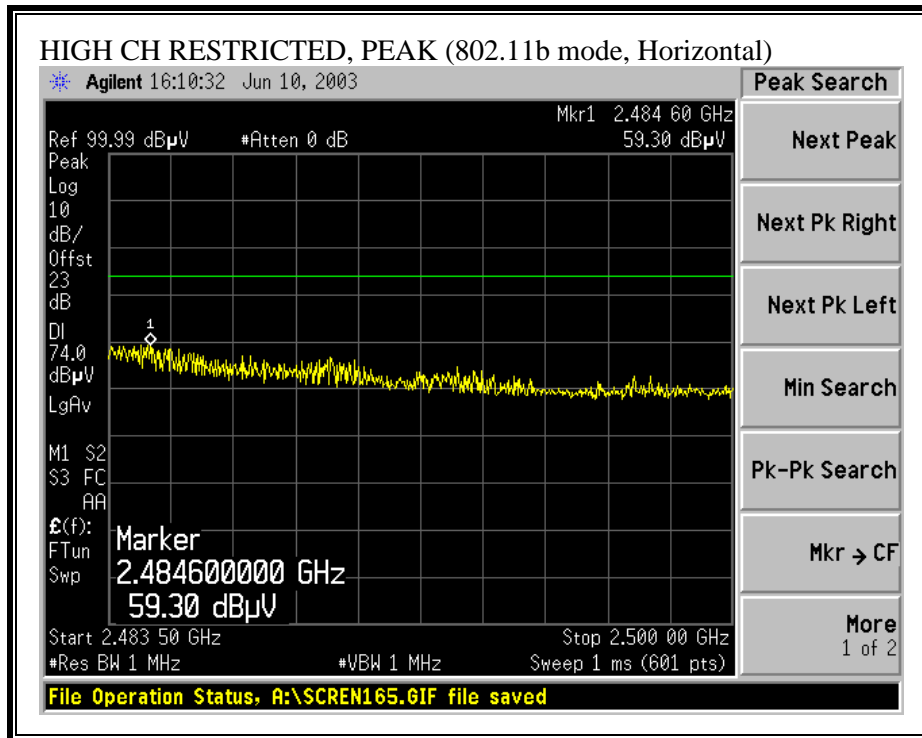
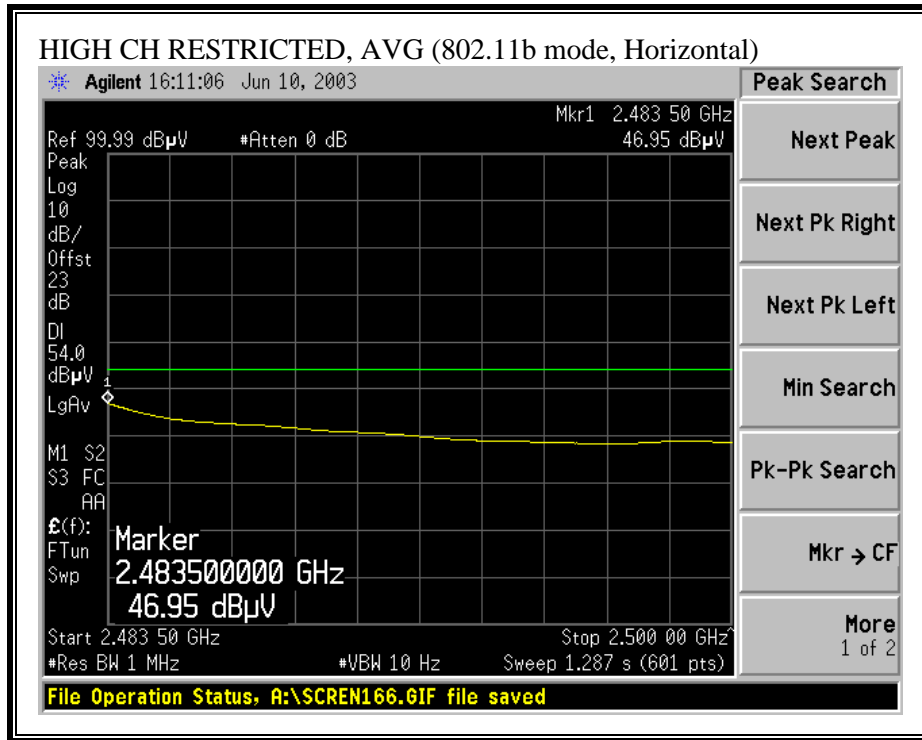
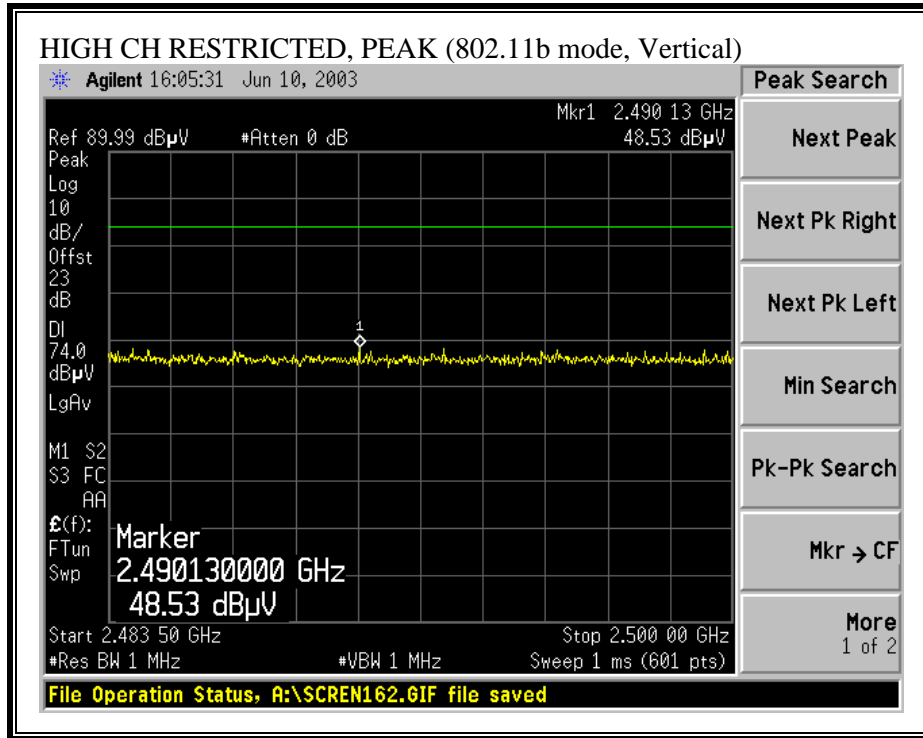


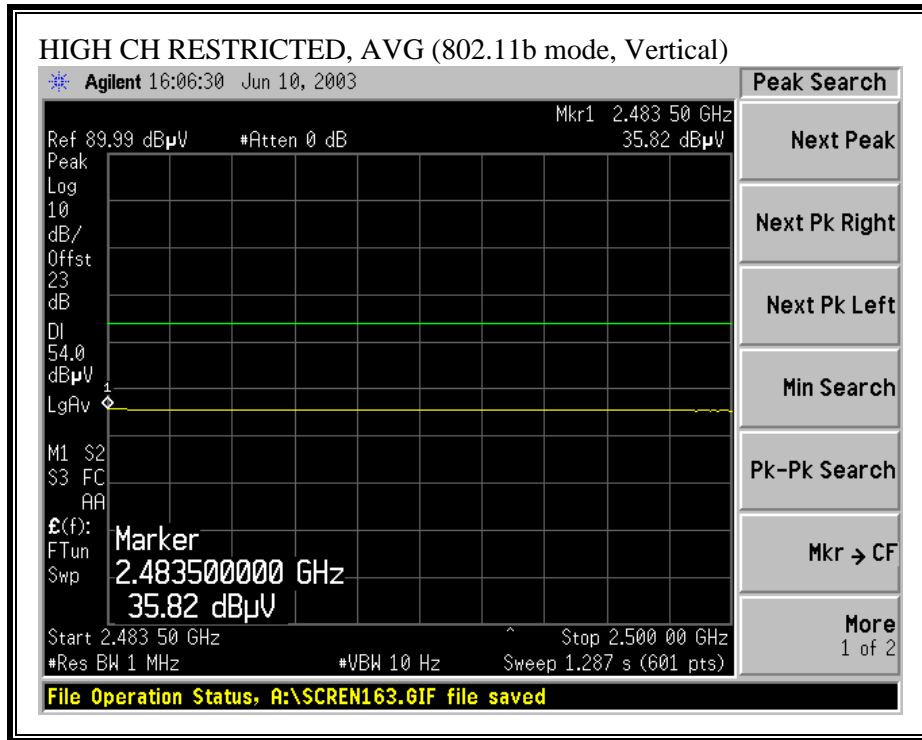
**RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)**





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





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

05/10/03 High Frequency Measurement  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Yan Zheng  
 Project #:   
 Company: Cisco  
 EUT Descrip.: AIR-MP316-A-K9  
 EUT M/N: SMT07210013  
 Test Target:   
 Mode Oper: Transmit, b Mode, with 13.5dBi Patch Anzy Antenna

Test Equipment:

EMCO Horn 1.18GHz T60; S/N: 2238 @3m	Pre-amplifier 1.26GHz T86 Miteq 924341	Spectrum Analyzer Agilent E4446A Analyzer	Horn > 18GHz T117; ARA 18-26GHz; S/N:1013	Limit FCC 15.205
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H Frequency Cables:  
 (2 ft)  (2 ~ 3 ft)  (4 ~ 6 ft)  (12 ft)

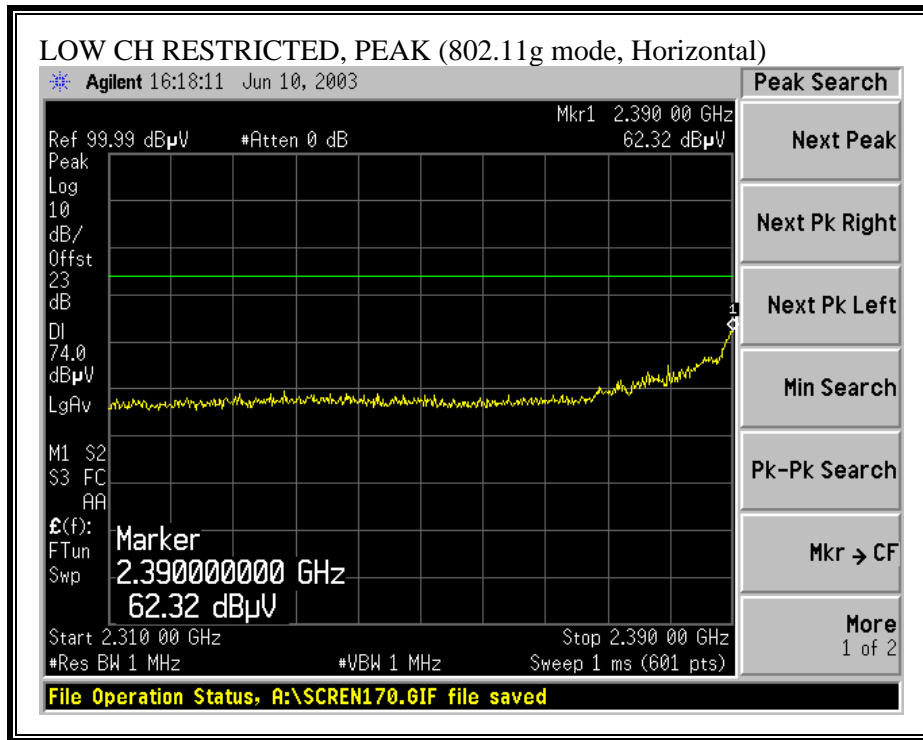
Peak Measurements: 1 MHz Resolution Bandwidth 1 MHz Video Bandwidth  
 Average Measurements: 1 MHz Resolution Bandwidth 10Hz Video Bandwidth

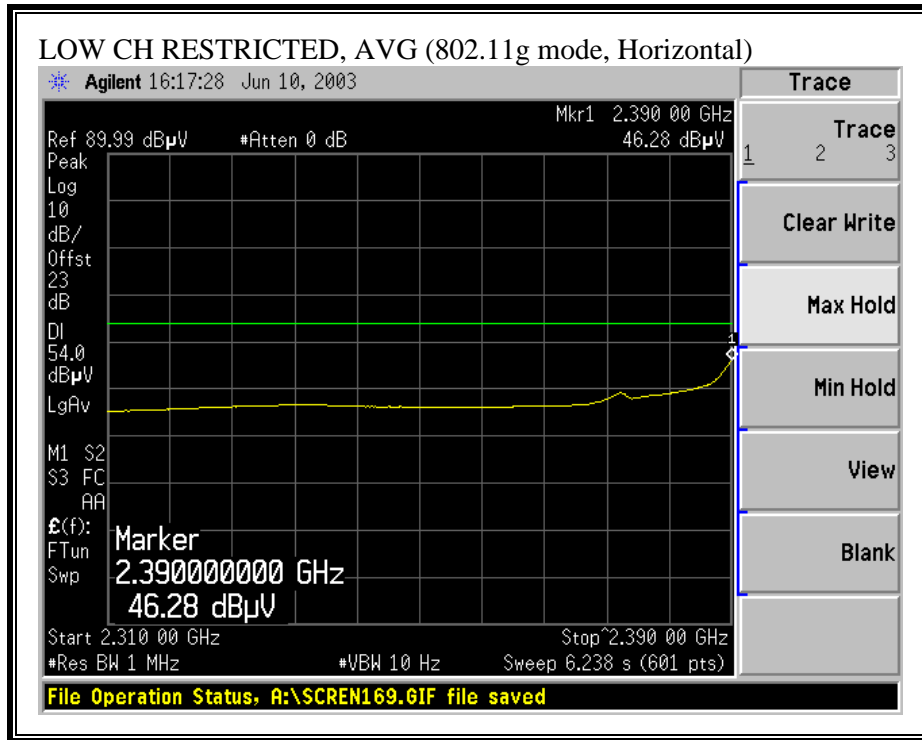
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
<b>Spurious:</b>															
<b>Harmonics:</b>															
<b>Channel 1 (2412MHz)</b>															
4.824	9.8	53.6	47.2	33.1	4.4	-45.6	0.0	1.0	46.5	40.1	74.0	54.0	-27.5	-13.9	H
4.824	9.8	61.8	60.8	33.1	4.4	-45.6	0.0	1.0	54.7	53.7	74.0	54.0	-19.3	-0.3	V
<b>Channel 6 (2437MHz)</b>															
4.874	9.8	60.9	59.4	33.1	4.4	-45.6	0.0	1.0	53.8	52.3	74.0	54.0	-20.2	-1.7	V
7.311	9.8	48.5	36.6	36.2	5.7	-46.6	0.0	1.0	44.8	32.9	74.0	54.0	-29.2	-21.1	V
7.311	9.8	48.0	36.6	36.2	5.7	-46.6	0.0	1.0	44.3	32.9	74.0	54.0	-29.7	-21.1	H
4.874	9.8	48.9	43.5	33.1	4.4	-45.6	0.0	1.0	41.8	36.4	74.0	54.0	-32.2	-17.6	H
<b>Channel 11 (2462MHz)</b>															
4.924	9.8	61.7	60.2	33.2	4.5	-45.7	0.0	1.0	54.6	53.1	74.0	54.0	-19.4	-0.9	V
7.386	9.8	48.5	36.6	36.3	5.7	-46.5	0.0	1.0	45.0	33.1	74.0	54.0	-29.0	-20.9	V
7.386	9.8	48.0	36.6	36.3	5.7	-46.5	0.0	1.0	44.5	33.1	74.0	54.0	-29.5	-20.9	H
4.924	9.8	51.8	47.2	33.2	4.5	-45.7	0.0	1.0	44.7	40.1	74.0	54.0	-29.3	-13.9	H

