



**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
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue 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: SSAEI000010

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

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 <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:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

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.

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

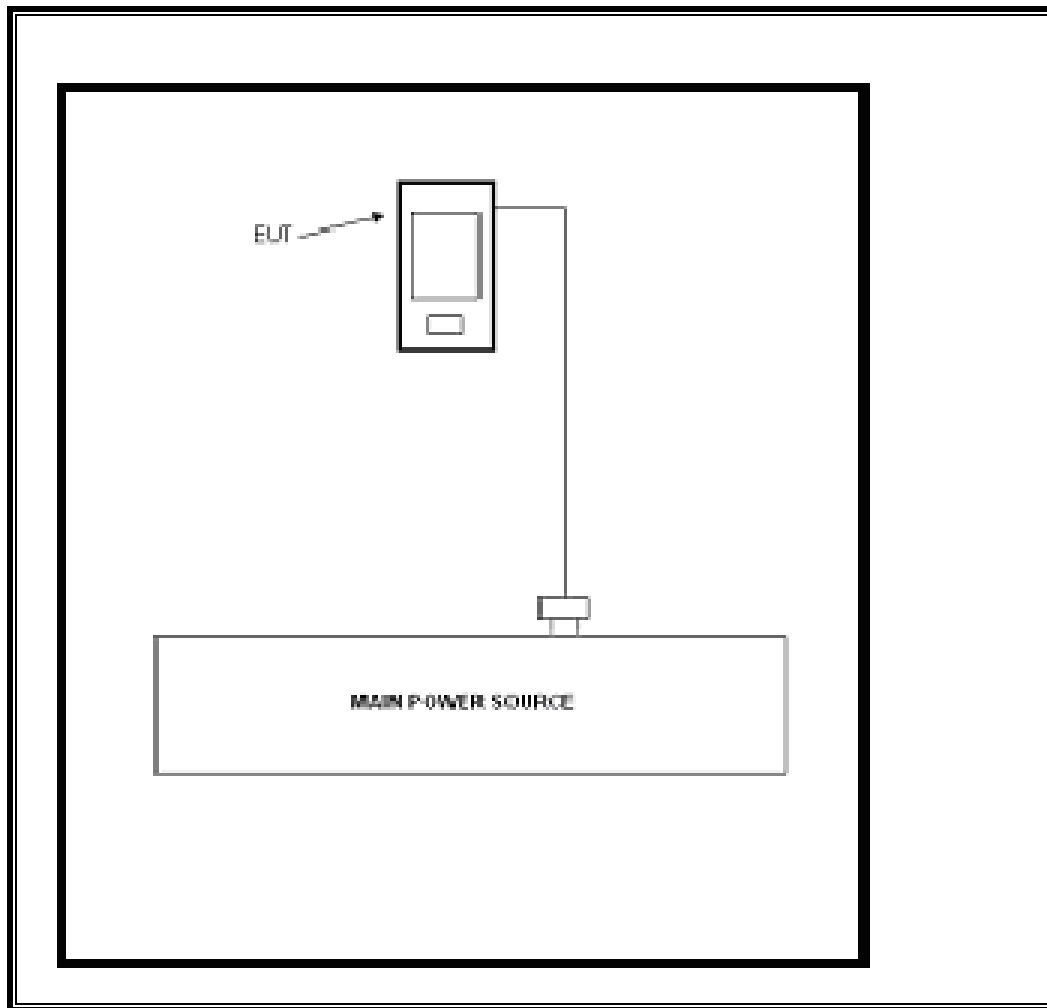
I/O CABLES

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

TEST SETUP

EUT is tested as standalone device.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

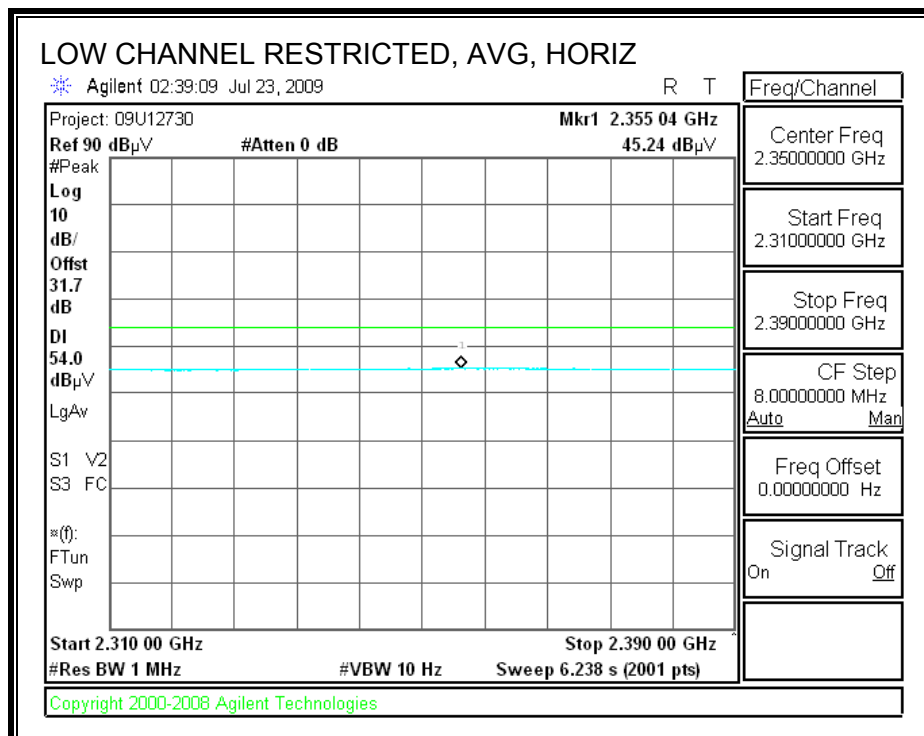
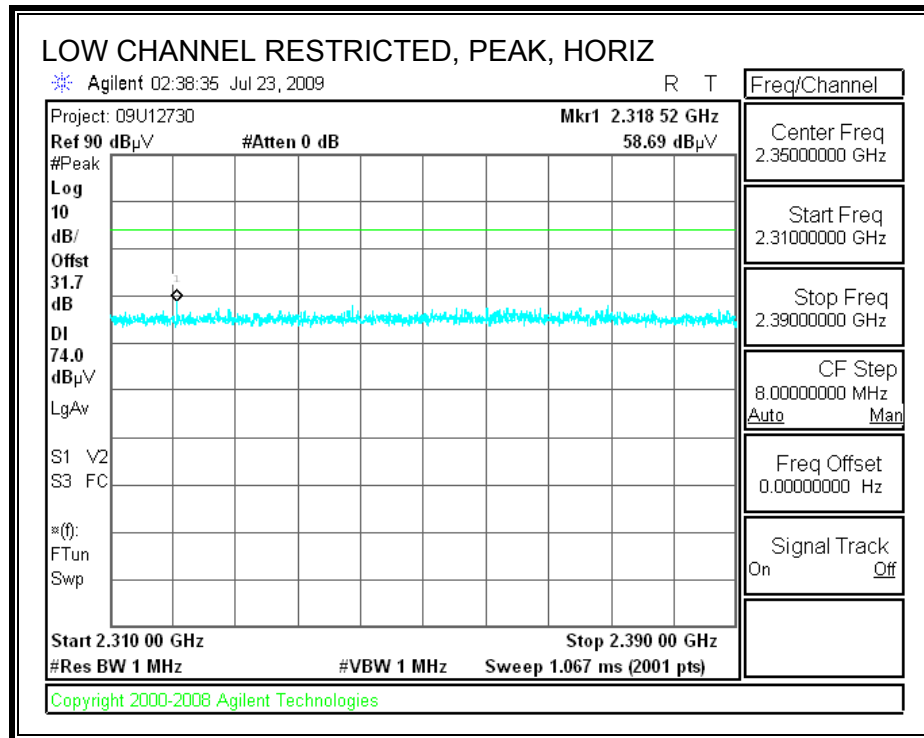
TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C00986	02/03/10
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	12/16/09
Antenna, Horn, 18 GHz	EMCO	3115	C00872	04/22/10
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	01/14/10
Preamplifier, 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

