



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 7**

CERTIFICATION TEST REPORT

FOR

SINGLE BAND 1x RTT CDMA PHONE

MODEL NUMBER: K48-01

FCC ID: OVF - K4801

REPORT NUMBER: 08U12290-2

ISSUE DATE: DECEMBER 17, 2008

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>
--	12/17/08	Initial Issue	T. Chan

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: SINGLE BAND 1x RTT CDMA PHONE

MODEL: K48-01

SERIAL NUMBER: A0000004138198

DATE TESTED: DECEMBER 08 - 12, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 7 Annex 8	(Radiated only)
INDUSTRY CANADA RSS-GEN Issue 2	

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. 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. 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:

Tested By:



THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

CHIN PANG
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. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Power Line Conducted Emission	+/- 2.3 dB
Radiated Emission	+/- 3.4 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Single Band 1x RTT CDMA Phone that manufactured by Kyocera Wireless Corporations

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an Internal antenna, with a maximum gain of 2.00 dBi.

5.3. SOFTWARE AND FIRMWARE

The EUT driver and utility software installed in the host support equipment during testing was StartGraphite PassThru and BlueSuite 1.19.

5.4. WORST-CASE CONFIGURATION AND MODE

The EUT has been evaluated at X, Y, Z-axis, and AC/DC adapter. The highest measured output power was at X-Axis with AC/DC adapter and slide in conditions.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Dell	PP04-6	CN-65K-2423	DoC
AC/DC Adapter	Dell	PA-12	CN0DF263-71615-	DoC
AC/DC Adapter	Kyocera	TXTVL10127	834S-002	DoC
Earphone	N/A	N/A	N/A	N/A

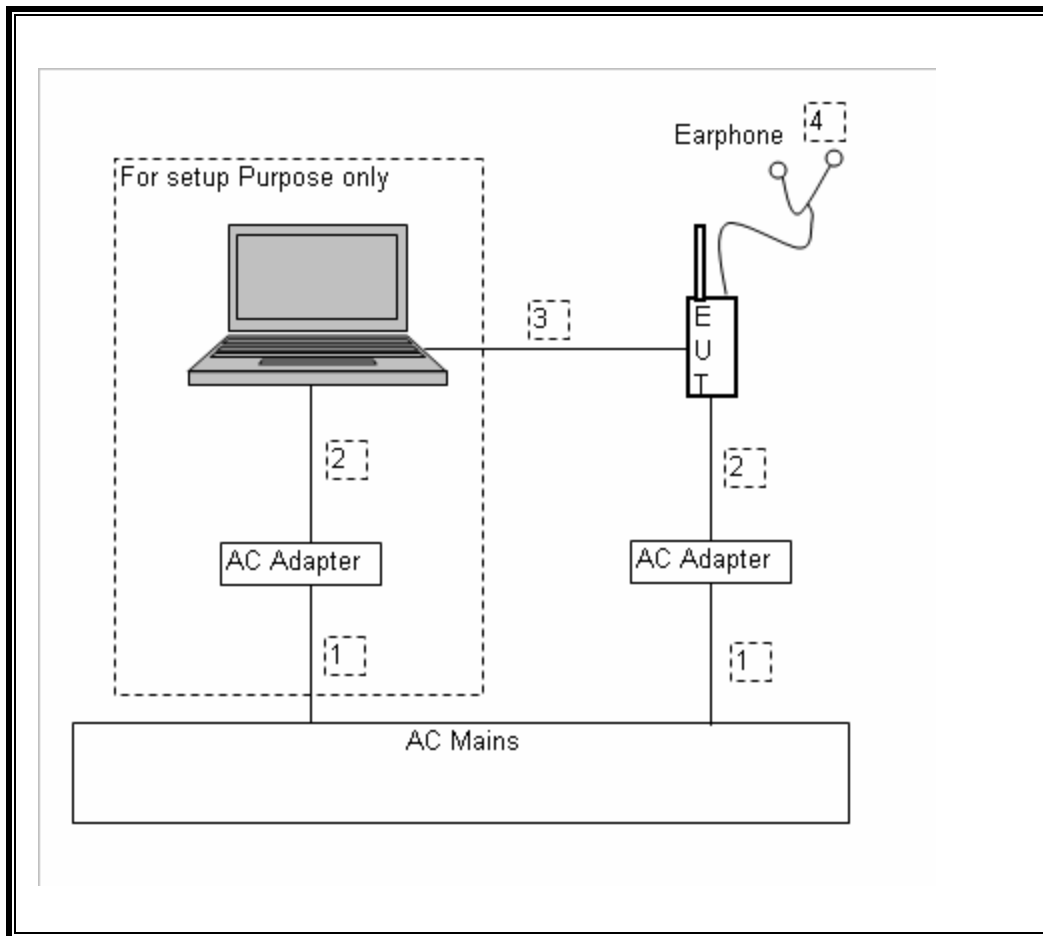
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	2	US115	Un-Shielded	2.0 m	N/A
2	DC Input	2	DC	Un-Shielded	2.0 m	N/A
3	USB	1	Mini-USB	Un-Shielded	1.0 m	N/A
4	Jack	1	Earphone	Un-shielded	1.0m	N/A

TEST SETUP

The EUT is a CDMA phone and tested as a standalone configuration.

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 Date	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	05/02/07	08/07/09
Bilog Antenna	Sunol Sciences	JB1	C01016	10/13/08	10/13/09
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	08/03/08	09/27/09
Preamplifier, 1300 MHz	Agilent / HP	8447D	C01064	05/09/08	05/09/09
RF Filter Section, 2.9 GHz	Agilent / HP	85420E	C00958	02/06/08	06/12/09
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	10/16/07	01/27/09
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	N02481	09/15/07	09/15/09
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	09/15/07	09/15/09
Antenna, Horn, 18 GHz	ETS	3117	C01005	04/15/08	04/15/09

