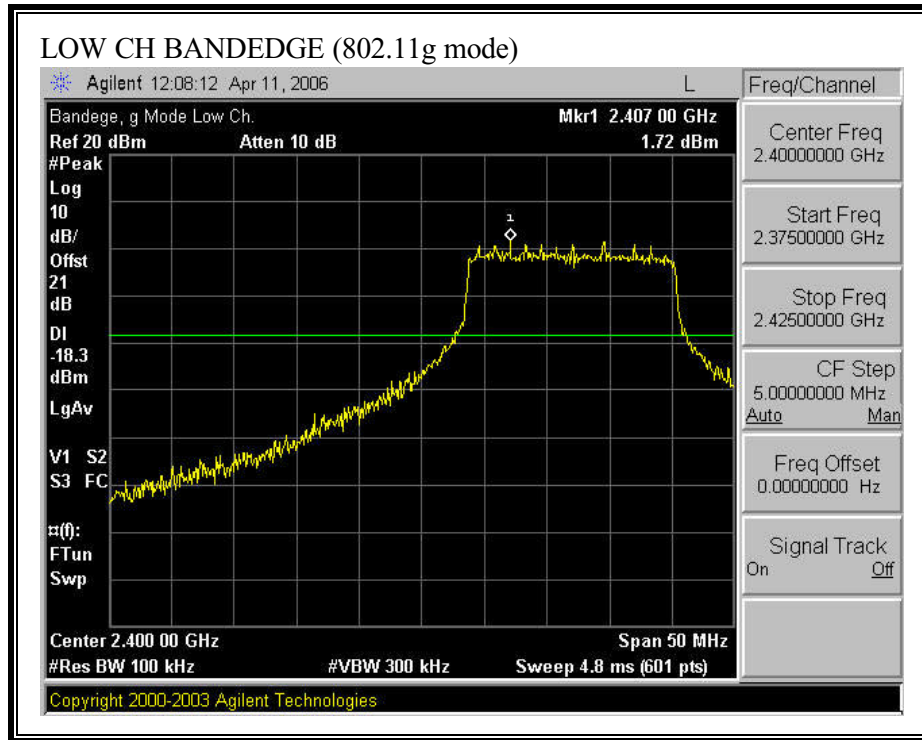
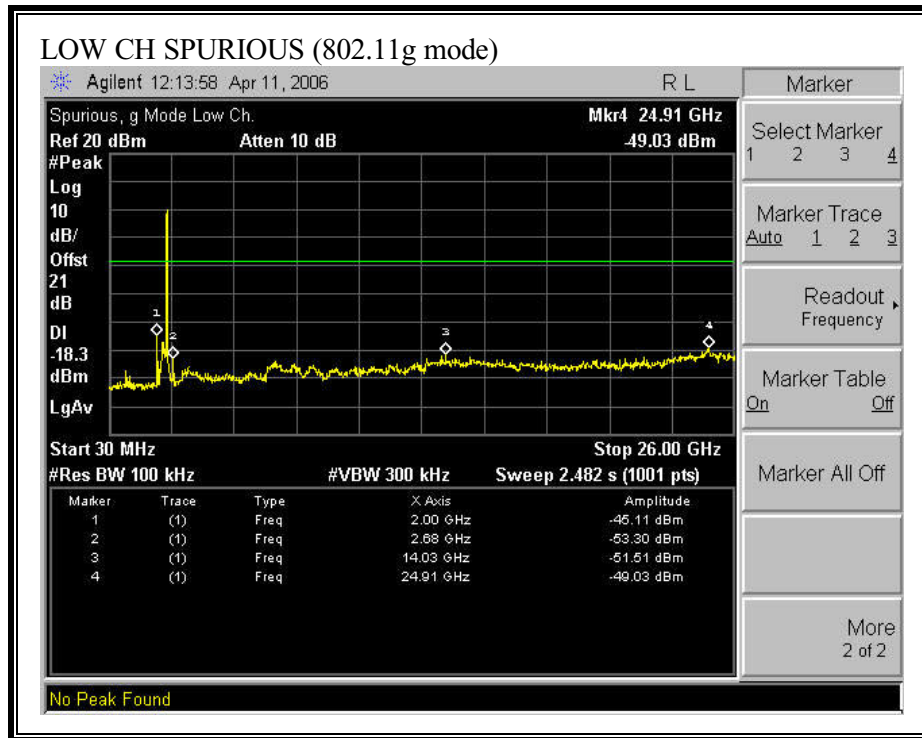
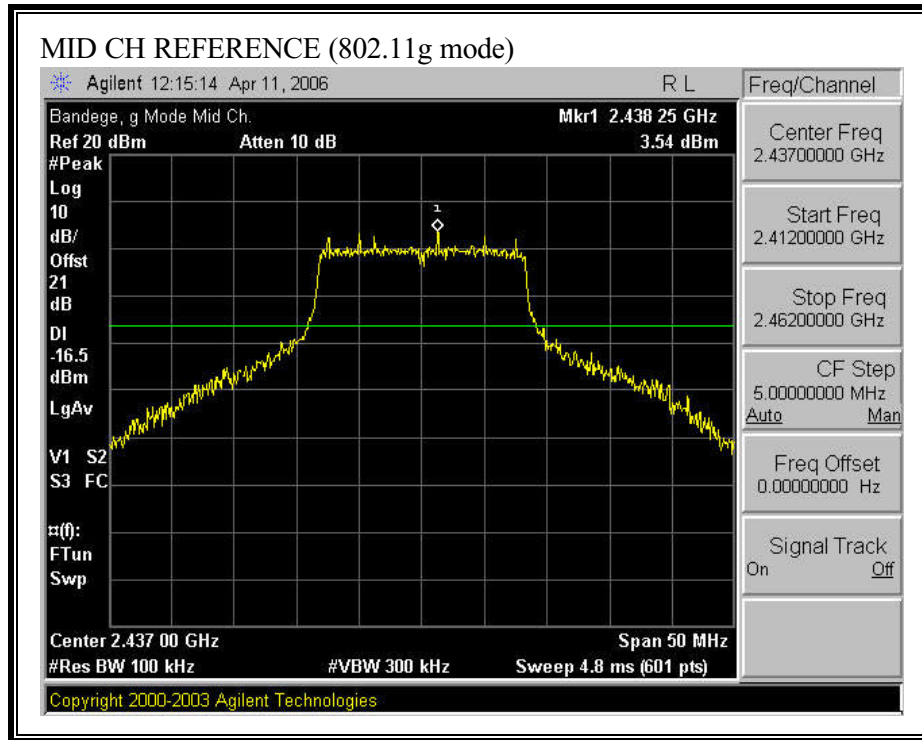


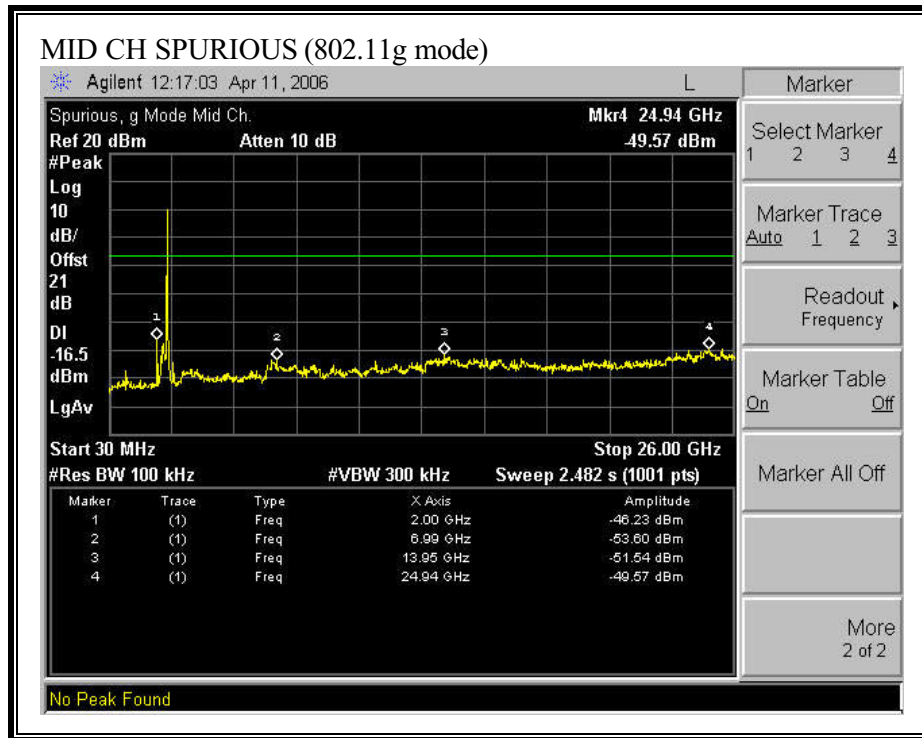
**SPURIOUS EMISSIONS, LOW CHANNEL (802.11g MODE)**



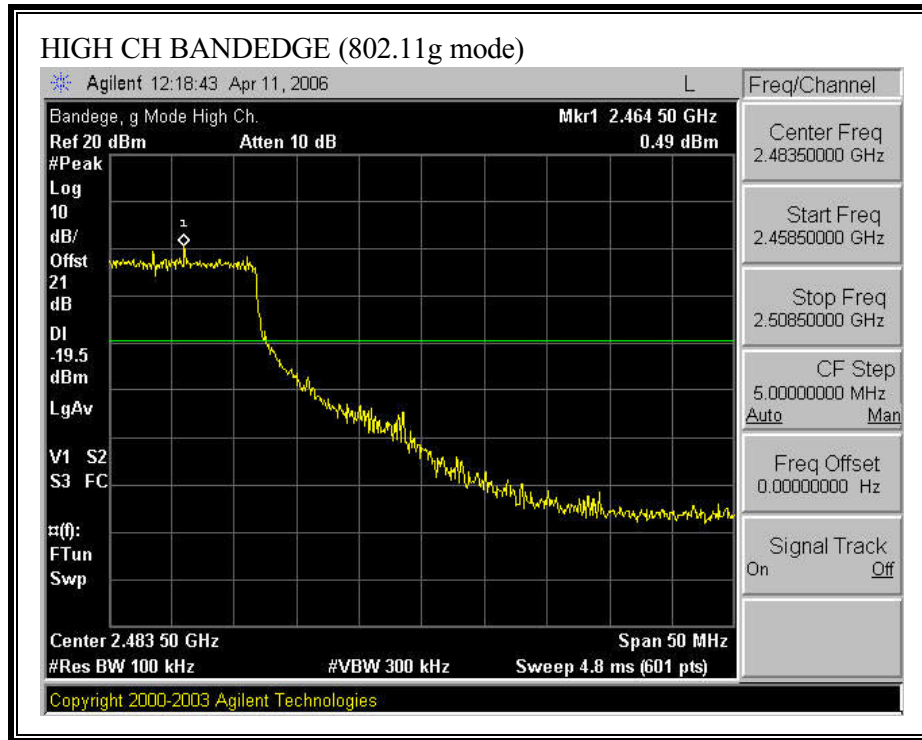


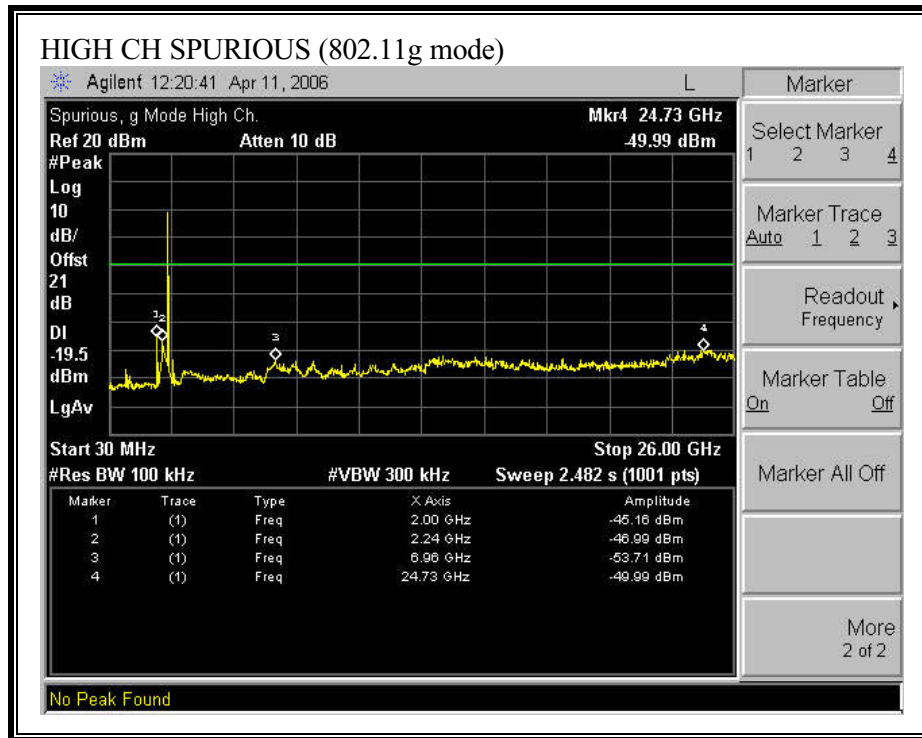
**SPURIOUS EMISSIONS, MID CHANNEL (802.11g MODE)**





**SPURIOUS EMISSIONS, HIGH CHANNEL (802.11g MODE)**





## 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
<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 in the 2.4 GHz band.

