



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

FOR

900 MHz CONFERENCING SYSTEM

MODEL NUMBER: PCx-1000

FCC ID: B4HPCX1000

REPORT NUMBER: 06U10163-1, Revision B

ISSUE DATE: MAY 1, 2006

Prepared for
**PORTA PHONE CO.
145 DEAN KNAUSS DRIVE
NARRAGANSETT, RI 02882, USA**

Prepared by
**COMPLIANCE CERTIFICATION SERVICES
561F MONTEREY ROAD
MORGAN HILL, CA 95037, USA
TEL: (408) 463-0885
FAX: (408) 463-0888**

NVLAP[®]
LAB CODE:200065-0

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
A	3/30/06	Initial Issue	Thu
B	5/1/06	Removed MPE section, Added Time-Based Average Power	MH

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: PORTA PHONE CO.
145 DEAN KNAUSS DRIVE
NARRAGANSETT, RI 02882, USA

EUT DESCRIPTION: 900 MHz CONFERENCING SYSTEM

MODEL: PCx-1000

SERIAL NUMBER: 01688

DATE TESTED: MARCH 19-21, 2006

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	NO NON-COMPLIANCE NOTED

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:



MIKE HECKROTTE
ENGINEERING MANAGER
COMPLIANCE CERTIFICATION SERVICES

WILLIAM ZHUANG
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 and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a 900 MHz Conferencing System with one dipole antenna.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

902 to 928 MHz Authorized Band

Frequency Range (MHz)	Output Power (dBm)	Output Power (mW)
903.25 - 927.35	24.04	253.51

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a dipole antenna, with a maximum gain of 0 dBi.

5.4. TIME-BASED AVERAGE OUTPUT POWER

The time-based average power is calculated from the peak power times the duty cycle.

Slots	Peak Output Power (dBm)	On Time (ms)	Period (ms)	Duty Cycle	Time-Based Average Output Power (mW)
6	253.50	1.592	11.20	0.14	36.03
8	253.50	2.067	17.89	0.12	29.29

5.5. SOFTWARE AND FIRMWARE

The test utility software used during testing was an end user program with 6 and 8 slot operating software.

5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at 915.095 MHz. The antenna has been investigated & found the worst polarization is right at vertical position.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	ABLEX	1281-9-6500	N/A	N/A

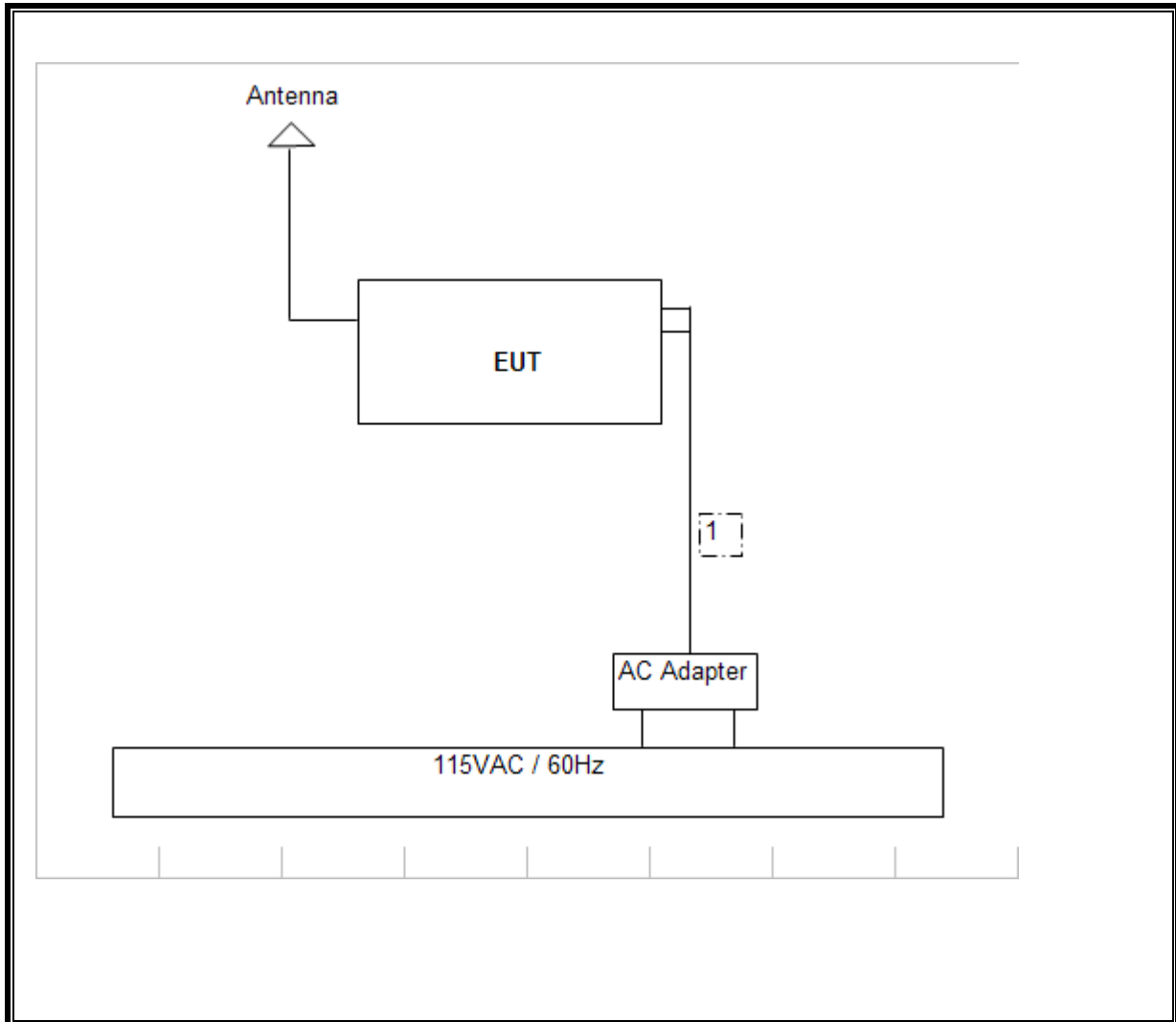
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC	1	US 115VAC	Shielded	1.m	

TEST SETUP

The EUT is installed as a stand-alone device during the tests. Test software exercised the radio card.

SETUP DIAGRAM FOR TESTS



SETUP FOR DIGITAL DEVICE TESTS

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Headset	Porta Phone	Porta Phone	N/A	N/A

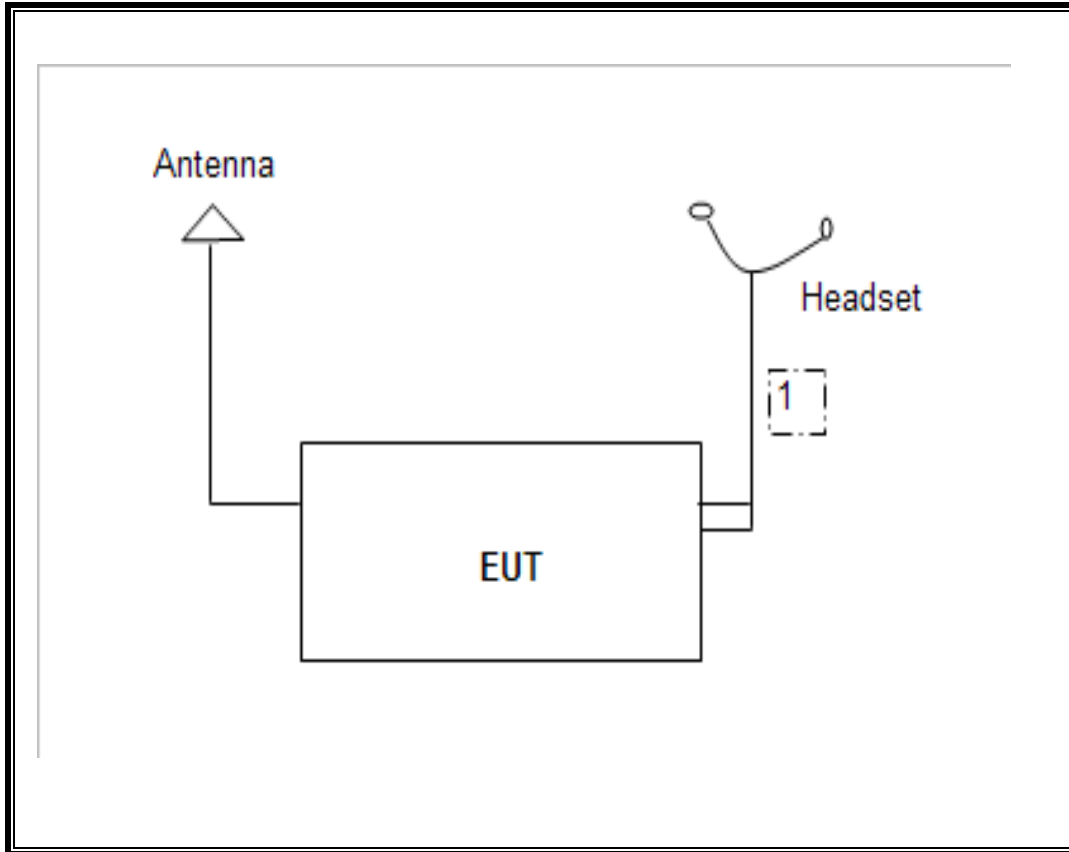
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	Headphone	1	Din	Shielded	.5.m	

TEST SETUP

The EUT is installed as a stand-alone device during the tests. Test software exercised the radio system.

SETUP DIAGRAM FOR DIGITAL DEVICE 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	Serial Number	Cal Due
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	MY43360112	3/28/2006
Preamplifier, 1 ~ 26 GHz	Agilent / HP	8449B	3008A00931	6/24/06
Peak Power Meter	Agilent / HP	E4416A	GB41291160	12/2/07
Antenna, Horn 1 ~ 18 GHz	ETS	3117	29301	4/22/06
EMI Receiver, 9 kHz ~ 2.9 GHz	Agilent / HP	8542E	3942A00286	2/4/07
RF Filter Section	Agilent / HP	85420E	3705A00256	2/4/07
Antenna, Bilog 30 MHz ~ 2 Ghz	Sunol Sciences	JB1	A121003	9/3/06
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	8/30/06
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	8379443	8/30/06
EMI Test Receiver	R & S	ESHS 20	827129/006	6/3/06
1.5GHz HPF	Micro Tronics	HPM13190	1	CNR

7. LIMITS AND RESULTS

7.1. ANTENNA PORT CHANNEL TESTS

7.1.1. 20 dB BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

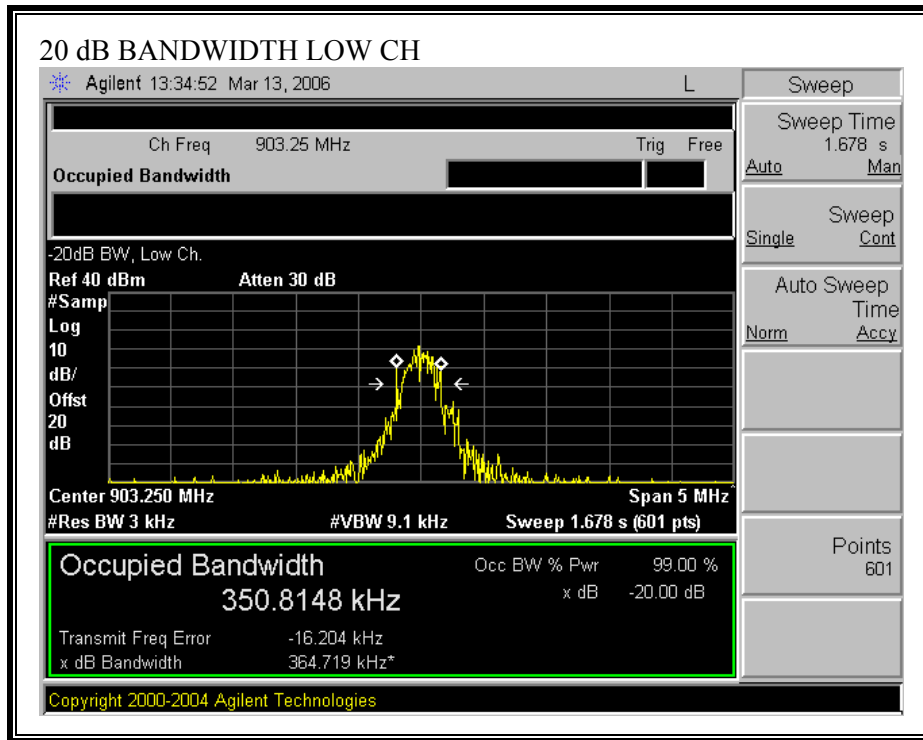
The transmitter output is connected to a spectrum analyzer. The RBW is set to 1% to 3% of the 20 dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled.

