Test of APIN0204, APIN0205 802.11a/b/g/n/ac

To: FCC 47 CFR Part 15.407 & IC RSS-210

Test Report Serial No.: ARUB170-U8 Rev A

TEST REPORT

FROM

MiCOM Labs

Test of APIN0204, APIN0205 802.11a/b/g/n/ac

to

To FCC 47 CFR Part 15.407 & IC RSS-210

Test Report Serial No.: ARUB170-U8 Rev A

Note: this report contains data with regard to the 5,250 - 5,350 MHz and 5,470 – 5,725 MHz (DFS) bands for Aruba Networks, APIN0204 and APIN0205 Wireless Access Point. 5,150 - 5,250 (non-DFS) bands are reported in MiCOM Labs report ARUB170-U6 and 2.4 and 5.8 GHz test data are reported in MiCOM Labs test report ARUB170-U3

This report supersedes None

Applicant: Aruba Networks
1344 Crossman Avenue
Sunnyvale, California 94089
USA

Product Function: Wireless Access Point

Copy No: pdf Issue Date: 13th May 2014

This Test Report is Issued Under the Authority of;

MiCOM Labs, Inc.
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A2LA ACCREDITED
TESTING CERT # 2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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ACCREDITATION, LISTINGS & RECOGNITION

TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per 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

ilac-MRA

A2LA American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 28th day of February 2014.

President & CEO
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2015

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

RECOGNITION

MiCOM Labs, Inc has widely recognized Electrical testing capabilities. Our international recognition includes Conformity Assessment Body designation by APEC MRA** countries. Our test reports are widely accepted for global type approvals.

Country	Recognition Body	Status	Phase	Identification No.
USA	Federal Communications Commission (FCC)	TCB	-	US0159 Listing #: 102167
Canada	Industry Canada (IC)	FCB	APEC MRA 2	US0159 Listing #: 4143A-2 4143A-3
Japan	MIC (Ministry of Internal Affairs and Communication)	CAB	APEC MRA 2	RCB 210
	VCCI	--	--	A-0012
Europe	European Commission	NB	EU MRA	NB 2280
Australia	Australian Communications and Media Authority (ACMA)	CAB	APEC MRA 1	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)	CAB	APEC MRA 1	
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)	CAB	APEC MRA 1	
Singapore	Infocomm Development Authority (IDA)	CAB	APEC MRA 1	
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)	CAB	APEC MRA 1	
Vietnam	Ministry of Communication (MIC)	CAB	APEC MRA 1	

**APEC MRA – Asia Pacific Economic Community Mutual Recognition Agreement.
Is a recognition agreement under which test lab is accredited to regulatory standards of the APEC member countries.
Phase I - recognition for product testing
Phase II – recognition for both product testing and certification
N/A – Not Applicable

**EU MRA – European Union Mutual Recognition Agreement.
Is a recognition agreement under which test lab is accredited to regulatory standards of the EU member countries.

**NB – Notified Body

PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard EN ISO/IEC 17065. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-02.pdf


American Association for Laboratory Accreditation

Accredited Product Certification Body

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence as a

Product Certification Body

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC 17065:2012 - *Requirements for bodies certifying products, processes and services*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.

Presented this 28th day of February 2014.

President & CEO
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2015

For the product certification schemes to which this accreditation applies, please refer to the organization's Product Certification Scope of Accreditation

USA Telecommunication Certification Body (TCB) - TCB Identifier – US0159

Industry Canada Certification Body - CAB Identifier – US0159

European Notified Body - Notified Body Identifier - 2280

Japan – Recognized Certification Body (RCB) - RCB Identifier - 210

DOCUMENT HISTORY

Document History		
Revision	**Date**	**Comments**
Draft		
Rev A	13th May 2014	Initial release

1. TEST RESULT CERTIFICATE

Applicant:	Aruba Networks 1344 Crossman Avenue Sunnyvale, California 94089 USA	Tested By:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California, 94566, USA
EUT:	Wireless LAN Access point	Tel:	+1 925 462 0304
Model:	APIN0204 & APIN0205	Fax:	+1 925 462 0306
S/N:	APIN0204: CM000392, APIN0205: CM000141		
Test Date(s):	17th February - 5th May 2014	Website:	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC 47 CFR Part 15.407 & IC RSS-210	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:

A2LA ACCREDITED
TESTING CERT # 2381.01

Graeme Grieve
Quality Manager MiCOM Labs,

Gordon Hurst
President & CEO MiCOM Labs, Inc.

2. REFERENCES AND MEASUREMENT UNCERTAINTY

2.1. Normative References

Ref.	Publication	Year	Title
(i)	FCC 47 CFR Part 15.407	2014	Code of Federal Regulations
(ii)	FCC 06-96	June 2006	Memorandum Opinion and Order
(iii)	FCC OET KDB 662911	4th April 2011	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
(iv)	Industry Canada RSS-210	2010	Low Power License-Exempt Radiocommunication Devices (All Frequency Bands): Category 1 Equipment
(v)	Industry Canada RSS-Gen	2010	General Requirements and Information for the Certification of Radiocommunication Equipment
(vi)	ANSI C63.4	2009	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
(vii)	CISPR 22/ EN 55022	2008 2006+A1:2007	Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment
(viii)	M 3003	Edition 1 Dec. 1997	Expression of Uncertainty and Confidence in Measurements
(ix)	LAB34	Edition 1 Aug 2002	The expression of uncertainty in EMC Testing
(x)	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
(xi)	A2LA	July 2012	Reference to A2LA Accreditation Status – A2LA Advertising Policy
(xii)	FCC Public Notice – DA 02-2138	2002	Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices

2.2. 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.

3. PRODUCT DETAILS AND TEST CONFIGURATIONS

3.1. Technical Details

Details	Description
Purpose:	Test of the APIN0204, APIN0205 802.11a/b/g/n/ac in the frequency range 5,250 - 5,350 and 5,470 – 5,725 MHz to FCC Part 15.407 and Industry Canada RSS-210 regulations.
Applicant:	Aruba Networks 1344 Crossman Avenue Sunnyvale, California 94089, USA
Manufacturer:	As applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court, Pleasanton, California 94566 USA
Test report reference number:	ARUB170-U8 Rev A
Date EUT received:	10th January 2014
Standard(s) applied:	FCC 47 CFR Part 15.407 & IC RSS-210
Dates of test (from - to):	17th February - 5th May 2014
No of Units Tested:	Two: APIN0204 and APIN0205
Type of Equipment:	802.11a/b/g/n Wireless Access Point 2x2 Spatial Multiplexing MIMO configuration
Applicants Trade Name:	Wireless Access Point
Model(s):	APIN0204 & APIN0205
Location for use:	Indoor only
Declared Frequency Range(s):	5,250 – 5,350 MHz and 5470 – 5725 MHz
Hardware Rev	Version P2
Software Rev	armv7nsrd 0127
Type of Modulation:	Per 802.11 – OFDM
EUT Modes of Operation:	802.11a/n/ac
Declared Nominal Output Power: (Average Power)	802.11a/n/ac: +21 dBm
Transmit/Receive Operation:	Time Division Duplex
System Beam Forming:	APIN0204 & APIN0205 has no capability for antenna beam forming
Rated Input Voltage and Current:	POE 48 Vdc 1.25 A 12 Vdc 1.5 A
Operating Temperature Range:	Declared range 0° to +40ºC
ITU Emission Designator:	802.11a 17M1D1D 802.11n HT-20 18M2D1D 802.11n HT-40 37M3D1D 802.11ac-80 76M9D1D
Equipment Dimensions:	150mmx150mmx40mm
Weight:	3 lbs
Primary function of equipment:	Wireless Access Point for transmitting data and voice.

3.2. Scope of Test Program

Aruba Networks APIN0204, APIN0205 Access Point RF Testing
The scope of the test program was to test the Aruba Networks APIN0204, APIN0205 Wireless LAN Access Point, 2x2 Spatial Multiplexing MIMO configurations in the frequency range 5,250 - 5,350 MHz and 5,470 – 5,725 MHz for compliance against FCC 47 CFR Part 15.407 and Industry Canada RSS-210 specifications.

Model Identification

APIN0204: External Antenna (Reverse SMA).

APIN0205: Integral Antenna.

FCC OET KDB Implementation
This test program implements the following FCC KDB – 662911 4/4/2011;
Emissions Testing of Transmitters with Multiple Outputs in the Same Band

The KDB document provides guidance for measurements of conducted output emissions of devices that employ a single transmitter with multiple outputs in the same band, with the outputs occupying the same or overlapping frequency ranges. It applies to EMC compliance measurements on devices that transmit on multiple antennas simultaneously in the same or overlapping frequency ranges through a coordinated process. Examples include, but are not limited to, devices employing beam forming or multiple-input and multiple-output (MIMO.) This guidance applies to both licensed and unlicensed devices wherever the FCC rules call for conducted output measurements. Guidance is provided for in-band, out-of-band and spurious emission measurements.

This guidance does not apply to the multiple transmitters included in a composite device, such as a device that combines an 802.11 modem with a cell phone in one enclosure with each driving its own antenna.

Aruba Networks Inc
APIN0204 External Antenna 802.11 a/b/g/n/ac Wireless Access Point

Aruba Networks Inc
APIN0205 Integral Antenna 802.11 a/b/g/n/ac Wireless Access Point

Aruba Networks Inc
802.11 a/b/g/n/ac Wireless Access Point (Rear)

3.3. Equipment Model(s) and Serial Number(s)

Type (EUT/ Support)	Equipment Description (Including Brand Name)	Mfr	Model No.	Serial No.
EUT	Wireless LAN Access Point	Aruba Networks	APIN0204	CM000392
EUT	Wireless LAN Access Point (Integral Antenna)	Aruba Networks	APIN0205 (Radiated only)	CM000141
Support	Laptop PC	IBM	Thinkpad	None

3.4. Antenna Details

APIN0204 External Antennas

Model	Type	Gain	Freq. Band	Note
		dBi	MHz	
AP-ANT-1B	Omni	3.8	2400 - 2500	
		5.8	4900 - 5875	
AP-ANT-13B	Omni	4.4	2400 - 2500	
		3.3	4900 - 5900	
AP-ANT-16	Omni	3.9	2400 - 2500	
		4.7	4900 - 5900	
AP-ANT-17	Directional 120degr.	6.0	2400 - 2500	
		5.0	4900 - 5875	
AP-ANT-18	Directional 60degr.	7.5	2400 - 2500	
		7.5	5150 - 5875	
AP-ANT-19	Omni	3.0	2400 - 2500	
		6.0	5150 - 5875	
AP-ANT-20	Omni	2.0	2400 - 2500	
		2.0	5150 - 5875	

APIN0205 Integral Antennas

Model	Type	Gain	Freq. Band	Note
		dBi	MHz	
metal sheet	Omni	4.0	2400 - 2500	(2x per band, per unit)
metal sheet	Omni	4.5	5150 - 5875	(2x per band, per unit)

3.5. Cabling and I/O Ports

Number and type of I/O ports

1. 10/100/1000 Ethernet (POE)
2. Console - Serial maintenance terminal
3. 12 Vdc, jack connector
4. RF Antenna Connectors (x2) – Reverse SMA (APIN0204 Only)

3.6. 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.

Matrix of test configurations

Bands (MHz)	Operational Mode(s) (802.11)	Data Rates with Highest Power	Frequencies (MHz)
5250 - 5350 5470 - 5725	Legacy	6 MBit/s	5260, 5300, 5320 5500, 5580, 5700
	HT-20, ac-20	6.5 MBit/s	
	HT-40, ac-40	13.5 MBit/s	5270, 5310 5510, 5550, 5670
	ac-80	29.3 MBit/s	5290, 5530, 5690

Spurious Emission and Band-Edge Test Strategy,
Bands 5,250 – 5250

11a	11n HT-20	11n HT-40	11n ac-40	11n ac-80
SE 5260	SE 5260	SE 5270	SE 5270	SE 5290
SE 5300	SE 5300			
SE 5320	SE 5320	SE 5310	SE 5310	
BE 5350	BE 5350	BE 5350	BE 5350	BE 5350

Bands 5,470 – 5725

11a	11n HT-20	11n HT-40	11n ac-40	11n ac-80
SE 5500	SE 5500	SE 5510	SE 5510	SE 5530
SE 5580	SE 5580	SE 5550	SE 5550	
SE 5700	SE 5700	SE 5670	SE 5670	SE 5690
BE 5470	BE 5470	BE 5470	BE 5470	BE 5470

KEY:-

SE – Spurious Emissions

BE – Band-Edge

3.7. Equipment Modifications

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

1. NONE

3.8. Deviations from the Test Standard

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

1. NONE

3.9. Subcontracted Testing or Third Party Data

1. NONE

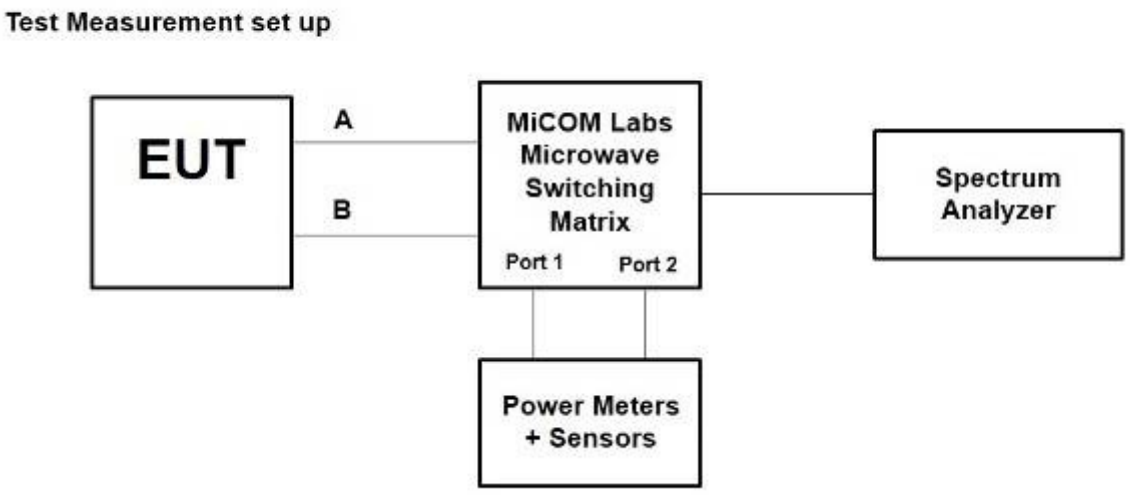
4. TESTING EQUIPMENT CONFIGURATION(S)

4.1. Conducted RF Emission Test Set-up

The following tests were performed using the conducted test set-up shown in the diagram below.

1. Section 6.1.1.1. 26 dB and 99% Bandwidth
2. Section 6.1.1.2. Maximum Conducted Output Power
3. Section 6.1.1.3. Peak Power Spectral Density
4. Section 6.1.1.4. Peak Excursion Ratio

Conducted Test Set-Up Pictorial Representation



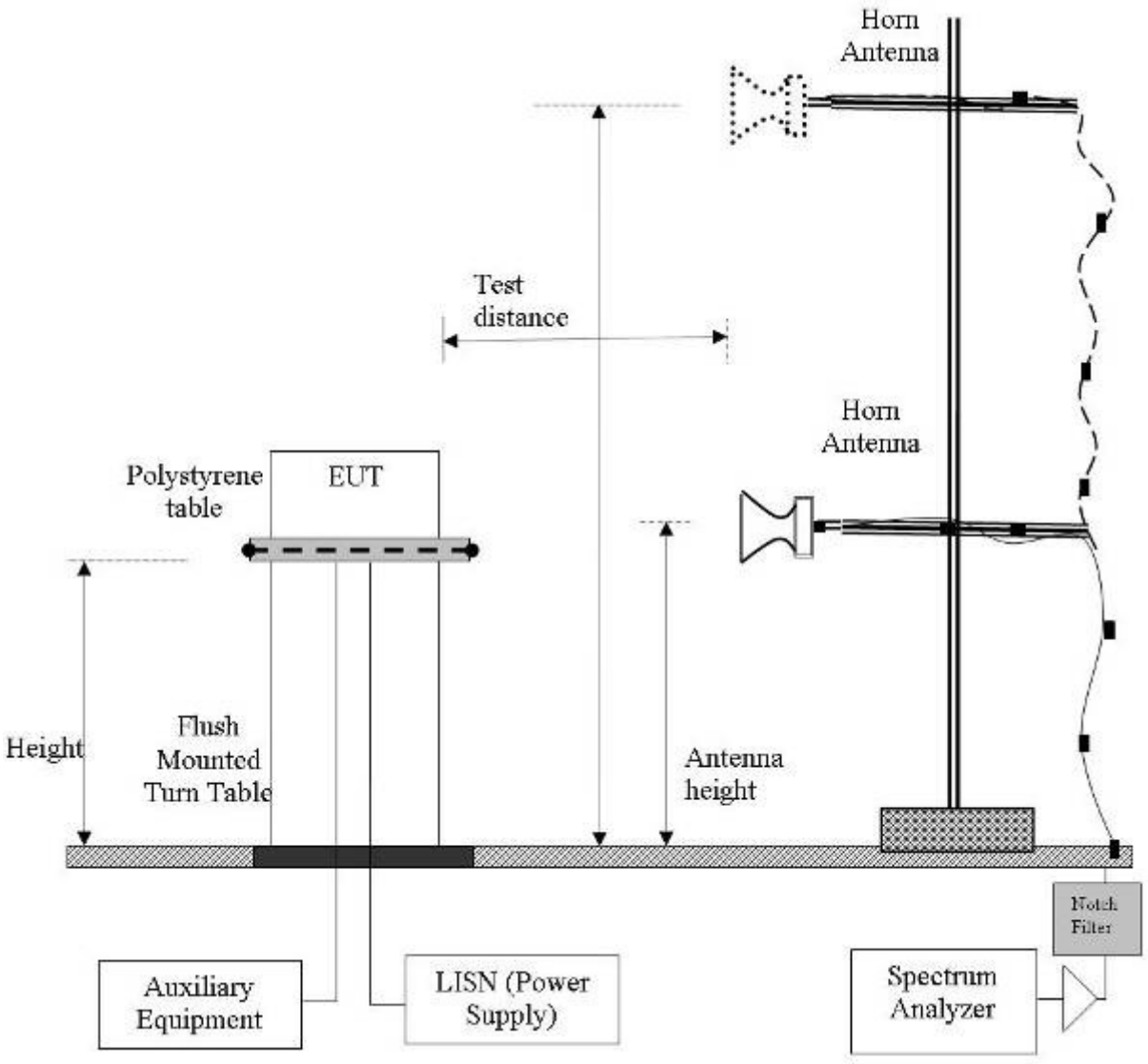
Conducted Test Measurement Setup

4.2. Radiated Spurious Emission Test Set-up > 1 GHz

The following tests were performed using the conducted test set-up shown in the diagram below.

1. Section 6.1.2.1 through 12

Radiated Emission Measurement Setup – Above 1 GHz

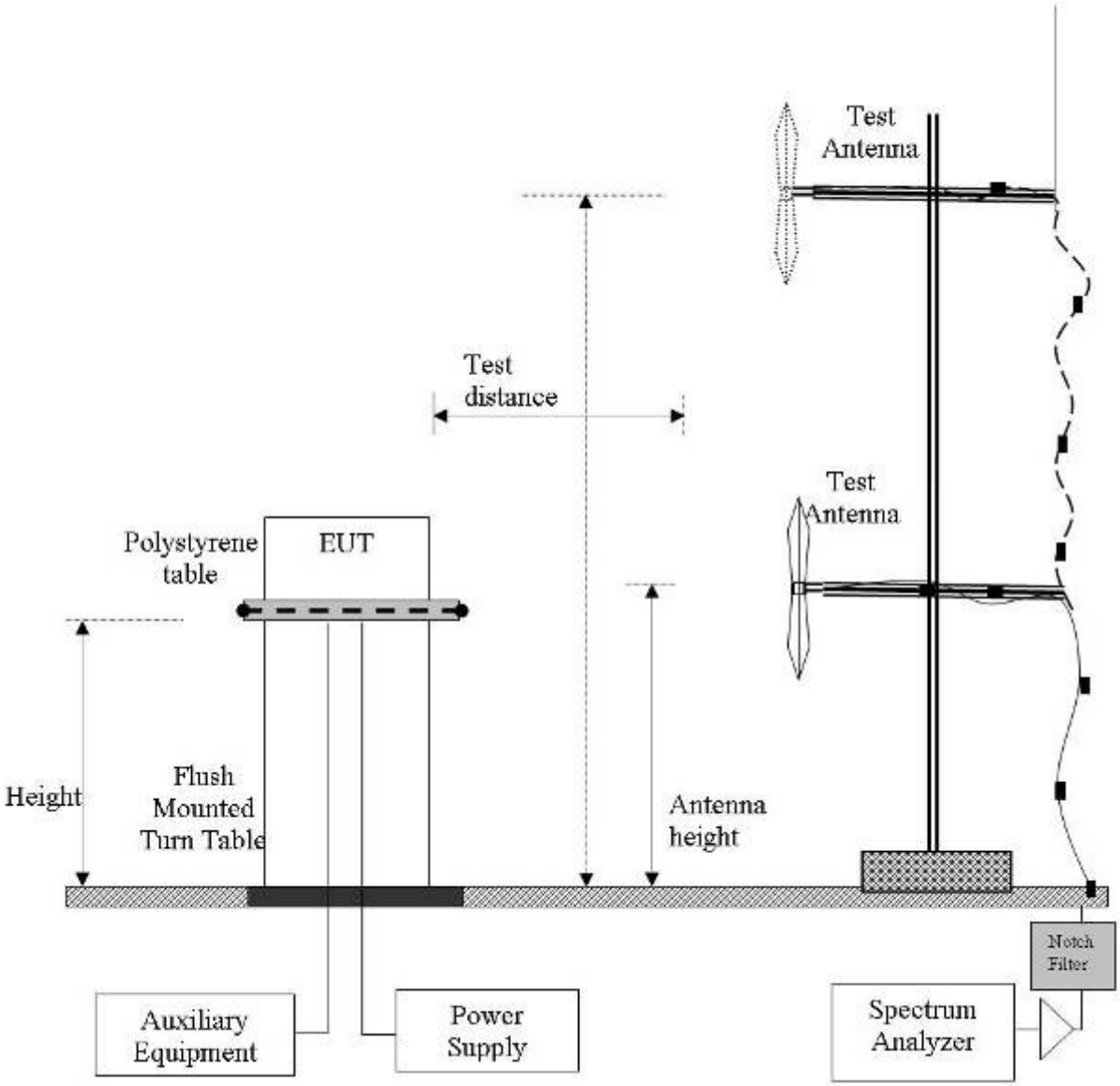


4.3. Digital Emissions Test Set-up (0.03 – 1 GHz)

The following tests were performed using the conducted test set-up shown in the diagram below.

2. Section 6.1.2.13

Digital Emission Measurement Setup – Below 1 GHz

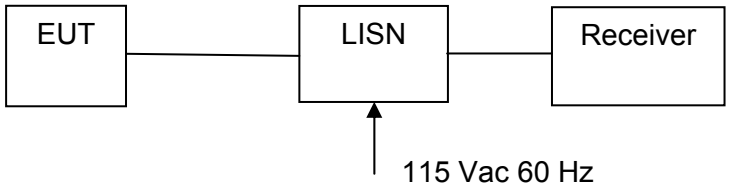


4.4. ac Wireline Emission Test Set-up

The following tests were performed using the conducted test set-up shown in the diagram below.

1. Section 6.1.3 ac Wireline Conducted Emissions

Conducted Test Set-Up Pictorial Representation



Measurement set up for ac Wireline Conducted Emissions Test

5. TEST SUMMARY

List of Measurements

The following table represents the list of measurements required under the **FCC CFR47 Part 15.407** and **Industry Canada RSS-210**.and **Industry Canada RSS-Gen**.

Section(s)	Test Items	Description	Condition	Result	Test Report Section
15.407(a) **A9.2(2)** **4.4**	26dB and 99% Emission BW	Emission bandwidth measurement	Conducted	Complies	6.1.1.1 A.1.1
15.407(a) **A9.2(2)** **4.6**	Maximum Conducted Output Power	Power Measurement	Conducted	Complies	6.1.1.2
15.407(a) **A9.2(2)**	Peak Power Spectral Density	PPSD	Conducted	Complies	6.1.1.3 A.1.2
15.407(a)(6)	Peak Excursion Ratio	<13dB in any 1MHz bandwidth	Conducted	Complies	6.1.1.4 A.1.3
15.407(g) **15.31** **2.1** **4.5**	Frequency Stability	Limits: contained within band of operation at all times.	Applicant declaration	Complies	6.1.1.5
15.407(f) **5.5**	Radio Frequency Radiation Exposure	Exposure to radio frequency energy levels, Maximum Permissible Exposure (MPE)	Conducted	See included MPE exhibit	--

List of Measurements (continued)

The following table represents the list of measurements required under the **FCC CFR47 Part 15.407** and **Industry Canada RSS-210** and **Industry Canada RSS-Gen**.

Section(s)	Test Items	Description	Condition	Result	Test Report Section
15.407(b)(2) **15.205(a)** **15.209(a)** **2.2** **2.6** **A9.3(2)** **4.7**	Radiated Emissions		Radiated		6.1.2
	Transmitter Radiated Spurious Emissions	Emissions above 1 GHz		Complies	*6.1.2.1* *6.1.2.2* *6.1.2.3*
	Radiated Band Edge	Band edge results		Complies	*6.1.2.1* *6.1.2.2* *6.1.2.3*
15.407(b)(6) **15.205(a)** **15.209(a)** **2.2**	Radiated Emissions	Emissions <1 GHz (30M-1 GHz)		Complies	*6.1.2.4*
15.407(b)(6) **15.207** **7.2.2**	AC Wireline Conducted Emissions 150 kHz–30 MHz	Conducted Emissions	Conducted	Complies	6.1.3

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 3.7 Equipment Modifications highlights the equipment modifications that were required to bring the product into compliance with the above test matrix

6. TEST RESULTS

6.1. Device Characteristics

6.1.1. Conducted Testing

6.1.1.1. 26 dB and 99 % Bandwidth

Conducted Test Conditions for 26 dB and 99% Bandwidth			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	26 dB and 99 % Bandwidth	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 789033 - D01 DTS General UNII Test Procedures v01		

Test Procedure for 26 dB and 99% Bandwidth Measurement

The bandwidth at 26 dB and 99 % is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency. KDB 789033 Section 5.1 Emission Bandwidth was used in order to prove compliance. The Resolution Bandwidth was set to approximately 1% of the emission bandwidth.

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5260.0	29.259	15.130	--	--	29.259	15.130		
5300.0	27.255	29.760	--	--	29.760	27.255		
5320.0	27.655	29.760	--	--	29.760	27.655		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5260.0	17.134	17.134	--	--	17.134	17.134		
5300.0	17.034	17.134	--	--	17.134	17.034		
5320.0	17.034	17.034	--	--	17.034	17.034		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11ac-80	**Duty Cycle (%):**	86
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5290.0	147.094	145.491	--	--	147.094	145.491		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5290.0	76.954	76.954	--	--	76.954	76.954		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	94
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5260.0	32.265	32.465	--	--	32.465	32.265		
5300.0	28.457	30.561	--	--	30.561	28.457		
5320.0	29.960	33.166	--	--	33.166	29.960		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5260.0	18.337	18.236	--	--	18.337	18.236		
5300.0	18.036	18.136	--	--	18.136	18.036		
5320.0	18.136	18.236	--	--	18.236	18.136		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5270.0	75.752	77.555	--	--	77.555	75.752		
5310.0	75.752	75.551	--	--	75.752	75.551		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5270.0	37.675	37.876	--	--	37.876	37.675		
5310.0	37.275	37.275	--	--	37.275	37.275		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	27.455	27.655	--	--	27.655	27.455		
5580.0	27.655	25.952	--	--	27.655	25.952		
5720.0	28.657	23.647	--	--	28.657	23.647		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	16.934	17.034	--	--	17.034	16.934		
5580.0	17.034	16.934	--	--	17.034	16.934		
5720.0	17.134	16.934	--	--	17.134	16.934		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11ac-80	**Duty Cycle (%):**	86
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5530.0	146.293	138.677	--	--	146.293	138.677		
5690.0	151.102	136.673	--	--	151.102	136.673		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5530.0	76.954	76.553	--	--	76.954	76.553		
5690.0	79.359	76.152	--	--	79.359	76.152		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	98
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	35.972	34.970	--	--	35.972	34.970		
5580.0	35.772	32.866	--	--	35.772	32.866		
5720.0	35.371	32.565	--	--	35.371	32.565		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	18.637	18.437	--	--	18.637	18.437		
5580.0	18.637	18.236	--	--	18.637	18.236		
5720.0	18.537	18.236	--	--	18.537	18.236		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-40	**Duty Cycle (%):**	90
Data Rate:	13.5 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5510.0	76.553	70.541	--	--	76.553	70.541		
5550.0	75.752	69.739	--	--	75.752	69.739		
5710.0	78.156	66.934	--	--	78.156	66.934		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5510.0	37.275	36.874	--	--	37.275	36.874		
5550.0	37.275	36.673	--	--	37.275	36.673		
5710.0	37.275	36.473	--	--	37.275	36.473		

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Specification

Limits

FCC, Part 15 §15.407 (a)(1), (a)(2) and Industry Canada RSS-210 § A9.2(2)

(a)(1) For the band 5.15-5.25 GHz the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or +4 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed +4 dBm in any 1 megahertz band.

(a)(2) For the 5.25-5.35 GHz band the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or +11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed +11 dBm in any 1 megahertz band.

Industry Canada RSS-Gen 4.4

When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99% emission bandwidth, as calculated or measured.

Traceability

Test Equipment Used
0158, 0287, 0252, 0313, 0314, 0070, 0116, 0117

6.1.1.2. Maximum Conducted Output Power

Conducted Test Conditions for Maximum Conducted Output Power			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Maximum Conducted Output Power	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 789033 - D01 DTS General UNII Test Procedures v01		

Test Procedure for Maximum Conducted Output Power Measurement

Method PM (Measurement using an RF average power meter). Section C) 4) of KDB 789033 defines a methodology using an average wideband power meter. Measurements were made while the EUT was operating in a continuous transmission mode (100% duty cycle) at the appropriate center frequency. All cable losses and offsets were taken into consideration in the measured result. All operational modes and frequency bands were measured independently and the resultant calculated. For multiple outputs, the measurements were made simultaneously on each output port and summed in a linear fashion. This technique was used in order to prove compliance.

Antenna Beam and Non-Beam Forming Power Levels

15. 407 (a)(1), (a) (2) Operation with directional antenna gains greater than 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. Further FCC KDB 662911 D01 Multiple Transmitter Output v01 requires that the gain of antennas transmitting the same data (legacy 802.11a mode) must be increased by 10 * Log (N) when N is the number of antenna elements.

Maximum Transmit (Conducted) Power, FCC Limits and Industry Canada Limits

FCC Limits

Bands 5250 – 5350 and 5470 – 5725 MHz

Limit lesser of: 250 mW or 11 dBm + 10 log (B) dBm

Mode	Frequency Range (MHz)	Maximum 26 dB Bandwidth (MHz)	11 + 10 Log (B) (dBm)	Limit (dBm)
a	5250 – 5350 5470 – 5725	29.760	+25.74	+24.0
HT-20		35.972	+26.56	+24.0
HT-40		78.156	+29.93	+24.0
ac-80		151.102	+32.79	+24.0

Industry Canada Limits

Bands 5250 – 5350 and 5470 – 5725 MHz

Limit lesser of: 200 mW or 10 dBm + 10 log (B) dBm

Mode	Frequency Range (MHz)	Maximum 99% Bandwidth (MHz)	11 + 10 Log (B) (dBm)	Limit (dBm)
a	5250 – 5350 5470 – 5725	17.134	+22.34	+22.34
HT-20		18.637	+22.70	+22.70
HT-40		37.876	+25.78	+24.0
ac-80		79.359	+29.00	+24.0

Equipment Configuration for Peak Transmit Power			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5260.0	18.16	17.96	--	--	21.07	15.130	22.80	-1.72	18.00
5300.0	18.26	18.08	--	--	21.18	27.255	24.00	-2.82	18.00
5320.0	18.42	18.35	--	--	21.40	27.655	24.00	-2.60	18.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Equipment Configuration for Peak Transmit Power

Variant:	802.11ac-80	**Duty Cycle (%):**	86
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5290.0	19.26	19.19	--	--	22.23	145.491	24.00	-1.77	19.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	94
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5260.0	18.04	18.04	--	--	21.05	32.265	24.00	-2.95	18.00
5300.0	18.15	18.15	--	--	21.16	28.457	24.00	-2.84	18.00
5320.0	18.20	18.21	--	--	21.21	29.960	24.00	-2.79	18.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5270.0	19.01	18.93	--	--	21.98	75.752	24.00	-2.02	19.00
5310.0	19.47	19.21	--	--	22.35	75.551	24.00	-1.65	19.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Equipment Configuration for Peak Transmit Power			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5500.0	17.60	17.49	--	--	20.56	27.455	24.00	-3.44	18.00
5580.0	17.64	17.62	--	--	20.64	25.952	24.00	-3.36	18.00
5720.0	17.63	17.72	--	--	20.69	23.647	24.00	-3.31	18.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Equipment Configuration for Peak Transmit Power			
Variant:	802.11ac-80	**Duty Cycle (%):**	86
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5530.0	18.71	18.43	--	--	21.58	138.677	24.00	-2.42	19.00
5690.0	18.64	18.64	--	--	21.65	136.673	24.00	-2.35	19.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	98
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5500.0	18.26	18.08	--	--	21.18	34.970	24.00	-2.82	19.00
5580.0	18.34	18.22	--	--	21.29	32.866	24.00	-2.71	19.00
5720.0	18.28	18.44	--	--	21.37	32.565	24.00	-2.63	19.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90
Data Rate:	13.5 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	N/A
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5510.0	18.88	18.44	--	--	21.67	70.541	24.00	-2.33	19.00
5550.0	18.70	18.49	--	--	21.60	69.739	24.00	-2.40	19.00
5710.0	18.68	18.52	--	--	21.61	66.934	24.00	-2.39	19.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Antenna Type V's Power Setting

The following **Antenna Types V's Power Setting** tables consolidates the results of all tests performed on the APIN0204 and APIN0205 to finalize the power setting for each antenna's tested;

Integral Antenna (APIN0205)

Channel	5.25 - 5.35 GHz					5.47 - 5.725 GHz			
	a	HT-20	HT-40	ac-80		a	HT-20	HT-40	ac-80
Low	18	18	19	14		18	19	18	16
Mid	18	18	--	--		18	19	19	--
High	18	18	15	--		18	19	19	19

Antenna AP-ANT-1B (APIN0204)

Channel	5.25 - 5.35 GHz					5.47 - 5.725 GHz			
	a	HT-20	HT-40	ac-80		a	HT-20	HT-40	ac-80
Low	18	18	19	14		18	19	17	15
Mid	18	18	--	--		18	19	19	--
High	18	18	15	--		18	19	19	19

Antenna AP-ANT-13B (APIN0204)

Channel	5.25 - 5.35 GHz					5.47 - 5.725 GHz			
	a	HT-20	HT-40	ac-80		a	HT-20	HT-40	ac-80
Low	18	18	19	13		18	18	16	14
Mid	18	18	--	--		18	19	19	--
High	18	17	14	--		18	19	19	19

Antenna AP-ANT-16 (APIN0204)

Channel	5.25 - 5.35 GHz					5.47 - 5.725 GHz			
	a	HT-20	HT-40	ac-80		a	HT-20	HT-40	ac-80
Low	18	18	19	15		18	19	19	16
Mid	18	18	--	--		18	19	19	--
High	18	18	15	--		18	19	19	19

Antenna AP-ANT-18 (APIN0204)

Channel	5.25 - 5.35 GHz					5.47 - 5.725 GHz			
	a	HT-20	HT-40	ac-80		a	HT-20	HT-40	ac-80
Low	18	18	19	15		18	18	16	16
Mid	18	18	--	--		18	19	19	--
High	18	15	16	--		18	19	19	19

Antenna AP-ANT-19 (APIN0204)

Channel	5.25 - 5.35 GHz					5.47 - 5.725 GHz			
	a	HT-20	HT-40	ac-80		a	HT-20	HT-40	ac-80
Low	18	18	19	12		16	15	15	13
Mid	18	18	--	--		18	19	19	--
High	14	13	13	--		18	19	19	19

Specification Limits

FCC, Part 15 §15.407 (a)(1), (a)(2) and Industry Canada RSS-210 § A9.2(2)

(a)(1) For the band 5.15-5.25 GHz the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or +4 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed +4 dBm in any 1 megahertz band.

(a)(2) For the 5.25-5.35 and 5470-5725 MHz GHz band the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or +11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed +11 dBm in any 1 megahertz band.

Industry Canada RSS-210 §A9.2(2)

For the band 5150-5250 MHz, the maximum equivalent isotropically radiated power (e.i.r.p.) shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

For the band 5250-5350 MHz and 5470-5725 MHz, the maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

Traceability

Test Equipment Used
0158, 0287, 0252, 0313, 0314, 0070, 0116, 0117

6.1.1.3. Peak Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Power Spectral Density	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 789033 - D01 DTS General UNII Test Procedures v01		

Test Procedure for Power Spectral Density

The In-Band power spectral density was measured using the measure and sum approach per FCC KDB 662911 (D01 Multiple Transmitter Output v01.)

Measure and sum the spectra across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The individual spectra are then summed mathematically in linear power units. Unlike in-band power measurements, in which the sum involves a single measured value (output power) from each output, measurements for compliance with PSD limits involve summing entire spectra across corresponding frequency bins on the various outputs. Consistency is maintained for any device with N transmitter outputs to be certain the individual outputs are all aligned with the same span and same number of points. In this instance, the linear power spectrum value within the first spectral bin of output 0 is summed with that in the first spectral bin of output 1, and the first spectral bin of output 2, and so on up to the Nth output to obtain the true value for the first frequency bin of the summed spectrum. The summed spectrum value for each frequency bin is computed in this fashion. These summed spectral values were calculated on a computer, and the results read back into the spectrum analyzer as a data file to produce a representative plot of total spectral power density.

NOTE:

It may be observed that spectrum in some plots break the limit line however this in itself does NOT constitute a failure. In this case a summation plot for all spectrum plots is provided to prove compliance. A failure occurs only after the summation of all spectrum plots have been summed and are found to be greater than the limit line.

Supporting Information

Calculated Power = A + 10 log (1/x) dBm

A = Total Power Spectral Density [10 Log10 (10a/10 + 10 b/10 + 10c/10 + 10d/10)]

x = Duty Cycle

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5260.0	7.683	7.455	--	--	10.572	11.0	-0.4
5300.0	7.653	7.498	--	--	10.587	11.0	-0.4
5320.0	7.431	7.312	--	--	10.005	11.0	-1.0

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	86.0
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5290.0	-1.313	-1.098	--	--	0.829	11.0	-10.2

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	94.0
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5260.0	7.042	6.607	--	--	8.994	11.0	-2.0
5300.0	6.408	6.912	--	--	9.473	11.0	-1.5
5320.0	6.959	6.896	--	--	9.733	11.0	-1.3

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90.0
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5270.0	3.737	3.700	--	--	6.096	11.0	-4.9
5310.0	4.116	4.226	--	--	6.962	11.0	-4.0

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5500.0	6.610	6.633	--	--	9.595	11.0	-1.4
5580.0	6.690	6.950	--	--	9.776	11.0	-1.2
5720.0	6.868	6.862	--	--	9.743	11.0	-1.3

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	86.0
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5530.0	-2.070	-0.802	--	--	0.385	11.0	-10.6
5690.0	-1.979	0.179	--	--	1.543	11.0	-9.5

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	98.0
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5500.0	6.869	6.588	--	--	9.634	11.0	-1.4
5580.0	7.297	7.083	--	--	9.900	11.0	-1.1
5720.0	7.050	6.902	--	--	9.589	11.0	-1.4

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90.0
Data Rate:	13.5 Mbits/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5510.0	4.092	3.460	--	--	6.051	11.0	-4.9
5550.0	3.125	3.238	--	--	5.233	11.0	-5.8
5710.0	3.009	3.589	--	--	5.768	11.0	-5.2

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Specification

FCC, Part 15 §15.407 (a)(1), (a)(2)
5150 – 5250 MHz
(a)(1) The peak power spectral density shall not exceed +4 dBm in any 1 megahertz band.

5250 – 5350 MHz & 5470 – 5725 MHz
(a)(2) The peak power spectral density shall not exceed +11 dBm in any 1 megahertz band.

Industry Canada RSS-210 § **A9.2(1), A9.2(2)**
5150 – 5250 MHz
§ **A9.2(1)** The eirp spectral density shall not exceed +10 dBm in any 1 MHz band

5250 – 5350 MHz & 5470 – 5725 MHz
§ **A9.2(2)** The power spectral density shall not exceed +11 dBm in any 1 MHz band

Traceability

Test Equipment Used
0158, 0287, 0252, 0313, 0314, 0070, 0116, 0117

6.1.1.4. Peak Excursion Ratio

Conducted Test Conditions for Peak Excursion Ratio			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Peak Excursion Ratio	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (a)(6)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 789033 - D01 DTS General UNII Test Procedures v01		

Test Procedure for Peak Excursion Ratio

Compliance with the peak excursion requirement is demonstrated by confirming the ratio of the maximum of the peak-hold spectrum to the maximum of the average spectrum during continuous transmission. Section F) of KDB 789033 was used in order to prove compliance. This is a conducted measurement using a spectrum analyzer using dual traces. Peak Excursion Ratio is the difference in amplitude (dB) between both traces; The following identifies two spectrum traces on the same plot. Trace 1 is the max hold Peak detector, and Trace 2 is the recalled trace data from Peak Power Spectral Density measurements. Each frequency and operational mode is recalled in order to prove compliance.

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5260.0	8.42	--	--	--	8.42	8.42	13.0	-4.58

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11ac-80	**Duty Cycle (%):**	86
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5290.0	12.63	--	--	--	12.63	12.63	13.0	-0.37

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11n HT-20	**Duty Cycle (%):**	94
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5260.0	8.89	--	--	--	8.89	8.89	13.0	-4.11

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5270.0	10.51	--	--	--	10.51	10.51	13.0	-2.49

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:	No software version provided however, on boot product number 41365 was available		

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5500.0	8.68	--	--	--	8.68	8.68	13.0	-4.32

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11ac-80	**Duty Cycle (%):**	86
Data Rate:	29.3 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5530.0	12.15	--	--	--	12.15	12.15	13.0	-0.85

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11n HT-20	**Duty Cycle (%):**	98
Data Rate:	6.5 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5500.0	9.11	--	--	--	9.11	9.11	13.0	-3.89

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Peak Excursion Ratio			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90
Data Rate:	13.5 Mbits/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	AH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Peak Excursion (dB) Port(s)				Ratio (dB)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	dB	MHz
5510.0	9.97	--	--	--	9.97	9.97	13.0	-3.03

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

Note: click the links in the above matrix to view the graphical image (plot).

Specification

Limits

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

Traceability

Test Equipment Used
0158, 0287, 0252, 0313, 0314, 0070, 0116, 0117

6.1.1.5. Frequency Stability

FCC, Part 15 Subpart C §15.407(g)
Industry Canada RSS-210 §2.1

Test Procedure

The manufacturer of the equipment is responsible for ensuring that the frequency stability is such that emissions are always maintained within the band of operation under all conditions.

Manufacturer Declaration

The frequency stability of the reference oscillator sets the frequency stability of the RF transceiver signals. Therefore all of the RF signals should have ±20ppm stability.
This stability accounts for room temp tolerance of the crystal oscillator circuit, frequency variation across temperature, and crystal ageing.

±20ppm at 5.250 GHz translates to a maximum frequency shift of ±105 KHz. As the edge of the channels is at least one MHz from either of the band edges, ±105 KHz is more than sufficient to guarantee that the intentional emission will remain in the band over the entire operating range of the EUT.

Specification

Limits

§15.407 (g) Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

6.1.2. Radiated Emission Testing

FCC, Part 15 Subpart C §15.407(b)(2), §15.205(a)/15.209(a)
Industry Canada RSS-210 §A9.3(2); §2.2; §2.6; RSS-Gen §4.7

Test Procedure
Testing was performed in a 3-meter anechoic chamber. Preliminary radiated emissions were measured on every azimuth and with the receiving antenna in both horizontal and vertical polarizations. Preliminary emissions were recorded with in Spectrum Analyzer mode, using a maximum peak detector while in peak hold mode. Depending on the frequency band spanned a notch filter and/or waveguide filter was used to remove the fundamental frequency.

Emissions nearest the limits were chosen for maximization and formal measurement using a CISPR compliant receiver. Emissions above 1000 MHz are measured utilizing a CISPR compliant average detector with a tuned receiver, using a bandwidth of 1 MHz. Emissions from 30 MHz – 1000 MHz are measured utilizing a CISPR compliant quasi-peak detector with a tuned receiver, using a bandwidth of 120 kHz. Only the highest emissions relative to the limit are listed.

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.

FS = R + AF + CORR – FO

FS = Field Strength
R = Measured Spectrum analyzer Input Amplitude
AF = Antenna Factor

CORR = Correction Factor = CL – AG + NFL

CL = Cable Loss
AG = Amplifier Gain
FO = Distance Falloff Factor
NFL = Notch Filter Loss or Waveguide Loss

Field Strength Calculation Example:

Given receiver input reading of 51.5 dBμV; Antenna Factor of 8.5 dB; Cable Loss of 1.3 dB; Falloff Factor of 0 dB, an Amplifier Gain of 26 dB and Notch Filter Loss of 1 dB. The Field Strength of the measured emission is:

FS = 51.5 + 8.5 + 1.3 - 26.0 +1 = 36.3 dBμV/m

Conversion between dBμV/m (or dBμV) and μV/m (or μV) are done as:

Level (dBμV/m) = 20 * Log (level (μV/m))

40 dBμV/m = 100 μV/m
48 dBμV/m = 250 μV/m

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength (dBµV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \ \mu V/m$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m

Note: The data in this Section identifies that the EUT is in compliance with the -27dBm/MHz EIRP limit (68.23 dBµV/m) for out of band emissions. All out of band emissions are less than 68.23 dB µV/m.

Specification

Radiated Spurious Emissions

15.407 (b)(2). All emissions outside of the 5,150-5,350MHz band shall not exceed an EIRP of -27dBm/MHz.

FCC §15.205 (a) Except as shown in paragraph (d) of 15.205 (a), only spurious emissions are permitted in any of the frequency bands listed.

FCC §15.205 (a) Except as shown in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

FCC §15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table.

RSS-210 §A9.3(2) For transmitters operating in the 5250-5350 MHz band, all emissions outside the 5150-5350 MHz band shall not exceed -27 dBm/MHz e.i.r.p. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band shall not exceed out of band emission limit of 27 dBm/MHz e.i.r.p. in the 5150-5250 MHz band in order to operate indoor/outdoor, or alternatively shall comply with the spectral power density for operation within the 5150-5250 MHz band and shall be labeled “for indoor use only”.

RSS-Gen §4.7 The search for unwanted emissions shall be from the lowest frequency internally generated or used in the device (local oscillator, intermediate of carrier frequency), or from 30 MHz , whichever is the lowest frequency, to the 5th harmonic of the highest frequency generated without exceeding 40 GHz.

RSS-Gen §6 Receiver Spurious Emission Standard
If a radiated measurement is made, all spurious emissions shall comply with the limits of the following Table. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for spurious emission measurements below 1.0 GHz and 1.0 MHz for measurements above 1.0 GHz

Table 1: FCC 15.209 Spurious Emissions Limits

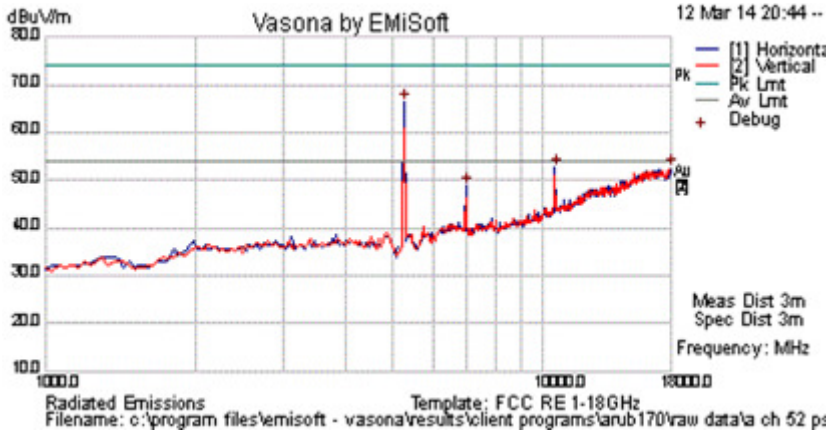
Frequency (MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement Distance (meters)
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Traceability:

Test Equipment Used
0088, 0158, 0134, 0304, 0311, 0315, 0310, 0312

6.1.2.1. Integral Antenna – Spurious Emissions

Test Freq.	5260 MHz	**Engineer**	JMH
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	18
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	30
Power Setting	18	**Press. (mBars)**	1002
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT mounted vertically on test table, all ports terminated and active. Unit is power via POE		
Test Notes 2			

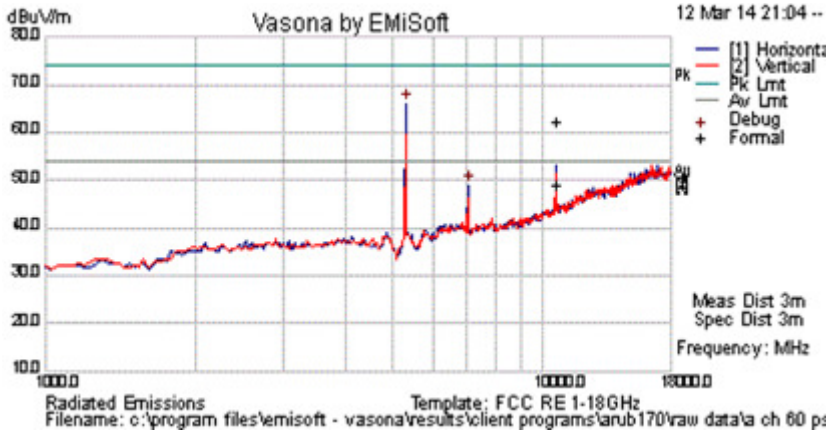


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5258.517	62.6	5.9	-2.2	66.3	Peak [Scan]							FUND
10539.078	39.9	9	3.7	52.6	Peak [Scan]	H						NRB
6995.992	42	7	-0.4	48.6	Peak [Scan]	H						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5300 MHz	**Engineer**	MTS
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	17
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	49
Power Setting	21	**Press. (mBars)**	1010
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT mounted vertically on test table, all ports terminated and active. Unit is power via POE		
Test Notes 2			

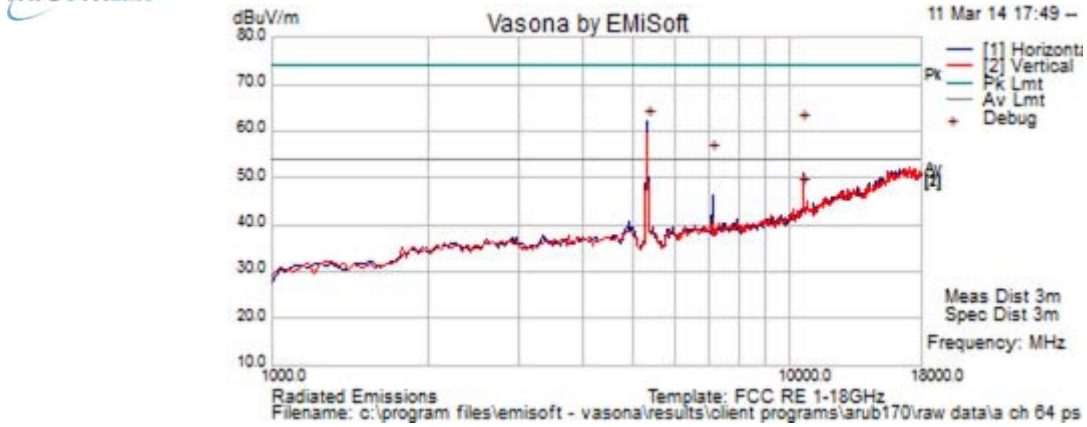


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10600.92	49.3	9	3.9	62.2	Peak Max	H	133	-1	74	-11.8	Pass	RB
10600.92	36.2	9	3.9	49.1	Average Max	H	133	-1	54	-4.9	Pass	RB
5292.585	62.1	6	-2.1	66	Peak [Scan]							FUND
7064.128	42	7	-0.2	48.9	Peak [Scan]	H						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5320 MHz (ch64)	**Engineer**	JMH
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	21
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1000
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT Vertical		
Test Notes 2			

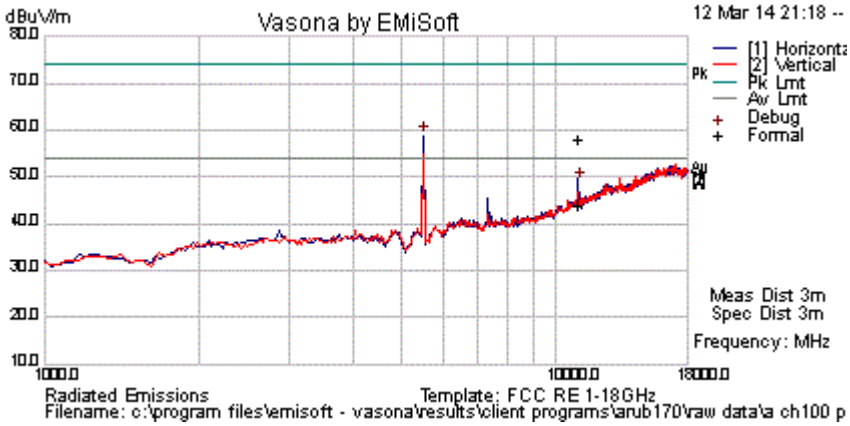


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5326.653	58.6	6.0	-2.4	62.2	Peak [Scan]	H						FUND
10645.926	49.7	9.0	2.8	61.6	Peak	H	98	2	74	-12.43	Pass	RB
10645.569	35.8	9.0	2.8	47.6	Average	H	98	2	54	-6.4	Pass	RB
7093.302	48.9	7.1	-0.9	55.0	Peak	H	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5500 MHz	**Engineer**	JMH
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	18
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	30
Power Setting	18	**Press. (mBars)**	1002
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT mounted vertically on test table, all ports terminated and active. Unit is power via POE		
Test Notes 2			

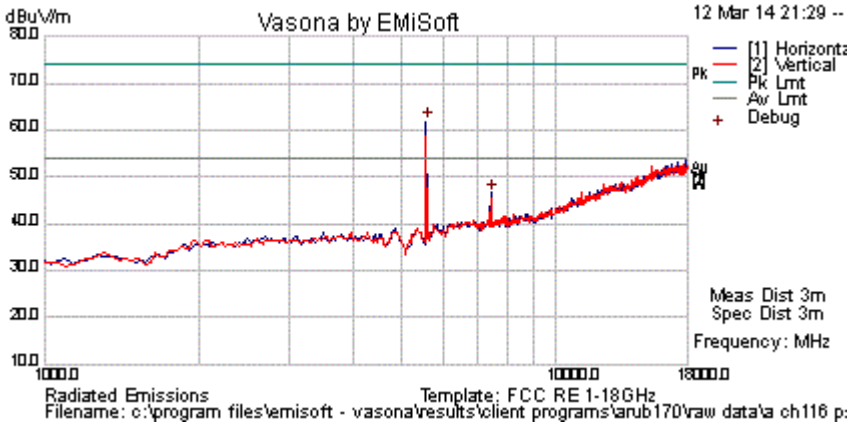


Formally measured emission peaks

10997.552	44.7	9.1	4.1	57.9	Peak Max	H	117	117	74	-16.1	Pass	RB
10997.552	30.8	9.1	4.1	44	Average Max	H	117	117	54	-10	Pass	RB
5496.994	54.7	6.1	-2	58.8	Peak [Scan]	H	100	0	54	4.8	Fail	FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5580 MHz (ch116)	**Engineer**	JMH
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	18
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	30
Power Setting	18	**Press. (mBars)**	1002
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT mounted vertically on test table, all ports terminated and active. Unit is power via POE		
Test Notes 2			

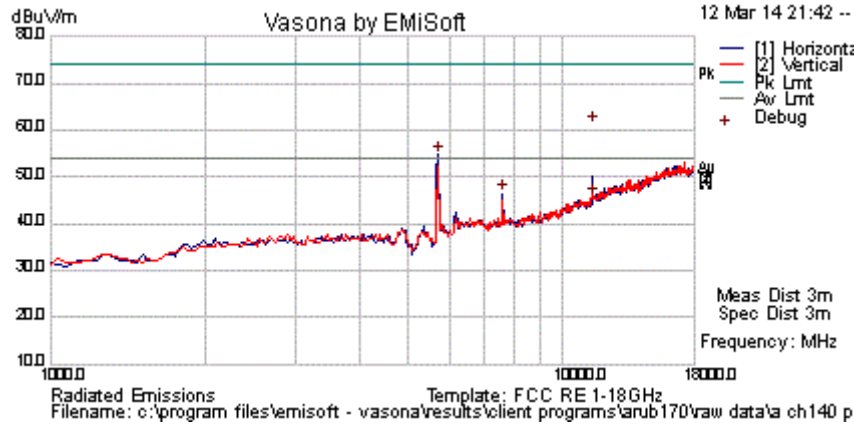


Formally measured emission peaks

5565.13	57.9	6.1	-2.1	61.9	Peak [Scan]	H	150	0	54	7.9	Fail	FUND
7438.424	39.5	7.3	-0.1	46.6	Peak [Scan]	H	98	-1	54	-7.4	Pass	RB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5700 MHz	**Engineer**	JMH
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	18
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	30
Power Setting	18	**Press. (mBars)**	1002
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT mounted vertically on test table, all ports terminated and active. Unit is power via POE		
Test Notes 2			



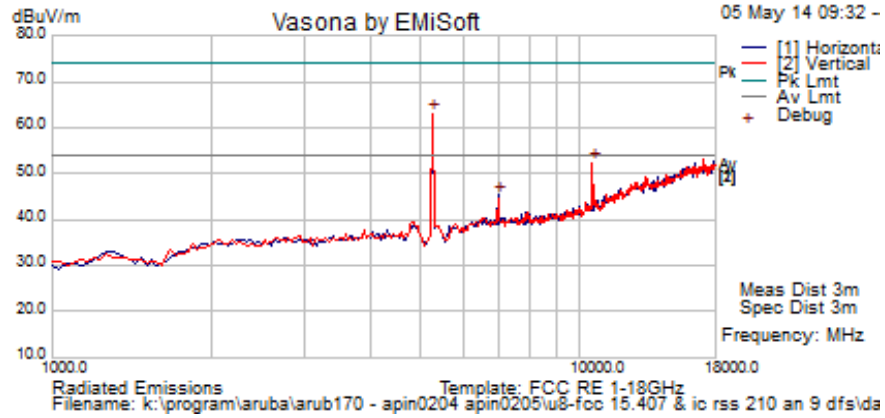
Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5699.601	50.5	6.2	-2	54.7	Peak [Scan]							FUND
11402.713	46.9	9.4	4.6	61	Peak Max	H	140	17	74	-13.1	Pass	RB
11402.713	31.7	9.4	4.6	45.8	Average Max	H	140	17	54	-8.3	Pass	RB
7608.863	38.8	7.4	0.2	46.4	Peak [Scan]	H	101	1	54	-7.6	Pass	RB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

6.1.2.2. ANT-1B – Spurious Emissions

Test Freq.	5260 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Vertical; Antenna Position 45 degrees; POE;		

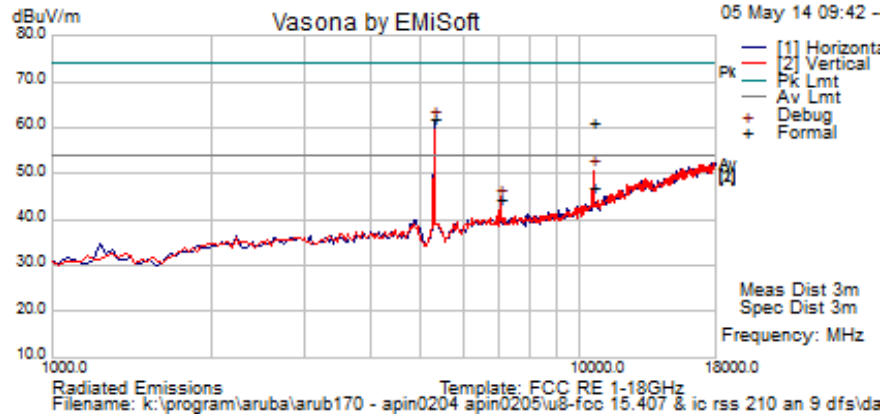


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5258.517	59.4	5.9	-2.2	63.1	Peak [Scan]	V	100					FUND
10539.078	39.7	9.0	3.7	52.5	Peak [Scan]	V	100	0	54.0	-1.5	Pass	NRB
6997.258	38.6	7.0	-0.4	45.2	Peak [Scan]	V	100	361	54.0	-8.8	Pass	NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5300 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Vertical; Antenna Position 45 degrees; POE;		

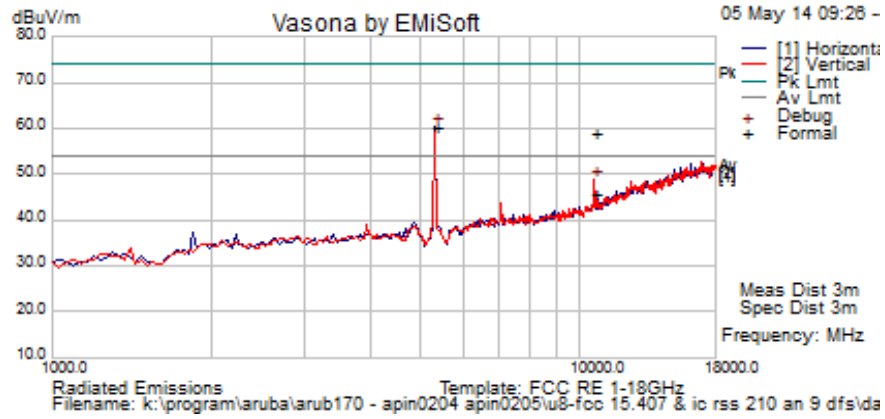


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10603.331	48.3	9.0	3.9	61.2	Peak Max	V	141	80	74.0	-12.8	Pass	RB
10603.331	34.2	9.0	3.9	47.1	Average Max	V	141	80	54.0	-6.9	Pass	RB
5292.585	57.8	6.0	-2.1	61.7	Peak [Scan]	H	100					FUND
7068.963	37.5	7.0	-0.2	44.4	Peak [Scan]	V	100	361	54	-9.7	Pass	NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5320 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Vertical; Antenna Position 45 degrees; POE;		

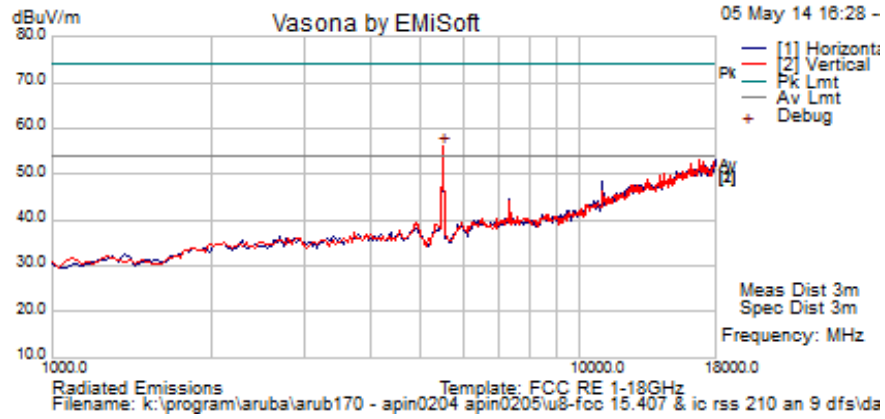


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10641.283	45.7	9.0	4.0	58.7	Peak Max	V	101	274	74.0	-15.3	Pass	RB
10641.283	32.6	9.0	4.0	45.6	Average Max	V	101	274	54.0	-8.4	Pass	RB
5326.653	56.2	6.0	-1.9	60.3	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5500 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Vertical; Antenna Position 45 degrees; POE;		

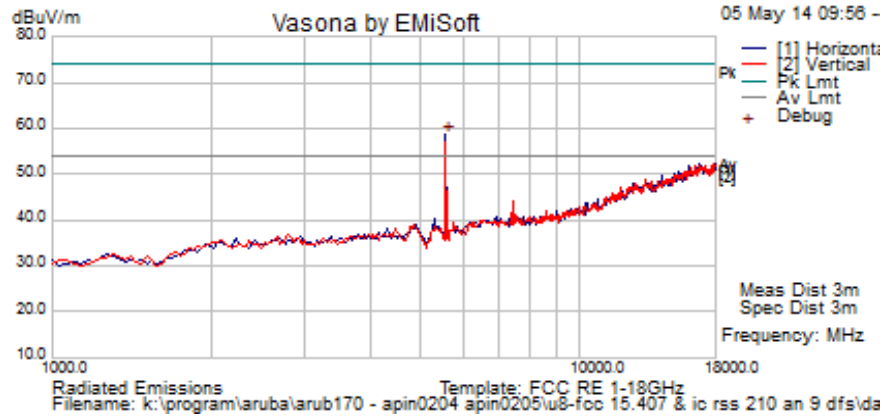


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
7333.315	49.0	7.2	-0.2	56.0	Peak Max	V	132	179	74.0	-18.1	Pass	RB
7333.315	42.4	7.2	-0.2	49.4	Average Max	V	132	179	54.0	-4.6	Pass	RB
5496.994	56.0	6.1	-2.0	60.0	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5580 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Vertical; Antenna Position 45 degrees; POE;		

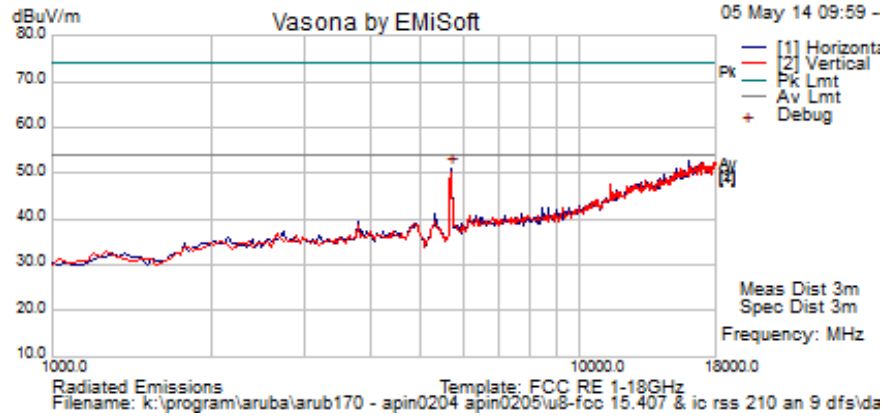


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5565.130	54.7	6.1	-2.1	58.7	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5700 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Vertical; Antenna Position 45 degrees; POE;		



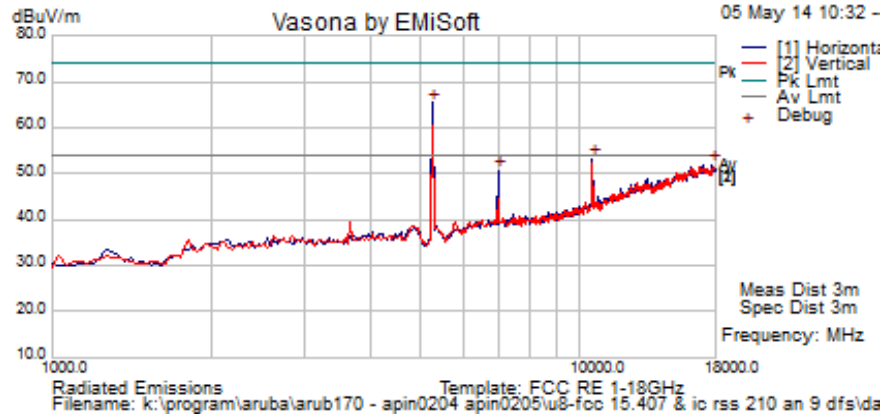
Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5701.403	46.8	6.2	-2.0	51.1	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

6.1.2.3. ANT-13B – Spurious Emissions

Test Freq.	5260 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 13B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		



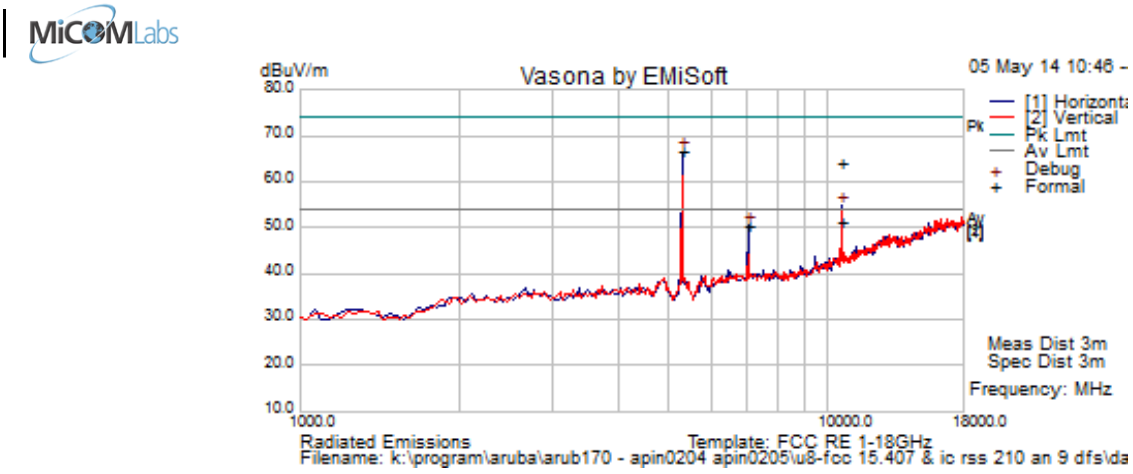
Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5258.517	61.9	5.9	-2.2	65.6	Peak [Scan]	H	100					FUND
10539.078	40.6	9.0	3.7	53.3	Peak [Scan]	H	100					NRB
6995.992	44.0	7.0	-0.4	50.7	Peak [Scan]	H	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

6.1.2.4. ANT-16 – Spurious Emissions

Test Freq.	5300 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

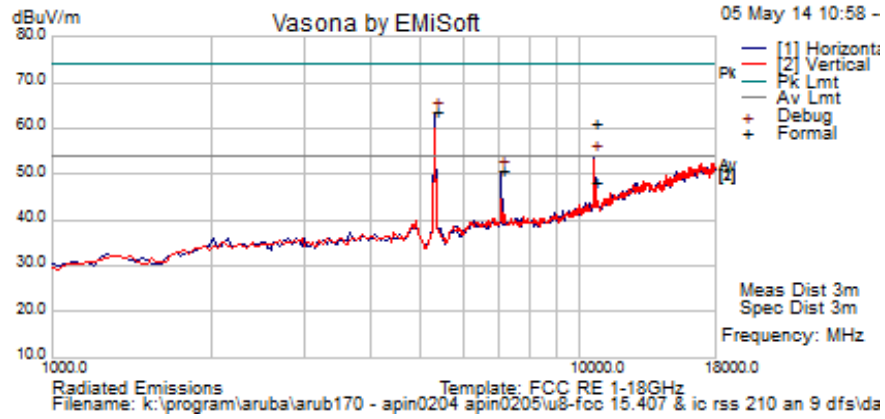


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10598.947	51.1	9.0	3.9	64.0	Peak Max	H	99	47	74.0	-10.0	Pass	RB
10598.947	38.1	9.0	3.9	51.0	Average Max	H	99	47	54.0	-3.0	Pass	RB
5292.585	62.7	6.0	-2.1	66.6	Peak [Scan]	H	100					FUND
7064.128	43.6	7.0	-0.2	50.5	Peak [Scan]	H	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5320 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 13B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

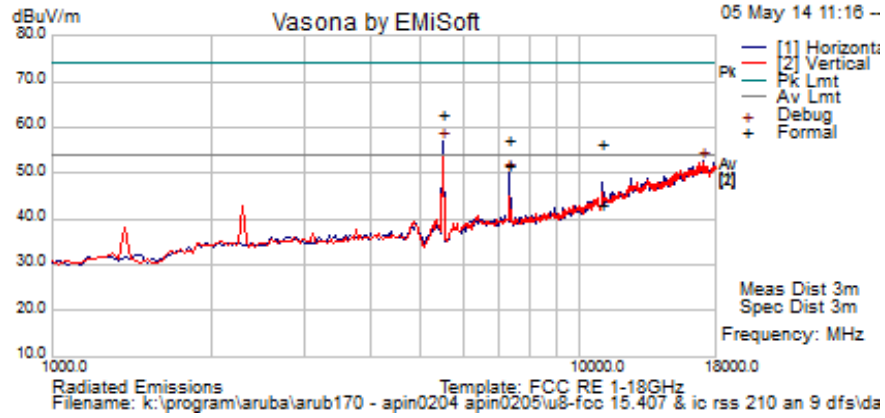


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10641.283	47.9	9.0	4.0	60.9	Peak Max	H	120	315	74.0	-13.1	Pass	RB
10641.283	35.0	9.0	4.0	48.0	Average Max	H	120	315	54.0	-6.0	Pass	RB
5326.653	59.5	6.0	-1.9	63.6	Peak [Scan]	H	100					FUND
7098.196	43.9	7.1	-0.2	50.8	Peak [Scan]	H	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5500 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 13B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

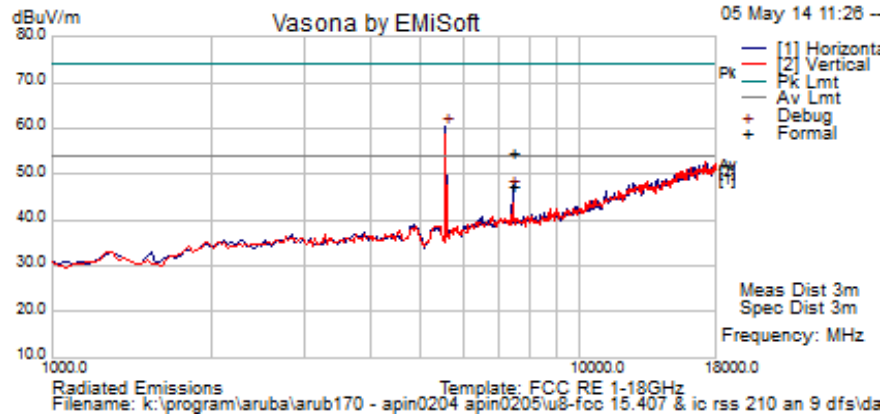


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
7333.567	50.0	7.2	-0.2	57.0	Peak Max	H	110	55	74.0	-17.0	Pass	RB
10998.78	43.2	9.1	4.2	56.4	Peak Max	H	138	-1	74.0	-17.6	Pass	RB
7333.567	44.4	7.2	-0.2	51.4	Average Max	H	110	55	54	-2.6	Pass	RB
10998.780	29.7	9.1	4.2	42.9	Average Max	H	138	-1	54	-11.1	Pass	RB
5496.994	58.8	6.1	-2.0	62.9	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5590 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 13B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

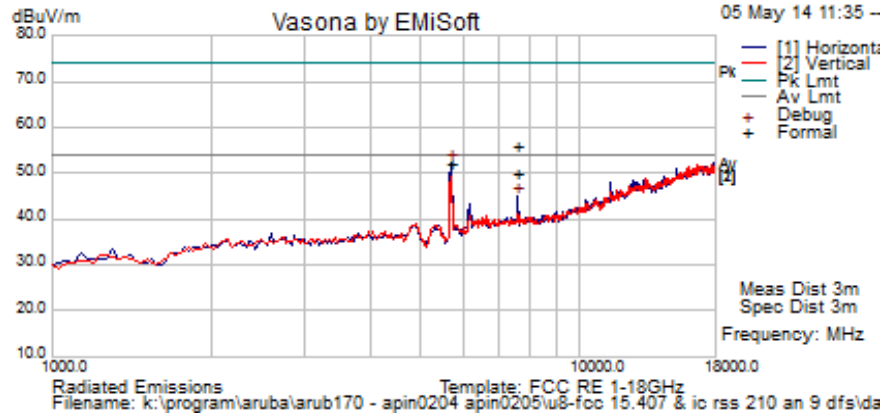


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
7440.174	47.5	7.3	-0.1	54.6	Peak Max	V	178	81	74.0	-19.4	Pass	RB
7440.174	40.1	7.3	-0.1	47.3	Average Max	V	178	81	54.0	-6.7	Pass	RB
5565.130	56.3	6.1	-2.1	60.3	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5700 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 13B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		



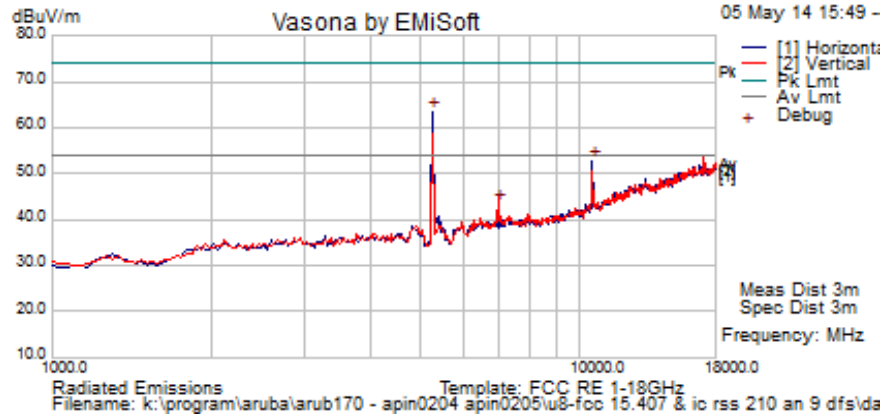
Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
7600.064	48.3	7.4	0.1	55.9	Peak Max	V	111	52	74.0	-18.1	Pass	RB
7600.064	42.3	7.4	0.1	49.8	Average Max	V	111	52	54.0	-4.2	Pass	RB
5701.403	47.9	6.2	-2.0	52.1	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

6.1.2.5. ANT-18 – Spurious Emissions

Test Freq.	5260 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 18	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

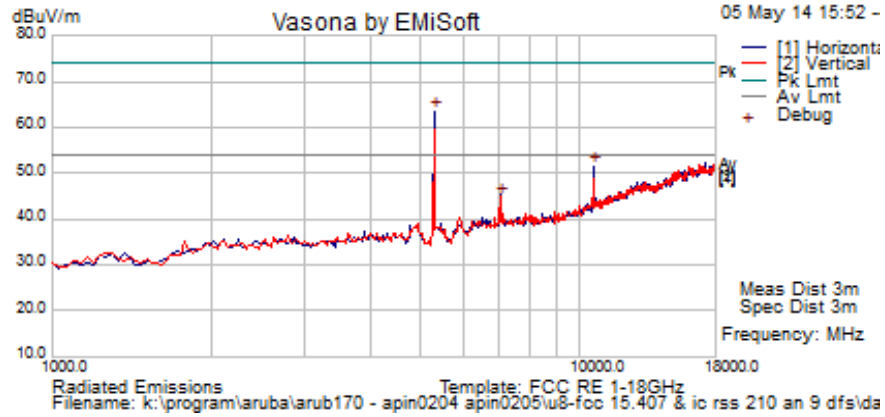


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5258.517	59.9	5.9	-2.2	63.6	Peak [Scan]	H	100					FUND
10539.078	40.0	9.0	3.7	52.7	Peak [Scan]	H	100					NRB
7001.732	36.9	7.0	-0.3	43.6	Peak [Scan]	V	101					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5300 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 18	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

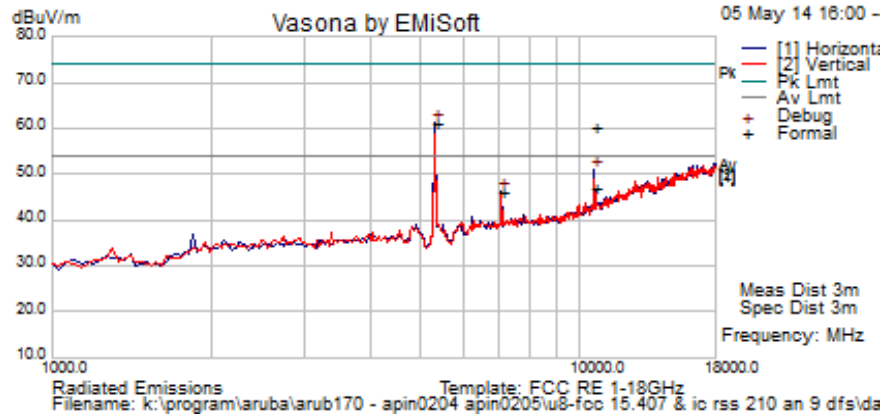


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5292.585	59.6	6.0	-2.1	63.5	Peak [Scan]	H	100					FUND
10596.442	38.7	9.0	3.9	51.6	Peak [Scan]	H	100					NRB
7062.061	38.1	7.0	-0.2	44.9	Peak [Scan]	V	101					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5320 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 18	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

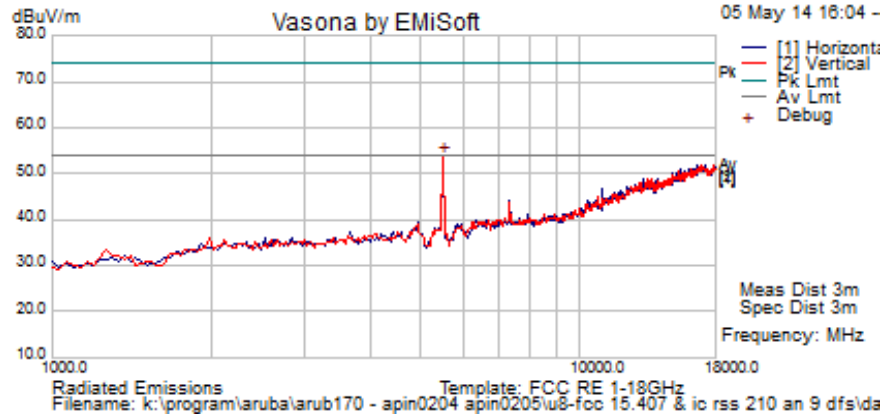


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10642.035	47.1	9.0	4.0	60.1	Peak Max	H	100	75	74.0	-13.9	Pass	RB
10642.035	33.8	9.0	4.0	46.9	Average Max	H	100	75	54.0	-7.2	Pass	RB
5326.653	57.2	6.0	-1.9	61.3	Peak [Scan]	H	100					FUND
7097.945	39.3	7.1	-0.2	46.2	Peak [Scan]	V	101					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5500 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 18	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

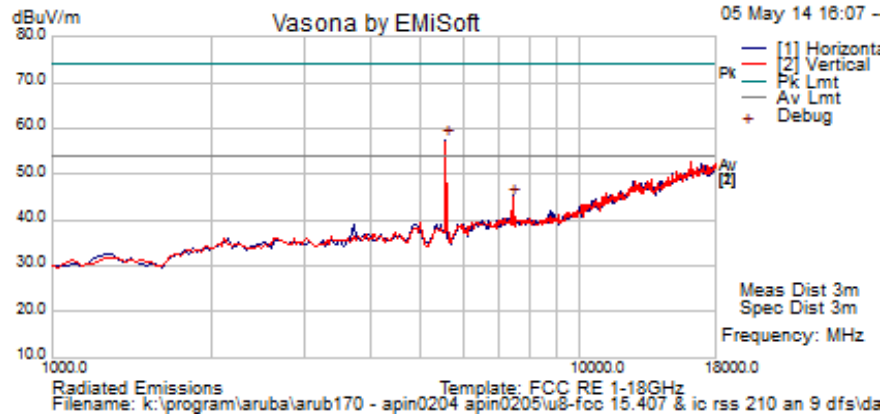


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5496.994	49.5	6.1	-2.0	53.6	Peak [Scan]	V	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5580 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 18	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

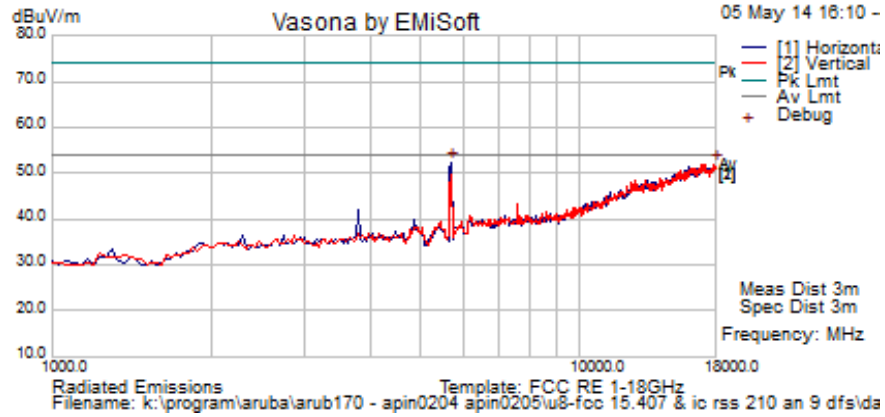


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5565.130	53.5	6.1	-2.1	57.5	Peak [Scan]	H	100					FUND
7442.208	37.6	7.3	-0.1	44.8	Peak [Scan]	V	99	361	54.0	-9.2	Pass	RB

Legend: TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5700 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 18	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		



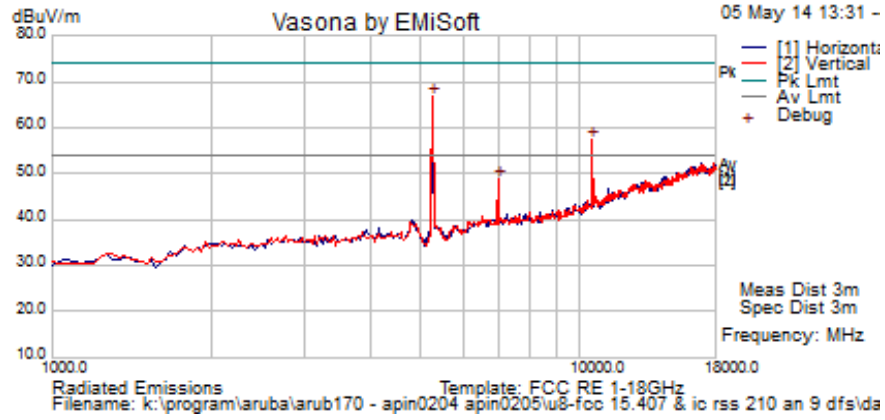
Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5701.403	48.2	6.2	-2.0	52.5	Peak [Scan]	H	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

