

### RADIATED SPURIOUS EMISSIONS PORTIONS OF FCC CFR47 PART 15 SUBPART C

**CERTIFICATION TEST REPORT** 

FOR

SINGLE BAND CDMA WITH BLUETOOTH + EDR

FCC MODEL NUMBER: SA001

FCC ID: V65SA001

REPORT NUMBER: 09U12730-3

ISSUE DATE: JULY 23, 2009

Prepared for KYOCERA CORPORATION C/O KYOCERA COMMUNICATION INC. 10300 CAMPUS POINT DRIVE SAN DIEGO, CA 92121, U.S.A.

Prepared by COMPLIANCE CERTIFICATION SERVICES 47173 BENICIA STREET FREMONT, CA 94538, U.S.A. TEL: (510) 771-1000 FAX: (510) 661-0888

(R)

NVLAP LAB CODE 200065-0

**Revision History** 

Rev.	lssue Date	Revisions	Revised By
	07/23/09	Initial Issue	T. Chan

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## **1. ATTESTATION OF TEST RESULTS**

COMPANY NAME: KYOCERA CORPORATION C/O KYOCERA COMMUNICATION INC. 10300 CAMPUS POINT DRIVE SAN DIEGO, CA 92121, USA

**EUT DESCRIPTION:** SINGLE-BAND CDMA PHONE WITH BLUETOOTH + EDR

FCC MODEL NUMBER: SA001

SERIAL NUMBER: SSAE1000010

**DATE TESTED:** JULY 22-24, 2009

APPLICABLE STANDARDS								
STANDARD	TEST RESULTS							
CFR 47 Part 15 Subpart C	PASS (Radiated Portions)							

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 CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For CCS By:

Tested By:

THU CHAN EMC MANAGER COMPLIANCE CERTIFICATION SERVICES

TOM CHEN EMC ENGINEER COMPLIANCE CERTIFICATION SERVICES

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# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 2, and RSS-210 Issue 7.

# 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 <u>http://www.ccsemc.com</u>.

# 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 single-band CDMA Phone that manufactured by Kyocera Corporation.

## 5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal antenna, with a maximum gain of -8.6dBi.

## 5.3. SOFTWARE AND FIRMWARE

The testing utility software was installed in the EUT.

## 5.4. WORST-CASE CONFIGURATION AND MODE

The worst-case is, EUT with highest emissions. To determine the worst-case, the EUT was investigated for X, Y, and Z-Positions in both slide in and out condition, and the worst case among the above positions with AC/DC adapter. After the investigations, the worst-position turned out to be a slide in X-position with AC adapter.

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### 5.5. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST										
Description	Manufacturer	Model	Serial Number	FCC ID						
AC/DC Adapter	KDDI	HS-YDA	0203PQA	DoC						

#### I/O CABLES

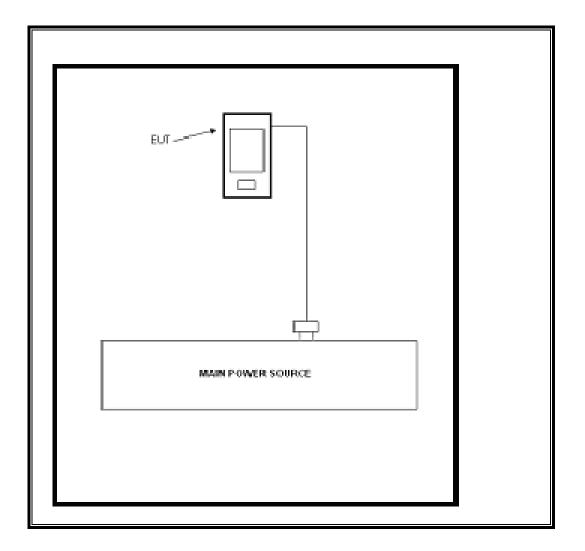
	I/O CABLE LIST												
Cable	Port	#of	Connector	Cable	Cable	Remarks							
No.		Identical	Туре	Туре	Length								
		Ports											
1	DC Input	1	MiniUSB	Un-Shielded	1.5m	N/A							

#### TEST SETUP

EUT is tested as standalone device.

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#### **SETUP DIAGRAM FOR TESTS**



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# 6. TEST AND MEASUREMENT EQUIPMENT

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

	TEST EQUIPM	ENT LIST		
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C00986	02/03/10
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	12/16/09
Antenna, Horn, 18 GHz	EMCO	3115	C00872	04/22/10
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	01/14/10
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	02/04/10
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	02/04/10
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	N02481	10/29/09
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	10/29/09
2.4 - 2.5 Reject Filter	Micro Tronics	BRM50702	N/A	N/A

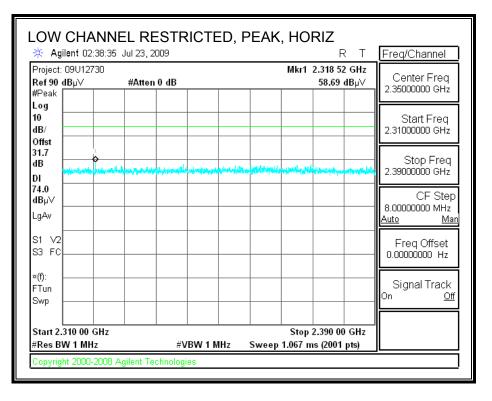
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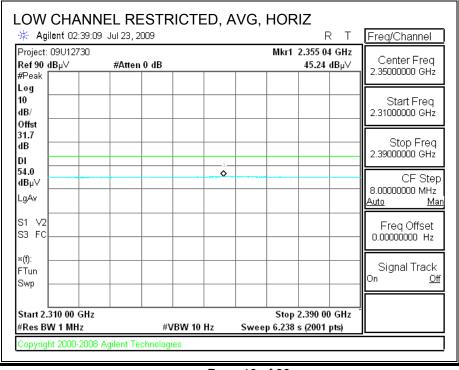
## 7. RADIATED TEST RESULTS

