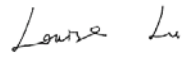
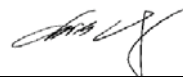


FCC PART 15.247
EMI MEASUREMENT AND TEST REPORT
For
UTStarcom, Inc.

No.368,Liuhe Road,Binjiang, Hangzhou ,P.R.C

FCC ID: O6Y-F3000

Novemebr 29, 2005

This Report Concerns: ☒ Original Report	Equipment Type: WIFI Handset
Test Engineer: Jandy Su  Louise Lu  Deniel Deng 	
Report No.: RSH05111405	
Test Date: November 11-December 1 , 2005	
Reviewed By: Chris Zeng 	
Prepared By: Bay Area Compliance Lab Corp. (ShenZhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China Tel: +86-755-33320018 Fax: +86-755-33320008	

Note: The test report is specially limited to the above company and this particular sample only.
It may not be duplicated without prior written consent of Bay Area Compliance Lab Corp.
(ShenZhen). This report **must not** be used by the client to claim product certification,
approval, or endorsement by NVLAP, NIST or any agency of the US Government.

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *UTStarcom, Inc.*'s product, model number: F3000 or the "EUT" as referred to in this report is a WIFI Handset, which measures approximately 10.0 cm L x 4.6cmW x 2.3cmH. The EUT operates at the frequency range of 2412– 2462MHz, with maximum conducted output power of 23.01mW (13.62dBm), rated input voltage: DC 3.6 V Battery.

** The test data gathered are from production sample, serial number: 118307372, provided by the manufacturer, we receive the EUT on 2005-11-14.*

Objective

This Type approval report is prepared on behalf of *UTStarcom, Inc.* in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.209, and 15.247 rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Lab Corp. (ShenZhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Lab Corp. (ShenZhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China.

Test site at Bay Area Compliance Lab Corp. (ShenZhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179 and Industrial Canada registration test site No.: 5500A. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Lab Corp. (ShenZhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0). The current scope of accreditations can be found at <http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm>

SYSTEM TEST CONFIGURATION

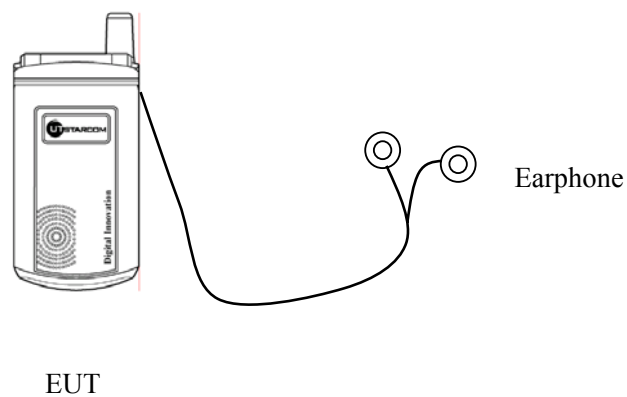
Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

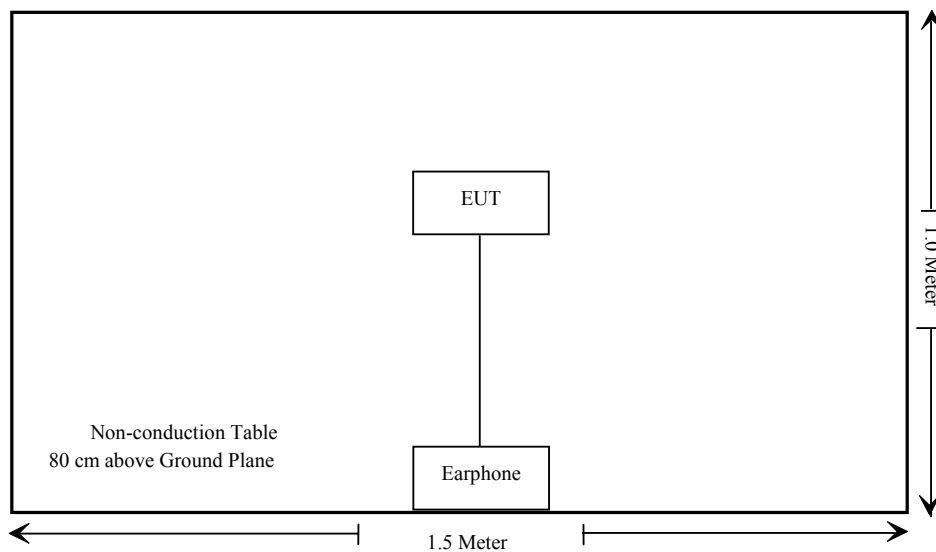
Equipment Modifications

Bay Area Compliance Lab Corp. (ShenZhen) has not done any modification on the EUT.

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.203	Antenna Requirement	Compliant
§15.205	Restricted Band	Compliant
§2.1051	Spurious Emission at Antenna Port	Compliant
§15.205, §15.209, §15.247(d)	Radiated Emission	Compliant *
§15.247 (a)(2)	6 dB Bandwidth	Compliant
§15.247 (b)(3)	Maximum Peak Output Power	Compliant
§ 15.247 (d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247 (e)	Peak Power Spectral Density	Compliant

* Within the measurement uncertainty.

§15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to § 15.247 (b) (4), if transmitting antennas of directional gain greater than 6 dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The antenna for this device is an integral antenna with gain of 1.29dBi.

§2.1051 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standard

Requirements: CFR 47, § 2.1051.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1057.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2005-11-10	2006-11-10

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 30 MHz-1 GHz: RBW 100 kHz, above 1 GHz: RBW 1 MHz, RF antenna conducted test: Set RBW = 100 kHz, Video bandwidth (VBW) >RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. * If the device complies with the use of power option 2 the attenuation under this paragraph shall be 30 dB instead of 20 dB.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

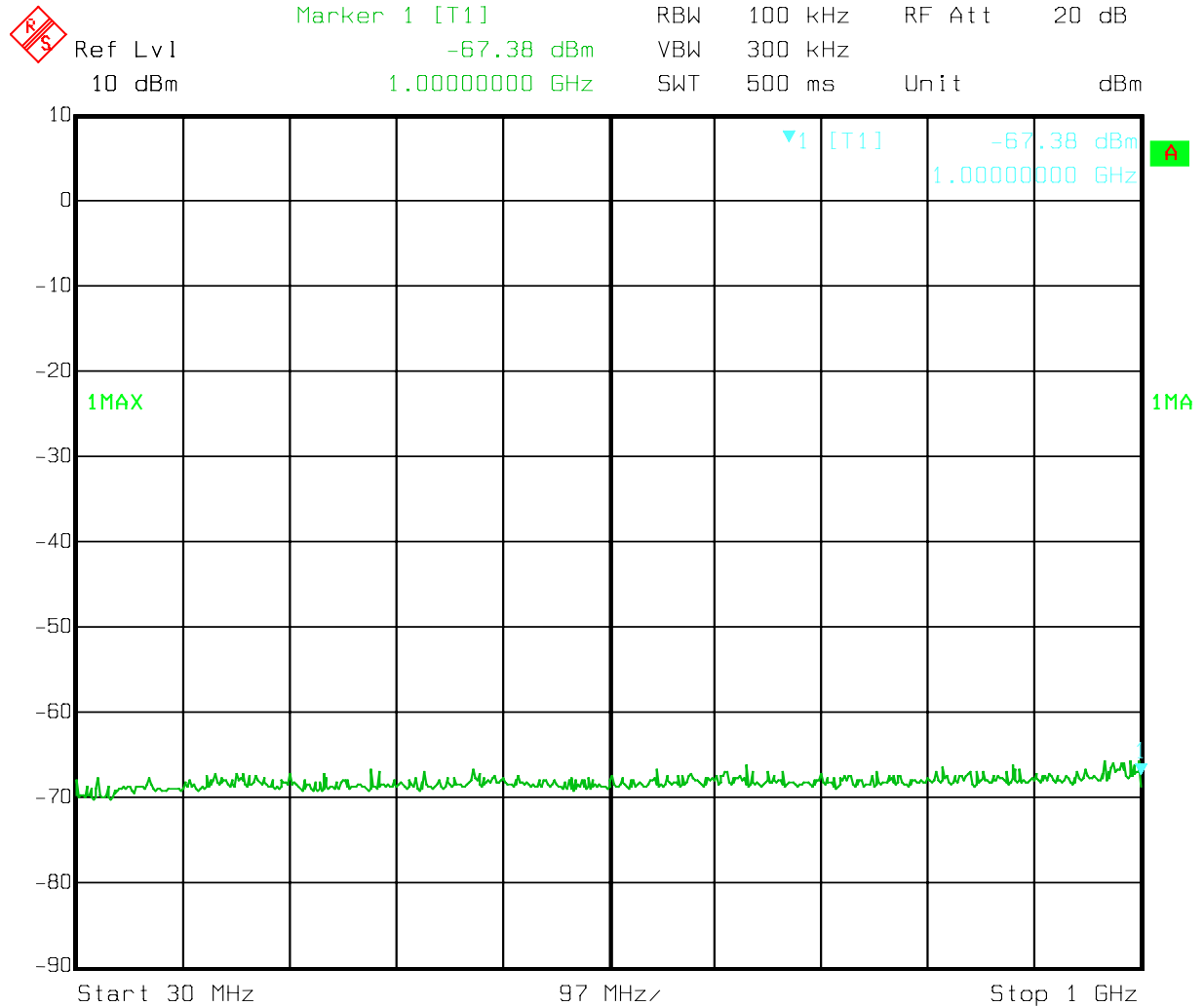
The testing was performed by Jandy Su on 2005-11-23.

Test Result: Pass

Test Mode: Transmitting

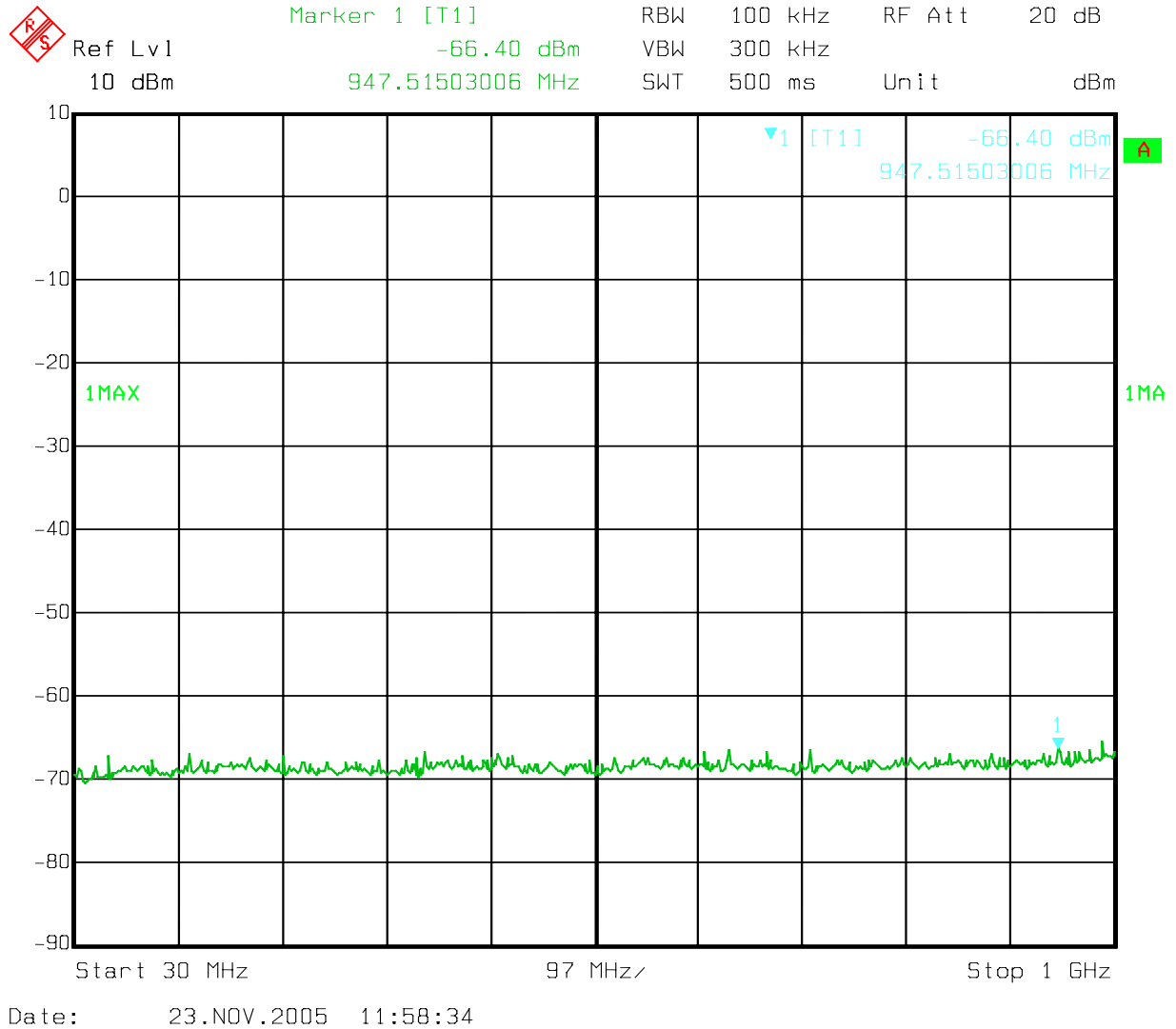
802.11b

Low Channel

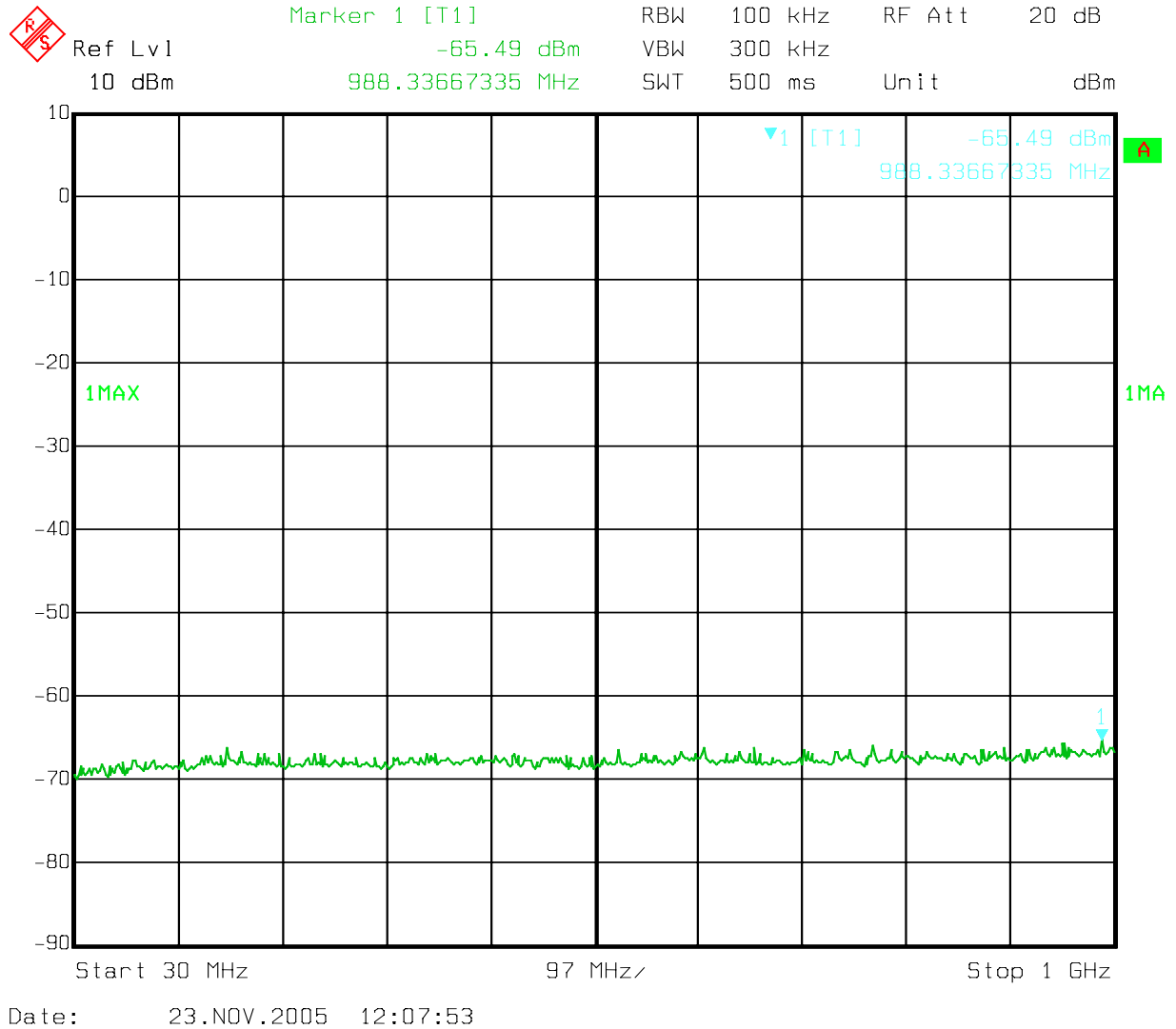


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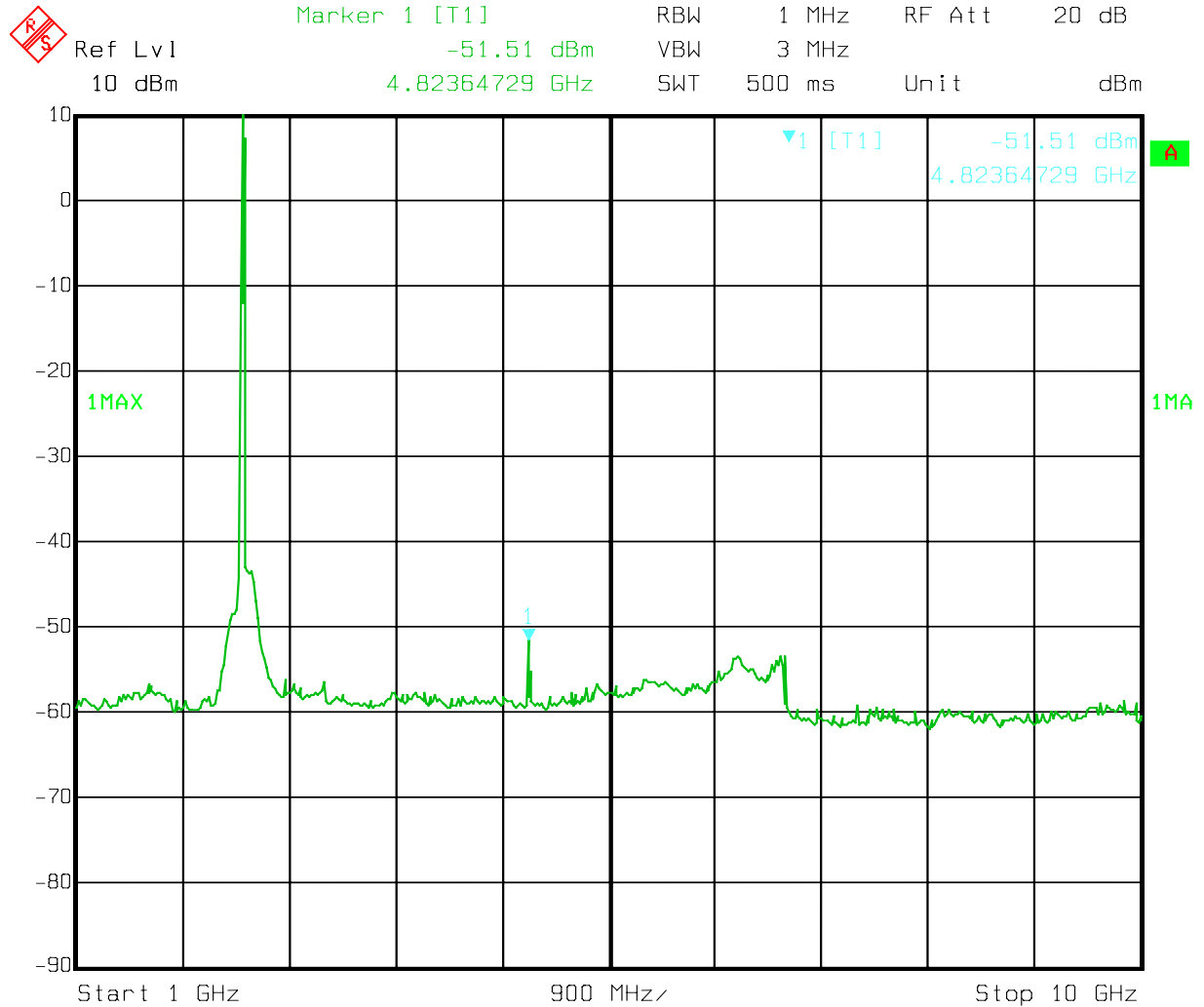
Middle Channel



