



**FCC CFR47 PART 15 SUBPART C
CERTIFICATION TEST REPORT
FOR**

**CDMA2000 PHONE WITH BLUETOOTH
MODEL NUMBER: K33B-04
FCC ID: OVFKWC-K33B04**

**REPORT NUMBER: 08U11546-3
ISSUE DATE: JANUARY 22, 2008**

Prepared for

**KYOCERA WIRELESS CORP
10300 CAMPUS POINT DRIVE
SAN DIEGO, CA 92121, USA**

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>
--	1/22/08	Initial Issue	T. Chan

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: CDMA2000 PHONE WITH BLUETOOTH

MODEL: K33B-04

SERIAL NUMBER: 806F8185

DATE TESTED: JANUARY 13-15, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	No Non-Compliance Noted (Radiated only)

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. 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:

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.

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 CDMA2000 Phone with Bluetooth.
The radio module is manufactured by Kyocera Wireless.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal PIFA antenna, with -2.6dBi gain.

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

EUT has been evaluated at X, Y, and Z-axis. The highest measured output power was at Y-Axis.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Dell	PP05L	60152	DoC
AC Adapter	Dell	PA-12	CN0DF263-71615-68D-787F	DoC
Earphone	NA	NA	NA	NA

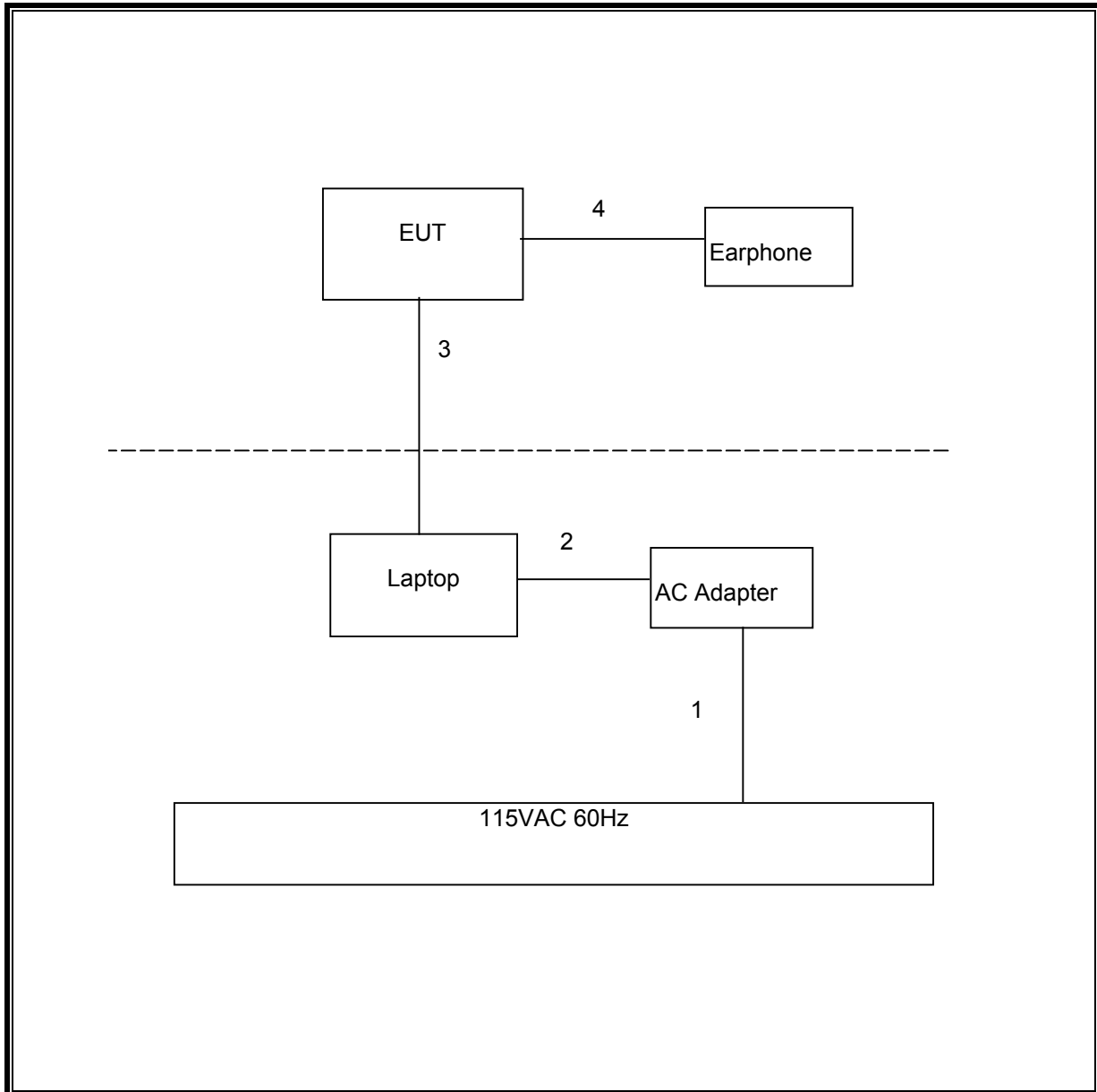
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identica Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US 115V	Un-shielded	1m	One ferrite at laptop end
2	DC	1	DC	Un-shielded	2m	N/A
3	USB	1	EUT	Shielded	1m	N/A
4	Jack	1	Earphone	Un-shielded	2m	N/A

TEST SETUP

EUT is tested as standalone device. A host laptop computer is used to exercise the EUT and then removed.