## 7.1. TRANSMITTER ABOVE 1 GHz

### 7.1.1. BASIC DATA RATE GFSK MODULATION

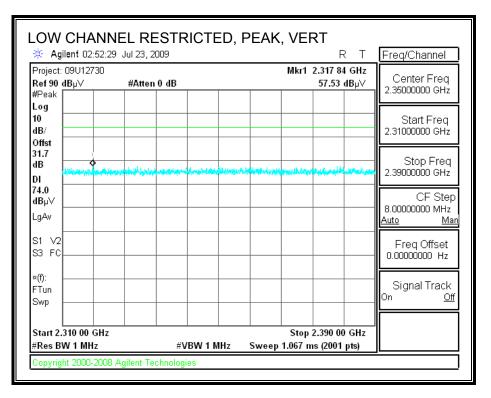
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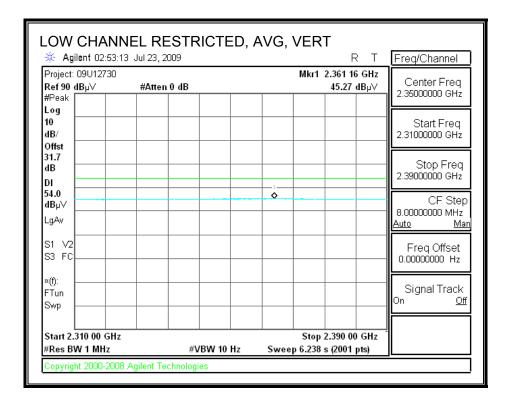




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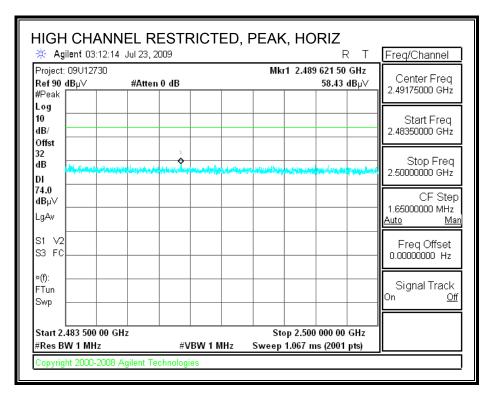
#### **RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**

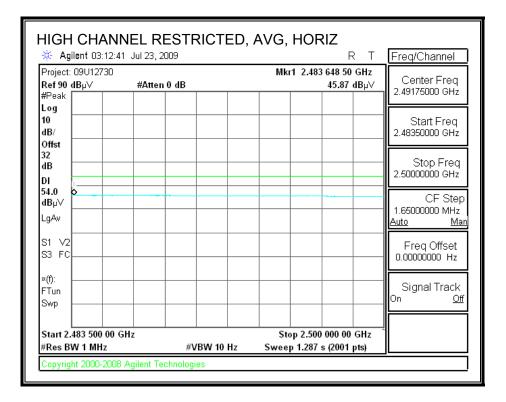




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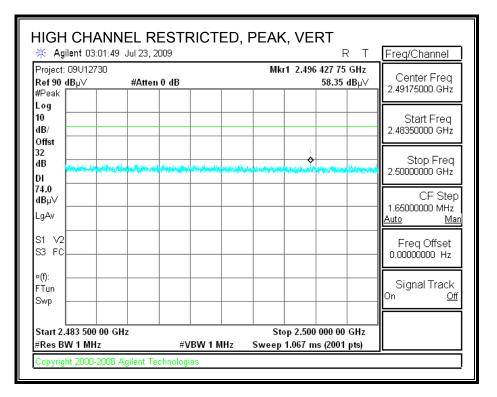
#### **RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**

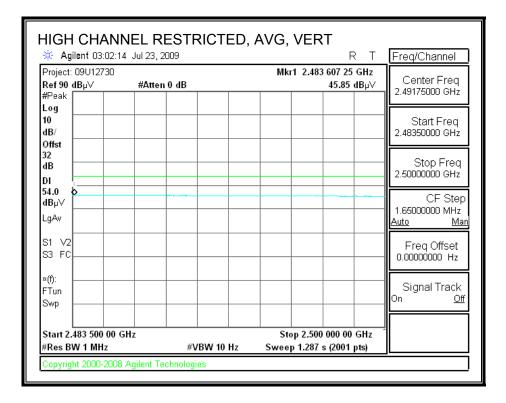




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#### **RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**





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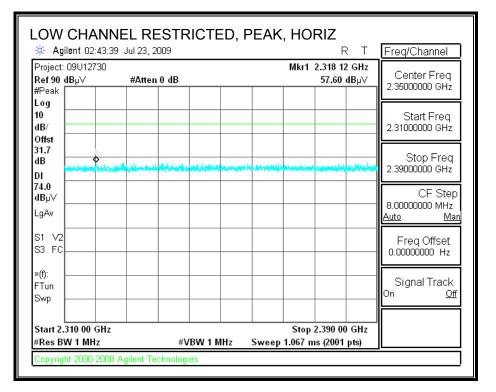
#### HARMONICS AND SPURIOUS EMISSIONS

