



**Nemko USA, Inc.**  
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**Class II Permissive Change to Append New Antenna**

**Test Report:** 2007 054393 M200 FCC

**Project number:** 4393-1

**Applicant:** Kyocera Wireless  
10300 Campus Point Drive  
San Diego, CA 92121

**Equipment Under Test (EUT):** Module

**Model:** M200


**Antenna Model:** Mobile Mark Antenna (CVS-900/1900) with attenuator

**FCC ID:** FCC ID # OVFKWC-M200

**Industry Canada:** 3572A-M200

**In Accordance With:** FCC Part 22, Subpart H  
Industry Canada RSS-129, Issue 2  
  
FCC Part 24, Subpart E  
Industry Canada RSS-133, Issue 3

**Tested By:** Nemko USA Inc.  
11696 Sorrento Valley Road, Suite F  
San Diego, CA 92121

**Authorized By:**   
Michael T. Krumweide, EMC Supervisor

**Date:** MAY 1, 2007

**Total Number of Pages:** 25

## Report Summary

All measurements are traceable to national standards. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 22, Subpart H and FCC Part 24, Subpart E.

The assessment summary is as follows:

<b>Apparatus Assessed:</b>	M200 Module
<b>Specification:</b>	FCC Part 22, Subpart H Industry Canada RSS-129, Issue 2 FCC Part 24, Subpart E Industry Canada RSS-133, Issue 3
<b>Compliance Status:</b>	Complies
<b>Exclusions:</b>	None
<b>Non-compliances:</b>	None

**Report Release History:**

REVISION	DATE	COMMENTS
-	May 1, 2007	Prepared By: Ferdinand Custodio
-	May 1, 2007	Initial Release: Mike T. Krumweide

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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## **Section 1: Equipment Under Test**

### **1.1 Product Identification**

The Equipment Under Test was identified as follows:

***Kyocera RF Module M200 with Serial Number: 45264736***



### **1.2 Samples Submitted for Assessment**

The following antenna have been submitted for assessment with the EUT:

***Mobile Mark®CVS-900/1900 with attenuator / US Cell & PCS/GPRS Halfwave 2.5 dBi gain***



### 1.3 Technical Specifications of the EUT

<b>Manufacturer:</b>	<b>Kyocera Wireless</b>
<b>Operating Frequency:</b>	824.70 to 848.31 MHz 824.04 to 849.97 MHz 1851.25 to 1908.75 MHz
<b>Date Received in Laboratory</b>	April 13, 2007
<b>RF Output (Limit)</b>	Part 22: 7 watts / Part 24: 2 watts
<b>RF Output (Grant)</b>	Part 22: 1.1 watts / Part 24: 0.35 watts
<b>RF Output (Measured)</b>	Part 22: 0.071 watt / Part 24: 0.185 watt
<b>Emission Designator</b>	40KDF8W, 1M25F9W, 40KDF1D
<b>Antenna Data:</b>	Mobile Mark® CVS-900/1900 with attenuator / US Cell & PCS/GPRS Halfwave 2.5 dBi gain
<b>Antenna Connector:</b>	MMCX sub-miniature RF connector
<b>Power Source:</b>	4.2VDC

## **Section 2: Test Conditions**

### **2.1 Specifications**

The apparatus was assessed against the following specifications:

- FCC Part 22, Subpart H Cellular Radiotelephone Service
- FCC Part 24, Subpart E Broadband PCS
- Industry Canada, RSS-129, Issue 2 (800 MHz Dual-Mode CDMA Cellular Telephones)
- Industry Canada, RSS-133, Issue 3 (2 GHz Personal Communications Services)

### **2.2 Deviations From Laboratory Test Procedures**

No deviations were made from laboratory test procedures.

