



**RADIATED SPURIOUS EMISSIONS PORTIONS OF**

**FCC CFR47 PART 22 SUBPART H  
FCC CFR47 PART 24 SUBPART E  
INDUSTRY CANADA RSS-132 ISSUE 2  
INDUSTRY CANADA RSS-133 ISSUE 4**

**CERTIFICATION TEST REPORT**

**FOR**

**TRI-BAND 1xRTT CDMA PHONE WITH BLUETOOTH**

**FCC MODEL NUMBER: K48-02  
IC MODEL NUMBER: K48, K48-02, M2000, G2GO**

**FCC ID: OVF-K4802  
IC: 3572A- K48**

**REPORT NUMBER: 09U12590-3**

**ISSUE DATE: MAY 28, 2009**

*Prepared for*

**KYOCERA WIRELESS CORP  
10300 CAMPUS POINT DRIVE  
SAN DIEGO, CA 92121, U.S.A.**

*Prepared by*

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**NVLAP LAB CODE 200065-0**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** KYOCERA WIRELESS  
10300 CAMPUS POINT DRIVE  
SAN DIEGO, CA 92121, USA

**EUT DESCRIPTION:** TRI-BAND 1XRTT CDMA PHONE WITH BLUETOOTH

**MODEL:** K48-02

**SERIAL NUMBER:** 12816338644

**DATE TESTED:** MAY 18~27, 2009

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 24E, AND 27K	PASS (Radiated Portion)
IC RSS-132 ISSUE 2, RSS-133 ISSUE 4, AND RSS-139 ISSUE 1	PASS (Radiated Portion)

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:



THU CHAN  
EMC MANAGER  
COMPLIANCE CERTIFICATION SERVICES

Tested By:



TOM CHEN  
EMC ENGINEER  
COMPLIANCE CERTIFICATION SERVICES

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C, FCC CFR 47 Part 2, FCC CFR 47 Part 22H, 24E, 27K, and RSS-GEN, RSS132, RSS133, & RSS139.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) +  
Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a Bluetooth featured Tri-band CDMA Phone that manufactured by Kyocera Wireless Corporations

### 5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum ERP & EIRP output powers as follows:

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low CH - 824.70	CDMA2000	30.2	1047.1
Mid CH - 836.52		28.4	691.8
High CH - 848.31		26.8	478.6

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1851.25	CDMA2000	26.8	478.6
Mid CH - 1880.00		27.4	549.5
High CH - 1908.75		26.8	478.6

1710 to 1755 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1711.25	AWS	27.2	524.8
MID-Ch- 1733.00		27	501.2
High CH - 1753.75		27.6	575.4

### 5.3. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent Communication Test Set.

### 5.4. WORST-CASE CONFIGURATION AND MODE

The worst-position was the EUT with highest emissions. To determine the worst-case, the EUT was investigated for X, Y, and Z-Positions, and the worst position among X, Y, and Z with AC/DC adapter, after the investigations, the worst-position was turned out to be an Y-position with AC/DC adapter for all Cell, AWS, and PCS bands.

#### PROCEDURE USED TO ESTABLISH TEST SIGNAL

##### **3G-CDMA2000 1xRTT**

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

<u>Application</u>	<u>Rev, License</u>
CDMA2000 Mobil Test	B.10.11, L

##### 1xRTT

- Call Setup > Shift & Preset
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > RC3 (Fwd3, Rvs3)
- FCH Service Option (SO) Setup > 55
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps  
> R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Cell Info > Cell Parameters > System ID (SID) > 4395  
> Network ID (NID) > 0

Once "Active Cell" show "Connected " then change "Rvs Power Ctrl" from "Active bits" to "**All Up bits**" to get the maximum power.

Worst-case Measurement Result @ Low, Middle and High Channel

Worst-case Measurement Result for Low, Middle and High Channel under Radio Configuration RC3 and Service Option 55.

