



**FCC CFR47 PART 15 SUBPART E
CERTIFICATION
TEST REPORT**

FOR

802.11A/B/G PCMCIA CARDBUS PC CARD

MODEL NUMBER: SL-3040

BRAND NAME: 3COM

FCC ID: O9C-SL3040

REPORT NUMBER: 03U1994-2

ISSUE DATE: JULY 9, 2003

Prepared for
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1. TEST RESULT CERTIFICATION

COMPANY NAME: 3COM CORPORATION
5500 GREAT AMERICA PARKWAY
SANTA CLARA, CA 95052-8145, USA

EUT DESCRIPTION: 802.11A/B/G PCMCIA CARDBUS PC CARD

MODEL: SL-3040

DATE TESTED: JUNE 11 – JULY 9, 2003

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART E	NO NON-COMPLIANCE NOTED

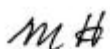
Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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.

Note: The 5.2 GHz band is applicable to this report; other bands of operation (2.4 and 5.8 GHz) are documented in a separate report.

Approved & Released For CCS By:

Tested By:



MIKE HECKROTTE
CHIEF ENGINEER
COMPLIANCE CERTIFICATION SERVICES



VIEN TRAN
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. EUT DESCRIPTION

The EUT is an 802.11a/b/g transceiver module.

The EUT has an output power of 17.87 dBm (61 mW) and an antenna gain of -1 dBi in the 5150 - 5350 MHz band.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4/1992, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

4. FACILITIES AND ACCREDITATION

4.1. FACILITIES AND EQUIPMENT

The open area test sites and conducted measurement facilities used to collect the radiated data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

4.2. TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements	 1300
Japan	VCCI	CISPR 22 Two OATS and one conducted Site	 R-1014, R-619, C-640
Norway	NEMKO	EN50081-1, EN50081-2, EN50082-1, EN50082-2, IEC61000-6-1, IEC61000-6-2, EN50083-2, EN50091-2, EN50130-4, EN55011, EN55013, EN55014-1, EN55104, EN55015, EN61547, EN55022, EN55024, EN61000-3-2, EN61000-3-3, EN60945, EN61326-1	 ELA 117
Norway	NEMKO	EN60601-1-2 and IEC 60601-1-2, the Collateral Standards for Electro-Medical Products. MDD, 93/42/EEC, AIMD 90/385/EEC	 ELA-171
Taiwan	BSMI	CNS 13438	 SL2-IN-E-1012
Canada	Industry Canada	RSS210 Low Power Transmitter and Receiver	 IC2324 A,B,C, and F

5. CALIBRATION AND UNCERTAINTY

5.1. MEASURING INSTRUMENT CALIBRATION

The measurement instruments utilized to perform the tests documented in this report have been calibrated in accordance with the manufacturer's recommendations, and are traceable to national standards.

5.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

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 EQUIPMENT LIST				
Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
Spectrum Analyzer	HP	8564E	3943A01643	7/22/2003
Preamplifier, 1 ~ 26 GHz	Miteq	NSP10023988	646456	4/24/2004
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	2/4/2004
Bilog Antenna	AR	LPB-25201A	1185	3/6/2004
EMI Receiver	HP	8542A	3942A00280	11/20/2003
RF Filter Section	HP	85420E	3705A00256	11/20/2003
EMI Test Receiver	R & S	ESHS 20	827129/006	4/17/2004
LISN, 10 kHz ~ 30 MHz	FCC	50/250-25-2	114	9/6/2003
Line Filter	Lindgren	LMF-3489	497	NCR
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	837990	9/6/2003
PSA Spectrum Analyser	Agilent	E4446A	42070220	1/13/2004
EPM-Peak Power Meter	Agilent	E4416A	GB41291160	8/9/2003

6. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Device Type	Manufacturer	Model	Serial Number	FCC ID
LAPTOP	DELL	LATITUDE PPX	N/A	DoC
ADAPTOR	DELL	PA-2	N/A	DoC

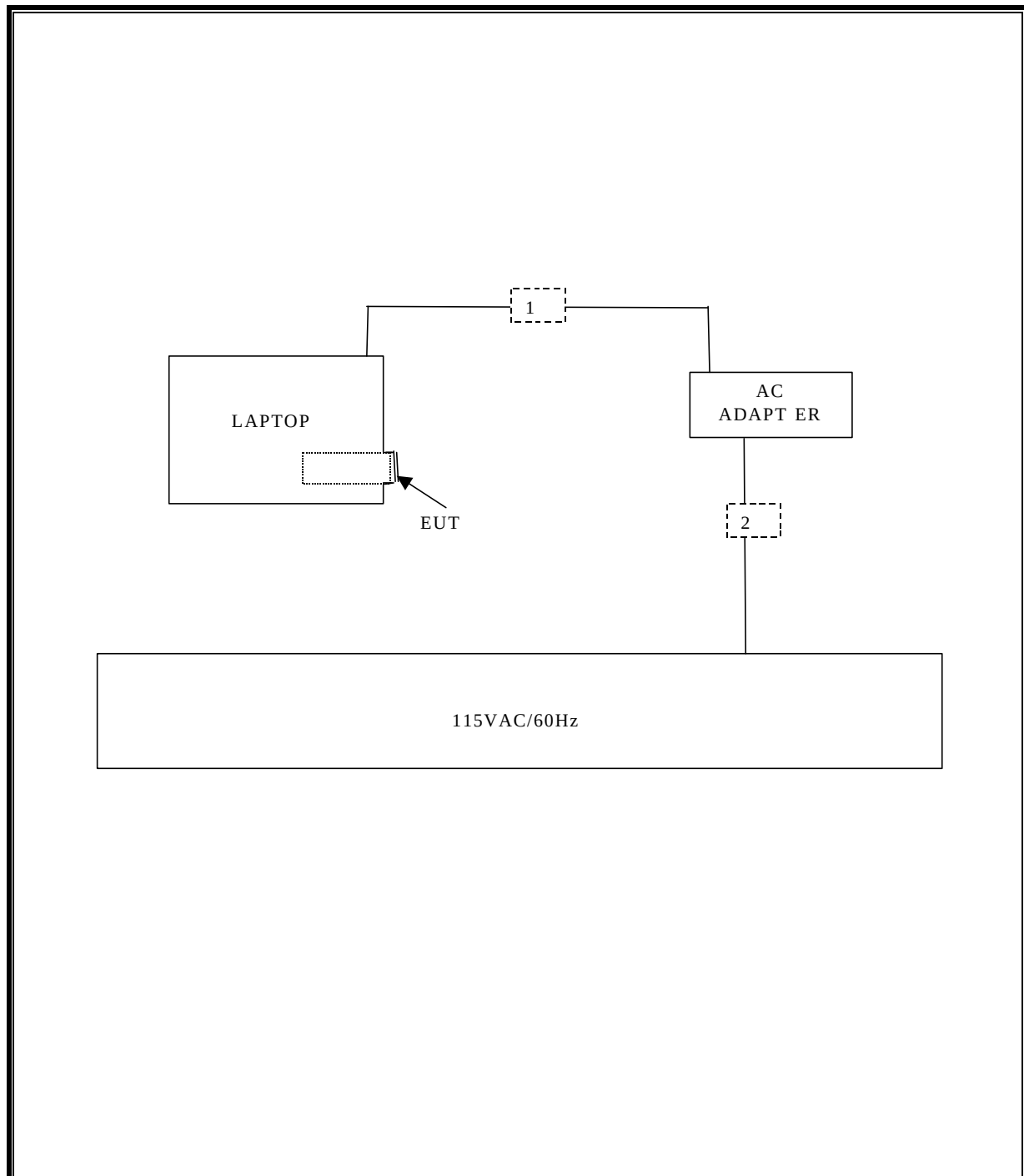
I/O CABLES

Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC	1	DC	Unshielded	2m	Ferrite on DC Cable
2	AC	1	US 115V	Un-shielded	2m	No

TEST SETUP

The EUT was installed in the laptop via an extender card and operated by a test program.

SETUP DIAGRAM



7. APPLICABLE LIMITS AND TEST RESULTS

7.1. EMISSION BANDWIDTH

LIMIT

§15.403 (c) Emission bandwidth. For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 226 dB EMISSION down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 1% to 3% of the 26 dB EMISSION bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled.

RESULTS

No non-compliance noted:

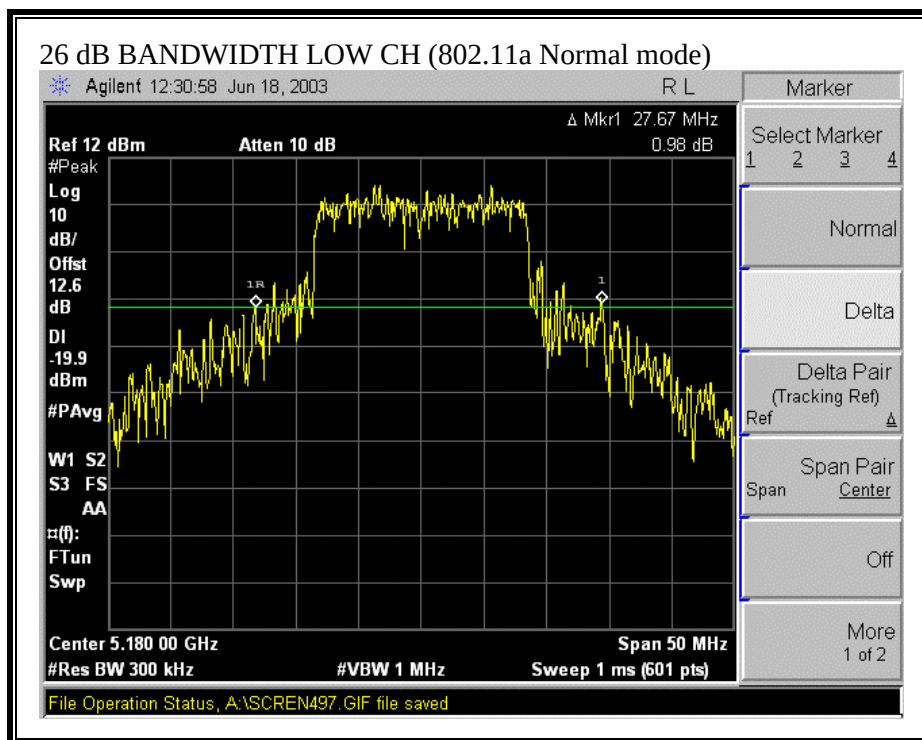
Normal Mode

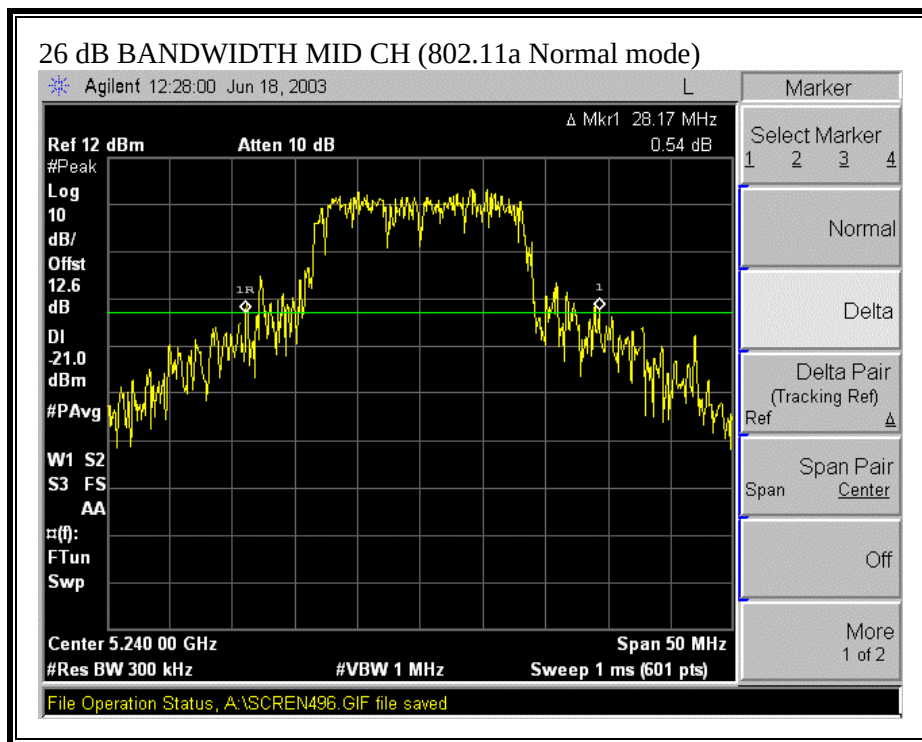
Channel	Frequency (MHz)	B (MHz)	10 Log B (dB)
Low	5180	27.67	14.42
Middle	5240	28.17	14.50
Middle	5260	25.25	14.02
High	5320	27.25	14.35

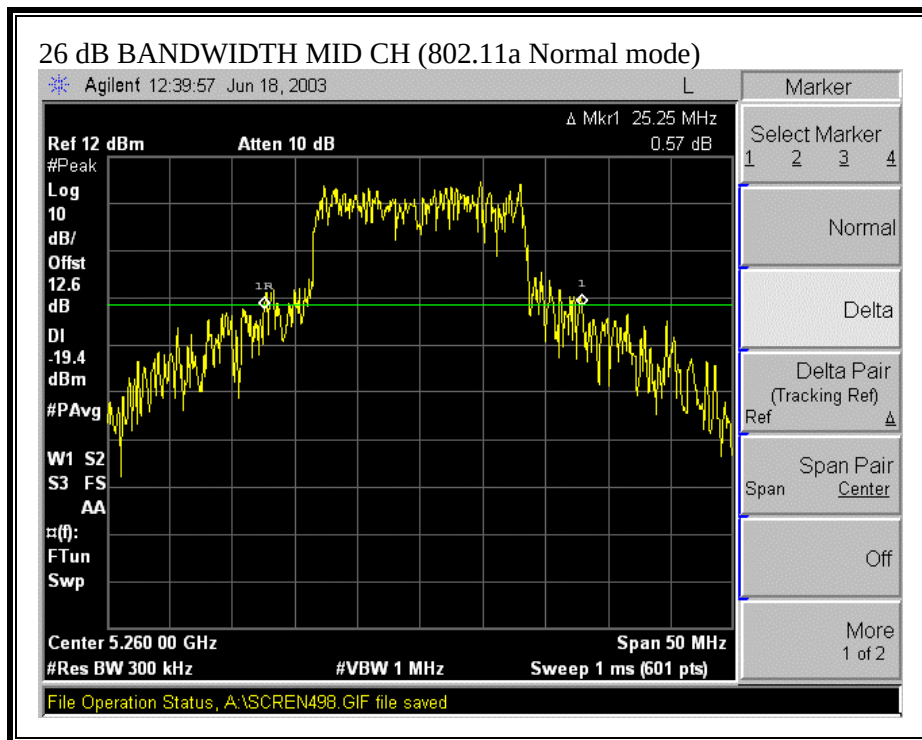
Turbo Mode

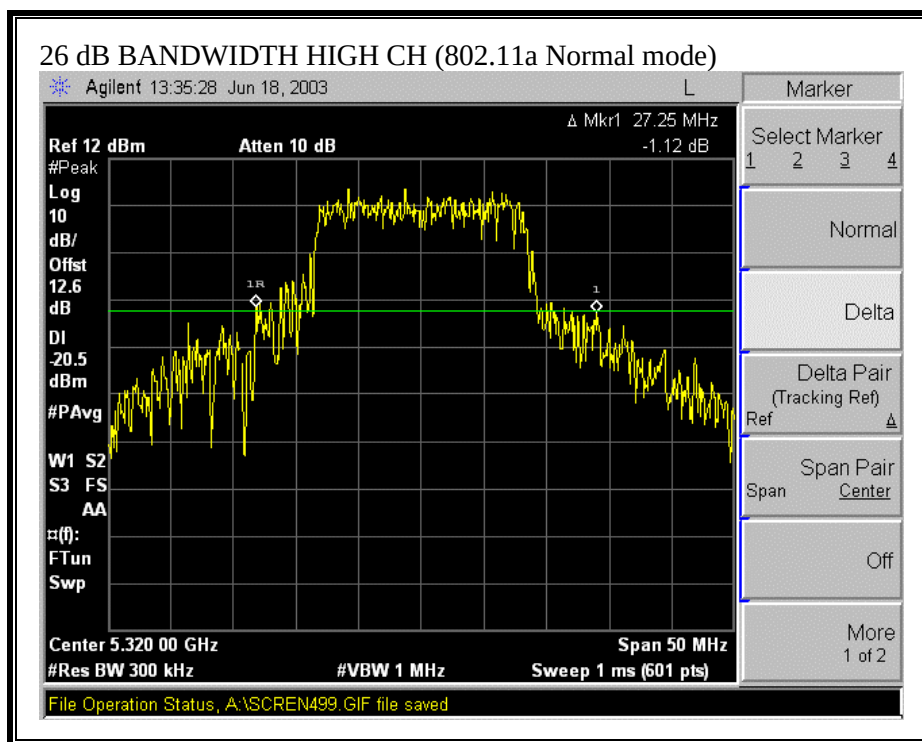
Channel	Frequency (MHz)	B (MHz)	10 Log B (dB)
Low	5210	54.00	17.32
Middle	5250	53.20	17.26
High	5290	53.30	17.27

26 dB EMISSION BANDWIDTH (802.11a NORMAL MODE)