6.1.2.6. ANT-19 – Spurious Emissions

Test Freq.	5260 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 19	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

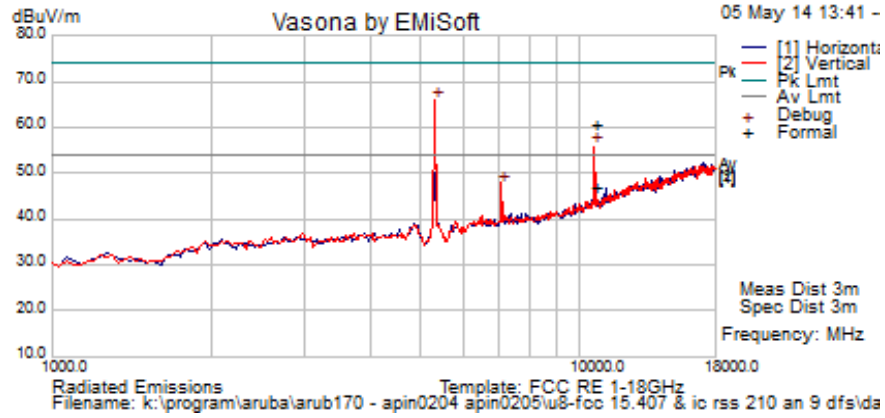


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5258.517	63.0	5.9	-2.2	66.7	Peak [Scan]	V	100					FUND
10517.786	44.6	9.0	3.7	57.3	Peak [Scan]	V	100					NRB
6995.992	42.1	7.0	-0.4	48.8	Peak [Scan]	V	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5300 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 1B	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

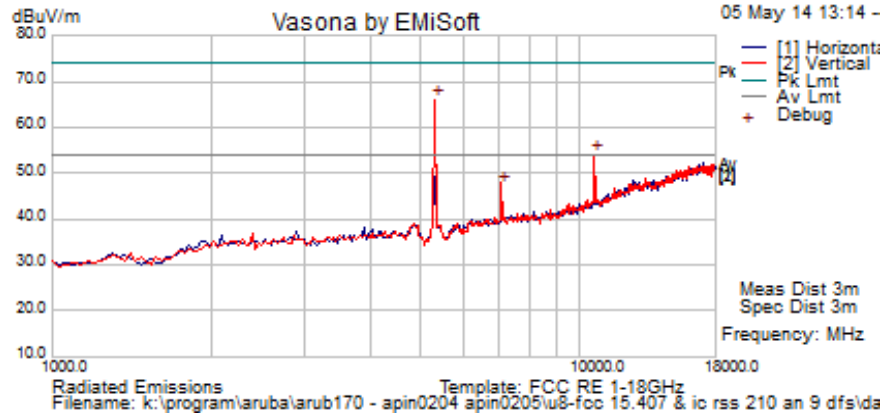


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10638.527	47.6	9.0	4.0	60.6	Peak Max	V	165	114	74.0	-13.4	Pass	RB
10638.527	34.1	9.0	4.0	47.1	Average Max	V	165	114	54.0	-6.9	Pass	RB
5326.653	61.9	6.0	-1.9	65.9	Peak [Scan]	V	100					FUND
7093.318	40.5	7.1	-0.2	47.3	Peak [Scan]	H	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5320 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 19	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

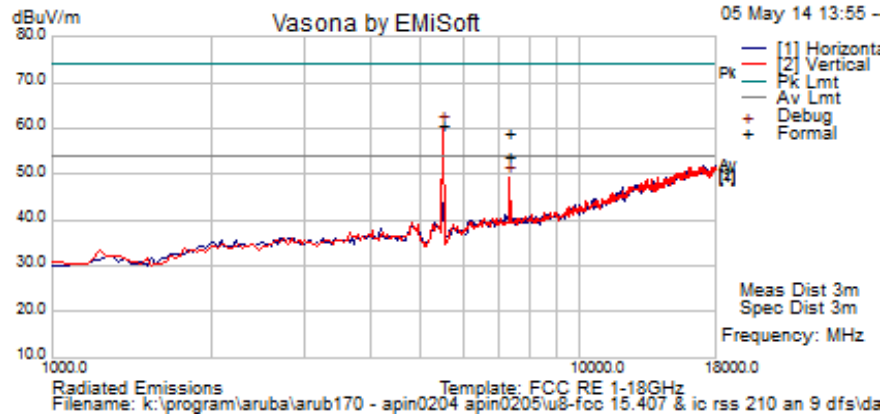


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
10641.283	47.9	9.0	4.0	60.9	Peak Max	V	100	262	74.0	-13.1	Pass	RB
10641.283	34.8	9.0	4.0	47.8	Average Max	V	100	262	54.0	-6.2	Pass	RB
5326.653	62.1	6.0	-1.9	66.1	Peak [Scan]	V	100					FUND
7099.832	40.7	7.1	-0.2	47.6	Peak [Scan]	V	98					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5500 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 19	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

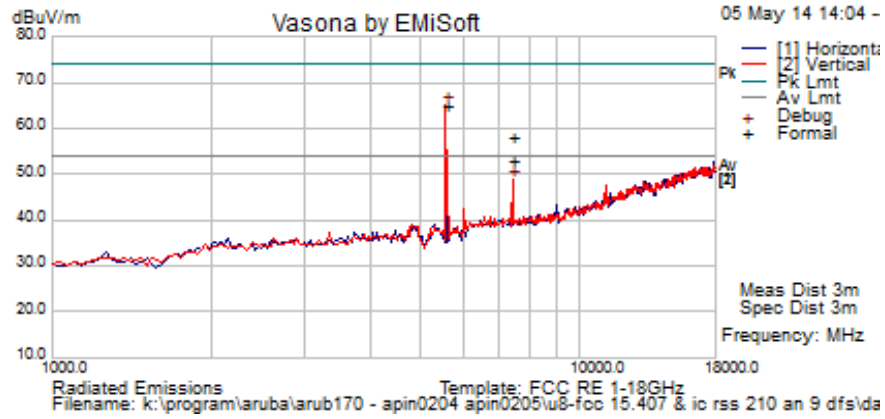


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
7333.367	51.9	7.2	-0.2	58.9	Peak Max	V	101	220	74.0	-15.1	Pass	RB
7333.168	46.8	7.2	-0.2	53.8	Average	V	101	220	54.0	-0.2	Pass	RB
5496.994	56.5	6.1	-2.0	60.6	Peak [Scan]	V	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5580 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 19	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		

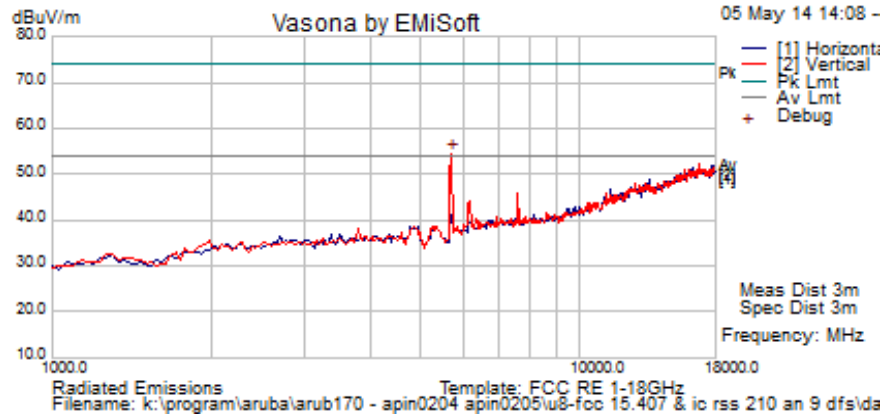


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
7439.938	51.0	7.3	-0.1	58.2	Peak Max	V	101	242	74.0	-15.8	Pass	RB
7439.938	45.9	7.3	-0.1	53.1	Average Max	V	101	242	54.0	-0.9	Pass	RB
5565.130	61.1	6.1	-2.1	65.1	Peak [Scan]	V	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

Test Freq.	5700 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	18	**Press. (mBars)**	1004
Antenna	AP ANT 19	**Duty Cycle (%)**	100
Test Notes 1	S/N:CM0000392; MAC:9C:1C:12:C7:DE:94;		
Test Notes 2	EUT Position Horizontal; POE;		



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
5701.403	50.3	6.2	-2.0	54.5	Peak [Scan]	V	100					FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205

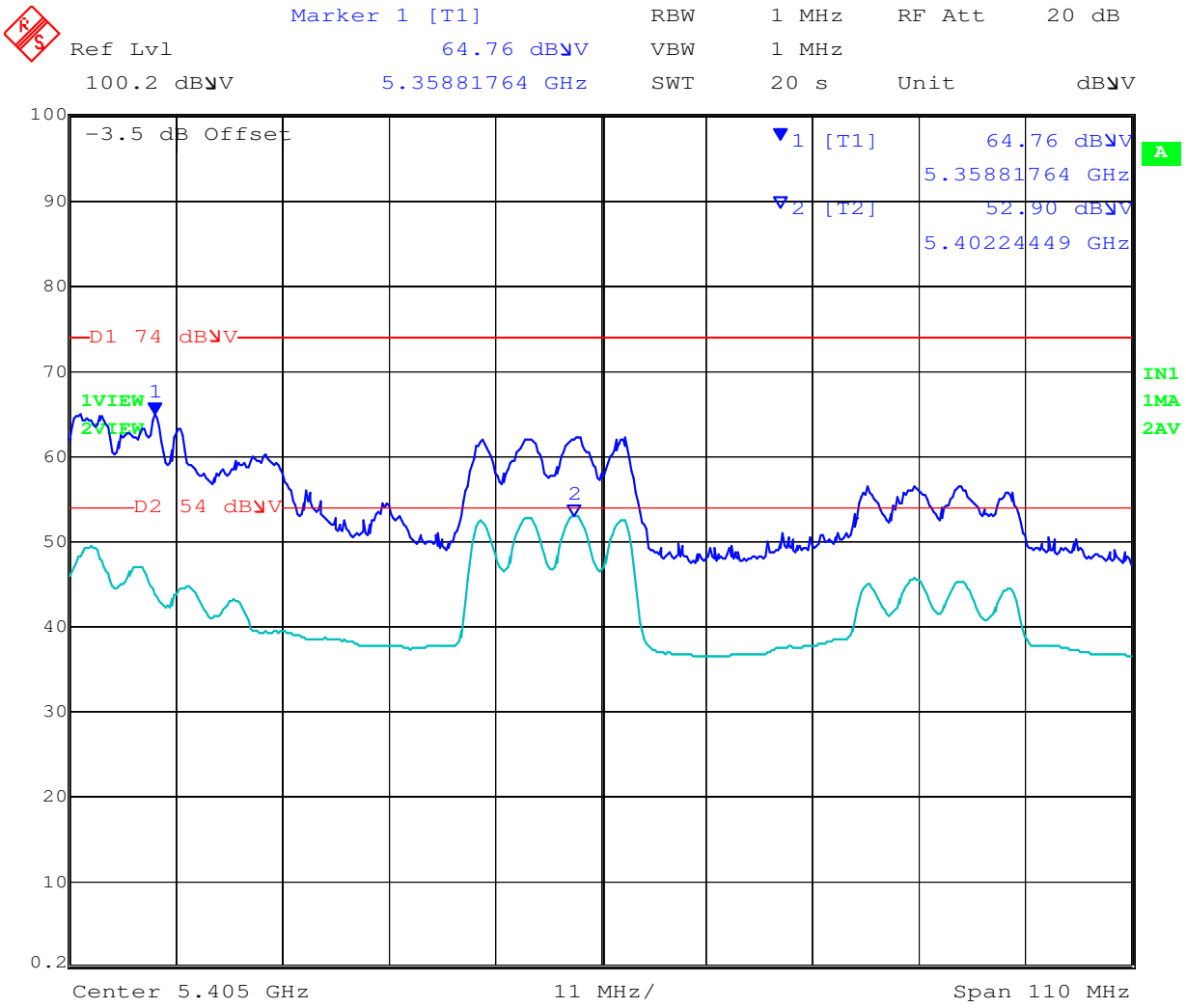
6.1.2.7. Radiated Band-Edge - Integral Antenna

Peak Limit 74.0 dBµV, Average Limit 54.0 dBµV

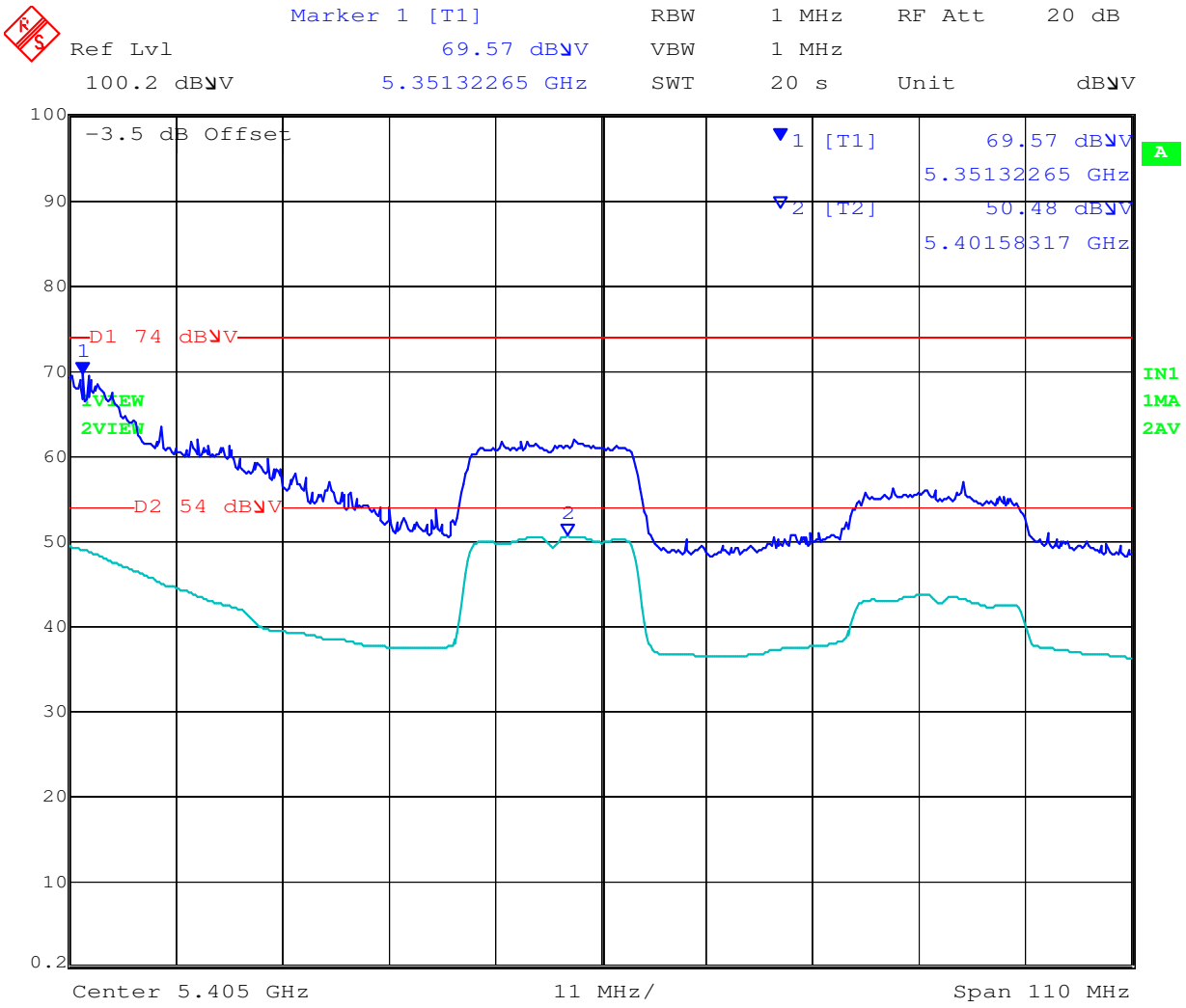
		5350 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency (MHz)	Peak	Average	
a	5320.0	64.76	52.90	18
n HT-20	5320.0	69.57	50.48	18
n HT-40	5310.0	73.75	52.63	15
ac-80	5290.0	70.46	50.74	14

		5470 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency	Peak	Average	
a	5500.0	61.88	50.48	18
n HT-20	5500.0	62.00	47.92	18
n HT-40	5510.0	69.87	52.70	18
ac-80	5530.0	70.11	52.20	16

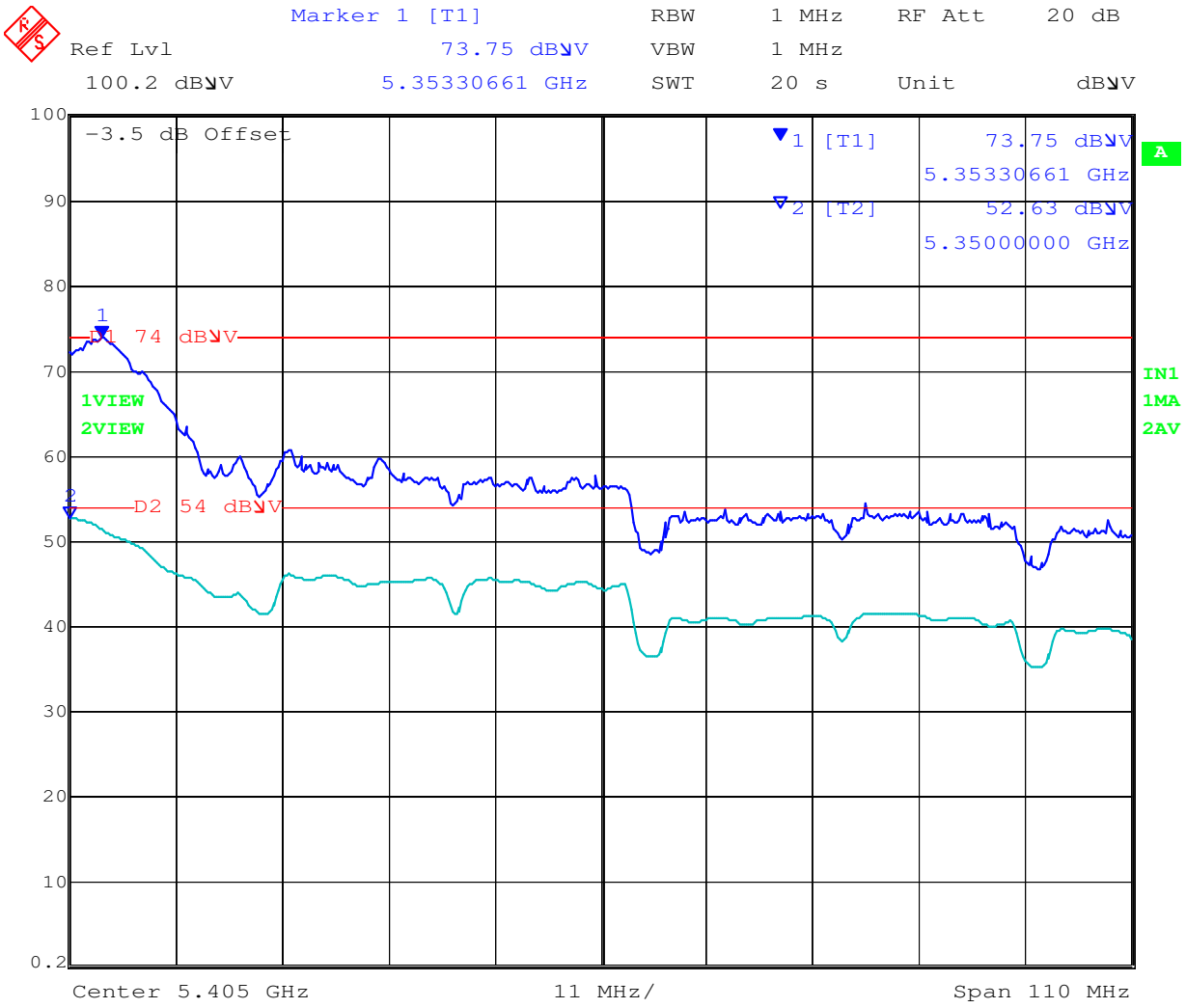
802.11a Channel 5320 MHz



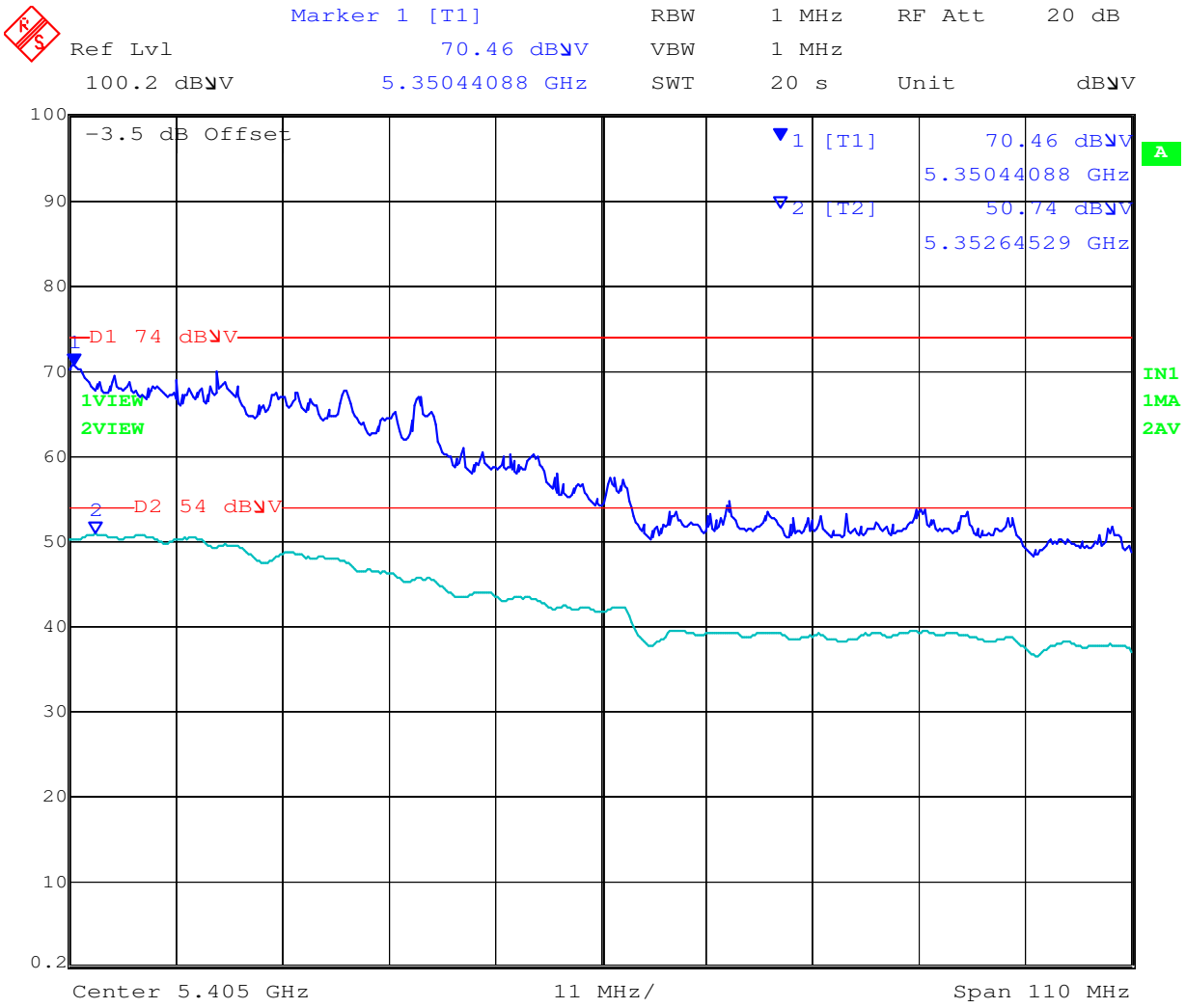
802.11n HT-20 Channel 5320 MHz



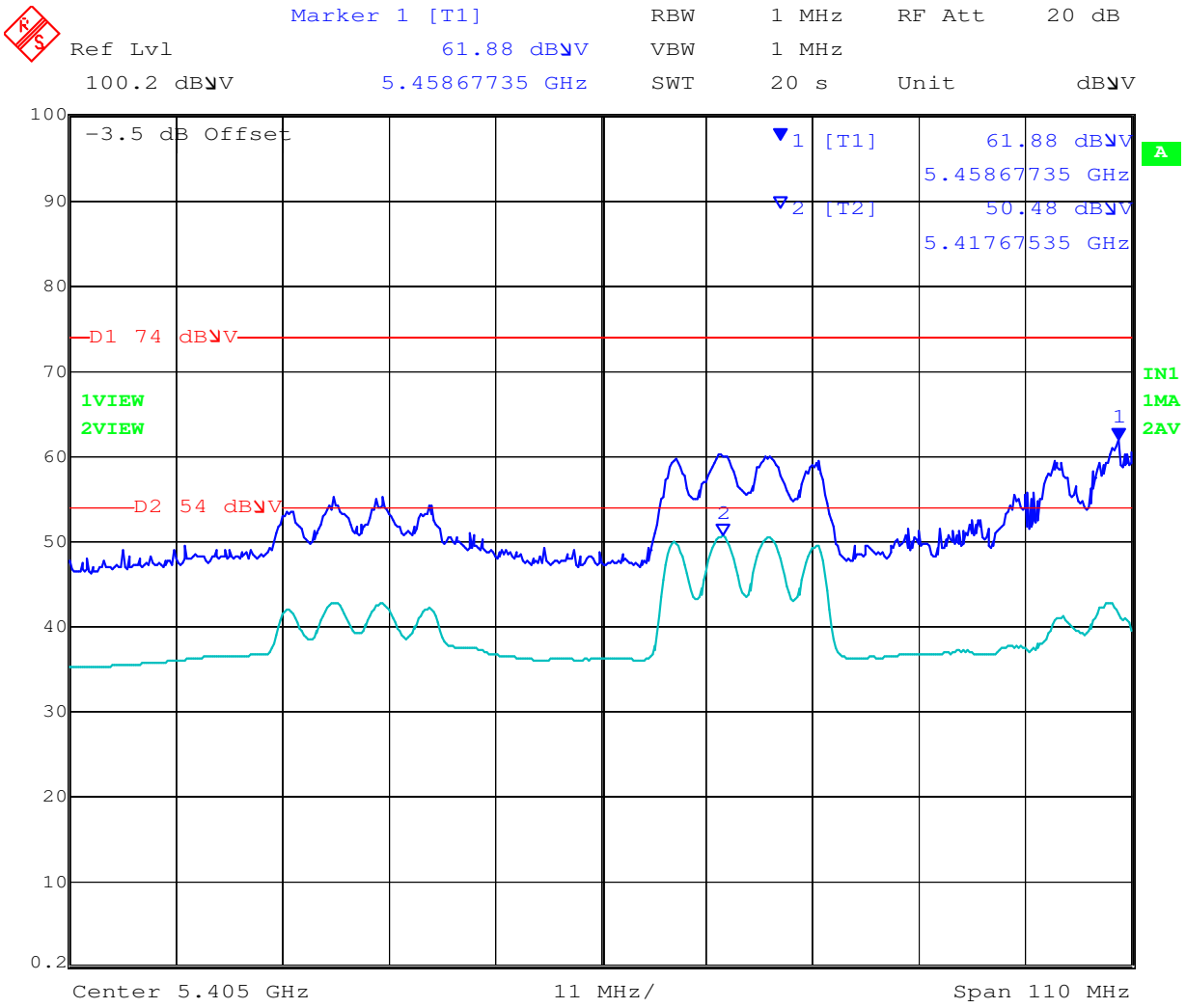
802.11n HT-40 Channel 5310 MHz



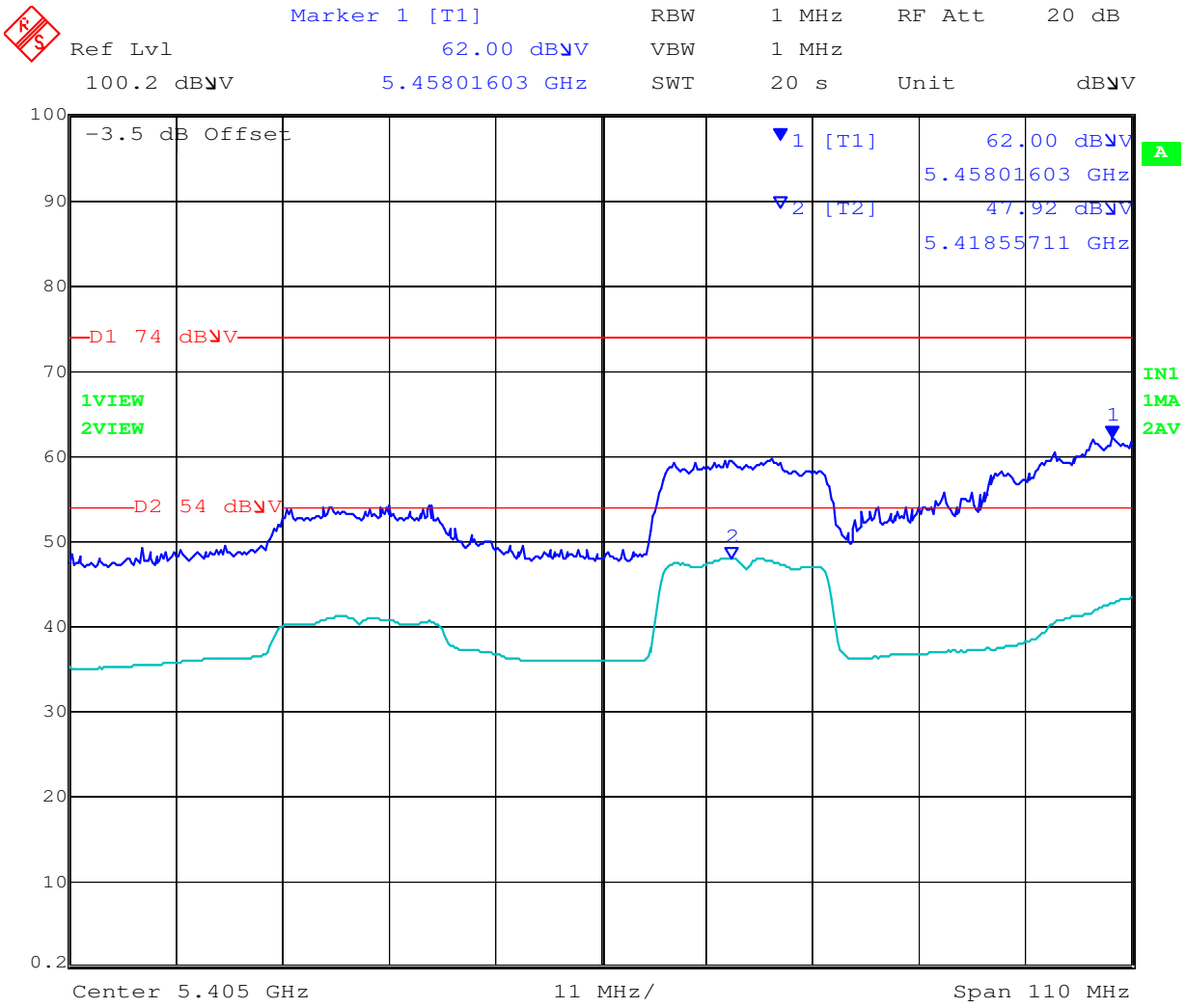
802.11ac-80 Channel 5290 MHz



802.11a Channel 5500 MHz



802.11n HT-20 Channel 5500 MHz



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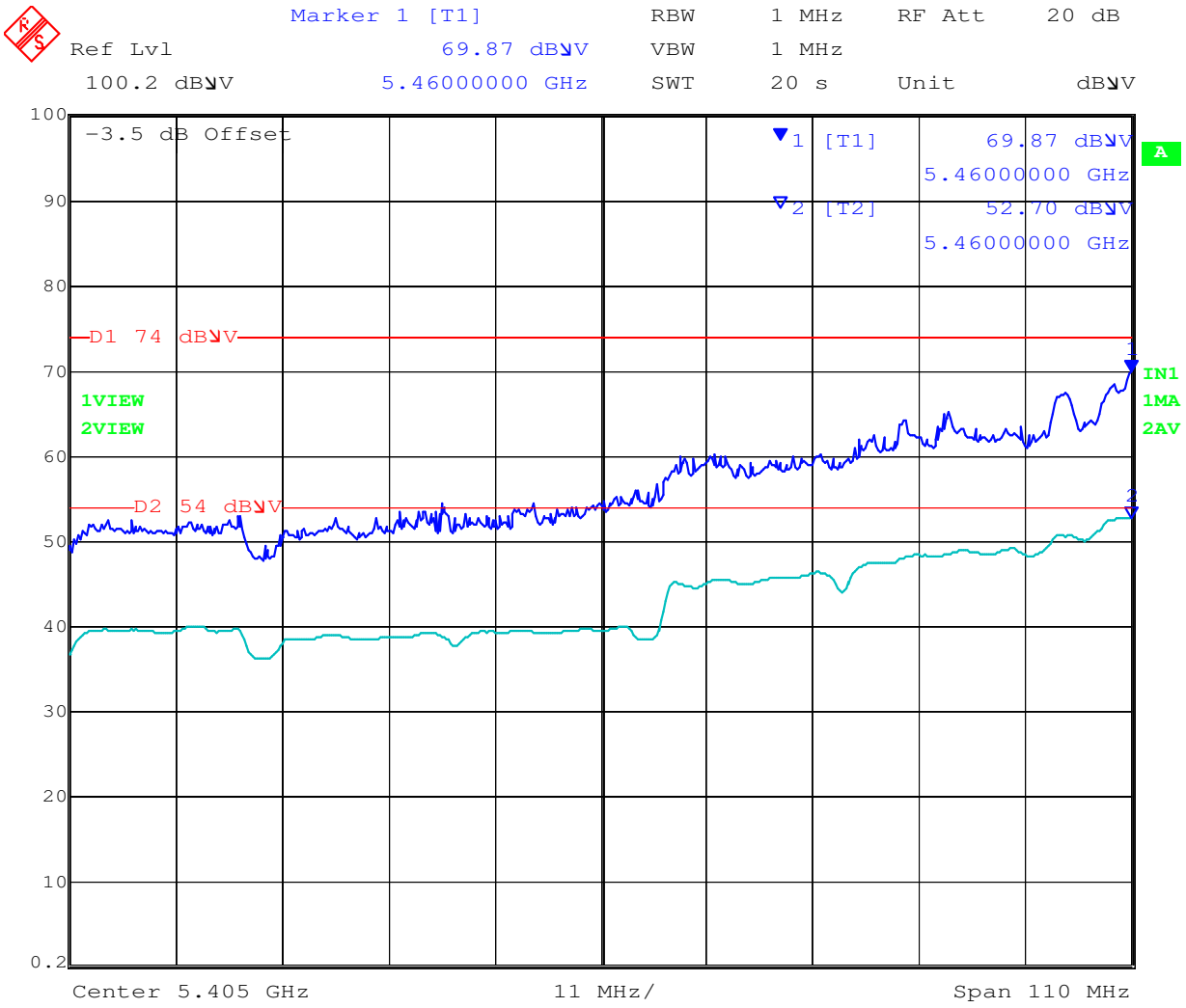
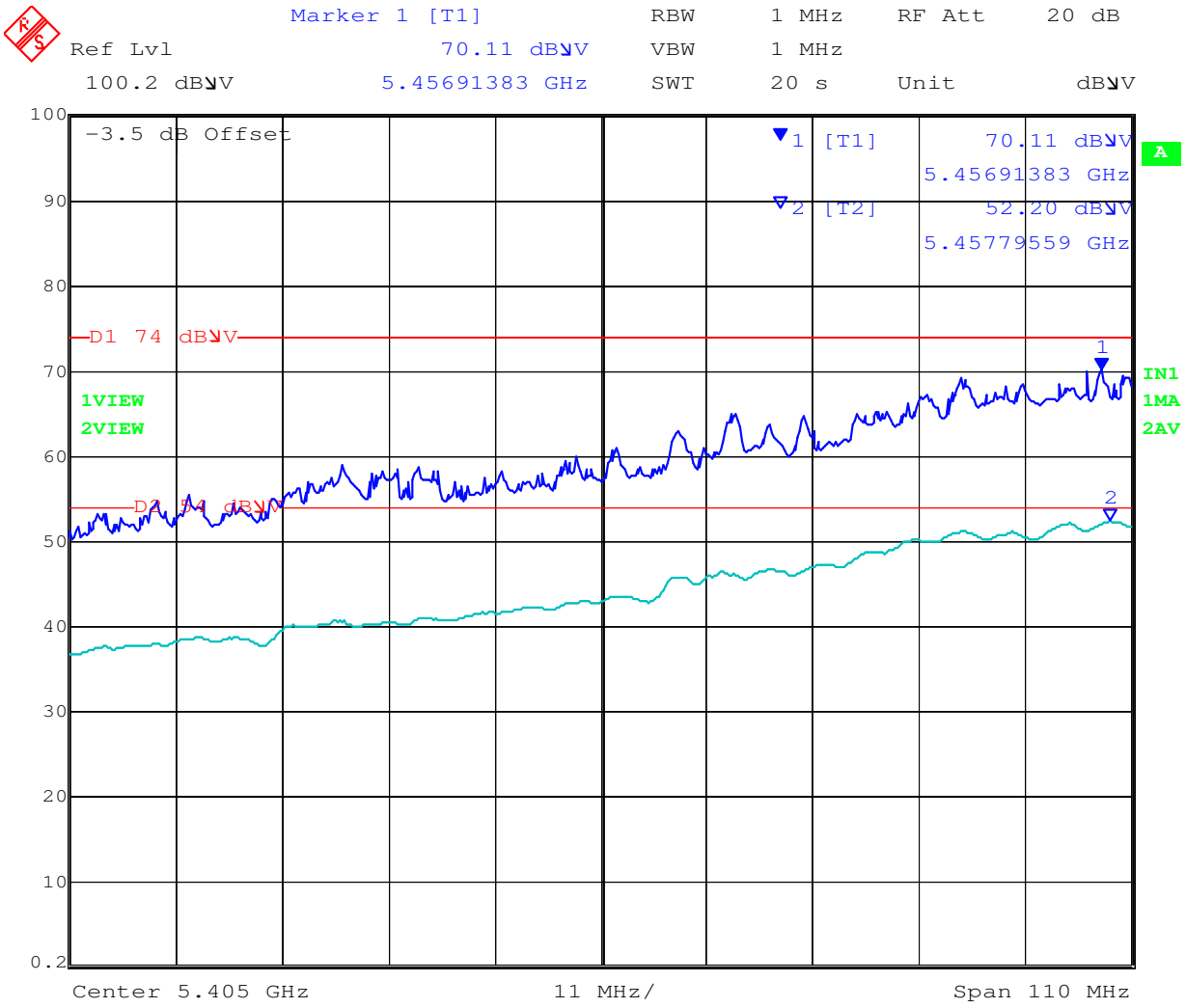
802.11n HT-40 Channel 5510 MHz



802.11ac-80 Channel 5530 MHz



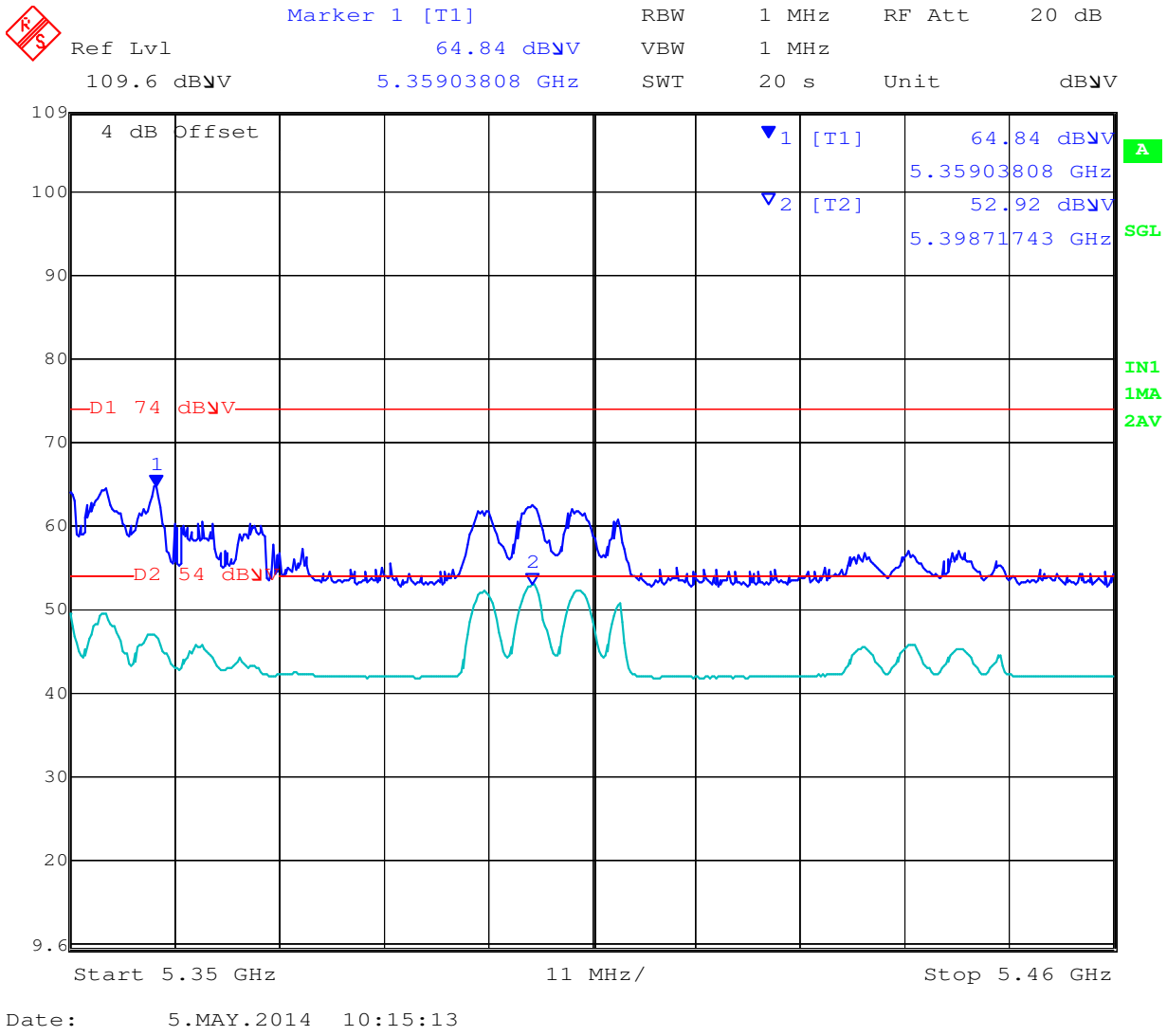
6.1.2.8. ANT1B - Radiated Band-Edge

Peak Limit 74.0 dBµV, Average Limit 54.0 dBµV

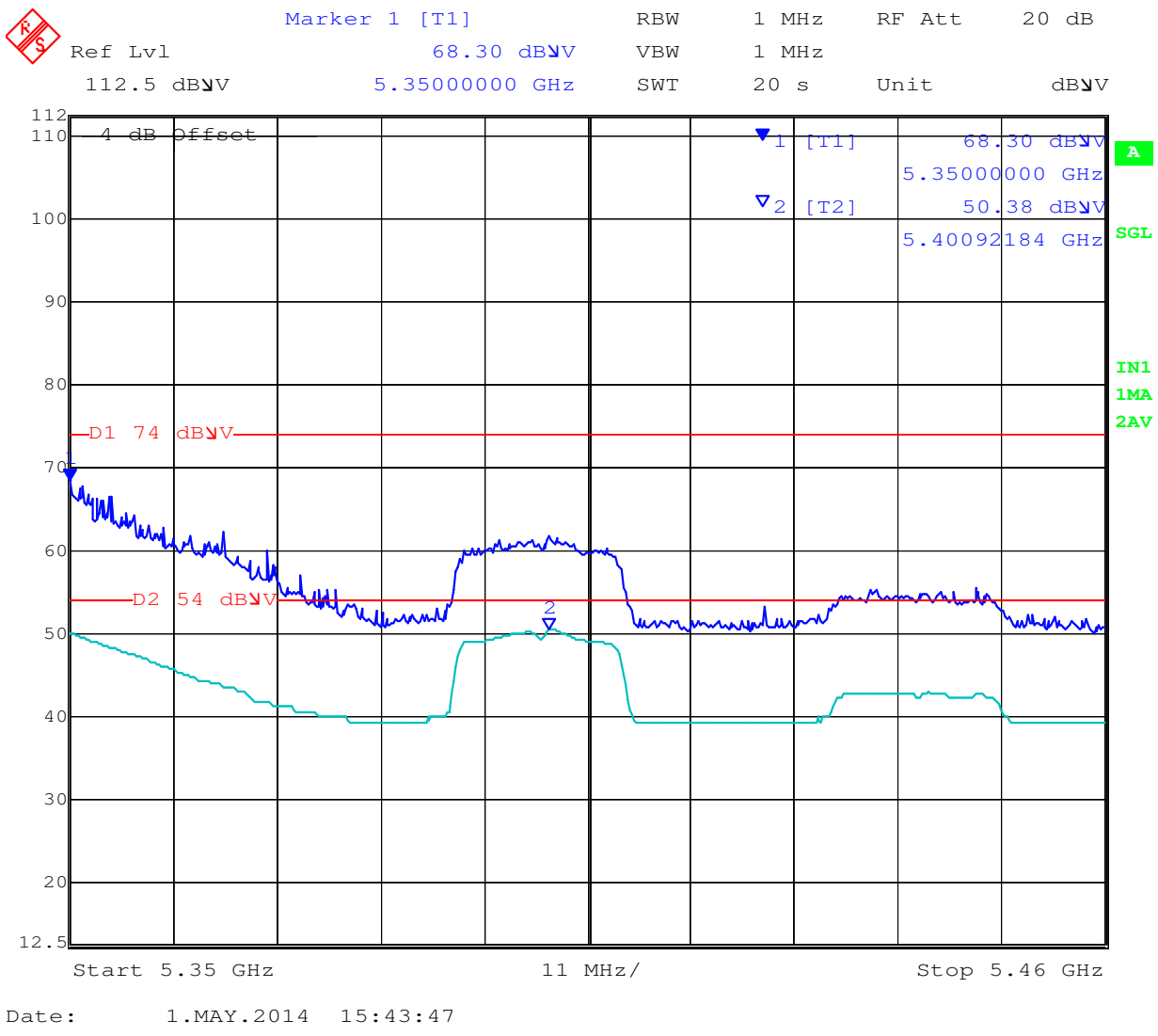
		5350 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency (MHz)	Peak	Average	
a	5320.0	64.84	52.92	18
n HT-20	5320.0	68.30	50.38	18
n HT-40	5310.0	74.00	53.33	15
ac-80	5290.0	70.21	51.25	14

		5470 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency	Peak	Average	
a	5500.0	61.88	50.48	18
n HT-20	5500.0	63.94	50.00	19
n HT-40	5510.0	71.09	53.46	17
ac-80	5530.0	69.62	53.04	15

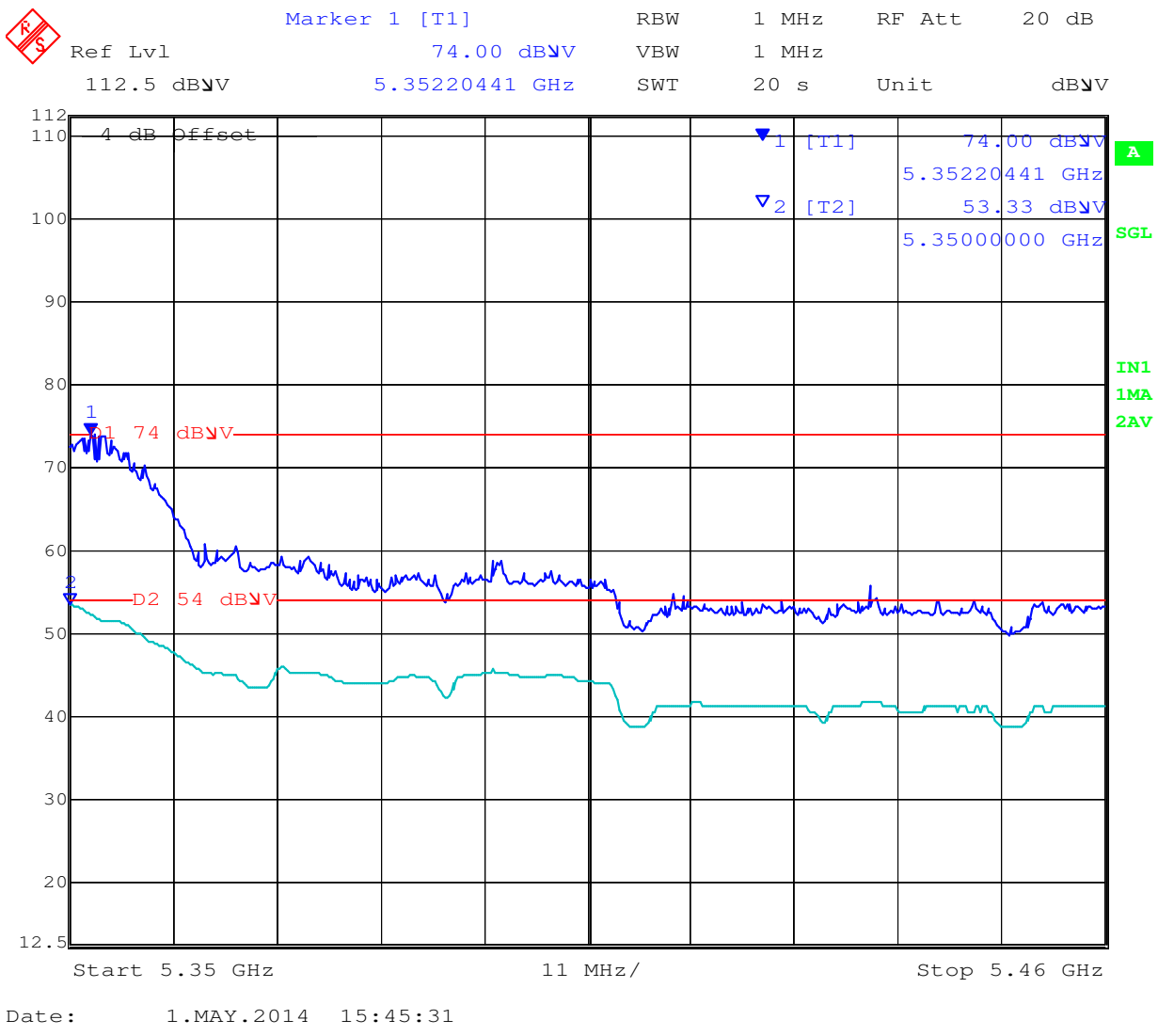
802.11a Channel 5320 MHz



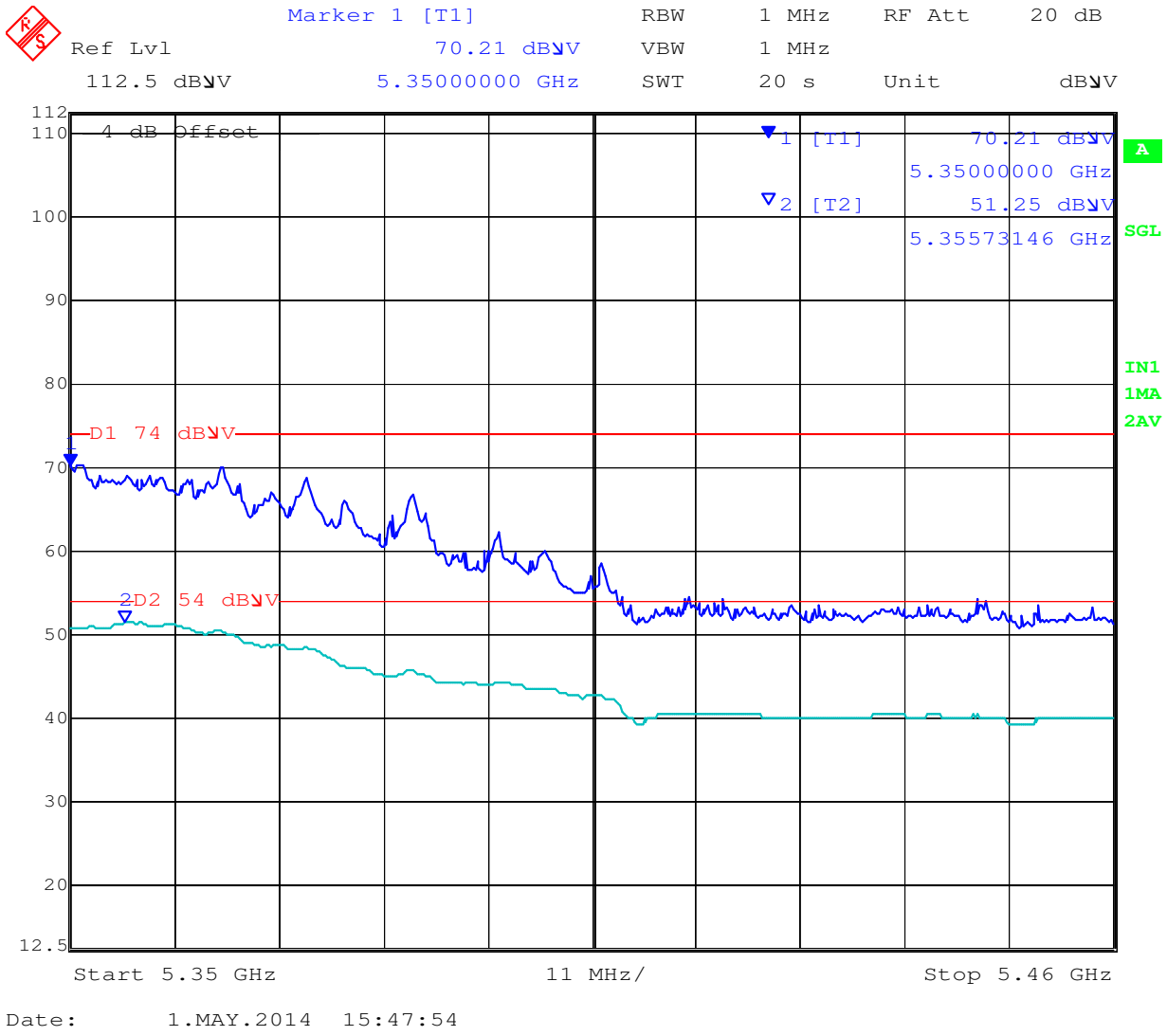
802.11n HT-20 Channel 5320 MHz



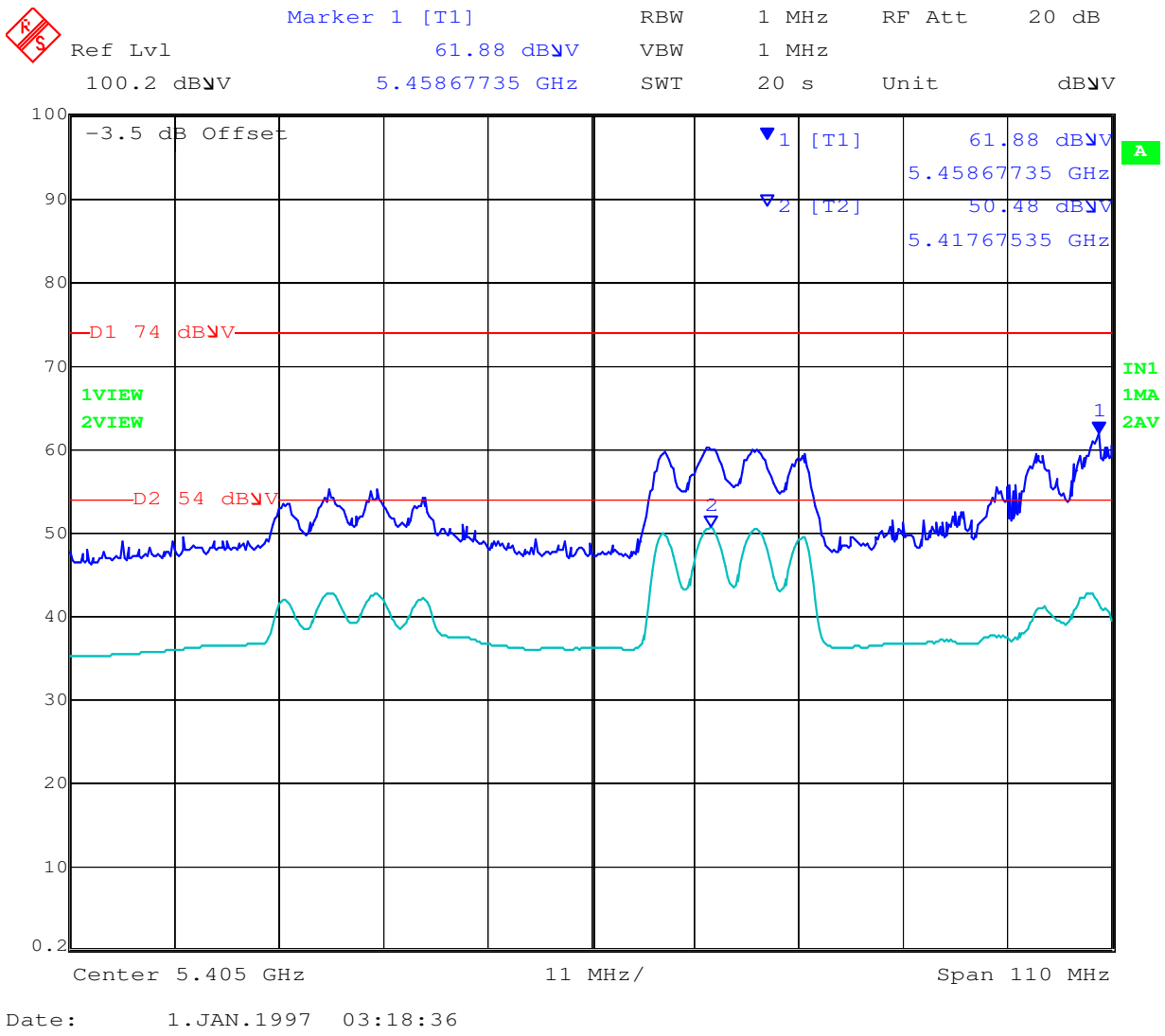
802.11n HT-40 Channel 5310 MHz



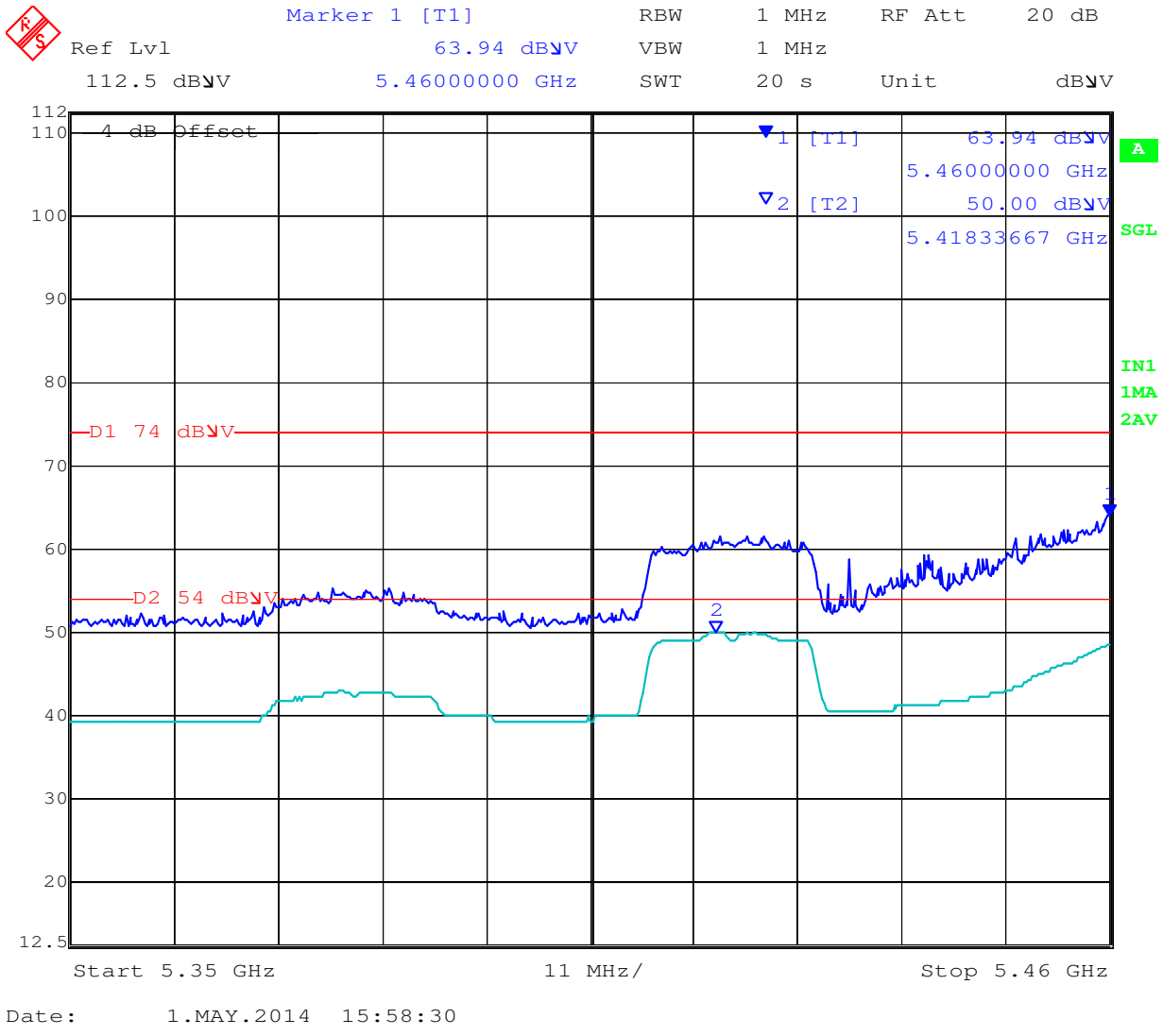
802.11ac-80 Channel 5290 MHz



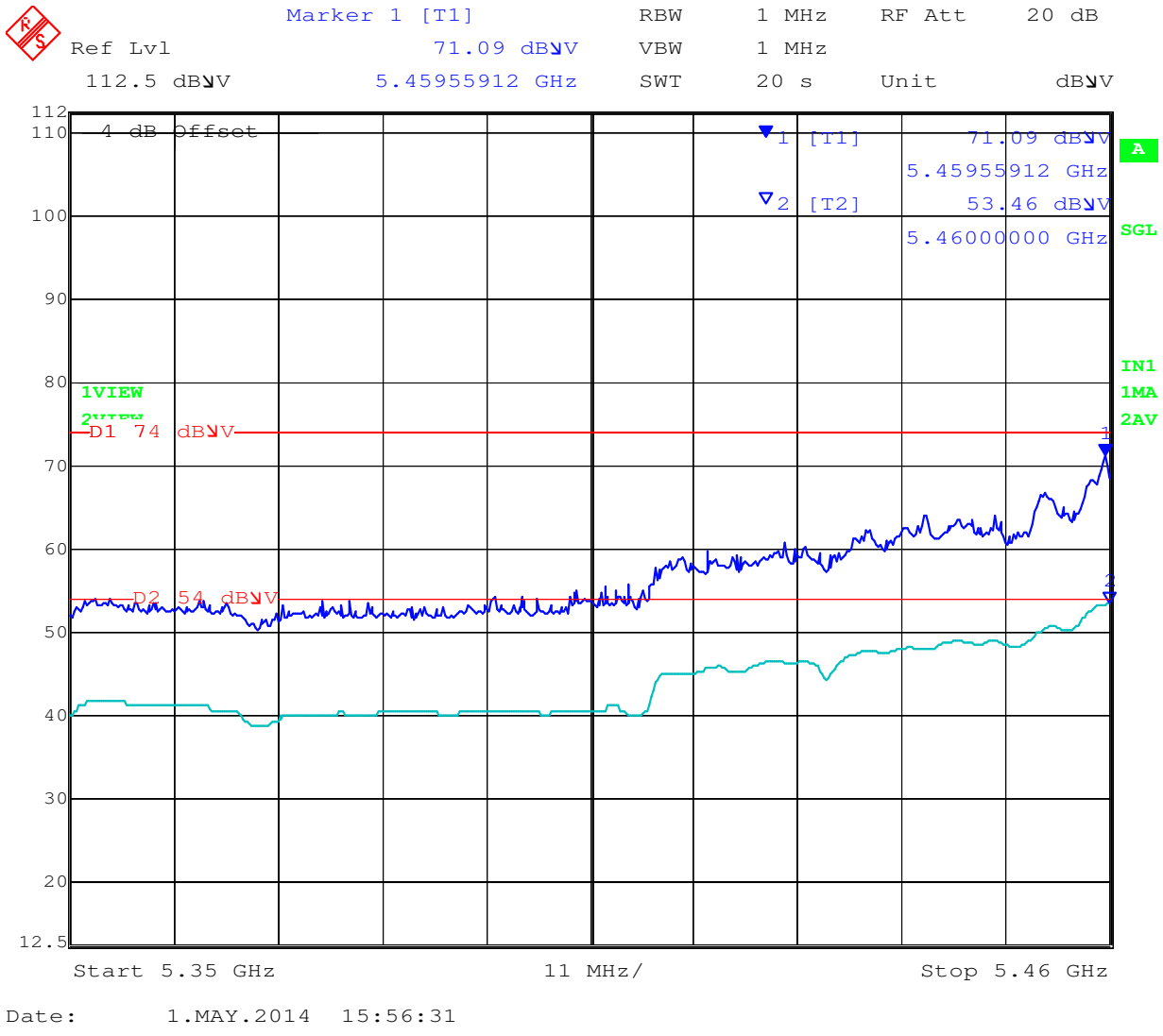
802.11a Channel 5500 MHz



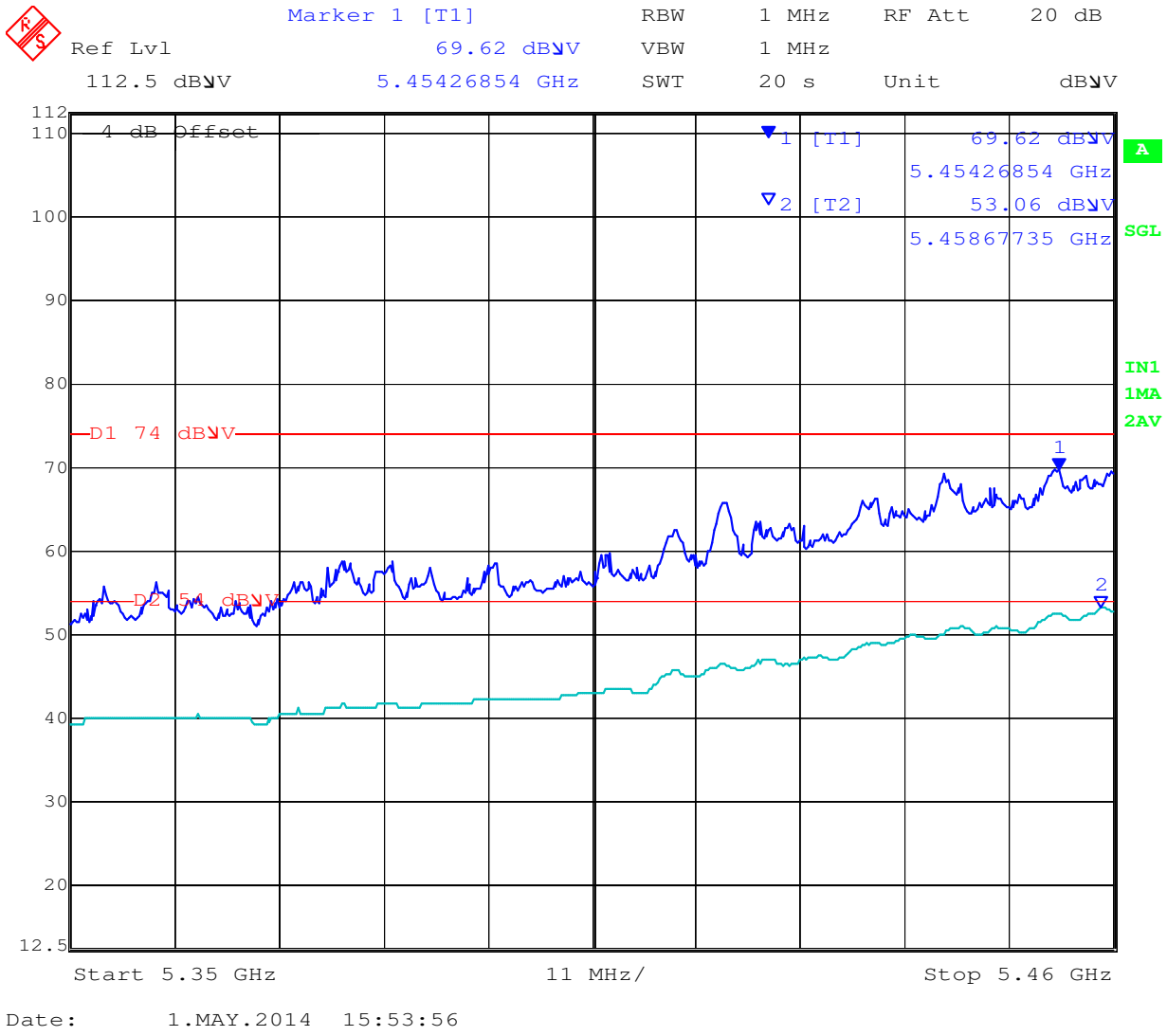
802.11n HT-20 Channel 5500 MHz



802.11n HT-40 Channel 5510 MHz



802.11ac-80 Channel 5530 MHz



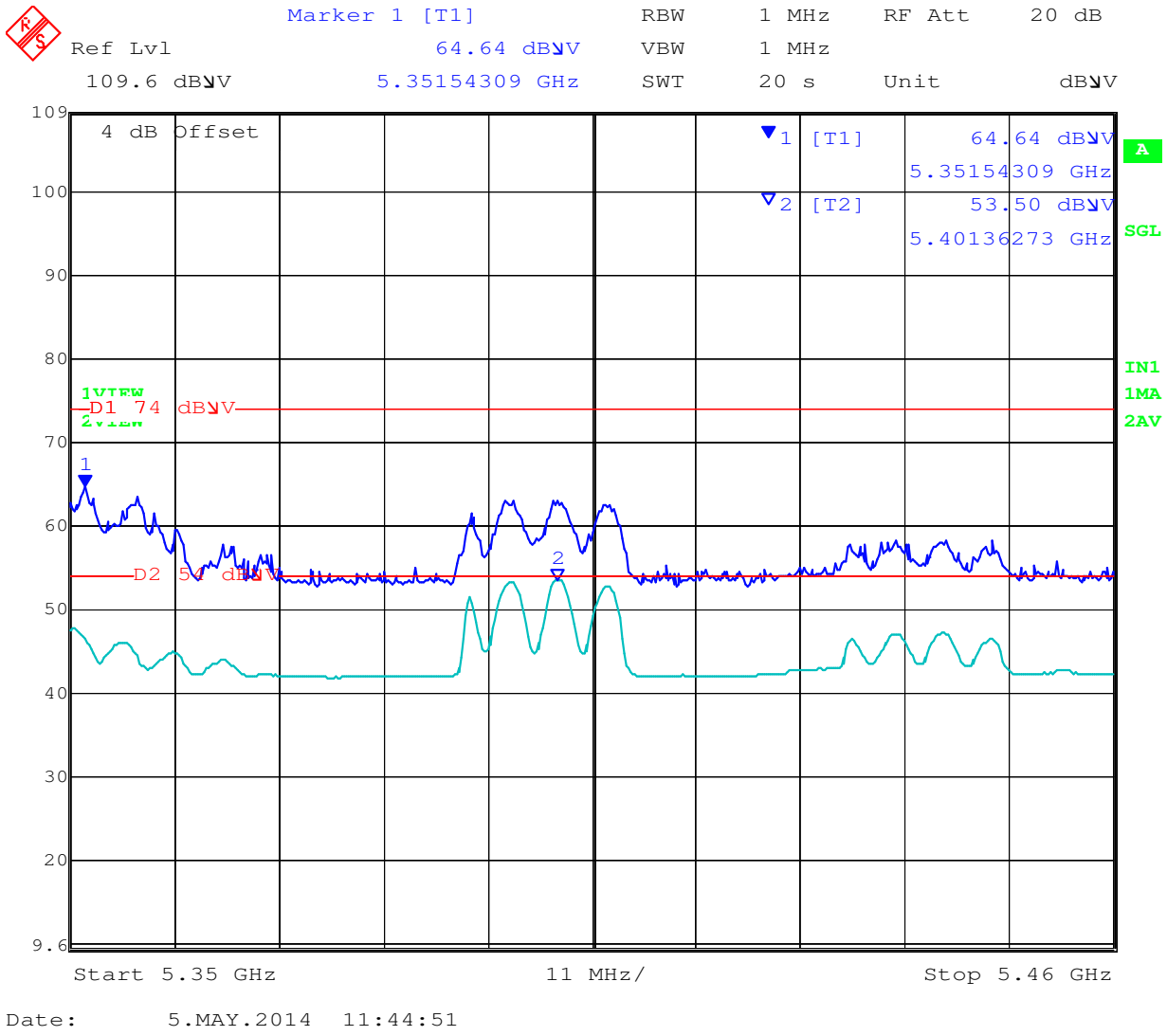
6.1.2.9. ANT13B - Radiated Band-Edge

Peak Limit 74.0 dBµV, Average Limit 54.0 dBµV

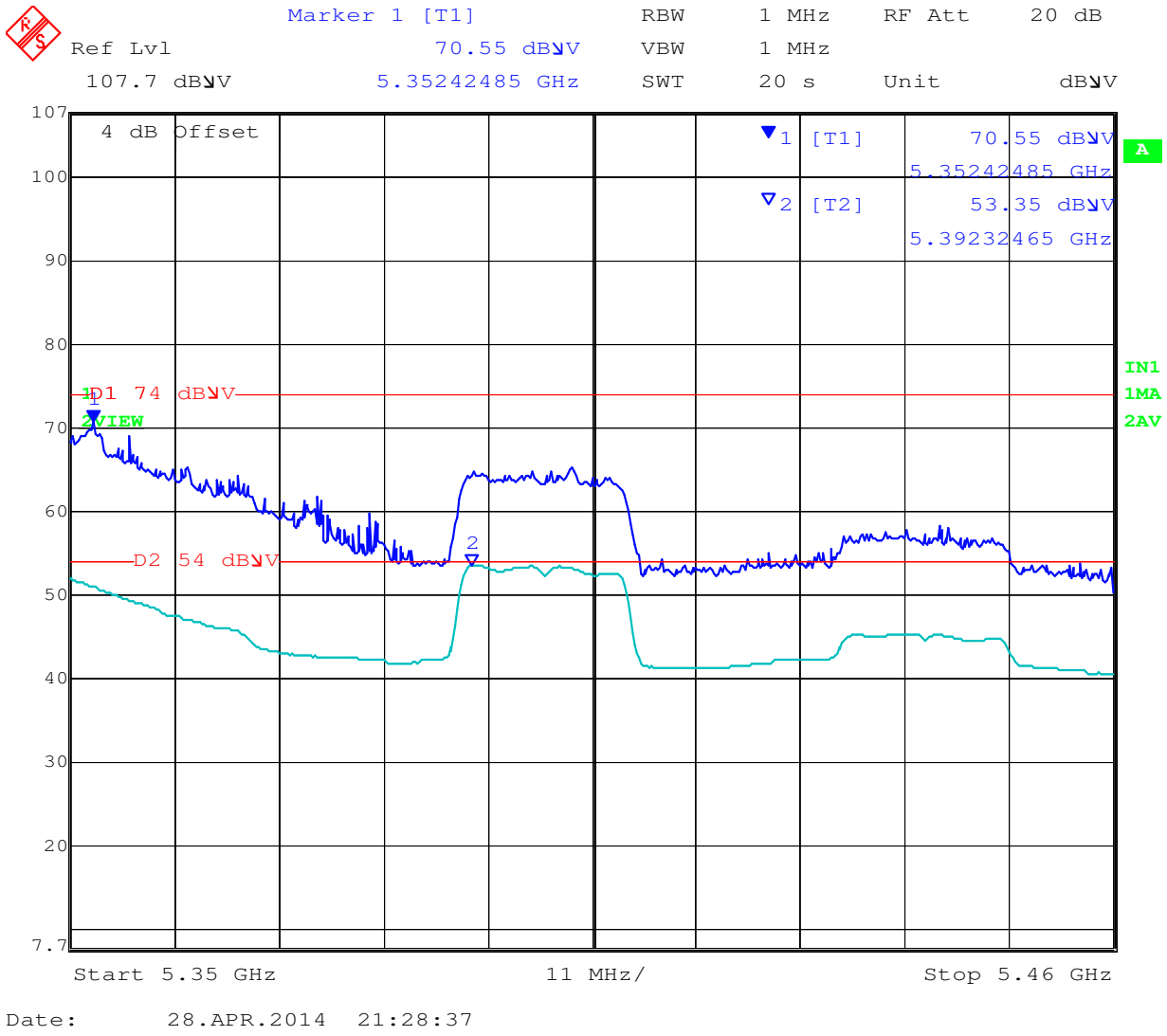
		5350 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency (MHz)	Peak	Average	
a	5320.0	64.64	53.50	18
n HT-20	5320.0	70.55	53.35	17
n HT-40	5310.0	73.65	52.80	14
ac-80	5290.0	72.38	51.50	13

		5470 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency	Peak	Average	
a	5500.0	65.23	53.50	18
n HT-20	5500.0	65.50	53.42	18
n HT-40	5510.0	71.28	53.42	16
ac-80	5530.0	69.28	52.56	14

