

Test of Aruba AP-92/93 802.11a/b/g/n Wireless AP

To: FCC 47 CFR Part 15.247 & IC RSS-210

Test Report Serial No.: ARUB51-U1 Rev A



TEST REPORT

FROM



Test of: Aruba Networks, Inc AP-92/93 802.11a/b/g/n Wireless AP

To: FCC 47 CFR Part 15.247 & IC RSS 210

Test Report Serial No.: ARUB51-U1 Rev A

Note: this report contains data with regard to the 2400 to 2483.5 MHz and 5725 to 5850 MHz bands for the Aruba Networks, Inc AP-92 & AP-93 Wireless Access Point. 5,150 to 5,250 MHz test data are reported in MiCOM Labs test report ARUB51-U2.

This report supersedes: NONE

Applicant: Aruba Networks, Inc
1322 Crossman Avenue
Sunnyvale , CA 94089
USA

Product Function: Wireless Access Point

Copy No: pdf **Issue Date:** 18th May 2010

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
440 Boulder Court, Suite 200
Pleasanton, CA 94566 USA
Phone: +1 (925) 462-0304
Fax: +1 (925) 462-0306
www.micomlabs.com



CERTIFICATE #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 3 of 372

TABLE OF CONTENTS

1	ACCREDITATION, LISTINGS & RECOGNITION	4
1.1	ACCREDITATION	4
1.2	LISTINGS	5
1.3	RECOGNITION	5
2	DOCUMENT HISTORY	6
3	TEST RESULT CERTIFICATE	7
4	REFERENCES AND MEASUREMENT UNCERTAINTY	8
4.1	Normative References	8
4.2	Test and Uncertainty Procedures	9
5	TEST SUMMARY	10
6	PRODUCT DETAILS AND TEST CONFIGURATIONS	11
6.1	EUT Details.....	11
6.2	Scope of Test Program.....	12
6.3	Equipment Model(s) and Serial Number(s)	13
6.4	Antenna Details	13
6.5	Cabling and I/O Ports	14
6.6	Test Configurations.....	14
6.7	Equipment Modifications.....	17
6.8	Deviations from the Test Standard	20
6.9	Subcontracted Testing or Third Party Data	20
7	TEST RESULTS	21
7.1	6 dB and 99% Bandwidth	21
7.2	Peak Output Power.....	71
7.3	Peak Power Spectral Density	80
7.4	Maximum Permissible Exposure	151
7.5	Conducted Spurious Emissions.....	152
7.6	Radiated Spurious Emissions.....	196
7.7	AC Wireline Conducted Emissions (150 kHz – 30 MHz)	366
8	TEST EQUIPMENT DETAILS.....	371

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.

1 ACCREDITATION, LISTINGS & RECOGNITION

1.1 ACCREDITATION

MiCOM Labs, Inc. an accredited laboratory complies with the international standard EN ISO/IEC 17025. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; <http://www.a2la.org/scopepdf/2381-01.pdf>



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 5 of 372

1.2 LISTINGS

MiCOM Labs test facilities are listed by the following organizations;

North America

United States of America
Federal Communications Commission (FCC) Listing #: 102167

Canada

Industry Canada (IC) Listing #: 4143A

Japan Registration

VCCI Membership Number: 2959

- Radiated 3 meter site; Registration No. R-2881
- Line Conducted, Registration Nos. C-3181 & T-1470
- Emissions; Registration Nos. C-3180 & T-1469

1.3 RECOGNITION

APEC MRA (Asia-Pacific Economic Community Mutual Recognition Agreement)

Conformity Assessment Body (CAB) – MiCOM Labs

Test data generated by MiCOM Labs is accepted in the following countries under the APEC MRA.

Country	Recognition Body	Phase	CAB Identification No.
Australia	Australian Communications and Media Authority (ACMA)	I	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)	I	
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)	I	
Singapore	Infocomm Development Authority (IDA)	I	
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)	I	
Vietnam	Ministry of Information and Communications	I	

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 6 of 372

2 DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft		
Rev A	18 th May 2010	Initial Release

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 7 of 372

3 TEST RESULT CERTIFICATE

Applicant:	Aruba Networks, Inc 1344 Crossman Avenue Sunnyvale California , 94089, USA	Tested By:	MiCOM Labs, Inc. 440 Boulder Court Suite 200 Pleasanton California, 94566, USA
EUT	802.11a/b/g/n Wireless Access Point	Tel:	+1 925 462 0304
Model	AP-92 & AP-93	Fax:	+1 925 462 0306
S/No's:	AP-92 AN0000305 (Conducted) AP-92 AN0000307 (Radiated) AP-93 AN0000330 (Radiated)		
Test Date(s)	3 rd to 28 th April 2010	Website:	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC 47 CFR Part 15, SubPart 15.247	EQUIPMENT COMPLIES

MiCOM Labs, Inc. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

Notes:

1. This document reports conditions under which testing was conducted and the results of testing performed.
2. Details of test methods used have been recorded and kept on file by the laboratory.
3. Test results apply only to the item(s) tested.

Approved & Released for MiCOM Labs, Inc. by:



Graeme Grieve
Quality Manager MiCOM Labs,



Gordon Hurst
President & CEO MiCOM Labs, Inc.



CERTIFICATE #2381.01

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 8 of 372

4 REFERENCES AND MEASUREMENT UNCERTAINTY

4.1 Normative References

Ref.	Publication	Year	Title
i.	47 CFR Part 15, SubPart 15.247	2009	For Digitally Modulated Intentional Radiators
ii.	Industry Canada RSS-210	Issue 7 June 2007	Low Power License-Exempt Radiocommunication Devices (All Frequency Bands): Category 1 Equipment
iii.	Industry Canada RSS-Gen	Issue 2 June 2007	General Requirements and Information for the Certification of Radiocommunication Equipment
iv.	ANSI C63.4	2003	American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
v.	CISPR 22/ EN 55022	2005	Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment
vi.	M 3003	Edition 1 Dec. 1997	Expression of Uncertainty and Confidence in Measurements
vii.	LAB34	Edition 1 Aug 2002	The expression of uncertainty in EMC Testing
viii.	ETSI TR 100 028	2001	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
ix.	A2LA	14 th September 2005	Reference to A2LA Accreditation Status – A2LA Advertising Policy

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 9 of 372

4.2 Test and Uncertainty Procedures

Conducted and radiated emission measurements were conducted in accordance with American National Standards Institute ANSI C63.4, listed in the Normative References section of this report.

Measurement uncertainty figures are calculated in accordance with ETSI TR 100 028 Parts 1 and 2.

Measurement uncertainties stated are based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95 % in accordance with UKAS document M 3003 listed in the Normative References section of this report.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



5 TEST SUMMARY

List of Measurements: The following table represents the list of measurements required under **FCC 47 CFR Part 15**, SubPart 15.247

Standard Section(s)	Test Description	Condition	Result	Test Report Section
(a)(2)	6 dB Occupied Bandwidth	Conducted	Compliant	7.1
(b)(3), (b)(4)	Peak Output Power	Conducted	Compliant	7.2
(e)	Peak Power Spectral Density	Conducted	Compliant	7.3
(i)	Maximum Permissible Exposure	Calculation	Compliant	7.4
(d)	Spurious Emissions	Conducted	Compliant	7.5
(d), 15.205, 15.209	Transmitter Radiated Spurious Emissions	Radiated	Compliant	7.6
(d), 15.205, 15.209	Radiated Band-Edge	Radiated	Compliant	7.6
15.205, 15.210	Radiated (Digital) Emissions	Radiated	Compliant	7.6
15.207	AC Wireline Emissions 0.15 – 30 MHz	Conducted	Compliant	7.7

Note 1: Test results reported in this document relate only to the items tested

Note 2: The required tests demonstrated compliance as per client declaration of test configuration, monitoring methodology and associated pass/fail criteria

Note 3: Section 6.7 Equipment Modifications highlights the equipment modifications that were required to bring the product into compliance with the above test matrix



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 11 of 372

6 PRODUCT DETAILS AND TEST CONFIGURATIONS

6.1 EUT Details

Detail	Description
Purpose:	Test of the Aruba Networks, Inc AP-92 / AP-93 802.11a/b/g/n Wireless Access Point for compliance against FCC 47 CFR Part 15, SubPart 15.247 and Industry Canada RSS-210 regulations.
Applicant:	Aruba Networks, Inc 1322 Crossman Avenue Sunnyvale , CA 94089 USA
Manufacturer:	As manufacturer
Test Laboratory:	MiCOM Labs, Inc. 440 Boulder Court, Suite 200 Pleasanton, California 94566 USA
Test report reference number:	ARUB51-U1 Rev A
Date EUT received:	3 rd April 2010
Dates of test (from - to):	3 rd to 28 th April 2010
No of Units Tested:	3
Product Name:	AP-92 (External antenna), AP-93 (Integral antenna)
Manufacturers Trade Name:	Aruba Networks, Inc
Equipment Primary Function:	802.11a/b/g/n Wireless Access Point, 2x2 Spatial Multiplexing MIMO configuration
Type of Technology:	802.11
Installation type:	Fixed
Construction/Location for Use:	Indoor only
Software/Firmware Release:	5.0.1.0 ART v0_9-b16ALL
Transmit/Receive Operation:	TDD (Time Div Duplex)
Output Power Type	Stepped
Rated Input Voltage and Current DC:	DC: Nominal: 12V DC Current: 1.25 A ENET: Nominal: 48 V DC Current: 0.350 A
Operating Temperature Range:	Nominal: 20 °C Max: 50 °C Min: 0 °C
ITU Emission Designator(s):	2400 – 2483.5 MHz 802.11b 15M8G1D 2400 – 2483.5 MHz 802.11g 17M7D1D 2400 – 2483.5 MHz 802.11n – HT-20 18M7D1D 2400 – 2483.5 MHz 802.11n – HT-40 36M6D1D 5725 – 5850 MHz 802.11a 17M8D1D 5725 – 5850 MHz 802.11n – HT-20 18M4D1D 5725 – 5850 MHz 802.11n – HT-40 36M6D1D
Long Term Frequency Stability:	±20 ppm
Equipment Dimensions:	12.0 cm x 12.7 cm x 3.2 cm
Weight:	375 grams
Primary function of equipment:	Wireless Access Point for transmitting data and voice

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 12 of 372

6.2 Scope of Test Program

RF Testing

The scope of the compliance program was to test the Aruba AP-92 and AP-93 wireless Access Point, 2x2 Spatial Multiplexing MIMO configurations in the frequency ranges 5150 - 5250 MHz for compliance against FCC 47 CFR Part 15.407 and Industry Canada RSS-210 specifications.

The Aruba Networks, Inc AP-92 has external reverse SMA connectors which utilize external antennas while the AP-93 has integral antenna(s). The antennas used with the AP-92 and AP-93 are detailed in section 3.4 "Antenna Details".

Aruba AP-92, AP-93 Access Point

The AP-92 and AP-93 are high-speed, affordable, and reliable 802.11n access points for indoor environments. Designed for both ceiling and wall mounting, the compact AP-92 and AP-93 deliver wire-like performance at data rates up to 300Mbps. The AP-92 and AP-93 are built to deliver years of trouble-free operation and are backed by Aruba's limited lifetime warranty program.

Working in conjunction with Aruba's line of centralized Mobility Controllers, the AP-92 and AP-93 deliver high-speed, secure network services that let users finally move to a "wireless where possible, wired where necessary" network access model. The network can then be rightsized, with unnecessary ports eliminated to lower operating costs. The key to rightsizing is Aruba's unique Adaptive Radio Management technology, which manages channel, power, and wireless client behavior to deliver wire-like performance and reliability. By rightsizing network infrastructure, organizations significantly enhance user mobility and efficiency while lowering total cost of ownership.

The multifunction AP-92 and AP-93 can be configured through the controller to provide wireless LAN access, air monitoring, remote networking, secure enterprise mesh, and wireless intrusion detection and prevention over the 2.4GHz and 5GHz RF spectrum. The AP-92 and AP-93 feature a 100/1000Base-T Ethernet interface and operate from either standard 802.3af Power over Ethernet (PoE) sources or a 12VDC power supply.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 13 of 372

6.3 Equipment Model(s) and Serial Number(s)

Type (EUT/Support)	Equipment Description (Including Brand Name)	Mfr	Model No.	Serial No.
EUT	802.11a/b/g/n Wireless Access Point	Aruba Networks, Inc	AP-92 AP-92 AP-93	AN0000305 (Conducted Testing) AN0000307 (Radiated Testing) AN0000330 (Radiated Testing)
Support	Laptop PC	IBM	Thinkpad	None

6.4 Antenna Details

Antenna Type:	Manufacturer	Model	Gain (dBi)	Frequency Range (MHz)
Integral	Aruba Networks, Inc	PIFA	2.13	2400 - 2500
Integral	Aruba Networks, Inc	PIFA	5.8	4900 - 5875
External	Aruba Networks, Inc	AP-ANT-2	6	2400 - 2500
External	Aruba Networks, Inc	AP-ANT-7	12	2400 - 2500
External	Aruba Networks, Inc	AP-ANT-10	6	4900 - 5875
External	Aruba Networks, Inc	AP-ANT-12	14	4900 - 5875
External	Aruba Networks, Inc	AP-ANT-13B	3.3	4900 - 5875
External	Aruba Networks, Inc	AP-ANT-1B	2.5	2400 - 2500

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



6.5 Cabling and I/O Ports

Number and type of I/O ports

Description	Type	Length	Additional Information
ENET	RJ-45 Ethernet Port	Greater than 10m	Ethernet connection; Only non-shielded CAT-5 cable was used during testing. Port not connected to public utility/telecommunication network.
CONSOLE	RJ-45 Serial Port	Greater than 10m	For EUT setup only, not connected during typical EUT operation; Only non-shielded CAT-5 cable was used during testing.
DC Power	DC Power Port	Less than 3m	AC adaptor with attached DC cable supplied with EUT
AC Power	AC Adaptor	Less than 3m	AC adaptor and mains cable supplied with EUT

6.6 Test Configurations

Testing was performed to determine the highest power level versus bit rate. The variant with the highest power was used to exercise the product.

Operational Mode(s) (802.11a/b/g/n)	Variant	Data Rate with Highest Power	Frequencies (MHz)
b	Legacy	1 MBit/s	2,412
g	Legacy	6 MBit/s	2,437
n	HT-20	6.5 MCS	2,462
	HT-40	13.5 MCS	2,422
			2,437
a	Legacy	6 MBit/s	2,452
n	HT-20	6.5 MCS	5,745
	HT-40	13.5 MCS	5,785
			5,825
			5,755
			5,785
			5,815

Legacy – data rates for 802.11abg products

Results for the above configurations are provided in this report



Antenna Test Configurations for Radiated Emissions

Spurious Emission and Band-Edge Test Strategy

When testing radiated spurious emissions and band-edge two identical antennae were connected to the EUT at all times. Transmission during this test process simulated a typical installation. Results for the following configurations are provided in this report.

2,400 – 2483.5 MHz

15.247	
	Integral
802.11b	b SE 2412
	b SE 2437
	b SE 2462
	BE b 2390
	b Pk 2412
	b Pk 2437
	b Pk 2462
	BE b 2483.5
802.11g	g SE 2412
	g SE 2437
	g SE 2462
	BE g 2390
	g Pk 2412
	g Pk 2437
	g Pk 2462
	BE g 2483.5
HT-20 n	g SE 2412
	g SE 2437
	g SE 2462
	BE g 2390
	PK g 2412
	PK g 2437
	PK g 2462
	BE g 2483.5
HT-40 n	g SE 2422
	g SE 2437
	g SE 2452
	BE g 2390
	PK g 2422
	PK g 2437
	PK g 2452
	BE g 2483.5

KEY;-

SE – Spurious Emission
 BE – Band-Edge
 PK - Peak Emission

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



5,725 – 5850 MHz

15.247	
	Integral
Legacy	
802.11a	a SE 5745
	a SE 5785
	a SE 5825
	Pk a 5745
	Pk a 5785
	Pk a 5825
	BE a 5460
HT-20	a SE 5745
	a SE 5785
	a SE 5825
	Pk a 5745
	Pk a 5785
	Pk a 5825
	BE a 5460
HT-40	a SE 5755
	a SE 5785
	a SE 5815
	Pk a 5755
	Pk a 5785
	Pk a 5815
	BE a 5460

KEY;-

SE – Spurious Emission
 BE – Band-Edge
 PK - Peak Emission



6.7 Equipment Modifications

The following modifications were required to bring the equipment into compliance:

EUT Software Power Settings - Radiated Testing

1. Reduction in output power to meet band-edge and emission requirements was required in certain circumstances. The following matrix was generated identifying the reduction in power required bringing the EUT into compliance.

2400 - 2483.5 MHz Integral Antenna

	Channel Freq (MHz)	Nominal ART Power	Passing ART Power	Measured Pwr (dBm)
11b	2412	20	12	13.17
	2437	20	12	12.53
	2462	20	10.5	9.84
11g	2412	20	14.5	14.79
	2437	20	18	18.65
	2462	20	14.5	14.63
HT-20	2412	20	14	15.11
	2437	20	18	18.67
	2462	20	14	14.62
HT-40	2422	20	12	12.39
	2437	20	18	18.39
	2452	20	12.5	12.53

5725 – 5850 MHz

	Channel Freq (MHz)	Nominal ART Power	Passing ART Power	Aggregate Measured Pwr (dBm)
11a	5745	20	18	17.53
	5785	20	13.5	13.99
	5825	20	14	14.62
HT-20	5745	20	14	14.61
	5785	20	14	15
	5825	20	13.5	13.8
HT-40	5755	20	13.5	13.25
	5785	20	13.5	13.58
	5815	20	14	14.44

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 18 of 372

2400 - 2483.5 MHz AP-ANT-2

	Channel Freq (MHz)	Nominal ART Power	Passing ART Power	Measured Pwr (dBm)
11b	2412	20	6	7.23
	2437	20	7.5	7.7
	2462	20	7	7.11
11g	2412	20	13	14.13
	2437	20	13	13.71
	2462	20	13	13.5
HT-20	2412	20	13	14.24
	2437	20	18	18.67
	2462	20	13.5	13.49
HT-40	2422	20	11	11.13
	2437	20	18	18.39
	2452	20	10	10.98

2400 - 2483.5 MHz AP-ANT-7

	Channel Freq (MHz)	Nominal ART Power	Passing ART Power	Measured Pwr (dBm)
11b	2412	20	6	7.23
	2437	20	6.5	4.7
	2462	20	7	7.11
11g	2412	20	11	12.43
	2437	20	13	13.71
	2462	20	12	12.43
HT-20	2412	20	10	11.38
	2437	20	16	16.58
	2462	20	12	12.43
HT-40	2422	20	6.5	6.61
	2437	20	18	18.39
	2452	20	6	7.29

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 19 of 372

5725 – 5850 MHz AP-ANT-10

	Channel Freq (MHz)	Nominal ART Power	Passing ART Power	Aggregate Measured Pwr (dBm)
11a	5745	20	18.0	17.35
	5785	20	13.5	13.99
	5825	20	10.5	10.00
HT-20	5745	20	9.5	8.14
	5785	20	9.0	8.50
	5825	20	9.0	8.78
HT-40	5755	20	10.5	9.83
	5785	20	10.5	9.54
	5815	20	9.5	8.21

5725 – 5850 MHz AP-ANT-12

	Channel Freq (MHz)	Nominal ART Power	Passing ART Power	Aggregate Measured Pwr (dBm)
11a	5745	20	7	6.23
	5785	20	6.5	5.07
	5825	20	6.5	4.84
HT-20	5745	20	7	5.74
	5785	20	6.5	4.76
	5825	20	6.5	5.61
HT-40	5755	20	6	4.38
	5785	20	6.5	4.85
	5815	20	6.5	4.63

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 20 of 372

6.8 Deviations from the Test Standard

The following deviations from the test standard were required in order to complete the test program:

1. None

6.9 Subcontracted Testing or Third Party Data

1. NONE

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.

7 TEST RESULTS

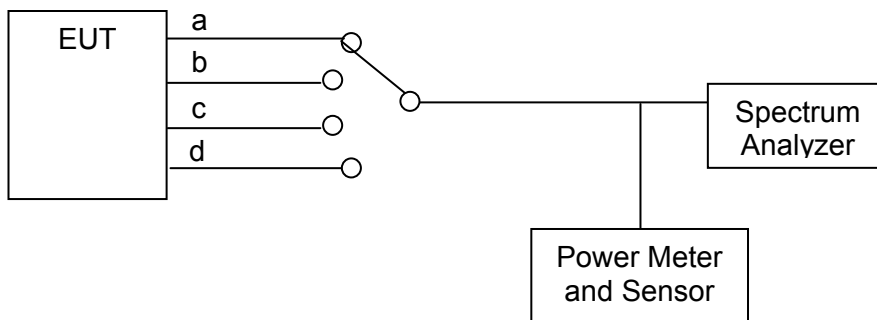
7.1 6 dB and 99% Bandwidth

Test Procedure

The test methodology and conditions utilized for each measurement is referenced in the following test results matrix. 6 dB and 99% bandwidth were measured per the Test Configuration identified below.

Testing was restricted to a single port.

Test Configuration



Test configuration for 6 dB & 99% Bandwidth

Specification

Limits

§15.247 (a)(2)

The minimum 6 dB bandwidth shall be at least 500 kHz.

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-03 'Measurement of RF Spectrum Mask'	0158, 0252, 0313, 0314, 0116, 0117, 0287, 0363

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 22 of 372

7.1.1 6 dB and 99% Bandwidth Results: 802.11b

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11b	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain (Y):	N/A dB	Antenna Gain:	6 dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

6 dB Bandwidth

Test Frequency	6 dB Bandwidth				Minimum 6dB Bandwidth Limit		Margin
	MHz				kHz	MHz	MHz
MHz	a	b	c	d			
2412	12.665000	12.585000			500	0.5	-12.085000
2437	12.104000	12.184000					-11.604000
2462	13.066000	12.184000					-11.684000

99% Bandwidth

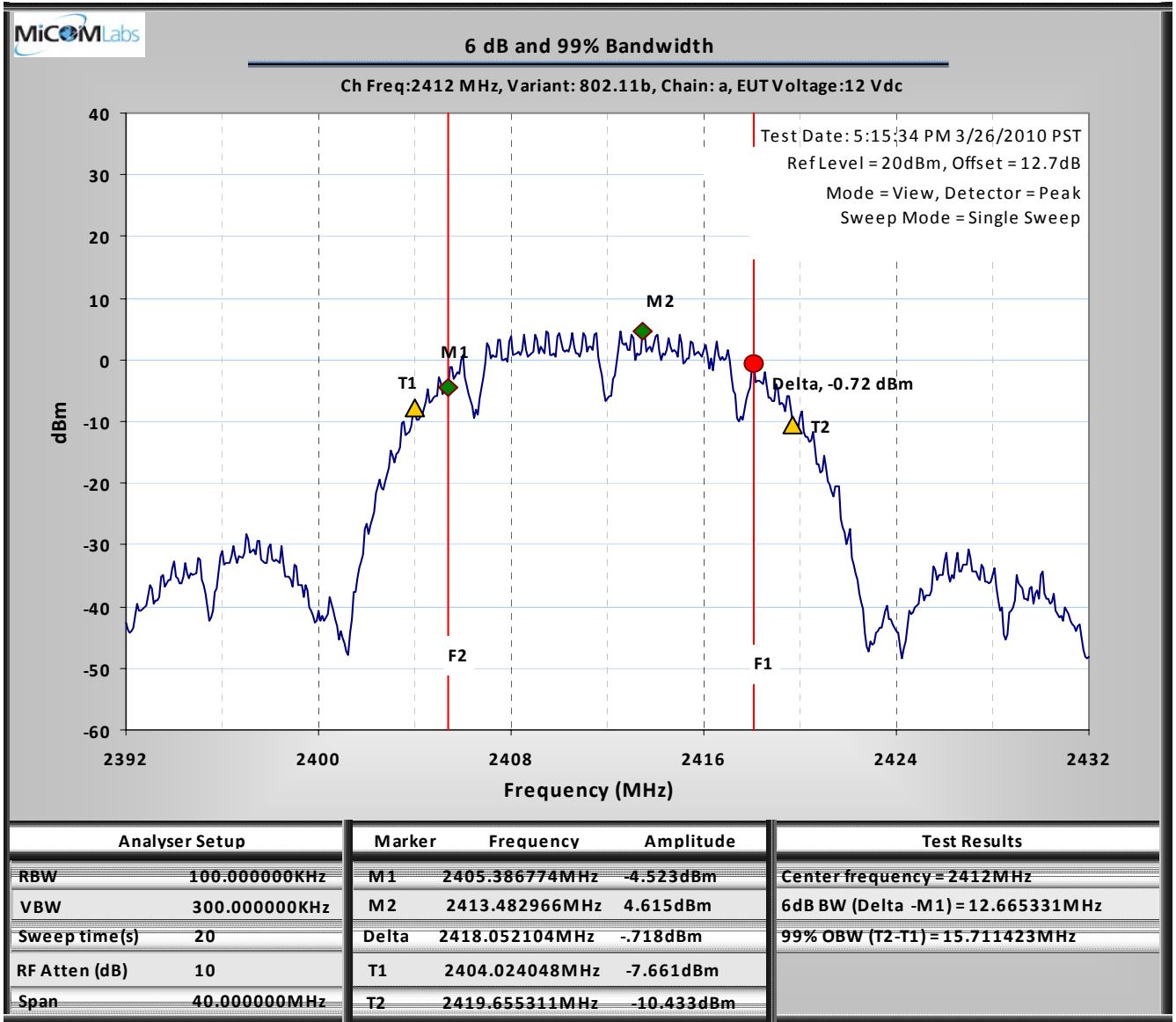
Test Frequency	99 % Bandwidth					
	MHz					
MHz	a	b	c	d		
2412	15.711000	15.551000				
2437	15.631000	15.551000				
2462	15.631000	15.711000				

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

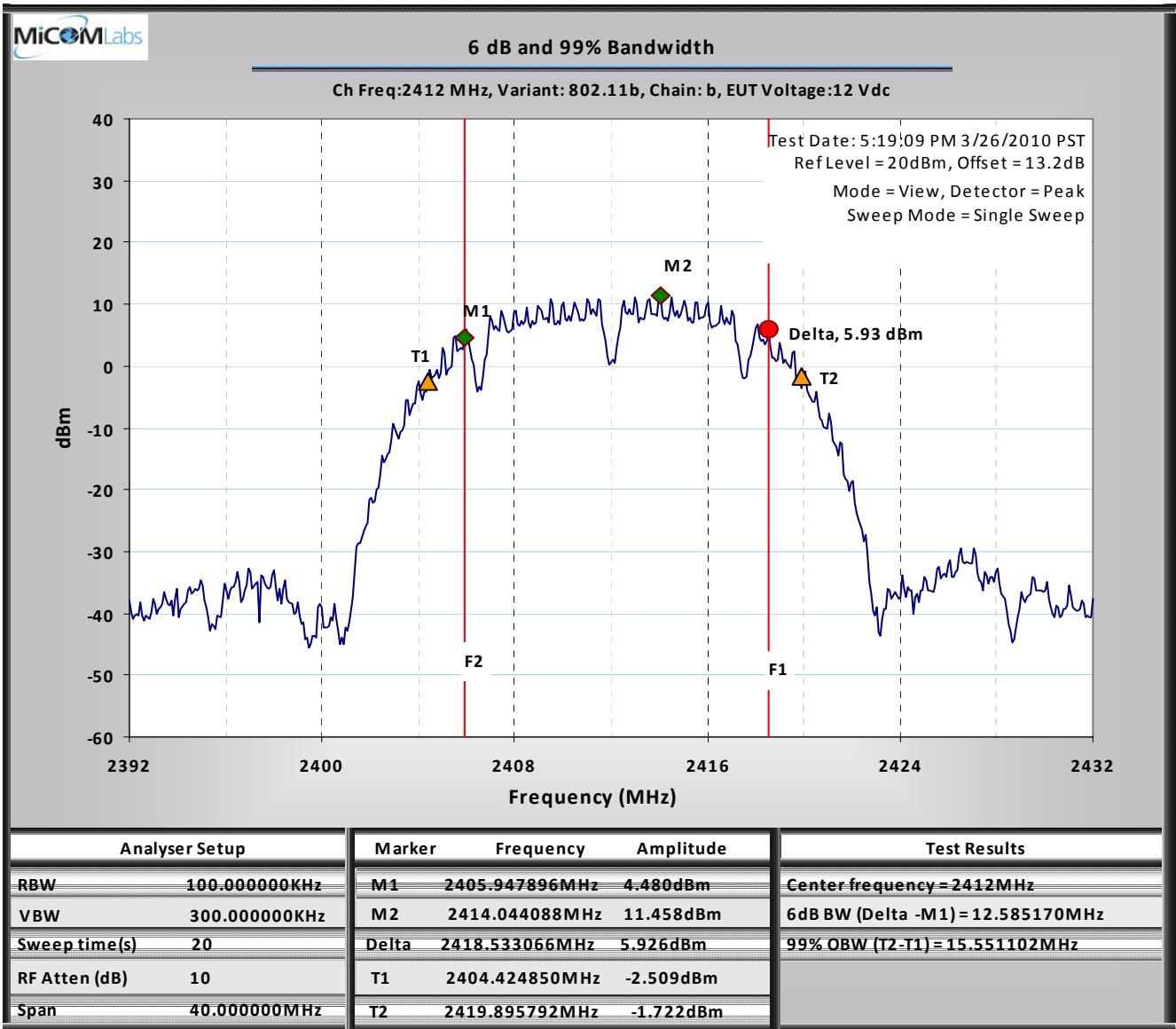
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 23 of 372



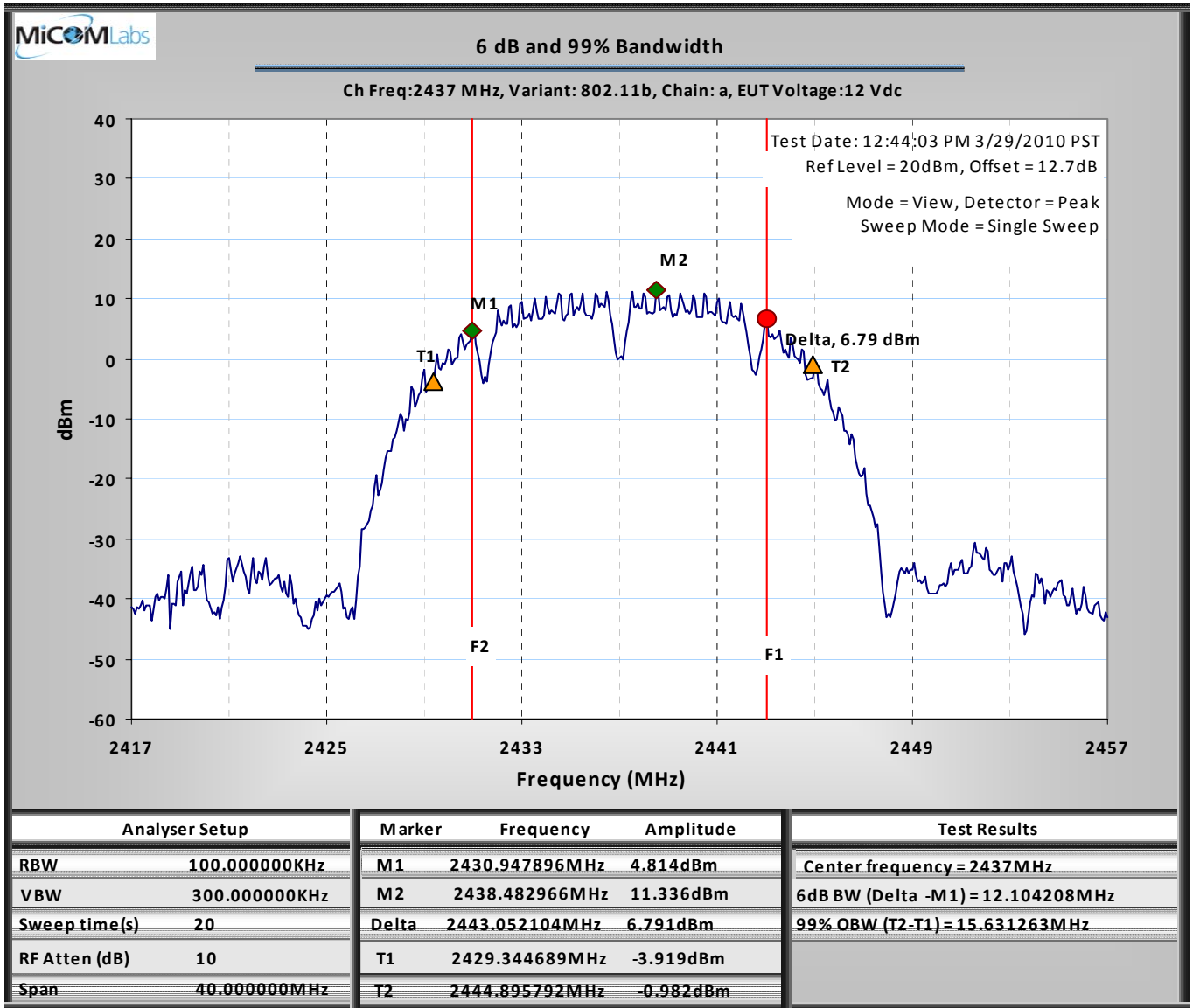
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



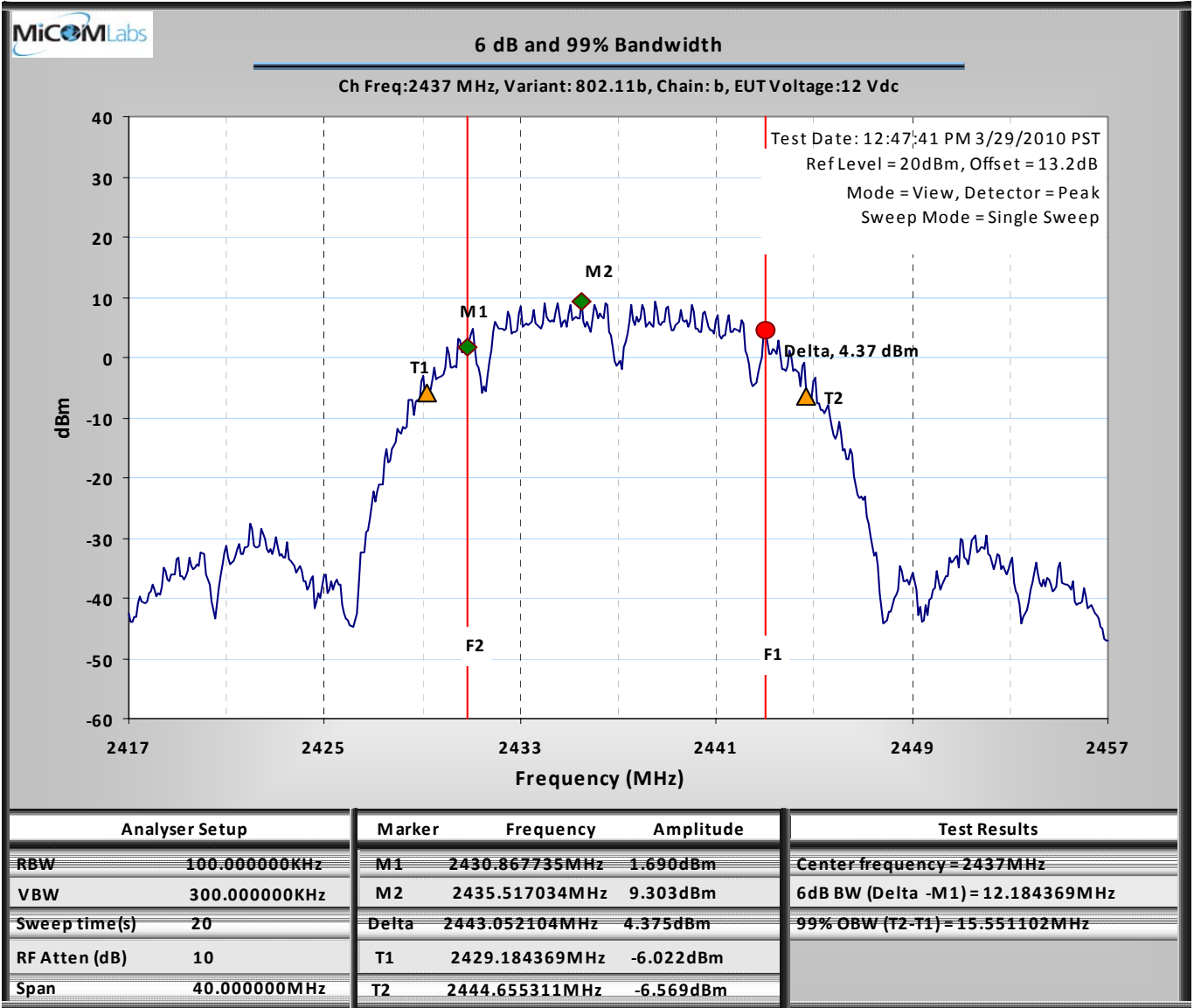
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 25 of 372



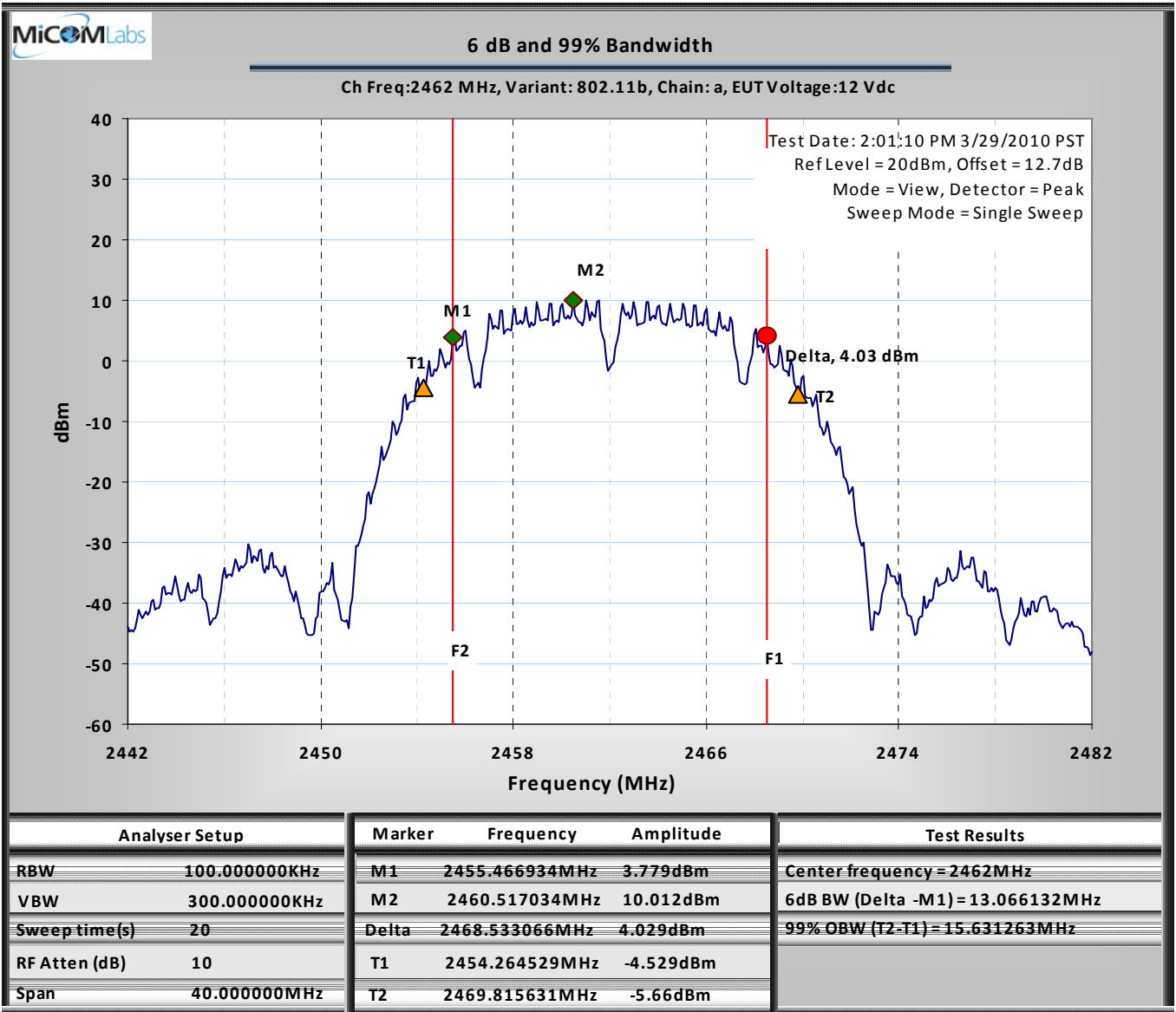
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 26 of 372



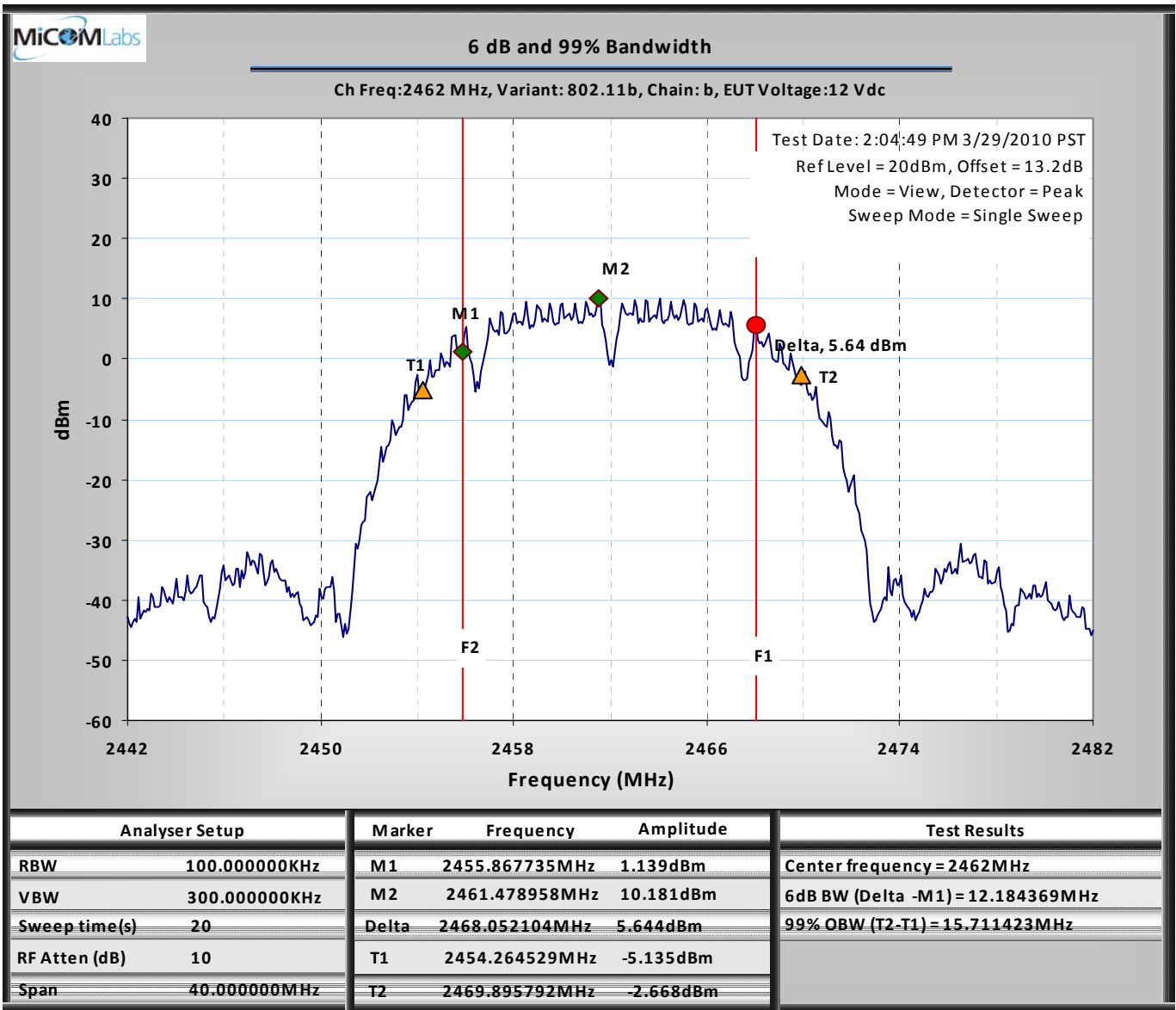
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 28 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 29 of 372

7.1.2 6 dB and 99% Bandwidth Results: 802.11g

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35	to	42
Variant:	802.11g	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain	N/A	dB	Antenna Gain:	6	dBi
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

6 dB Bandwidth

Test Frequency	6 dB Bandwidth				Minimum 6dB Bandwidth Limit		Margin
	MHz				kHz	MHz	MHz
MHz	a	b	c	d			
2412	16.513000	16.433000			500	0.5	-15.933000
2437	16.433000	16.513000					-15.933000
2462	16.433000	16.433000					-15.933000

99% Bandwidth

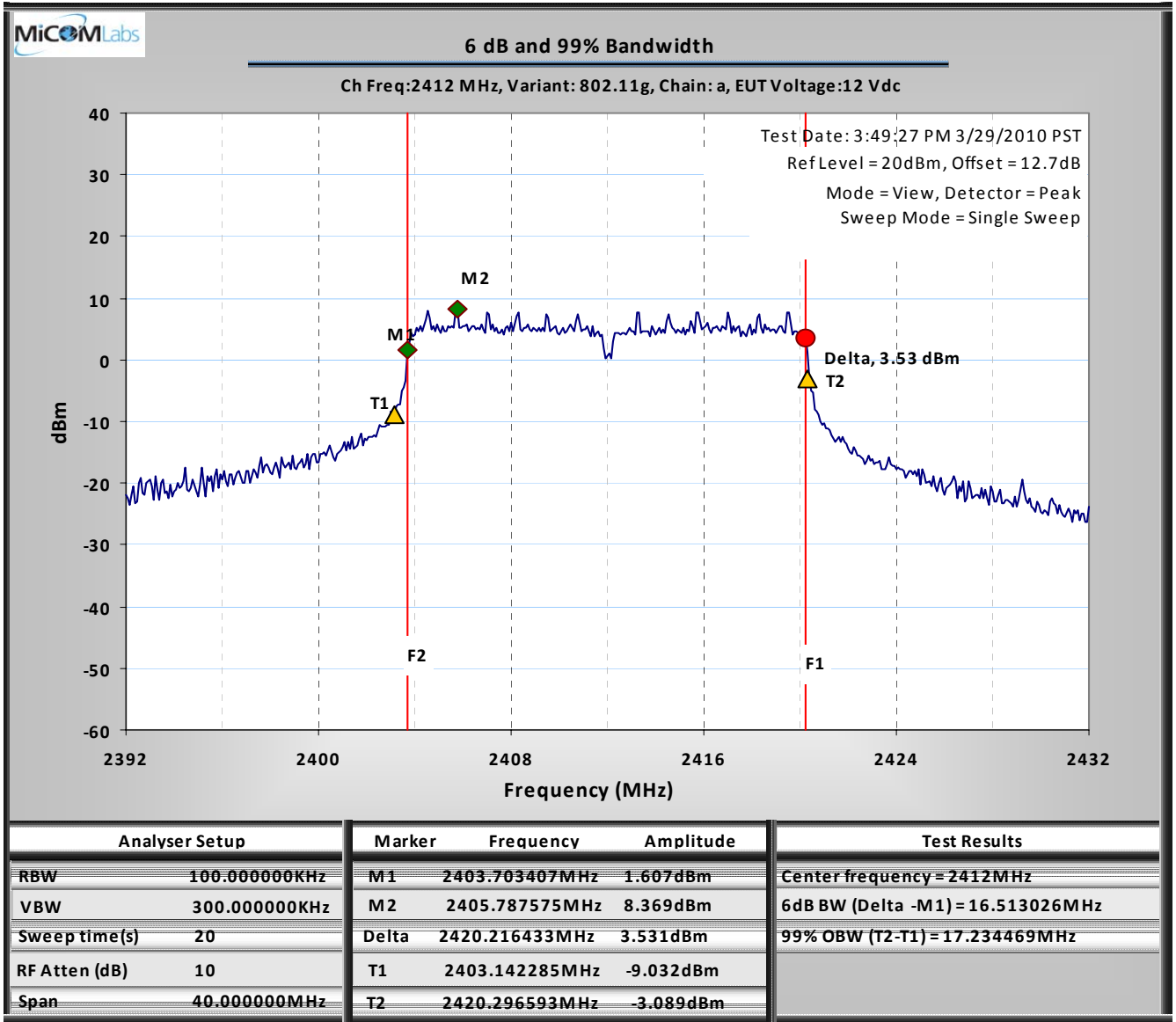
Test Frequency	99 % Bandwidth						
	MHz						
MHz	a	b	c	d			
2412	17.234000	17.635000					
2437	17.635000	17.555000					
2462	16.914000	16.834000					

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



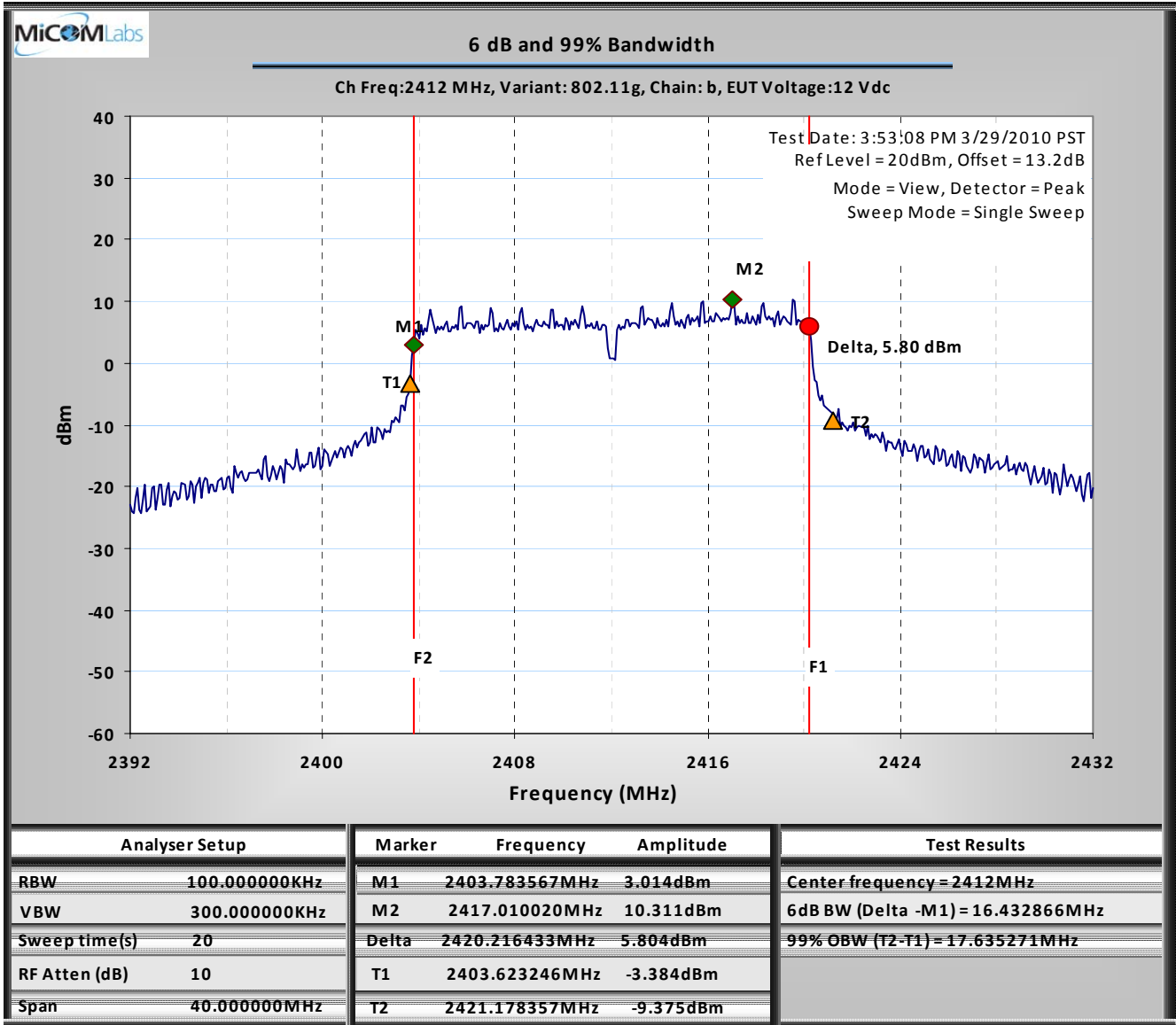
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 30 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



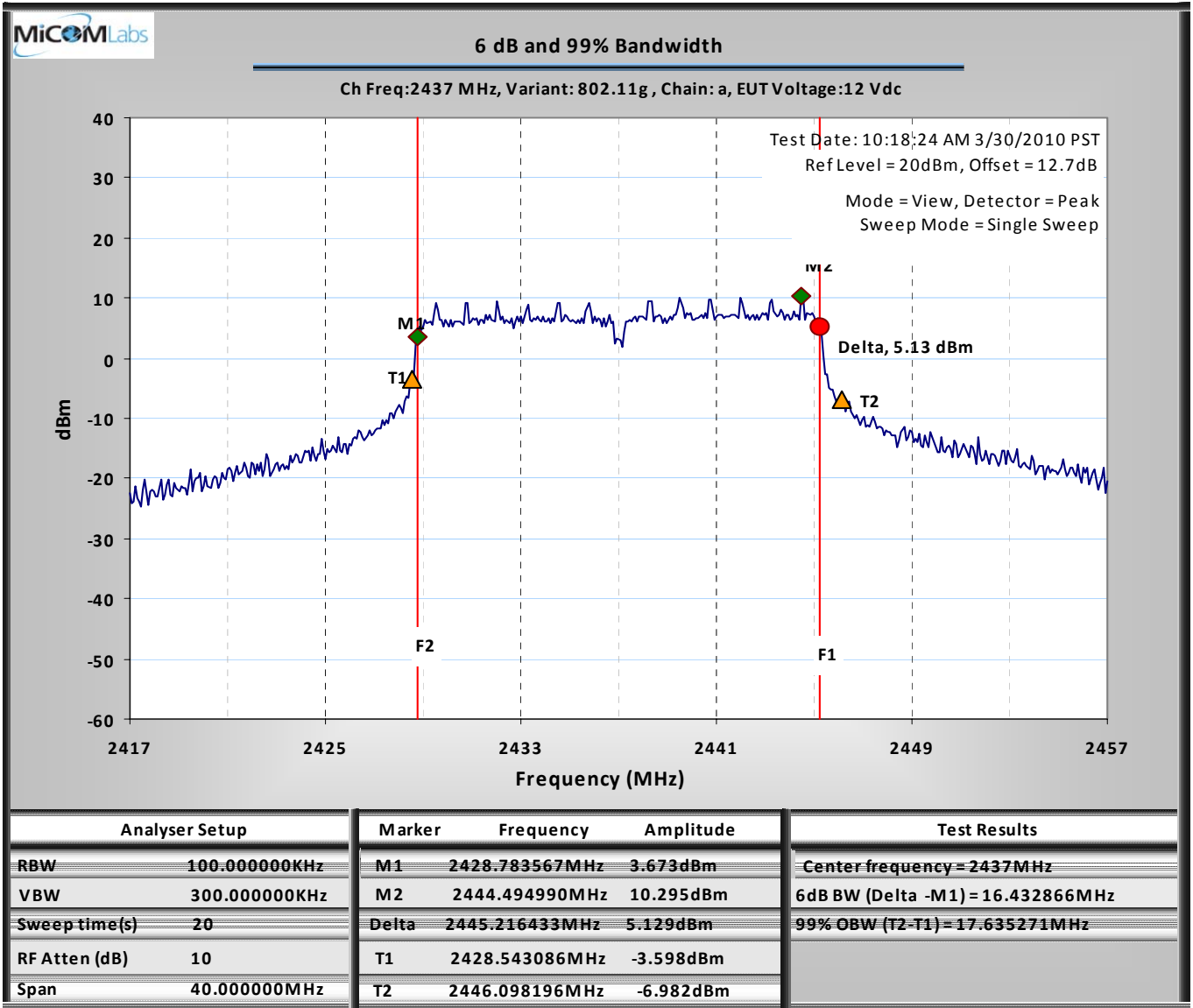
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 31 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



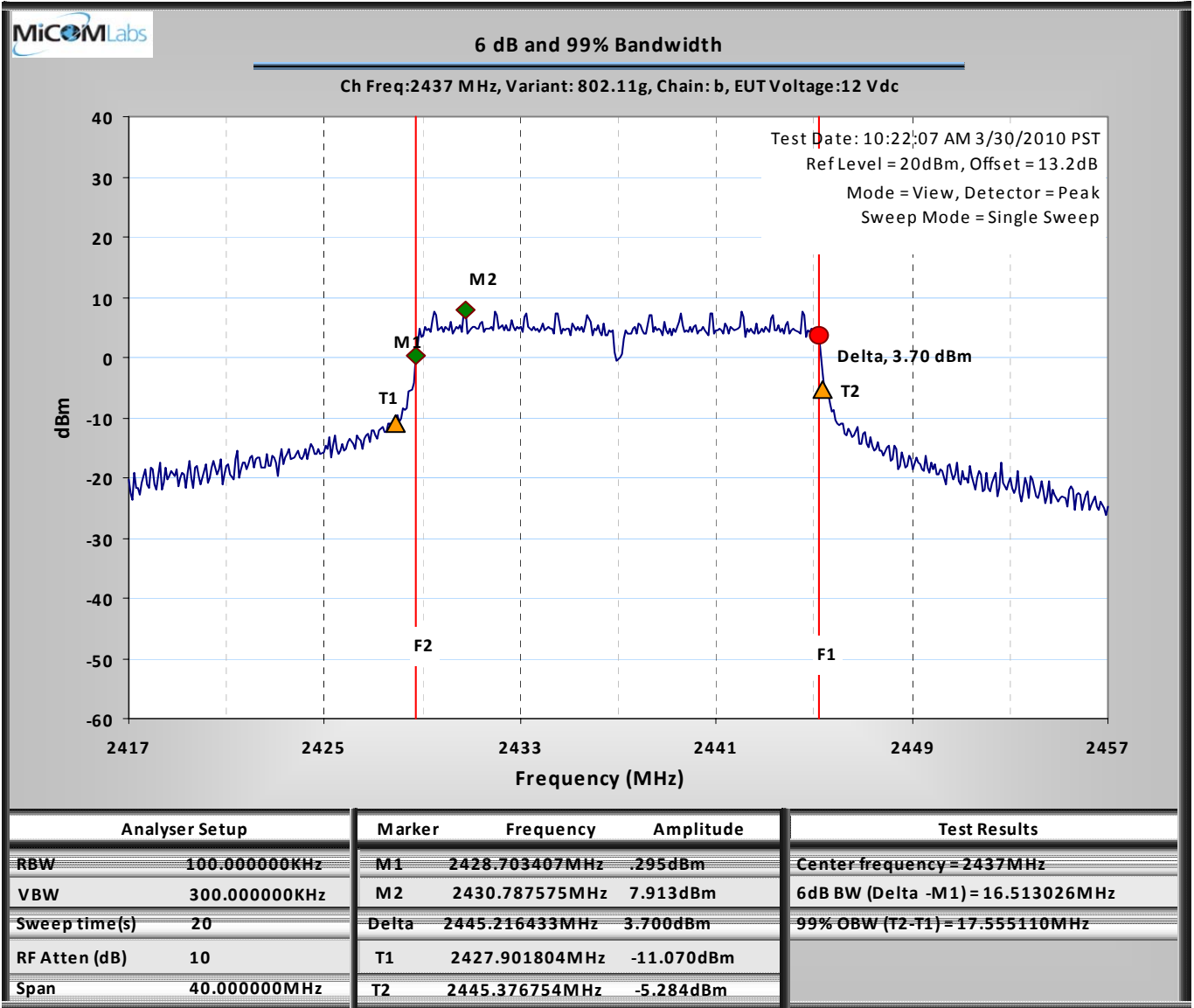
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 32 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



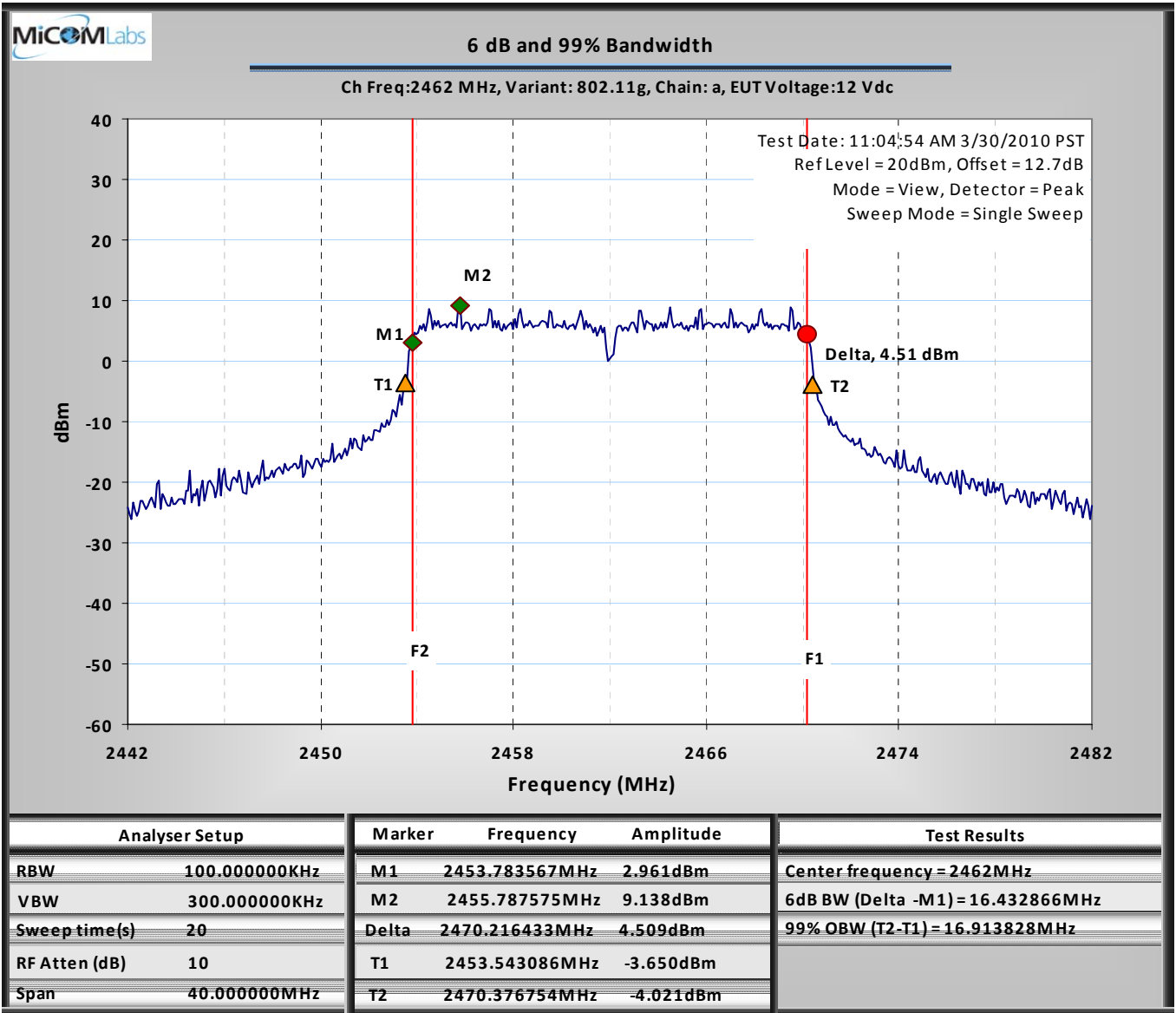
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 33 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



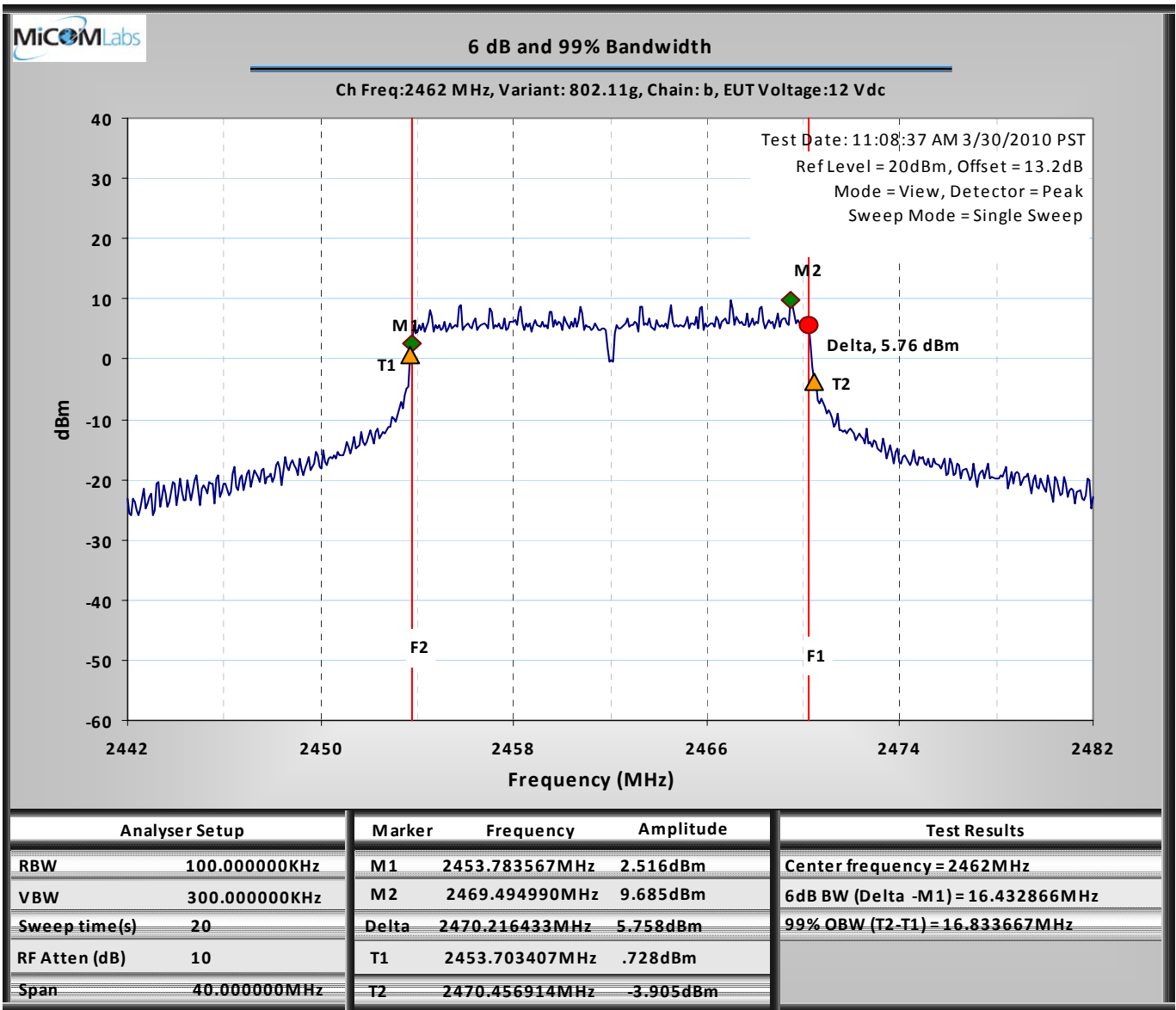
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 34 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 35 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 36 of 372

7.1.3 6 dB and 99% Bandwidth Results: 802.11n HT-20

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain	N/A dB	Antenna Gain:	6 dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

6 dB Bandwidth

Test Frequency	6 dB Bandwidth				Minimum 6dB Bandwidth Limit		Margin
	MHz				kHz	MHz	
MHz	a	b	c	d			MHz
2412	17.715000	17.715000			500	0.5	-17.215000
2437	17.635000	17.635000					-17.135000
2462	17.635000	17.715000					-17.135000

99% Bandwidth

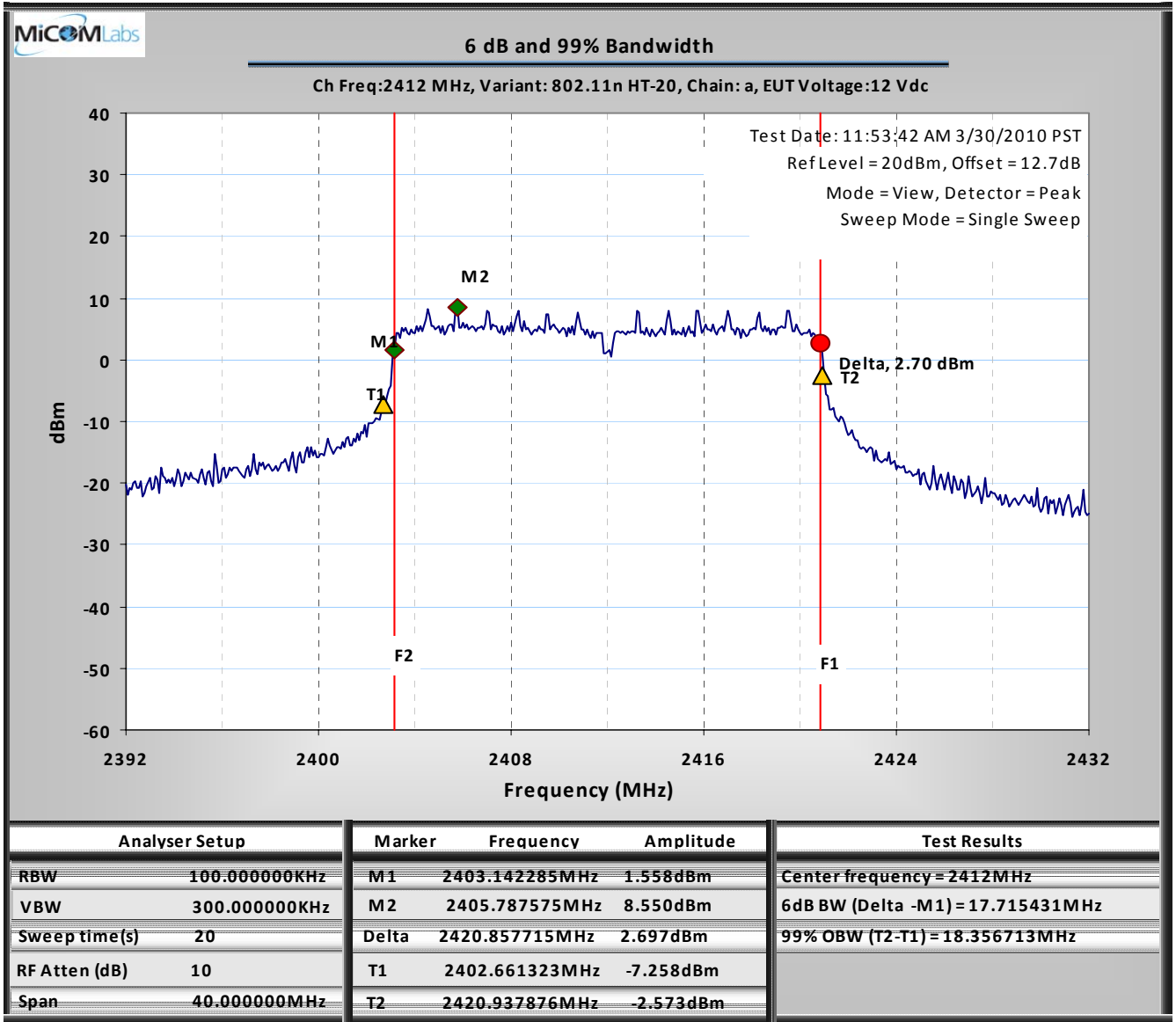
Test Frequency	99 % Bandwidth					
	MHz					
MHz	a	b	c	d		
2412	18.357000	18.677000				
2437	18.597000	18.437000				
2462	18.036000	18.036000				

