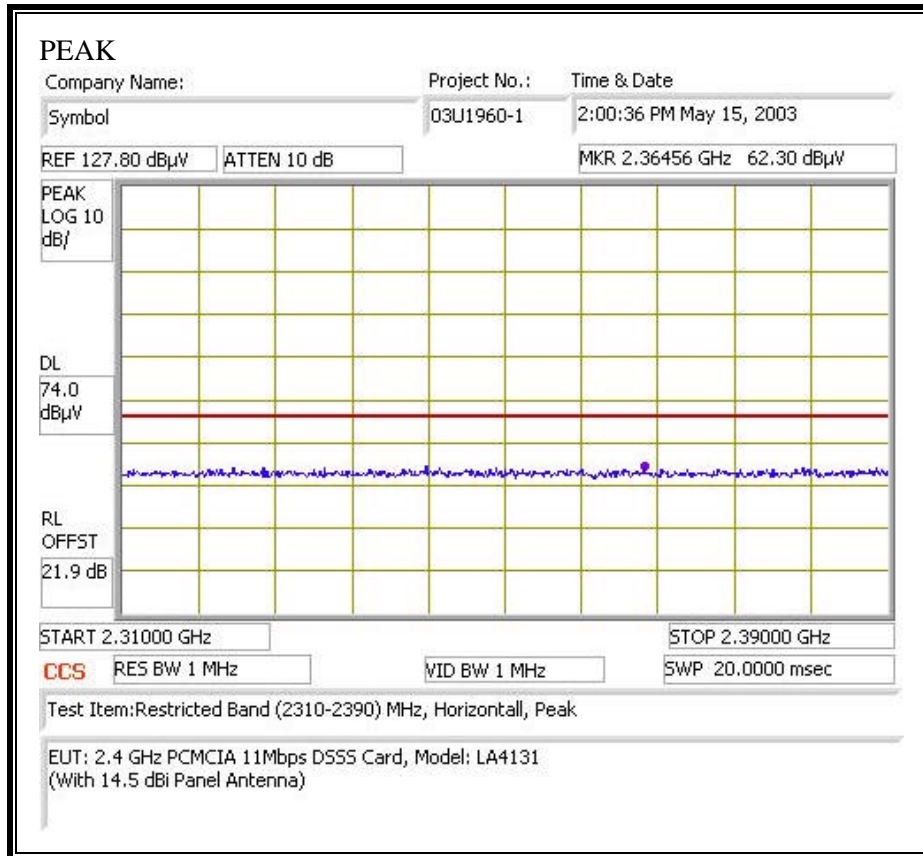
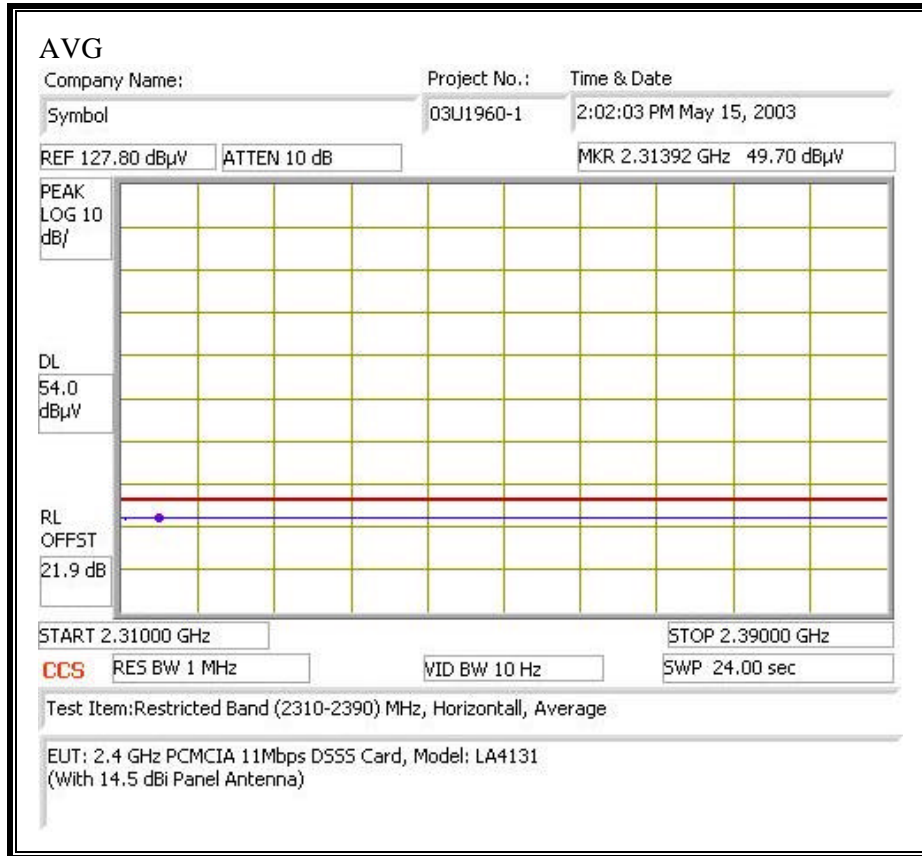