7. RADIATED TEST RESULTS

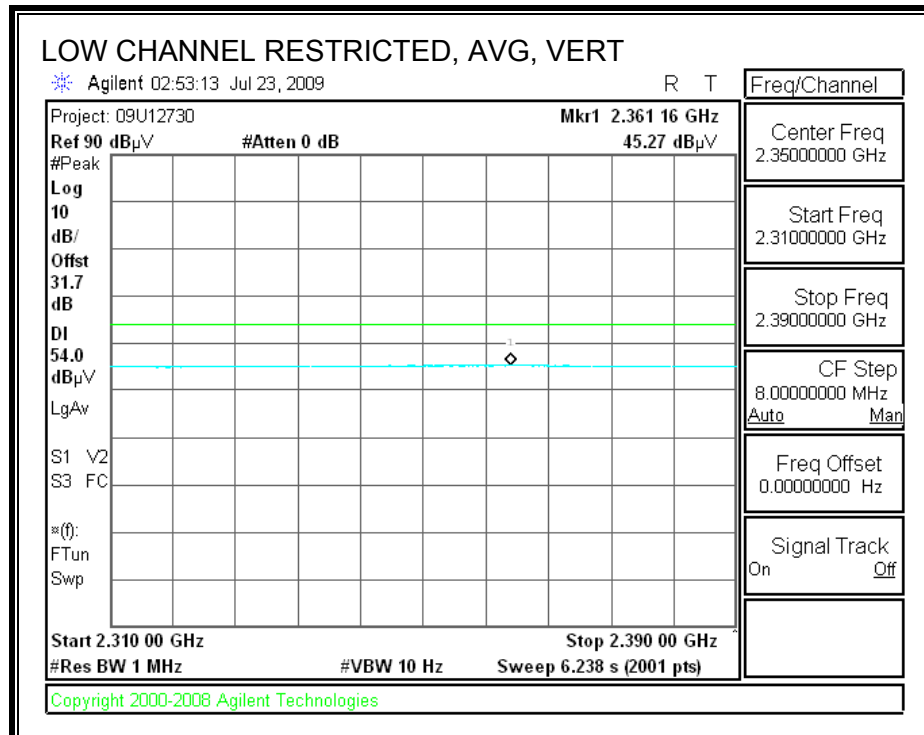
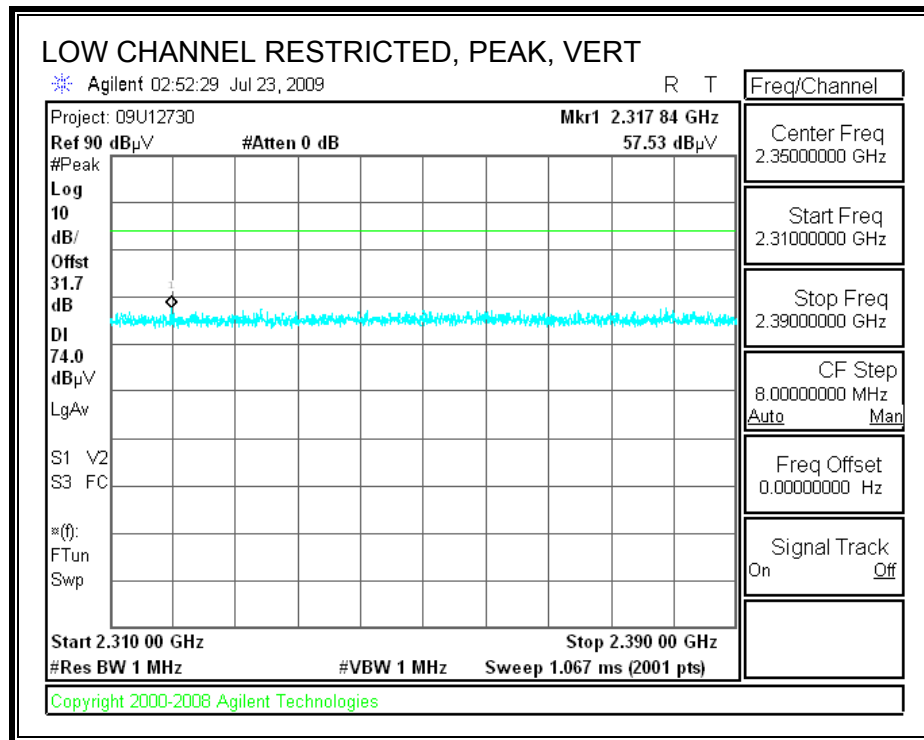
7.1. TRANSMITTER ABOVE 1 GHz