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	C01069	12/14/2007	3/18/2008
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/3/2007	9/27/2008
Horn	EMCO	3115	C00945	4/15/2007	4/15/2008
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	9/15/2007	9/30/2008
Preamplifier, 1300 MHz	Agilent / HP	8447D	NA	5/9/2007	5/9/2008
EMI Receiver, 2.9 GHz	Agilent / HP	8542E	C00957	2/6/2007	6/12/2008
RF Filter Section, 2.9 GHz	Agilent / HP	85420E	C00958	2/6/2007	6/12/2008
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	10/16/2007	10/27/2008
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	9/15/2007	8/29/2008

7. RADIATED TEST RESULTS

7.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

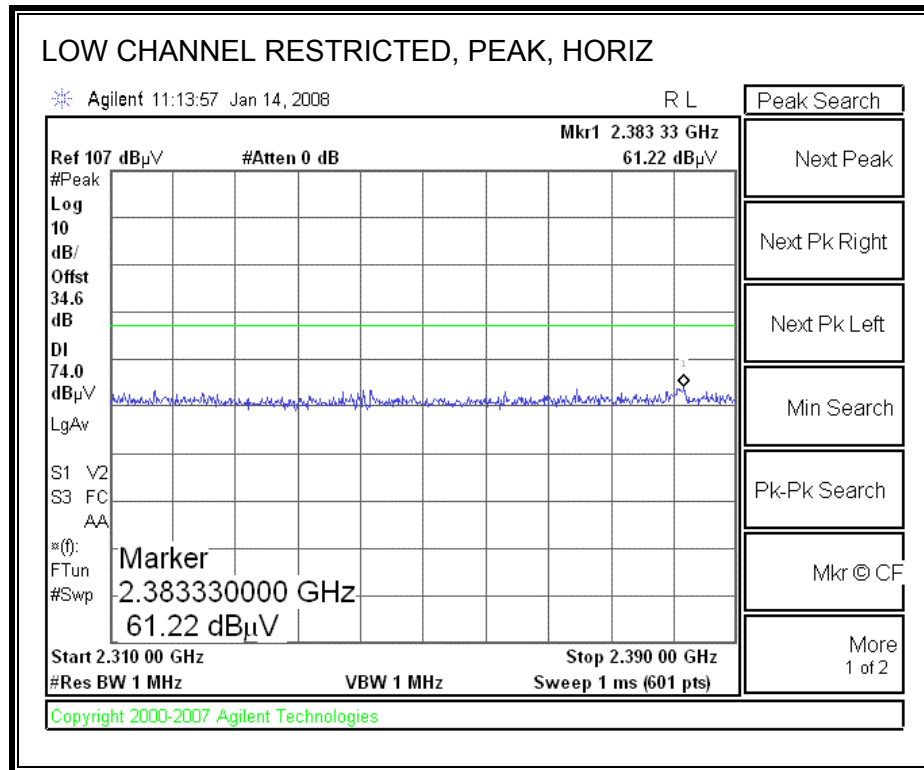
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

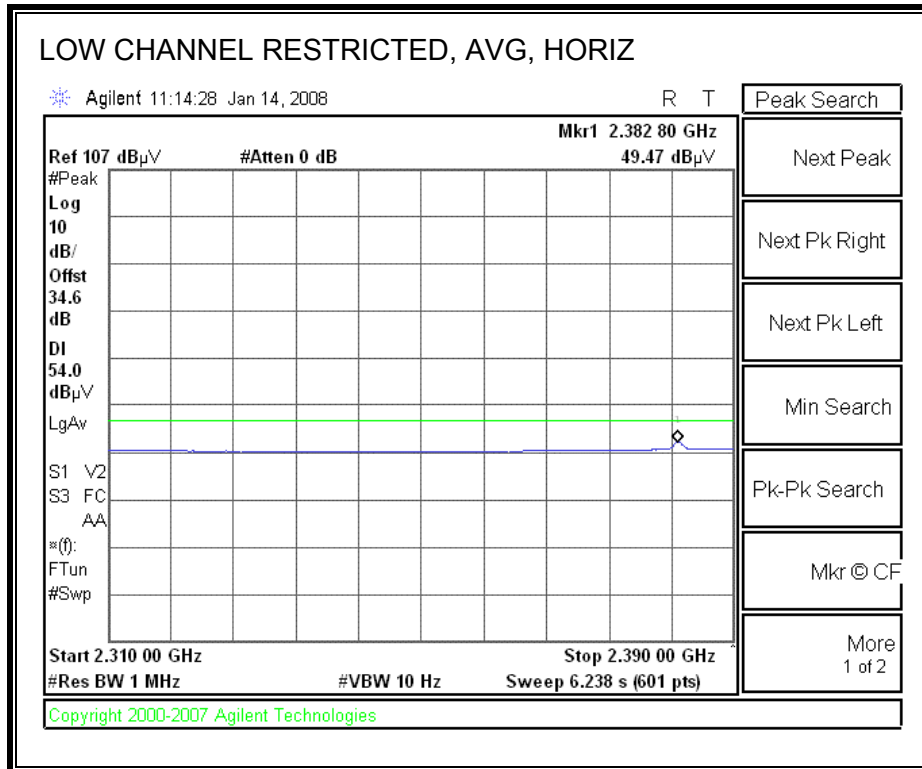
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

