

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 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.

A handwritten signature in black ink 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
HP8566B	743	Spectrum Analyzer	Hewlett Packard	2618A02913	09/02
AMF-5D-010180-35-10P	719	PreAmplifier	Miteq	549460	NCR*
3115	251	Double Ridge Horn Antenna	EMCO	2495	12/02
3146	243	Log Periodic Antenna	EMCO	106X	04/02
Cable 1	6789	30' cable	United Microwave Pro	--	NCR*
Cable 2	6767	3' Cable	United Microwave Pro	--	NCR*
FF 6549-1	781	2000 MHz High Pass Filter	Sage	004	NCR*
FF6548-2	777	900 MHz High Pass Filter	Sage	006	NCR*
3115	798	Horn Antenna	EMCO	9908-5927	05/02
Cable 3	6790	40' Cable	United Microwave Pro	--	NCR*
8350B	6706	Sweep Signal Generator	Hewlett Packard	2749A09420	NCR*
HP437B	572	Power Meter	Hewlett Packard	3125O19308	12/01
HP8566B	721	Spectrum Analyzer	Hewlett Packard	2542A12099	07/02
CBL6111	461	Bilog Antenna	Chase Electronics	1291	NCR*

Remarks: (*) No Calibration Required.

Technical Documentation

Test Data Sheets

and

Test Setups

Kyocera Substitution SC300807

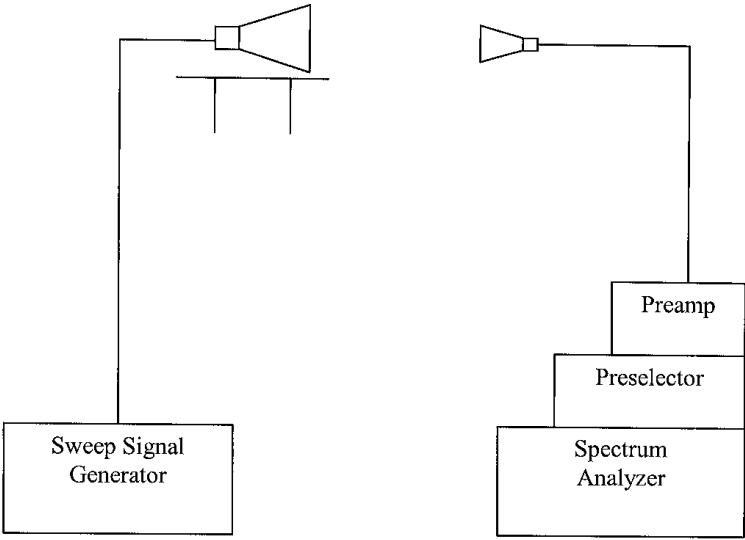
Frequency MHz	target level dBuV/m	Horn Gain dBi	cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin Subst. dBm
2472.12	81.5	10.2	5.8	-20.1	-15.7	-13	-2.7
2474.10	80.2	10.2	5.8	-21.7	-17.3	-13	-4.3
2509.47	83.8	10.3	5.9	-20.5	-16.1	-13	-3.1
2509.47	82.5	10.3	5.9	-20.6	-16.2	-13	-3.2
2544.93	85.6	10.3	5.9	-26.8	-22.4	-13	-9.4
2546.91	81.8	10.3	5.9	-20	-15.6	-13	-2.6
3702.5	67.7	9.6	7.6	-31.2	-29.2	-13	-16.2
3760	72.5	9.6	8.0	-26	-24.4	-13	-11.4
3817.5	69.1	9.6	7.7	-28.5	-26.6	-13	-13.6
5553.75	67.1	10.8	9.7	-27.5	-26.4	-13	-13.4
5640	72.1	10.8	9.7	-21.5	-20.4	-13	-7.4
5726.25	61.9	10.8	9.8	-32	-31.0	-13	-18.0

Input level verified with Power Meter 742: HP437B, Cal. Date due: 04/26/03
 Location: TUV 3-meter roof site

