MEASUREMENT AND TECHNICAL REPORT

OMRON CORPORATION
2075 Miyoshi
Okayama, JAPAN

DATE: 20 October 2004

This Report Concerns:	Original Grant:	Class II Change: X
Equipment Type:	WD30M	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: **Defer until:**	No: X
Company Name **agrees to notify the Commission by:** **of the intended date of announcement of the product so that the grant can be issued on that date.**	N/A	
Transition Rules Request per 15.37?	Yes:	No: X*

(*) FCC Part 15, Paragraph(s) 15.205(A) and 15.209(a)

Report Prepared by:

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

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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

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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/ 651	HF Cables	Micropore	--	*

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

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REPORT No: SC403883 TESTER: Jim Owen SPEC: FCC Part 15 para 15.209(a)
FCC Part 15.205(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

v.beta1a

FREQ (MHz)	VERTICAL (dBuv) pk	VERTICAL (dBuv) av	HORIZONTAL (dBuv) pk	HORIZONTAL (dBuv) av	CF (dB/m)	MAX LEVEL (dBuV/m) pk	MAX LEVEL (dBuV/m) av	SPEC LIMIT (dBuV/m) pk	SPEC LIMIT (dBuV/m) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes
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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REPORT No: SC403883 TESTER: Jim Owen SPEC: FCC Part 15 para 15.209(a)
FCC Part 15.205(a)

CUSTOMER: Omron TEST DIST: 3 Meters

E U T: WD30M TEST SITE: Roof

EUT MODE: Transmit - 2439.4 Chan. 17 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

v.beta1a

FREQ (MHz)	VERTICAL (dBuv) pk	VERTICAL (dBuv) av	HORIZONTAL (dBuv) pk	HORIZONTAL (dBuv) av	CF (dB/m)	MAX LEVEL (dBuV/m) pk	MAX LEVEL (dBuV/m) av	SPEC LIMIT (dBuV/m) pk	SPEC LIMIT (dBuV/m) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes
2439.4	43.6	43.6	36.2	36.2	34.7455	**78.35**	**78.3**			78.35	78.3	358	1	Antenna Flat
2439.4	44	44	40.3	40.3	34.7455	**78.75**	**78.7**			78.75	78.7	11	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

REPORT No: SC403883 TESTER: Jim Owen SPEC: FCC Part 15 para 15.209(a)
FCC Part 15.205(a)

CUSTOMER: Omron TEST DIST: 3 Meters

E U T: WD30M TEST SITE: Roof

EUT MODE: Transmit - 2480.2 Chan. 34 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 (MHz)	VERTICAL (dBuv) pk	VERTICAL (dBuv) av	HORIZONTAL (dBuv) pk	HORIZONTAL (dBuv) av	CF (dB/m)	MAX LEVEL (dBuV/m) pk	MAX LEVEL (dBuV/m) av	SPEC LIMIT (dBuV/m) pk	SPEC LIMIT (dBuV/m) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes
2480.2	46.2	46.2	38.7	38.7	34.9168	**81.12**	**81.1**			81.12	81.1	358	1	Antenna Flat
2480.2	44.5	44.5	40.6	40.6	34.9168	**79.42**	**79.4**			79.42	79.4	11	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
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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

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)

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