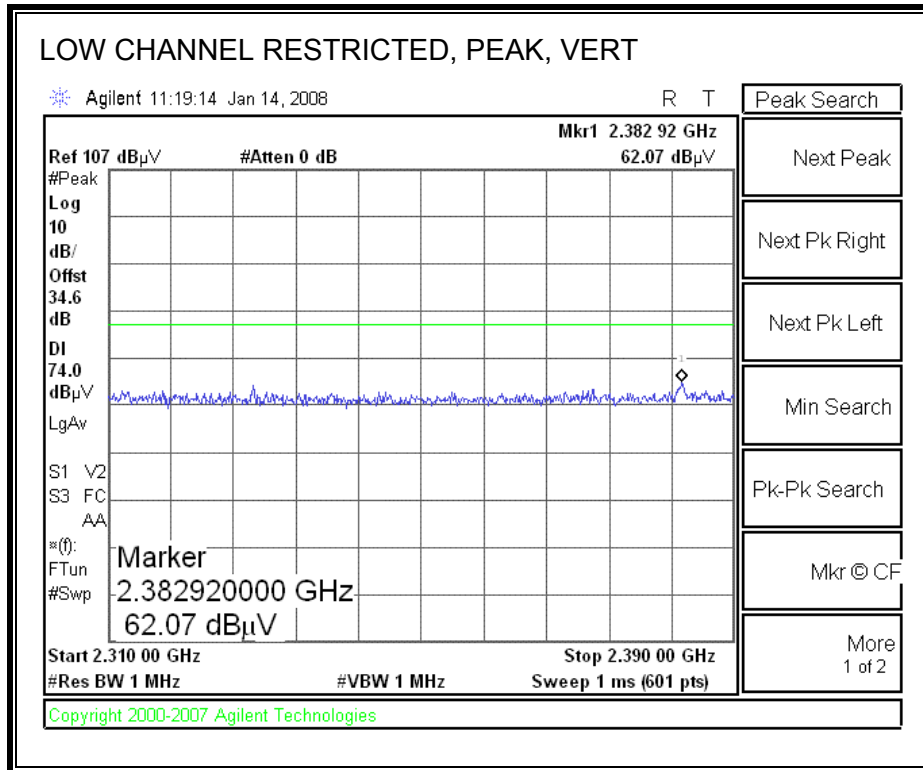
7.1.1. BASIC DATA RATE GFSK MODULATION

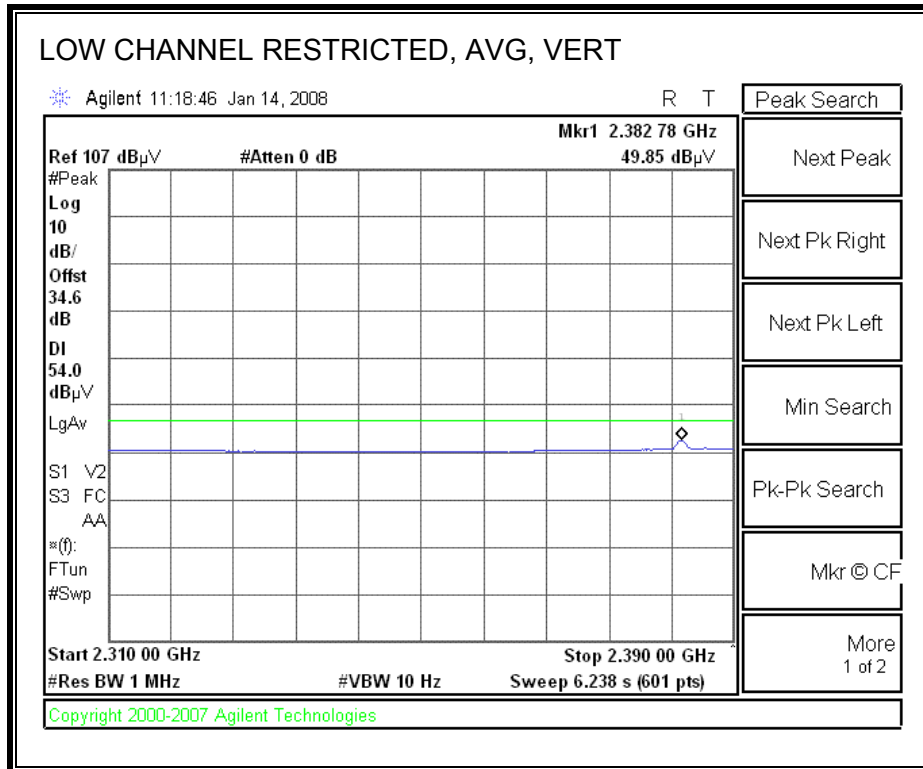
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



