FCC PART 15, SUBPART B and C
TEST REPORT

For

INTEL MINI PCI TYPE 802.11 BG WIRELESS LAN ADAPTER FOR USE IN THE DELL AGENCY SERIES # PP07S

MODEL: WM3A2200BG

Prepared for

DELL COMPUTER CORPORATION
ONE DELL WAY
ROUND ROCK, TEXAS 78682

Prepared by:_____

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DATE: JULY 23, 2004

	REPORT BODY	APPENDICES					TOTAL
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP, NIST, or any other agency of the U.S. Government.

Device Tested:	Intel Mini PCI Type 802.11BG Wireless LAN Adapter for use in the Dell Agency Series # PP07S Model: WM3A2200BG S/N: N/A
Product Description:	The product is a wireless miniPCI card used for the Dell Computer Corporation Notebook Computer Agency Series # PP07S.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	Dell Computer Corporation One Dell Way Round Rock, Texas 78682
Test Dates:	June 4; July 19, 20, 21, and 22, 2004
Test Specifications:	EMI requirements Limits: **Class B** of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247
Test Procedure:	ANSI C63.4: 2001
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.207
2	Spurious Radiated RF Emissions, 30 MHz – 1000 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.209
3	Spurious Radiated RF Emissions, 10 kHz – 30 MHz and 1000 MHz – 25000 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(c)
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(c)
5	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209(a), and section 15.247 (c)
6	6 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(a)(2)
7	Peak Power Output	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(b)(3)
8	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(c)
9	Peak Power Spectral Density Conducted from the Intentional Radiator to the Antenna Port	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Intel Mini PCI Type 802.11BG Wireless LAN Adapter (for use in the Dell Agency Series # PP07S). Model: WM3A2200BG. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2001. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the specification limits defined by the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests of the testing described herein were performed at the test facility of Compatible Electronics at the following location:

114 Olinda Drive, Brea, California 92823

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Dell Computer Corporation

Jason Limoges Regulatory Engineer

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
Michael Christensen Senior Test Engineer

2.4 Date Test Sample was Received

The test sample was received on May 24, 2004.

2.5 Disposition of the Test Sample

The sample has not been returned to Dell Computer Corporation as of July 23, 2004.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
ANSI C63.4 2001	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The Intel Mini PCI Type 802.11BG Wireless LAN Adapter (for use in the Dell Agency Series # PP07S) Model: WM3A2200BG was directly connected to the laptop's miniPCI port underneath. The laptop was also connected to the AC Adapter via its power port. The EUT was continuously transmitting and receiving. The commands for the EUT were programmed using the special test software provided.

Note: For all tests, the main antenna port was tested, with the auxiliary antenna port being spot checked to insure the readings were not higher.

The final radiated as well as the conducted data was taken in the mode above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 This is a 1.75 meter unshielded cable connecting the laptop to the AC Adapter. It has a 1/8 inch power connector at the laptop end and is hard wired into the laptop. The cable was bundled to a length of 1.1 meters.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
Equipment Name				
Intel Mini PCI Type 802.11BG Wireless LAN Adapter (EUT)	INTEL CORPORATION	WM3A2200BG	N/A	**CNTWM3A2200BGA**
EUT Sub-Assemblies				
Auxiliary Duel Band Antenna	WISTRON NeWeb CORPORATION	P/N: 25.90157.001	N/A	**N/A**
Main Duel Band Antenna	WISTRON NeWeb CORPORATION	P/N: 25.90156.001	N/A	**N/A**
Auxiliary PIFA Antenna	HANNSTAR ELECTRONICS	P/N: WA00122	N/A	**N/A**
Main PIFA Antenna	HANNSTAR ELECTRONICS	P/N: WA00123	N/A	**N/A**
Host Equipment List				
AC ADAPTER FOR LAPTOP	DELL COMPUTER CORPORATION	P/N: 159224-001	N/A	**N/A**
LAPTOP	DELL COMPUTER CORPORATION	PC8165ZAA000	J3614PV045	**DoC**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Radiate Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Conducted Emissions Program	Compatible Electronics	2.3 (SR19)	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08767	June 25, 2003	June 25, 2004
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	June 25, 2003	June 25, 2004
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 24, 2003	June 24, 2004
EMI Test Receiver	Rohde & Schwarz	ESIB40	100172	July 22, 2003	July 22, 2004
RF Attenuator	Weinschel Corp.	2	BJ6396	August 7, 2003	Aug. 7, 2004
LISN	Com Power	LI-215	12078	November 22, 2003	Nov. 22, 2004
LISN	Com Power	LI-215	12082	November 22, 2003	Nov. 22, 2004
Preamplifier	Com Power	PA-102	1017	January 6, 2004	Jan. 6, 2005
Biconical Antenna	Com Power	AB-100	1548	October 8, 2003	Oct. 8, 2004
Log Periodic Antenna	Com Power	AL-100	16089	October 8, 2003	Oct. 8, 2004
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
Turntable	Com Power	TT-100	N/A	N/A	N/A
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Loop Antenna	Com Power	AL-130	17070	June 19, 2002	June 19, 2004

5.3 EMI Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
RF Peak Power Meter / Analyzer	Boonton Electronics Corp.	4500A-01-30	1282	February 23, 2004	Feb. 23, 2005
Peak Power Sensor	Boonton Electronics Corp.	57318	3723	February 23, 2004	Feb. 23, 2005
Horn Antenna	Antenna Research	DRG-118/A	1053	January 16, 2004	Jan. 16, 2005
Microwave Preamplifier	Com Power	PA-122	25195	August 19, 2003	Aug. 19, 2004
Microwave Preamplifier	Com Power	PA-840	711013	March 12, 2004	March 12, 2005
Horn Antenna	Com Power	AH826	0071957	November 5, 2003	Nov. 5, 2004

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Antenna Gain

For the Wistron NeWeb Corporation Antennas: The antenna has a worst case gain of –0.76 dBi peak for the main antenna and –1.05 dBi peak for the auxiliary antenna.

For the HannStar Electronics Antennas: The antenna has a worst case gain of 0.23 dBi peak for the main antenna and –0.08 dBi peak for the auxiliary antenna.

8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A 10 dB attenuation pad was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4: 2001. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Section 15.207 for conducted emissions.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies from 1 GHz to 18 GHz, and the Com Power Microwave Preamplifier Model: PA-840 was used for frequencies from 18 GHz to 25 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver records the highest measured reading over all the sweeps.

The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged using the EMI Receiver's average detector.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 2001. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT by the Radiated Emission Manual Test software. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain final data.

Note: for the spurious emissions that were 103 MHz away from the fundamental, the readings were taken at 1 meter with the 1 to 3 meter extrapolation being used.

8.2 6 dB and 20 dB Bandwidth

The 6 dB and 20 dB bandwidths were measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF out on the EUT. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (a)(2).

8.3 Peak Output Power

The Peak Output Power was measured using the power meter and power sensor. The EUT was directly connected to the power sensor, which was directly connected to the power meter. The Peak Output Power was then measured

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (b)(3).

8.4 RF Antenna Conducted Test

The RF antenna conducted test was performed using the EMI Receiver. The RF antenna conducted test was measured using a direct connection from the RF out on the EUT into the input of the analyzer. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (c).

8.5 Spectral Density Output

The spectral density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 3 kHz, and the video bandwidth was 10 kHz. The highest 1.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (d).

8.6 RF Band Edges

The RF band edges were measured at the start of the restricted bands (2390 MHz and 2483.5 MHz). The readings taken were also averaged by the EMI Receiver. Data sheets are included in Appendix E, which compares the reading from the EMI Receiver to the spec limit.

Readings that were taken using the Marker Delta Method were derived as follows:

1. Set the EUT to transmit on the highest operating frequency near the edge of the restricted band. Set the EMI Receiver sweep to the edge of the restricted band and set the span wide enough to encompass the fundamental signal and the edge of the restricted band.

2. Make a radiated emissions measurement of the fundamental at 3 meters on the OATS. Maximize the level of the emission. Using MAX HOLD and Peak Search, record the highest peak and average level. (Peak: RBW = VBW = 1 MHz; AVG: RBW = 1 MHz, VBW = 10 Hz)

3. Connect a coax cable to the antenna output of the EUT and measure directly to the EMI Receiver. Use the same center frequency and span settings that were used for steps #1 and #2. Reduce the RBW to 100 kHz (this has been specified for band edge 2.4 GHz 15.247, Note: this is about 1% and 1% would probably suffice for most measurements.) Set the VBW = 1 MHz for peak, 10 Hz for AVG (identical to previous readings). Using MAX HOLD, then "Peak Search" and "Marker Delta" determine the "delta dB" from the peak of the fundamental to the maximum level within the restricted band. This dBc level is the "Delta dB" reading.

4. If the maximum level within the restricted band is within two standard BW (where a "standard" bandwidth is the bandwidth specified by ANSI C63.4: 2001 for the frequency being measured, or 1 MHz for > 1GHz) of the edge of the restricted band, measure the amount that the level of the fundamental dropped when the RBW was changed from 1 MHz to the RBW used in step 2.

5. Calculate the PEAK and Average level within the restricted band in dBuV/m using the equations below:

   For readings within two standard bandwidths of the band edge:
   Restricted band level (Peak) = Peak reference level – delta dB – BW delta dB (step #4)
   Restricted band level (AVG) = Average reference level – delta dB – BW delta dB (step #4)

   For readings that are outside the two standard bandwidths of the band edge:
   Restricted band level (Peak) = Peak reference level – delta dB
   Restricted band level (AVG) = AVG reference level – delta dB

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (c). The RF power at the restricted bands closest to the band edges at 2390 MHz and 2483.5 MHz meet the limits of section 15.209. Please see the data sheets located in Appendix E.

9. CONCLUSIONS

The Intel Mini PCI Type 802.11BG Wireless LAN Adapter (for use in the Dell Computer Corporation Agency Series# PP07S) Model: WM3A2200BG meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and Subpart C specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	Intel Mini PCI Type 802.11BG Wireless LAN Adapter (for use in the Dell Agency Series# PP07S) Model: WM3A2200BG S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

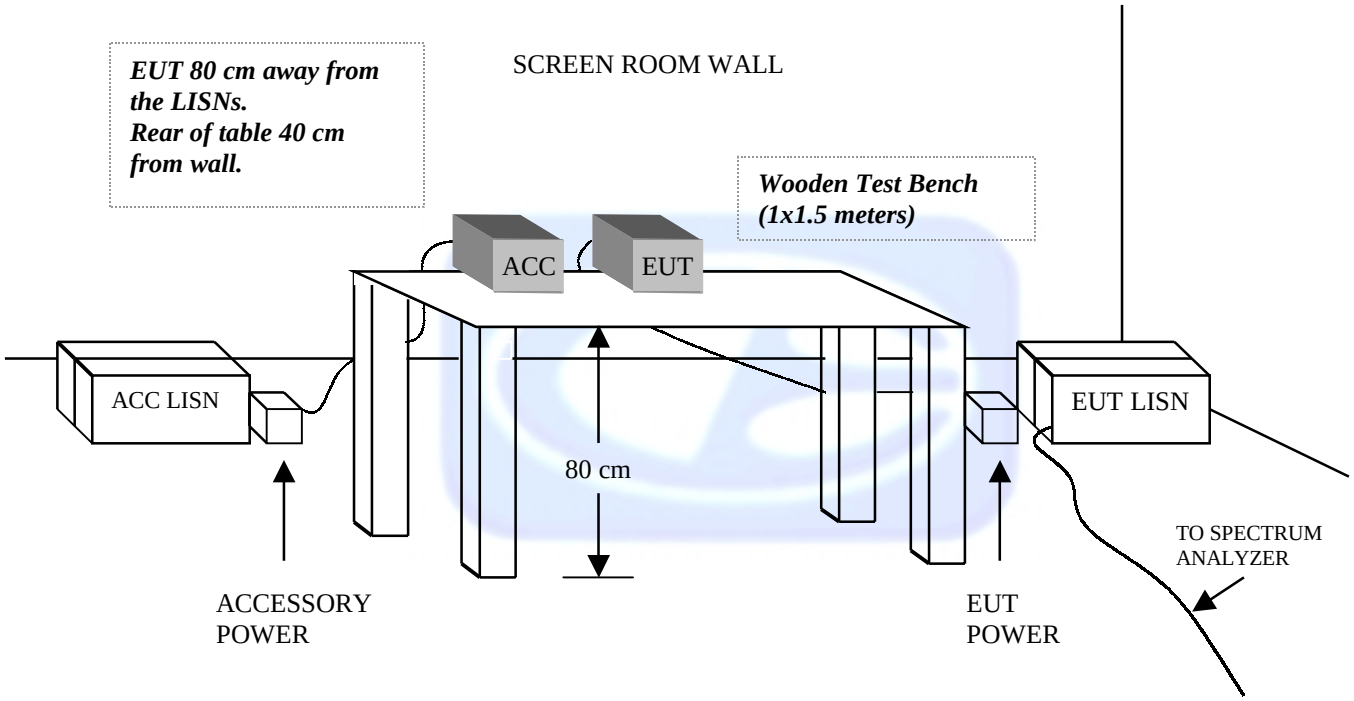
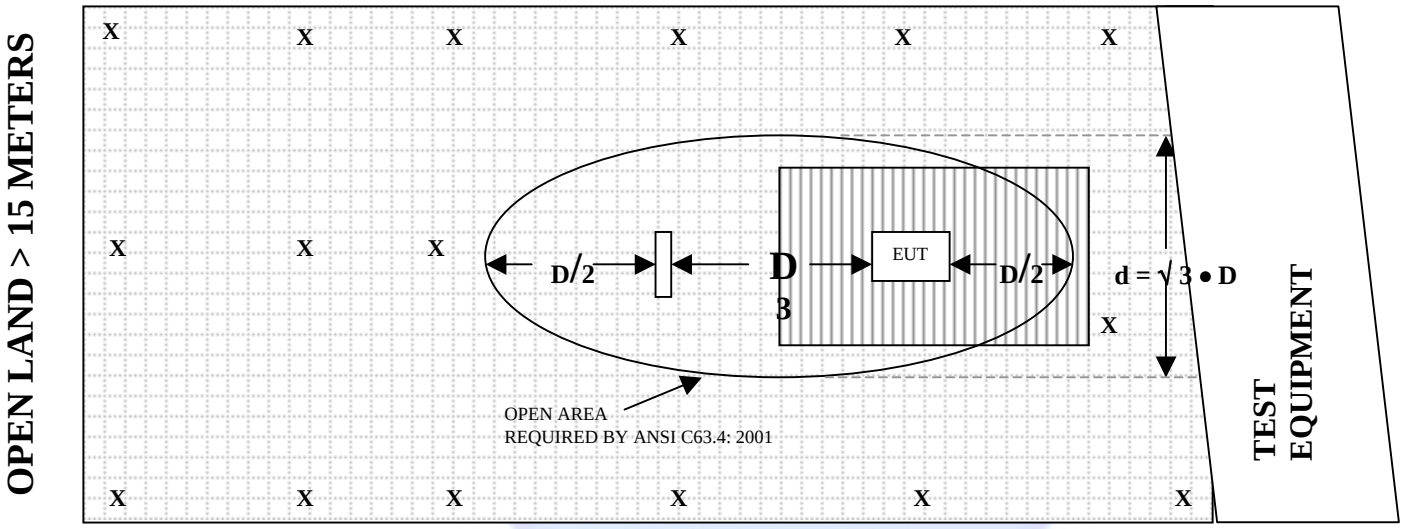


FIGURE 2: PLOT MAP AND LAYOUT OF 3 METER RADIATED SITE

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X = GROUND RODS	= GROUND SCREEN
D = TEST DISTANCE (meters)	= WOOD COVER

FRONT VIEW

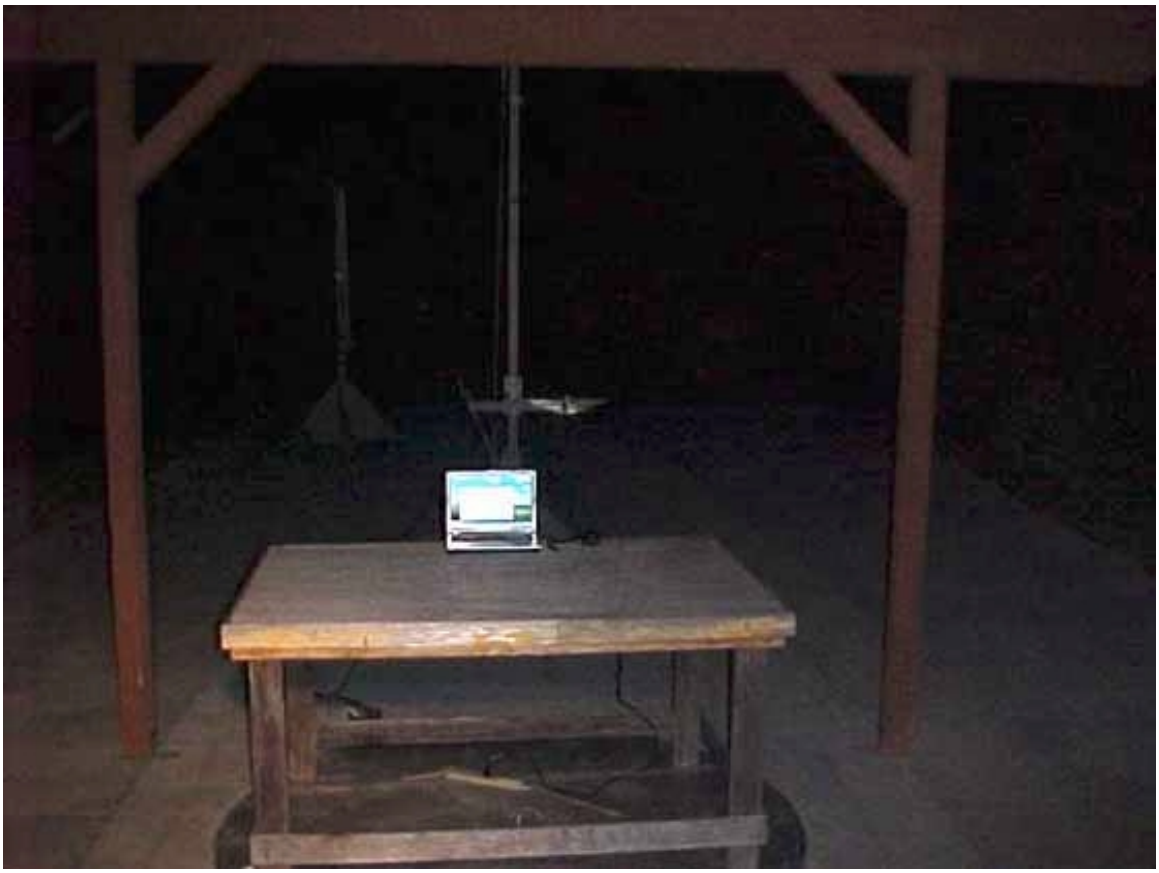
DELL COMPUTER CORPORATION
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE DELL AGENCY SERIES # PP07S
MODEL: WM3A2200BG
FCC SUBPART C - RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

DELL COMPUTER CORPORATION
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE DELL AGENCY SERIES # PP07S
MODEL: WM3A2200BG
FCC SUBPART C - RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

DELL COMPUTER CORPORATION
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE DELL AGENCY SERIES # PP07S
MODEL: WM3A2200BG
FCC CLASS B - RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

DELL COMPUTER CORPORATION
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE DELL AGENCY SERIES # PP07S
MODEL: WM3A2200BG
FCC CLASS B - RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

DELL COMPUTER CORPORATION
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE DELL AGENCY SERIES # PP07S
MODEL: WM3A2200BG
FCC CLASS B - CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

DELL COMPUTER CORPORATION
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE DELL AGENCY SERIES # PP07S
MODEL: WM3A2200BG
FCC CLASS B - CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

COM-POWER AB-100

BICONICAL ANTENNA

S/N: 1548

CALIBRATION DATE: OCTOBER 8, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.1	120	9.9
35	12.9	125	11.4
40	14.6	140	12.0
45	12.8	150	13.0
50	12.9	160	13.9
60	9.3	175	14.2
70	8.2	180	14.3
80	8.0	200	14.9
90	8.1	250	16.6
100	8.8	300	19.7

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16089

CALIBRATION DATE: OCTOBER 8, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.8	700	20.0
400	14.4	800	21.2
500	16.0	900	20.8
600	17.7	1000	21.7

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 6, 2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	37.8	300	37.6
40	37.5	350	37.5
50	37.7	400	37.5
60	37.5	450	37.0
70	37.5	500	37.1
80	37.5	550	37.3
90	37.5	600	37.1
100	37.5	650	37.4
125	37.8	700	37.1
150	37.5	750	37.1
175	37.5	800	36.8
200	37.6	850	36.2
225	37.6	900	35.3
250	37.5	950	35.9
275	37.6	1000	35.3

COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25195

CALIBRATION DATE: AUGUST 19, 2003

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	30.8	6.0	33.3
1.1	30.9	6.5	32.7
1.2	30.9	7.0	31.8
1.3	30.4	7.5	31.6
1.4	30.7	8.0	30.3
1.5	31.0	8.5	29.0
1.6	31.2	9.0	29.0
1.7	30.3	9.5	29.5
1.8	28.9	10.0	30.9
1.9	31.2	11.0	30.2
2.0	30.9	12.0	28.7
2.5	30.4	13.0	30.3
3.0	31.7	14.0	28.7
3.5	32.6	15.0	29.5
4.0	32.6	16.0	31.1
4.5	32.2	17.0	30.1
5.0	31.1	18.0	28.6
5.5	30.6		

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MARCH 12, 2004

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	26.733	29.0	27.265
18.5	25.961	29.5	27.143
19.0	25.489	30.0	27.185
19.5	25.099	30.5	28.096
20.0	24.523	31.0	27.159
20.5	24.313	31.5	29.062
21.0	23.889	32.0	27.125
21.5	23.689	32.5	26.897
22.0	23.761	33.0	27.088
22.5	24.025	33.5	26.841
23.0	24.140	34.0	26.460
23.5	24.826	34.5	26.436
24.0	25.165	35.0	25.817
24.5	25.740	35.5	24.731
25.0	26.227	36.0	24.645
25.5	26.531	36.5	25.647
26.0	27.029	37.0	25.486
26.5	26.964	37.5	26.113
27.0	26.806	38.0	25.873
27.5	24.348	39.5	23.901
28.0	26.654	39.0	22.795
28.5	27.169	39.5	21.300
		40.0	23.365

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: JANUARY 16, 2004

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.4	9.5	38.6
1.5	25.2	10.0	38.7
2.0	28.2	10.5	39.0
2.5	28.5	11.0	38.9
3.0	30.1	11.5	41.3
3.5	31.0	12.0	40.5
4.0	31.2	12.5	40.0
4.5	31.9	13.0	40.2
5.0	33.2	13.5	40.5
5.5	33.7	14.0	41.6
6.0	34.3	14.5	44.8
6.5	35.0	15.0	41.4
7.0	36.7	15.5	39.2
7.5	37.3	16.0	39.4
8.0	37.1	16.5	40.9
8.5	37.3	17.0	42.6
9.0	37.7	17.5	45.1
		18.0	41.7

COM-POWER AH826

HORN ANTENNA

S/N: 0071957

CALIBRATION DATE: NOVEMBER 05, 2003

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	32.3	22.5	32.9
18.5	32.9	23.0	33.0
19.0	32.7	23.5	33.6
19.5	32.6	24.0	33.6
20.0	32.7	24.5	33.5
20.5	33.0	25.0	33.5
21.0	33.0	25.5	33.7
21.5	33.2	26.0	34.1
22.0	32.9	26.5	34.5

COM-POWER AL-130

LOOP ANTENNA

S/N: 17070

CALIBRATION DATE: JUNE 19, 2002

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-40.4	11.1
0.01	-40.3	11.2
0.02	-41.2	10.3
0.05	-41.6	9.9
0.07	-41.4	10.1
0.1	-41.7	9.8
0.2	-44.0	7.5
0.3	-41.6	9.9
0.5	-41.3	10.2
0.7	-41.4	10.1
1	-40.9	10.6
2	-40.6	10.9
3	-40.5	11.0
4	-40.8	10.7
5	-40.2	11.3
10	-40.7	10.8
15	-41.4	10.1
20	-41.6	9.9
25	-41.7	9.8
30	-42.9	8.6

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	44.94	V	74	-29.06	Peak	2	0	
4824	37.49	V	54	-16.51	Avg	2	0	
7236	45.08	V	74	-28.92	Peak	2	180	
7236	30.47	V	54	-23.53	Avg	2	180	
9648	56.63	V	--	--	Peak	2.5	180	Not in Restricted Band
9648	52.84	V	--	--	Avg	2.5	180	Not in Restricted Band
12060	52.01	V	74	-21.99	Peak	2	180	
12060	38	V	54	-16	Avg	2	180	
14472	52.28	V	74	-21.72	Peak	1.5	180	
14472	38.51	V	54	-15.49	Avg	1.5	180	
16884		V	--	--	Peak			No Emissions
16884		V	--	--	Avg			Detected
19296	46.05	V	74	-27.95	Peak	2	225	
19296	32.81	V	54	-21.19	Avg	2	225	
21708		V	--	--	Peak			No Emissions
21708		V	--	--	Avg			Detected
24120		V	--	--	Peak			No Emissions
24120		V	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/19/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Ben Chavez
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With Hannstar Antenna
Channel 1 - 802.11 b Mode Transmit Mode
Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	43.58	H	74	-30.42	Peak	2.5	315	
4824	33.75	H	54	-20.25	Avg	2.5	315	
7236	46.73	H	74	-27.27	Peak	2	180	
7236	33.65	H	54	-20.35	Avg	2	180	
9648	58.45	H	--	--	Peak	2.25	180	Not in Restricted Band
9648	54.9	H	--	--	Avg	2.25	180	Not in Restricted Band
12060	51.24	H	74	-22.76	Peak	2	180	
12060	37.79	H	54	-16.21	Avg	2	180	
14472	52.13	H	74	-21.87	Peak	2	180	
14472	38.39	H	54	-15.61	Avg	2	180	
16884		H	--	--	Peak			No Emissions
16884		H	--	--	Avg			Detected
19296	46.76	H	74	-27.24	Peak	1.75	180	
19296	32.78	H	54	-21.22	Avg	1.75	180	
21708		H	--	--	Peak			Not in Restricted Band
21708		H	--	--	Avg			Not in Restricted Band
24120		H	--	--	Peak			Not in Restricted Band
24120		H	--	--	Avg			Not in Restricted Band

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 6 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	44.01	V	74	-29.99	Peak	2	225	
4874	35.78	V	54	-18.22	Avg	2	225	
7311	46.29	V	74	-27.71	Peak	2	45	
7311	35.26	V	54	-18.74	Avg	2	45	
9748	61.63	V	--	--	Peak	2.5	180	Not in Restricted Band
9748	58.68	V	--	--	Avg	2.5	180	Not in Restricted Band
12185	51.25	V	74	-22.75	Peak	1.75	315	
12185	37.57	V	54	-16.43	Avg	1.75	315	
14622	52.6	V	--	--	Peak	2	180	Not in Restricted Band
14622	38.41	V	--	--	Avg	2	180	Not in Restricted Band
17059		V	--	--	Peak			No Emissions
17059		V	--	--	Avg			Detected
19496	46.36	V	74	-27.64	Peak	2	180	
19496	32.4	V	54	-21.6	Avg	2	180	
21933		V	--	--	Peak			No Emissions
21933		V	--	--	Avg			Detected
22001		V	74	-74	Peak			No Emissions
22001		V	54	-54	Avg			Detected
24370		V	--	--	Peak			No Emissions
24370		V	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/19/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Ben Chavez
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With Hannstar Antenna
Channel 6 - 802.11 b Mode Transmit Mode
Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	42.63	H	74	-31.37	Peak	2.5	270	
4874	31.7	H	54	-22.3	Avg	2.5	270	
7311	45.58	H	74	-28.42	Peak	1.5	180	
7311	32.77	H	54	-21.23	Avg	1.5	180	
9748	61.76	H	--	--	Peak	2.75	180	Not in Restricted Band
9748	58.92	H	--	--	Avg	2.75	180	Not in Restricted Band
12185	51.25	H	74	-22.75	Peak	2.25	180	
12185	37.28	H	54	-16.72	Avg	2.25	180	
14622	51.3	H	--	--	Peak	2	180	Not in Restricted Band
14622	37.34	H	--	--	Avg	2	180	Not in Restricted Band
17059		H	--	--	Peak			No Emissions
17059		H	--	--	Avg			Detected
19496	45.97	H	74	-28.03	Peak	2.25	180	
19496	32.43	H	54	-21.57	Avg	2.25	180	
21933		H	--	--	Peak			No Emissions
21933		H	--	--	Avg			Detected
22001		H	74	-74	Peak			No Emissions
22001		H	54	-54	Avg			Detected
24370		H	--	--	Peak			No Emissions
24370		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	44.42	V	74	-29.58	Peak	2.75	315	
4924	35.71	V	54	-18.29	Avg	2.75	315	
7386	44.94	V	74	-29.06	Peak	2	315	
7386	32.37	V	54	-21.63	Avg	2	315	
9848	59.68	V	--	--	Peak	2.25	180	Not in Restricted Band
9848	56.8	V	--	--	Avg	2.25	180	Not in Restricted Band
12310	50.89	V	74	-23.11	Peak	2	180	
12310	36.4	V	54	-17.6	Avg	2	180	
14772	53.17	V	--	--	Peak	2.25	45	Not in Restricted Band
14772	38.94	V	--	--	Avg	2.25	45	Not in Restricted Band
17234		V	--	--	Peak			No Emissions
17234		V	--	--	Avg			Detected
19696	46.07	V	74	-27.93	Peak	1.75	135	
19696	32.5	V	54	-21.5	Avg	1.75	135	
22158		V	74	-74	Peak			No Emissions
22158		V	54	-54	Avg			Detected
24620		V	--	--	Peak			No Emissions
24620		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	43.77	H	74	-30.23	Peak	2	315	
4924	33.47	H	54	-20.53	Avg	2	315	
7386	45.11	H	74	-28.89	Peak	2.5	180	
7386	33.5	H	54	-20.5	Avg	2.5	180	
9848	60.58	H	--	--	Peak	2.25	180	Not in Restricted Band
9848	57.91	H	--	--	Avg	2.25	180	Not in Restricted Band
12310	50.43	H	74	-23.57	Peak	1.75	180	
12310	36.55	H	54	-17.45	Avg	1.75	180	
14772	53.53	H	--	--	Peak	2	180	Not in Restricted Band
14772	38.94	H	--	--	Avg	2	180	Not in Restricted Band
17234		H	--	--	Peak			No Emissions
17234		H	--	--	Avg			Detected
19696	45.71	H	74	-28.29	Peak	2	225	
19696	32.45	H	54	-21.55	Avg	2	225	
22158		H	74	-74	Peak			No Emissions
22158		H	54	-54	Avg			Detected
24620		H	--	--	Peak			No Emissions
24620		H	--	--	Avg			Detected

FCC 15.247
Intel Corporation
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter
Model: WM3A2200BG
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With Hannstar Antenna

Date: 7/19/04
Lab: B
Tested By: Ben Chavez

802.11 b Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2312	53.54	V	74	-20.46	Peak	1.75	90	103 MHz Below the Fundamental
2312	48.38	V	54	-5.62	Avg	1.75	90	of Channel 1
2512	48.33	V	74	-25.67	Peak	1.5	90	103 MHz Above the Fundamental
2512	40.99	V	54	-13.01	Avg	1.5	90	of Channel 1
2312	55.45	H	74	-18.55	Peak	1.5	45	103 MHz Below the Fundamental
2312	50.15	H	54	-3.85	Avg	1.5	45	of Channel 1
2512	50.71	H	74	-23.29	Peak	1.5	180	103 MHz Above the Fundamental
2512	43.5	H	54	-10.5	Avg	1.5	180	of Channel 1
2336	53.48	V	74	-20.52	Peak	1.25	270	103 MHz Below the Fundamental
2336	48.05	V	54	-5.95	Avg	1.25	270	of Channel 6
2538.7	47.1	V	74	-26.9	Peak	2	135	103 MHz Above the Fundamental
2538.7	39.49	V	54	-14.51	Avg	2	135	of Channel 6
2336	55.33	H	74	-18.67	Peak	1	135	103 MHz Below the Fundamental
2336	50.09	H	54	-3.91	Avg	1	135	of Channel 6
2538.7	51.44	H	74	-22.56	Peak	2	135	103 MHz Above the Fundamental
2538.7	43.47	H	54	-10.53	Avg	2	135	of Channel 6
2360	51.01	V	74	-22.99	Peak	2	90	103 MHz Below the Fundamental
2360	44.31	V	54	-9.69	Avg	2	90	of Channel 11
2565	47.21	V	74	-26.79	Peak	2	135	103 MHz Above the Fundamental
2565	37.93	V	54	-16.07	Avg	2	135	of Channel 11
2360	53.1	H	74	-20.9	Peak	1.5	45	103 MHz Below the Fundamental
2360	46.29	H	54	-7.71	Avg	1.5	45	of Channel 11
2564	48.89	H	74	-25.11	Peak	2	135	103 MHz Above the Fundamental
2564	38.56	H	54	-15.44	Peak	2	135	of Channel 11

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3216	47.06	V	74	-26.94	Peak	2	45	Fundamental of LO for
3216	44.23	V	54	-9.77	Avg	2	45	Channel 1
6432	42.19	V	--	--	Peak	2.5	45	2nd Harmonic of LO for
6432	31.28	V	--	--	Avg	2.5	45	Channel 1
9648	56.63	V	--	--	Peak	2.5	180	3rd Harmonic of LO =
9648	52.84	V	--	--	Avg	2.5	180	4th Harmonic of Tx for Channel 1
12864	49.1	V	--	--	Peak	2	180	4th Harmonic of LO for
12864	34.53	V	--	--	Avg	2	180	Channel 1
3216	42.94	H	74	-31.06	Peak	2.5	225	Fundamental of LO for
3216	38.12	H	54	-15.88	Avg	2.5	225	Channel 1
6432	42.07	H	--	--	Peak	2.5	315	2nd Harmonic of LO for
6432	28.27	H	--	--	Avg	2.5	315	Channel 1
9648	58.45	H	--	--	Peak	2.25	180	3rd Harmonic of LO =
9648	54.9	H	--	--	Avg	2.25	180	4th Harmonic of Tx for Channel 1
12864	48.28	H	--	--	Peak	2	180	4th Harmonic of LO for
12864	34.64	H	--	--	Avg	2	180	Channel 1
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 6 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	47.6	V	74	-26.4	Peak	3	45	Fundamental of LO for
3249.33	44.93	V	54	-9.07	Avg	3	45	Channel 6
6498.67	42.8	V	--	--	Peak	2.75	180	2nd Harmonic of LO for
6498.67	28.01	V	--	--	Avg	2.75	180	Channel 6
9748	61.63	V	--	--	Peak	2.5	180	3rd Harmonic of LO =
9748	58.68	V	--	--	Avg	2.5	180	4th Harmonic of Tx for Channel 6
12997.3	49.92	V	--	--	Peak	2	180	4th Harmonic of LO for
12997.3	35.46	V	--	--	Avg	2	180	Channel 6
3249.33	43.34	H	74	-30.66	Peak	2.5	180	Fundamental of LO for
3249.33	38.74	H	54	-15.26	Avg	2.5	180	Channel 6
6498.67	42.11	H	--	--	Peak	2.5	45	2nd Harmonic of LO for
6498.67	28.36	H	--	--	Avg	2.5	45	Channel 6
9748	61.76	H	--	--	Peak	2.75	180	3rd Harmonic of LO =
9748	58.92	H	--	--	Avg	2.75	180	4th Harmonic of Tx for Channel 6
12997.3	49.21	H	--	--	Peak	2.25	180	4th Harmonic of LO for
12997.3	35.49	H	--	--	Avg	2.25	180	of Channel 6
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3282.67	48.71	V	74	-25.29	Peak	2.75	45	Fundamental of LO for
3282.67	46.36	V	54	-7.64	Avg	2.75	45	Channel 11
6565.33	43.24	V	--	--	Peak	2.25	315	2nd Harmonic of LO for
6565.33	30.86	V	--	--	Avg	2.25	315	Channel 11
9848	59.68	V	--	--	Peak	2.25	180	3rd Harmonic of LO =
9848	56.8	V	--	--	Avg	2.25	180	4th Harmonic of Tx for Channel 11
13130.7	50.91	V	--	--	Peak	2	180	4th Harmonic of LO for
13130.7	36.57	V	--	--	Avg	2	180	of Channel 11
3282.67	46.17	H	74	-27.83	Peak	4	45	Fundamental of LO for
3282.67	42.73	H	54	-11.27	Avg	4	45	Channel 11
6565.33	43.27	H	--	--	Peak	3.5	315	2nd Harmonic of LO for
6565.33	30.49	H	--	--	Avg	3.5	315	Channel 11
9848	60.58	H	--	--	Peak	2.25	180	3rd Harmonic of LO =
9848	57.91	H	--	--	Avg	2.25	180	4th Harmonic of Tx for Channel 11
13130.7	50.98	H	--	--	Peak	2	180	4th Harmonic of LO for
13130.7	36.62	H	--	--	Avg	2	180	of Channel 11
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter
Model: WM3A2200BG
Configuration: Dell Laptop Agency Series # PP07S

Date: 7/22/04
Lab: B
Tested By: Benigno Chavez

Channel 6 - 802.11 b Mode - with Hannstar Antenna
Receive Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	47.86	V	74	-26.14	Peak	2	45	Fundamental of LO for
3249.33	44.94	V	60	-15.06	Avg	2	45	Channel 6
6498.67	42.18	V	74	-31.82	Peak	2.25	135	2nd Harmonic of LO for
6498.67	28.84	V	60	-31.16	Avg	2.25	135	Channel 6
9748	47.55	V	74	-26.45	Peak	2.25	90	3rd Harmonic of LO for
9748	34.15	V	60	-25.85	Avg	2.25	90	Channel 6
3249.33	45.55	H	74	-28.45	Peak	2	90	Fundamental of LO for
3249.33	41.98	H	60	-18.02	Avg	2	90	Channel 6
6498.67	41.83	H	74	-32.17	Peak	2	180	2nd Harmonic of LO for
6498.67	27.91	H	60	-32.09	Avg	2	180	Channel 6
9748	48.04	H	74	-25.96	Peak	2	0	3rd Harmonic of LO for
9748	33.86	H	60	-26.14	Avg	2	0	Channel 6

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	49.35	V	74	-24.65	Peak	1.77	315	
4824	44.4	V	54	-9.6	Avg	1.77	315	
7236	44.13	V	74	-29.87	Peak	2.65	225	
7236	31.97	V	54	-22.03	Avg	2.65	225	
9648	56.03	V	--	--	Peak	2.6	315	Not in Restricted Band
9648	51.18	V	--	--	Avg	2.6	315	Not in Restricted Band
12060	52.4	V	74	-21.6	Peak	1.66	180	
12060	39.39	V	54	-14.61	Avg	1.66	180	
14472	53.51	V	74	-20.49	Peak	1.5	45	
14472	39.67	V	54	-14.33	Avg	1.5	45	
16884		V	--	--	Peak			No Emissions
16884		V	--	--	Avg			Detected
19296	45.41	V	74	-28.59	Peak	2	180	
19296	32.81	V	54	-21.19	Avg	2	180	
21708		V	--	--	Peak			No Emissions
21708		V	--	--	Avg			Detected
24120		V	--	--	Peak			No Emissions
24120		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	44.28	H	74	-29.72	Peak	2.35	270	
4824	36.98	H	54	-17.02	Avg	2.35	270	
7236	45.12	H	74	-28.88	Peak	2.35	225	
7236	29.91	H	54	-24.09	Avg	2.35	225	
9648	53.66	H	--	--	Peak	2.29	270	Not in Restricted Band
9648	48	H	--	--	Avg	2.29	270	Not in Restricted Band
12060	51.1	H	74	-22.9	Peak	2.29	45	
12060	38.19	H	54	-15.81	Avg	2.29	45	
14472	53.14	H	74	-20.86	Peak	2.29	315	
14472	38.71	H	54	-15.29	Avg	2.29	315	
16884		H	--	--	Peak			No Emissions
16884		H	--	--	Avg			Detected
19296	45.38	H	74	-28.62	Peak	1.75	225	
19296	32.1	H	54	-21.9	Avg	1.75	225	
21708		H	--	--	Peak			Not in Restricted Band
21708		H	--	--	Avg			Not in Restricted Band
24120		H	--	--	Peak			Not in Restricted Band
24120		H	--	--	Avg			Not in Restricted Band

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 6 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	43.2	V	74	-30.8	Peak	1.9	225	
4874	30.21	V	54	-23.79	Avg	1.9	225	
7311	44.07	V	74	-29.93	Peak	2.55	180	
7311	31.62	V	54	-22.38	Avg	2.55	180	
9748	59.19	V	--	--	Peak	2.57	180	Not in Restricted Band
9748	55.16	V	--	--	Avg	2.57	180	Not in Restricted Band
12185	53.06	V	74	-20.94	Peak	1.63	225	
12185	38.7	V	54	-15.3	Avg	1.63	225	
14622	55.05	V	--	--	Peak	1.63	180	Not in Restricted Band
14622	39.79	V	--	--	Avg	1.63	180	Not in Restricted Band
17059	53.42	V	--	--	Peak	1.63	0	No Emissions
17059	38.82	V	--	--	Avg	1.63	0	Detected
19496	45.59	V	74	-28.41	Peak	1.75	135	
19496	31.65	V	54	-22.35	Avg	1.75	135	
21933		V	--	--	Peak			No Emissions
21933		V	--	--	Avg			Detected
22001		V	74	-74	Peak			No Emissions
22001		V	54	-54	Avg			Detected
24370		V	--	--	Peak			No Emissions
24370		V	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/21/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Kyle Fujimoto
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With WNC Antenna
Channel 6 - 802.11 b Mode **Transmit Mode**
Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	39.89	H	74	-34.11	Peak	2.33	315	
4874	27.46	H	54	-26.54	Avg	2.33	315	
7311	44.57	H	74	-29.43	Peak	2.33	270	
7311	31.2	H	54	-22.8	Avg	2.33	270	
9748	56.31	H	--	--	Peak	2.33	45	Not in Restricted Band
9748	51.62	H	--	--	Avg	2.33	45	Not in Restricted Band
12185	51.14	H	74	-22.86	Peak	2.33	180	
12185	37.57	H	54	-16.43	Avg	2.33	180	
14622	51.6	H	--	--	Peak	2.33	180	Not in Restricted Band
14622	39.17	H	--	--	Avg	2.33	180	Not in Restricted Band
17059	52.08	H	--	--	Peak	2.33	180	No Emissions
17059	39.67	H	--	--	Avg	2.33	180	Detected
19496	46.02	H	74	-27.98	Peak	2.25	180	
19496	31.69	H	54	-22.31	Avg	2.25	180	
21933		H	--	--	Peak			No Emissions
21933		H	--	--	Avg			Detected
22001		H	74	-74	Peak			No Emissions
22001		H	54	-54	Avg			Detected
24370		H	--	--	Peak			No Emissions
24370		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	44.01	V	74	-29.99	Peak	2	90	
4924	32.77	V	54	-21.23	Avg	2	90	
7386	44.21	V	74	-29.79	Peak	2	315	
7386	29.36	V	54	-24.64	Avg	2	315	
9848	54.55	V	--	--	Peak	2.01	270	Not in Restricted Band
9848	48.73	V	--	--	Avg	2.01	270	Not in Restricted Band
12310	49.96	V	74	-24.04	Peak	2.01	225	
12310	37.06	V	54	-16.94	Avg	2.01	225	
14772	51.62	V	--	--	Peak	2	315	Not in Restricted Band
14772	39.36	V	--	--	Avg	2	315	Not in Restricted Band
17234	52.78	V	--	--	Peak	2.01	270	No Emissions
17234	37.78	V	--	--	Avg	2.01	270	Detected
19696	44.97	V	74	-29.03	Peak	2	180	
19696	31.79	V	54	-22.21	Avg	2	180	
22158		V	74	-74	Peak			No Emissions
22158		V	54	-54	Avg			Detected
24620		V	--	--	Peak			No Emissions
24620		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	41.04	H	74	-32.96	Peak	2	180	
4924	28.16	H	54	-25.84	Avg	2	180	
7386	42.49	H	74	-31.51	Peak	2	225	
7386	29.48	H	54	-24.52	Avg	2	225	
9848	53.67	H	--	--	Peak	1.73	45	Not in Restricted Band
9848	48.26	H	--	--	Avg	1.73	45	Not in Restricted Band
12310	49.49	H	74	-24.51	Peak	1.73	225	
12310	37.17	H	54	-16.83	Avg	1.73	225	
14772	53.99	H	--	--	Peak	1.73	45	Not in Restricted Band
14772	38.91	H	--	--	Avg	1.73	45	Not in Restricted Band
17234	51.48	H	--	--	Peak	2.33	315	No Emissions
17234	37.85	H	--	--	Avg	2.33	315	Detected
19696	47.59	H	74	-26.41	Peak	2	225	
19696	33.98	H	54	-20.02	Avg	2	225	
22158		H	74	-74	Peak			No Emissions
22158		H	54	-54	Avg			Detected
24620		H	--	--	Peak			No Emissions
24620		H	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/21/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Kyle Fujimoto
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With WNC Antenna

