Test of GoNet Systems, GoBeam8000F (1x1)

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

Test Report Serial No.: GNET08-U3 (1x1) Rev B

TEST REPORT

FROM

Test of GoNet Systems, GoBeam8000F (1x1)

to

To FCC 47 CFR Part 15.247 & IC RSS-210

Test Report Serial No.: GNET08-U3 (1x1) Rev B

This report supersedes: GNET08-U3 (1x1) Rev A

Applicant:	GoNet Systems 34 Habarzel Street Tel Aviv 69710 Israel
Product Function:	Wireless Access Point
Copy No: pdf	Issue Date: 3rd March 2014

This Test Report is Issued Under the Authority of;

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ACCREDITED
TESTING CERT #2381.01

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ACCREDITATION, LISTINGS & RECOGNITION

ACCREDITATION & LISTINGS

MiCOM Labs, Inc. an accredited laboratory complies with the international standard BS 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

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 Guide 65. 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

United States of America – Telecommunication Certification Body (TCB)
TCB Identifier – US0159

Industry Canada – Certification Body
CAB Identifier – US0159

Europe – Notified Body
Notified Body Identifier - 2280

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

DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft		
Rev B	3rd March 2014	Implemented different FCC Section for Output Power limits, Section 15.247 (c) (2) (ii)
Rev A	27th February 2014	Initial release.

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TEST RESULT CERTIFICATE

Manufacturer:	Go Net Systems Ltd 34 Habarzel Street Tel Aviv 69710 Israel	Tested By:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California, 94566, USA
EUT:	802.11a/b/g/n Wireless Access Point	Telephone:	+1 925 462 0304
Model:	GoBeam8000F (1x1)	Fax:	+1 925 462 0306
S/N's:	Not Available		
Test Date(s):	25th Nov 2013 - 10th Feb 2014	Website:	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC 47 CFR Part 15.247 & 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:

ACCREDITED
TESTING CERT #2381.01

Graeme Grieve
Quality Manager MiCOM Labs,

Gordon Hurst
President & CEO MiCOM Labs, Inc.

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1. REFERENCES AND MEASUREMENT UNCERTAINTY

1.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
i.	FCC 47 CFR Part 15, Subpart C	2010	Title 47: Telecommunication PART 15—RADIO FREQUENCY DEVICES Subpart C—Intentional Radiators
ii.	RSS-210 Annex 8	2010	Radio Standards Specification 210, Issue 8, Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment
iii.	FCC OET KDB 662911	4th April 2011	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
iv.	DA 00-705	2000	FCC DA 00-705 "Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems" released March 30, 2000
v.	RSS-GEN	2010	Radio Standards Specification-Gen, Issue 3, General Requirements and Information for the Certification of Radiocommunication Equipment
vi.	FCC 47 CFR Part 15, Subpart B	2010	47 CFR Part 15, SubPart B; Unintentional Radiators
vii.	ICES-003	2004	Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard Digital Apparatus; Issue 4
viii.	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
ix.	CISPR 22/ EN 55022	2008 2006+A1:2007	Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment
x.	M 3003	Edition 1 Dec. 1997	Expression of Uncertainty and Confidence in Measurements
xi.	LAB34	Edition 1 Aug 2002	The expression of uncertainty in EMC Testing
xii.	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
xiii.	A2LA	July 2012	Reference to A2LA Accreditation Status – A2LA Advertising Policy

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1.2. 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.

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2. PRODUCT DETAILS AND TEST CONFIGURATIONS

2.1. Technical Details

Details	Description
Purpose:	Test of the GoNet Systems, GoBeam8000F (1x1) to FCC Part 15.247 and Industry Canada RSS-210 regulations.
Applicant:	Go Net Systems Ltd 34 Habarzel Street Tel Aviv 69710 Israel
Manufacturer:	**Manufacturer #1** Joy Technology (Shen Zhen) Co Ltd Shiyan Town, Shenzhen, China **Manufacturer #2** Accton Technology Corp 1 Creation 3rd Rd, Science-Based Industrial Park Hsinchu 300, Taiwan **Manufacturer #3** USR Electronic Systems 19 Napach St, Karmiel 21617 Israel **Manufacturer #4** RH Technologies 5 Ha'tzoref St., Har Yona Industrial Area Nazareth Ilite 17000 Israel
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton, California 94566 USA
Test report reference number:	GNET08-U3 (1x1) Rev B
Date EUT received:	25th November 2013
Standard(s) applied:	FCC 47 CFR Part 15.247 & IC RSS-210
Dates of test (from - to):	25th Nov 2013 - 10th Feb 2014
No of Units Tested:	One
Type of Equipment:	802.11a/b/g/n Wireless Access Point, Single Antenna Port
Manufacturers Trade Name:	Wireless Access Point
Model(s):	GoBeam8000F
Location for use:	Outdoor
Declared Frequency Range(s):	2,400 – 2483.5, 5725 - 5850 MHz
Hardware Rev	1.0
Software Rev	4.17
EUT Modes of Operation:	Legacy 802.11a/b/g 802.11n HT-20, HT-40
Type of Modulation:	Per 802.11 – CCK, BPSK, QPSK, DSSS, OFDM
Declared NomOP Power (Ave):	+30 dBm
Transmit/Receive Operation:	Time Division Duplex

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Technical Details Cont'd

Details	Description
System Beam Forming:	GoBeam8000F has antenna beam-forming capability
Rated Input Voltage and Current:	POE 56 Vdc, 1 A (Transmission mode)
Operating Temperature Range:	Declared range -40º to +55ºC
ITU Emission Designator:	802.11b 14M0G1D 802.11g 16M5D1D 802.11n HT-20 17M9D1D 802.11n HT-40 36M5D1D 802.11a 16M5D1D
Equipment Dimensions:	34.3 x 34.7 x 8.9 cm
Weight:	5 kg
Primary function of equipment:	Wireless Access Point for transmitting data and voice.

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2.2. Scope of Test Program

GoBeam8000F 802.11 a/b/g/n Wireless Access Point

Operation of the GoBeam8000F
The GoBeam8000F can be used in multiple operational modes namely;

3x3 Spatial Multiplexing MIMO
2x2 Spatial Multiplexing MIMO
1x1 Single Chain

Through software control the same device can operate in any of the above operational modes. The GoBeam8000F will adjust the total output power depending on which mode is selected. It is for this reason that each of the above operational modes were tested against the standard. There are three test reports one for each mode;

MiCOM Labs Test Report GNET08-U3 (3x3)
MiCOM Labs Test Report GNET08-U3 (2x2)
MiCOM Labs Test Report GNET08-U3 (1x1)

The scope of the test program was to test the GoNet Systems, GoBeam8000F (1x1), configuration 1x1 Spatial Multiplexing MIMO in the frequency range 2400 – 2483.5 and 5725 – 5850 MHz for compliance against FCC 47 CFR Part 15.247 and Industry Canada RSS-210 specifications.

Two antenna types integral and external antennas were tested during the 1x1 program. As a result of being electrically different paths both were exercised. The exteral antenna port is limited to 5725 – 5850 MHz frequency band operation.

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.

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GoNet Systems, GoBeam8000F (1x1)

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GoNet Systems, GoBeam8000F (1x1)

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GoNet Systems, GoBeam8000F (1x1)

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

Type (EUT/ Support)	Equipment Description (Including Brand Name)	Mfr	Model No.	Serial No.
EUT	802.11a/b/g/n Wireless Access Point	GoNet Systems	GoBeam8000F	Unknown
Support	Power Over Ethernet	--	--	--
Support	Laptop PC	--	--	--

2.4. Antenna Details

Antenna Type:	Manufacturer	Model	Gain (dBi)	Frequency Range (MHz)
Patch (Sector)	GoNet Systems	AN000801	8.0	2400-2500
Directional Beam	GoNet Systems	AN000802	13.0	2400-2500
Patch (Sector)	GoNet Systems	AN000803	9.0	5725-5850
Directional Beam	GoNet Systems	AN000804	14.0	5725-5850

Beam forming Gain:	6 dB, applies to both 2.4 and 5.8 GHz frequency bands

2.5. Cabling and I/O Ports

Number and type of I/O ports

1. 1 x 100/1000 POE Ethernet
2. 1 x 100/1000 Ethernet
3. 1 x Serial Control
4. 1 x Ground Connection

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2.6. Test Configurations

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

Operational Mode(s) (802.11a/n/ac)	Variant	Data Rate with Highest Power	Frequencies (MHz)
2.4 GHz			
b	Legacy	1 MBit/s	2,412 2,437 2,462
g	Legacy	6 MBit/s	
n	HT-20	6.5 (MCS 0)	
	HT-40	13.5 (MCS 0)	2,422 2,437 2,452
5.8 GHz			
a	Legacy	6 MBit/s	5,745 5,785 5,825
n	HT-20	6.5 (MCS 0)	
	HT-40	13.5 (MCS 0)	5,755 5,795

Legacy – data rates for 802.11abg products
Results for the above configurations are provided in this report

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2.4 GHz Intended System Deployment

ANT1 Gain [dBi]	ANT2 Gain [dBi]	ANT3 Gain [dBi]	# Tx Channels	Correlated Array Gain [dBi]	Remarks
13.0	NA	NA	1	13.00	Single Antenna
8.0	8.0	NA	2	8.00	1. ANT1 & ANT2 are cross-polarized. 2. Signals can be either correlated or uncorrelated.
13.0	13.0	NA	2	13.00	1. ANT1 & ANT2 are cross-polarized. 2. Signals can be either correlated or uncorrelated.
13.0	13.0	8.0	3	13.00	1. Correlated signals 2. ANT1 & ANT2 are cross-polarized. 3. ANT2 & ANT3 are unequal antenna gains with equal transmit powers.
13.0	13.0	13.0	3	13.00	1. Correlated Signals 2. ANT1 & ANT2 are cross-polarized.
13.0	13.0	8.0	3	13.00	Uncorrelated signals
13.0	13.0	13.0	3	13.00	Uncorrelated signals

5.8 GHz Intended System Deployment

ANT1 Gain [dBi]	ANT2 Gain [dBi]	ANT3 Gain [dBi]	# Tx Channels	Correlated Array Gain [dBi]	Remarks
14.0	NA	NA	1	14.00	Single Antenna
9.0	9.0	NA	2	9.00	1. ANT1 & ANT2 are cross-polarized. 2. Signals can be either correlated or uncorrelated.
14.0	14.0	NA	2	14.00	1. ANT1 & ANT2 are cross-polarized. 2. Signals can be either correlated or uncorrelated.
14.0	14.0	9.0	3	14.00	1. Correlated signals 2. ANT1 & ANT2 are cross-polarized. 3. ANT2 & ANT3 are unequal antenna gains with equal transmit powers.
14.0	14.0	14.0	3	14.00	1. Correlated Signals 2. ANT1 & ANT2 are cross-polarized.
14.0	14.0	9.0	3	14.00	Uncorrelated signals
14.0	14.0	14.0	3	14.00	Uncorrelated signals
16.0	16.0	NA	2	16.00	1. ANT1 & ANT2 are cross-polarized. 2. Signals can be either correlated or uncorrelated. 3. Point to point application.

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2.7. Equipment Modifications

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

1. NONE

2.8. Deviations from the Test Standard

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

1. NONE

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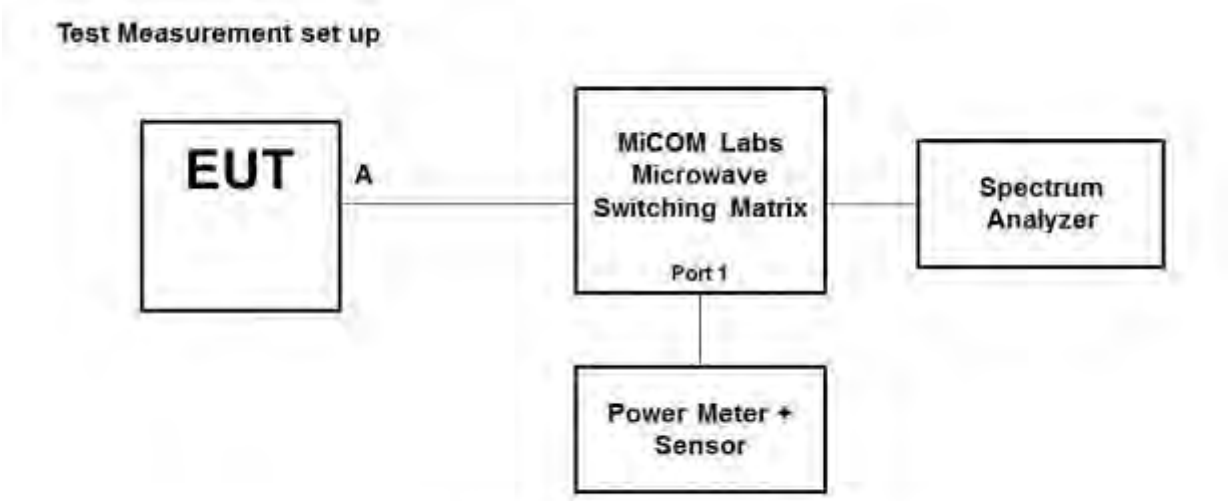
3. TEST EQUIPMENT CONFIGURATION(S)

3.1. Conducted RF Emission Test Set-up

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

1. Section 5.1.1.1. 6 dB and 99% Bandwidth
2. Section 5.1.1.2. Peak Output Power
3. Section 5.1.1.3. Power Spectral Density
4. Section 5.1.1.4. Conducted Spurious Emissions

Conducted Test Set-Up Pictorial Representation

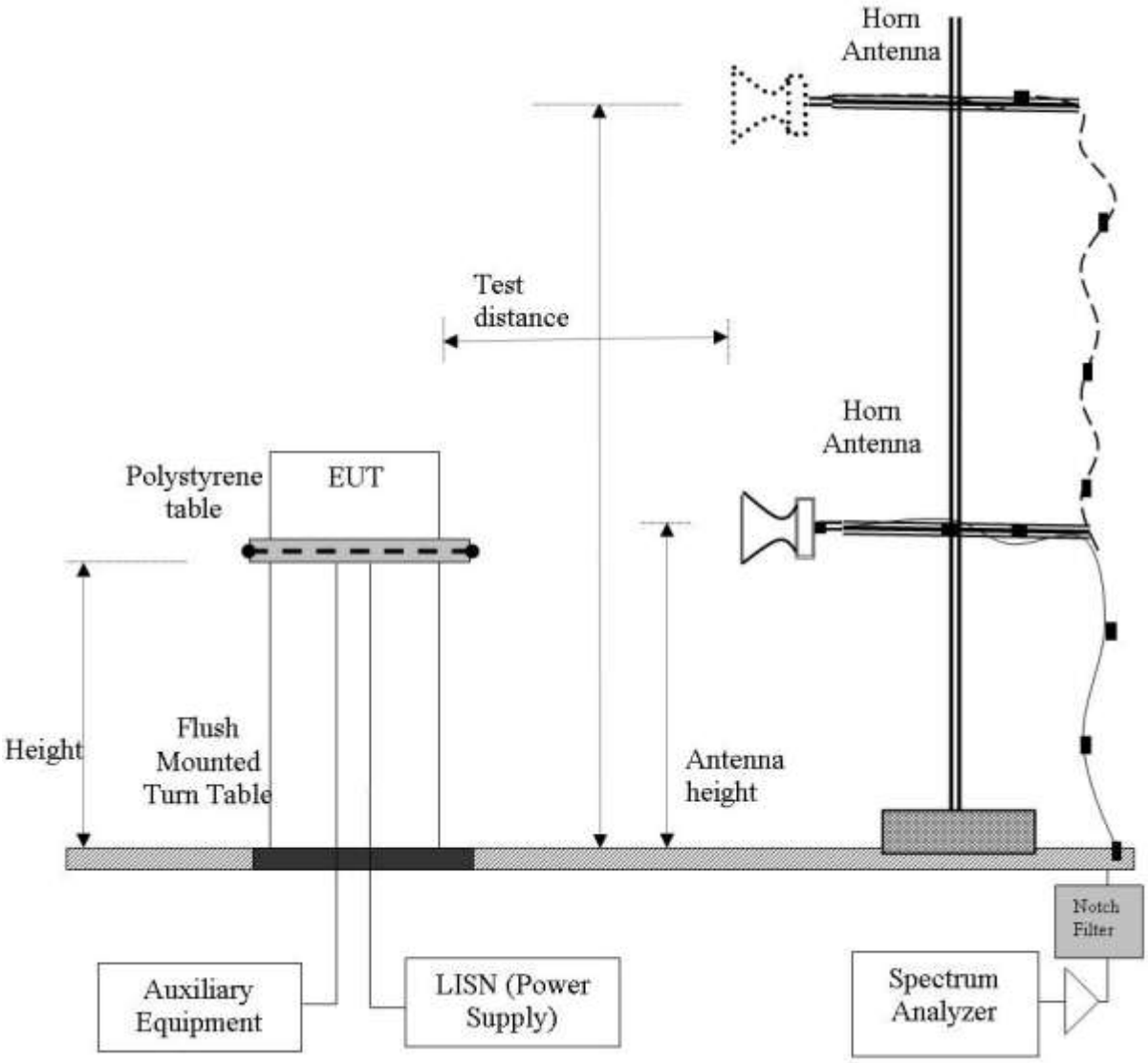


Conducted Test Measurement Setup

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

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

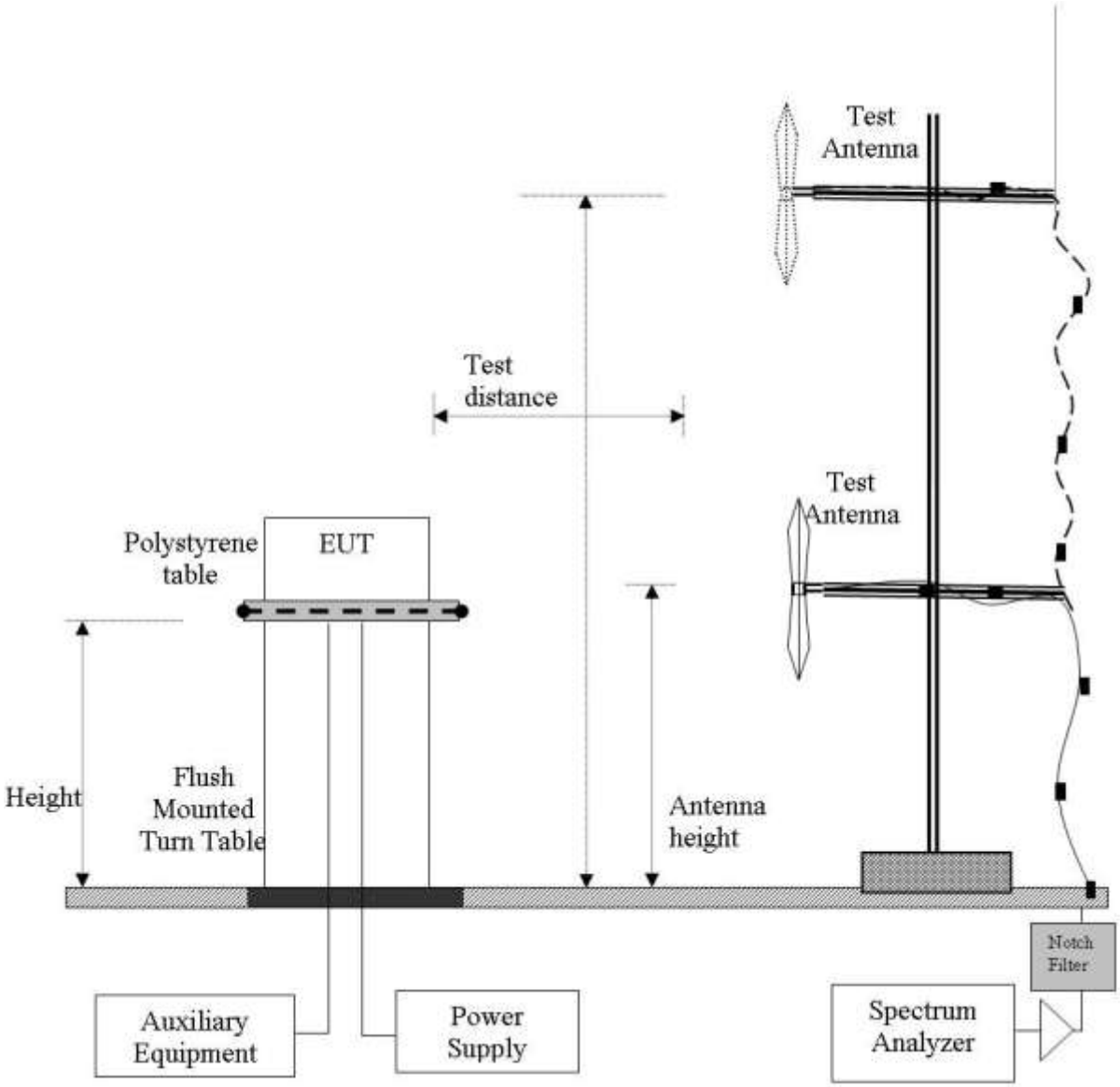
Radiated Emission Measurement Setup – Above 1 GHz



3.3. 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.

