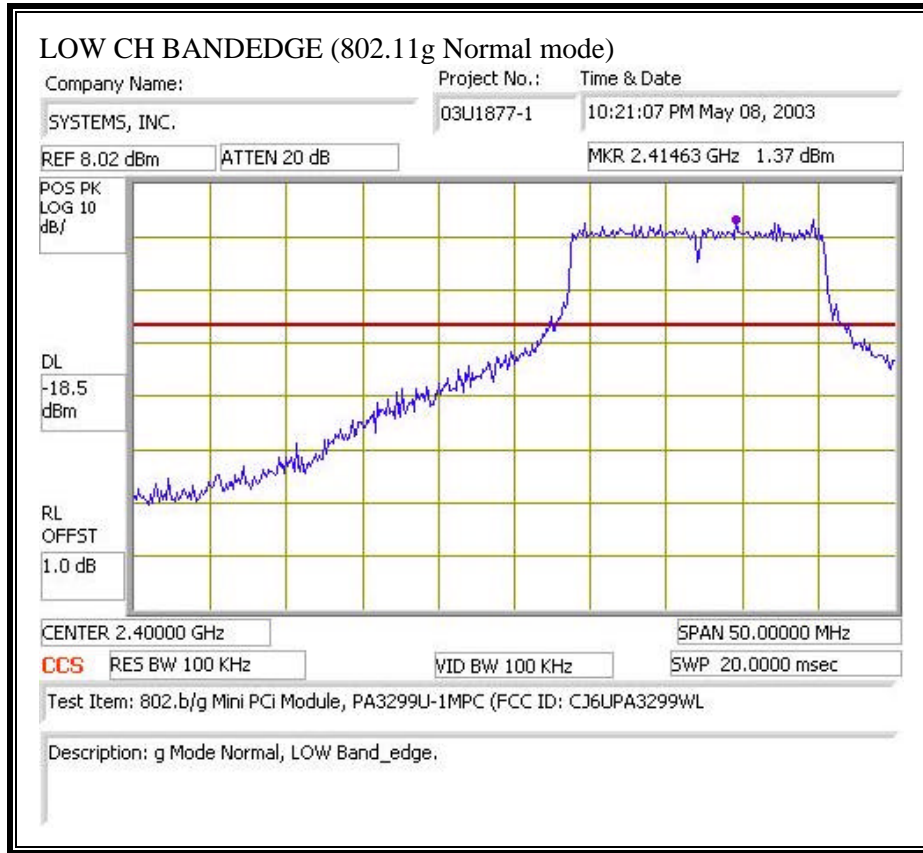
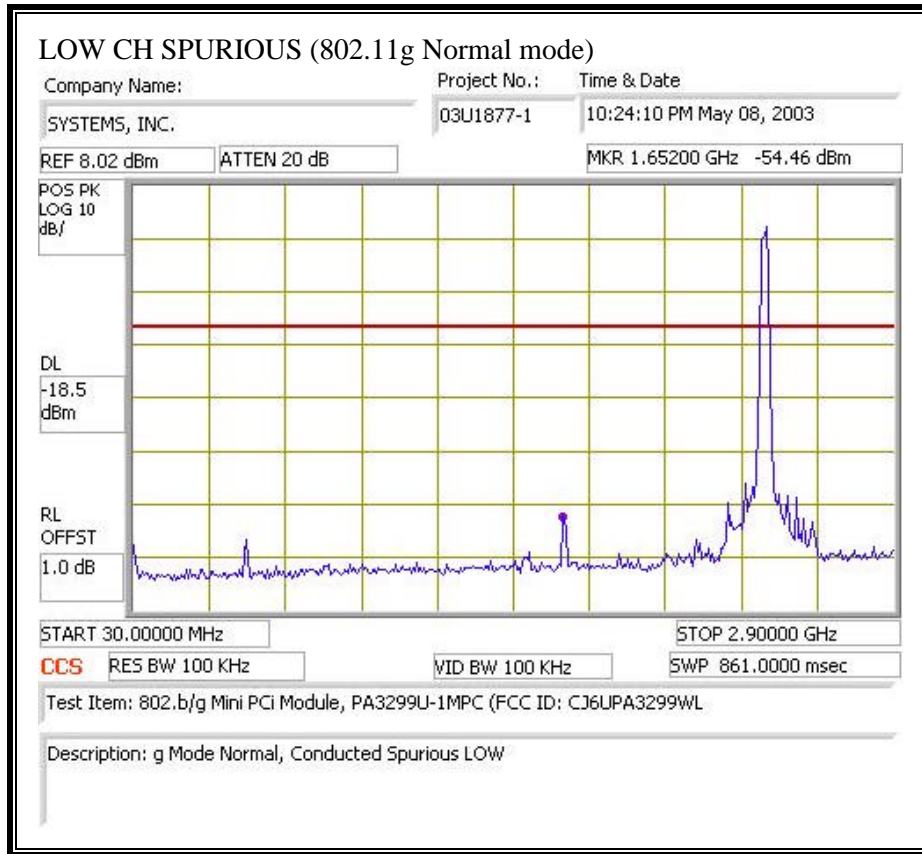
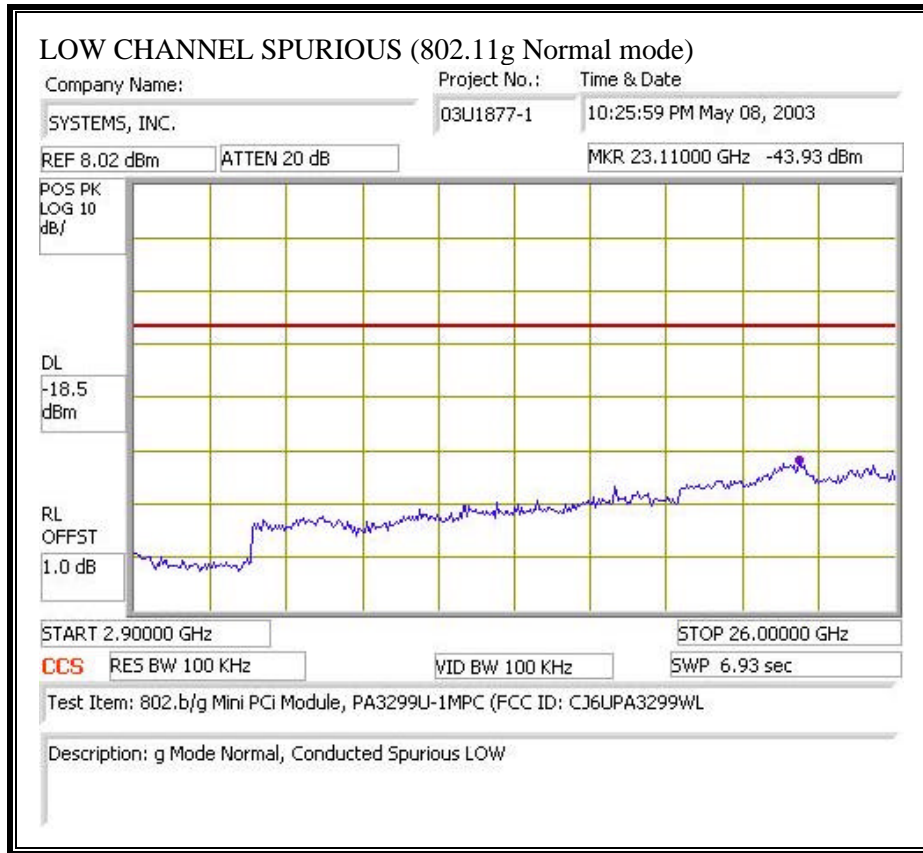


