

RADIATED EMISSIONS
DATA
FOR
KYOCERA WIRELESS CORPORATION
10300 Campus Point Drive
San Diego, CA 92121

Prepared by
TÜV PRODUCT SERVICE
10040 Mesa Rim Road
San Diego, CA 92121-2912

Measurement Requirements (CFR 47 Part 2, Paragraph 2.1053; Part 22 Paragraph 22.917(b)(2) and Part 24, Paragraph 24.238

The measurements which follow were performed by TÜV Product Service. To the best of my knowledge these tests were conducted in accordance with the procedures outlined in Part 2 of the Commission's Rules and Regulations. The data presented below demonstrates compliance with the appropriate technical standards.



Floyd R. Fleury
EMC Manager

Emissions Test Conditions: SPURIOUS RADIATED EMISSIONS

Roof (small open area test site), San Diego

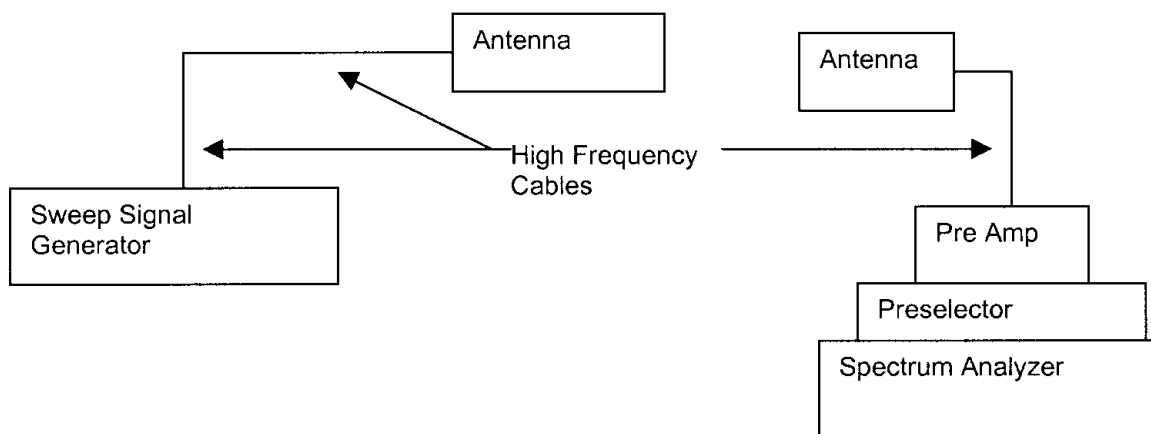
The *Spurious Radiated Emissions* measurements were performed using the following equipment:

Test Equipment Used :

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Date
85660B	402	Spectrum Analyzer & Display	Hewlett Packard	2311A02209	02/02
3146	244	Antenna	EMCO	1063	02/02
3115	251	Double Ridge Antenna	EMCO	9412-4363	10/01
FF6549-2	781/777	High Pass Filter	Sage Laboratories	007	N/A*
FF6549-1	732	900 MHz HPF	Sage	006	N/A*
AA-190-10.00.0	730	High frequency cable	United Microwave Pro	--	*
AA-190-30.00.0	733	High frequency cable	United Microwave Pro	--	*
AA.190.06.00.0	657	High Frequency Cable	United Microwave Pro	--	N/A*
11975A	716	Preamplifier	Hewlett Packard	2517A00639	N/A*
3115	453	Antenna	EMCO	9412-4364	10/01
AMF-3D-010180-35-10P	752	Preamplifier	Miteq	61433	**
85660B	407	Spectrum Analyzer	Hewlett Packard	2311A02209	02/02
HP83640B	791	Sweep Signal Generator	Hewlett Packard	3844A00726	03/02

Remarks: (*) Verified

Test Setup for Signal Substitution Method




FCC Part 2, Paragraph 2.1053; Part 22, Paragraph 22.917(b)(2) and Part 24, Paragraph 24.238

QCP 2135 Cellular Phone

Operating Mode: FM Transmit; CDMA Transmit; PCS Transmit

RADIATED SPURIOUS - EMISSIONS SIGNAL SUBSTITUTION METHOD

Test Report #: SC103704 Test Area: Roof
 Test Method: Substitution Date: 6-27-01
 EUT Model #: QCP 2135 EUT POWER:
☐ 230 Vac/50 Hz ☐ 120 Vac/60 Hz
☐ Other: _____
 EUT Description: _____
 NOTES: _____


 Temperature: _____ °C
 Air Pressure: _____ kPa
 Relative Humidity: _____ %

Frequency (MHz)	Signal Generator (dBm)	Gain of Antenna - (CABLE)	Total (EIRP)	Limit	Margin (dB)
1648	-43.5	2.6	-40.9	-13	-27.9
1672.98	-62.8	2.7	-65.5	-13	-52.5
1697.94	-48.3	2.7	-45.6	-13	-32.6
3760	-29.5	2.0	-27.5	-13	-14.5
3817.5	-26.7	1.0	-25.7	-13	-12.7
5726.25	-21.5	0.3	-21.2	-13	-8.2

 Tested By: A. Laudani
 Printed

A. Laudani
 Signature

 NOTES: The above measurements are the six highest signals
as measured on the OATS. They are taken from the
low, mid & High measurements data shown on the follow
pages.

