

**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, Paragraphs 15.109(a) and 15.209(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.

Testing Start Date: 24 May 2004

Testing End Date: 26 May 2004

- TÜV AMERICA, INC. -

Reviewing Engineer:



Jim Owen  
(EMC Manager)

Test Engineer:



Alan Laudani  
(EMC Engineer)

## Emissions Test Conditions: SPURIOUS RADIATED EMISSIONS

Roof (small open area test site)  
SR-3, Shielded Room, 12' x 20' x 8', Metal Chamber (Prescans)

**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	744	Spectrum Analyzer	Hewlett Packard	2618A02913	01/04
AMF-5D-010180-35-10P	719	PreAmp	TUV America	549460	NCR*
3115	453	Antenna, Horn	Electro Mechanics Co	3564	02/04
FF6549-1	778	900 MHz High Pass Filter	Sage	005	NCR*
FF6549-2	783	900 MHz High Pass Filter	ABES	008	NCR*
12A-18	6377	Horn Antenna	MI Technologies	21554MB	NCR*

### Substitution Method Equipment List

3115	251	Antenna, Horn	Electro Mechanics Co	2595	01/04
HP8350B	6707	Sweep Signal Generator	Hewlett Packard	2749A09420	NCR*

### 1 Meter Prescan 30 MHz - 1000 MHz Equipment List

CBL6111	461	Bilog Antenna	Chase Electronics Li	1291	NCR*
E4440A	6814	Spectrum Analyzer	Hewlett Packard	MY42510441	08/03

**Remarks:** One year calibration cycle for all test equipment and sites. (\*) No Calibration Required.  
No emissions detected between 30 MHz to 1000 MHz. See Appendix for prescans.

**Technical Documentation**

**Test Data Sheets**

**and**

**Test Setups**

**Kyocera Substitution SC402509**


Model K7LE K434LC  
 5/26/04  
 Mode Transmit PCS FCC 24.238(a)

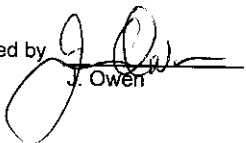
Frequency MHz	target level dBuV/m	Horn Gain dBi	cable loss dB	Signal Generator (EIRP) dBm	Total (EIRP) dBm	Spec dBm	Margin Subst. dBm
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No emissions needed substitution

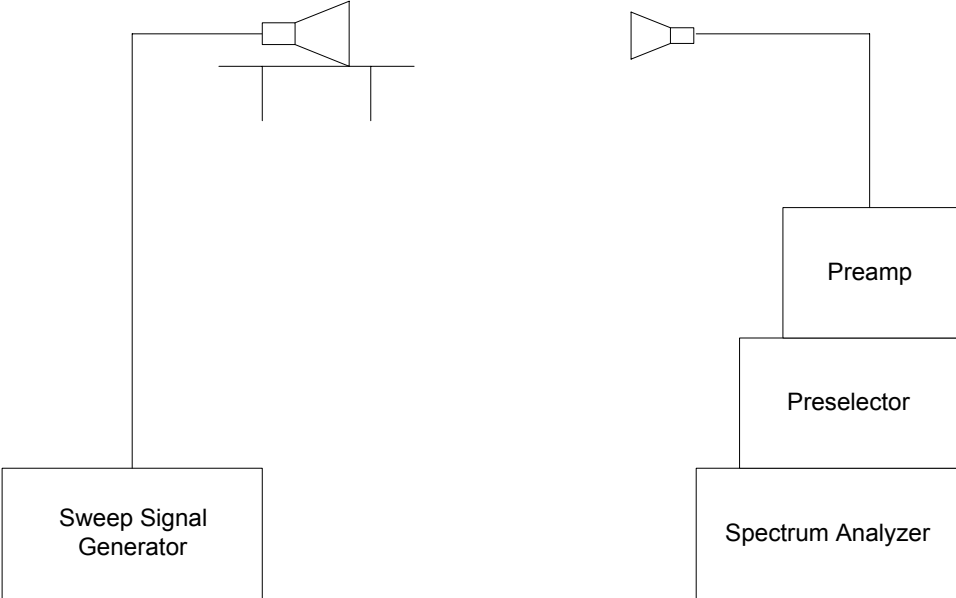
Substitution Procedure:

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.

Tested by   
 A. Laudani

Reviewed by   
 J. Owen

**Test Setup for Substitution Method**



REPORT No: SC402509 TESTER: Alan Laudani SPEC: FCC Part 15 para 15.109(a)  
 CUSTOMER: Kyocera Wireless Corporation TEST DIST: 3 Meters  
 E U T: K7LE Trimode Color Rave Roof  
 "K434LC" sn 7A-X---0W9LDG TEST SITE:  
 EUT MODE: Receive CDMA rx Synth BICONICAL: N/A  
 DATE: May 25, 2004 LOG: N/A  
 NOTES: Temp. 19°C, RH = 60 % OTHER: 463  
 above 1GHz: RBW & VBW 1 MHz for Pk; RBW 1MHz and VBW 10Hz for AVG

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain 9.00 MHz F<sub>1</sub> f<sub>2</sub> v.beata

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dB/m)	MAX LEVEL (dBuV/m)		SPEC LIMIT (dBuV/m)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes
	pk	av	pk	av		pk	av	pk	av	pk	av			
1739.4	46.6	34.8	45.5	34.9	-9.1	37.5	25.8	74	54	-36.5	-28.2		1	noise floor
3478.8	44.2	33.7	44.6	34.0	-0.9	43.7	33.1	74	54	-30.3	-20.9		1	noise floor
5218.2	44.9	33.9	45.2	33.9	1.9	47.1	35.8	74	54	-26.9	-18.2		1	noise floor
6957.6	46.5	35.6	47.3	35.6	7.2	54.5	42.8	74	54	-19.5	-11.2		1	noise floor
8697.0	46.9	36.2	47.5	36.2	9.3	56.8	45.5	74	54	-17.2	-8.5		1	noise floor
10436.4	46.4	35.5	46.5	35.5	11.8	58.3	47.3	74	54	-15.7	-6.7		1	noise floor
12175.8	44.9	34.3	45.7	34.4	13.0	58.7	47.4	74	54	-15.3	-6.6		1	noise floor
13915.2	40.2	28.5	40.9	28.7	13.9	54.8	42.6	74	54	-19.2	-11.4		1	res bw = 100 kHz noise floor
15654.6	39.5	28.4	38.8	28.5	15.5	55.0	44.0	74	54	-19.0	-10.0		1	res bw = 100 kHz noise floor
17394.0	33.6	22.9	33.4	22.8	21.8	55.4	44.7	74	54	-18.6	-9.3		1	res bw = 30 kHz noise floor
1762.98	62.5	39.9	55.1	36.8	-8.9	53.6	31.0	74	54	-20.4	-23.0		1	noise floor
3525.96	45.3	33.2	44.7	33.2	-0.8	44.5	32.4	74	54	-29.5	-21.6		1	noise floor
5285.94	44.3	32.6	44.1	32.4	2.3	46.6	34.9	74	54	-27.4	-19.1		1	noise floor
7051.92	46.4	35.5	46.4	35.5	7.4	53.8	42.9	74	54	-20.2	-11.1		1	noise floor
8814.90	47.1	36.0	47.4	36.0	9.6	57.0	45.6	74	54	-17.0	-8.4		1	noise floor
10577.88	46.9	35.7	46.8	35.3	12.2	59.2	47.9	74	54	-14.9	-6.1		1	noise floor
12340.86	45.5	34.4	45.9	34.4	13.3	59.2	47.7	74	54	-14.8	-6.3		1	noise floor
14103.84	38.5	28.5	39.1	28.7	13.7	52.8	42.4	74	54	-21.2	-11.6		1	res bw = 100 kHz noise floor
15866.82	38.4	28.7	39.2	28.6	15.5	54.7	44.2	74	54	-19.3	-9.8		1	res bw = 100 kHz noise floor
17629.80	33.1	23.4	33.6	23.5	23.0	56.6	46.5	74	54	-17.4	-7.5		1	res bw = 30 kHz noise floor
1786.62	48.7	36.1	48.9	36.4	-8.8	40.1	27.6	74	54	-33.9	-26.4		1	noise floor
3573.24	45.2	33.6	44.0	33.3	-0.7	50.3	34.6	74	54	-23.7	-19.4		1	noise floor
5359.86	42.8	32.1	43.2	32.0	2.8	46.0	34.9	74	54	-28.0	-19.1		1	noise floor
7146.48	47.1	35.5	46.8	35.5	7.5	54.6	43.0	74	54	-19.4	-11.0		1	noise floor
8933.1	47.5	36.1	47.8	36.2	9.8	57.6	46.0	74	54	-16.4	-8.0		1	noise floor
10719.72	45.9	35.1	47.1	35.1	12.5	59.6	47.6	74	54	-14.4	-6.4		1	noise floor
12506.34	37.6	28.3	37.1	28.4	13.6	51.2	42.0	74	54	-22.8	-12.0		1	noise floor
14292.96	37.6	28.5	38.6	28.6	14.0	52.6	42.5	74	54	-21.4	-11.4		1	res bw = 100 kHz noise floor
16079.58	38.8	28.7	39.1	28.7	15.4	54.5	44.1	74	54	-19.5	-9.9		1	res bw = 100 kHz noise floor
17866.2	33.2	24.2	33.4	24.3	23.3	56.7	47.6	74	54	-17.3	-6.4		1	res bw = 30 kHz noise floor