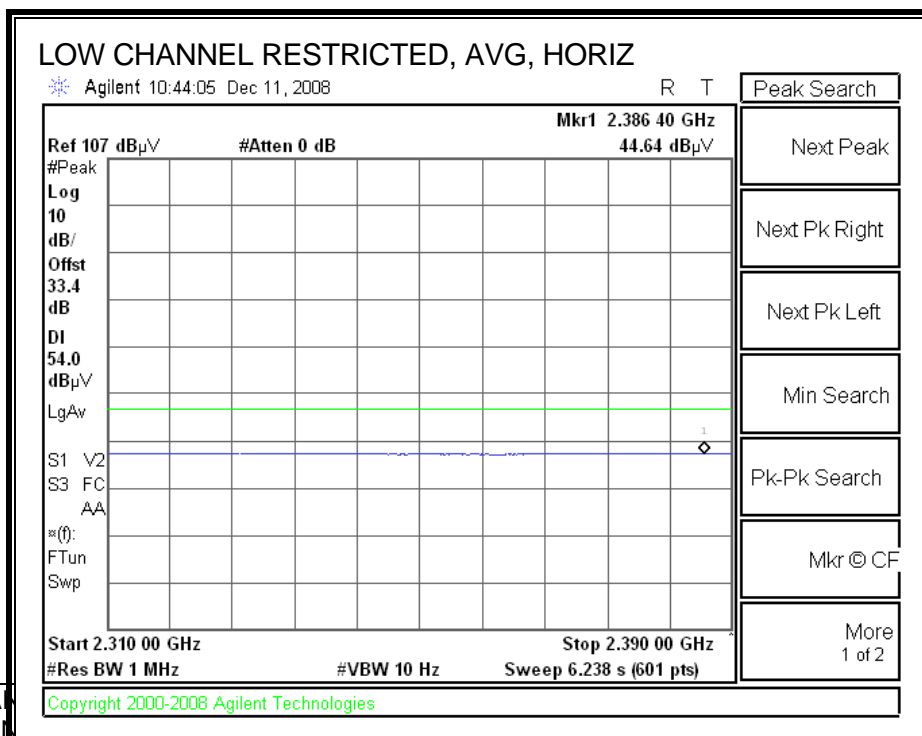
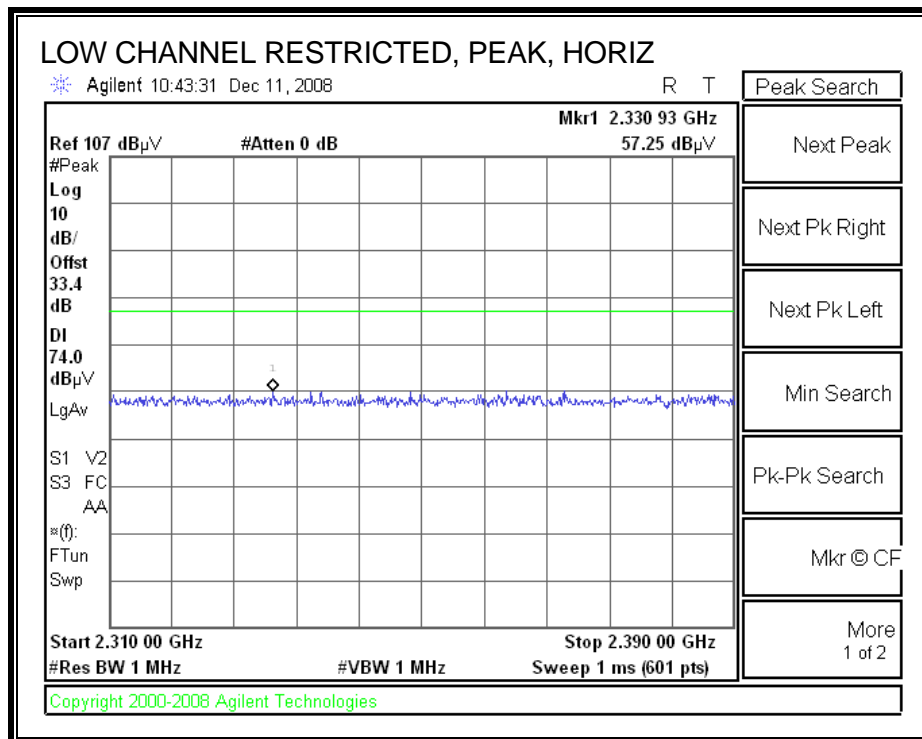
7. RADIATED TEST RESULTS

EUT WORST CASE AT X-AXIS WITH AC/DC ADAPTER AND SLIDE IN CONDITIONS

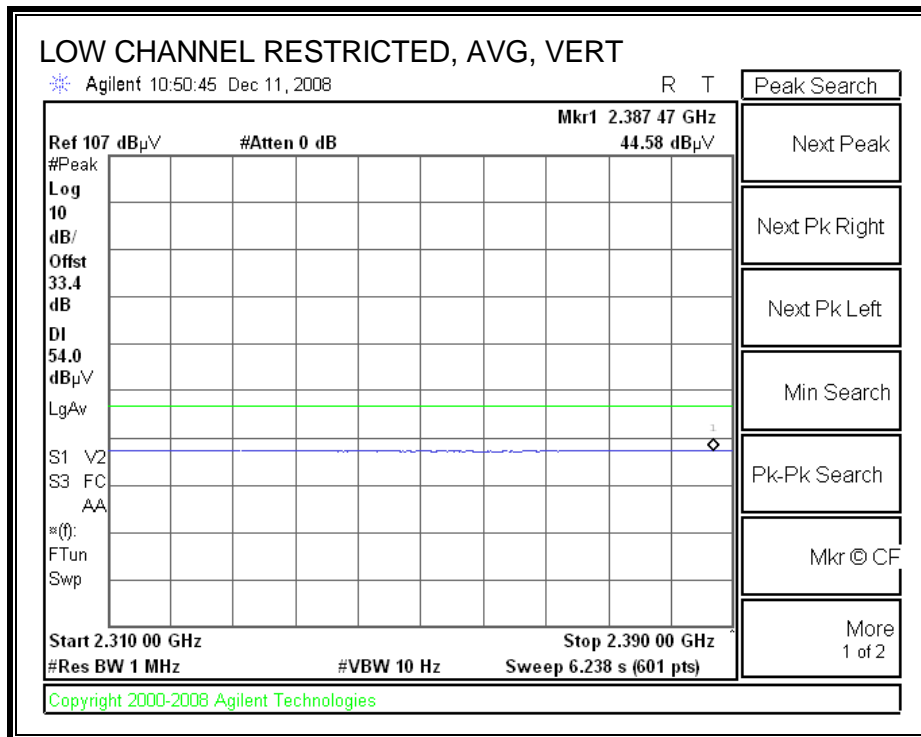
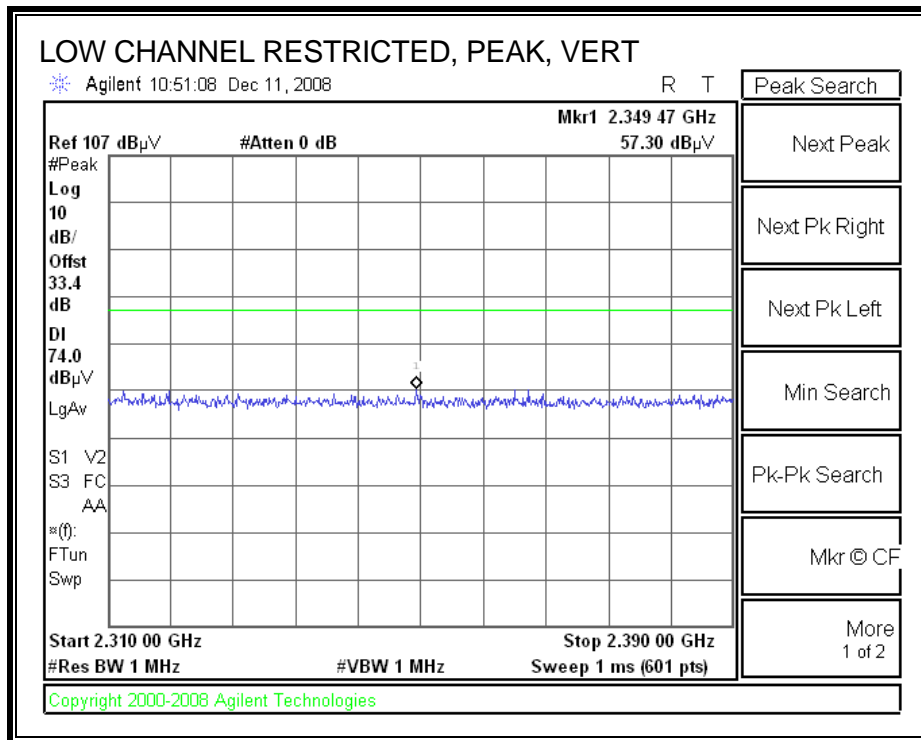
7.1. TRANSMITTER ABOVE 1 GHz