Tested by *A. Laudani*
 A. Laudani

Reviewed by *J. Owen*
 J. Owen

Test setup for Substitution Method



REPORT No: SC300807 TESTER: Alan Laudani *pk* SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: KWC 7135 sn W78G TEST SITE: Roof
 EUT MODE: Transmit FM BICONICAL: N/A
 DATE: Feb. 19, 2003 ERP/EIRP Factor 7 LOG: 243
 HORN: 251

RBW = 100 kHz below 1000 MHz, 1 MHz above 1000 MHz Preamp not used for fundamental
 CF = Antenna Factor + Cable Loss - Preamplifier Gain

FREQ (MHz)	VERTICAL (dBuv) pk	HORIZONTAL (dBuv) pk	CF (dBm)	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
824.04	99.5	93.1	22.9	25.0	-13.0	-24.5	231	1.2	Fundamental (Low Band)	122.4	22.9
1648.08	69.1	68.1	-9.3	-37.5	-13.0	-7.49	234	1.6		59.8	-9.3
2472.12	77.5	81.5	-4.6	-20.5	-13.0	-27.5	271	1.6		76.9	-4.6
3296.16	57.4	58.6	-1.7	-40.5	-13.0	-32.4	291	1.3		56.9	-1.7
4120.2	49.3	51.8	0.2	-45.4	-13.0	-27.1	223	1.2		52.0	0.2
4944.24	56.7	54	0.6	-40.1	-13.0	-32.8	220	1.1		57.3	0.6
5768.28	45.3	46.5	5.1	-45.8	-13.0	-35			noise floor	49.4	5.1
6592.32	43.6	43.5	5.8	-48.0	-13.0	-32.4			noise floor	51.9	8.2
7416.36	43.7	43.2	8.2	-45.4	-13.0	-30.7			noise floor	53.6	9.4
8240.4	43.2	44.2	9.4	-43.7	-13.0						
836.49	98.1	90.1	22.8	23.6	-13.0	-26.2	175	1.3	Fundamental (Mid Band)	120.9	22.8
1672.98	66.9	67.2	-9.1	-39.2	-13.0	-6.33	266	1.5		58.1	-9.1
2508.47	76.7	82.5	-4.5	-19.3	-13.0	-24.1	226	1.7		78.0	-4.5
3345.96	57	61.8	-1.6	-37.1	-13.0	-26.2	205	1.4		60.2	-1.6
4182.45	58.1	51.7	0.0	-39.2	-13.0	-27.4	187	1.2		58.1	0.0
5018.94	56.1	55.1	0.8	-40.4	-13.0	-34	196	1.1	noise floor	56.9	0.8
5855.43	45.1	44	5.3	-47.0	-13.0	-35.5			noise floor	50.4	5.3
6691.92	42.4	42.7	6.1	-48.5	-13.0	-31.9			noise floor	48.8	6.1
7528.41	44	42.2	8.4	-44.9	-13.0	-32			noise floor	52.4	8.4
8364.9	42.7	42.2	9.7	-45.0	-13.0				noise floor	52.4	9.7
848.97	96.2	96.1	23.2	24.0	-13.0	-23.2	238	1.3	Fundamental (High Band)	121.4	23.2
1697.94	66.4	70.1	-8.9	-36.2	-13.0	-6.9	182	1.9		61.2	-8.9
2546.91	76.5	81.8	-4.3	-19.9	-13.0	-23.1	228	1.8		77.5	-4.3
3395.88	59.3	62.6	-1.4	-36.1	-13.0	-25.2	255	1.4		61.2	-1.4
4244.85	57.8	59.2	-0.1	-38.2	-13.0	-25.2	204	1.4		59.1	-0.1
5093.82	57.7	56	1.4	-38.3	-13.0	-25.3	194	1.3		59.1	1.4
5942.79	44.2	44.5	5.5	-47.3	-13.0	-34.3	200	1		50.0	5.5
6791.76	43	43.1	6.5	-45.8	-13.0	-32.9			noise floor	49.6	6.5
7640.73	42.6	42.9	8.5	-47.9	-13.0	-32.9			noise floor	51.4	8.5
8489.7	41.8	42	10.0	-45.4	-13.0				noise floor	52.0	10.0

