

RADIATED EMISSIONS

DATA

FOR

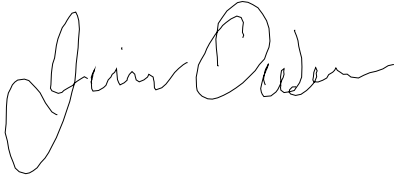
**KYOCERA WIRELESS
10300 Campus Point Drive
San Diego, CA 92121**

Prepared by

**TÜV AMERICA
10040 Mesa Rim Road
San Diego, CA 92121-2912**

Measurement Requirements (CFR 47 Part 15, Paragraph 15.109(a); Part 22, Paragraph 22.917(b)(2); and Part 24, Paragraph 24.238(a))

The following measurements were performed by TÜV America. 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.



Jim Owen
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.	Date Cal'ed
HP-8566B	6488	Spectrum Analyzer	Hewlett Packard	2618A02913	12/02
3115	251	Antenna, Horn	Electro Mechanics Co	2595	12/02
FF6549-1	778	900 MHz High Pass Filter	Sage	005	NCR*
FF6549-2	783	2000 MHz High Pass Filter	Sage	008	NCR*
AMF-5D-010180-35-10P	719	PreAmp	TUV America	549460	NCR*
85662A	406	Spectrum Analyzer	Hewlett Packard	2309A04682	05/03
CBL6111	460	Bilog Antenna	Chase Electronics	1013	NCR*

Remarks: One year calibration cycle for all test equipment and sites. (*) No Calibration Required.

Technical Documentation

Test Data Sheets

and

Test Setups

[illegible]

[illegible]

[illegible]

OTHER:	251
above 1GHz: RBW & VBW 1 MHz for PK; RBW 1MHz and VBW 10Hz for AVG	
No emissions detected between 30 MHz and 1000 MHz.	
CF = Antenna Factor + Cable Loss - Preamplifier Gain	

[illegible]

[illegible]

[illegible]

REPORT No. SC305046 TESTER: Alan Laudani SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless
 EUT: SE44 TEST DIST: 3 Meters
 TEST SITE: Roof
 EUT MODE: CDMA transmit antenna extended BICONICAL: N/A
 DATE: 4-Nov-2003 ERP Factor 7 LOG: N/A
 NOTES: HORN: 251

Part 22 - RBW & VBW 1MHz

CF = Antenna Factor + Cable Loss - Preamplifier Gain

FREQ (MHz)	VERTICAL (dBuv) pk	HORIZONTAL (dBuv) pk	HORIZONTAL pk	CF (dBm)	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes
824.7										Fundamental (Low Band)
1649.4	49.4	47.7		-9.3	-57.2	-13.0	-44.2	0	1	
2474.1	44.1	41.8		-4.7	-58.0	-13.0	-45		1	noise level
3298.8	44.6	44.5		-2.4	-55.1	-13.0	-42.1		1	noise level
4123.5	45.7	45.7		-0.7	-52.3	-13.0	-39.3		1	noise level
4948.2	45.7	46		0.1	-51.2	-13.0	-38.2		1	noise level
5772.9	45.1	48.4		4.9	-44.0	-13.0	-31		1	noise level
6597.6	48.3	48.4		5.7	-43.3	-13.0	-30.3		1	noise level
7422.3	47.3	47.2		8.2	-41.8	-13.0	-28.8		1	noise level
8247	47.6	48.1		9.2	-40.1	-13.0	-27.1		1	noise level
836.49										Fundamental (Mid Band)
1672.98	47	47.6		-9.1	-58.8	-13.0	-45.8	0	1	
2509.47	51.4	47.7		-4.6	-50.5	-13.0	-37.5		1	noise level
3345.96	44.8	44.8		-2.2	-54.8	-13.0	-41.8		1	noise level
4182.45	46.1	46.3		-0.8	-51.8	-13.0	-38.8		1	noise level
5018.94	45.7	45.5		0.4	-51.2	-13.0	-38.2		1	noise level
5855.43	48	48.2		5.2	-44.0	-13.0	-31		1	noise level
6691.92	47.8	47.5		6.0	-43.5	-13.0	-30.5		1	noise level
7528.41	47.2	47.4		8.4	-41.5	-13.0	-28.5		1	noise level
8364.9	48.2	48.4		9.4	-39.5	-13.0	-26.5		1	noise level
848.31										Fundamental (High Band)
1696.62	49.5	47.7		-8.9	-56.8	-13.0	-43.8		1	
2544.93	50.3	50.4		-4.5	-51.4	-13.0	-38.4		1	noise level
3393.24	45.3	46.5		-2.1	-53.0	-13.0	-40		1	noise level
4241.55	47	47.3		-0.8	-50.9	-13.0	-37.9		1	noise level
5089.86	44.8	46.1		1.0	-50.3	-13.0	-37.3		1	noise level
5938.17	48.5	48.4		5.4	-43.4	-13.0	-30.4		1	noise level
6786.48	47	47.4		6.4	-43.6	-13.0	-30.6		1	noise level
7634.79	46.9	46.9		8.5	-42.0	-13.0	-29		1	noise level
8483.1	47.4	47.5		9.7	-40.2	-13.0	-27.2		1	noise level

