



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

**MULTIMEDIA BLUETOOTH KEYBOARD  
MODEL NUMBER: RT7DBT  
FCC ID: N/A**

**&**

**PERFORMANCE BLUETOOTH MOUSE  
MODEL NUMBER: M-RAH DEL2  
FCC ID: N/A**

**REPORT NUMBER: 03U2374-3**

**ISSUE DATE: FEBRUARY 06, 2004**

*Prepared for*

**BROADCOM CORPORATION  
190 MATHILDA PLACE  
SUNNYVALE, CALIFORNIA 94086  
U.S.A**

*Prepared by*

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# 1. TEST RESULT CERTIFICATION

**COMPANY NAME:** BROADCOM CORP.  
190 MATHILDA PLACE  
SUNNYVALE, CA 94086, U.S.A

**EUT DESCRIPTION:** MULTIMEDIA BLUETOOTH KEYBOARD

**MODEL:** RT7DBT

**EUT DESCRIPTION:** PERFORMANCE BLUETOOTH MOUSE

**MODEL:** M-RAH DEL2

**DATE TESTED:** NOVEMBER 18, 2003 TO FEBRUARY 06, 2003

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:** This document reports conditions under which testing was conducted and results of tests performed. 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.

Approved & Released For CCS By:

Tested By:



MICHAEL HECKROTTE  
CHIEF ENGINEER  
COMPLIANCE CERTIFICATION SERVICES

NEELESH RAJ  
EMC TECHNICIAN  
COMPLIANCE CERTIFICATION SERVICES

## 2. EUT DESCRIPTION

The first EUT is a wireless Multimedia Bluetooth Keyboard.  
The second EUT is a wireless Performance Bluetooth Mouse.

The Keyboard and Mouse each have a Bluetooth transceiver module operating in the 2400-2483.5 MHz band (Broadcom Bluetooth HID Module, model: BCM92040LMF-M, FCC ID: QDS-BRCM1010).

The Keyboard and Mouse are each battery powered.

### 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4/2001, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

### 4. 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>.



No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government.

## 5. CALIBRATION AND UNCERTAINTY

### 5.1. 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.

### 5.2. 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%.

### 5.3. TEST AND MEASUREMENT EQUIPMENT

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

TEST AND MEASUREMENT EQUIPMENT LIST				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due Date
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	11/21/2004
RF Filter Section	HP	85420E	3705A00256	11/21/2004
Bilog Antenna 30MHz~ 2Ghz	Sunol Sciences	JB1 Antenna	A121003	12/22/2004
Spectrum Analyzer 20Hz ~ 44GHz	Agilent	E4446A	MY43360112	1/33/2005
Communication Tester	R & S	CMU 200	838114/032	12/1/2004
EMI Test Receiver 20Hz ~ 40GHz	R & S	ESIB40	100192	11/21/2004
Peak / Average Power Sensor	Agilent	E9327A	US40440755	11/7/2004
Peak Power Meter	Agilent	E4416A	GB41291160	11/7/2004
Preamplifier, 1 ~ 26 GHz	Miteq	NSP10023988	646456	4/25/2004
Preamplifier 1-26GHz	MITEQ	NSP2600-SP	924341	4/25/2004
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	2/4/2004
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	9001-3245	2/4/2004
Spectrum Analyzer 3Hz ~ 26.5GHz	Agilent	E4440A	US41421507	5/8/2004
Antenna, Horn, 18 ~ 26 GHz	ARA	MWH-1826/B	1013	2/2/2004
Antenna, Bicon/log, 25-2000 MHz	ARA	LPB-2520/A	1185	3/6/2004
2.4-2.5GHz Reject filter	Micro-Tronics	BRM50702	1	N/A
10dB Attenuator	Weinschel	56-10	k16148	N/A

## 6. SETUP OF EQUIPMENT UNDER TEST RF (KEYBOARD)

### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Device Type	Manufacturer	Model	Serial Number	FCC ID
MULTIMEDIA BLUETOOTH KEYBOARD	BROADCOM	RT7DBT	N/A	N/A
BROADCOM BLUETOOTH HID MODULE	BROADCOM	BCM92040LMF-M	N/A	QDS-BRMC1010

### I/O CABLES

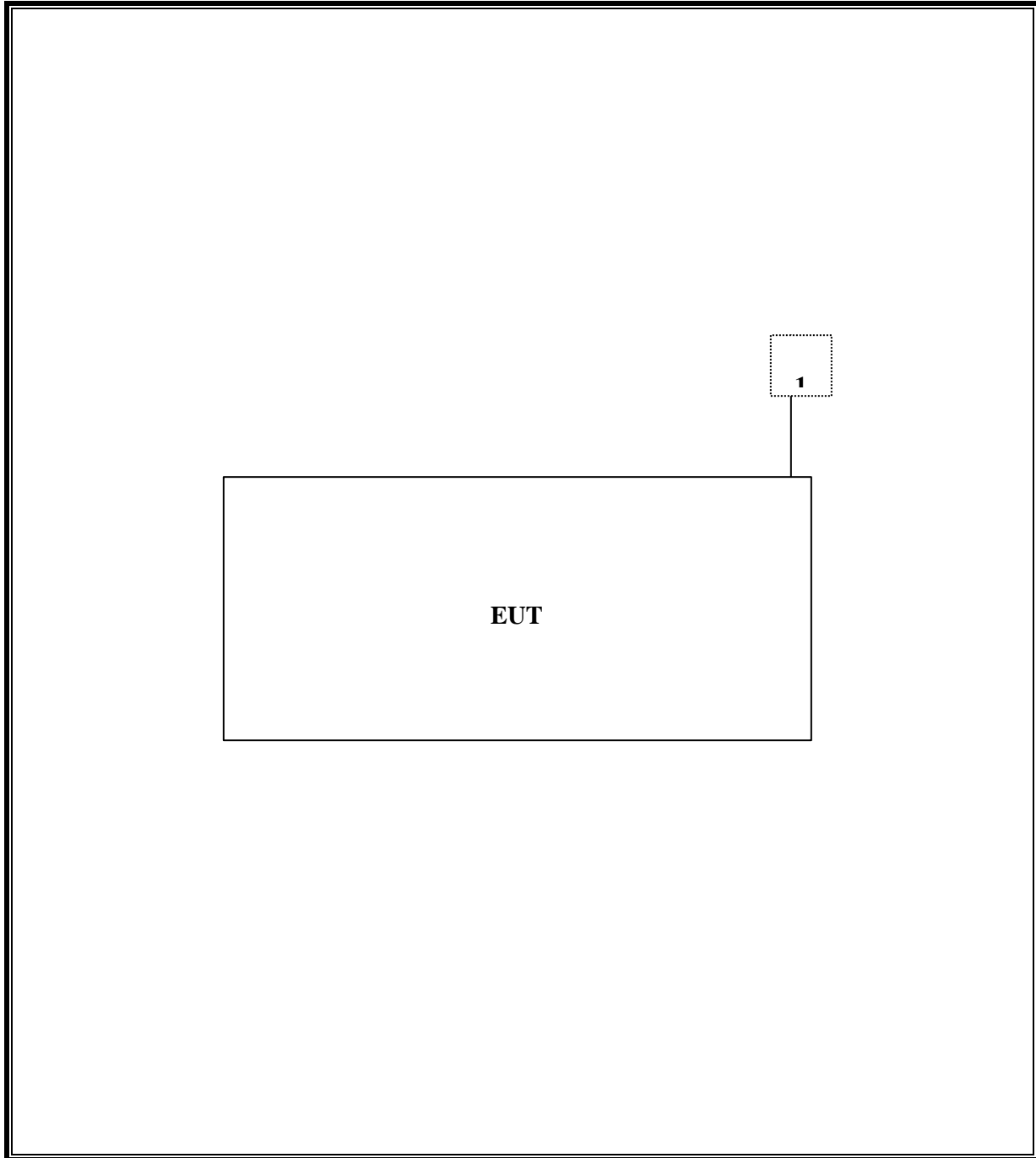
CABLE INFORMATION						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	CNTL/PWR	0	HARDWIRED	UNSHIELDED	0.3M	CABLE IS USED "ONLY" FOR TESTING PURPOSES TO START AND STOP THE EUT

### TEST SETUP

The transmitter is installed inside and located under the "F8" key on the bottom half of the EUT. During the testing process, the EUT was powered by two "AA" batteries (1.5VDC each), the EUT was set in continuous transmit mode and the batteries were periodically checked to ensure testing was done with fully charged batteries.



**SETUP DIAGRAM FOR TESTS**



## 7. SETUP OF EQUIPMENT UNDER TEST RF (MOUSE)

### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Device Type	Manufacturer	Model	Serial Number	FCC ID
PERFORMANCE BLUETOOTH MOUSE	BROADCOM	M-RAH DEL2	N/A	N/A
BROADCOM BLUETOOTH HID MODULE	BROADCOM	BCM92040LMF-M	N/A	QDS-BRMC1010