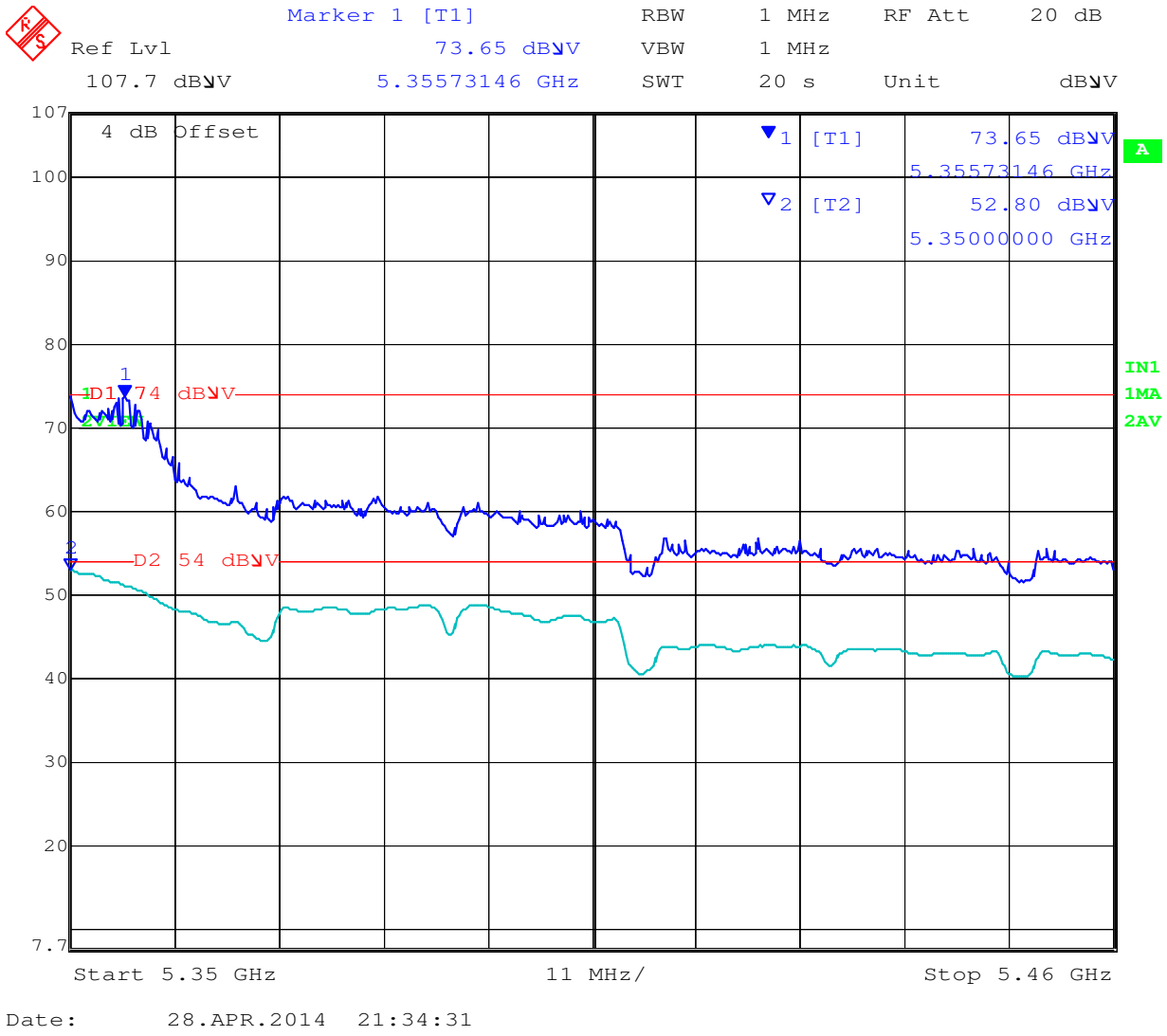
802.11a Channel 5320 MHz



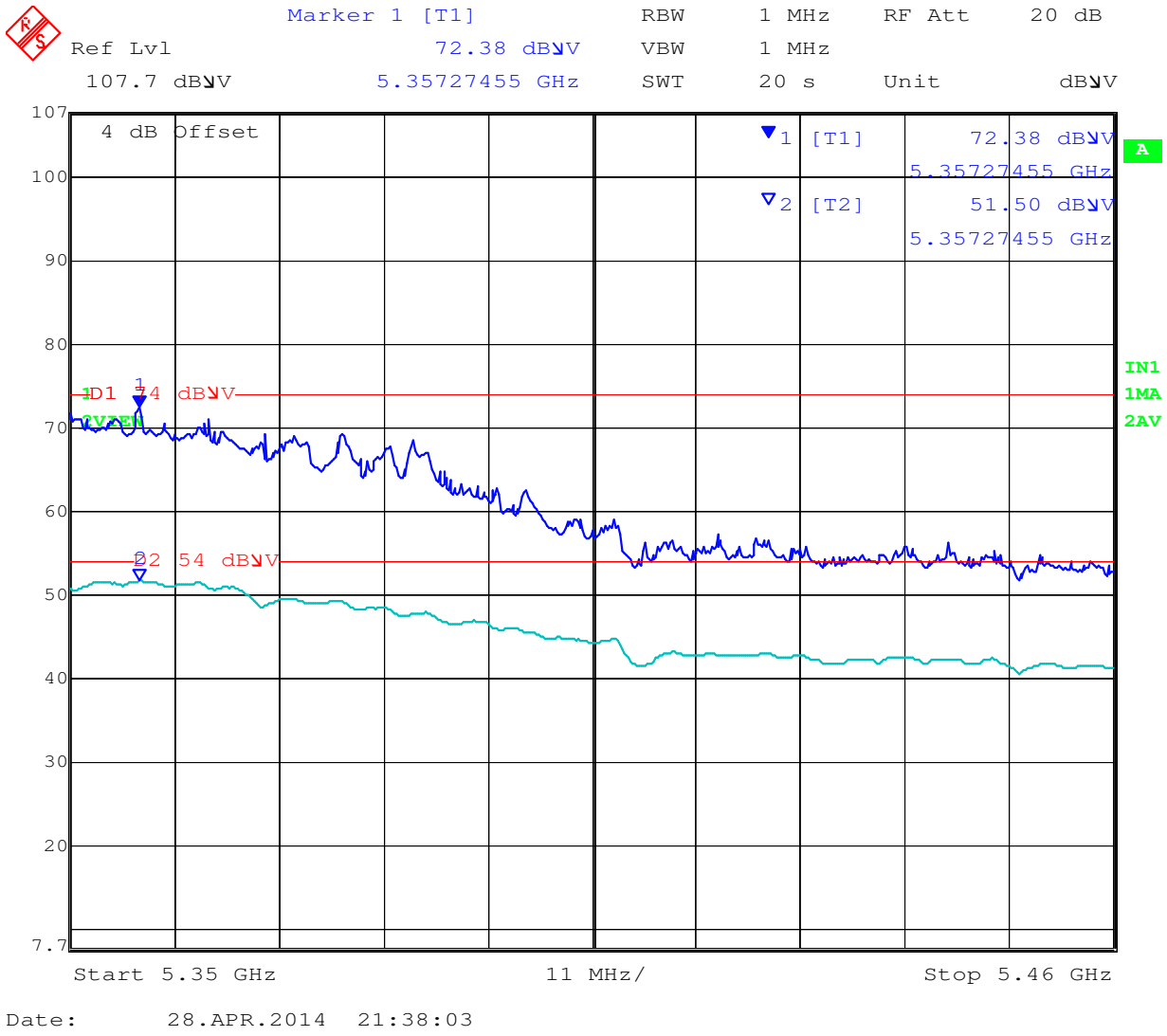
802.11n HT-20 Channel 5320 MHz



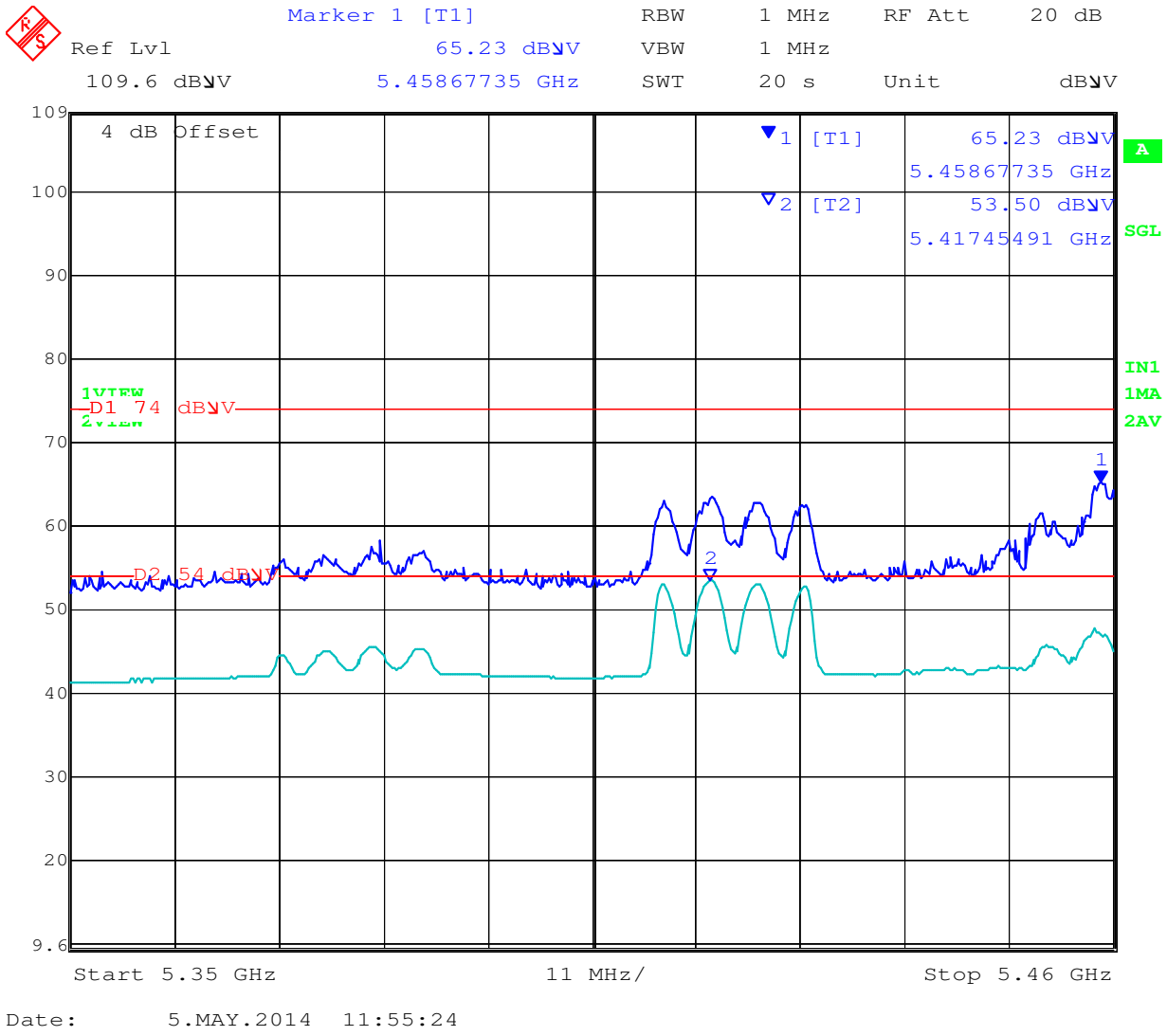
802.11n HT-40 Channel 5310 MHz



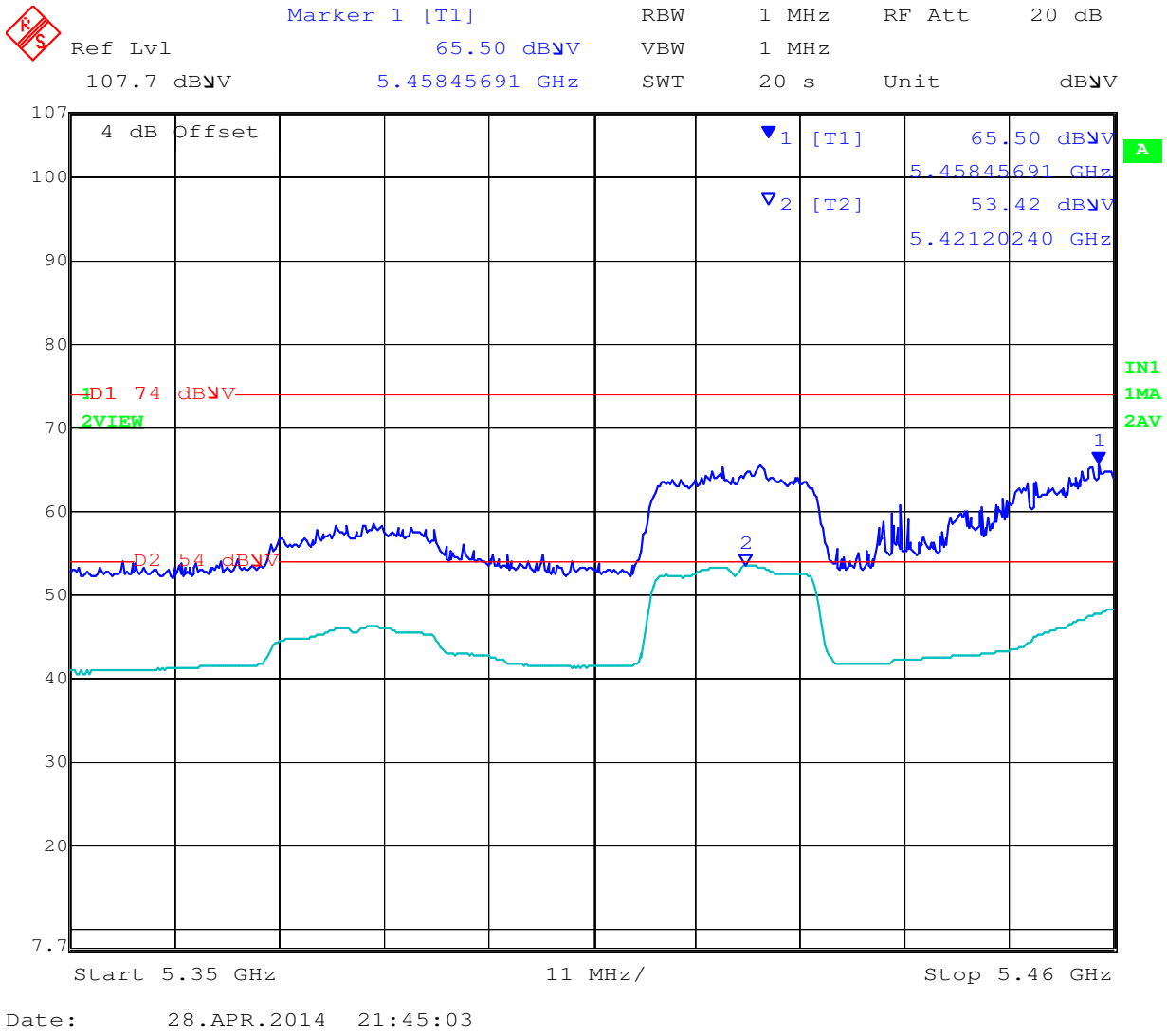
802.11ac-80 Channel 5290 MHz



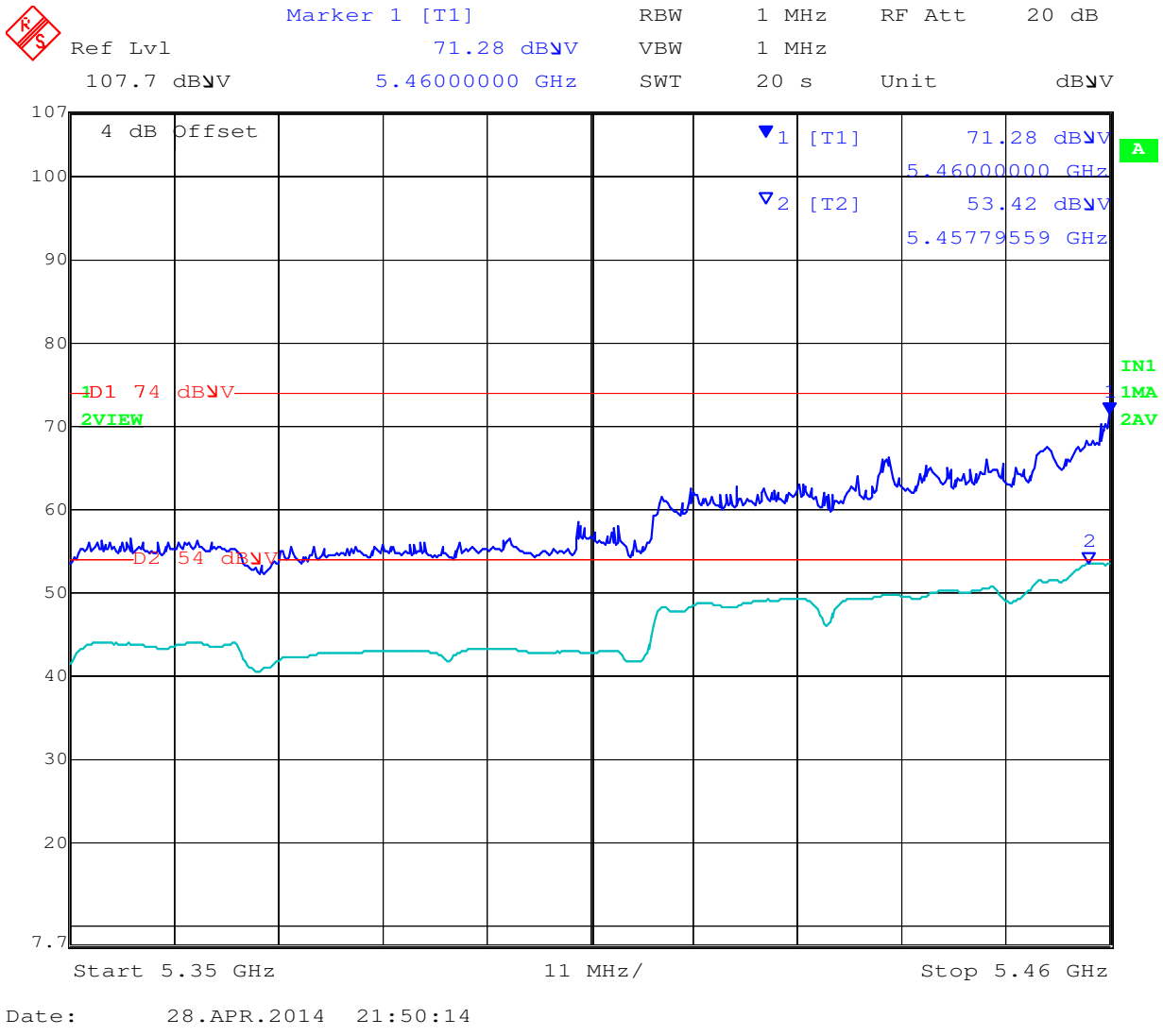
802.11a Channel 5500 MHz



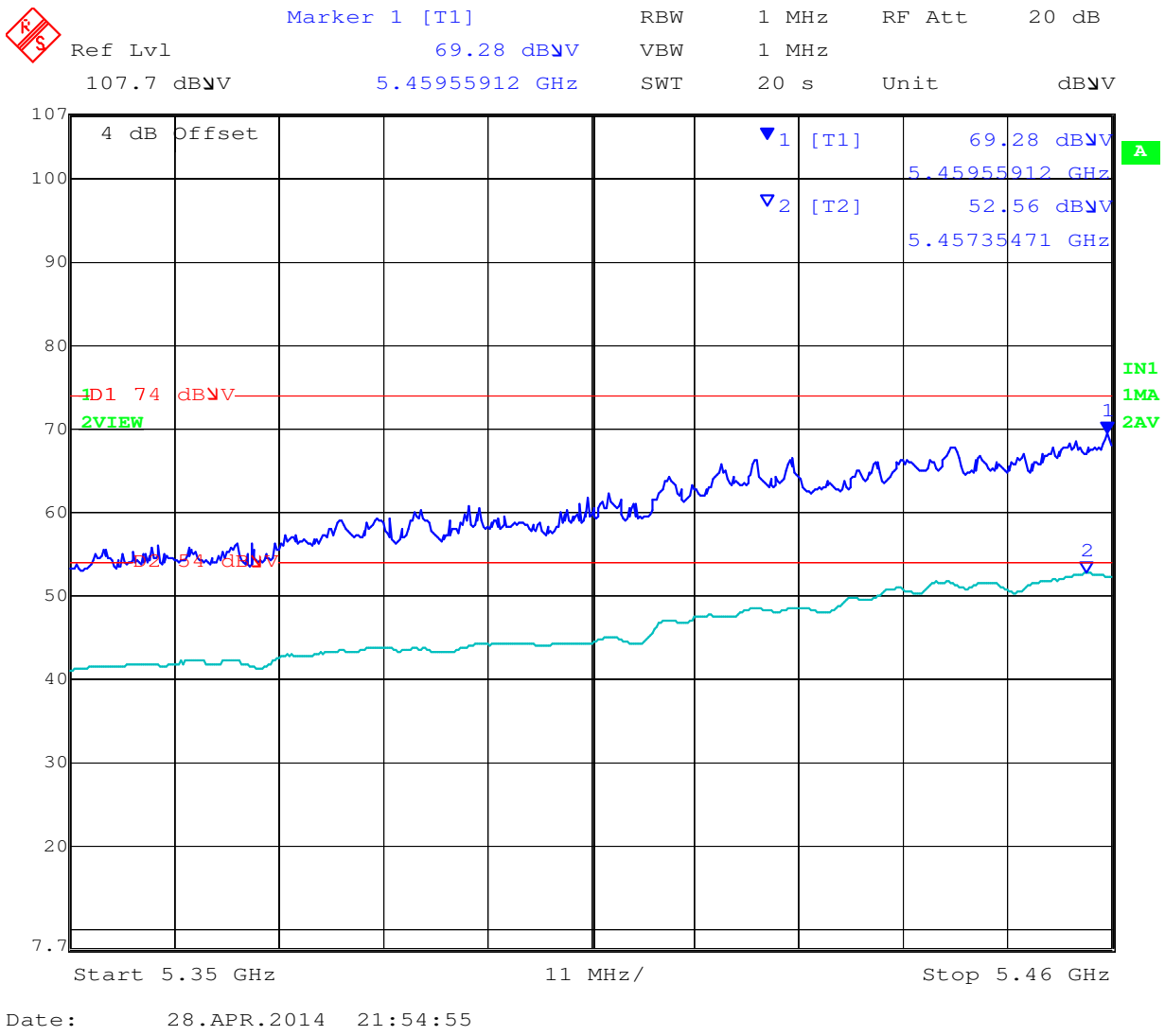
802.11n HT-20 Channel 5500 MHz



802.11n HT-40 Channel 5510 MHz



802.11ac-80 Channel 5530 MHz



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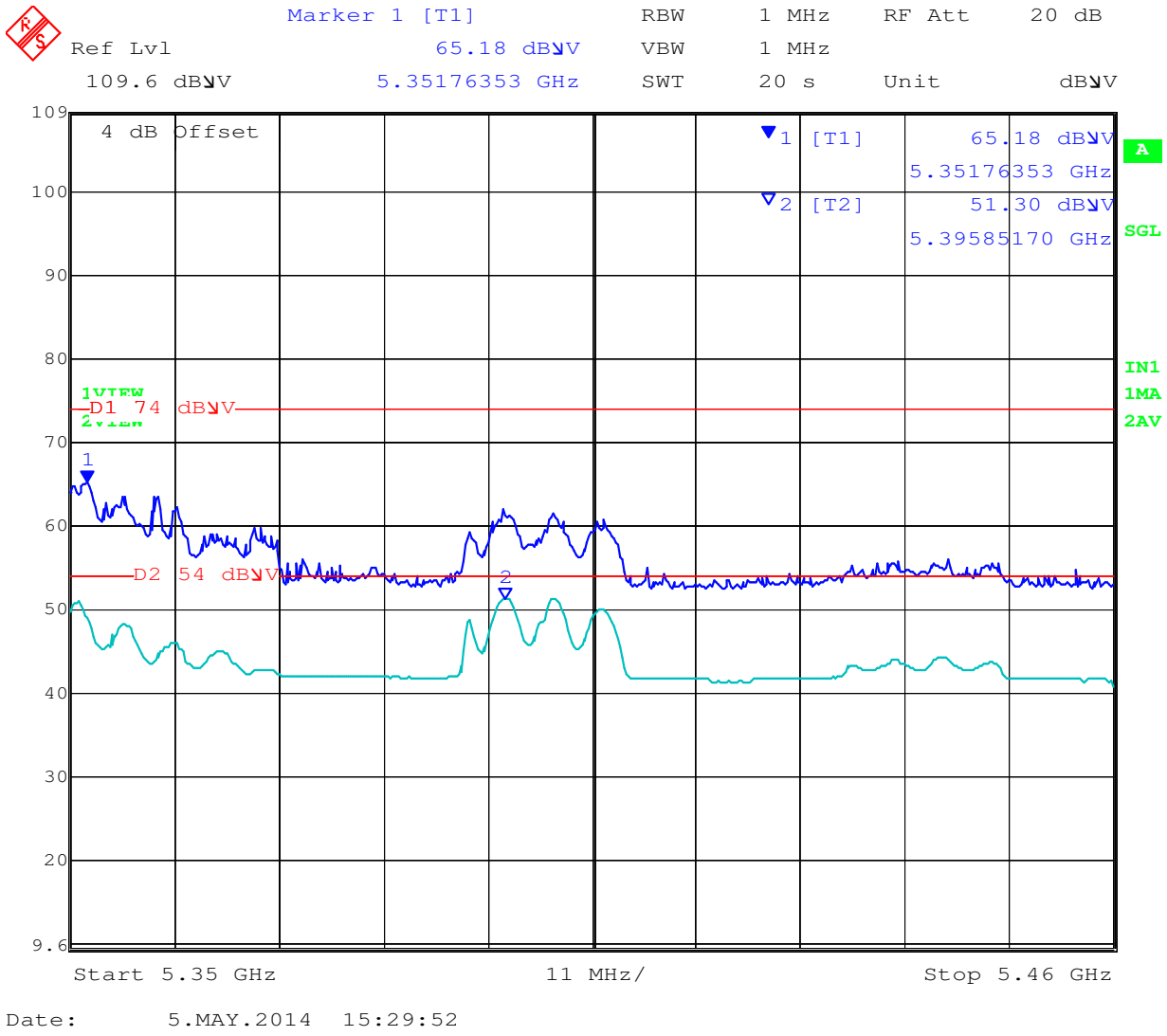
6.1.2.10. ANT16 - Radiated Band-Edge

Peak Limit 74.0 dBµV, Average Limit 54.0 dBµV

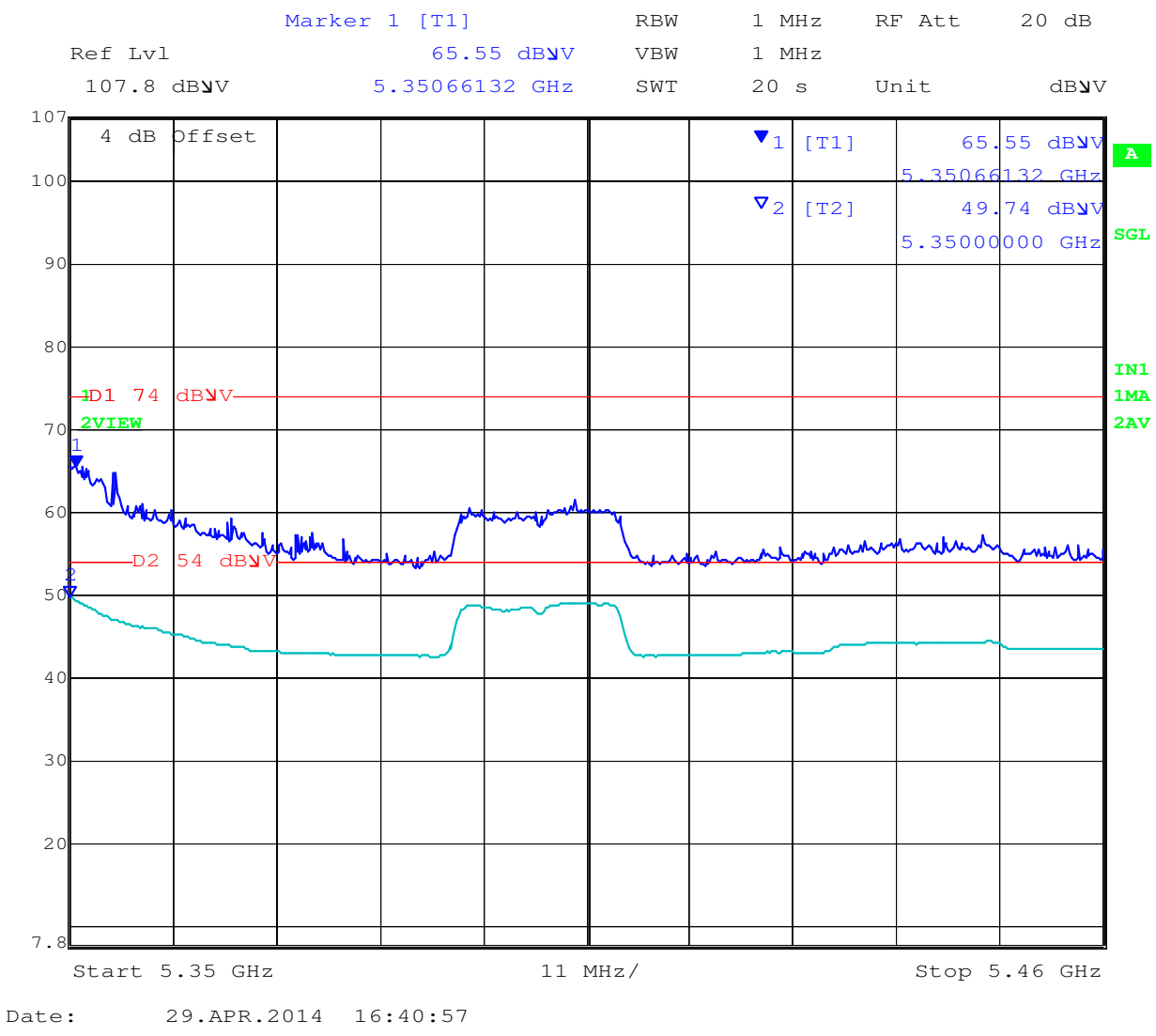
		5350 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency (MHz)	Peak	Average	
a	**5320.0**	61.18	51.30	18
n HT-20	**5320.0**	65.55	49.74	18
n HT-40	**5310.0**	70.74	52.32	15
ac-80	**5290.0**	71.97	53.30	15

		5470 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency	Peak	Average	
a	**5500.0**	62.85	51.42	18
n HT-20	**5500.0**	61.08	49.20	19
n HT-40	**5510.0**	72.14	53.89	19
ac-80	**5530.0**	68.01	51.70	16

802.11a Channel 5320 MHz



802.11n HT-20 Channel 5320 MHz



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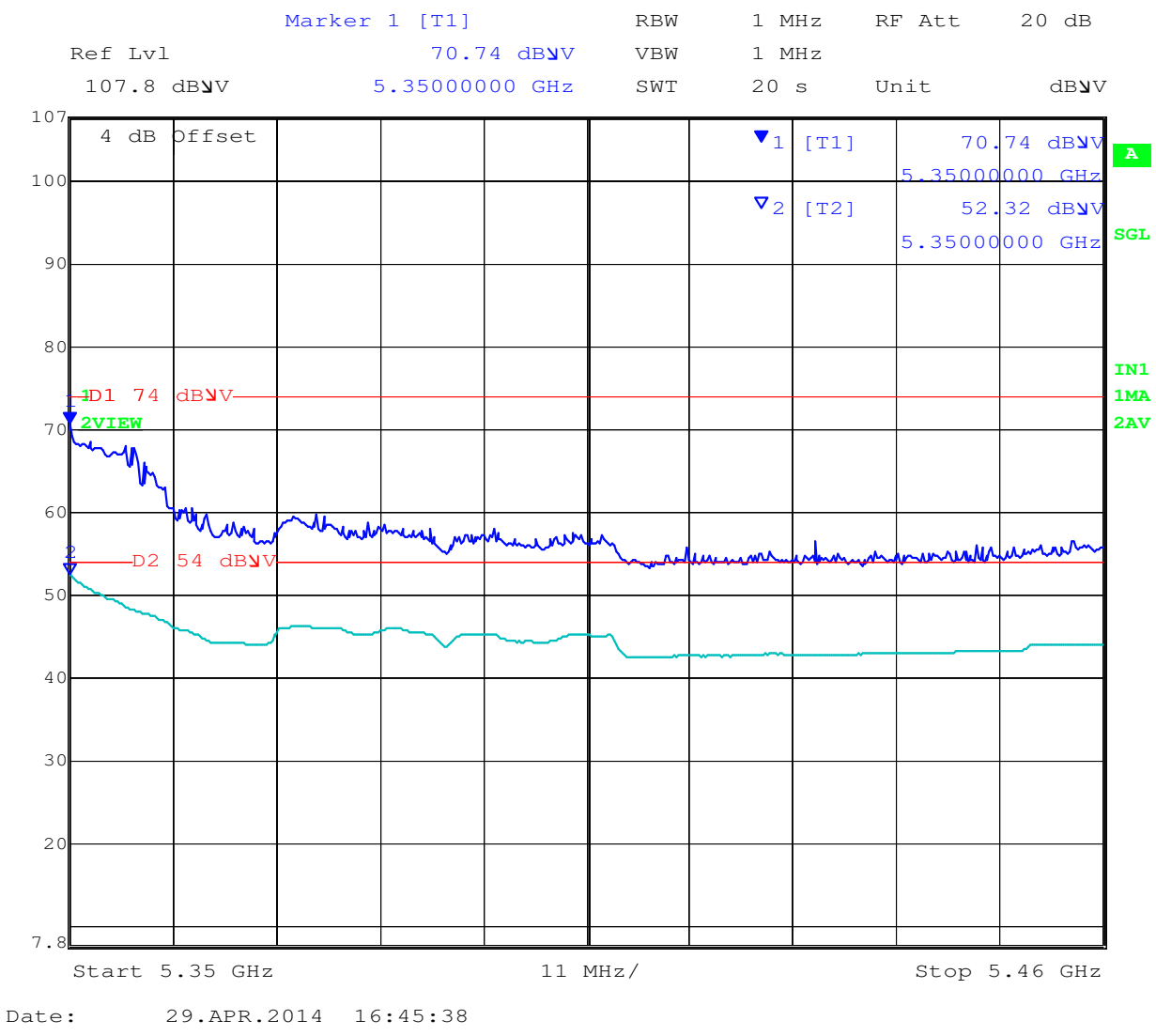
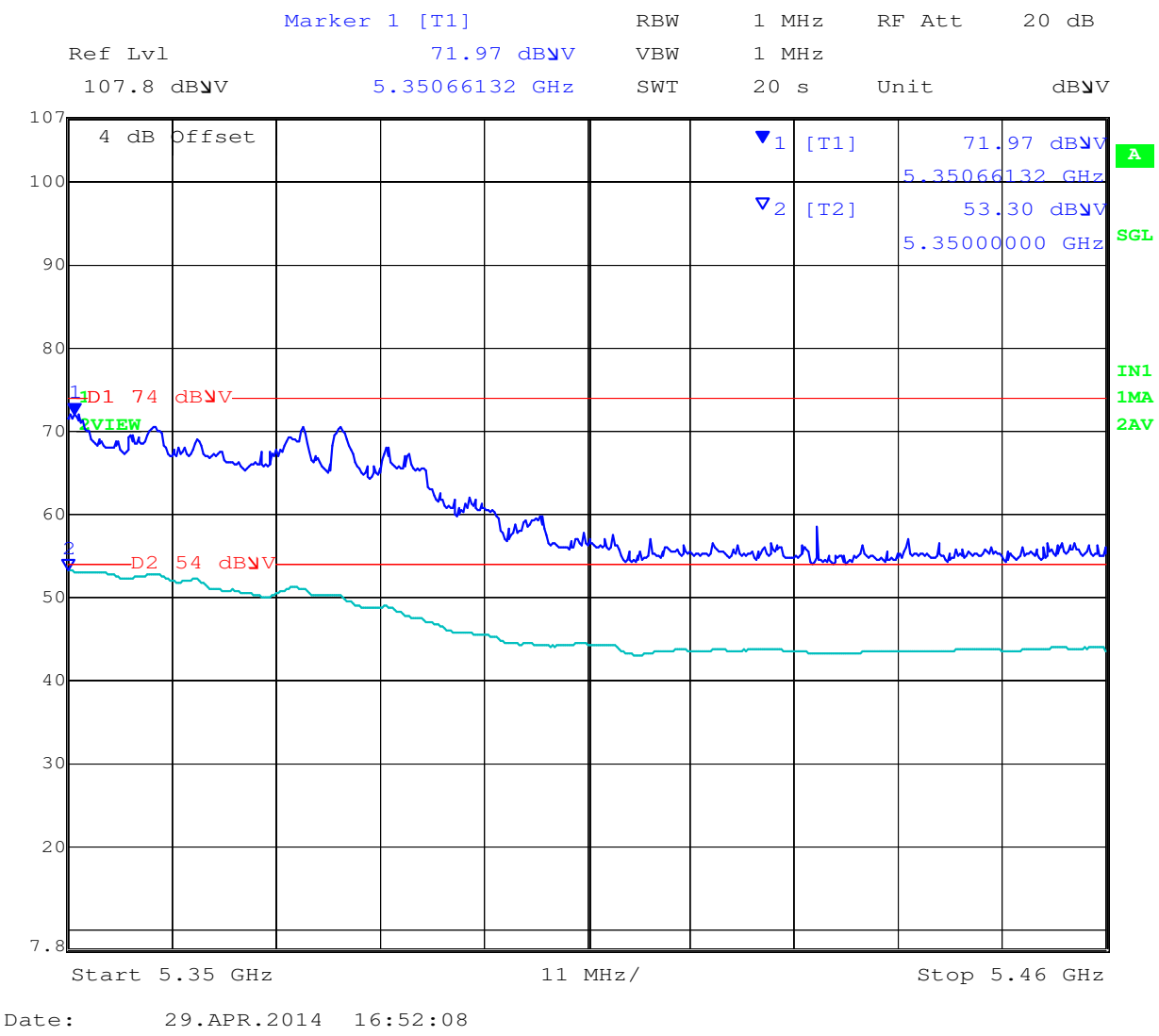
802.11n HT-40 Channel 5310 MHz



802.11ac-80 Channel 5290 MHz



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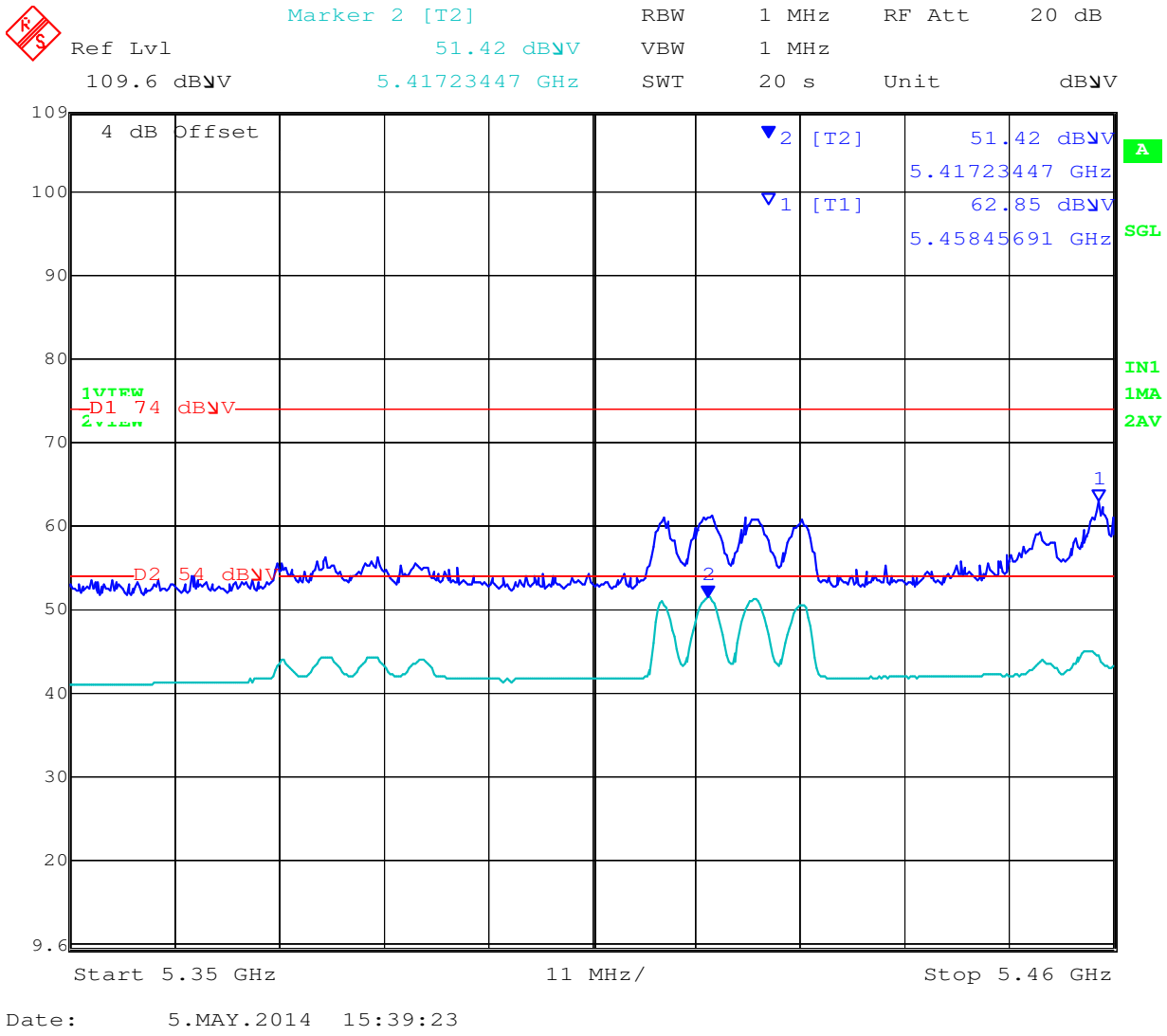
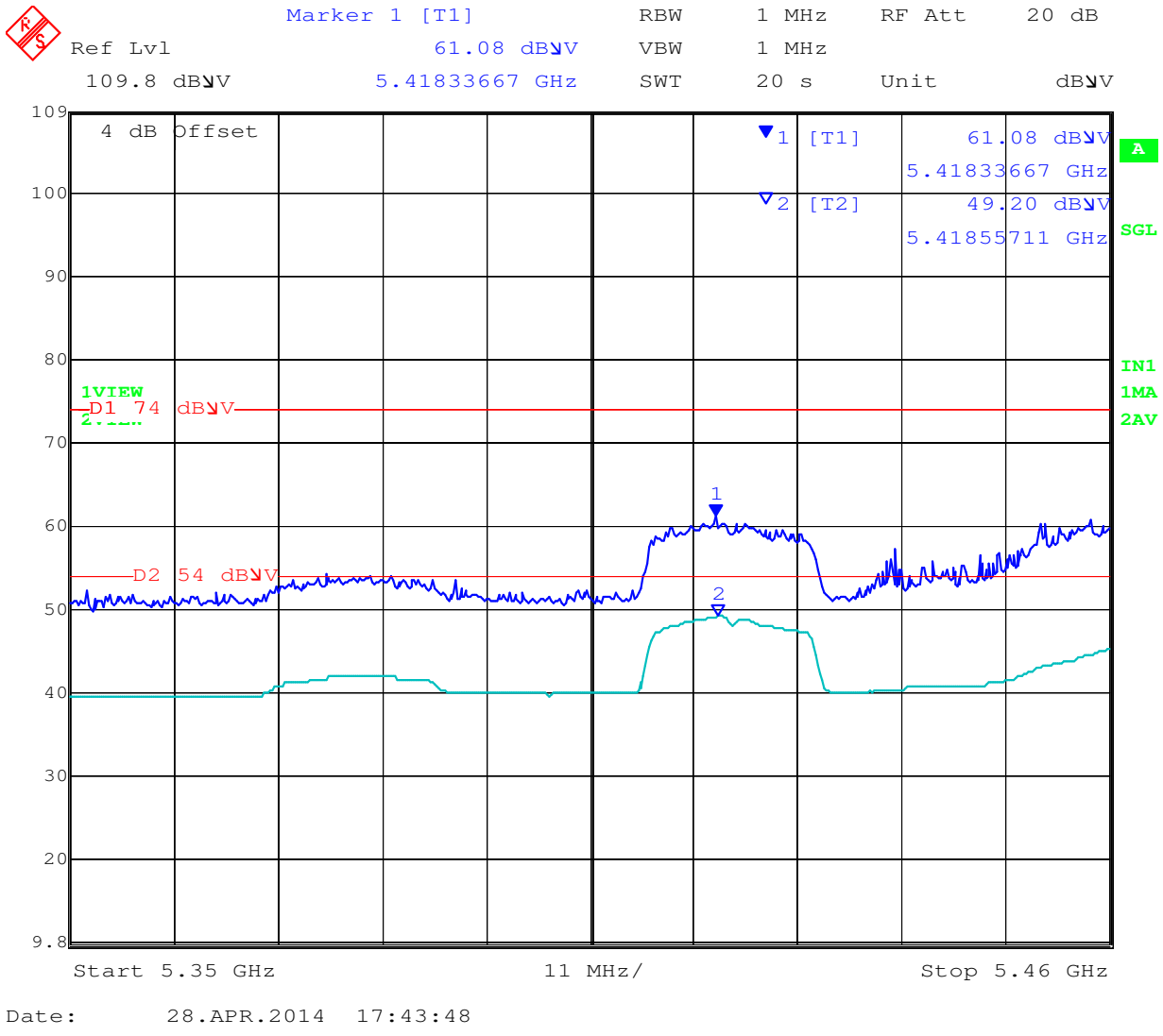
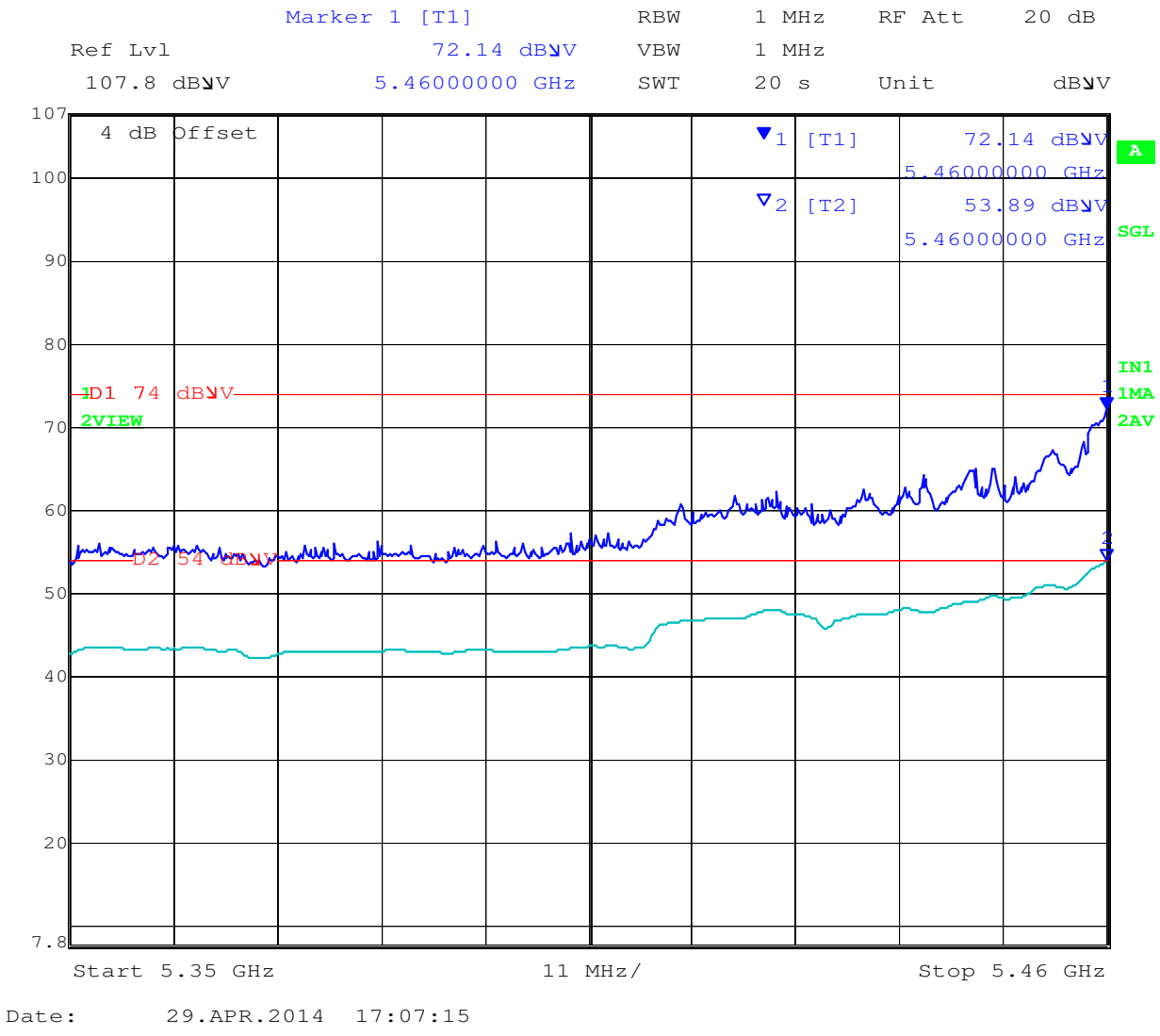
802.11a Channel 5500 MHz



802.11n HT-20 Channel 5500 MHz



802.11n HT-40 Channel 5510 MHz



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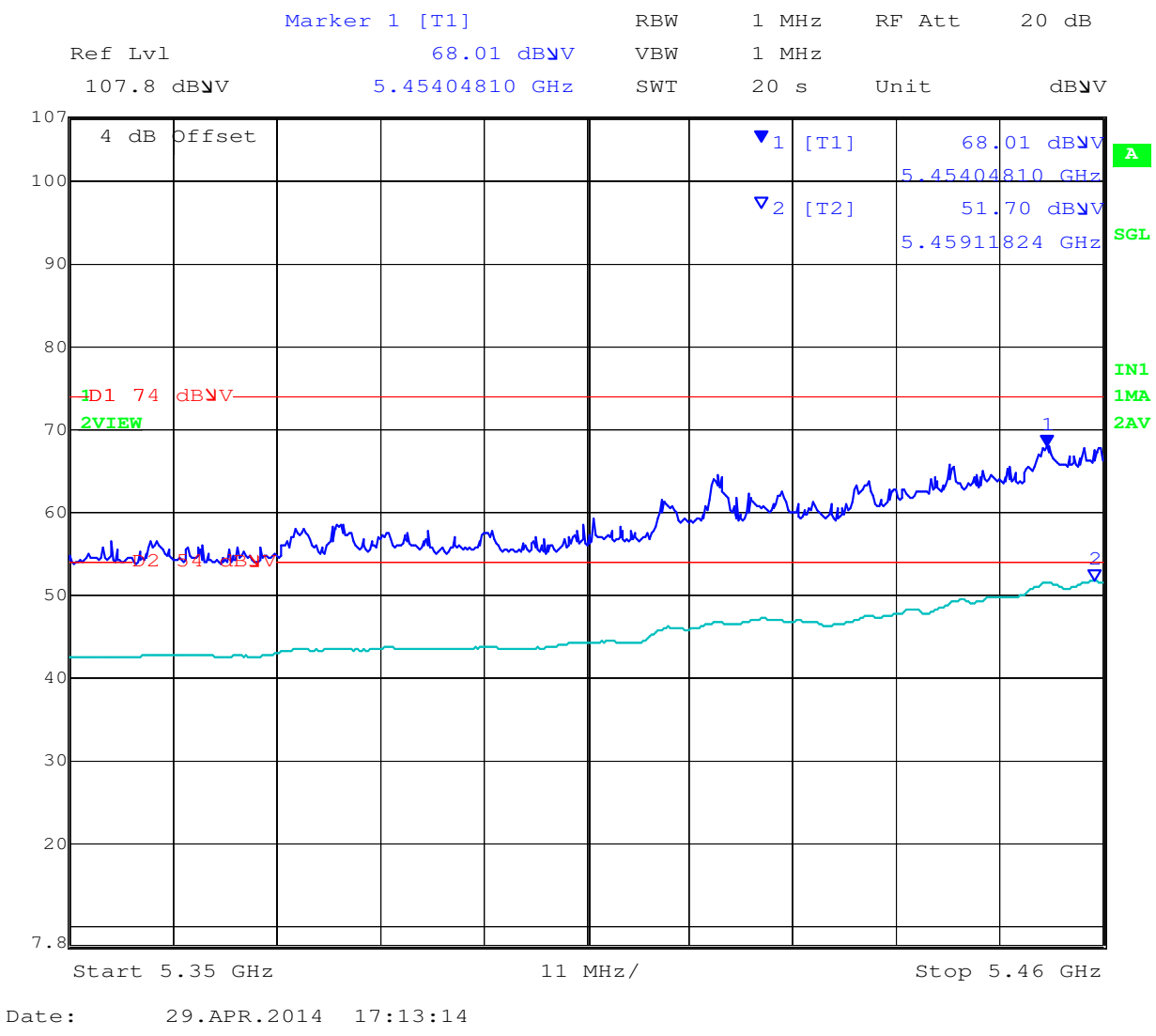
802.11ac-80 Channel 5530 MHz



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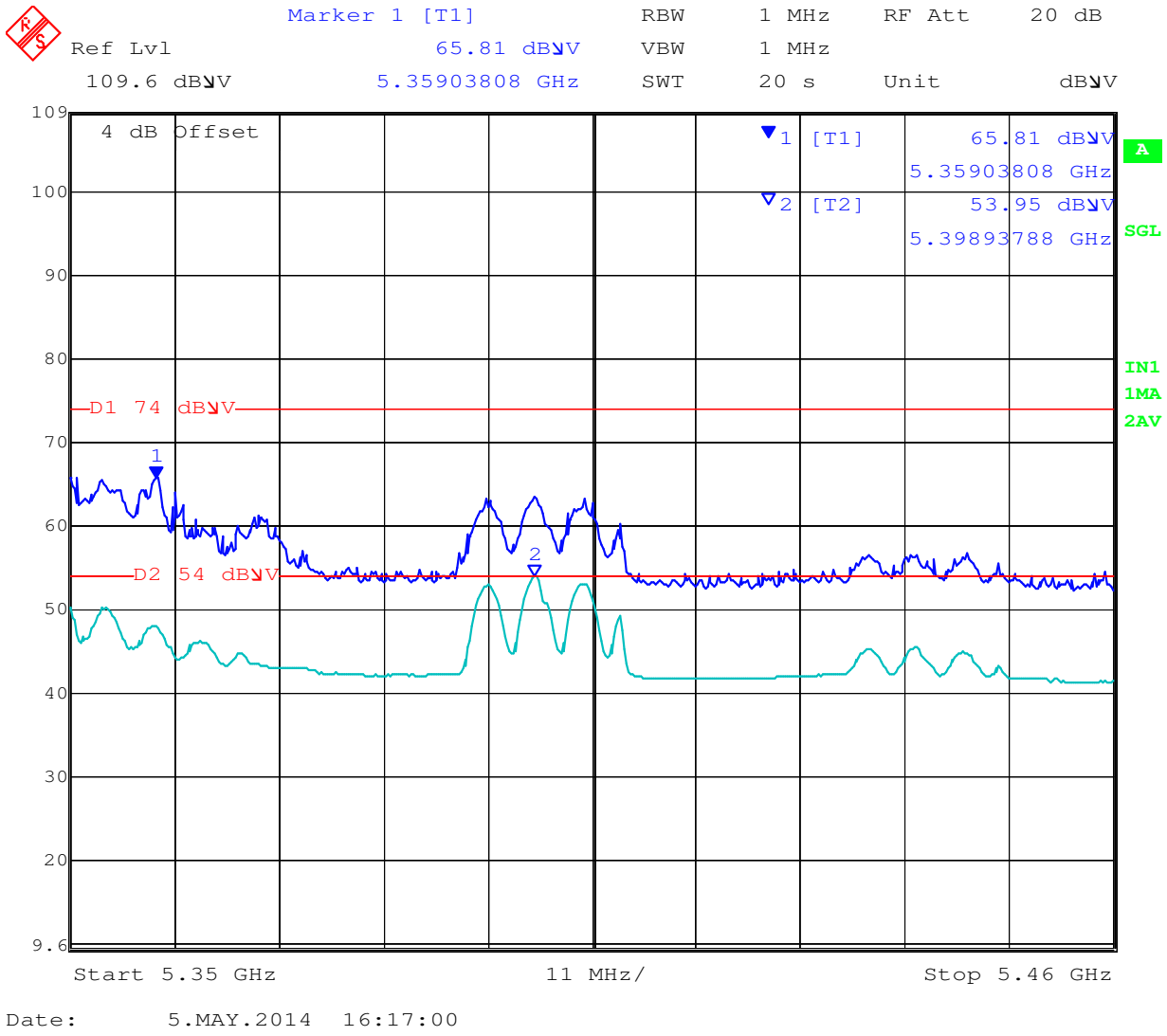
6.1.2.11. ANT18 - Radiated Band-Edge

Peak Limit 74.0 dBµV, Average Limit 54.0 dBµV

		5350 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency (MHz)	Peak	Average	
a	5320.0	65.81	53.95	18
n HT-20	5320.0	67.39	51.62	15
n HT-40	5310.0	70.05	50.88	16
ac-80	5290.0	70.36	52.92	15

		5470 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency	Peak	Average	
a	5500.0	63.95	53.50	18
n HT-20	5500.0	60.64	47.10	18
n HT-40	5510.0	69.94	52.92	16
ac-80	5530.0	67.38	51.38	16

802.11a Channel 5320 MHz



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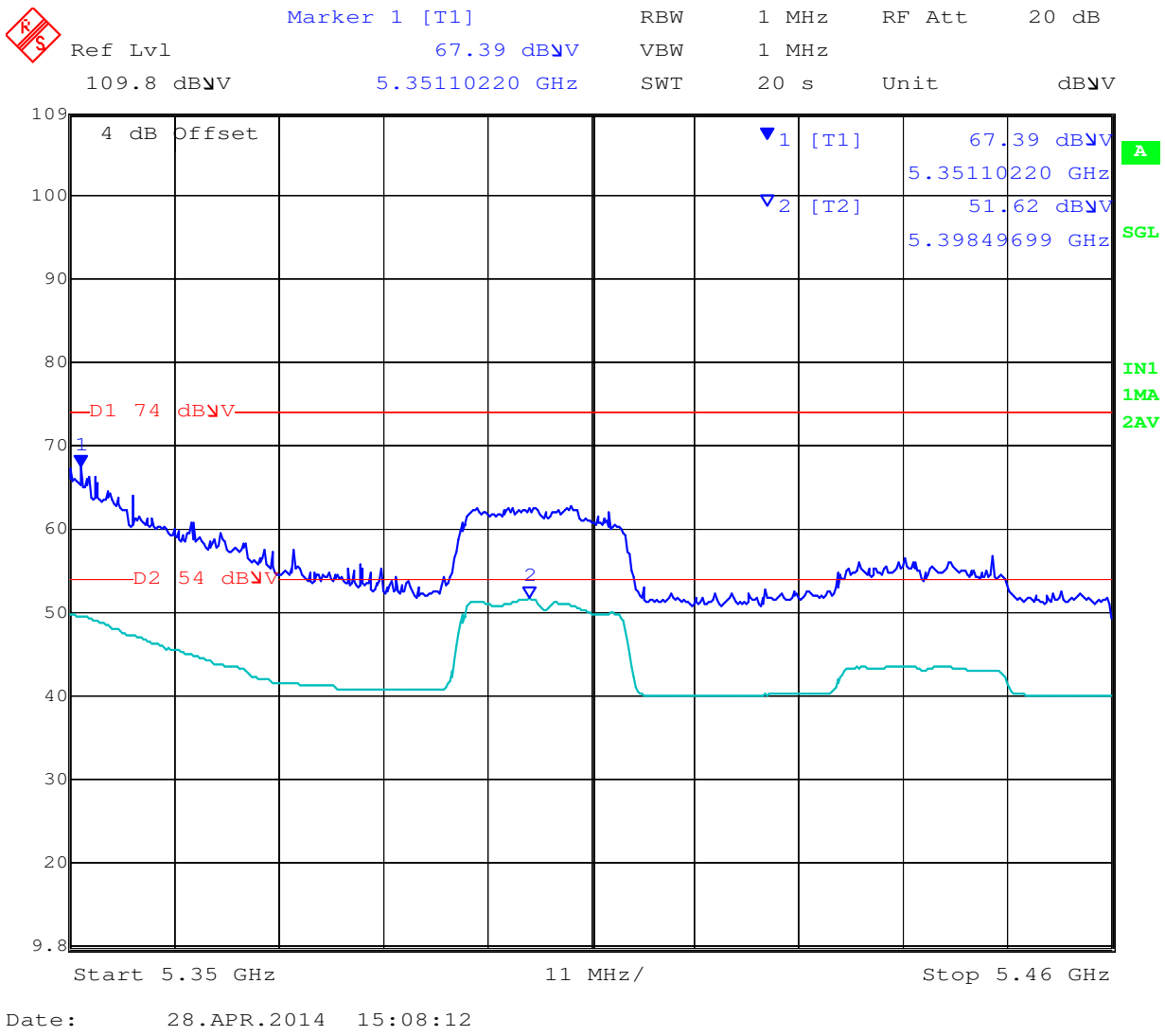
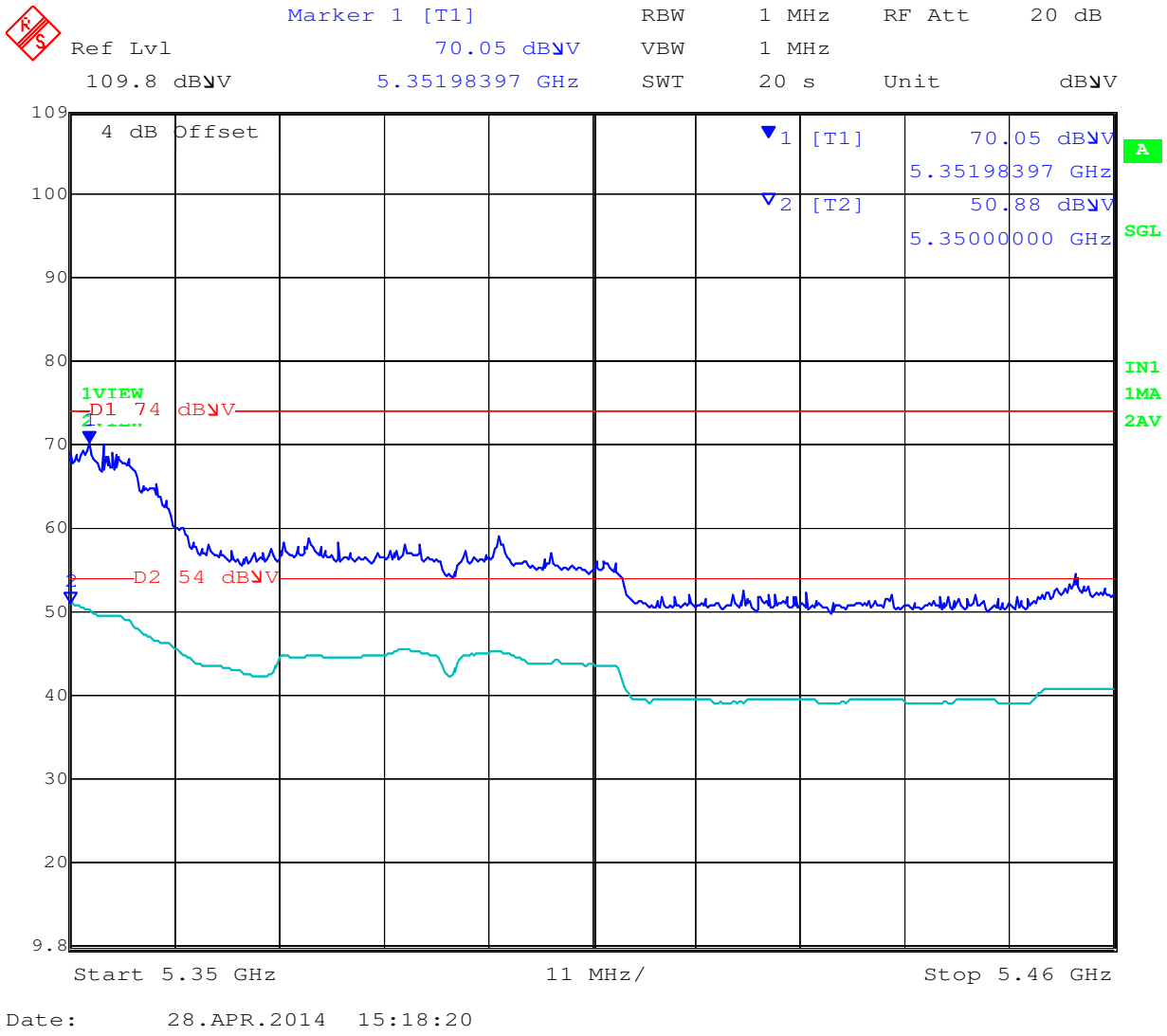
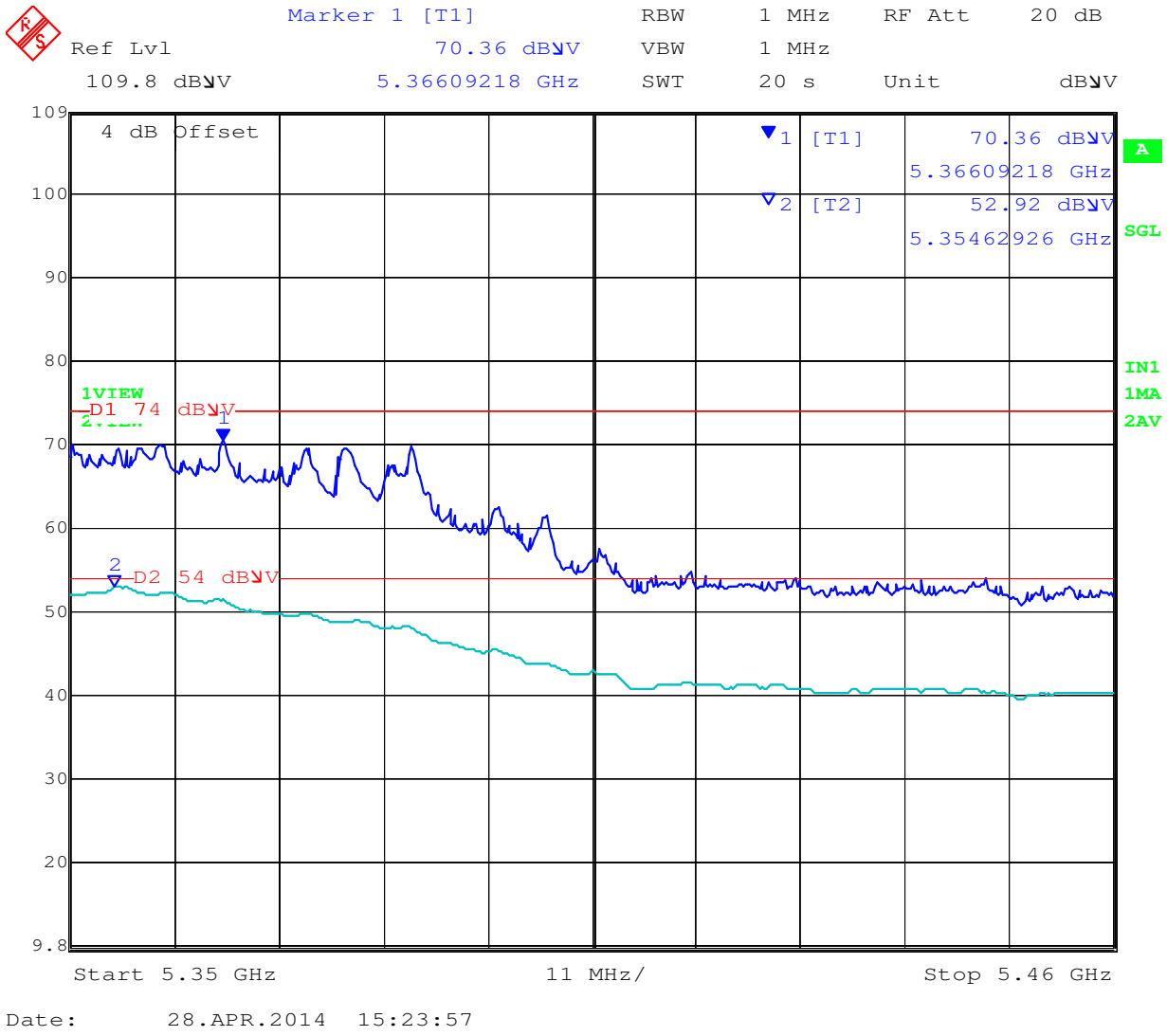
802.11n HT-20 Channel 5320 MHz



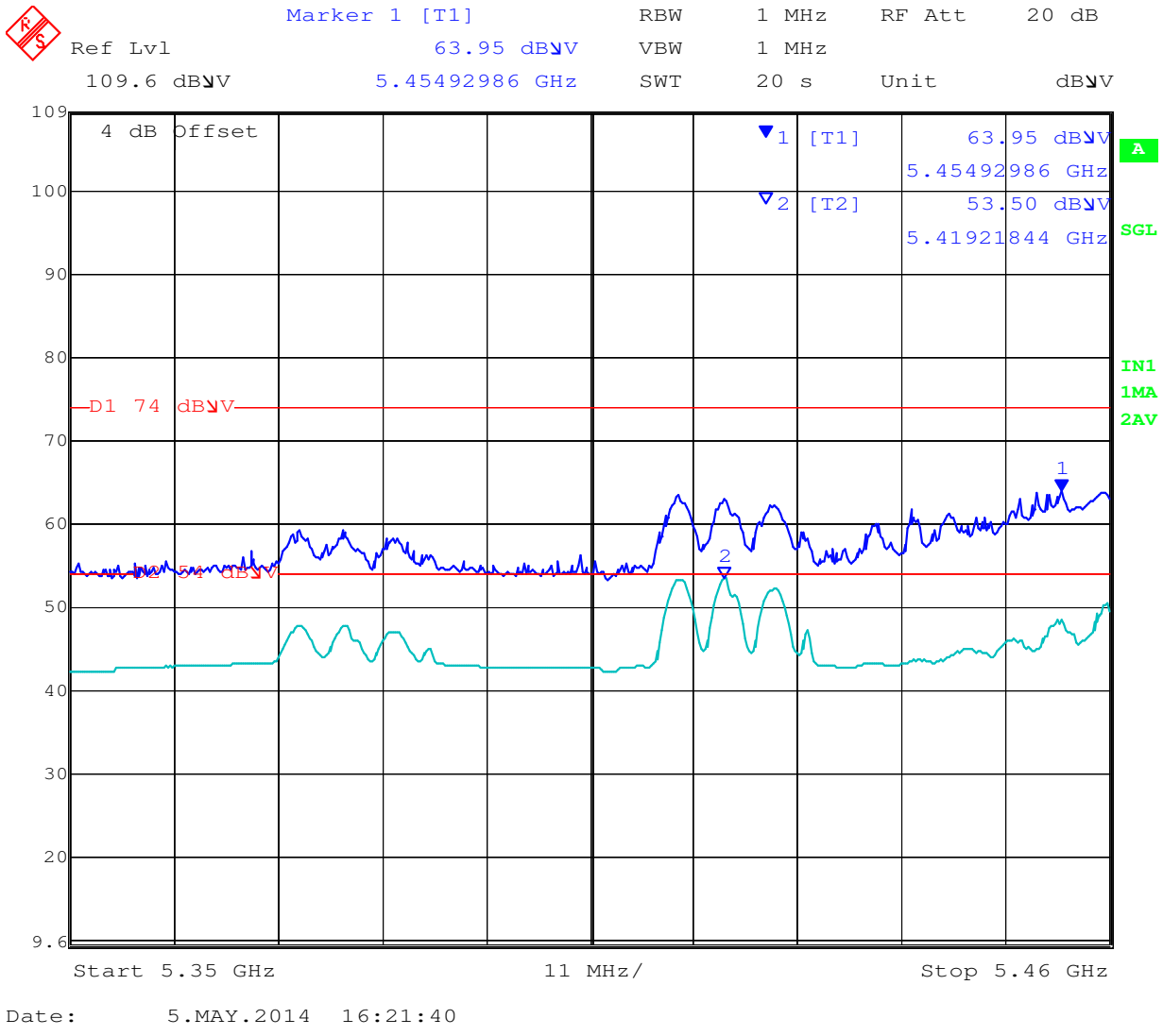
802.11n HT-40 Channel 5310 MHz



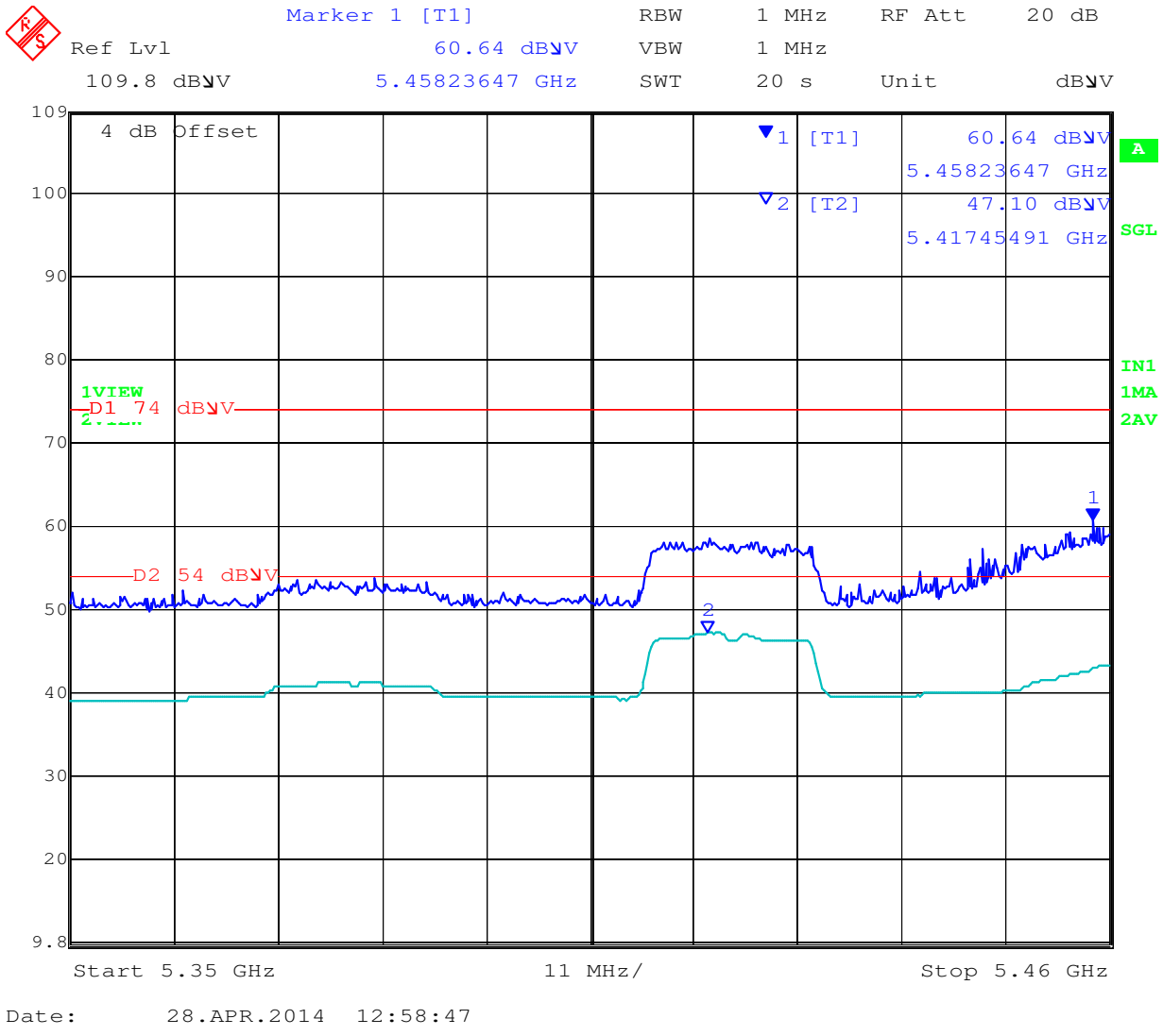
802.11ac-80 Channel 5290 MHz



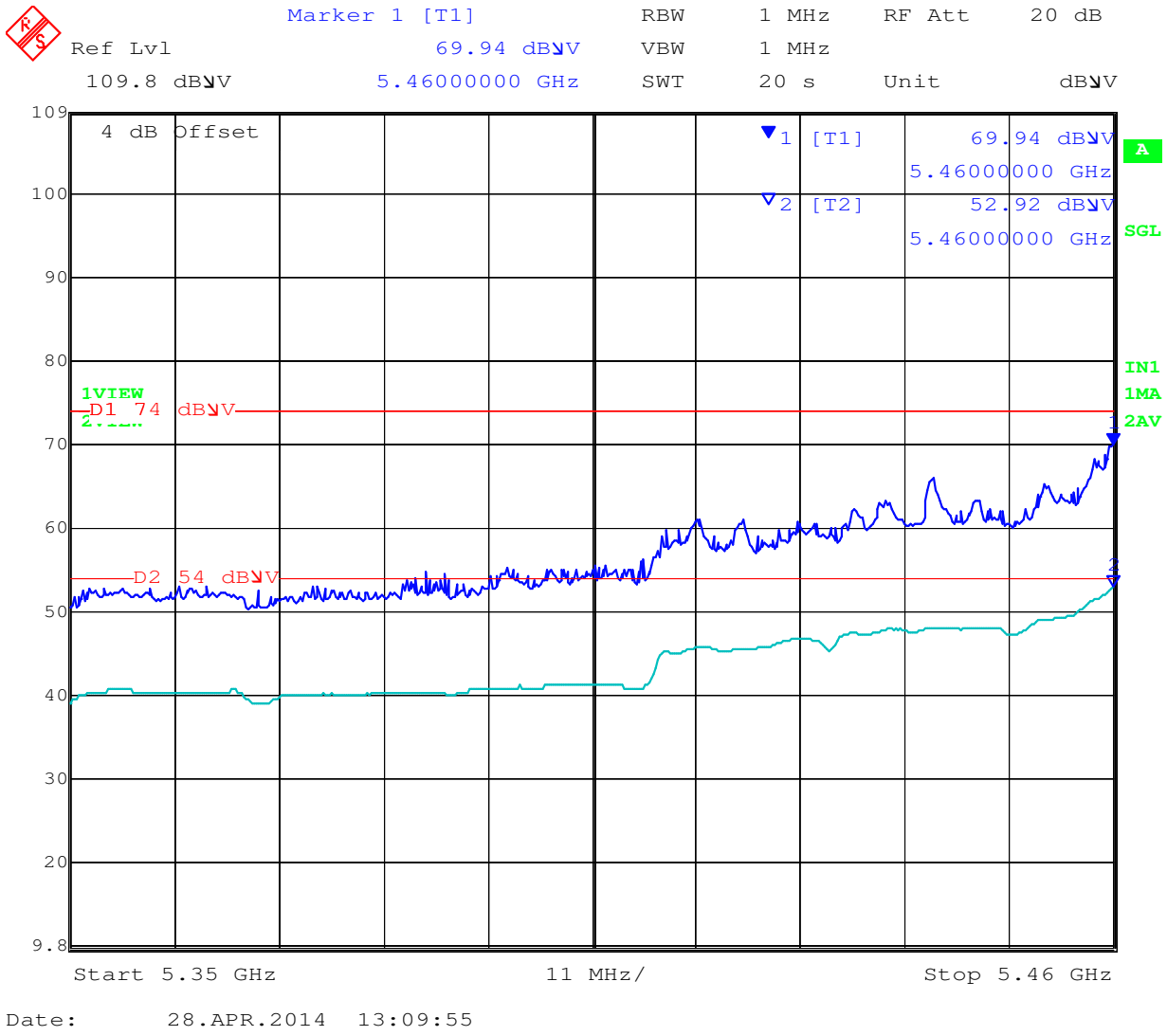
802.11a Channel 5500 MHz



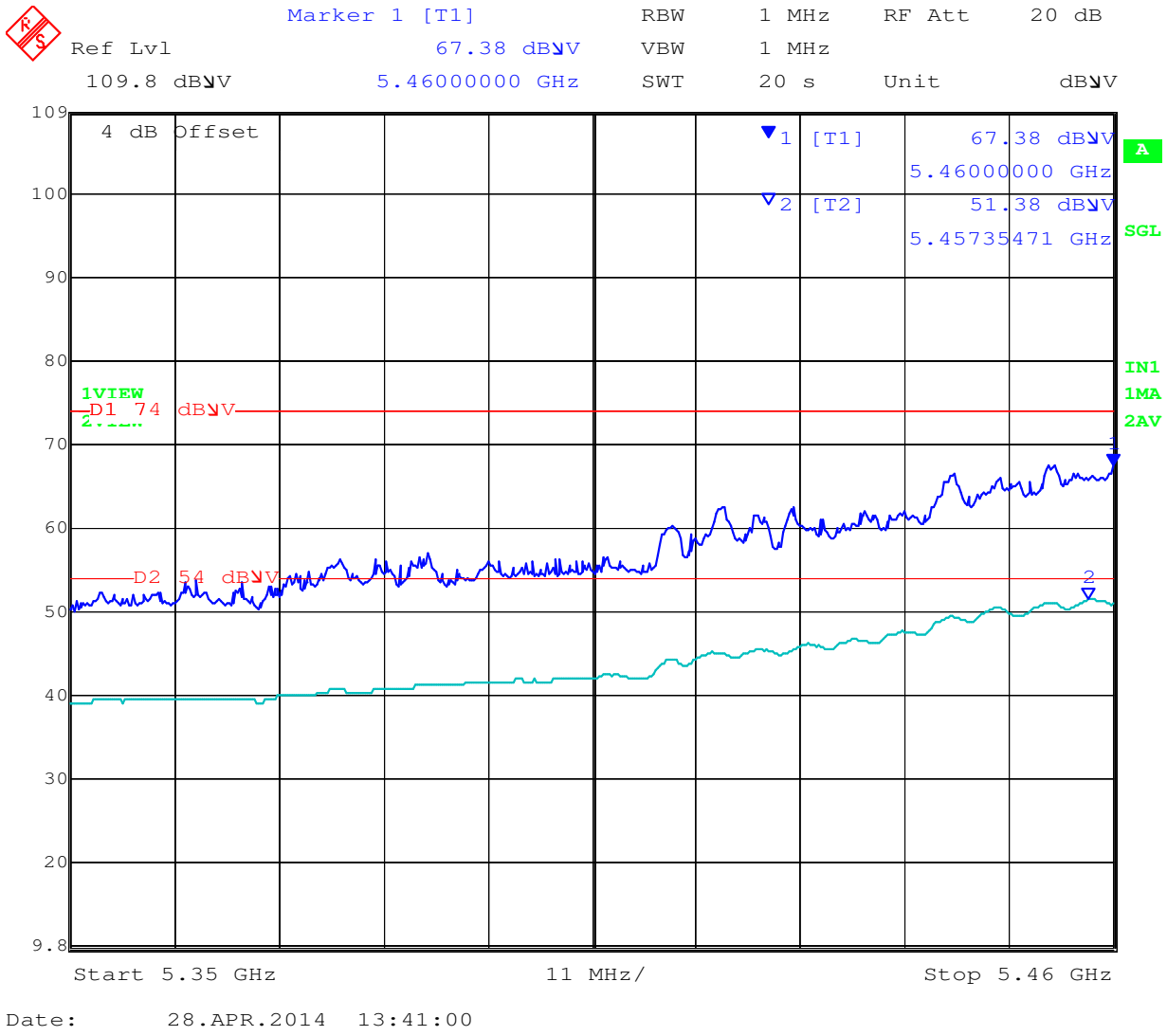
802.11n HT-20 Channel 5500 MHz



802.11n HT-40 Channel 5510 MHz



802.11ac-80 Channel 5530 MHz



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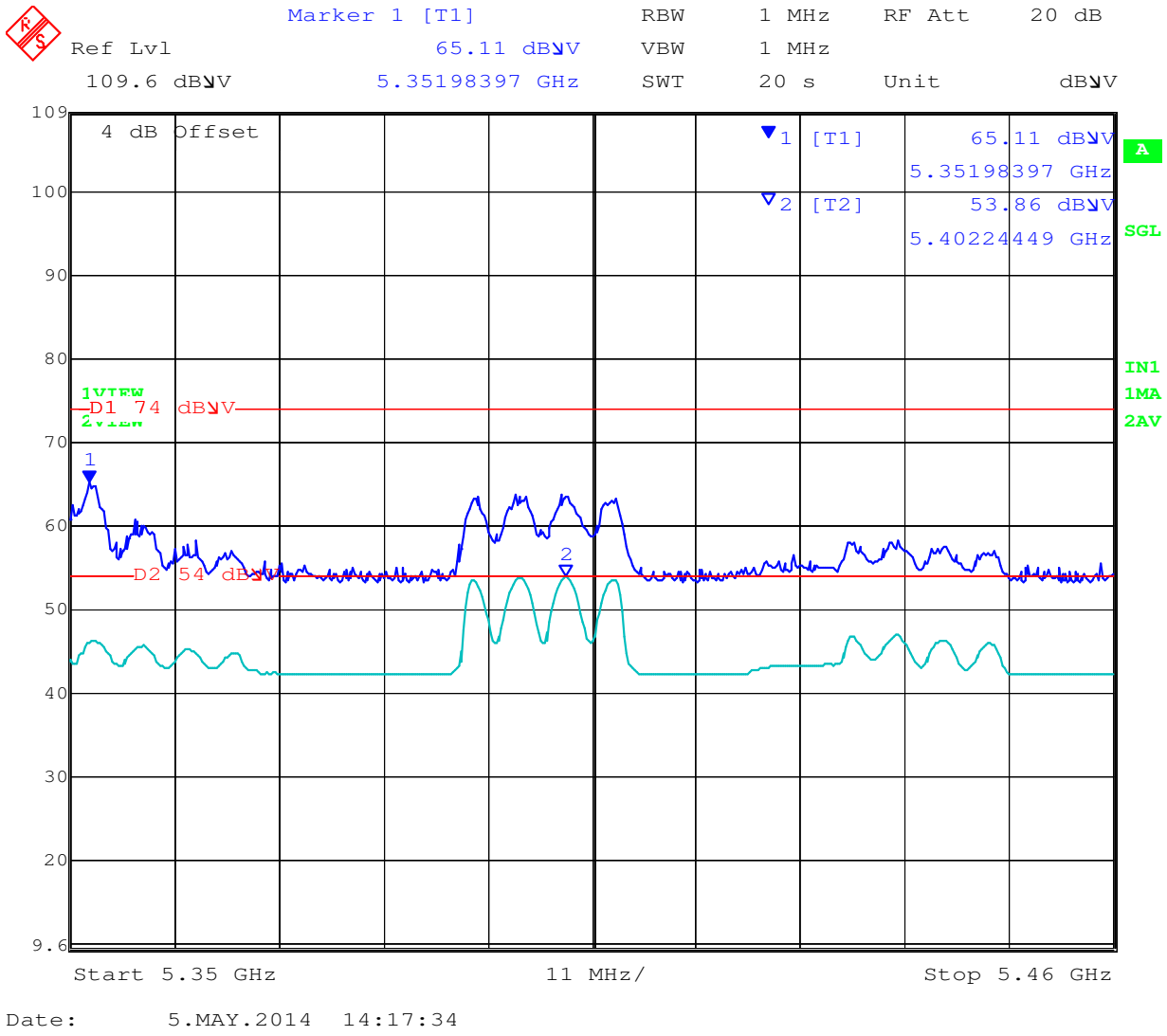
6.1.2.12. ANT19 - Radiated Band-Edge

Peak Limit 74.0 dBµV, Average Limit 54.0 dBµV

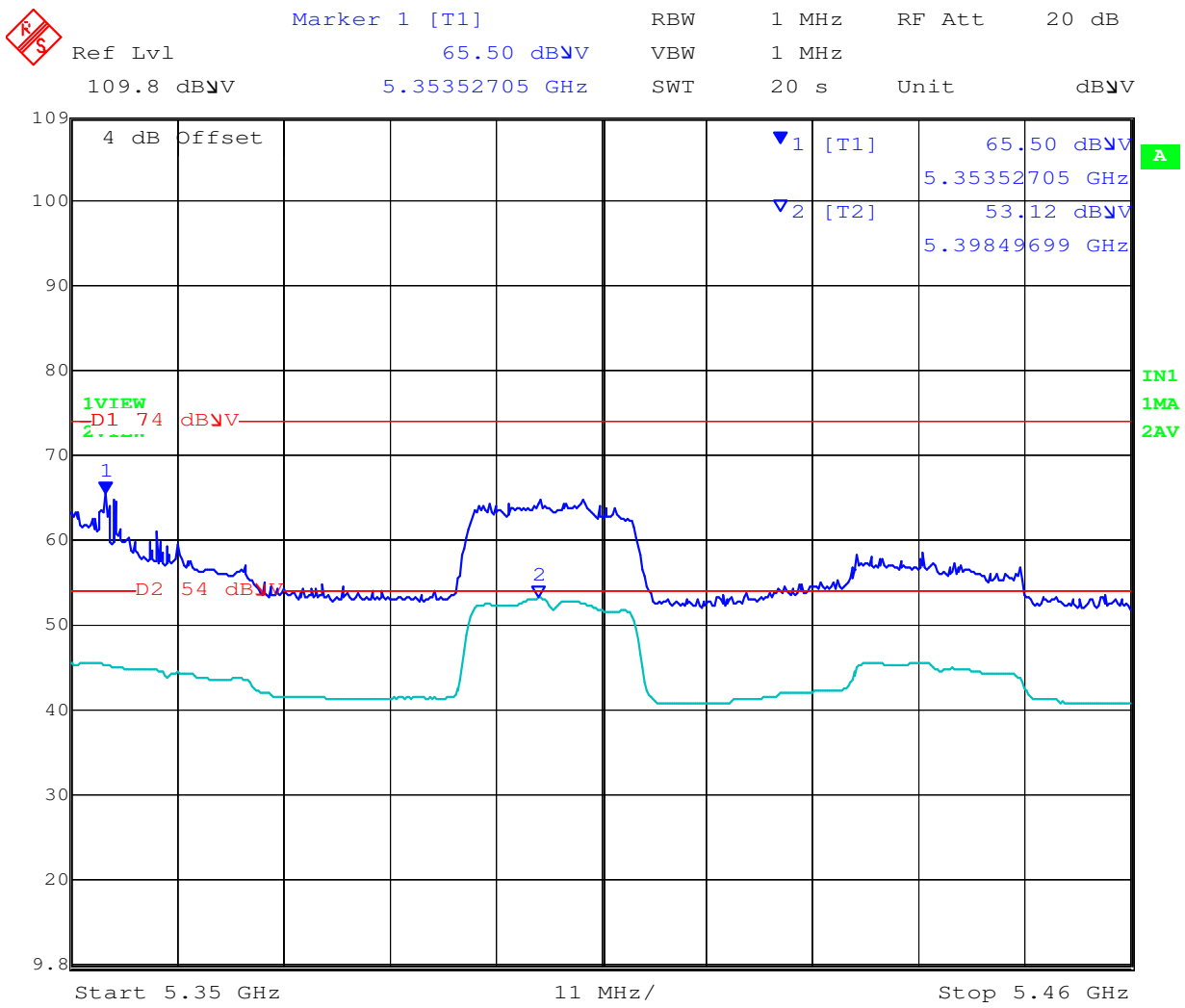
		5350 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency (MHz)	Peak	Average	
a	5320.0	65.11	53.86	14
n HT-20	5320.0	65.50	53.12	13
n HT-40	5310.0	72.17	52.30	13
ac-80	5290.0	70.45	51.62	12

		5470 MHz		
		dBµV		Power Setting
Operational Mode	Operating Frequency	Peak	Average	
a	5500.0	63.78	53.77	16
n HT-20	5500.0	65.09	53.32	15
n HT-40	5510.0	71.51	53.32	15
ac-80	5530.0	69.31	53.32	13

