

*FCC PART 15, SUBPART B and C
TEST REPORT**for*

INTEL MINI PCI TYPE 802.11 BG
WIRELESS LAN ADAPTER
FOR USE IN THE HP AGENCY SERIES# PP2080 (LAPTOP TYPE)
MODEL: WM3B2200BG

Prepared for

HEWLETT PACKARD COMPANY
20555 SH 249
HOUSTON, TEXAS 77070

Prepared by: _____

KYLE FUJIMOTO

Approved by: _____

SCOTT McCUTCHAN

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: JANUARY 5, 2004

	REPORT BODY	APPENDICES					TOTAL
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	
PAGES	22	2	2	2	17	98	143

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TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	4
SUMMARY OF TEST RESULTS	5
1. PURPOSE	6
2. ADMINISTRATIVE DATA	7
2.1 Location of Testing	7
2.2 Traceability Statement	7
2.3 Cognizant Personnel	7
2.4 Date Test Sample was Received	7
2.5 Disposition of the Test Sample	7
2.6 Abbreviations and Acronyms	7
3. APPLICABLE DOCUMENTS	8
4. DESCRIPTION OF TEST CONFIGURATION	9
4.1 Description of Test Configuration - EMI	9
4.1.1 Cable Construction and Termination	10
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	11
5.1 EUT and Accessory List	11
5.2 EMI Test Equipment for Brea Facility	12
5.3 EMI Test Equipment for Agoura Facility	13
6. TEST SITE DESCRIPTION	14
6.1 Test Facility Description	14
6.2 EUT Mounting, Bonding and Grounding	14
7. CHARACTERISTICS OF THE TRANSMITTER	15
7.1 Antenna Gain	15
8. Test Procedures	16
8.1 RF Emissions	16
8.1.1 Conducted Emissions Test	16
8.1.2 Radiated Emissions (Spurious and Harmonics) Test	17
8.2 6 dB Bandwidth	19
8.3 Peak Output Power	19
8.4 RF Antenna Conducted Test	19
8.5 RF Band Edges	21
9. CONCLUSIONS	22

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagrams, Charts, and Photos • Test Setup Diagrams • Radiated and Conducted Emissions Photos • Antenna and Effective Gain Factors
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map and Layout of 3 Meter Radiated Site

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 HP Agency Series# PP2080 (Laptop Type)
Model: WM3B2200BG
S/N: N/A

Product Description: The product is a wireless miniPCI card used for the Hewlett Packard Notebook Computer Series PP2080.

Modifications: The EUT was not modified during the testing.

Manufacturer: Hewlett Packard Company
20555 SH 249
Houston, Texas 77070

Test Dates: December 10 and 11, 2003.

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

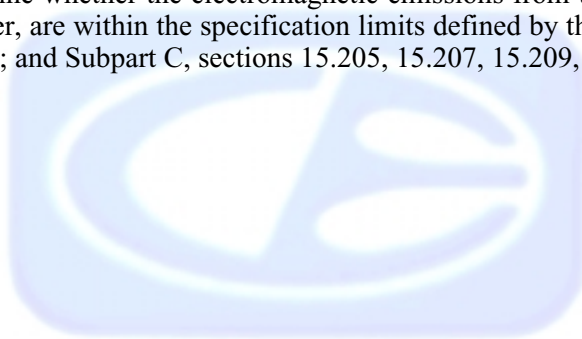
Test Deviations: The test procedure was not deviated from during the testing.

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 HP Agency Series# PP 2080 [Laptop Type]). Model: WM3B2200BG. 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

Hewlett Packard Company

David Wissel PSG Global Business Units – Mobile Computing

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
Scott McCutchan Lab Manager, Brea Division

2.4 Date Test Sample was Received

The test sample was received on December 10, 2003.

2.5 Disposition of the Test Sample

The sample has not been returned to Hewlett Packard Company as of January 5, 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 HP Agency Series# PP2080 [Laptop Type]) Model: WM3B2200BG was directly connected to the laptop's miniPCI port underneath. The laptop was also connected to the AC Adapter, printer, and joystick via its power, parallel, and USB ports. 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.
- Cable 2** This is a 1.5 meter braid and foil shielded cable connecting the laptop to the printer. It has a D-25 pin metallic connector at the laptop end and a Centronics type metallic connector at the printer end. The cable was bundled to a length of 80 centimeters. The shield of the cable was grounded to the chassis via the connectors.
- Cable 3** This is a 10 centimeter foil shielded cable connecting the laptop to the D-15 serial adapter. It has a USB connector at the laptop end and a female D-15 connector at the other end. The shield of the cable was grounded to the chassis via the connectors.
- Cable 4** This is a 1.9 meter foil shielded cable connecting the joystick to the D-15 serial adapter. It has a male D-15 connector at D-15 serial adapter end and is hard wired into the joystick. The shield of the cable was grounded to the chassis via the connector at the D-15 serial adapter end.

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	WM3B2200BG	N/A	CNTWM3B2200BG
EUT Sub-Assemblies				
Auxiliary Triple Band Antenna	WISTRON NeWeb CORPORATION	P/N: 81.EB215.002	N/A	N/A
Main Triple Band Antenna	WISTRON NeWeb CORPORATION	P/N: 81.EB215.002	N/A	N/A
Host Equipment List				
AC ADAPTER FOR LAPTOP	COMPAQ COMPUTER CORP.	P/N: 239427-001	3108554804	N/A
LAPTOP	COMPAQ COMPUTER CORPORATION	BCL31001005	CAT000109161	DoC
JOYSTICK	MICROSOFT	SIDEWINDER PRECISION PRO	P/N: X03-57540	DoC
PRINTER	CITIZEN	LSP-10	1184398-72	DLK66TLSP-10

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 2, 2003	Jan. 2, 2004
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
Power Meter	Hewlett Packard	436A	2236A15362	June 20, 2003	June 20, 2004
Power Sensor	Hewlett Packard	8482H	GG00000006	June 20, 2003	June 20, 2004
Horn Antenna	Antenna Research	DRG-118/A	1053	January 13, 2002	Jan. 13, 2004
Microwave Preamplifier	Com Power	PA-122	25195	August 19, 2003	Aug. 19, 2004
Microwave Preamplifier	Com Power	PA-840	711013	March 6, 2002	March 6, 2004
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

The antenna has a worst case gain of 2.87 dBi peak for the main antenna and 3.49 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.



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:

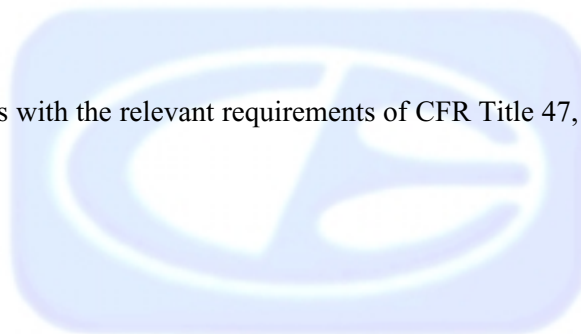
The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (c).

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 HP Agency Series# PP2080 [Laptop Type]) Model: WM3B2200BG 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

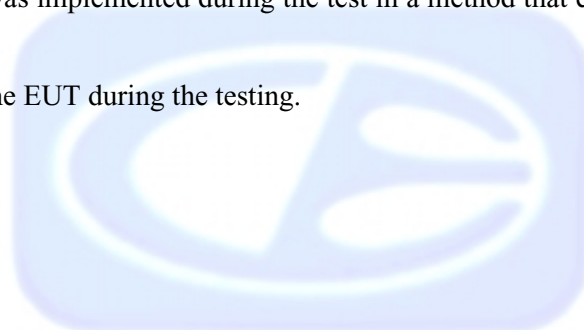
MODIFICATIONS TO THE EUT

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***

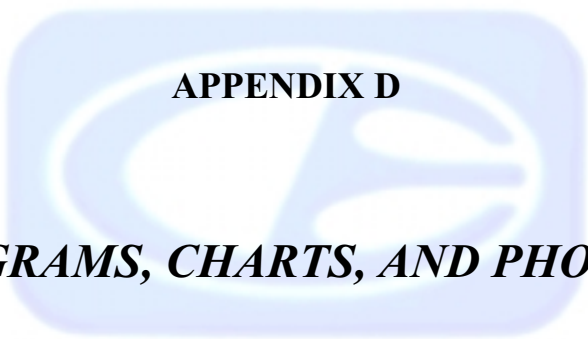
ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Intel Mini PCI Type 802.11BG Wireless LAN Adapter (for use in
the HP Agency Series# PP2080 [Laptop Type])
Model: WM3B2200BG
S/N: N/A

There were no additional models covered under this report.





APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

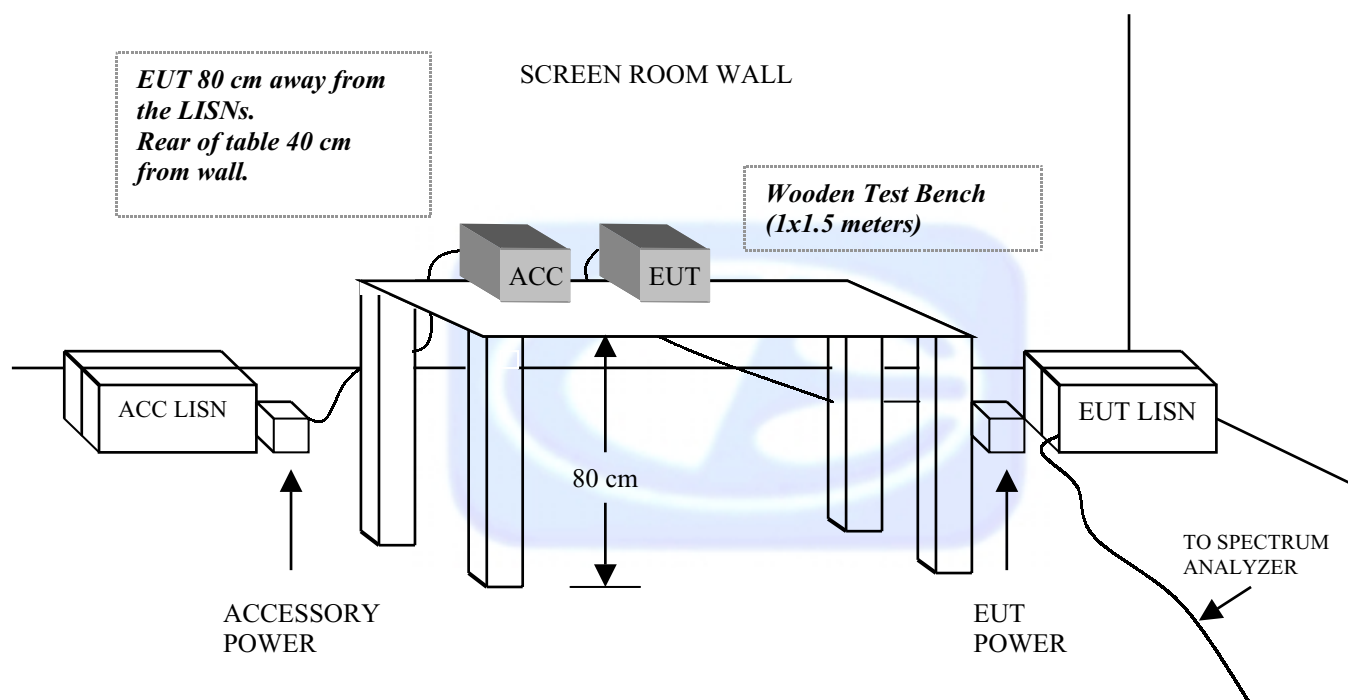
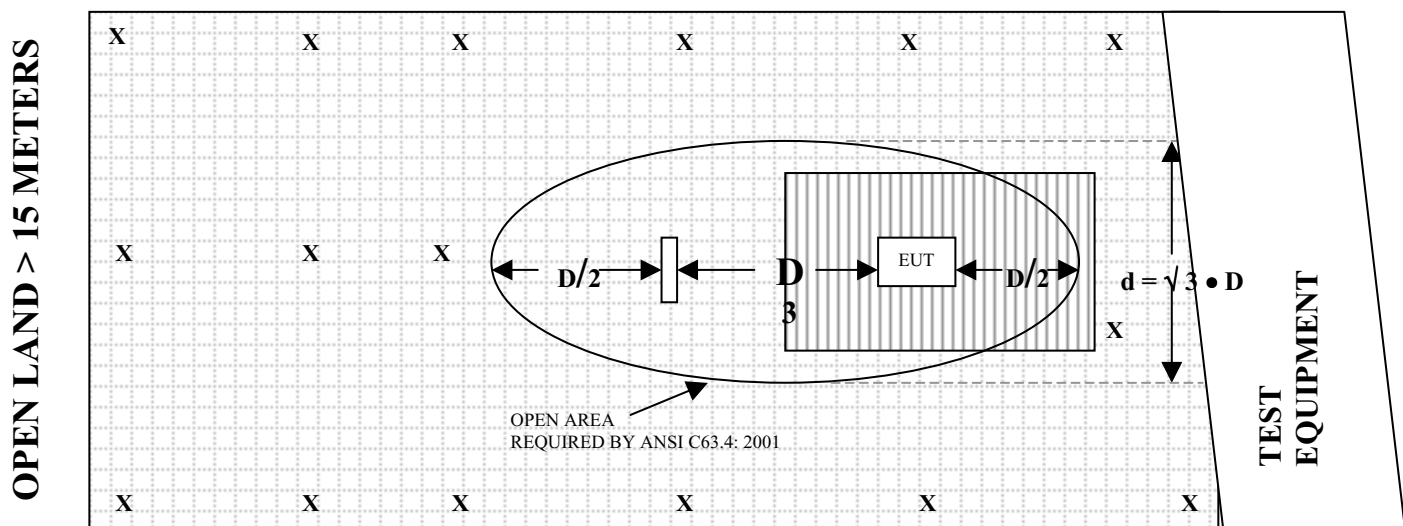
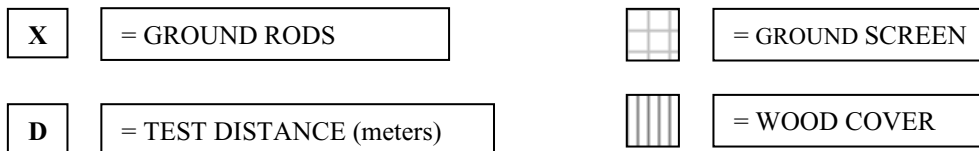
FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

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

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS





FRONT VIEW

HEWLETT PACKARD COMPANY
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE HP AGENCY SERIES# PP2080 (LAPTOP TYPE)
MODEL: WM3B2200BG
FCC SUBPART C - RADIATED EMISSIONS – 12-10-03

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

**REAR VIEW**

HEWLETT PACKARD COMPANY
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE HP AGENCY SERIES# PP2080 (LAPTOP TYPE)
MODEL: WM3B2200BG
FCC SUBPART C - RADIATED EMISSIONS – 12-10-03

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

**FRONT VIEW**

HEWLETT PACKARD COMPANY
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE HP AGENCY SERIES# PP2080 (LAPTOP TYPE)
MODEL: WM3B2200BG
FCC CLASS B - RADIATED EMISSIONS – 12-11-03

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

**REAR VIEW**

HEWLETT PACKARD COMPANY
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE HP AGENCY SERIES# PP2080 (LAPTOP TYPE)
MODEL: WM3B2200BG
FCC CLASS B - RADIATED EMISSIONS – 12-11-03

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

**FRONT VIEW**

HEWLETT PACKARD COMPANY
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE HP AGENCY SERIES# PP2080 (LAPTOP TYPE)
MODEL: WM3B2200BG
FCC CLASS B - CONDUCTED EMISSIONS – 12-11-03

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

**REAR VIEW**

HEWLETT PACKARD COMPANY
INTEL MINI PCI TYPE 802.11BG WIRELESS LAN ADAPTER
FOR USE IN THE HP AGENCY SERIES# PP2080 (LAPTOP TYPE)
MODEL: WM3B2200BG
FCC CLASS B - CONDUCTED EMISSIONS – 12-11-03

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

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 2, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.4	300	38.3
40	38.4	350	38.3
50	38.3	400	38.3
60	38.4	450	37.9
70	38.4	500	38.1
80	38.4	550	38.2
90	38.4	600	38.1
100	38.3	650	37.9
125	38.4	700	37.9
150	38.4	750	37.7
175	38.2	800	37.4
200	38.4	850	37.6
225	38.2	900	37.4
250	38.3	950	36.7
275	38.5	1000	37.0

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 06, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	26.4	30.0	27.6
19.0	25.4	31.0	27.3
20.0	24.5	32.0	26.9
21.0	23.9	33.0	26.7
22.0	24.0	34.0	27.0
23.0	24.4	35.0	25.9
24.0	25.2	36.0	25.5
25.0	26.1	37.0	26.2
26.0	26.6	38.0	25.6
27.0	27.2	39.0	23.4
28.0	27.4	40.0	24.3
29.0	27.5		

ANTENNA RESEARCH DRG-118/A**HORN ANTENNA****S/N: 1053****CALIBRATION DATE: JANUARY 13, 2002**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.5	9.5	39.1
1.5	26.6	10.0	39.7
2.0	29.4	10.5	40.9
2.5	30.4	11.0	40.7
3.0	31.2	11.5	42.4
3.5	32.3	12.0	42.6
4.0	32.9	12.5	42.4
4.5	33.0	13.0	41.5
5.0	34.8	13.5	41.0
5.5	35.2	14.0	40.5
6.0	36.4	14.5	43.6
6.5	36.6	15.0	43.7
7.0	38.8	15.5	43.3
7.5	38.8	16.0	42.8
8.0	38.0	16.5	43.0
8.5	38.1	17.0	42.7
9.0	39.9	17.5	44.0
		18.0	41.8

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
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 b Mode
Transmit Mode

GAIN: 31 OUTPUT 17.38 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	51.48	V	74	-22.52	Peak	2	270	
4824	48.27	V	54	-5.73	Avg	2	270	
7236	48.96	V	74	-25.04	Peak	2	270	
7236	40.15	V	54	-13.85	Avg	2	270	
9648	62.4	V	--	--	Peak	2	270	Not in Restricted Band
9648	60.44	V	--	--	Avg	2	270	Not in Restricted Band
12310	57.04	V	74	-16.96	Peak	2	270	
12310	40.35	V	54	-13.65	Avg	2	270	
14472	55.89	V	74	-18.11	Peak	2	0	
14472	40	V	54	-14	Avg	2	0	
16884	46.24	V	--	--	Peak	2	0	Not in Restricted Band
16884	33.05	V	--	--	Avg	2	0	Not in Restricted Band
19296	45.87	V	74	-28.13	Peak	2	270	
19296	31	V	54	-23	Avg	2	270	
21708	48.38	V	--	--	Peak	2	180	Not in Restricted Band
21708	34	V	--	--	Avg	2	180	Not in Restricted Band
24120		V	--	--	Peak			No Emission
24120		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 b Mode
Transmit Mode

GAIN: 31 OUTPUT 17.38 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	49.45	H	74	-24.55	Peak	2	270	
4824	45.1	H	54	-8.9	Avg	2	270	
7236	43.7	H	74	-30.3	Peak	2	225	
7236	31.77	H	54	-22.23	Avg	2	225	
9648	61	H	--	--	Peak	1.75	225	Not in Restricted Band
9648	58.26	H	--	--	Avg	1.75	225	Not in Restricted Band
12060	57.13	H	74	-16.87	Peak	1.75	315	
12060	43.38	H	54	-10.62	Avg	1.75	315	
14472	54.78	H	74	-19.22	Peak	2	45	
14472	41.19	H	54	-12.81	Avg	2	45	
16884		H	--	--	Peak			No Emission
16884		H	--	--	Avg			Detected
19296	44.22	H	74	-29.78	Peak	2	270	
19296	31.26	H	54	-22.74	Avg	2	270	
21708	46.21	H	74	-27.79	Peak	2	270	
21708	34	H	54	-20	Avg	2	270	
24120		H	--	--	Peak			No Emission
24120		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 6 - 802.11 b Mode
Transmit Mode

GAIN: 31.5 OUTPUT 17.48 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	50.61	V	74	-23.39	Peak	2	225	
4874	47.68	V	54	-6.32	Avg	2	225	
7311	48.28	V	74	-25.72	Peak	2	45	
7311	36.42	V	54	-17.58	Avg	2	45	
9748	60.61	V	--	--	Peak	2	270	Not in Restricted Band
9748	57.82	V	--	--	Avg	2	270	Not in Restricted Band
12185	55.33	V	74	-18.67	Peak	2	270	
12185	42.18	V	54	-11.82	Avg	2	270	
14622	51.96	V	--	--	Peak	2	315	Not in Restricted Band
14622	39.79	V	--	--	Avg	2	315	Not in Restricted Band
17059	47.05	V	--	--	Peak	2	315	Not in Restricted Band
17059	32.87	V	--	--	Avg	2	315	Not in Restricted Band
19496	42.57	V	74	-31.43	Peak	1.75	315	
19496	30.35	V	54	-23.65	Avg	1.75	315	
21933	50.18	V	--	--	Peak	1.5	315	Not in Restricted Band
21933	35.32	V	--	--	Avg	1.5	315	Not in Restricted Band
22001	47.53	V	74	-26.47	Peak	1.5	315	
22001	34.9	V	54	-19.1	Avg	1.5	315	
24370		V	--	--	Peak	1.75	0	No Emission
24370		V	--	--	Avg	1.75	0	Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 6 - 802.11 b Mode
Transmit Mode

GAIN: 31.5 OUTPUT 17.48 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	46.51	H	74	-27.49	Peak	1.5	45	
4874	40.94	H	54	-13.06	Avg	1.5	45	
7311	47.09	H	74	-26.91	Peak	1.5	0	
7311	32.61	H	54	-21.39	Avg	1.5	0	
9748	61.74	H	--	--	Peak	1.5	315	Not in Restricted Band
9748	59.22	H	--	--	Avg	1.5	315	Not in Restricted Band
12185	56.19	H	74	-17.81	Peak	1.5	315	
12185	43.1	H	54	-10.9	Avg	1.5	315	
14622	55.03	H	--	--	Peak	1.5	315	Not in Restricted Band
14622	40.8	H	--	--	Avg	1.5	315	Not in Restricted Band
17059	43.63	H	--	--	Peak	1.5	315	Not in Restricted Band
17059	30.02	H	--	--	Avg	1.5	315	Not in Restricted Band
19496	45.46	H	74	-28.54	Peak	1.5	315	
19496	30.39	H	54	-23.61	Avg	1.5	315	
21933	47.14	H	--	--	Peak	2	270	Not in Restricted Band
21933	35.32	H	--	--	Avg	2	270	Not in Restricted Band
22001	47.55	H	74	-26.45	Peak	2	270	
22001	34.94	H	54	-19.06	Avg	2	270	
24370		H	--	--	Peak			No Emission
24370		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 11 - 802.11 b Mode
Transmit Mode

GAIN: 32 OUTPUT 17.08 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	48.89	V	74	-25.11	Peak	2	225	
4924	43.13	V	54	-10.87	Avg	2	225	
7386	45.68	V	74	-28.32	Peak	1.5	225	
7386	29.51	V	54	-24.49	Avg	1.5	225	
9848	60.79	V	--	--	Peak	2	315	Not in Restricted Band
9848	58.3	V	--	--	Avg	2	315	Not in Restricted Band
12310	53.94	V	74	-20.06	Peak	2	225	
12310	42.73	V	54	-11.27	Avg	2	225	
14772	55.46	V	--	--	Peak	1.75	315	Not in Restricted Band
14772	39.66	V	--	--	Avg	1.75	315	Not in Restricted Band
17234	45.02	V	--	--	Peak	1.75	270	Not in Restricted Band
17234	30.74	V	--	--	Avg	1.75	270	Not in Restricted Band
19696	43.06	V	74	-30.94	Peak	2	180	
19696	30.56	V	54	-23.44	Avg	2	180	
22158	49.54	V	74	-24.46	Peak	2	270	
22158	34.99	V	54	-19.01	Avg	2	270	
24620		V	--	--	Peak			No Emission
24620		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 11 - 802.11 b Mode
Transmit Mode

GAIN: 32 OUTPUT 17.08 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	48.61	H	74	-25.39	Peak	1.5	225	
4924	43.27	H	54	-10.73	Avg	1.5	225	
7386	44.8	H	74	-29.2	Peak	1.75	225	
7386	30.46	H	54	-23.54	Avg	1.75	225	
9848	62.13	H	--	--	Peak	1.5	225	Not in Restricted Band
9848	59.28	H	--	--	Avg	1.5	225	Not in Restricted Band
12310	54.16	H	74	-19.84	Peak	1.5	0	
12310	41.64	H	54	-12.36	Avg	1.5	0	
14772	53.48	H	--	--	Peak	1.5	315	Not in Restricted Band
14772	39.82	H	--	--	Avg	1.5	315	Not in Restricted Band
17234	41.74	H	--	--	Peak	1.5	315	Not in Restricted Band
17234	27.09	H	--	--	Avg	1.5	315	Not in Restricted Band
19696	45.02	H	74	-28.98	Peak	2	270	
19696	30.57	H	54	-23.43	Avg	2	270	
22158	47.38	H	74	-26.62	Peak	2	180	
22158	35.01	H	54	-18.99	Avg	2	180	
24620		H	--	--	Peak			No Emission
24620		H	--	--	Avg			Detected

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

GAIN: 31 OUTPUT 17.38 dBm

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

GAIN: 31.5 OUTPUT 17.48 dBm

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

GAIN: 32 OUTPUT 17.08 dBm

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

[illegible]

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

802.11 b Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2312	53.56	V	74	-20.44	Peak	2	180	100 MHz Below the Fundamental
2312	48.41	V	54	-5.59	Avg	2	180	of Channel 1
2512	51.11	V	74	-22.89	Peak	2	270	100 MHz Above the Fundamental
2512	42.06	V	54	-11.94	Avg	2	270	of Channel 1
2312	50.46	H	74	-23.54	Peak	2	270	100 MHz Below the Fundamental
2312	44.28	H	54	-9.72	Avg	2	270	of Channel 1
2512	45.58	H	74	-28.42	Peak	2	180	100 MHz Above the Fundamental
2512	36.69	H	54	-17.31	Avg	2	180	of Channel 1
2335.9	53.33	V	74	-20.67	Peak	2	270	101.1 MHz Below the Fundamental
2335.9	47.28	V	54	-6.72	Avg	2	270	of Channel 6
2538.5	48.65	V	74	-25.35	Peak	2	270	101.5 MHz Above the Fundamental
2538.5	38.24	V	54	-15.76	Avg	2	270	of Channel 6
2335.9	53.09	H	74	-20.91	Peak	2	45	101.1 MHz Below the Fundamental
2335.9	47.03	H	54	-6.97	Avg	2	45	of Channel 6
2538.5	46.18	H	74	-27.82	Peak	2	180	101.5 MHz Above the Fundamental
2538.5	34.59	H	54	-19.41	Avg	2	180	of Channel 6
2359	50.4	V	74	-23.6	Peak	2	180	103 MHz Below the Fundamental
2359	42.9	V	54	-11.1	Avg	2	180	of Channel 11
2565	42.72	V	74	-31.28	Peak	2	0	103 MHz Above the Fundamental
2565	30.69	V	54	-23.31	Avg	2	0	of Channel 11
2359	51.1	H	74	-22.9	Peak	2	45	103 MHz Below the Fundamental
2359	43.87	H	54	-10.13	Avg	2	45	of Channel 11
2565	44.29	H	74	-29.71	Peak	2	0	103 MHz Above the Fundamental
2565	30.15	H	74	-43.85	Peak	2	0	of Channel 11

FCC 15.247

Intel Corporation

Intel Mini PCI Type 802.11BG Wireless LAN Adapter

Model: WM3B2200BG

Date: 12/10/03

Lab: B

Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 g Mode

GAIN: 29.5 OUTPUT 15.88 dBm

Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	42.56	V	74	-31.44	Peak	2	270	
4824	27.37	V	54	-26.63	Avg	2	270	
7236	42.63	V	74	-31.37	Peak	2	270	
7236	30.18	V	54	-23.82	Avg	2	270	
9648	54.83	V	--	--	Peak	2	270	Not in Restricted Band
9648	45.01	V	--	--	Avg	2	270	Not in Restricted Band
12060	52.6	V	74	-21.4	Peak	2	270	
12060	40.06	V	54	-13.94	Avg	2	270	
14472	55.23	V	74	-18.77	Peak	2	0	
14472	39.89	V	54	-14.11	Avg	2	0	
16884	45.08	V	--	--	Peak	2	0	Not in Restricted Band
16884	32.6	V	--	--	Avg	2	0	Not in Restricted Band
19296	44.01	V	74	-29.99	Peak	2	270	
19296	30.93	V	54	-23.07	Avg	2	270	
21708	45.69	V	--	--	Peak	2	225	Not in Restricted Band
21708	34	V	--	--	Avg	2	225	For Tx Mode Only!
24120		V	--	--	Peak			No Emission
24120		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 g Mode
Transmit Mode

GAIN: 29.5 OUTPUT 15.88 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	39.63	H	74	-34.37	Peak	2	270	
4824	27.55	H	54	-26.45	Avg	2	270	
7236	43.04	H	74	-30.96	Peak	2	225	
7236	30.06	H	54	-23.94	Avg	2	225	
9648	51.91	H	--	--	Peak	1.75	225	Not in Restricted Band
9648	43.58	H	--	--	Avg	1.75	225	Not in Restricted Band
12060	52.66	H	74	-21.34	Peak	1.75	315	
12060	39.56	H	54	-14.44	Avg	1.75	315	
14472	53.05	H	74	-20.95	Peak	2	45	
14472	39.99	H	54	-14.01	Avg	2	45	
16884	45.4	H	--	--	Peak	2	180	Not in Restricted Band
16884	32.5	H	--	--	Avg	2	180	Not in Restricted Band
19296	44.7	H	74	-29.3	Peak	2	270	
19296	30.93	H	54	-23.07	Avg	2	270	
21708	46.9	H	74	-27.1	Peak	2	180	
21708	34.14	H	54	-19.86	Avg	2	180	
24120		H	--	--	Peak			No Emission
24120		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 6 - 802.11 g Mode
Transmit Mode