802.11 b Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2312	49.42	V	74	-24.58	Peak	1.47	270	103 MHz Below the Fundamental
2312	43.38	V	54	-10.62	Avg	1.47	270	of Channel 1
2512	45.17	V	74	-28.83	Peak	1.47	270	103 MHz Above the Fundamental
2512	35.21	V	54	-18.79	Avg	1.47	270	of Channel 1
2312	52.68	H	74	-21.32	Peak	1.12	225	103 MHz Below the Fundamental
2312	47.98	H	54	-6.02	Avg	1.12	225	of Channel 1
2512	47.64	H	74	-26.36	Peak	1.14	315	103 MHz Above the Fundamental
2512	36.76	H	54	-17.24	Avg	1.14	315	of Channel 1
2336	49.08	V	74	-24.92	Peak	1.25	225	103 MHz Below the Fundamental
2336	42.79	V	54	-11.21	Avg	1.25	225	of Channel 6
2538.7	45.2	V	74	-28.8	Peak	1.28	315	103 MHz Above the Fundamental
2538.7	37.34	V	54	-16.66	Avg	1.28	315	of Channel 6
2336	49.61	H	74	-24.39	Peak	2.66	315	103 MHz Below the Fundamental
2336	43.8	H	54	-10.2	Avg	2.66	315	of Channel 6
2538.7	45.95	H	74	-28.05	Peak	2.58	315	103 MHz Above the Fundamental
2538.7	38.78	H	54	-15.22	Avg	2.58	315	of Channel 6
2360	46.03	V	74	-27.97	Peak	2.75	270	103 MHz Below the Fundamental
2360	39.56	V	54	-14.44	Avg	2.75	270	of Channel 11
2565	45.01	V	74	-28.99	Peak	2.81	225	103 MHz Above the Fundamental
2565	33.44	V	54	-20.56	Avg	2.81	225	of Channel 11
2360	47.76	H	74	-26.24	Peak	1.29	270	103 MHz Below the Fundamental
2360	40.24	H	54	-13.76	Avg	1.29	270	of Channel 11
2564	44.47	H	74	-29.53	Peak	2.51	90	103 MHz Above the Fundamental
2564	32.89	H	54	-21.11	Peak	2.51	90	of Channel 11

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3216	48.49	V	74	-25.51	Peak	2.04	45	Fundamental of LO for
3216	46.61	V	54	-7.39	Avg	2.04	45	Channel 1
6432	40.97	V	--	--	Peak	2.04	315	2nd Harmonic of LO for
6432	27.75	V	--	--	Avg	2.04	315	Channel 1
9648	54.38	V	--	--	Peak	2.38	270	3rd Harmonic of LO =
9648	49.3	V	--	--	Avg	2.38	270	4th Harmonic of Tx for Channel 1
12864	50.71	V	--	--	Peak	2.38	225	4th Harmonic of LO for
12864	37.95	V	--	--	Avg	2.38	225	Channel 1
3216	45.52	H	74	-28.48	Peak	3.38	45	Fundamental of LO for
3216	41.72	H	54	-12.28	Avg	3.38	45	Channel 1
6432	39.71	H	--	--	Peak	3.38	270	2nd Harmonic of LO for
6432	27.63	H	--	--	Avg	3.38	270	Channel 1
9648	53.67	H	--	--	Peak	1.73	45	3rd Harmonic of LO =
9648	48.26	H	--	--	Avg	1.73	45	4th Harmonic of Tx for Channel 1
12864	47.65	H	--	--	Peak	1.59	90	4th Harmonic of LO for
12864	35.15	H	--	--	Avg	1.59	90	Channel 1
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247
Intel Corporation Date: 7/21/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Kyle Fujimoto
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With WNC Antenna
Channel 6 - 802.11 b Mode **Transmit Mode**
Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	50.36	V	74	-23.64	Peak	2.14	45	Fundamental of LO for
3249.33	48.43	V	54	-5.57	Avg	2.14	45	Channel 6
6498.67	41.92	V	--	--	Peak	2.14	315	2nd Harmonic of LO for
6498.67	28.05	V	--	--	Avg	2.14	315	Channel 6
9748	54.46	V	--	--	Peak	1.28	225	3rd Harmonic of LO =
9748	50.15	V	--	--	Avg	1.28	225	4th Harmonic of Tx for Channel 6
12997.3	48.63	V	--	--	Peak	2.12	270	4th Harmonic of LO for
12997.3	35.87	V	--	--	Avg	2.12	270	Channel 6
3249.33	47.95	H	74	-26.05	Peak	300.8	315	Fundamental of LO for
3249.33	45.09	H	54	-8.91	Avg	300.8	315	Channel 6
6498.67	40.17	H	--	--	Peak	300.8	225	2nd Harmonic of LO for
6498.67	28.05	H	--	--	Avg	300.8	225	Channel 6
9748	53.37	H	--	--	Peak	2.28	180	3rd Harmonic of LO =
9748	49.18	H	--	--	Avg	2.28	180	4th Harmonic of Tx for Channel 6
12997.3	48.31	H	--	--	Peak	2.28	225	4th Harmonic of LO for
12997.3	35.95	H	--	--	Avg	2.28	225	of Channel 6
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3282.67	50.46	V	74	-23.54	Peak	3.36	45	Fundamental of LO for
3282.67	48.1	V	54	-5.9	Avg	3.36	45	Channel 11
6565.33	41.18	V	--	--	Peak	3.55	45	2nd Harmonic of LO for
6565.33	28.65	V	--	--	Avg	3.55	45	Channel 11
9848	53.51	V	--	--	Peak	2.46	90	3rd Harmonic of LO =
9848	47.21	V	--	--	Avg	2.46	90	4th Harmonic of Tx for Channel 11
13130.7	50.78	V	--	--	Peak	2.46	180	4th Harmonic of LO for
13130.7	36.3	V	--	--	Avg	2.46	180	of Channel 11
3282.67	47.64	H	74	-26.36	Peak	2.3	225	Fundamental of LO for
3282.67	44.29	H	54	-9.71	Avg	2.3	225	Channel 11
6565.33	41	H	--	--	Peak	2.3	315	2nd Harmonic of LO for
6565.33	28.03	H	--	--	Avg	2.3	315	Channel 11
9848	56.32	H	--	--	Peak	2.33	270	3rd Harmonic of LO =
9848	52.49	H	--	--	Avg	2.33	270	4th Harmonic of Tx for Channel 11
13130.7	49	H	--	--	Peak	2.33	45	4th Harmonic of LO for
13130.7	36.33	H	--	--	Avg	2.33	45	of Channel 11
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter
Model: WM3A2200BG
Configuration: Dell Laptop Agency Series # PP07S

Date: 7/22/04
Lab: B
Tested By: Benigno Chavez

Channel 6 - 802.11 b Mode
Receive Mode - with WNC Antenna

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	46.25	V	74	-27.75	Peak	2	45	Fundamental of LO for
3249.33	43.21	V	60	-16.79	Avg	2	45	Channel 6
6498.67	41.15	V	74	-32.85	Peak	2.25	135	2nd Harmonic of LO for
6498.67	28.42	V	60	-31.58	Avg	2.25	135	Channel 6
9748	48.52	V	74	-25.48	Peak	2.25	90	3rd Harmonic of LO for
9748	35.21	V	60	-24.79	Avg	2.25	90	Channel 6
3249.33	46.52	H	74	-27.48	Peak	2	90	Fundamental of LO for
3249.33	31.52	H	60	-28.48	Avg	2	90	Channel 6
6498.67	40.82	H	74	-33.18	Peak	2	180	2nd Harmonic of LO for
6498.67	26.52	H	60	-33.48	Avg	2	180	Channel 6
9748	47.42	H	74	-26.58	Peak	2	0	3rd Harmonic of LO for
9748	33.21	H	60	-26.79	Avg	2	0	Channel 6

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power.: 16.59 dBm Avg. Power: 10.22 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	40.57	V	74	-33.43	Peak	2	180	
4824	26.73	V	54	-27.27	Avg	2	180	
7236	43.76	V	74	-30.24	Peak	2	225	
7236	30.08	V	54	-23.92	Avg	2	225	
9648	49.86	V	--	--	Peak	2	45	Not in Restricted Band
9648	37.77	V	--	--	Avg	2	45	Not in Restricted Band
12060	51.6	V	74	-22.4	Peak	2	180	
12060	37.48	V	54	-16.52	Avg	2	180	
14472	52.78	V	74	-21.22	Peak	1.75	180	
14472	38.44	V	54	-15.56	Avg	1.75	180	
16884		V	--	--	Peak			No Emissions
16884		V	--	--	Avg			Detected
19296	47.58	V	74	-26.42	Peak	2.25	135	
19296	32.79	V	54	-21.21	Avg	2.25	135	
21708		V	--	--	Peak			No Emissions
21708		V	--	--	Avg			Detected
24120		V	--	--	Peak			No Emissions
24120		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power.: 16.59 dBm Avg. Power: 10.22 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	40.99	H	74	-33.01	Peak	2	180	
4824	26.98	H	54	-27.02	Avg	2	180	
7236	44.77	H	74	-29.23	Peak	2.25	180	
7236	30.33	H	54	-23.67	Avg	2.25	180	
9648	49.39	H	--	--	Peak	2.5	45	Not in Restricted Band
9648	37.41	H	--	--	Avg	2.5	45	Not in Restricted Band
12060	51.85	H	74	-22.15	Peak	1.75	225	
12060	38.48	H	54	-15.52	Avg	1.75	225	
14472	52.44	H	74	-21.56	Peak	2	225	
14472	38.96	H	54	-15.04	Avg	2	225	
16884		H	--	--	Peak			No Emissions
16884		H	--	--	Avg			Detected
19296	46.13	H	74	-27.87	Peak	2	180	
19296	32.8	H	54	-21.2	Avg	2	180	
21708		H	--	--	Peak			No Emissions
21708		H	--	--	Avg			Detected
24120		H	--	--	Peak			No Emissions
24120		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 6 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	41.86	V	74	-32.14	Peak	1.75	180	
4874	27.51	V	54	-26.49	Avg	1.75	180	
7311	44.06	V	74	-29.94	Peak	2.25	225	
7311	30.44	V	54	-23.56	Avg	2.25	225	
9748	50.16	V	--	--	Peak	2.5	225	Not in Restricted Band
9748	38.13	V	--	--	Avg	2.5	225	Not in Restricted Band
12185	51.57	V	74	-22.43	Peak	1.5	180	
12185	38.02	V	54	-15.98	Avg	1.5	180	
14622	52.92	V	--	--	Peak	2	180	Not in Restricted Band
14622	39.18	V	--	--	Avg	2	180	Not in Restricted Band
17059		V	--	--	Peak			No Emissions
17059		V	--	--	Avg			Detected
19496	46.23	V	74	-27.77	Peak	2.25	180	
19496	32.41	V	54	-21.59	Avg	2.25	180	
21933		V	--	--	Peak			No Emissions
21933		V	--	--	Avg			Detected
22001		V	74	-74	Peak			No Emissions
22001		V	54	-54	Avg			Detected
24370		V	--	--	Peak			No Emissions
24370		V	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/19/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Ben Chavez
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With Hannstar Antenna
Channel 6 - 802.11 g Mode **Transmit Mode**
Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	41.11	H	74	-32.89	Peak	1.75	135	
4874	27.37	H	54	-26.63	Avg	1.75	135	
7311	43.8	H	74	-30.2	Peak	2	135	
7311	30.26	H	54	-23.74	Avg	2	135	
9748	51.58	H	--	--	Peak	2.25	135	Not in Restricted Band
9748	36.53	H	--	--	Avg	2.25	135	Not in Restricted Band
12185	51.56	H	74	-22.44	Peak	2	180	
12185	37.78	H	54	-16.22	Avg	2	180	
14622	53.35	H	--	--	Peak	2.25	225	Not in Restricted Band
14622	38.84	H	--	--	Avg	2.25	225	Not in Restricted Band
17059		H	--	--	Peak			No Emissions
17059		H	--	--	Avg			Detected
19496	46.51	H	74	-27.49	Peak	1.75	180	
19496	32.45	H	54	-21.55	Avg	1.75	180	
21933		H	--	--	Peak			No Emissions
21933		H	--	--	Avg			Detected
22001		H	74	-74	Peak			No Emissions
22001		H	54	-54	Avg			Detected
24370		H	--	--	Peak			No Emissions
24370		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	42.51	V	74	-31.49	Peak	2	180	
4924	27.88	V	54	-26.12	Avg	2	180	
7386	43.85	V	74	-30.15	Peak	2.5	225	
7386	29.41	V	54	-24.59	Avg	2.5	225	
9848	52.28	V	--	--	Peak	2.25	0	Not in Restricted Band
9848	41.77	V	--	--	Avg	2.25	0	Not in Restricted Band
12310	50.85	V	74	-23.15	Peak	2.25	180	
12310	36.71	V	54	-17.29	Avg	2.25	180	
14772	53.59	V	--	--	Peak	2	225	Not in Restricted Band
14772	39.51	V	--	--	Avg	2	225	Not in Restricted Band
17234		V	--	--	Peak			No Emissions
17234		V	--	--	Avg			Detected
19696	48.18	V	74	-25.82	Peak	2	180	
19696	34.72	V	54	-19.28	Avg	2	180	
22158		V	74	-74	Peak			No Emissions
22158		V	54	-54	Avg			Detected
24620		V	--	--	Peak			No Emissions
24620		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	41.94	H	74	-32.06	Peak	2	180	
4924	27.93	H	54	-26.07	Avg	2	180	
7386	43.61	H	74	-30.39	Peak	1.75	225	
7386	29.64	H	54	-24.36	Avg	1.75	225	
9848	50.64	H	--	--	Peak	2.75	135	Not in Restricted Band
9848	41.22	H	--	--	Avg	2.75	135	Not in Restricted Band
12310	50.42	H	74	-23.58	Peak	2.25	135	
12310	36.84	H	54	-17.16	Avg	2.25	135	
14772	52.82	H	--	--	Peak	2	180	Not in Restricted Band
14772	39.64	H	--	--	Avg	2	180	Not in Restricted Band
17234		H	--	--	Peak			No Emissions
17234		H	--	--	Avg			Detected
19696	46.28	H	74	-27.72	Peak	2.25	225	
19696	32.48	H	54	-21.52	Avg	2.25	225	
22158		H	74	-74	Peak			No Emissions
22158		H	54	-54	Avg			Detected
24620		H	--	--	Peak			No Emissions
24620		H	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/19/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Ben Chavez
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With Hannstar Antenna

802.11 g Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2312	56.93	V	74	-17.07	Peak	1.5	90	103 MHz Below the Fundamental
2312	52.15	V	54	-1.85	Avg	1.5	90	of Channel 1
2512	52.46	V	74	-21.54	Peak	2	135	103 MHz Above the Fundamental
2512	45.72	V	54	-8.28	Avg	2	135	of Channel 1
2312	57.82	H	74	-16.18	Peak	1.5	180	103 MHz Below the Fundamental
2312	53.1	H	54	-0.9	Avg	1.5	180	of Channel 1
2512	54.28	H	74	-19.72	Peak	1.5	180	103 MHz Above the Fundamental
2512	47.56	H	54	-6.44	Avg	1.5	180	of Channel 1
2336	58.09	V	74	-15.91	Peak	2.5	90	103 MHz Below the Fundamental
2336	52.8	V	54	-1.2	Avg	2.5	90	of Channel 6
2538.7	52.21	V	74	-21.79	Peak	2.75	90	103 MHz Above the Fundamental
2538.7	46.27	V	54	-7.73	Avg	2.75	90	of Channel 6
2336	58.57	H	74	-15.43	Peak	1.25	180	103 MHz Below the Fundamental
2336	53.7	H	54	-0.3	Avg	1.25	180	of Channel 6
2538.7	52.2	H	74	-21.8	Peak	1.5	135	103 MHz Above the Fundamental
2538.7	46.03	H	54	-7.97	Avg	1.5	135	of Channel 6
2360	55.38	V	74	-18.62	Peak	2.5	90	103 MHz Below the Fundamental
2360	49.01	V	54	-4.99	Avg	2.5	90	of Channel 11
2565	50.5	V	74	-23.5	Peak	2.75	45	103 MHz Above the Fundamental
2565	41.88	V	54	-12.12	Avg	2.75	45	of Channel 11
2360	56.84	H	74	-17.16	Peak	1.75	180	103 MHz Below the Fundamental
2360	50.46	H	54	-3.54	Avg	1.75	180	of Channel 11
2564	52.79	H	74	-21.21	Peak	1.25	45	103 MHz Above the Fundamental
2564	44.04	H	54	-9.96	Peak	1.25	45	of Channel 11

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power.: 16.59 dBm Avg. Power: 10.22 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3216	45.05	V	74	-28.95	Peak	2.25	45	Fundamental of LO for
3216	41.74	V	54	-12.26	Avg	2.25	45	Channel 1
6432	42.72	V	--	--	Peak	3.5	45	2nd Harmonic of LO for
6432	31.44	V	--	--	Avg	3.5	45	Channel 1
9648	49.86	V	--	--	Peak	2	45	3rd Harmonic of LO =
9648	37.77	V	--	--	Avg	2	45	4th Harmonic of Tx for Channel 1
12864	48.98	V	--	--	Peak	2	45	4th Harmonic of LO for
12864	35.24	V	--	--	Avg	2	45	Channel 1
3216	43.17	H	74	-30.83	Peak	2.25	45	Fundamental of LO for
3216	37.33	H	54	-16.67	Avg	2.25	45	Channel 1
6432	42.25	H	--	--	Peak	3.5	45	2nd Harmonic of LO for
6432	29.53	H	--	--	Avg	3.5	45	Channel 1
9648	49.39	H	--	--	Peak	2.5	45	3rd Harmonic of LO =
9648	37.41	H	--	--	Avg	2.5	45	4th Harmonic of Tx for Channel 1
12864	49.27	H	--	--	Peak	2	315	4th Harmonic of LO for
12864	35.43	H	--	--	Avg	2	315	Channel 1
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 6 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	49.03	V	74	-24.97	Peak	2.25	45	Fundamental of LO for
3249.33	46.86	V	54	-7.14	Avg	2.25	45	Channel 6
6498.67	43.12	V	--	--	Peak	3.75	45	2nd Harmonic of LO for
6498.67	31.65	V	--	--	Avg	3.75	45	Channel 6
9748	50.16	V	--	--	Peak	2.5	225	3rd Harmonic of LO =
9748	38.13	V	--	--	Avg	2.5	225	4th Harmonic of Tx for Channel 6
12997.3	49.89	V	--	--	Peak	1.75	225	4th Harmonic of LO for
12997.3	36.29	V	--	--	Avg	1.75	225	Channel 6
3249.33	43.87	H	74	-30.13	Peak	2.75	225	Fundamental of LO for
3249.33	39.67	H	54	-14.33	Avg	2.75	225	Channel 6
6498.67	42.33	H	--	--	Peak	2	225	2nd Harmonic of LO for
6498.67	28.48	H	--	--	Avg	2	225	Channel 6
9748	51.58	H	--	--	Peak	2.25	135	3rd Harmonic of LO =
9748	36.53	H	--	--	Avg	2.25	135	4th Harmonic of Tx for Channel 6
12997.3	49.25	H	--	--	Peak	2.25	180	4th Harmonic of LO for
12997.3	36.29	H	--	--	Avg	2.25	180	of Channel 6
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247
Intel Corporation Date: 7/19/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Ben Chavez
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With Hannstar Antenna
Channel 11 - 802.11 g Mode **Transmit Mode**
Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3282.67	50.75	V	74	-23.25	Peak	2.25	45	Fundamental of LO for
3282.67	48.64	V	54	-5.36	Avg	2.25	45	Channel 11
6565.33	42.71	V	--	--	Peak	1.75	90	2nd Harmonic of LO for
6565.33	30.37	V	--	--	Avg	1.75	90	Channel 11
9848	52.28	V	--	--	Peak	2.25	0	3rd Harmonic of LO =
9848	41.77	V	--	--	Avg	2.25	0	4th Harmonic of Tx for Channel 11
13130.7	50.77	V	--	--	Peak	1.5	180	4th Harmonic of LO for
13130.7	36.96	V	--	--	Avg	1.5	180	of Channel 11
3282.67	46.9	H	74	-27.1	Peak	3.75	45	Fundamental of LO for
3282.67	43.35	H	54	-10.65	Avg	3.75	45	Channel 11
6565.33	42.62	H	--	--	Peak	2.75	135	2nd Harmonic of LO for
6565.33	29.65	H	--	--	Avg	2.75	135	Channel 11
9848	50.64	H	--	--	Peak	2.75	135	3rd Harmonic of LO =
9848	41.22	H	--	--	Avg	2.75	135	4th Harmonic of Tx for Channel 11
13130.7	50.84	H	--	--	Peak	1.75	180	4th Harmonic of LO for
13130.7	37.06	H	--	--	Avg	1.75	180	of Channel 11
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter
Model: WM3A2200BG
Configuration: Dell Laptop Agency Series # PP07S

Date: 7/22/04
Lab: B
Tested By: Benigno Chavez

Channel 6 - 802.11 g Mode
Receive Mode - with Hannstar Antenna

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	46.26	V	74	-27.74	Peak	2.25	0	Fundamental of LO for
3249.33	42.46	V	60	-17.54	Avg	2.25	0	Channel 6
6498.67	42.61	V	74	-31.39	Peak	2.25	0	2nd Harmonic of LO for
6498.67	30.02	V	60	-29.98	Avg	2.25	0	Channel 6
9748	49.1	V	74	-24.9	Peak	2.25	315	3rd Harmonic of LO for
9748	37.47	V	60	-22.53	Avg	2.25	315	Channel 6
3249.33	45.68	H	74	-28.32	Peak	2.5	90	Fundamental of LO for
3249.33	42.03	H	60	-17.97	Avg	2.5	90	Channel 6
6498.67	41.88	H	74	-32.12	Peak	2.25	45	2nd Harmonic of LO for
6498.67	28.64	H	60	-31.36	Avg	2.25	45	Channel 6
9748	47.53	H	74	-26.47	Peak	2.25	315	3rd Harmonic of LO for
9748	34.13	H	60	-25.87	Avg	2.25	315	Channel 6

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.59 dBm Avg. Power: 10.22 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	39.75	V	74	-34.25	Peak	2.38	180	
4824	27.21	V	54	-26.79	Avg	2.38	180	
7236	42.4	V	74	-31.6	Peak	2.14	270	
7236	29.96	V	54	-24.04	Avg	2.14	270	
9648	48.78	V	--	--	Peak	2.36	270	Not in Restricted Band
9648	34.74	V	--	--	Avg	2.36	270	Not in Restricted Band
12060	52.83	V	74	-21.17	Peak	2.36	315	
12060	37.98	V	54	-16.02	Avg	2.36	315	
14472	50.8	V	74	-23.2	Peak	2.36	225	
14472	38.57	V	54	-15.43	Avg	2.36	225	
16884	53.79	V	--	--	Peak	2.36	270	
16884	38.83	V	--	--	Avg	2.36	270	
19296	45.21	V	74	-28.79	Peak	2.25	135	
19296	32	V	54	-22	Avg	2.25	135	
21708		V	--	--	Peak			No Emissions
21708		V	--	--	Avg			Detected
24120		V	--	--	Peak			No Emissions
24120		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.59 dBm Avg. Power: 10.22 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	40.31	H	74	-33.69	Peak	2.65	180	
4824	27.23	H	54	-26.77	Avg	2.65	180	
7236	43.41	H	74	-30.59	Peak	2.66	225	
7236	29.88	H	54	-24.12	Avg	2.66	225	
9648	48.78	H	--	--	Peak	2.65	270	Not in Restricted Band
9648	33.8	H	--	--	Avg	2.65	270	Not in Restricted Band
12060	52.49	H	74	-21.51	Peak	2.66	270	
12060	37.85	H	54	-16.15	Avg	2.66	270	
14472	53.36	H	74	-20.64	Peak	2.66	135	
14472	38.49	H	54	-15.51	Avg	2.66	135	
16884	51.34	H	--	--	Peak	2.66	225	
16884	38.88	H	--	--	Avg	2.66	225	
19296	64.1	H	74	-9.9	Peak	2	180	
19296	32.02	H	54	-21.98	Avg	2	180	
21708		H	--	--	Peak			No Emissions
21708		H	--	--	Avg			Detected
24120		H	--	--	Peak			No Emissions
24120		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 6 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	39.21	V	74	-34.79	Peak	2.36	270	
4874	26.97	V	54	-27.03	Avg	2.36	270	
7311	43.57	V	74	-30.43	Peak	2.36	270	
7311	30.22	V	54	-23.78	Avg	2.36	270	
9748	49.07	V	--	--	Peak	2.07	270	Not in Restricted Band
9748	35.15	V	--	--	Avg	2.07	270	Not in Restricted Band
12185	50.42	V	74	-23.58	Peak	2.07	180	
12185	37.6	V	54	-16.4	Avg	2.07	180	
14622	52.23	V	--	--	Peak	2.06	270	Not in Restricted Band
14622	39.17	V	--	--	Avg	2.06	270	Not in Restricted Band
17059		V	--	--	Peak			No Emissions
17059		V	--	--	Avg			Detected
19496	45.04	V	74	-28.96	Peak	2.25	135	
19496	31.67	V	54	-22.33	Avg	2.25	135	
21933		V	--	--	Peak			No Emissions
21933		V	--	--	Avg			Detected
22001		V	74	-74	Peak			No Emissions
22001		V	54	-54	Avg			Detected
24370		V	--	--	Peak			No Emissions
24370		V	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/21/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Kyle Fujimoto
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With WNC Antenna
Channel 6 - 802.11 g Mode **Transmit Mode**
Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	40.02	H	74	-33.98	Peak	2.4	315	
4874	27.11	H	54	-26.89	Avg	2.4	315	
7311	42.8	H	74	-31.2	Peak	2.4	270	
7311	30.76	H	54	-23.24	Avg	2.4	270	
9748	47.58	H	--	--	Peak	2.4	225	Not in Restricted Band
9748	34.99	H	--	--	Avg	2.4	225	Not in Restricted Band
12185	49.88	H	74	-24.12	Peak	2.4	270	
12185	37.54	H	54	-16.46	Avg	2.4	270	
14622	52.01	H	--	--	Peak	2.4	180	Not in Restricted Band
14622	39.16	H	--	--	Avg	2.4	180	Not in Restricted Band
17059		H	--	--	Peak			No Emissions
17059		H	--	--	Avg			Detected
19496	45.72	H	74	-28.28	Peak	2	2.25	
19496	31.65	H	54	-22.35	Avg	2	2.25	
21933		H	--	--	Peak			No Emissions
21933		H	--	--	Avg			Detected
22001		H	74	-74	Peak			No Emissions
22001		H	54	-54	Avg			Detected
24370		H	--	--	Peak			No Emissions
24370		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	40.79	V	74	-33.21	Peak	2.07	135	
4924	27.58	V	54	-26.42	Avg	2.07	135	
7386	41.05	V	74	-32.95	Peak	2.07	180	
7386	28.96	V	54	-25.04	Avg	2.07	180	
9848	50.83	V	--	--	Peak	2.48	45	Not in Restricted Band
9848	45.53	V	--	--	Avg	2.48	45	Not in Restricted Band
12310	49.62	V	74	-24.38	Peak	2.48	270	
12310	36.93	V	54	-17.07	Avg	2.48	270	
14772	51.46	V	--	--	Peak	2.48	135	Not in Restricted Band
14772	38.22	V	--	--	Avg	2.48	135	Not in Restricted Band
17234	50.74	V	--	--	Peak	2.48	315	
17234	37.73	V	--	--	Avg	2.48	315	
19696	44.76	V	74	-29.24	Peak	1.75	225	
19696	31.73	V	54	-22.27	Avg	1.75	225	
22158		V	74	-74	Peak			No Emissions
22158		V	54	-54	Avg			Detected
24620		V	--	--	Peak			No Emissions
24620		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	39.18	H	74	-34.82	Peak	2.12	225	
4924	27.63	H	54	-26.37	Avg	2.12	225	
7386	41.15	H	74	-32.85	Peak	2.12	225	
7386	28.97	H	54	-25.03	Avg	2.12	225	
9848	49.19	H	--	--	Peak	3.08	45	Not in Restricted Band
9848	38.37	H	--	--	Avg	3.08	45	Not in Restricted Band
12310	48.7	H	74	-25.3	Peak	2.4	135	
12310	36.93	H	54	-17.07	Avg	2.4	135	
14772	52.94	H	--	--	Peak	2.4	135	Not in Restricted Band
14772	39.52	H	--	--	Avg	2.4	135	Not in Restricted Band
17234	52.66	H	--	--	Peak	2.4	180	No Emissions
17234	37.75	H	--	--	Avg	2.4	180	Detected
19696	45.53	H	74	-28.47	Peak	2.25	180	
19696	31.74	H	54	-22.26	Avg	2.25	180	
22158		H	74	-74	Peak			No Emissions
22158		H	54	-54	Avg			Detected
24620		H	--	--	Peak			No Emissions
24620		H	--	--	Avg			Detected

FCC 15.247
Intel Corporation Date: 7/21/04
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter Lab: B
Model: WM3A2200BG Tested By: Kyle Fujimoto
Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**
With WNC Antenna

802.11 g Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2312	53.73	V	74	-20.27	Peak	2.54	135	103 MHz Below the Fundamental
2312	48.37	V	54	-5.63	Avg	2.54	135	of Channel 1
2512	49.43	V	74	-24.57	Peak	2.41	90	103 MHz Above the Fundamental
2512	42.17	V	54	-11.83	Avg	2.41	90	of Channel 1
2312	54.5	H	74	-19.5	Peak	1.31	45	103 MHz Below the Fundamental
2312	49.51	H	54	-4.49	Avg	1.31	45	of Channel 1
2512	50.38	H	74	-23.62	Peak	1.33	135	103 MHz Above the Fundamental
2512	44.21	H	54	-9.79	Avg	1.33	135	of Channel 1
2336	54.24	V	74	-19.76	Peak	1.23	270	103 MHz Below the Fundamental
2336	48.86	V	54	-5.14	Avg	1.23	270	of Channel 6
2538.7	50.09	V	74	-23.91	Peak	2.71	270	103 MHz Above the Fundamental
2538.7	43.93	V	54	-10.07	Avg	2.71	270	of Channel 6
2336	54.87	H	74	-19.13	Peak	2.45	180	103 MHz Below the Fundamental
2336	49.7	H	54	-4.3	Avg	2.45	180	of Channel 6
2538.7	49.47	H	74	-24.53	Peak	2.53	0	103 MHz Above the Fundamental
2538.7	43.15	H	54	-10.85	Avg	2.53	0	of Channel 6
2360	52.79	V	74	-21.21	Peak	1.5	270	103 MHz Below the Fundamental
2360	46.92	V	54	-7.08	Avg	1.5	270	of Channel 11
2565	48	V	74	-26	Peak	2.94	270	103 MHz Above the Fundamental
2565	39.1	V	54	-14.9	Avg	2.94	270	of Channel 11
2360	54.36	H	74	-19.64	Peak	1.04	225	103 MHz Below the Fundamental
2360	47.96	H	54	-6.04	Avg	1.04	225	of Channel 11
2564	49.1	H	74	-24.9	Peak	1.3	135	103 MHz Above the Fundamental
2564	40.46	H	54	-13.54	Peak	1.3	135	of Channel 11

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.59 dBm Avg. Power: 10.22 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3216	49.47	V	74	-24.53	Peak	2.64	45	Fundamental of LO for
3216	47.1	V	54	-6.9	Avg	2.64	45	Channel 1
6432	41.07	V	--	--	Peak	2.64	135	2nd Harmonic of LO for
6432	27.48	V	--	--	Avg	2.64	135	Channel 1
9648	47.32	V	--	--	Peak	2.64	180	3rd Harmonic of LO =
9648	33.8	V	--	--	Avg	2.64	180	4th Harmonic of Tx for Channel 1
12864	48.23	V	--	--	Peak	2.64	90	4th Harmonic of LO for
12864	34.93	V	--	--	Avg	2.64	90	Channel 1
3216	47.77	H	74	-26.23	Peak	3.11	315	Fundamental of LO for
3216	45.25	H	54	-8.75	Avg	3.11	315	Channel 1
6432	41.05	H	--	--	Peak	3.11	135	2nd Harmonic of LO for
6432	28.07	H	--	--	Avg	3.11	135	Channel 1
9648	45.94	H	--	--	Peak	3.11	225	3rd Harmonic of LO =
9648	33.69	H	--	--	Avg	3.11	225	4th Harmonic of Tx for Channel 1
12864	48.78	H	--	--	Peak	1.89	315	4th Harmonic of LO for
12864	34.97	H	--	--	Avg	1.89	315	Channel 1
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 6 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	50.51	V	74	-23.49	Peak	2.94	45	Fundamental of LO for
3249.33	48.79	V	54	-5.21	Avg	2.94	45	Channel 6
6498.67	43.06	V	--	--	Peak	2.94	270	2nd Harmonic of LO for
6498.67	27.76	V	--	--	Avg	2.94	270	Channel 6
9748	47.63	V	--	--	Peak	2.94	315	3rd Harmonic of LO =
9748	34.78	V	--	--	Avg	2.94	315	4th Harmonic of Tx for Channel 6
12997.3	50.13	V	--	--	Peak	2.94	225	4th Harmonic of LO for
12997.3	35.78	V	--	--	Avg	2.94	225	Channel 6
3249.33	48.51	H	74	-25.49	Peak	2.95	315	Fundamental of LO for
3249.33	46.1	H	54	-7.9	Avg	2.95	315	Channel 6
6498.67	42.36	H	--	--	Peak	2.95	45	2nd Harmonic of LO for
6498.67	27.73	H	--	--	Avg	2.95	45	Channel 6
9748	48.77	H	--	--	Peak	2.95	0	3rd Harmonic of LO =
9748	34.84	H	--	--	Avg	2.95	0	4th Harmonic of Tx for Channel 6
12997.3	50.19	H	--	--	Peak	2.95	135	4th Harmonic of LO for
12997.3	35.57	H	--	--	Avg	2.95	135	of Channel 6
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3282.67	52.65	V	74	-21.35	Peak	2.11	45	Fundamental of LO for
3282.67	51.2	V	54	-2.8	Avg	2.11	45	Channel 11
6565.33	41.75	V	--	--	Peak	2.11	135	2nd Harmonic of LO for
6565.33	29.83	V	--	--	Avg	2.11	135	Channel 11
9848	50.32	V	--	--	Peak	2.95	180	3rd Harmonic of LO =
9848	43.47	V	--	--	Avg	2.95	180	4th Harmonic of Tx for Channel 11
13130.7	49.31	V	--	--	Peak	2.95	270	4th Harmonic of LO for
13130.7	36.12	V	--	--	Avg	2.95	270	of Channel 11
3282.67	50.27	H	74	-23.73	Peak	2.94	315	Fundamental of LO for
3282.67	47.77	H	54	-6.23	Avg	2.94	315	Channel 11
6565.33	40.48	H	--	--	Peak	2.94	315	2nd Harmonic of LO for
6565.33	27.44	H	--	--	Avg	2.94	315	Channel 11
9848	48.22	H	--	--	Peak	2.94	270	3rd Harmonic of LO =
9848	32.86	H	--	--	Avg	2.94	270	4th Harmonic of Tx for Channel 11
13130.7	49.41	H	--	--	Peak	2.94	45	4th Harmonic of LO for
13130.7	36.18	H	--	--	Avg	2.94	45	of Channel 11
								Only the Fundamental of the LO
								is in the Restricted Band

FCC 15.247

Intel Corporation
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter
Model: WM3A2200BG
Configuration: Dell Laptop Agency Series # PP07S

Date: 7/22/04
Lab: B
Tested By: Benigno Chavez

Channel 6 - 802.11 g Mode
Receive Mode - with WNC Antenna

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
3249.33	48.31	V	74	-25.69	Peak	2.25	0	Fundamental of LO for
3249.33	45.26	V	60	-14.74	Avg	2.25	0	Channel 6
6498.67	45.21	V	74	-28.79	Peak	2.25	0	2nd Harmonic of LO for
6498.67	32.56	V	60	-27.44	Avg	2.25	0	Channel 6
9748	49.98	V	74	-24.02	Peak	2.25	315	3rd Harmonic of LO for
9748	38.65	V	60	-21.35	Avg	2.25	315	Channel 6
3249.33	46.21	H	74	-27.79	Peak	2.5	90	Fundamental of LO for
3249.33	43.25	H	60	-16.75	Avg	2.5	90	Channel 6
6498.67	40.99	H	74	-33.01	Peak	2.25	45	2nd Harmonic of LO for
6498.67	27.65	H	60	-32.35	Avg	2.25	45	Channel 6
9748	46.52	H	74	-27.48	Peak	2.25	315	3rd Harmonic of LO for
9748	35.12	H	60	-24.88	Avg	2.25	315	Channel 6

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics — **Page** : 1/1
Customer : INTEL CORPORATION — **Date** : 6/04/2004
Manufacturer : INTEL CORPORATION — **Time** : 21:57:15
Eut name : Mini PCI Type 802.11bg Wireless LAN Adapter — **Lab** : D
Model : WM3A2200BG — **Test Distance** : 3.0 Meters
Serial # : P/N: 0W2510
Specification : FCC Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : TEST RANGE: 10 kHz - 1000 MHz
VERTICAL AND HORIZONTAL POLARIZATIONS
EUT CONTINUOUSLY TRANSMITTING (Hannstar Ant.) - WORST CASE MODE
TESTED BY: BENIGNO CHAVEZ

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
1V	308.028	51.10	1.70	12.95	37.58	28.16	46.00	-17.84
2H	308.054	47.20	1.70	12.95	37.58	24.26	46.00	-21.74
3H	352.061	46.90	1.72	13.69	37.50	24.81	46.00	-21.19
4V	352.094	48.90	1.72	13.69	37.50	26.81	46.00	-19.19
5V	440.042	47.80	2.10	15.08	37.09	27.89	46.00	-18.11
6H	440.078	42.90	2.10	15.08	37.09	22.99	46.00	-23.01
7V	484.075	44.80	2.24	15.77	37.07	25.74	46.00	-20.26
8V	528.042	49.80	2.30	16.51	37.21	31.39	46.00	-14.61
9H	528.140	53.00	2.30	16.51	37.21	34.60	46.00	-11.40
10V	616.075	43.40	2.50	18.09	37.20	26.80	46.00	-19.20
11H	660.059	44.70	2.58	19.12	37.34	29.07	46.00	-16.93
12V	660.088	48.00	2.58	19.12	37.34	32.37	46.00	-13.63
13V	836.079	41.70	3.01	21.05	36.36	29.40	46.00	-16.60
14V	924.075	40.30	3.10	21.03	36.46	27.97	46.00	-18.03

FCC 15.247

Intel Corporation
Intel Mini PCI Type 802.11 bg Wireless LAN Adapter
Model: WM3A2200BG
Configuration: Dell Laptop Agency Series # PP07S

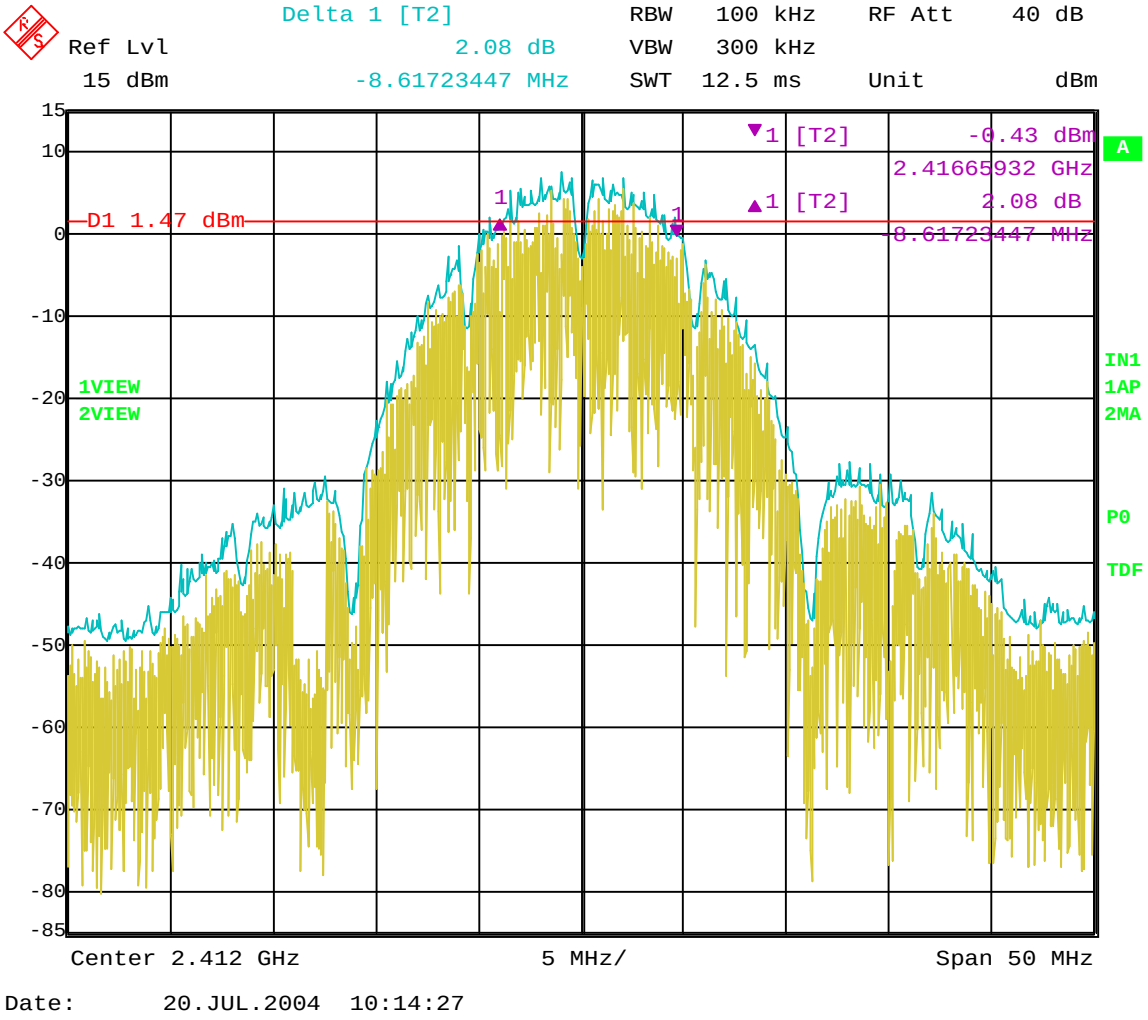
Date: 6/04/04
Lab: B
Tested By: Benigno Chavez

Emissions from the Digital Portion - With the Hannstar Antenna (Worst Case)

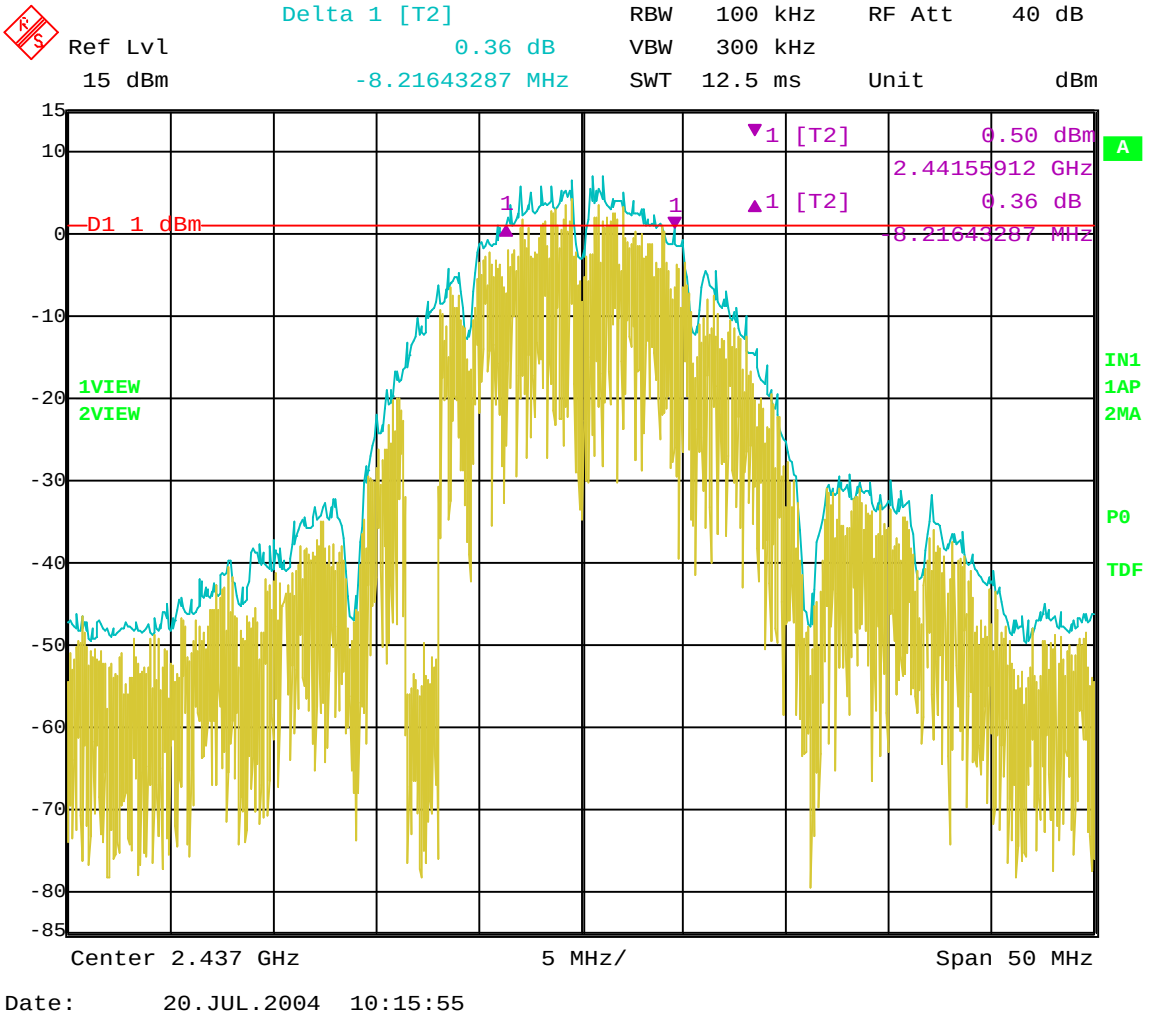
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
1130	37.9	V	74	-36.1	Peak	2.25	315	Digital Stuff
1130	21.75	V	54	-32.25	Avg	2.25	315	Digital Stuff
1195.3	36.29	V	74	-37.71	Peak	2	180	Digital Stuff
1195.3	22.02	V	54	-31.98	Avg	2	180	Digital Stuff
1128.34	33.37	H	74	-40.63	Peak	2	180	Digital Stuff
1128.3	19.76	H	54	-34.24	Avg	2	180	Digital Stuff
1195.1	34.46	H	74	-39.54	Peak	2	225	Digital Stuff
1195.1	21.36	H	54	-32.64	Avg	2	225	Digital Stuff