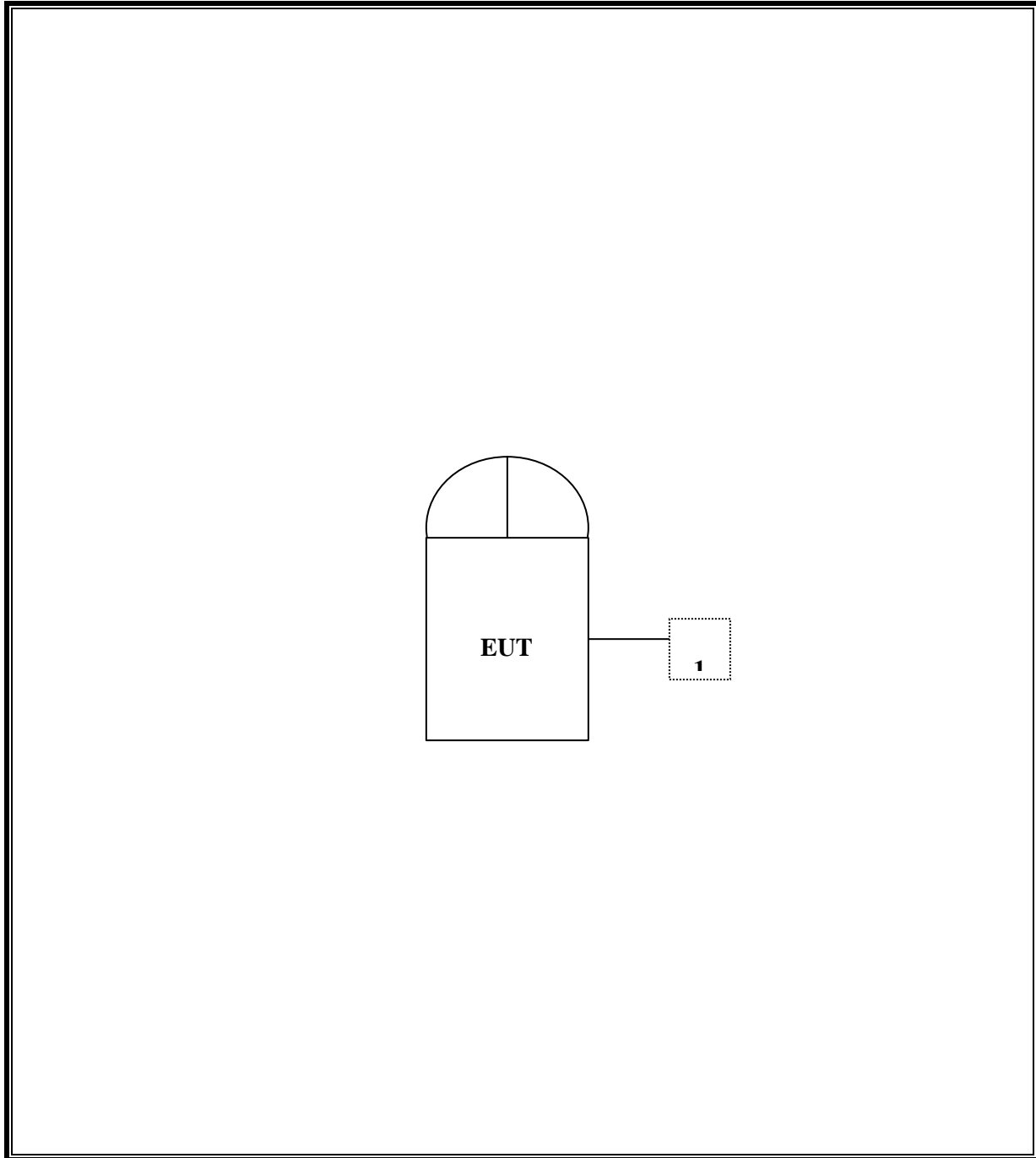
### I/O CABLES

CABLE INFORMATION						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	CNTL/PWR	0	HARDWIRED	UNSHIELDED	0.2M	CABLE IS USED ONLY FOR TESTING PURPOSES TO START AND STOP THE EUT

### TEST SETUP

The transmitter is installed inside and located in the middle of the EUT. During the testing process, the EUT was powered by two "AA" batteries (1.5VDC each), the EUT was set in continuous transmit mode and the batteries were periodically checked to ensure testing was done with fully charged batteries.

**SETUP DIAGRAM FOR TESTS**



## 8. SETUP OF EQUIPMENT UNDER TEST DIGITAL DEVICE TESTS

### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Device Type	Manufacturer	Model	Serial Number	FCC ID
BROADCOM BLUETOOTH HID MODULE	BROADCOM	BCM92040LMF-M	N/A	QDS-BRMC1010
PERFORMANCE BLUETOOTH MOUSE	BROADCOM	M-RAH DEL2	N/A	N/A
MULTIMEDIA BLUETOOTH KEYBOARD	BROADCOM	RT7DBT	N/A	N/A
BROADCOM USB DONGLE	BROADCOM	BCM92035BTSD	N/A	BCM92035BTSD
LAPTOP	DELL	LATITUDE D505	N/A	DoC
AC ADAPTER	DELL	0Q065B83	N/A	N/A
PRINTER	HP	2225C	2541S41679	BS46XU2225C
AC ADAPTER	HANGZOW	99C025-1	N/A	N/A
MODEM	ACEEX	1414	9013537	IFAXDM1414
AC ADAPTER	N/A	APX412C68	N/A	N/A

### I/O CABLES

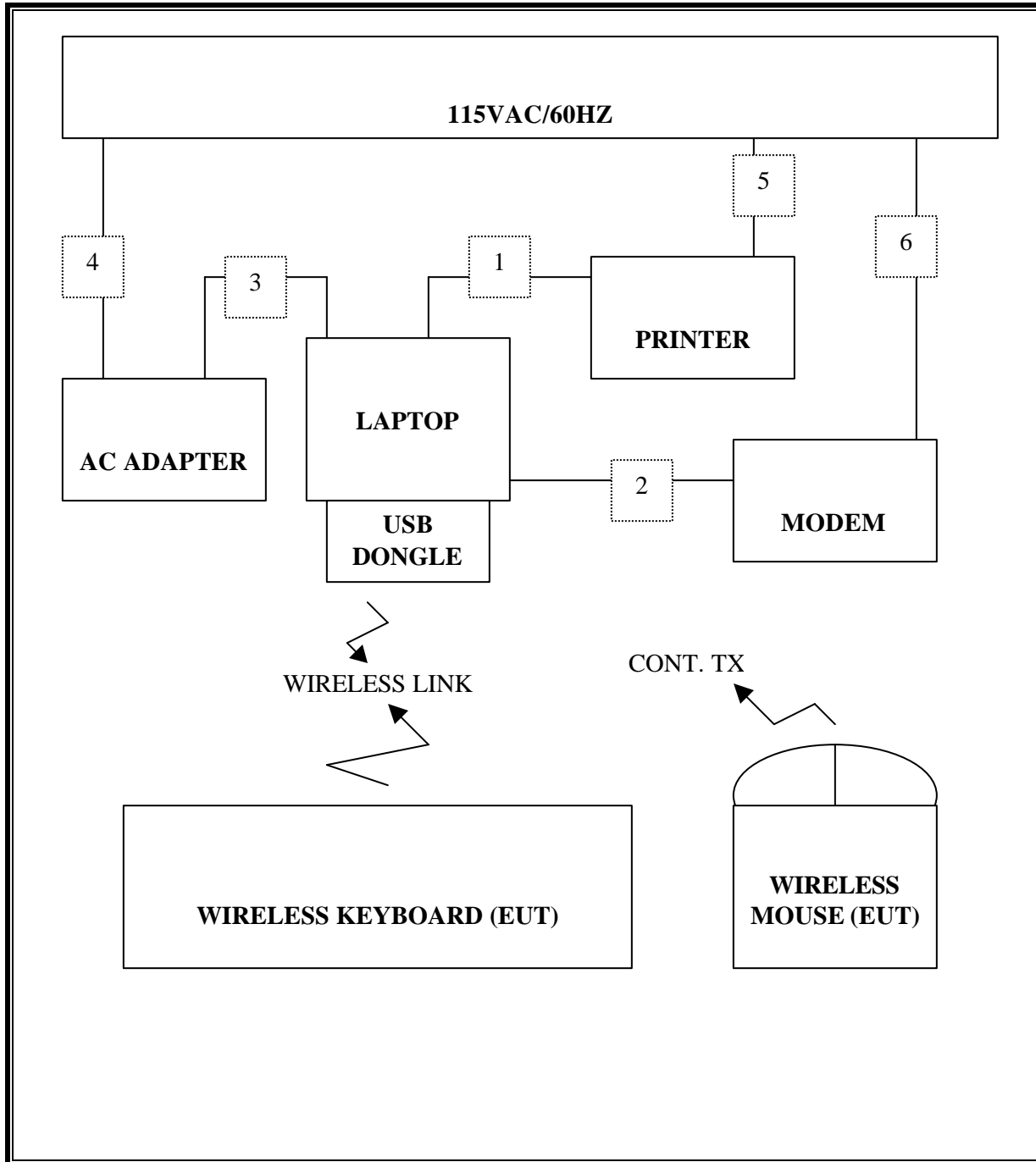
CABLE INFORMATION						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	PARALLEL	1	DB-25	SHIELDED	1.86M	N/A
2	SERIAL	1	DB-9	SHIELDED	1.55M	N/A
3	DC PWR	1	DC PWR	UNSHIELDED	1.86M	N/A
4	AC PWR	1	AC PWR	UNSHIELDED	1.86M	US (3 PRONG)
5	DC PWR	1	DC PWR	UNSHIELDED	1.86M	N/A
6	DC PWR	1	DC PWR	UNSHIELDED	1.86M	N/A

### **TEST SETUP**

For the mouse the transmitter is installed inside and located in the middle of the EUT. For the keyboard the transmitter is installed inside and located under the “F8” key on the bottom half of the EUT.

During the testing process, both the mouse and keyboard were powered by two “AA” batteries (1.5VDC each). The mouse was set in continuous transmit mode, and the keyboard was sending “H’s” to the laptop through the USB Dongle. The batteries were periodically checked to ensure testing was done with fully charged batteries.

**SETUP DIAGRAM FOR DIGITAL DEVICE TESTS**



## 9. APPLICABLE LIMITS AND TEST RESULTS

### 9.1. RADIATED EMISSIONS

#### 9.1.1. 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
<sup>1</sup> 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	( <sup>2</sup> )
13.36 - 13.41			

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> 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.