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

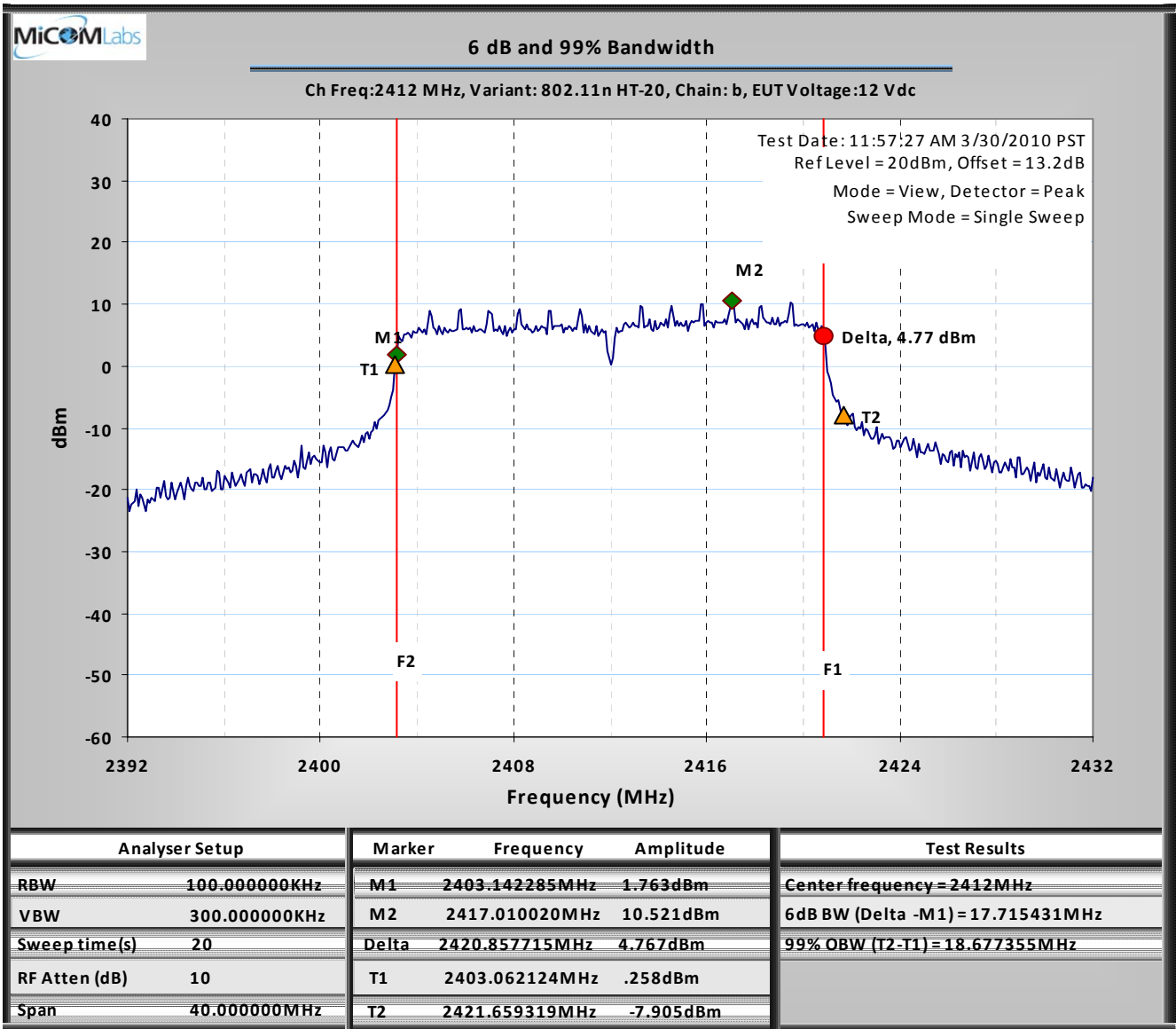
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 37 of 372



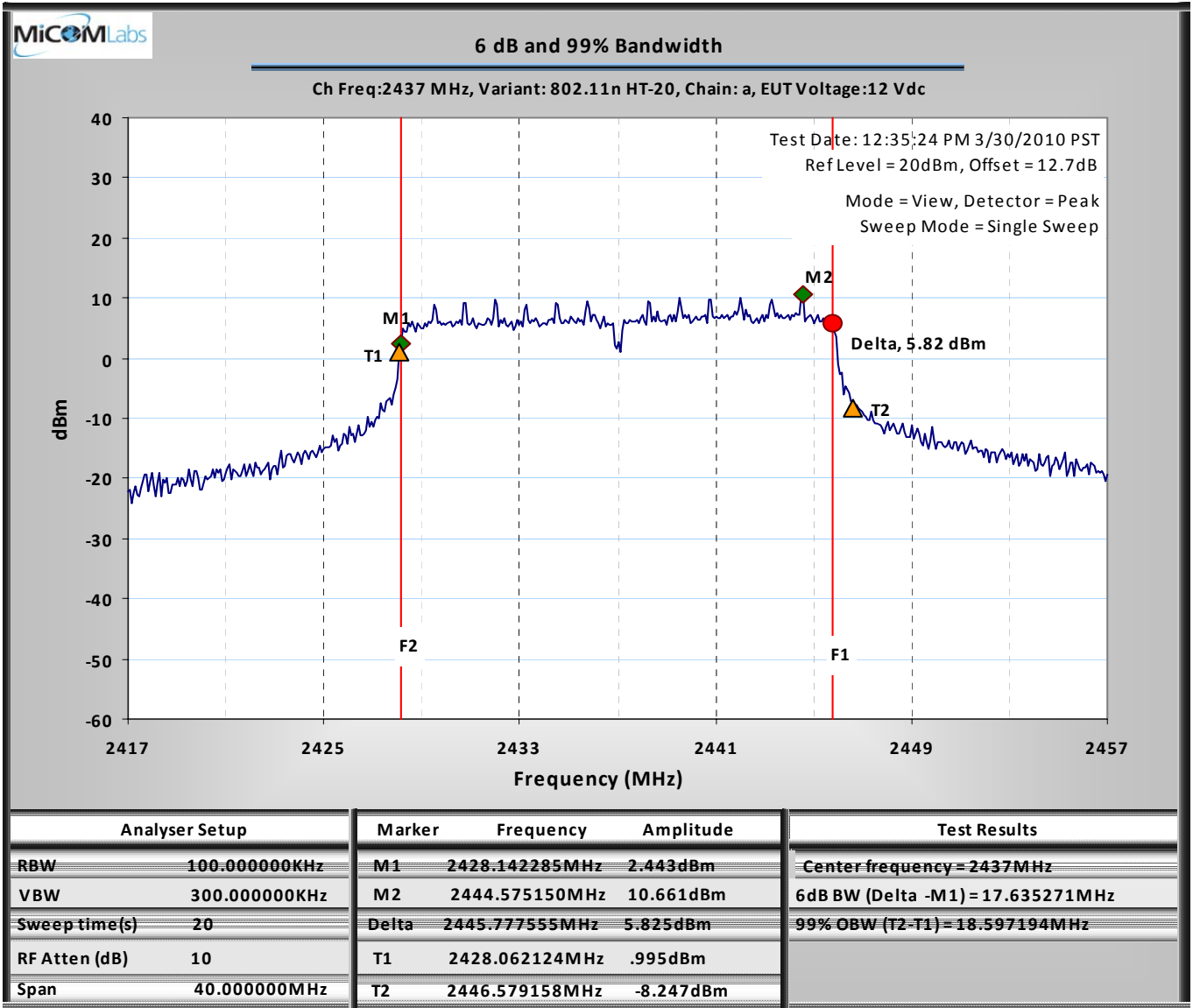
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



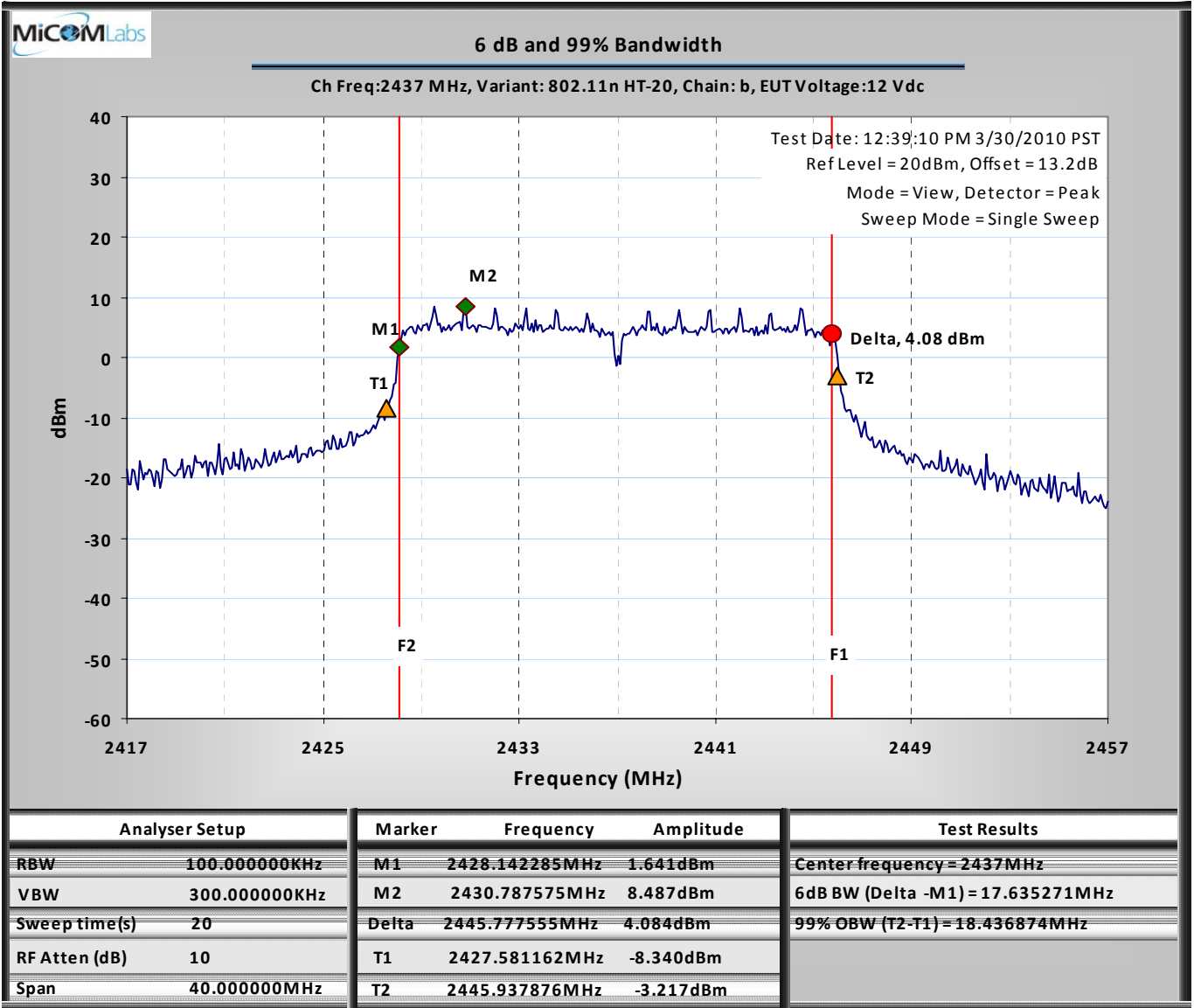
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 39 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



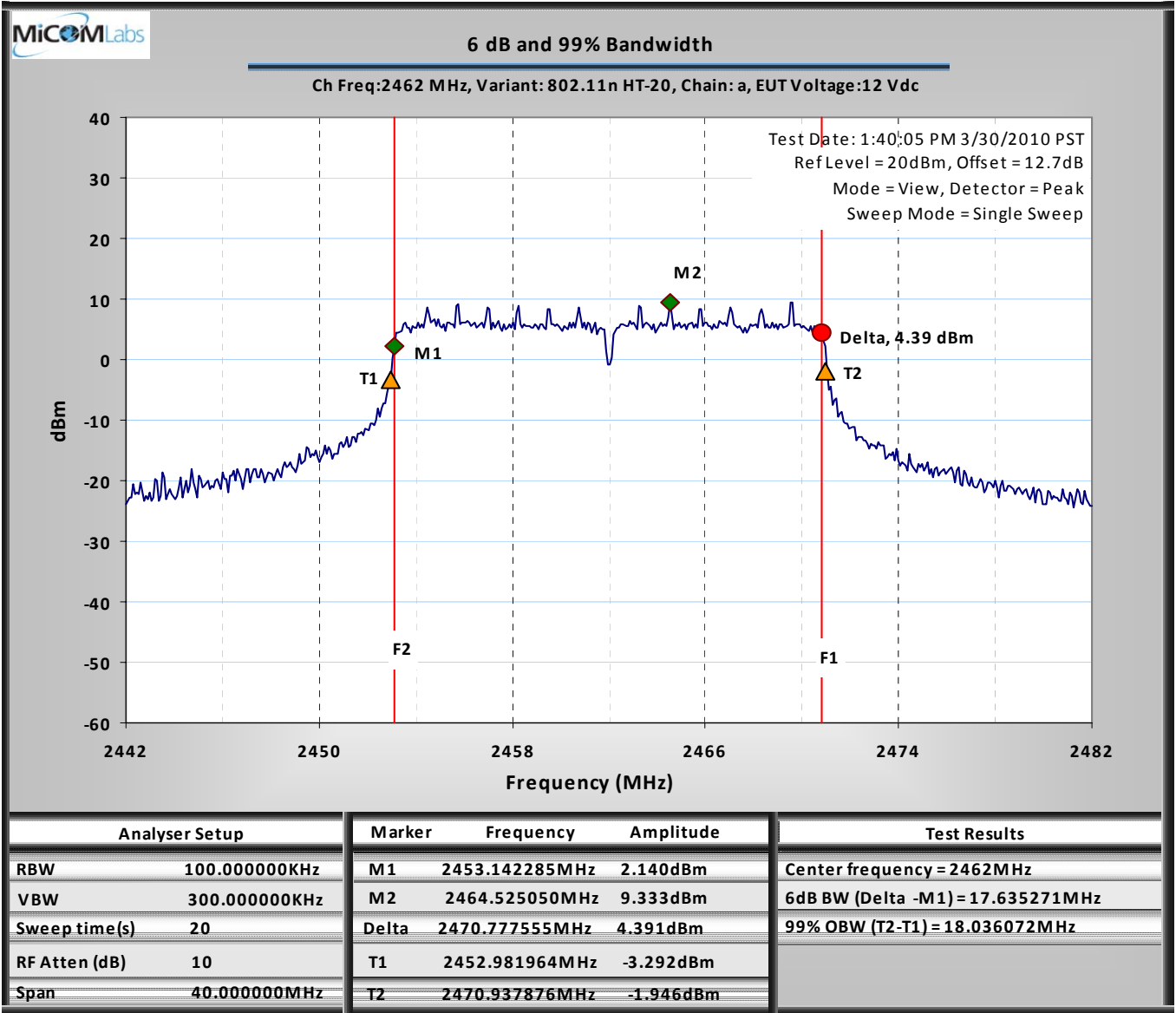
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 40 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



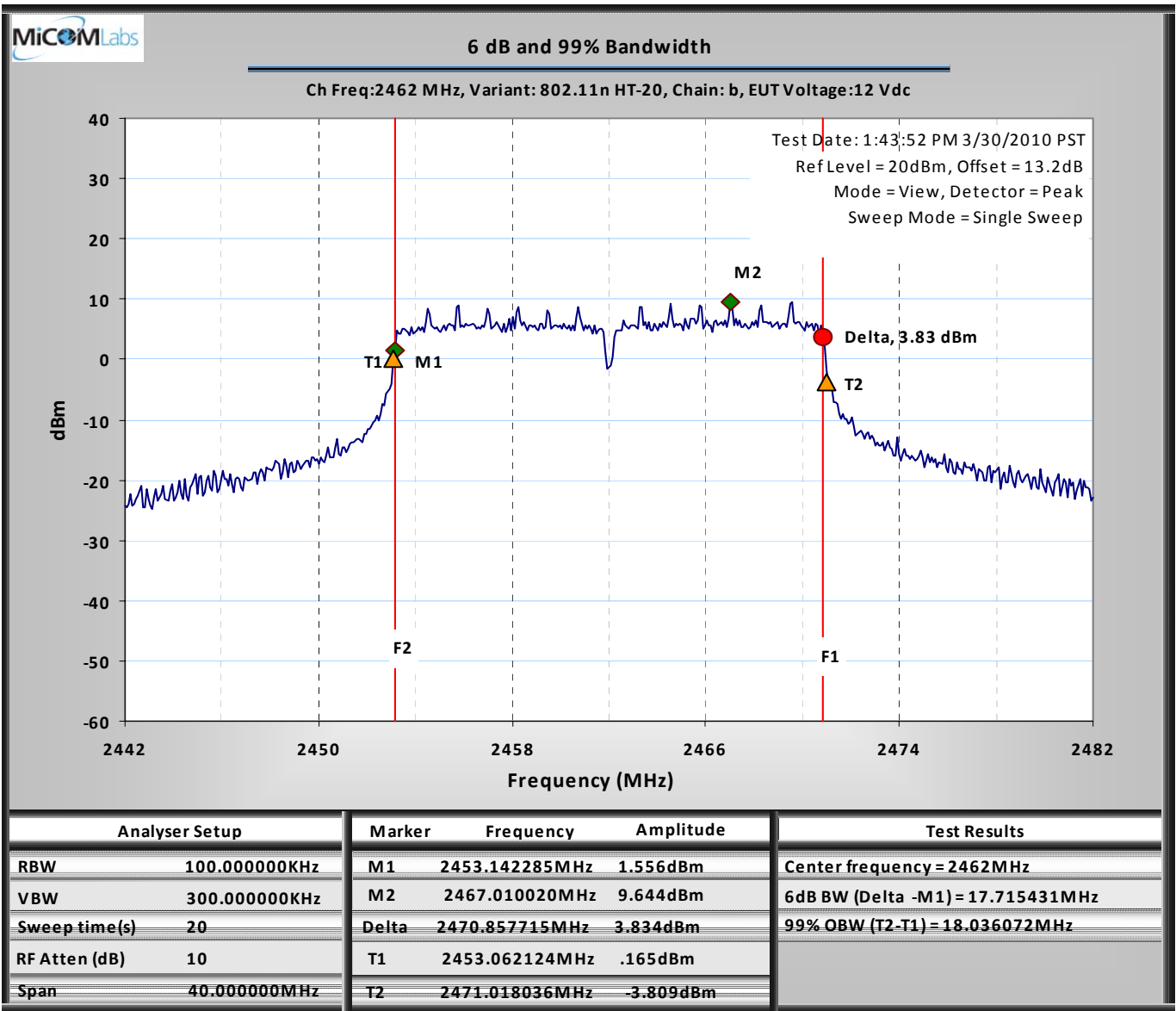
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 41 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 42 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 43 of 372

7.1.4 6 dB and 99% Bandwidth Results: 802.11n HT-40

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain	N/A dB	Antenna Gain:	6 dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

6 dB Bandwidth

Test Frequency	6 dB Bandwidth				Minimum 6dB Bandwidth Limit		Margin
	MHz				kHz	MHz	
MHz	a	b	c	d			
2422	36.553000	35.912000			500	0.5	-35.412000
2437	35.912000	36.553000					-35.412000
2452	36.553000	36.553000					-36.053000

99% Bandwidth

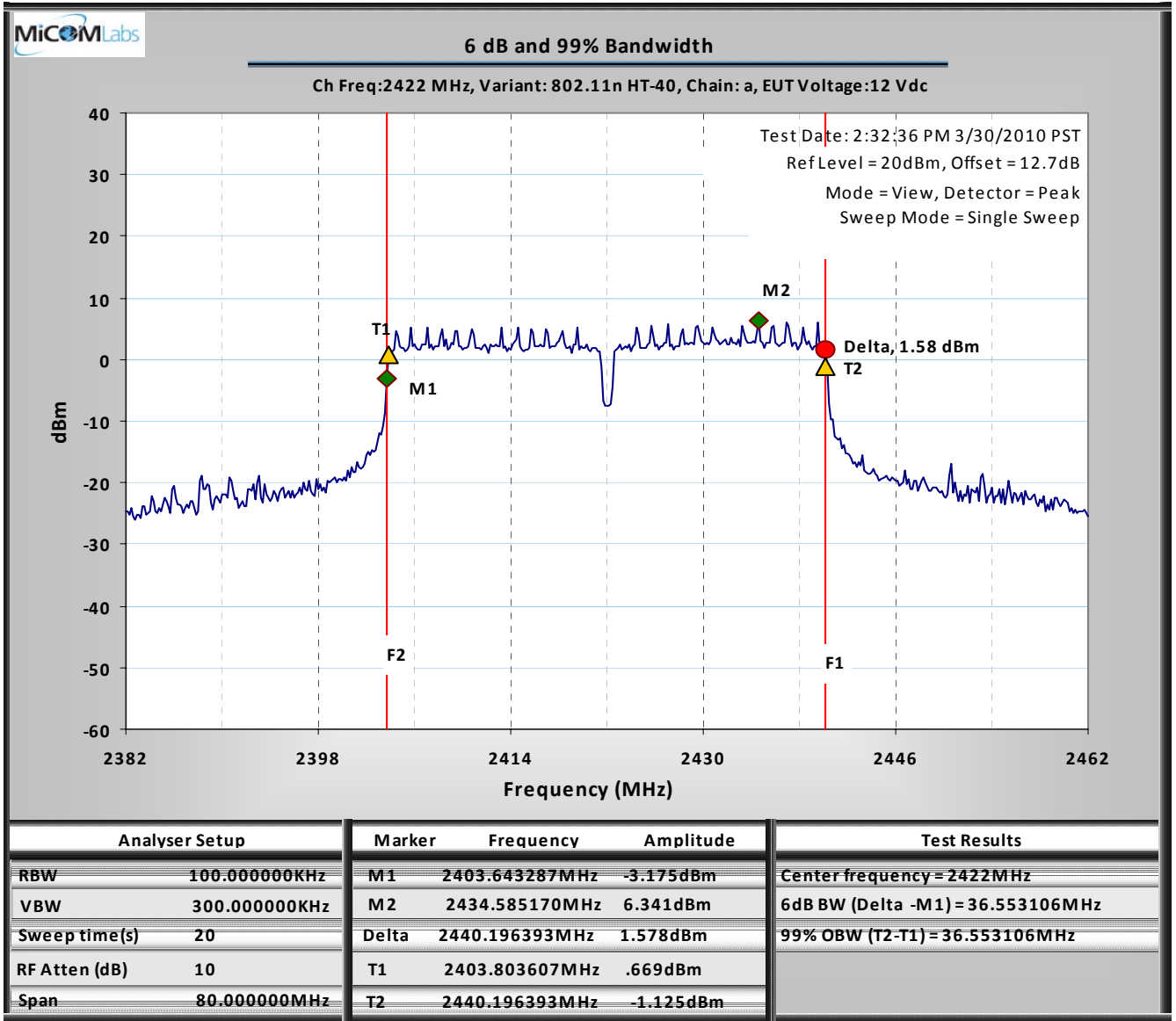
Test Frequency	99 % Bandwidth					
	MHz					
MHz	a	b	c	d		
2422	36.553000	36.553000				
2437	36.553000	36.553000				
2452	36.553000	36.553000				

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



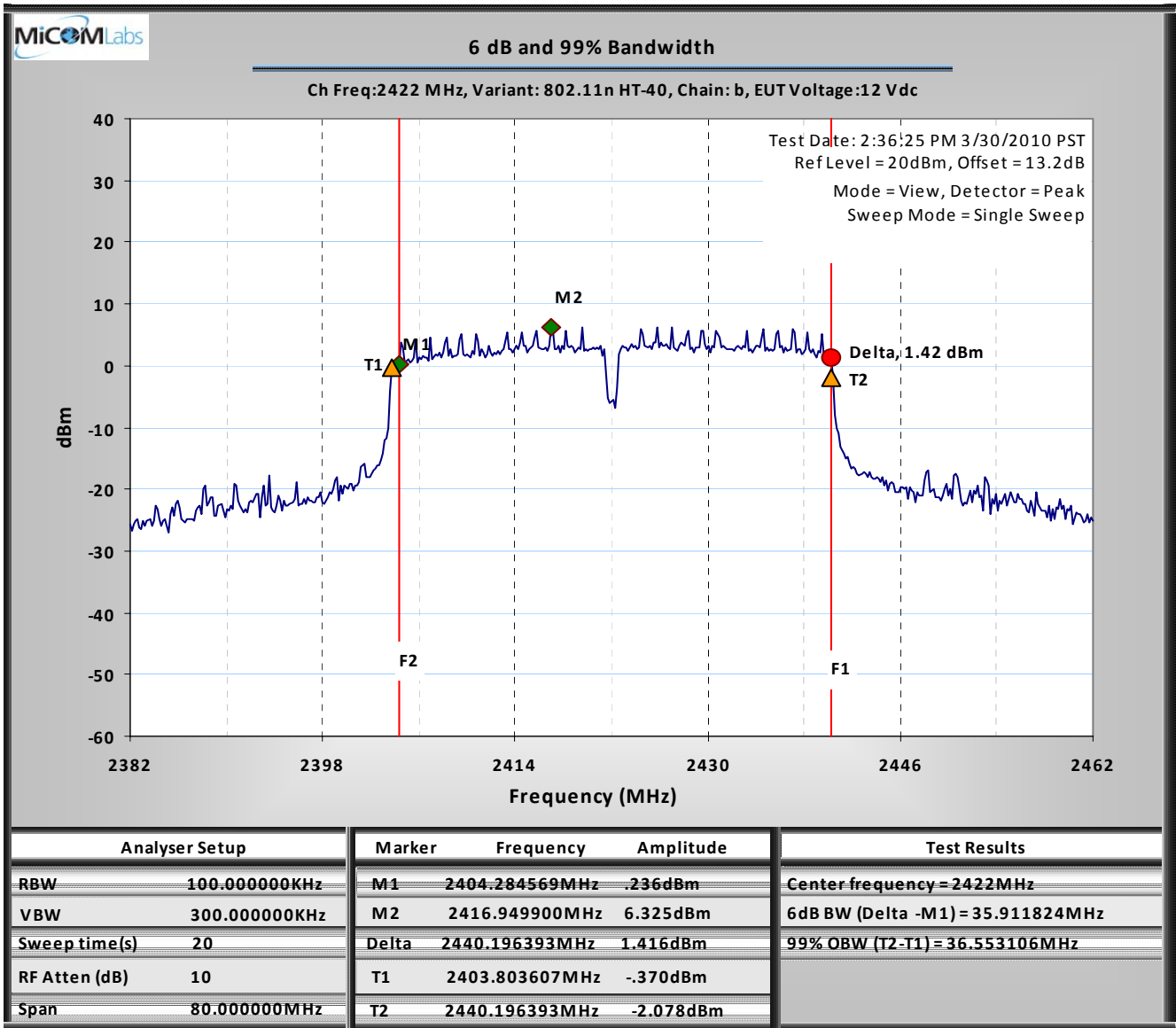
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 44 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



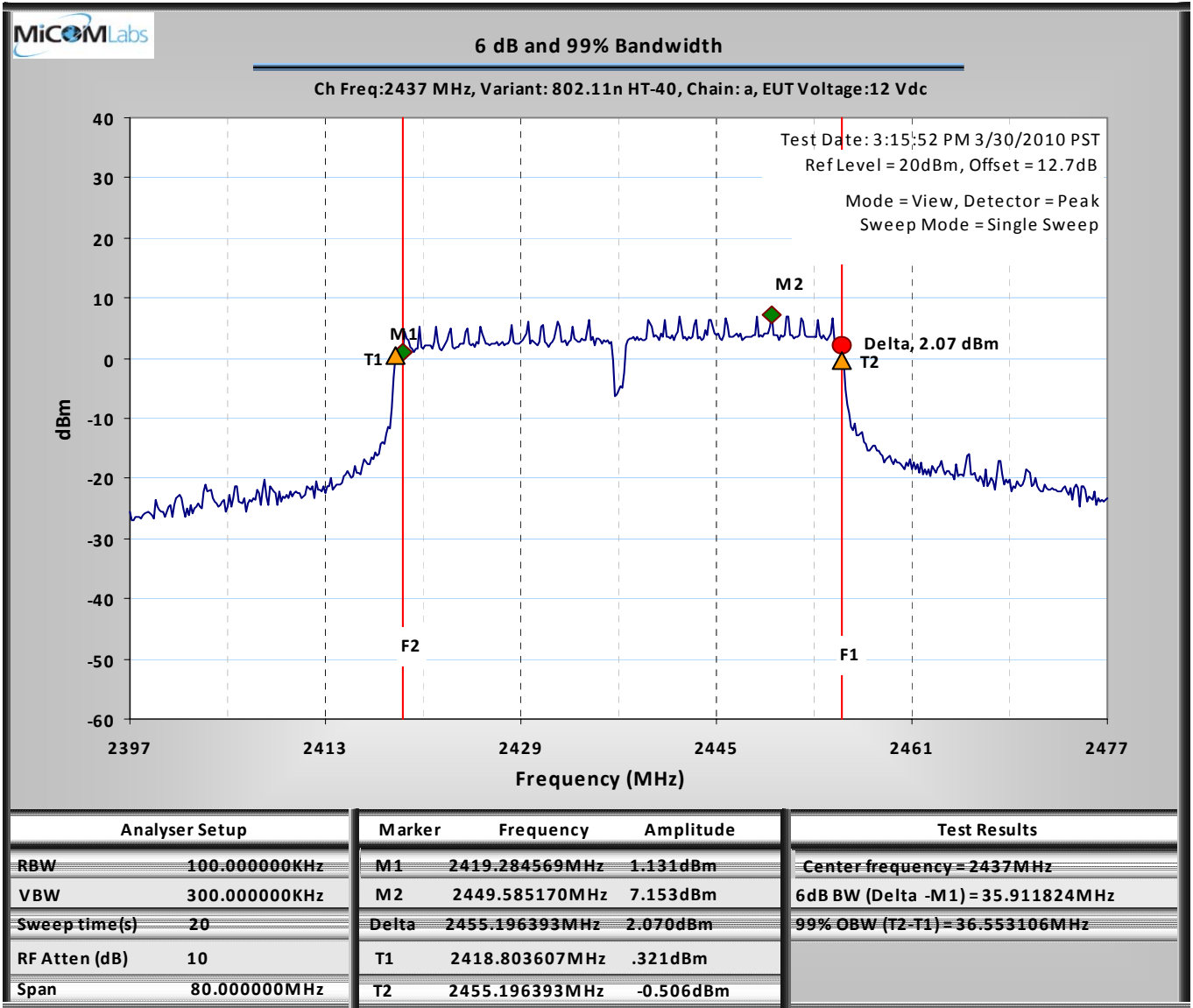
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 45 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



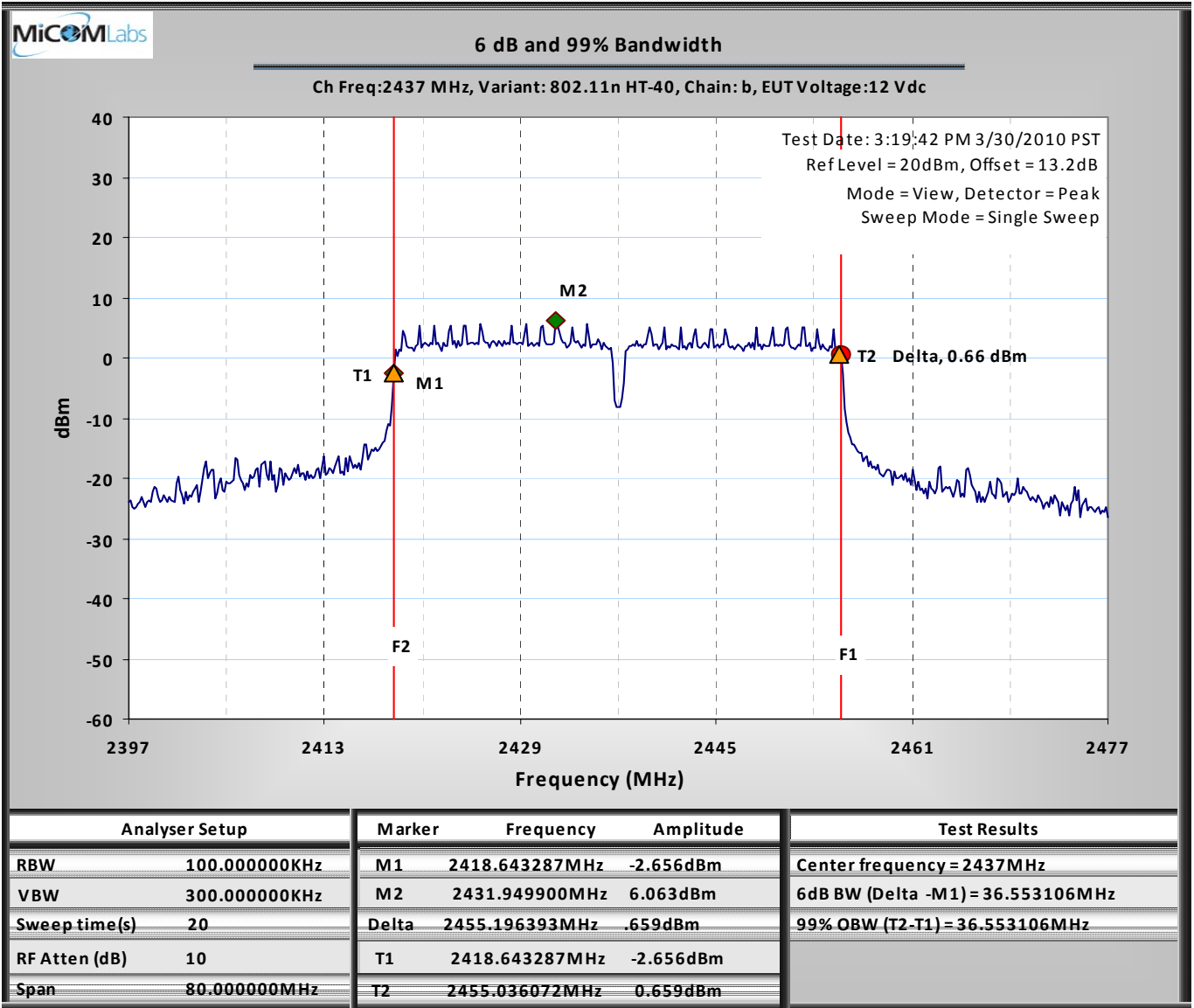
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 46 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



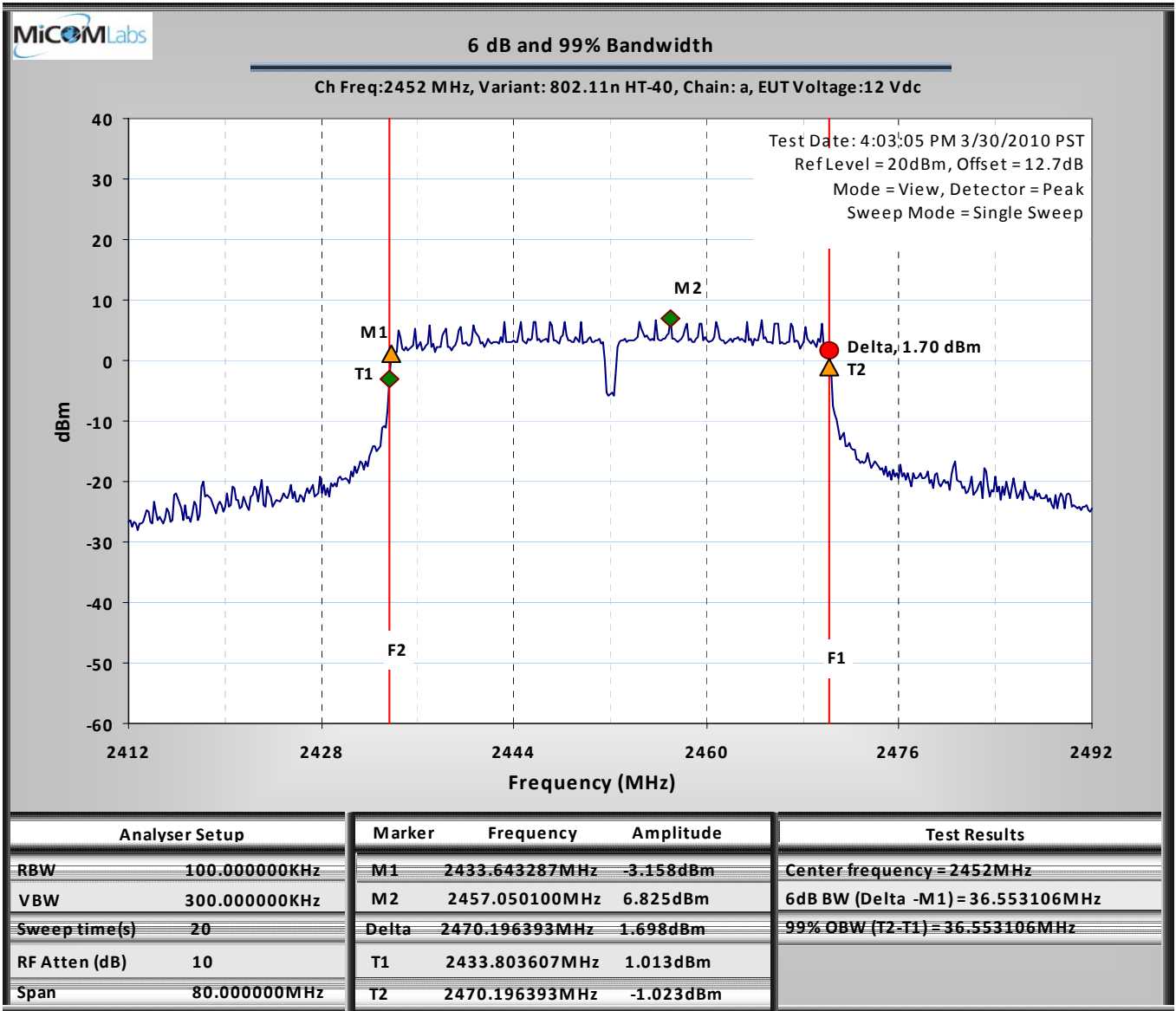
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 47 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



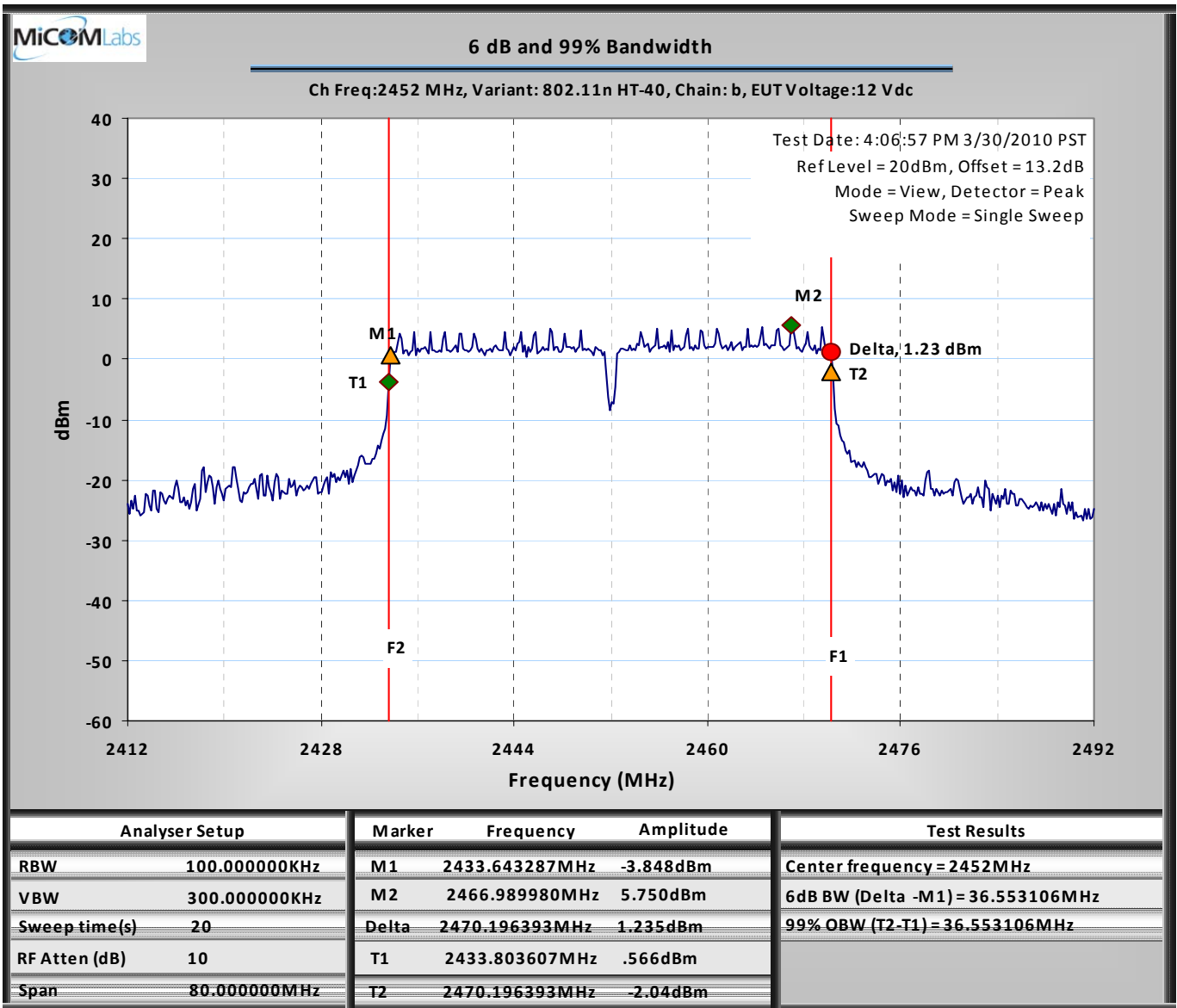
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 48 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 49 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 50 of 372

7.1.5 6 dB and 99% Bandwidth Results: 802.11a

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35	to	42
Variant:	802.11a	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain	N/A	dB	Antenna Gain:	6	dBi
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

6 dB Bandwidth

Test Frequency	6 dB Bandwidth				Minimum 6dB Bandwidth Limit		Margin
	MHz				kHz	MHz	
MHz	a	b	c	d			
5745	16.433000	16.433000			500	0.5	-15.933000
5785	16.433000	16.433000					-15.933000
5825	16.433000	16.433000					-15.933000

99% Bandwidth

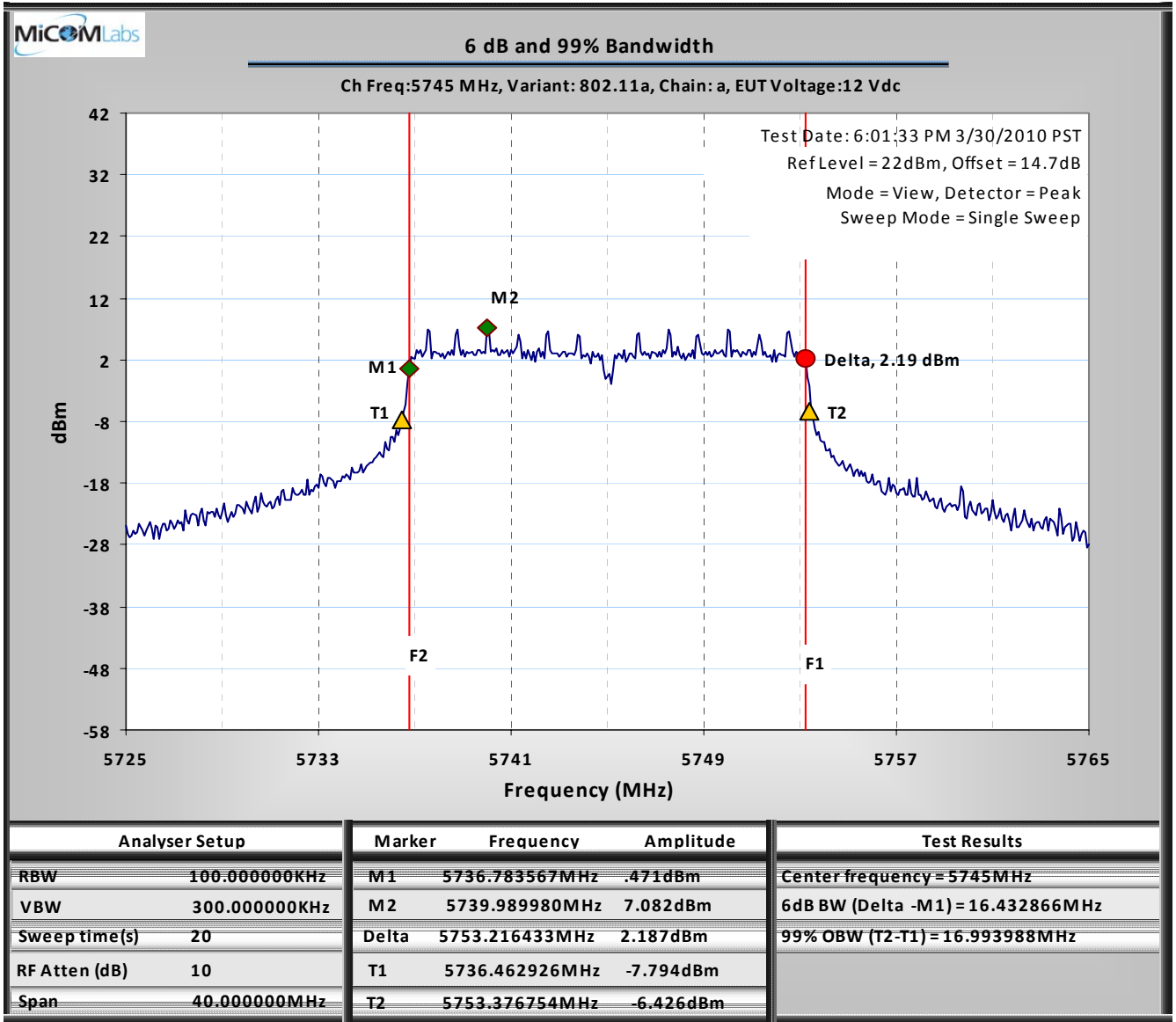
Test Frequency	99 % Bandwidth					
	MHz					
MHz	a	b	c	d		
5745	16.994000	17.796000				
5785	16.754000	16.754000				
5825	16.673000	16.673000				

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



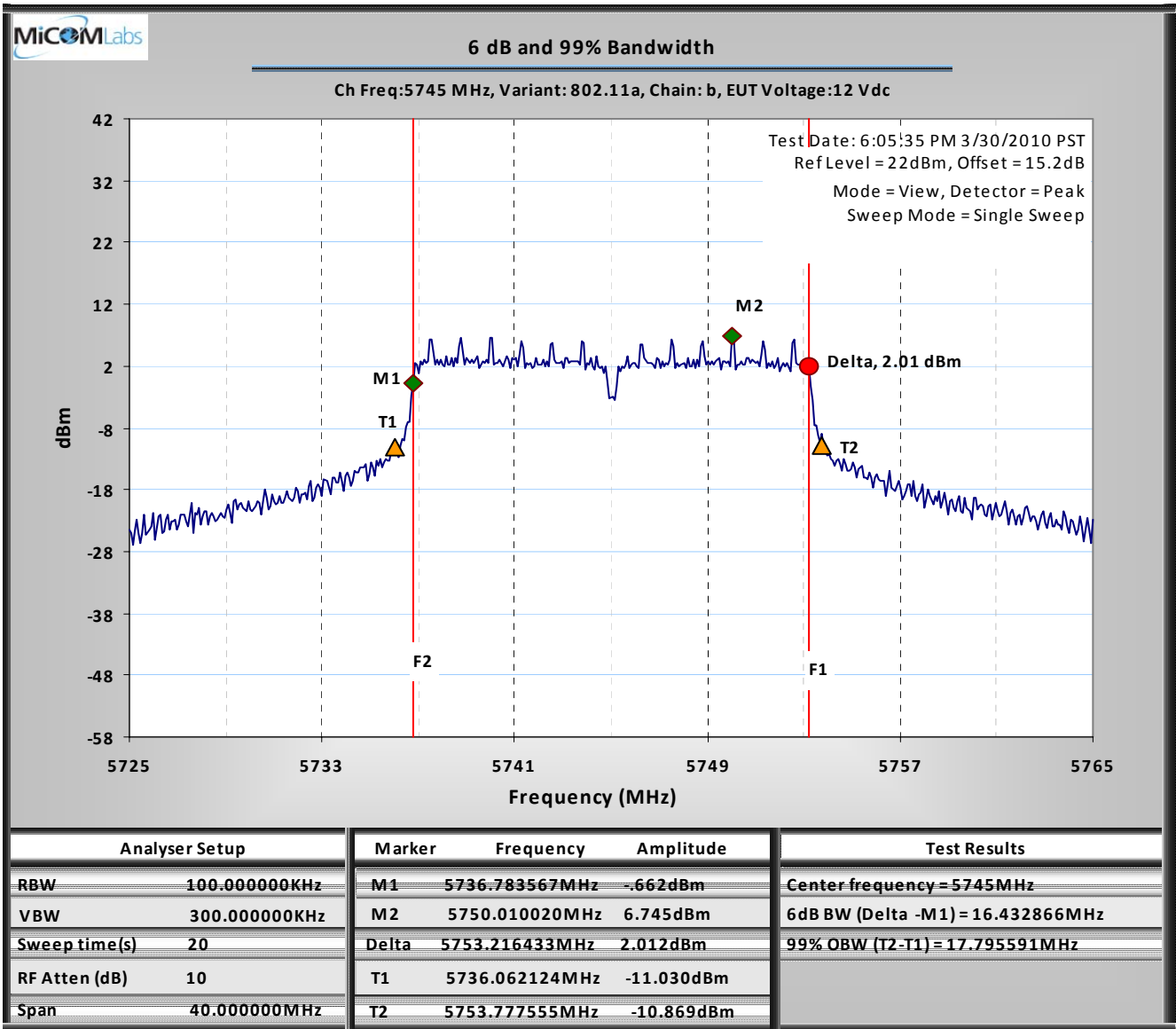
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 51 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



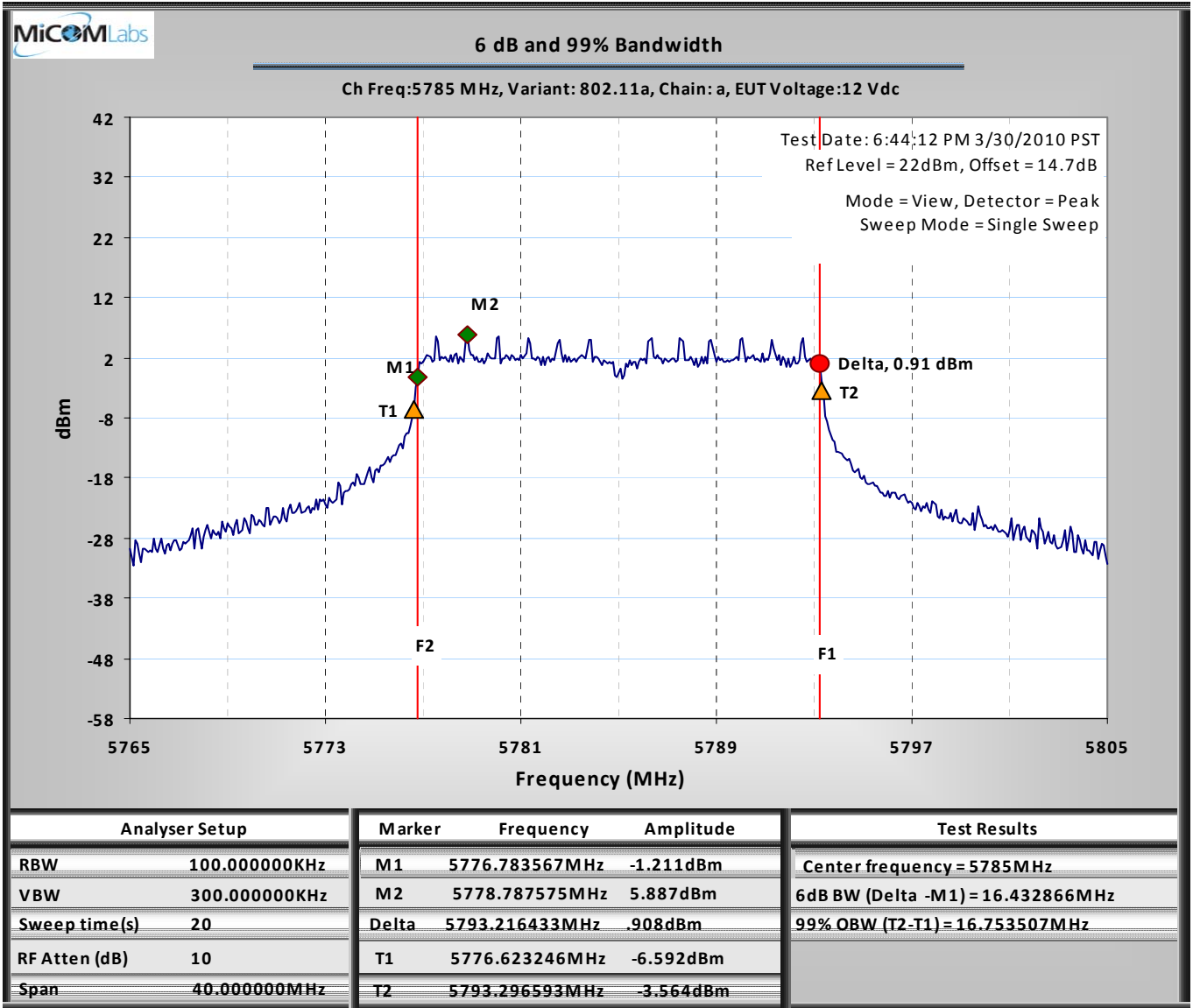
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 52 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



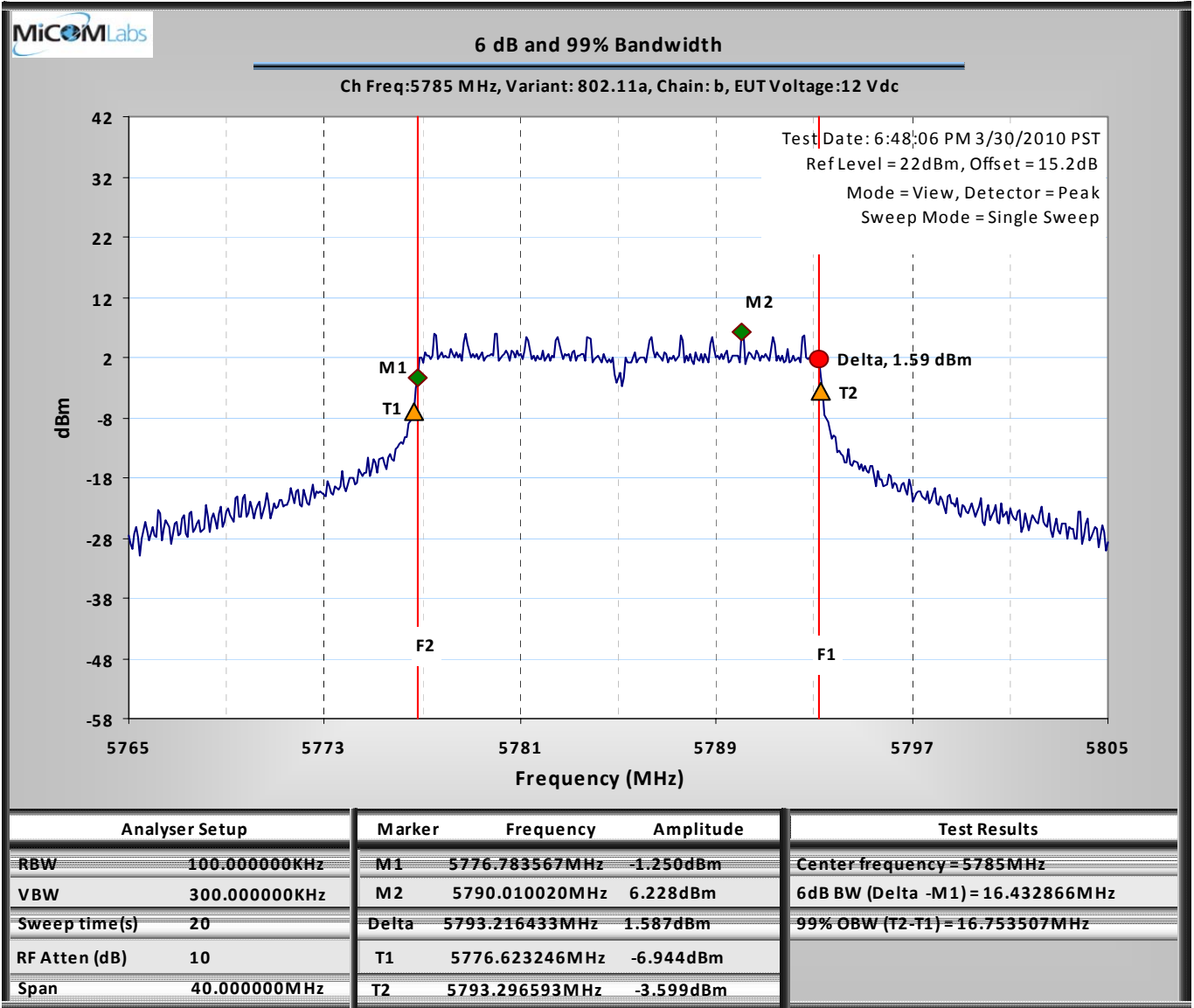
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 53 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



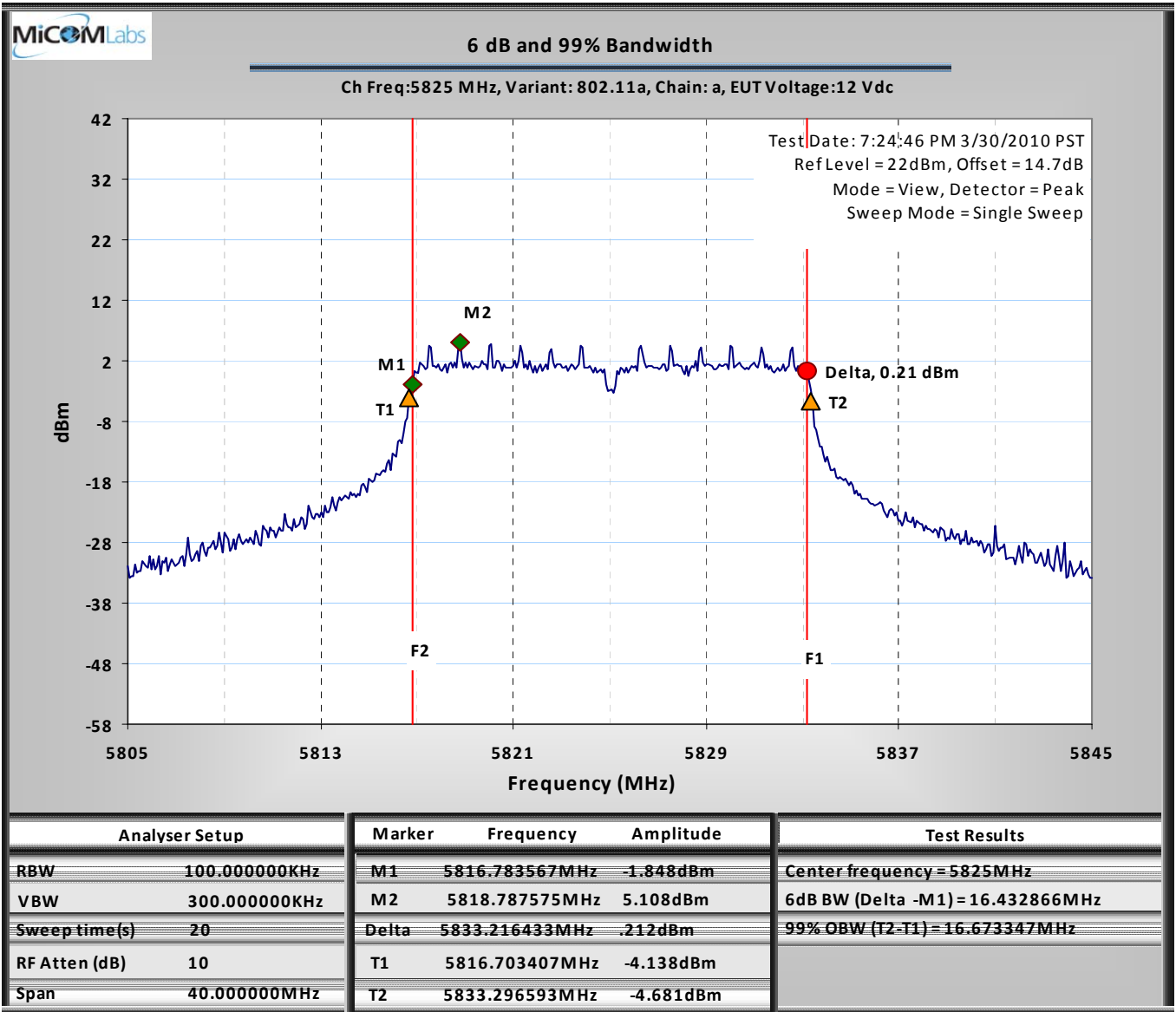
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 54 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



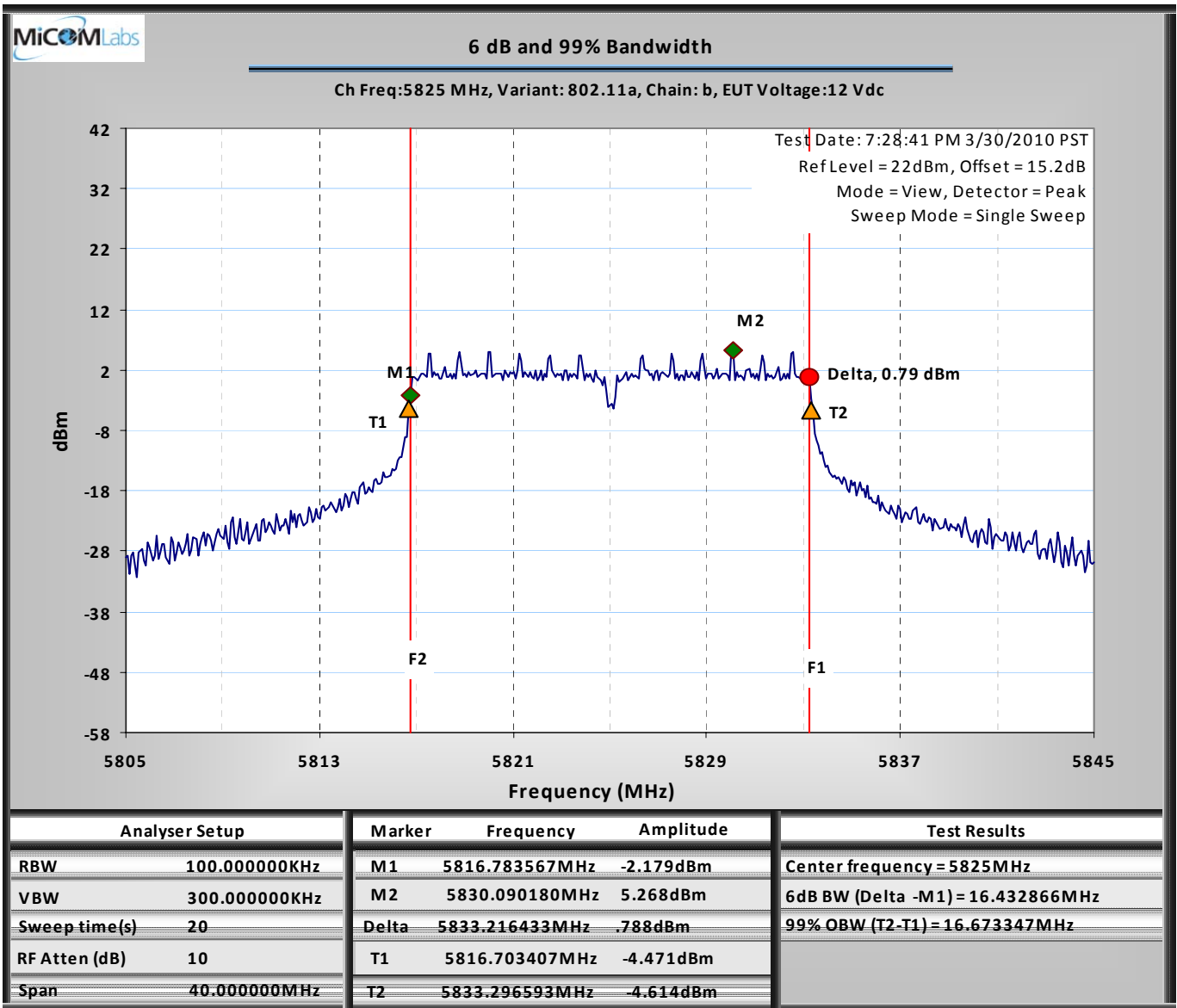
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 55 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 56 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 57 of 372

7.1.6 6 dB and 99% Bandwidth Results: 802.11n HT20

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain (Y):	N/A dB	Antenna Gain:	6 dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

6 dB Bandwidth

Test Frequency	6 dB Bandwidth				Minimum 6dB Bandwidth Limit		Margin
	MHz				kHz	MHz	MHz
MHz	a	b	c	d			
5745	17.715000	17.715000			500	0.5	-17.215000
5785	17.635000	17.715000					-17.135000
5825	17.635000	17.715000					-17.135000

99% Bandwidth

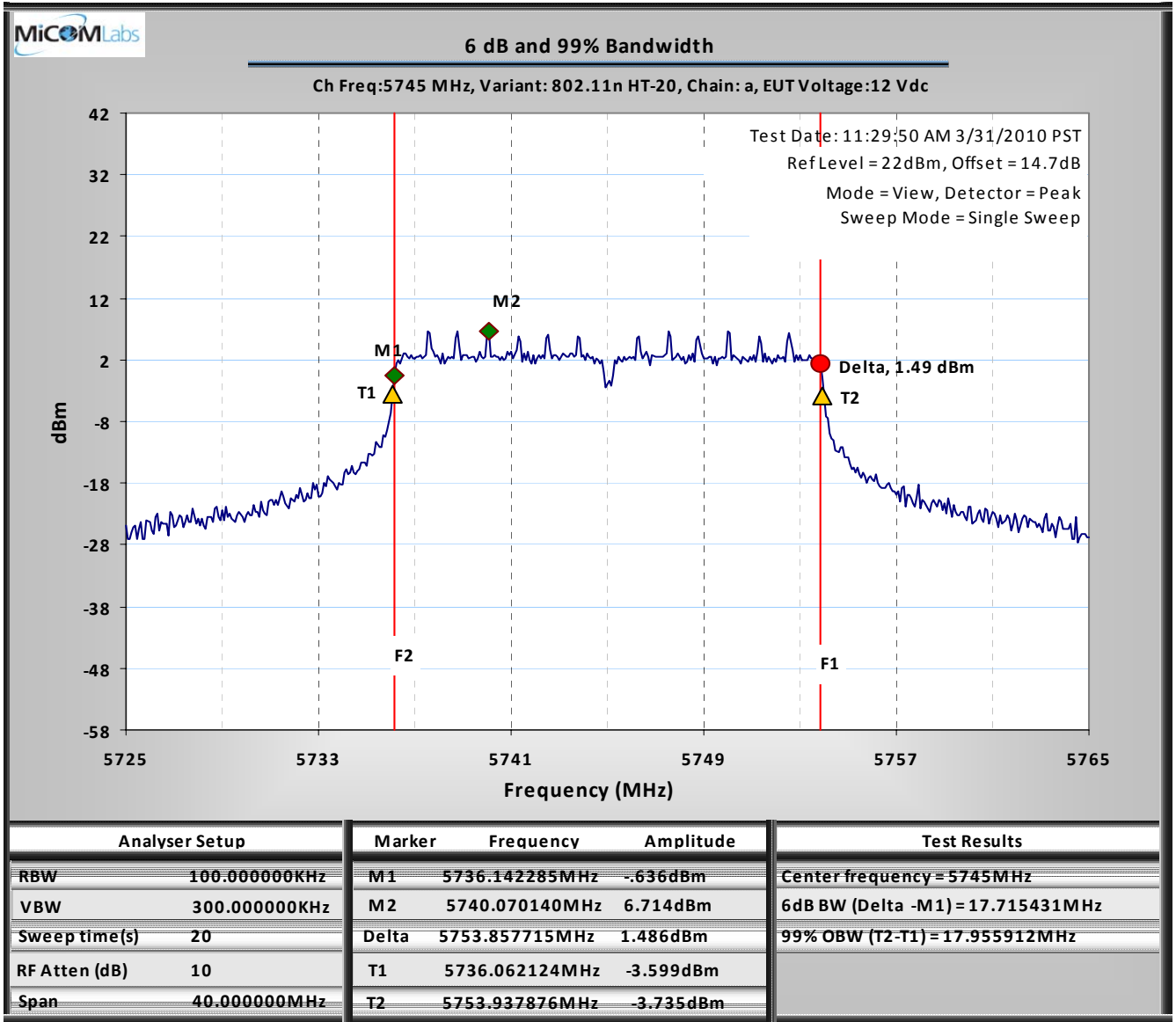
Test Frequency	99 % Bandwidth					
	MHz					
MHz	a	b	c	d		
5745	17.956000	18.357000				
5785	17.876000	17.956000				
5825	17.796000	17.956000				

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



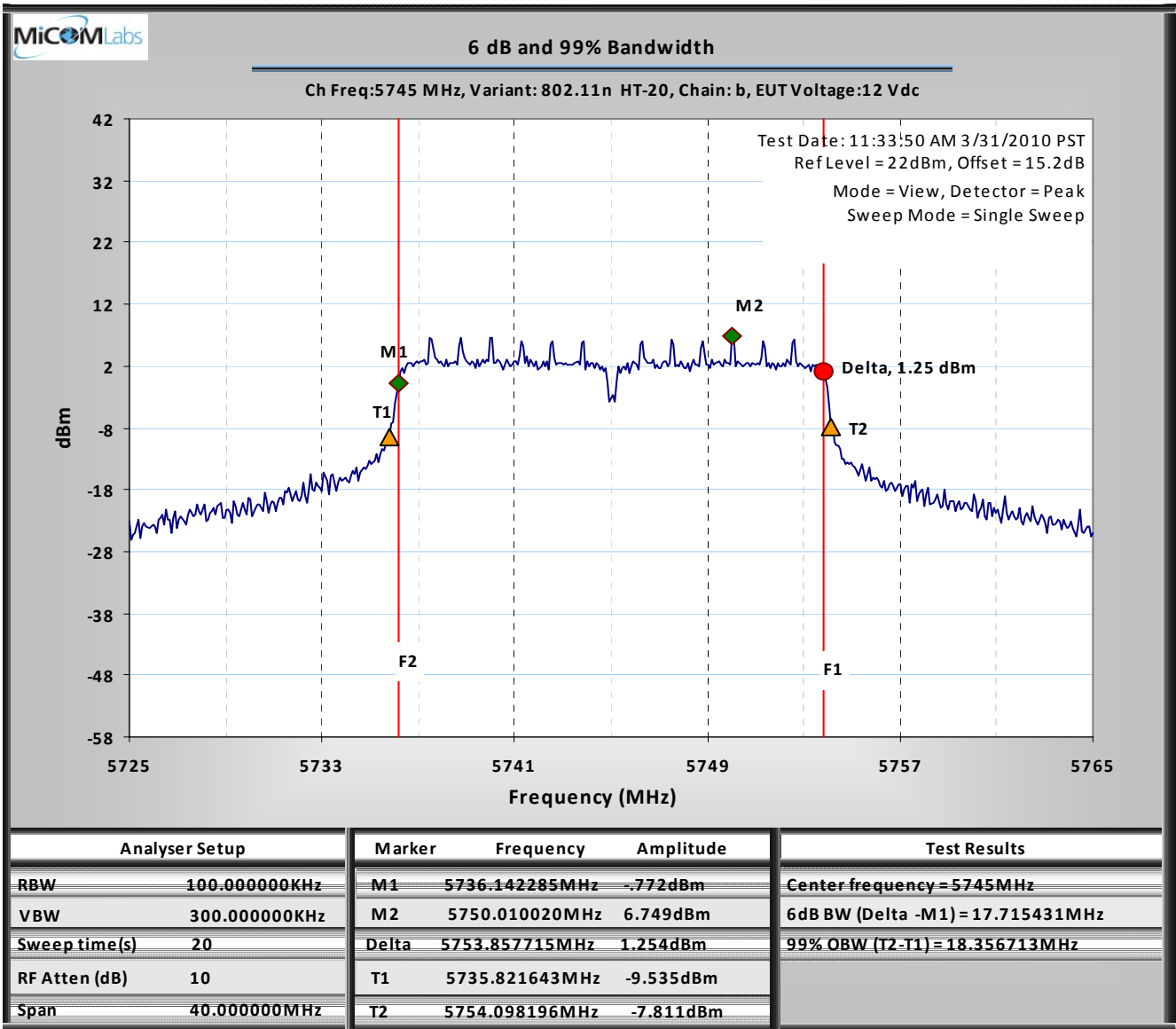
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 58 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