REPORT No. SC402509 TESTER: Alan Laudani SPEC: FCC Part 22 para 22.917(b)(2)  
 CUSTOMER: Kyocera Wireless Corporation TEST DIST: 3 Meters  
 E U T: K7LE Trimode Color Rave Roof  
 "K434LC" sn 7A-X---0W9LDG  
 EUT MODE: Transmit CDMA tx harmonics BICONICAL: N/A  
 DATE: May 25, 2004 ERP Factor 7 LOG: N/A  
 NOTES: Temp. 18°C, RH = 60 % HORN: 453  
 Part 22 - RBW 30 KHz

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain 200 MHz Filter

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
824.7									Fundamental (Low Band)
1649.4	51.2	52.4	-9.6	-54.6	-13.0	-41.6	227	1	
2474.1	41.2	41.9	-5.8	-61.2	-13.0	-48.2	1	1	noise floor
3298.8	44.8	44.1	-1.5	-54.1	-13.0	-41.1	1	1	noise floor
4123.5	44.9	45.0	-0.5	-52.9	-13.0	-39.9	1	1	noise floor
4948.2	45.4	43.8	0.3	-51.7	-13.0	-38.7	1	1	noise floor
5772.9	42.9	44.5	4.8	-48.0	-13.0	-35.0	1	1	noise floor
6597.6	47.4	46.9	6.3	-43.6	-13.0	-30.6	1	1	noise floor
7422.3	46.7	46.5	7.8	-42.9	-13.0	-29.9	1	1	noise floor
8247.0	47.3	47.4	8.6	-41.4	-13.0	-28.4	1	1	noise floor
836.49									Fundamental (Mid Band)
1672.98	47.7	50.4	-9.5	-56.5	-13.0	-43.5	177	1	
2509.47	48.0	46.5	-6.6	-55.0	-13.0	-42.0	1	1	noise floor
3345.96	45.4	45.1	-1.4	-53.3	-13.0	-40.3	1	1	noise floor
4182.45	46.1	45.6	-0.7	-52.0	-13.0	-39.0	1	1	noise floor
5018.94	45.4	45.6	0.6	-51.1	-13.0	-38.1	1	1	noise floor
5855.43	48.0	48.3	5.2	-43.9	-13.0	-30.9	1	1	noise floor
6691.92	46.7	46.6	6.6	-44.1	-13.0	-31.1	1	1	noise floor
7528.41	46.9	47.4	7.9	-42.0	-13.0	-29.0	1	1	noise floor
8364.90	47.3	48.3	8.7	-40.4	-13.0	-27.4	1	1	noise floor
848.31									Fundamental (High Band)
1696.62	48.9	47.9	-9.3	-57.8	-13.0	-44.8	0	1	
2544.93	51.8	47.1	-5.4	-51.0	-13.0	-38.0	1	1	noise floor
3393.24	45.9	53.2	-1.2	-45.3	-13.0	-32.3	1	1	noise floor
4241.55	46.3	46.4	-0.9	-51.9	-13.0	-38.9	1	1	noise floor
5089.86	44.5	45.6	1.1	-50.7	-13.0	-37.7	1	1	noise floor
5938.17	48.3	48.5	5.5	-43.3	-13.0	-30.3	1	1	noise floor
6786.48	46.9	47.0	6.8	-43.6	-13.0	-30.6	1	1	noise floor
7634.79	46.5	46.4	8.0	-42.8	-13.0	-29.8	1	1	noise floor
8483.1	46.9	47.0	8.8	-41.6	-13.0	-28.6	1	1	noise floor



REPORT No: SC402509 TESTER: Alan Laudant SPEC: FCC Part 15 para 15.109(a)

