RADIATED EMISSIONS

DATA

FOR

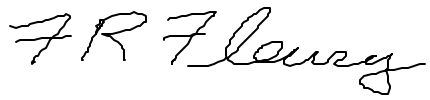
QUALCOMM, INC.
10300 Campus Point Drive
San Diego, CA 92121

Prepared by

TÜV PRODUCT SERVICE
10040 Mesa Rim Road
San Diego, CA 92121-2912

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

The following measurements 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.



Floyd R. Fleury
EMC Manager

TÜV PRODUCT SERVICE 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 546 3999 FAX 858 546 0364

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 Due Date
8586B	721	Spectrum Analyzer	Hewlett Packard	2542A12099	06/02
PreAmp 2 – 20 GHz	752	PreAmp	TUV PS	--	N/A*
3115	251	Antenna, Horn	Electro Mechanics Co	2595	06/02
Cable 1	733	30’ cable	Universal Microwave Prod	--	N/A*
Cable 2	655	6” cable	Universal Microwave Prod	--	N/A*
FF 6549-1	778	900 MHz High Pass Filter	Sage	5	N/A*
FF 6548-2	782	2000 MHz High Pass Filter	Sage	007	N/A*

Remarks: (*) Verified

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FCC Testing

TÜV PRODUCT SERVICE 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 546 3999 FAX 858 546 0364

REPORT No: SC202278 TESTER: Rodel Resolme SPEC: FCC 22.917(b)(2)

CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters

E U T: KWC-2345 s/n:D9-V—001LXY TEST SITE: Roof

EUT MODE: Transmit - FM BICONICAL: N/A

DATE: April 22, 2002 ERP/EIRP Factc 7 LOG: N/A

NOTES: No emissions detected from 30Mhz to 1GHz. HORN: 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