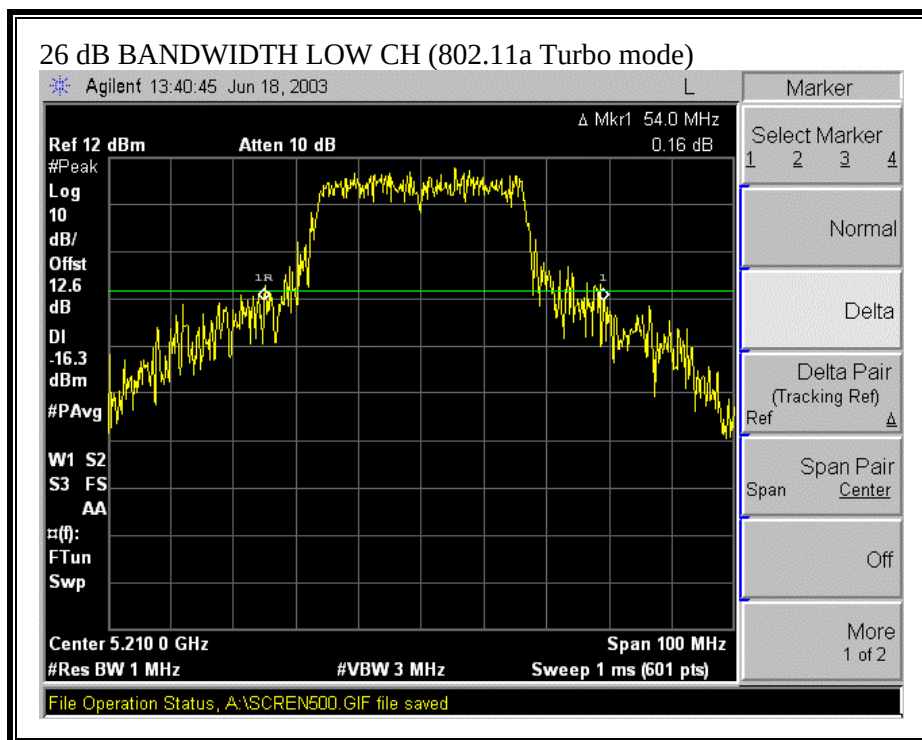


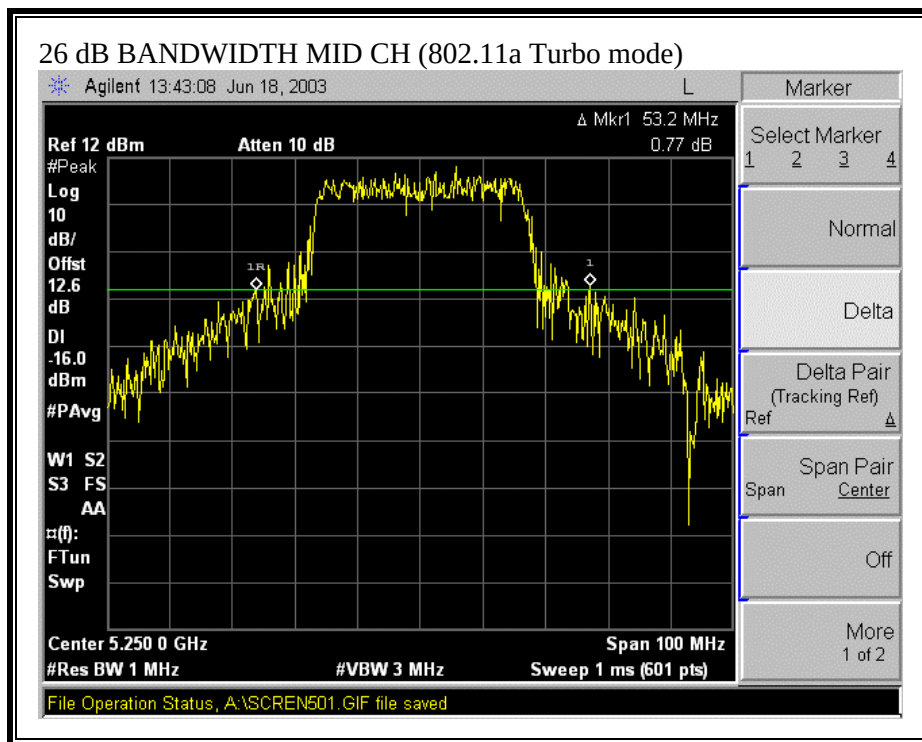


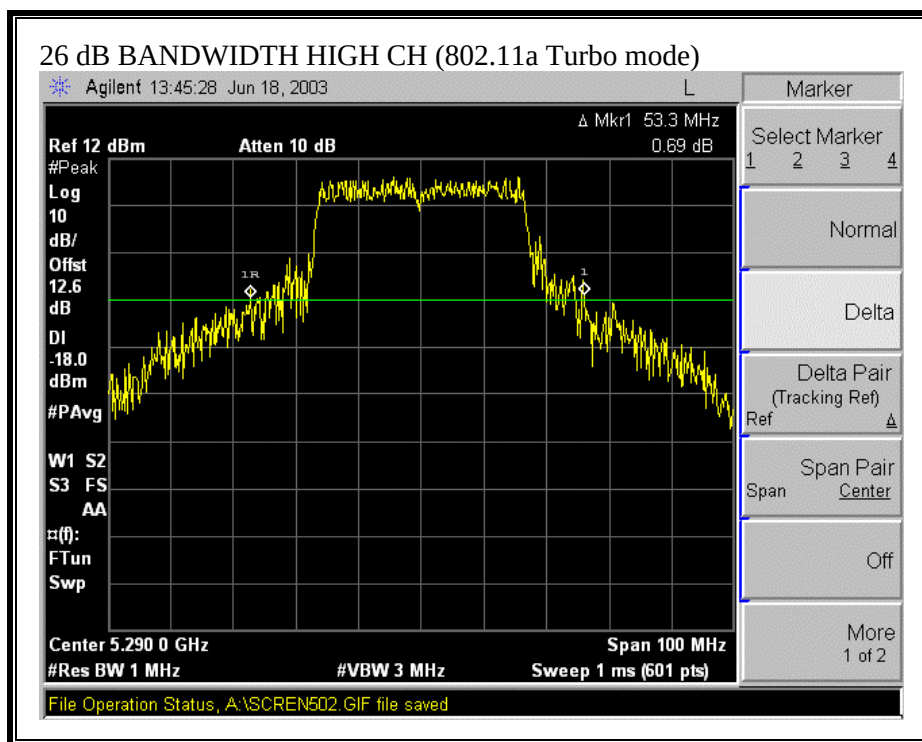




26 dB EMISSION BANDWIDTH (802.11a TURBO MODE)







7.2. PEAK POWER

LIMIT

§15.407 (a) (1) For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW (17 dBm) or $4 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

§15.407 (a) (1) For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW (24 dBm) or $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

The transmitter output operates continuously therefore Method # 1 is used.

LIMITS AND RESULTS

No non-compliance noted:

Limit in 5150 to 5250 MHz Band

Mode	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	4 + 10 Log B Limit (dBm)	Excess Antenna Gain (dB)	Limit (dBm)
Normal	5180	17	27.67	18.42	0.00	17.00
Normal	5240	17	28.17	18.50	0.00	17.00
Turbo	5210	17	54	21.32	0.00	17.00
Turbo	5250	17	53.2	21.26	0.00	17.00

Limit in 5250 to 5350 MHz Band

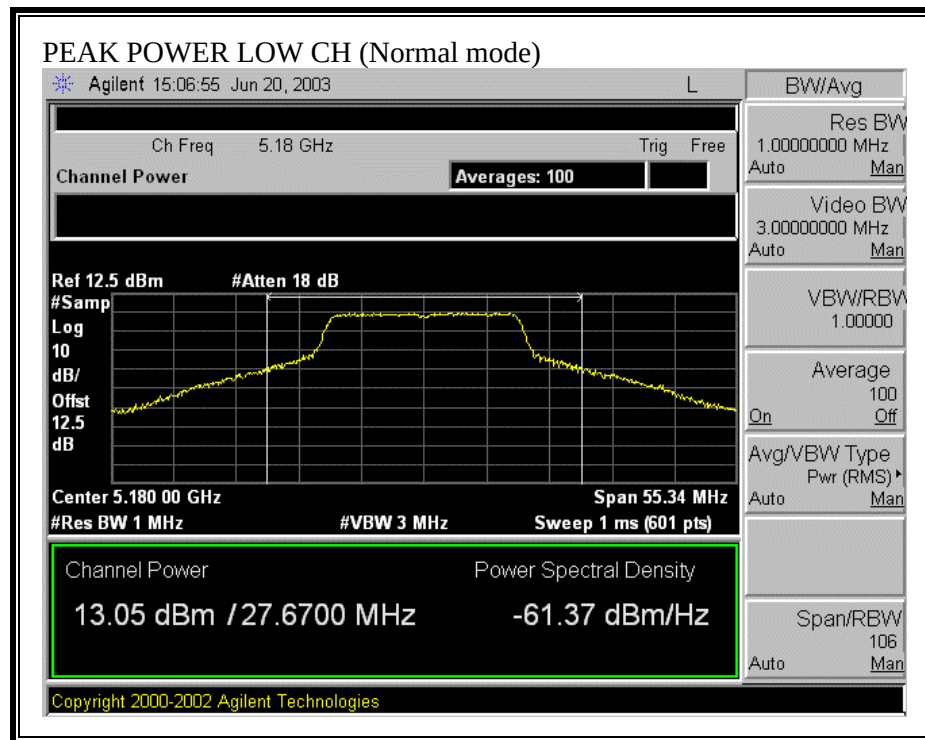
Mode	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	11 + 10 Log B Limit (dBm)	Excess Antenna Gain (dB)	Limit (dBm)
Normal	5260	24	25.25	25.02	0.00	24.00
Normal	5320	24	27.25	25.35	0.00	24.00
Turbo	5290	24	53.3	28.27	0.00	24.00

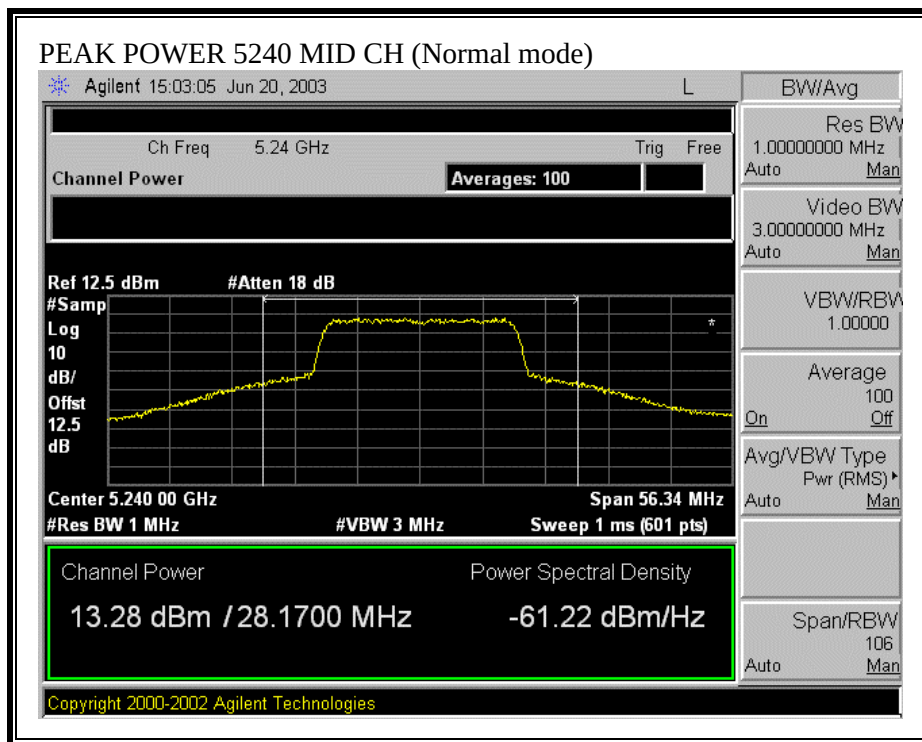
Normal Mode Results

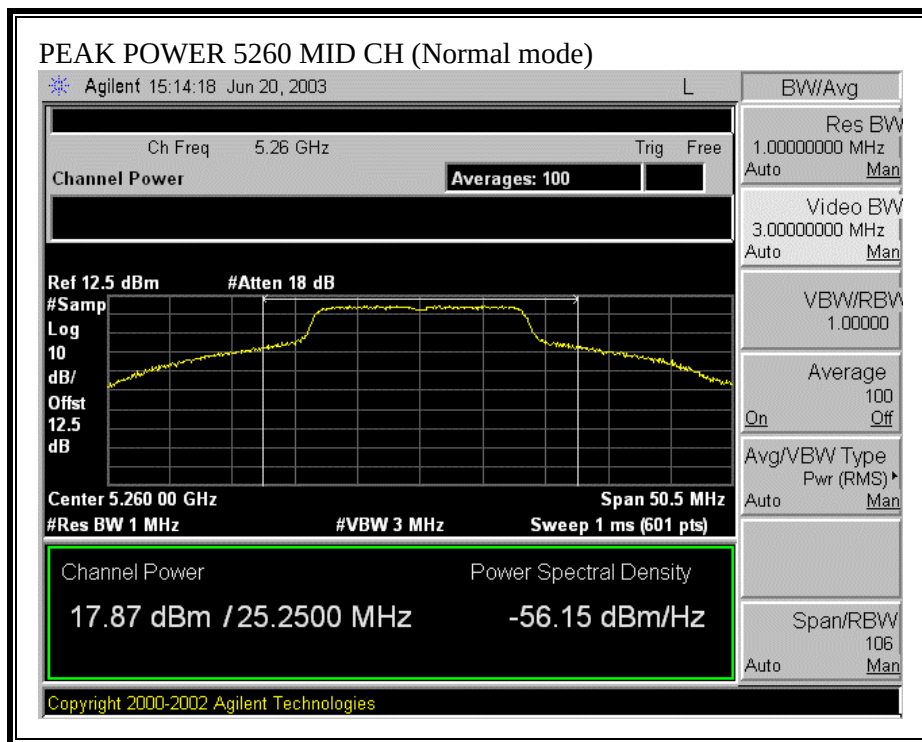
Channel	Frequency (MHz)	Power (dBm)	Limit (dBm)	Margin (dB)
Low	5180	13.05	17.00	-3.95
Middle	5240	13.28	17.00	-3.72
Middle	5260	17.87	24.00	-6.13
High	5320	17.68	24.00	-6.32

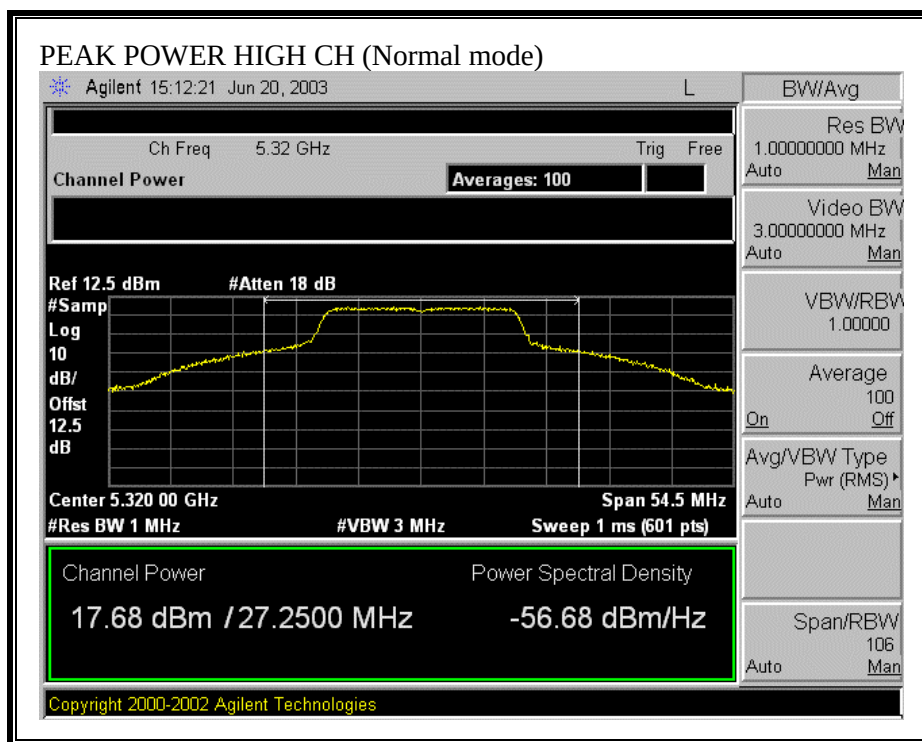
Turbo Mode Results

Channel	Frequency (MHz)	Power (dBm)	Limit (dBm)	Margin (dB)
Low	5210	15.81	17.00	-1.19
Middle	5250	16.36	17.00	-0.64
High	5290	16.53	24.00	-7.47