-6 dB BANDWIDTH

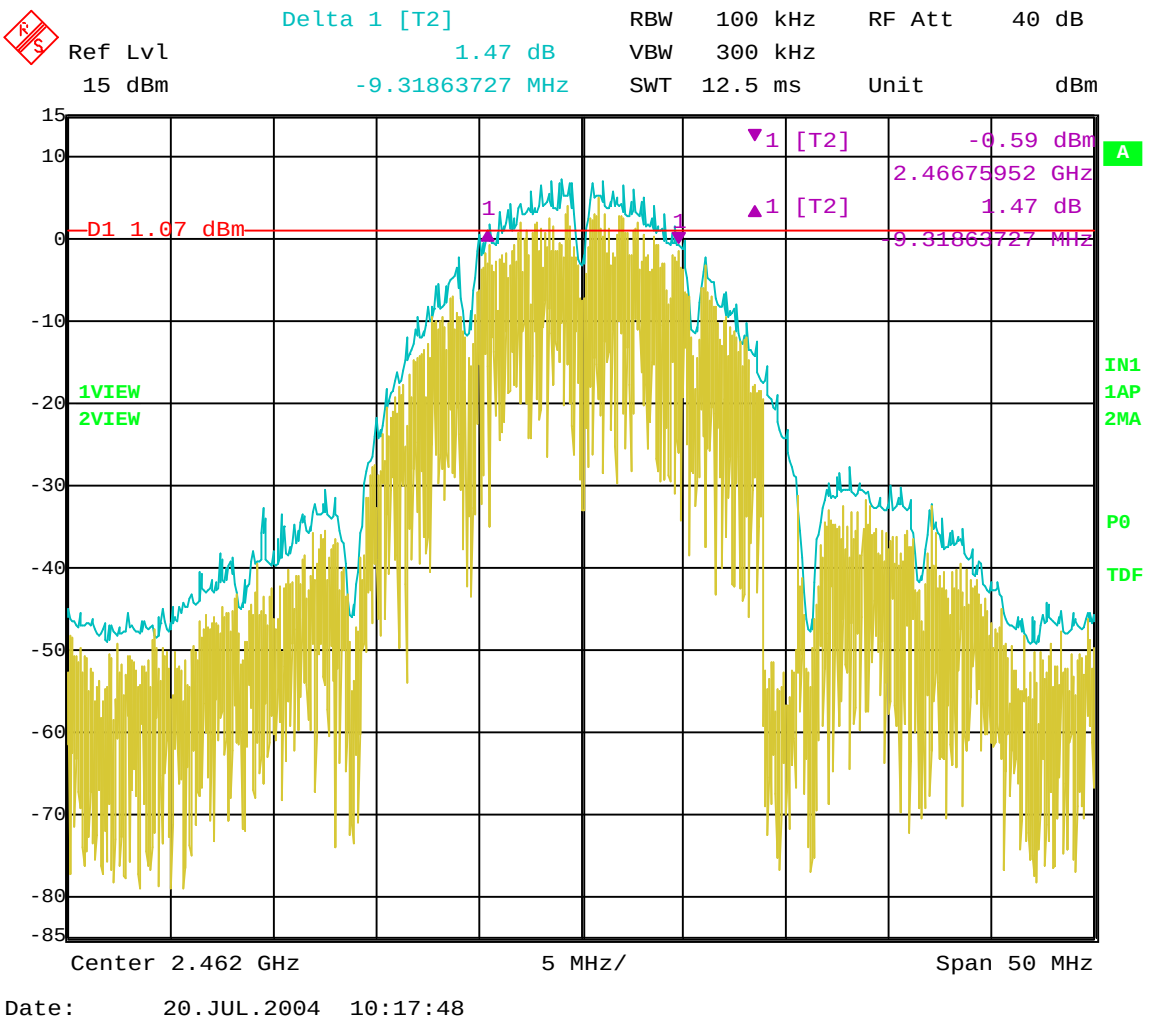
DATA SHEETS



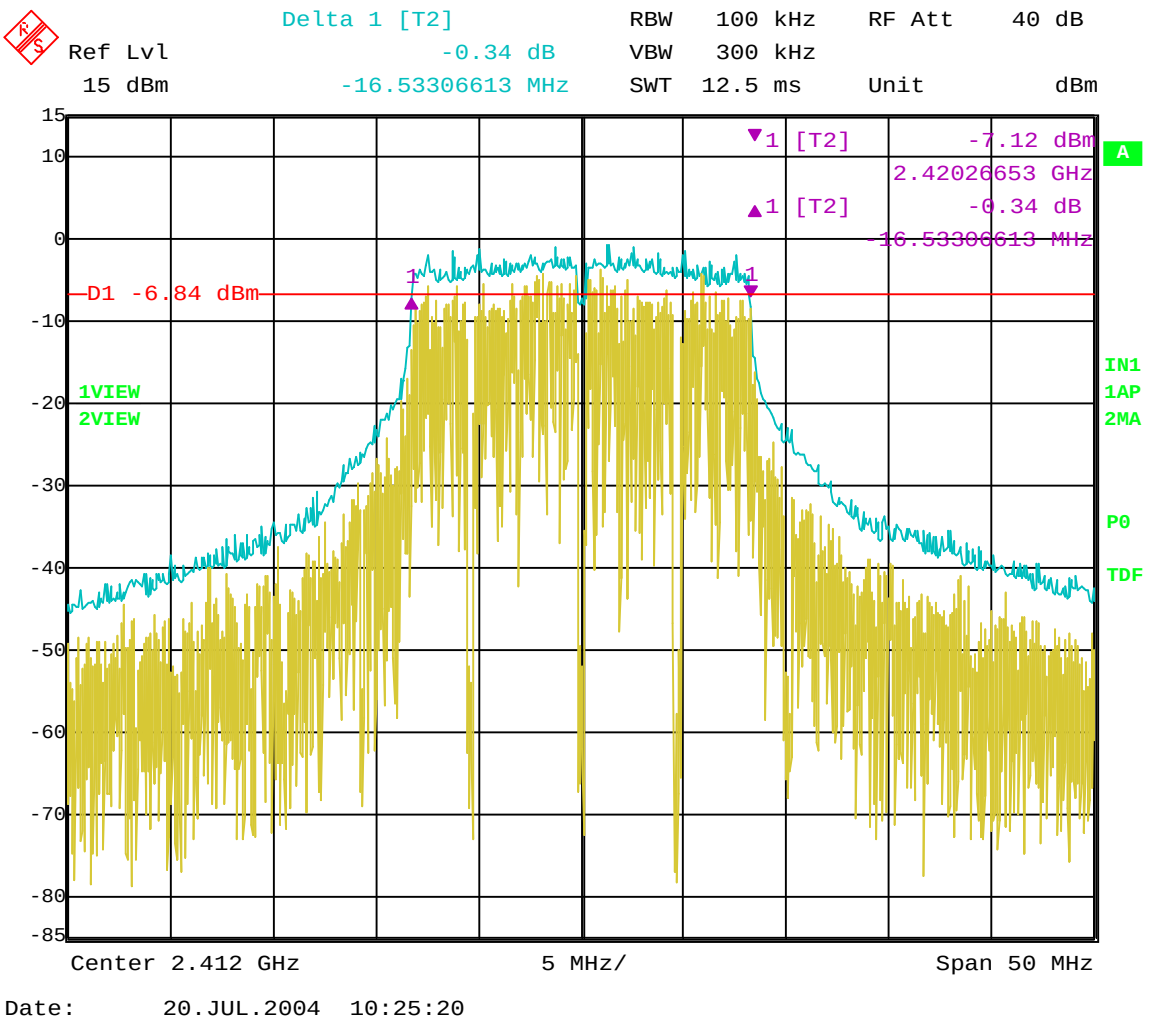
Bandwidth 6 dB – Channel 1 – 802.11 b Mode



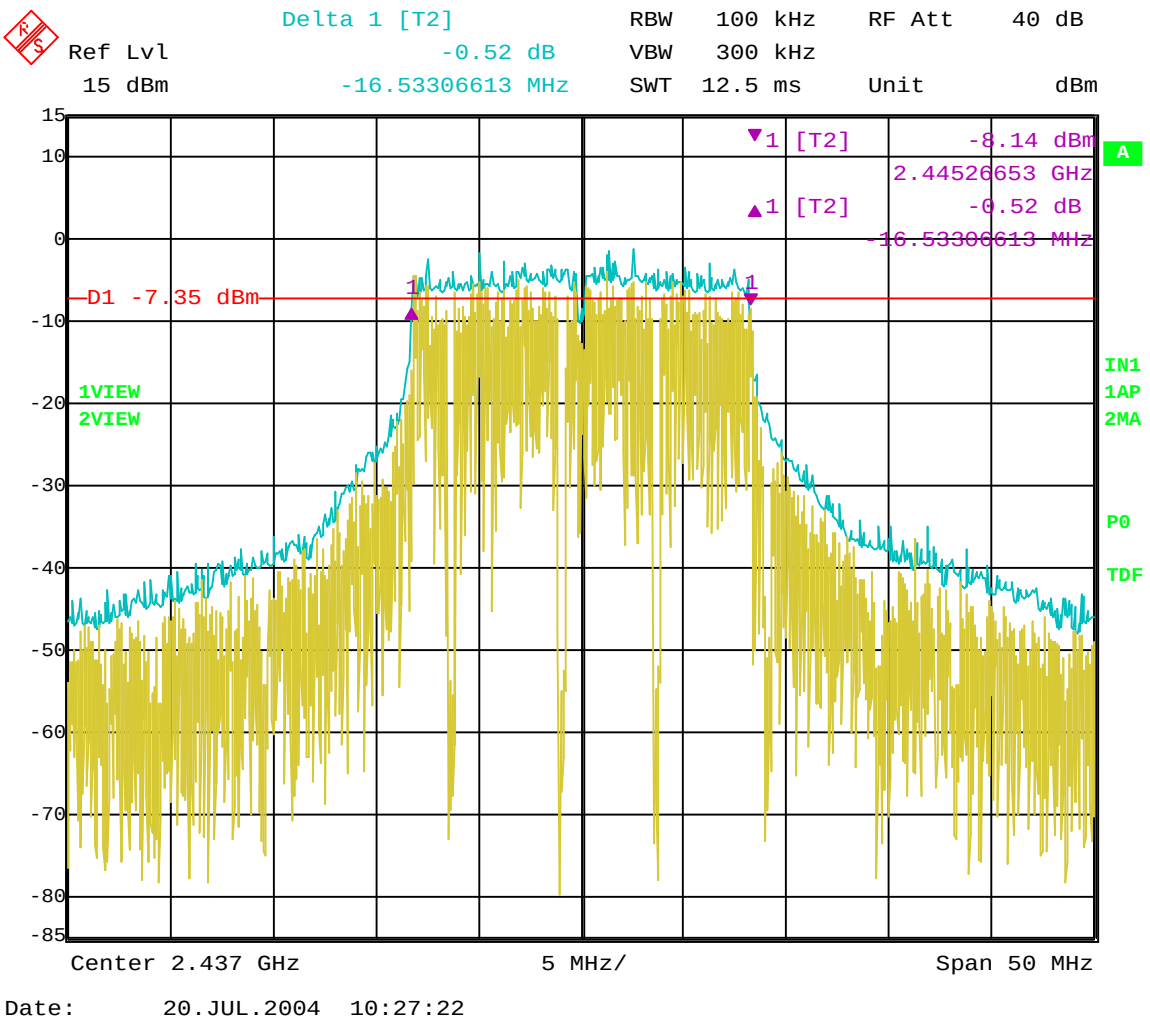
Bandwidth 6 dB – Channel 6 – 802.11 b Mode



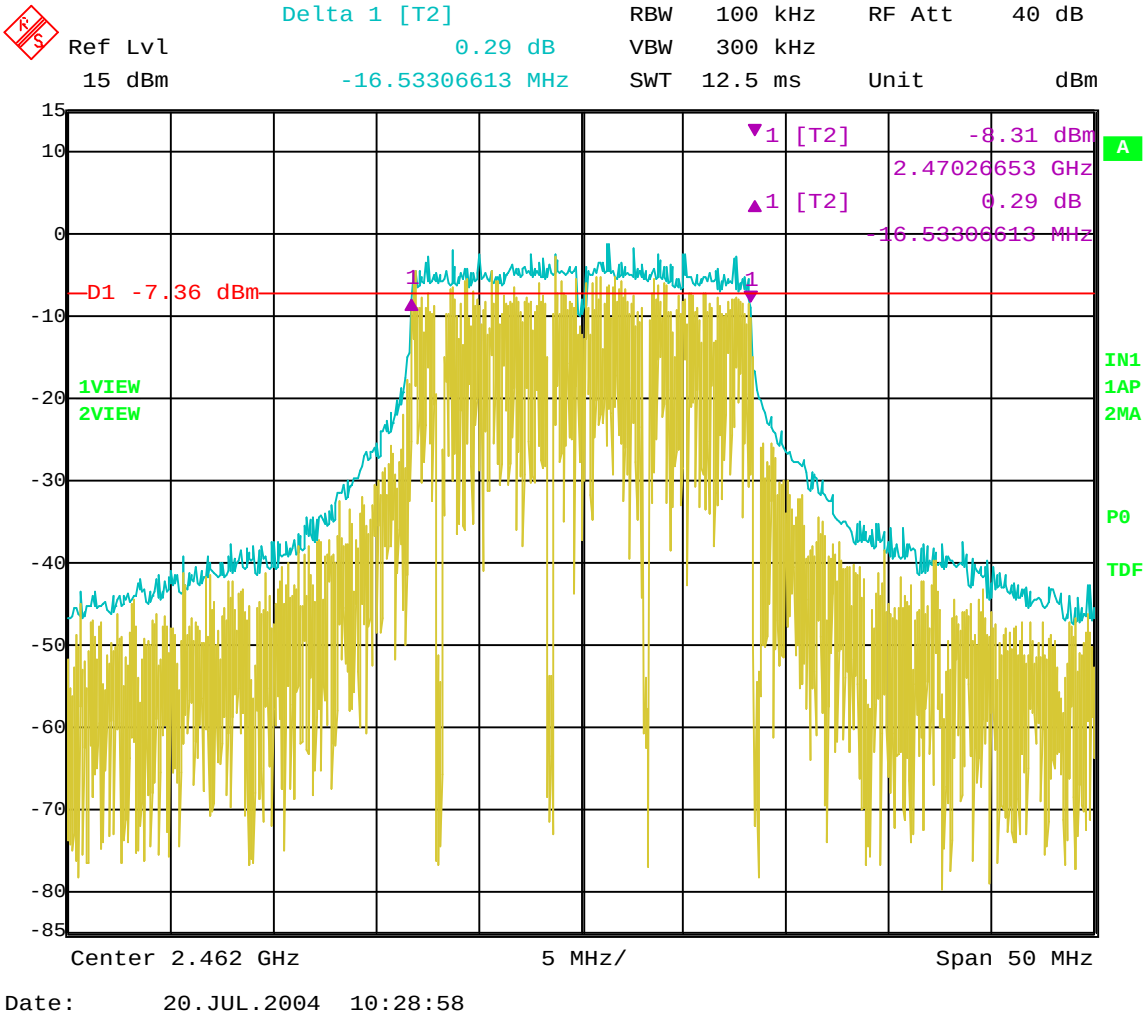
Bandwidth 6 dB – Channel 11 – 802.11 b Mode



Bandwidth 6 dB – Channel 1 – 802.11 g Mode



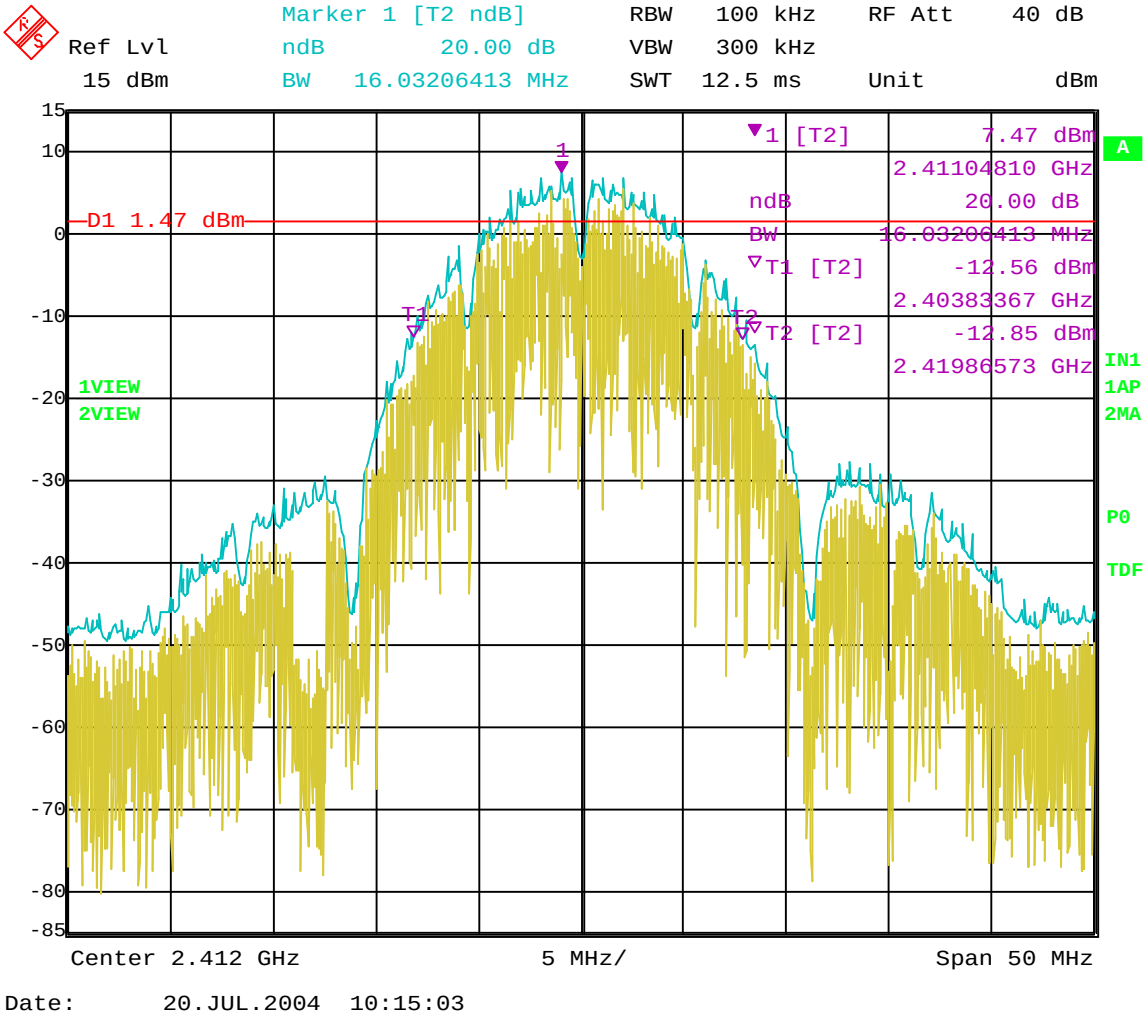
Bandwidth 6 dB – Channel 6 – 802.11 g Mode



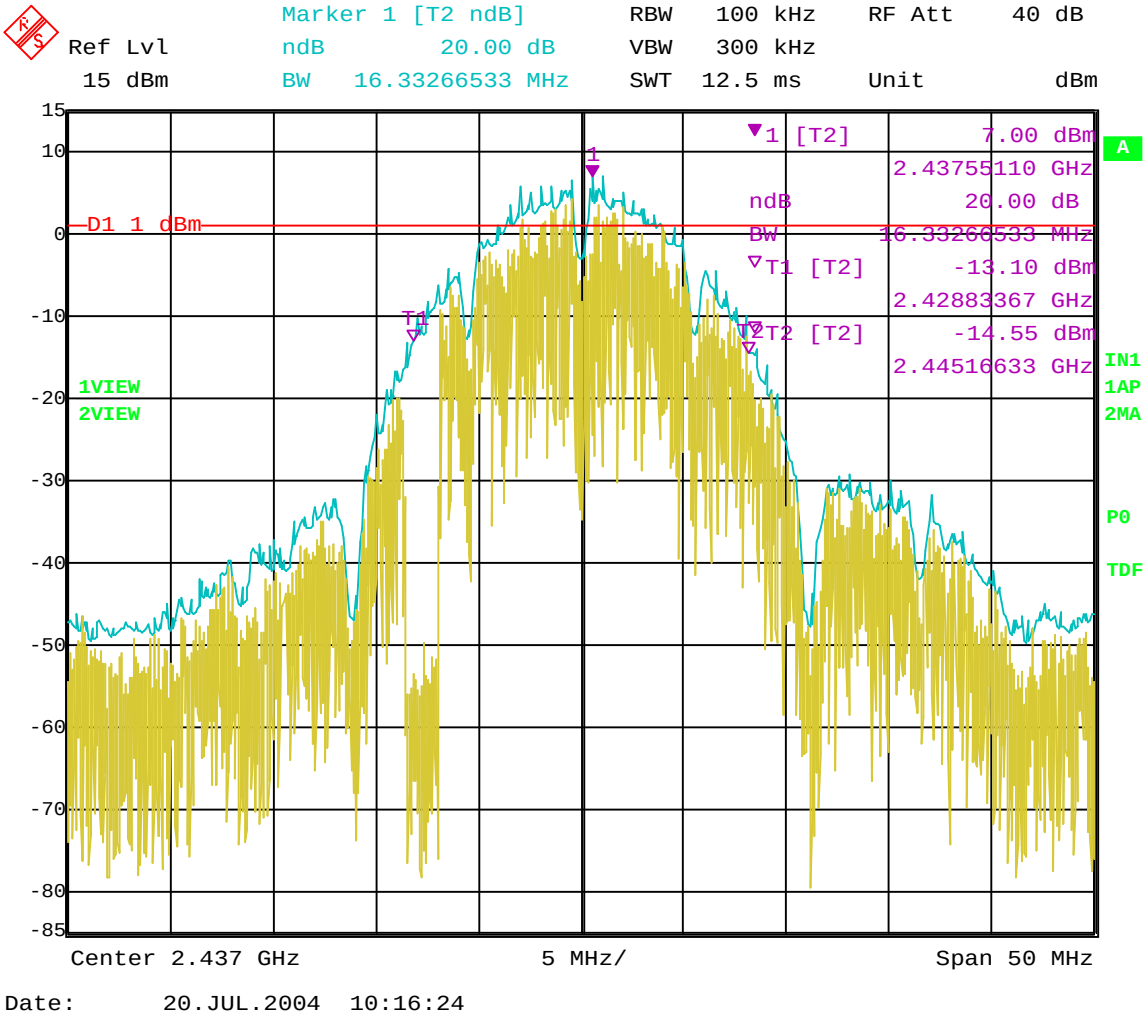
Bandwidth 6 dB – Channel 11 – 802.11 g Mode

-20 dB BANDWIDTH

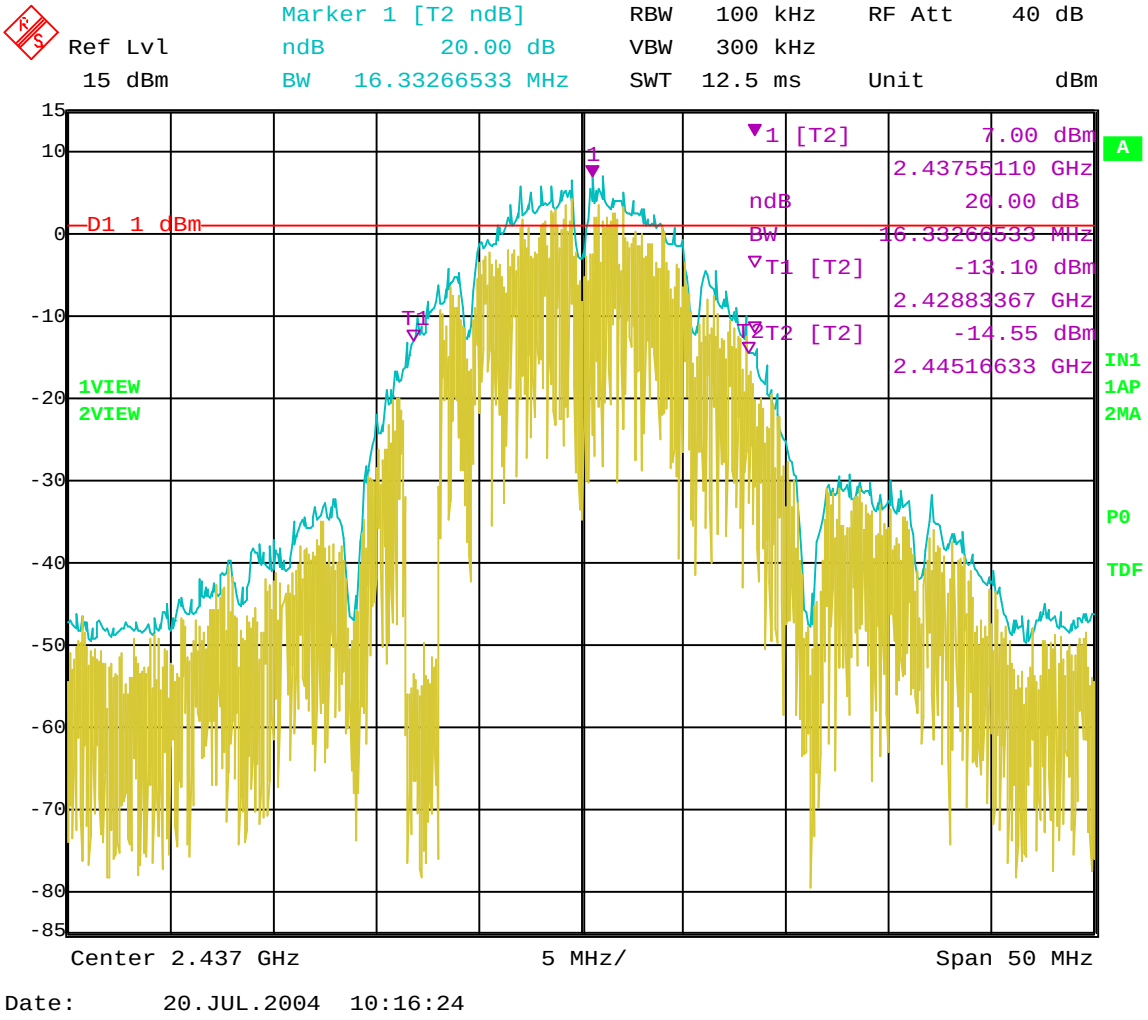
DATA SHEETS



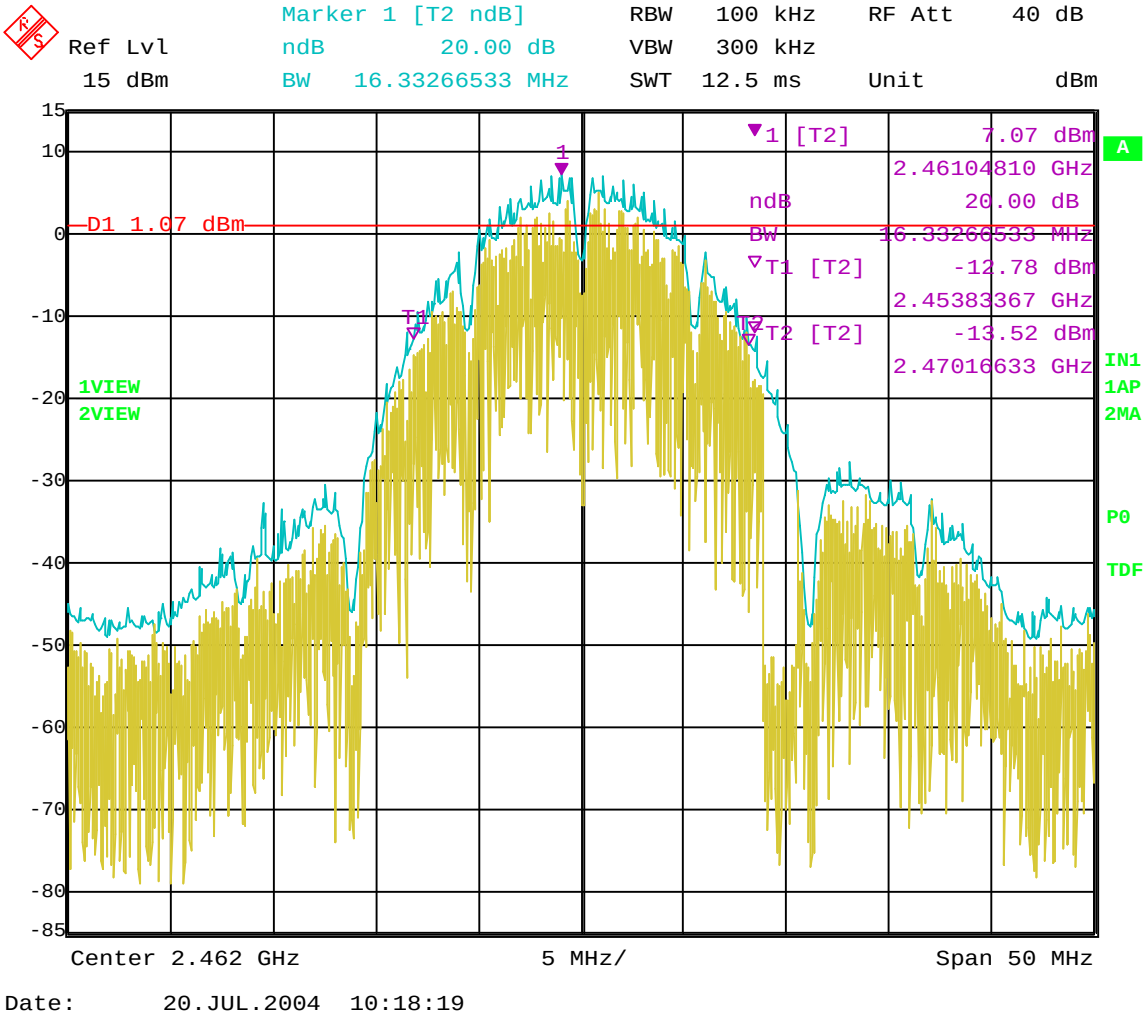
Bandwidth 20 dB – Channel 1 – 802.11 b Mode



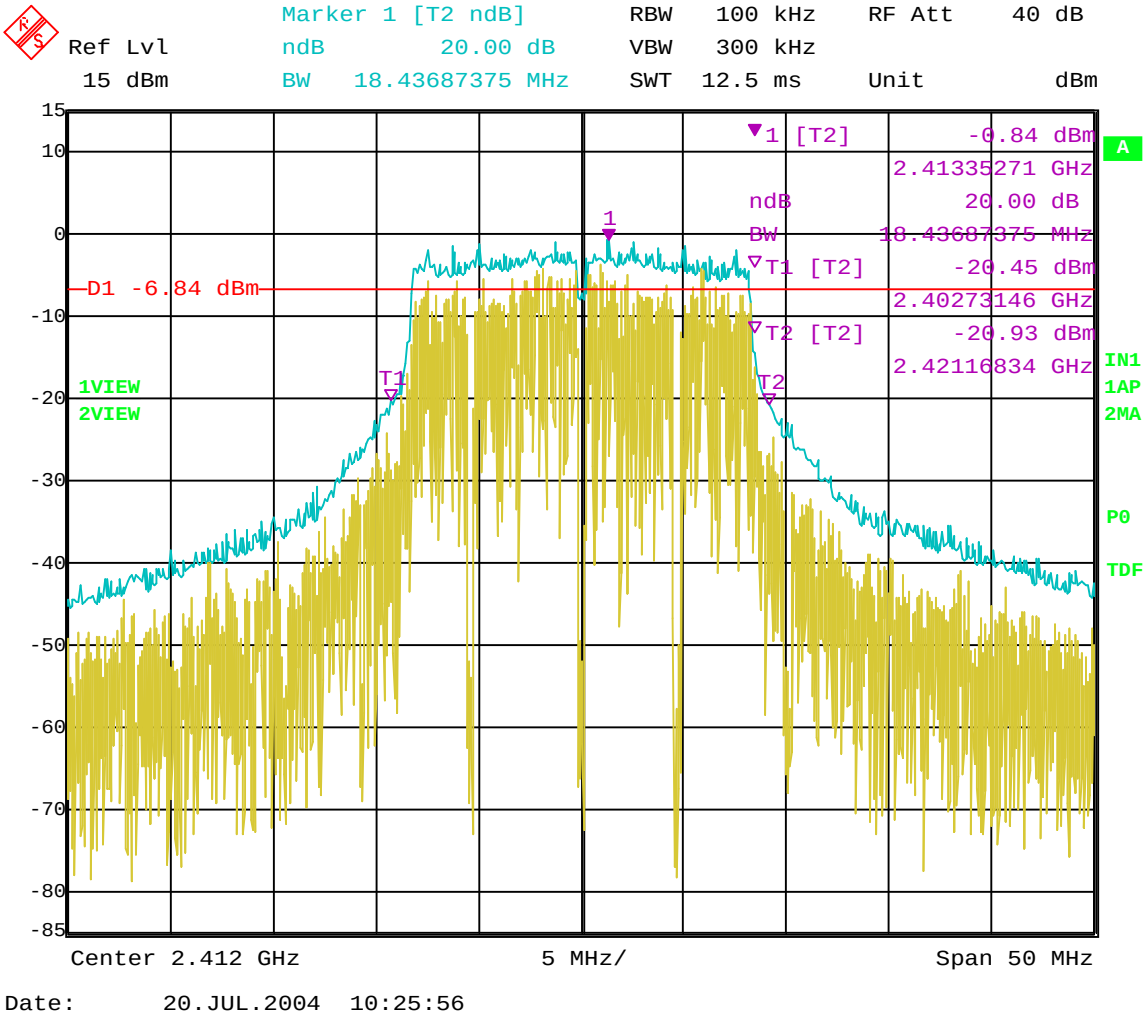
Bandwidth 20 dB – Channel 1 – 802.11 b Mode



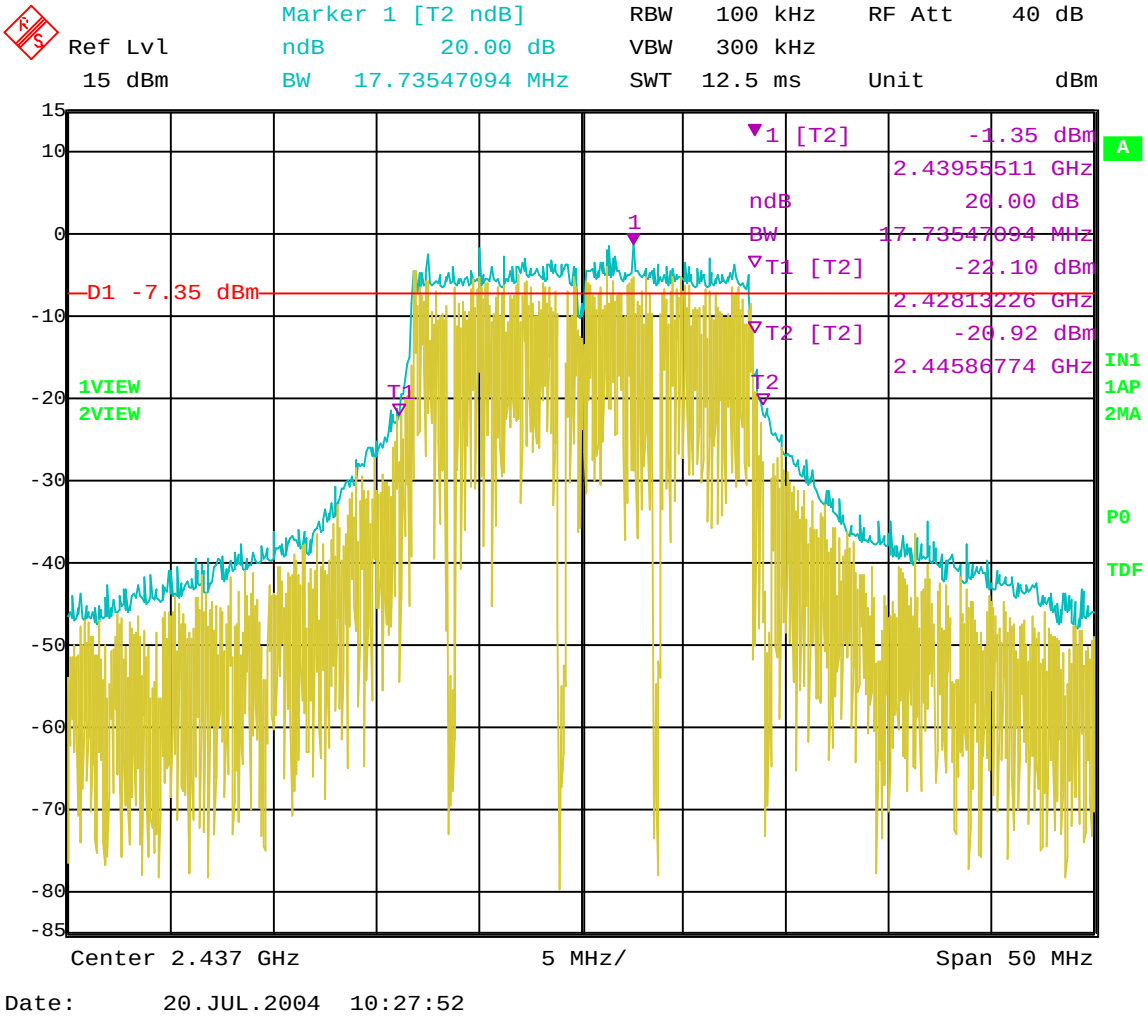
Bandwidth 20 dB – Channel 6 – 802.11 b Mode



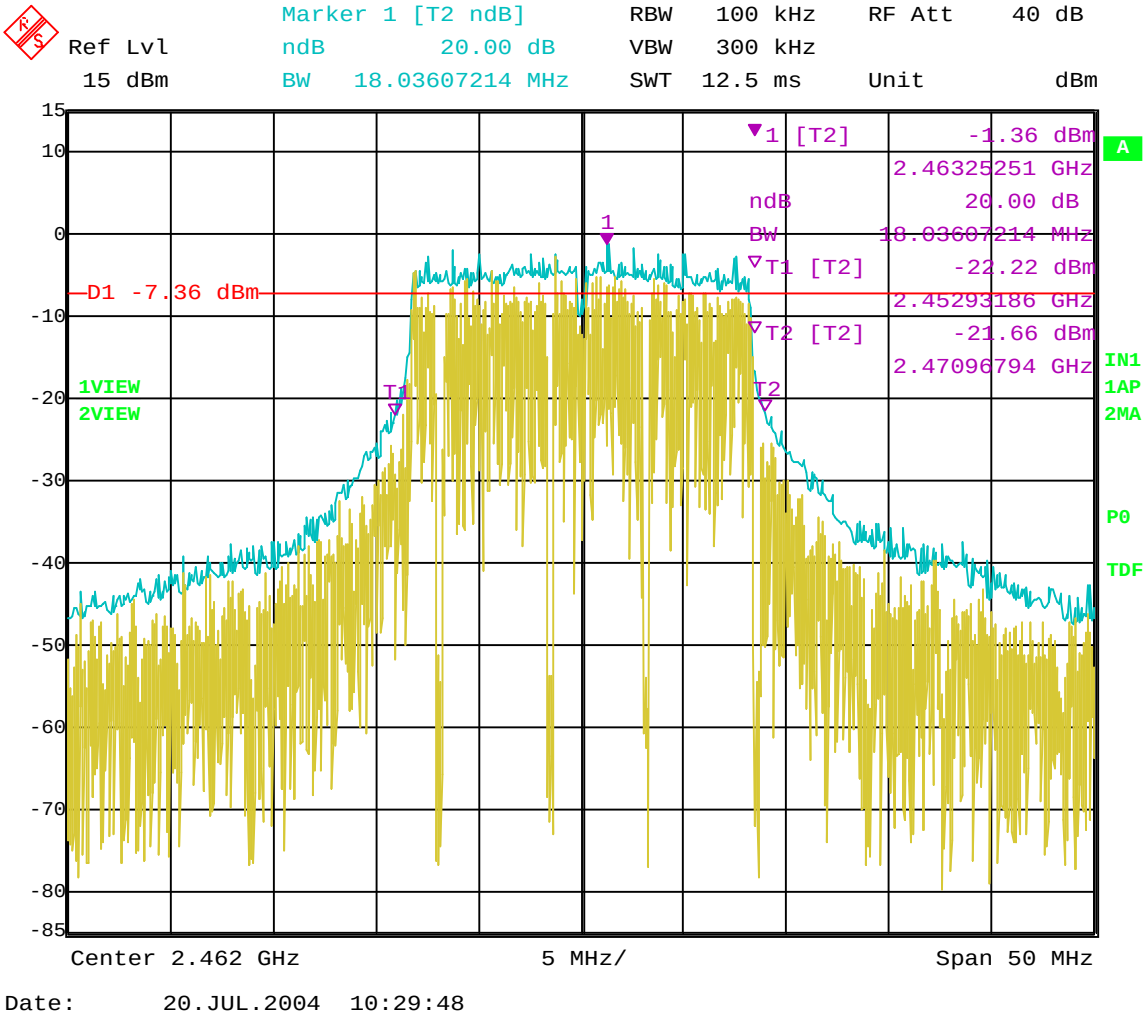
Bandwidth 20 dB – Channel 11 – 802.11 b Mode



Bandwidth 20 dB – Channel 1 – 802.11g Mode



Bandwidth 20 dB – Channel 6 – 802.11g Mode



Bandwidth 20 dB – Channel 11 – 802.11g Mode

PEAK POWER OUTPUT

DATA SHEETS

PEAK OUTPUT POWER

Intel Corporation

Intel Mini PCI Type 802.11 B/G Wireless LAN Adapter

MODEL: WM3A2200BG

For use in the Dell Agency Series #: PP07S

802.11 b Mode (Worst Case Rate is 1 Mbps)

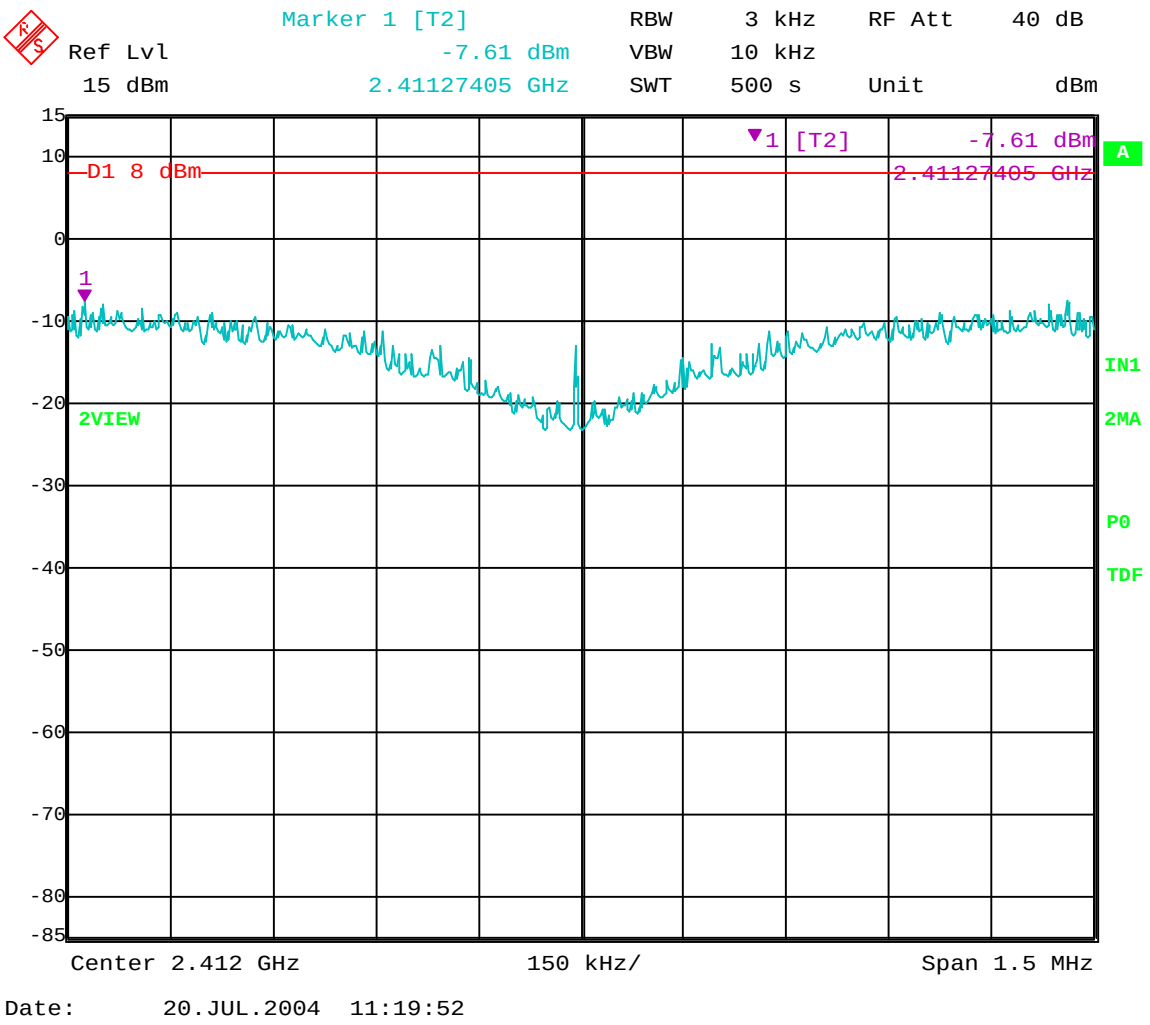
CHANNEL	GAIN	Peak Power (dBm)	Avg. Power (dBm)
1 (2412 MHz)	29.0	17.43	14.93
6 (2437 MHz)	29.0	17.41	14.92
11 (2462 MHz)	29.0	17.52	15.02

802.11 g Mode (Worst Case Rate is 6 Mbps)