High Channel

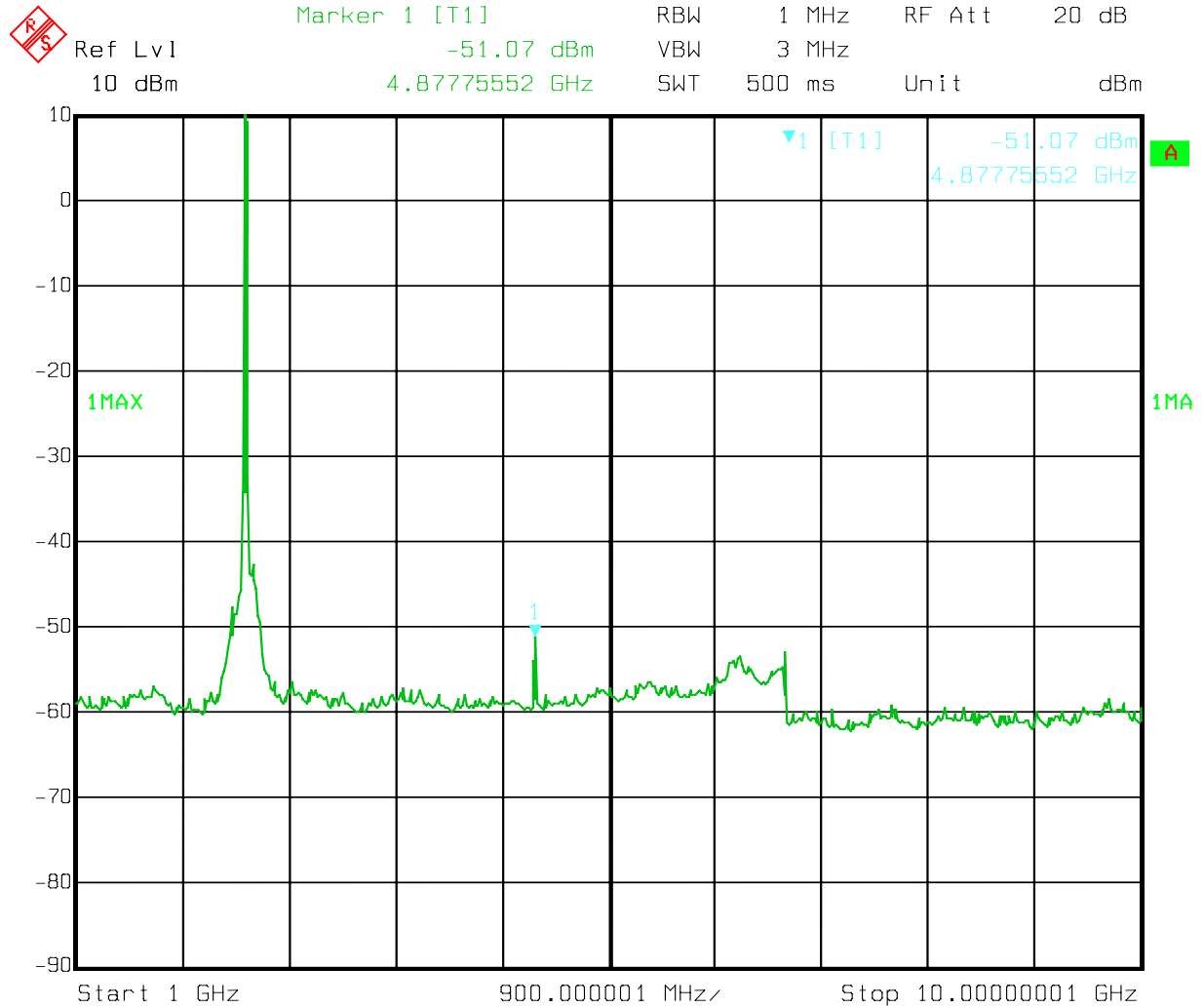


Low Channel



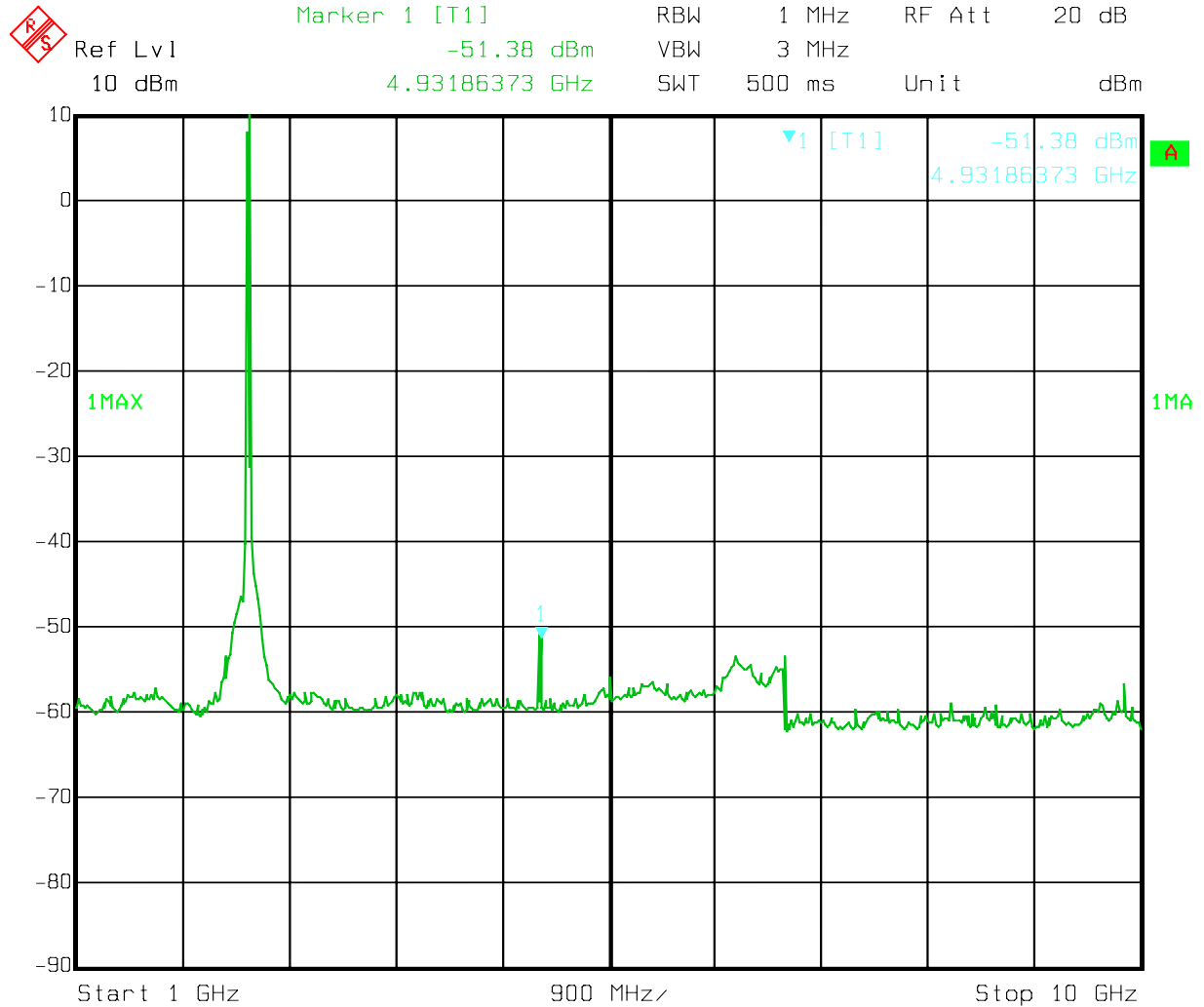
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Middle Channel



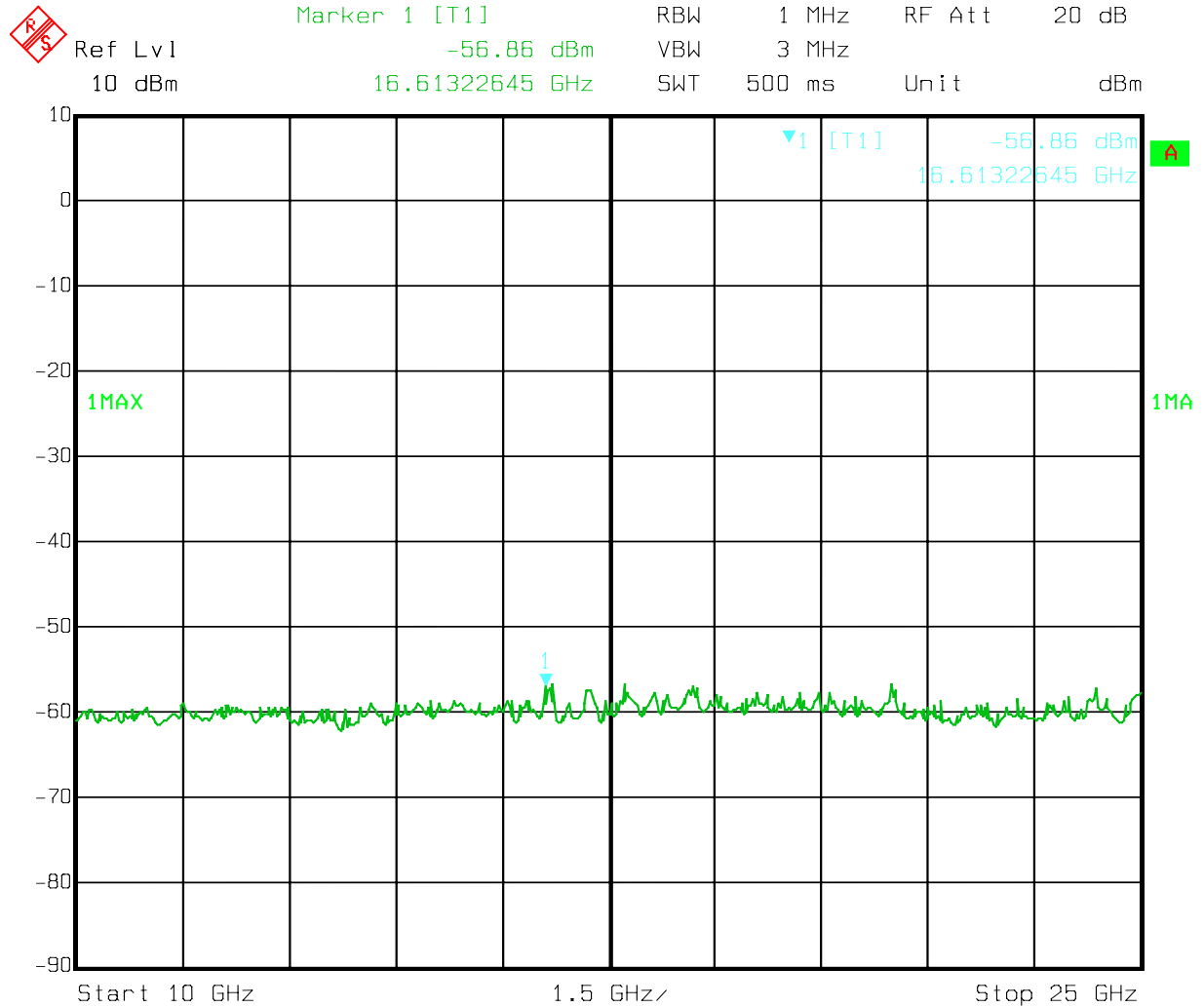
Date: 23.NOV.2005 12:00:08

High Channel



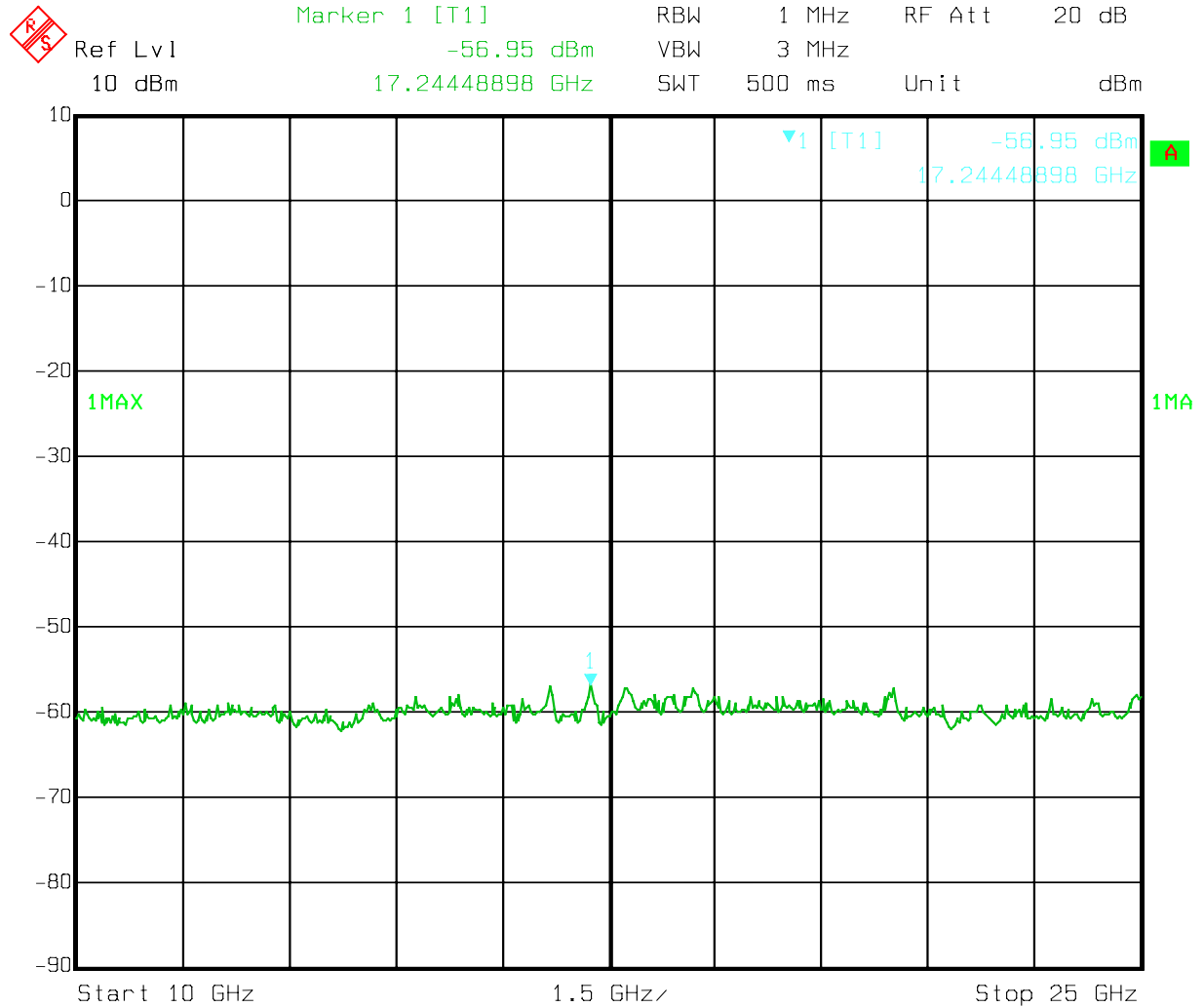
Date: 23.NOV.2005 12:02:19

Low Channel



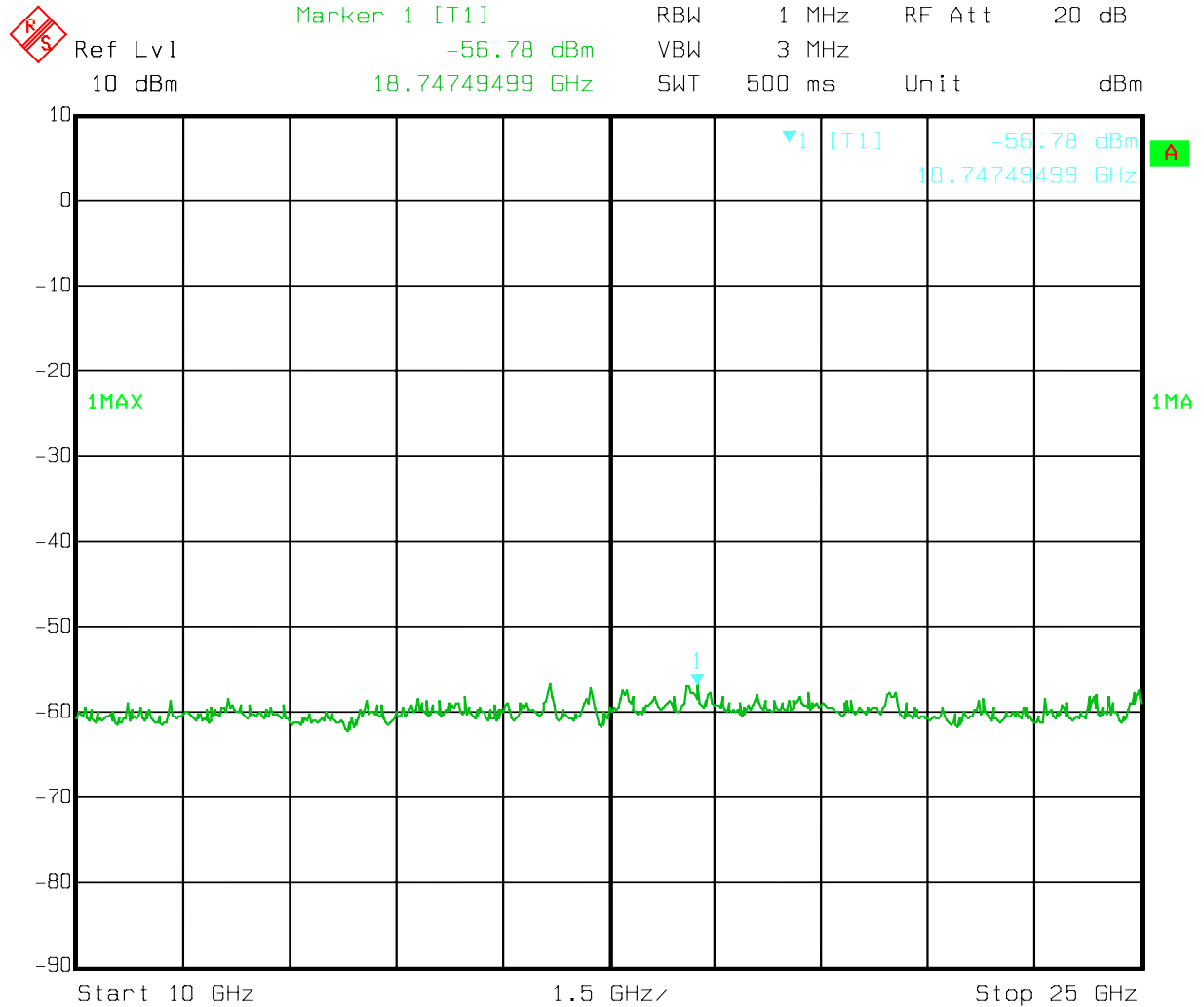
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Middle Channel