GAIN: 30 OUTPUT 15.95 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	41.97	V	74	-32.03	Peak	2	225	
4874	27.37	V	54	-26.63	Avg	2	225	
7311	44.39	V	74	-29.61	Peak	2	45	
7311	31.35	V	54	-22.65	Avg	2	45	
9748	54.69	V	--	--	Peak	2	270	Not in Restricted Band
9748	47.27	V	--	--	Avg	2	270	Not in Restricted Band
12185	54.38	V	74	-19.62	Peak	2	270	
12185	39.1	V	54	-14.9	Avg	2	270	
14622	54.83	V	--	--	Peak	2	315	Not in Restricted Band
14622	39.1	V	--	--	Avg	2	315	Not in Restricted Band
17059	44.95	V	--	--	Peak	2	315	Not in Restricted Band
17059	32.68	V	--	--	Avg	2	315	Not in Restricted Band
19496	43.29	V	74	-30.71	Peak	1.75	315	
19496	30.42	V	54	-23.58	Avg	1.75	315	
21933	47.1	V	--	--	Peak	1.5	315	Not in Restricted Band
21933	35.3	V	--	--	Avg	1.5	315	Not in Restricted Band
22001	46.62	V	74	-27.38	Peak	1.5	315	
22001	34.85	V	54	-19.15	Avg	1.5	315	
24370		V	--	--	Peak	1.75	0	No Emission
24370		V	--	--	Avg	1.75	0	Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 6 - 802.11 g Mode
Transmit Mode

GAIN: 30 OUTPUT 15.95 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	39.11	H	74	-34.89	Peak	1.5	45	
4874	27.28	H	54	-26.72	Avg	1.5	45	
7311	44.86	H	74	-29.14	Peak	1.5	0	
7311	31.36	H	54	-22.64	Avg	1.5	0	
9748	52.12	H	--	--	Peak	1.5	315	Not in Restricted Band
9748	41.69	H	--	--	Avg	1.5	315	Not in Restricted Band
12185	50.99	H	74	-23.01	Peak	1.5	315	
12185	38.6	H	54	-15.4	Avg	1.5	315	
14622	54.52	H	--	--	Peak	1.5	315	Not in Restricted Band
14622	39.1	H	--	--	Avg	1.5	315	Not in Restricted Band
17059	44.75	H	--	--	Peak	1.5	315	Not in Restricted Band
17059	32.71	H	--	--	Avg	1.5	315	Not in Restricted Band
19496	42.77	H	74	-31.23	Peak	1.5	315	
19496	30.43	H	54	-23.57	Avg	1.5	315	
21933	47.74	H	--	--	Peak	2	180	Not in Restricted Band
21933	34.68	H	--	--	Avg	2	180	Not in Restricted Band
22001	48.94	H	74	-25.06	Peak	2	180	
22001	34.91	H	54	-19.09	Avg	2	180	
24370		H	--	--	Peak			No Emission
24370		H	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 11 - 802.11 g Mode
Transmit Mode

GAIN: 30.5 OUTPUT 16.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	42.01	V	74	-31.99	Peak	2	225	
4924	27.25	V	54	-26.75	Avg	2	225	
7386	44.1	V	74	-29.9	Peak	1.5	225	
7386	29.29	V	54	-24.71	Avg	1.5	225	
9848	52.93	V	--	--	Peak	2	315	Not in Restricted Band
9848	44.01	V	--	--	Avg	2	315	Not in Restricted Band
12310	49.62	V	74	-24.38	Peak	2	225	
12310	37.85	V	54	-16.15	Avg	2	225	
14772	55.06	V	--	--	Peak	1.75	315	Not in Restricted Band
14772	39.96	V	--	--	Avg	1.75	315	Not in Restricted Band
17234	44.98	V	--	--	Peak	1.75	270	Not in Restricted Band
17234	31.03	V	--	--	Avg	1.75	270	Not in Restricted Band
19696	43.78	V	74	-30.22	Peak	2	180	
19696	30.52	V	54	-23.48	Avg	2	180	
22158	49.72	V	74	-24.28	Peak	2	135	
22158	35.06	V	54	-18.94	Avg	2	135	
24620		V	--	--	Peak			No Emission
24620		V	--	--	Avg			Detected

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 11 - 802.11 g Mode
Transmit Mode

GAIN: 30.5 OUTPUT 16.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4924	42.25	H	74	-31.75	Peak	1.5	225	
4924	27.46	H	54	-26.54	Avg	1.5	225	
7386	41.88	H	74	-32.12	Peak	1.75	225	
7386	29.79	H	54	-24.21	Avg	1.75	225	
9848	53.73	H	--	--	Peak	1.5	225	Not in Restricted Band
9848	38.93	H	--	--	Avg	1.5	225	Not in Restricted Band
12310	48.86	H	74	-25.14	Peak	1.5	0	
12310	36.19	H	54	-17.81	Avg	1.5	0	
14772	54.67	H	--	--	Peak	1.5	315	Not in Restricted Band
14772	39.41	H	--	--	Avg	1.5	315	Not in Restricted Band
17234	47.85	H	--	--	Peak	1.5	315	Not in Restricted Band
17234	33.28	H	--	--	Avg	1.5	315	Not in Restricted Band
19696	45.01	H	74	-28.99	Peak	2	270	
19696	30.44	H	54	-23.56	Avg	2	270	
22158	46.96	H	74	-27.04	Peak	2	270	
22158	35.02	H	54	-18.98	Avg	2	270	
24620		H	--	--	Peak			No Emission
24620		H	--	--	Avg			Detected

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Date: 12/10/03
Lab: B
Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

GAIN: 29.5 OUTPUT 15.88 dBm

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

GAIN: 30 OUTPUT 15.95 dBm

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

GAIN: 30.5 OUTPUT 16.02 dBm

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Date: 12/10/03
Lab: B
Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Receive Mode

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

[illegible]

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Date: 12/10/03
Lab: B
Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Receive Mode

[illegible]

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

802.11 g Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2312	57.27	V	74	-16.73	Peak	2	45	100 MHz Below the Fundamental
2312	50.99	V	54	-3.01	Avg	2	45	of Channel 1
2512	52.43	V	74	-21.57	Peak	2	45	100 MHz Above the Fundamental
2512	42.75	V	54	-11.25	Avg	2	45	of Channel 1
2312	51.39	H	74	-22.61	Peak	2	135	100 MHz Below the Fundamental
2312	43.01	H	54	-10.99	Avg	2	135	of Channel 1
2512	49.13	H	74	-24.87	Peak	2	225	100 MHz Above the Fundamental
2512	37.86	H	54	-16.14	Avg	2	225	of Channel 1
2335.9	59.16	V	74	-14.84	Peak	2	45	101.1 MHz Below the Fundamental
2335.9	51.29	V	54	-2.71	Avg	2	45	of Channel 6
2538.5	51.58	V	74	-22.42	Peak	2	45	101.5 MHz Above the Fundamental
2538.5	41.9	V	54	-12.1	Avg	2	45	of Channel 6
2335.9	56.38	H	74	-17.62	Peak	2	180	101.1 MHz Below the Fundamental
2335.9	49.15	H	54	-4.85	Avg	2	180	of Channel 6
2538.5	49.59	H	74	-24.41	Peak	2	180	101.5 MHz Above the Fundamental
2538.5	39.93	H	54	-14.07	Avg	2	180	of Channel 6
2359	56.84	V	74	-17.16	Peak	2	45	103 MHz Below the Fundamental
2359	48.36	V	54	-5.64	Avg	2	45	of Channel 11
2565	49.36	V	74	-24.64	Peak	2	45	103 MHz Above the Fundamental
2565	37.6	V	54	-16.4	Avg	2	45	of Channel 11
2359	53.68	H	74	-20.32	Peak	2	45	103 MHz Below the Fundamental
2359	45.1	H	54	-8.9	Avg	2	45	of Channel 11
2565	47.75	H	74	-26.25	Peak	2	45	103 MHz Above the Fundamental
2565	35.02	H	74	-38.98	Peak	2	45	of Channel 11

Test Location : Compatible Electronics **Page** : 1/1
Customer : Intel Corporation **Date** : 12/11/2003
Manufacturer : Intel Corporation **Time** : 19:32:07
Eut name : Mini PCI Type 802.11BG Wireless LAN Adapter **Lab** : D
Model : WM3B2200BG **Test Distance** : 3.0 Meters
Serial # :
Specification : FCC Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : test Range: 10 kHz - 300 MHz
Horizontal and Vertical Polarizations

Tested by: Benigno Chavez

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
1H	84.492	53.40	1.70	8.05	38.40	24.75	40.00	-15.25
2H	126.709	48.20	2.01	11.47	38.40	23.29	43.50	-20.21
3H	168.906	49.20	2.51	14.08	38.25	27.54	43.50	-15.96
4H	147.495	55.40	2.18	12.76	38.40	31.94	43.50	-11.56
5H	156.646	54.80	2.31	13.60	38.34	32.37	43.50	-11.13
6H	157.629	53.40	2.33	13.69	38.34	31.08	43.50	-12.42
7H	160.239	55.90	2.37	13.90	38.31	33.86	43.50	-9.64
8H	172.132	55.70	2.56	14.14	38.22	34.18	43.50	-9.32
9H	172.931	51.10	2.57	14.16	38.22	29.61	43.50	-13.89
10H	186.026	52.40	2.55	14.49	38.29	31.15	43.50	-12.35
11H	196.674	54.00	2.51	14.80	38.37	32.94	43.50	-10.56
12H	247.740	54.80	2.97	16.53	38.29	36.01	46.00	-9.99
13H	264.063	51.80	3.06	17.53	38.41	33.97	46.00	-12.03
14H	270.244	50.40	3.08	17.92	38.46	32.94	46.00	-13.06
15H	292.748	50.40	3.24	19.28	38.36	34.57	46.00	-11.43
16V	84.509	51.70	1.70	8.05	38.40	23.05	40.00	-16.95
17V	126.649	55.30	2.01	11.47	38.40	30.38	43.50	-13.12
18V	147.516	53.50	2.18	12.76	38.40	30.04	43.50	-13.46
19V	172.141	50.10	2.56	14.14	38.22	28.58	43.50	-14.92
20V	212.759	52.70	2.61	15.37	38.29	32.38	43.50	-11.12
21V	213.427	52.50	2.61	15.40	38.29	32.22	43.50	-11.28
22V	233.411	52.90	2.80	16.08	38.23	33.55	46.00	-12.45
23V	292.736	44.90	3.24	19.28	38.36	29.07	46.00	-16.93

Test Location : Compatible Electronics **Page** : 1/1
Customer : Intel Corporation **Date** : 12/11/2003
Manufacturer : Intel Corporation **Time** : 20:41:57
Eut name : Mini PCI Type 802.11BG Wireless LAN Adapter **Lab** : D
Model : WM3B2200BG **Test Distance** : 3.0 Meters
Serial # :
Specification : FCC Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : test Range: 300-1000 MHz
Horizontal and Vertical Polarizations

Tested by: Benigno Chavez

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
1H	300.034	55.10	3.30	12.80	38.30	32.90	46.00	-13.10
2H	306.679	53.10	3.34	12.92	38.30	31.07	46.00	-14.93
3H	427.765	55.80	3.91	14.88	38.07	36.52	46.00	-9.48
4H	456.109	53.30	4.05	15.34	37.93	34.77	46.00	-11.23
5H	466.650	56.60	4.14	15.51	37.97	38.27	46.00	-7.73
6H	468.160	51.60	4.15	15.53	37.98	33.30	46.00	-12.70
7H	480.155	51.40	4.25	15.71	38.02	33.33	46.00	-12.67
8H	517.865	52.40	4.40	16.33	38.14	34.99	46.00	-11.01
9V	300.034	57.00	3.30	12.80	38.30	34.80	46.00	-11.20
10V	427.772	49.30	3.91	14.88	38.07	30.02	46.00	-15.98
11V	456.157	46.80	4.05	15.34	37.93	28.27	46.00	-17.73
12V	466.704	51.10	4.14	15.51	37.97	32.78	46.00	-13.22
13V	468.145	46.90	4.15	15.53	37.98	28.60	46.00	-17.40
14V	480.131	46.00	4.25	15.71	38.02	27.93	46.00	-18.07
15V	528.144	52.70	4.40	16.51	38.16	35.45	46.00	-10.55

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

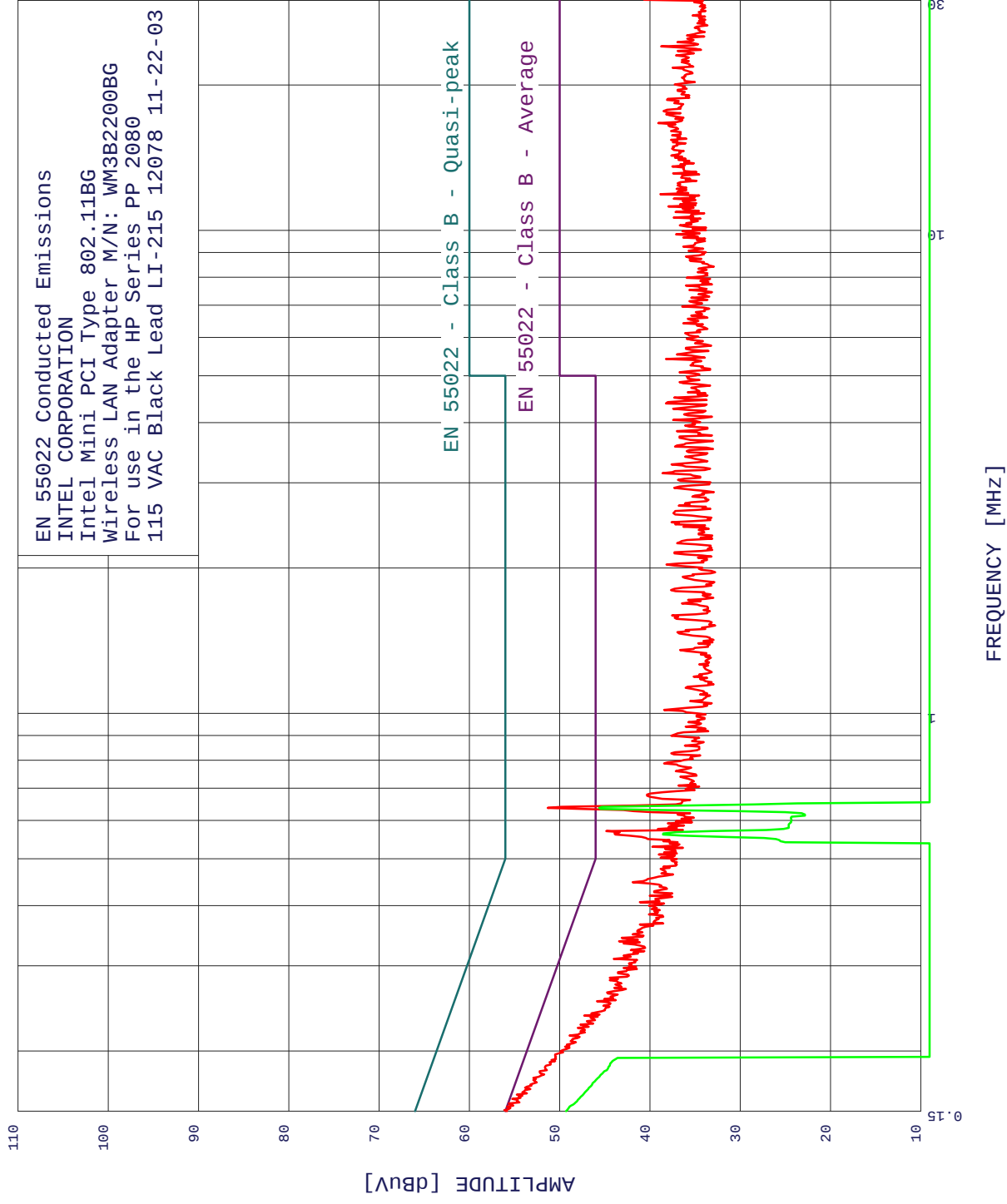
[illegible]

CONDUCTED EMISSIONS

DATA SHEETS

EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average

12/11/2003 17:43:19



12/11/2003

17:43:19

EN 55022 Conducted Emissions
 INTEL CORPORATION
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 M/N: WM3B2200BG
 For use in the HP Series PP 2080
 115 VAC - Black Lead LI-215 12078 11-22-03
 TEST ENGINEER : BENIGNO CHAVEZ

 40 highest peaks above -50.00 dB of EN 55022 - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.637	51.32	46.00	5.32**1
2	0.570	44.81	46.00	-1.19**1
3	0.215	48.88	53.00	-4.12
4	0.237	47.26	52.21	-4.95
5	0.447	41.91	46.93	-5.02
6	0.679	40.32	46.00	-5.68
7	0.254	45.85	51.64	-5.79
8	0.338	43.41	49.26	-5.86
9	0.310	44.01	49.97	-5.96
10	0.343	43.11	49.13	-6.03
11	0.530	39.71	46.00	-6.29
12	0.280	44.43	50.81	-6.38
13	0.334	42.91	49.35	-6.44
14	0.256	45.05	51.55	-6.50
15	0.265	44.74	51.29	-6.55
16	0.406	41.11	47.72	-6.61
17	0.577	39.11	46.00	-6.89**
18	0.510	39.01	46.00	-6.99
19	0.290	43.52	50.54	-7.02
20	0.348	41.91	49.00	-7.09
21	0.502	38.81	46.00	-7.19
22	3.141	38.60	46.00	-7.40
23	0.297	42.92	50.32	-7.41
24	0.419	40.01	47.46	-7.45
25	0.365	41.11	48.61	-7.50
26	0.324	42.11	49.62	-7.51
27	1.016	38.43	46.00	-7.57
28	0.788	38.42	46.00	-7.58
29	0.516	38.41	46.00	-7.59
30	0.476	38.81	46.40	-7.59
31	0.524	38.31	46.00	-7.69
32	0.400	40.11	47.86	-7.75
33	0.428	39.51	47.28	-7.77
34	4.384	38.21	46.00	-7.79
35	2.034	38.17	46.00	-7.83
36	0.592	38.02	46.00	-7.98**
37	0.383	40.11	48.21	-8.10
38	1.800	37.66	46.00	-8.34
39	0.899	37.63	46.00	-8.37
40	0.826	37.62	46.00	-8.38

1 AM radio station - not EUT noise

12/11/2003

17:43:19

EN 55022 Conducted Emissions

INTEL CORPORATION

Intel Mini PCI Type 802.11BG Wireless LAN Adapter

M/N: WM3B2200BG

For use in the HP Series PP 2080

115 VAC - Black Lead LI-215 12078 11-22-03

TEST ENGINEER : BENIGNO CHAVEZ

2 highest peaks above -50.00 dB of EN 55022 - Class B - Average limit line

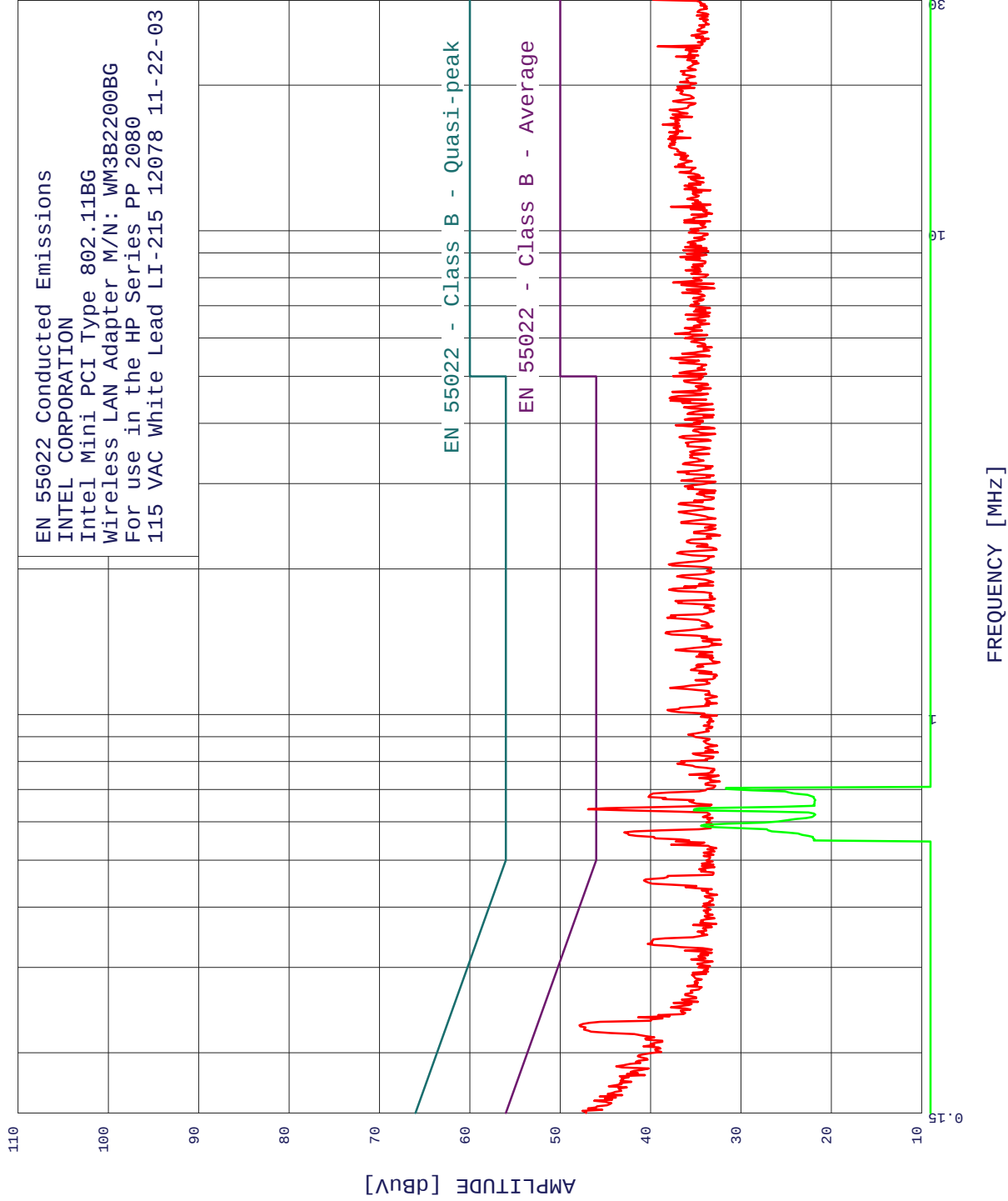
Peak criteria : 0.10 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)	
1	0.637	45.61	46.00	-0.39	1
2	0.561	38.54	46.00	-7.46	1

1 AM radio station - not EUT noise

EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average

12/11/2003 18:14:37



12/11/2003

18:14:37

EN 55022 Conducted Emissions
 INTEL CORPORATION
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 M/N: WM3B2200BG
 For use in the HP Series PP 2080
 115 VAC - White Lead LI-215 12078 11-22-03
 TEST ENGINEER : BENIGNO CHAVEZ

 40 highest peaks above -50.00 dB of EN 55022 - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.637	46.92	46.00	0.92**1
2	0.570	42.91	46.00	-3.09**1
3	0.228	47.87	52.52	-4.65
4	0.676	40.22	46.00	-5.78**
5	0.454	40.71	46.80	-6.09
6	1.472	38.35	46.00	-7.65
7	1.586	38.15	46.00	-7.85
8	1.021	38.13	46.00	-7.87
9	2.044	37.97	46.00	-8.03
10	1.810	37.96	46.00	-8.04
11	4.504	37.91	46.00	-8.09
12	1.136	37.83	46.00	-8.17
13	4.456	37.81	46.00	-8.19
14	0.538	37.71	46.00	-8.29
15	4.648	37.61	46.00	-8.39
16	1.717	37.25	46.00	-8.75
17	1.359	37.24	46.00	-8.76
18	0.547	37.21	46.00	-8.79
19	3.966	37.21	46.00	-8.79
20	0.153	46.93	55.82	-8.89
21	2.156	37.07	46.00	-8.93
22	1.929	37.06	46.00	-8.94
23	0.792	37.02	46.00	-8.98
24	3.175	37.00	46.00	-9.00
25	0.336	40.31	49.31	-9.00
26	2.722	36.89	46.00	-9.11
27	2.624	36.89	46.00	-9.11
28	3.741	36.81	46.00	-9.19
29	0.159	46.22	55.51	-9.29
30	3.043	36.60	46.00	-9.40
31	2.501	36.58	46.00	-9.42
32	3.294	36.40	46.00	-9.60
33	4.902	36.31	46.00	-9.69
34	4.316	36.31	46.00	-9.69
35	0.162	45.62	55.34	-9.72
36	1.840	36.26	46.00	-9.74
37	4.071	36.21	46.00	-9.79
38	2.963	36.20	46.00	-9.80
39	3.644	36.11	46.00	-9.89
40	2.286	35.97	46.00	-10.03

1 AM radio station - not EUT noise

12/11/2003

18:14:37

EN 55022 Conducted Emissions

INTEL CORPORATION

Intel Mini PCI Type 802.11BG Wireless LAN Adapter

M/N: WM3B2200BG

For use in the HP Series PP 2080

115 VAC - White Lead LI-215 12078 11-22-03

TEST ENGINEER : BENIGNO CHAVEZ

3 highest peaks above -50.00 dB of EN 55022 - Class B - Average limit line

Peak criteria : 0.10 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)	
1	0.634	35.20	46.00	-10.80	1
2	0.589	34.42	46.00	-11.58	1
3	0.705	31.65	46.00	-14.35	

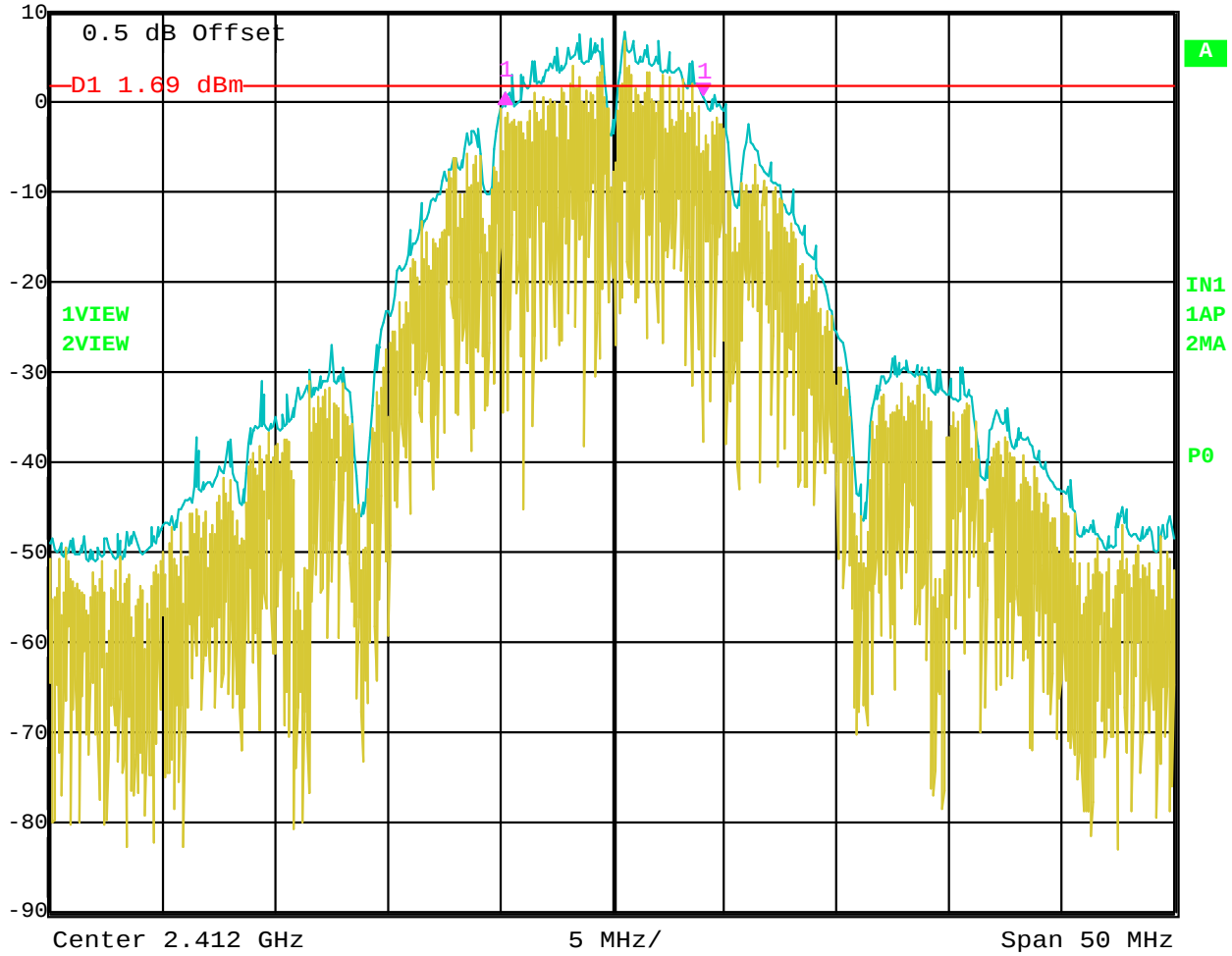
1 AM radio station - not EUT noise

-6 dB BANDWIDTH

DATA SHEETS



Ref Lvl 10 dBm
Delta 1 [T2] 0.19 dB
-8.81763527 MHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 12.5 ms Unit dBm

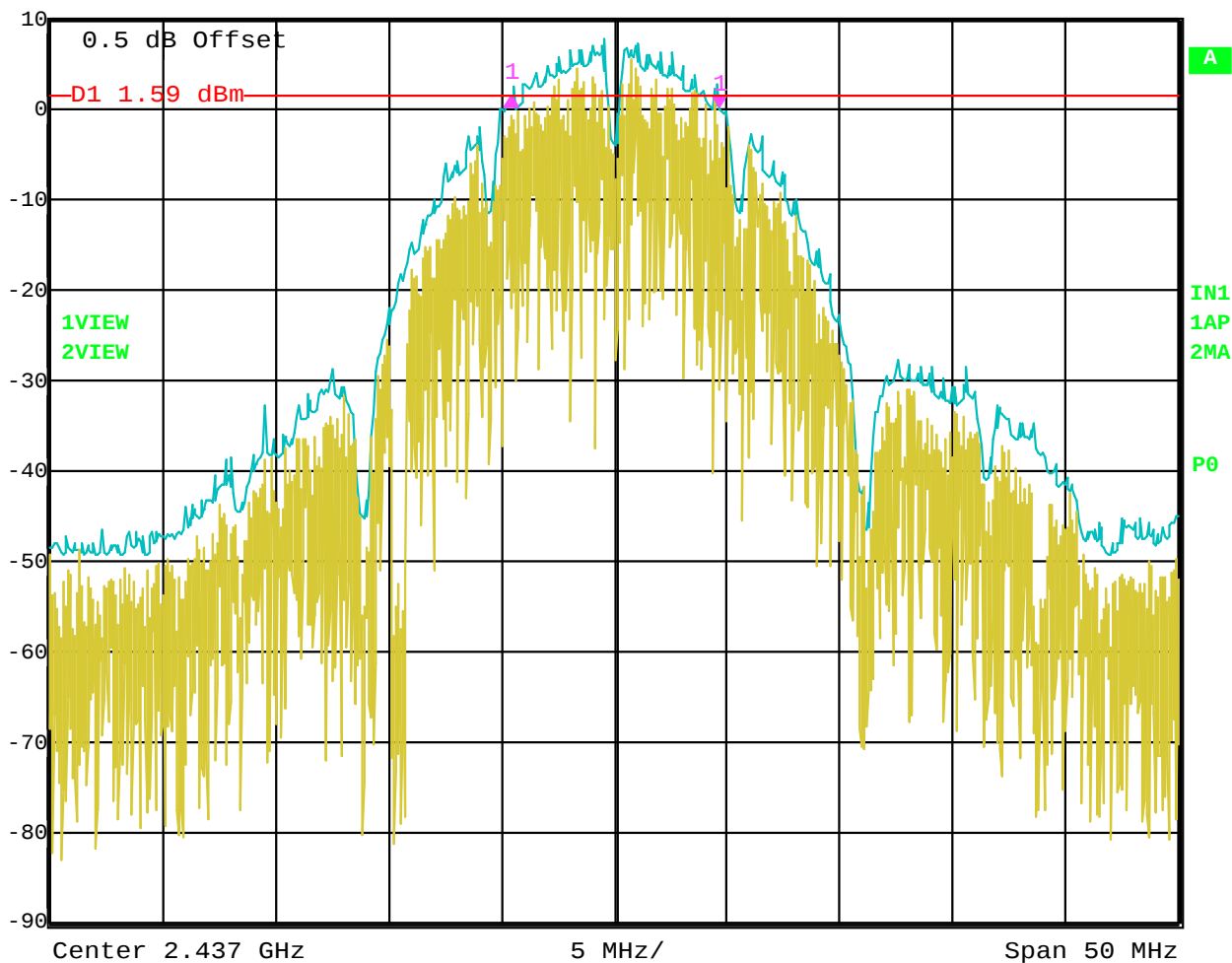


Date: 11.DEC.2003 09:38:57

-6 dB Bandwidth – Channel 1 – 802.11 b Mode



Ref Lvl 10 dBm
Delta 1 [T2] 1.34 dB
RBW 100 kHz RF Att 40 dB
-9.21843687 MHz VBW 300 kHz
SWT 12.5 ms Unit dBm