36.3

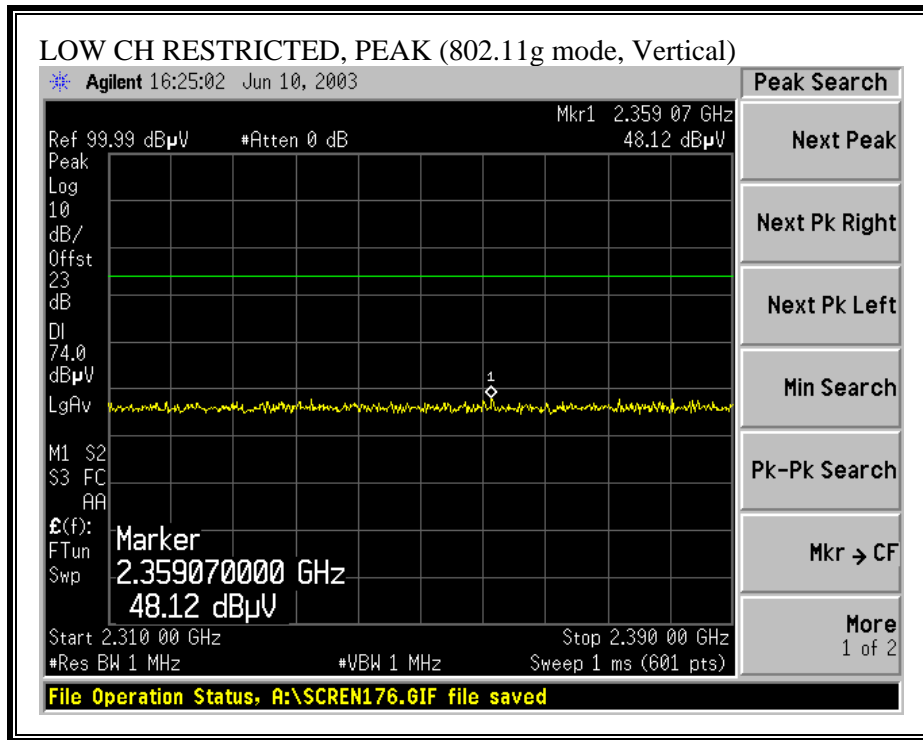
f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

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

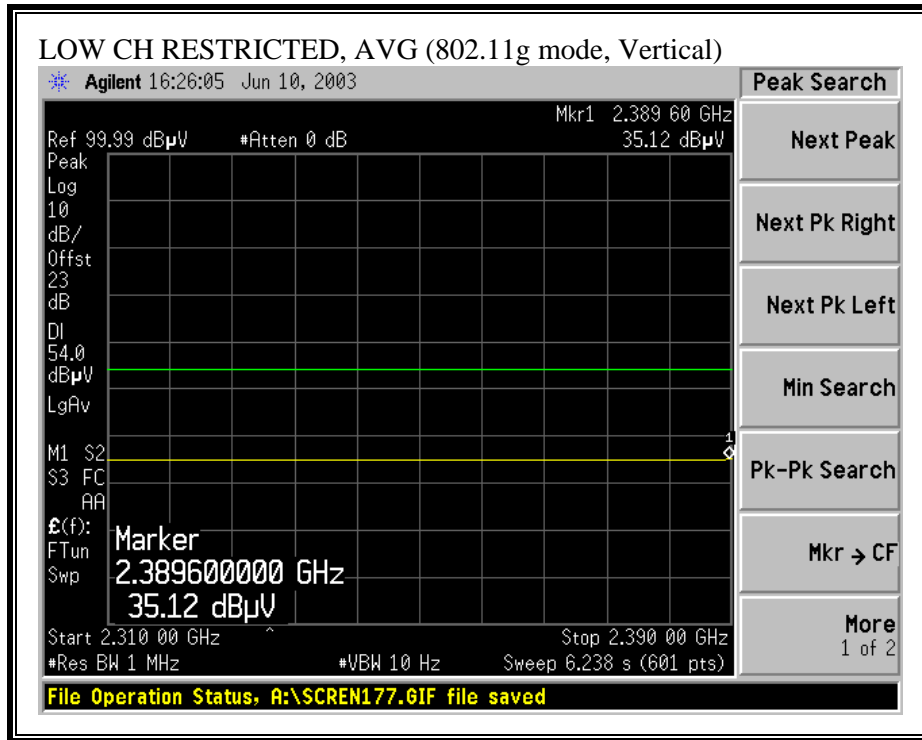




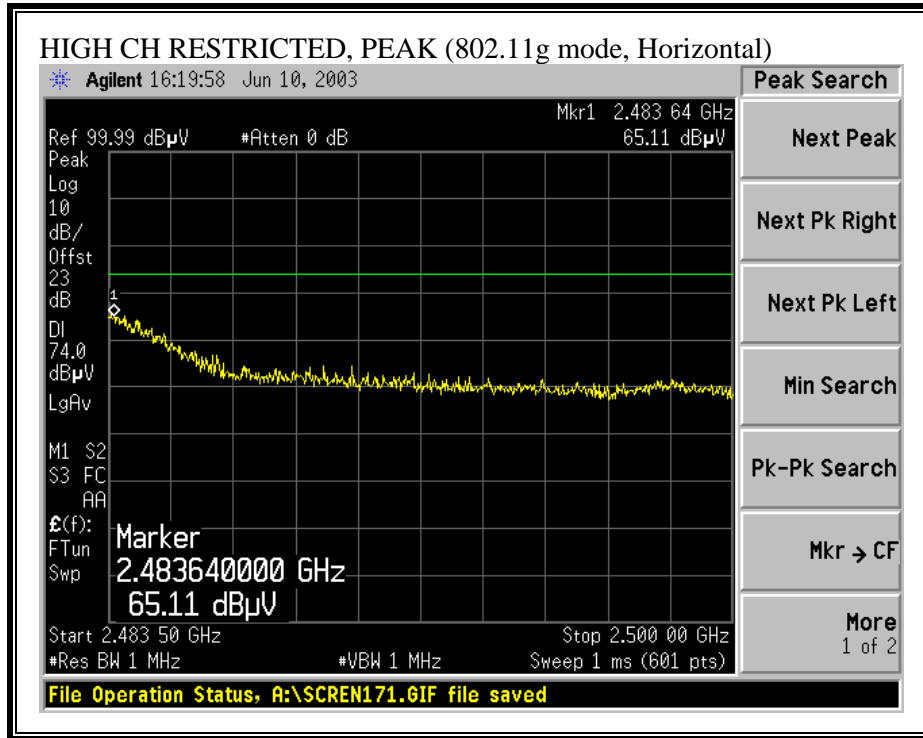
**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)**

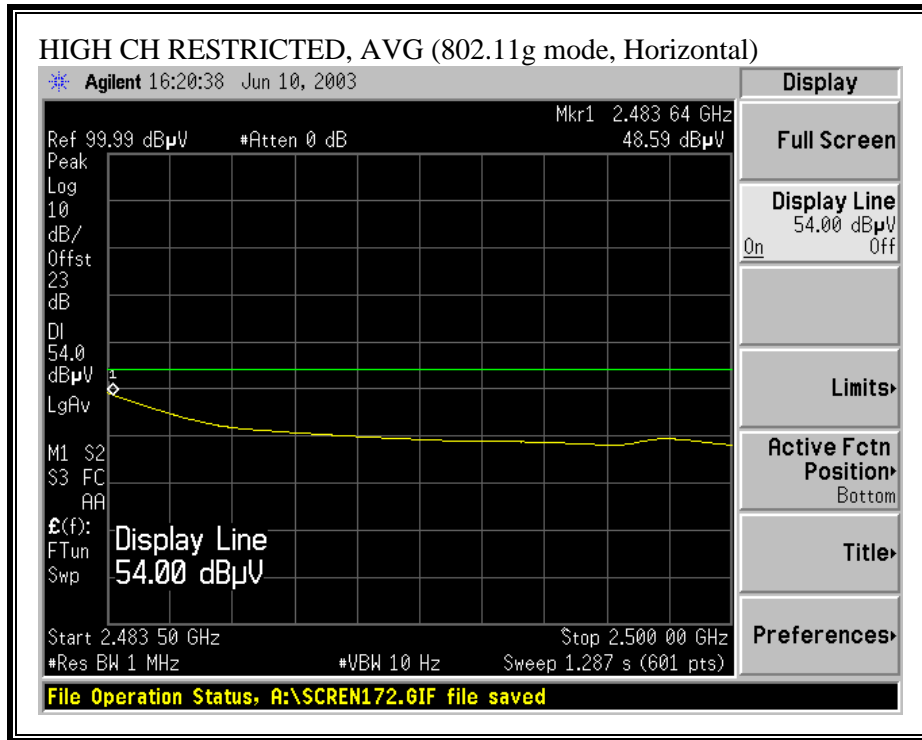




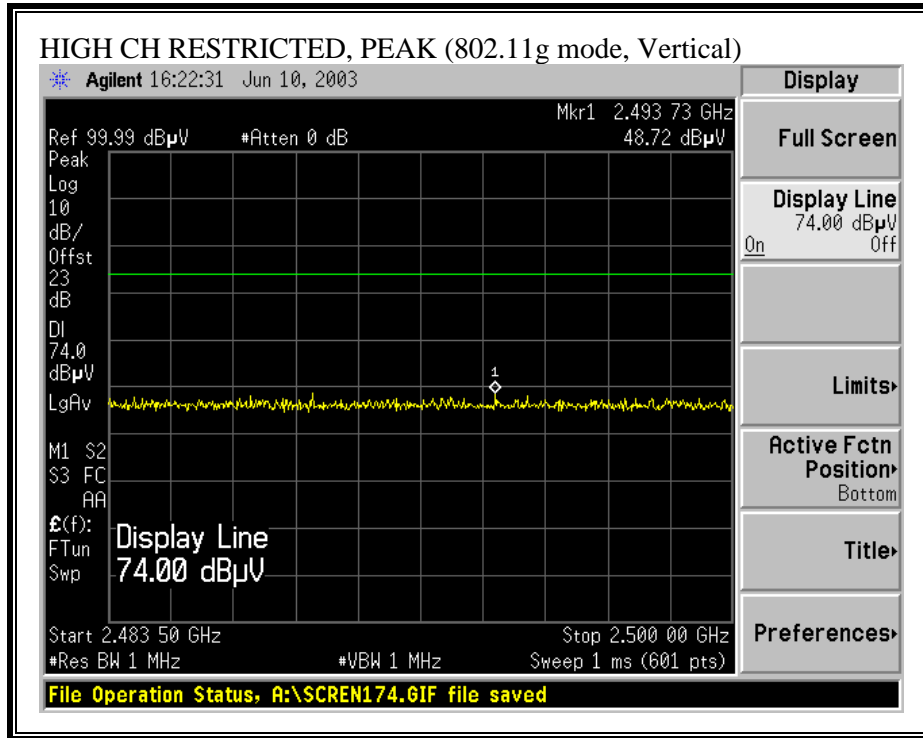


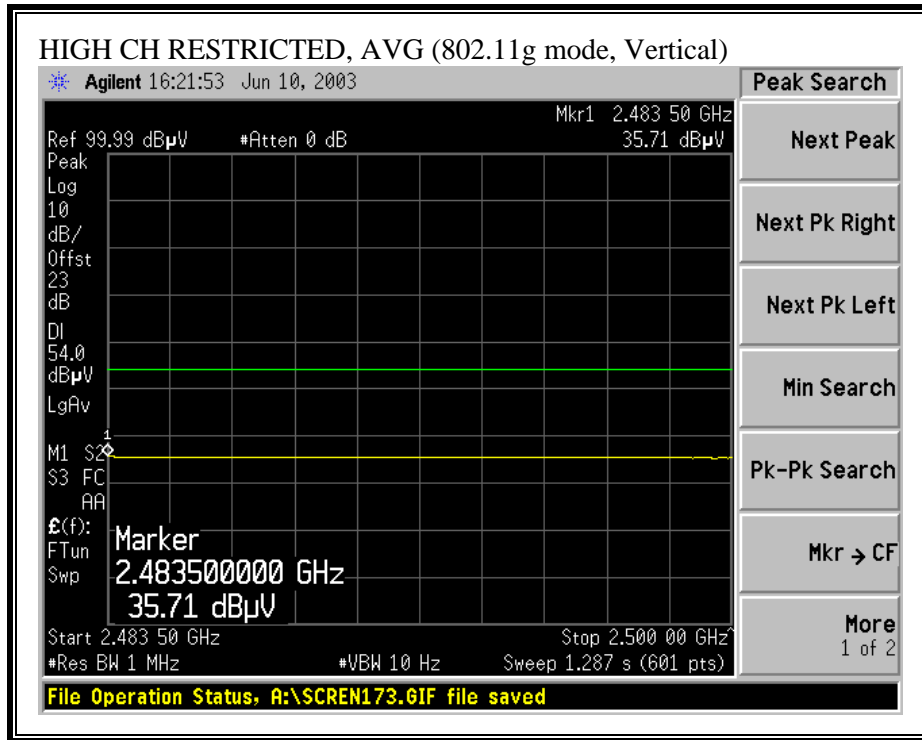
**RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)**