### **2.3 Test Environment**

All tests were performed under the following environmental conditions:

Temperature range	:	13-18 °C
Humidity range	:	59-70 %
Pressure range	:	86 - 106 kPa

## 2.4 Test Equipment

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
529	Antenna, DRWG	EMCO	3115	2505	8/31/2006	08/31/07
765	Antenna Set, Dipole	EMCO	3121C	1214	6/27/2006	06/27/07
836	Signal Generator	Agilent	E8254A	US41140229	7/27/2006	07/27/07
111	Antenna, LPA	EMCO	3146	1382	8/7/2006	08/07/07
110	Antenna, LPA	Electrometrics	LPA-25	1217	12/18/2006	12/18/07
877	Antenna, DRG Horn, .7-18GHz	AH Systems	SAS-571	688	6/20/06	6/20/07
842	Preamp	NA	Nemko	NA	Verified 04/13/2007	
915	EMI Test Receiver 20 Hz- 26.5	Rohde & Schwarz	1088.7490.26	837491/0002	2/6/2007	02/06/08



## **Section 3: Observations**

### **3.1 Modifications Performed During Assessment**

No modifications were performed during assessment.

### **3.2 Record Of Technical Judgements**

No technical judgements were made during the assessment.

### **3.3 EUT Parameters Affecting Compliance**

The user of the apparatus could not alter parameters that would affect compliance.

### **3.4 Test Deleted**

Please refer to Section 4: Results Summary for list of tests deleted or not performed.

### **3.5 Additional Observations**

There were no additional observations made during this assessment.

**Section 4: Results Summary**

The results contained in this section are representative of the operation of the apparatus as originally submitted.

Name of Test/Requirements	Para. No.	Result
RF Power Output	2.1046 <i>RSS-129 7.1/9.1</i> <i>RSS-133 6.4</i>	COMPLIES
Audio Low Pass Filter Response	2.1047	NA <sup>1</sup>
Audio Frequency Response	2.1047	NA <sup>1</sup>
Modulation Limiting	2.1047	NA <sup>1</sup>
Occupied Bandwidth (WB Data)	2.1049	NA <sup>2</sup>
Spurious Emissions at antenna Terminals	2.1051 <i>RSS-129 6.3/8.1</i> <i>RSS-133 6.5.1</i>	NA <sup>2</sup>
Field Strength of Spurious Emissions	2.1053	COMPLIES
Frequency Stability	2.1055 <i>RSS-129 7.2/9.2</i> <i>RSS-133 6.3</i>	NA <sup>2</sup>
Receiver Spurious Emissions	<i>RSS-129 10.0</i> <i>RSS-133 6.7</i>	COMPLIES
Electronic Serial Numbers (ESN)	<i>RSS-129 5.14</i> <i>RSS-133 5.4</i>	NA <sup>2</sup>
Radiofrequency radiation exposure evaluation: mobile devices	2.1091	NA <sup>2</sup>

**Footnotes for N/A's:**

<sup>1</sup>Digital Modulation

<sup>2</sup>Not tested, per customer's instructions

## Appendix A: Test Results/Requirements

### Para. No. : 2.1046 RF Power Output

Para.22.913(a). The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts. & Para.24.232, the EIRP must not exceed 2 Watts.

#### Test Conditions:

<b>Sample Number:</b>	45264736	<b>Temperature:</b>	18°C
<b>Date:</b>	May 1, 2007	<b>Humidity:</b>	67 %
<b>Modification State:</b>	Amps FM, CDMA and PCS	<b>Tester:</b>	Ferdinand Custodio
		<b>Laboratory:</b>	Nemko NOATS

#### Test Results:

Complies, see tables below

#### Measurement Data:

Modulation	Frequency (MHz)	Measured (dBm)	Substituted Result (dBm)	Substituted Result Watts
<b>FM</b>	824.04	14.1	13.59	<b>0.023</b>
	836.49	18.2	18.53	<b>0.071</b>
	848.97	16.2	16.93	<b>0.049</b>
<b>CDMA</b>	824.70	16.3	15.94	<b>0.039</b>
	836.49	17.7	18.06	<b>0.064</b>
	848.97	16.0	16.84	<b>0.048</b>
<b>PCS</b>	1851.25	22.6	22.04	<b>0.160</b>
	1880.00	23.9	21.46	<b>0.140</b>
	1908.75	23.2	22.66	<b>0.185</b>



**Para. No.:2.1053 Field Strength of Spurious**

Minimum Standard is Part 22.917 and Part 24.238:

*Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

**Test Conditions:**

<b>Sample Number:</b>	45264736	<b>Temperature:</b>	13°C
<b>Date:</b>	April 13, 2007	<b>Humidity:</b>	59 %
<b>Modification State:</b>	Amps FM, CDMA and PCS	<b>Tester:</b>	Ferdinand Custodio
		<b>Laboratory:</b>	Nemko SOATS

**Test Results:**

- The maximum spurious field strength in FM mode is 25.0 dB below the limit @ 3345.96 MHz and 5093.88 MHz.
- The maximum spurious field strength in CDMA mode is 24.6 dB below the limit @ 5089.86 MHz
- The maximum spurious field strength in PCS mode is 8.6 dB below the limit @ 3817.5 MHz

**Test Data:** See attached Tables



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**Radiated Emissions Data**

Job #: 4393-1      Test #: 2  
 Page 1      of 1

Client Name : Kyocera-Wireless  
 EUT Name : RF Module with new antenna  
 EUT Model #: RF Module M200  
 EUT Serial #:   
 EUT Config. : FM TX Harmonics

Specification : FCC Part 22      Reference :   
 Rod. Ant. #:      Temp. (°C) : 13      Date : 05/01/07  
 Bicon Ant.#:      Humidity (%) : 59      Staff : Ferdinand Custodio  
 Log Ant.#:      EUT Voltage : NA      Peak Bandwidth: 1 MHz  
 DRG Ant. # : 877      EUT Frequency : NA      Video Bandwidth 1 MHz  
 Dipole Ant.#:      Phase: NA  
 Cable#: 40ft      Location: RN # 329550-01  
 Preamp#: 842      Distance: 3m  
 Spec An.#: 915      ERP conversion factor 7

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1648.08	70.6	69.5	-23.2	-49.9	-13.0	-36.9		1.0	Pass	*
2472.12	55.0	54.5	-15.6	-57.9	-13.0	-44.9		1.0	Pass	*
3296.16	68.4	66.4	-9.7	-38.5	-13.0	-25.5		1.0	Pass	*
4120.20	62.3	60.3	-5.5	-40.4	-13.0	-27.4		1.0	Pass	*
4944.24	58.3	57.2	-6.5	-45.4	-13.0	-32.4		1.0	Pass	*
5768.28	52.6	52.6	-2.2	-46.9	-13.0	-33.9		1.0	Pass	NF
6592.32	53.7	53.3	-0.8	-44.4	-13.0	-31.4		1.0	Pass	*
7416.36			2.8		-13.0					NF
8240.40			5.6		-13.0					NF
9064.44			8.4		-13.0					NF
1672.98	71.1	71.9	-23.2	-48.6	-13.0	-35.6		1.0	Pass	*
2509.47	60.8	61.4	-14.5	-50.4	-13.0	-37.4		1.0	Pass	*
3345.96	69.8	66.1	-10.5	-38.0	-13.0	-25.0		1.0	Pass	*
4182.45	62.3	60.3	-5.5	-40.5	-13.0	-27.5		1.0	Pass	*
5018.94	59.9	56.0	-1.4	-38.7	-13.0	-25.7		1.0	Pass	*
5855.43	52.3	52.3	-3.4	-48.4	-13.0	-35.4		1.0	Pass	NF
6691.92	56.1	52.5	0.3	-40.9	-13.0	-27.9		1.0	Pass	*
7528.41			4.6		-13.0					NF
8364.90			5.4		-13.0					NF
9201.39			9.3		-13.0					NF
1697.96	77.2	77.3	-23.2	-43.1	-13.0	-30.1		1.0	Pass	*
2546.94	63.2	62.3	-14.5	-48.6	-13.0	-35.6		1.0	Pass	*
3395.92	66.6	64.6	-10.5	-41.1	-13.0	-28.1		1.0	Pass	*
4244.90	58.2	56.6	-5.6	-44.7	-13.0	-31.7		1.0	Pass	*
5093.88	60.6	57.5	-1.4	-38.0	-13.0	-25.0		1.0	Pass	*
5942.86	52.6	52.6	-1.4	-46.1	-13.0	-33.1		1.0	Pass	NF
6791.84	55.2	52.8	0.1	-42.0	-13.0	-29.0		1.0	Pass	*
7640.82			4.0		-13.0					NF
8489.80			6.4		-13.0					NF
9338.78			9.4		-13.0					NF

\* = Signal Measured      NF = Noise Floor, no signal observed, even at lower RBW.