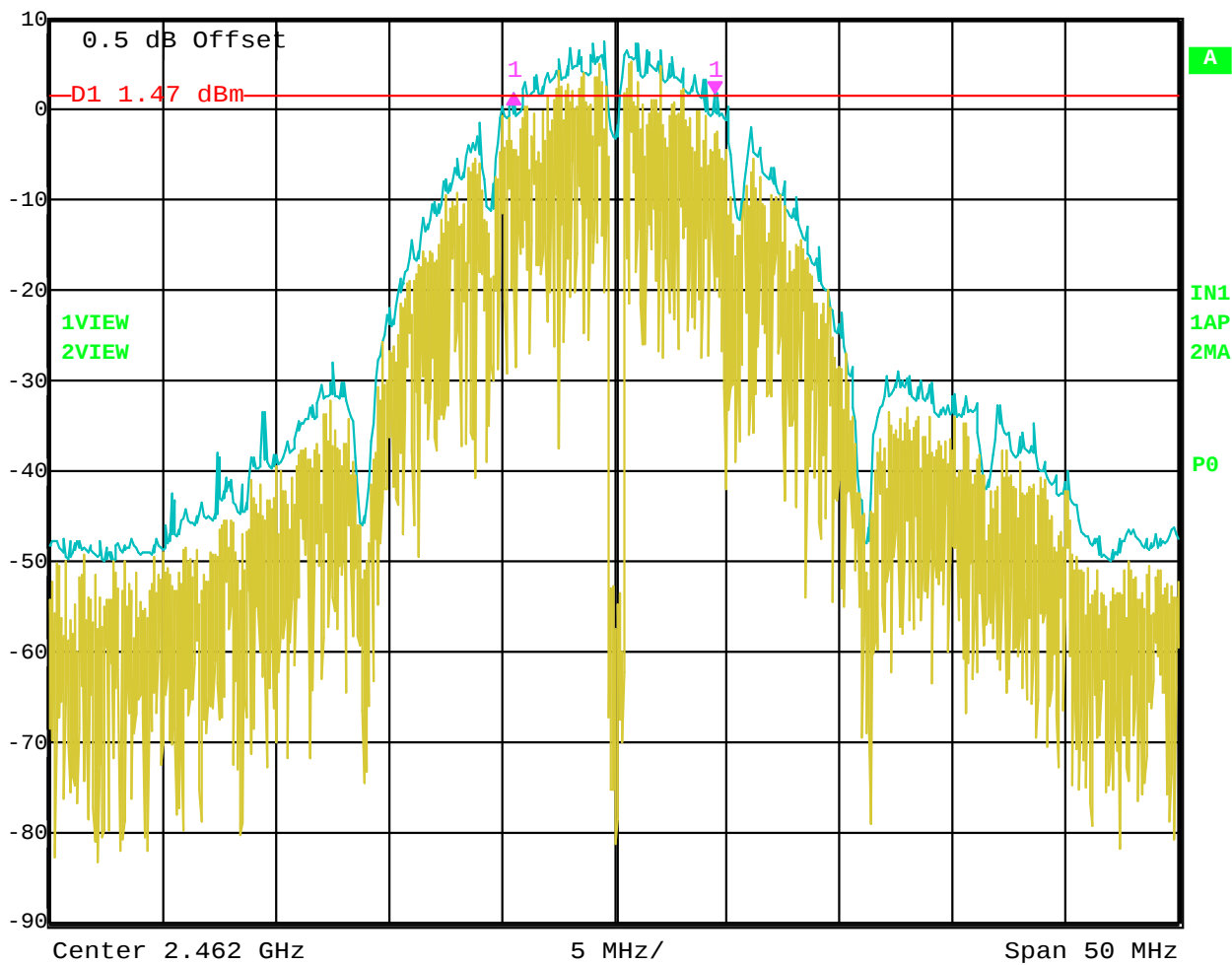


Date: 11.DEC.2003 09:41:57

-6 dB Bandwidth – Channel 6 – 802.11 b Mode



Ref Lvl 10 dBm
Delta 1 [T2] -0.00 dB
-8.91783567 MHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 12.5 ms Unit dBm

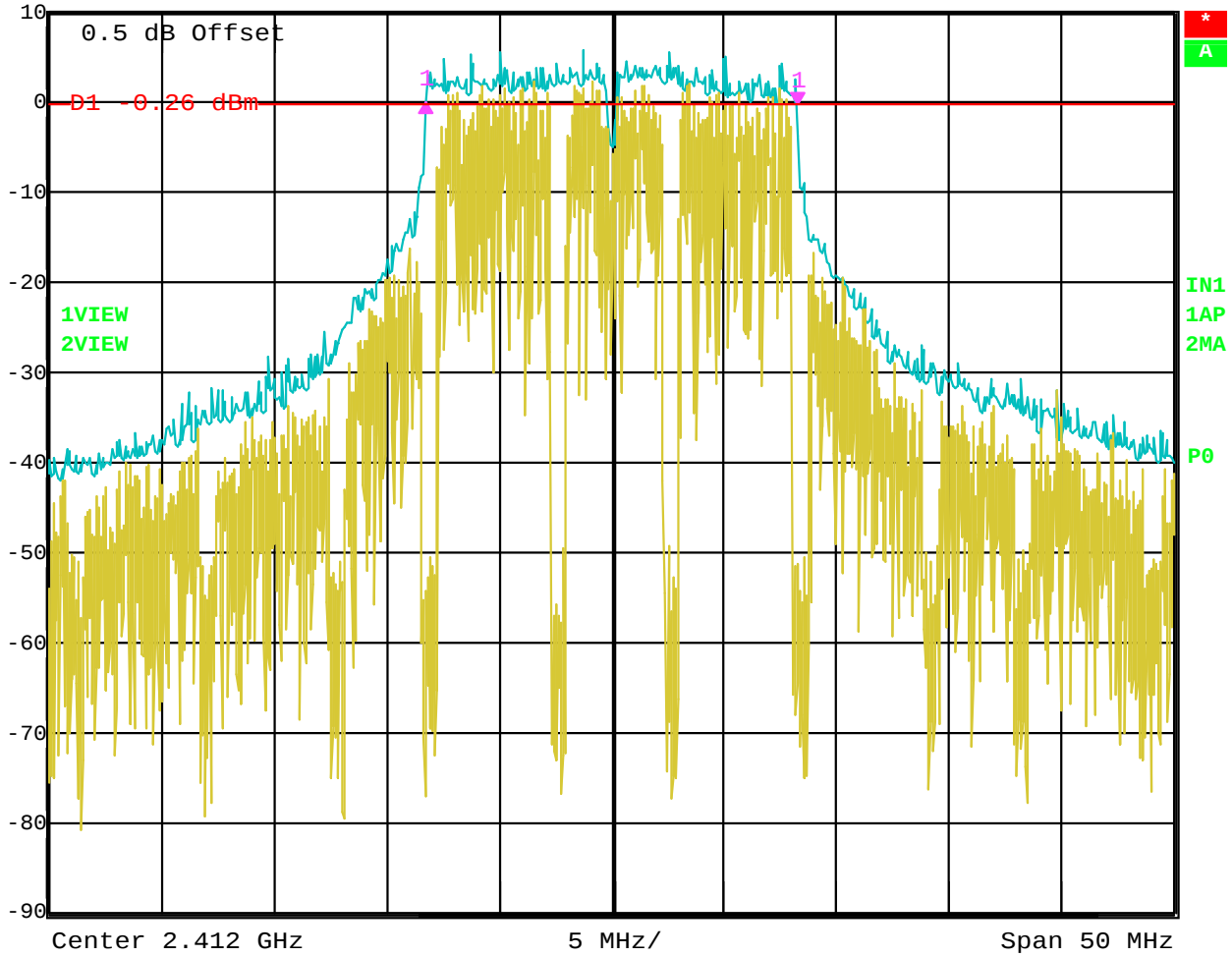


Date: 11.DEC.2003 09:45:50

-6 dB Bandwidth - Channel 11 - 802.11 b Mode



Delta 1 [T2] RBW 100 kHz RF Att 40 dB
Ref Lvl 0.23 dB VBW 300 kHz
10 dBm -16.53306613 MHz SWT 12.5 ms Unit dBm

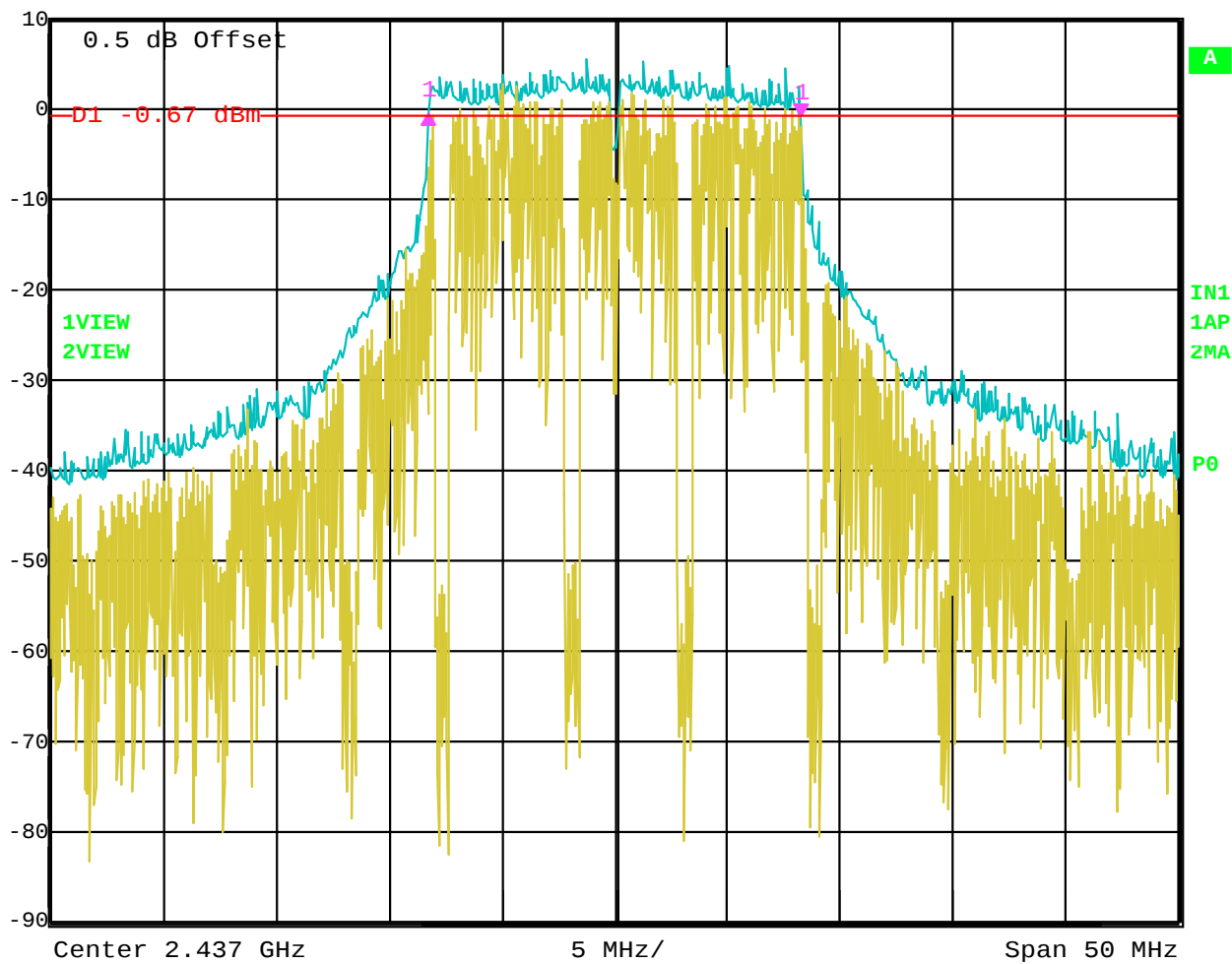


Date: 11.DEC.2003 11:15:13

-6 dB Bandwidth – Channel 1 – 802.11 g Mode



Delta 1 [T2] RBW 100 kHz RF Att 40 dB
Ref Lvl 0.26 dB VBW 300 kHz
10 dBm -16.53306613 MHz SWT 12.5 ms Unit dBm

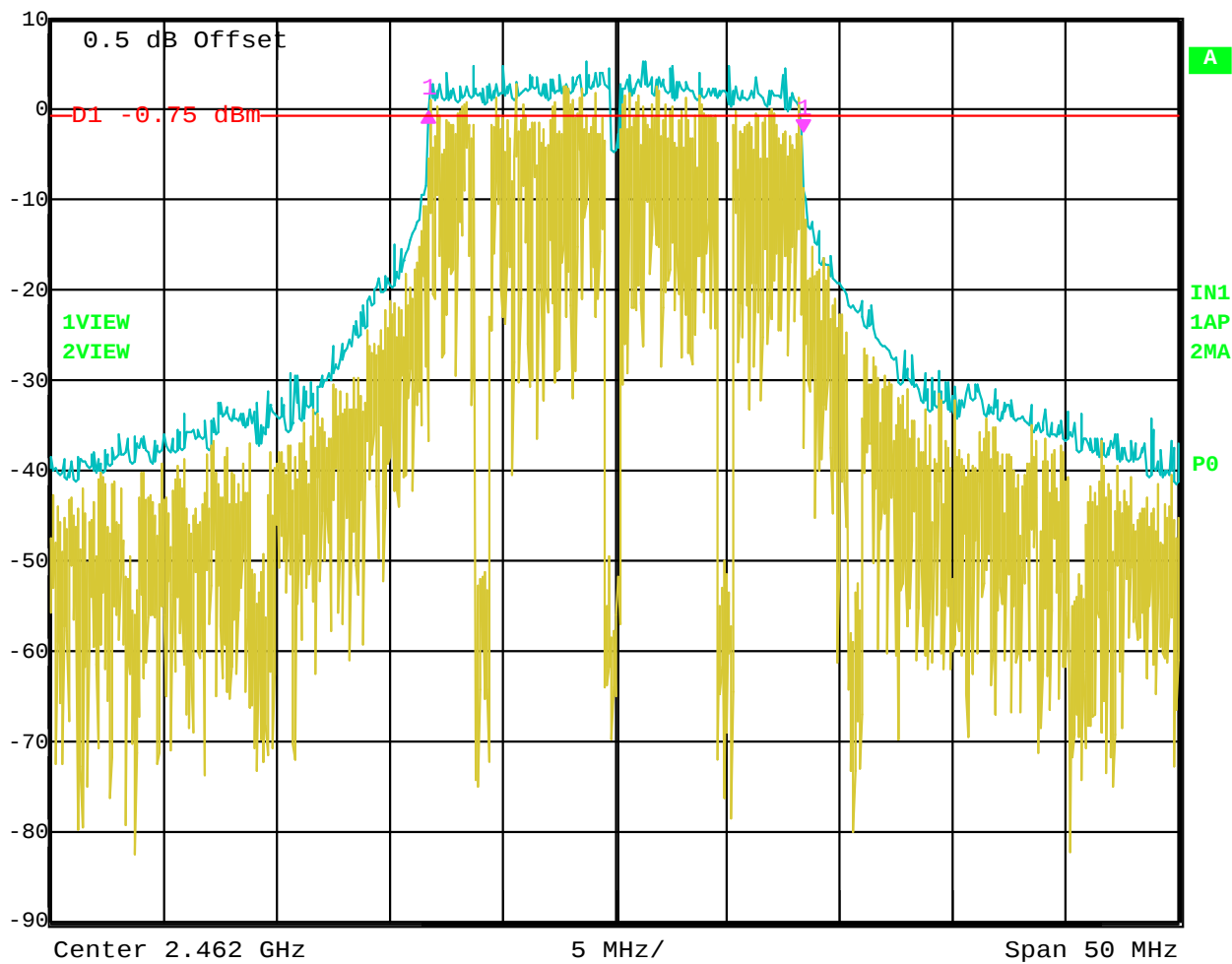


Date: 11.DEC.2003 11:18:51

-6 dB Bandwidth – Channel 6 – 802.11 g Mode



Ref Lvl	Delta 1 [T2]	RBW	100 kHz	RF Att	40 dB
10 dBm	2.30 dB	VBW	300 kHz		
	-16.63326653 MHz	SWT	12.5 ms	Unit	dBm



Date: 11.DEC.2003 11:20:00

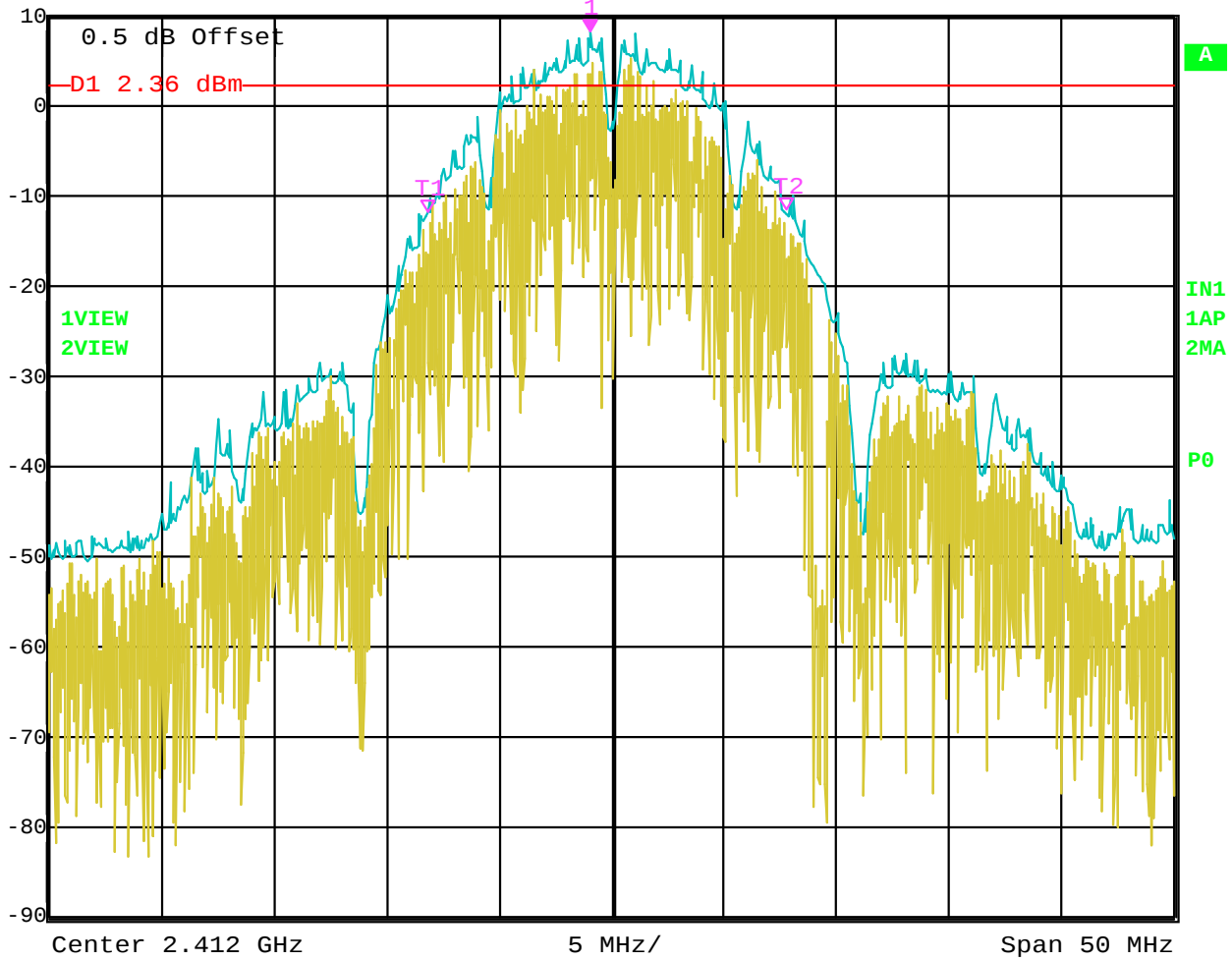
-6 dB Bandwidth – Channel 11 – 802.11 g Mode

-20 dB BANDWIDTH

DATA SHEETS



Ref Lvl	Marker 1 [T2 ndB]	RBW	100 kHz	RF Att	40 dB
10 dBm	ndB 20.00 dB	VBW	300 kHz		
	BW 15.93186373 MHz	SWT	12.5 ms	Unit	dBm

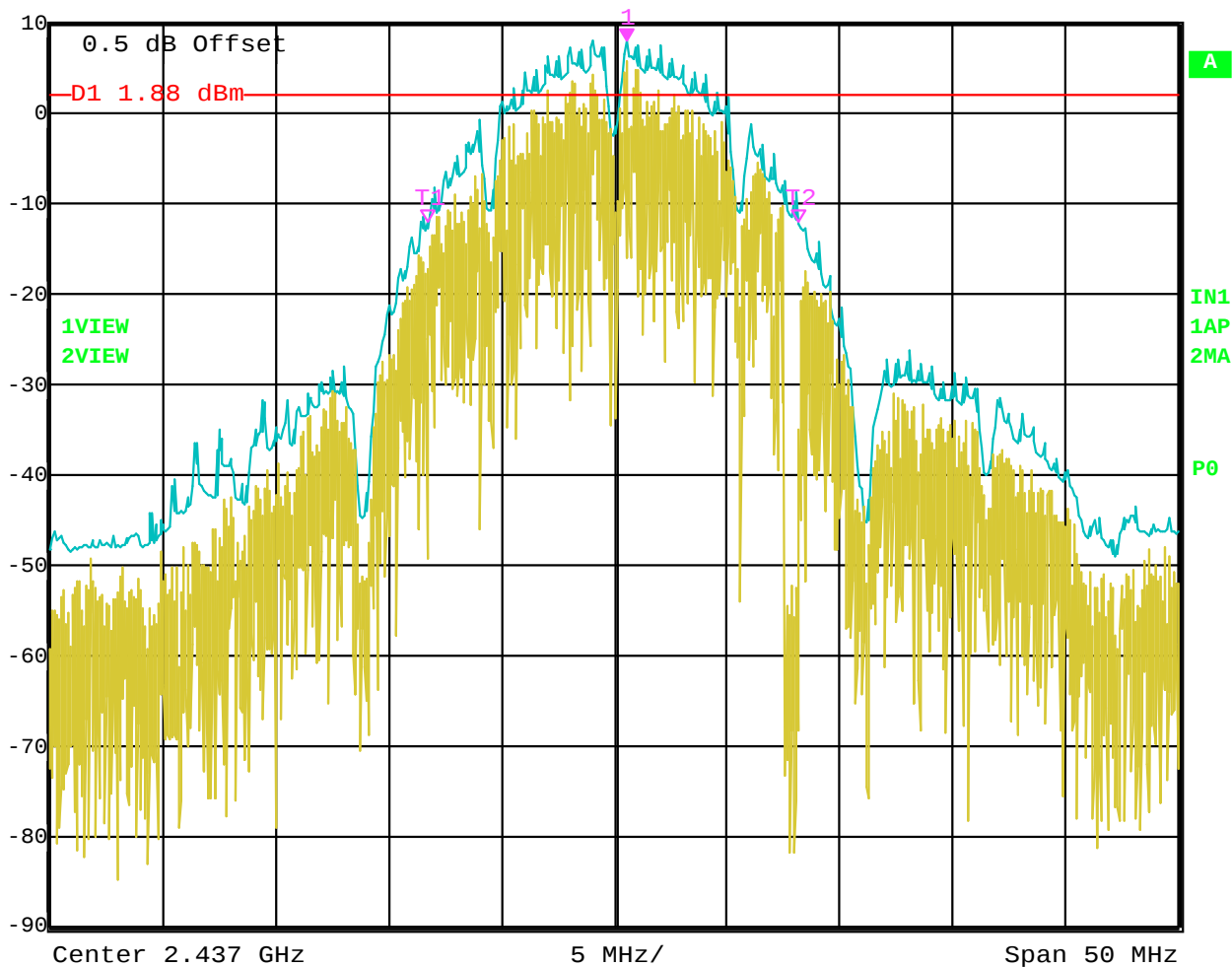


Date: 11.DEC.2003 09:28:56

-20 dB Bandwidth – Channel 1 – 802.11 b Mode



Ref Lvl 10 dBm
Marker 1 [T2 ndB] 20.00 dB
BW 16.43286573 MHz
RBW 100 kHz
RF Att 40 dB
VBW 300 kHz
SWT 12.5 ms
Unit dBm

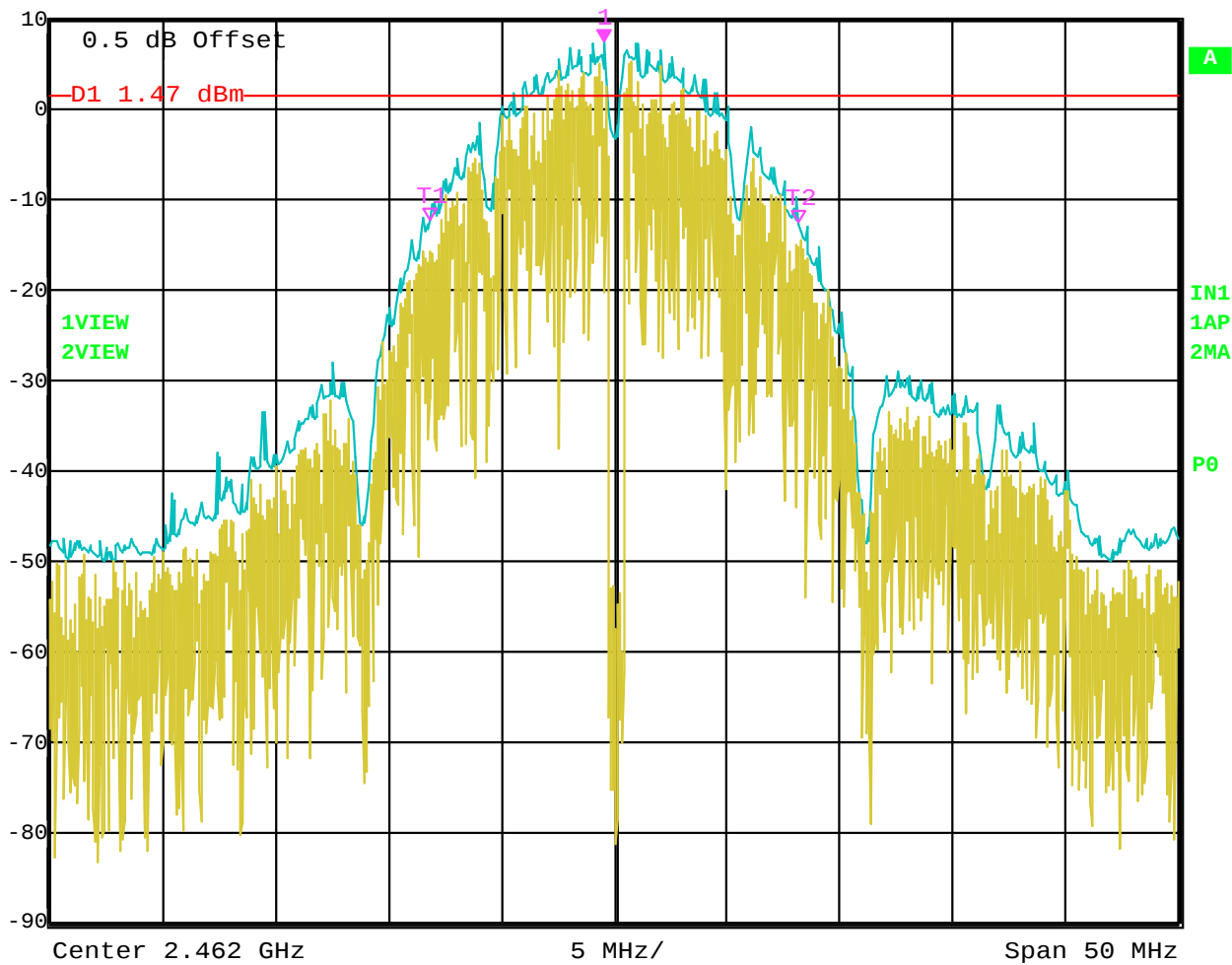


Date: 11.DEC.2003 09:34:26

-20 dB Bandwidth – Channel 6 – 802.11 b Mode



Ref Lvl	Marker 1 [T2 ndB]	RBW	100 kHz	RF Att	40 dB
10 dBm	ndB 20.00 dB	VBW	300 kHz		
	BW 16.33266533 MHz	SWT	12.5 ms	Unit	dBm