## 5.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC Adapter	Kyocera	TXTVL10127	834S-002	DoC

### I/O CABLES

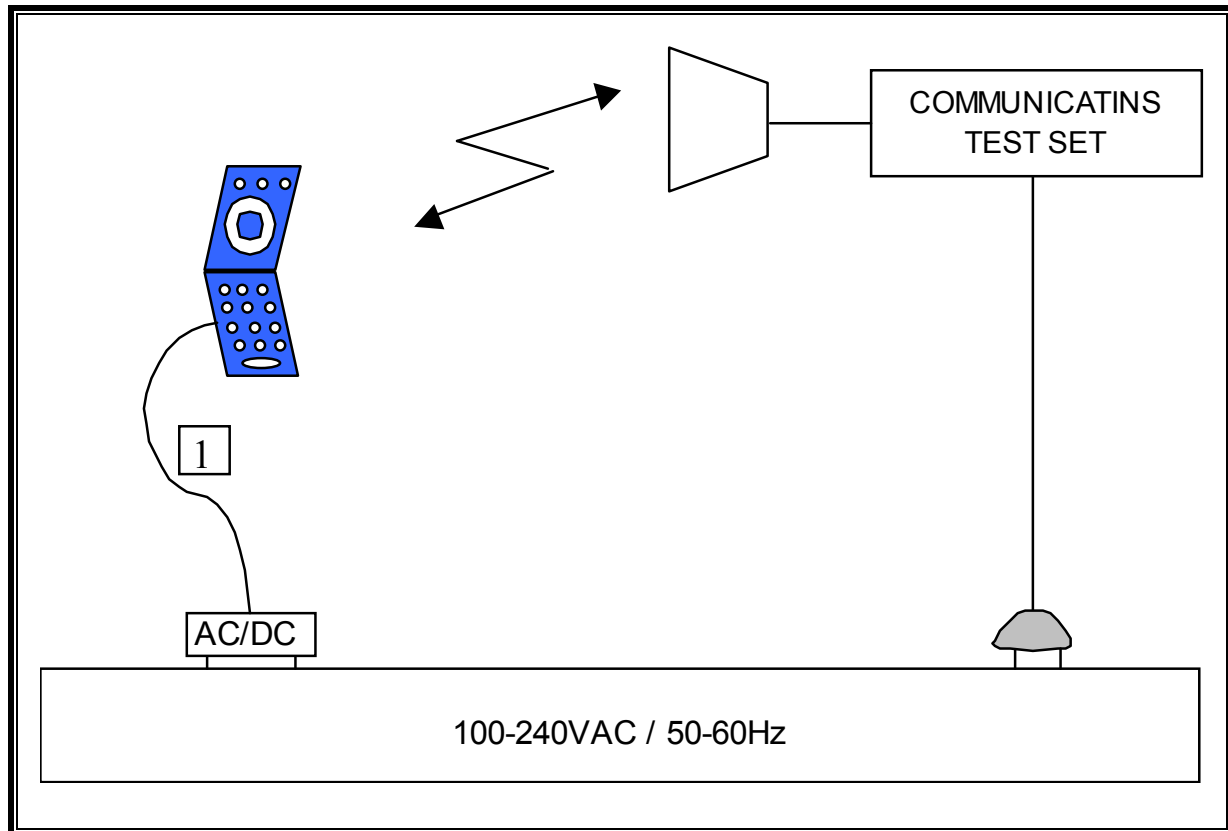
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC Input	1	Mini-USB	Un-Shielded	2.0 m	N/A

### TEST SETUP

The EUT is a CDMA phone and-is tested as a standalone configuration. Communications Test Set is used to link the device under test.



**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	08/05/09
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	02/11/10
Antenna, Horn, 18 GHz	ETS	3117	C01005	04/22/10
Horn	EMCO	3115	C00872	04/22/10
Dipole	Speag	D900V2	NA	11/16/11
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Signal Generator	R & S	SMP04	C00953	02/16/11
Communications Test Set	R & S	CMU200	C001131	04/16/10
Communications Test Set	Agilent / HP	E5515C	C01086	06/16/10
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	10/08/09

## **7. LIMITS AND RESULTS**

### **7.1. RADIATED OUTPUT POWER**

#### **LIMITS**

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(b) & RSS133 § 6.4 Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50 (d) (2) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to a peak EIRP of 1 watt.

RSS-132 § 4.4 The maximum ERP shall be 6.3 Watts for mobile stations.