SPEC: Part 22.917(b)(2)

TEST DIST: 3 Meters

TEST SITE: 3

BICONICAL: N/A

LOG: 244

OTHER: 251

Freq under 1 GHz RBW, VBW = 100kHz

Freq under 1 GHz RBW, VBW = 100kHz

Freq over 1 GHz RBW, VBW - 1 MHz

[illegible]

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Rev.No 1.0

SPEC: Part 22.917 (b)(2)

TEST DIST: 3 Meters

TEST SITE: 3

BICONICAL: N/A

LOG: 244

OTHER: 251

Freq under 1 GHz RBW, VBW = 100kHz

Freq over 1 GHz RBW, VBW - 1 MHz

v.beta

Rev.No 1.0

SPEC: Part 24.238

CUSTOMER: Kyrocera

TEST DIST: 3 Meters

E U T: QCP 2135

TEST SITE: 3

EUT MODE: PCS Transmit

BICONICAL: N/A

DATE: **APR** 26, 2001

LOG: 244

NOTES: Duty Cycle= 100%

OTHER: 251

SA #402, PreAmp #716 Filter #781

Freq under 1 GHz RBW, VBW = 100kHz

Freq over 1 GHz RBW, VBW - 1 MHz

[illegible]

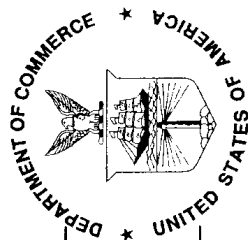
NOTE: Limit derived from the $43 + \text{LOG}(P)$ formula.

Testing Facilities

Certificates of Approval

United States Department of Commerce
National Institute of Standards and Technology

NVLAP[®]



ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation

TUV PRODUCT SERVICE, INC.
SAN DIEGO, CA

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

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

December 31, 2001
Effective through

David E. Alderman
For the National Institute of Standards and Technology

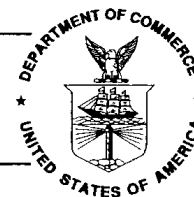
NVLAP Lab Code: 100268-0

NVLAP-01C (11-95)



ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation



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**ELECTROMAGNETIC COMPATIBILITY
AND TELECOMMUNICATIONS**

NVLAP LAB CODE 100268-0

TUV PRODUCT SERVICE, INC.

10040 Mesa Rim Road
San Diego, CA 92121-1034
Mr. R. Barry Wallen
Phone: 619-546-3999 Fax: 619-546-0364
E-Mail: bwallen@TUVps.com
URL: <http://www.tuvps.com>

NVLAP Code Designation / Description

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

December 31, 2001

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NVLAP-01S (11-95)

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation



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**ELECTROMAGNETIC COMPATIBILITY
AND TELECOMMUNICATIONS**

NVLAP LAB CODE 100268-0

TUV PRODUCT SERVICE, INC.

NVLAP Code Designation / Description

12/T51 AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of
Information Technology Equipment

MIL-STD-462 : Conducted Emissions:

12/A01 MIL-STD-462 Method CE01
12/A04 MIL-STD-462 Method CE02
12/A06 MIL-STD-462 Method CE03
12/A08 MIL-STD-462 Method CE04
12/A10 MIL-STD-462 Method CE06
12/A12 MIL-STD-462 Method CE07

MIL-STD-462 : Conducted Susceptibility:

12/B01 MIL-STD-462 Method CS01
12/B02 MIL-STD-462 Method CS02
12/B04 MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05 MIL-STD-462 Method CS06

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ISO 9002:1987

Scope of Accreditation



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**ELECTROMAGNETIC COMPATIBILITY
AND TELECOMMUNICATIONS**

NVLAP LAB CODE 100268-0

TUV PRODUCT SERVICE, INC.

NVLAP Code Designation / Description

12/B06 MIL-STD-462 Method CS07

12/B07 MIL-STD-462 Method CS09

MIL-STD-462 : Radiated Emissions:

12/D01 MIL-STD-462 Method RE01

12/D02 MIL-STD-462 Method RE02

12/D03 MIL-STD-462 Method RE03

MIL-STD-462 : Radiated Susceptibility:

12/E01 MIL-STD-462 Method RS01

12/E02 MIL-STD-462 Method RS02

12/E03 MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)

12/E04 MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing
(Consult laboratory for field strengths available)

December 31, 2001

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NVLAP-01S (11-95)

Photograph of Test Setup



Photograph of Test Setup



Photograph of Test Setup



Photograph of Test Setup