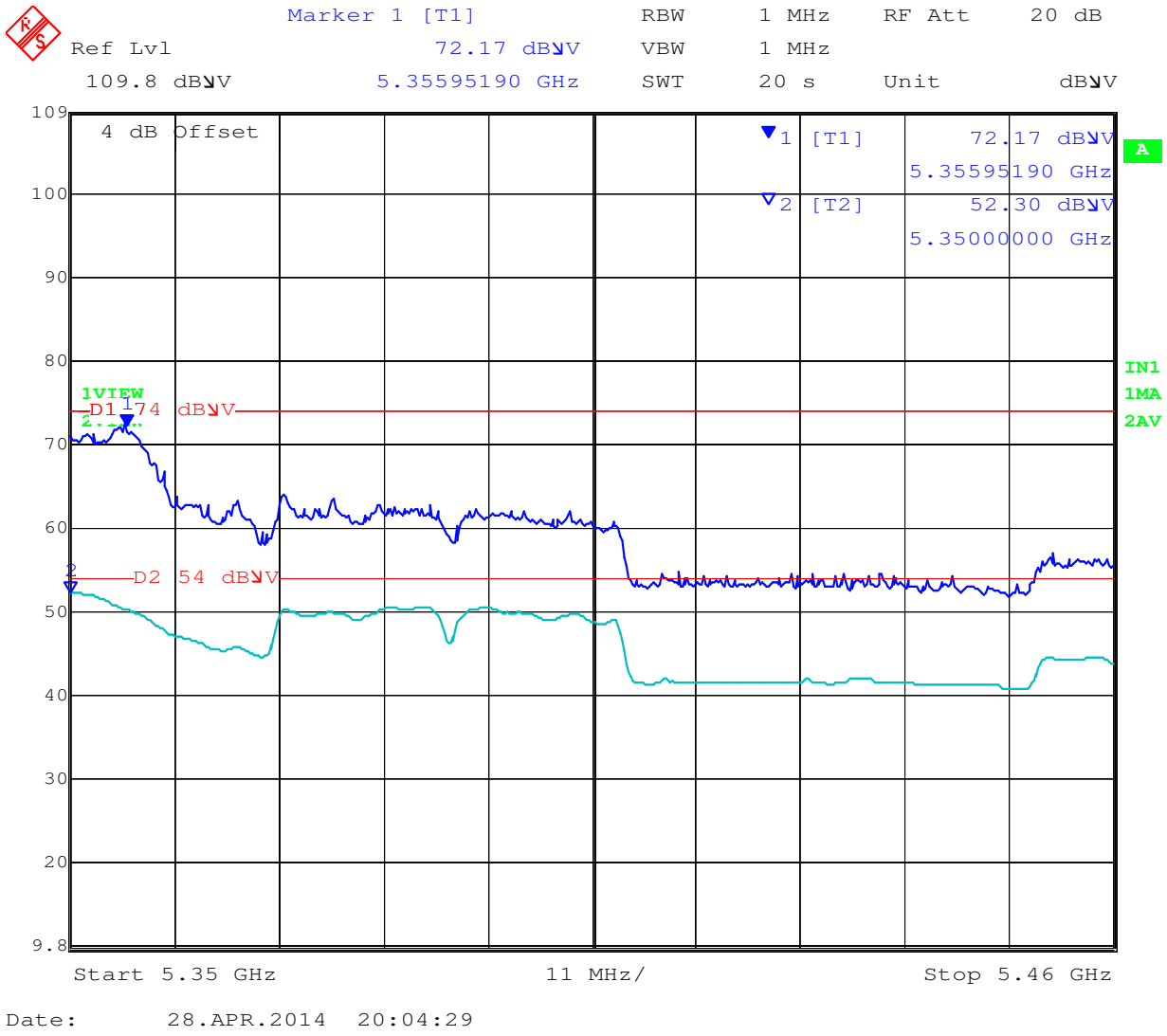
802.11a Channel 5320 MHz



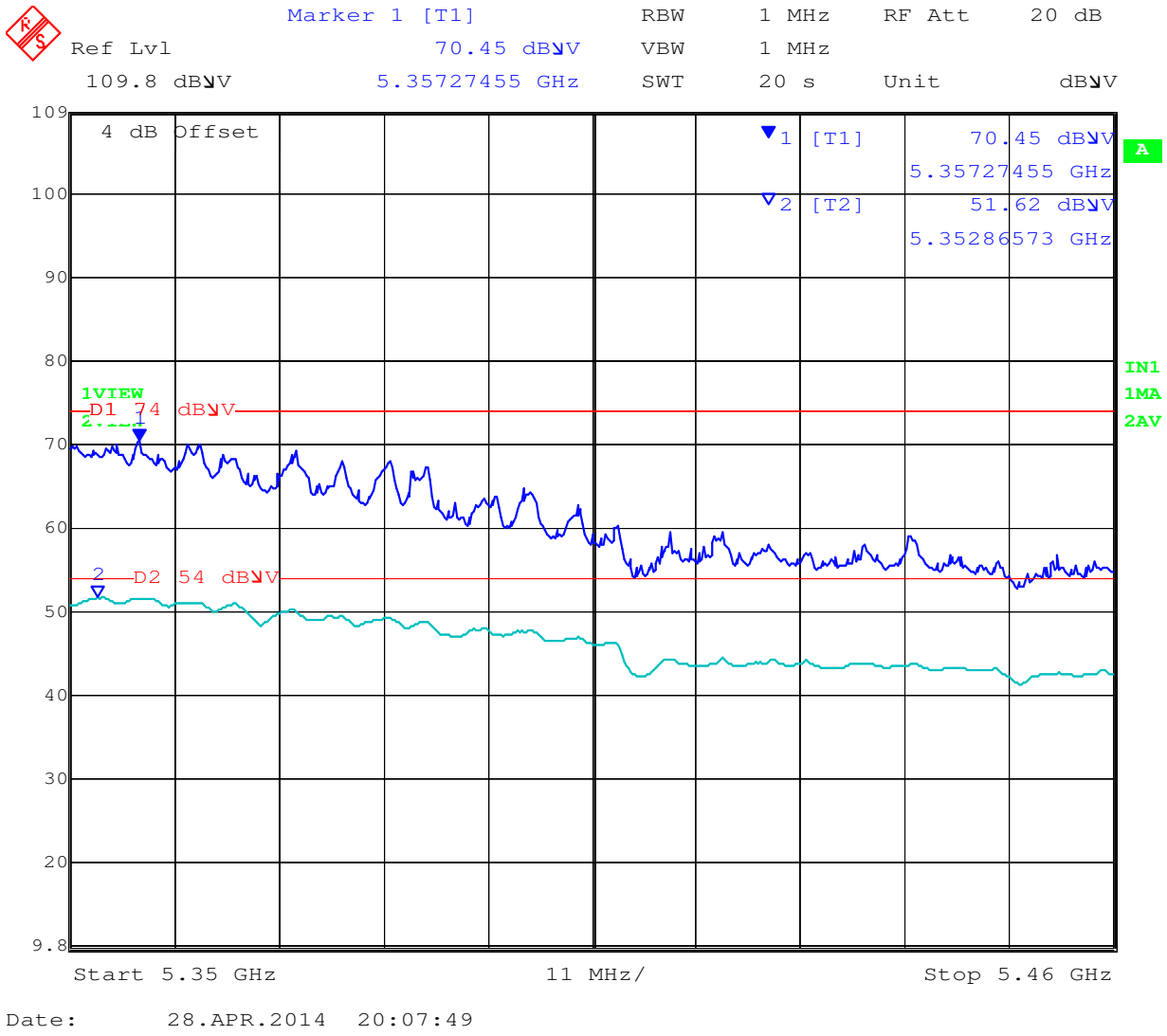
802.11n HT-20 Channel 5320 MHz



802.11n HT-40 Channel 5310 MHz



802.11ac-80 Channel 5290 MHz



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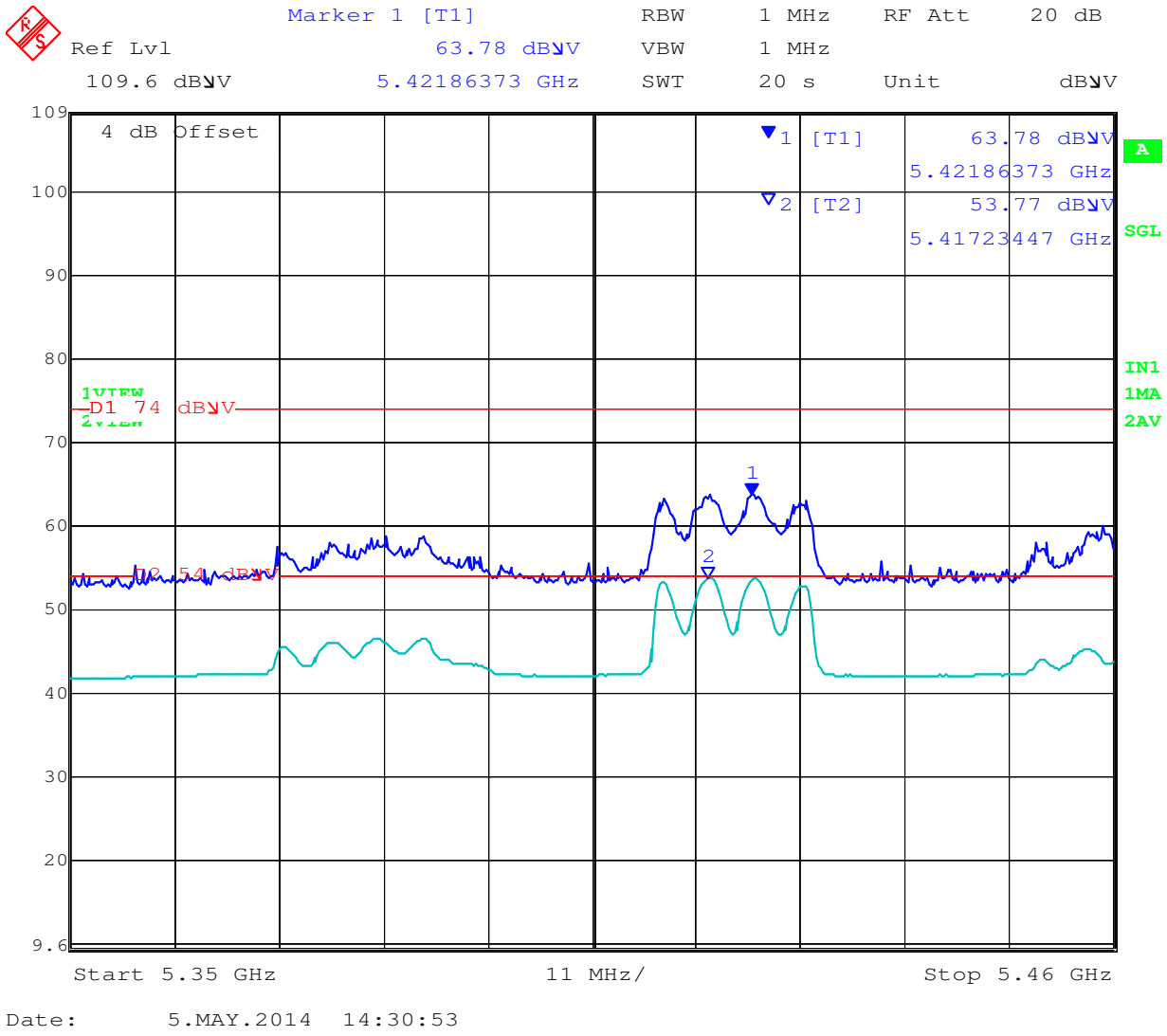
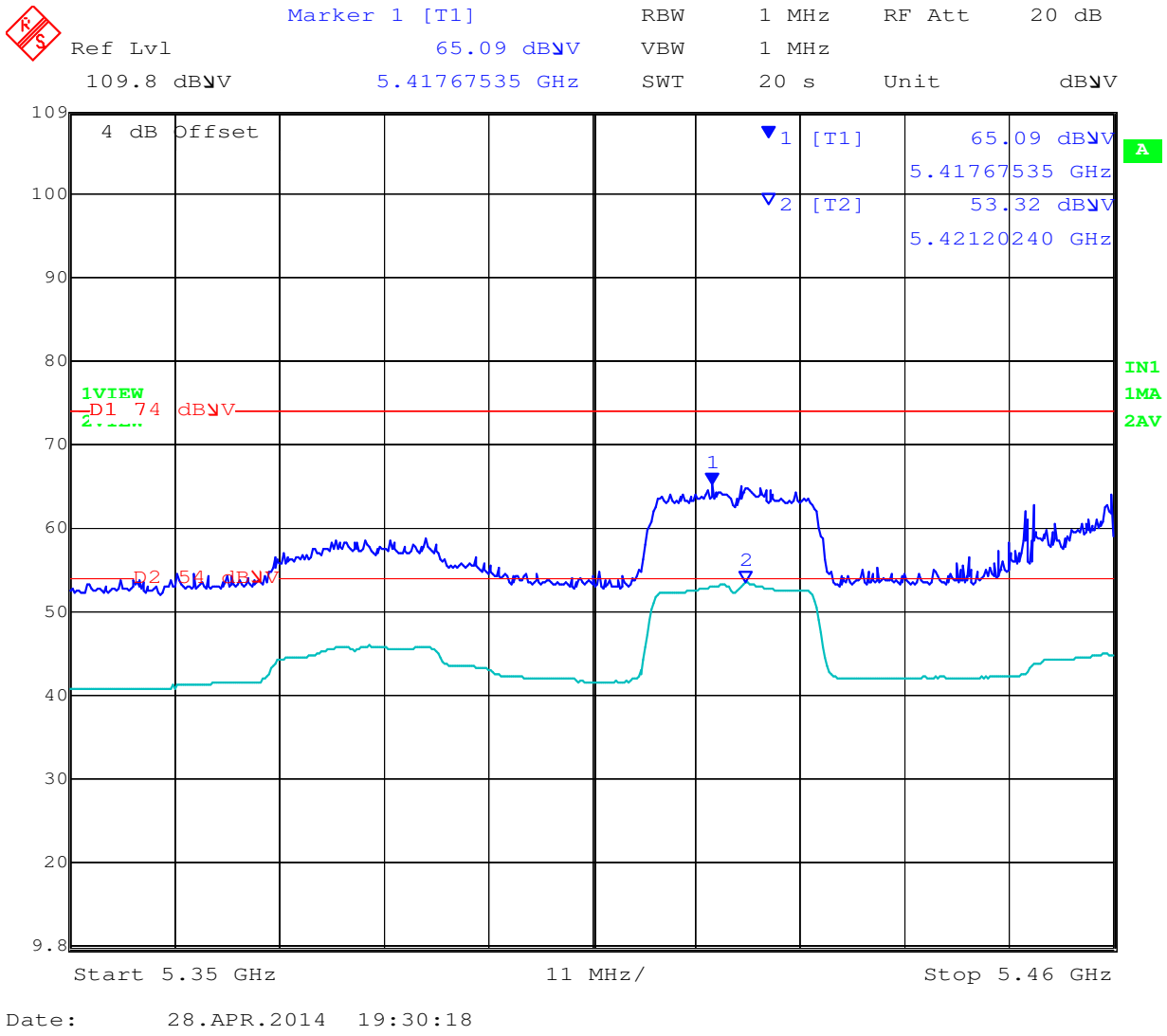
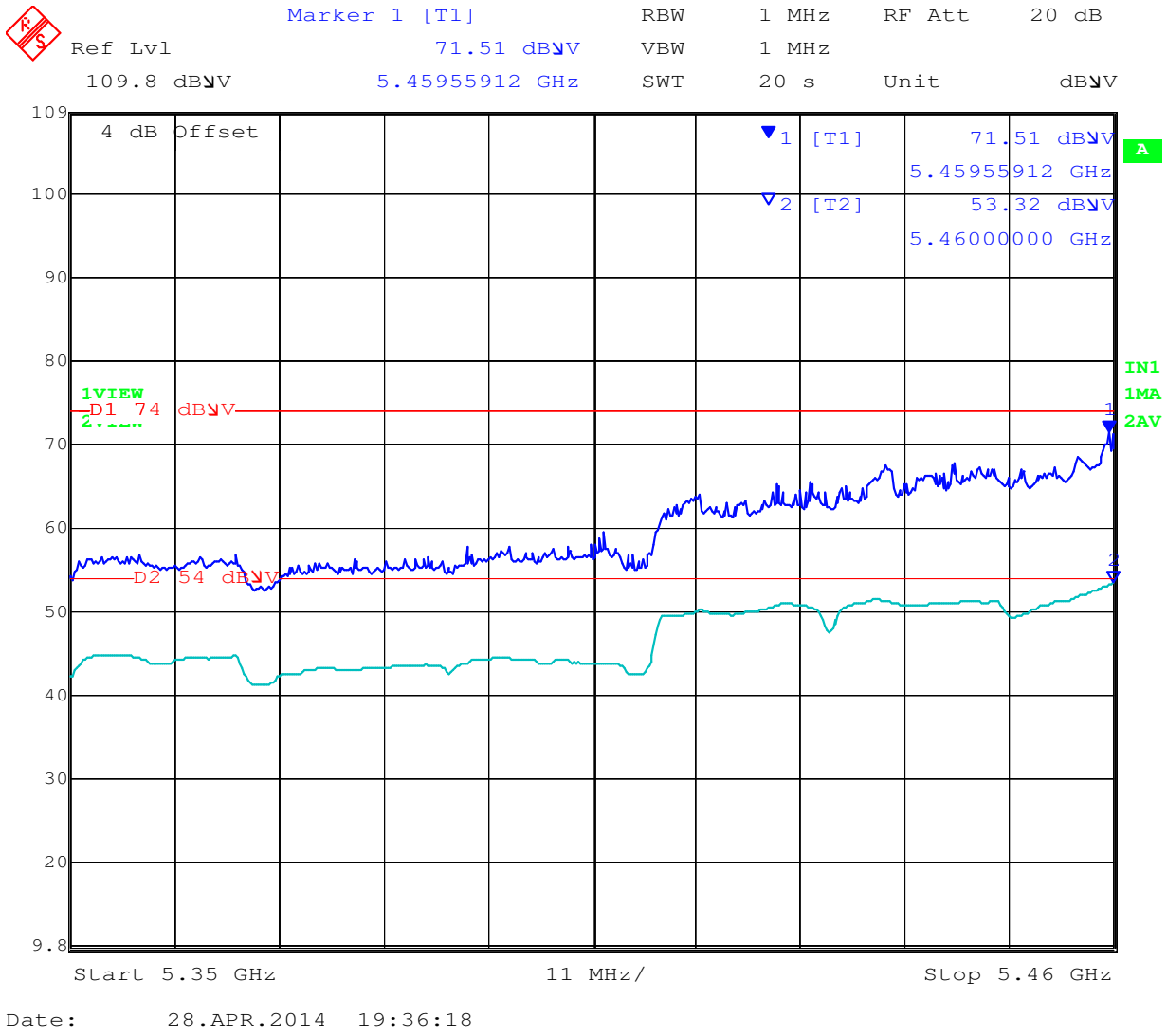
802.11a Channel 5500 MHz



802.11n HT-20 Channel 5500 MHz



802.11n HT-40 Channel 5510 MHz



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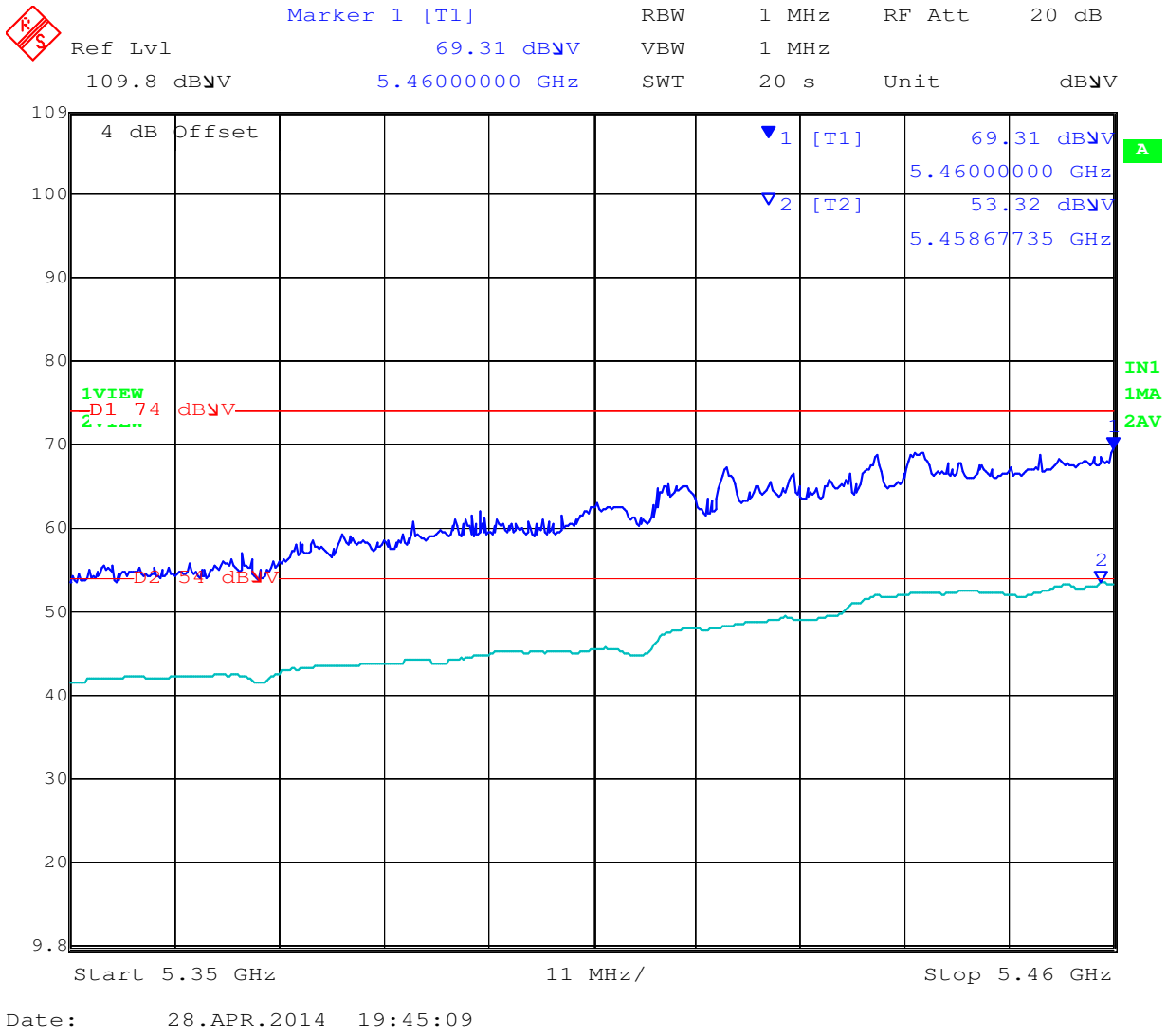
802.11ac-80 Channel 5530 MHz



6.1.2.13. Digital Emissions (30M-1 GHz)

FCC, Part 15 Subpart C §15.205/ §15.209
Industry Canada RSS-210 §2.2

Test Procedure

Testing 30M-1 GHz was performed in a 3-meter anechoic chamber using a CISPR compliant receiver. Preliminary radiated emissions were measured on every azimuth and with the receiving antenna in both horizontal and vertical polarizations. To further maximize emissions the receive antenna was varied between 1 and 4 meters. The emissions are recorded with receiver in peak hold mode. Emissions closest to the limits are measured in the quasi-peak mode with the tuned receiver using a bandwidth of 120 kHz. Only the highest emissions relative to the limit are listed. The anechoic chamber test set-up is identified in Section 6 Test Set-Up Photographs.

The EUT had two methods of powering on ac/dc converter and Power over Ethernet (POE). Both modes were tested for emissions below 1GHz.

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. In this test facility, the Antenna Factor, Cable Loss, and Amplifier Gains are loaded into the Rohde & Schwarz Receiver and the corrected field strength can be read directly on the receiver.

$$FS = R + AF + CORR$$

where:

FS = Field Strength
R = Measured Receiver Input Amplitude
AF = Antenna Factor
CORR = Correction Factor = CL – AG + NFL
CL = Cable Loss
AG = Amplifier Gain

For example:
Given a Receiver input reading of 51.5dBμV; Antenna Factor of 8.5dB; Cable Loss of 1.3dB; Falloff Factor of 0dB, an Amplifier Gain of 26dB and Notch Filter Loss of 1dB. The Field Strength of the measured emission is:

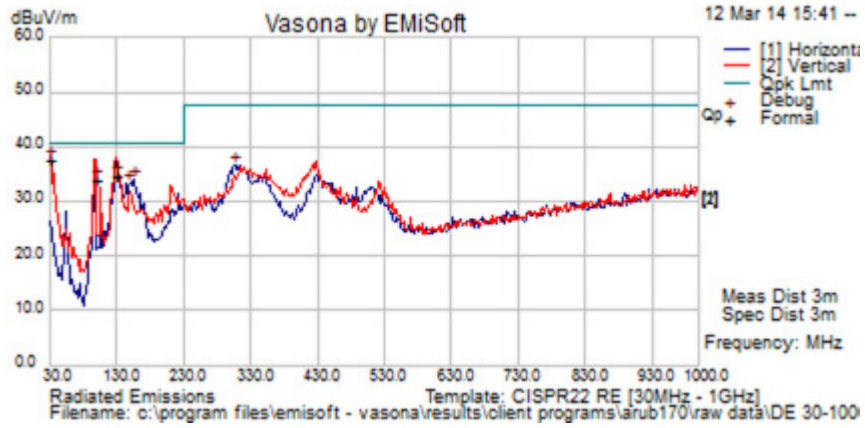
FS = 51.5 + 8.5 + 1.3 - 26.0 +1 = 36.3dBμV/m

Conversion between dBμV/m (or dBμV) and μV/m (or μV) are done as:

Level (dBμV/m) = 20 * Log (level (μV/m))

40 dBμV/m = 100μV/m
48 dBμV/m = 250μV/m

Test Freq.	NA	**Engineer**	JMH
Variant	Digital Emissions	**Temp (ºC)**	18
Freq. Range	30 - 1000 MHz	**Rel. Hum.(%)**	33
Power Setting	Not Applicable	**Press. (mBars)**	1007
Antenna	External		
Test Notes 1	POE 55 Vdc		
Test Notes 2			

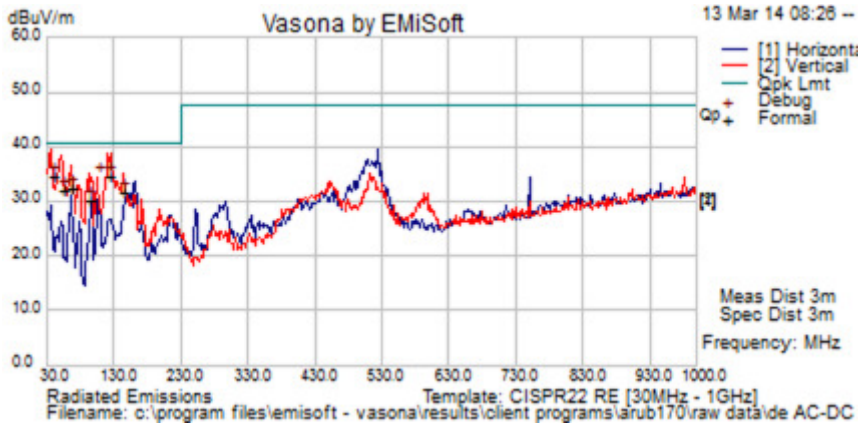


Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
30.606	43.9	3.5	-10.0	37.400	Quasi Max	V	99	225	40.5	-3.1	Pass	
128.993	47.2	4.3	-16.9	34.6	Quasi Max	H	393	283	40.5	-5.9	Pass	
97.306	51.3	4.1	-21.6	33.8	Quasi Max	V	111	302	40.5	-6.7	Pass	
144.896	47.1	4.3	-18.3	33.2	Peak [Scan]	H	98	-1	40.5	-7.3	Pass	
156.413	48.1	4.4	-18.5	34.0	Peak [Scan]	H	98	-1	40.5	-6.5	Pass	
304.698	48.1	5.1	-16.8	36.4	Peak [Scan]	H	98	-1	47.5	-11.1	Pass	

Legend:	DIG = Digital Device Emission; TX = Transmitter Emission; FUND = Fundamental Frequency
	NRB = Non-Restricted Band, Limit is 20 dB below Fundamental; RB = Restricted Band

Test Freq.	NA	**Engineer**	JMH
Variant	Digital Emissions	**Temp (ºC)**	18
Freq. Range	30 - 1000 MHz	**Rel. Hum.(%)**	33
Power Setting	NA	**Press. (mBars)**	1000
Antenna	External APIN0204		
Test Notes 1	AC/DC Powered 110Vac 60 Hz / 12 Vdc		
Test Notes 2	Digital Emissions		



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
37.871	46.7	3.6	-15.6	34.670	Quasi Max	V	105	62	40.5	-5.8	Pass	
122.751	47.4	4.2	-17.0	34.6	Quasi Max	V	133	186	40.5	-5.9	Pass	
52.159	51.5	3.7	-23.2	32.0	Quasi Max	V	156	89	40.5	-8.5	Pass	
65.446	51.9	3.8	-23.2	32.5	Quasi Max	V	189	50	40.5	-8.0	Pass	
143.372	45.5	4.3	-18.2	31.7	Quasi Max	V	99	10	40.5	-8.9	Pass	
91.769	49.6	4.0	-23.3	30.3	Quasi Max	V	99	257	40.5	-10.2	Pass	
105.812	49.8	4.1	-19.3	34.4	Peak [Scan]	V	100	0	40.5	-6.0	Pass	

Legend:	DIG = Digital Device Emission; TX = Transmitter Emission; FUND = Fundamental Frequency
	NRB = Non-Restricted Band, Limit is 20 dB below Fundamental; RB = Restricted Band

Specification

Limits

§15.205 (a) Except as shown in paragraph (d) of 15.205 (a), only spurious emissions are permitted in any of the frequency bands listed.

§15.205 (a) Except as shown in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table.

§15.209 (a) and **RSS-Gen §2.2** Limit Matrix

Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance (meters)
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Laboratory Measurement Uncertainty for Radiated Emissions

Measurement uncertainty	+5.6/ -4.5 dB

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-03 'Measurement of Radiated Emissions'	0088, 0158, 0134, 0304, 0311, 0315, 0310, 0312

6.1.3. AC Wireline Conducted Emissions (150 kHz – 30 MHz)

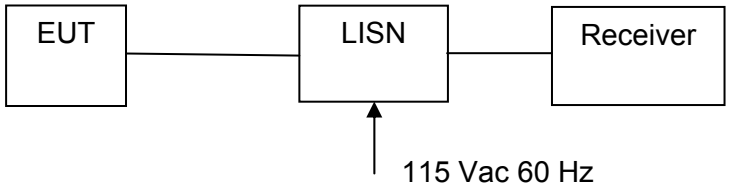
FCC, Part 15 Subpart C §15.207
Industry Canada RSS-Gen §7.2.2

Test Procedure
The EUT is configured in accordance with ANSI C63.4. The conducted emissions are measured in a shielded room with a spectrum analyzer in peak hold in the first instance. Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation. The highest emissions relative to the limit are listed.

Measurement Results for AC Wireline Conducted Emissions (150 kHz – 30 MHz)

Ambient conditions.
Temperature: 17 to 23 °C Relative humidity: 31 to 57 % Pressure: 999 to 1012 mbar

Test Measurement Set up



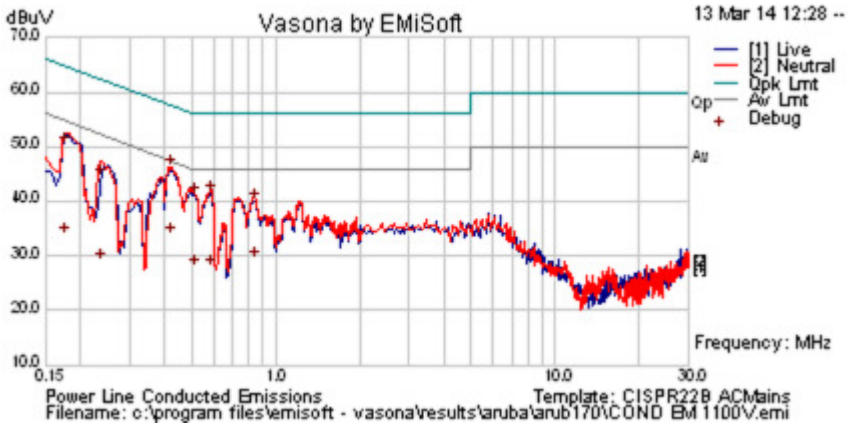
Measurement set up for AC Wireline Conducted Emissions Test

Measurement Results for AC Wireline Conducted Emissions (150 kHz – 30 MHz)

Ambient conditions.
Temperature: 17 to 23 °C Relative humidity: 31 to 57 % Pressure: 999 to 1012 mbar

ac/dc Adaptor Wireline Emissions

Test Freq.	N/A	**Engineer**	JMH
Variant	AC Line Emissions	**Temp (ºC)**	18
Freq. Range	0.150 MHz - 30 MHz	**Rel. Hum.(%)**	35
Power Setting	Not Applicable	**Press. (mBars)**	1004
Antenna	Not Applicable		
Test Notes 1	ac/dc Adaptor 110 Vac, 60 Hz		
Test Notes 2			



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail	Comments
0.175	23.7	9.9	0.1	33.7	Average	Neutral	54.72	-21.1	Pass	
0.175	40.3	9.9	0.1	50.3	Quasi Peak	Neutral	64.72	-14.5	Pass	
0.234	18.7	9.9	0.1	28.6	Average	Neutral	52.31	-23.7	Pass	
0.234	34.2	9.9	0.1	44.1	Quasi Peak	Neutral	62.31	-18.2	Pass	
0.415	36.2	9.9	0.1	46.1	Quasi Peak	Neutral	57.56	-11.4	Pass	
0.415	23.7	9.9	0.1	33.7	Average	Neutral	47.56	-13.9	Pass	
0.506	31.1	9.9	0.1	41.1	Quasi Peak	Neutral	56	-14.9	Pass	
0.506	17.7	9.9	0.1	27.7	Average	Neutral	46	-18.3	Pass	
0.579	17.5	9.9	0.1	27.6	Average	Neutral	46	-18.4	Pass	
0.579	31.4	9.9	0.1	41.5	Quasi Peak	Neutral	56	-14.6	Pass	
0.839	29.7	9.9	0.1	39.7	Quasi Peak	Neutral	56	-16.3	Pass	
0.839	19.0	9.9	0.1	29.0	Average	Neutral	46	-17.0	Pass	

Legend:	DIG = Digital Device Emission; TX = Transmitter Emission; FUND = Fundamental Frequency
	NRB = Non-Restricted Band, Limit is 20 dB below Fundamental; RB = Restricted Band

Specification

Limit

§15.207 (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μΩ line impedance stabilization network (LISN), see §15.207 (a) matrix below. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

RSS-Gen §7.2.2
The radio frequency voltage that is conducted back into the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in the table below. The tighter limit applies at the frequency range boundaries.

§15.207 (a) and **RSS-Gen §7.2.2** Limit Matrix
The lower limit applies at the boundary between frequency ranges

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency

Laboratory Measurement Uncertainty for Conducted Emissions

Measurement uncertainty	±2.64 dB

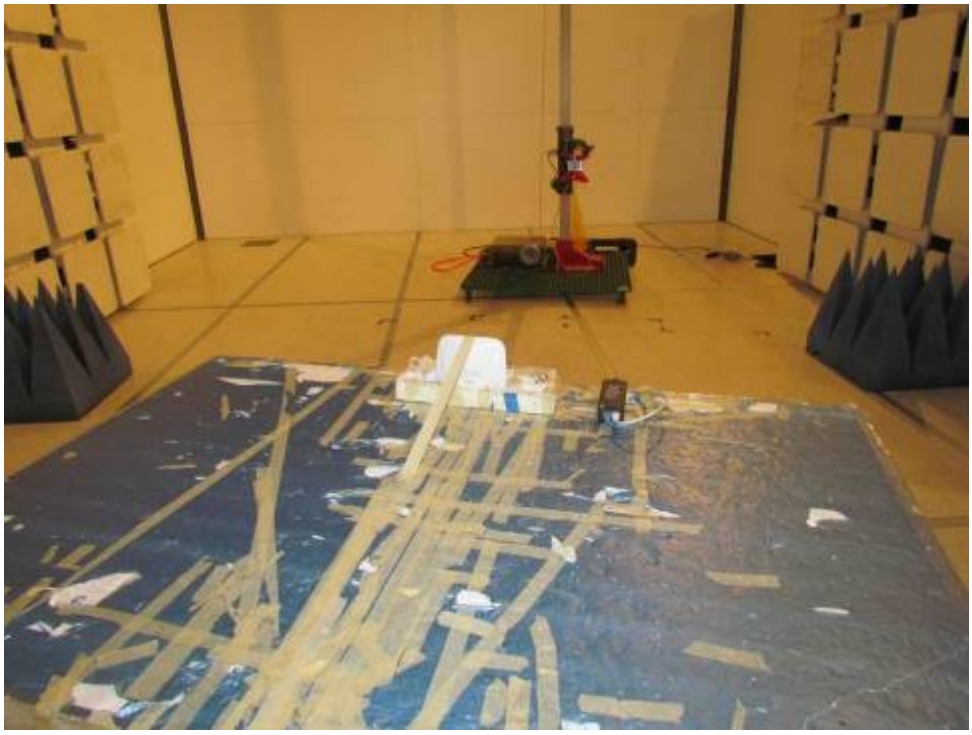
Traceability

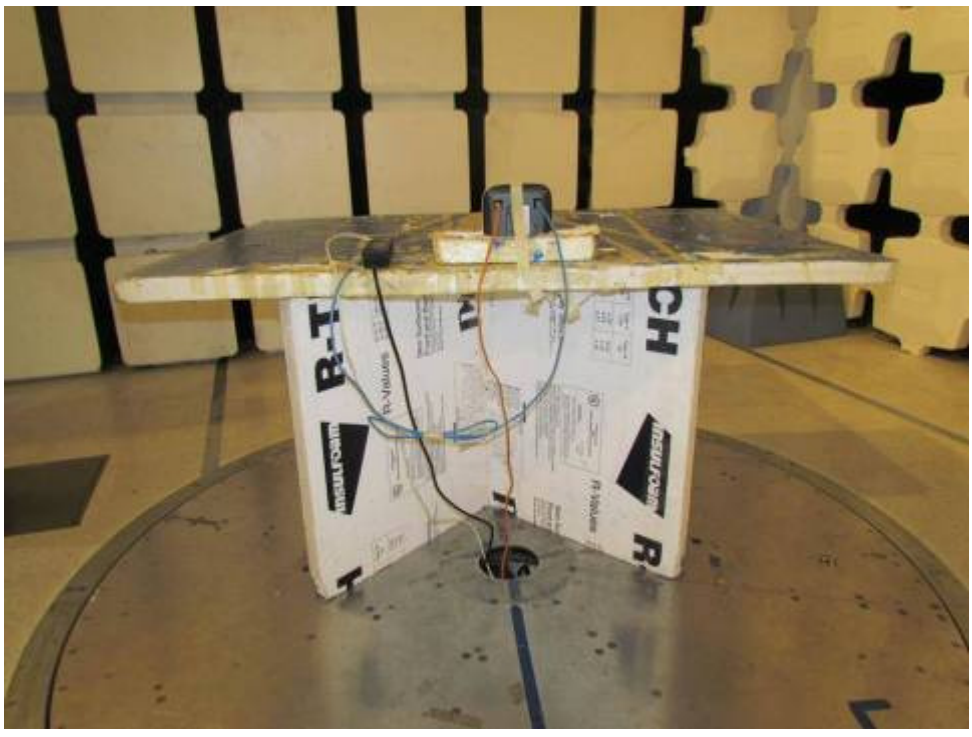
Method	Test Equipment Used
Measurements were made per work instruction WI-EMC-01 'Measurement of Conducted Emissions'	0158, 0184, 0287, 0190, 0293, 0307

7. PHOTOGRAPHS

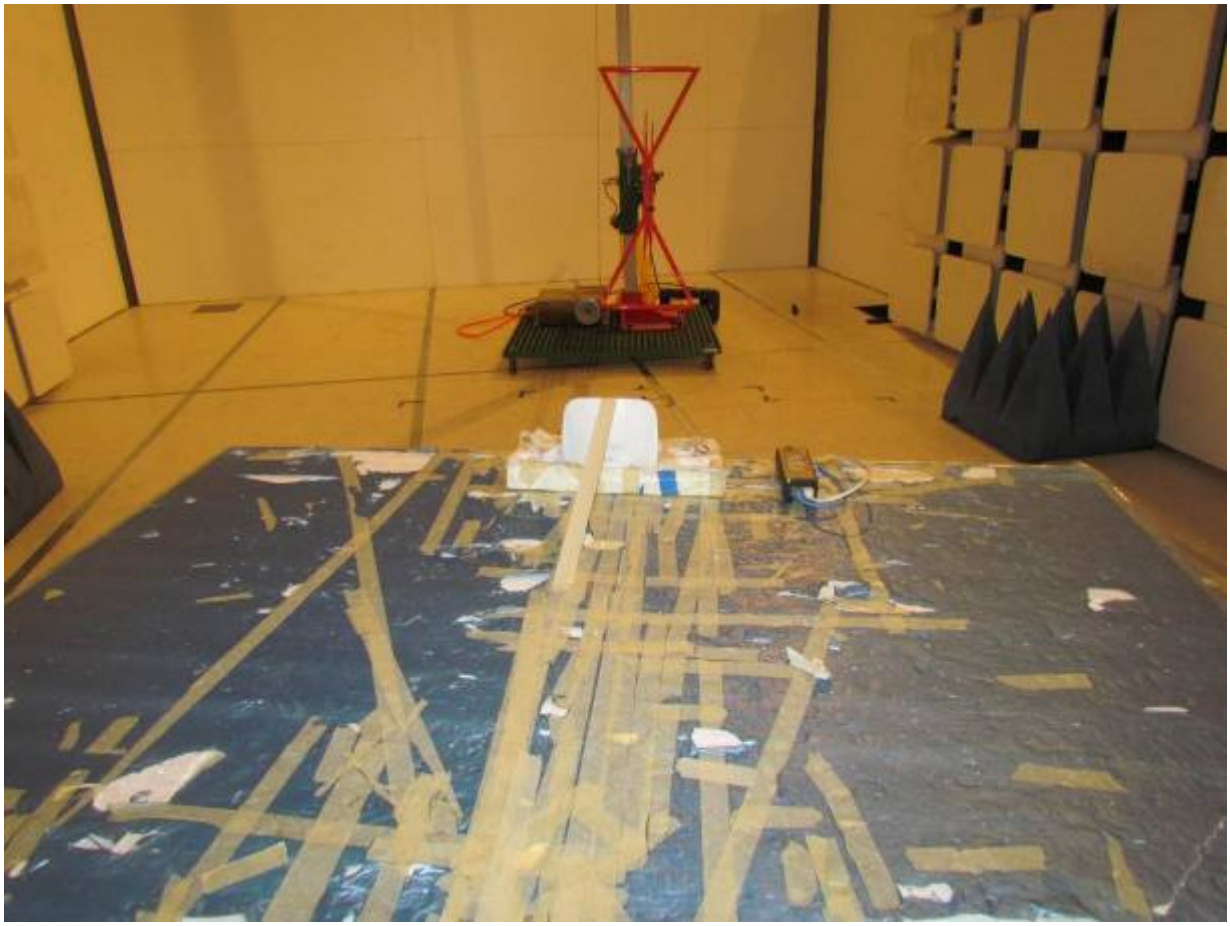
7.1. Conducted Test Setup

7.2. Test Setup - Digital Emissions > 1 GHz





7.3. Radiated Emissions Test Setup <1 GHz



7.4. ac Wireline Test Setup

8. TEST EQUIPMENT DETAILS

Asset #	Instrument	Manufacturer	Part #	Serial #	Calibration Due Date
0117	Power Sensor	Hewlett Packard	8487D	3318A00371	18th Oct 14
0223	Power Meter	Hewlett Packard	EPM-442A	US37480256	18th Oct 14
0376	Power Sensor	Agilent	U2000A	MY51440005	28th Oct 14
0390	Power Sensor	Agilent	U2002A	MY50000103	17th Oct 14
0158	Barometer /Thermometer	Control Co.	4196	E2846	6th Dec 14
0287	EMI Receiver	Rhode & Schwartz	ESIB40	100201	31st Jul 14
0378	EMI Receiver	Rhode & Schwartz	ESIB40	100107/040	17th Jul 14
0338	30 - 3000 MHz Antenna	Sunol	JB3	A052907	14th Aug 14
0399	1-18 GHz Horn Antenna	EMCO	3117	00154575	10th Oct 14
0252	SMA Cable	Megaphase	Sucoflex 104	None	N/A
0310	2m SMA Cable	Micro-Coax	UFA210A-0-0787-3G03G0	209089-001	N/A
0312	3m SMA Cable	Micro-Coax	UFA210A-1-1181-3G0300	209092-001	N/A
0314	30dB N-Type Attenuator	ARRA	N9444-30	1623	N/A
0359	DFS Test System	Aeroflex	PXI-1042	300001/004	21st Oct 14
0299	DFS Test Software	Aeroflex	PXIModule	Version 7.1.0	N/A
0502	EMC Test Software	EMISoft	Vasona	5.0051	N/A
0503	RF Conducted Test Software	National Instruments	Labview	Version 8.2	N/A
0398	RF Conducted Test Software	MiCOM Labs ATS	--	Version 1.8	N/A
0380	RF Switch	MiCOM Labs	MIC001	MIC001	20th June 14

APPENDIX

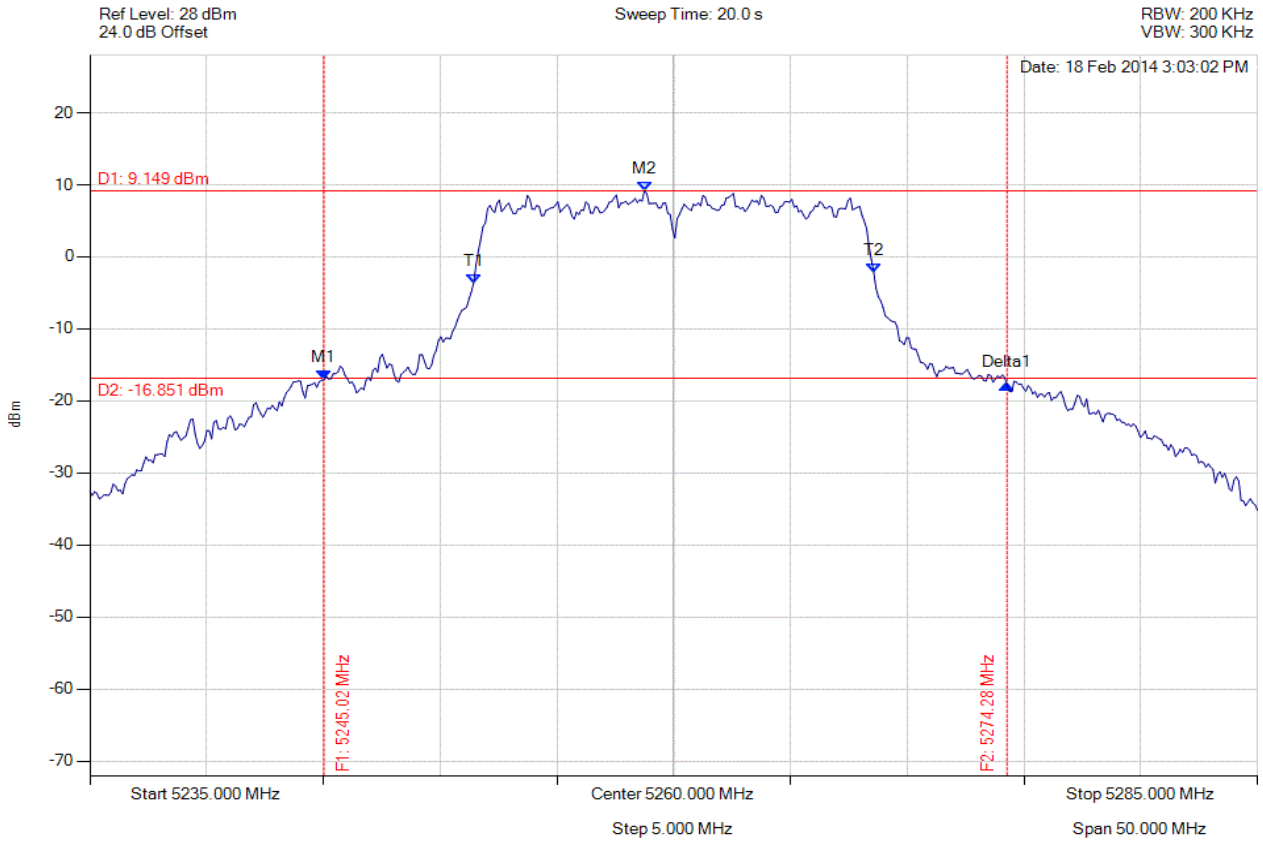
A. SUPPORTING INFORMATION

A.1. CONDUCTED TEST PLOTS

A.1.1. 26 dB & 99% Bandwidth

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

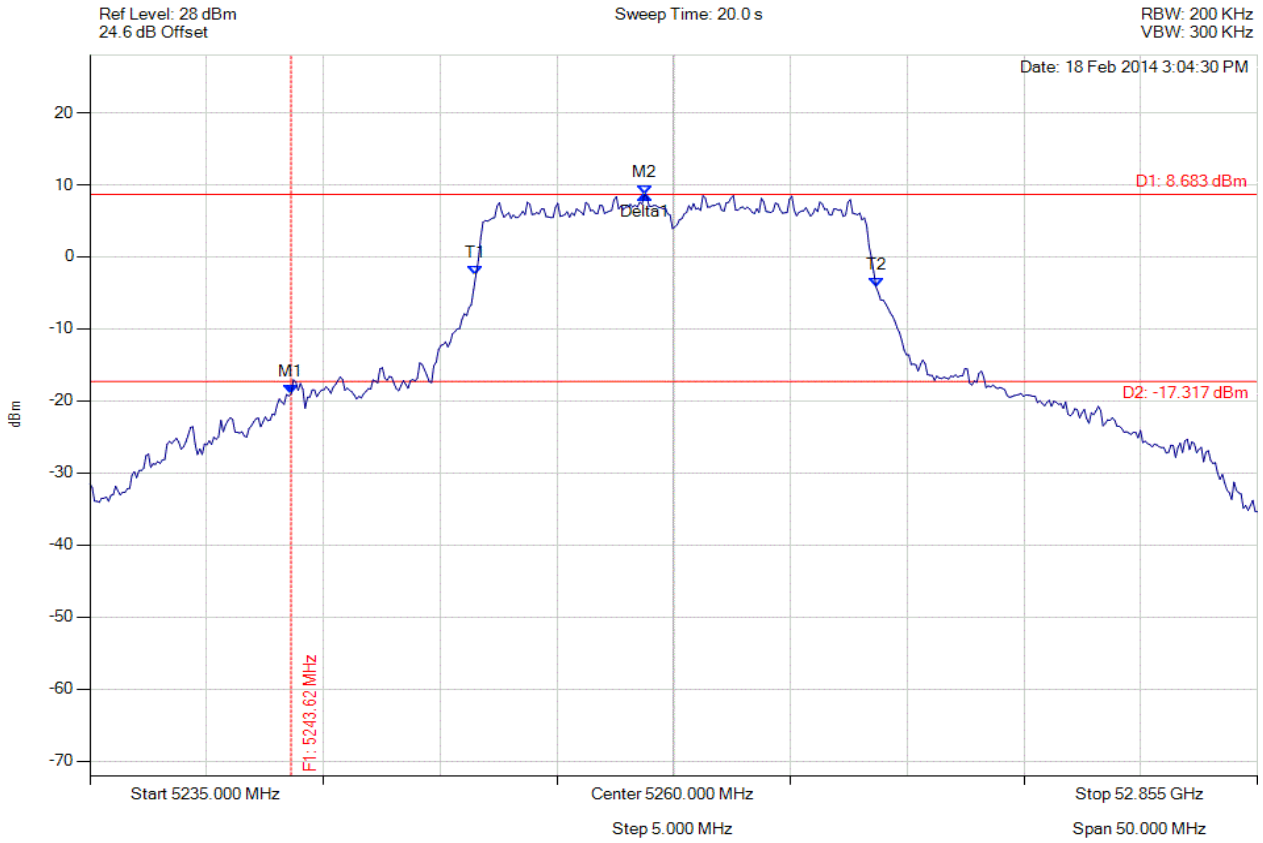


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245.020 MHz : -17.037 dBm M2 : 5258.747 MHz : 9.149 dBm Delta1 : 29.259 MHz : -0.742 dB T1 : 5251.433 MHz : -3.665 dBm T2 : 5268.567 MHz : -2.140 dBm OBW : 17.134 MHz	Measured 26 dB Bandwidth: 29.259 MHz Measured 99% Bandwidth: 17.134 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

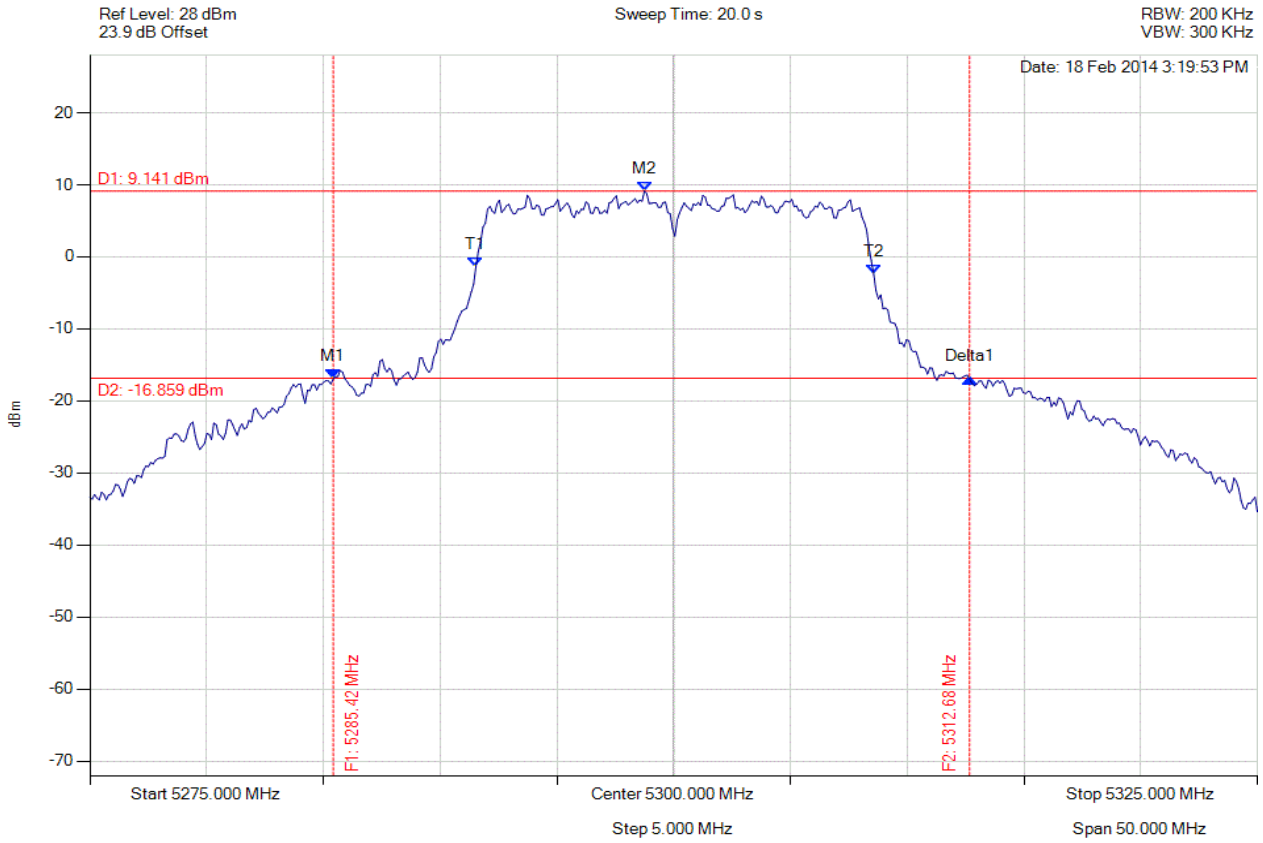


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.617 MHz : -19.022 dBm M2 : 5258.747 MHz : 8.683 dBm Delta1 : 15.130 MHz : 27.706 dB T1 : 5251.533 MHz : -2.518 dBm T2 : 5268.667 MHz : -4.204 dBm OBW : 17.134 MHz	Measured 26 dB Bandwidth: 15.130 MHz Measured 99% Bandwidth: 17.134 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

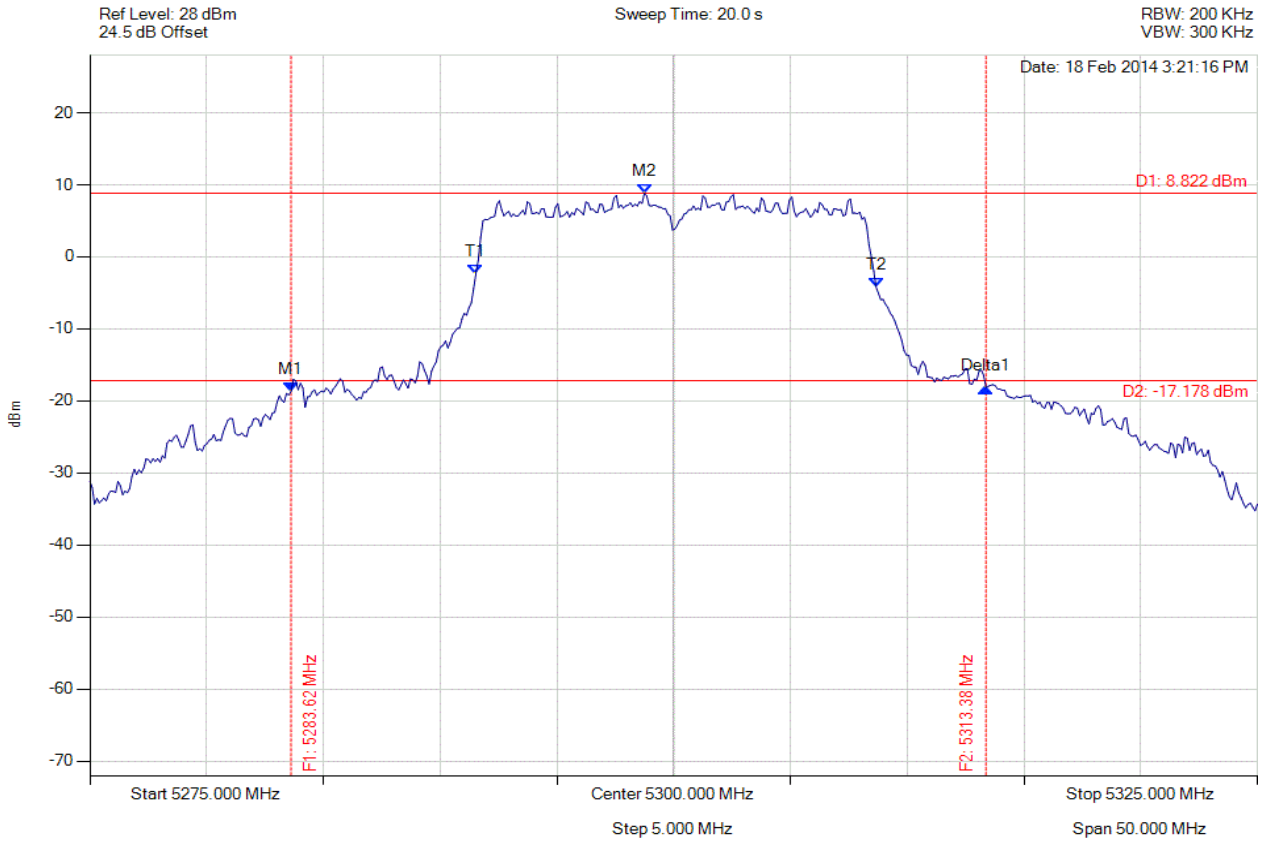


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5285.421 MHz : -16.930 dBm M2 : 5298.747 MHz : 9.141 dBm Delta1 : 27.255 MHz : 0.004 dB T1 : 5291.533 MHz : -1.382 dBm T2 : 5308.567 MHz : -2.425 dBm OBW : 17.034 MHz	Measured 26 dB Bandwidth: 27.255 MHz Measured 99% Bandwidth: 17.034 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

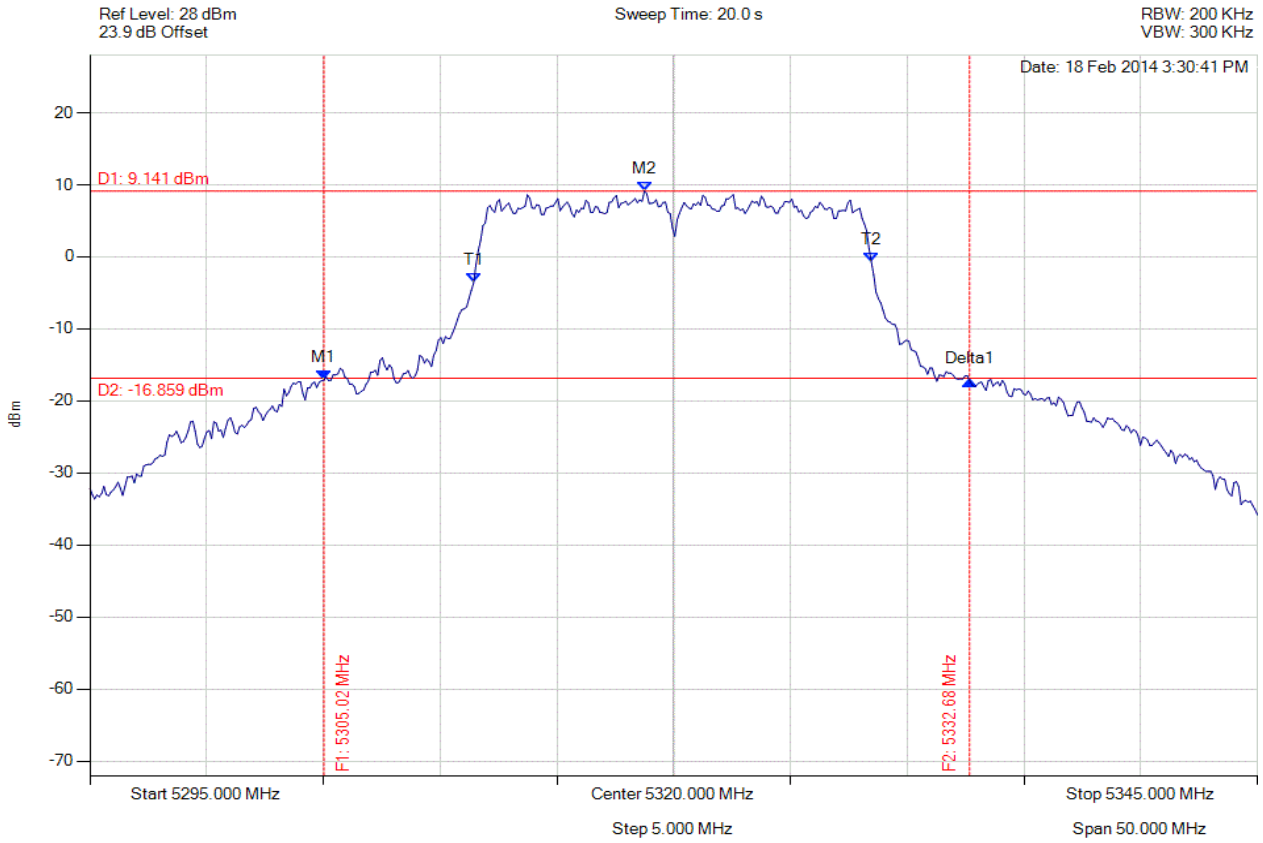


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5283.617 MHz : -18.681 dBm M2 : 5298.747 MHz : 8.822 dBm Delta1 : 29.760 MHz : 0.494 dB T1 : 5291.533 MHz : -2.348 dBm T2 : 5308.667 MHz : -4.184 dBm OBW : 17.134 MHz	Measured 26 dB Bandwidth: 29.760 MHz Measured 99% Bandwidth: 17.134 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

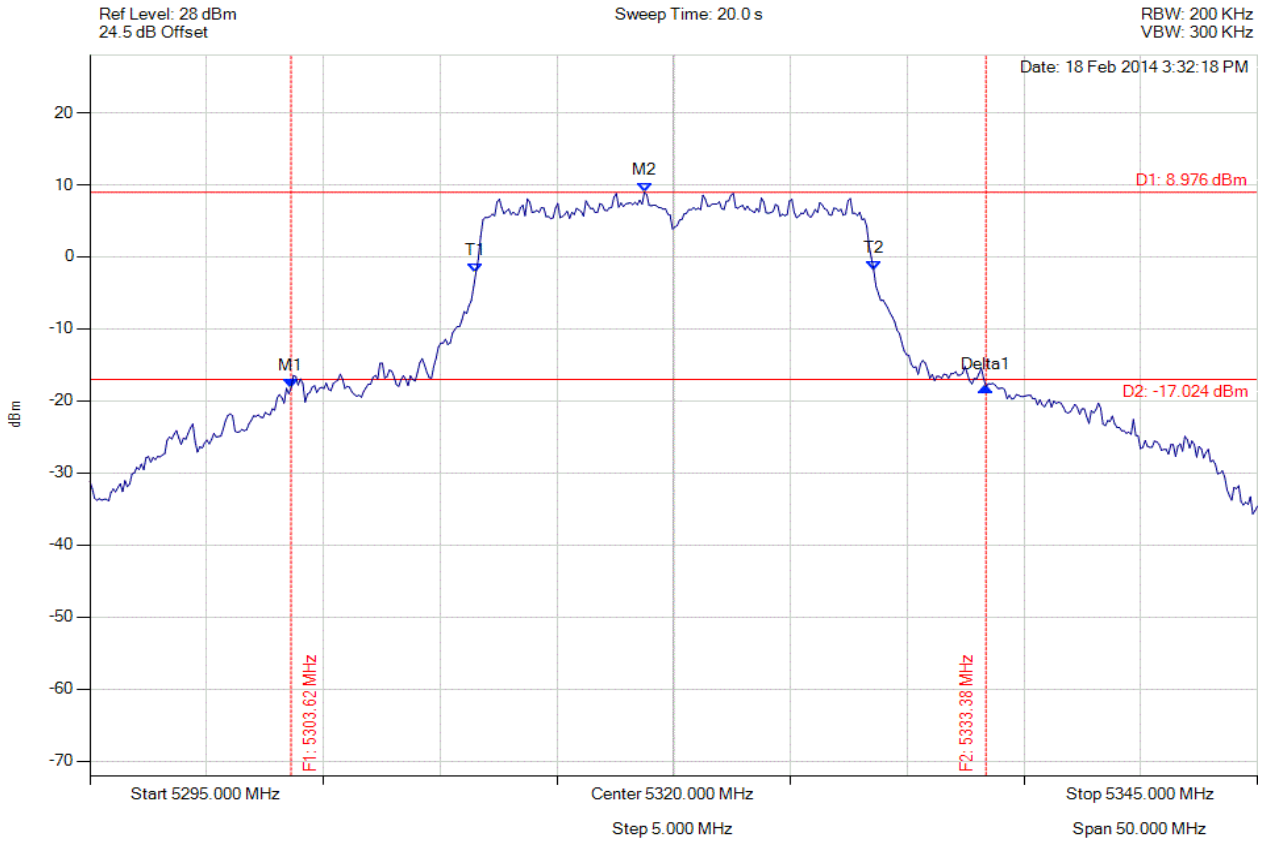


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5305.020 MHz : -17.117 dBm M2 : 5318.747 MHz : 9.141 dBm Delta1 : 27.655 MHz : -0.053 dB T1 : 5311.433 MHz : -3.615 dBm T2 : 5328.467 MHz : -0.725 dBm OBW : 17.034 MHz	Measured 26 dB Bandwidth: 27.655 MHz Measured 99% Bandwidth: 17.034 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

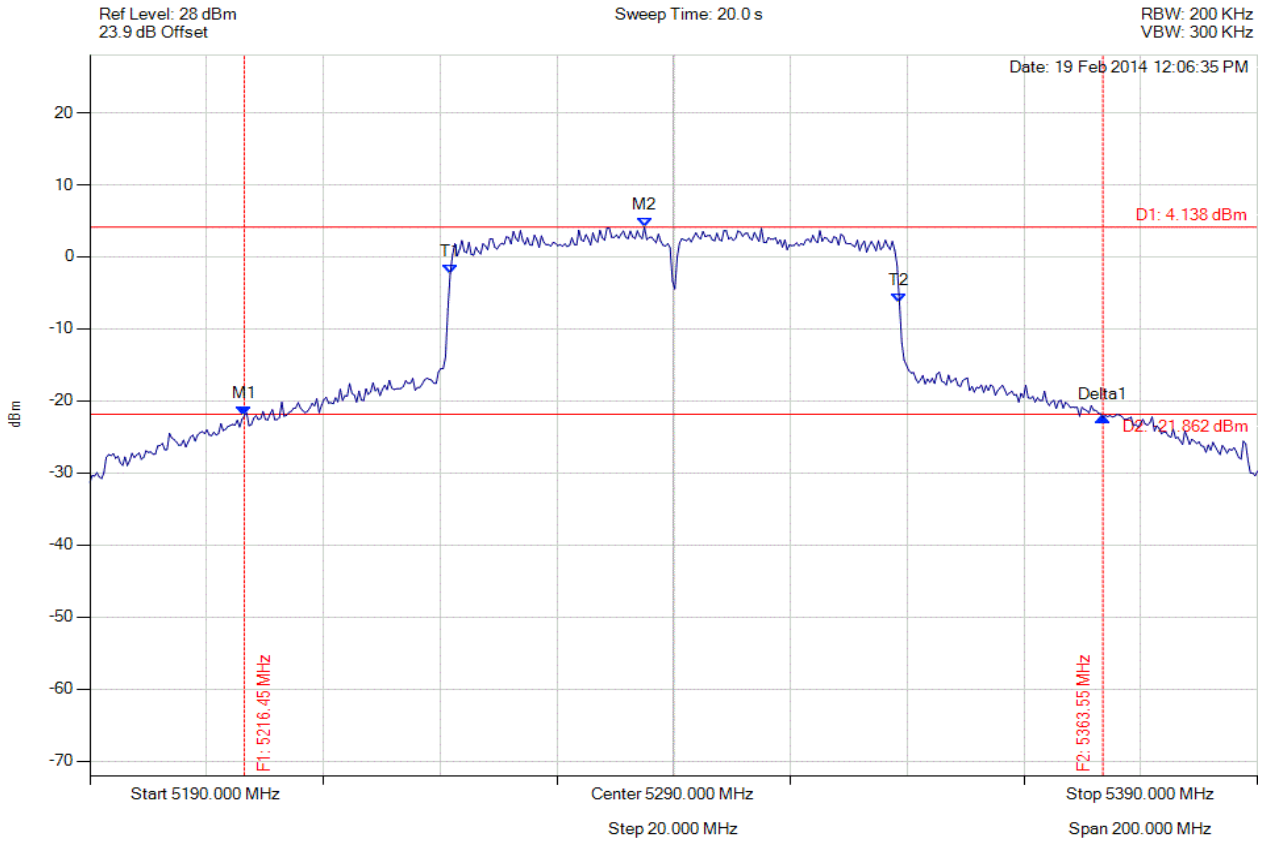


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5303.617 MHz : -18.201 dBm M2 : 5318.747 MHz : 8.976 dBm Delta1 : 29.760 MHz : 0.142 dB T1 : 5311.533 MHz : -2.209 dBm T2 : 5328.567 MHz : -1.906 dBm OBW : 17.034 MHz	Measured 26 dB Bandwidth: 29.760 MHz Measured 99% Bandwidth: 17.034 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

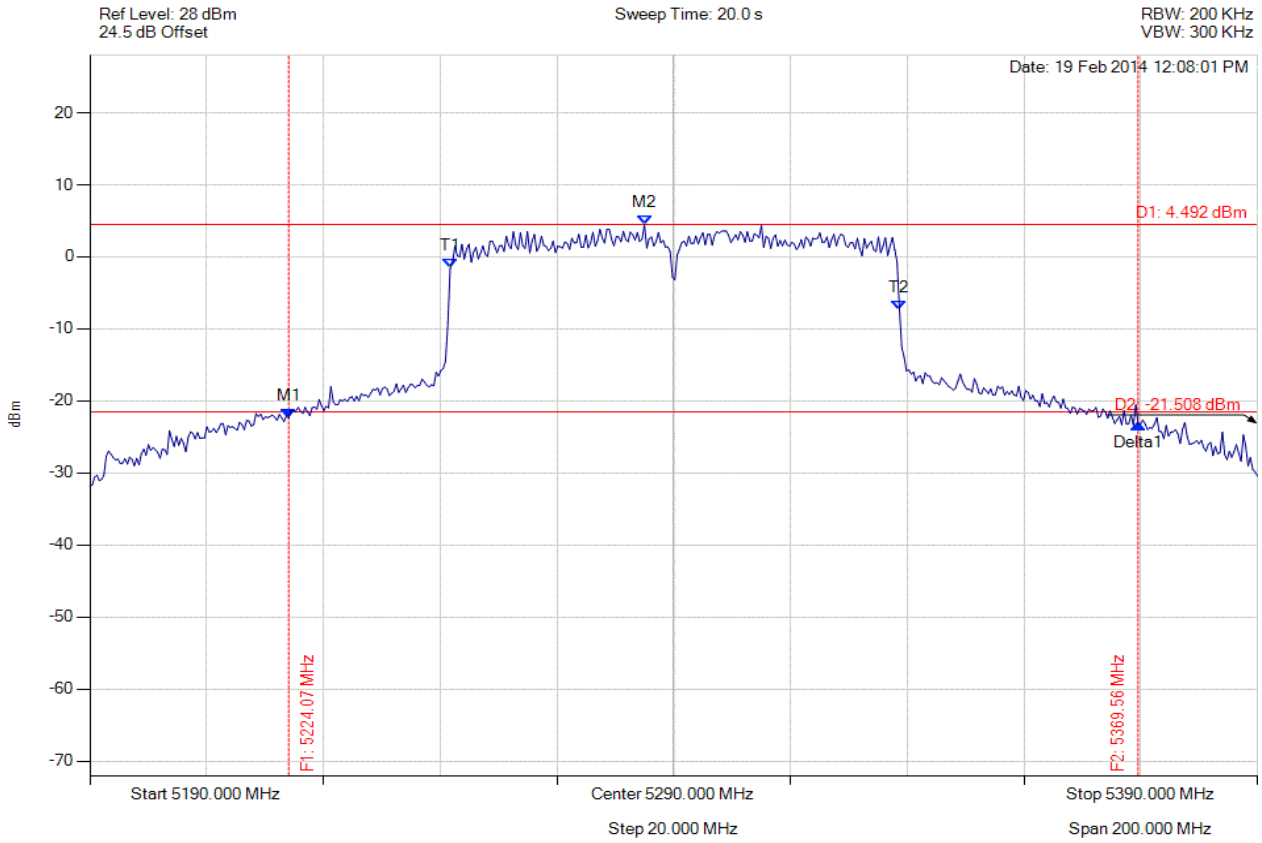


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5216.453 MHz : -22.059 dBm M2 : 5284.990 MHz : 4.138 dBm Delta1 : 147.094 MHz : -0.228 dB T1 : 5251.723 MHz : -2.354 dBm T2 : 5328.677 MHz : -6.423 dBm OBW : 76.954 MHz	Measured 26 dB Bandwidth: 147.094 MHz Measured 99% Bandwidth: 76.954 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

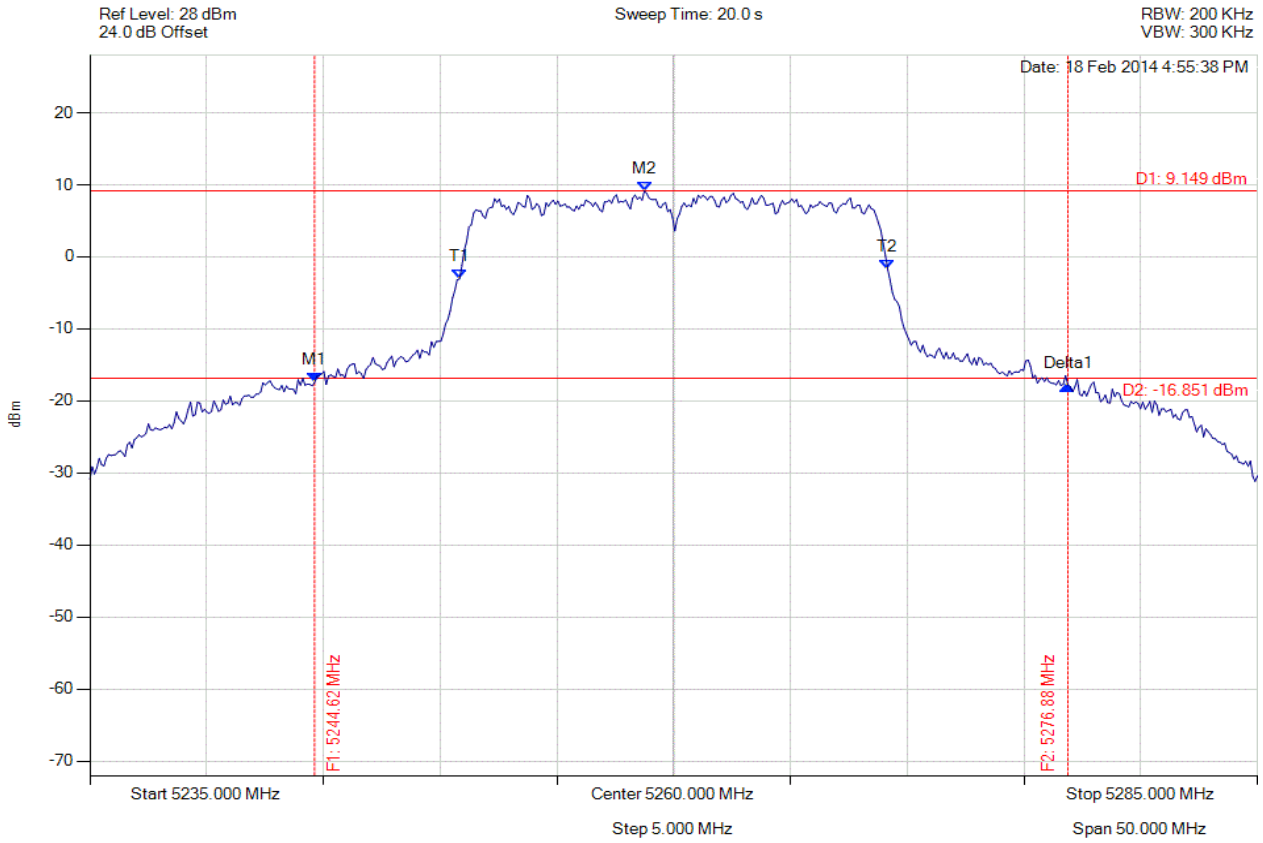


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5224.068 MHz : -22.392 dBm M2 : 5284.990 MHz : 4.492 dBm Delta1 : 145.491 MHz : -0.822 dB T1 : 5251.723 MHz : -1.603 dBm T2 : 5328.677 MHz : -7.306 dBm OBW : 76.954 MHz	Measured 26 dB Bandwidth: 145.491 MHz Measured 99% Bandwidth: 76.954 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

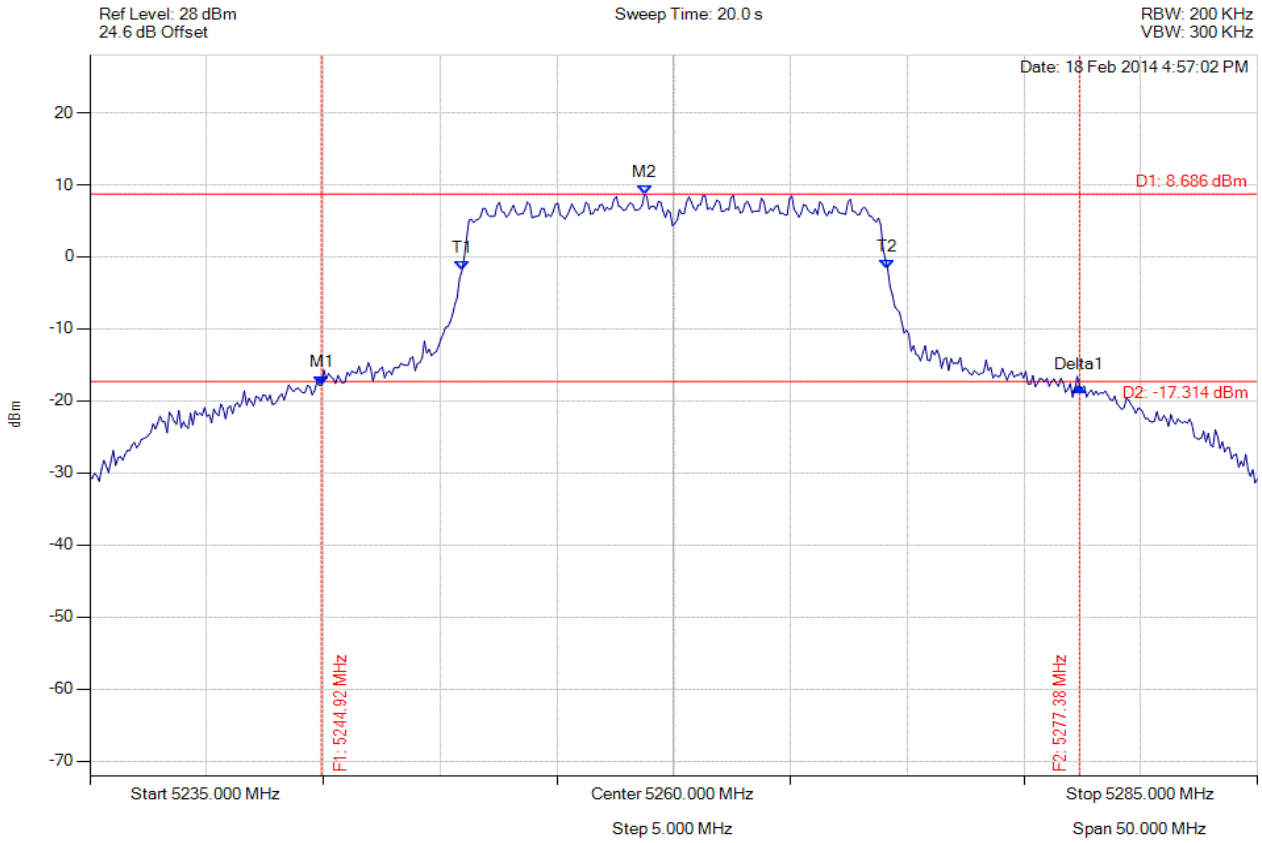


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5244.619 MHz : -17.458 dBm M2 : 5258.747 MHz : 9.149 dBm Delta1 : 32.265 MHz : -0.352 dB T1 : 5250.832 MHz : -3.070 dBm T2 : 5269.168 MHz : -1.762 dBm OBW : 18.337 MHz	Measured 26 dB Bandwidth: 32.265 MHz Measured 99% Bandwidth: 18.337 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

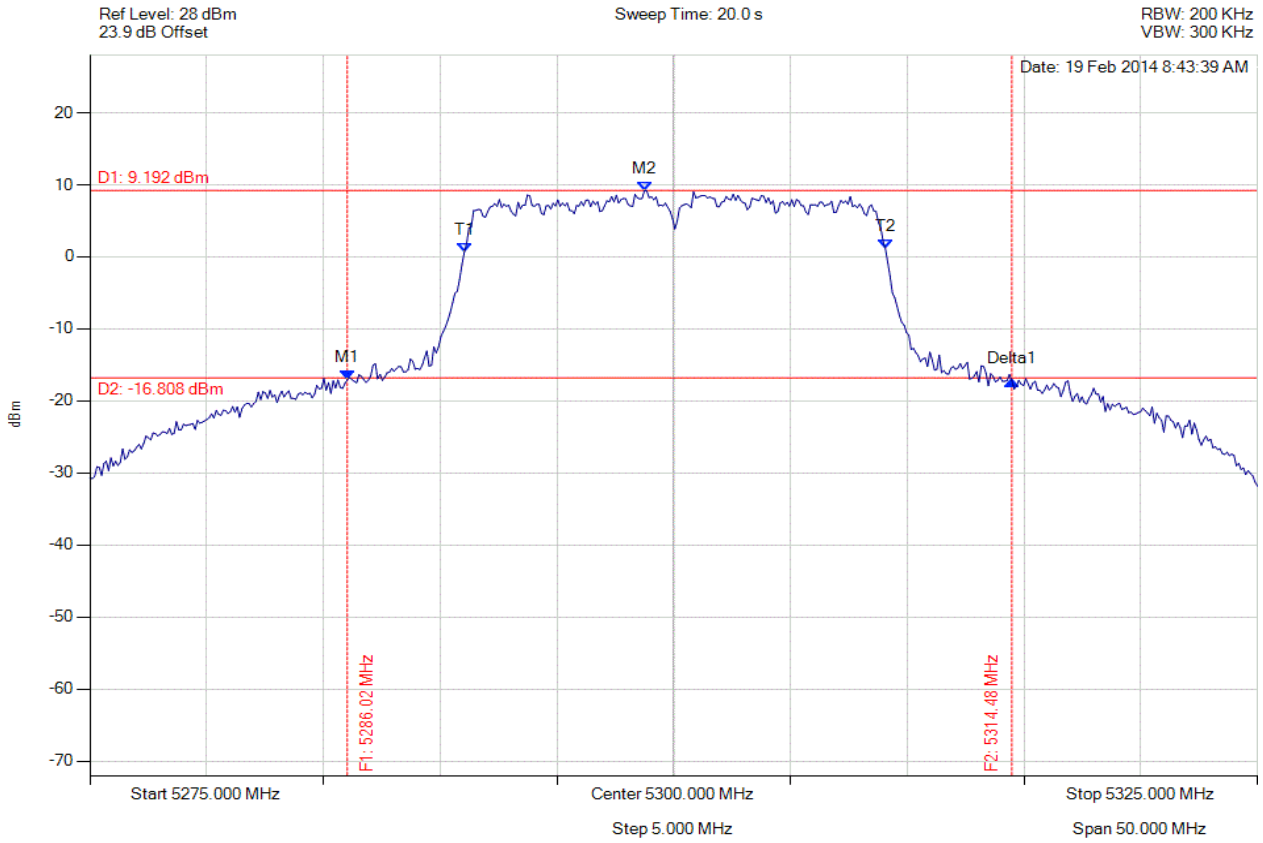


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5244.920 MHz : -17.800 dBm M2 : 5258.747 MHz : 8.686 dBm Delta1 : 32.465 MHz : -0.175 dB T1 : 5250.932 MHz : -1.916 dBm T2 : 5269.168 MHz : -1.776 dBm OBW : 18.236 MHz	Measured 26 dB Bandwidth: 32.465 MHz Measured 99% Bandwidth: 18.236 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