Digital Emission Measurement Setup – Below 1 GHz

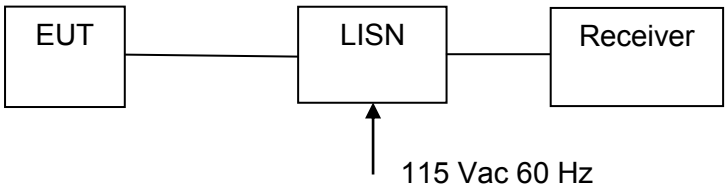


3.4. ac Wireline Emission Test Set-up

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

1. Section 5.1.3 ac Wireline Conducted Emissions

Conducted Test Set-Up Pictorial Representation



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4. TEST SUMMARY

List of Measurements

The following table represents the list of measurements required under the **FCC CFR47 Part 15.247** and **Industry Canada RSS-210** and **Industry Canada RSS-Gen.**

Section(s)	Test Items	Description	Condition	Result	Test Report Section
15.247(a)(2) **A8.2(1)** **4.4**	6 dB and 99 % Bandwidths	≥500 kHz	Conducted	Complies	5.1.1.1
15.247(b)(3) **15.31(e)** **A8.4(4)**	Peak Output Power Voltage Variation	Shall not exceed 1W Variation of supply voltage 85 % -115 %	Conducted	Complies	5.1.1.2
15.247(e) **A8.2**	Peak Power Spectral Density	Shall not be greater than +8 dBm in any 3 kHz band	Conducted	Complies	5.1.1.3
15.247(d) **15.205 / 15.209** **A8.5** **2.2** **4.7**	Spurious Emissions (30MHz - 26 GHz b/g and 30 MHz – 40 GHz a)	The radiated emission in any 100 kHz of out-band shall be at least 20 dB below the highest in-band spectral density	Conducted	Complies	5.1.1.4

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List of Measurements (continued)

The following table represents the list of measurements required under the **FCC CFR47 Part 15.247, Industry Canada RSS-210,** and **Industry Canada RSS-Gen.**

Section(s)	Test Items	Description	Condition	Result	Test Report Section
15.247(d) **15.205 /** **15.209** **A8.5** **2.2** **2.6** **4.7**	Radiated Emissions	Restricted Bands	Radiated	Complies	5.1.2
	Transmitter Radiated Spurious Emissions	Emissions above 1 GHz		Complies	
	Radiated Band Edge	Band-edge results Peak Emissions		Complies	
15.205 / **15.209** **2.2**	Radiated Spurious Emissions	Emissions <1 GHz (30M-1 GHz)	Radiated	Complies	*5.1.2.4*
15.207 **7.2.2**	AC Wireline Conducted Emissions 150 kHz–30 MHz	Conducted Emissions	Conducted	Complies	*5.1.3*

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

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5. TEST RESULTS

5.1. Device Characteristics

5.1.1. Conducted Testing

5.1.1.1. 6 dB and 99 % Bandwidth

Conducted Test Conditions for 6 dB and 99% Bandwidth			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	6 dB and 99 % Bandwidth	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (a)(2)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 558074 - D01 DTS Measurement Guidance v01: Section 5.1 Emission Bandwidth		

Test Procedure for 6 dB and 99% Bandwidth Measurement
The bandwidth at 6 dB and 99 % was measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

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Integral Antenna Ports

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11b	**Duty Cycle (%):**	99
Data Rate:	1 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	11.222	--	--	--	11.222	11.222	≥500.0	-10.72
2437.0	10.261	--	--	--	10.261	10.261	≥500.0	-9.76
2462.0	10.180	--	--	--	10.180	10.180	≥500.0	-9.68

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	15.631	--	--	--	15.631		
2437.0	15.551	--	--	--	15.551		
2462.0	15.150	--	--	--	15.150		

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).

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Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11g	**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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	15.952	--	--	--	15.952	15.952	≥500.0	-15.45
2437.0	16.513	--	--	--	16.513	16.513	≥500.0	-16.01
2462.0	15.872	--	--	--	15.872	15.872	≥500.0	-15.37

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	16.914	--	--	--	16.914		
2437.0	23.006	--	--	--	23.006		
2462.0	16.673	--	--	--	16.673		

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).

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Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	96
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	16.513	--	--	--	16.513	16.513	≥500.0	-16.01
2437.0	17.635	--	--	--	17.635	17.635	≥500.0	-17.14
2462.0	16.513	--	--	--	16.513	16.513	≥500.0	-16.01

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	17.876	--	--	--	17.876		
2437.0	26.132	--	--	--	26.132		
2462.0	19.479	--	--	--	19.479		

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).

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Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2422.0	34.790	--	--	--	34.790	34.790	≥500.0	-34.29
2437.0	36.713	--	--	--	36.713	36.713	≥500.0	-36.21
2452.0	36.072	--	--	--	36.072	36.072	≥500.0	-35.57

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2422.0	39.439	--	--	--	39.439		
2437.0	37.034	--	--	--	37.034		
2452.0	39.118	--	--	--	39.118		

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

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Equipment Configuration for 6 dB & 99% 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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5745.0	15.952	--	--	--	15.952	15.952	≥500.0	-15.45
5785.0	16.192	--	--	--	16.192	16.192	≥500.0	-15.69
5825.0	16.513	--	--	--	16.513	16.513	≥500.0	-16.01

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
5745.0	16.513	--	--	--	16.513		
5785.0	16.513	--	--	--	16.513		
5825.0	16.513	--	--	--	16.513		

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

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Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5745.0	16.593	--	--	--	16.593	16.593	≥500.0	-16.09
5785.0	17.315	--	--	--	17.315	17.315	≥500.0	-16.82
5825.0	17.475	--	--	--	17.475	17.475	≥500.0	-16.98

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
5745.0	17.635	--	--	--	17.635		
5785.0	17.796	--	--	--	17.796		
5825.0	17.715	--	--	--	17.715		

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

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Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5755.0	36.072	--	--	--	36.072	36.072	≥500.0	-35.57
5795.0	36.232	--	--	--	36.232	36.232	≥500.0	-35.73

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
5755.0	36.393	--	--	--	36.393		
5795.0	36.232	--	--	--	36.232		

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

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External Antenna Ports

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6.0 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5745.0	16.513	--	--	--	16.513	16.513	≥500.0	-16.01
5785.0	16.192	--	--	--	16.192	16.192	≥500.0	-15.69
5825.0	16.433	--	--	--	16.433	16.433	≥500.0	-15.93

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
5745.0	16.834	--	--	--	16.834		
5785.0	16.834	--	--	--	16.834		
5825.0	17.074	--	--	--	17.074		

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

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Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5745.0	17.555	--	--	--	17.555	17.555	≥500.0	-17.06
5785.0	17.234	--	--	--	17.234	17.234	≥500.0	-16.73
5825.0	17.315	--	--	--	17.315	17.315	≥500.0	-16.82

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
5745.0	17.956	--	--	--	17.956		
5785.0	17.876	--	--	--	17.876		
5825.0	17.956	--	--	--	17.956		

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

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Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5755.0	36.553	--	--	--	36.553	36.553	≥500.0	-36.05
5795.0	35.912	--	--	--	35.912	35.912	≥500.0	-35.41

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
5755.0	36.393	--	--	--	36.393		
5795.0	36.393	--	--	--	36.393		

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

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Specification

Limits

§15.247 (a)(2) & RSS-210 §A8.2(1)
The minimum 6 dB bandwidth shall be at least 500 kHz.

§ IC RSS-Gen 4.4.1 Occupied Bandwidth 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.

§ IC RSS-Gen 4.4.2 6 dB Bandwidth Where indicated, the 6 dB bandwidth is measured at the points when the spectral density of the signal is 6 dB down from the in –band spectral density of the modulated signal, with the transmitter modulated by a representative signal.

Traceability

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

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5.1.1.2. Peak Output Power

Conducted Test Conditions for Fundamental Emission Output Power			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Emission Output Power	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (a)(2)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 558074 - D01 DTS Measurement Guidance v01: Section 5.2 Fundamental Emission Output Power KDB 662911 was implemented for In-band power measurements. The measure and sum technique was implemented in all cases.		

Test Procedure for Fundamental Emission Output Power Measurement

Selection of the detector type is determined by the client, either a peak detector or average power detector can be selected however the same detector type **must** be used for each of the following tests;

A). Output Power

B).. Power Density

C).. Conducted Spurious Emissions

Average Power
To measure average power a power meter measuring average power is implemented

Peak Detector
To measure peak power a spectrum analyser is used with the peak detector selected. The transmitter terminal of EUT was connected to the input of the spectrum analyser. The resolution filter bandwidth was set for 6 dB and the analyzers built-in power function used to integrate peak power over the EUT's 20 dB bandwidth.

Supporting Information
Calculated Power = A + G + 10 log (1/x) dBm
A = Total Power [10 Log10 ($10^{a/10}$ + $10^{b/10}$ + $10^{c/10}$ + $10^{d/10}$)], G = Antenna Gain,
x = Duty Cycle

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

(2) In addition to the provisions in paragraphs (b)(1), (b)(3), (b)(4) and (c)(1)(i) of this section, transmitters operating in the 2400-2483.5 MHz band that emit multiple directional beams, simultaneously or sequentially, for the purpose of directing signals to individual receivers or to groups of receivers provided the emissions comply with the following:

(i) Different information must be transmitted to each receiver

(ii) If the transmitter employs an antenna system that emits multiple directional beams but does not do emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device, i.e., the sum of the power supplied to all antennas, antenna elements, staves, etc. and summed across all carriers or frequency channels, shall not exceed the limit specified in paragraph (b)(1) or (b)(3) of this section, as applicable. However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as follows:

(A) The directional gain shall be calculated as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or stave having the highest gain.

(B) A lower value for the directional gain than that calculated in paragraph (c) (2) (ii) (A) of this section will be accepted if sufficient evidence is presented, e.g., due to shading of the array or coherence loss in the beamforming.

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Integral Antenna Ports

Equipment Configuration for Average Output Power			
Variant:	802.11b	**Duty Cycle (%):**	99.0
Data Rate:	1 MBit/s	**Antenna Gain (dBi):**	13.00
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
2412.0	26.58	--	--	--	26.58	27.00	-0.42	25.50
2437.0	26.67	--	--	--	26.67	27.00	-0.33	25.50
2462.0	26.00	--	--	--	26.00	27.00	-1.00	25.50

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

Limits - 15.247 (C) (2) (ii) (A) Operation with directional antenna gains greater than 6 dBi.

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Equipment Configuration for Average Output Power

Variant:	802.11g	**Duty Cycle (%):**	97.1
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	13.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
2412.0	23.24	--	--	--	23.24	27.00	-3.76	18.00
2437.0	24.60	--	--	--	24.60	27.00	-2.40	18.00
2462.0	22.95	--	--	--	22.95	27.00	-4.05	18.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

Limits - 15.247 (C) (2) (ii) (A) Operation with directional antenna gains greater than 6 dBi.

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Equipment Configuration for Average Output Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	96.4
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	13.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
2412.0	22.73	--	--	--	22.73	27.00	-4.27	18.00
2437.0	26.87	--	--	--	26.87	27.00	-0.13	23.00
2462.0	24.88	--	--	--	24.88	27.00	-2.12	20.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

Limits - 15.247 (C) (2) (ii) (A) Operation with directional antenna gains greater than 6 dBi.

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Equipment Configuration for Average Output Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	95.0
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	13.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
2422.0	24.89	--	--	--	24.89	27.00	-2.11	19.00
2437.0	25.15	--	--	--	25.15	27.00	-1.85	19.00
2452.0	24.83	--	--	--	24.83	27.00	-2.17	19.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

Limits - 15.247 (C) (2) (ii) (A) Operation with directional antenna gains greater than 6 dBi.

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Equipment Configuration for Average Output Power

Variant:	802.11a	**Duty Cycle (%):**	96.6
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	14.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
5745.0	21.66	--	--	--	21.66	22.00	-0.34	18.00
5785.0	21.61	--	--	--	21.61	22.00	-0.39	18.50
5825.0	21.69	--	--	--	21.69	22.00	-0.31	18.50

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

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Equipment Configuration for Average Output Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	96.6
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	14.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
5745.0	21.90	--	--	--	21.90	22.00	-0.10	18.50
5785.0	21.88	--	--	--	21.88	22.00	-0.12	19.00
5825.0	21.99	--	--	--	21.99	22.00	-0.01	18.50

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

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Equipment Configuration for Average Output Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	94.9
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	14.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
5755.0	21.34	--	--	--	21.34	22.00	-0.66	20.00
5795.0	21.88	--	--	--	21.88	22.00	-0.12	20.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

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External Antenna Ports

As a result of a 2nd harmonic issue with the external antenna ports on the 5725 – 5850 MHz the power setting was reduced from 22 to 18. The conducted power values in the following table were found to be maximum to meet regulatory compliance requirements.

Equipment Configuration for Average Output Power

Variant:	802.11a	**Duty Cycle (%):**	97.1
Data Rate:	6.0 MBit/s	**Antenna Gain (dBi):**	14.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
5745.0	17.58	--	--	--	17.58	22.00	-4.42	18.00
5785.0	17.63	--	--	--	17.63	22.00	-4.37	18.00
5825.0	19.26	--	--	--	19.26	22.00	-2.74	18.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

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Equipment Configuration for Average Output Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	96.6
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	14.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
5745.0	16.32	--	--	--	16.32	22.00	-5.68	18.00
5785.0	16.73	--	--	--	16.73	22.00	-5.27	18.00
5825.0	18.09	--	--	--	18.09	22.00	-3.91	18.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

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Equipment Configuration for Average Output Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	95.0
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	14.00
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dBm	
5755.0	16.32	--	--	--	16.32	22.00	-5.68	18.00
5795.0	16.89	--	--	--	16.89	22.00	-5.11	18.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

NOTE: the antenna gain (dBi) includes beamforming gain

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Specification

Limits

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

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

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

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

(1) Fixed point-to-point operation:

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

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

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

§ RSS-210 A8.4(4) For systems employing digital modulation techniques operating in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands the maximum peak conducted power shall not exceed 1 watt.

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-01 'Measuring RF Output Power'	0158, 0287, 0252, 0313, 0314, 0070, 0116, 0117

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5.1.1.3. Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Power Spectral Density	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (e)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 558074 - D01 DTS Measurement Guidance v01: Section 5.3 Maximum Power Spectral Density Level in the Emission Bandwidth		

Test Procedure for Power Spectral Density

The transmitter output was connected to a spectrum analyzer and the maximum spectral emission was measured in a 30 kHz bandwidth for each antenna chain. Sweep time was auto selected by the analyzer which was set for max hold. Once the maximum emission was found the emission(s) were summed for each chain.

As the FCC limit is provided for a 3 kHz resolution bandwidth the measured data required to be converted.

Spectral Density Conversion Factor

10 * Log (3 kHz / measurement bandwidth) = 10 * Log (3/30) = -10dB

Detector Selection

Selection of the analyzer detector is determined by the client, however the same detector type **must** be used for each of the following tests;

A). Output Power
B).. Power Density
C).. Conducted Spurious Emissions

Supporting Information

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

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

x = Duty Cycle

Limit Line: KDB 662911 was implemented for In-band power spectral density (PSD) measurements - Option (2) measure and subtract 10 log (N) dB from the limit for devices with multiple RF ports.

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Integral Antenna Ports

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

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11b	**Duty Cycle (%):**	99
Data Rate:	1 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
2412.0	6.999	--	--	--	6.999	-3.001	8.00	-11.00
2437.0	6.585	--	--	--	6.585	-3.415	8.00	-11.41
2462.0	5.271	--	--	--	5.271	-4.729	8.00	-12.73

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).

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11g	**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:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
2412.0	3.067	--	--	--	3.067	-6.933	8.00	-14.93
2437.0	4.454	--	--	--	4.454	-5.546	8.00	-13.55
2462.0	2.290	--	--	--	2.290	-7.710	8.00	-15.71

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).

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	96
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
2412.0	1.202	--	--	--	1.202	-8.798	8.00	-16.80
2437.0	4.592	--	--	--	4.592	-5.408	8.00	-13.41
2462.0	2.978	--	--	--	2.978	-7.022	8.00	-15.02

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).

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
2422.0	-0.346	--	--	--	-0.346	-10.346	8.00	-18.35
2437.0	-1.134	--	--	--	-1.134	-11.134	8.00	-19.13
2452.0	-1.760	--	--	--	-1.760	-11.760	8.00	-19.76

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).

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Equipment Configuration for Power Spectral Density - Average			
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:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
5745.0	1.094	--	--	--	1.094	-8.906	8.00	-16.91
5785.0	0.500	--	--	--	0.500	-9.500	8.00	-17.50
5825.0	0.594	--	--	--	0.594	-9.406	8.00	-17.41

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).

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
5745.0	1.661	--	--	--	1.661	-8.339	8.00	-16.34
5785.0	0.941	--	--	--	0.941	-9.059	8.00	-17.06
5825.0	0.890	--	--	--	0.890	-9.110	8.00	-17.11

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

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Internal Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
5755.0	-4.720	--	--	--	-4.720	-14.720	8.00	-22.72
5795.0	-4.742	--	--	--	-4.742	-14.742	8.00	-22.74

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).

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External Antenna Ports

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6.0 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
5745.0	0.991	--	--	--	0.991	-9.009	8.00	-17.01
5785.0	0.599	--	--	--	0.599	-9.401	8.00	-17.40
5825.0	2.604	--	--	--	2.604	-7.396	8.00	-15.40

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

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
5745.0	-0.182	--	--	--	-0.182	-10.182	8.00	-18.18
5785.0	0.827	--	--	--	0.827	-9.173	8.00	-17.17
5825.0	0.908	--	--	--	0.908	-9.092	8.00	-17.09

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

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Measured Power Spectral Density (dBm)				Calculated Total Power Spectral Density		Limit	Margin
	Port(s)				dBm			
MHz	a	b	c	d	Σ Port(s) per 30kHz RBW	Conversion to 3 kHz RBW	dBm	dB
5755.0	-5.078	--	--	--	-5.078	-15.078	8.00	-23.08
5795.0	-3.611	--	--	--	-3.611	-13.611	8.00	-21.61

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

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Specification

Peak Power Spectral Density Limits

§15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission **RSS-210** §**A8.2(2)** The transmitter power spectral density (into the antenna) shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission or over 1.0 second if the transmission exceeds 1.0 second duration.

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-01 'Measuring RF Output Power'	0158, 0287, 0252, 0313, 0314, 0070, 0116, 0117

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5.1.1.4. Conducted Spurious Emissions

Conducted Test Conditions for Transmitter Conducted Spurious and Band-Edge Emissions			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Max Unwanted Emission Levels	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (d)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 558074 - D01 DTS Measurement Guidance v01: Section 5.4 Maximum Unwanted Emission Levels		

Test Procedure for Transmitter Conducted Spurious and Band-Edge Emissions Measurement
Transmitter Conducted Spurious and Band-Edge emissions were measured with a spectrum analyzer connected to the antenna terminal using one of the following limits;

1).. Peak Detector - 20 dB below the highest in-band spectral density (i.e. 20 dBc)

2).. Average Detector – 30 dB below the highest in-band spectral density (i.e. 30 dBc)

Selection of the analyzer detector is determined by the client, however the same detector type **must** be used for each of the following tests;

A). Output Power

B).. Power Density

C).. Conducted Spurious Emissions

Measurements were made while EUT was operating in transmit mode of operation at the appropriate centre frequency closest to the band-edge. Emissions were maximized during the measurement and limits derived from the peak spectral power and drawn on each plot.