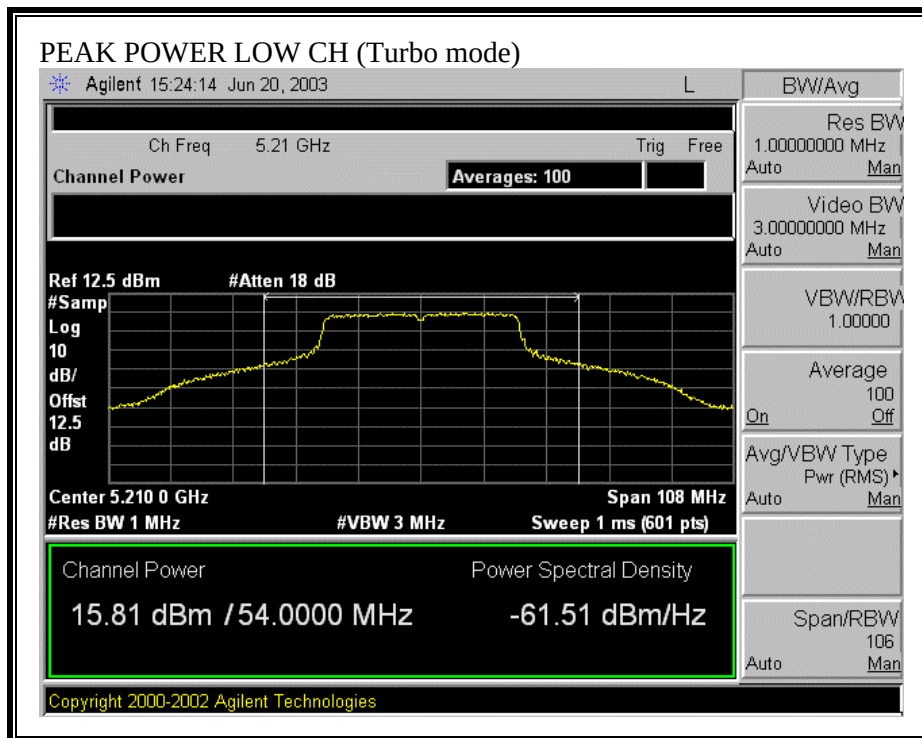


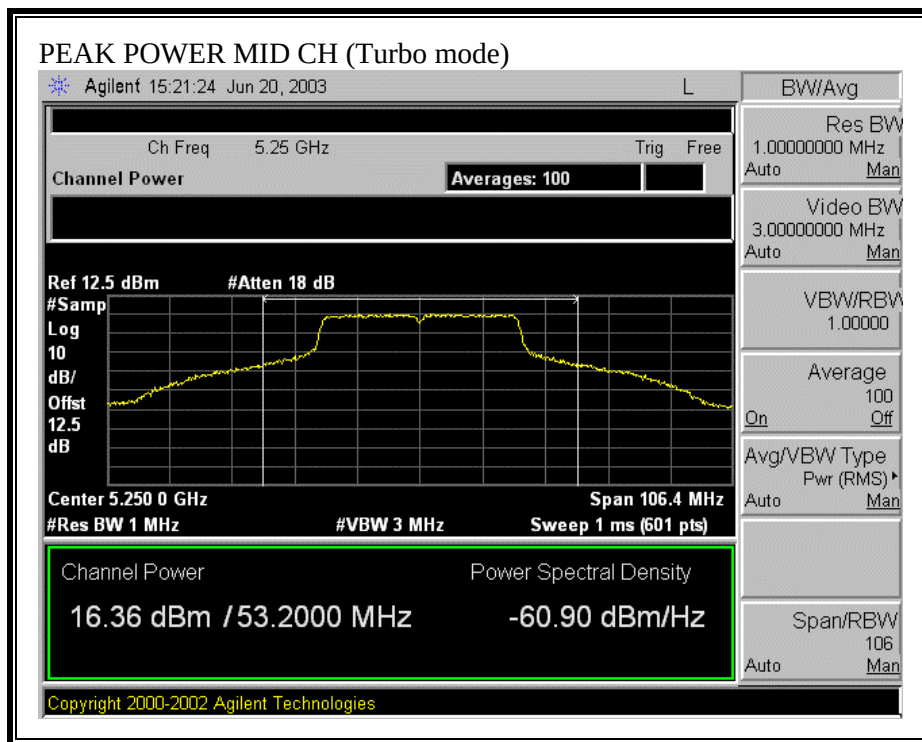


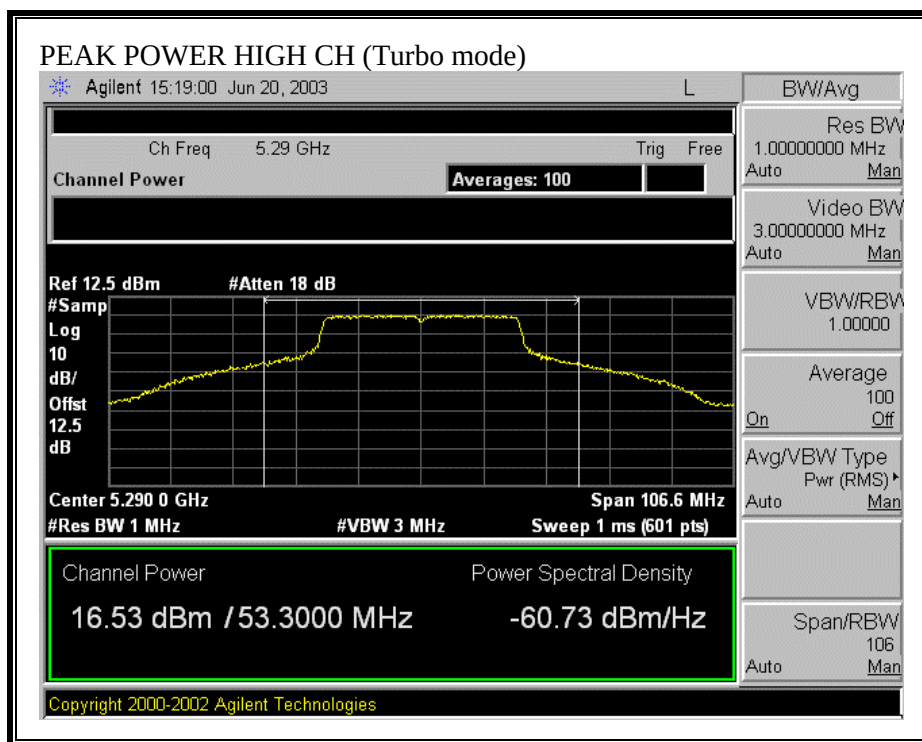




PEAK POWER (TURBO MODE)







7.3. AVERAGE POWER

AVERAGE POWER LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter is set to simultaneously read peak power and average power.

RESULTS

No non-compliance noted:

The cable assembly insertion loss of 12.6 dB (including 10 dB pad and 2.6 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Normal Mode

Channel	Frequency (MHz)	Average Power (dBm)
Low	5180	13.03
Middle	5240	13.24
Middle	5260	17.90
High	5320	17.78

Turbo Mode

Channel	Frequency (MHz)	Average Power (dBm)
Low	5210	16.54
Middle	5250	16.59
High	5290	16.94

7.4. PEAK POWER SPECTRAL DENSITY

LIMIT

§15.407 (a) (1) For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW (17 dBm) or $4 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

§15.407 (a) (1) For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW (24 dBm) or $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The maximum antenna gain = -1 dBi, therefore there is no reduction due to antenna gain.

TEST PROCEDURE

The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002. PPSD method #2 was used.

RESULTS

No non-compliance noted:

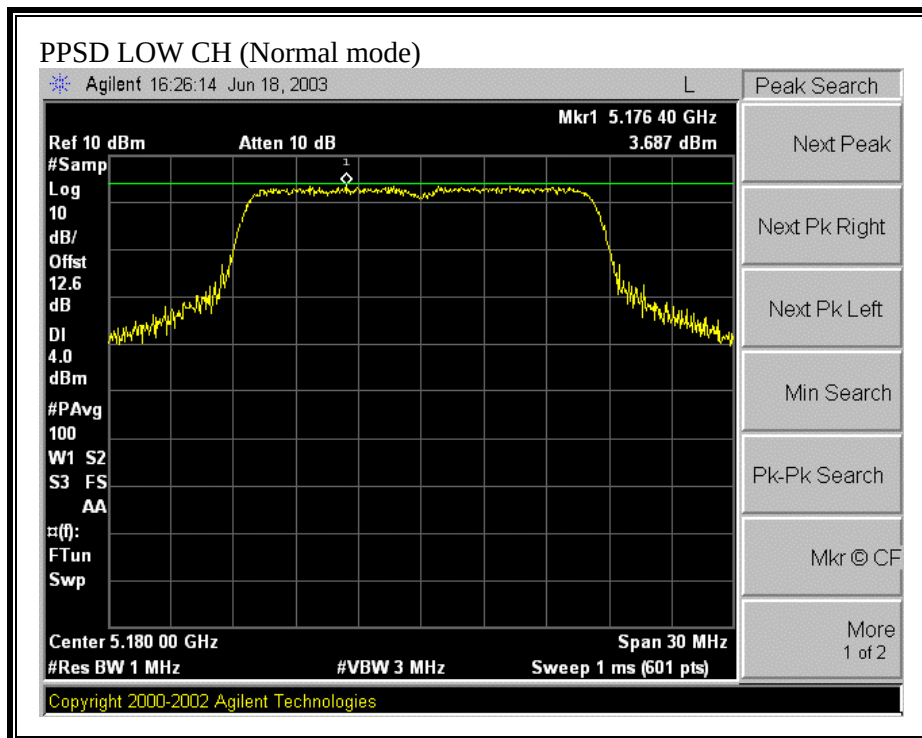
Normal Mode

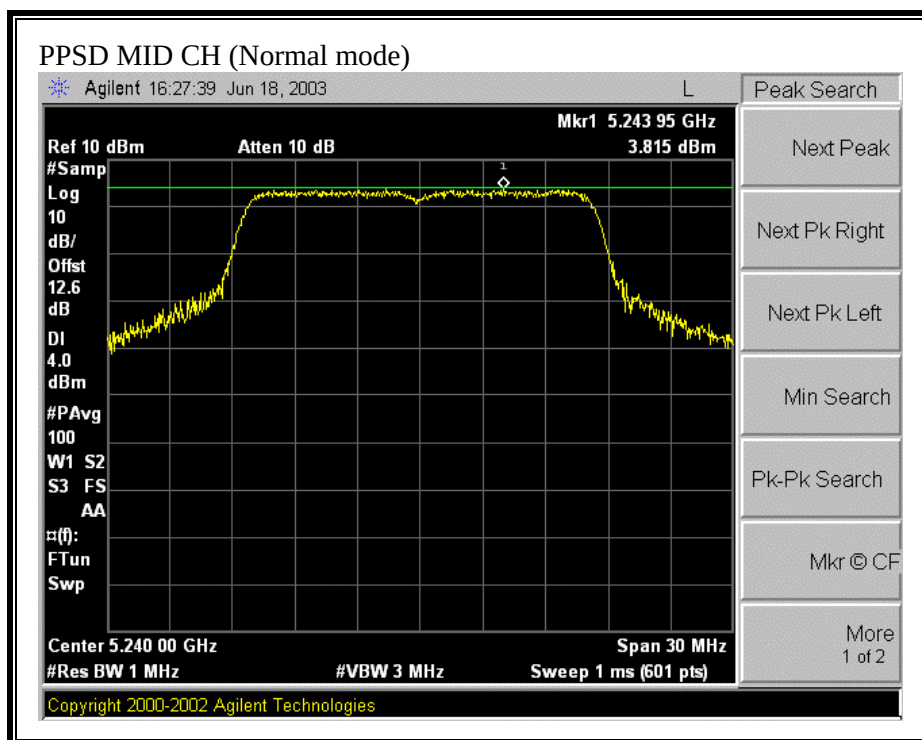
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	5180	3.69	4.00	-0.31
Middle	5240	3.82	4.00	-0.19
Middle	5260	7.53	11.00	-3.47
High	5320	7.56	11.00	-3.44

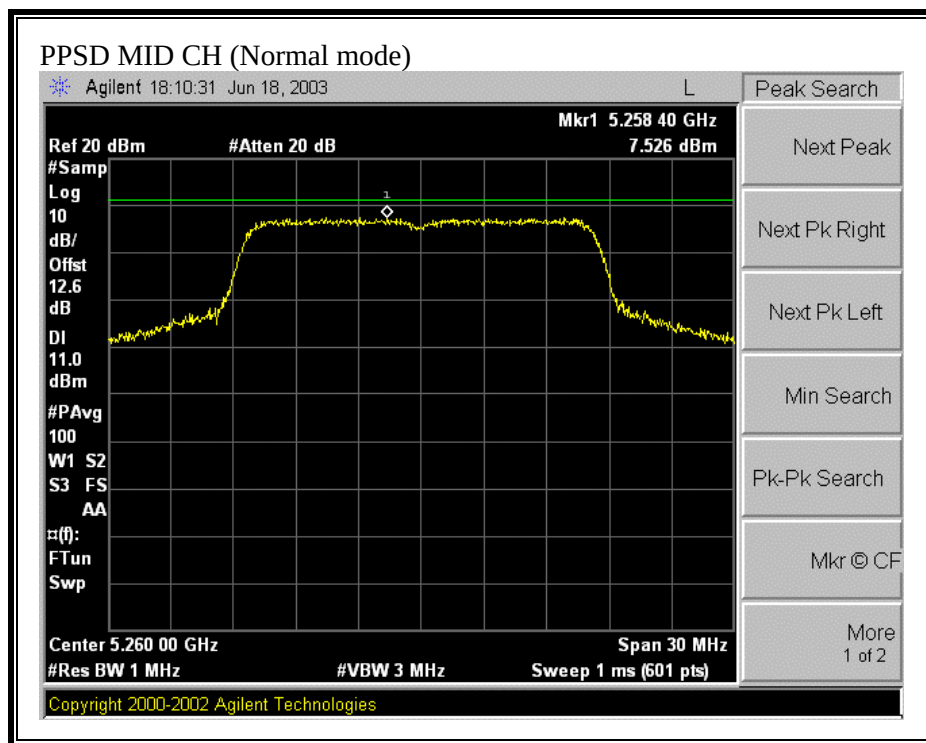
Turbo Mode

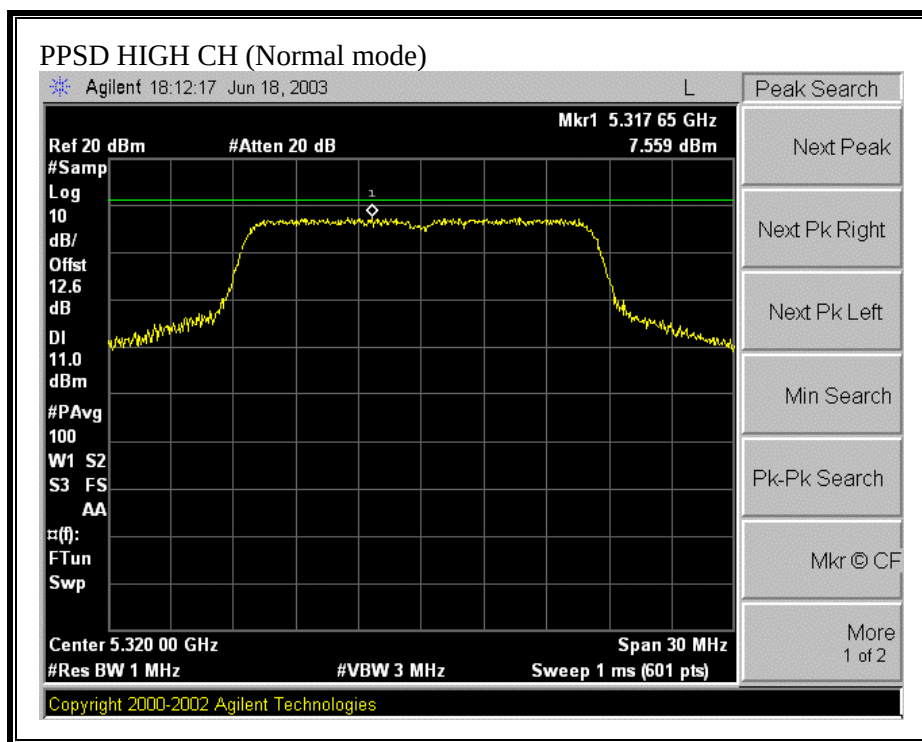
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	5210	3.50	4.00	-0.50
Middle	5250	3.52	4.00	-0.48
High	5290	4.57	11.00	-6.43

PEAK POWER SPECTRAL DENSITY (NORMAL MODE)

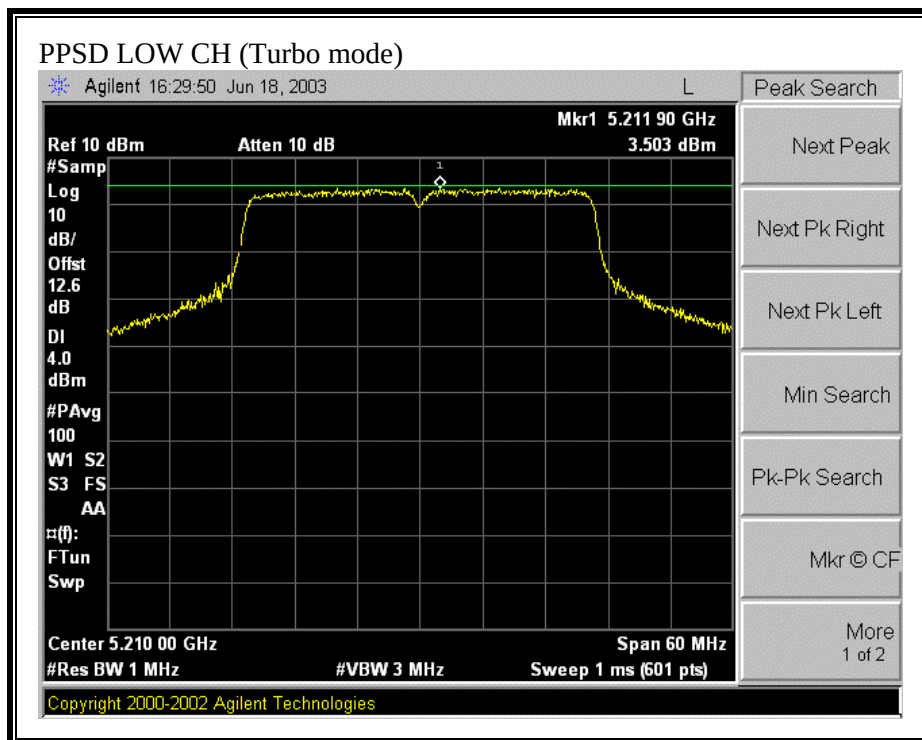


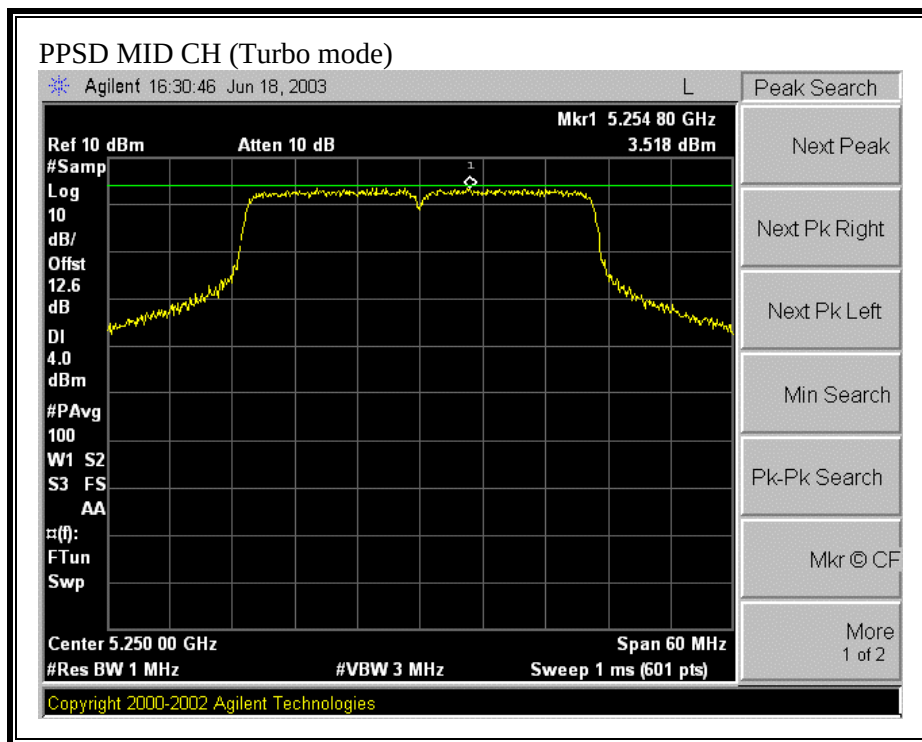


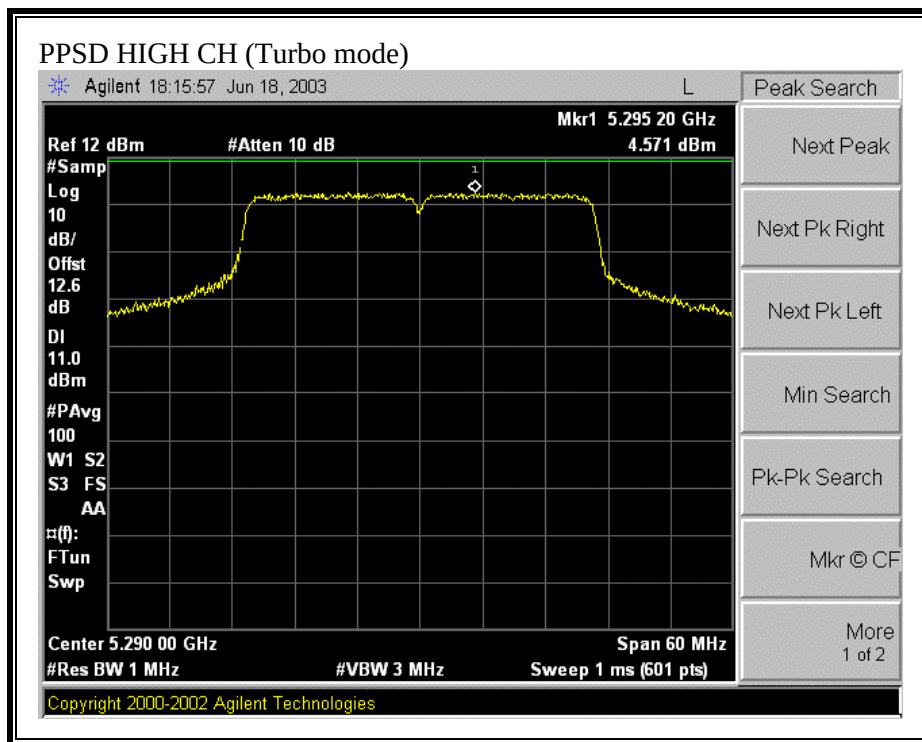




PEAK POWER SPECTRAL DENSITY (TURBO MODE)







7.5. PEAK EXCURSION

LIMIT

§15.407 (a) (6) The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

TEST PROCEDURE

The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

Since Method # 1 was used for peak power measurements, Method # 1 settings are used for the second PPSD trace.