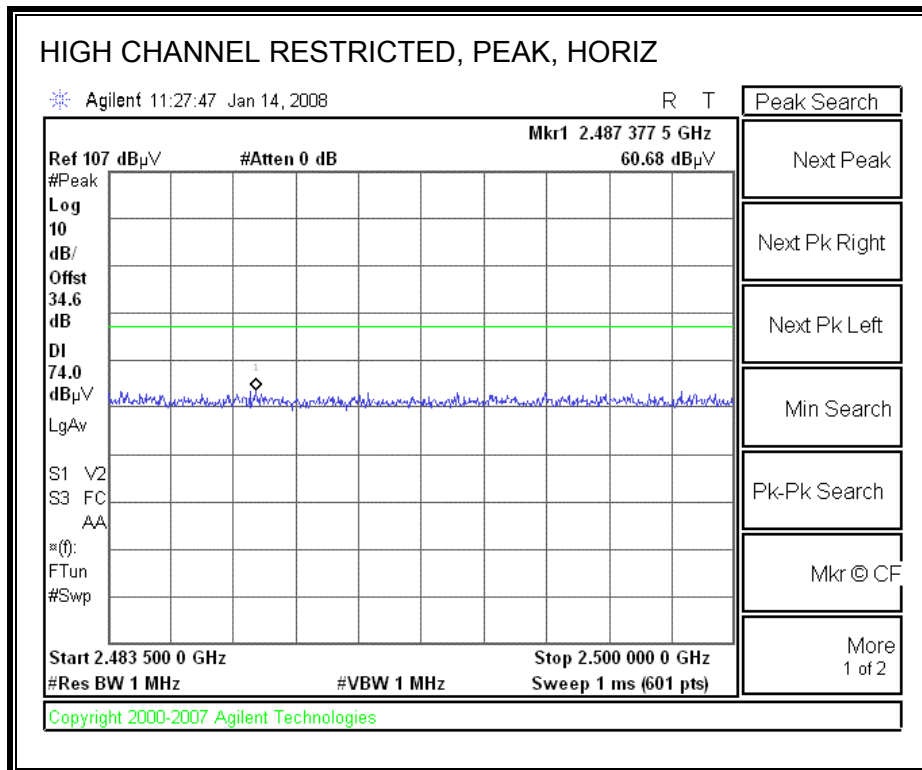


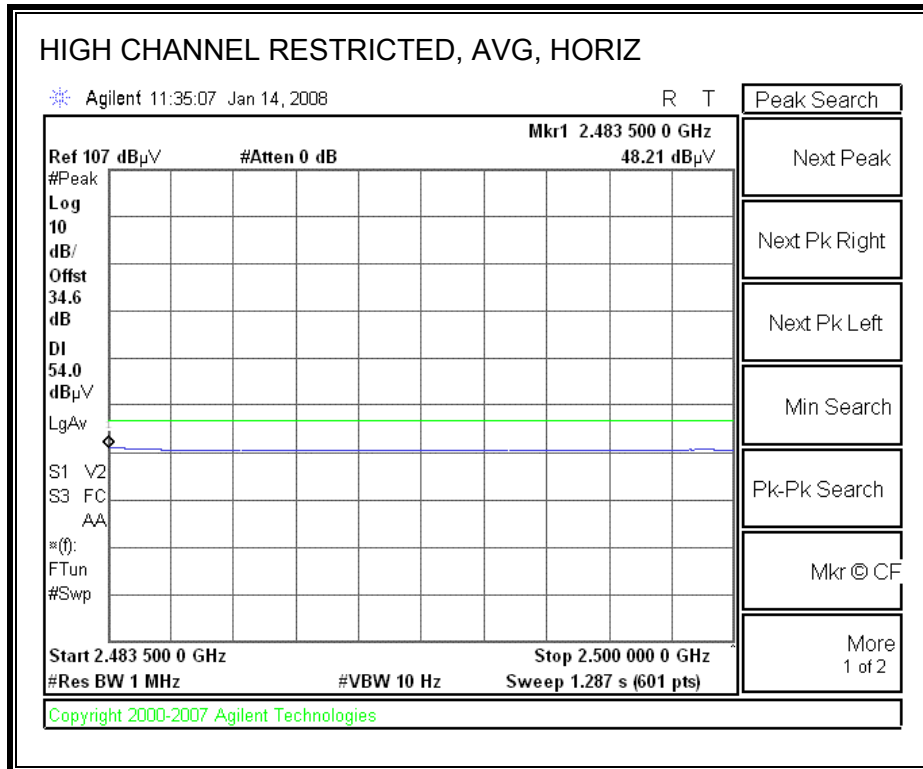
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