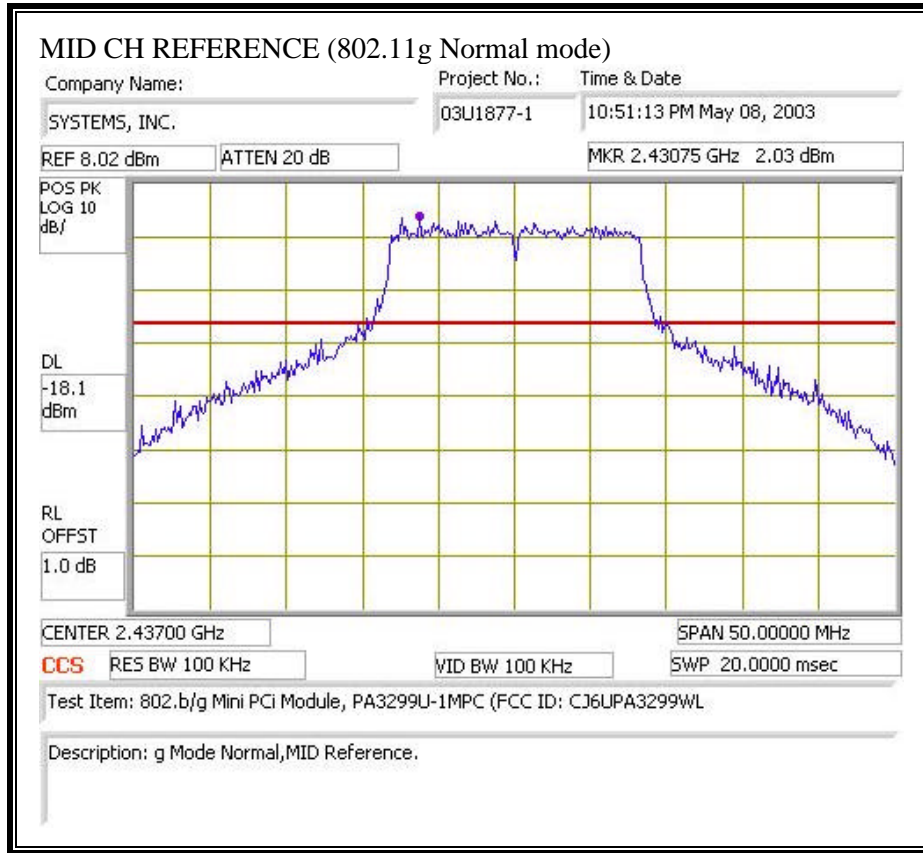
SPURIOUS EMISSIONS, LOW CHANNEL (802.11g NORMAL MODE)