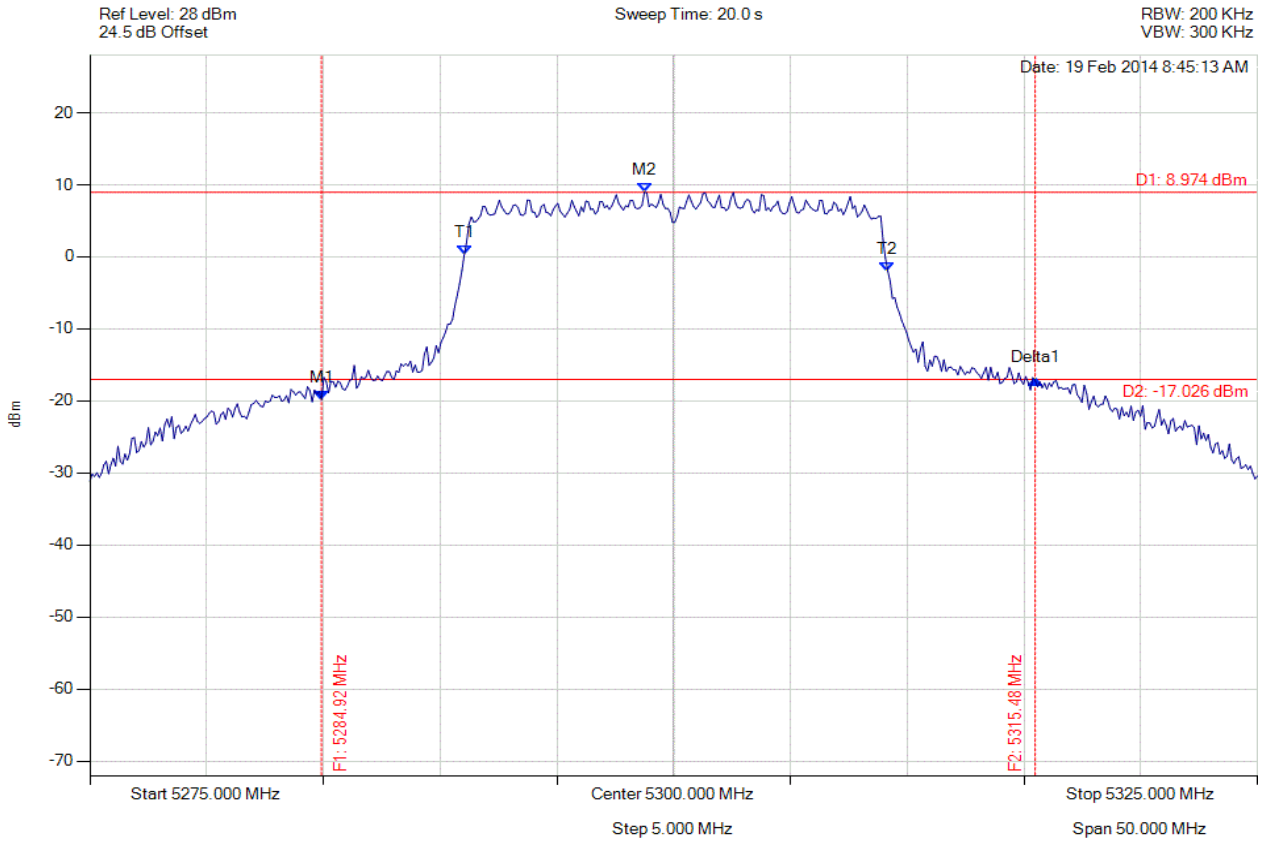


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5286.022 MHz : -17.090 dBm M2 : 5298.747 MHz : 9.192 dBm Delta1 : 28.457 MHz : -0.106 dB T1 : 5291.032 MHz : 0.593 dBm T2 : 5309.068 MHz : 1.124 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 28.457 MHz Measured 99% Bandwidth: 18.036 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

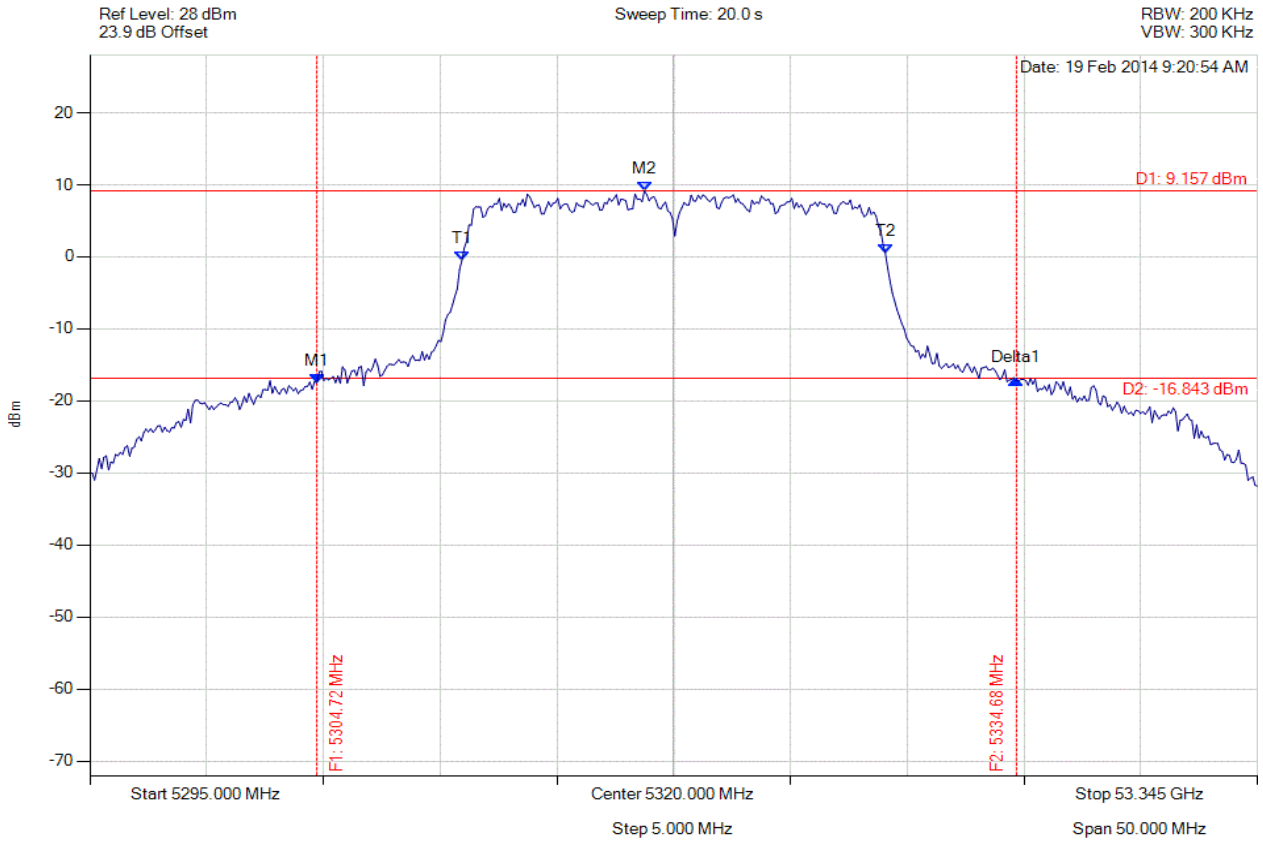


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5284.920 MHz : -19.813 dBm M2 : 5298.747 MHz : 8.974 dBm Delta1 : 30.561 MHz : 2.703 dB T1 : 5291.032 MHz : 0.260 dBm T2 : 5309.168 MHz : -1.963 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 30.561 MHz Measured 99% Bandwidth: 18.136 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

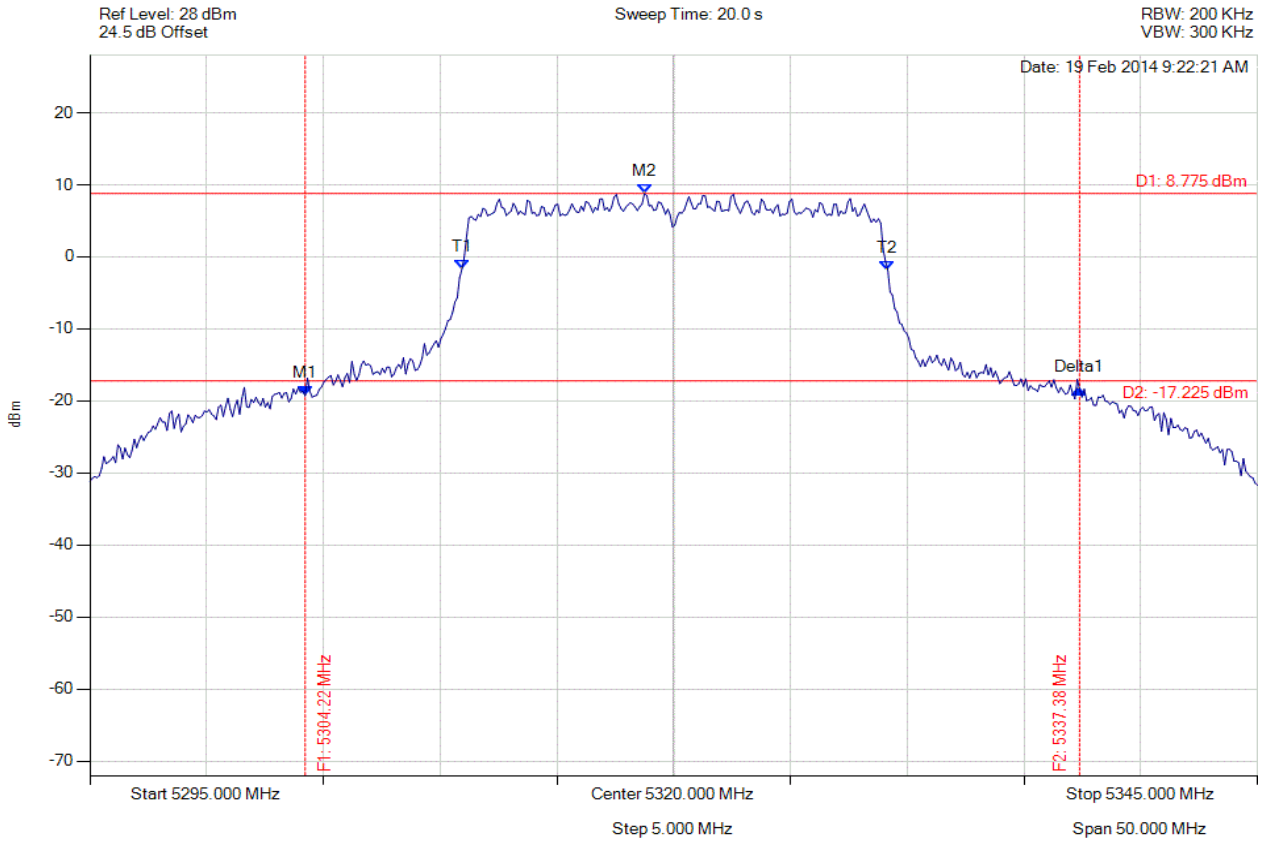


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5304.719 MHz : -17.479 dBm M2 : 5318.747 MHz : 9.157 dBm Delta1 : 29.960 MHz : 0.366 dB T1 : 5310.932 MHz : -0.462 dBm T2 : 5329.068 MHz : 0.443 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 29.960 MHz Measured 99% Bandwidth: 18.136 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

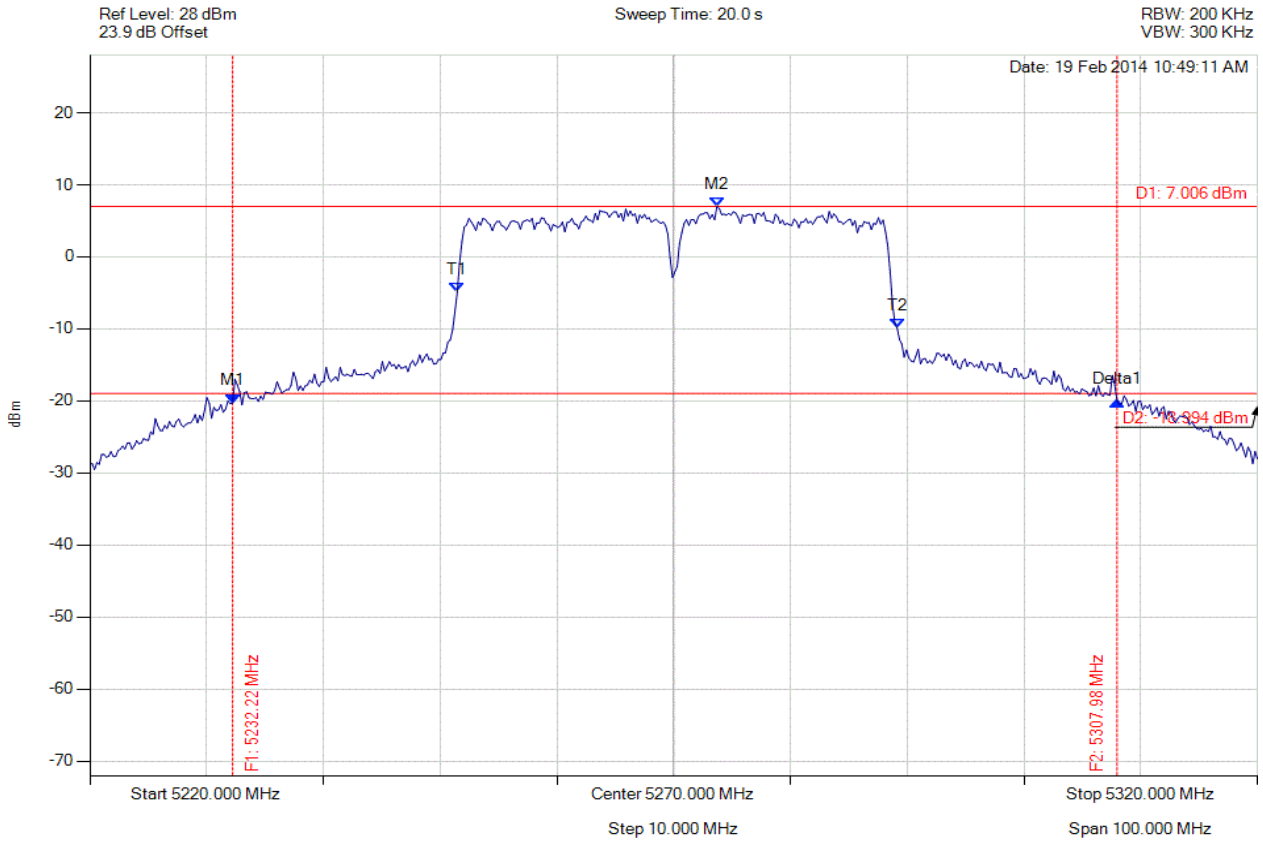


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5304.218 MHz : -19.285 dBm M2 : 5318.747 MHz : 8.775 dBm Delta1 : 33.166 MHz : 0.927 dB T1 : 5310.932 MHz : -1.709 dBm T2 : 5329.168 MHz : -1.800 dBm OBW : 18.236 MHz	Measured 26 dB Bandwidth: 33.166 MHz Measured 99% Bandwidth: 18.236 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

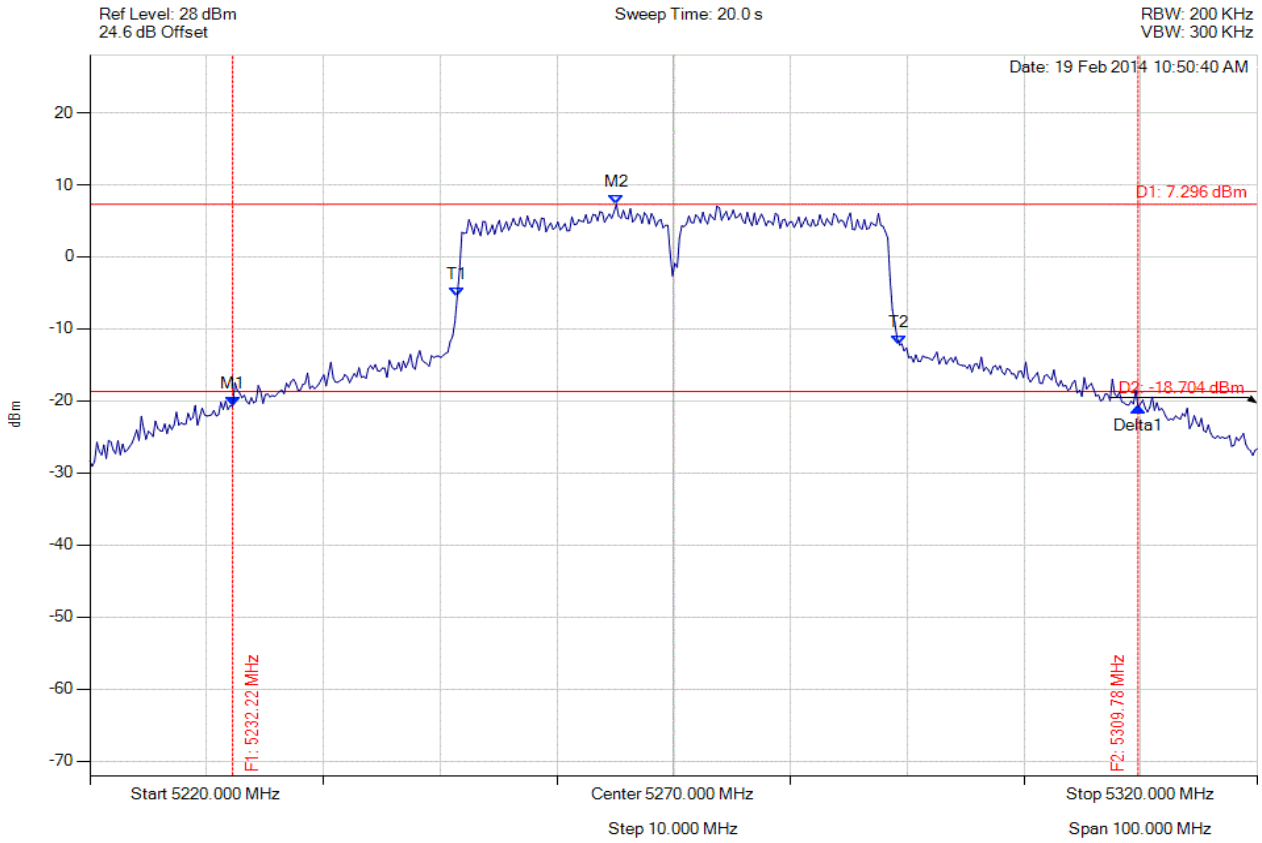


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5232.224 MHz : -20.308 dBm M2 : 5273.707 MHz : 7.006 dBm Delta1 : 75.752 MHz : 0.283 dB T1 : 5251.463 MHz : -4.912 dBm T2 : 5289.138 MHz : -9.850 dBm OBW : 37.675 MHz	Measured 26 dB Bandwidth: 75.752 MHz Measured 99% Bandwidth: 37.675 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

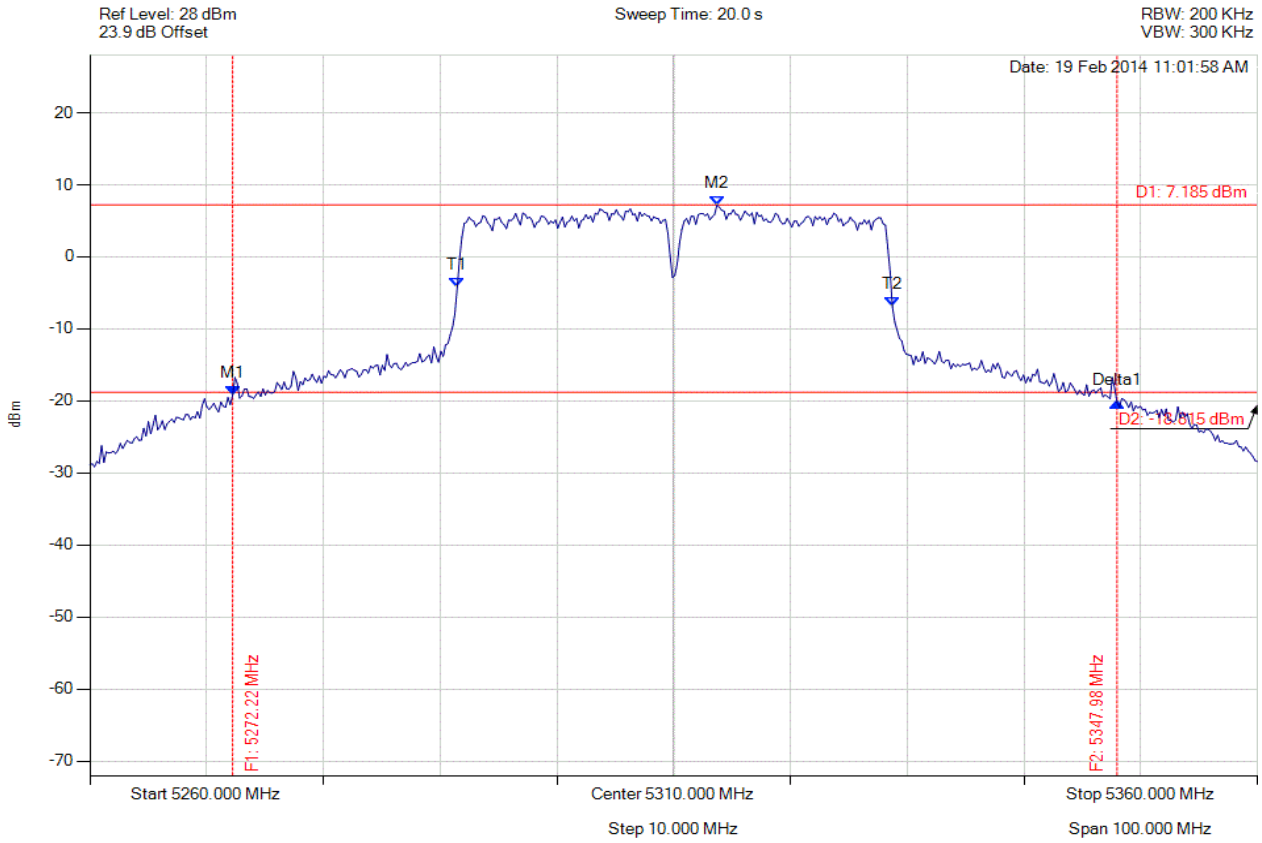


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5232.224 MHz : -20.790 dBm M2 : 5265.090 MHz : 7.296 dBm Delta1 : 77.555 MHz : -0.126 dB T1 : 5251.463 MHz : -5.467 dBm T2 : 5289.339 MHz : -12.252 dBm OBW : 37.876 MHz	Measured 26 dB Bandwidth: 77.555 MHz Measured 99% Bandwidth: 37.876 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

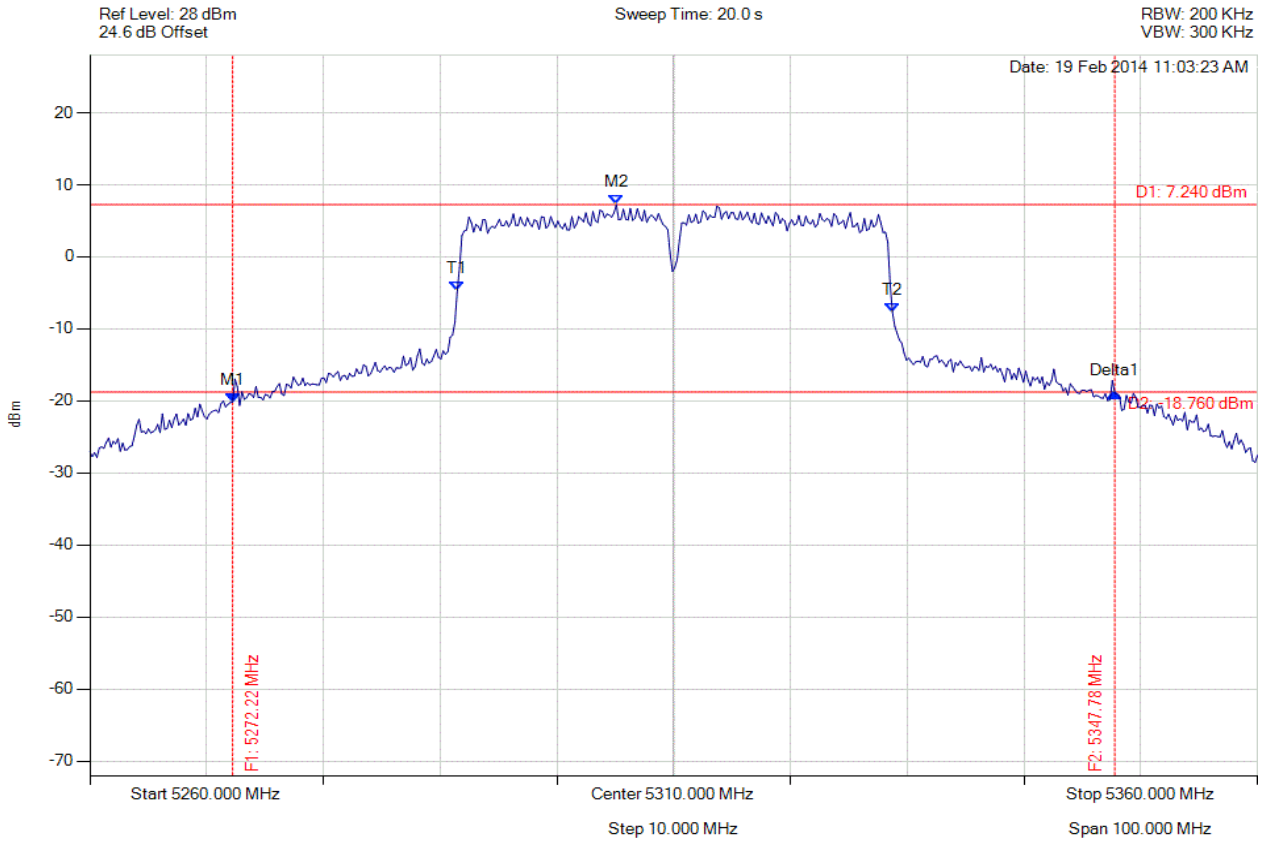


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5272.224 MHz : -19.197 dBm M2 : 5313.707 MHz : 7.185 dBm Delta1 : 75.752 MHz : -1.043 dB T1 : 5291.463 MHz : -4.204 dBm T2 : 5328.737 MHz : -6.915 dBm OBW : 37.275 MHz	Measured 26 dB Bandwidth: 75.752 MHz Measured 99% Bandwidth: 37.275 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

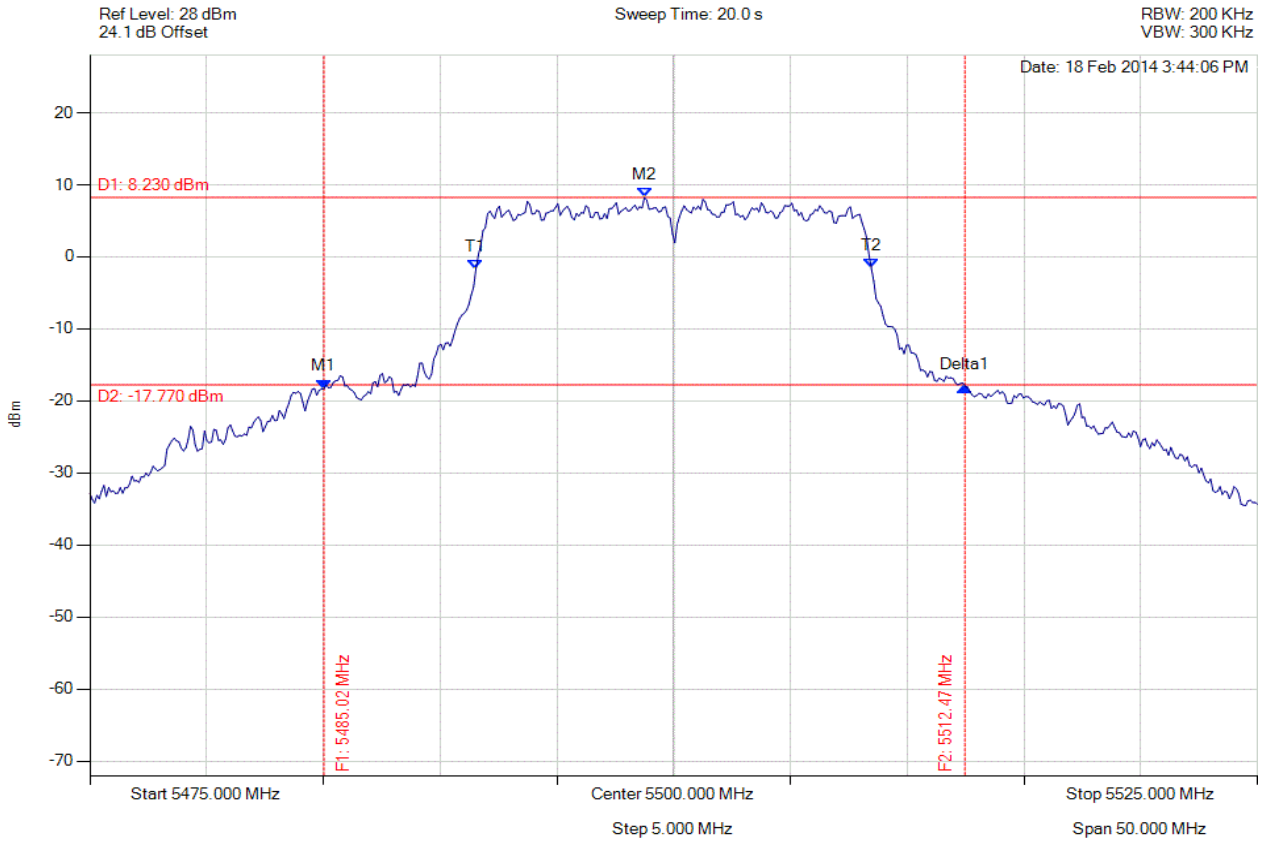


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5272.224 MHz : -20.177 dBm M2 : 5305.090 MHz : 7.240 dBm Delta1 : 75.551 MHz : 1.249 dB T1 : 5291.463 MHz : -4.715 dBm T2 : 5328.737 MHz : -7.662 dBm OBW : 37.275 MHz	Measured 26 dB Bandwidth: 75.551 MHz Measured 99% Bandwidth: 37.275 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

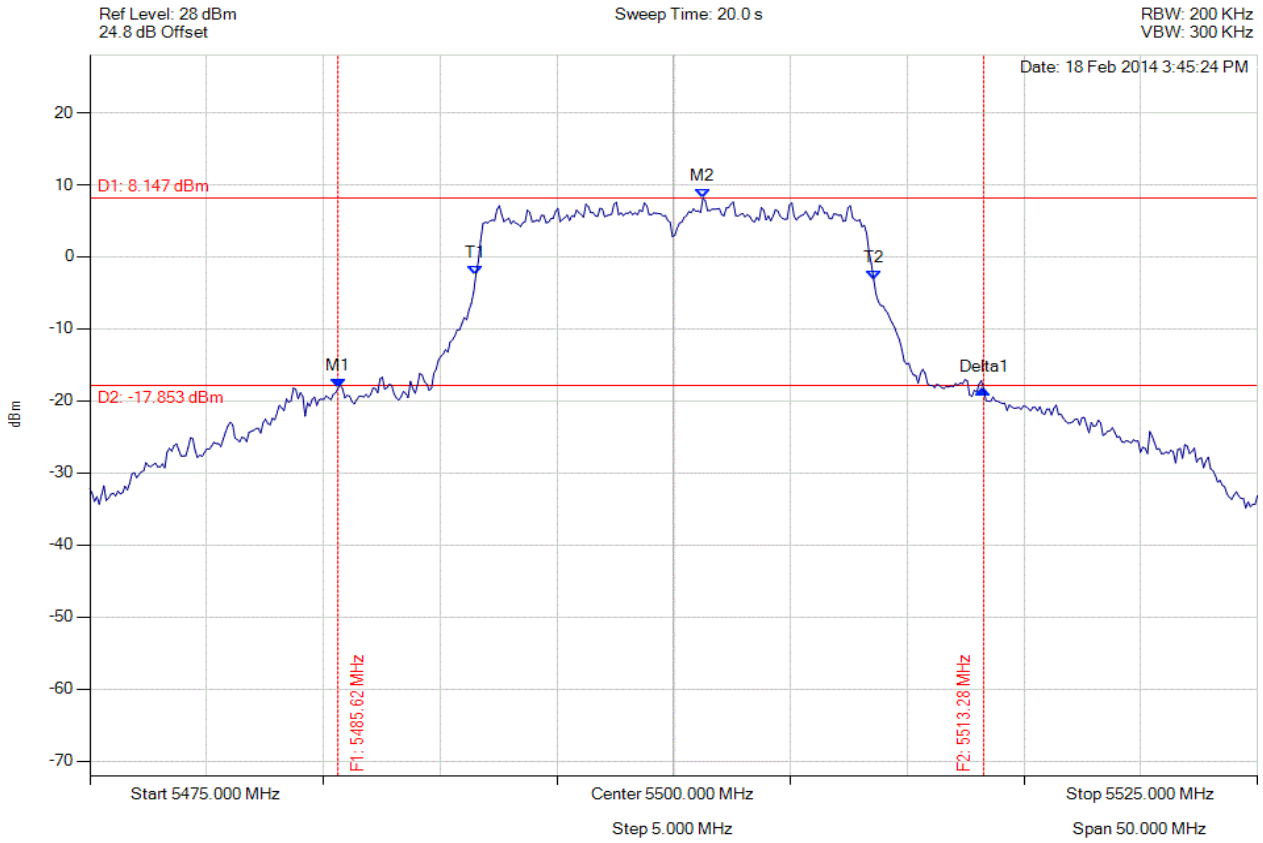


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5485.020 MHz : -18.302 dBm M2 : 5498.747 MHz : 8.230 dBm Delta1 : 27.455 MHz : 0.315 dB T1 : 5491.533 MHz : -1.715 dBm T2 : 5508.467 MHz : -1.603 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 27.455 MHz Measured 99% Bandwidth: 16.934 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

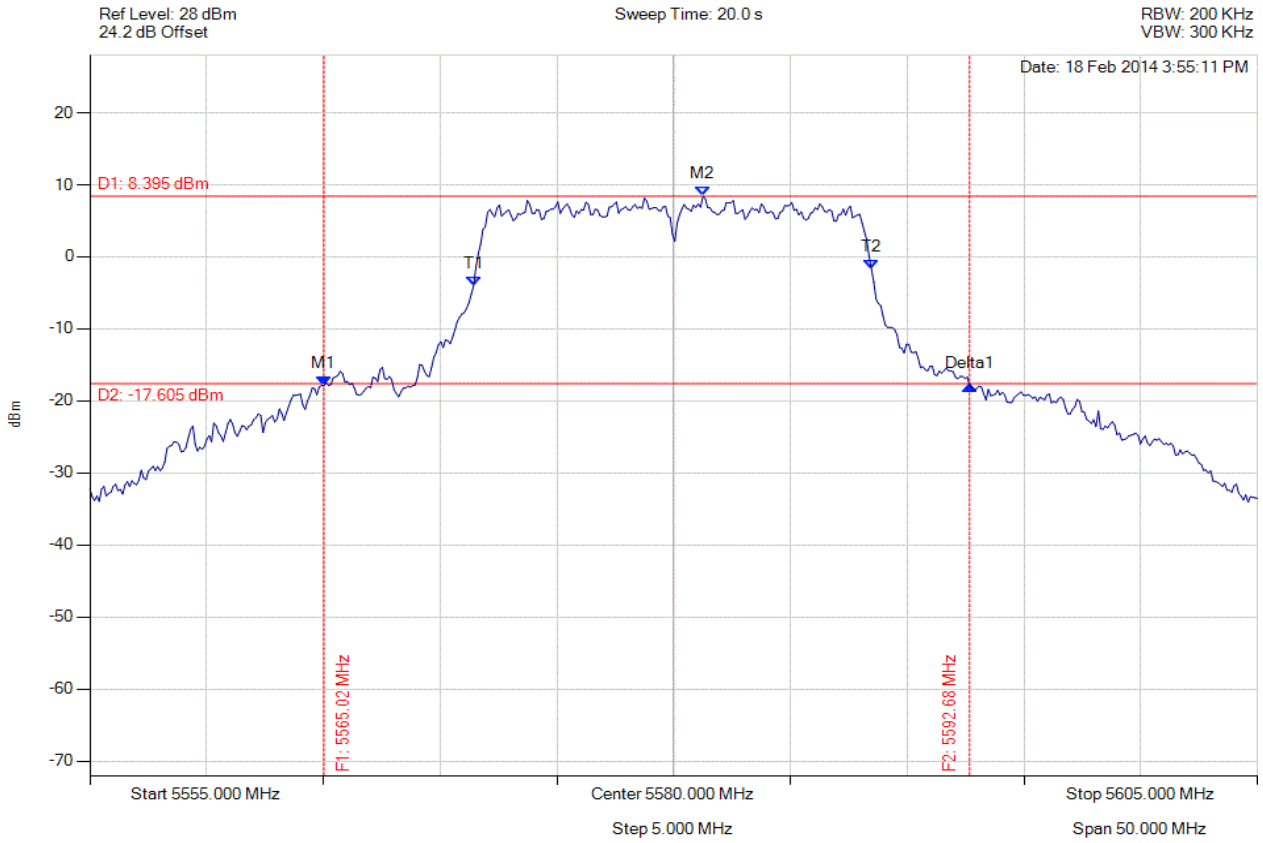


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5485.621 MHz : -18.258 dBm M2 : 5501.253 MHz : 8.147 dBm Delta1 : 27.655 MHz : -0.148 dB T1 : 5491.533 MHz : -2.510 dBm T2 : 5508.567 MHz : -3.224 dBm OBW : 17.034 MHz	Measured 26 dB Bandwidth: 27.655 MHz Measured 99% Bandwidth: 17.034 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5565.020 MHz : -17.887 dBm M2 : 5581.253 MHz : 8.395 dBm Delta1 : 27.655 MHz : 0.051 dB T1 : 5571.433 MHz : -3.977 dBm T2 : 5588.467 MHz : -1.672 dBm OBW : 17.034 MHz	Measured 26 dB Bandwidth: 27.655 MHz Measured 99% Bandwidth: 17.034 MHz

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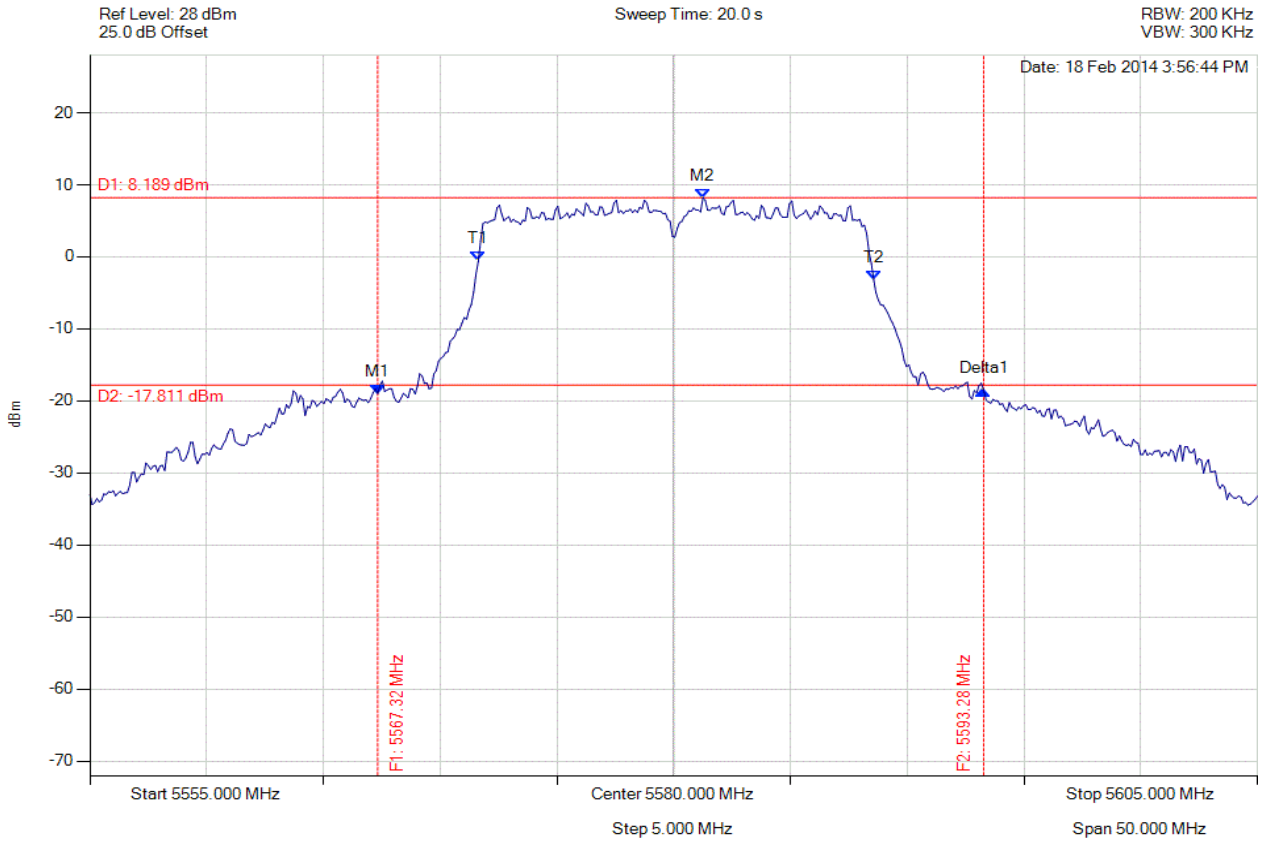
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

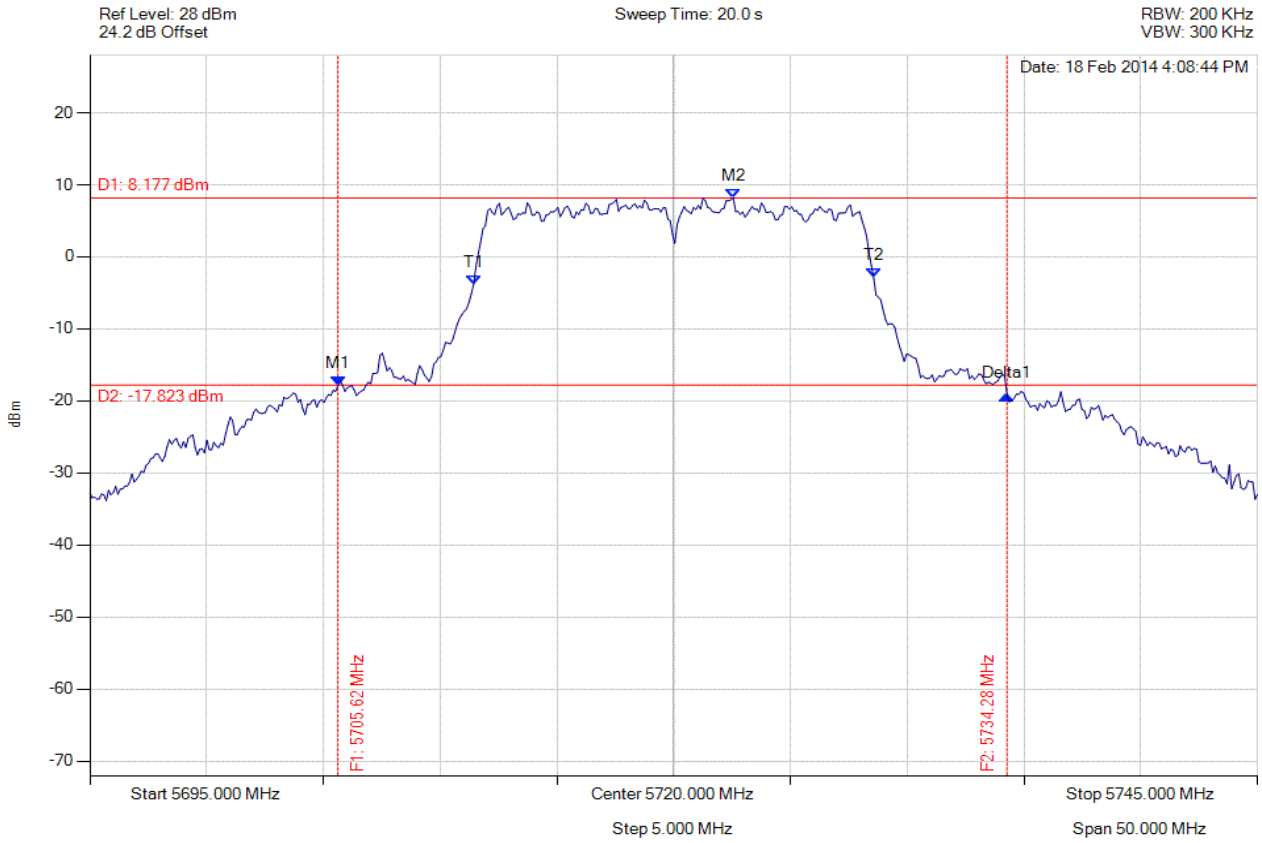


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5567.325 MHz : -19.000 dBm M2 : 5581.253 MHz : 8.189 dBm Delta1 : 25.952 MHz : 0.468 dB T1 : 5571.633 MHz : -0.611 dBm T2 : 5588.567 MHz : -3.214 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 25.952 MHz Measured 99% Bandwidth: 16.934 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5705.621 MHz : -17.839 dBm M2 : 5722.555 MHz : 8.177 dBm Delta1 : 28.657 MHz : -1.350 dB T1 : 5711.433 MHz : -3.834 dBm T2 : 5728.567 MHz : -2.948 dBm OBW : 17.134 MHz	Measured 26 dB Bandwidth: 28.657 MHz Measured 99% Bandwidth: 17.134 MHz

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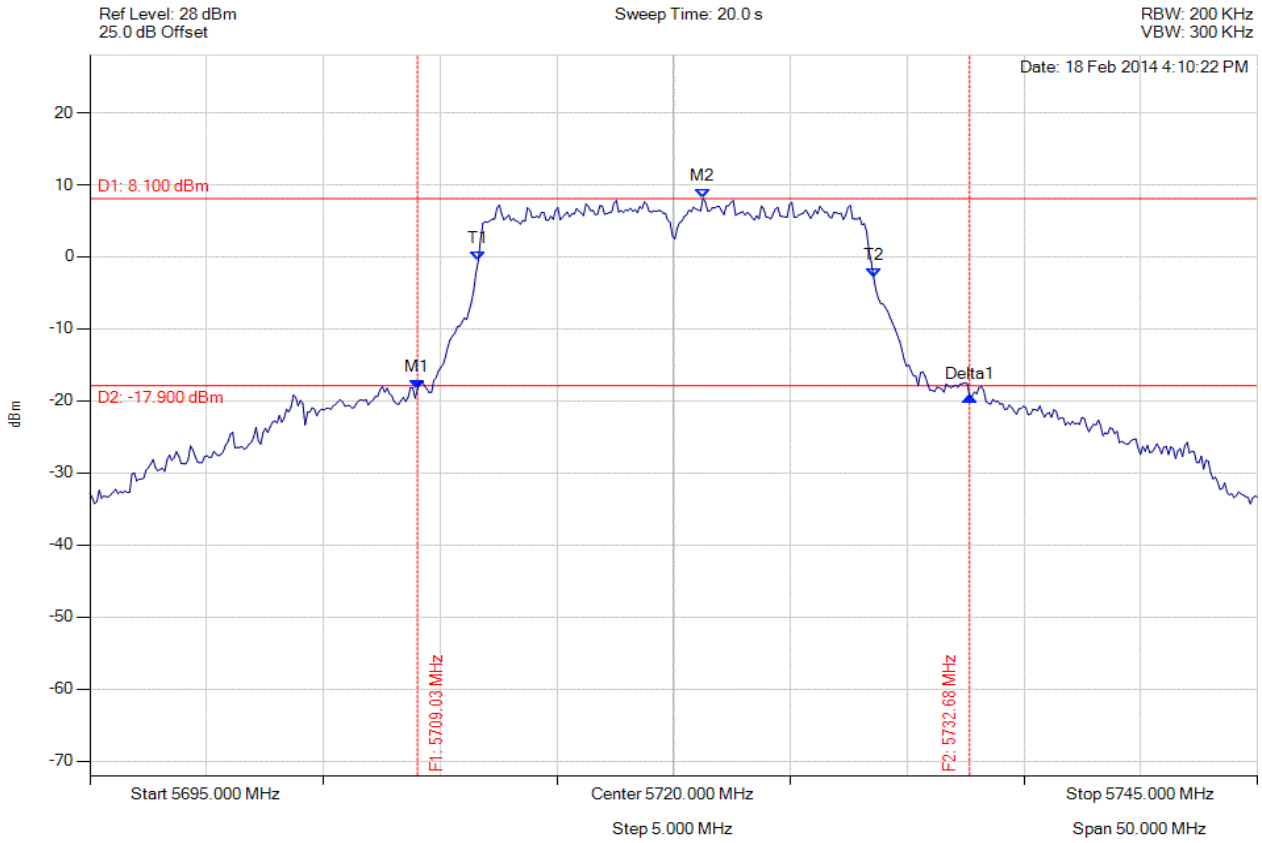
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5709.028 MHz : -18.404 dBm M2 : 5721.253 MHz : 8.100 dBm Delta1 : 23.647 MHz : -0.984 dB T1 : 5711.633 MHz : -0.540 dBm T2 : 5728.567 MHz : -2.907 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 23.647 MHz Measured 99% Bandwidth: 16.934 MHz

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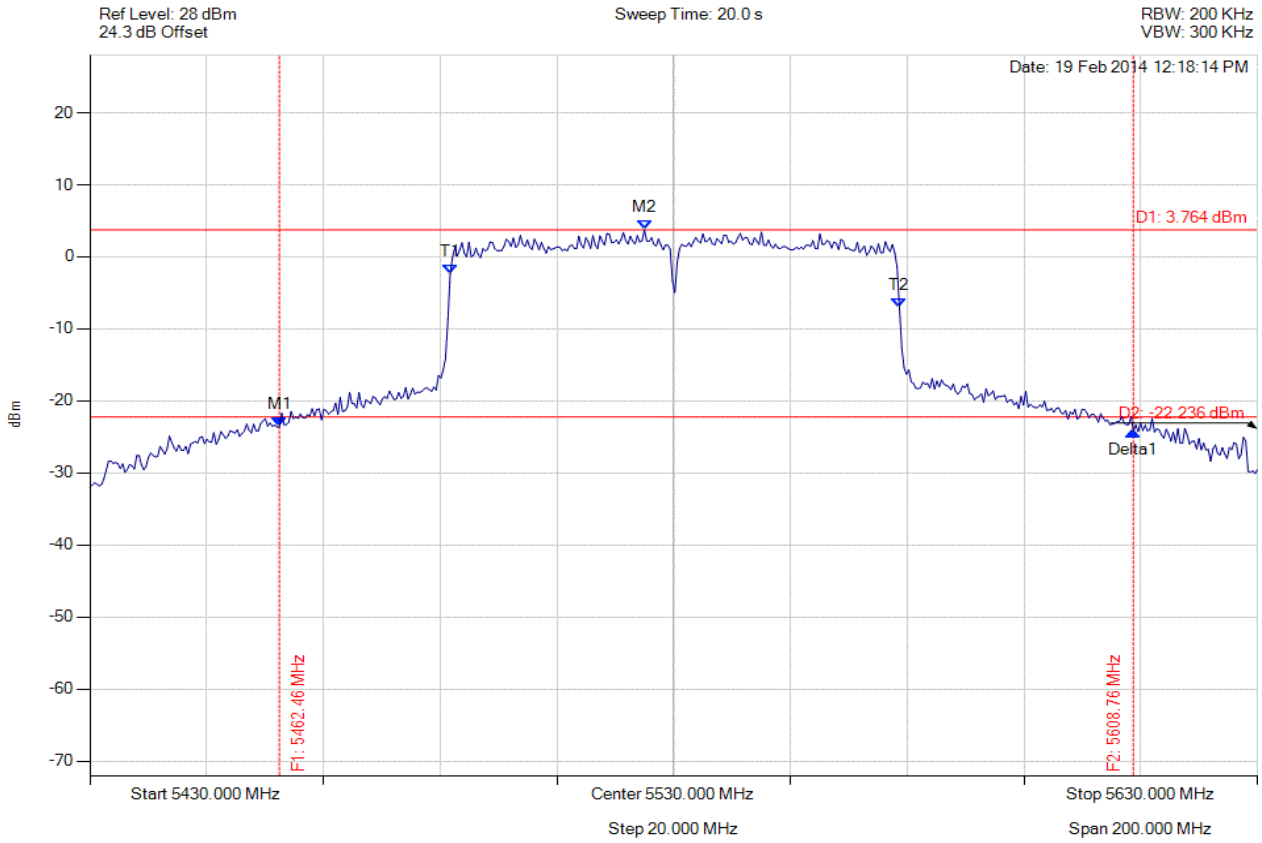
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

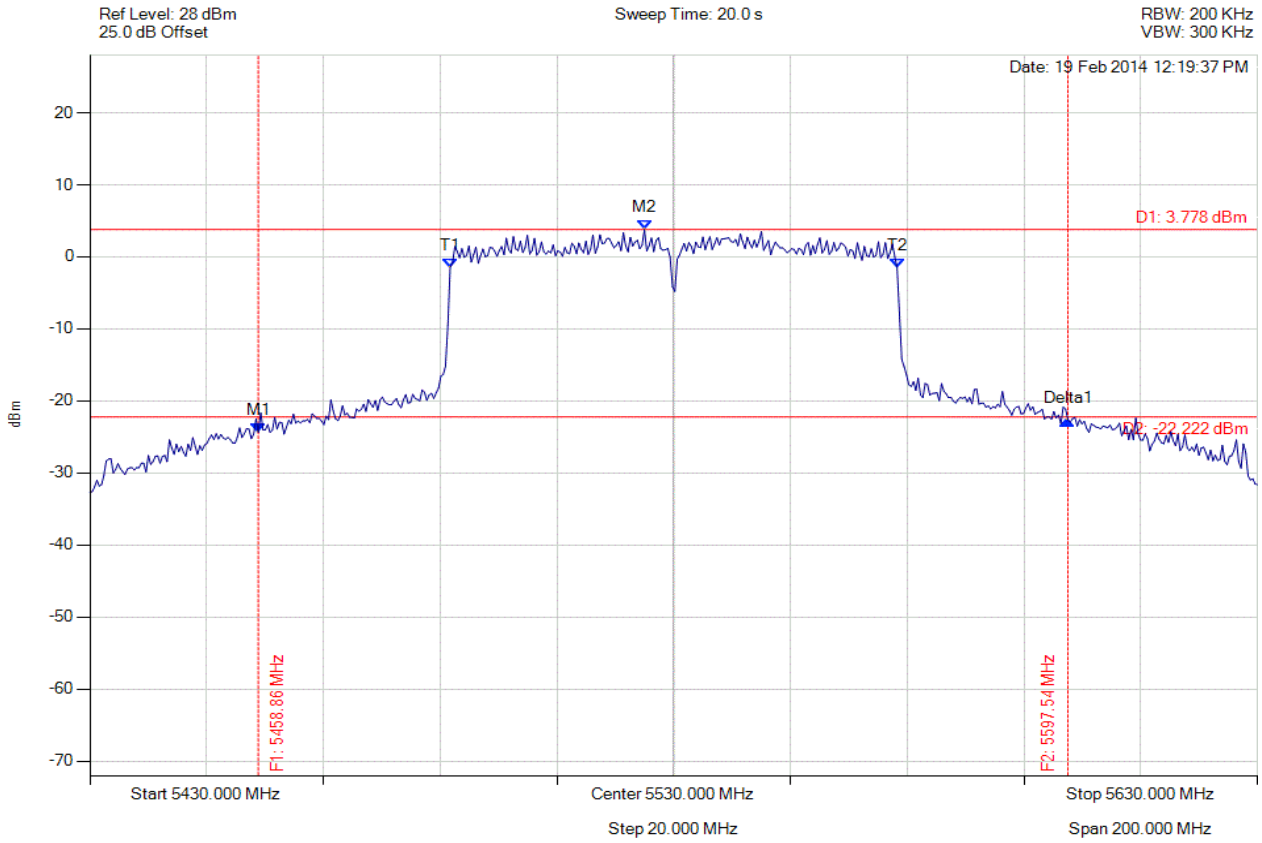


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5462.465 MHz : -23.600 dBm M2 : 5524.990 MHz : 3.764 dBm Delta1 : 146.293 MHz : -0.610 dB T1 : 5491.723 MHz : -2.392 dBm T2 : 5568.677 MHz : -7.086 dBm OBW : 76.954 MHz	Measured 26 dB Bandwidth: 146.293 MHz Measured 99% Bandwidth: 76.954 MHz

Back to the Matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5458.858 MHz : -24.363 dBm M2 : 5524.990 MHz : 3.778 dBm Delta1 : 138.677 MHz : 1.712 dB T1 : 5491.723 MHz : -1.467 dBm T2 : 5568.277 MHz : -1.530 dBm OBW : 76.553 MHz	Measured 26 dB Bandwidth: 138.677 MHz Measured 99% Bandwidth: 76.553 MHz

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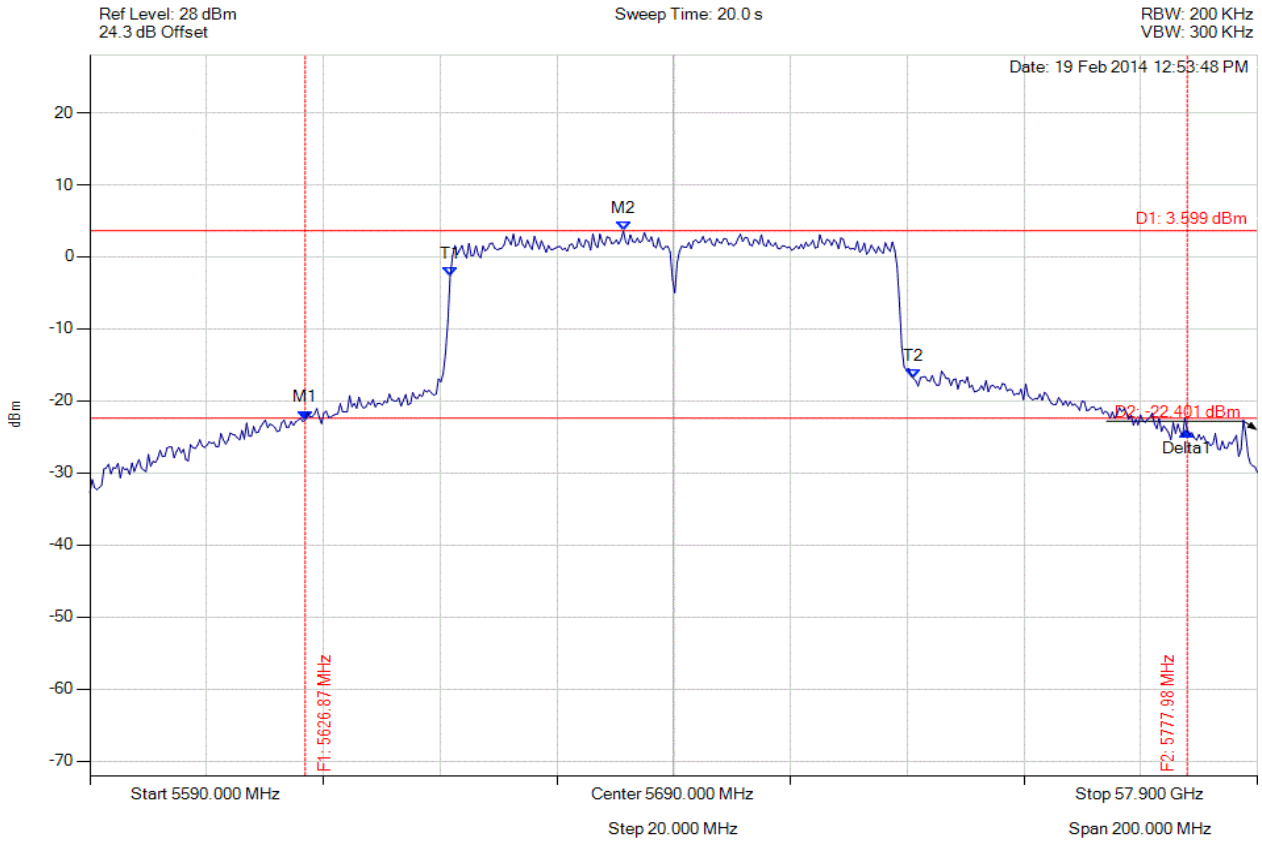
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5626.874 MHz : -22.640 dBm M2 : 5681.383 MHz : 3.599 dBm Delta1 : 151.102 MHz : -1.538 dB T1 : 5651.723 MHz : -2.644 dBm T2 : 5731.082 MHz : -16.921 dBm OBW : 79.359 MHz	Measured 26 dB Bandwidth: 151.102 MHz Measured 99% Bandwidth: 79.359 MHz

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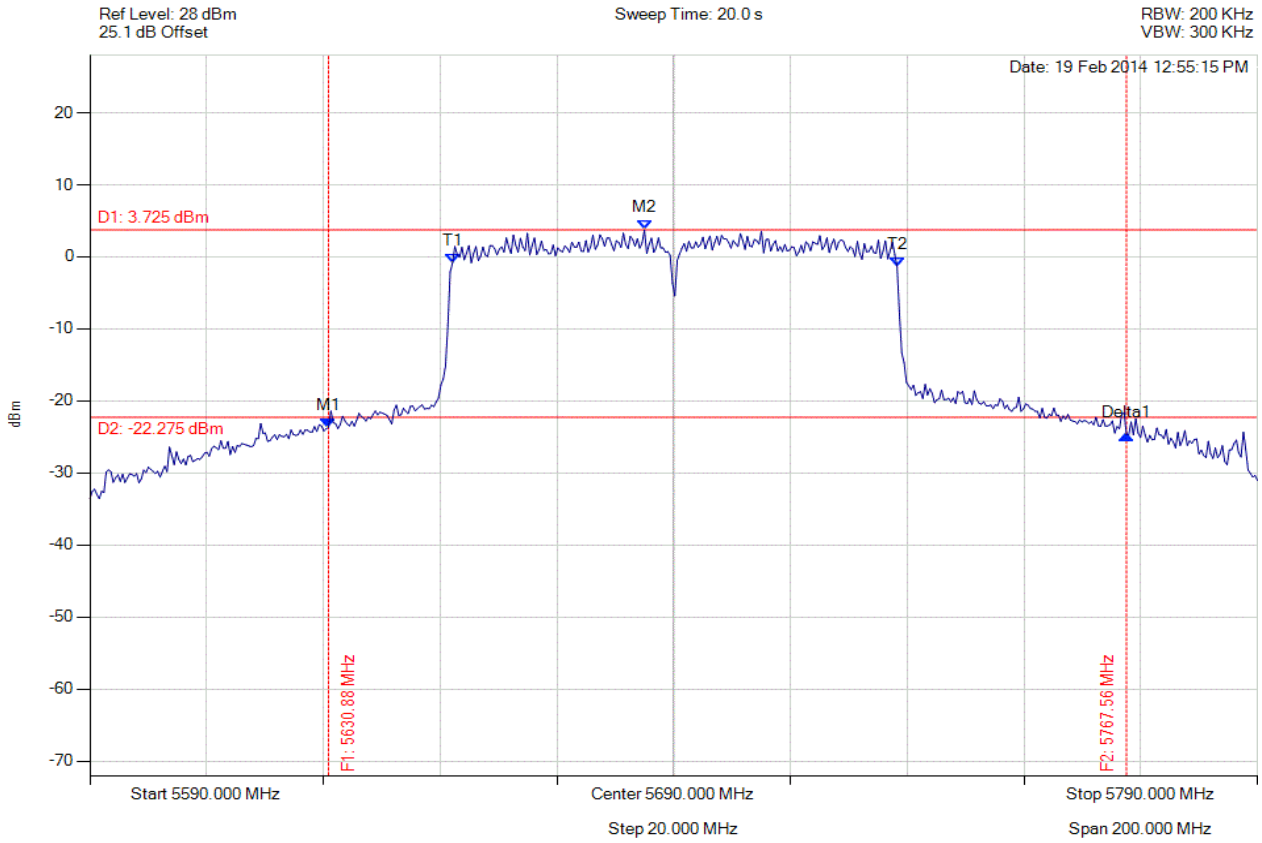
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5630.882 MHz : -23.649 dBm M2 : 5684.990 MHz : 3.725 dBm Delta1 : 136.673 MHz : -1.005 dB T1 : 5652.124 MHz : -0.832 dBm T2 : 5728.277 MHz : -1.392 dBm OBW : 76.152 MHz	Measured 26 dB Bandwidth: 136.673 MHz Measured 99% Bandwidth: 76.152 MHz

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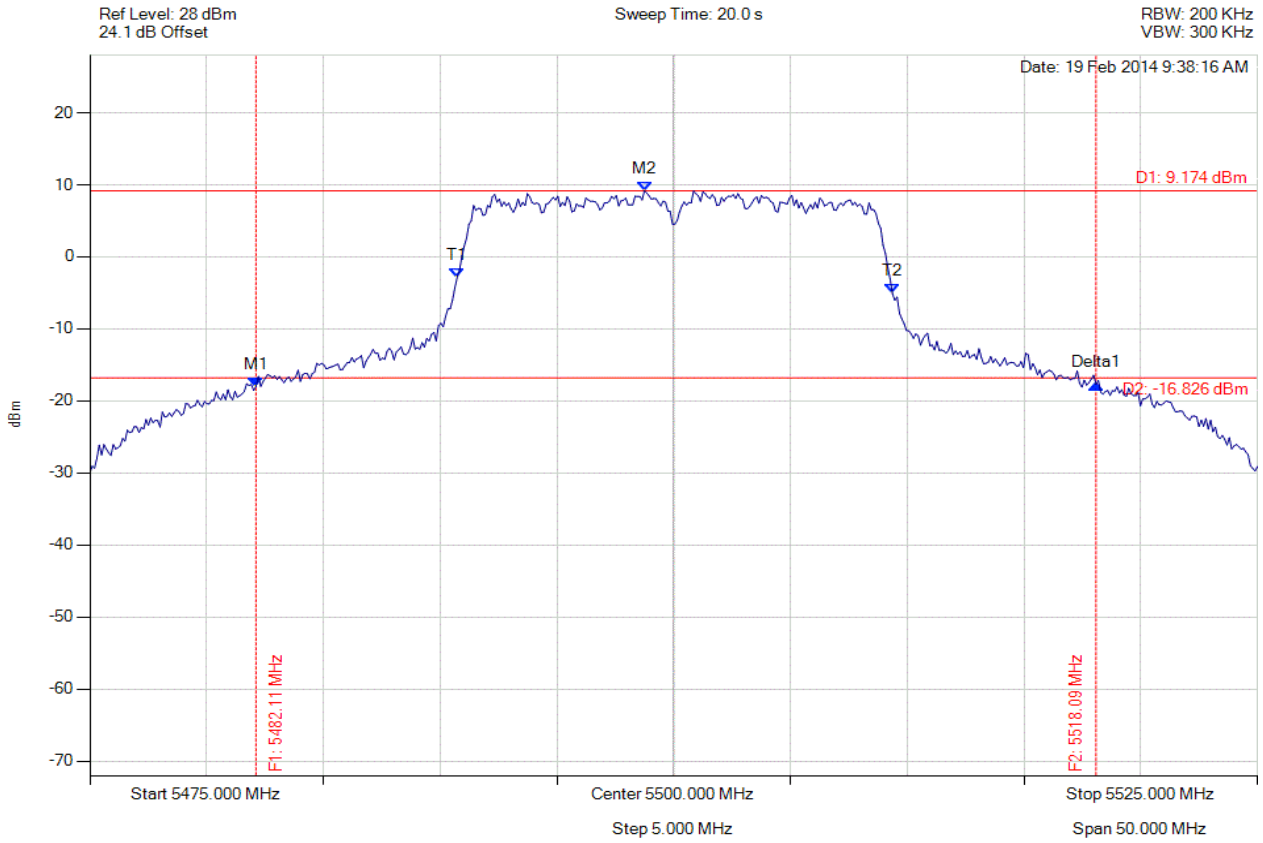
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5482.114 MHz : -17.999 dBm M2 : 5498.747 MHz : 9.174 dBm Delta1 : 35.972 MHz : 0.327 dB T1 : 5490.731 MHz : -2.823 dBm T2 : 5509.369 MHz : -5.091 dBm OBW : 18.637 MHz	Measured 26 dB Bandwidth: 35.972 MHz Measured 99% Bandwidth: 18.637 MHz

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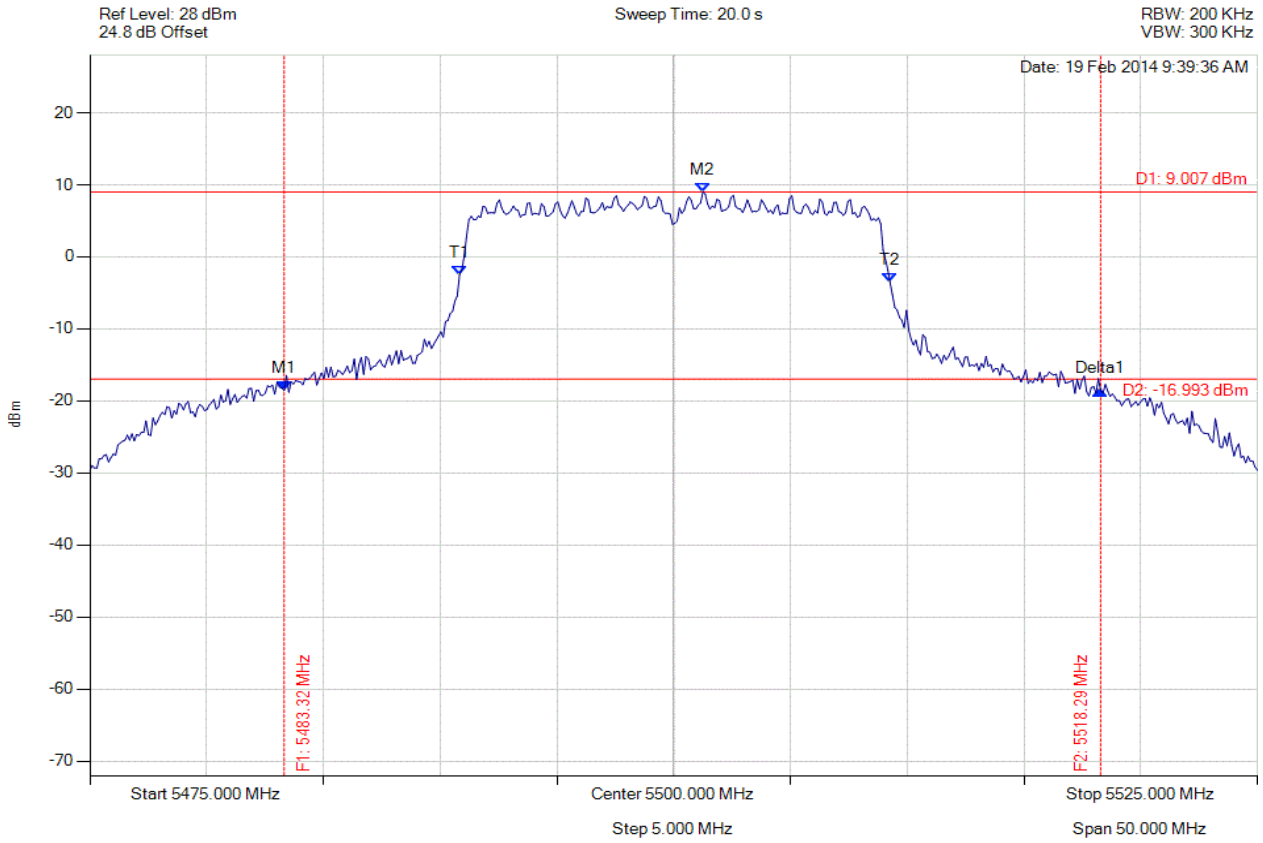
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5483.317 MHz : -18.557 dBm M2 : 5501.253 MHz : 9.007 dBm Delta1 : 34.970 MHz : -0.028 dB T1 : 5490.832 MHz : -2.486 dBm T2 : 5509.269 MHz : -3.615 dBm OBW : 18.437 MHz	Measured 26 dB Bandwidth: 34.970 MHz Measured 99% Bandwidth: 18.437 MHz

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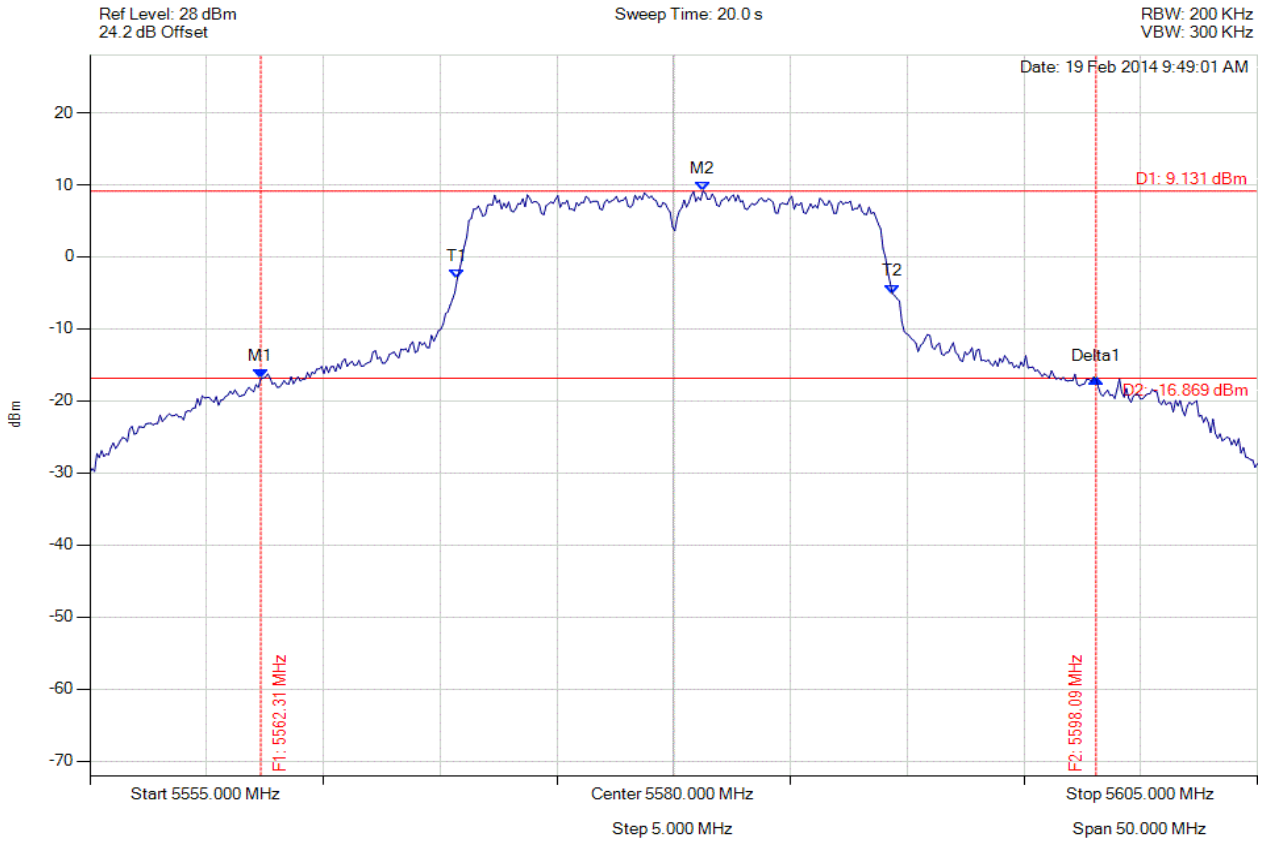
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5562.315 MHz : -16.940 dBm M2 : 5581.253 MHz : 9.131 dBm Delta1 : 35.772 MHz : 0.008 dB T1 : 5570.731 MHz : -3.080 dBm T2 : 5589.369 MHz : -5.124 dBm OBW : 18.637 MHz	Measured 26 dB Bandwidth: 35.772 MHz Measured 99% Bandwidth: 18.637 MHz

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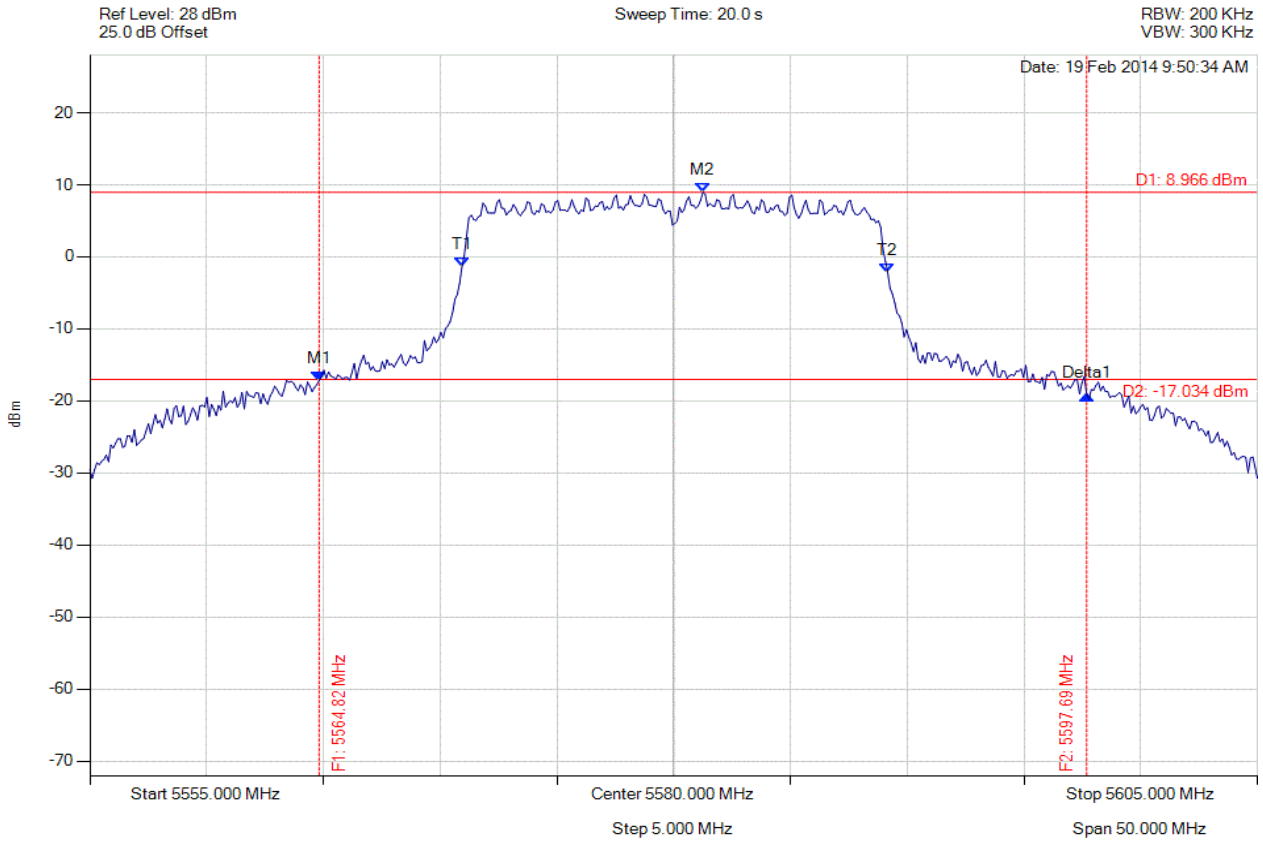
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5564.820 MHz : -17.147 dBm M2 : 5581.253 MHz : 8.966 dBm Delta1 : 32.866 MHz : -2.001 dB T1 : 5570.932 MHz : -1.418 dBm T2 : 5589.168 MHz : -2.240 dBm OBW : 18.236 MHz	Measured 26 dB Bandwidth: 32.866 MHz Measured 99% Bandwidth: 18.236 MHz

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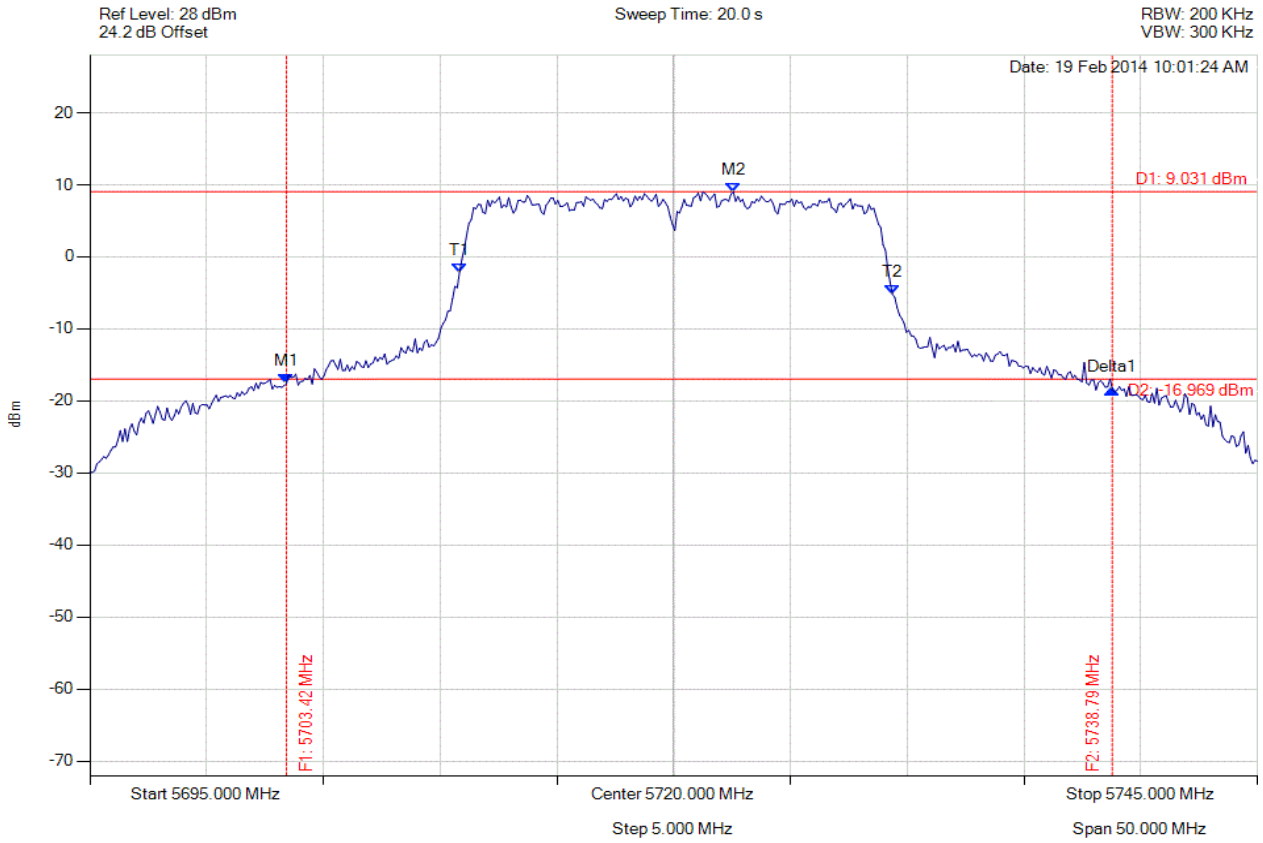
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5703.417 MHz : -17.584 dBm M2 : 5722.555 MHz : 9.031 dBm Delta1 : 35.371 MHz : -0.854 dB T1 : 5710.832 MHz : -2.152 dBm T2 : 5729.369 MHz : -5.201 dBm OBW : 18.537 MHz	Measured 26 dB Bandwidth: 35.371 MHz Measured 99% Bandwidth: 18.537 MHz

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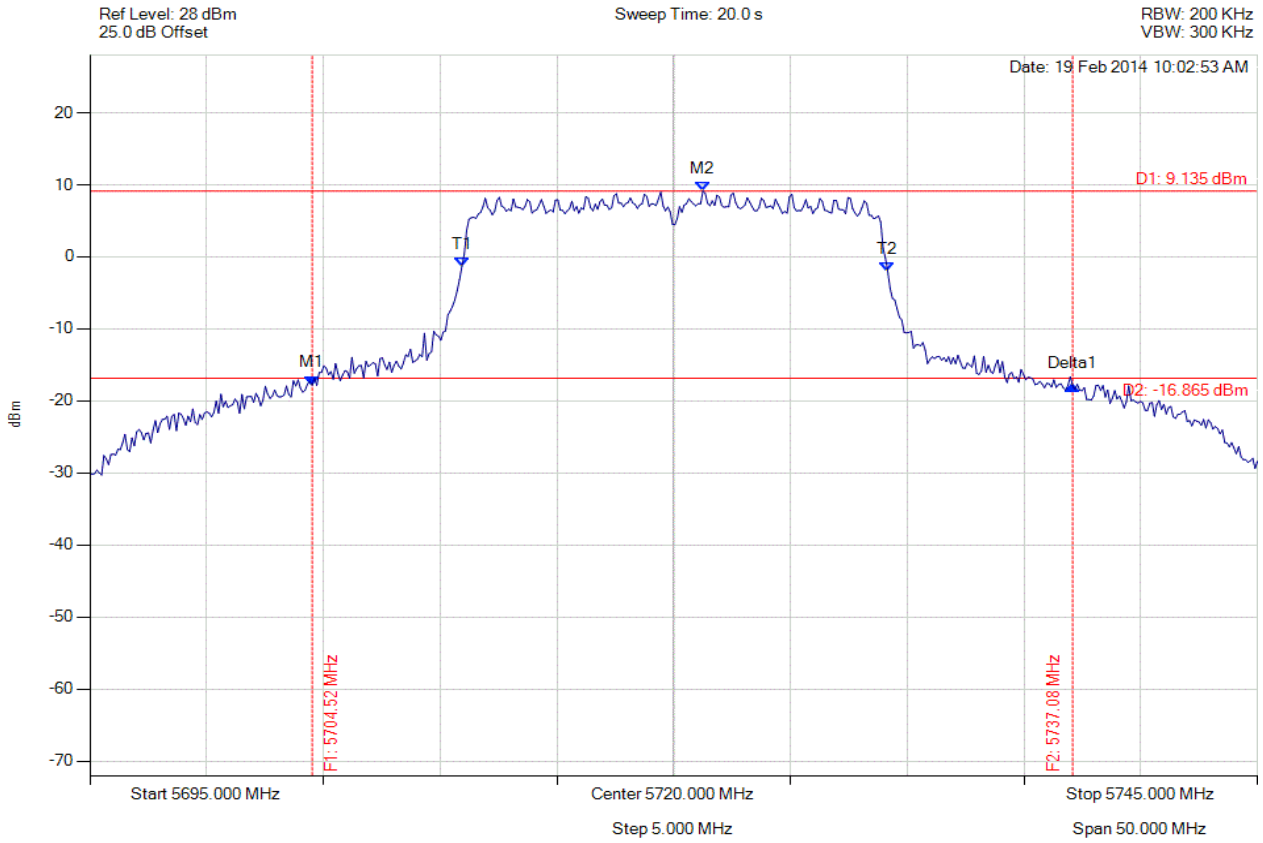
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5704.519 MHz : -17.802 dBm M2 : 5721.253 MHz : 9.135 dBm Delta1 : 32.565 MHz : -0.031 dB T1 : 5710.932 MHz : -1.300 dBm T2 : 5729.168 MHz : -2.087 dBm OBW : 18.236 MHz	Measured 26 dB Bandwidth: 32.565 MHz Measured 99% Bandwidth: 18.236 MHz