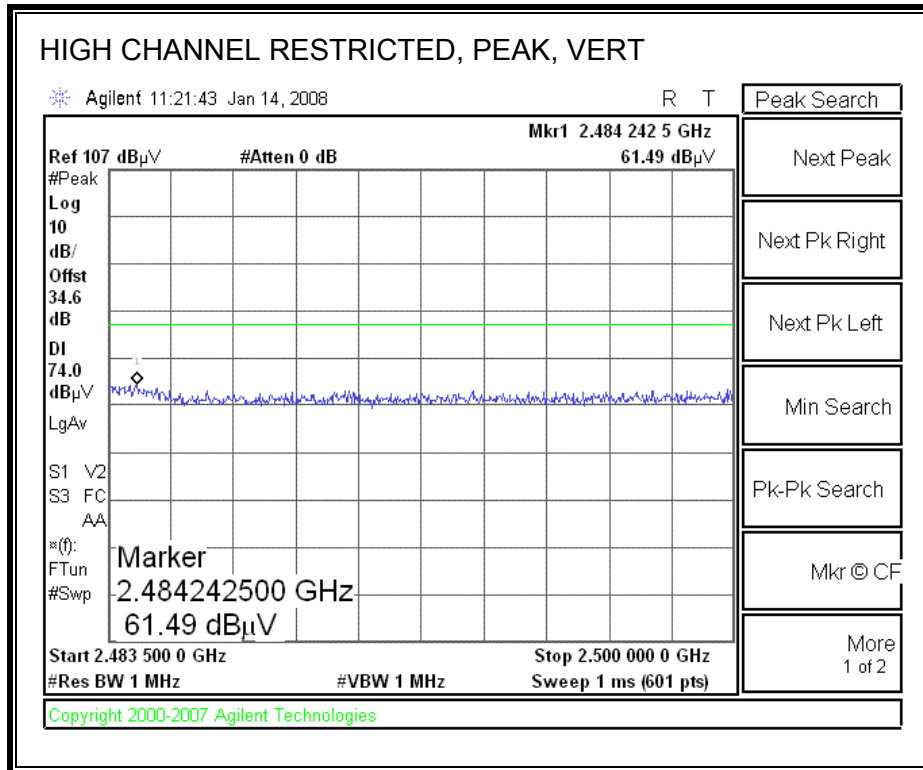


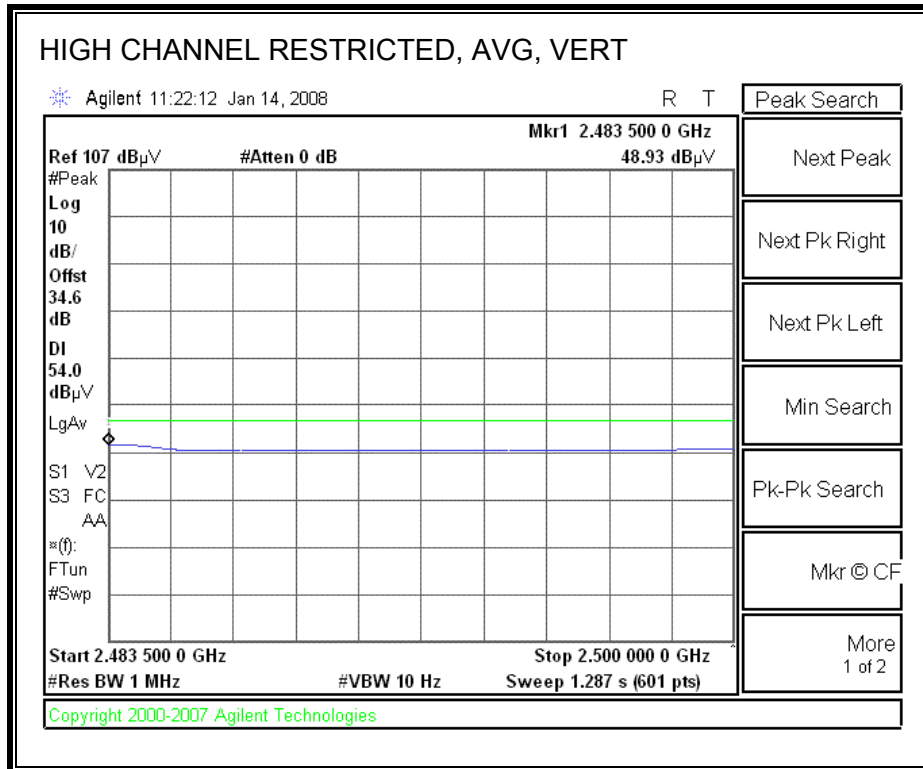
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