#### **TEST PROCEDURE**

ANSI / TIA / EIA 603 Clause 2.2.17, RSS-132, & RSS-133

#### **RESULTS**

**CELL OUTPUT POWER (ERP)**

High Frequency Substitution Measurement Compliance Certification Services Chamber A							
<b>Company:</b> Kyocera <b>Project #:</b> 09U12590 <b>Date:</b> 5/18/2009 <b>Test Engineer:</b> Chin Pang <b>Configuration:</b> EUT with Earphone <b>Mode:</b> CDMA, Cell							
<b>Test Equipment:</b> Receiving: Sunol T122, and 3m Chamber N-type Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.							
f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
<b>Low Ch</b>							
824.70	-4.5	V	34.8	30.2	38.5	-8.2	
824.70	-13.2	H	30.5	17.3	38.5	-21.1	
<b>Mid Ch</b>							
836.52	-4.7	V	33.1	28.4	38.5	-10.0	
836.52	-9.1	H	31.2	22.1	38.5	-16.3	
<b>High Ch</b>							
848.31	-5.3	V	32.1	26.8	38.5	-11.7	
848.31	-14.5	H	31.2	16.7	38.5	-21.7	
Rev. 1.24.7							

**PCS OUTPUT POWER (EIRP)**

High Frequency Fundamental Measurement Compliance Certification Services Chamber A							
<b>Company:</b> Kyocera <b>Project #:</b> 09U12590 <b>Date:</b> 5/18/2009 <b>Test Engineer:</b> Chin Pang <b>Configuration:</b> EUT with Earphone <b>Mode:</b> CDMA, PCS							
<b>Test Equipment:</b> Receiving: Horn T73, and Camber B SMA Cables Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse							
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch</b>							
1.850	-13.6	V	40.4	26.8	33.0	-6.2	
1.850	-17.5	H	39.7	22.2	33.0	-10.8	
<b>Mid Ch</b>							
1.880	-12.5	V	39.9	27.4	33.0	-5.6	
1.880	-19.0	H	40.1	21.1	33.0	-11.9	
<b>High ch</b>							
1.910	-13.0	V	39.8	26.8	33.0	-6.2	
1.910	-21.0	H	40.2	19.2	33.0	-13.9	
Rev. 1.24.7							

**AWS OUTPUT POWER (EIRP)**

<b>High Frequency Fundamental Measurement Compliance Certification Services Chamber A</b>							
<b>Company:</b> Kyocera <b>Project #:</b> 09U12590 <b>Date:</b> 05/26/2009 <b>Test Engineer:</b> Tom Chen <b>Configuration:</b> EUT with Earphone <b>Mode:</b> TX AWS CDMA MODE							
<b>Test Equipment:</b> <b>Receiving:</b> Horn T73, and Camber B SMA Cables <b>Substitution:</b> Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse							
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch							
1.711	-12.9	V	39.8	27.0	30.0	-3.0	
1.711	-11.9	H	39.1	27.2	30.0	-2.8	
Mid Ch							
1.733	-13.0	V	40.0	27.0	30.0	-3.1	
1.733	-14.0	H	39.8	25.8	30.0	-4.2	
High Ch							
1.754	-12.5	V	40.1	27.6	30.0	-2.4	
1.754	-13.3	H	40.0	26.7	30.0	-3.3	
Rev. 1.24.7							

## **7.2. FIELD STRENGTH OF SPURIOUS RADIATION**

### **LIMIT**

§22.917 (e) and §24.238 (a), RSS-132 § 4.5.1, & RSS-133 § 6.5.1 (a) (i) & (b): 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.

§27.53 (g) For operations in the 1710–1755MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10} (P)$  dB.

### **TEST PROCEDURE**

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 22.917 (b), FCC 24.238 (b), & FCC 27.53 (g)(1)(2)(3), RSS-132, & RSS-133