REPORT No: SC305046 TESTER: Alan Laudani SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: SE44 TEST SITE: Roof
 EUT MODE: CDMA transmit antenna retracted BICONICAL: N/A
 DATE: 4-Nov-2003 ERP Factor 7 LOG: N/A
 NOTES: HORN: 251

Part 22 - RBW & VBW 1MHz

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain

FREQ (MHz)	VERTICAL (dBuV) pk	HORIZONTAL (dBuV) pk	CF (dB/m)	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes
824.7									Fundamental (Low Band)
1649.4	49	49.7	-9.3	-56.9	-13.0	-43.9	23	1.1	
2474.1	44	41.6	-4.7	-58.1	-13.0	-45.1		1	noise level
3298.8	44.9	44.5	-2.4	-54.8	-13.0	-41.8		1	noise level
4123.5	45.2	46	-0.7	-52.0	-13.0	-39		1	noise level
4948.2	44.9	46.1	0.1	-51.1	-13.0	-38.1		1	noise level
5772.9	44.7	45.1	4.9	-47.3	-13.0	-34.3		1	noise level
6597.6	43.5	46.3	5.7	-45.4	-13.0	-32.4		1	noise level
7422.3	47.6	47.6	8.2	-41.5	-13.0	-28.5		1	noise level
8247	47.1	46.4	9.2	-41.1	-13.0	-28.1		1	noise level
836.49									Fundamental (Mid Band)
1672.98	46.8	46.4	-9.1	-59.6	-13.0	-46.6		1	noise level
2509.47	52.8	46.6	-4.6	-49.1	-13.0	-36.1		1	noise level
3345.96	44.6	44.7	-2.2	-54.9	-13.0	-41.9		1	noise level
4182.45	46.4	46.1	-0.8	-51.7	-13.0	-38.7		1	noise level
5018.94	45.1	44.4	0.4	-51.8	-13.0	-38.8		1	noise level
5855.43	47.9	48.7	5.2	-43.5	-13.0	-30.5		1	noise level
6691.92	46.5	47.6	6.0	-43.7	-13.0	-30.7		1	noise level
7528.41	46.7	47.2	8.4	-41.7	-13.0	-28.7		1	noise level
8364.9	47.5	48.1	9.4	-39.8	-13.0	-26.8		1	noise level
848.31									Fundamental (High Band)
1696.62	46.9	46	-8.9	-59.4	-13.0	-46.4		1	
2544.93	47.6	50.6	-4.5	-51.2	-13.0	-38.2		1	
3393.24	44.2	45.9	-2.1	-53.6	-13.0	-40.6		1	noise level
4241.55	46	45.6	-0.8	-52.2	-13.0	-39.2		1	noise level
5089.86	45.4	45.9	1.0	-50.5	-13.0	-37.5		1	noise level
5938.17	48.3	48	5.4	-43.6	-13.0	-30.6		1	noise level
6786.48	47.3	46.9	6.4	-43.7	-13.0	-30.7		1	noise level
7634.79	47	47.3	8.5	-41.6	-13.0	-28.6		1	noise level
8483.1	48.2	46.8	9.7	-39.5	-13.0	-26.5		1	noise level