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Integral Antenna Ports

Equipment Configuration for Conducted Low Band-Edge Emissions - Average

Variant:	802.11b	**Duty Cycle (%):**	99
Data Rate:	1 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2412.0 MHz
Band-Edge Frequency:	2400.0 MHz
Test Frequency Range:	2350.0 - 2422.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-42.20	-22.17	2401.70	--	--	-1.700

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
Variant:	802.11g	**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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2412.0 MHz
Band-Edge Frequency:	2400.0 MHz
Test Frequency Range:	2350.0 - 2422.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-32.34	-27.49	2401.40	--	--	-1.400

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	96
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2412.0 MHz
Band-Edge Frequency:	2400.0 MHz
Test Frequency Range:	2350.0 - 2422.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-32.72	-28.02	2401.20	--	--	-1.200

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2422.0 MHz
Band-Edge Frequency:	2400.0 MHz
Test Frequency Range:	2292.0 - 2442.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-29.88	-27.96	2400.50	--	--	-0.500

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	5745.0 MHz
Band-Edge Frequency:	5725.0 MHz
Test Frequency Range:	5683.0 - 5755.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-44.06	-27.93	5733.90	--	--	-8.900

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	5745.0 MHz
Band-Edge Frequency:	5725.0 MHz
Test Frequency Range:	5683.0 - 5755.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-42.12	-27.52	5733.90	--	--	-8.900

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	5755.0 MHz
Band-Edge Frequency:	5725.0 MHz
Test Frequency Range:	5625.0 - 5775.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-37.89	-32.67	5732.00	--	--	-7.000

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11b	**Duty Cycle (%):**	99
Data Rate:	1 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2462.0 MHz
Band-Edge Frequency:	2483.5 MHz
Test Frequency Range:	2452.0 - 2524.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-59.90	-23.13	2472.30	--	--	-11.200

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11g	**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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2462.0 MHz
Band-Edge Frequency:	2483.5 MHz
Test Frequency Range:	2452.0 - 2524.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-59.90	-27.98	2472.50	--	--	-11.000

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	96
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2462.0 MHz
Band-Edge Frequency:	2483.5 MHz
Test Frequency Range:	2452.0 - 2524.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-56.38	-27.09	2473.60	--	--	-9.900

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	2452.0 MHz
Band-Edge Frequency:	2483.5 MHz
Test Frequency Range:	2432.0 - 2582.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-52.54	-30.06	2474.40	--	--	-9.100

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	5825.0 MHz
Band-Edge Frequency:	5850.0 MHz
Test Frequency Range:	5815.0 - 5887.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-48.54	-28.58	5836.40	--	--	-13.600

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	5825.0 MHz
Band-Edge Frequency:	5850.0 MHz
Test Frequency Range:	5815.0 - 5887.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-46.36	-28.12	5836.90	--	--	-13.100

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Channel Frequency:	5795.0 MHz
Band-Edge Frequency:	5850.0 MHz
Test Frequency Range:	5775.0 - 5925.0 MHz

Port(s)	Band-Edge Markers and Limit			Amended Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-49.98	-32.49	5817.70	--	--	-32.300

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11b	**Duty Cycle (%):**	99
Data Rate:	1 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2412.0	30.0 - 26000.0	-63.982	-36.95	--	--	--	--	--	--
2437.0	30.0 - 26000.0	-63.982	-36.13	--	--	--	--	--	--
2462.0	30.0 - 26000.0	-63.982	-37.28	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11g	**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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2412.0	30.0 - 26000.0	-63.982	-39.66	--	--	--	--	--	--
2437.0	30.0 - 26000.0	-62.044	-35.12	--	--	--	--	--	--
2462.0	30.0 - 26000.0	-63.982	-39.32	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11n HT-20	**Duty Cycle (%):**	96
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2412.0	30.0 - 26000.0	-63.982	-39.75	--	--	--	--	--	--
2437.0	30.0 - 26000.0	-61.483	-34.27	--	--	--	--	--	--
2462.0	30.0 - 26000.0	-63.982	-37.65	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2422.0	30.0 - 26000.0	-63.286	-37.45	--	--	--	--	--	--
2437.0	30.0 - 26000.0	-63.286	-33.83	--	--	--	--	--	--
2452.0	30.0 - 26000.0	-63.982	-34.41	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
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:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
5745.0	30.0 - 26000.0	-56.317	-44.24	--	--	--	--	--	--
5785.0	30.0 - 26000.0	-54.439	-39.94	--	--	--	--	--	--
5825.0	30.0 - 26000.0	-54.439	-39.64	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
5745.0	30.0 - 26000.0	-54.936	-42.83	--	--	--	--	--	--
5785.0	30.0 - 26000.0	-54.684	-39.20	--	--	--	--	--	--
5825.0	30.0 - 26000.0	-54.439	-39.07	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	Integral Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
5755.0	30.0 - 26000.0	-59.990	-38.89	--	--	--	--	--	--
5795.0	30.0 - 26000.0	-59.990	-42.42	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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External Antenna Ports

Equipment Configuration for Conducted Low Band-Edge Emissions - Average

Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6.0 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Channel Frequency:	5745.0 MHz					
Band-Edge Frequency:	5725.0 MHz					
Test Frequency Range:	5683.0 - 5755.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Amended Limit**		**Margin**
	M1 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-34.28	-28.54	5729.60	--	--	-4.600

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6.0 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Channel Frequency:	5825.0 MHz					
Band-Edge Frequency:	5850.0 MHz					
Test Frequency Range:	5815.0 - 5887.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Amended Limit**		**Margin**
	M3 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-43.17	-26.28	5840.10	--	--	-9.900

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11a	**Duty Cycle (%):**	97
Data Rate:	6.0 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
5745.0	30.0 - 26000.0	-61.483	-44.20	--	--	--	--	--	--
5785.0	30.0 - 26000.0	-56.622	-40.04	--	--	--	--	--	--
5825.0	30.0 - 26000.0	-56.622	-38.02	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Channel Frequency:	5745.0 MHz					
Band-Edge Frequency:	5725.0 MHz					
Test Frequency Range:	5683.0 - 5755.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Amended Limit**		**Margin**
	M1 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-33.28	-29.48	5729.30	--	--	-4.300

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Channel Frequency:	5825.0 MHz					
Band-Edge Frequency:	5850.0 MHz					
Test Frequency Range:	5815.0 - 5887.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Amended Limit**		**Margin**
	M3 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-41.36	-28.11	5841.40	--	--	-8.600

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
5745.0	30.0 - 26000.0	-61.483	-44.57	--	--	--	--	--	--
5785.0	30.0 - 26000.0	-56.938	-39.80	--	--	--	--	--	--
5825.0	30.0 - 26000.0	-56.622	-38.01	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Channel Frequency:	5755.0 MHz					
Band-Edge Frequency:	5725.0 MHz					
Test Frequency Range:	5625.0 - 5775.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Amended Limit**		**Margin**
	M1 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-32.13	-28.54	5733.20	--	--	-8.200

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Channel Frequency:	5795.0 MHz					
Band-Edge Frequency:	5850.0 MHz					
Test Frequency Range:	5775.0 - 5925.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Amended Limit**		**Margin**
	M3 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-47.48	-31.93	5824.60	--	--	-25.400

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Equipment Configuration for Transmitter Conducted Spurious Emissions			
Variant:	802.11n HT-40	**Duty Cycle (%):**	95
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	External Antenna Port		

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
5755.0	30.0 - 26000.0	-65.565	-39.29	--	--	--	--	--	--
5795.0	30.0 - 26000.0	-63.982	-42.20	--	--	--	--	--	--

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	±40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

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Specification

Limits Band-Edge

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

§15.247(d) and RSS-210 §A8.5 In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

§15.247(d)
If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section §15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(a)).

RSS-210 §A8.5 If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under section A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Tables 2 and 3 is not required. In addition, radiated emissions which fall in the restricted bands of Table 1 must also comply with the radiated emission limits specified in Tables 2 and 3.

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.

Laboratory Measurement Uncertainty for Conducted Spurious Emissions

Measurement uncertainty	±2.37 dB

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-05 'Measurement of Spurious Emissions'	0088, 0158, 0287, 0252, 0313, 0314, 0070, 0116, 0117.

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5.1.2. Radiated Emission Testing

Transmitter Radiated Spurious Emissions (above 1 GHz); Peak Field Strength Measurements; and Radiated Band Edge Measurements – Restricted Bands

FCC, Part 15 Subpart C §15.247(d) 15.205; 15.209
Industry Canada RSS-210 §A8.5, §2.2, §2.6
Industry Canada RSS-Gen §4.7

Test Procedure

Radiated emissions above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode. Depending on the frequency band spanned a notch filter and waveguide filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.

All measurements on any frequency or frequencies over 1 MHz are based on the use of measurement instrumentation employing an average detector function. All measurements above 1 GHz were performed using a minimum resolution bandwidth of 1 MHz.

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

where: 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

For 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

NOTE: KDB 662911 was implemented for Out-of-Band measurements. Where necessary Option (2) Measure and add 10 log (N) dB was implemented

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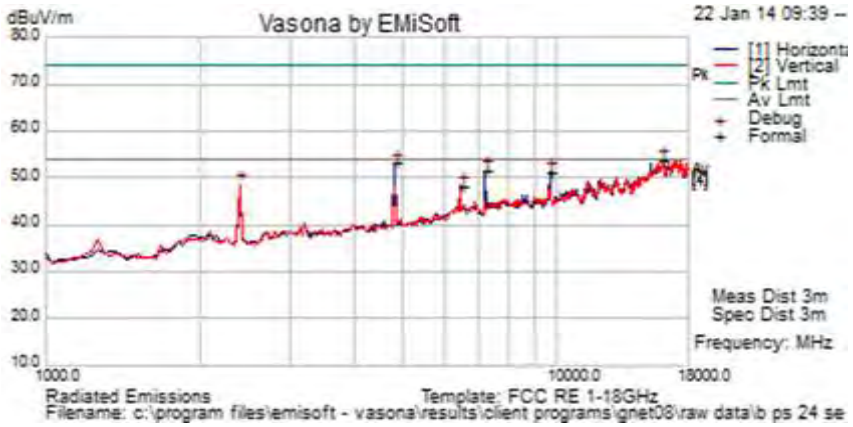
5.1.2.1. Spurious Emissions - Integral antenna

Test Freq.	2412 MHz	**Engineer**	SB
Variant	802.11b; 1 Mbit/s	**Temp (ºC)**	17.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	24	**Press. (mBars)**	1009
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE no external Antenna; 1x1 configuration setup;		
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
16024.048	43.8	12.0	0.2	56.0	Peak Max	V	167	121	74	-18.01	Pass	Noise Floor
4824.098	58.7	5.7	-9.7	54.7	Peak Max	H	125	9	74	-19.34	Pass	RB
16024.048	30.6	12.0	0.2	42.8	Average Max	V	167	121	54	-11.21	Pass	Noise Floor
4824.098	53.8	5.7	-9.7	49.8	Average Max	H	125	9	54	-4.24	Pass	RB
2396.794	56.2	3.9	-11.7	48.5	Peak [Scan]	V						FUND
7236.774	50.2	7.2	-5.8	51.6	Peak [Scan]	H						NRB
9647.883	46.3	8.5	-3.5	51.3	Peak [Scan]	H						NRB
6471.900	48.6	6.7	-7.1	48.3	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

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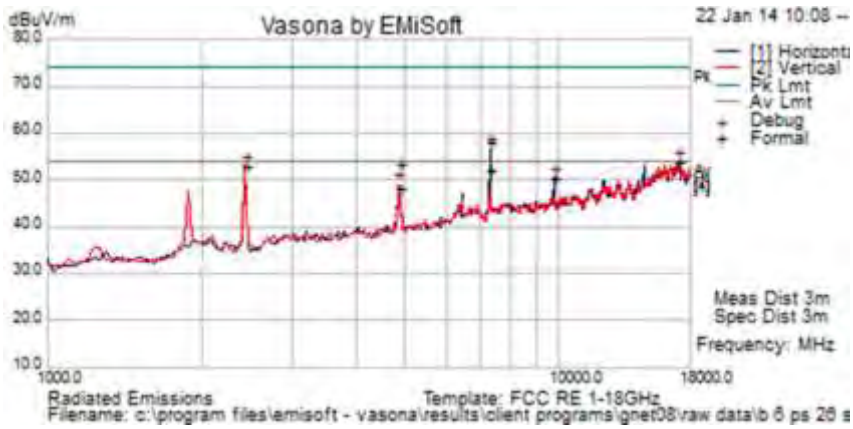
Test Freq.	2437 MHz	**Engineer**	SB
Variant	802.11b; 1 Mbit/s	**Temp (ºC)**	25
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	26	**Press. (mBars)**	1002
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE no external Antenna; 1x1 configuration setup;		
Test Notes 2			



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
7312.525	56.42	7.2	-5.68	57.94	Peak Max	H	101	293	74	-16.06	Pass	RB
17080.160	43.8	12.0	0.2	56.0	Peak Max	V	167	121	74	-18.01	Pass	Noise Floor
4873.885	57.2	5.7	-9.7	53.1	Peak Max	H	112	11	74	-20.86	Pass	RB
7312.525	50.4	7.2	-5.7	51.9	Average Max	H	101	293	54	-2.09	Pass	RB
17080.160	30.6	12.0	0.2	42.8	Average Max	V	167	121	54	-11.21	Pass	Noise Floor
4873.885	52.1	5.7	-9.7	48.1	Average Max	H	112	11	54	-5.94	Pass	RB
2430.862	60.7	3.9	-11.6	53.1	Peak [Scan]	H					Pass	FUND
9755.511	45.6	8.6	-3.7	50.4	Peak [Scan]	H					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											

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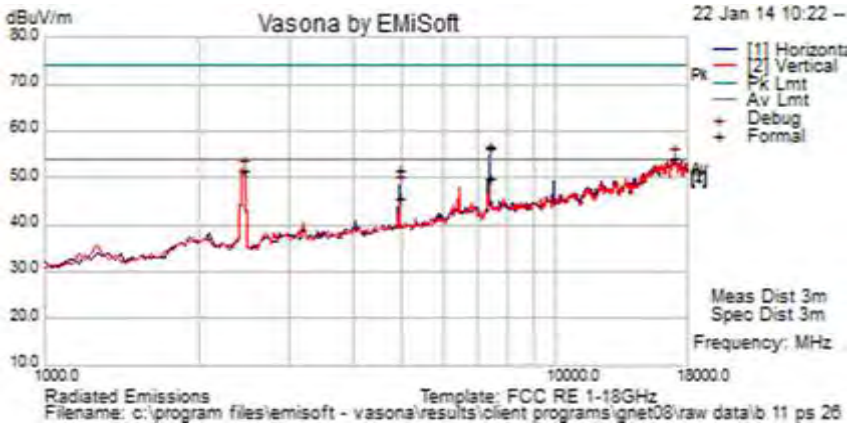
Test Freq.	2462 MHz	**Engineer**	SB
Variant	802.11b; 1 Mbit/s	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	23
Power Setting	26	**Press. (mBars)**	1002
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE no external Antenna; 1x1 configuration setup;		
Test Notes 2			



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
7384.585	54.5	7.3	-5.5	56.3	Peak Max	H	109	296	74	-17.7	Pass	RB
4923.998	55.5	5.7	-9.8	51.5	Peak Max	H	124	30	74	-22.5	Pass	RB
16807.615	43.8	12.0	0.2	56.0	Peak Max	V	167	121	74	-18.01	Pass	Noise Floor
7384.585	48.0	7.3	-5.5	49.8	Average Max	H	109	296	54	-4.2	Pass	RB
4923.998	49.5	5.7	-9.8	45.4	Average Max	H	124	30	54	-8.6	Pass	RB
16807.615	30.6	12.0	0.2	42.8	Average Max	V	167	121	54	-11.21	Pass	Noise Floor
2430.862	59.3	3.9	-11.6	51.7	Peak [Scan]	V					Pass	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

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Test Freq.	5745 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	17.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	18	**Press. (mBars)**	1009
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE no external Antenna; 1x1 configuration setup;		
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
11487.725	55.4	9.4	-2.0	62.8	Peak Max	V	100	328	74	-11.18	Pass	RB
17114.228	43.9	12.5	0.5	56.9	Peak Max	H	105	297	74	-17.15	Pass	Noise Floor
11487.725	39.8	9.4	-2.0	47.3	Average Max	V	100	328	54	-6.75	Pass	RB
17114.228	30.4	12.5	0.5	43.3	Average Max	H	105	297	54	-10.68	Pass	Noise Floor
5735.471	51.7	6.2	-9.5	48.4	Peak [Scan]	V						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

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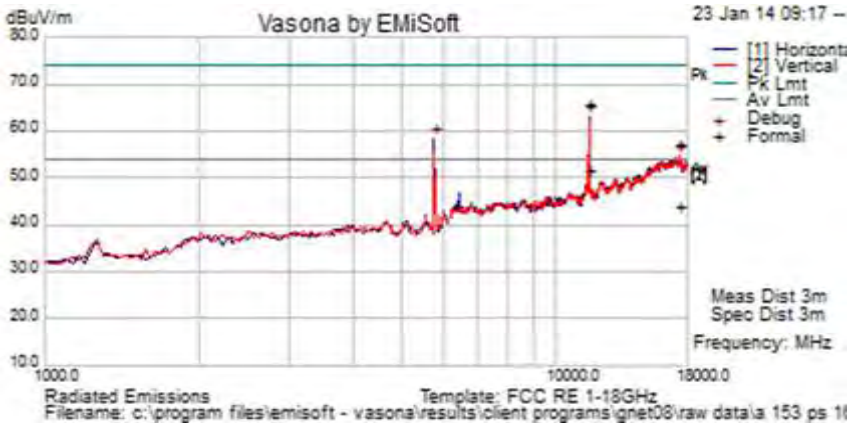
Test Freq.	5785 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	25
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	18	**Press. (mBars)**	1009
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE no external Antenna; 1x1 configuration setup;		
Test Notes 2			



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
11571.393	58.4	9.4	-2.0	65.8	Peak Max	H	102	77	74	-8.19	Pass	RB
17352.705	43.5	12.4	1.3	57.2	Peak Max	V	183	19	74	-16.81	Pass	Noise Floor
11571.393	44.3	9.4	-2.0	51.7	Average Max	H	102	77	54	-2.26	Pass	RB
17352.705	30.0	12.4	1.3	43.7	Average Max	V	183	19	54	-10.26	Pass	Noise Floor
5769.53908	61.5	6.3	-9.5	58.3	Peak [Scan]	H						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

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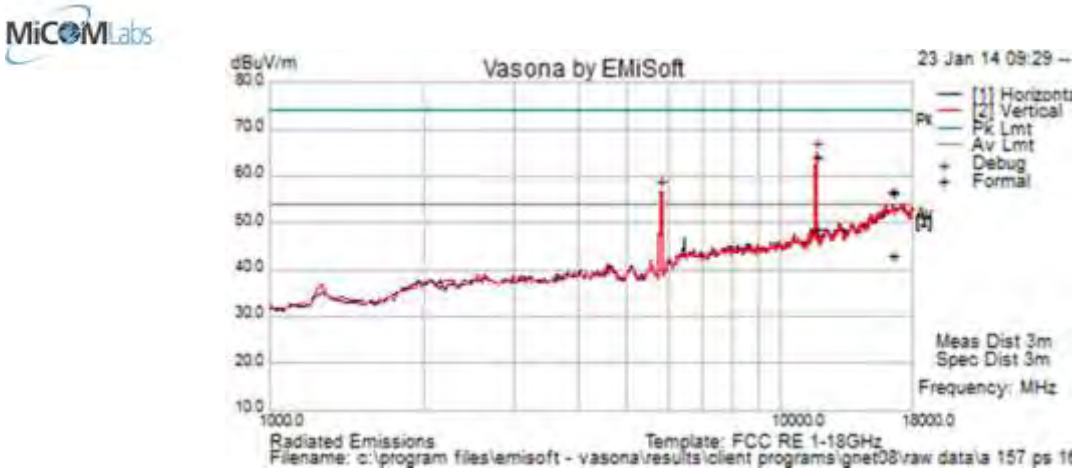
Test Freq.	5825 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	23
Power Setting	18	**Press. (mBars)**	1009
Antenna	Integral	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE no external Antenna; 1x1 configuration setup;		
Test Notes 2			