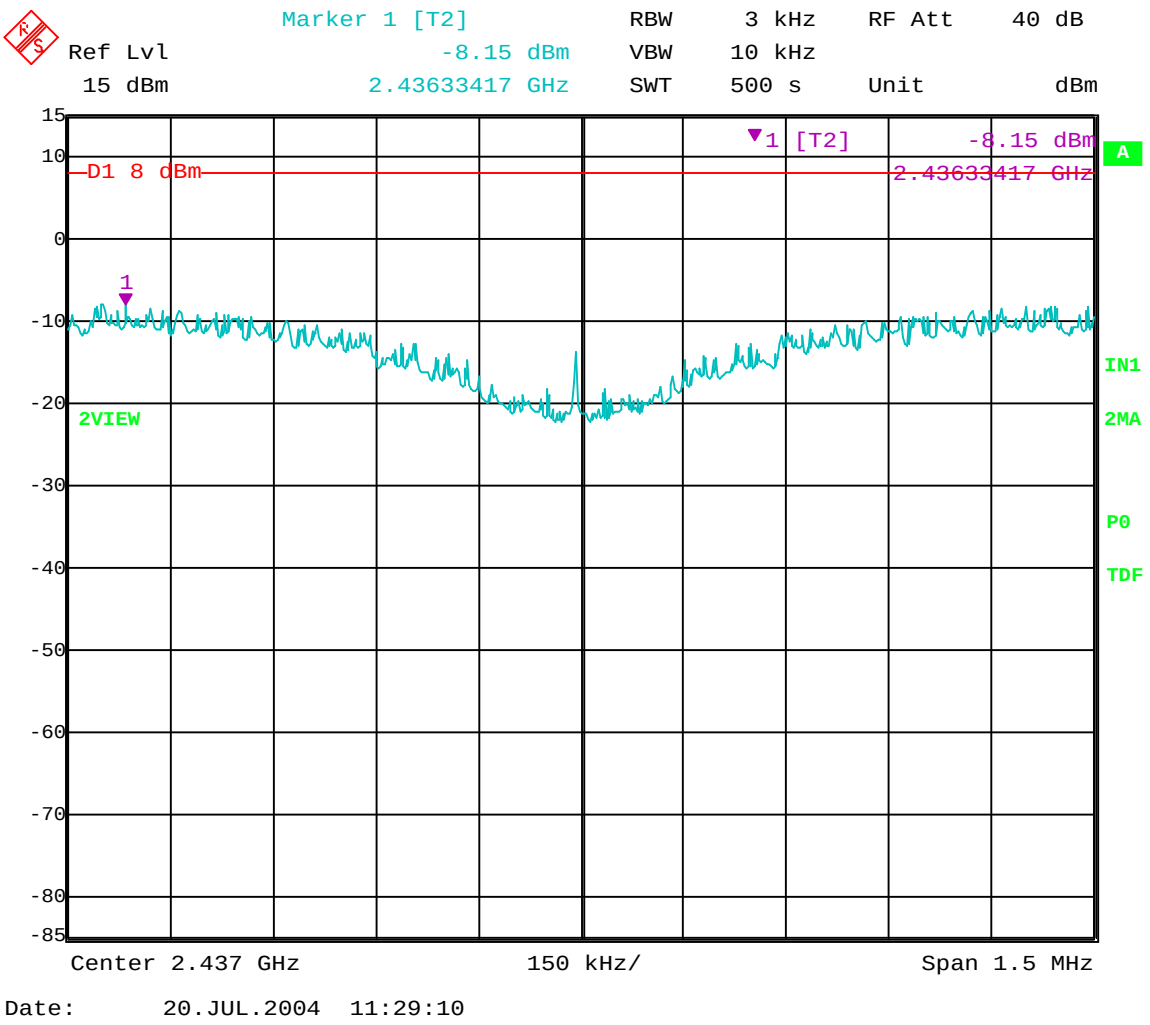
CHANNEL	GAIN	Peak Power (dBm)	Avg. Power (dBm)
1 (2412 MHz)	23.5	16.59	10.22
6 (2437 MHz)	23.5	16.62	10.23
11 (2462 MHz)	23.0	16.37	9.93

PEAK POWER SPECTRAL DENSITY

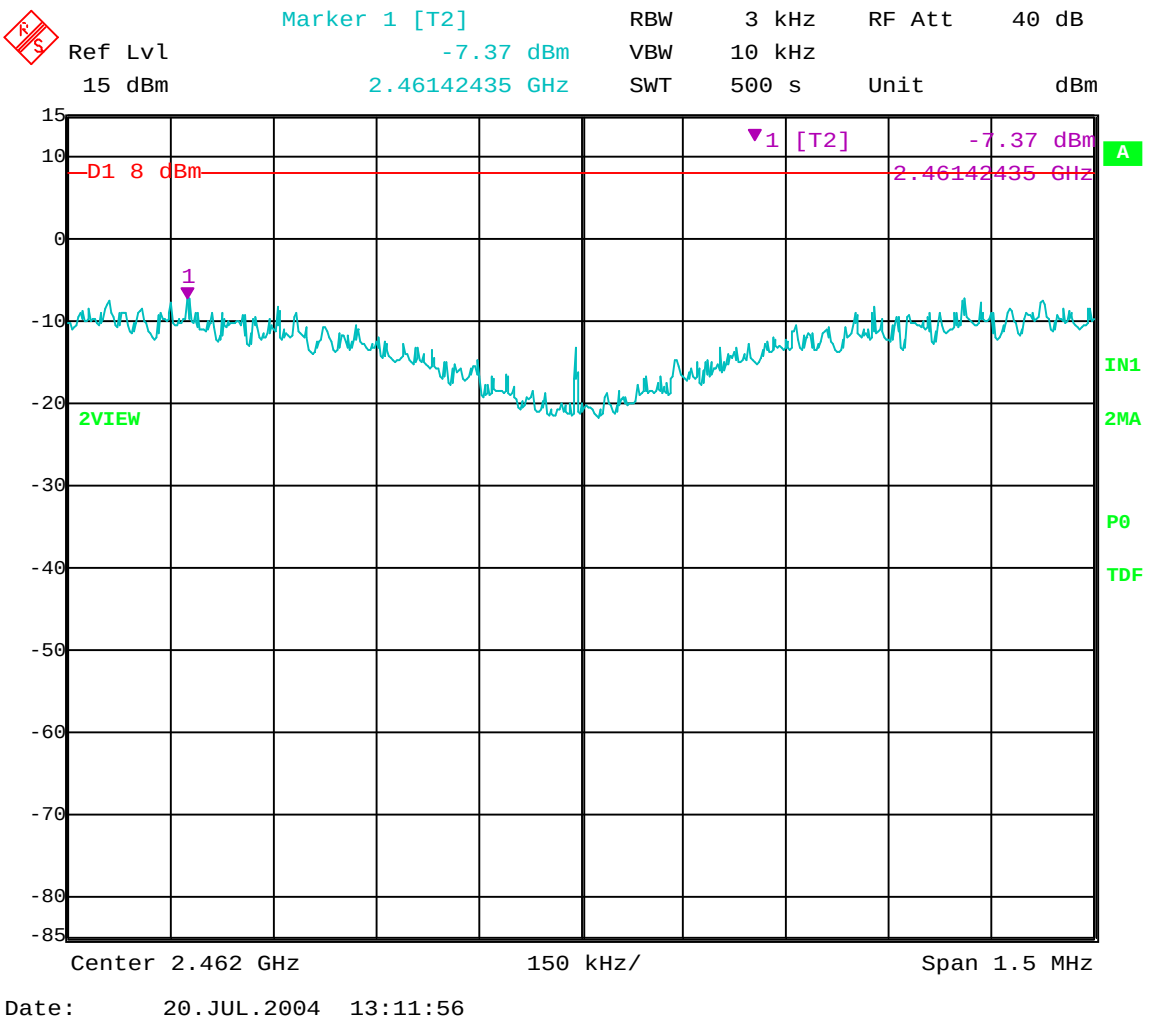
DATA SHEETS



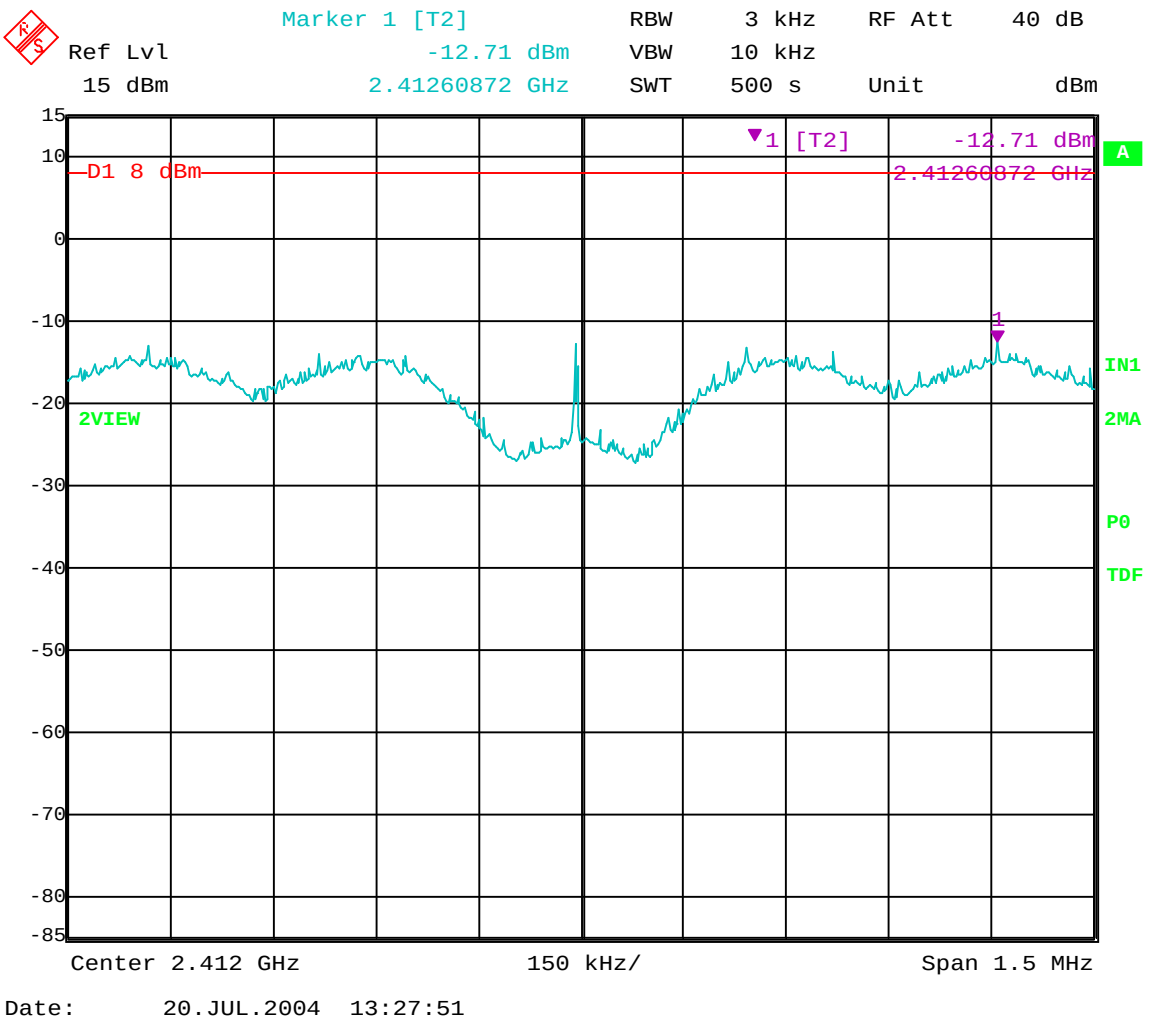
Peak Power Spectral Density – Channel 1 – 802.11 b Mode



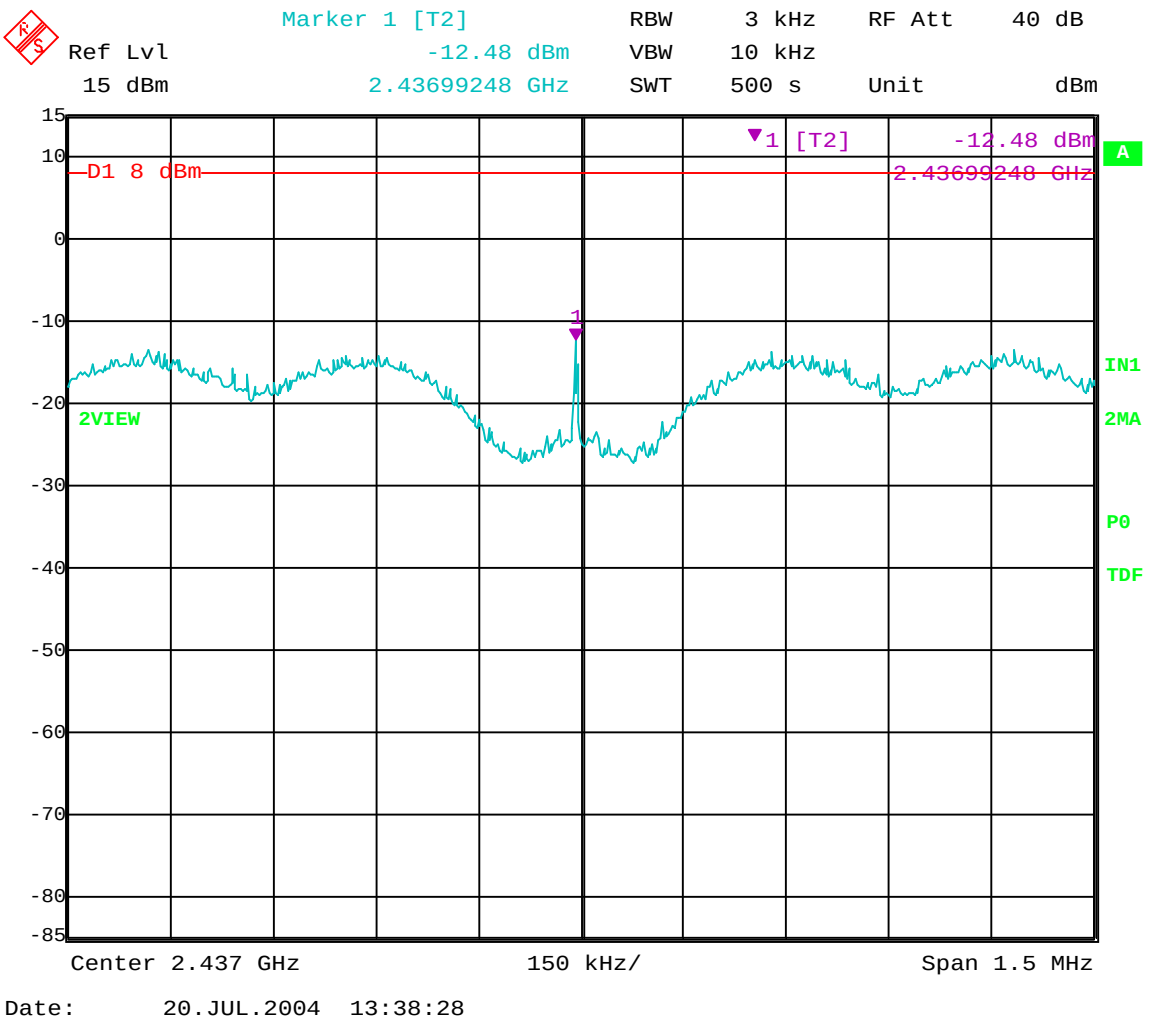
Peak Power Spectral Density – Channel 6 – 802.11 b Mode



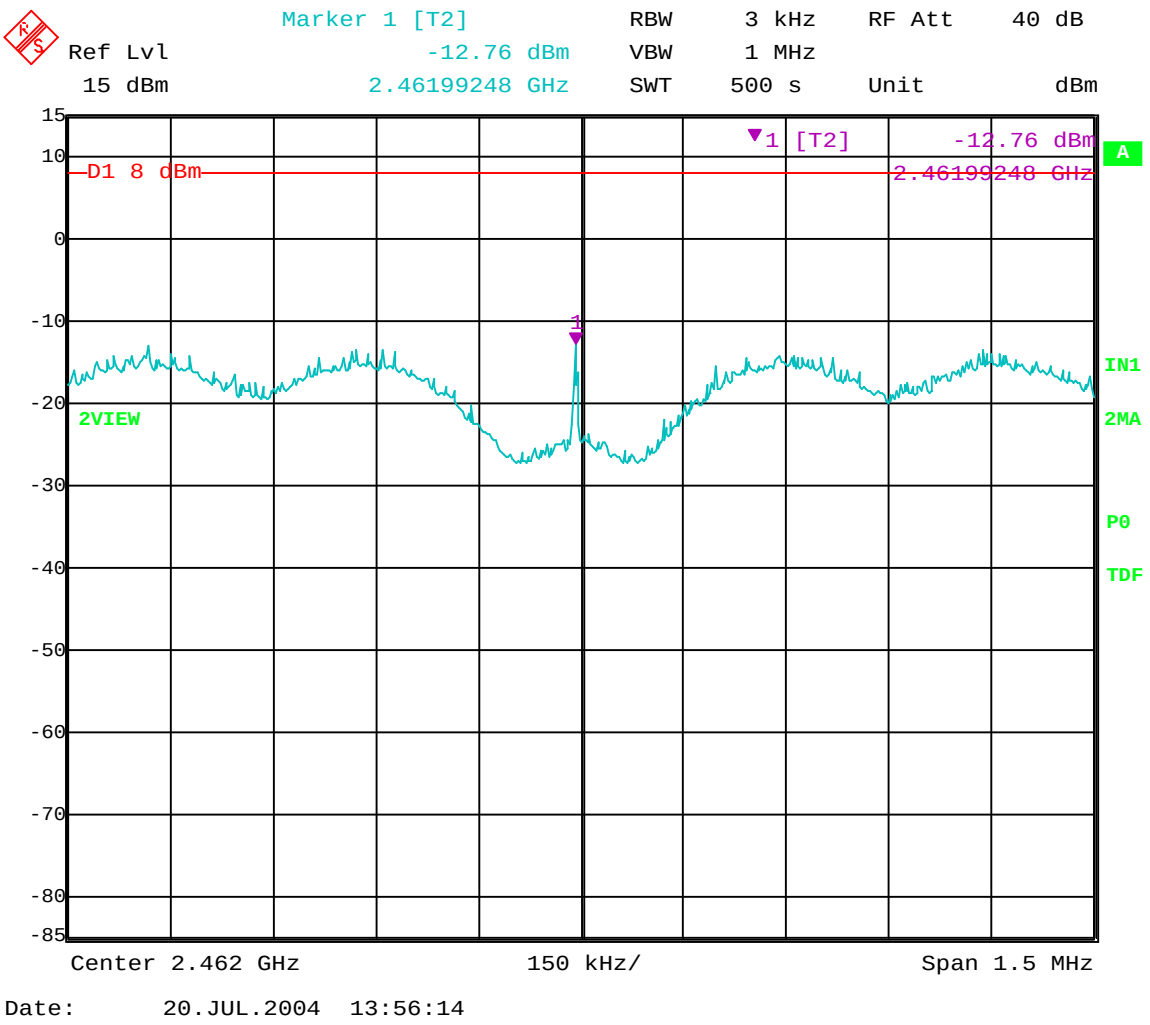
Peak Power Spectral Density – Channel 11 – 802.11 b Mode



Peak Power Spectral Density – Channel 1 – 802.11 g Mode



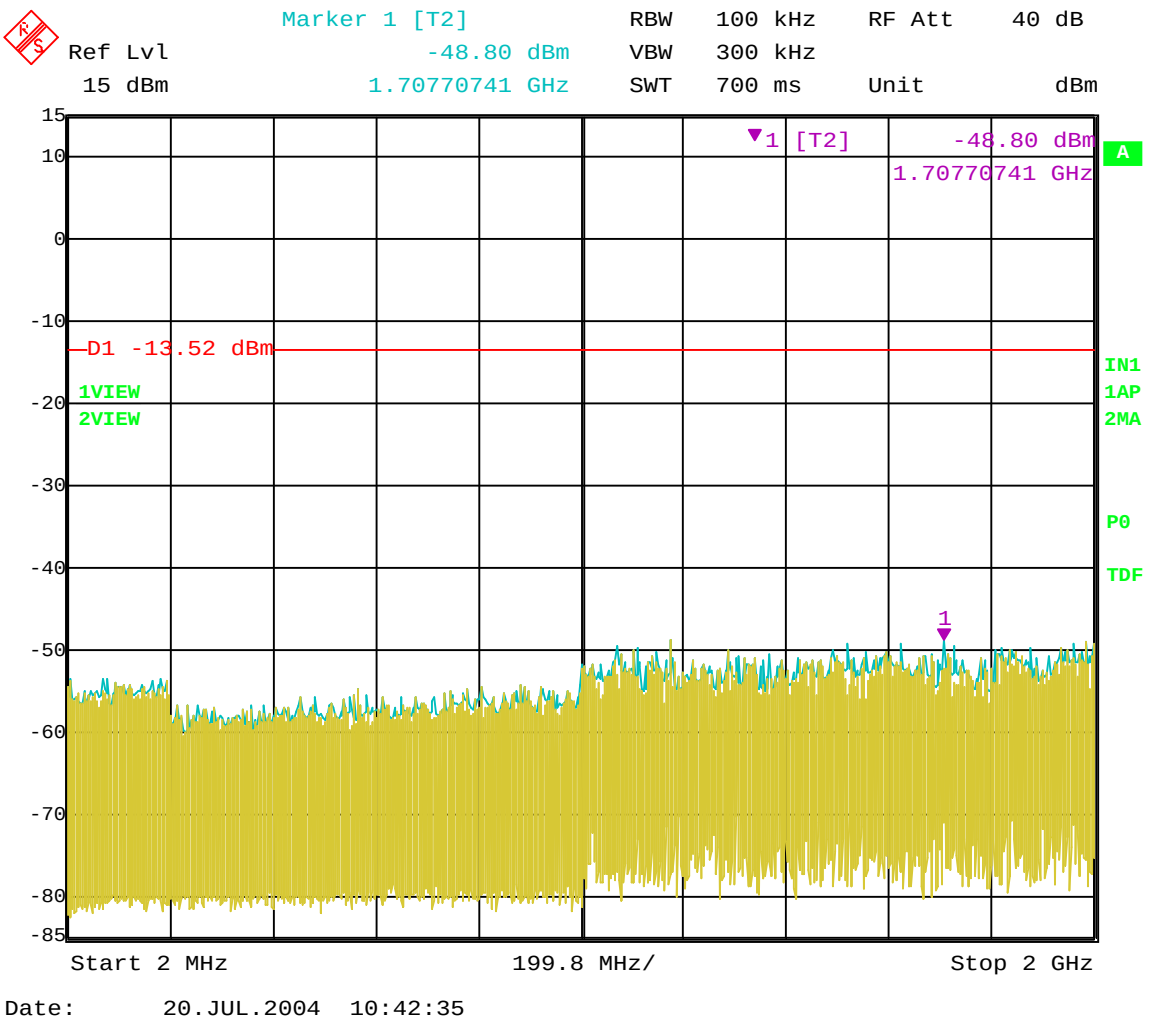
Peak Power Spectral Density – Channel 6 – 802.11 g Mode



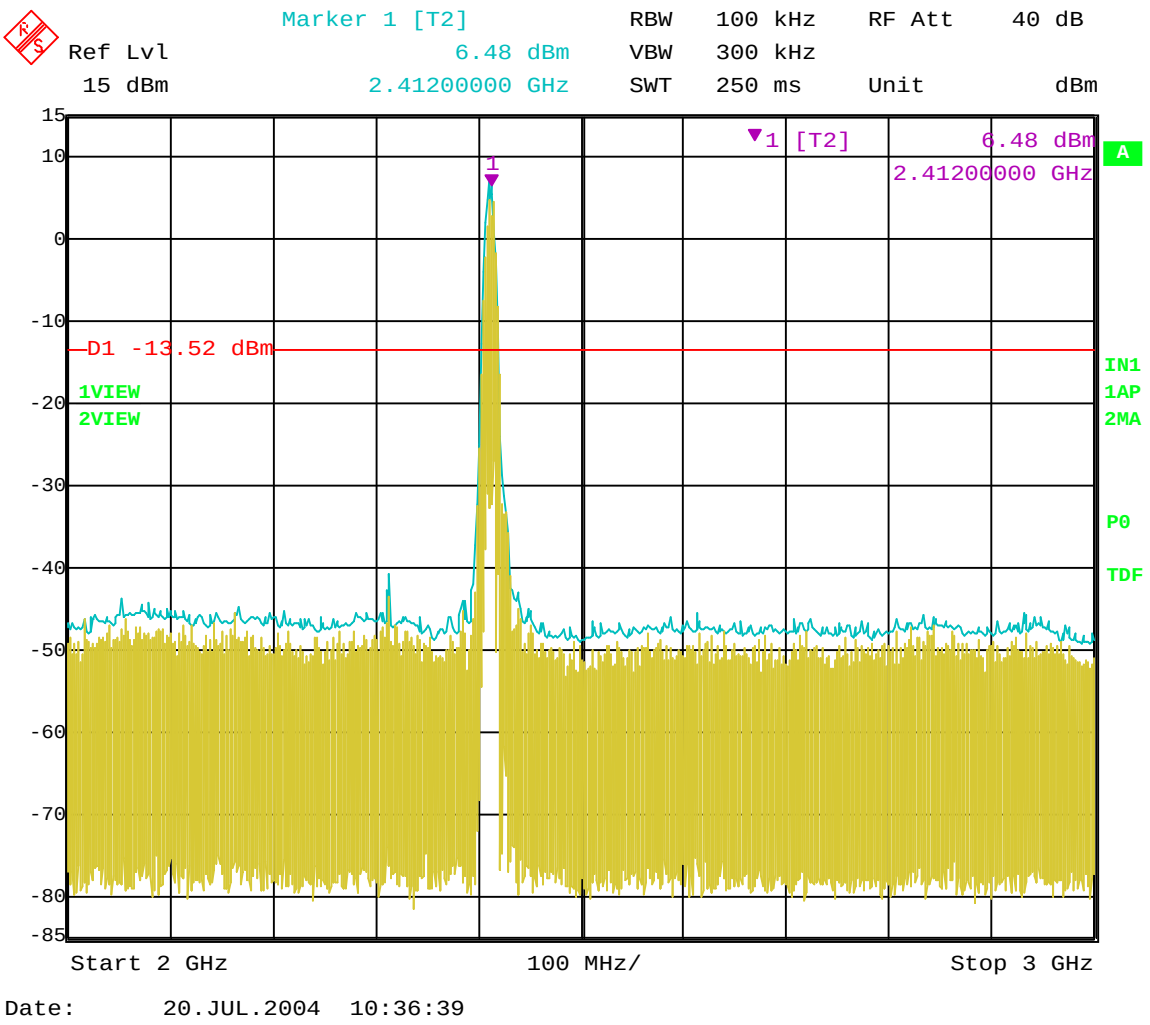
Peak Power Spectral Density – Channel 11 – 802.11 g Mode

RF ANTENNA CONDUCTED

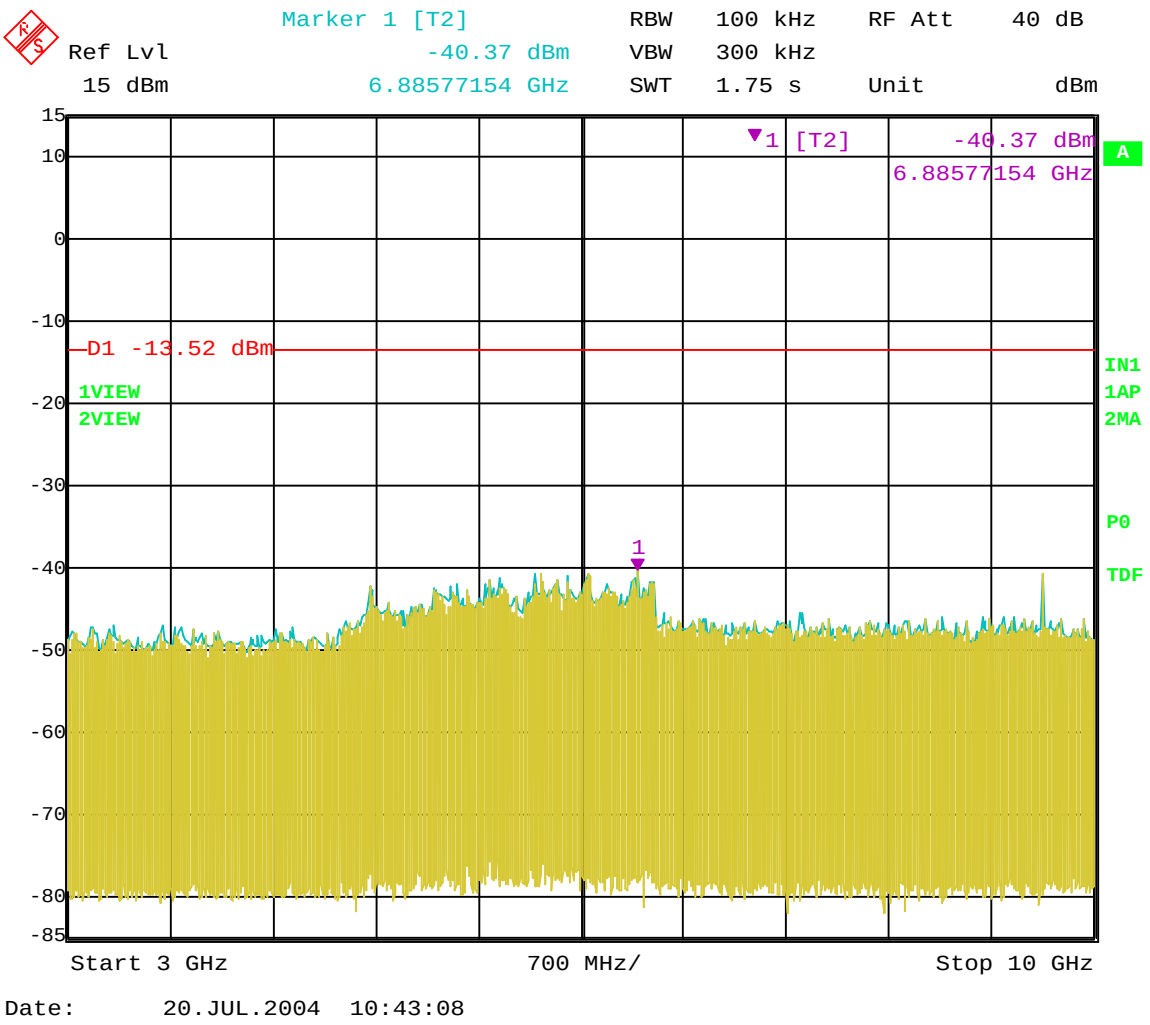
DATA SHEETS



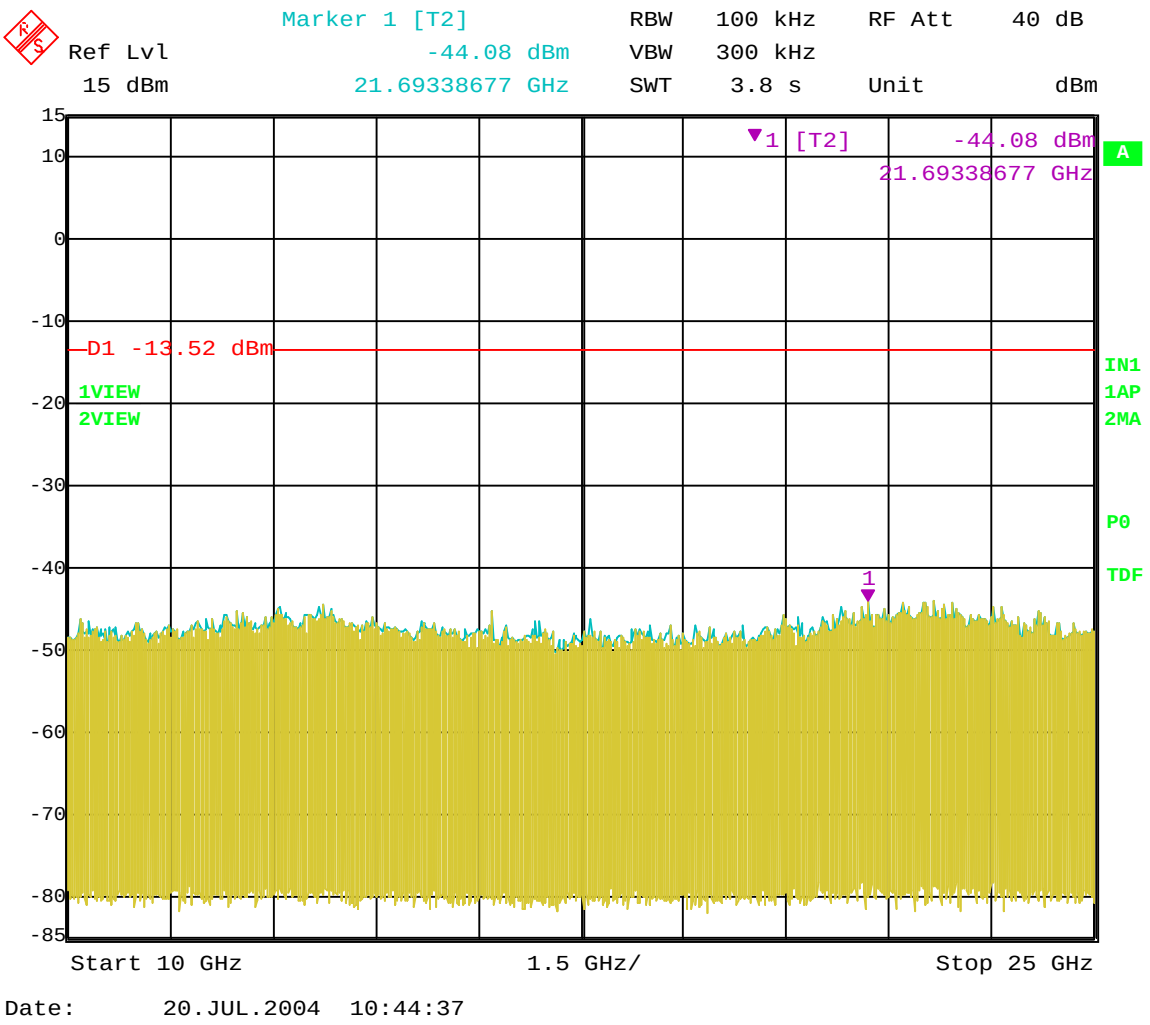
RF Antenna Conducted Test – Channel 1 – 802.11 b Mode – 2 MHz to 2 GHz



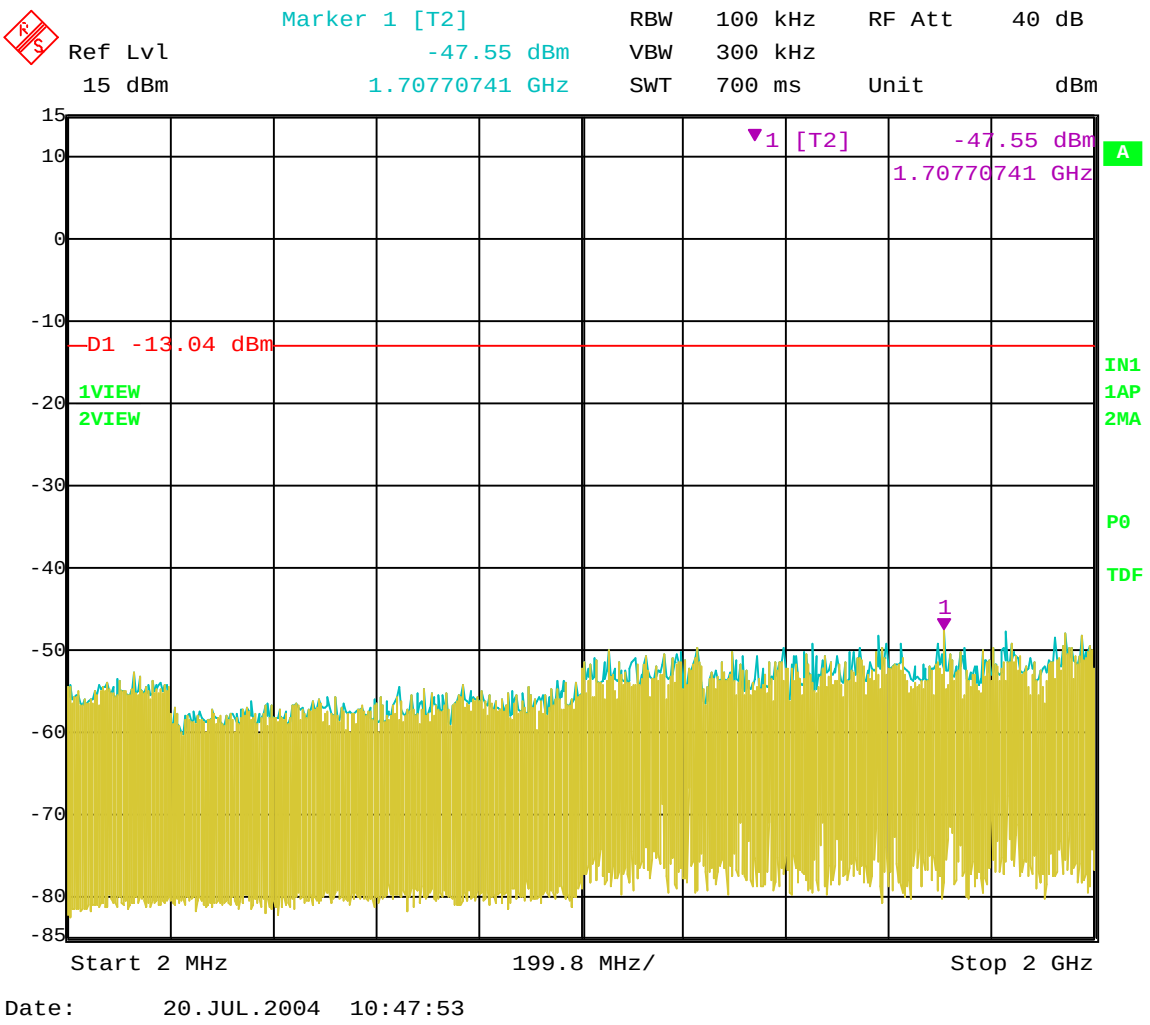
RF Antenna Conducted Test – Channel 1 – 802.11 b Mode – 2 GHz to 3 GHz



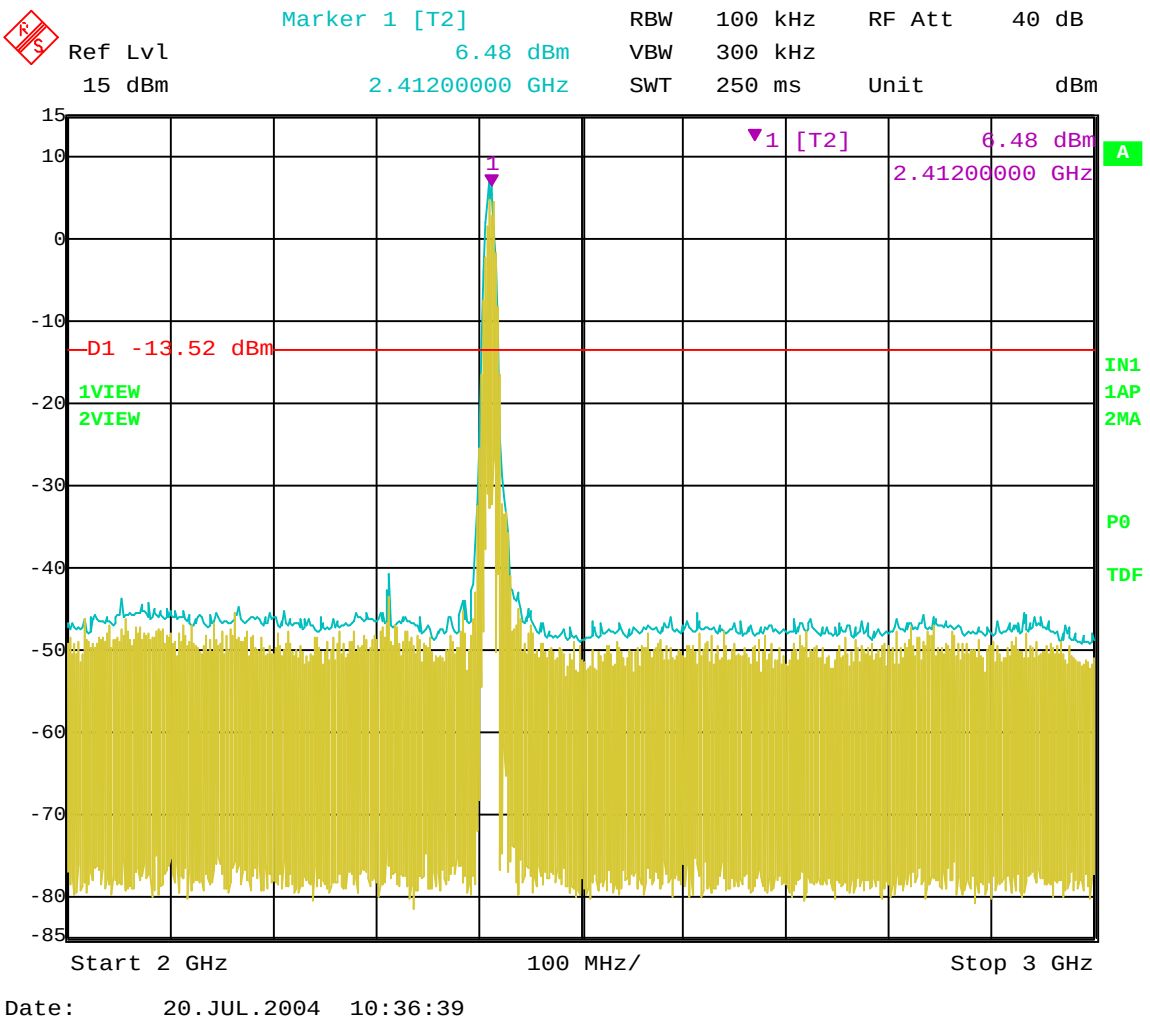
RF Antenna Conducted Test – Channel 1 – 802.11 b Mode – 3 GHz to 10 GHz



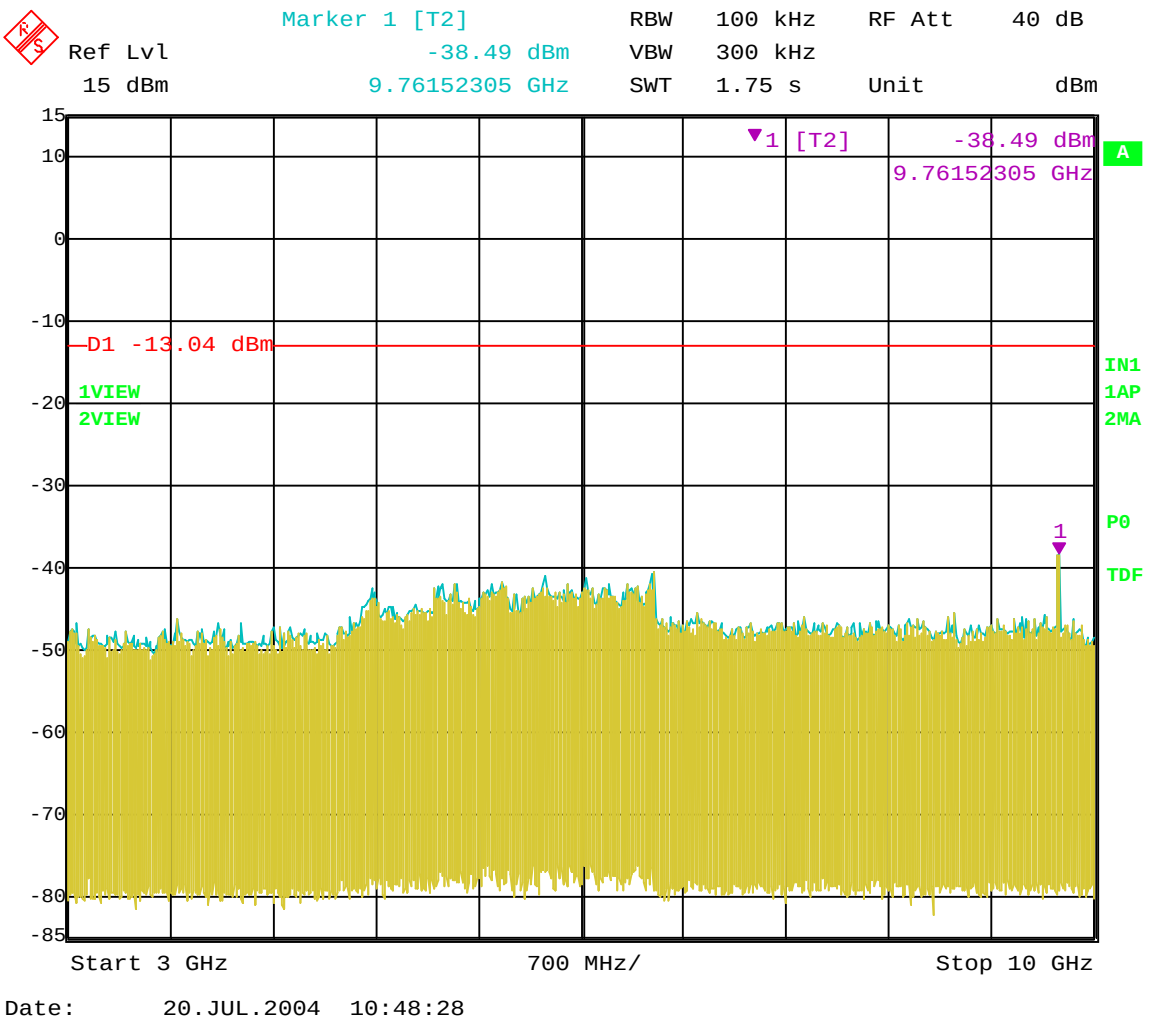
RF Antenna Conducted Test – Channel 1 – 802.11 b Mode – 10 GHz to 25 GHz