CUSTOMER: Kyocera Wireless Corporation TEST DIST: 3 Meters

E U T: K7LE Trimode Color Rave Roof

EUT MODE: Receive FM rx Synth BICONICAL: N/A

DATE: May 24, 2004 LOG: N/A

NOTES: Temp. 17°C, RH = 71 % OTHER: 453

above 1GHz: RBW & YBW 1 MHz for Pk, RBW 1MHz and YBW 10Hz for AVG

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain 300 MHz Filter v balata

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dBm)	MAX LEVEL (dBuV/m)		SPEC LIMIT (dBuV/m)		MARGIN (dB)			Antenna Height	Notes
	pk	av	pk	av		pk	av	pk	av	pk	av	av		
1738.104	47.0	35.3	47.1	35.4	-9.1	38.0	26.3	74	54	-36.0	-27.7	1	noise floor	
3476.208	45.1	33.7	46.0	33.8	-0.9	45.1	32.9	74	54	-28.9	-21.1	1	noise floor	
5214.312	44.4	32.9	44.4	33.0	1.9	46.3	34.9	74	54	-27.7	-19.1	1	noise floor	
6952.416	46.8	35.6	46.5	35.6	7.2	54.0	42.8	74	54	-20.0	-11.2	1	noise floor	
8690.520	47.2	36.1	47.9	36.2	9.3	57.2	45.6	74	54	-16.8	-8.5	1	noise floor	
10428.624	46.9	35.7	46.8	35.8	11.8	58.7	47.6	74	54	-15.3	-6.4	1	noise floor	
12166.728	45.7	34.2	45.1	34.3	13.0	58.7	47.3	74	54	-15.3	-6.7	1	noise floor	
13904.832	38.4	28.7	38.8	28.6	13.9	52.7	42.6	74	54	-21.3	-11.4	1	res bw = 100 kHz noise floor	
15642.936	40.3	28.6	38.9	28.8	15.5	55.8	44.3	74	54	-18.2	-9.7	1	res bw = 100 kHz noise floor	
17381.040	33.4	23.2	34.8	23.5	21.7	56.5	45.2	74	54	-17.5	-8.8	1	res bw = 30 kHz noise floor	
1763.004	48.5	39.2	45.5	37.7	-8.9	39.6	30.3	74	54	-34.4	-23.7	1	noise floor	
3526.008	45.3	33.6	44.5	33.5	-0.8	44.5	32.8	74	54	-29.5	-21.2	1	noise floor	
5289.012	43.7	32.6	43.5	32.6	2.3	46.0	34.9	74	54	-28.0	-19.1	1	noise floor	
7052.016	46.7	35.6	46.8	35.6	7.4	54.2	43.0	74	54	-19.8	-11.0	1	noise floor	
8815.020	47.2	36.0	47.2	36.0	9.6	56.8	45.6	74	54	-17.2	-8.4	1	noise floor	
10578.024	47.8	35.4	46.9	35.7	12.2	60.0	47.9	74	54	-14.0	-6.1	1	noise floor	
12341.028	45.2	34.4	45.7	34.4	13.3	59.0	47.7	74	54	-15.0	-6.3	1	noise floor	
14104.032	35.8	28.7	37.8	28.8	13.7	51.5	42.5	74	54	-22.5	-11.5	1	res bw = 100 kHz noise floor	
15867.036	39.1	28.9	39.3	28.7	15.5	54.8	44.4	74	54	-19.2	-9.6	1	res bw = 100 kHz noise floor	
17630.040	34.5	23.0	33.7	23.0	23.0	57.5	46.0	74	54	-16.5	-8.0	1	res bw = 30 kHz noise floor	
1787.964	51.2	37.5	48.8	35.9	-8.8	42.4	28.7	74	54	-31.6	-25.3	1	noise floor	
3575.928	44.7	33.5	49.6	34.3	-0.7	48.9	33.6	74	54	-25.1	-20.4	1	noise floor	
5363.892	43.0	31.7	43.2	31.8	2.8	46.0	34.6	74	54	-28.0	-19.4	1	noise floor	
7157.856	46.6	35.8	47.0	35.6	7.5	54.5	43.1	74	54	-19.5	-10.9	1	noise floor	
8939.820	47.4	36.3	47.1	36.3	9.9	57.3	46.2	74	54	-16.7	-7.8	1	noise floor	
10727.784	46.1	35.2	46.2	35.2	12.5	58.7	47.7	74	54	-15.3	-6.3	1	noise floor	
12515.748	49.1	38.6	50.3	38.6	13.6	63.9	52.2	74	54	-10.1	-1.8	1	noise floor	
14303.712	38.7	28.7	39.3	28.5	14.0	53.3	42.7	74	54	-20.7	-11.3	1	res bw = 100 kHz noise floor	
16091.676	33.9	28.8	40.4	28.9	15.4	55.8	44.3	74	54	-18.2	-9.7	1	res bw = 100 kHz noise floor	
17879.640	33.7	23.7	33.7	23.3	23.3	57.0	47.0	74	54	-17.0	-7.0	1	res bw = 30 kHz noise floor	

REPORT No: SC402509 TESTER: Alan Laudani *AKL* SPEC: FCC Part 22 para 22.917(b)(2)  
 CUSTOMER: Kyocera Wireless Corporation TEST DIST: 3 Meters  
 E U T: K7LE Trimode Color Rave Roof  
 EUT MODE: 'K434LC' sn 7A-X--0W9LDG BICONICAL: N/A  
 DATE: May 26, 2004 ERP Factor 7 LOG: N/A  
 NOTES: Temp. 16°C, RH = 72 % HORN: 453  
 Part 22 - RBW 30 kHz

CF = Antenna Factor + Cable Loss - Preamplifier Gain  $\gamma_{\text{beta}}$   $\gamma_{\text{beta}}$

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
824.04									Fundamental (Low Band)
1648.08	49.2	48.6	-9.7	-57.8	-13.0	-44.8	179	1	
2472.12	43.3	48.9	-5.8	-54.3	-13.0	-41.3		1	noise floor
3296.16	44.4	44.0	-1.5	-54.5	-13.0	-41.5		1	noise floor
4120.2	45.6	45.2	-0.5	-52.3	-13.0	-39.3		1	noise floor
4944.24	43.8	43.2	0.2	-53.3	-13.0	-40.3		1	noise floor
5768.28	42.2	45.8	4.8	-46.7	-13.0	-33.7		1	noise floor
6592.32	47.6	48.1	6.3	-42.9	-13.0	-29.9		1	noise floor
7416.36	47.5	46.9	7.8	-42.1	-13.0	-29.1		1	noise floor
8240.40	47.2	47.8	8.6	-41.0	-13.0	-28.0		1	noise floor
836.49									Fundamental (Mid Band)
1672.98	46.7	45.6	-9.5	-50.2	-13.0	-47.2	214	1	
2509.47	47.4	45.8	-5.6	-55.6	-13.0	-42.6		1	noise floor
3345.96	45.1	44.7	-1.4	-53.6	-13.0	-40.6		1	noise floor
4182.45	45.7	46.2	-0.7	-51.9	-13.0	-38.9		1	noise floor
5018.94	44.0	44.7	0.6	-52.0	-13.0	-39.0		1	noise floor
5855.43	48.3	47.9	5.2	-43.9	-13.0	-30.9		1	noise floor
6691.92	47.8	47.4	6.6	-43.0	-13.0	-30.0		1	noise floor
7528.41	47.1	47.2	7.9	-42.2	-13.0	-29.2		1	noise floor
8364.90	47.4	47.0	8.7	-41.3	-13.0	-28.3		1	noise floor
848.97									Fundamental (High Band)
1697.94	45.8	43.5	-9.3	-60.9	-13.0	-47.9	240	1	
2546.91	45.9	46.2	-5.4	-56.6	-13.0	-43.6		1	noise floor
3395.88	44.0	45.0	-1.2	-53.5	-13.0	-40.5		1	noise floor
4244.85	45.6	45.4	-0.9	-52.7	-13.0	-39.7		1	noise floor
5093.82	44.4	44.4	1.1	-51.9	-13.0	-38.9		1	noise floor
5942.79	47.5	47.9	5.6	-43.9	-13.0	-30.9		1	noise floor
6791.76	46.7	47.5	6.8	-43.1	-13.0	-30.1		1	noise floor
7640.73	47.0	46.6	8.0	-42.3	-13.0	-29.3		1	noise floor
8489.70	47.1	47.2	8.8	-41.4	-13.0	-28.4		1	noise floor

REPORT No: SC402509 TESTER: Alan Laudani SPEC: FCC Part 15 para 15.109(a)  
 CUSTOMER: Kyocera Wireless Corporation TEST DIST: 3 Meters  
 E U T: K7LE Trimode Color Rave Roof  
 "K434LC" sn 7A-X-0W9LDG  
 EUT MODE: Receive PCS rx Synth BICONICAL: N/A  
 DATE: May 25, 2004 LOG: N/A  
 NOTES: Temp. 19°C, RH = 60 % OTHER: 453  
 above 1GHz: RBW & VBW 1 MHz for PK; RBW 1MHz and VBW 10Hz for AVG