7.1.1. BASIC DATA RATE GFSK MODULATION

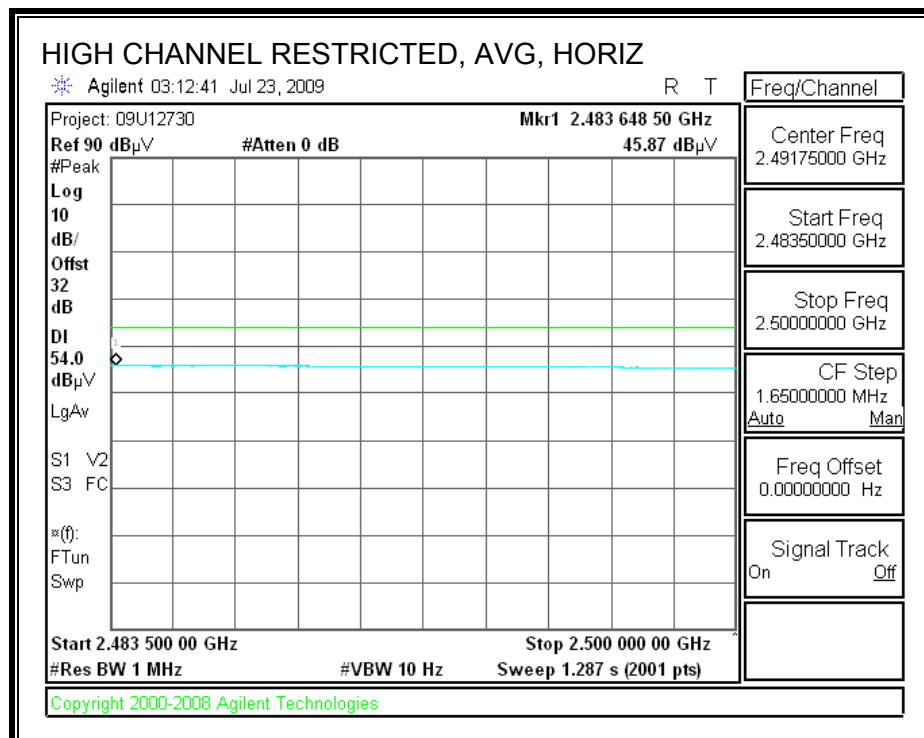
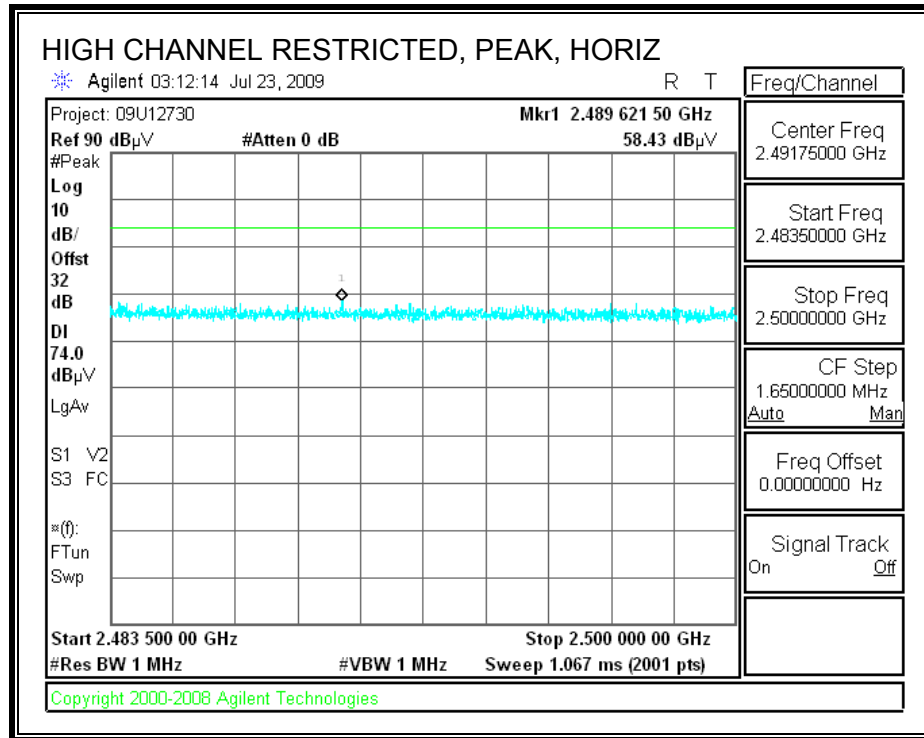
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



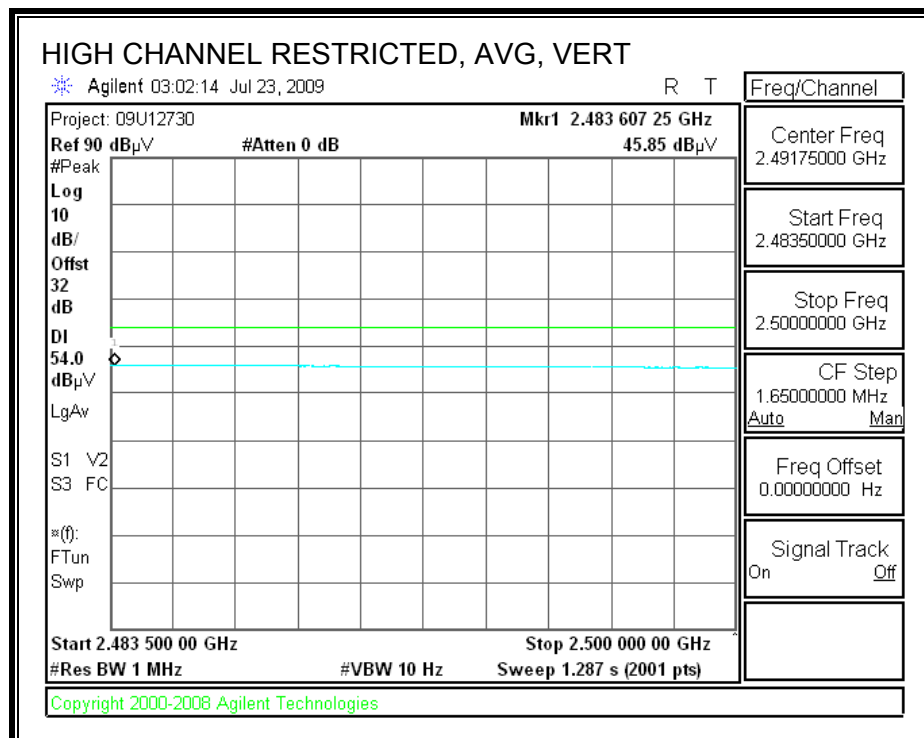
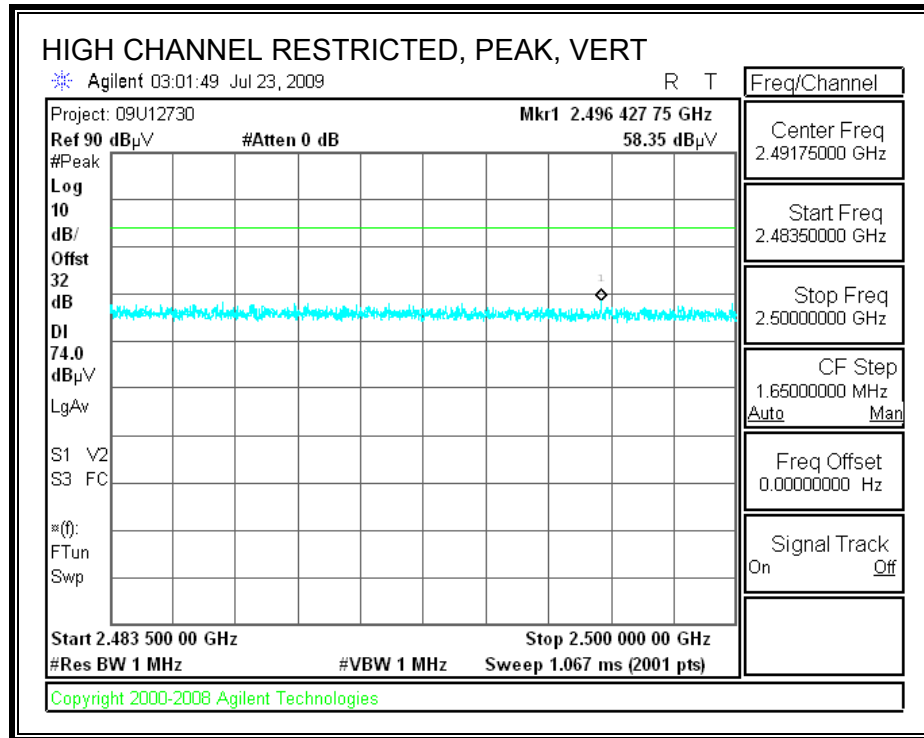
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen
Date: 07/23/09
Project #: 09U12730
Company: Kyocera Communications, Inc.
EUT Description: Single band CDMA phone with Bluetooth + EDR
EUT M/N: EUT with Charger
Test Target: FCC Class B
Mode Oper: TX GFSK