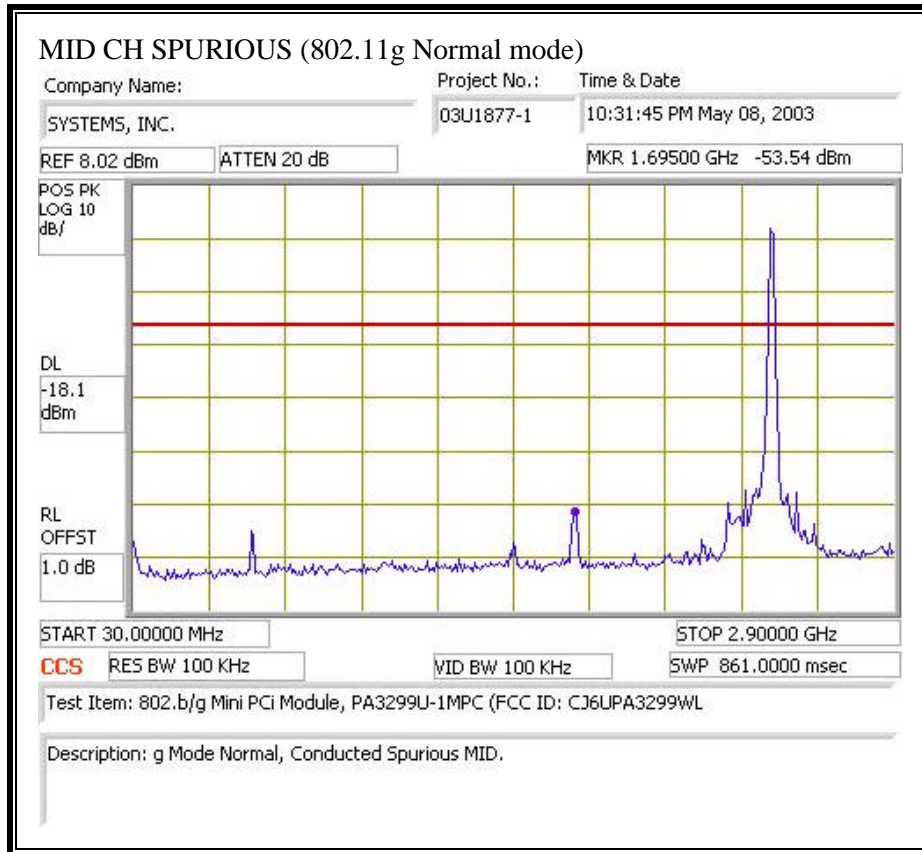


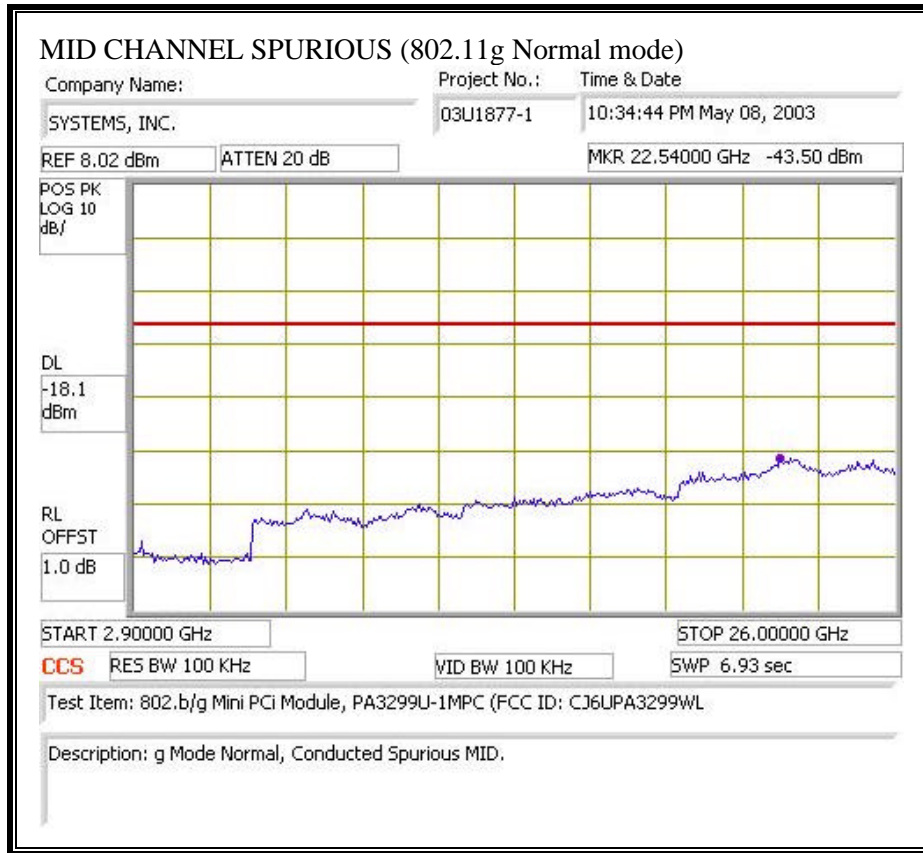




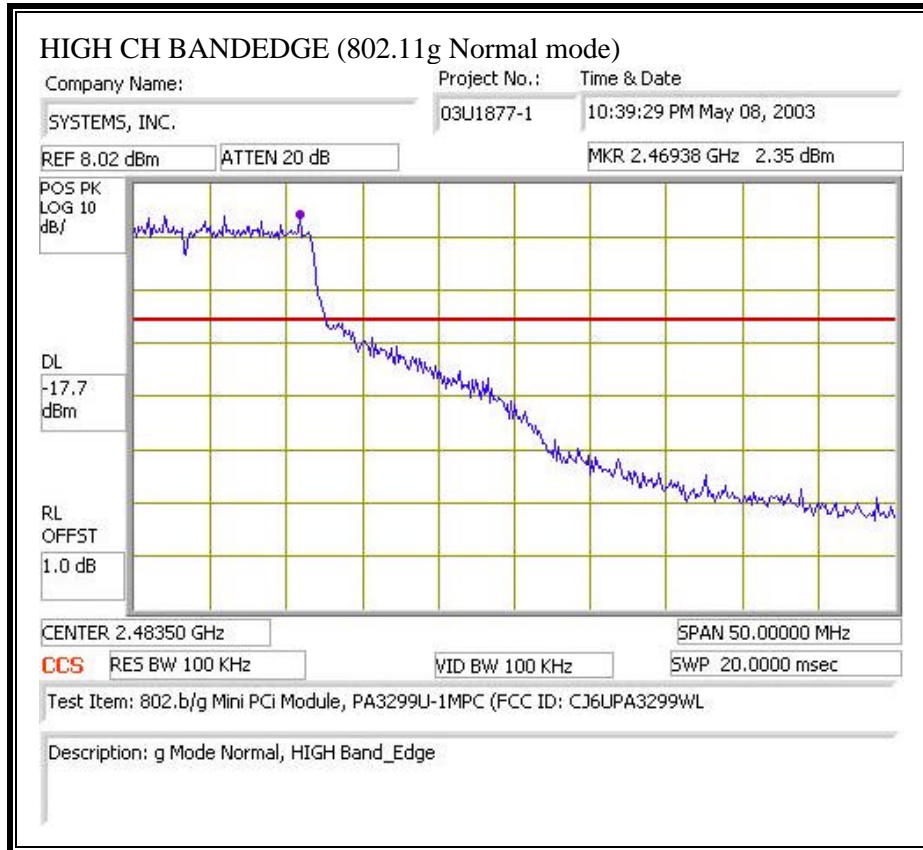
SPURIOUS EMISSIONS, MID CHANNEL (802.11g NORMAL MODE)