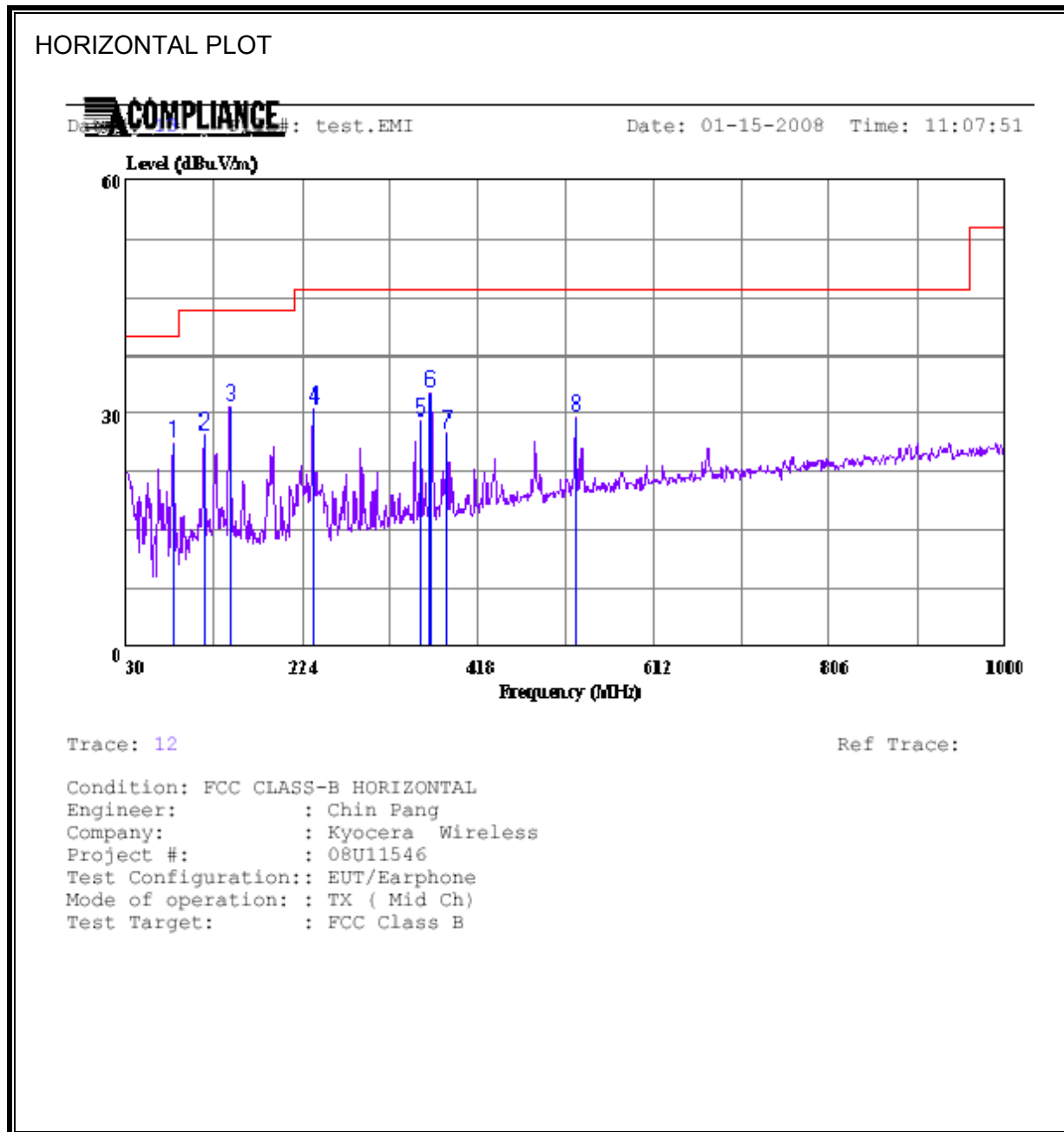


HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement																	
Compliance Certification Services, Fremont 5m Chamber																	
Company: Kyocera																	
Project #: 08U11546																	
Date: 1/14/2008																	
Test Engineer: Chin Pang																	
Configuration: EUT Only																	
Mode: TX, BT																	
Test Equipment:																	
Horn 1-18GHz			Pre-amplifer 1-26GHz			Pre-amplifer 26-40GHz			Horn > 18GHz			Limit					
T73; S/N: 6717 @3m			T145 Agilent 3008A0050									FCC 15.205					
Hi Frequency Cables																	
2 foot cable			3 foot cable			12 foot cable			HPF		Reject Filter		Peak Measurements RBW=VBW=1MHz				
						B-5m Chamber					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	Ftr 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 Ch, 2402MHz																	
4.804	3.0	42.3	28.8	33.7	7.1	-34.8	0.0	0.0	48.3	34.8	74	54	-25.7	-19.2	V		
4.804	3.0	40.5	28.0	33.7	7.1	-34.8	0.0	0.0	46.5	34.0	74	54	-27.5	-20.0	H		
Mid Ch, 2441MHz																	
4.882	3.0	43.0	29.5	33.8	7.2	-34.9	0.0	0.0	49.1	35.6	74	54	-24.9	-18.4	V		
7.323	3.0	42.8	29.3	36.2	8.7	-34.7	0.0	0.0	53.0	39.5	74	54	-21.0	-14.5	V		
4.882	3.0	43.0	29.0	33.8	7.2	-34.9	0.0	0.0	49.2	35.2	74	54	-24.8	-18.8	H		
7.323	3.0	41.4	28.5	36.2	8.7	-34.7	0.0	0.0	51.6	38.7	74	54	-22.4	-15.3	H		
High Ch, 2480MHz																	
4.960	3.0	42.1	28.5	33.9	7.2	-34.9	0.0	0.0	48.4	34.8	74	54	-25.6	-19.2	V		
7.440	3.0	41.8	28.2	36.3	8.7	-34.6	0.0	0.0	52.2	38.6	74	54	-21.8	-15.4	V		
4.960	3.0	41.4	28.3	33.9	7.2	-34.9	0.0	0.0	47.7	34.6	74	54	-26.3	-19.4	H		
7.440	3.0	40.0	28.0	36.3	8.7	-34.6	0.0	0.0	50.4	38.4	74	54	-23.6	-15.6	H		
Rev. 4.12.7																	
Note: No other emissions were detected above the system noise floor.																	
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 BELOW 1 GHz