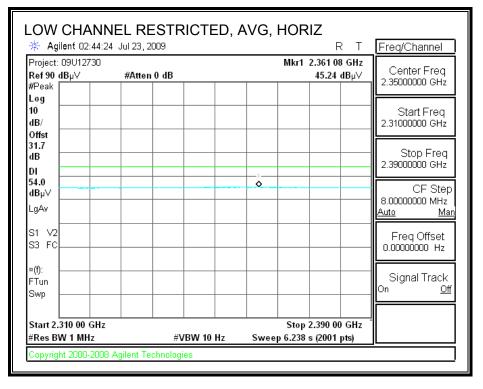
Complia		Vleasuren ification		s, Fre	mont 51	n Chamb	er								
Test Engr		Tom Che													
Date:		07/23/09													
Project #		09U1273	-		. <b>.</b>										
Company FIT D		Kyocera					a .								
EUT Desc EUT M/N:	-	Single b EUT with			ione wi	th Blueto	oth +	EDK							
CUI NUN: Test Targ		FCC Cla	-	er											
Mode Op		TX GFSF													
mout op	f	Measuren		mency	Amp	Preamp (	Jain			Average	Field Stren	eth Limit			
I Dist		Distance			-	Distance		t to 3 me	ters		ld Strength	~			
	Read	Analyzer			Avg			trength @			rs. Average				
	AF	Antenna	Factor		Peak	Calculate	d Peak	Field Stre	ngth	Margin v	rs. Peak Li	mit			
	CL	Cable Los	55		HPF	High Pas	s Filter								
f	Dist	Read	AF	CL	Amp	D Corr	Fltr	Corr.	Limit	Margin	Ant. Pol.	Det.	AntHigh	Table Angle	Notes
GHz	(m)	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	₫₿	V/H	P/A/QP	cm	Degree	
L	2402 GF	ew	1	:											
LOW UH		JV	1		1										
4.804	3.0	38.8	32.8	5.8	-34.8	0.0	0.0	42.4	74.0	-31.6	н	Р	100.2	59.8	Hori
4.804 4.804	3.0 3.0	38.8 26.7	32.8	5.8	-34.8	0.0	0.0	30.4	54.0	- <b>23.6</b>	H	A	100.2	59.8	Hori
4.804 4.804 4.804	3.0 3.0 3.0	38.8 26.7 41.1	32.8 32.8	5.8 5.8	-34.8 -34.8	0.0 0.0	0.0 0.0	30.4 44.8	54.0 74.0	-23.6 -29.2	H V	A P	100.2 100.2	59.8 10.5	Hori Vert
4.804 4.804 4.804 4.804 4.804	3.0 3.0 3.0 3.0	38.8 26.7 41.1 29.2	32.8	5.8	-34.8	0.0	0.0	30.4	54.0	- <b>23.6</b>	H	A	100.2	59.8	Hori
4.804 4.804 4.804 4.804 4.804 Mid CH 3	3.0 3.0 3.0 3.0 2441 GF	38.8 26.7 41.1 29.2 5K	32.8 32.8 32.8	5.8 5.8 5.8	-34.8 -34.8 -34.8	0.0 0.0 0.0	0.0 0.0 0.0	30.4 44.8 32.9	54.0 74.0 54.0	-23.6 -29.2 -21.1	H V V	A P A	100.2 100.2 100.2	59.8 10.5 10.5	Hori Vert Vert
4.804 4.804 4.804 4.804 Mid CH 3 4.882	3.0 3.0 3.0 3.0 2441 GF 3.0	38.8 26.7 41.1 29.2 5K 38.8	32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8	-34.8 -34.8 -34.8 -34.9	0.0 0.0 0.0	0.0 0.0 0.0	30.4 44.8 32.9 42.6	54.0 74.0 54.0 74.0	-23.6 -29.2 -21.1 -31.4	H V V H	A P A P	100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8	Hori Vert Vert Hori
4.804 4.804 4.804 4.804 Mid CH 3 4.882 4.882	3.0 3.0 3.0 3.0 2441 GF	38.8 26.7 41.1 29.2 5K	32.8 32.8 32.8	5.8 5.8 5.8	-34.8 -34.8 -34.8	0.0 0.0 0.0	0.0 0.0 0.0	30.4 44.8 32.9	54.0 74.0 54.0	-23.6 -29.2 -21.1	H V V	A P A	100.2 100.2 100.2	59.8 10.5 10.5	Hori Vert Vert
4.804 4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882	3.0 3.0 3.0 3.0 2441 GF 3.0 3.0 3.0	38.8 26.7 41.1 29.2 5K 38.8 26.8	32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8	-34.8 -34.8 -34.8 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	30.4 44.8 32.9 42.6 30.6	54.0 74.0 54.0 74.0 54.0	-23.6 -29.2 -21.1 -31.4 -23.4	H V V H H	A P A P A	100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8	Hori Vert Vert Hori Hori
4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882 4.882 4.882 4.882	3.0 3.0 3.0 3.0 2441 GF 3.0 3.0 3.0 3.0 3.0 3.0	38.8 26.7 41.1 29.2 5K 38.8 26.8 39.0 26.5	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8	-34.8 -34.8 -34.8 -34.9 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	30.4 44.8 32.9 42.6 30.6 42.8	54.0 74.0 54.0 74.0 54.0 74.0 74.0	-23.6 -29.2 -21.1 -31.4 -23.4 -31.2	H V V H H V	A P A P A P A	100.2 100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8 10.5	Hori Vert Vert Hori Hori Vert
4.804 4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882 4.882 4.882 Hi CH 24 4.960	3.0 3.0 3.0 2441 CF 3.0 3.0 3.0 3.0 3.0 480 CF5 3.0	38.8 26.7 41.1 29.2 5K 38.8 26.8 39.0 26.5 5 5 39.5	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.9	-34.8 -34.8 -34.8 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	30.4 44.8 32.9 42.6 30.6 42.8 30.3 43.4	54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0	-23.6 -29.2 -21.1 -31.4 -23.4 -31.2 -23.7 -30.6	H V V H H V V V	A P A P A P A P	100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8 10.5 10.5 10.5 182.2	Hori Vert Vert Hori Hori Vert Vert Hori
4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882 4.882 4.882 4.882 Hi CH 24 4.960 4.960	3.0 3.0 3.0 2441 CF 3.0 3.0 3.0 3.0 80 CFS 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.8 26.7 41.1 29.2 5K 38.8 26.8 39.0 26.5 5 5 39.5 27.5	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.9 5.9	-34.8 -34.8 -34.8 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	30.4 44.8 32.9 42.6 30.6 42.8 30.3 43.4 31.5	54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0	-23.6 -29.2 -21.1 -31.4 -23.4 -31.2 -23.7 -23.7 -30.6 -22.5	H V V H H V V V H H	A P A P A P A	100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.7	59.8 10.5 10.5 59.8 59.8 10.5 10.5 10.5 182.2 182.2	Hori Vert Vert Hori Hori Vert Vert Hori Hori
	3.0 3.0 3.0 2441 CF 3.0 3.0 3.0 3.0 3.0 480 CF5 3.0	38.8 26.7 41.1 29.2 5K 38.8 26.8 39.0 26.5 5 5 39.5	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.9	-34.8 -34.8 -34.8 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	30.4 44.8 32.9 42.6 30.6 42.8 30.3 43.4	54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0	-23.6 -29.2 -21.1 -31.4 -23.4 -31.2 -23.7 -30.6	H V V H H V V V	A P A P A P A P	100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8 10.5 10.5 10.5 182.2	Hori Vert Vert Hori Hori Vert Vert Hori

