perpendicular          |
| 1365          | 54.8               | 54.8 |                      |      | -11.272   | 43.53                 | 43.5 | 74                     | 54 | -30.5          | -10.5 |              |                   | 1300 to 1427 MHz - ambient     |
| 1530          | 53.2               | 53.2 |                      |      | -10.09    | 43.11                 | 43.1 | 74                     | 54 | -30.9          | -10.9 |              |                   | 1435 to 1626.5 MHz - ambient   |
| 1685          | 58                 | 58   |                      |      | -9.005    | 49                    | 49   | 74                     | 54 | -25            | -5.01 |              |                   | 1660 to 1710 MHz - ambient     |
| 1720.5        | 54.6               | 54.6 |                      |      | -8.7565   | 45.84                 | 45.8 | 74                     | 54 | -28.2          | -8.16 |              |                   | 1718.8 to 1722.2 MHz - ambient |
| 2250          | 62.9               | 54.9 |                      |      | -5.7      | 57.2                  | 49.2 | 74                     | 54 | -16.8          | -4.8  |              |                   | 2200 to 2300 MHz - ambient     |
| 2390          | 59.8               | 55.9 |                      |      | -5.084    | 54.72                 | 50.8 | 74                     | 54 | -19.3          | -3.18 |              |                   | 2310 to 2390 MHz - ambient     |
| 2492          | 63.4               | 56.6 |                      |      | -4.6352   | 58.76                 | 52   | 74                     | 54 | -15.2          | -2.04 |              |                   | 2483.5 to 2500 MHz - ambient   |
| 2777          | 54.4               | 54.4 |                      |      | -3.8244   | 50.58                 | 50.6 | 74                     | 54 | -23.4          | -3.42 |              |                   | 2655 to 2900 MHz - ambient     |
| 3264          | 47                 | 47   |                      |      | -2.4608   | 44.54                 | 44.5 | 74                     | 54 | -29.5          | -9.46 |              |                   | 3260 to 3267 MHz - ambient     |
| 3335          | 47.2               | 47.2 |                      |      | -2.262    | 44.94                 | 44.9 | 74                     | 54 | -29.1          | -9.06 |              |                   | 3332 to 3339 MHz - ambient     |
| 3358          | 46.9               | 46.9 |                      |      | -2.1976   | 44.7                  | 44.7 | 74                     | 54 | -29.3          | -9.3  |              |                   | 3345.8 to 3358 MHz - ambient   |
| 4000          | 49.6               | 49.6 |                      |      | -0.5      | 49.1                  | 49.1 | 74                     | 54 | -24.9          | -4.9  |              |                   | 3600 to 4400 MHz - ambient     |
| 4825          | 43.6               | 43.6 |                      |      | -0.325    | 43.28                 | 43.3 | 74                     | 54 | -30.7          | -10.7 |              |                   | 4500 to 5150 MHz - ambient     |
| 5405          | 42.6               | 42.6 |                      |      | 3.278     | 45.88                 | 45.9 | 74                     | 54 | -28.1          | -8.12 |              |                   | 5350 to 5460 MHz - ambient     |
| 7500          | 37.9               | 37.9 |                      |      | 8.4       | 46.3                  | 46.3 | 74                     | 54 | -27.7          | -7.7  |              |                   | 7250 to 7750 MHz - ambient     |
| 8263          | 39                 | 39   |                      |      | 9.2312    | 48.23                 | 48.2 | 74                     | 54 | -25.8          | -5.77 |              |                   | 8025 to 8500 MHz - ambient     |
| 9100          | 38.8               | 38.8 |                      |      | 10.5      | 49.3                  | 49.3 | 74                     | 54 | -24.7          | -4.7  |              |                   | 9000 to 9200 MHz - ambient     |
| 9400          | 39                 | 39   |                      |      | 9.6       | 48.6                  | 48.6 | 74                     | 54 | -25.4          | -5.4  |              |                   | 9300 to 9500 MHz - ambient     |
| 11650         | 39.5               | 39.5 |                      |      | 12.88     | 52.38                 | 52.4 | 74                     | 54 | -21.6          | -1.62 |              |                   | 10600 to 12700 MHz - ambient   |
| 13325         | 39                 | 39   |                      |      | 14.335    | 53.34                 | 53.3 | 74                     | 54 | -20.7          | -0.66 |              |                   | 13250 to 13400 MHz - ambient   |
| 14485         | 38.7               | 35.9 |                      |      | 15.873    | 54.57                 | 51.8 | 74                     | 54 | -19.4          | -2.23 |              |                   | 14470 to 14500 MHz - ambient   |
| 15775         | 39                 | 35.6 |                      |      | 18.21     | 57.21                 | 53.8 | 74                     | 54 | -16.8          | -0.19 |              |                   | 15350 to 16200 MHz - ambient   |
| 18000         | 35.6               |      |                      |      | 24.1      | 59.7                  | 24.1 | 74                     | 54 | -14.3          | -29.9 |              |                   | 17700 to 21400 MHz - ambient   |
|               |                    |      |                      |      |           |                       |      |                        |    |                |       |              |                   |                                |
|               |                    |      |                      |      |           |                       |      |                        |    |                |       |              |                   |                                |
|               |                    |      |                      |      |           |                       |      |                        |    |                |       |              |                   |                                |
|               |                    |      |                      |      |           |                       |      |                        |    |                |       |              |                   |                                |

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#### 4.0 ATTESTATION STATEMENT

##### GENERAL REMARKS:

##### SUMMARY:

All tests were performed per CFR 47, Part 15, Paragraph(s) 15.205(a) and 15.209(a)

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, Part15, Paragraph(s) 15.205(a) and 15.209(a)

Testing Start Date: 24 August 2004

Testing End Date: 24 August 2004

- TÜV AMERICA, INC. -

Responsible Engineer:



Jim Owen  
(EMC Chief Engineer)