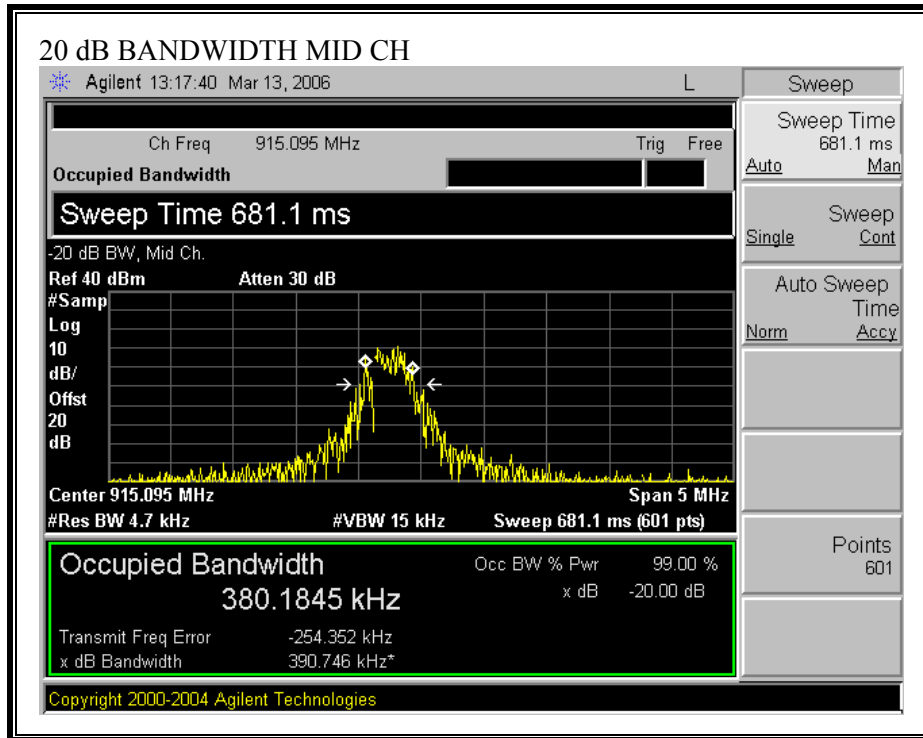
RESULTS

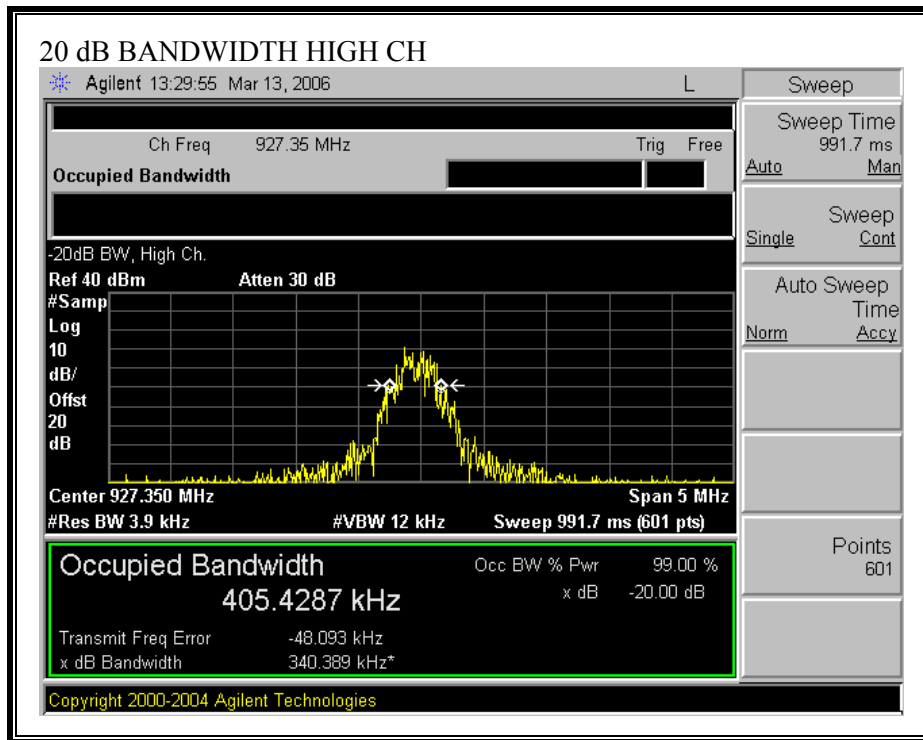
No non-compliance noted:

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
Low	903	364.719	500	135.281
Middle	915	390.746	500	109.254
High	927	340.389	500	159.611

20 dB BANDWIDTH







7.1.2. HOPPING FREQUENCY SEPARATION

LIMIT

§15.247 (a) (1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

TEST PROCEDURE

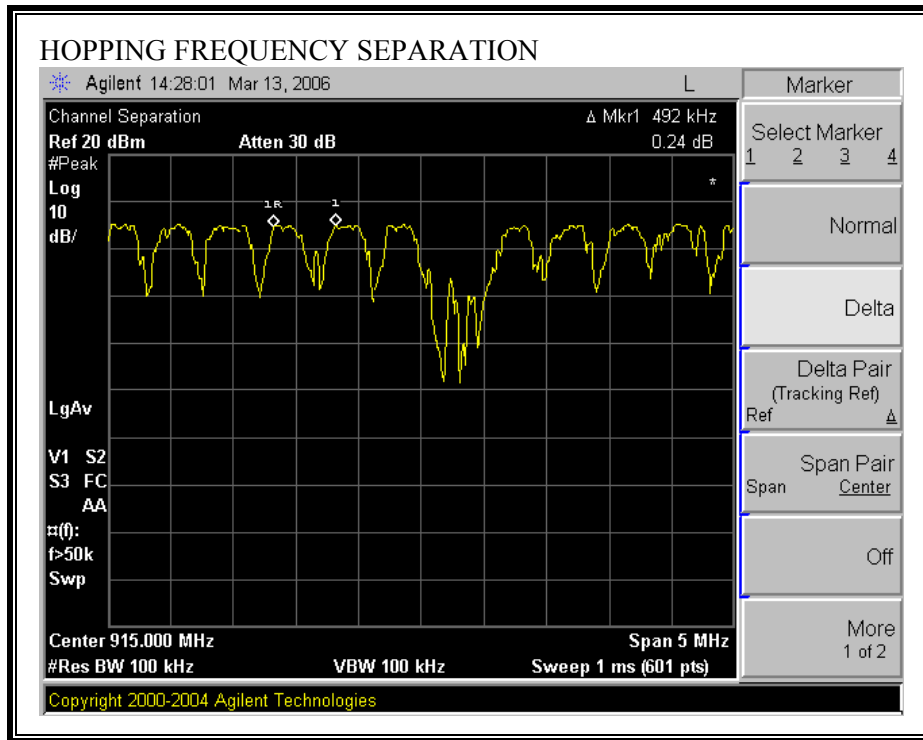
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is coupled.

RESULTS

No non-compliance noted:

Channel	Frequency (MHz)	Hopping Separation (kHz)	$\geq 25\text{kHz}$ or 20 dB BW (kHz)	Margin (kHz)
Mid	915	492	390.746	101.254

HOPPING FREQUENCY SEPARATION



7.1.3. NUMBER OF HOPPING CHANNELS

LIMIT

§15.247 (a) (1) (i) For frequency hopping systems operating in the 902–928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

TEST PROCEDURE

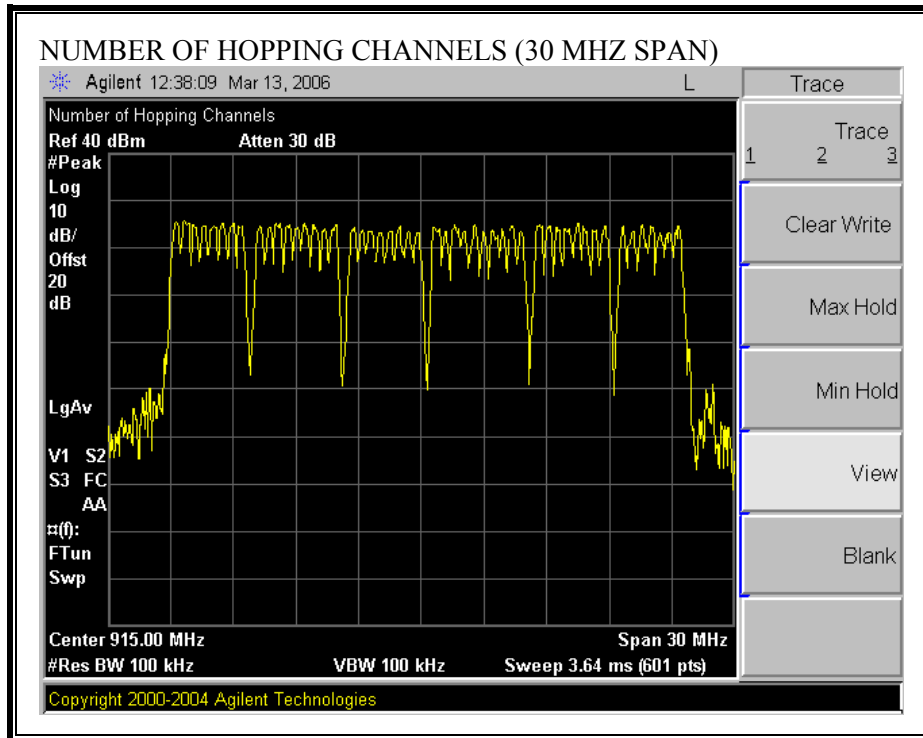
The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to 1 % of the span. The analyzer is set to Max Hold.

RESULTS

No non-compliance noted:

50 Channels observed.

NUMBER OF HOPPING CHANNELS



7.1.4. AVERAGE TIME OF OCCUPANCY

LIMIT

§15.247 (a) (1) (i) For frequency hopping systems operating in the 902–928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 10 second scan, to enable resolution of each occurrence.

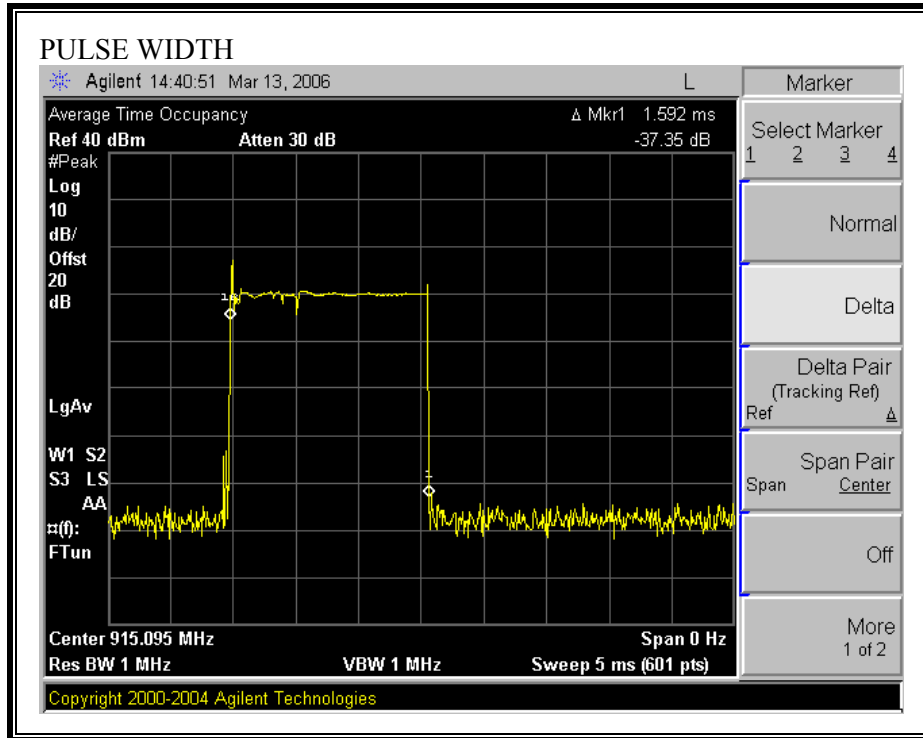
RESULTS

No non-compliance noted:

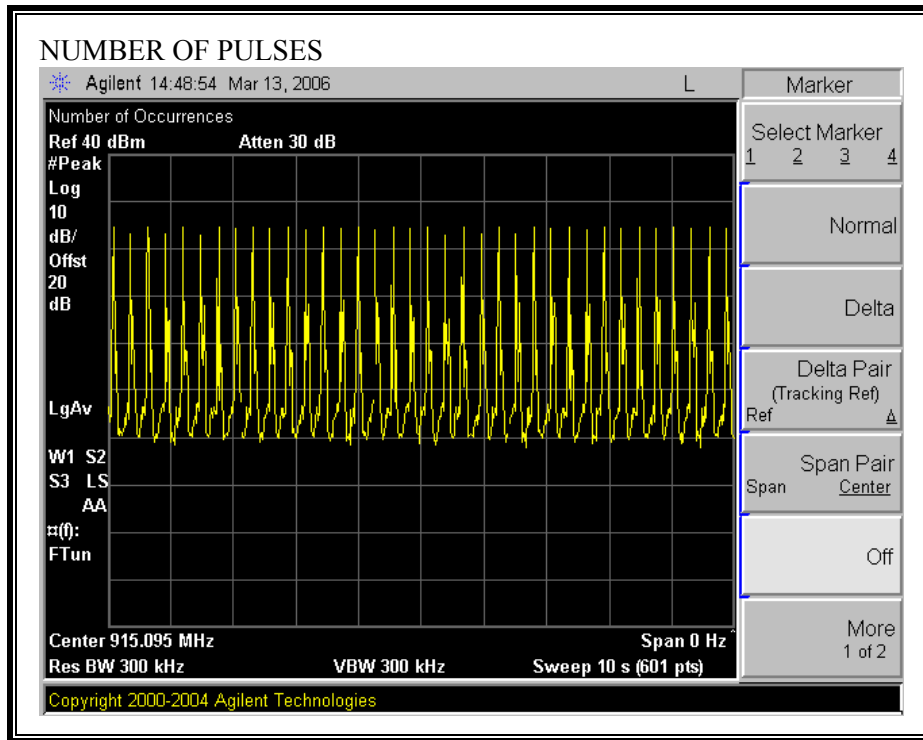
Slot	Pulse Width (msec)	Number of Pulses in 10 seconds	Average Time of Occupancy (sec)	Limit (sec)
6	1.592	36	0.057	0.4
8	2.067	23	0.048	0.4

6-SLOT

PULSE WIDTH

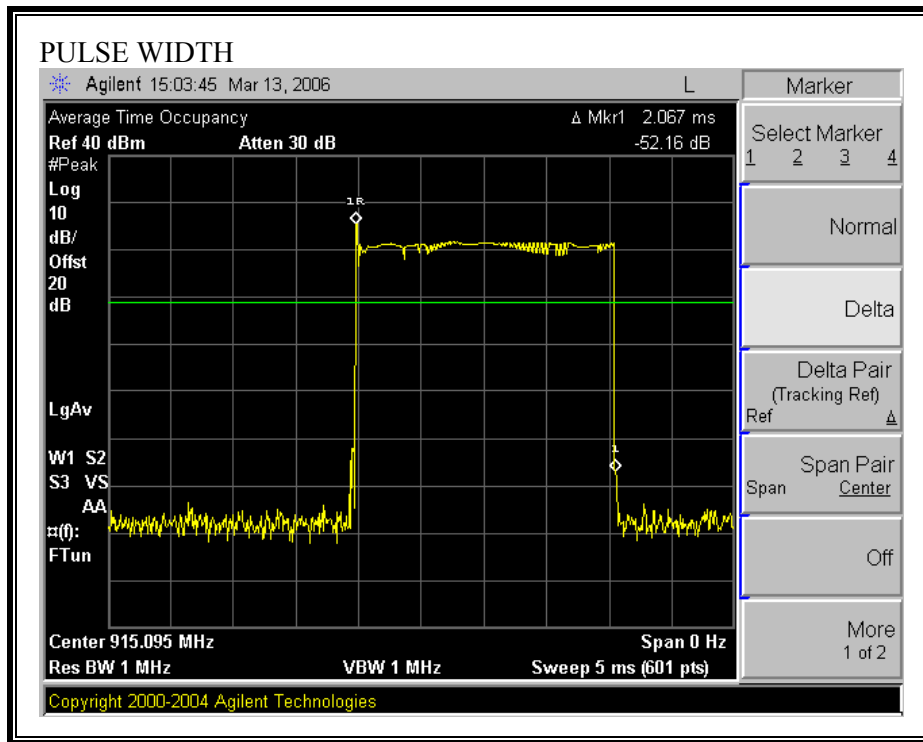


NUMBER OF PULSES IN 10 SECOND OBSERVATION PERIOD (36 PULSES)