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
11657.565	56.9	9.4	-2.3	64.1	Peak Max	V	100	317	74	-9.94	Pass	RB
16501.002	44.3	12.0	0.3	56.6	Peak Max	H	195	342	74	-17.38	Pass	Noise Floor
11657.565	41.7	9.4	-2.3	48.8	Average Max	V	100	317	54	-5.17	Pass	RB
16501.002	30.9	12.0	0.3	43.2	Average Max	H	195	342	54	-10.79	Pass	Noise Floor
5803.607	59.7	6.3	-9.4	56.7	Peak [Scan]	H						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											

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5.1.2.2. Band-Edge - Internal Antenna Ports

2.4 GHz Frequency Band

Peak Limit 74.0 dBµV, Peak Limit 54.0 dBµV

Integral Antenna

	Band-Edge 2390 MHz			Band-Edge 2483.5 MHz		
	dBµV		Power Setting	dBµV		Power Setting
Operational Mode	Peak	Average		Peak	Average	
b	49.08	40.60	26	48.17	39.29	26
g	55.96	36.92	18	65.01	43.76	18
n HT-20	59.05	39.53	18	66.56	46.05	20
n HT-40	67.58	50.06	19	67.77	50.86	19

5.8 GHz Frequency Band – Restricted Band-edge @ 5460 MHz

Peak Limit 74.0 dBµV, Peak Limit 54.0 dBµV

Integral Antenna

	5460 MHz		
	dBµV		Power Setting
Operational Mode	Peak	Average	
a	47.95	35.28	24
n HT-20	49.04	35.28	24
n HT-40	48.29	35.28	24

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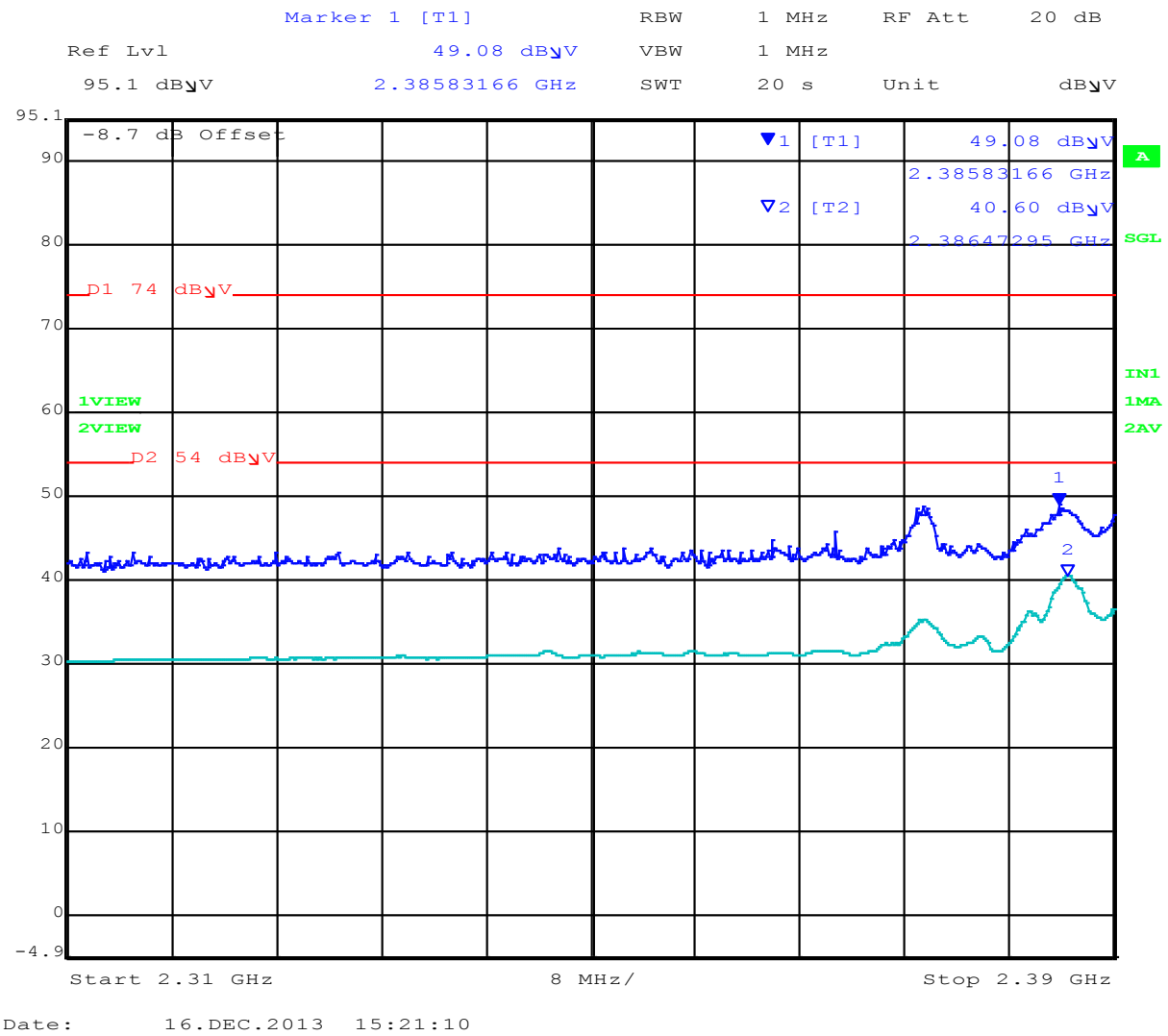
2.4 GHz Band-Edge

802.11b 2390 MHz Band-Edge



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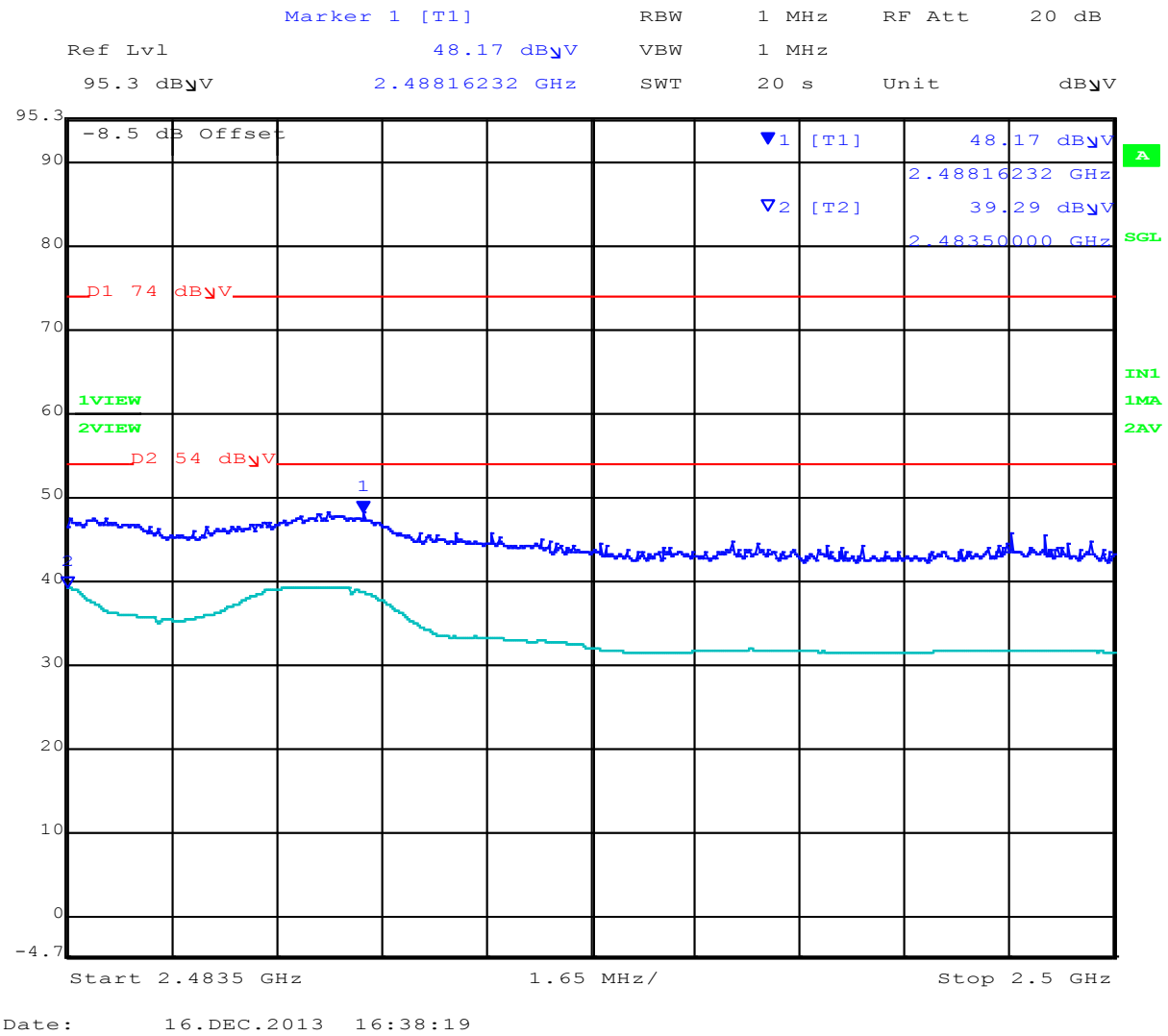
802.11b 2483.5 MHz Band-Edge



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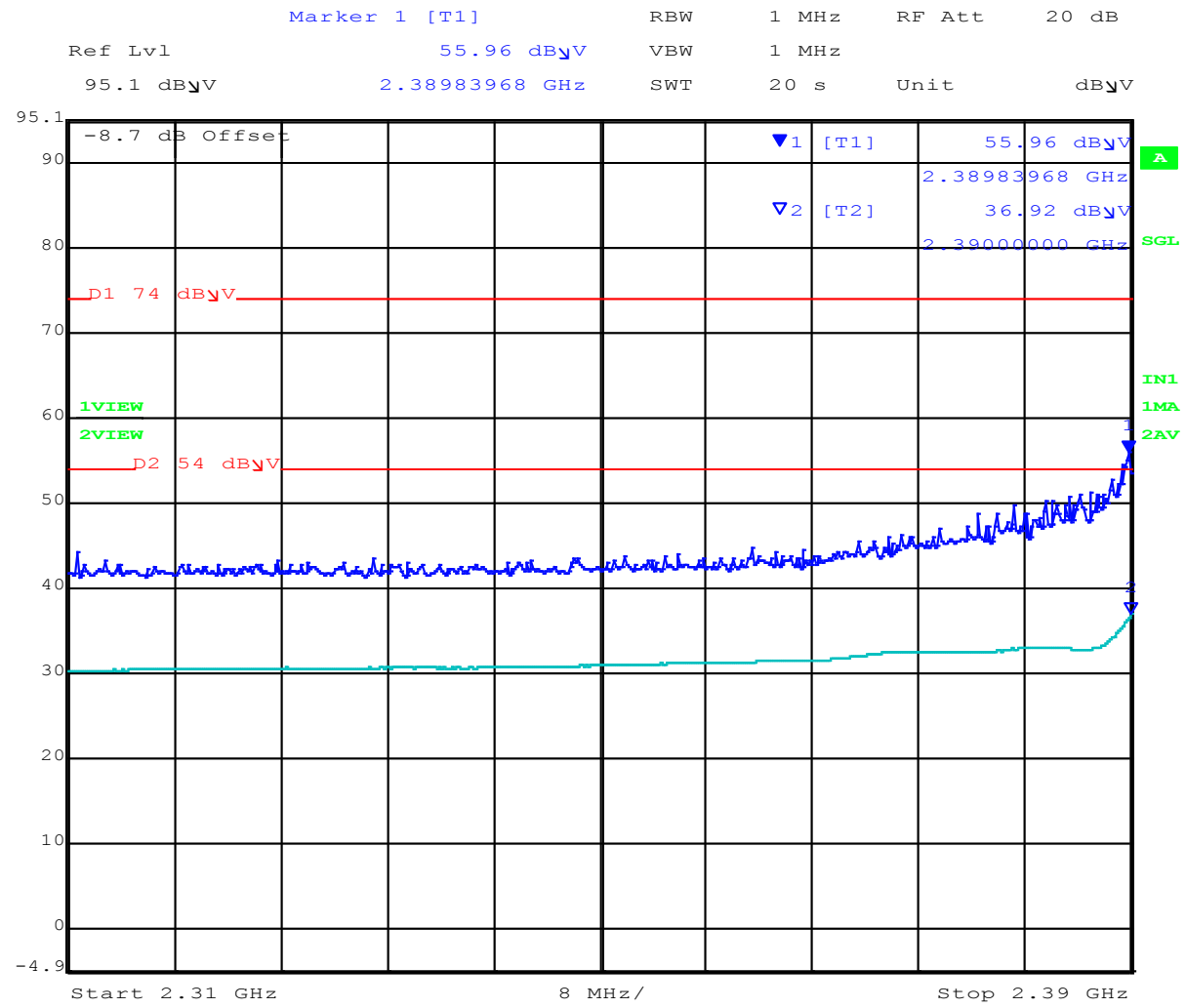
802.11g 2390 MHz Band-Edge



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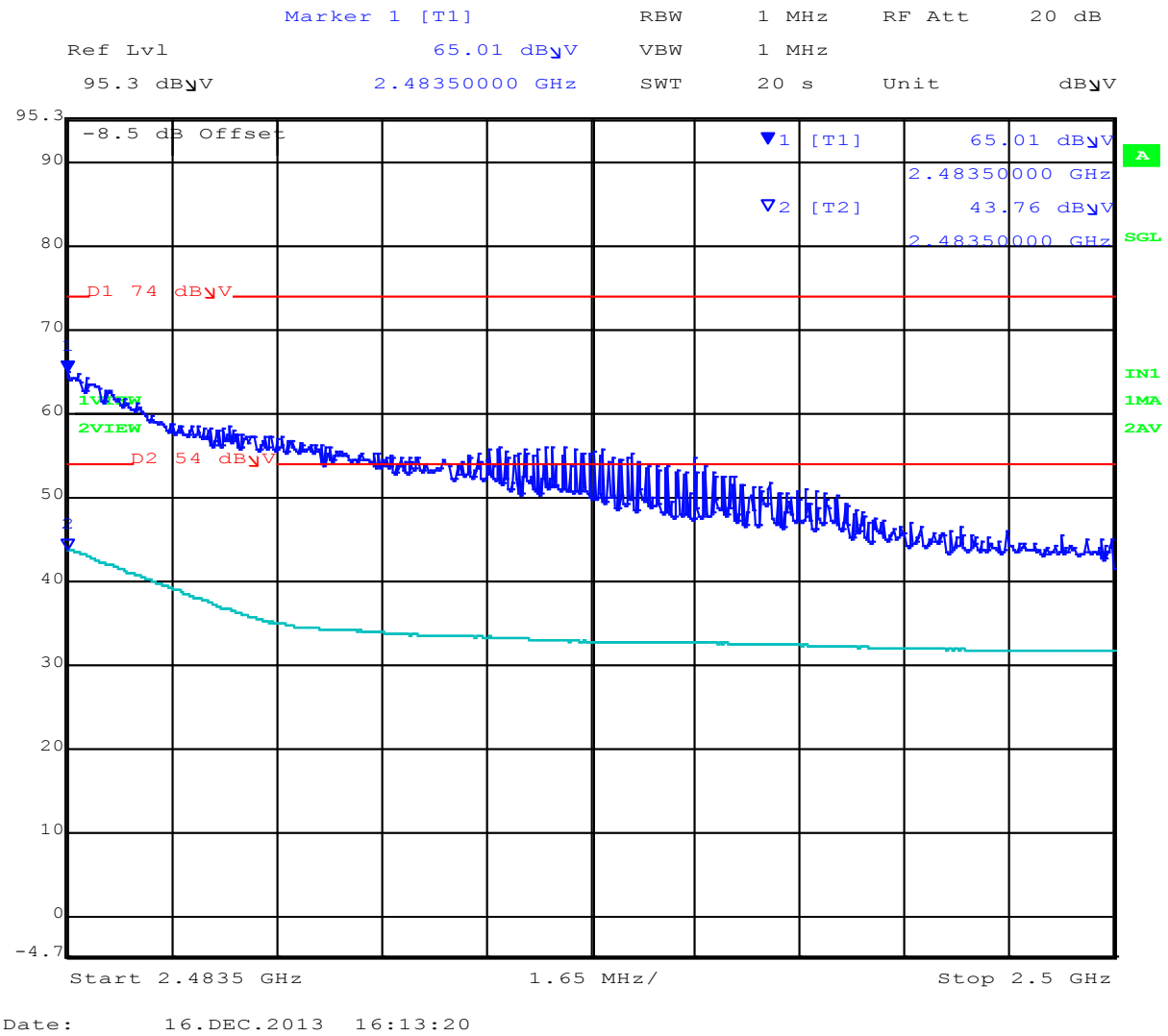
802.11g 2483.5 MHz Band-Edge



Date: 16.DEC.2013 16:13:20

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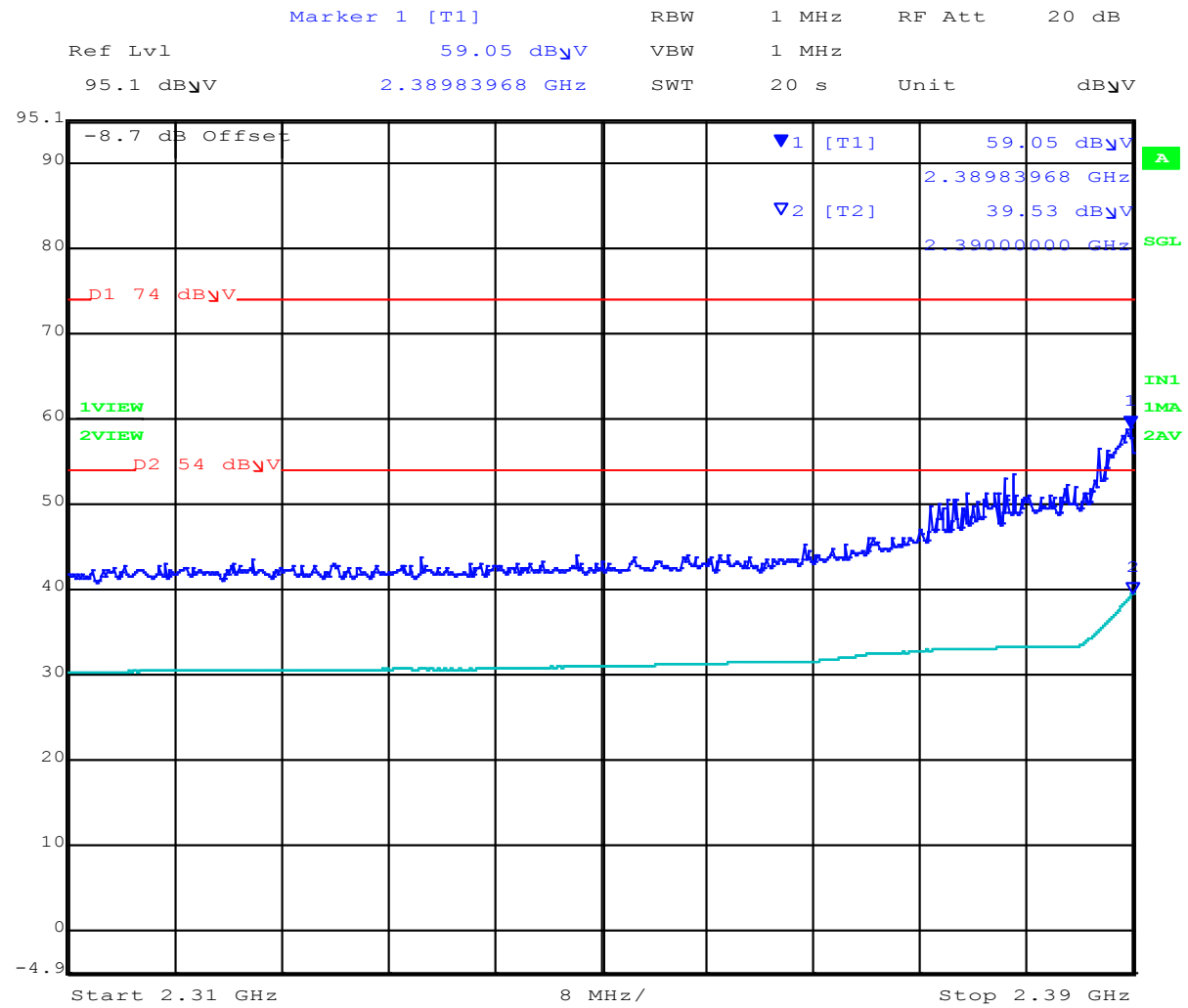
802.11n HT-20 2390 MHz Band-Edge