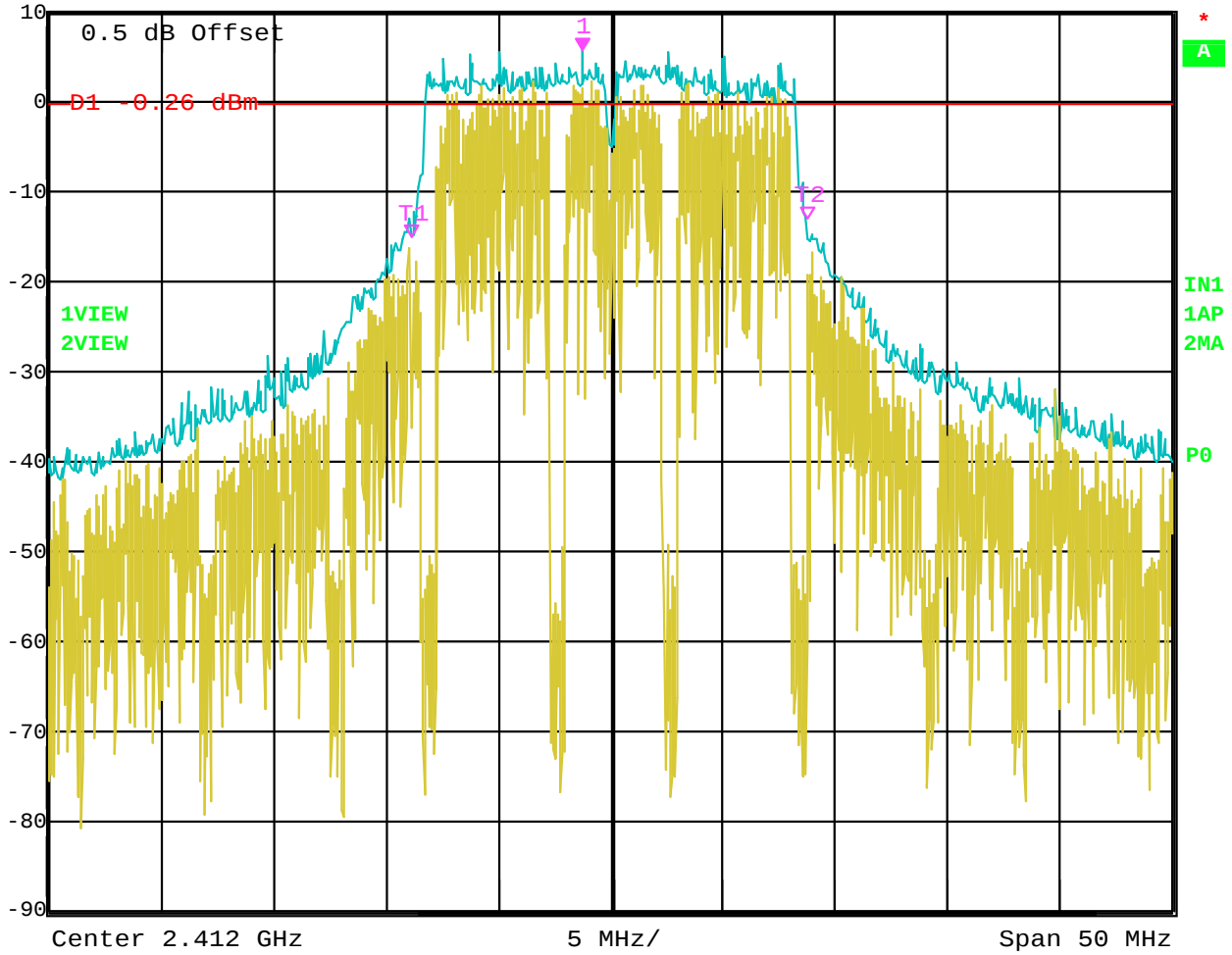


Date: 11.DEC.2003 09:46:25

-20 dB Bandwidth – Channel 11 – 802.11 b Mode



Ref Lvl	Marker 1 [T2 ndB]	RBW	100 kHz	RF Att	40 dB
10 dBm	ndB 20.00 dB	VBW	300 kHz		
	BW 17.63527054 MHz	SWT	12.5 ms	Unit	dBm

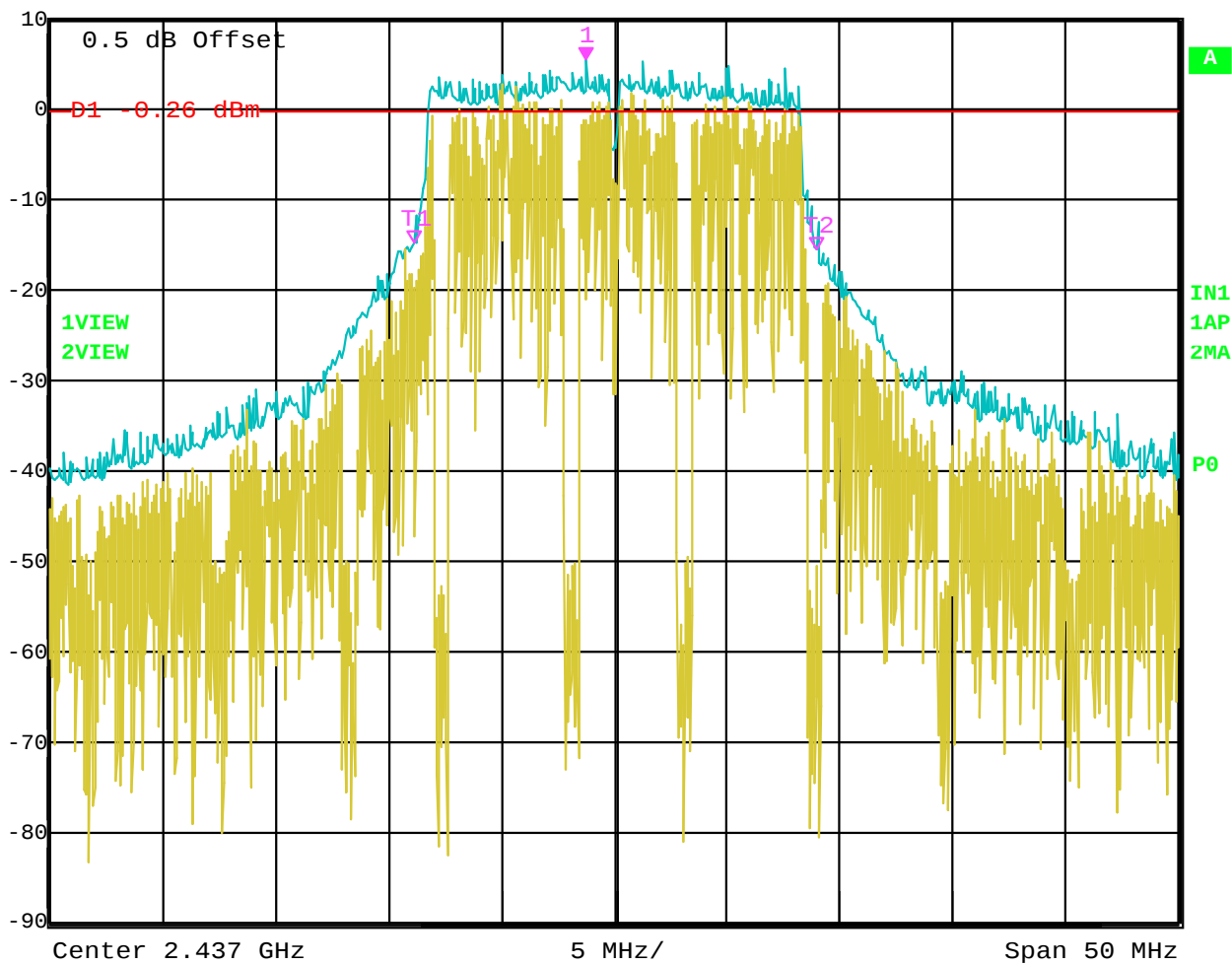


Date: 11.DEC.2003 11:15:57

-20 dB Bandwidth – Channel 1 – 802.11 g Mode



Ref Lvl	Marker 1 [T2 ndB]	RBW	100 kHz	RF Att	40 dB
10 dBm	ndB 20.00 dB	VBW	300 kHz		
	BW 17.83567134 MHz	SWT	12.5 ms	Unit	dBm

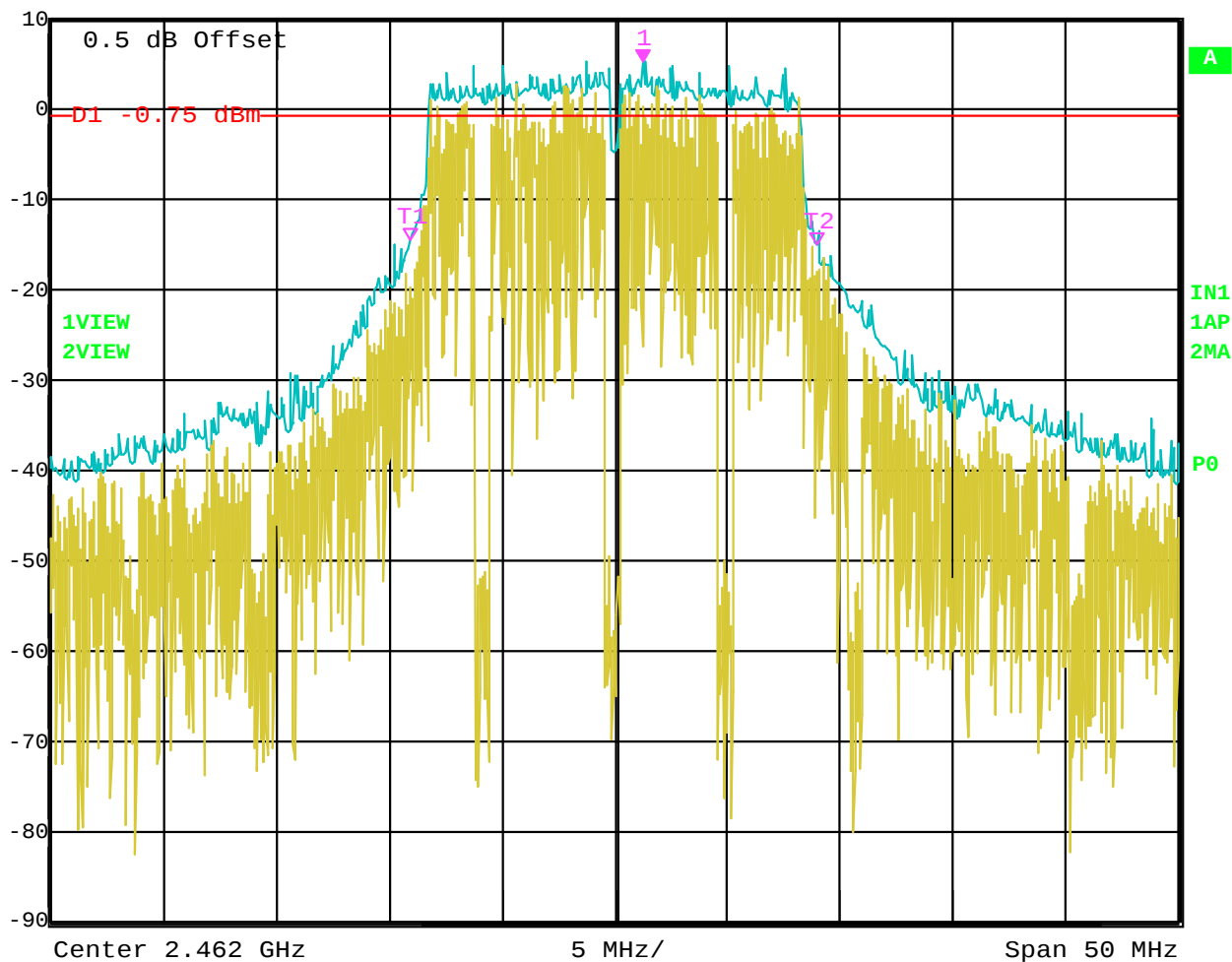


Date: 11.DEC.2003 11:17:54

-20 dB Bandwidth – Channel 6 – 802.11 g Mode



Ref Lvl	Marker 1 [T2 ndB]	RBW	100 kHz	RF Att	40 dB
10 dBm	ndB 20.00 dB	VBW	300 kHz		
	BW 18.03607214 MHz	SWT	12.5 ms	Unit	dBm



Date: 11.DEC.2003 11:20:34

-20 dB Bandwidth – Channel 11 – 802.11 g Mode

PEAK POWER OUTPUT

DATA SHEETS

PEAK OUTPUT POWER

Intel Corporation

Intel Mini PCI Type 802.11BG Wireless LAN Adapter

MODEL: WM3B2200BG

For use in the HP Agency Series# PP 2080 (Laptop Type)

802.11 b Mode (Worst Case Rate is 1 Mbps)

CHANNEL	GAIN	PEAK POWER OUTPUT (dBm)
1 (2412 MHz)	31.0	17.38
6 (2437 MHz)	31.5	17.48
11 (2462 MHz)	32.0	17.08

802.11 g Mode (Worst Case Rate is 6 Mbps)

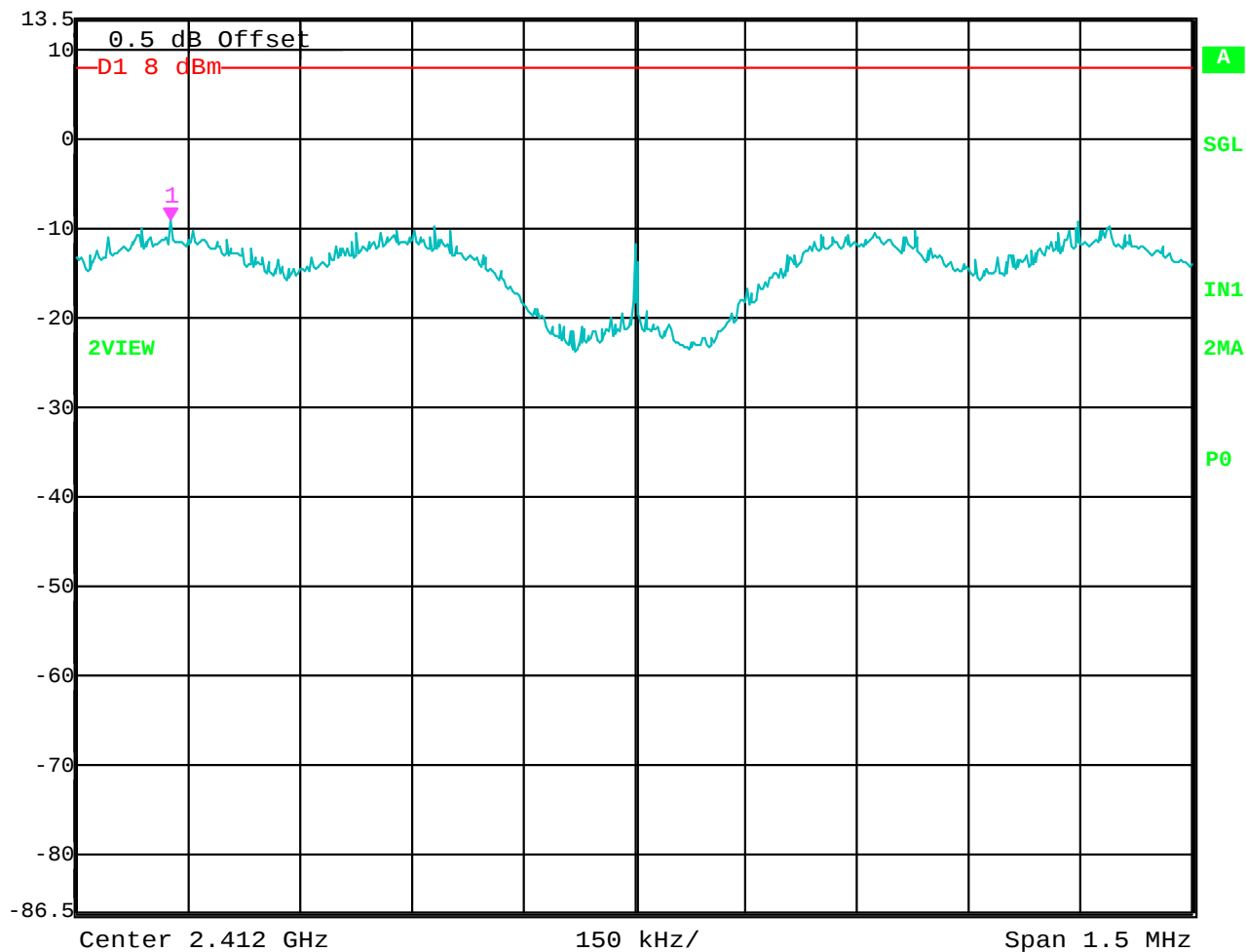
CHANNEL	GAIN	PEAK POWER OUTPUT (dBm)
1 (2412 MHz)	29.5	15.88
6 (2437 MHz)	30.0	15.95
11 (2462 MHz)	30.5	16.02

PEAK POWER SPECTRAL DENSITY

DATA SHEETS



Ref Lvl 13.5 dBm Marker 1 [T2] -9.04 dBm RBW 3 kHz RF Att 40 dB
2.41137625 GHz VBW 10 kHz Unit dBm
SWT 500 s

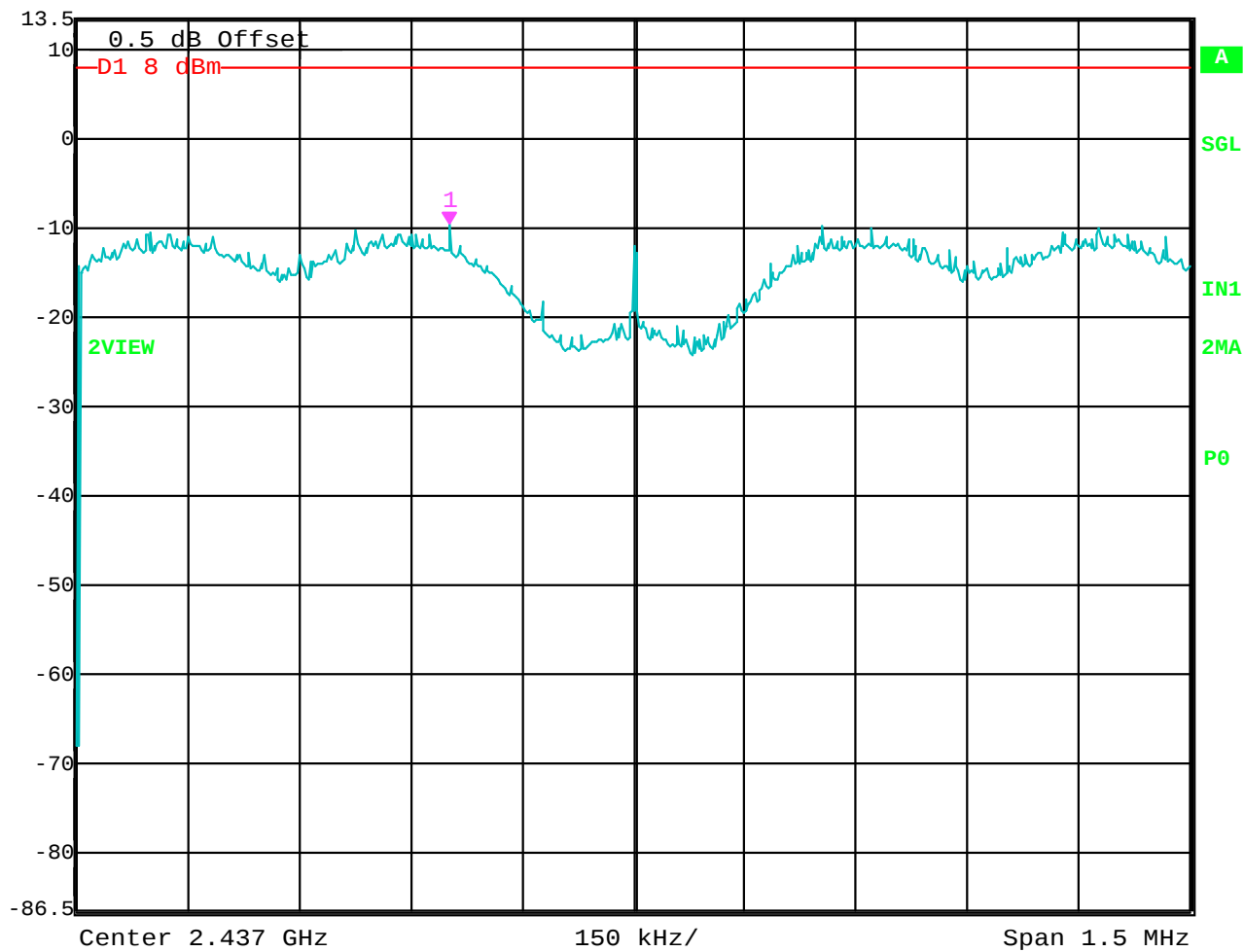


Date: 11.DEC.2003 15:51:08

Spectral Density Output – Channel 1 – 802.11 b Mode



Ref Lvl 13.5 dBm
Marker 1 [T2] -9.71 dBm
2.43675200 GHz
RBW 3 kHz
VBW 10 kHz
SWT 500 s
RF Att 40 dB
Unit dBm

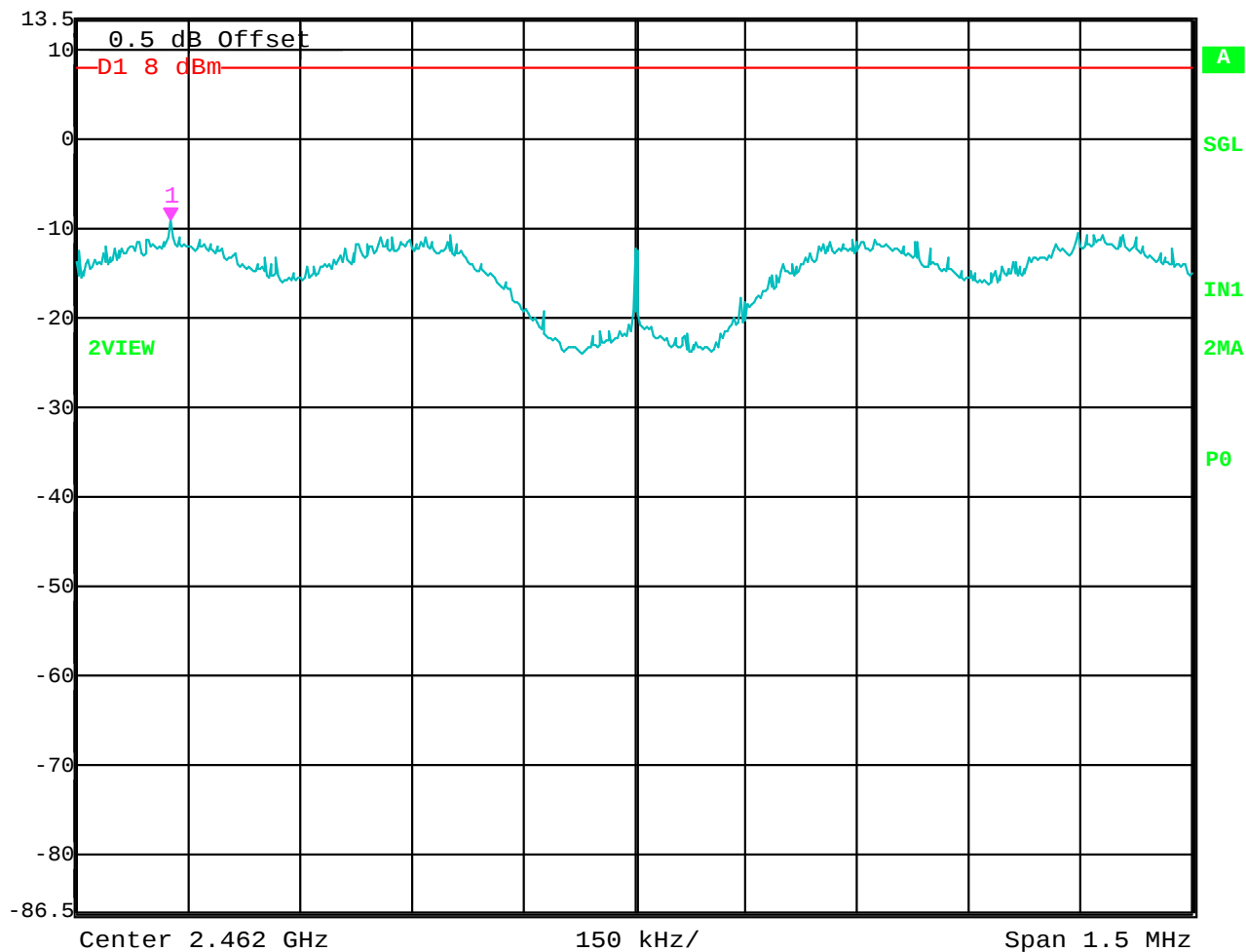


Date: 11.DEC.2003 15:22:57

Spectral Density Output – Channel 6 – 802.11 b Mode



Ref Lvl	Marker 1 [T2]	RBW	3 kHz	RF Att	40 dB
13.5 dBm	-9.18 dBm	VBW	10 kHz		
	2.46137625 GHz	SWT	500 s	Unit	dBm

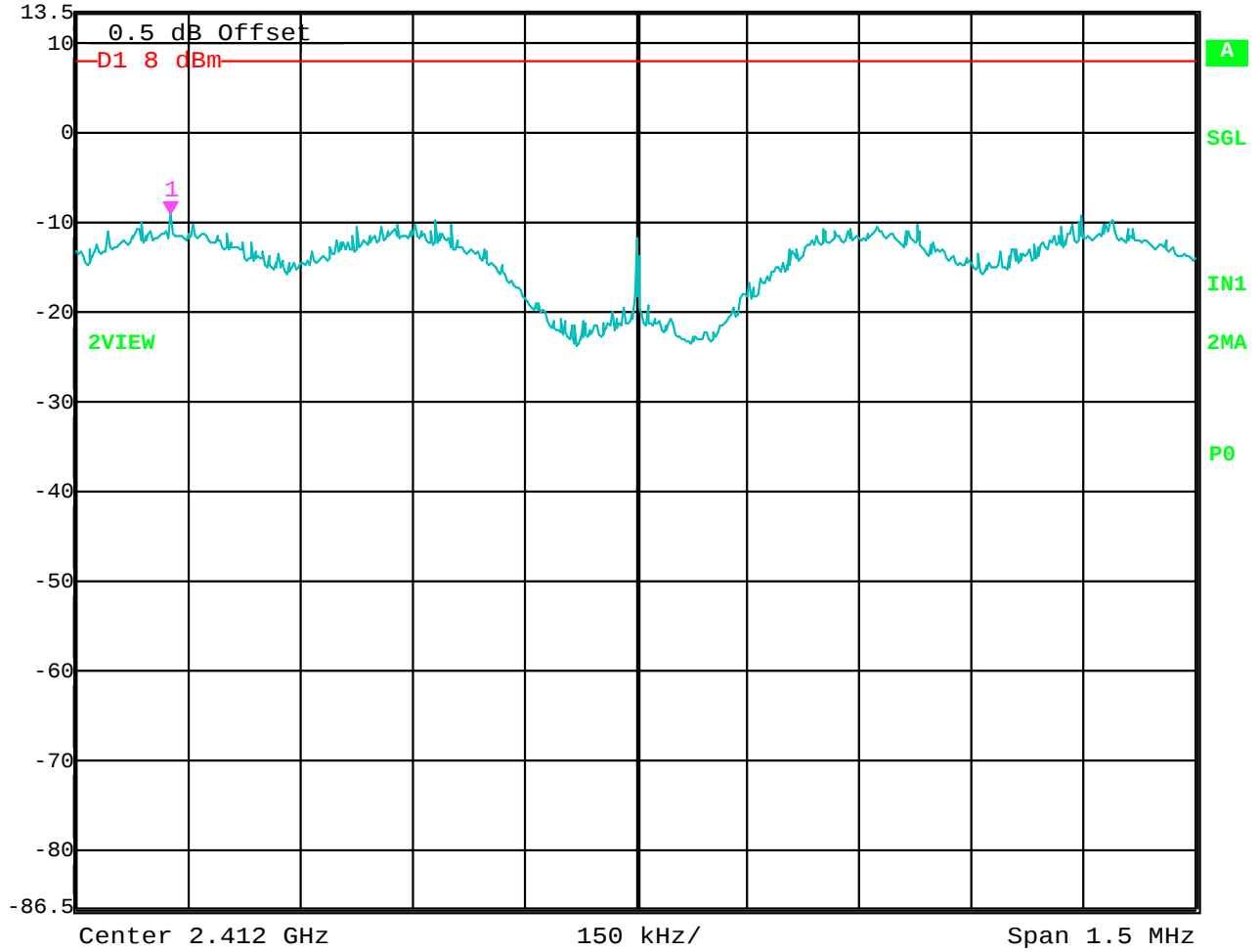


Date: 11.DEC.2003 15:13:52

Spectral Density Output – Channel 11 – 802.11 b Mode



Ref Lvl 13.5 dBm Marker 1 [T2] -9.04 dBm RBW 3 kHz RF Att 40 dB
2.41137625 GHz VBW 10 kHz Unit dBm
SWT 500 s