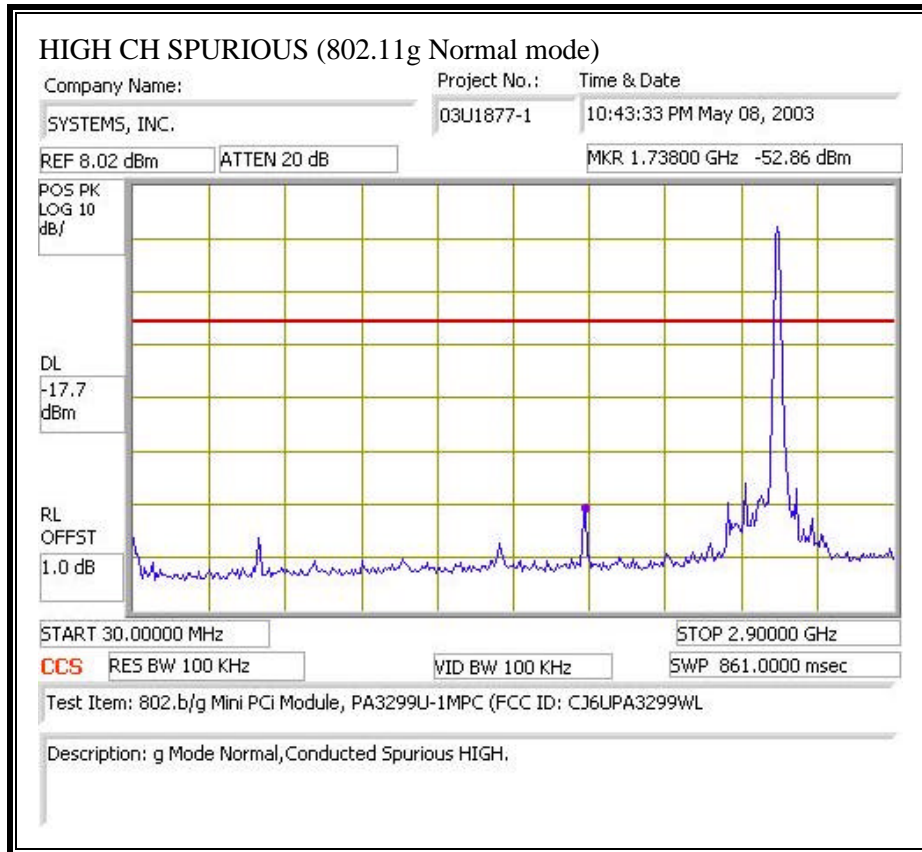


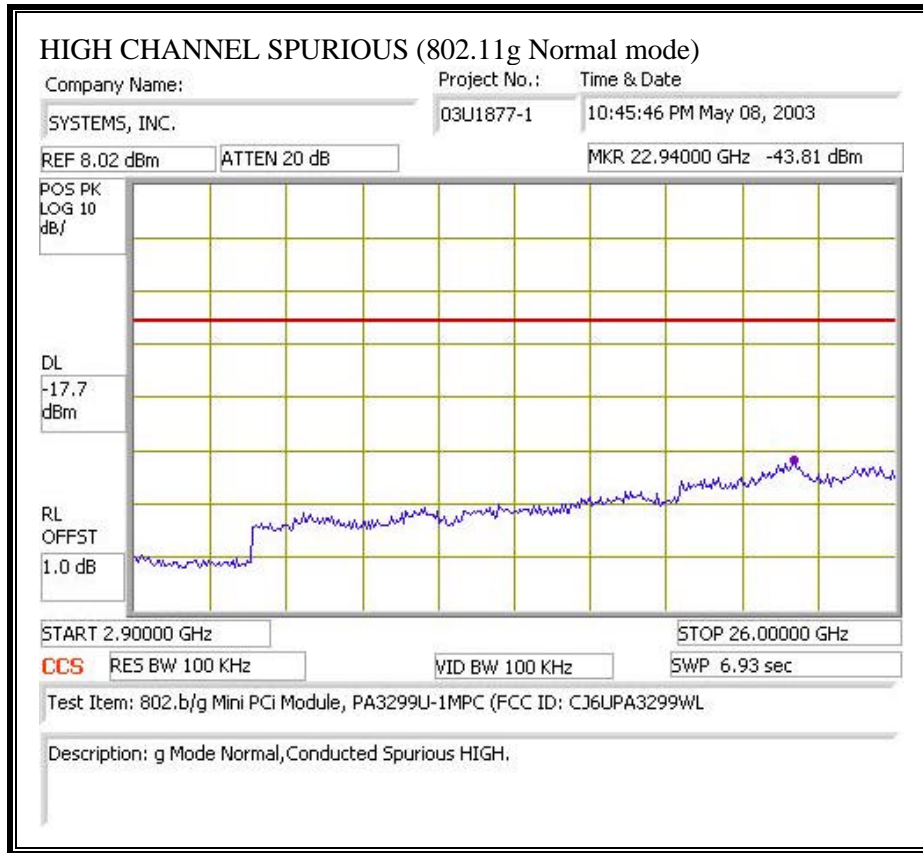




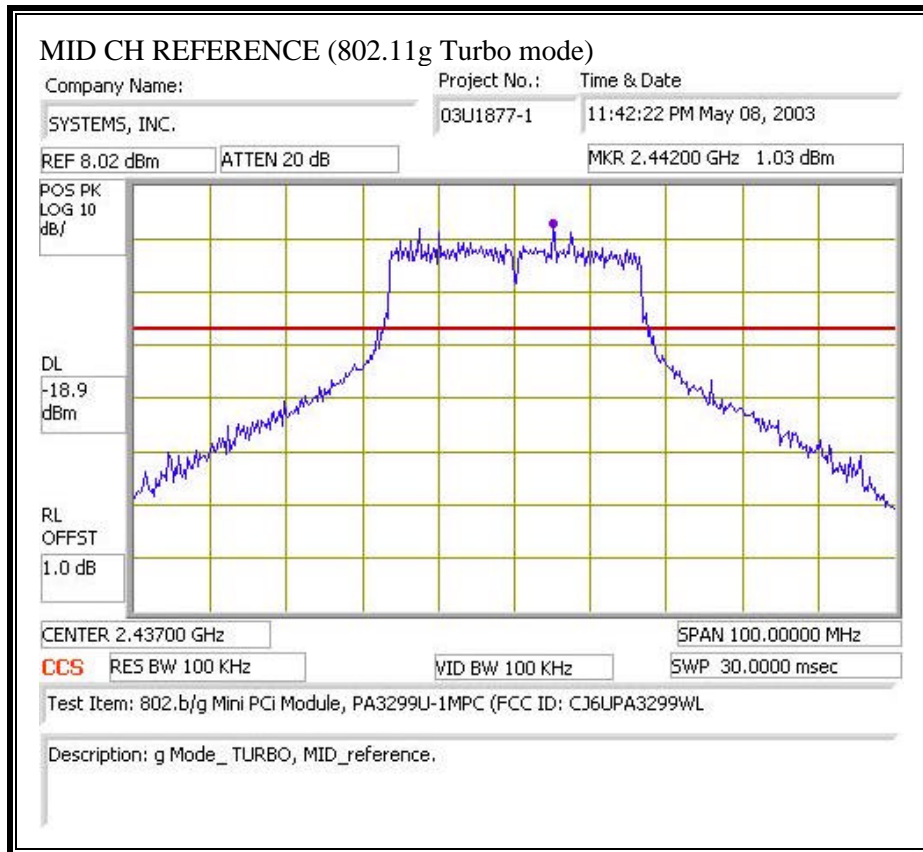
SPURIOUS EMISSIONS, HIGH CHANNEL (802.11g NORMAL MODE)