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FREQ (MHz)	VERTICAL (dBuv) pk	VERTICAL (dBuv) av	HORIZONTAL (dBuv) pk	HORIZONTAL (dBuv) av	CF (dB/m)	MAX LEVEL (dBm(d)) pk	MAX LEVEL (dBm(d)) av	SPEC LIMIT (dBm) pk	SPEC LIMIT (dBm) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
824.04	124				0.0	**26.6**								Fundamental (Low Band)	**124.0**	**0.0**
1648.08	52	47.6	53.3	50.4	-9.3	**-53.3**	**-56.2**	-13.0	-13.0	-40.3	-43.2	0	2.1		**44.0**	**41.1**
2472.12	52.3	49	55.3	53.2	-4.6	**-46.7**	**-48.8**	-13.0	-13.0	-33.7	-35.8	0	1.5		**50.7**	**48.6**
3296.16	56.2	53.7	64.7	64.4	-1.7	**-34.4**	**-34.7**	-13.0	-13.0	-21.4	-21.7	180	1.3		**63.0**	**62.7**
4120.2	58.8	57.2	53.6	50.6	0.2	**-38.4**	**-40.0**	-13.0	-13.0	-25.4	-27	167	1.3		**59.0**	**57.4**
4944.24	48.8	42.2	53.4	50.4	0.6	**-43.4**	**-46.4**	-13.0	-13.0	-30.4	-33.4	259	1		**54.0**	**51.0**
5768.28	55.6	53.8	56.2	53.7	5.1	**-36.1**	**-38.5**	-13.0	-13.0	-23.1	-25.5	353	1		**61.3**	**58.9**
6692.32	57.3	55.3	56.6	54.6	5.8	**-34.3**	**-36.3**	-13.0	-13.0	-21.3	-23.3	158	2		**63.1**	**61.1**
7416.36	46.4	36.2	47.4	39.6	8.2	**-41.7**	**-49.5**	-13.0	-13.0	-28.7	-36.5	146	1.1		**55.6**	**47.8**
8240.4	45.5	33.8	47.9	37.5	9.4	**-40.0**	**-50.4**	-13.0	-13.0	-27	-37.4	53	1.4		**57.3**	**46.9**
836.49	124				0.0	**26.6**				26.64				Fundamental (Mid Band)	**124.0**	**0.0**
1672.98	53.4	50.3	60.3	59.1	-9.1	**-46.1**	**-47.3**	-13.0	-13.0	-33.1	-34.3	184	1.8		**51.2**	**50.0**
2509.47	50.3	46.3	53.3	51	-4.5	**-48.5**	**-50.8**	-13.0	-13.0	-35.5	-37.8	171	1.6		**48.8**	**46.5**
3345.96	52.9	49.2	66.1	65.6	-1.6	**-32.8**	**-33.3**	-13.0	-13.0	-19.8	-20.3	171	1.4		**64.5**	**64.0**
4182.45	56.1	54.1	66.2	65.4	0.0	**-31.1**	**-31.9**	-13.0	-13.0	-18.1	-18.9	155	1.4		**66.2**	**65.4**
5018.94	54.9	52.5	59.8	58.3	0.8	**-36.7**	**-38.2**	-13.0	-13.0	-23.7	-25.2	319	1		**60.6**	**59.1**
5855.43	47.7	39.6	52.3	47.5	5.3	**-39.8**	**-44.6**	-13.0	-13.0	-26.8	-31.6	0	1.5		**57.6**	**52.8**
6691.92	55.3	52.5	54.7	51	6.1	**-35.9**	**-38.7**	-13.0	-13.0	-22.9	-25.7	136	1.3		**61.4**	**58.6**
7528.41	46.1	33.1	45.4	33	8.4	**-42.8**	**-55.8**	-13.0	-13.0	-29.8	-42.8	0	1		**54.5**	**41.5**
8364.9	45.8	33.3	45.6	33.8	9.7	**-41.9**	**-53.9**	-13.0	-13.0	-28.9	-40.9	0	1		**55.5**	**43.5**
848.97	124				0.0	**26.6**				26.64				Fundamental (High Band)	**124.0**	**0.0**
1697.94	56.4	54.7	59.1	57.2	-8.9	**-47.2**	**-49.1**	-13.0	-13.0	-34.2	-36.1	176	2		**50.2**	**48.3**
2546.91	52.4	44.6	52	48	-4.3	**-49.3**	**-53.7**	-13.0	-13.0	-36.3	-40.7	350	1.6		**48.1**	**43.7**
3395.88	53.4	50.8	64.3	63.8	-1.4	**-34.4**	**-34.9**	-13.0	-13.0	-21.4	-21.9	0	1.8		**62.9**	**62.4**
4244.85	56.9	55	56.4	54.2	-0.1	**-40.5**	**-42.4**	-13.0	-13.0	-27.5	-29.4	145	1		**56.8**	**54.9**
5093.82	53.9	51.1	59.4	58.6	1.4	**-36.6**	**-37.4**	-13.0	-13.0	-23.6	-24.4	329	1.7		**60.8**	**60.0**
5942.79	49.1	41.7	48.9	43.8	5.5	**-42.7**	**-48.0**	-13.0	-13.0	-29.7	-35	339	1.9		**54.6**	**49.3**
6791.76	51.6	47.8	50.9	48.5	6.5	**-39.3**	**-42.4**	-13.0	-13.0	-26.3	-29.4	142	1.2		**58.1**	**55.0**
7640.73	45.5	35.6	46.4	37.1	8.5	**-42.4**	**-51.7**	-13.0	-13.0	-29.4	-38.7	200	1.2		**54.9**	**45.6**
8489.7	45.9	36	47.4	37	10.0	**-40.0**	**-50.4**	-13.0	-13.0	-27	-37.4	51	1.4		**57.4**	**47.0**

REPORT No: SC202278 TESTER: Rodel Resolme SPEC: FCC 22.917(b)(2)

CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters

E U T: KWC-2345 s/n:D9-V---0011XY TEST SITE: Roof

EUT MODE: Transmit - CDMA BICONICAL: N/A

DATE: April 22, 2002 ERP/EIRP Facto 7 LOG: N/A

NOTES: No emissions detected from 30Mhz to 1GHz. HORN: 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