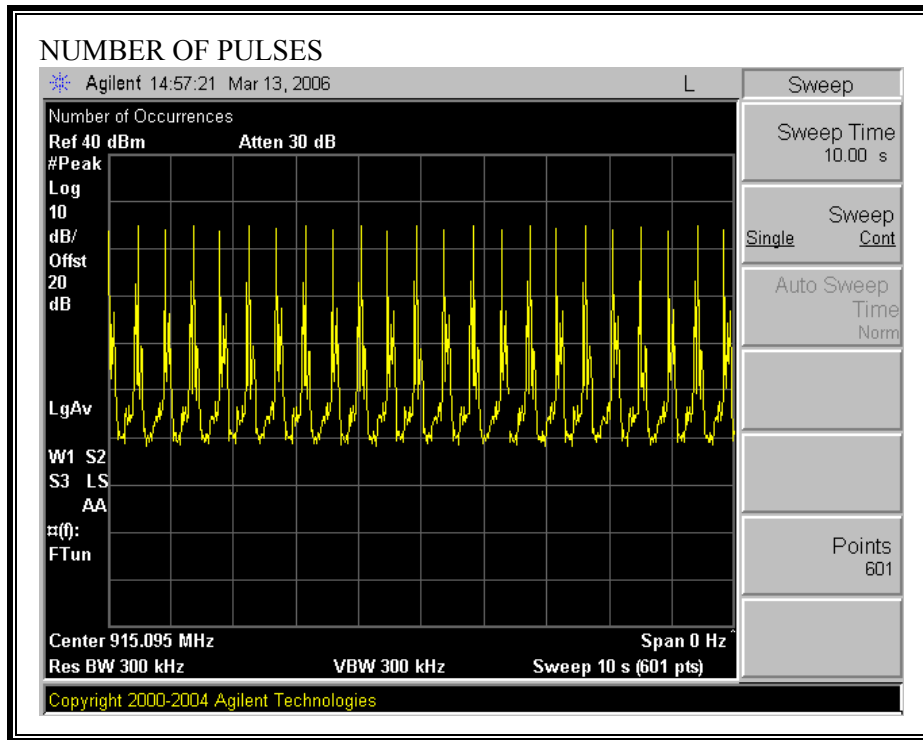


8-SLOT

PULSE WIDTH



NUMBER OF PULSES IN 10 SECOND OBSERVATION PERIOD (23 PULSES)



7.1.5. PEAK OUTPUT POWER

PEAK POWER LIMIT

§15.247 (b) The maximum peak output power of the intentional radiator shall not exceed the following:

§15.247 (b) (2) For frequency hopping systems operating in the 902-928 MHz band , employing at least 50 hopping channels: 1 watt; and employing less than 50 hopping channels, but at least 25 hopping channels: 0.25 watt.

§15.247 (b) (4) Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The maximum antenna gain is 0 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

The transmitter output is connected to a peak power meter.

RESULTS

No non-compliance noted:

Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
Low	903	23.98	30	-6.02
Middle	915	24.04	30	-5.96
High	927	23.68	30	-6.32

7.1.6. AVERAGE POWER

AVERAGE POWER LIMIT

None: for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

No non-compliance noted:

The cable assembly insertion loss of 20 dB (including 20 dB pad) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	903	23.89
Middle	915	23.79
High	927	23.67

7.1.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

§15.247 (c) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

TEST PROCEDURE

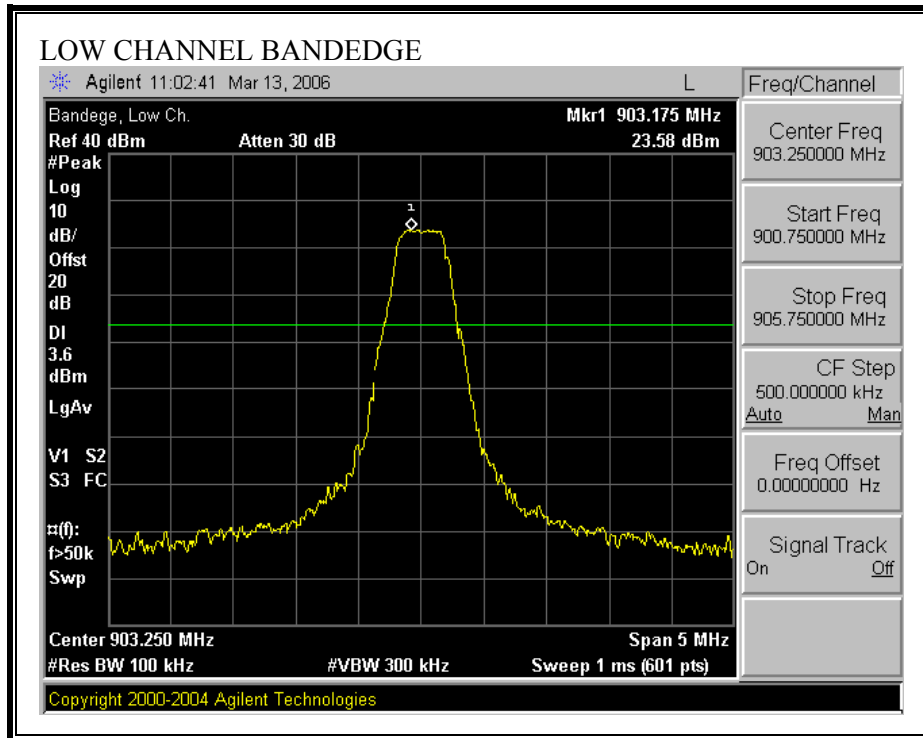
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

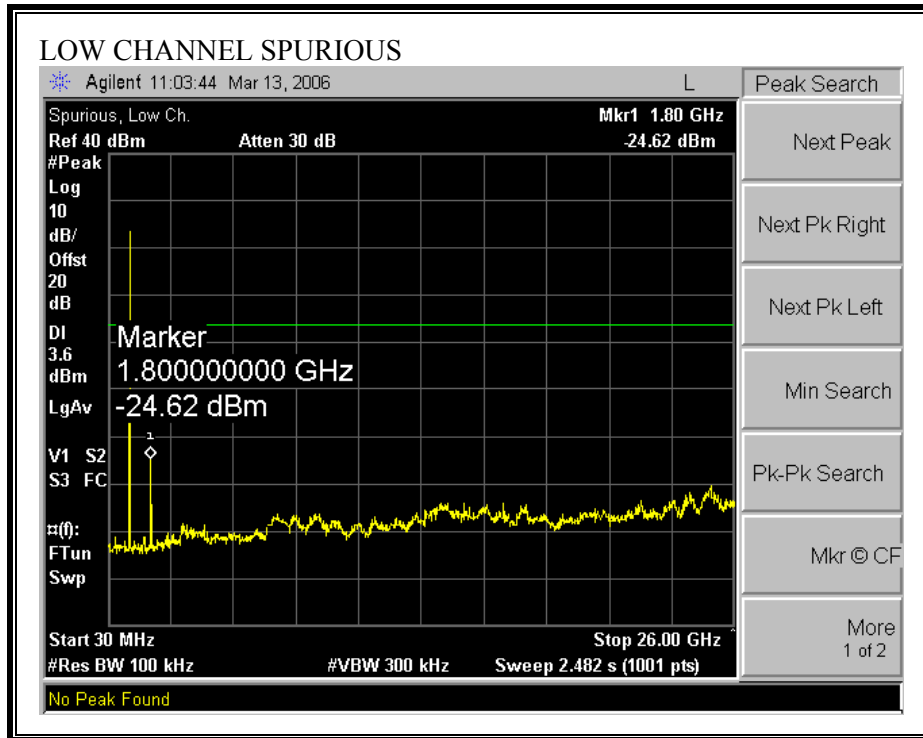
The spectrum from 30 MHz to 10 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

RESULTS

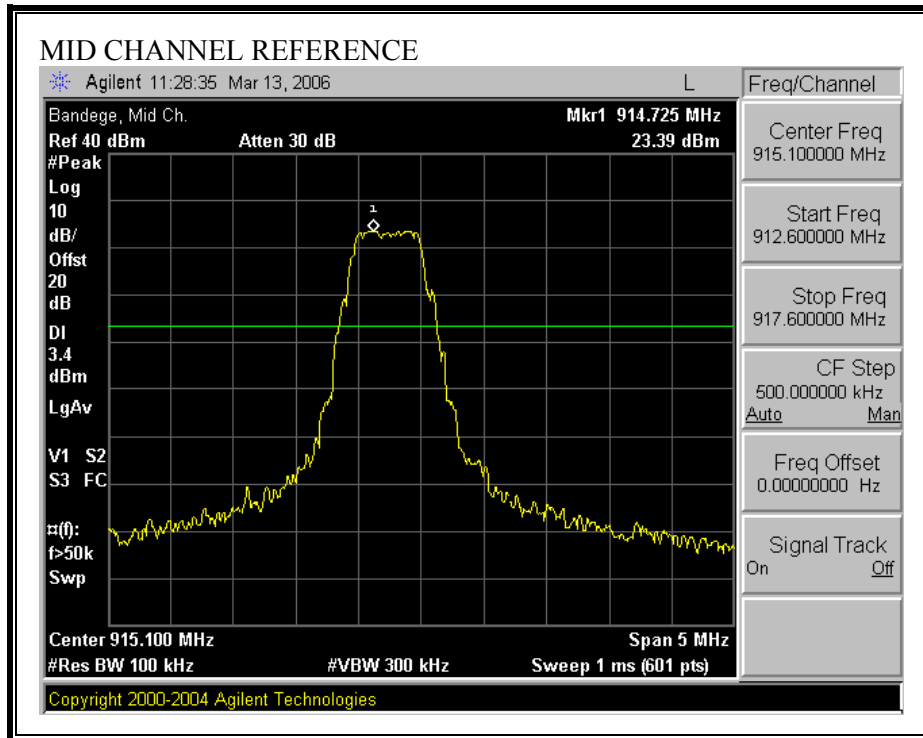
No non-compliance noted:

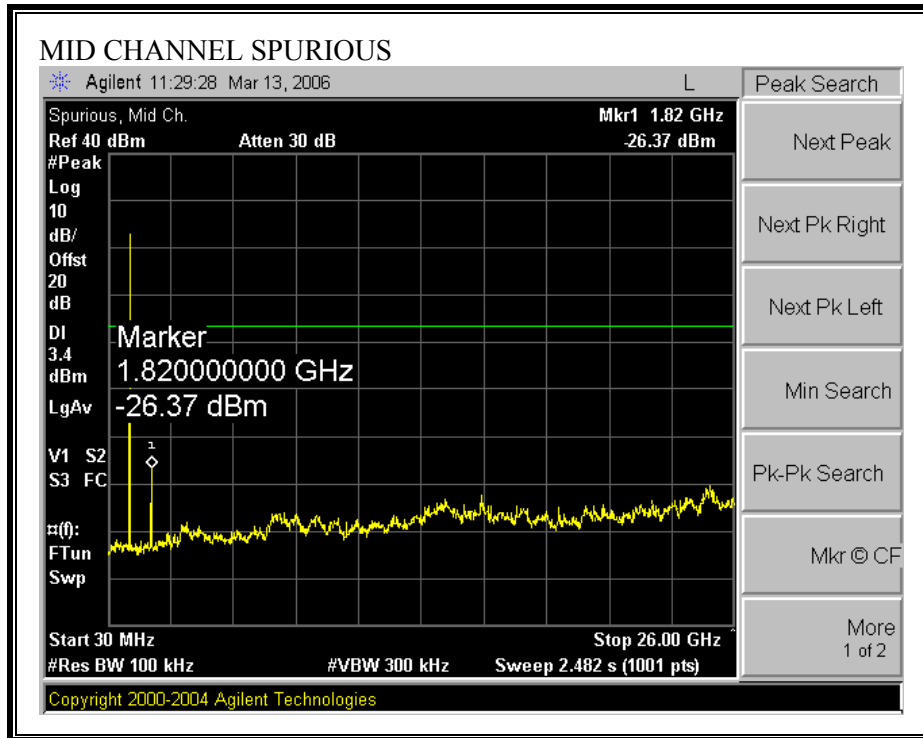
SPURIOUS EMISSIONS, LOW CHANNEL



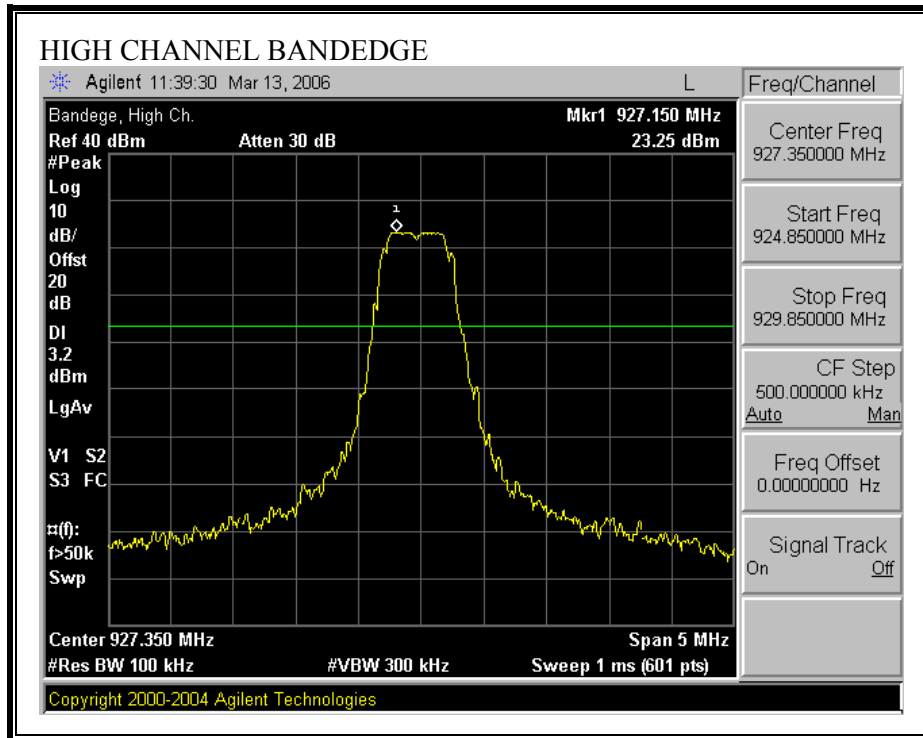


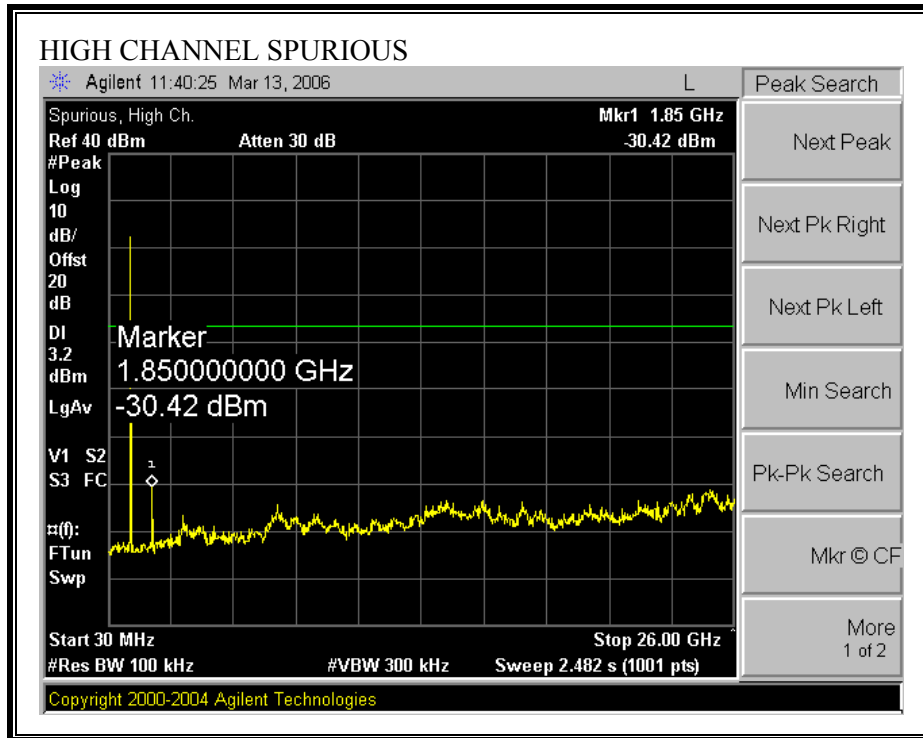
SPURIOUS EMISSIONS, MID CHANNEL





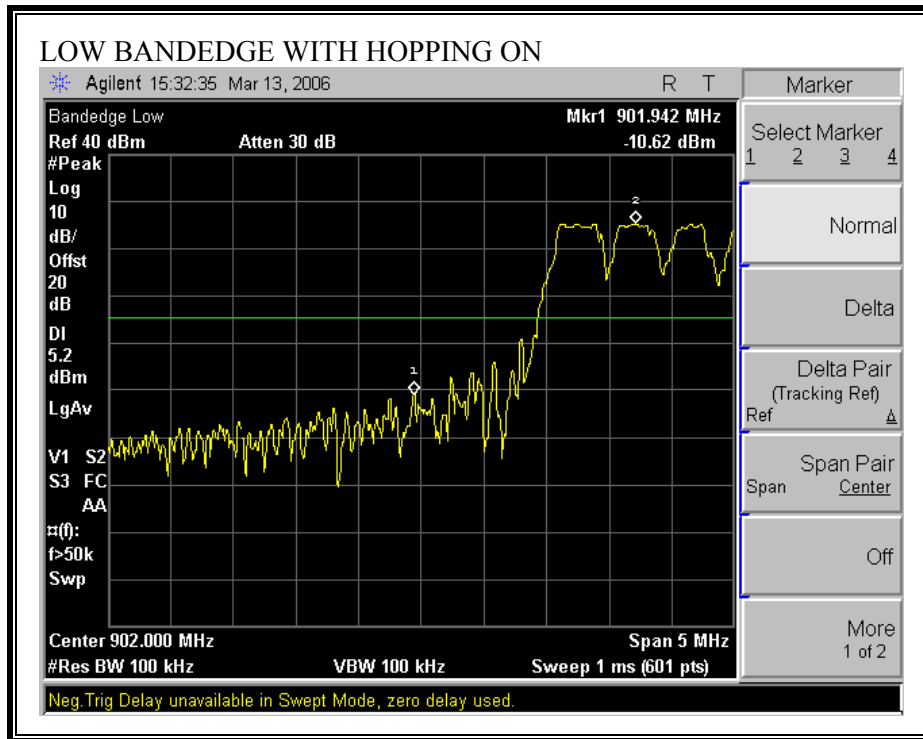
SPURIOUS EMISSIONS, HIGH CHANNEL

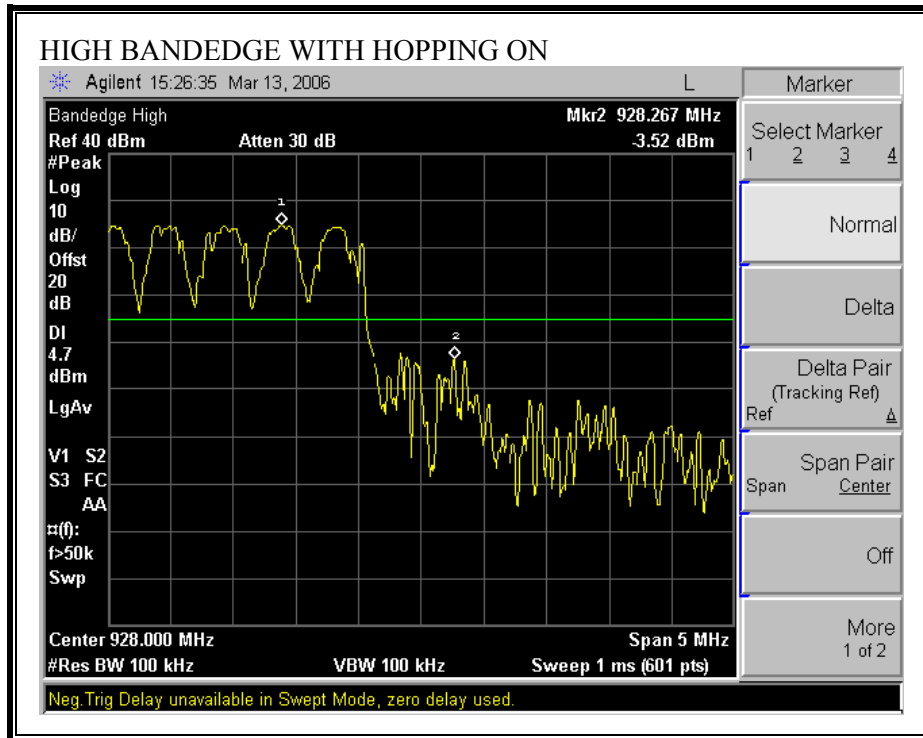




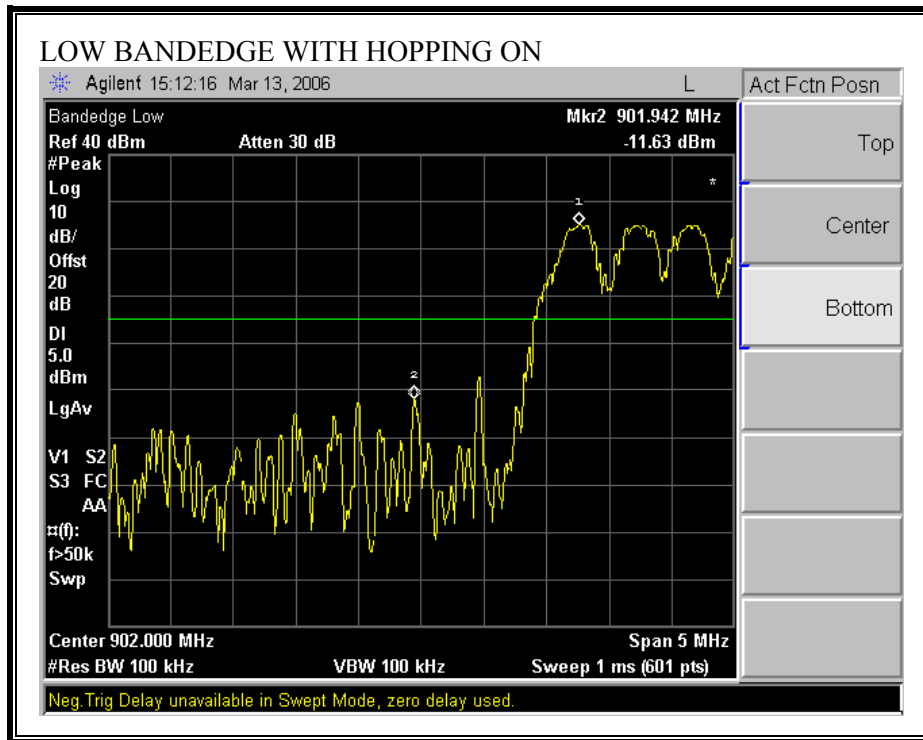
SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

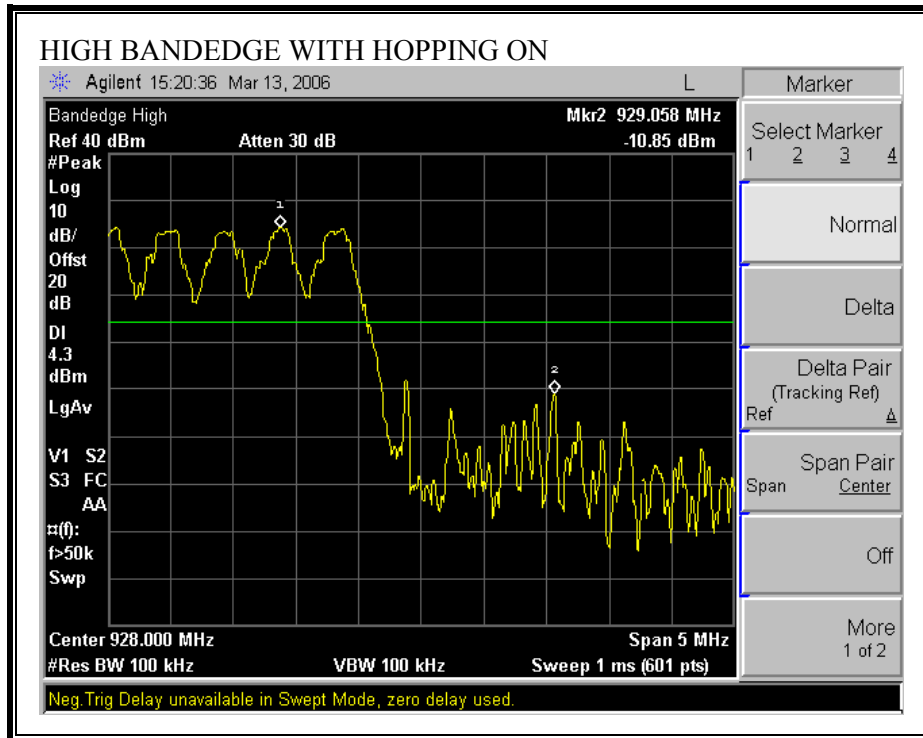
6-SLOT





8-SLOT





7.2. RADIATED EMISSIONS

7.2.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

LIMITS

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

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 spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each 5 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.