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**Radiated Emissions Data**

Job # : 4393-1      Test # : 4  
 Page 1      of 1

Client Name : Kyocera-Wireless  
 EUT Name : RF Module with new antenna  
 EUT Model # : RF Module M200  
 EUT Serial # : \_\_\_\_\_  
 EUT Config. : CDMA TX Harmonics

Specification : FCC Part 22      Reference : \_\_\_\_\_  
 Rod. Ant. # : \_\_\_\_\_      Temp. (°C) : 13      Date : 05/01/07  
 Bicon Ant.#: \_\_\_\_\_      Humidity (%) : 59      Staff : Ferdinand Custodio  
 Log Ant.#: \_\_\_\_\_      EUT Voltage : NA      Peak Bandwidth: 1 MHz  
 DRG Ant. # : 877      EUT Frequency : NA      Video Bandwidth 1 MHz  
 Dipole Ant.#: \_\_\_\_\_      Phase: NA  
 Cable#: 40ft      Location: RN # 329550-01  
 Preamp#: 842      Distance: 3m  
 Spec An.#: 915      ERP conversion factor 7

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1649.40	71.4	70.8	-23.2	-49.1	-13.0	-36.1		1.0	Pass	*
2474.10	54.5	51.7	-15.6	-58.4	-13.0	-45.4		1.0	Pass	*
3298.80	68.6	65.7	-9.7	-38.4	-13.0	-25.4		1.0	Pass	*
4123.50	59.8	60.4	-5.5	-42.4	-13.0	-29.4		1.0	Pass	*
4948.20	55.9	53.1	-6.5	-47.9	-13.0	-34.9		1.0	Pass	*
5772.90	52.6	52.6	-2.2	-46.9	-13.0	-33.9		1.0	Pass	NF
6597.60			-0.8		-13.0					NF
7422.30			2.8		-13.0					NF
8247.00			5.6		-13.0					NF
9071.70			8.44		-13.0					NF
1672.98	74.8	74.8	-23.2	-45.6	-13.0	-32.6		1.0	Pass	*
2509.47	63.8	63.8	-14.5	-47.9	-13.0	-34.9		1.0	Pass	*
3345.96	69.4	65.0	-10.5	-38.4	-13.0	-25.4		1.0	Pass	*
4182.45	62.6	59.2	-5.5	-40.2	-13.0	-27.2		1.0	Pass	*
5018.94	60.4	55.7	-1.4	-38.3	-13.0	-25.3		1.0	Pass	*
5855.43	52.3	52.3	-3.4	-48.4	-13.0	-35.4		1.0	Pass	NF
6691.92			0.3		-13.0					NF
7528.41			4.6		-13.0					NF
8364.90			5.4		-13.0					NF
9201.39			9.34		-13.0					NF
1696.62	77.8	76.7	-23.2	-42.7	-13.0	-29.7		1.0	Pass	*
2544.93	63.8	62.5	-14.5	-48.0	-13.0	-35.0		1.0	Pass	*
3393.24	68.4	65.3	-10.5	-39.4	-13.0	-26.4		1.0	Pass	*
4241.55	57.9	58.8	-5.6	-44.1	-13.0	-31.1		1.0	Pass	*
5089.86	61.1	56.9	-1.4	-37.6	-13.0	-24.6		1.0	Pass	*
5938.17	52.3	52.3	-1.4	-46.4	-13.0	-33.4		1.0	Pass	NF
6786.48			0.1		-13.0					NF
7634.79			4		-13.0					NF
8483.10			6.4		-13.0					NF
9331.41			9.44		-13.0					NF

\* = Signal Measured      NF = Noise Floor, no signal observed, even at lower RBW.