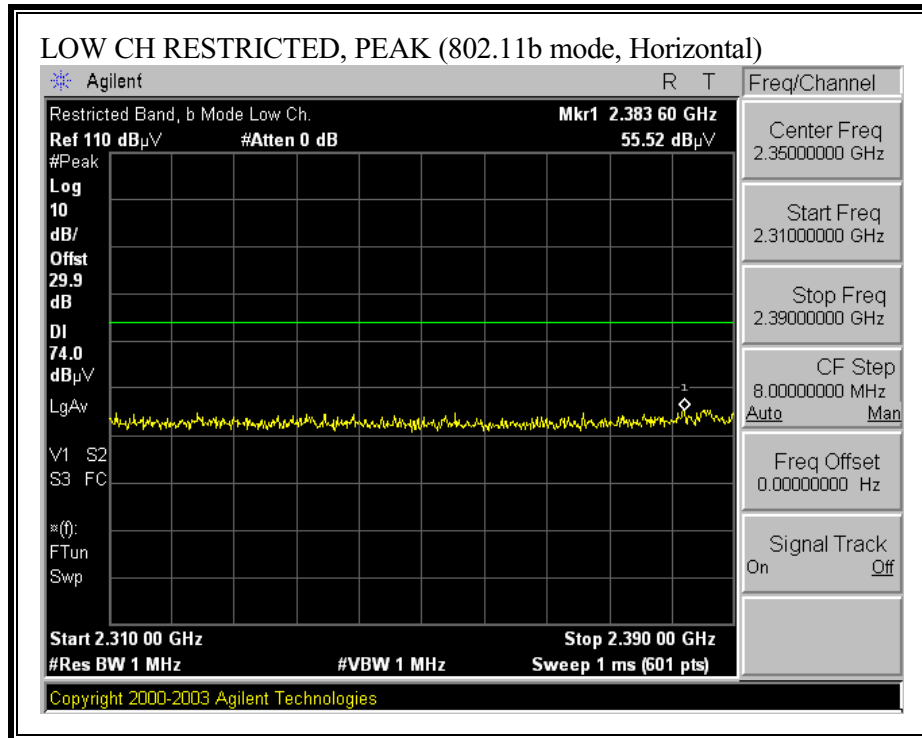
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each 5 GHz band.

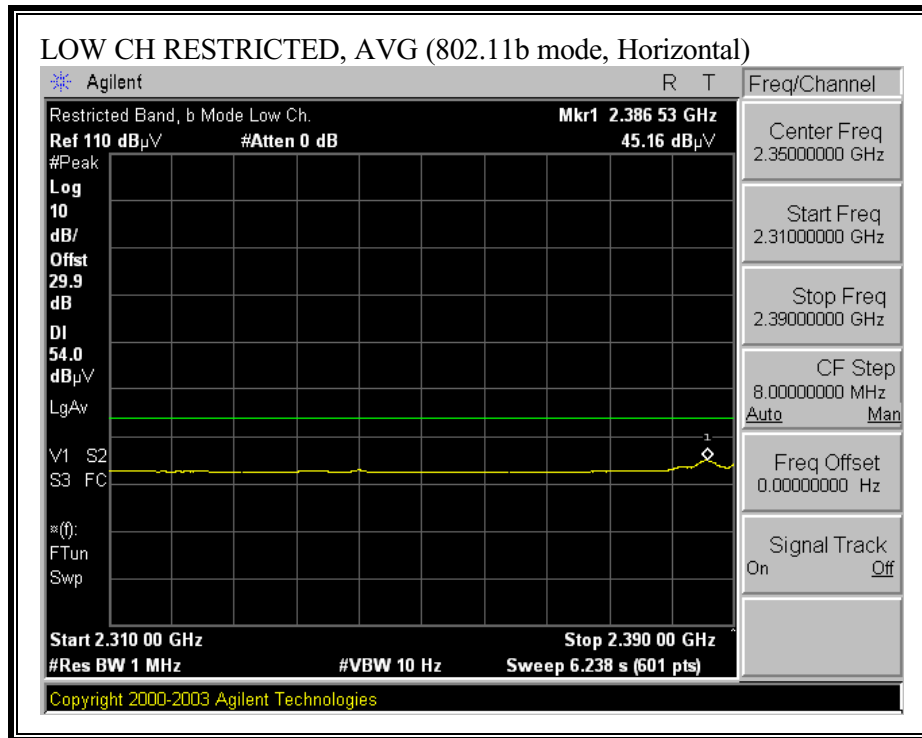
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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



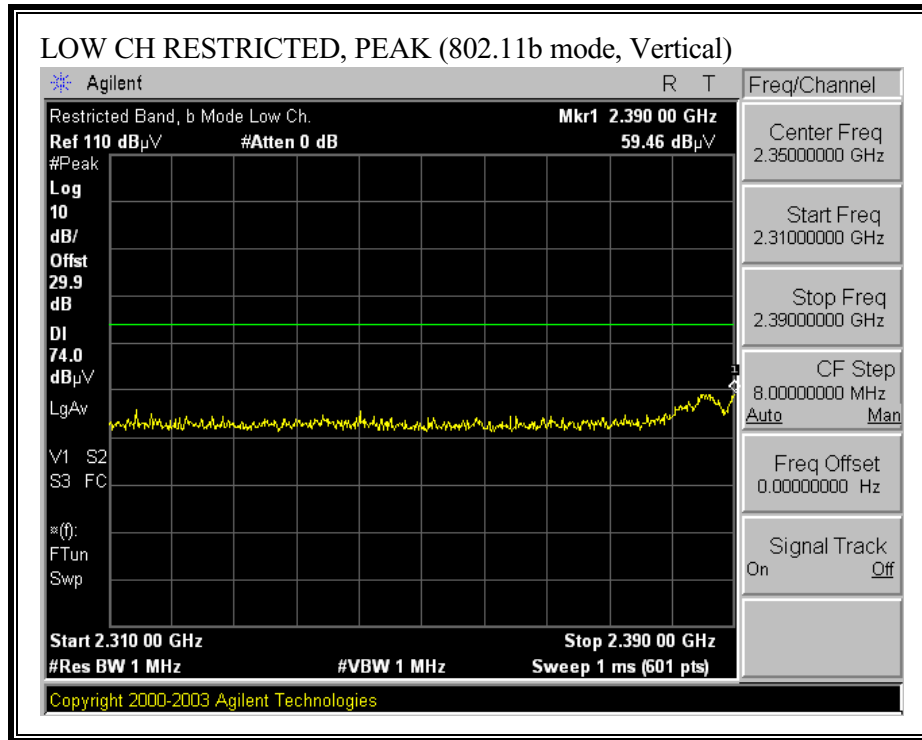
## 7.2.2. TRANSMITTER ABOVE 1 GHz FOR 2400 TO 2483.5 MHz BANDWIDTH INTERNAL ANTENNA

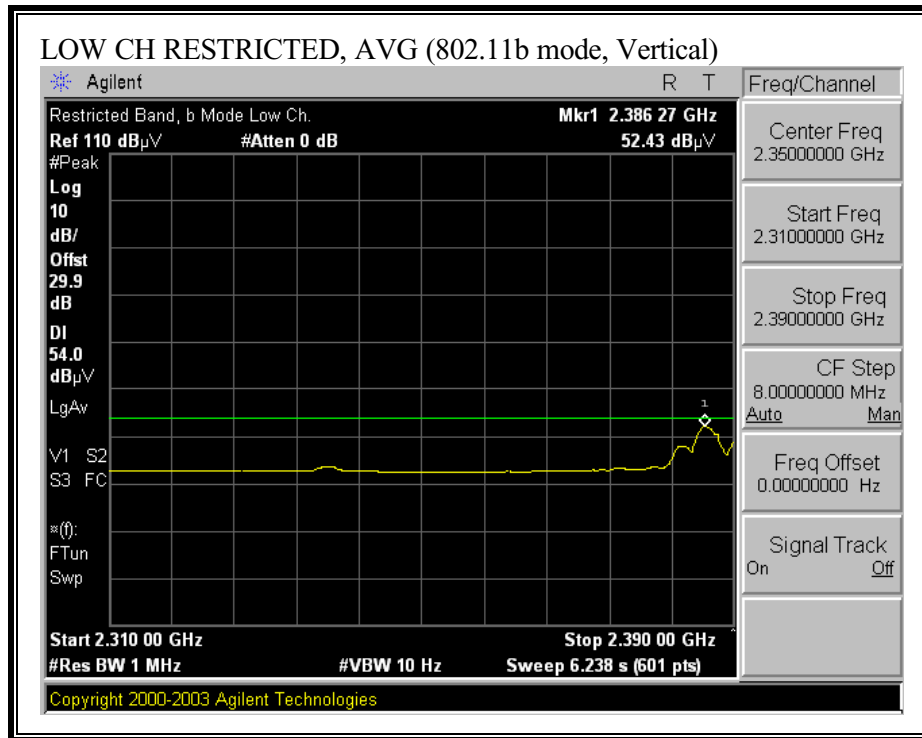
### RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)



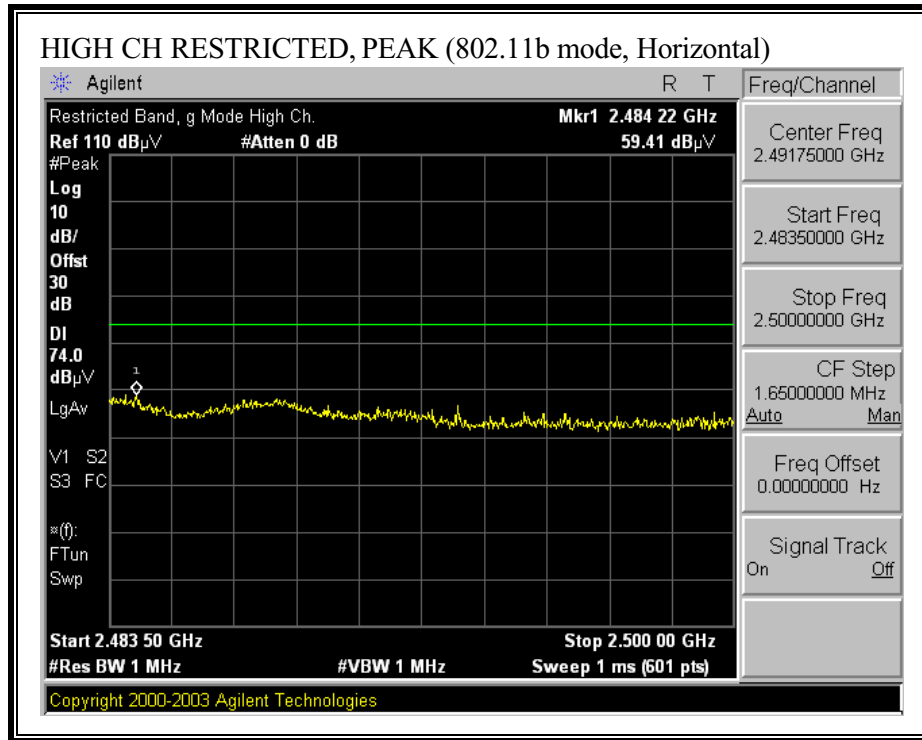


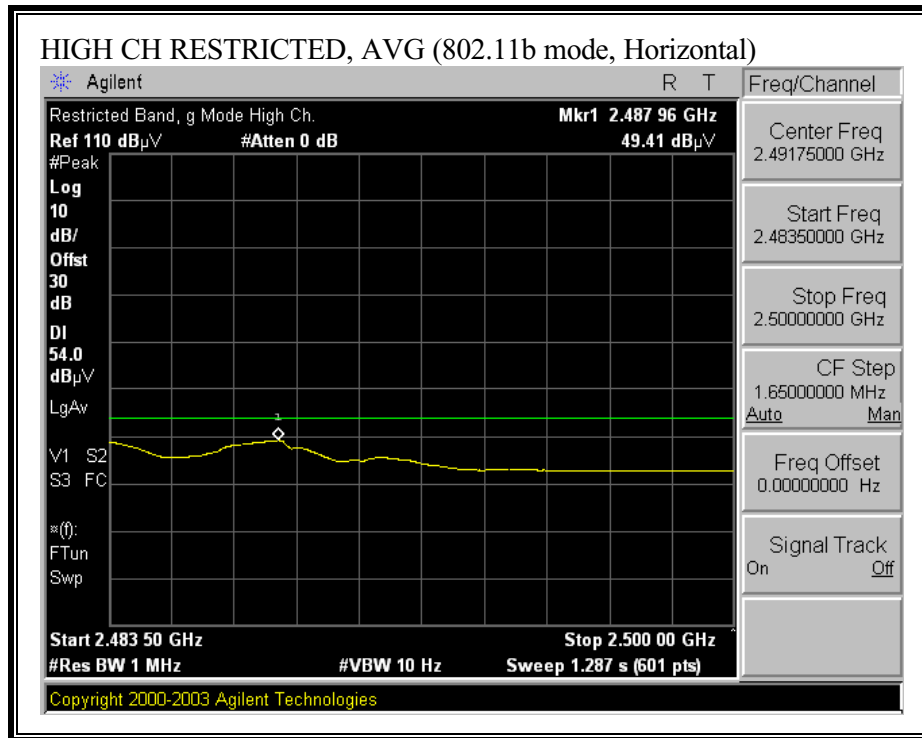
**RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)**