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### 7.1.2. ENHANCED DATA RATE 8PSK MODULATION

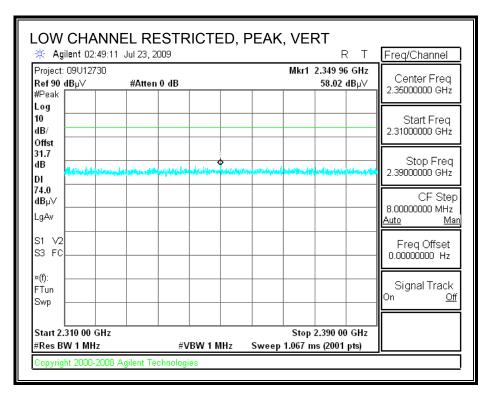
#### **RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**

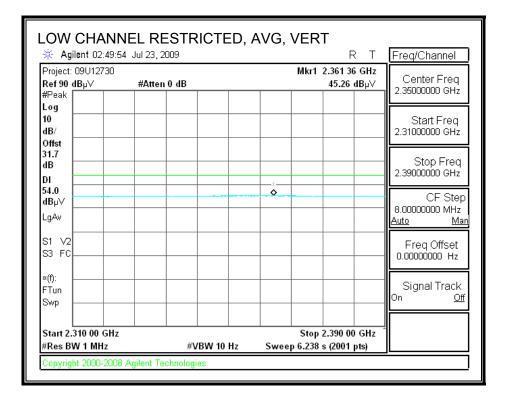




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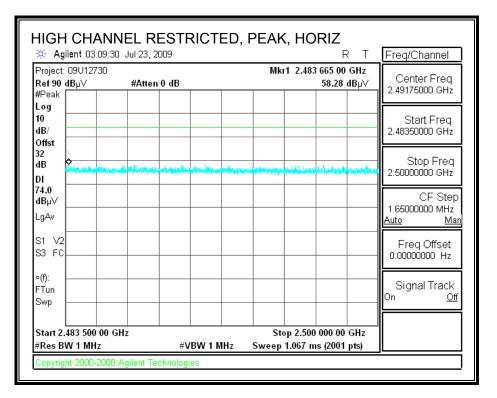
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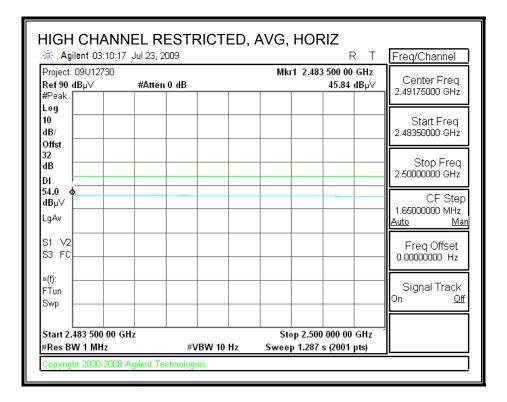




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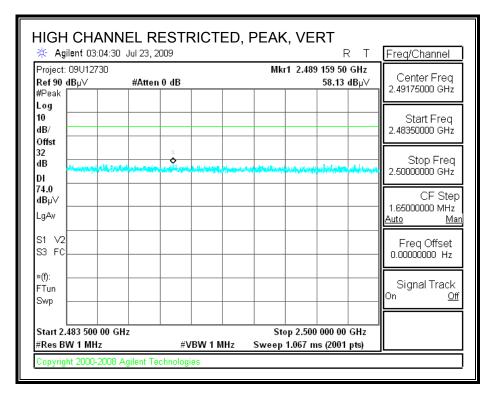
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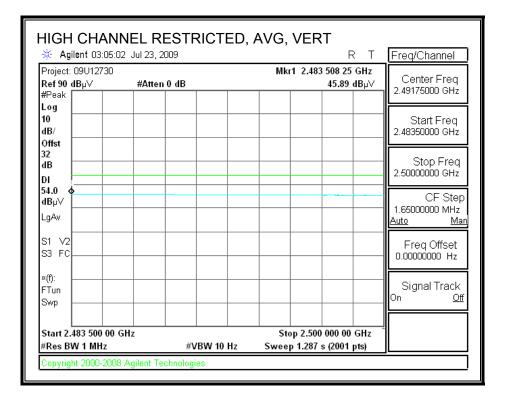