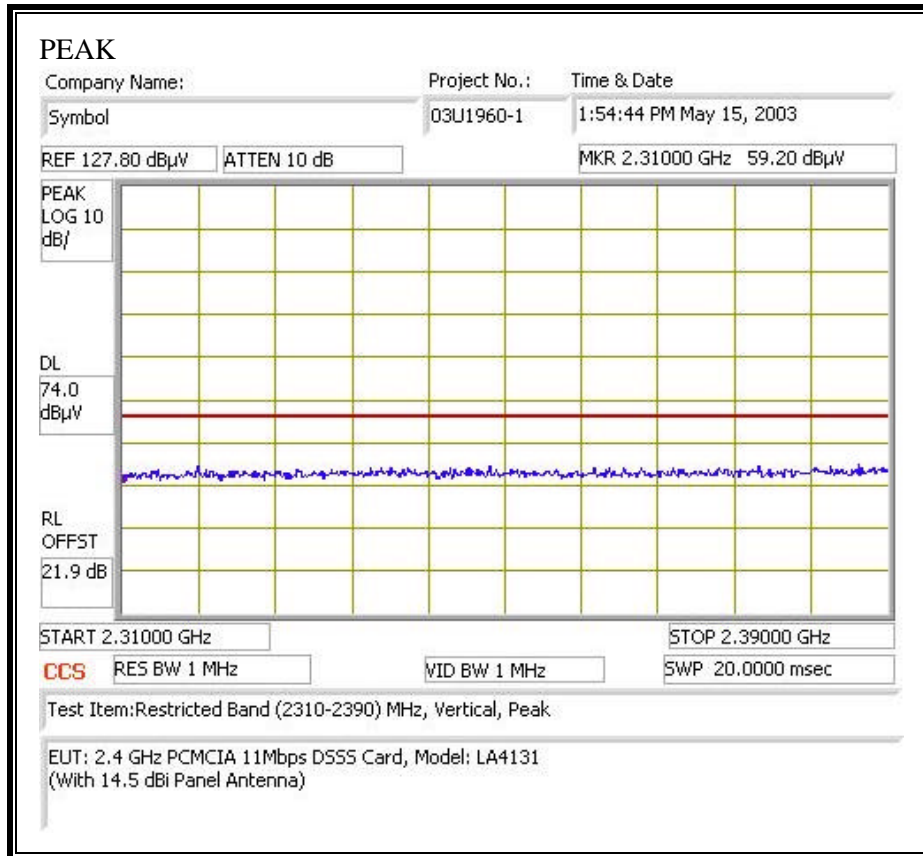


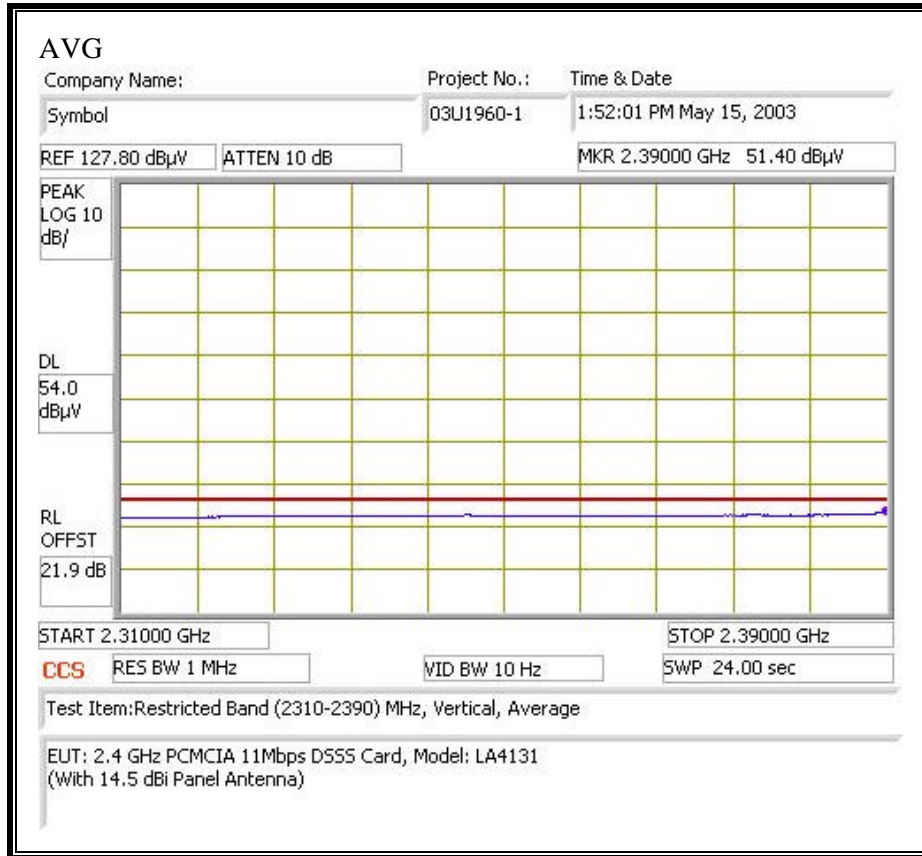
**ADJACENT RESTRICTED BAND (LOW CHANNEL, HORIZONTAL)**



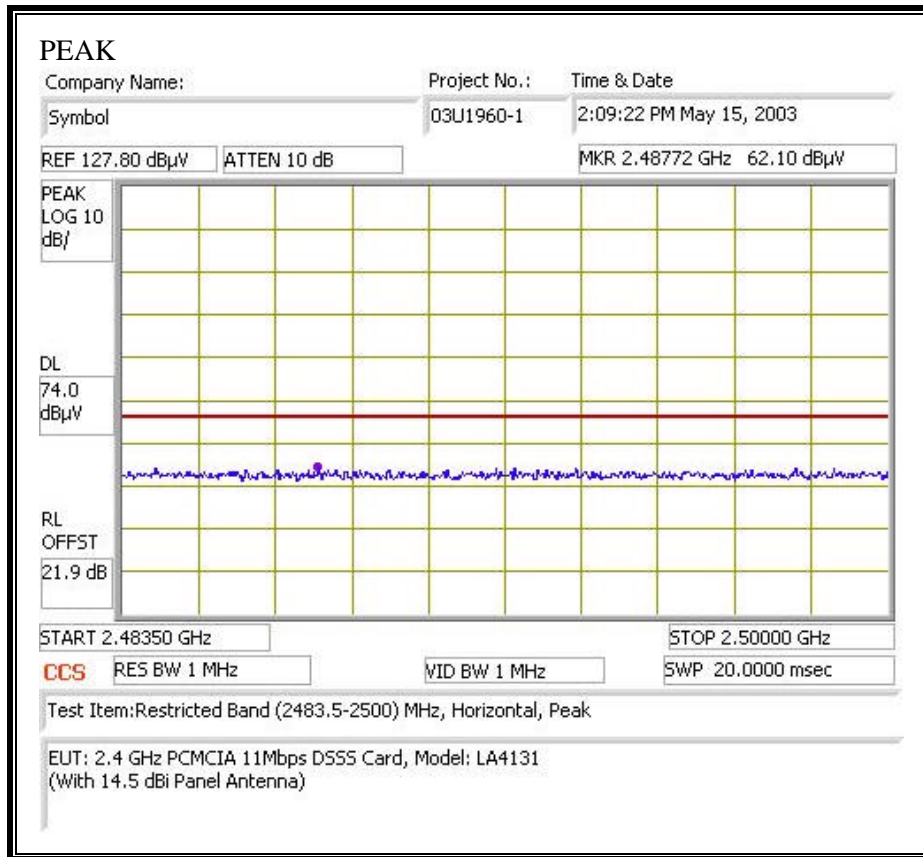


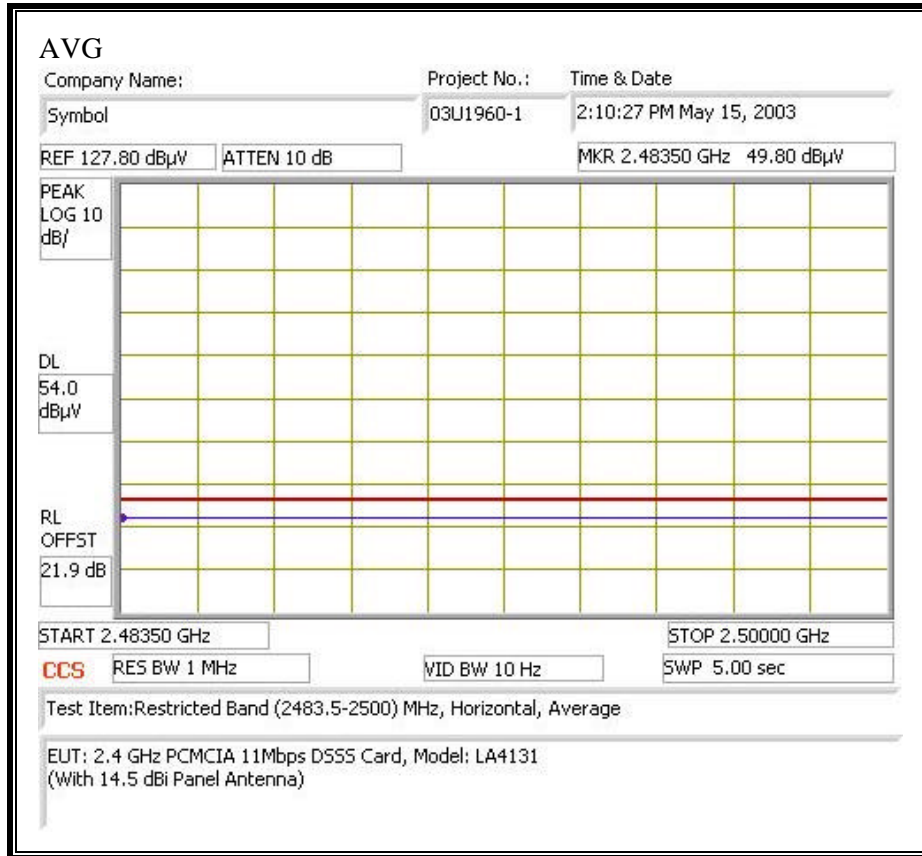
**ADJACENT RESTRICTED BAND (LOW CHANNEL, VERTICAL)**



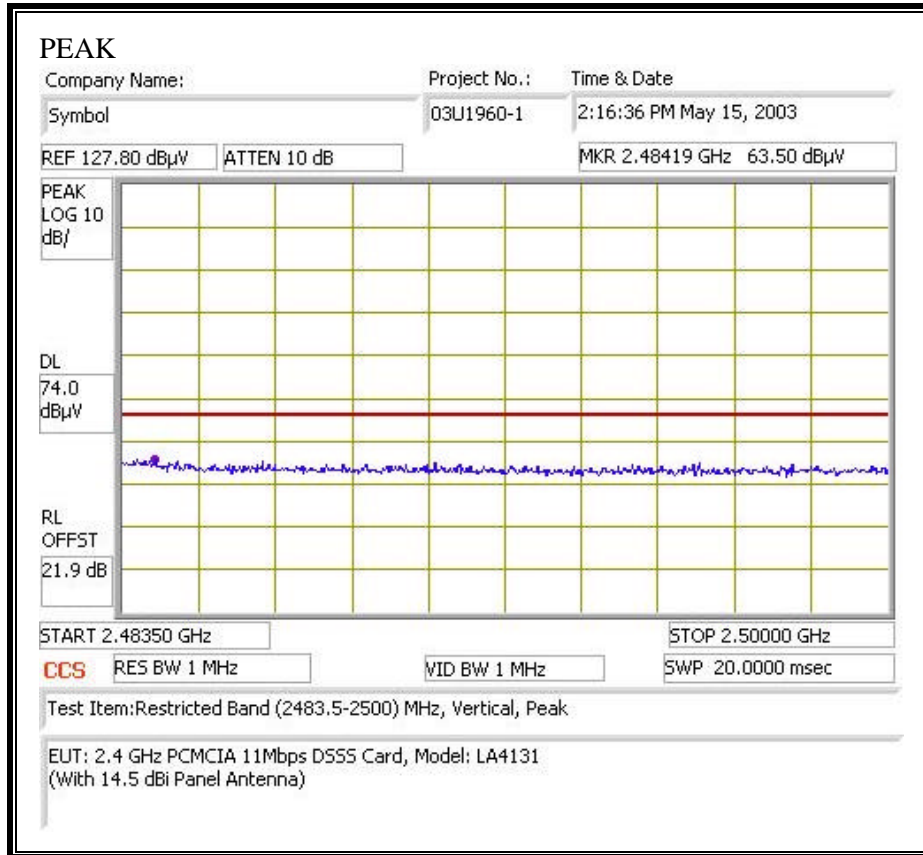


**ADJACENT RESTRICTED BAND (HIGH CHANNEL, HORIZONTAL)**

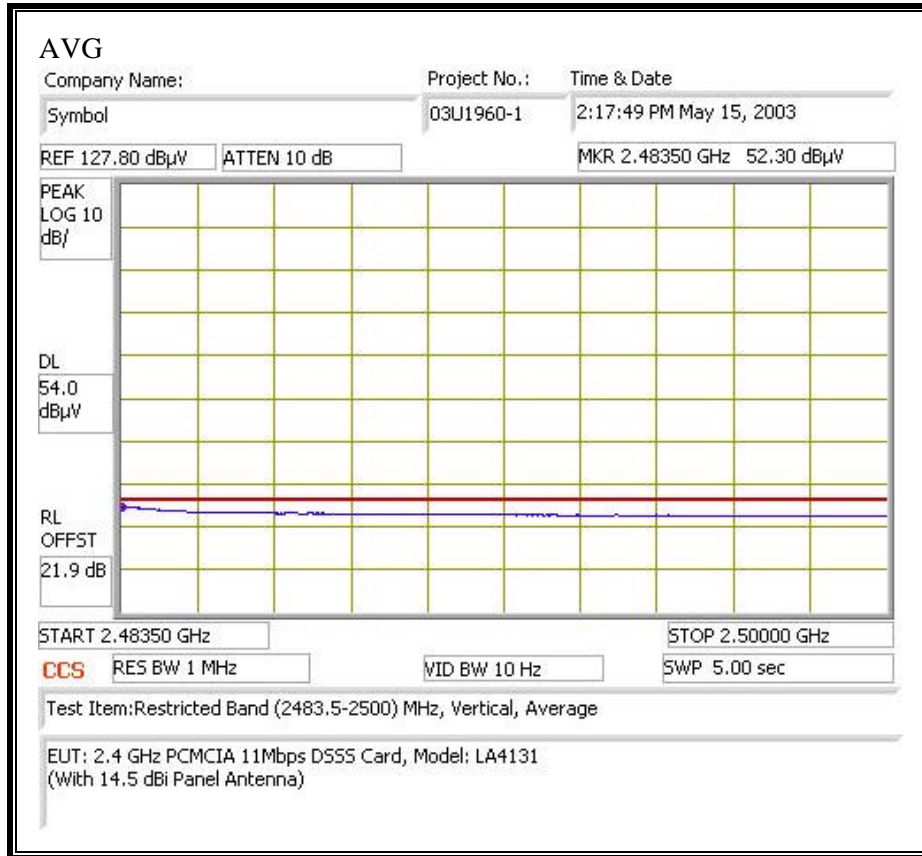




**ADJACENT RESTRICTED BAND (HIGH CHANNEL, VERTICAL)**







**HARMONICS AND SPURIOUS EMISSIONS**

06/04/03 **High Frequency Measurement**  
 Compliance Certification Services, Morgan Hill Open Field Site