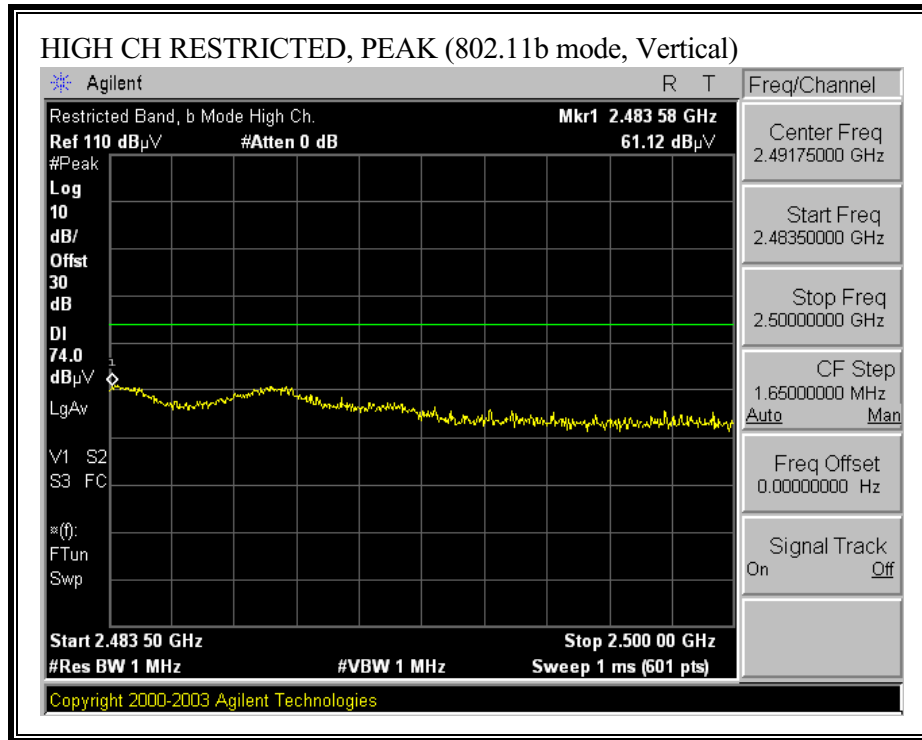


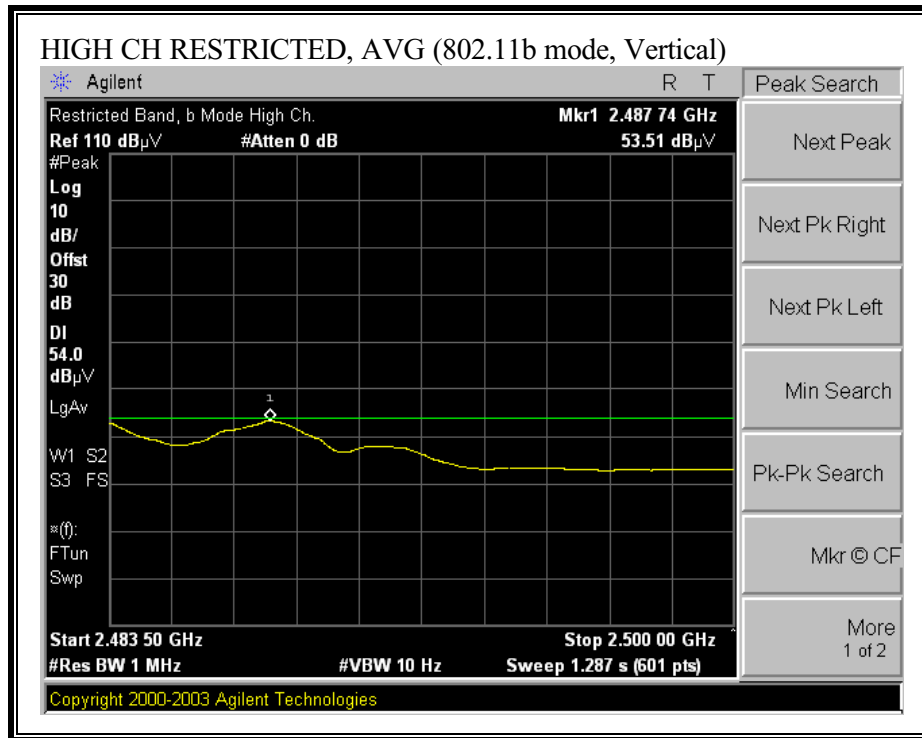
**RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)**





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



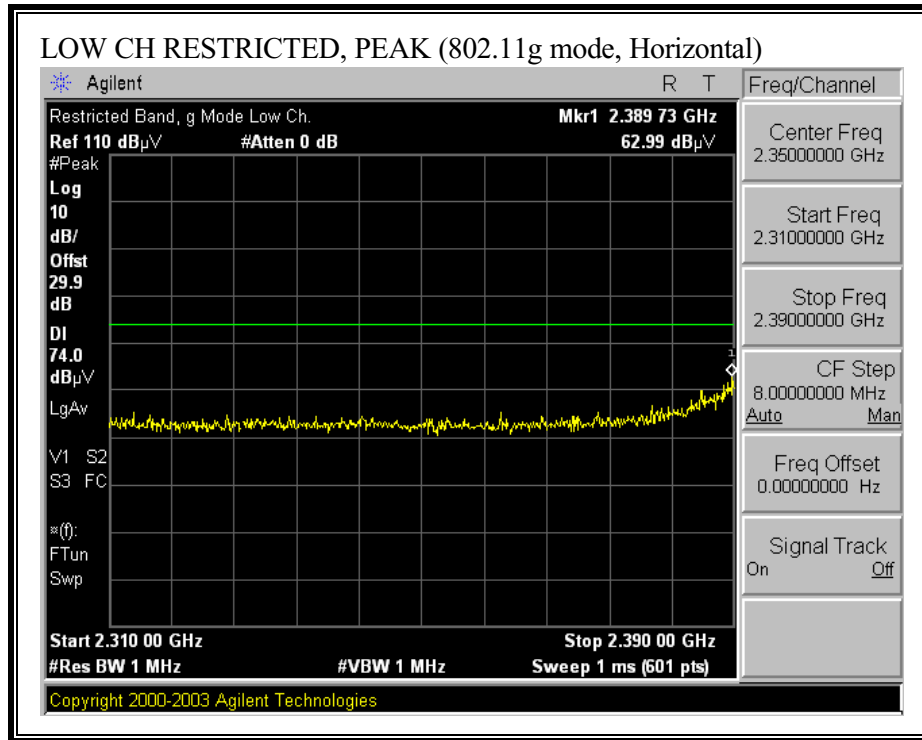


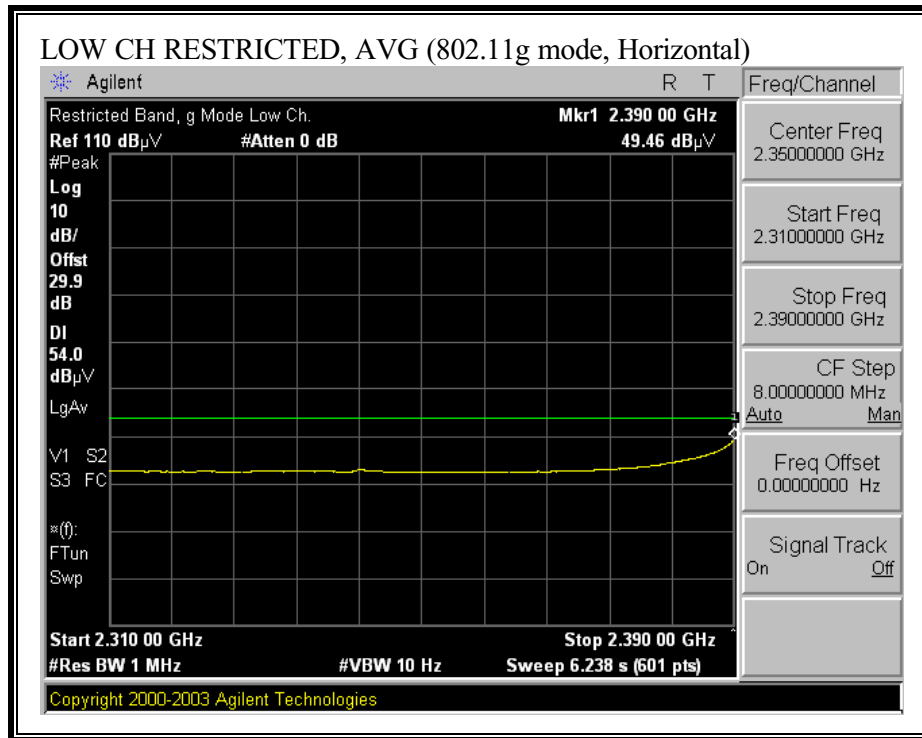


# HARMONICS AND SPURIOUS EMISSIONS (b MODE)

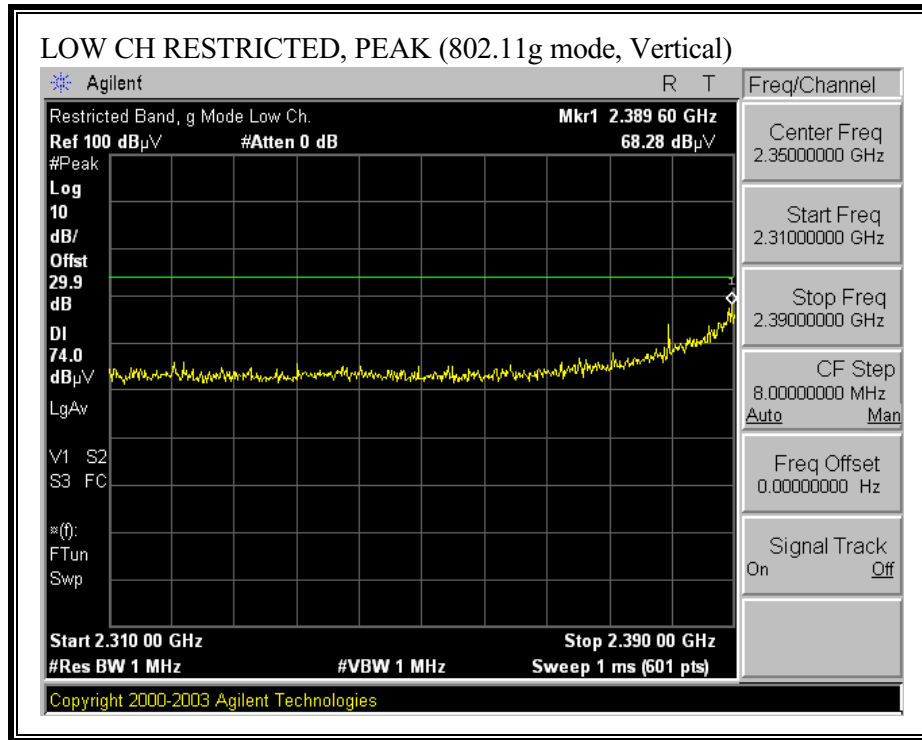
04/06/06 High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site																	
Test Engineer: Thanh Nguyen Project #: 06U101762-1 Company: HONA R&D Co. LTD EUT Description: WIRELESS ACCESS POINT EUT M/N: 70410-QAB Test Target: FCC Part 15.247 Mode Of Operation: Transmit B mode with Internal Antenna																	
Test Equipment:																	
Horn 1-18GHz T73; S/N: 6717 @3m		Pre-amplifier 1-26GHz T145 Agilent 3008A0056		Pre-amplifier 26-40GHz		Horn > 18GHz		Limit FCC 15.209									
Hi Frequency Cables																	
2 foot cable Thanh 177079008		3 foot cable		12 foot cable Thanh 208946003		HPF HPF_4.0GHz		Reject Filter		Peak Measurements RBW=VBW=1MHz 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	Filt 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 2412 MHz																	
4.824	3.0	53.2	50.5	33.7	2.8	-34.8	0.0	0.6	55.4	52.7	74	54	-18.6	-1.3	V		
7.236	3.0	47.8	40.4	35.4	3.3	-34.7	0.0	0.6	52.5	45.1	74	54	-21.5	-8.9	V		
9.648	3.0	44.5	35.2	37.5	3.7	-35.0	0.0	0.8	51.4	42.2	74	54	-22.6	-11.8	V		
12.060	3.0	42.1	30.2	38.5	4.3	-32.4	0.0	0.9	53.4	41.6	74	54	-20.6	-12.4	Noise floor		
4.824	3.0	47.3	41.8	33.7	2.8	-34.8	0.0	0.6	49.6	44.1	74	54	-24.4	-9.9	H		
7.236	3.0	43.7	33.3	35.4	3.3	-34.7	0.0	0.6	48.4	38.0	74	54	-25.6	-16.0	H		
9.648	3.0	44.4	32.6	37.5	3.7	-35.0	0.0	0.8	51.3	39.6	74	54	-22.7	-14.4	Noise floor		
Mid Ch 2437MHz																	
4.874	3.0	57.8	49.1	33.8	2.8	-34.9	0.0	0.6	60.1	51.4	74	54	-13.9	-2.6	V		
7.311	3.0	55.4	48.3	35.5	3.3	-34.7	0.0	0.6	60.2	53.1	74	54	-13.8	-0.9	V		
9.748	3.0	47.3	42.3	37.5	3.7	-35.0	0.0	0.8	54.3	49.3	74	54	-19.7	-4.7	V		
12.185	3.0	42.7	30.6	38.5	4.3	-32.4	0.0	0.9	54.0	41.9	74	54	-20.0	-12.1	Noise floor		
4.874	3.0	50.0	48.0	33.8	2.8	-34.9	0.0	0.6	52.3	50.4	74	54	-21.7	-3.6	H		
7.311	3.0	48.3	42.6	35.5	3.3	-34.7	0.0	0.6	53.1	47.4	74	54	-20.9	-6.6	H		
9.748	3.0	43.4	5.9	37.5	3.7	-35.0	0.0	0.8	50.5	12.9	74	54	-23.5	-41.1	H		
12.185	3.0	42.3	30.2	38.5	4.3	-32.4	0.0	0.9	53.6	41.6	74	54	-20.4	-12.4	Noise floor		
High Ch 2462MHz																	
4.924	3.0	51.5	48.6	33.8	2.8	-34.9	0.0	0.6	53.9	51.0	74	54	-20.1	-3.0	V		
7.386	3.0	45.1	35.0	35.6	3.3	-34.6	0.0	0.6	50.0	39.9	74	54	-24.0	-14.1	V		
9.848	3.0	44.2	35.5	37.6	3.7	-35.1	0.0	0.8	51.3	42.6	74	54	-22.7	-11.4	V		
12.310	3.0	43.5	30.0	38.5	4.4	-32.4	0.0	0.9	54.9	41.4	74	54	-19.1	-12.6	Noise floor		
4.924	3.0	47.0	42.0	33.8	2.8	-34.9	0.0	0.6	49.4	44.4	74	54	-24.6	-9.6	H		
7.386	3.0	43.4	32.3	35.6	3.3	-34.6	0.0	0.6	48.4	37.3	74	54	-25.6	-16.7	H		
9.848	3.0	44.1	30.8	37.6	3.7	-35.1	0.0	0.8	51.2	37.9	74	54	-22.8	-16.1	H		
12.310	3.0	41.6	30.1	38.5	4.4	-32.4	0.0	0.9	53.0	41.5	74	54	-21.0	-12.5	Noise floor		
No other spurious emissions were detected above 5th harmonics.																	
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										