RESULTS

No non-compliance noted:

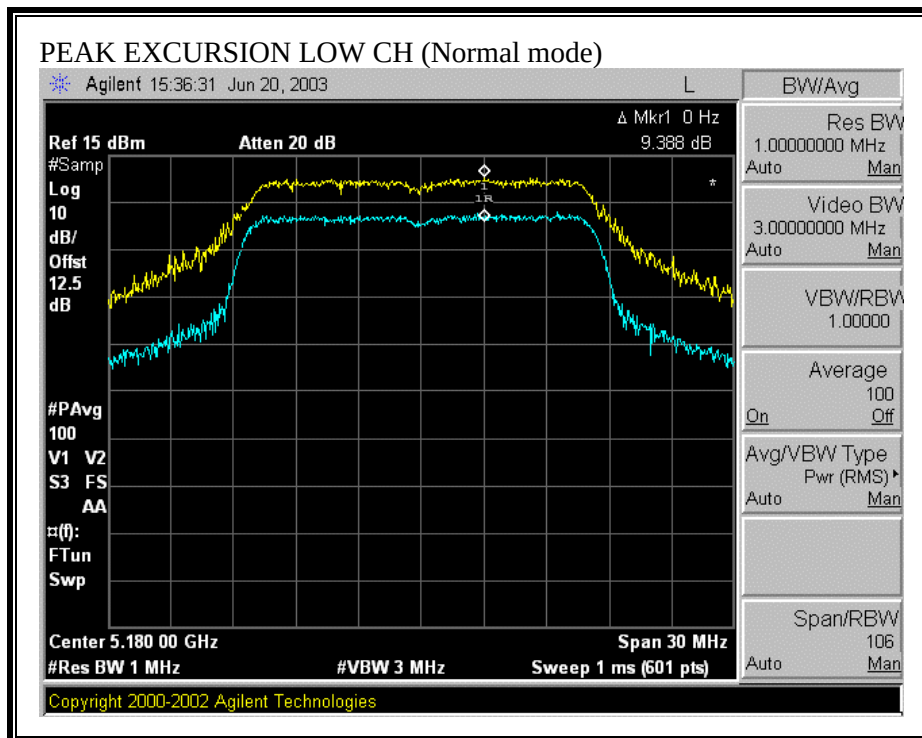
Normal Mode

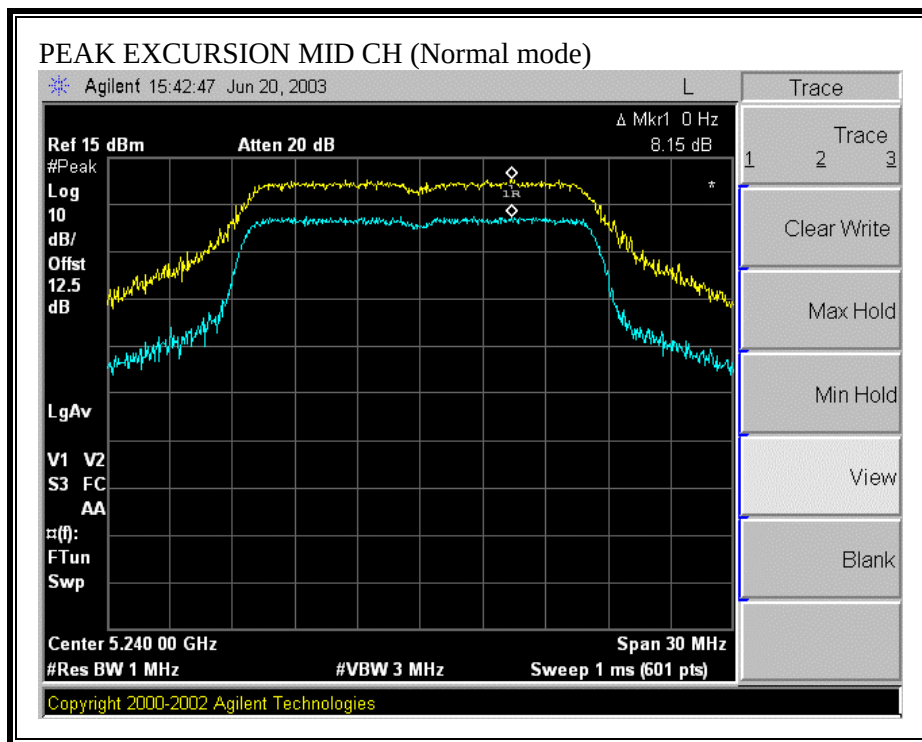
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5180	9.39	13	-3.61
Middle	5240	8.15	13	-4.85
Middle	5260	9.04	13	-3.96
High	5320	9.37	13	-3.63

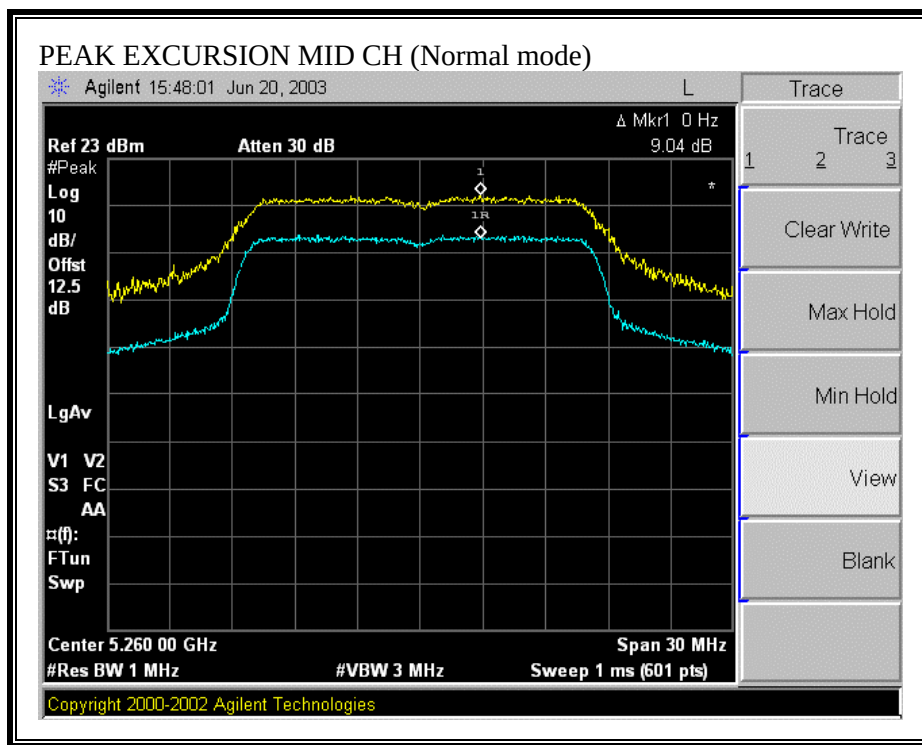
Turbo Mode

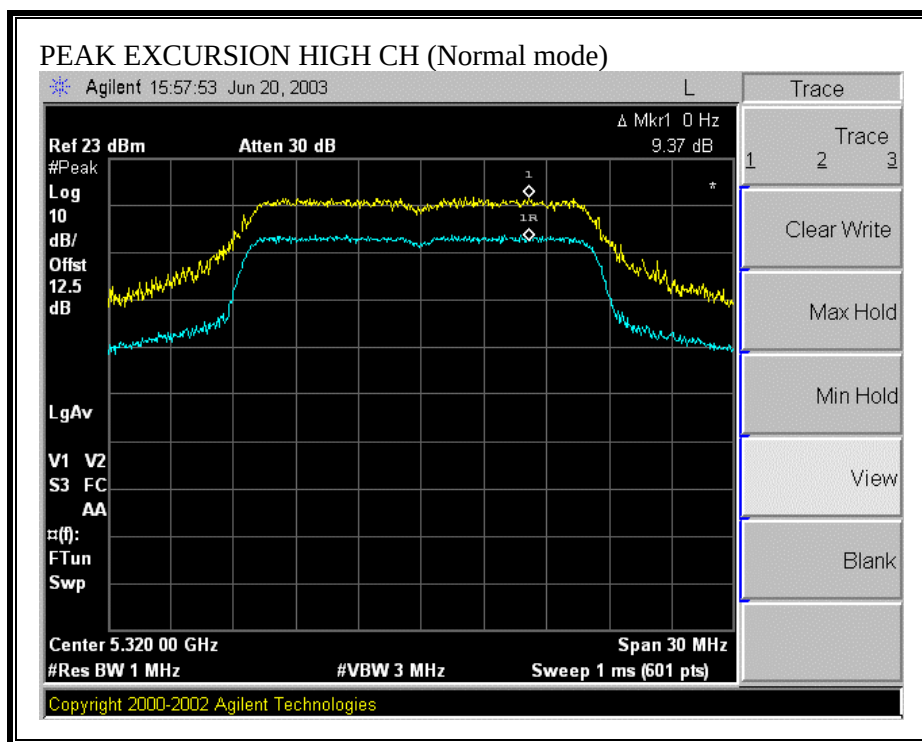
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5210	9.85	13	-3.15
Middle	5250	8.91	13	-4.09
High	5290	9.67	13	-3.33

PEAK EXCURSION (NORMAL MODE)

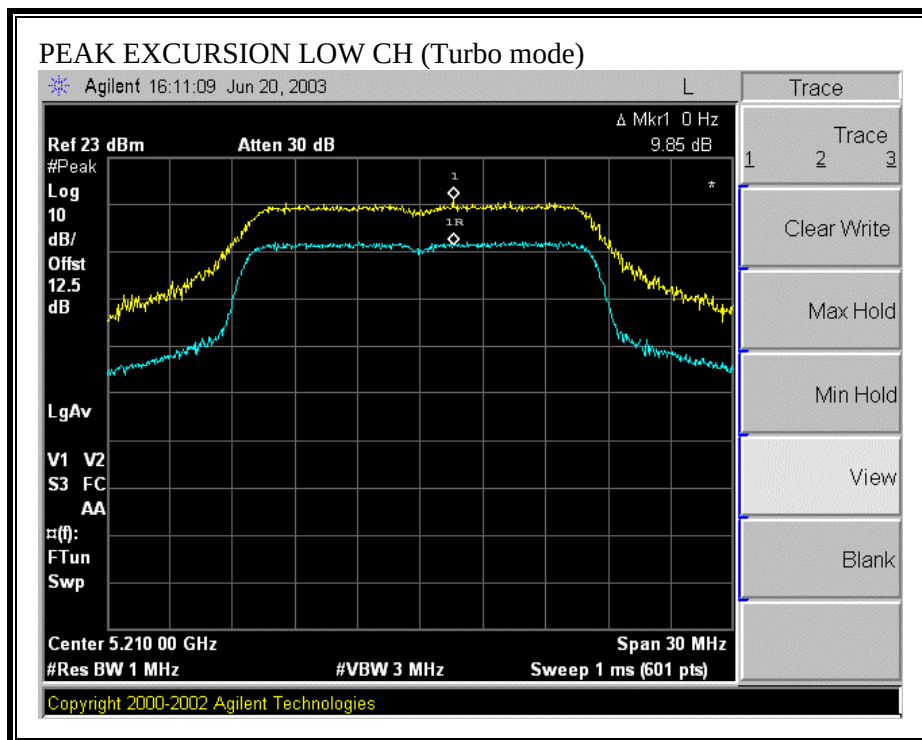


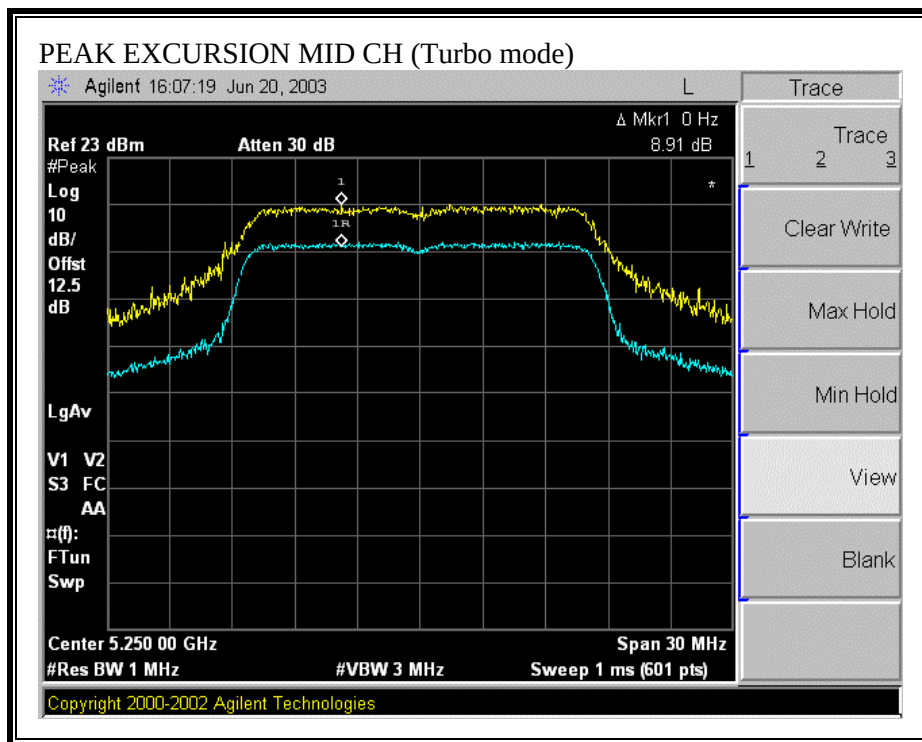


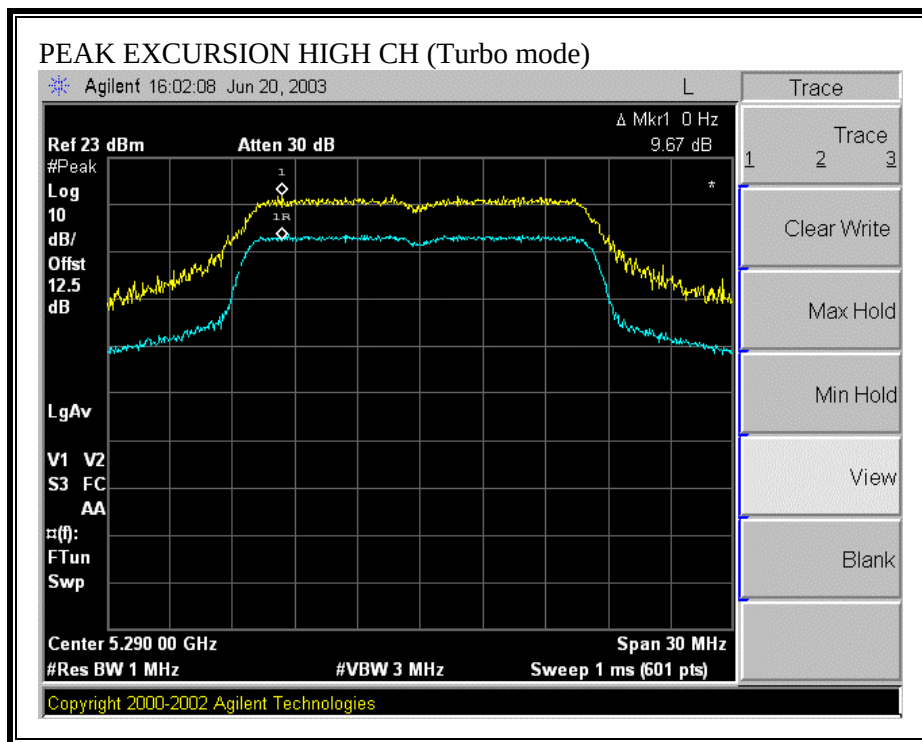




PEAK EXCURSION (TURBO MODE)







7.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

§15.407 (b) (1 & 2) For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm / MHz.

TEST PROCEDURE

Conducted RF measurements of the transmitter output are made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

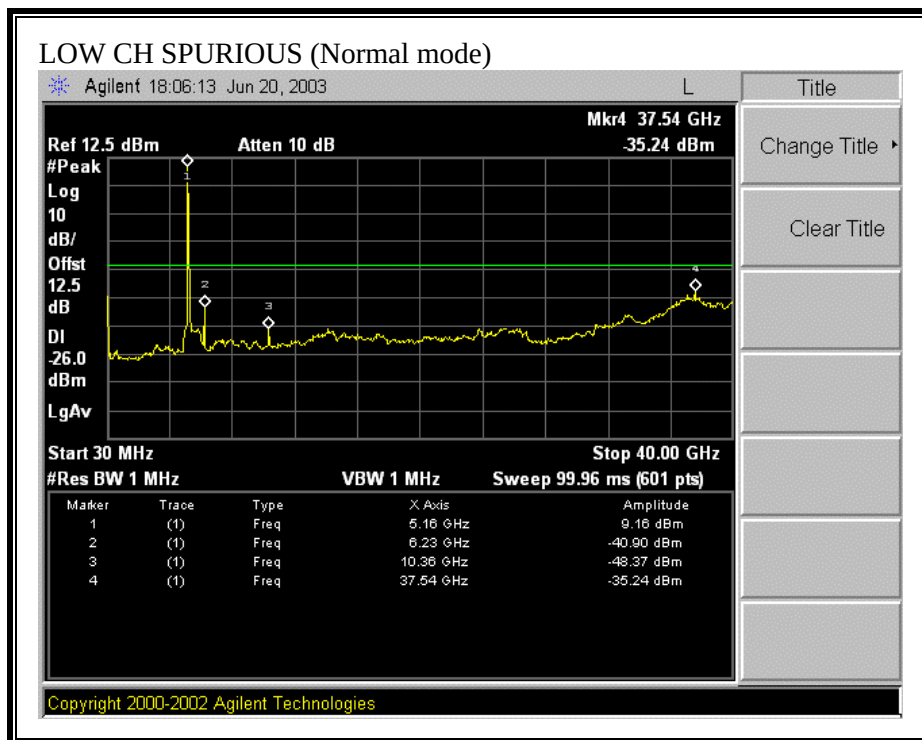
The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 1 MHz. The video bandwidth is set to 1 MHz. Peak detection measurements are compared to the average EIRP limit, adjusted for the maximum antenna gain. If necessary, additional average detection measurements are made.