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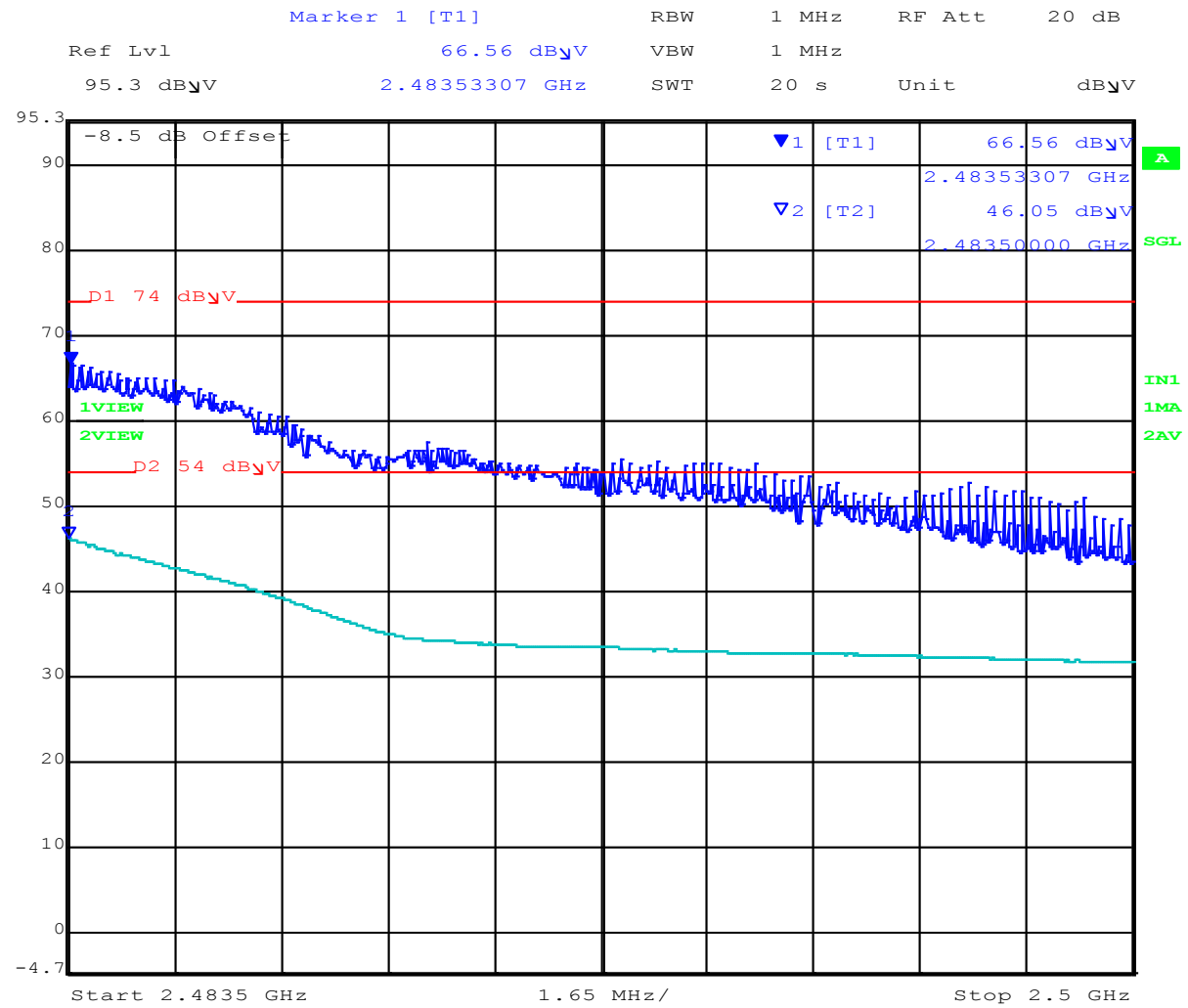
802.11n HT-20 2483.5 MHz Band-Edge



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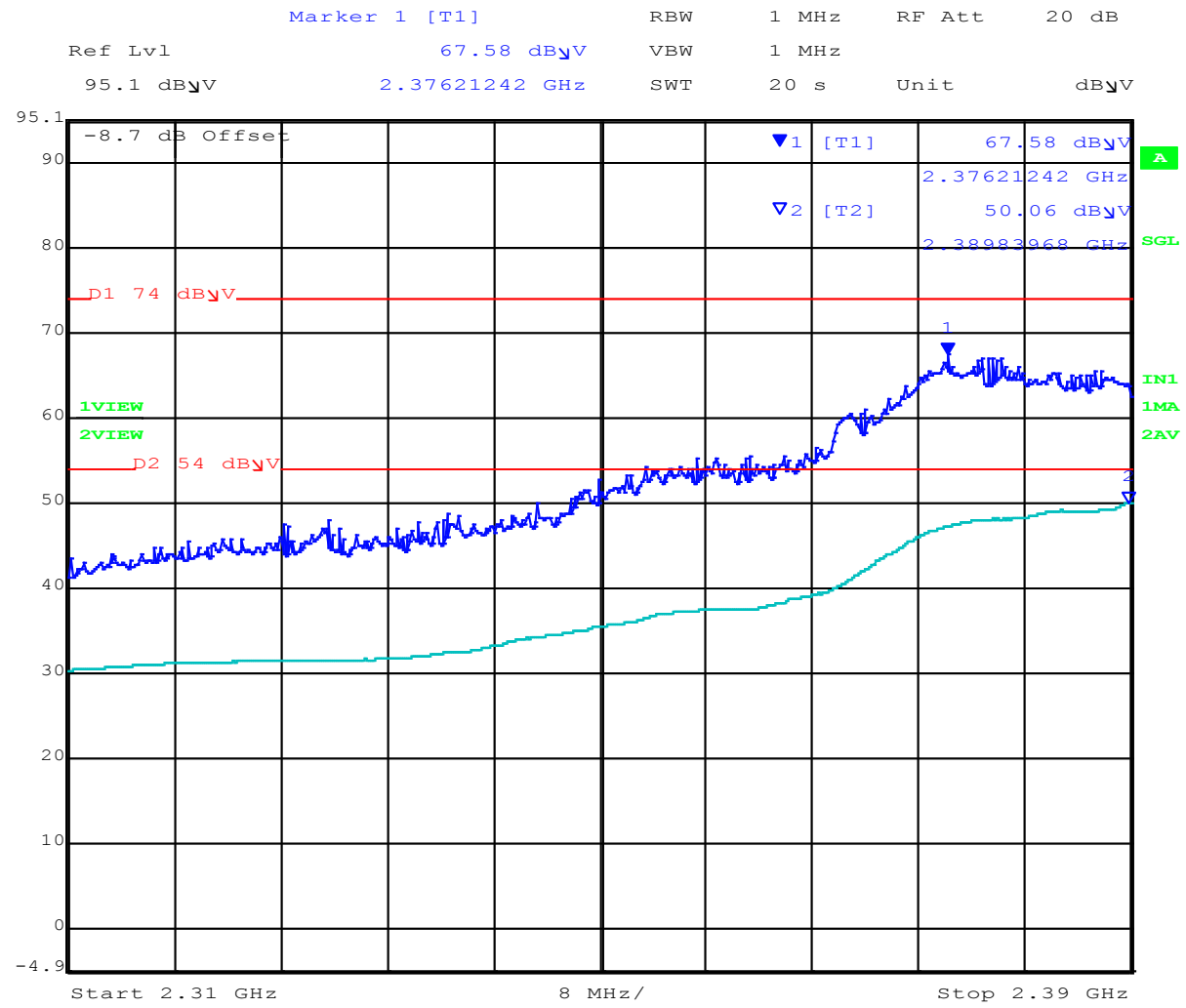
802.11n HT-40 2390 MHz Band-Edge



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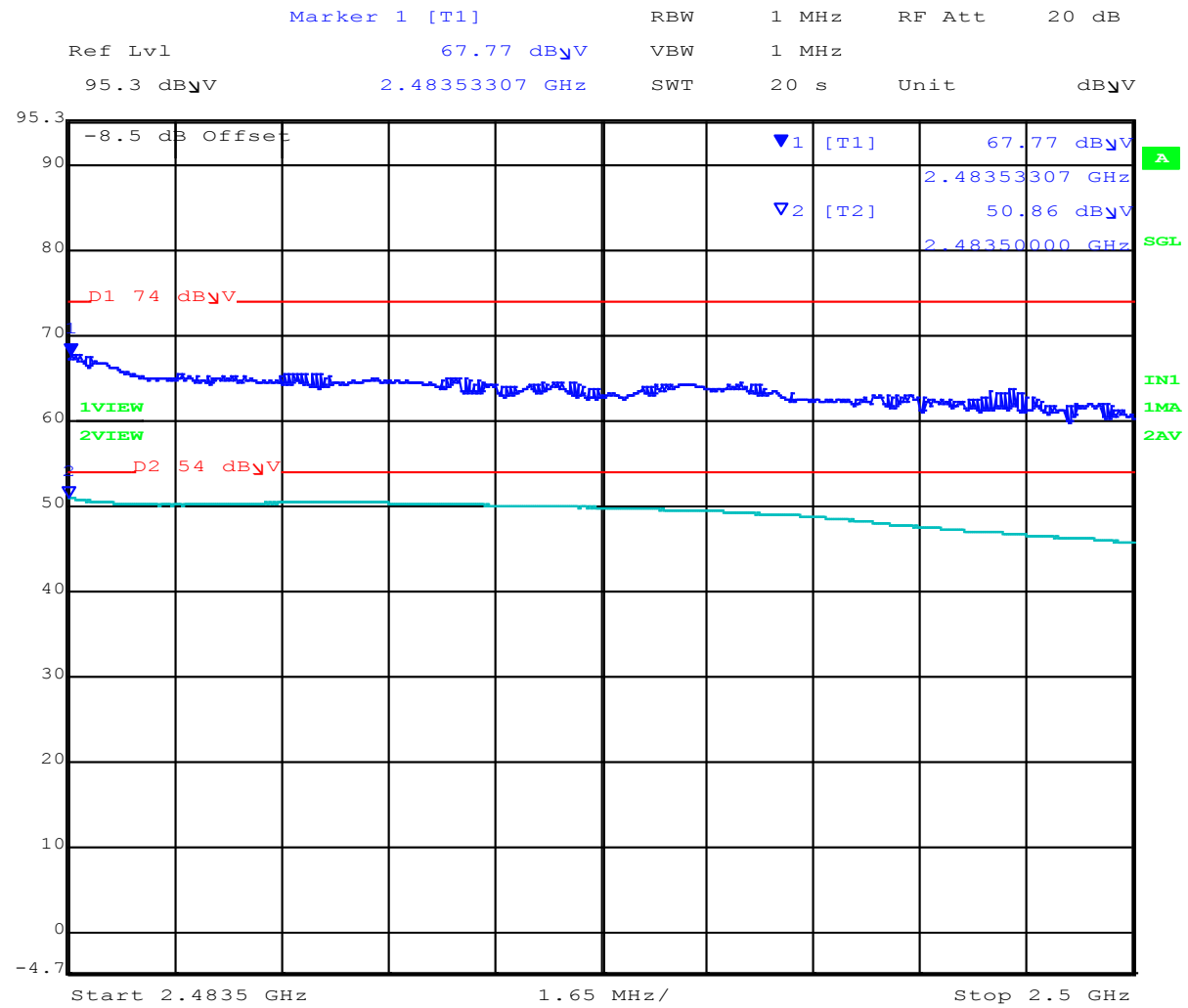
802.11n HT-40 2483.5 MHz Band-Edge



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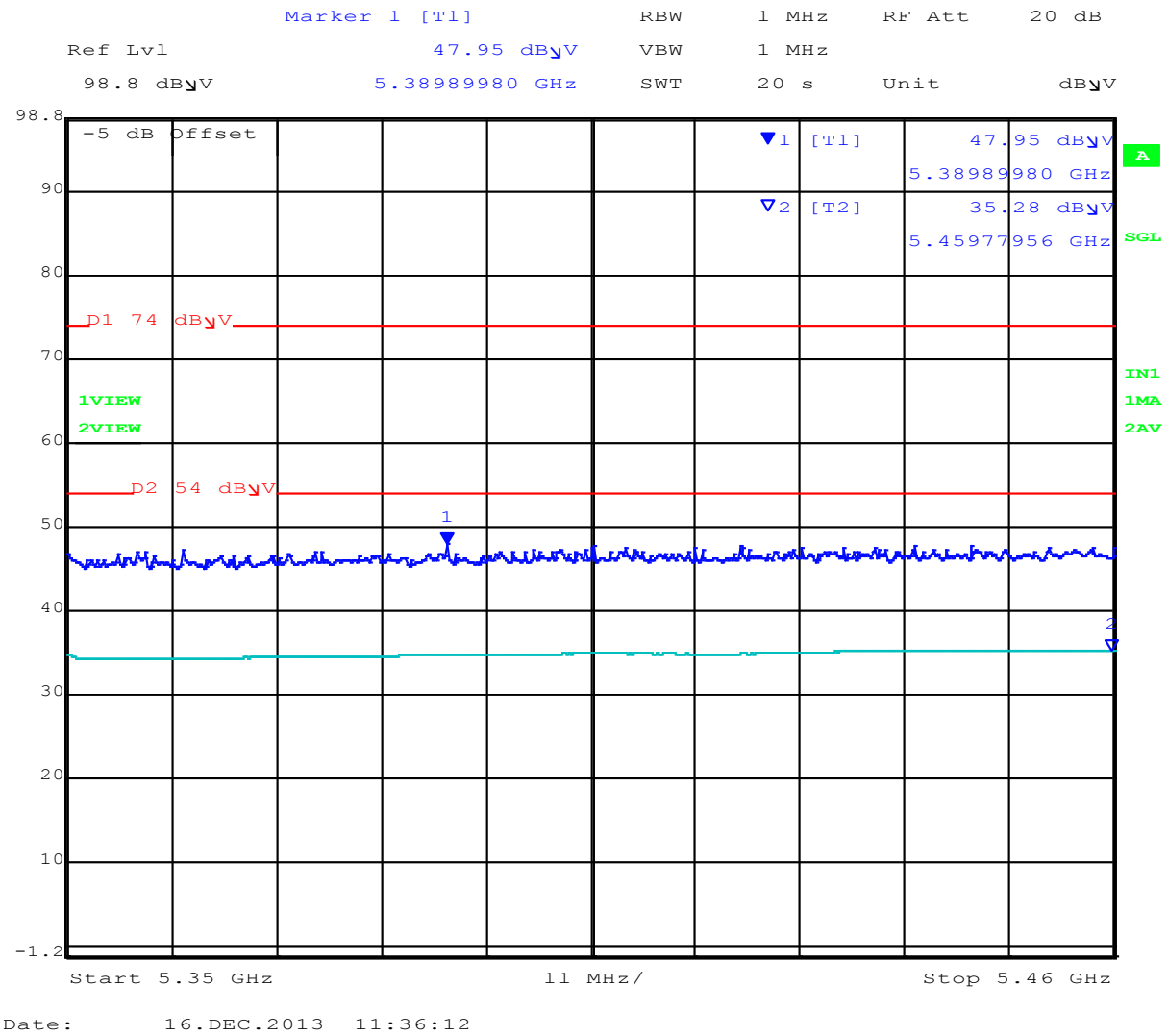
802.11a 5460 MHz Band-Edge (Tranmission Channel 5745 MHz)



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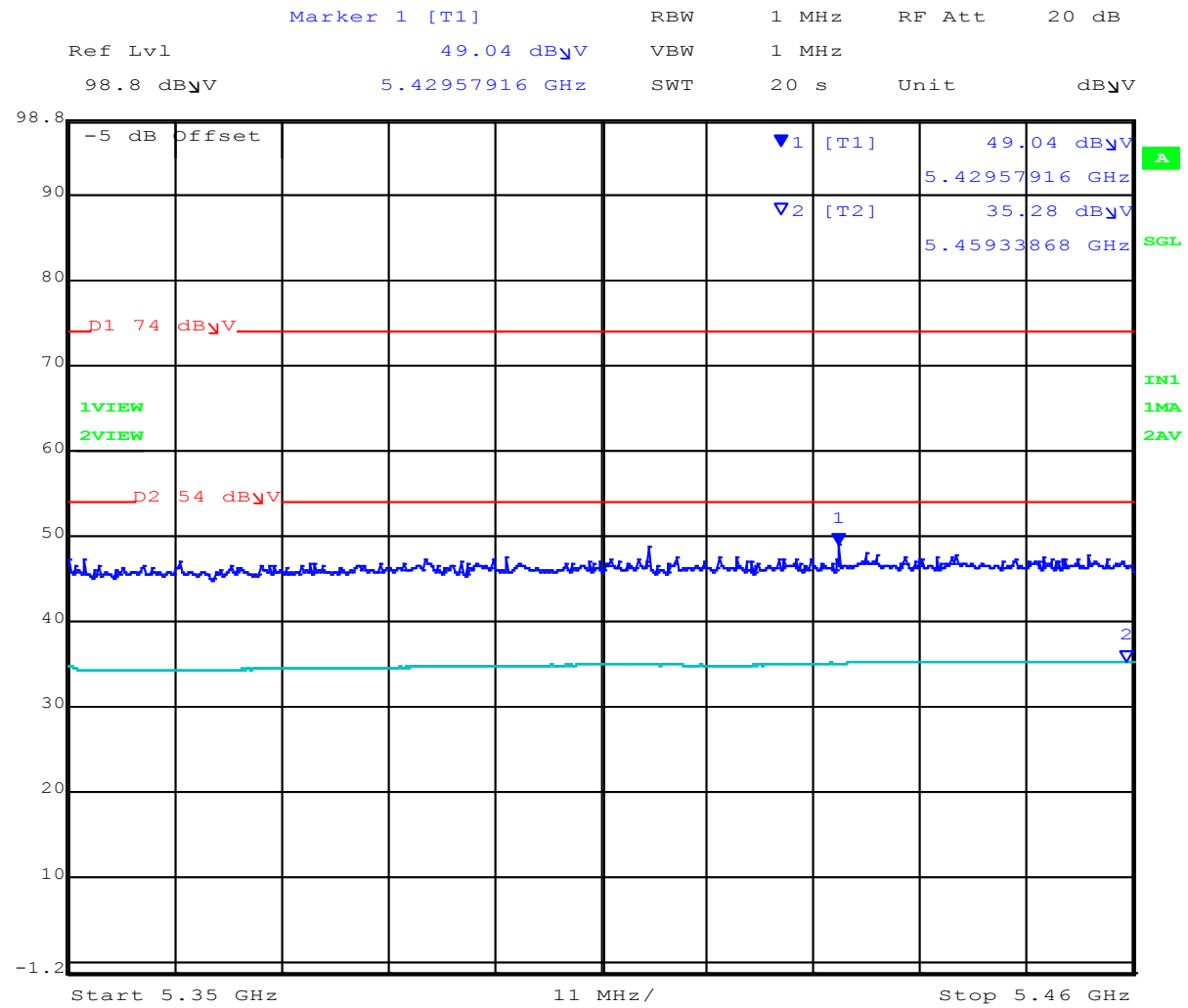
802.11n HT-20 5460 MHz Band-Edge (Tranmission Channel 5745 MHz)