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain 2.000 MHz File v.bebata

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dB/m)	MAX LEVEL (dBuV/m)		SPEC LIMIT (dBuV/m)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes
	pk	av	pk	av		pk	av	pk	av	pk	av			
1716.667	44.7	33.7	44.2	33.7	-9.2	35.5	24.5	74	54	-38.5	-29.5	1	1	noise floor
3433.333	44.8	33.7	44.9	33.7	-1.0	43.9	32.7	74	54	-30.1	-21.3	1	1	noise floor
5150.000	44.6	33.7	44.4	33.6	1.5	46.1	35.2	74	54	-27.9	-18.8	1	1	noise floor
6866.666	48.2	36.4	47.0	36.3	7.0	55.2	43.4	74	54	-18.8	-10.6	1	1	noise floor
8583.333	47.4	36.5	47.2	36.4	9.0	56.4	45.5	74	54	-17.6	-8.5	1	1	noise floor
10300.000	46.7	35.5	46.0	35.5	11.4	58.1	46.9	74	54	-15.9	-7.1	1	1	noise floor
12016.666	45.1	34.5	45.8	34.5	12.7	58.5	47.2	74	54	-15.5	-6.8	1	1	noise floor
13733.333	39.4	28.9	38.7	29.0	14.6	54.0	43.6	74	54	-20.0	-10.4	1	1	res bw = 100 kHz noise floor
15449.999	38.7	29.0	39.1	28.8	15.6	54.7	44.6	74	54	-19.3	-9.4	1	1	res bw = 100 kHz noise floor
17166.666	34.0	23.2	32.9	23.1	20.9	54.9	44.1	74	54	-19.1	-9.9	1	1	res bw = 30 kHz noise floor
17422.222	45.2	33.6	44.3	33.6	-9.0	36.2	24.6	74	54	-37.8	-29.4	1	1	noise floor
3484.444	44.2	33.4	44.3	33.5	-0.9	43.4	32.6	74	54	-30.6	-21.4	1	1	noise floor
5226.667	44.0	33.3	43.6	33.4	2.0	46.0	35.4	74	54	-28.0	-18.6	1	1	noise floor
6968.889	47.1	35.6	46.6	35.6	7.2	54.3	42.8	74	54	-19.7	-11.2	1	1	noise floor
8711.111	46.9	36.1	46.7	36.1	9.3	56.2	45.4	74	54	-17.8	-8.6	1	1	noise floor
10453.333	46.6	35.5	46.7	35.6	11.9	58.6	47.5	74	54	-15.4	-6.5	1	1	noise floor
12195.555	45.9	34.3	45.8	34.3	13.1	59.0	47.4	74	54	-15.0	-6.6	1	1	noise floor
13937.778	40.1	28.5	38.7	28.5	13.8	53.9	42.3	74	54	-20.1	-11.7	1	1	res bw = 100 kHz noise floor
15680.000	38.5	28.5	39.1	28.6	15.5	54.6	44.1	74	54	-19.4	-9.9	1	1	res bw = 100 kHz noise floor
17422.222	33.8	22.8	34.4	22.9	21.9	56.3	44.8	74	54	-17.7	-9.2	1	1	res bw = 30 kHz noise floor
1767.777	44.3	33.4	45.3	33.5	-8.9	36.4	24.6	74	54	-37.6	-29.4	1	1	noise floor
3535.554	44.9	33.7	44.5	34.0	-0.8	44.1	33.2	74	54	-29.9	-20.8	1	1	noise floor
5303.331	39.6	33.3	45.6	33.2	2.4	48.0	35.7	74	54	-26.0	-18.3	1	1	noise floor
7071.108	47.1	35.6	46.4	35.7	7.4	54.1	43.1	74	54	-19.9	-10.9	1	1	noise floor
8838.885	47.8	36.1	46.6	36.1	9.6	57.4	45.7	74	54	-16.6	-8.3	1	1	noise floor
10606.662	45.0	35.2	47.2	35.2	12.2	59.4	47.4	74	54	-14.6	-6.6	1	1	noise floor
12374.439	45.1	34.3	45.9	34.3	13.4	59.3	47.7	74	54	-14.7	-6.3	1	1	noise floor
14142.216	38.2	28.7	38.6	28.6	13.7	52.3	42.4	74	54	-21.7	-11.6	1	1	res bw = 100 kHz noise floor
15909.993	39.0	28.7	40.0	28.7	15.4	55.4	44.1	74	54	-18.6	-9.9	1	1	res bw = 100 kHz noise floor
17677.77	32.6	23.2	33.0	22.9	23.3	56.3	46.5	74	54	-17.7	-7.5	1	1	res bw = 30 kHz noise floor

REPORT No: SC402509 TESTER: Alan Laudani SPEC: FCC Part 15 para 15.209(a)  
 CUSTOMER: Kyocera Wireless Corporation TEST DIST: 3 Meters  
 E U T: K7LE Trimode Color Rave TEST SITE: Roof  
 "K434C" sn 7A-X---0W9LDG BICONICAL: N/A  
 EUT MODE: Transmit PCS tx Synth LOG: N/A  
 DATE: May 25, 2004 OTHER: 453  
 NOTES: Temp: 18°C RH 60%  
 above 1GHz: RBW & VBW 1 MHz for Pk; RBW 1MHz and VBW 10Hz for AVG

CF = Antenna Factor + Cable Loss - Pre-amplifier Gain 2.000 MHz  $\left[ \frac{E}{V} \right]$   $\left[ \frac{V}{m} \right]$