**Test Engr:** Frank Ibrahim  
**Project #:** 03U1960-1  
**Company:** Symbol Technologies, Inc.  
**EUT Descrip.:** 2.4 GHz PCMCIA 11Mbps DSSS Card, (With 14.5 dBi gain Patch Antenna, model:S24014P)  
**EUT M/N:** LA4131  
**Test Target:** FCC 15.247  
**Mode Oper:** TX ON at Low Channel (2412MHz)

**Test Equipment:**

<b>EMCO Horn 1-18GHz</b> T73; S/N: 6717 @3m	<b>Pre-amplifier 1-26GHz</b> T87 Miteq 924342	<b>Spectrum Analyzer</b> HP 8566B Analyzer	<b>Horn &gt; 18GHz</b> T87; ARA 18-26GHz; S/N:1049
--	--	---	---

Hi Frequency Cables:  (2 ft)  (2 - 3 ft)  (4 - 6 ft)  (12 ft)

**Peak Measurements:** 1 MHz Resolution Bandwidth  
 1MHz 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
2.412	9.8	88.1	82.3	29.2	1.6	0.0	0.0	0.0	118.9	113.1					V
2.412	9.8	71.1	64.2	29.2	1.6	0.0	0.0	0.0	101.9	95.0					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

Note: no harmonics or spurious detected in the freq range of 1-25 GHz.

HARMONICS AND SPURIOUS EMISSIONS

06/04/03 **High Frequency Measurement**  
**Compliance Certification Services, Morgan Hill Open Field Site**

**Test Engr:** Frank Ibrahim  
**Project #:** 03U1960-1  
**Company:** Symbol Technologies, Inc.  
**EUT Descrip.:** 2.4 GHz PCMCIA 11Mbps DSSS Card, (With 14.5 dBi gain Patch Antenna, model:S24014P)  
**EUT M/N:** LA4131  
**Test Target:** FCC 15.247  
**Mode Oper:** TX ON at Mid Channel (2437MHz)

**Test Equipment:**

<b>EMCO Horn 1-18GHz</b> T73; S/N: 6717 @3m	<b>Pre-amplifier 1-26GHz</b> T87 Miteq924342	<b>Spectrum Analyzer</b> HP 8566B Analyzer	<b>Horn &gt; 18GHz</b> T87; ARA 18-26GHz; S/N:1049
--	---	---	---

Hi Frequency Cables:  (2 ft)  (2 ~ 3 ft)  (4 ~ 6 ft)  (12 ft)

**Peak Measurements:** 1 MHz Resolution Bandwidth  
1MHz 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
2.437	9.8	89.5	82.1	29.3	1.6	0.0	0.0	0.0	120.4	113.0					V
2.437	9.8	69.3	63.2	29.3	1.6	0.0	0.0	0.0	100.2	94.1					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

Note: no harmonics or spurious detected in the freq range of 1-25 GHz.

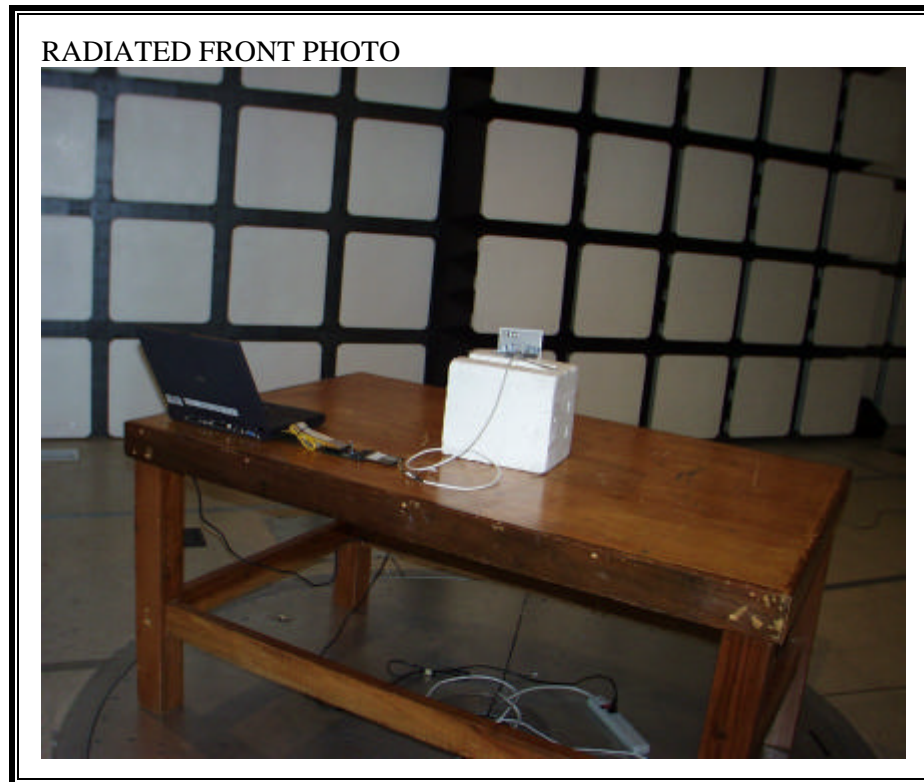
HARMONIC AND SPURIOUS EMISSIONS

06/04/03 <b>High Frequency Measurement</b>																
<b>Compliance Certification Services, Morgan Hill Open Field Site</b>																
<b>Test Engr:</b>		Frank Ibrahim														
<b>Project #:</b>		03U1960-1														
<b>Company:</b>		Symbol Technologies, Inc.														
<b>EUT Descrip.:</b>		2.4 GHz PCMCIA 11Mbps DSSS Card, (With 14.5 dBi gain Patch Antenna, model:S24014P)														
<b>EUT M/N:</b>		LA4131														
<b>Test Target:</b>		FCC 15.247														
<b>Mode Oper:</b>		TX ON at High Channel (2462MHz)														
<b>Test Equipment:</b>																
EMCO Horn 1-18GHz				Pre-amplifier 1-26GHz				Spectrum Analyzer				Horn > 18GHz				
T73; S/N: 6717 @3m				T87 Miteq 924342				HP 8566B 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)																
<b>Peak Measurements:</b>								<b>Average Measurements:</b>								
1 MHz Resolution Bandwidth								1 MHz Resolution Bandwidth								
1MHz Video 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	
2.462	9.8	88.6	81.1	29.3	1.6	0.0	0.0	0.0	119.5	112.0					V	
2.462	9.8	67.4	61.5	29.3	1.6	0.0	0.0	0.0	98.3	92.4					H	
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									

Note: no harmonics or spurious detected in the freq range of 1-25 GHz.