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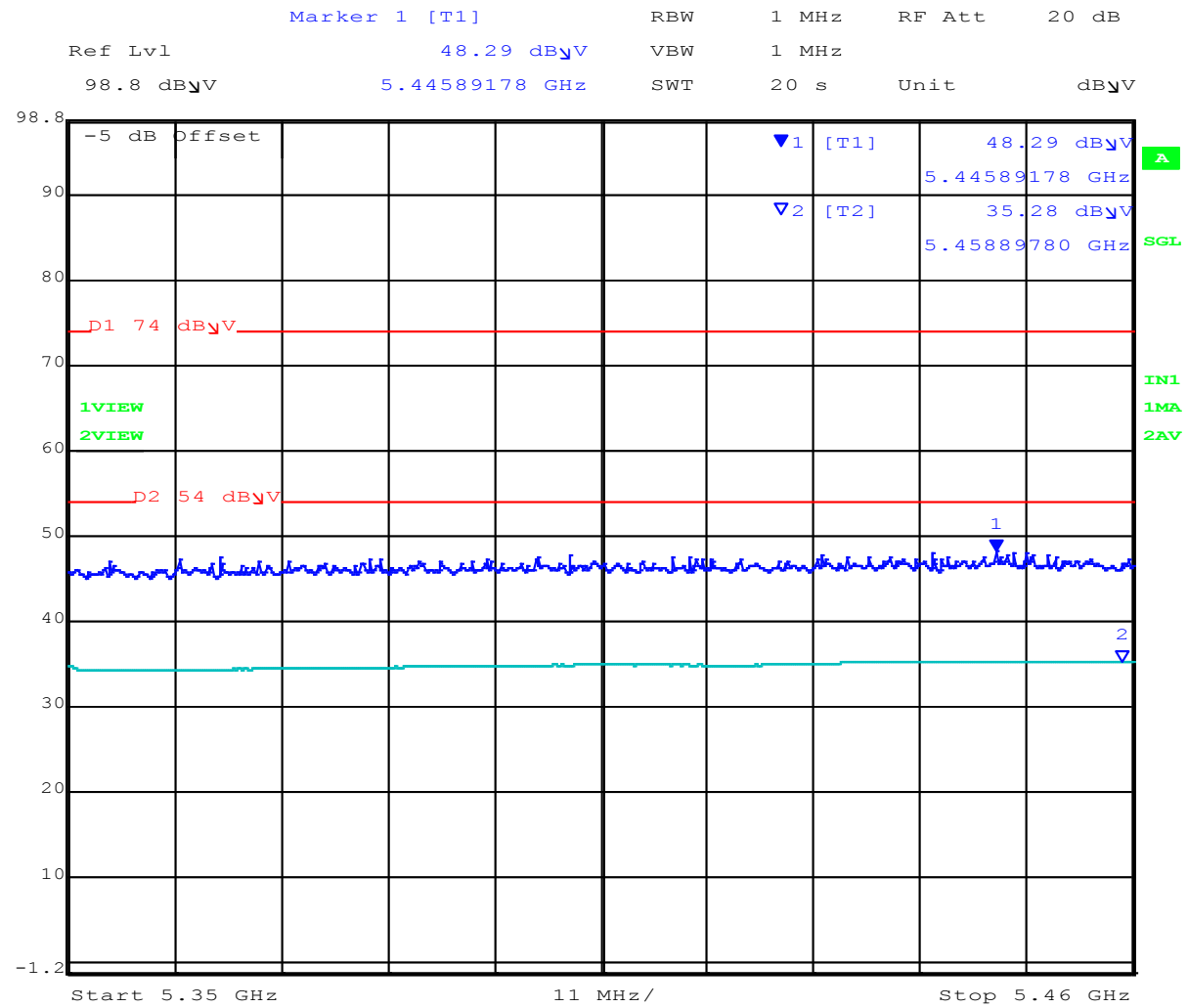
802.11n HT-40 5460 MHz Band-Edge (Tranmission Channel 5755 MHz)



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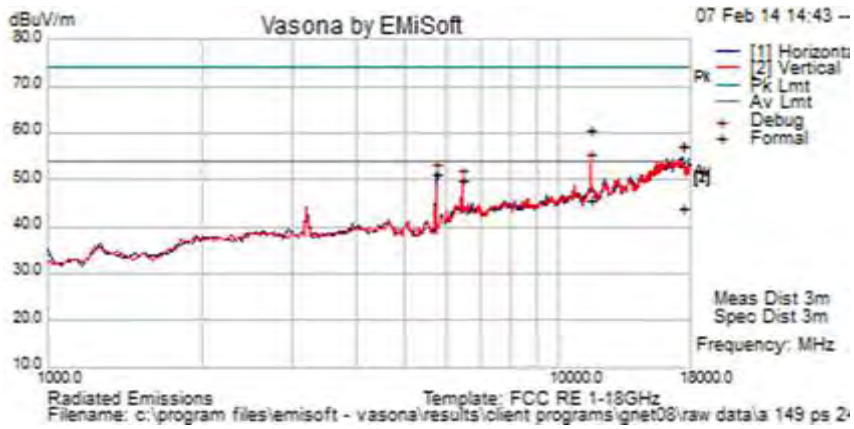
5.1.2.3. Spurious Emissions - External Antenna Ports

Test Freq.	5745 MHz	**Engineer**	SB
Variant	802.11b; 1 Mbit/s	**Temp (ºC)**	17.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	20	**Press. (mBars)**	1009
Antenna	external	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE & external Antenna; 1x1 configuration setup;		
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
17386.774	43.5	12.4	1.4	57.3	Peak Max	H	199	-1	74	-16.7	Pass	Noise Floor
11491.232	53.2	9.4	-2.0	60.6	Peak Max	V	99	190	74	-13.39	Pass	RB
17386.774	30.1	12.4	1.4	43.8	Average Max	H	199	-1	54	-10.16	Pass	Noise Floor
11491.232	38.2	9.4	-2.0	45.6	Average Max	V	99	190	54	-8.41	Pass	RB
5735.471	54.6	6.2	-9.5	51.3	Peak [Scan]	H	100					FUND
6450.902	50.4	6.7	-7.1	50.0	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

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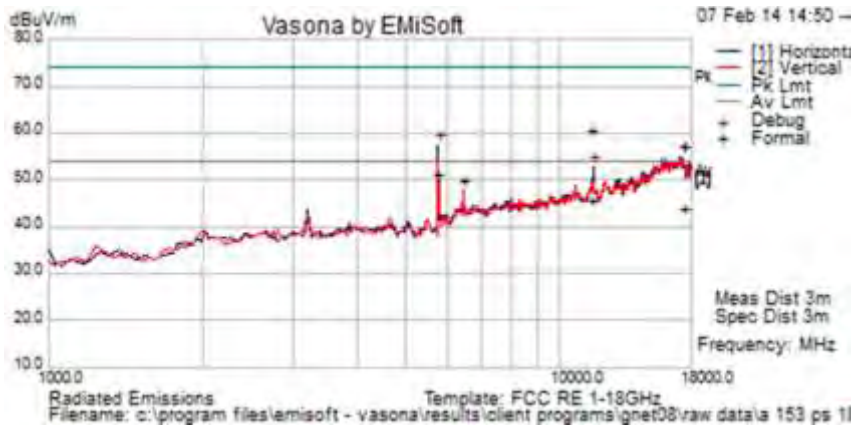
Test Freq.	5785 MHz	**Engineer**	SB
Variant	802.11b; 1 Mbit/s	**Temp (ºC)**	25
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	20	**Press. (mBars)**	1009
Antenna	external	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE & external Antenna; 1x1 configuration setup;		
Test Notes 2			



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
11567.385	44.2	9.4	-2.0	51.6	Peak Max	H	172	139	74	-22.39	Pass	RB
11567.385	31.2	9.4	-2.0	38.6	Average Max	H	172	139	54	-15.43	Pass	RB
17318.637	43.5	12.4	1.4	57.3	Peak Max	H	199	-1	74	-16.7	Pass	Noise Floor
17318.637	30.1	12.4	1.4	43.8	Average Max	H	199	-1	54	-10.16	Pass	Noise Floor
5769.539	60.7	6.3	-9.5	57.5	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

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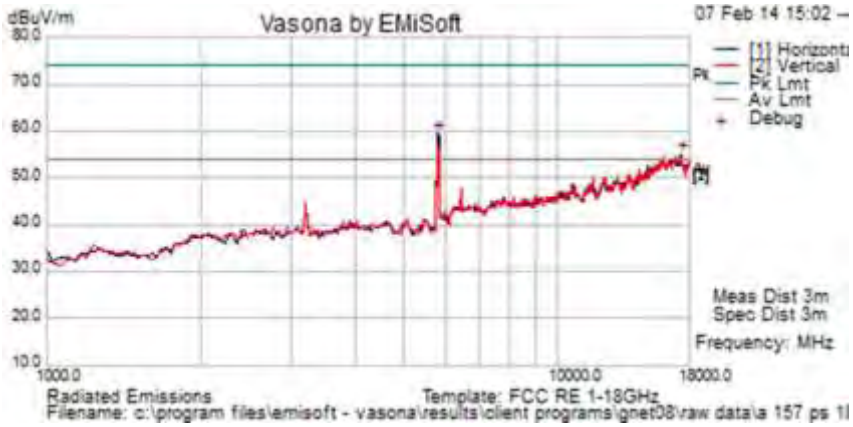
Test Freq.	5825 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbit/s	**Temp (ºC)**	22
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	23
Power Setting	20	**Press. (mBars)**	1009
Antenna	external	**Duty Cycle (%)**	100
Test Notes 1	EUT w/ POE & external Antenna; 1x1 configuration setup;		
Test Notes 2			



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
17352.705	43.5	12.4	1.4	57.3	Peak Max	H	199	-1	74	-16.7	Pass	Noise Floor
17352.705	30.1	12.4	1.4	43.8	Average Max	H	199	-1	54	-10.16	Pass	Noise Floor
5803.60721	62.6	6.3	-9.4	59.5	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

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5.1.2.4. Band-Edge External Antenna Ports

5.8 GHz Frequency Band – Restricted Band-edge @ 5460 MHz

Peak Limit 74.0 dBµV, Peak Limit 54.0 dBµV

Integral Antenna

	5460 MHz		
	dBµV		Power Setting
Operational Mode	Peak	Average	
a	48.81	36.86	24
n HT-20	48.48	36.68	24
n HT-40	49.04	36.68	24

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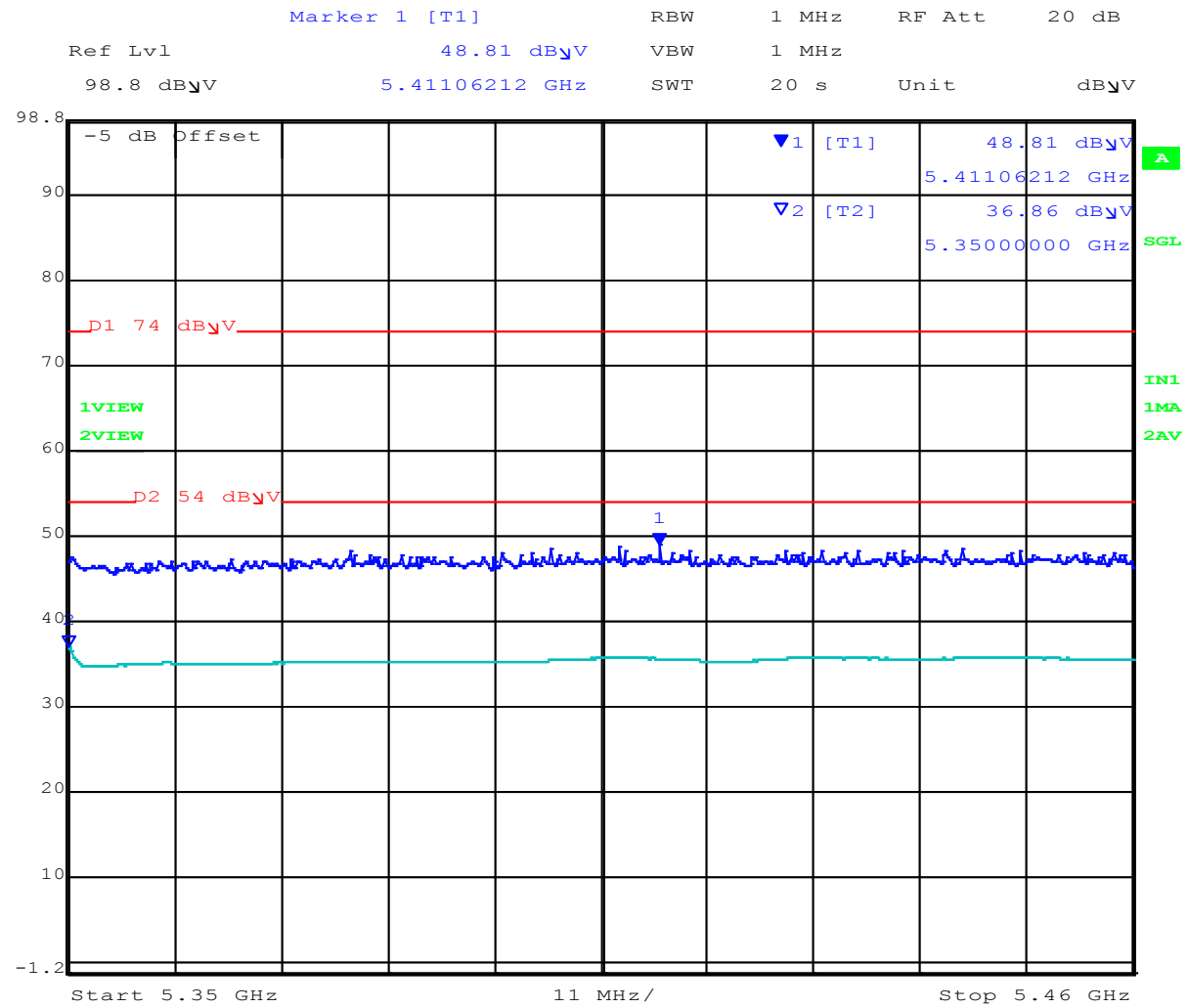
802.11a 5460 MHz Band-Edge (Tranmission Channel 5745 MHz)



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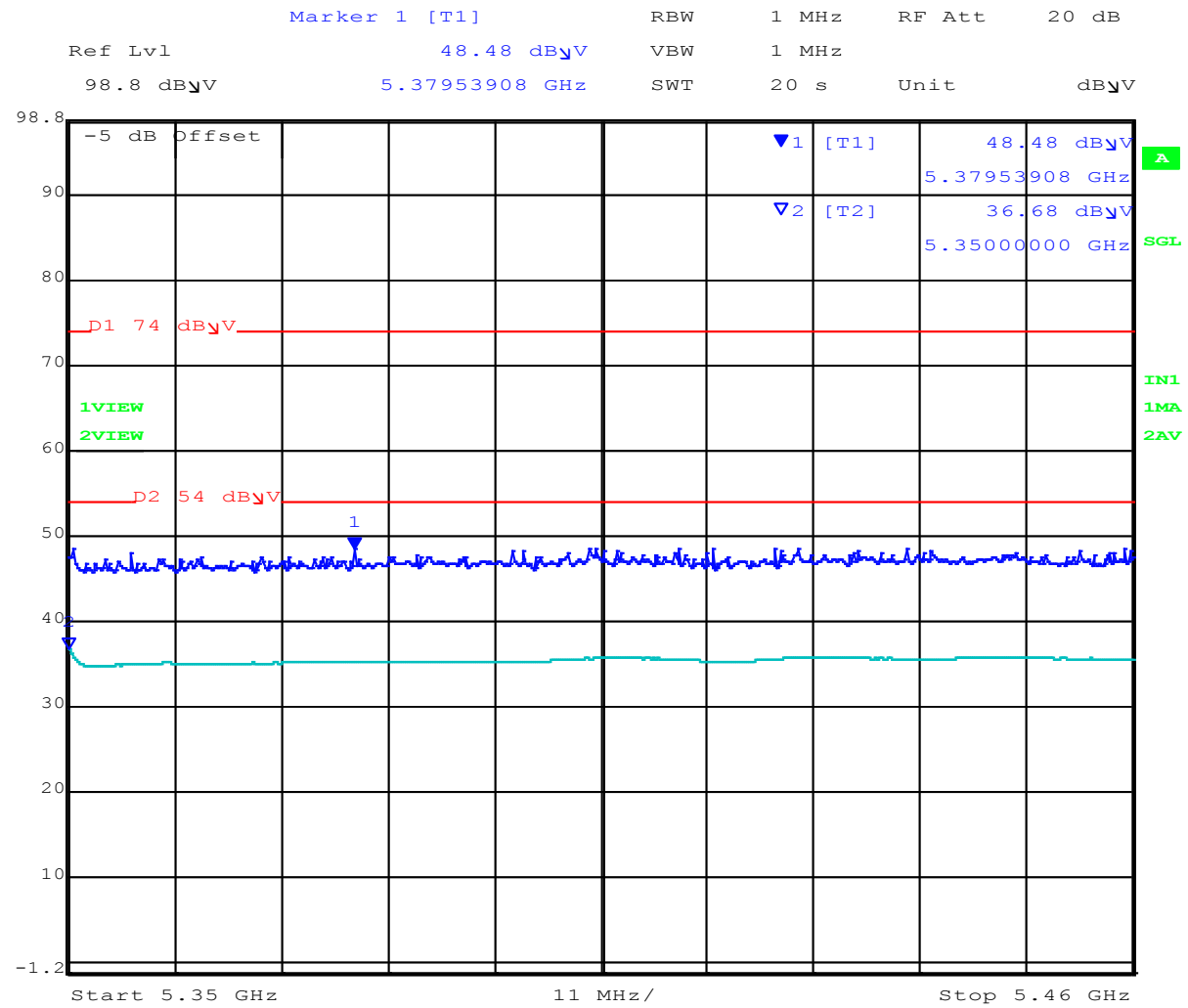
802.11n HT-20 5460 MHz Band-Edge (Tranmission Channel 5745 MHz)



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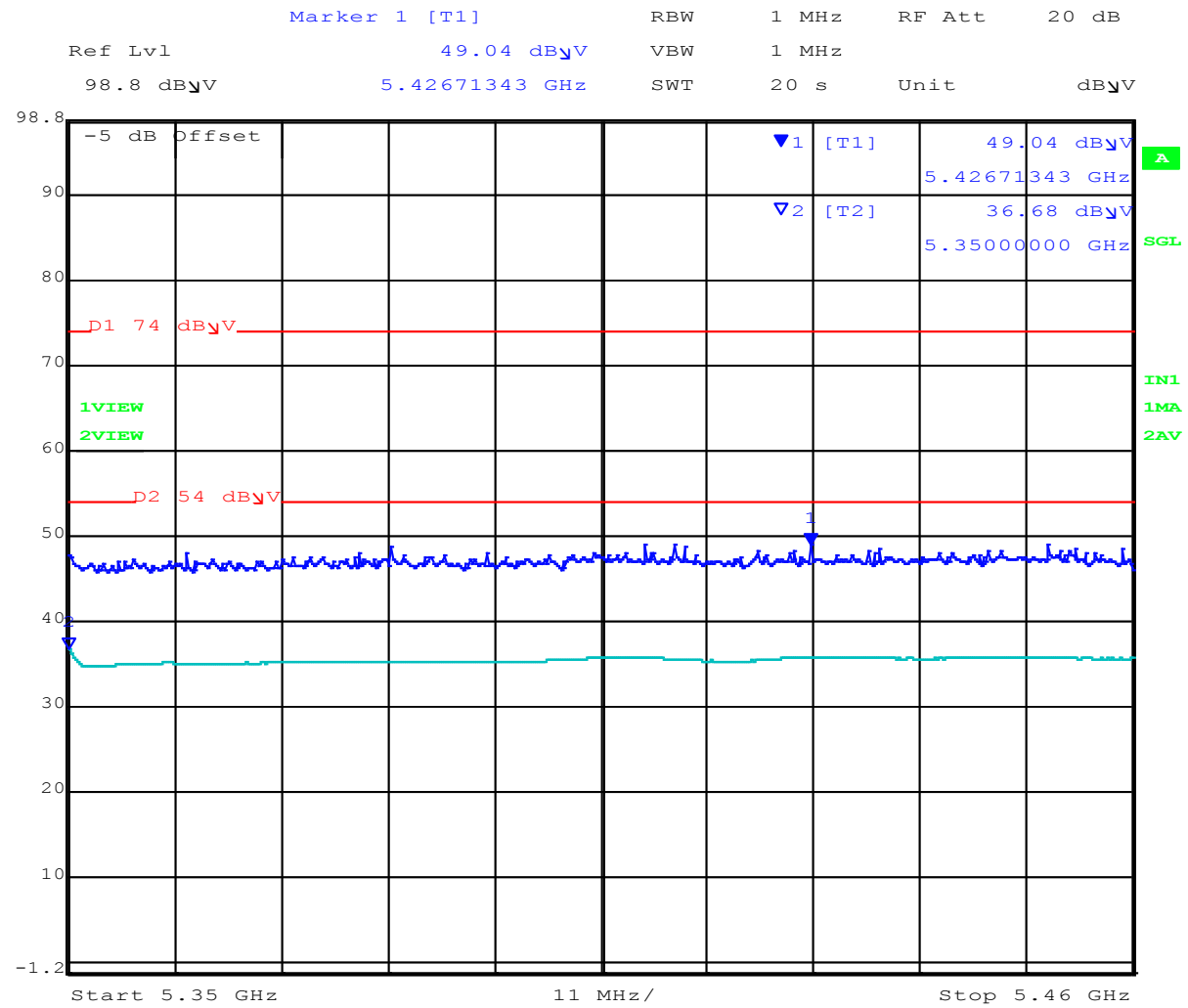
802.11n HT-40 5460 MHz Band-Edge (Tranmission Channel 5755 MHz)



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Specification Limits

FCC §15.247(d) and RSS-210 §A8.5 In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

FCC §15.247(d)
If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section §15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(a)).