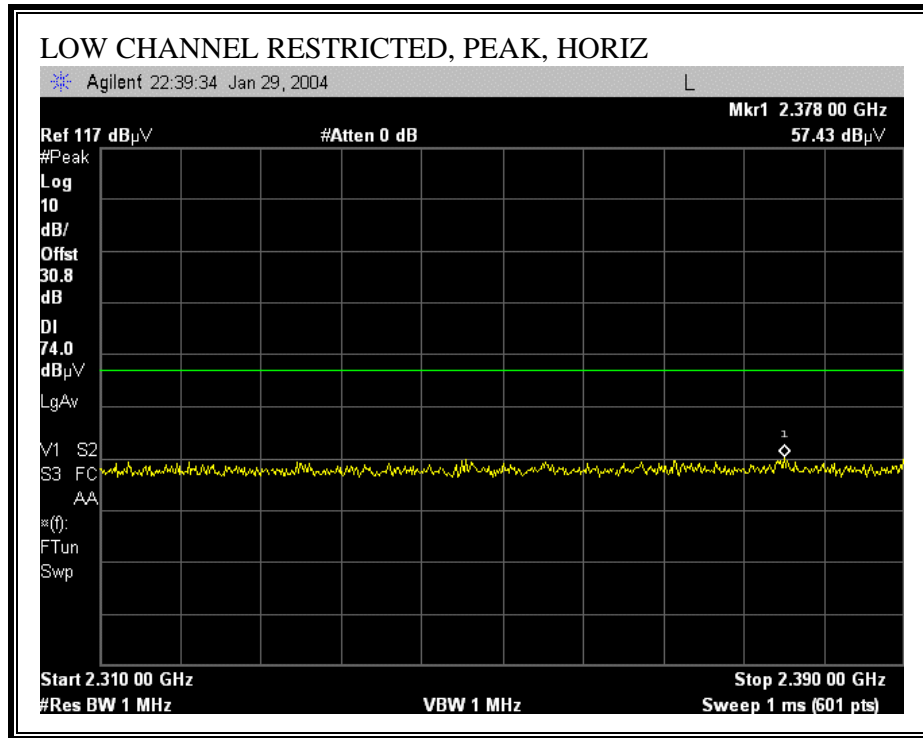
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

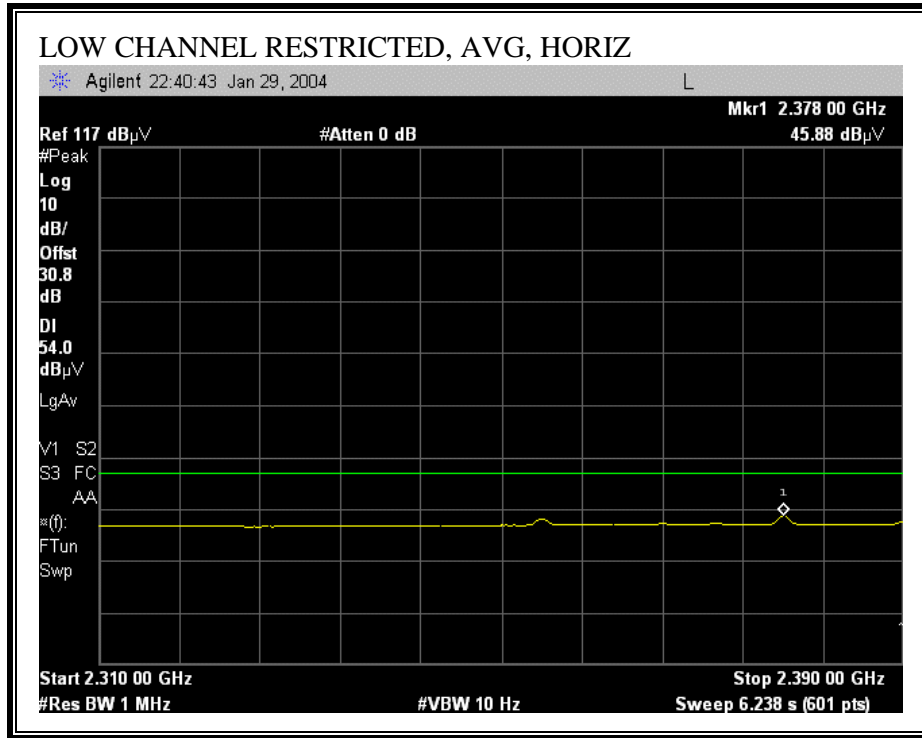
## **RESULTS**

No non-compliance noted:

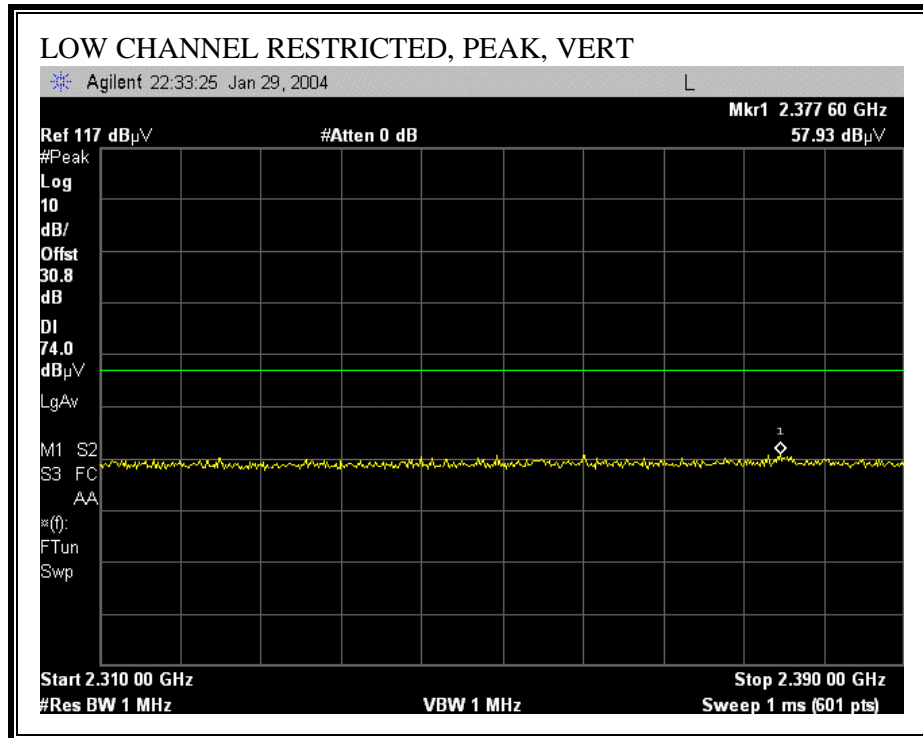
### 9.1.2. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHZ (KEYBOARD)

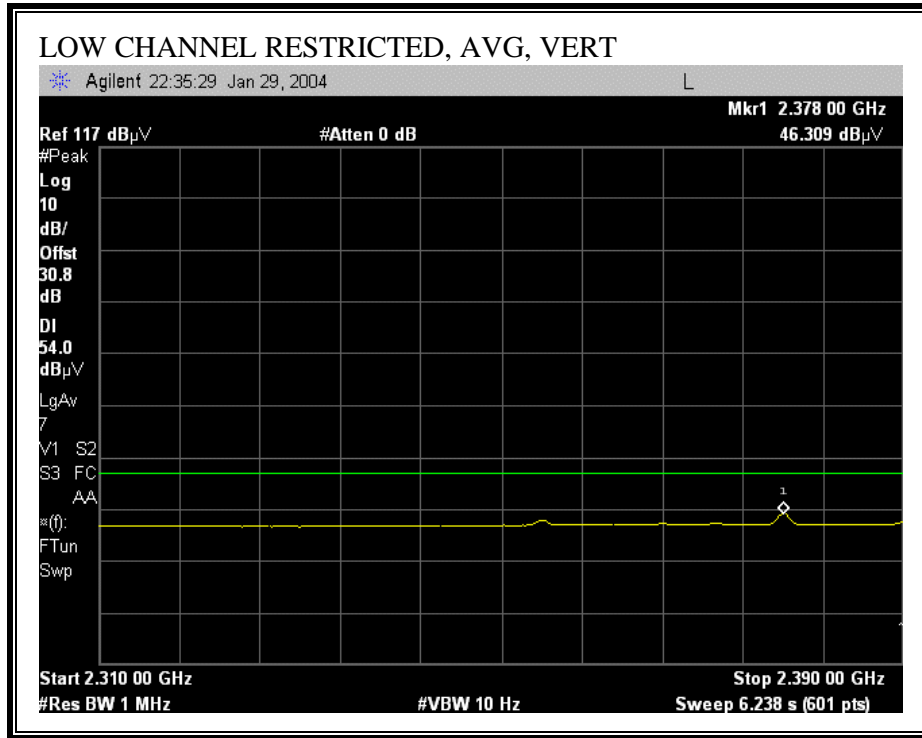
#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