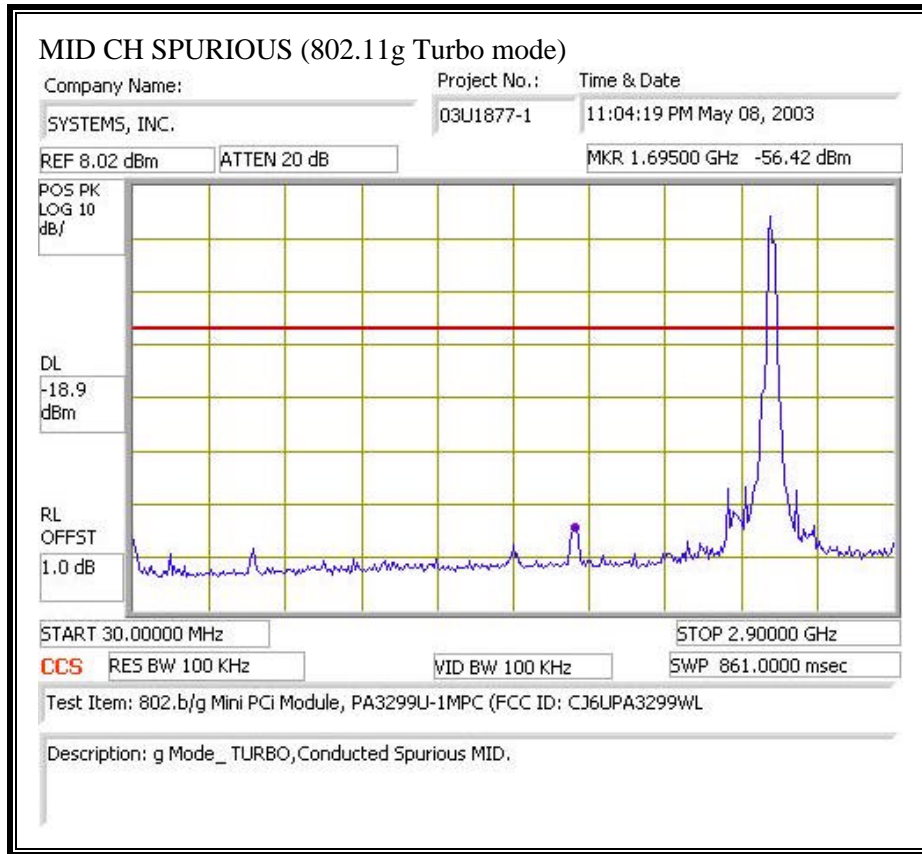


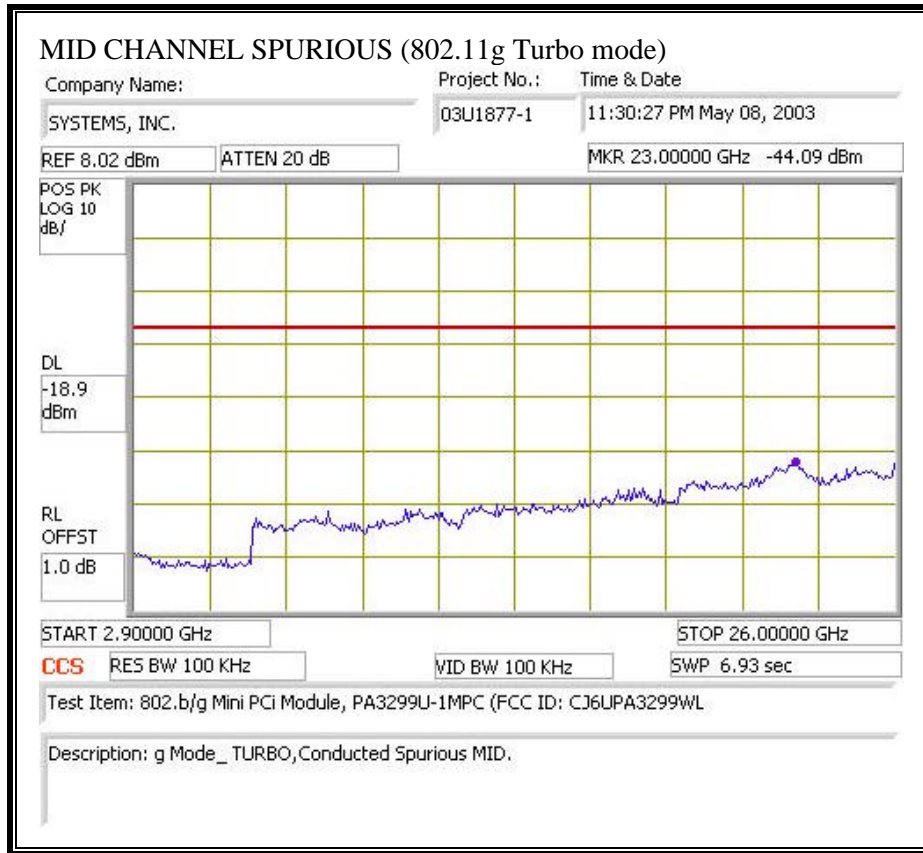




SPURIOUS EMISSIONS, MID CHANNEL (802.11g TURBO MODE)







7.6. RADIATED 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.

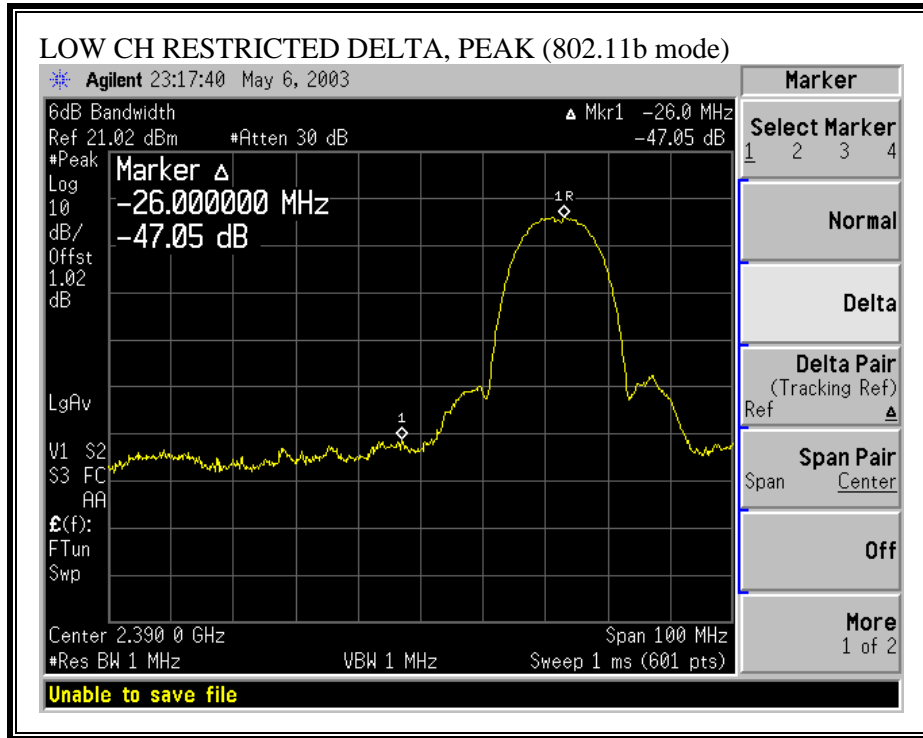
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