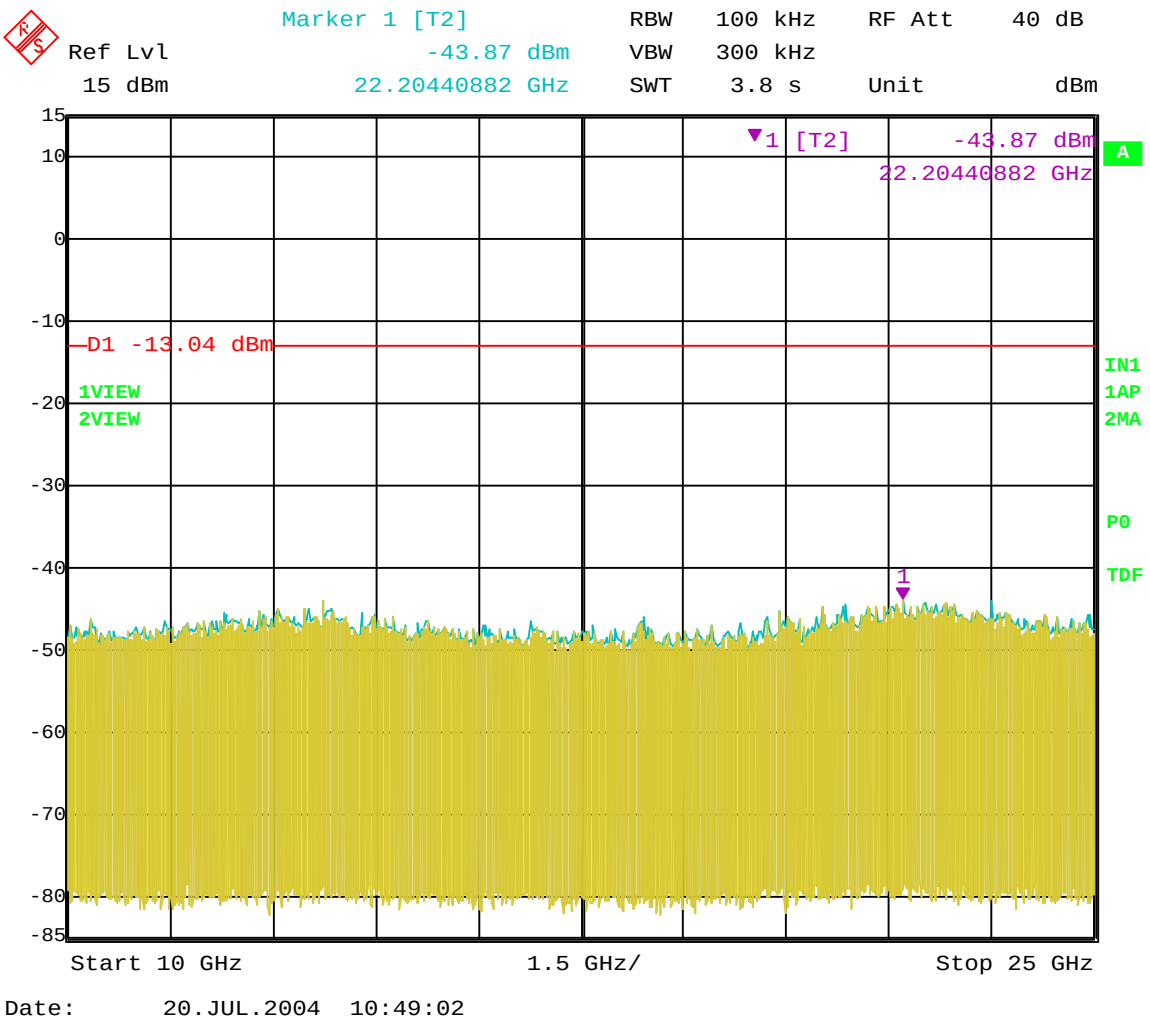
RF Antenna Conducted Test – Channel 6 – 802.11 b Mode – 2 MHz to 2 GHz



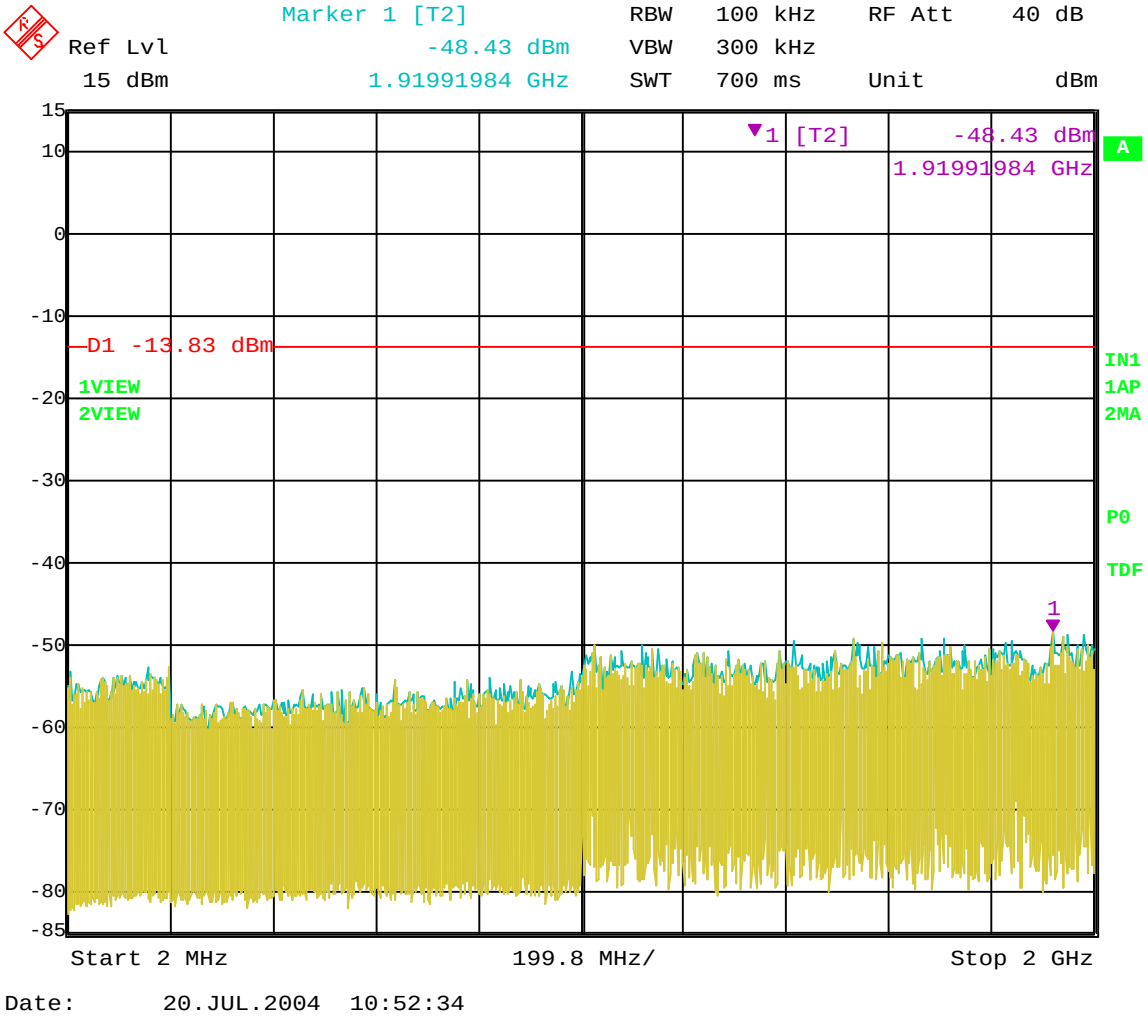
RF Antenna Conducted Test – Channel 6 – 802.11 b Mode – 2 GHz to 3 GHz



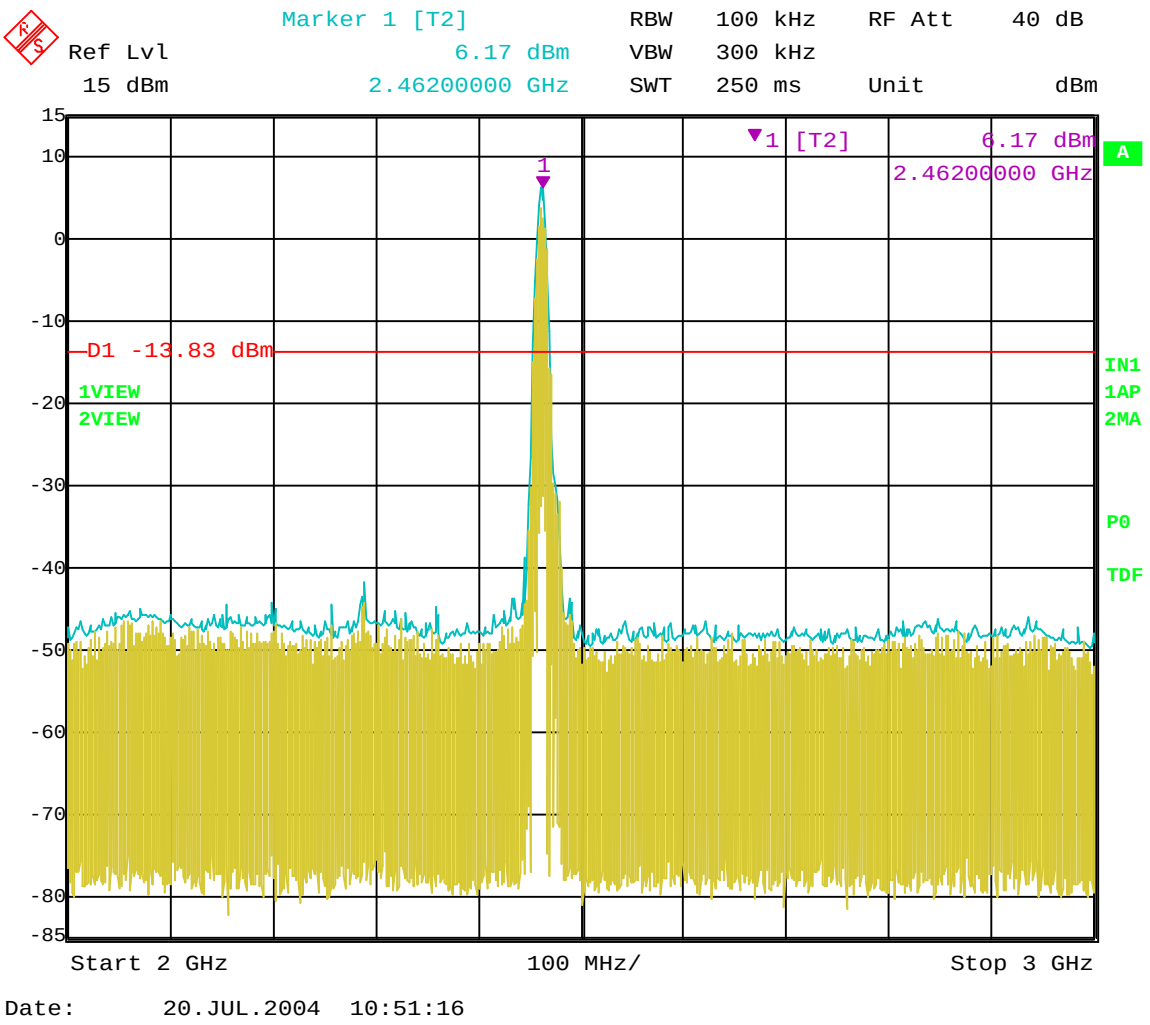
RF Antenna Conducted Test – Channel 6 – 802.11 b Mode – 3 GHz to 10 GHz



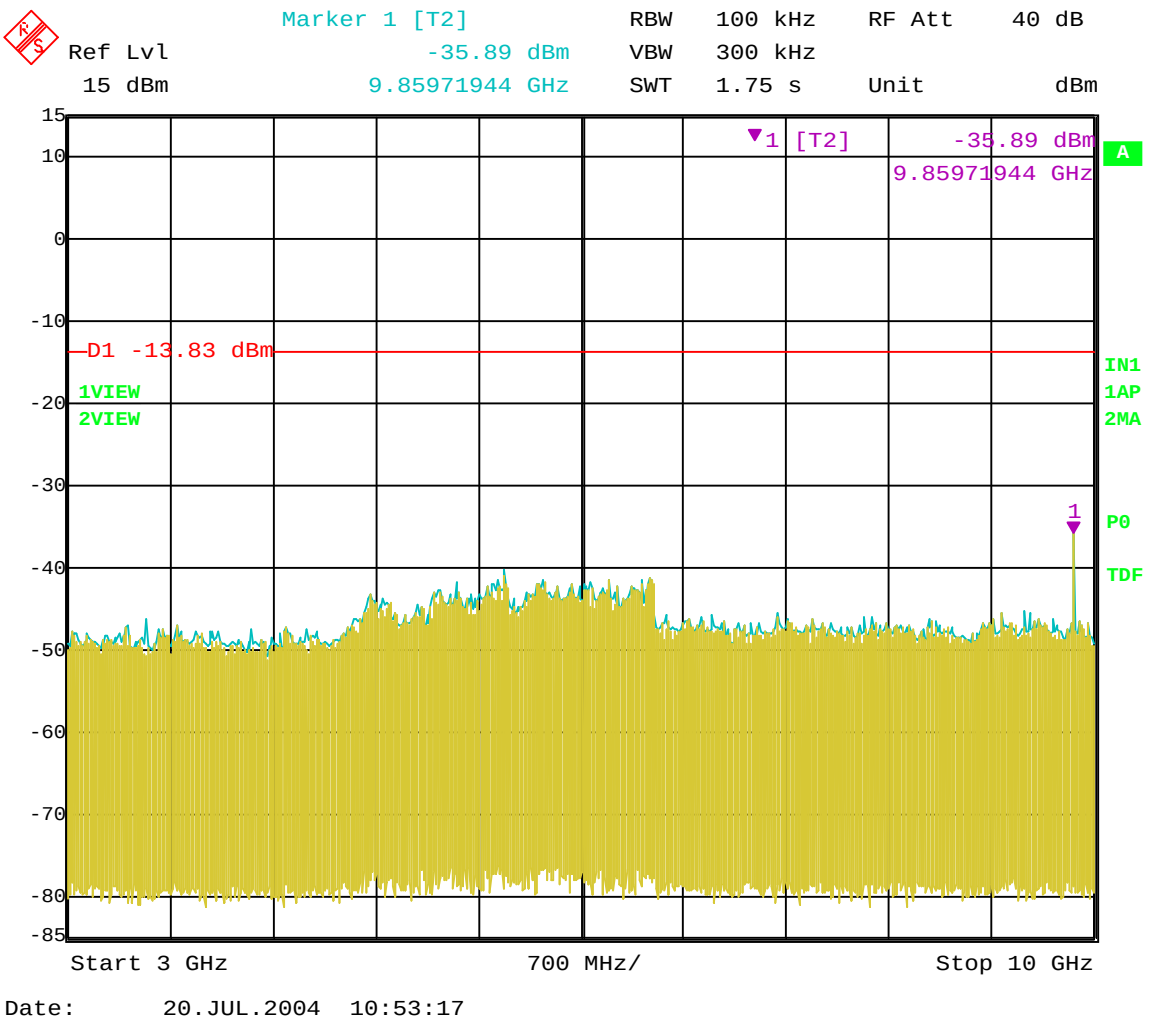
RF Antenna Conducted Test – Channel 6 – 802.11 b Mode – 10 GHz to 25 GHz



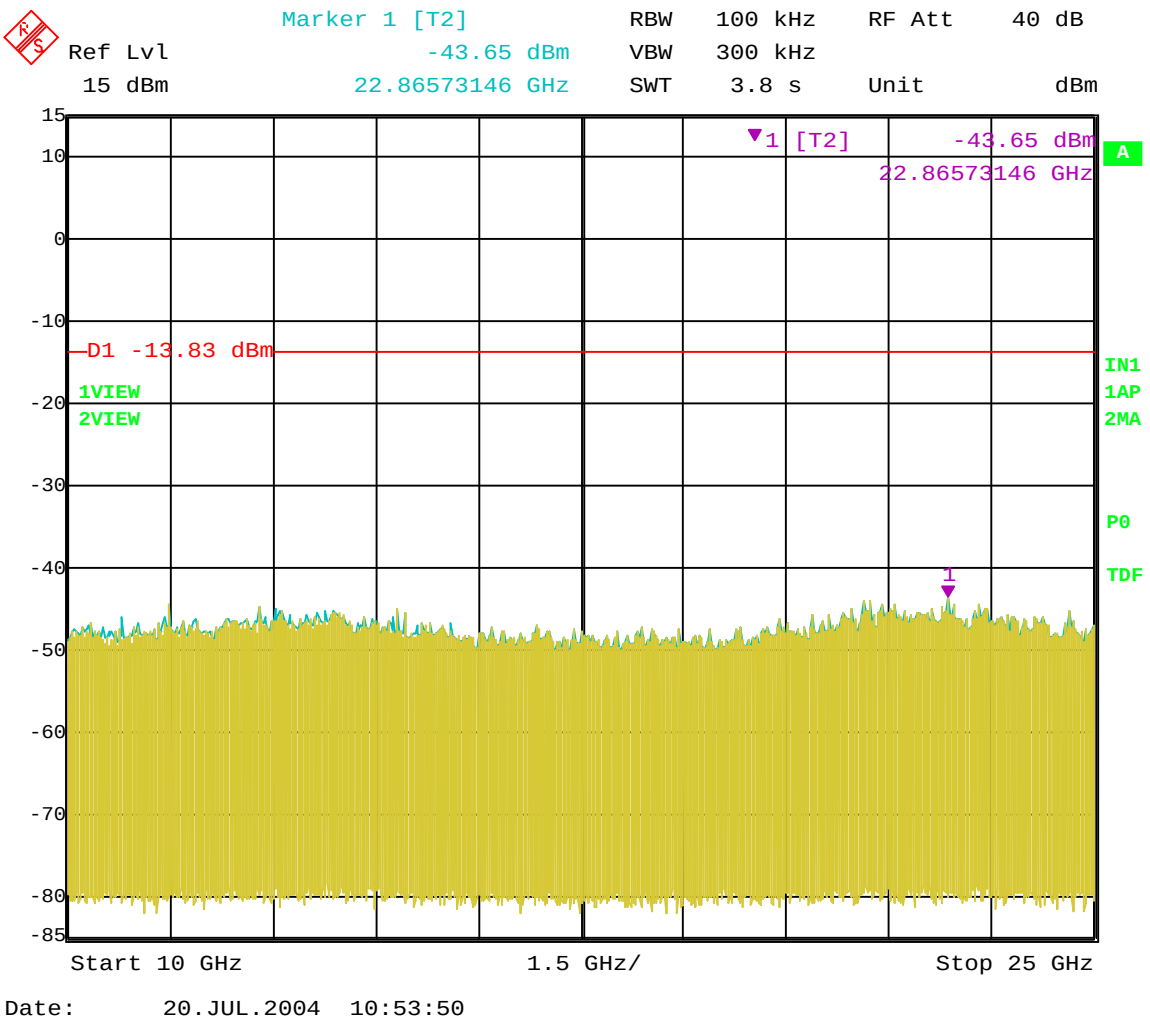
RF Antenna Conducted Test – Channel 11 – 802.11 b Mode – 2 MHz to 2 GHz



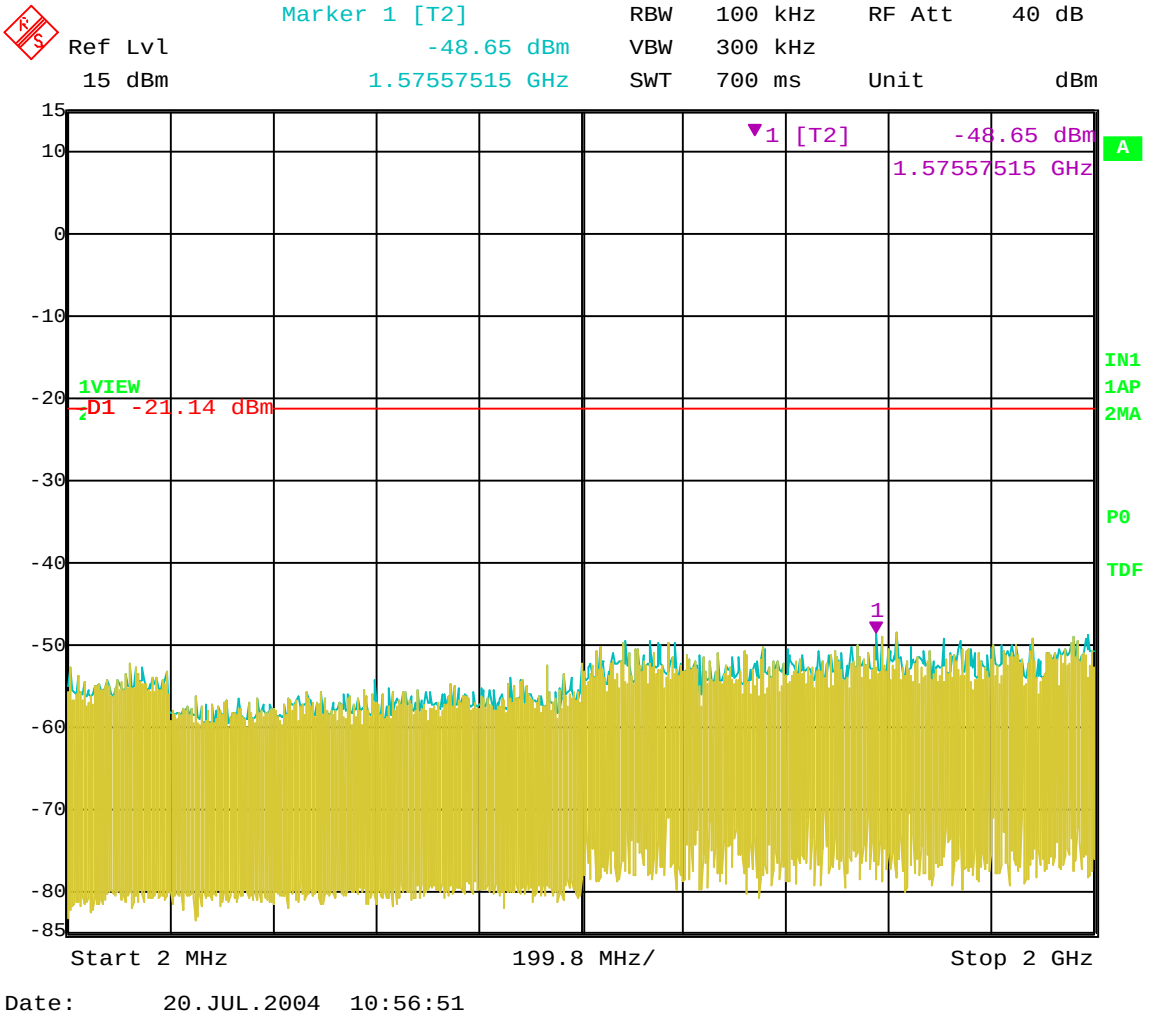
RF Antenna Conducted Test – Channel 11 – 802.11 b Mode – 2 GHz to 3 GHz



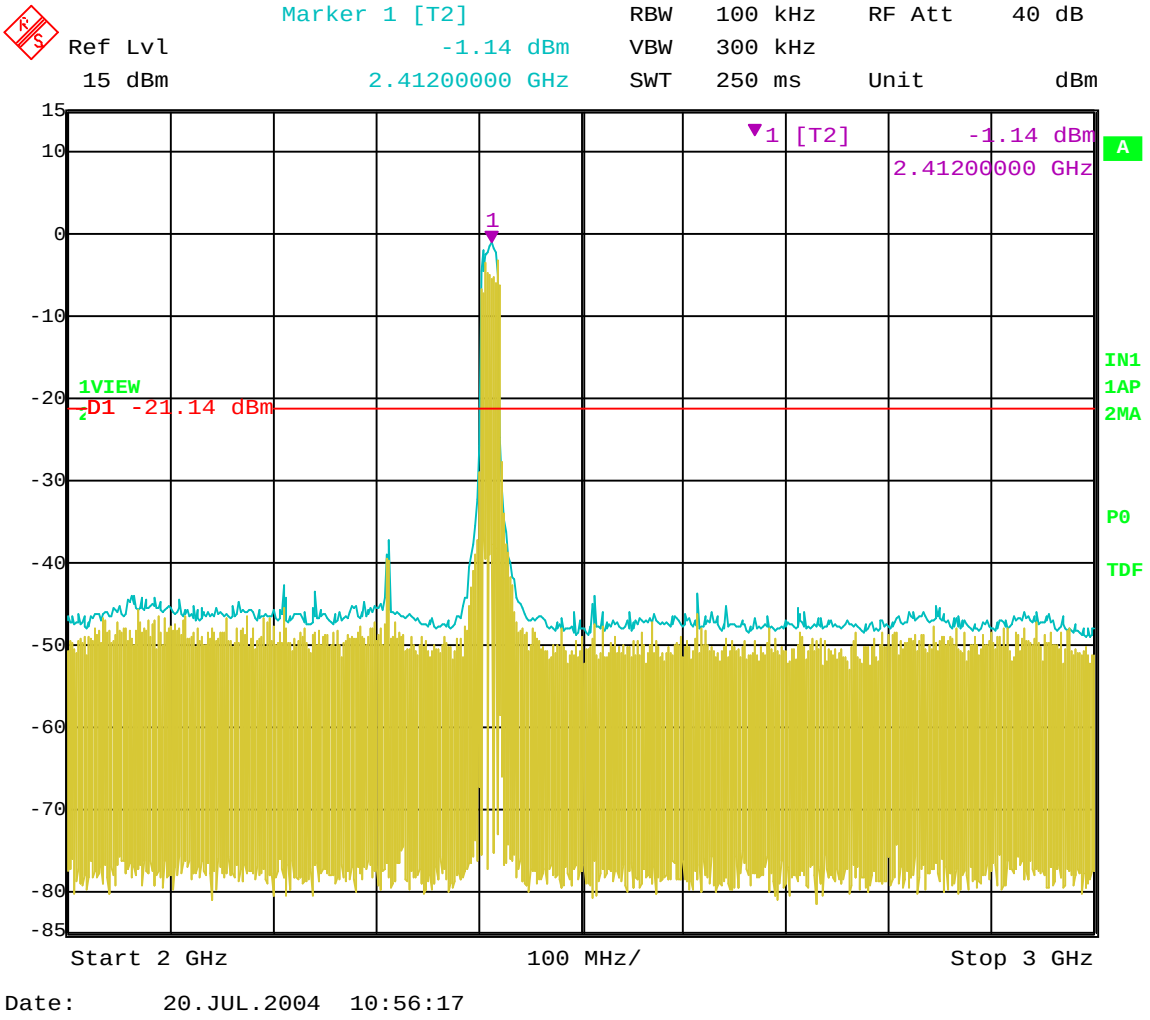
RF Antenna Conducted Test – Channel 11 – 802.11 b Mode – 3 GHz to 10 GHz



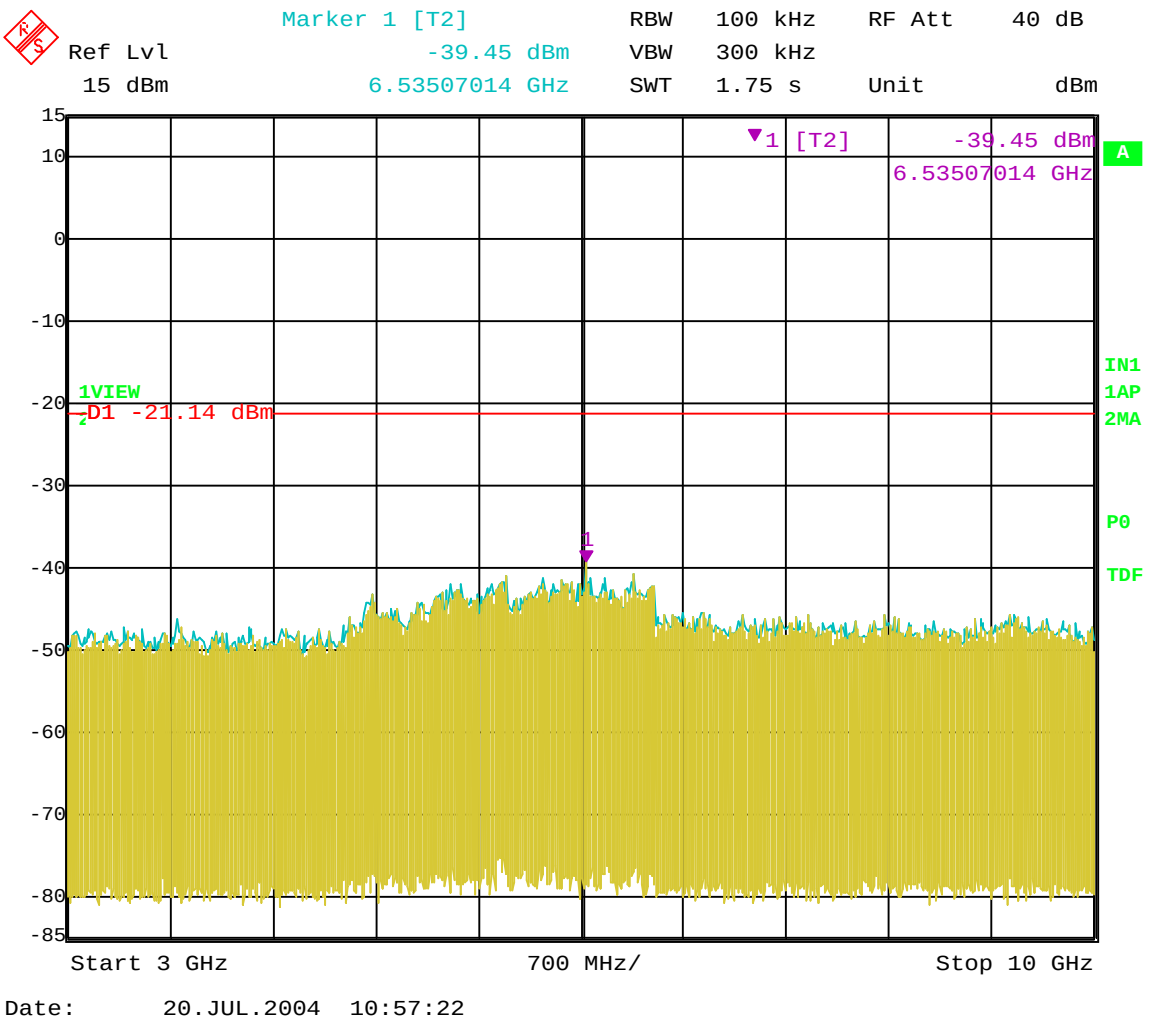
RF Antenna Conducted Test – Channel 11 – 802.11 b Mode – 10 GHz to 25 GHz



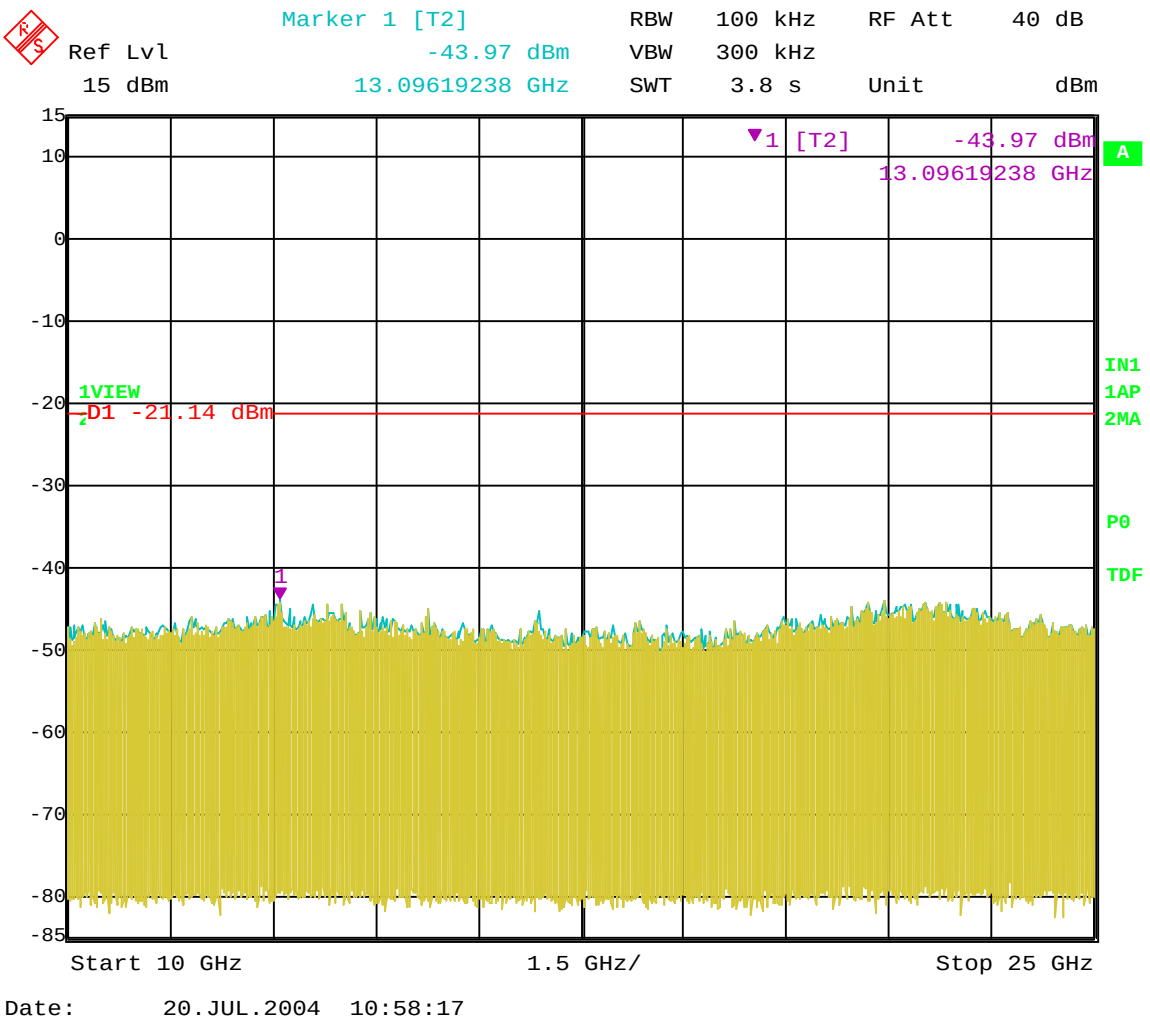
RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 2 MHz to 2 GHz



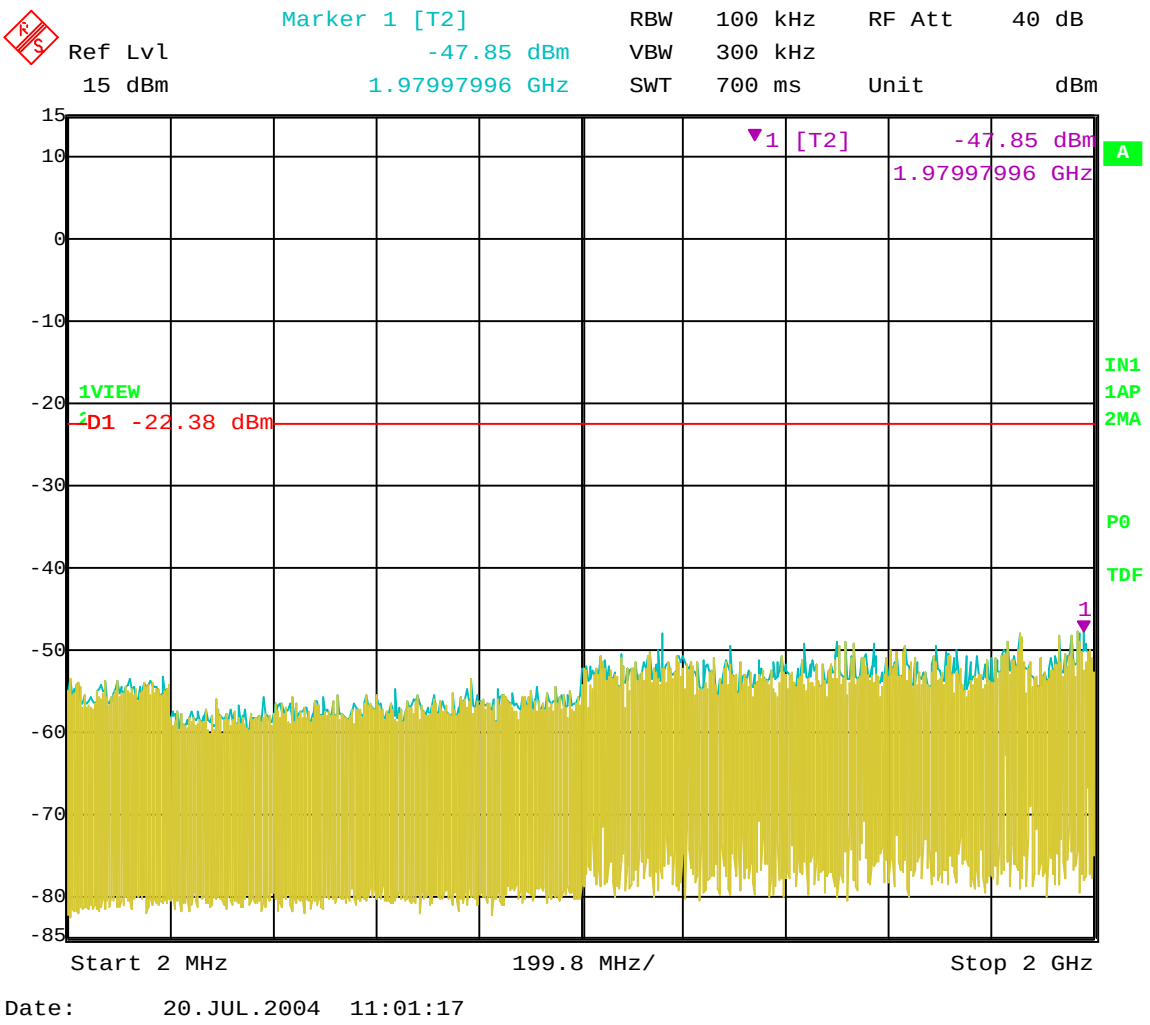
RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 2 GHz to 3 GHz



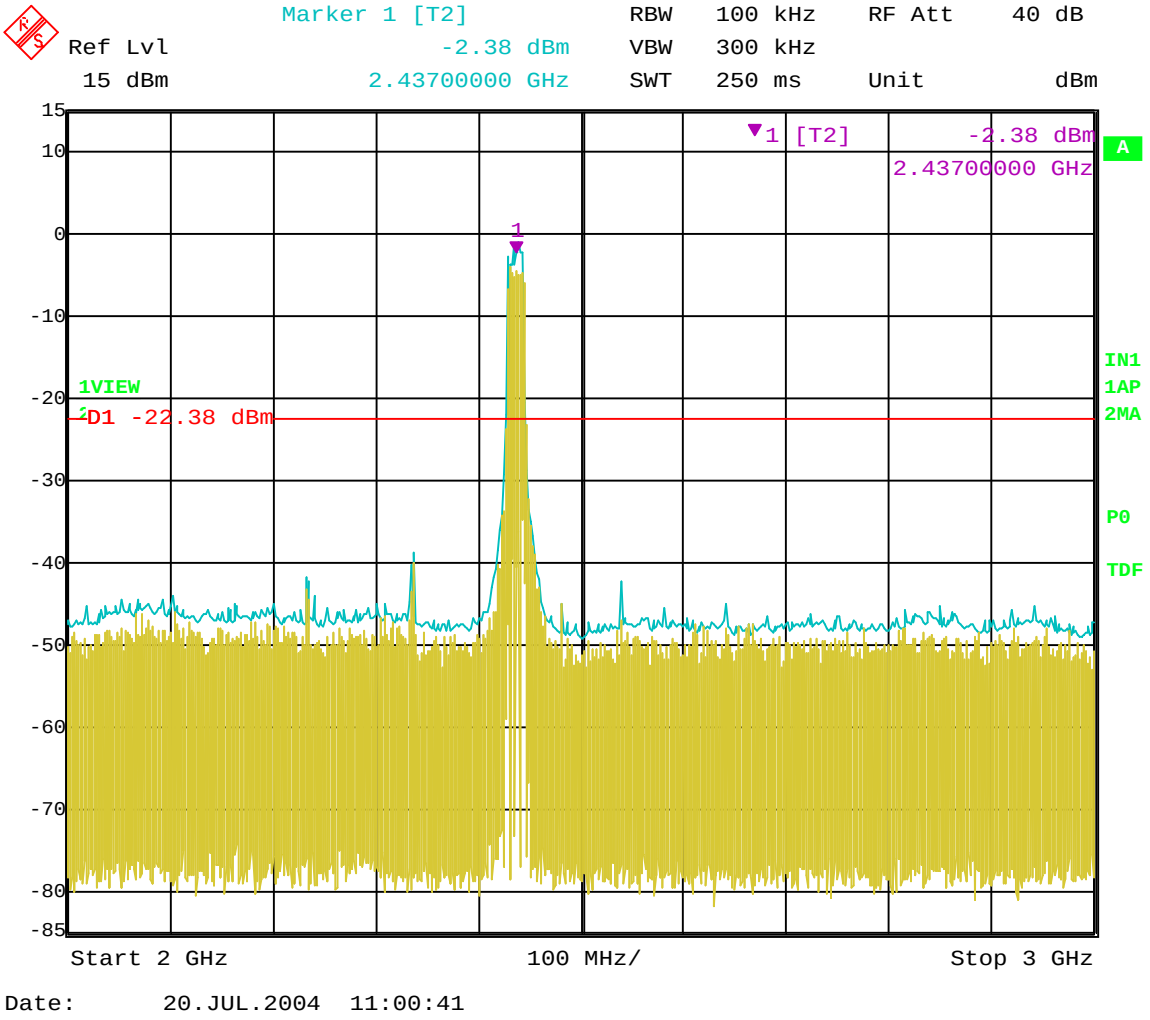
RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 3 GHz to 10 GHz



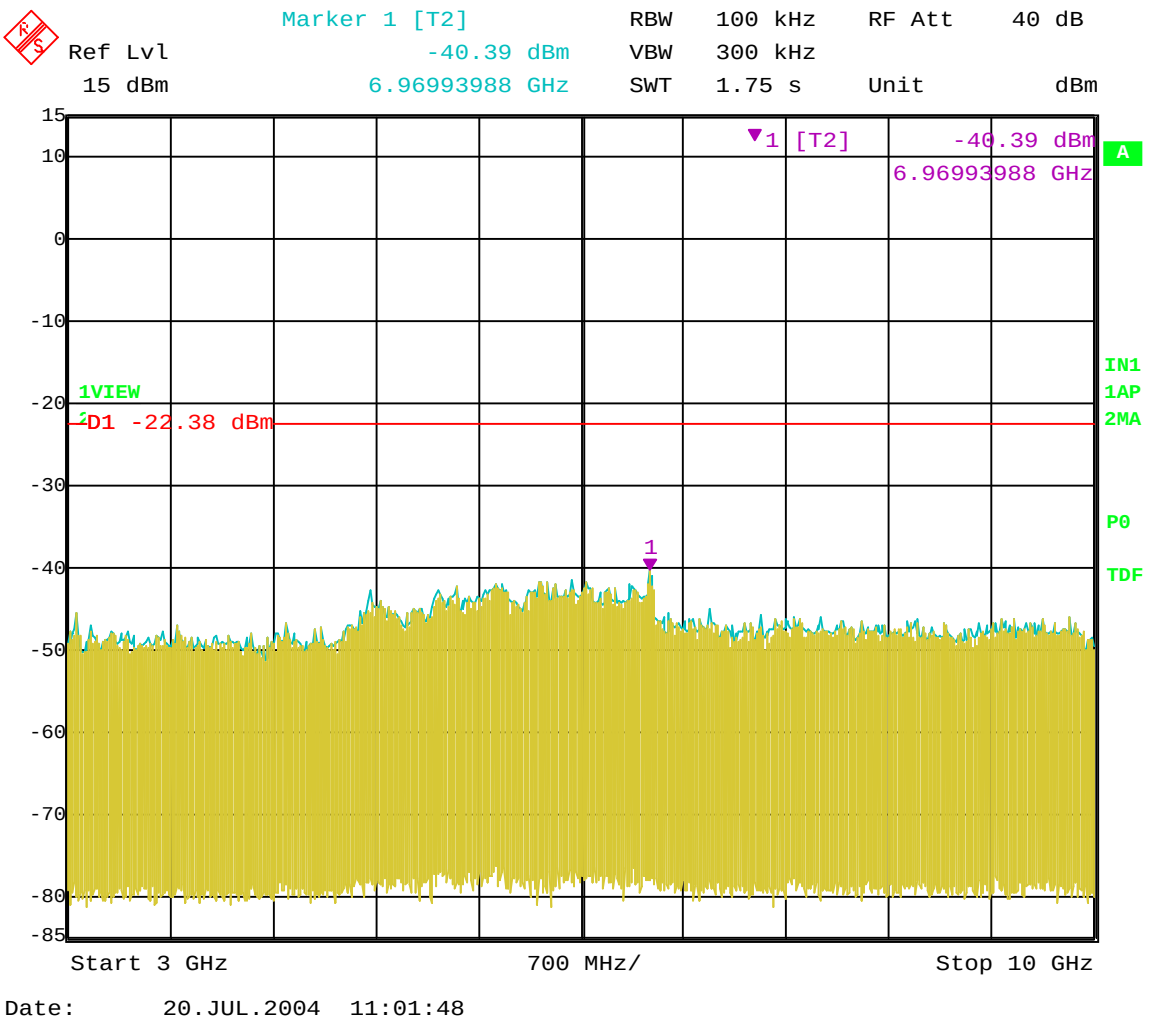
RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 10 GHz to 25 GHz