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





**HARMONICS AND SPURIOUS EMISSIONS (g MODE)**

05/10/03 High Frequency Measurement  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Yan Zheng  
 Project #:   
 Company: Cisco  
 EUT Descrip.: AIR-MP31G-A-K9  
 EUT M/N: SMT07210013  
 Test Target:   
 Mode Oper: Transmit, g Mode, with 13.5dBi Patch Anzy Antenna

Test Equipment:

EMCO Horn 1.18GHz T60; S/N: 2238 @3m	Pre-amplifier 1.26GHz T86 Miteq 924341	Spectrum Analyzer Agilent E4446A Analyzer	Horn > 18GHz T117; ARA 18-26GHz; S/N:1013	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, 1 MHz Video Bandwidth  
 Average Measurements: 1 MHz Resolution Bandwidth, 10Hz Video Bandwidth

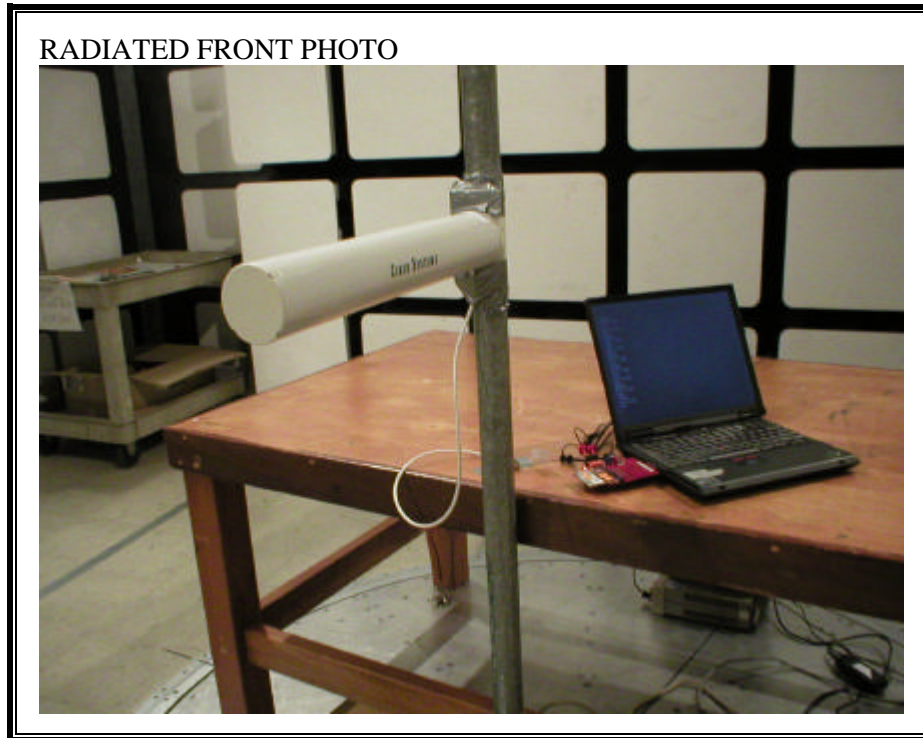
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
<b>Spurious:</b>															
<b>Harmonics:</b>															
<b>Channel 1 (2412MHz)</b>															
4.824	9.8	61.4	47.2	33.1	4.4	-45.6	0.0	1.0	44.3	40.1	74.0	54.0	-29.7	-13.9	H
4.824	9.8	61.7	60.7	33.1	4.4	-45.6	0.0	1.0	54.6	53.6	74.0	54.0	-19.4	-0.4	V
<b>Channel 6 (2437MHz)</b>															
4.874	9.8	60.2	58.9	33.1	4.4	-45.6	0.0	1.0	53.1	51.8	74.0	54.0	-20.9	-2.2	V
7.311	9.8	48.5	36.6	36.2	5.7	-46.6	0.0	1.0	44.8	32.9	74.0	54.0	-29.2	-21.1	V
7.311	9.8	48.0	36.6	36.2	5.7	-46.6	0.0	1.0	44.3	32.9	74.0	54.0	-29.7	-21.1	H
4.874	9.8	50.0	43.6	33.1	4.4	-45.6	0.0	1.0	42.9	36.5	74.0	54.0	-31.1	-17.5	H
<b>Channel 11 (2462MHz)</b>															
4.924	9.8	61.6	60.1	33.8	3.8	-45.7	0.0	1.0	54.5	53.0	74.0	54.0	-19.5	-1.0	V
7.386	9.8	48.5	36.6	37.4	4.9	-46.5	0.0	1.0	45.1	33.2	74.0	54.0	-28.9	-20.8	V
7.386	9.8	48.0	36.6	37.4	4.9	-46.5	0.0	1.0	44.6	33.2	74.0	54.0	-29.4	-20.8	H
4.924	9.8	52.5	47.4	33.8	3.8	-45.7	0.0	1.0	45.4	40.3	74.0	54.0	-28.6	-13.7	H

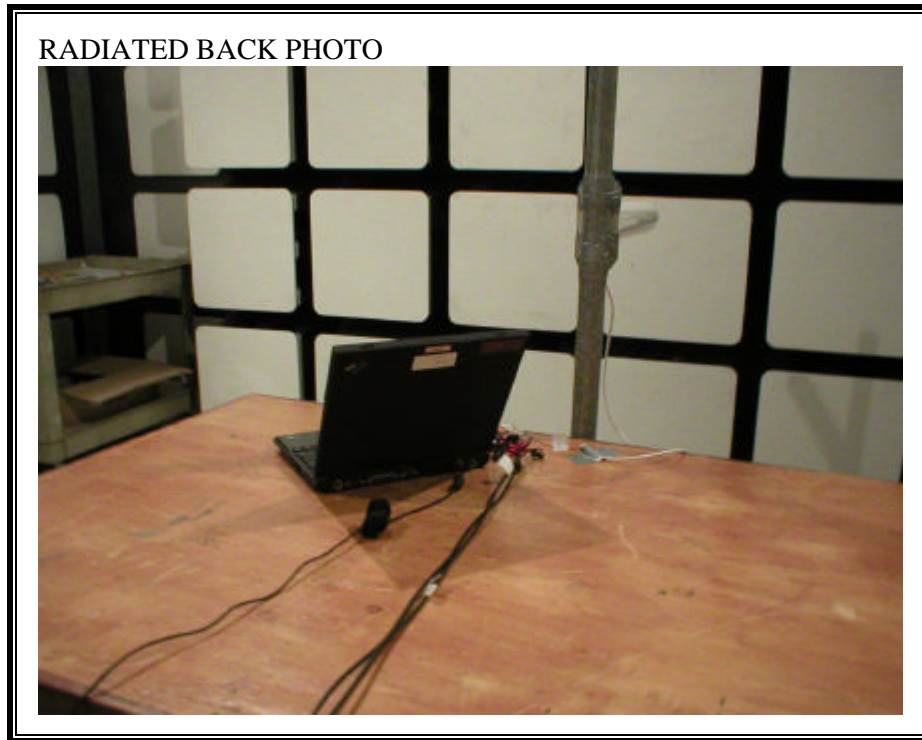
36.3

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		

## 7.9.5. RADIATED EMISSIONS WITH 13.5 dBi YAGI ANTENNA

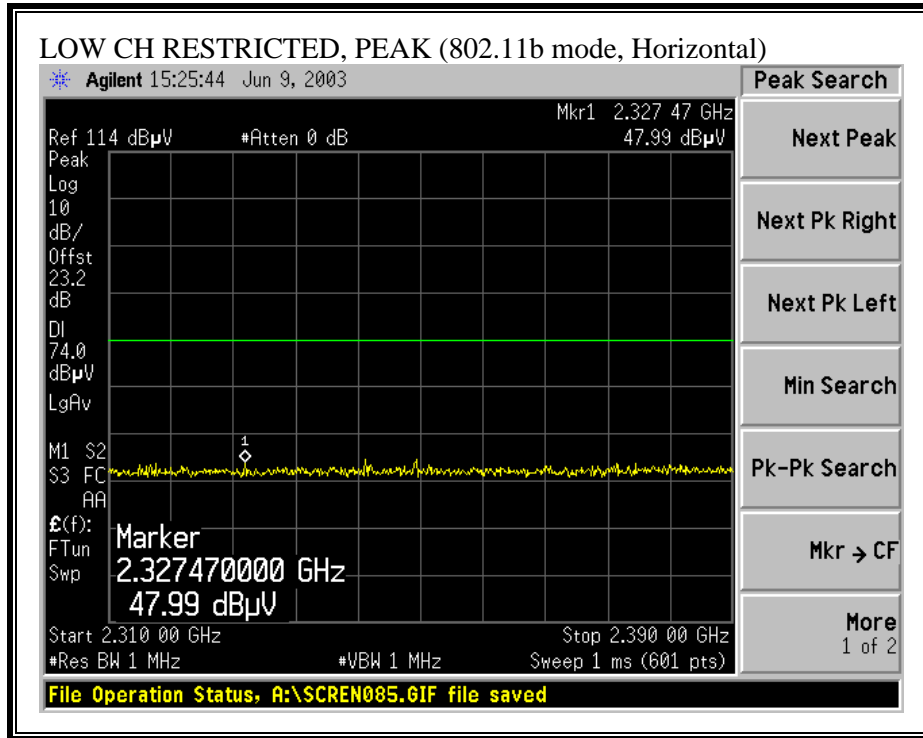
### RADIATED RF MEASUREMENT SETUP

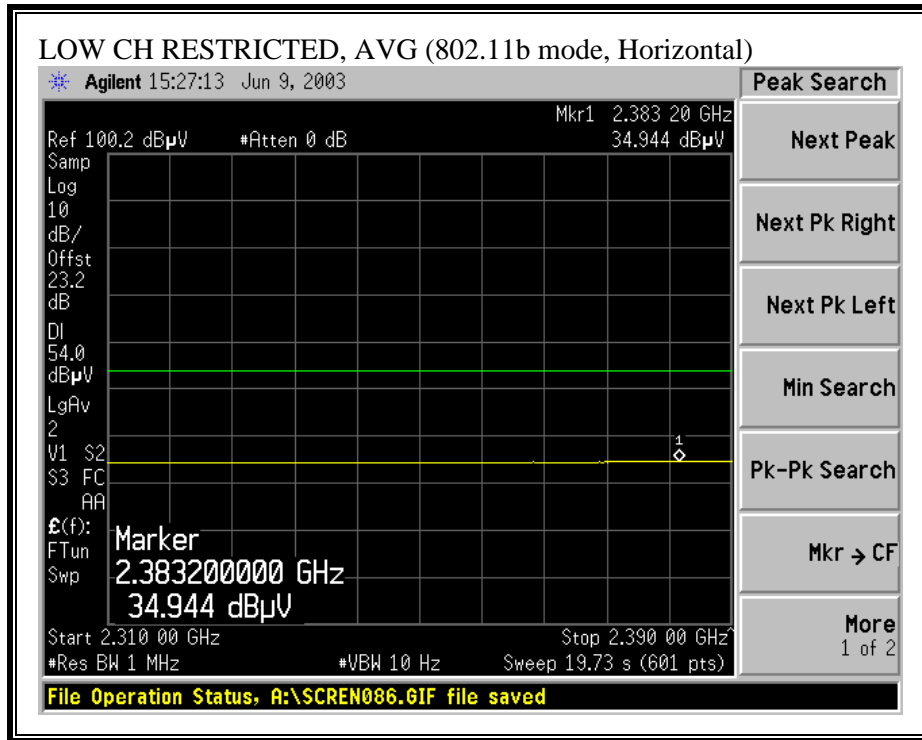




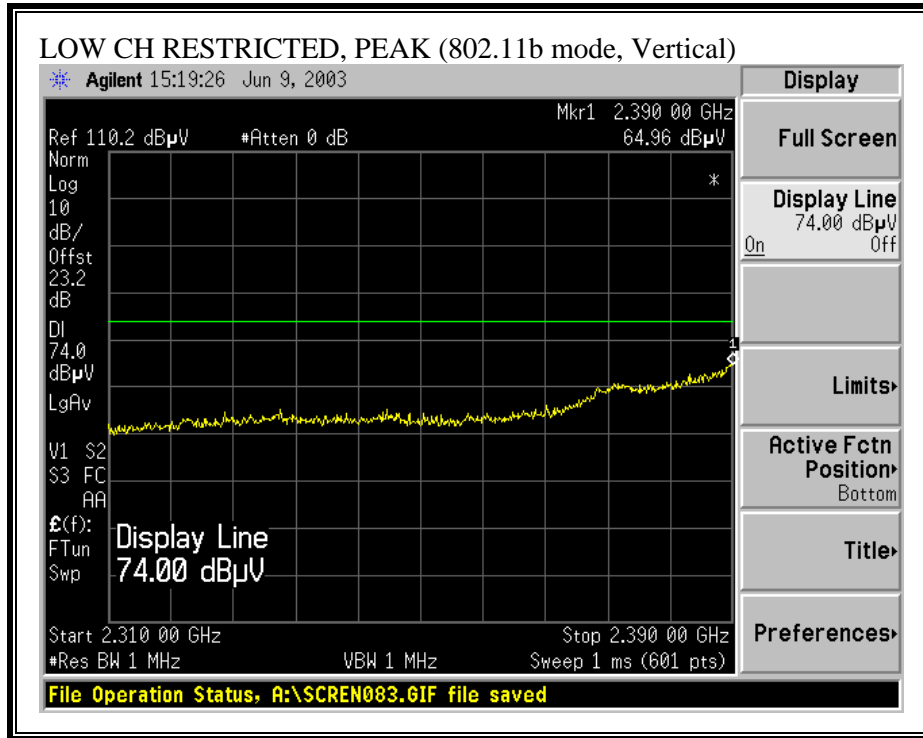


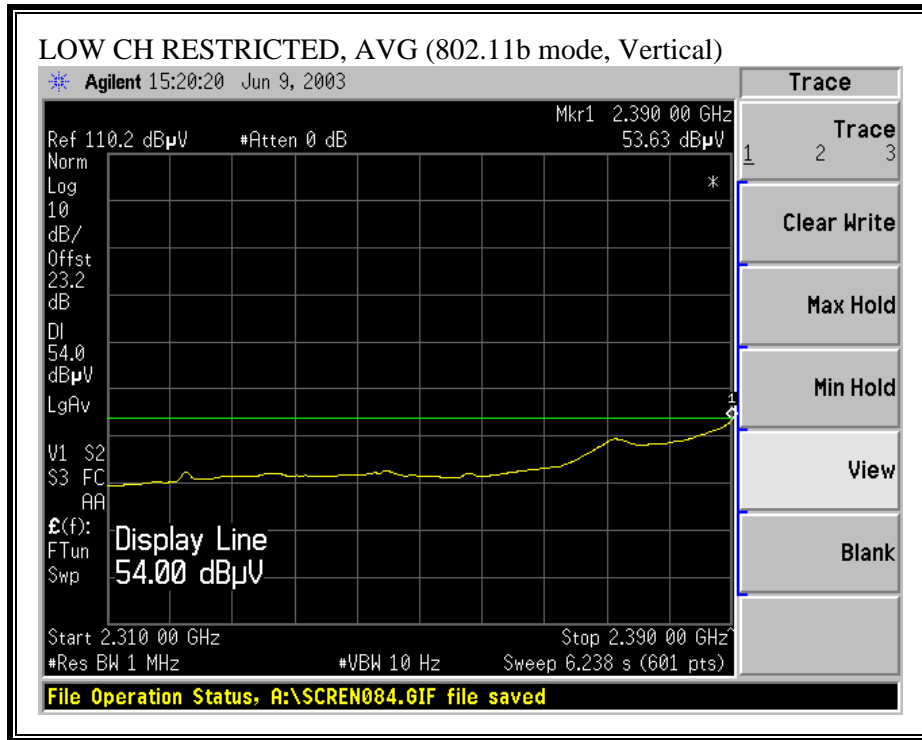
**RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)**