IC RSS-210 §A8.5 If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under section A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Tables 2 and 3 is not required. In addition, radiated emissions which fall in the restricted bands of Table 1 must also comply with the radiated emission limits specified in Tables 2 and 3.

IC 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.

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.

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§15.209 (a) 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

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5.1.2.5. Digital Emissions (0.03-1 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:

$$FS = 51.5 + 8.5 + 1.3 - 26.0 + 1 = 36.3 dB\mu V/m$$

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

$$Level\ (dB\mu V/m) = 20 * Log\ (level\ (\mu V/m))$$

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

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Test Freq.	5745 MHz	**Engineer**	SB
Variant	Digital Emissions	**Temp (ºC)**	17.5
Freq. Range	30 MHz - 1000 MHz	**Rel. Hum.(%)**	33
Power Setting	18	**Press. (mBars)**	1011
Antenna	Integral		
Test Notes 1	Integral antenna used however, external antenna with cables setup for worse case.		
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
46.785	57.8	3.7	-21.8	39.8	Quasi Max	V	114	218	40	-0.2	Pass	
30.123	46.3	3.5	-9.8	39.9	Quasi Max	V	98	164	40	-0.1	Pass	
106.919	57.9	4.1	-19.4	42.6	Quasi Max	V	106	-1	43.5	-0.9	Pass	
147.074	53.9	4.4	-18.8	39.5	Quasi Max	H	148	4	43.5	-4.0	Pass	
625.009	45.6	6.3	-11.0	41.0	Quasi Max	V	102	361	46	-5.1	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

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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

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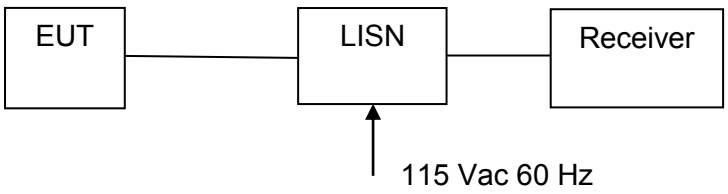
5.1.3. AC Wireline Conducted Emissions (150 kHz – 30 MHz)

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.

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

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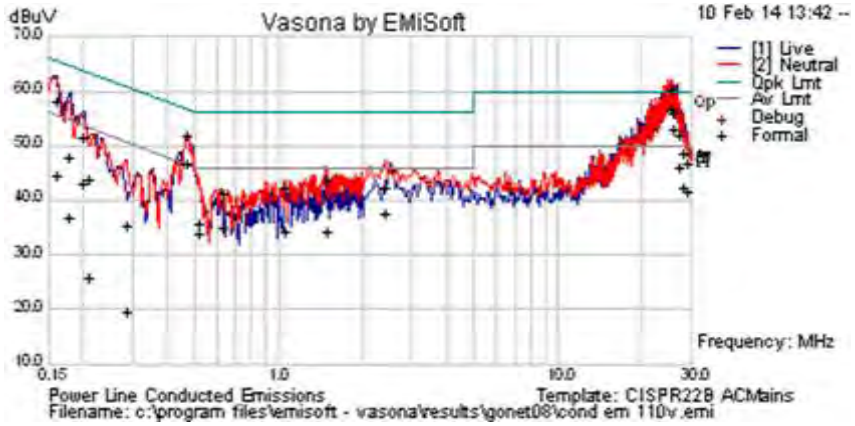
Test Freq.	N/A	**Engineer**	JMH
Variant	AC Line Emissions	**Temp (ºC)**	18
Freq. Range	0.150 MHz - 30 MHz	**Rel. Hum.(%)**	54
Power Setting	Not Applicable	**Press. (mBars)**	1011
Antenna	Not Applicable		
Test Notes 1	110V 60 Hz		
Test Notes 2			



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail	Comments
0.158	40.9	9.9	0.1	50.9	Peak [Scan]	Live	55.57	-4.7	Pass	
0.471	30.9	9.9	0.1	40.9	Quasi Peak	Live	56.5	-15.6	Pass	
0.471	29.0	9.9	0.1	39.0	Average	Live	46.5	-7.5	Pass	
21.867	34.9	10.6	0.8	46.3	Quasi Peak	Live	60	-13.8	Pass	
21.867	31.9	10.6	0.8	43.3	Average	Live	50	-6.8	Pass	
24.332	38.8	10.6	0.9	50.3	Quasi Peak	Live	60	-9.7	Pass	
24.332	37.1	10.6	0.9	48.6	Average	Live	50	-1.4	Pass	
24.945	35.5	10.6	0.9	47.0	Average	Live	50	-3.0	Pass	
24.945	37.5	10.6	0.9	49.0	Quasi Peak	Live	60	-11.0	Pass	
25.564	37.3	10.6	0.9	48.8	Quasi Peak	Neutral	60	-11.2	Pass	
25.564	33.1	10.6	0.9	44.6	Average	Neutral	50	-5.4	Pass	
26.177	34.9	10.7	0.9	46.5	Quasi Peak	Live	60	-13.5	Pass	
26.177	32.4	10.7	0.9	44.0	Average	Live	50	-6.1	Pass	
27.104	34.3	10.7	0.9	45.9	Quasi Peak	Live	60	-14.1	Pass	
27.104	31.6	10.7	0.9	43.2	Average	Live	50	-6.8	Pass	
26.796	33.4	10.7	0.9	45.0	Peak [Scan]	Live	50	-5.0	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

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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

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6. PHOTOGRAPHS

6.1. Conducted Test Setup

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6.2. Test Setup - Digital Emissions <1 GHz

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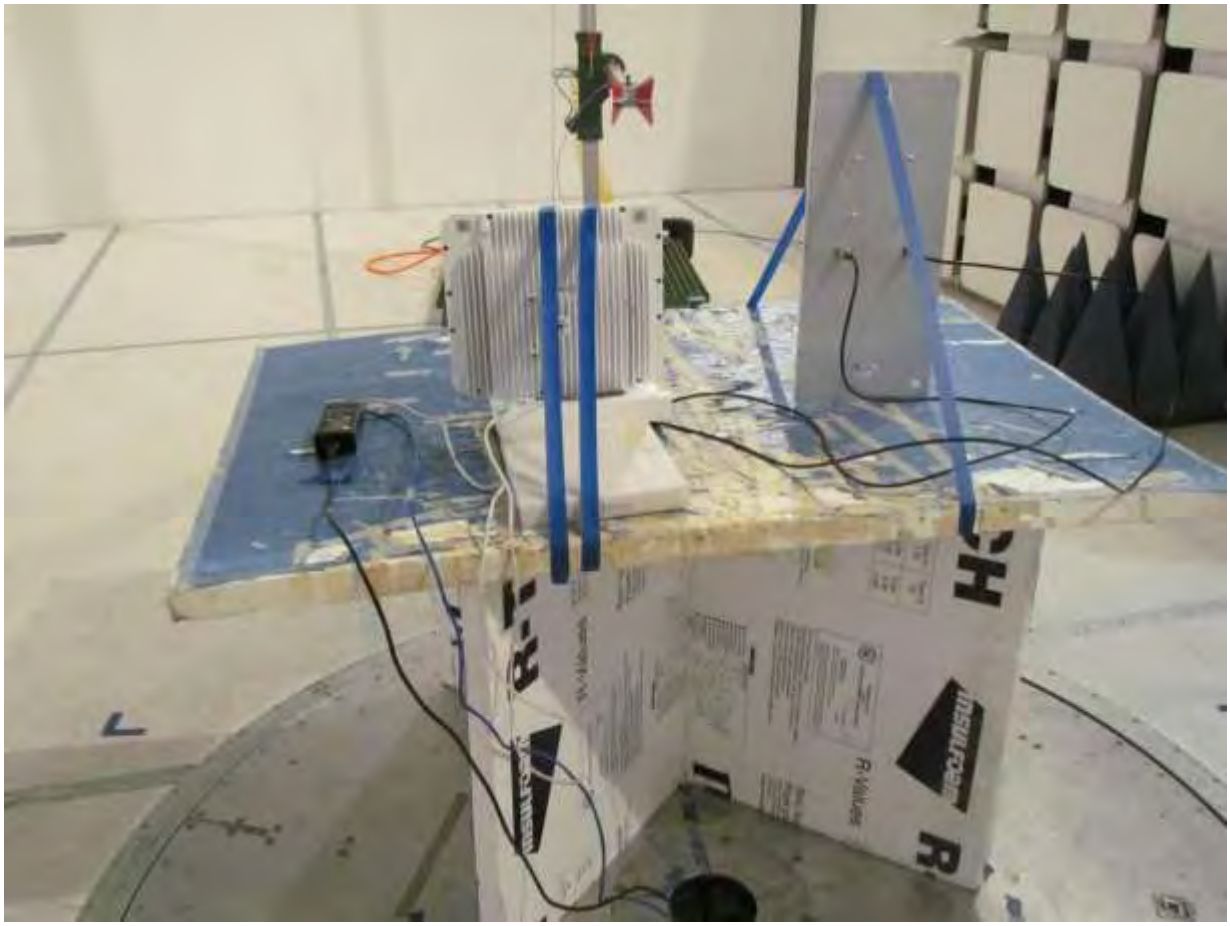
6.3. Test Setup - Digital Emissions >1 GHz



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6.4. ac Wireline Test Setup

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7. TEST EQUIPMENT

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
0193	EMI Receiver	Rhode & Schwartz	ESI 7	838496/007	2nd Dec 13
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 March 14

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APPENDIX

A. SUPPORTING INFORMATION

A.1. CONDUCTED TEST PLOTS

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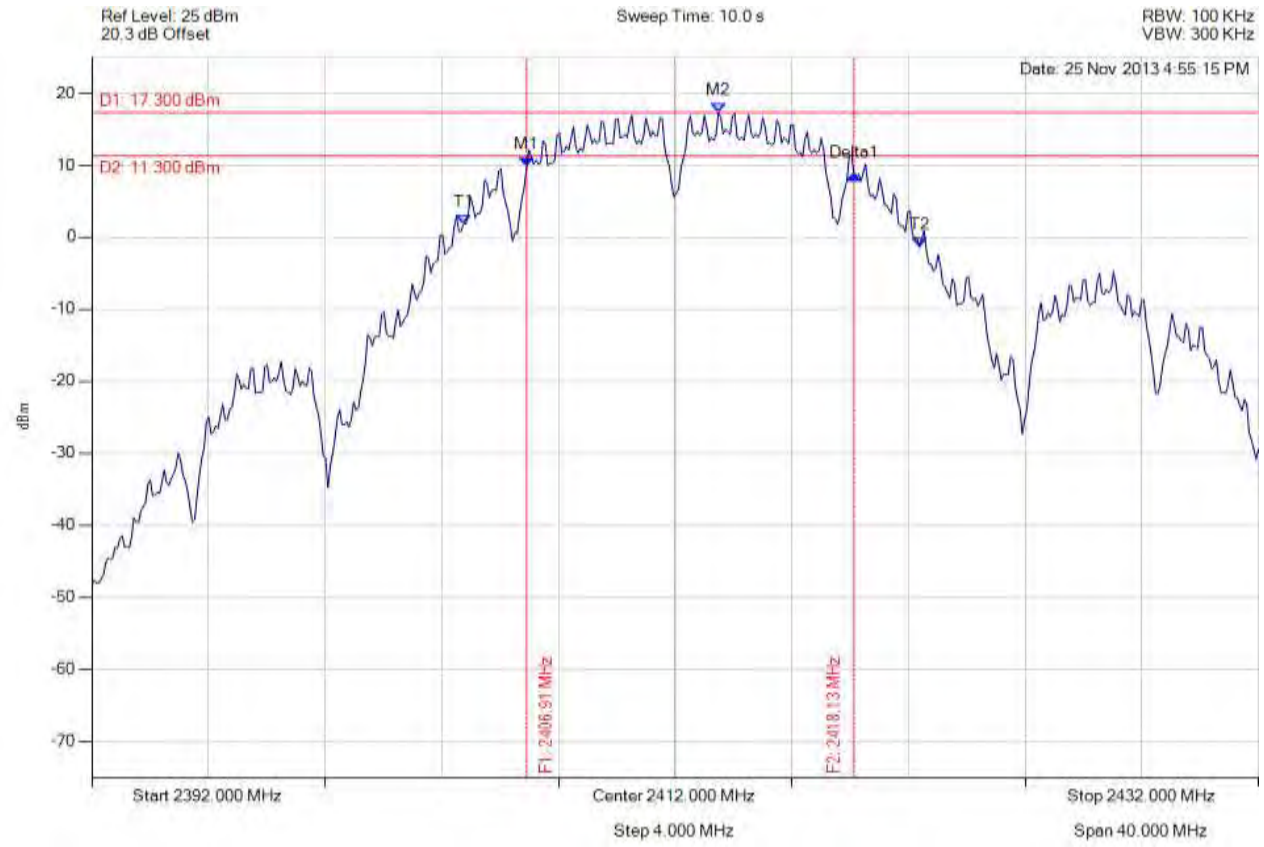
A.1.1. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2406.910 MHz : 9.771 dBm M2 : 2413.483 MHz : 17.300 dBm Delta1 : 11.222 MHz : -1.192 dB T1 : 2404.745 MHz : 1.789 dBm T2 : 2420.377 MHz : -1.378 dBm OBW : 15.631 MHz	Measured 6 dB Bandwidth: 11.222 MHz Limit: ≥500.0 kHz Margin: -10.72 MHz

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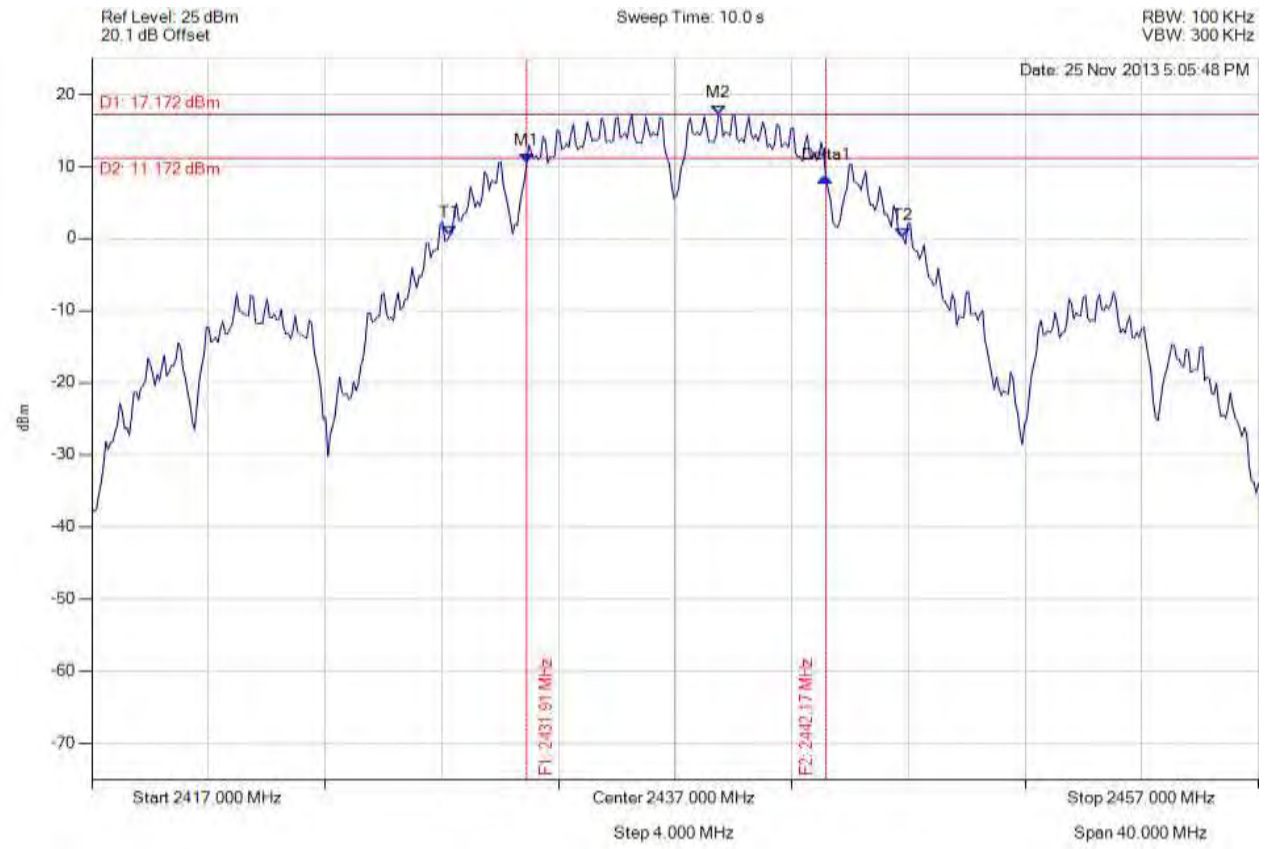
6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2431.910 MHz : 10.406 dBm M2 : 2438.483 MHz : 17.172 dBm Delta1 : 10.261 MHz : -1.926 dB T1 : 2429.265 MHz : 0.406 dBm T2 : 2444.816 MHz : 0.095 dBm OBW : 15.551 MHz	Measured 6 dB Bandwidth: 10.261 MHz Limit: ≥500.0 kHz Margin: -9.76 MHz

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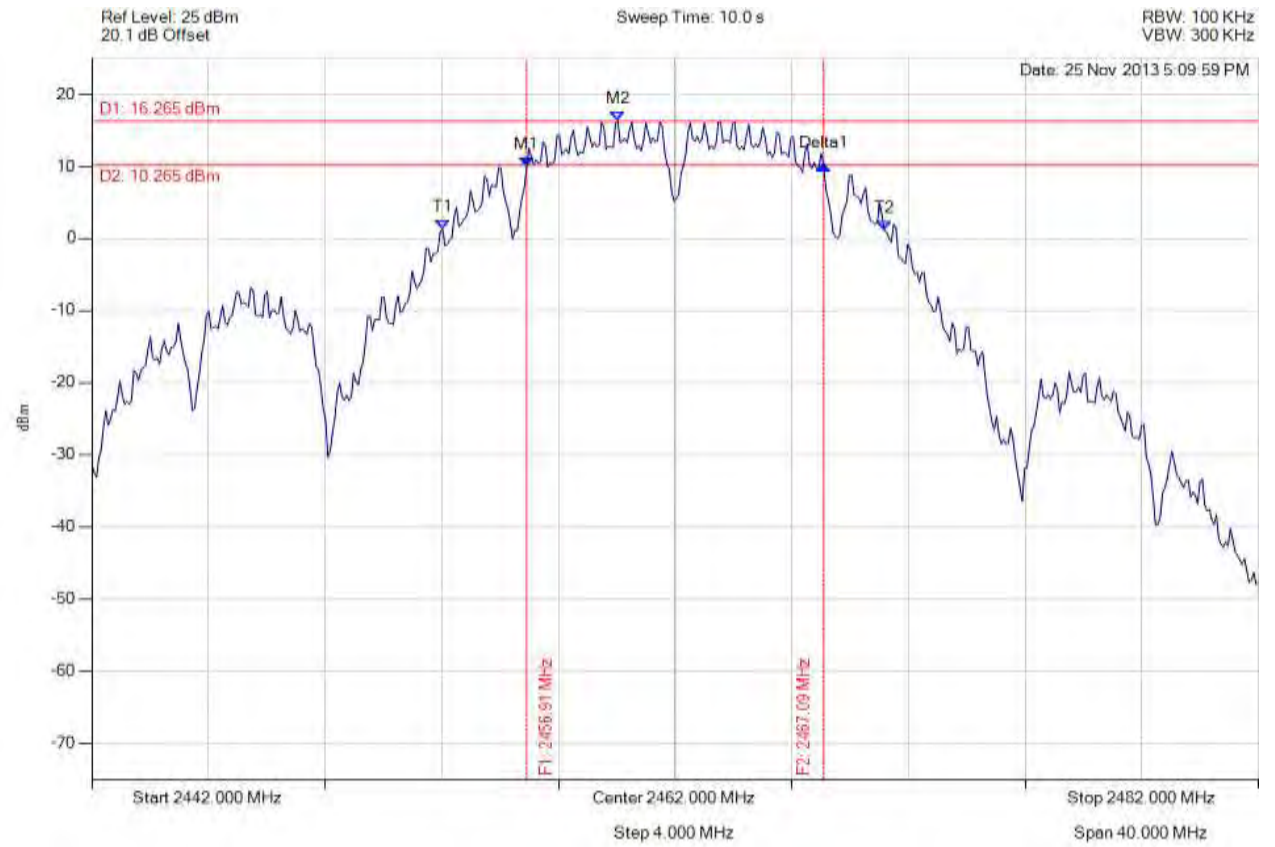
6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2456.910 MHz : 9.995 dBm M2 : 2460.036 MHz : 16.265 dBm Delta1 : 10.180 MHz : 0.199 dB T1 : 2454.024 MHz : 1.368 dBm T2 : 2469.174 MHz : 1.081 dBm OBW : 15.150 MHz	Measured 6 dB Bandwidth: 10.180 MHz Limit: ≥500.0 kHz Margin: -9.68 MHz