7.2.2. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHZ

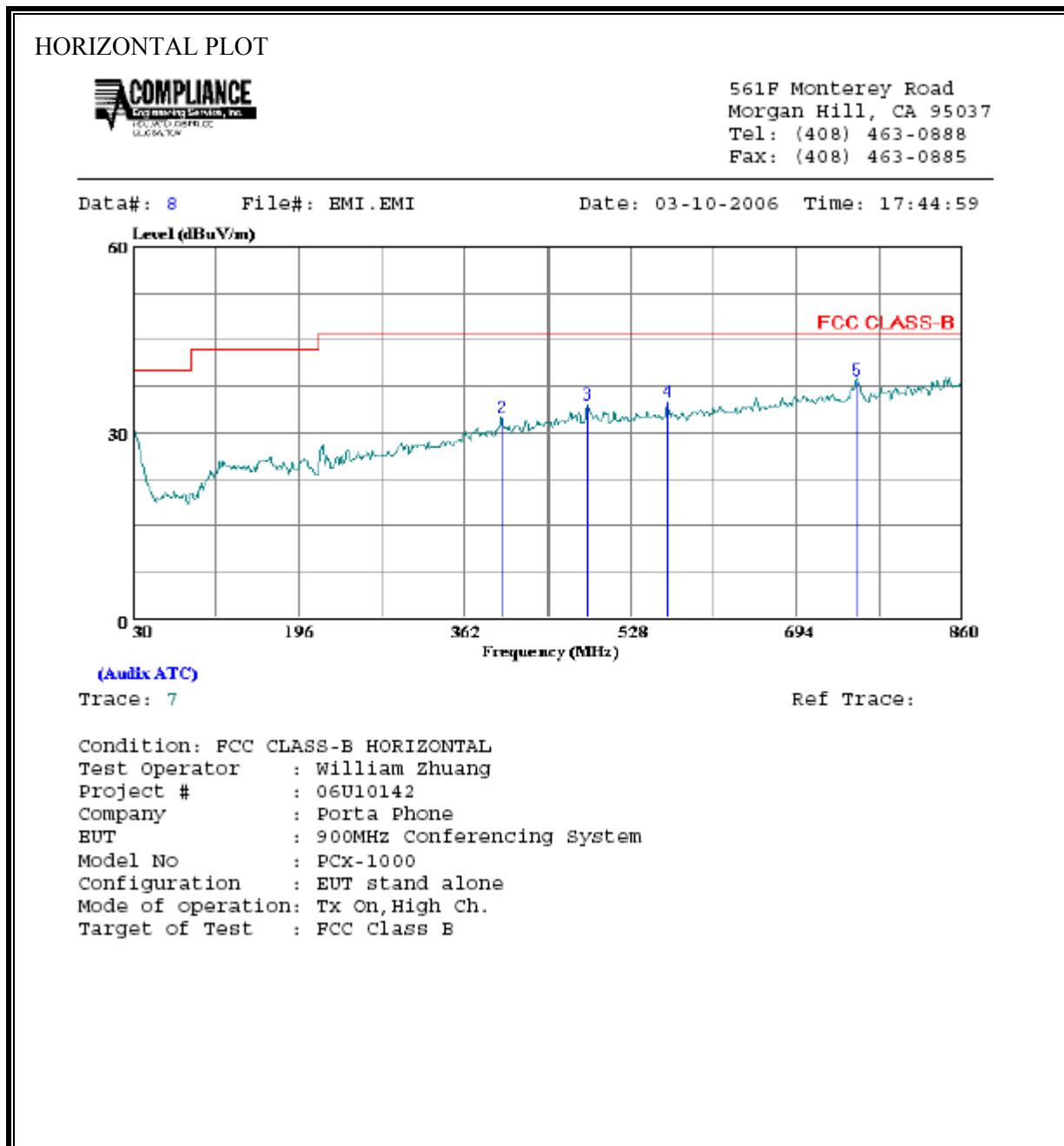
HARMONICS AND SPURIOUS EMISSIONS

03/10/05 High Frequency Measurement															
Compliance Certification Services, Morgan Hill Open Field Site															
Test Engr: William Zhuang															
Project #: 06U10142															
Company: PORTA PHONE CO.															
EUT Descrip.: 900MHz Conferencing System One Dipole Antenna															
EUT M/N: PCx-1000															
Test Target: FCC 15.247															
Mode Oper: Tx On															
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									
f	Dist	Read Pk	Read Avg	AF	CL	Amp	D Corr	Fltr	Peak	Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes
GHz	(m)	dBuV	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	(V/H)
Low Ch. 903.25MHz															
1.806	3.0	77.0	48.7	27.2	2.6	-38.3	0.0	0.3	68.7	40.4	74.0	54.0	-5.3	-13.6	V
2.710	3.0	63.1	44.7	29.2	2.9	-37.4	0.0	0.6	58.4	40.0	74.0	54.0	-15.6	-14.0	V
3.613	3.0	59.3	48.0	31.7	3.2	-36.9	0.0	0.6	57.9	46.5	74.0	54.0	-16.1	-7.5	V
4.516	3.0	54.4	37.2	33.3	3.5	-36.5	0.0	0.6	55.3	38.0	74.0	54.0	-18.7	-16.0	V
5.420	3.0	55.3	37.9	34.2	3.8	-36.3	0.0	0.5	57.6	40.2	74.0	54.0	-16.4	-13.8	V
6.323	3.0	55.9	34.6	35.0	4.1	-36.3	0.0	0.5	59.3	38.0	74.0	54.0	-14.7	-16.0	V
1.806	3.0	66.9	43.5	27.2	2.6	-38.3	0.0	0.3	58.6	35.2	74.0	54.0	-15.4	-18.8	H
2.710	3.0	60.4	40.0	29.2	2.9	-37.4	0.0	0.6	55.7	35.3	74.0	54.0	-18.3	-18.7	H
3.613	3.0	56.1	43.3	31.7	3.2	-36.9	0.0	0.6	54.7	41.9	74.0	54.0	-19.3	-12.1	H
4.516	3.0	48.6	34.6	33.3	3.5	-36.5	0.0	0.6	49.4	35.4	74.0	54.0	-24.6	-18.6	H
5.420	3.0	49.3	35.2	34.2	3.8	-36.3	0.0	0.5	51.6	37.5	74.0	54.0	-22.4	-16.5	H
6.323	3.0	46.0	33.0	35.0	4.1	-36.3	0.0	0.5	49.4	36.4	74.0	54.0	-24.6	-17.6	H
Mid Ch. 915.095MHz															
1.830	3.0	77.0	49.0	27.3	2.6	-38.3	0.0	0.3	68.9	40.9	74.0	54.0	-5.1	-13.1	V
2.745	3.0	61.0	43.7	29.4	2.9	-37.4	0.0	0.6	56.5	39.2	74.0	54.0	-17.5	-14.8	V
3.660	3.0	61.8	49.9	31.8	3.2	-36.9	0.0	0.6	60.6	48.7	74.0	54.0	-13.4	-5.3	V
4.575	3.0	55.4	37.5	33.3	3.5	-36.5	0.0	0.6	56.3	38.4	74.0	54.0	-17.7	-15.6	V
5.491	3.0	49.8	40.9	34.3	3.9	-36.4	0.0	0.5	52.1	43.2	74.0	54.0	-21.9	-10.8	V
6.406	3.0	45.2	32.7	35.1	4.1	-36.3	0.0	0.5	48.7	36.2	74.0	54.0	-25.3	-17.8	V
1.830	3.0	69.8	42.1	27.3	2.6	-38.3	0.0	0.3	61.6	34.0	74.0	54.0	-12.4	-20.0	H
2.745	3.0	59.9	42.4	29.4	2.9	-37.4	0.0	0.6	55.3	37.8	74.0	54.0	-18.7	-16.2	H
3.660	3.0	60.1	48.9	31.8	3.2	-36.9	0.0	0.6	58.9	47.7	74.0	54.0	-15.1	-6.3	H
4.575	3.0	50.7	34.8	33.3	3.5	-36.5	0.0	0.6	51.6	35.7	74.0	54.0	-22.4	-18.3	H
5.491	3.0	46.7	37.5	34.3	3.9	-36.4	0.0	0.5	49.0	39.8	74.0	54.0	-25.0	-14.2	H
6.406	3.0	42.6	31.1	35.1	4.1	-36.3	0.0	0.5	46.1	34.6	74.0	54.0	-27.9	-19.4	H
High Ch. 927.35MHz															
1.855	3.0	78.8	50.5	27.4	2.6	-38.3	0.0	0.3	70.9	42.5	74.0	54.0	-3.1	-11.5	V
2.782	3.0	58.1	42.7	29.5	3.0	-37.4	0.0	0.6	53.7	38.3	74.0	54.0	-20.3	-15.7	V
3.709	3.0	62.1	50.5	31.9	3.3	-36.8	0.0	0.6	61.1	49.5	74.0	54.0	-12.9	-4.5	V
4.637	3.0	51.6	36.6	33.4	3.5	-36.5	0.0	0.6	52.7	37.6	74.0	54.0	-21.3	-16.4	V
5.564	3.0	52.1	37.8	34.3	3.9	-36.4	0.0	0.5	54.4	40.1	74.0	54.0	-19.6	-13.9	V
6.491	3.0	48.0	33.6	35.2	4.2	-36.3	0.0	0.5	51.7	37.3	74.0	54.0	-22.3	-16.7	V
1.855	3.0	67.6	42.4	27.4	2.6	-38.3	0.0	0.3	59.6	34.4	74.0	54.0	-14.4	-19.6	H
2.782	3.0	63.5	45.7	29.5	3.0	-37.4	0.0	0.6	59.1	41.2	74.0	54.0	-14.9	-12.8	H
3.709	3.0	60.8	50.1	31.9	3.3	-36.8	0.0	0.6	59.7	49.0	74.0	54.0	-14.3	-5.0	H
4.637	3.0	47.2	34.4	33.4	3.5	-36.5	0.0	0.6	48.2	35.4	74.0	54.0	-25.8	-18.6	H
5.564	3.0	52.5	34.6	34.3	3.9	-36.4	0.0	0.5	54.8	36.9	74.0	54.0	-19.2	-17.1	H
6.491	3.0	46.0	33.2	35.2	4.2	-36.3	0.0	0.5	49.7	36.8	74.0	54.0	-24.3	-17.2	H
No other emissions were detected above system noise floor															

7.2.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

EUT (Tx mode)

FCC 15.205 RESTRICTED BAND - SPURIOUS EMISSIONS 30 TO 860 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

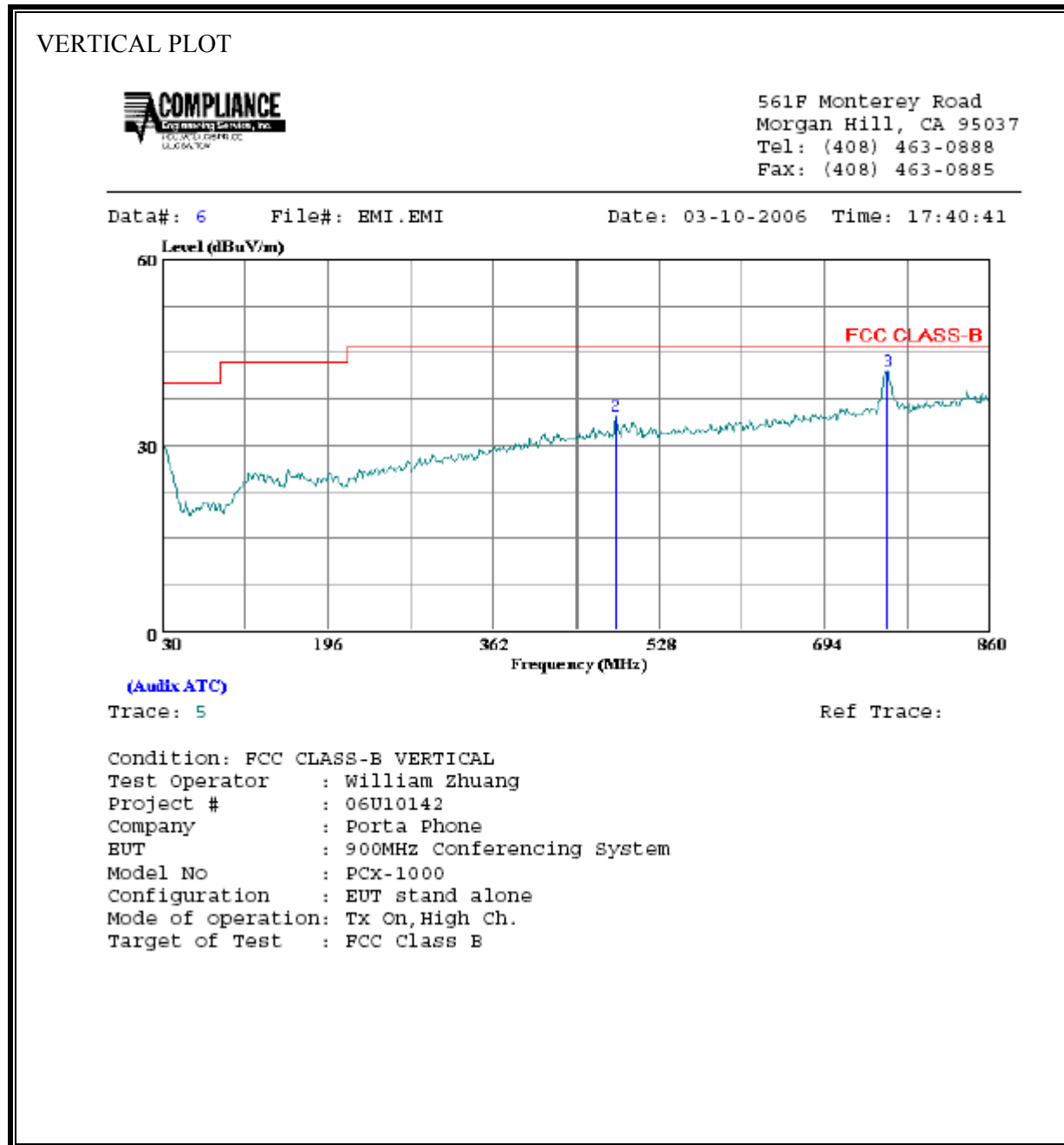


HORIZONTAL DATA

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	31.660	10.01	20.41	30.42	40.00	-9.58	Peak
2	400.180	14.27	18.03	32.29	46.00	-13.71	Peak
3	484.010	14.62	19.91	34.53	46.00	-11.47	Peak
4	564.520	13.81	21.04	34.85	46.00	-11.15	Peak
5	754.590	14.57	23.88	38.45	46.00	-7.55	Peak

FCC 15.205 RESTRICTED BAND - SPURIOUS EMISSIONS 30 TO 860 MHz (WORST-CASE CONFIGURATION, VERTICAL)



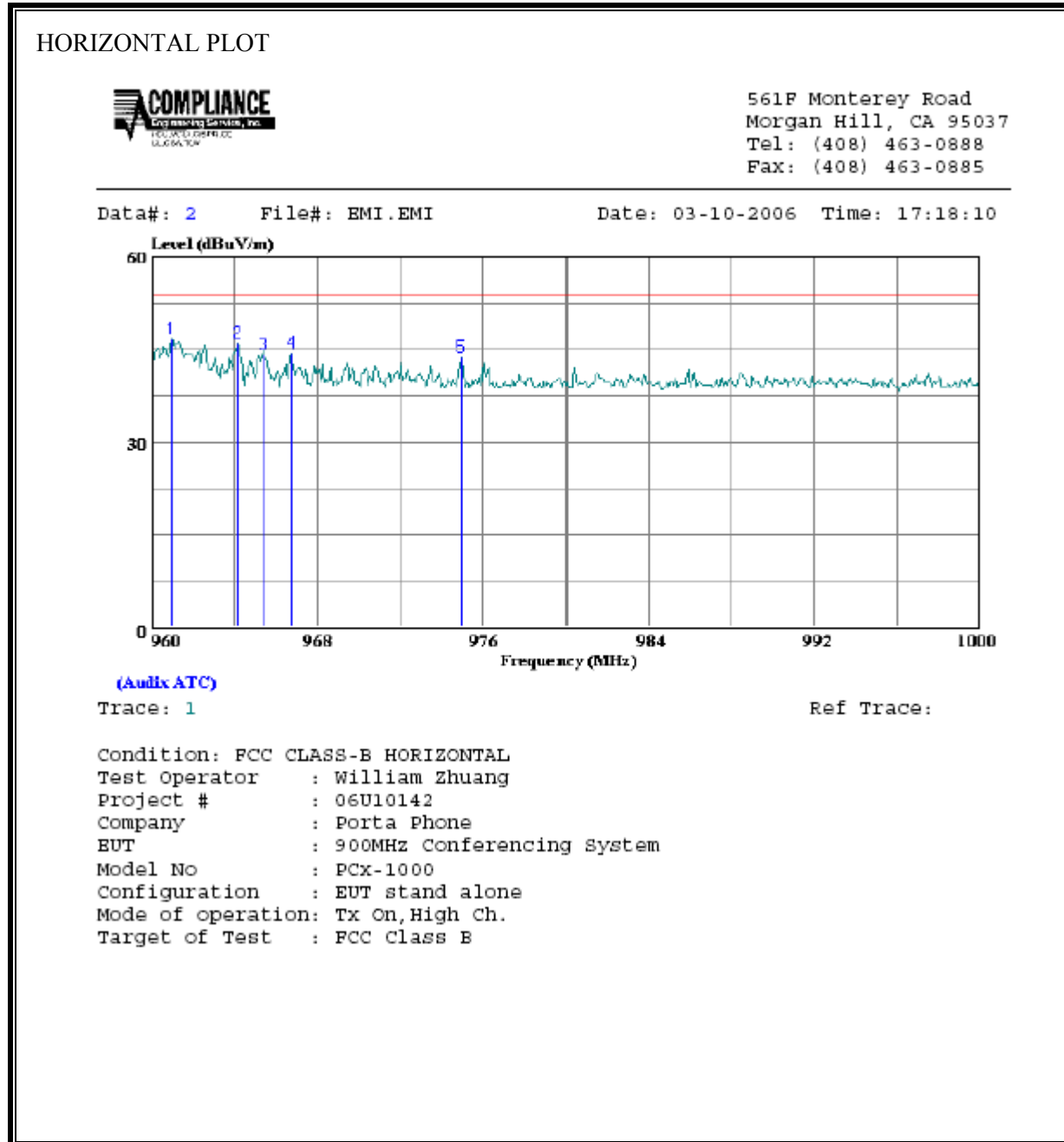
VERTICAL DATA

Page: 1

	Freq	Read	Factor	Level	Limit	Over	Remark
	MHz	Level		Level	Line	Limit	
		dBuV	dB	dBuV/m	dBuV/m	dB	
1	31.660	9.33	20.41	29.74	40.00	-10.26	Peak
2	484.010	14.74	19.91	34.65	46.00	-11.35	Peak
3	757.080	18.05	23.93	41.98	46.00	-4.02	Peak