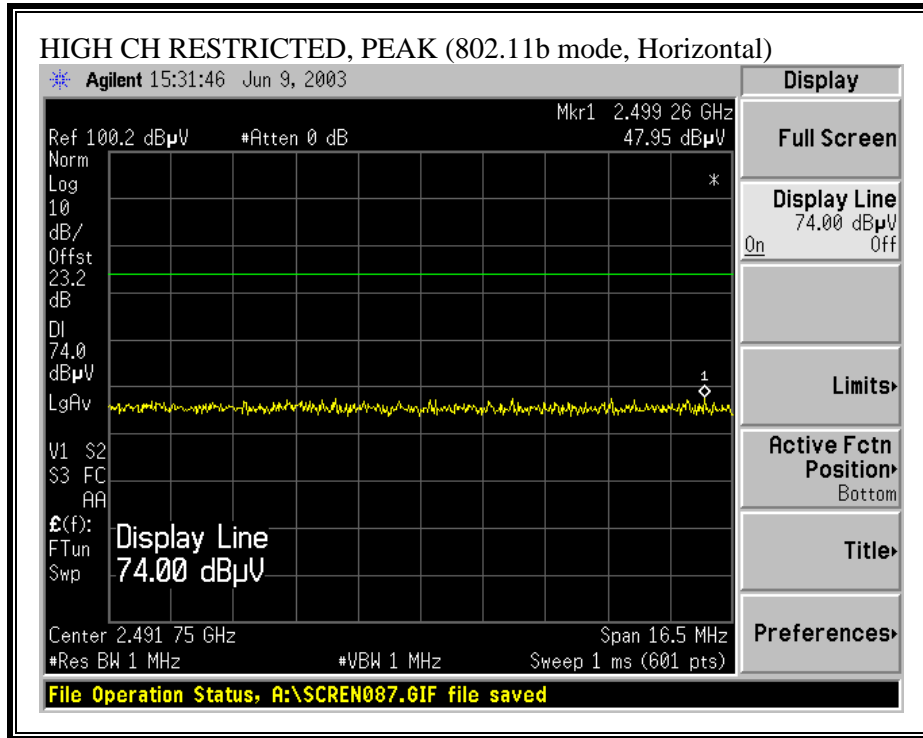


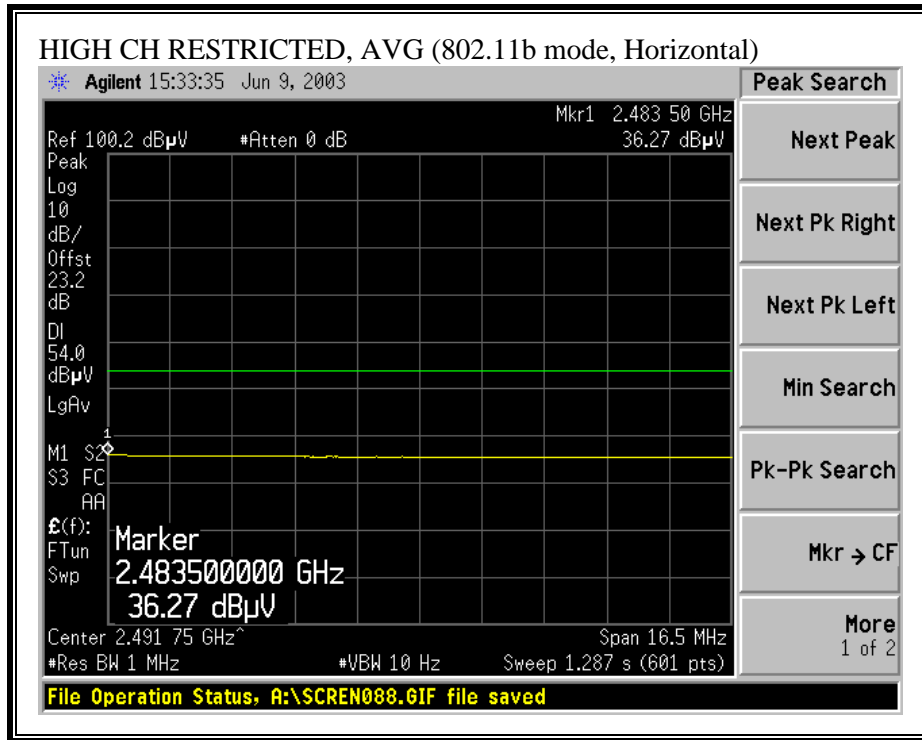
**RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)**



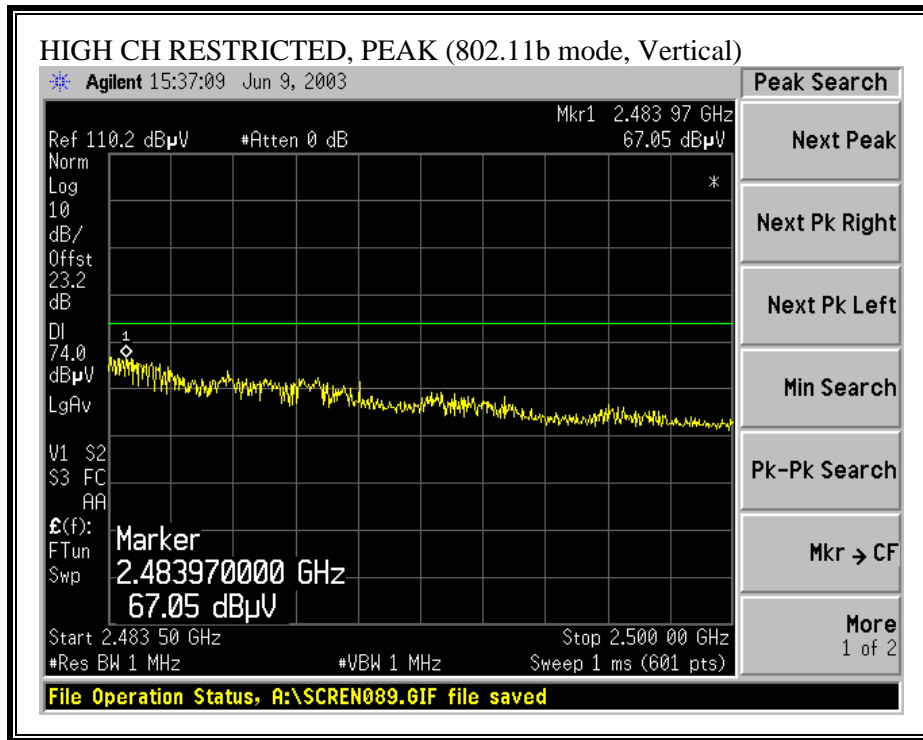


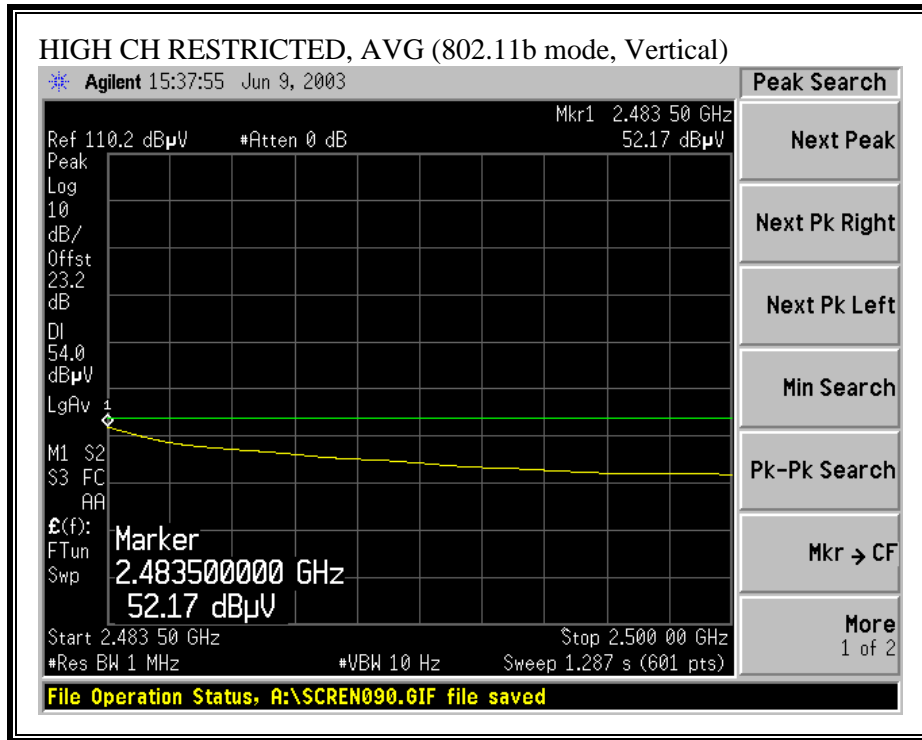
**RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)**





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







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

05/10/03 High Frequency Measurement  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Yan Zheng  
 Project #:   
 Company: Cisco  
 EUT Descrip.: AIR-MP310-A-K9  
 EUT M/N: SMT07210913  
 Test Target:   
 Mode Oper: Transmit, b Mode, with 13.5dBi Yagi Antenna

Test Equipment:

EMCO Horn 1-18GHz T60; S/N: 1238 @3m	Pre-amplifier 1-26GHz T86 M10q 924341	Spectrum Analyzer Agilent E4446A Analyzer	Horn > 18GHz T117; ARA 18-26GHz; S/N:1013	Limit FCC 15.205
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H Frequency Cables  
 (2 ft)  (2-3 ft)  (4-6 ft)  (12 ft)

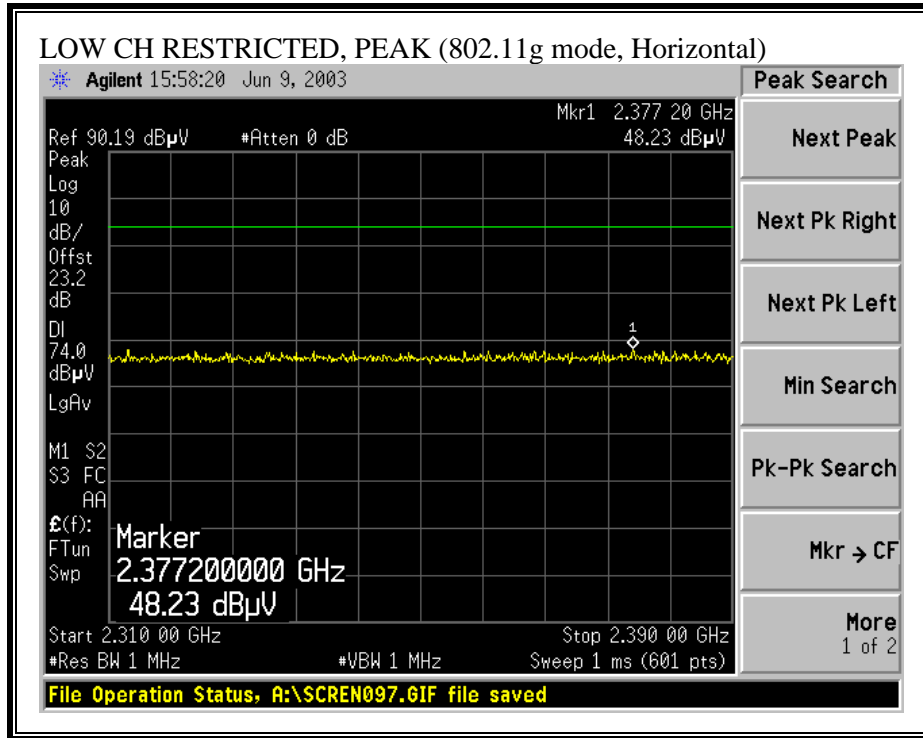
Peak Measurements: 1 MHz Resolution Bandwidth 1 MHz Video Bandwidth  
 Average Measurements: 1 MHz Resolution Bandwidth 10 Hz Video Bandwidth