### **RESULTS**

**CELL SPURIOUS & HARMONIC (ERP)**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement											
<b>Company:</b> Kyocera <b>Project #:</b> 09U12590 <b>Date:</b> 05/26/2009 <b>Test Engineer:</b> Tom Chen <b>Configuration:</b> EUT with Earphone <b>Mode:</b> TX CELL CDMA MODE											
<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #00796b; margin-bottom: 2px;">Chamber</div> <div style="border: 1px solid #ccc; padding: 2px;">5m Chamber A</div>			<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #00796b; margin-bottom: 2px;">Pre-amplifier</div> <div style="border: 1px solid #ccc; padding: 2px;">T144 8449B</div>			<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #00796b; margin-bottom: 2px;">Filter</div> <div style="border: 1px solid #ccc; padding: 2px;">Filter 1</div>			<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #00796b; margin-bottom: 2px;">Limit</div> <div style="border: 1px solid #ccc; padding: 2px;">FCC 22 TX</div>		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
<b>Low CH 824.7 MHz</b>											
1.649	-28.3	V	3.0	36.8	38.2	1.0	-28.6	-13.0	-15.6		
2.474	-39.3	V	3.0	41.7	37.5	1.0	-34.0	-13.0	-21.0		
1.649	-25.4	H	3.0	36.6	38.2	1.0	-26.0	-13.0	-13.0		
2.474	-43.4	H	3.0	40.0	37.5	1.0	-39.9	-13.0	-26.9		
<b>Mid CH 836.52 MHz</b>											
1.673	-35.5	V	3.0	37.1	38.1	1.0	-35.6	-13.0	-22.6		
1.673	-31.6	H	3.0	36.8	38.1	1.0	-31.9	-13.0	-18.9		
<b>High CH 848.31 MHz</b>											
1.697	-33.1	V	3.0	37.4	38.1	1.0	-32.9	-13.0	-19.9		
1.697	-31.3	H	3.0	37.0	38.1	1.0	-31.3	-13.0	-18.3		
No other emissions were found within 20dB from the limit of the system noise up to 10th harmonic											
Rev. 03.03.09											



**PCS Spurious & Harmonic (EIRP)**

<b>Compliance Certification Services</b> <b>Above 1GHz High Frequency Substitution Measurement</b>											
<b>Company:</b> Kyocera <b>Project #:</b> 09U12590 <b>Date:</b> 05/26/2009 <b>Test Engineer:</b> Tom Chen <b>Configuration:</b> EUT with Earphone <b>Mode:</b> TX PCS CDMA MODE											
<b>Chamber</b>		<b>Pre-amplifier</b>		<b>Filter</b>		<b>Limit</b>					
5m Chamber A		T144 8449B		Filter 1		FCC 24 Tx					
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low CH 1.850 GHz											
3.700	-51.3	V	3.0	44.9	36.8	1.0	-42.2	-13.0	-29.2		
3.700	-51.7	H	3.0	45.0	36.8	1.0	-42.5	-13.0	-29.5		
Mid CH 1.880 GHz											
3.760	-51.7	V	3.0	45.1	36.8	1.0	-42.4	-13.0	-29.4		
3.760	-49.6	H	3.0	45.2	36.8	1.0	-40.2	-13.0	-27.2		
High CH 1.9087 GHz											
3.817	-51.4	V	3.0	45.2	36.7	1.0	-41.9	-13.0	-28.9		
3.817	-50.8	H	3.0	45.3	36.7	1.0	-41.2	-13.0	-28.2		
No other emissions were found within 20dB from the limit of the system noise up to 10th harmonic											
Rev. 03.03.09											

**AWS Spurious & Harmonic (EIRP)**

<b>Compliance Certification Services</b> <b>Above 1GHz High Frequency Substitution Measurement</b>										
<b>Company:</b> Kyocera <b>Project #:</b> 09U12590 <b>Date:</b> 05/26/2009 <b>Test Engineer:</b> Tom Chen <b>Configuration:</b> EUT with Eraphone <b>Mode:</b> TX AWS MODE										
<b>Chamber</b>		<b>Pre-amplifier</b>		<b>Filter</b>		<b>Limit</b>				
5m Chamber A		T144 8449B		Filter 1		FCC 27 TX				
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low CH 1.711 GHz										
3.422	-50.7	V	3.0	44.3	37.0	1.0	-42.5	-13.0	-29.5	
3.422	-51.0	H	3.0	44.2	37.0	1.0	-42.8	-13.0	-29.8	
Mid CH 1.7325 GHz										
3.465	-49.8	V	3.0	44.4	37.0	1.0	-41.4	-13.0	-28.4	
3.465	-50.3	H	3.0	44.3	37.0	1.0	-42.0	-13.0	-29.0	
High CH 1.754 GHz										
3.507	-50.9	V	3.0	44.5	37.0	1.0	-42.4	-13.0	-29.4	
3.507	-50.4	H	3.0	44.5	37.0	1.0	-41.9	-13.0	-28.9	
No other emissions were found within 20dB from the limit of the system noise up to 10th harmonic										
Rev. 03.03.09										

### 7.3. RECEIVER SPURIOUS EMISSIONS

#### LIMIT

RSS-Gen 7.2.2

Spurious Emission Limits for Receivers:

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

#### TEST PROCEDURE

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable and local oscillator frequencies.