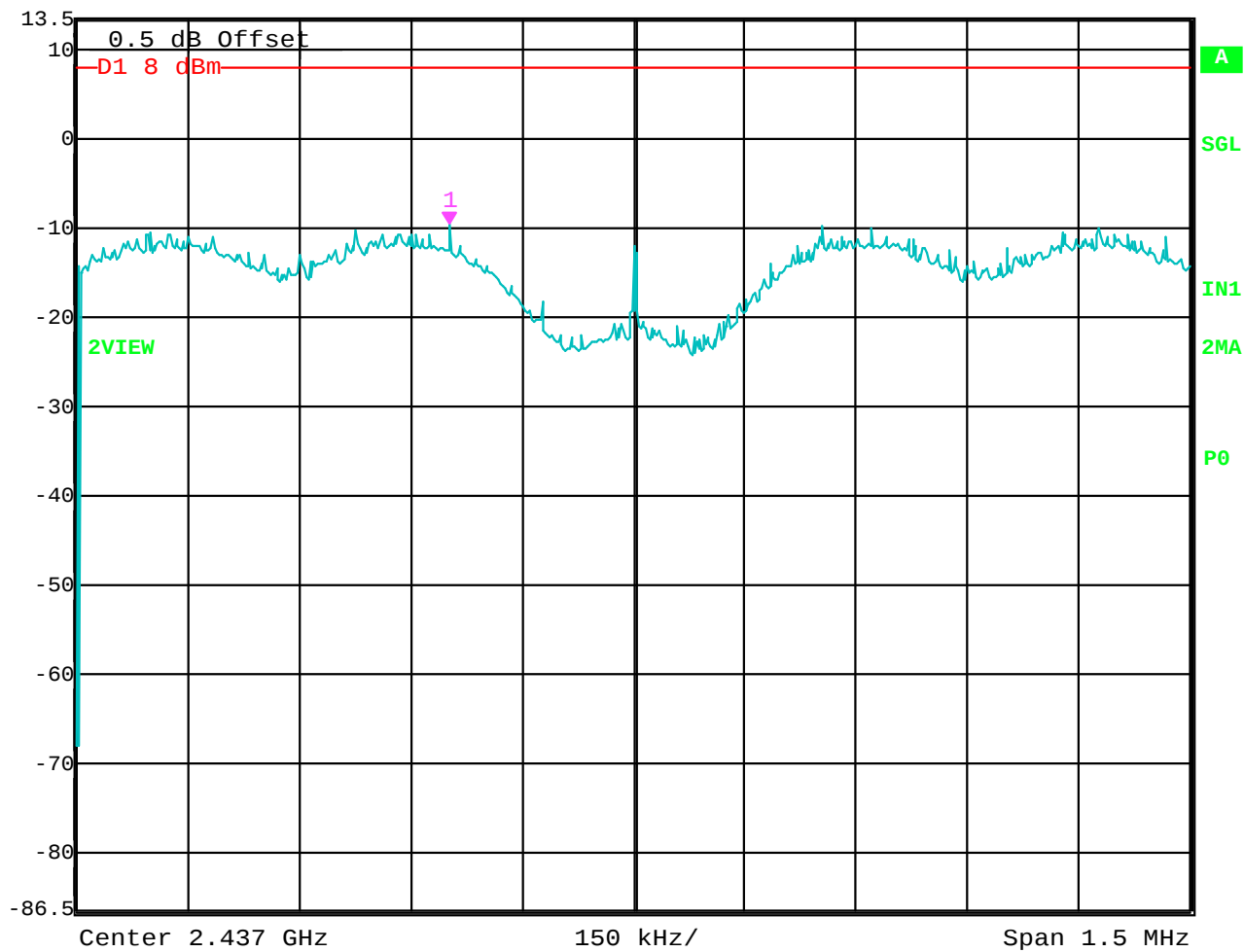


Date: 11.DEC.2003 15:51:08

Spectral Density Output – Channel 1 – 802.11 g Mode



Ref Lvl	Marker 1 [T2]	RBW	3 kHz	RF Att	40 dB
13.5 dBm	-9.71 dBm	VBW	10 kHz		
	2.43675200 GHz	SWT	500 s	Unit	dBm

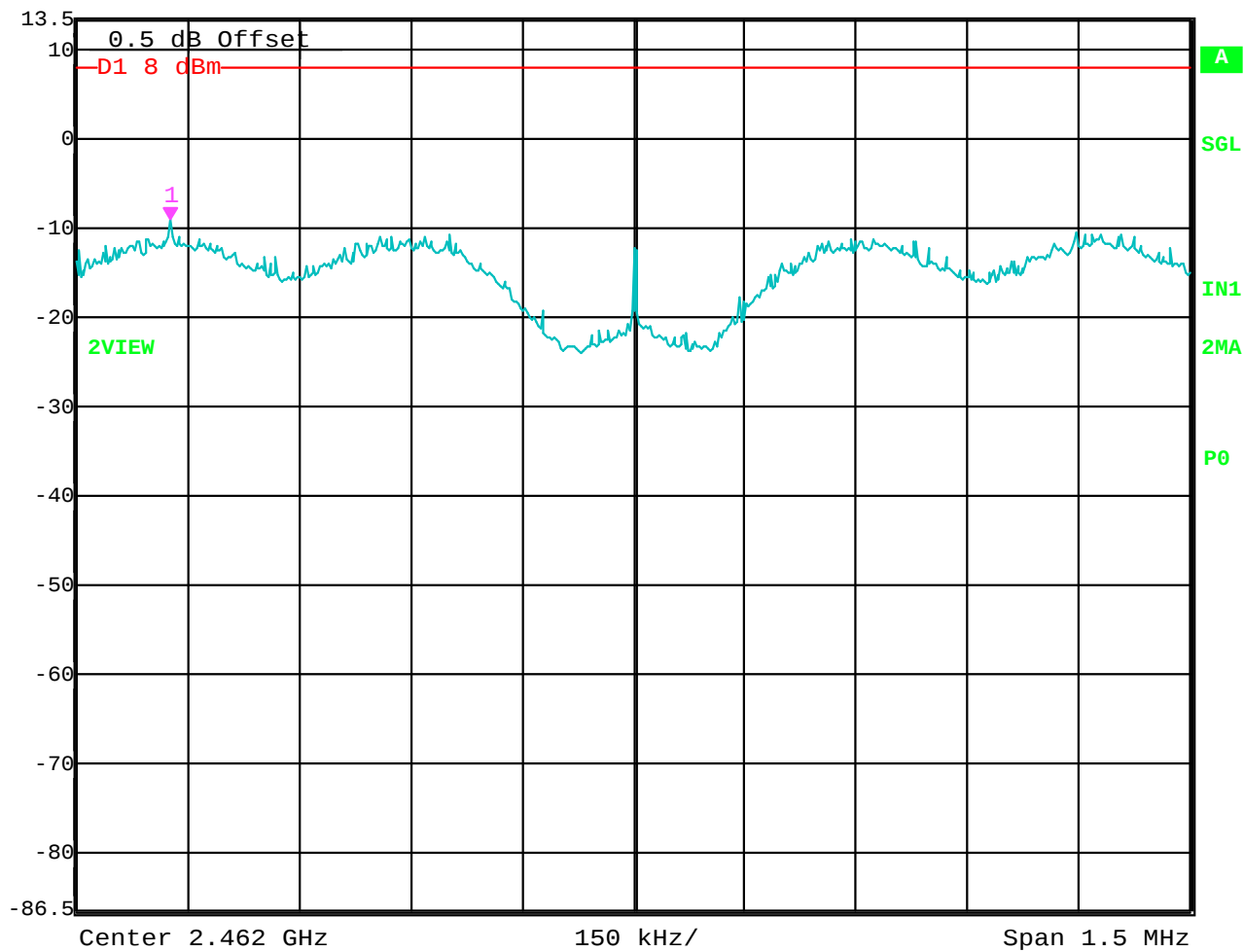


Date: 11.DEC.2003 15:22:57

Spectral Density Output – Channel 6 – 802.11 g Mode



Ref Lvl 13.5 dBm Marker 1 [T2] -9.18 dBm RBW 3 kHz RF Att 40 dB
2.46137625 GHz VBW 10 kHz Unit dBm
SWT 500 s



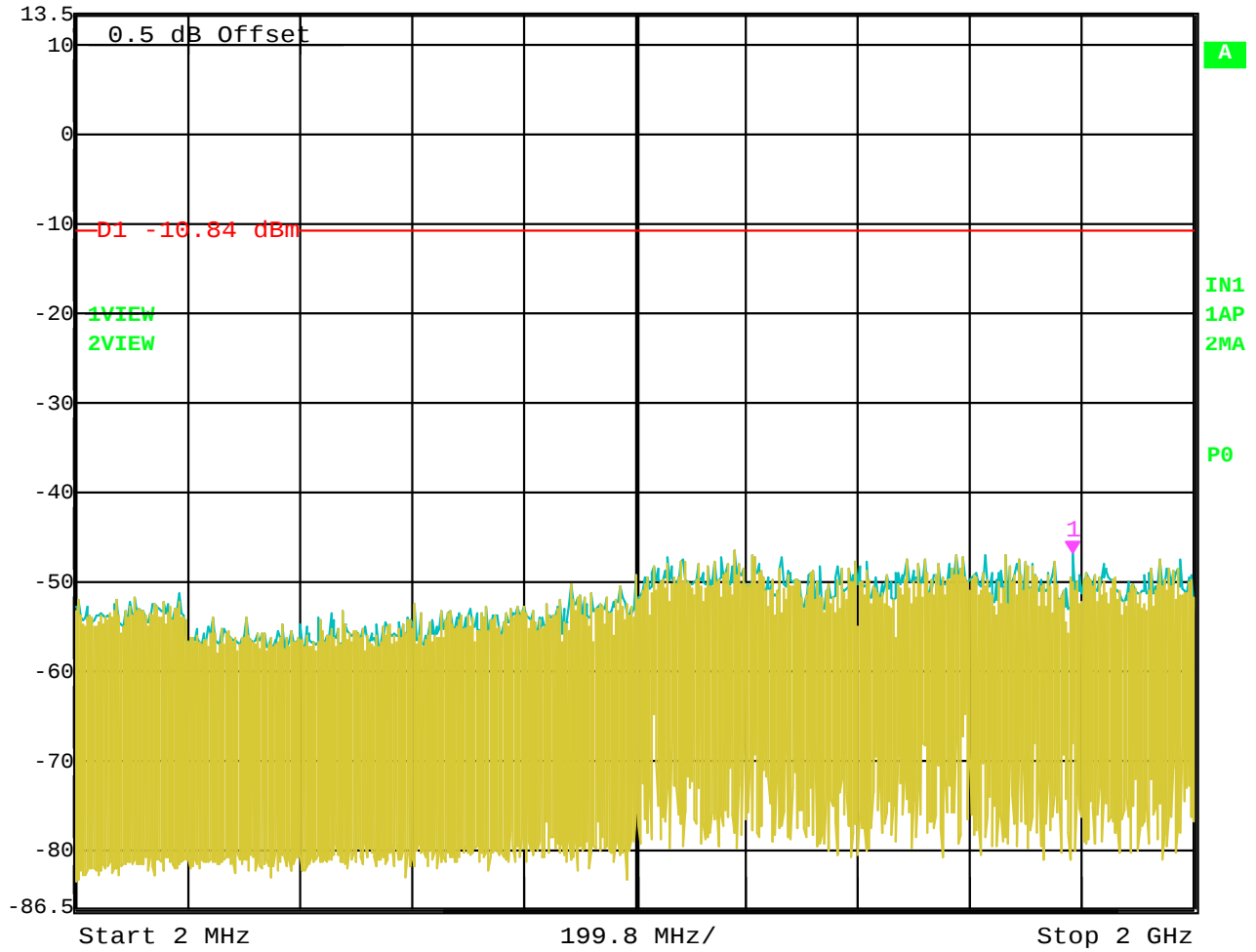
Date: 11.DEC.2003 15:13:52

Spectral Density Output – Channel 11 – 802.11 g Mode

RF ANTENNA CONDUCTED
DATA SHEETS



Ref Lvl	Marker 1 [T2]	RBW	100 kHz	RF Att	40 dB
13.5 dBm	-46.99 dBm	VBW	300 kHz		
	1.78378357 GHz	SWT	700 ms	Unit	dBm

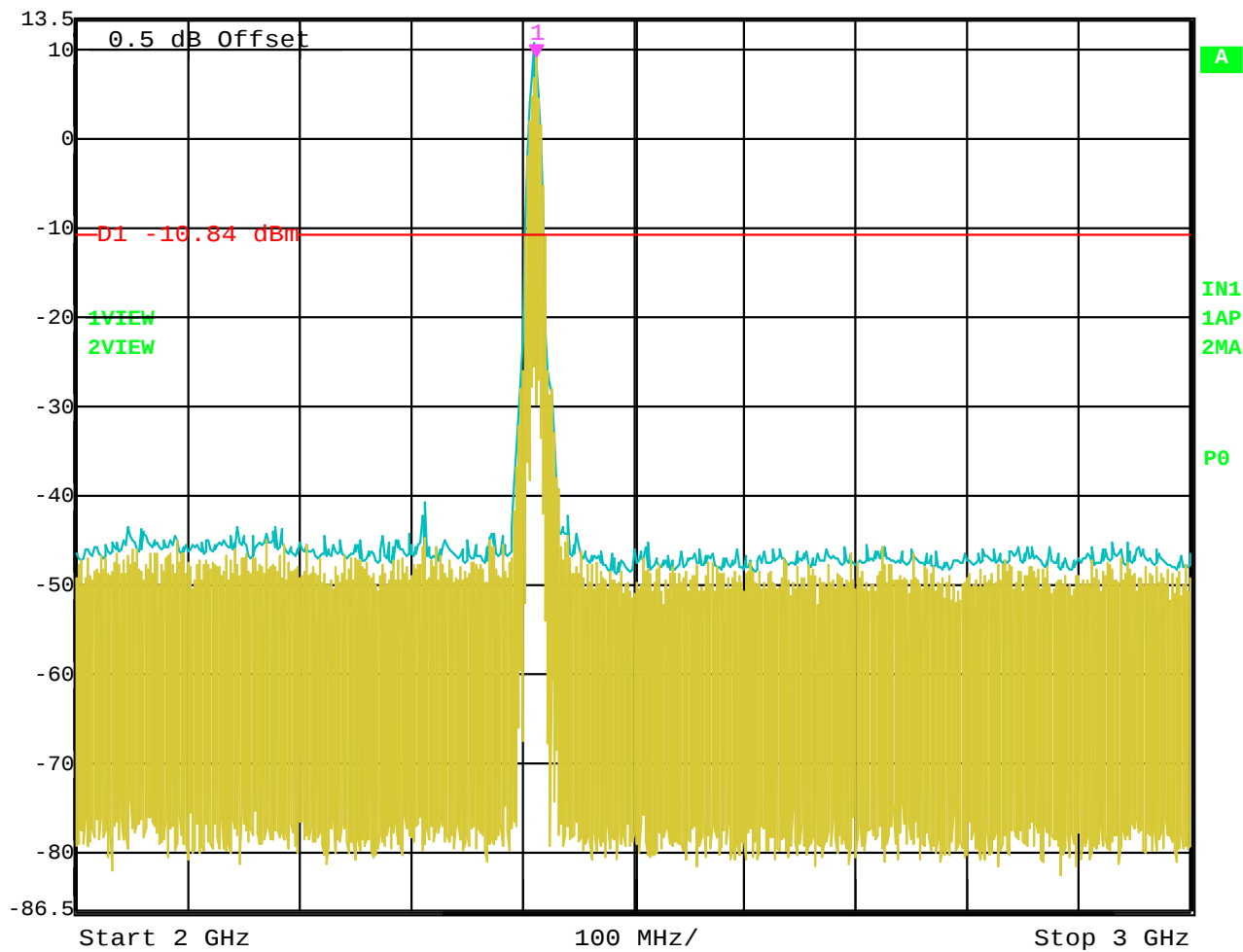


Date: 11.DEC.2003 11:46:43

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



Marker 1 [T2] RBW 100 kHz RF Att 40 dB
Ref Lvl 9.16 dBm VBW 300 kHz
13.5 dBm 2.41200000 GHz SWT 250 ms Unit dBm

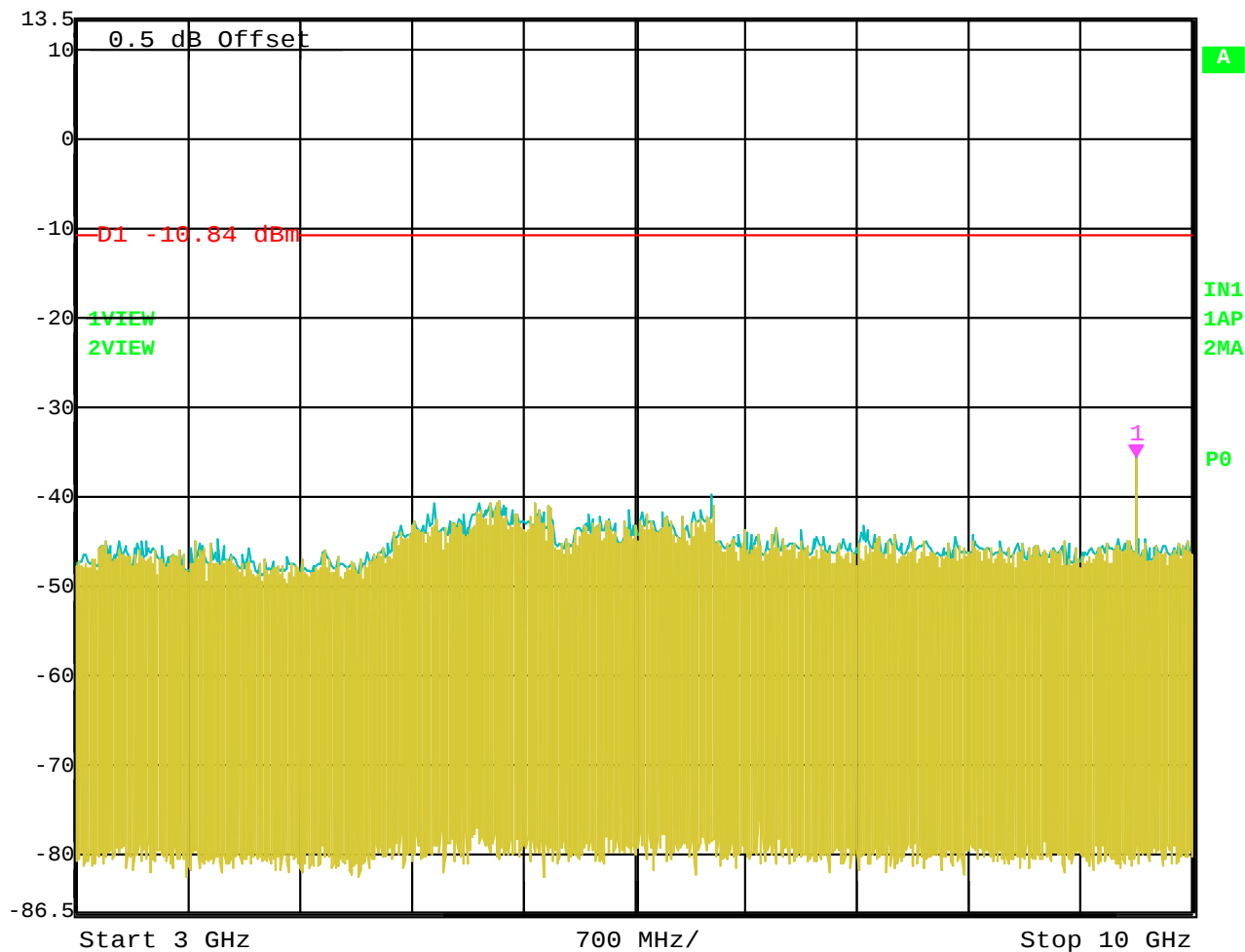


Date: 11.DEC.2003 11:46:04

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -35.69 dBm
9.64929860 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 1.75 s Unit dBm

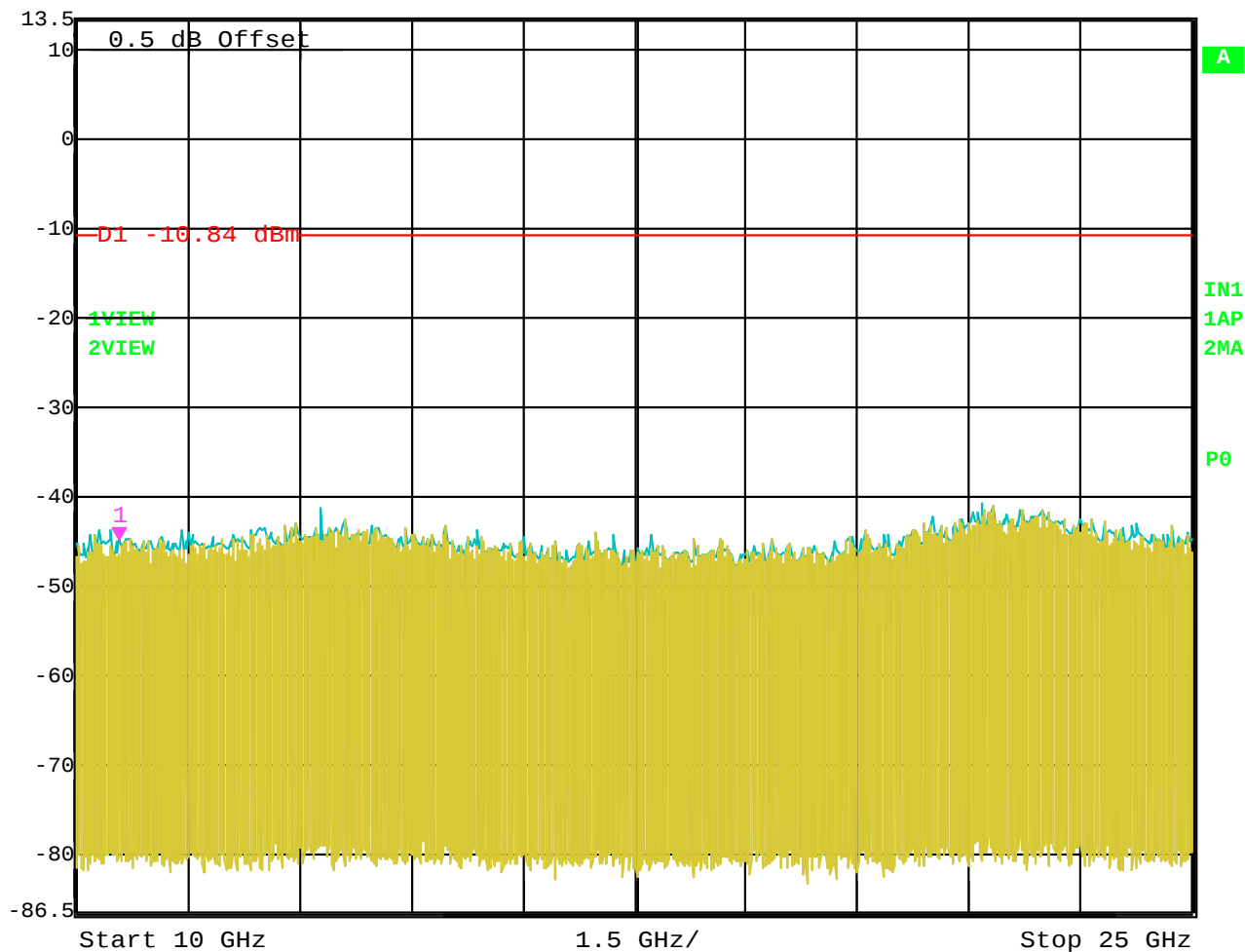


Date: 11.DEC.2003 11:47:22

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -44.92 dBm
10.57114228 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 3.8 s Unit dBm

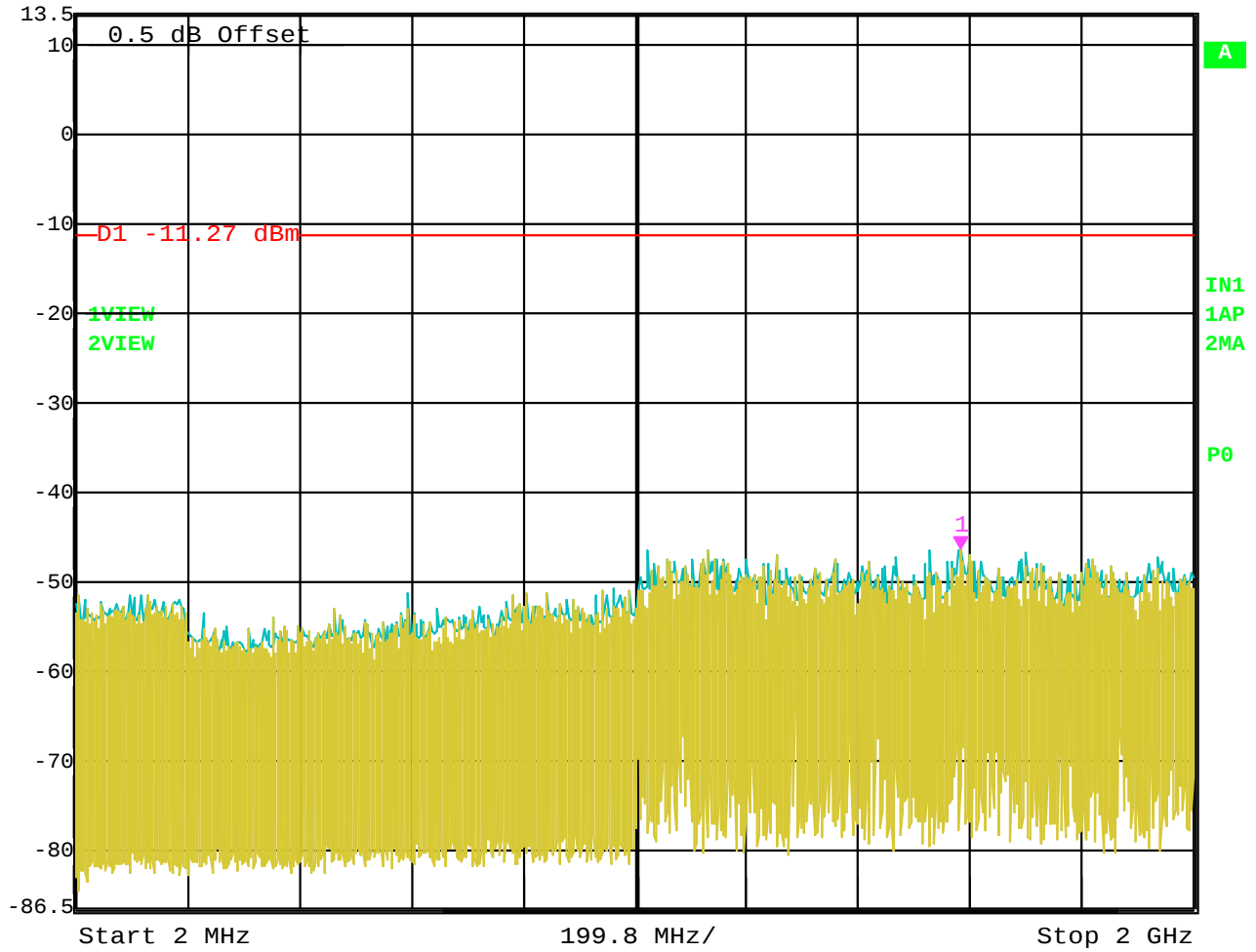


Date: 11.DEC.2003 11:48:15

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



Ref Lvl 13.5 dBm Marker 1 [T2] -46.48 dBm RBW 100 kHz RF Att 40 dB
1.58358317 GHz VBW 300 kHz Unit dBm
SWT 700 ms

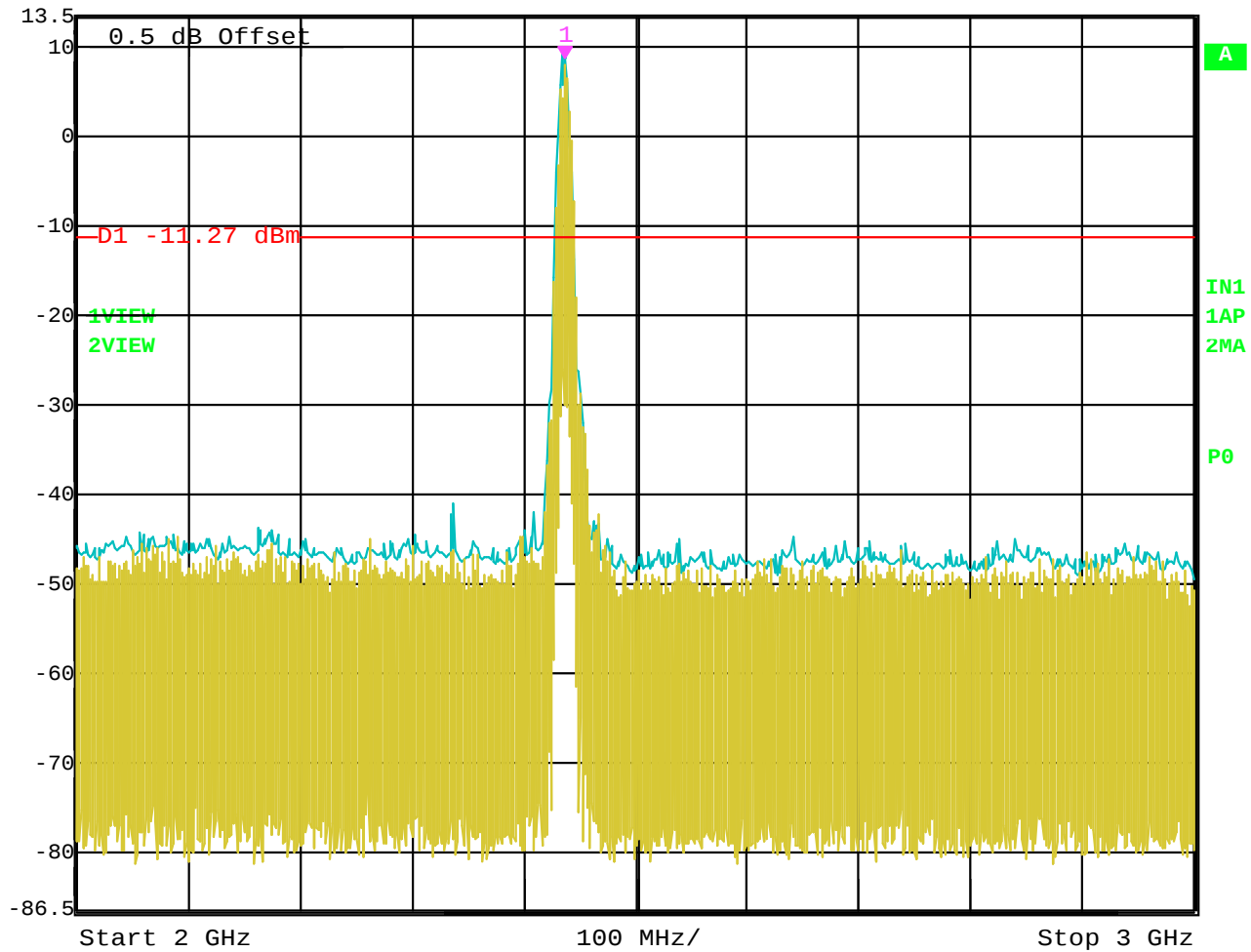


Date: 11.DEC.2003 11:56:08

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



Ref Lvl 13.5 dBm
Marker 1 [T2] 8.73 dBm
2.43700000 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 250 ms Unit dBm