7.1.1. BASIC DATA RATE GFSK MODULATION

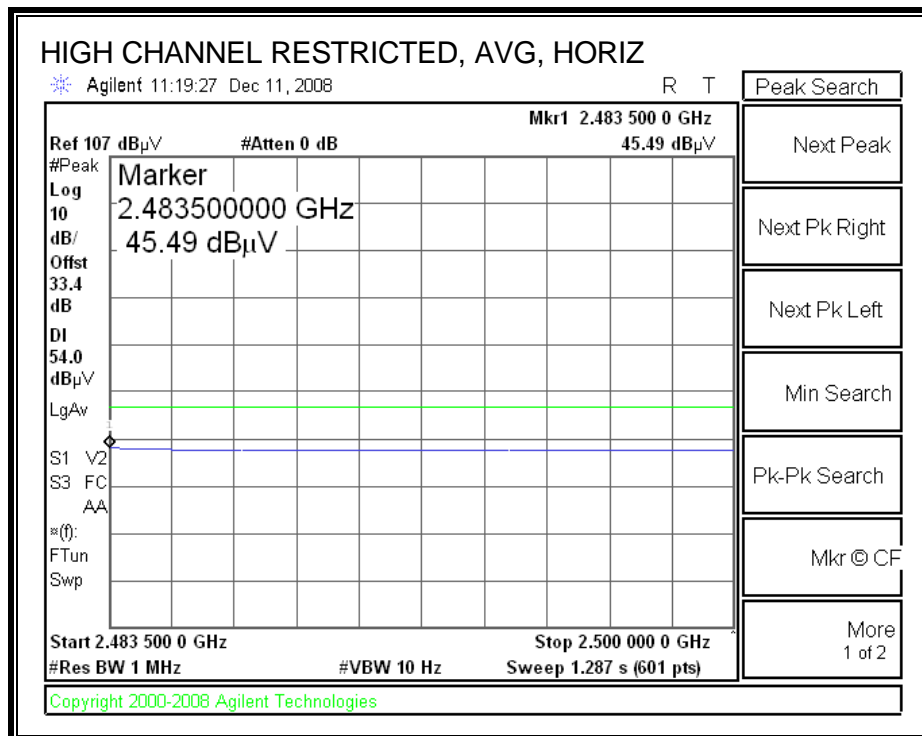
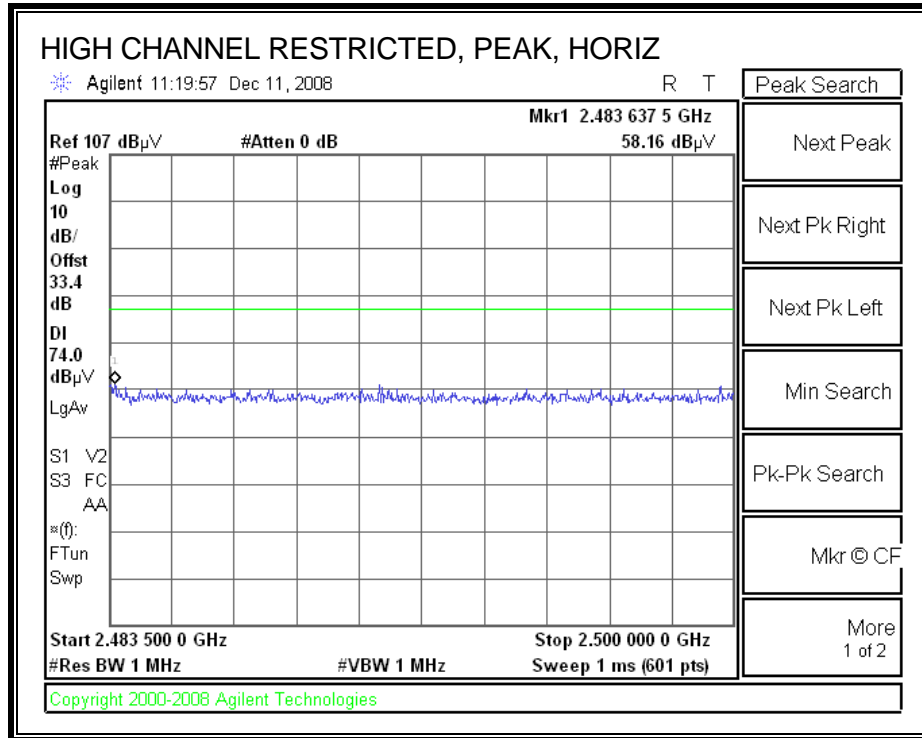
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



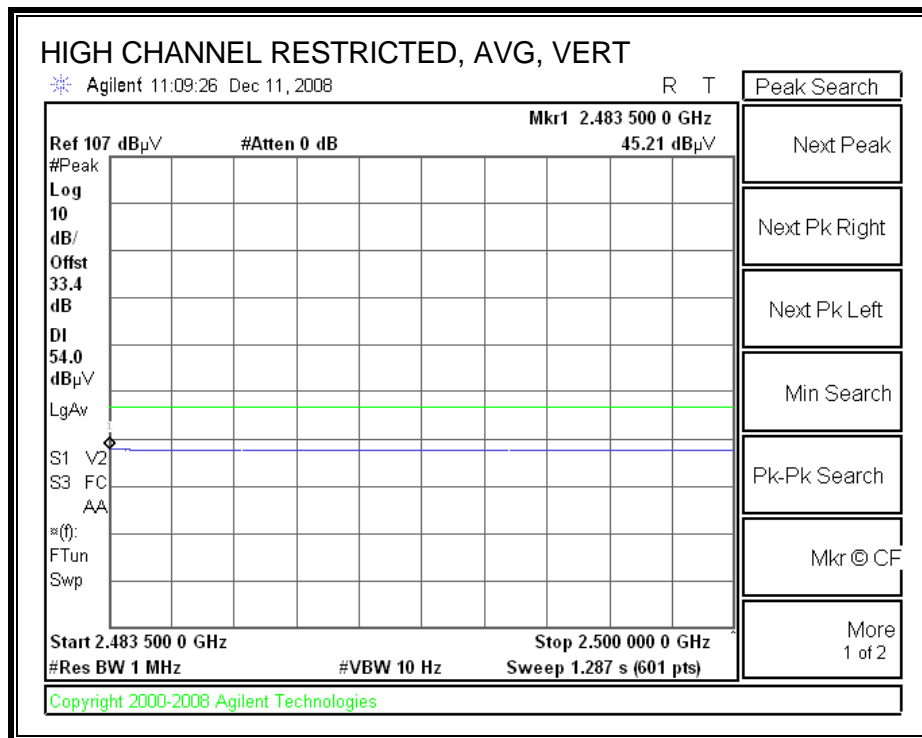
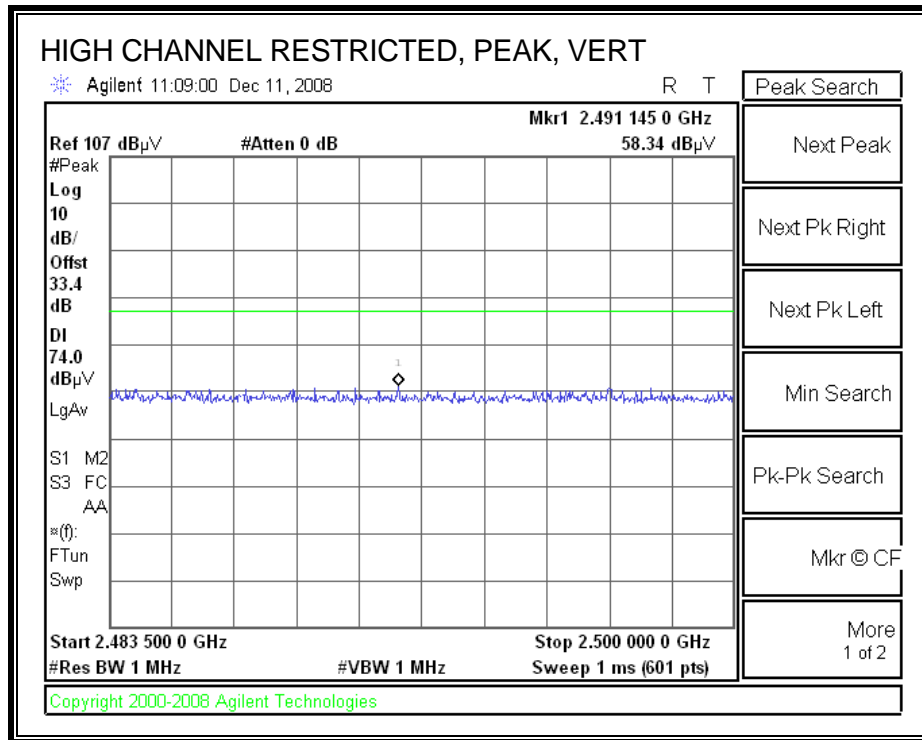
RESTRICTED BANEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
 Compliance Certification Services, Fremont 5m Chamber