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Radiated Emissions Data

Job #: 4393-1      Test #: 6  
 Page 1      of 1

Client Name : Kyocera-Wireless  
 EUT Name : RF Module with new antenna  
 EUT Model #: RF Module M200  
 EUT Serial # :  
 EUT Config. : PCS TX Harmonics

Specification : FCC Part 24  
 Rod. Ant. #:      Temp. (°C) : 13  
 Bicon Ant.#:      Humidity (%) : 59  
 Log Ant.#:      EUT Voltage : NA  
 DRG Ant. # : 877      EUT Frequency : NA  
 Dipole Ant.#:      Phase: NA  
 Cable#: 40ft      Location: RN # 329550-01  
 Preamp#: 842      Distance: 3m  
 Spec An.#: 915      EIRP conversion factor 5.5

Reference :  
 Date : 05/01/07  
 Staff : Ferdinand Custodio  
 Peak Bandwidth: 1 MHz  
 Video Bandwidth 1 MHz

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
3702.50	75.86	75.66	-8.0	-27.4	-13.0	-14.4		1.0	Pass	*
5553.75	58.90	57.20	-1.3	-37.7	-13.0	-24.7		1.0	Pass	*
7405.00	57.10	57.10	2.8	-35.4	-13.0	-22.4		1.0	Pass	NF
9256.25			9.3		-13.0					NF
11107.50			14.5		-13.0					NF
12958.75			18.8		-13.0					NF
14810.00			21.3		-13.0					NF
16661.25			32.6		-13.0					NF
18512.50			36.0		-13.0					NF
20363.75			40.4		-13.0					NF
3760.00	80.93	75.80	-8.0	-22.3	-13.0	-9.3		1.0	Pass	*
5640.00	60.27	58.36	-2.3	-37.3	-13.0	-24.3		1.0	Pass	*
7520.00	57.60	57.60	4.6	-33.1	-13.0	-20.1		1.0	Pass	NF
9400.00			9.4		-13.0					NF
11280.00			14.5		-13.0					NF
13160.00			19.5		-13.0					NF
15040.00			24.1		-13.0					NF
16920.00			32.6		-13.0					NF
18800.00			36.1		-13.0					NF
20680			39.8		-13.0					NF
3817.50	82.96	78.74	-9.3	-21.6	-13.0	-8.6		1.0	Pass	*
5726.25	64.38	64.32	-2.2	-33.1	-13.0	-20.1		1.0	Pass	*
7635.00	57.70	57.70	4.0	-33.6	-13.0	-20.6		1.0	Pass	NF
9543.75			10.4		-13.0					NF
11452.50			14.5		-13.0					NF
13361.25			19.5		-13.0					NF
15270.00			24.1		-13.0					NF
17178.75			38.6		-13.0					NF
19087.50			39.6		-13.0					NF
20996.25			40.3		-13.0					NF

\* = Signal Measured      NF = Noise Floor, no signal observed, even at lower RBW.





**RSS 129 10.0 and RSS 133 6.7 Field Receiver Spurious Emissions**

If a radiated measurement is made, all spurious emissions shall comply with the limits of the following table. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for spurious emissions measurements below 1.0 GHz, and 1.0 MHz for measurements above 1.0 GHz.

Spurious Frequency (MHz)	Field Strength (microvolts/m at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960	500

For CDMA and FM, 960 to 1610 is 500  $\mu\text{V/m}$  at 3 meters and above 1610 is 1000  $\mu\text{V/m}$ .

**Test Conditions:**

<b>Sample Number:</b>	45264736	<b>Temperature:</b>	23°C
<b>Date:</b>	April 27, 2007	<b>Humidity:</b>	52 %
<b>Modification State:</b>	Amps FM, CDMA and PCS	<b>Tester:</b>	Ferdinand Custodio
		<b>Laboratory:</b>	Nemko SOATS

**Test Results:**

See attached Tables



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Radiated Emissions Data

Job #: 4393-1      Test #: 7  
 Page 1      of 1

Client Name : Kyocera-Wireless  
 EUT Name : RF Module with new antenna  
 EUT Model #: M200  
 EUT Serial # :  
 EUT Config. : FM RX

