



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 15, Paragraph 15.109(b) and Part 15, Paragraph 15.238)

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.

A handwritten signature in cursive script that reads 'FR Fleury'.

Floyd R. Fleury
EMC Manager

Emissions Test Conditions: SPURIOUS RADIATED EMISSIONS

Roof (small open area test site)

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

Test Equipment Used :

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Date
HP8586B	721	Spectrum Analyzer	Hewlett Packard	2542A12099	06/02
3115	251	Double Ridge Antenna	EMCO	2495	10/01
FF 6548-2	781	2000 MHz High Pass Filter	Sage	004	N/A*
FF 6549-1	777	900 MHz High Pass Filter	Sage	006	N/A*
AMF-3D-010180-35-10P	752	Amplifier 20 dB	Miteq	614344	N/A*
83640B	791	Synthesized Swept Signal Generator	Hewlett Packard	3844A00726	05/02
3115	453	Double Ridge Antenna (1 to 18 GHz)	Hewlett Packard	9412-4364	10/01

Remarks: (*) Verified

Report No. SC105530-03



FCC Testing



RADIATED SPURIOUS - EMISSIONS SIGNAL SUBSTITUTION METHOD

Test Report #: SC105530 Test Area: Roof
 Test Method: FCC PART 24.238 Date: July 19, 2001
 EUT Model #: KCP 3035 EUT POWER:
 230 Vac/50 Hz 120 Vac/60 Hz
 Other: _____
 EUT Description: Trimode Cellular 7GP
 NOTES: _____

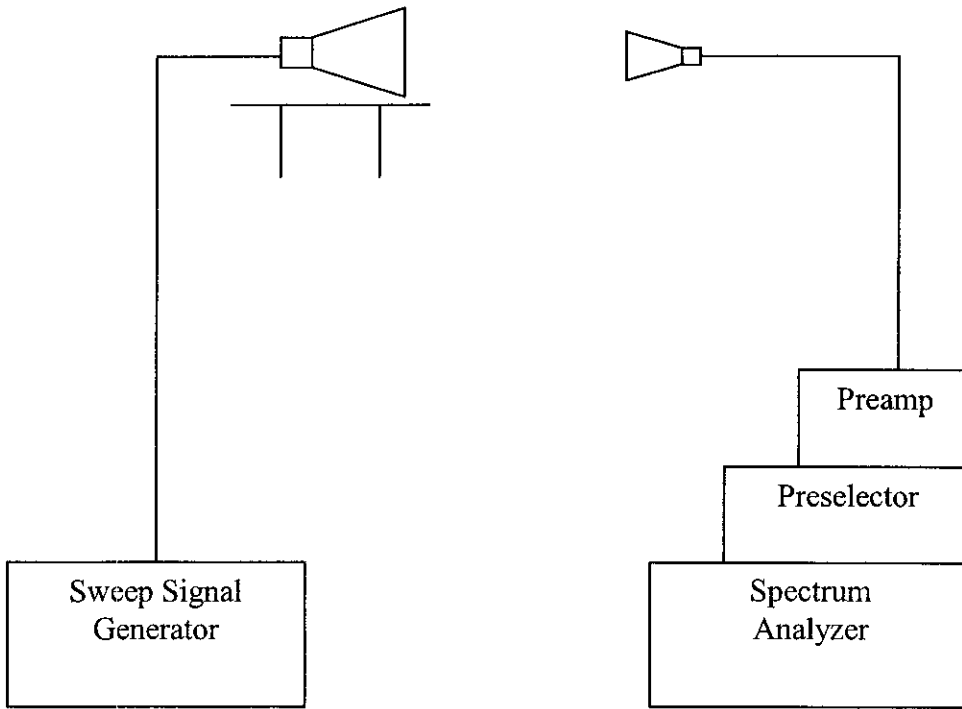


Temperature: _____ °C
 Air Pressure: _____ kPa
 Relative Humidity: _____ %

Frequency (MHz)	Signal Generator (dBm)	Gain of Antenna	Total (EIRP)	Limit	Margin (dB)
9256.25	-38.4	-.5	-38.9	-13	-25.9
9400	-39.5	-.7	-40.2	-13	-27.2
9543.75	-36.7	+.1	-36.6	-13	-23.6
11107.5	-25.2	+.3	-24.9	-13	-11.9
11280	-33.2	-1.4	-24.6	-13	-11.6
11452.5	-28.9	-.2	-29.1	-13	-16.1

Tested By: A. Laudani Printed A. Laudani Signature

NOTES: _____





REPORT No: SC105530 TESTER: Alan Laudani SPEC: FCC Part 15 para 15.109(b)