REPORT No: SC300807 TESTER: Alan Laudani **AKL** SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: KWC 7135 sn W78G TEST SITE: Roof
 EUT MODE: Transmit CDMA BICONICAL: N/A
 DATE: Feb. 19, 2003 ERP Factor 7 LOG: 243
 NOTES: HORN: 251
RBW = 30 kHz below 1000 MHz, 1 MHz above 1000 MHz Preamp not used for fundamental

CF = Antenna Factor + Cable Loss - Preamplifier Gain v.beta1a

FREQ (MHz)	VERTICAL (dBuv) pk	HORIZONTAL (dBuv) pk	CF (dBm)	MAX LEVEL (dBm) pk	SPEC LIMIT (dBm) pk	MARGIN (dB) pk	EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
824.7	98.2	91.5	22.9	23.7	-13.0	-23.5	186	1.3	Fundamental (Low Band)	121.1	22.9
1649.4	69.9	70.1	-9.3	-36.5	-13.0	-8.78	206	2		60.8	-9.3
2474.1	72	80.2	-4.6	-21.8	-13.0	-24.3	182	1.6		75.6	-4.6
3298.8	59.6	61.8	-1.7	-37.3	-13.0	-24.3	180	1.3		60.1	-1.7
4123.5	59.9	51	0.2	-37.3	-13.0	-29.3	199	1.5		60.1	0.2
4948.2	54.5	53.5	0.6	-42.3	-13.0	-29.3	227	1.3		55.1	0.6
5772.9	46.1	47.6	5.1	-44.7	-13.0	-34.2	155	1.5	noise floor	52.7	5.1
6597.6	44.4	43.4	5.8	-47.2	-13.0	-33.4			noise floor	50.2	5.8
7422.3	42.3	42.7	8.2	-46.4	-13.0	-32.6			noise floor	50.9	8.2
8247	42.3	41.8	9.4	-45.6	-13.0				noise floor	51.7	9.4
836.49	98.4	91.7	22.8	23.9	-13.0	-27.9	232	1.3	Fundamental (Mid Band)	121.2	22.8
1672.98	65.5	64.2	-9.1	-40.9	-13.0	-5.03	230	1.4		56.4	-9.1
2509.47	79.2	83.8	-4.5	-18.0	-13.0	-23.5	252	1.6		79.3	-4.5
3345.96	58.1	62.4	-1.6	-36.5	-13.0	-23.3	186	1.5		60.8	-1.6
4182.45	61	54.4	0.0	-36.3	-13.0	-27.7	184	1.4		61.0	0.0
5018.94	55.8	54.3	0.8	-40.7	-13.0	-34.4	161	1.4	noise floor	56.6	0.8
5855.43	44.3	44.7	5.3	-47.4	-13.0	-34.9			noise floor	50.0	5.3
6691.92	43.3	43.1	6.1	-47.9	-13.0	-32.3			noise floor	49.4	6.1
7528.41	43.6	43	8.4	-45.3	-13.0	-32.3			noise floor	52.0	8.4
8364.9	42.4	42.4	9.7	-45.3	-13.0				noise floor	52.1	9.7
848.31	98.4	90.5	23.1	24.2	-13.0	-23.1	207	1.3	Fundamental (High Band)	121.5	23.1
1696.62	70.2	70	-8.9	-36.1	-13.0	-3.11	211	1		61.3	-8.9
2544.93	80.6	85.6	-4.3	-16.1	-13.0	-3.11	222	1.6		81.3	-4.3
3393.24	58.1	64.4	-1.4	-34.3	-13.0	-22.4	189	1.5		63.0	-1.4
4241.55	62	54.4	-0.1	-35.4	-13.0	-22.8	170	1.2		61.9	-0.1
5089.86	60.2	58.4	1.3	-35.8	-13.0	-34.9	203	1.3		61.5	1.3
5938.17	43.9	43.4	5.5	-47.9	-13.0	-34.8			noise floor	49.6	5.5
6786.48	43.1	42.5	6.5	-47.8	-13.0	-33.3			noise floor	49.6	6.5
7634.79	42.5	42.2	8.5	-46.3	-13.0	-31.8			noise floor	51.0	8.5
8483.1	42.6	42.4	10.0	-44.8	-13.0				noise floor	52.6	10.0