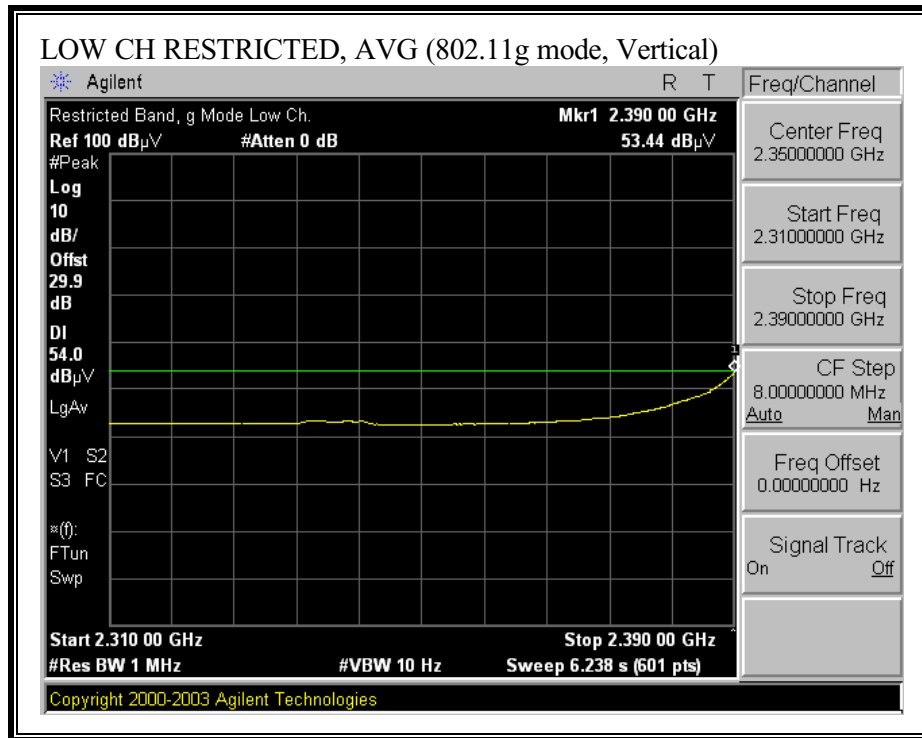
**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)**



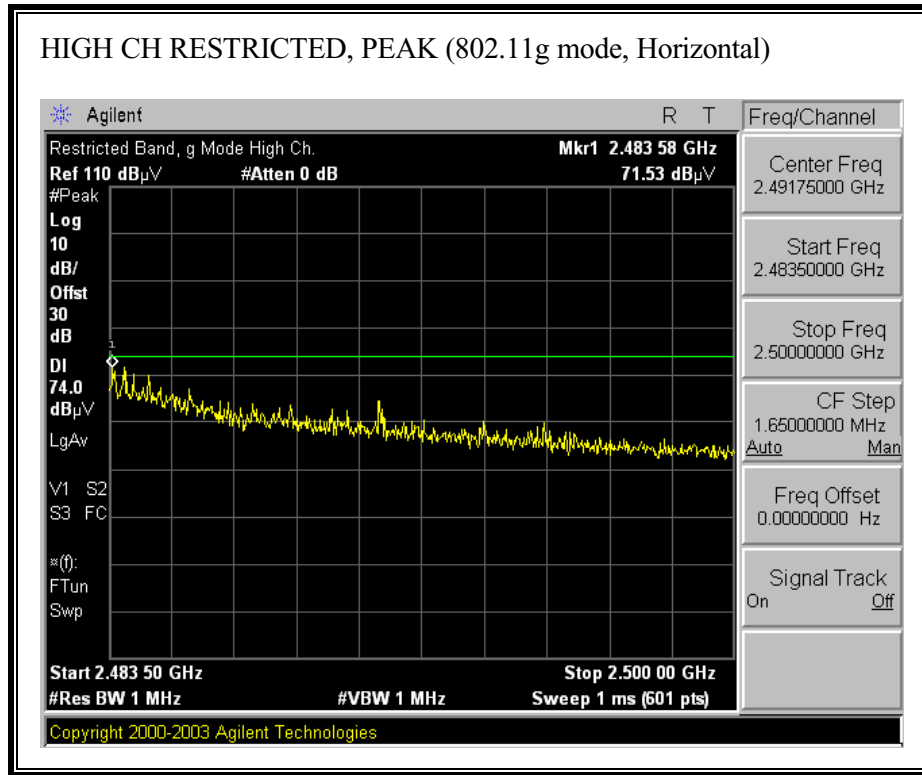


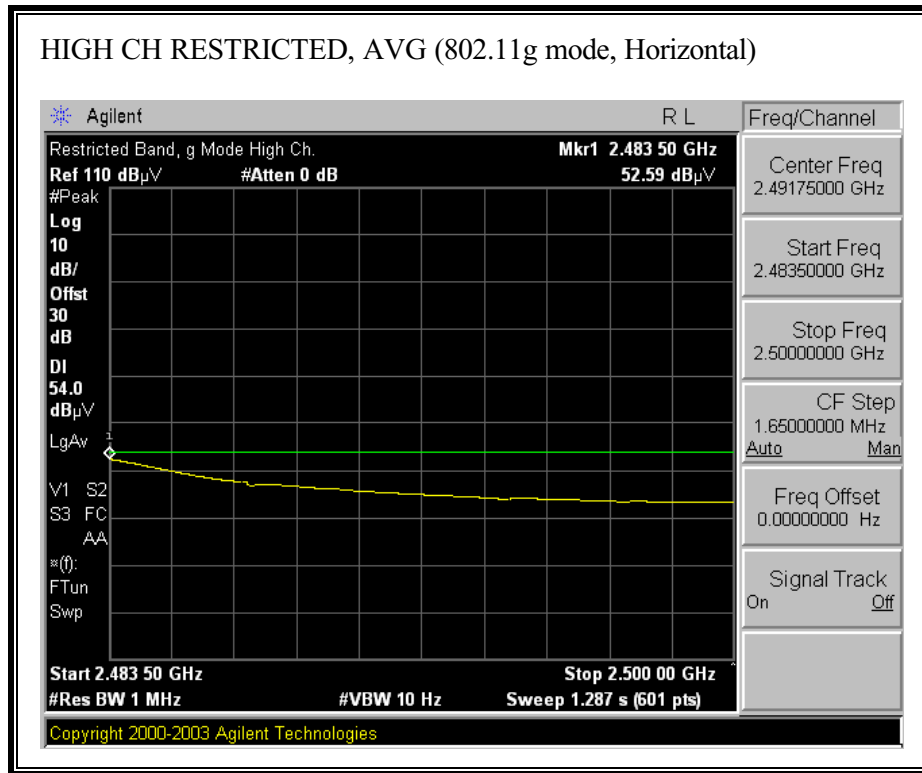
**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)**



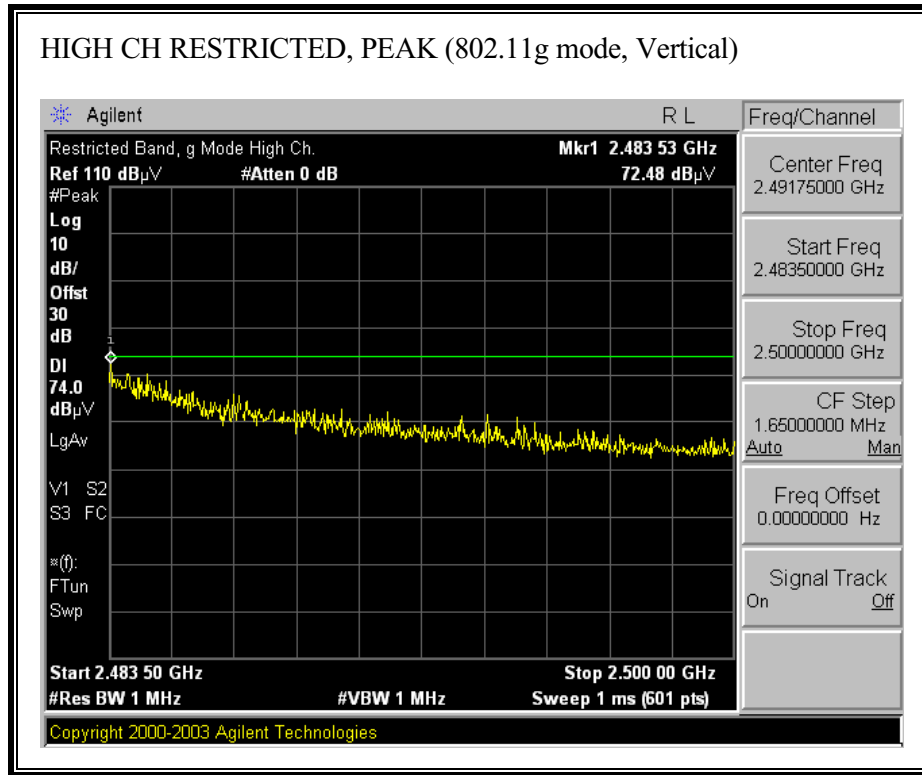


**RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)**

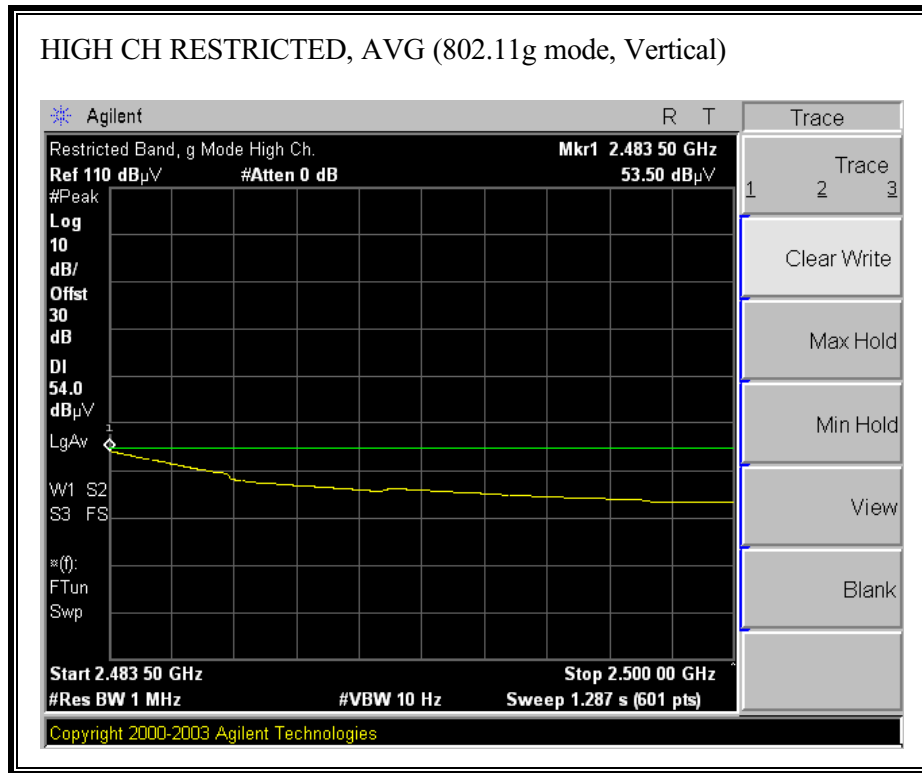




**RESTRICTED BANDEGE (g MODE, HIGH CHANNEL, VERTICAL)**





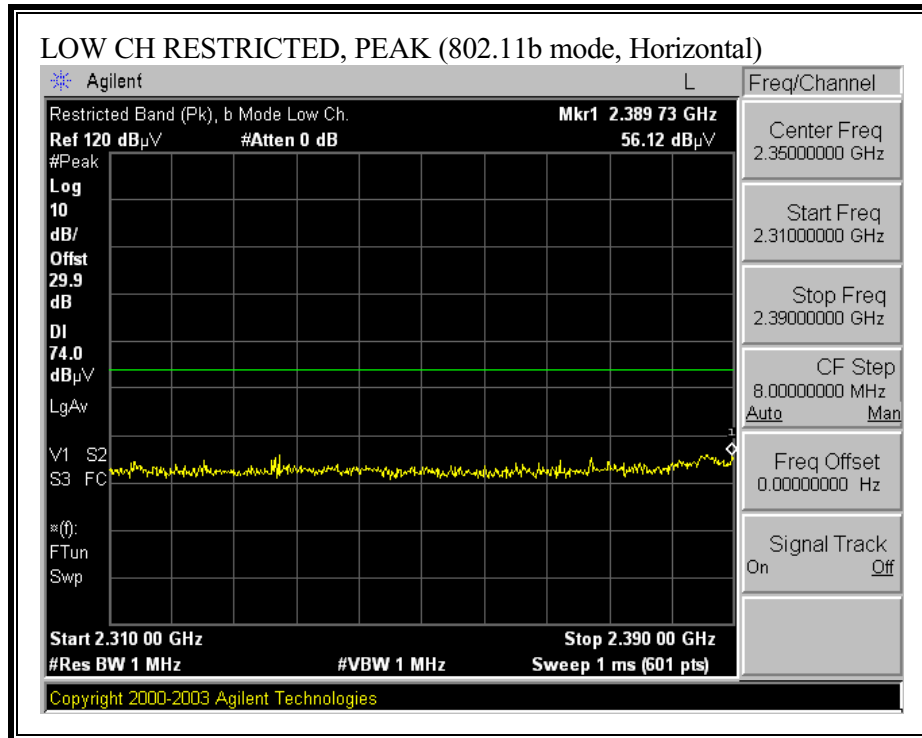


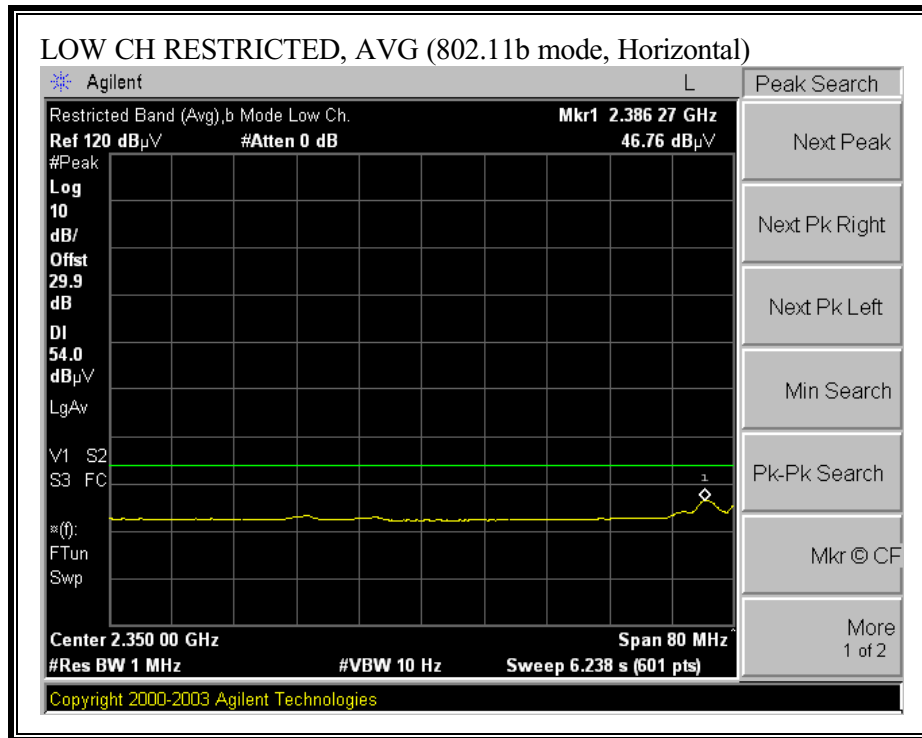
# HARMONICS AND SPURIOUS EMISSIONS (g MODE)