CUSTOMER: Kyocera TEST DIST: 3 Meters

E U T: KCP3035 Trimode Cellular (7GP) TEST SITE: Roof

EUT MODE: CDMA Cellular Tx BICONICAL: N/A

DATE: July 18, 2001 LOG: 244

NOTES: OTHER: 251

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

FREQ (MHz)	VERTICAL (dBuv)		HORIZONTAL (dBuv)		CF (dBm)	MAX LEVEL (dBm(dI))		SPEC LIMIT (dBm)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes	dBuV/m
	pk	av	pk	av		pk	av	pk	av	pk	av				
824.7	101.2		89.2		22.1	28.0						0	1.1	Fundamental	123.3
1649.4	34.2		31.9		6.3	-54.8		-13.0		-41.8		160	1		40.5
2474.1	35		33		11.2	-49.1		-13.0		-36.1		240	1.5		46.2
3298.8	31.4		31.2		14.6	-49.3		-13.0		-36.3				noise floor	46.0
4123.5	30.7		31.7		19.3	-44.2		-13.0		-31.2		0	1		51.0
4948.2	31		31		20.3	-44.0		-13.0		-31				noise floor	51.3
5772.9	30.4		30.3		22.9	-41.9		-13.0		-28.9				noise floor	53.3
6597.6	34.2		34.3		22.4	-38.6		-13.0		-25.6				noise floor	56.7
836.49	101.2		89.4		22.1	28.0						0	1.1	Fundamental	123.3
1672.98	35.2		34		6.5	-53.6		-13.0		-40.6		300	1		41.7
2509.47	38.8		33.5		11.3	-45.1		-13.0		-32.1		0	1.5		50.1
3345.96	32.6		31.2		14.8	-47.8		-13.0		-34.8		0	1.5		47.4
4182.45	32.7		33.9		19.6	-41.8		-13.0		-28.8		160	1.2		53.5
5018.94	31.2		30.5		20.3	-43.8		-13.0		-30.8				noise floor	51.5
5855.43	34.8		34.2		23.1	-37.4		-13.0		-24.4				noise floor	57.9
6691.92	35.1		34.9		22.5	-37.7		-13.0		-24.7				noise floor	57.6
848.31	101		90.2		22.3	28.1						0	1.1	Fundamental	123.3
1696.62	36		30.9		6.7	-52.6		-13.0		-39.6		240	1.5		42.7
2544.93	37.1		33.9		11.5	-46.7		-13.0		-33.7		0	1.5		48.6
3393.24	30.8		32.6		15.0	-47.6		-13.0		-34.6		240	1		47.6
4241.55	32		31.2		19.8	-43.5		-13.0		-30.5				noise floor	51.8
5089.86	30.7		30.3		20.6	-44.0		-13.0		-31				noise floor	51.3
5938.17	31.4		31.4		23.3	-40.6		-13.0		-27.6				noise floor	54.7
6766.48	35.1		35.7		22.7	-36.9		-13.0		-23.9				noise floor	58.4



REPORT No: SC105530 TESTER: Alan Laudani SPEC: FCC Part 15 para 15.109(b)
 CUSTOMER: Kyocera TEST DIST: 3 Meters
 E U T: KCP3035 Trimode Cellular (7GP) TEST SITE: Roof
 EUT MODE: FM Tx BICONICAL: N/A
 DATE: July 18, 2001 LOG: 244
 NOTES: OTHER: 251
 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 - Preamp/loss Gain + Preselector Loss