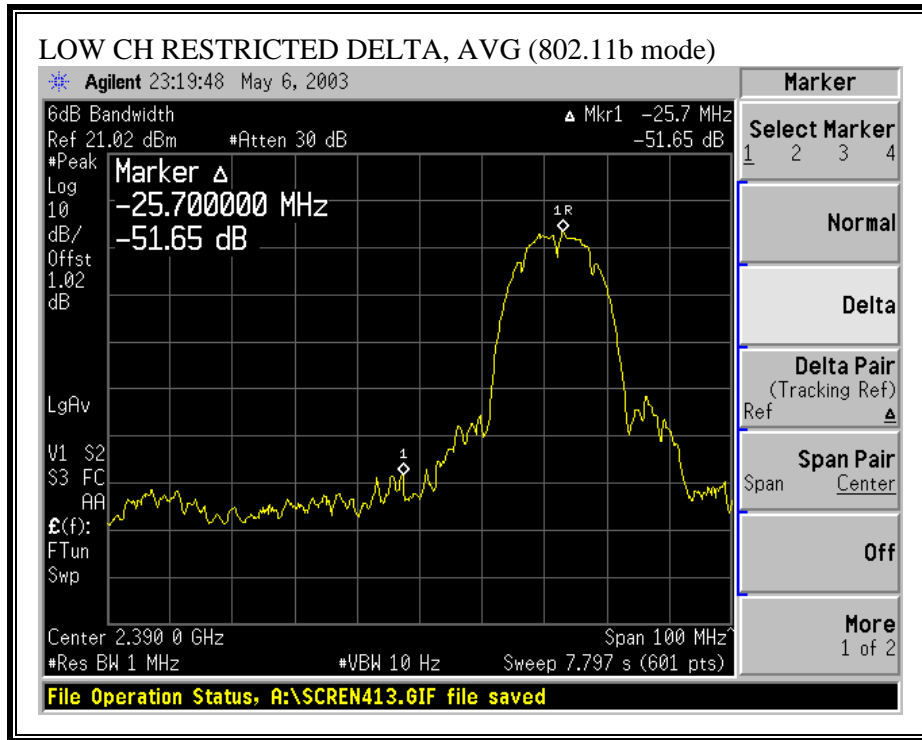
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

RESULTS

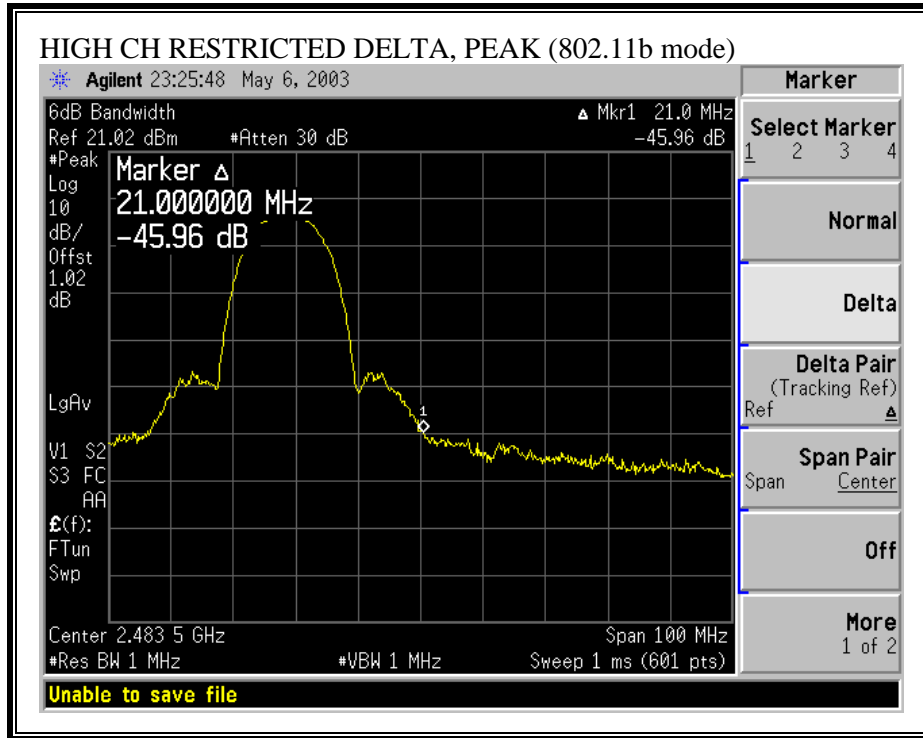
No non-compliance noted:

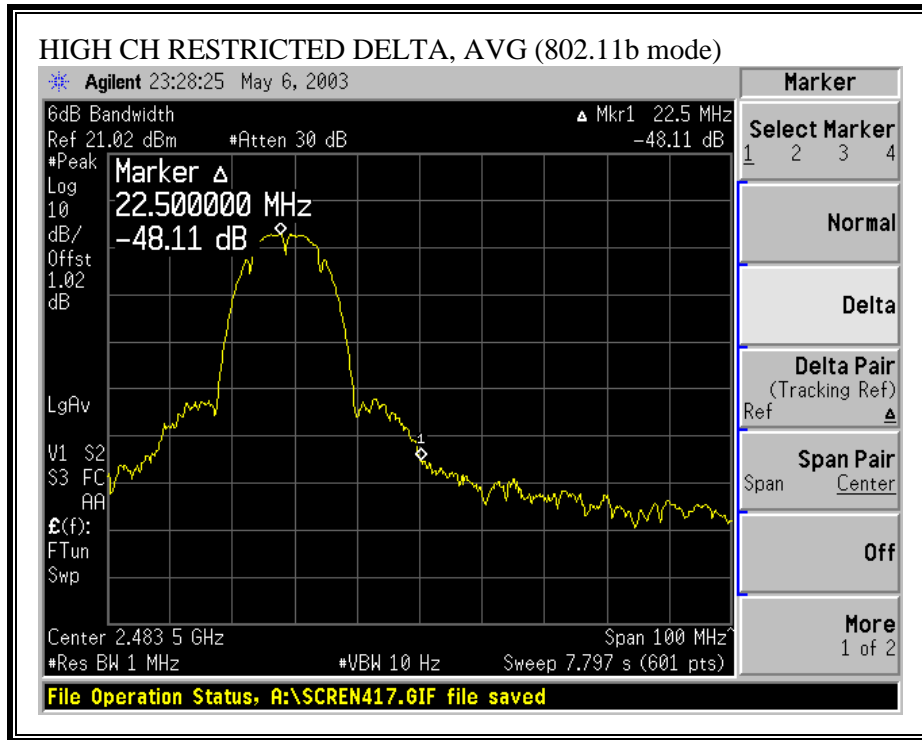
RESTRICTED BANDEDGE DELTA (b MODE, LOW CHANNEL)