Specification : RSS 129 10.0      Reference :  
 Rod. Ant. #: 0      Temp. (°C) : 23      Date : 05/01/07  
 Bicon Ant.#: 0      Humidity (%) : 52      Staff : FSCustodio  
 Log Ant.#: 0      EUT Voltage : NA      Peak Measurement Bandwidth: 1 MHz/ 1 MHz  
 DRG Ant. # 877      EUT Frequency : NA      Average Measurement Bandwidth: 1 MHz/ 10 Hz  
 Dipole Ant.#: N/A      Phase: NA  
 Cable#: 40ft      Location: 2040B-1  
 Preamp#: 842      Distance: 3m  
 Spec An.#: 915

Meas. Freq. (MHz)	Vertical (dBuV)		Horizontal (dBuV)		CF (db)	Max Level (dBuV/m)		Spec. Limit (dBuV/m)		Margin dB		EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
	pk	av	pk	av		pk	av	pk	av	pk	av				
1052.6	51.4	41.6	51.0	41.5	-21.2	30.2	20.4	74.0	54.0	-43.8	-33.6		1.0	Pass	Ambient
2105.3	57.1	48.4	58.6	52.3	-14.2	44.4	38.1	74.0	54.0	-29.6	-15.9		1.0	Pass	
3157.9	49.7	38.2	49.7	38.2	-10.3	39.4	27.9	74.0	54.0	-34.6	-26.1		1.0	Pass	Noise Floor
4210.6					-5.6			74.0	54.0						Noise Floor
5263.2					-2.6			74.0	54.0						Noise Floor
6315.8					-0.5			74.0	54.0						Noise Floor
7368.5					3.2			74.0	54.0						Noise Floor
8421.1					6.4			74.0	54.0						Noise Floor
9473.8					8.6			74.0	54.0						Noise Floor
10526.4					13.9			74.0	54.0						Noise Floor
11579.0					15.4			74.0	54.0						Noise Floor
1065.1	53.4	45.0	52.4	42.1	-21.2	32.2	23.8	74.0	54.0	-41.8	-30.2		1.0	Pass	Ambient
2130.2	55.1	47.8	55.7	49.9	-14.2	41.5	35.7	74.0	54.0	-32.5	-18.3		1.0	Pass	
3195.3	50.6	38.2	50.6	38.2	-10.3	40.3	27.9	74.0	54.0	-33.7	-26.1		1.0	Pass	Noise Floor
4260.4					-5.6			74.0	54.0						Noise Floor
5325.5					-2.0			74.0	54.0						Noise Floor
6390.5					-0.5			74.0	54.0						Noise Floor
7455.6					2.8			74.0	54.0						Noise Floor
8520.7					6.1			74.0	54.0						Noise Floor
9585.8					10.4			74.0	54.0						Noise Floor
10650.9					13.9			74.0	54.0						Noise Floor
11716.0					15.4			74.0	54.0						Noise Floor
1077.6	56.0	49.6	52.9	44.5	-21.2	34.8	28.4	74.0	54.0	-39.2	-25.6			Pass	Ambient
2155.1	54.0	46.4	55.8	49.3	-14.2	41.6	35.1	74.0	54.0	-32.4	-18.9			Pass	
3232.7	49.9	38.5	49.9	38.5	-9.7	40.2	28.8	74.0	54.0	-33.8	-25.2			Pass	Noise Floor
4310.3					-4.9			74.0	54.0						Noise Floor
5387.9					-2.0			74.0	54.0						Noise Floor
6465.4					0.5			74.0	54.0						Noise Floor
7543.0					4.6			74.0	54.0						Noise Floor
8620.6					8.1			74.0	54.0						Noise Floor
9698.1					9.6			74.0	54.0						Noise Floor
10775.7					13.9			74.0	54.0						Noise Floor
11853.3					15.4			74.0	54.0						Noise Floor



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Radiated Emissions Data

Job #: 4393-1 Test #: 6  
 Page 1 of 1

Client Name : Kyocera-Wireless  
 EUT Name : RF Module with new antenna  
 EUT Model #: M200  
 EUT Serial #:   
 EUT Config. : CDMA RX