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

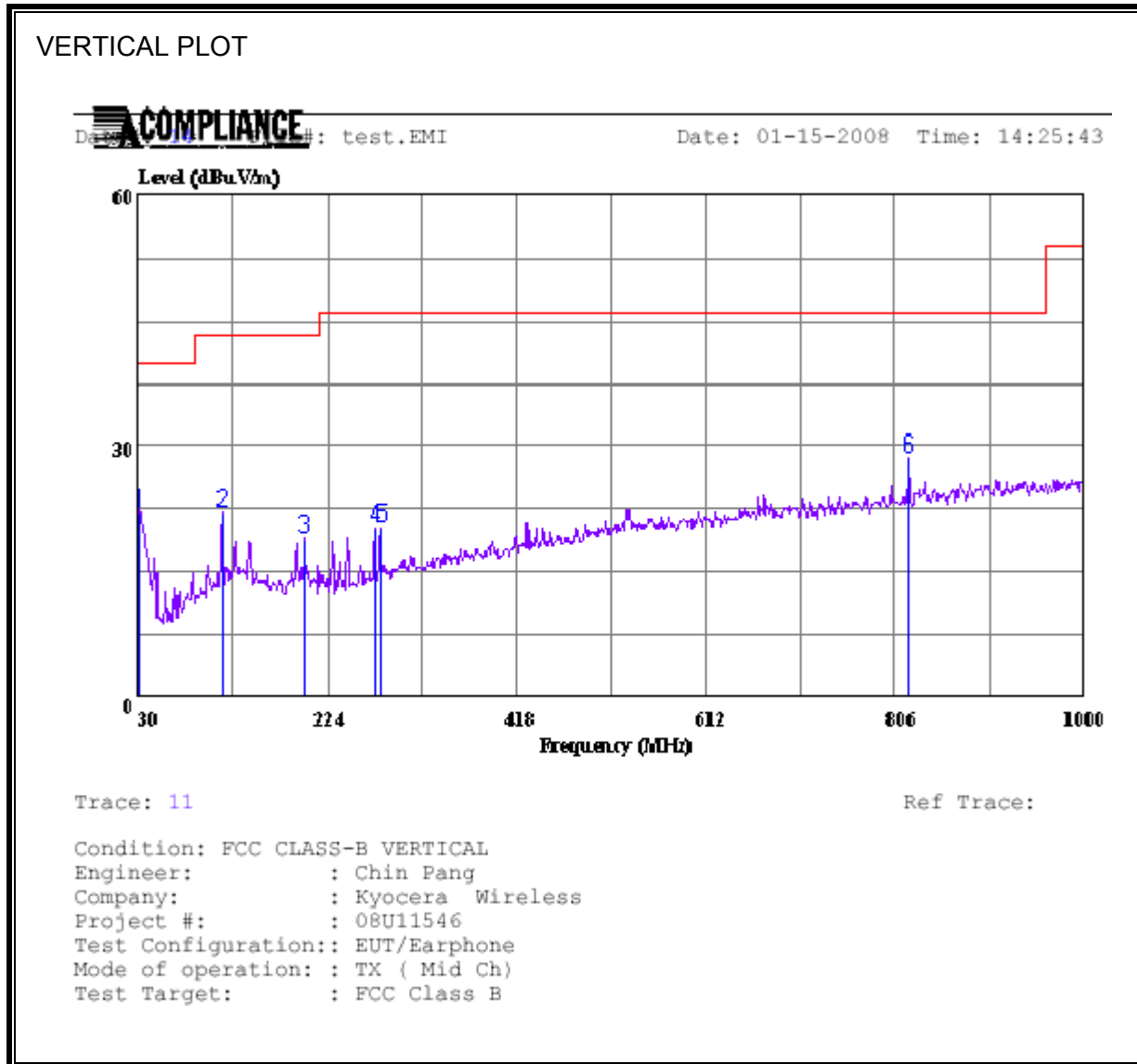


HORIZONTAL DATA

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	81.410	45.67	-19.33	26.33	40.00	-13.67	Peak
2	115.360	41.50	-14.14	27.36	43.50	-16.14	Peak
3	144.460	44.50	-13.54	30.96	43.50	-12.54	Peak
4	236.610	45.33	-14.63	30.70	46.00	-15.30	Peak
5	354.950	40.00	-10.90	29.10	46.00	-16.90	Peak
6	365.620	43.50	-10.67	32.83	46.00	-13.17	Peak
7	384.050	37.67	-10.24	27.43	46.00	-18.57	Peak
8	525.670	36.50	-6.88	29.62	46.00	-16.38	Peak

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



VERTICAL DATA

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	30.000	27.83	-5.76	22.07	40.00	-17.93	Peak
2	115.360	36.33	-14.14	22.19	43.50	-21.31	Peak
3	199.750	32.33	-13.39	18.95	43.50	-24.55	Peak
4	272.500	33.67	-13.31	20.36	46.00	-25.64	Peak
5	278.320	33.33	-13.07	20.26	46.00	-25.74	Peak
6	820.550	30.50	-1.91	28.59	46.00	-17.41	Peak

8. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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.