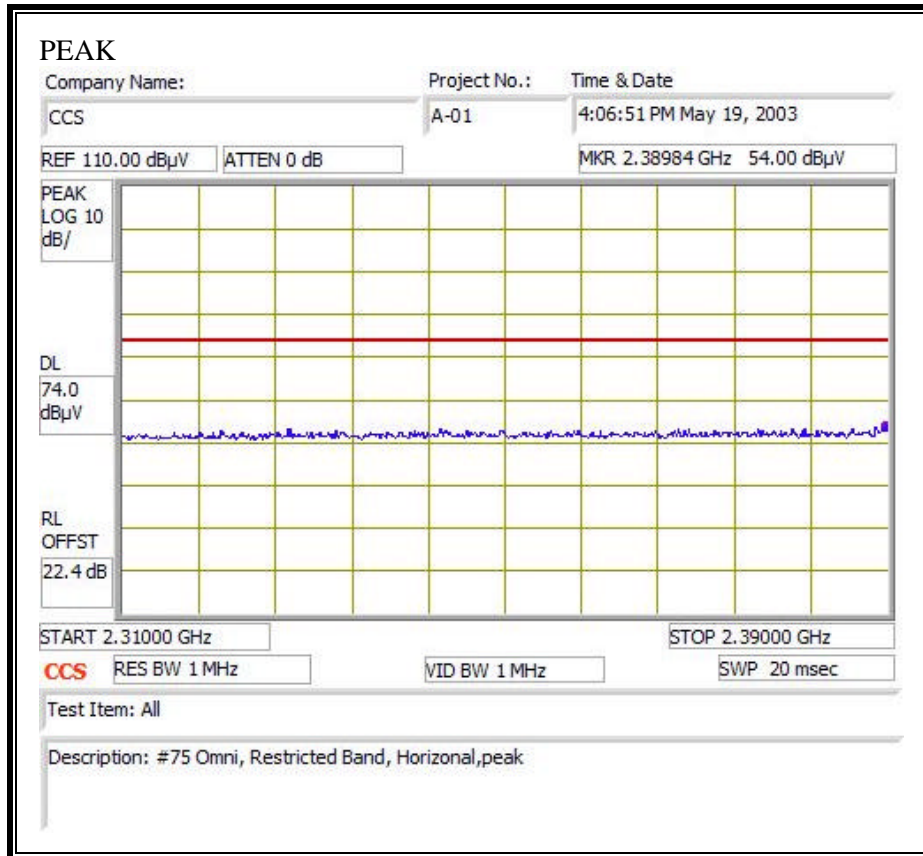
## 6.5. PATCH ANTENNA RESULTS

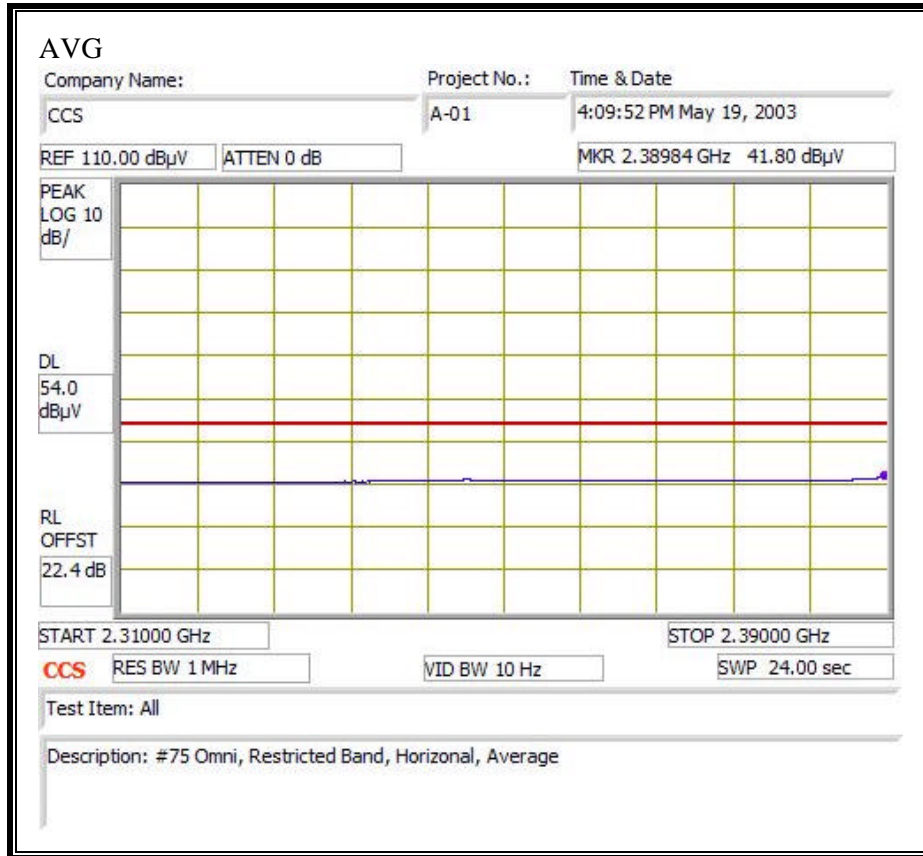
### SETUP PHOTOS





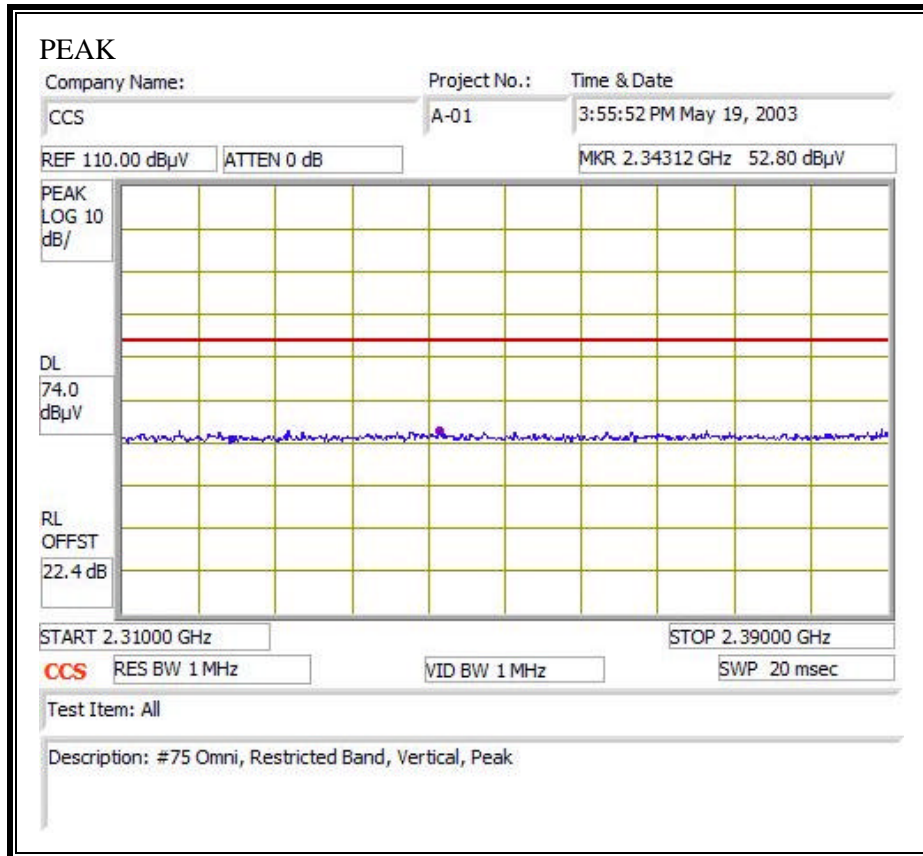
**ADJACENT RESTRICTED BAND (LOW CHANNEL, HORIZONTAL)**

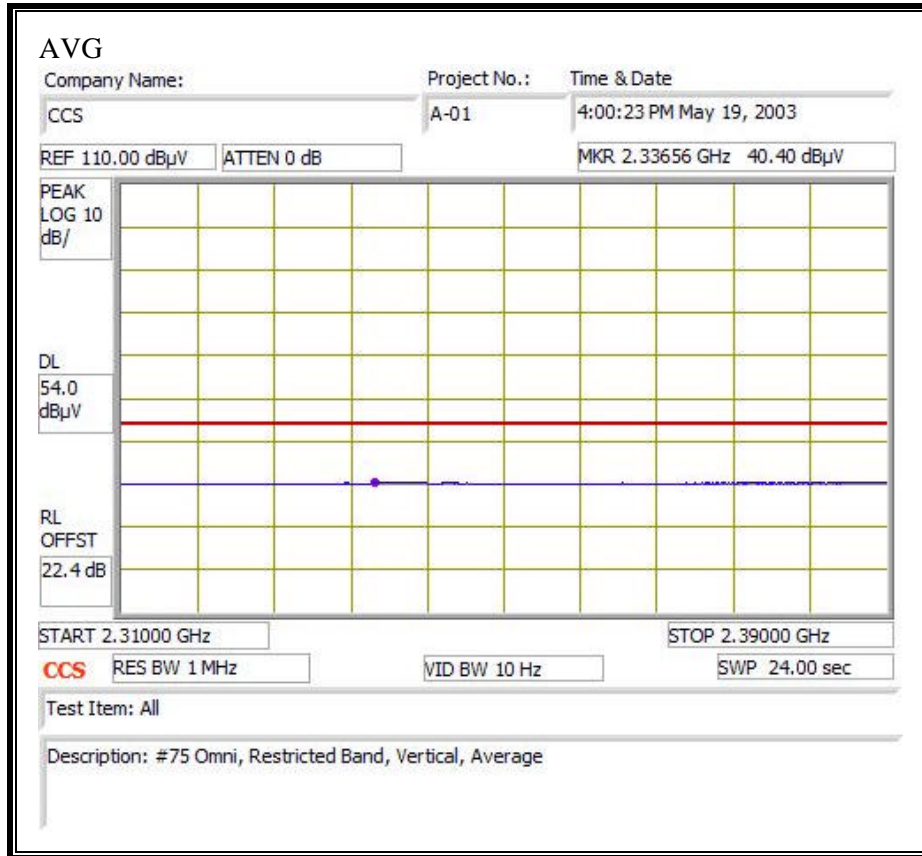




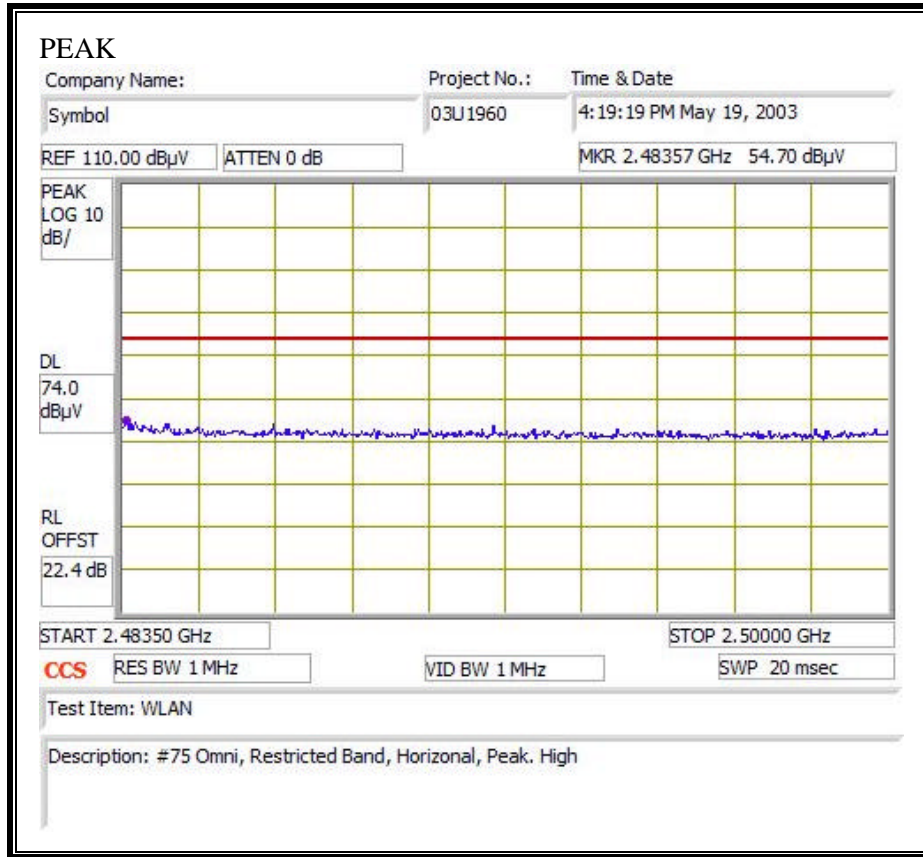


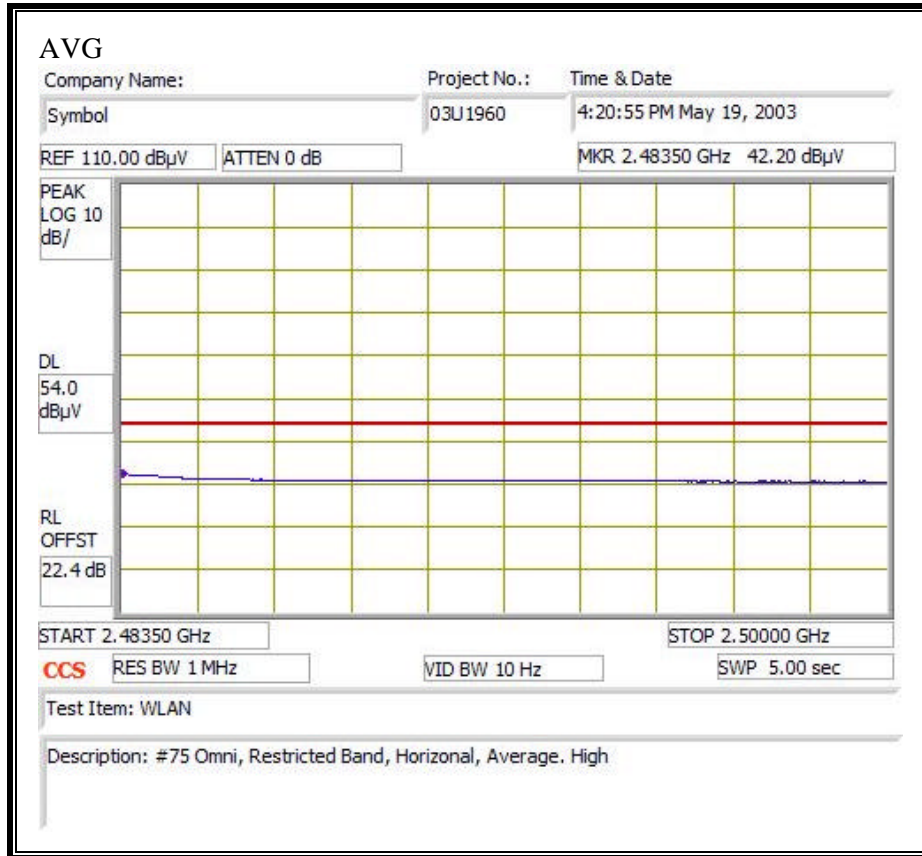
**ADJACENT RESTRICTED BAND (LOW CHANNEL, VERTICAL)**



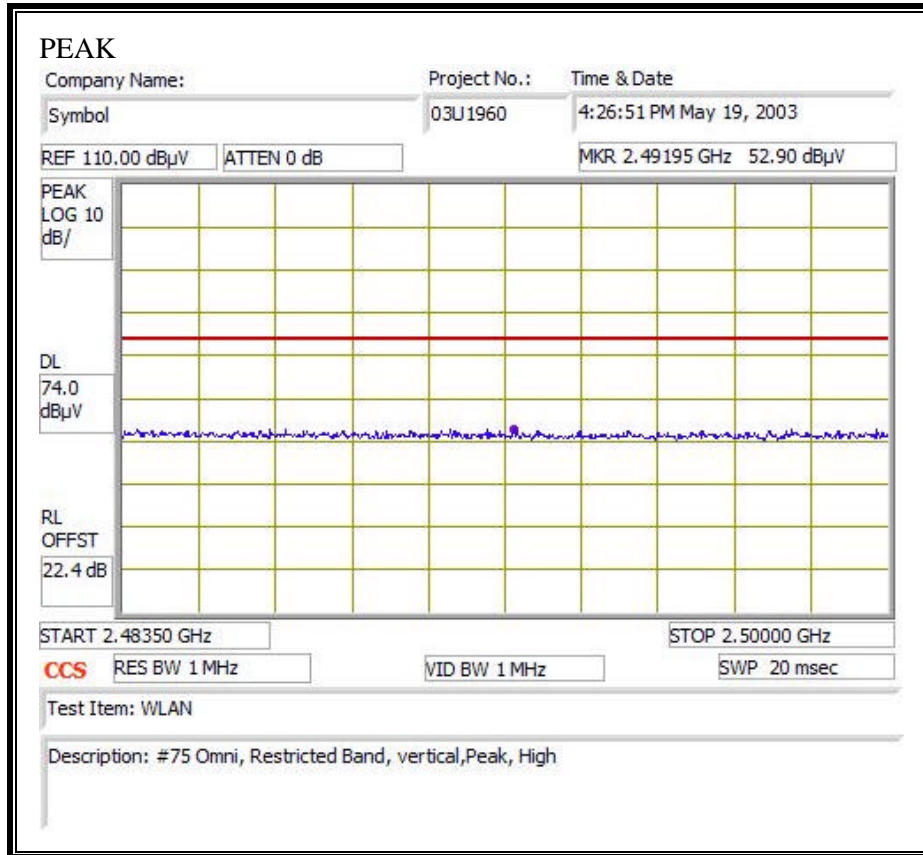


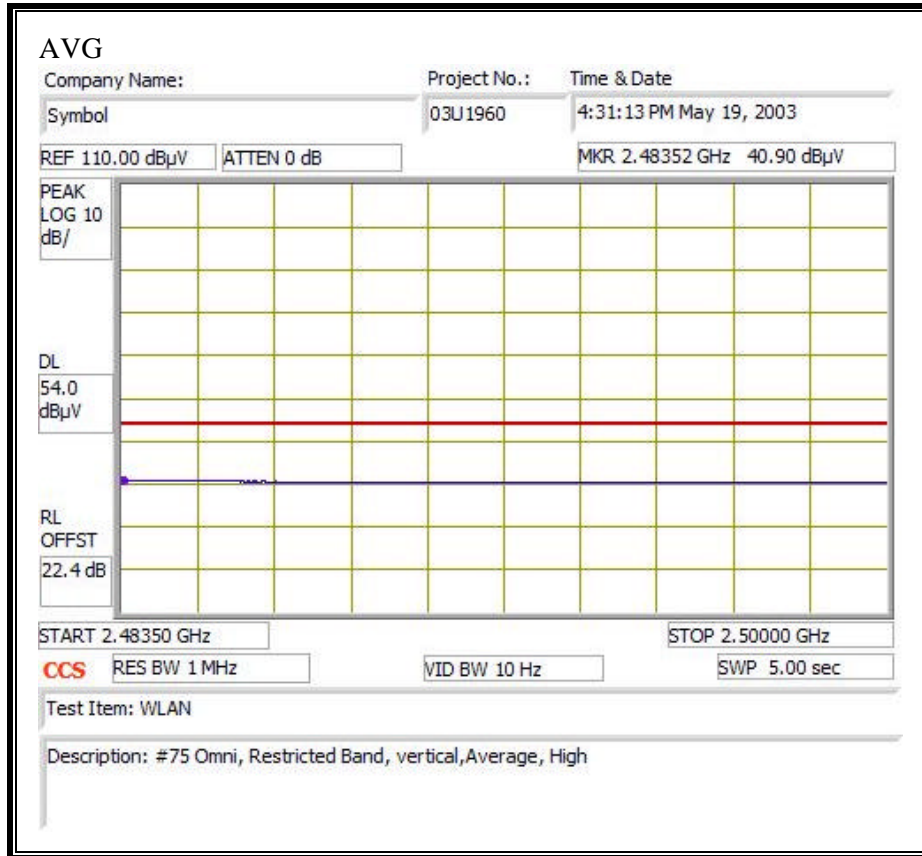
**ADJACENT RESTRICTED BAND (HIGH CHANNEL, HORIZONTAL)**





**ADJACENT RESTRICTED BAND (HIGH CHANNEL, VERTICAL)**





**HARMONICS AND SPURIOUS EMISSIONS**

06/04/03 **High Frequency Measurement**  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: William Zhuang  
 Project #: 03U1960-1  
 Company: Symbol Technologies Emea  
 EUT Descr.: 2.4 GHz PCMCIA Card 11MBPS DSSS  
 EUT M/N: LA4131 with Antenna #75, Patch ML-2499-SD3-01  
 Test Target: FCC Part 15.247 Class II Permissive Change  
 Mode Oper: Tx On

**Test Equipment:**

EMCO Horn 1-18GHz T73; S/N: 6717 @ 1m	Pre-amplifier 1-26GHz T87 Miteq 924342	Spectrum Analyzer HP 8566B Analyzer	Horn > 18GHz
--	---	--	--------------

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

		<b>Peak Measurements:</b>				<b>Average Measurements:</b>					
		1 MHz Resolution Bandwidth				1 MHz Resolution Bandwidth					
		1MHz Video Bandwidth				10Hz Video Bandwidth					