#### RESULTS

**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)**

**HORIZONTAL**

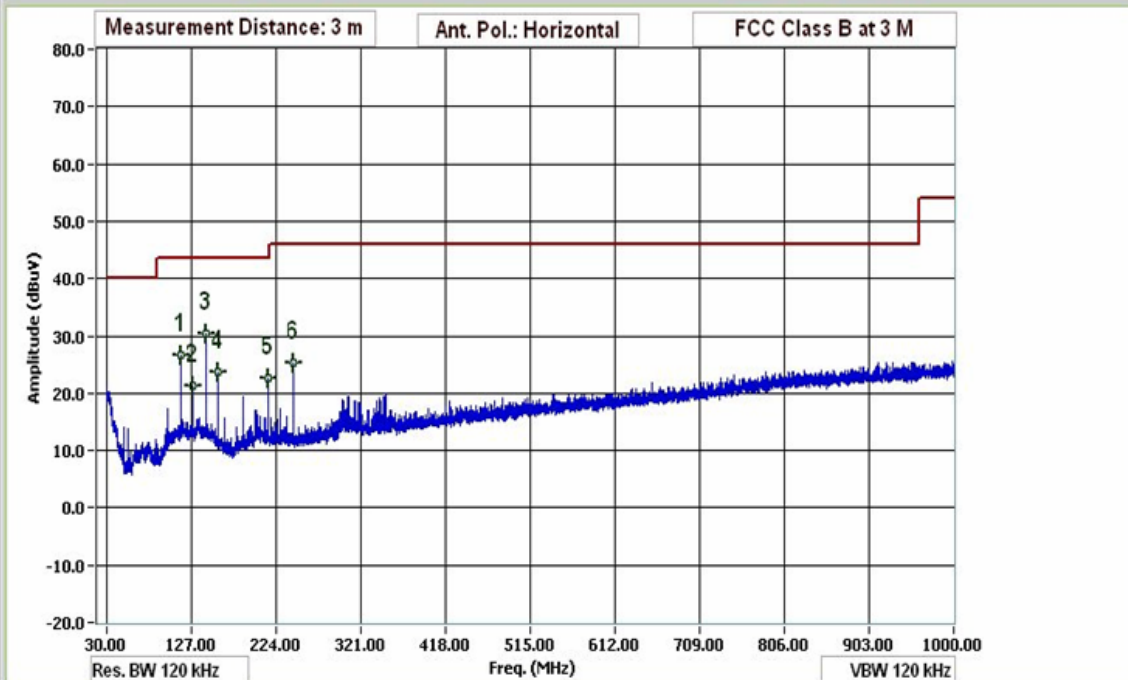
30-1000MHz Frequency Measurement  
Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 05/28/09  
Project #: 09U12590  
Company: Kyocera  
EUT Description: EUT with Earphone  
Test Target: FCC Class B  
Mode Oper: Normal

f	Measurement Frequency	Amp	Preamp Gain	Margin	Margin vs. Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		
Read	Analyzer Reading	Filter	Filter Insert Loss		
AF	Antenna Factor	Corr.	Calculated Field Strength		
CL	Cable Loss	Limit	Field Strength Limit		

f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
114.483	3.0	42.5	12.7	1.0	29.5	0.0	0.0	26.6	43.5	-16.9	H	P	
128.884	3.0	35.8	13.7	1.0	29.4	0.0	0.0	21.2	43.5	-22.3	H	P	
143.165	3.0	45.5	13.0	1.1	29.3	0.0	0.0	30.3	43.5	-13.2	H	P	
157.565	3.0	40.6	11.2	1.1	29.3	0.0	0.0	23.7	43.5	-19.8	H	P	
214.808	3.0	38.4	11.9	1.3	28.9	0.0	0.0	22.8	43.5	-20.7	H	P	
243.369	3.0	40.8	11.8	1.4	28.8	0.0	0.0	25.2	46.0	-20.8	H	P	