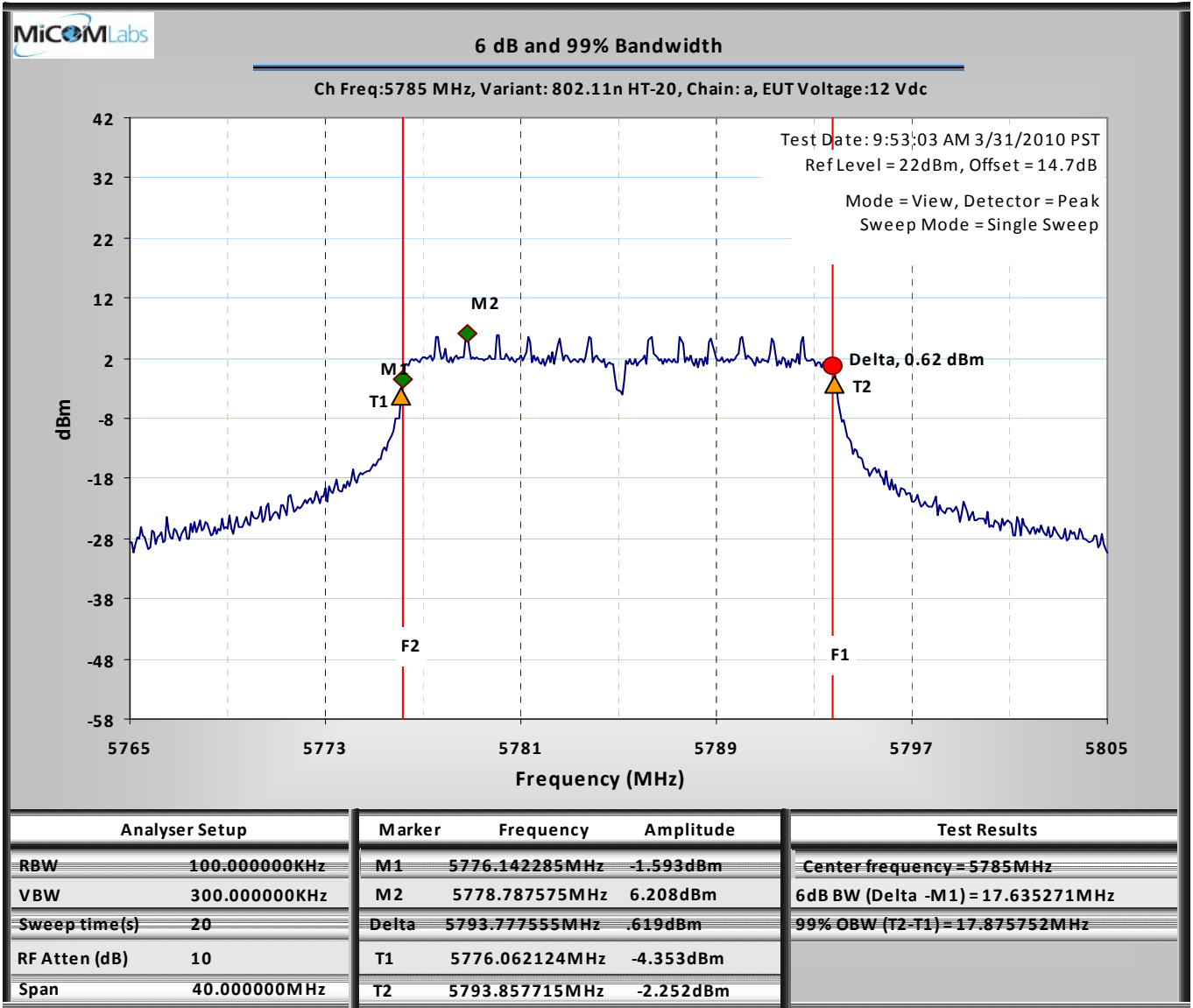
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 59 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



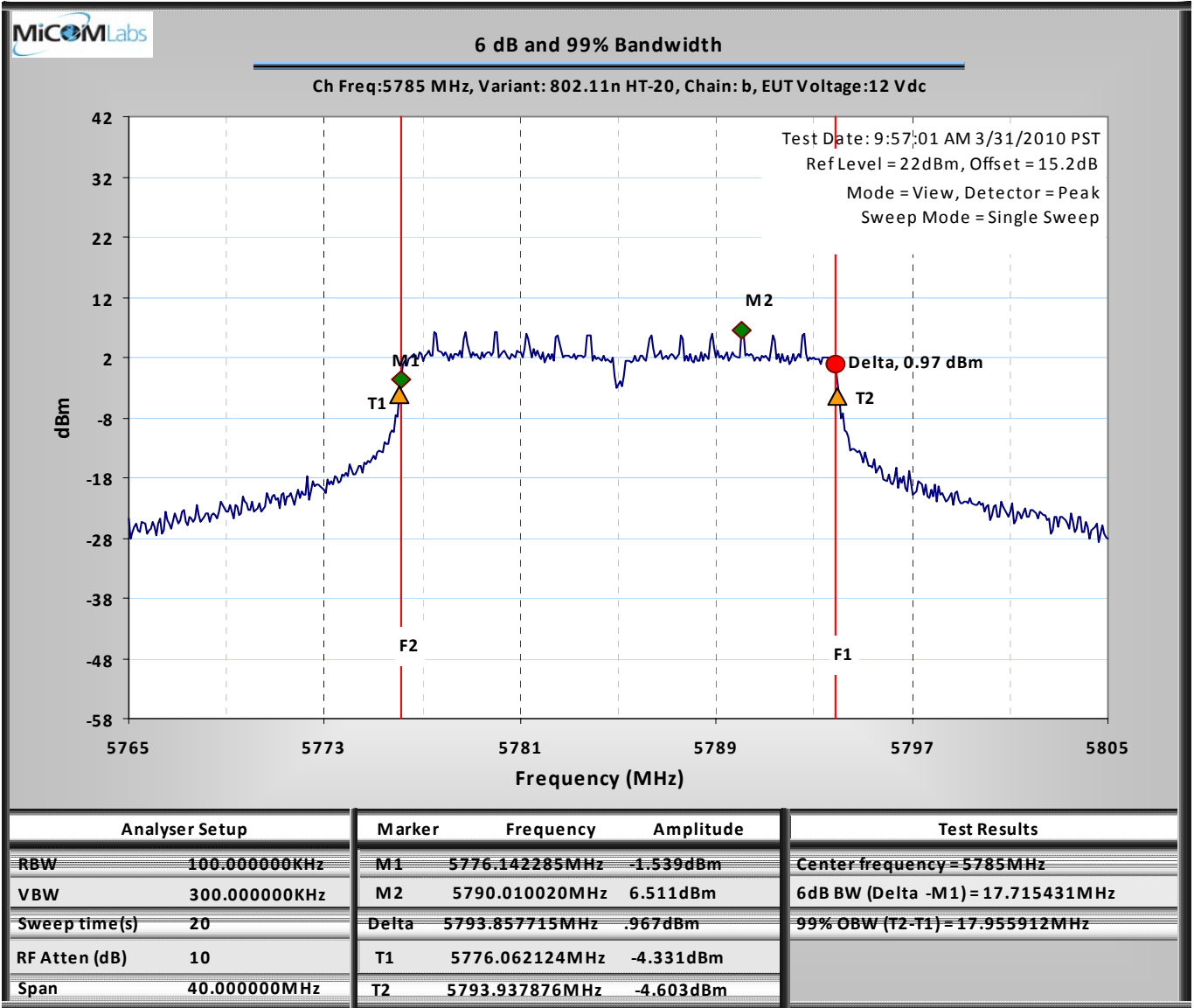
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 60 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



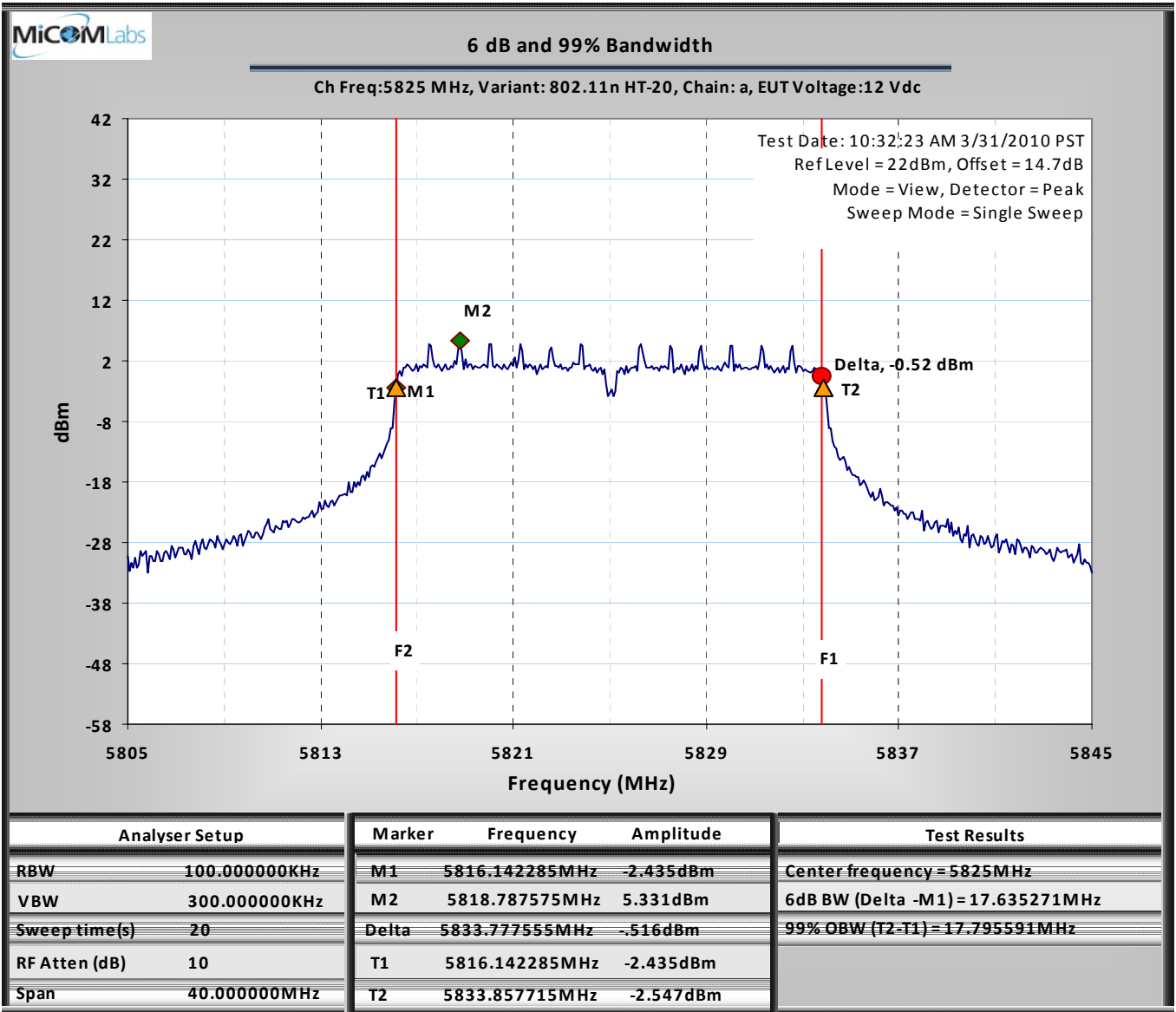
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 61 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



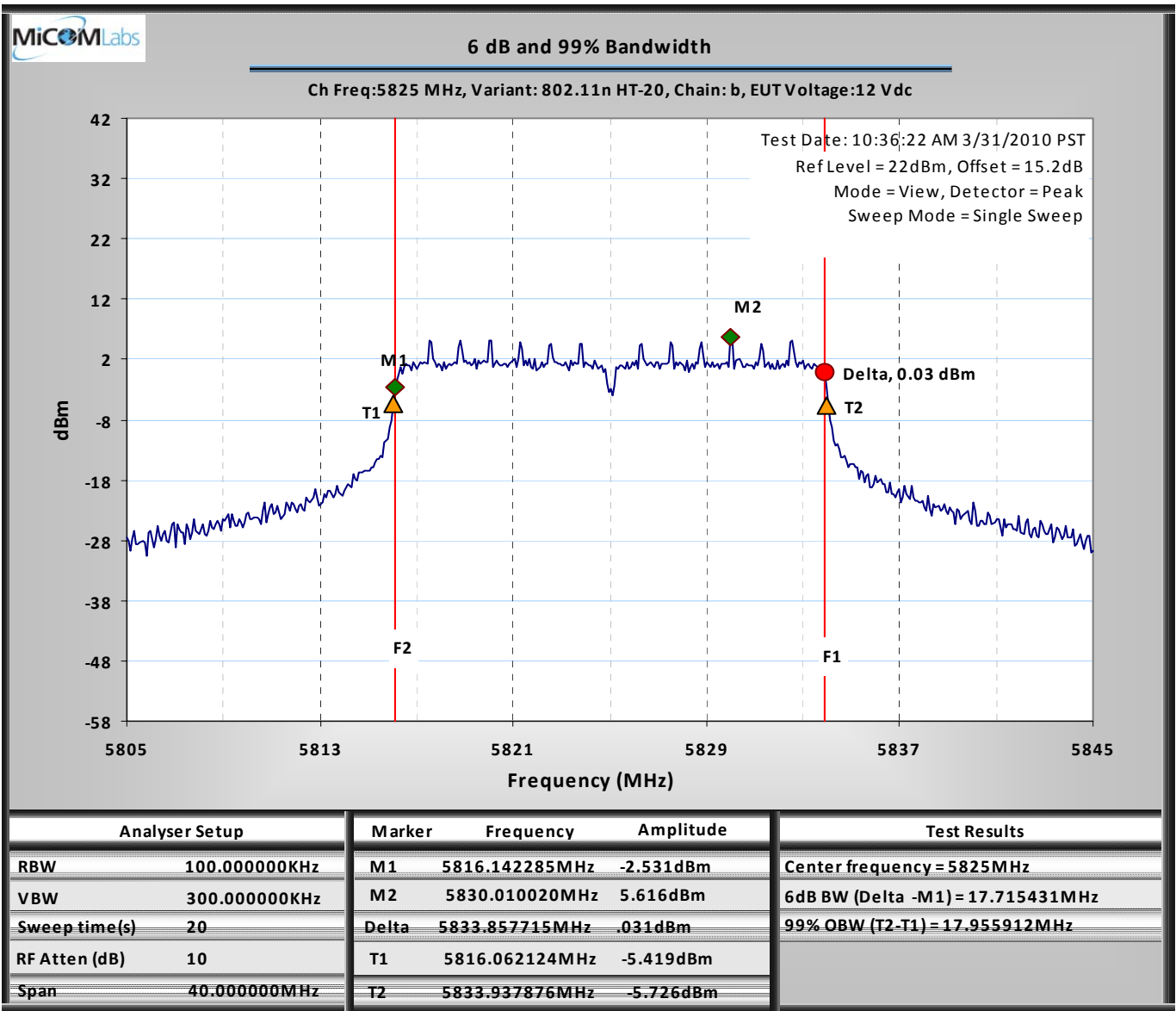
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 62 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 63 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 64 of 372

7.1.7 6 dB and 99% Bandwidth Results: 802.11n HT-40

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain	N/A dB	Antenna Gain:	6 dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

6 dB Bandwidth

Test Frequency	6 dB Bandwidth				Minimum 6dB Bandwidth Limit		Margin
	MHz				kHz	MHz	
MHz	a	b	c	d			MHz
5755	36.232000	36.393000			500	0.5	-35.732000
5785	36.393000	36.232000					-35.732000
5815	36.393000	36.393000					-35.893000

99% Bandwidth

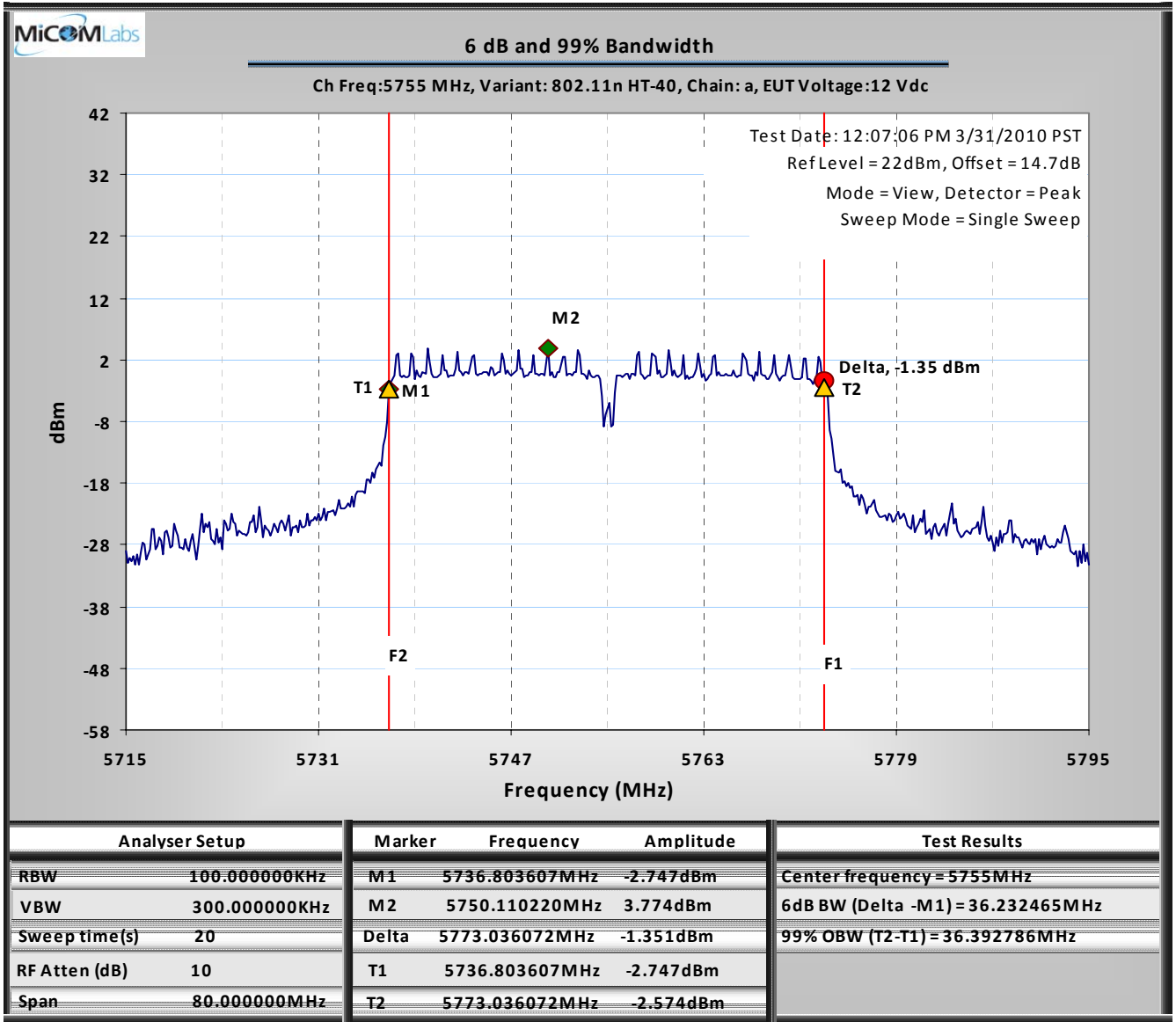
Test Frequency	99 % Bandwidth					
	MHz					
MHz	a	b	c	d		
5755	36.393000	36.553000				
5785	36.393000	36.393000				
5815	36.393000	36.393000				

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



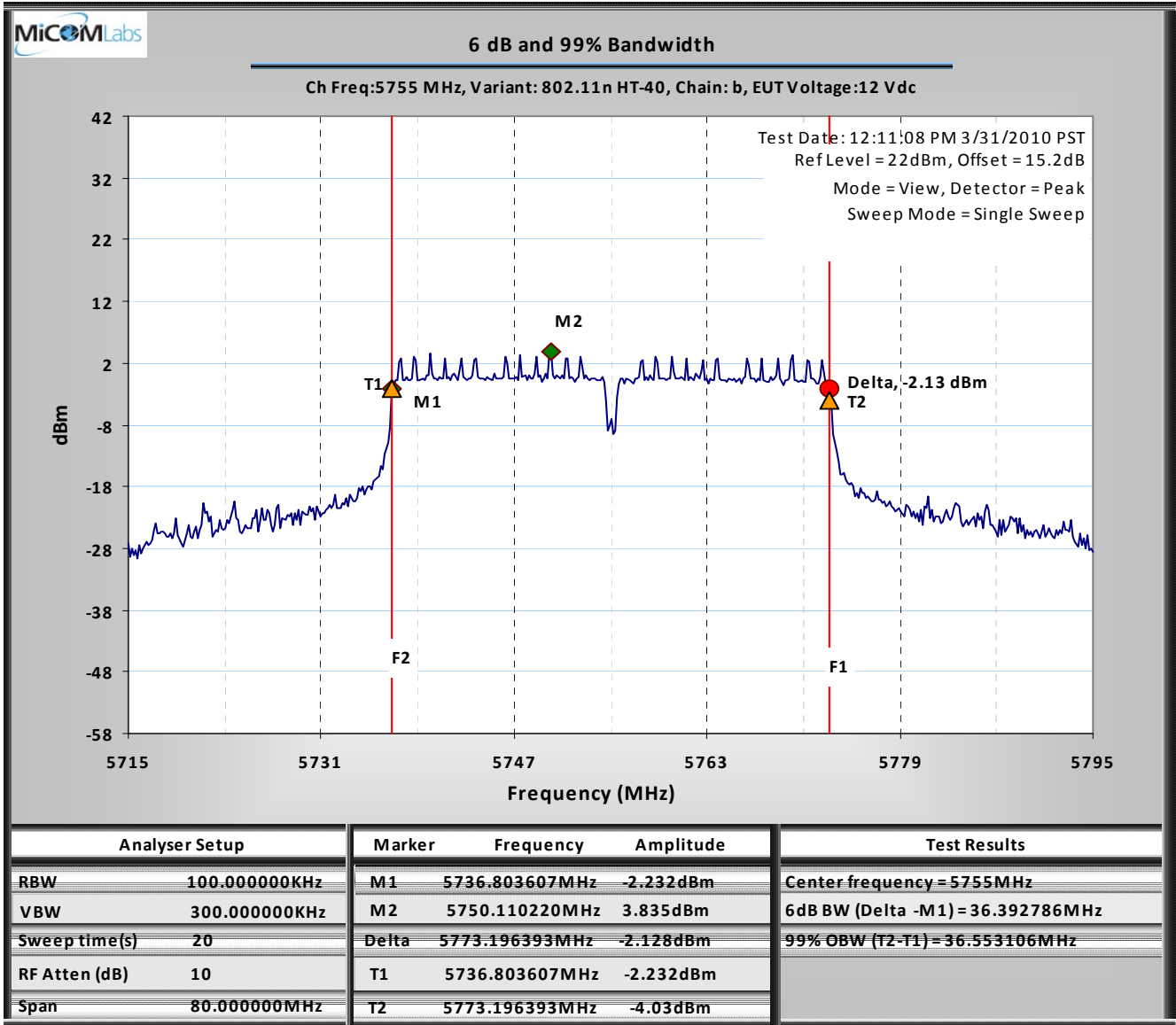
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 65 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



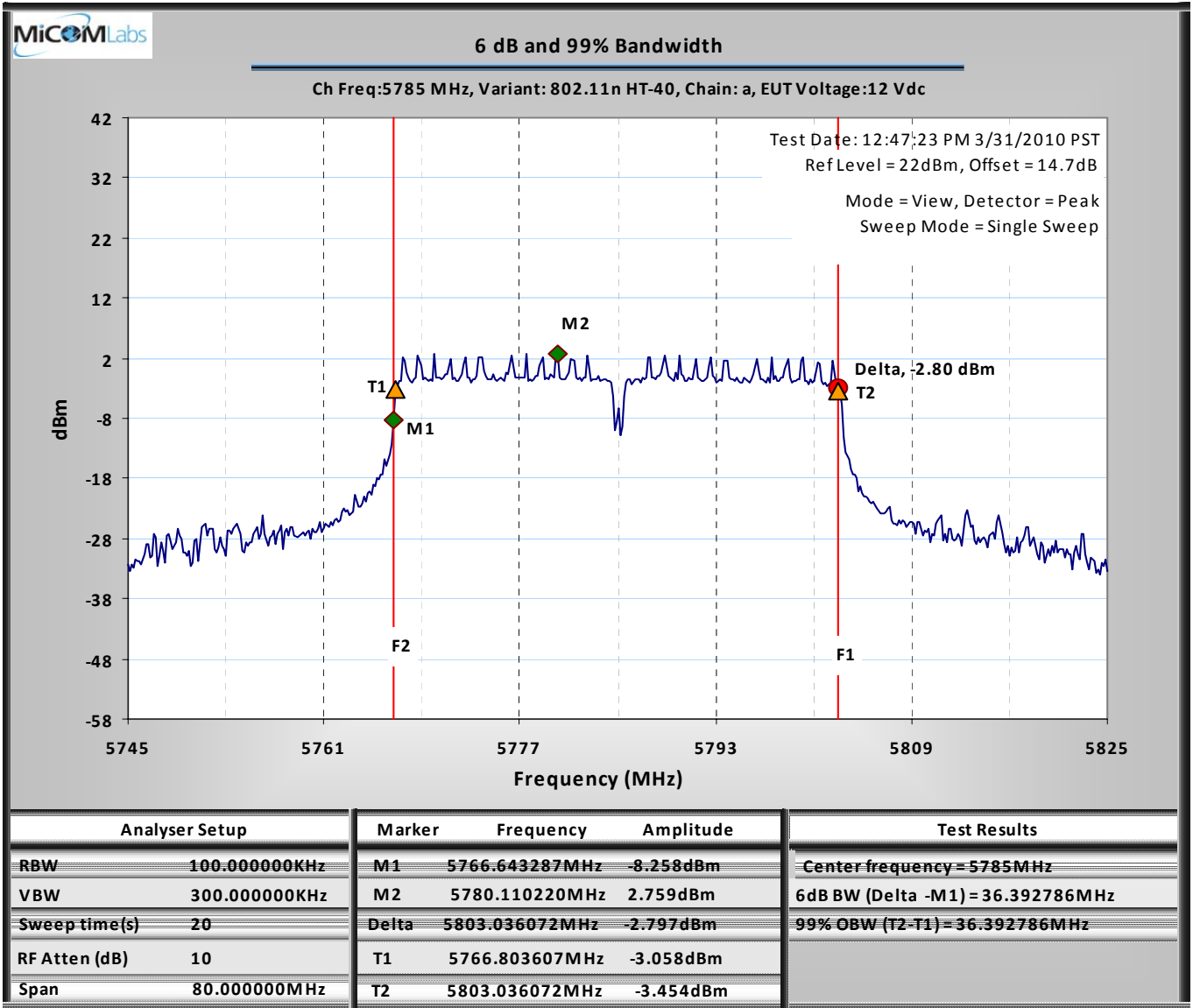
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 66 of 372



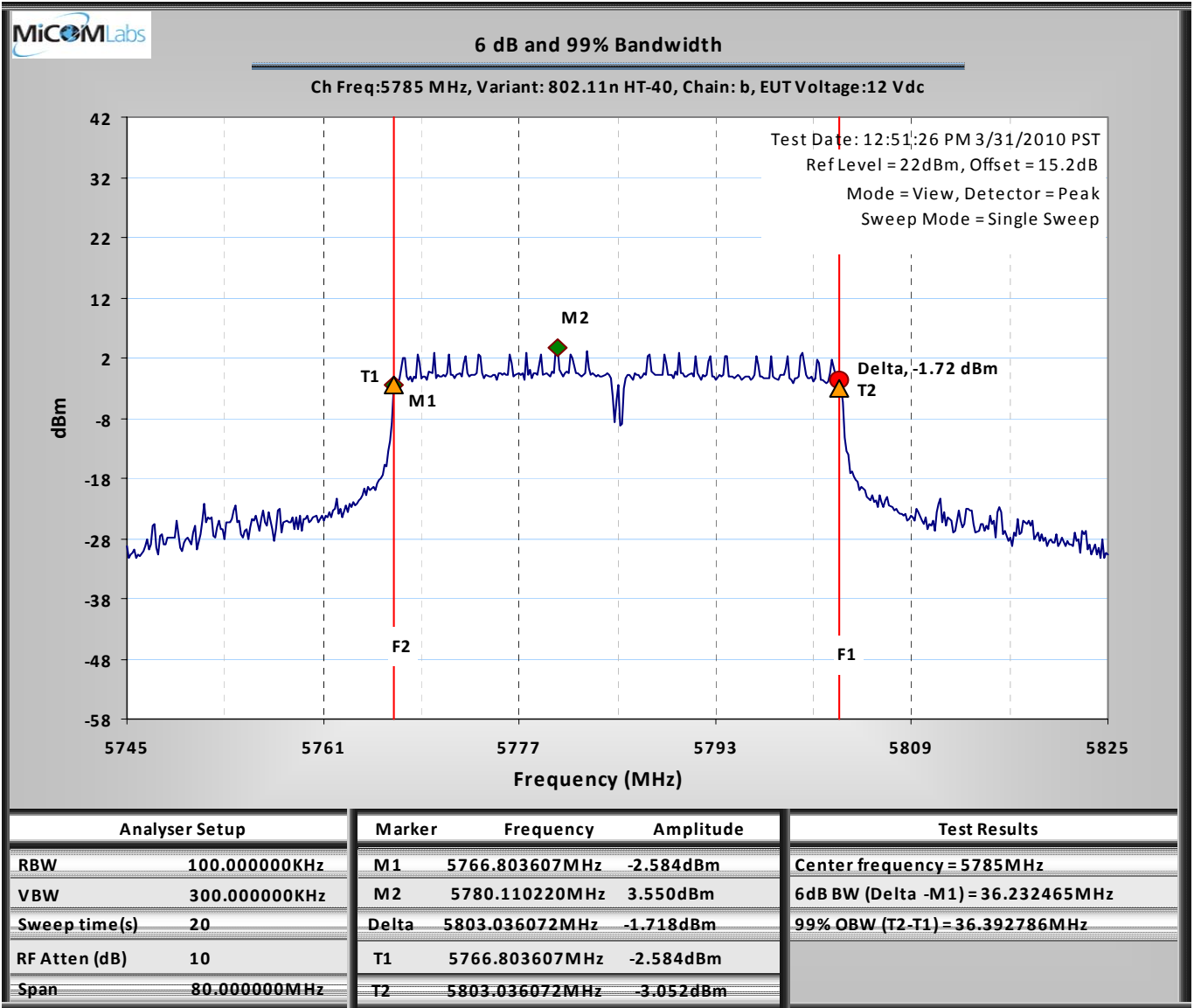
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 67 of 372



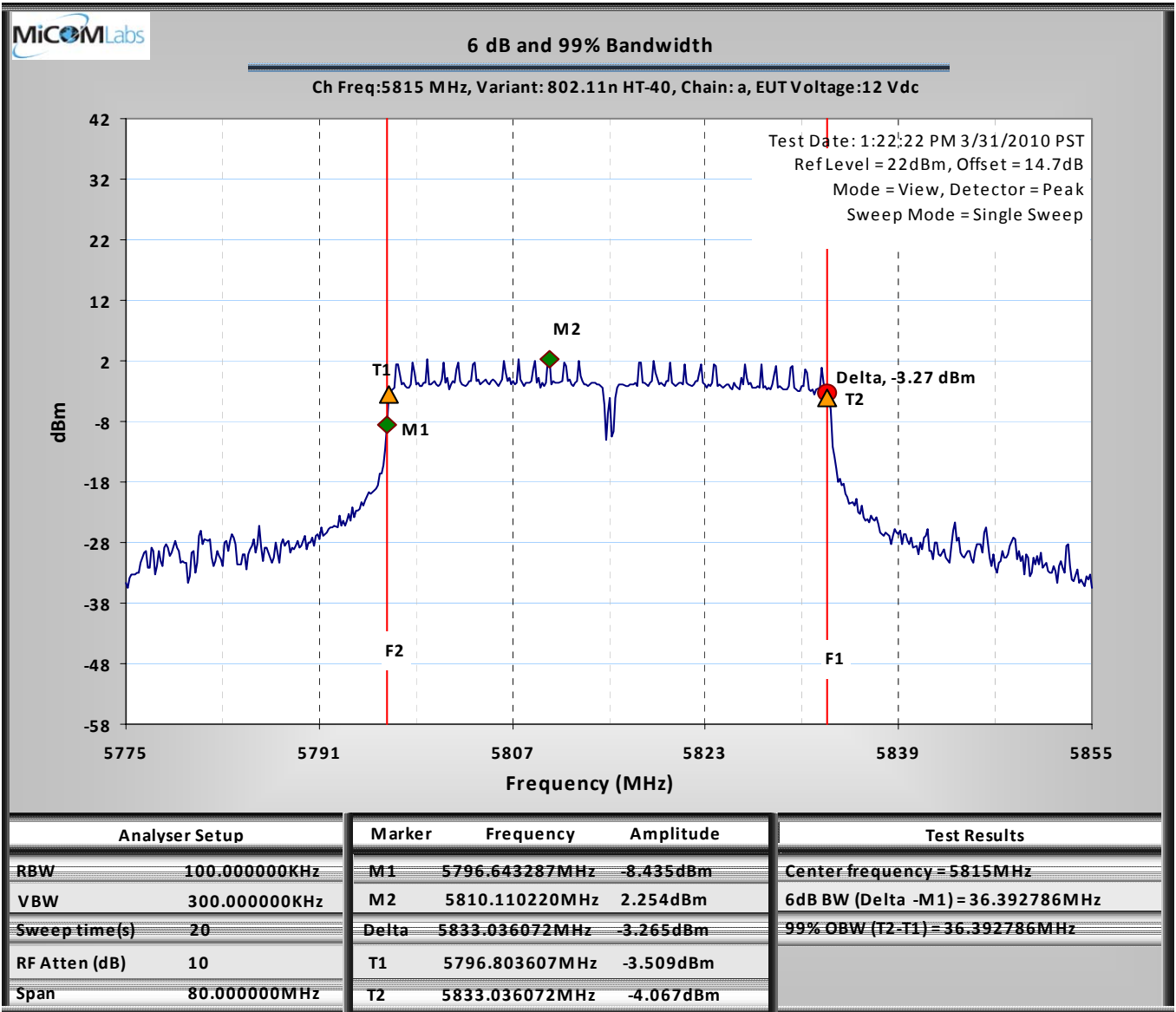
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



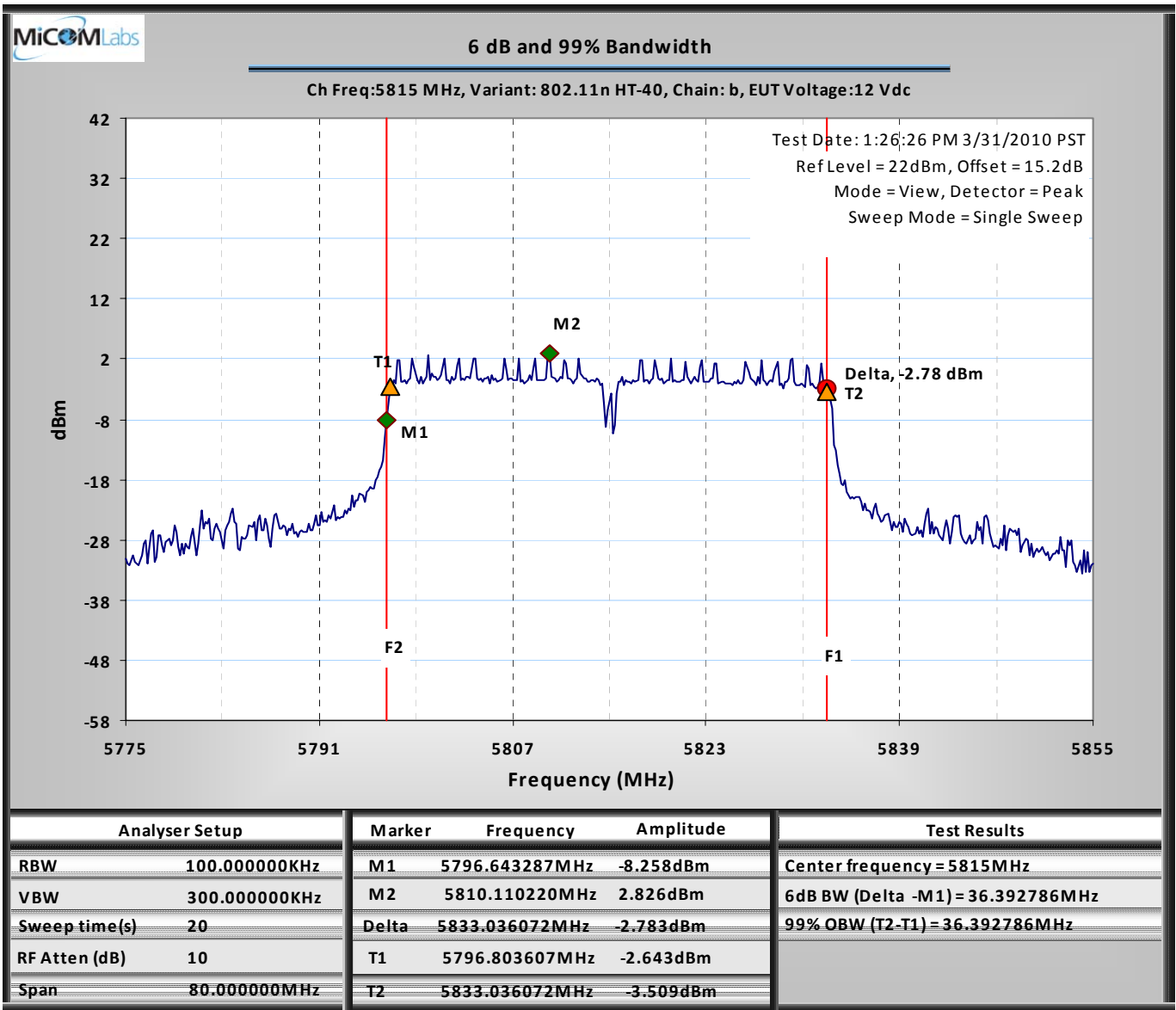
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 69 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 70 of 372



Analyser Setup		Marker	Frequency	Amplitude	Test Results
RBW	100.000000KHz	M1	5796.643287MHz	-8.258dBm	Center frequency = 5815MHz
VBW	300.000000KHz	M2	5810.110220MHz	2.826dBm	6dB BW (Delta -M1) = 36.392786MHz
Sweep time(s)	20	Delta	5833.036072MHz	-2.783dBm	99% OBW (T2-T1) = 36.392786MHz
RF Atten (dB)	10	T1	5796.803607MHz	-2.643dBm	
Span	80.000000MHz	T2	5833.036072MHz	-3.509dBm	

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.

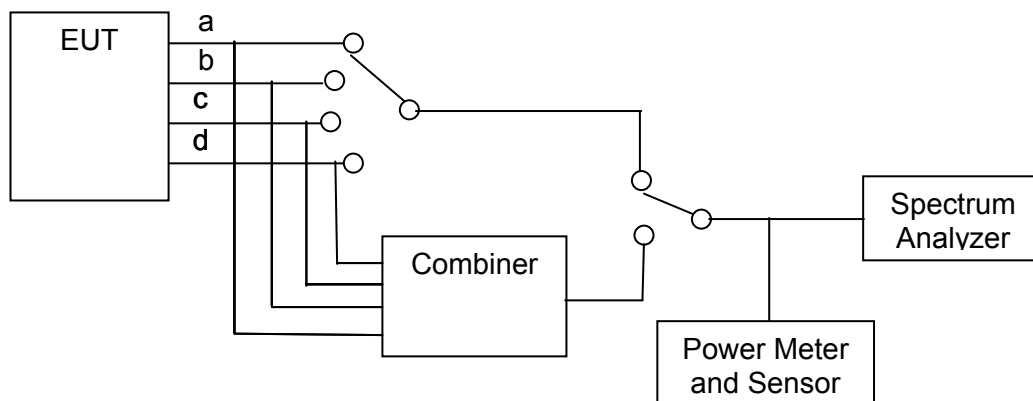
7.2 Peak Output Power

Test Procedure

The test methodology and conditions utilized for each measurement is referenced in the test results matrix. The average output power was measured per the test configuration identified below.

Per the standard measurements were taken at ambient conditions, nominal voltage.

Test Configuration



Measurement set-up for Peak Output Power

$$\text{Total Power} = A + G + Y + 10 \log (1/x) \text{ dBm}$$

A = Total Power [$10 \text{ Log}_{10} (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$], G = Antenna Gain,
Y = Beam Forming Gain, x = Duty Cycle



Specification

Limits

§15.247 (b) The maximum peak output power of the intentional radiator shall not exceed the following:

§15.247 (b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands: 1.0 watt.

15.247 (b) (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

15.247 (c) Operation with directional antenna gains greater than 6 dBi.

(1) Fixed point-to-point operation:

(i) Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

(ii) Systems operating in the 5725–5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted output power.

§15.31 (e) For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-01 'Measuring RF Output Power'	0158, 0252, 0313, 0314, 0223, 0116, 0117, 0287, 0363

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 73 of 372

7.2.1 Measurement Results for 802.11b

Test Conditions:	15.247 (b)	Rel. Humidity (%):	35	to	42
Variant:	802.11b	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain (Y):	N/A dB	Antenna Gain:	6		dBi
Applied Voltage:	12.0 Vdc				
Notes 1:					
Notes 2:					

Test Frequency	Measured Peak Power				Total Power (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d			dBm	dB
2412	19.30	21.52	--	--	22.42	23.56	30.00	-7.58
2437	21.36	19.32	--	--	22.08	23.47	30.00	-7.92
2462	19.86	20.11	--	--	22.40	23.00	30.00	-7.60

Measurement uncertainty:	±1.33 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 74 of 372

7.2.2 Measurement Results for 802.11g

Test Conditions:	15.247 (b)	Rel. Humidity (%):	35 to 42
Variant:	802.11g	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain (Y):	N/A dB	Antenna Gain:	6 dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

Test Frequency	Measured Peak Power				Total Power (dBm)		Limit	Margin
	RF Port (dBm)							
MHz	a	b	c	d	Combined	Calculated	dBm	dB
2412	19.52	21.31	--	--	24.01	23.52	30.00	-5.99
2437	21.23	19.62	--	--	21.95	23.51	30.00	-8.05
2462	20.37	20.58	--	--	22.56	23.49	30.00	-7.44

Measurement uncertainty:	±1.33 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 75 of 372

7.2.3 Measurement Results for 802.11n HT-20

Test Conditions:	15.247 (b)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain (Y):	N/A dB	Antenna Gain:	6	dBi	
Applied Voltage:	12.0 Vdc				
Notes 1:					
Notes 2:					

Test Frequency	Measured Peak Power				Total Power (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculate d		
MHz	a	b	c	d				
2412	19.63	21.36	--	--	23.95	23.59	30.00	-6.05
2437	21.17	19.60	--	--	21.91	23.47	30.00	-8.09
2462	20.46	20.57	--	--	22.46	23.53	30.00	-7.54

Measurement uncertainty:	±1.33 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 76 of 372

7.2.4 Measurement Results for 802.11n HT-40

Test Conditions:	15.247 (b)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain	N/A dB	Antenna Gain:	6		dBi
Applied Voltage:	12.0 Vdc				
Notes 1:					
Notes 2:					

Test Frequency	Measured Peak Power				Total Power (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
2422	19.89	20.59	--	--	23.03	23.26	30.00	-6.97
2437	20.79	20.08	--	--	22.41	23.46	30.00	-7.59
2452	20.90	19.70	--	--	22.00	23.35	30.00	-8.00

Measurement uncertainty:	±1.33 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 77 of 372

7.2.5 Measurement Results for 802.11a

Test Conditions:	15.247 (b)	Rel. Humidity (%):	35	to	42
Variant:	802.11a	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain (Y):	N/A dB	Antenna Gain:	6		dBi
Applied Voltage:	12.0 Vdc				
Notes 1:					
Notes 2:					

Test Frequency	Measured Peak Power				Total Power (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
5745	16.61	16.78	--	--	19.13	19.71	30.00	-10.87
5785	16.30	16.82	--	--	19.50	19.58	30.00	-10.50
5825	15.67	15.96	--	--	18.61	18.83	30.00	-11.39

Measurement uncertainty:	±1.33 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 78 of 372

7.2.6 Measurement Results for 802.11n HT-20

Test Conditions:	15.247 (b)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain	N/A dB	Antenna Gain:	6		dBi
Applied Voltage:	12.0 Vdc				
Notes 1:					
Notes 2:					

Test Frequency	Measured Peak Power				Total Power (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
5745	16.84	16.97	--	--	19.15	19.92	30.00	-10.85
5785	16.49	16.97	--	--	19.49	19.75	30.00	-10.51
5825	15.84	16.10	--	--	18.82	18.98	30.00	-11.18

Measurement uncertainty:	±1.33 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 79 of 372

7.2.7 Measurement Results for 802.11n HT-40

Test Conditions:	15.247 (b)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming Gain	N/A dB	Antenna Gain:	6		dBi
Applied Voltage:	12.0 Vdc				
Notes 1:					
Notes 2:					

Test Frequency	Measured Peak Power				Total Power (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
5755	16.39	16.61	--	--	19.11	19.51	30.00	-10.89
5785	16.10	16.59	--	--	19.28	19.36	30.00	-10.72
5815	15.61	15.93	--	--	18.55	18.78	30.00	-11.45

Measurement uncertainty:	±1.33 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.

7.3 Peak Power Spectral Density

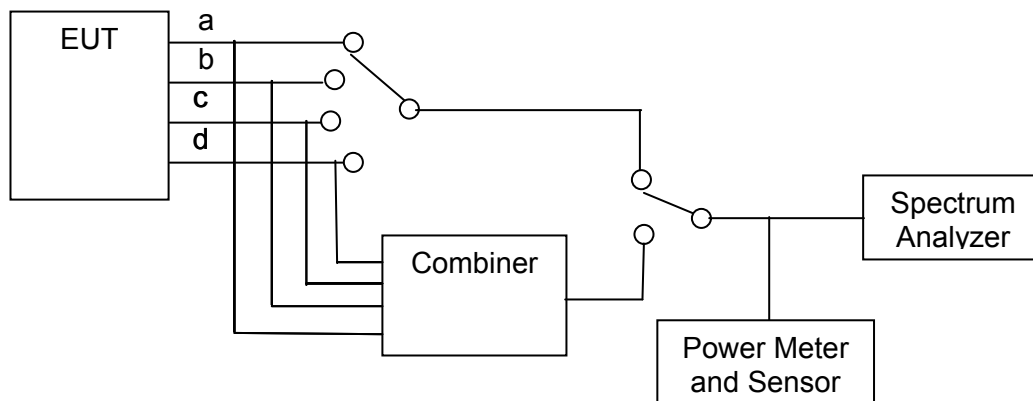
Test Procedure

The test methodology and conditions utilized for each measurement is referenced in the following test results matrix. RF output power, transmit power control and power density were measured per the Test Configuration identified below.

Testing was performed on the highest and lowest power settings of the equipment.

Per the standard measurements were taken at ambient and extreme temperature conditions at nominal and extreme voltage levels.

Test Configuration



Measurement set-up for Peak Power Spectral Density

Specification

Peak Power Spectral Density Limits

§15.247 (e) For digitally modulated systems, the 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

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-01 'Measuring RF Output Power'	0158, 0252, 0313, 0314, 0223, 0116, 0117, 0287, 0363

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 81 of 372

7.3.1 Measurement results for 802.11b

Test Conditions:	15.247 (e)	Rel. Humidity (%):	35	to	42
Variant:	802.11b	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming	N/A	Antenna Gain:	6		dBi
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

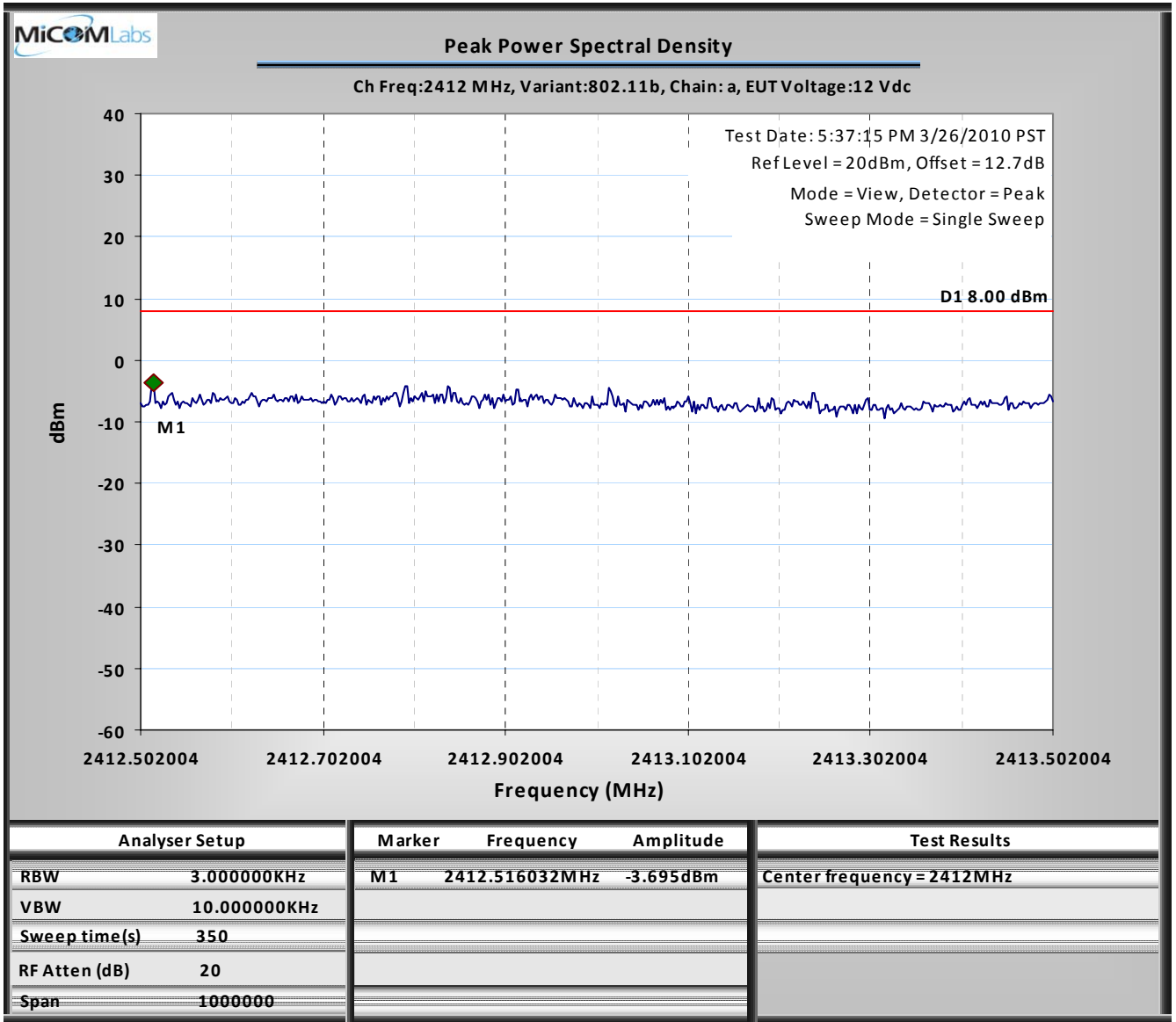
Test Frequency	Measured Power Density				Total Peak Power Spectral Density (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d			dBm	dB
2412	-3.70	-1.26	--	--	3.17	0.70	8.00	-4.84
2437	-1.38	-3.59	--	--	1.62	0.67	8.00	-6.38
2462	-2.93	-2.62	--	--	2.23	0.24	8.00	-5.77

Measurement uncertainty:	± 1.33 dB
---------------------------------	---------------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



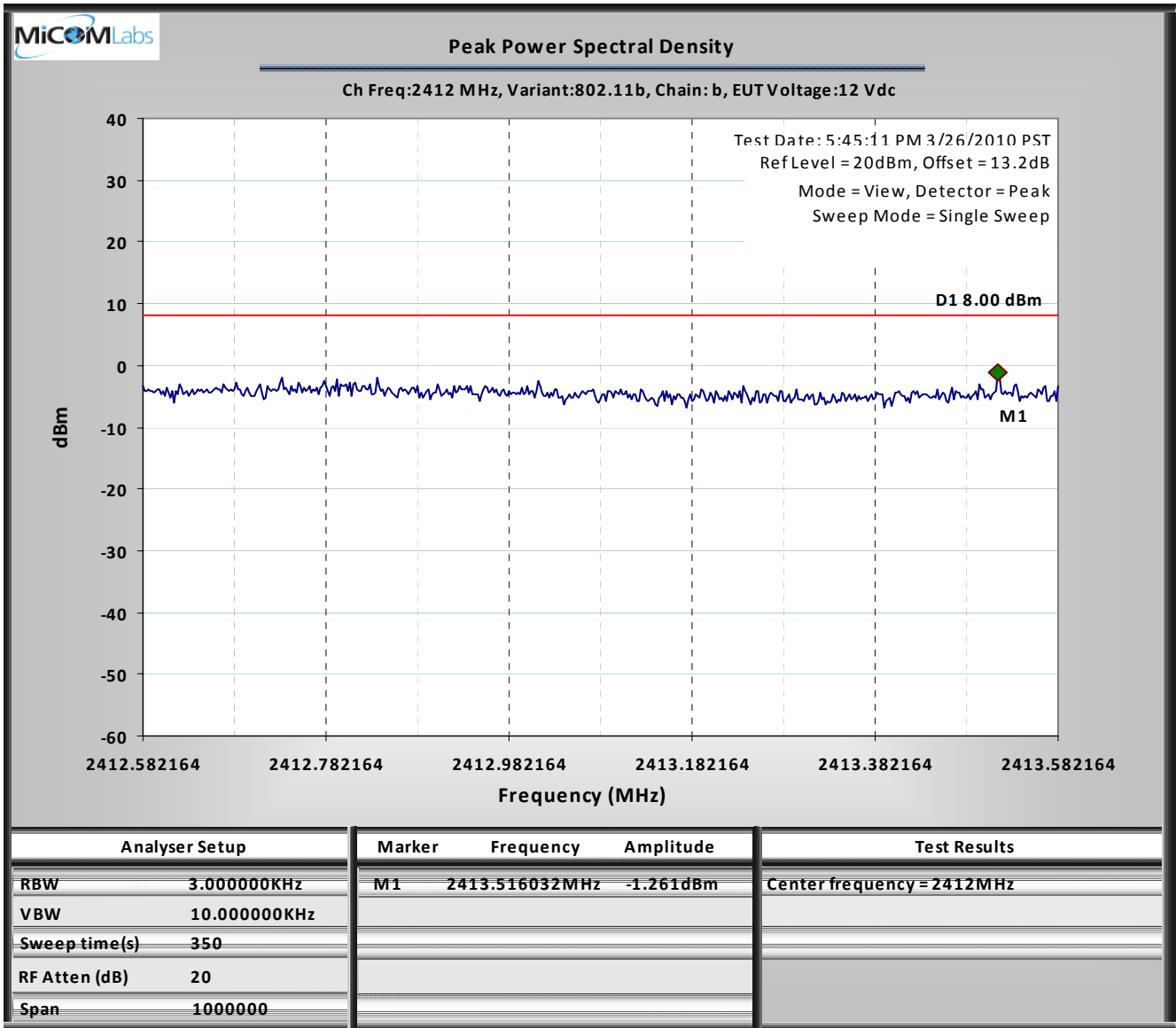
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 82 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



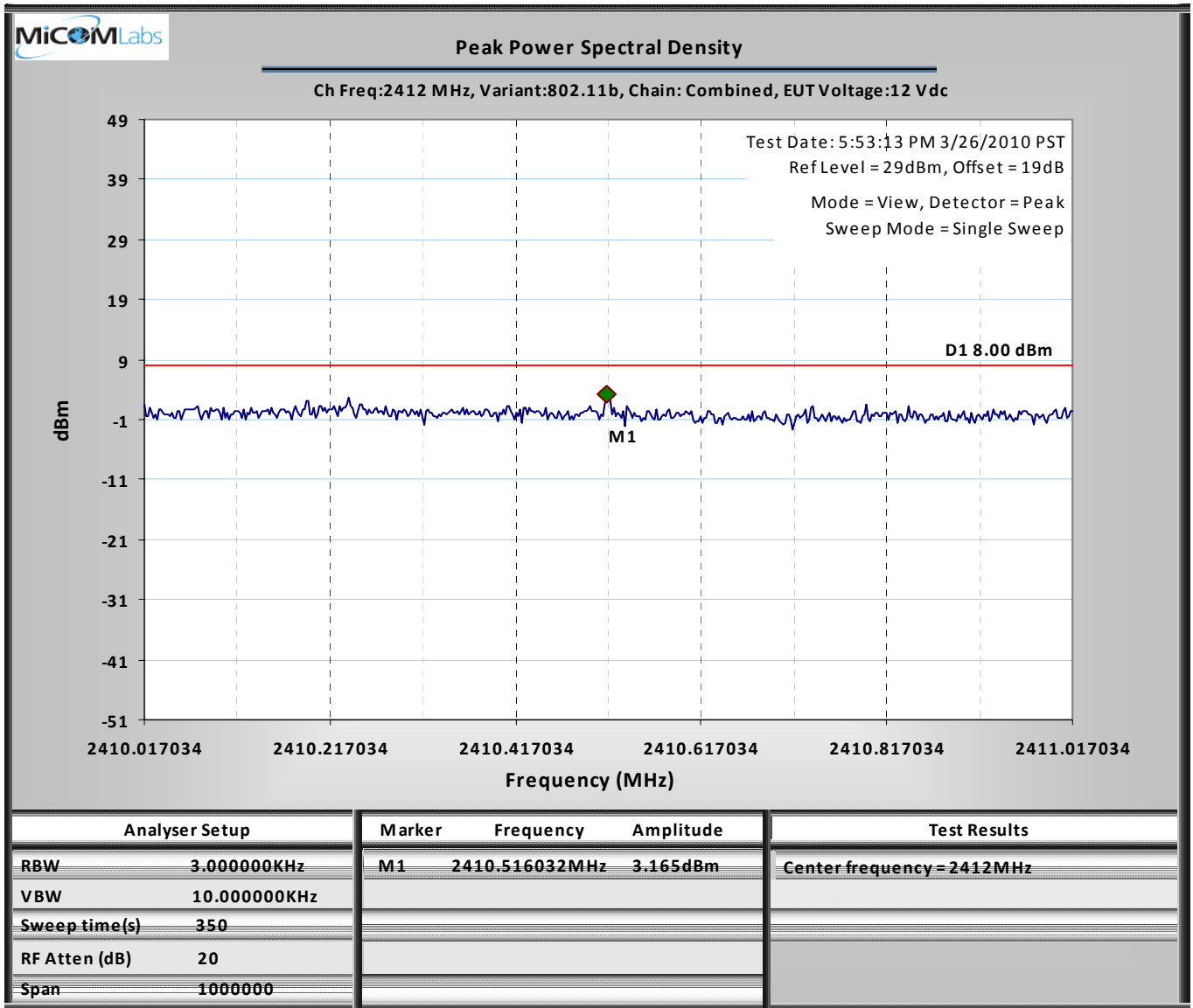
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 83 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



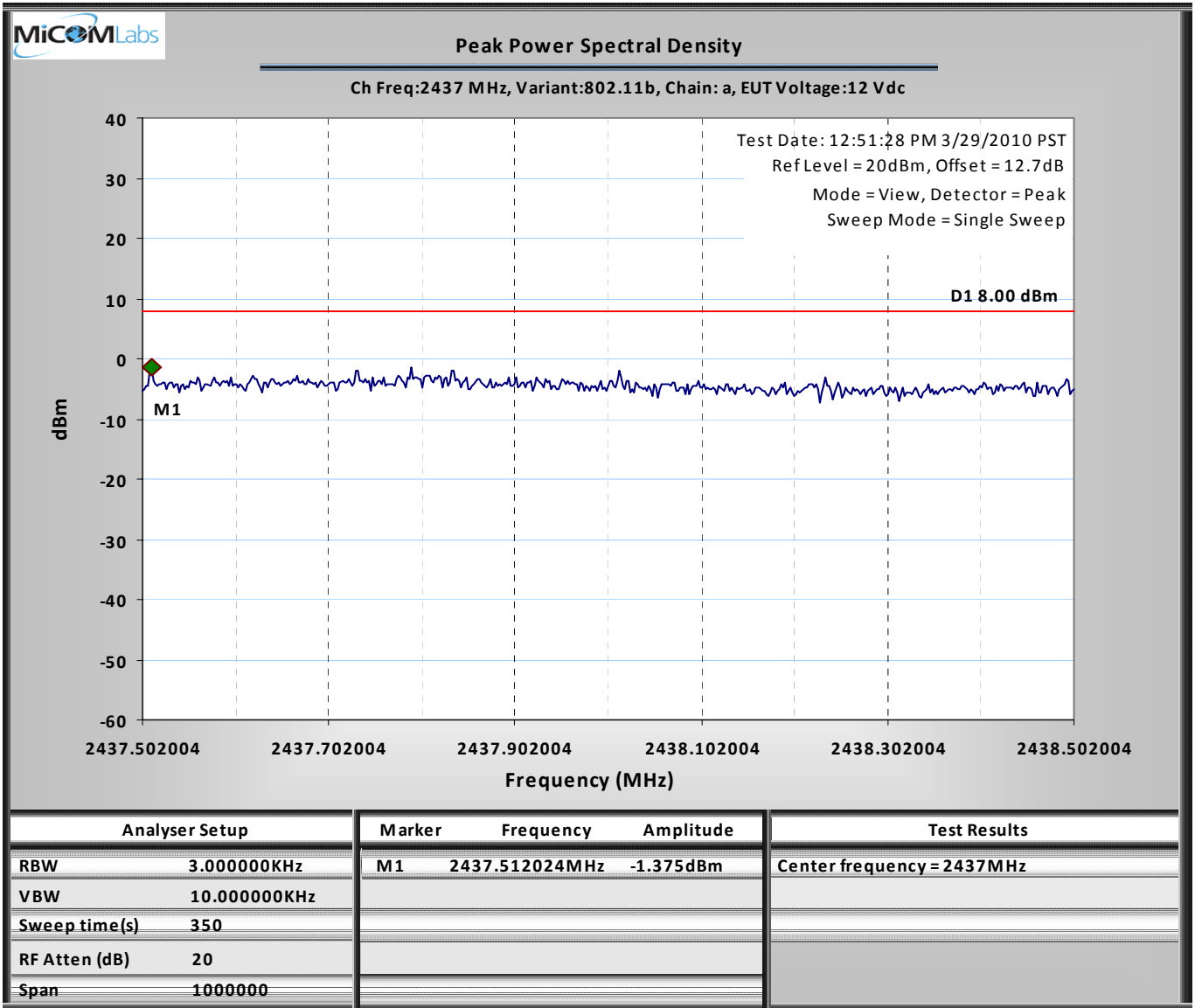
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 84 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



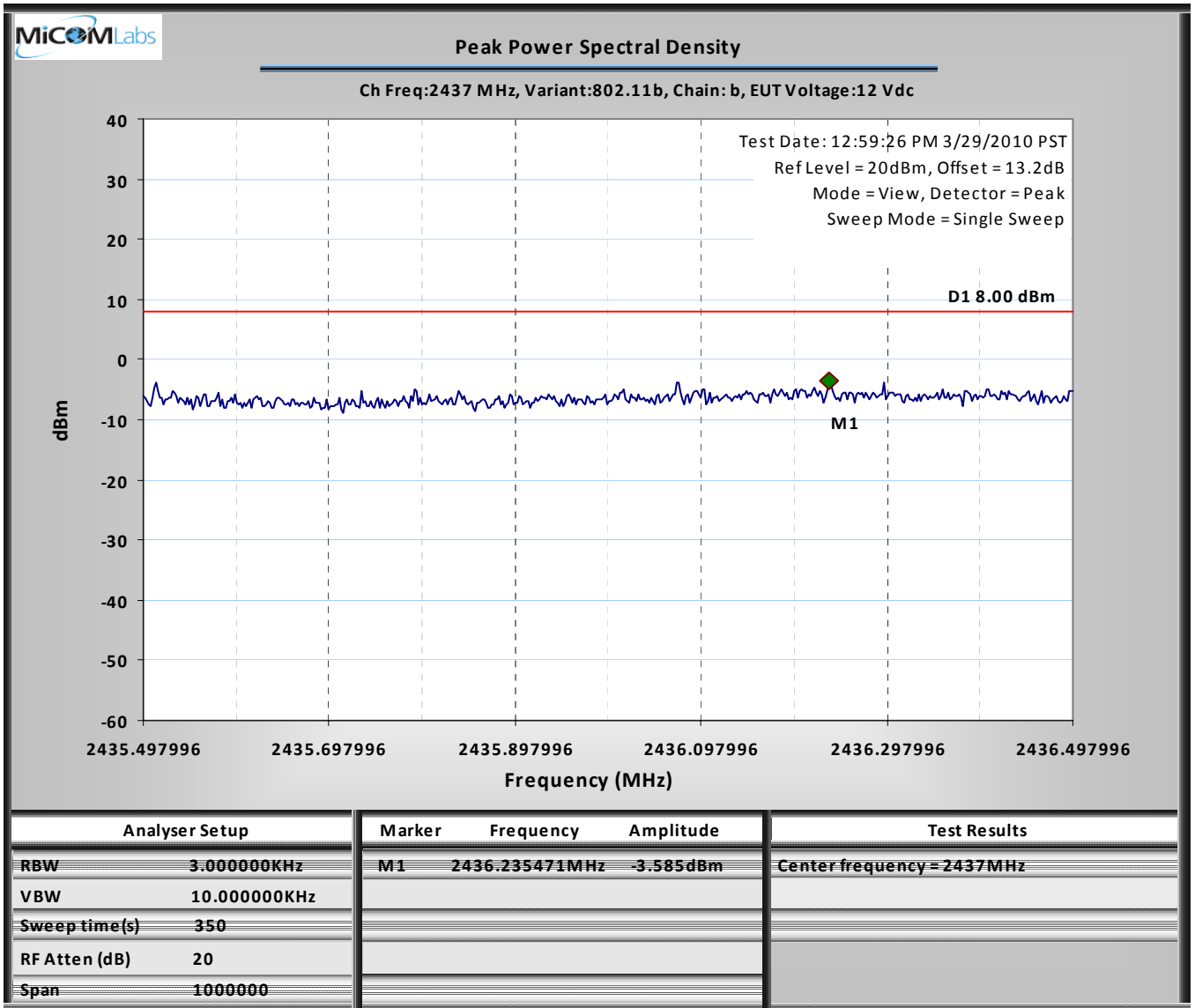
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 85 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



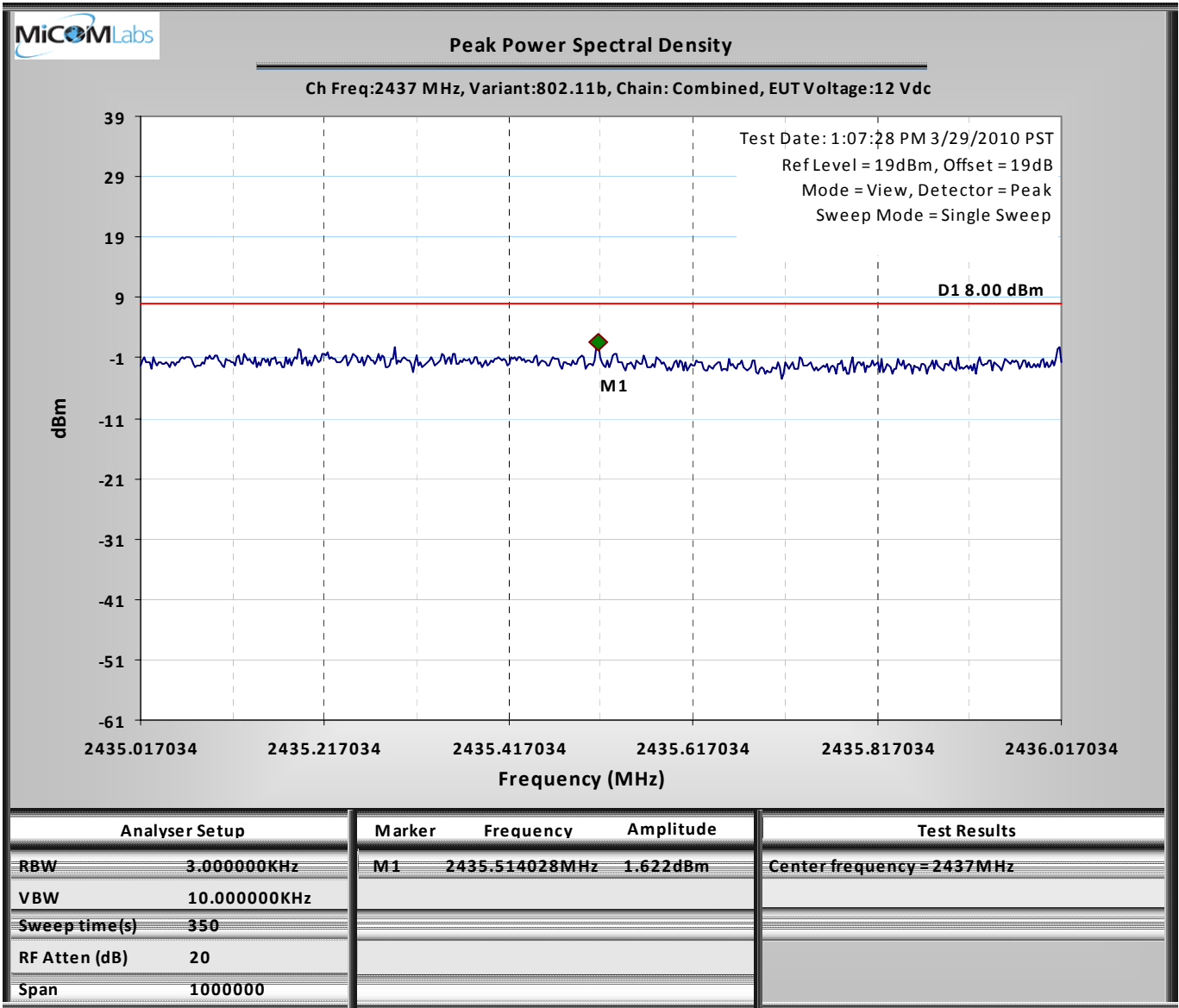
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 86 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