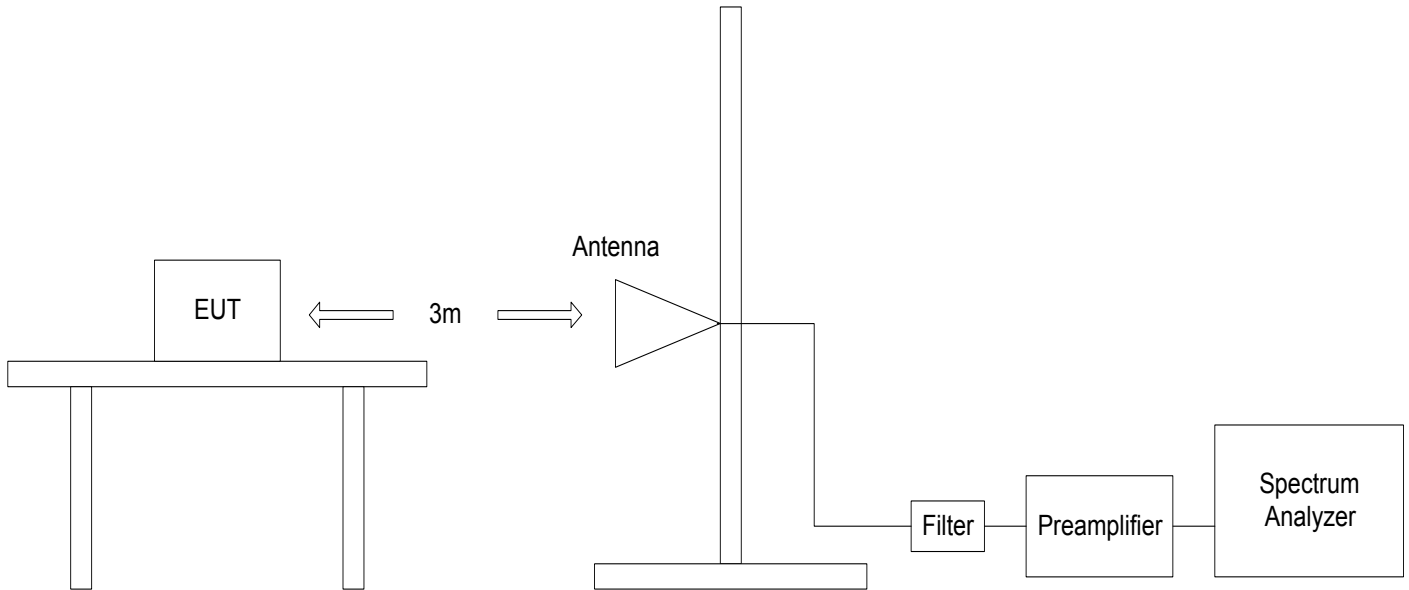
FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dBm)	MAX LEVEL (dBuV/m)		SPEC LIMIT (dBuV/m)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes
	pk	av	pk	av		pk	av	pk	av	pk	av			
1481	55.7	38.9	58.6	35.8	-10.8	47.8	28.1	74	54	-26.2	-25.9	1	1	noise floor
2962	42.6	29.5	42.2	29.7	-2.8	39.8	26.9	74	54	-34.2	-27.1	1	1	noise floor
4443	41.7	28.6	41.7	28.3	-1.6	40.1	27.0	74	54	-33.9	-27.0	1	1	noise floor
5924	43.3	30.9	43.2	31.1	5.5	48.8	36.6	74	54	-25.2	-17.4	1	1	noise floor
7405	46.8	35.8	47.8	37	7.8	55.6	44.8	74	54	-18.4	-9.2	225	1	noise floor
8886	47.7	35.5	46.6	36	9.7	57.4	45.7	74	54	-16.6	-8.3	1	1	noise floor
10367	45.7	35	46.7	35	11.6	58.3	46.6	74	54	-15.7	-7.4	1	1	noise floor
11848	45.8	34.5	46.8	34.4	12.8	58.6	47.3	74	54	-15.4	-6.7	1	1	noise floor
13329	39.2	28.2	38.3	28.3	14.5	53.7	42.8	74	54	-20.3	-11.2	1	1	res bw = 100 kHz noise floor
14810	39.5	29.2	38.8	28.9	15.2	54.7	44.4	74	54	-19.3	-9.6	1	1	res bw = 100 kHz noise floor
1504	46.9	35.4	47.4	35.4	-10.6	36.8	24.8	74	54	-37.2	-29.2	1	1	noise floor
3008	45.3	34.3	46.0	34.2	-2.6	43.4	31.7	74	54	-30.6	-22.3	1	1	noise floor
4512	45.6	34.8	45.4	34.8	-1.7	43.9	33.1	74	54	-30.1	-20.9	1	1	noise floor
6016	47.7	36.9	48.2	36.8	5.8	54.0	42.7	74	54	-20.0	-11.3	1	1	noise floor
7520	47.5	36.3	48.8	38.4	7.9	56.7	46.3	74	54	-17.3	-7.7	230	1.1	noise floor
9024	47.8	36.3	46.9	36.2	10.0	57.8	46.3	74	54	-16.2	-7.7	1	1	noise floor
10528	47.1	35.4	46.5	35.4	12.1	59.2	47.5	74	54	-14.8	-6.5	1	1	noise floor
12032	46.3	34.9	46.5	34.9	12.8	59.3	47.7	74	54	-14.7	-6.3	1	1	noise floor
13536	38.9	28.4	38.5	28.5	15.4	54.3	43.9	74	54	-19.7	-10.1	1	1	res bw = 100 kHz noise floor
15040	39.6	29.1	38.9	28.9	15.8	55.4	44.9	74	54	-18.6	-9.1	1	1	res bw = 100 kHz noise floor
1527	46.8	35.2	46.4	35.3	-10.4	36.4	24.9	74	54	-37.6	-29.1	1	1	noise floor
3054	45.6	33.7	45.4	33.6	-2.4	43.2	31.3	74	54	-30.8	-22.7	1	1	noise floor
4581	45.5	34.8	46.2	34.7	-1.4	44.8	33.4	74	54	-29.2	-20.6	1	1	noise floor
6108	47.5	36.7	47.9	36.7	5.9	53.8	42.6	74	54	-20.2	-11.4	1	1	noise floor
7635	48.8	38.6	50.9	40.6	8.0	58.9	48.6	74	54	-15.1	-5.4	240	1	noise floor
9162	48.1	36.3	48.0	36.3	9.7	57.8	46.0	74	54	-16.2	-8.0	1	1	noise floor
10689	46.1	35.4	46.9	35.4	12.4	59.3	47.8	74	54	-14.7	-6.2	1	1	noise floor
12216	45.6	34.6	46.1	34.5	13.1	59.2	47.7	74	54	-14.8	-6.3	1	1	noise floor
13743	38.2	28.4	38.7	28.9	14.6	53.3	43.5	74	54	-20.7	-10.5	1	1	res bw = 100 kHz noise floor
15270	38.2	28.6	41.3	28.7	15.7	57.0	44.4	74	54	-17.0	-9.6	1	1	res bw = 100 kHz noise floor

REPORT No: SC402509      TESTER: Alan Laudani      SPEC: FCC Part 24 para 24.238(a)  
 CUSTOMER: Kyocera Wireless Corporation      TEST DIST: 3 Meters  
 E U T: K7LE Trimode Color Rave "K434LC" sn 7A-X-0W9LDG      TEST SITE: Roof  
 EUT MODE: Transmit PCS tx harmonics      BICONICAL: N/A  
 DATE: May 25, 2004      EIRP Factor 5.5      LOG: N/A  
 NOTES: Temp. 16°C, RH = 64 %      HORN: 453

Part 24 - RBW 1 MHz  
 CF = Antenna Factor + Cable Loss - Pre-amplifier Gain      2.000 MHz      5.174

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
1851.25									
3702.50	50.6	51.6	-0.5	-44.2	-13.0	-31.2	178	1.2	Fundamental (Low Band)
5553.75	48.0	46.9	3.9	-43.3	-13.0	-30.3	180	1	
7405.00	46.7	47.2	7.8	-40.3	-13.0	-27.3		1	noise floor
9256.25	48.2	47.8	9.5	-37.6	-13.0	-24.6		1	noise floor
11107.50	46.2	46.3	13.1	-35.9	-13.0	-22.9		1	noise floor
12958.75	50.4	50.3	12.5	-32.4	-13.0	-19.4		1	noise floor
14810.00	49.6	50.8	15.2	-29.2	-13.0	-16.2		1	noise floor
16661.25	50.5	49.9	18.2	-26.6	-13.0	-13.6		1	noise floor
18512.50	49.5	49.2	21.1	-24.7	-13.0	-11.7		1	noise floor
1880									Fundamental (Mid Band)
3760	49.1	50.4	-0.4	-45.3	-13.0	-32.3	163	1.1	
5640	45.8	42.8	4.3	-45.2	-13.0	-32.2	300	1	
7520	49.1	49.2	7.9	-38.1	-13.0	-25.1	240	1	
9400	47.5	48.0	9.2	-38.1	-13.0	-25.1		1	noise floor
11280	46.2	45.8	13.0	-36.0	-13.0	-23.0		1	noise floor
13160	50.6	50.8	13.4	-31.0	-13.0	-18.0		1	noise floor
15040	51.2	50.3	15.8	-28.3	-13.0	-15.3		1	noise floor
16920	50.0	49.4	19.7	-25.5	-13.0	-12.5		1	noise floor
18800	53.1	53.1	23.7	-18.5	-13.0	-5.5		1	noise floor
1908.75									
3817.50	53.1	49.3	-0.4	-42.5	-13.0	-29.5	170	1.3	Fundamental (High Band)
5726.25	45.3	44.7	4.7	-45.3	-13.0	-32.3	130	1	
7635.00	51.8	48.2	8.0	-35.4	-13.0	-22.4	152	1.5	
9543.75	48.7	48.7	9.1	-37.4	-13.0	-24.4		1	noise floor
11452.50	46.7	45.5	13.0	-35.6	-13.0	-22.6		1	noise floor
13361.25	50.3	50.1	14.7	-30.3	-13.0	-17.3		1	noise floor
15270.00	49.6	50.2	15.7	-28.4	-13.0	-16.4		1	noise floor
17178.75	49.8	50.4	20.9	-23.9	-13.0	-10.9		1	noise floor
19087.50	46.5	48.5	26.1	-20.6	-13.0	-7.63		1	res bw 100 kHz -- noise floor