Measurement Configuration



Project No.: 09U12590

**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

**VERTICAL**

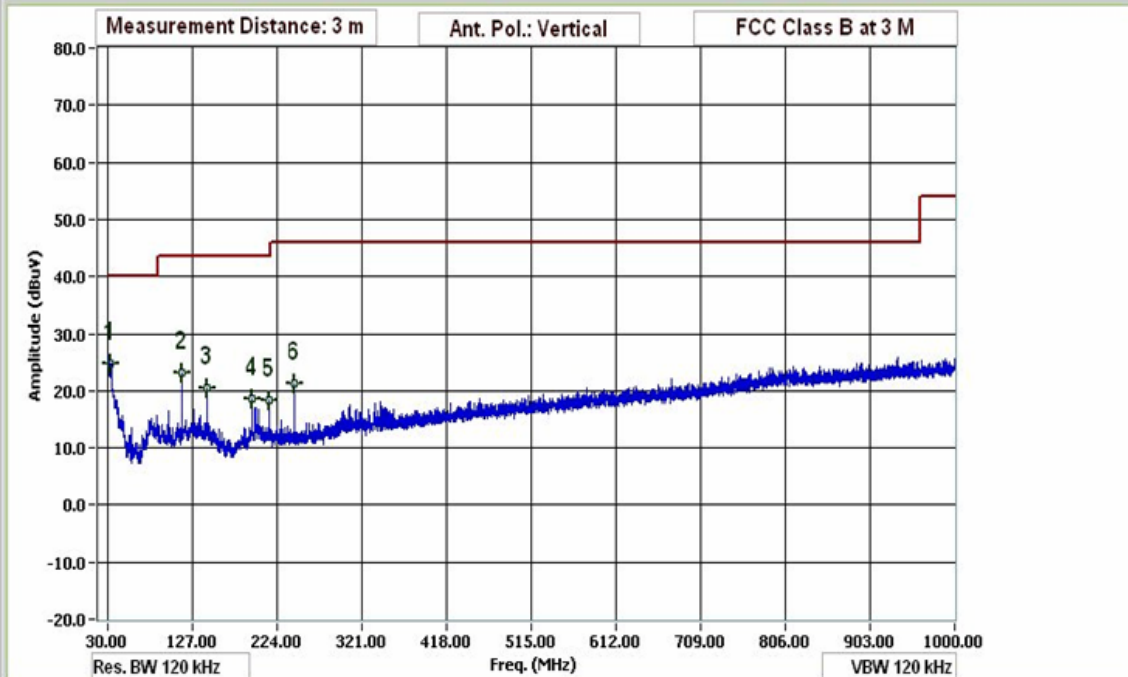
30-1000MHz Frequency Measurement  
Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 05/28/09  
Project #: 09U12590  
Company: Kyocera  
EUT Description: EUT with Earphone  
Test Target: FCC Class B  
Mode Oper: Normal

f	Measurement Frequency	Amp	Preamplifier Gain	Margin	Margin vs. Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		
Read	Analyzer Reading	Filter	Filter Insert Loss		
AF	Antenna Factor	Corr.	Calculated Field Strength		
CL	Cable Loss	Limit	Field Strength Limit		

f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
33.720	3.0	35.3	18.6	0.5	29.7	0.0	0.0	24.8	40.0	-15.2	V	P	
114.483	3.0	38.9	12.7	1.0	29.5	0.0	0.0	23.0	43.5	-20.5	V	P	
143.165	3.0	35.8	13.0	1.1	29.3	0.0	0.0	20.6	43.5	-22.9	V	P	
195.367	3.0	34.7	11.6	1.3	28.9	0.0	0.0	18.6	43.5	-24.9	V	P	
214.808	3.0	34.0	11.9	1.3	28.9	0.0	0.0	18.4	43.5	-25.1	V	P	
243.369	3.0	37.0	11.8	1.4	28.8	0.0	0.0	21.4	46.0	-24.6	V	P	