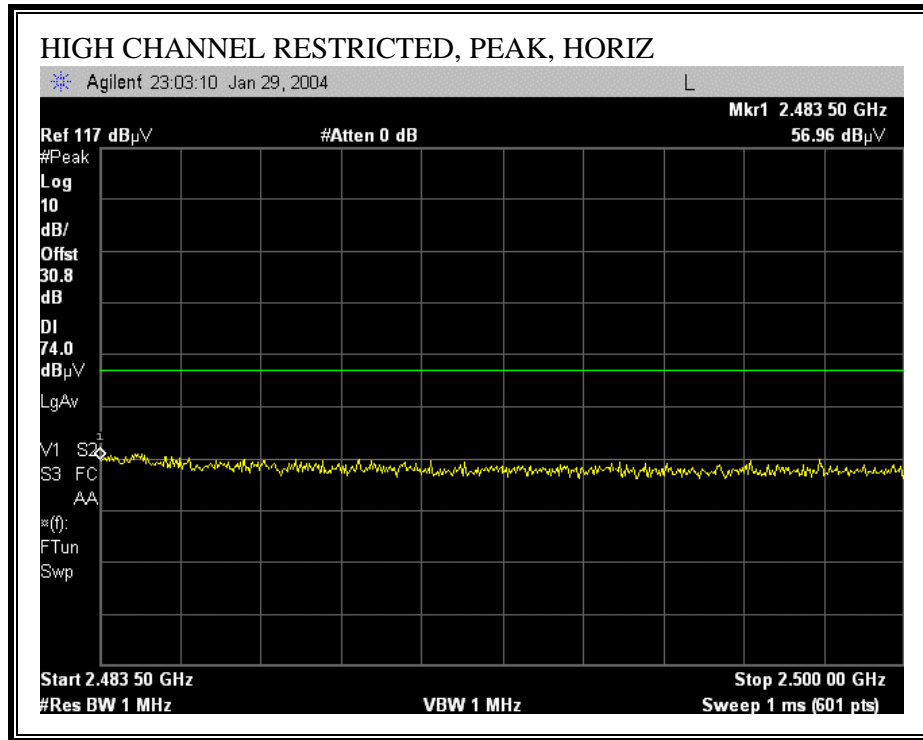


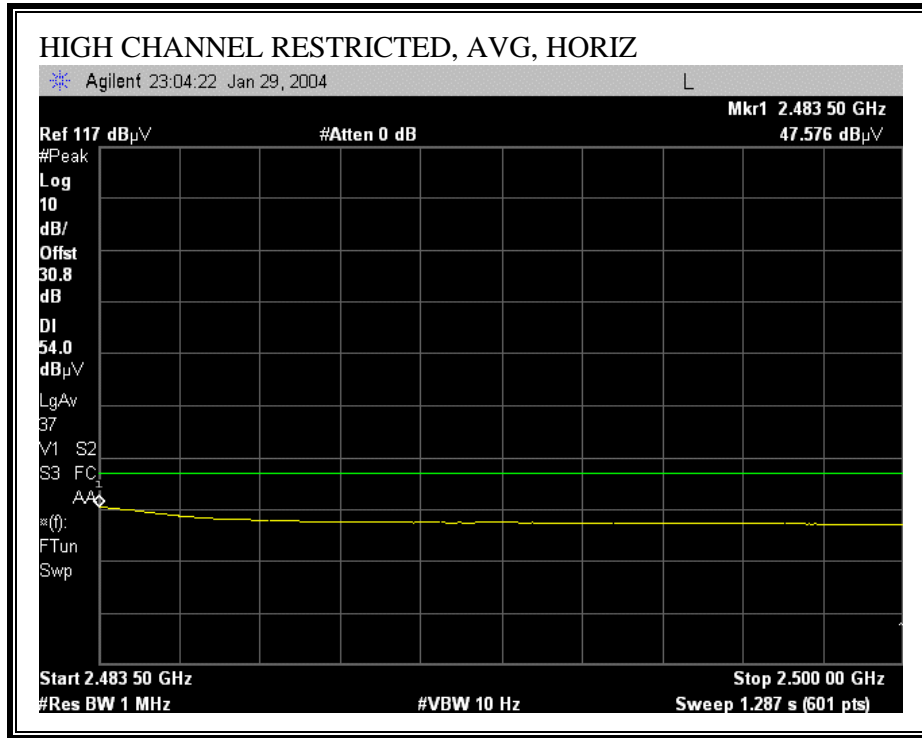
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



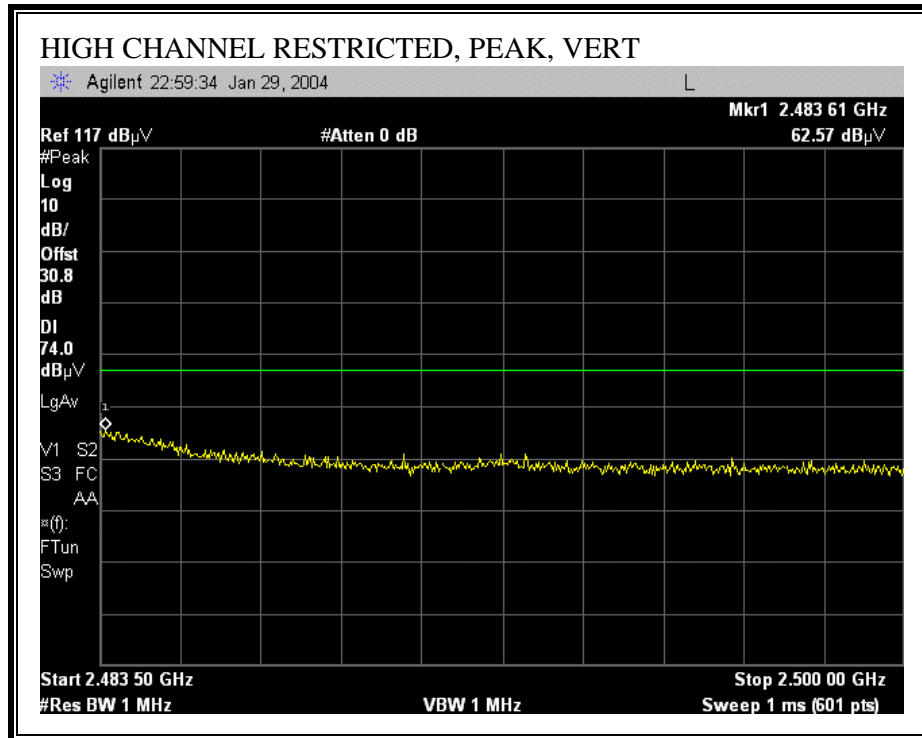


**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**

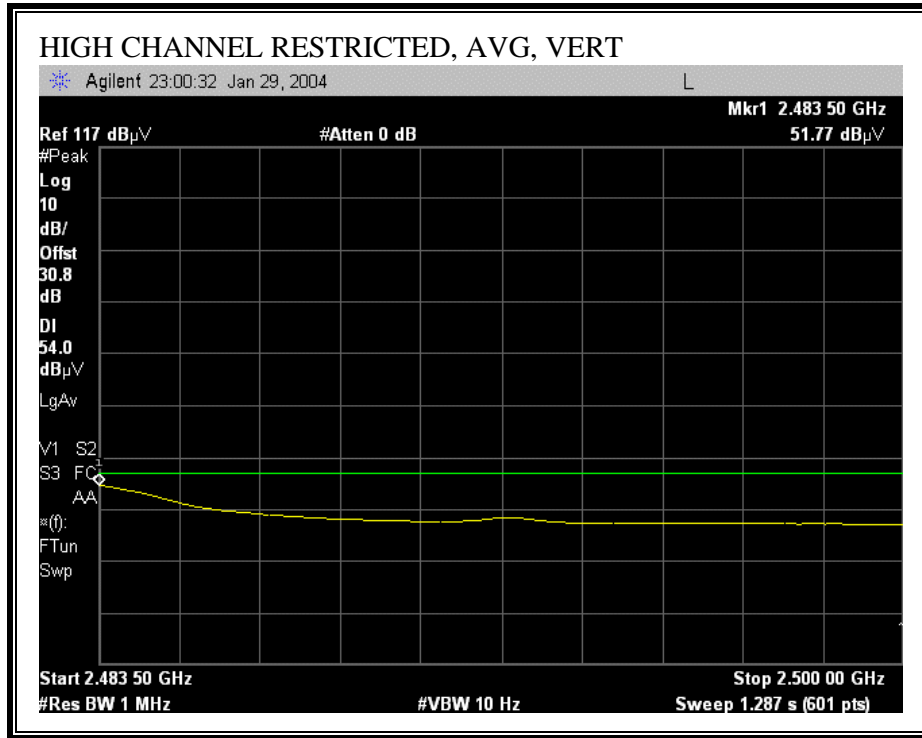




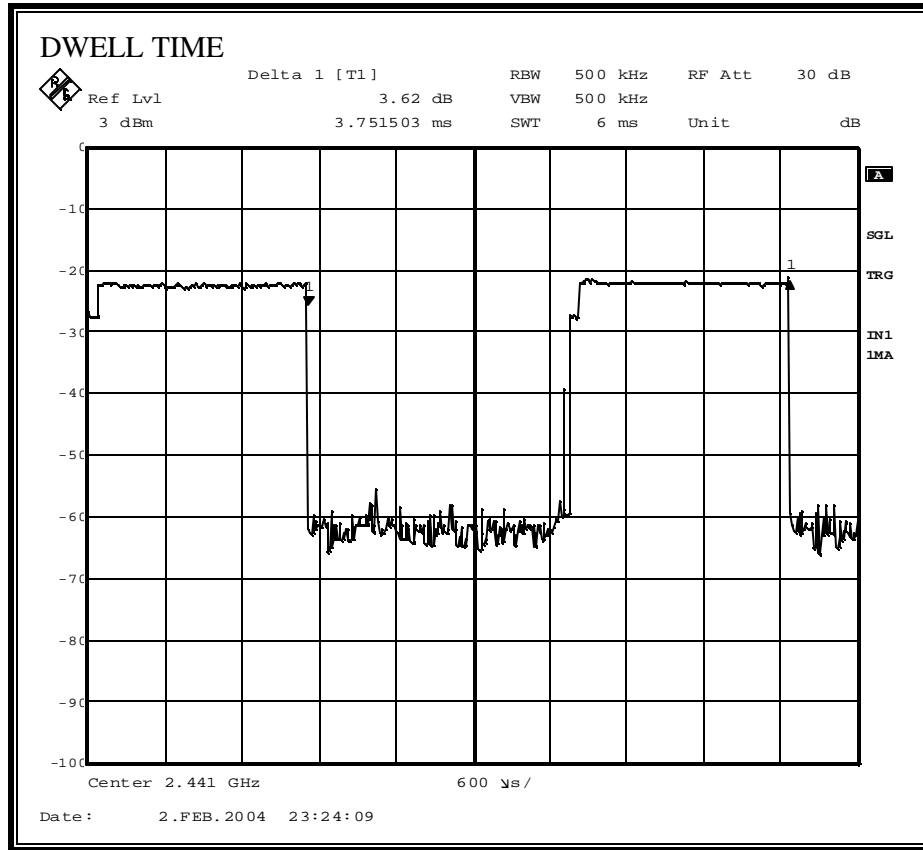
**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**







**DUTY CYCLE CORRECTION FACTOR**



\*IN ACCORDANCE WITH FCC PUBLIC NOTICE DA-00-705, THE “DUTY CYCLE CORRECTION FACTOR” FOR SPURIOUS RADIATED EMISSIONS IS;  $20 \log * (3.752 \text{ ms} / 100 \text{ ms}) = -28.5 \text{ dB}$ , WHICH WAS USED TO CORRECT THE AVERAGE SPURIOUS READING.