Specification : RSS 129 10.0 Reference :   
 Rod. Ant. #: 0 Temp. (°C) : 23 Date : 05/01/07  
 Bicon Ant.#: 0 Humidity (%) : 52 Staff : FSCustodio  
 Log Ant.#: 0 EUT Voltage : NA Peak Measurement Bandwidth: 1 MHz/ 1 MHz  
 DRG Ant. # 877 EUT Frequency : NA Average Measurement Bandwidth: 1 MHz/ 10 Hz  
 Dipole Ant.#: N/A Phase: NA  
 Cable#: 40ft Location: 2040B-1  
 Preamp#: 842 Distance: 3m  
 Spec An.#: 915

Meas. Freq. (MHz)	Vertical (dBuV)		Horizontal (dBuV)		CF (db)	Max Level (dBuV/m)		Spec. Limit (dBuV/m)		Margin dB		EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
	pk	av	pk	av		pk	av	pk	av	pk	av				
1053.3	55.1	44.9	52.4	42.3	-21.2	33.9	23.6	74.0	54.0	-40.1	-30.4		1.0	Pass	Ambient
2106.6	59.5	52.6	59.2	55.6	-14.2	45.3	41.4	74.0	54.0	-28.7	-12.6		1.0	Pass	
3159.9	50.3	38.1	50.3	38.1	-10.3	40.0	27.8	74.0	54.0	-34.0	-26.2		1.0	Pass	Noise Floor
4213.2					-5.6			74.0	54.0						Noise Floor
5266.5					-2.6			74.0	54.0						Noise Floor
6319.8					-0.5			74.0	54.0						Noise Floor
7373.1					3.2			74.0	54.0						Noise Floor
8426.4					6.4			74.0	54.0						Noise Floor
9479.7					8.6			74.0	54.0						Noise Floor
10533.0					13.9			74.0	54.0						Noise Floor
11586.3					15.4			74.0	54.0						Noise Floor
1065.1	57.9	45.9	54.6	44.9	-21.2	36.7	24.7	74.0	54.0	-37.3	-29.3		1.0	Pass	Ambient
2130.2	58.3	52.0	58.6	53.9	-14.2	44.4	39.7	74.0	54.0	-29.6	-14.3		1.0	Pass	
3195.3	49.1	38.2	49.1	38.2	-10.3	38.8	27.9	74.0	54.0	-35.2	-26.1		1.0	Pass	Noise Floor
4260.4					-5.6			74.0	54.0						Noise Floor
5325.5					-2.0			74.0	54.0						Noise Floor
6390.5					-0.5			74.0	54.0						Noise Floor
7455.6					2.8			74.0	54.0						Noise Floor
8520.7					6.1			74.0	54.0						Noise Floor
9585.8					10.4			74.0	54.0						Noise Floor
10650.9					13.9			74.0	54.0						Noise Floor
11716.0					15.4			74.0	54.0						Noise Floor
1076.9	59.1	50.5	56.1	44.9	-21.2	37.9	29.3	74.0	54.0	-36.1	-24.7			Pass	Ambient
2153.8	55.2	49.5	57.8	52.6	-14.2	43.6	38.4	74.0	54.0	-30.4	-15.6			Pass	
3230.7	49.4	38.3	49.4	38.3	-9.7	39.7	28.6	74.0	54.0	-34.3	-25.4			Pass	Noise Floor
4307.6					-4.9			74.0	54.0						Noise Floor
5384.6					-2.0			74.0	54.0						Noise Floor
6461.5					0.5			74.0	54.0						Noise Floor
7538.4					4.6			74.0	54.0						Noise Floor
8615.3					8.1			74.0	54.0						Noise Floor
9692.2					9.6			74.0	54.0						Noise Floor
10769.1					13.9			74.0	54.0						Noise Floor
11846.0					15.4			74.0	54.0						Noise Floor



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Radiated Emissions Data

Job # : 4393-1      Test # : 5  
 Page 1      of 1

Client Name : Kyocera-Wireless  
 EUT Name : RF Module with new antenna  
 EUT Model # : M200  
 EUT Serial # :  
 EUT Config. : PCS RX