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit
CL Cable Loss HPF High Pass Filter

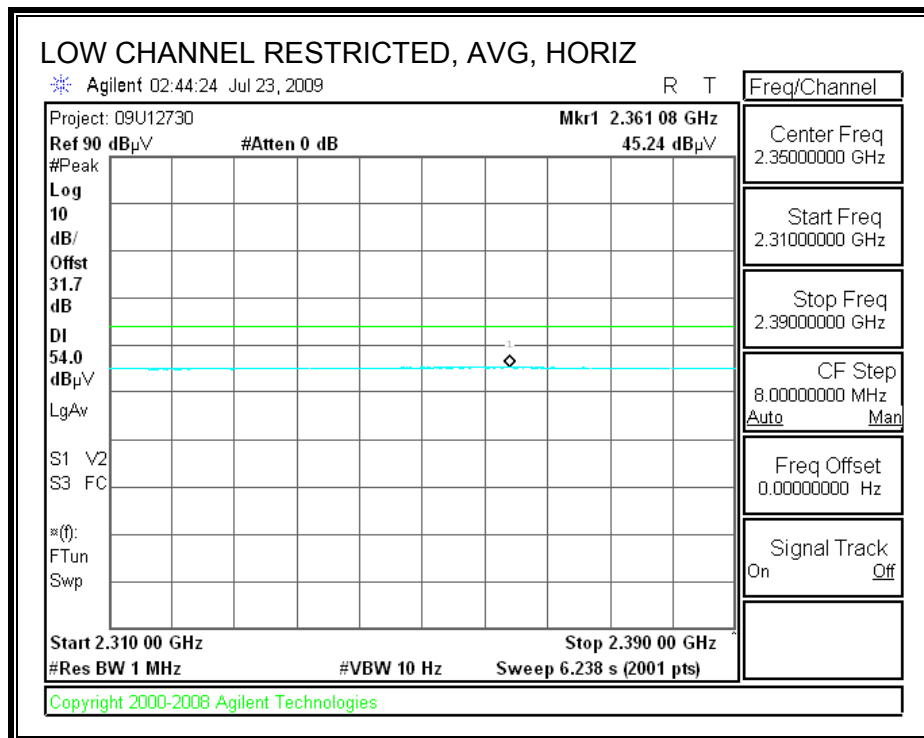
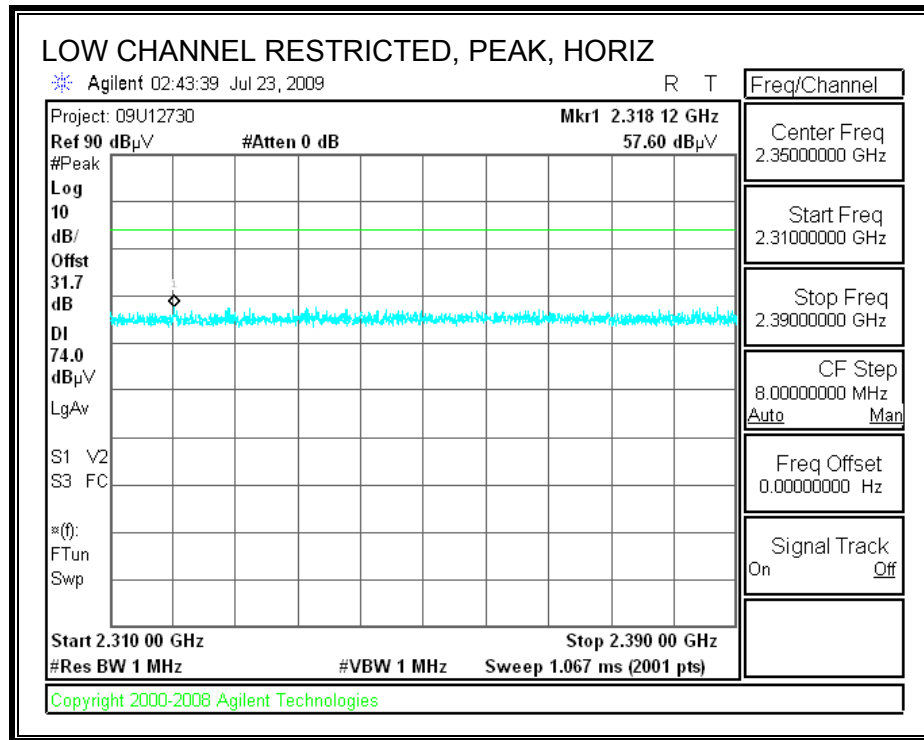
f CHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filt dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant. High cm	Table Angle Degree	Notes
Low CH 2402 GFSK															
4.804	3.0	38.8	32.8	5.8	-34.8	0.0	0.0	42.4	74.0	-31.6	H	P	100.2	59.8	Hori
4.804	3.0	26.7	32.8	5.8	-34.8	0.0	0.0	30.4	54.0	-23.6	H	A	100.2	59.8	Hori
4.804	3.0	41.1	32.8	5.8	-34.8	0.0	0.0	44.8	74.0	-29.2	V	P	100.2	10.5	Vert
4.804	3.0	29.2	32.8	5.8	-34.8	0.0	0.0	32.9	54.0	-21.1	V	A	100.2	10.5	Vert
Mid CH 2441 GFSK															
4.882	3.0	38.8	32.8	5.8	-34.9	0.0	0.0	42.6	74.0	-31.4	H	P	100.2	59.8	Hori
4.882	3.0	26.8	32.8	5.8	-34.9	0.0	0.0	30.6	54.0	-23.4	H	A	100.2	59.8	Hori
4.882	3.0	39.0	32.8	5.8	-34.9	0.0	0.0	42.8	74.0	-31.2	V	P	100.2	10.5	Vert
4.882	3.0	26.5	32.8	5.8	-34.9	0.0	0.0	30.3	54.0	-23.7	V	A	100.2	10.5	Vert
Hi CH 2480 GFSK															
4.960	3.0	39.5	32.9	5.9	-34.9	0.0	0.0	43.4	74.0	-30.6	H	P	100.7	182.2	Hori
4.960	3.0	27.5	32.9	5.9	-34.9	0.0	0.0	31.5	54.0	-22.5	H	A	100.7	182.2	Hori
4.960	3.0	41.2	32.9	5.9	-34.9	0.0	0.0	45.1	74.0	-28.9	V	P	104.3	354.4	Vert
4.960	3.0	28.6	32.9	5.9	-34.9	0.0	0.0	32.5	54.0	-21.5	V	A	104.3	354.4	Vert