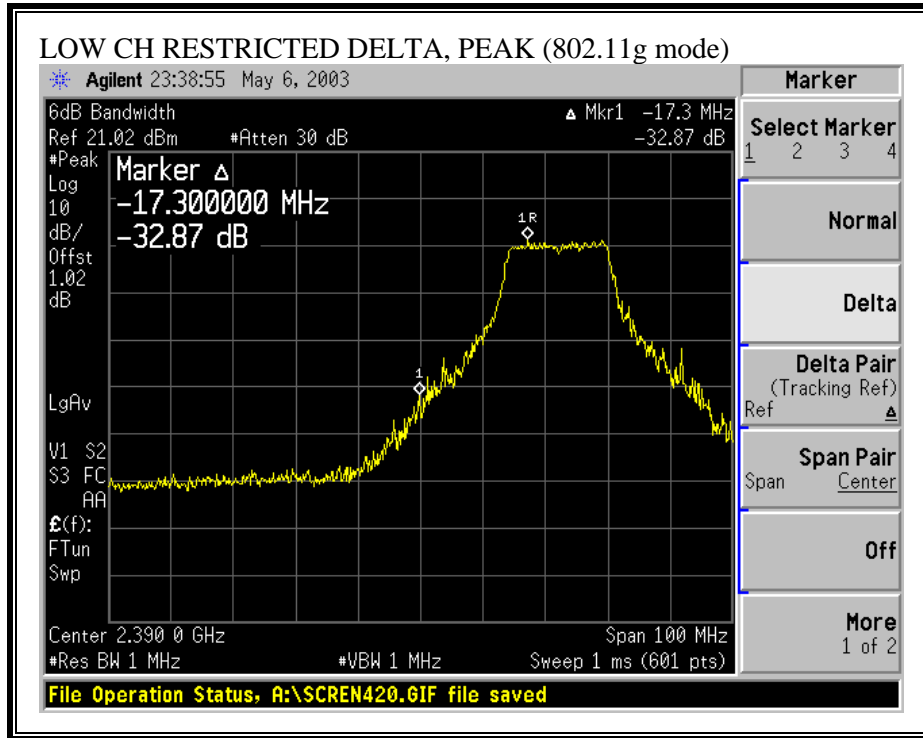


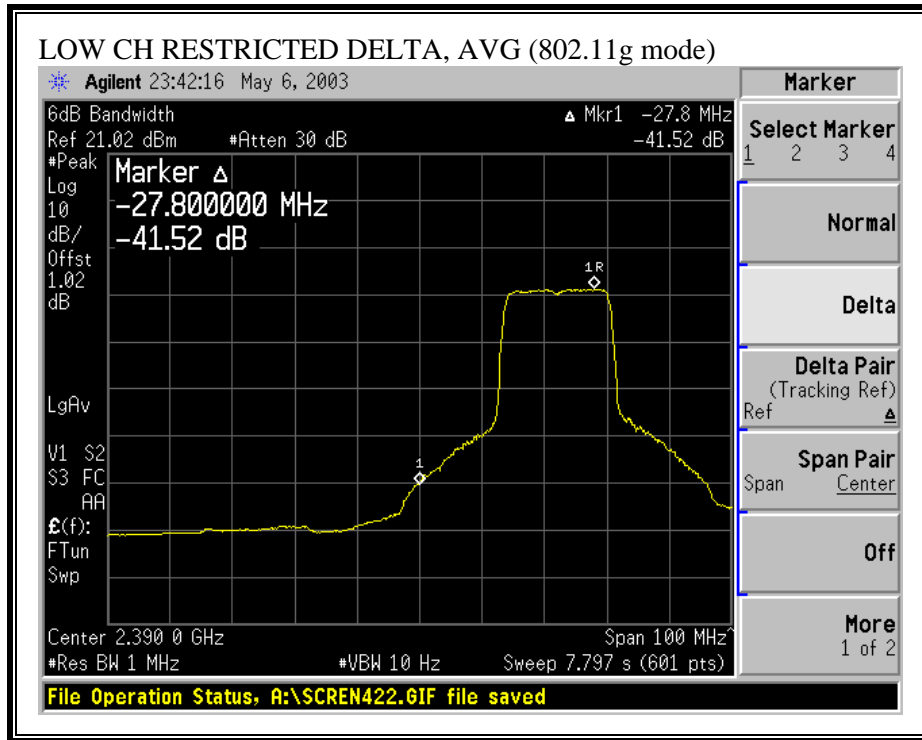
RESTRICTED BANDEDGE DELTA (b MODE, HIGH CHANNEL)