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#### **RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**





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#### HARMONICS AND SPURIOUS EMISSIONS

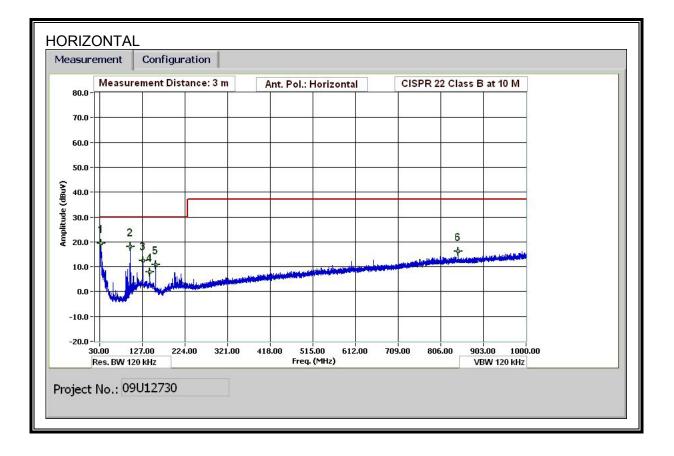
Complia		Measuren tification		s, Fre:	mont 5n	n Chambo	er								
Test Engr		Tom Che													
Date:		07/23/09													
Project #		09U1273	-												
Company		Kyocera													
	-				none wi	th Blueto	oth +	EDR							
EUT M/N: Test Targ		EUT with	-	er											
Mode Op		FCC Cla TX 8P5K													
mode Op	f	Measuren			A.m.n.	Preamp (	Zain			A 1707.000	Field Stren	ath I innit			
	Dist	Distance			-	Distance		t to 3 me	- arc		ld Strength	~			
	Read	Analyzer			Avg			trength @			rs. Average				
	AF	Antenna			Peak			Field Stre		-	rs. Peak Li				
	CL	Cable Los	55		HPF	High Pas			Ū.	Ŭ					
f	Dist	Read	AF	CL	Атр	D Corr	Fltr	Corr.	Limit	Margin	Ant. Pol.	Det.	AntHigh	Table Angle	Notes
GHz	(m)	dBuV	dB/m	dВ	dB	dВ	dB	dBuV/m	dBuV/m	dB	V/H	P/A/OP	cm	Degree	
Low CH	2402 8P9	5K										<u> </u>			
4.804	2402 8P 3.0	5K 38.4	32.8	5.8	-34.8	0.0	0.0	42.1	74.0	-31.9	н	Р	100.2	59.8	Hori
4.804 4.804	3.0 3.0	38.4 26.7	32.8	5.8	-34.8	0.0	0.0	30.4	54.0	-23.6	H	P A	100.2	59.8	Hori
4.804 4.804 4.804	3.0 3.0 3.0	38.4 26.7 40.3	32.8 32.8	5.8 5.8	-34.8 -34.8	0.0 0.0	0.0 0.0	30.4 43.9	54.0 74.0	-23.6 -30.1	H V	P A P	100.2 100.2	59.8 10.5	Hori Vert
4.804 4.804 4.804 4.804 4.804	3.0 3.0 3.0 3.0	38.4 26.7 40.3 28.6	32.8	5.8	-34.8	0.0	0.0	30.4	54.0	-23.6	H	P A	100.2	59.8	Hori
4.804 4.804 4.804 4.804 Mid CH 3	3.0 3.0 3.0 3.0 2441 8P5	38.4 26.7 40.3 28.6 K	32.8 32.8 32.8	5.8 5.8 5.8	-34.8 -34.8 -34.8	0.0 0.0 0.0	0.0 0.0 0.0	30.4 43.9 32.3	54.0 74.0 54.0	-23.6 -30.1 -21.7	H V V	P A P A	100.2 100.2 100.2	59.8 10.5 10.5	Hori Vert Vert
4.804 4.804 4.804 4.804 Mid CH 3 4.882	3.0 3.0 3.0 3.0 2441 8P9 3.0	38.4 26.7 40.3 28.6 K 38.8	32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8	-34.8 -34.8 -34.8 -34.9	0.0 0.0 0.0	0.0 0.0 0.0	30.4 43.9 32.3 42.6	54.0 74.0 54.0 74.0	-23.6 -30.1 -21.7 -31.4	H V V	P A P A P	100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8	Hori Vert Vert Hori
4.804 4.804 4.804 4.804 Mid CH 3 4.882 4.882	3.0 3.0 3.0 3.0 2441 8P9 3.0 3.0	38.4 26.7 40.3 28.6 6K 38.8 26.8	32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8	-34.8 -34.8 -34.8 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	30.4 43.9 32.3 42.6 30.6	54.0 74.0 54.0 74.0 54.0	-23.6 -30.1 -21.7 -31.4 -23.4	H V V H H	P A P A P A	100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8 59.8	Hori Vert Vert Hori Hori
4.804 4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882	3.0 3.0 3.0 3.0 2441 8P9 3.0	38.4 26.7 40.3 28.6 K 38.8	32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8	-34.8 -34.8 -34.8 -34.9	0.0 0.0 0.0	0.0 0.0 0.0	30.4 43.9 32.3 42.6	54.0 74.0 54.0 74.0	-23.6 -30.1 -21.7 -31.4	H V V	P A P A P	100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8	Hori Vert Vert Hori
4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882 4.882 4.882 4.882	3.0 3.0 3.0 3.0 2441 8P9 3.0 3.0 3.0 3.0 3.0 3.0	38.4 26.7 40.3 28.6 5K 38.8 26.8 38.4 26.5 5	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8	-34.8 -34.8 -34.8 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	30.4 43.9 32.3 42.6 30.6 42.2	54.0 74.0 54.0 74.0 54.0 74.0 74.0	-23.6 -30.1 -21.7 -31.4 -23.4 -31.8 -23.7	H V V H H V	P A P A P A	100.2 100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8 10.5	Hori Vert Vert Hori Hori Vert
4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882 4.882 4.882 4.882 Hi CH 24 4.960	3.0 3.0 3.0 2441 8P5 3.0 3.0 3.0 3.0 3.0 480 8P51 3.0	38.4 26.7 40.3 28.6 5K 38.8 26.8 38.4 26.5 40.5	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.9	-34.8 -34.8 -34.8 -34.9 -34.9 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	30.4 43.9 32.3 42.6 30.6 42.2 30.3 44.4	54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0	-23.6 -30.1 -21.7 -31.4 -23.4 -31.8 -23.7 -29.6	H V V H H V V H	P A P A P A P P	100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8 10.5 10.5 10.5 182.2	Hori Vert Vert Hori Hori Vert Vert Hori
4.804 4.804 4.804 Mid CH 2 4.882 4.882 4.882 4.882 4.882 4.882 Hi CH 24 4.960 4.960	3.0 3.0 3.0 2441 8P5 3.0 3.0 3.0 3.0 80 8P51 3.0 3.0 3.0 3.0 3.0 3.0	38.4 26.7 40.3 28.6 38.8 26.8 38.4 26.5 40.5 27.7	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.9 5.9	-34.8 -34.8 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	30.4 43.9 32.3 42.6 30.6 42.2 30.3 44.4 31.6	54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0	-23.6 -30.1 -21.7 -31.4 -23.4 -31.8 -23.7 -29.6 -22.4	H V V H H V V H H	P A A P A A P A A	100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.7	59.8 10.5 10.5 59.8 59.8 10.5 10.5 10.5 10.5 182.2 182.2	Hori Vert Vert Hori Hori Vert Vert Hori Hori
Low CH : 4.804 4.804 4.804 4.804 4.804 4.804 4.804 4.882 4.882 4.882 4.882 4.882 4.882 4.882 4.882 4.882 4.882 4.882 4.960 4.960	3.0 3.0 3.0 2441 8P5 3.0 3.0 3.0 3.0 3.0 480 8P51 3.0	38.4 26.7 40.3 28.6 5K 38.8 26.8 38.4 26.5 40.5	32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8	5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.9	-34.8 -34.8 -34.8 -34.9 -34.9 -34.9 -34.9 -34.9	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	30.4 43.9 32.3 42.6 30.6 42.2 30.3 44.4	54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0	-23.6 -30.1 -21.7 -31.4 -23.4 -31.8 -23.7 -29.6	H V V H H V V H	P A P A P A P P	100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2	59.8 10.5 10.5 59.8 59.8 10.5 10.5 10.5 182.2	Hori Vert Vert Hori Hori Vert Vert Hori