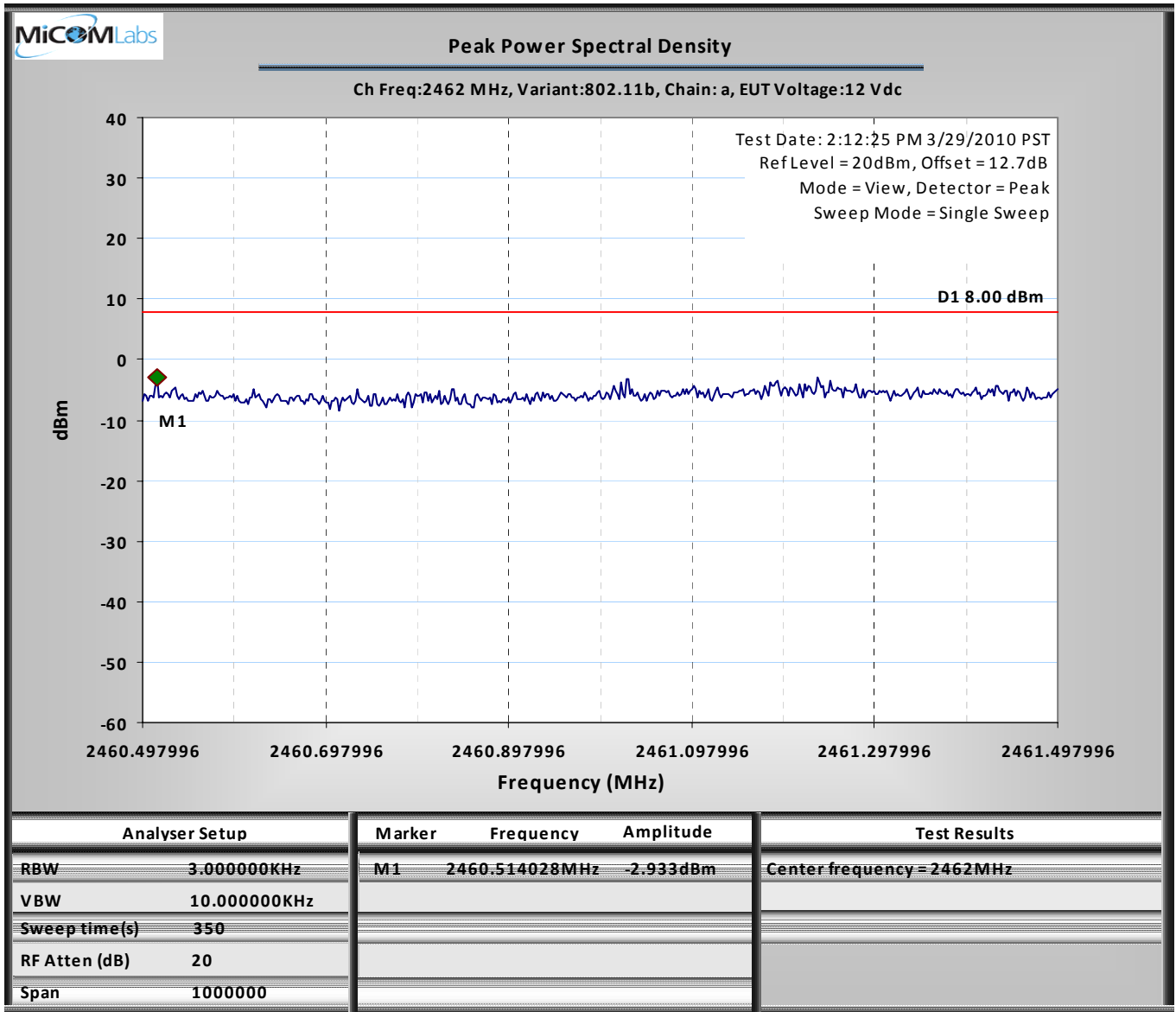
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 87 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



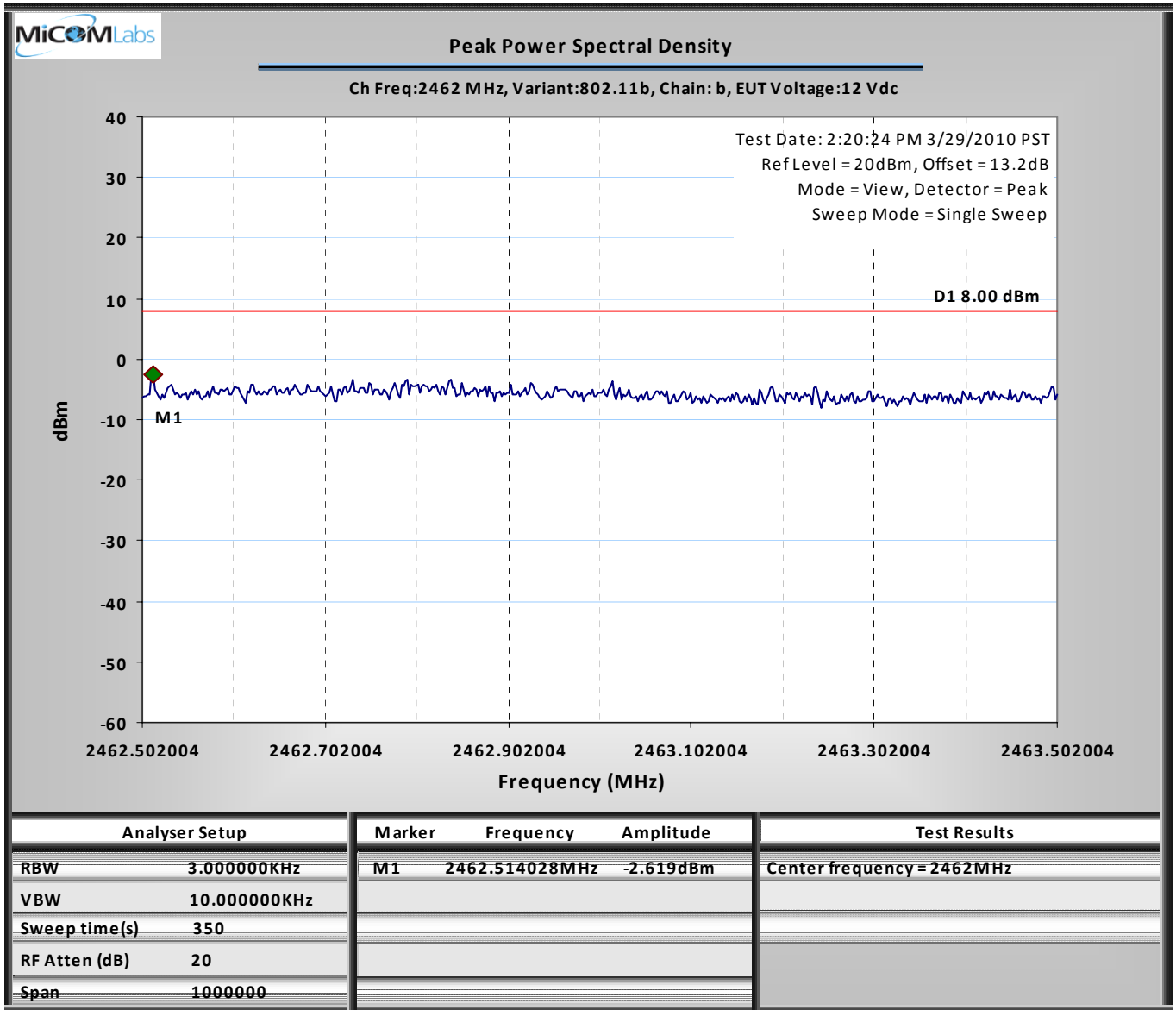
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 88 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



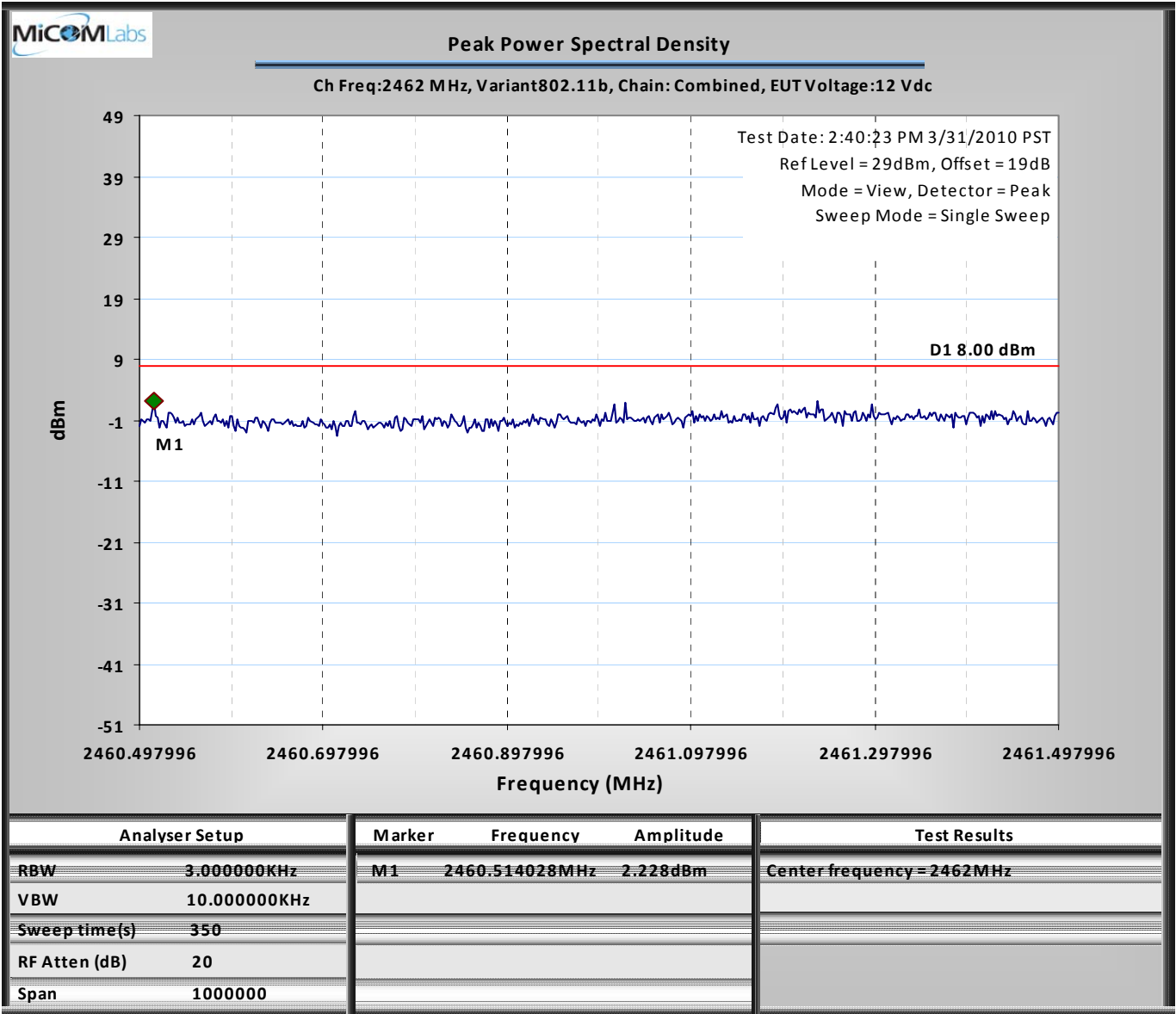
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 89 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 90 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 91 of 372

7.3.2 Measurement results for 802.11g

Test Conditions:	15.247 (e)	Rel. Humidity (%):	35	to	42
Variant:	802.11g	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming	N/A	Antenna Gain:	6		dBi
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

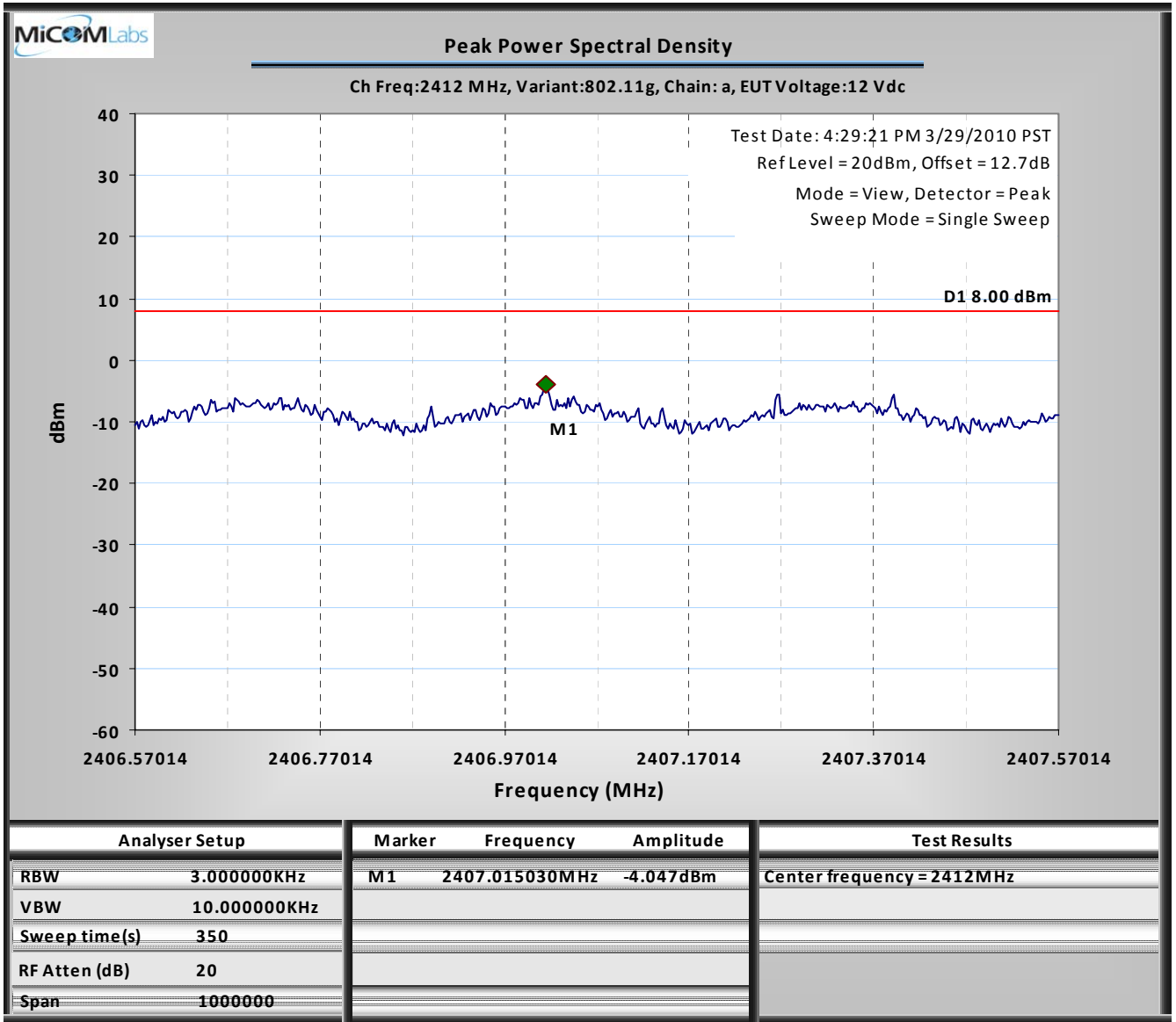
Test Frequency	Measured Power Density				Total Peak Power Spectral Density (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
2412	-4.05	-3.03	--	--	1.30	-0.50	8.00	-6.70
2437	-2.57	-4.81	--	--	0.89	-0.54	8.00	-7.11
2462	-3.65	-4.63	--	--	0.56	-1.10	8.00	-7.44

Measurement uncertainty:	± 1.33 dB
---------------------------------	---------------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



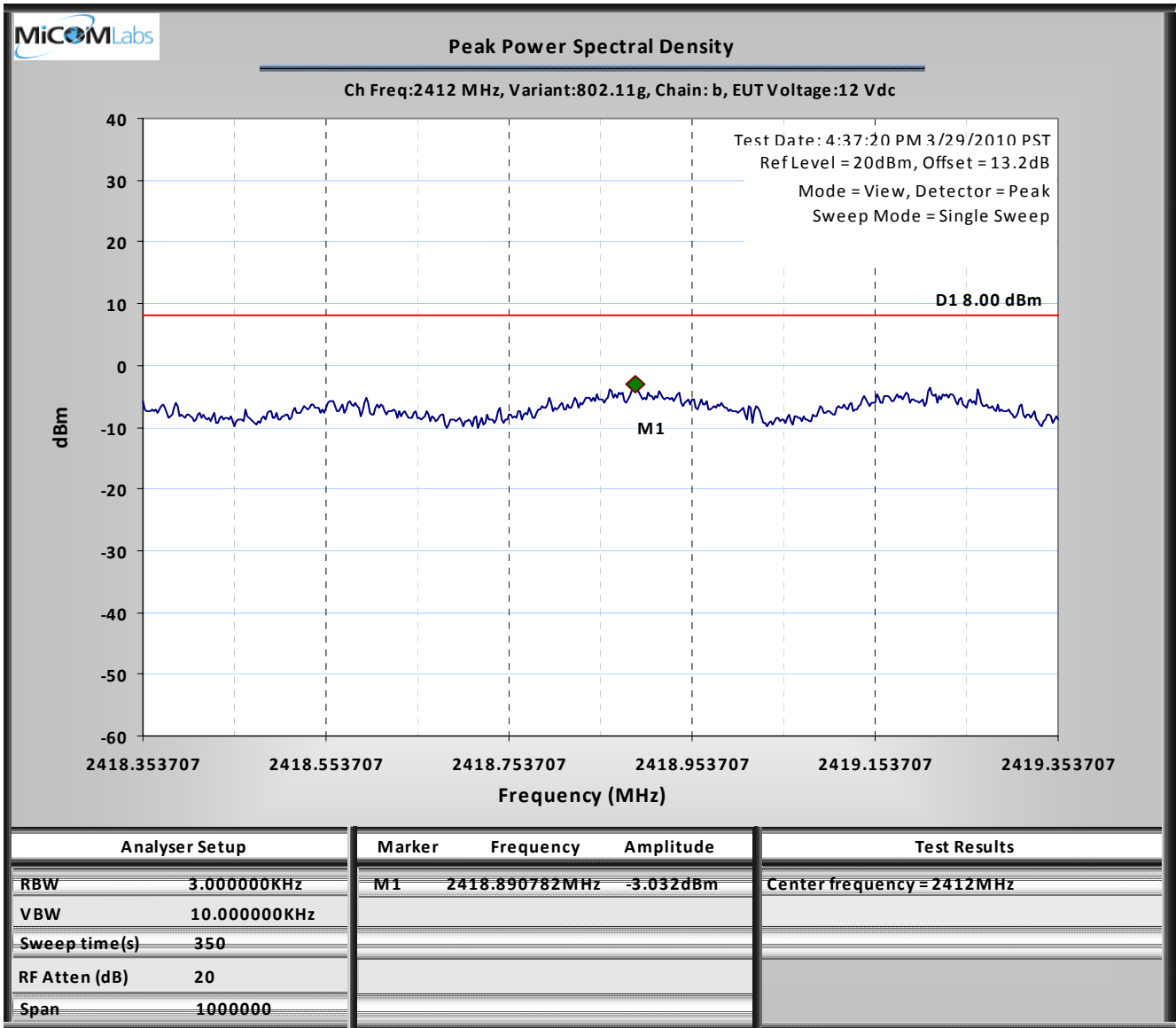
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 92 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



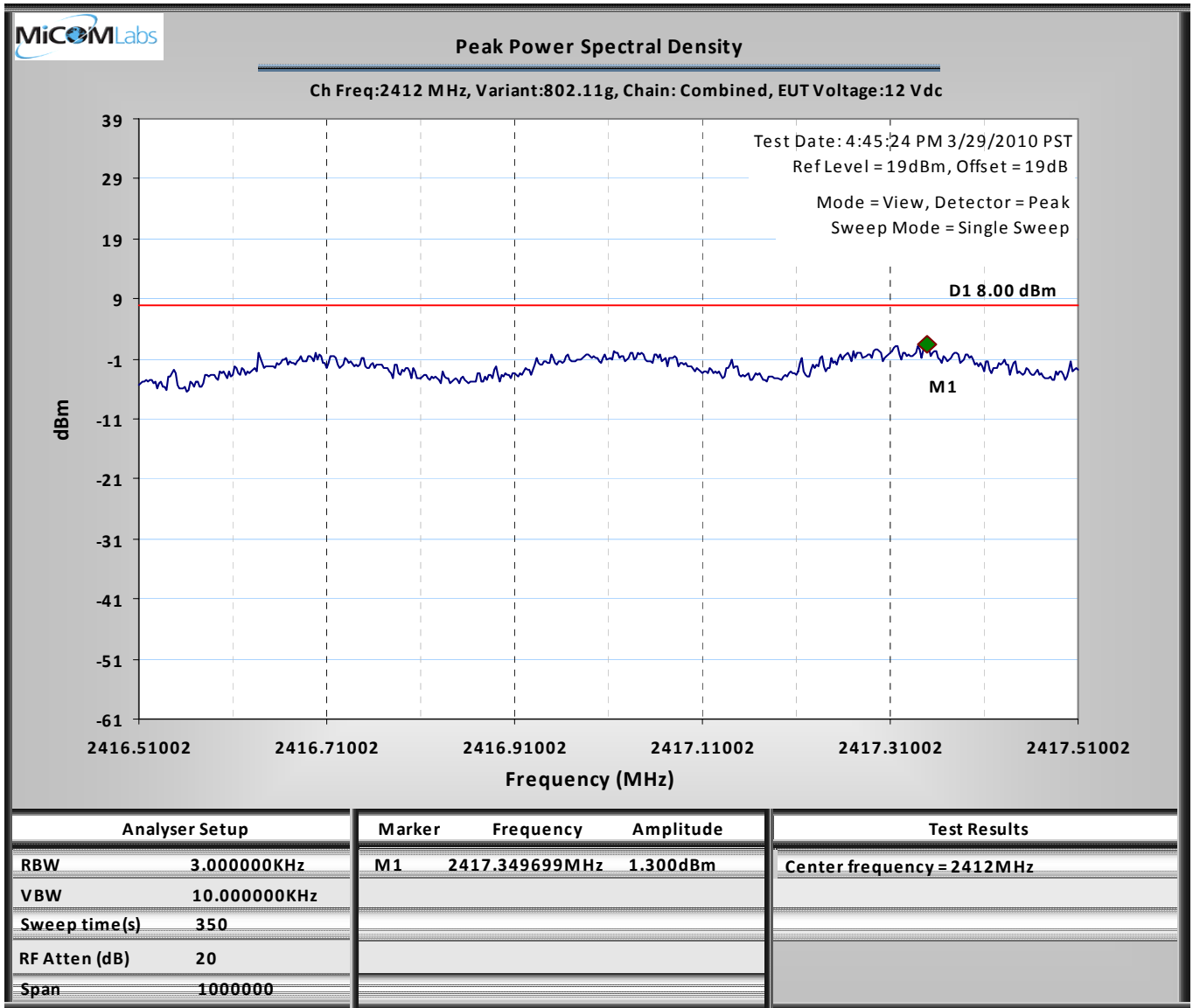
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 93 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



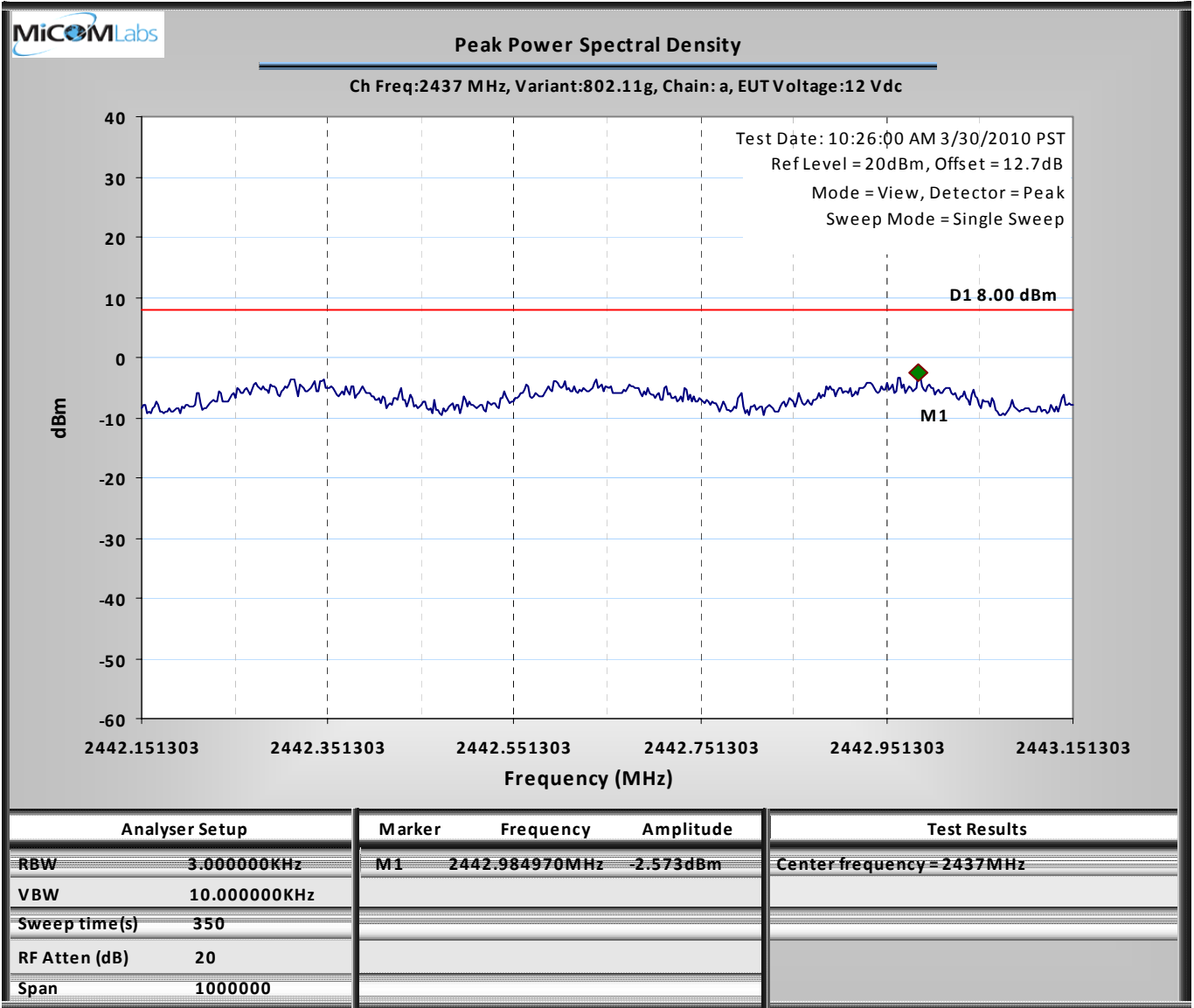
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 94 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



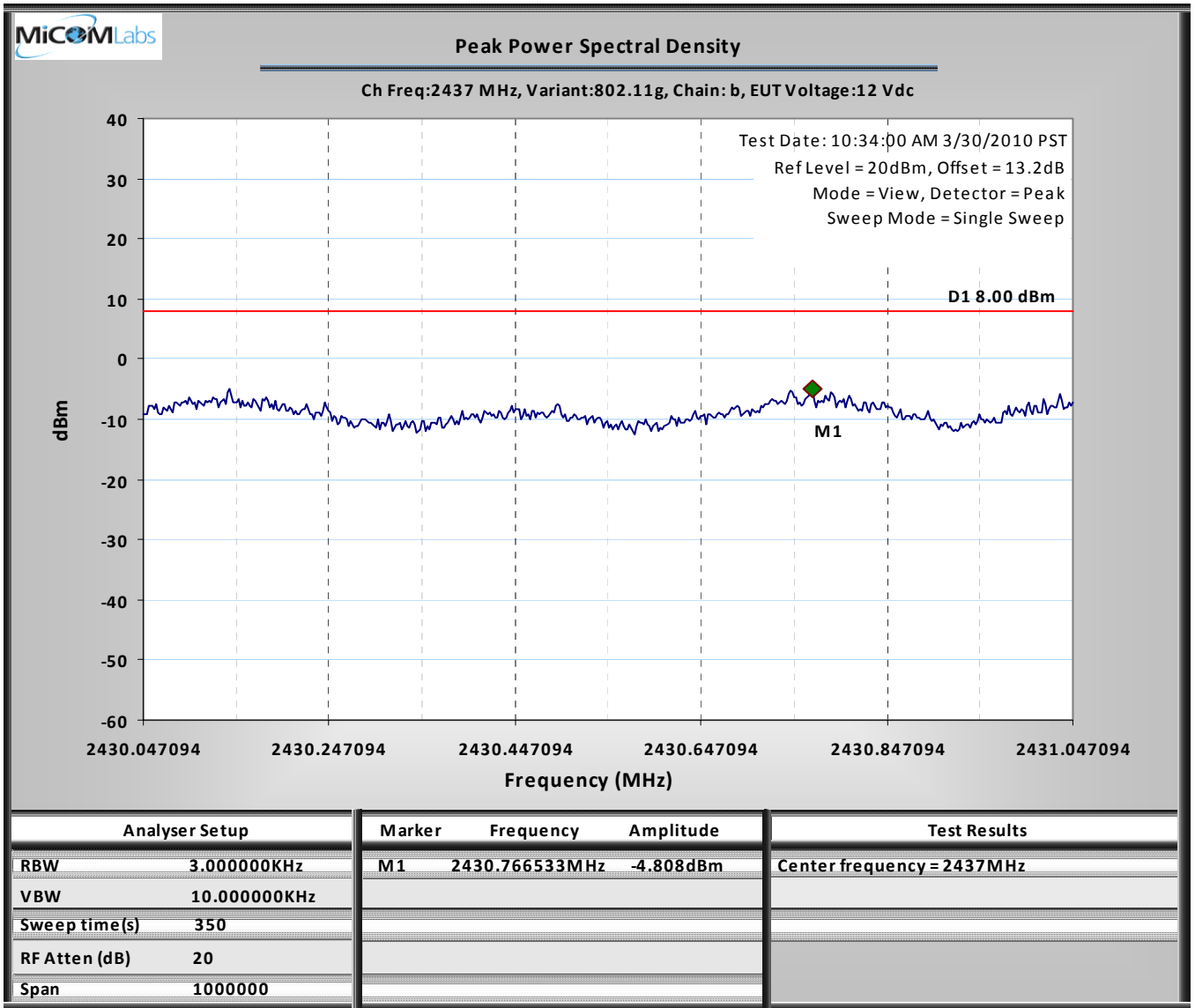
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 95 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



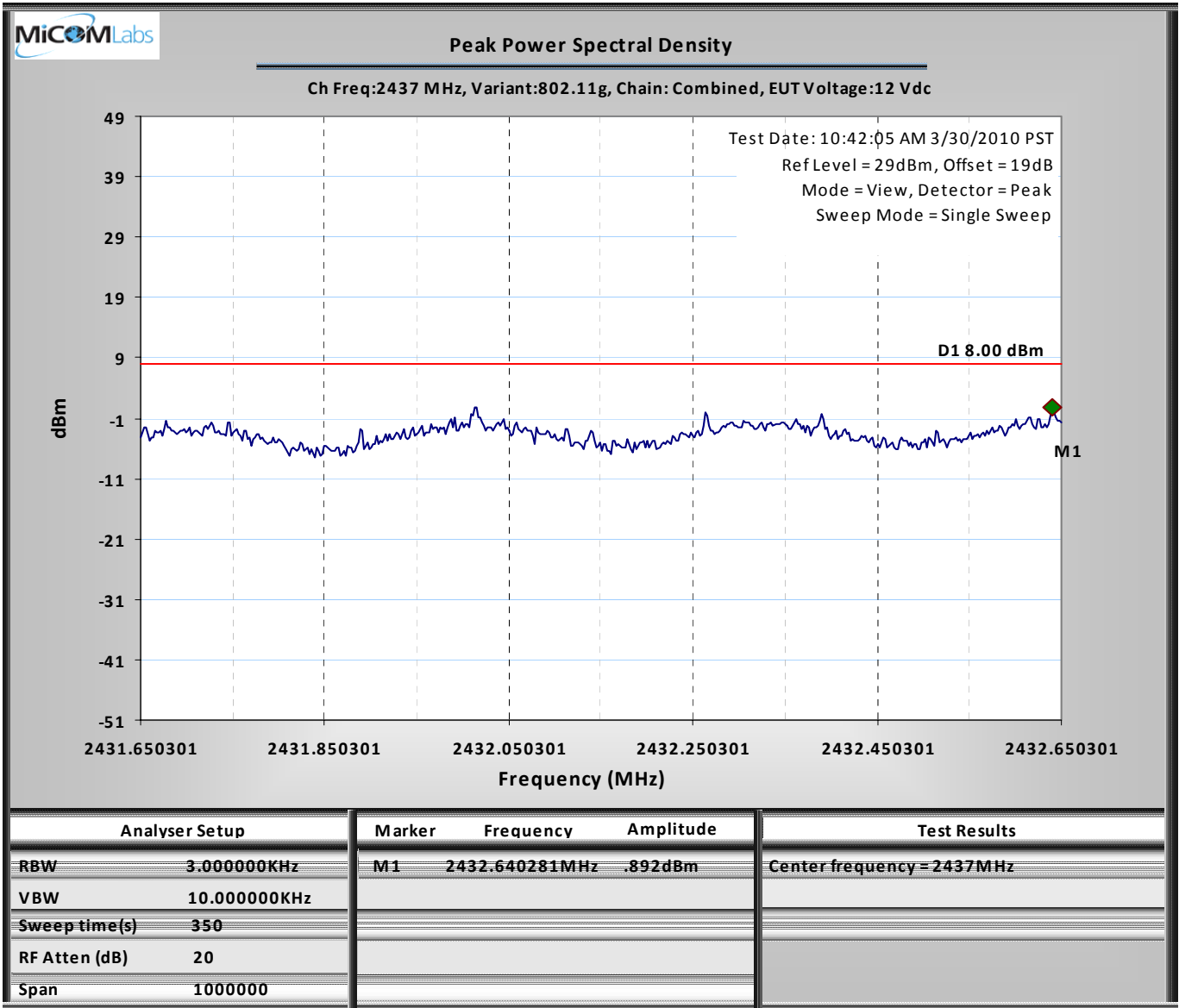
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 96 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



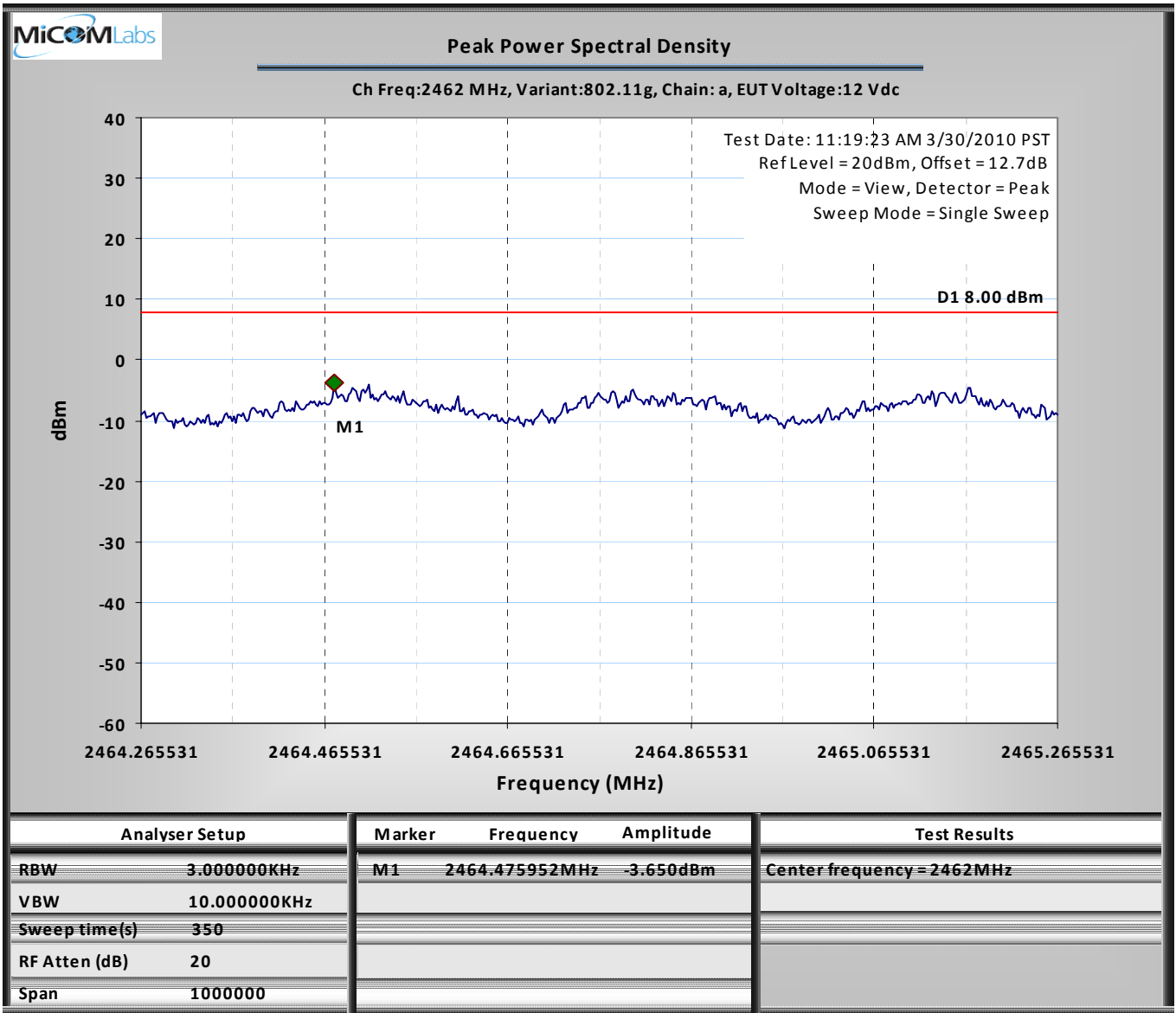
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 97 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



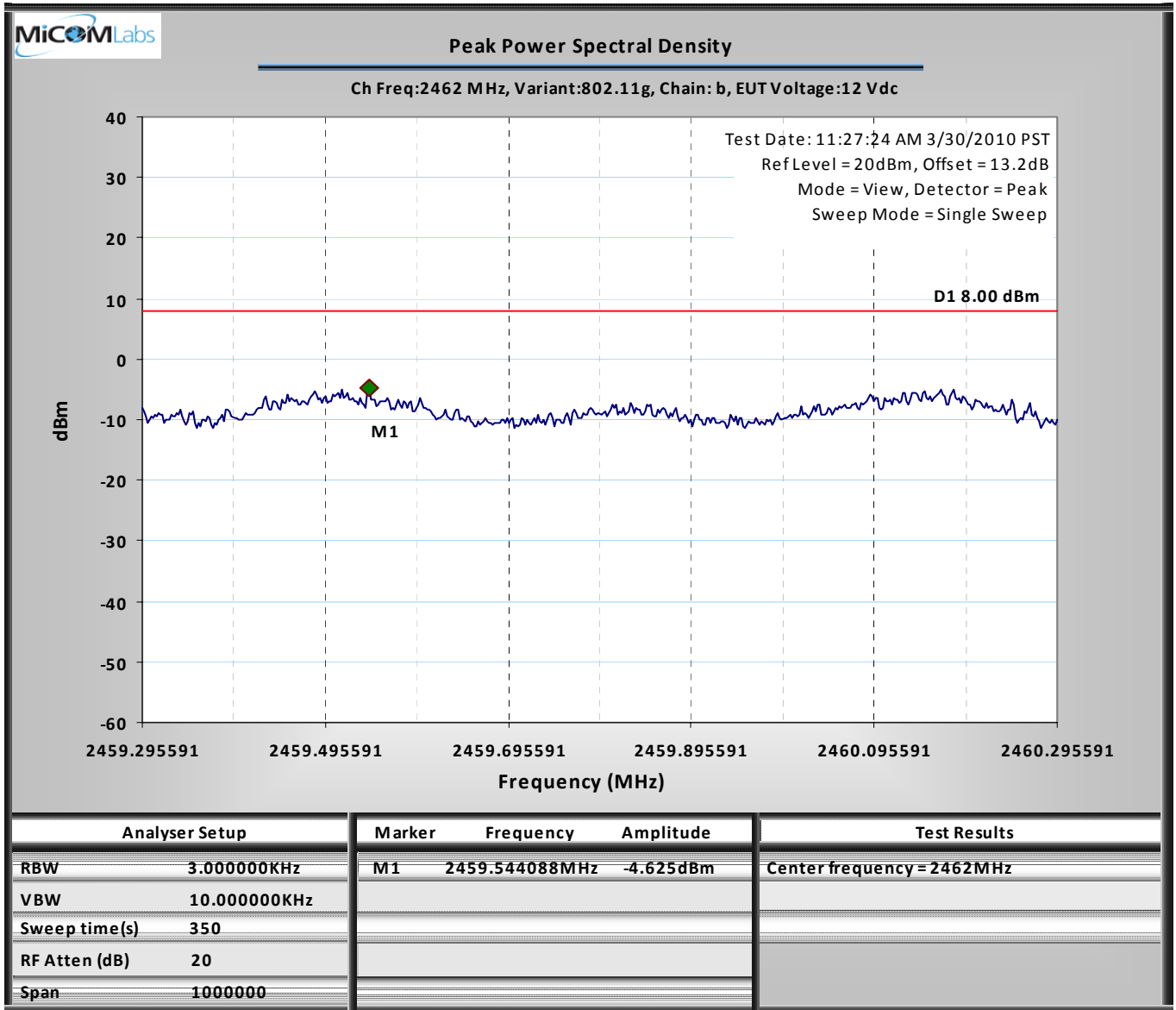
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 98 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



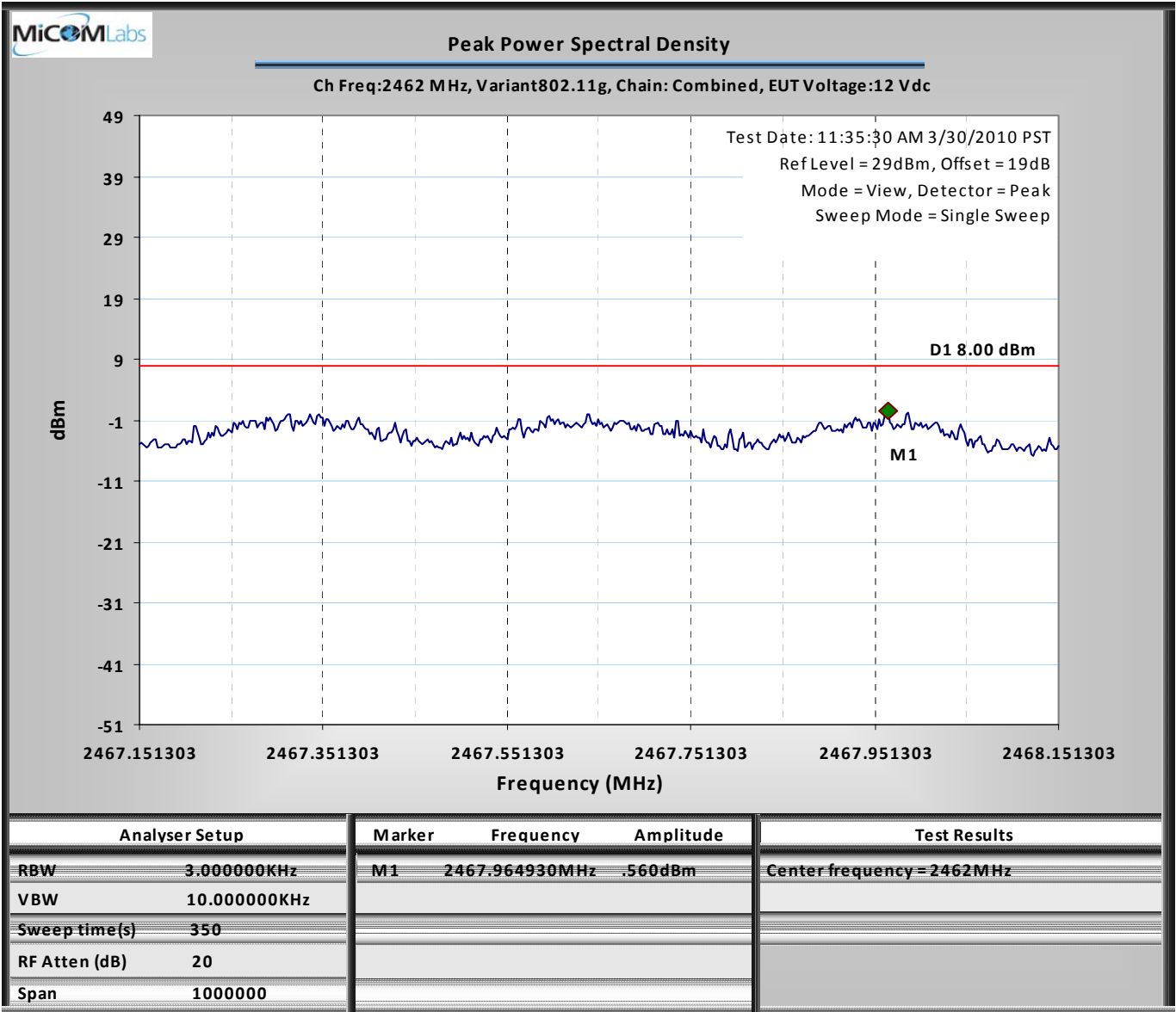
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 99 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 100 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 101 of 372

7.3.3 Measurement results for 802.11n HT-20

Test Conditions:	15.247 (e)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming	N/A	dB	Antenna Gain:	6	dBi
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

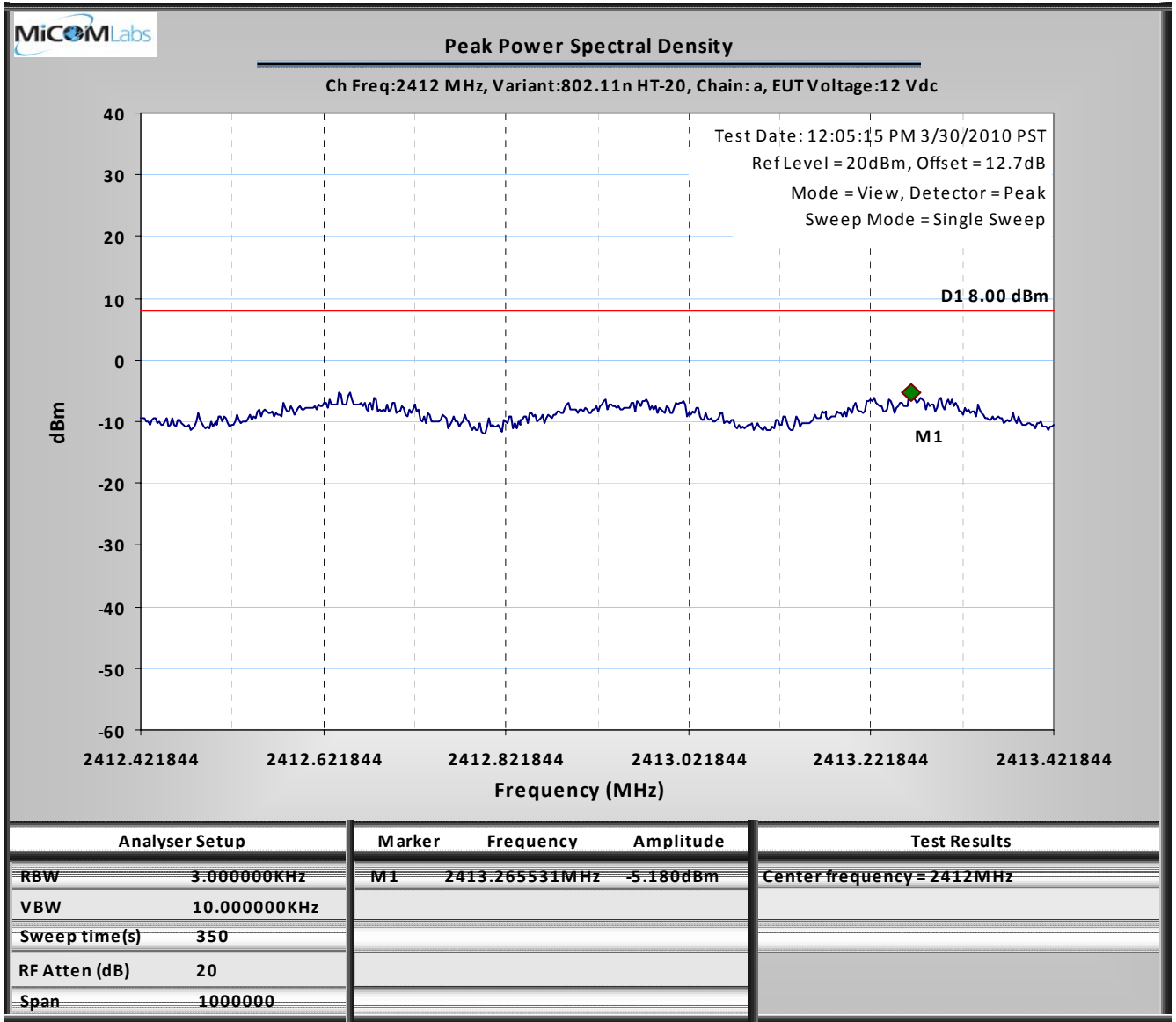
Test Frequency	Measured Power Density				Total Peak Power Spectral Density (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
2412	-5.18	-3.44	--	--	1.45	-1.21	8.00	-6.55
2437	-3.02	-5.43	--	--	-0.55	-1.05	8.00	-8.55
2462	-4.60	-4.01	--	--	0.54	-1.28	8.00	-7.46

Measurement uncertainty:	± 1.33 dB
---------------------------------	-----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



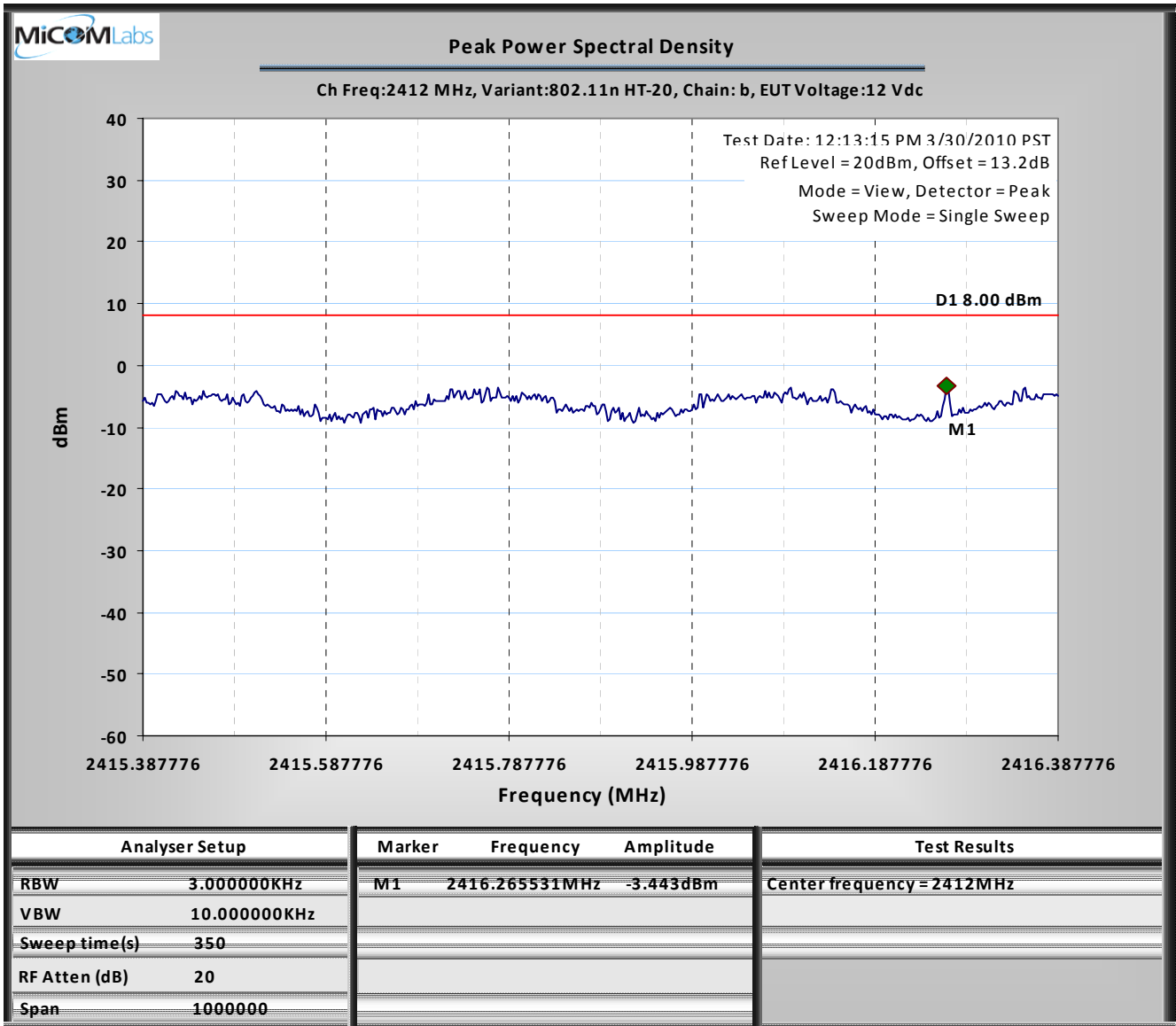
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 102 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



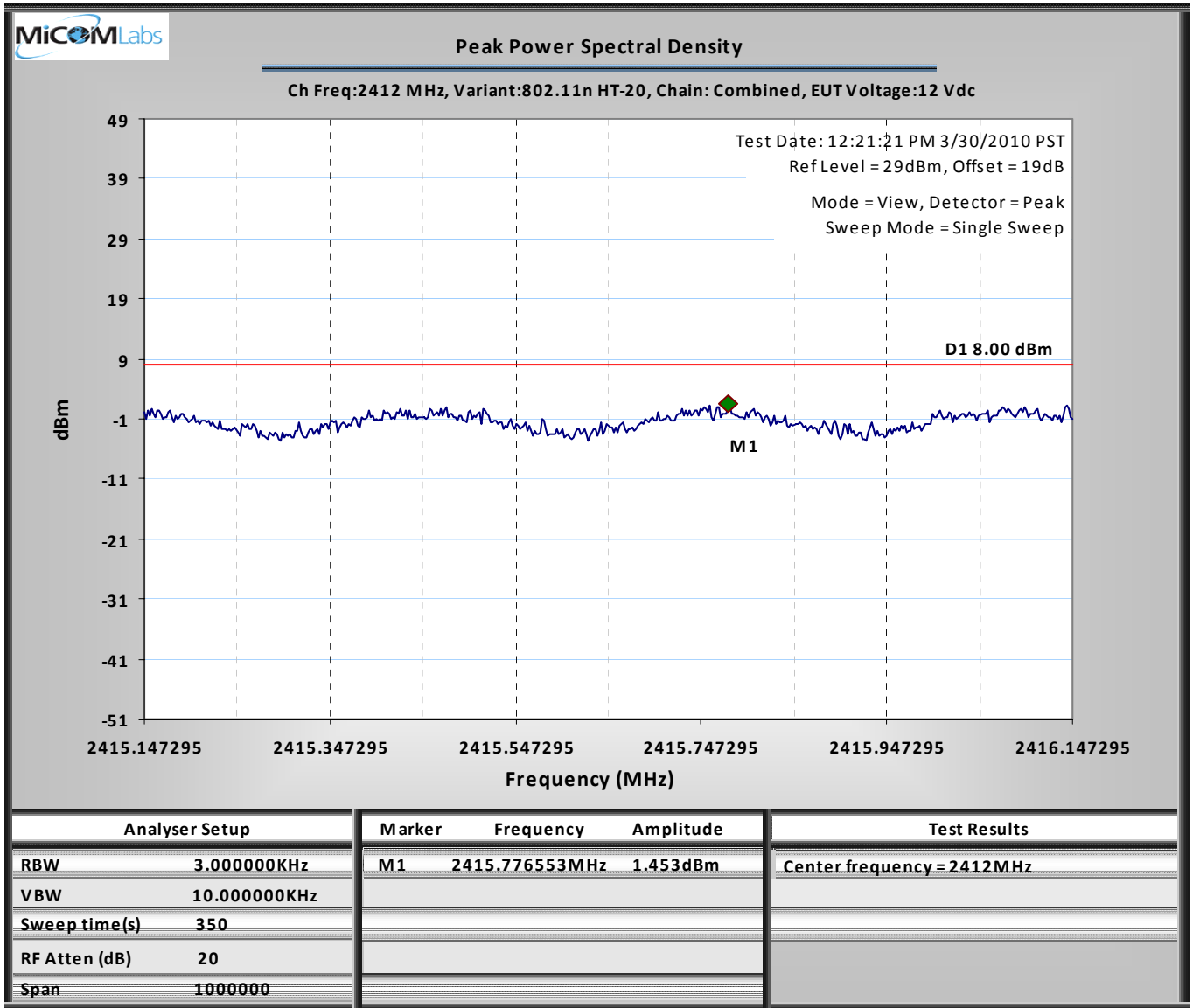
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 103 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



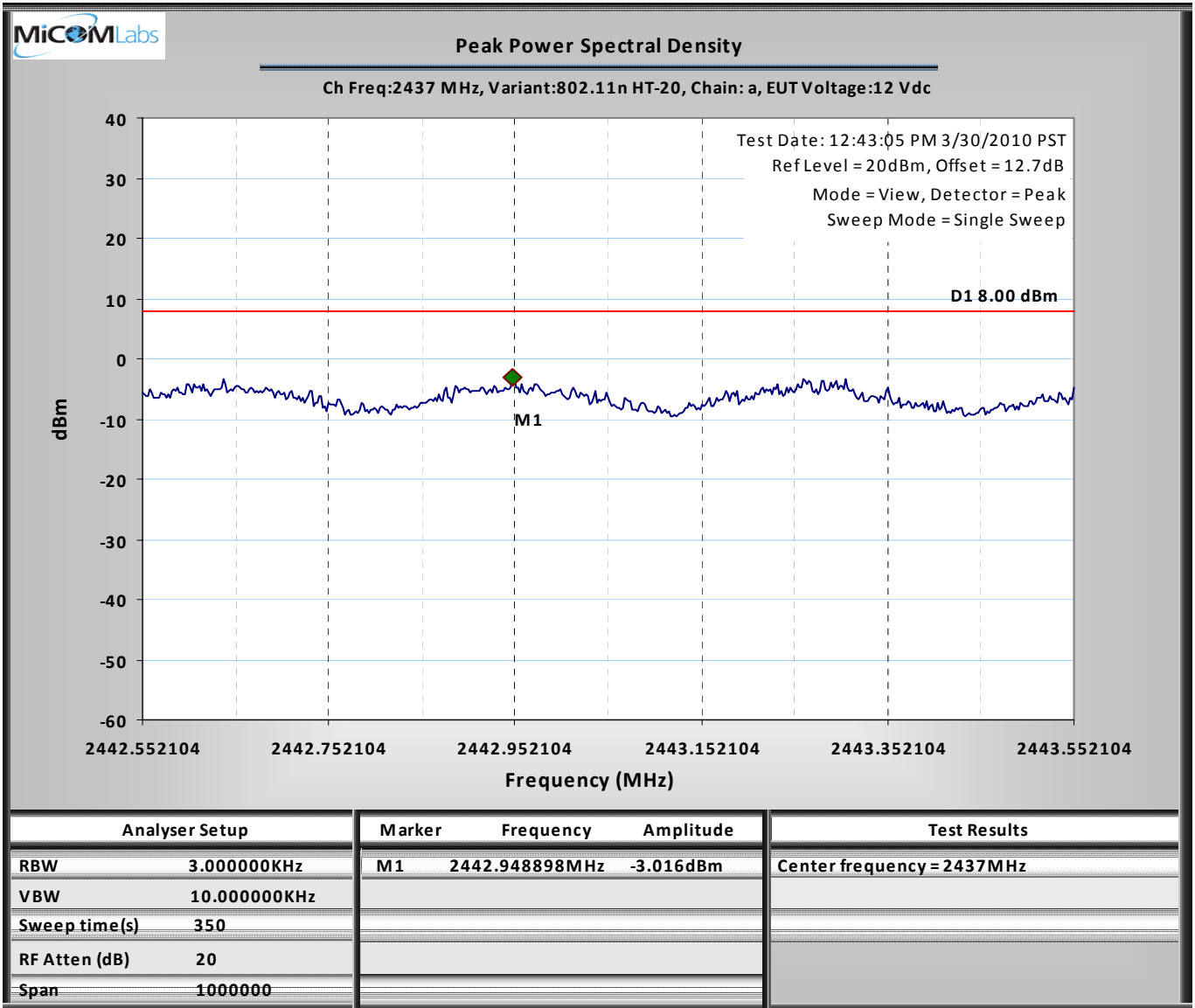
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 104 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



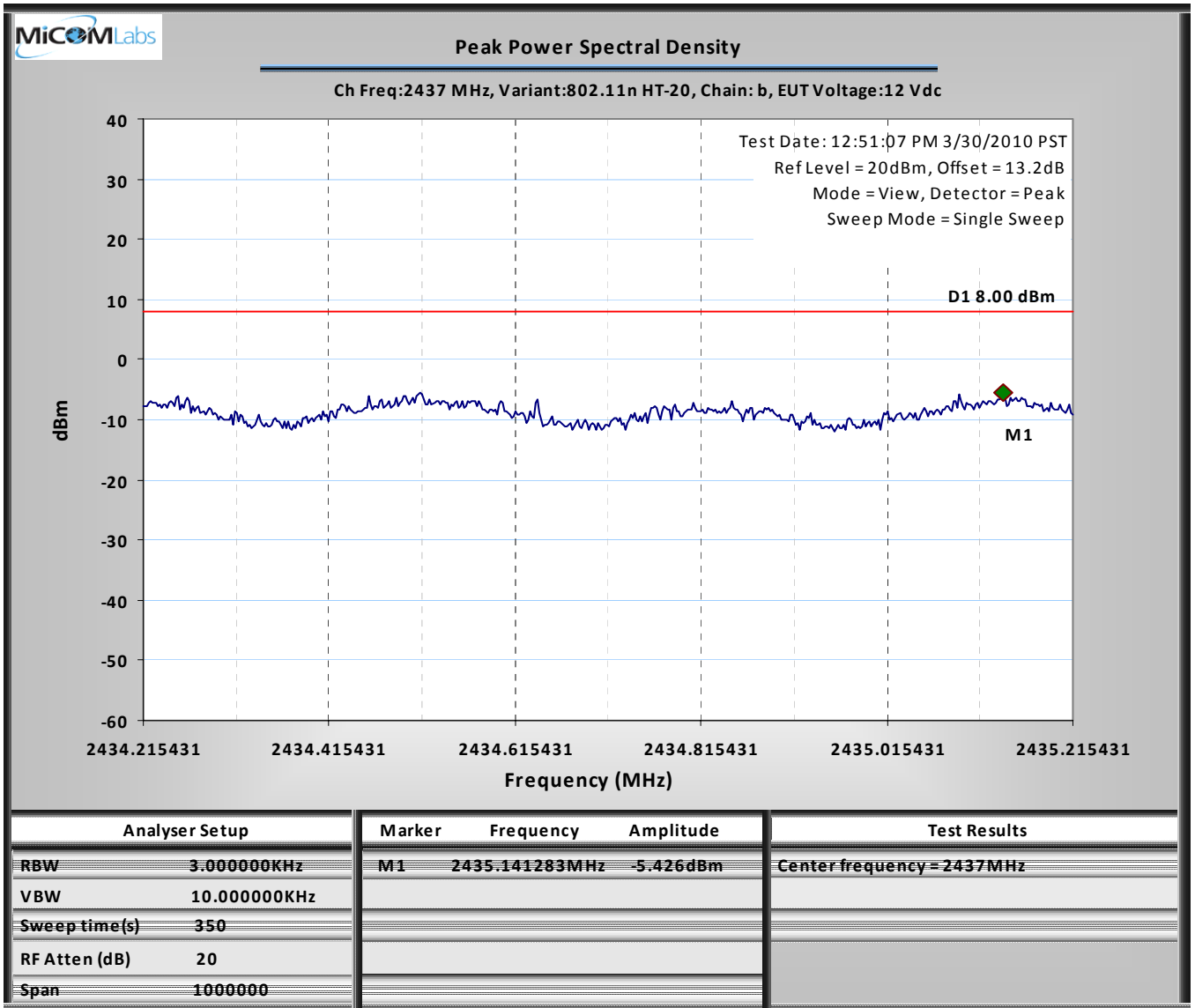
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 105 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



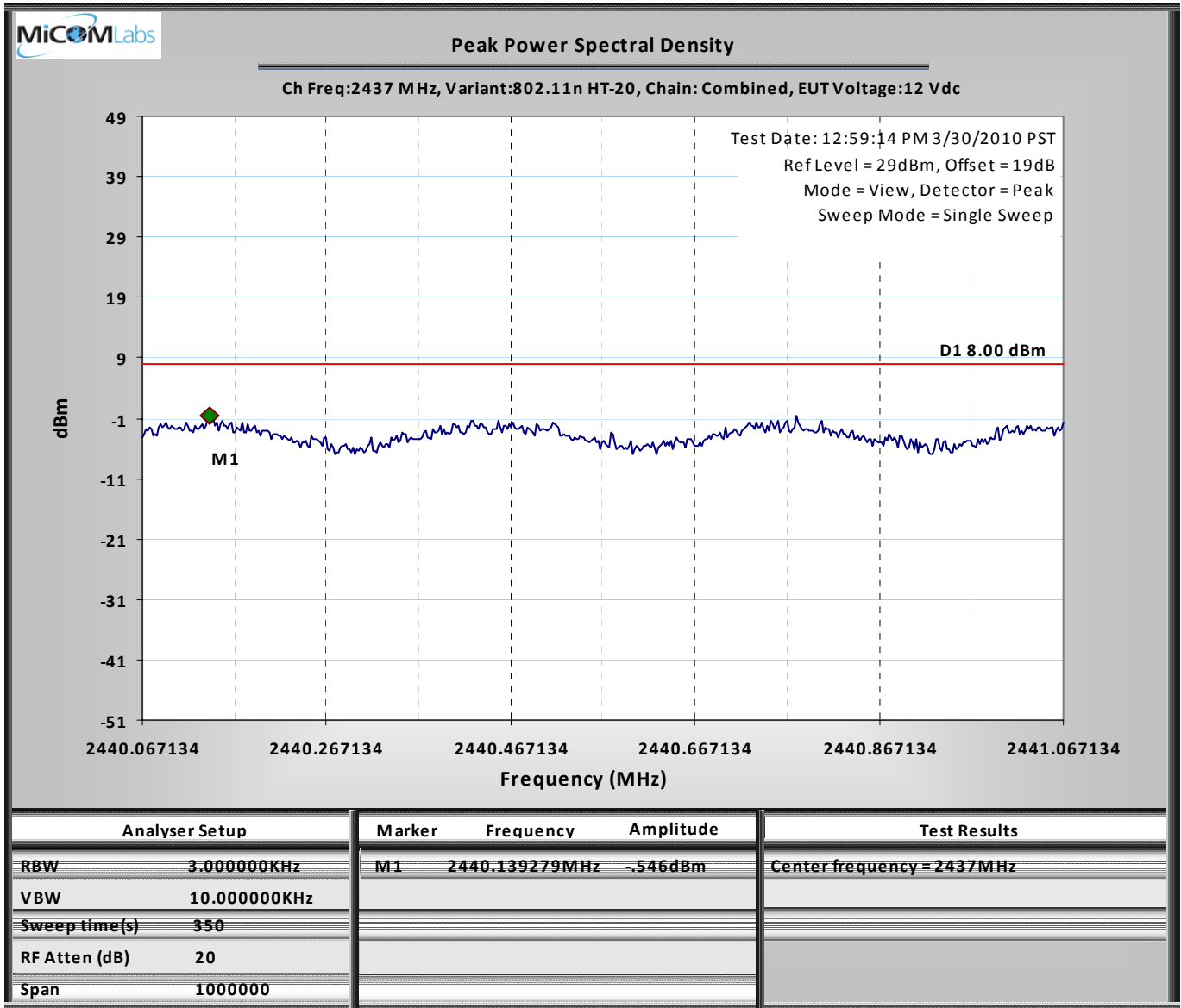
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 106 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



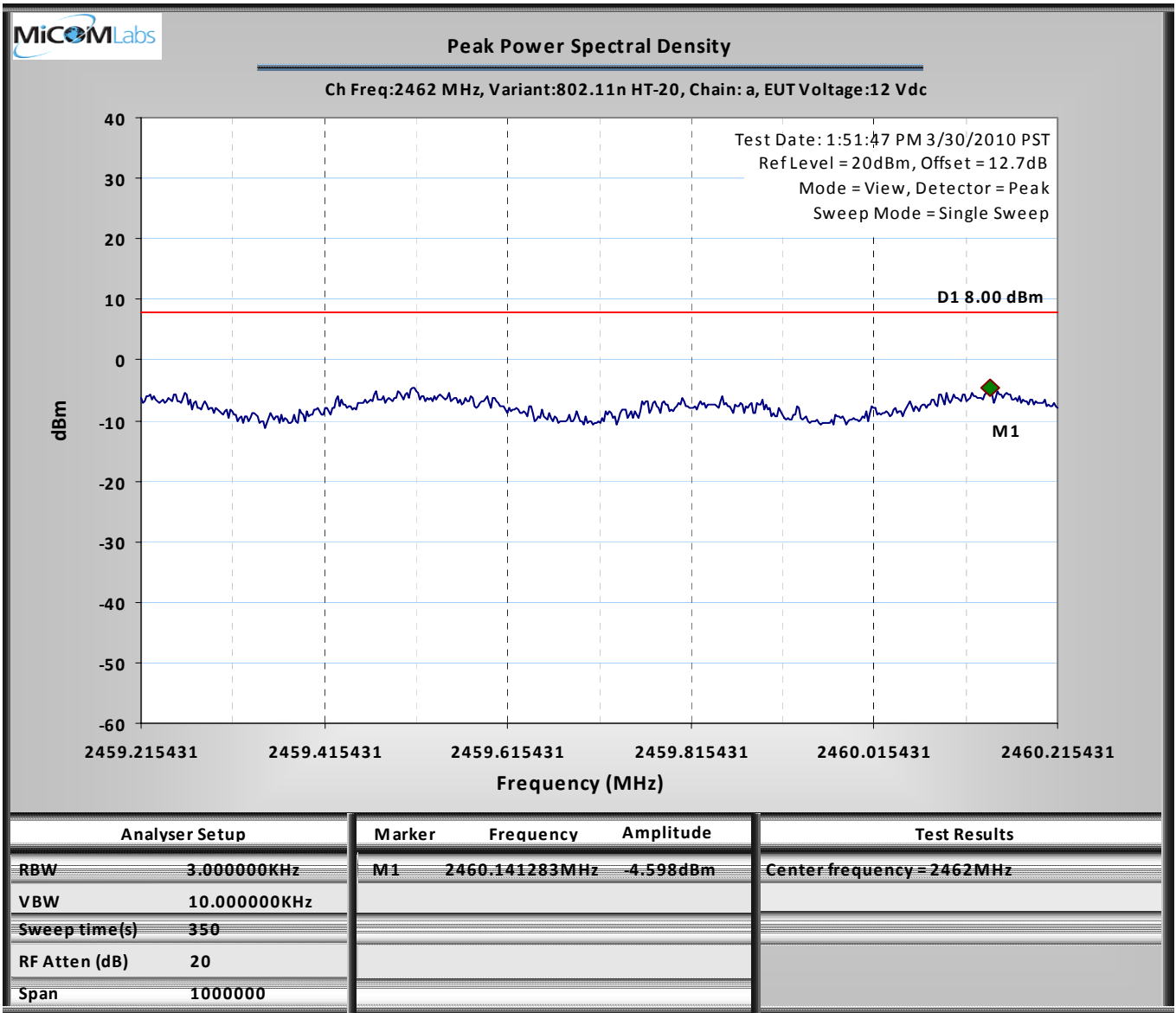
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 107 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



