

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.

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.	Date Cal'ed
HP8566B	720	Spectrum Analyzer	Hewlett Packard	2115A00842	09/02
3115	251	Antenna, Horn	Electro Mechanics Co	2595	11/02
AMF-5D-010180-35-10P	719	PreAmp	TUV America	549460	NCR*
FF6549-1	778	900 MHz High Pass Filter	Sage	005	NCR*
FF6549-2	783	2000 MHz High Pass Filter	Sage	008	NCR*
83592C	186	Sweep Oscillator/Signalk Generator	Hewlett Packard	2328A00112	NCR*
3115	453	Antenna, Horn	Electro Mechanics Co	3564	12/02
8481A	554	Power Sensor	Hewlett Packard	1926A27807	09/02
436A	775	Power Meter	Hewlett Packard	1918A05312	09/02

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

Technical Documentation

Test Data Sheets

and

Test Setups

Kyocera Substitution SC303689

Model S3PTT
 8/8/03
 Mode Transmit PCS

Frequency MHz	target level dBuV/m	Horn Gain dBi	cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin Subst. dBm
3702.5	64.1	7.9	8	-32.7	-32.8	-13	-19.8
3760	63.4	7.8	8.1	-32.3	-32.6	-13	-19.6
3817.5	64.1	7.8	8.1	-38.9	-34.1	-13	-21.1

Substitution Procedure:

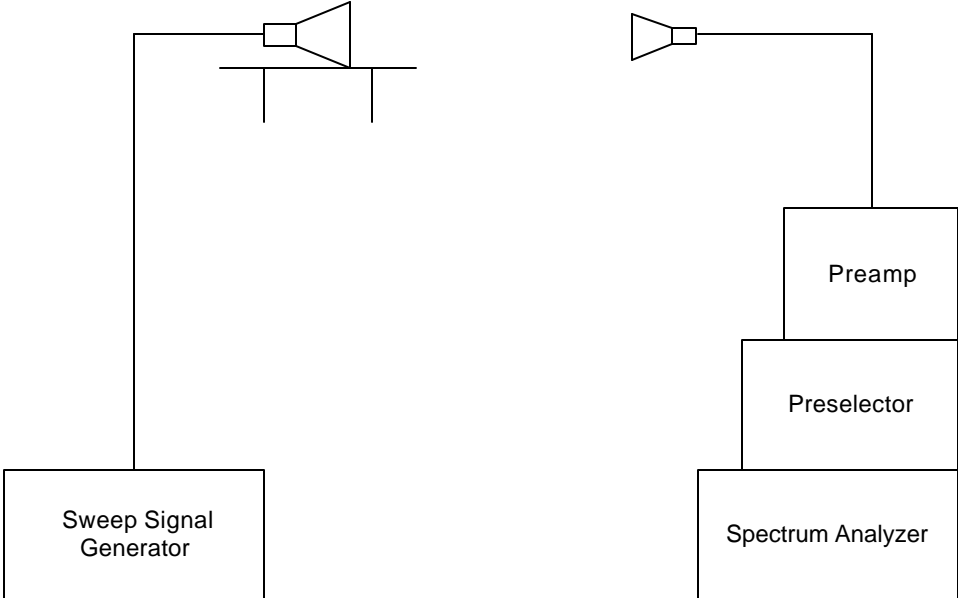
1. Select emissions that pass with less than 20 dB margin, note the Target level -- reading on spectrum analyzer.
2. Duplicate this targeted reading with Signal Generator, allowing for antenna horn gain and cable insertion loss.
3. Compare calculated power output to specification.

Location: TUV 3-meter roof site: 26°C, R.H. 38%
 Equipment used: 720,251,719,778,783,186,453,554,775

Tested by A. Laudani
 A. Laudani

Reviewed by J. Owen
 J. Owen

Test setup for Substitution Method



REPORT No: SC303689 TESTER: Alan Laudani SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless Corp. TEST DIST: 3 Meters
 E U T: S3PTT TEST SITE: Roof
 EUT MODE: Transmit CDMA BICONICAL: N/A
 DATE: Aug. 8, 2003 ERP Factor 7 LOG: N/A
 NOTES: No emissions detected 30 MHz to 1000 MHz HORN: 251
 Part 22 - RBW 1 MHz, VBW 1 MHz
 900 MHz High pass filter #778 24°C 73%RH
 CF = Antenna Factor + Cable Loss - Preamplifier Gain