EUT (Tx mode)

FCC 15.205 RESTRICTED BAND - SPURIOUS EMISSIONS 960 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

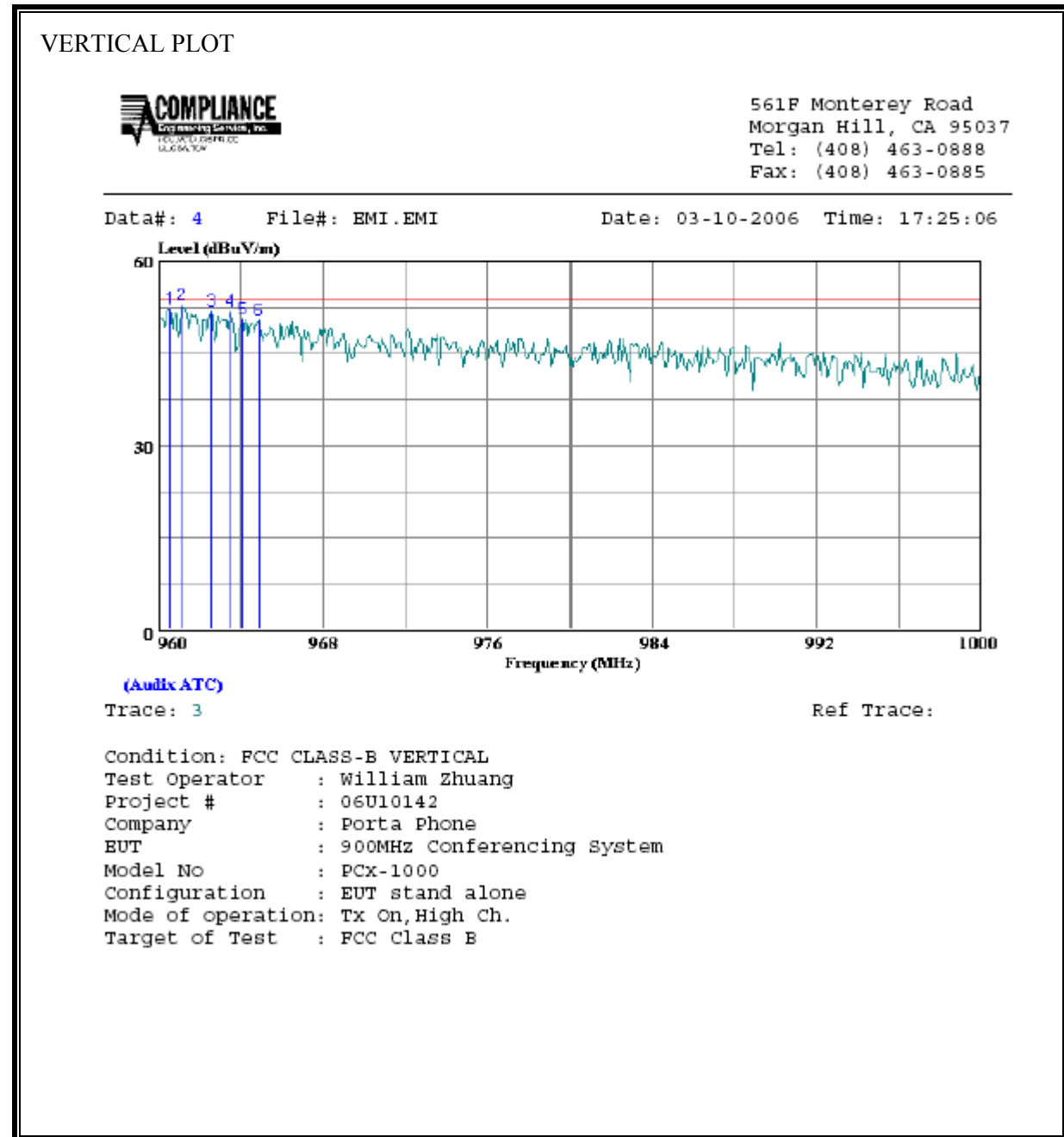


HORIZONTAL DATA

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	960.960	20.20	26.58	46.78	54.00	-7.22	Peak
2	964.160	19.48	26.62	46.10	54.00	-7.90	Peak
3	965.440	17.53	26.63	44.17	54.00	-9.83	Peak
4	966.760	17.82	26.64	44.46	54.00	-9.54	Peak
5	974.960	17.08	26.69	43.77	54.00	-10.23	Peak

FCC 15.205 RESTRICTED BAND - SPURIOUS EMISSIONS 960 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



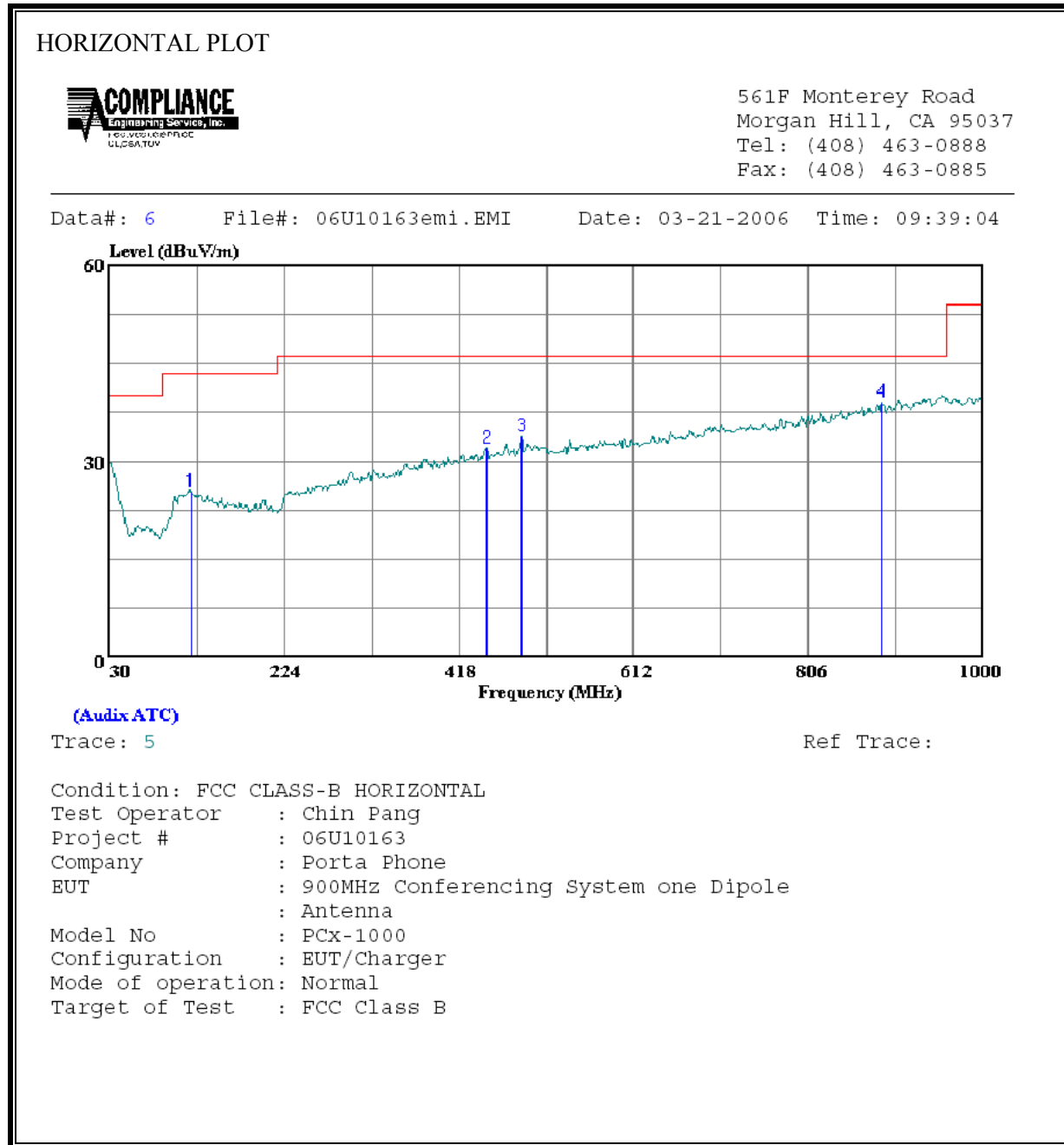
VERTICAL DATA

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	960.560	25.83	26.57	52.40	54.00	-1.60	Peak
2	961.160	26.43	26.58	53.01	54.00	-0.99	Peak
3	962.560	25.32	26.61	51.93	54.00	-2.07	Peak
4	963.480	25.32	26.62	51.94	54.00	-2.06	Peak
5	964.080	24.09	26.62	50.71	54.00	-3.29	Peak
6	964.880	23.74	26.63	50.37	54.00	-3.63	Peak

EUT WITH CHARGER (DIGITAL)

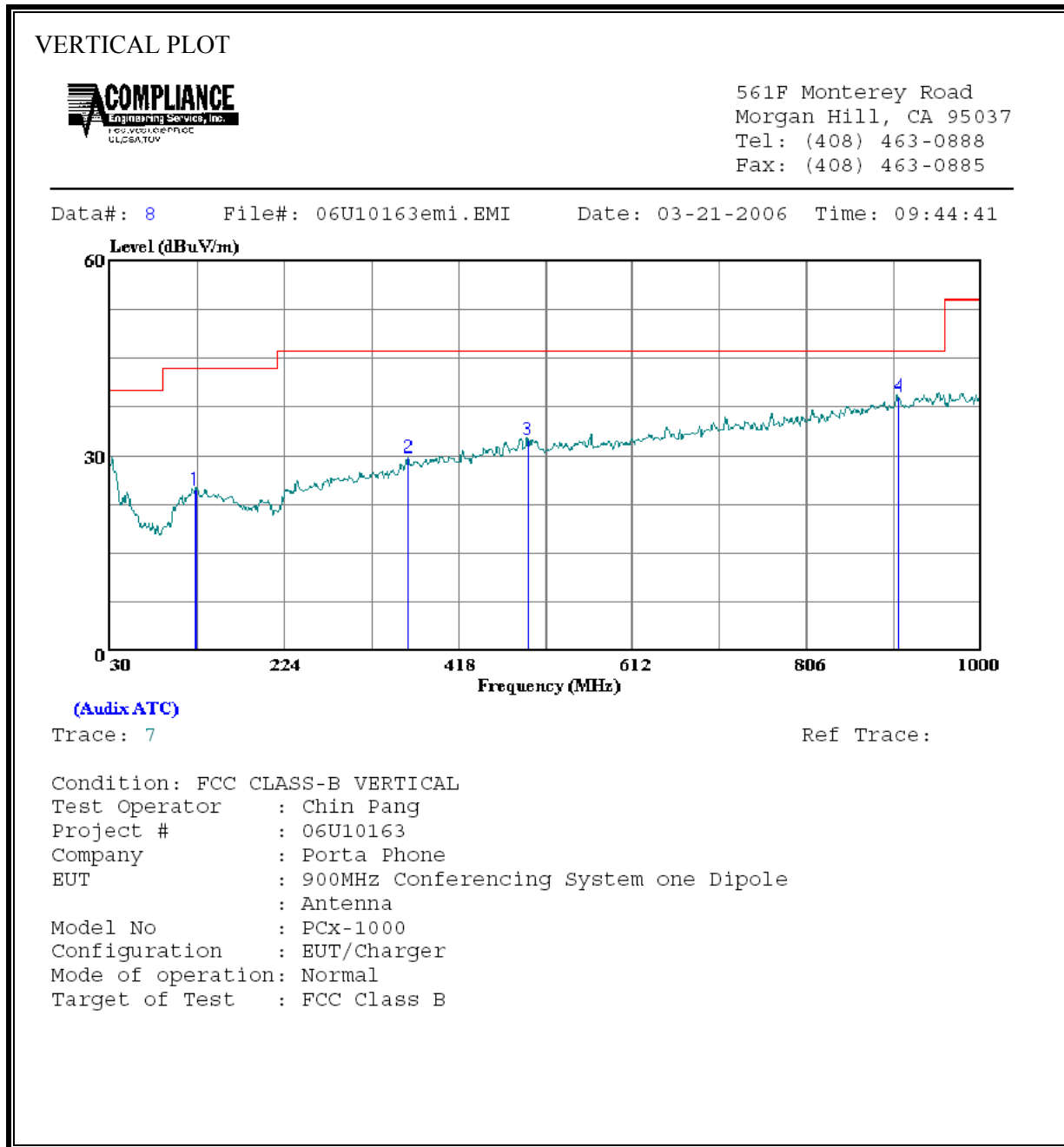
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



HORIZONTAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	120.210	10.17	15.13	25.30	43.50	-18.21	Peak
2	449.040	12.75	19.17	31.92	46.00	-14.08	Peak
3	487.840	13.86	20.00	33.86	46.00	-12.14	Peak
4	887.480	13.32	25.74	39.06	46.00	-6.94	Peak