Rev. 4.1.2.7

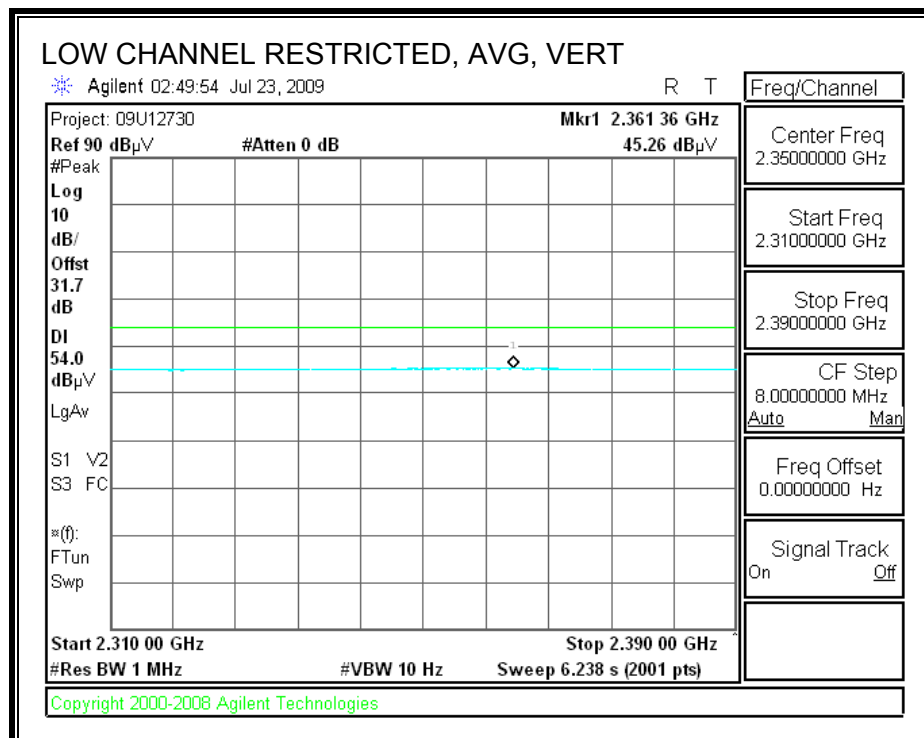
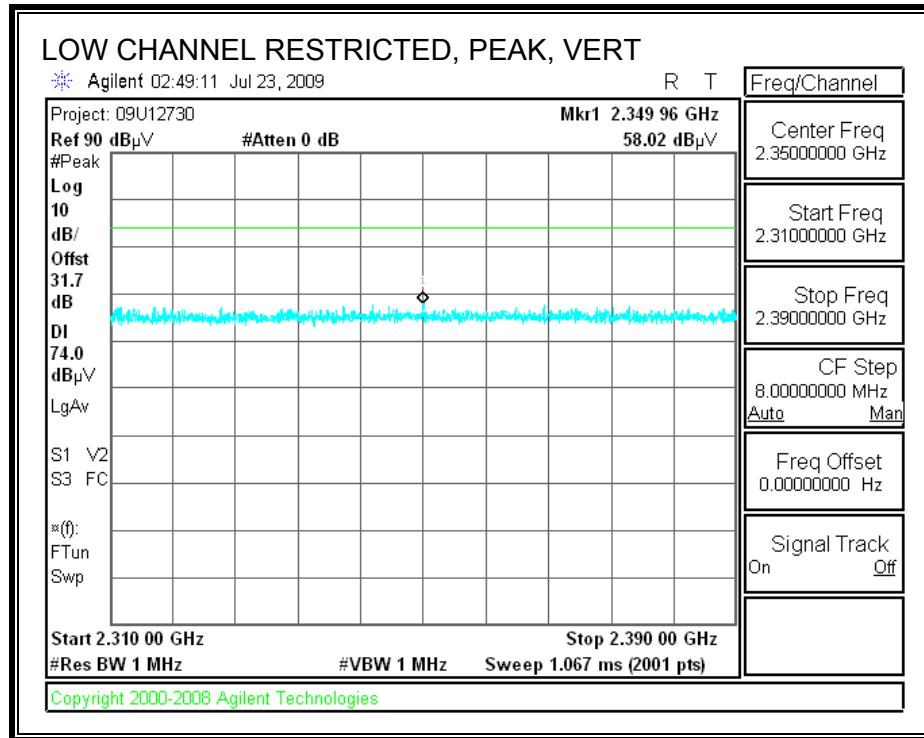
Note: No other emissions were detected above the system noise floor.

7.1.2. ENHANCED DATA RATE 8PSK MODULATION

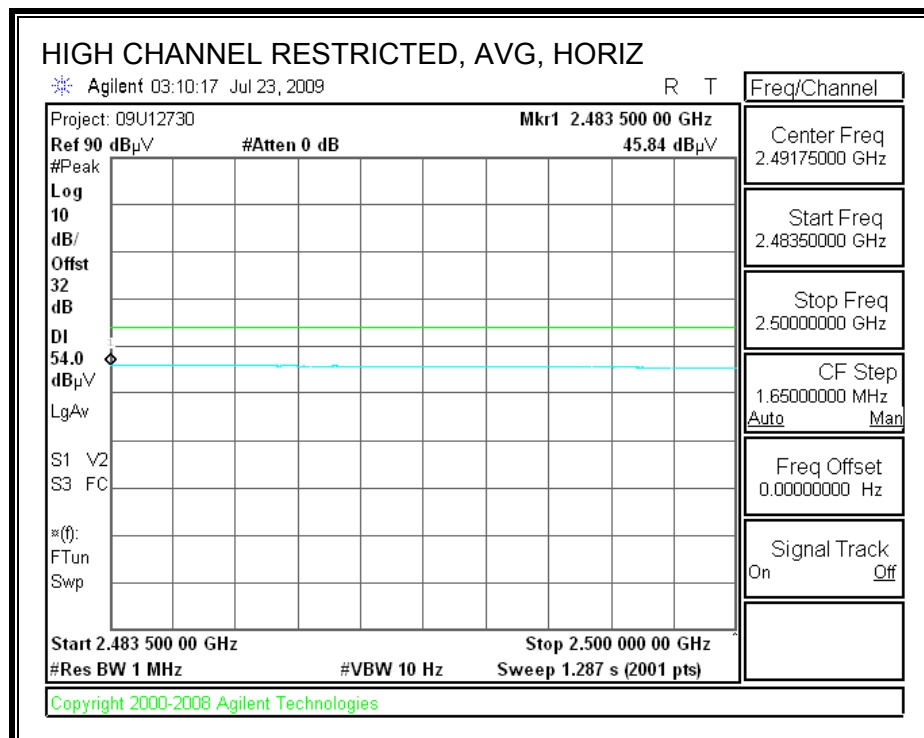
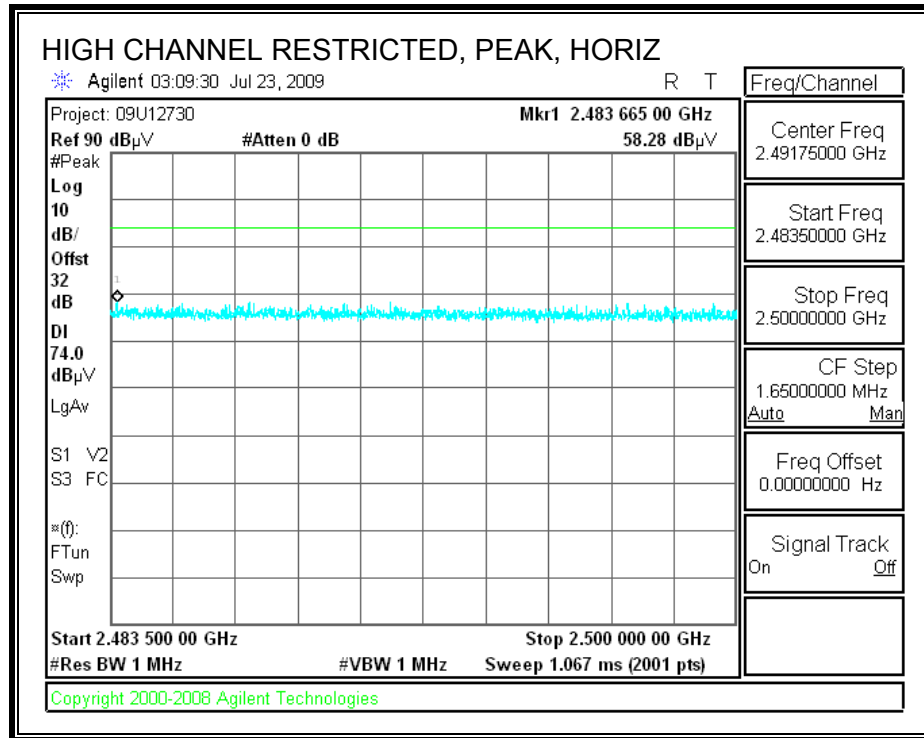
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