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### 7.2. WORST-CASE BELOW 1 GHz

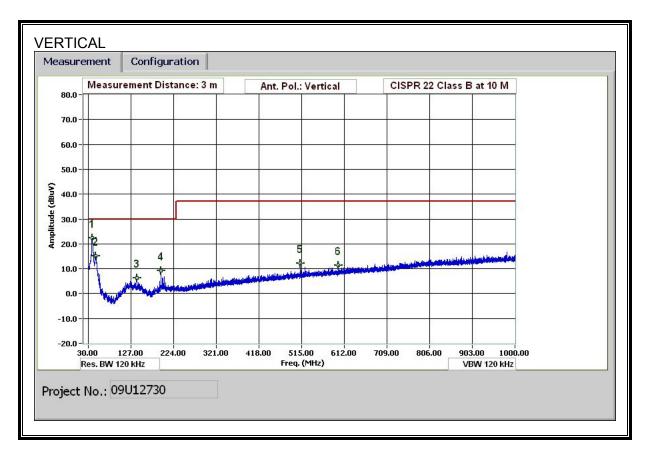
#### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

#### <u>PLOT</u>



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



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#### <u>DATA</u>

30-1000MH Complianc	-	ency Meas ication Se			t 5m Ch	amber								
Test Engr: Date: Project #:		Tom Che 07/22/09 09U1273(												
Company:		Kyocera												
EUT Descri	ntion:	Single Band Cell Phone												
EUT M/N:		EUT TX w				with ACA	nc adam	ter						
Test Target		FCC Cla			9 mode		s s uuqp							
Mode Oper		100.014												
more oper	f	Measurem	ent Fremu	ency	Amp	Preamp (	Gain			Marrin	Margin vs.	Limit		
	Dist	Distance t	-		-	-		to 3 meters						
	Read	Analyzer l		-	Filter	Filter Ins								
	AF	Antenna F	~		Corr.	Calculate								
		wittering L	actor											
	CL	Cable I are			Limit	- Field Stw	moth I iv	mit						
	CL	Cable Loss	;		Limit	Field Stre	ength Lir	nit						
f	CL Dist	Cable Loss	AF	CL	Limit Amp	Field Stre		nit Corr.	Limit	Margin	Ant. Pol.	Det.	Notes	
f MHz				CL dB						Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes	
	Dist (m)	Read	AF		Атр	D Corr	Filter	Согг.					Notes	
MHz	Dist (m)	Read	AF		Атр	D Corr	Filter	Согг.					Notes	
MHz Horizontal	Dist (m)	Read dBuV	AF dB/m	dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	dBuV/m	aB	V/H	P/A/QP	Notes	
MHz Horizontal 33.240	Dist (m) 3.0	Read dBuV 40.3	AF dB/m 18.9	dB 0.5	Amp dB 29.7	D Corr dB -10.5	Filter dB 0.0	Corr. dBuV/m 19.5	dBuV/m 30.0	dB -10.5	V/H Н	P/A/QP EP	Notes	
MHz Horizontal 33.240 100.323	Dist (m) 3.0 3.0	Read dBuV 40.3 46.9	AF dB/m 18.9 10.1	dB 0.5 0.9	Amp dB 29.7 29.5	D Corr dB -10.5 -10.5	Filter dB 0.0 0.0	Corr. dBuV/m 19.5 18.0	dBuV/m 30.0 30.0	dB -10.5 -12.0	V/H H H	P/A/QP EP EP	Notes	
MHz Horizontal 33.240 100.323 128.884	Dist (m) 3.0 3.0 3.0	Read dBuV 40.3 46.9 37.6	AF dB/m 18.9 10.1 13.7	dB 0.5 0.9 1.0	Amp dB 29.7 29.5 29.4	D Corr dB -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0	Corr. dBuV/m 19.5 18.0 12.5	dBuV/m 30.0 30.0 30.0	dB -10.5 -12.0 -17.5	V/H H H H	P/A/QP EP EP EP	Notes	
MHz Horizontal 33.240 100.323 128.884 143.165	Dist (m) 3.0 3.0 3.0 3.0	Read dBuV 40.3 46.9 37.6 33.5	AF dB/m 18.9 10.1 13.7 13.0	dB 0.5 0.9 1.0 1.1	Amp dB 29.7 29.5 29.4 29.3	D Corr dB -10.5 -10.5 -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0 0.0	Corr. dBuV/m 19.5 18.0 12.5 7.8	dBuV/m 30.0 30.0 30.0 30.0	dB -10.5 -12.0 -17.5 -22.2	V/H H H H H	P/A/QP EP EP EP EP	Notes	
MHz Horizontal 33.240 100.323 128.884 143.165 157.445	Dist (m) 3.0 3.0 3.0 3.0 3.0 3.0	Read dBuV 40.3 46.9 37.6 33.5 38.2	AF dB/m 18.9 10.1 13.7 13.0 11.3	dB 0.5 0.9 1.0 1.1 1.1	Amp dB 29.7 29.5 29.4 29.3 29.3	D Corr dB -10.5 -10.5 -10.5 -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0 0.0 0.0 0.0	Corr. dBuV/m 19.5 18.0 12.5 7.8 10.9	dBuV/m 30.0 30.0 30.0 30.0 30.0	<u>dB</u> -10.5 -12.0 -17.5 -22.2 -19.1	V/H H H H H H	P/A/QP EP EP EP EP EP	Notes	