Date: 23.NOV.2005 11:54:39

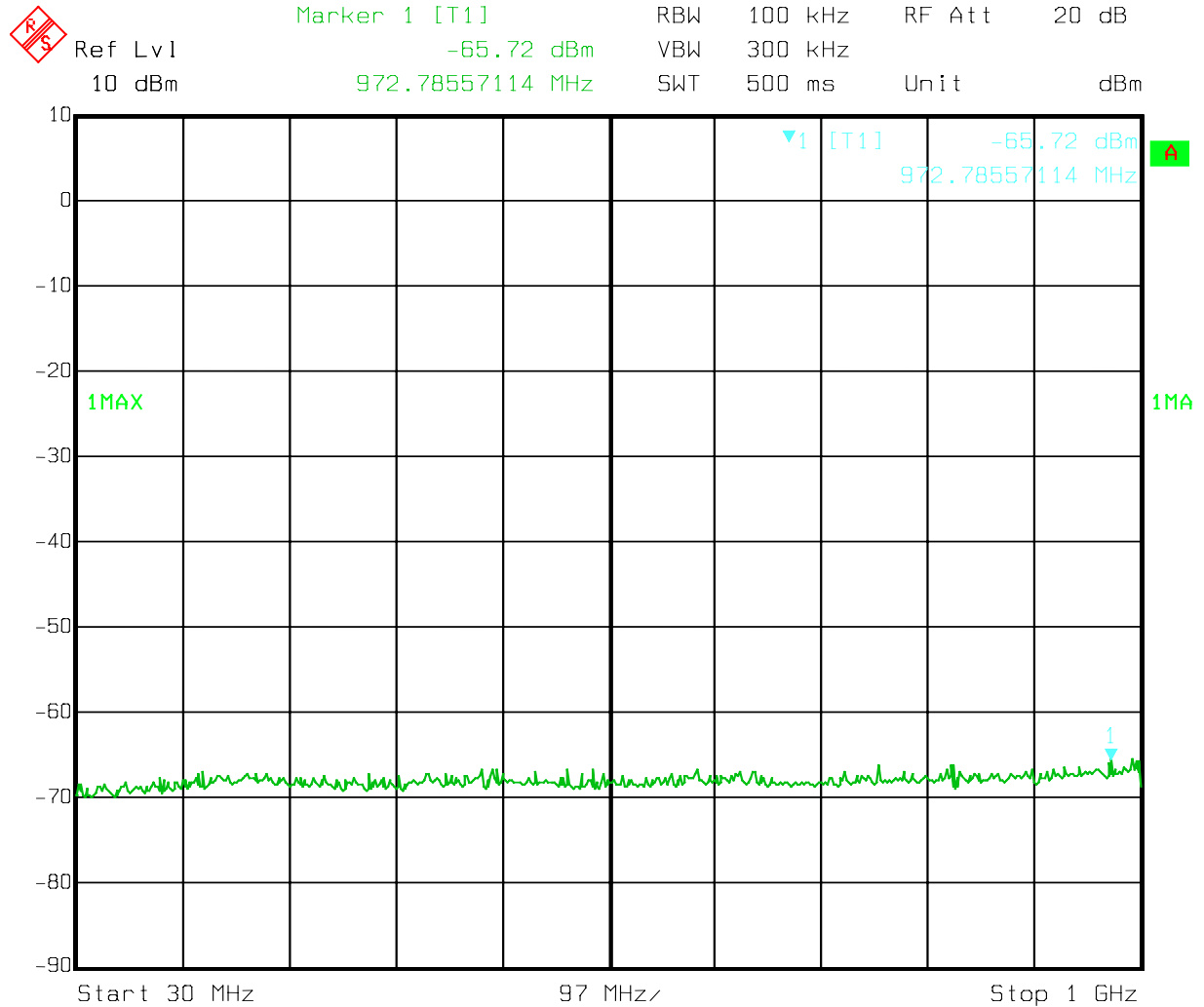
High Channel



Date: 23.NOV.2005 12:04:05

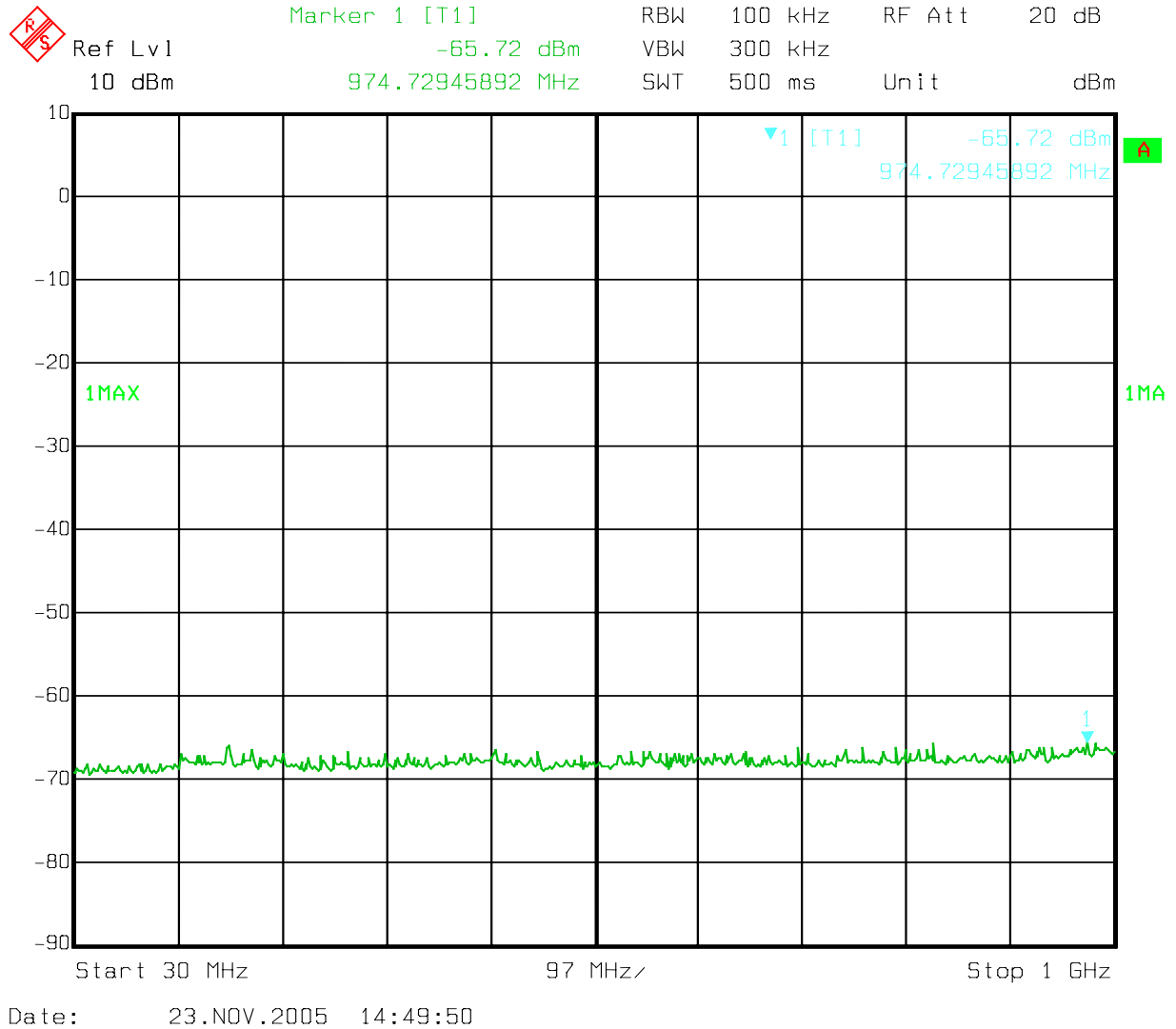
802.11g

Low Channel

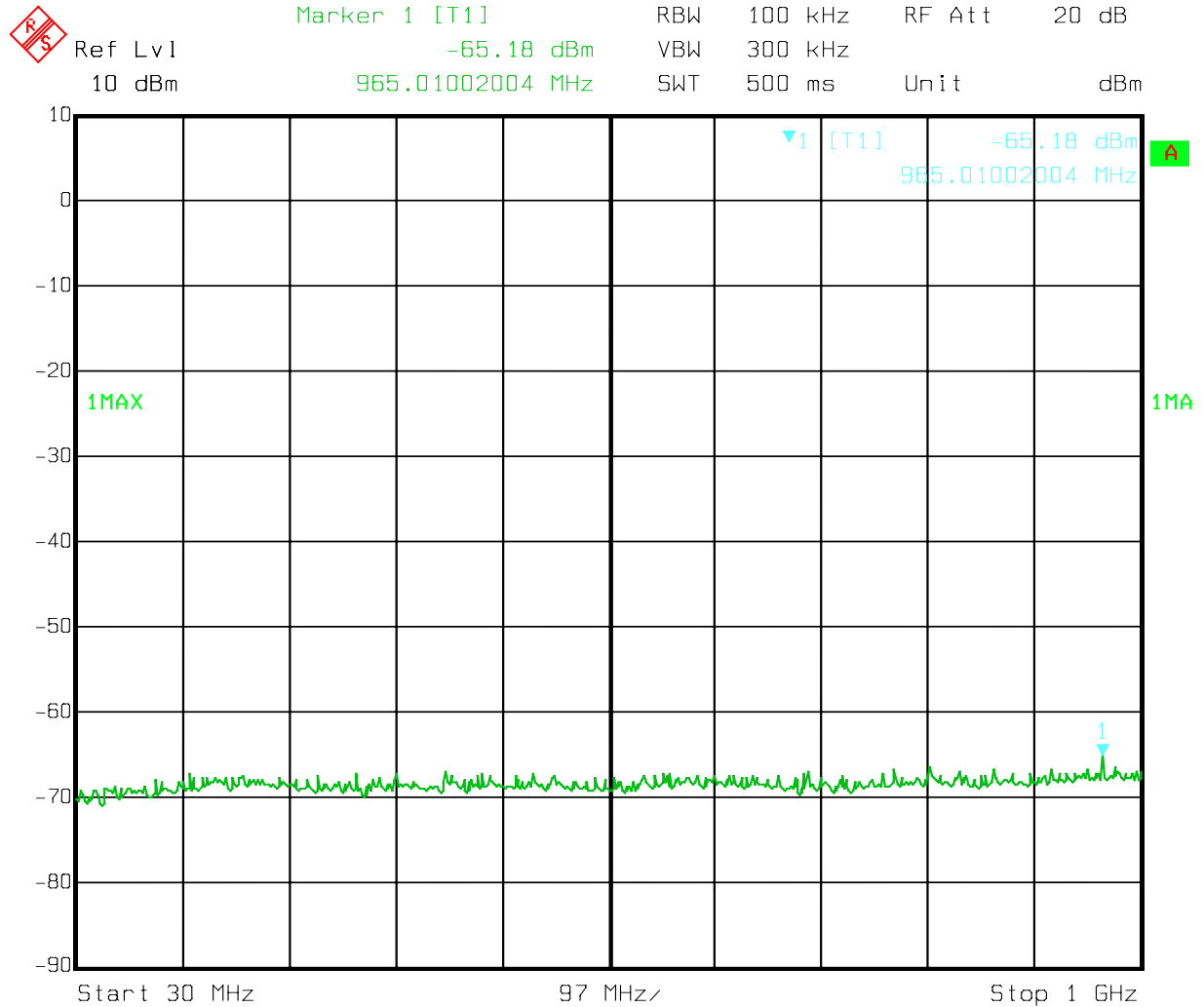


Date: 23.NOV.2005 15:02:20

Middle Channel

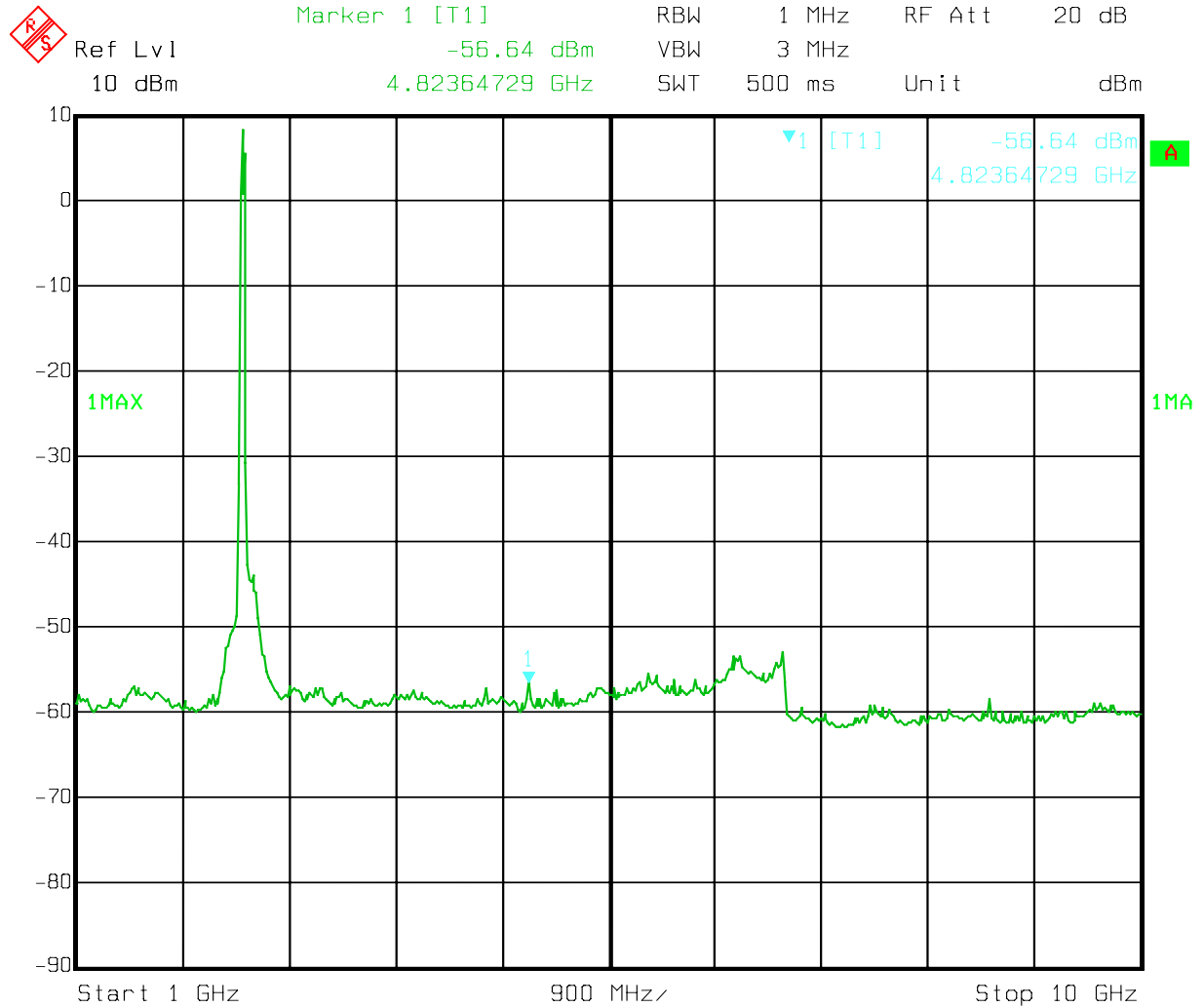


High Channel



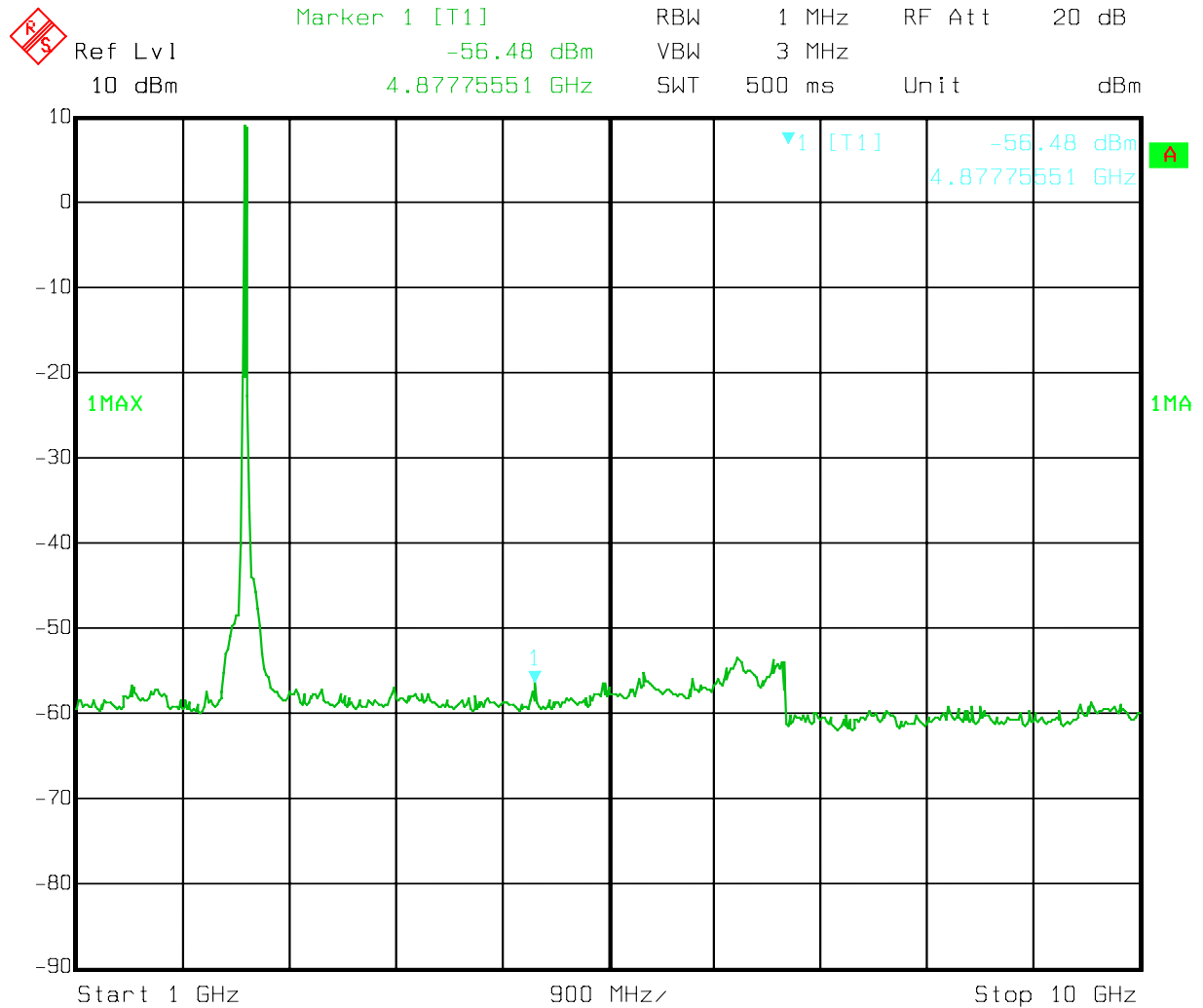
Date: 23.NOV.2005 15:06:57

Low Channel



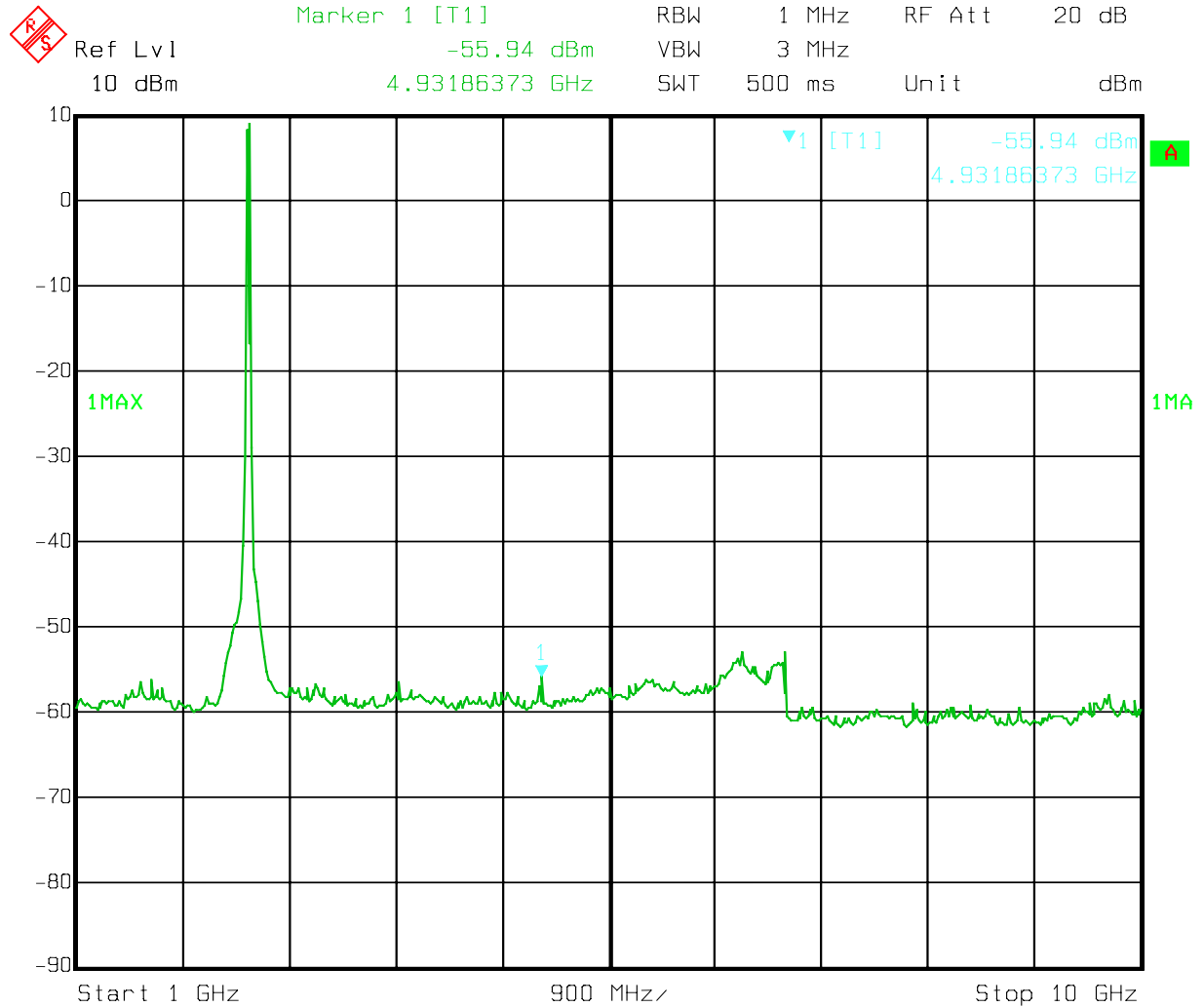
Date: 23.NOV.2005 14:52:34

Middle Channel



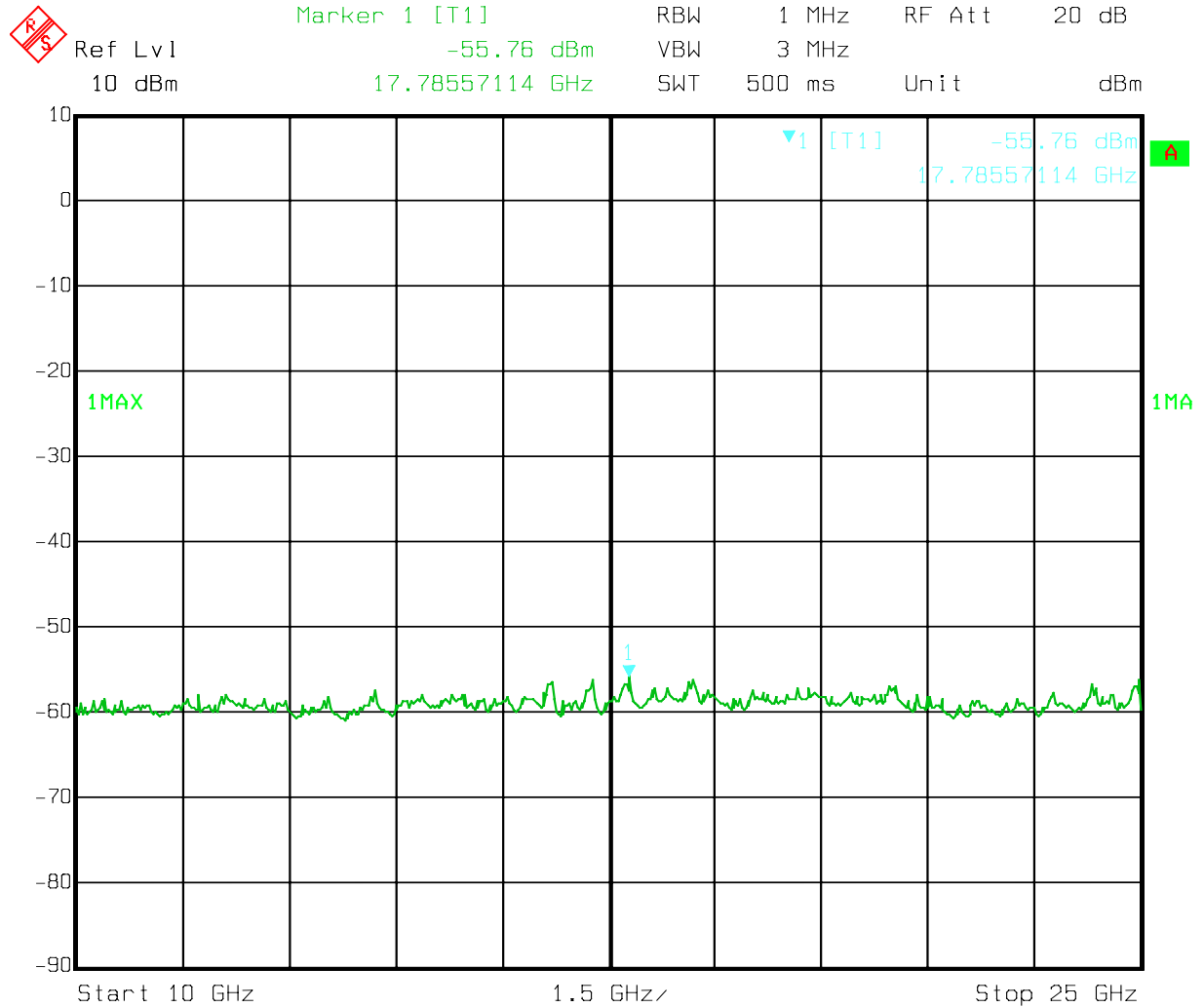
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High Channel



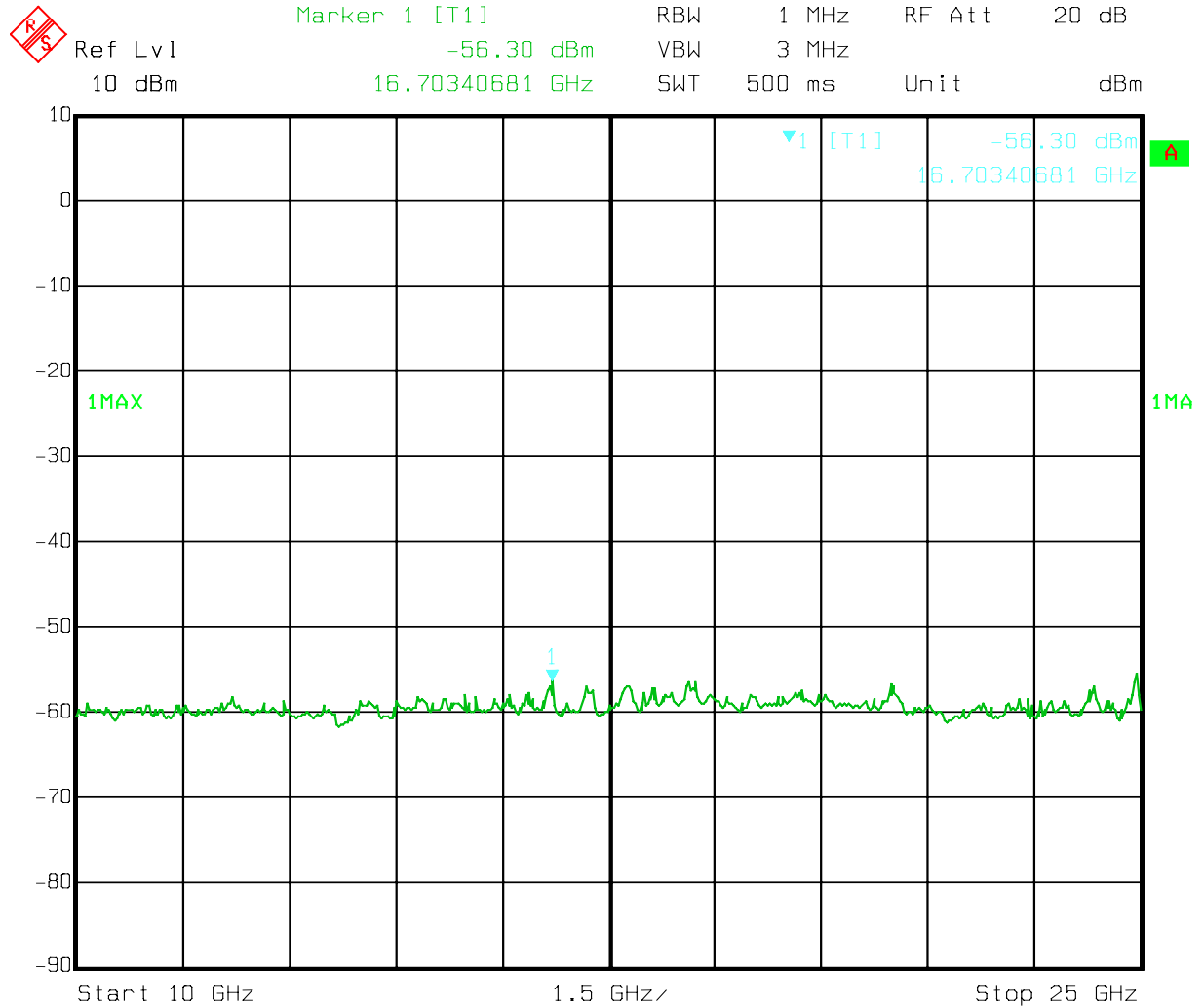
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Low Channel



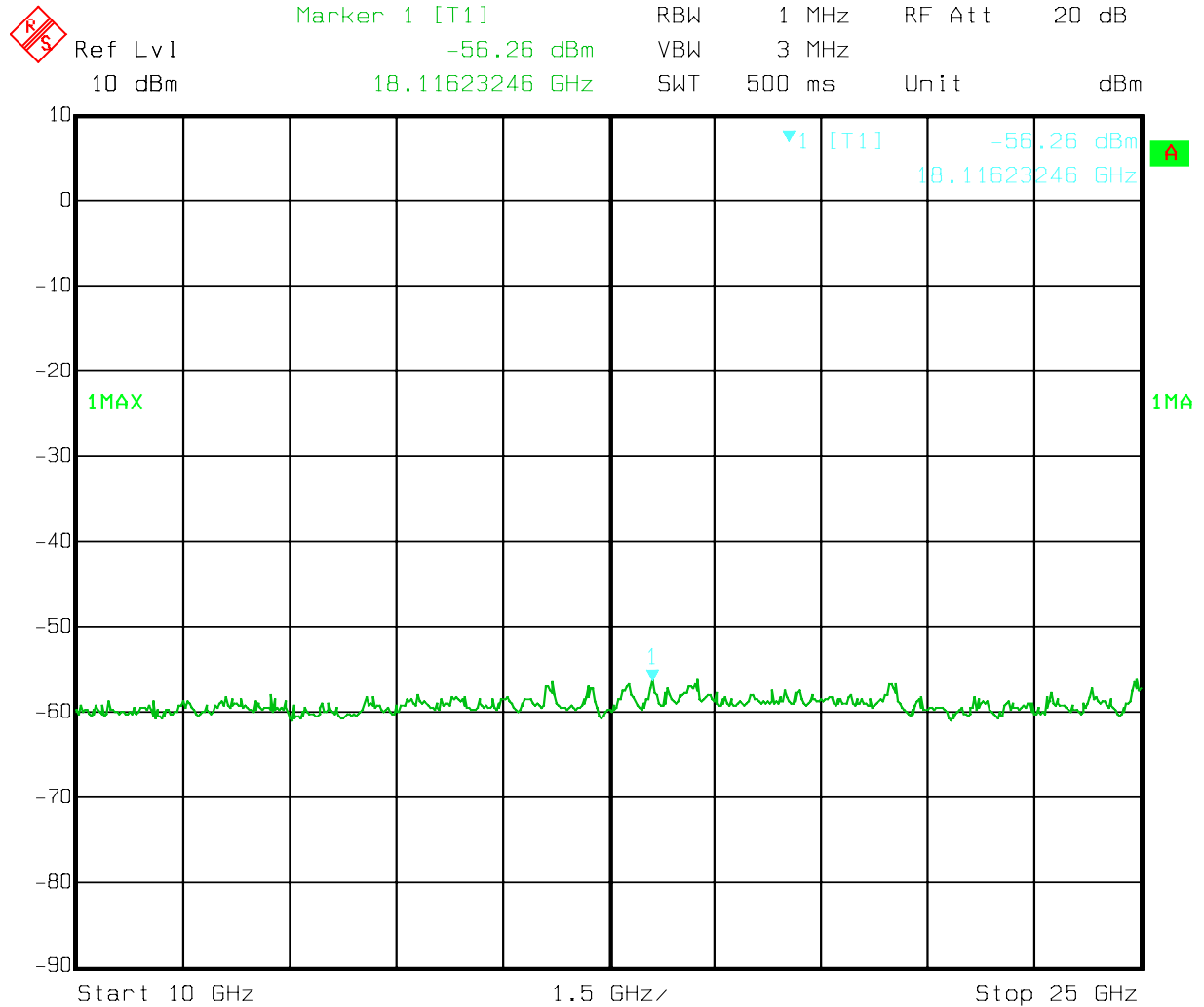
Date: 23.NOV.2005 15:16:13

Middle Channel



Date: 23.NOV.2005 14:57:56

High Channel



Date: 23.NOV.2005 14:54:26

§15.205, §15.209, §15.247 - RADIATED EMISSION

Applicable Standard

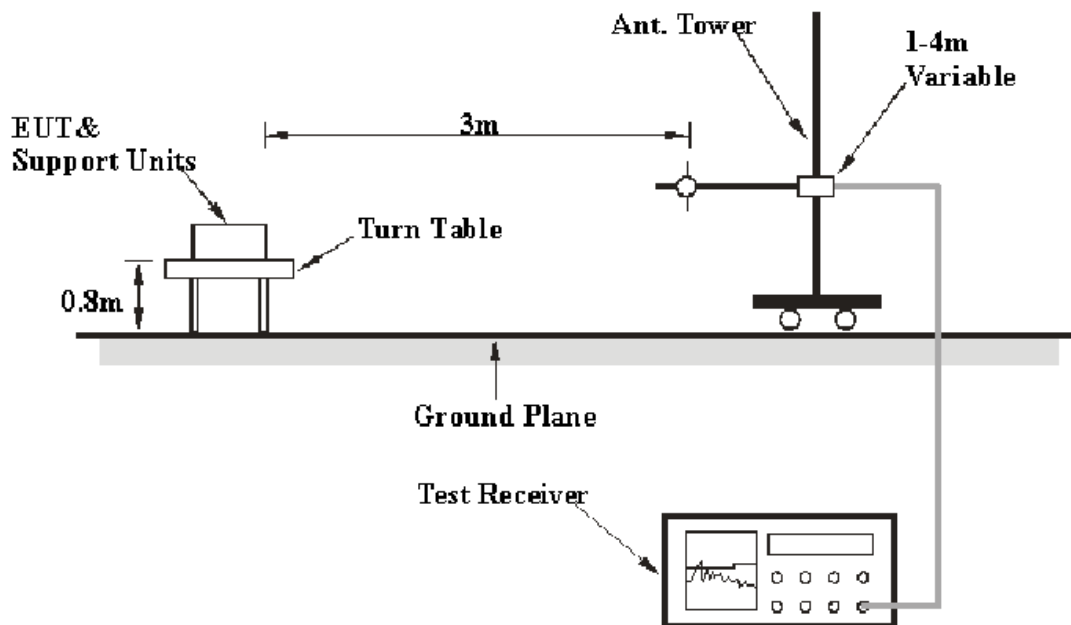
According to FCC §15.247 (d)

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Lab Corp. (ShenZhen) is ± 4.0 dB.

EUT Setup



The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209 and FCC 15.247 limits.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>
30MHz – 1000 MHz	100 kHz	300 kHz
1000 MHz – 25 GHz	1 MHz	3 MHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
A.H. System	Horn Antenna	SAS-200/571	135	2005-4-28	2006-4-28
HP	Amplifier	HP8447D	2944A09795	2005-8-17	2006-8-17
HP	Preamplifier	8449B	3008A00277	2005-8-17	2006-8-17
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2005-11-10	2006-11-10
Rohde&Schwarz	EMI Test Receiver	ESCI	100035	2005-8-17	2006-8-17
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2005-4-28	2006-4-28

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the PK&AV detection mode.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Meter Reading} + \text{Antenna Loss} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Standard Limit}$$

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209, and 15.247, with the worst margin reading of:

802.11b:

-2.5 dB at 9648 MHz in the **Horizontal** polarization, Low Channel

-2.2 dB at 9748 MHz in the **Vertical** polarization, Middle Channel

-2.7 dB at 7386 MHz in the **Horizontal** polarization, High Channel

-6.7 dB at 31.290 MHz in the **Horizontal** polarization, Unintentional Emission

802.11g:

-2.1 dB at 9648 MHz in the **Vertical** polarization, Low Channel

-3.1 dB at 9748 MHz in the **Horizontal** polarization, Middle Channel

-2.4 dB at 9848 MHz in the **Horizontal** polarization, High Channel

-7.3 dB at 31.290 MHz in the **Horizontal** polarization, Unintentional Emission

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

The testing was performed by Louise Lu on 2005-11-21.

Test Mode: Transmitting

Radiated Emission Test Result for 802.11b

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Meter Reading dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna Loss dB	Cable Loss dB	Amp. Gain dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1GHz-25GHz											
2412	103.80	PK(fundamental)	45	1.0	H	28.1	3.7	35.16	100.4		