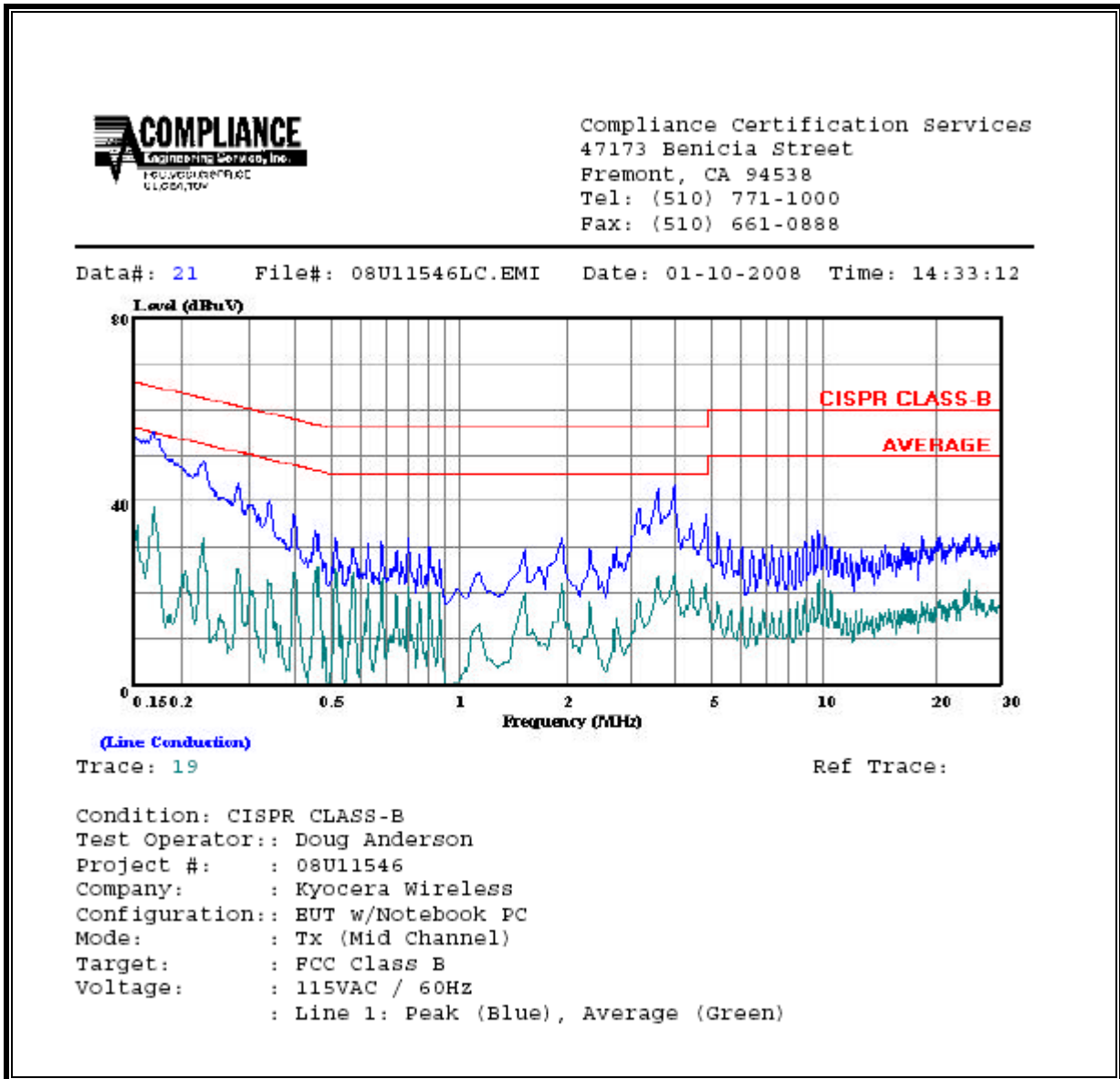
Line conducted data is recorded for both NEUTRAL and HOT lines.

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	55.04	--	38.84	0.00	65.06	55.06	-10.02	-16.22	L1
0.23	48.78	--	31.83	0.00	62.45	52.45	-13.67	-20.62	L1
4.09	43.62	--	24.14	0.00	56.00	46.00	-12.38	-21.86	L1
0.17	50.96	--	50.96	0.00	65.06	55.06	-14.10	-4.10	L2
0.23	45.36	--	45.36	0.00	62.60	52.60	-17.24	-7.24	L2
3.70	40.31	--	40.31	0.00	56.00	46.00	-15.69	-5.69	L2
6 Worst Data									

LINE 1 RESULTS



LINE 2 RESULTS