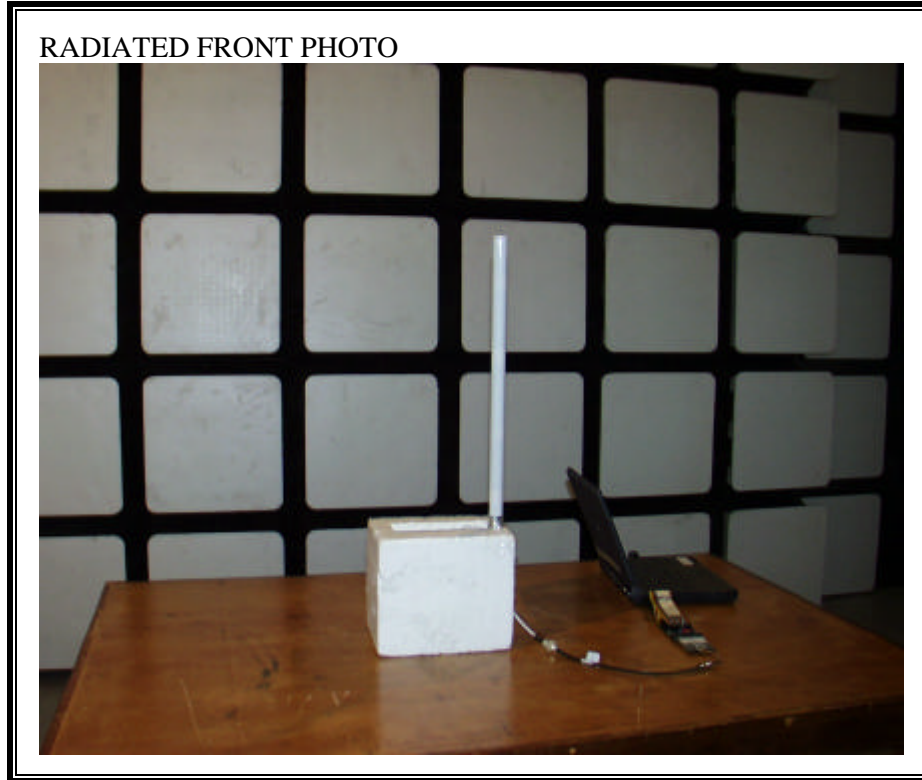
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
4.824	9.9	48.3	37.1	33.9	5.0	-44.7	0.1	1.0	43.6	32.4	74.0	54.0	-30.4	-21.6	Low,V Noise
4.824	9.9	49.7	37.1	33.9	5.0	-44.7	0.1	1.0	45.0	32.4	74.0	54.0	-29.0	-21.6	Low,H Noise
4.874	9.9	48.3	36.9	33.9	5.0	-44.7	0.1	1.0	43.6	32.2	74.0	54.0	-30.4	-21.8	Mid,H Noise
4.874	9.9	48.3	36.7	33.9	5.0	-44.7	0.1	1.0	43.6	32.0	74.0	54.0	-30.4	-22.0	Mid,V Noise
4.924	9.9	48.5	36.6	34.0	5.1	-44.8	0.1	1.0	43.8	31.9	74.0	54.0	-30.2	-22.1	High,V Noise
4.924	9.9	49.3	36.9	34.0	5.1	-44.8	0.1	1.0	44.6	32.2	74.0	54.0	-29.4	-21.8	High,H Noise

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		

Note: no harmonics or spurious detected above the system noise floor.