04/06/06 High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site  Test Engineer: Thanh Nguyen Project #: 06U10176-2 Company: HONA R&D Co. LTD EUT Description: WIRELESS ACCESS POINT EUT M/N: 70410-QAB Test Target: FCC Part 15.247 Mode Of Operation: Transmit g mode with Internal Antenna.																																													
<b>Test Equipment:</b>																																													
Horn 1-18GHz		Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz		Horn > 18GHz		Limit																																					
T73; S/N: 6717 @3m		T145 Agilent 3008A0056						FCC 15.209																																					
Hi Frequency Cables																																													
2 foot cable		3 foot cable		12 foot cable		HPF		Reject Filter		Peak Measurements RBW=VBW=1MHz Average Measurements RBW=1MHz ; VBW=10Hz																																			
Thanh 177079008				Thanh 208946003		HPF_4.0GHz																																							
f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filt dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)																														
<b>Harmonics Spurious</b>																																													
<b>Low Ch 2412 MHz</b>																																													
4.824	3.0	50.9	37.5	33.7	2.8	-34.8	0.0	0.6	53.1	39.7	74	54	-20.9	-14.3	V																														
7.236	3.0	52.0	39.2	35.4	3.3	-34.7	0.0	0.6	56.7	43.9	74	54	-17.3	-10.1	V																														
9.648	3.0	44.0	31.8	37.5	3.7	-35.0	0.0	0.8	50.9	38.8	74	54	-23.1	-15.2	Noise floor																														
4.824	3.0	45.2	32.9	33.7	2.8	-34.8	0.0	0.6	47.4	35.2	74	54	-26.6	-18.8	H																														
7.236	3.0	50.0	37.3	35.4	3.3	-34.7	0.0	0.6	54.7	42.0	74	54	-19.3	-12.0	H																														
9.648	3.0	43.8	31.9	37.5	3.7	-35.0	0.0	0.8	50.8	38.8	74	54	-23.2	-15.2	Noise floor																														
<b>Mid Ch 2437 MHz</b>																																													
4.874	3.0	50.0	37.9	33.8	2.8	-34.9	0.0	0.6	52.3	40.2	74	54	-21.7	-13.8	V																														
7.311	3.0	48.6	36.0	35.5	3.3	-34.7	0.0	0.6	53.4	40.8	74	54	-20.6	-13.2	V																														
9.748	3.0	43.0	31.2	37.5	3.7	-35.0	0.0	0.8	50.1	38.2	74	54	-23.9	-15.8	Noise floor																														
4.874	3.0	43.0	30.2	33.8	2.8	-34.9	0.0	0.6	45.3	32.5	74	54	-28.7	-21.5	H																														
7.311	3.0	45.5	32.1	35.5	3.3	-34.7	0.0	0.6	50.3	36.9	74	54	-23.7	-17.1	H																														
9.748	3.0	42.7	31.2	37.5	3.7	-35.0	0.0	0.8	49.7	38.3	74	54	-24.3	-15.7	Noise floor																														
<b>High Ch 2462 MHz</b>																																													
4.924	3.0	50.4	38.4	33.8	2.8	-34.9	0.0	0.6	52.8	40.8	74	54	-21.2	-13.2	V																														
7.386	3.0	46.6	33.6	35.6	3.3	-34.6	0.0	0.6	51.6	38.6	74	54	-22.4	-15.4	V																														
9.848	3.0	42.9	31.5	37.6	3.7	-35.1	0.0	0.8	50.0	38.6	74	54	-24.0	-15.4	Noise floor																														
4.924	3.0	45.3	31.3	33.8	2.8	-34.9	0.0	0.6	47.7	33.7	74	54	-26.3	-20.3	H																														
7.386	3.0	44.4	32.7	35.6	3.3	-34.6	0.0	0.6	49.3	37.6	74	54	-24.7	-16.4	H																														
9.848	3.0	42.3	30.7	37.6	3.7	-35.1	0.0	0.8	49.4	37.8	74	54	-24.6	-16.2	Noise floor																														
<b>Spurious Emissions</b>																																													
1.000	3.0	56.06	49.58	23.8	1.3	-36.2	0.0	0.0	45.0	38.5	74	54	-29.0	-15.5	V																														
1.103	3.0	62.13	59.47	24.2	1.3	-36.1	0.0	0.0	51.6	48.9	74	54	-22.4	-5.1	V																														
2.241	3.0	57.51	45.62	27.9	2.0	-35.2	0.0	0.0	52.1	40.2	74	54	-21.9	-13.8	V																														
1.200	3.0	54.28	46.69	24.5	1.4	-36.0	0.0	0.0	44.2	36.6	74	54	-29.8	-17.4	V																														
1.099	3.0	57.42	48.08	24.2	1.3	-36.1	0.0	0.0	46.8	37.5	74	54	-27.2	-16.5	H																														
No other spurious emissions were detected above 3rd harmonics.																																													
<table border="0"> <tr> <td>f</td> <td>Measurement Frequency</td> <td>Amp</td> <td>Preamp Gain</td> <td>Avg Lim</td> <td>Average Field Strength Limit</td> </tr> <tr> <td>Dist</td> <td>Distance to Antenna</td> <td>D Corr</td> <td>Distance Correct to 3 meters</td> <td>Pk Lim</td> <td>Peak Field Strength Limit</td> </tr> <tr> <td>Read</td> <td>Analyzer Reading</td> <td>Avg</td> <td>Average Field Strength @ 3 m</td> <td>Avg Mar</td> <td>Margin vs. Average Limit</td> </tr> <tr> <td>AF</td> <td>Antenna Factor</td> <td>Peak</td> <td>Calculated Peak Field Strength</td> <td>Pk Mar</td> <td>Margin vs. Peak Limit</td> </tr> <tr> <td>CL</td> <td>Cable Loss</td> <td>HPF</td> <td>High Pass Filter</td> <td></td> <td></td> </tr> </table>																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	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																																										

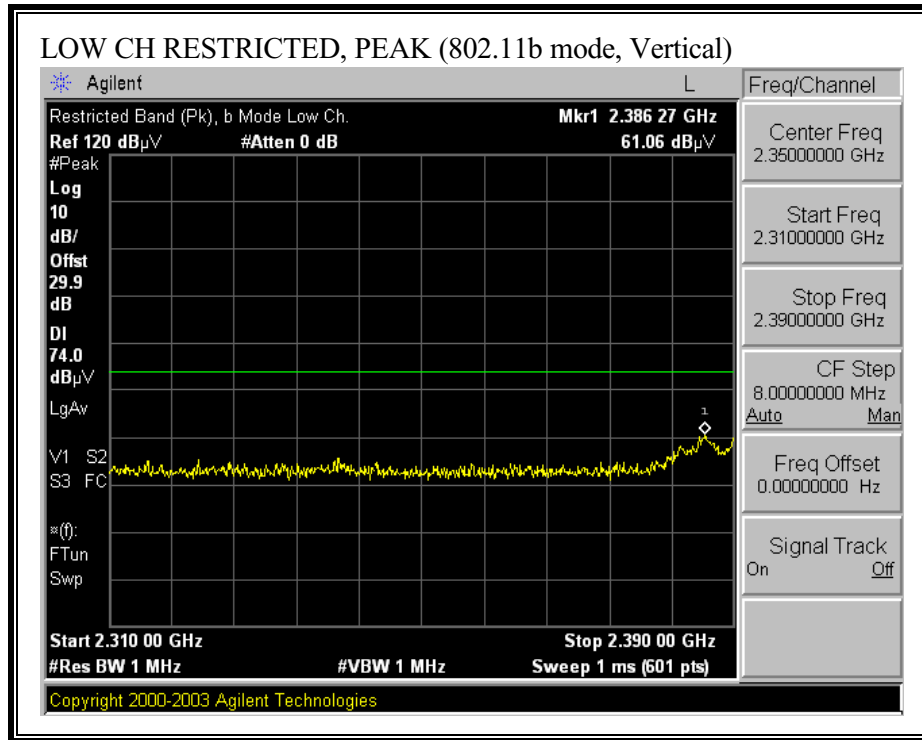
### 7.2.3. TRANSMITTER ABOVE 1 GHz FOR 2400 TO 2483.5 MHz BAND WITH EXTERNAL ANTENNA

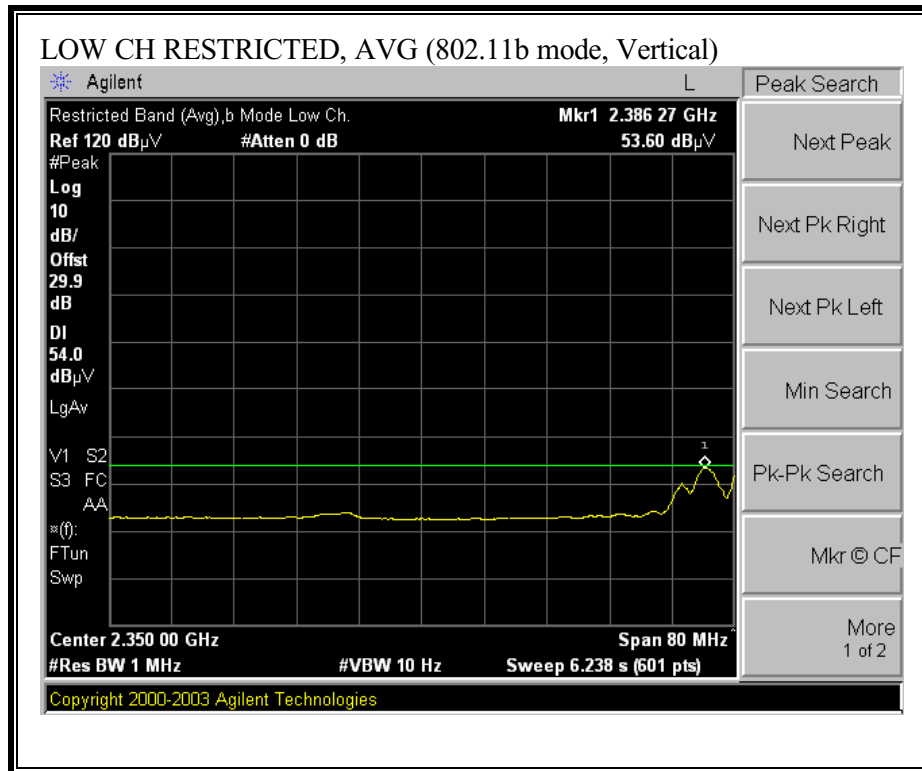
#### RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)



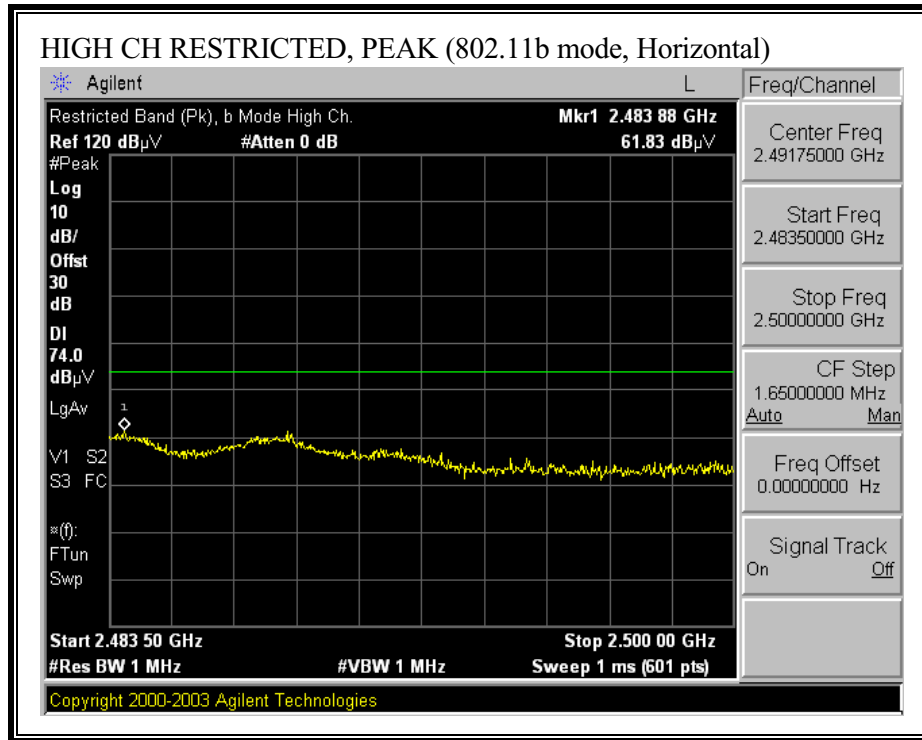


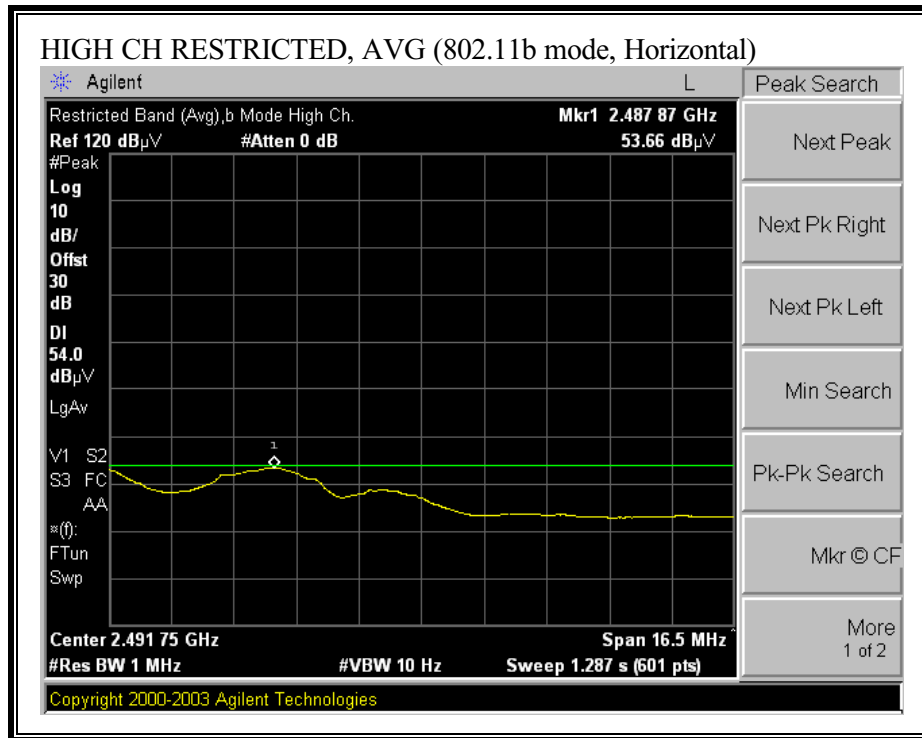
**RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)**