2412	92.11	AV(fundamental)	180	1.2	H	28.1	3.7	35.16	88.8		
2412	103.30	PK(fundamental)	45	1.0	V	28.1	3.7	35.16	99.9		
2412	91.60	AV(fundamental)	60	1.0	V	28.1	3.7	35.16	88.2		
9648	41.21	AV(harmonic)	60	1.0	H	38.0	7.0	34.72	51.5	54	-2.5*
9648	40.64	AV(harmonic)	180	1.2	V	38.0	7.0	34.72	50.9	54	-3.1*
7236	41.35	AV(harmonic)	180	1.2	H	35.8	6.0	33.50	49.7	54	-4.3
7236	41.05	AV(harmonic)	60	1.0	V	35.8	6.0	33.50	49.3	54	-4.7
4824	42.86	AV(harmonic)	180	1.2	V	33.8	5.2	33.00	48.9	54	-5.1
4824	42.39	AV(harmonic)	60	1.0	H	33.8	5.2	33.00	48.4	54	-5.6
9648	43.56	PK(harmonic)	45	1.2	H	38.0	7.0	34.72	53.8	74	-20.2
9648	43.12	PK(harmonic)	45	1.2	V	38.0	7.0	34.72	53.4	74	-20.6
7236	43.92	PK(harmonic)	45	1.2	H	35.8	6.0	33.50	52.2	74	-21.8
7236	43.08	PK(harmonic)	45	1.2	V	35.8	6.0	33.50	51.4	74	-22.6
4824	44.84	PK(harmonic)	45	1.2	V	33.8	5.2	33.00	50.8	74	-23.2
4824	44.26	PK(harmonic)	45	1.0	H	33.8	5.2	33.00	50.3	74	-23.7
Middle Channel, 1GHz-25GHz											
2437	105.90	PK(fundamental)	45	1.0	H	28.1	3.7	35.16	102.5		
2437	92.60	AV(fundamental)	180	1.2	H	28.1	3.7	35.16	89.2		
2437	104.60	PK(fundamental)	45	1.0	V	28.1	3.7	35.16	101.2		
2437	91.03	AV(fundamental)	60	1.0	V	28.1	3.7	35.16	87.7		
9748	41.55	AV(harmonic)	180	1.2	V	38.0	7.0	34.72	51.8	54	-2.2*
9748	41.38	AV(harmonic)	60	1.0	H	38.0	7.0	34.72	51.7	54	-2.3*
7311	41.95	AV(harmonic)	60	1.0	V	35.8	6.1	33.50	50.3	54	-3.7*
7311	41.82	AV(harmonic)	180	1.2	H	35.8	6.1	33.50	50.2	54	-3.8*
4874	42.54	AV(harmonic)	180	1.2	V	33.8	5.2	33.00	48.5	54	-5.5
4874	42.34	AV(harmonic)	60	1.0	H	33.8	5.2	33.00	48.3	54	-5.7
9748	43.16	PK(harmonic)	45	1.2	H	38.0	7.0	34.72	53.4	74	-20.6
9748	43.16	PK(harmonic)	45	1.2	V	38.0	7.0	34.72	53.4	74	-20.6
7311	43.53	PK(harmonic)	45	1.2	V	35.8	6.1	33.50	51.9	74	-22.1
7311	43.41	PK(harmonic)	45	1.2	H	35.8	6.1	33.50	51.8	74	-22.2
4874	44.15	PK(harmonic)	45	1.2	V	33.8	5.2	33.00	50.1	74	-23.9
4874	43.68	PK(harmonic)	45	1.0	H	33.8	5.2	33.00	49.7	74	-24.3

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Meter Reading dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna Loss dB	Cable Loss dB	Amp. Gain dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Channel, 1GHz-25GHz											
2462	108.50	PK(fundamental)	45	1.0	H	28.1	3.7	35.16	105.1		
2462	94.30	AV(fundamental)	180	1.2	H	28.1	3.7	35.16	90.9		
2462	109.10	PK(fundamental)	45	1.0	V	28.1	3.7	35.16	105.7		
2462	93.60	AV(fundamental)	60	1.0	V	28.1	3.7	35.16	90.2		
7386	42.86	AV(harmonic)	180	1.2	H	35.8	6.1	33.5	51.3	54	-2.7*
9848	40.80	AV(harmonic)	180	1.2	V	38.0	7.0	34.72	51.1	54	-2.9*
9848	40.64	AV(harmonic)	60	1.0	H	38.0	7.0	34.72	50.9	54	-3.1*
7386	41.45	AV(harmonic)	60	1.0	V	35.8	6.1	33.50	49.9	54	-4.2
4924	42.79	AV(harmonic)	60	1.0	H	33.8	5.2	33.00	48.8	54	-5.2
4924	41.86	AV(harmonic)	180	1.2	V	33.8	5.2	33.00	47.9	54	-6.1
9848	42.21	PK(harmonic)	45	1.2	V	38.0	7.0	34.72	52.5	74	-21.5
7386	43.75	PK(harmonic)	45	1.2	H	35.8	6.1	33.50	52.2	74	-21.9
9848	41.86	PK(harmonic)	45	1.2	H	38.0	7.0	34.72	52.1	74	-21.9
7386	42.85	PK(harmonic)	45	1.2	V	35.8	6.1	33.50	51.3	74	-22.8
4924	44.03	PK(harmonic)	45	1.0	H	33.8	5.2	33.00	50.0	74	-24.0
4924	43.55	PK(harmonic)	45	1.2	V	33.8	5.2	33.00	49.6	74	-24.5