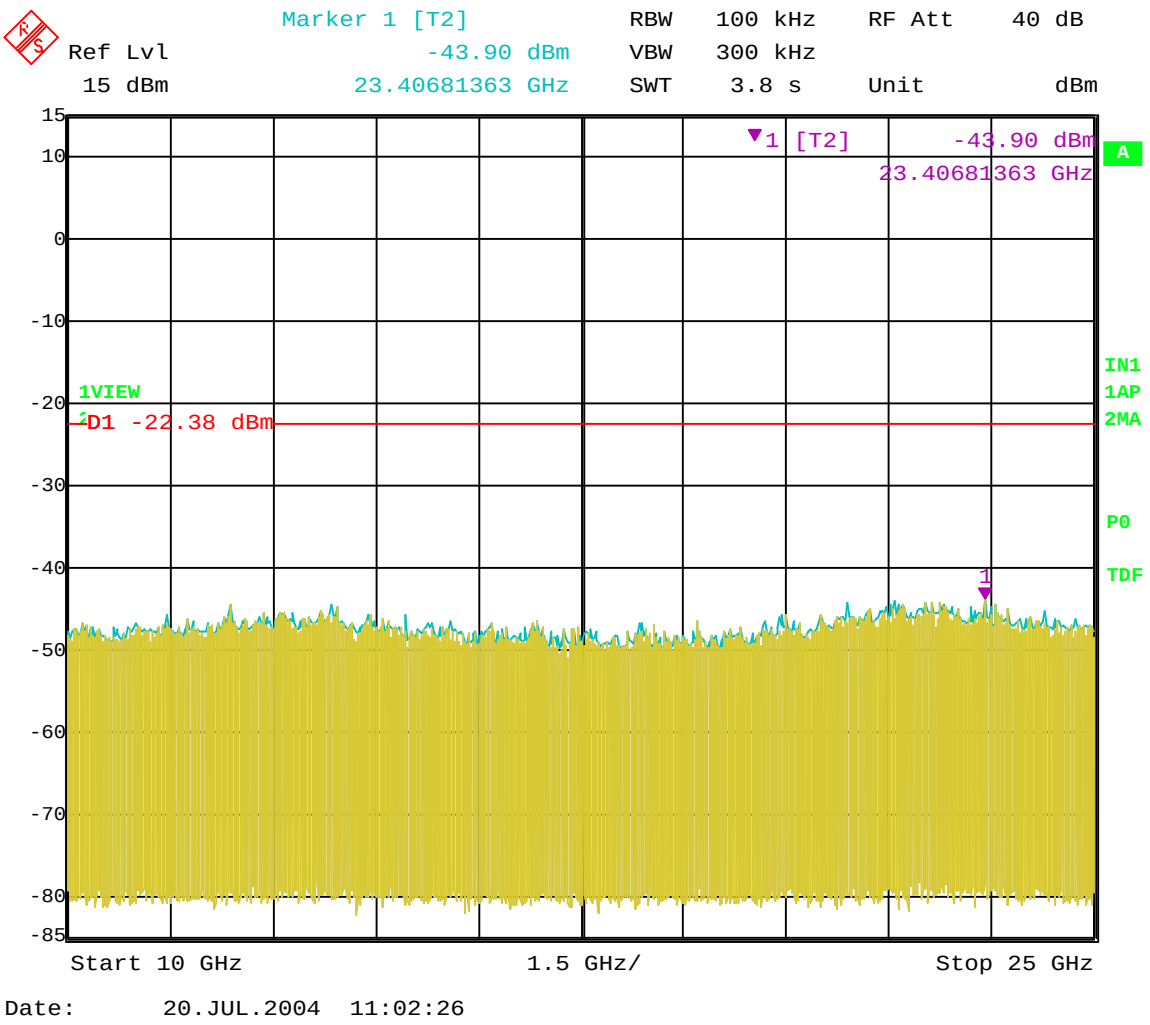
RF Antenna Conducted Test – Channel 6 – 802.11 g Mode – 2 MHz to 2 GHz



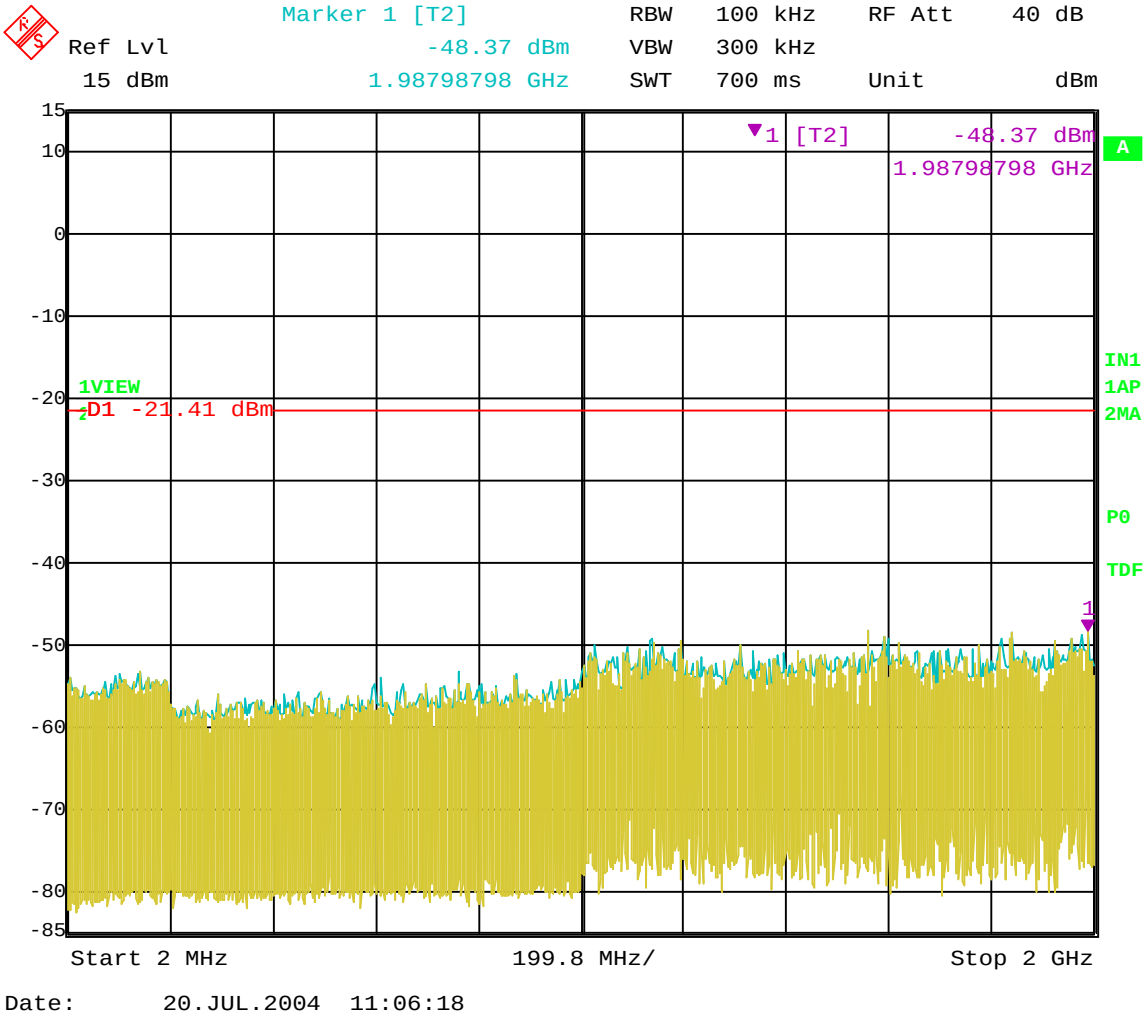
RF Antenna Conducted Test – Channel 6 – 802.11 g Mode – 2 GHz to 3 GHz



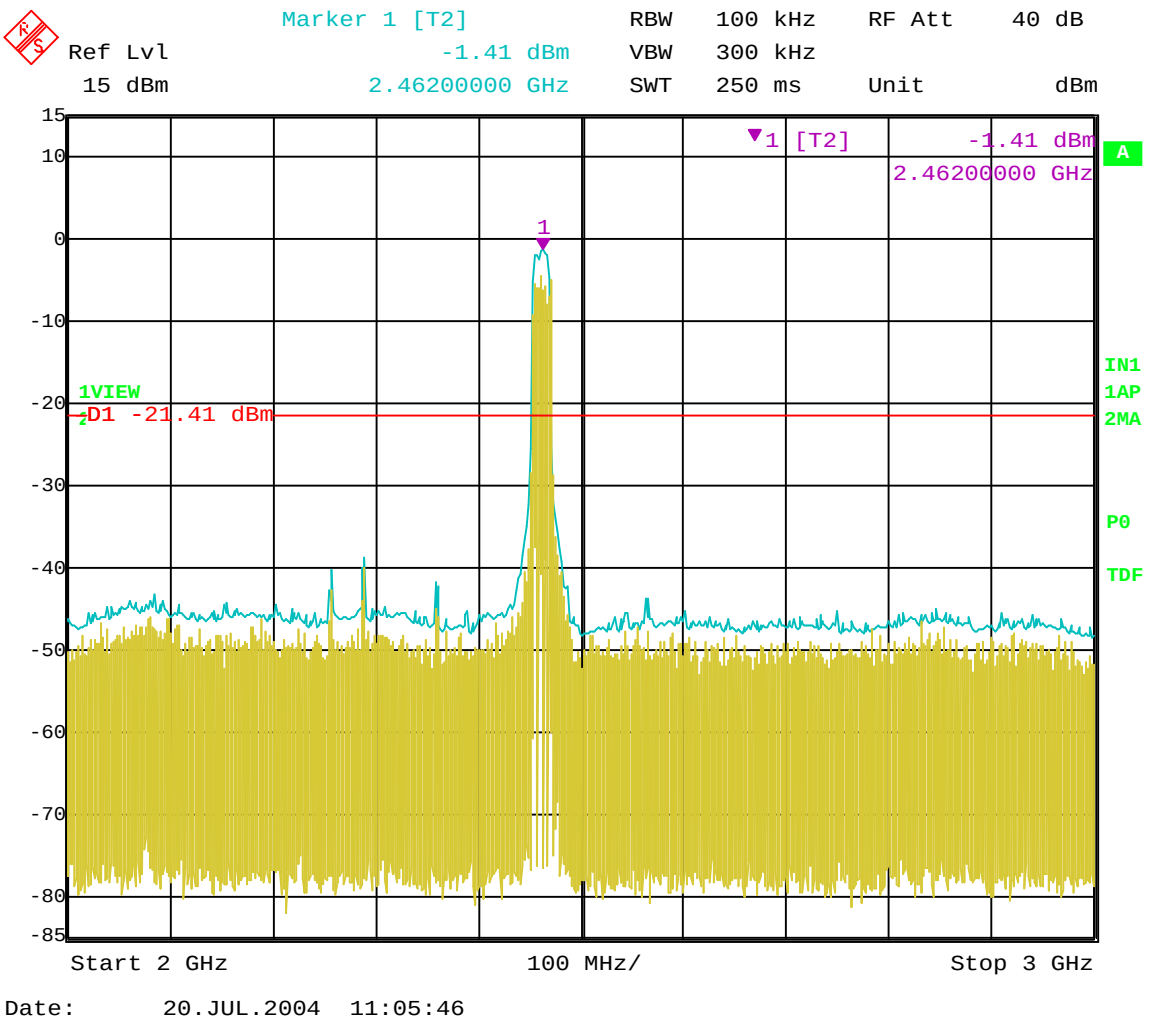
RF Antenna Conducted Test – Channel 6 – 802.11 g Mode – 3 GHz to 10 GHz



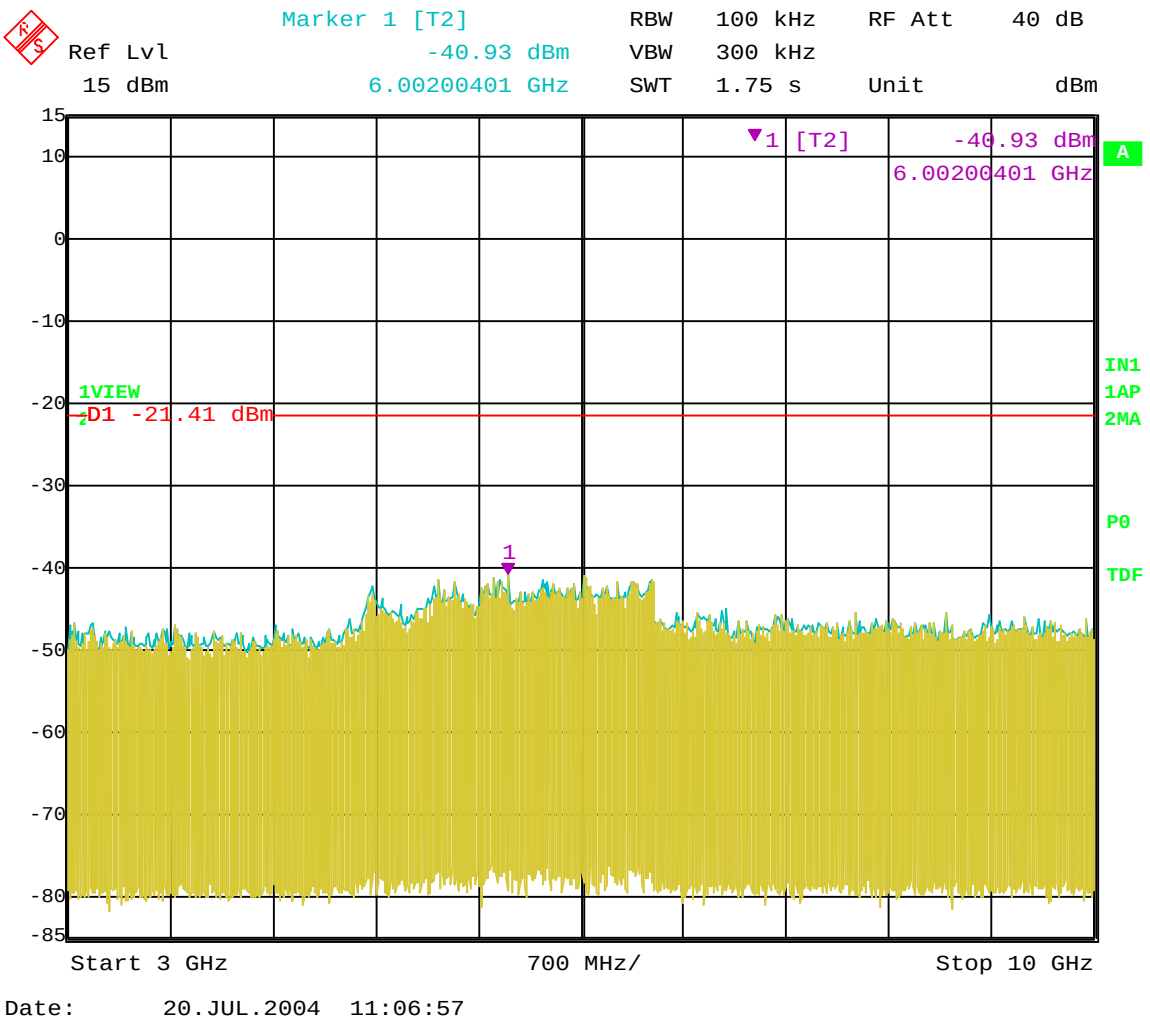
RF Antenna Conducted Test – Channel 6 – 802.11 g Mode – 10 GHz to 25 GHz



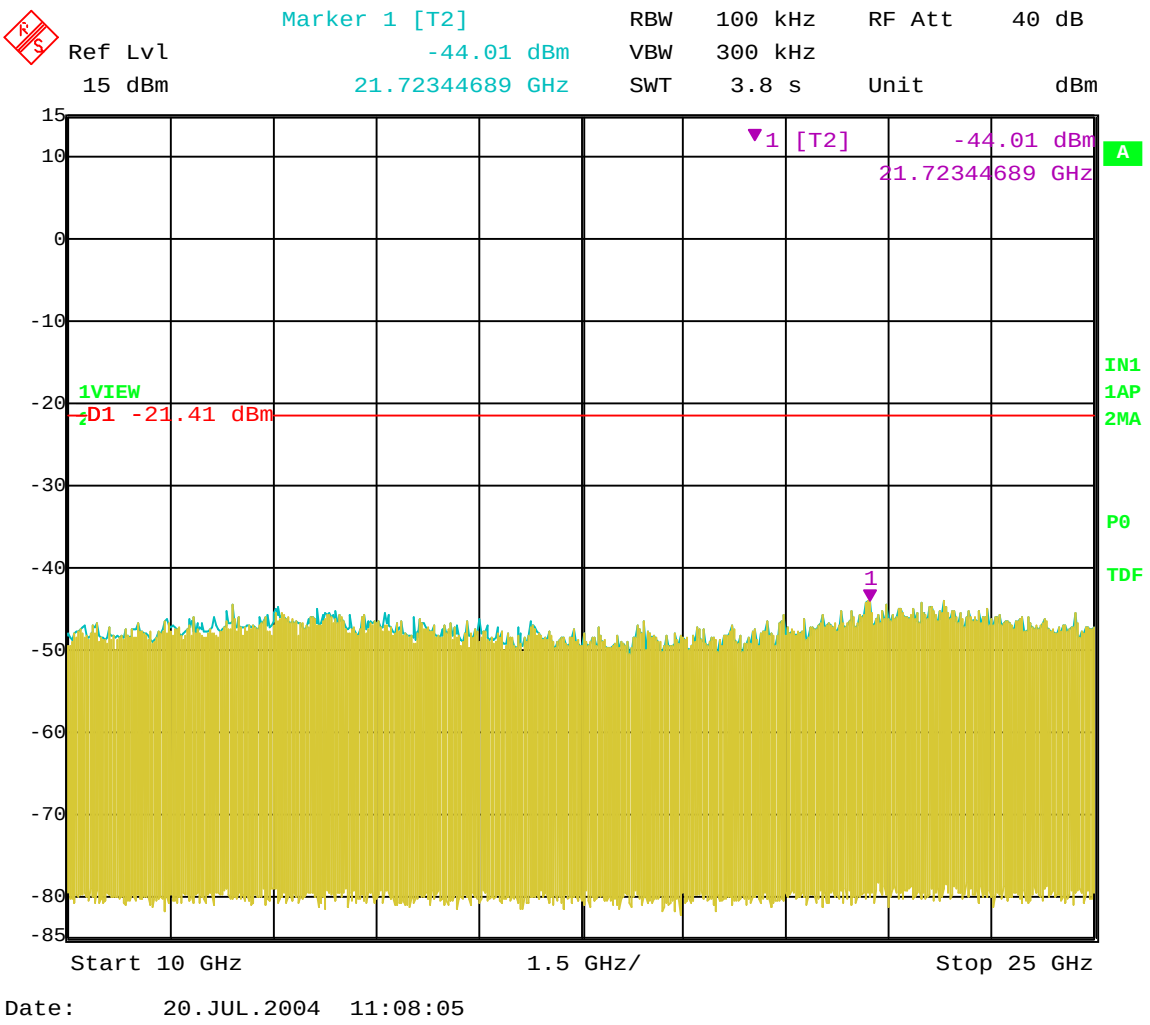
RF Antenna Conducted Test – Channel 11 – 802.11 g Mode – 2 MHz to 2 GHz



RF Antenna Conducted Test – Channel 11 – 802.11 g Mode – 2 GHz to 3 GHz



RF Antenna Conducted Test – Channel 11 – 802.11 g Mode – 3 GHz to 10 GHz



RF Antenna Conducted Test – Channel 11 – 802.11 g Mode – 10 GHz to 25 GHz

BAND EDGES

DATA SHEETS

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 (99%) Pk. Pwr.: 17.43 dBm (100%) Pk. Pwr.: 17.72 dBm Avg. Power: 14.93 dBm

Channel 6 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 (99%) Pk. Pwr.: 17.41 dBm (100%) Pk. Pwr.: 17.63 dBm Avg. Power: 14.92 dBm

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 (99%) Pk. Pwr.: 17.52 dBm (100%) Pk. Pwr.: 17.80 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	103.02	V	--	--	Peak	2.75	270	Fundamental of Channel 1
2412	96.66	V	--	--	Avg	2.75	270	@ 3 meters
2390	48.68	V	74	-25.32	Peak	2.75	270	
2390	37.36	V	54	-16.64	Avg	2.75	270	
2385.3	52.99	V	74	-21.01	Peak	2.75	270	
2385.3	44.87	V	54	-9.13	Avg	2.75	270	
2437	103.24	V	--	--	Peak	2.75	90	Fundamental of Channel 6
2437	96.96	V	--	--	Avg	2.75	90	@ 3 meters
2462	102.84	V	--	--	Peak	2.75	90	Fundamental of Channel 11
2462	95.79	V	--	--	Avg	2.75	90	@ 3 meters
2484.8	52.16	V	74	-21.84	Peak	2.75	90	
2484.8	43.55	V	54	-10.45	Avg	2.75	90	
2488.8	54.26	V	74	-19.74	Peak	2.75	90	
2488.8	45.55	V	54	-8.45	Avg	2.75	90	

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Channel 6 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	103.02	V	--	--	Peak	2.75	270	Fundamental of Channel 1
2412	96.66	V	--	--	Avg	2.75	270	@ 3 meters
2390	48.68	V	74	-25.32	Peak	2.75	270	
2390	37.36	V	54	-16.64	Avg	2.75	270	
2385.3	52.99	V	74	-21.01	Peak	2.75	270	
2385.3	44.87	V	54	-9.13	Avg	2.75	270	
2437	103.24	V	--	--	Peak	2.75	90	Fundamental of Channel 6
2437	96.96	V	--	--	Avg	2.75	90	@ 3 meters
2462	102.84	V	--	--	Peak	2.75	90	Fundamental of Channel 11
2462	95.79	V	--	--	Avg	2.75	90	@ 3 meters
2484.8	52.16	V	74	-21.84	Peak	2.75	90	
2484.8	43.55	V	54	-10.45	Avg	2.75	90	
2488.8	54.26	V	74	-19.74	Peak	2.75	90	
2488.8	45.55	V	54	-8.45	Avg	2.75	90	

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Channel 6 - 802.11 b Mode **Transmit Mode**

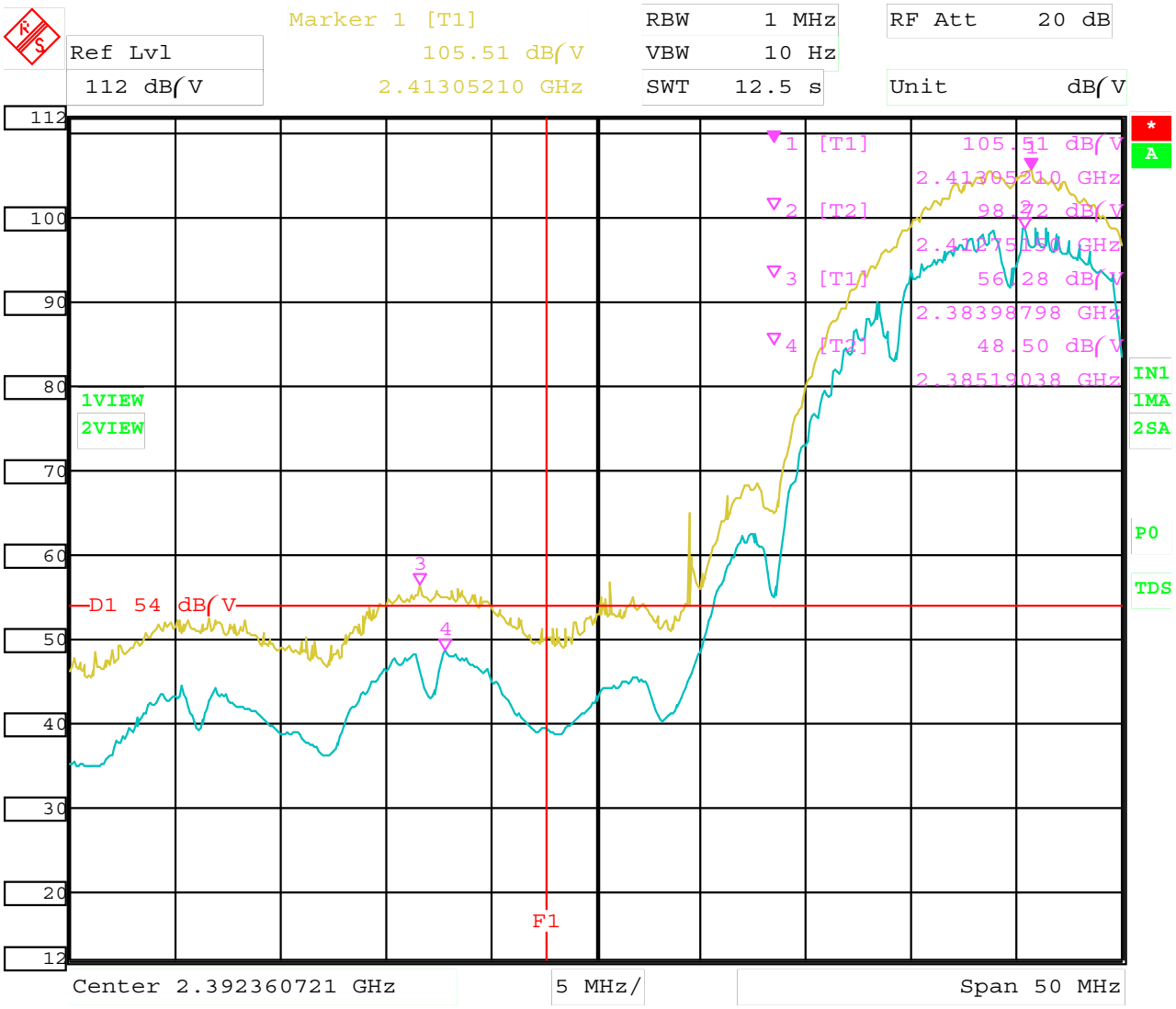
Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

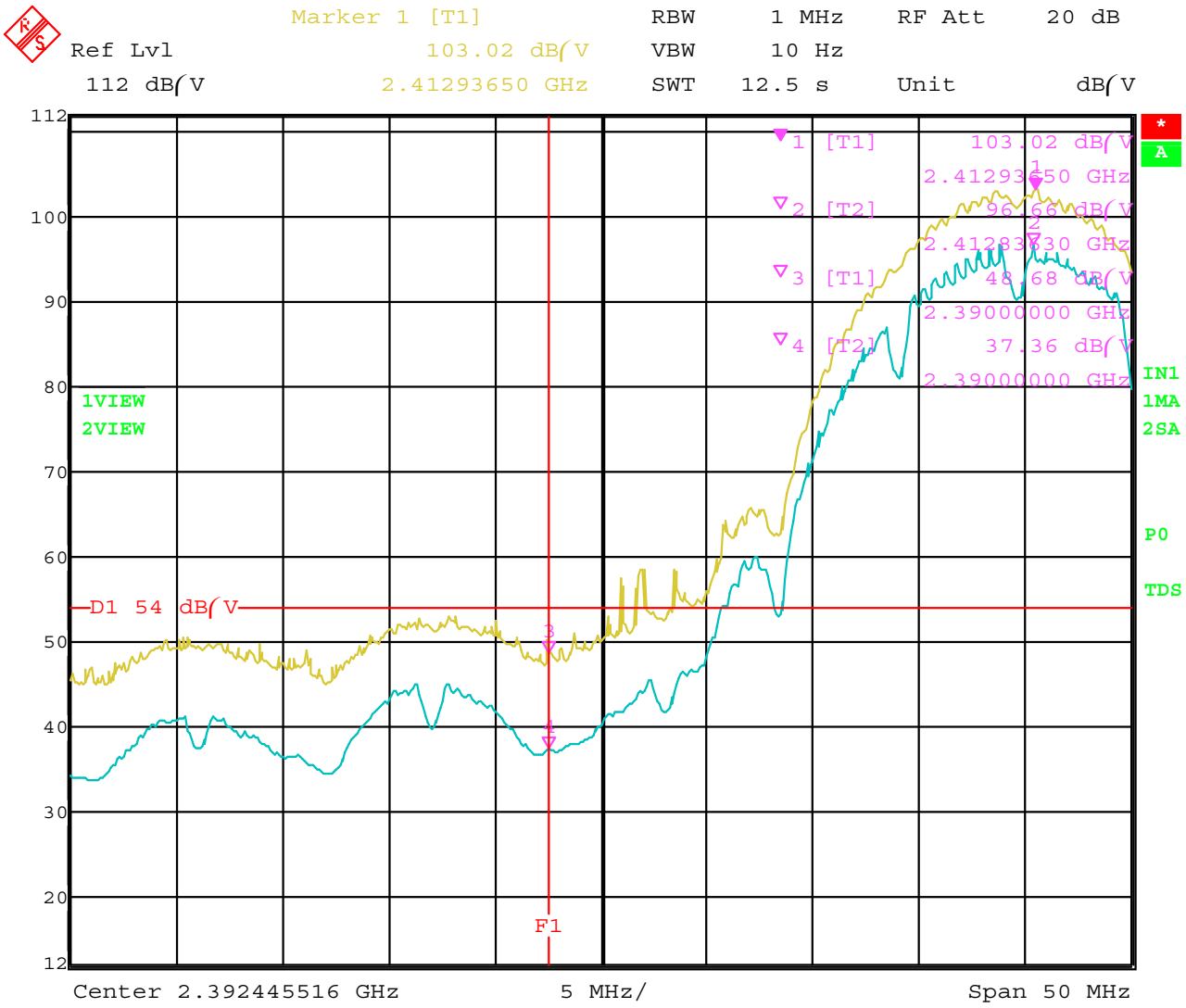
Freq. (MHz)		Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	105.514	H	--	--	Peak	1.5	180	Fundamental of Channel 1
2412	98.72	H	--	--	Avg	1.5	180	@ 3 meters
2390	50.04	H	74	-23.96	Peak	1.5	180	
2390	39.48	H	54	-14.52	Avg	1.5	180	
2385.2	56.28	H	74	-17.72	Peak	1.5	180	
2385.2	48.5	H	54	-5.5	Avg	1.5	180	
2437	105.15	H	--	--	Peak	2	180	Fundamental of Channel 6
2437	98.6	H	--	--	Avg	2	180	@ 3 meters
2462	106.3	H	--	--	Peak	1.5	180	Fundamental of Channel 11
2462	99.39	H	--	--	Avg	1.5	180	@ 3 meters
2484.8	54.75	H	74	-19.25	Peak	1.5	180	
2484.8	46.1	H	54	-7.9	Peak	1.5	180	
2488.4	56.15	H	74	-17.85	Peak	1.5	180	
2488.4	48.04	H	54	-5.96	Peak	1.5	180	