Measurements are made over the 30 MHz to 40 GHz range with the transmitter set to the lowest, middle, and highest channels.

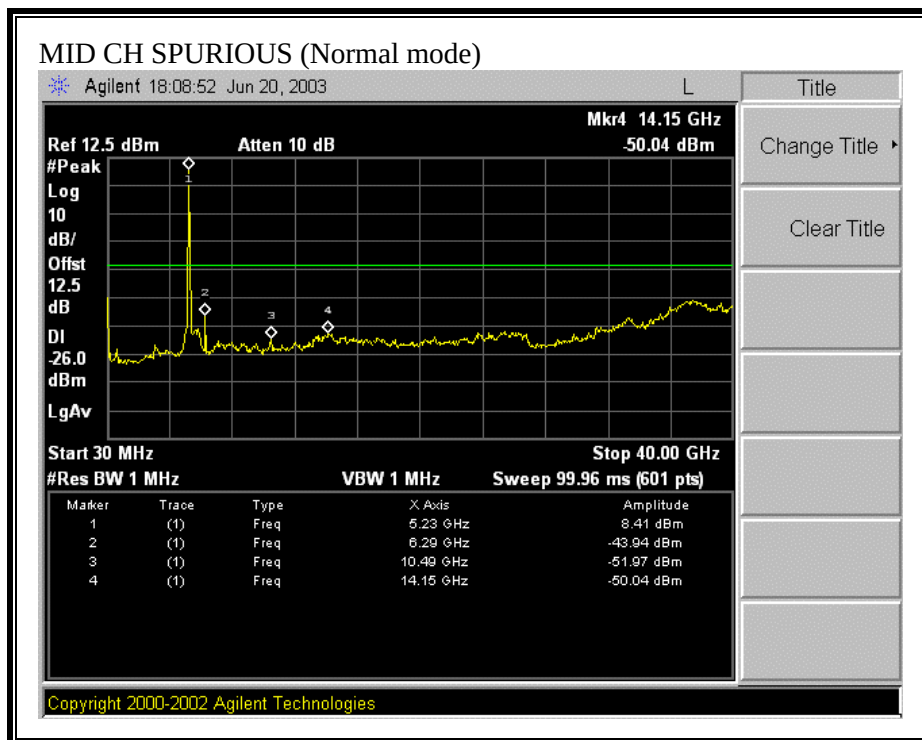
RESULTS

No non-compliance noted:

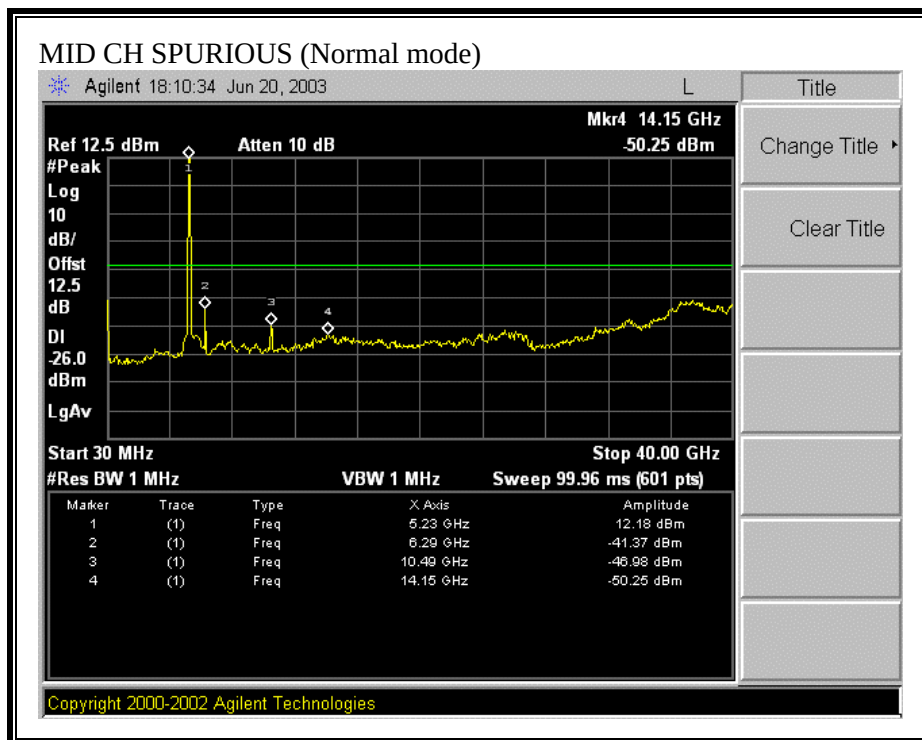
SPURIOUS EMISSIONS, LOW CHANNEL (NORMAL MODE)



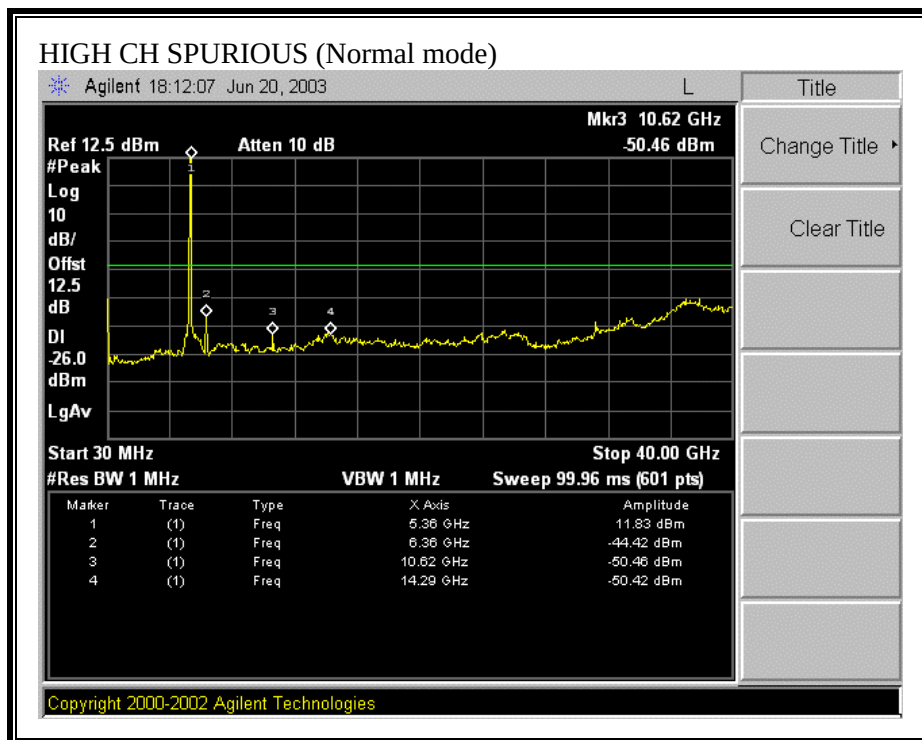
SPURIOUS EMISSIONS, MID CHANNEL (NORMAL MODE)

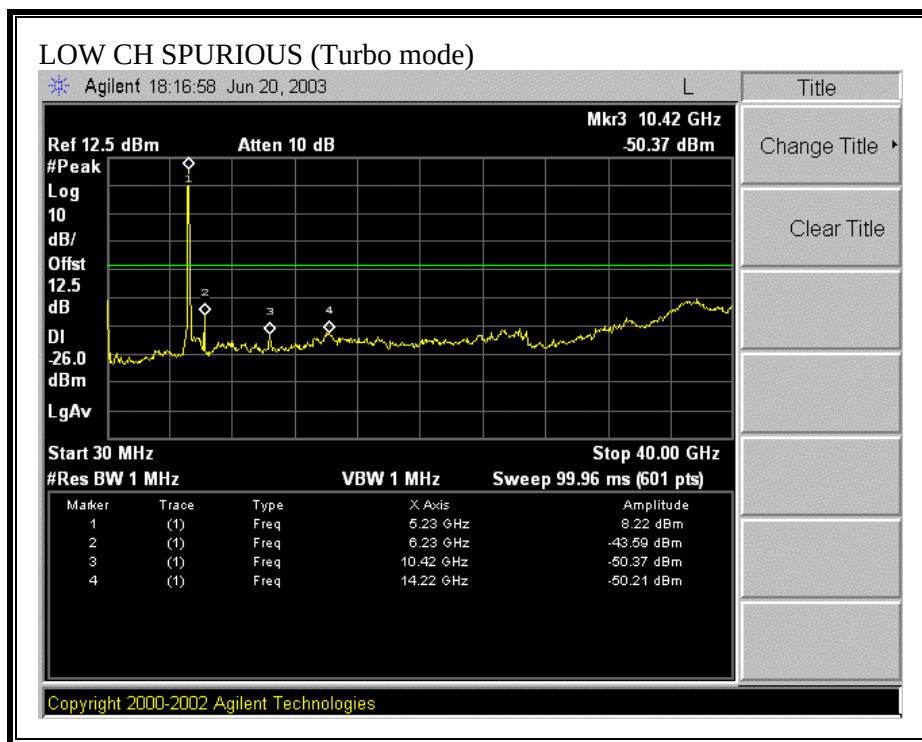


SPURIOUS EMISSIONS, MID CHANNEL (NORMAL MODE)

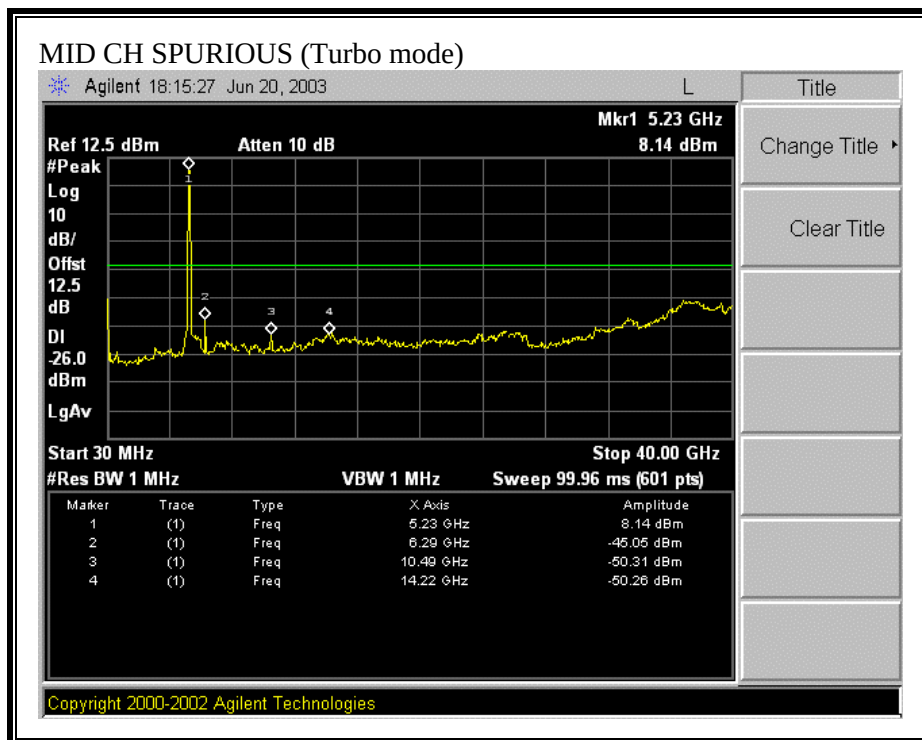


SPURIOUS EMISSIONS, HIGH CHANNEL (NORMAL MODE)

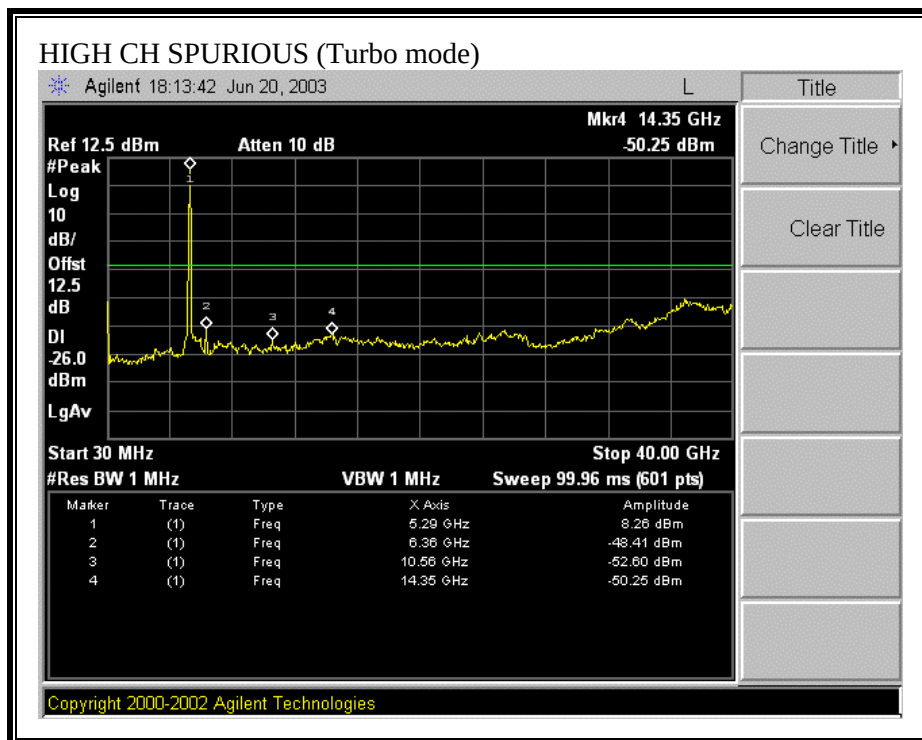




SPURIOUS EMISSIONS, MID CHANNEL (TURBO MODE)



SPURIOUS EMISSIONS, HIGH CHANNEL (TURBO MODE)



7.7. 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.

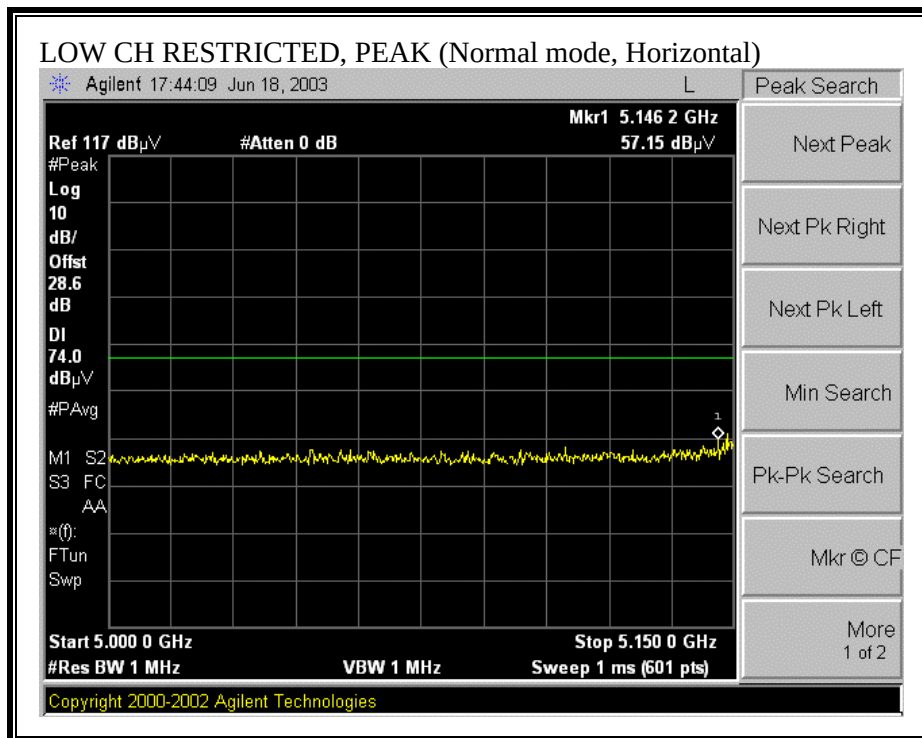
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

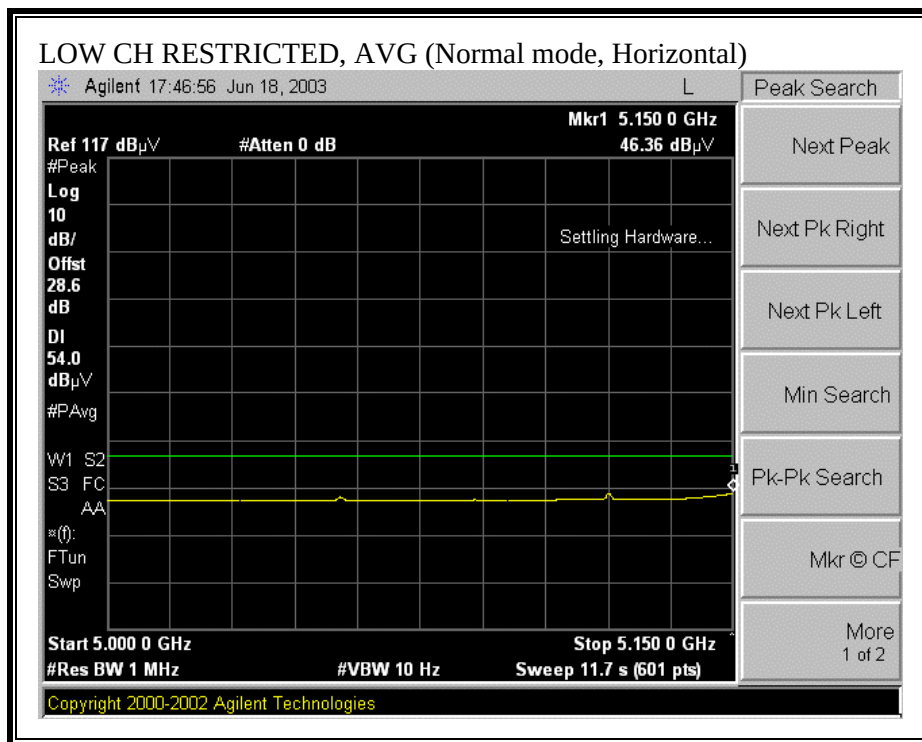
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