30MHz – 1GHz

Indicated				TABLE	Antenna		Correction Factor			FCC Part 15.209	
Frequency MHz	Meter Reading dBμV/m	Comments	Direction Degree	Height Meter	Polar H/V	Antenna Loss dB	Cable Loss dB	Amp. Gain dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
31.290	34.8	QP	289	1.0	H	24.1	1.2	26.8	33.3	40.0	-6.7
31.290	34.6	QP	45	1.0	V	24.1	1.2	26.8	33.1	40.0	-6.9
665.260	39.7	PK	45	1.0	H	20.3	5.4	27.1	38.3	46.0	-7.7
37.560	39.6	PK	289	1.0	H	17.7	1.2	26.8	31.7	40.0	-8.3
665.260	38.5	PK	90	1.2	V	20.3	5.4	27.1	37.1	46.0	-8.9
468.165	39.9	PK	180	1.2	H	17.4	4.4	26.5	35.2	46.0	-10.8
468.165	39.7	PK	45	1.2	V	17.4	4.4	26.5	35.0	46.0	-11.0
148.917	42.9	PK	45	1.2	H	13.4	2.0	26.6	31.6	43.5	-11.9
300.698	42.5	PK	35	3.8	V	13.9	3.2	25.8	33.9	46.0	-12.1
125.805	39.4	PK	60	1.0	H	14.4	2.4	26.6	29.6	43.5	-13.9
125.805	39.4	PK	60	1.2	V	14.4	2.4	26.6	29.6	43.5	-13.9
233.480	40.8	PK	35	3.8	V	11.7	2.8	26.0	29.3	46.0	-16.7

Test Mode: Transmitting

Radiated Emission Test Result for 802.11g

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency	Meter Reading	Comments	Angle	Height	Polar	Antenna Loss	Cable Loss	Amp. Gain	Corr. Ampl.	Limit	Margin
MHz	dBμV/m		Degree	Meter	H/ V	dB	dB	dB	dBμV/m	dBμV/m	dB
Low Channel, 1-25GHz											
2412	102.70	PK (fundamental)	45	1.0	H	28.1	3.7	35.16	99.3		
2412	72.14	AV(fundamental)	180	1.2	H	28.1	3.7	35.16	68.8		
2412	102.10	PK(fundamental)	45	1.0	V	28.1	3.7	35.16	98.8		
2412	73.30	AV(fundamental)	60	1.0	V	28.1	3.7	35.16	69.9		
9648	41.58	AV(harmonic)	180	1.2	V	38.0	7.0	34.72	51.9	54	-2.1*
9648	41.19	AV(harmonic)	60	1.0	H	38.0	7.0	34.72	51.5	54	-2.5*
7236	41.66	AV(harmonic)	60	1.0	V	35.8	6.0	33.50	50.0	54	-4.0*
7236	41.46	AV(harmonic)	180	1.2	H	35.8	6.0	33.50	49.8	54	-4.2
4824	42.51	AV(harmonic)	180	1.2	V	33.8	5.2	33.00	48.5	54	-5.5
4824	42.35	AV (harmonic)	60	1.0	H	33.8	5.2	33.00	48.4	54	-5.6
9648	43.25	PK(harmonic)	45	1.2	H	38.0	7.0	34.72	53.5	74	-20.5
9648	43.25	PK(harmonic)	45	1.2	V	38.0	7.0	34.72	53.5	74	-20.5
7236	43.87	PK(harmonic)	45	1.2	H	35.8	6.0	33.50	52.2	74	-21.8
7236	43.51	PK(harmonic)	45	1.2	V	35.8	6.0	33.50	51.8	74	-22.2
4824	44.37	PK(harmonic)	45	1.2	V	33.8	5.2	33.00	50.4	74	-23.6
4824	44.04	PK (harmonic)	45	1.0	H	33.8	5.2	33.00	50.0	74	-24.0
Middle Channel, 1-25GHz											
2437	101.80	PK (fundamental)	45	1.0	H	28.1	3.7	35.16	98.4		
2437	71.80	AV(fundamental)	180	1.2	H	28.1	3.7	35.16	68.4		
2437	101.90	PK(fundamental)	45	1.0	V	28.1	3.7	35.16	98.5		
2437	73.10	AV(fundamental)	60	1.0	V	28.1	3.7	35.16	69.7		
9748	40.62	AV(harmonic)	60	1.0	H	38.0	7.0	34.72	50.9	54	-3.1*
9748	40.31	AV(harmonic)	180	1.2	V	38.0	7.0	34.72	50.6	54	-3.4*
4874	43.87	AV(harmonic)	180	1.2	V	33.8	5.2	33.00	49.9	54	-4.1
7311	40.96	AV(harmonic)	60	1.0	V	35.8	6.1	33.50	49.4	54	-4.6
7311	40.36	AV(harmonic)	180	1.2	H	35.8	6.1	33.50	48.8	54	-5.2
4874	42.22	AV (harmonic)	60	1.0	H	33.8	5.2	33.00	48.2	54	-5.8
9748	42.83	PK(harmonic)	45	1.2	H	38.0	7.0	34.72	53.1	74	-20.9
9748	42.77	PK(harmonic)	45	1.2	V	38.0	7.0	34.72	53.0	74	-21.0
7311	43.52	PK(harmonic)	45	1.2	V	35.8	6.1	33.50	51.9	74	-22.1
7311	42.79	PK(harmonic)	45	1.2	H	35.8	6.1	33.50	51.2	74	-22.8
4874	44.58	PK(harmonic)	45	1.2	V	33.8	5.2	33.00	50.6	74	-23.4
4874	43.91	PK (harmonic)	45	1.0	H	33.8	5.2	33.00	49.9	74	-24.1

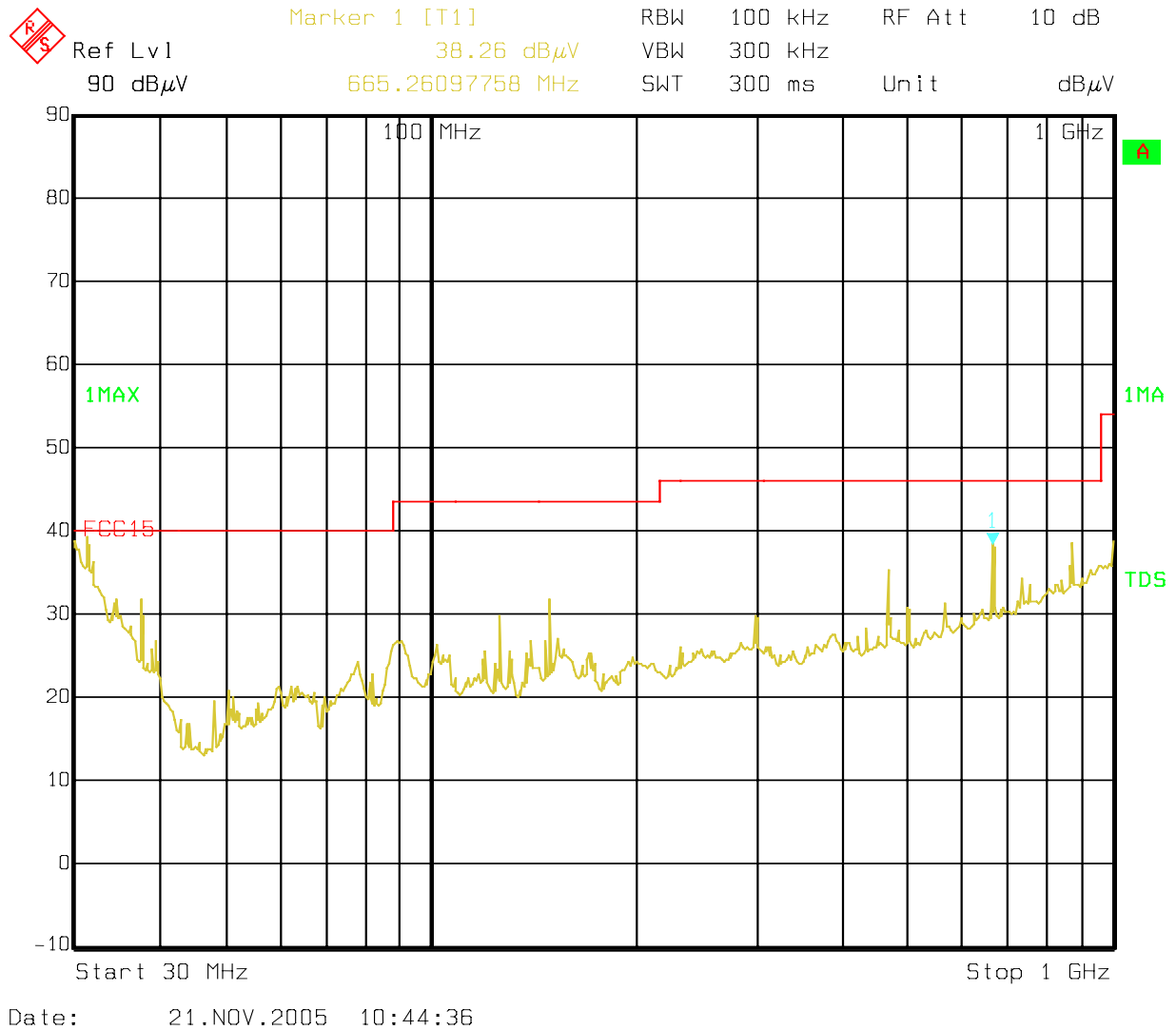
INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Meter Reading dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna Loss dB	Cable Loss dB	Amp. Gain dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Channel, 1-25GHz											
2462	104.30	PK (fundamental)	45	1.0	H	28.1	3.7	35.16	100.9		
2462	73.58	AV(fundamental)	180	1.2	H	28.1	3.7	35.16	70.2		
2462	104.80	PK(fundamental)	45	1.0	V	28.1	3.7	35.16	101.4		
2462	75.15	AV(fundamental)	60	1.0	V	28.1	3.7	35.16	71.8		
9848	41.35	AV(harmonic)	60	1.0	H	38.0	7.0	34.72	51.6	54	-2.4*
9848	40.39	AV(harmonic)	180	1.2	V	38.0	7.0	34.72	50.7	54	-3.3*
7386	41.85	AV(harmonic)	180	1.2	H	35.8	6.1	33.50	50.3	54	-3.8*
7386	41.77	AV(harmonic)	60	1.0	V	35.8	6.1	33.50	50.2	54	-3.8*
4924	42.96	AV(harmonic)	180	1.2	V	33.8	5.2	33.00	49.0	54	-5.0
4924	41.39	AV (harmonic)	60	1.0	H	33.8	5.2	33.00	47.4	54	-6.6
9848	42.88	PK(harmonic)	45	1.2	H	38.0	7.0	34.72	53.2	74	-20.8
9848	42.29	PK(harmonic)	45	1.2	V	38.0	7.0	34.72	52.6	74	-21.4
7386	43.26	PK(harmonic)	45	1.2	V	35.8	6.1	33.50	51.7	74	-22.3
7386	43.03	PK(harmonic)	45	1.2	H	35.8	6.1	33.50	51.4	74	-22.6
4924	43.80	PK(harmonic)	45	1.2	V	33.8	5.2	33.00	49.8	74	-24.2
4924	42.86	PK (harmonic)	45	1.0	H	33.8	5.2	33.00	48.9	74	-25.1

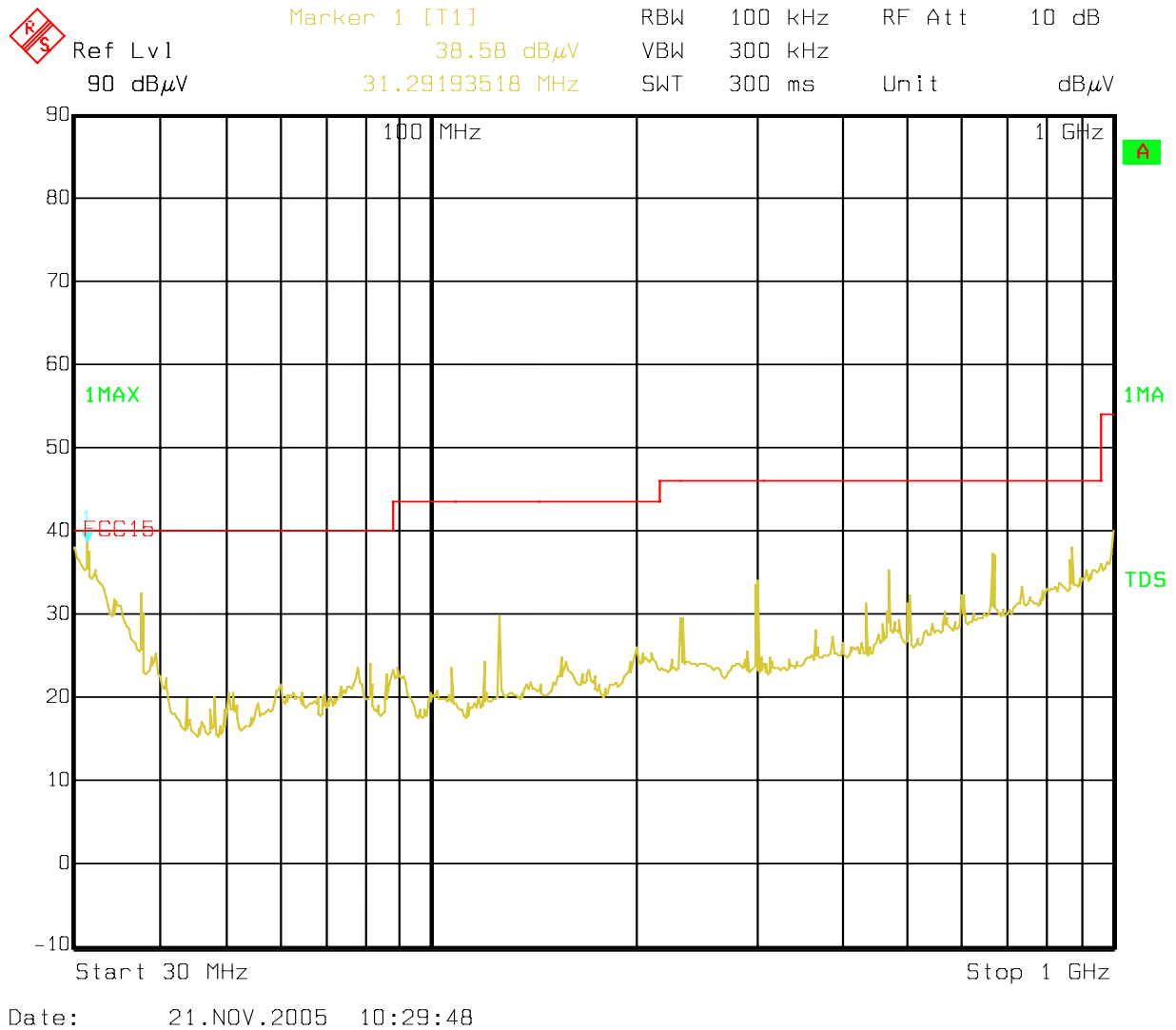
30MHz – 1GHz

Indicated				Table	Antenna		Correction Factor			FCC Part 15.209	
Frequency MHz	Meter Reading dBμV/m	Comments	Direction Degree	Height Meter	Polar H/V	Antenna Loss dB	Cable Loss dB	Amp. Gain dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
31.290	34.2	QP	289	1.0	H	24.1	1.2	26.8	32.7	40.0	-7.3
31.290	33.7	QP	45	1.0	V	24.1	1.2	26.8	32.2	40.0	-7.8
868.880	36.0	PK	45	1.0	H	22.2	6.3	26.7	37.8	46.0	-8.2
669.950	38.9	PK	180	1.2	H	20.3	5.4	27.1	37.5	46.0	-8.5
669.950	36.9	PK	45	1.2	V	20.3	5.4	27.1	35.5	46.0	-10.5
468.165	40.2	PK	45	1.2	H	17.4	4.4	26.5	35.5	46.0	-10.6
468.165	37.6	PK	90	1.2	V	17.4	4.4	26.5	32.9	46.0	-13.1
125.805	39.9	PK	60	1.2	V	14.4	2.4	26.6	30.2	43.5	-13.4
298.593	41.4	PK	35	3.8	V	13.8	3.2	26.0	32.4	46.0	-13.7
125.800	39.5	PK	60	1.0	H	14.4	2.4	26.6	29.7	43.5	-13.8
88.530	43.6	PK	289	1.0	H	8.1	2.0	26.8	26.8	43.5	-16.7
231.853	40.7	PK	35	3.8	V	11.7	2.8	26.0	29.2	46.0	-16.8

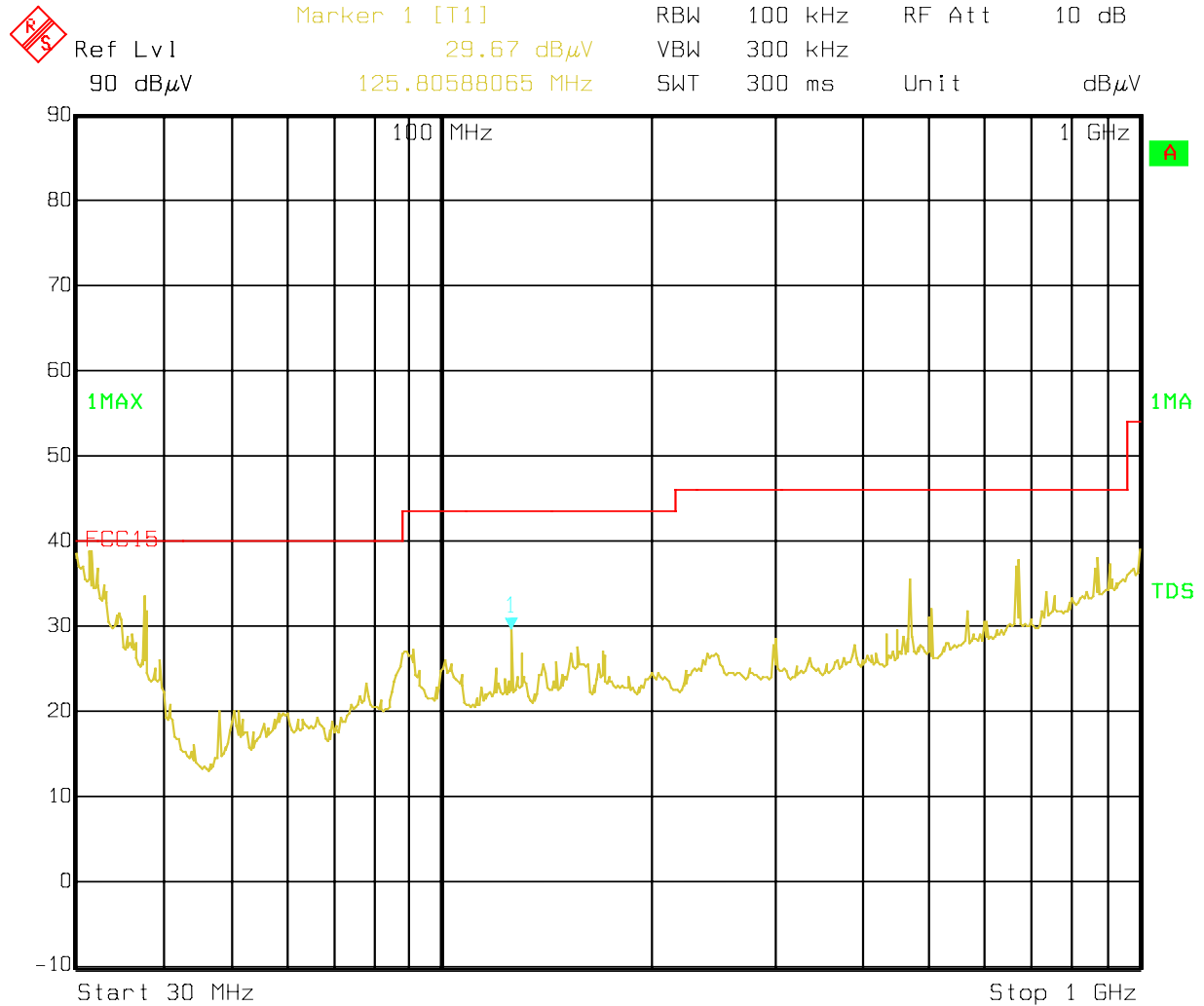
* Within the measurement uncertainty.