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FREQ (MHz)	VERTICAL (dBuv) pk	VERTICAL (dBuv) av	HORIZONTAL (dBuv) pk	HORIZONTAL (dBuv) av	CF (dB/m)	MAX LEVEL (dBm(d)) pk	MAX LEVEL (dBm(d)) av	SPEC LIMIT (dBm) pk	SPEC LIMIT (dBm) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
824.7	123				0.0	25.6								Fundamental (Low Band)	123.0	0.0
1649.4	50.8	41.6	51.2	41.9	-9.3	-55.4	-64.7	-13.0	-13.0	-42.4	-51.7	74	2		41.9	32.6
2474.1	53.9	46.6	51.9	43.9	-4.6	-48.1	-55.4	-13.0	-13.0	-35.1	-42.4	235	1.1		49.3	42.0
3298.8	51.9	41.6	56.7	46.9	-1.7	-42.4	-52.2	-13.0	-13.0	-29.4	-39.2	210	1.6		55.0	45.2
4123.5	52.4	41.7	53.2	43.1	0.2	-44.0	-54.1	-13.0	-13.0	-31	-41.1	330	1.2		53.4	43.3
4948.2	49.9	39.4	52.9	42	0.6	-43.9	-54.8	-13.0	-13.0	-30.9	-41.8	100	1		53.5	42.6
5772.9	51.2	40.3	53.9	43.3	5.1	-38.4	-49.0	-13.0	-13.0	-25.4	-36	98	1.1		59.0	48.4
6597.6	51	37.8	49.8	37.6	5.8	-40.6	-53.8	-13.0	-13.0	-27.6	-40.8	195	1.7		56.8	43.6
7422.3	46.1	32.4	47.5	34.5	8.2	-41.6	-54.6	-13.0	-13.0	-28.6	-41.6	146	1.1		55.7	42.7
8247	44.4	33	44.4	32.9	9.4	-43.5	-54.9	-13.0	-13.0	-30.5	-41.9	0	1		53.8	42.4
836.49	123				0.0	25.6								Fundamental (Mid Band)	123.0	0.0
1672.98	52.5	44	54	45.3	-9.1	-52.4	-61.1	-13.0	-13.0	-39.4	-48.1	177	1.4		44.9	36.2
2509.47	49.8	34.7	50.8	41.7	-4.5	-51.0	-60.1	-13.0	-13.0	-38	-47.1	171	1.6		46.3	37.2
3345.96	52.4	43	62.3	53.3	-1.6	-36.6	-45.6	-13.0	-13.0	-23.6	-32.6	169	1.4		60.7	51.7
4182.45	55.7	45.8	54.3	44.9	0.0	-41.6	-51.5	-13.0	-13.0	-28.6	-38.5	253	1		55.7	45.8
5018.94	52.3	41.1	56.9	45.4	0.8	-39.6	-51.1	-13.0	-13.0	-26.6	-38.1	325	1.7		57.7	46.2
5855.43	46	34.6	48.6	36.1	5.3	-43.5	-56.0	-13.0	-13.0	-30.5	-43	207	1		53.9	41.4
6691.92	51.7	40.92	51.8	40.1	6.1	-39.4	-50.3	-13.0	-13.0	-26.4	-37.3	236	1.1		57.9	47.0
7528.41	45.2	33	45.3	336	8.4	-43.6	247.1	-13.0	-13.0	-30.6	260	0	1		53.7	344.4
8364.9	45.9	34.5	46.2	33.3	9.7	-41.5	-53.2	-13.0	-13.0	-28.5	-40.2	14	1		55.9	44.2
848.31	123				0.0	25.6				25.64				Fundamental (High Band)	123.0	0.0
1696.62	57.7	48.9	58.8	50.9	-8.9	-47.5	-55.4	-13.0	-13.0	-34.5	-42.4	110	1.9		49.9	42.0
2544.93	53.5	44.5	51.9	41.6	-4.3	-48.2	-57.2	-13.0	-13.0	-35.2	-44.2	113	1.8		49.2	40.2
3393.24	56.6	48.1	66.1	56.9	-1.4	-32.6	-41.8	-13.0	-13.0	-19.6	-28.8	80	1.4		64.7	55.5
4241.55	57.6	48.2	53.9	44.1	-0.1	-39.8	-49.2	-13.0	-13.0	-26.8	-36.2	67	1		57.5	48.1
5089.86	53.1	40.5	57.2	45.9	1.3	-38.8	-50.1	-13.0	-13.0	-25.8	-37.1	266	1.5		58.5	47.2
5938.17	45.5	33.2	48.5	35.9	5.5	-43.3	-55.9	-13.0	-13.0	-30.3	-42.9	267	1.4		54.0	41.4
6786.48	50.1	38	51.6	40.1	6.5	-39.3	-50.8	-13.0	-13.0	-26.3	-37.8	85	1		58.1	46.6
7634.79	44.1	32.6	46.4	33.3	8.5	-42.4	-55.5	-13.0	-13.0	-29.4	-42.5	0	1		54.9	41.8
8483.1	46	33.4	44.4	33.5	10.0	-41.4	-53.9	-13.0	-13.0	-28.4	-40.9	0	1		56.0	43.5