REPORT No: SC305235 TESTER: Alan Laudani SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: SE44 TEST SITE: Roof
 EUT MODE: FM transmit with extended antenna BICONICAL: N/A
 DATE: 19-Nov-2003 ERP Factor: 7 LOG: N/A
 NOTES: HORN: 251

Part 22 - RBW & YBW 1MHz

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain

FREQ (MHz)	VERTICAL (dBuv) pk	HORIZONTAL (dBuv) pk	CF (dBm) pk	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes
824.04									Fundamental (Low Band)
1648.08	50.8	48.9	-9.3	-55.8	-13.0	-42.8	5	1	
2472.12	47	44.6	-4.7	-55.1	-13.0	-42.1	295	1	
3296.16	46.1	46.1	-2.4	-53.6	-13.0	-40.6		1	noise level
4120.2	49	47	-0.7	-49.0	-13.0	-36	207	1	
4944.24	46.1	46.5	0.1	-50.7	-13.0	-37.7		1	noise level
5768.28	44.7	46.2	4.9	-46.3	-13.0	-33.3		1	noise level
6592.32	45.2	46.7	5.7	-45.0	-13.0	-32		1	noise level
7416.36	48.8	48.2	8.2	-40.4	-13.0	-27.4		1	noise level
8240.4	47.7	48.2	9.2	-40.0	-13.0	-27		1	noise level
836.49									Fundamental (Mid Band)
1672.98	47.5	46.8	-9.1	-58.9	-13.0	-45.9	5	1	
2509.47	56.5	48.1	-4.6	-45.4	-13.0	-32.4	295	1	
3345.96	45.3	46.2	-2.2	-53.4	-13.0	-40.4		1	noise level
4182.45	46.1	46.4	-0.8	-51.7	-13.0	-38.7		1	noise level
5018.94	45.4	45.5	0.4	-51.4	-13.0	-38.4		1	noise level
5855.43	48.7	48	5.2	-43.5	-13.0	-30.5		1	noise level
6691.92	47.7	47.1	6.0	-43.6	-13.0	-30.6		1	noise level
7528.41	48.2	47	8.4	-40.7	-13.0	-27.7		1	noise level
8364.9	49.2	47.7	9.4	-38.7	-13.0	-25.7		1	noise level
848.97			0.0						Fundamental (High Band)
1697.94	51.7	48.4	-8.9	-54.6	-13.0	-41.6	7	1	
2546.91	48.7	46.8	-4.5	-53.1	-13.0	-40.1	3	1	
3395.88	45.5	46	-2.1	-53.5	-13.0	-40.5		1	noise level
4244.85	46	46.5	-0.8	-51.7	-13.0	-38.7		1	noise level
5093.82	45.3	45.2	1.0	-51.0	-13.0	-38		1	noise level
5942.79	47.9	49	5.4	-42.9	-13.0	-29.9		1	noise level
6791.76	48.1	48	6.4	-42.9	-13.0	-29.9		1	noise level
7640.73	47.1	47	8.5	-41.8	-13.0	-28.8		1	noise level
8489.7	47.6	47.5	9.7	-40.1	-13.0	-27.1		1	noise level

REPORT No: SC305235 TESTER: Alan Laudani SPEC: FCC Part 22 para 22.917(b)(2)
CUSTOMER: Kyocera Wireless
E U T: SE44 TEST DIST: 3 Meters
EUT MODE: FM transmit with retracted antenna TEST SITE: Roof
DATE: 19-Nov-2003 ERP Factor: 7 LOG: N/A BICONICAL: N/A
NOTES: HORN: 251