Company: Kyocera
 Project #: 08U12290
 Date: 12/11/2008
 Test Engineer: Chin Pang
 Configuration: EUT with Earphone
 Mode: TX, GFSK

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T145 Agilent 3008A005			FCC 15.205

Hi Frequency Cables

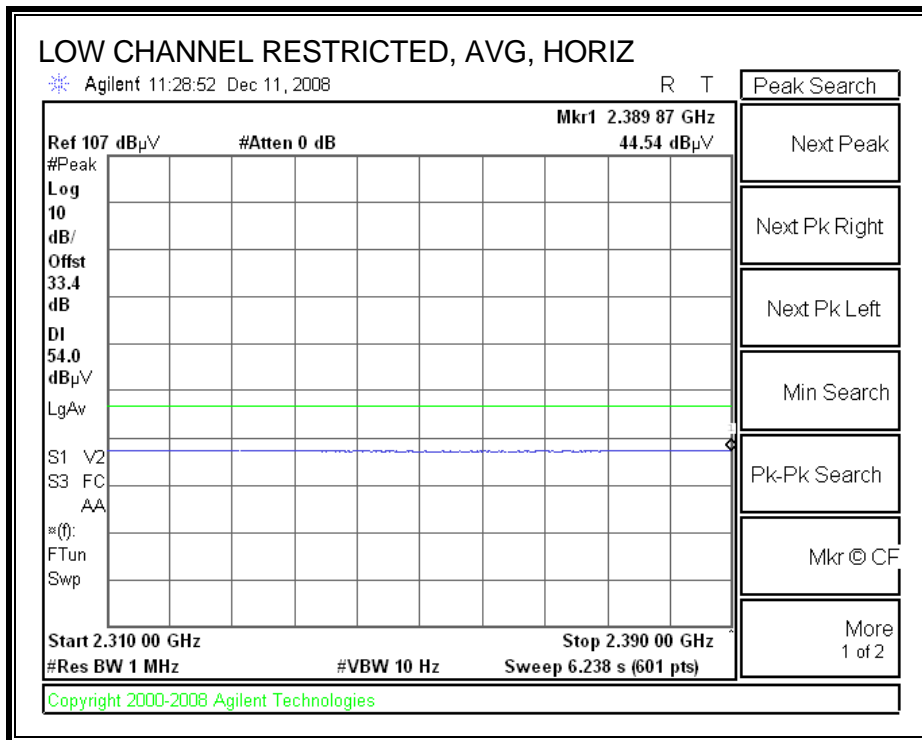
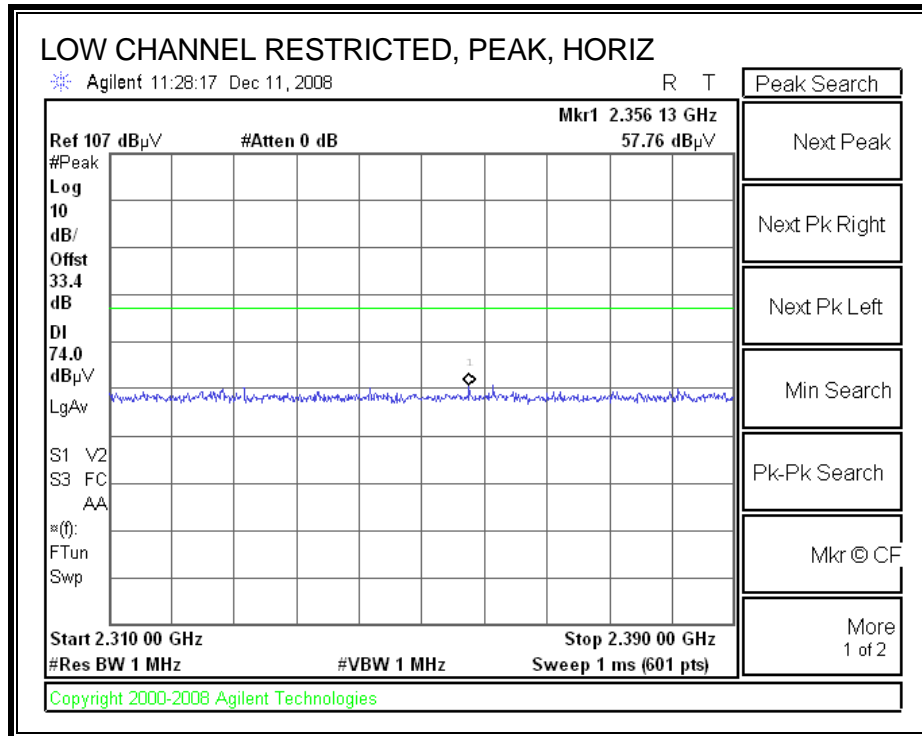
3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
3' cable 22807700	12' cable 22807600	20' cable 22807500		R_001	Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Lowq Ch, 2402MHz															
4.804	3.0	50.5	32.0	33.7	5.8	-34.8	0.0	0.0	55.2	36.7	74	54	-18.8	-17.3	H
4.804	3.0	47.2	30.7	33.7	5.8	-34.8	0.0	0.0	51.9	35.4	74	54	-22.1	-18.6	V
Mid Ch, 2441MHz															
4.882	3.0	49.5	33.1	33.8	5.8	-34.9	0.0	0.0	54.3	37.9	74	54	-19.7	-16.1	H
7.323	3.0	45.6	31.3	36.2	7.3	-34.7	0.0	0.0	54.4	40.1	74	54	-19.6	-13.9	H
4.882	3.0	46.5	29.9	33.8	5.8	-34.9	0.0	0.0	51.3	34.7	74	54	-22.7	-19.3	V
7.323	3.0	44.0	30.0	36.2	7.3	-34.7	0.0	0.0	52.8	38.8	74	54	-21.2	-15.2	V
High Ch, 2480MHz															
4.960	3.0	47.0	32.7	33.9	5.9	-34.9	0.0	0.0	51.9	37.6	74	54	-22.1	-16.4	H
7.440	3.0	49.0	32.0	36.3	7.3	-34.6	0.0	0.0	58.0	41.0	74	54	-16.0	-13.0	H
4.960	3.0	45.0	31.5	33.9	5.9	-34.9	0.0	0.0	49.9	36.4	74	54	-24.1	-17.6	V
7.440	3.0	50.0	33.4	36.3	7.3	-34.6	0.0	0.0	59.0	42.4	74	54	-15.0	-11.6	V