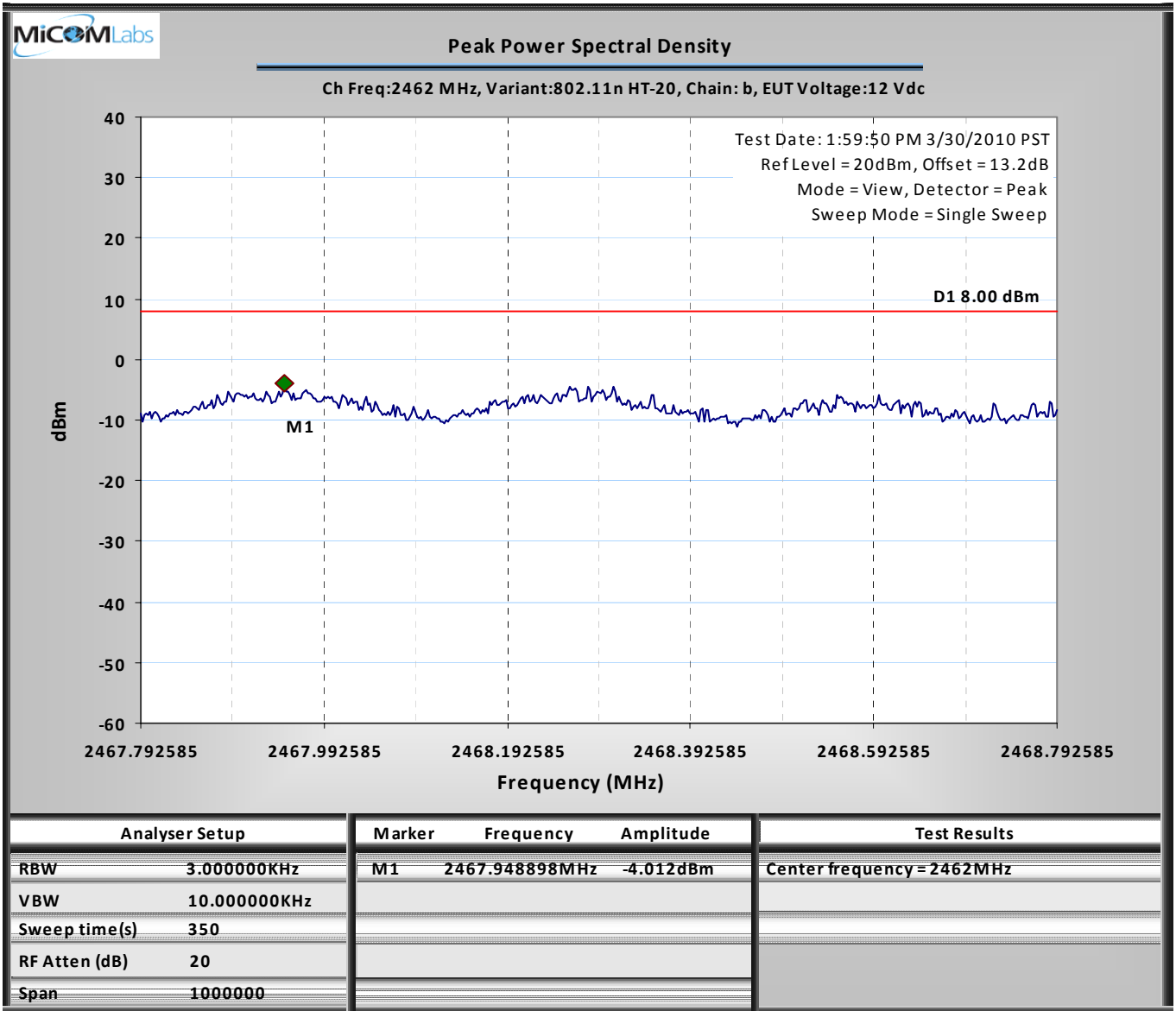
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 108 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



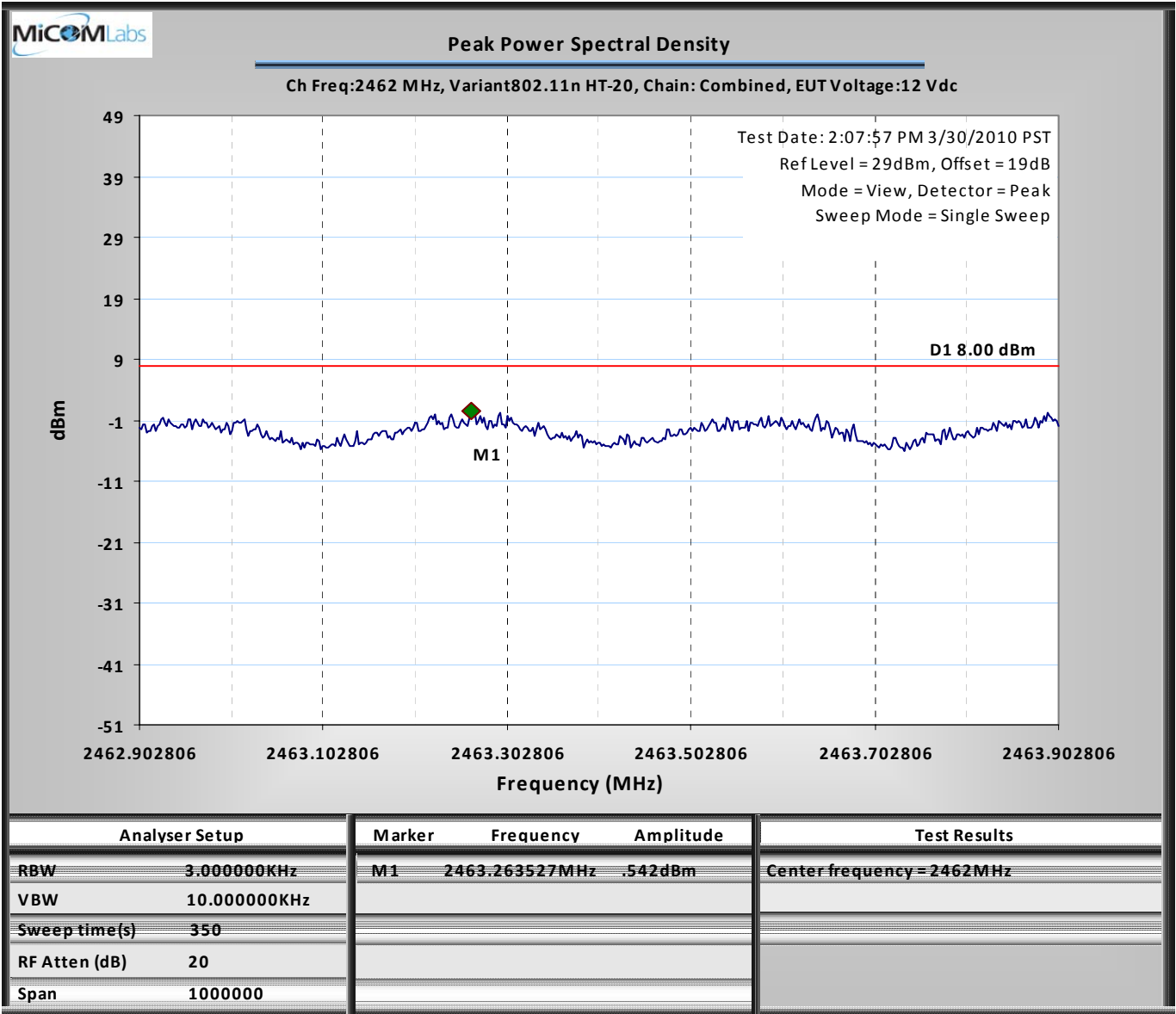
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 109 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 110 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 111 of 372

7.3.4 Measurement results for 802.11n HT-40

Test Conditions:	15.247 (e)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain	N/A dB	Antenna Gain:	6 dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

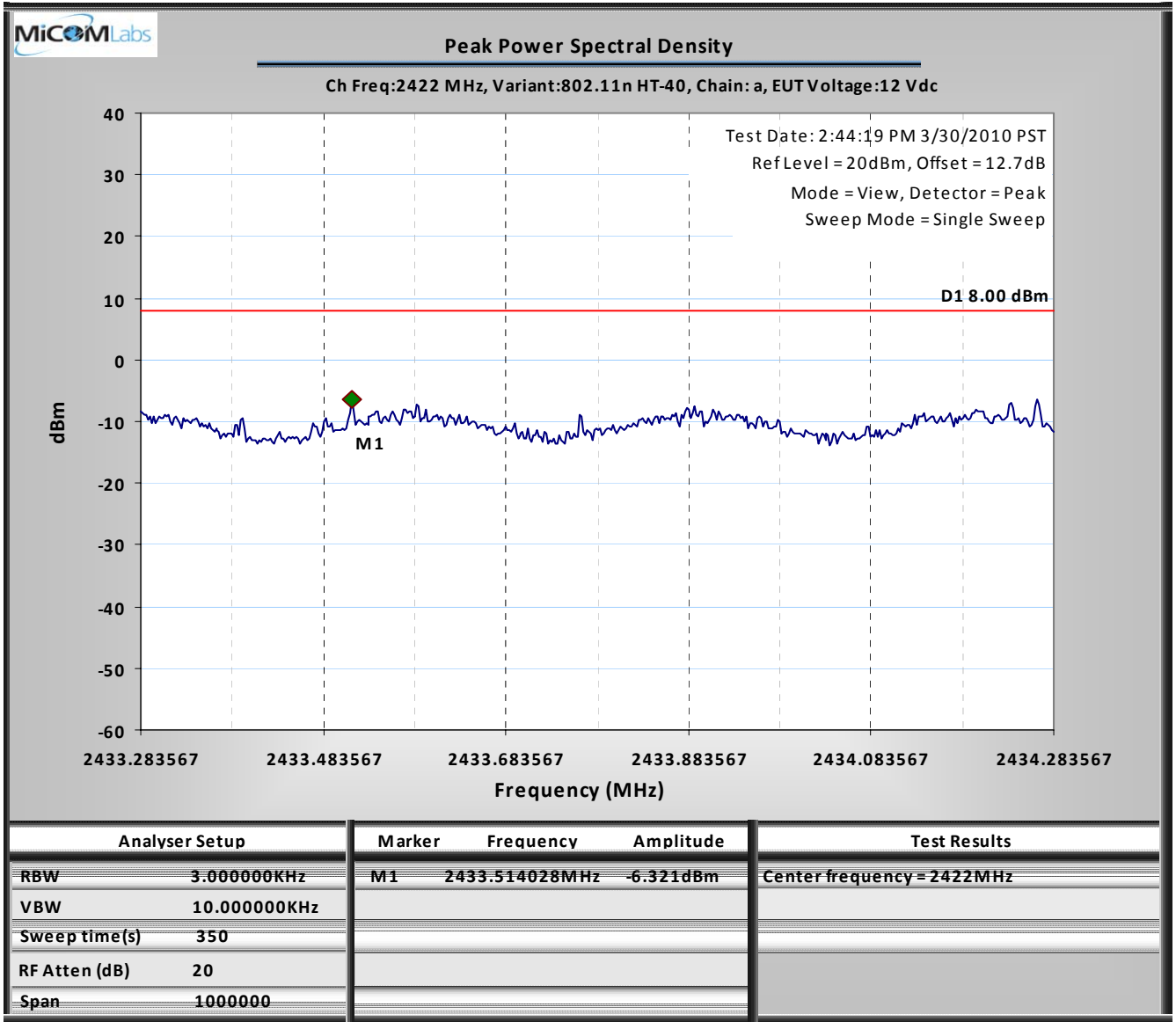
Test Frequency MHz	Measured Power Density RF Port (dBm)				Total Peak Power Spectral Density		Limit dBm	Margin dB
	a	b	c	d	Combined	Calculated		
2422	-6.32	-4.23	--	--	0.07	-2.14	8.00	-7.93
2437	-5.34	-6.68	--	--	-2.22	-2.95	8.00	-10.22
2452	-5.72	-8.37	--	--	-1.33	-3.84	8.00	-9.33

Measurement uncertainty:	± 1.33 dB
---------------------------------	-----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



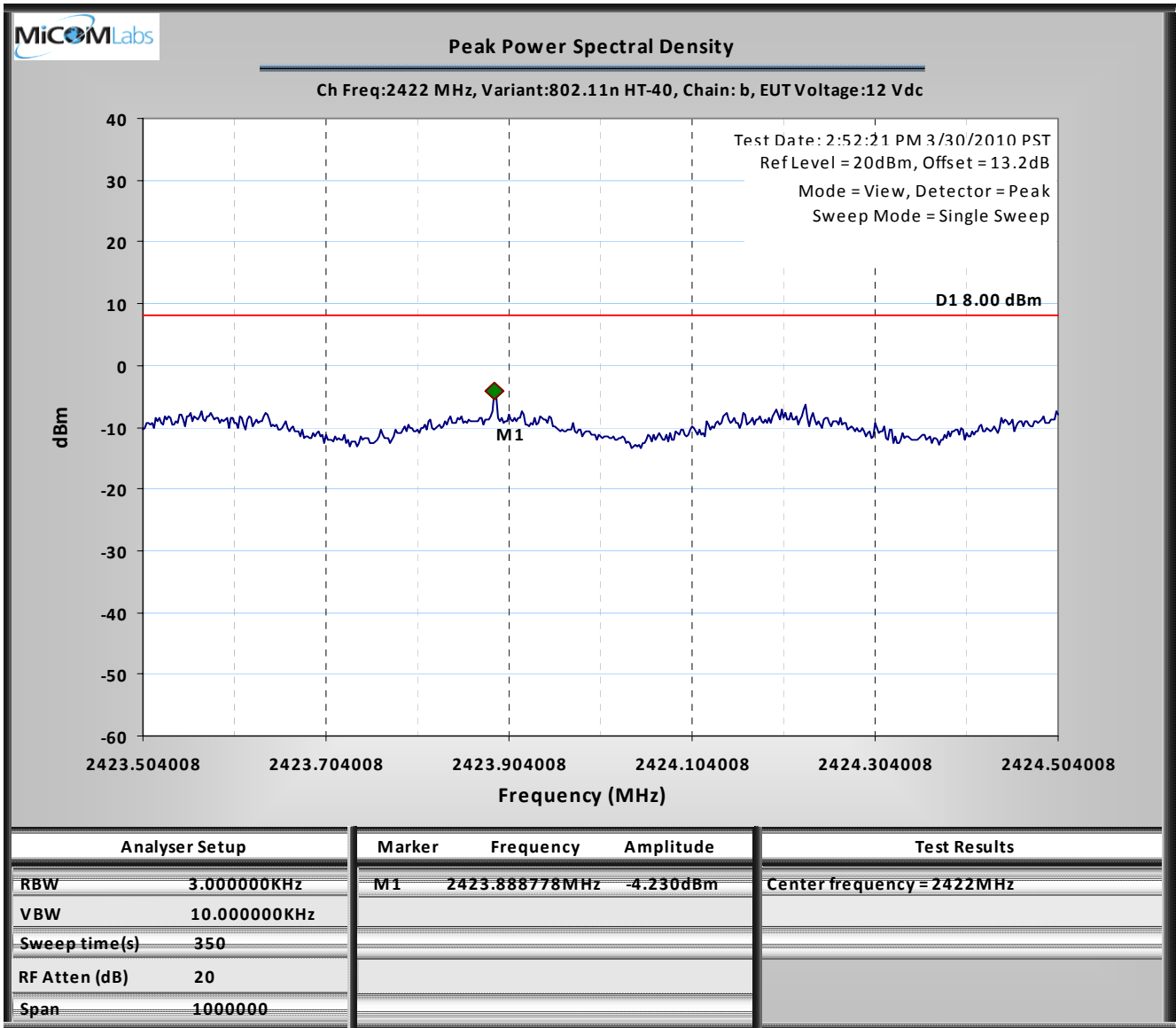
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 112 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



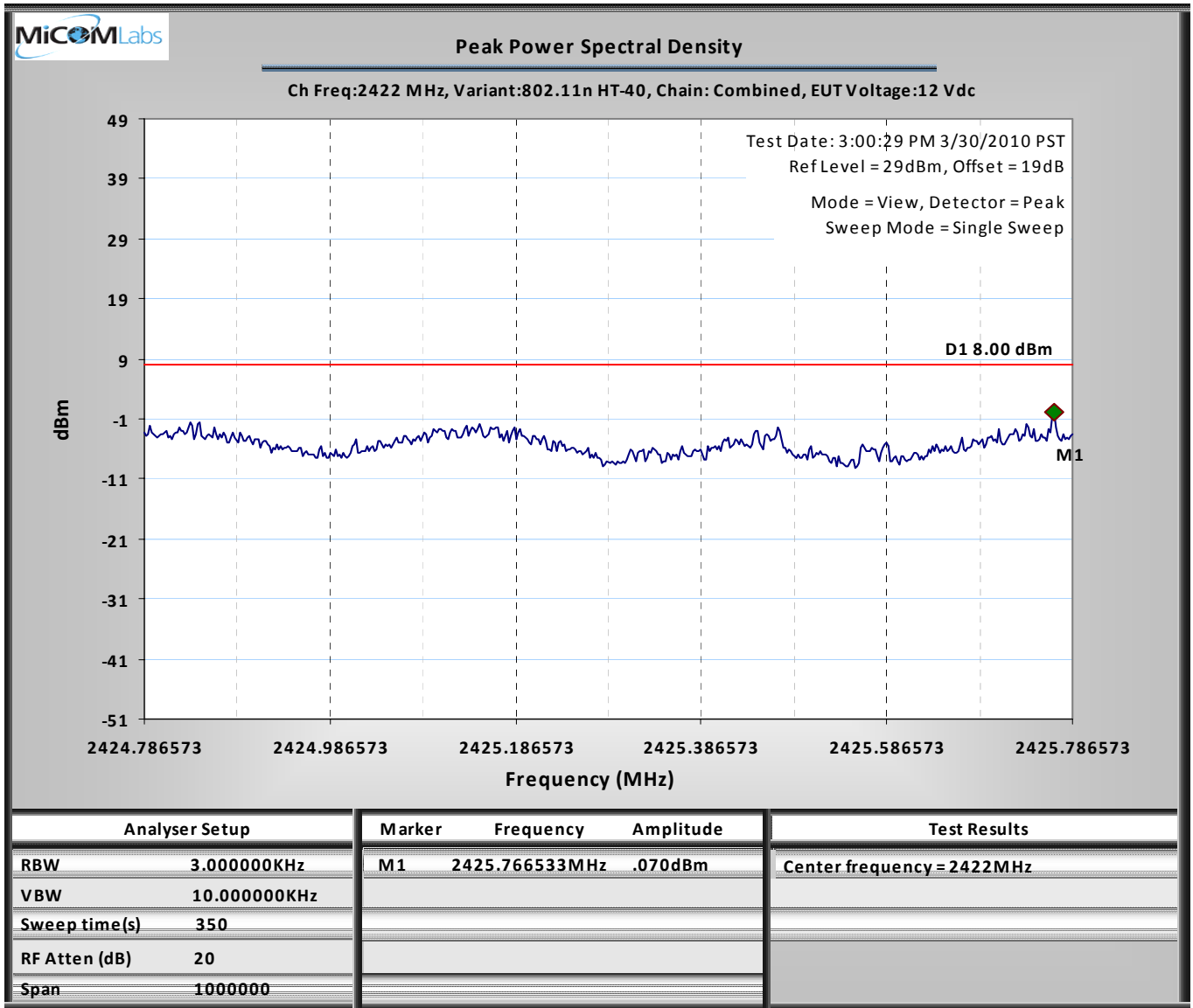
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 113 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



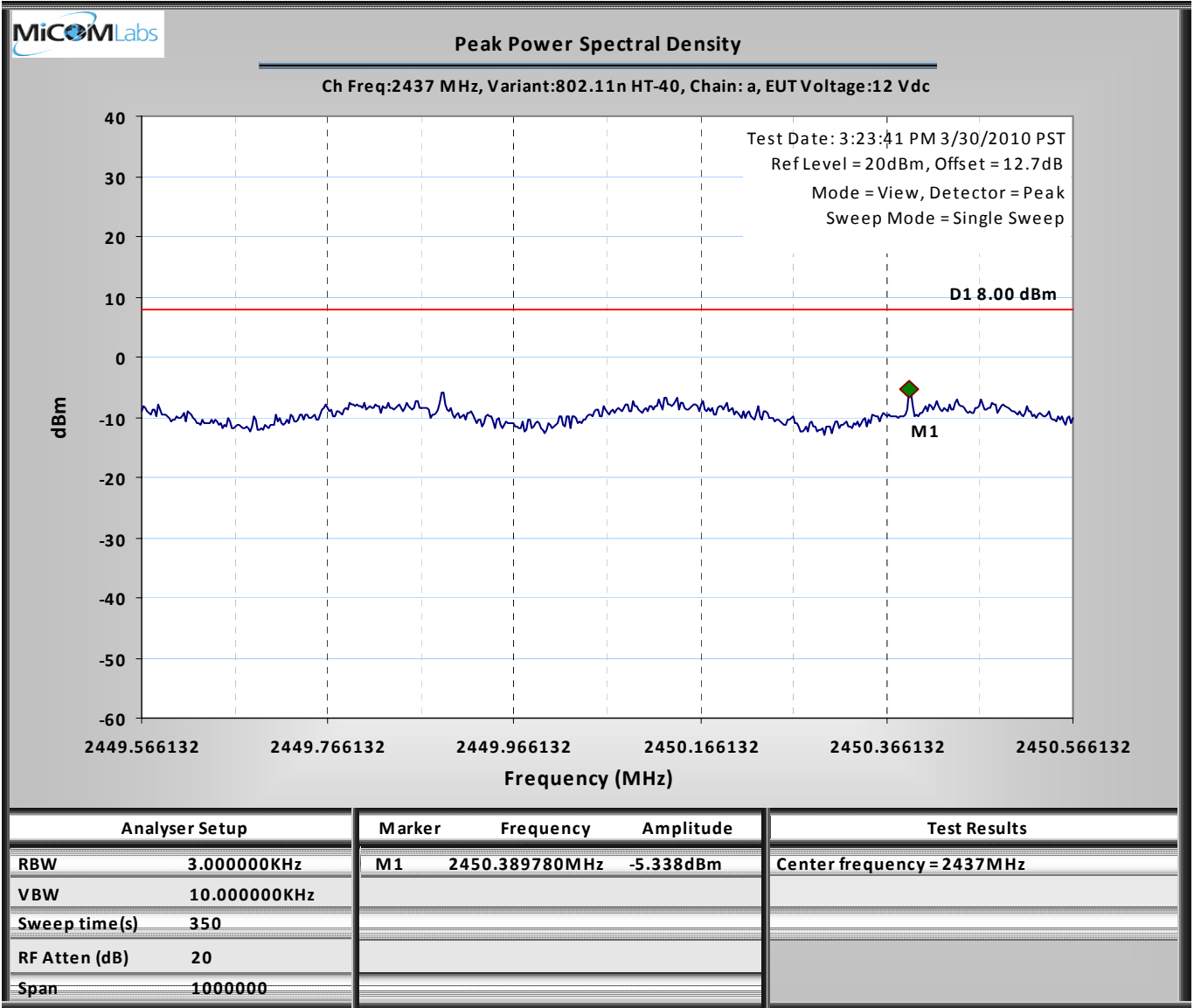
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 114 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



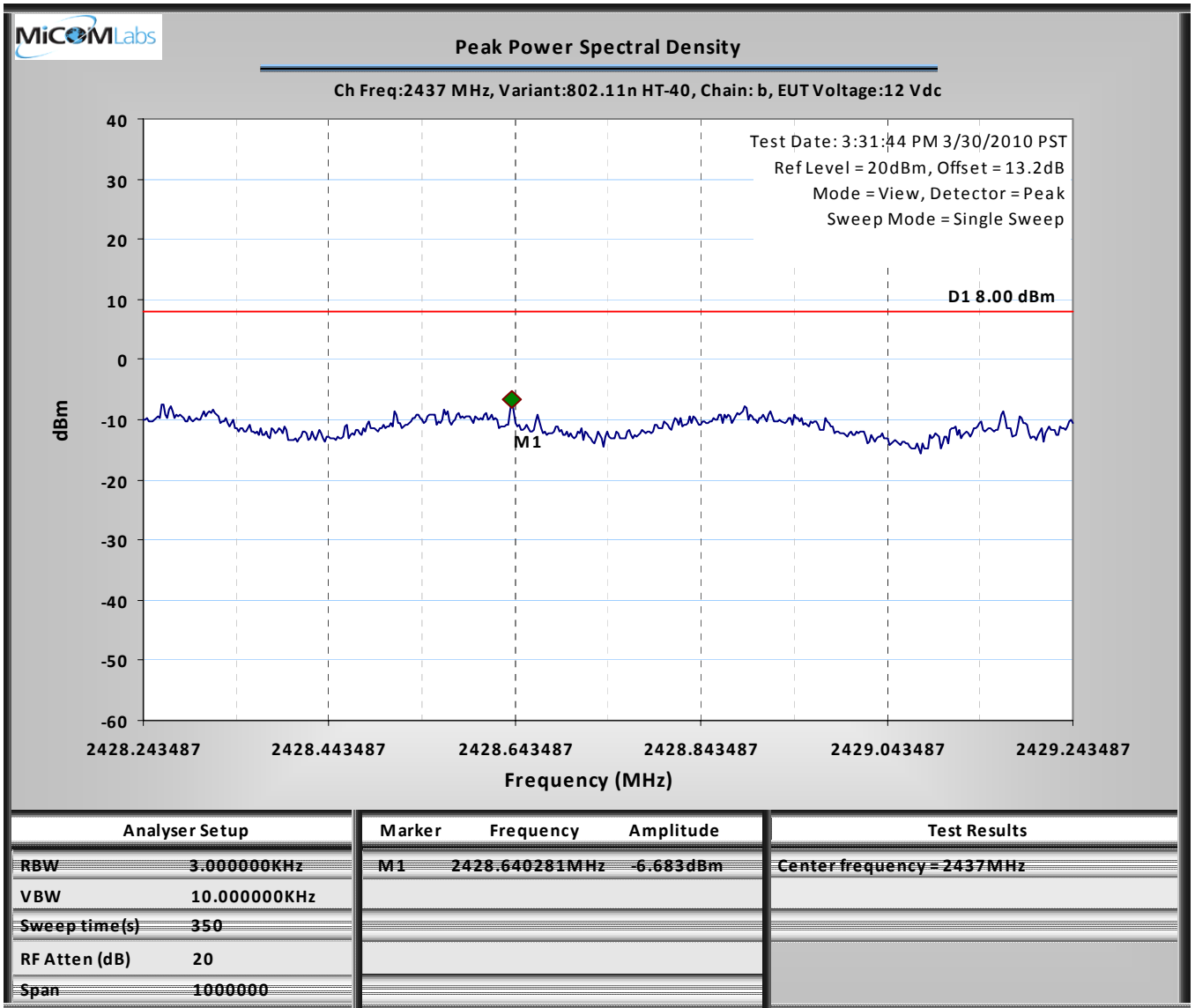
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 115 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



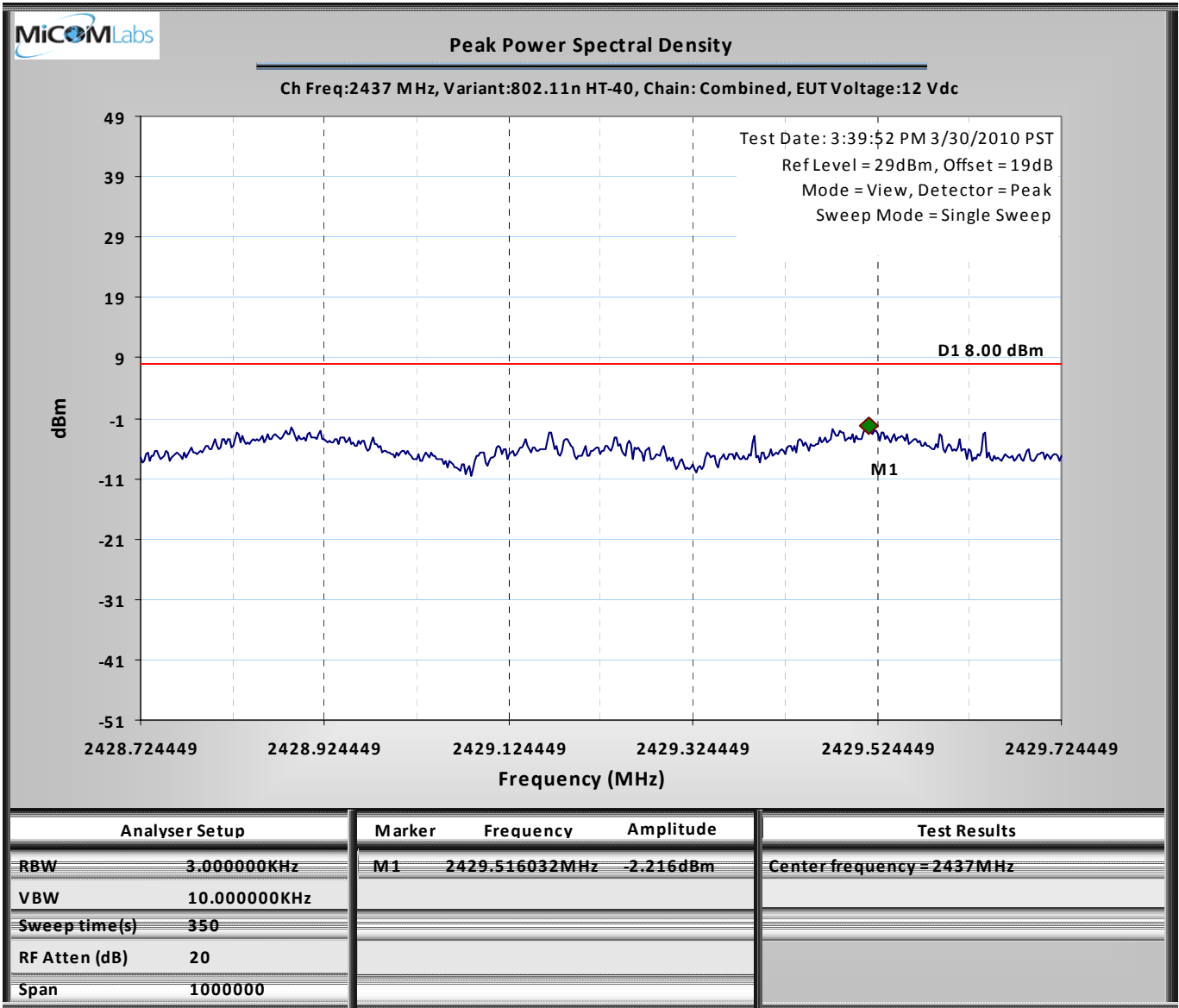
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 116 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



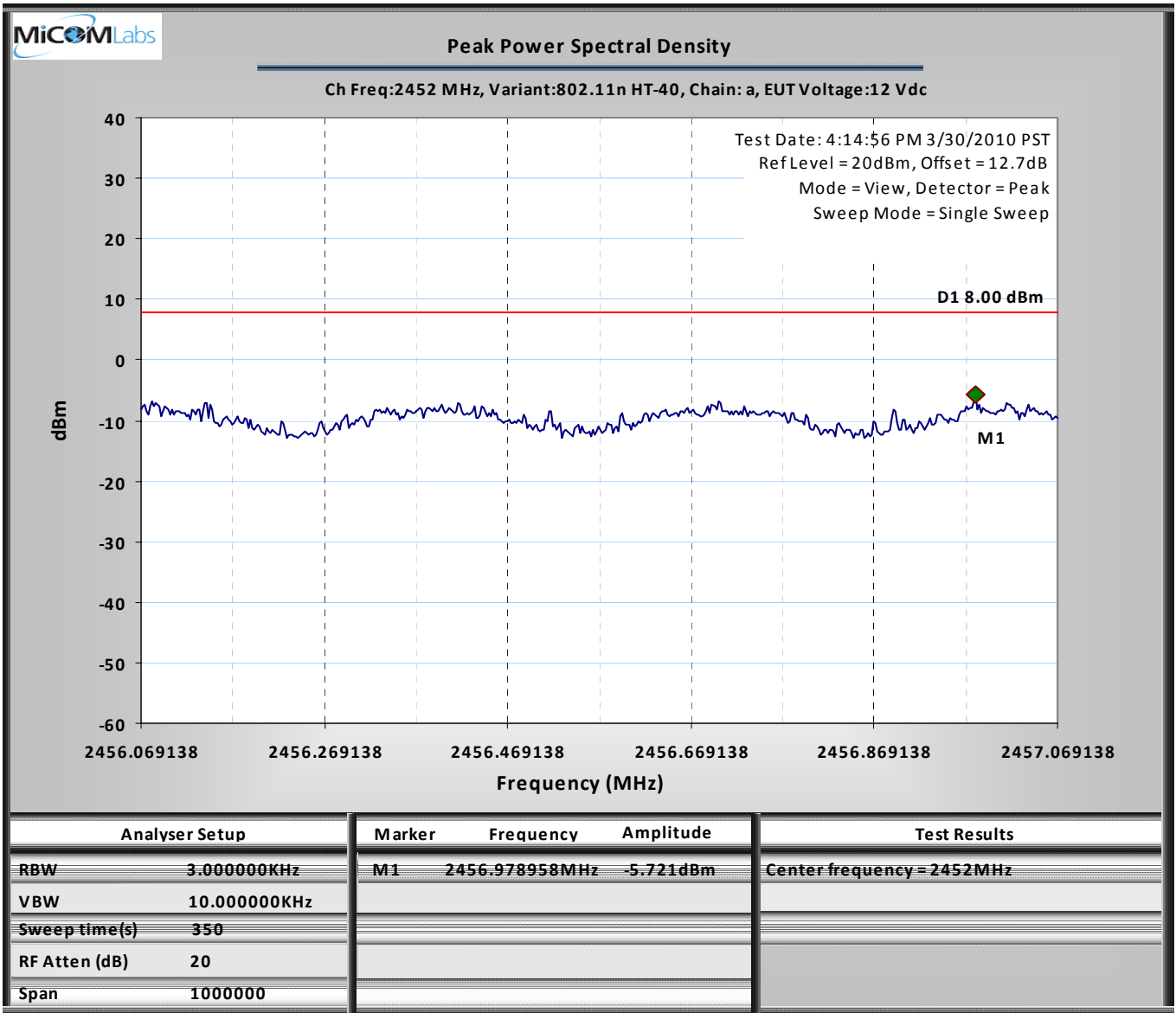
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 117 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



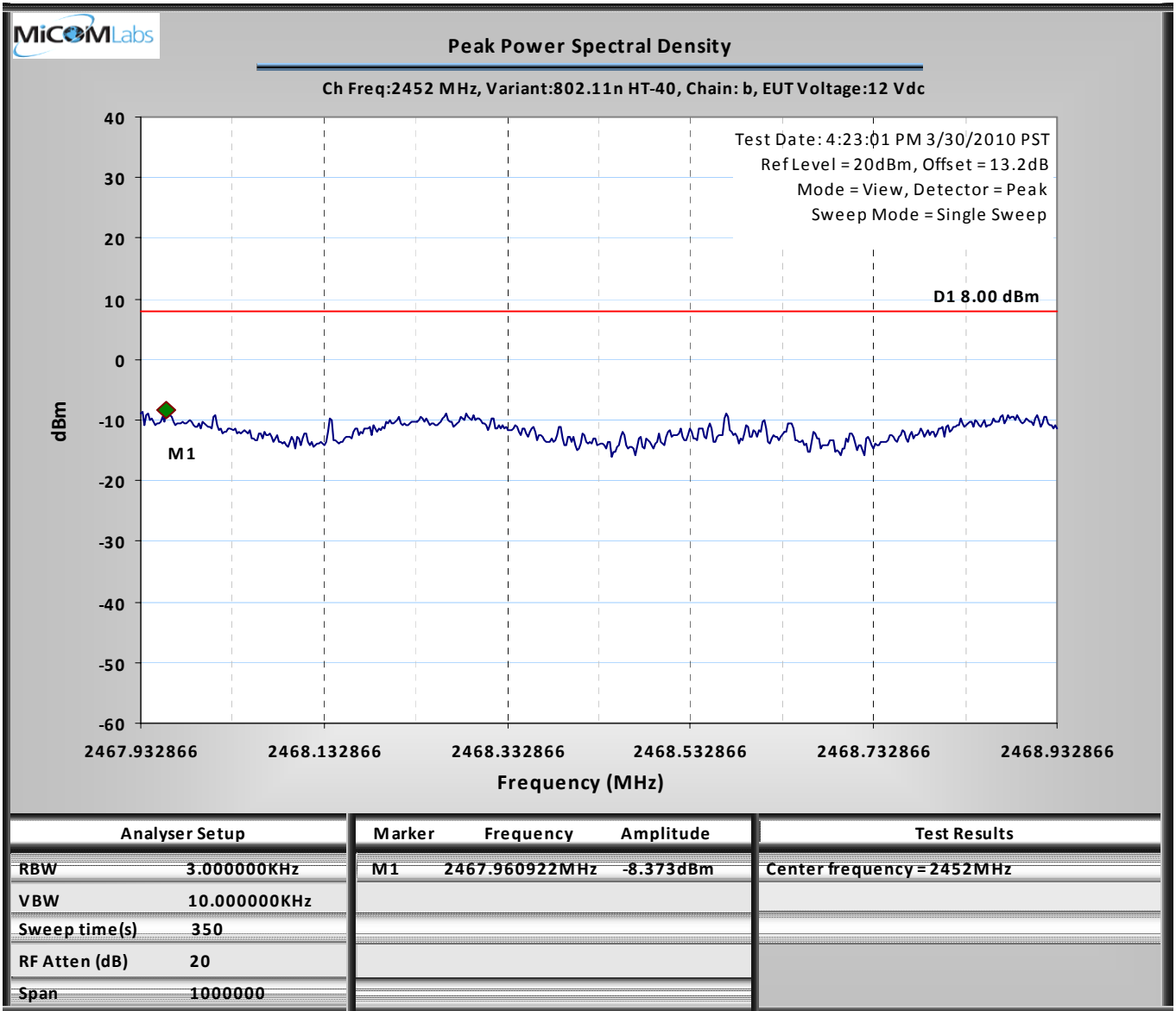
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 118 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



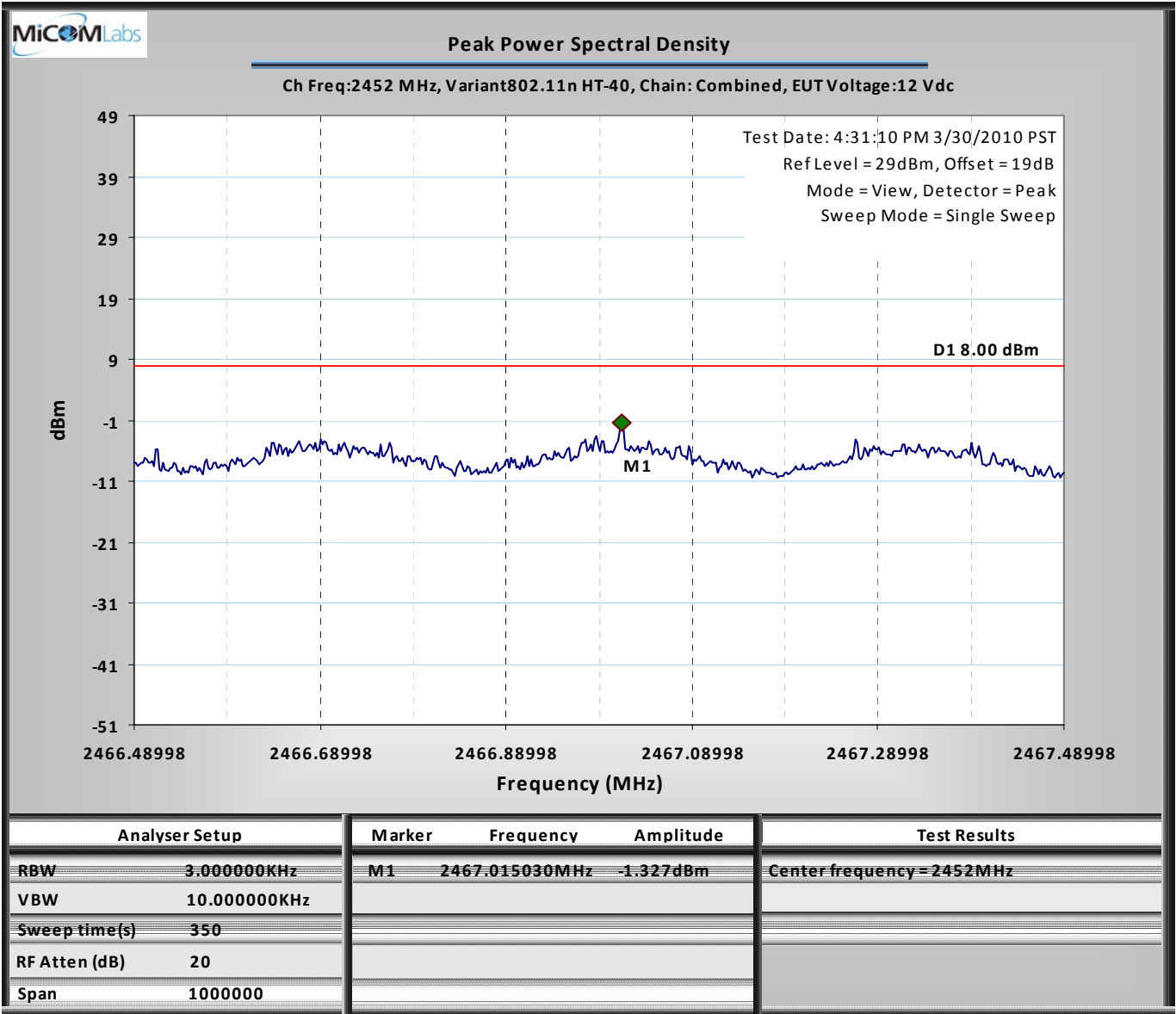
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 119 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 120 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 121 of 372

7.3.5 Measurement results for 802.11a

Test Conditions:	15.247 (e)	Rel. Humidity (%):	35	to	42
Variant:	802.11a	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming	N/A	Antenna Gain:	6	dBi	
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

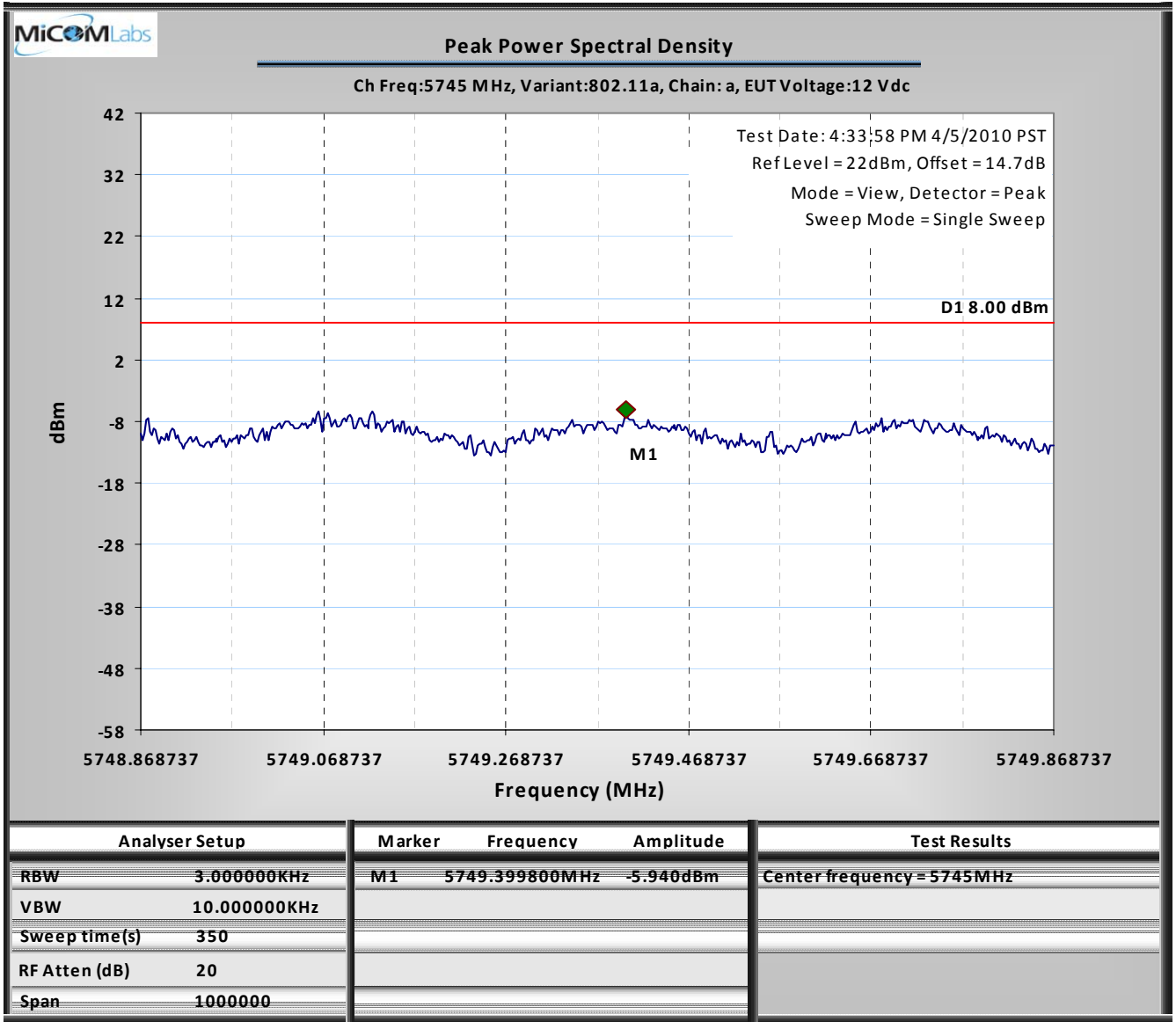
Test Frequency	Measured Power Density				Total Peak Power Spectral Density (dBm)		Limit	Margin
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
5745	-5.94	-8.02	--	--	-2.66	-3.84	8.00	-10.66
5785	-8.40	-8.31	--	--	-2.84	-5.35	8.00	-10.84
5825	-9.01	-7.66	--	--	-3.29	-5.27	8.00	-11.29

Measurement uncertainty:	± 1.33 dB
---------------------------------	-----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



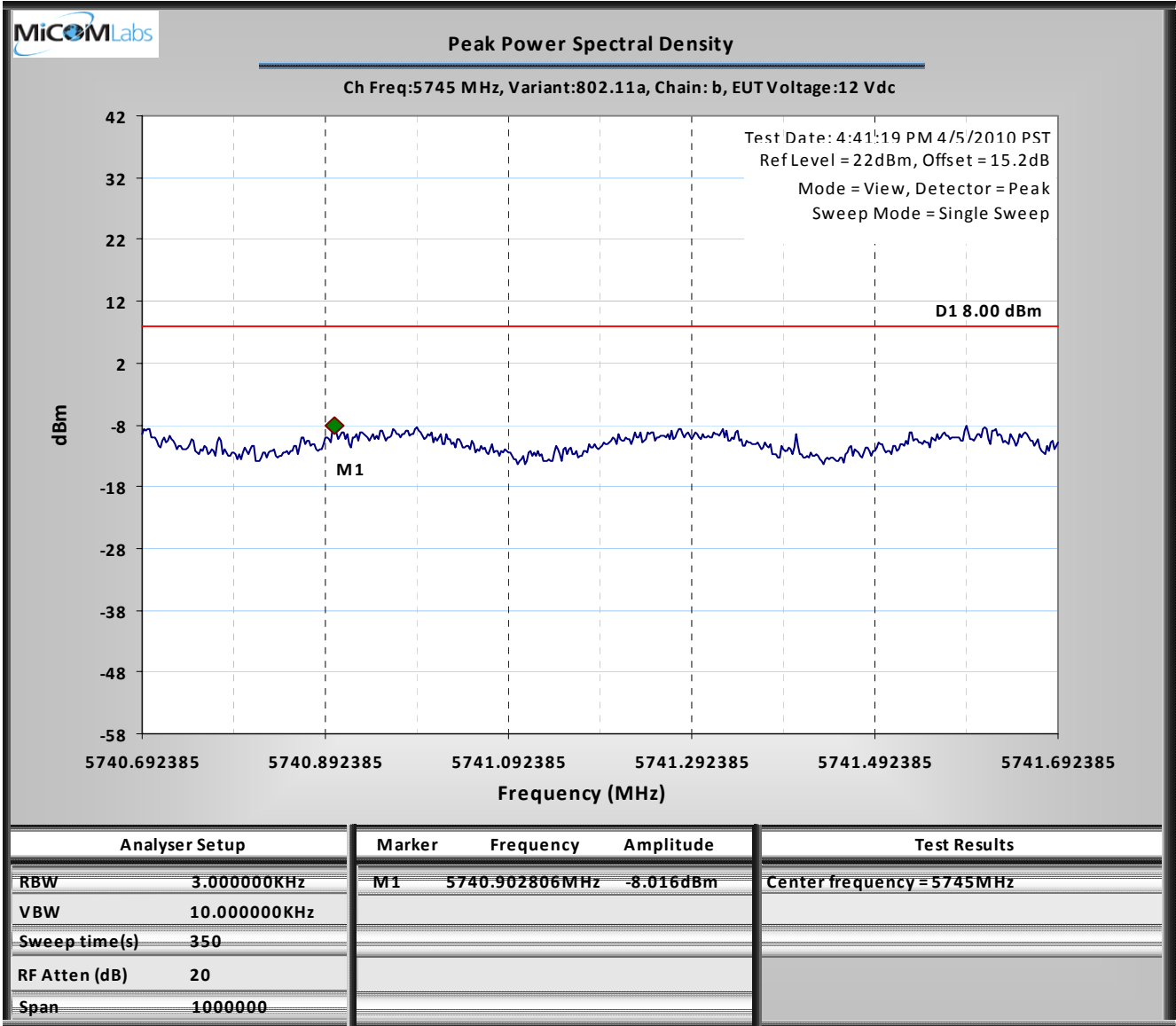
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 122 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



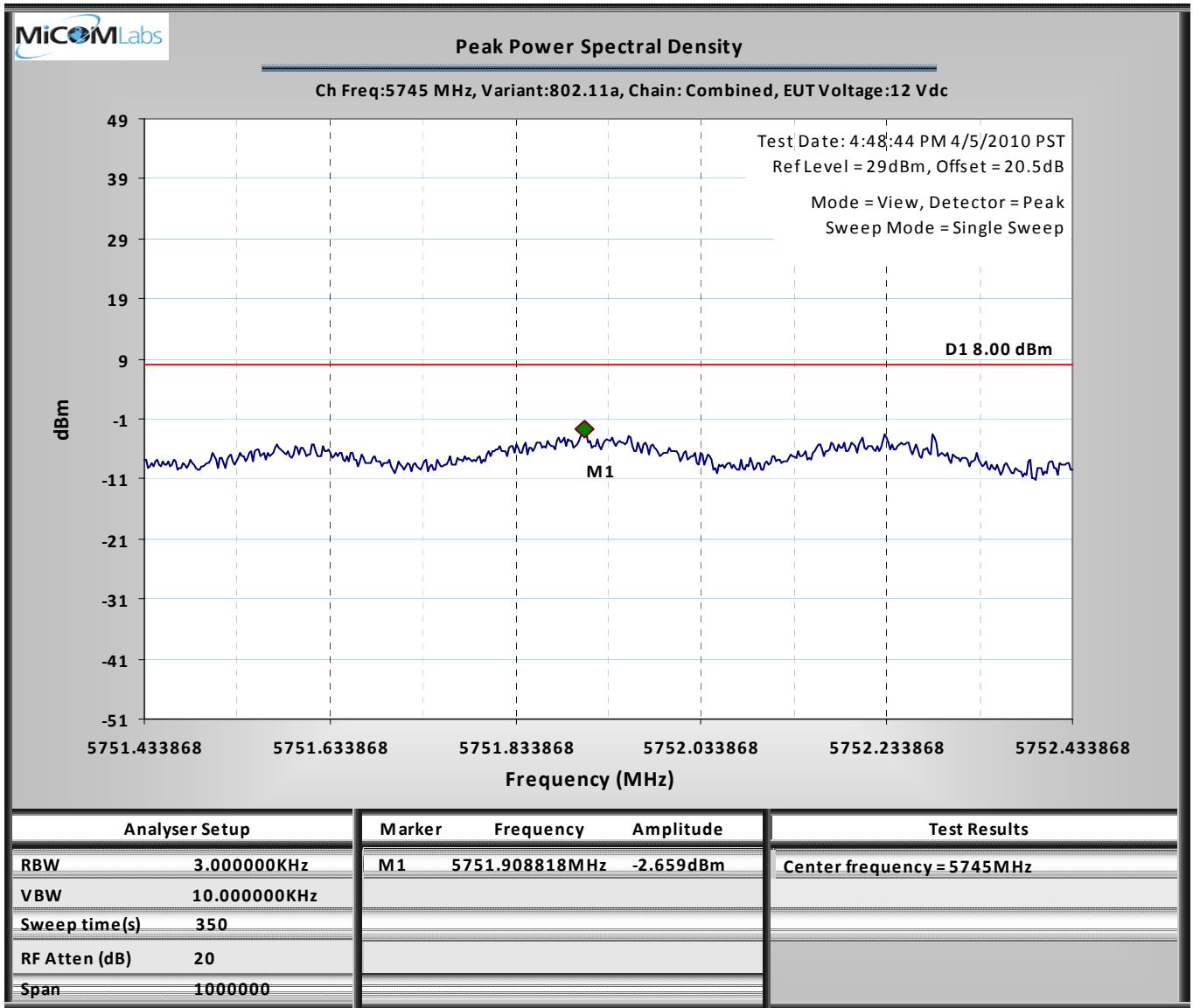
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 123 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



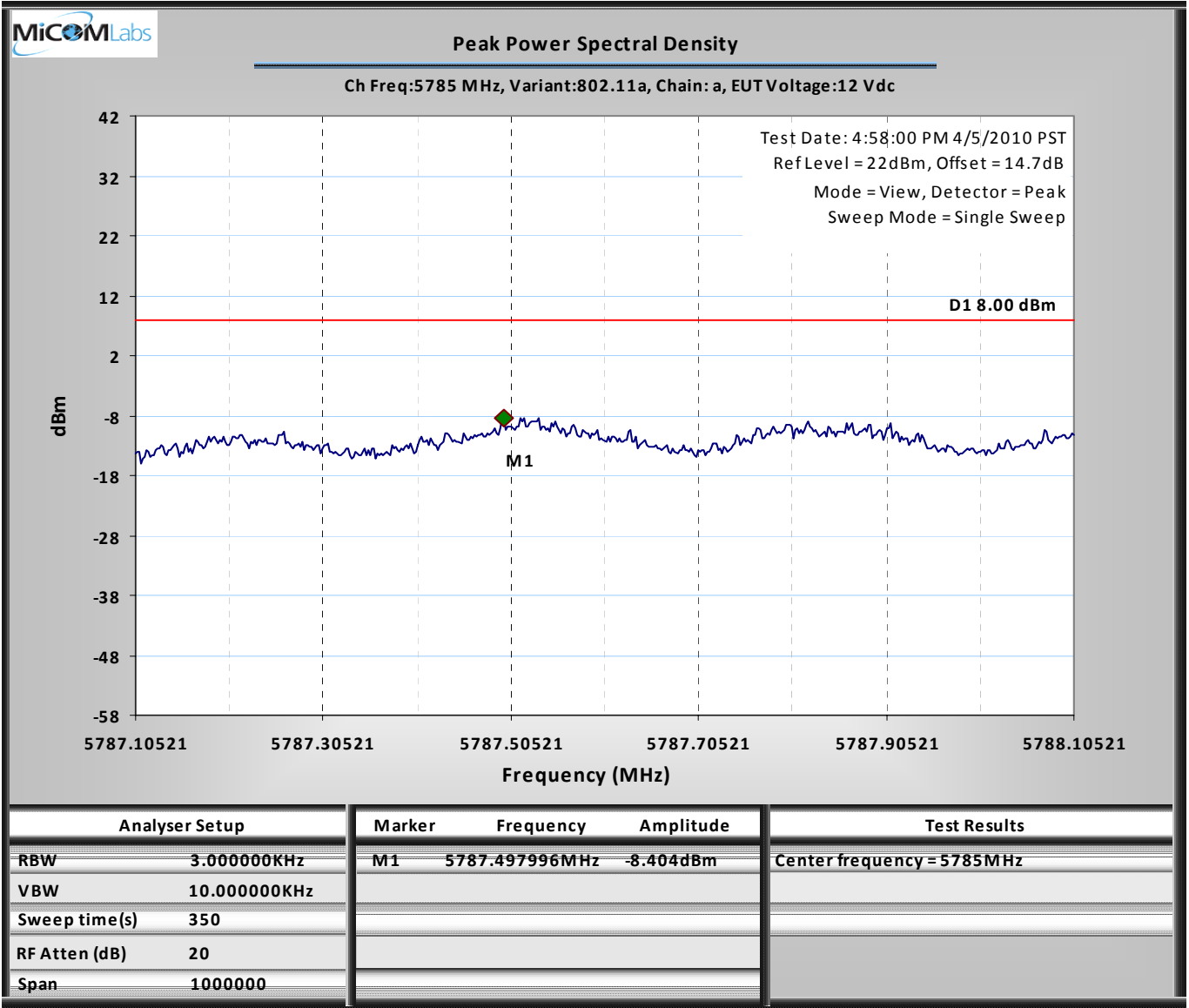
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 124 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



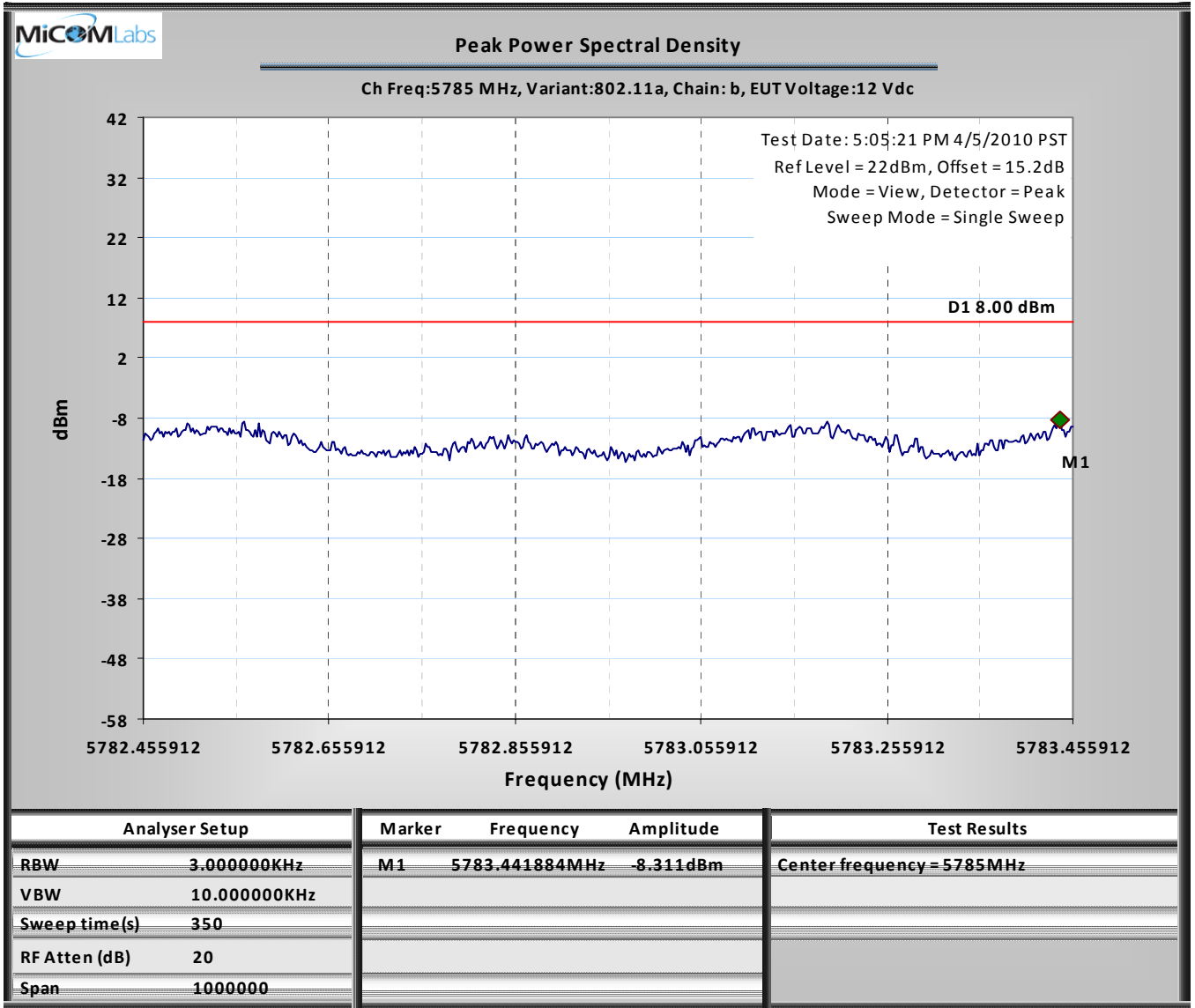
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 125 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



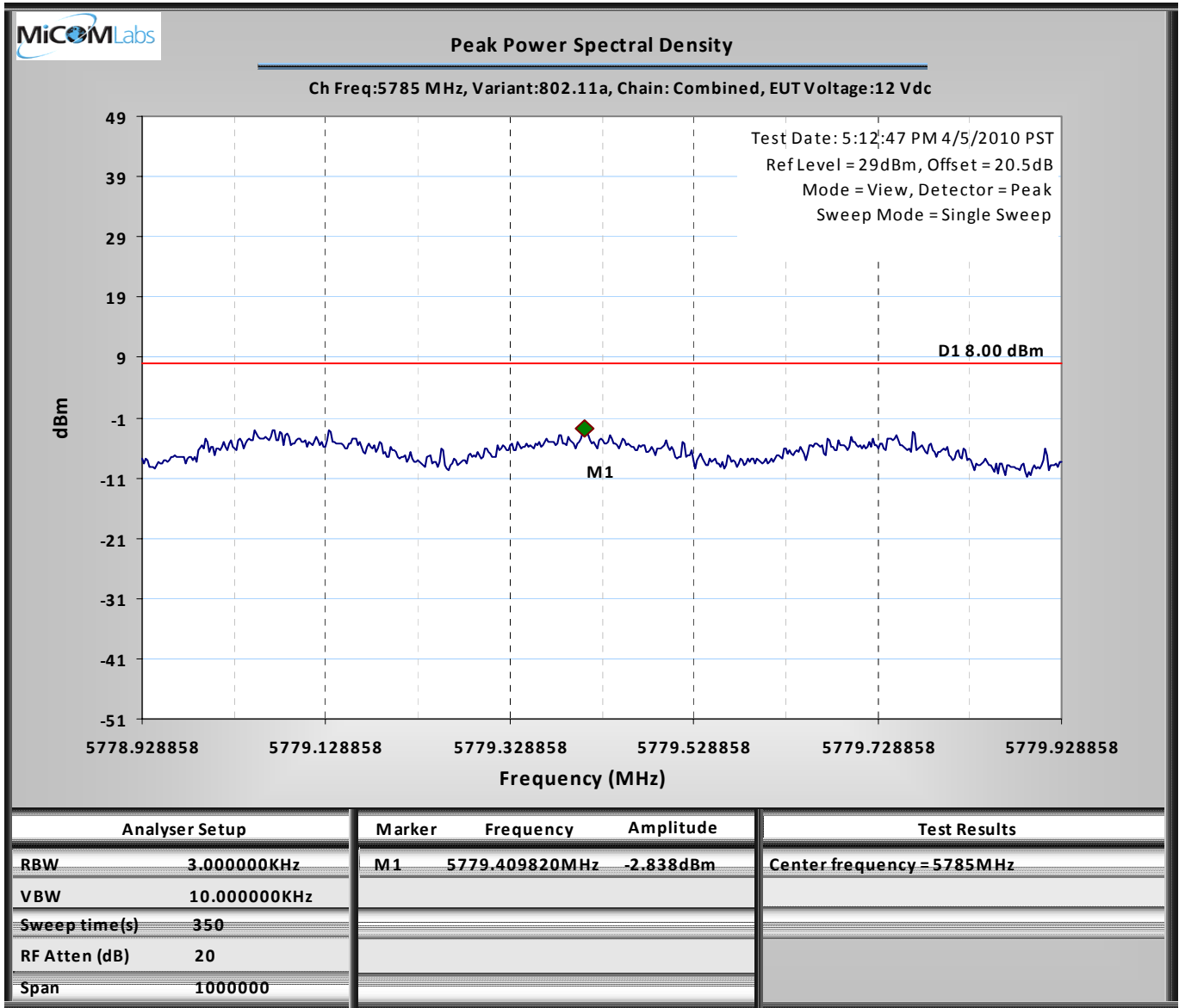
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 126 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



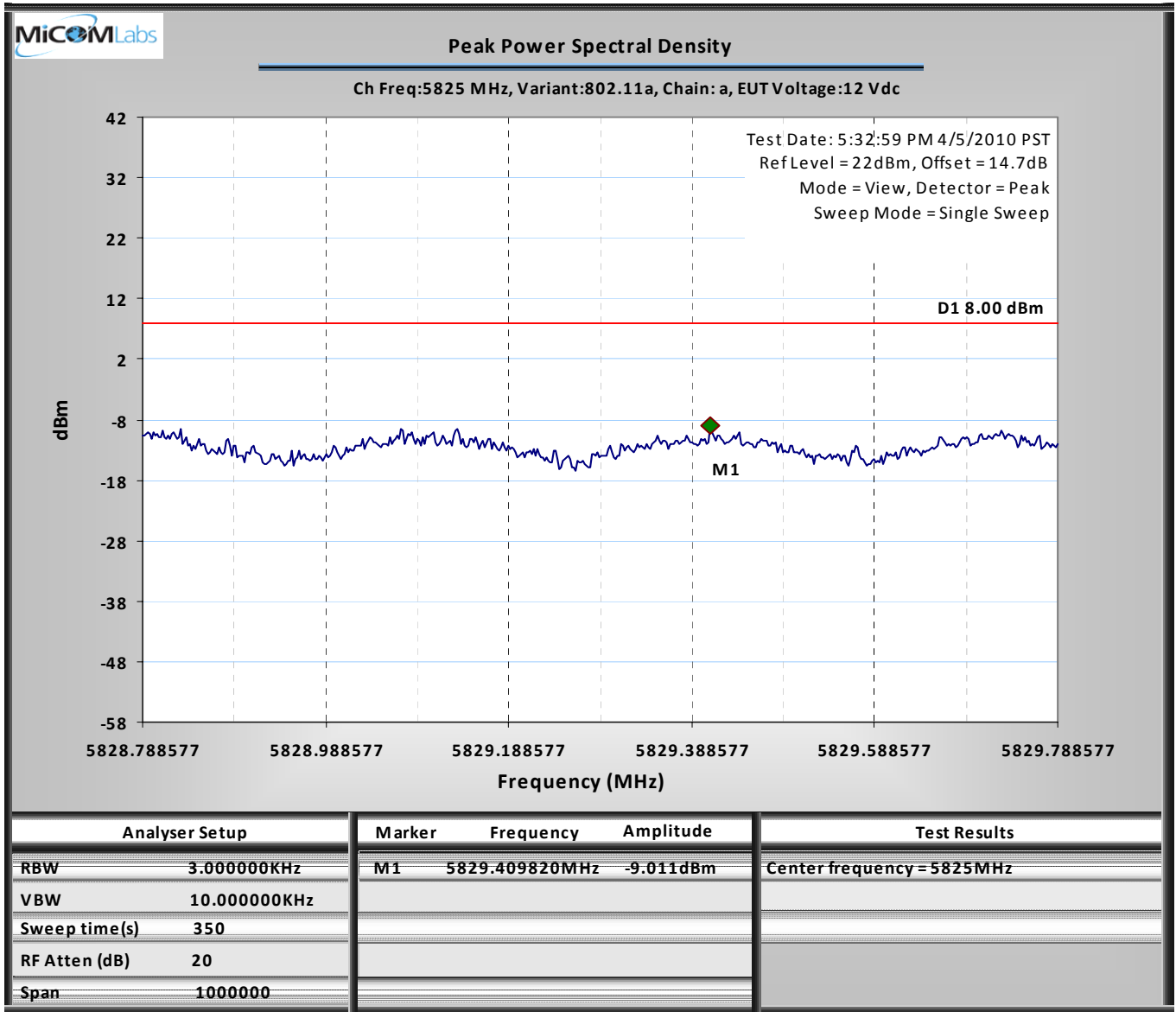
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 127 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



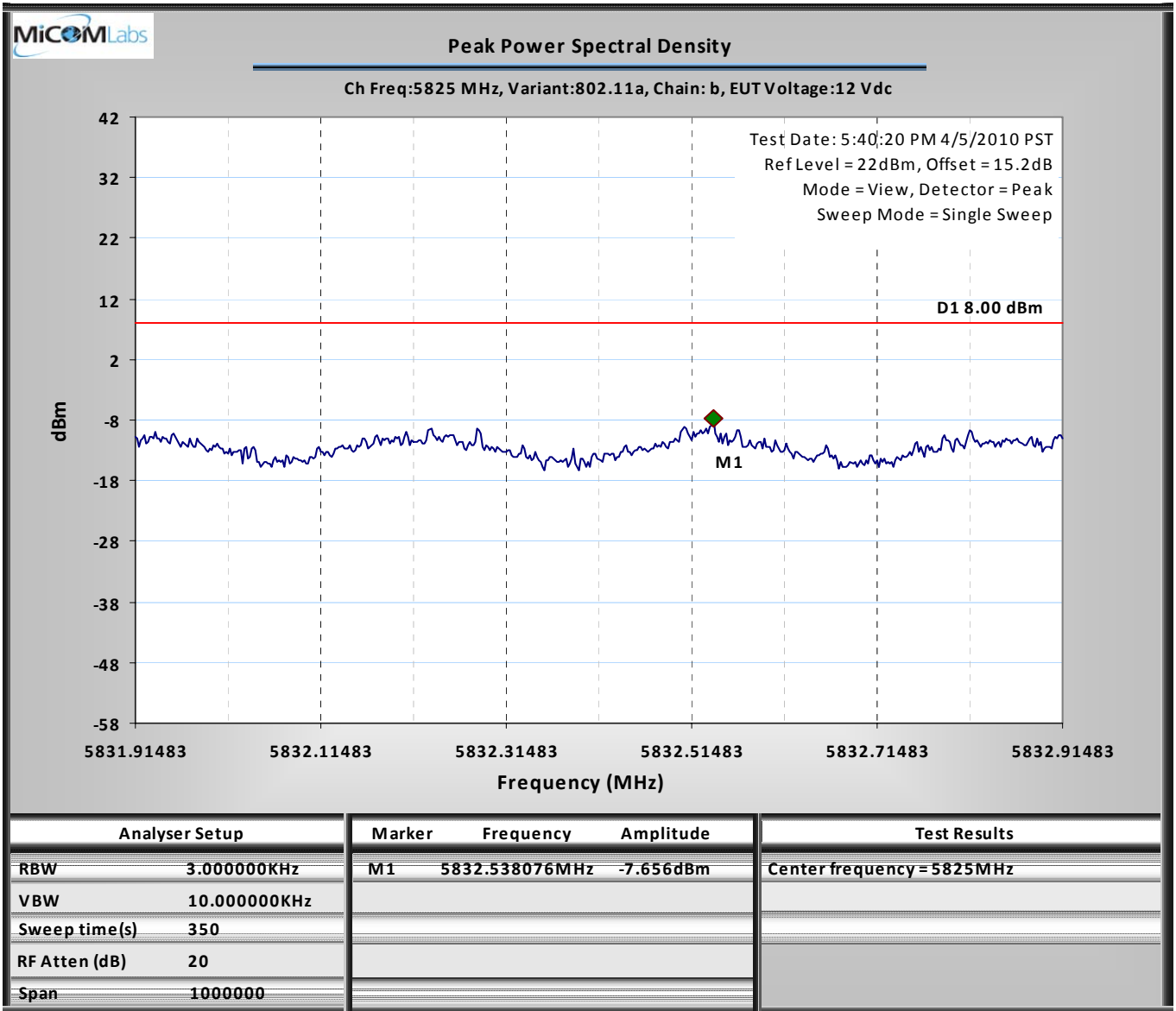
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 128 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