### Test Setup for Spurious Radiated Emissions



Photograph of Test Setup



Photograph of Test Setup





## **Appendix**

### **Supplemental Information**



### RADIATED RFI PRE-SCAN SHIELDED ROOM AT 1 METER

Test Report #: SC402509 Test Area: SR3  
 Test Method: FCC 15, 109(a) Date: MAY 26, 2004  
 EUT Model #: K7LE RAVE EUT POWER:  
 230 Vac/50 Hz  120 Vac/60 Hz  
 Other: BATTERY  
 EUT Description: "K434LC"  
 NOTES: MID CHANNEL Receive Mode (2)  
1) PCS ; 2) CDMA ; 3) FM

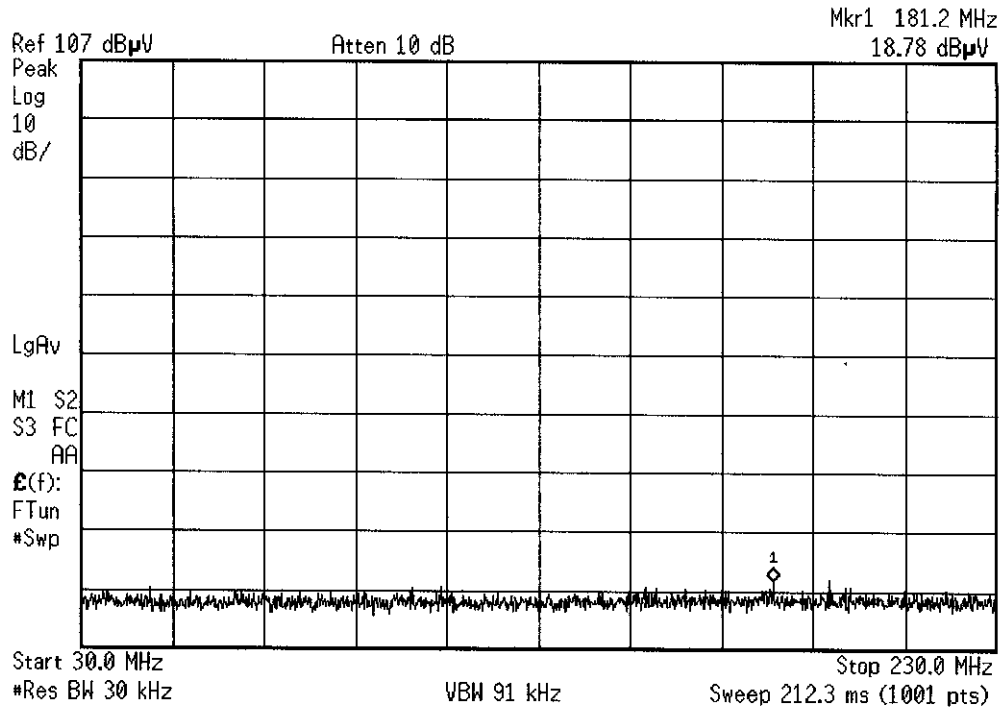


FREQUENCY MHz	QUASI-PEAK dBμV	AVERAGE dBμV	FREQUENCY MHz	QUASI-PEAK dBμV	AVERAGE dBμV
1)	No Emissions Found				
2)	No Emissions Found				
3)	No Emissions Found				

Tested By: A. Landani Printed A. Landani Signature

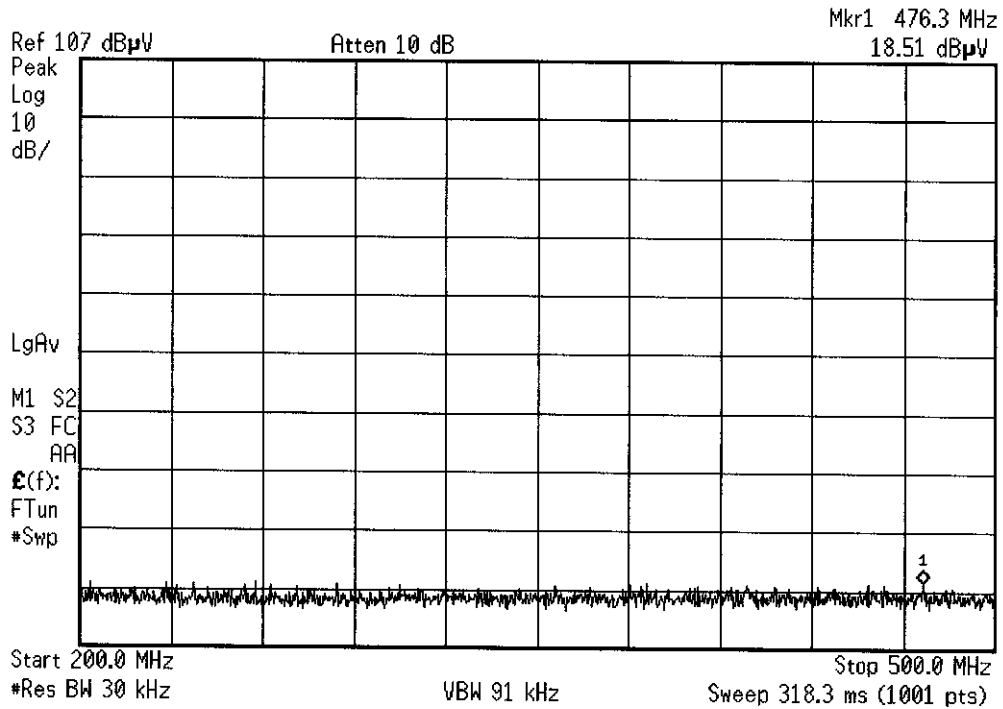
NOTES: 1. 30-1000 MHz scanned  
 2. \_\_\_\_\_

\* Agilent 13:07:15 May 26, 2004



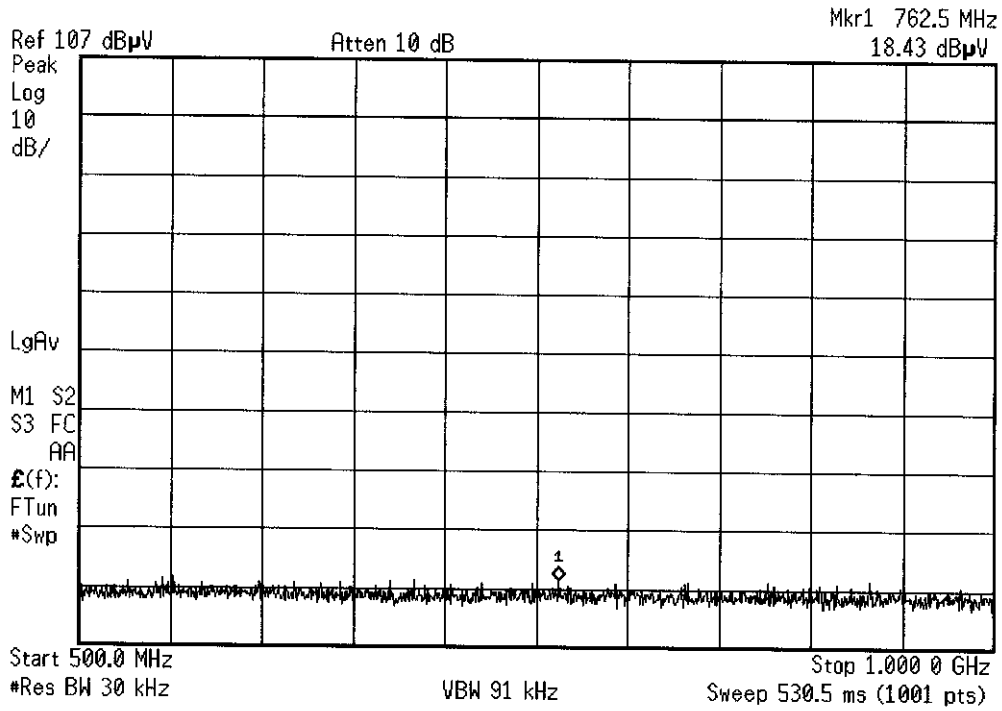
K7LE RAVE  
CDMA  
"K434LC"