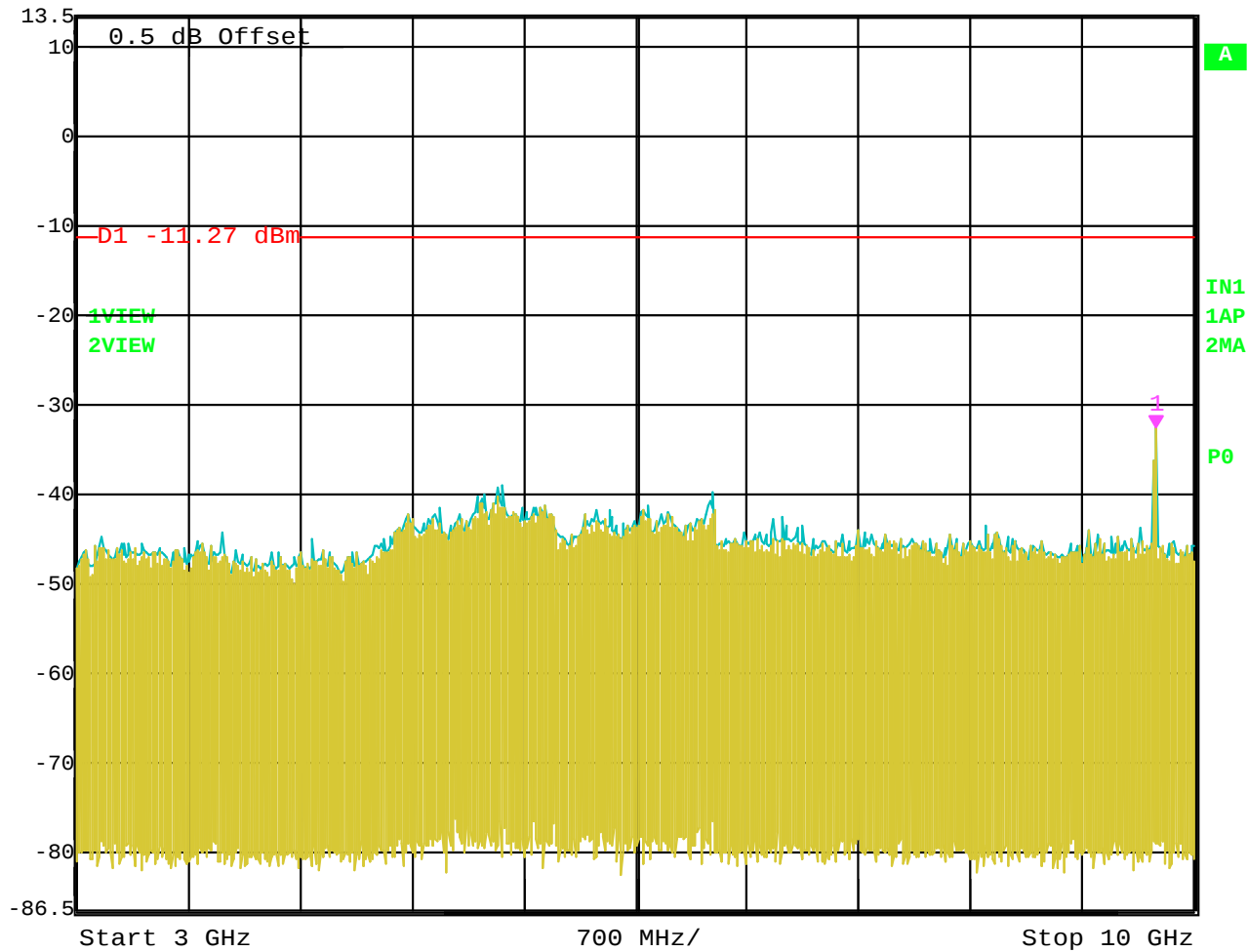


Date: 11.DEC.2003 11:53:49

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -32.59 dBm
9.76152305 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 1.75 s Unit dBm

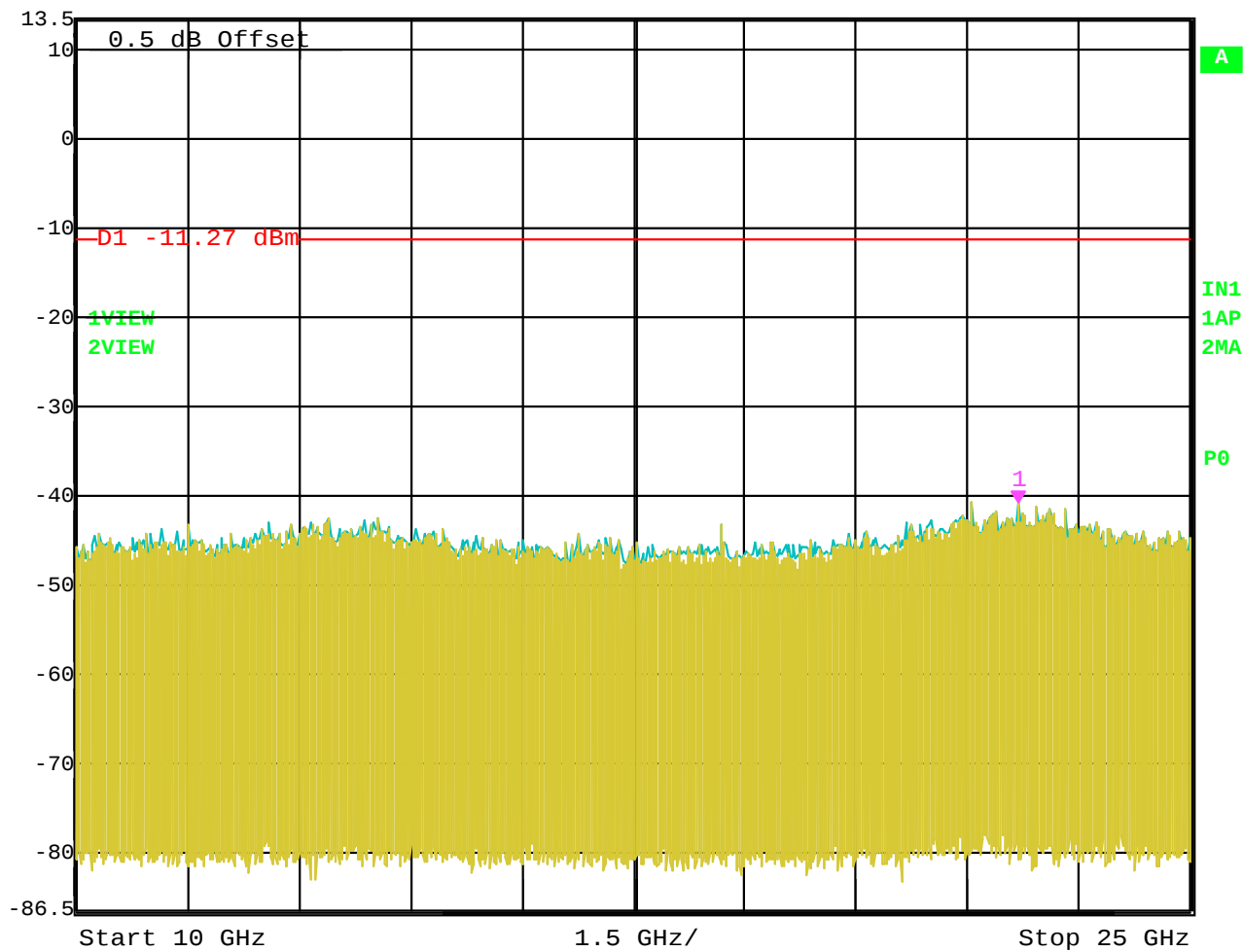


Date: 11.DEC.2003 11:56:46

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -40.85 dBm
22.68537074 GHz
RBW 100 kHz
RF Att 40 dB
VBW 300 kHz
SWT 3.8 s
Unit dBm

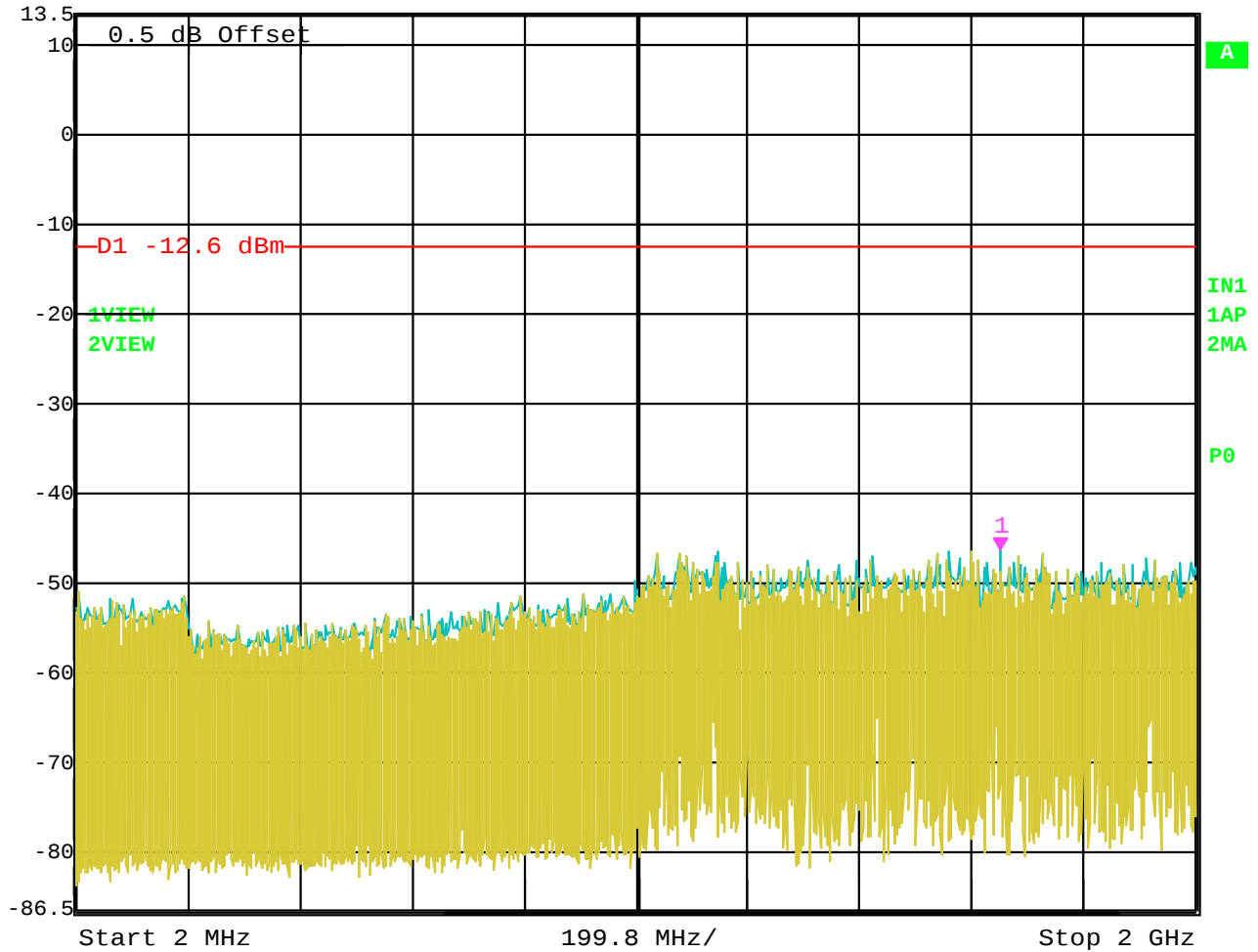


Date: 11.DEC.2003 11:57:27

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



Marker 1 [T2] RBW 100 kHz RF Att 40 dB
Ref Lvl -46.35 dBm VBW 300 kHz
13.5 dBm 1.65165130 GHz SWT 700 ms Unit dBm

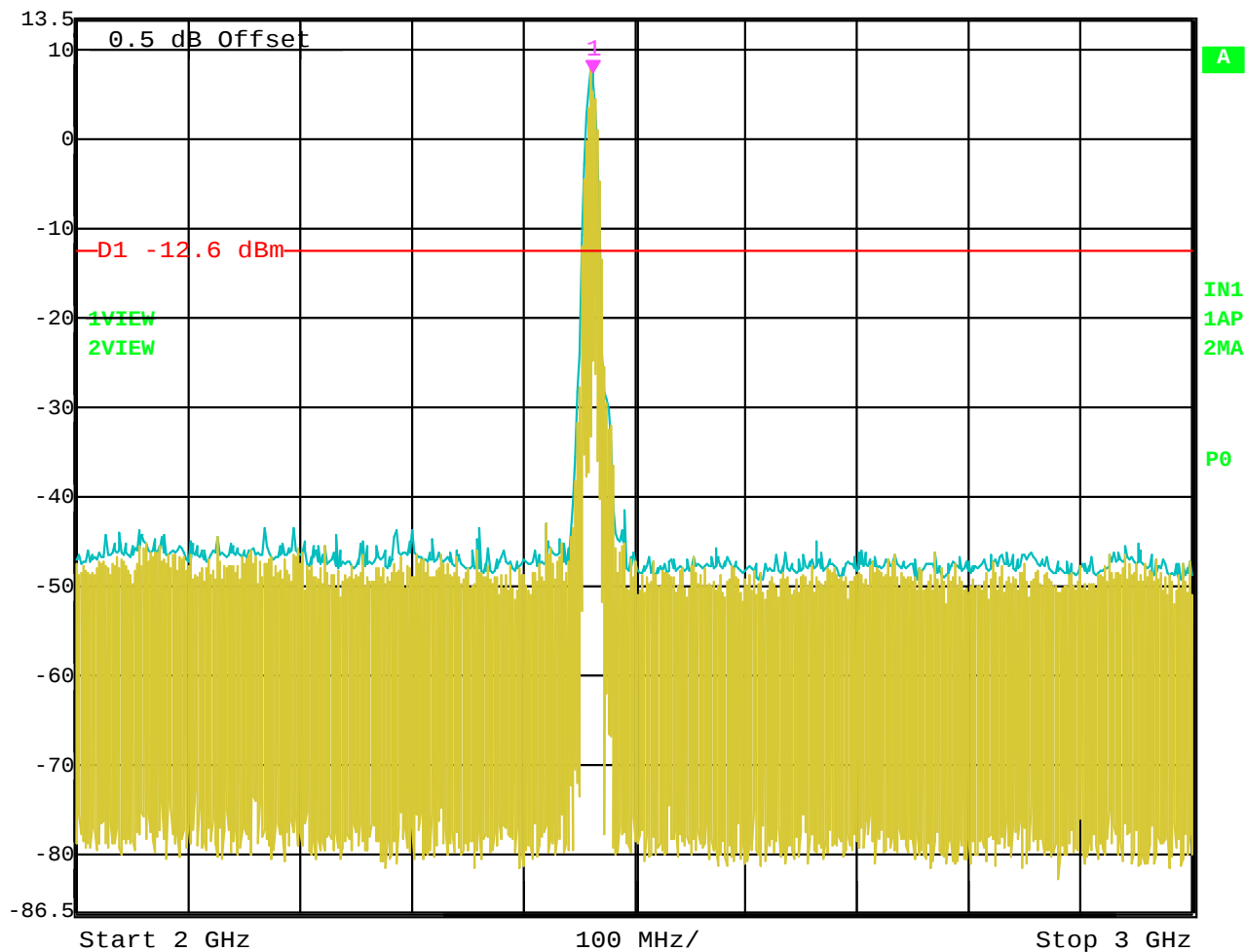


Date: 11.DEC.2003 12:04:53

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



Ref Lvl 13.5 dBm
Marker 1 [T2] 7.40 dBm
2.46200000 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 250 ms Unit dBm

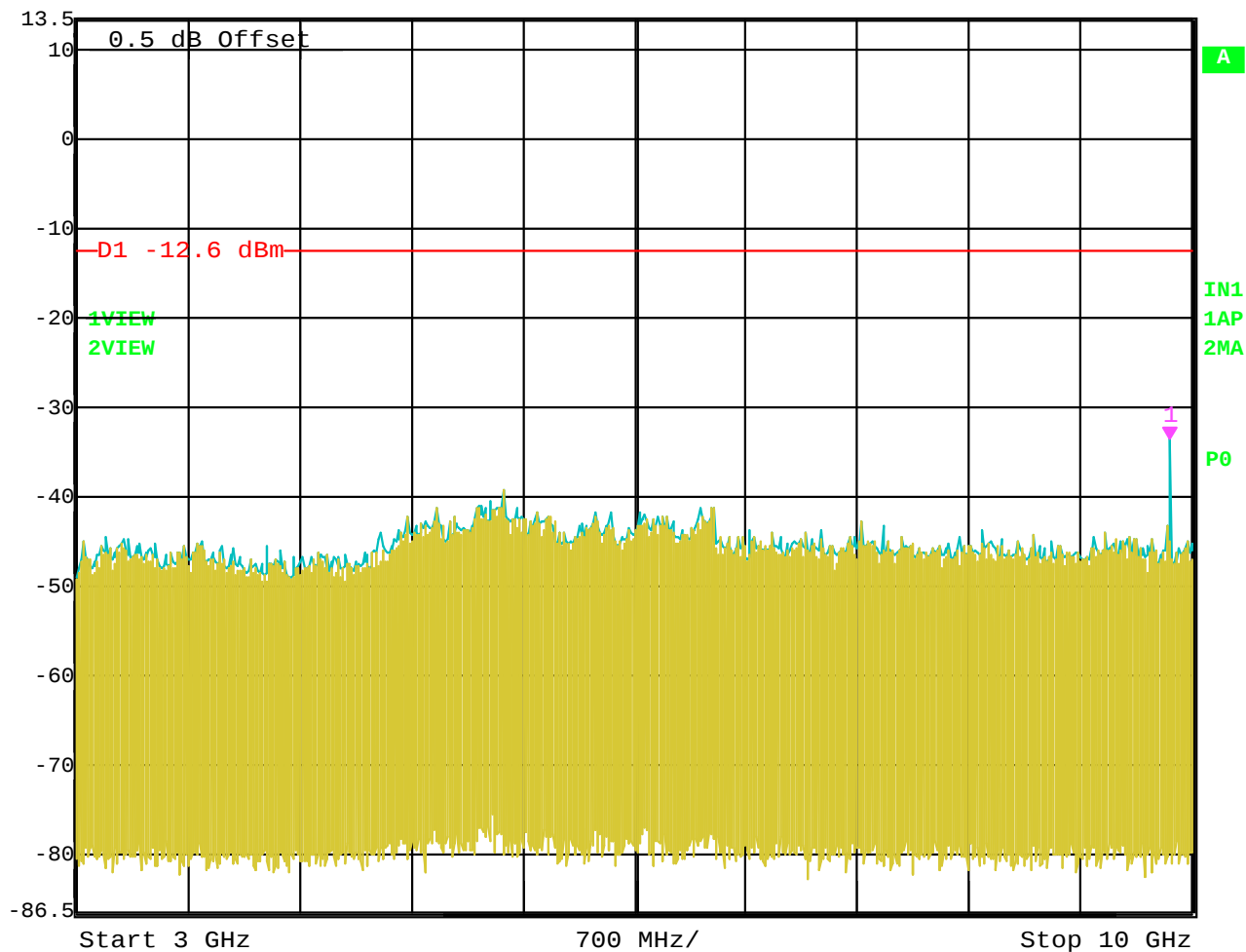


Date: 11.DEC.2003 12:04:18

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



Marker 1 [T2] RBW 100 kHz RF Att 40 dB
Ref Lvl -33.75 dBm VBW 300 kHz
13.5 dBm 9.85971944 GHz SWT 1.75 s Unit dBm

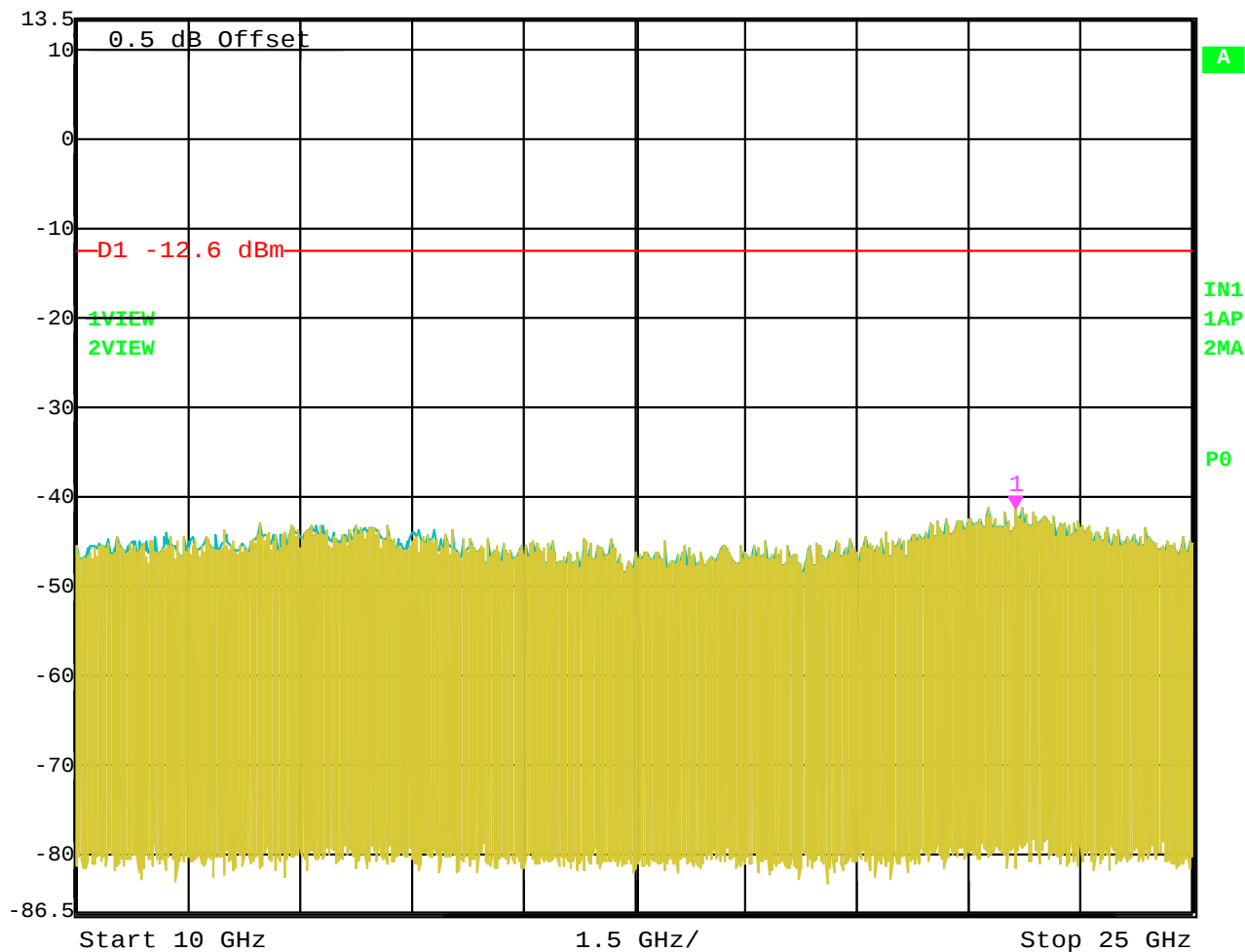


Date: 11.DEC.2003 12:05:28

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



Ref Lvl 13.5 dBm Marker 1 [T2] -41.32 dBm RBW 100 kHz RF Att 40 dB
22.62525050 GHz VBW 300 kHz Unit dBm
SWT 3.8 s



Date: 11.DEC.2003 12:06:12

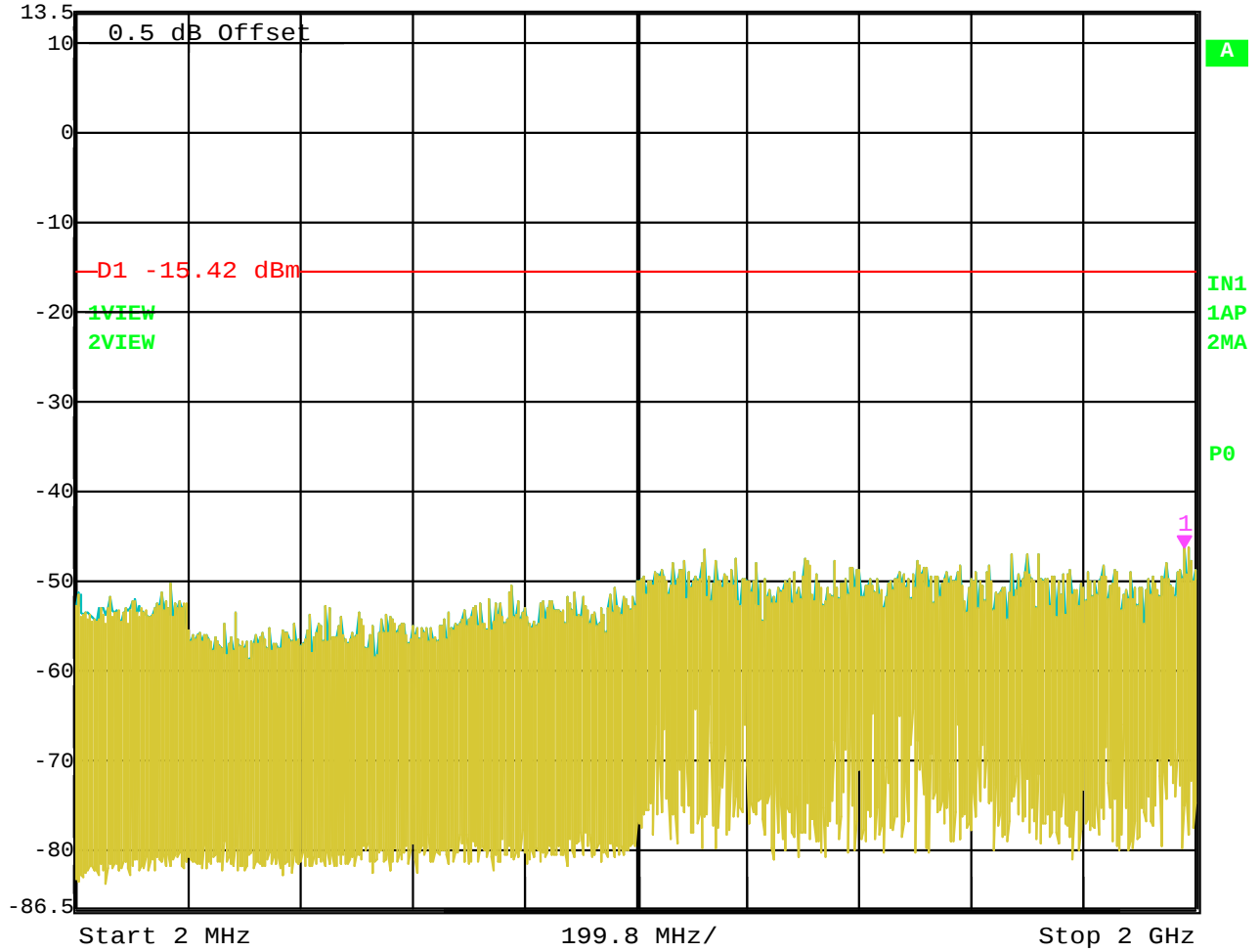
RF Antenna Conducted Test – Channel 11 – 802.11 b Mode – 10 GHz to 25 GHz



Ref Lvl
13.5 dBm

Marker 1 [T2]
-46.48 dBm
1.97997996 GHz

RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 700 ms Unit dBm

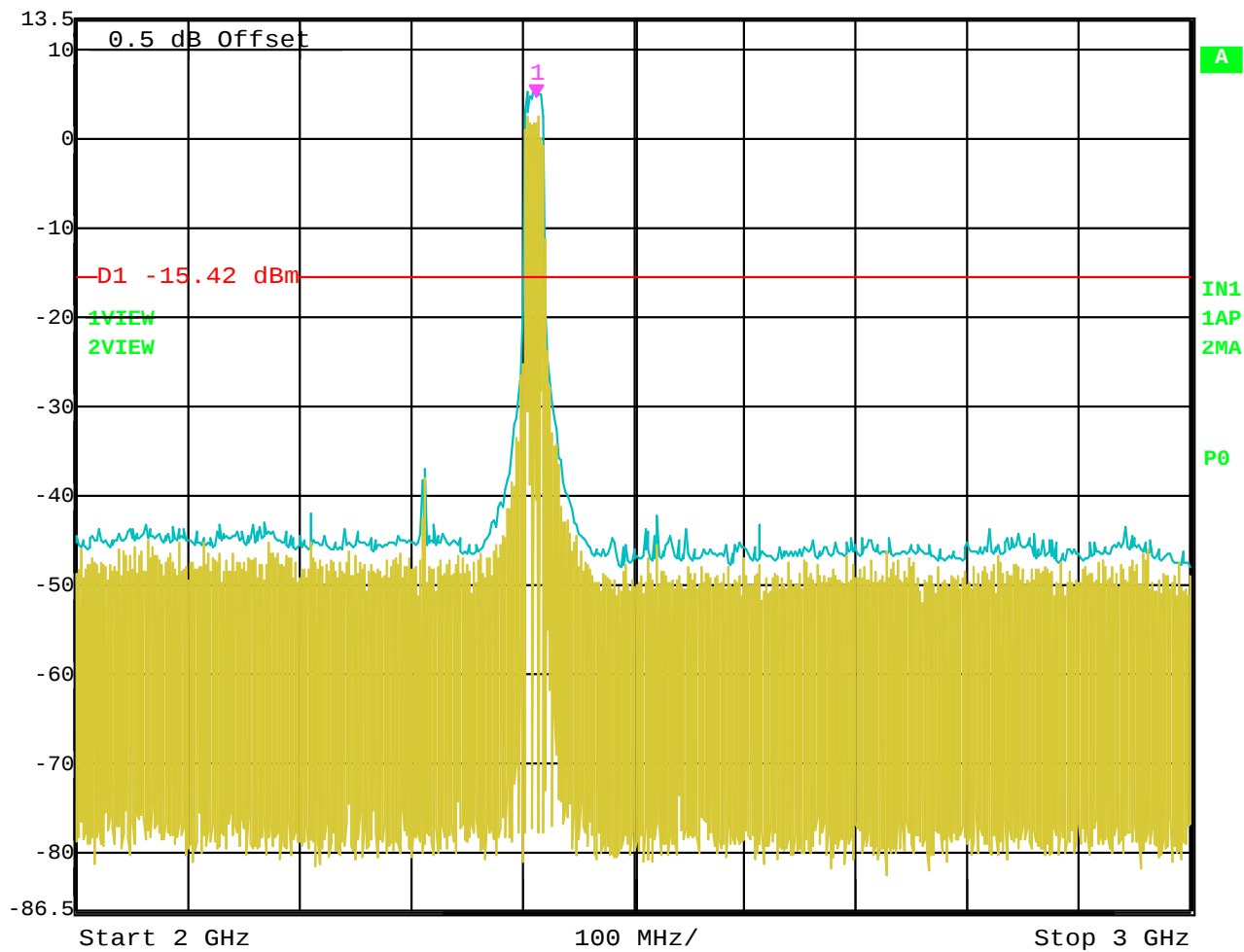


Date: 11.DEC.2003 12:58:23

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



Ref Lvl 13.5 dBm
Marker 1 [T2] 4.58 dBm
2.41200000 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 250 ms Unit dBm