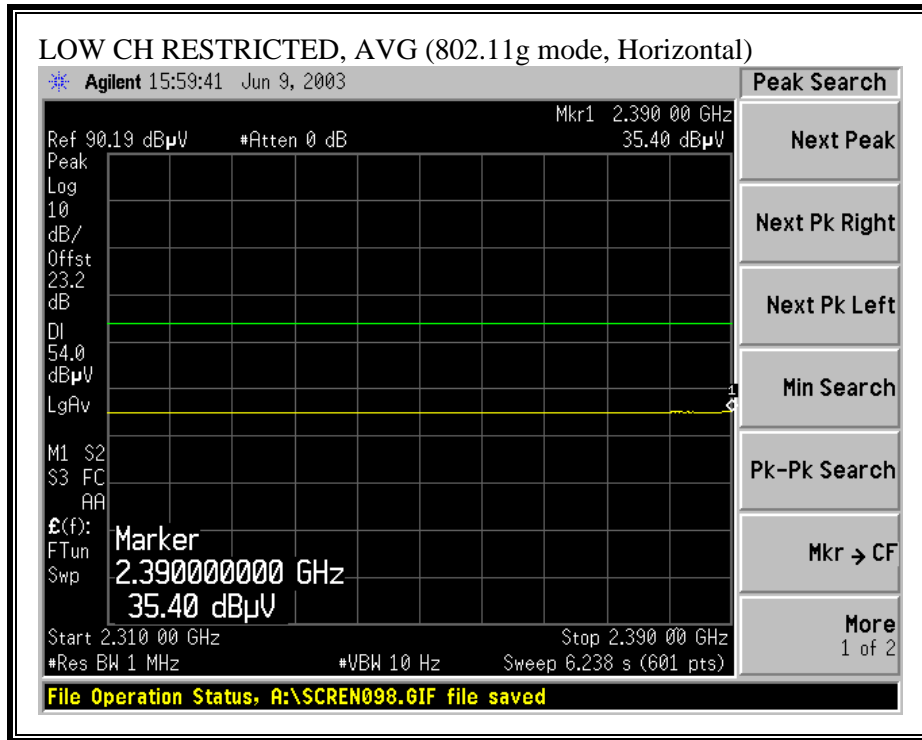
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
<b>Spurious:</b>															
<b>Harmonics:</b>															
<b>Channel 1 (2412MHz)</b>															
4.824	9.8	53.2	48.8	33.1	4.4	-45.6	0.0	1.0	46.1	41.7	74.0	54.0	-27.9	-12.3	H
4.824	9.8	58.6	57.5	33.1	4.4	-45.6	0.0	1.0	51.5	50.4	74.0	54.0	-22.5	-3.6	V
<b>Channel 6 (2437MHz)</b>															
4.874	9.8	53.8	49.3	33.1	4.4	-45.6	0.0	1.0	46.7	42.2	74.0	54.0	-27.3	-11.8	H
7.311	9.8	52.7	45.0	36.2	5.7	-46.6	0.0	1.0	49.0	41.3	74.0	54.0	-26.0	-12.7	H
7.311	9.8	57.2	40.6	36.2	5.7	-46.6	0.0	1.0	53.5	36.9	74.0	54.0	-20.5	-17.1	V
4.874	9.8	55.7	54.1	33.1	4.4	-45.6	0.0	1.0	48.6	47.0	74.0	54.0	-25.4	-7.0	V
<b>Channel 11 (2462MHz)</b>															
4.924	9.8	59.1	57.3	33.2	4.5	-45.7	0.0	1.0	52.0	50.2	74.0	54.0	-22.0	-3.8	V
7.386	9.8	48.5	36.6	36.3	5.7	-46.5	0.0	1.0	45.0	33.1	74.0	54.0	-29.0	-20.9	V
7.386	9.8	48.0	36.6	36.3	5.7	-46.5	0.0	1.0	44.5	33.1	74.0	54.0	-29.5	-20.9	H
4.924	9.8	57.1	54.8	33.2	4.5	-45.7	0.0	1.0	50.1	47.7	74.0	54.0	-23.9	-6.3	H

36.5

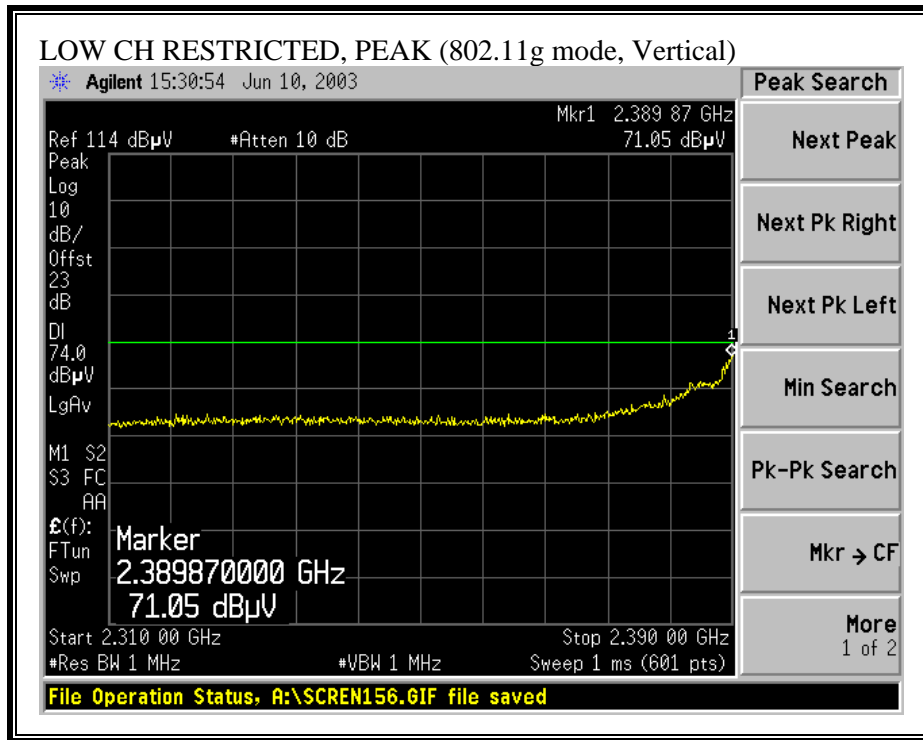
f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

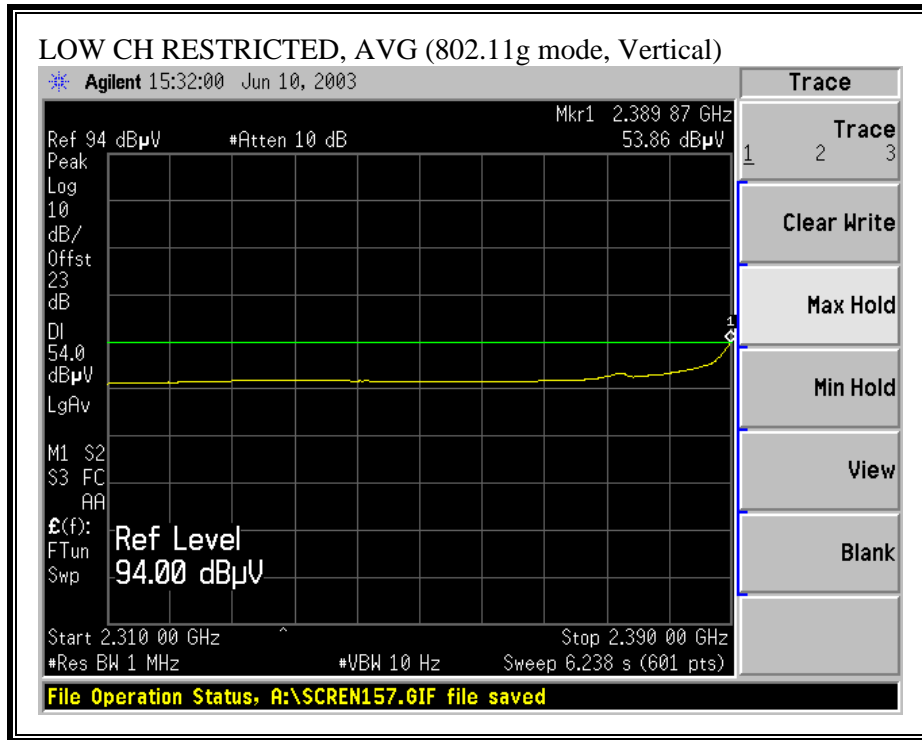
**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)**



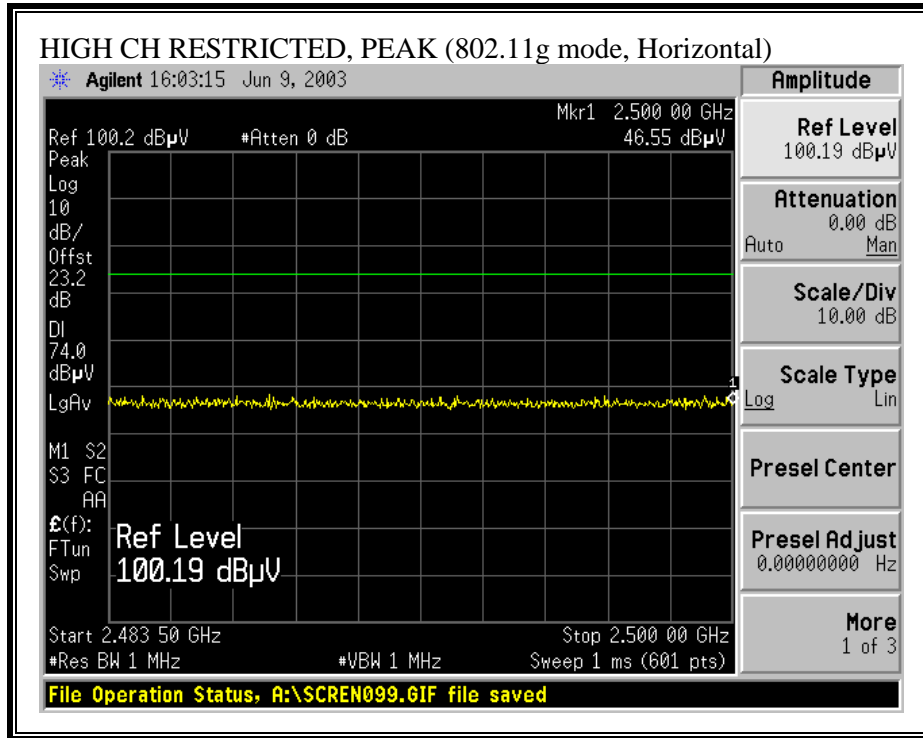


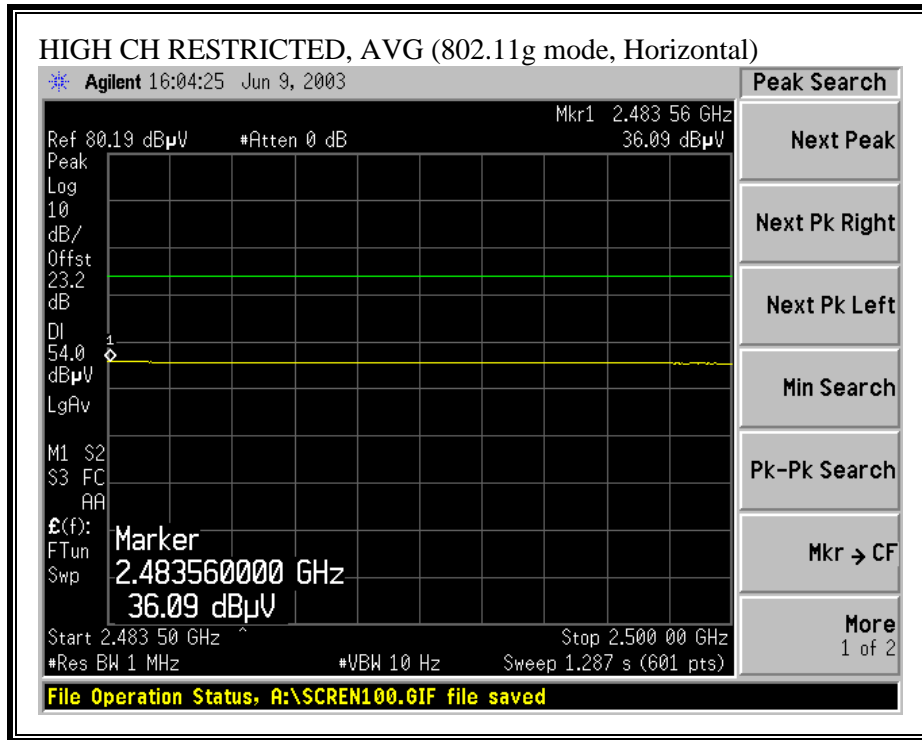
**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)**



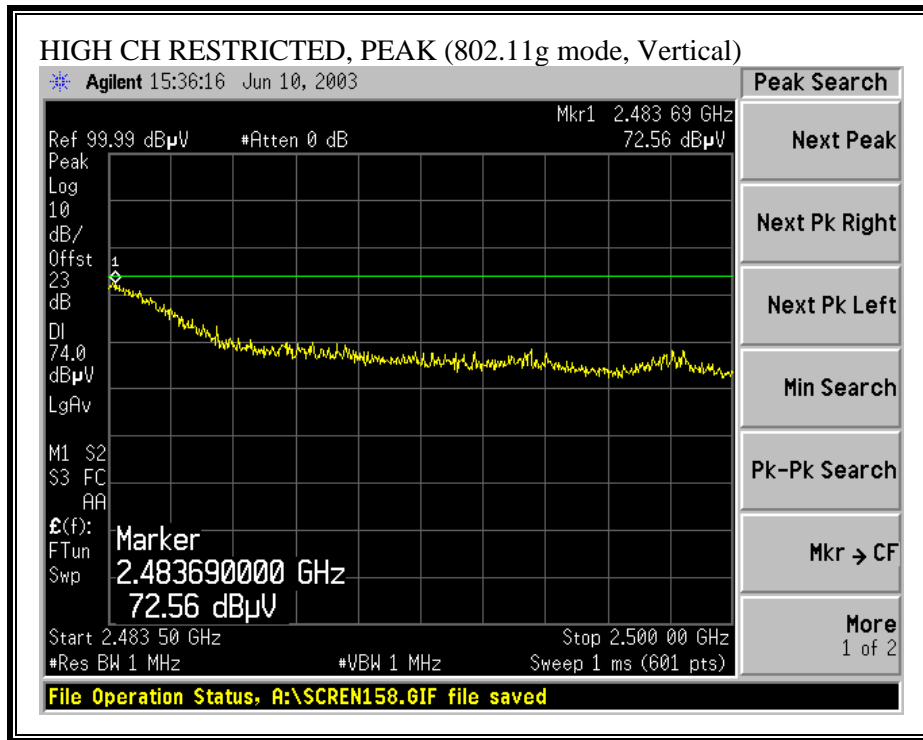


**RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)**

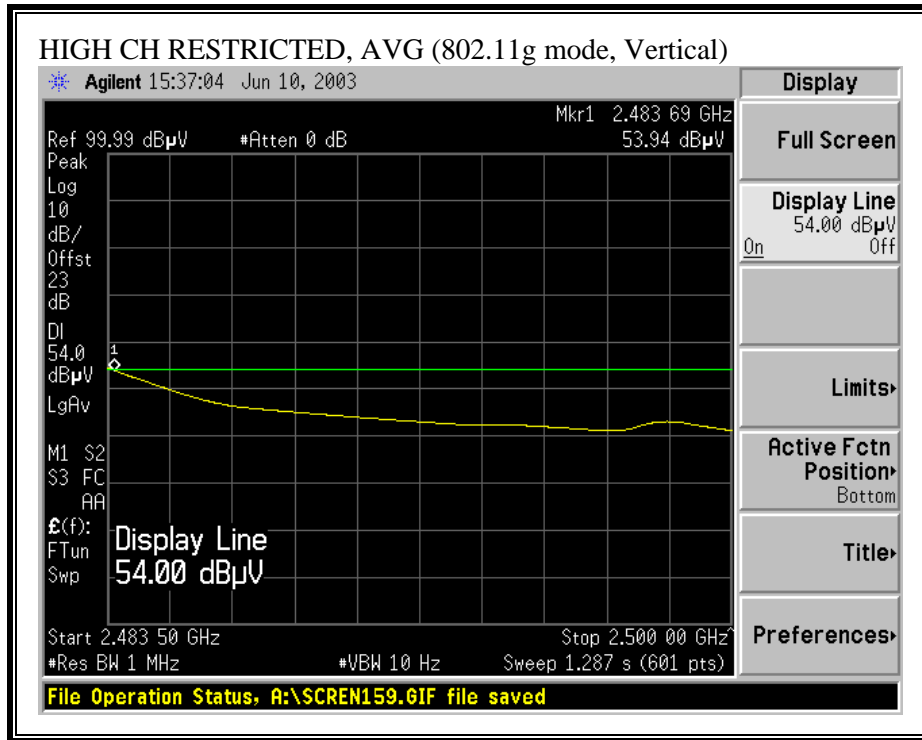




**RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)**







**HARMONICS AND SPURIOUS EMISSIONS (g MODE)**

05/10/03 High Frequency Measurement  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Yan Zheng  
 Project #:   
 Company: Cisco  
 EUT Descrip.: AIR-MP310-A-K9  
 EUT M/N: SMT07210913  
 Test Target:   
 Mode Oper: Transmit, g Mode, with 13.5dBi Yagi Antenna