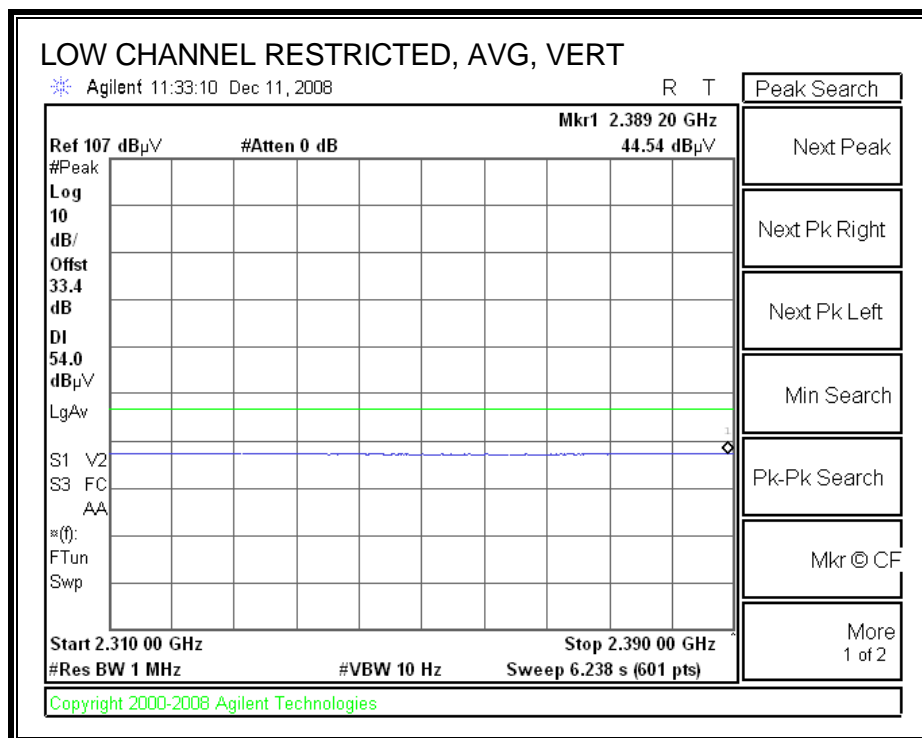
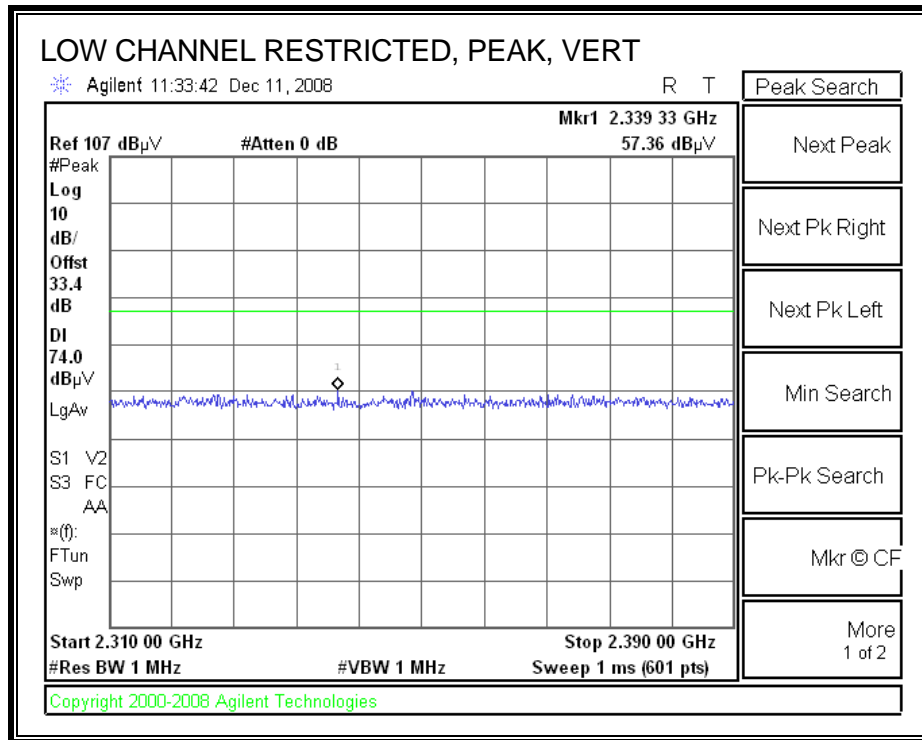
Rev. 11.10.08

7.1.2. ENHANCED DATA RATE 8PSK MODULATION

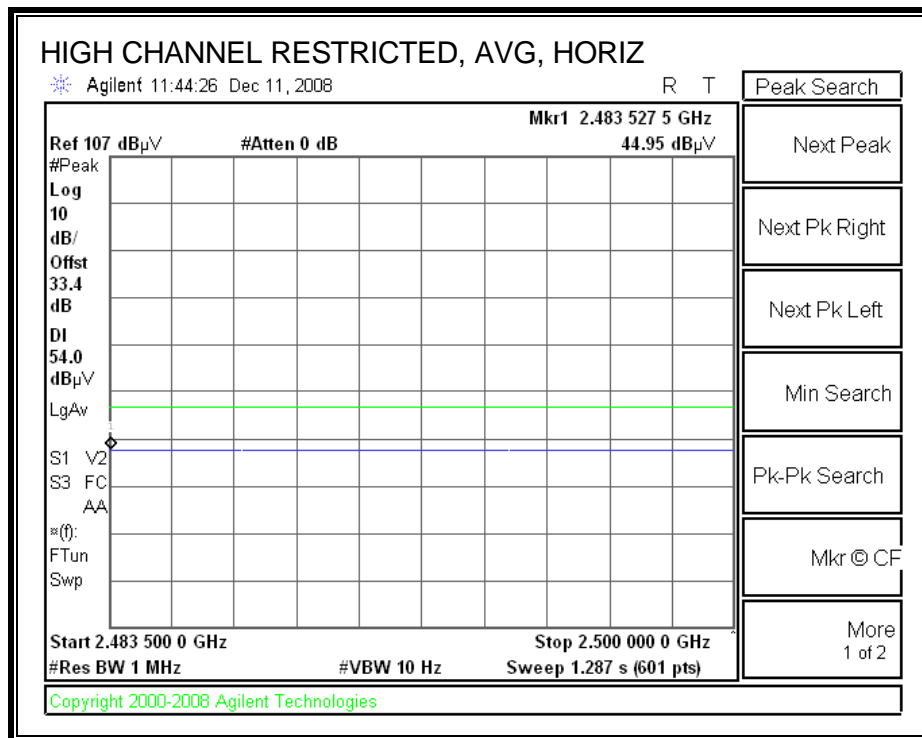
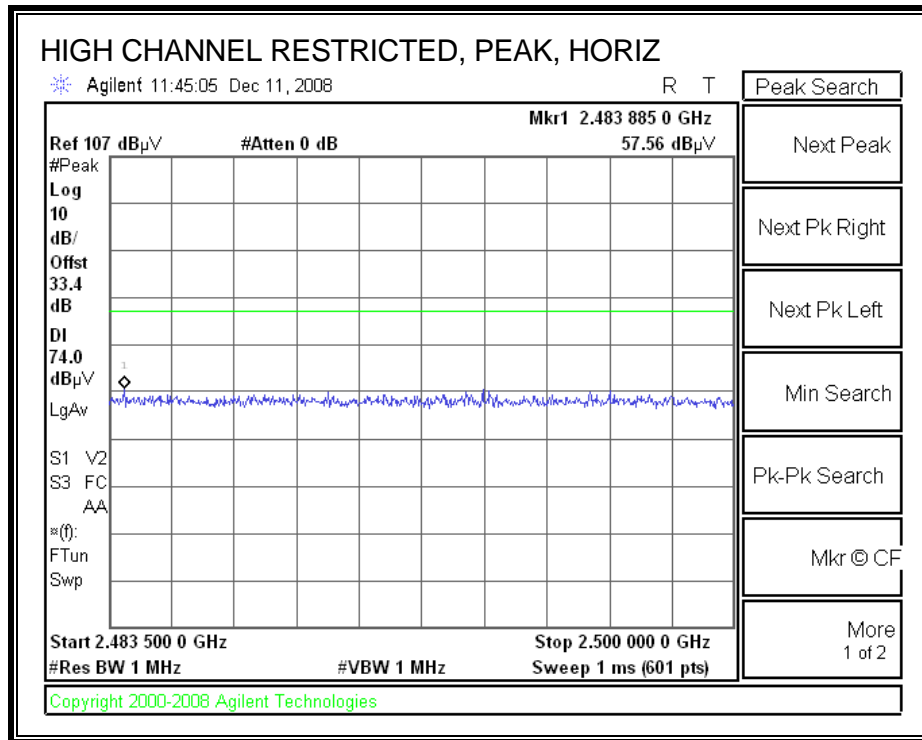
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