**HARMONICS AND SPURIOUS EMISSIONS (KEYBOARD)**

01/29/04 High Frequency Measurement  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Eng: Thanh Nguyen  
 Project #: 03U2374  
 Company: Broadcom Corporation  
 EUT Descrip.: Broadcom Wireless Keyboard  
 EUT M/N: BCM92040LMF-M  
 Test Target: FCC, IC  
 Mode Oper: Transmitting

Test Equipment:

EMCO Horn 1-18GHz T73, S/N: 6717 @3m	Pre-amplifier 1.26GHz T86 Miteq 924341	Spectrum Analyzer Agilent E4446A Analyzer	Horn > 18GHz	Limit FCC 15.205
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H Frequency Cables:  
 (2 ft)  (2-3 ft)  (4-6 ft)  (12 ft)

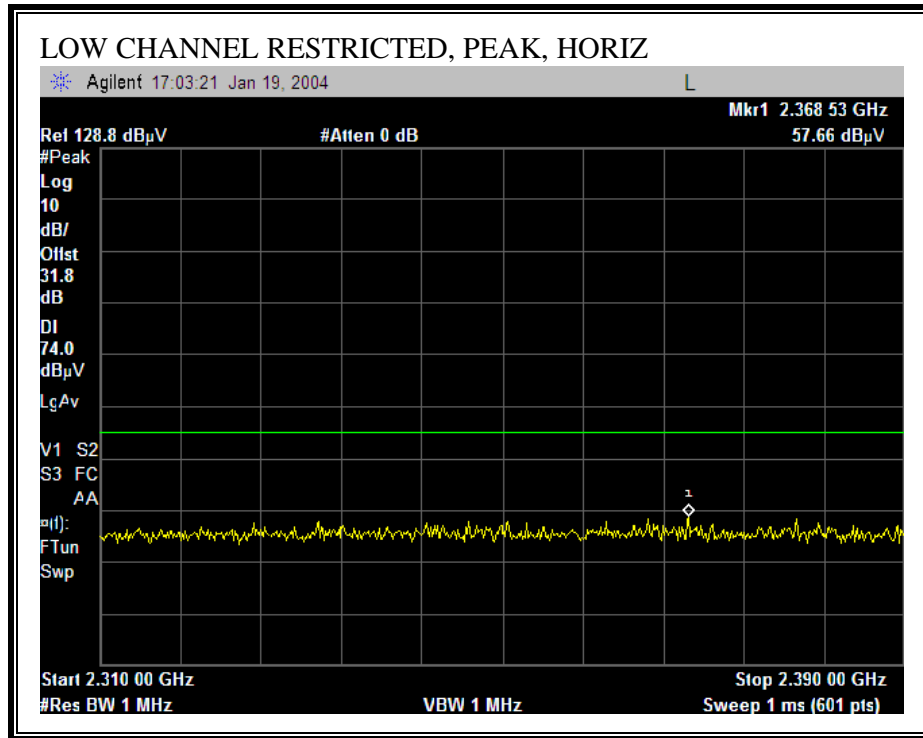
Peak Measurements: 1 MHz Resolution Bandwidth, 10GHz Video Bandwidth  
 Average Measurements: 1 MHz Resolution Bandwidth, 10GHz Video Bandwidth

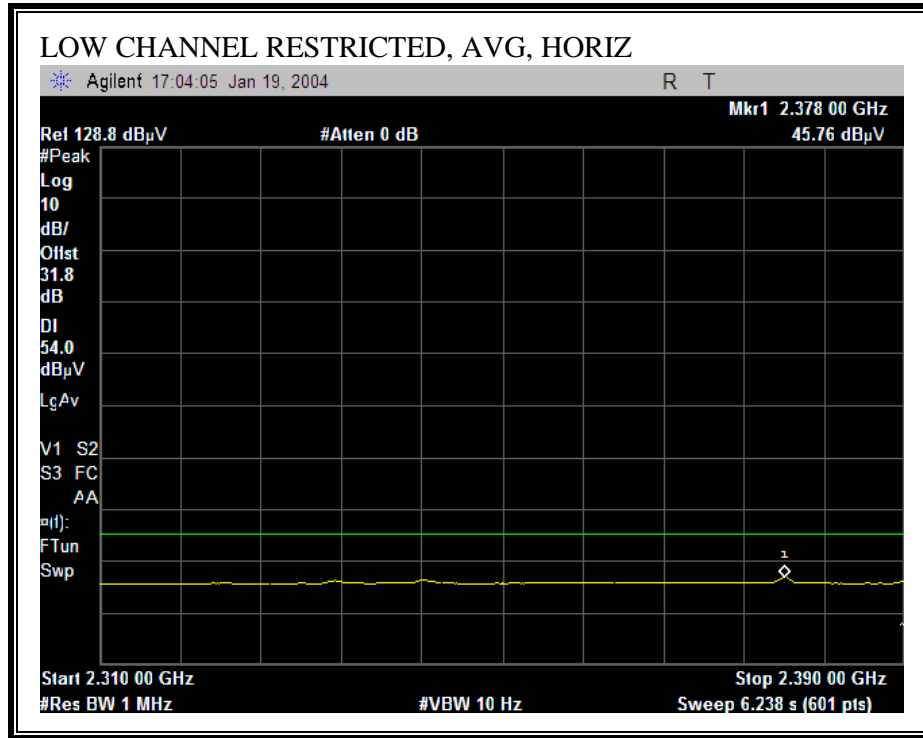
f GHz	Dist feet	Raw Pk dBuV	Raw Avg dBuV	AF dBm	CL dB	Antp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
Tx HIGH Frequency 2480MHz															
Harmonics															
4.960	9.8	60.8	54.8	33.5	3.2	-45.7	0.0	1.0	52.8	26.3	74.0	54.0	-21.2	-27.7	H
7.440	9.8	56.2	47.5	36.1	4.1	-46.5	0.0	1.0	50.8	19.0	74.0	54.0	-23.2	-35.0	V
4.960	9.8	61.2	56.6	33.5	3.2	-45.7	0.0	1.0	53.2	28.1	74.0	54.0	-20.8	-25.9	V
7.440	9.8	59.4	47.3	36.1	4.1	-46.5	0.0	1.0	54.0	18.8	74.0	54.0	-20.0	-35.2	H
Tx MED Channel 2441MHz															
Harmonics															
4.882	9.8	56.1	52.5	33.4	3.2	-45.6	0.0	1.0	48.1	24.0	74.0	54.0	-25.9	-30.0	V
7.323	9.8	50.8	41.5	35.9	4.1	-46.6	0.0	1.0	45.2	13.0	74.0	54.0	-28.8	-41.1	H
4.882	9.8	57.7	54.8	33.4	3.2	-45.6	0.0	1.0	49.6	26.3	74.0	54.0	-24.4	-27.7	H
7.323	9.8	59.3	39.7	35.9	4.1	-46.6	0.0	1.0	53.6	11.2	74.0	54.0	-20.4	-42.8	V
Tx LOW Frequency 2402MHz															
Harmonics															
4.804	9.8	63.8	61.0	33.4	3.1	-45.6	0.0	1.0	55.7	32.5	74.0	54.0	-18.3	-21.5	H
4.804	9.8	60.8	57.0	33.4	3.1	-45.6	0.0	1.0	51.9	28.5	74.0	54.0	-22.1	-25.5	V
Spurious Emissions															
1.602	9.8	57.1	54.4	26.4	1.4	-44.2	0.0	1.0	41.7	25.9	74.0	54.0	-32.3	-28.2	V
1.602	9.8	59.4	57.5	26.4	1.4	-44.2	0.0	1.0	43.9	29.0	74.0	54.0	-30.1	-25.0	H
NO OTHER HARMONICS OR SPURIOUS EMISSIONS DETECTED ABOVE THE SYSTEM FLOOR NOISE ABOVE -20 dB TO THE LIMIT															
NOTE: AVERAGE FIELD STRENGTH INCLUDES DUTY CYCLE CORRECTION FACTOR OF -28.5 dB															

f	Measurement Frequency	Antp	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
Raw	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		

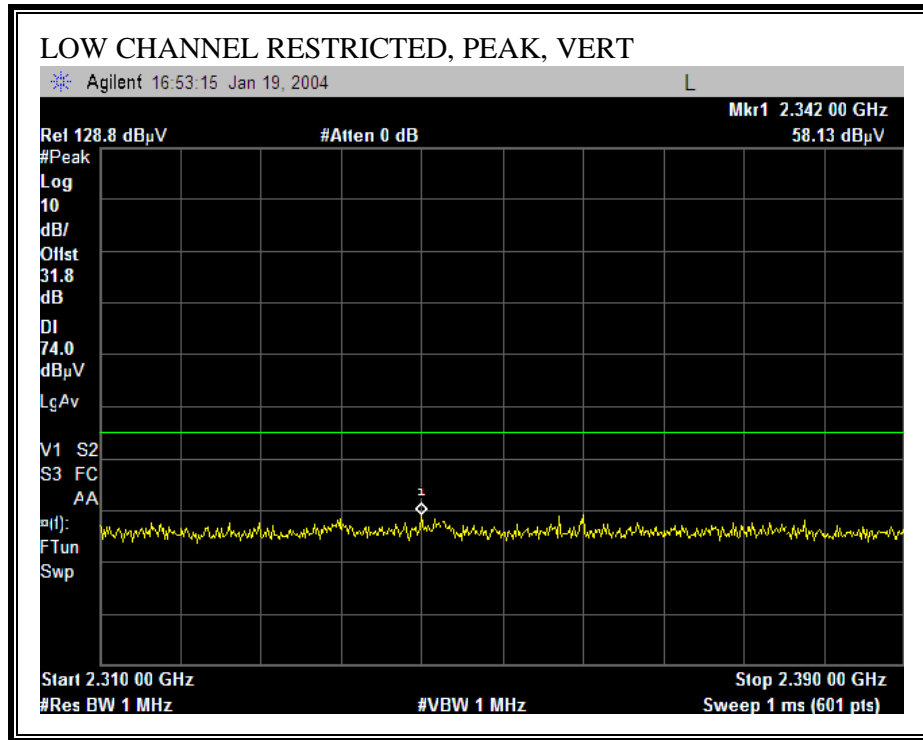
### 9.1.3. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHZ (MOUSE)