v.beta1a

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
1649.4	55.9	56.7	-9.3	-49.9	-13.0	-36.9	180	1	(Low Band)
2474.1	52	61.9	-4.6	-40.1	-13.0	-27.1	216	1.4	
3298.8	47.6	50.1	-1.7	-49.0	-13.0	-36	189	1.2	
4123.5	55	47.2	0.2	-42.2	-13.0	-29.2	125	1.7	
4948.2	46.6	46.4	0.6	-50.2	-13.0	-37.2	94	1	
5772.9	42.8	43.7	5.1	-48.6	-13.0	-35.6	1	1	noise floor
6697.6	41.8	41.6	5.8	-49.8	-13.0	-36.8	1	1	noise floor
7422.3	41.8	44.5	8.2	-44.6	-13.0	-31.6	238	1	
8247	44.2	43.8	9.4	-43.7	-13.0	-30.7			noise floor
1672.98	54.4	50.3	-9.1	-52.0	-13.0	-39	180	1	(Mid Band)
2509.47	53.8	57.4	-4.5	-44.4	-13.0	-31.4	210	1.3	
3345.96	47.9	49.8	-1.6	-49.1	-13.0	-36.1	177	1	
4182.45	58.1	48.7	0.0	-39.2	-13.0	-26.2	120	1.4	
5018.94	46.7	48.3	0.8	-48.2	-13.0	-35.2	38	1.3	
5855.43	45.2	45	5.3	-46.9	-13.0	-33.9	1	1	noise floor
6691.92	43.8	43.7	6.1	-47.4	-13.0	-34.4	1	1	noise floor
7528.41	46.9	48.4	8.4	-40.5	-13.0	-27.5	55	1.2	
8364.9	44.1	44.6	9.7	-43.1	-13.0	-30.1	1	1	noise floor
1696.62	53.4	56	-8.9	-50.3	-13.0	-37.3	187	1	(High Band)
2544.93	48	51.7	-4.3	-50.0	-13.0	-37	89	1.1	
3393.24	49.1	50.6	-1.4	-48.1	-13.0	-35.1	72	1.2	
4241.55	58.2	52.8	-0.1	-39.2	-13.0	-26.2	126	1.2	
5089.86	45	48.5	1.3	-47.5	-13.0	-34.5	227	1.1	
5938.17	46.3	46.3	5.5	-45.5	-13.0	-32.5	1	1	noise floor
6786.48	42	42.7	6.5	-48.2	-13.0	-35.2	1	1	noise floor
7634.79	43.7	45.3	8.5	-43.5	-13.0	-30.5	124	1	
8483.1	44.5	43.5	10.0	-42.9	-13.0	-29.9			noise floor

REPORT No: SC303689 TESTER: Alan Laudani *AL* SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless Corp. TEST DIST: 3 Meters TEST SITE: Roof
 E U T: S3PTT BICONICAL: N/A
 EUT MODE: Transmit FM DATE: Aug. 8, 2003 ERP Factor: 7 LOG: N/A
 NOTES: No emissions detected 30 MHz to 1000 MHz HORN: 251
 Part 22 - RBW 1 MHz, VBW 1 MHz
 900 MHz High pass filter #778 24°C 73%RH
 CF = Antenna Factor + Cable Loss - Preamplifier 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
1648.08	57.9	58	-9.3	-48.6	-13.0	-35.6	184	1.1	(Low Band)
2472.12	55.3	64.6	-4.6	-37.4	-13.0	-24.4	229	1.1	
3296.16	49	51.4	-1.7	-47.7	-13.0	-34.7	191	1.4	
4120.2	54.7	49	0.2	-42.5	-13.0	-29.5	135	1.3	
4944.24	47.6	49.5	0.6	-47.3	-13.0	-34.3	43	1.1	
5768.28	46	44.9	5.1	-46.3	-13.0	-33.3	105	1.5	
6592.32	42.8	42.9	5.8	-48.7	-13.0	-35.7	1	1	noise floor
7416.36	43.6	46.4	8.2	-42.7	-13.0	-29.7	62	1	
8240.4	43.5	44.2	9.4	-43.7	-13.0	-30.7	1	1	noise floor
1672.98	54	51.3	-9.1	-52.4	-13.0	-39.4	180	1	(Mid Band)
2509.47	51.1	54.3	-4.5	-47.5	-13.0	-34.5	185	1.4	
3345.96	48.5	48.4	-1.6	-50.4	-13.0	-37.4	132	1.1	
4182.45	57.8	51.5	0.0	-39.5	-13.0	-26.5	100	1.2	
5018.94	47.4	50.7	0.8	-45.8	-13.0	-32.8	50	1	
5855.43	45.7	45.7	5.3	-46.4	-13.0	-33.4	1	1	noise floor
6691.92	43.5	43	6.1	-47.7	-13.0	-34.7	140	1	
7528.41	43	47.8	8.4	-41.1	-13.0	-28.1	1	1	noise floor
8364.9	42.9	44.3	9.7	-43.4	-13.0	-30.4	1	1	noise floor
1697.94	54.1	61.4	-8.9	-44.9	-13.0	-31.9	208	1	(High Band)
2546.91	51.4	50.3	-4.3	-50.3	-13.0	-37.3	210	1.1	
3395.88	48.9	50	-1.4	-48.7	-13.0	-35.7	157	1.3	
4244.85	59.3	53.9	-0.1	-38.1	-13.0	-25.1	90	1.2	
5093.82	46.2	49.4	1.4	-46.6	-13.0	-33.6	74	1	
5942.79	44.2	46.4	5.5	-45.4	-13.0	-32.4	16	1	
6791.76	41.2	41.3	6.5	-49.6	-13.0	-36.6	76	1	
7640.73	44.2	47.4	8.5	-41.4	-13.0	-28.4	61	1	
8489.7	43.5	43.3	10.0	-43.9	-13.0	-30.9	1	1	noise floor