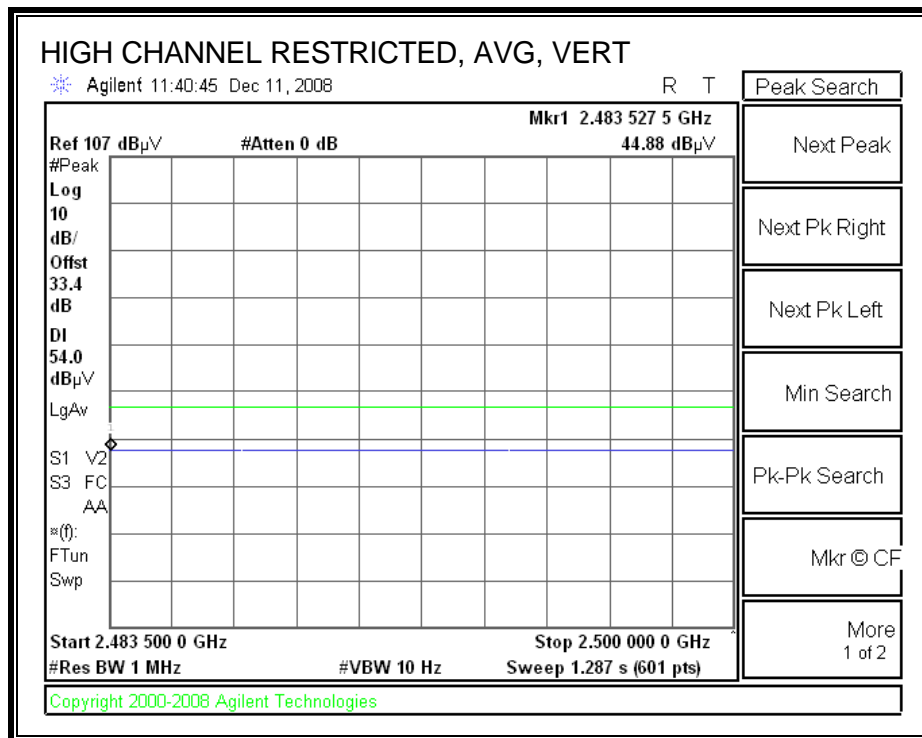
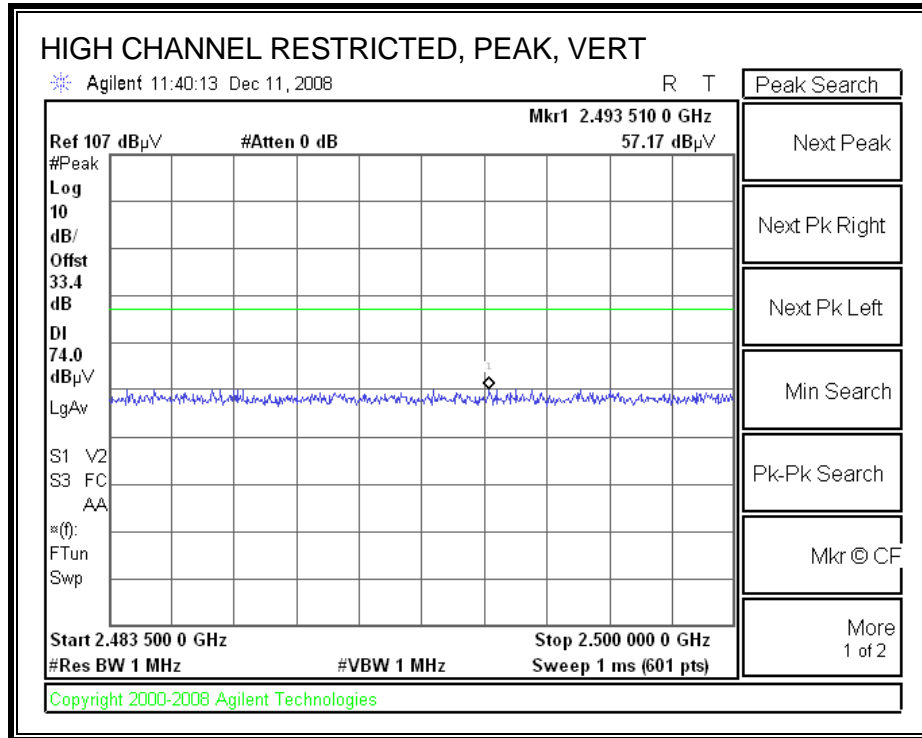
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
 Compliance Certification Services, Fremont 5m Chamber

Company: Kyocera
 Project #: 08U12290
 Date: 12/11/2008
 Test Engineer: Chin Pang
 Configuration: EUT with Earphone
 Mode: TX, 8PSK

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T145 Agilent 3008A005			FCC 15.205

Hi Frequency Cables

3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
3' cable 22807700	12' cable 22807600	20' cable 22807500		R_001	Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Freq Ch, 2402MHz															
4.804	3.0	41.2	27.8	33.7	5.8	-34.8	0.0	0.0	45.9	32.5	74	54	-28.1	-21.5	H
4.804	3.0	40.5	27.0	33.7	5.8	-34.8	0.0	0.0	45.2	31.7	74	54	-28.8	-22.3	V
Mid Ch, 2441MHz															
4.882	3.0	41.1	27.4	33.8	5.8	-34.9	0.0	0.0	45.9	32.2	74	54	-28.1	-21.8	H
7.323	3.0	42.8	29.0	36.2	7.3	-34.7	0.0	0.0	51.6	37.8	74	54	-22.4	-16.2	H
4.882	3.0	41.2	27.3	33.8	5.8	-34.9	0.0	0.0	46.0	32.1	74	54	-28.0	-21.9	V
7.323	3.0	43.6	29.5	36.2	7.3	-34.7	0.0	0.0	52.4	38.3	74	54	-21.6	-15.7	V
High Ch, 2480MHz															
4.960	3.0	40.0	27.5	33.9	5.9	-34.9	0.0	0.0	44.9	32.4	74	54	-29.1	-21.6	H
7.440	3.0	41.3	28.5	36.3	7.3	-34.6	0.0	0.0	50.3	37.5	74	54	-23.7	-16.5	H
4.960	3.0	40.5	27.6	33.9	5.9	-34.9	0.0	0.0	45.4	32.5	74	54	-28.6	-21.5	V
7.440	3.0	40.9	28.2	36.3	7.3	-34.6	0.0	0.0	49.9	37.2	74	54	-24.1	-16.8	V

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	

7.2. WORST-CASE RECEIVER ABOVE 1 GHz

High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Company: Kyocera
 Project #: 08U12290
 Date: 12/11/2008
 Test Engineer: Chin Pang
 Configuration: EUT/ AC Adapter/Earphone
 Mode: RX (Worst Case)

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T145 Agilent 3008A005(FCC 15.209

Hi Frequency Cables

3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
3' cable 22807700	12' cable 22807600	20' cable 22807500			Average Measurements RBW=1MHz ; VBW=10Hz