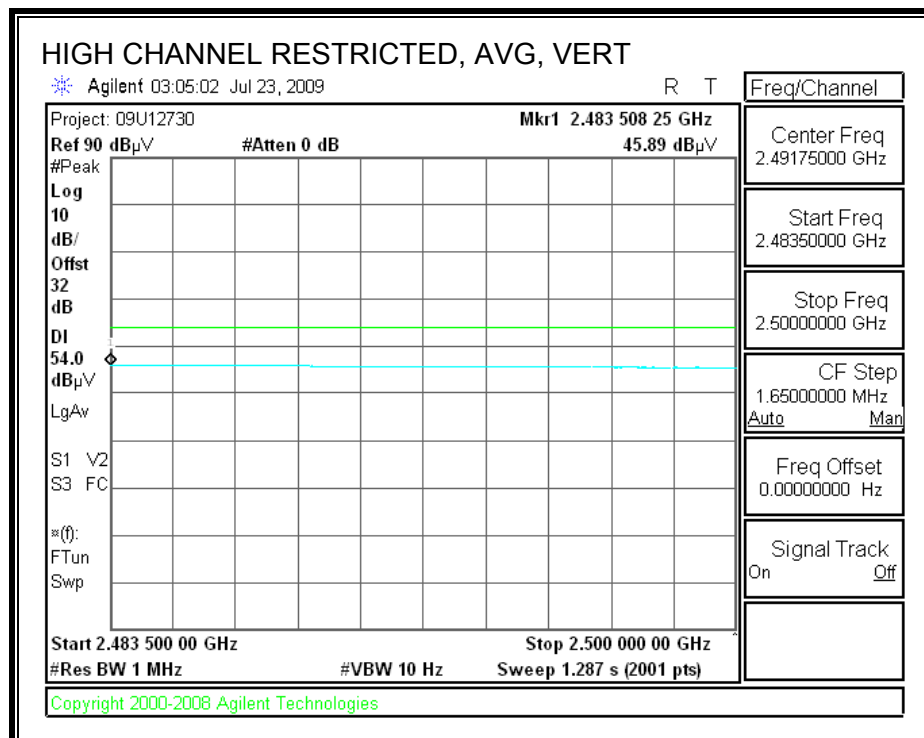
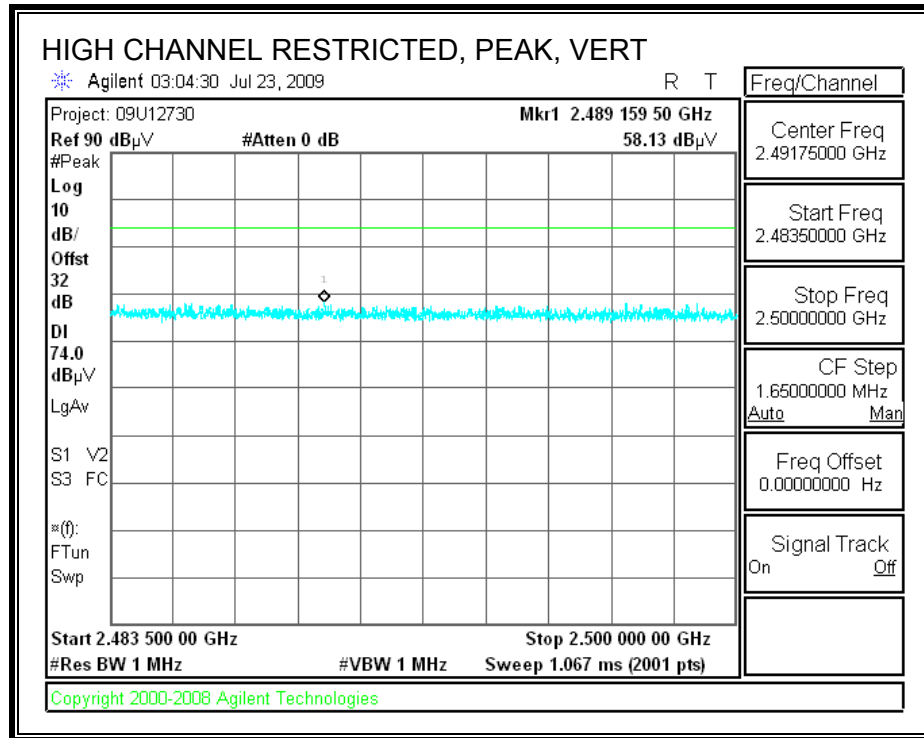
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen
Date: 07/23/09
Project #: 09U12730
Company: Kyocera Communications, Inc.
EUT Description: Single band CDMA phone with Bluetooth + EDR
EUT M/N: EUT with Charger
Test Target: FCC Class B
Mode Oper: TX 8PSK

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit
CL Cable Loss HPF High Pass Filter

f CHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filt dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant. High cm	Table Angle Degree	Notes
Low CH 2402 8PSK															
4.804	3.0	38.4	32.8	5.8	-34.8	0.0	0.0	42.1	74.0	-31.9	H	P	100.2	59.8	Hori
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4.804	3.0	40.3	32.8	5.8	-34.8	0.0	0.0	43.9	74.0	-30.1	V	P	100.2	10.5	Vert
4.804	3.0	28.6	32.8	5.8	-34.8	0.0	0.0	32.3	54.0	-21.7	V	A	100.2	10.5	Vert
Mid CH 2441 8PSK															
4.882	3.0	38.8	32.8	5.8	-34.9	0.0	0.0	42.6	74.0	-31.4	H	P	100.2	59.8	Hori
4.882	3.0	26.8	32.8	5.8	-34.9	0.0	0.0	30.6	54.0	-23.4	H	A	100.2	59.8	Hori
4.882	3.0	38.4	32.8	5.8	-34.9	0.0	0.0	42.2	74.0	-31.8	V	P	100.2	10.5	Vert
4.882	3.0	26.5	32.8	5.8	-34.9	0.0	0.0	30.3	54.0	-23.7	V	A	100.2	10.5	Vert
Hi CH 2480 8PSK															
4.960	3.0	40.5	32.9	5.9	-34.9	0.0	0.0	44.4	74.0	-29.6	H	P	100.7	182.2	Hori
4.960	3.0	27.7	32.9	5.9	-34.9	0.0	0.0	31.6	54.0	-22.4	H	A	100.7	182.2	Hori
4.960	3.0	41.1	32.9	5.9	-34.9	0.0	0.0	45.1	74.0	-28.9	V	P	104.3	354.4	Vert
4.960	3.0	28.7	32.9	5.9	-34.9	0.0	0.0	32.6	54.0	-21.4	V	A	104.3	354.4	Vert