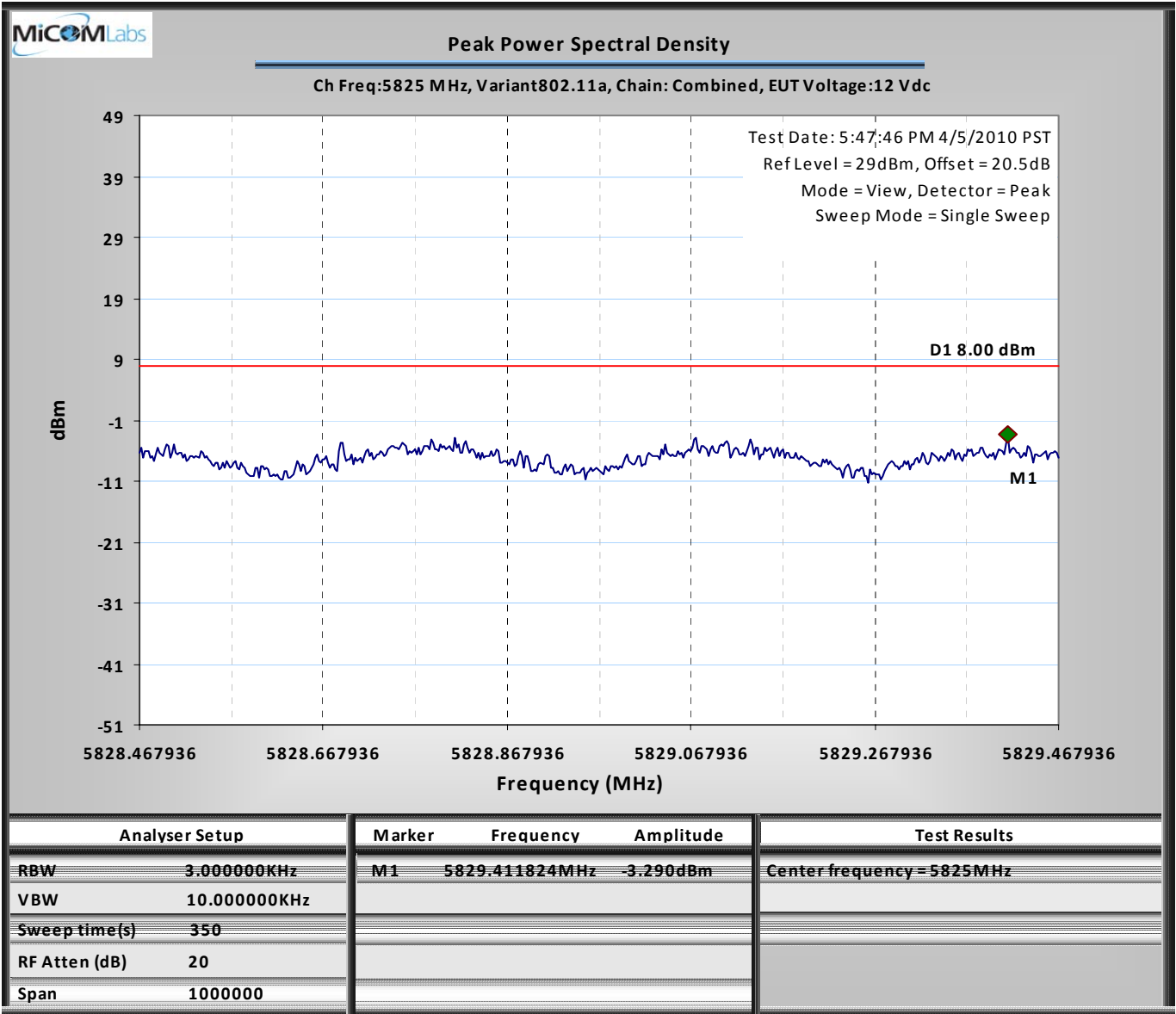
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 129 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 130 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 131 of 372

7.3.6 Measurement results for 802.11n HT-20

Test Conditions:	15.247 (e)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming	N/A dB	Antenna Gain:	6 dBi		
Applied Voltage:	12.0 Vdc				
Notes 1:					
Notes 2:					

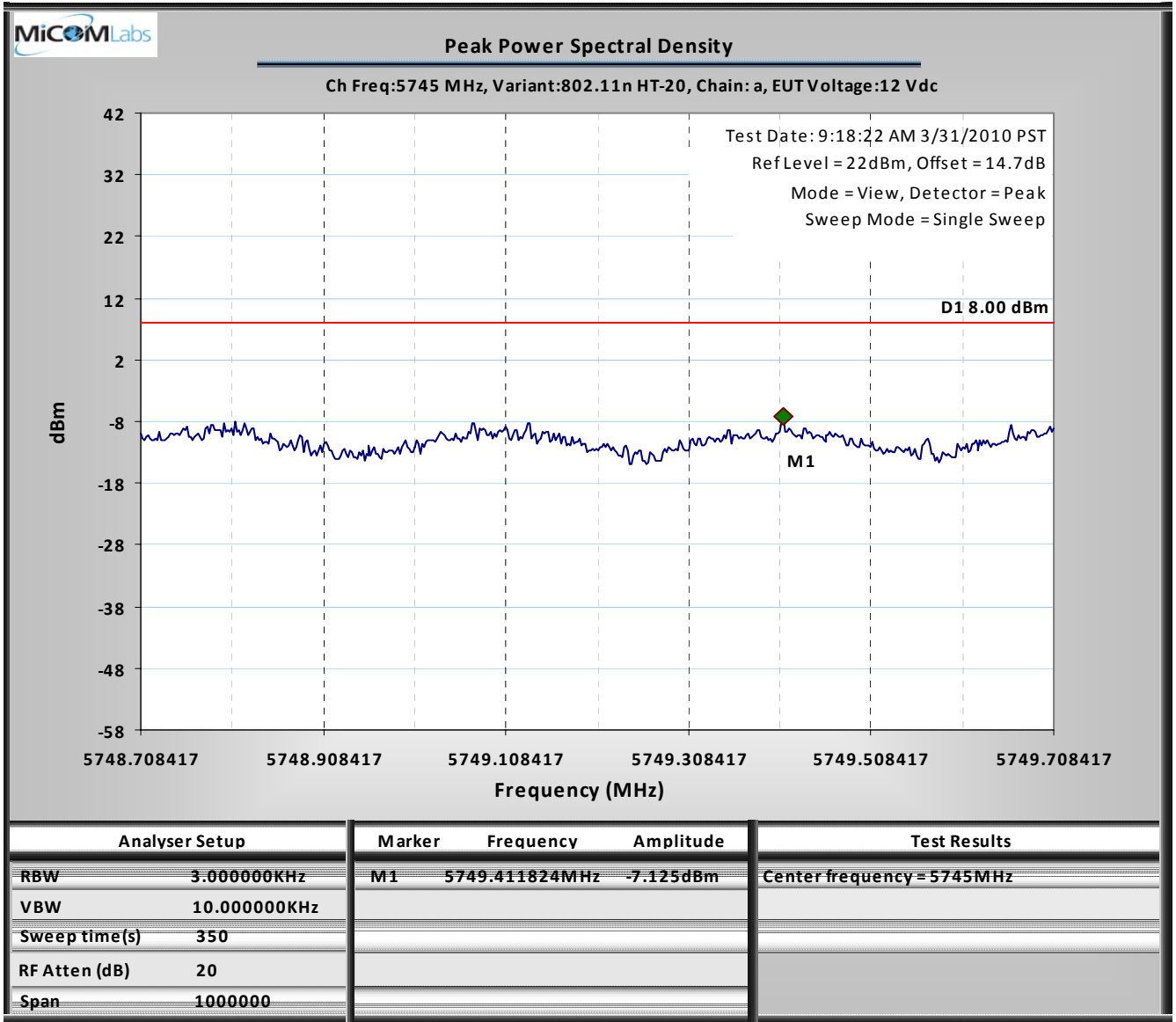
Test Frequency	Measured Power Density				Total Peak Power Spectral Density (dBm)		Limit dBm	Margin dB
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
5745	-7.13	-6.89			-1.83	-3.99509718	8.00	-9.83
5785	-8.54	-7.52			-2.06	-4.99049858	8.00	-10.06
5825	-9.32	-9.09			-3.13	-6.19323012	8.00	-11.13

Measurement uncertainty:	± 1.33 dB
---------------------------------	---------------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



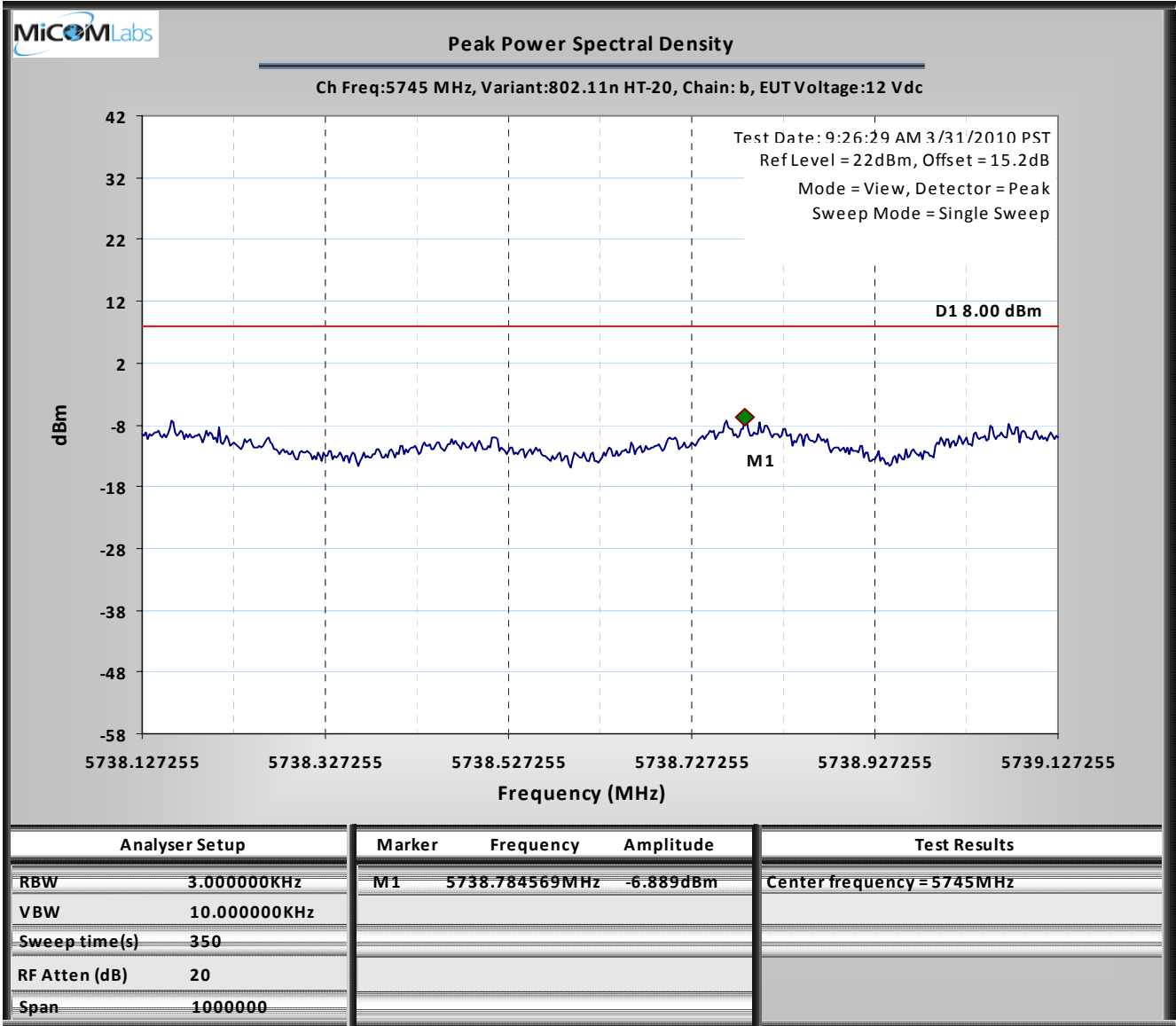
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 132 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



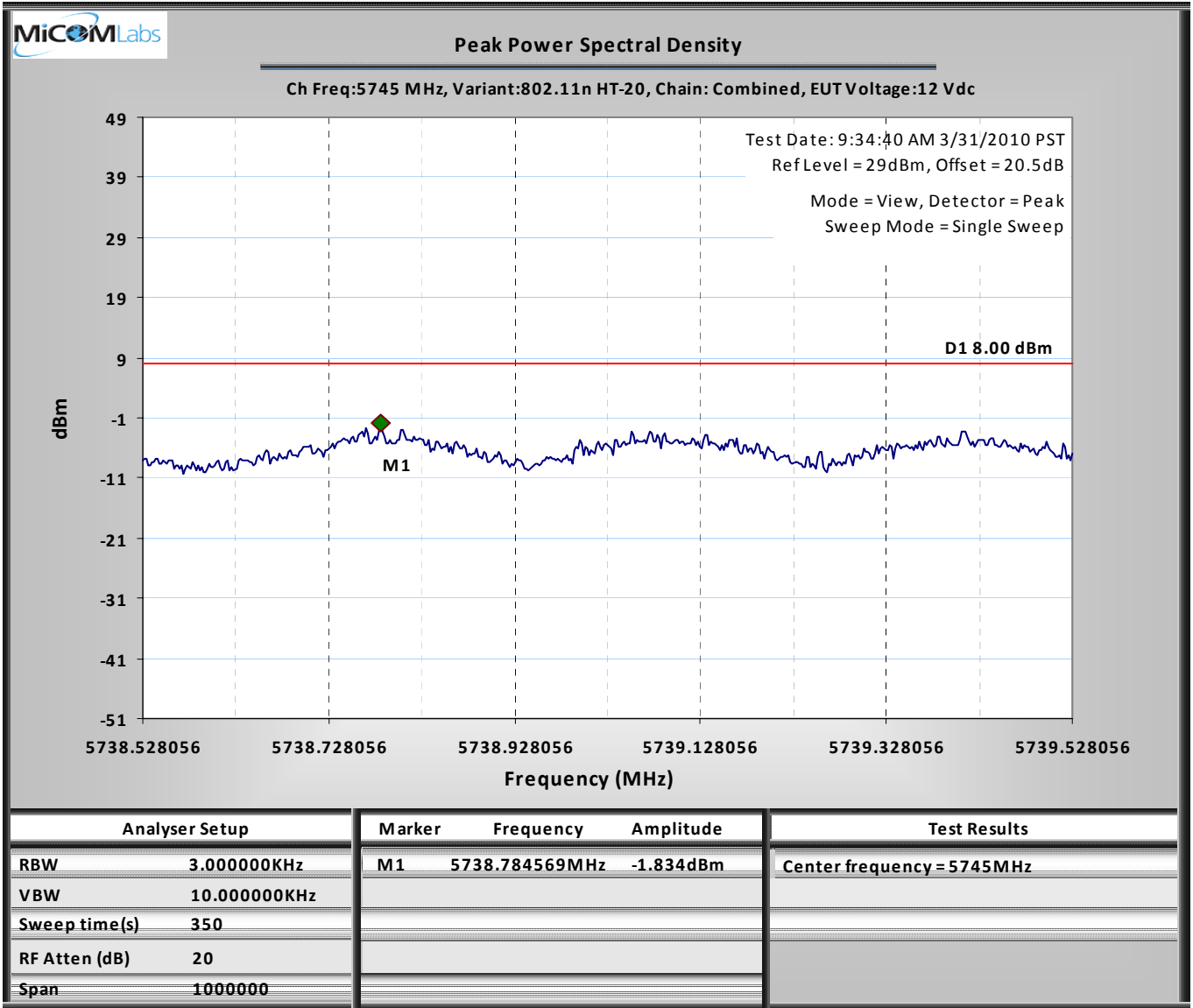
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 133 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



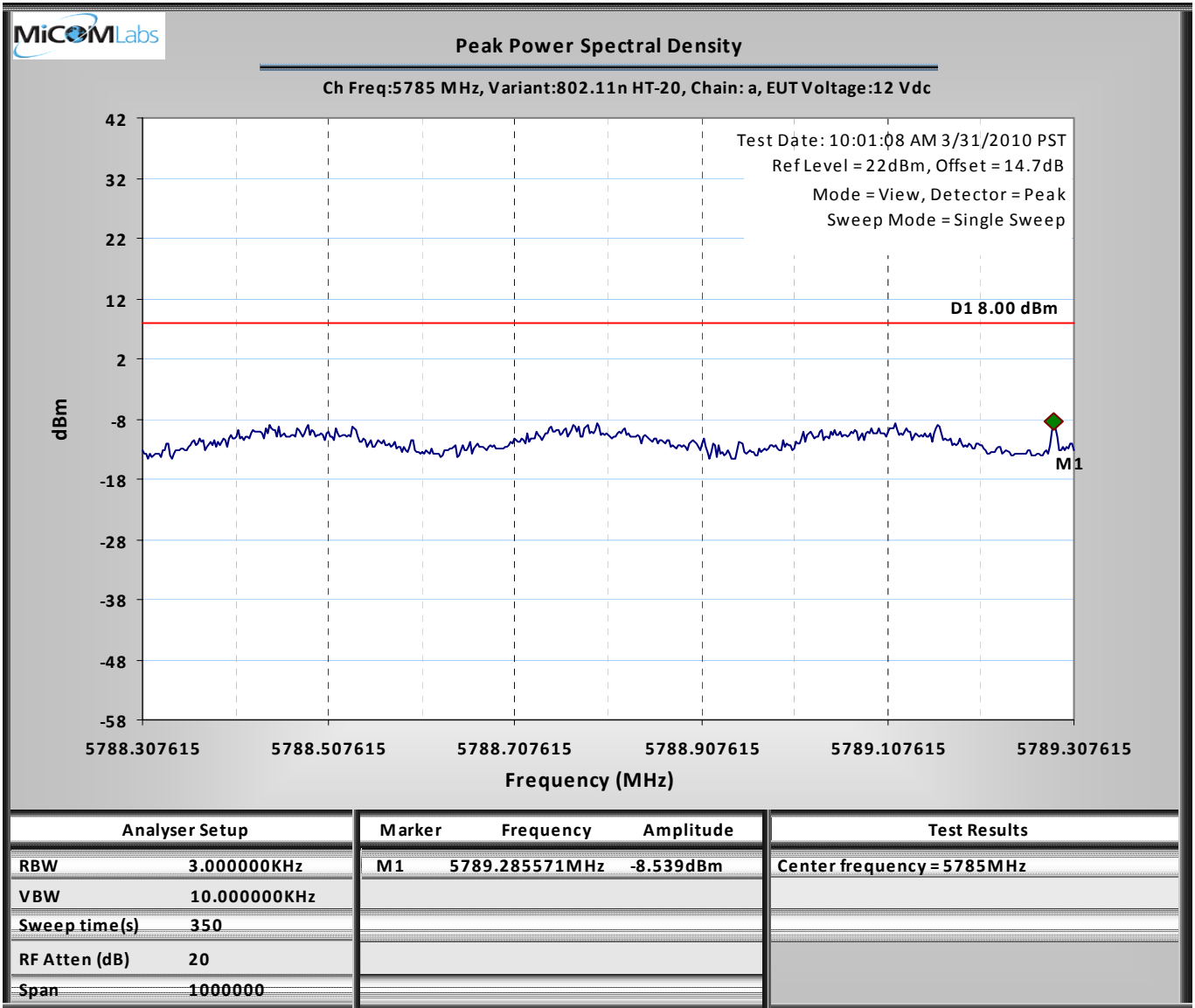
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 134 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



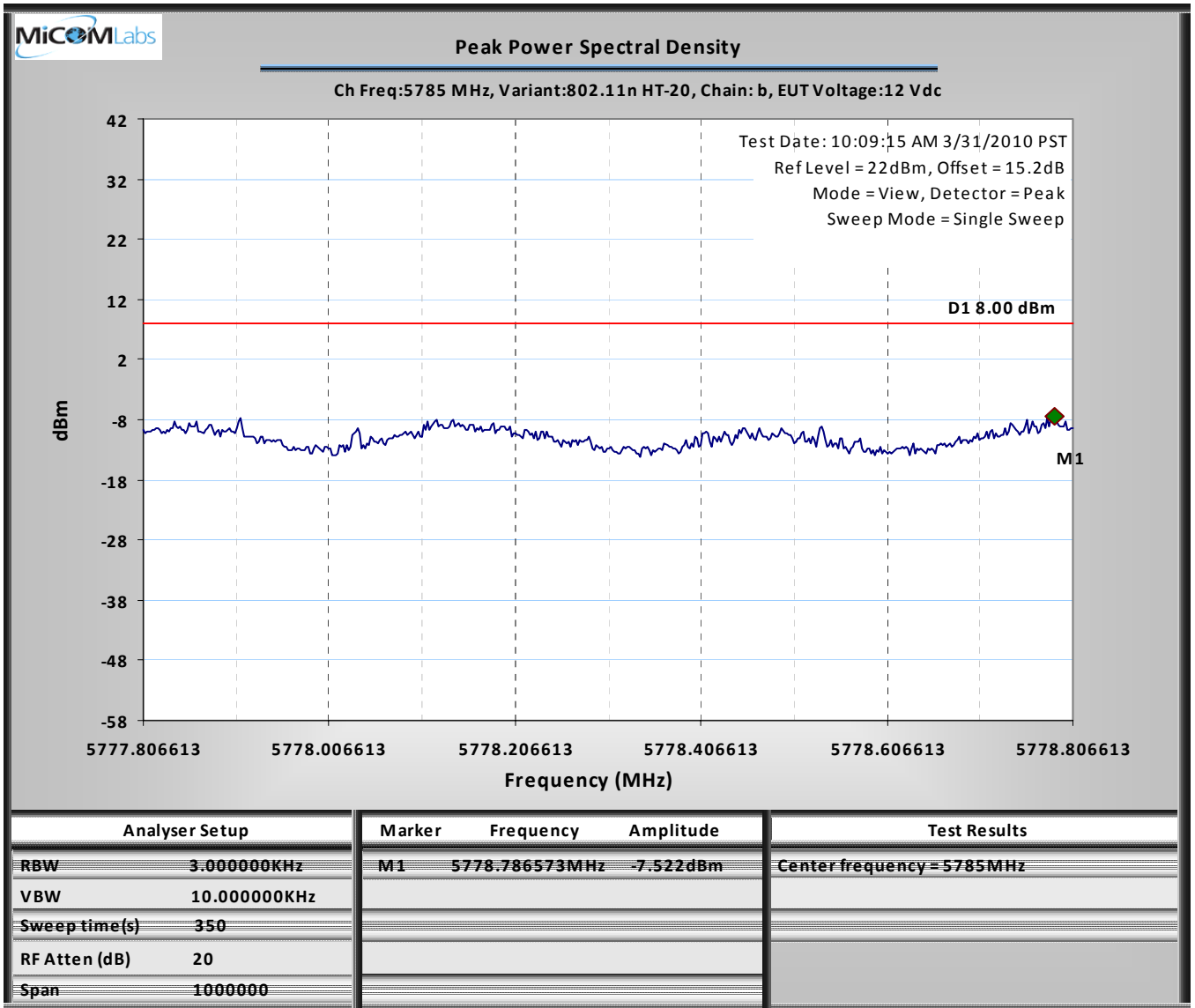
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 135 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



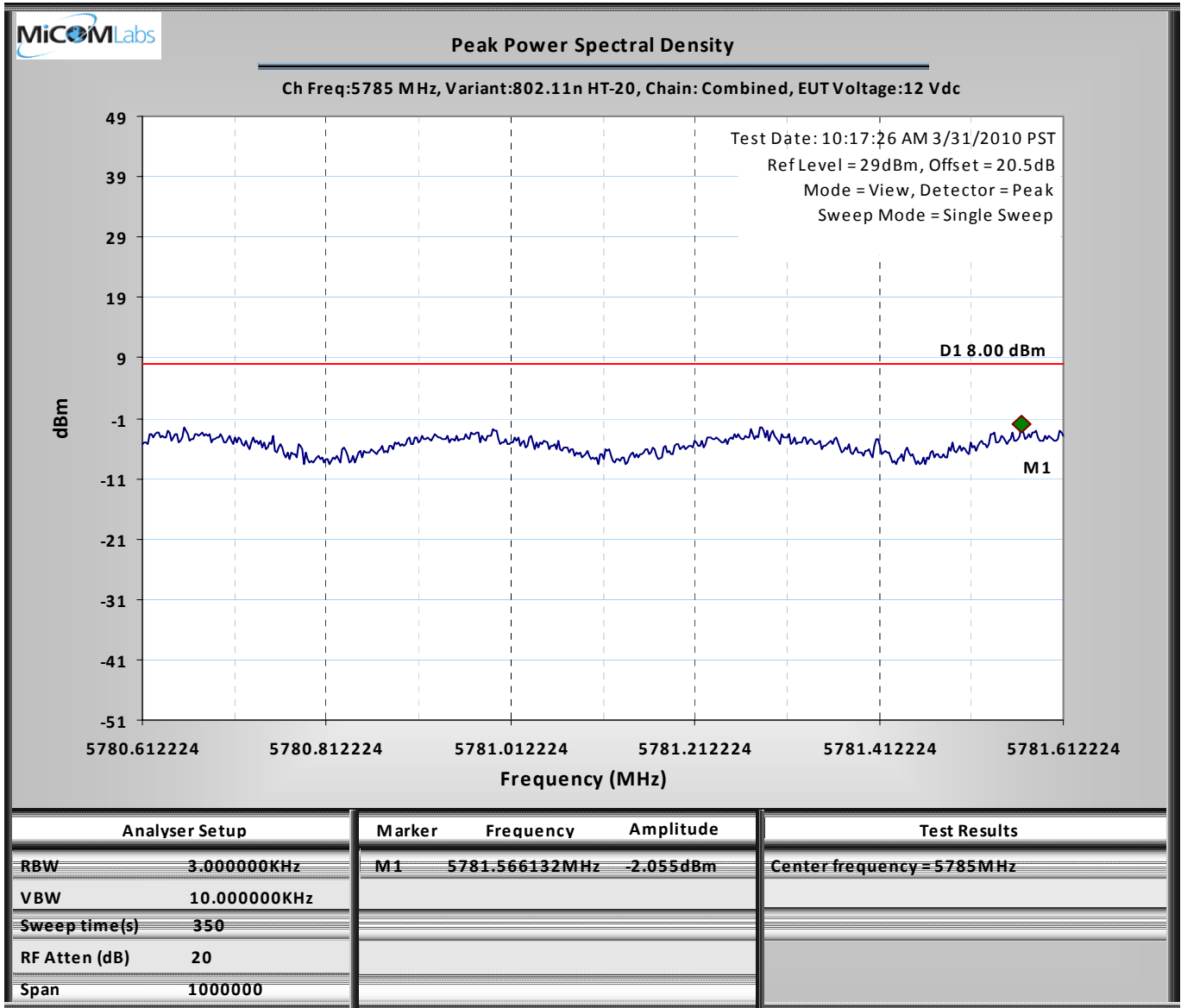
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 136 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



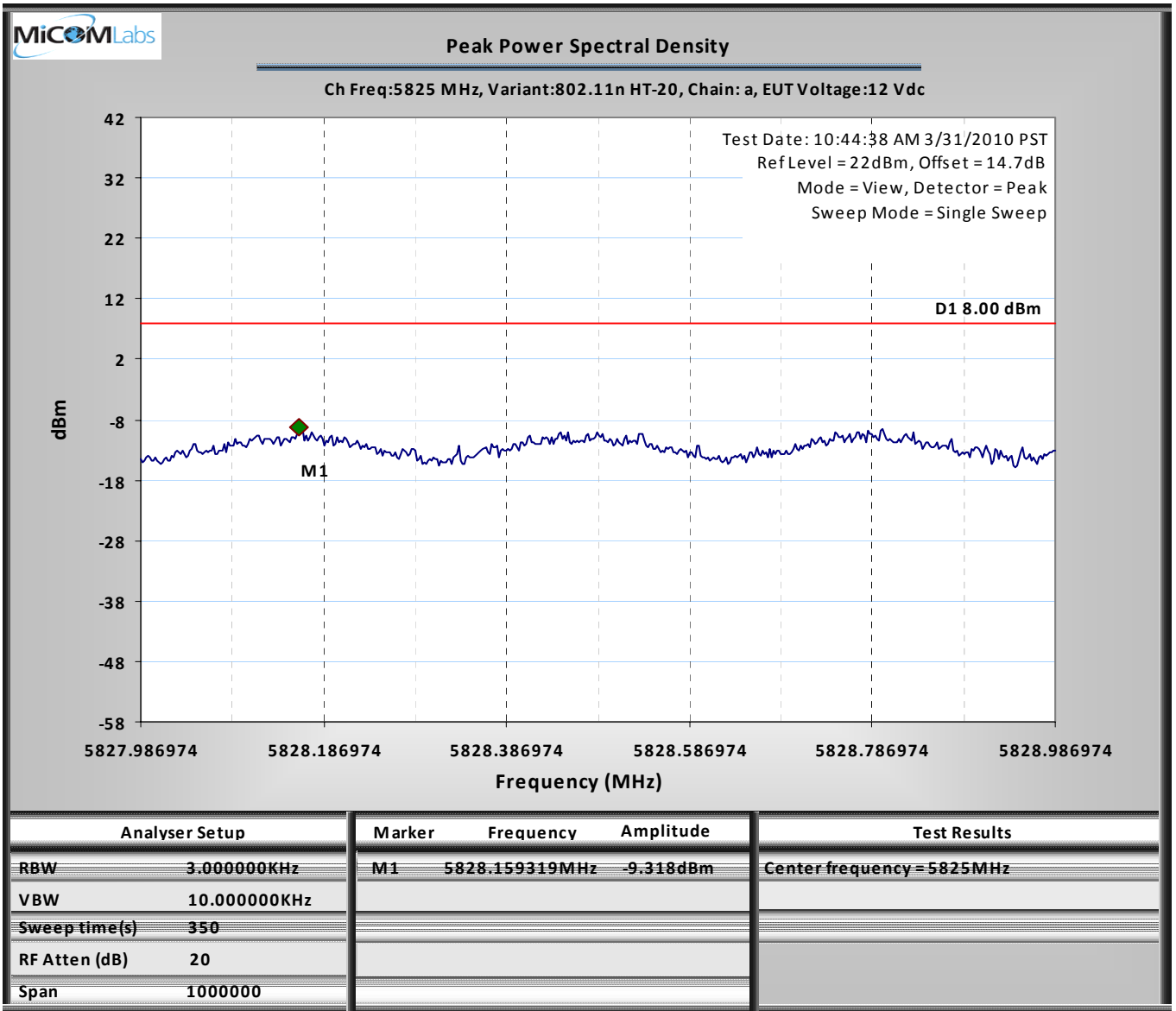
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 137 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



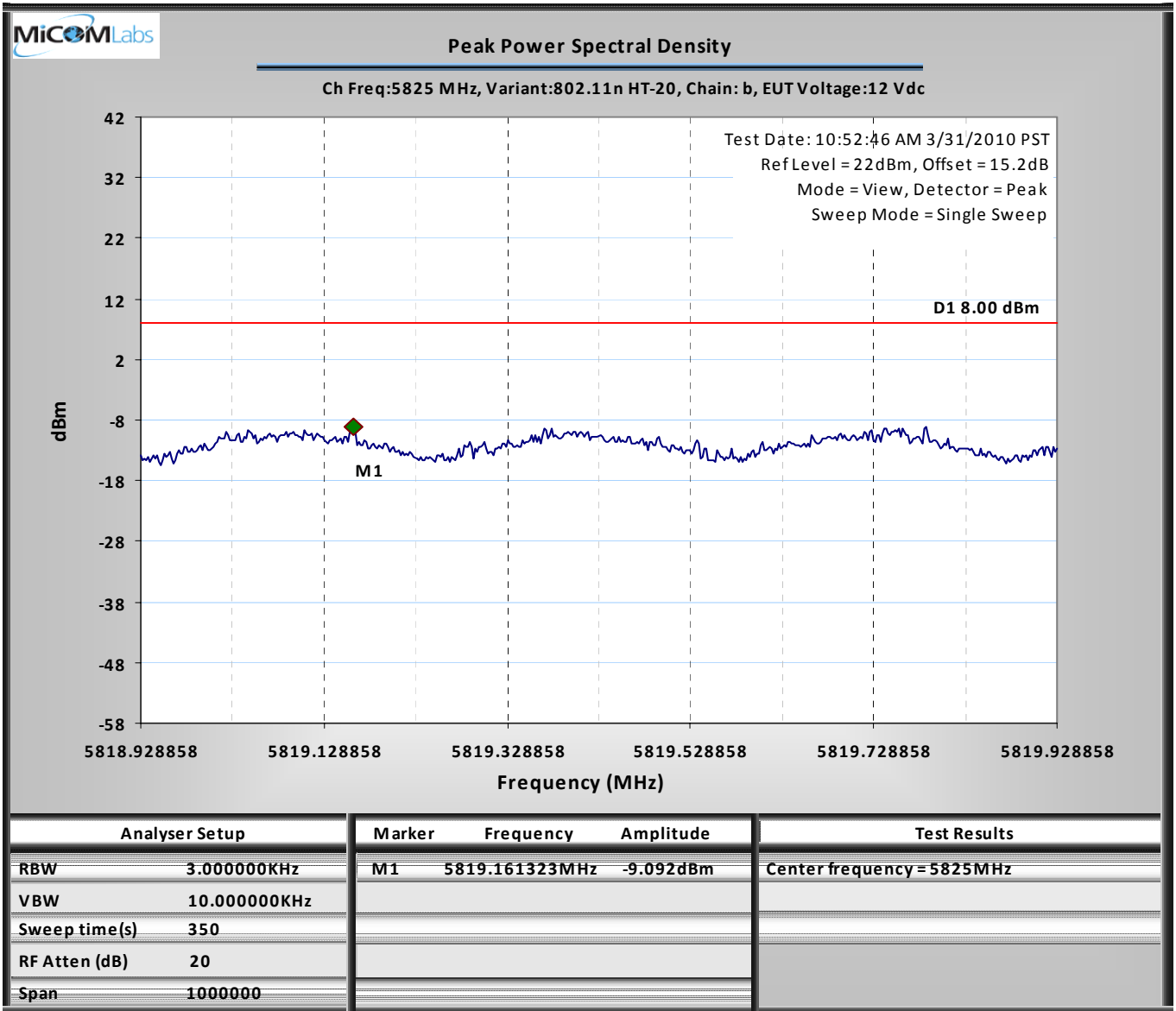
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 138 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



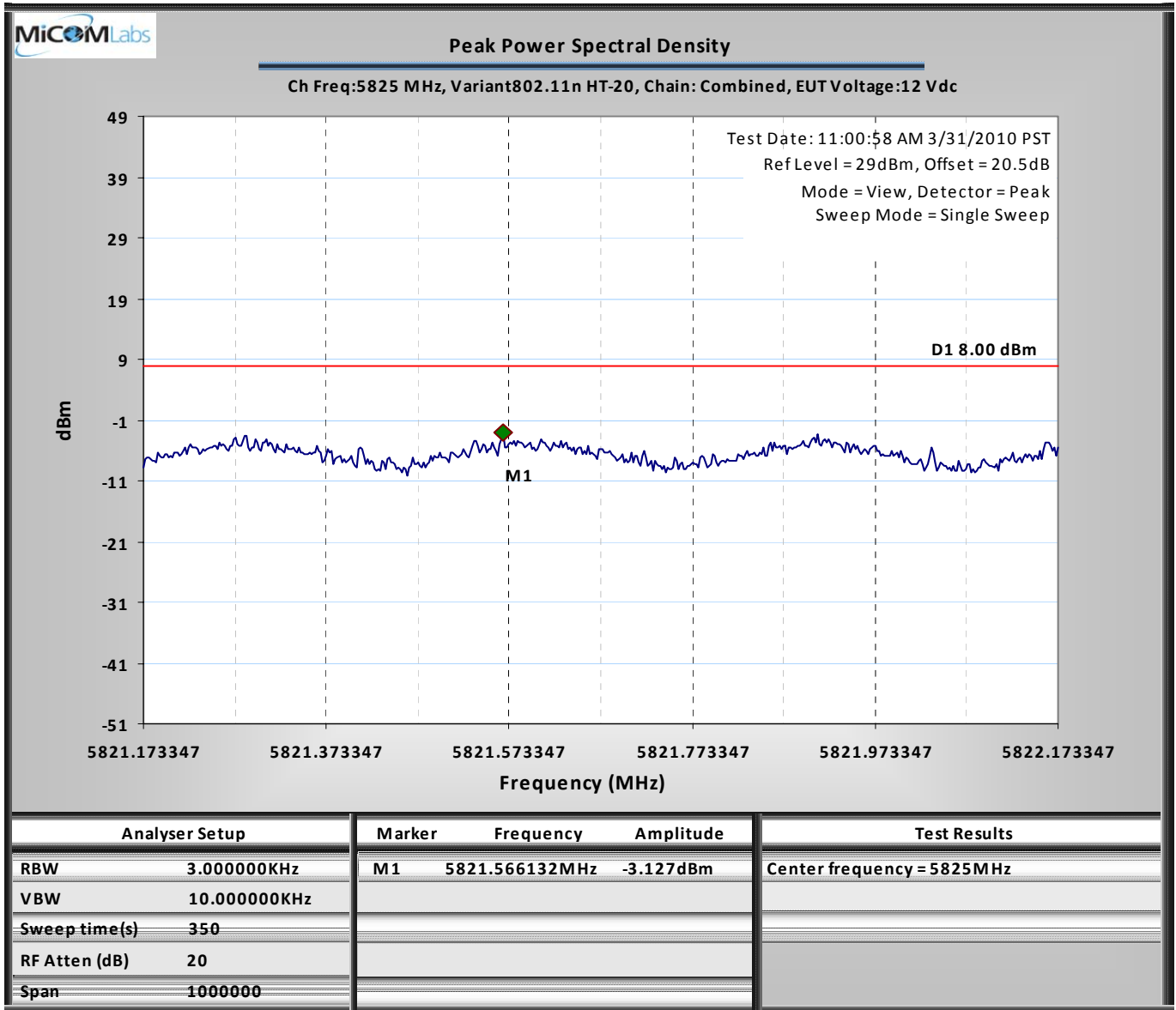
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 139 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 140 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 141 of 372

7.3.7 Measurement results for 802.11n HT-40

Test Conditions:	15.247 (e)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming	N/A	Antenna Gain:	6	dBi	
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

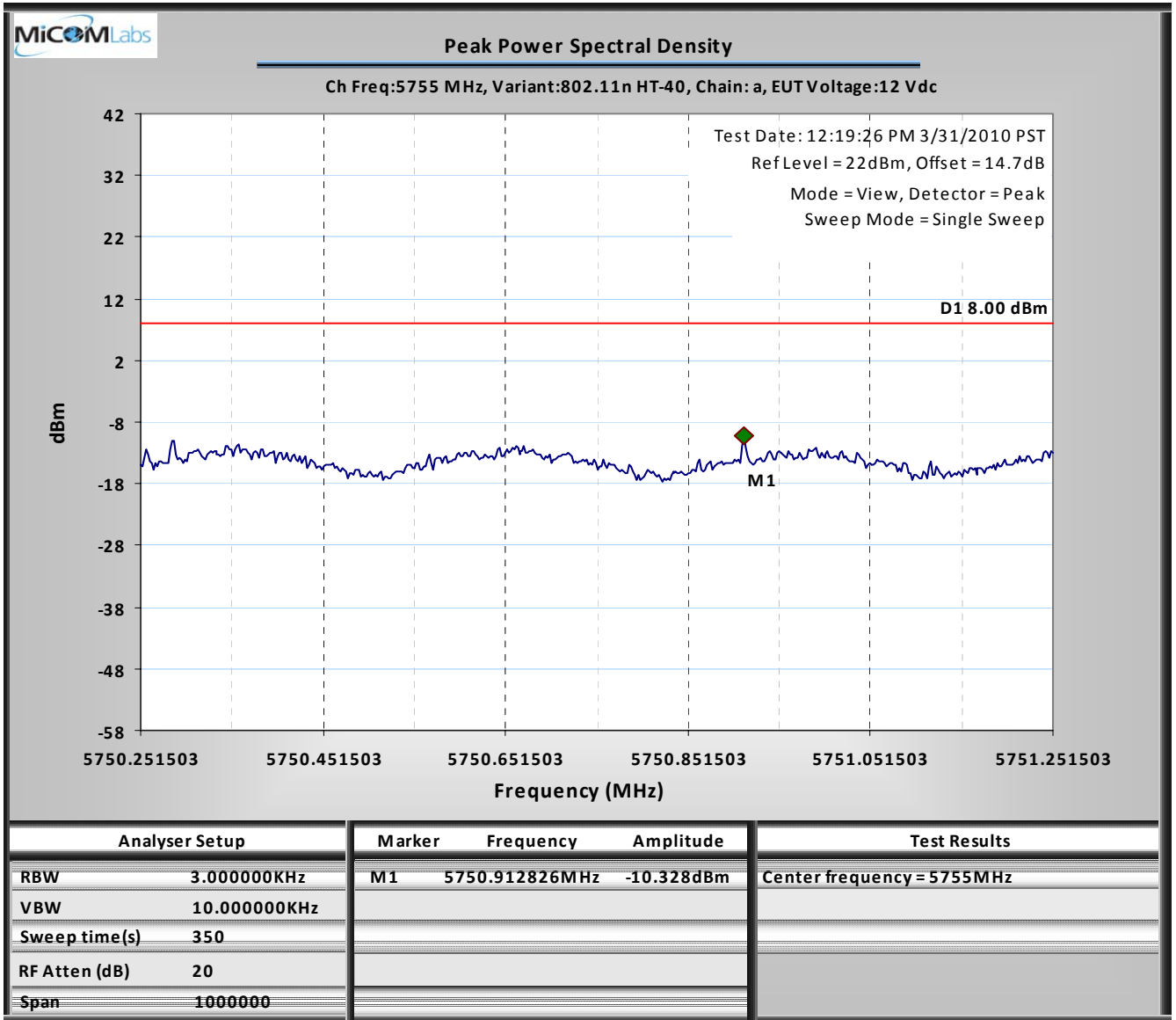
Test Frequency	Measured Power Density				Total Peak Power Spectral Density (dBm)		Limit dBm	Margin dB
	RF Port (dBm)				Combined	Calculated		
MHz	a	b	c	d				
5755	-10.33	-9.74	--	--	-4.38	-7.01	8.00	-12.38
5785	-10.33	-10.15	--	--	-4.49	-7.23	8.00	-12.49
5815	-10.59	-9.70	--	--	-5.47	-7.11	8.00	-13.47

Measurement uncertainty:	± 1.33 dB
---------------------------------	---------------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



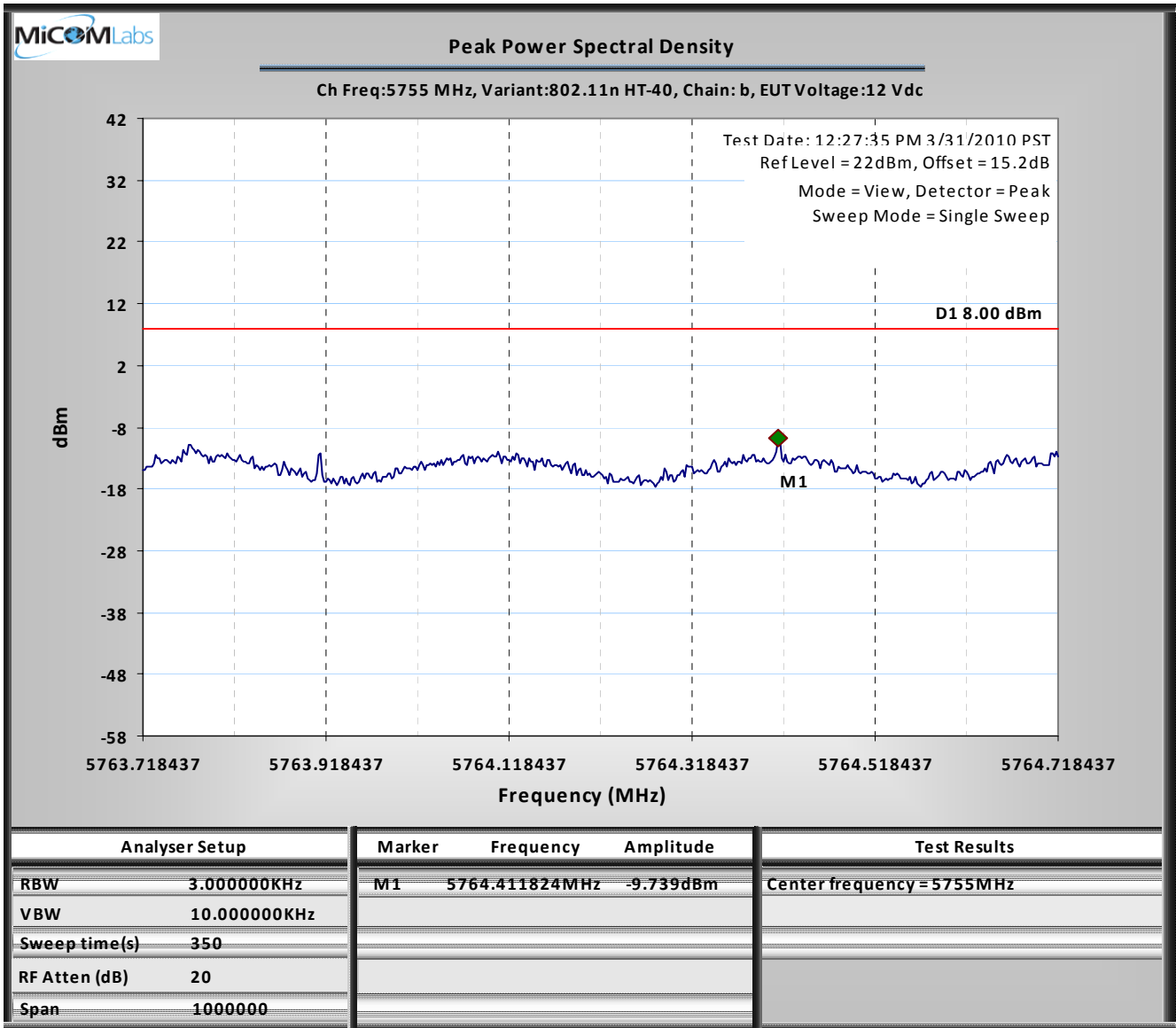
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 142 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



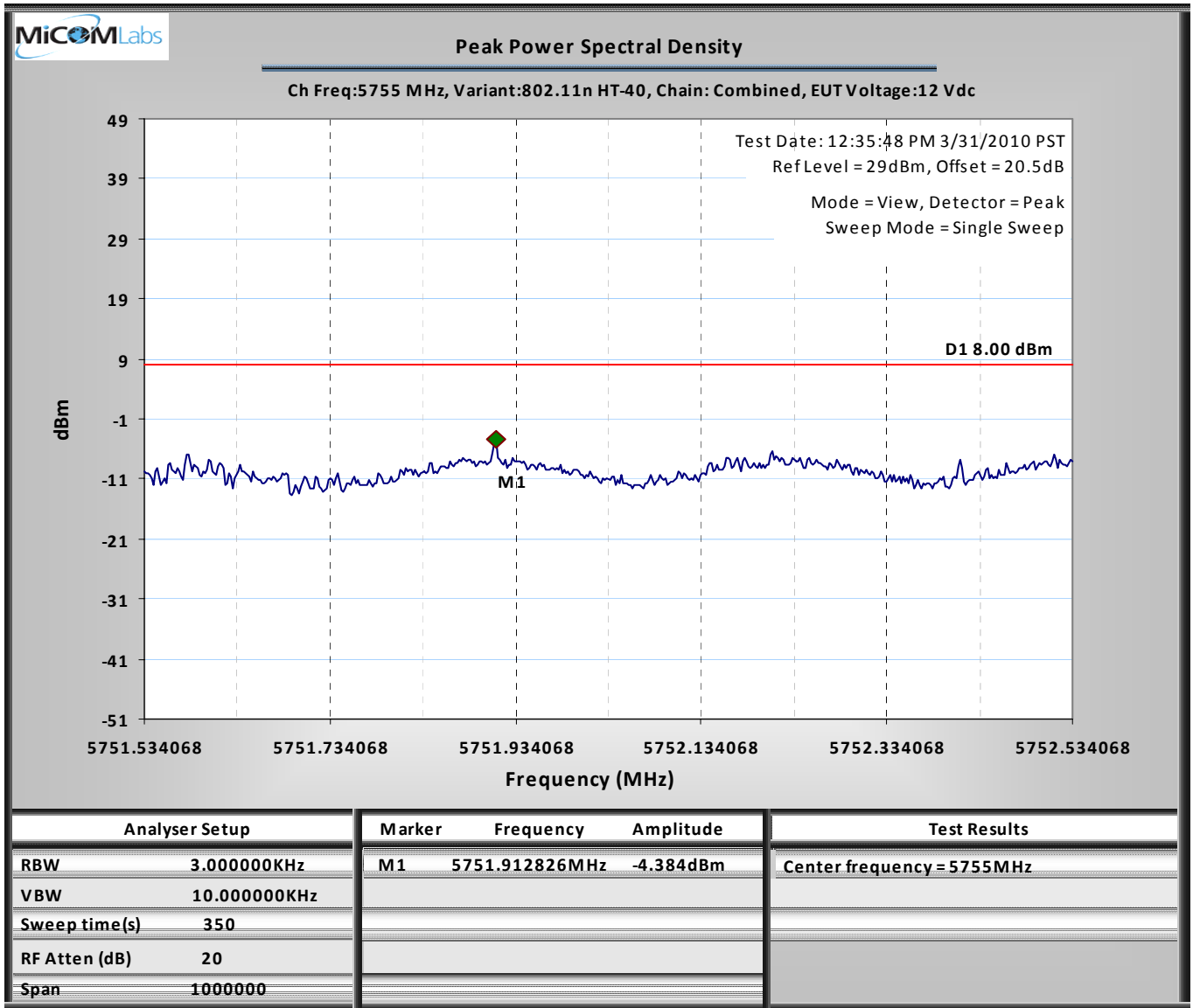
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 143 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



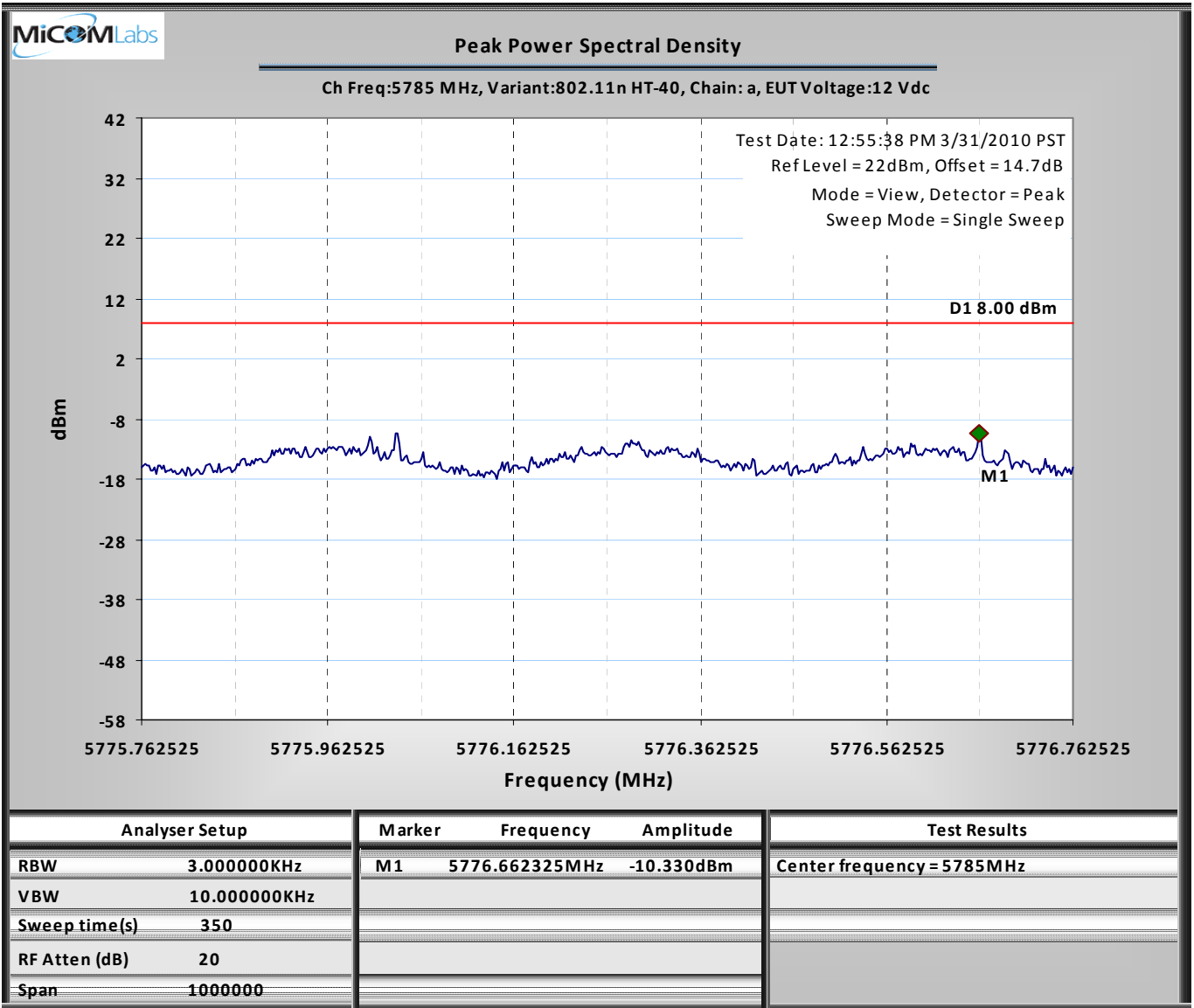
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 144 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



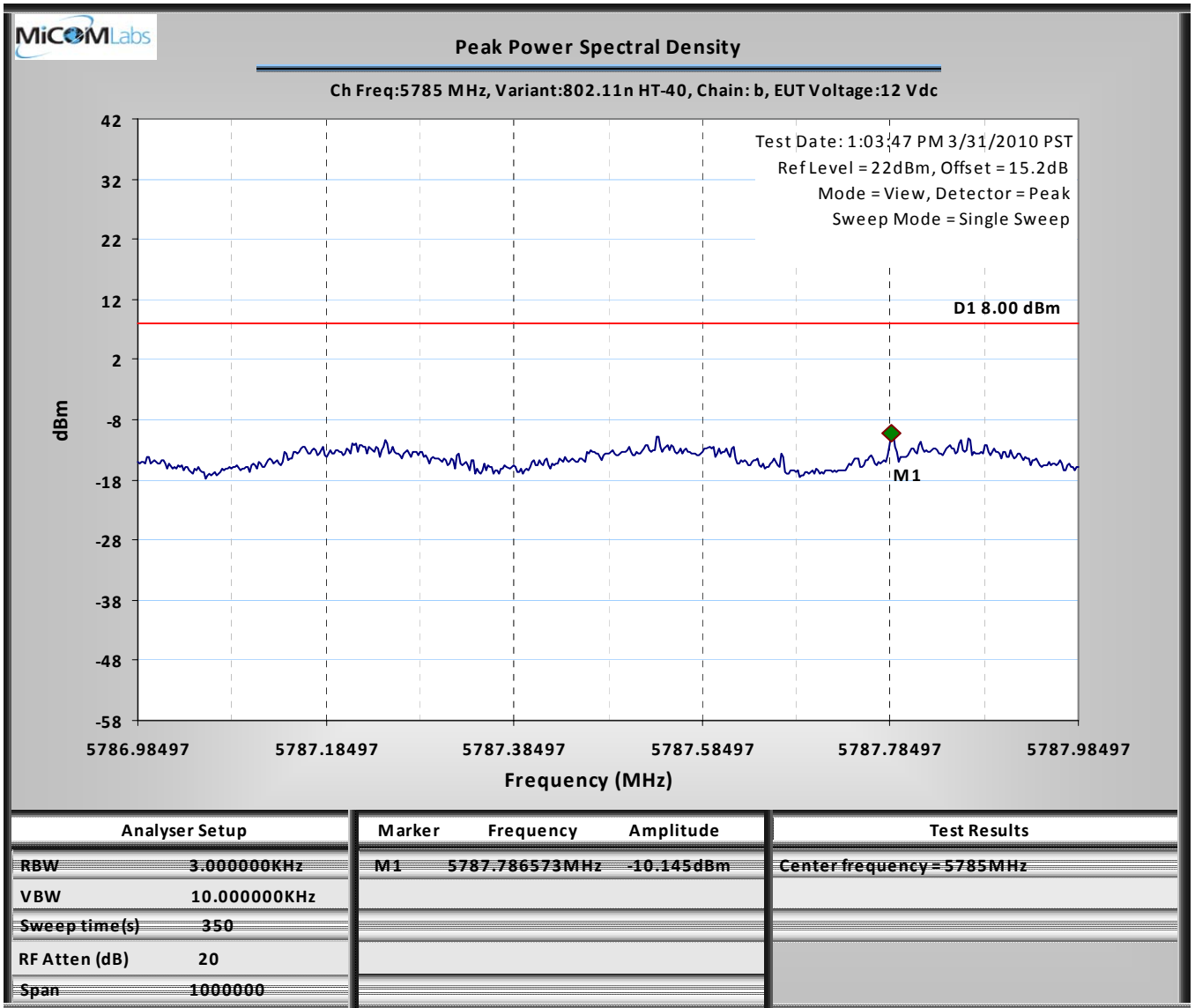
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 145 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



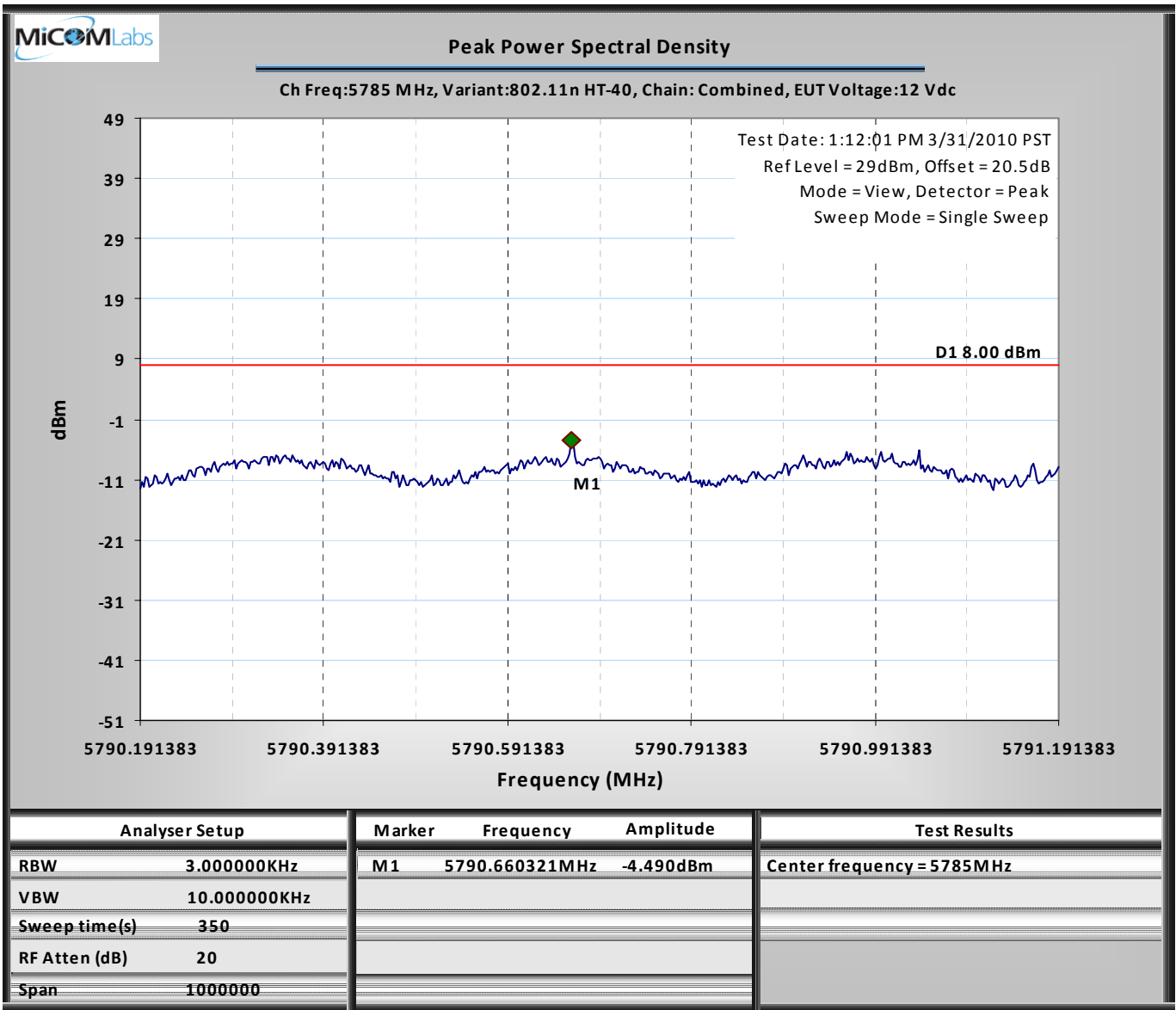
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 146 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



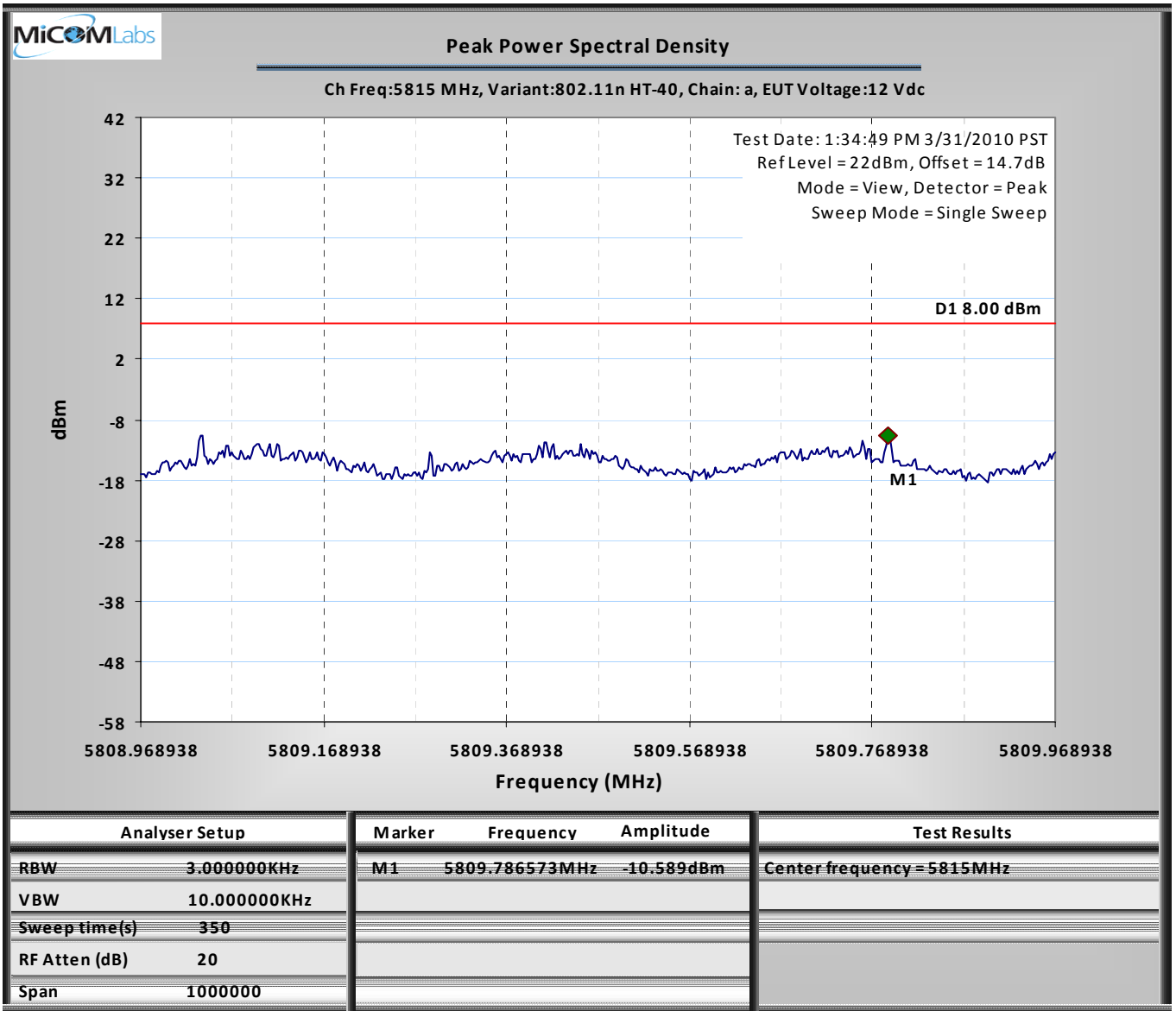
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 147 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



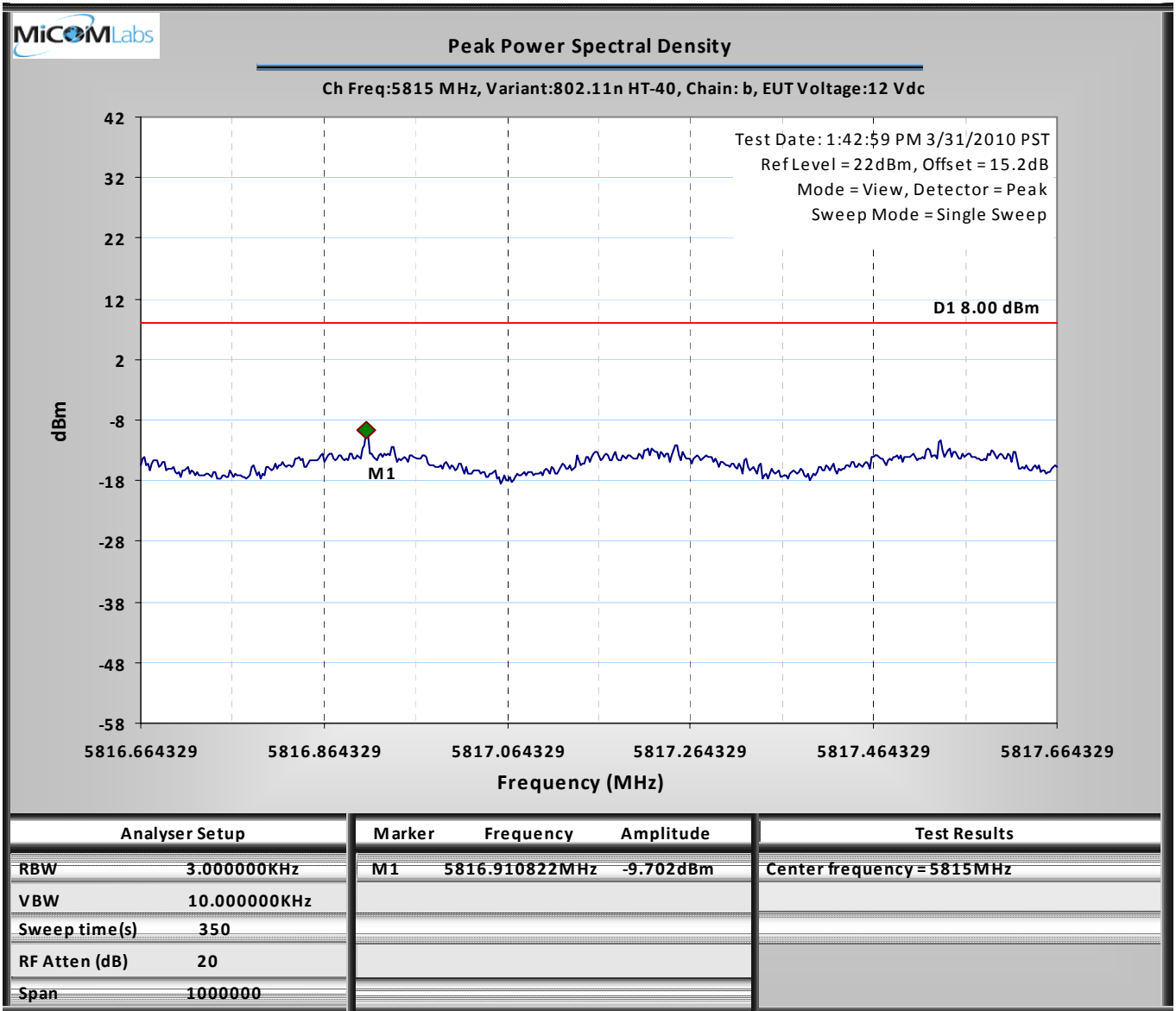
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 148 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



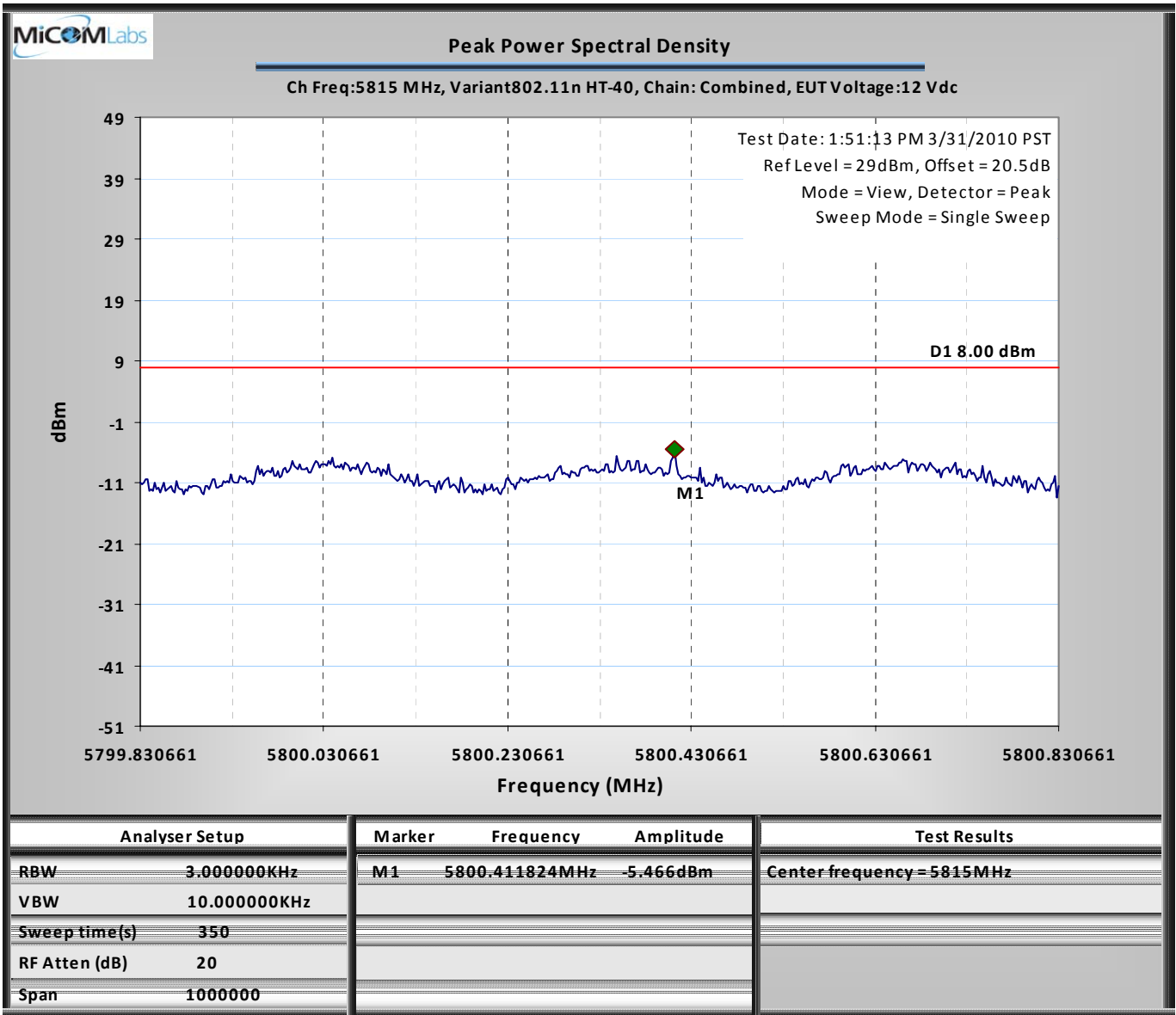
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 149 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 150 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



7.4 Maximum Permissible Exposure

FCC, Part 15 Subpart C §15.407(f)
Industry Canada RSS-Gen §5.5

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP}/(4\pi d^2)$$

$$\text{EIRP} = P * G * 2$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10 ^ (G \text{ (dBi)}/10)$$

The Aruba AP-92 / AP-93 has two transmitters. The peak power in the table below is calculated by assuming a worst case scenario where the two transmitters are operating simultaneously in the same band. The Peak Power in mW is calculated by taking the maximum conducted power measured in each band and multiplying by 2.