REPORT No: sc202278 TESTER: Rodel Resolme SPEC: FCC 24.238(a)

CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters

E U T: kwc-2345 s/n:D9-V----001LXY TEST SITE: Roof

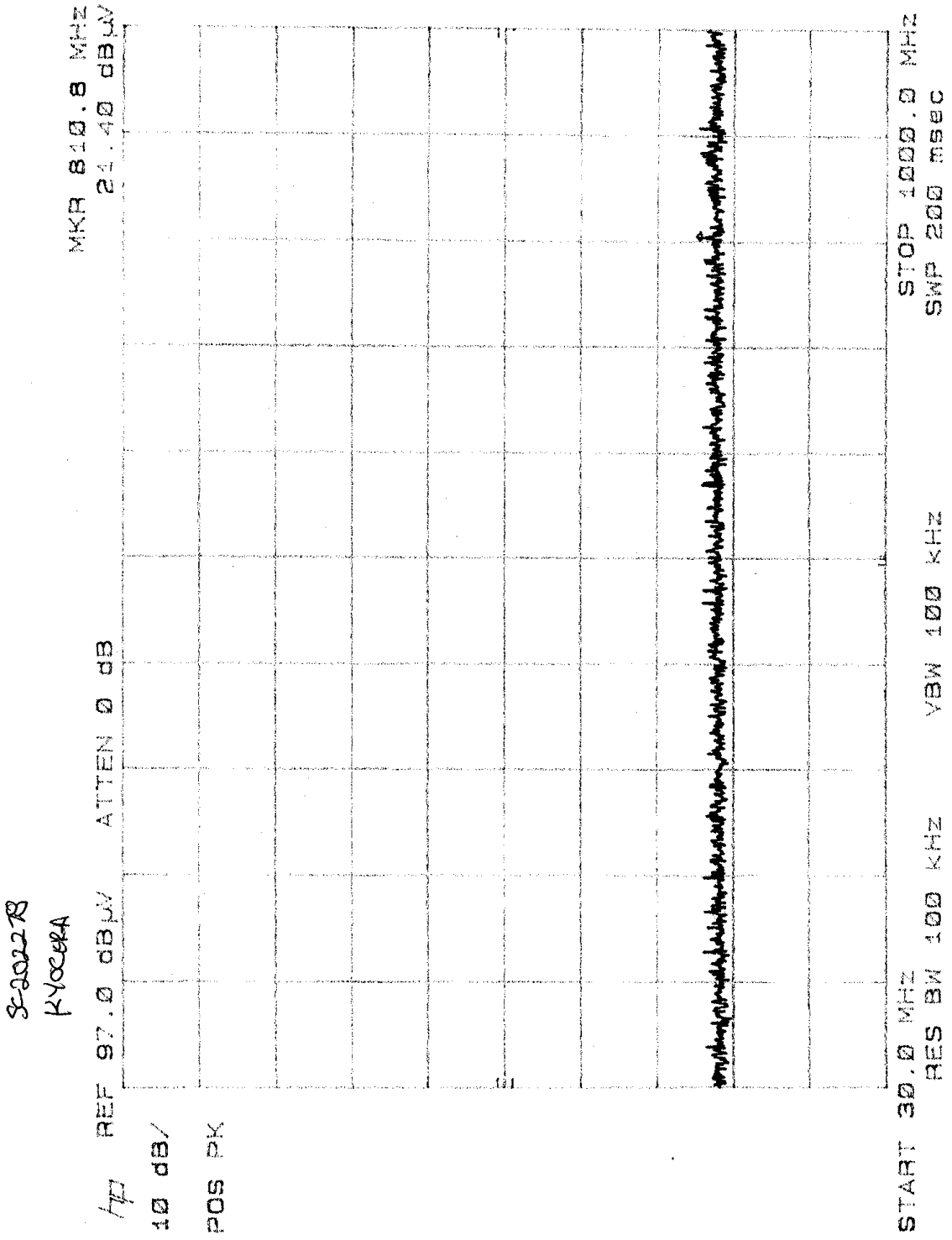
EUT MODE: Transmit-PCS BICONICAL: N/A

DATE: April 22, 2002 ERP/EIRP Factc 5.5 LOG: N/A

NOTES: No emissions detected from 30Mhz to 1GHz. HORN: 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