802.11b

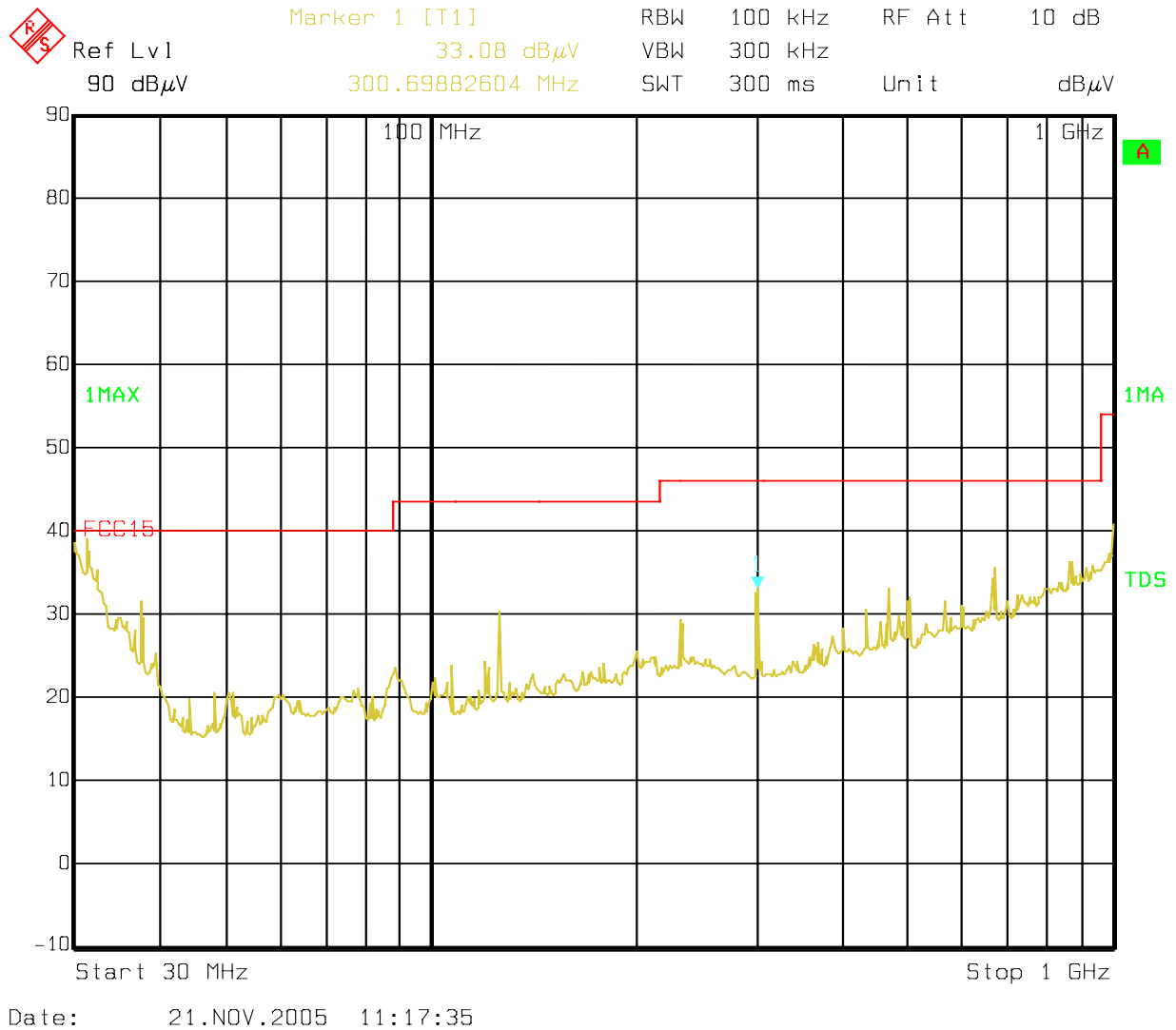




802.11b



Date: 21.NOV.2005 10:58:25



§15.247(a)(2) – 6 dB BANDWIDTH**Applicable Standard**

- (a) According to §15.247(a)(2), for digital modulation techniques, the minimum 6dB bandwidth shall be at least 500 kHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2005-8-17	2006-8-17

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Test Data**Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

The testing was performed by Jandy Su on 2005-11-17.

Test Result: Pass

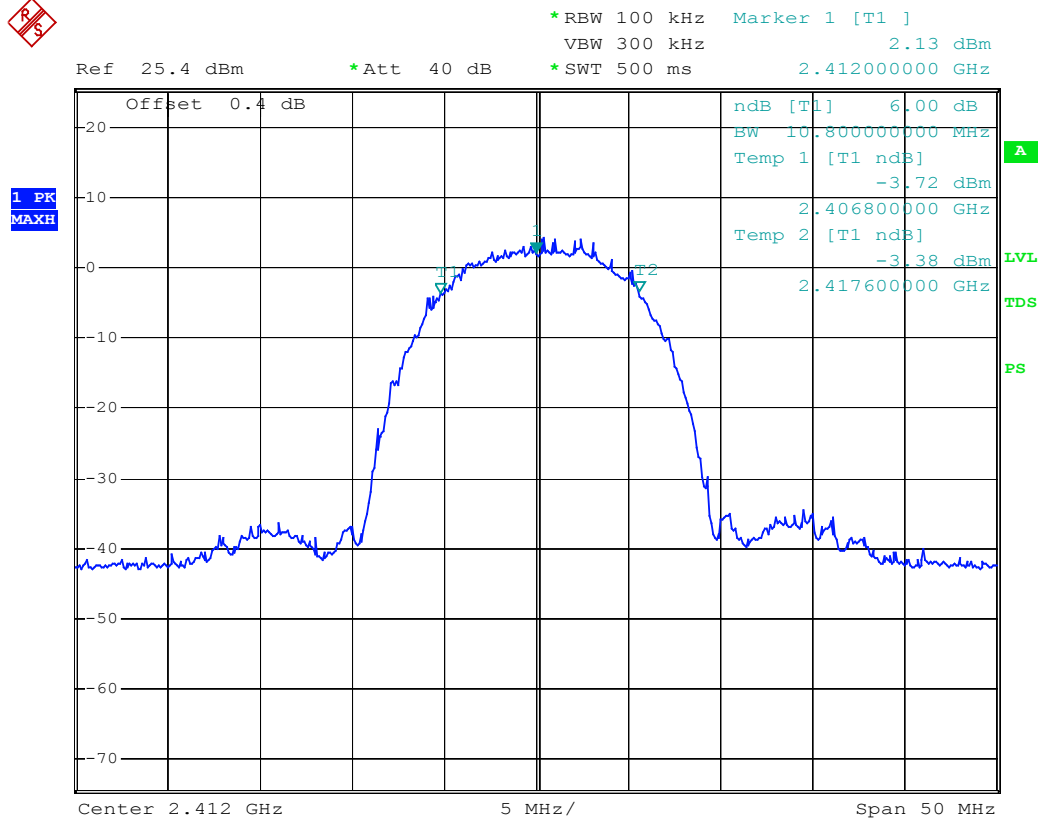
Test Mode: Transmitting

802.11b

Channel	Channel frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)
01	2412	10.80	≥ 500
06	2437	10.70	≥ 500
11	2462	9.80	≥ 500

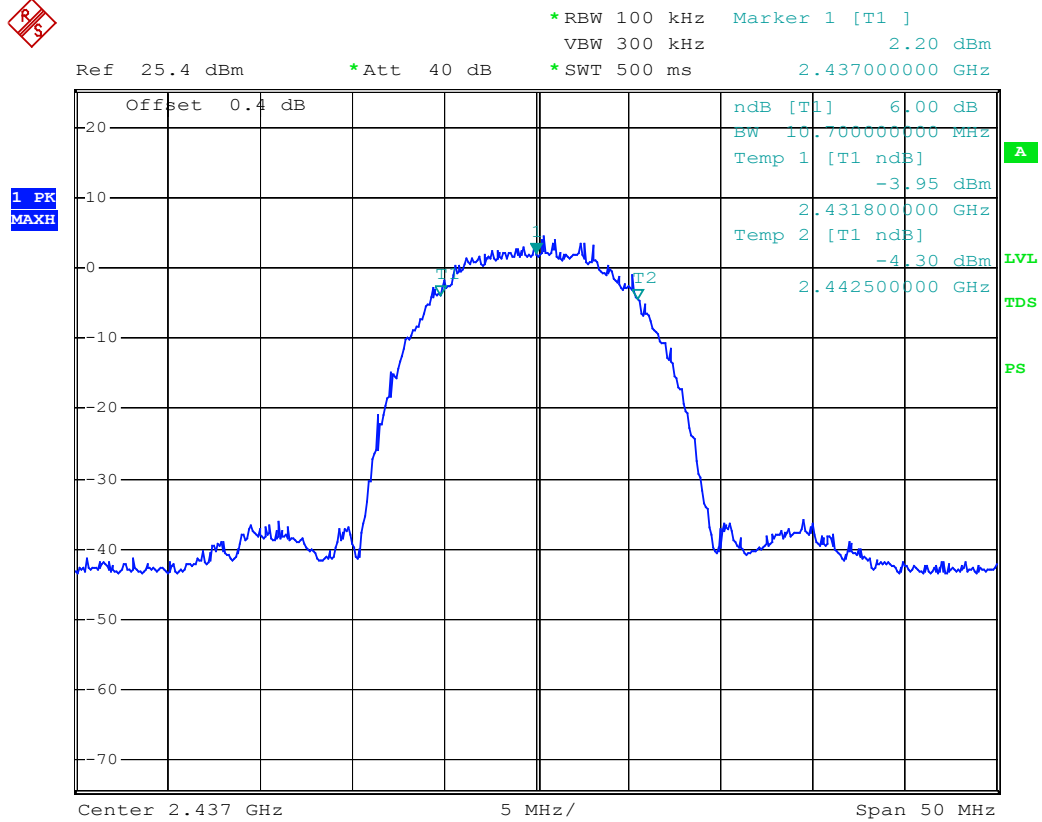
802.11g

Channel	Channel frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)
01	2412	16.70	≥ 500
06	2437	16.70	≥ 500
11	2462	16.70	≥ 500



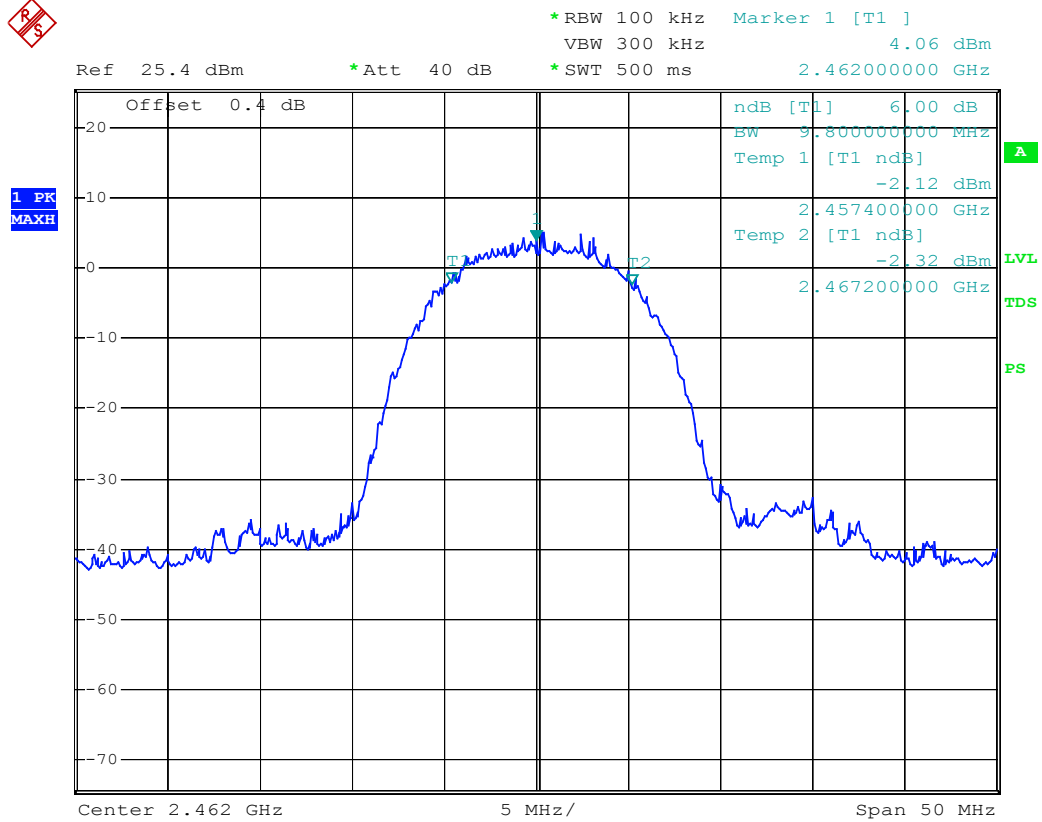
6dB Bandwidth 802.11b low channel

Date: 17.NOV.2005 07:52:38



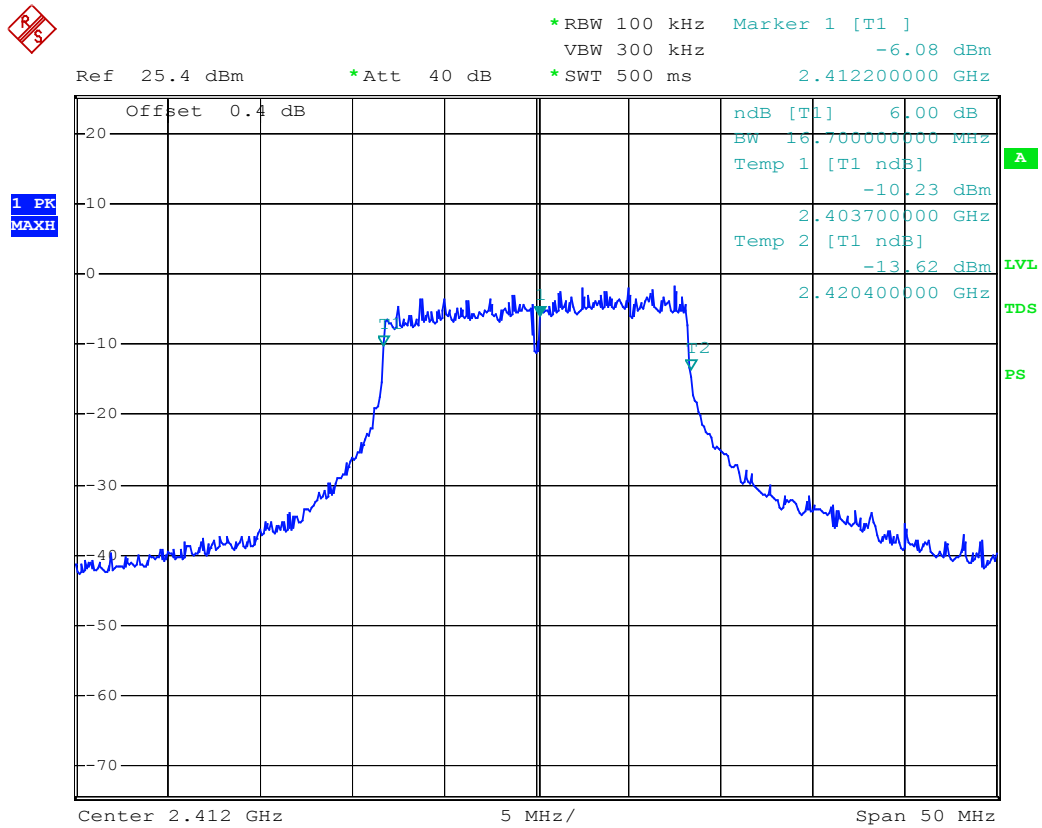
6dB Bandwidth 802.11b mid channel

Date: 17.NOV.2005 08:02:37



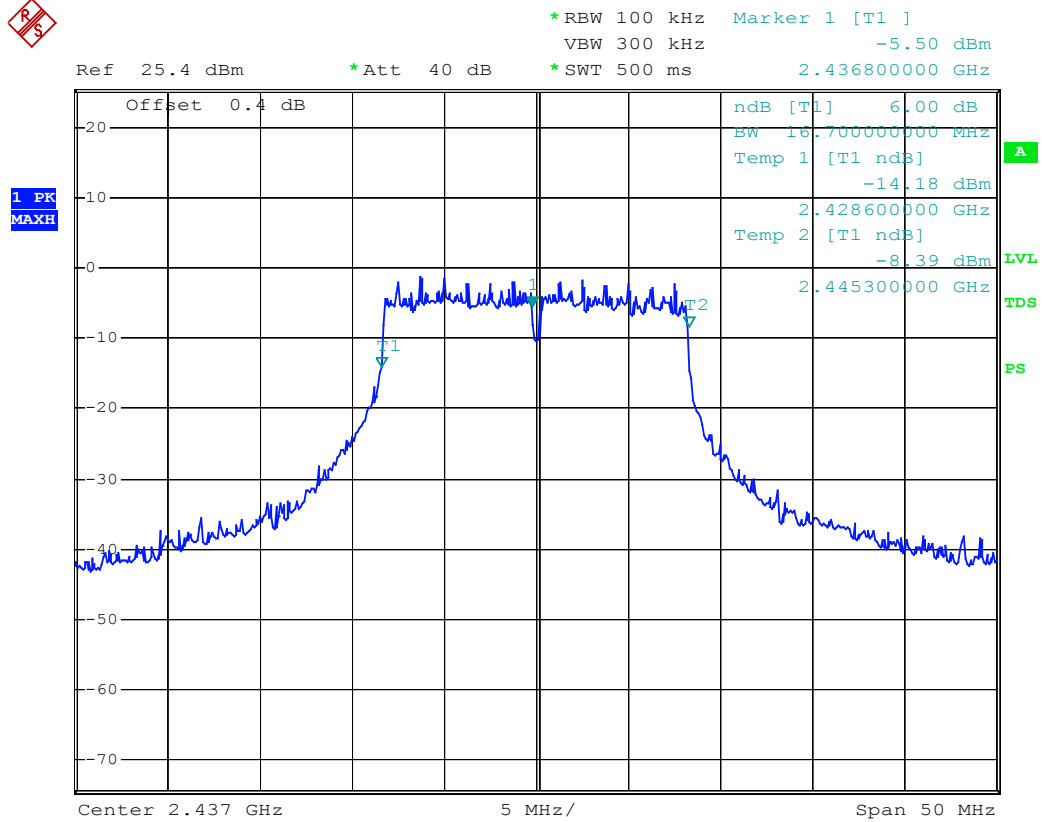
6dB Bandwidth 802.11b high channel

Date: 17.NOV.2005 08:03:53



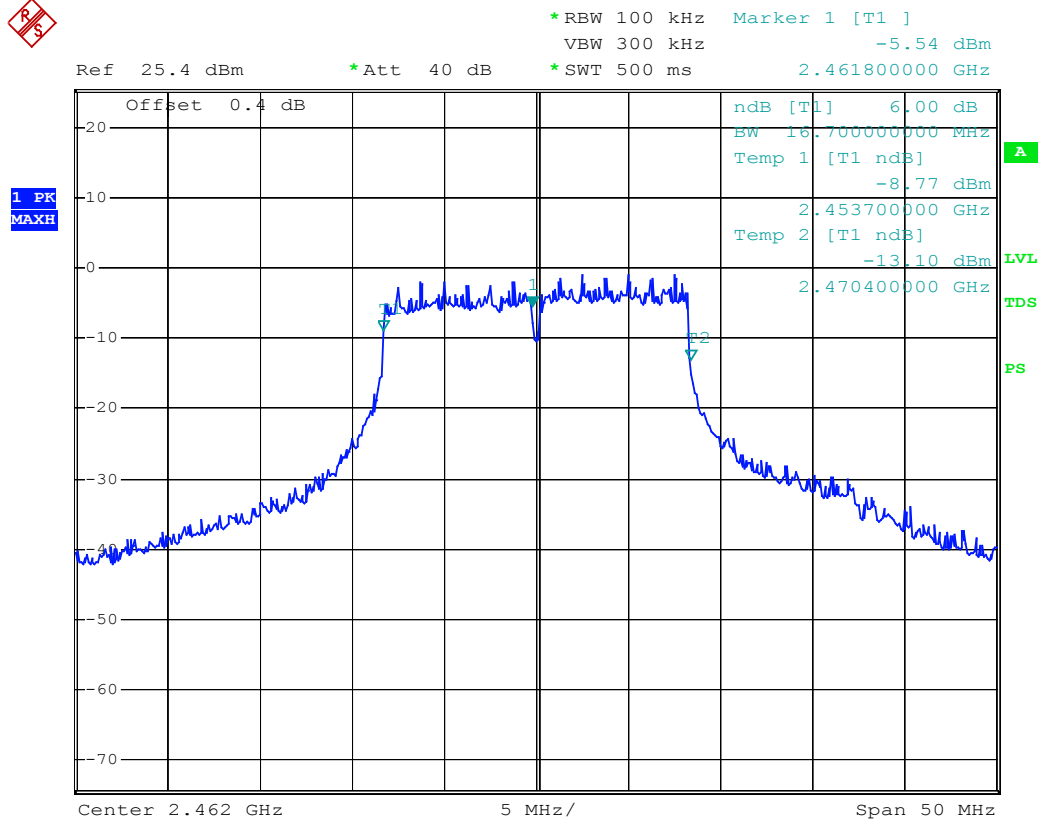
6dB Bandwidth 802.11g low channel

Date: 17.NOV.2005 08:00:14



6dB Bandwidth 802.11g mid channel

Date: 17.NOV.2005 08:01:32



6dB Bandwidth 802.11g high channel

Date: 17.NOV.2005 08:05:47

§15.247(b)(3) - PEAK OUTPUT POWER MEASUREMENT**Applicable Standard**

According to §15.247(b) (3), for systems using digital modulation in 2400-2483.5 MHz: 1 Watt

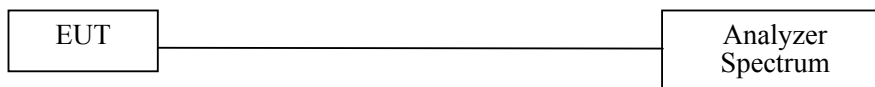
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Analyzer Spectrum	E4446A	US44300386	2005-11-10

* **Statement of Traceability:** Bay Area Compliance Lab Corp. attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a Analyzer Spectrum.
3. Add a correction factor to the display.