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is 1.0 mW/cm²

Freq. Band (MHz)	Antenna Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power x 2 (mW)	Calculated Safe Distance @ 1mW/cm ² Limit(cm)	Minimum Separation Distance (cm)
2400 – 2500	12.0	15.84	+18.67	2328.1	13.61	20.00
5725 - 5850	14.0	25.1	+17.53	2837.9	15.03	20.00

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification

Maximum Permissible Exposure Limits

FCC §1.1310 Limit = 1mW / cm² from 1.310 Table 1

RSS-Gen §5.5 Before equipment certification is granted, the application requirements of RSS-102 shall be met.

Laboratory Measurement Uncertainty for Power Measurements

Measurement uncertainty

±1.33 dB

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.

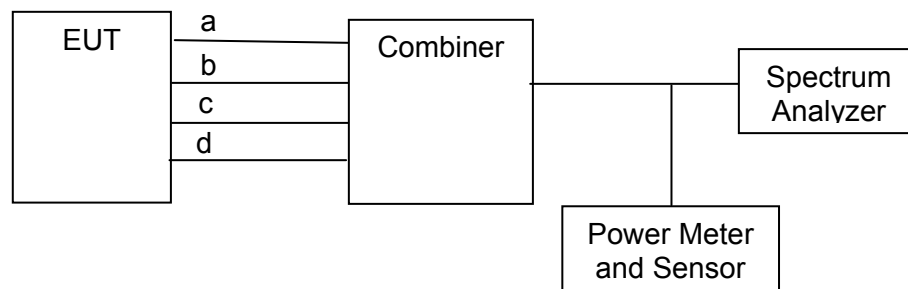
7.5 Conducted Spurious Emissions

Test Procedure

Conducted emissions were measured at a limit of 20 dB below the highest in-band spectral density measured with a spectrum analyzer connected to the antenna terminal. Emissions at the band edge were measured and recorded. Measurements were made while EUT was operating in transmit mode of operation at the appropriate center frequency.

Measurements were made using a combiner with the transmitter tuned to the channel closest to the band-edge being measured. All emissions were maximized during measurement. Limits which were derived from the peak emission.

Test Measurement Set up



Conducted Spurious Emission measurement test configuration



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 153 of 372

Specification

Limits Band-Edge

Lower Limit Band-edge	Upper Limit Band-edge	Limit below highest level of desired power
2,400 MHz	2,483.5 MHz	≥ 20 dB
5725 MHz	5850 MHz	

§15.247(d) 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 radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

§15.247(d)

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 §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section §15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(a)).

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-05 'Measurement of Spurious Emissions'	0158, 0252, 0313, 0314, 0223, 0116, 0117, 0287, 0363.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 154 of 372

7.5.1 Measurement results for 802.11b

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11b	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming	N/A dB	Antenna Gain:	N/A dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

Conducted Spurious Measurement

Test Frequency	Start Frequency	Stop Frequency	Maximum Observed Emission	Limit (20 dB below peak of fundamental)
MHz	MHz	MHz	dBm	dBm
2412.00	30.00	26000.00	-43.66	-7.30
2437.00	30.00	26000.00	-40.77	-6.04
2462.00	30.00	26000.00	-39.73	-6.17

Band-edge Measurement

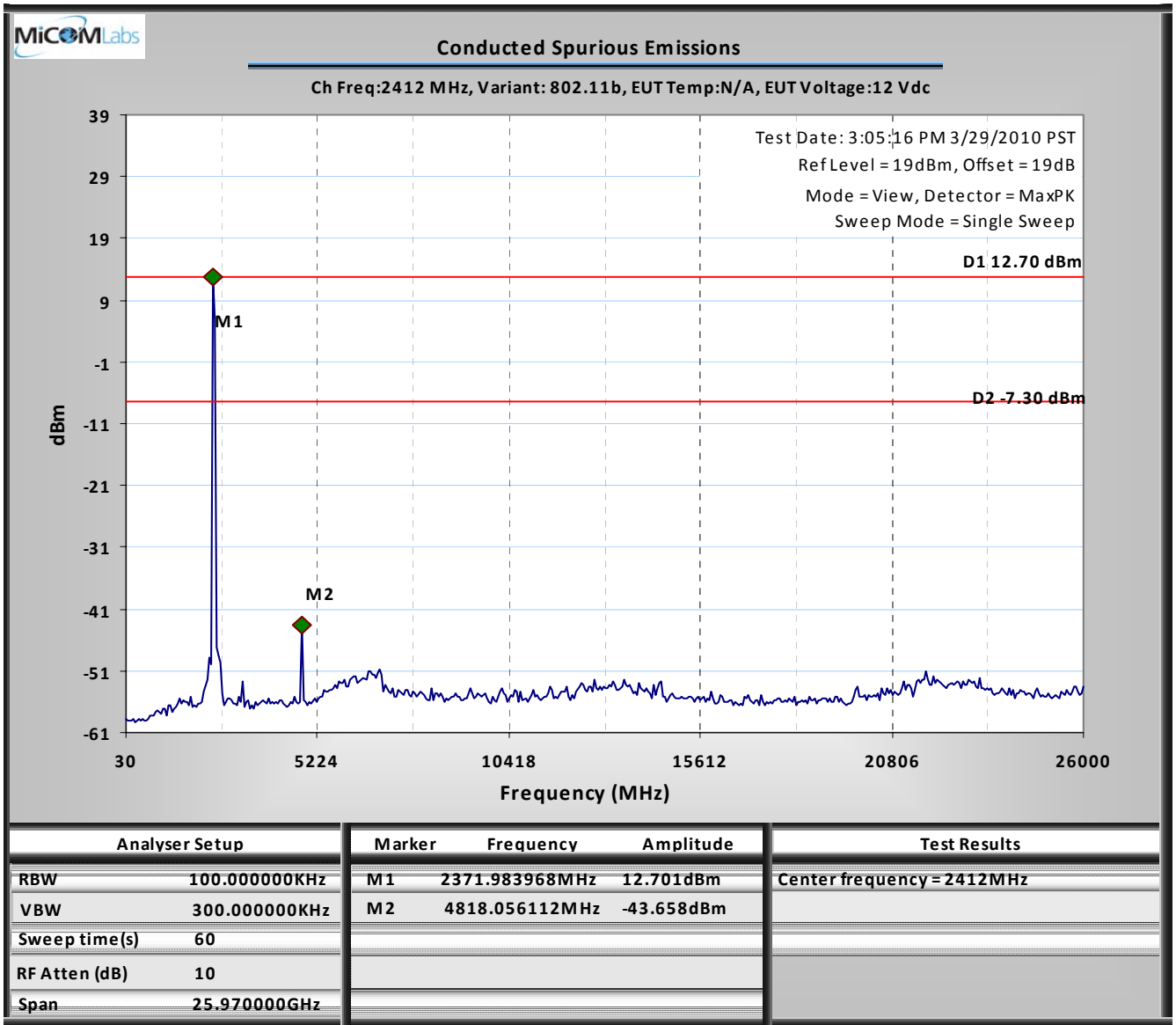
Test Frequency	Band-edge Frequency	Emission Amplitude @ Band-edge	Limit (20 dB below peak of fundamental)	Margin
MHz	MHz	dBm	dBm	dB
2412.00	2400.00	-35.16	-3.77	-31.40
2462.00	2483.50	-36.70	-5.41	-31.29

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



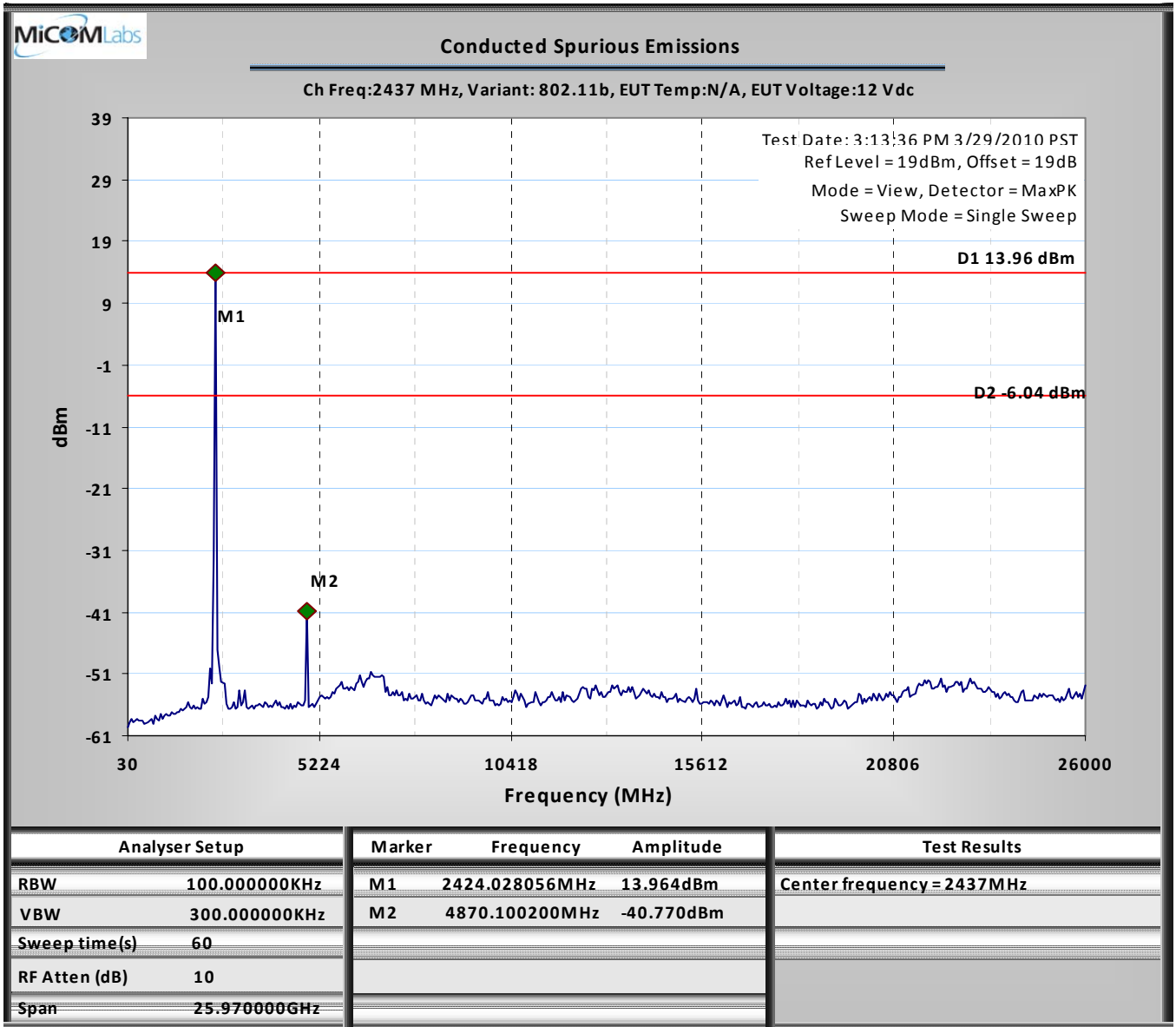
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 155 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



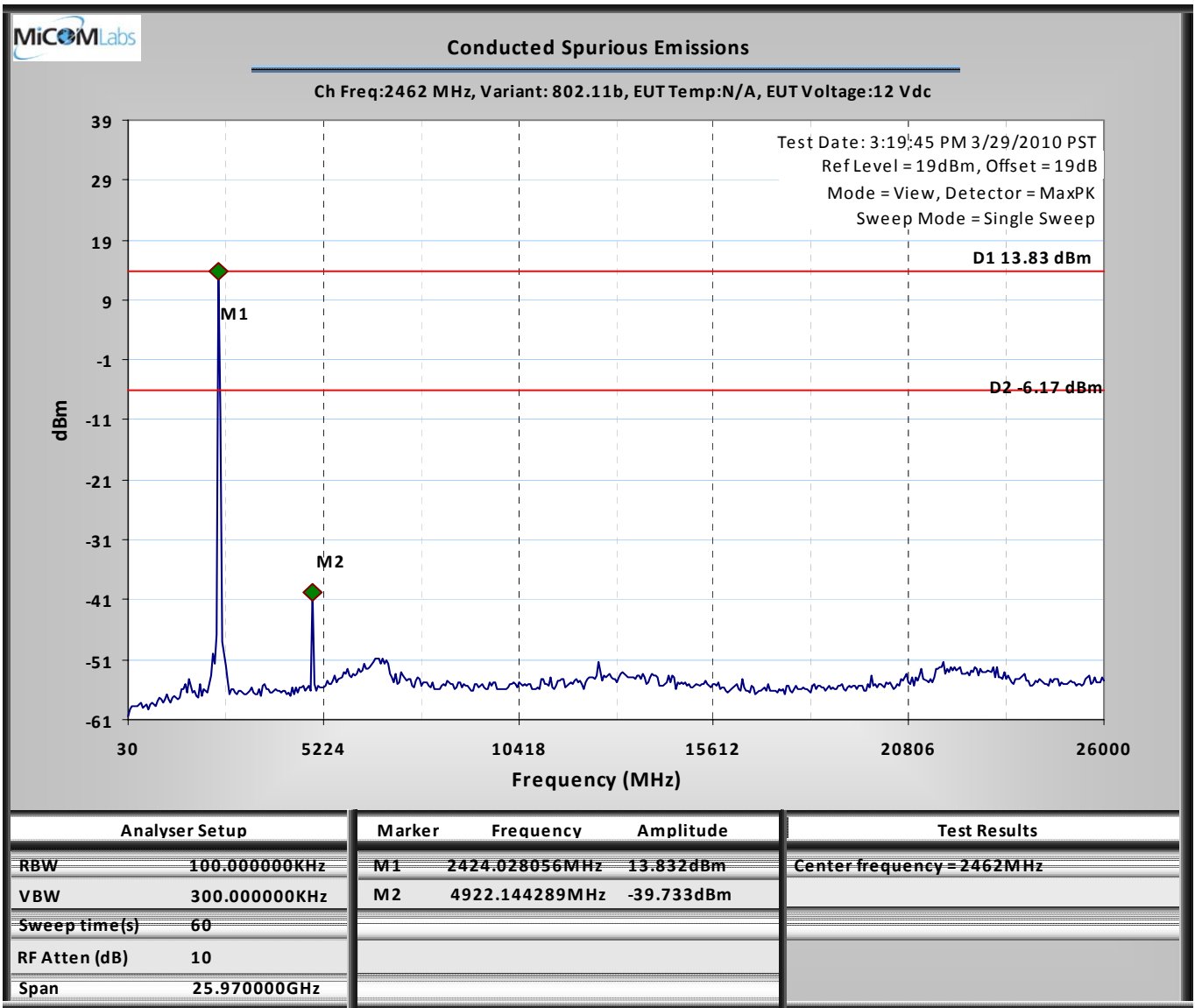
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 156 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



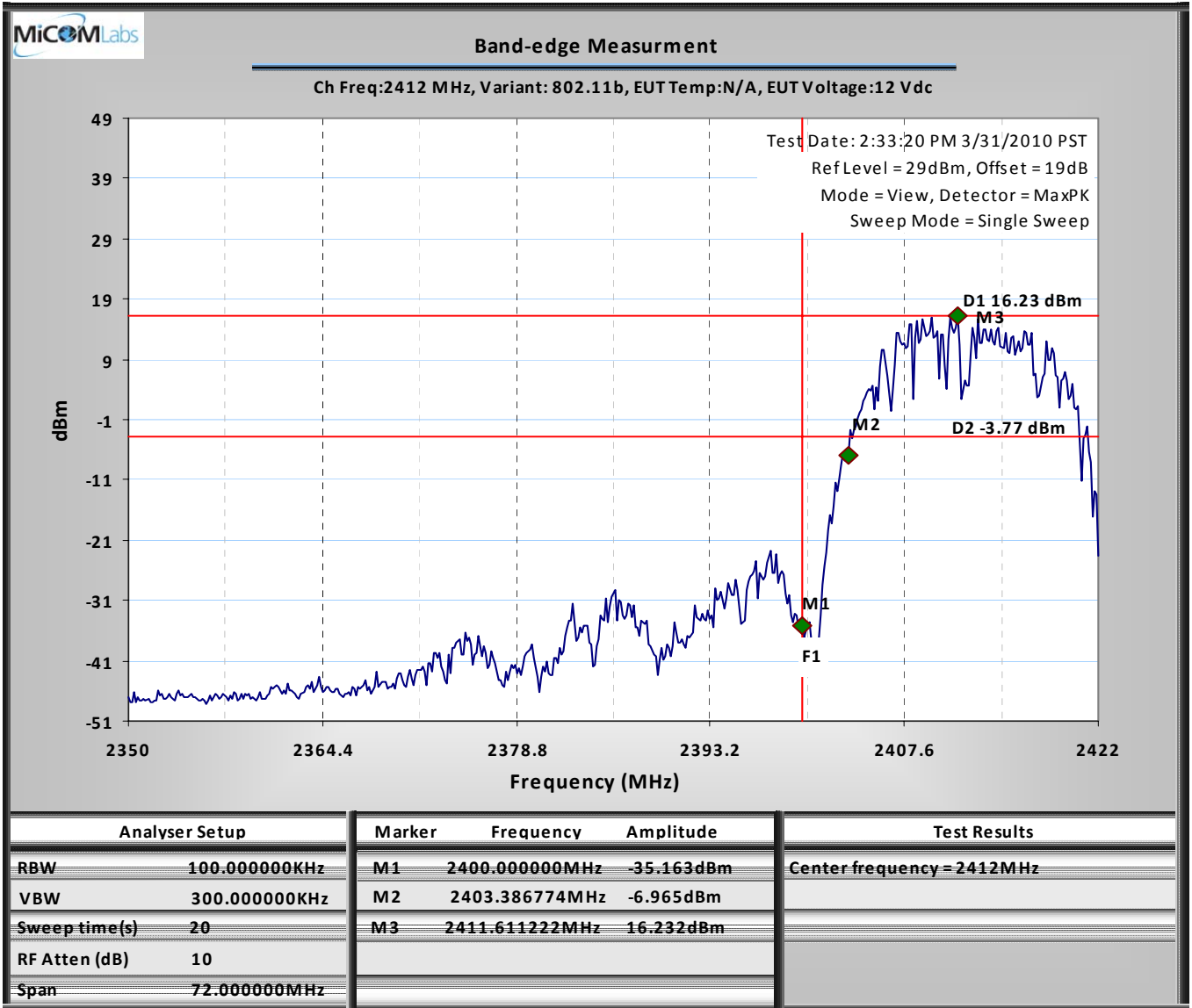
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 157 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



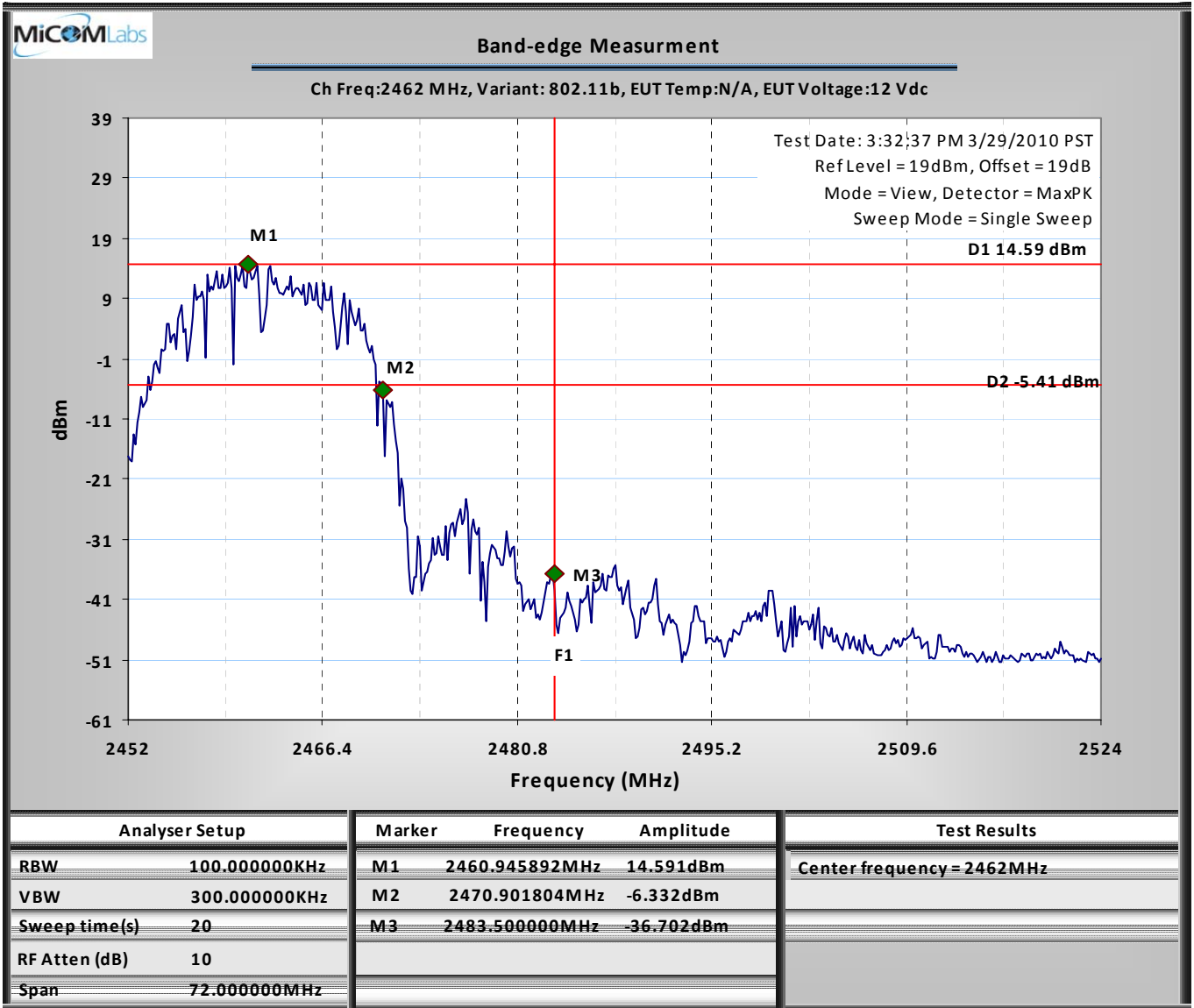
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 158 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 159 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 160 of 372

7.5.2 Measurement Results: 802.11g

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11g	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming	N/A dB	Antenna Gain:	N/A dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

Conducted Spurious Measurement

Test Frequency	Start Frequency	Stop Frequency	Maximum Observed Emission	Limit (20 dB below peak of fundamental)
MHz	MHz	MHz	dBm	dBm
2412.00	30.00	26000.00	-45.44	-7.49
2437.00	30.00	26000.00	-40.64	-9.32
2462.00	30.00	26000.00	-40.92	-7.20

Band-edge Measurement

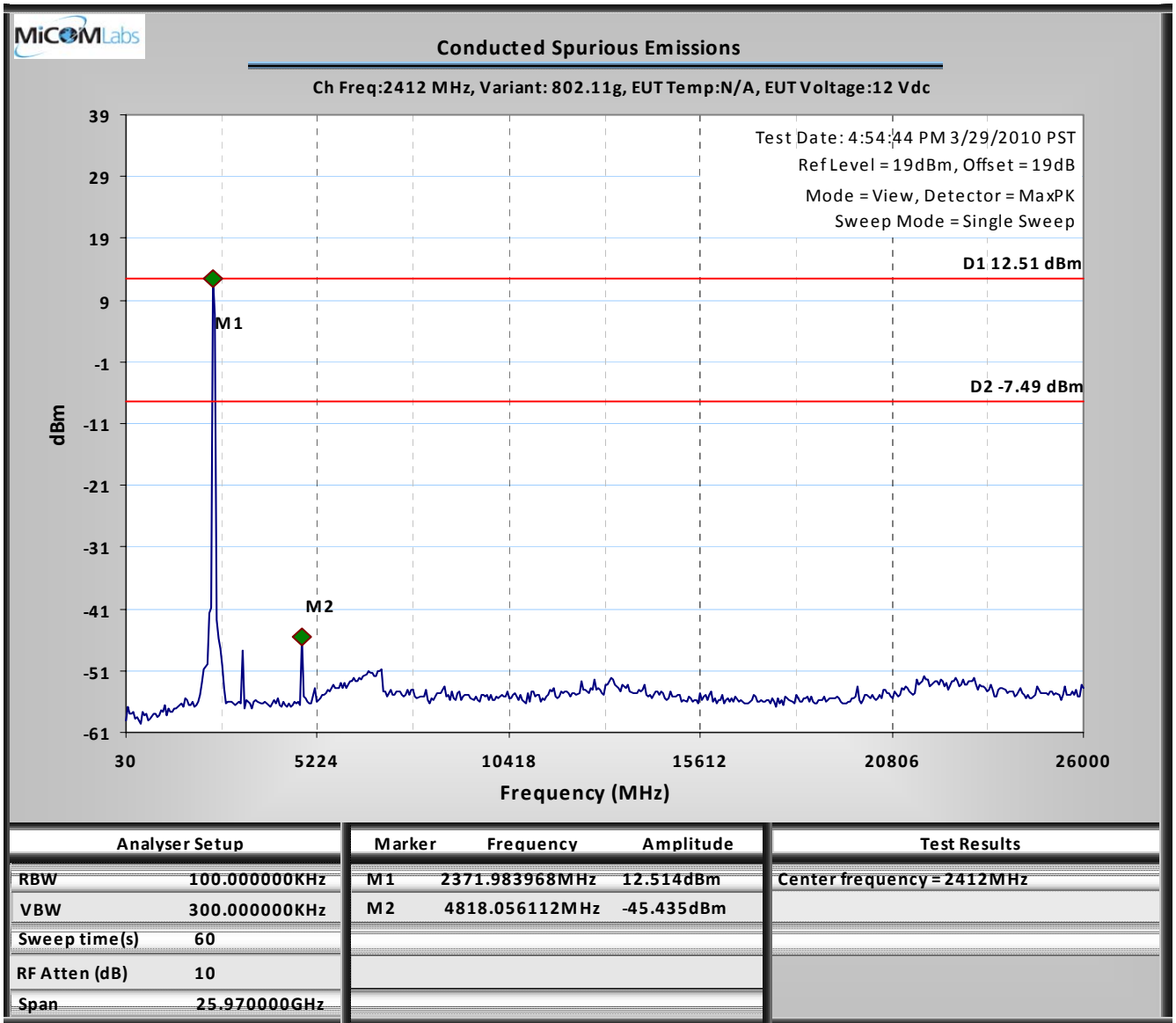
Test Frequency	Band-edge Frequency	Emission Amplitude @ Band-edge	Limit (20 dB below peak of fundamental)	Margin
MHz	MHz	dBm	dBm	dB
2412.00	2400.00	-11.13	-4.93	-6.21
2462.00	2483.50	-23.12	-5.88	-17.23

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



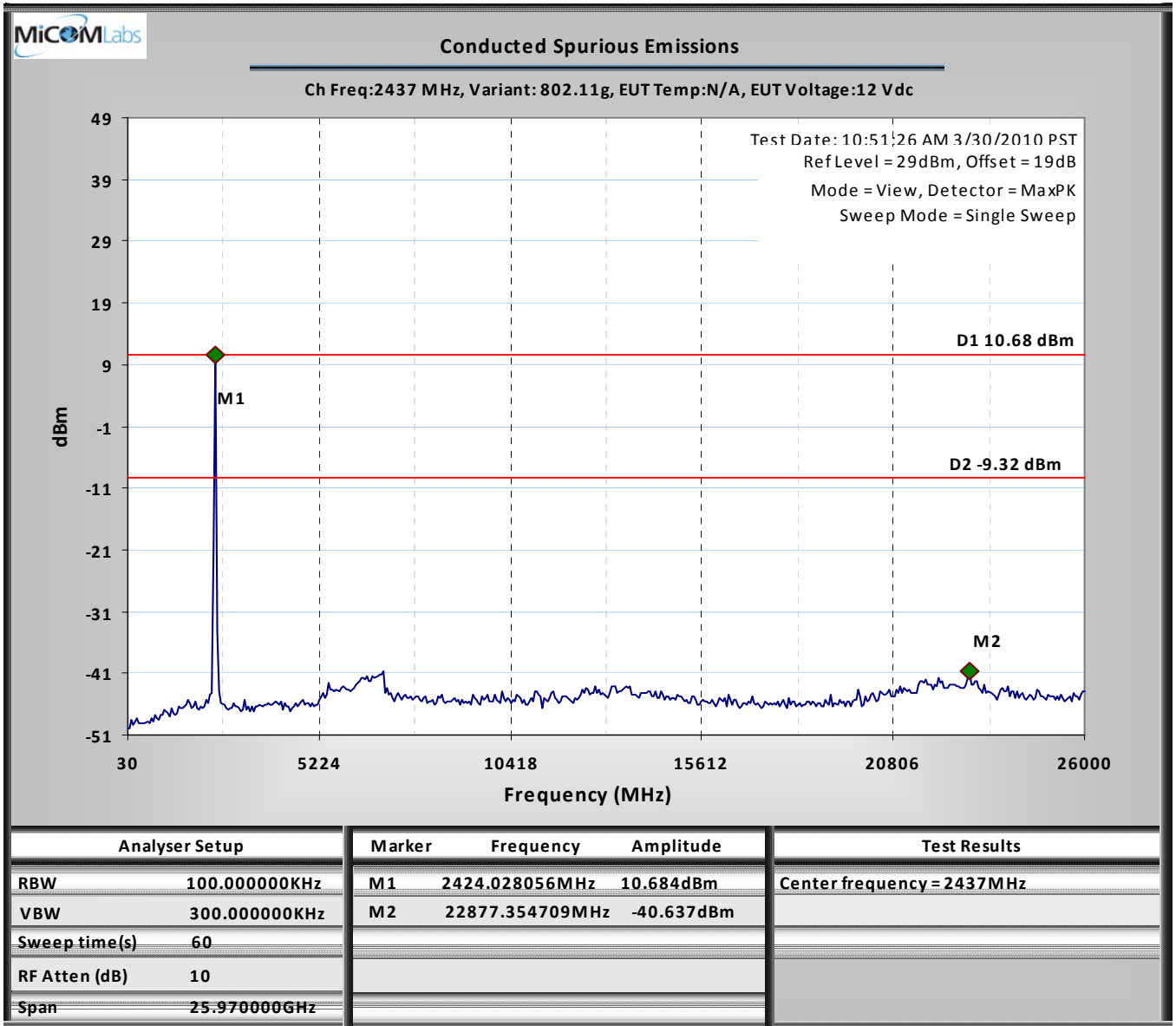
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 161 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



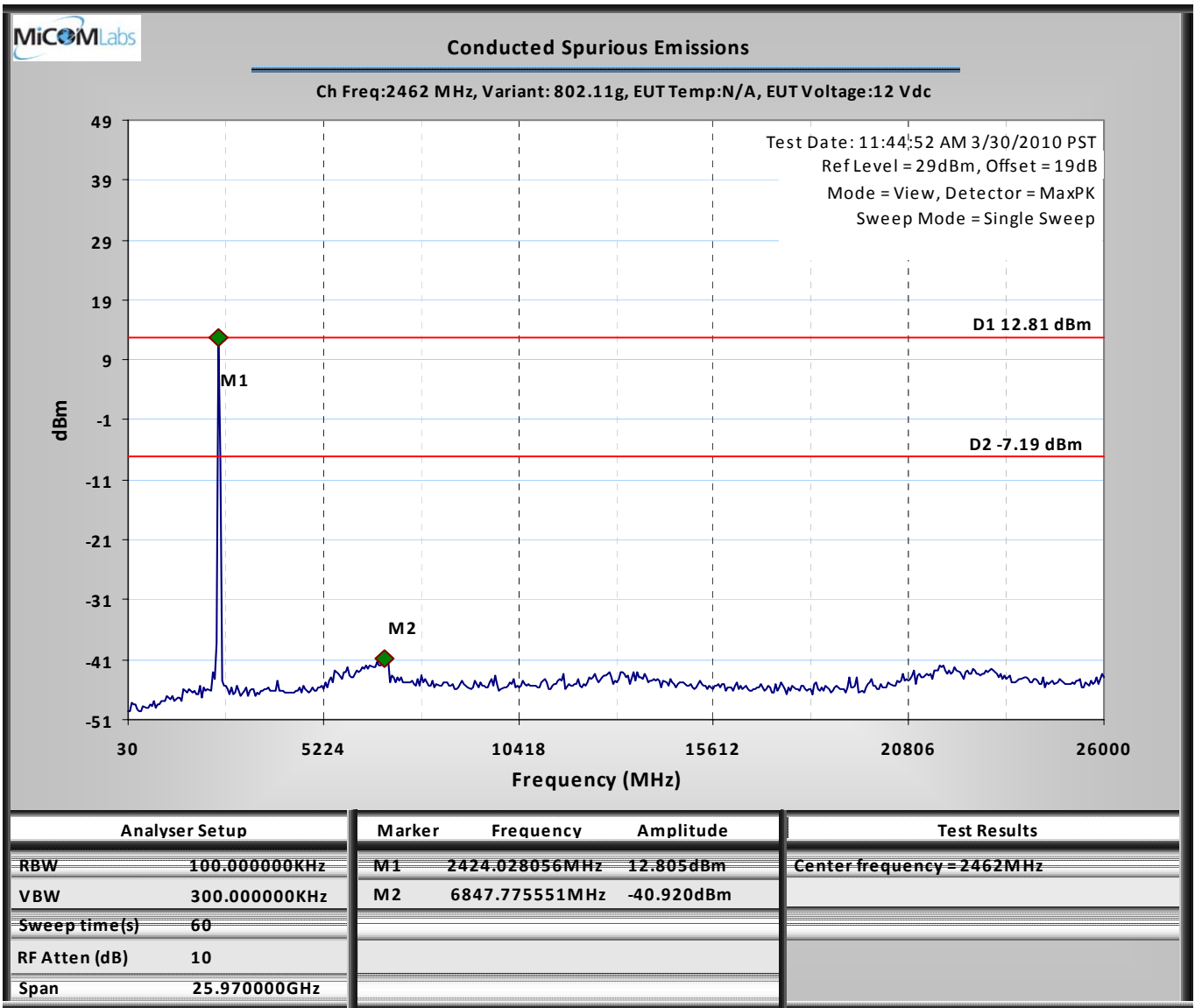
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 162 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



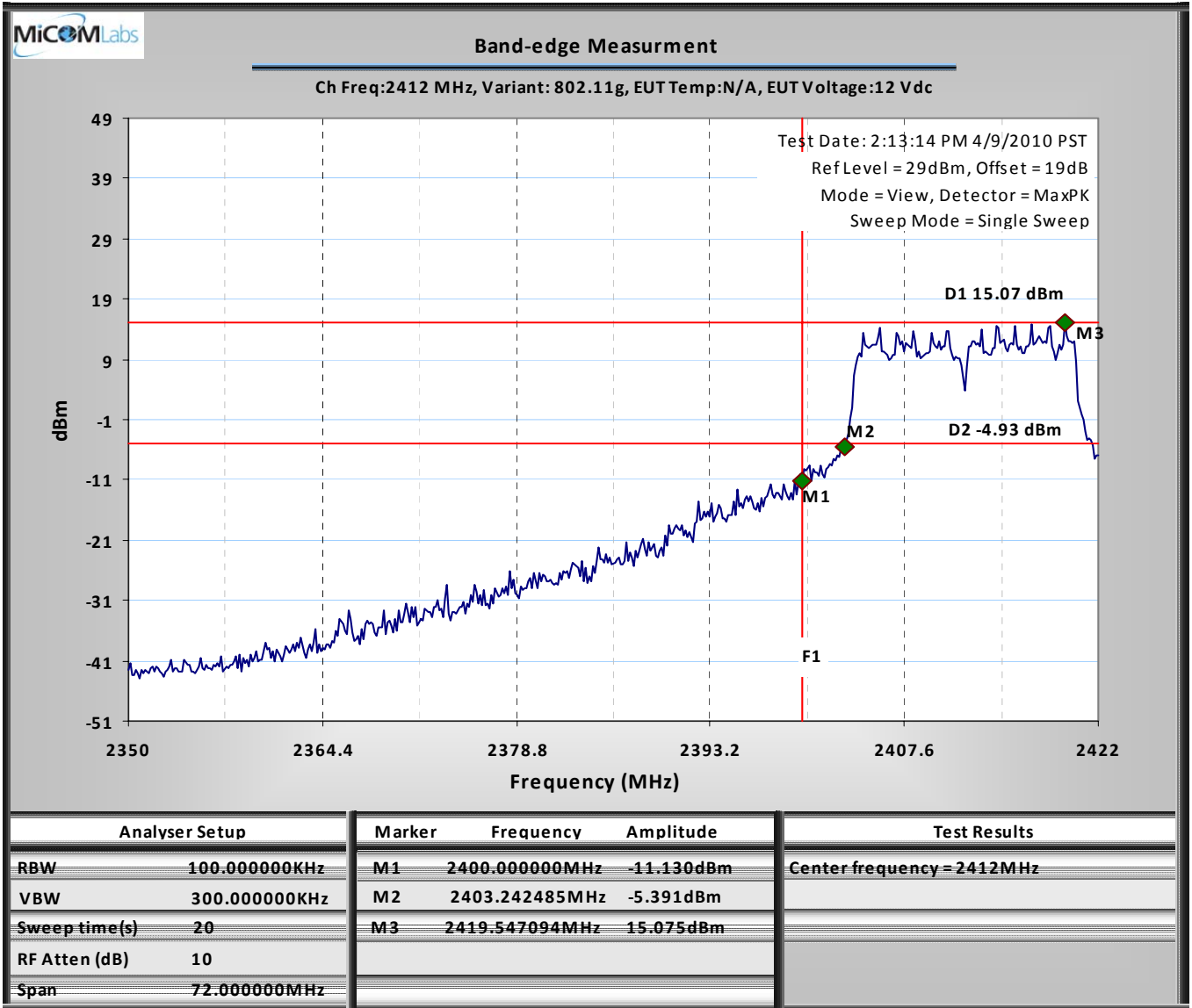
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 163 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



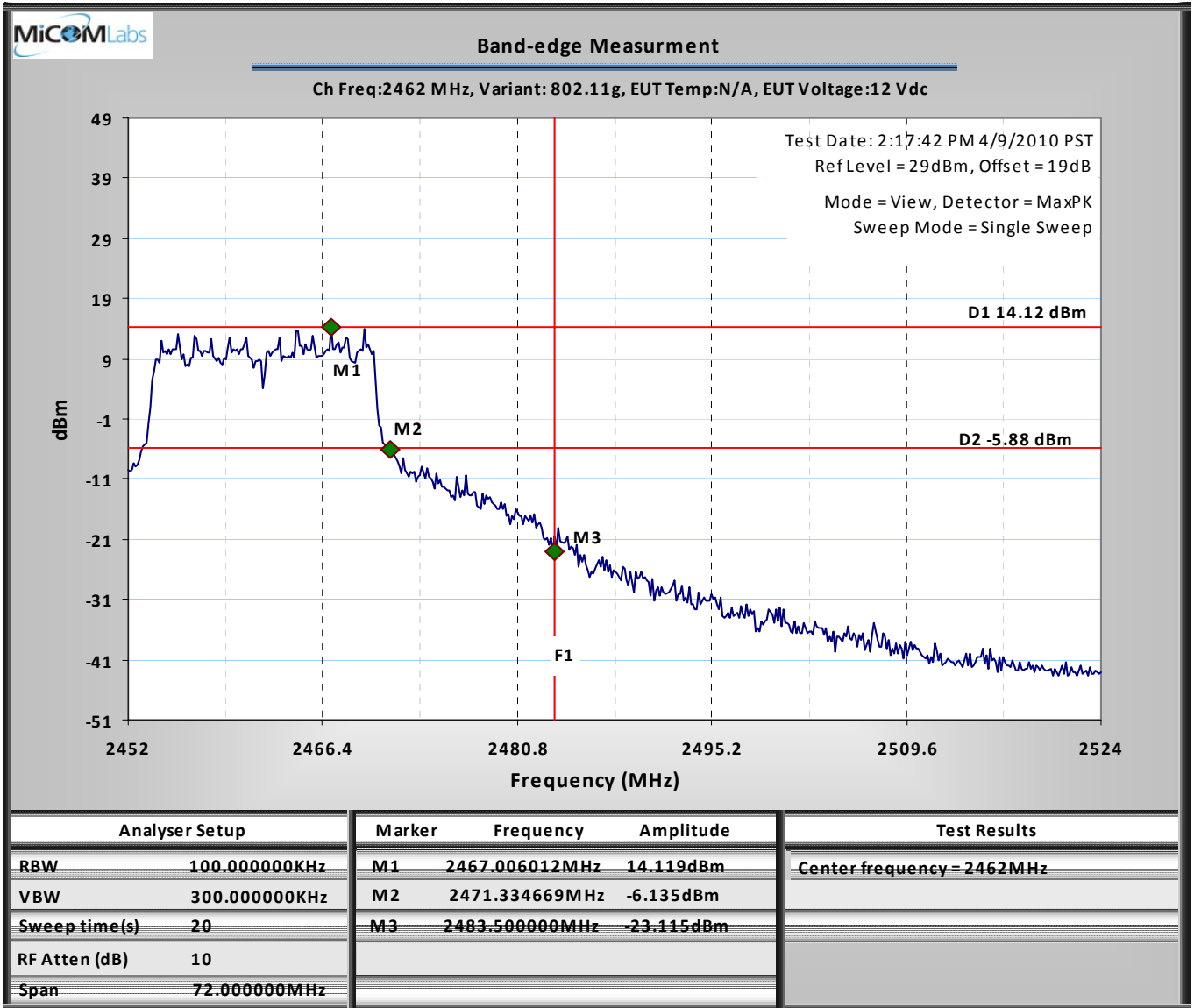
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 164 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 165 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 166 of 372

7.5.3 Measurement Results for 802.11n HT-20

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming	N/A dB	Antenna Gain:	N/A dBi
Applied Voltage:	12.0 Vdc		
Notes 1:			
Notes 2:			

Conducted Spurious Measurement

Test Frequency	Start Frequency	Stop Frequency	Maximum Observed Emission	Limit (20 dB below peak of fundamental)
MHz	MHz	MHz	dBm	dBm
2412.00	30.00	26000.00	-40.70	-9.01
2437.00	30.00	26000.00	-40.93	-8.39
2462.00	30.00	26000.00	-40.90	-10.56

Band-edge Measurement

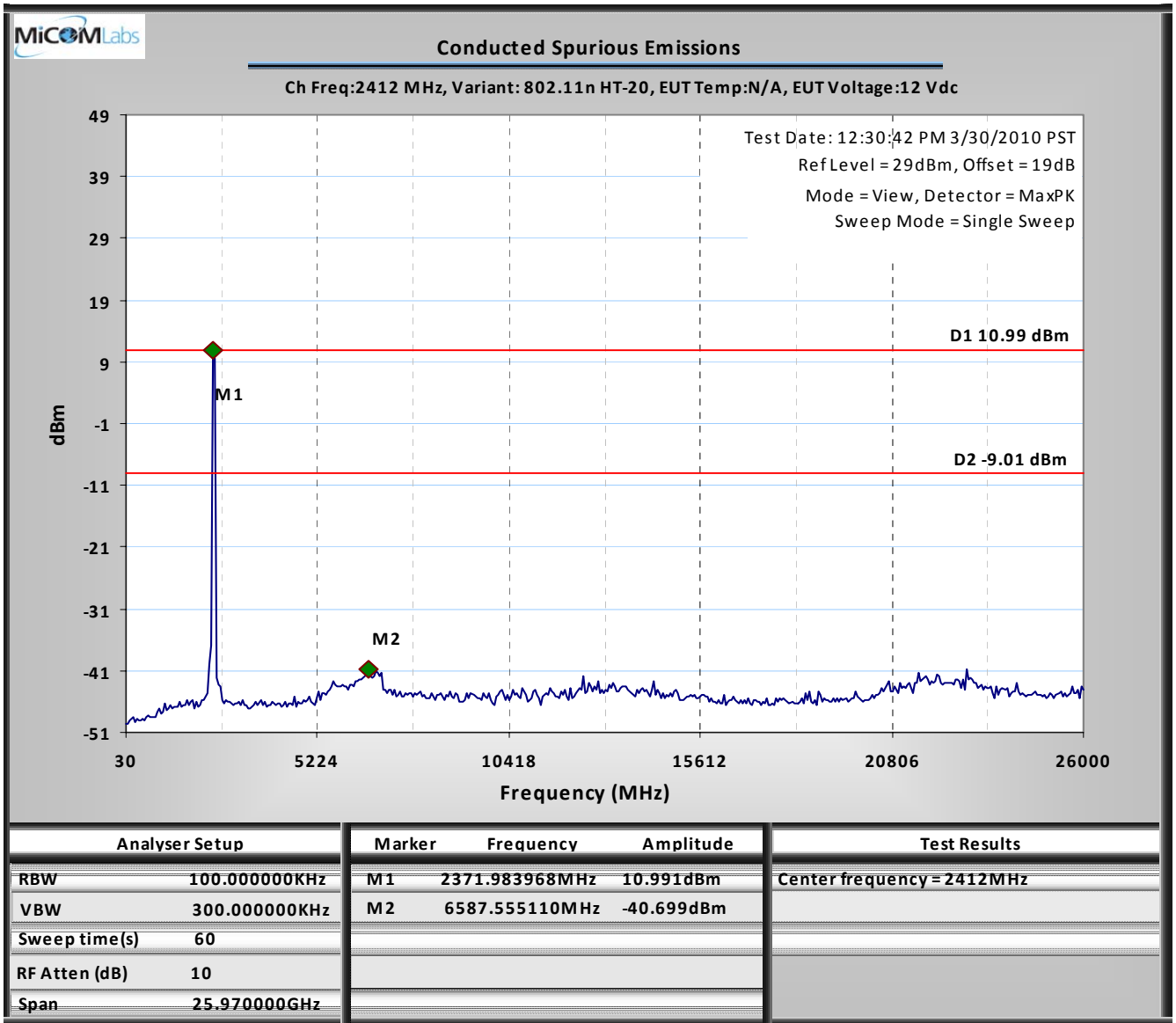
Test Frequency	Band-edge Frequency	Emission Amplitude @ Band-edge	Limit (20 dB below peak of fundamental)	Margin
MHz	MHz	dBm	dBm	dB
2412.00	2400.00	-12.03	-4.79	-7.25
2462.00	2483.50	-18.62	-5.81	-12.81

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



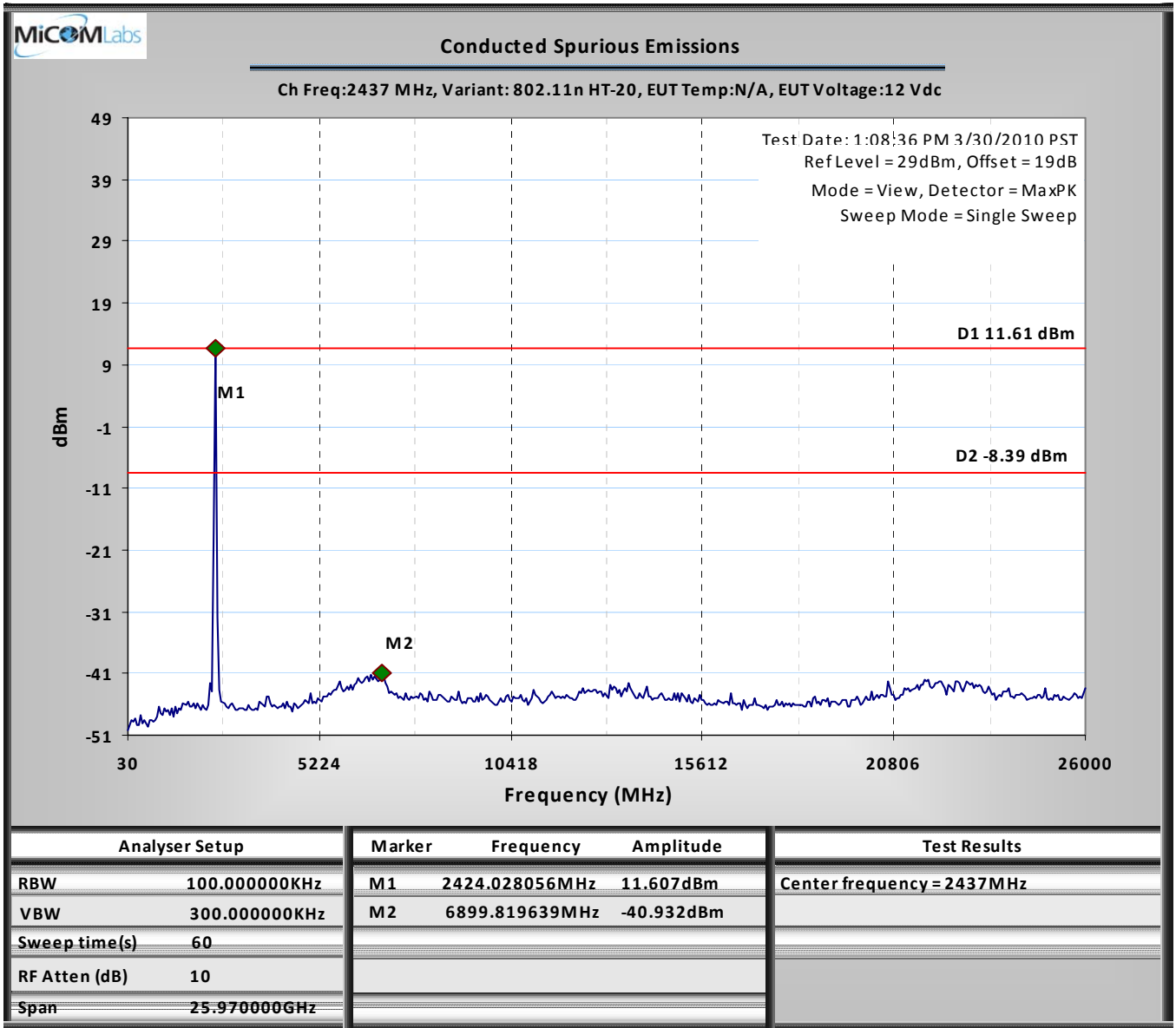
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 167 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



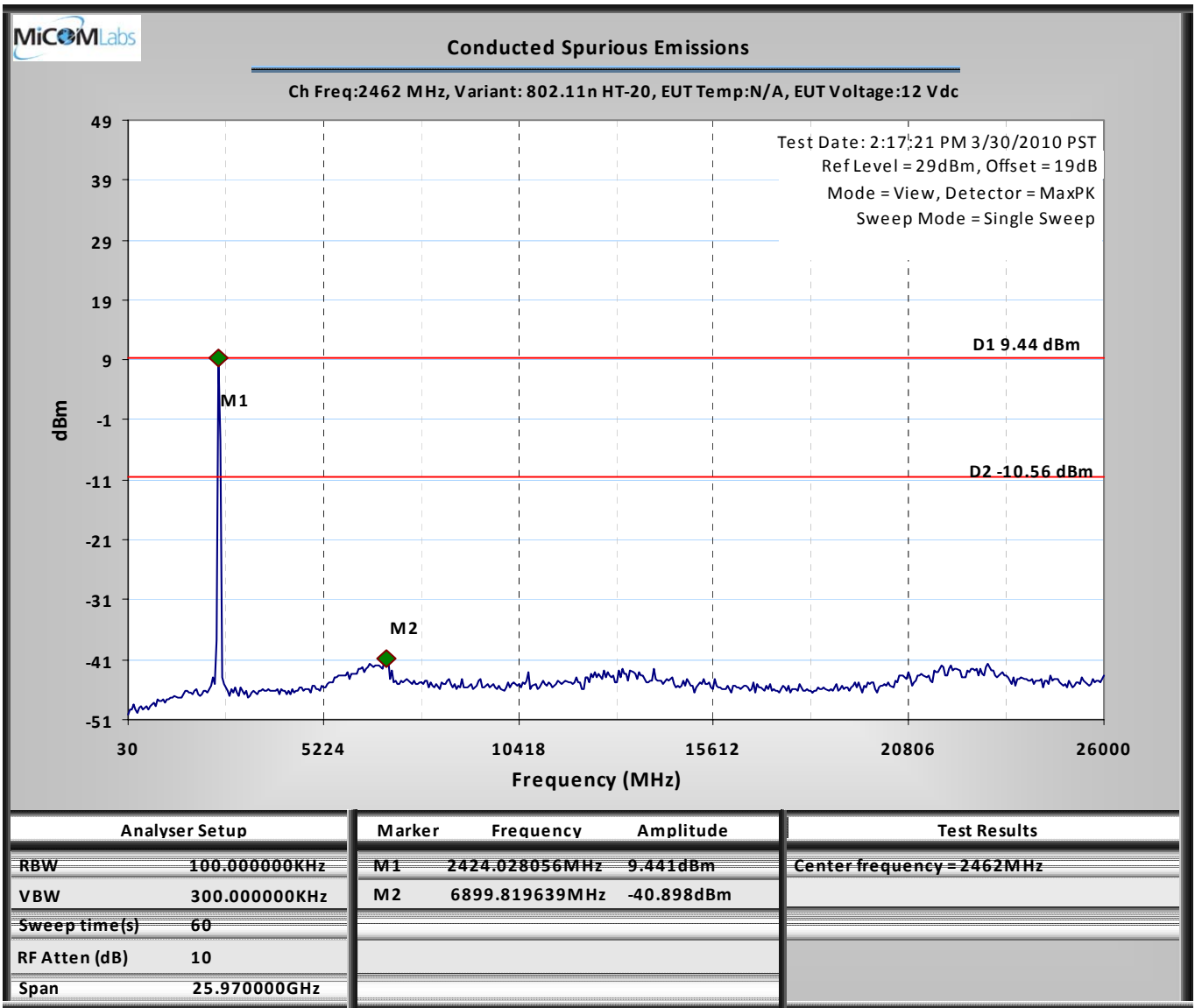
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 168 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



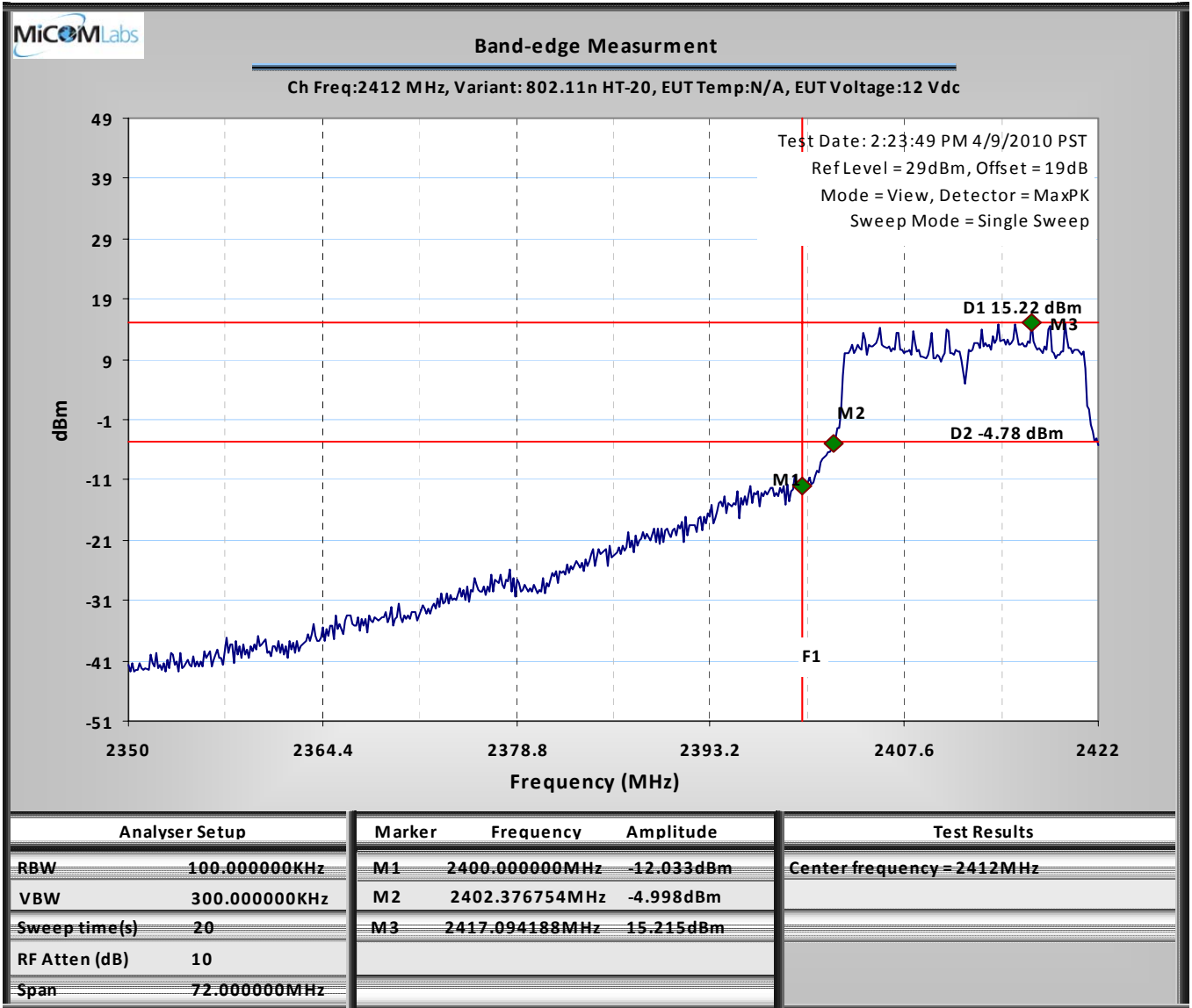
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 169 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



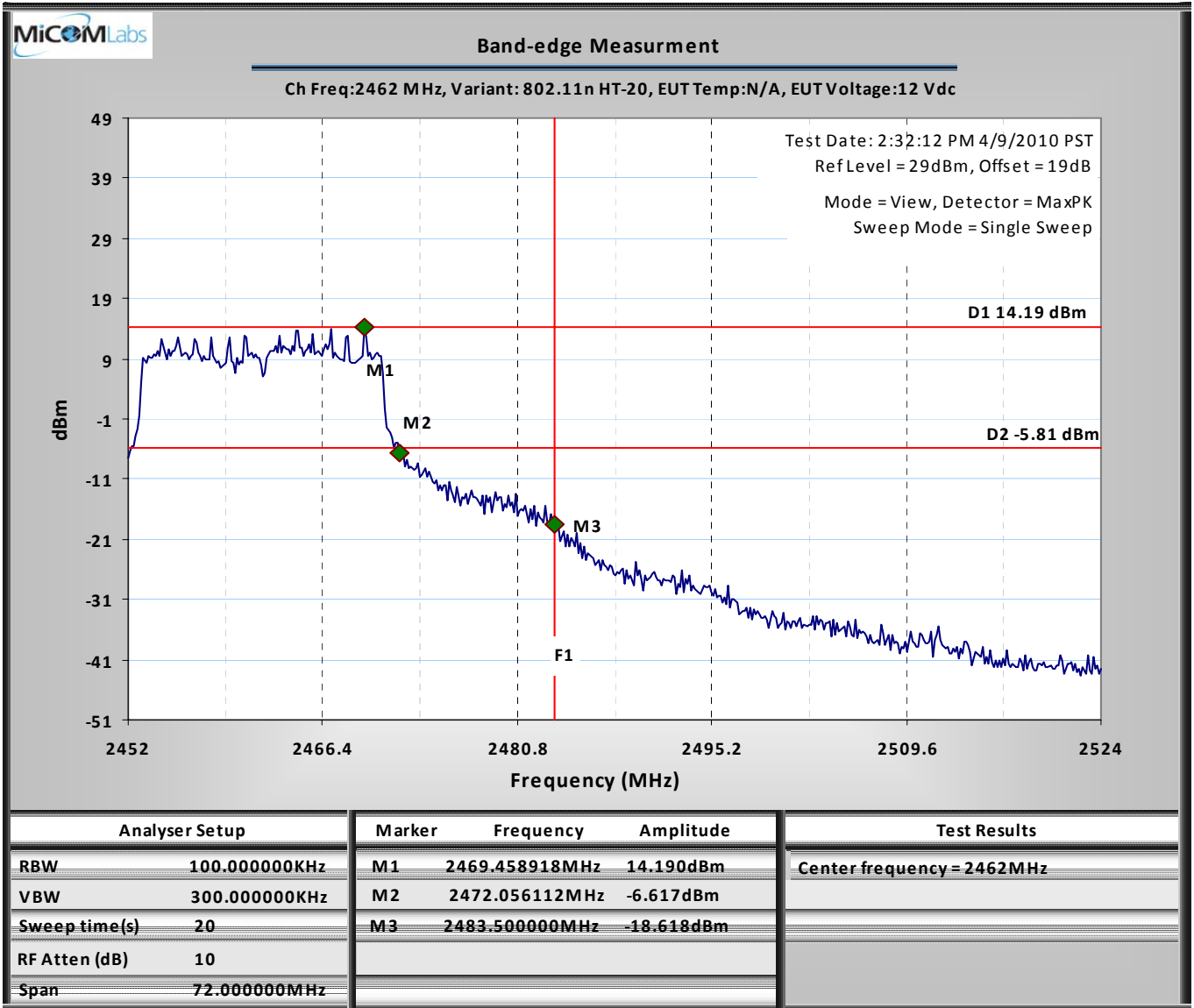
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 170 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 171 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 172 of 372

7.5.4 Measurement Results for 802.11n HT-40

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35	to	42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19	to	22
TPC:	HIGH	Pressure (mBars):	998	to	1003
Modulation:	ON	Duty Cycle (%):	100		
Beam Forming	N/A	Antenna Gain:	N/A dBi		
Applied Voltage:	12.0	Vdc			
Notes 1:					
Notes 2:					

Conducted Spurious Measurement

Test Frequency	Start Frequency	Stop Frequency	Maximum Observed Emission	Limit (20 dB below peak of fundamental)
MHz	MHz	MHz	dBm	dBm
2422.00	30.00	26000.00	-40.36	-12.14
2437.00	30.00	26000.00	-39.28	-11.00
2452.00	30.00	26000.00	-40.88	-10.55

Band-edge Measurement

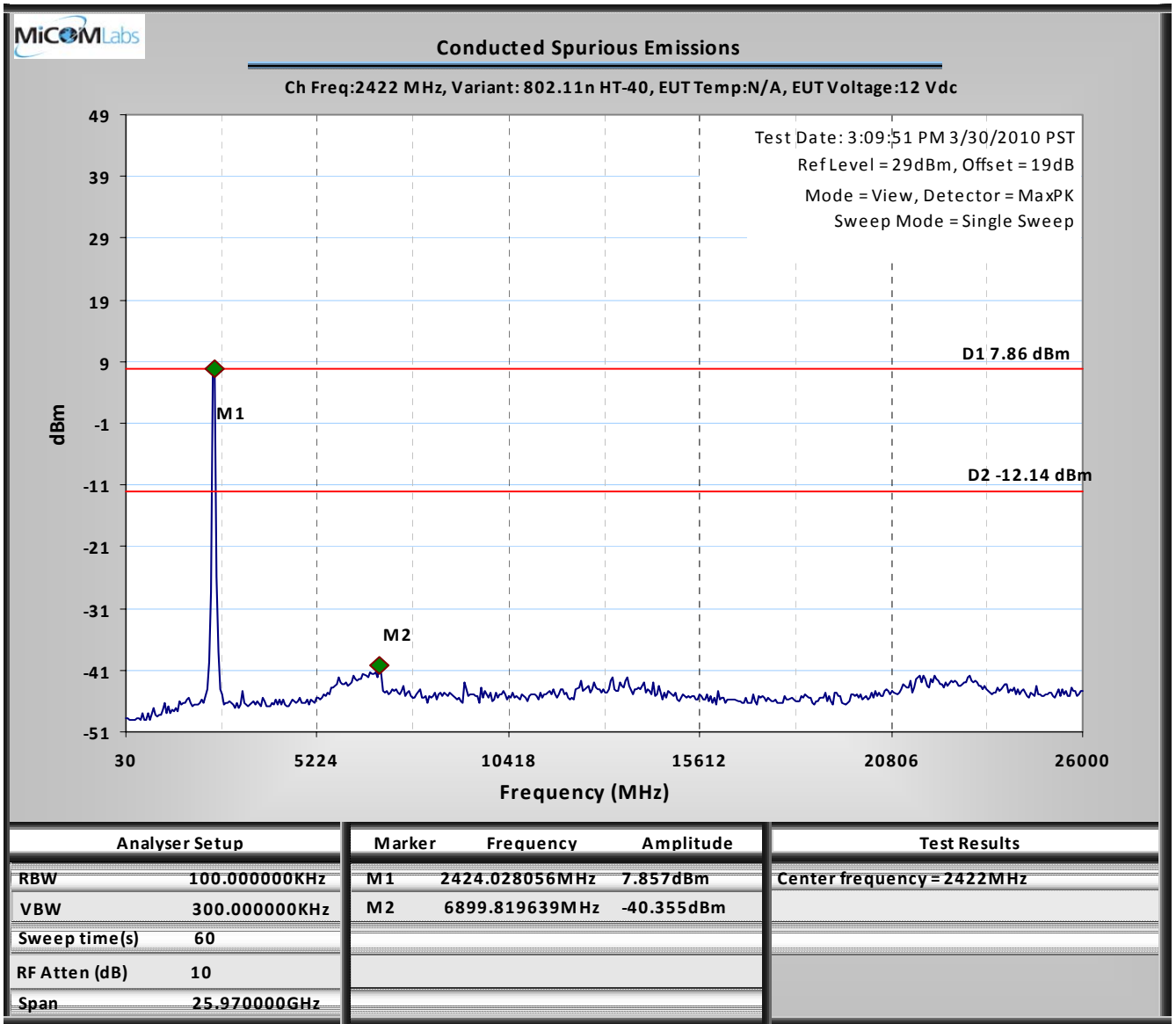
Test Frequency	Band-edge Frequency	Emission Amplitude @ Band-edge	Limit (20 dB below peak of fundamental)	Margin
MHz	MHz	dBm	dBm	dB
2422.00	2400.00	-14.03	-8.43	-5.61
2452.00	2483.50	-17.98	-9.37	-8.62

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



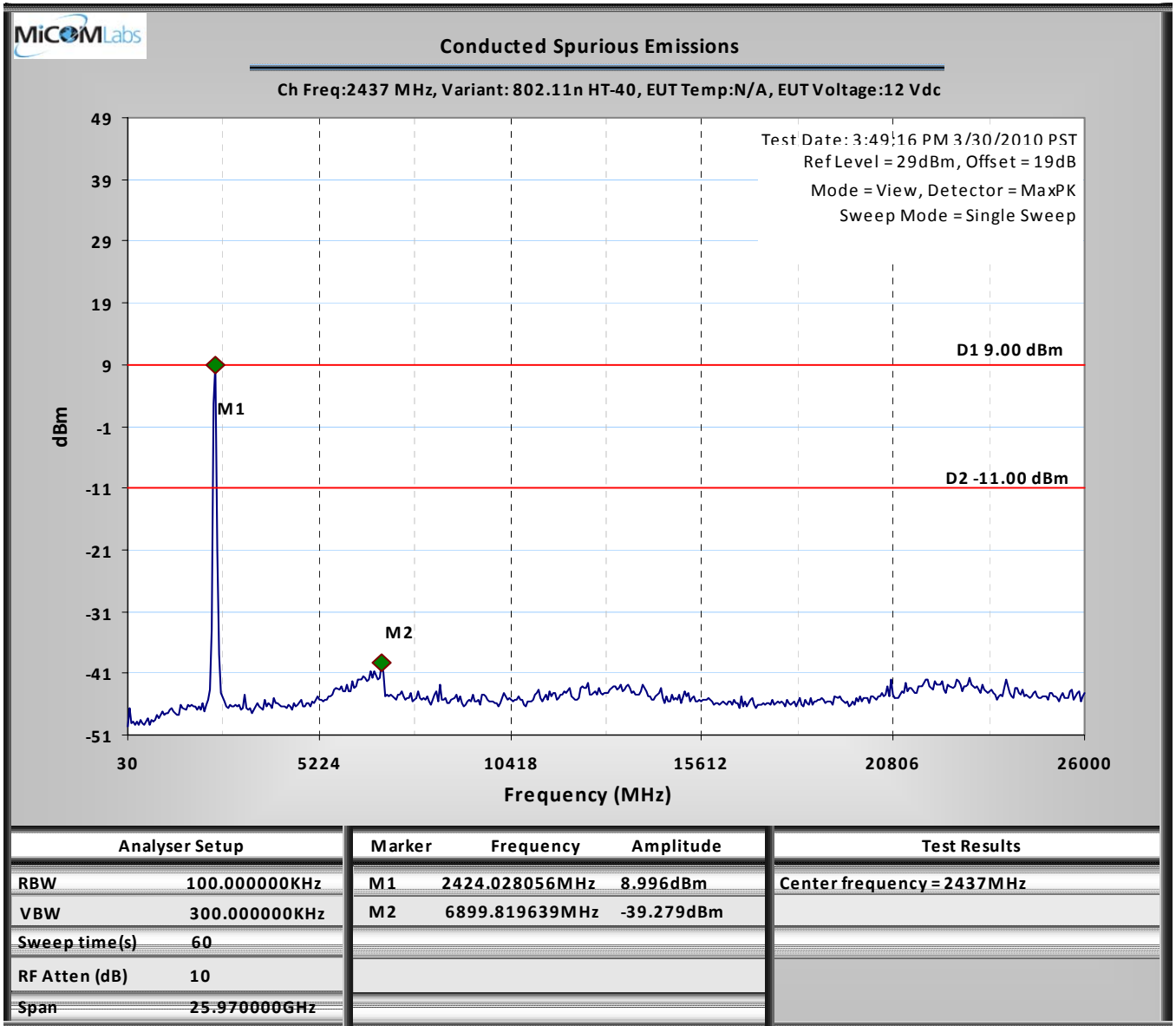
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 173 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