Ch.1 - Band Edge - Horizontal Polarization



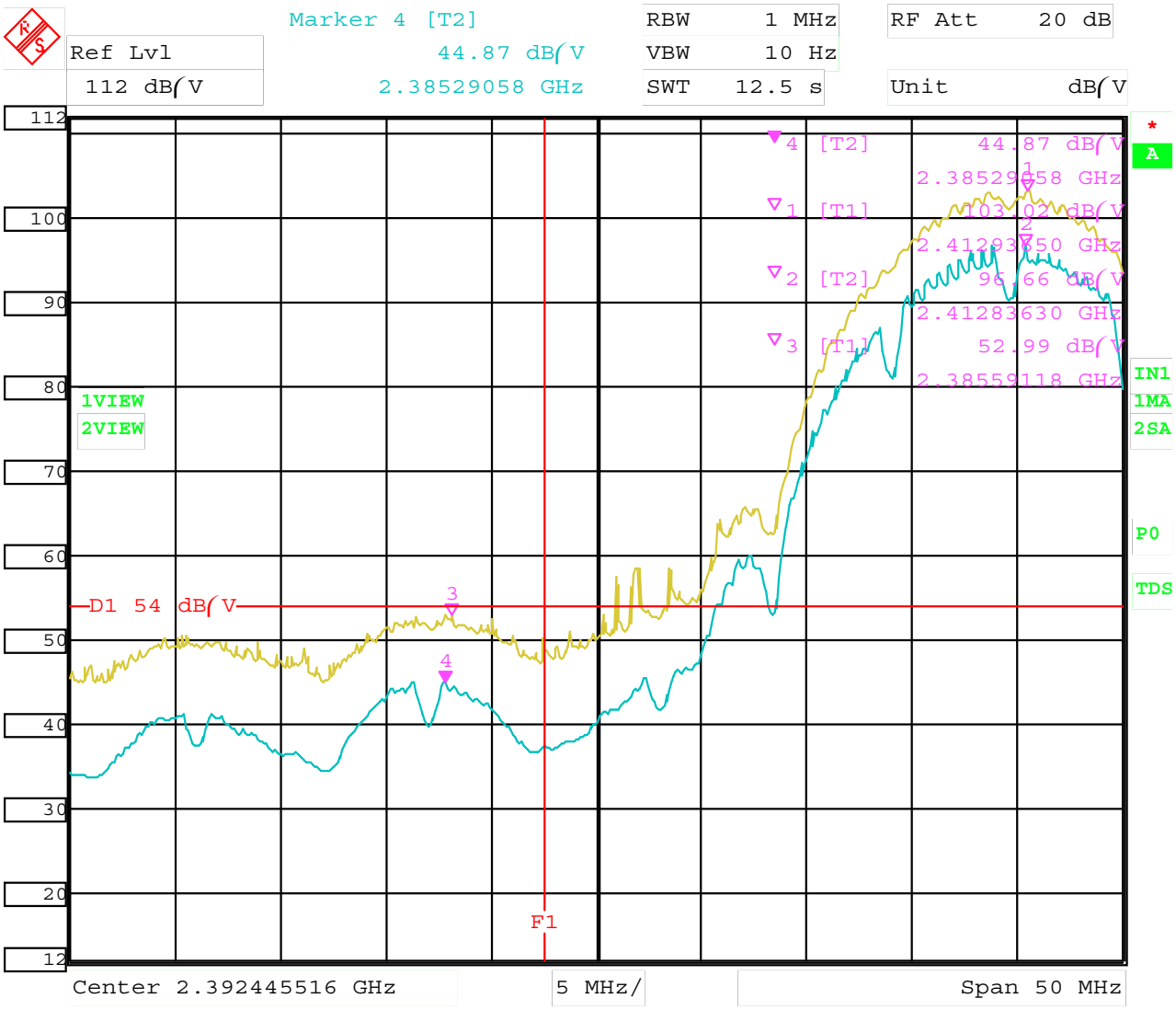
Plot2

Ch.1 - Band Edge - Vertical Polarization



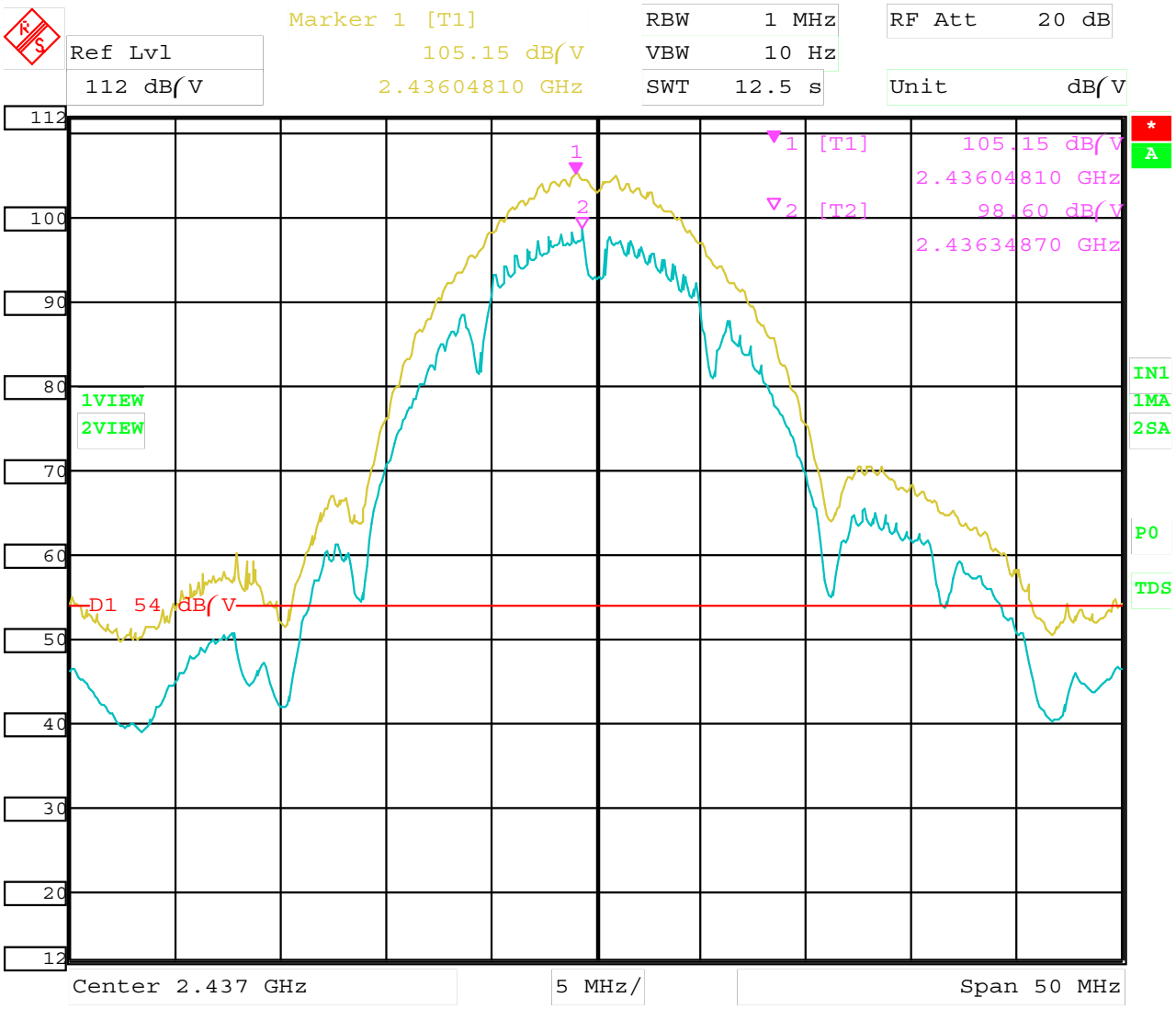
Plot 1

Ch.1 - Band Edge - Vertical Polarization



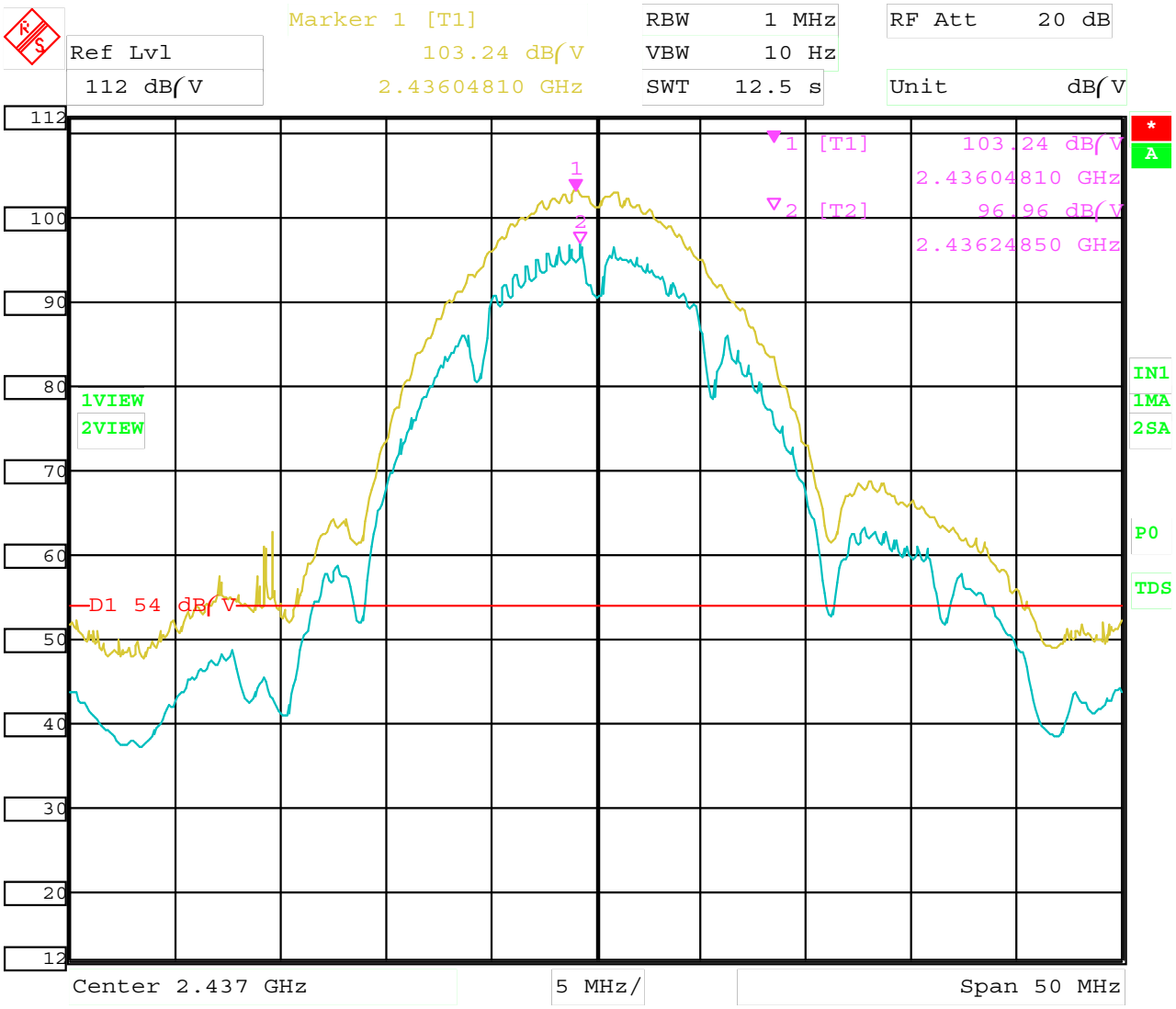
Plot2

Ch.6 - Band Edge - Horizontal Polarization



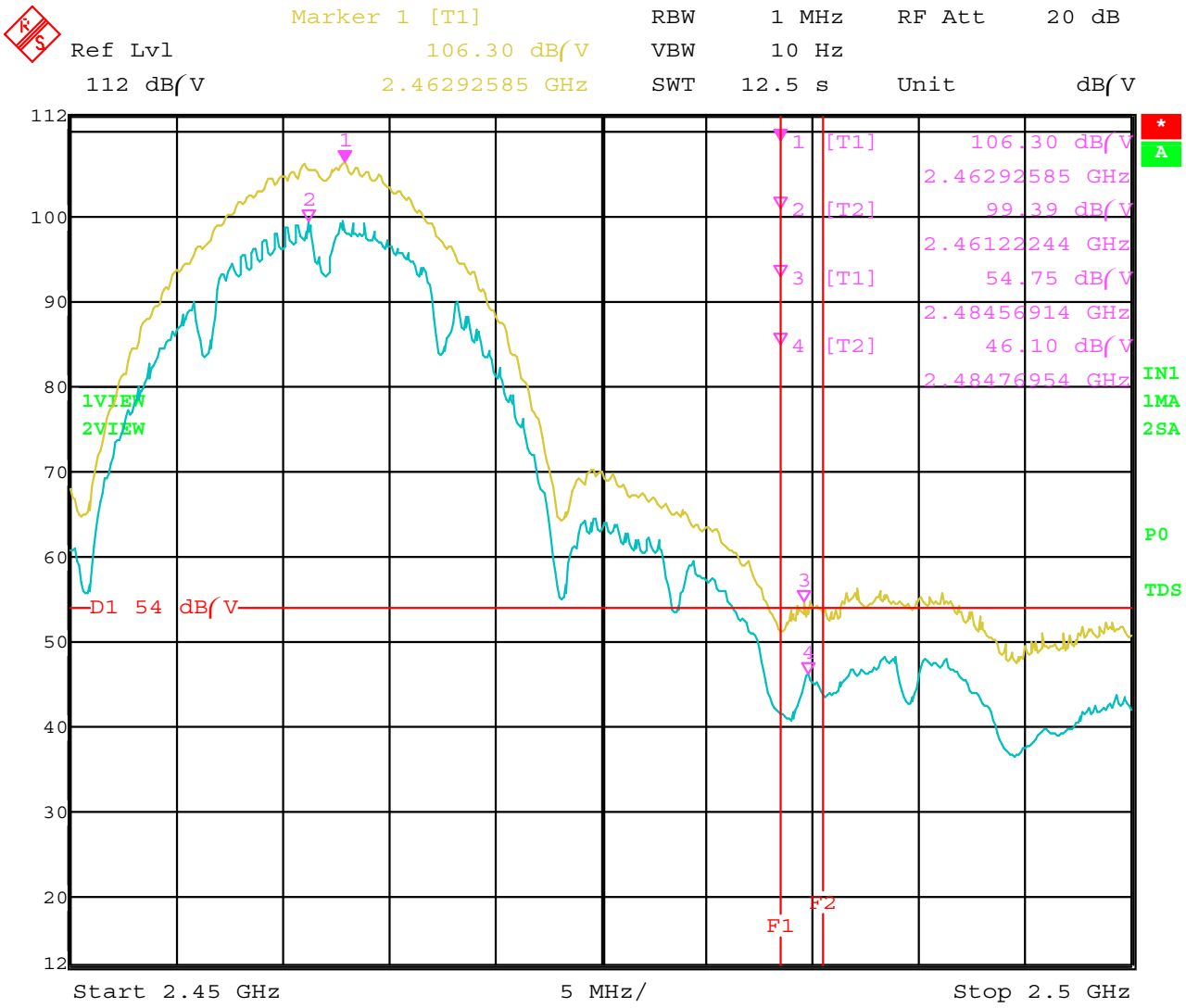
Date: 20.JUL.2004 00:33:17

Ch.6 - Band Edge - Vertical Polarization



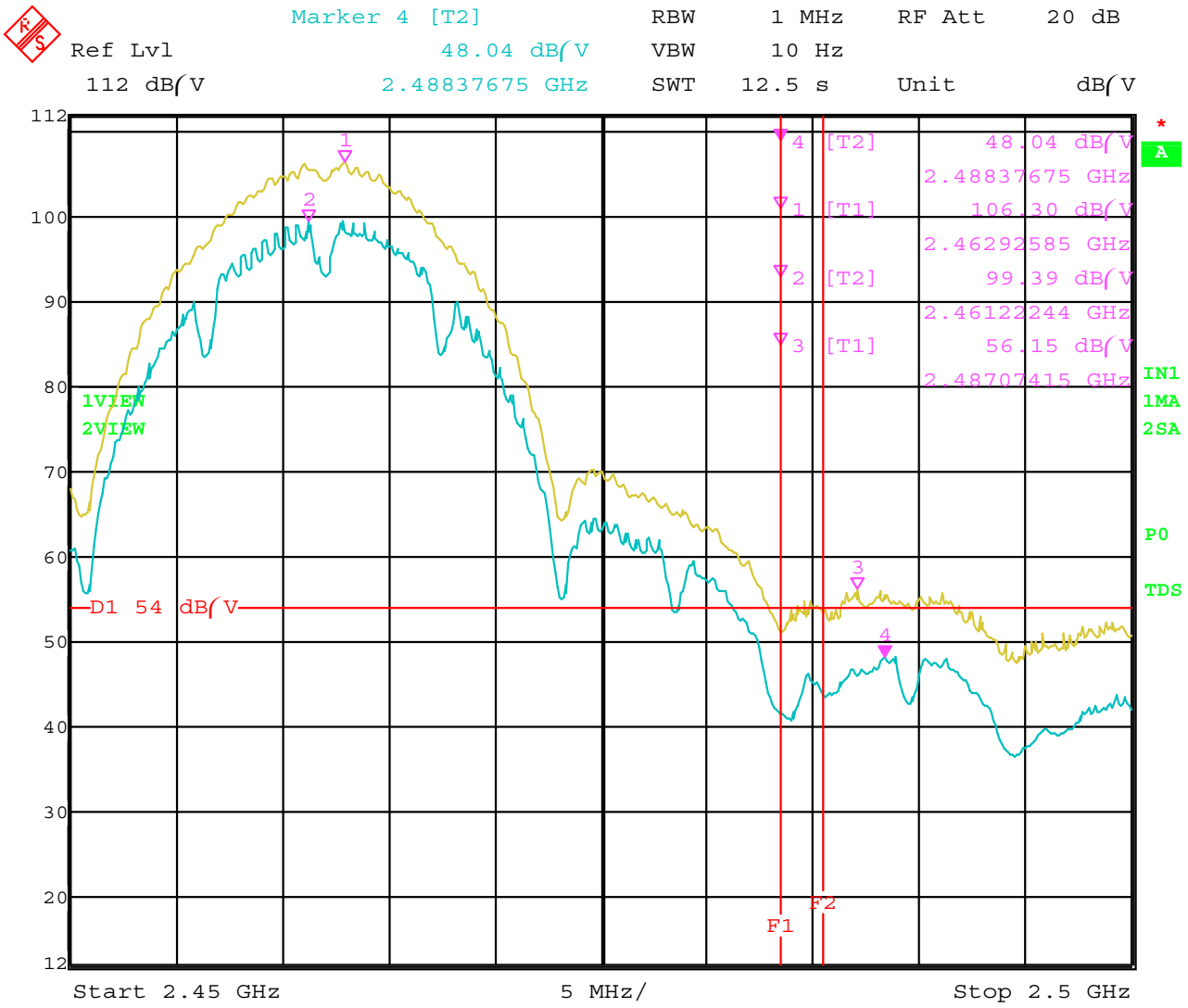
Date: 20.JUL.2004 00:20:35

Ch.11 - Band Edge - Horizontal Polarization



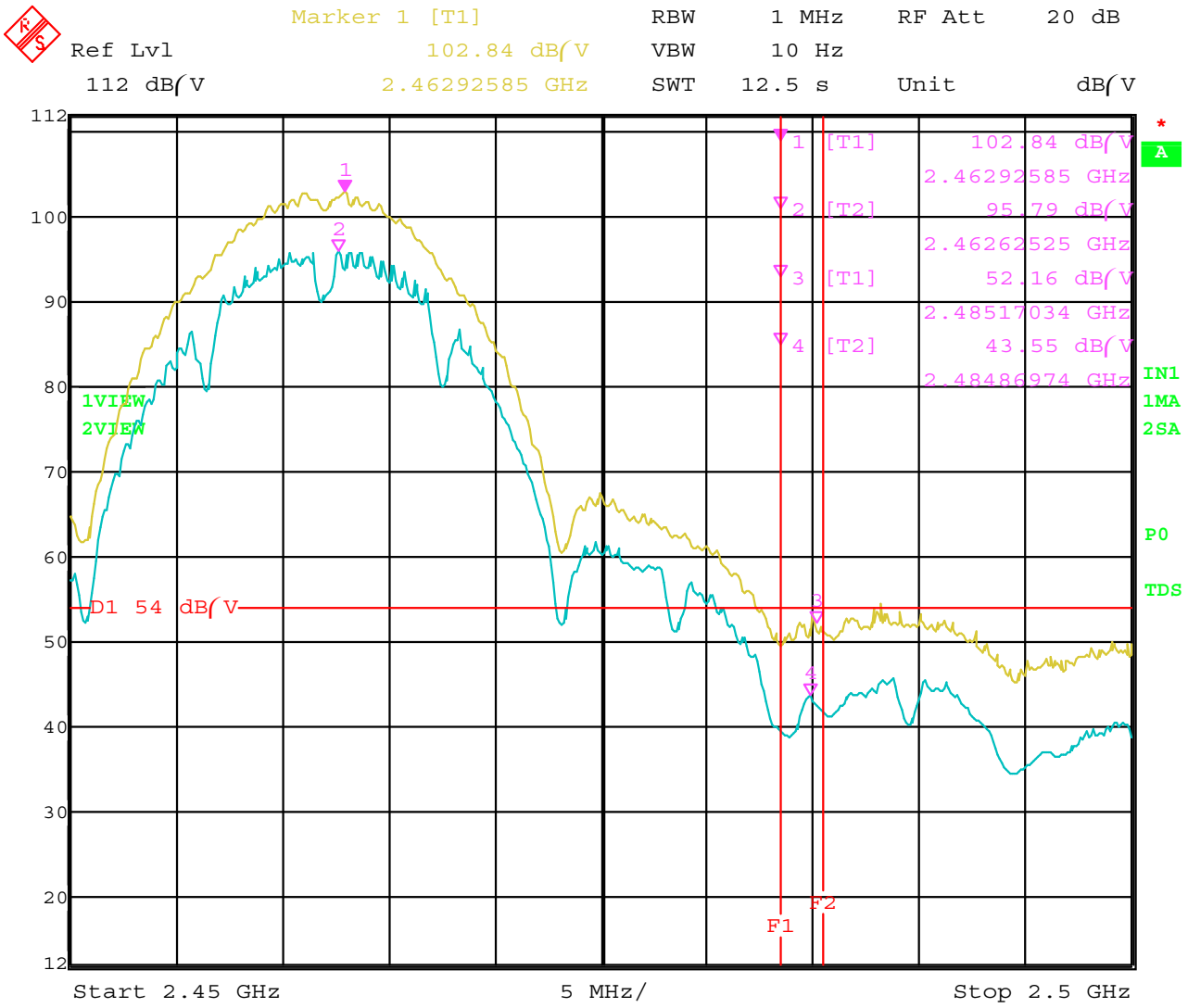
Plot 1

Ch.11 - Band Edge - Horizontal Polarization



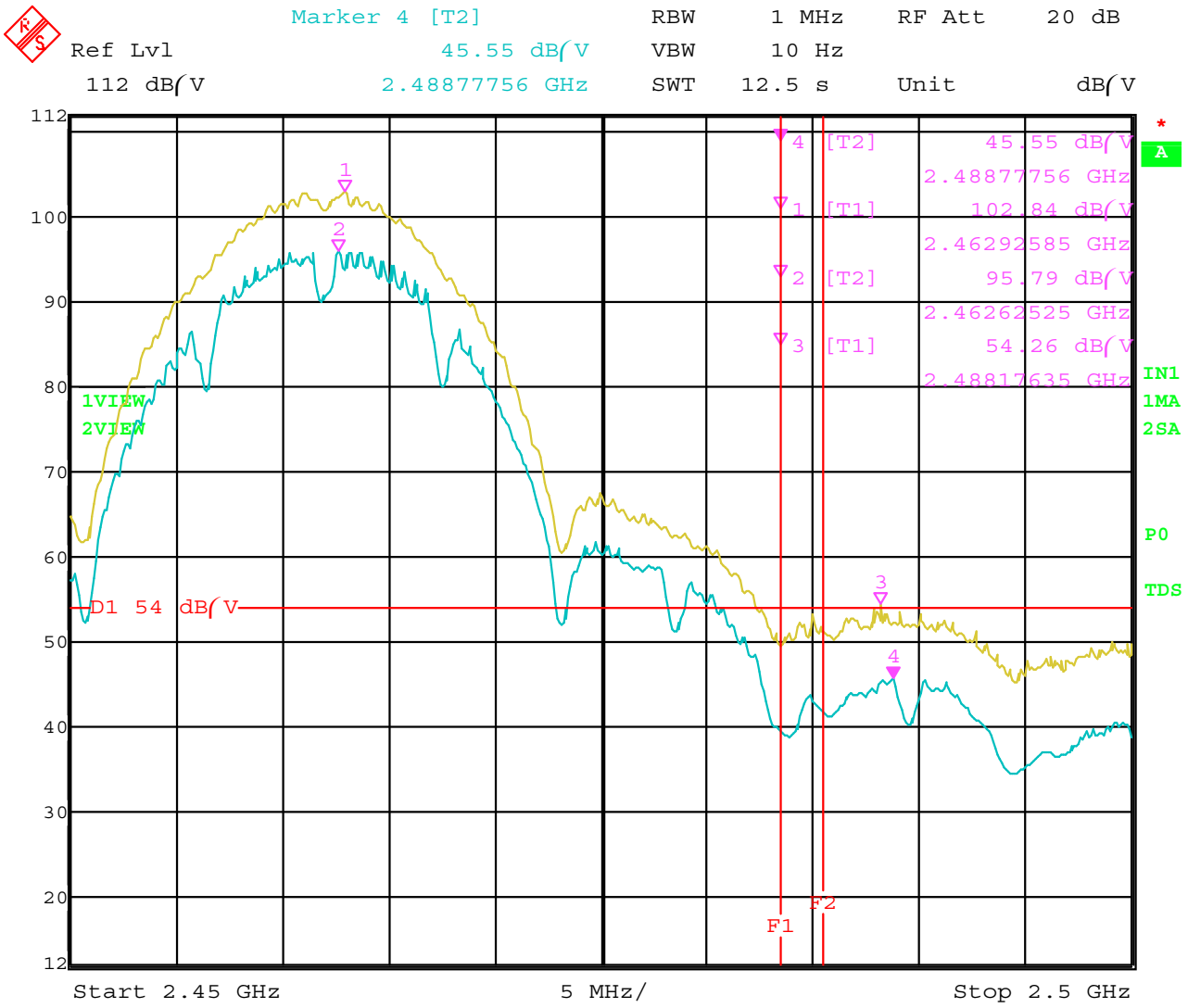
Plot 2

Ch.11 - Band Edge - Vertical Polarization



Plot 1

Ch.11 - Band Edge - Vertical Polarization



Plot 2

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

Channel 6 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	102.17	V	--	--	Peak	1.95	135	Fundamental of Channel 1
2412	95.29	V	--	--	Avg	1.95	135	@ 3 meters
2390	54.8	V	74	-19.2	Peak	1.95	135	
2390	40.49	V	54	-13.51	Avg	1.95	135	
2383.9	57.05	V	74	-16.95	Peak	1.95	135	
2385.4	46.9	V	54	-7.1	Avg	1.95	135	
2437	102.55	V	--	--	Peak	1.99	135	Fundamental of Channel 6
2437	95.06	V	--	--	Avg	1.99	135	@ 3 meters
2462	101.51	V	--	--	Peak	1.98	270	Fundamental of Channel 11
2462	94.71	V	--	--	Avg	1.98	270	@ 3 meters
2484.9	54.56	V	74	-19.44	Peak	1.98	270	
2484.9	43.01	V	54	-10.99	Avg	1.98	270	
2488.2	55.37	V	74	-18.63	Peak	1.98	270	
2488.2	44.51	V	54	-9.49	Avg	1.98	270	

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.43 dBm Avg. Power: 14.93 dBm

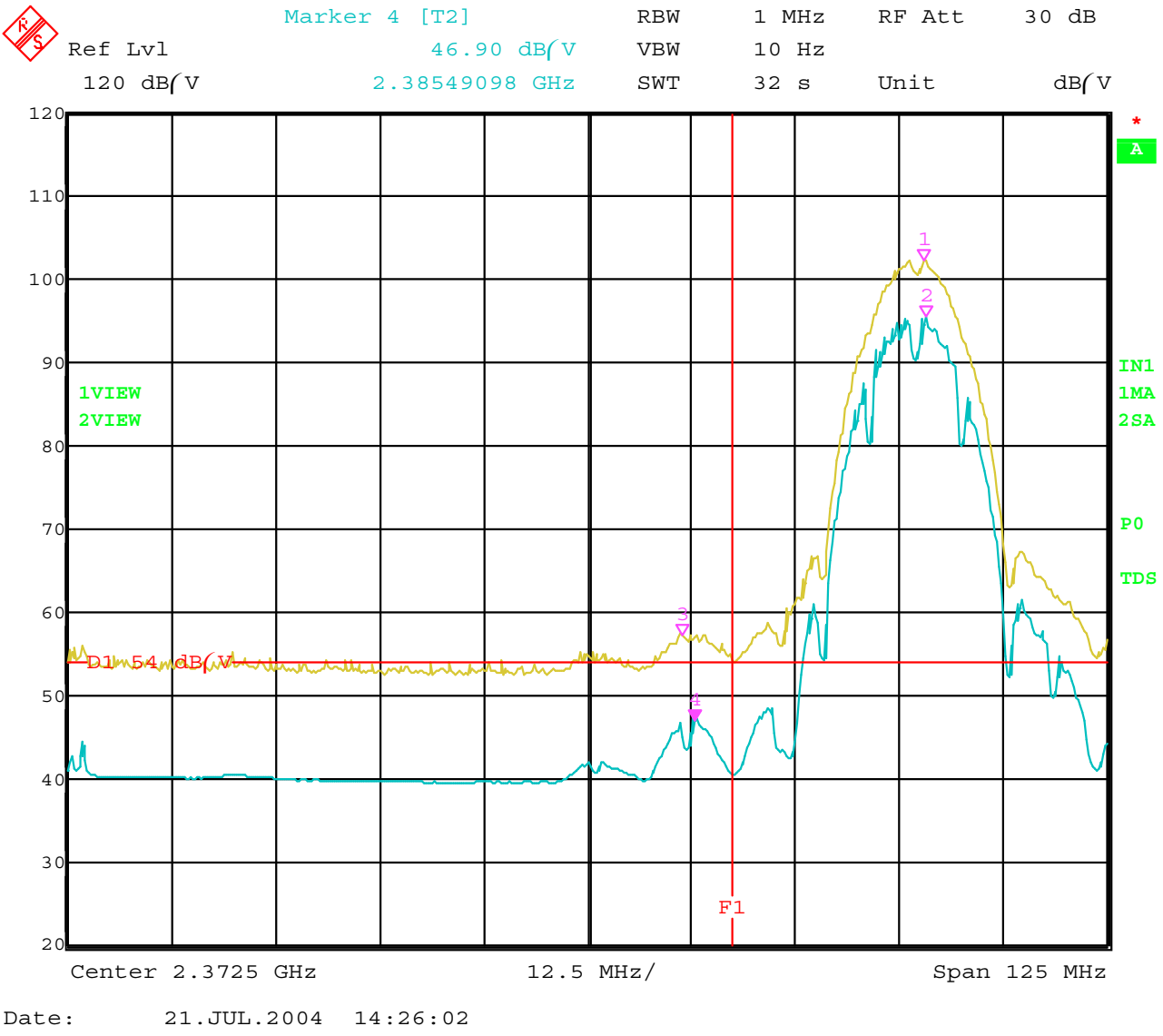
Channel 6 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.41 dBm Avg. Power: 14.92 dBm

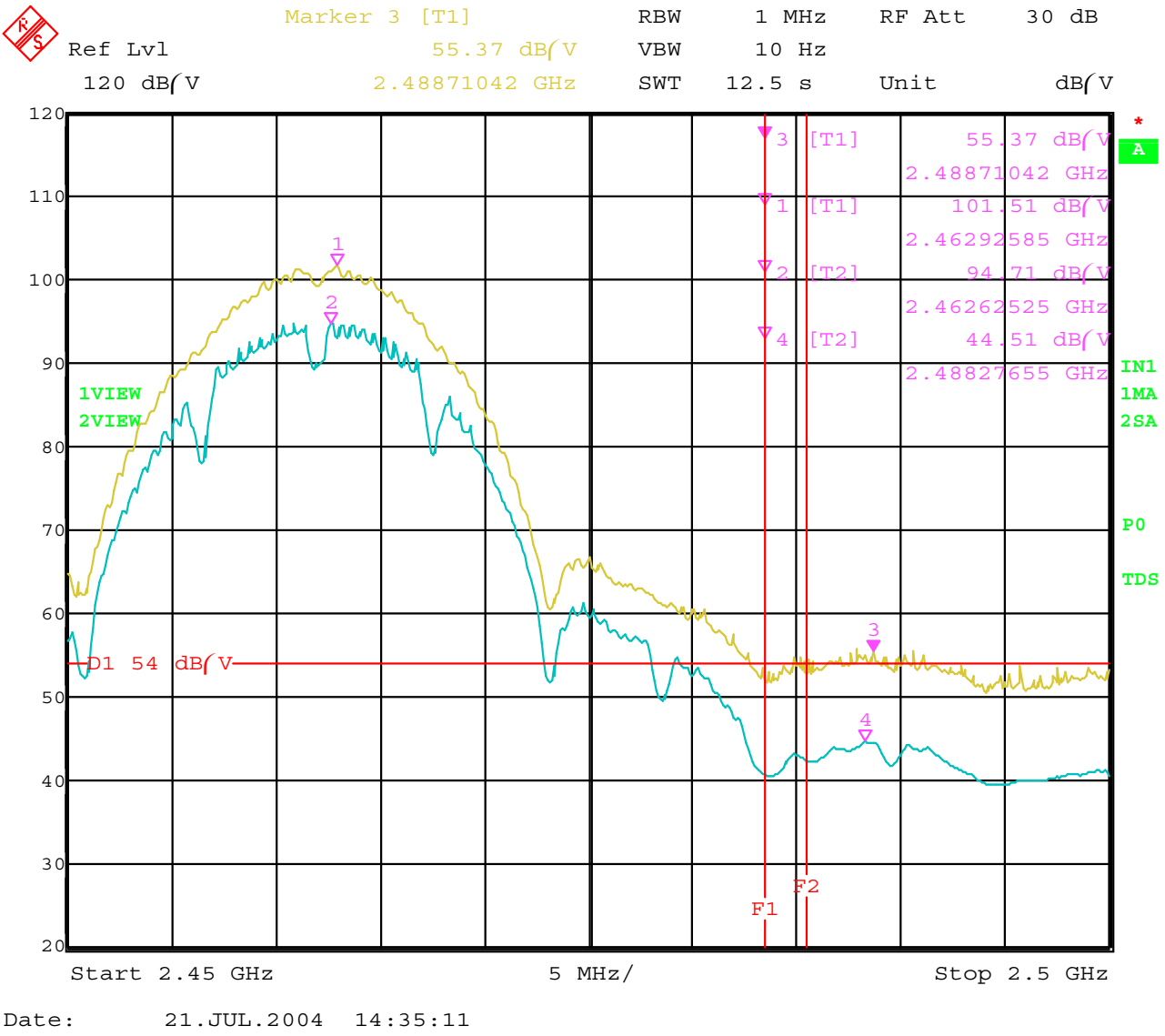
Channel 11 - 802.11 b Mode **Transmit Mode**

Gain : 29.0 Peak Power: 17.52 dBm Avg. Power: 15.02 dBm

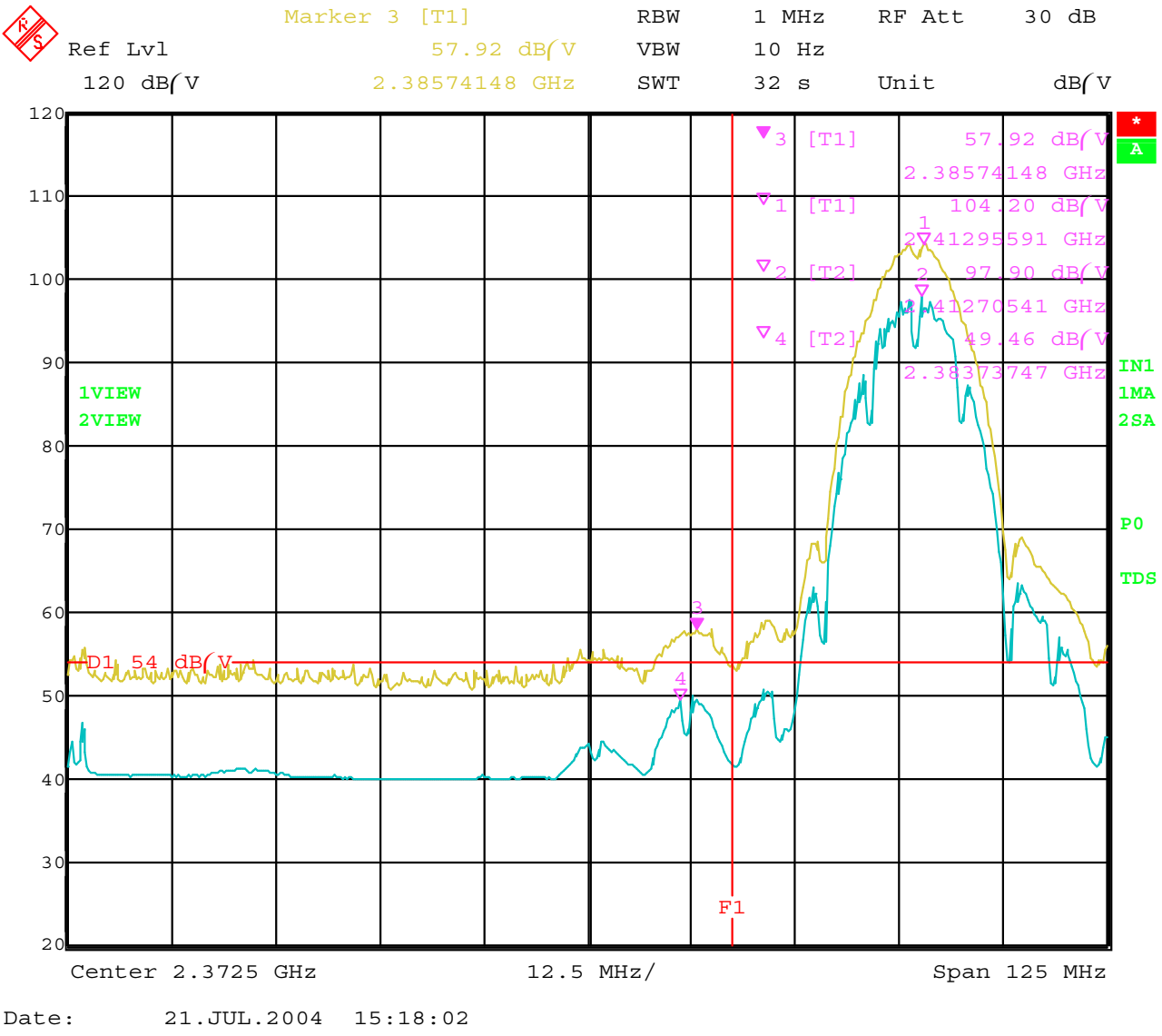
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	104.22	H	--	--	Peak	1.05	180	Fundamental of Channel 1
2412	97.9	H	--	--	Avg	1.05	180	@ 3 meters
2390	53.61	H	74	-20.39	Peak	1.05	180	
2390	41.5	H	54	-12.5	Avg	1.05	180	
2385.7	57.92	H	74	-16.08	Peak	1.05	180	
2383.7	49.46	H	54	-4.54	Avg	1.05	180	
2437	104.15	H	--	--	Peak	2	180	Fundamental of Channel 6
2437	97.58	H	--	--	Avg	2	180	@ 3 meters
2462	104.82	H	--	--	Peak	1.5	180	Fundamental of Channel 11
2462	98.23	H	--	--	Avg	1.5	180	@ 3 meters
2484.8	55.21	H	74	-18.79	Peak	1.5	180	
2484.8	45.77	H	54	-8.23	Peak	1.5	180	
2488.6	57.48	H	74	-16.52	Peak	1.5	180	
2488.8	47.93	H	54	-6.07	Peak	1.5	180	



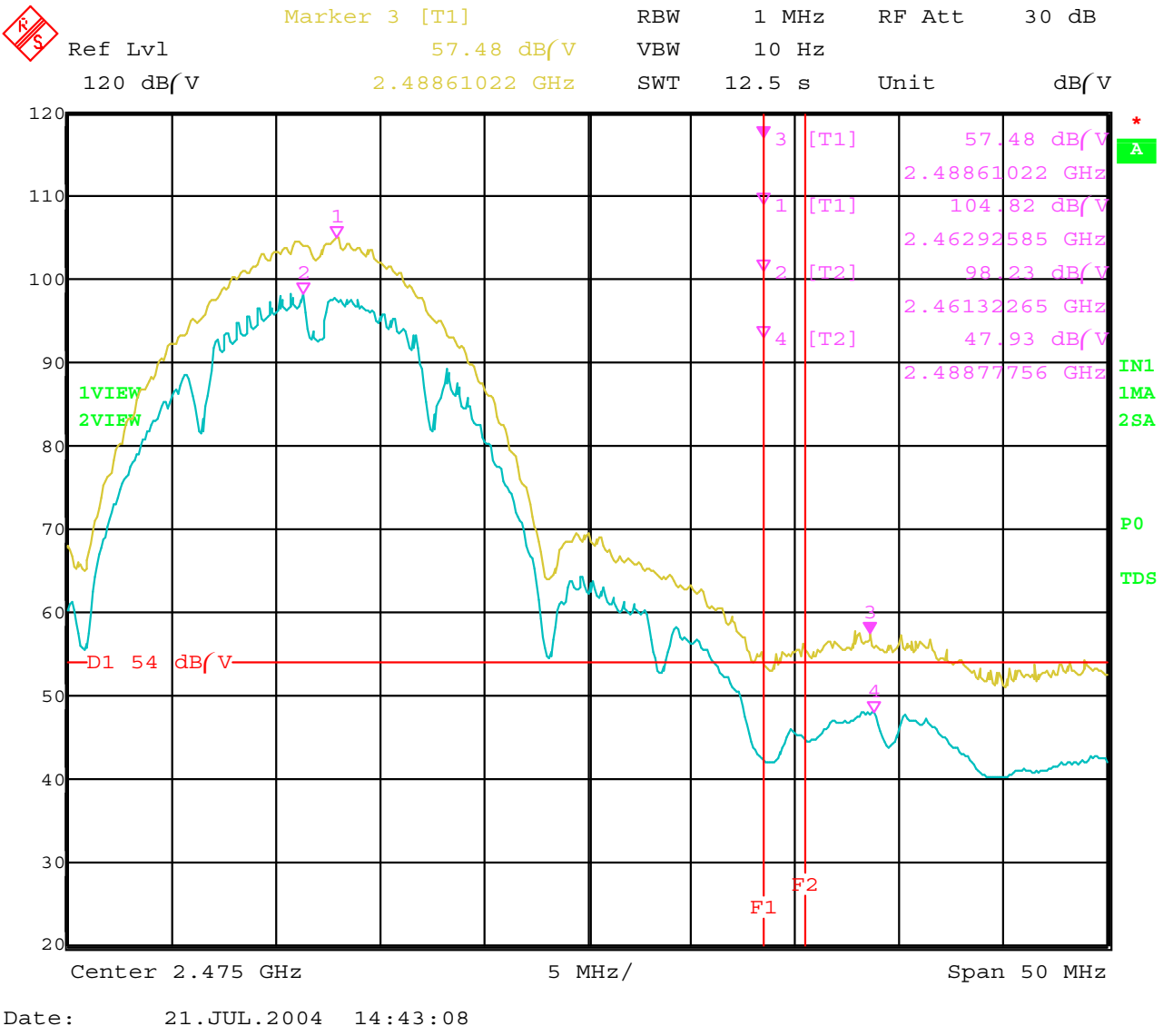
Band Edge – Channel 1 – Vertical Polarization – 802.11 b Mode – WNC Antenna



Band Edge – Channel 11 – Vertical Polarization – 802.11 b Mode – WNC Antenna



Band Edge – Channel 1 – Horizontal Polarization – 802.11 b Mode – WNC Antenna



Band Edge – Channel 11 – Horizontal Polarization – 802.11 b Mode – WNC Antenna

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power.: 16.59 dBm Avg. Power: 10.22 dBm

Channel 6 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	101.16	V	--	--	Peak	2.5	270	Fundamental of Channel 1
2412	86.54	V	--	--	Avg	2.5	270	@ 3 meters
2390	60.24	V	74	-13.76	Peak	2.5	270	
2390	43.83	V	54	-10.17	Avg	2.5	270	
2437	100.74	V	--	--	Peak	2.5	90	Fundamental of Channel 6
2437	86.6	V	--	--	Avg	2.5	90	@ 3 meters
2462	100.6	V	--	--	Peak	2.5	90	Fundamental of Channel 11
2462	86.49	V	--	--	Avg	2.5	90	@ 3 meters
2483.5	63.59	V	74	-10.41	Peak	2.5	90	
2483.5	45.63	V	54	-8.37	Avg	2.5	90	
2486.7	60.46	V	74	-13.54	Peak	2.5	90	
2486.7	44.98	V	54	-9.02	Avg	2.5	90	

FCC 15.247

Intel Corporation — Date: 7/19/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Ben Chavez

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With Hannstar Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power.: 16.59 dBm Avg. Power: 10.22 dBm

Channel 6 - 802.11 g Mode **Transmit Mode**

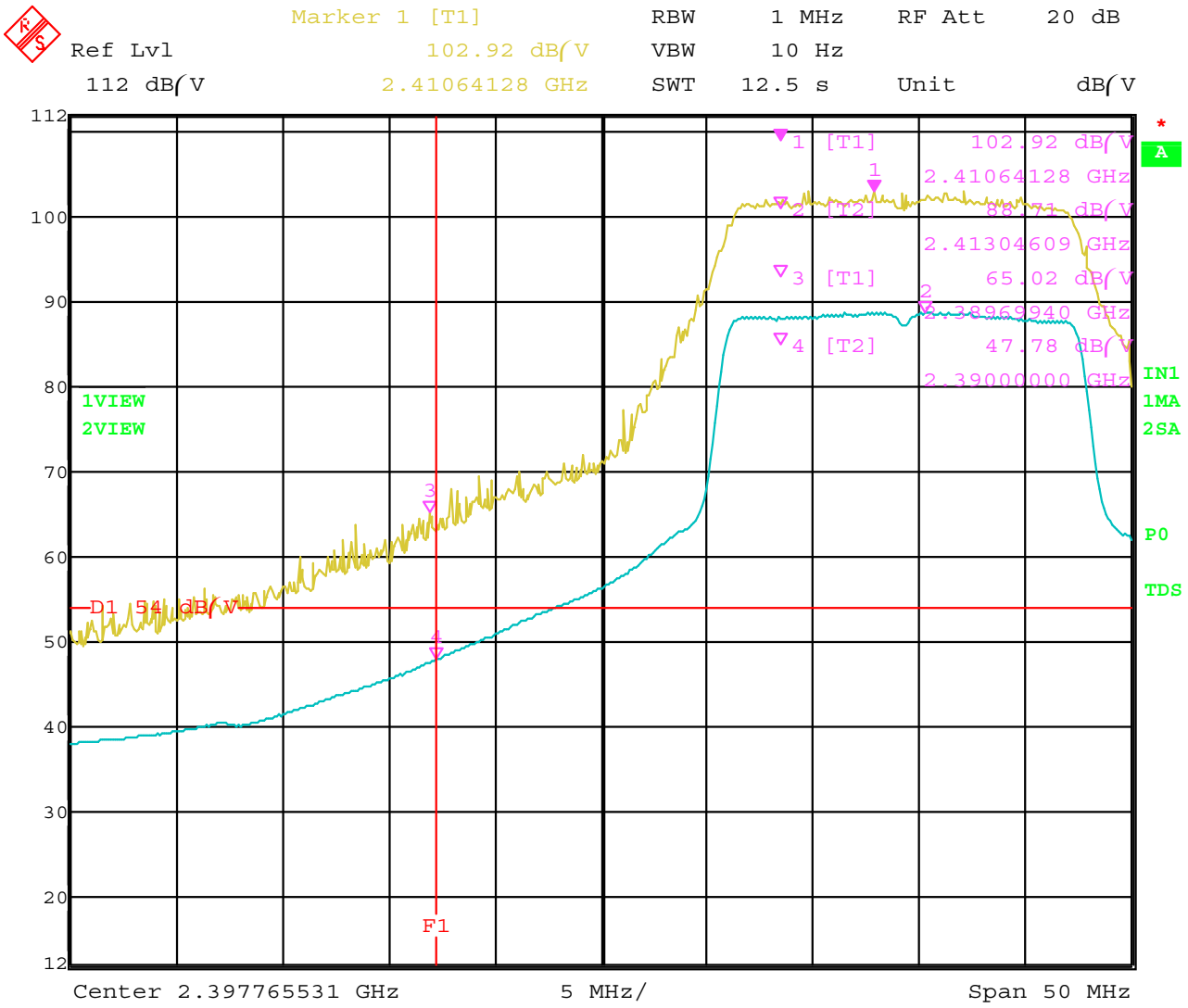
Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

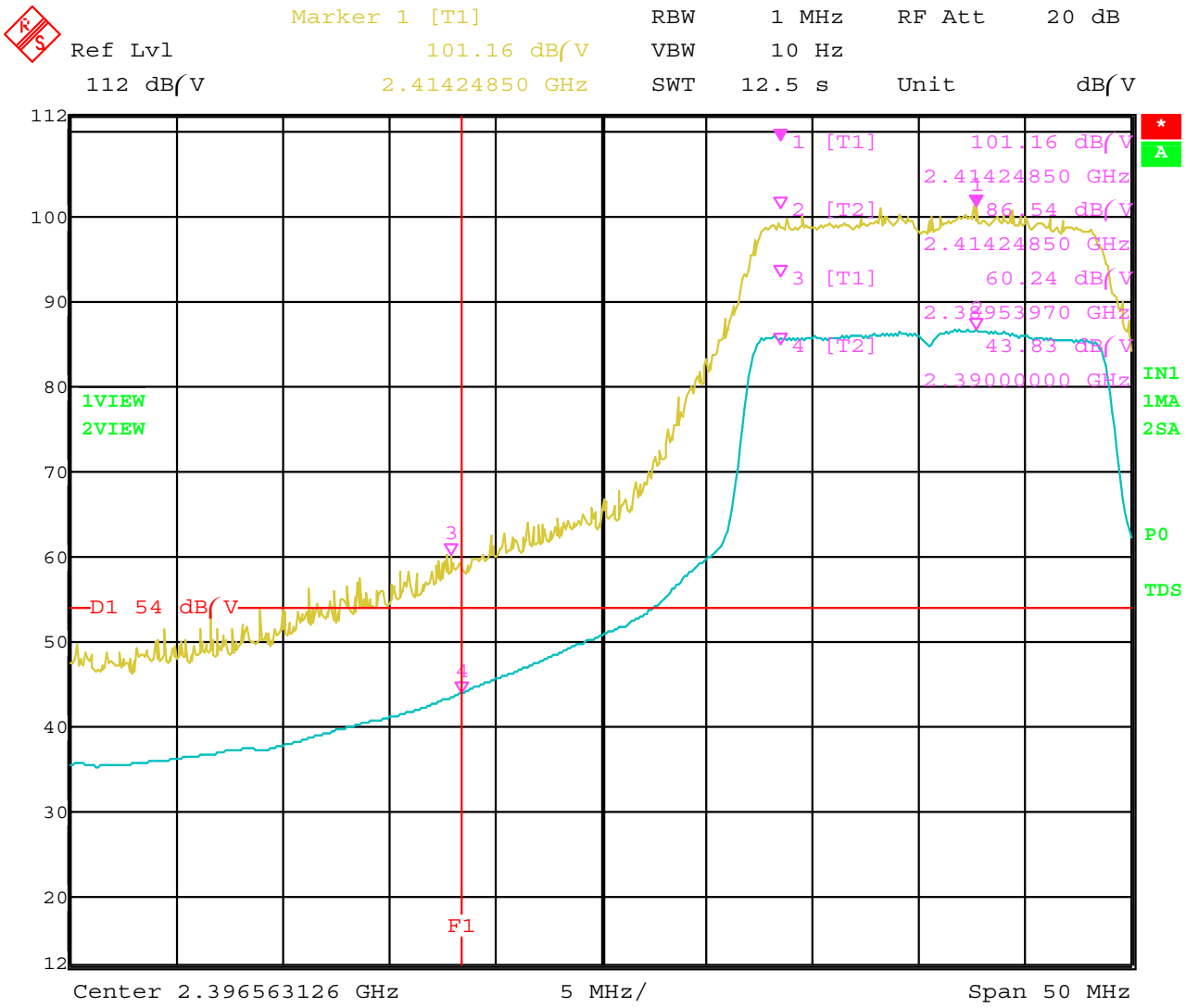
Freq. (MHz)		Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	102.92	H	--	--	Peak	2.25	135	Fundamental of Channel 1
2412	88.71	H	--	--	Avg	2.25	135	@ 3 meters
2390	65.02	H	74	-8.98	Peak	2.25	135	
2390	47.78	H	54	-6.22	Avg	2.25	135	
2437	102.93	H	--	--	Peak	2.25	135	Fundamental of Channel 6
2437	89.01	H	--	--	Avg	2.25	135	@ 3 meters
2462	103.17	H	--	--	Peak	1.5	180	Fundamental of Channel 11
2462	88.35	H	--	--	Avg	1.5	180	@ 3 meters
2483.5	64.34	H	74	-9.66	Peak	1.5	180	
2483.5	47.27	H	54	-6.73	Peak	1.5	180	
2486.7	61.38	H	74	-12.62	Peak	1.5	180	
2486.7	46.6	H	54	-7.4	Peak	1.5	180	