RESULTS

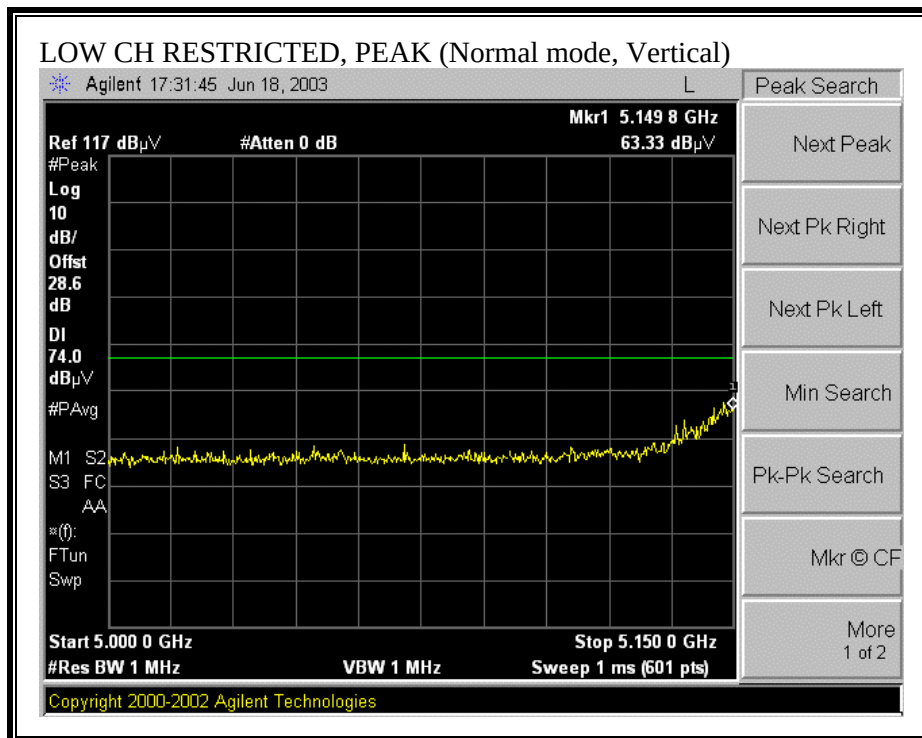
No non-compliance noted:

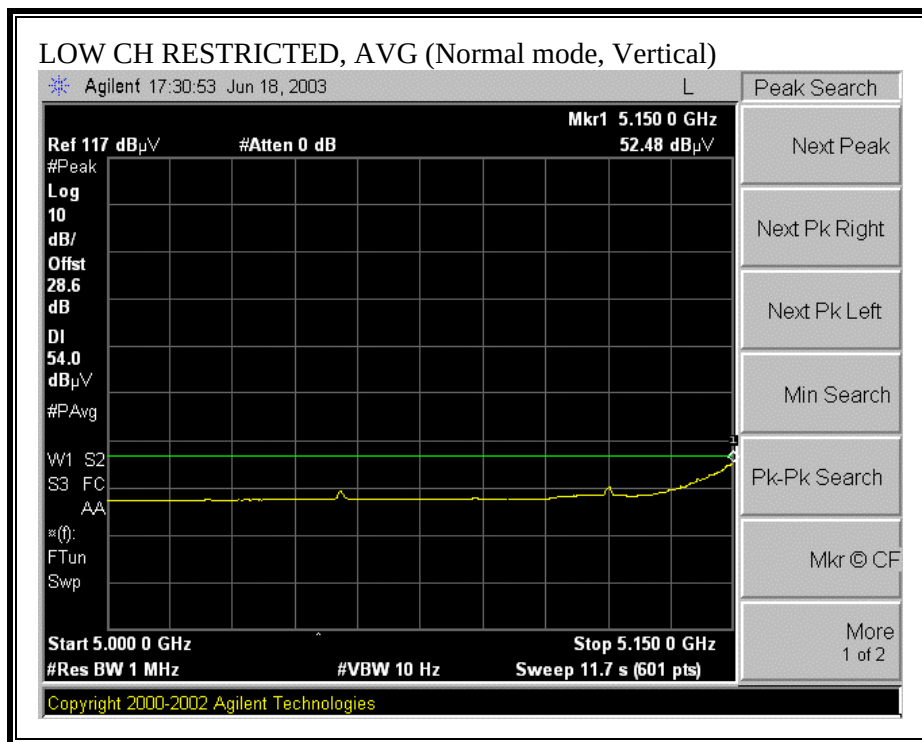
RESTRICTED BANDEDGE (NORMAL MODE, LOW CHANNEL, HORIZONTAL)



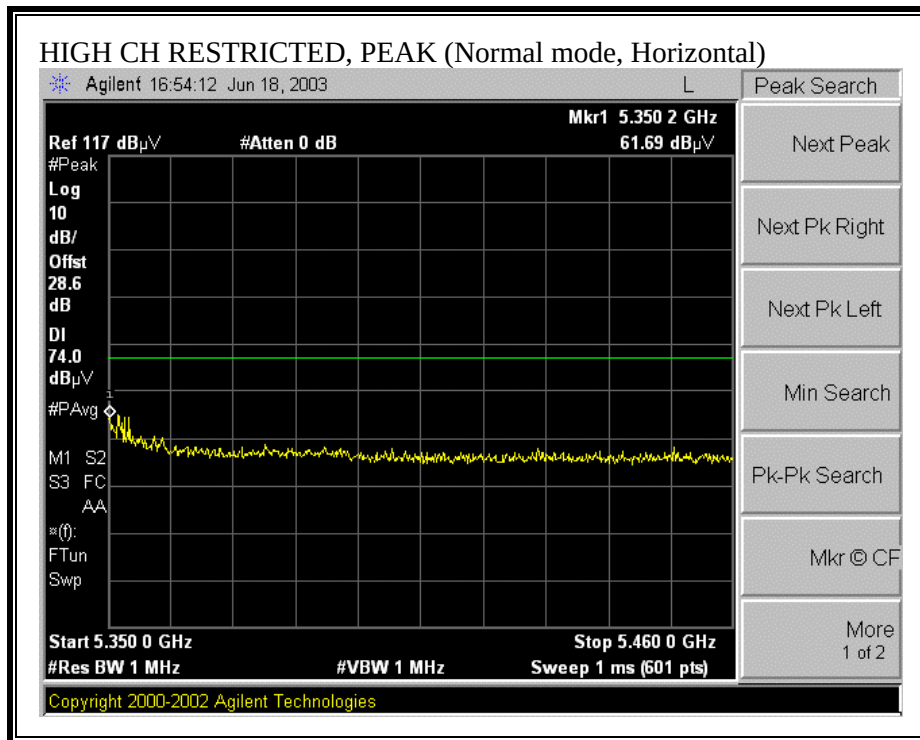


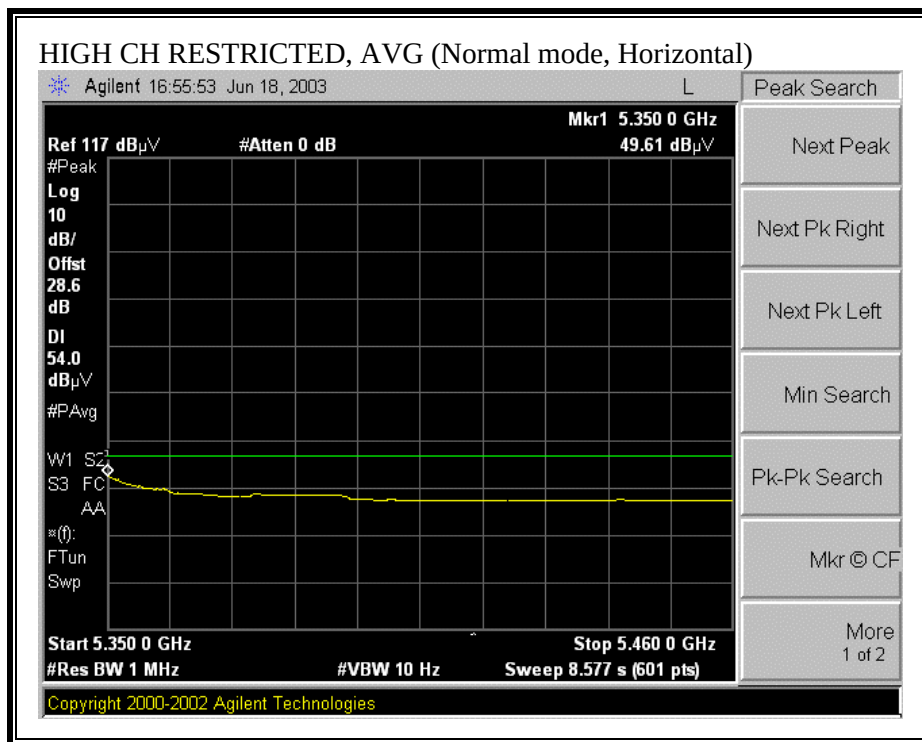
RESTRICTED BANDEDGE (NORMAL MODE, LOW CHANNEL, VERTICAL)



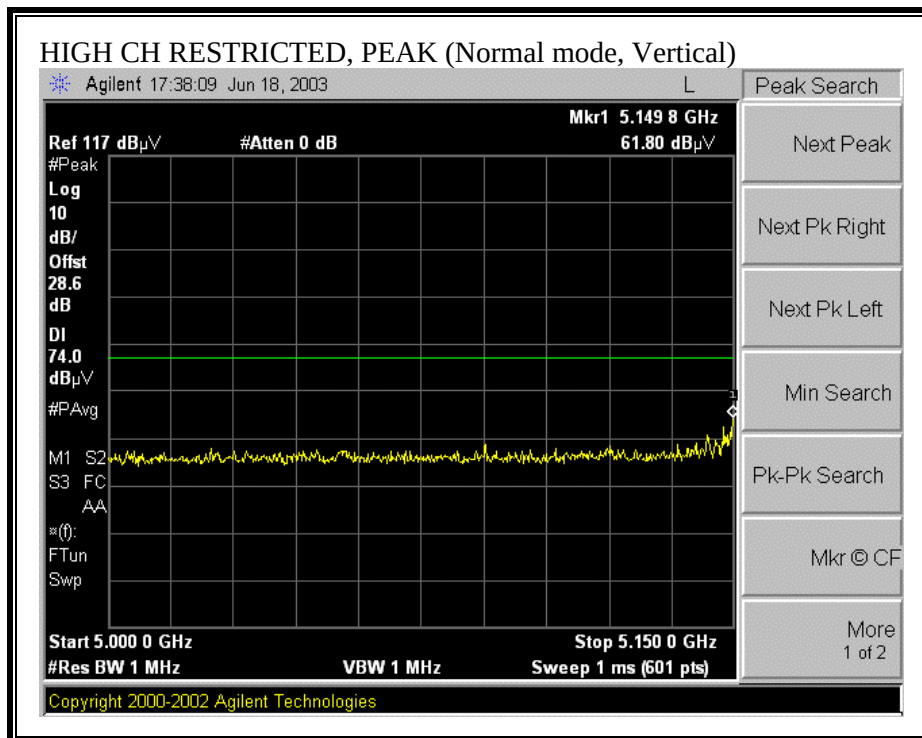


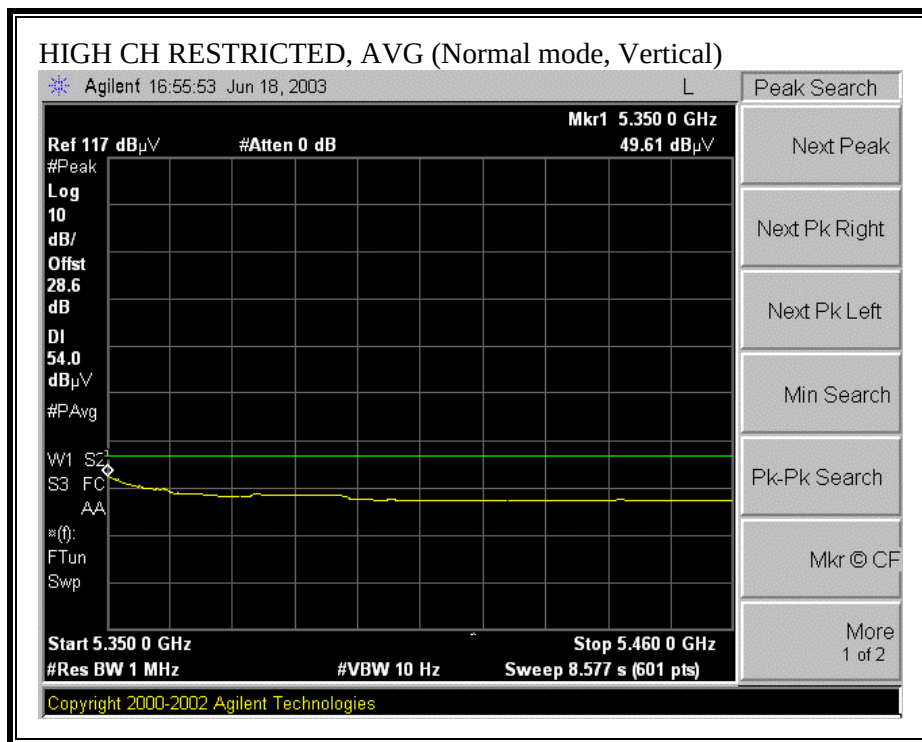
RESTRICTED BANDEDGE (NORMAL MODE, HIGH CHANNEL, HORIZONTAL)



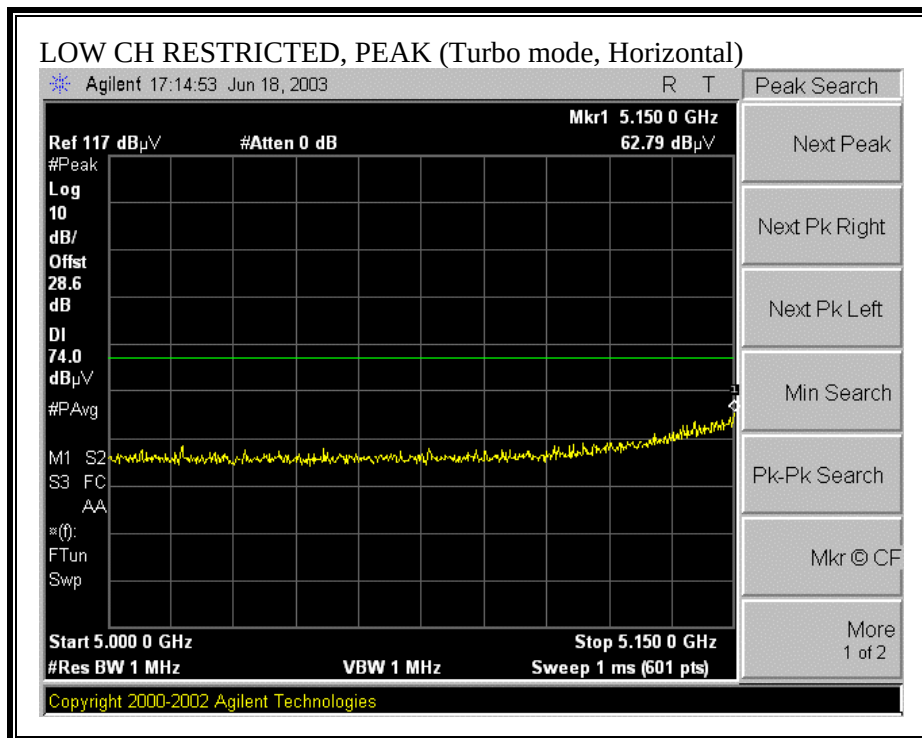


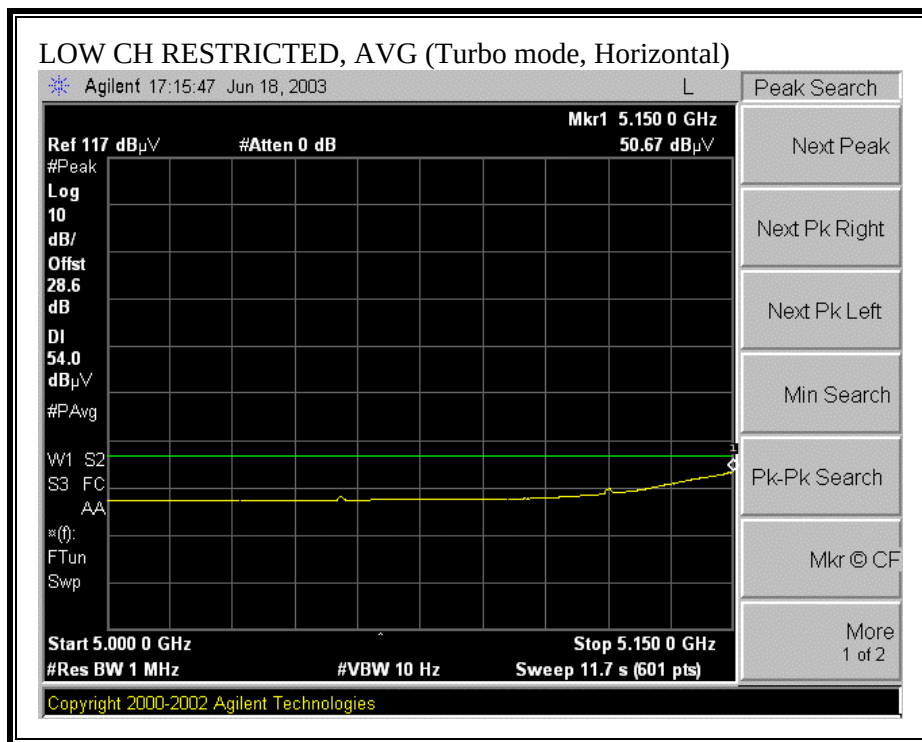
RESTRICTED BANDEDGE (NORMAL MODE, HIGH CHANNEL, VERTICAL)