Part 22 - RBW & VBW 1MHz

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain

FREQ (MHz)	VERTICAL (dBuv) pk	HORIZONTAL (dBuv) pk	CF (dBm) pk	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes
824.04									Fundamental (Low Band)
1648.08	51.6	48	-9.3	-55.0	-13.0	-42	5	1	
2472.12	42.8	44	-4.7	-58.1	-13.0	-45.1		1	noise level
3296.16	45.1	45.6	-2.4	-54.1	-13.0	-41.1		1	noise level
4120.2	46.4	46.6	-0.7	-51.4	-13.0	-38.4		1	noise level
4944.24	45.7	47	0.1	-50.2	-13.0	-37.2		1	noise level
5768.28	44.6	46.6	4.9	-45.9	-13.0	-32.9		1	noise level
6592.32	44	46.1	5.7	-45.6	-13.0	-32.6		1	noise level
7416.36	47.3	47.7	8.2	-41.5	-13.0	-28.5		1	noise level
8240.4	46.7	46.4	9.2	-41.5	-13.0	-28.5		1	noise level
836.49									Fundamental (Mid Band)
1672.98	48	49.2	-9.1	-57.2	-13.0	-44.2	175	1	
2509.47	51.3	49.6	-4.6	-50.6	-13.0	-37.6	238	1	
3345.96	45	45.4	-2.2	-54.2	-13.0	-41.2		1	noise level
4182.45	46.9	48.7	-0.8	-49.4	-13.0	-36.4	175	1	
5018.94	45.7	45.7	0.4	-51.2	-13.0	-38.2		1	noise level
5855.43	48.3	48.4	5.2	-43.8	-13.0	-30.8		1	noise level
6691.92	47.3	47.7	6.0	-43.6	-13.0	-30.6		1	noise level
7528.41	48	47.7	8.4	-40.9	-13.0	-27.9		1	noise level
8364.9	47.9	47.4	9.4	-40.0	-13.0	-27		1	noise level
848.97									Fundamental (High Band)
1697.94	48.8	49.1	-8.9	-57.2	-13.0	-44.2	24	1	
2546.91	48.4	46.3	-4.5	-53.4	-13.0	-40.4		1	noise level
3395.88	45.8	45.8	-2.1	-53.7	-13.0	-40.7		1	noise level
4244.85	48.7	47.1	-0.8	-49.5	-13.0	-36.5		1	noise level
5093.82	45.2	45.3	1.0	-51.0	-13.0	-38		1	noise level
5942.79	48.4	48.9	5.4	-43.0	-13.0	-30		1	noise level
6791.76	47.7	47.6	6.4	-43.3	-13.0	-30.3		1	noise level
7640.73	47.6	47.7	8.5	-41.2	-13.0	-28.2		1	noise level
8489.7	47.7	47.4	9.7	-40.0	-13.0	-27		1	noise level

REPORT No: SC305046 TESTER: Alan Laudani SPEC: FCC Part 24 para 24.238(a)
 CUSTOMER: Kyocera Wireless
 E U T: SE44 TEST DIST: 3 Meters TEST SITE: Roof
 EUT MODE: PCS Transmit antenna extended BICONICAL: N/A
 DATE: Nov 4, 2003 EIRP Factor: 5.5 LOG: N/A
 NOTES: HORN: 251

Part 24 - RBW 1 MHz
 CF = Antenna Factor + Cable Loss - Preamp/Filter Gain

FREQ (MHz)	VERTICAL (dBuv) pk	HORIZONTAL (dBuv) pk	CF (dBm) pk	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes
1851.25									Fundamental (Low Band)
3702.5	59	56.4	-1.4	-37.6	-13.0	-24.6	205	1.6	
5653.75	55	54.3	3.2	-37.0	-13.0	-24	160	1.1	
7405	48.1	49.1	6.6	-39.6	-13.0	-26.6			noise level
9256.25	47.8	48.5	8.6	-38.2	-13.0	-25.2			noise level
11107.5	45.7	46	11.0	-38.3	-13.0	-25.3			noise level
12958.75	50.6	50.3	10.7	-33.9	-13.0	-20.9			noise level
14810	49.8	50	13.9	-31.3	-13.0	-18.3			noise level
16661.25	50.2	50.3	15.8	-29.1	-13.0	-16.1			noise level
1880									Fundamental (Mid Band)
3760	58.8	56.5	-1.2	-37.7	-13.0	-24.7	229	1	
5640	49.4	50.4	3.5	-41.4	-13.0	-28.4	148	1.1	
7520	47.2	46.7	6.8	-41.2	-13.0	-28.2			noise level
9400	47.5	48	8.1	-39.1	-13.0	-26.1			noise level
11280	45.6	46.4	11.1	-37.8	-13.0	-24.8			noise level
13160	51.7	51	11.2	-32.4	-13.0	-19.4			noise level
15040	51.5	50.5	14.8	-28.9	-13.0	-15.9			noise level
16920	49.2	49.4	16.6	-29.2	-13.0	-16.2			noise level
1908.75									Fundamental (High Band)
3817.5	58.6	54.6	-8.1	-37.7	-13.0	-24.7	20	1.4	
5726.25	51.4	49.3	3.7	-40.2	-13.0	-27.2	2	1.3	
7635	51.2	48.6	6.9	-37.1	-13.0	-24.1	272	1	noise level
9543.75	48.3	47.9	7.9	-39.1	-13.0	-26.1			noise level
11452.5	45.4	45.9	11.2	-38.2	-13.0	-25.2			noise level
13361.25	51	49.9	11.9	-32.4	-13.0	-19.4			noise level
15270	49.7	49.9	15.1	-30.3	-13.0	-17.3			noise level
17178.75	49.9	50.4	18.2	-26.6	-13.0	-13.6			noise level