Date: 11.DEC.2003 12:57:20

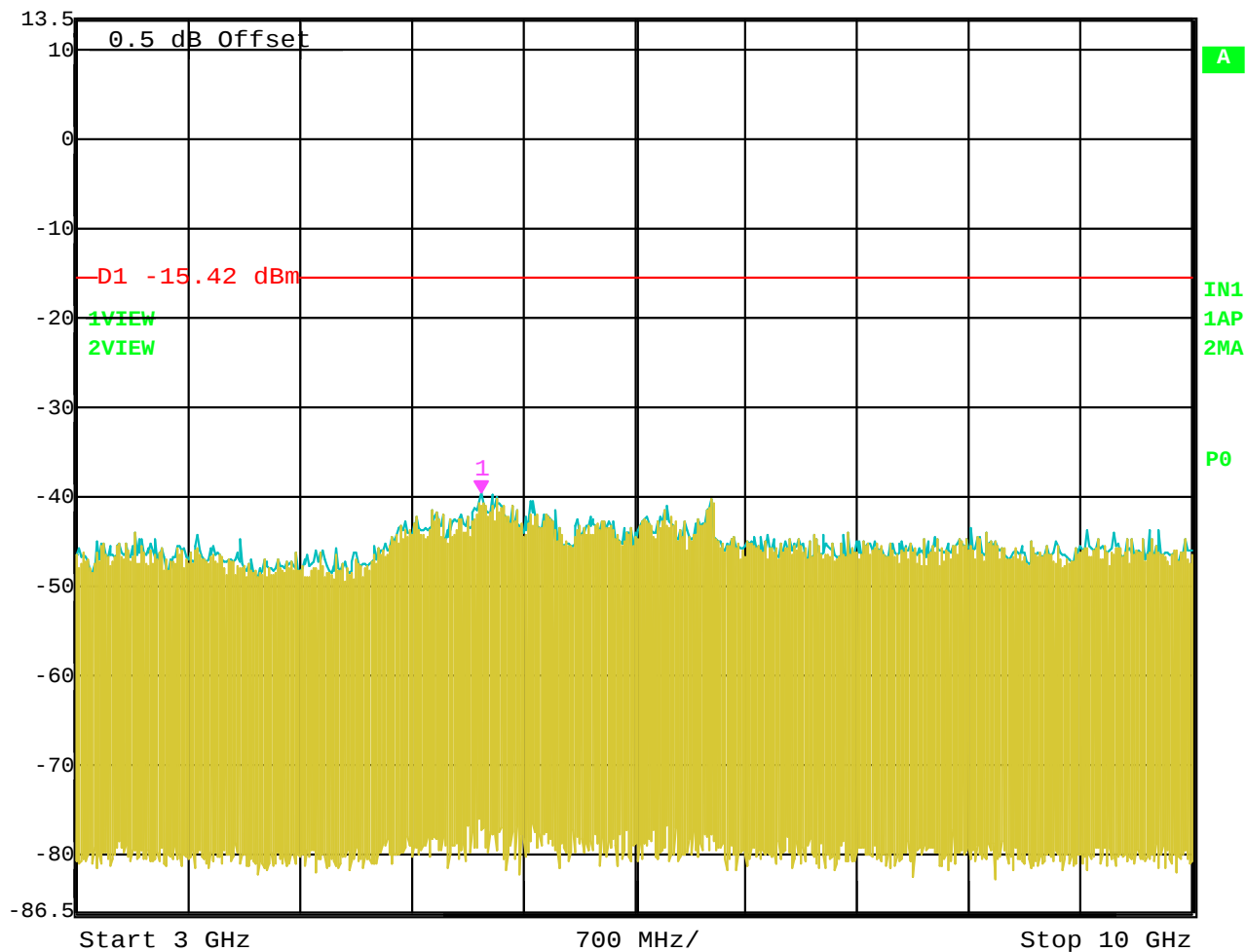
RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 2 GHz to 3 GHz



Ref Lvl
13.5 dBm

Marker 1 [T2]
-39.73 dBm
5.53907816 GHz

RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 1.75 s Unit dBm

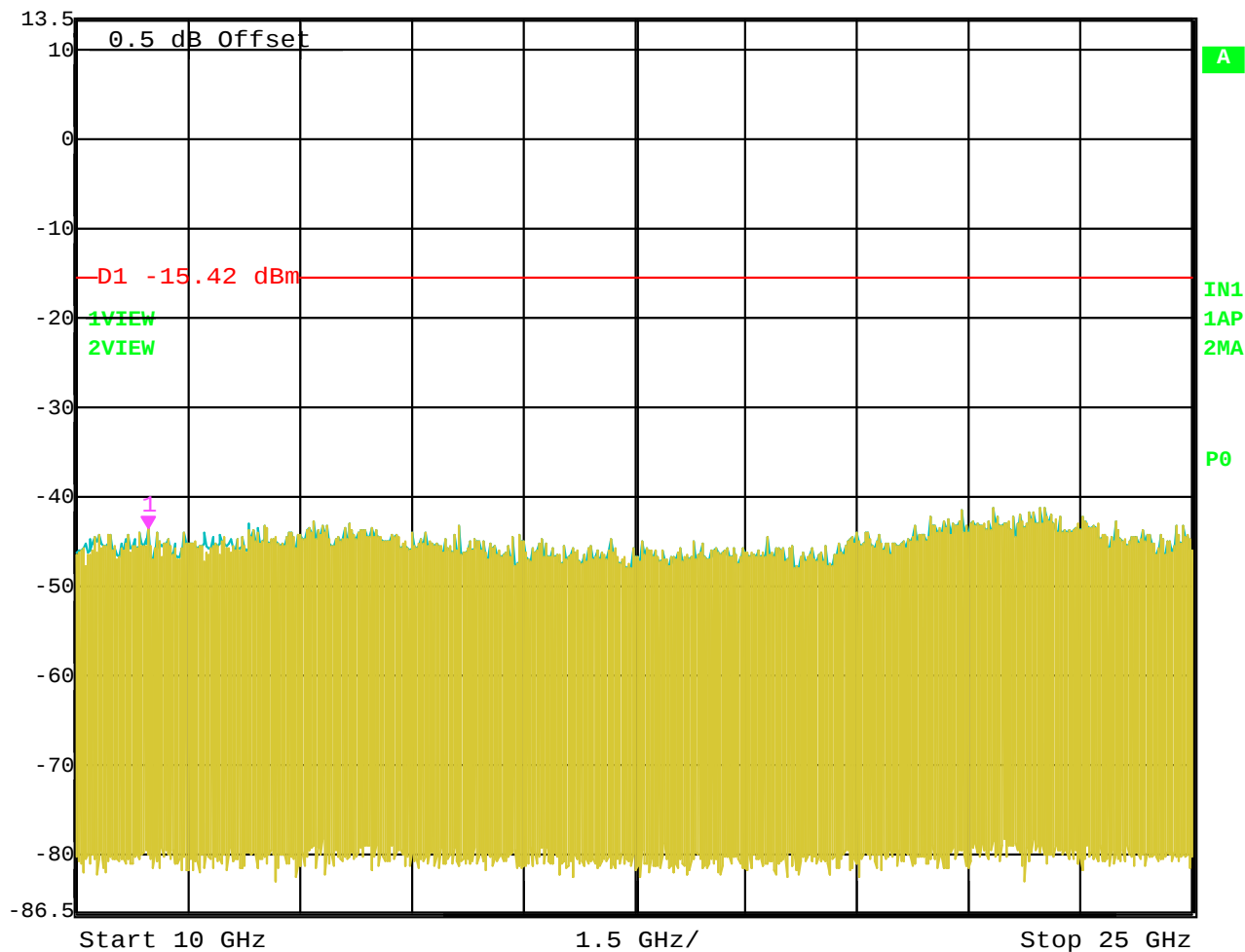


Date: 11.DEC.2003 12:59:10

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -43.64 dBm
10.96192385 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 3.8 s Unit dBm

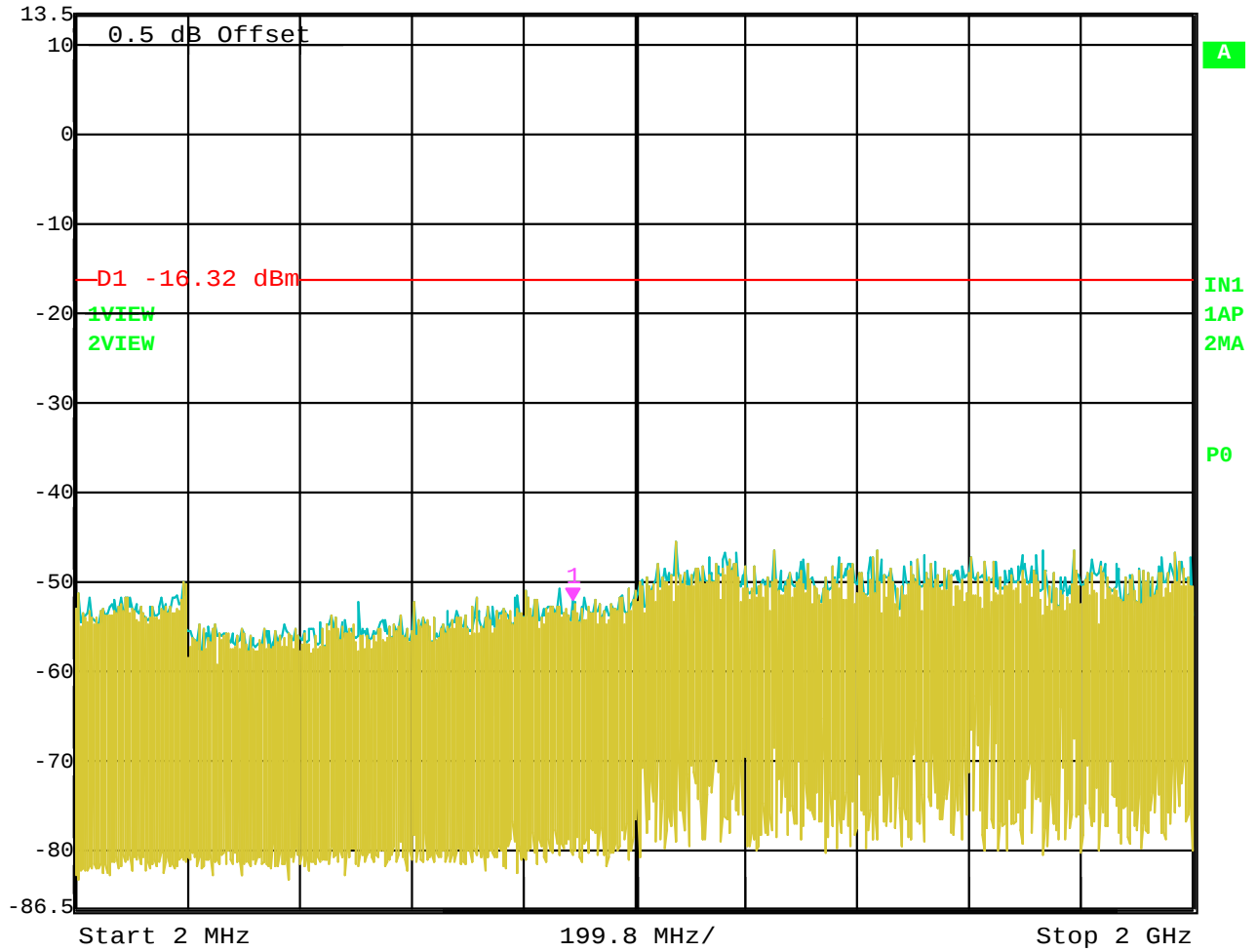


Date: 11.DEC.2003 12:59:58

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -52.13 dBm
890.88977956 MHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 700 ms Unit dBm

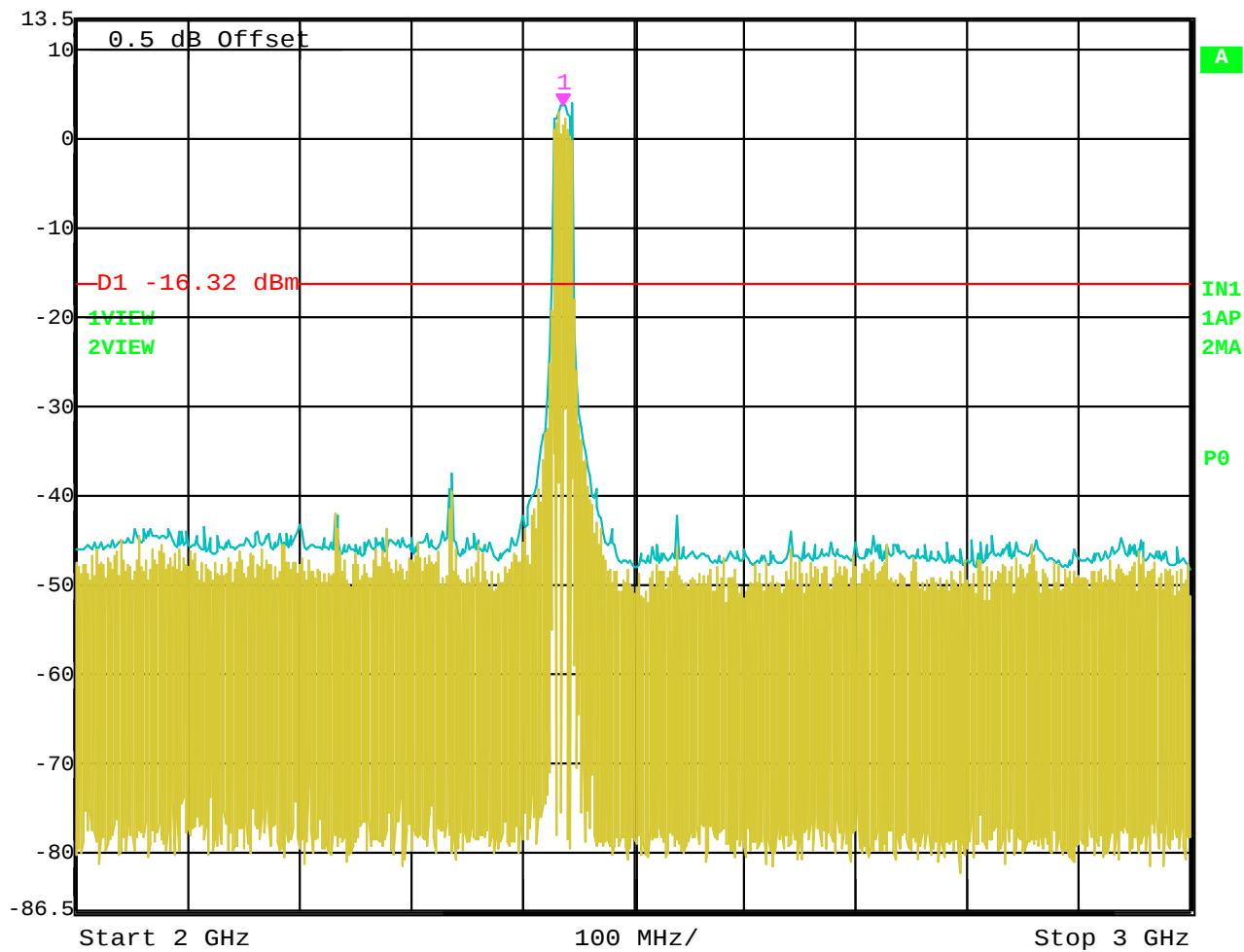


Date: 11.DEC.2003 13:08:05

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



Marker 1 [T2] RBW 100 kHz RF Att 40 dB
Ref Lvl 3.68 dBm VBW 300 kHz
13.5 dBm 2.43700000 GHz SWT 250 ms Unit dBm

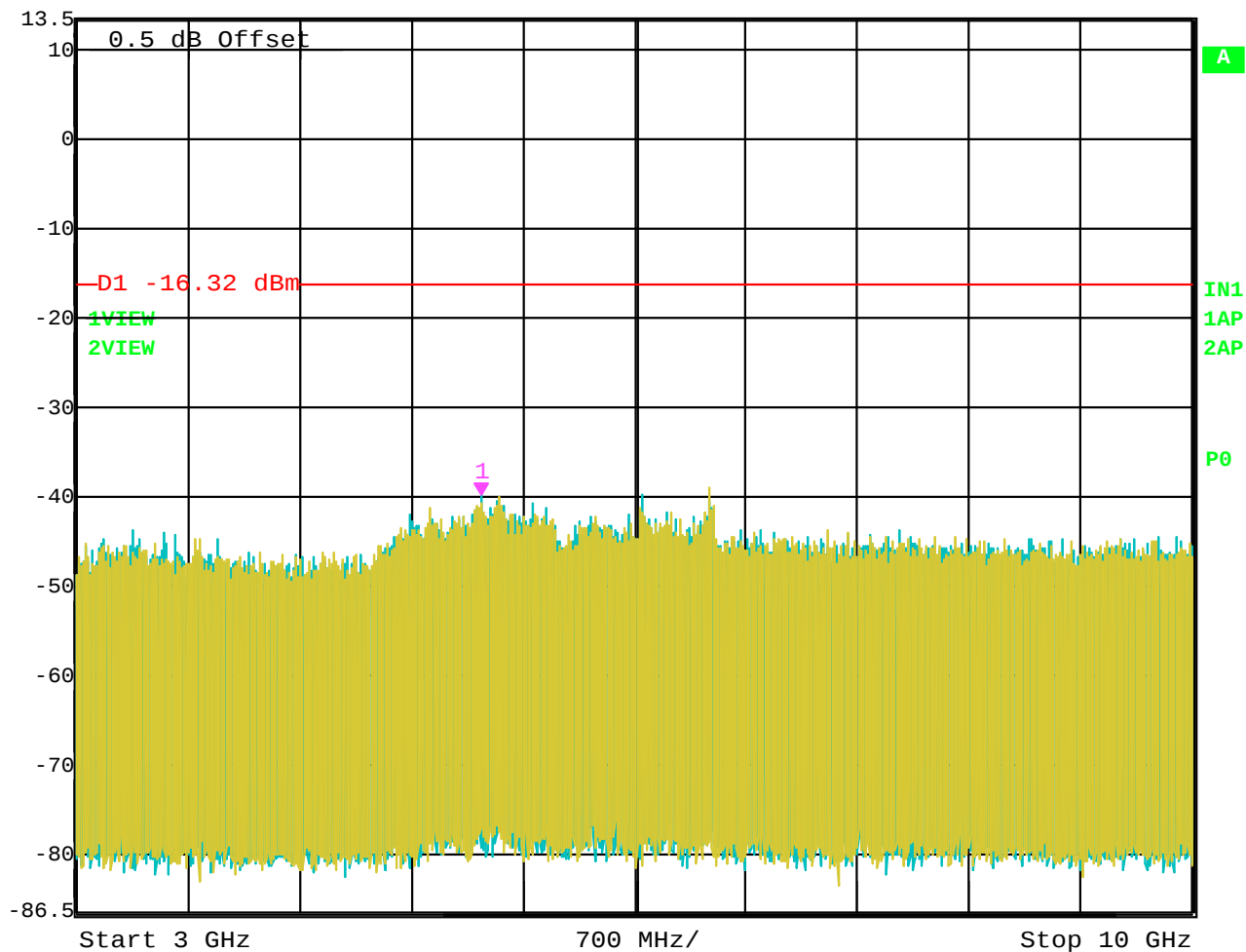


Date: 11.DEC.2003 13:07:19

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -39.92 dBm
5.53907816 GHz
RBW 100 kHz
RF Att 40 dB
VBW 300 kHz
SWT 1.75 s
Unit dBm

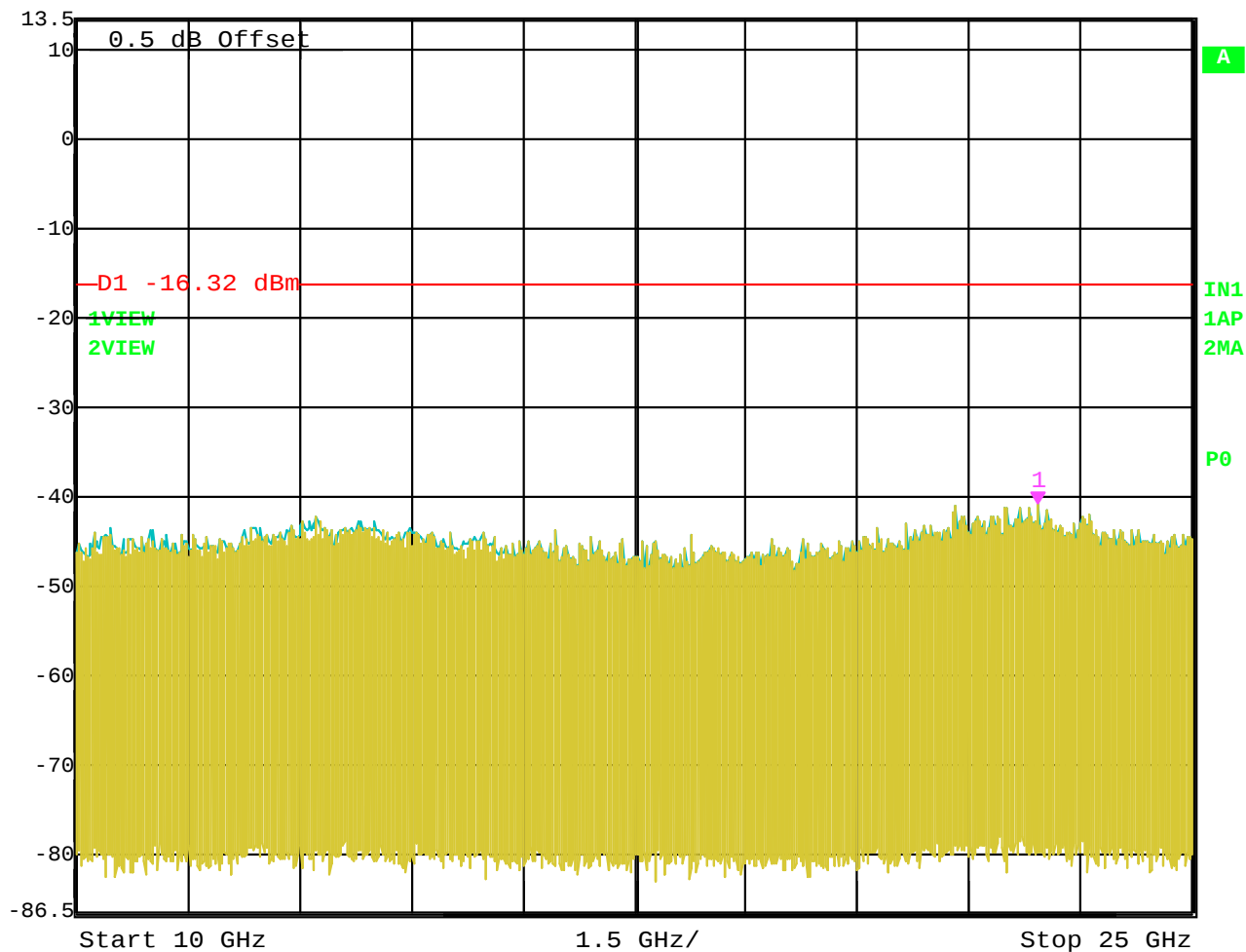


Date: 11.DEC.2003 13:09:21

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



Ref Lvl 13.5 dBm Marker 1 [T2] -40.89 dBm RBW 100 kHz RF Att 40 dB
22.92585170 GHz VBW 300 kHz Unit dBm
SWT 3.8 s



Date: 11.DEC.2003 13:10:05

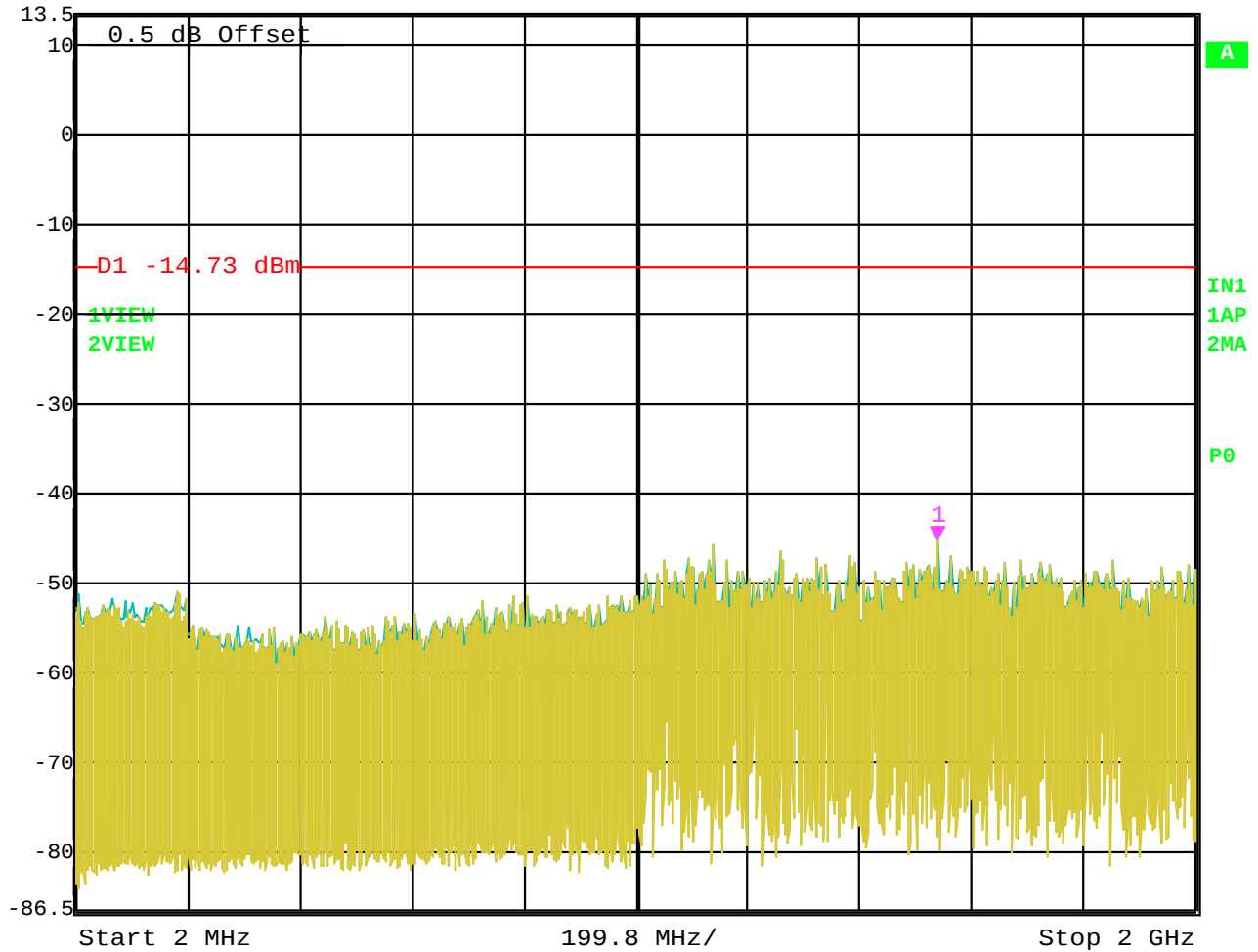
RF Antenna Conducted Test ñ Channel 6 ñ 802.11 g Mode ñ 10 GHz to 25 GHz



Ref Lvl
13.5 dBm

Marker 1 [T2]
-45.07 dBm
1.53953908 GHz

RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 700 ms Unit dBm

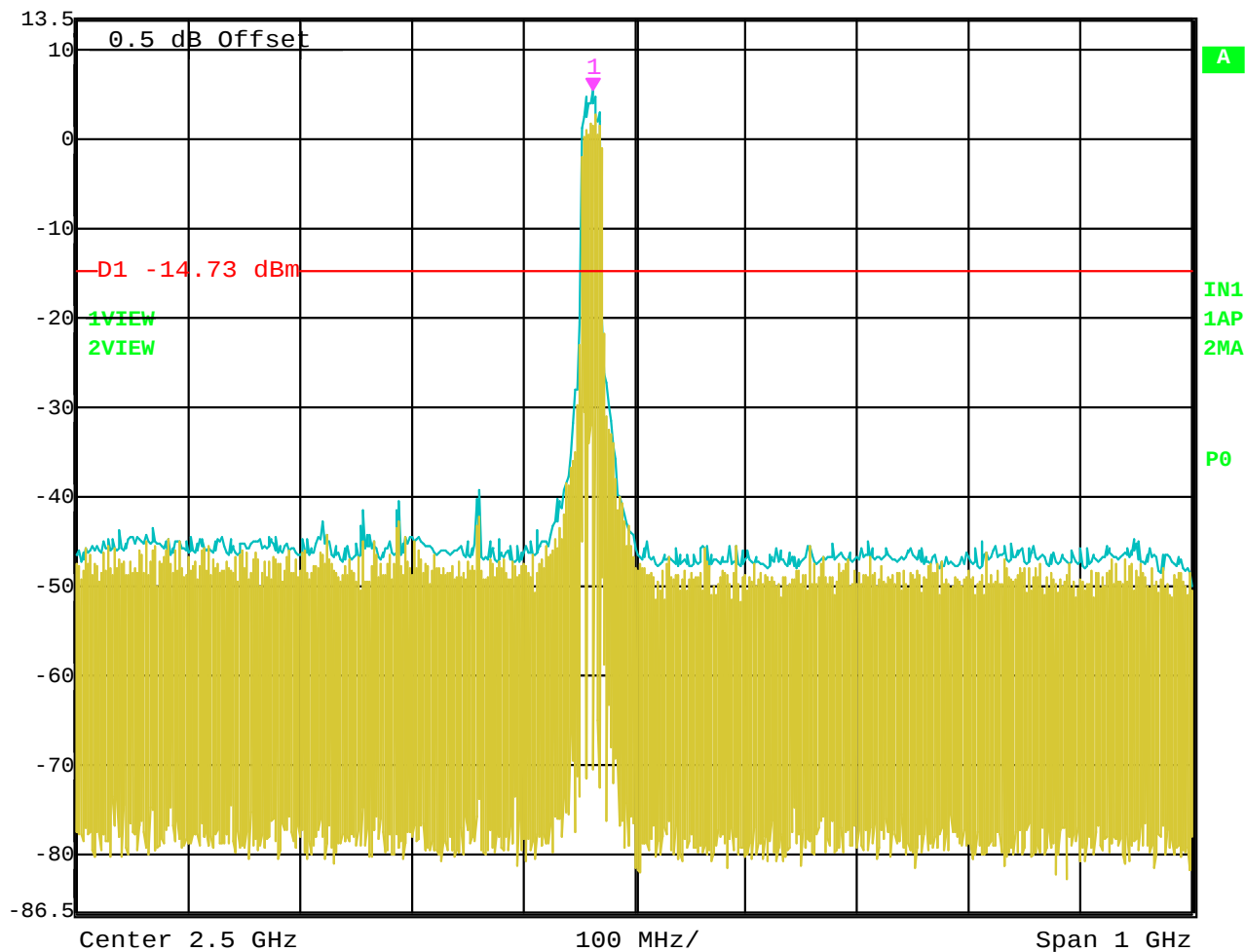


Date: 11.DEC.2003 15:00:32

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



Ref Lvl 13.5 dBm
Marker 1 [T2] 5.27 dBm
2.46200000 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 250 ms Unit dBm