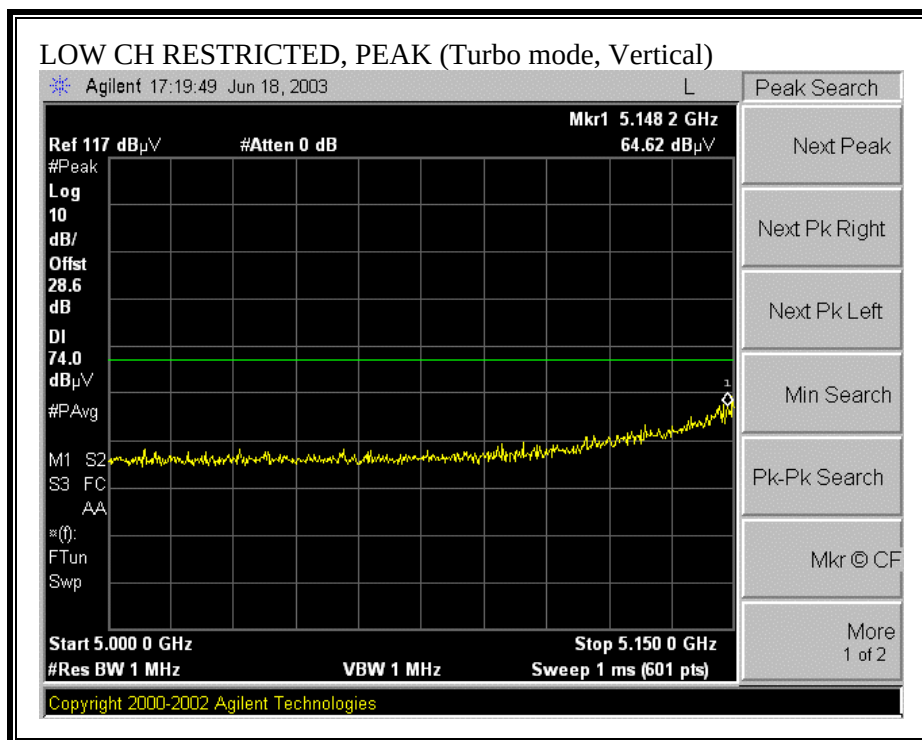


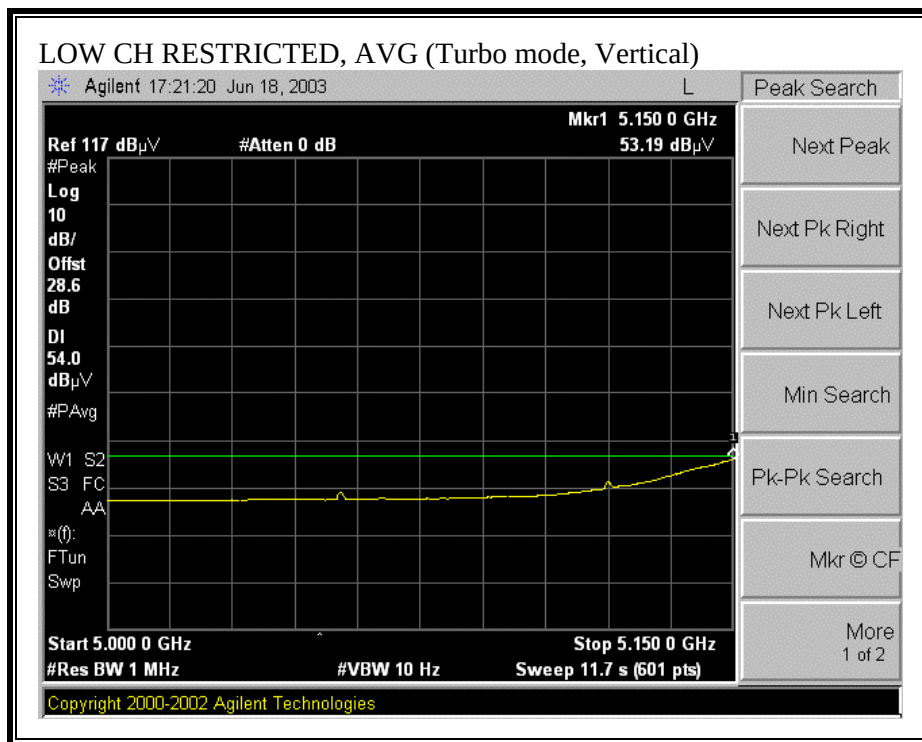
RESTRICTED BANDEDGE (TURBO MODE, LOW CHANNEL, HORIZONTAL)



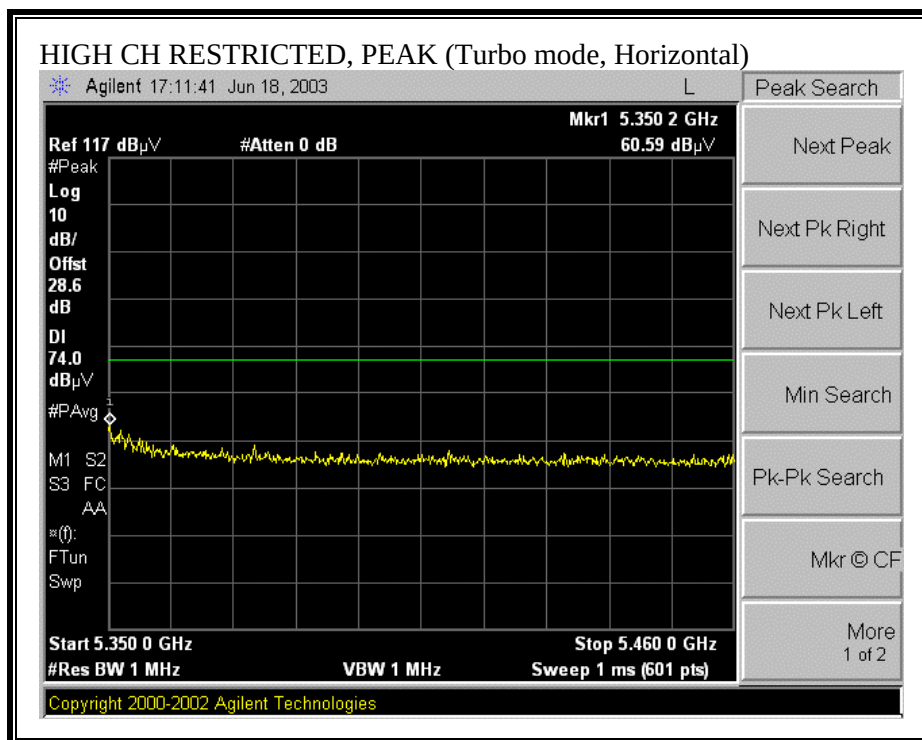


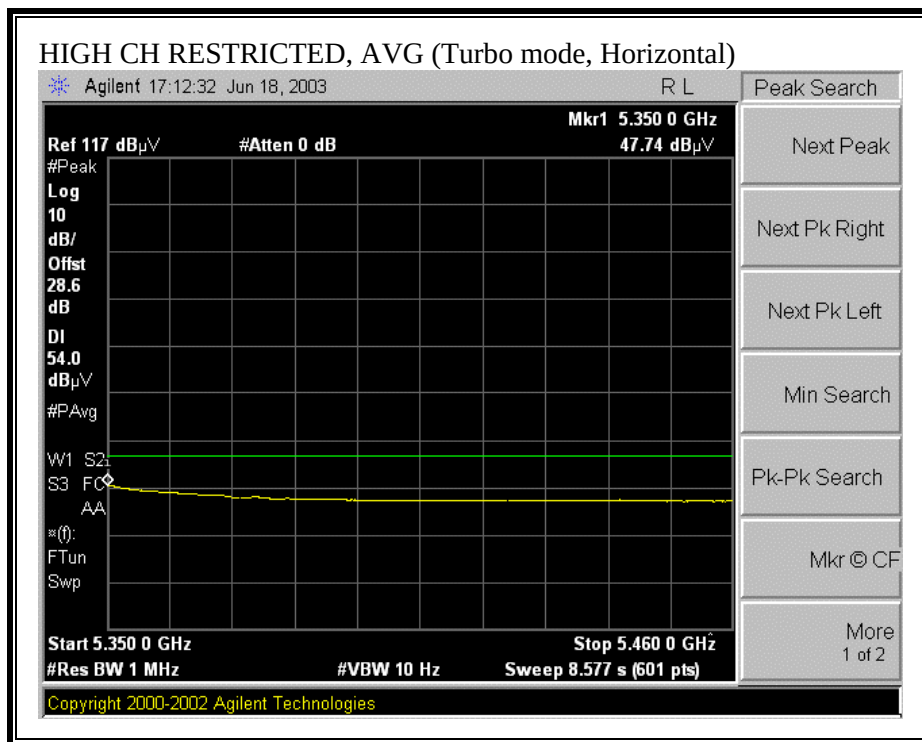
RESTRICTED BANDEDGE (TURBO MODE, LOW CHANNEL, VERTICAL)



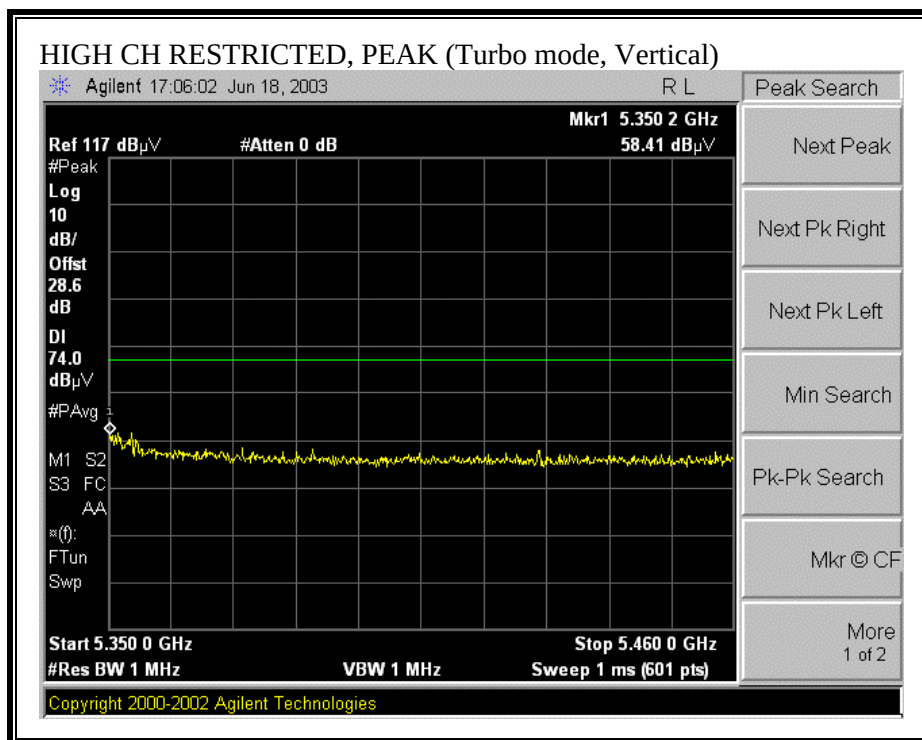


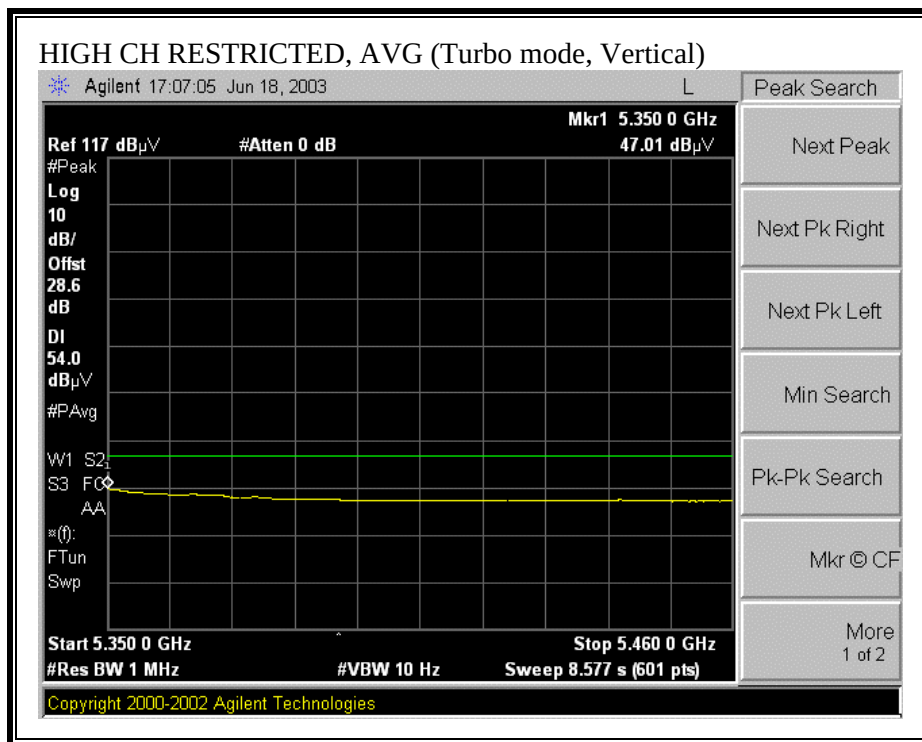
RESTRICTED BANDEDGE (TURBO MODE, HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (TURBO MODE, HIGH CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS

07/03/03 High Frequency Measurement
Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Thanh Nguyen
Project #: 03U1944
Company: 3COM Corporation
EUT Descrip.: 802.11a/b/g PCMCIA CardBus PC Card
EUT M/N: SL-3040 (FCC ID 09C-SL3040)
Test Target: FCC 15.247, IC RSS 210
Mode Oper: Tx

Test Equipment:

EMCO Horn 1-18GHz	Pre-amplifier 1-26GHz	Spectrum Analyzer	Horn > 18GHz
T60; S/N: 2238 @3m	T63 Miteq 646456	Agilent E4446A Analyzer	T87-T88 ARA 18-40GHz & Mixer > 40GHz

Hi Frequency Cables

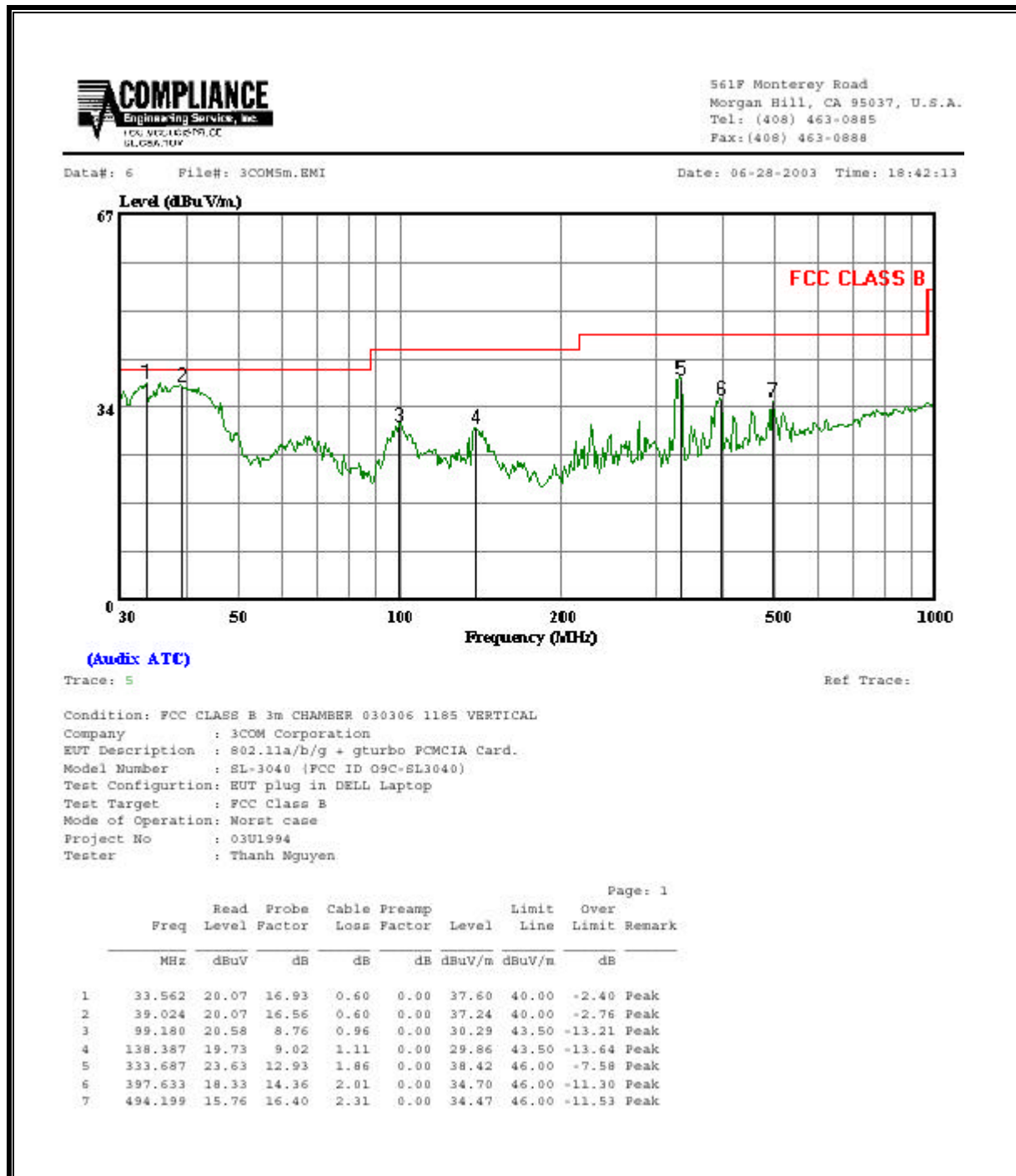
☐ (2 ft)	☒ (2 ~ 3 ft)	☐ (4 ~ 6 ft)	☒ (12 ft)
---------------------------------	--	-------------------------------------	---

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
Normal Low Channel 5.180GHz															
Harmonics and Spurious Emissions.															
10.360	9.8	38.4	30.5	38.3	5.1	-33.4	0.0	1.0	49.2	41.4	74.0	54.0	-24.8	-12.6	Noise Floor
No more Harmonics and Spurious Emissions after 2nd harmonic.															
Normal MID Channel 5.240GHz															
Harmonics and Spurious Emissions.															
10.480	9.8	38.7	30.8	38.2	5.1	-33.4	0.0	1.0	49.6	41.7	74.0	54.0	-24.4	-12.3	Noise Floor
No more Harmonics and Spurious Emissions after 2nd harmonic.															
Normal MID Channel 5.260GHz															
Harmonics and Spurious Emissions.															
10.520	9.8	40.0	30.4	38.2	5.2	-33.5	0.0	1.0	50.9	41.3	74.0	54.0	-23.1	-12.7	Noise Floor
No more Harmonics and Spurious Emissions after 2nd harmonic.															
Normal High Channel 5.320GHz.															
Harmonics and Spurious Emissions.															
10.640	9.8	39.4	30.2	38.2	5.2	-33.5	0.0	1.0	50.3	41.1	74.0	54.0	-23.7	-12.9	Noise Floor
No more Harmonics and Spurious Emissions after 2nd harmonic.															
No noise signal was detected at Turbo Mode all Channels.															
</															