REPORT No: SC305046 TESTER: Alan Laudani SPEC: FCC Part 24 para 24.238(a)
 CUSTOMER: Kyocera Wireless
 EUT: SE44 TEST DIST: 3 Meters
 TEST SITE: Roof
 EUT MODE: PCS Transmit antenna retracted BICONICAL: N/A
 DATE: Nov. 4, 2003 EIRP Factor 5.5 LOG: N/A
 NOTES: HORN: 251

Part 24 - RBW 1 MHz
 CF = Antenna Factor + Cable Loss - Preamp/plier Gain

FREQ (MHz)	VERTICAL (dBuV) pk	HORIZONTAL (dBuV) pk	CF (dBm) pk	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes
1851.25									Fundamental (Low Band)
3702.5	59.9	55.8	-1.4	-36.7	-13.0	-23.7	212	1.2	
5553.75	53.2	50	3.2	-38.8	-13.0	-25.8	195	1	
7405	47.5	47.7	6.6	-41.0	-13.0	-28		1	noise level
9256.25	48.1	48.1	8.6	-38.6	-13.0	-25.6		1	noise level
11107.5	46.2	46	11.0	-38.1	-13.0	-25.1		1	noise level
12958.75	51.7	50	10.7	-32.8	-13.0	-19.8		1	noise level
14810	51	49.8	13.9	-30.3	-13.0	-17.3		1	noise level
16661.25	49.8	50	15.8	-29.4	-13.0	-16.4		1	noise level
1850									Fundamental (Mid Band)
3760	59.6	60.3	-1.2	-36.2	-13.0	-23.2	222	1.5	
5640	51.5	49.5	3.5	-40.3	-13.0	-27.3	190	1.2	
7520	48	49.6	6.8	-38.8	-13.0	-25.8		1	noise level
9400	47.4	47.6	8.1	-39.5	-13.0	-26.5		1	noise level
11280	45.9	45.7	11.1	-38.3	-13.0	-25.3		1	noise level
13160	50.7	50.7	11.2	-33.4	-13.0	-20.4		1	noise level
15040	50.3	52	14.8	-28.4	-13.0	-15.4		1	noise level
16920	49.9	49.6	16.6	-28.7	-13.0	-15.7		1	noise level
1908.75									Fundamental (High Band)
3817.5	59.1	58.1	-1.1	-37.2	-13.0	-24.2	20	1.4	
5726.25	51.5	48.9	3.7	-40.1	-13.0	-27.1	324	1	
7635	48.9	47.4	6.9	-39.4	-13.0	-26.4		1	noise level
9543.75	47.9	47.3	7.9	-39.5	-13.0	-26.5		1	noise level
11452.5	45.8	45.7	11.2	-38.3	-13.0	-25.3		1	noise level
13361.25	51.1	49.8	11.9	-32.3	-13.0	-19.3		1	noise level
15270	49.9	49.9	15.1	-30.3	-13.0	-17.3		1	noise level
17178.75	49.6	49.9	18.2	-27.1	-13.0	-14.1		1	noise level

Photograph of Test Setup



Appendix

Supplemental Information