Specification : RSS 133 6.7      Reference :  
 Rod. Ant. # : 0      Temp. (°C) : 23      Date : 05/01/07  
 Bicon Ant.#: 0      Humidity (%) : 52      Staff : FSCustodio  
 Log Ant.#: 0      EUT Voltage : NA  
 DRG Ant. # : 877      EUT Frequency : NA      Peak Measurement Bandwidth: 1 MHz/ 1 MHz  
 Dipole Ant.#: 758      Phase: NA      Average Measurement Bandwidth: 1 MHz/ 10 Hz  
 Cable#: 40ft      Location: 2040B-1  
 Preamp#: 842      Distance: 3m  
 Spec An.#: 915

Meas. Freq. (MHz)	Vertical (dBuV)		Horizontal (dBuV)		CF (db)	Max Level (dBuV/m)		Spec. Limit (dBuV/m)		Margin dB		EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
	pk	av	pk	av		pk	av	pk	av	pk	av				
2114.8	60.1	48.2	60.1	48.2	-14.2	45.9	34.0	74.0	54.0	-28.1	-20.0		1.0	Pass	Ambient Noise
4229.7	51.6	42.8	52.0	42.4	-5.6	46.4	37.2	74.0	54.0	-27.6	-16.8		1.0	Pass	
6344.5	50.7	37.9	49.9	37.5	-0.5	50.2	37.4	74.0	54.0	-23.8	-16.6		1.0	Pass	Noise Floor
8459.4					6.4			74.0	54.0						Noise Floor
10574.2					13.9			74.0	54.0						Noise Floor
12689.0					18.8			74.0	54.0						Noise Floor
14803.9					21.3			74.0	54.0						Noise Floor
16918.7					32.6			74.0	54.0						Noise Floor
19033.6					39.1			74.0	54.0						Noise Floor
21148.4					40.1			74.0	54.0						Noise Floor
23263.2					41.4			74.0	54.0						Noise Floor
2143.6	56.7	47.3	56.6	48.1	-14.2	42.5	33.9	74.0	54.0	-31.5	-20.1		1.0	Pass	
4287.2	50.7	42.7	51.7	41.9	-5.6	46.1	37.1	74.0	54.0	-27.9	-16.9		1.0	Pass	
6430.8	50.3	38.3	49.7	37.7	0.5	50.8	38.8	74.0	54.0	-23.2	-15.2		1.0	Pass	Noise Floor
8574.4					6.1			74.0	54.0						Noise Floor
10718.0					13.9			74.0	54.0						Noise Floor
12861.6					18.8			74.0	54.0						Noise Floor
15005.2					24.1			74.0	54.0						Noise Floor
17148.8					38.6			74.0	54.0						Noise Floor
19292.4					39.1			74.0	54.0						Noise Floor
21436.0					40.1			74.0	54.0						Noise Floor
23579.6					41.4			74.0	54.0						Noise Floor
2172.4	55.3	47.3	55.2	48.1	-14.2	41.1	33.9	74.0	54.0	-32.9	-20.1		1.0	Pass	
4344.7	51.5	40.8	49.6	40.4	-4.9	46.6	35.9	74.0	54.0	-27.4	-18.1		1.0	Pass	
6517.1	48.9	38.2	48.9	38.1	-0.8	48.1	37.4	74.0	54.0	-25.9	-16.6		1.0	Pass	Noise Floor
8689.4					8.1			74.0	54.0						Noise Floor
10861.8					13.9			74.0	54.0						Noise Floor
13034.1					19.5			74.0	54.0						Noise Floor
15206.5					24.1			74.0	54.0						Noise Floor
17378.8					38.6			74.0	54.0						Noise Floor
19551.2					38.4			74.0	54.0						Noise Floor
21723.5					41.4			74.0	54.0						Noise Floor
23895.9					41.4			74.0	54.0						Noise Floor

## Appendix B : Setup Photographs

### 1. Spurious Emissions Setup:



## 2. Fundamental Emissions Setup:



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## Appendix C: Block Diagram of Test Setups

### Test Site For Radiated Emissions