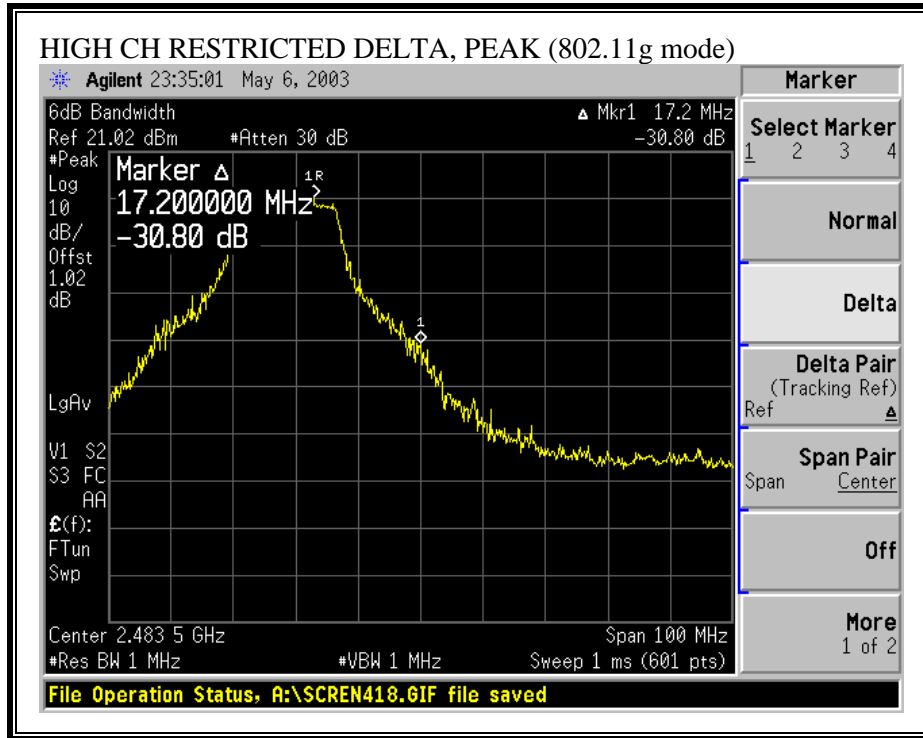


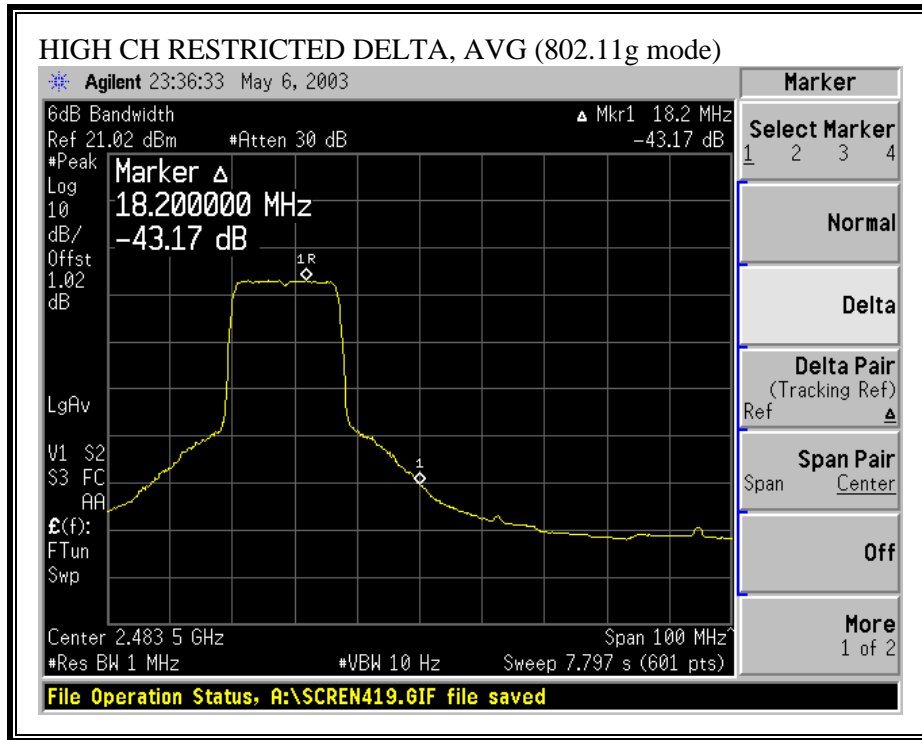
RESTRICTED BANDEDGE DELTA (g MODE, LOW CHANNEL)





RESTRICTED BANDEDGE DELTA (g MODE, HIGH CHANNEL)





ADJACENT RESTRICTED BANDEGE EMISSIONS (802.11b/g MODES)

05/07/03 High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site Test Engr: Thanh Nguyen Project #: 03U1877 Company: TOSHIBA AMERICA INFORMATION SYSTEMS, INC. EUT Descrip.: 802.11b/g Mini PCI Module EUT M/N: PA3299U-1MPC (FCC ID: CJ6UPA3299WL) Mode Oper: Transmit at LOW , MID, HIGH Channel, b/g normal & Turbo mode. Test Equipment: <table style="width: 100%; border: none;"> <tr> <td style="border: 1px solid black; padding: 2px;">EMCO Horn 1-18GHz</td> <td style="border: 1px solid black; padding: 2px;">Pre-amplifier 1-26GHz</td> <td style="border: 1px solid black; padding: 2px;">Spectrum Analyzer</td> <td style="border: 1px solid black; padding: 2px;">Horn > 18GHz</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">T73; S/N: 6717 @3m</td> <td style="border: 1px solid black; padding: 2px;"></td> <td style="border: 1px solid black; padding: 2px;">HP 8593EM Analyzer</td> <td style="border: 1px solid black; padding: 2px;">T87; ARA 18-26GHz; S/N:1049</td> </tr> </table> <table style="width: 100%; border: none;"> <tr> <td style="border: 1px solid black; padding: 2px;">Hi Frequency Cables</td> <td style="border: 1px solid black; padding: 2px;"><input type="checkbox"/> (2 ft)</td> <td style="border: 1px solid black; padding: 2px;"><input type="checkbox"/> (2 ~ 3 ft)</td> <td style="border: 1px solid black; padding: 2px;"><input type="checkbox"/> (4 ~ 6 ft)</td> <td style="border: 1px solid black; padding: 2px;"><input checked="" type="checkbox"/> (12 ft)</td> </tr> </table> <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Peak Measurements:</td> <td style="border: none;">Average Measurements:</td> </tr> <tr> <td style="border: none;">1 MHz Resolution Bandwidth</td> <td style="border: none;">1 MHz Resolution Bandwidth</td> </tr> <tr> <td style="border: none;">1MHz Video Bandwidth</td> <td style="border: none;">10Hz Video Bandwidth</td> </tr> </table>																	EMCO Horn 1-18GHz	Pre-amplifier 1-26GHz	Spectrum Analyzer	Horn > 18GHz	T73; S/N: 6717 @3m		HP 8593EM Analyzer	T87; ARA 18-26GHz; S/N:1049	Hi Frequency Cables	<input type="checkbox"/> (2 ft)	<input 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	1MHz Video Bandwidth	10Hz Video Bandwidth											
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f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	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																															
2.412	9.8	73.3	68.0	29.2	1.5	0.0	0.0	0.0	104.0	98.7					b Mode/ V																															
2.412	9.8	68.4	63.5	29.2	1.5	0.0	0.0	0.0	99.1	94.2					b Mode/ H																															
Bandedge Delta										-47.1	-51.7																																			
Lower Restricted Bandedge:									56.9	47.0	74.0	54.0	-17.1	-7.0																																
2.462	9.8	71.7	66.4	29.3	1.6	0.0	0.0	0.0	102.5	97.3					b Mode/ V																															
2.462	9.8	65.5	60.3	29.3	1.6	0.0	0.0	0.0	96.3	91.2					b Mode/ H																															
Bandedge Delta									-46.0	-48.1																																				
Upper Restricted Bandedge:									56.6	49.2	74.0	54.0	-17.4	-4.8																																
2.412	9.8	73.8	63.9	29.2	1.5	0.0	0.0	0.0	104.5	94.6					g Mode V																															
2.412	9.8	66.8	56.6	29.2	1.5	0.0	0.0	0.0	97.5	87.3					g Mode H																															
Bandedge Delta									-32.9	-41.5																																				
Lower Restricted Bandedge:									71.6	53.1	74.0	54.0	-2.4	-0.9																																
2.462	9.8	73.3	62.1	29.3	1.6	0.0	0.0	0.0	104.2	93.0					g Mode V																															
2.462	9.8	66.7	56.2	29.3	1.6	0.0	0.0	0.0	97.6	87.1					g Mode H																															
Bandedge Delta									-30.8	-43.2																																				
Upper Restricted Bandedge:									73.4	49.8	74.0	54.0	-0.6	-4.2																																
<table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">f</td> <td>Measurement Frequency</td> <td style="width: 15%;">Amp</td> <td>Preamp Gain</td> <td style="width: 15%;">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		
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