Ch.1 - Band Edge - Horizontal Polarization G-Mode Band Edge Plots



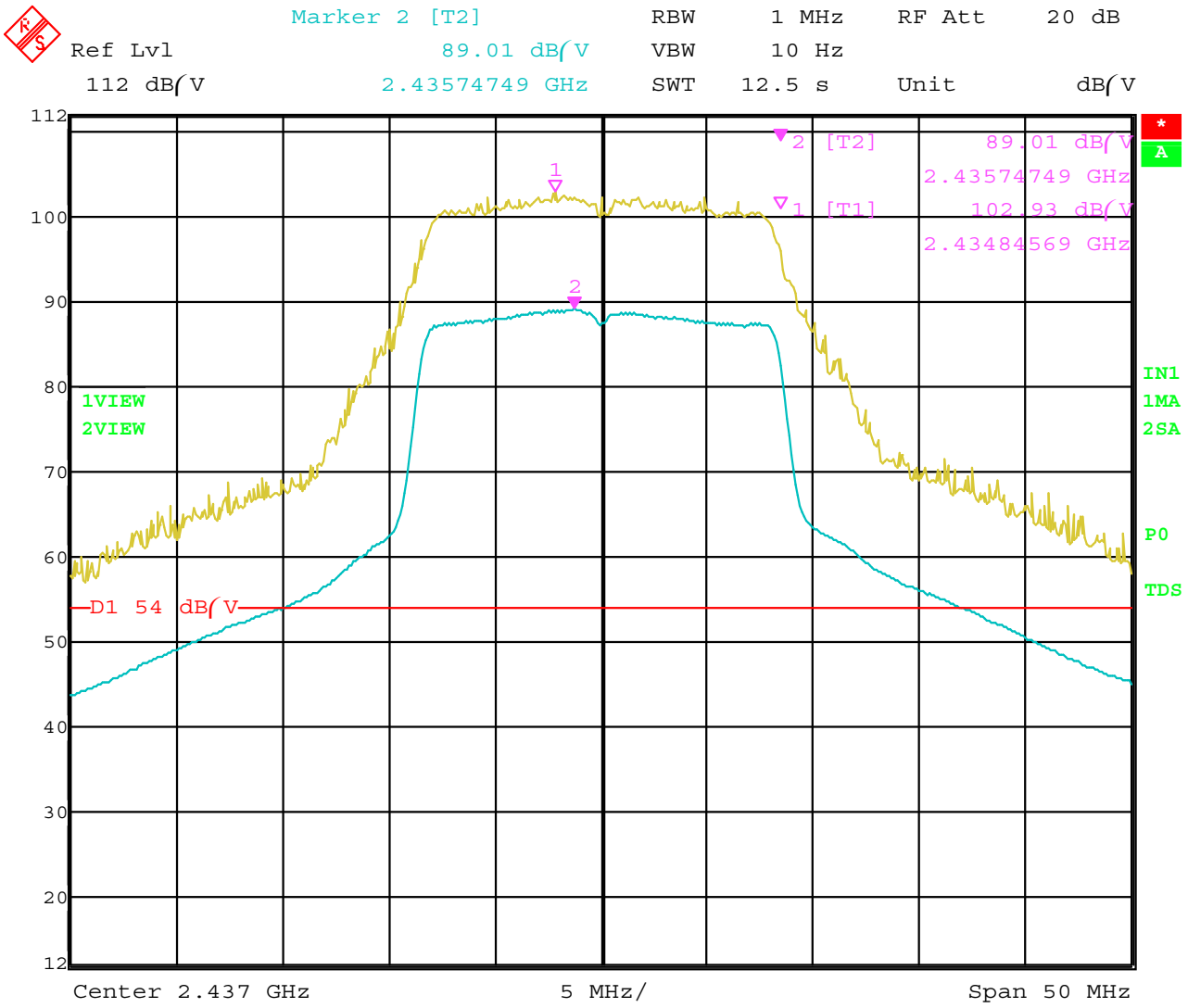
Date: 20.JUL.2004 23:09:45

Ch.1 - Band Edge - Vertical Polarization



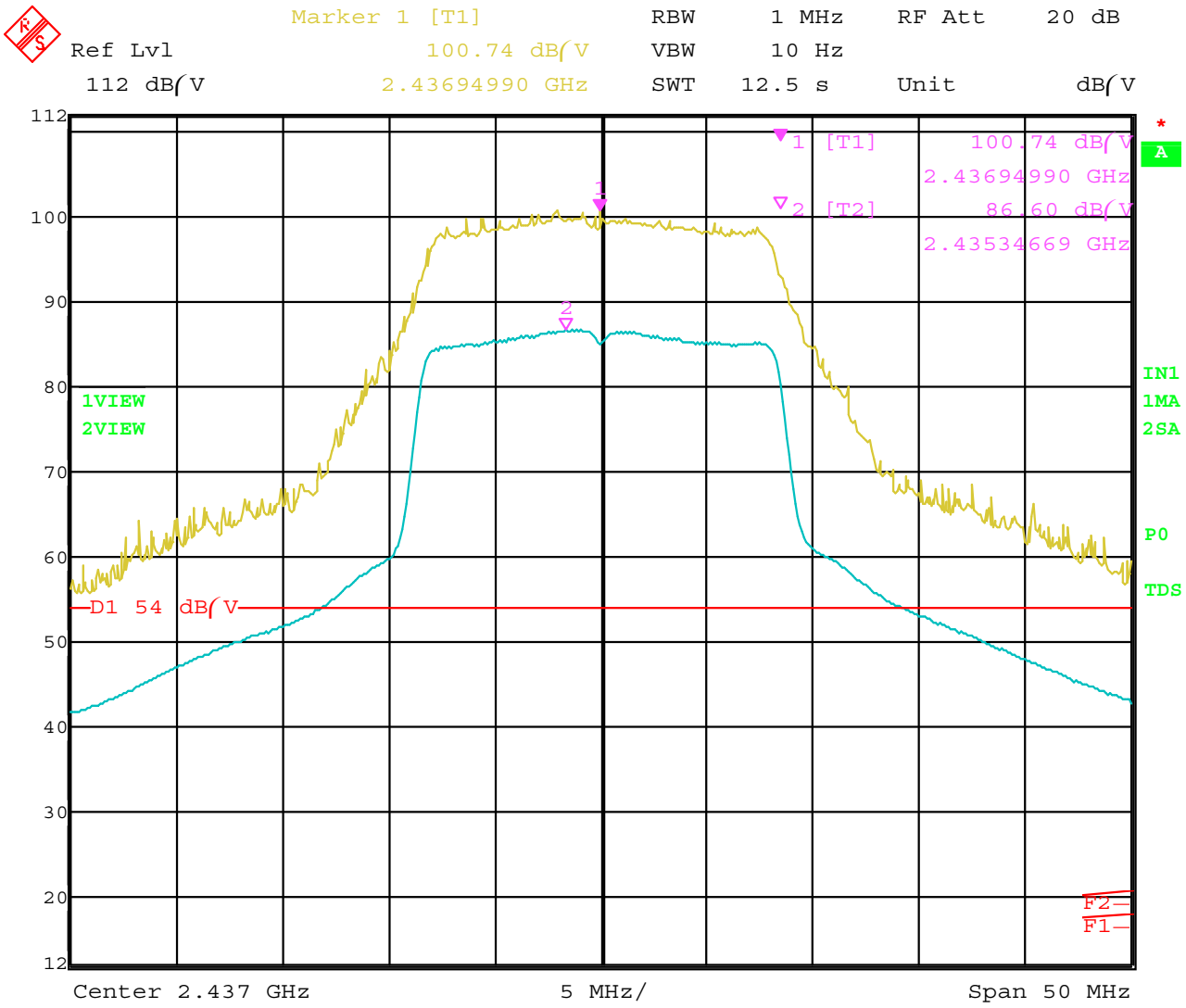
Date: 20.JUL.2004 23:26:04

Ch.6 - Band Edge - Horizontal Polarization



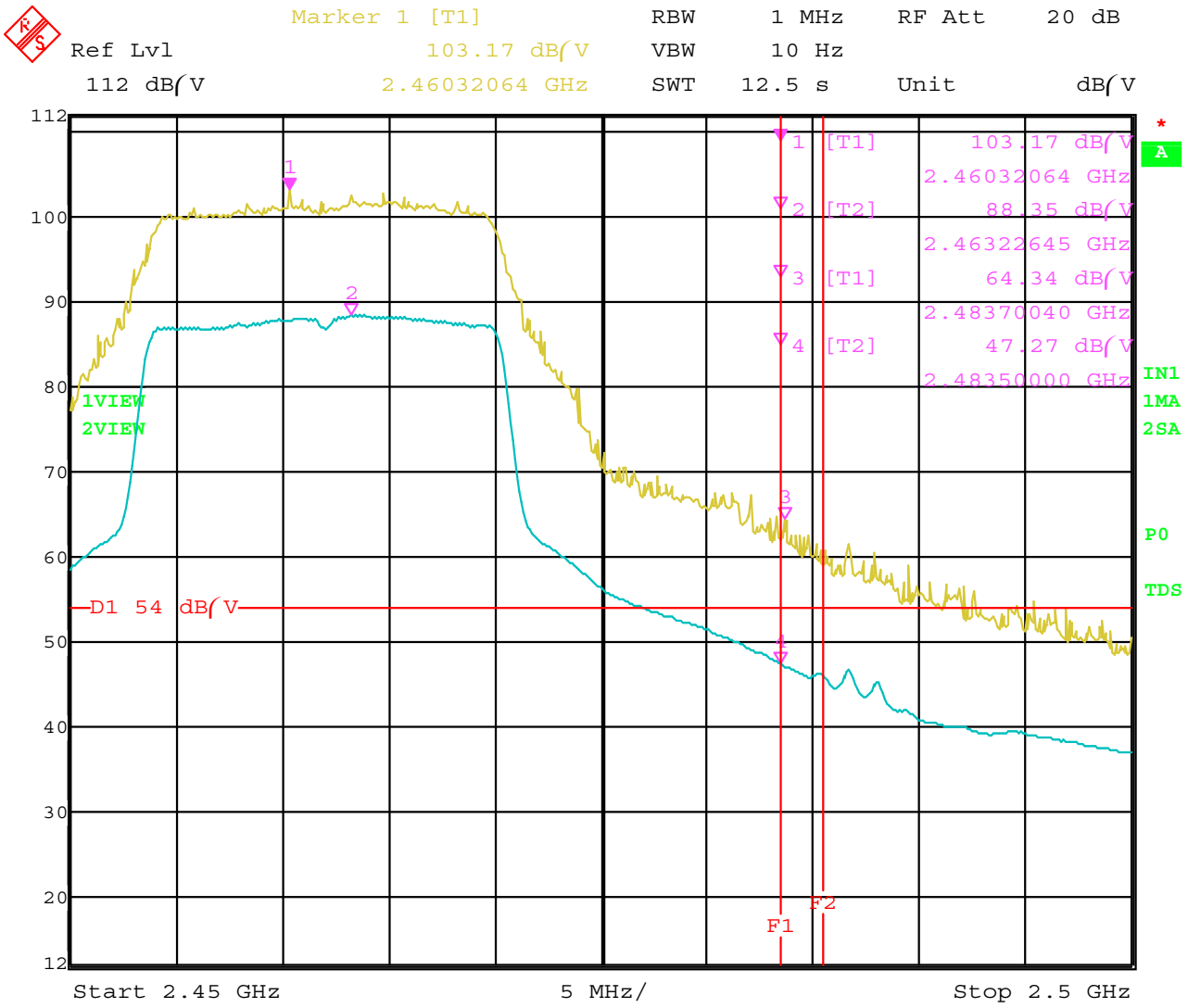
Date: 20.JUL.2004 23:04:42

Ch.6 - Band Edge - Vertical Polarization



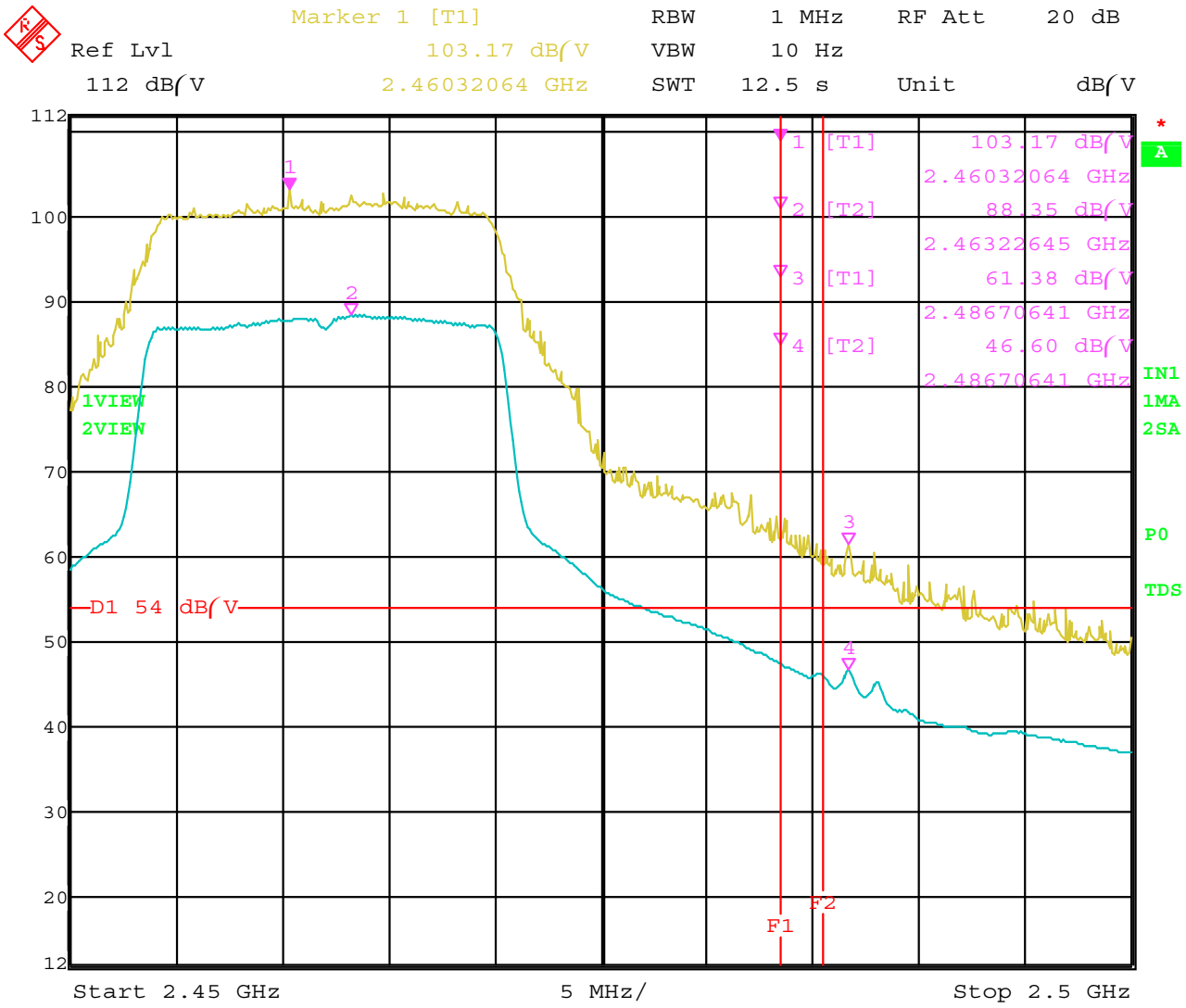
Date: 20.JUL.2004 22:49:15

Ch.11 - Band Edge - Horizontal Polarization – Plot 1



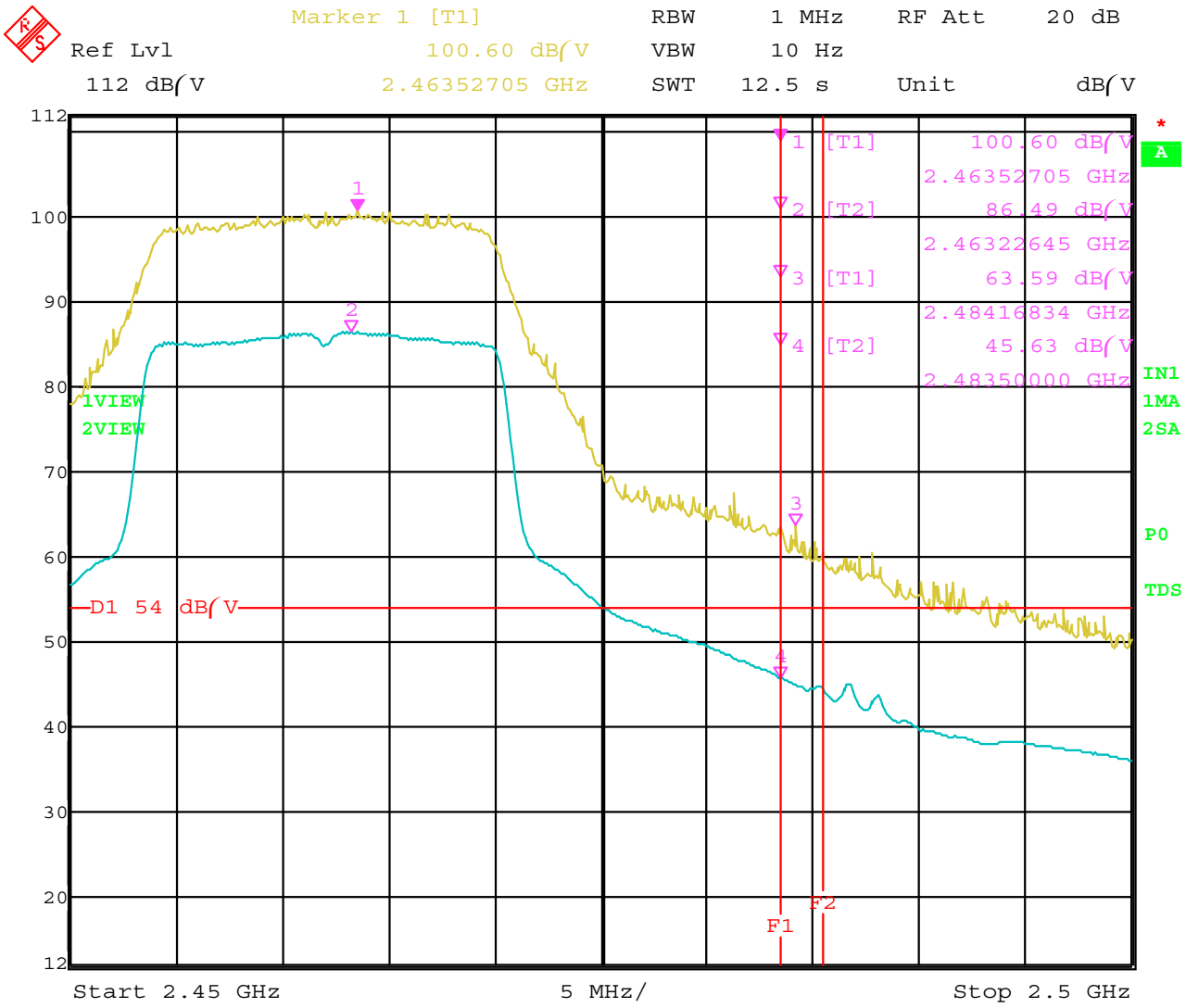
Date: 20.JUL.2004 22:15:41

Ch.11 - Band Edge - Horizontal Polarization – Plot 2



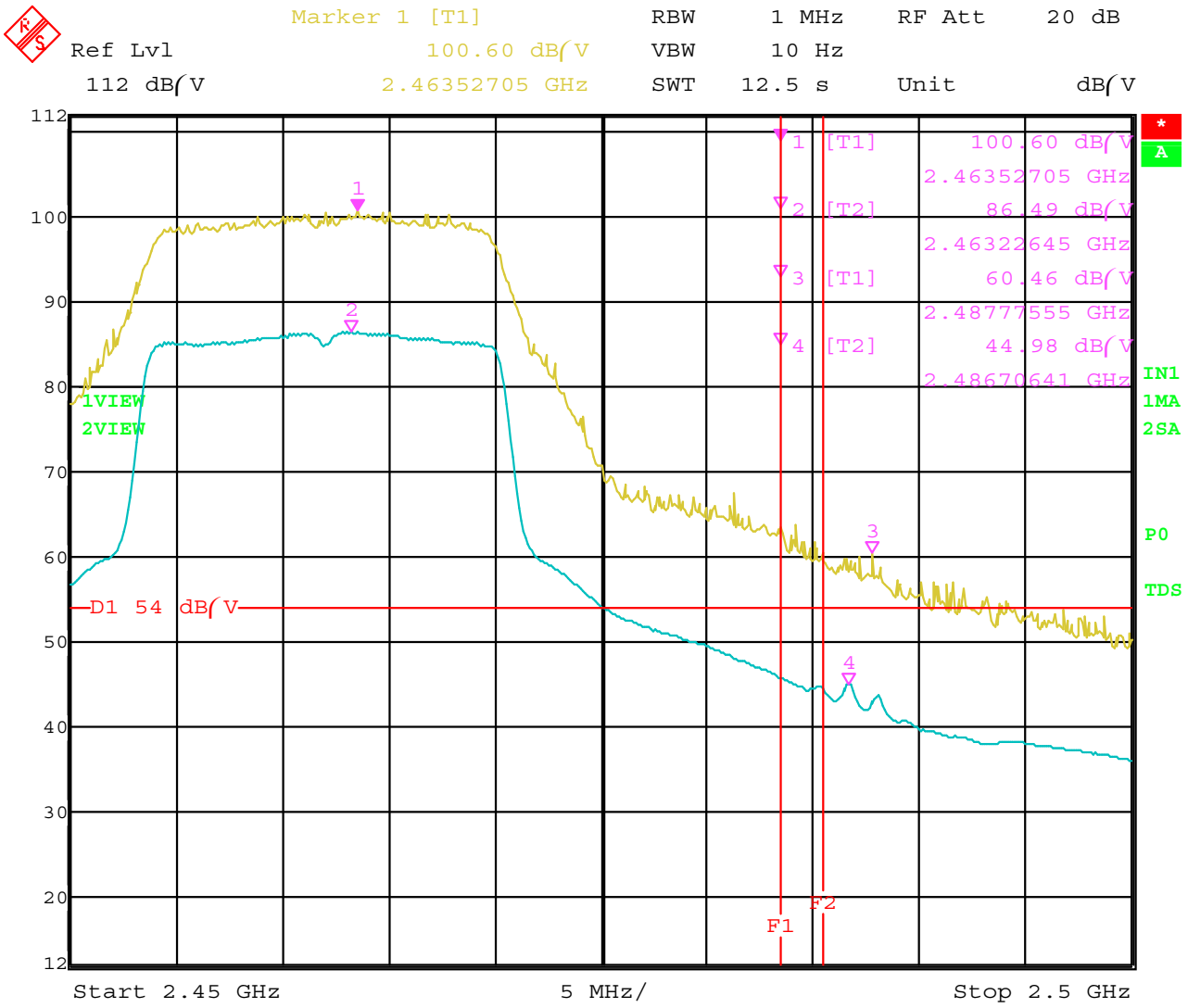
Date: 20.JUL.2004 22:16:22

Ch.11 - Band Edge - Vertical Polarization – Plot 1



Date: 20.JUL.2004 22:42:53

Ch.11 - Band Edge - Vertical Polarization – Plot 2



Date: 20.JUL.2004 22:43:47

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.59 dBm Avg. Power: 10.22 dBm

Channel 6 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	99.68	V	--	--	Peak	2	90	Fundamental of Channel 1
2412	85.88	V	--	--	Avg	2	90	@ 3 meters
2390	57.07	V	74	-16.93	Peak	2	80	
2390	43.93	V	54	-10.07	Avg	2	90	
2437	99.26	V	--	--	Peak	2.5	90	Fundamental of Channel 6
2437	85.29	V	--	--	Avg	2.5	90	@ 3 meters
2462	98.42	V	--	--	Peak	1.18	90	Fundamental of Channel 11
2462	84.45	V	--	--	Avg	1.18	90	@ 3 meters
2483.5	59.62	V	74	-14.38	Peak	1.18	90	
2483.5	44.1	V	54	-9.9	Avg	1.18	90	
2486.7	57.58	V	74	-16.42	Peak	1.18	90	
2486.7	44.23	V	54	-9.77	Avg	1.18	90	

FCC 15.247

Intel Corporation — Date: 7/21/04

Intel Mini PCI Type 802.11 bg Wireless LAN Adapter — Lab: B

Model: WM3A2200BG — Tested By: Kyle Fujimoto

Configuration: Mini PCI B/G **in Dell Agency Series Number: PP07S**

With WNC Antenna

Channel 1 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.59 dBm Avg. Power: 10.22 dBm

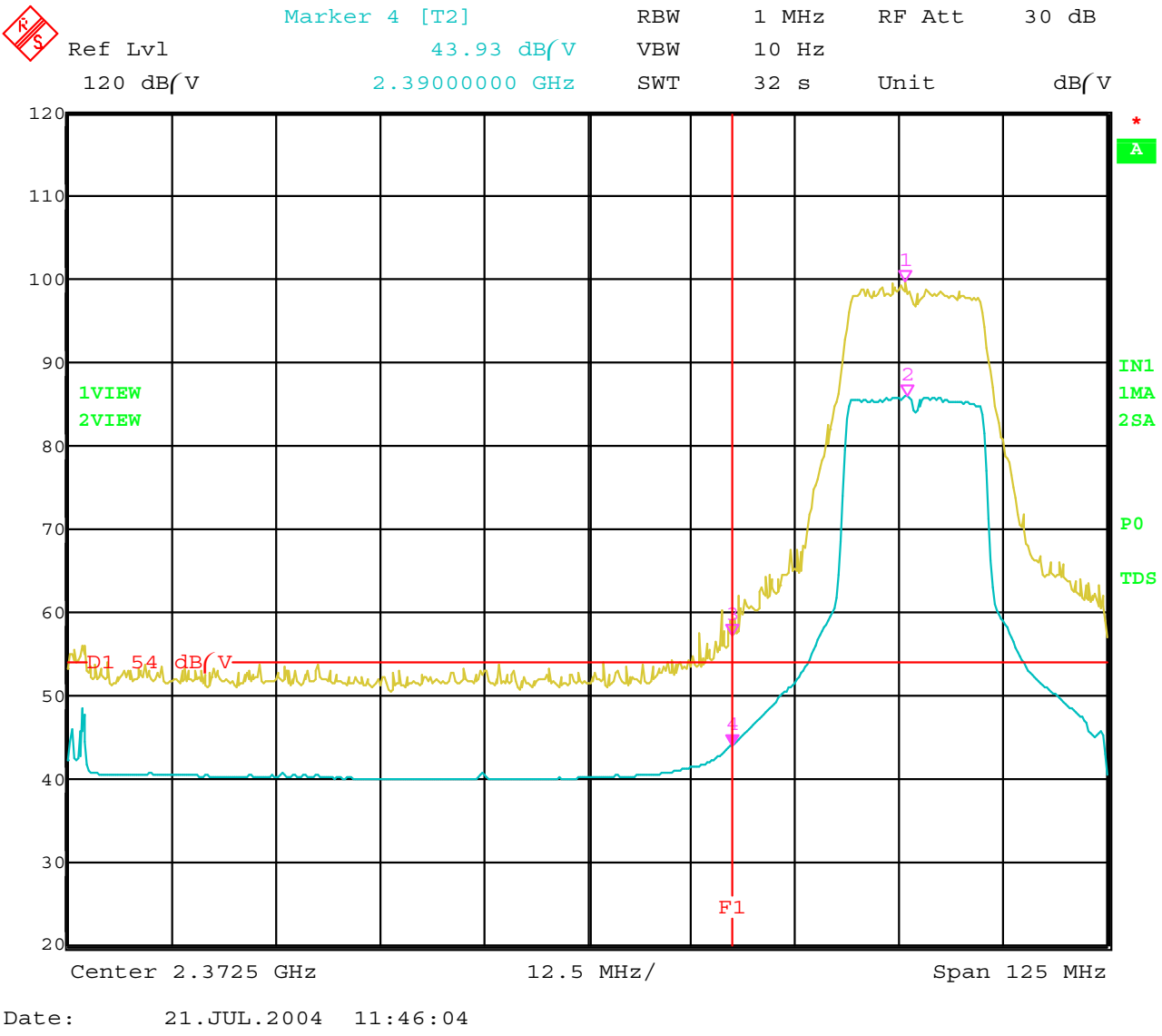
Channel 6 - 802.11 g Mode **Transmit Mode**

Gain : 23.5 Peak Power: 16.62 dBm Avg. Power: 10.23 dBm

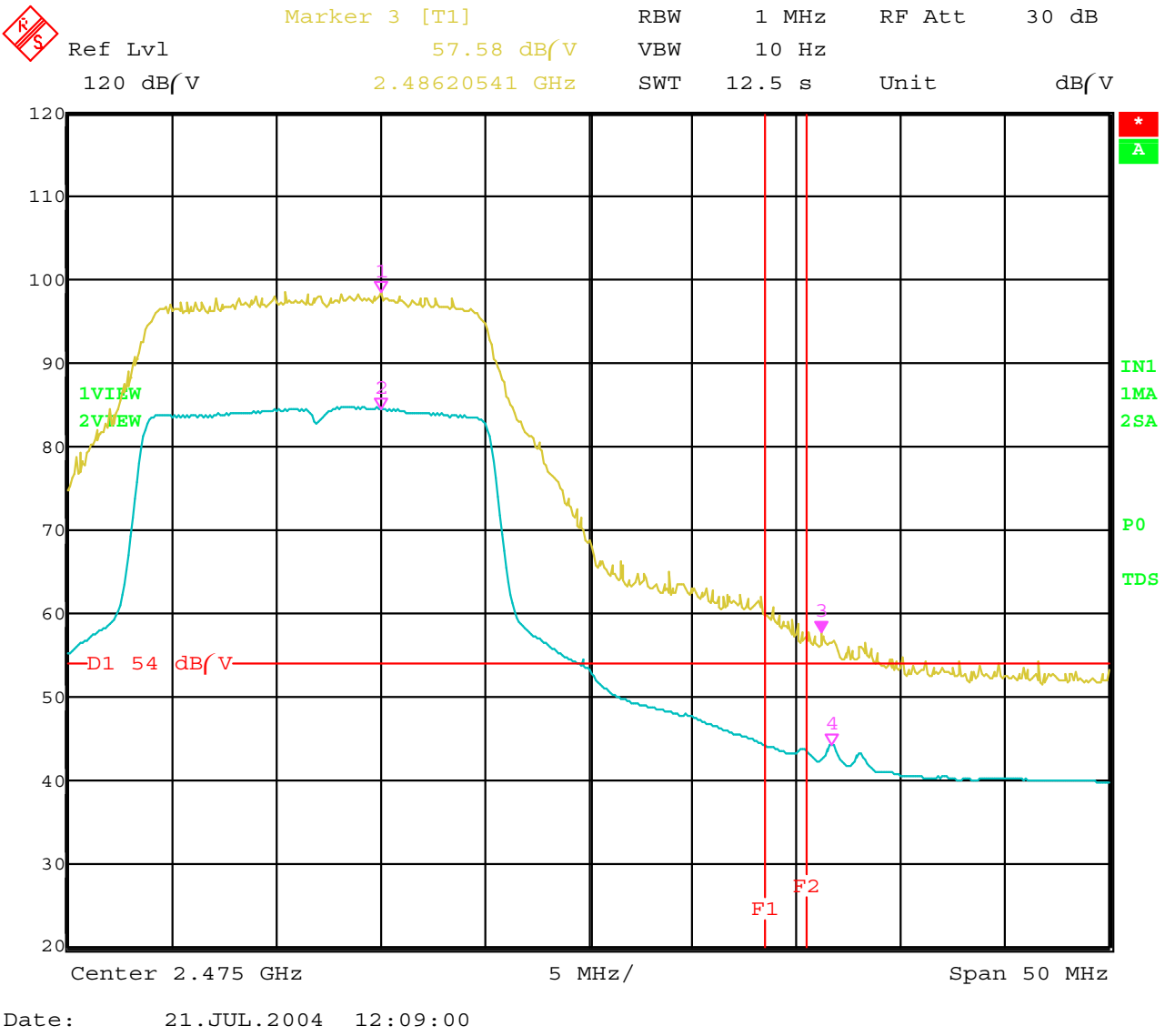
Channel 11 - 802.11 g Mode **Transmit Mode**

Gain : 23.0 Peak Power: 16.37 dBm Avg. Power: 9.93 dBm

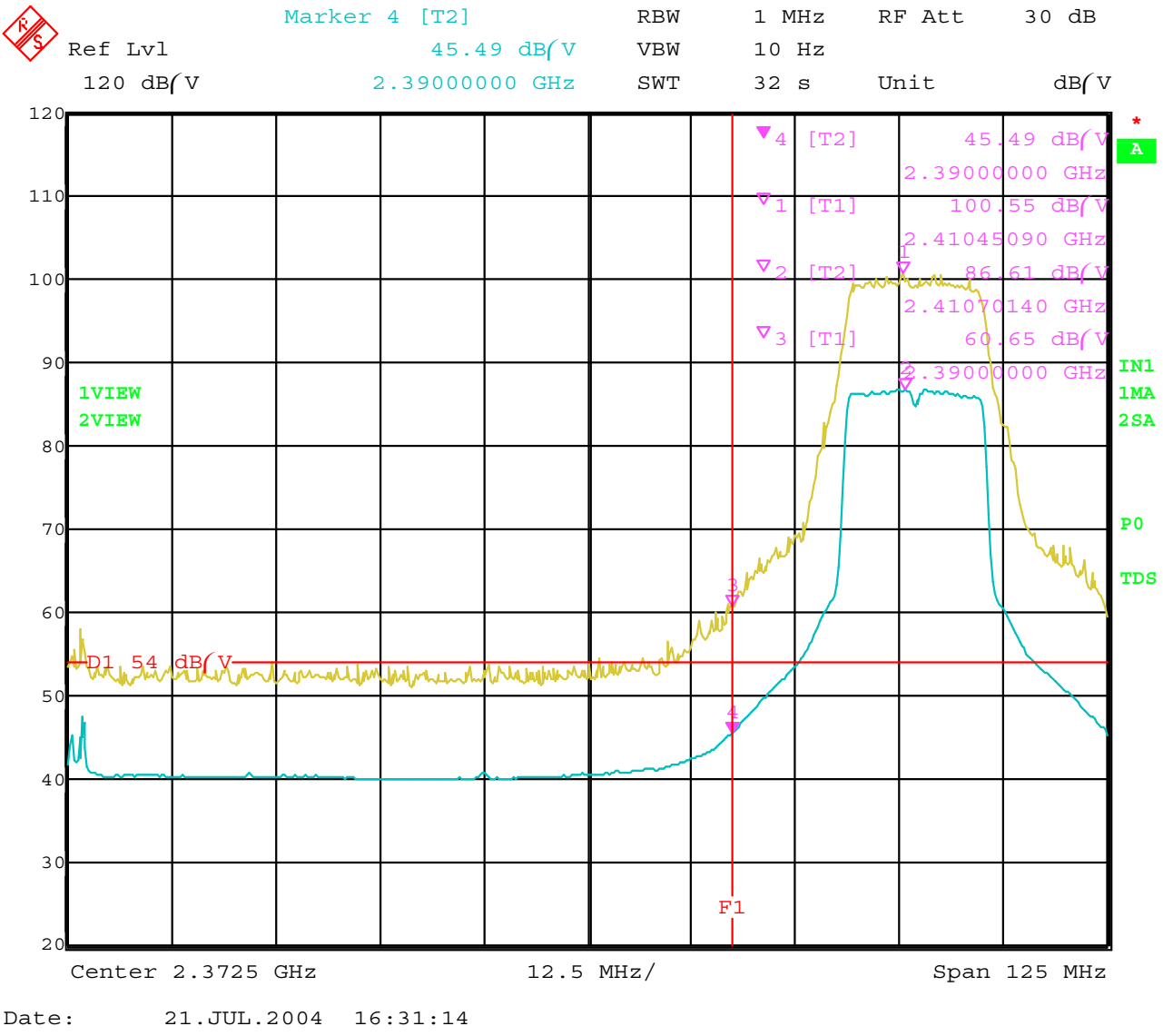
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	100.55	H	--	--	Peak	1.33	225	Fundamental of Channel 1
2412	86.61	H	--	--	Avg	1.33	225	@ 3 meters
2390	60.65	H	74	-13.35	Peak	1.33	225	
2390	45.49	H	54	-8.51	Avg	1.33	225	
2437	99.22	H	--	--	Peak	2.25	135	Fundamental of Channel 6
2437	85.33	H	--	--	Avg	2.25	135	@ 3 meters
2462	99.17	H	--	--	Peak	1.15	0	Fundamental of Channel 11
2462	85.2	H	--	--	Avg	1.15	0	@ 3 meters
2483.5	61.56	H	74	-12.44	Peak	1.15	0	
2483.5	44.56	H	54	-9.44	Peak	1.15	0	
2486.8	56.96	H	74	-17.04	Peak	1.15	0	
2486.7	44.81	H	54	-9.19	Peak	1.15	0	



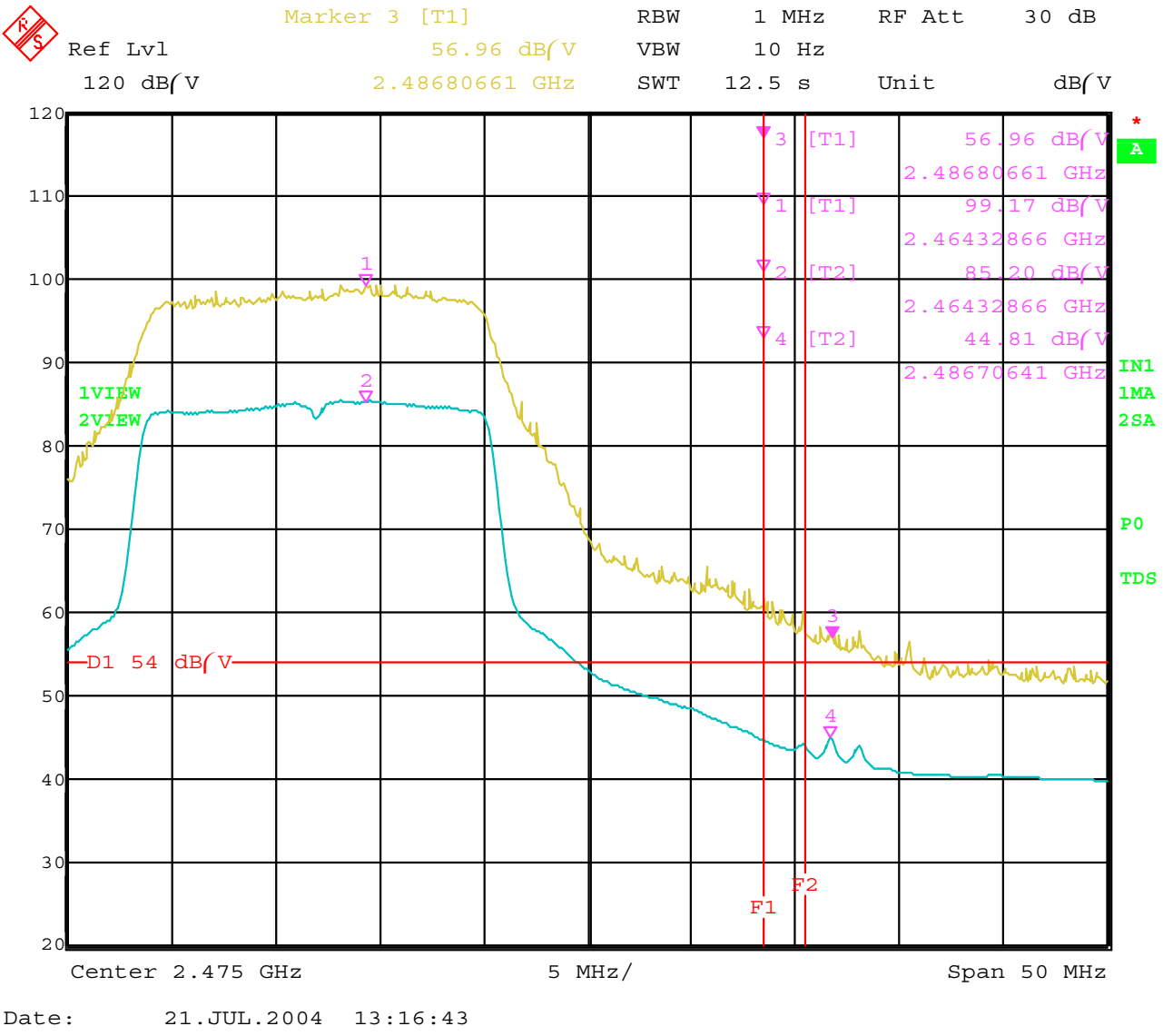
Band Edge – Channel 1 – Vertical Polarization – 802.11 g Mode – WNC Antenna



Band Edge – Channel 11 – Vertical Polarization – 802.11 g Mode – WNC Antenna



Band Edge – Channel 1 – Horizontal Polarization – 802.11 g Mode – WNC Antenna



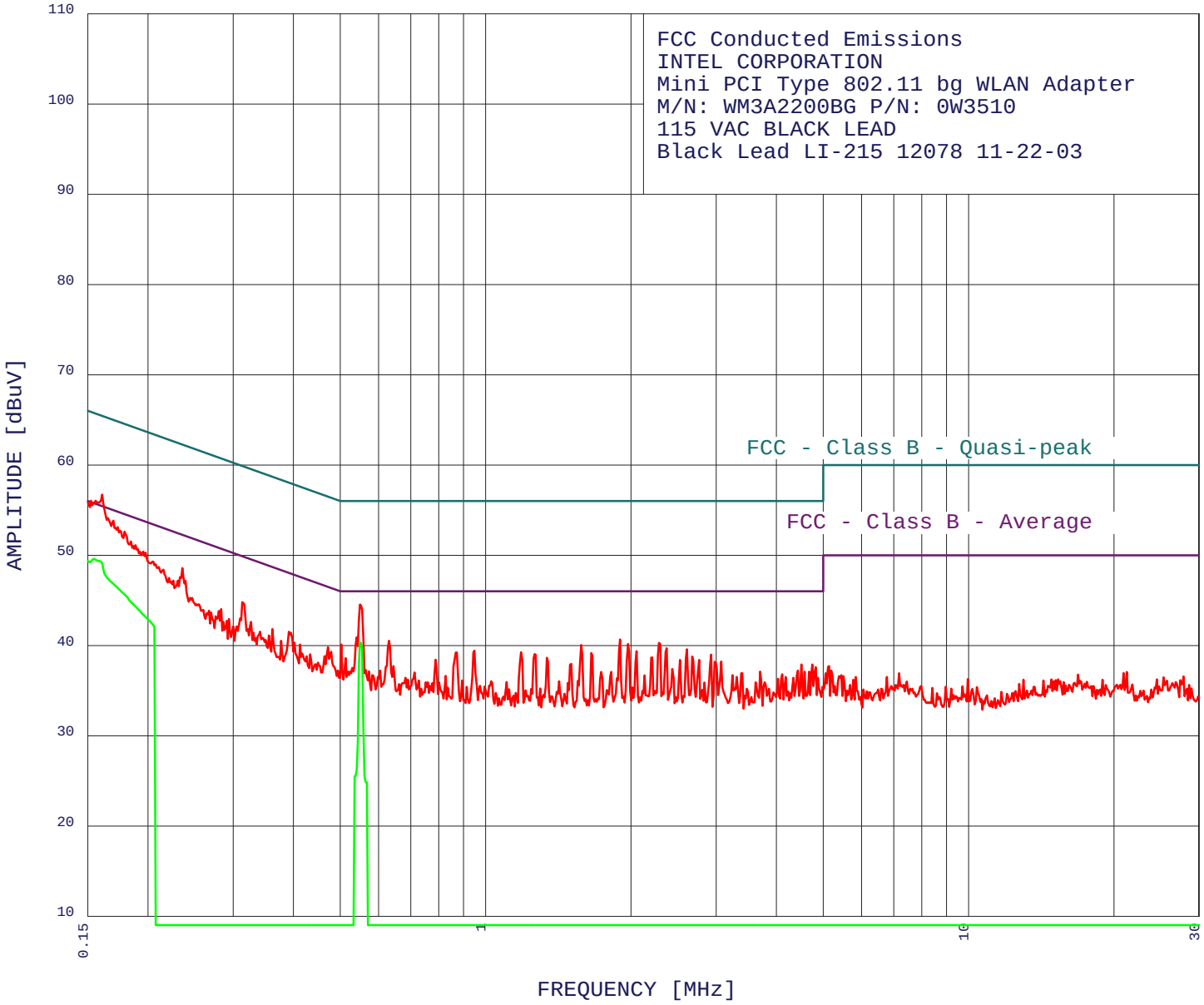
Band Edge – Channel 11 – Horizontal Polarization – 802.11 g Mode – WNC Antenna

CONDUCTED EMISSIONS

DATA SHEETS

EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average

6/04/2004 19:23:23



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

6/04/2004 19:23:23

FCC Conducted Emissions
INTEL CORPORATION
Mini PCI Type 802.11 bg WLAN Adapter
M/N: WM3A2200BG P/N: 0W3510
115 VAC BLACK LEAD
Black Lead LI-215 12078 11-22-03
TEST ENGINEER : BENIGNO CHAVEZ

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41 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.161	56.72	55.43	1.30**
2	0.150	55.83	56.00	-0.17
3	0.550	44.51	46.00	-1.49**
4	0.235	48.56	52.25	-3.69
5	0.313	44.81	49.88	-5.07
6	1.899	40.66	46.00	-5.34
7	0.631	40.52	46.00	-5.48
8	2.286	40.27	46.00	-5.73
9	1.971	40.16	46.00	-5.84
10	0.502	40.11	46.00	-5.89
11	1.577	40.05	46.00	-5.95
12	2.371	39.68	46.00	-6.32
13	2.610	39.59	46.00	-6.41
14	0.391	41.51	48.03	-6.53
15	0.948	39.43	46.00	-6.57
16	2.055	39.37	46.00	-6.63
17	0.471	39.81	46.49	-6.68
18	0.283	44.03	50.72	-6.69
19	1.184	39.24	46.00	-6.76
20	0.872	39.23	46.00	-6.77
21	1.654	39.15	46.00	-6.85
22	0.362	41.81	48.69	-6.88
23	0.327	42.61	49.53	-6.92
24	1.262	39.04	46.00	-6.96
25	0.280	43.83	50.81	-6.98
26	2.932	39.00	46.00	-7.00
27	2.679	38.79	46.00	-7.21
28	2.214	38.67	46.00	-7.33
29	1.338	38.64	46.00	-7.36
30	0.513	38.61	46.00	-7.39
31	0.270	43.64	51.11	-7.47
32	0.413	40.11	47.59	-7.48
33	0.294	42.92	50.41	-7.49
34	0.402	40.31	47.81	-7.50
35	0.788	38.42	46.00	-7.58
36	2.766	38.39	46.00	-7.61
37	2.527	38.38	46.00	-7.62
38	0.341	41.51	49.18	-7.67
39	0.356	41.11	48.82	-7.71
40	0.291	42.72	50.49	-7.77
41	3.075	38.20	46.00	-7.80

** Please See the Average Readings on the Next Page and on the Plot

COMPATIBLE ELECTRONICS

6/04/2004 19:23:23

FCC Conducted Emissions
INTEL CORPORATION
Mini PCI Type 802.11 bg WLAN Adapter
M/N: WM3A2200BG P/N: 0W3510
115 VAC BLACK LEAD
Black Lead LI-215 12078 11-22-03
TEST ENGINEER : BENIGNO CHAVEZ

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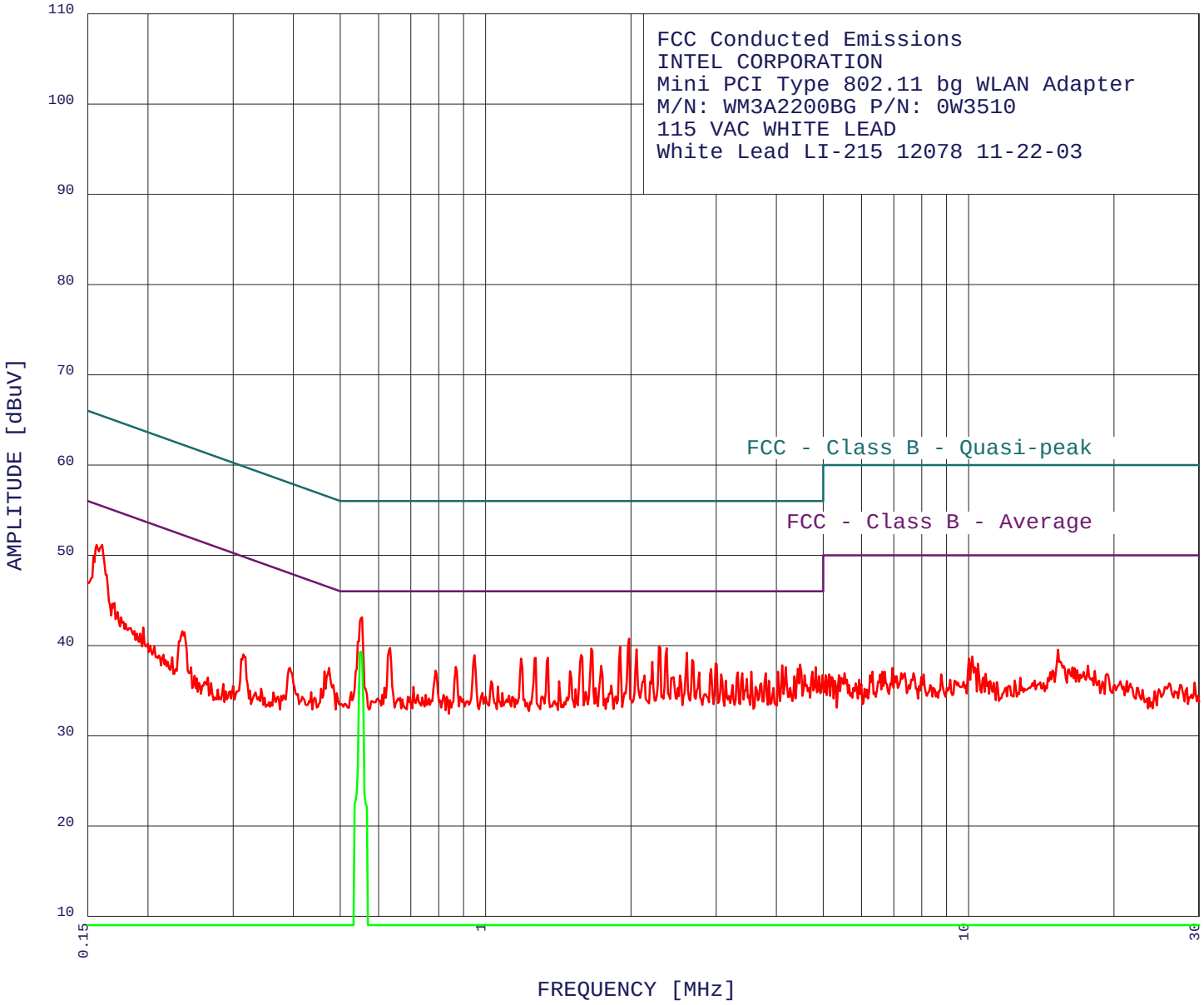
3 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.550	40.34	46.00	-5.66
2	0.154	49.57	55.78	-6.21
3	0.150	49.36	56.00	-6.64**

EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average

6/04/2004 19:31:24



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

6/04/2004 19:31:24

FCC Conducted Emissions
INTEL CORPORATION
Mini PCI Type 802.11 bg WLAN Adapter
M/N: WM3A2200BG P/N: 0W3510
115 VAC WHITE LEAD
White Lead LI-215 12078 11-22-03
TEST ENGINEER : BENIGNO CHAVEZ

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41 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.555	43.11	46.00	-2.89**
2	0.157	51.13	55.64	-4.52
3	1.981	40.76	46.00	-5.24
4	2.286	39.87	46.00	-6.13
5	1.899	39.86	46.00	-6.14
6	0.634	39.72	46.00	-6.28
7	2.371	39.68	46.00	-6.32
8	1.654	39.65	46.00	-6.35
9	2.055	39.57	46.00	-6.43
10	2.610	39.19	46.00	-6.81
11	1.577	38.95	46.00	-7.05
12	0.948	38.93	46.00	-7.07
13	1.345	38.64	46.00	-7.36
14	1.269	38.64	46.00	-7.36
15	1.184	38.54	46.00	-7.46
16	2.679	38.39	46.00	-7.61
17	2.214	38.17	46.00	-7.83
18	2.995	38.00	46.00	-8.00
19	4.480	37.91	46.00	-8.09
20	4.114	37.81	46.00	-8.19
21	1.735	37.76	46.00	-8.24
22	0.867	37.62	46.00	-8.38
23	4.825	37.61	46.00	-8.39
24	4.182	37.61	46.00	-8.39
25	4.432	37.41	46.00	-8.59
26	2.932	37.40	46.00	-8.60
27	0.788	37.22	46.00	-8.78
28	1.496	37.15	46.00	-8.85
29	4.748	37.11	46.00	-8.89
30	4.029	37.11	46.00	-8.89
31	3.547	37.11	46.00	-8.89
32	0.474	37.51	46.45	-8.94
33	3.328	37.01	46.00	-8.99
34	2.766	36.99	46.00	-9.01
35	0.150	46.93	56.00	-9.07
36	3.800	36.91	46.00	-9.09
37	3.401	36.91	46.00	-9.09
38	3.075	36.80	46.00	-9.20
39	4.980	36.71	46.00	-9.29
40	4.576	36.71	46.00	-9.29
41	2.527	36.68	46.00	-9.32

** Please See the Average Readings on the Next Page and on the Plot

COMPATIBLE ELECTRONICS

6/04/2004 19:31:24

FCC Conducted Emissions
INTEL CORPORATION
Mini PCI Type 802.11 bg WLAN Adapter
M/N: WM3A2200BG P/N: 0W3510
115 VAC WHITE LEAD
White Lead LI-215 12078 11-22-03
TEST ENGINEER : BENIGNO CHAVEZ

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1 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.552	39.31	46.00	-6.69