Measurement Configuration



Project No.: 09U12590

**SPURIOUS EMISSIONS ABOVE 1000 MHz**

<b>High Frequency Measurement</b> Compliance Certification Services, Fremont 5m Chamber																
<b>Company:</b> Kyocera <b>Project #:</b> 09U12590 <b>Date:</b> 5/27/2009 <b>Test Engineer:</b> Tom Chen <b>Configuration:</b> EUT with Headphone <b>Mode:</b> RX																
<b>Test Equipment:</b>																
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit				
T60; S/N: 2238 @3m			T34 HP 8449B									RX RSS 210				
<b>HI Frequency Cables</b>																
3' cable 22807700			12' cable 22807600			20' cable 22807500			HPF			Reject Filter			<b>Peak Measurements</b> RBW=VBW=1MHz <b>Average Measurements</b> RBW=1MHz; VBW=10Hz	
3' cable 22807700			12' cable 22807600			20' cable 22807500										
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filt dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)	
2.143	3.0	50.3	37.9	27.9	3.6	-36.7	0.0	0.0	45.1	32.7	74	54	-28.9	-21.3	V	
2.458	3.0	47.3	34.9	28.2	3.9	-36.3	0.0	0.0	43.1	30.7	74	54	-30.9	-23.3	V	
3.277	3.0	39.7	27.3	30.3	4.6	-35.6	0.0	0.0	39.0	26.6	74	54	-35.0	-27.4	V	
5.788	3.0	35.8	23.4	33.6	6.4	-35.0	0.0	0.0	40.8	28.4	74	54	-33.2	-25.6	V	
2.408	3.0	50.4	38.0	28.1	3.8	-36.3	0.0	0.0	46.0	33.6	74	54	-28.0	-20.4	H	
2.456	3.0	46.9	34.5	28.2	3.9	-36.3	0.0	0.0	42.7	30.3	74	54	-31.3	-23.7	H	
4.368	3.0	37.4	25.0	32.3	5.4	-34.9	0.0	0.0	40.3	27.9	74	54	-33.7	-26.1	H	
5.360	3.0	36.6	24.2	33.4	6.2	-34.7	0.0	0.0	41.5	29.1	74	54	-32.5	-24.9	H	
Rev. 11.10.08																
f	Measurement Frequency			Amp	Preamp Gain			Avg Lim	Average Field Strength Limit							
Dist	Distance to Antenna			D Corr	Distance Correct to 3 meters			Pk Lim	Peak Field Strength Limit							
Read	Analyzer Reading			Avg	Average Field Strength @ 3 m			Avg Mar	Margin vs. Average Limit							
AF	Antenna Factor			Peak	Calculated Peak Field Strength			Pk Mar	Margin vs. Peak Limit							
CL	Cable Loss			HPF	High Pass Filter											

## 7.4. POWER LINE CONDUCTED EMISSION

### LIMIT

#### RSS-Gen 7.2.2

Except when the requirements applicable to a given device state otherwise, for any licence-exempt radio communication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.

Table 2 – AC Power Lines Conducted Emission Limits

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

\* Decreases with the logarithm of the frequency.

### RESULTS

# **6 WORST EMISSIONS**

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.16	44.61	--	29.76	0.00	65.73	55.73	-21.12	-25.97	L1
0.59	41.99	--	24.98	0.00	56.00	46.00	-14.01	-21.02	L1
0.83	46.51	--	29.14	0.00	56.00	46.00	-9.49	-16.86	L1
0.16	64.93	58.70	36.26	0.00	65.73	55.73	-7.03	-19.47	L2
0.20	63.99	55.80	32.01	0.00	63.69	53.69	-7.89	-21.68	L2
0.24	62.25	53.96	31.82	0.00	62.03	52.03	-8.07	-20.21	L2
6 Worst Data									