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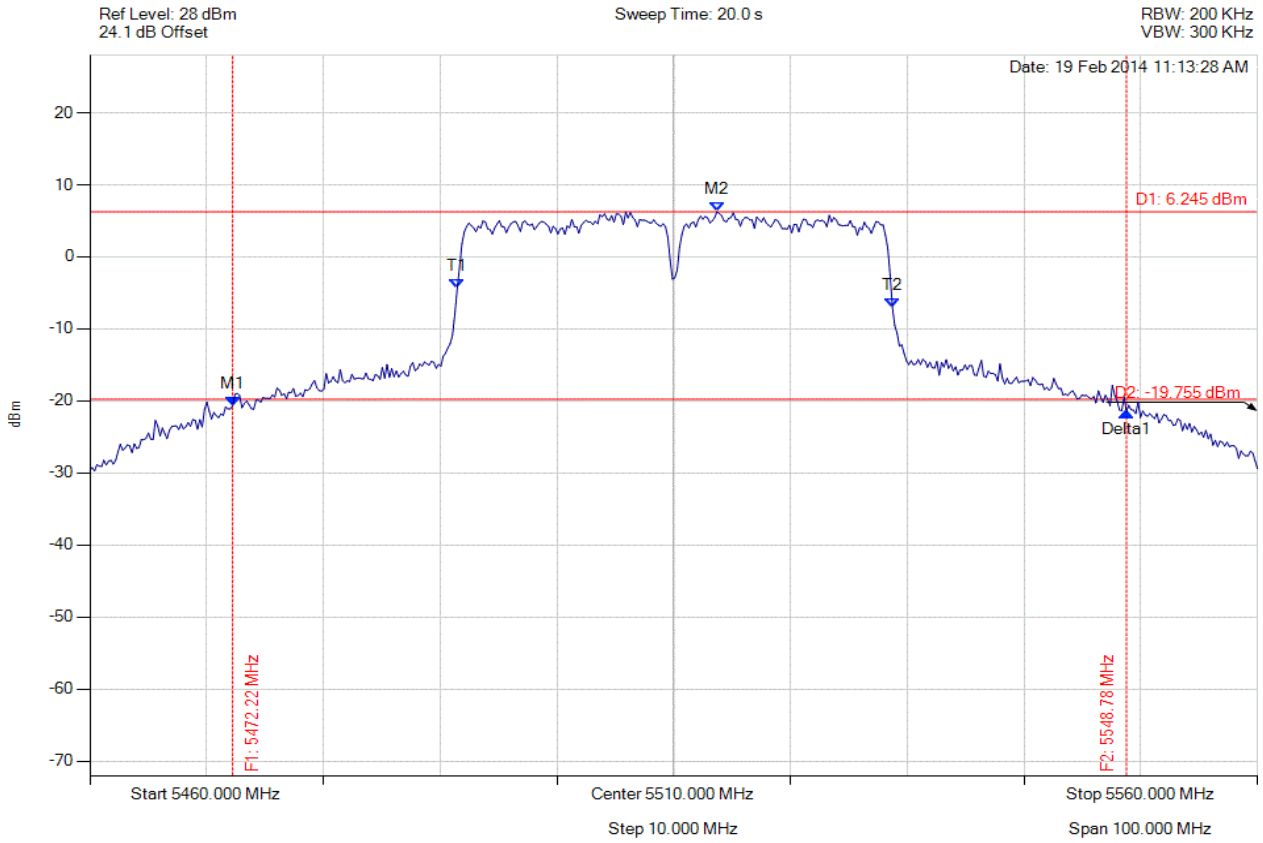
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5472.224 MHz : -20.661 dBm M2 : 5513.707 MHz : 6.245 dBm Delta1 : 76.553 MHz : -0.860 dB T1 : 5491.463 MHz : -4.351 dBm T2 : 5528.737 MHz : -6.993 dBm OBW : 37.275 MHz	Measured 26 dB Bandwidth: 76.553 MHz Measured 99% Bandwidth: 37.275 MHz

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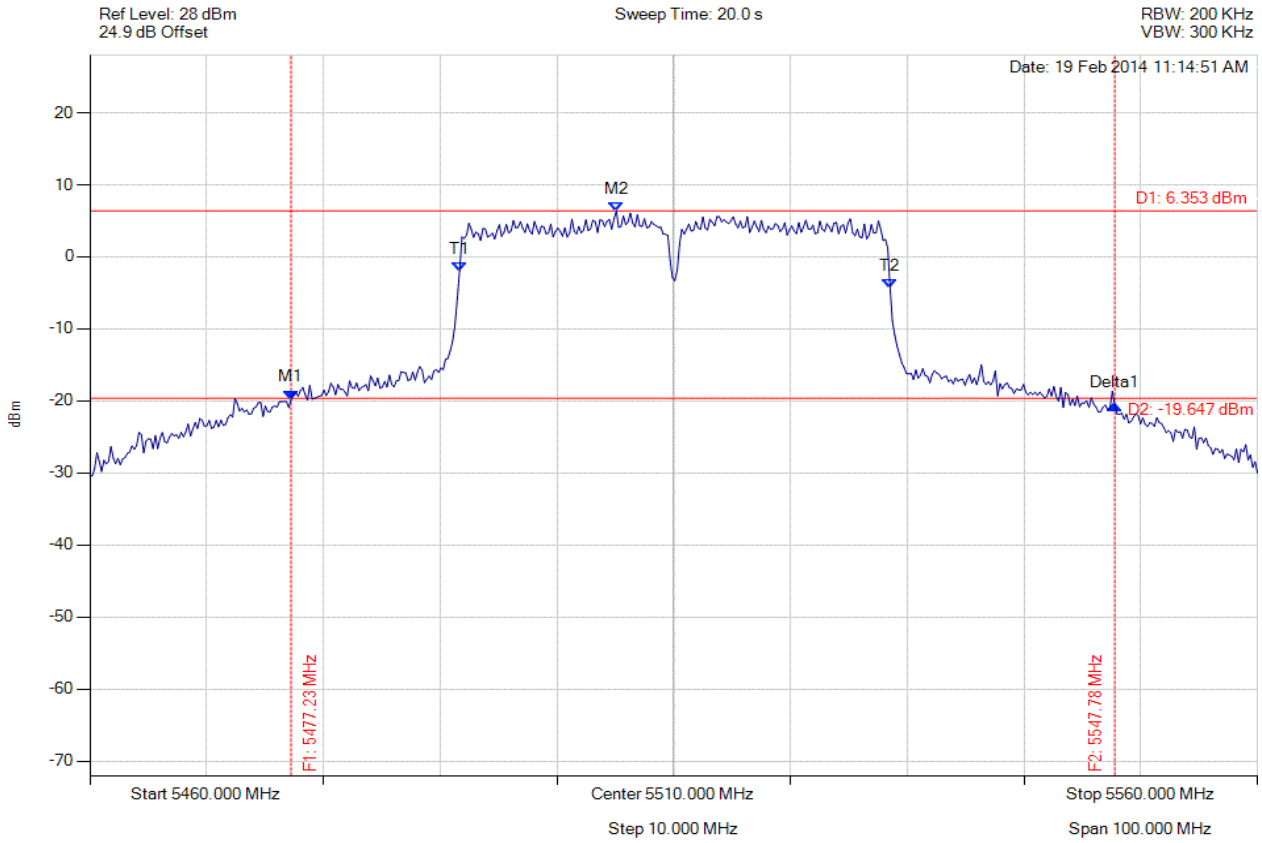
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5477.234 MHz : -19.805 dBm M2 : 5505.090 MHz : 6.353 dBm Delta1 : 70.541 MHz : -0.799 dB T1 : 5491.663 MHz : -1.963 dBm T2 : 5528.537 MHz : -4.332 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 70.541 MHz Measured 99% Bandwidth: 36.874 MHz

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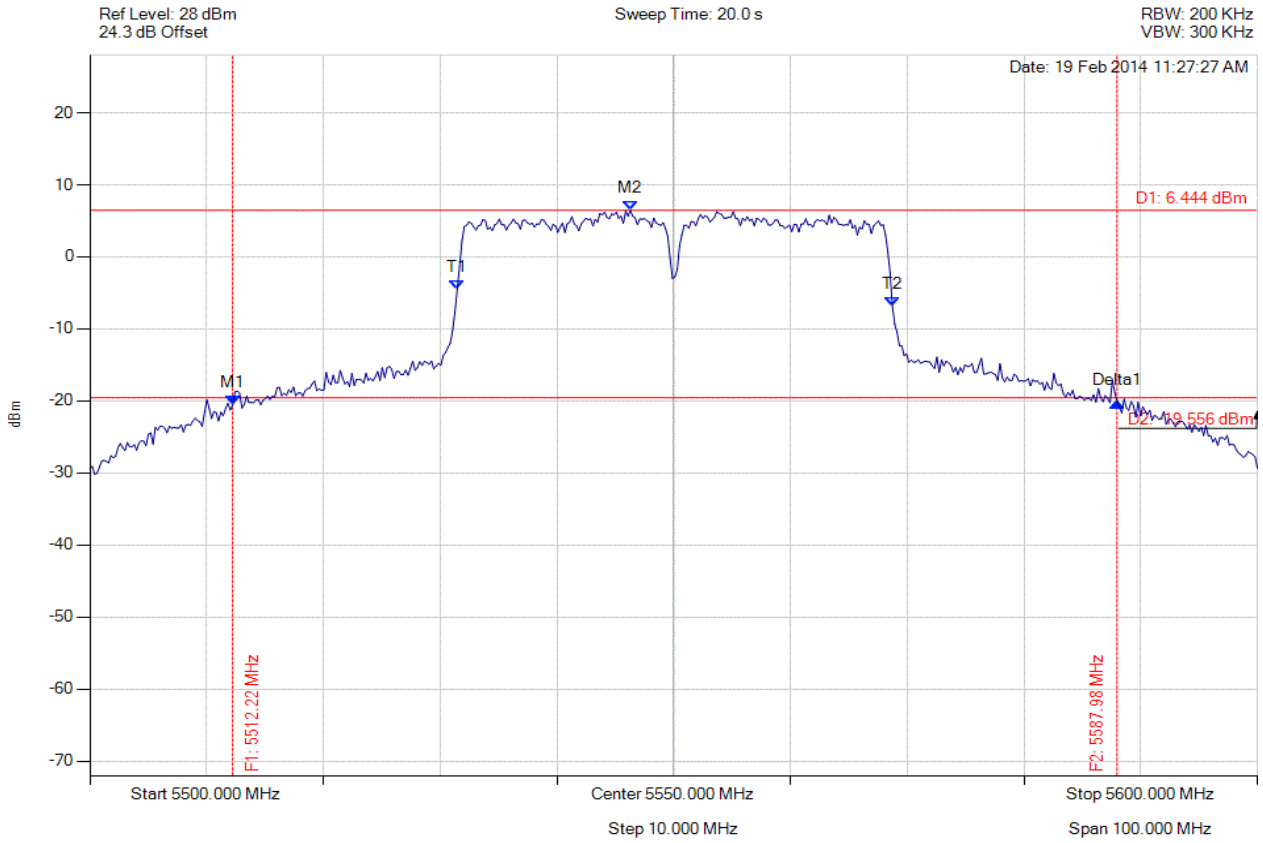
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5512.224 MHz : -20.574 dBm M2 : 5546.293 MHz : 6.444 dBm Delta1 : 75.752 MHz : 0.427 dB T1 : 5531.463 MHz : -4.487 dBm T2 : 5568.737 MHz : -6.846 dBm OBW : 37.275 MHz	Measured 26 dB Bandwidth: 75.752 MHz Measured 99% Bandwidth: 37.275 MHz

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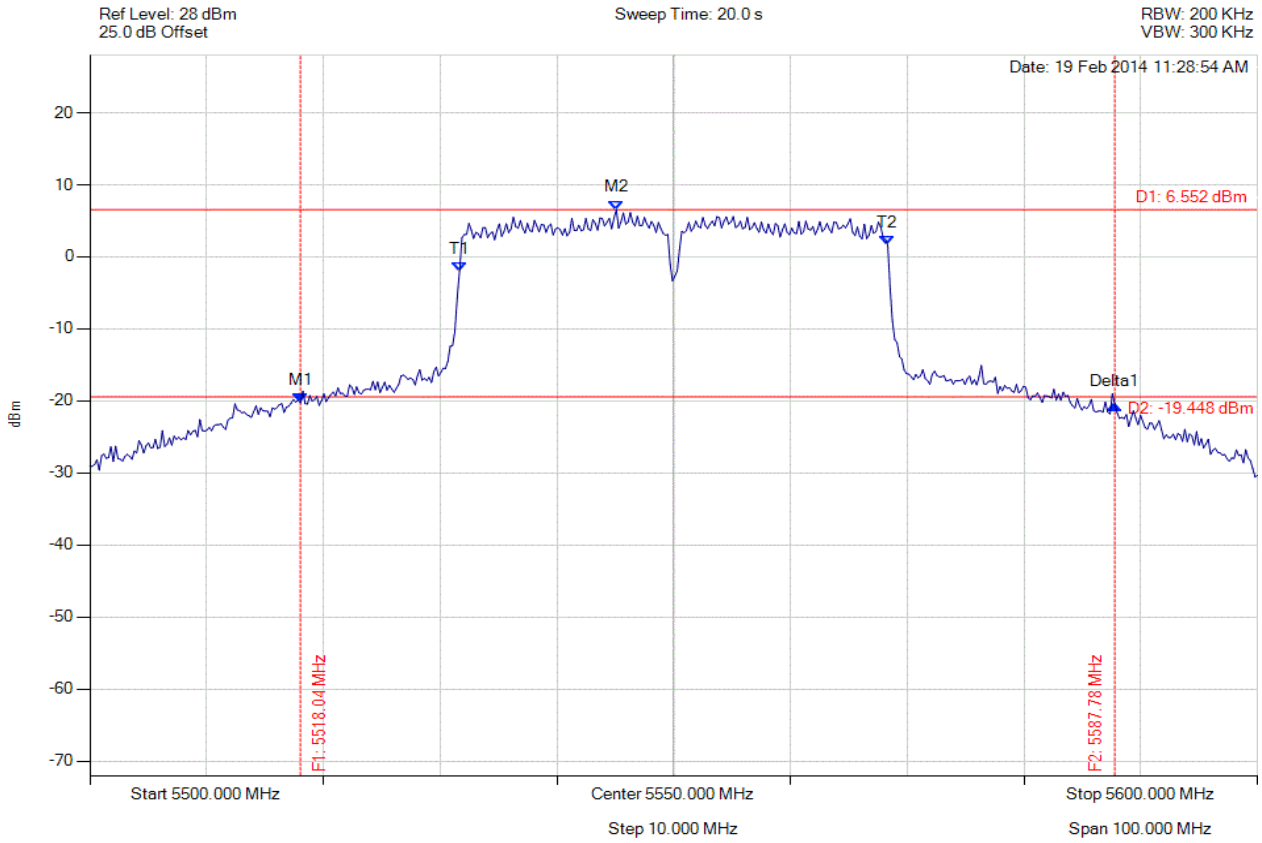
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5518.036 MHz : -20.273 dBm M2 : 5545.090 MHz : 6.552 dBm Delta1 : 69.739 MHz : -0.195 dB T1 : 5531.663 MHz : -1.981 dBm T2 : 5568.337 MHz : 1.569 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 69.739 MHz Measured 99% Bandwidth: 36.673 MHz

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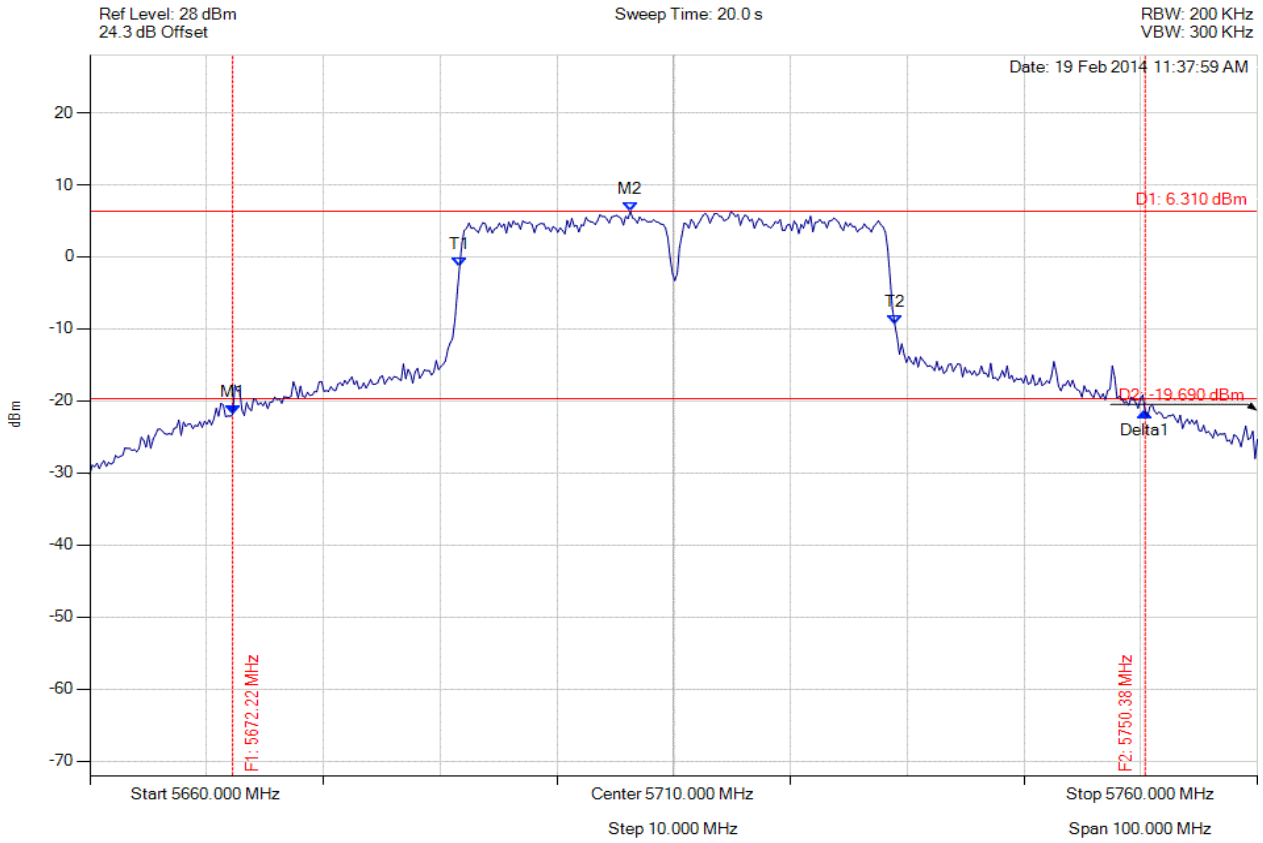
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5672.224 MHz : -21.904 dBm M2 : 5706.293 MHz : 6.310 dBm Delta1 : 78.156 MHz : 0.315 dB T1 : 5691.663 MHz : -1.434 dBm T2 : 5728.938 MHz : -9.397 dBm OBW : 37.275 MHz	Measured 26 dB Bandwidth: 78.156 MHz Measured 99% Bandwidth: 37.275 MHz

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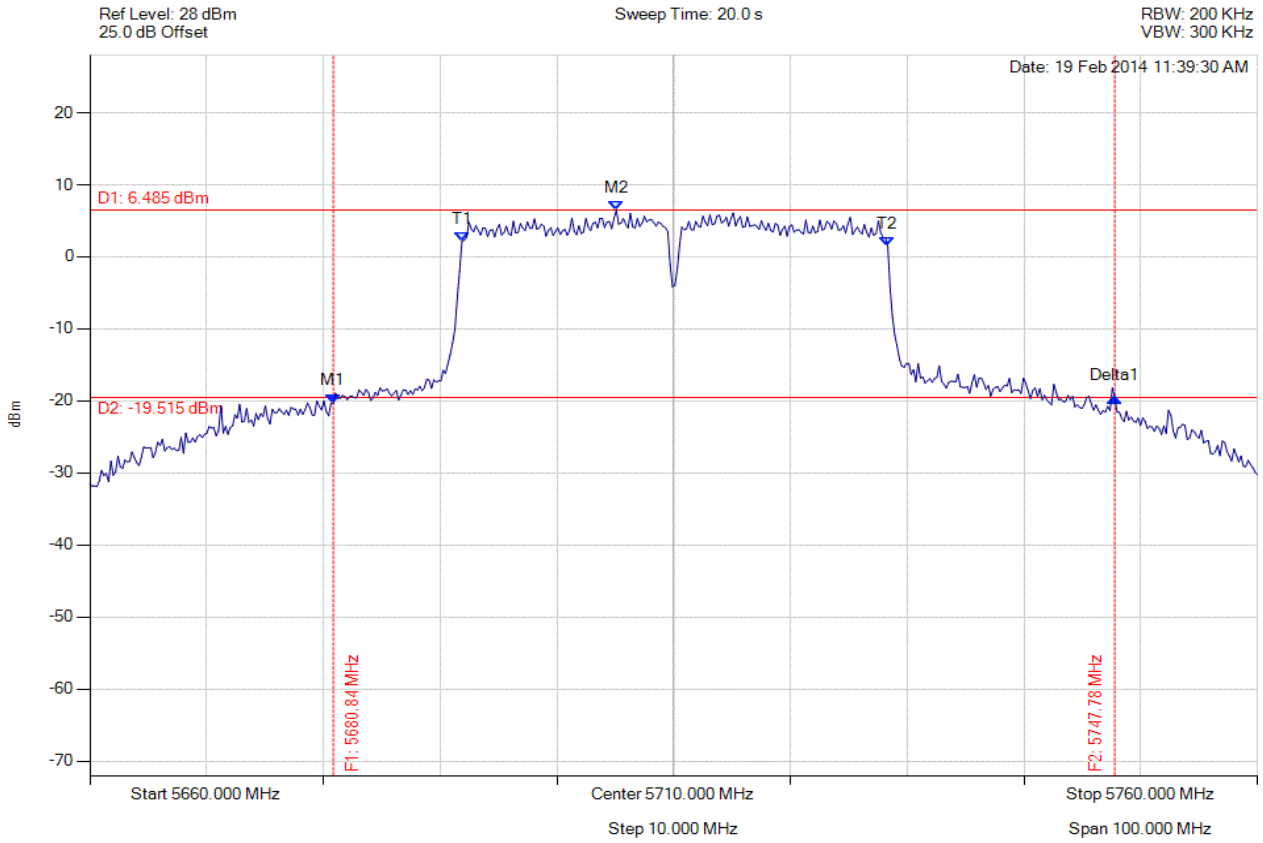
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5680.842 MHz : -20.301 dBm M2 : 5705.090 MHz : 6.485 dBm Delta1 : 66.934 MHz : 0.746 dB T1 : 5691.864 MHz : 2.184 dBm T2 : 5728.337 MHz : 1.456 dBm OBW : 36.473 MHz	Measured 26 dB Bandwidth: 66.934 MHz Measured 99% Bandwidth: 36.473 MHz

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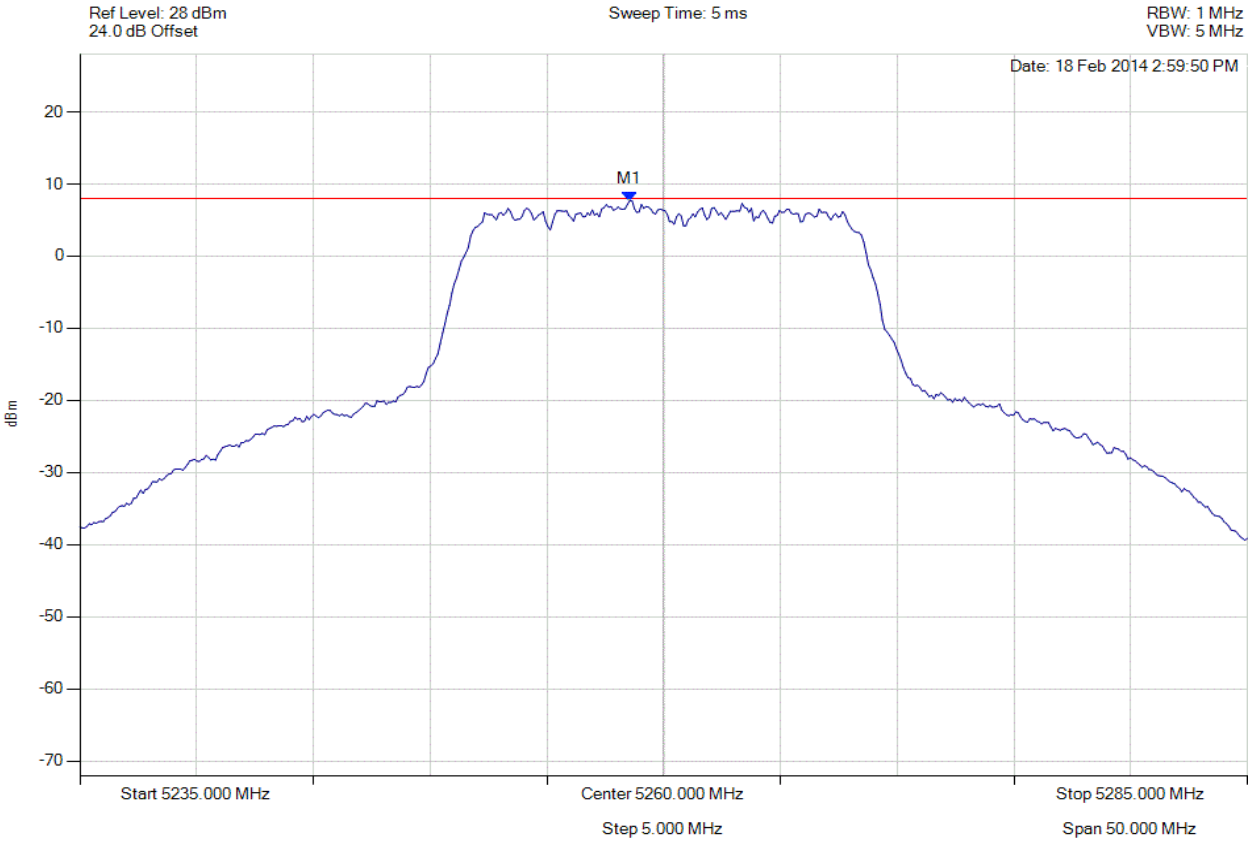
A.1.2. Peak Power Spectral Density

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5258.547 MHz : 7.683 dBm	Limit: ≤ 7.990 dBm Margin: -0.31 dB

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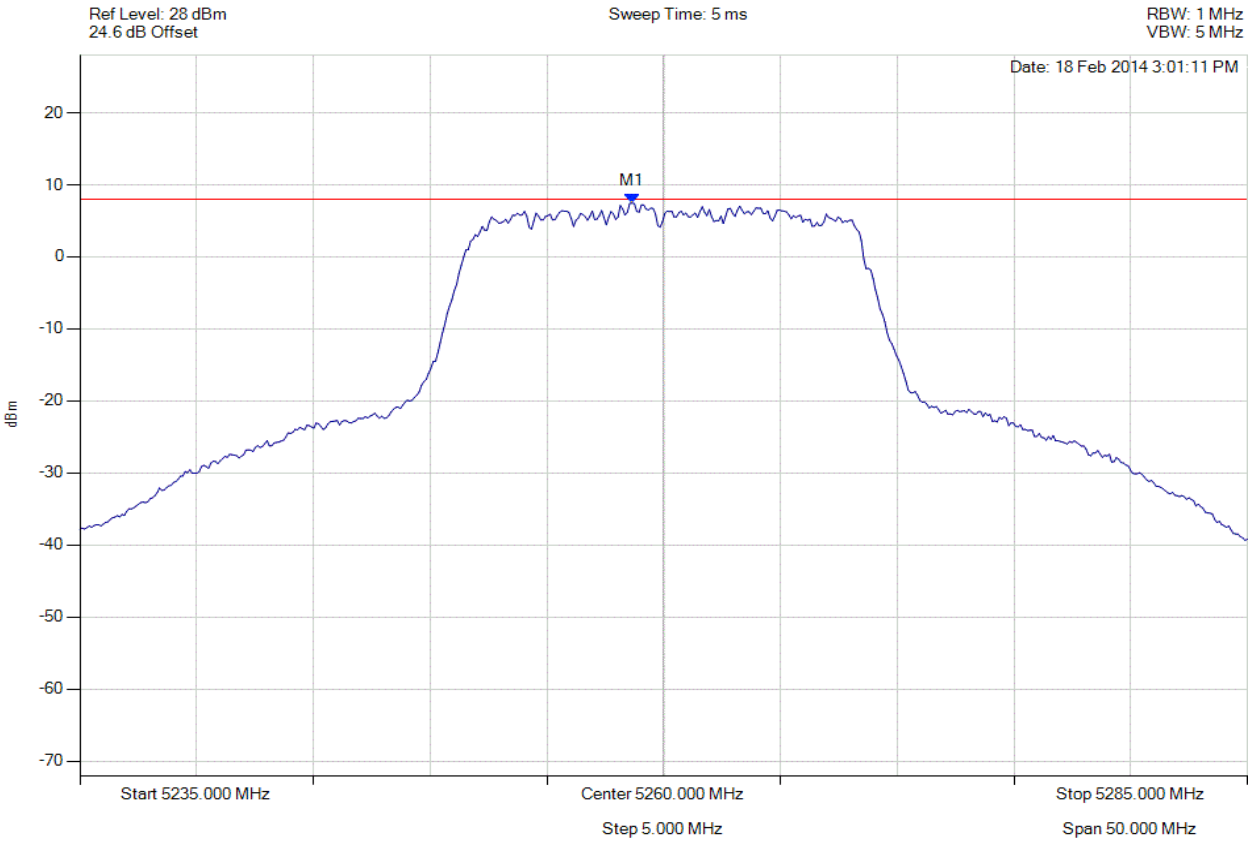
PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

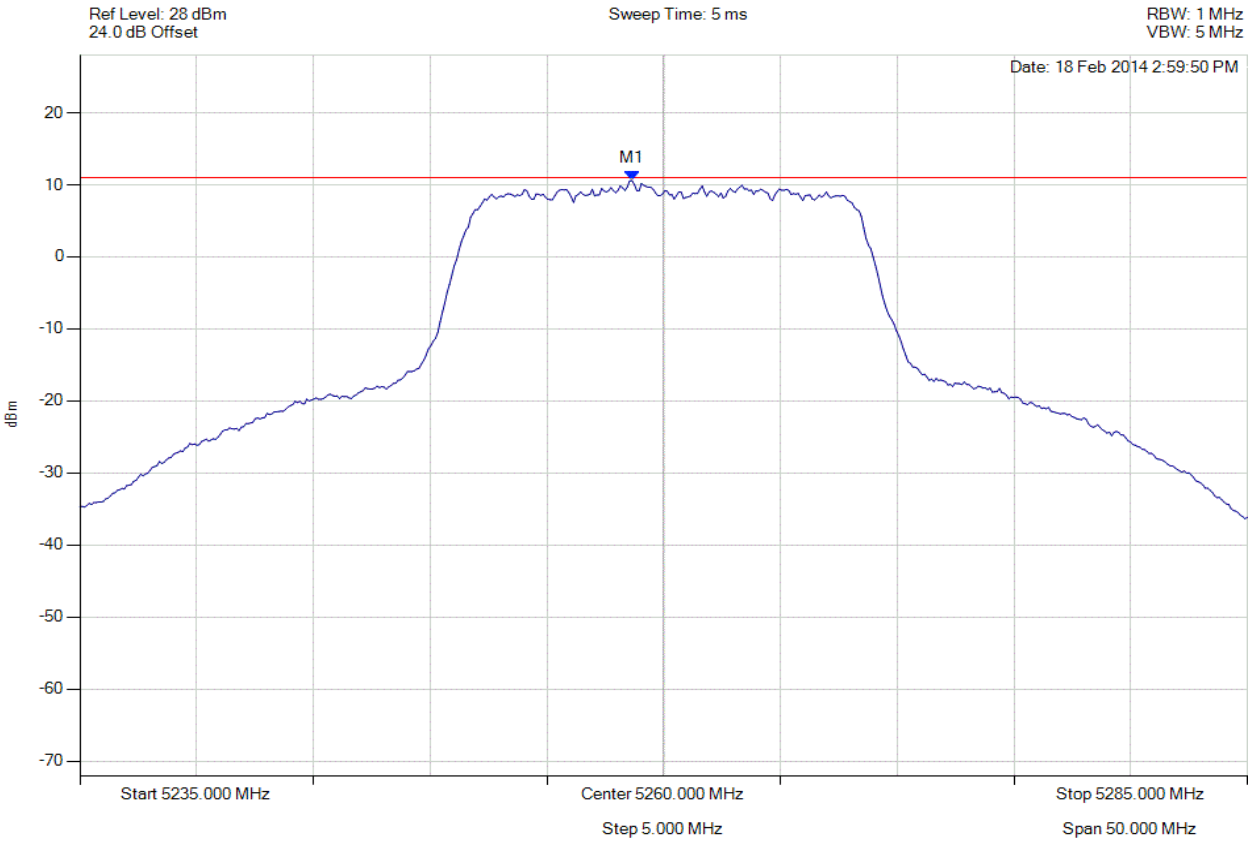


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5258.647 MHz : 7.455 dBm	Limit: ≤ 7.990 dBm Margin: -0.54 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

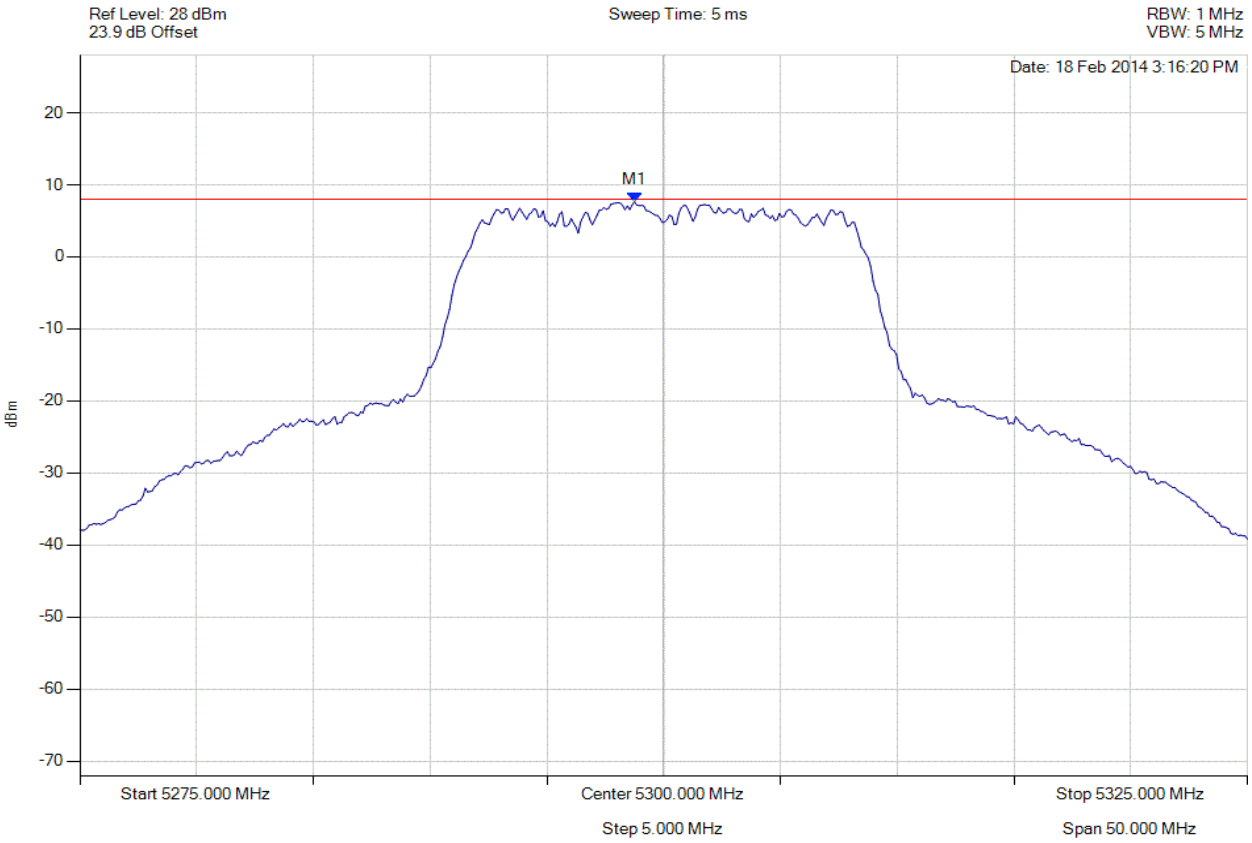


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5258.647 MHz : 10.572 dBm	Limit: ≤ 11.0 dBm Margin: -0.4 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

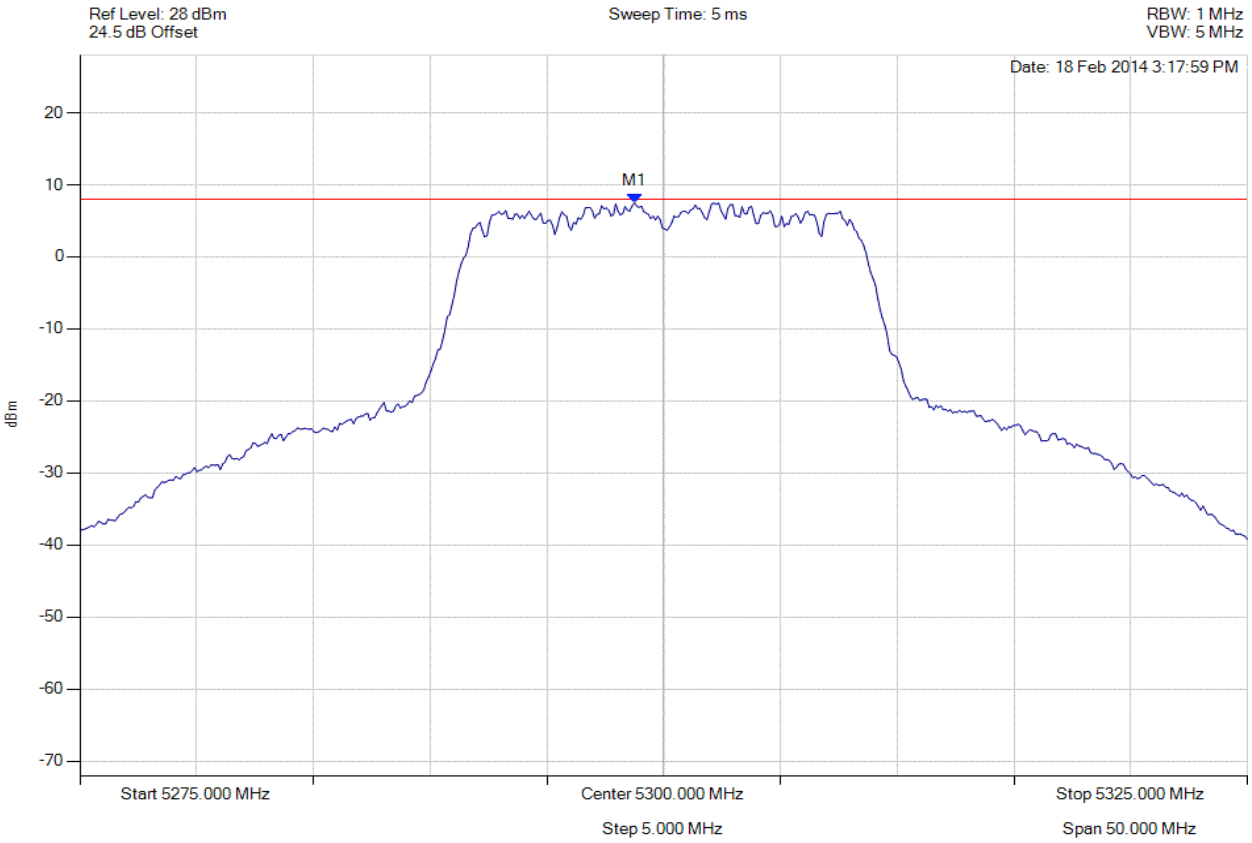


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.747 MHz : 7.653 dBm	Limit: ≤ 7.990 dBm Margin: -0.34 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

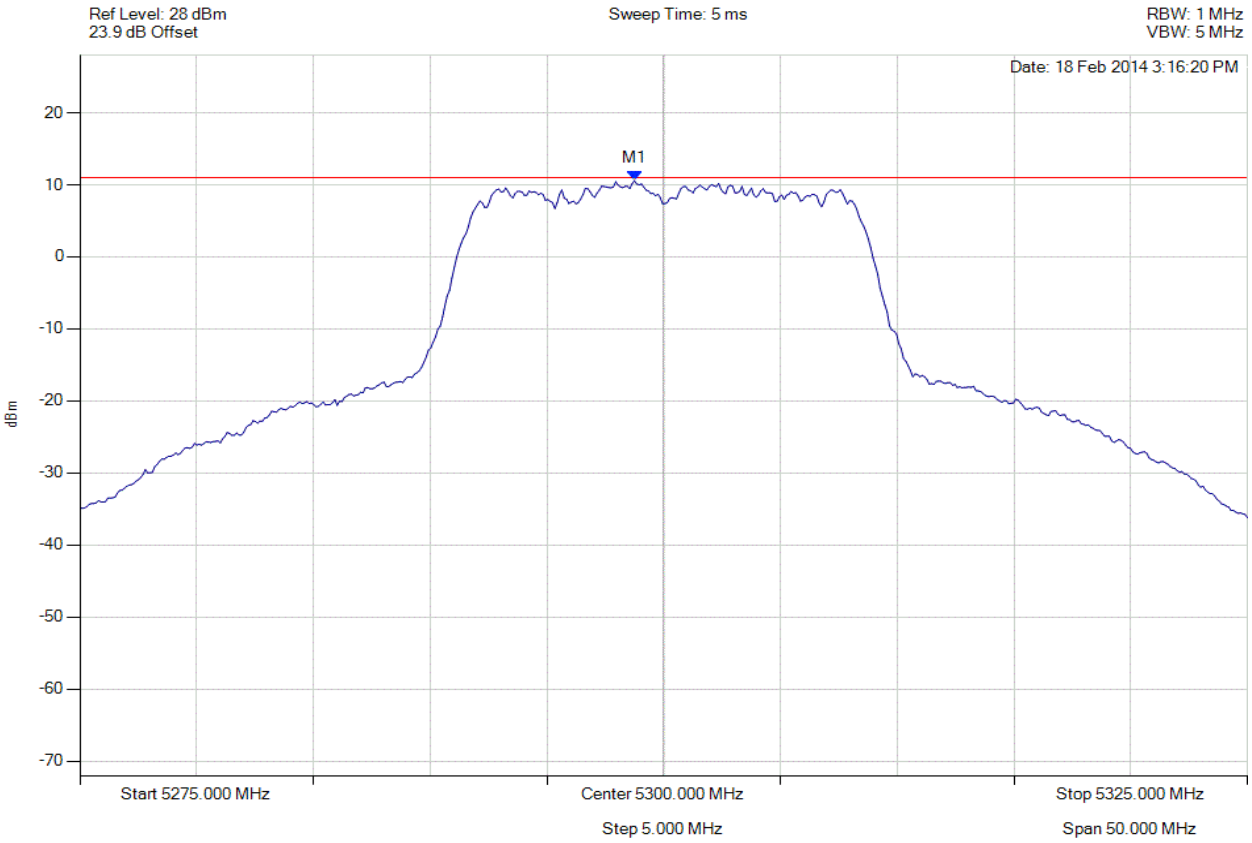


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.747 MHz : 7.498 dBm	Limit: ≤ 7.990 dBm Margin: -0.49 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

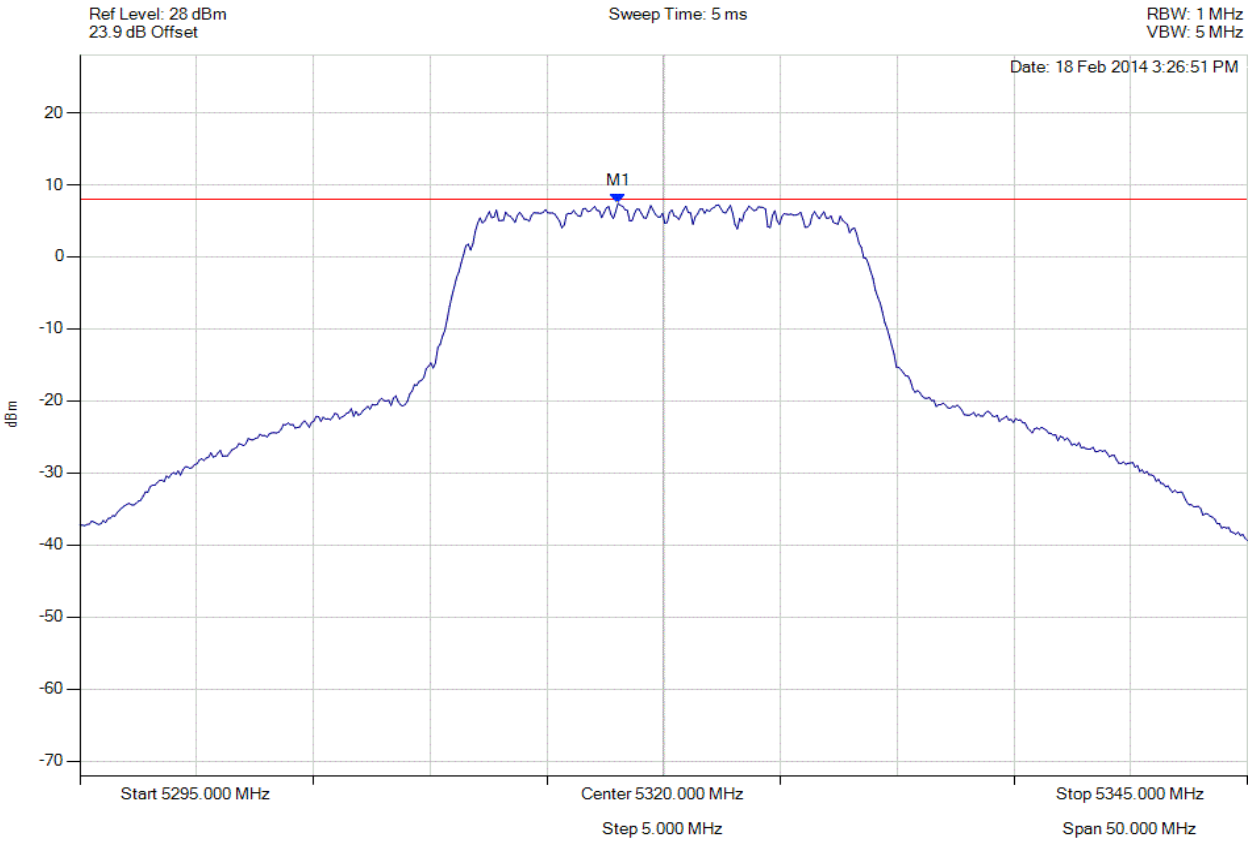


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.747 MHz : 10.587 dBm	Limit: ≤ 11.0 dBm Margin: -0.4 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

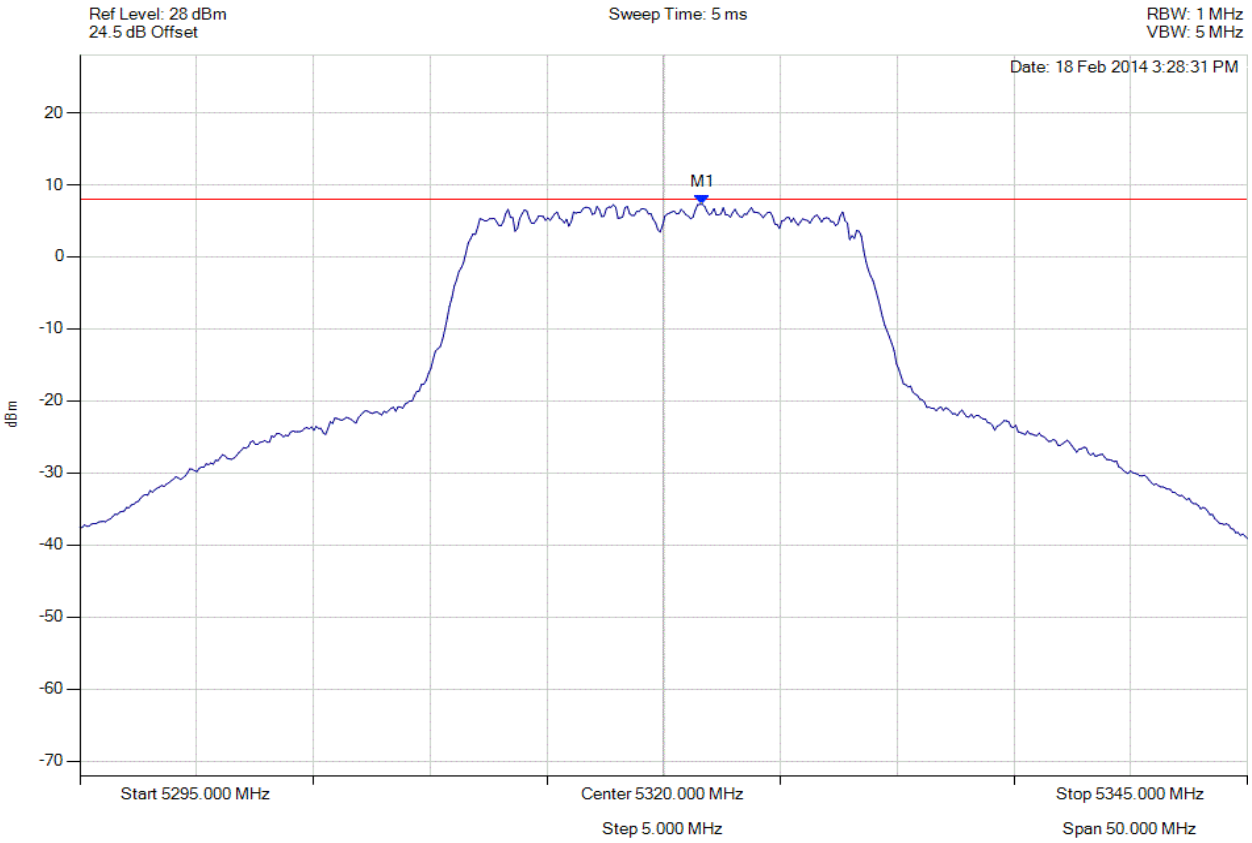


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5318.046 MHz : 7.431 dBm	Limit: ≤ 7.990 dBm Margin: -0.56 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

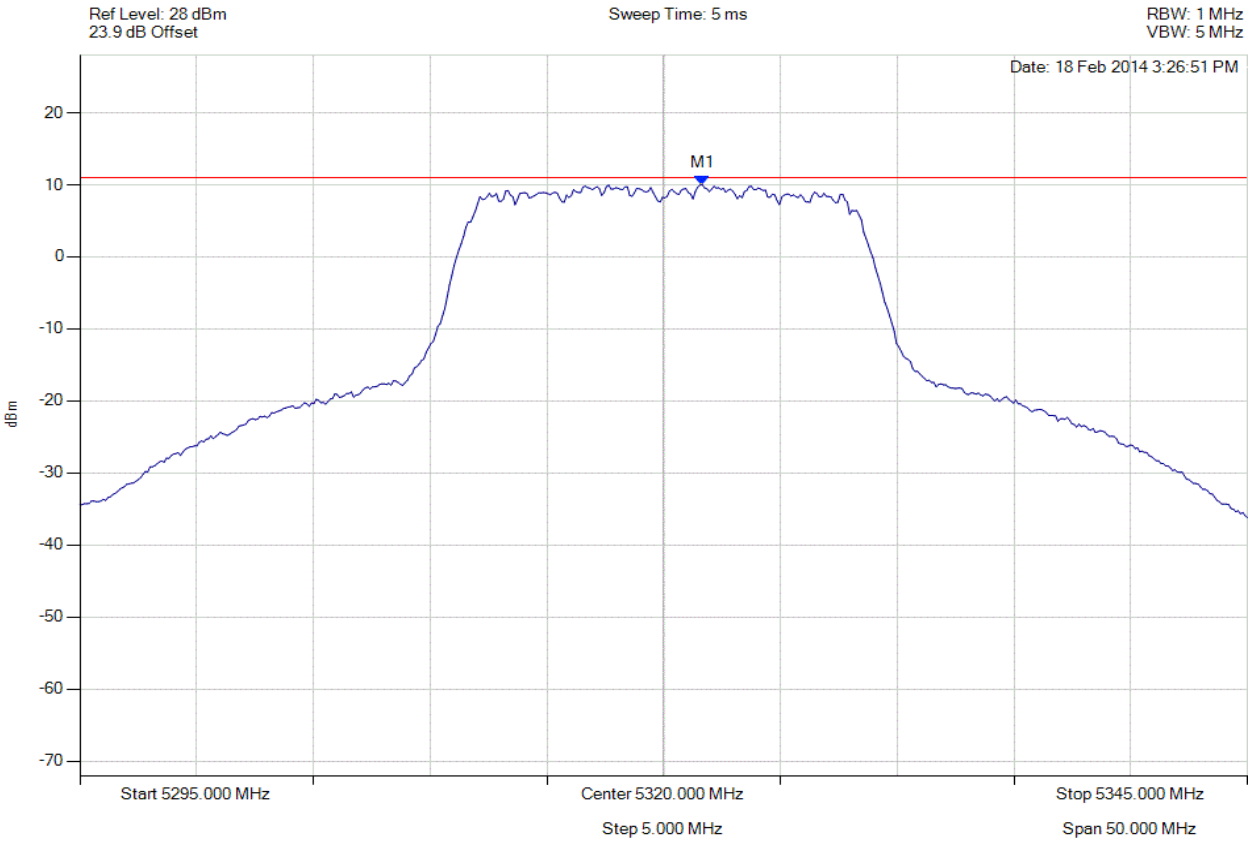


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5321.653 MHz : 7.312 dBm	Limit: ≤ 7.990 dBm Margin: -0.68 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

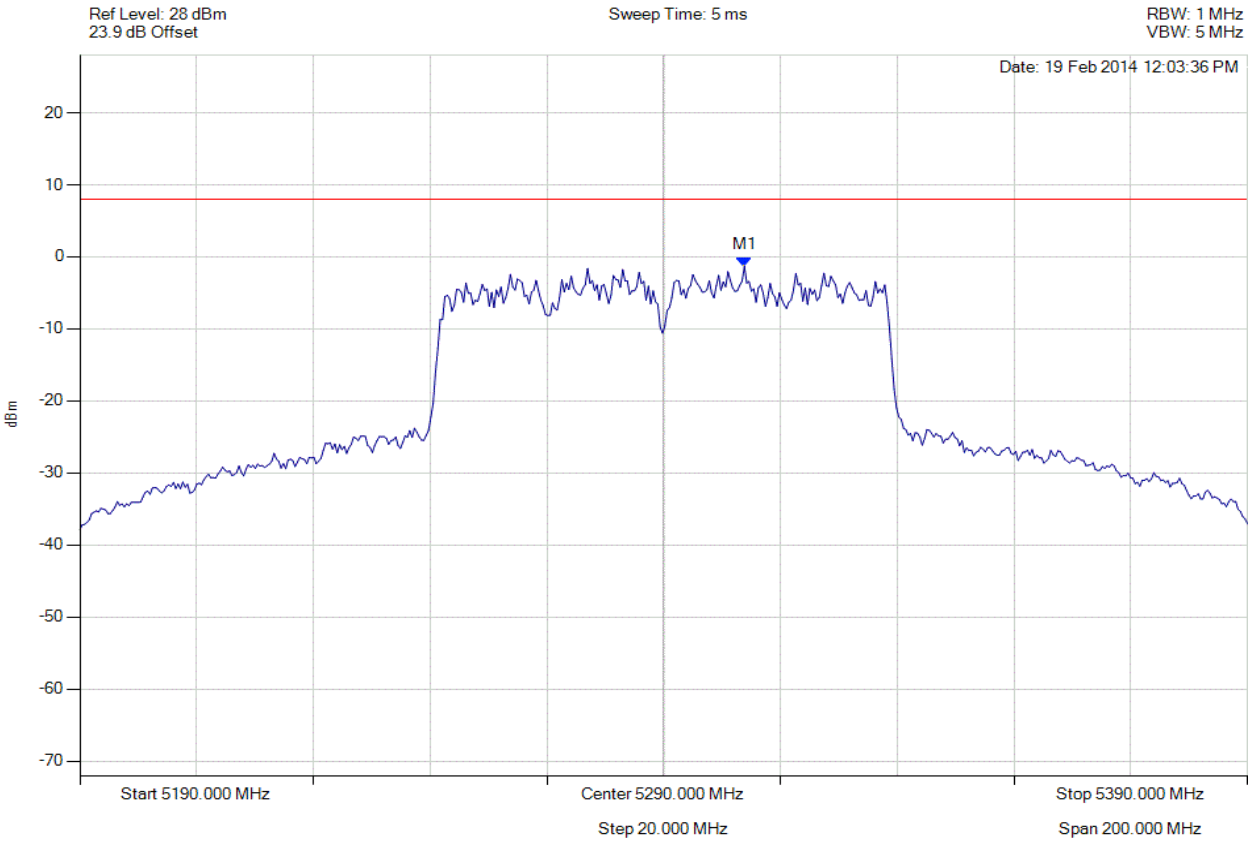


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5321.653 MHz : 10.005 dBm	Limit: ≤ 11.0 dBm Margin: -1.0 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

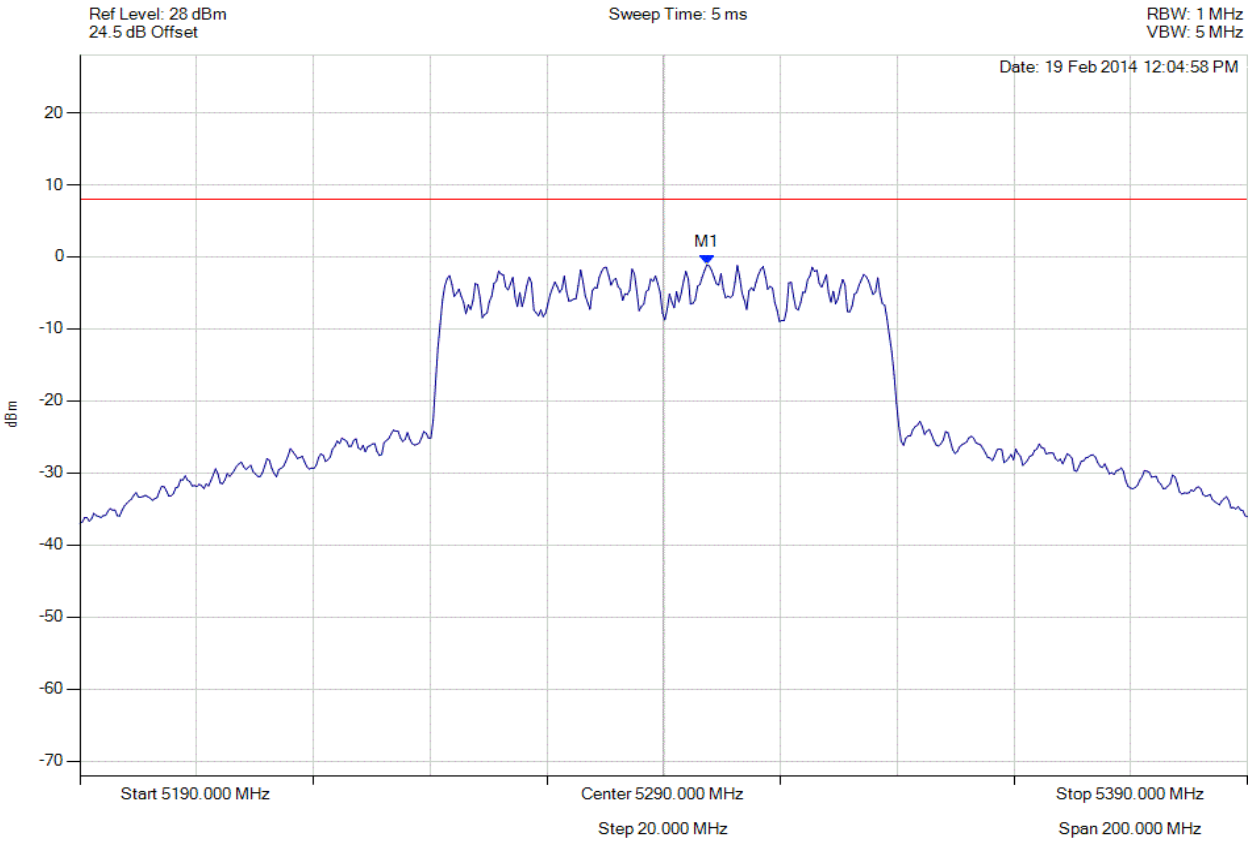


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5303.828 MHz : -1.313 dBm	Limit: ≤ 7.990 dBm Margin: 9.30 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

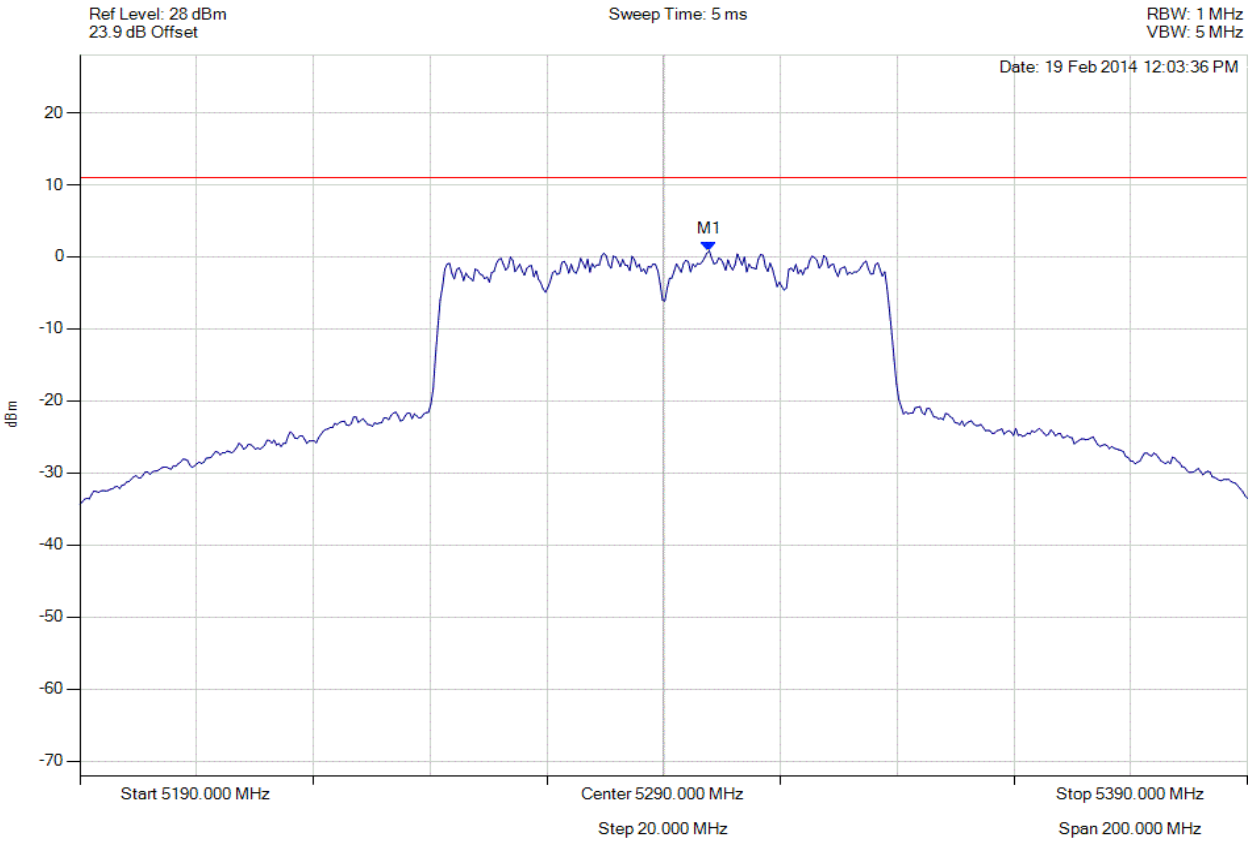


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5297.415 MHz : -1.098 dBm	Limit: ≤ 7.990 dBm Margin: 9.09 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5290.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

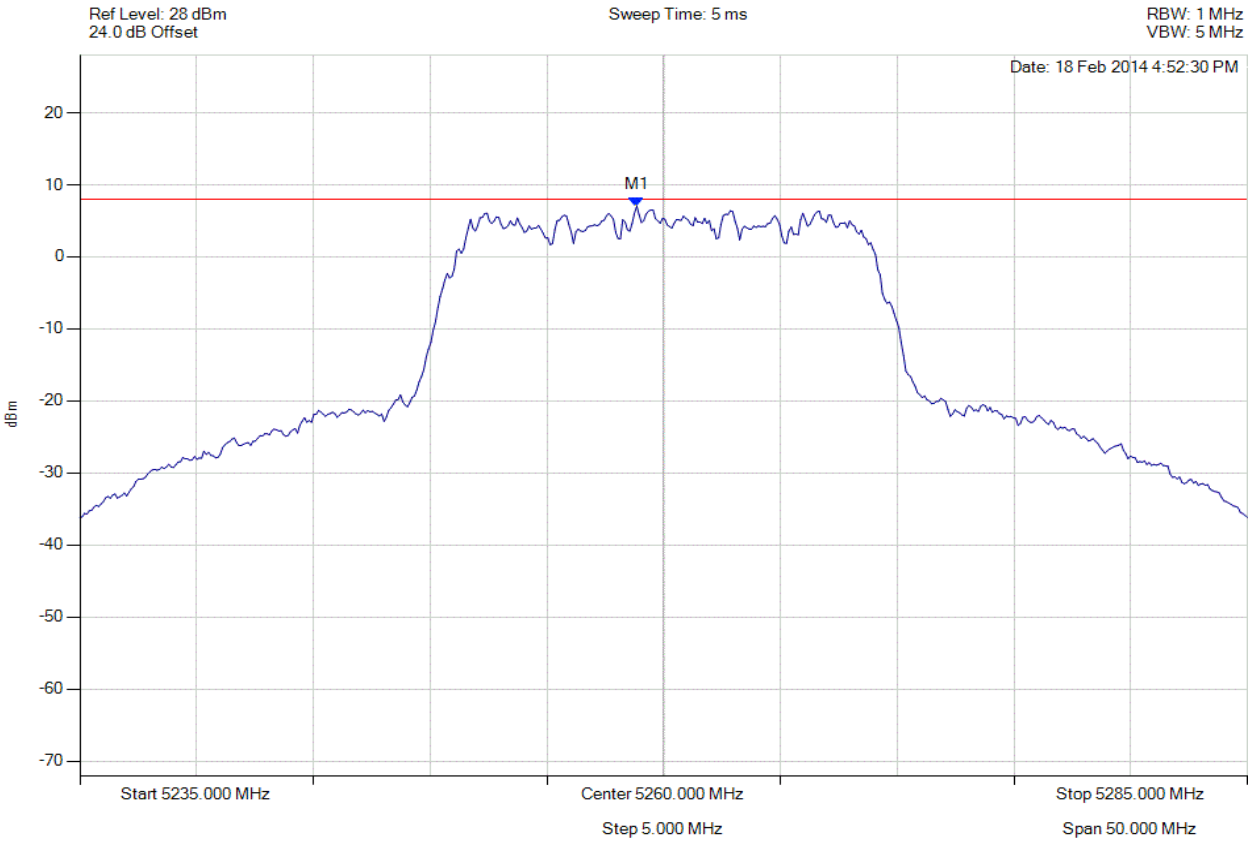


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5297.816 MHz : 0.829 dBm	Limit: ≤ 11.0 dBm Margin: -10.2 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

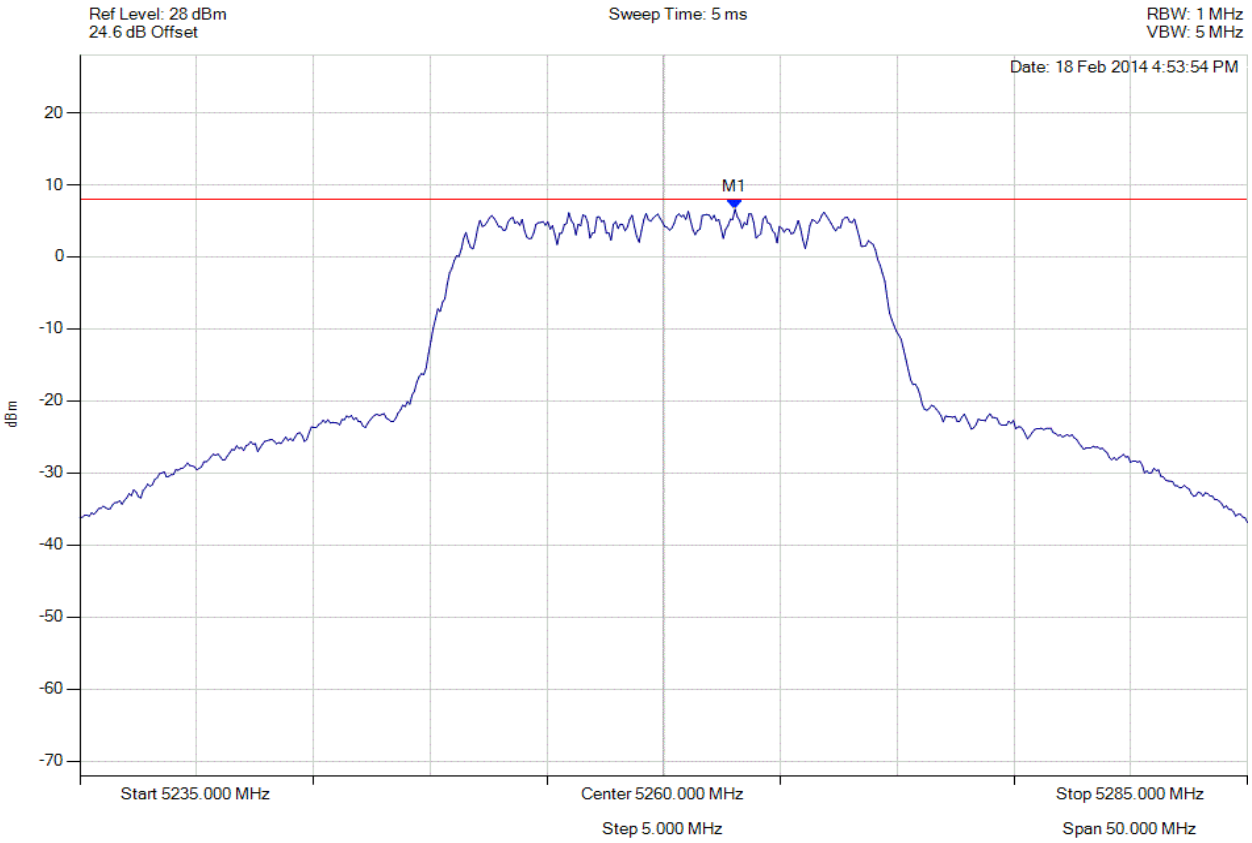


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5258.848 MHz : 7.042 dBm	Limit: ≤ 7.990 dBm Margin: -0.95 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

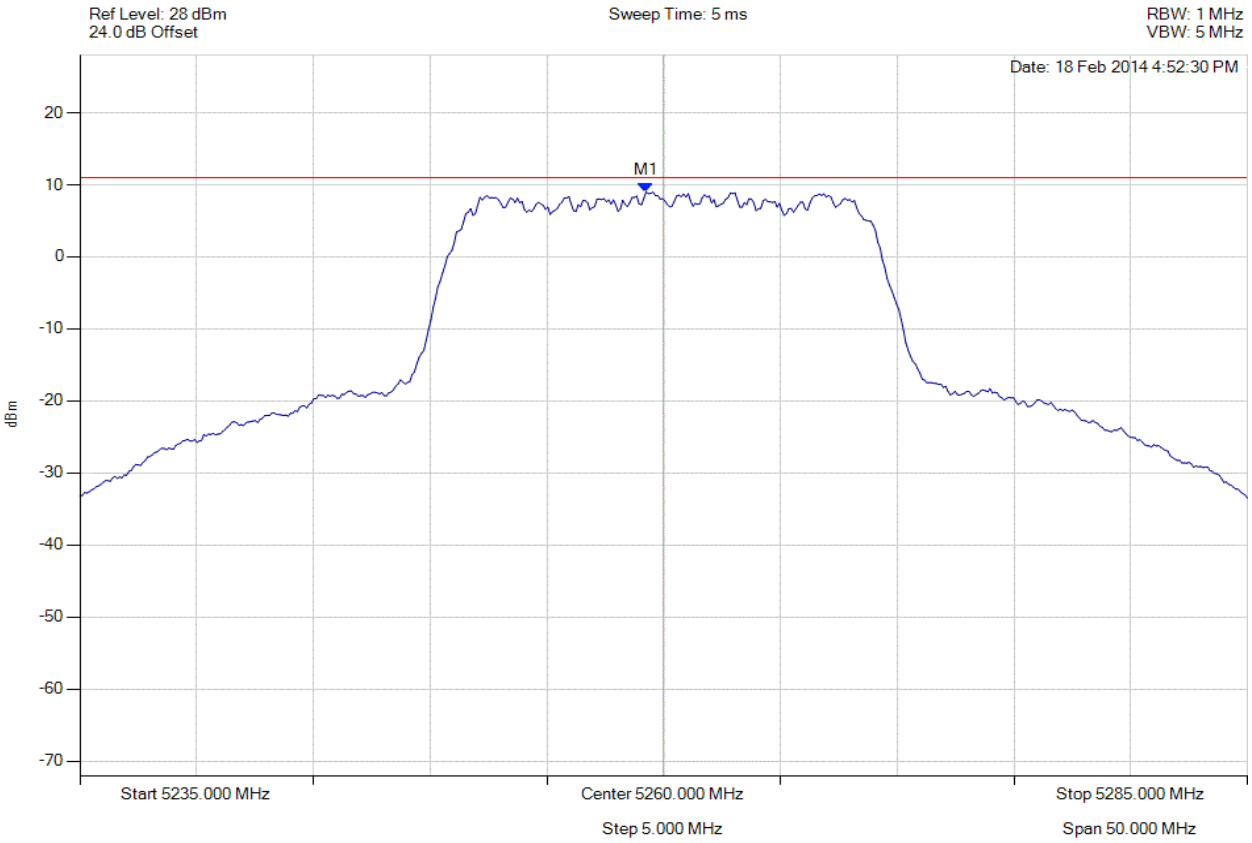


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5263.056 MHz : 6.607 dBm	Limit: ≤ 7.990 dBm Margin: -1.38 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

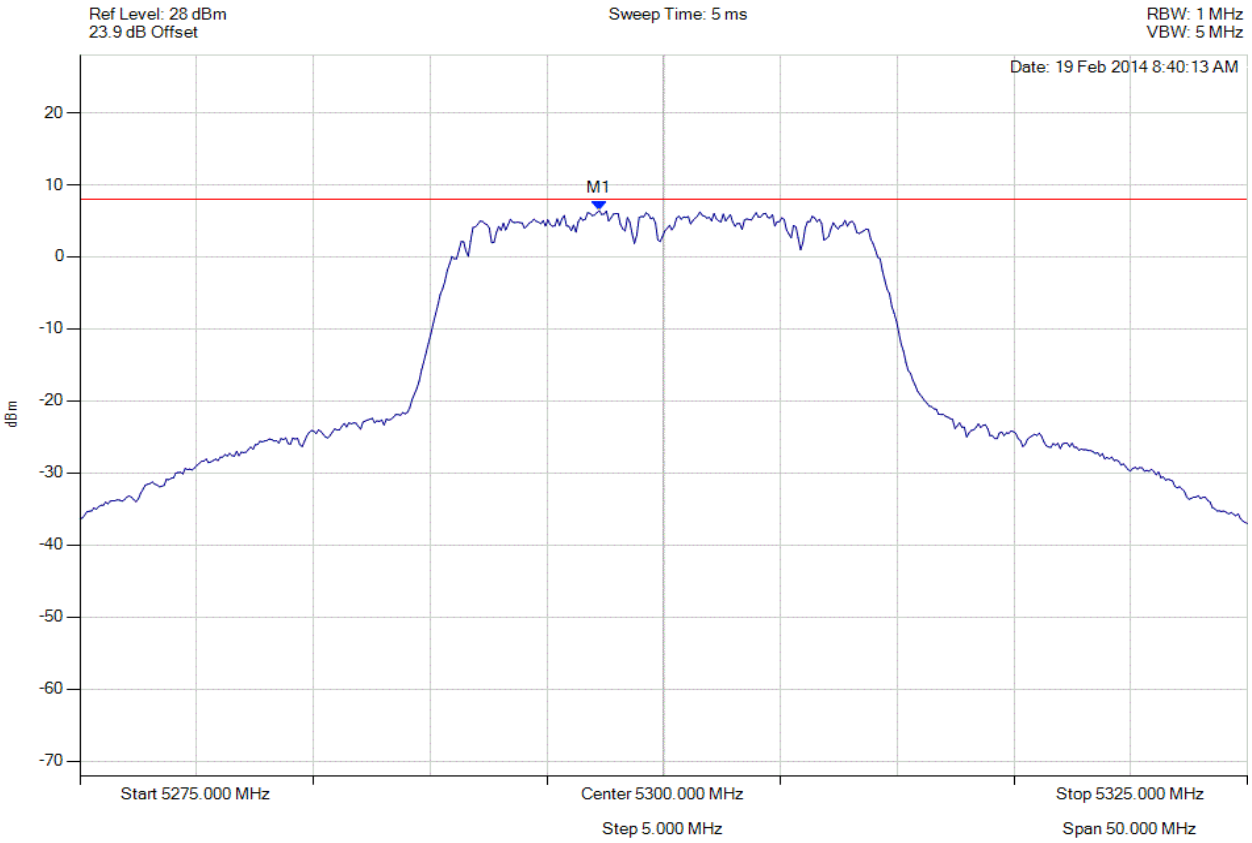


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5259.248 MHz : 8.994 dBm	Limit: ≤ 11.0 dBm Margin: -2.0 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

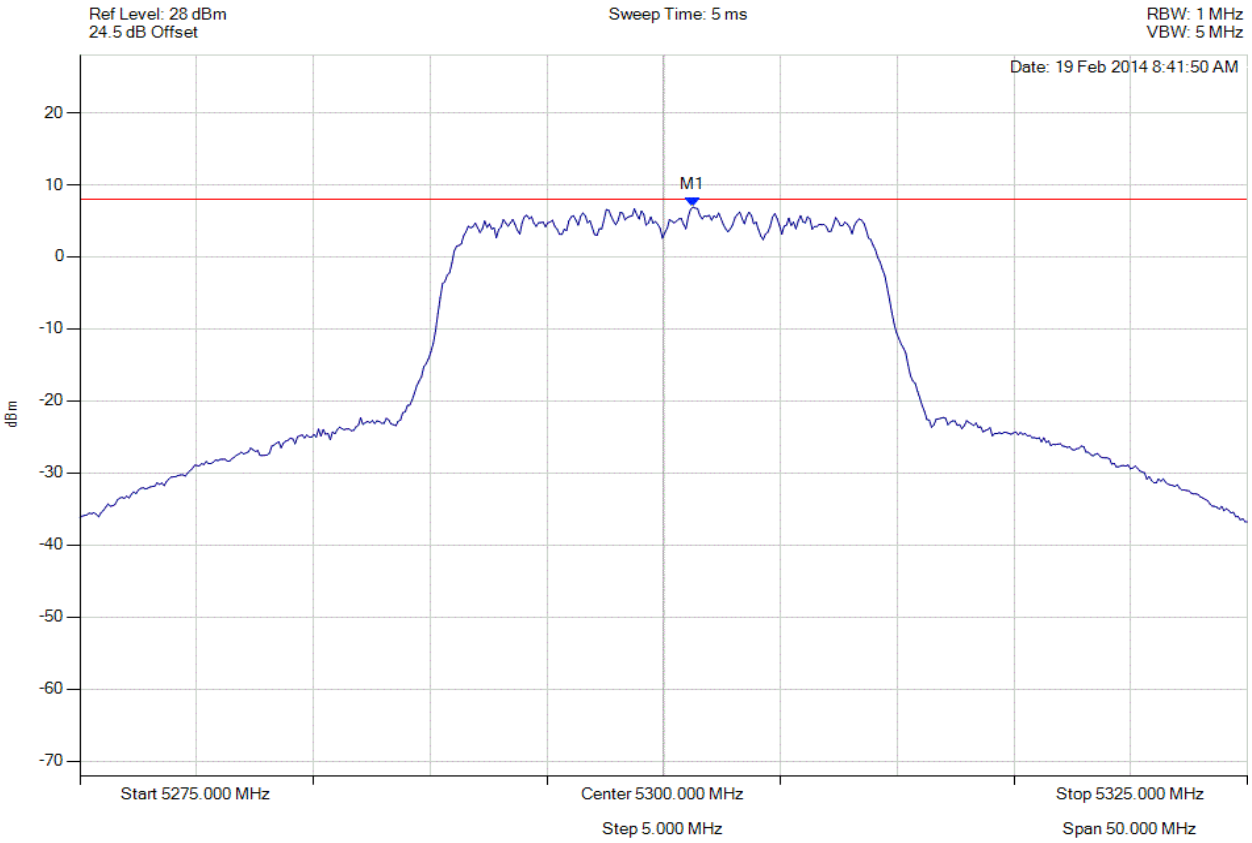


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5297.244 MHz : 6.408 dBm	Limit: ≤ 7.990 dBm Margin: -1.58 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

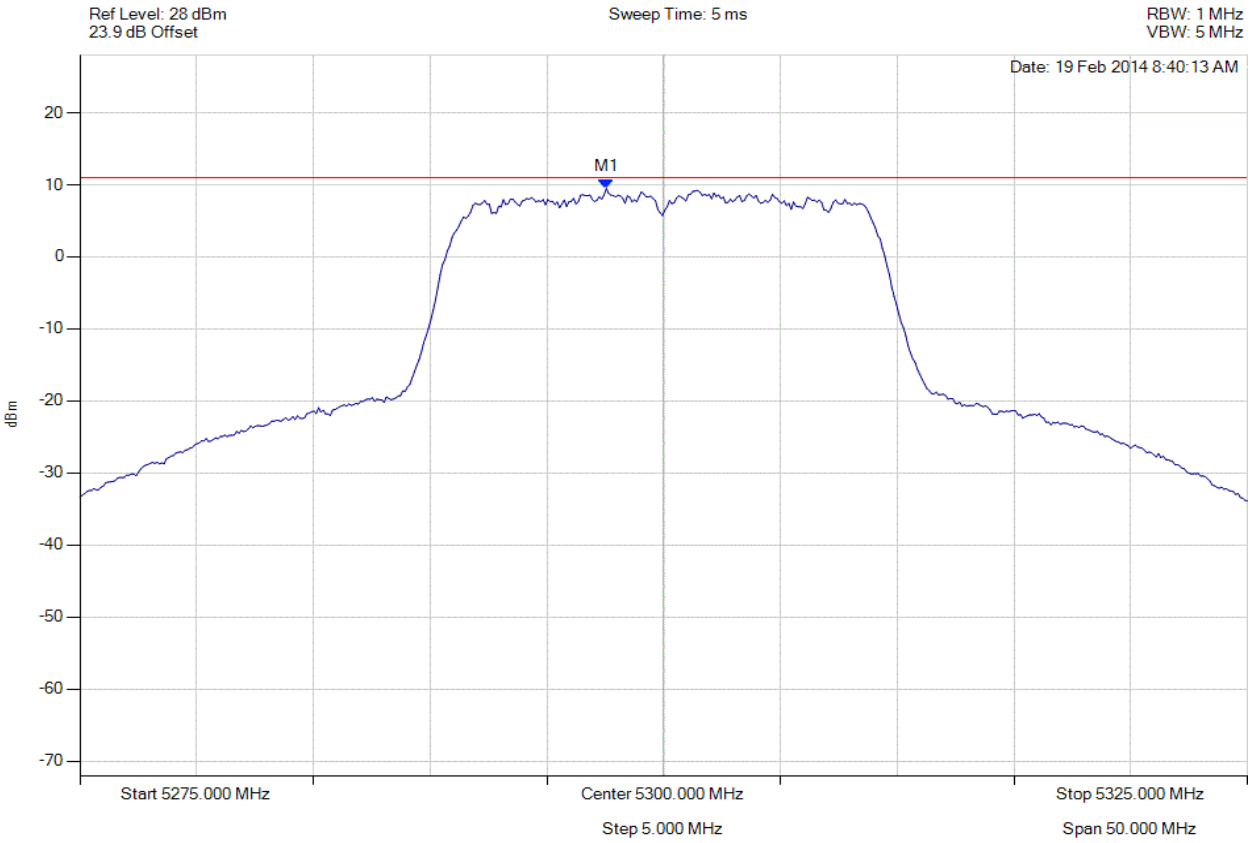


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5301.253 MHz : 6.912 dBm	Limit: ≤ 7.990 dBm Margin: -1.08 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