## 6.6. DIPOLE ANTENNA RESULTS

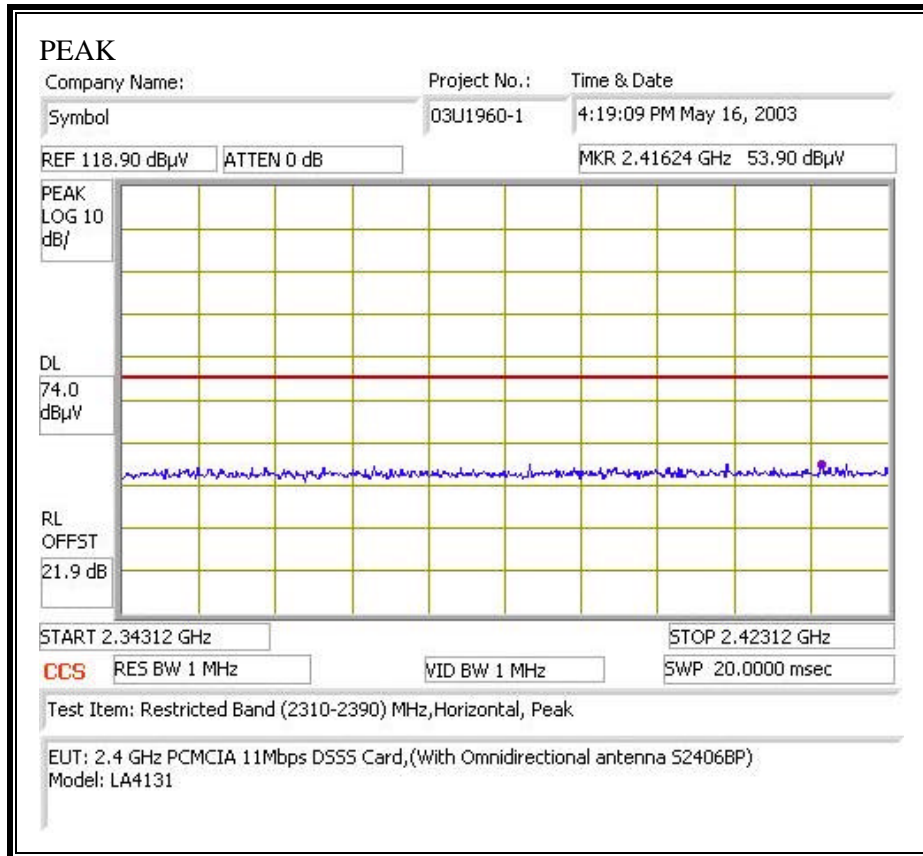
### SETUP PHOTOS

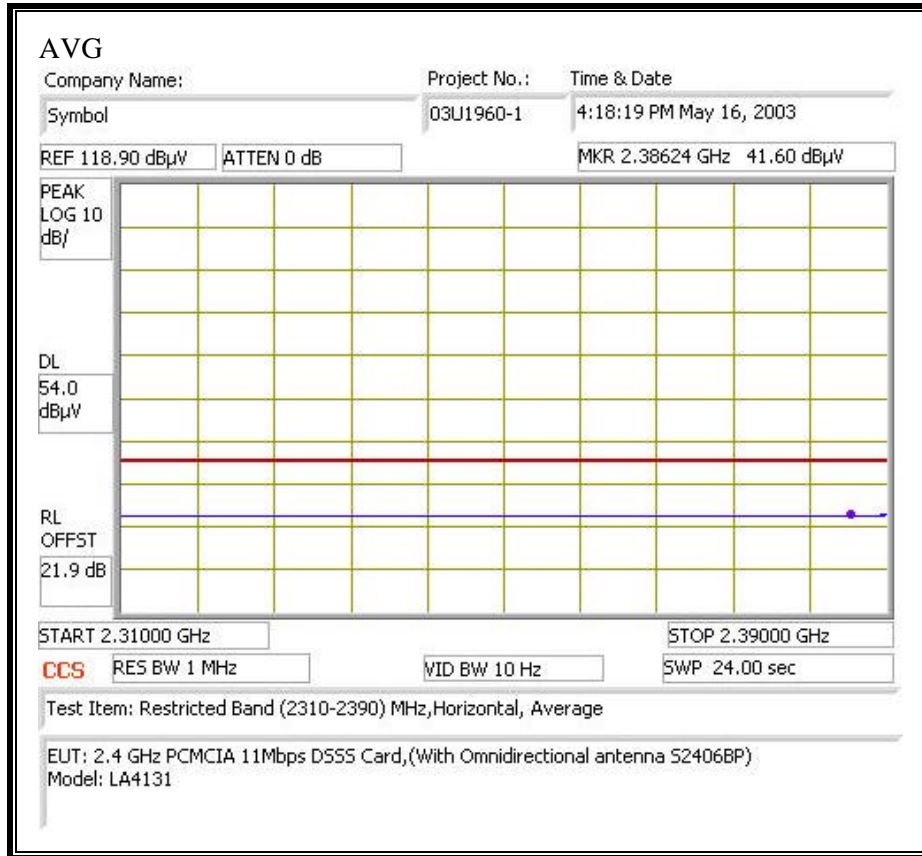




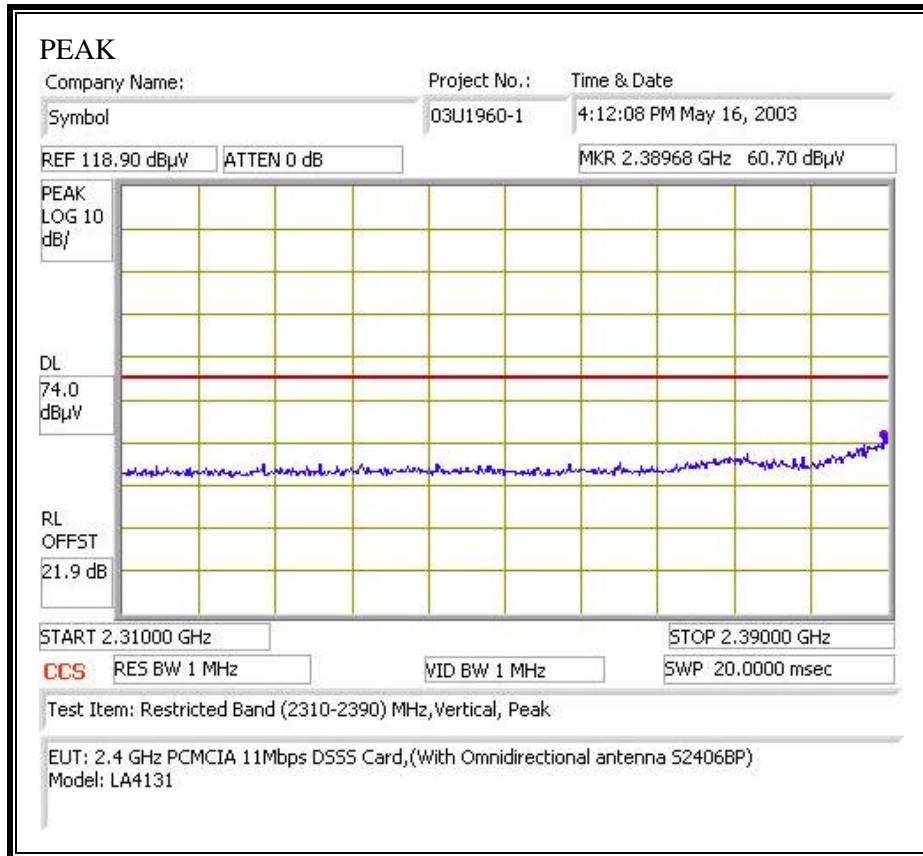


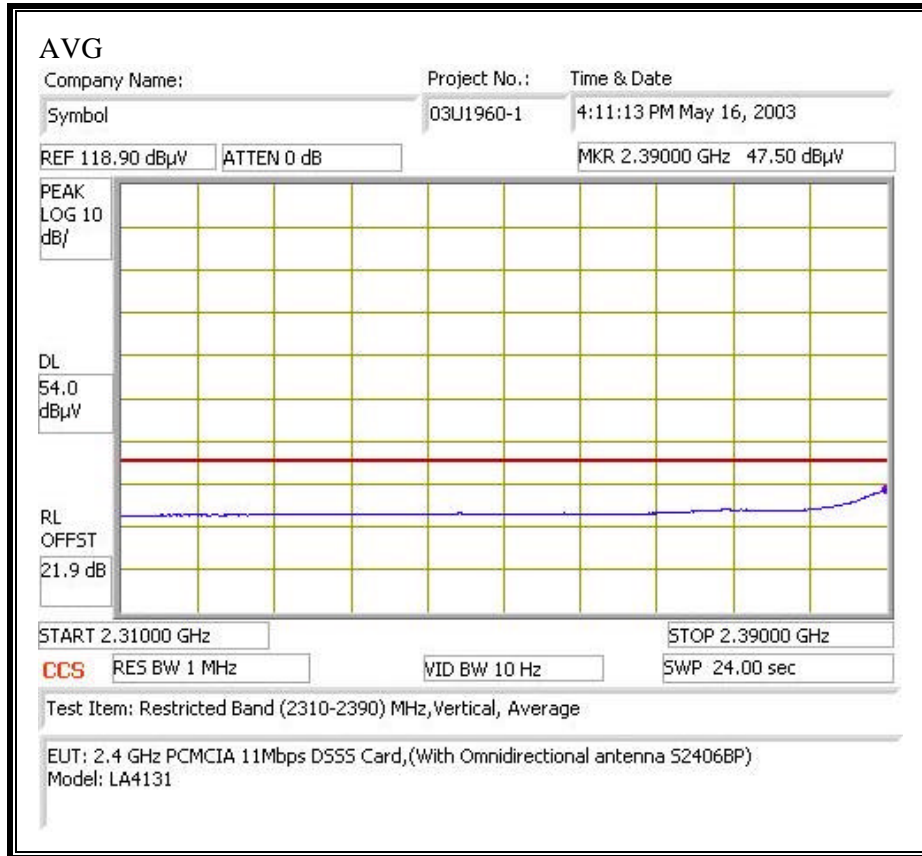
**ADJACENT RESTRICTED BAND (LOW CHANNEL, HORIZONTAL)**



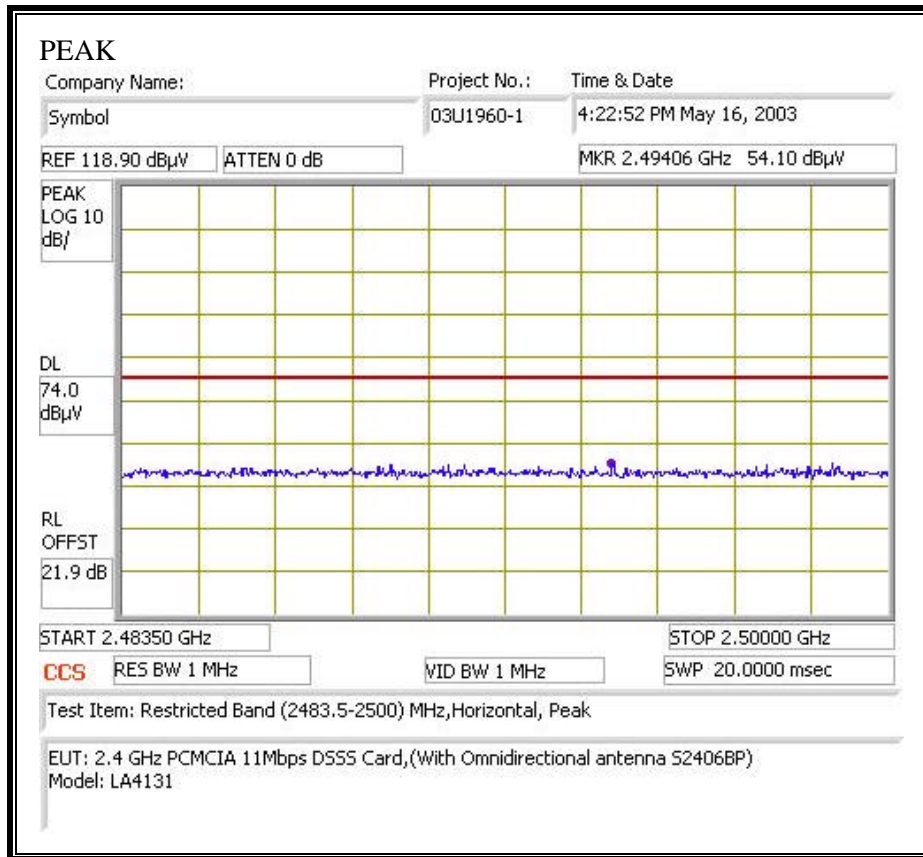


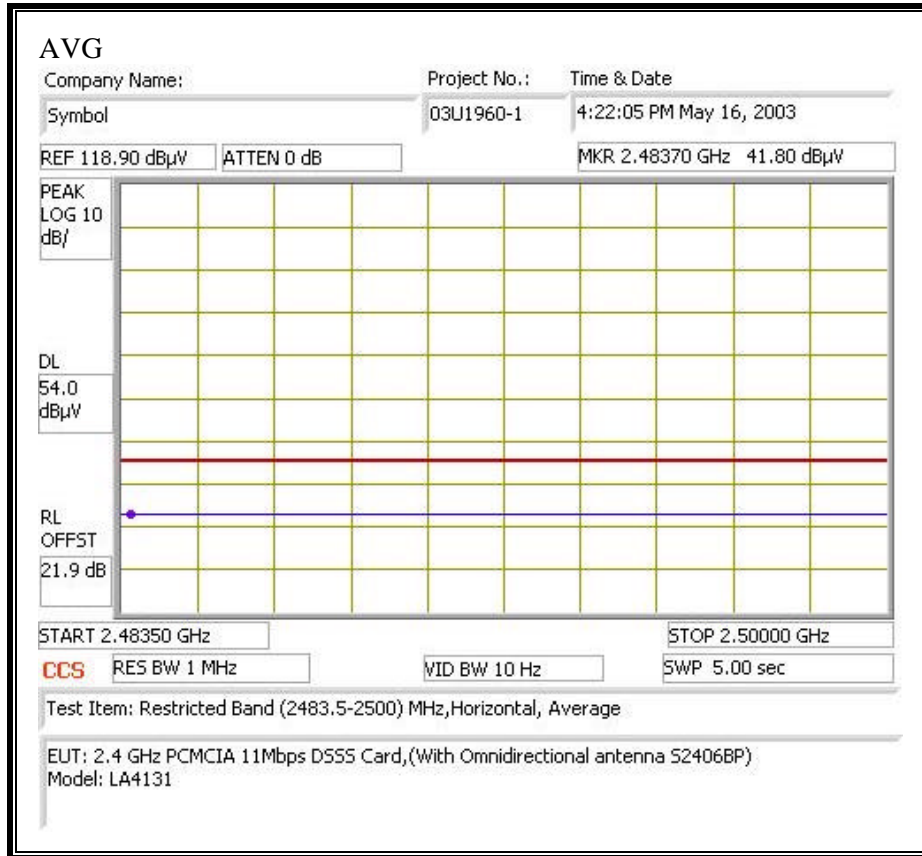
**ADJACENT RESTRICTED BAND (LOW CHANNEL, VERTICAL)**



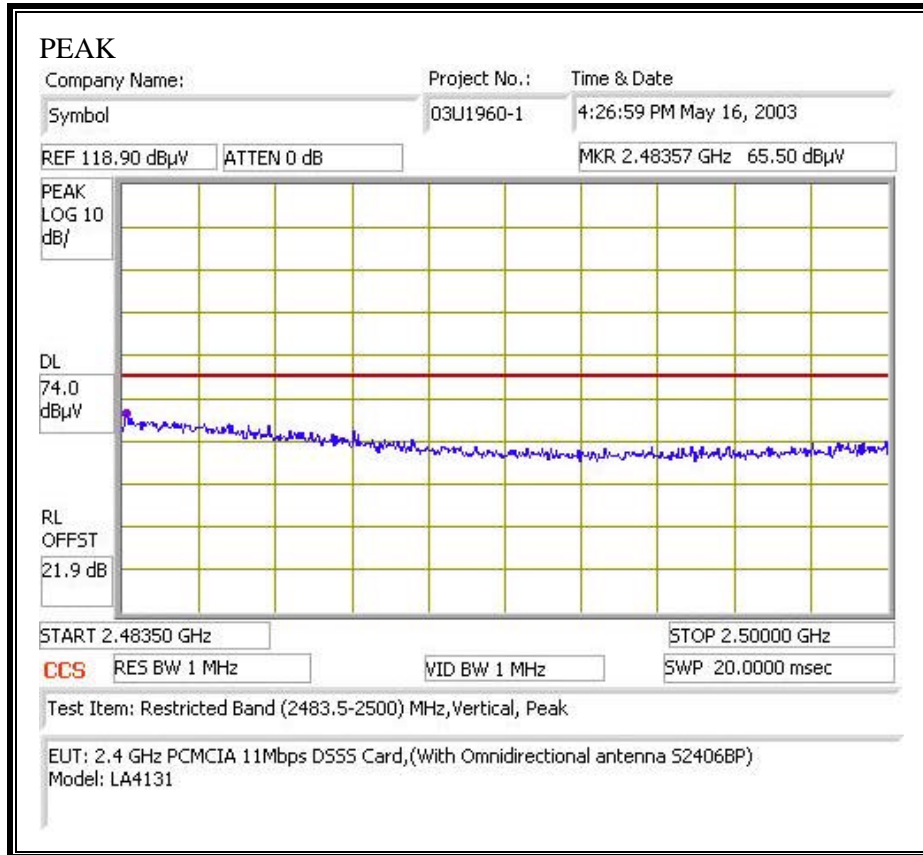


**ADJACENT RESTRICTED BAND (HIGH CHANNEL, HORIZONTAL)**

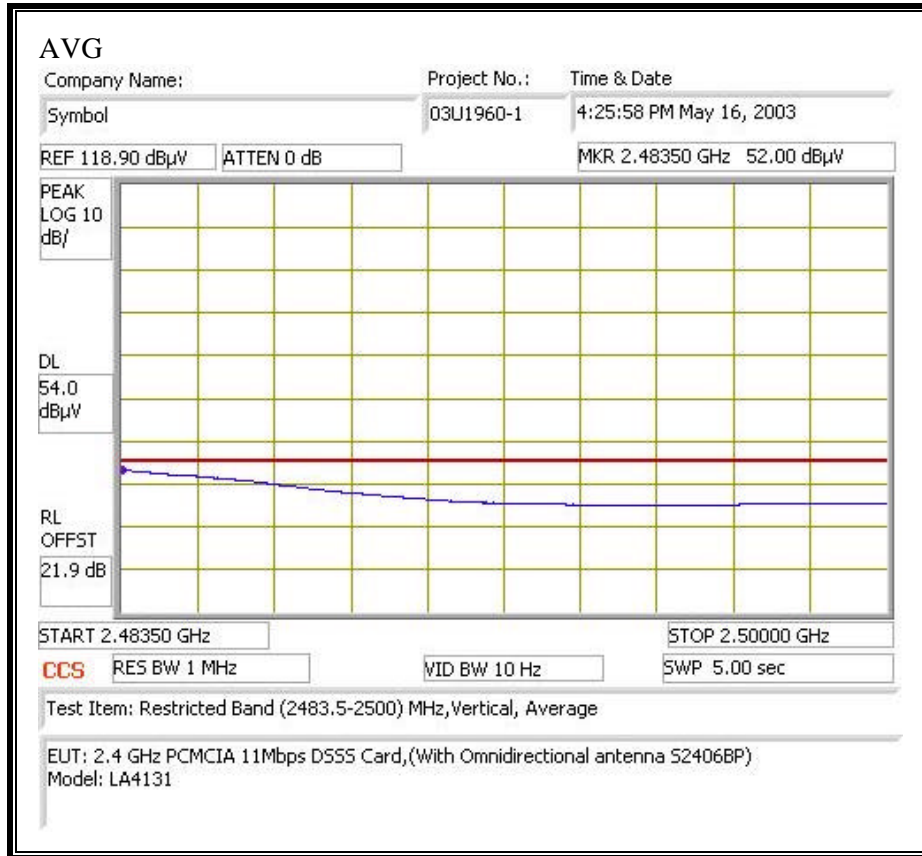




**ADJACENT RESTRICTED BAND (HIGH CHANNEL, VERTICAL)**







**HARMONICS AND SPURIOUS EMISSIONS**

06/04/03 **High Frequency Measurement**  
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: William Zhuang  
 Project #: 03U1960-1  
 Company: Symbol Technologies Emea  
 EUT Descr.: 2.4 GHz PCMCIA Card 11MBPS DSSS  
 EUT M/N: LA4131 with Antenna # 74, Dipole ML-2499-BMMA1-01  
 Test Target: FCC Part 15.247 Class II Permissive Change  
 Mode Oper: Tx On

**Test Equipment:**

EMCO Horn 1-18GHz T73; S/N: 6717 @ 1m	Pre-amplifier 1-26GHz T87 Miteq 924342	Spectrum Analyzer HP 8566B Analyzer	Horn > 18GHz
--	---	--	--------------

Hi Frequency Cables  
 (2 ft)  (2 ~ 3 ft)  (4 ~ 6 ft)  (12 ft)

**Peak Measurements:**  
 1 MHz Resolution Bandwidth  
 1MHz 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
4.824	9.9	47.5	36.2	33.9	5.0	-44.7	0.1	1.0	42.8	31.5	74.0	54.0	-31.2	-22.5	Low,V Noise
4.824	9.9	47.8	36.1	33.9	5.0	-44.7	0.1	1.0	43.1	31.4	74.0	54.0	-30.9	-22.6	Low,H Noise
4.874	9.9	47.3	36.3	33.9	5.0	-44.7	0.1	1.0	42.6	31.6	74.0	54.0	-31.4	-22.4	Mid,H Noise
4.874	9.9	47.2	36.2	33.9	5.0	-44.7	0.1	1.0	42.5	31.5	74.0	54.0	-31.5	-22.5	Mid,V Noise
4.924	9.9	48.5	36.6	34.0	5.1	-44.8	0.1	1.0	43.8	31.9	74.0	54.0	-30.2	-22.1	High,V Noise
4.924	9.9	47.7	35.6	34.0	5.1	-44.8	0.1	1.0	43.0	30.9	74.0	54.0	-31.0	-23.1	High,H Noise

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		

Note: no harmonics or spurious detected above 1 GHz.

## 6.7. WORST-CASE EMISSIONS 30 TO 1000 MHZ

### RESULTS



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

Data#: 38 File#: unit test 1.EMI  
Auxil: ATC

Date: 05-21-2003 Time: 17:46:12

Condition: FCC CLASS B 3m CHAMBER 030306 1185 VERTICAL  
Company : Symbol  
EUT Description : LA4131 card with 24dBi dish Antenna  
Model Number : LA4131  
Test Configuration: EUT  
Test Target : FCC Class B  
Mode of Operation: TX  
Project No : 03U1960

Page: 1

	Read Freq	Probe Level	Probe Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	60.430	21.01	11.02	0.72	0.00	32.76	40.00	-7.24	Peak
2	119.930	24.10	10.56	1.83	0.00	35.69	43.50	-7.81	Peak
3	120.780	25.14	10.48	1.83	0.00	36.65	43.50	-6.85	Peak
4	198.640	26.41	9.03	1.38	0.00	36.82	43.50	-6.68	Peak
5	199.490	26.49	9.00	1.38	0.00	36.87	43.50	-6.63	Peak



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

Data#: 41 File#: unit test 1.EMI  