REPORT NO: SC303689 TESTER: Alan Laudani *AL* SPEC: FCC Part 24 para 24.238(e)
 CUSTOMER: Kyocera Wireless Corp. TEST DIST: 3 Meters
 E U T: S3PTT TEST SITE: Roof
 EUT MODE: Transmit PCS BICONICAL: N/A
 DATE: Aug. 8, 2003 EIRP Factor: 5.5 LOG: N/A
 NOTES: HORN: 251

2000 MHz High Pass Filter #782
 Part 24 - RBW 1 MHz
 CF = Antenna Factor + Cable Loss - Preamplifier 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
3702.5	58.8	64.1	-0.4	-31.6	-13.0	-18.6	152	1.3	(Low Band)
5553.75	49.2	51.0	4.5	-39.8	-13.0	-26.8	80	1.3	
7405	47.2	48.7	8.2	-38.4	-13.0	-25.4	116	1	
9256.25	44.9	44.2	10.4	-40.0	-13.0	-27	300	1	
11107.5	43.3	44.3	13.1	-37.8	-13.0	-24.8	180	1	
12958.75	46.1	54.9	12.7	-27.6	-13.0	-14.6	149	1.3	
14810	45.3	44.2	16.1	-33.8	-13.0	-20.8	1	1	noise floor
16661.25	44.9	44.6	18.5	-31.9	-13.0	-18.9	1	1	noise floor
3760	59.8	63.4	-0.3	-32.1	-13.0	-19.1	143	1.4	(Mid Band)
5640	50.3	53.1	4.7	-37.5	-13.0	-24.5	108	1.2	
7520	45.1	48.7	8.4	-38.1	-13.0	-25.1	72	1	
9400	41.2	42.8	10.0	-42.5	-13.0	-29.5	350	1	
11280	43.6	44.2	13.2	-37.9	-13.0	-24.9	128	1.3	
13160	46.3	50.4	13.2	-31.7	-13.0	-18.7	120	1.2	
15040	43.7	44.5	17.0	-33.7	-13.0	-20.7	1	1	noise floor
16920	44.4	44.1	19.5	-31.4	-13.0	-18.4	1	1	noise floor
3817.5	61.6	64.1	-0.1	-31.3	-13.0	-18.3	155	1.1	(High Band)
5726.25	57.2	52.4	4.9	-33.1	-13.0	-20.1	182	1.8	
7635	46.6	46.3	8.5	-40.1	-13.0	-27.1	80	1.5	
9543.75	46.3	46.1	9.8	-39.2	-13.0	-26.2	120	1.5	
11452.5	43.8	45	13.3	-37.0	-13.0	-24	50	1	
13361.25	46	46.9	14.0	-34.4	-13.0	-21.4	130	1.2	noise floor
15270	44.4	44.6	17.3	-33.3	-13.0	-20.3	1	1	noise floor
17178.75	44.9	45.4	21.1	-28.7	-13.0	-15.7	1	1	noise floor

Photograph of Test Setup



Photograph of Test Setup