Test Equipment:

EMCO Horn 1-18GHz T60; S/N: 1238 @3m	Pre-amplifier 1-26GHz T86 M10q 924341	Spectrum Analyzer Agilent E4446A Analyzer	Horn > 18GHz T117; ARA 18-26GHz; S/N:1013	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 1 MHz Video Bandwidth  
 Average Measurements: 1 MHz Resolution Bandwidth 10 Hz Video Bandwidth

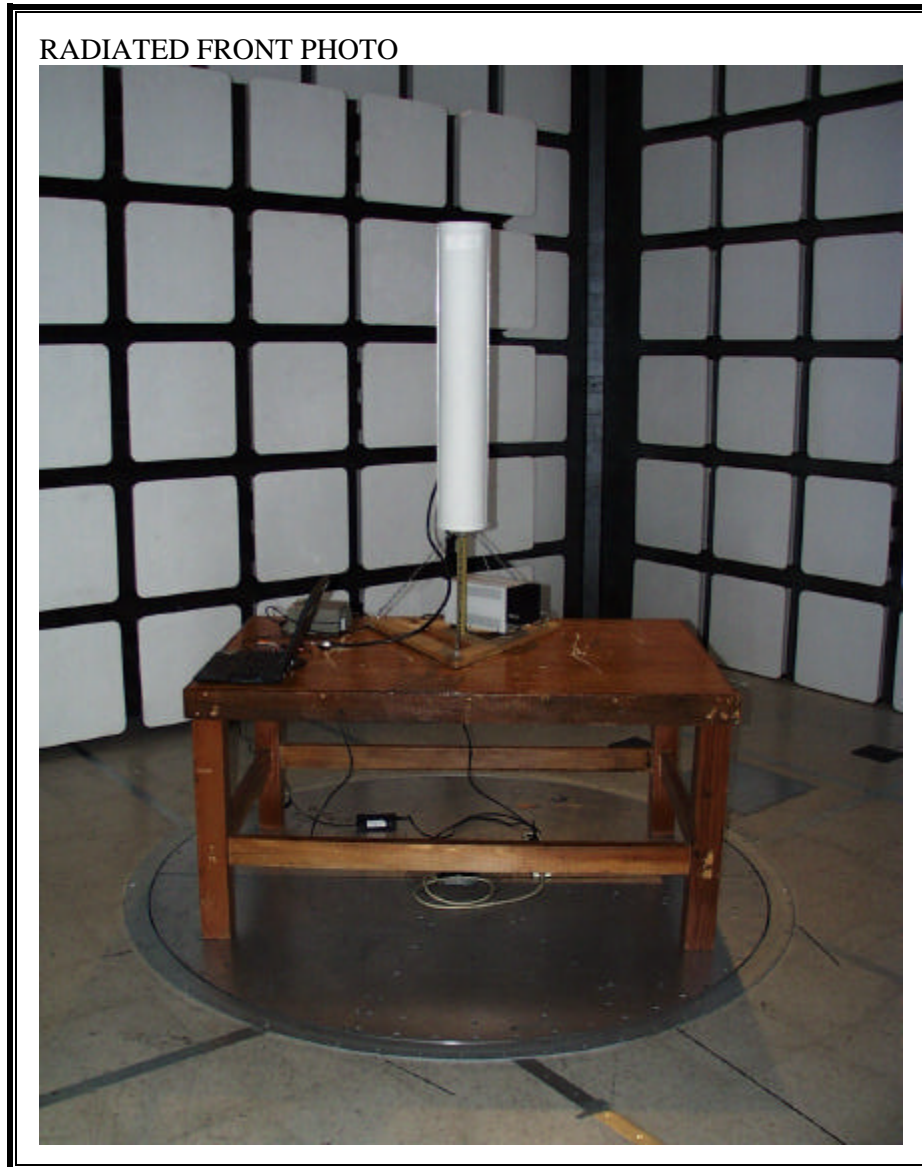
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
Spurious:															
Harmonics:															
Channel 1 (2412MHz)															
4.824	9.8	53.2	50.2	33.1	4.4	-45.6	0.0	1.0	46.1	43.1	74.0	54.0	-27.9	-10.9	H
4.824	9.8	58.7	57.6	33.1	4.4	-45.6	0.0	1.0	51.6	50.5	74.0	54.0	-22.4	-3.5	V
Channel 6 (2437MHz)															
4.874	9.8	53.4	49.7	33.1	4.4	-45.6	0.0	1.0	46.3	42.6	74.0	54.0	-27.7	-11.4	H
7.311	9.8	52.7	45.0	36.2	5.7	-46.6	0.0	1.0	49.0	41.3	74.0	54.0	-26.0	-12.7	H
7.311	9.8	57.2	40.6	36.2	5.7	-46.6	0.0	1.0	53.5	36.9	74.0	54.0	-20.5	-17.1	V
4.874	9.8	56.8	54.2	33.1	4.4	-45.6	0.0	1.0	49.7	47.2	74.0	54.0	-24.3	-6.8	V
Channel 11 (2462MHz)															
4.924	9.8	59.1	57.6	33.2	4.5	-45.7	0.0	1.0	52.0	50.5	74.0	54.0	-22.0	-3.5	V
7.386	9.8	48.5	36.6	36.3	5.7	-46.5	0.0	1.0	45.0	33.1	74.0	54.0	-29.0	-20.9	V
7.386	9.8	48.0	36.6	36.3	5.7	-46.5	0.0	1.0	44.5	33.1	74.0	54.0	-29.5	-20.9	H
4.924	9.8	57.8	55.2	33.2	4.5	-45.7	0.0	1.0	50.7	48.1	74.0	54.0	-23.3	-5.9	H

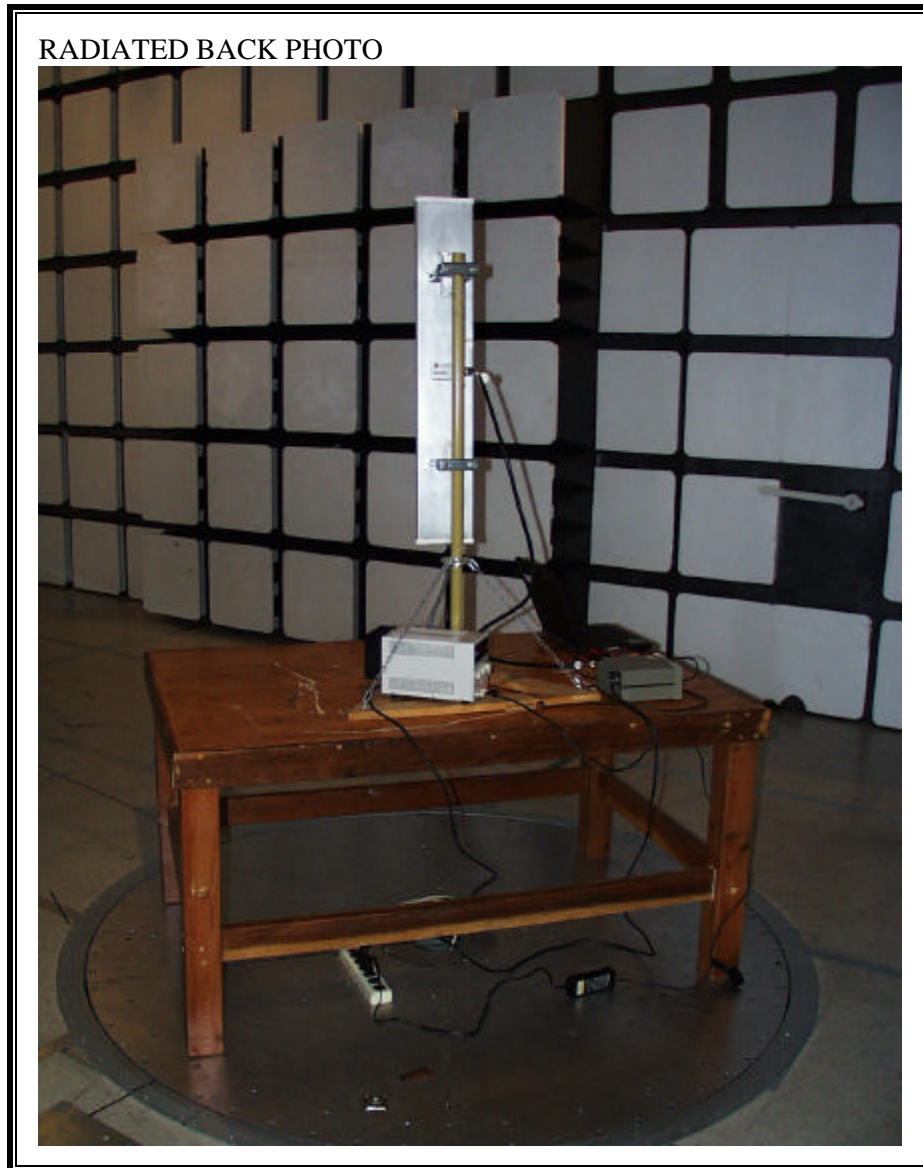
36.5

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		

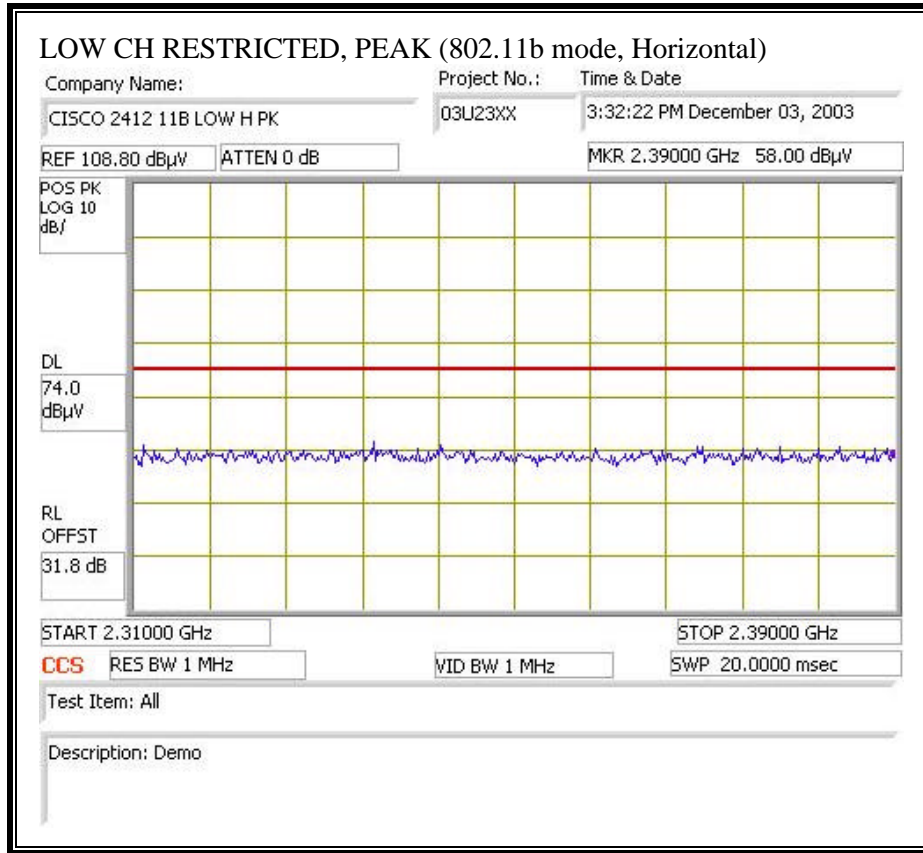
## 7.9.6. RADIATED EMISSIONS WITH 15 dBi SECTOR ANTENNA