 Audix ATC

Date: 05-21-2003 Time: 17:51:35

Condition: FCC CLASS B 3m CHAMBER 030306 1185 VERTICAL  
 Company : Symbol  
 EUT Description : LA4131 card with 24dBi dish Antenna  
 Model Number : La4131  
 Test Configuration: EUT  
 Test Target : FCC Class B  
 Mode of Operation: TX  
 Project No. : 03U1960

Page: 1

	Read	Probe	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	265.600	25.77	11.86	1.61	0.00	39.24	46.00	-6.76 Peak
2	353.600	24.47	13.43	1.87	0.00	39.77	46.00	-6.23 Peak
3	401.600	23.09	14.48	2.01	0.00	39.58	46.00	-6.42 Peak
4	469.600	21.29	15.95	2.22	0.00	39.46	46.00	-6.54 Peak
5	485.600	23.14	16.28	2.29	0.00	41.71	46.00	-4.29 Peak
6	503.200	22.75	16.59	2.31	0.00	41.65	46.00	-4.35 Peak
7	573.600	23.29	17.40	2.51	0.00	43.20	46.00	-2.80 Peak
8	881.600	15.93	20.45	3.20	0.00	39.58	46.00	-6.42 Peak



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

Data#: 44 File#: unit test 1.EMI  
 Audix ATC

Date: 05-21-2003 Time: 17:57:19

Condition: FCC CLASS B 3m CHAMBER D30306 1185 HORIZONTAL  
 Company : Symbol  
 EUT Description : LA4131 card with 24dBi dish Antenna  
 Model Number : La4131  
 Test Configuration: EUT  
 Test Target : FCC Class B  
 Mode of Operation: TX  
 Project No : 03U1960

Page: 1

	Read Freq	Probe Level	Cable Factor	Preamp Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	39.690	9.72	16.49	0.61	0.00	26.03	40.00	-13.17	Peak
2	57.880	13.98	11.89	0.76	0.00	26.63	40.00	-13.37	Peak
3	60.430	15.48	11.02	0.72	0.00	27.23	40.00	-12.77	Peak
4	61.280	18.87	10.79	0.73	0.00	30.39	40.00	-9.61	Peak
5	63.490	16.98	9.93	0.76	0.00	27.67	40.00	-12.33	Peak
6	65.190	16.71	9.34	0.77	0.00	26.82	40.00	-13.18	Peak
7	88.140	28.78	7.75	0.88	0.00	37.41	43.50	-6.09	Peak
8	132.340	19.89	9.45	1.10	0.00	30.44	43.50	-13.06	Peak
9	176.540	32.68	8.80	1.30	0.00	42.78	43.50	-0.72	Peak



561F Monterey Road  
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Data#: 46 File#: unit test 1.EMI  
AudiX ATC

Date: 05-21-2003 Time: 17:59:53

Condition: FCC CLASS B 3m CHAMBER 030306 1185 HORIZONTAL  
Company : Symbol  
EUT Description : LA4131 card with 24dBi dish Antenna  
Model Number : La4131  
Test Configuration: EUT  
Test Target : FCC Class B  
Mode of Operation: TX  
Project No : 03U1960

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Freq	Read	Probe	Cable Preamp		Limit		Over	Remark
	Level	Factor	Loss	Factor	Level	Line	Limit	
MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	200.000	31.66	8.99	1.38	0.00	42.03	43.50	-1.47 Peak
2	263.200	26.67	11.84	1.60	0.00	40.11	46.00	-5.89 Peak
3	333.600	23.83	12.93	1.86	0.00	38.62	46.00	-7.38 Peak
4	395.200	26.44	14.35	2.01	0.00	42.79	46.00	-3.21 Peak
5	401.600	21.03	14.48	2.01	0.00	37.52	46.00	-8.48 Peak
6	483.200	21.82	16.23	2.31	0.00	40.36	46.00	-5.64 Peak
7	573.600	28.87	17.40	2.51	0.00	40.78	46.00	-5.22 Peak
8	659.200	16.39	18.22	2.66	0.00	37.27	46.00	-8.73 Peak

**END OF REPORT**