MHz Horizontal 33.240 100.323 128.884 143.165 157.445 845.914	Dist (m) 3.0 3.0 3.0 3.0 3.0 3.0	Read dBuV 40.3 46.9 37.6 33.5 38.2	AF dB/m 18.9 10.1 13.7 13.0 11.3	dB 0.5 0.9 1.0 1.1 1.1	Amp dB 29.7 29.5 29.4 29.3 29.3	D Corr dB -10.5 -10.5 -10.5 -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0 0.0 0.0 0.0	Corr. dBuV/m 19.5 18.0 12.5 7.8 10.9	dBuV/m 30.0 30.0 30.0 30.0 30.0	<u>dB</u> -10.5 -12.0 -17.5 -22.2 -19.1	V/H H H H H H V	P/A/QP EP EP EP EP EP	Notes	
MHz Horizontal 33.240 100.323 128.884 143.165 157.445 845.914 Vertical	Dist (m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Read dBuV 40.3 46.9 37.6 33.5 38.2 31.5	AF dB/m 18.9 10.1 13.7 13.0 11.3 21.2	dB 0.5 0.9 1.0 1.1 1.1 2.9	Amp dB 29.7 29.5 29.4 29.3 29.3 29.3 28.9	D Corr dB -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Corr. dBuV/m 19.5 18.0 12.5 7.8 10.9 16.3	dBuV/m 30.0 30.0 30.0 30.0 30.0 37.0	dB -10.5 -12.0 -17.5 -22.2 -19.1 -20.7	V/H H H H H H	P/A/QP EP EP EP EP EP EP	Notes	
MHz Horizontal 33.240 100.323 128.884 143.165 157.445 845.914 Vertical 38.520 46.801 140.405	Dist (m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Read dBuV 40.3 46.9 37.6 33.5 38.2 31.5 46.6 44.5 31.7	AF dB/m 18.9 10.1 13.7 13.0 11.3 21.2 15.2	dB 0.5 0.9 1.0 1.1 1.1 2.9 0.5	Amp dB 29.7 29.5 29.4 29.3 29.3 29.3 28.9 29.6	D Corr dB -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Corr. dBuV/m 19.5 18.0 12.5 7.8 10.9 16.3 22.3	dBuV/m 30.0 30.0 30.0 30.0 30.0 37.0 30.0 37.0	dB -10.5 -12.0 -17.5 -22.2 -19.1 -20.7 -7.7	V/H H H H H H V	P/A/QP EP EP EP EP EP EP EP EP EP	Notes	
MHz Horizontal 33.240 100.323 128.884 143.165 157.445 845.914 Vertical 38.520 46.801 140.405 195.367	Dist (m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Read dBuV 40.3 46.9 33.6 33.5 38.2 31.5 46.6 44.5 31.7 35.8	AF dB/m 18.9 10.1 13.7 13.0 11.3 21.2 15.2 9.9	dB 0.5 0.9 1.0 1.1 1.1 2.9 0.5 0.6 1.1 1.3	Annp dB 29.7 29.5 29.4 29.3 28.9 28.9 29.6 29.6 29.6 29.4 29.4 28.9	D Corr dB -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Corr. dBuV/m 19.5 18.0 12.5 7.8 10.9 16.3 22.3 16.3 22.3 15.0 6.1 9.2	dBuV/m 30.0 30.0 30.0 30.0 30.0 37.0 30.0 30.0	dB -10.5 -12.0 -17.5 -22.2 -19.1 -20.7 -7.7 -15.0 -23.9 -20.8	V/H H H H H V V V V V V	P/A/QP  FP F	Notes	
MHz Horizontal 33.240 100.323 128.884 143.165 157.445 845.914 Vertical 38.520 46.801 140.405	Dist (m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Read dBuV 40.3 46.9 37.6 33.5 38.2 31.5 46.6 44.5 31.7	AF dB/m 18.9 10.1 13.7 13.0 11.3 21.2 15.2 9.9 13.2	dB 0.5 0.9 1.0 1.1 1.1 2.9 0.5 0.6 1.1	Amp dB 29.7 29.5 29.4 29.3 29.3 28.9 29.6 29.6 29.6 29.4	D Corr dB -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5 -10.5	Filter dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Corr. dBuV/m 19.5 18.0 12.5 7.8 10.9 16.3 22.3 15.0 6.1	dBuV/m 30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.	dB -10.5 -12.0 -17.5 -22.2 -19.1 -20.7 -7.7 -15.0 -23.9	V/H H H H H V V V V	P/A/QP  FP  FP  FP  FP  FP  FP  FP  FP  FP	Notes	