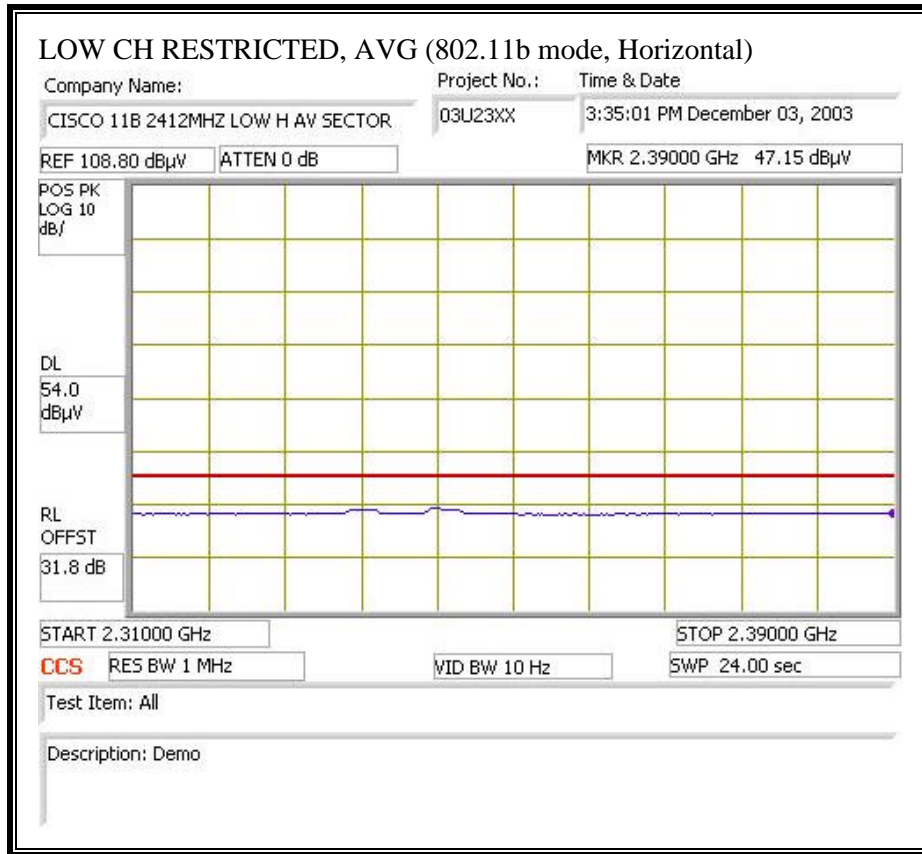
### RADIATED RF MEASUREMENT SETUP



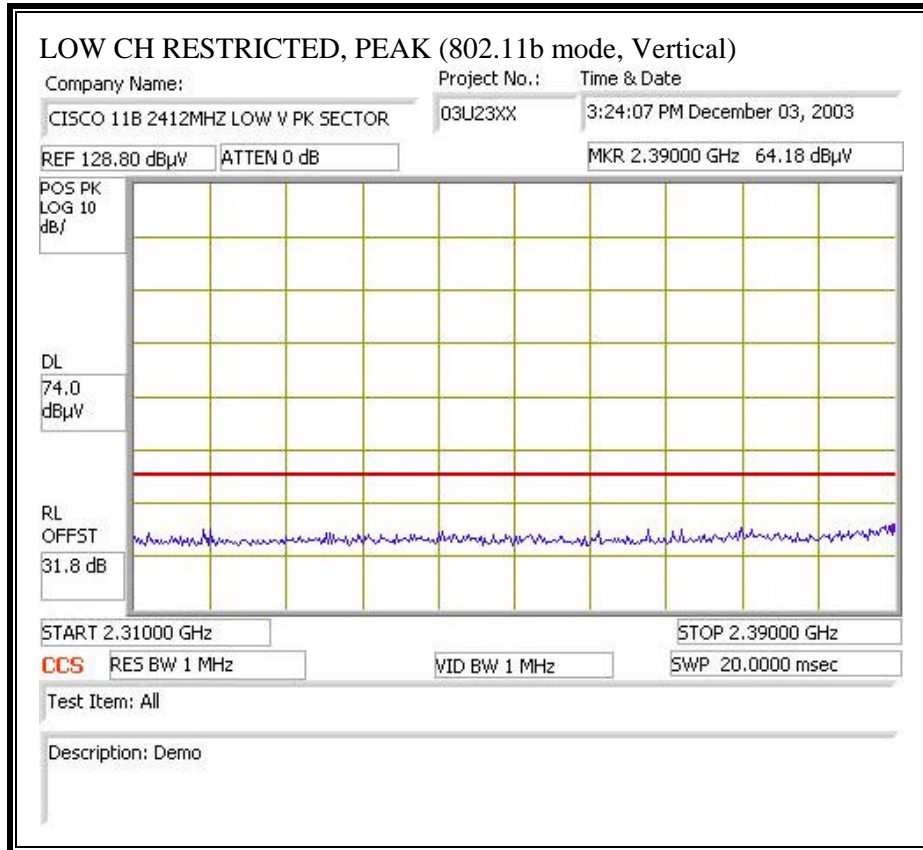


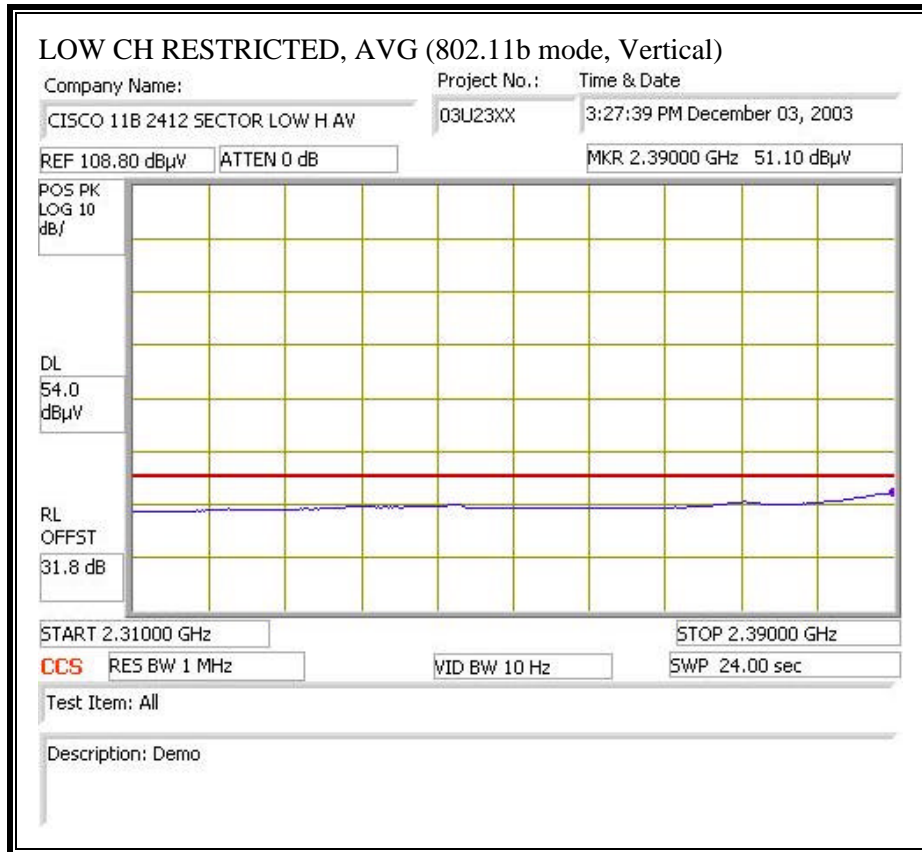
**RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)**





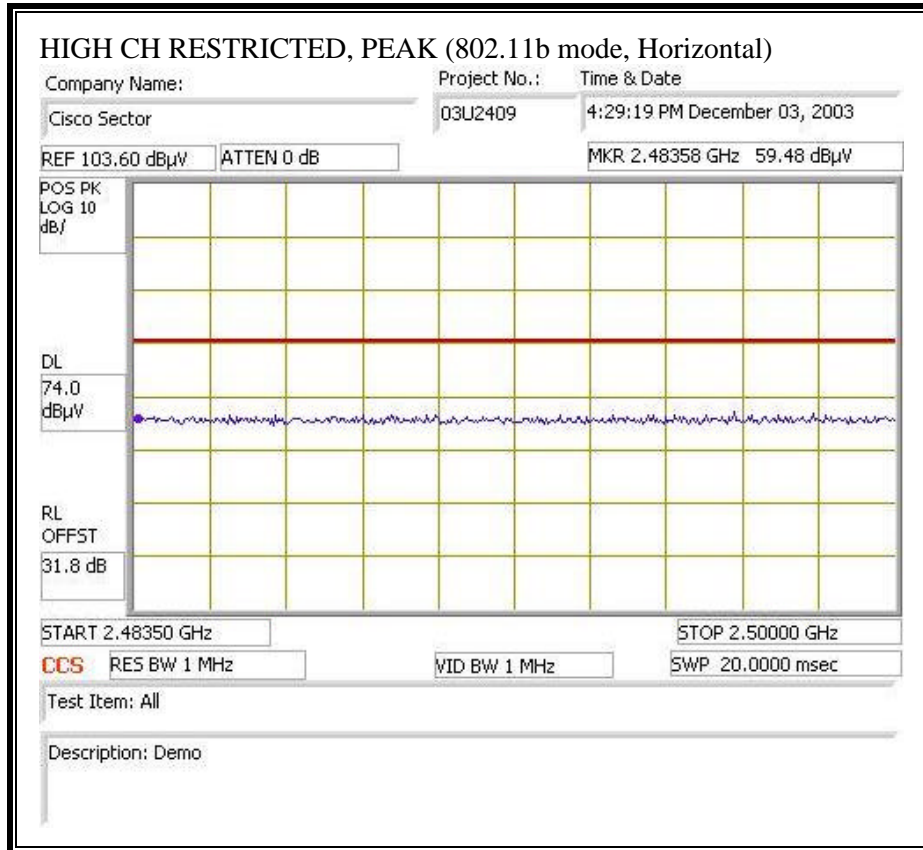
**RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)**

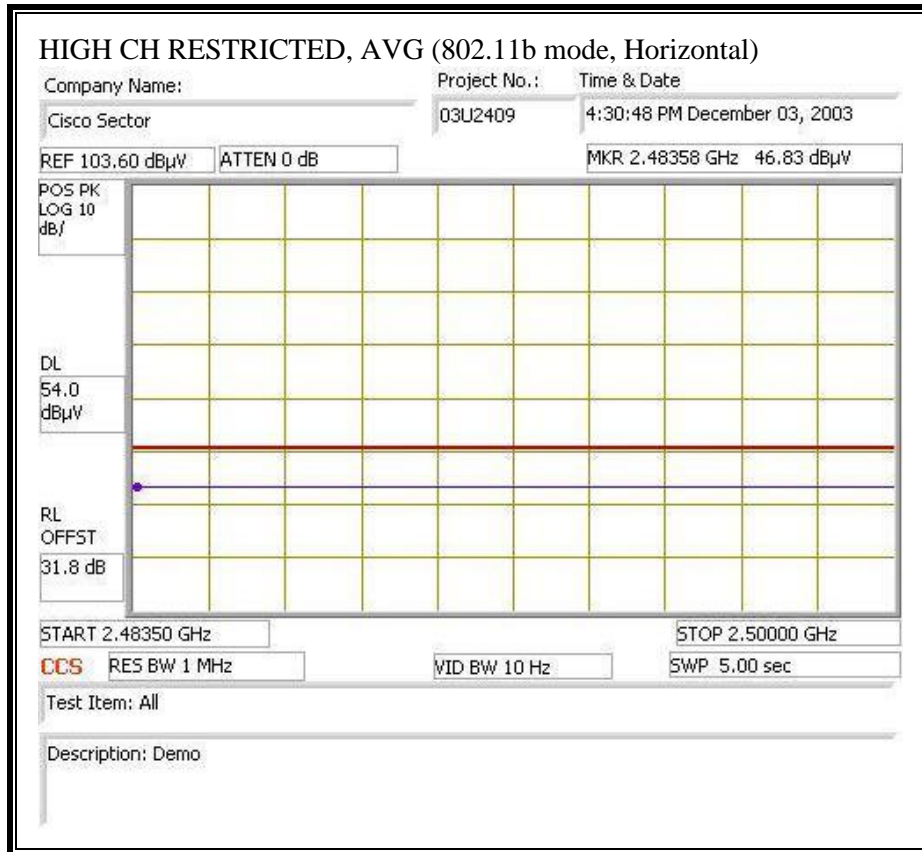




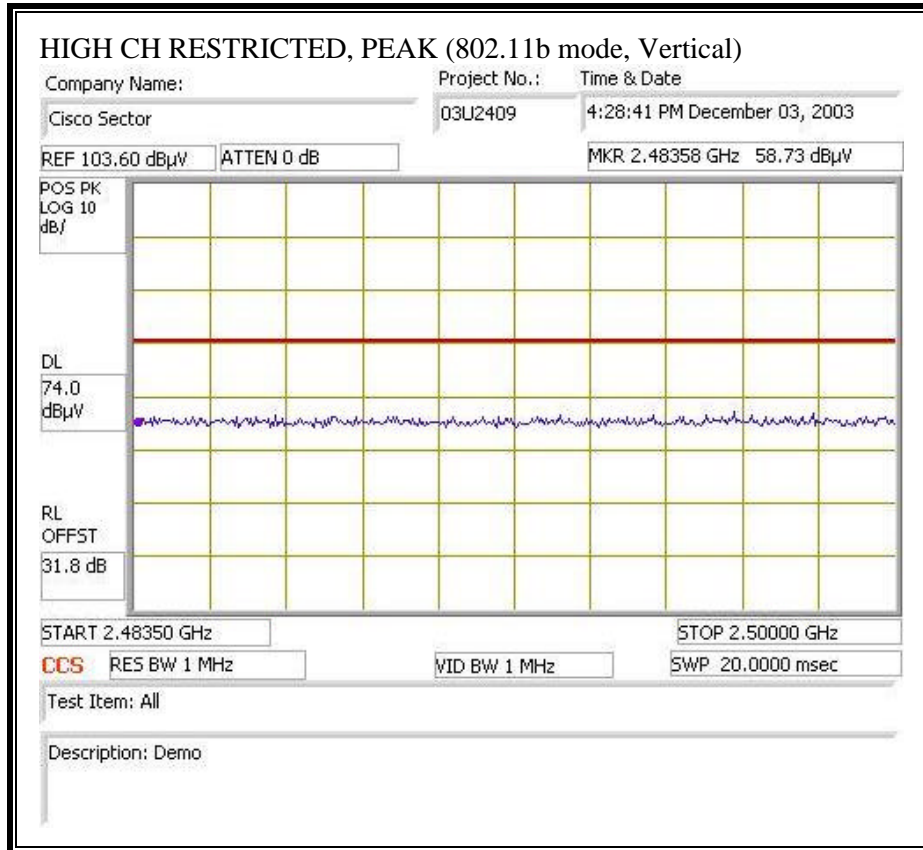


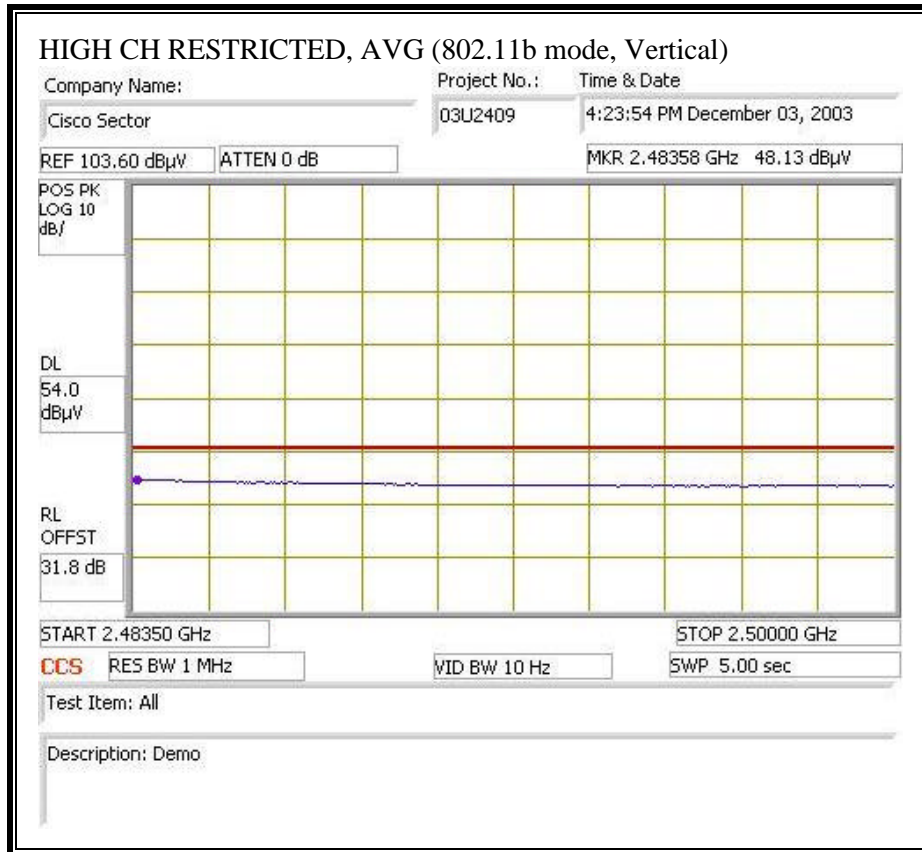
**RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)**