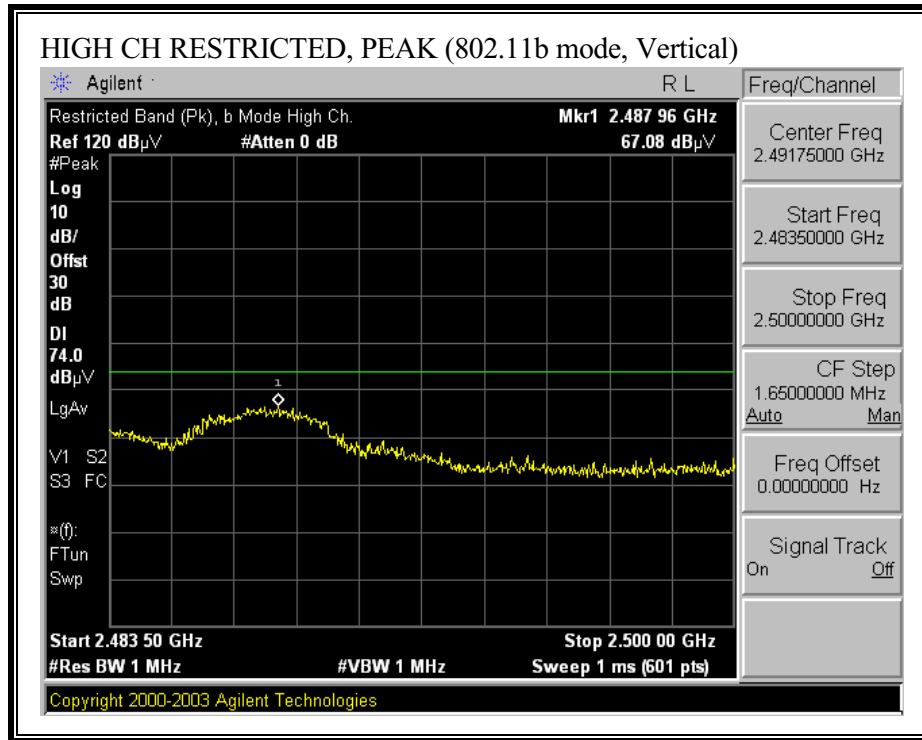
**RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)**

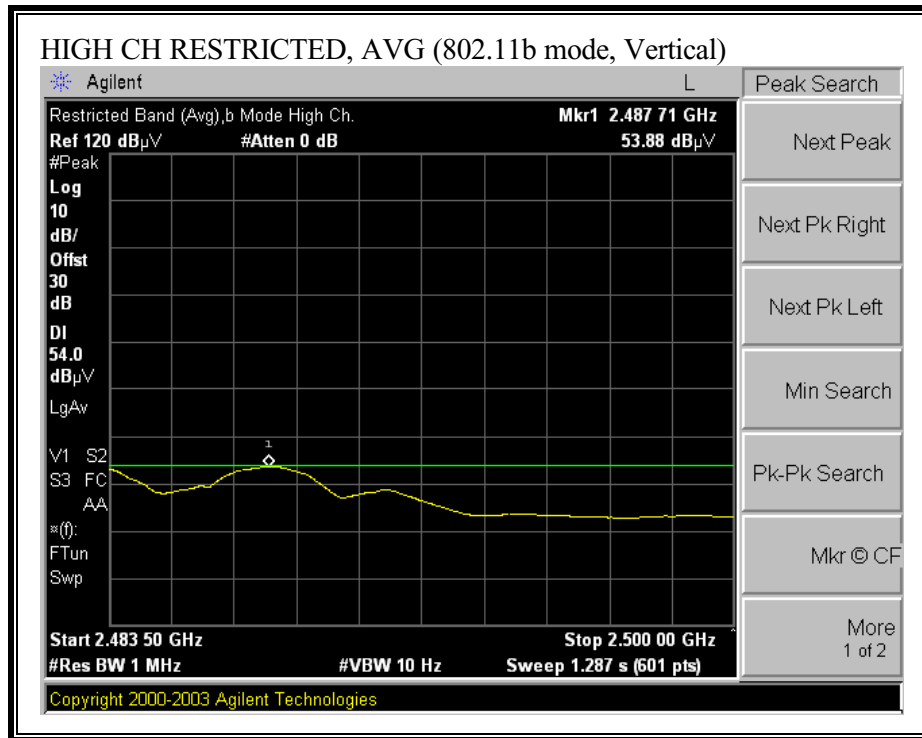






**RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, VERTICAL)**

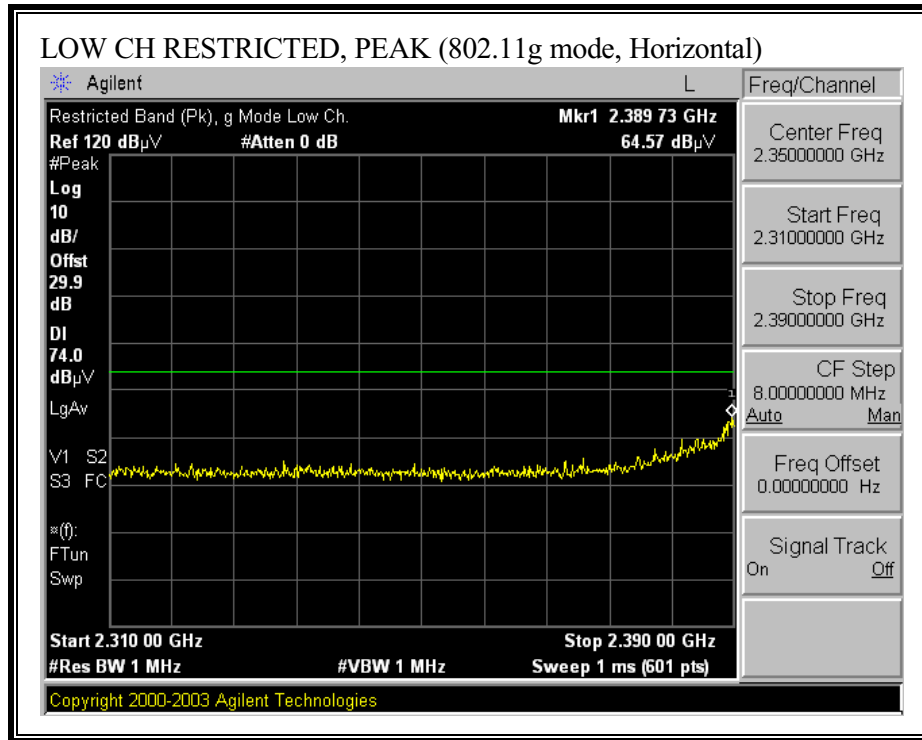


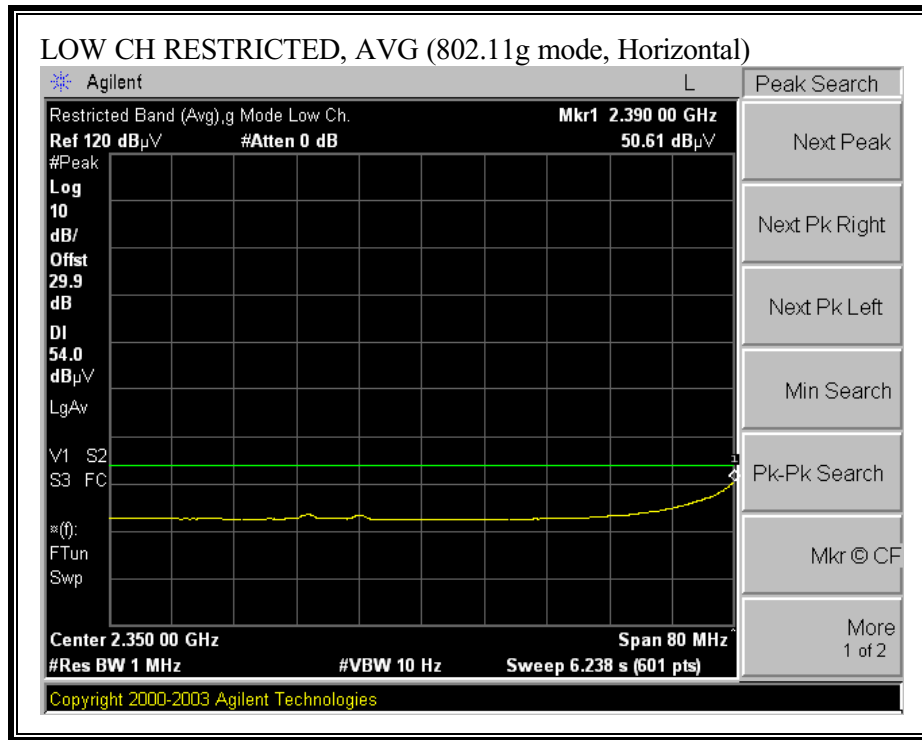


# **HARMONICS AND SPURIOUS EMISSIONS (b MODE)**

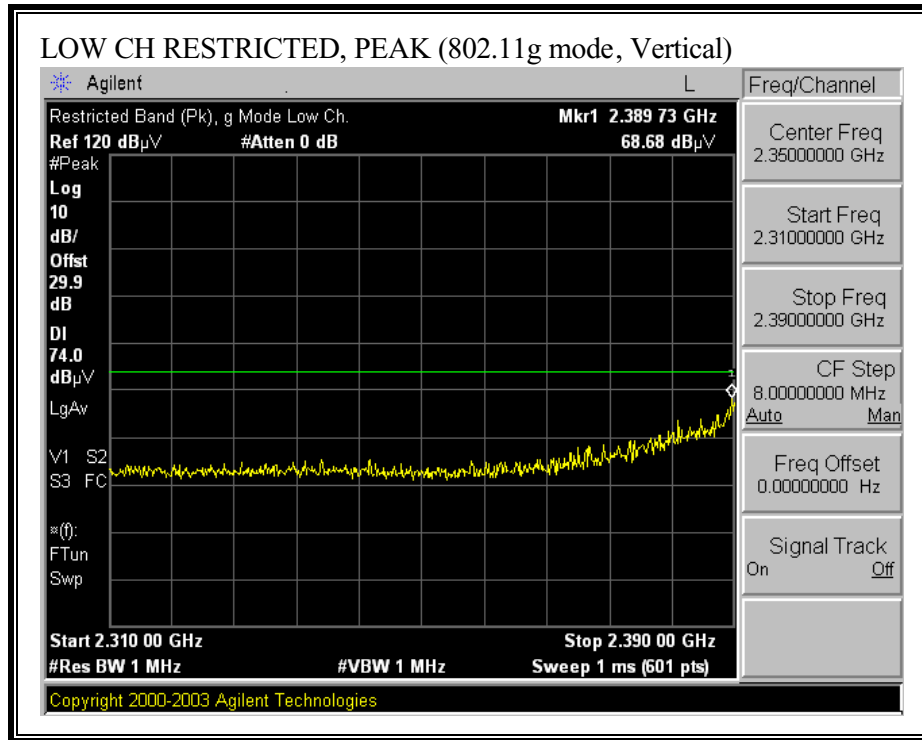
04/06/06 <b>High Frequency Measurement</b> Compliance Certification Services, Morgan Hill Open Field Site  Test Engineer: Thanh Nguyen Project #: 06U101762-2 Company: HONA R&D Co. LTD EUT Description: WIRELESS ACCESS POINT EUT M/N: 70410-QAB Test Target: FCC Part 15.247 Mode Of Operation: Transmit b mode with Ext.Antenna  Test Equipment:															
Horn 1-18GHz		Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz		Horn > 18GHz		Limit							
T73; S/N: 6717 @3m		T144 Miteq 3008A00931						FCC 15.209							
Hi Frequency Cables															
2 foot cable		3 foot cable		12 foot cable		HPF		Reject Filter							
Thanh 177079008				Thanh 208946003		HPF_4.0GHz									
Peak Measurements RBW=VBW=1MHz 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	Fldr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
<b>Low Ch 2412 MHz</b>															
4.824	3.0	53.9	52.2	33.7	2.8	-36.5	0.0	0.6	54.5	52.9	74	54	-19.5	-1.1	V
7.236	3.0	46.7	36.7	35.4	3.3	-36.2	0.0	0.6	49.8	39.8	74	54	-24.2	-14.2	V
9.648	3.0	45.8	37.3	37.5	3.7	-37.0	0.0	0.8	50.8	42.3	74	54	-23.2	-11.7	V
12.060	3.0	44.2	31.8	38.5	4.3	-35.4	0.0	0.9	52.5	40.1	74	54	-21.5	-13.9	Noise floor
4.824	3.0	54.9	52.5	33.7	2.8	-36.5	0.0	0.6	55.5	53.1	74	54	-18.5	-0.9	H
7.236	3.0	46.6	37.1	35.4	3.3	-36.2	0.0	0.6	49.7	40.2	74	54	-24.3	-13.8	H
9.648	3.0	44.2	32.5	37.5	3.7	-37.0	0.0	0.8	49.2	37.5	74	54	-24.8	-16.5	Noise floor
12.060	3.0	44.8	32.9	38.5	4.3	-35.4	0.0	0.9	53.1	41.2	74	54	-20.9	-12.8	Noise floor
<b>Mid Cha 2437MHz</b>															
4.874	3.0	54.2	51.7	33.8	2.8	-36.5	0.0	0.6	55.0	52.5	74	54	-19.0	-1.5	H
7.311	3.0	46.9	33.9	35.5	3.3	-36.2	0.0	0.6	50.1	37.1	74	54	-23.9	-16.9	H
9.748	3.0	45.8	37.4	37.5	3.7	-37.0	0.0	0.8	50.8	42.5	74	54	-23.2	-11.5	H
12.185	3.0	45.2	34.6	38.5	4.3	-35.4	0.0	0.9	53.5	43.0	74	54	-20.5	-11.0	Noise floor
14.622	3.0	45.8	35.2	40.2	4.6	-35.3	0.0	0.9	56.1	45.6	74	54	-17.9	-8.4	Noise floor
4.874	3.0	51.9	48.6	33.8	2.8	-36.5	0.0	0.6	52.6	49.3	74	54	-21.4	-4.7	V
7.311	3.0	45.8	33.1	35.5	3.3	-36.2	0.0	0.6	49.1	36.3	74	54	-24.9	-17.7	V
9.748	3.0	45.8	36.2	37.5	3.7	-37.0	0.0	0.8	50.9	41.3	74	54	-23.1	-12.7	V
12.185	3.0	44.1	31.7	38.5	4.3	-35.4	0.0	0.9	52.5	40.0	74	54	-21.5	-14.0	Noise floor
14.622	3.0	45.6	31.5	40.2	4.6	-35.3	0.0	0.9	56.0	41.9	74	54	-18.0	-12.1	Noise floor
<b>High Ch 2462MHz</b>															
4.924	3.0	53.6	51.3	33.8	2.8	-36.5	0.0	0.6	54.4	52.1	74	54	-19.6	-1.9	V
7.386	3.0	51.3	41.6	35.6	3.3	-36.2	0.0	0.6	54.7	45.0	74	54	-19.3	-9.0	V
9.848	3.0	46.8	39.9	37.6	3.7	-37.0	0.0	0.8	52.0	45.0	74	54	-22.0	-9.0	V
12.310	3.0	43.7	31.9	38.5	4.4	-35.4	0.0	0.9	52.0	40.2	74	54	-22.0	-13.8	Noise floor
4.924	3.0	55.1	53.1	33.8	2.8	-36.5	0.0	0.6	55.9	53.9	74	54	-18.1	-0.1	H
7.386	3.0	42.4	30.4	35.6	3.3	-36.2	0.0	0.6	45.7	33.8	74	54	-28.3	-20.2	Noise floor
No other spurious emissions were detected above 5th harmonics.															
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											