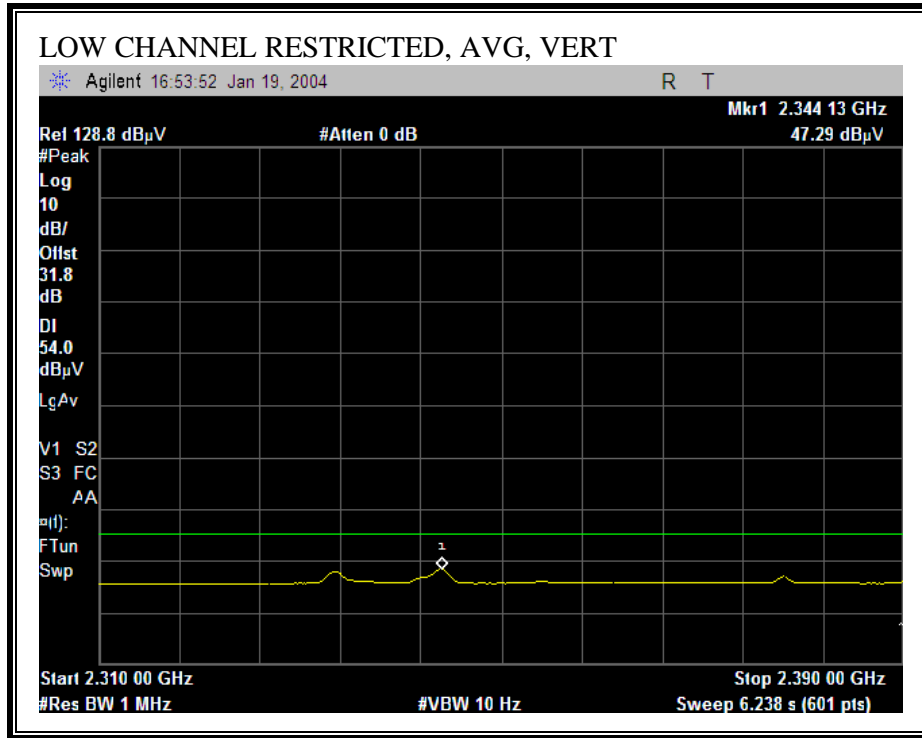
#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



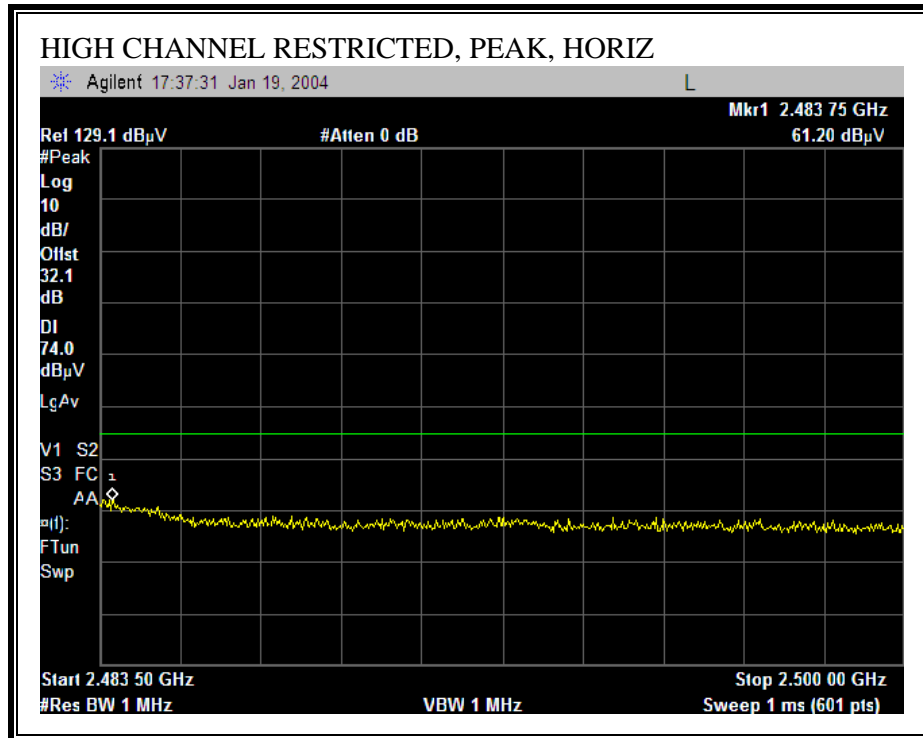


**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**

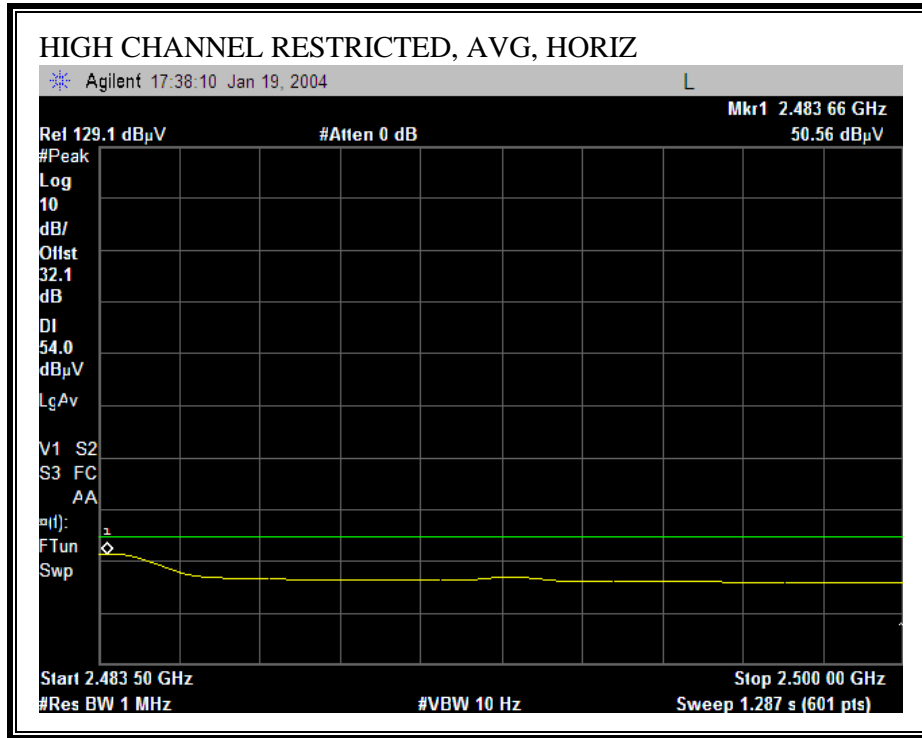




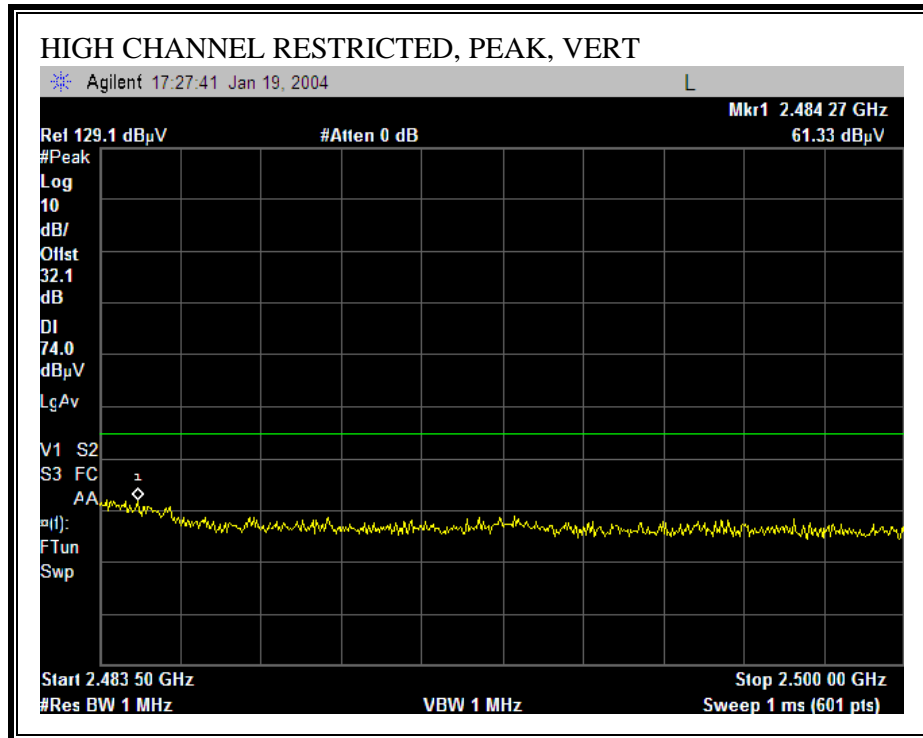
**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**