v.beta1a

FREQ (MHz)	VERTICAL (dBuv) pk	VERTICAL (dBuv) av	HORIZONTAL (dBuv) pk	HORIZONTAL (dBuv) av	CF (dB/m)	MAX LEVEL (dBm(d)) pk	MAX LEVEL (dBm(d)) av	SPEC LIMIT (dBm) pk	SPEC LIMIT (dBm) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
1851.25	128				-7.8	**24.9**		-13.0	-13.0	-28.2	-36.4	204	1.2	Fundamental (Low Band)	**120.2**	**-7.8**
3702.5	50.4	42.3	54.5	46.3	-0.4	**-41.2**	**-49.4**	-13.0	-13.0	-28.2	-36.4	204	1.2		**54.1**	**45.9**
5553.75	55.1	47	60.4	53.2	4.5	**-30.4**	**-37.6**	-13.0	-13.0	-17.4	-24.6	200	1.6		**64.9**	**57.7**
7405	50.5	41.3	52.7	44.5	8.2	**-34.4**	**-42.6**	-13.0	-13.0	-21.4	-29.6	231	1.4		**60.9**	**52.7**
9256.25	47.3	36.5	45.9	33.3	10.4	**-37.6**	**-48.4**	-13.0	-13.0	-24.6	-35.4	165	1		**57.7**	**46.9**
11107.5	44	32.7	44.4	32.5	13.1	**-37.7**	**-49.4**	-13.0	-13.0	-24.7	-36.4	0	1	noise floor	**57.5**	**45.8**
12958.75	50.1	38.4	49.2	37	12.7	**-32.4**	**-44.1**	-13.0	-13.0	-19.4	-31.1	160	1		**62.8**	**51.1**
14810	48.4	35.6	48.4	35.6	16.1	**-30.7**	**-43.5**	-13.0	-13.0	-17.7	-30.5	0	1	noise floor	**64.5**	**51.7**
16661.25	47.3	36.2	47.9	36.3	18.5	**-28.9**	**-40.5**	-13.0	-13.0	-15.9	-27.5	0	1	noise floor	**66.4**	**54.8**
18512.5	47.3	35.3	46.5	34.8	#REF!	**#REF!**	**#REF!**	-13.0	-13.0	#REF!	####	0	1	noise floor	**#REF!**	**#REF!**
1880	128				-7.6	**25.1**		-13.0	-13.0	25.1				Fundamental (Mid Band)	**120.4**	**-7.6**
3760	48.5	37.9	48.5	40.1	-0.3	**-47.0**	**-55.4**	-13.0	-13.0	-34	-42.4	132	1.1		**48.2**	**39.8**
5640	54.6	46.3	59.3	52.3	4.7	**-31.3**	**-38.3**	-13.0	-13.0	-18.3	-25.3	208	1.7		**64.0**	**57.0**
7520	49.2	39.6	50	39	8.4	**-36.8**	**-47.2**	-13.0	-13.0	-23.8	-34.2	19	1.2		**58.4**	**48.0**
9400	46.7	35.3	44.4	33.4	10.0	**-38.6**	**-50.0**	-13.0	-13.0	-25.6	-37	159	1		**56.7**	**45.3**