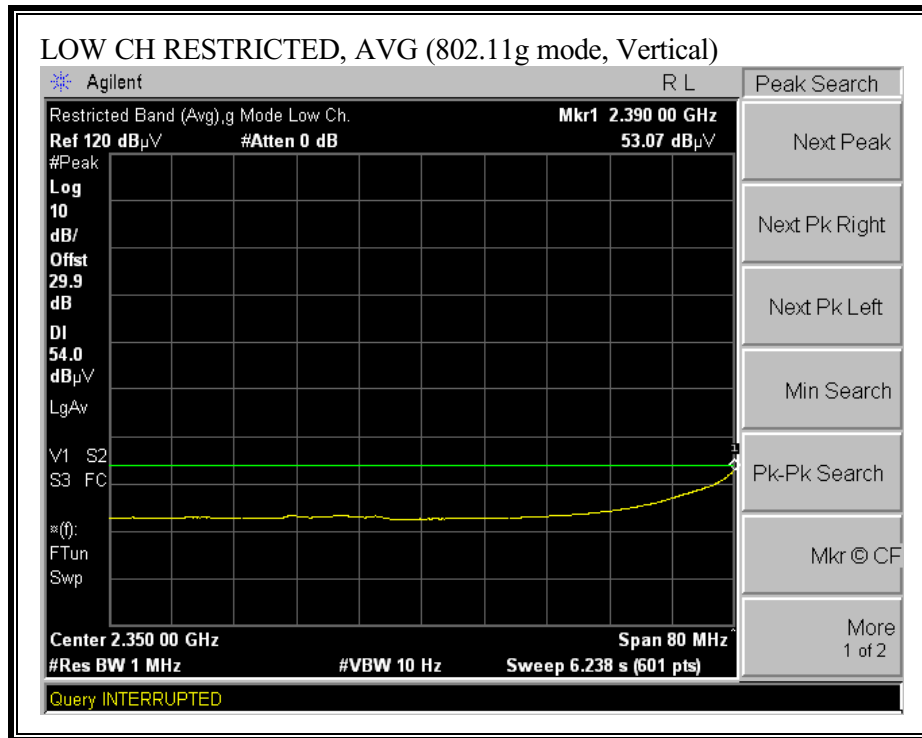
**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)**



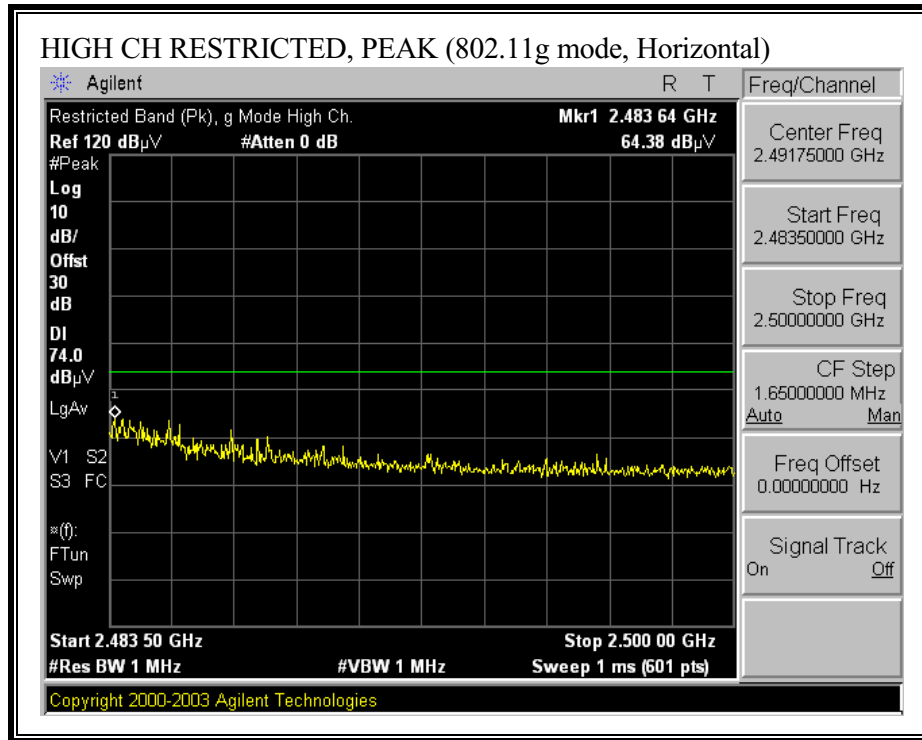


**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)**

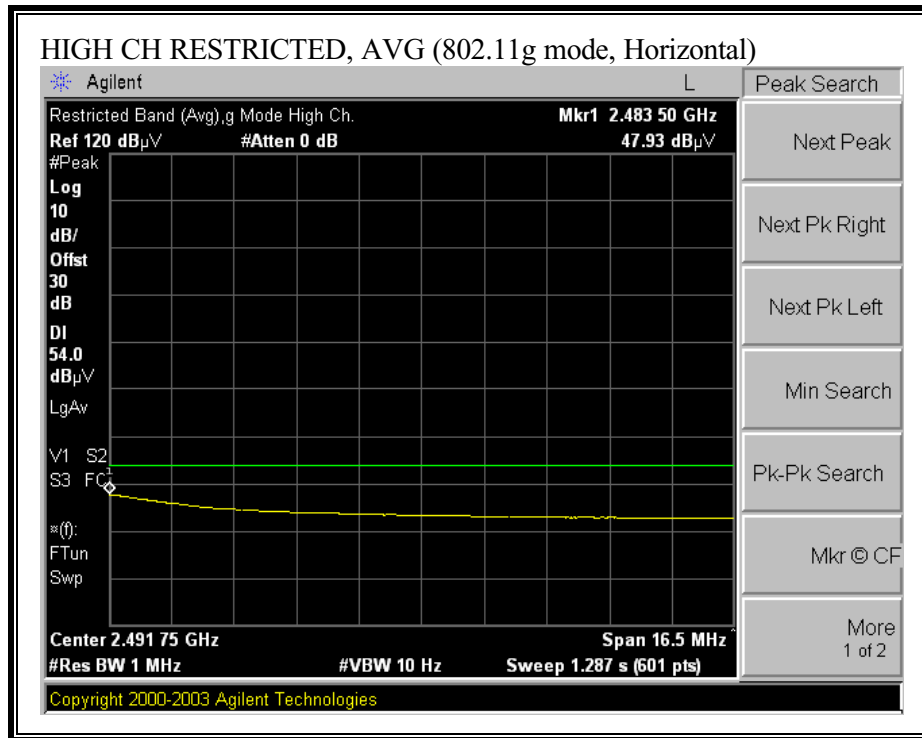




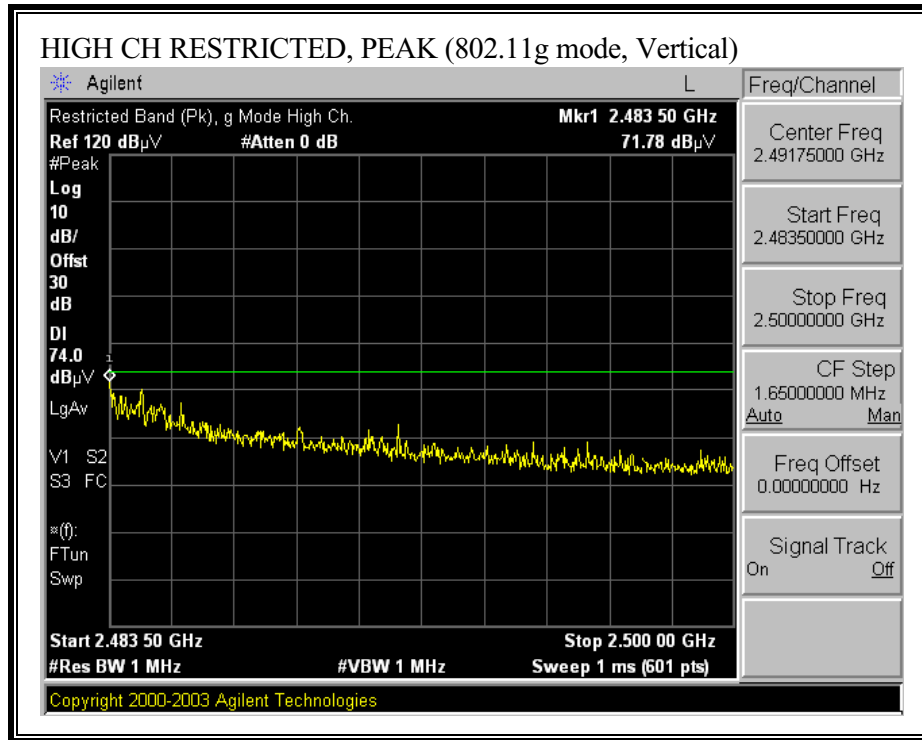
**RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)**

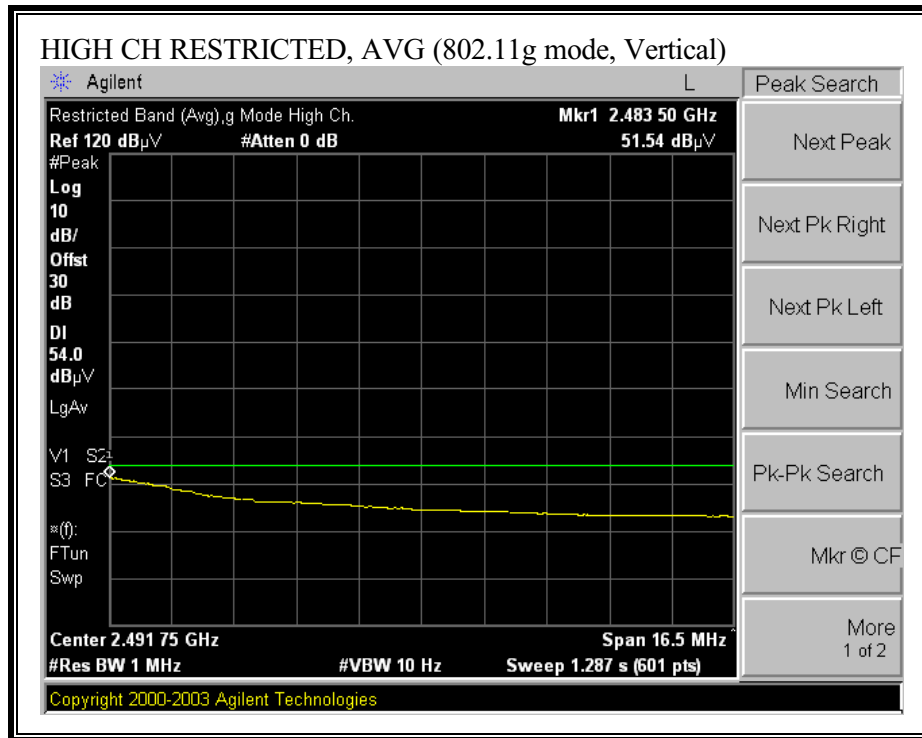






**RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)**





# HARMONICS AND SPURIOUS EMISSIONS (g MODE)

04/06/06 High Frequency Measurement  
Compliance Certification Services, Morgan Hill Open Field Site

Test Engineer: Thanh Nguyen  
Project #: 06U101762-2  
Company: HONA R&D Co. LTD  
EUT Description: WIRELESS ACCESS POINT  
EUT M/N: 70410-QAB  
Test Target: FCC Part 15.247  
Mode Of Operation: Transmit g mode with External Antenna

## Test Equipment:

<b>Horn 1-18GHz</b>	<b>Pre-amplifier 1-26GHz</b>	<b>Pre-amplifier 26-40GHz</b>	<b>Horn &gt; 18GHz</b>	<b>Limit</b>
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			FCC 15.209