REPORT No: SC300807 TESTER: Alan Laudani SPEC: FCC Part 24 para 24.238(a)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: KWC 7135 sn W78G TEST SITE: Roof
 EUT MODE: Transmit PCS BICONICAL: N/A
 DATE: Feb. 19, 2003 EIRP Factor: 5.5 LOG: N/A
 NOTES: HORN: 251

Part 24 - RBW 1 MHz (Fundamental does not use Pre-amplifier)
 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	dBuV/m	dBuV/m
1851.25	92	88.9	32.0	28.7	-13.0	-15.0	170	1.4	Fundamental (Low Band)	124.0	32.0
3702.5	67.7	64.0	-0.4	-28.0	-13.0	-10.7	184	1.4		67.3	-0.4
5553.75	67.1	53.6	4.5	-23.7	-13.0	-30.2	250	1.2		71.6	4.5
7405	43.9	43.5	8.2	-43.2	-13.0	-29.0	235	1		52.1	8.2
9256.25	42.4	42.9	10.4	-42.0	-13.0	-26.5			noise floor	53.3	10.4
11107.5	42.1	42.6	13.1	-39.5	-13.0	-20.1			noise floor	55.7	13.1
12958.75	49.4	49.3	12.7	-33.1	-13.0	-16.3			noise floor	62.1	12.7
14810	49.8	49.3	16.1	-29.3	-13.0	-14.6			noise floor	65.9	16.1
16661.25	49.2	49.0	18.5	-27.6	-13.0				noise floor	67.7	18.5
1880	94.3	90.7	32.2	31.2			170	1.1	Fundamental (Mid Band)	126.5	32.2
3760	72.5	66.8	-0.3	-23.0	-13.0	-10.0	189	1.4		72.2	-0.3
5640	72.1	65.8	4.7	-18.5	-13.0	-5.5	214	1.2		76.8	4.7
7520	43.2	45.6	8.4	-41.2	-13.0	-28.2	220	1		54.0	8.4
9400	42.2	44.2	10.0	-41.1	-13.0	-28.1			noise floor	54.2	10.0
11280	42.4	42.7	13.2	-39.4	-13.0	-26.4			noise floor	55.9	13.2
13160	49.8	49.0	13.2	-32.3	-13.0	-19.3			noise floor	63.0	13.2
15040	50	50.1	17.0	-28.1	-13.0	-15.1			noise floor	67.1	17.0
16920	50.3	49.2	19.5	-25.5	-13.0	-12.5			noise floor	69.8	19.5
1908.75	91.3	87.3	32.4	28.4			211	1.2	Fundamental (High Band)	123.7	32.4
3817.5	69.1	66.6	-0.1	-26.3	-13.0	-13.3	174	1.3		69.0	-0.1
5726.25	61.9	60.3	4.9	-28.4	-13.0	-15.4	231	1.6		66.8	4.9
7635	43.2	44.1	8.5	-42.6	-13.0	-29.6	220	1		52.6	8.5
9543.75	43.9	42.8	9.8	-41.6	-13.0	-28.6			noise floor	53.7	9.8
11452.5	44.2	43.1	13.0	-37.8	-13.0	-24.8			noise floor	57.5	13.3
13361.25	48.8	48.8	14.0	-32.5	-13.0	-19.5			noise floor	62.8	14.0
15270	50.4	49.3	17.3	-27.5	-13.0	-14.5			noise floor	67.7	17.3
17178.75	50.3	50.3	21.1	-23.8	-13.0	-10.8			noise floor	71.4	21.1

Photograph of Test Setup