11280	44.4	33.1	44.4	32.8	13.2	**-37.7**	**-49.0**	-13.0	-13.0	-24.7	-36	0	1	noise floor	**57.6**	**46.3**
13160	47.2	35.1	48.8	35.9	13.2	**-33.3**	**-46.2**	-13.0	-13.0	-20.3	-33.2	0	1	noise floor	**62.0**	**49.1**
15040	47.7	36.5	47.9	36.4	17.0	**-30.3**	**-41.7**	-13.0	-13.0	-17.3	-28.7	0	1	noise floor	**64.9**	**53.5**
16920	47.5	36.7	49.3	37.3	19.5	**-26.5**	**-38.5**	-13.0	-13.0	-13.5	-25.5	0	1	noise floor	**68.8**	**56.8**
18800	51.9	39.9	51.3	40.4	#REF!	**#REF!**	**#REF!**	-13.0	-13.0	#REF!	####	0	1	noise floor	**#REF!**	**#REF!**
1908.75	128				-7.4	**25.3**		-13.0	-13.0	25.3				Fundamental (High Band)	**120.6**	**-7.4**
3817.5	48.9	39.4	49.4	40.7	-0.1	**-46.0**	**-54.7**	-13.0	-13.0	-33	-41.7	20	1		**49.3**	**40.6**
5726.25	54	46.3	57.7	50.6	4.9	**-32.6**	**-39.7**	-13.0	-13.0	-19.6	-26.7	332	1		**62.6**	**55.5**
7635	49.4	40.2	51.2	42.1	8.5	**-35.5**	**-44.6**	-13.0	-13.0	-22.5	-31.6	150	1		**59.7**	**50.6**
9543.75	46.4	33.7	45.8	34.2	9.8	**-39.1**	**-51.3**	-13.0	-13.0	-26.1	-38.3	0	1		**56.2**	**44.0**
11452.5	45.2	33	45.6	33.6	13.3	**-36.4**	**-48.4**	-13.0	-13.0	-23.4	-35.4	0	1	noise floor	**58.9**	**46.9**
13361.25	47.1	35.8	47.7	36.2	14.0	**-33.6**	**-45.1**	-13.0	-13.0	-20.6	-32.1	0	1	noise floor	**61.7**	**50.2**
15270	47.9	36.5	48	36.4	17.3	**-29.9**	**-41.4**	-13.0	-13.0	-16.9	-28.4	0	1	noise floor	**65.3**	**53.8**
17178.75	47.7	36.5	47.7	36.9	21.1	**-26.4**	**-37.2**	-13.0	-13.0	-13.4	-24.2	0	1	noise floor	**68.8**	**58.0**
19087.5	51.8	39	49.1	38.7	#REF!	**#REF!**	**#REF!**	-13.0	-13.0	#REF!	####	0	1	noise floor	**#REF!**	**#REF!**


SC202278
KYOCERA
MKR 810.8 MHz
24.40 dBµV
REF 97.0 dBµV
ATTEN 0 dB
10 dB/
POS PK
START 30.0 MHz
RES BW 100 kHz
VBW 100 kHz
STOP 1000.0 MHz
SWP 200 msec

Photograph of Test Setup

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