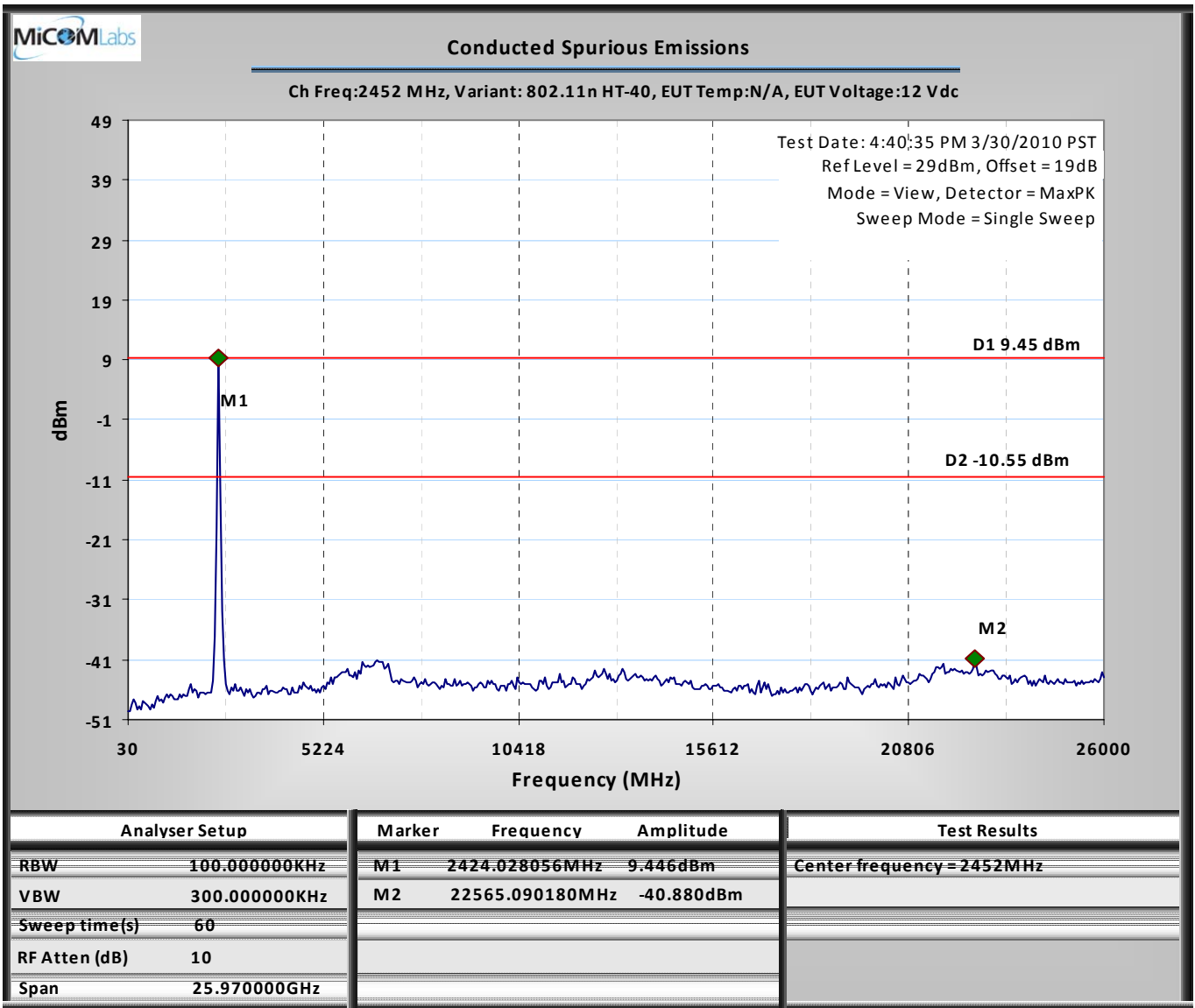
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 174 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



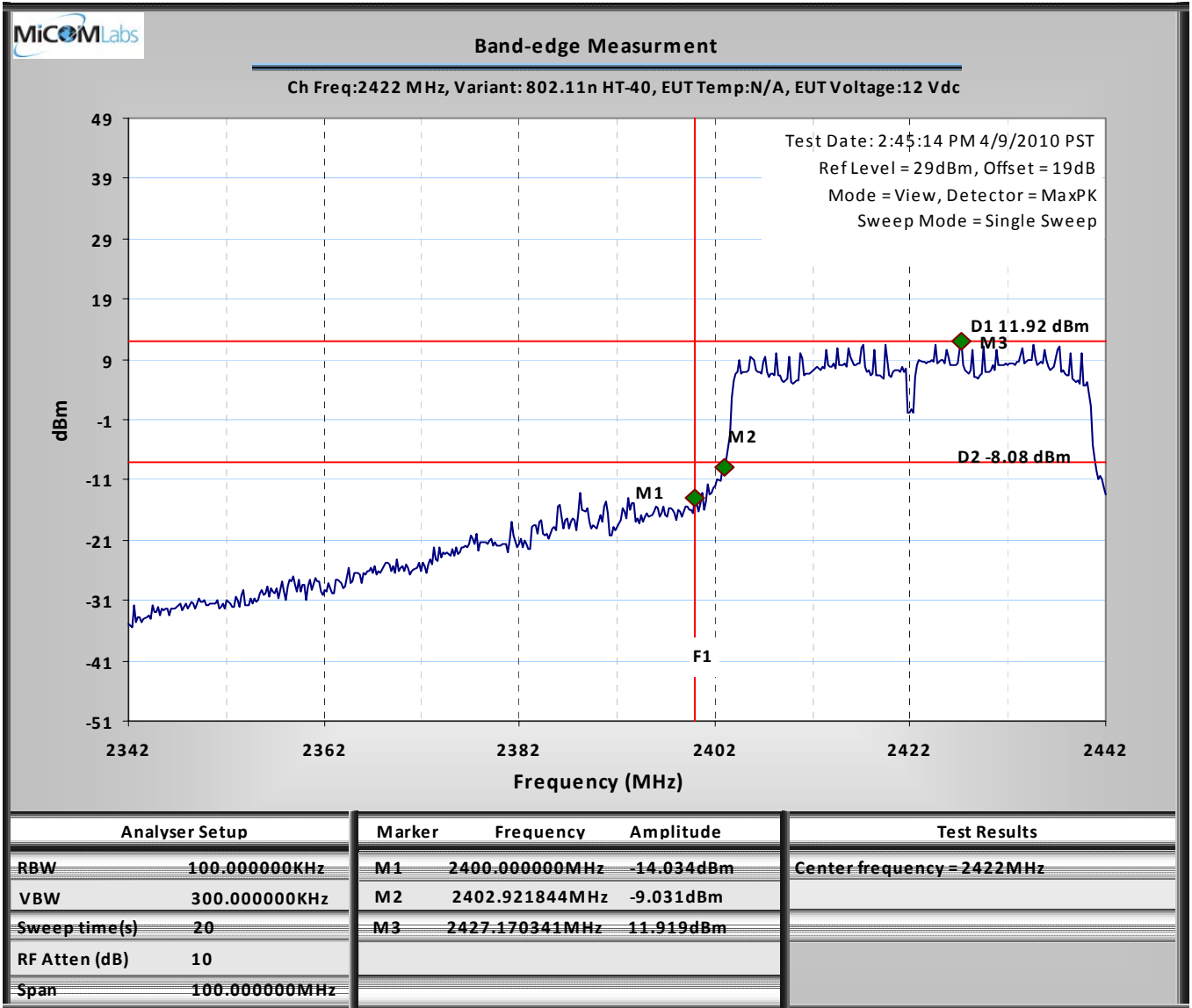
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 175 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



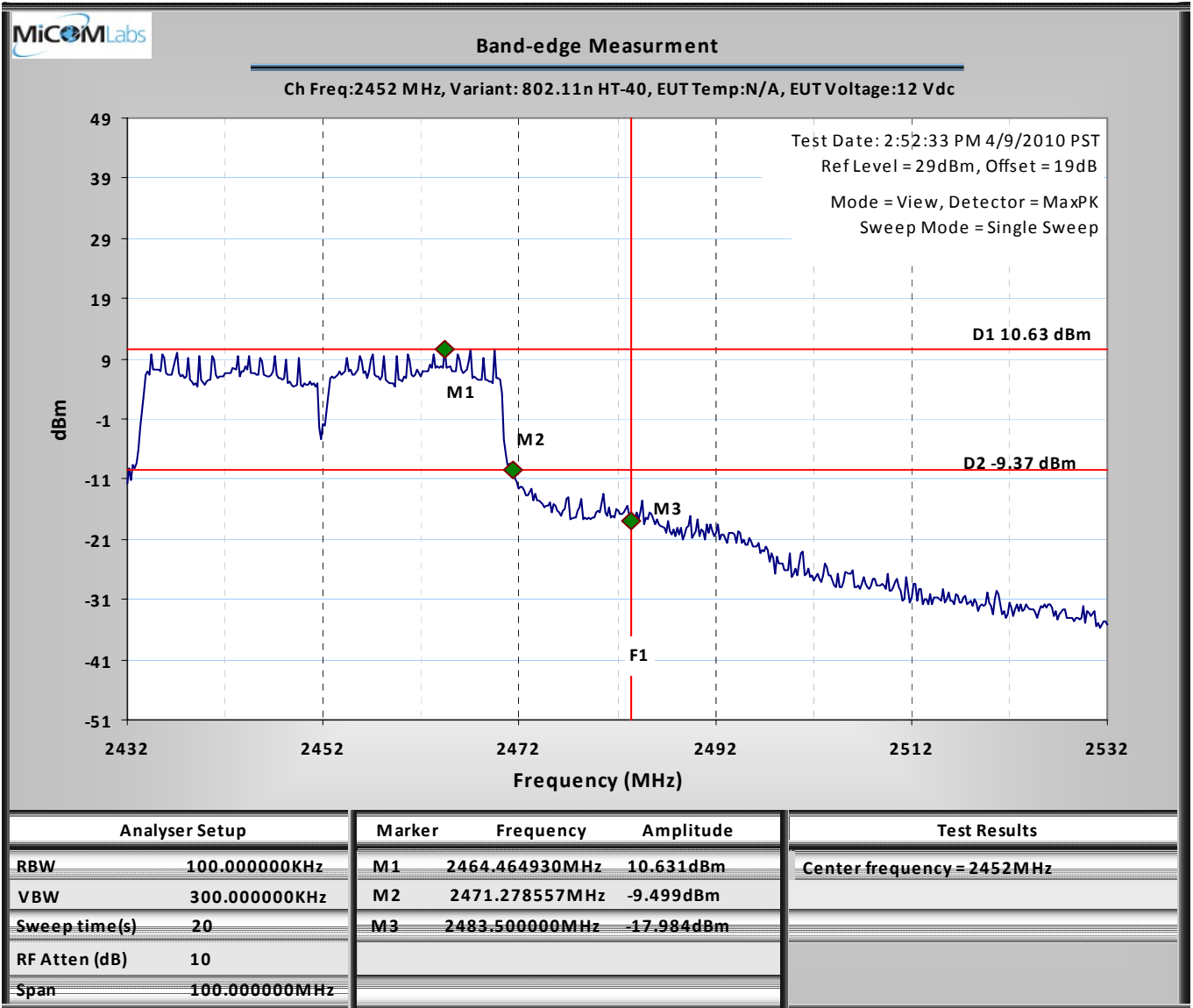
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 176 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 177 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 178 of 372

7.5.5 Measurement results for 802.11a

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11a	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming	N/A dB	Antenna Gain:	N/A dBi
Applied Voltage:	12.00 Vdc		
Notes 1:			
Notes 2:			

Conducted Spurious Measurement

Test Frequency	Start Frequency	Stop Frequency	Maximum Observed Emission	Limit (20 dB below peak of fundamental)
MHz	MHz	MHz	dBm	dBm
5745	30.00	40000.00	-40.22	-12.00
5785	30.00	40000.00	-39.57	-13.55
5825	30.00	40000.00	-39.87	-11.78

Band-edge Measurement

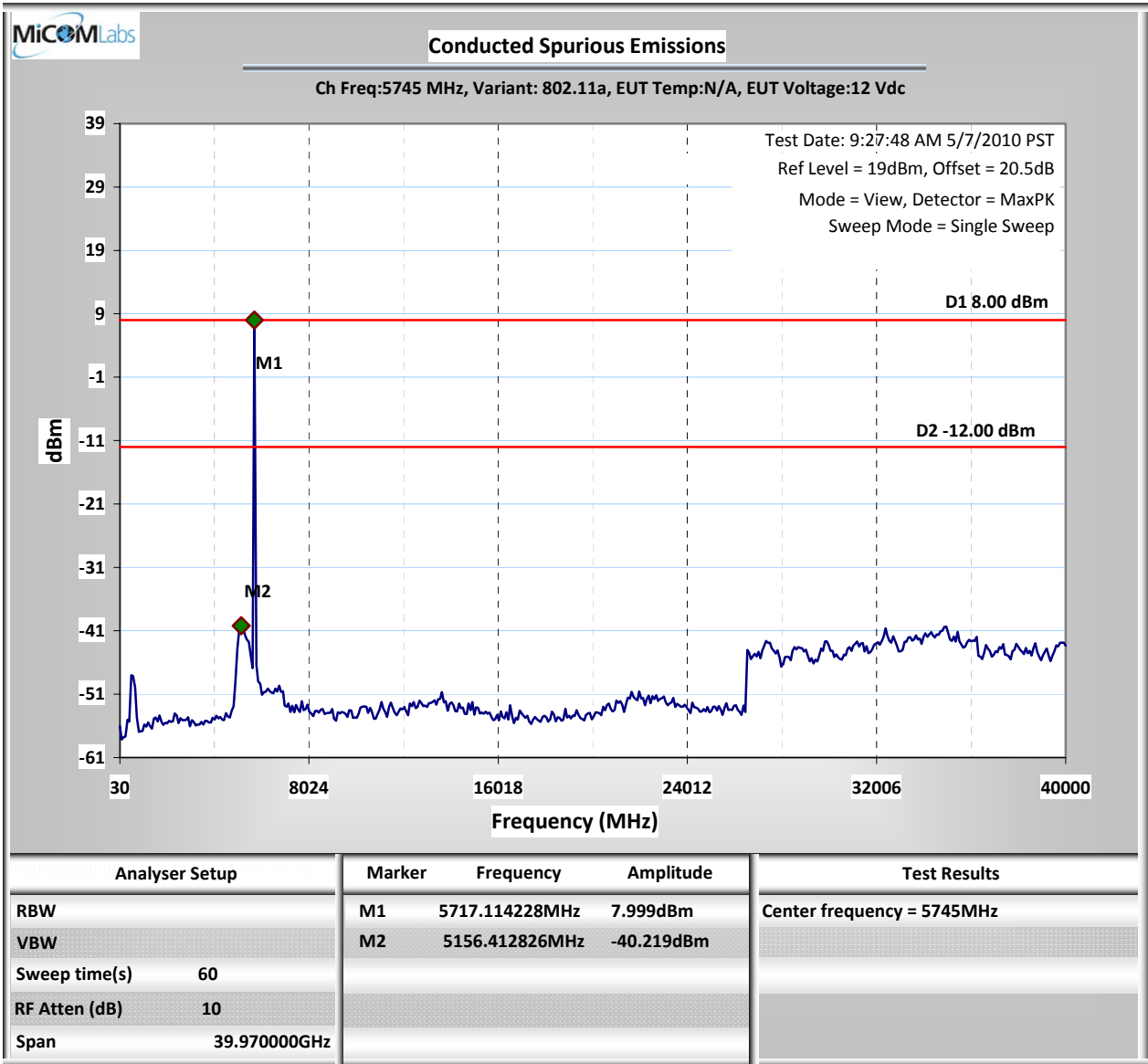
Test Frequency	Band-edge Frequency	Emission Amplitude @ Band-edge	Limit (20 dB below peak of fundamental)	Margin
MHz	MHz	dBm	dBm	dB
5745.00	5725.00	-25.51	-8.86	-16.65
5825.00	5850.00	-37.18	-10.35	-26.84

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



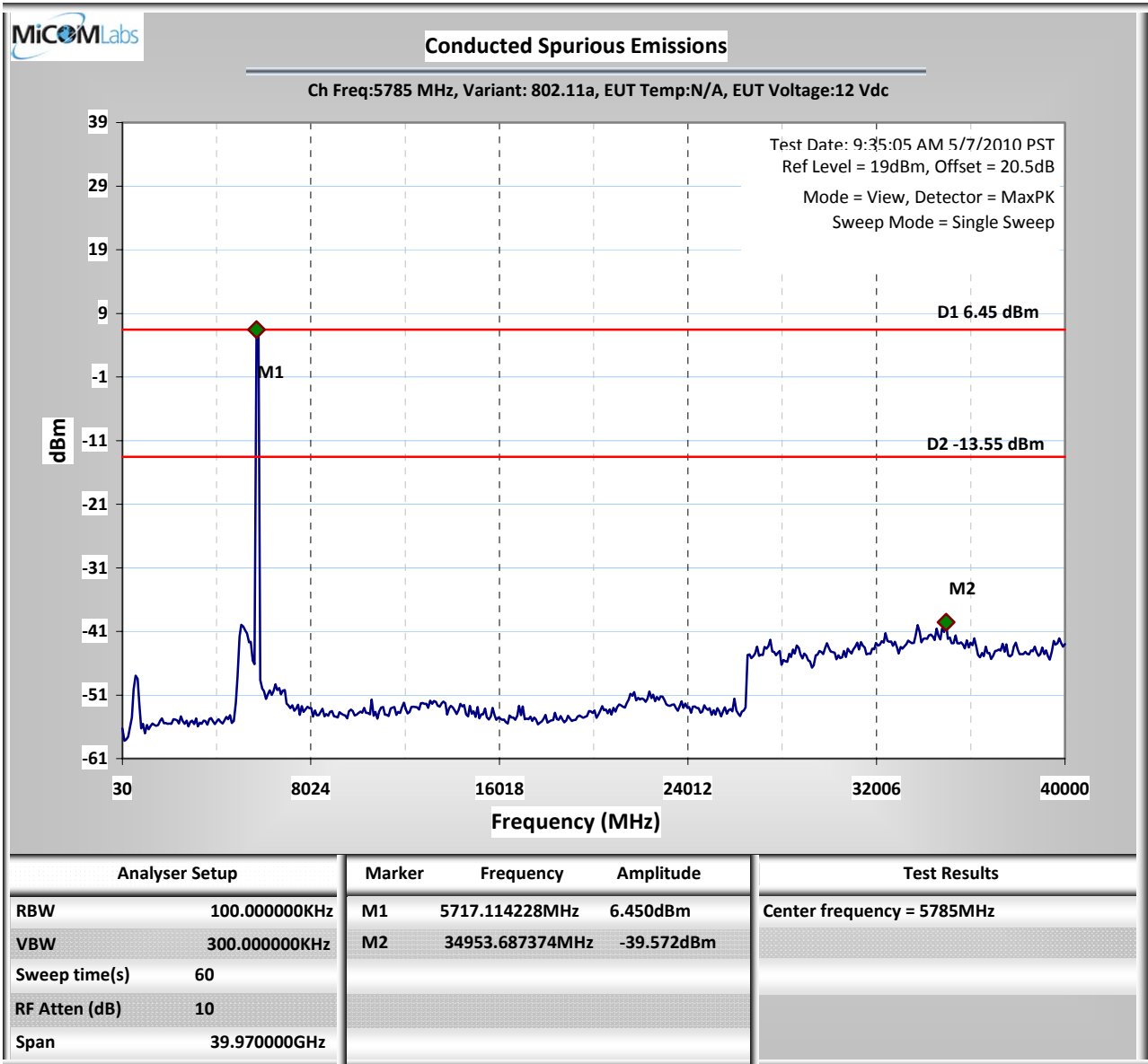
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 179 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



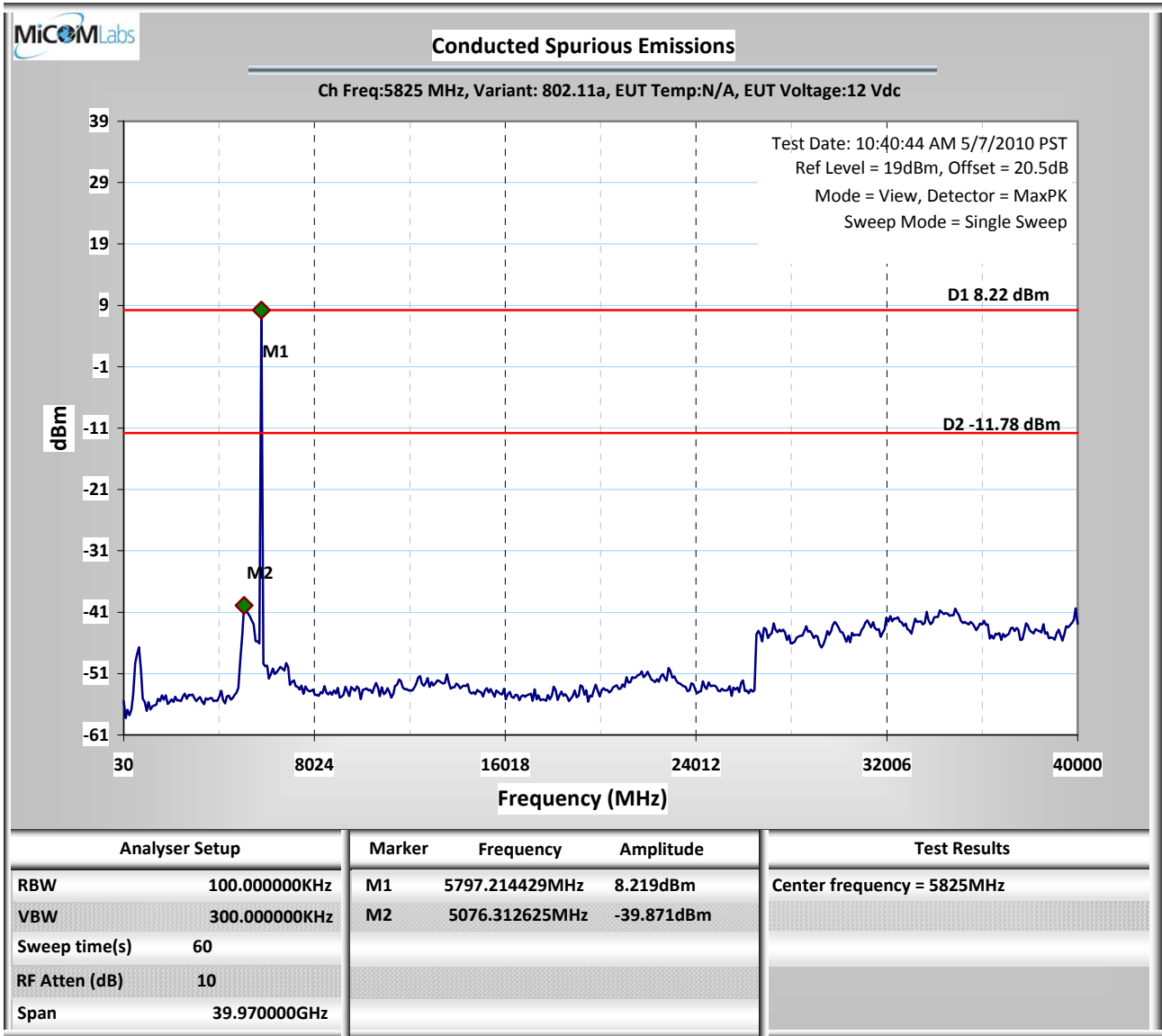
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 180 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



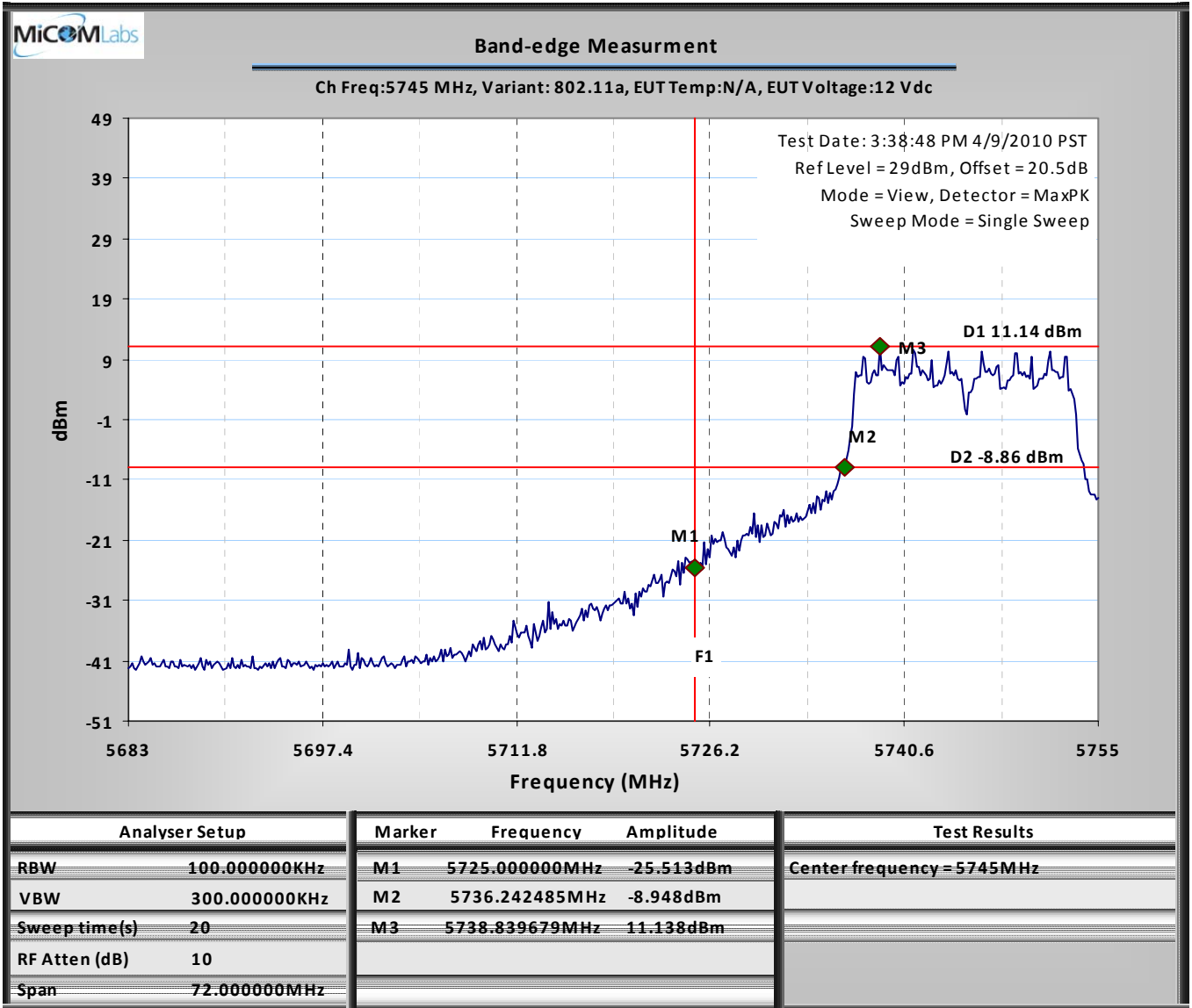
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 181 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



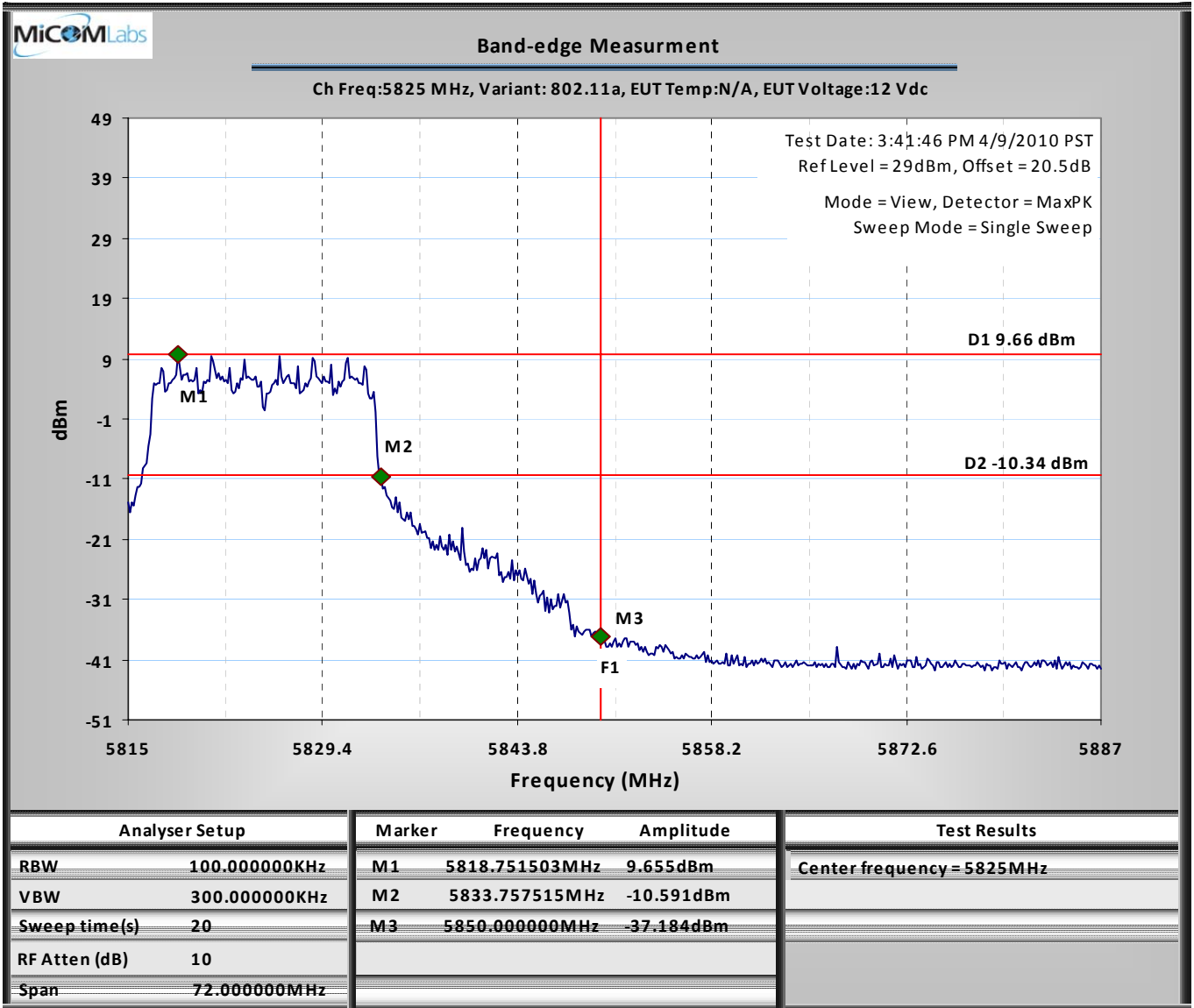
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 182 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 183 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 184 of 372

7.5.6 Measurement Results for 802.11n HT-20

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-20	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain	N/A dB	Antenna Gain:	N/A dBi
Applied Voltage:	12.00 Vdc		
Notes 1:			
Notes 2:			

Conducted Spurious Measurement

Test Frequency	Start Frequency	Stop Frequency	Maximum Observed Emission	Limit (20 dB below peak of fundamental)
MHz	MHz	MHz	dBm	dBm
5745	30.00	40000.00	-40.47	-14.82
5785	30.00	40000.00	-40.55	-10.37
5825	30.00	40000.00	-39.63	-14.65

Band-edge Measurement

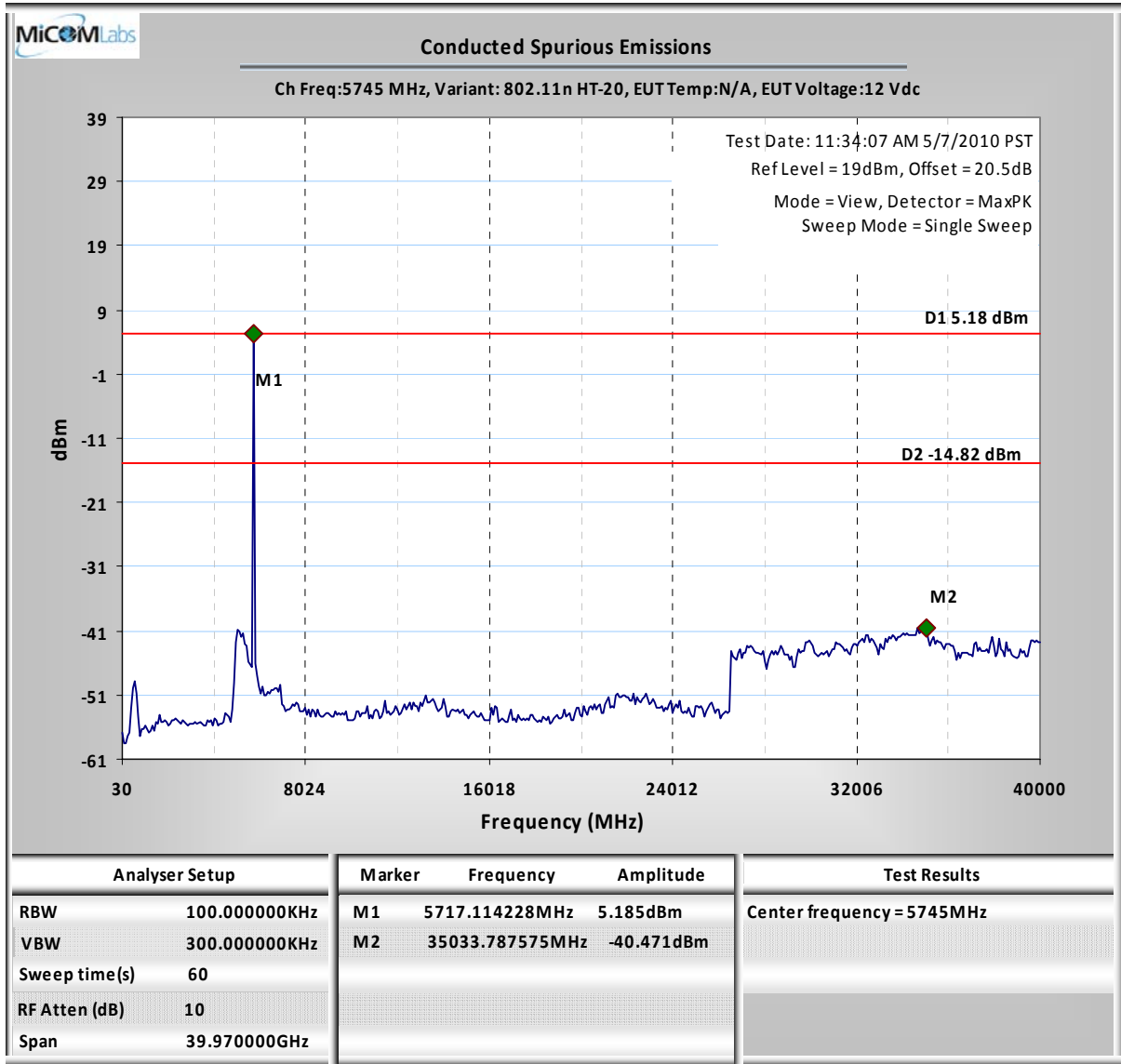
Test Frequency	Band-edge Frequency	Emission Amplitude @ Band-edge	Limit (20 dB below peak of fundamental)	Margin
MHz	MHz	dBm	dBm	dB
5745.00	5725.00	-24.27	-8.86	-15.42
5825.00	5850.00	-36.44	-10.05	-26.39

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



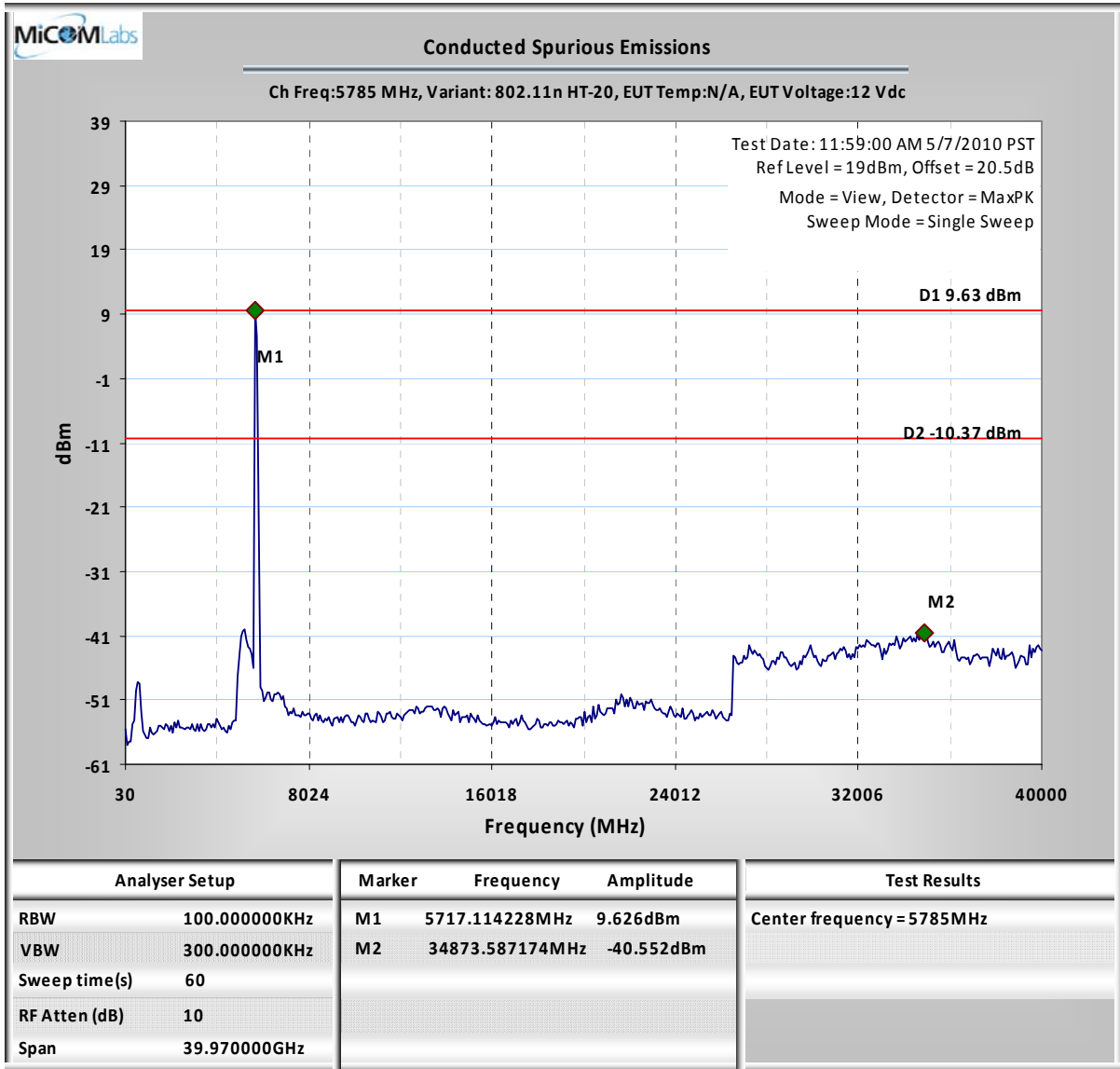
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 185 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



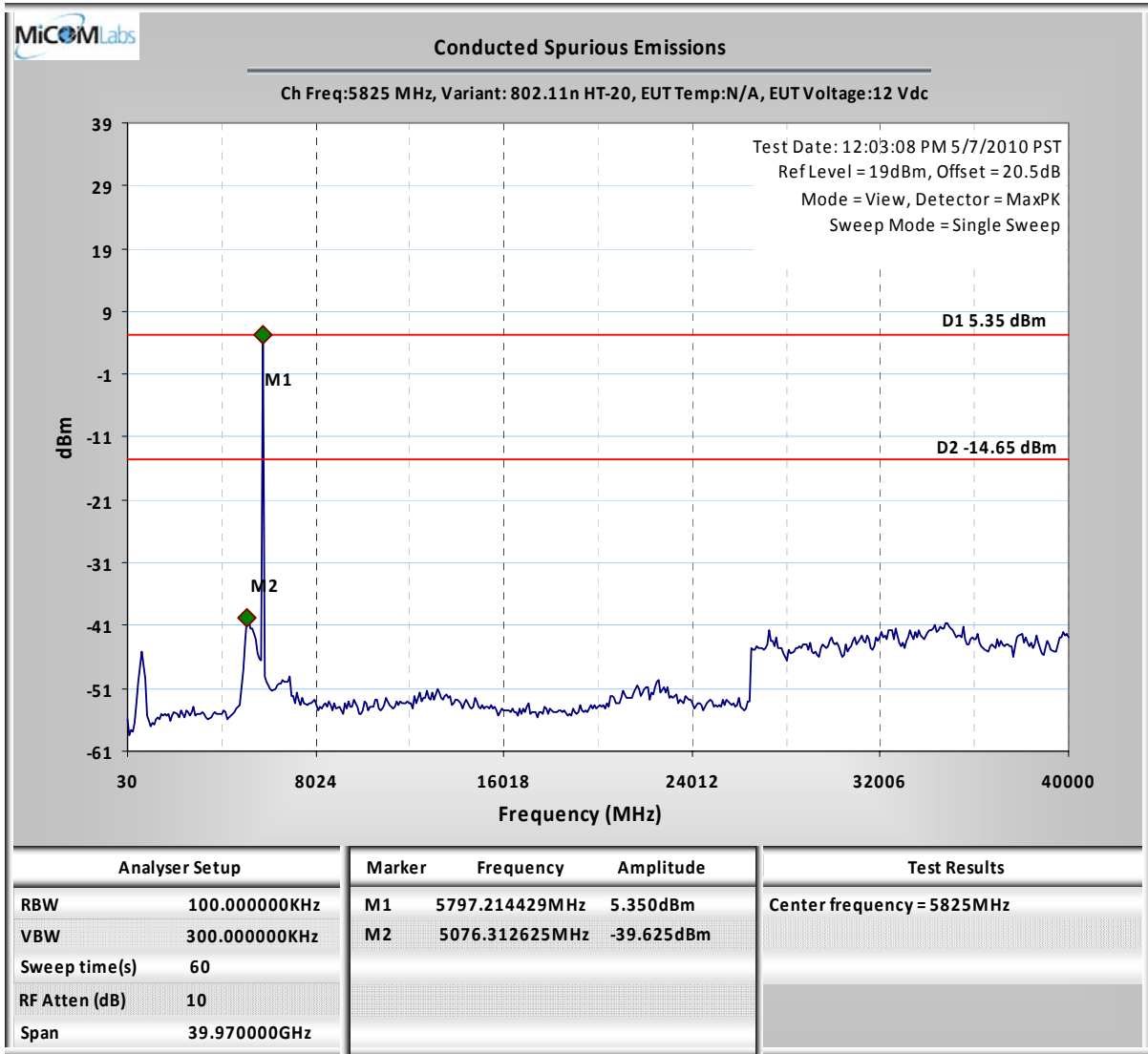
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 186 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



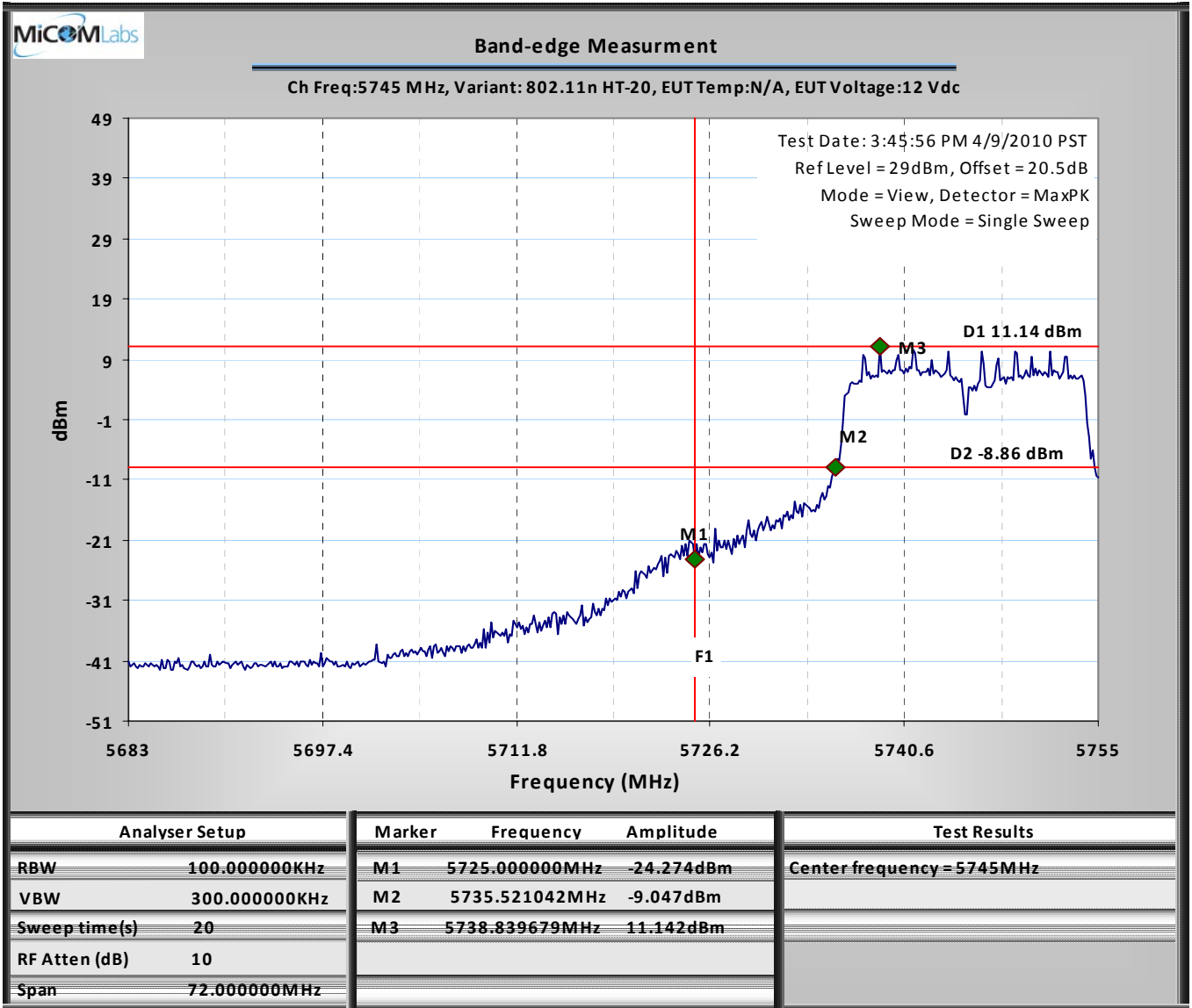
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 187 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



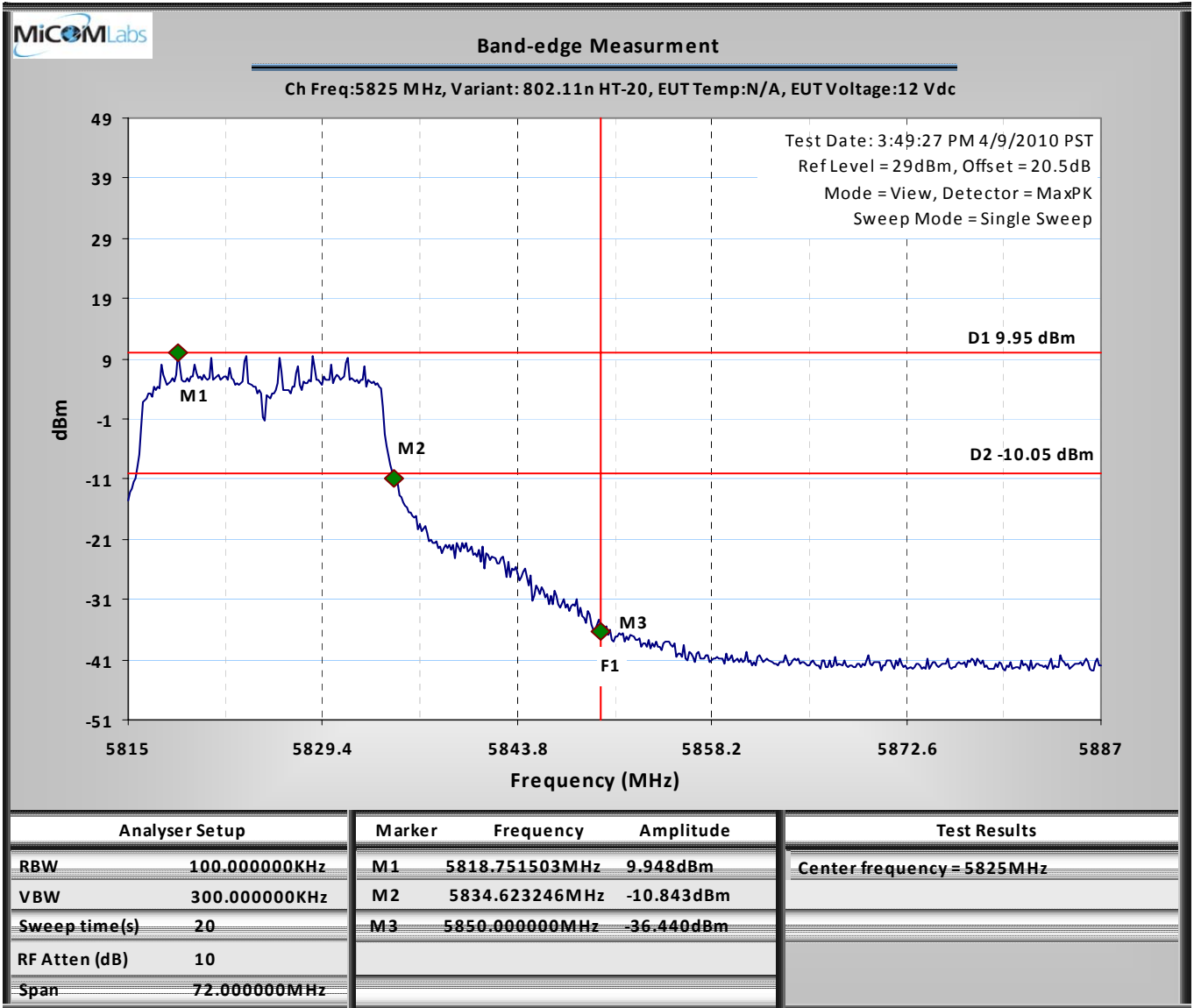
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 188 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 189 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 190 of 372

7.5.7 Measurement Results for 802.11n HT-40

Test Conditions:	15.247 (a)(2)	Rel. Humidity (%):	35 to 42
Variant:	802.11n HT-40	Ambient Temp. (°C):	19 to 22
TPC:	HIGH	Pressure (mBars):	998 to 1003
Modulation:	ON	Duty Cycle (%):	100
Beam Forming Gain	N/A dB	Antenna Gain:	N/A dBi
Applied Voltage:	12.00 Vdc		
Notes 1:			
Notes 2:			

Conducted Spurious Measurement

Test Frequency	Start Frequency	Stop Frequency	Maximum Observed Emission	Limit (20 dB below peak of fundamental)
MHz	MHz	MHz	dBm	dBm
5755	30.00	40000.00	-40.38	-14.06
5785	30.00	40000.00	-39.43	-14.68
5815	30.00	40000.00	-39.20	-15.73

Band-edge Measurement

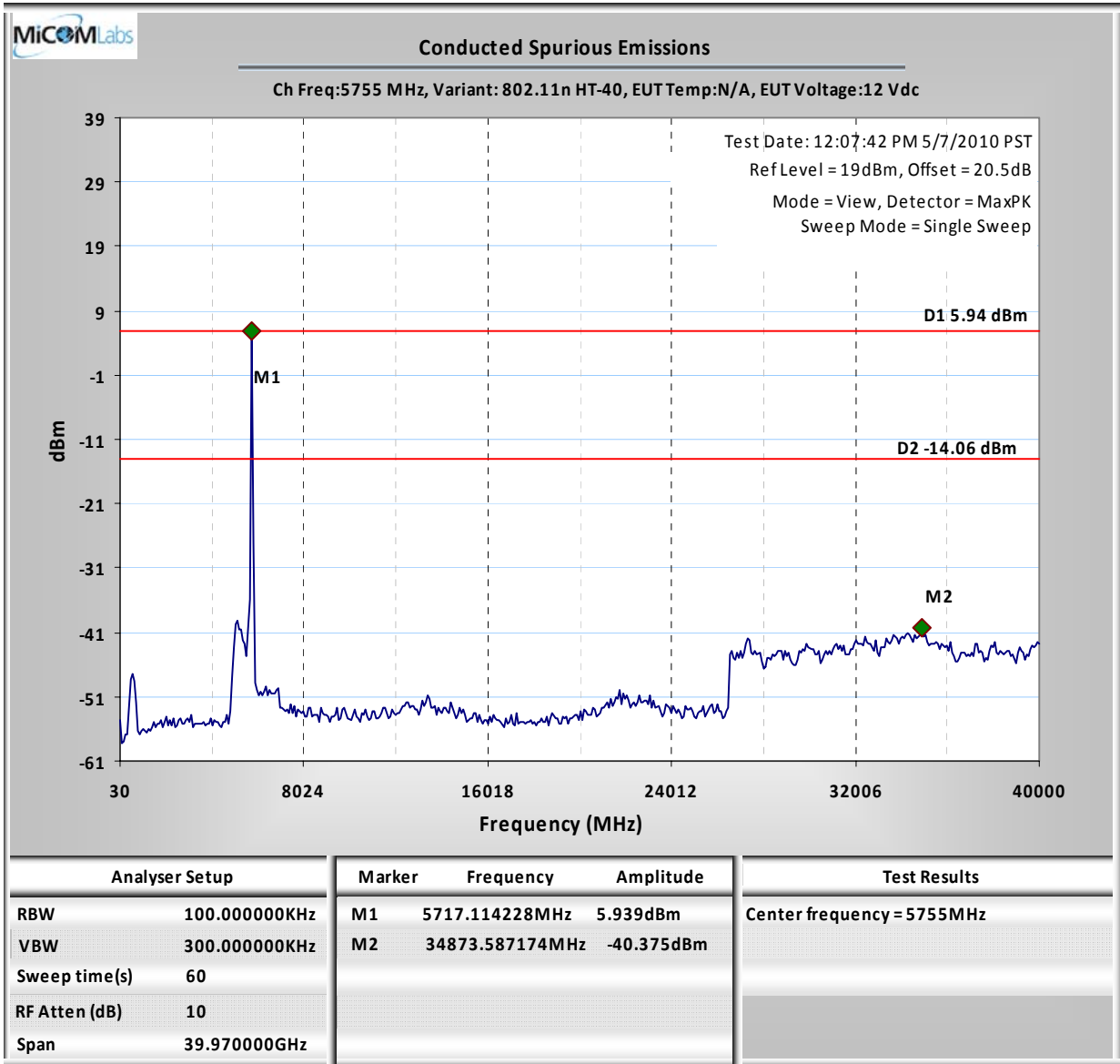
Test Frequency	Band-edge Frequency	Emission Amplitude @ Band-edge	Limit (20 dB below peak of	Margin
MHz	MHz	dBm	dBm	dB
5755.00	5725.00	-22.05	-11.97	-10.08
5815.00	5850.00	-27.53	-12.57	-14.96

Measurement uncertainty:	±2.81 dB
---------------------------------	----------

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



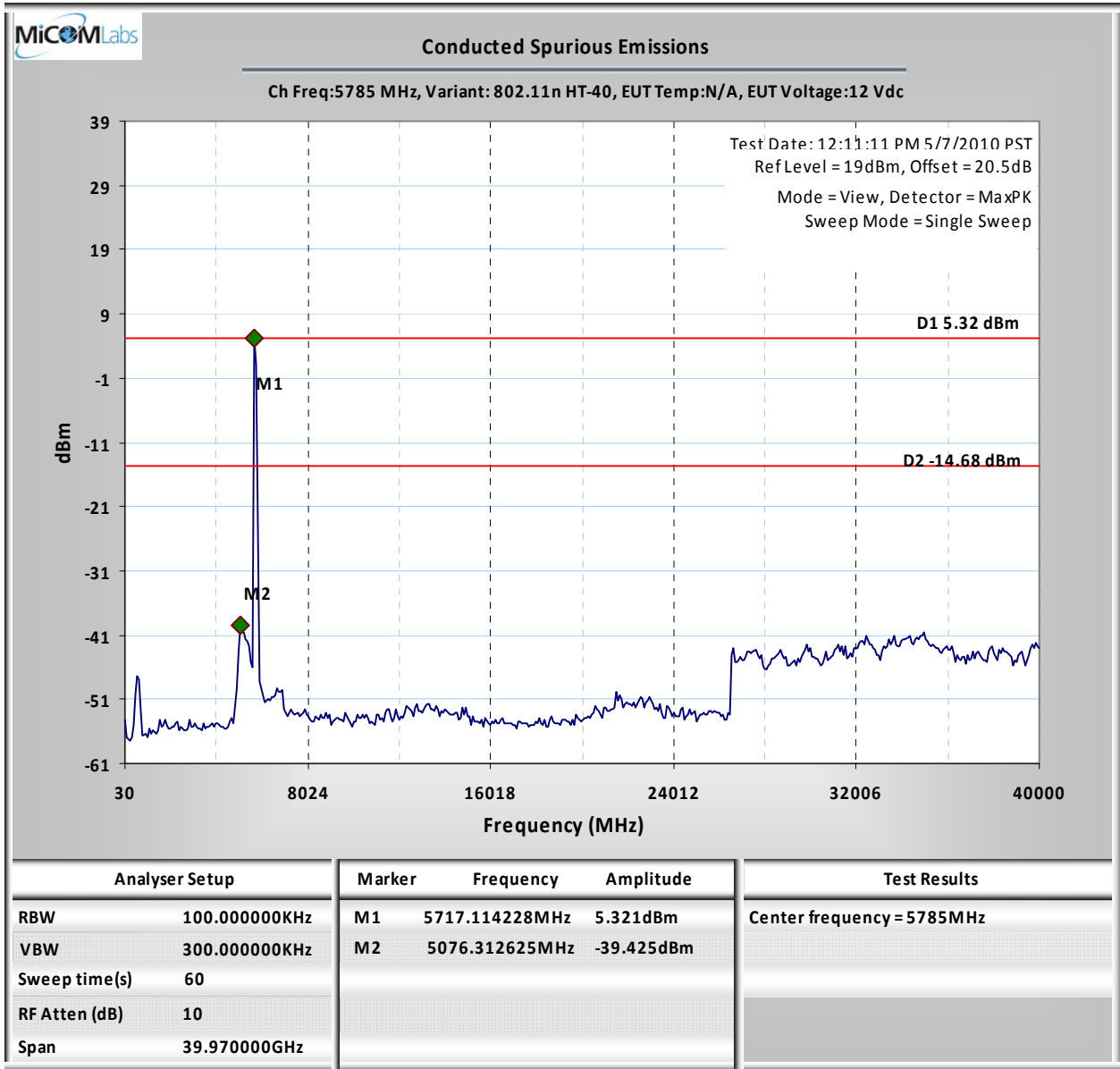
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 191 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



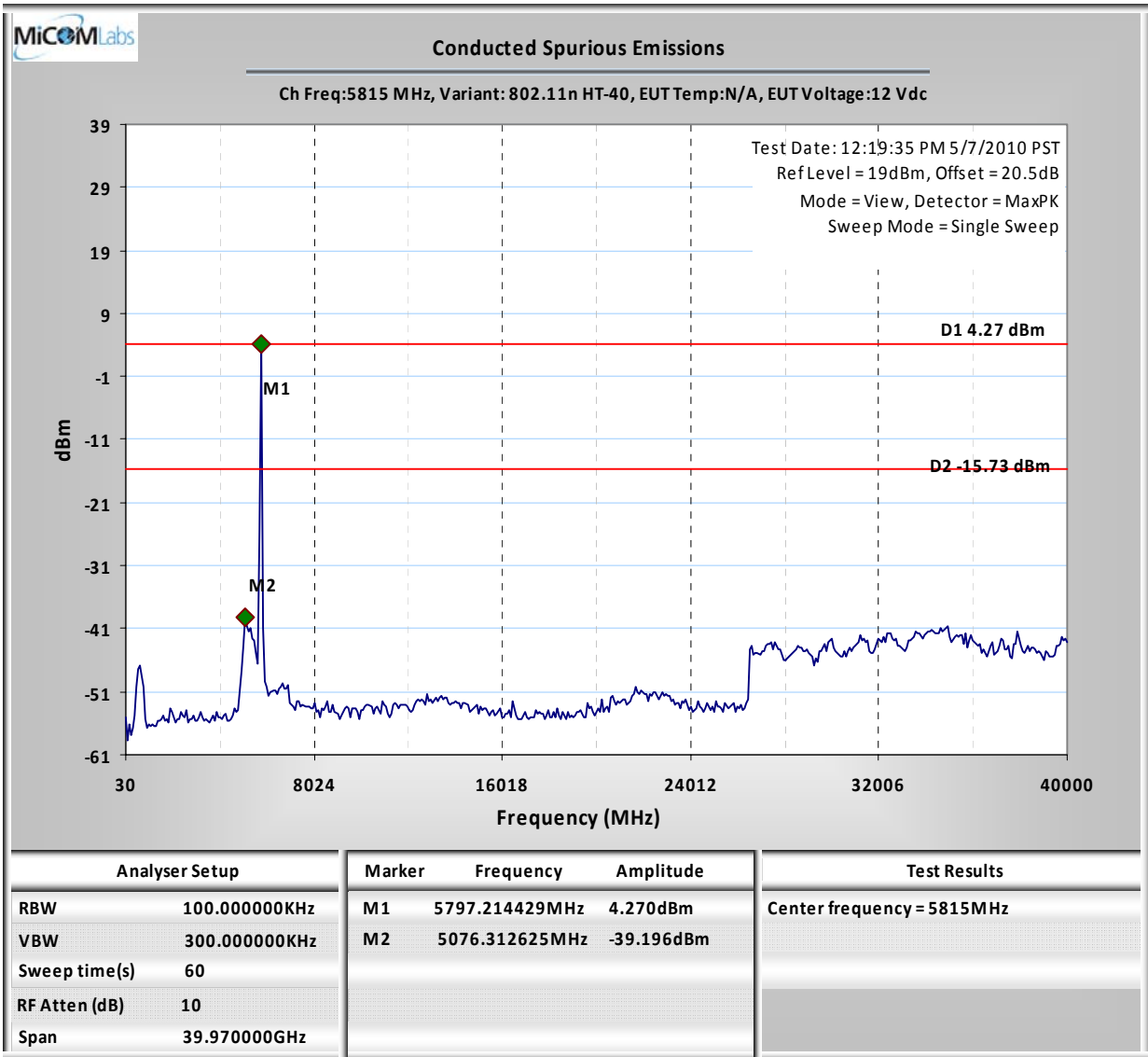
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 192 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



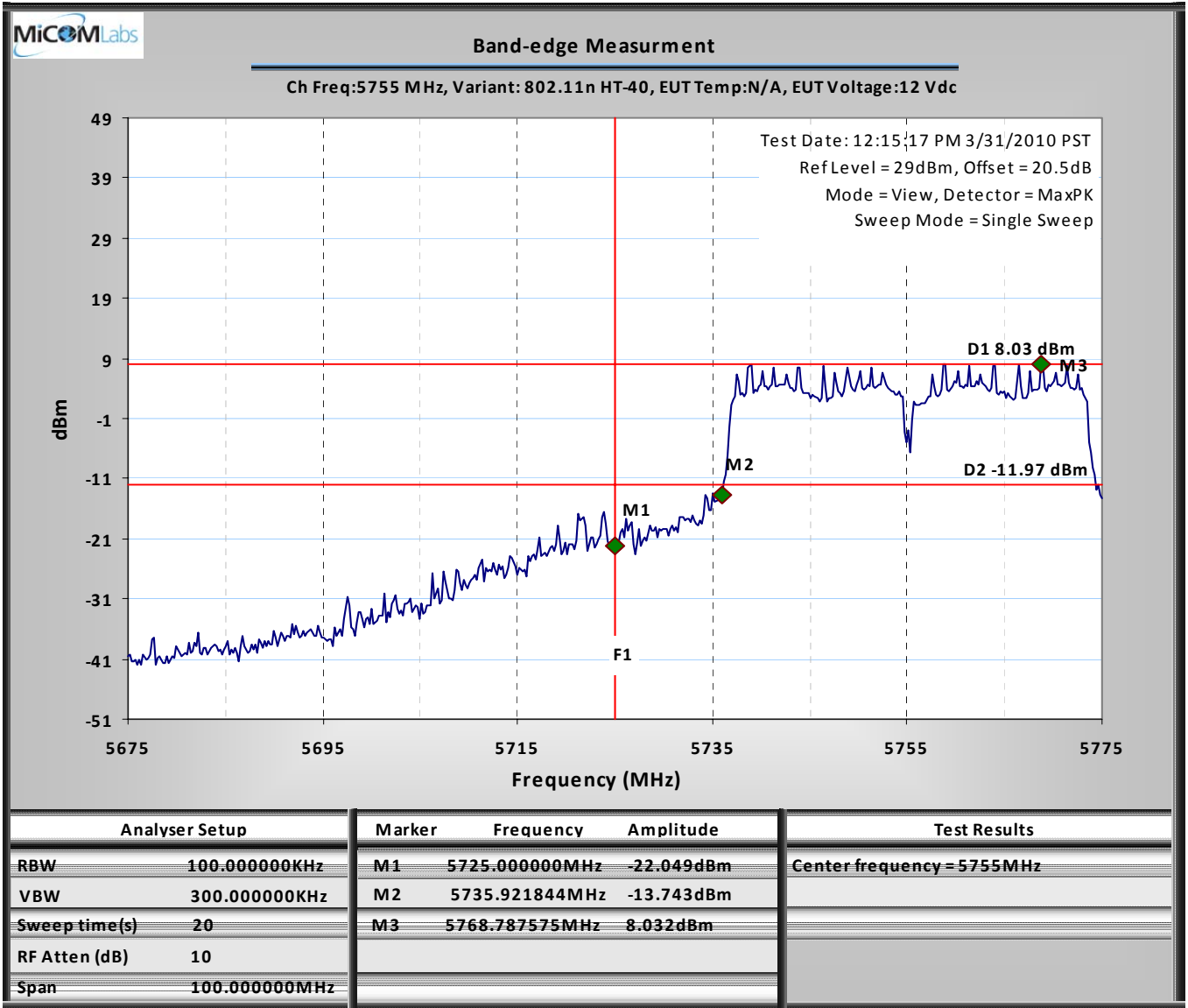
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 193 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



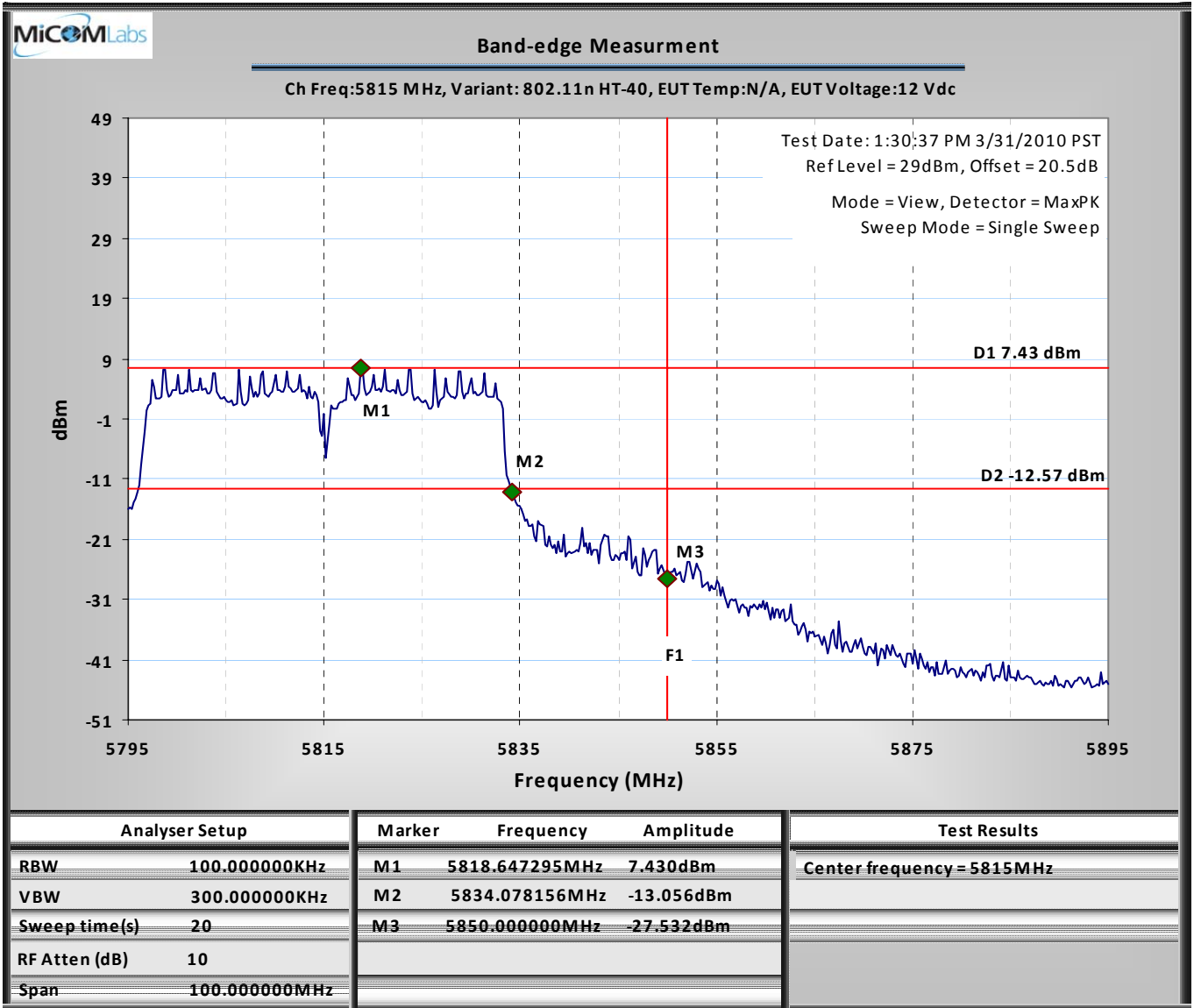
Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 194 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.



Title: Aruba AP-92/93 802.11a/b/g/n Wireless AP
To: FCC 47 CFR Part 15.247 & IC RSS-210
Serial #: ARUB51-U1 Rev A
Issue Date: 18th May 2010
Page: Page 195 of 372



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. Any changes will be noted in the Document History section of the report.