※ Agilent 13:07:33 May 26, 2004



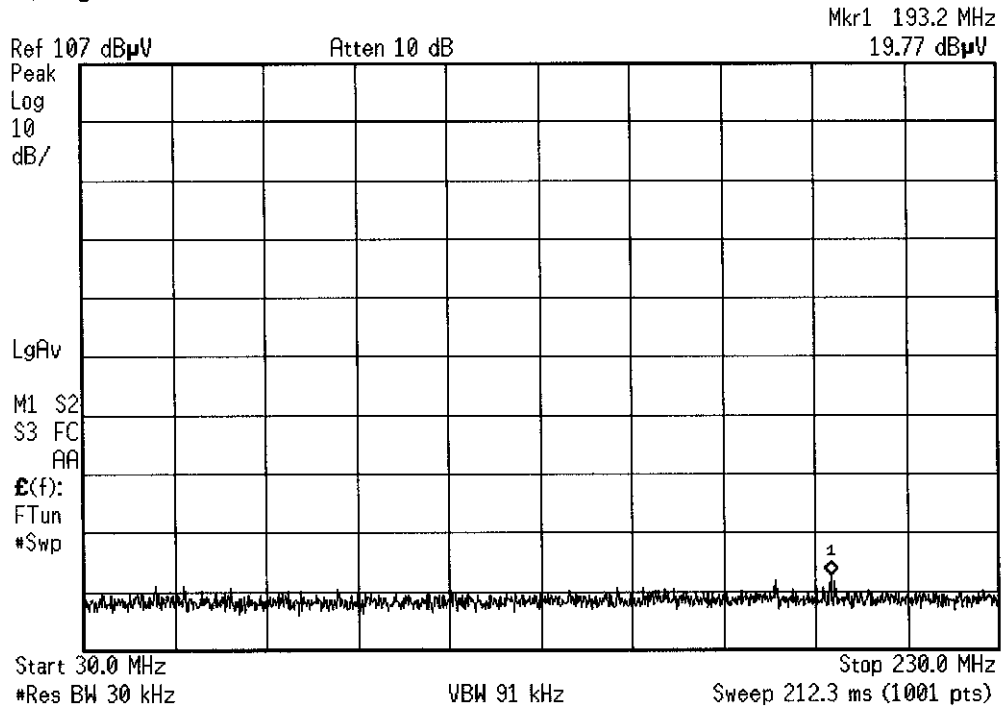
K 7LE  
CDMA  
"K434LC"

\* Agilent 13:07:55 May 26, 2004



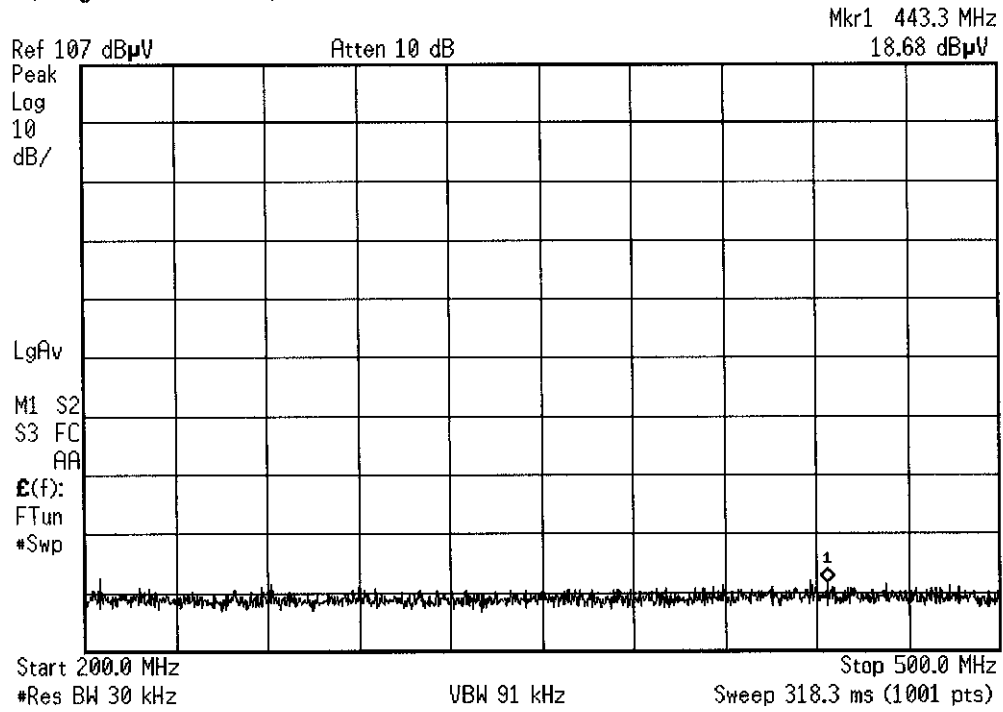
K7LE  
CDMA  
"K434LC"

\* Agilent 13:10:41 May 26, 2004



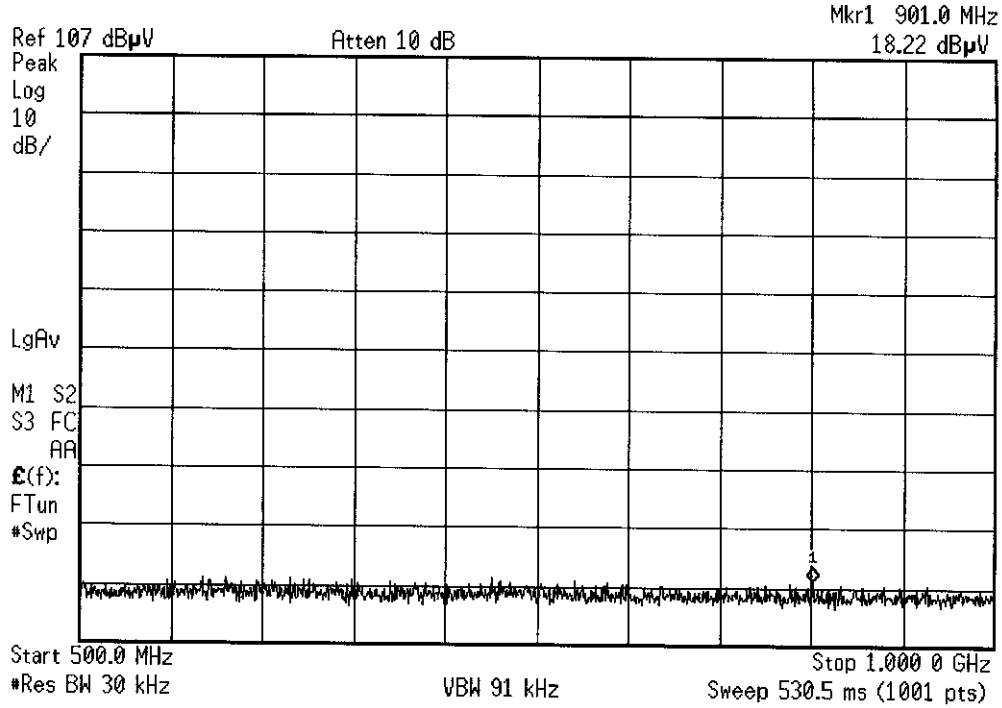
K7LE  
FM  
"K434LC"