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

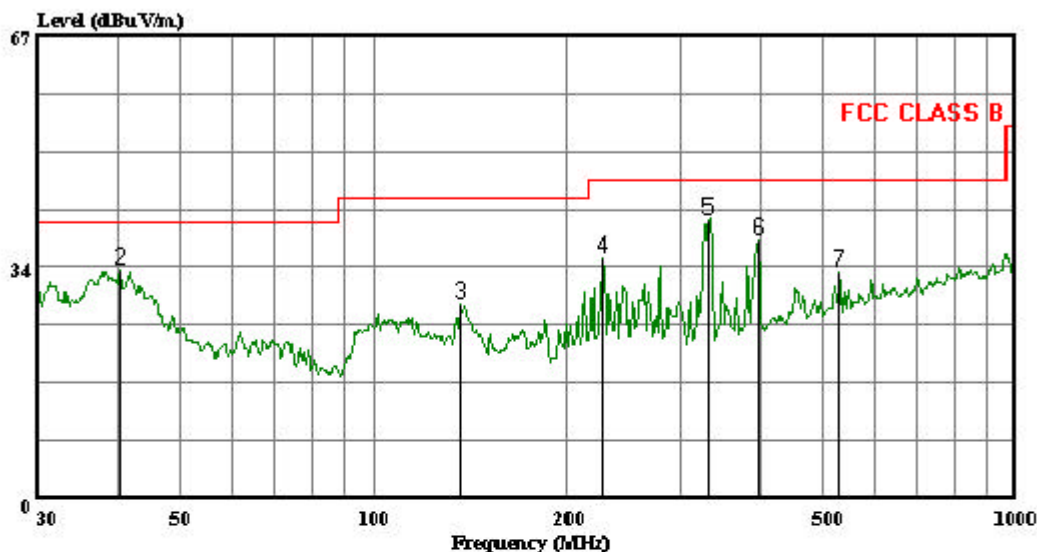




561F Monterey Road
Morgan Hill, CA 95037, U.S.A.
Tel: (408) 463-0885
Fax: (408) 463-0888

Data#: 8 File#: 3COM5m.EMI

Date: 06-28-2003 Time: 18:47:26



(AudiX ATC)

Trace: 7

Ref Trace:

Condition: FCC CLASS B 3m CHAMBER 030306 1185 HORIZONTAL
Company : 3COM Corporation
EUT Description : 802.11a/b/g + gturbo PCMCIA Card.
Model Number : SL-3040 (FCC ID O9C-SL3040)
Test Configuration: EUT plug in DELL Laptop
Test Target : FCC Class B
Mode of Operation: Worst case
Project No : 03U1994
Tester : Thanh Nguyen

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	30.000	15.62	16.99	0.55	0.00	33.16	40.00 -6.84 Peak
2	40.276	15.89	16.45	0.62	0.00	32.96	40.00 -7.04 Peak
3	136.460	17.99	9.18	1.11	0.00	28.28	43.50 -15.22 Peak
4	226.894	22.72	10.55	1.47	0.00	34.74	46.00 -11.26 Peak
5	331.355	25.63	12.85	1.83	0.00	40.31	46.00 -5.69 Peak
6	397.633	21.01	14.36	2.01	0.00	37.38	46.00 -8.62 Peak
7	530.101	13.48	16.91	2.40	0.00	32.79	46.00 -13.21 Peak

7.8. 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 μ 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.

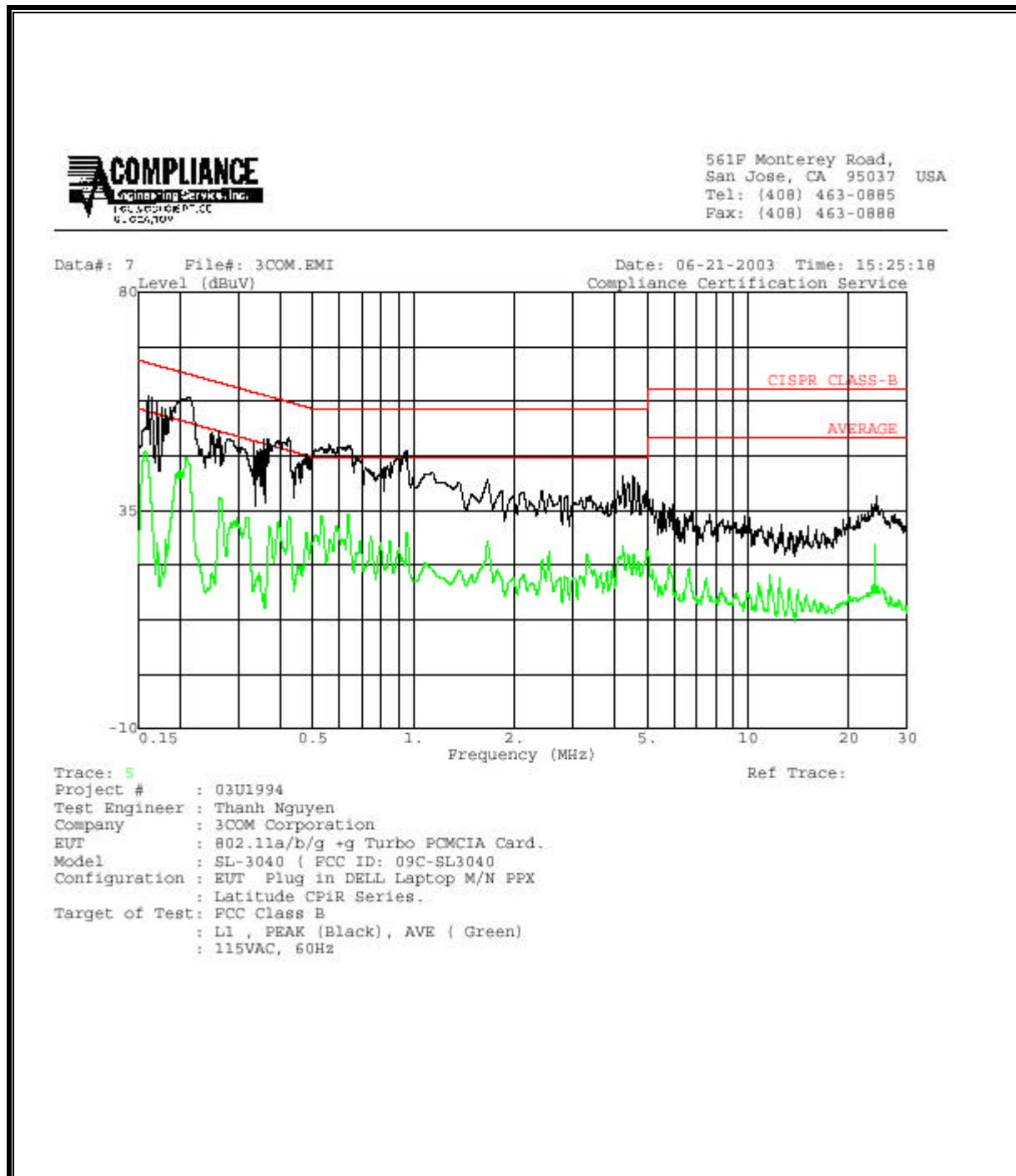
RESULTS

No non-compliance noted:

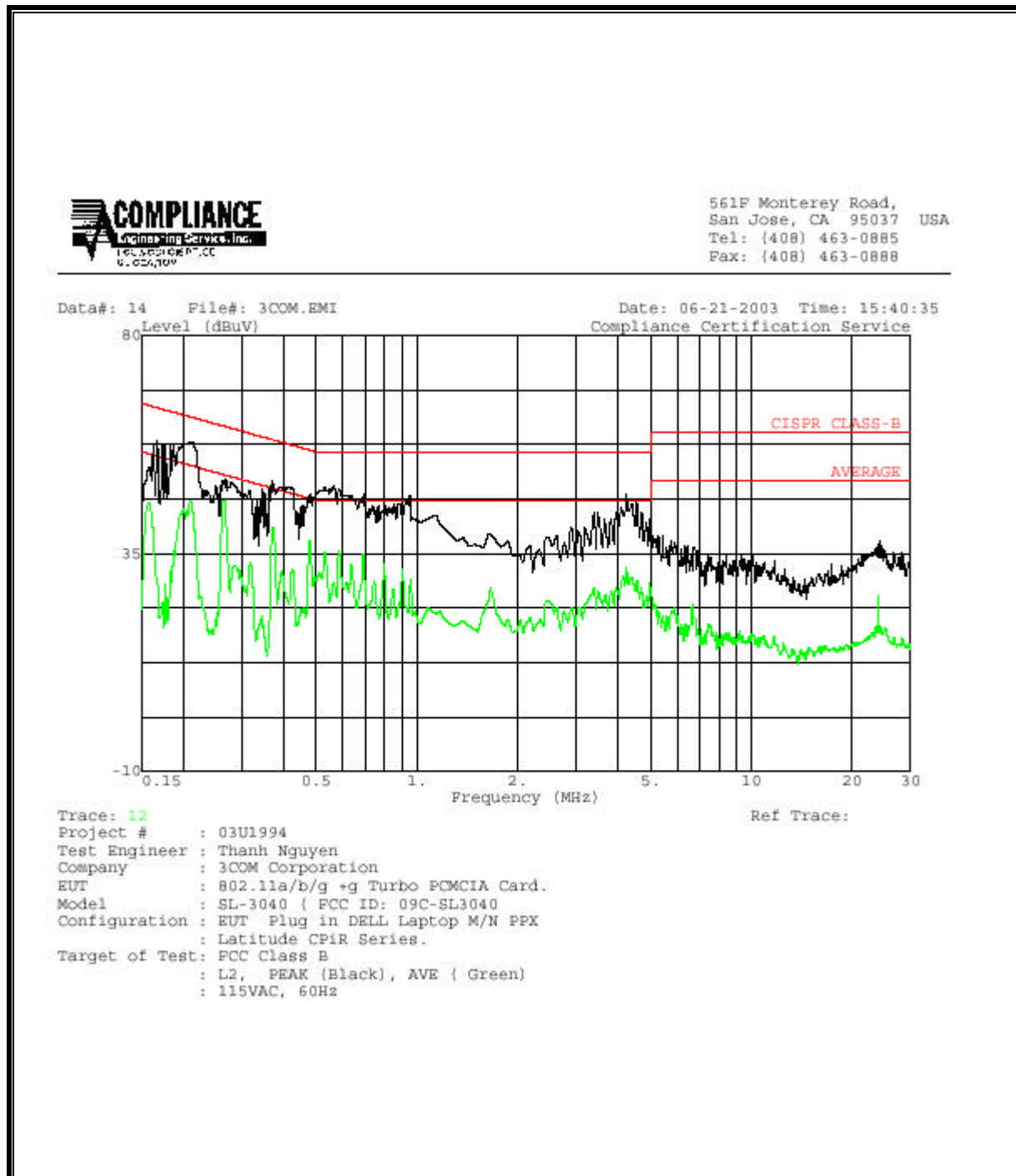
6 WORST EMISSIONS

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	58.30	--	45.92	0.00	64.17	54.17	-5.87	-8.25	L1
0.65	47.98	--	34.34	0.00	56.00	46.00	-8.02	-11.66	L1
4.22	42.22	--	27.56	0.00	56.00	46.00	-13.78	-18.44	L1
0.21	57.92	--	45.62	0.00	64.23	54.23	-6.31	-8.61	L2
4.22	47.18	--	32.08	0.00	56.00	46.00	-8.82	-13.92	L2
0.95	46.78	--	35.00	0.00	56.00	46.00	-9.22	-11.00	L2
6 Worst Data									

LINE 1 (LINE) RESULTS

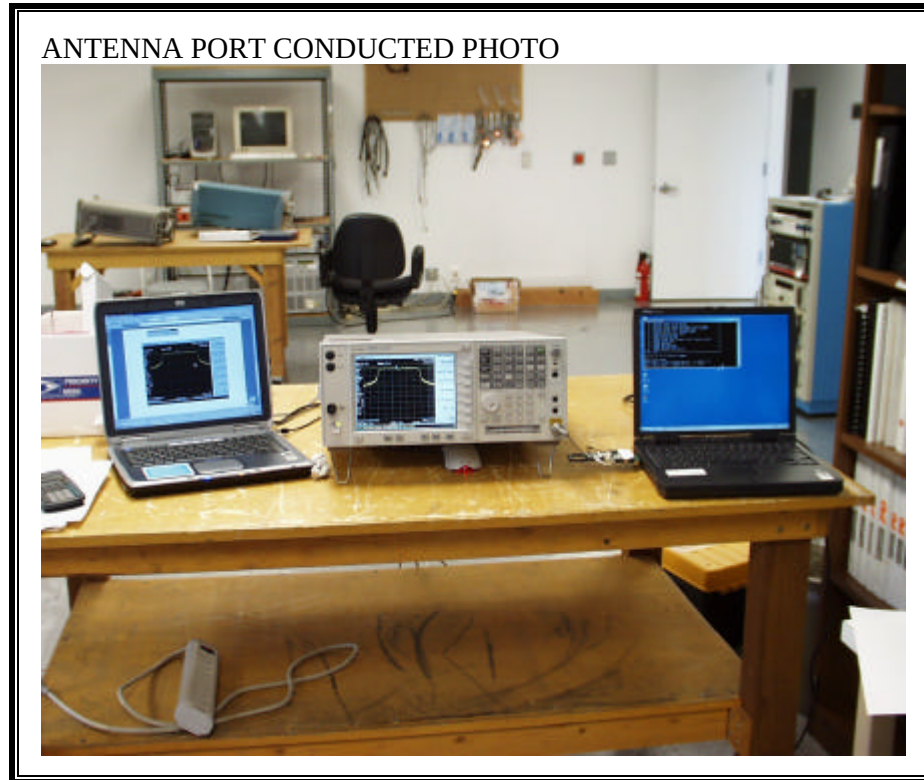


LINE 2 (NEUTRAL) RESULTS

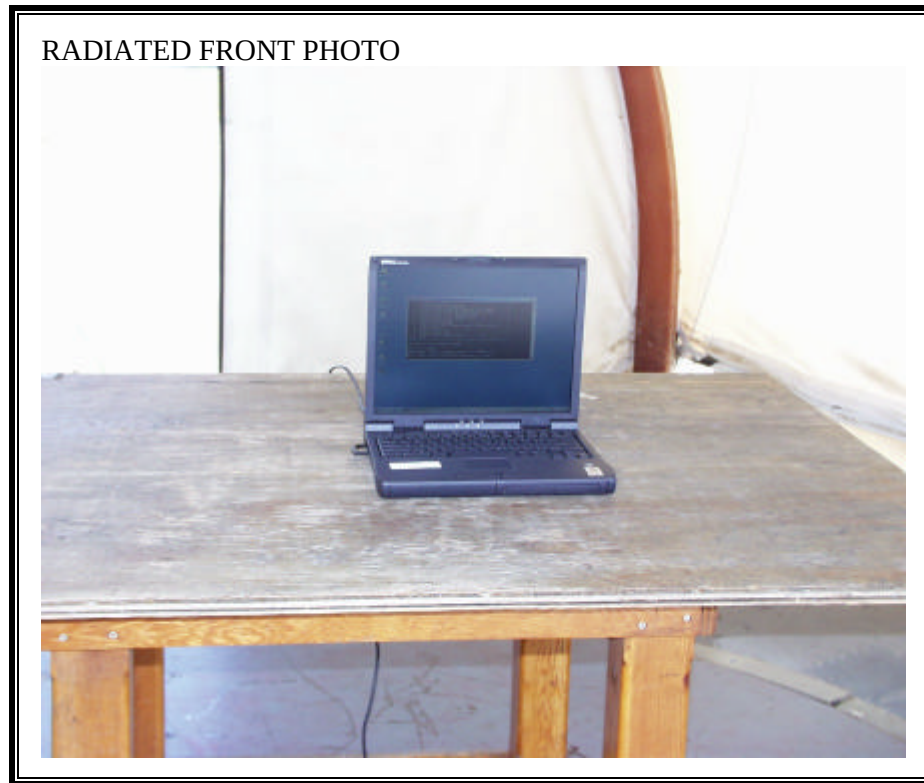


8. SETUP PHOTOS

ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP



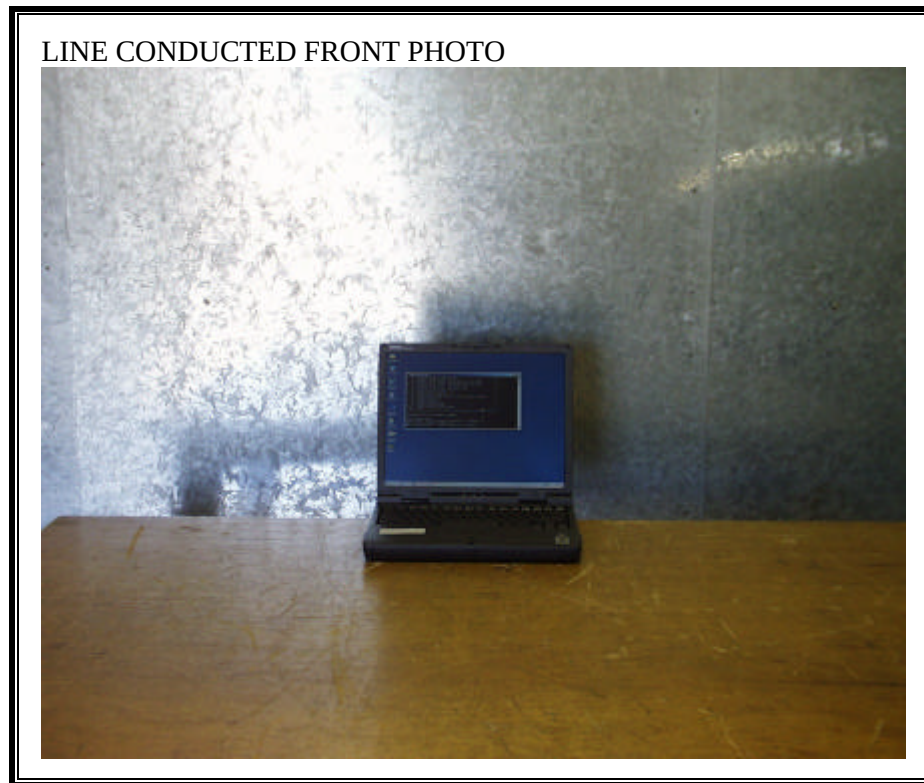
RADIATED RF MEASUREMENT SETUP



RADIATED BACK PHOTO



POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP



LINE CONDUCTED BACK PHOTO



END OF REPORT