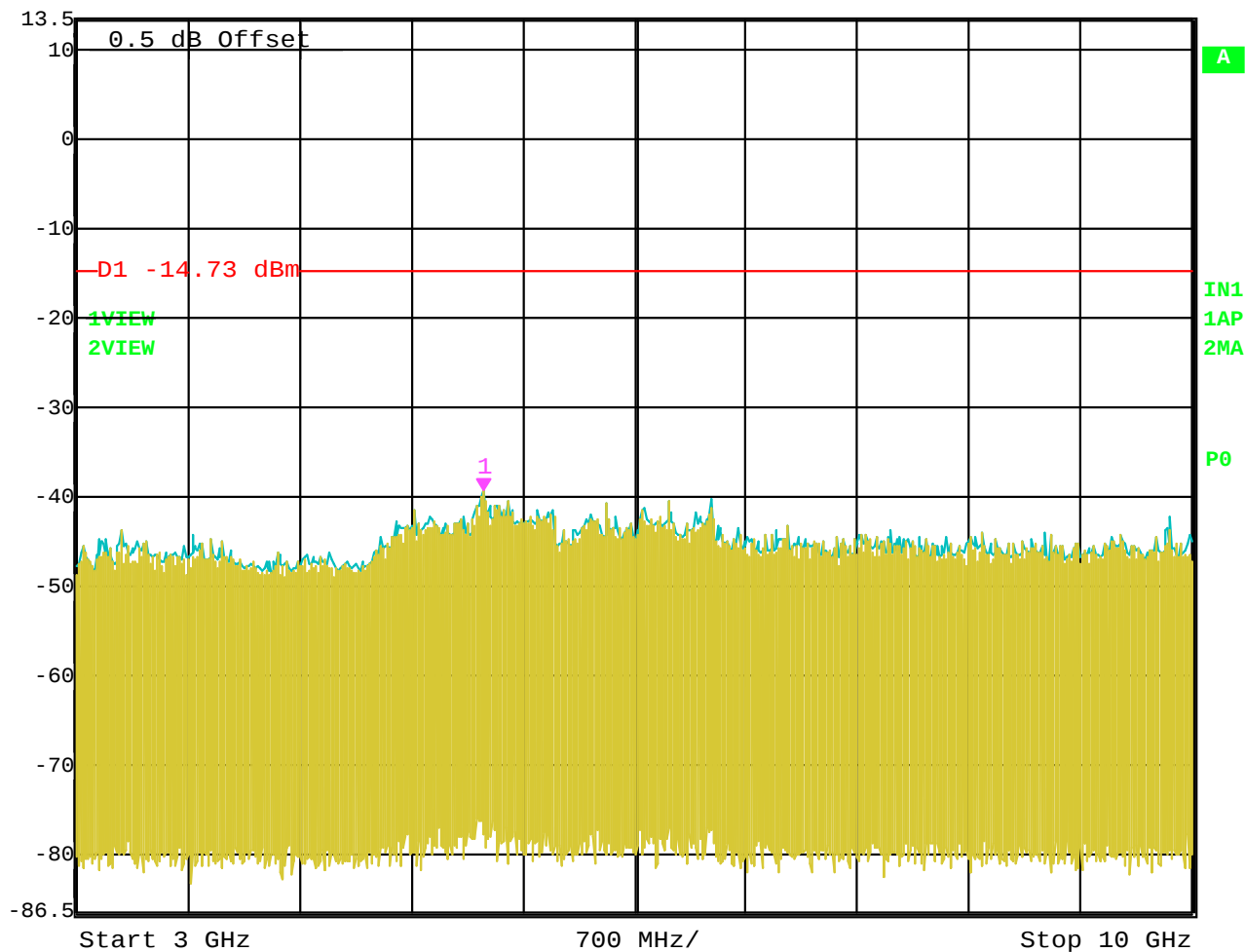


Date: 11.DEC.2003 14:59:45

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



Ref Lvl 13.5 dBm
Marker 1 [T2] -39.28 dBm
5.55310621 GHz
RBW 100 kHz
VBW 300 kHz
SWT 1.75 s
RF Att 40 dB
Unit dBm

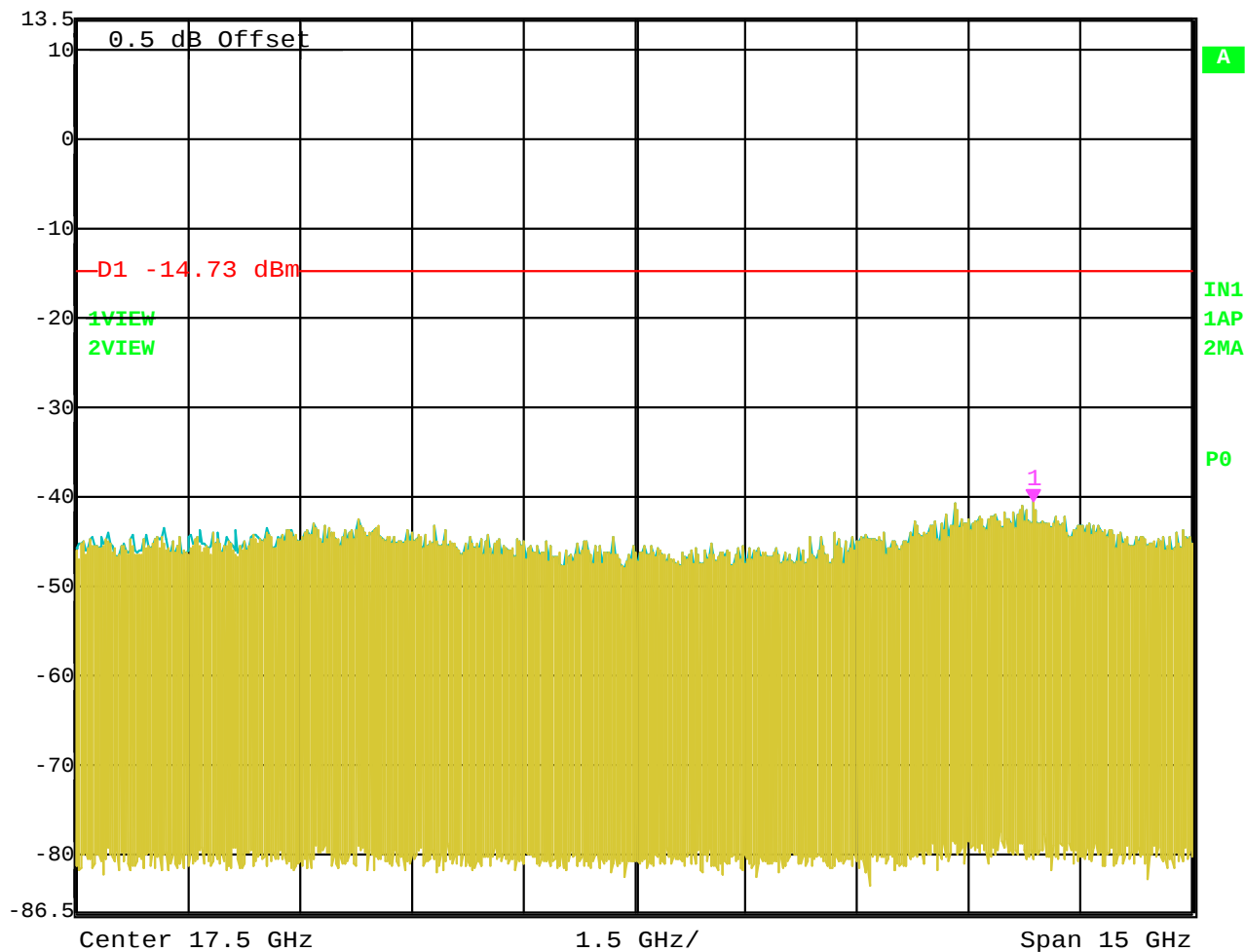


Date: 11.DEC.2003 15:02:10

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

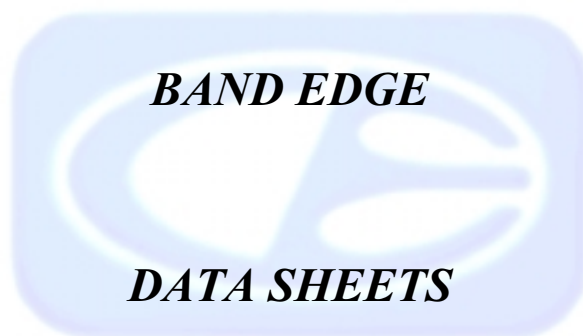


Ref Lvl 13.5 dBm
Marker 1 [T2] -40.57 dBm
22.86573146 GHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 3.8 s Unit dBm



Date: 11.DEC.2003 15:02:45

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



FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 b Mode	GAIN:	31	OUTPUT	17.38 dBm
Channel 6 - 802.11 b Mode	GAIN:	31.5	OUTPUT	17.48 dBm
Channel 11 - 802.11 b Mode	GAIN:	32	OUTPUT	17.08 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	106.59	V	"--"	"--"	Peak	1.5	90	Fundamental of Channel 1 at 3 Meters
2412	101.85	V	"--"	"--"	Avg	1.5	90	
2390	55.02	V	74	-18.98	Peak	1.5	90	
2390	42.44	V	54	-11.56	Avg	1.5	90	
2311.84	58.38	V	74	-15.62	Peak	1.5	90	
2311.84	48.27	V	54	-5.73	Avg	1.5	90	
2437	107.79	V	"--"	"--"	Peak	1.5	90	Fundamental of Channel 6 at 3 Meters
2437	102.95	V	"--"	"--"	Avg	1.5	90	
2462	106.83	V	"--"	"--"	Peak	1.5	90	Fundamental of Channel 11 at 3 Meters
2462	102.18	V	"--"	"--"	Avg	1.5	90	
2483.5	55.6	V	74	-18.4	Peak	1.5	90	
2483.5	44.85	V	54	-9.15	Avg	1.5	90	
2484.8	55.64	V	74	-18.36	Peak	1.5	90	
2491.3	47.55	V	54	-6.45	Avg	1.5	90	

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 12/10/03
 Lab: B
 Tested By: Kyle Fujimoto

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 b Mode GAIN: 31 OUTPUT 17.38 dBm

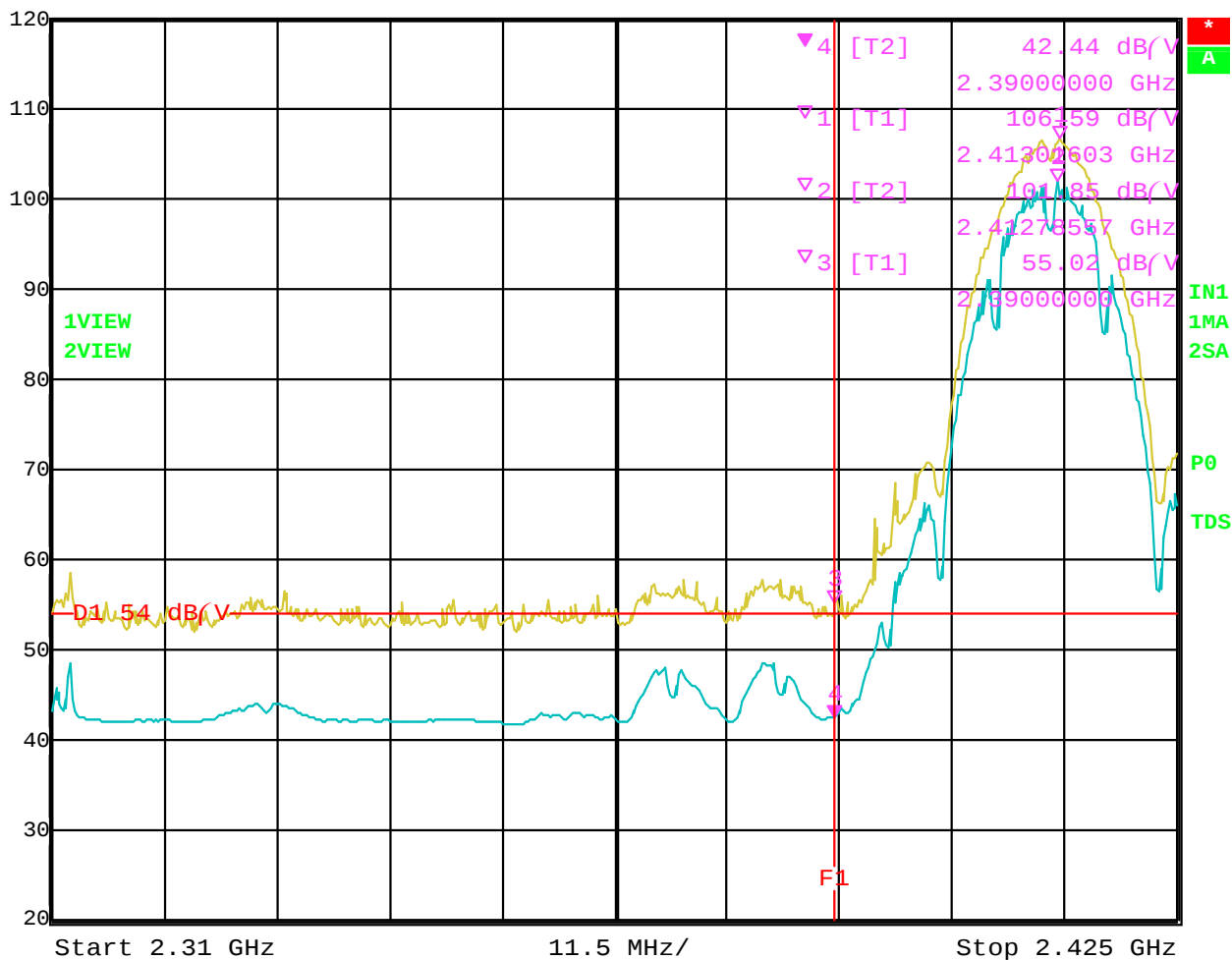
Channel 6 - 802.11 b Mode GAIN: 31.5 OUTPUT 17.48 dBm

Channel 11 - 802.11 b Mode GAIN: 32 OUTPUT 17.08 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	104.12	H	"--"	"--"	Peak	1.25	0	Fundamental of Channel 1
2412	99.21	H	"--"	"--"	Avg	1.25	0	at 3 Meters
2390	53	H	74	-21	Peak	1.25	0	
2390	41.57	H	54	-12.43	Avg	1.25	0	
2383.5	56.88	H	74	-17.12	Peak	1.25	0	
2383.5	46.03	H	54	-7.97	Avg	1.25	0	
2437	103.55	H	"--"	"--"	Peak	1.5	90	Fundamental of Channel 6
2437	98.66	H	"--"	"--"	Avg	1.5	90	at 3 Meters
2462	103.14	H	"--"	"--"	Peak	1.25	0	Fundamental of Channel 11
2462	98.56	H	"--"	"--"	Avg	1.25	0	at 3 Meters
2483.5	53.14	H	74	-20.86	Peak	1.25	0	
2483.5	42.7	H	54	-11.3	Avg	1.25	0	
2491.32	55.3	H	74	-18.7	Peak	1.25	0	
2491.32	44.82	H	54	-9.18	Avg	1.25	0	



Ref Lvl 120 dB/V
Marker 4 [T2] 42.44 dB/V
2.39000000 GHz
RBW 1 MHz
VBW 10 Hz
SWT 29 s
RF Att 30 dB
Unit dB/V

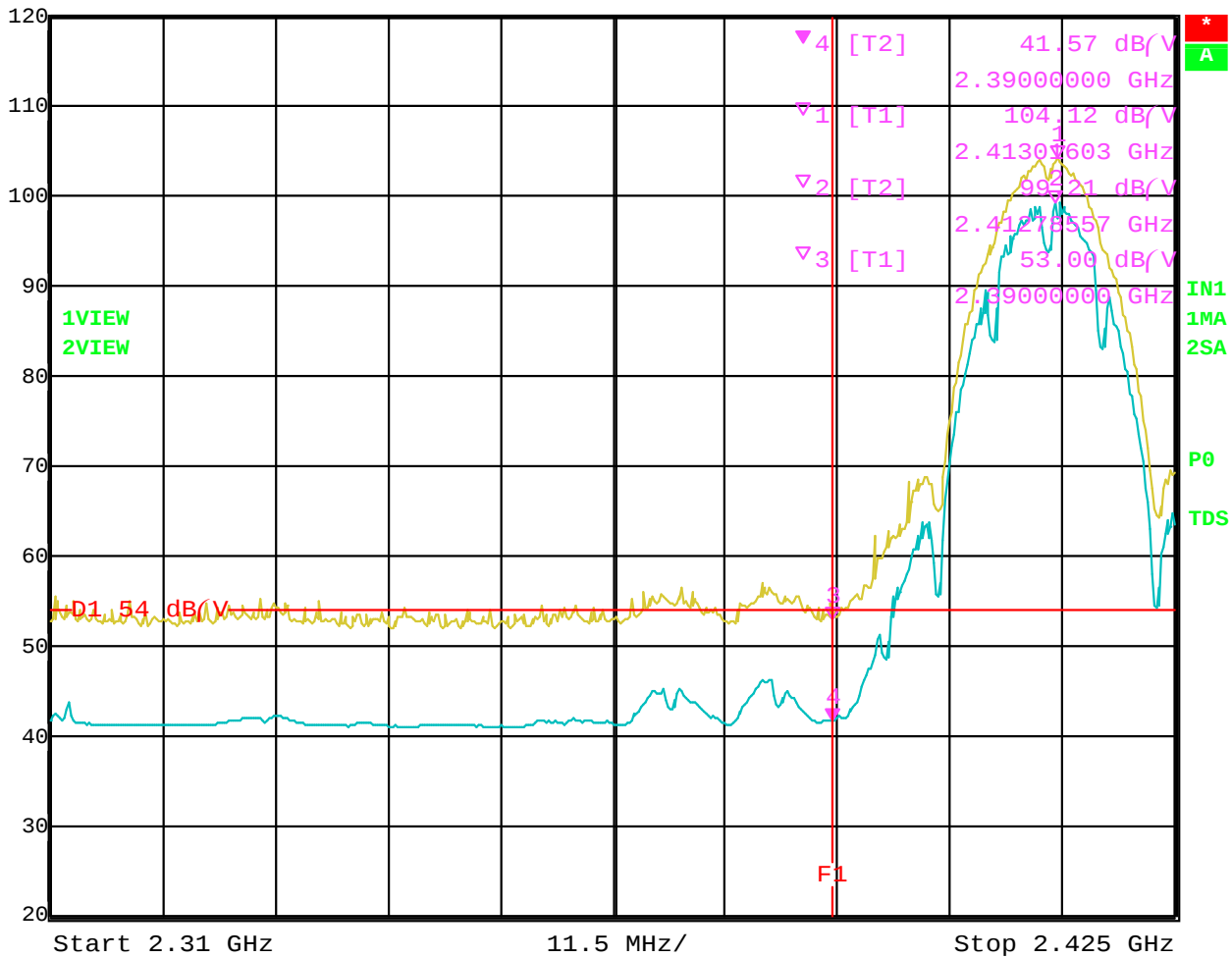


Date: 10.DEC.2003 13:31:37

Radiated Band Edge – Channel 1 – Vertical Polarization – 802.11 b Mode



Ref Lvl 120 dB/V
Marker 4 [T2] 41.57 dB/V
2.39000000 GHz
RBW 1 MHz
VBW 10 Hz
SWT 29 s
RF Att 30 dB
Unit dB/V

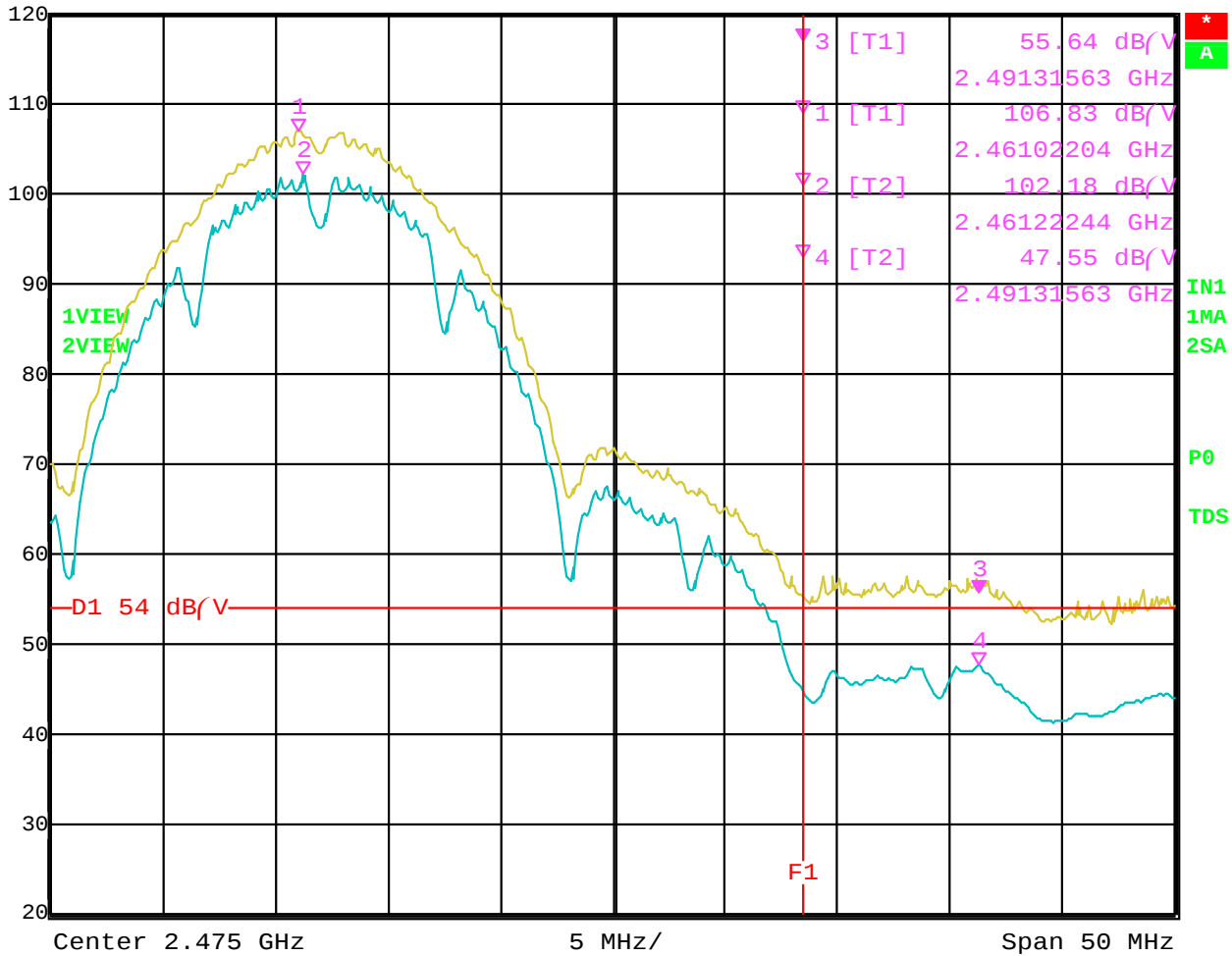


Date: 10.DEC.2003 13:59:36

Radiated Band Edge – Channel 1 – Horizontal Polarization – 802.11 b Mode



Ref Lvl 120 dB/V
Marker 3 [T1] 55.64 dB/V
2.49131563 GHz
RBW 1 MHz RF Att 30 dB
VBW 10 Hz
SWT 12.5 s Unit dB/V

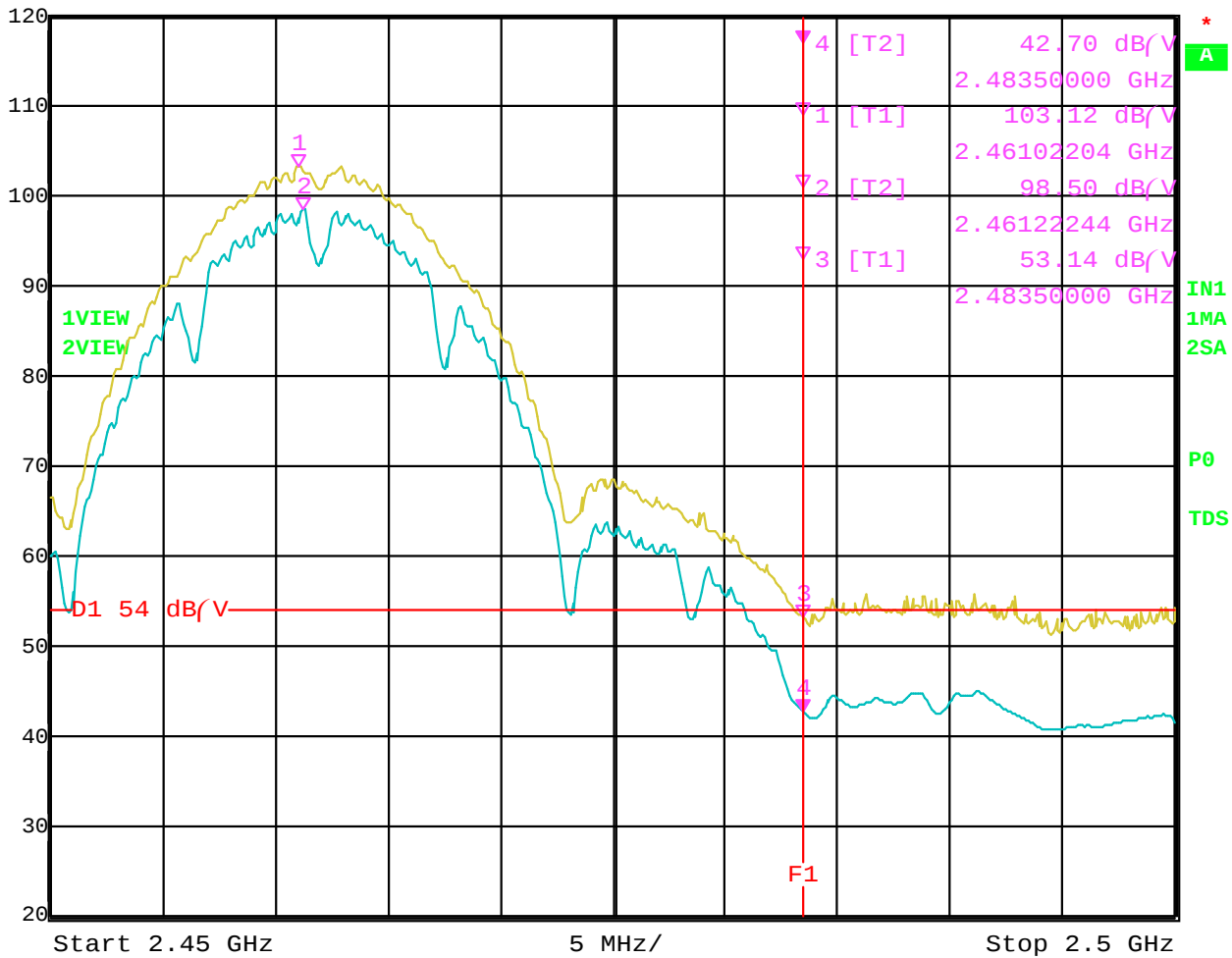


Date: 10.DEC.2003 13:38:40

Radiated Band Edge – Channel 11 – Vertical Polarization – 802.11 b Mode



Ref Lvl 120 dB/V
Marker 4 [T2] 42.70 dB/V
2.48350000 GHz
RBW 1 MHz
VBW 10 Hz
SWT 12.5 s
RF Att 30 dB
Unit dB/V



Date: 10.DEC.2003 13:53:00

Radiated Band Edge – Channel 11 – Horizontal Polarization – 802.11 b Mode

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 1/07/04
 Lab: B
 Tested By: Ben Chavez

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 g Mode GAIN: 29.5 OUTPUT 15.88 dBm

Channel 6 - 802.11 g Mode GAIN: 30 OUTPUT 15.95 dBm

Channel 11 - 802.11 g Mode GAIN: 30.5 OUTPUT 16.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	109.03	V	"--"	"--"	Peak	2.25	45	Fundamental of Channel 1
2412	95.3	V	"--"	"--"	Avg	2.25	45	at 3 Meters
2390	69.06	V	74	-4.94	Peak	2.25	45	
2390	53.01	V	54	-0.99	Avg	2.25	45	
2437	108.59	V			Peak	2	45	Fundamental of Channel 6
2437	94.69	V			Avg	2	45	at 3 Meters
2462	107.15	V	"--"	"--"	Peak	2	45	Fundamental of Channel 11
2462	94.46	V	"--"	"--"	Avg	2	45	at 3 Meters
2483.5	60.15	V	74	-13.85	Peak			With Marker Delta Method Used
2483.5	46.44	V	54	-7.56	Avg			
2485.6	68.79	V	74	-5.21	Peak	2	45	
2485.6	53.98	V	54	-0.02	Avg	2	45	

FCC 15.247

Intel Corporation
 Intel Mini PCI Type 802.11BG Wireless LAN Adapter
 Model: WM3B2200BG

Date: 1/07/04
 Lab: B
 Tested By: Ben Chavez

Configuration: HP Laptop Agency Series# PP2080

Channel 1 - 802.11 g Mode GAIN: 29.5 OUTPUT 15.88 dBm

Channel 6 - 802.11 g Mode GAIN: 30 OUTPUT 15.95 dBm

Channel 11 - 802.11 g Mode GAIN: 30.5 OUTPUT 16.02 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	107.05	H	"--"	"--"	Peak	1.75	180	Fundamental of Channel 1
2412	93.46	H	"--"	"--"	Avg	1.75	180	at 3 Meters
2390	69.63	H	74	-4.37	Peak	1.75	180	
2390	52.34	H	54	-1.66	Avg	1.75	180	
2437	107.06	H			Peak	1.75	180	Fundamental of Channel 6
2437	93.6	H			Avg	1.75	180	at 3 Meters
2462	106.35	H	"--"	"--"	Peak	2.25	45	Fundamental of Channel 11
2462	92.61	H	"--"	"--"	Avg	2.25	45	at 3 Meters
2483.5	59.35	H	74	-14.65	Peak			With Marker Delta Method Used
2483.5	44.59	H	54	-9.41	Avg			
2485.6	68.75	H	74	-5.25	Peak	2.25	45	
2485.6	52.61	H	54	-1.39	Avg	2.25	45	

Intel Corporation
Intel Mini PCI Type 802.11BG Wireless LAN Adapter
Model: WM3B2200BG

Configuration: HP Laptop Agency Series# PP2080

[illegible]

Note: The readings below the * Only Used From 2483.5 to 2485.5 MHz *** section represents step #4 of the marker-delta method per section 8.6 of this test report**

Date: 7. JAN. 2004 22:07:30

Unit dB/V



Date: 7. JAN. 2004 22:03:02