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





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

12/09/03 High Frequency Measurement  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Ben Du  
 Project #: 03U2409  
 Company: CISCO  
 EUT Descrip.: WLAN Card  
 EUT M/N:  
 Test Target: FCC 15 B  
 Mode Oper: Tx, b mode, with 15dBi Sector Antenna

Test Equipment:

EMCO Horn 1-18GHz  
 T89; S/N: 3245 @3m

Pre-amplifier 1-26GHz  
 T86 M10q 924341

Spectrum Analyzer  
 Agilent E4446A Analyzer

Horn > 18GHz

Limit  
 FCC 15.205

H Frequency Cables  
 (2 ft)  (2-3 ft)  (4-6 ft)  (12 ft)

Peak Measurements: 1 MHz Resolution Bandwidth  
 1 MHz Video Bandwidth

Average Measurements: 1 MHz Resolution Bandwidth  
 10 Hz Video Bandwidth

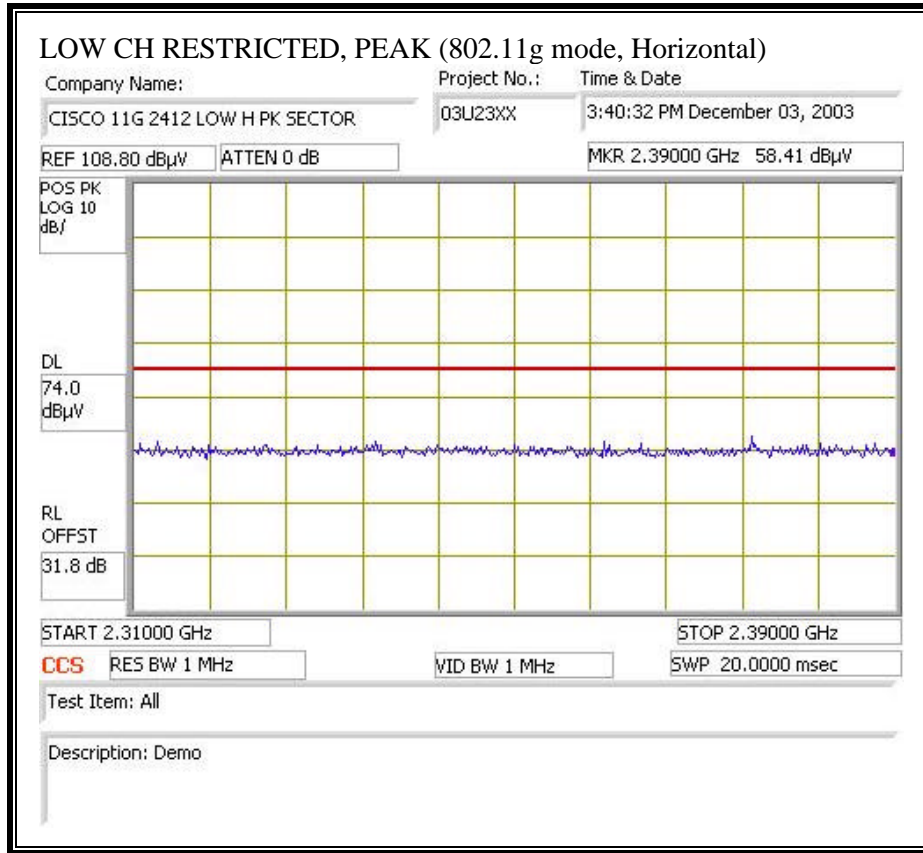
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
Tx at 2.412GHz															
4.824	9.8	50.1	38.2	33.1	3.1	-45.6	0.0	1.0	41.7	29.8	74.0	54.0	-32.3	-24.2	V
4.824	9.8	47.8	39.2	33.1	3.1	-45.6	0.0	1.0	39.4	30.8	74.0	54.0	-34.6	-23.2	H
Tx at 2.437GHz															
4.874	9.8	49.8	38.1	33.1	3.2	-45.6	0.0	1.0	41.4	29.7	74.0	54.0	-32.6	-24.3	V
7.311	9.8	41.1	32.3	36.0	4.1	-46.6	0.0	1.0	35.6	26.8	74.0	54.0	-38.4	-27.2	V
4.874	9.8	46.2	38.9	33.1	3.2	-45.6	0.0	1.0	37.8	30.5	74.0	54.0	-36.2	-23.5	H
7.311	9.8	42.1	33.1	36.0	4.1	-46.6	0.0	1.0	36.6	27.6	74.0	54.0	-37.4	-26.4	H
Tx at 2.62GHz															
4.924	9.8	50.3	39.0	33.1	3.2	-45.7	0.0	1.0	41.9	30.6	74.0	54.0	-32.1	-23.4	V
7.386	9.8	41.6	32.4	36.1	4.1	-46.5	0.0	1.0	36.2	27.0	74.0	54.0	-37.8	-27.0	V
4.924	9.8	47.9	39.5	33.1	3.2	-45.7	0.0	1.0	39.5	31.1	74.0	54.0	-34.5	-22.9	H
7.386	9.8	40.9	32.9	36.1	4.1	-46.5	0.0	1.0	35.5	27.5	74.0	54.0	-38.5	-26.5	H

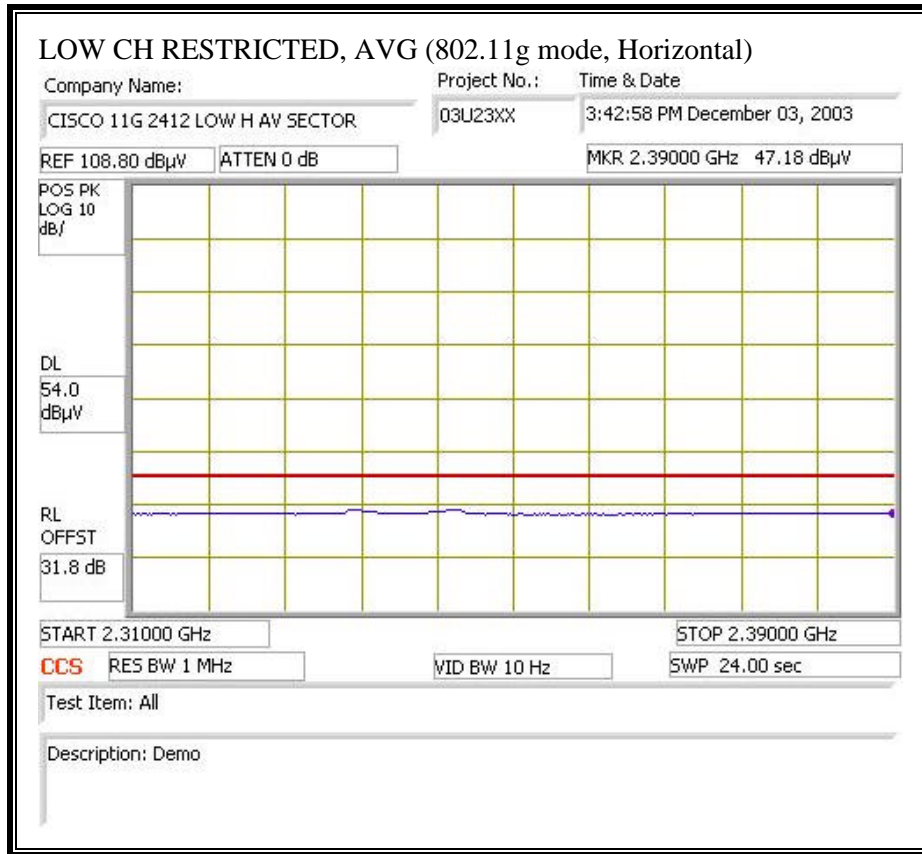
f Measurement Frequency  
 Dist Distance to Antenna  
 Read Analyzer Reading  
 AF Antenna Factor  
 CL Cable Loss

Amp Preamp Gain  
 D Corr Distance Correct to 3 meters  
 Avg Average Field Strength @ 3 m  
 Peak Calculated Peak Field Strength  
 HPF High Pass Filter

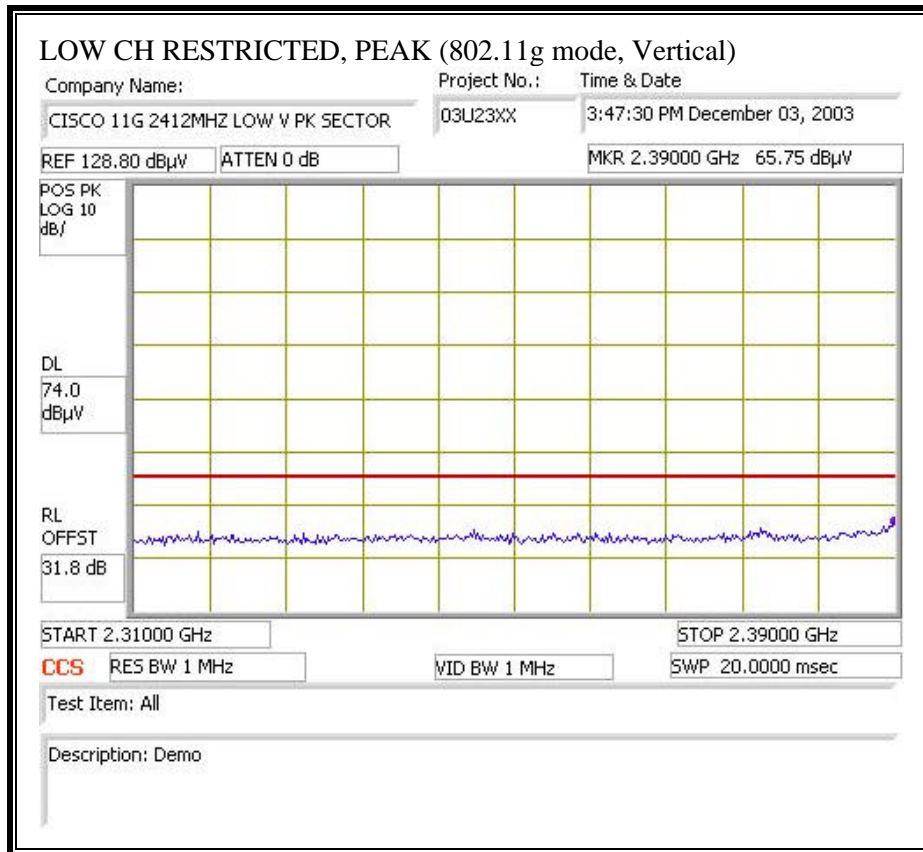
Avg Lim Average Field Strength Limit  
 Pk Lim Peak Field Strength Limit  
 Avg Mar Margin vs. Average Limit  
 Pk Mar Margin vs. Peak Limit

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

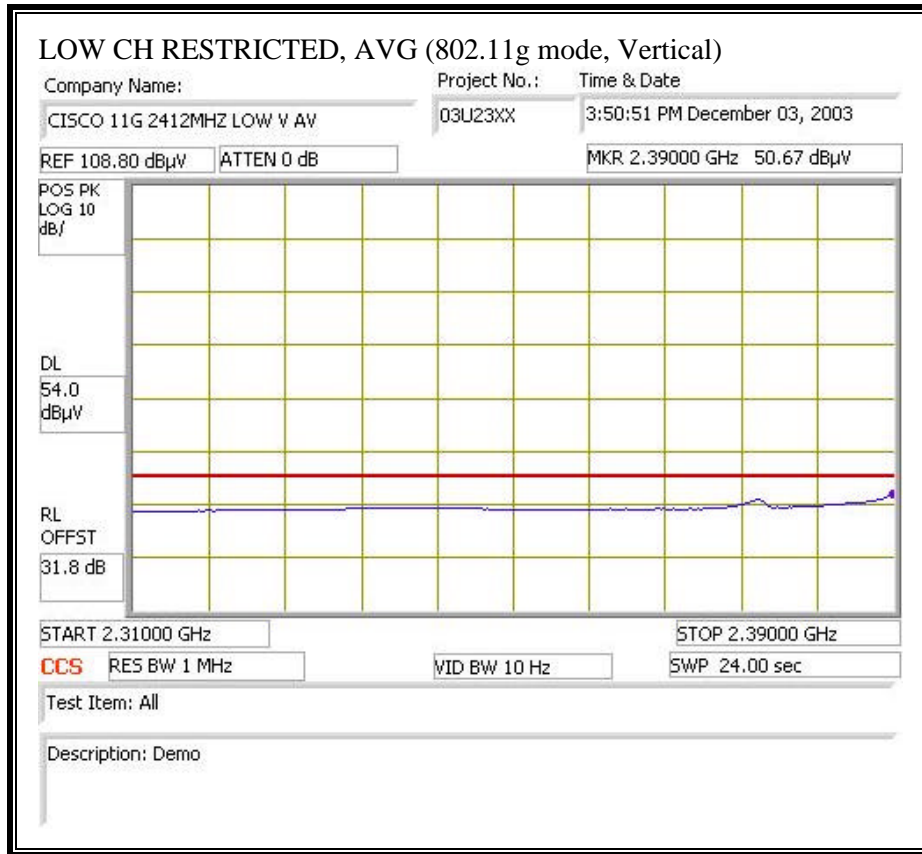




**RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)**







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