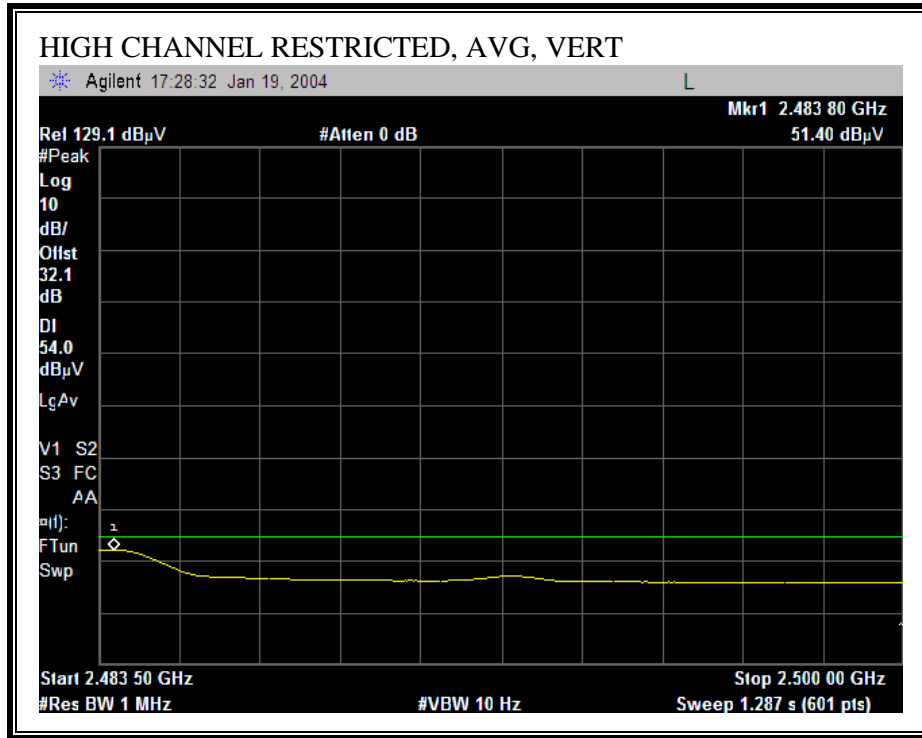




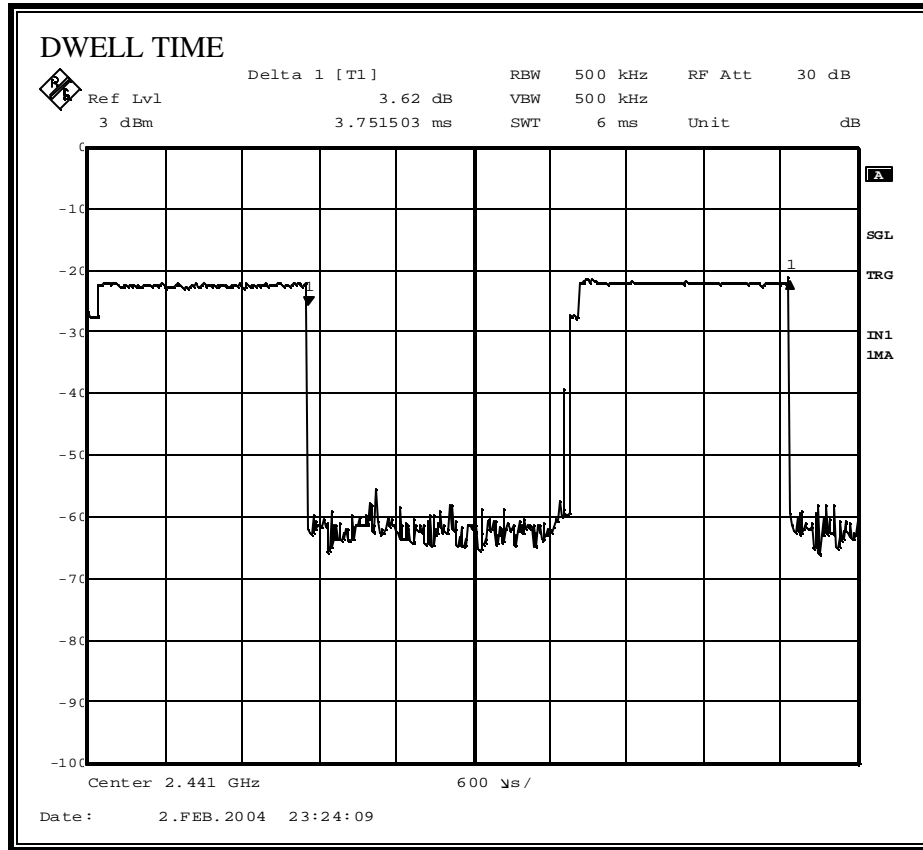


**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**





**DUTY CYCLE CORRECTION FACTOR**



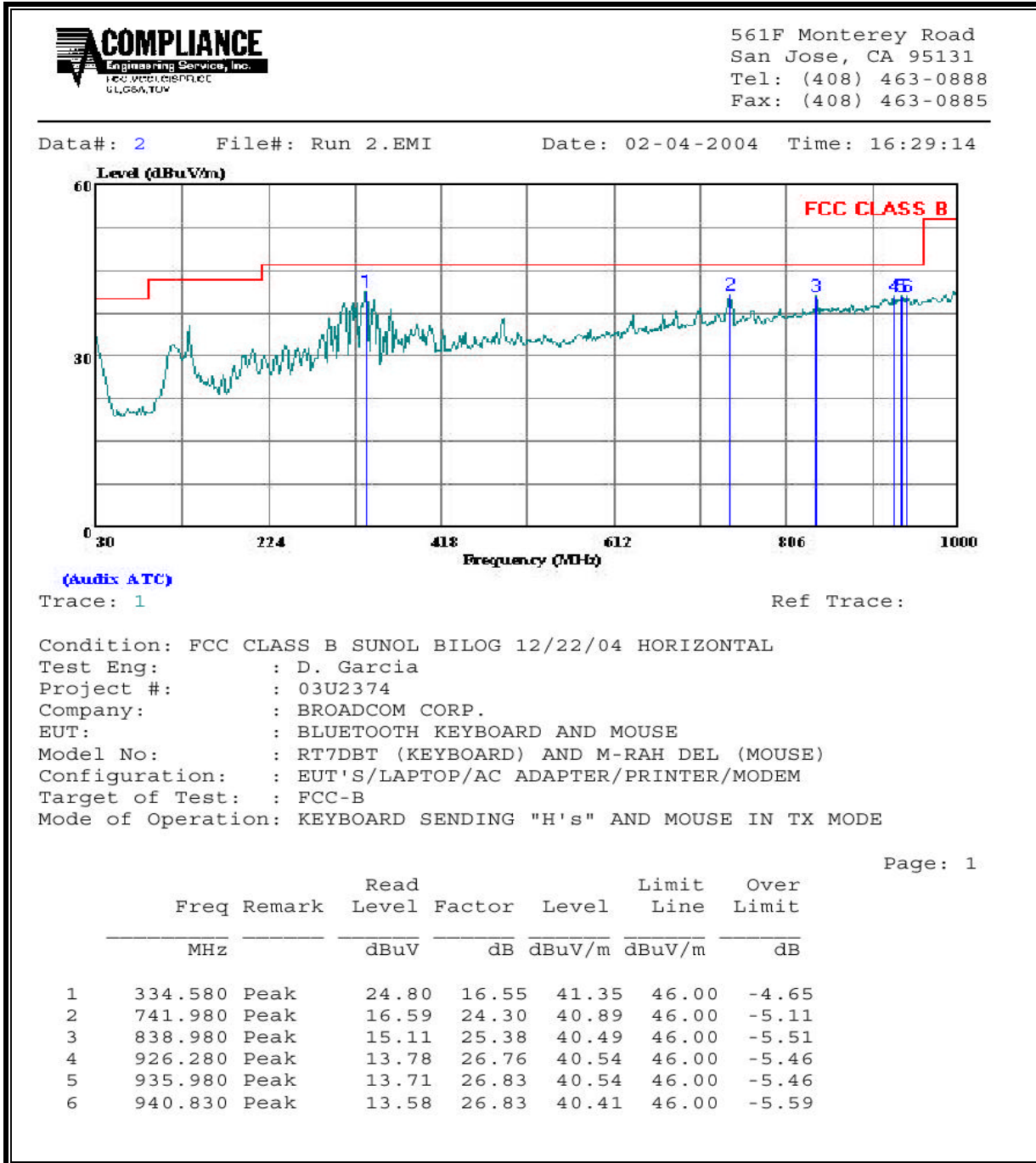
\*IN ACCORDANCE WITH FCC PUBLIC NOTICE DA-00-705, THE “DUTY CYCLE CORRECTION FACTOR” FOR SPURIOUS RADIATED EMISSIONS IS;  $20 \log * (3.752 \text{ ms} / 100 \text{ ms}) = -28.5 \text{ dB}$ , WHICH WAS USED TO CORRECT THE AVERAGE SPURIOUS READING.