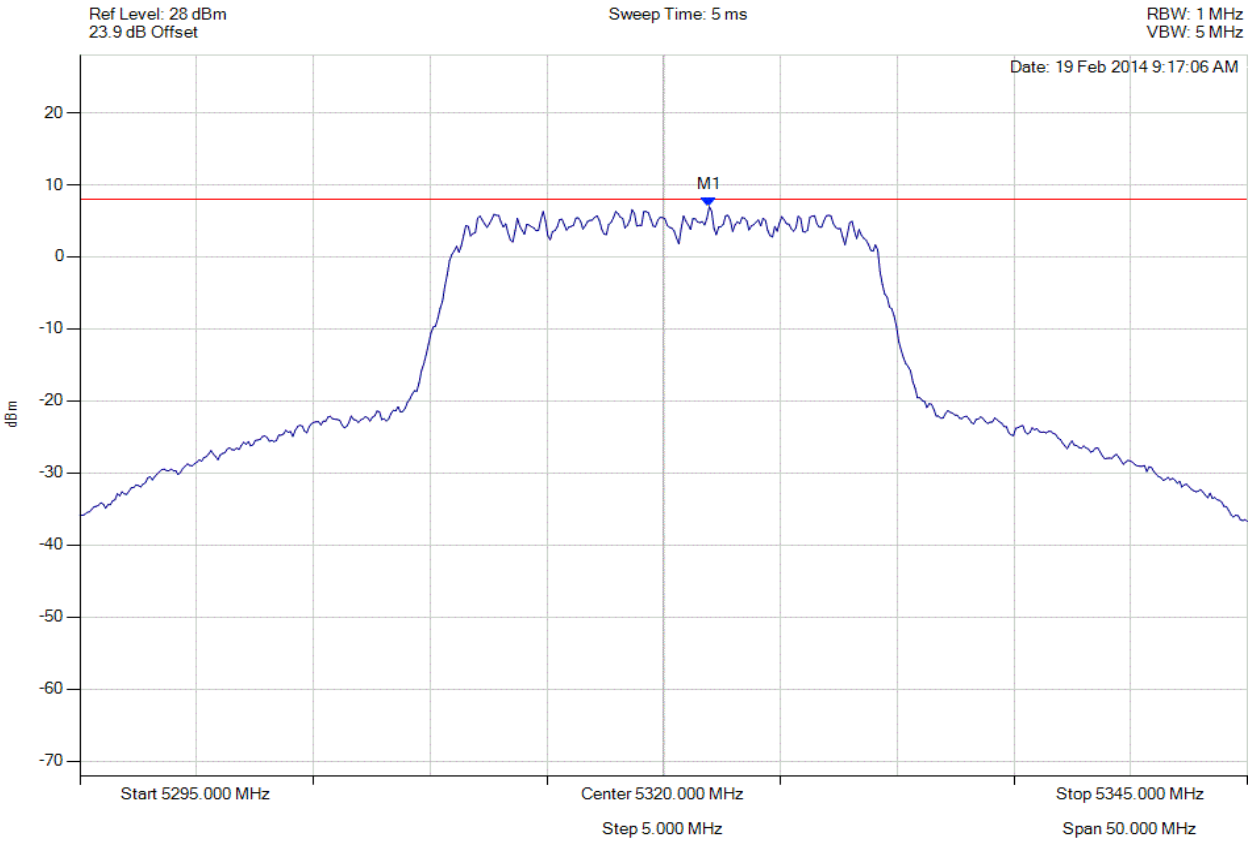


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5297.545 MHz : 9.473 dBm	Limit: ≤ 11.0 dBm Margin: -1.5 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

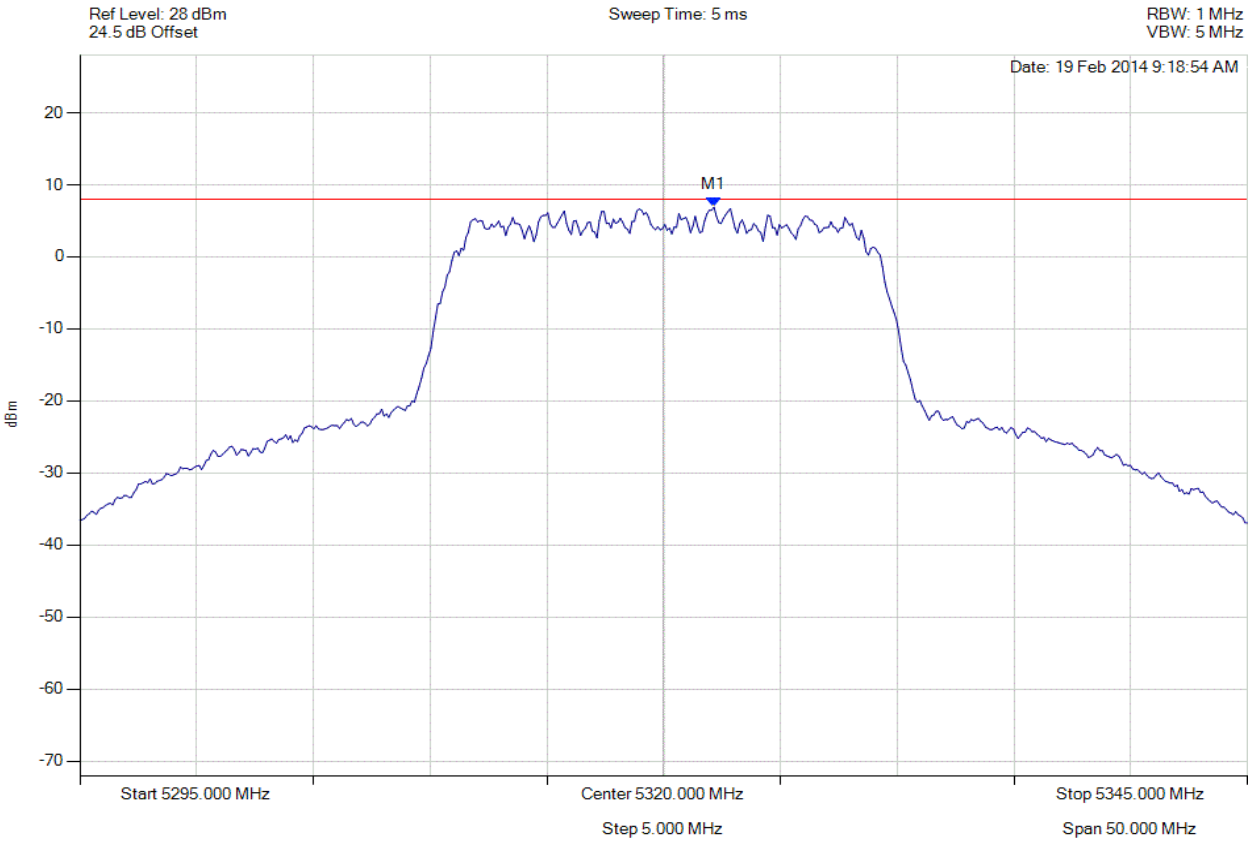


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5321.954 MHz : 6.959 dBm	Limit: ≤ 7.990 dBm Margin: -1.03 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5322.154 MHz : 6.896 dBm	Limit: ≤ 7.990 dBm Margin: -1.09 dB

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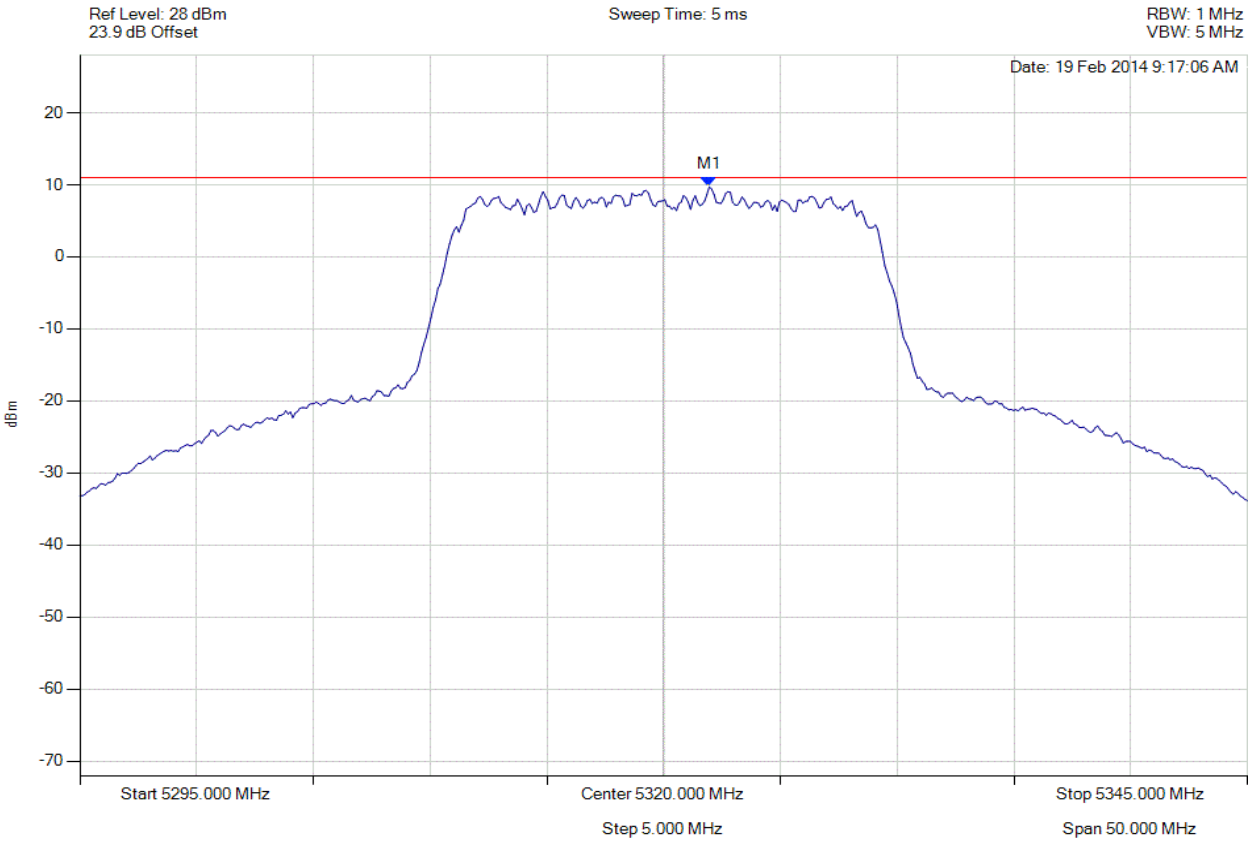
PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

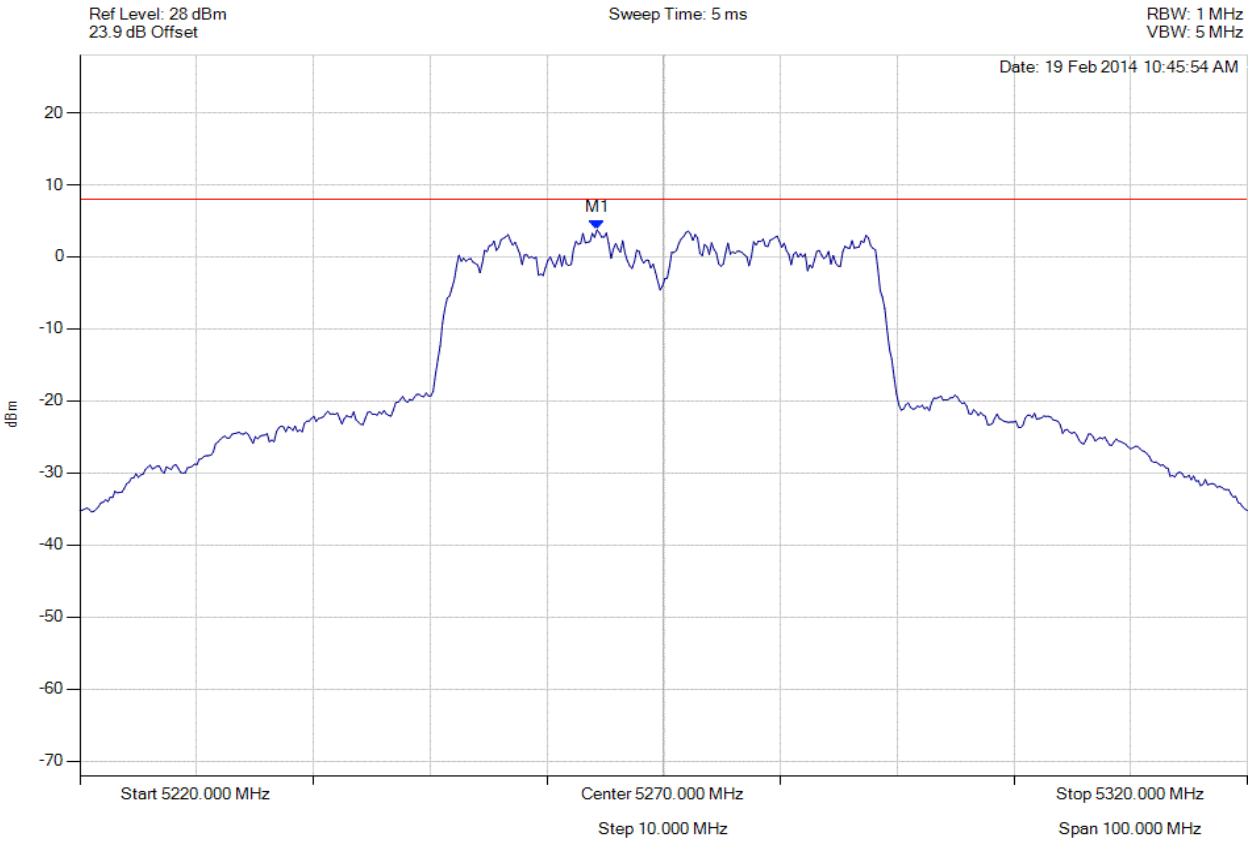


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5321.954 MHz : 9.733 dBm	Limit: ≤ 11.0 dBm Margin: -1.3 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

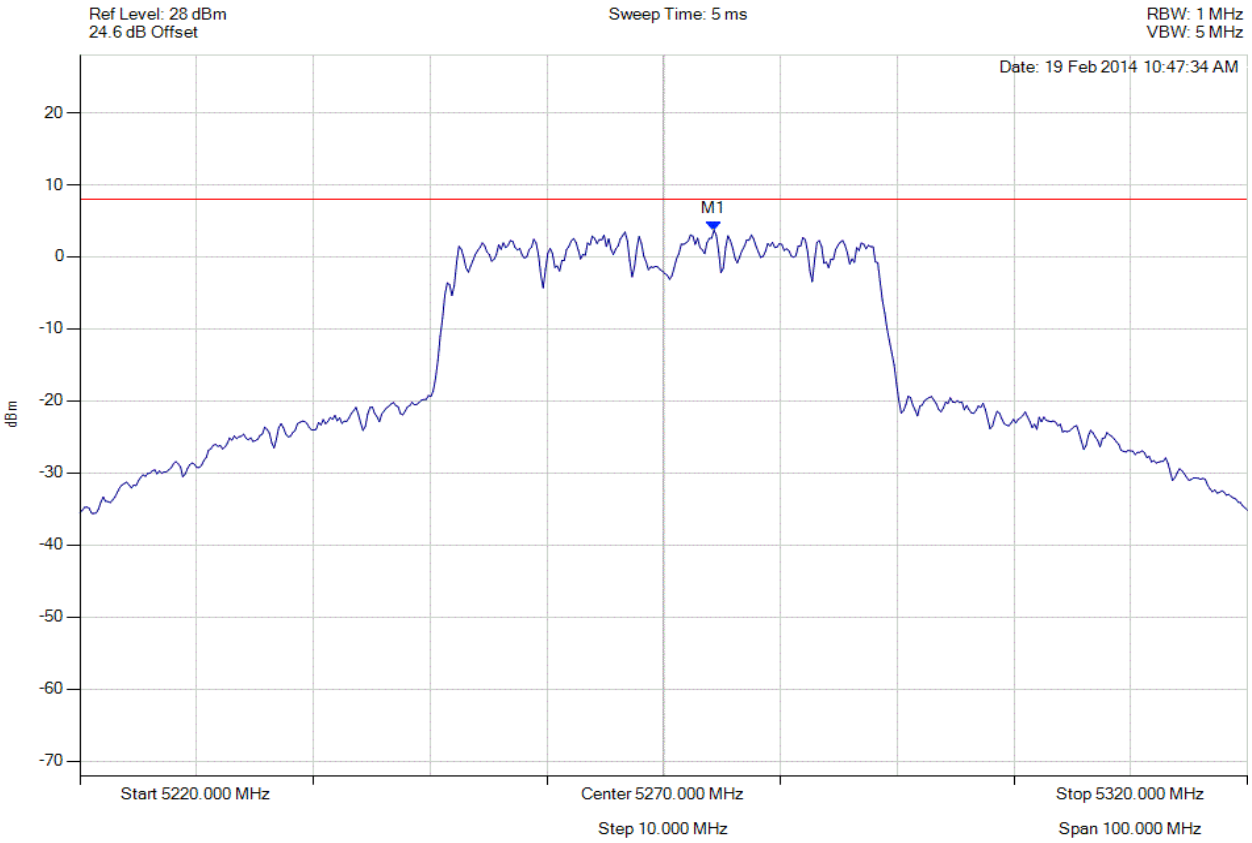


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5264.289 MHz : 3.737 dBm	Limit: ≤ 7.990 dBm Margin: -4.25 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

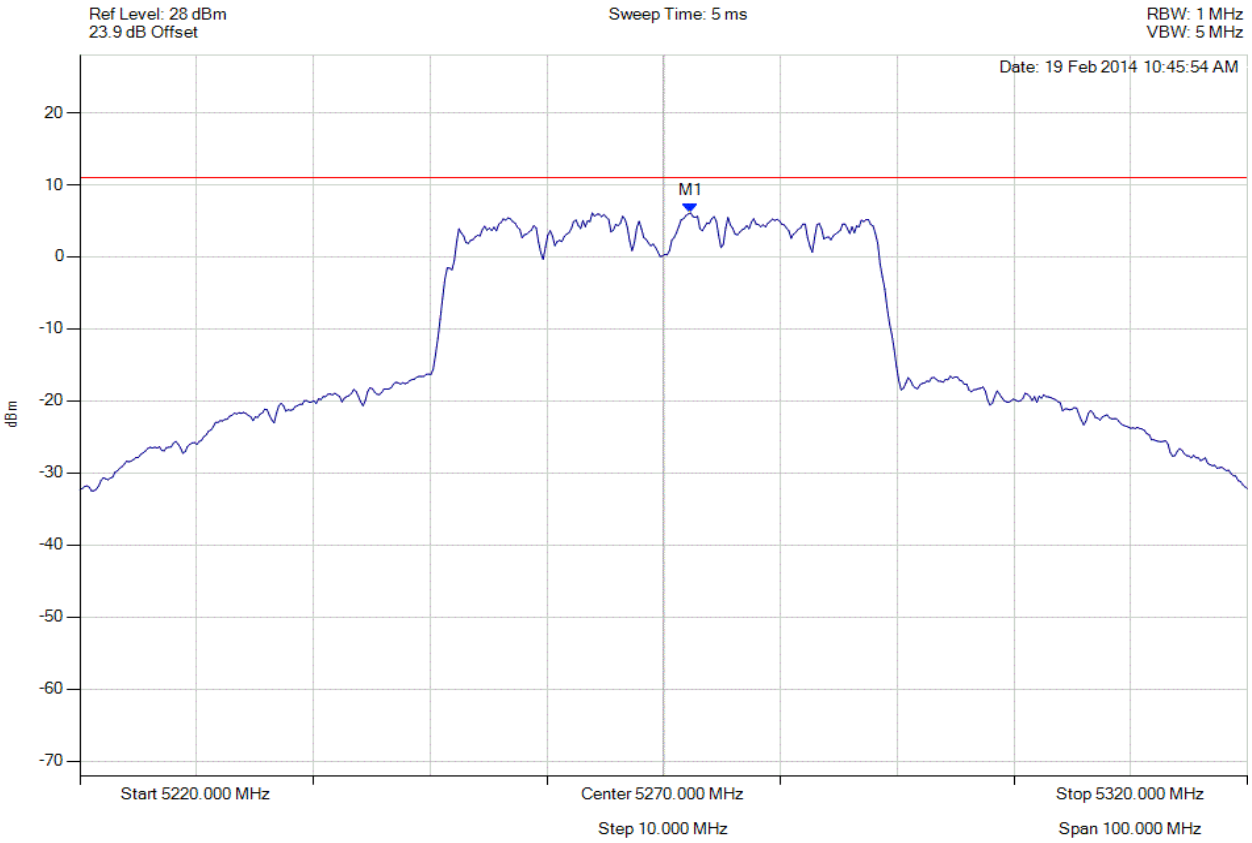


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5274.309 MHz : 3.700 dBm	Limit: ≤ 7.990 dBm Margin: -4.29 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

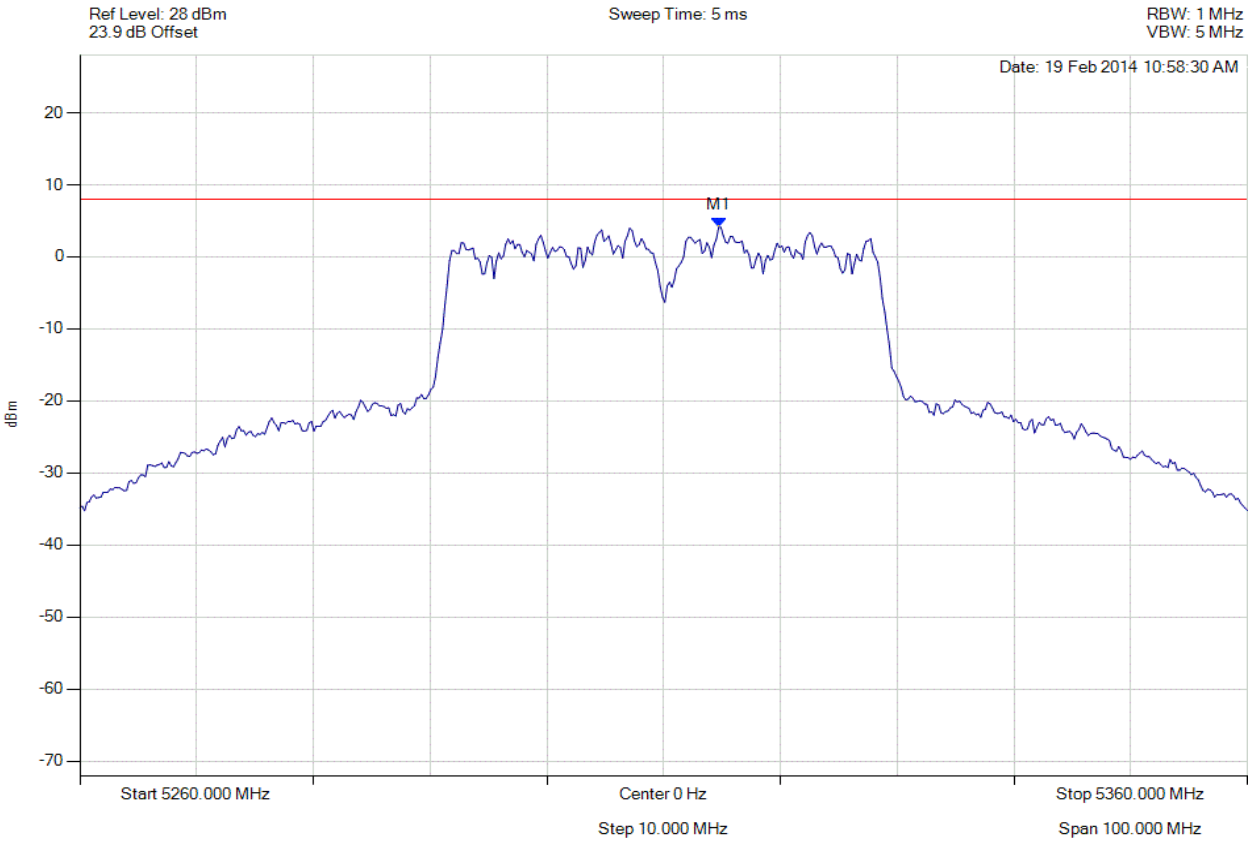


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5272.305 MHz : 6.096 dBm	Limit: ≤ 11.0 dBm Margin: -4.9 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

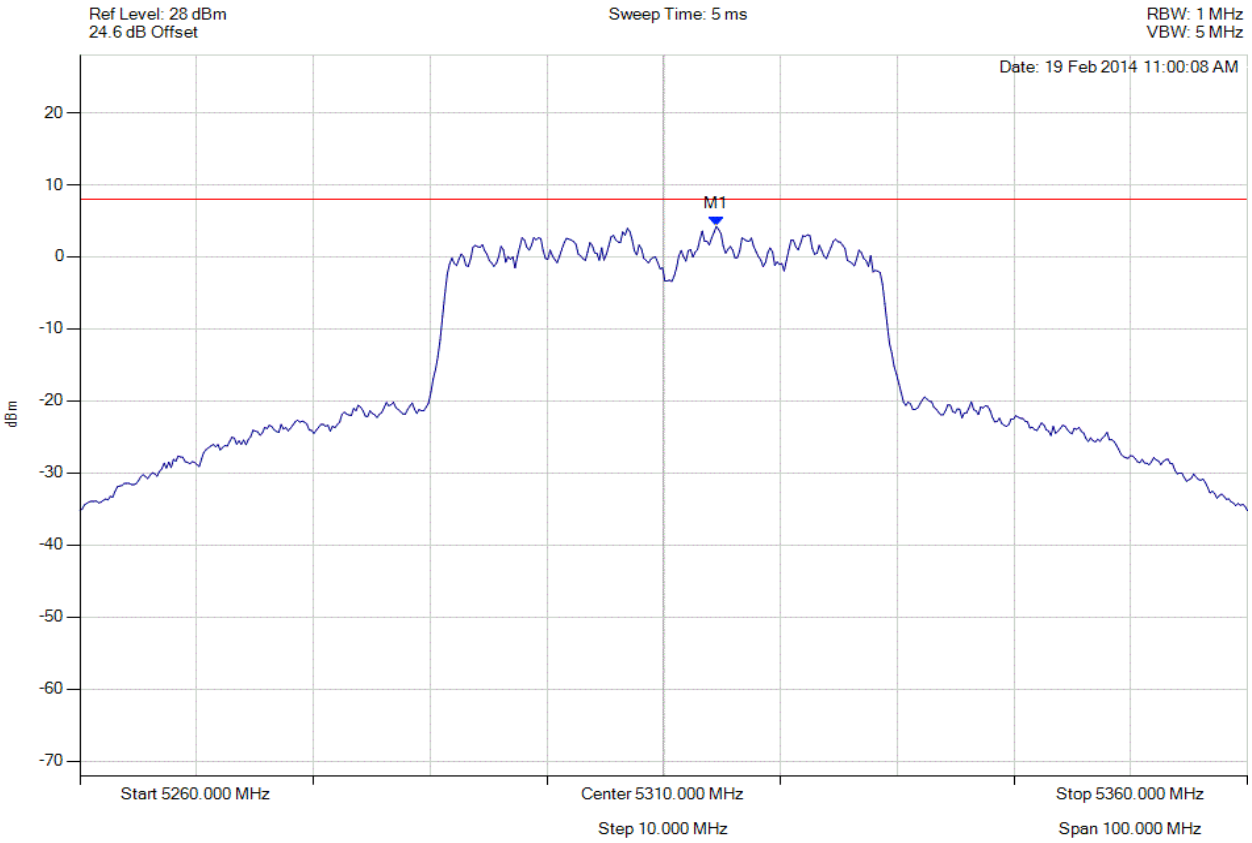


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5314.709 MHz : 4.116 dBm	Limit: ≤ 7.990 dBm Margin: -3.87 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

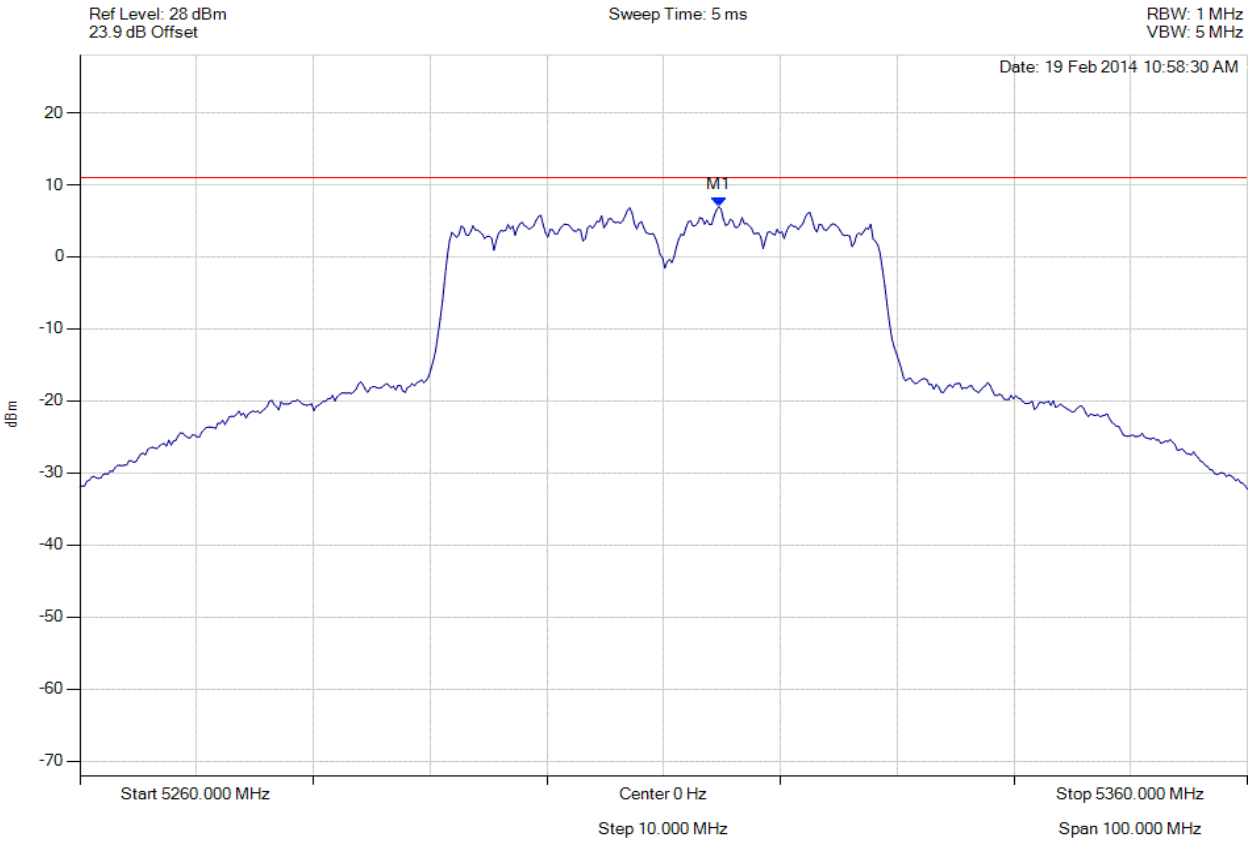


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5314.509 MHz : 4.226 dBm	Limit: ≤ 7.990 dBm Margin: -3.76 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

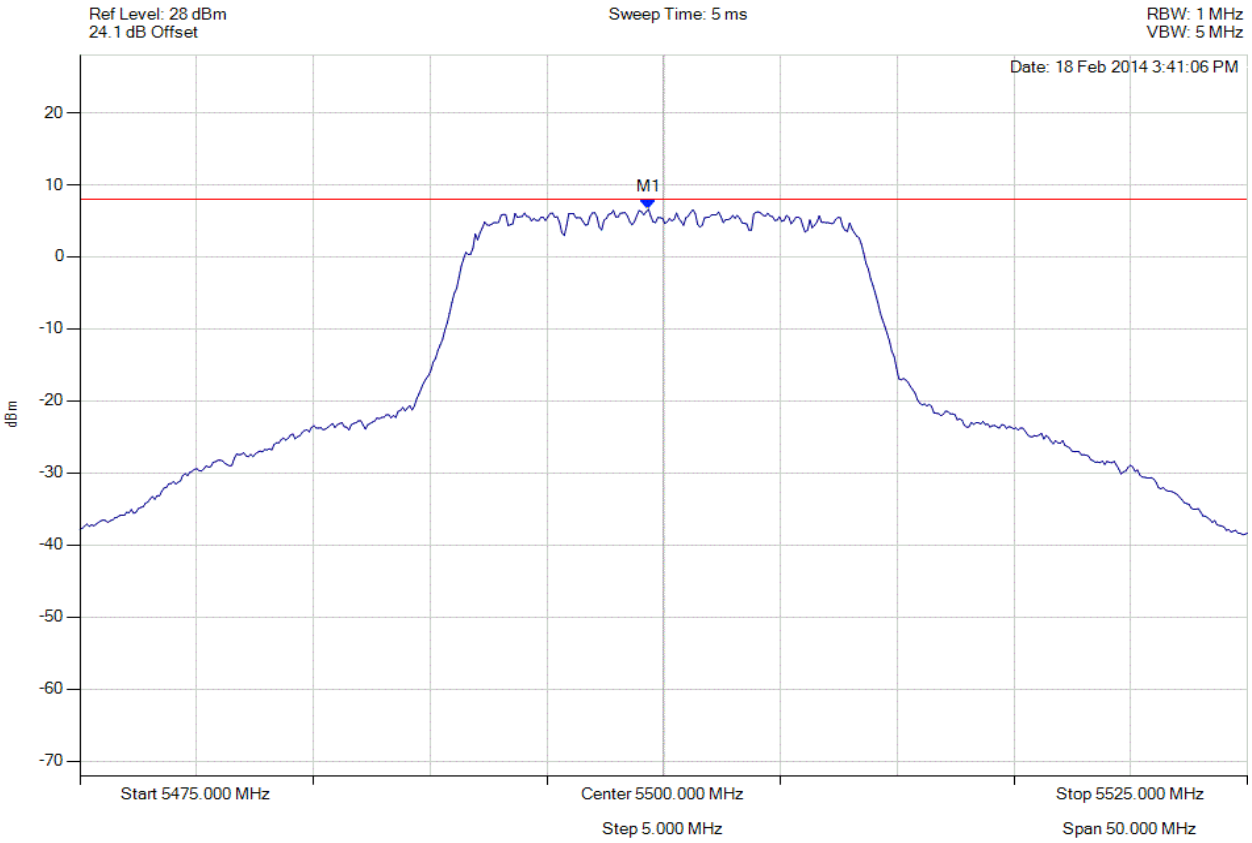


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5314.709 MHz : 6.962 dBm	Limit: ≤ 11.0 dBm Margin: -4.0 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

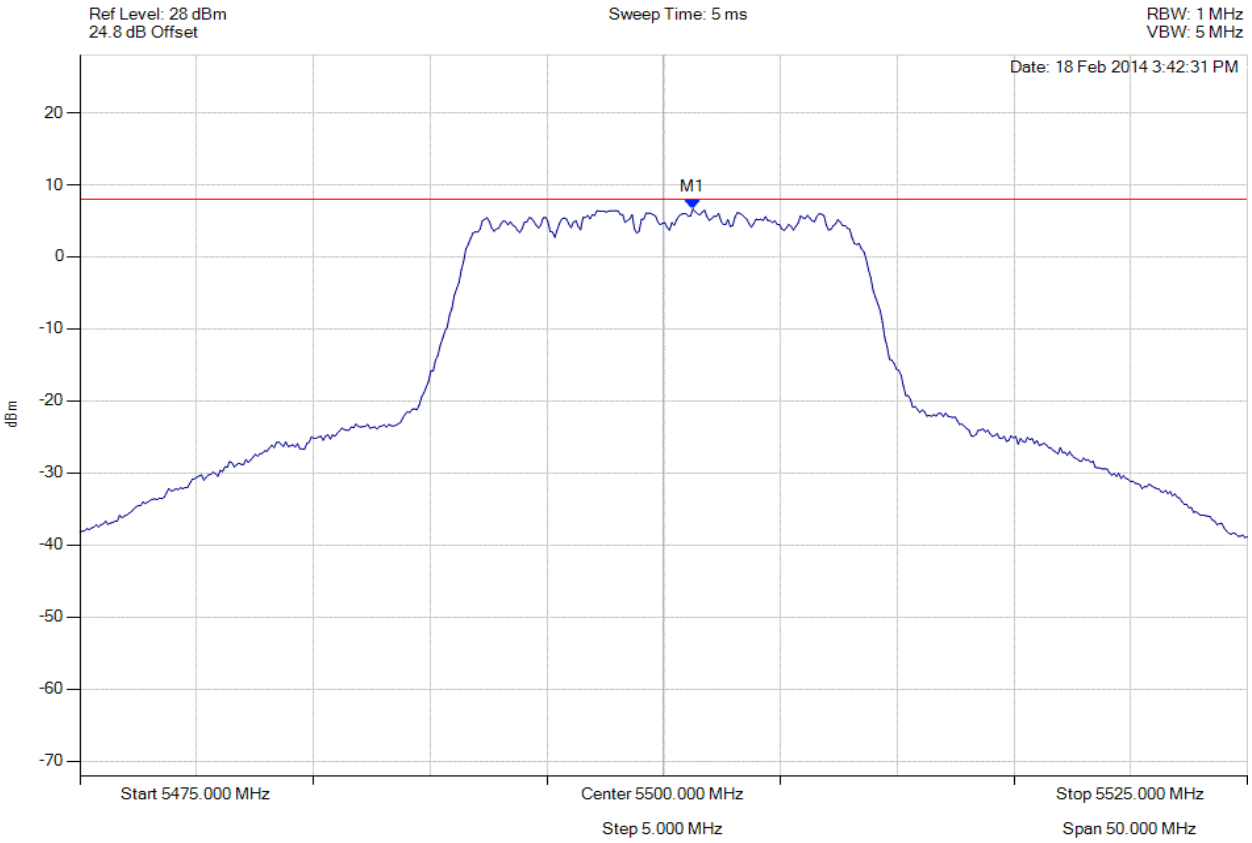


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5499.349 MHz : 6.610 dBm	Limit: ≤ 7.990 dBm Margin: -1.38 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.253 MHz : 6.633 dBm	Limit: ≤ 7.990 dBm Margin: -1.36 dB

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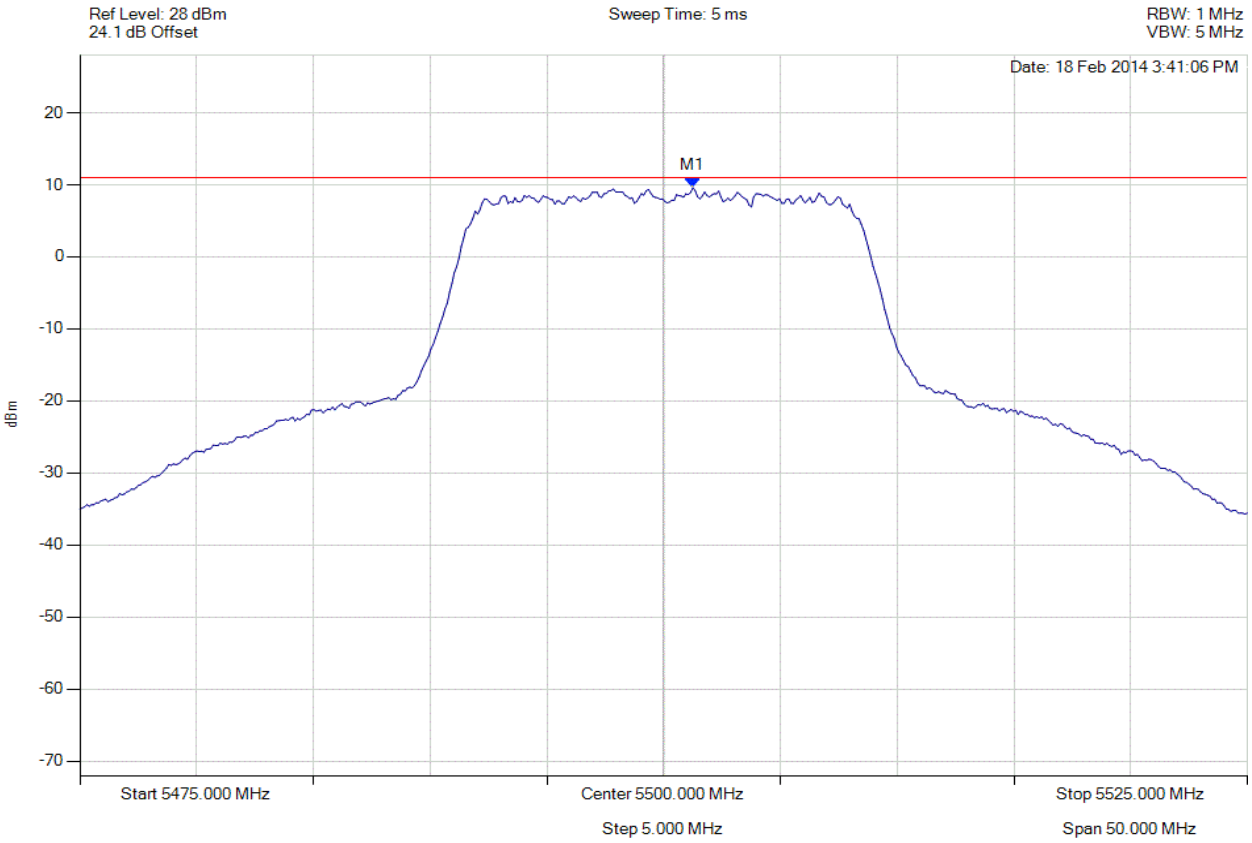
PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

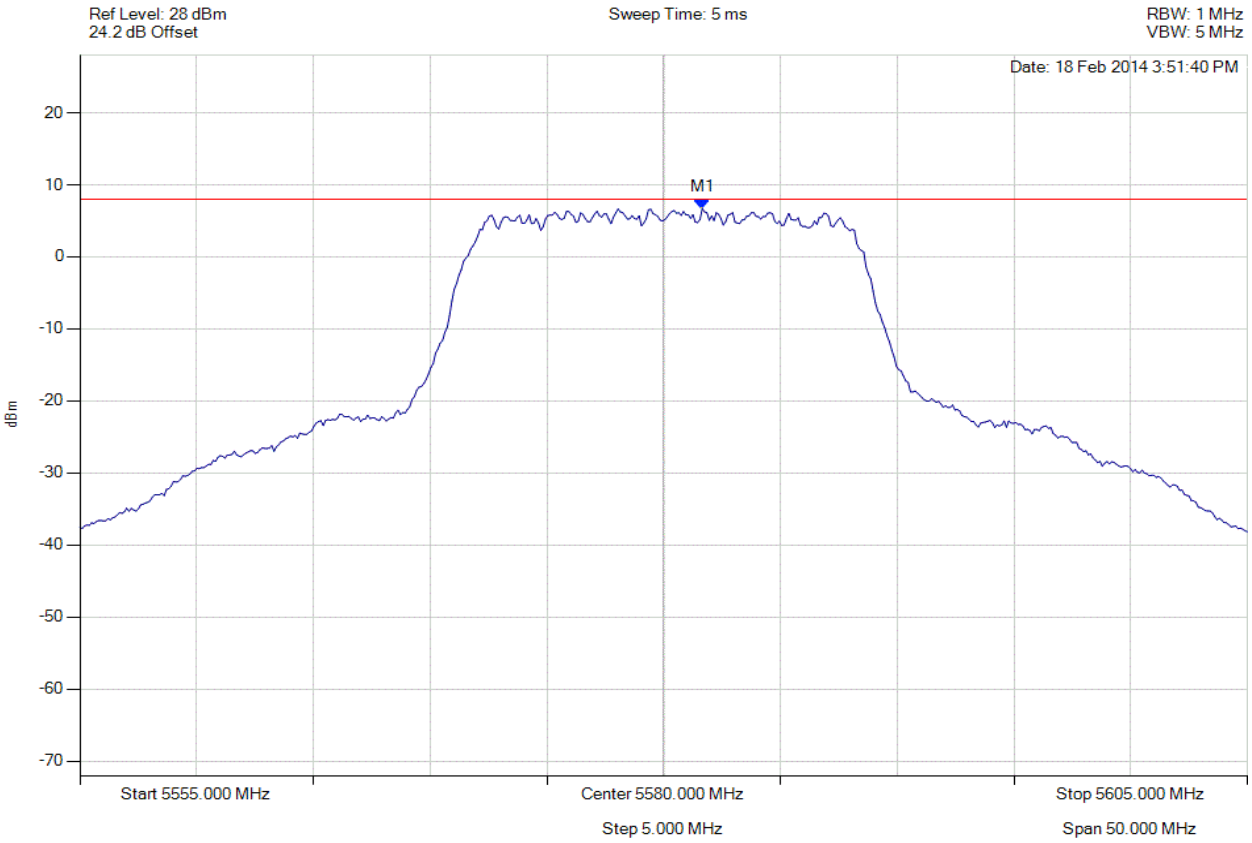


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.253 MHz : 9.595 dBm	Limit: ≤ 11.0 dBm Margin: -1.4 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

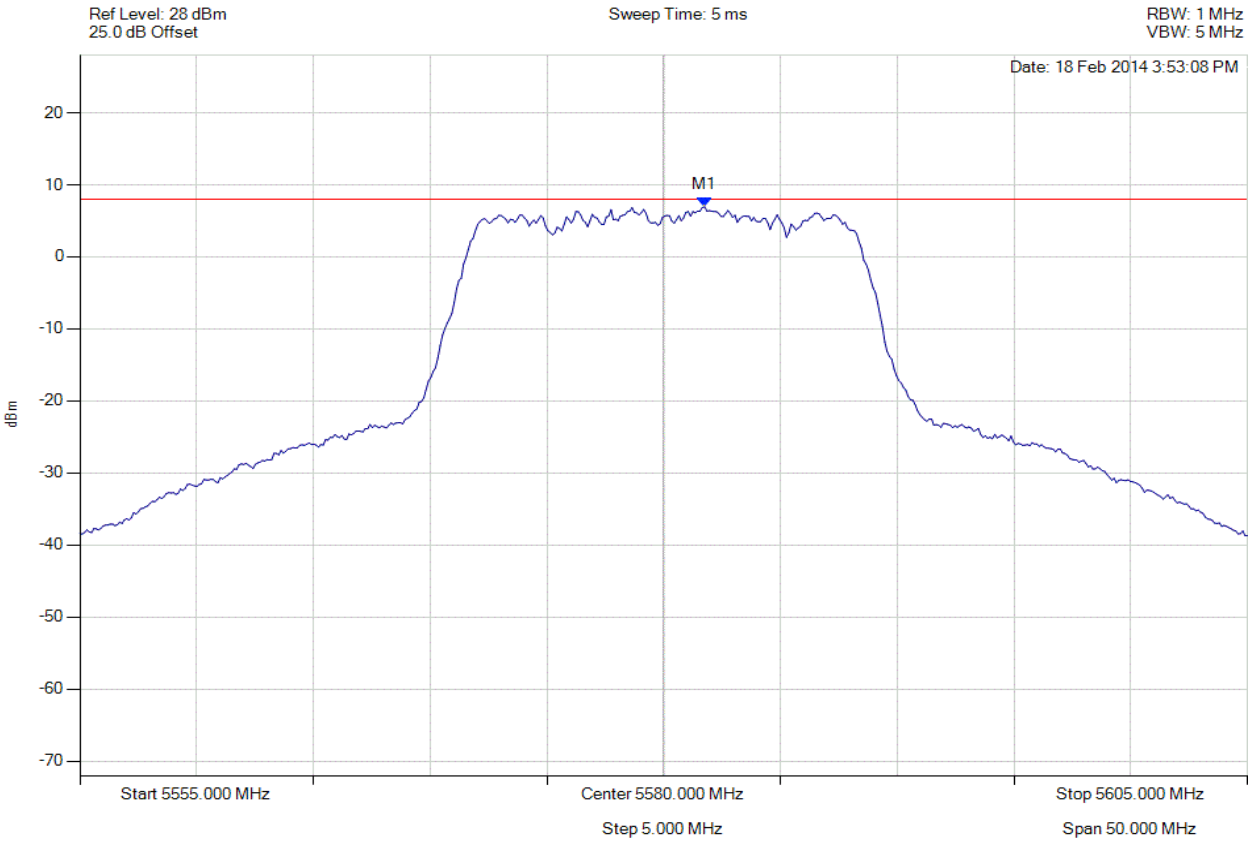


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5581.653 MHz : 6.690 dBm	Limit: ≤ 7.990 dBm Margin: -1.30 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

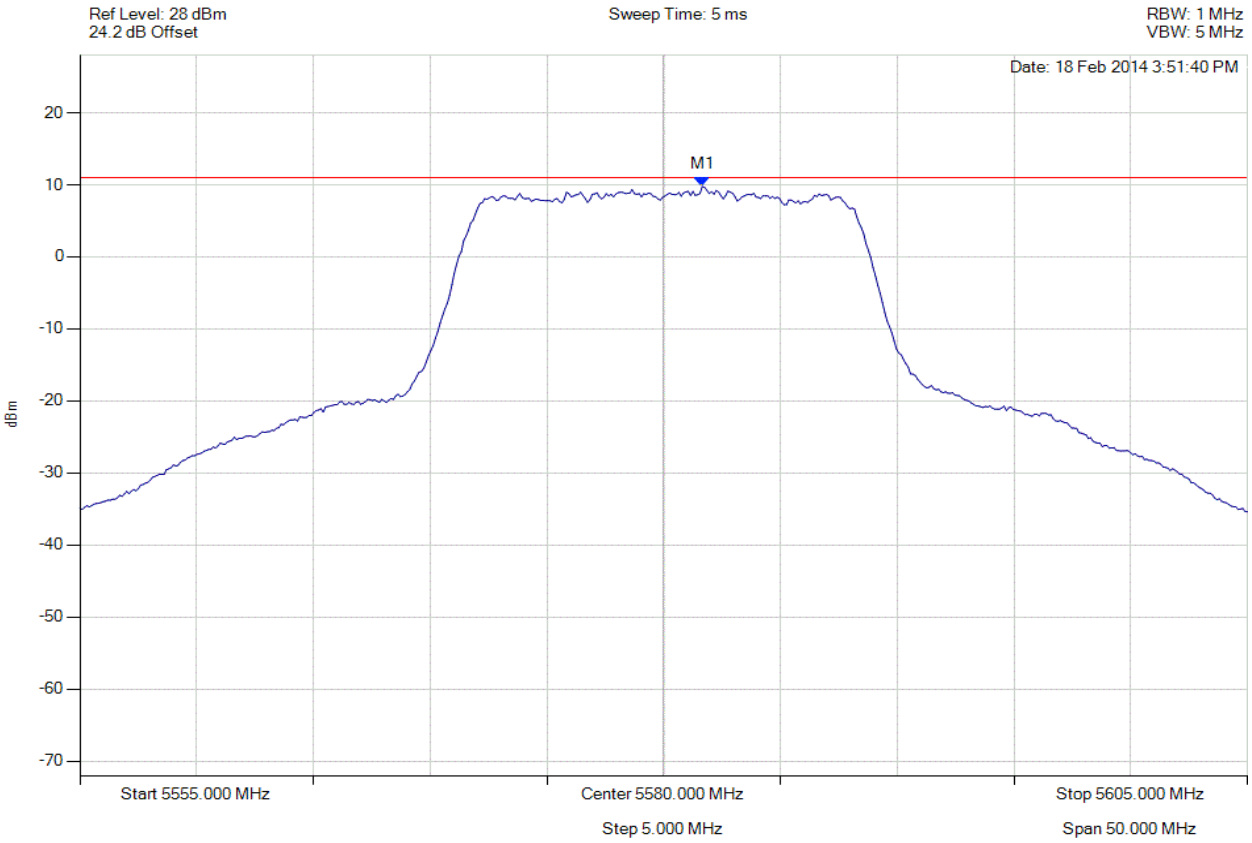


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5581.754 MHz : 6.950 dBm	Limit: ≤ 7.990 dBm Margin: -1.04 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5581.653 MHz : 9.776 dBm	Limit: ≤ 11.0 dBm Margin: -1.2 dB

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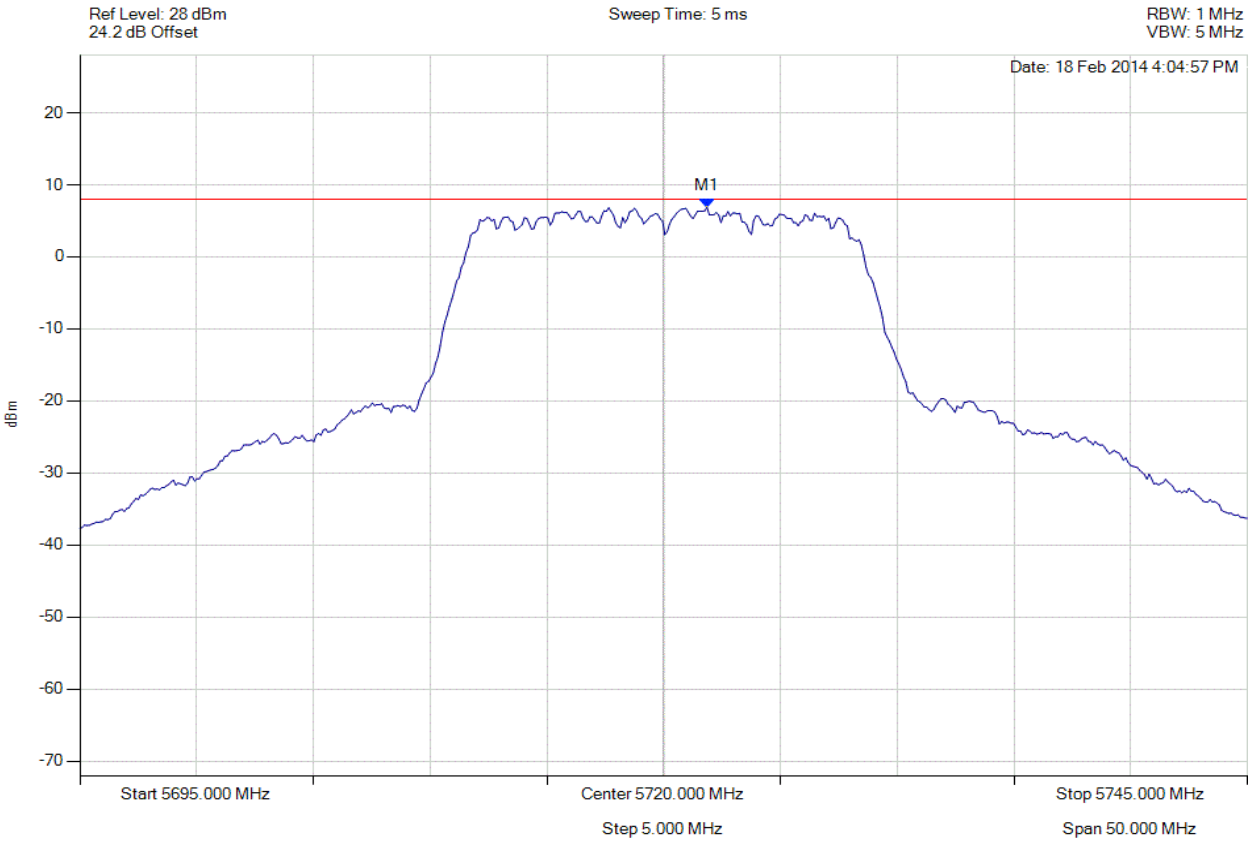
PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

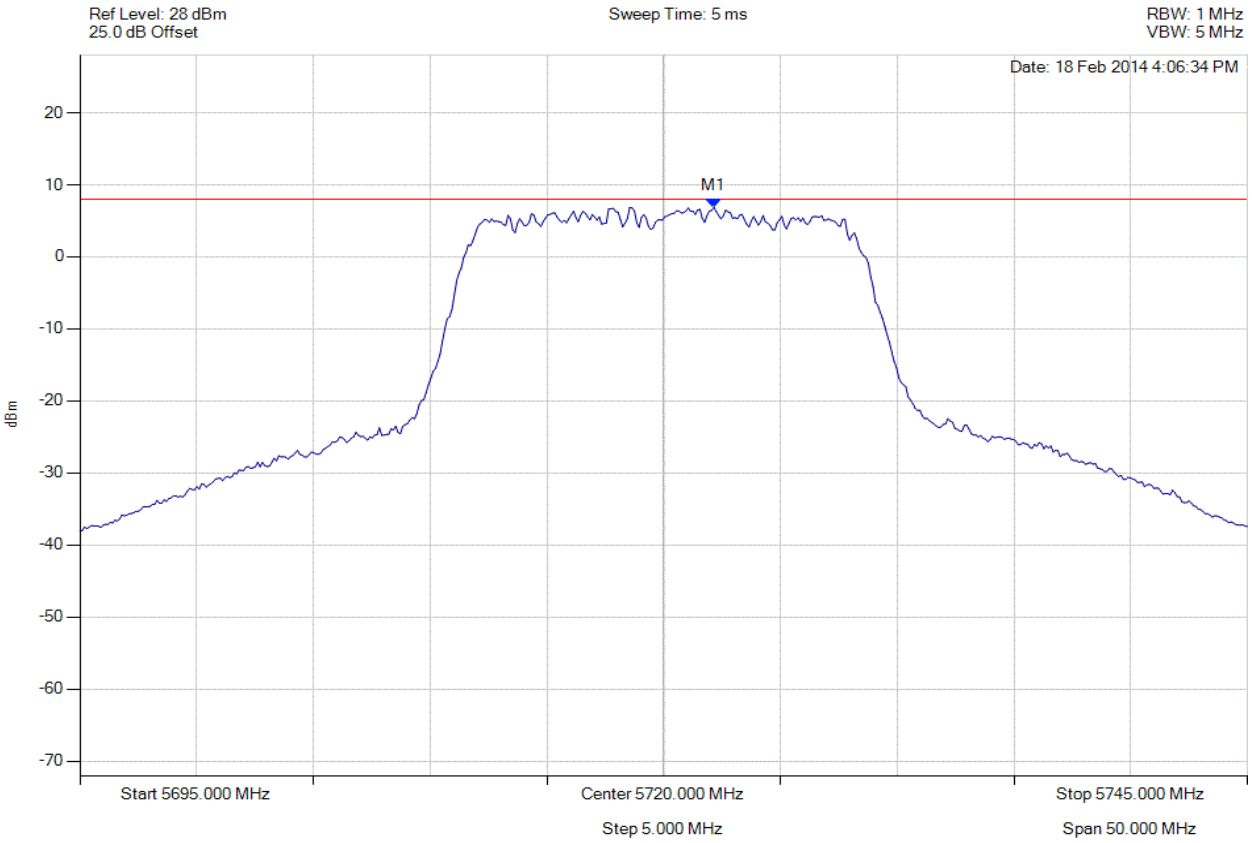


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5721.854 MHz : 6.868 dBm	Limit: ≤ 7.990 dBm Margin: -1.12 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

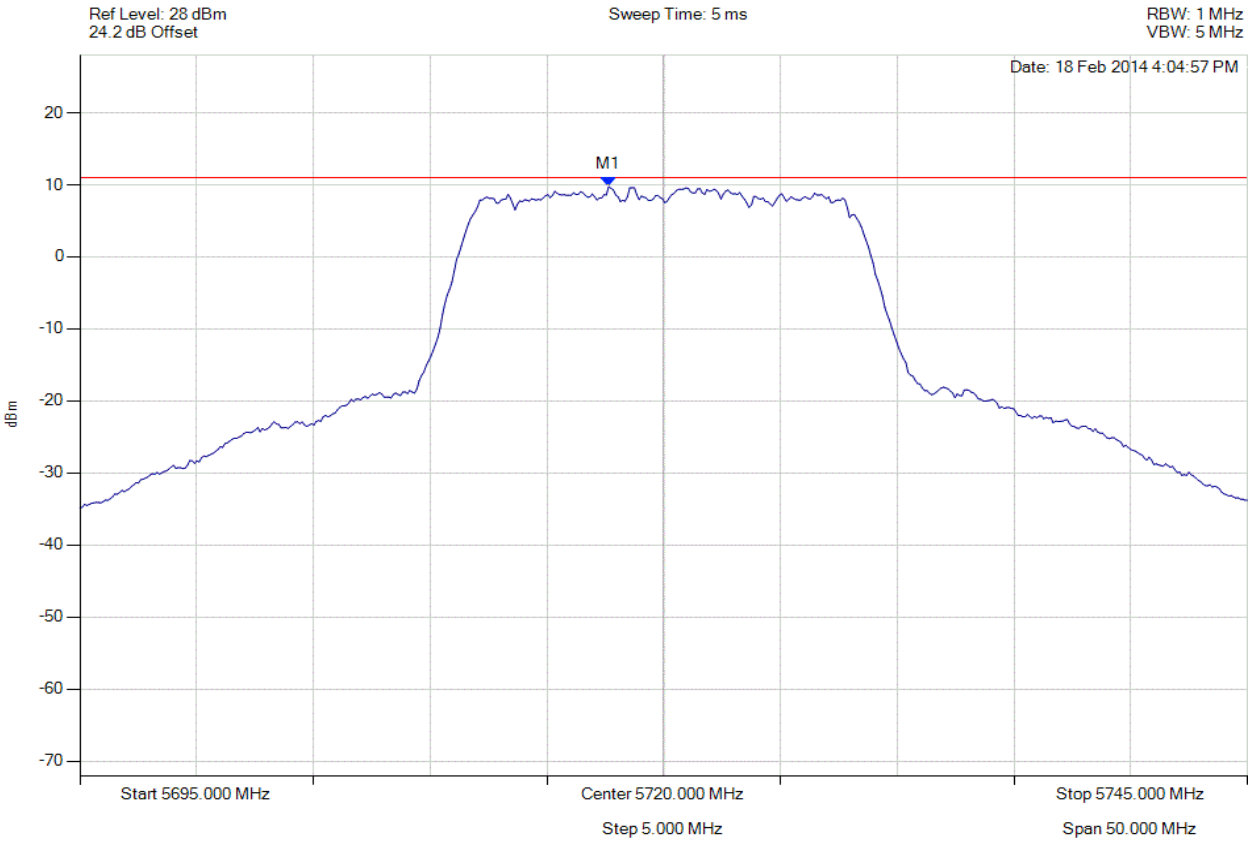


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5722.154 MHz : 6.862 dBm	Limit: ≤ 7.990 dBm Margin: -1.13 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

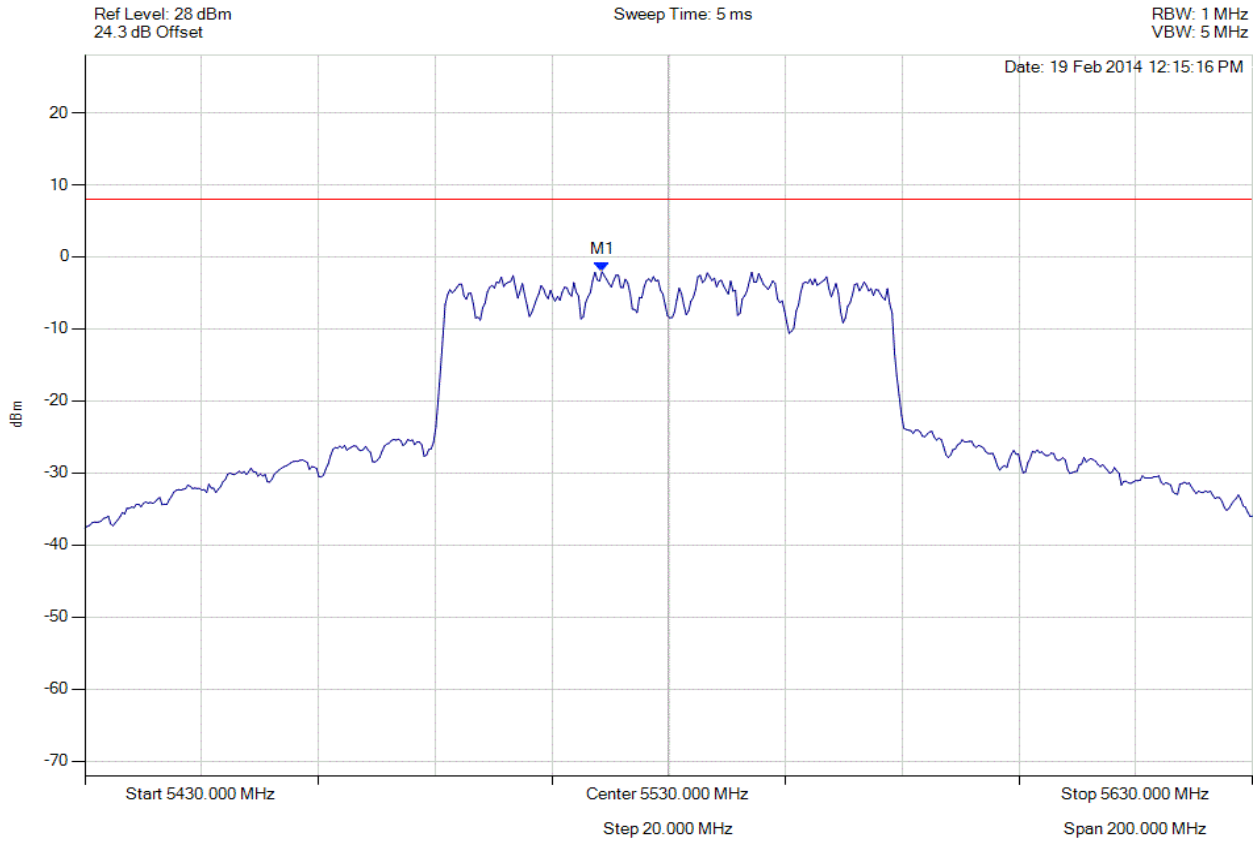


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5717.645 MHz : 9.743 dBm	Limit: ≤ 11.0 dBm Margin: -1.3 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

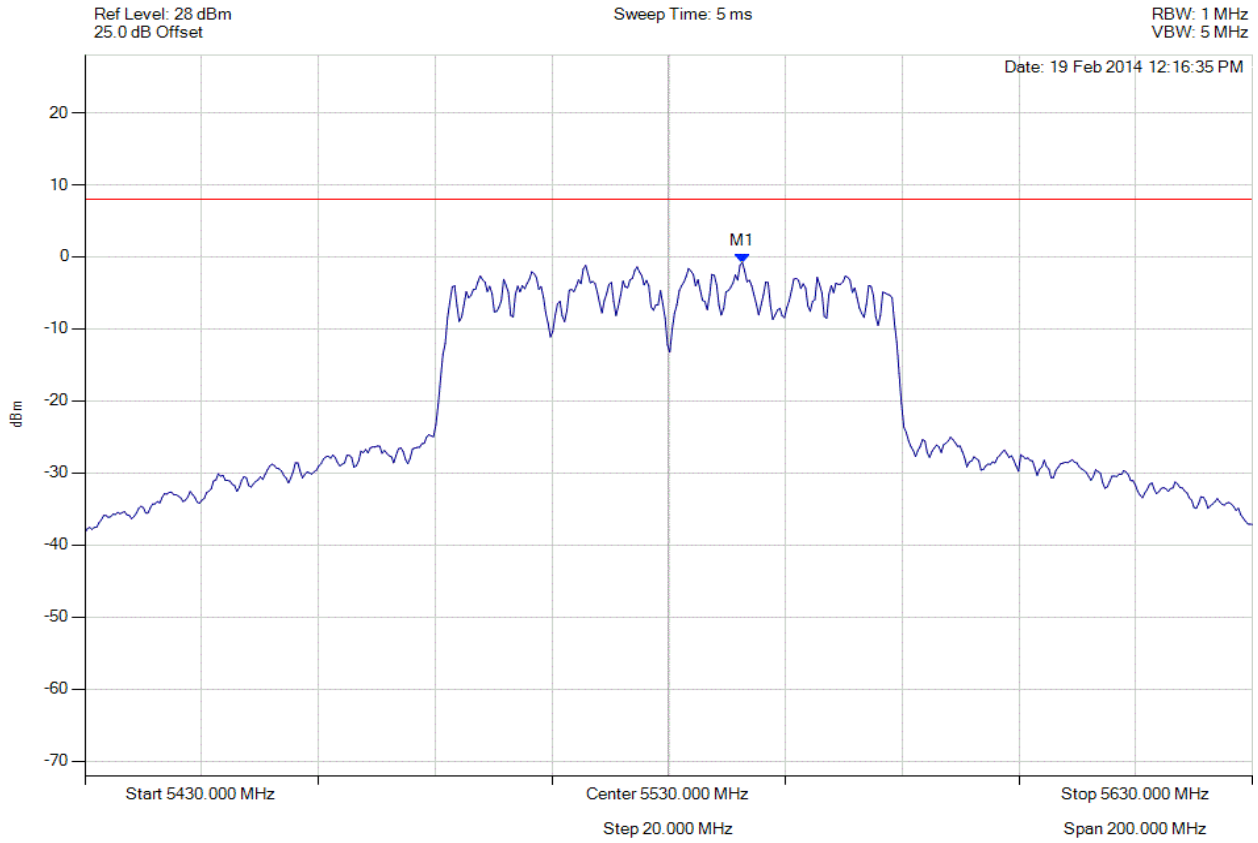


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5518.577 MHz : -2.070 dBm	Limit: ≤ 7.990 dBm Margin: 10.06 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

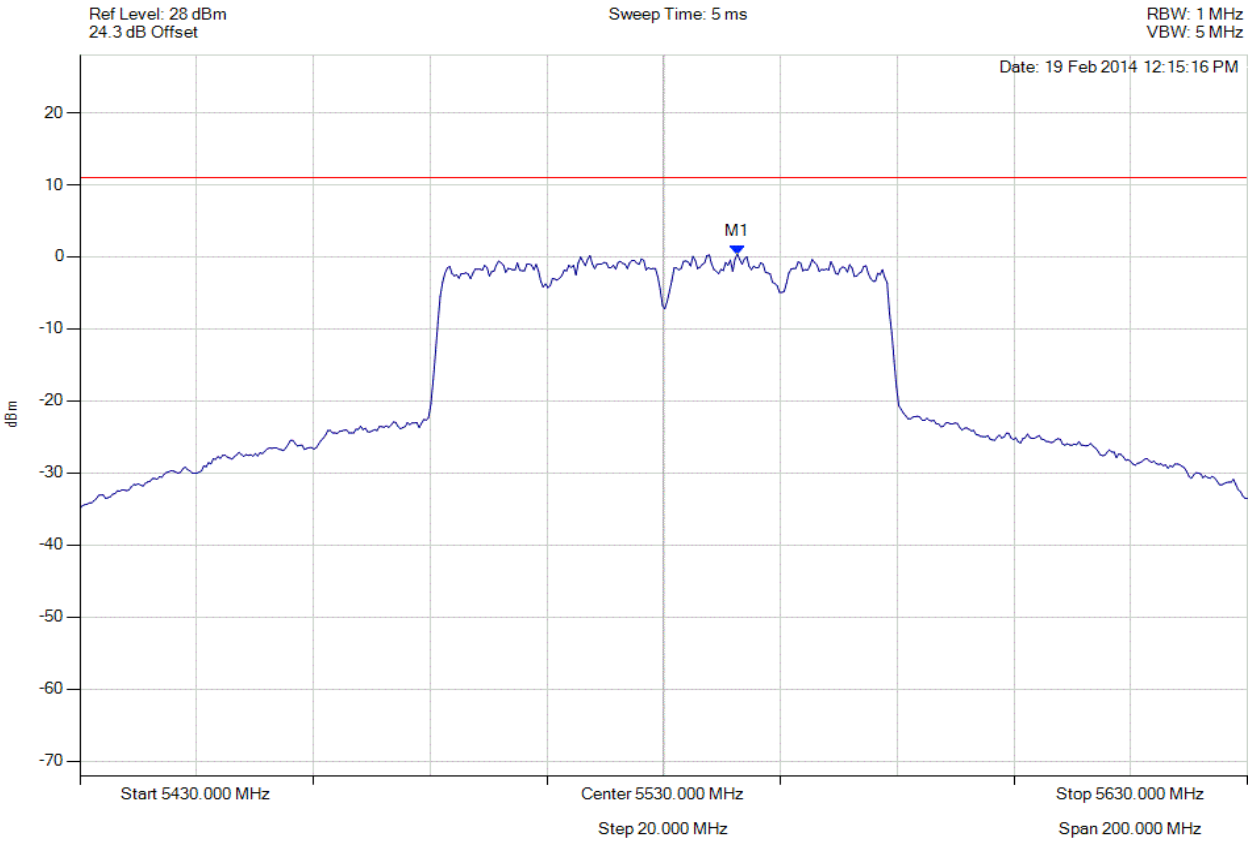


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5542.625 MHz : -0.802 dBm	Limit: ≤ 7.990 dBm Margin: 8.79 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

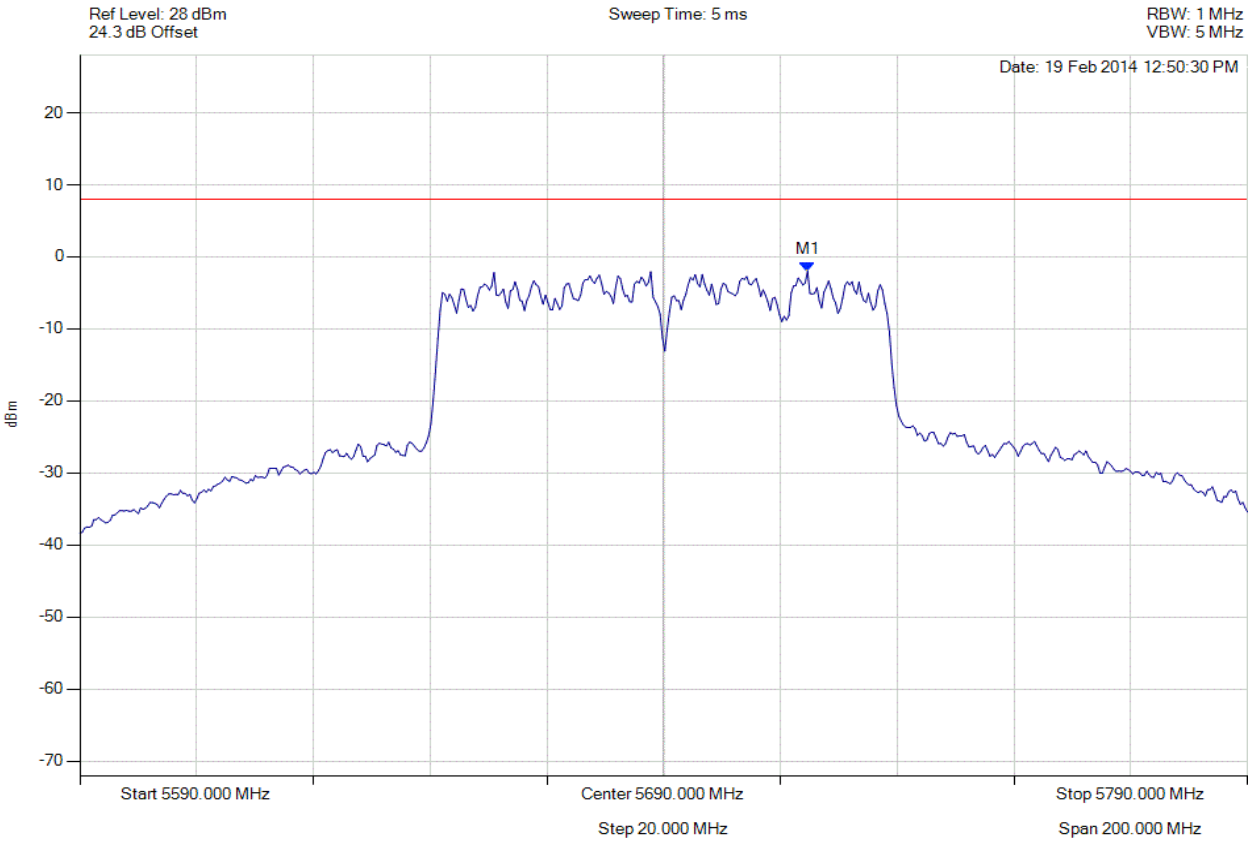


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5542.625 MHz : 0.385 dBm	Limit: ≤ 11.0 dBm Margin: -10.6 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

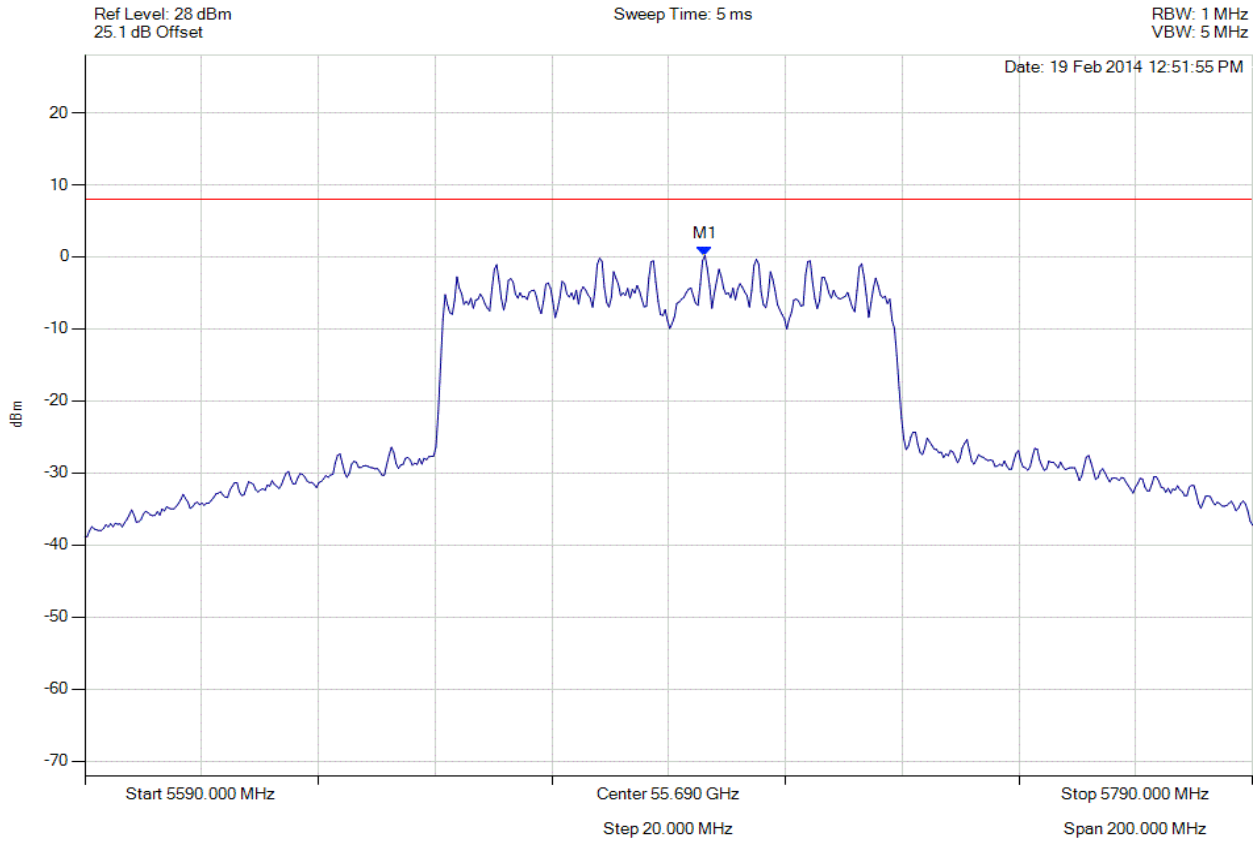


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5714.649 MHz : -1.979 dBm	Limit: ≤ 7.990 dBm Margin: 9.97 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

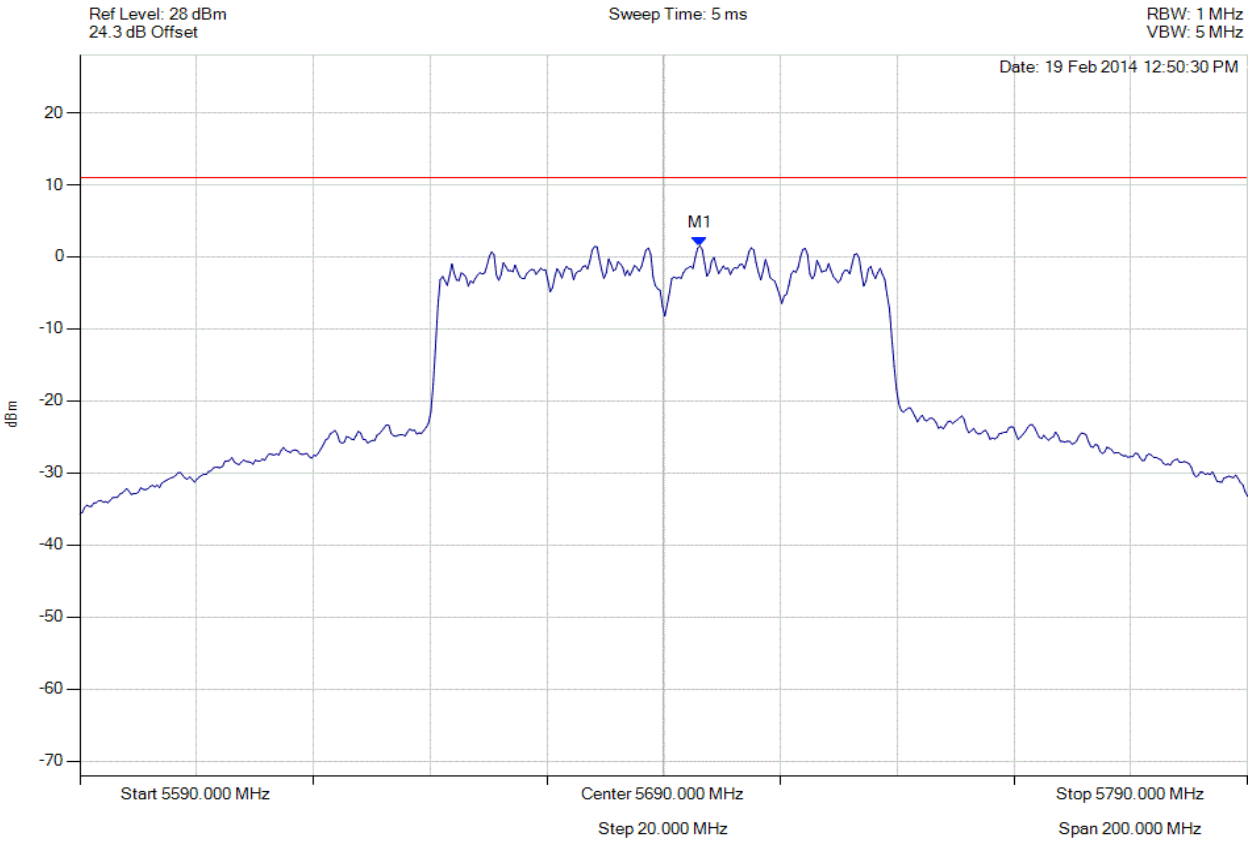


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5696.212 MHz : 0.179 dBm	Limit: ≤ 7.990 dBm Margin: -7.81 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

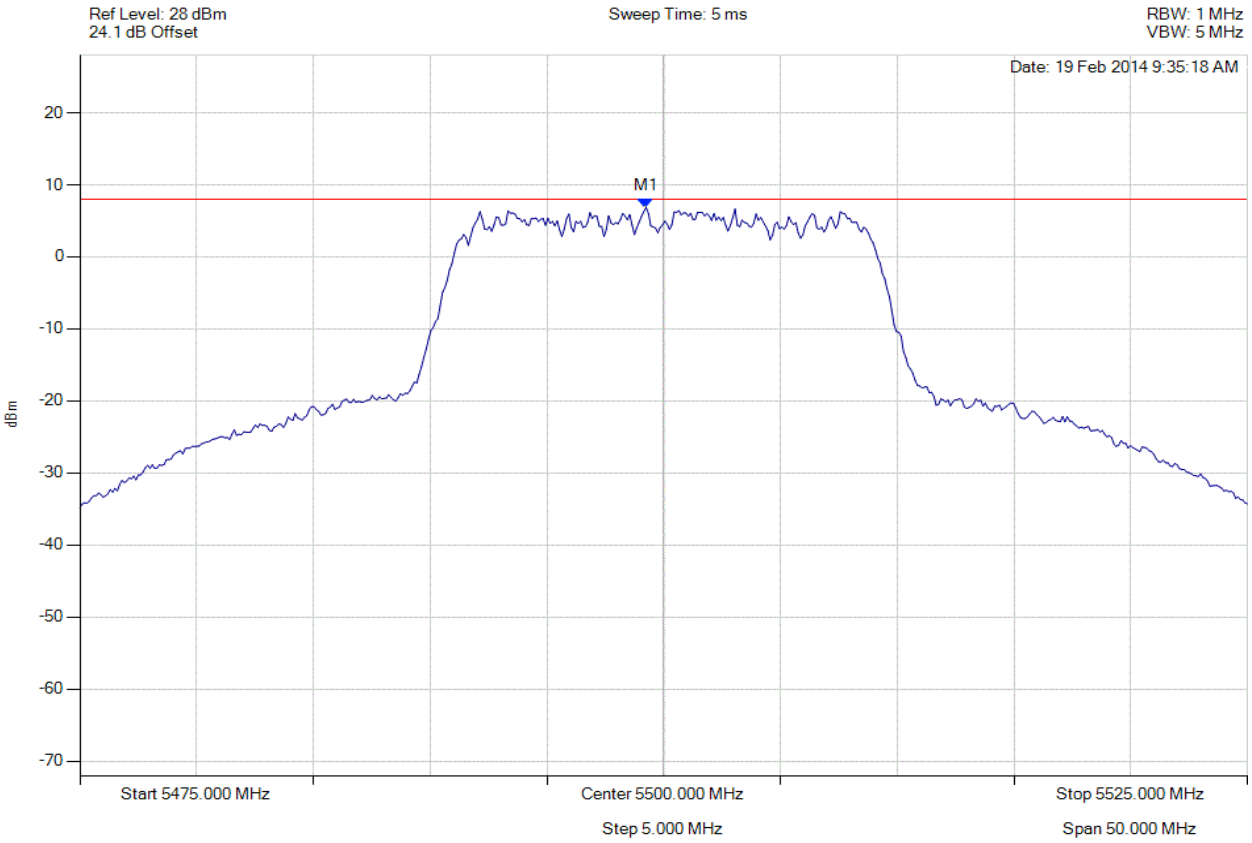


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5696.212 MHz : 1.543 dBm	Limit: ≤ 11.0 dBm Margin: -9.5 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