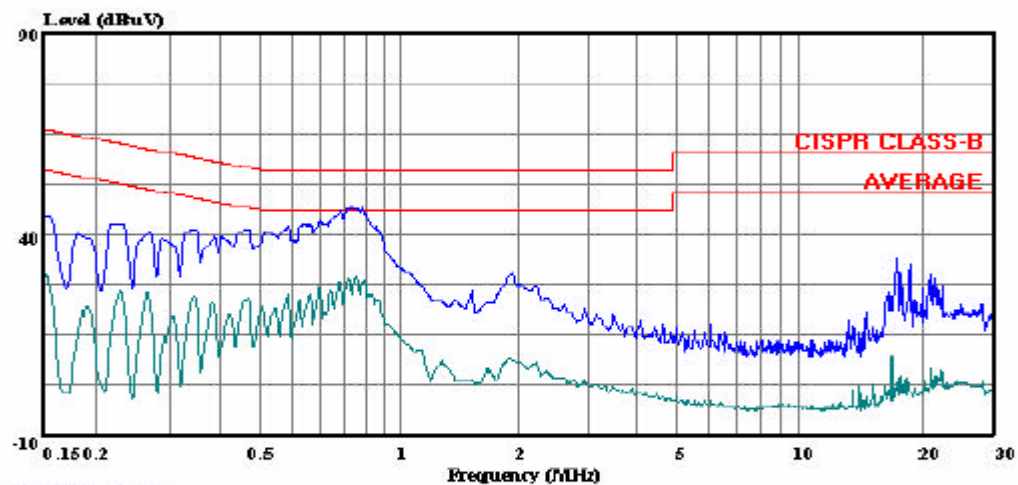


## LINE 1 RESULTS



Compliance Certification Services  
47173 Benicia Street  
Fremont, CA 94538  
Tel: (510) 771-1000  
Fax: (510) 661-0888

Data#: 14 File#: 09U12590 LC.EMI Date: 05-19-2009 Time: 09:48:25



(Line Conduction)

Trace: 12

Ref Trace:

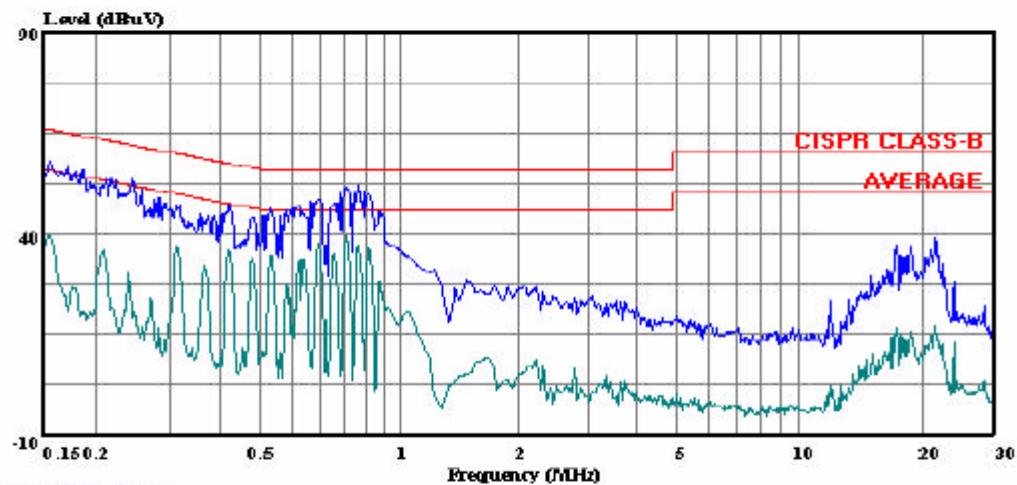
Condition: CISPR CLASS-B  
Test Operator: : Thanh Nguyen  
Project #: : 09U12590  
Company: : KYOCERA  
EUT Description: : Tri-Band Cell Phone with Bluetooth  
Mode: : Normal  
Target: : FCC Class B  
Voltage: : 115Vac, 60Hz  
: L1 : Peak ( Blue ) , Average ( Green )

## LINE 2 RESULTS



Compliance Certification Services  
47173 Benicia Street  
Fremont, CA 94538  
Tel: (510) 771-1000  
Fax: (510) 661-0888

Data#: 21 File#: 09U12590 LC.EMI Date: 05-19-2009 Time: 10:10:33



(Line Conduction)

Trace: 19

Ref Trace:

Condition: CISPR CLASS-B  
Test Operator: : Thanh Nguyen  
Project #: : 09U12590  
Company: : KYOCERA  
EUT Description: : Tri-Band Cell Phone with Bluetooth  
Mode: : Normal  
Target: : FCC Class B  
Voltage: : 115Vac, 60Hz  
: L2 : Peak ( Blue ) , Average ( Green )