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dB/m)	MAX LEVEL (dBm(d))		SPEC LIMIT (dBm)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes	dBuV/m
	pk	av	pk	av		pk	av	pk	av	pk	av				
824.04	101.2		88.8		22.1	28.0						0	1	Fundamental	123.3
1648.08	33.7		32.9		6.3	-55.3		-13.0		-42.3		0	1		40.0
2472.12	33		32		11.2	-51.1		-13.0		-38.1		0	1		44.2
3296.16	31.7		30.4		14.6	-49.0		-13.0		-36				noise floor	46.3
4120.2	31.4		31.7		19.3	-44.2		-13.0		-31.2		0	1		51.0
4944.24	30.6		31.1		20.3	-43.9		-13.0		-30.9				noise floor	51.4
5768.28	30.8		30.9		22.9	-41.4		-13.0		-28.4				noise floor	53.8
6592.32	34.8		34.7		22.3	-38.1		-13.0		-25.1				noise floor	57.1
836.49	101		90.5		22.1	27.8						0	1	Fundamental	123.1
1672.98	35		32.8		6.5	-53.8		-13.0		-40.8		0	1		41.5
2509.47	35.2		32.6		11.3	-48.7		-13.0		-35.7		0	1		46.5
3345.96	31.2		31.5		14.8	-48.9		-13.0		-35.9				noise floor	46.3
4182.45	33.2		34.4		19.6	-41.3		-13.0		-28.3		0	1		54.0
5018.94	31		31.7		20.3	-43.3		-13.0		-30.3		0	1		52.0
5855.43	34.5		34.8		23.1	-37.4		-13.0		-24.4				noise floor	57.9
6691.92	36		34.8		22.5	-36.8		-13.0		-23.8				noise floor	58.5
7528.41	34.6		35		23.4	-36.8		-13.0		-23.8				noise floor	58.4
848.97	100.7		89.5		22.4	27.8						0	1	Fundamental	123.1
1697.94	33.2		31		6.7	-55.4		-13.0		-42.4		0	1		39.9
2546.91	33.9		32.8		11.5	-49.9		-13.0		-36.9		0	1		45.4
3395.88	30.7		30.9		15.0	-49.3		-13.0		-36.3				noise floor	45.9
4244.85	31.9		33.5		19.8	-42.0		-13.0		-29		240	1		53.3
5093.82	31.1		31.4		20.6	-43.3		-13.0		-30.3				noise floor	52.0
5942.79	34.4		34.1		23.3	-37.6		-13.0		-24.6				noise floor	57.7
6791.76	34.9		35.5		22.7	-37.1		-13.0		-24.1				noise floor	58.2



REPORT No: SC105530 TESTER: Alan Laudani SPEC: FCC Part 15 para 238

CUSTOMER: Kyocera TEST DIST: 3 Meters

EUT: KCP3035 Trimode Cellular (7GP) TEST SITE: Roof

EUT MODE: PCS/CDMA Cellular Tx BICONICAL: N/A

DATE: July 18, 2001 LOG: 244

NOTES: OTHER: 251

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

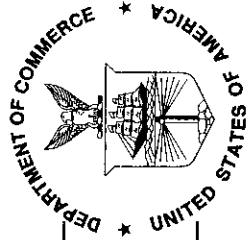
FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dB/m)	MAX LEVEL (dBm(d))		SPEC LIMIT (dBm)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes	dBuV/m
	pk	av	pk	av		pk	av	pk	av	pk	av				
1851.25	89.2	86.8			32.7	26.6						0	1.1	Fundamental	121.9
3702.5	34.2	39			16.9	-39.4		-13.0		-26.4		240	1.2		55.9
5553.75	30.6	32.6			22.5	-40.2		-13.0		-27.2		240	1.1		55.1
7405	34.7	35			23.3	-36.9		-13.0		-23.9				noise floor	58.3
9256.25	35.2	35.2			27.8	-32.2		-13.0		-19.2				noise floor	63.0
11107.5	34.1	35.1			32.5	-27.6		-13.0		-14.6				noise floor	67.6
1880	88.6	87.2			32.9	26.2						0	1.1	Fundamental	121.5
3760	36.6	39.7			17.3	-38.3		-13.0		-25.3		240	1.3		57.0
5640	32	34.8			22.7	-37.8		-13.0		-24.8		240	1.3		57.5
7520	35.8	36.2			23.4	-35.6		-13.0		-22.6				noise floor	59.6
9400	35.7	35			27.7	-31.9		-13.0		-18.9				noise floor	63.4
11280	34	34.7			33.1	-27.5		-13.0		-14.5				noise floor	67.8
1908.75	88.6	87.4			33.0	26.3						0	1.1	Fundamental	121.6
3817.5	37.9	41.3			17.7	-36.3		-13.0		-23.3		240	1.5		59.0
5726.25	32	33.1			22.9	-39.3		-13.0		-26.3		240	1.5		56.0
7635	34.7	35.1			23.6	-36.5		-13.0		-23.5				noise floor	58.7
9543.75	35	35.2			27.7	-32.4		-13.0		-19.4				noise floor	62.9
11452.5	34.2	34.7			33.6	-26.9		-13.0		-13.9				noise floor	68.3



Testing Facilities
Certificates of Approval



United States Department of Commerce
National Institute of Standards and Technology



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)



National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation



Page: 1 of 3

**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

Effective through

For the National Institute of Standards and Technology

NVLAP-01S (11-95)



National Institute
of Standards and Technology



National Voluntary
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ISO/IEC GUIDE 25:1990
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Scope of Accreditation



Page: 2 of 3

**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/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation



Page: 3 of 3

**ELECTROMAGNETIC COMPATIBILITY
AND TELECOMMUNICATIONS**

NVLAP LAB CODE 100268-0

TUV PRODUCT SERVICE, INC.

<i>NVLAP Code</i>	<i>Designation / Description</i>
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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For the National Institute of Standards and Technology

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Photograph of Test Setup



Photograph of Test Setup