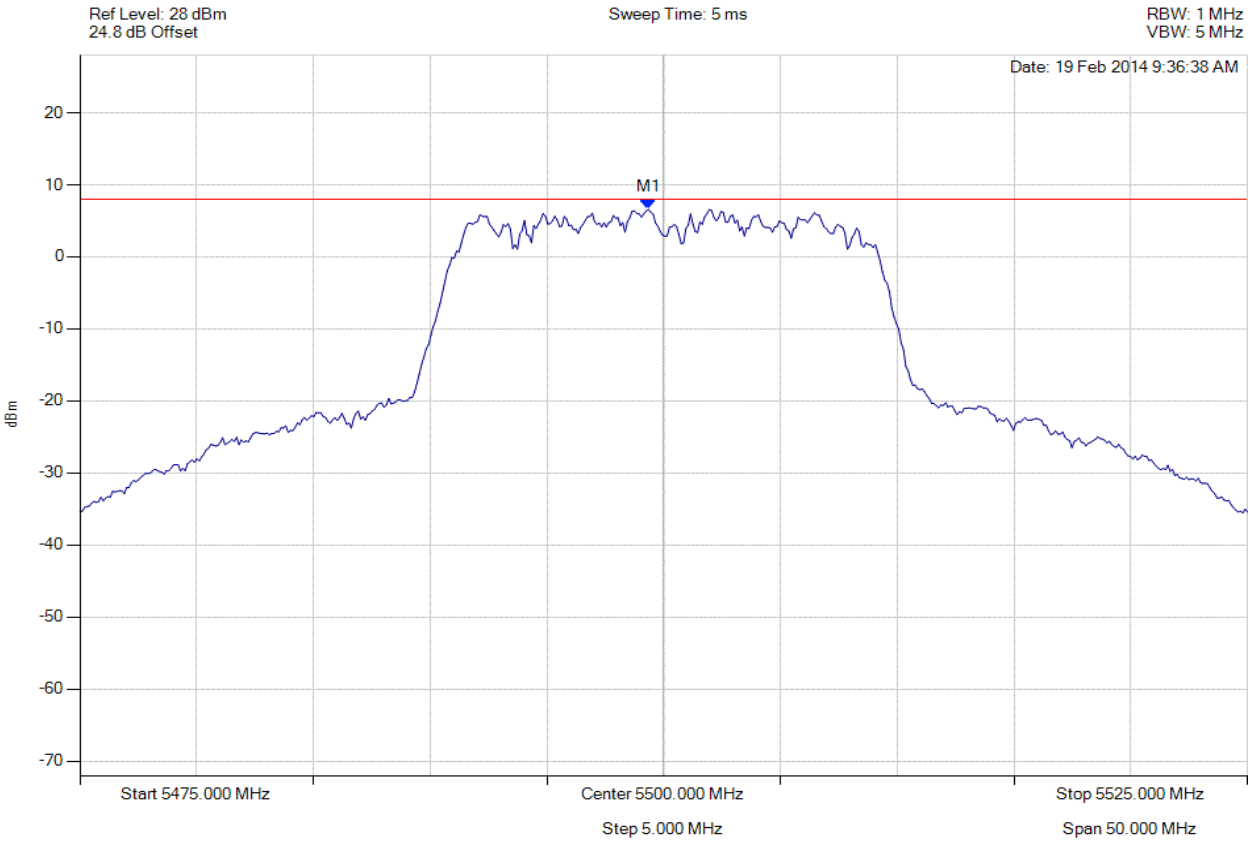


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5499.248 MHz : 6.869 dBm	Limit: ≤ 7.990 dBm Margin: -1.12 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

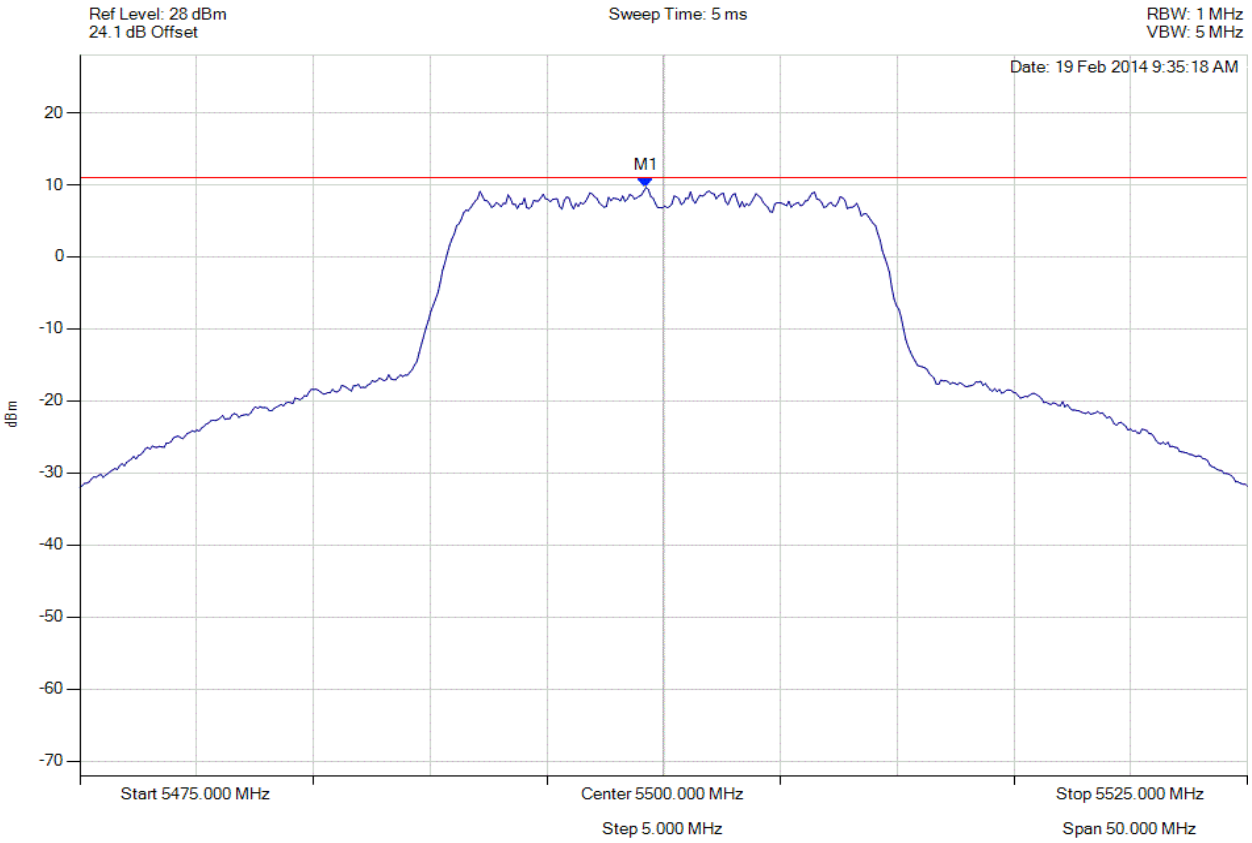


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5499.349 MHz : 6.588 dBm	Limit: ≤ 7.990 dBm Margin: -1.40 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5499.248 MHz : 9.634 dBm	Limit: ≤ 11.0 dBm Margin: -1.4 dB

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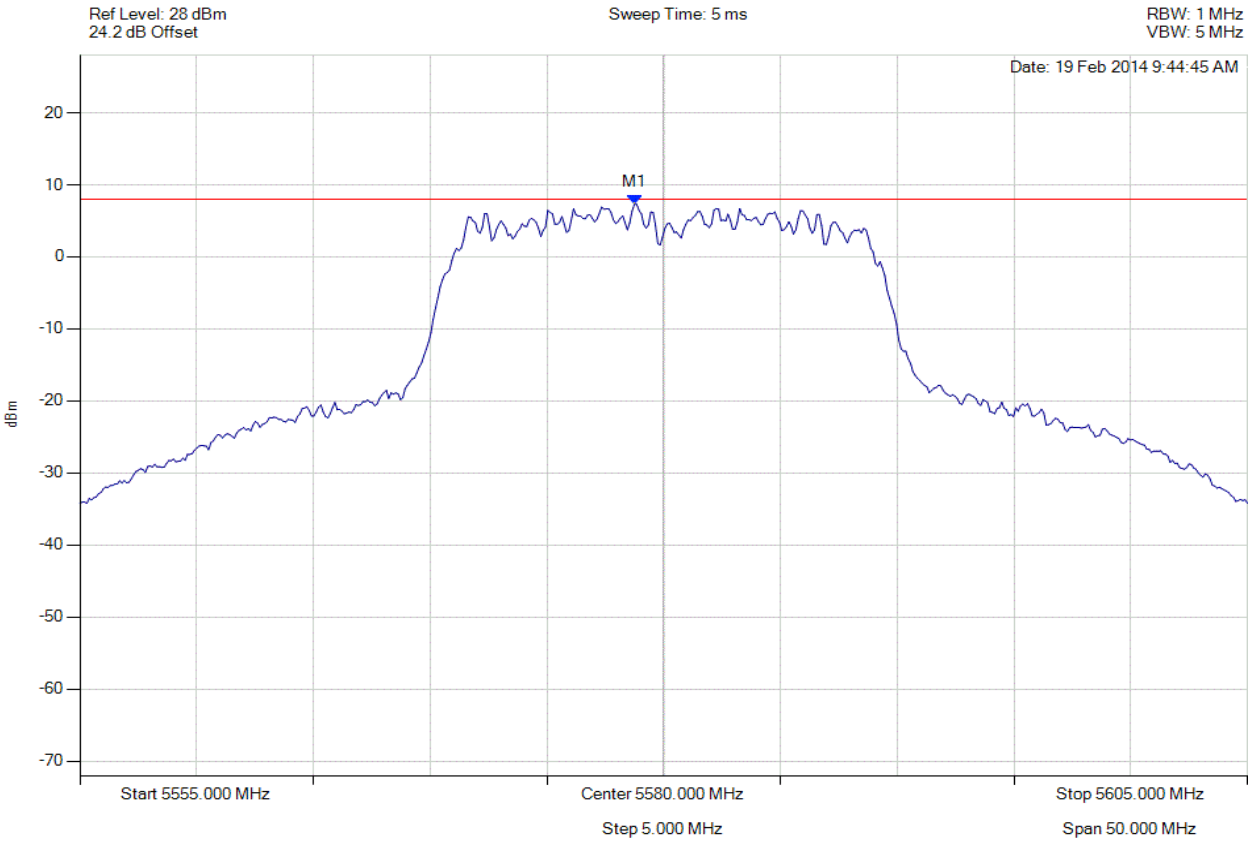
PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

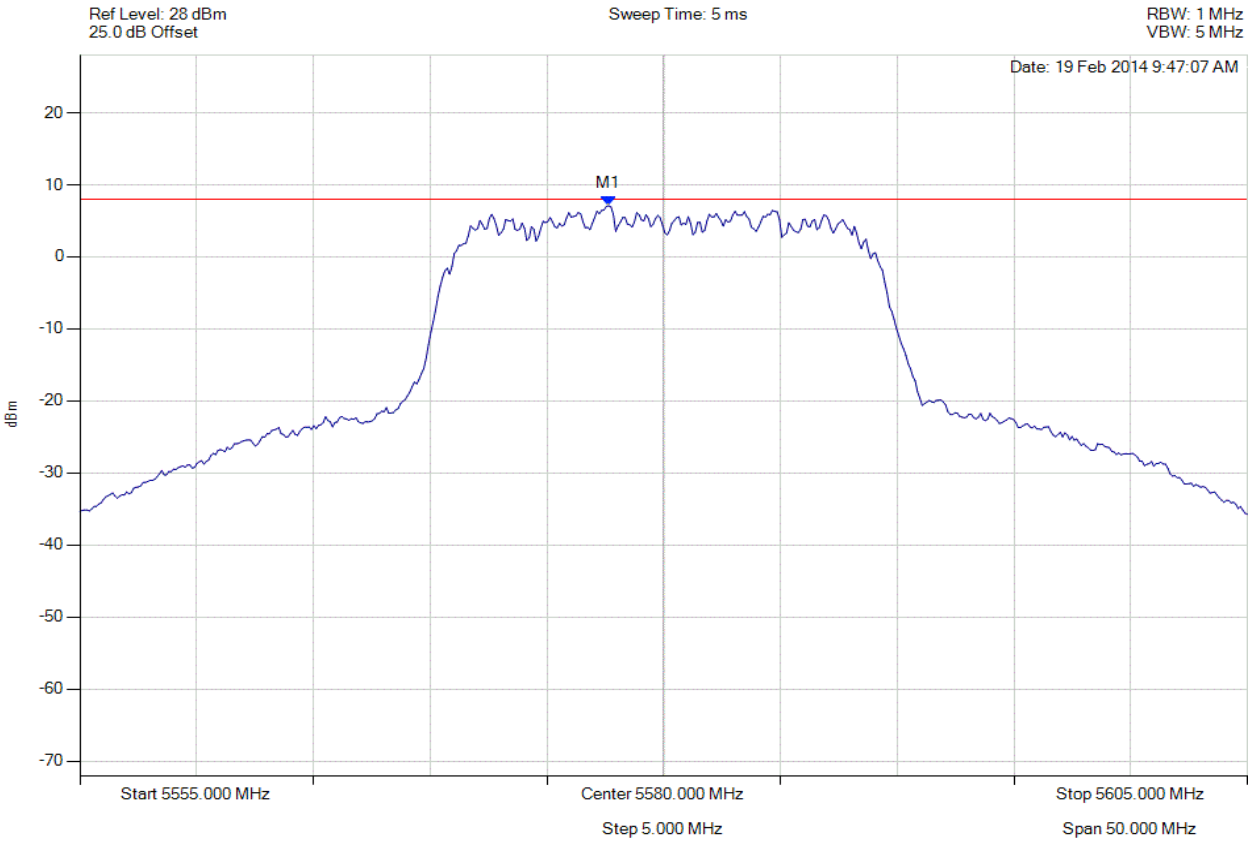


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5578.747 MHz : 7.297 dBm	Limit: ≤ 7.990 dBm Margin: -0.69 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

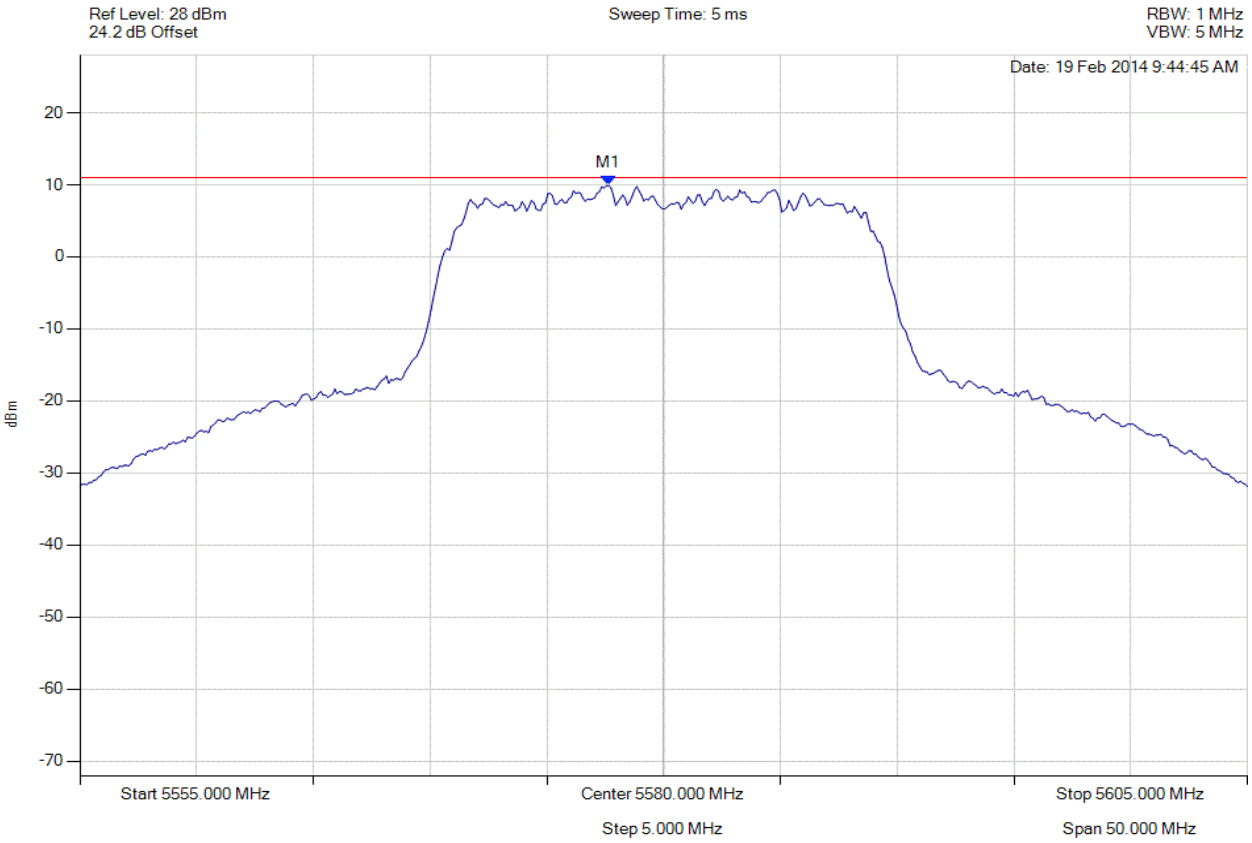


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5577.645 MHz : 7.083 dBm	Limit: ≤ 7.990 dBm Margin: -0.91 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

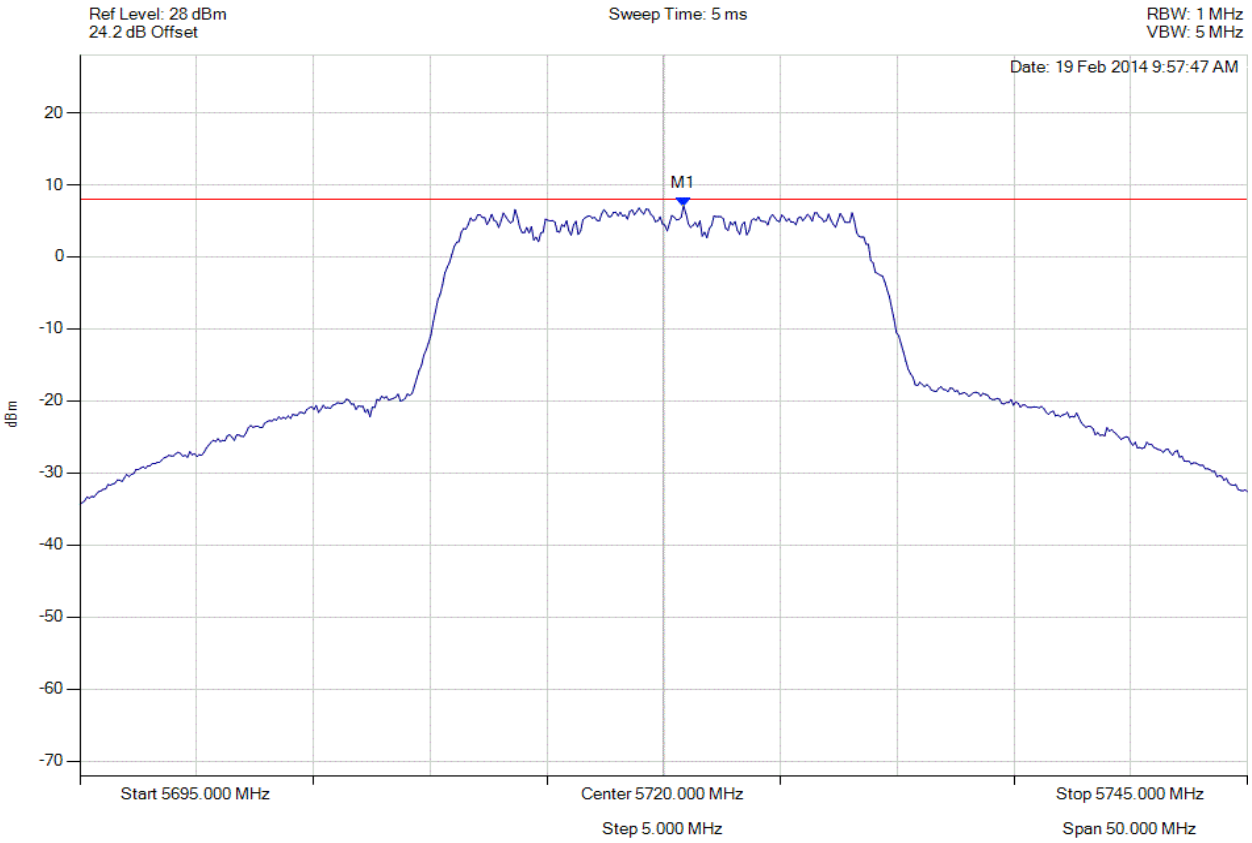


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5577.645 MHz : 9.900 dBm	Limit: ≤ 11.0 dBm Margin: -1.1 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

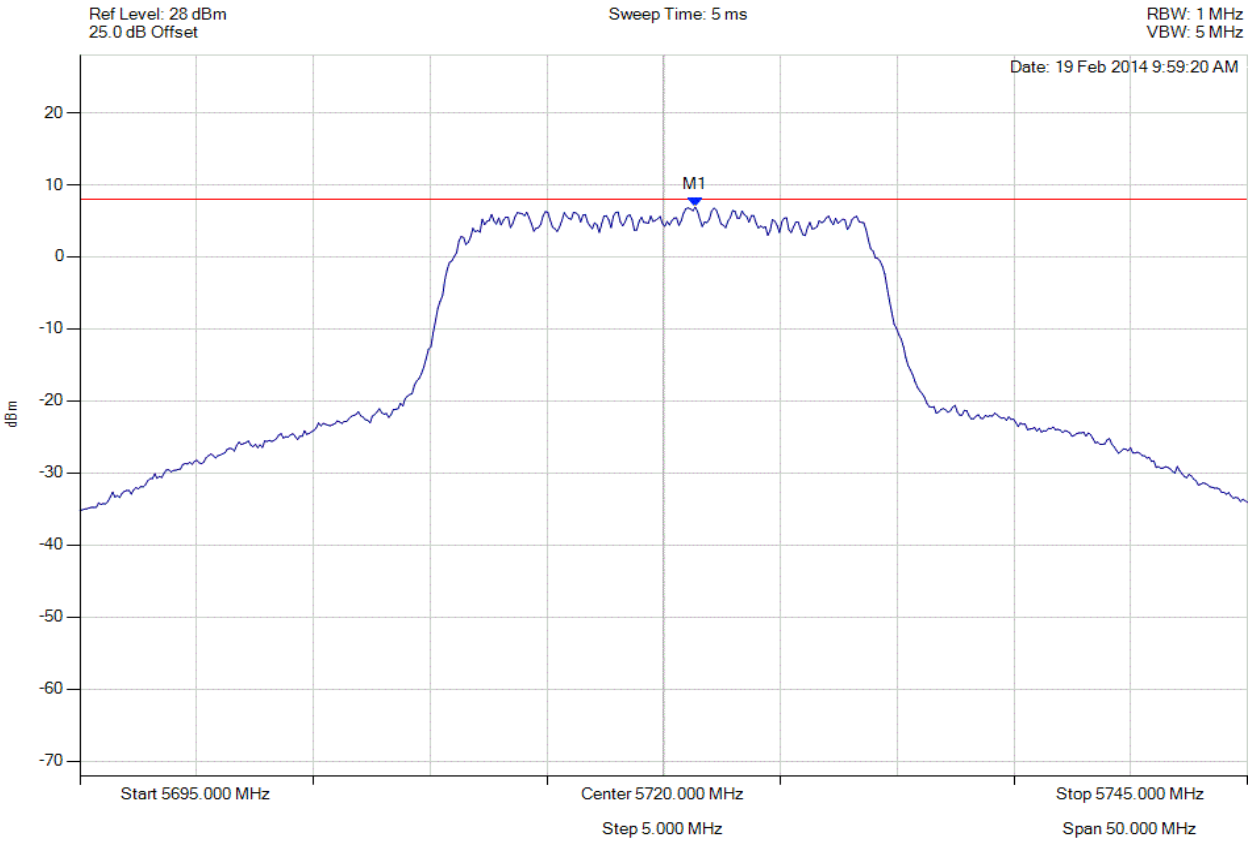


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5720.852 MHz : 7.050 dBm	Limit: ≤ 7.990 dBm Margin: -0.94 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

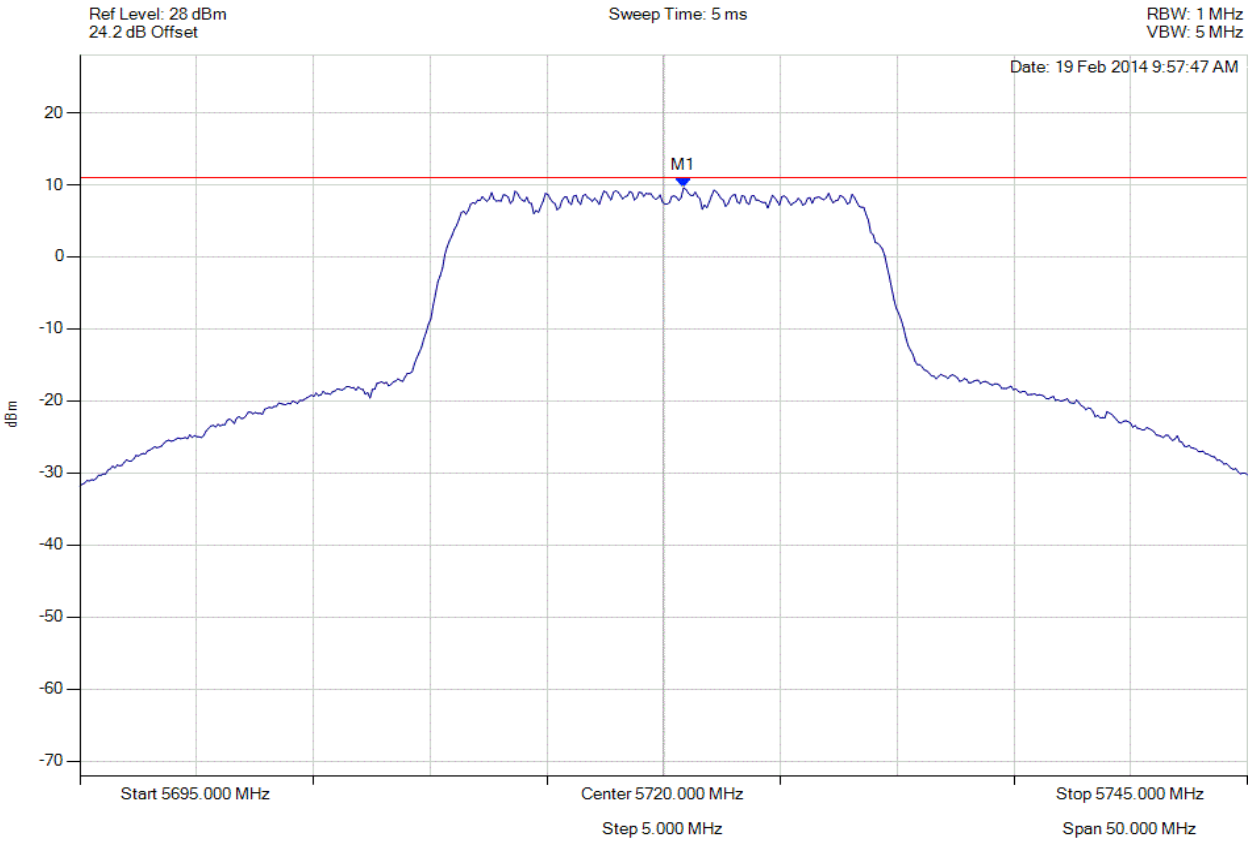


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5721.353 MHz : 6.902 dBm	Limit: ≤ 7.990 dBm Margin: -1.09 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

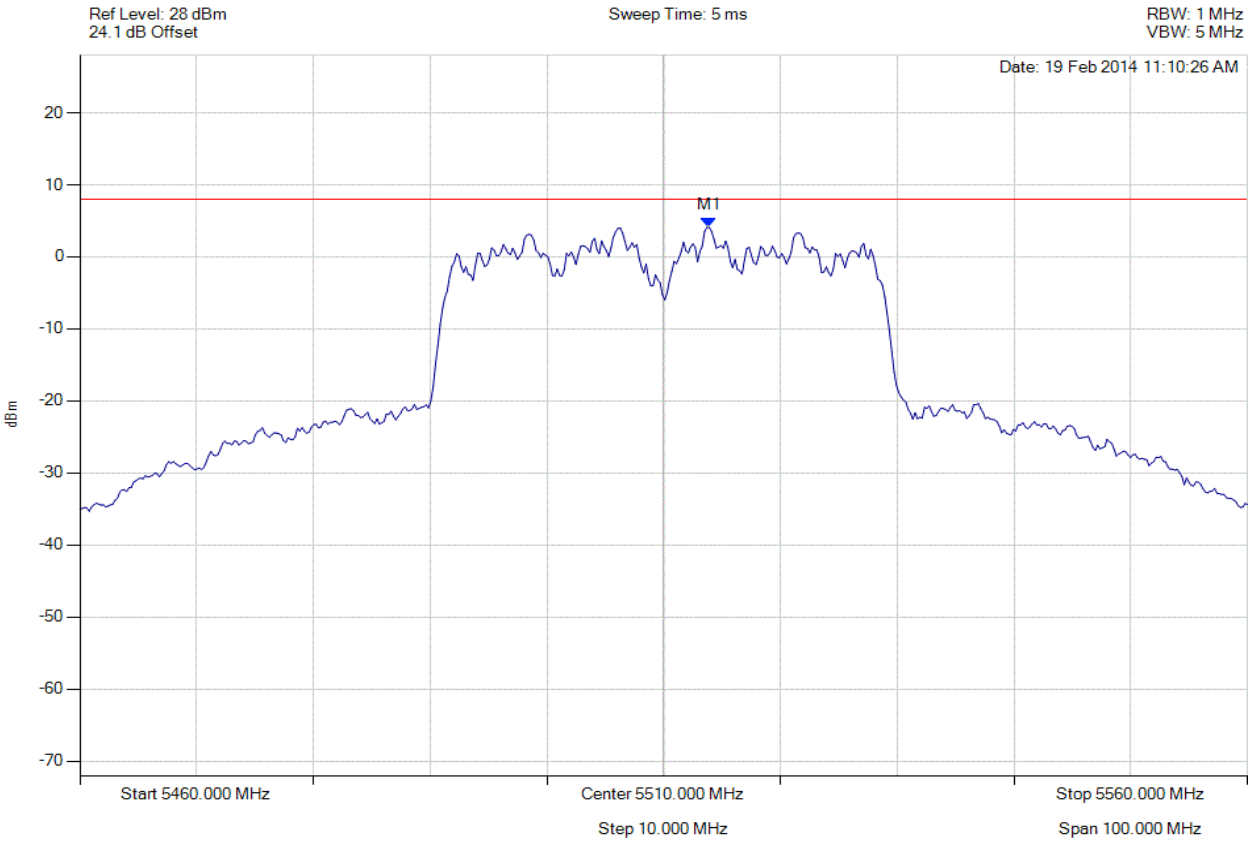


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5720.852 MHz : 9.589 dBm	Limit: ≤ 11.0 dBm Margin: -1.4 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

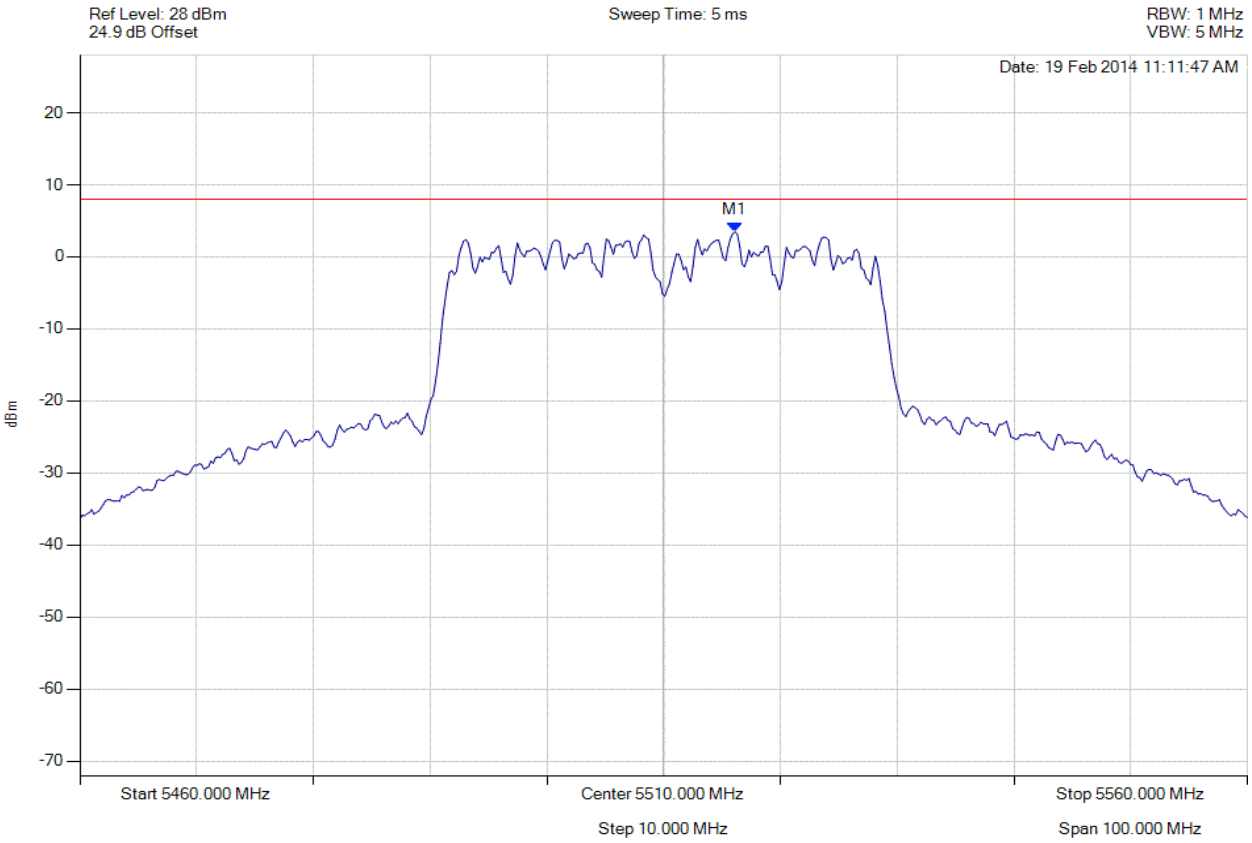


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5513.908 MHz : 4.092 dBm	Limit: ≤ 7.990 dBm Margin: -3.90 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5516.112 MHz : 3.460 dBm	Limit: ≤ 7.990 dBm Margin: -4.53 dB

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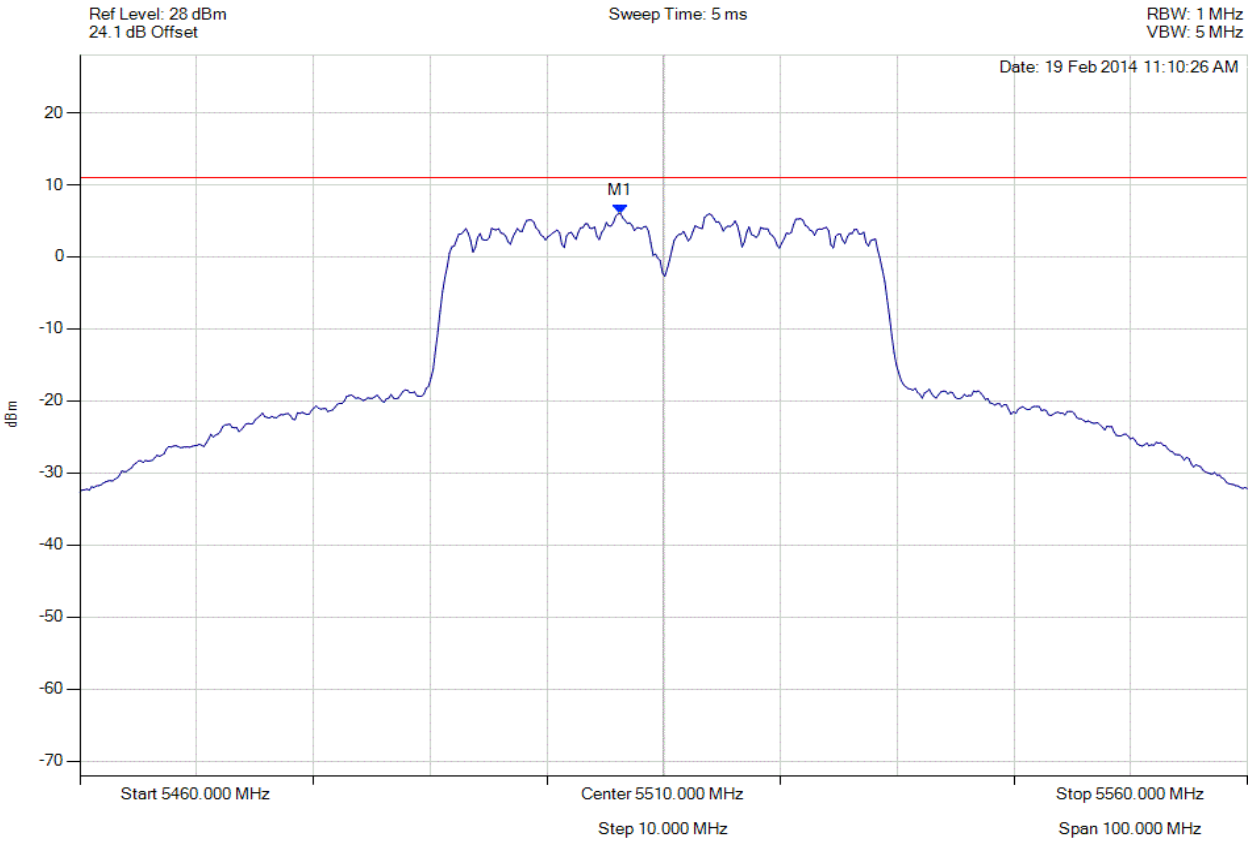
PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5506.293 MHz : 6.051 dBm	Limit: ≤ 11.0 dBm Margin: -4.9 dB

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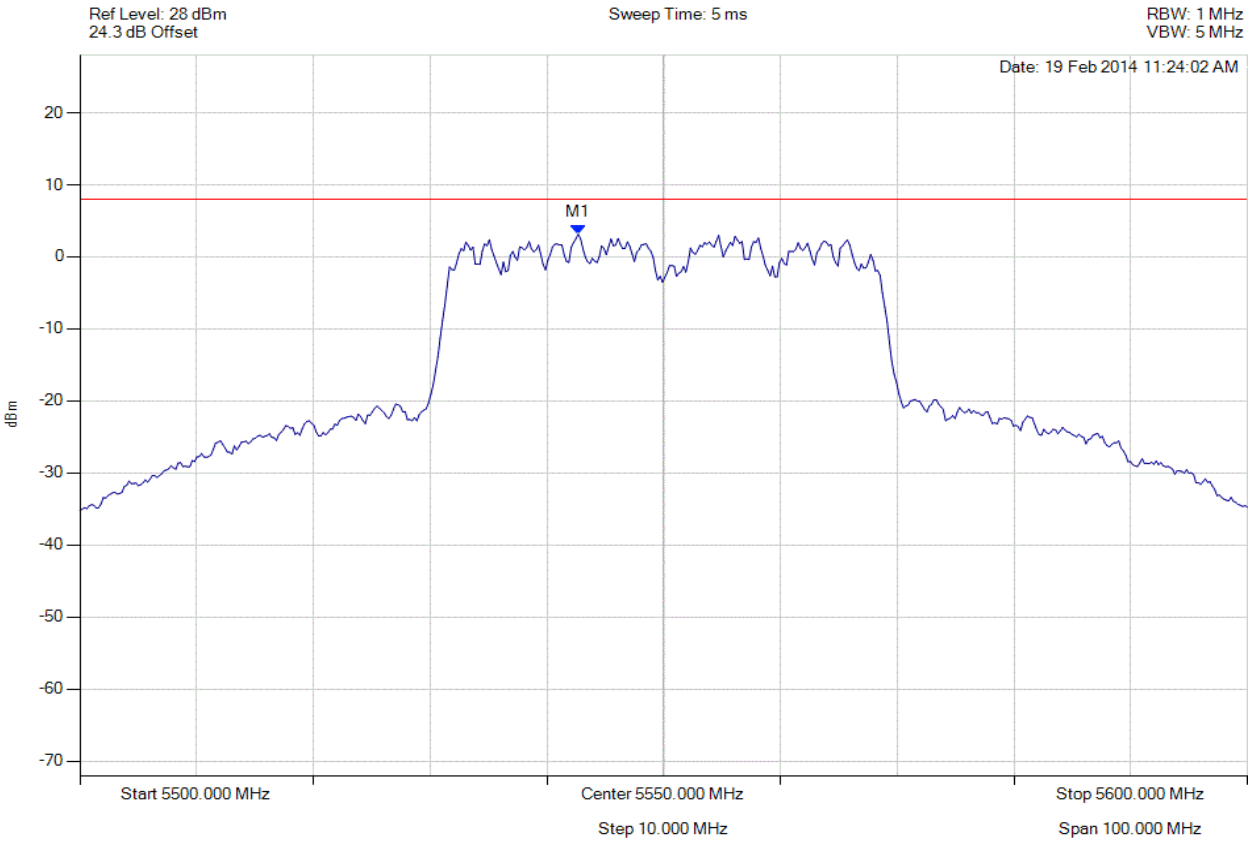
PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

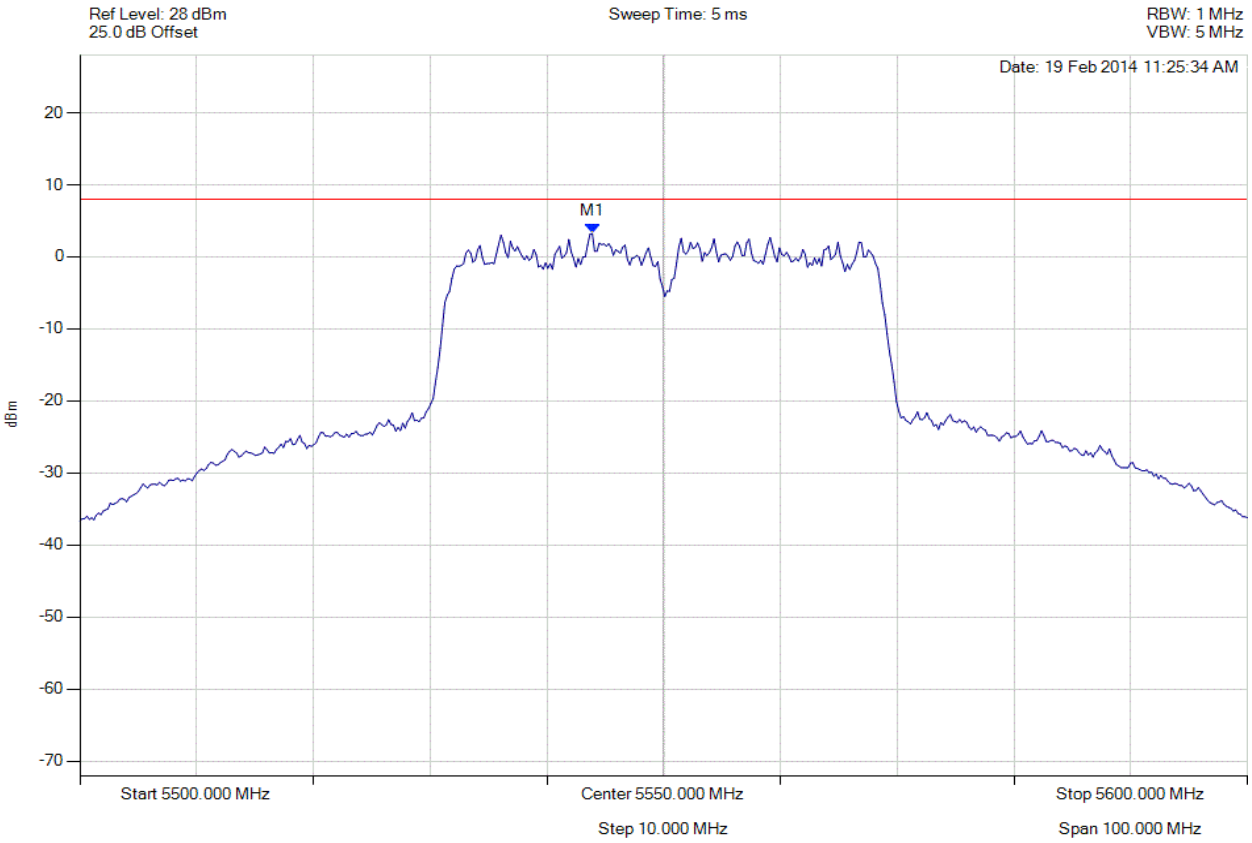


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5542.685 MHz : 3.125 dBm	Limit: ≤ 7.990 dBm Margin: -4.87 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

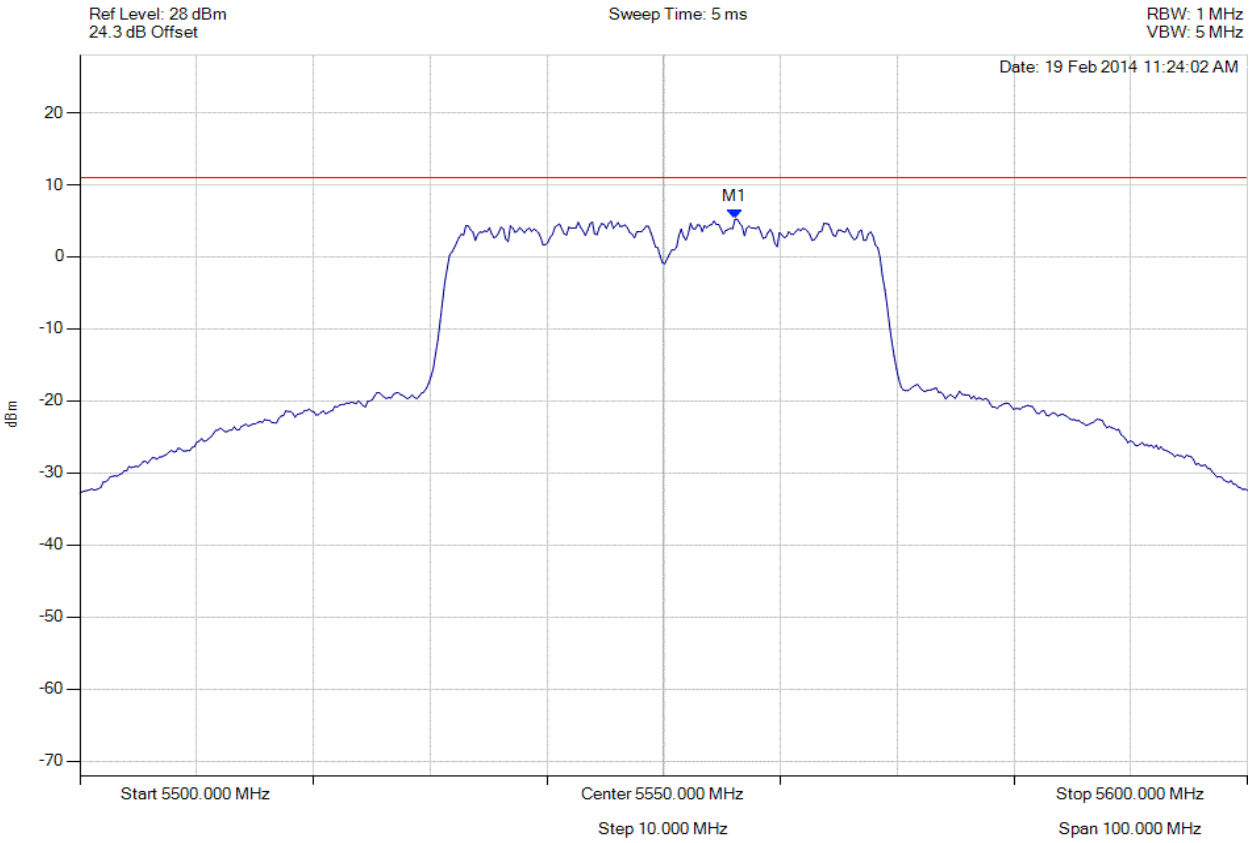


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5543.888 MHz : 3.238 dBm	Limit: ≤ 7.990 dBm Margin: -4.75 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

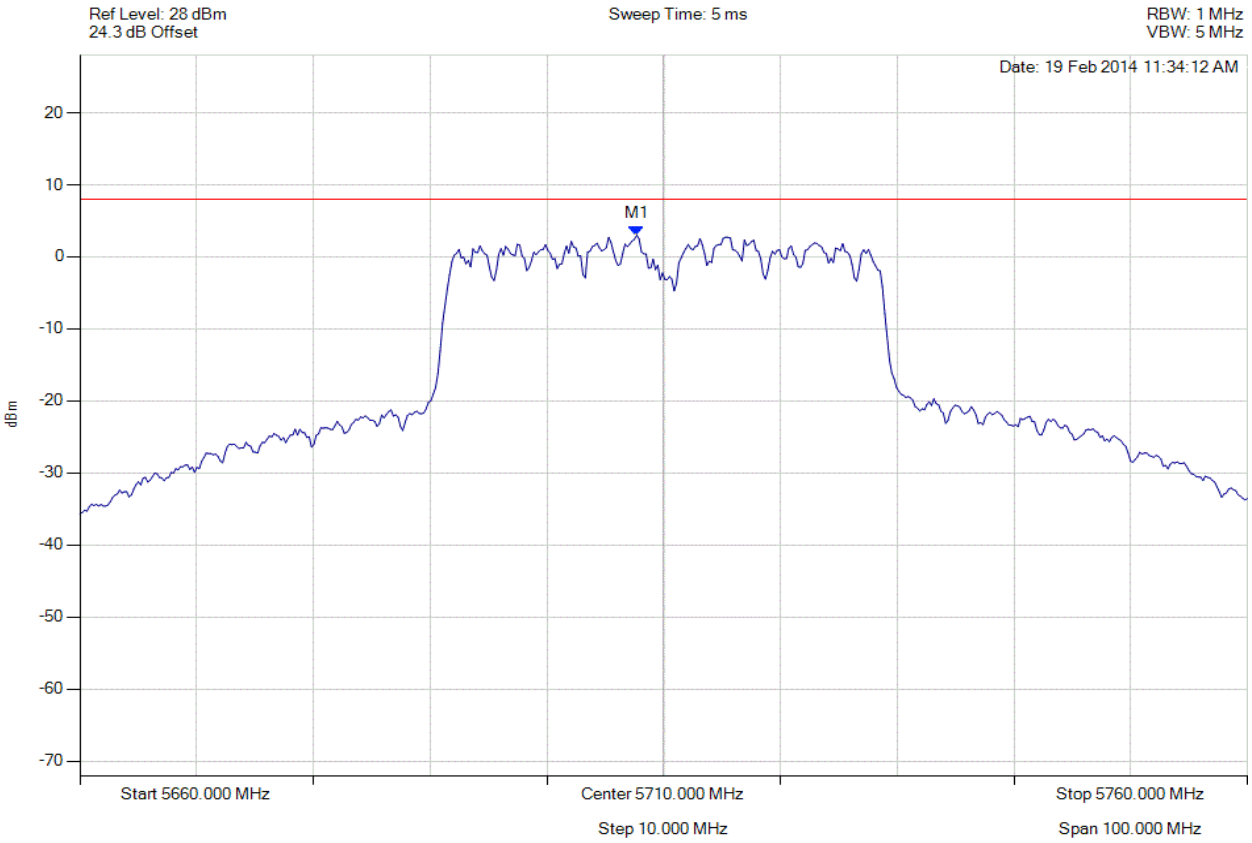


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5556.112 MHz : 5.233 dBm	Limit: ≤ 11.0 dBm Margin: -5.8 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5707.695 MHz : 3.009 dBm	Limit: ≤ 7.990 dBm Margin: -4.98 dB

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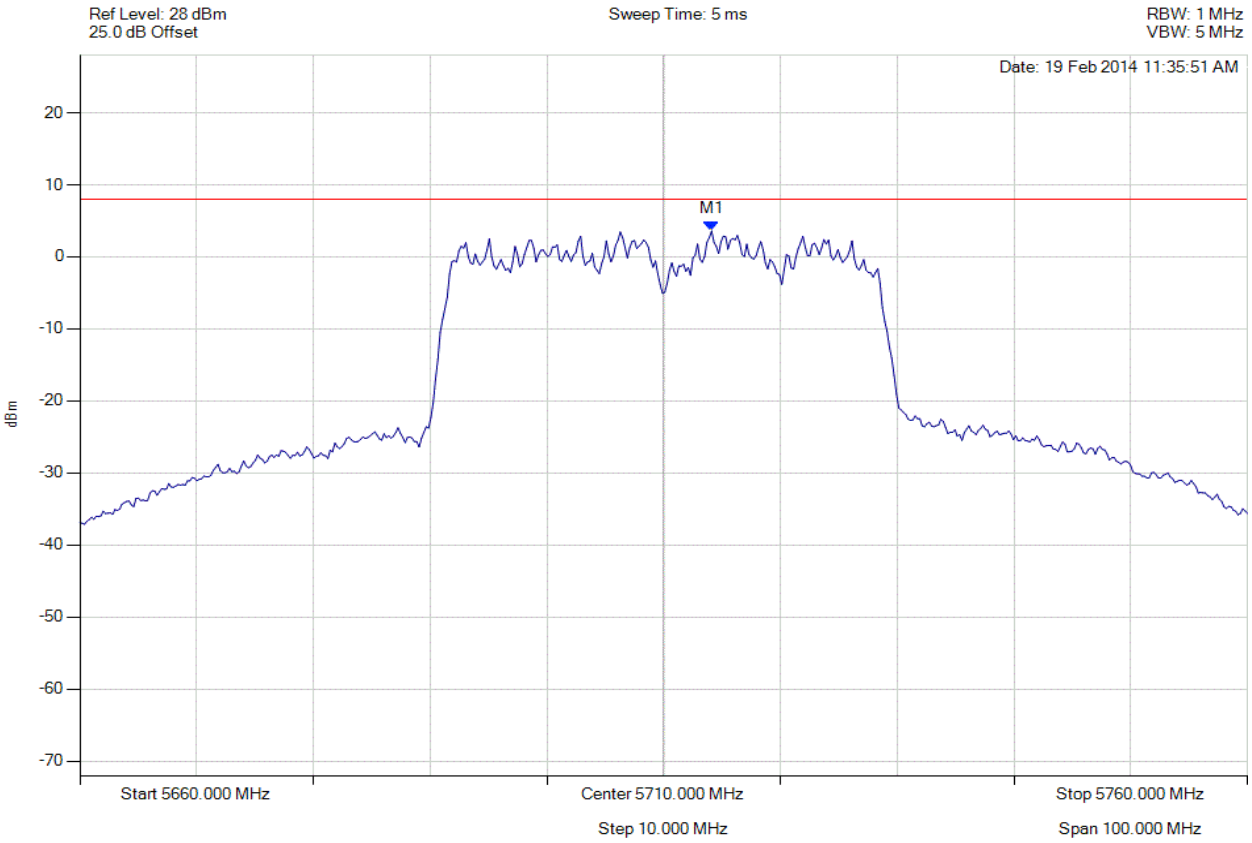
PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

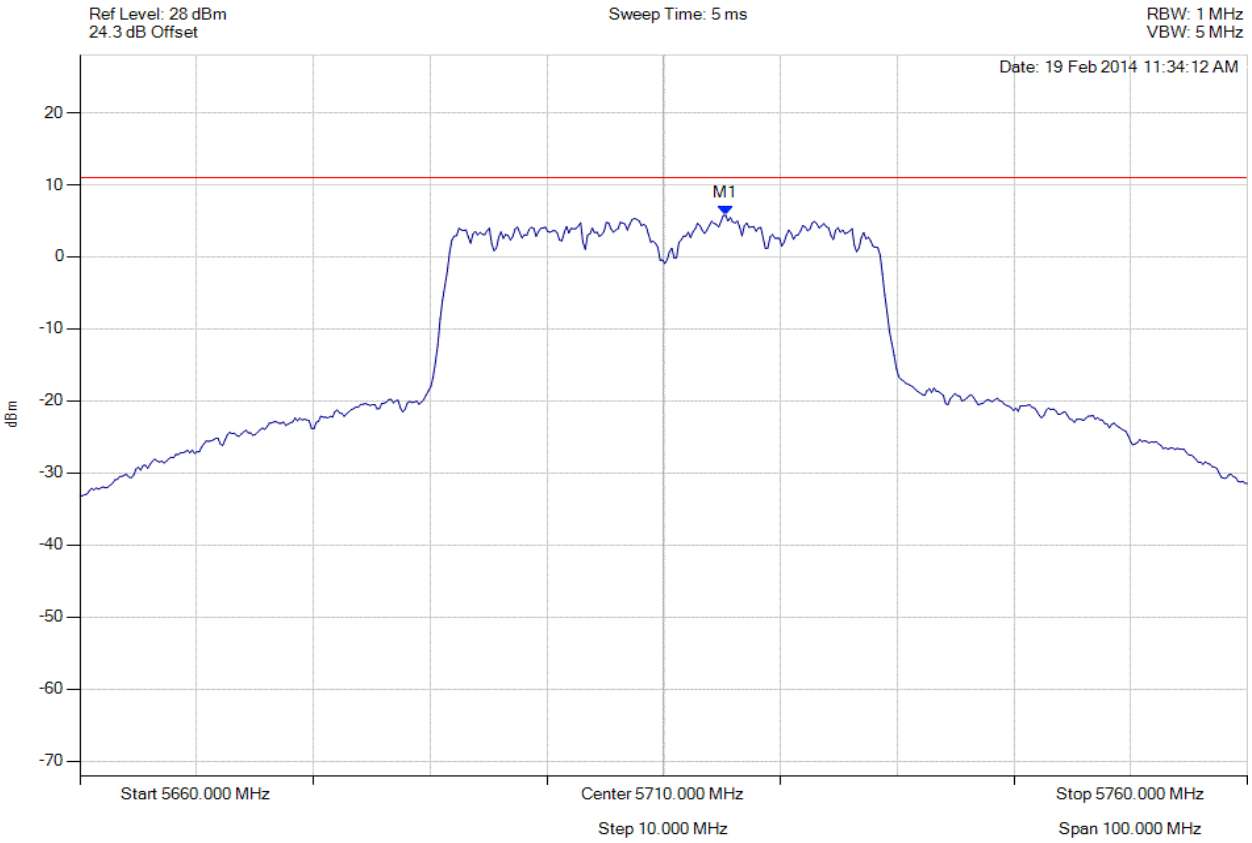


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5714.108 MHz : 3.589 dBm	Limit: ≤ 7.990 dBm Margin: -4.40 dB

Back to the Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



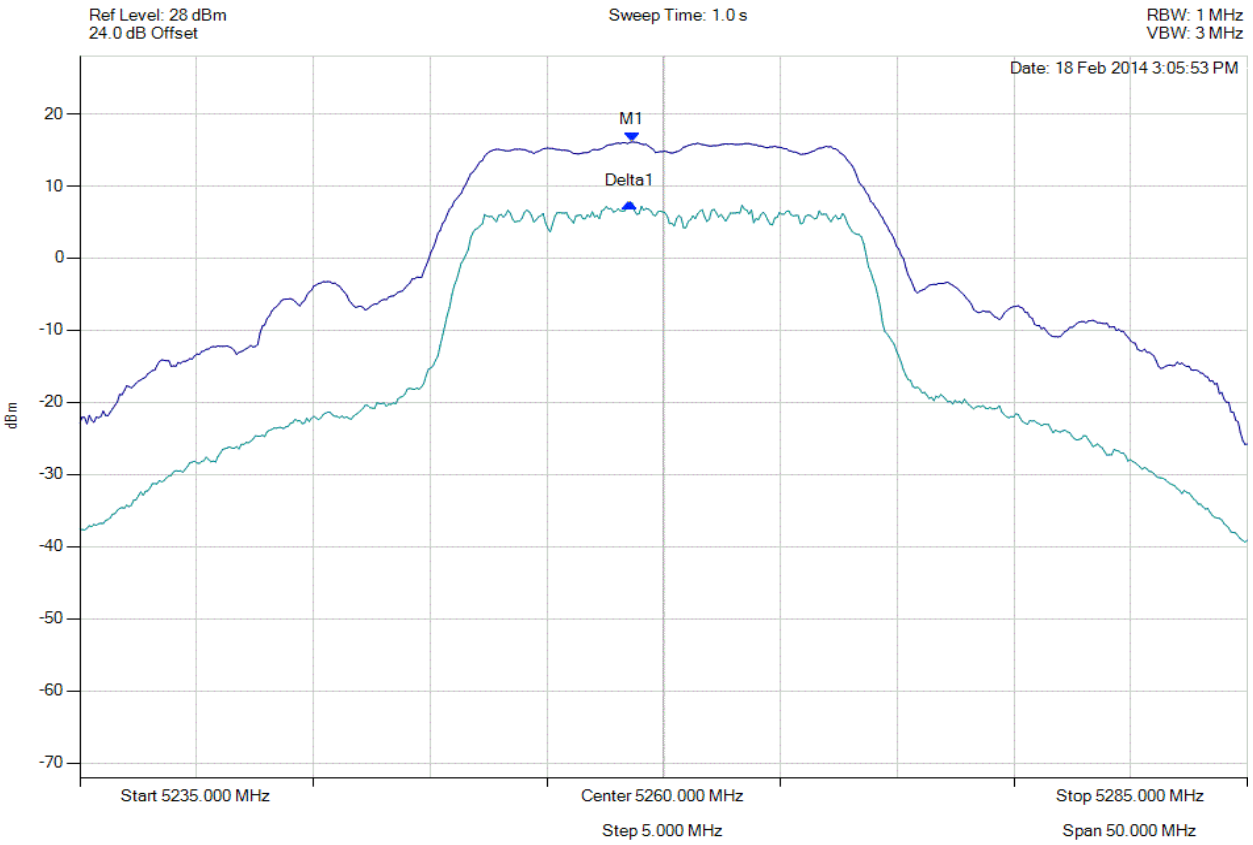
Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5715.311 MHz : 5.768 dBm	Limit: ≤ 11.0 dBm Margin: -5.2 dB

Back to the Matrix

A.1.3. Peak Excursion Ratio

PEAK EXCURSION RATIO

Variant: 802.11a, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5258.647 MHz : 16.120 dBm Delta1 : -100200 Hz : -8.420 dB	Measured Excursion Ratio: 8.42 dB Limit: 13.0 dB Margin: -4.58 dB

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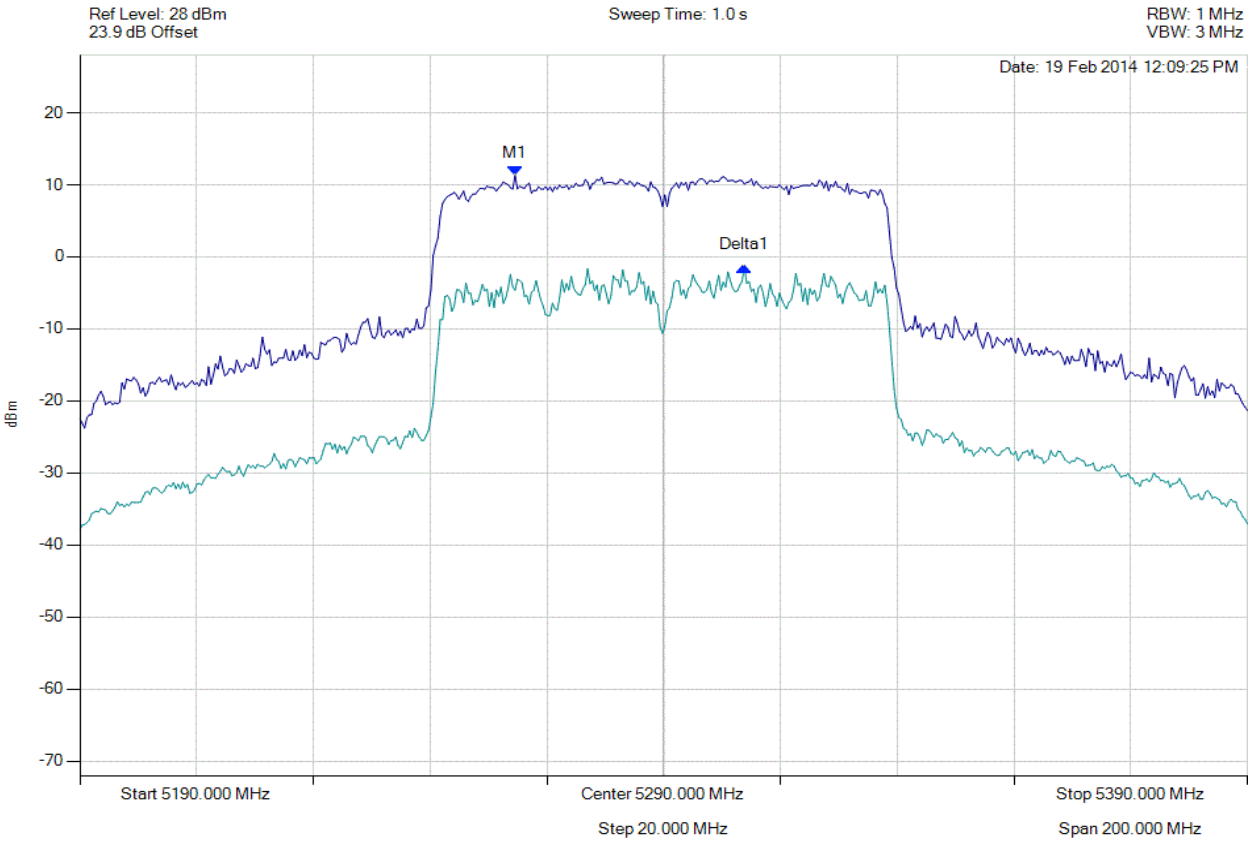
PEAK EXCURSION RATIO

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5264.549 MHz : 11.293 dBm Delta1 : 39.279 MHz : -12.633 dB	Measured Excursion Ratio: 12.63 dB Limit: 13.0 dB Margin: -0.37 dB

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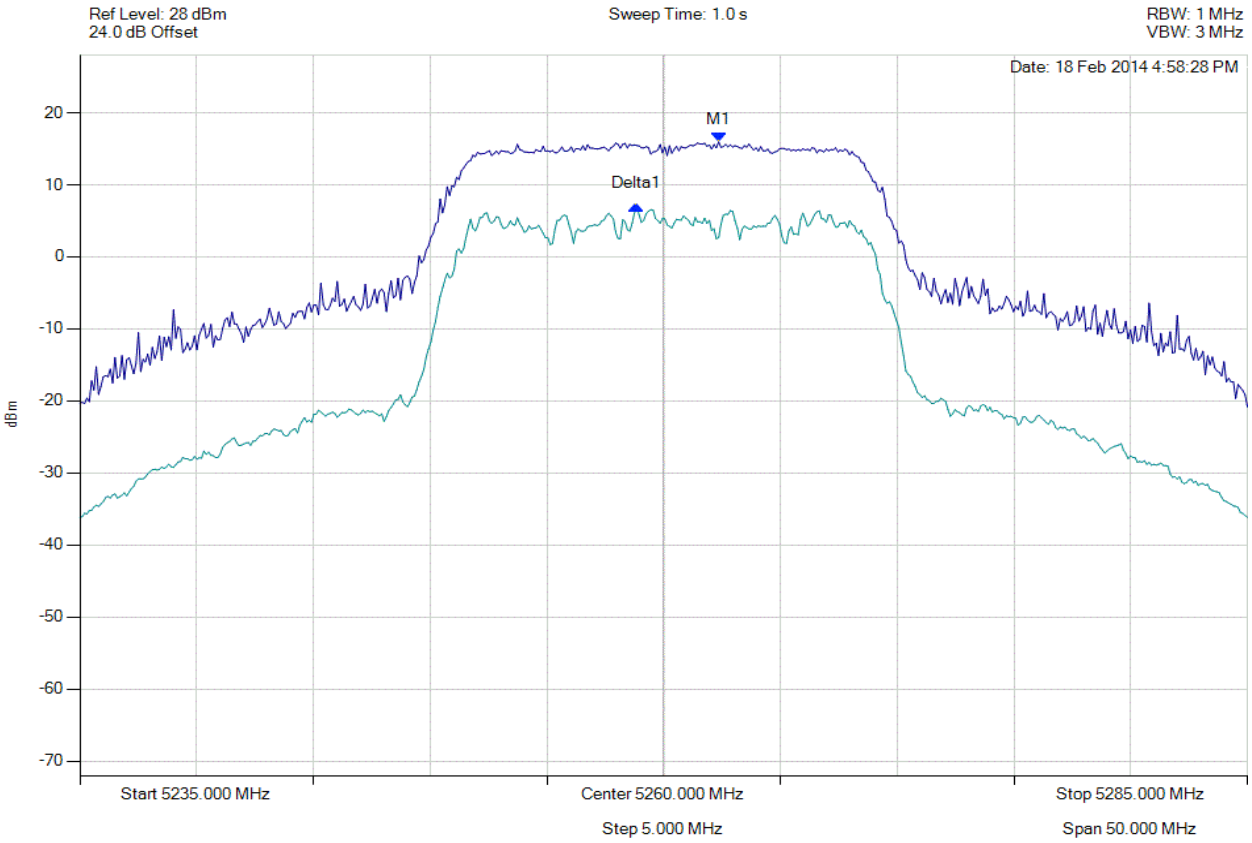
PEAK EXCURSION RATIO

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5262.355 MHz : 15.951 dBm Delta1 : -3507014 Hz : -8.892 dB	Measured Excursion Ratio: 8.89 dB Limit: 13.0 dB Margin: -4.11 dB

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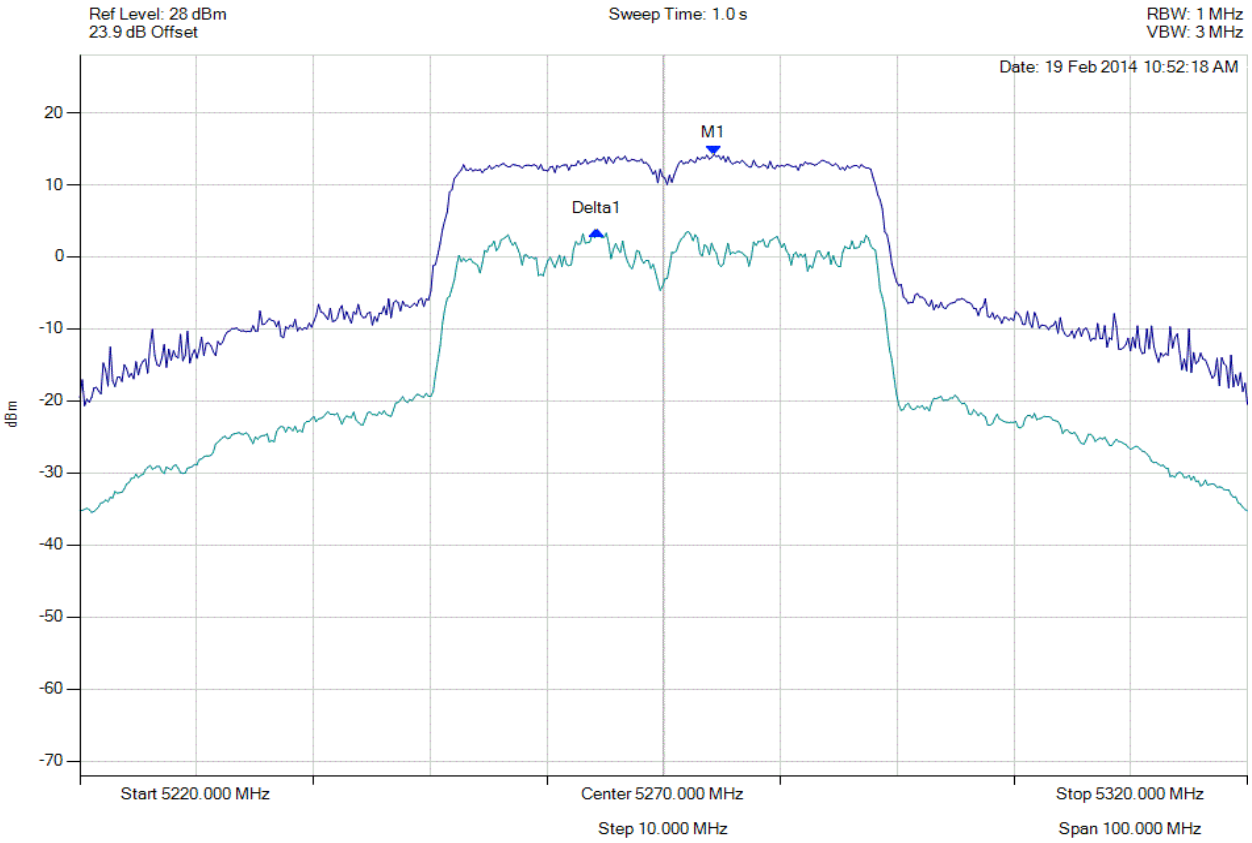
PEAK EXCURSION RATIO

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5274.309 MHz : 14.214 dBm Delta1 : -10020040 Hz : -10.513 dB	Measured Excursion Ratio: 10.51 dB Limit: 13.0 dB Margin: -2.49 dB

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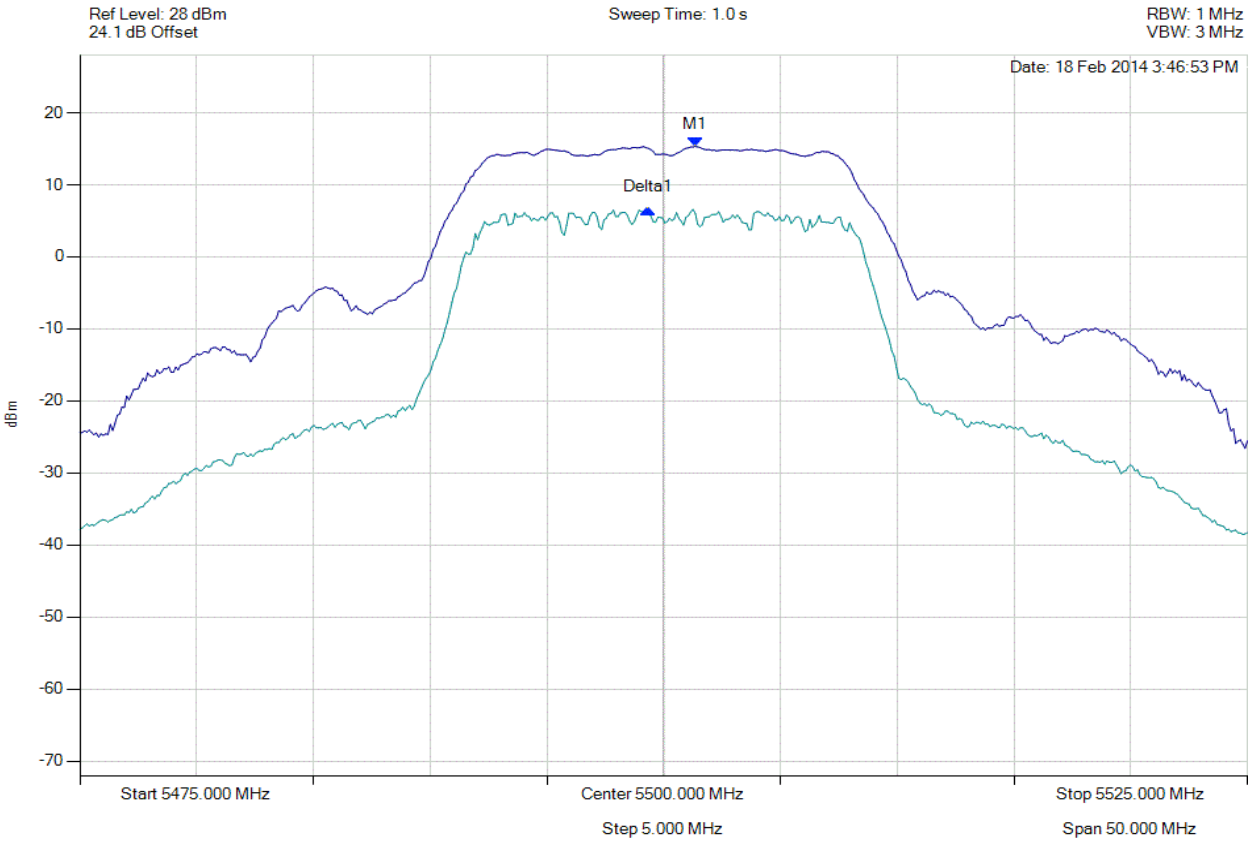
PEAK EXCURSION RATIO

Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5501.353 MHz : 15.332 dBm Delta1 : -2004008 Hz : -8.680 dB	Measured Excursion Ratio: 8.68 dB Limit: 13.0 dB Margin: -4.32 dB

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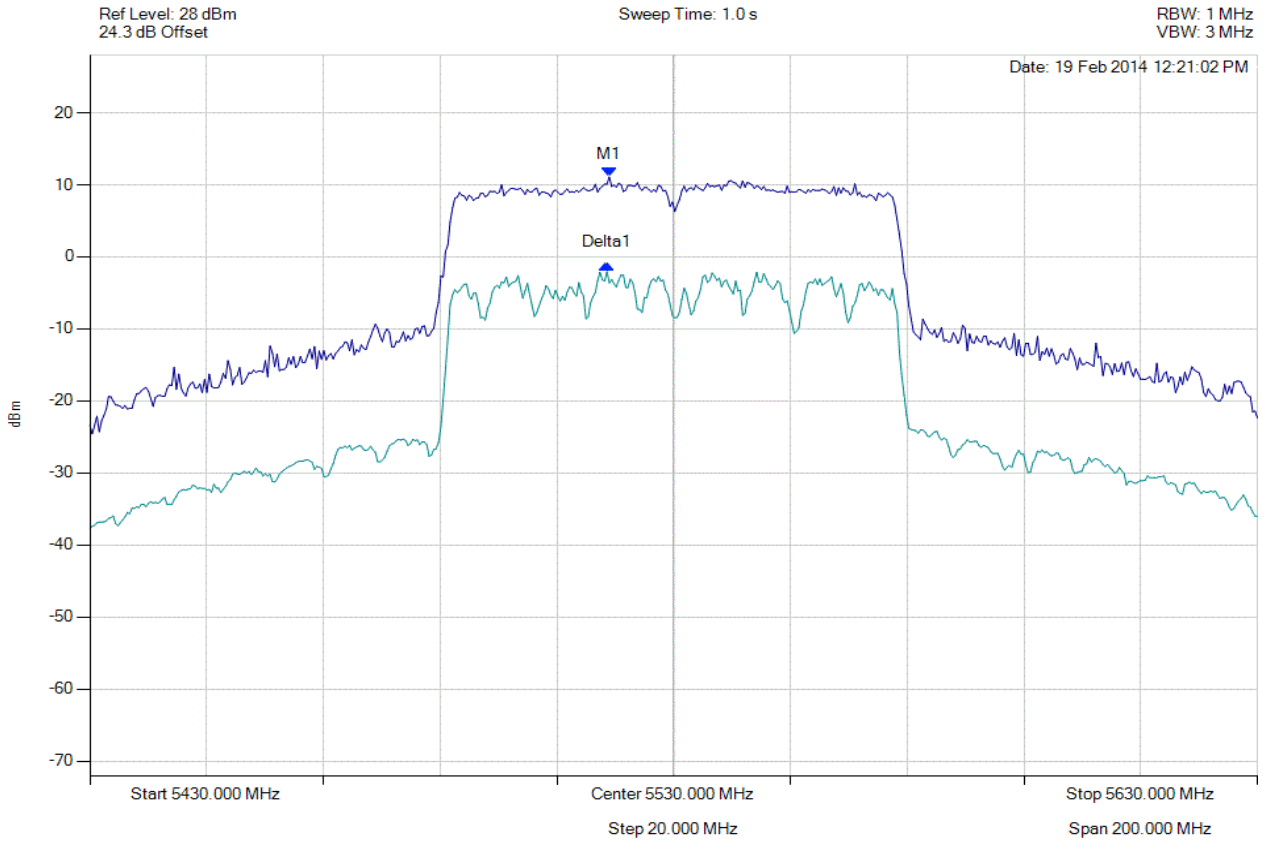
PEAK EXCURSION RATIO

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5518.978 MHz : 11.092 dBm Delta1 : -400802 Hz : -12.154 dB	Measured Excursion Ratio: 12.15 dB Limit: 13.0 dB Margin: -0.85 dB

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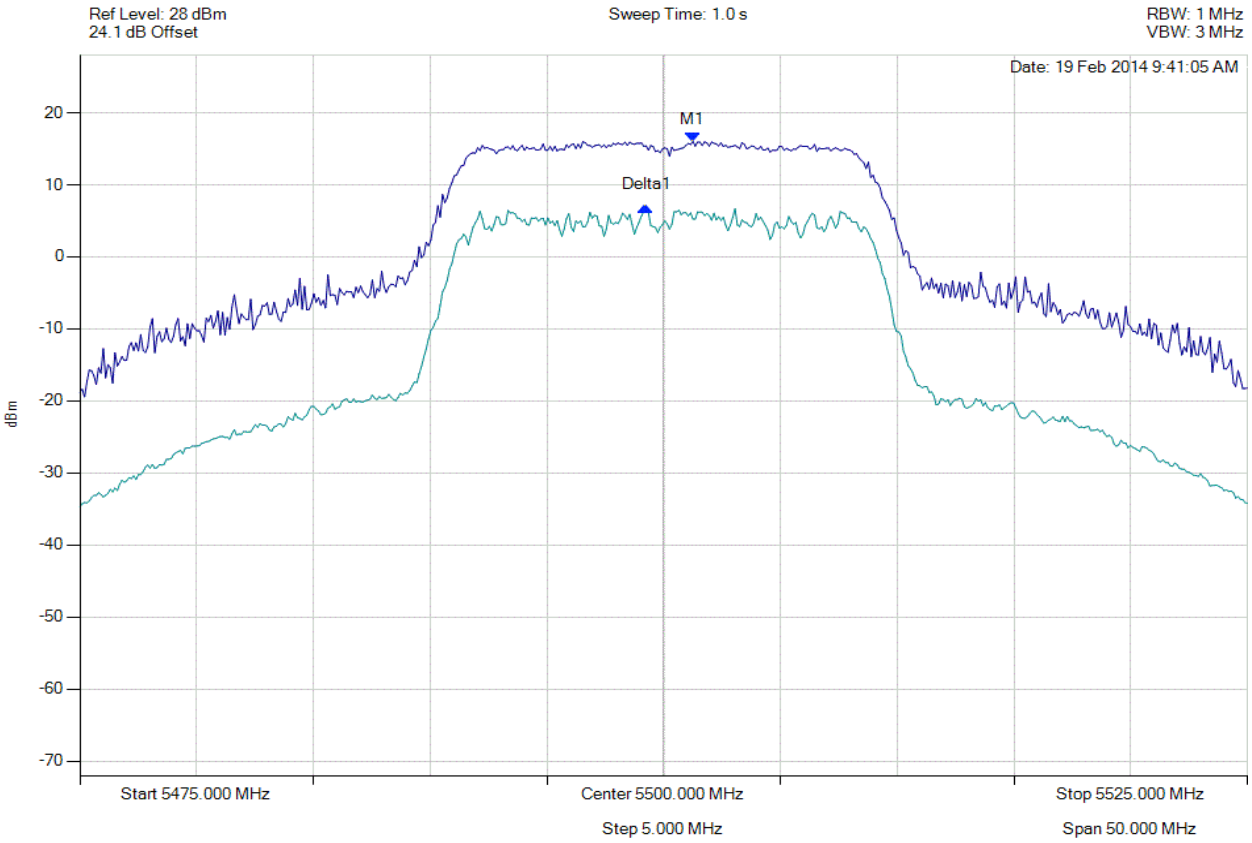
PEAK EXCURSION RATIO

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5501.253 MHz : 16.022 dBm Delta1 : -2004008 Hz : -9.111 dB	Measured Excursion Ratio: 9.11 dB Limit: 13.0 dB Margin: -3.89 dB

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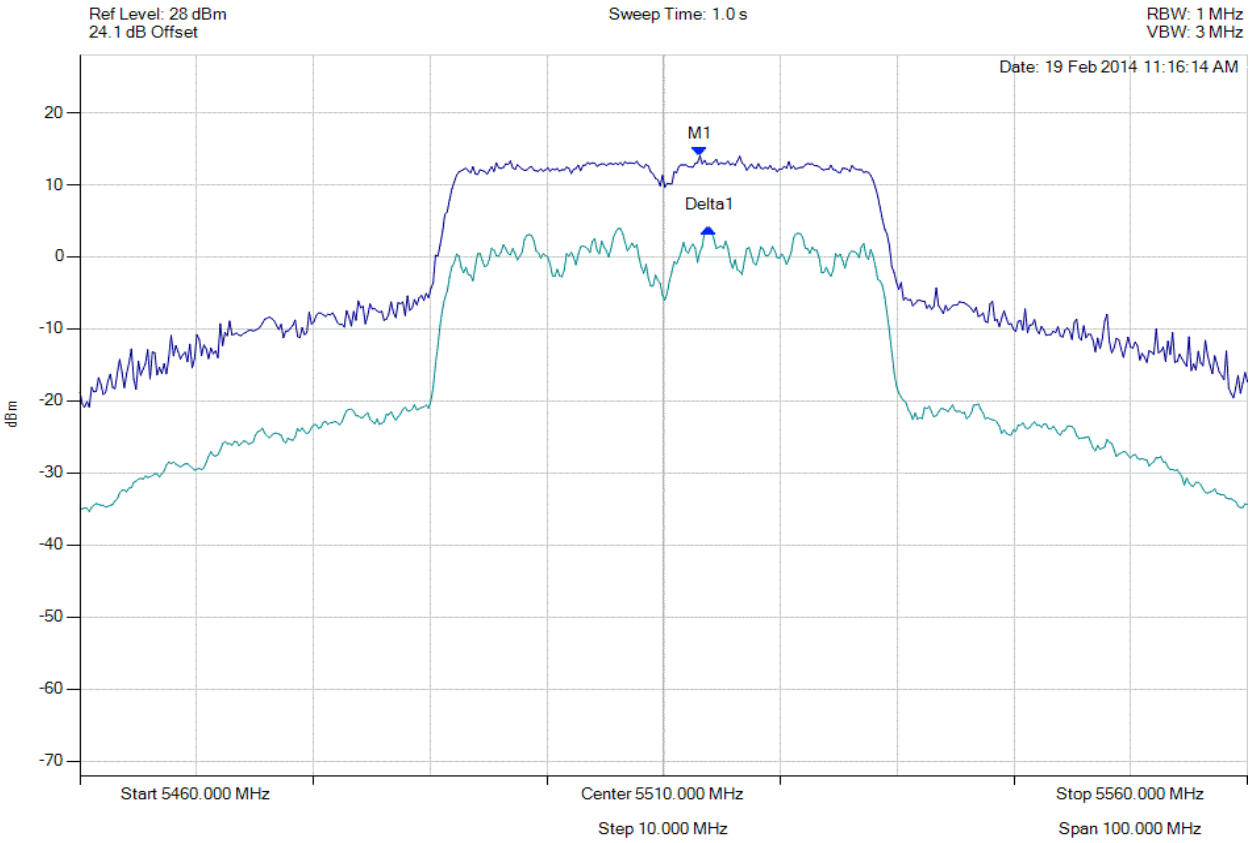
PEAK EXCURSION RATIO

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Sweep Count = 0 RF Atten (dB) = 20 TRACE 1: Detector = MAX PEAK Trace Mode = VIEW TRACE 2: Detector = RMS Trace Mode = VIEW	M1 : 5513.106 MHz : 14.019 dBm Delta1 : 802 KHz : -9.971 dB	Measured Excursion Ratio: 9.97 dB Limit: 13.0 dB Margin: -3.03 dB

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