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# 8. AC POWER LINE CONDUCTED EMISSIONS

#### LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted I	.imit (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.

#### TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

<u>RESULTS</u>

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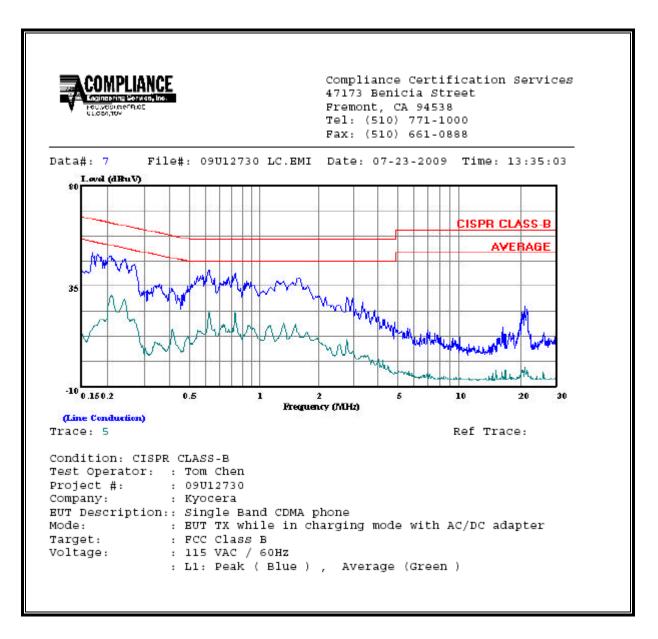
ī.

#### 6 WORST EMISSIONS

		CONDUCTED EMISSIONS DATA (115VAC 60Hz)												
Freq.		Reading		Closs	Limit	EN_B	Marg	çin	Remark					
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV(dB)	L1/L2					
0.17	49.98		15.57	0.00	65.01	55.01	-15.03	-39.44	L1					
0.21	48.48		30.09	0.00	63.37	53.37	-14.89	-23.28	L1					
0.62	42.35		23.27	0.00	56.00	46.00	-13.65	-22.73	L1					
0.21	47.29		40.55	0.00	63.37	53.37	-16.08	-12.82	L2					
0.56	45.64		31.19	0.00	56.00	46.00	-10.36	-14.81	L2					
0.62	44.50		25.78	0.00	56.00	46.00	-11.50	-20.22	L2					
6 Worst I	Data													

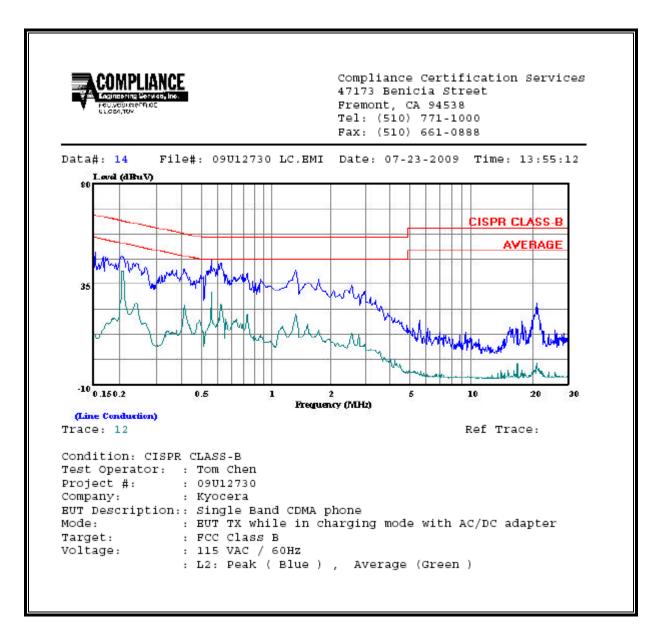
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#### LINE 1 RESULTS



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#### LINE 2 RESULTS



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