<b>Hi Frequency Cables</b>			<b>HPF</b>	<b>Reject Filter</b>	<b>Peak Measurements</b> RBW=VBW=1MHz
<b>2 foot cable</b>	<b>3 foot cable</b>	<b>12 foot cable</b>			<b>Average Measurements</b> RBW=1MHz ; VBW=10Hz
Thanh 177079008		Thanh 208946003	HPF_4.0GHz		

f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF dB/in	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)
<b>Low Ch 2412 MHz</b>															
4.824	3.0	49.9	36.7	33.7	2.8	-36.5	0.0	0.6	50.5	37.3	74	54	-23.5	-16.7	V
7.236	3.0	53.8	39.1	35.4	3.3	-36.2	0.0	0.6	56.9	42.3	74	54	-17.1	-11.7	V
9.648	3.0	45.1	33.6	37.5	3.7	-37.0	0.0	0.8	50.1	38.7	74	54	-23.9	-15.3	Noise floor
4.824	3.0	46.0	33.8	33.7	2.8	-36.5	0.0	0.6	46.6	34.4	74	54	-27.4	-19.6	H
7.236	3.0	46.8	34.5	35.4	3.3	-36.2	0.0	0.6	49.9	37.6	74	54	-24.1	-16.4	H
9.648	3.0	45.2	33.3	37.5	3.7	-37.0	0.0	0.8	50.2	38.3	74	54	-23.8	-15.7	Noise floor
<b>Mid Ch 2437 MHz</b>															
4.874	3.0	48.3	35.4	33.8	2.8	-36.5	0.0	0.6	49.0	36.1	74	54	-25.0	-17.9	V
7.311	3.0	50.9	35.6	35.5	3.3	-36.2	0.0	0.6	54.1	38.8	74	54	-19.9	-15.2	V
9.748	3.0	47.0	33.8	37.5	3.7	-37.0	0.0	0.8	52.1	38.9	74	54	-21.9	-15.1	Noise floor
4.874	3.0	46.7	33.6	33.8	2.8	-36.5	0.0	0.6	47.4	34.3	74	54	-26.6	-19.7	H
7.311	3.0	46.3	33.5	35.5	3.3	-36.2	0.0	0.6	49.5	36.8	74	54	-24.5	-17.2	H
9.748	3.0	48.9	35.7	37.5	3.7	-37.0	0.0	0.8	53.9	40.7	74	54	-20.1	-13.3	Noise floor
<b>High Ch 2462 MHz</b>															
4.924	3.0	49.0	36.8	33.8	2.8	-36.5	0.0	0.6	49.8	37.6	74	54	-24.2	-16.4	V
7.386	3.0	50.3	34.4	35.6	3.3	-36.2	0.0	0.6	53.7	37.8	74	54	-20.3	-16.2	V
9.848	3.0	44.5	32.2	37.6	3.7	-37.0	0.0	0.8	49.6	37.3	74	54	-24.4	-16.7	Noise floor
4.924	3.0	44.5	33.8	33.8	2.8	-36.5	0.0	0.6	45.3	34.6	74	54	-28.7	-19.4	H
7.386	3.0	44.9	30.6	35.6	3.3	-36.2	0.0	0.6	48.2	33.9	74	54	-25.8	-20.1	H
9.848	3.0	43.5	32.2	37.6	3.7	-37.0	0.0	0.8	48.7	37.3	74	54	-25.3	-16.7	Noise floor

No other spurious emissions were detected above 3rd harmonics.

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		

## 7.2.4. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

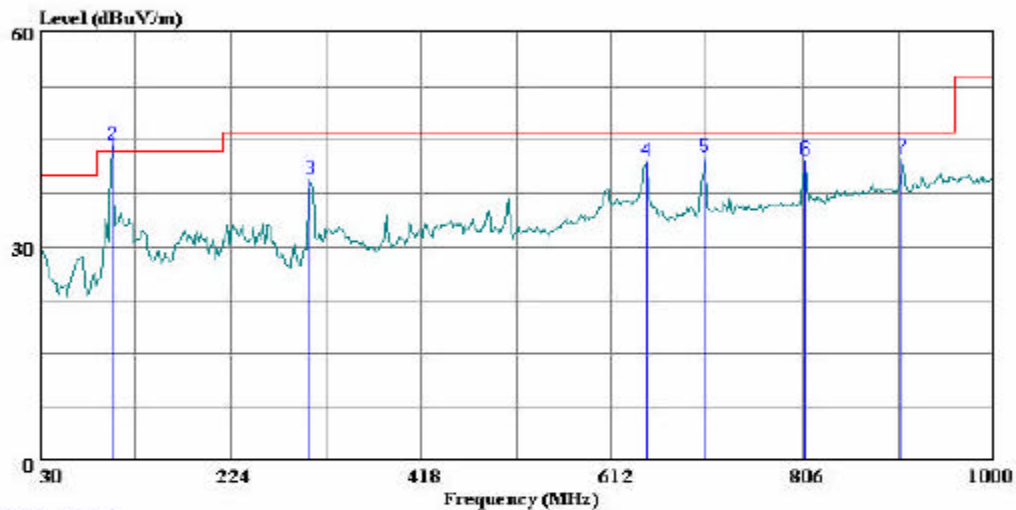
### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

#### HORIZONTAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 10 File#: Ap.emi Date: 04-06-2006 Time: 08:45:38



(Auxiliary ATC)

Trace: 7

Ref Trace:

Condition: FCC CLASS-B HORIZONTAL  
Test Operator : Thanh Nguyen  
Project # : 06J10176  
Company : HONDA R&D Co., LTD.  
EUT : Wireless Access Point  
Model No : 70410-QAB  
S/N : N/A  
Configuration : EUT w/external antennas only  
Mode of operation: Tx worst case  
Target of Test : FCC 15.247 class B, DGT Class B

HORIZONTAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	104.690	30.40	12.38	42.78	43.50	-0.72	QP
2 *	104.690	31.94	12.38	44.32	43.50	0.82	Peak
3	305.480	23.70	15.80	39.50	46.00	-6.50	Peak
4	647.890	19.56	22.29	41.85	46.00	-4.15	Peak
5	708.030	19.41	23.23	42.64	46.00	-3.36	Peak
6	807.940	17.39	24.69	42.08	46.00	-3.92	Peak
7	906.880	16.41	26.01	42.42	46.00	-3.58	Peak

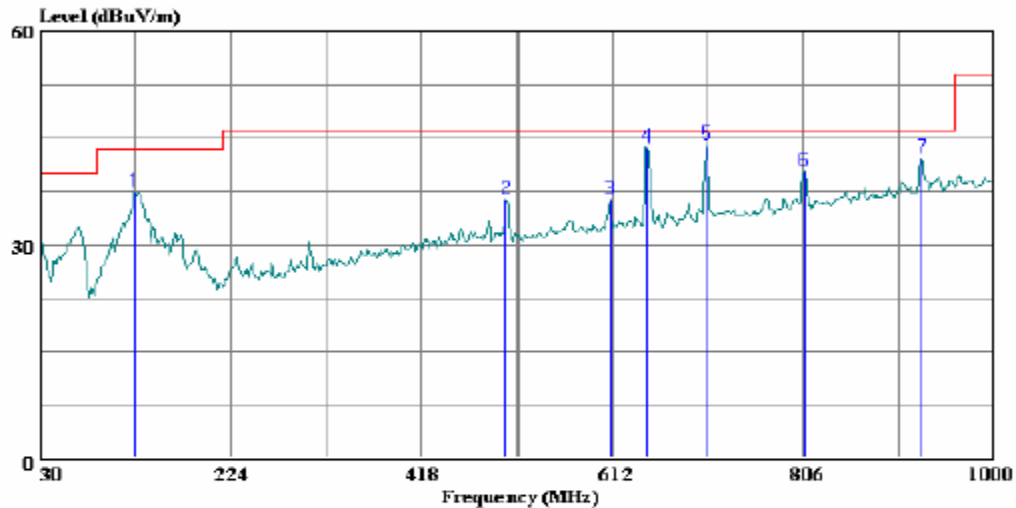
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

VERTICAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 4 File#: AP.EMI Date: 04-05-2006 Time: 14:42:07



(Auxiliary ATC)

Trace: 3

Ref Trace:

Condition: FCC CLASS-B VERTICAL  
Test Operator : Thanh Nguyen  
Project # : 06J10176  
Company : HONDA R&D Co., LTD.  
EUT : Wireless Access Point  
Model No : 70410-QAB  
S/N : N/A  
Configuration : EUT w/external antennas only  
Mode of operation: Tx worst case  
Target of Test : FCC 15.247 class B, DGT Class B

VERTICAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	127.000	22.11	15.22	37.34	43.50	-6.16	Peak
2	504.330	16.17	20.26	36.43	46.00	-9.57	Peak
3	609.090	14.62	21.66	36.28	46.00	-9.72	Peak
4	645.950	21.28	22.25	43.53	46.00	-2.47	Peak
5	708.030	20.80	23.23	44.03	46.00	-1.97	Peak
6	806.970	15.67	24.66	40.33	46.00	-5.67	Peak
7	926.280	15.99	26.23	42.22	46.00	-3.78	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  $\mu$ 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**

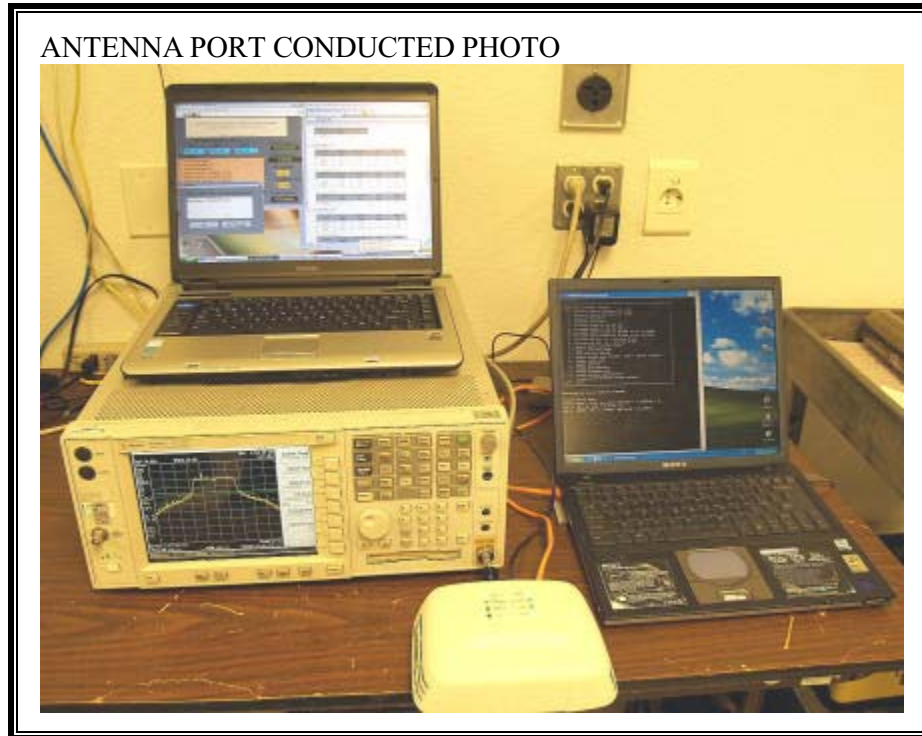
CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.21	50.72	--	--	0.00	63.41	53.41	-12.69	-2.69	L1
2.69	37.16	--	--	0.00	56.00	46.00	-18.84	-8.84	L1
12.12	41.00	--	--	0.00	60.00	50.00	-19.00	-9.00	L1
0.20	52.76	--	--	0.00	63.45	53.45	-10.69	-0.69	L2
2.46	38.36	--	--	0.00	56.00	46.00	-17.64	-7.64	L2
12.38	41.26	--	--	0.00	60.00	50.00	-18.74	-8.74	L2
6 Worst Data									





## 8. SETUP PHOTOS

### ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP



**RADIATED RF MEASUREMENT SETUP**

RADIATED FRONT PHOTO

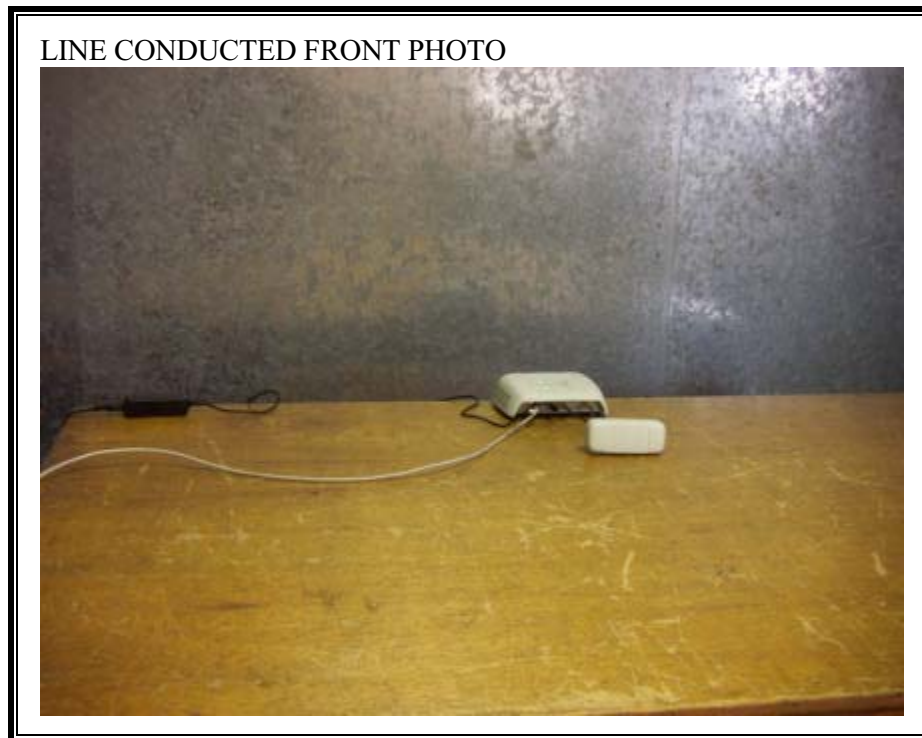


RADIATED BACK PHOTO





**POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP**





LINE CONDUCTED BACK PHOTO



**END OF REPORT**