**Test Data****Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

The testing was performed by Daniel Deng on 2005-12-1.

Please refer to the following plots.

802.11b

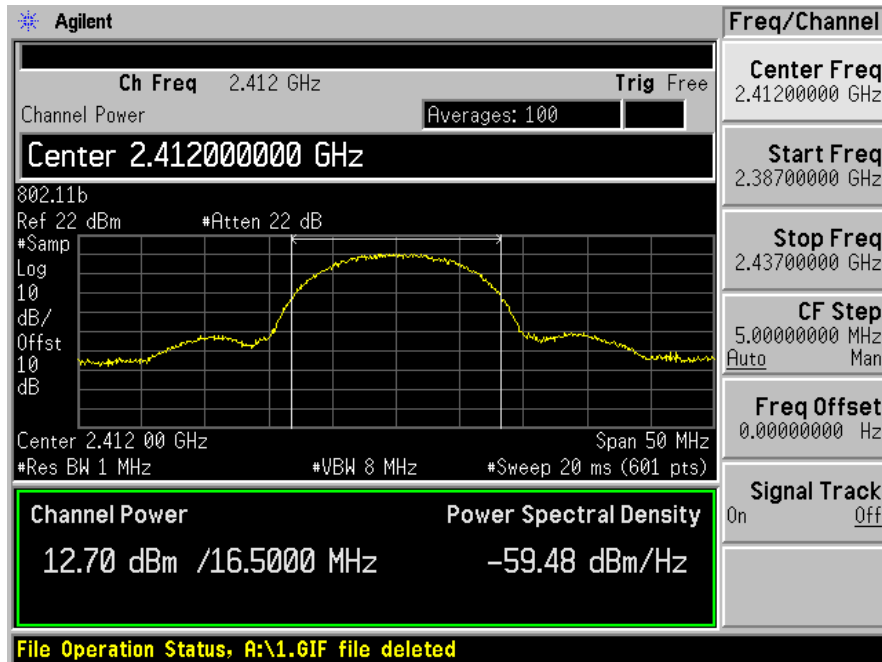
Channel	Frequency (MHz)	Peak output power(dBm)	Peak Output Power (mW)	Limit (W)
1	2412	12.70	18.62	1
6	2437	13.24	21.07	1
11	2462	13.62	23.01	1

802.11g

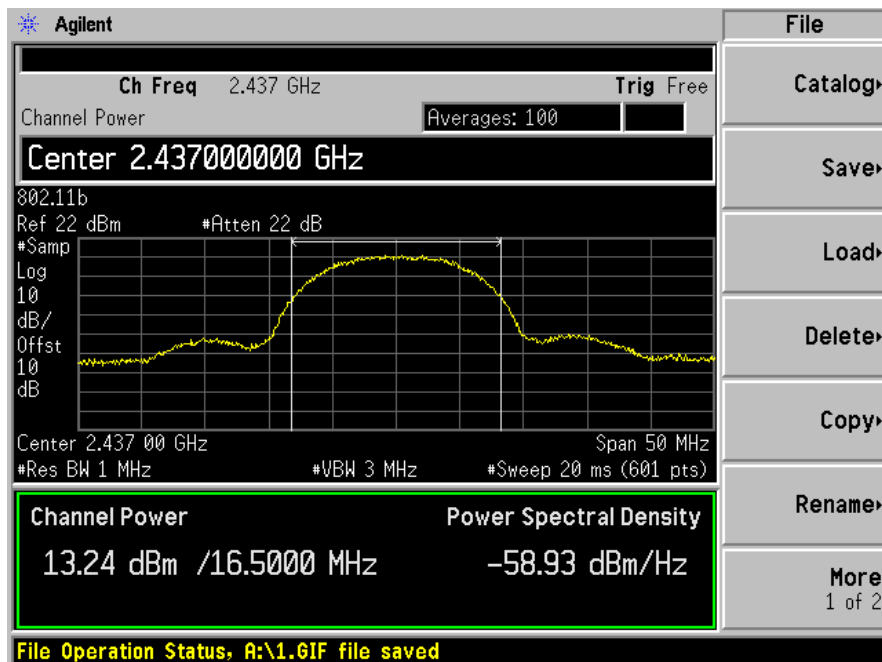
Channel	Frequency (MHz)	Peak output power(dBm)	Peak Output Power (mW)	Limit (W)
1	2412	2.21	1.66	1
6	2437	2.08	1.61	1
11	2462	2.74	1.88	1

802.11b

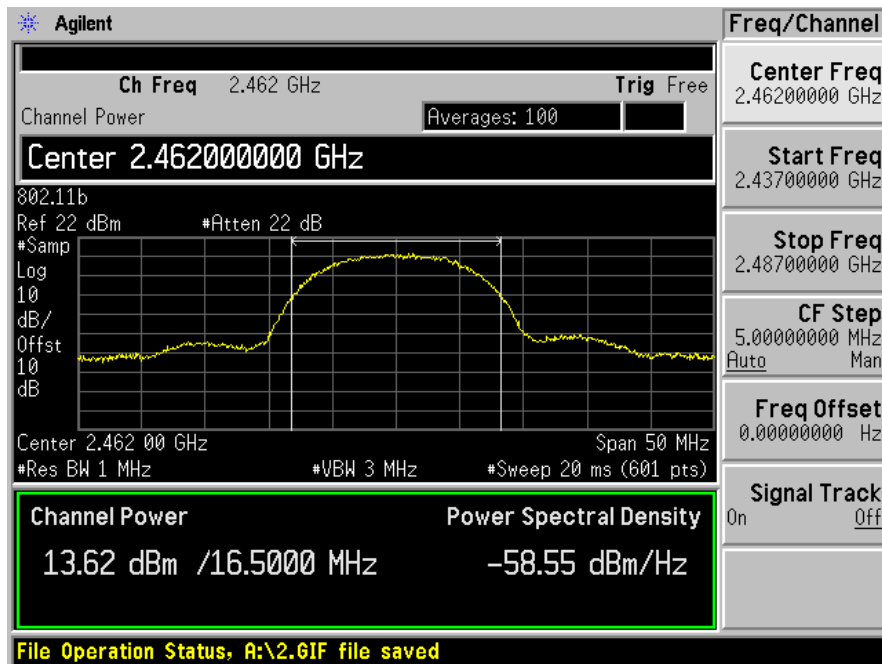
Low Channel



Middle Channel

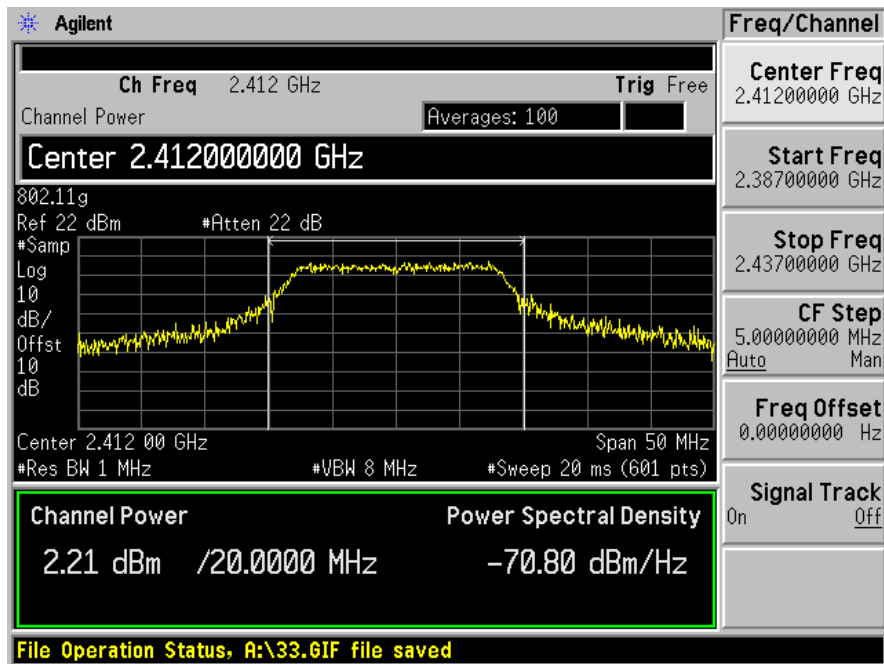


High Channel

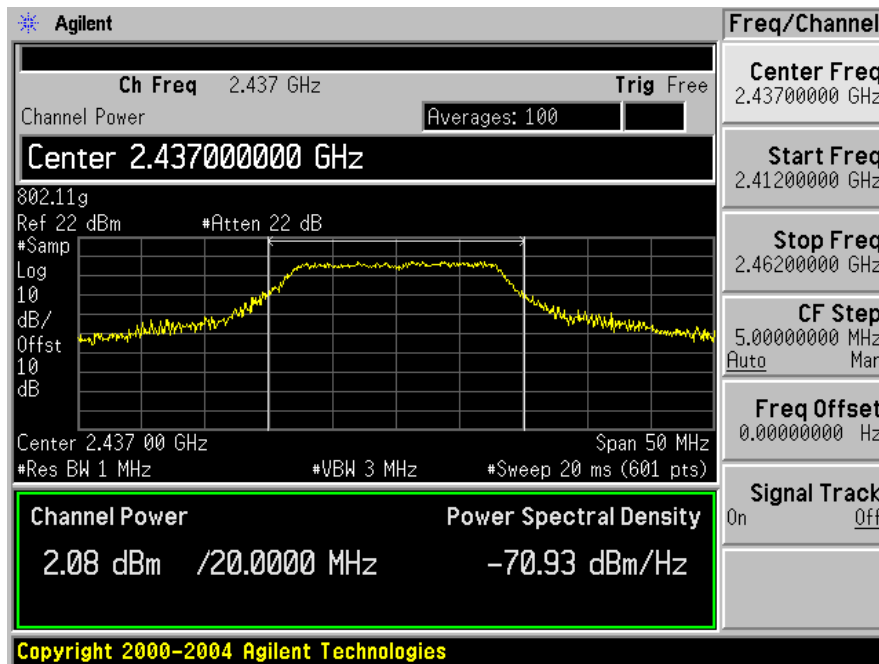


802.11g

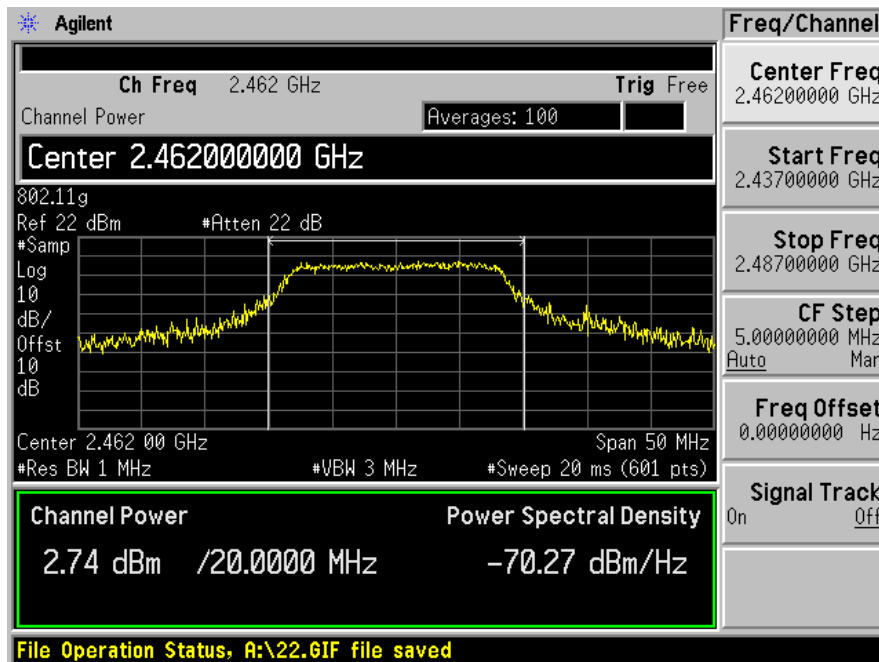
Low Channel



Middle Channel



High Channel



§15.247(d) - 100 KHZ BANDWIDTH OF BAND EDGES**Applicable Standard**

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2005-8-17	2006-8-17

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

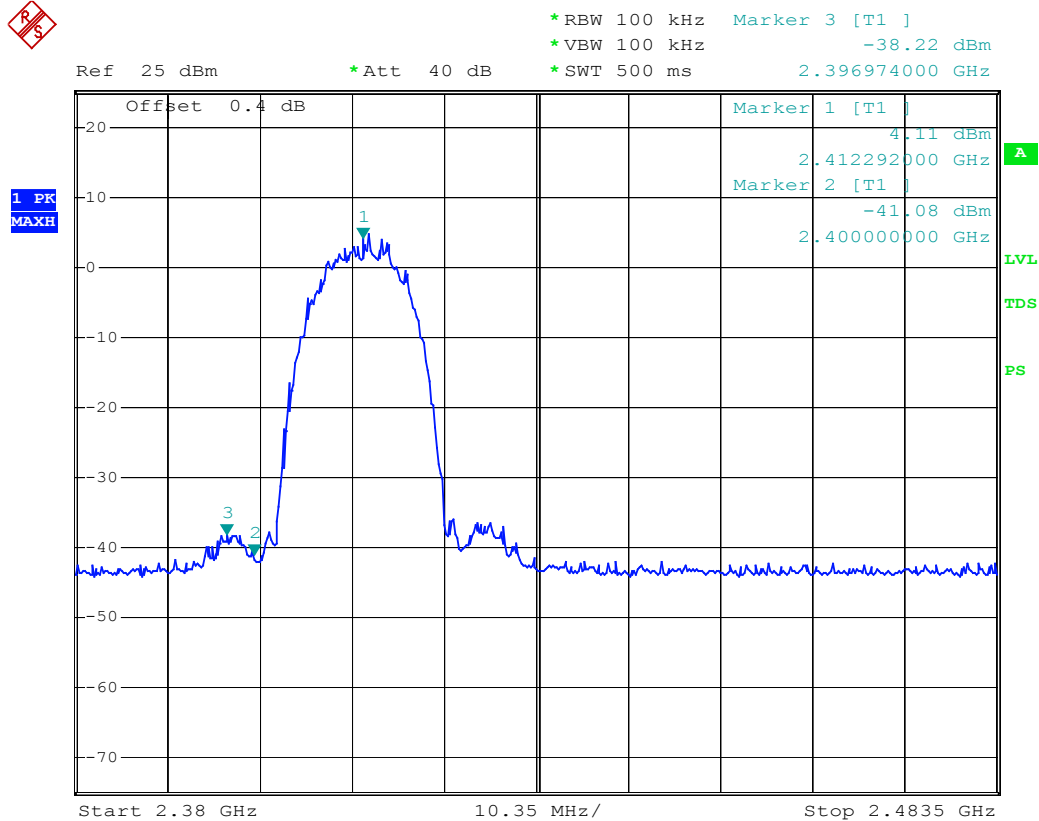
Test Data**Environmental Conditions**

Temperature:	18 °C
Relative Humidity:	53 %
ATM Pressure:	1009mbar

The testing was performed by Jandy Su on 2005-11-17.

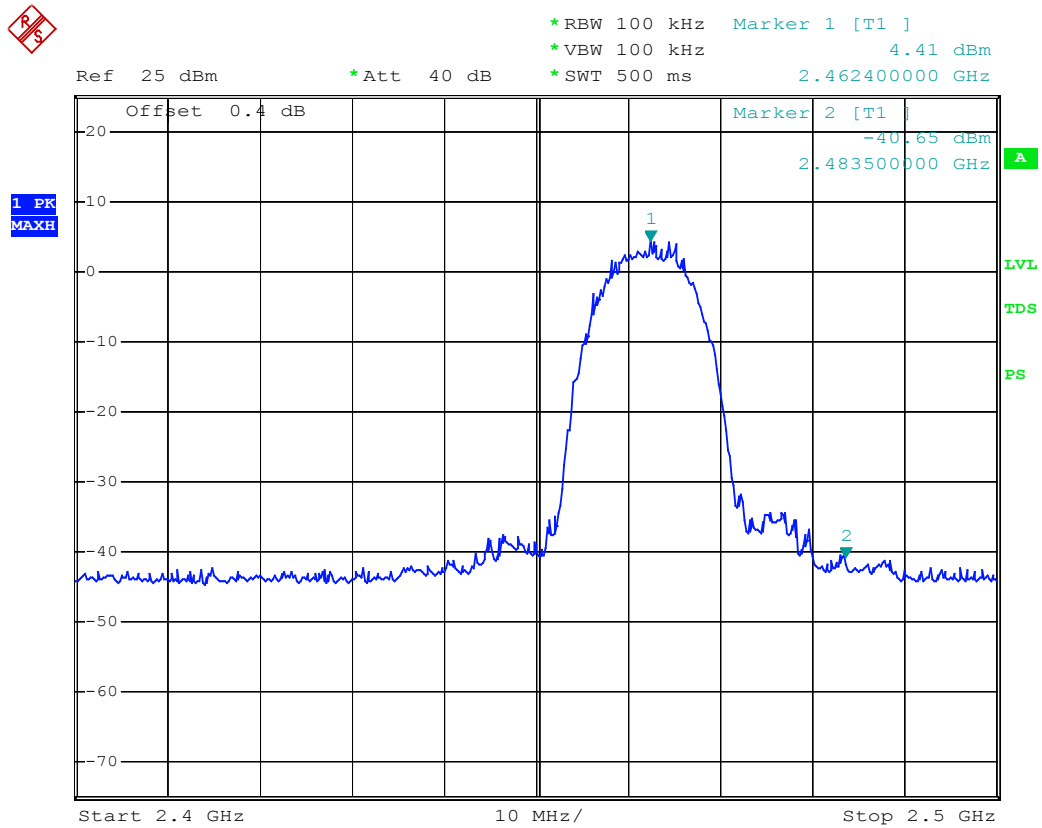
Test Result: Pass

Test Mode: Transmitting



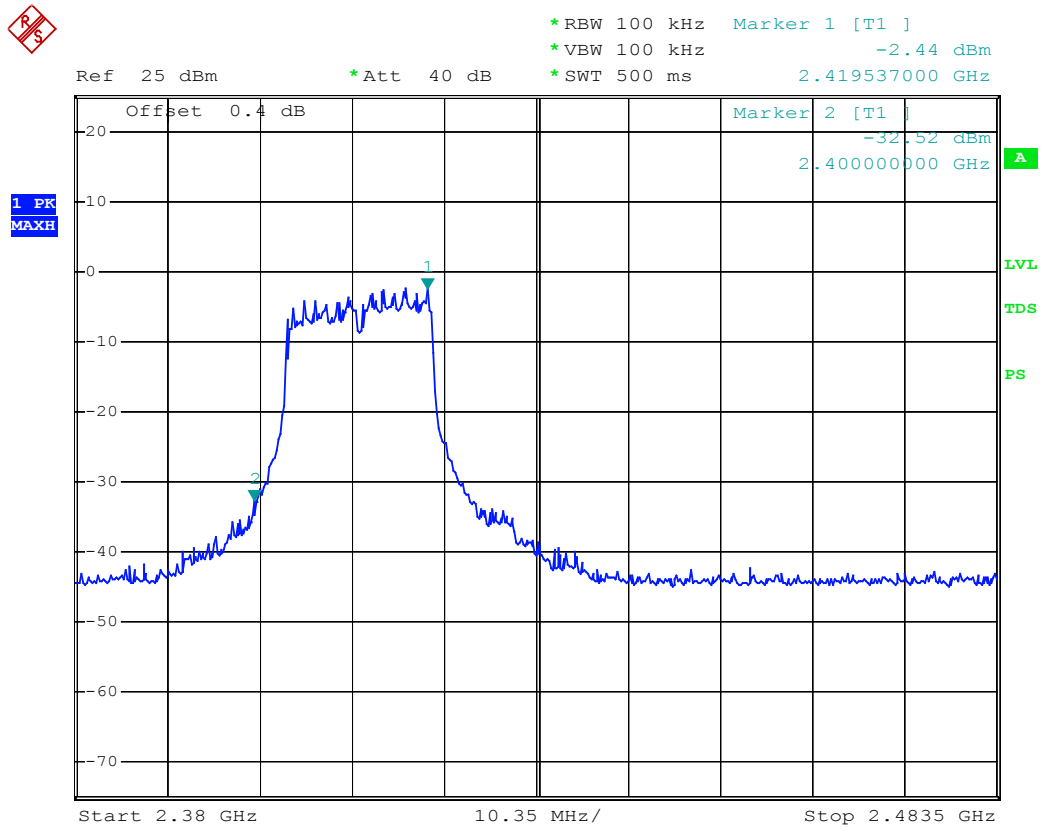
Bande Edge 802.11b low channel

Date: 17.NOV.2005 08:17:42



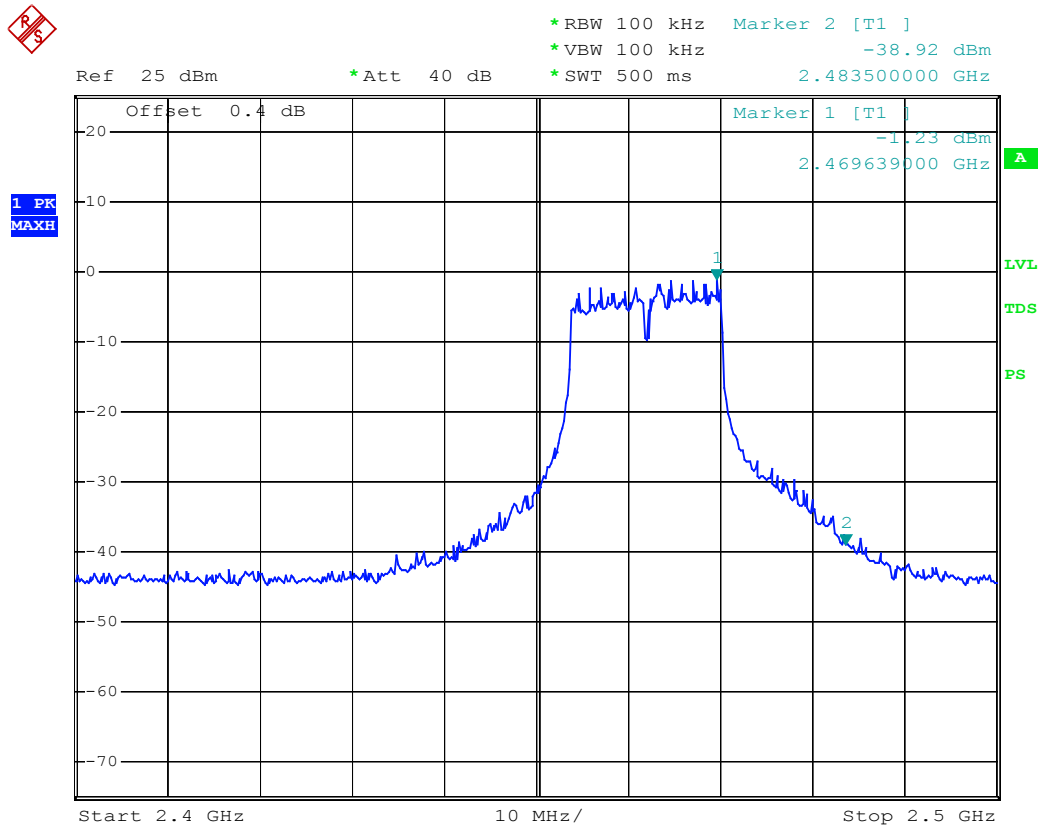
Bande Edge 802.11b high channel

Date: 17.NOV.2005 08:12:16



Bande Edge 802.11g low channel

Date: 17.NOV.2005 08:19:45



Bande Edge 802.11g high channel

Date: 17.NOV.2005 08:09:34

§15.247(e) - POWER SPECTRAL DENSITY**Applicable Standard**

According to §15.247 (e), for direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2005-8-17	2006-8-17