\* Agilent 13:10:21 May 26, 2004



K7LE  
FM  
"K434LC"

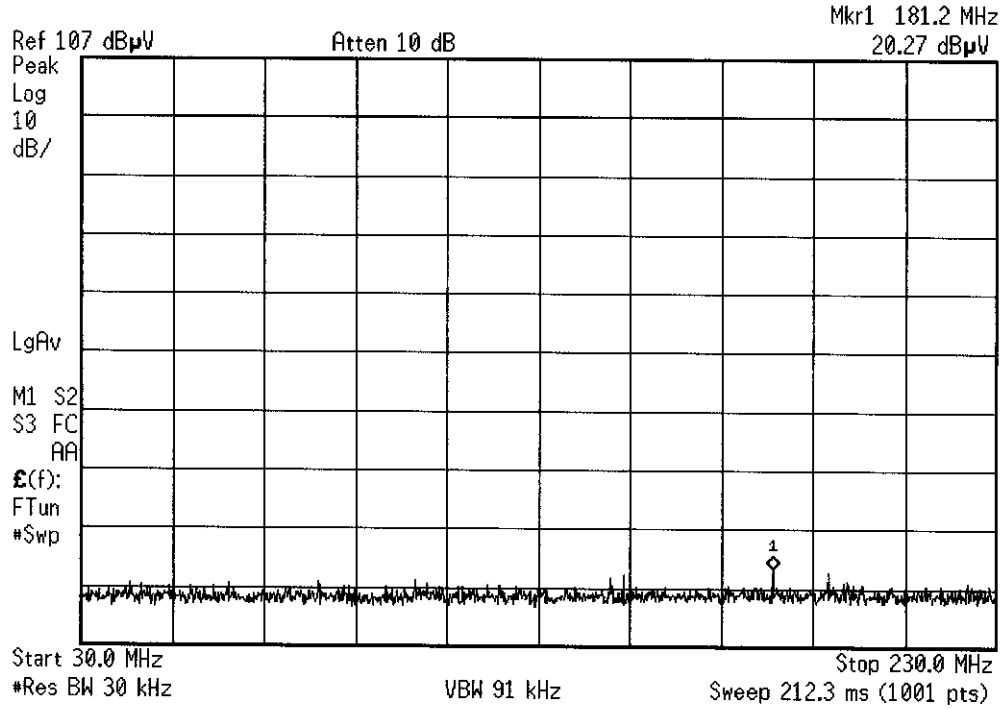
\* Agilent 13:10:01 May 26, 2004



K7LE RAVE  
EM  
"K434LC"

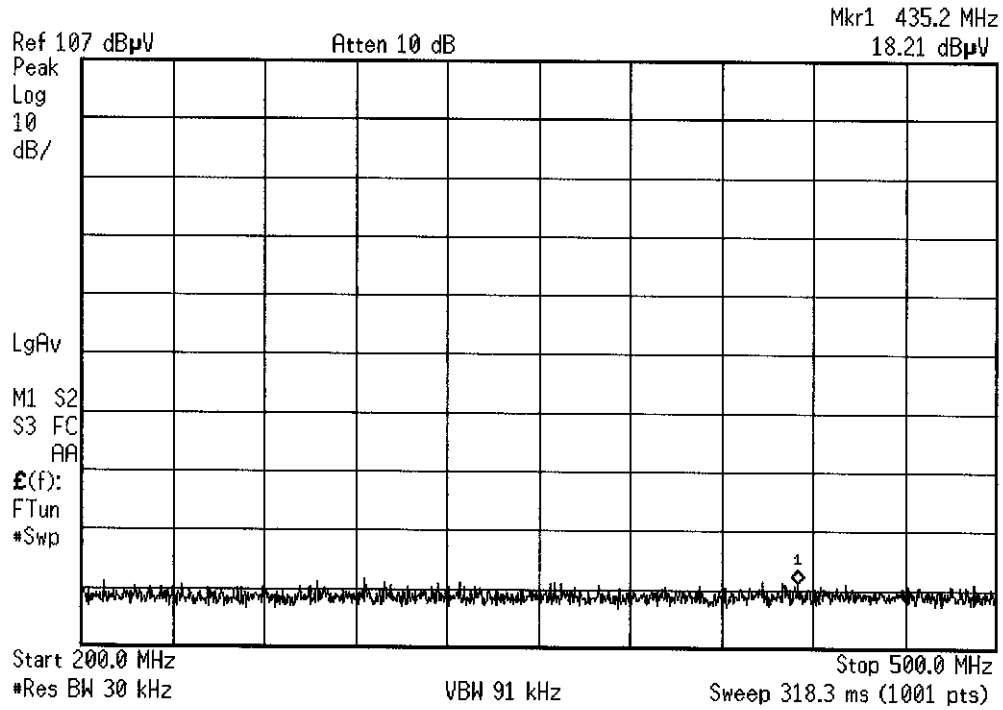


\* Agilent 13:04:36 May 26, 2004



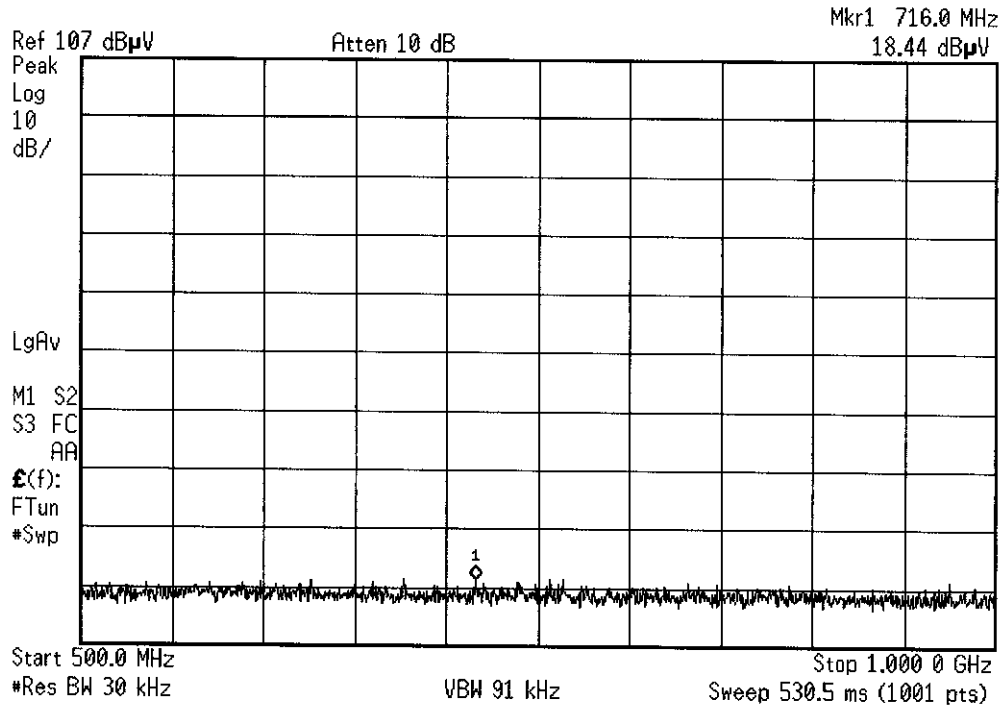
K7LE  
PCS  
K434LC

\* Agilent 13:03:21 May 26, 2004



K7LE  
PCS  
K434LC

\* Agilent 13:03:03 May 26, 2004



K7LE  
PCS  
K434LC