**HARMONICS AND SPURIOUS EMISSIONS (MOUSE)**

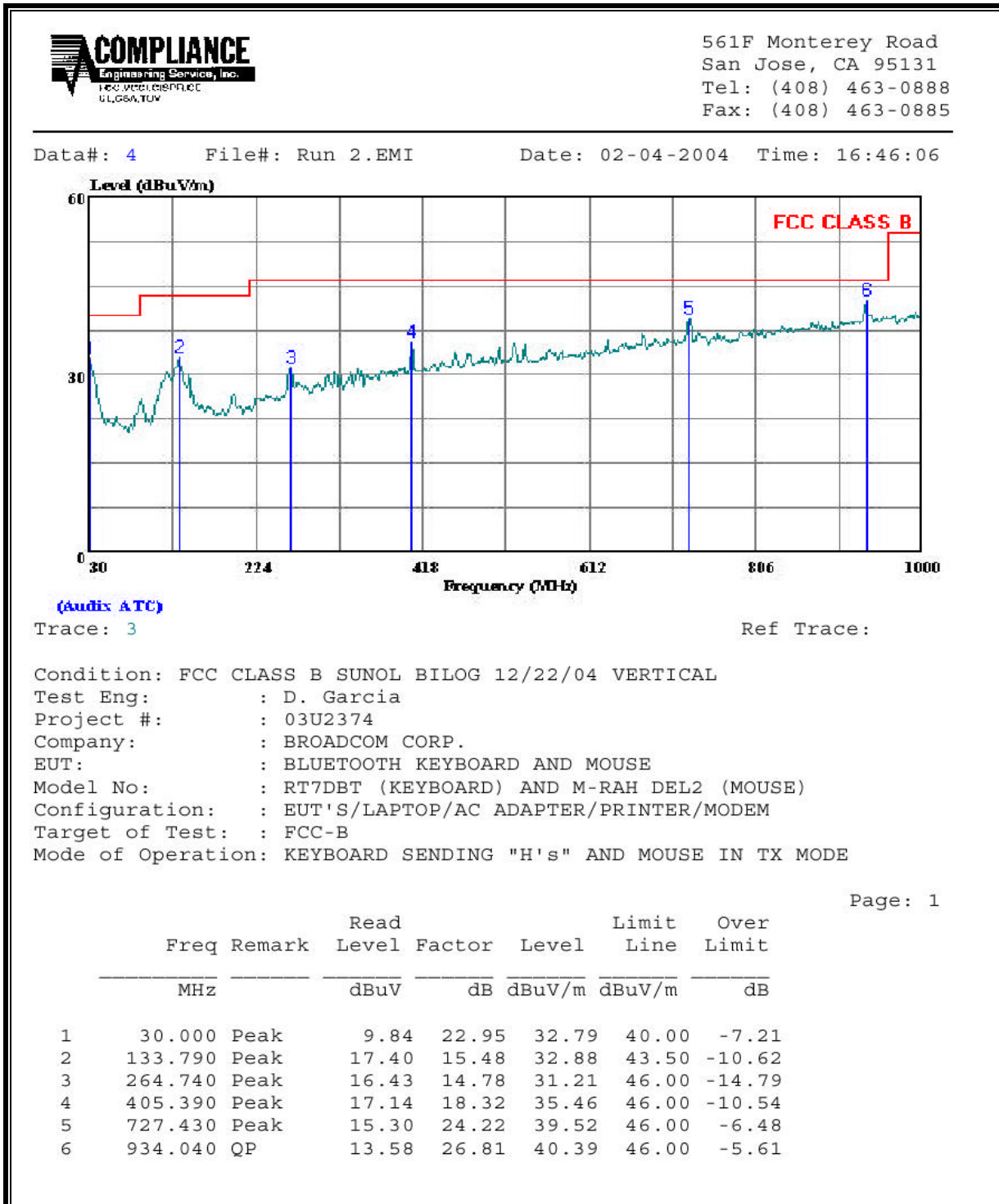
01/30/04 High Frequency Measurement															
Compliance Certification Services, Morgan Hill Open Field Site															
Test Engr:		NEELSH RAI													
Project #:		03U2374													
Company:		BROADCOM CORP													
EUT Descrip.:		BROADCOM BLUETOOTH MOUSE													
EUT M/N:		BCM9204LMP-M													
Test Target:		PC													
Mode Oper:		TX													
Test Equipment:															
EMCO Horn 1-18GHz		Pre-amplifier 1-26GHz		Spectrum Analyzer				Horn > 18GHz				Limit			
T73; S/N: 6717 @1m		T87; Mseq: 924342										FCC 15.205			
HF Frequency Cables: <input type="checkbox"/> (2 ft) <input checked="" type="checkbox"/> (2-3 ft) <input type="checkbox"/> (4-6 ft) <input checked="" type="checkbox"/> (12 ft)															
Peak Measurements:								Average Measurements:							
1 MHz Resolution Bandwidth								1 MHz Resolution Bandwidth							
110Hz Video Bandwidth								10Hz Video Bandwidth							
f GHz	Dist feet	Raw Pk dBuV	Raw Avg dBuV	AF dBm	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
low channel harmonics															
4.804	9.8	63.3	60.8	33.9	2.9	-44.7	0.0	1.0	66.4	26.4	74.0	64.0	-17.6	-28.6	V
12.010	9.8	50.3	39.0	39.4	5.1	-42.1	0.0	1.0	53.6	13.8	74.0	54.0	-20.4	-40.2	V
4.804	9.8	62.6	60.4	33.9	2.9	-44.7	0.0	1.0	55.7	25.0	74.0	54.0	-18.3	-29.0	H
12.010	9.8	50.0	38.5	39.4	5.1	-42.1	0.0	1.0	53.3	13.3	74.0	54.0	-20.7	-40.7	H
low channel spurious															
1.602	9.8	62.0	60.0	26.8	1.4	-43.3	0.0	1.0	47.8	17.3	74.0	54.0	-26.2	-36.7	V
1.602	9.8	61.9	60.7	26.8	1.4	-43.3	0.0	1.0	47.7	16.0	74.0	54.0	-26.3	-36.0	H
middle channel harmonics															
4.882	9.8	62.6	60.8	34.0	3.0	-44.7	0.0	1.0	66.7	26.4	74.0	64.0	-18.3	-28.6	V
7.323	9.8	59.8	55.4	36.8	3.8	-44.5	0.0	1.0	56.8	24.0	74.0	54.0	-17.2	-30.0	V
12.205	9.8	46.0	38.0	39.6	5.2	-42.4	0.0	1.0	49.3	12.8	74.0	54.0	-24.7	-41.2	V
4.882	9.8	60.1	58.3	34.0	3.0	-44.7	0.0	1.0	53.2	23.0	74.0	54.0	-20.8	-31.0	H
7.323	9.8	58.7	56.2	36.8	3.8	-44.5	0.0	1.0	55.8	24.8	74.0	54.0	-18.2	-29.2	H
12.205	9.8	47.3	38.2	39.6	5.2	-42.4	0.0	1.0	50.6	13.0	74.0	54.0	-23.4	-41.0	H
high channel harmonics															
4.960	9.8	59.8	57.2	34.0	3.0	-44.8	0.0	1.0	52.9	21.9	74.0	54.0	-21.1	-32.1	V
7.440	9.8	59.3	54.1	37.0	3.8	-44.4	0.0	1.0	66.6	23.0	74.0	64.0	-17.4	-31.0	V
12.400	9.8	47.4	38.0	39.8	5.2	-42.6	0.0	1.0	50.7	12.8	74.0	54.0	-23.3	-41.2	V
4.960	9.8	59.1	57.0	34.0	3.0	-44.8	0.0	1.0	52.3	21.7	74.0	54.0	-21.7	-32.3	H
7.440	9.8	58.2	53.9	37.0	3.8	-44.4	0.0	1.0	55.6	22.8	74.0	54.0	-18.4	-31.2	H
12.400	9.8	47.0	38.0	39.8	5.2	-42.6	0.0	1.0	50.3	12.8	74.0	54.0	-23.7	-41.2	H
NO OTHER HARMONICS OR SPURIOUS EMISSIONS DETECTED ABOVE THE SYSTEM FLOOR NOISE ABOVE -20 dB TO THE LIMIT															
NOTE: AVERAGE FIELD STRENGTH INCLUDES DUTY CYCLE CORRECTION FACTOR OF -28.5 dB															
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										

**9.1.4. RADIATED EMISSIONS BELOW 1 GHZ (KEYBOARD AND MOUSE)**

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



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



## 10. SETUP PHOTOS

### RADIATED RF MEASUREMENT SETUP (keyboard)





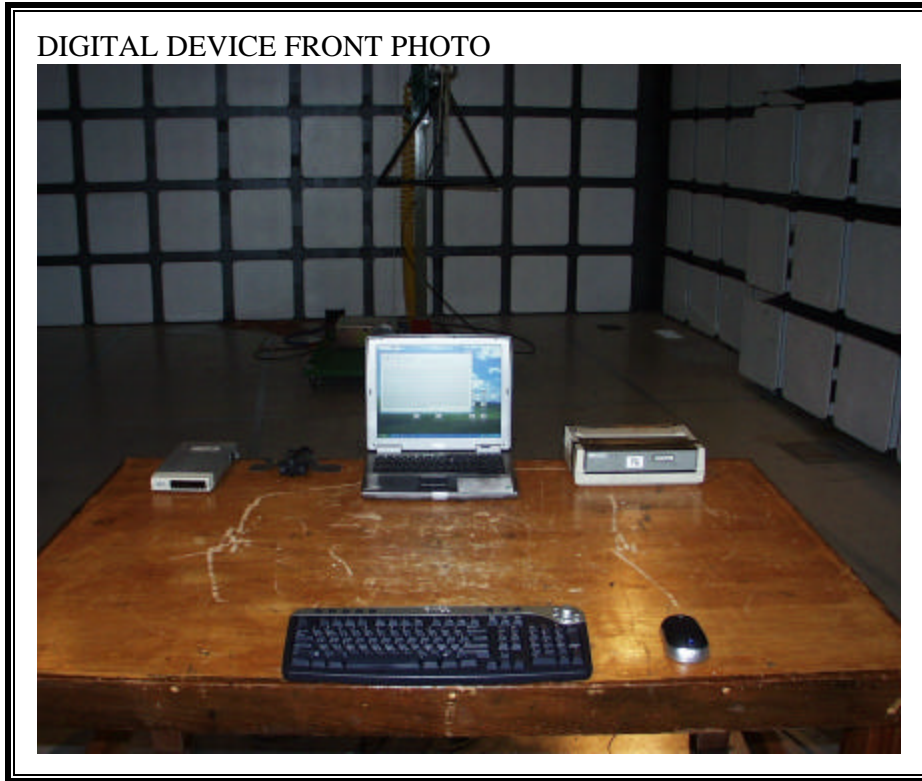


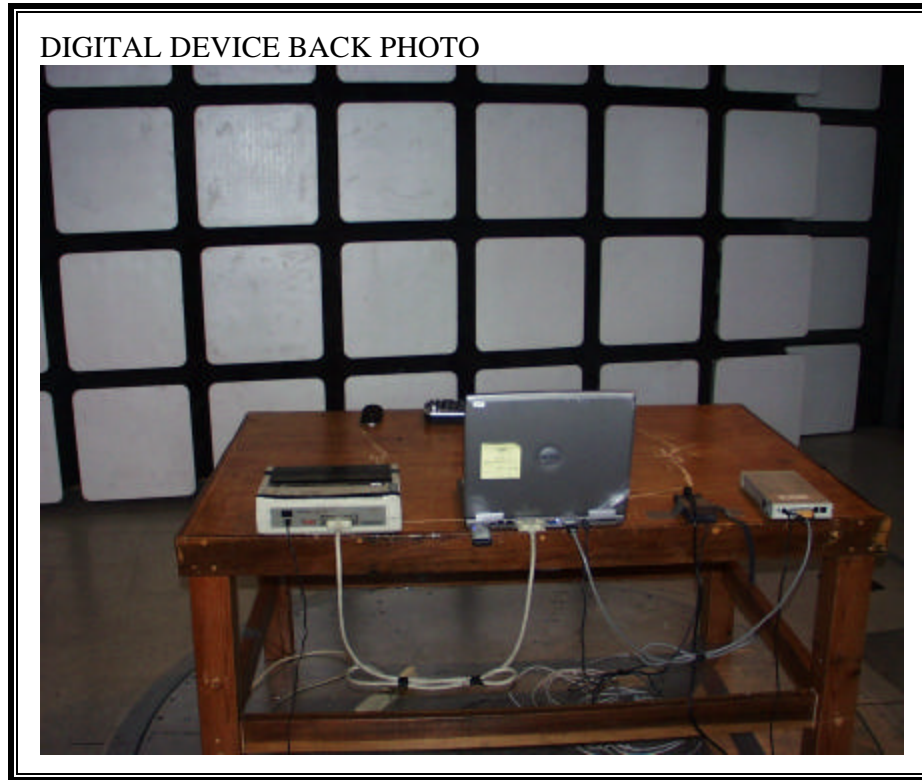
**RADIATED RF MEASUREMENT SETUP (mouse)**





**DIGITAL DEVICE RADIATED EMISSIONS SETUP (keyboard and mouse)**





**END OF REPORT**