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

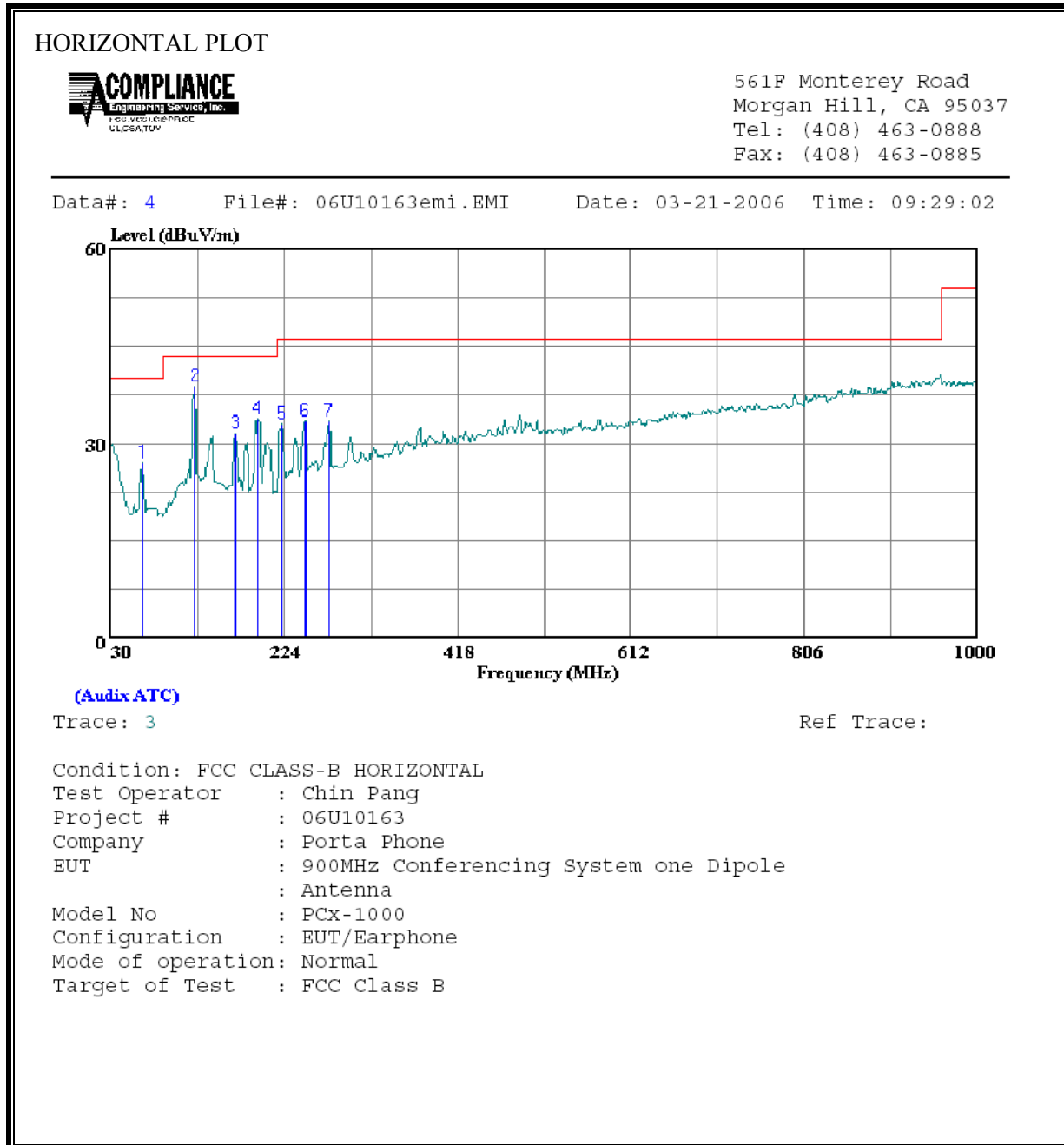


VERTICAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	125.060	9.53	15.26	24.79	43.50	-18.72	Peak
2	361.740	12.47	17.20	29.67	46.00	-16.33	Peak
3	495.600	12.20	20.16	32.36	46.00	-13.64	Peak
4	907.850	13.07	26.00	39.07	46.00	-6.93	Peak

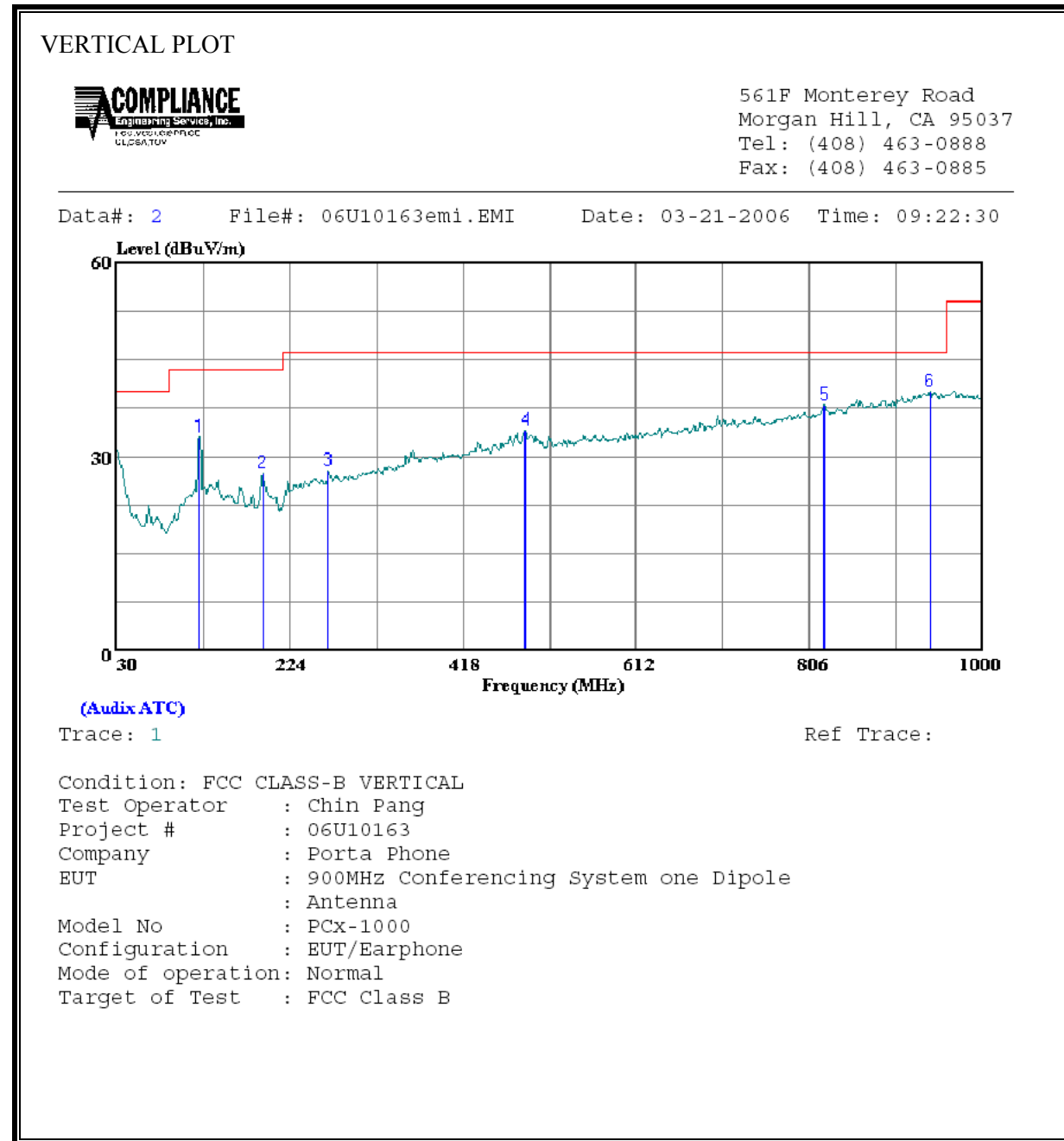
EUT WITH HEADPHONE (DIGITAL)

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



HORIZONTAL DATA							
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	65.890	17.87	9.09	26.96	40.00	-13.04	Peak
2	124.090	23.52	15.23	38.75	43.50	-4.75	Peak
3	169.680	18.12	13.40	31.52	43.50	-11.98	Peak
4	193.930	20.38	13.56	33.94	43.50	-9.56	Peak
5	221.090	20.43	12.67	33.10	46.00	-12.90	Peak
6	247.280	19.64	13.75	33.38	46.00	-12.62	Peak
7	274.440	18.71	14.76	33.47	46.00	-12.53	Peak

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



VERTICAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	122.150	17.77	15.18	32.95	43.50	-10.55	Peak
2	193.930	13.78	13.56	27.34	43.50	-16.16	Peak
3	266.680	13.48	14.45	27.93	46.00	-18.07	Peak
4	487.840	13.97	20.00	33.97	46.00	-12.03	Peak
5	822.490	13.00	24.90	37.90	46.00	-8.10	Peak
6	940.830	13.59	26.44	40.03	46.00	-5.97	Peak

7.3. POWERLINE CONDUCTED EMISSIONS

LIMIT

§15.207 (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

The lower limit applies at the boundary between the frequency ranges.

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 resolution bandwidth is set to 9 kHz for both peak detection and quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

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

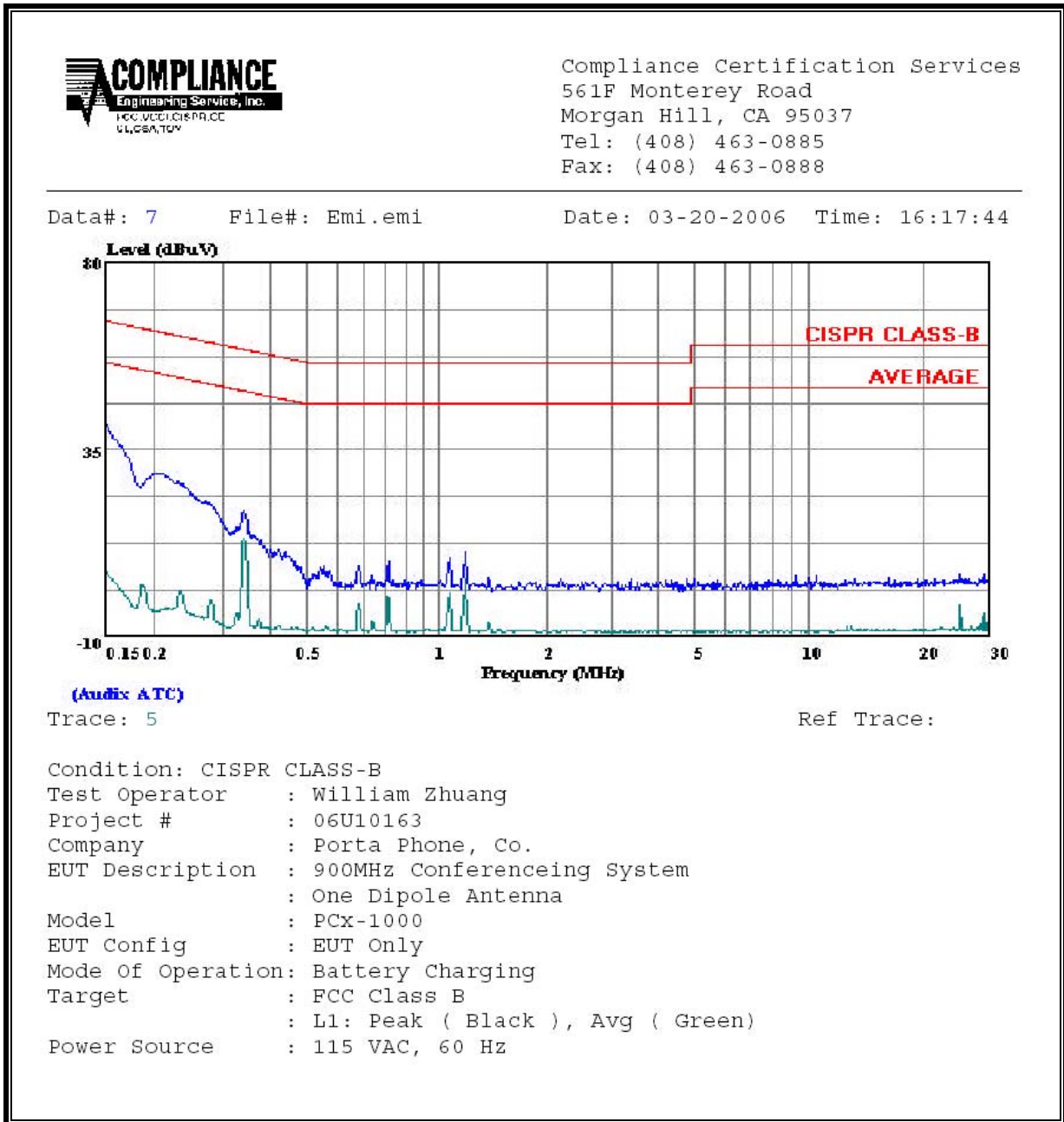
RESULTS

No non-compliance noted:

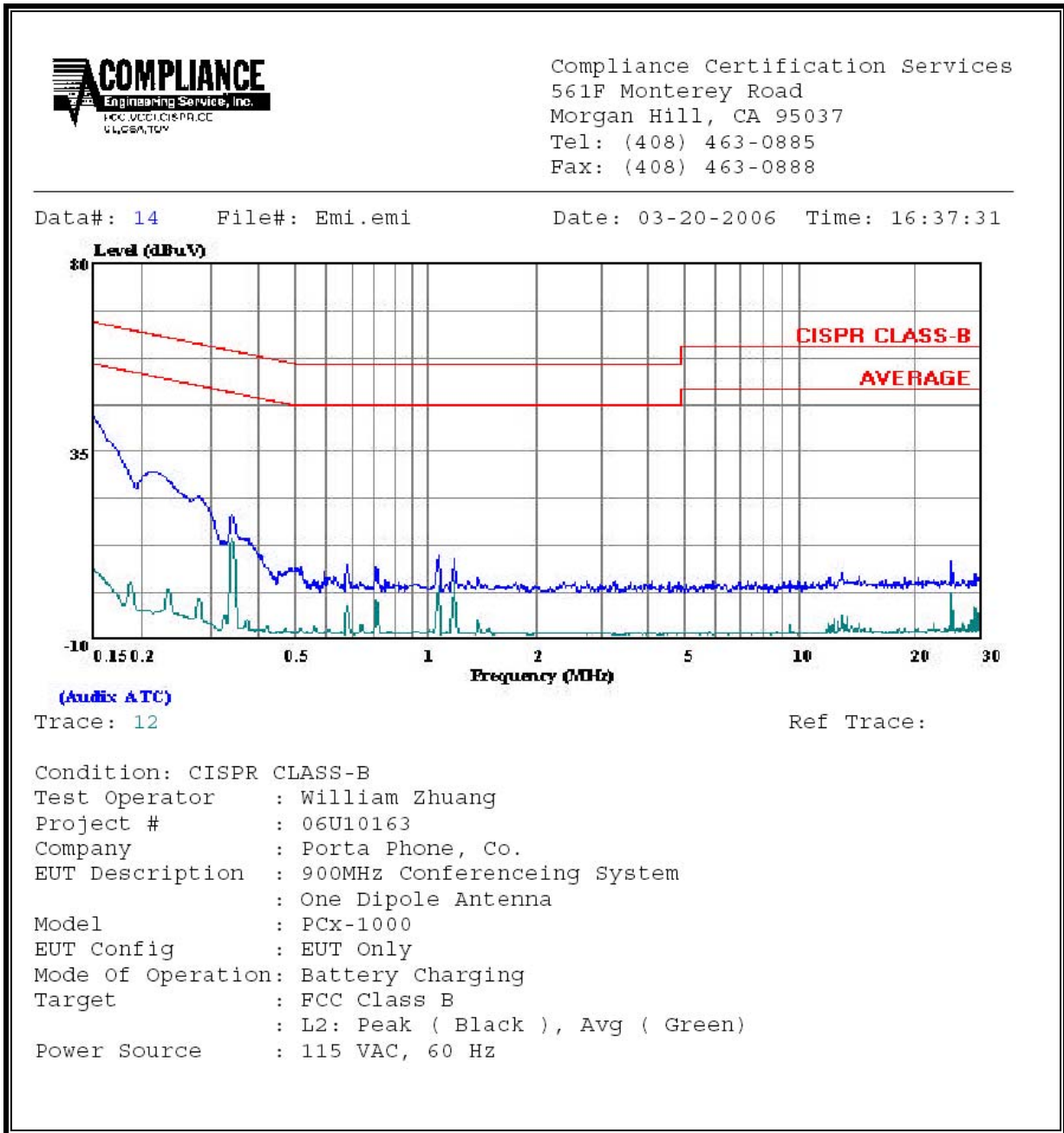
6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	FCC_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.15	40.56	--	--	0.00	66.00	56.00	-25.44	-15.44	L1
0.21	29.52	--	--	0.00	63.41	53.41	-33.89	-23.89	L1
0.34	20.40	--	--	0.00	59.13	49.13	-38.73	-28.73	L1
0.15	43.40	--	--	0.00	66.00	56.00	-22.60	-12.60	L2
0.21	30.30	--	--	0.00	63.09	53.09	-32.79	-22.79	L2
0.34	19.92	--	--	0.00	59.18	49.18	-39.26	-29.26	L2
6 Worst Data									

LINE 1 RESULTS

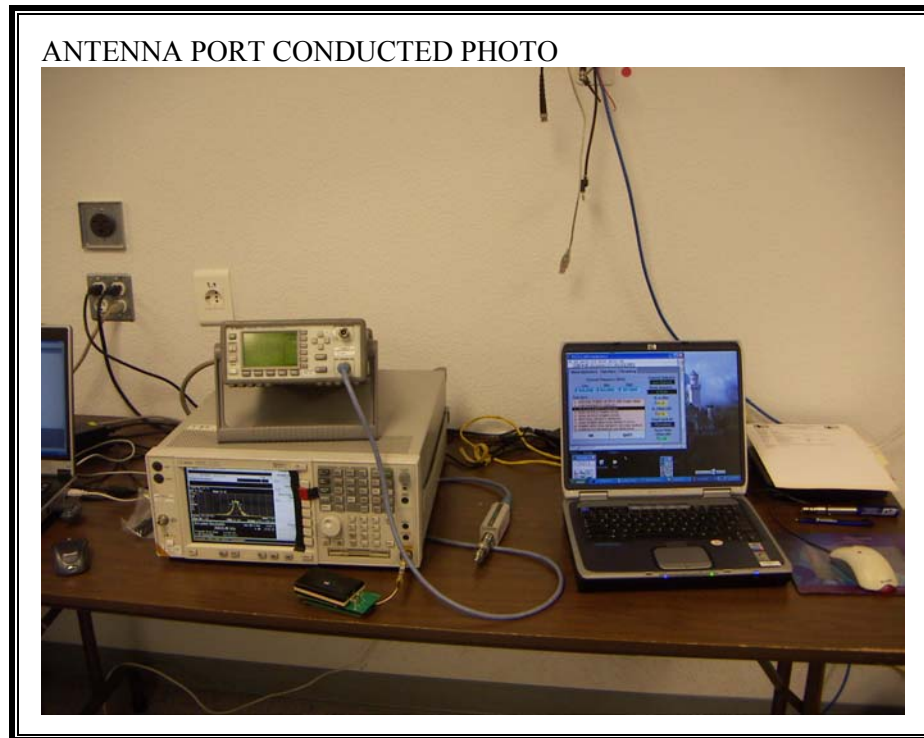


LINE 2 RESULTS



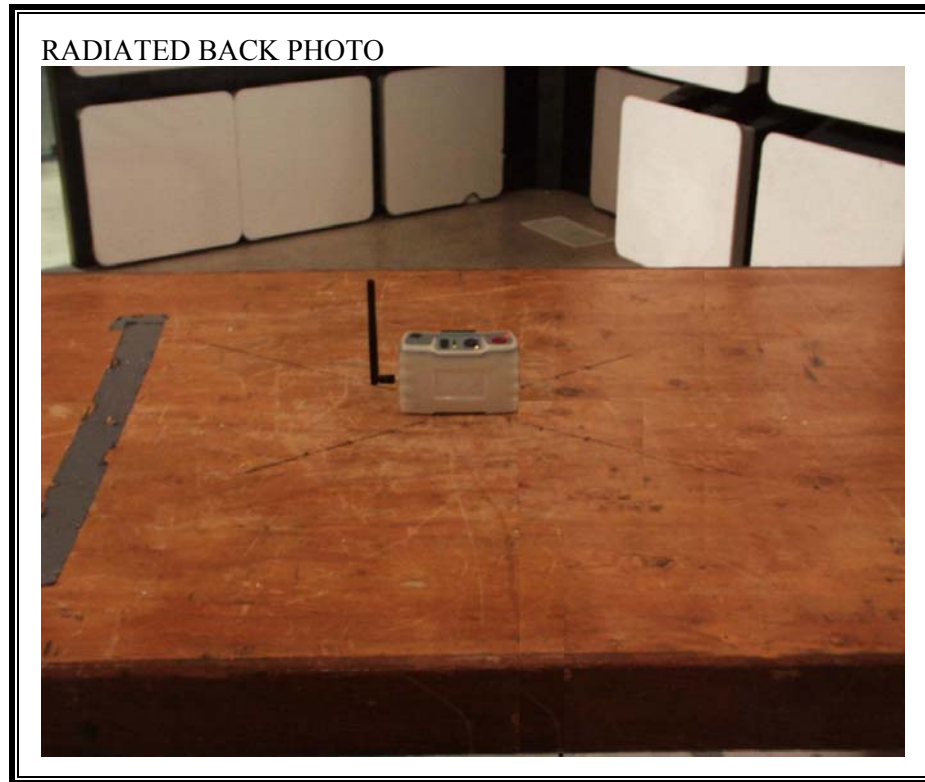
8. SETUP PHOTOS

ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP



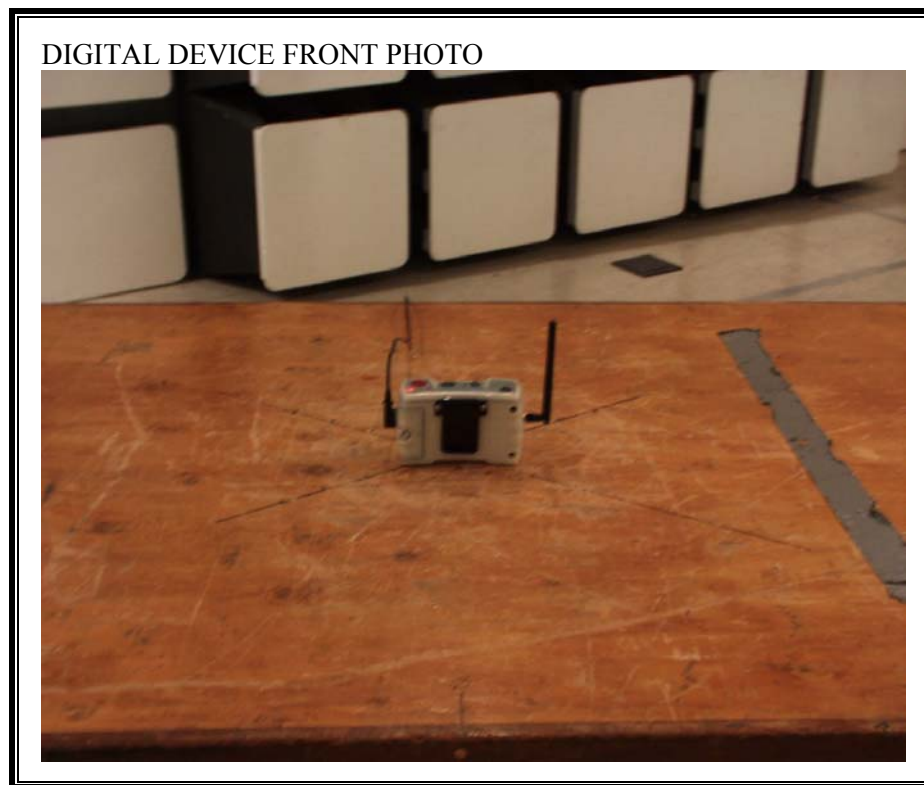
RADIATED RF MEASUREMENT SETUP



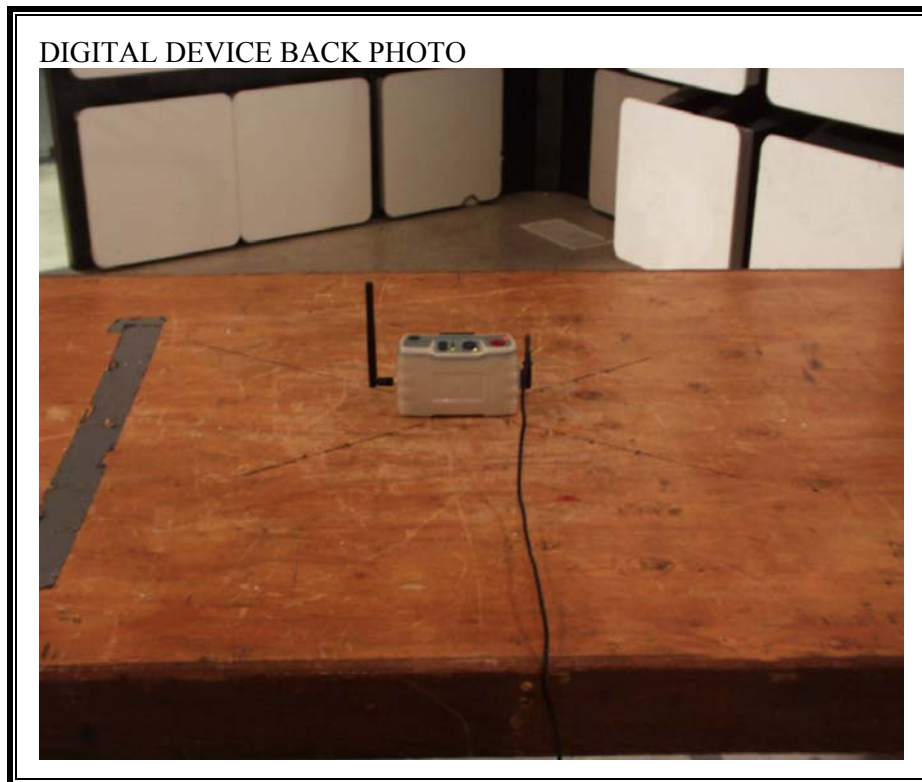


DIGITAL DEVICE RADIATED EMISSIONS SETUP

***BATTERY CHARGING MODE**



* Note: TX will not function while battery is charging

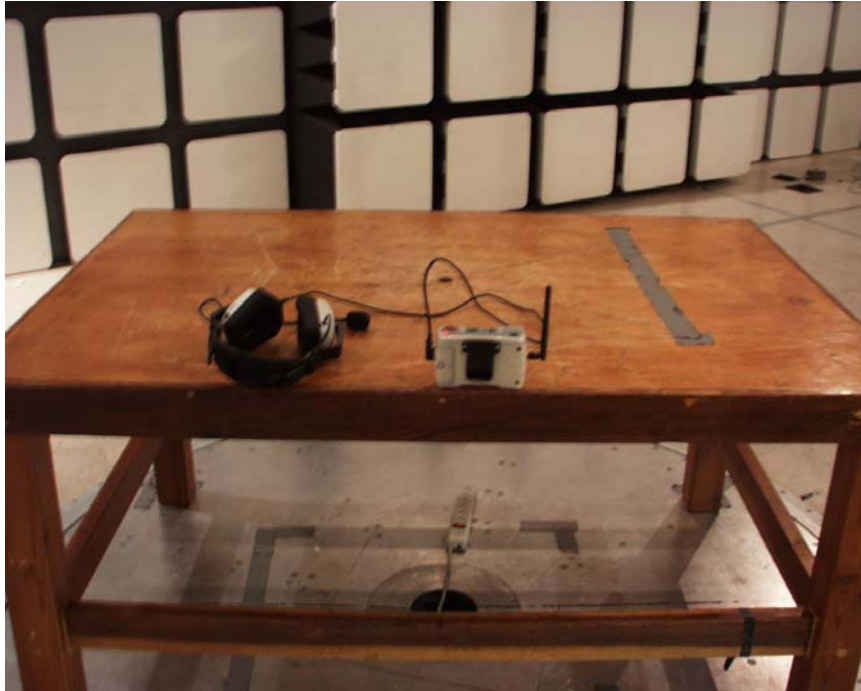


DIGITAL DEVICE RADIATED EMISSIONS SETUP

HEAD PHONE MODE



DIGITAL DEVICE BACK PHOTO



POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP





END OF REPORT