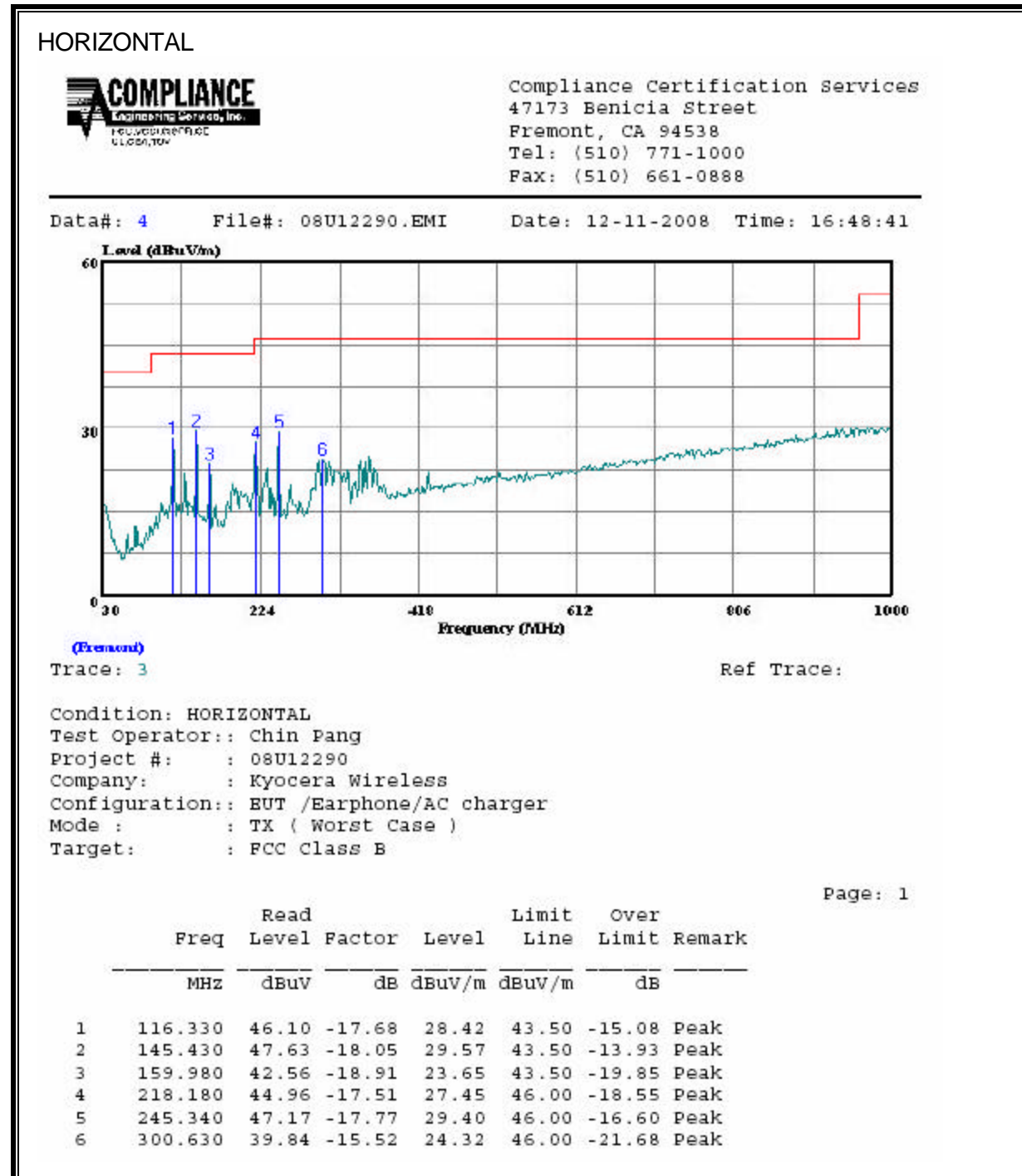
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
1.495	3.0	42.0	30.8	27.0	2.9	-35.8	0.0	0.0	36.2	25.0	74	54	-37.8	-29.0	H
3.925	3.0	44.6	32.5	32.7	5.1	-34.8	0.0	0.0	47.6	35.5	74	54	-26.4	-18.5	H
1.495	3.0	42.5	31.0	27.0	2.9	-35.8	0.0	0.0	36.7	25.2	74	54	-37.3	-28.8	V
3.925	3.0	50.0	39.5	32.7	5.1	-34.8	0.0	0.0	53.0	42.5	74	54	-21.0	-11.5	V

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		

7.3. WORST-CASE BELOW 1 GHz

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



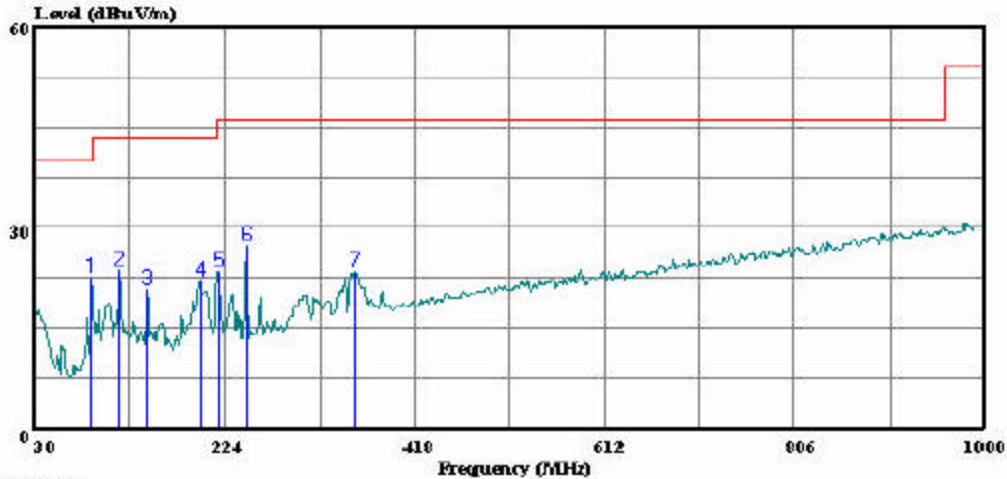
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL



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

Data#: 2 File#: 08U12290.EMI Date: 12-11-2008 Time: 16:39:37



(Zoom)

Trace: 1

Ref Trace:

Condition: VERTICAL
 Test Operator: Chin Pang
 Project #: 08U12290
 Company: Kyocera Wireless
 Configuration: BUT /Earphone/AC charger
 Mode: TX (Worst Case)
 Target: FCC Class B

Page: 1

	Read	Limit	Over			
Freq	Level	Factor	Level	Line	Limit	Remark
MHZ	dBuV	dB	dBuV/m	dBuV/m	dB	
1	87.230	45.99	-23.30	22.69	40.00	-17.31 Peak
2	116.330	41.43	-17.68	23.75	43.50	-19.75 Peak
3	145.430	38.82	-18.05	20.76	43.50	-22.74 Peak
4	198.780	39.48	-17.29	22.19	43.50	-21.31 Peak
5	218.180	40.82	-17.51	23.31	46.00	-22.69 Peak
6	245.340	45.04	-17.77	27.27	46.00	-18.73 Peak
7	356.890	37.20	-13.91	23.29	46.00	-22.71 Peak

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.