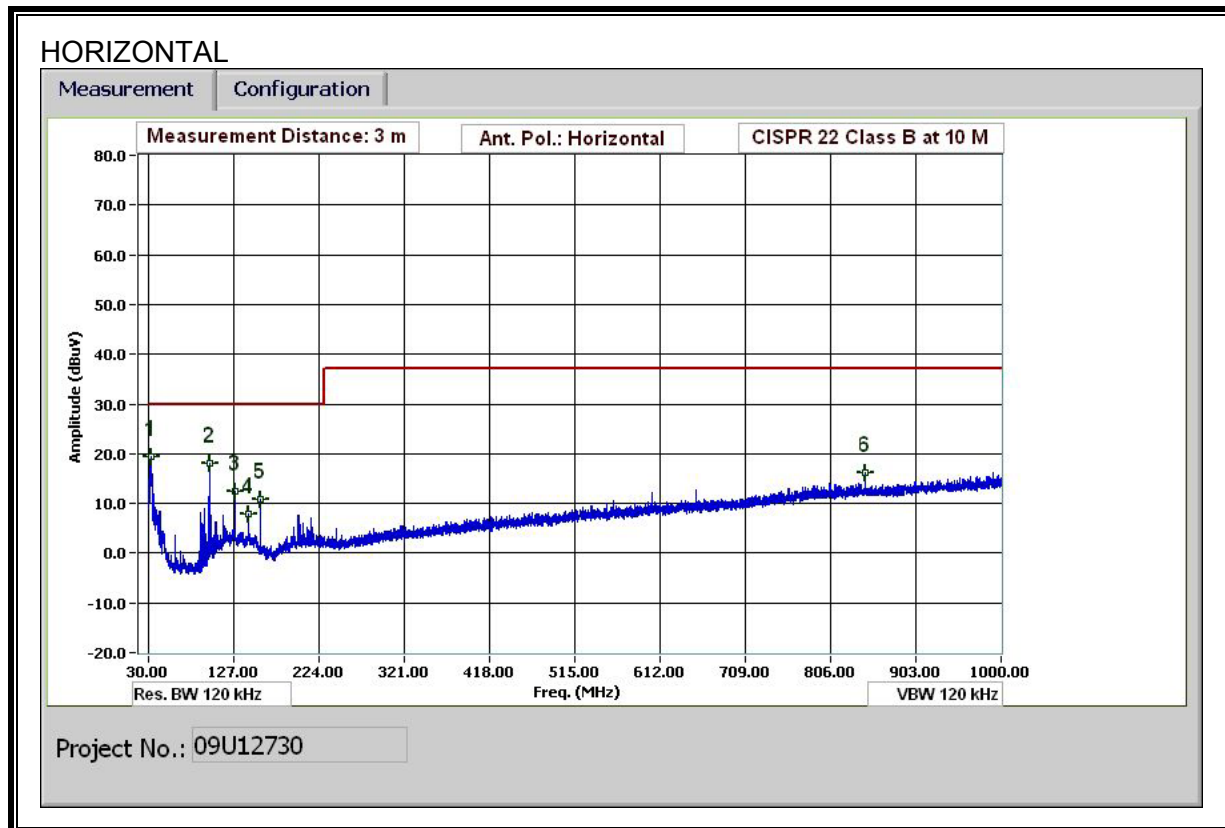
Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

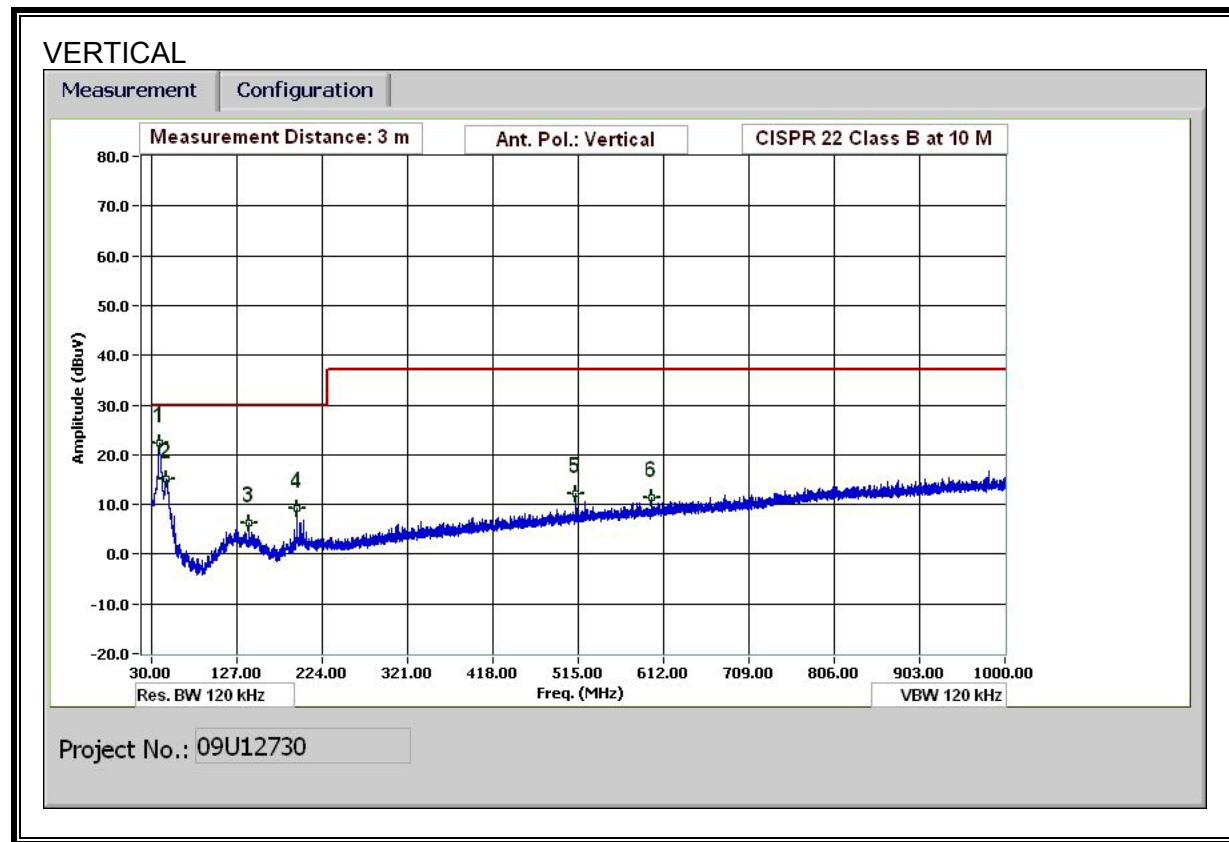
7.2. WORST-CASE BELOW 1 GHz

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

PLOT



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



DATA

30-1000MHz Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen
Date: 07/22/09
Project #: 09U12730
Company: Kyocera
EUT Description: Single Band Cell Phone
EUT M/N: EUT TX while in charging mode with AC/DC adapter
Test Target: FCC Class B
Mode Oper:

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
Horizontal													
33.240	3.0	40.3	18.9	0.5	29.7	-10.5	0.0	19.5	30.0	-10.5	H	EP	
100.323	3.0	46.9	10.1	0.9	29.5	-10.5	0.0	18.0	30.0	-12.0	H	EP	
128.884	3.0	37.6	13.7	1.0	29.4	-10.5	0.0	12.5	30.0	-17.5	H	EP	
143.165	3.0	33.5	13.0	1.1	29.3	-10.5	0.0	7.8	30.0	-22.2	H	EP	
157.445	3.0	38.2	11.3	1.1	29.3	-10.5	0.0	10.9	30.0	-19.1	H	EP	
845.914	3.0	31.5	21.2	2.9	28.9	-10.5	0.0	16.3	37.0	-20.7	H	EP	
Vertical													
38.520	3.0	46.6	15.2	0.5	29.6	-10.5	0.0	22.3	30.0	-7.7	V	EP	
46.801	3.0	44.5	9.9	0.6	29.6	-10.5	0.0	15.0	30.0	-15.0	V	EP	
140.405	3.0	31.7	13.2	1.1	29.4	-10.5	0.0	6.1	30.0	-23.9	V	EP	
195.367	3.0	35.8	11.6	1.3	28.9	-10.5	0.0	9.2	30.0	-20.8	V	EP	
511.940	3.0	33.2	17.0	2.2	29.7	-10.5	0.0	12.1	37.0	-24.9	V	EP	
598.343	3.0	30.8	18.2	2.4	29.6	-10.5	0.0	11.3	37.0	-25.7	V	EP	

Rev. 1.27.09

Note: No other emissions were detected above the system noise floor.

8. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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.

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.

RESULTS

6 WORST EMISSIONS

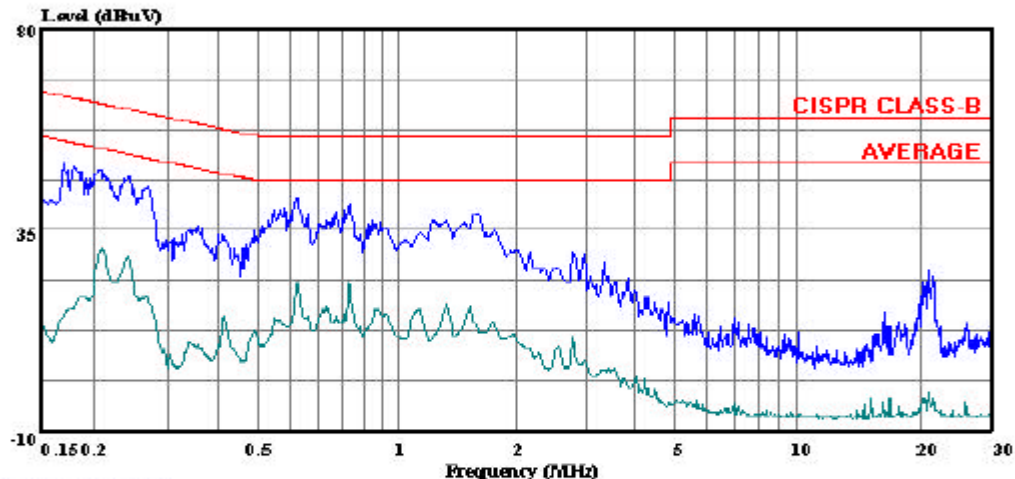
CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.17	49.98	--	15.57	0.00	65.01	55.01	-15.03	-39.44	L1
0.21	48.48	--	30.09	0.00	63.37	53.37	-14.89	-23.28	L1
0.62	42.35	--	23.27	0.00	56.00	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 Data									

LINE 1 RESULTS



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

Data#: 7 File#: 09U12730 LC.EMI Date: 07-23-2009 Time: 13:35:03



(Line Conduction)

Trace: 5

Ref Trace:

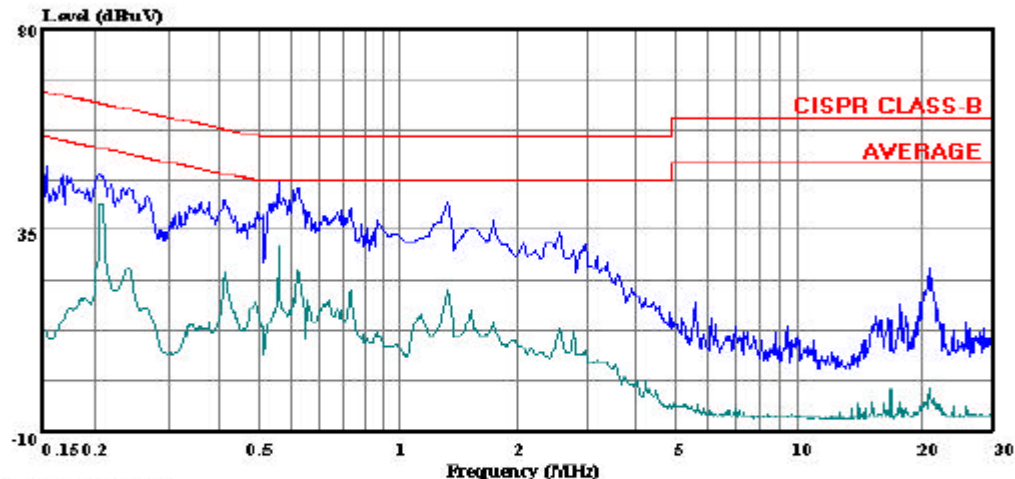
Condition: CISPR CLASS-B
Test Operator: : Tom Chen
Project #: : 09U12730
Company: : Kyocera
EUT Description: : Single Band CDMA phone
Mode: : BUT TX while in charging mode with AC/DC adapter
Target: : FCC Class B
Voltage: : 115 VAC / 60Hz
: L1: Peak (Blue) , Average (Green)

LINE 2 RESULTS



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

Data#: 14 File#: 09U12730 LC.EMI Date: 07-23-2009 Time: 13:55:12



(Line Conduction)

Trace: 12

Ref Trace:

Condition: CISPR CLASS-B
Test Operator: : Tom Chen
Project #: : 09U12730
Company: : Kyocera
EUT Description: : Single Band CDMA phone
Mode: : EUT TX while in charging mode with AC/DC adapter
Target: : FCC Class B
Voltage: : 115 VAC / 60HZ
: L2: Peak (Blue) , Average (Green)