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a EMI Test Receiver.
3. Locate and zoom in on emission peak(s) within the pass band. Set RBW-3kHz, VBW RBW, sweep=(SPAN/3 kHz). The peak level measured must be no greater than +8 dBm.

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

The testing was performed by Jandy Su on 2005-11-17.

Test Result: Pass

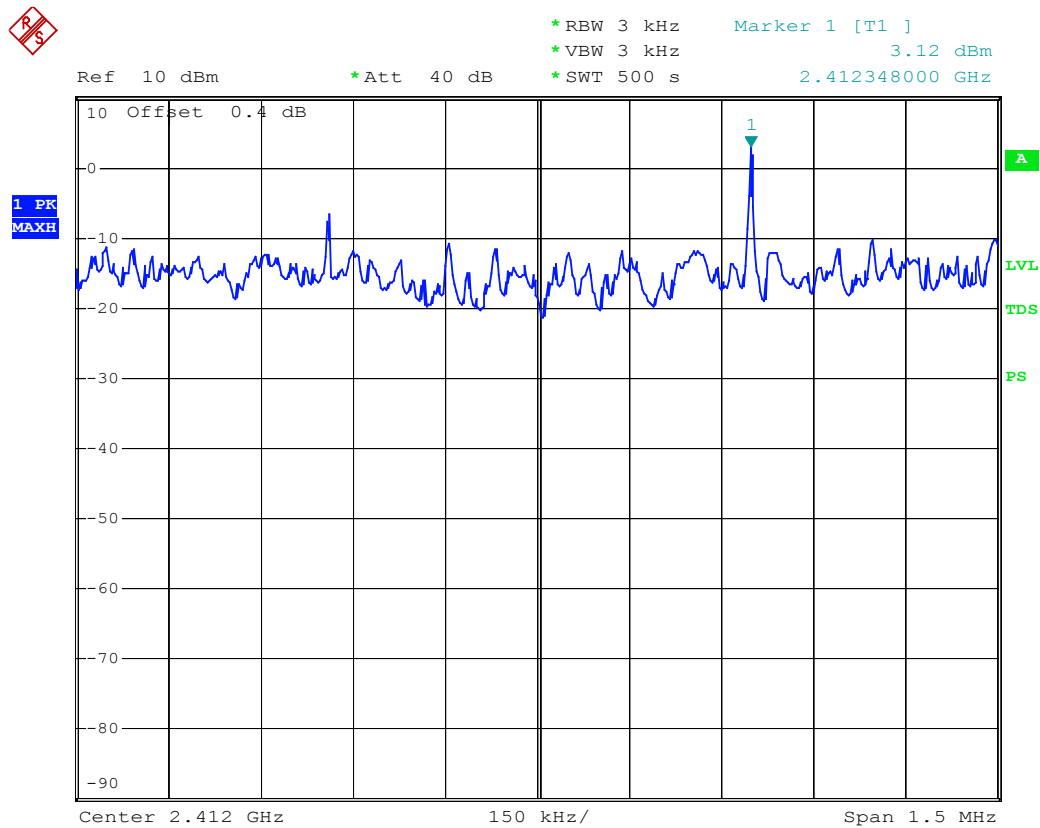
Test Mode: Transmitting

802.11b

Channel	Channel frequency (MHz)	Peak Amplitude (dBm)	Limit (dBm)
01	2412	3.12	<8
06	2437	2.29	<8
11	2462	2.93	<8

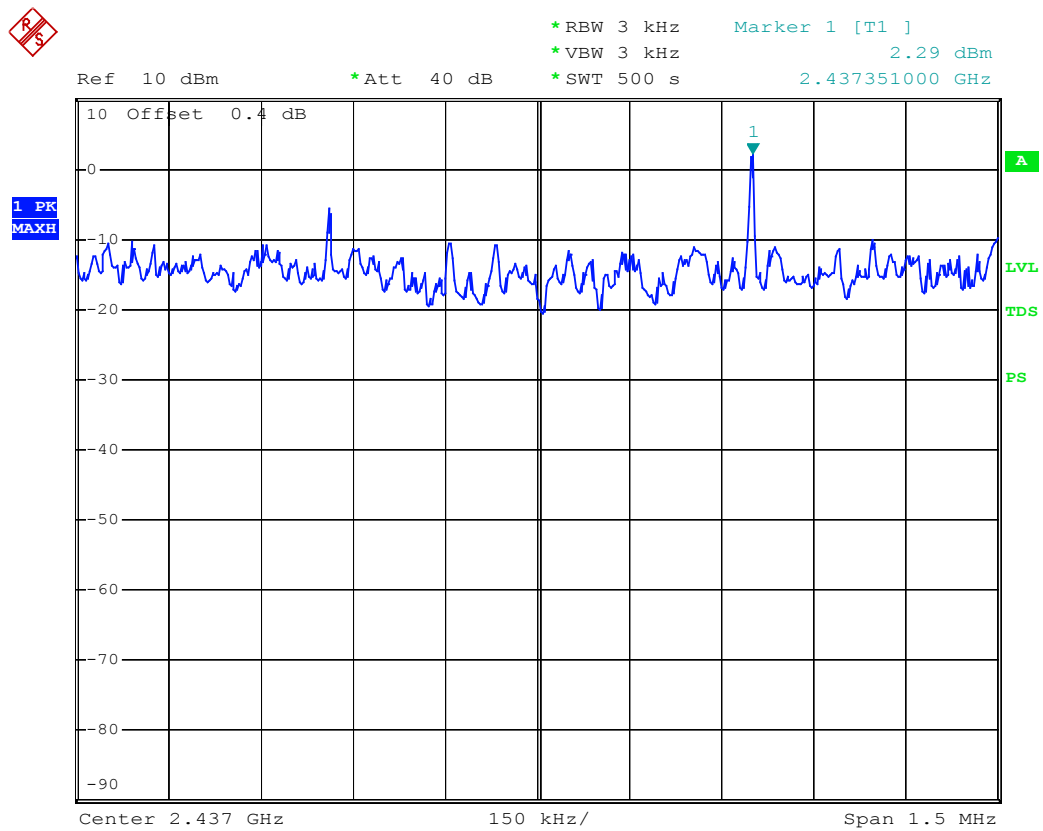
802.11g

Channel	Channel frequency (MHz)	Peak Amplitude (dBm)	Limit (dBm)
01	2412	-19.08	<8
06	2437	-17.47	<8
11	2462	-17.83	<8



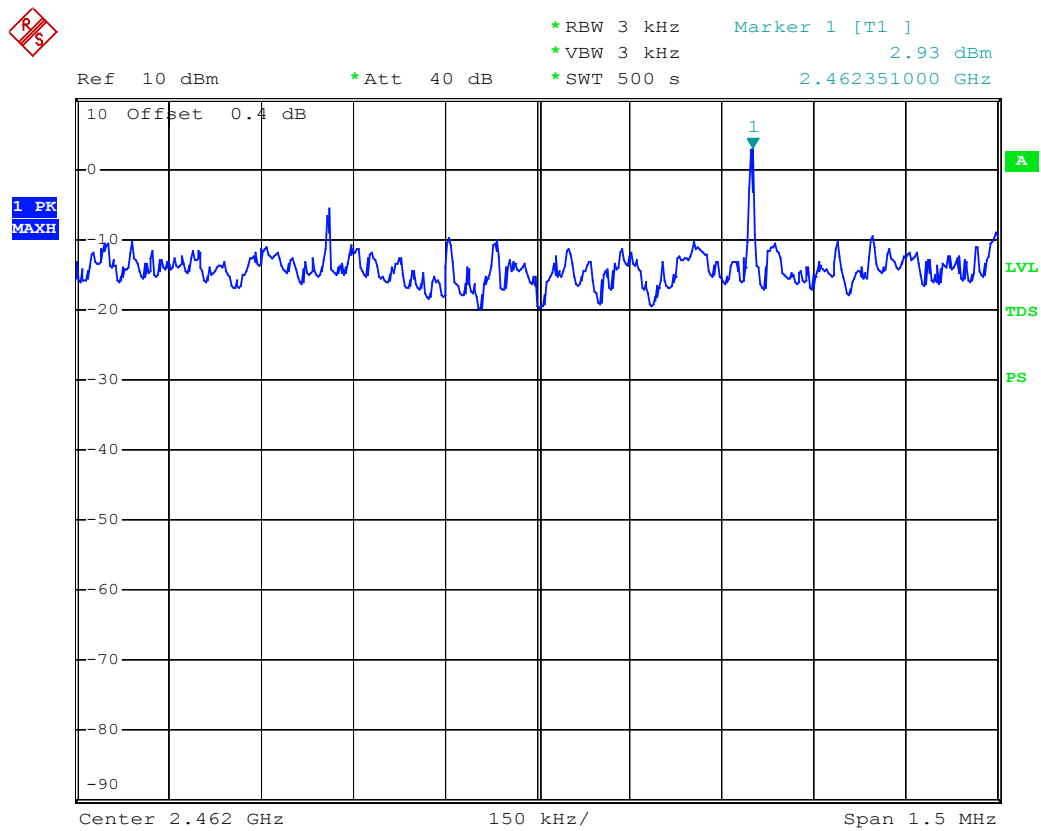
Peak power spectral density 802.11b low channel

Date: 17.NOV.2005 09:07:39



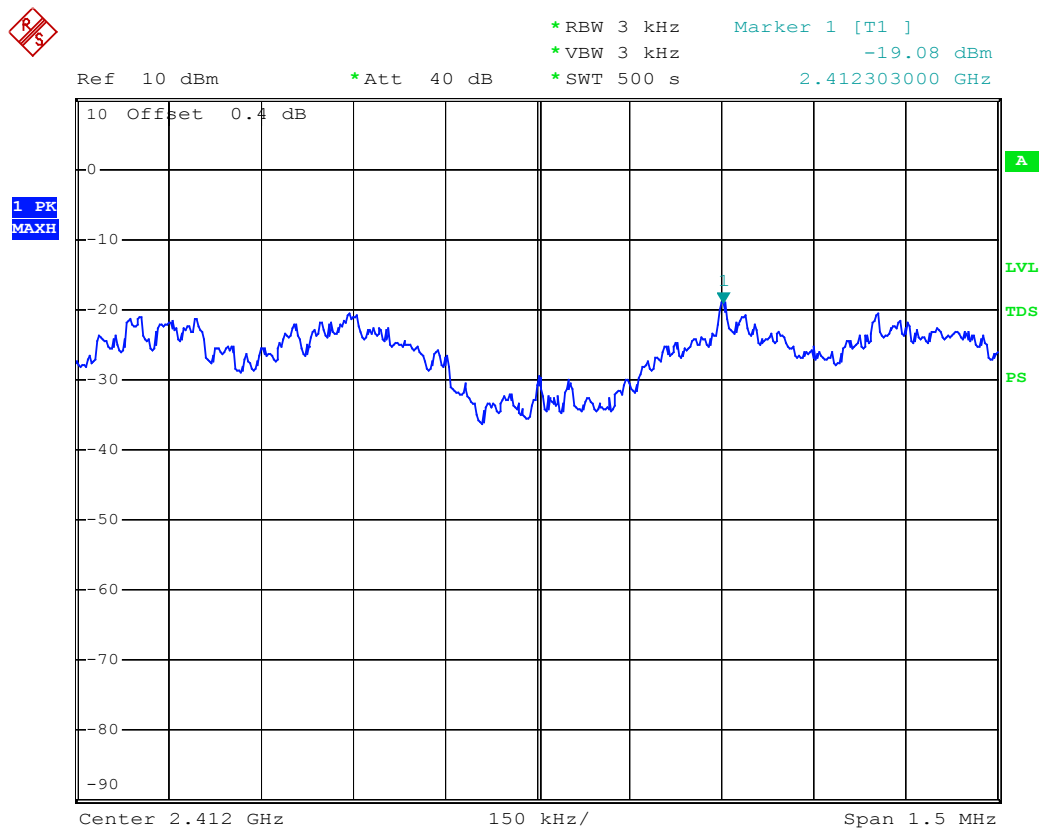
Peak power spectral density 802.11b mid channel

Date: 17.NOV.2005 10:56:59



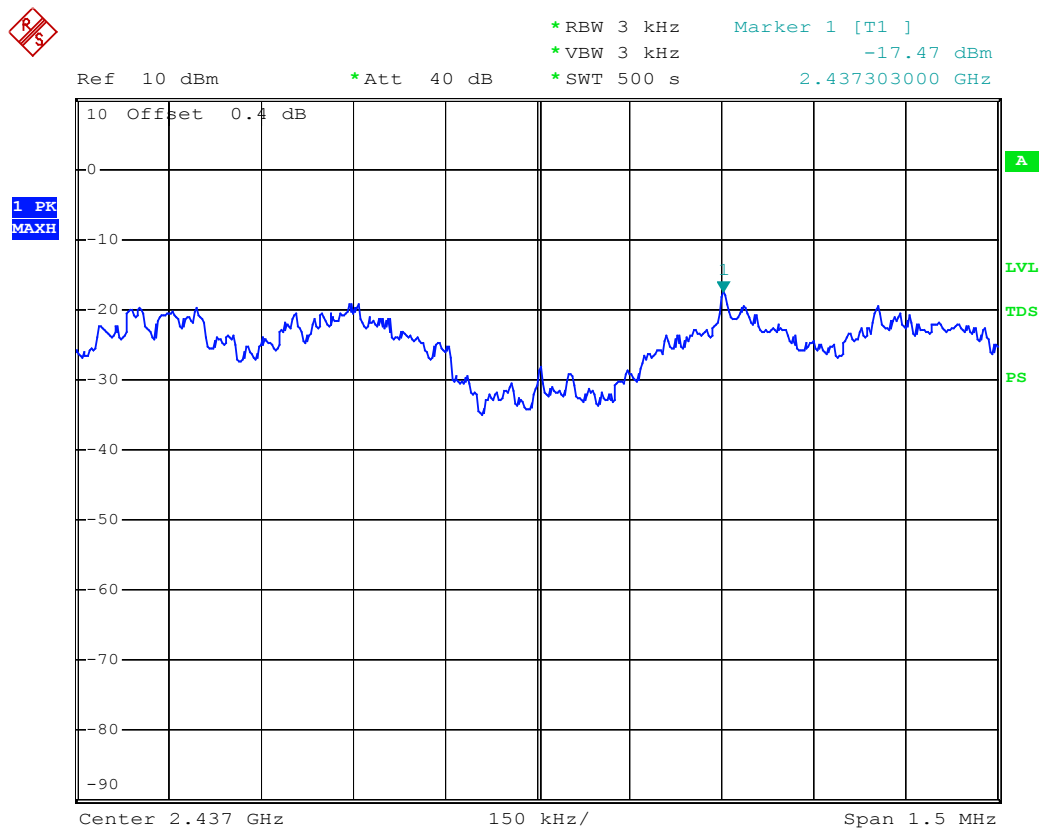
Peak power spectral density 802.11b high channel

Date: 17.NOV.2005 13:49:33



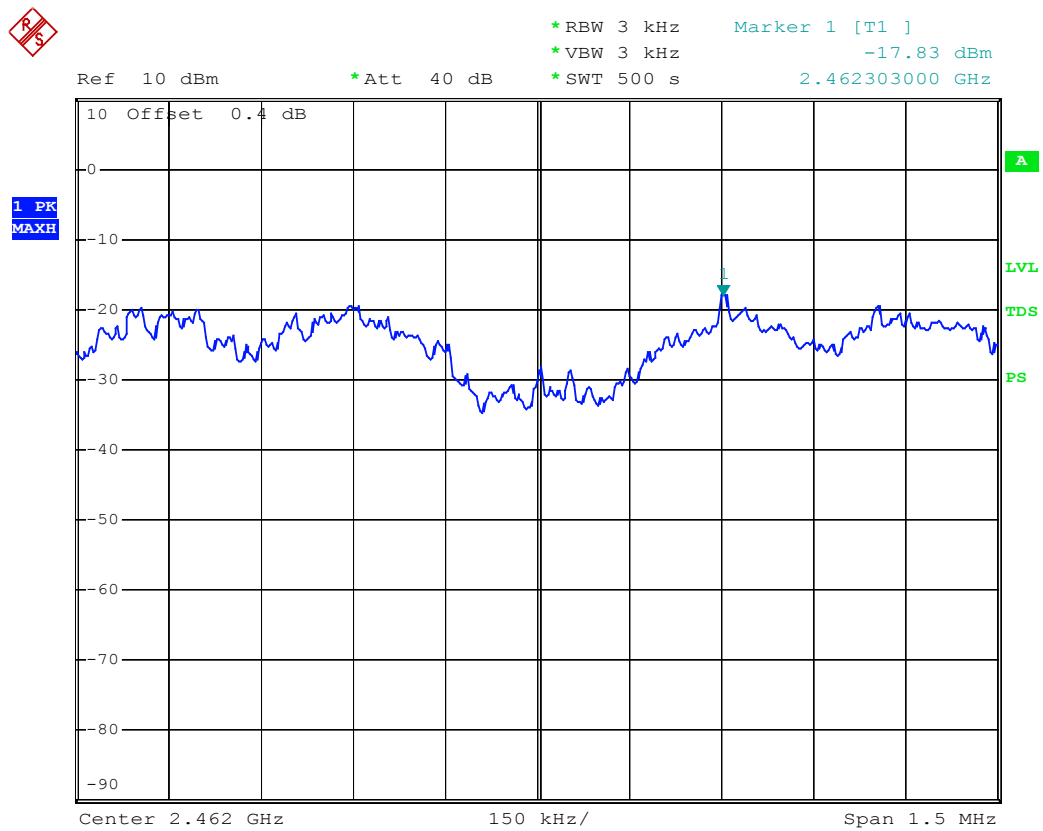
Peak power spectral density 802.11g low channel

Date: 17.NOV.2005 08:40:50



Peak power spectral density 802.11b mid channel

Date: 17.NOV.2005 12:19:19



Peak power spectral density 802.11g high channel

Date: 17.NOV.2005 13:24:11