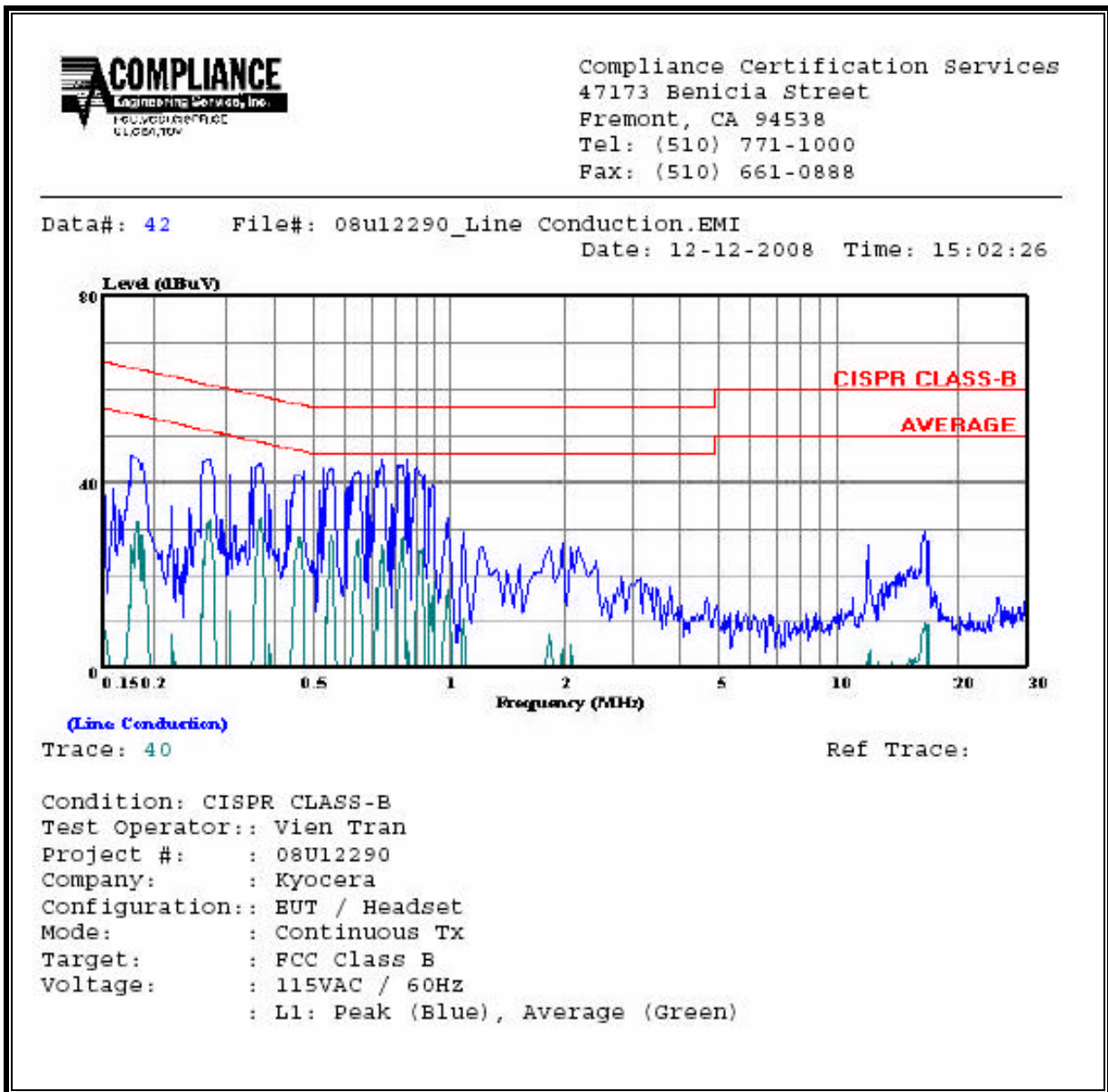
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

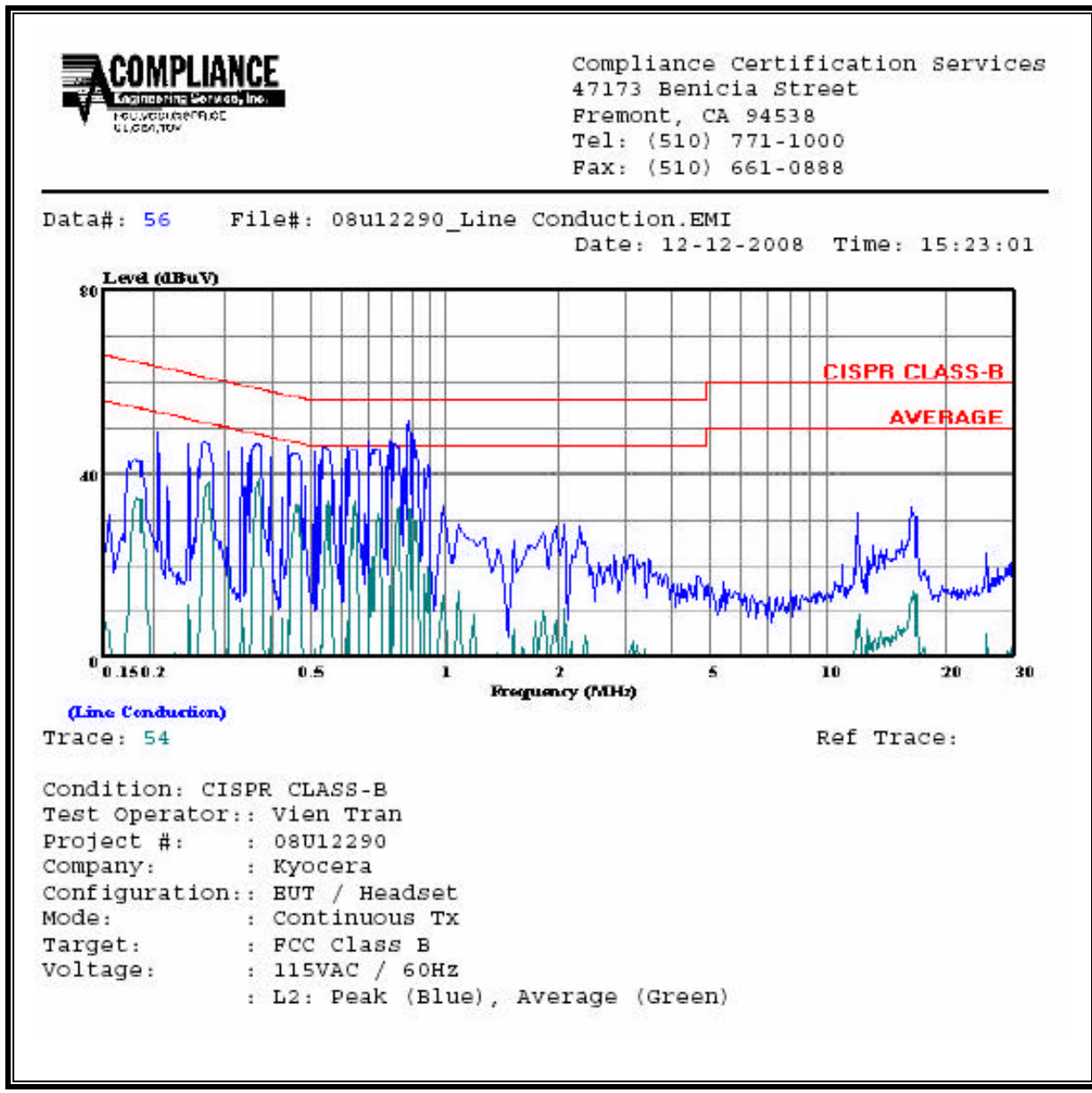
6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Class	Limit	FCC_B	Margin		Remark
(MHz)	PK (dBUV)	QP (dBUV)	AV (dBUV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.37	43.59	--	32.56	0.00	58.50	48.50	-14.91	-15.94	L1
0.74	44.72	--	28.18	0.00	56.00	46.00	-11.28	-17.82	L1
0.86	44.84	--	27.88	0.00	56.00	46.00	-11.16	-18.12	L1
0.37	46.12	--	39.01	0.00	58.50	48.50	-12.38	-9.49	L2
0.74	46.85	--	31.56	0.00	56.00	46.00	-9.15	-14.44	L2
0.86	51.53	--	32.40	0.00	56.00	46.00	-4.47	-13.60	L2
6 Worst Data									

LINE 1 RESULTS



LINE 2 RESULTS



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

Data#: 56 File#: 08u12290_Line Conduction.EMI Date: 12-12-2008 Time: 15:23:01

(Line Conduction)
Trace: 54 Ref Trace:

Condition: CISPR CLASS-B
Test Operator: Vien Tran
Project #: 08U12290
Company: Kyocera
Configuration: BUT / Headset
Mode: Continuous Tx
Target: FCC Class B
Voltage: 115VAC / 60Hz
L2: Peak (Blue), Average (Green)