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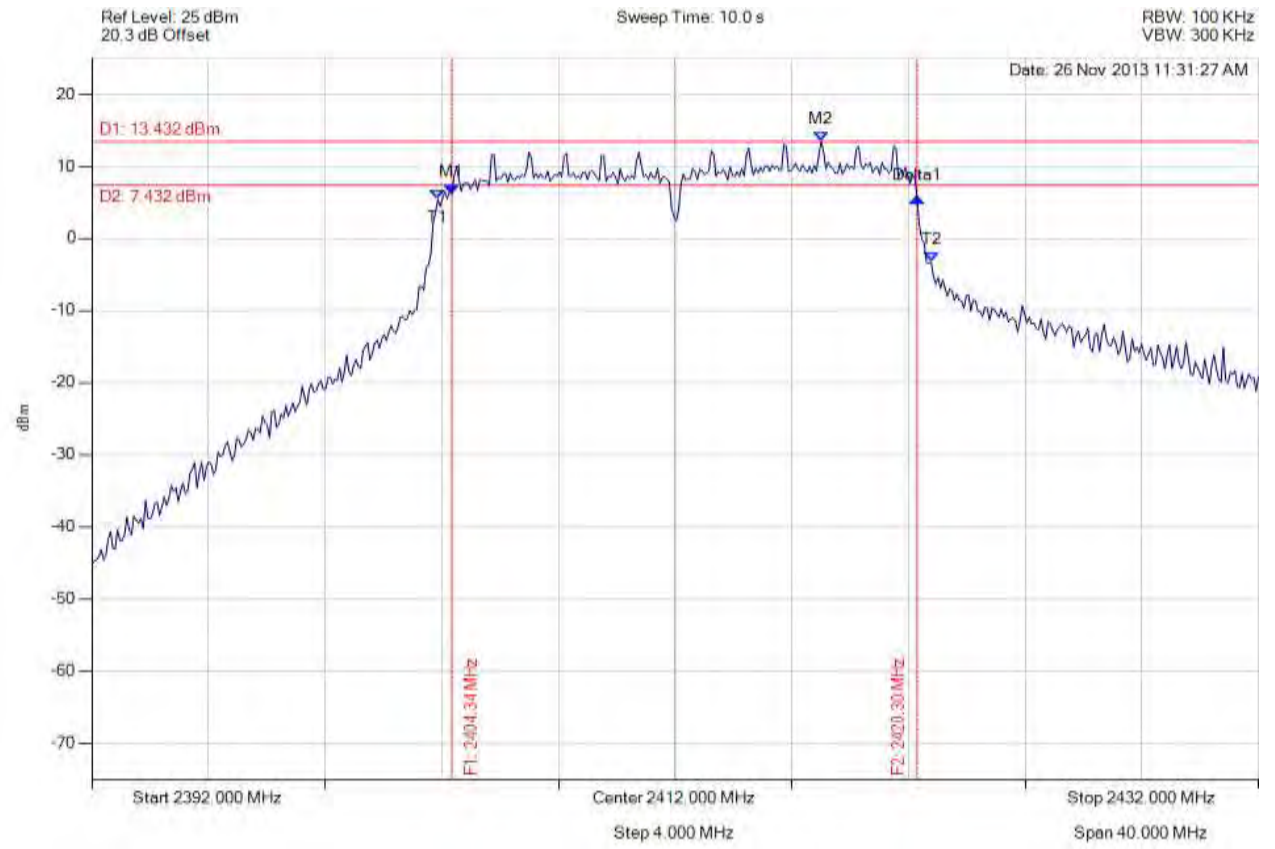
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2404.345 MHz : 6.200 dBm M2 : 2417.010 MHz : 13.432 dBm Delta1 : 15.952 MHz : -0.608 dB T1 : 2403.864 MHz : 5.444 dBm T2 : 2420.778 MHz : -3.220 dBm OBW : 16.914 MHz	Measured 6 dB Bandwidth: 15.952 MHz Limit: ≥500.0 kHz Margin: -15.45 MHz

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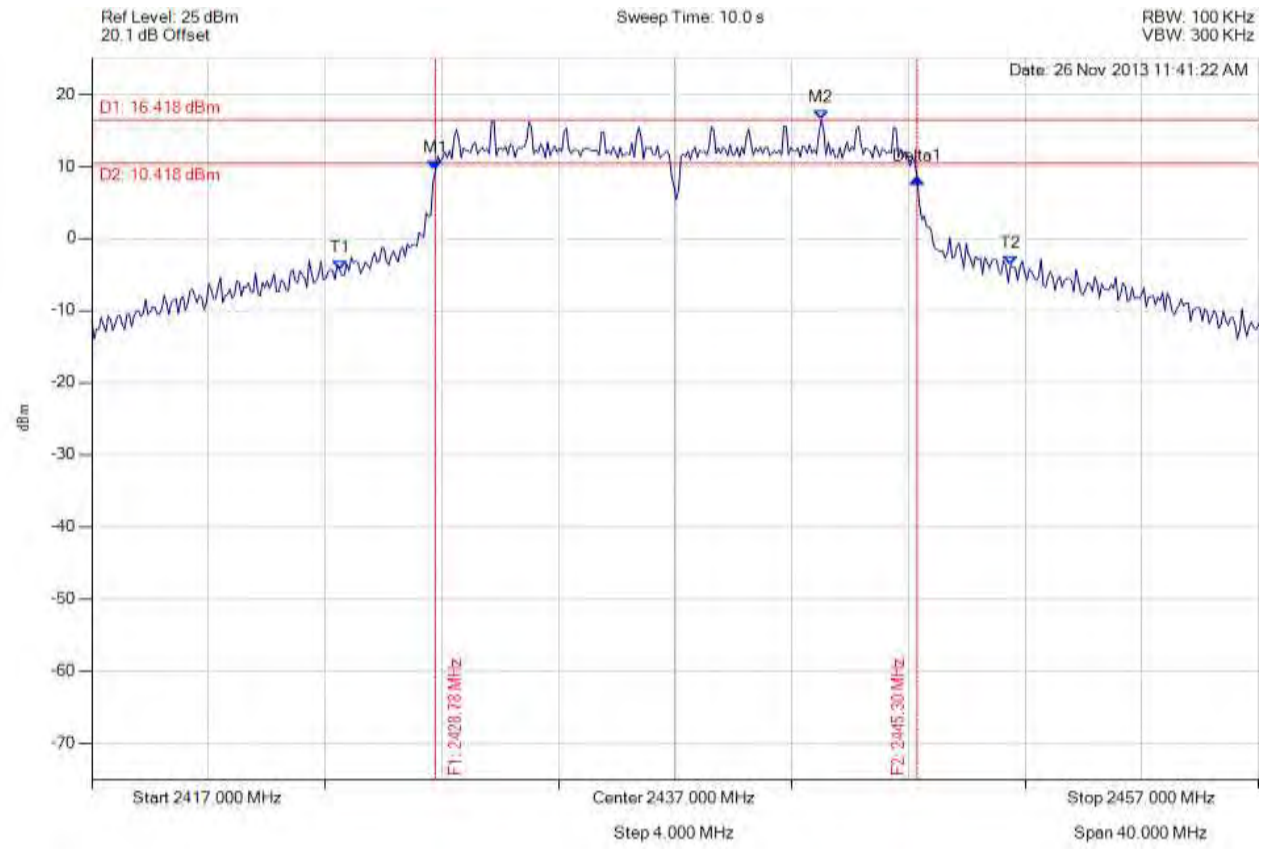
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2428.784 MHz : 9.446 dBm M2 : 2442.010 MHz : 16.418 dBm Delta1 : 16.513 MHz : -1.094 dB T1 : 2425.497 MHz : -4.404 dBm T2 : 2448.503 MHz : -3.731 dBm OBW : 23.006 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

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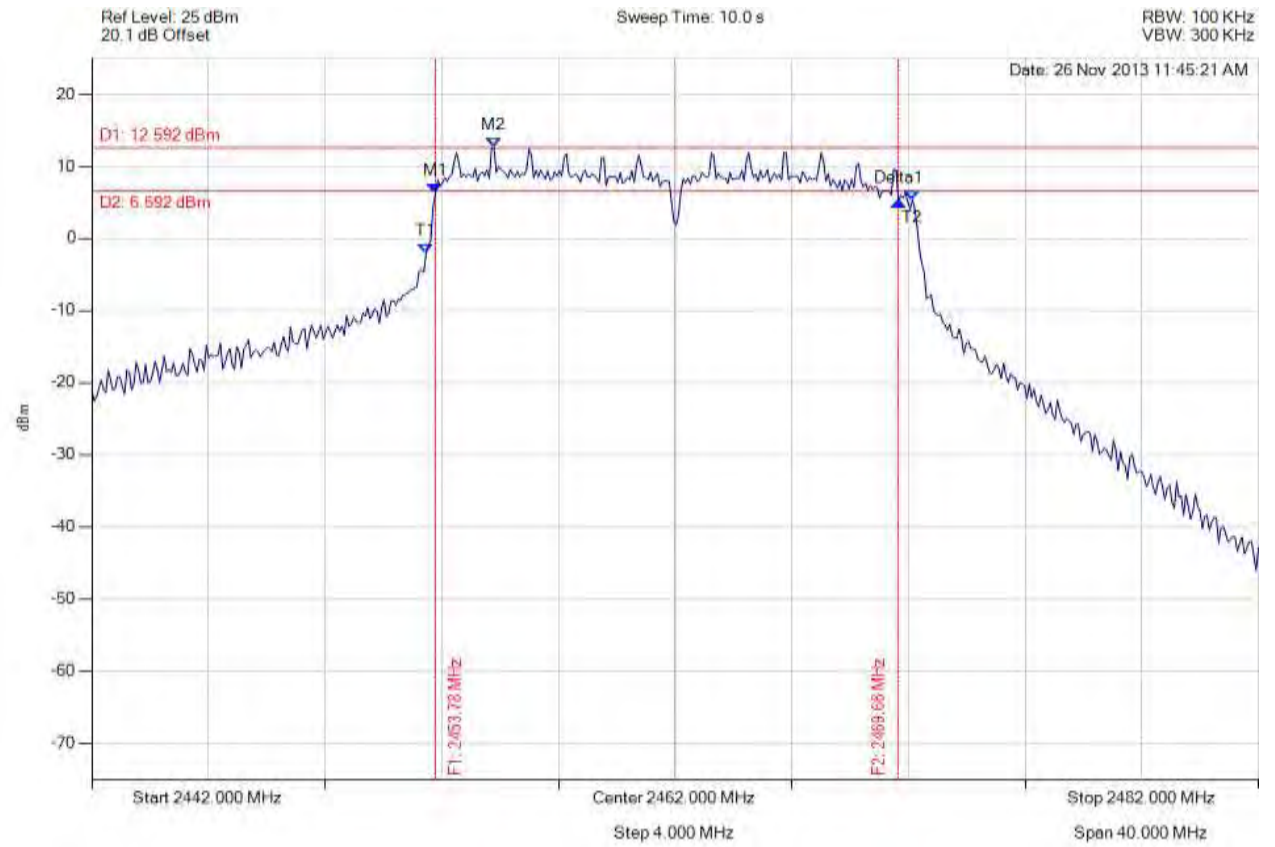
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2453.784 MHz : 6.296 dBm M2 : 2455.788 MHz : 12.592 dBm Delta1 : 15.872 MHz : -1.072 dB T1 : 2453.463 MHz : -2.081 dBm T2 : 2470.136 MHz : 5.358 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 15.872 MHz Limit: ≥500.0 kHz Margin: -15.37 MHz

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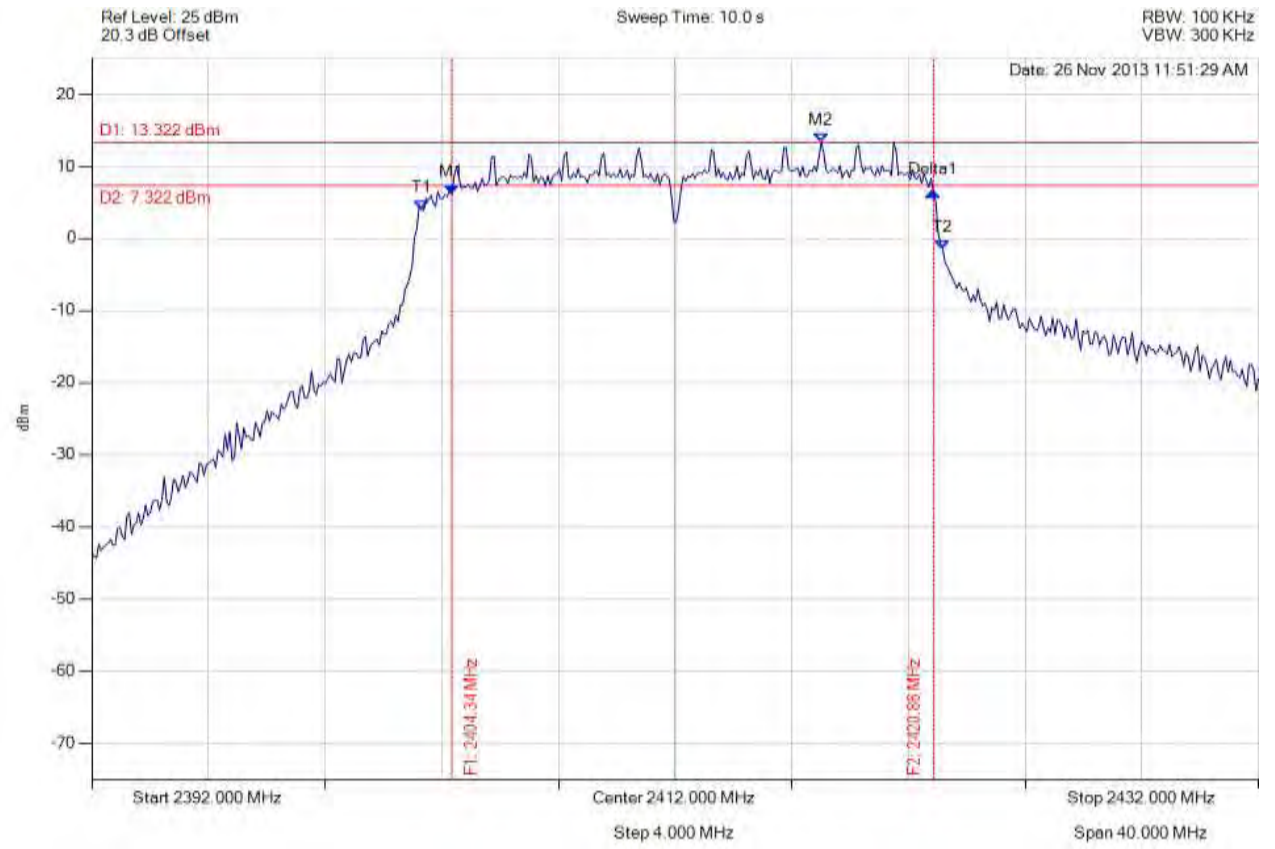
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2404.345 MHz : 6.159 dBm M2 : 2417.010 MHz : 13.322 dBm Delta1 : 16.513 MHz : 0.250 dB T1 : 2403.303 MHz : 3.965 dBm T2 : 2421.178 MHz : -1.506 dBm OBW : 17.876 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

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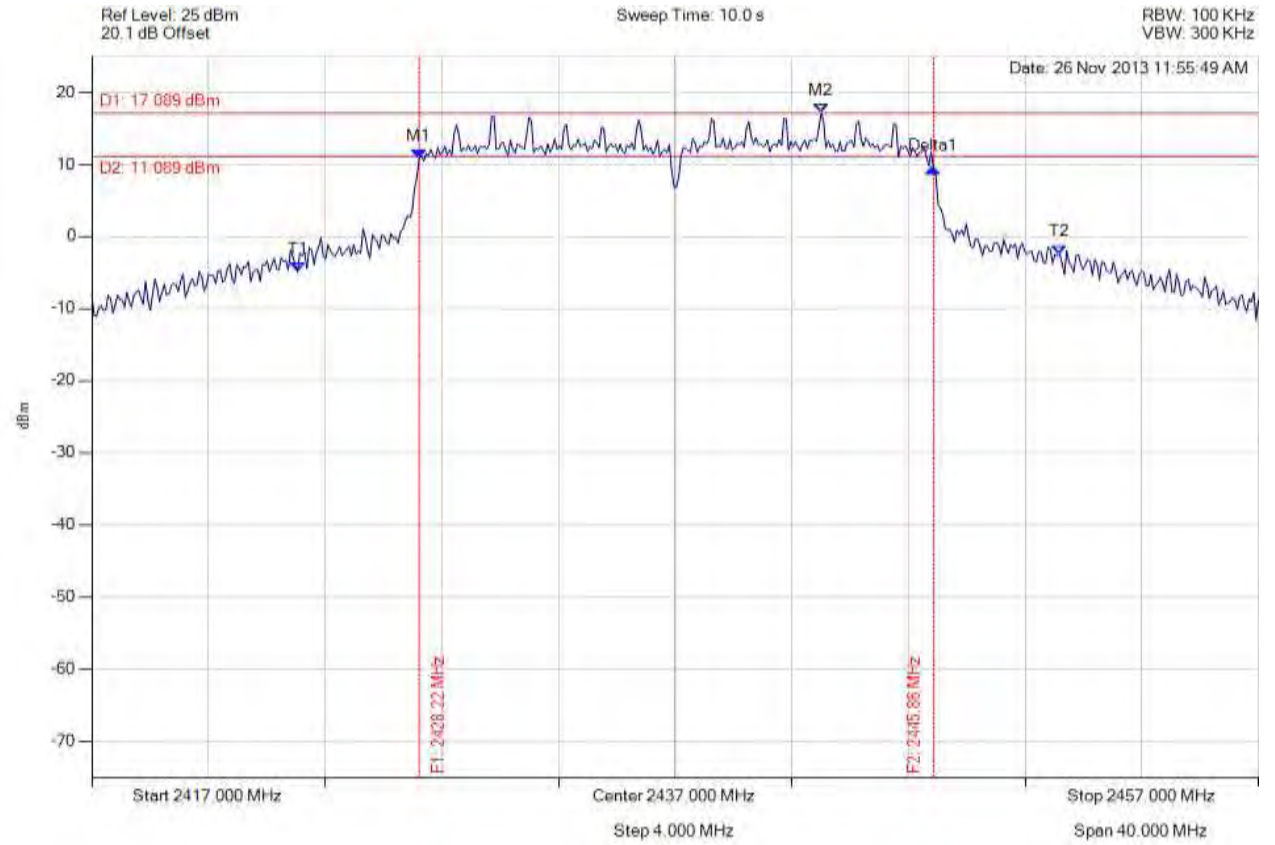
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2428.222 MHz : 10.782 dBm M2 : 2442.010 MHz : 17.089 dBm Delta1 : 17.635 MHz : -1.342 dB T1 : 2424.054 MHz : -4.914 dBm T2 : 2450.186 MHz : -2.449 dBm OBW : 26.132 MHz	Measured 6 dB Bandwidth: 17.635 MHz Limit: ≥500.0 kHz Margin: -17.14 MHz

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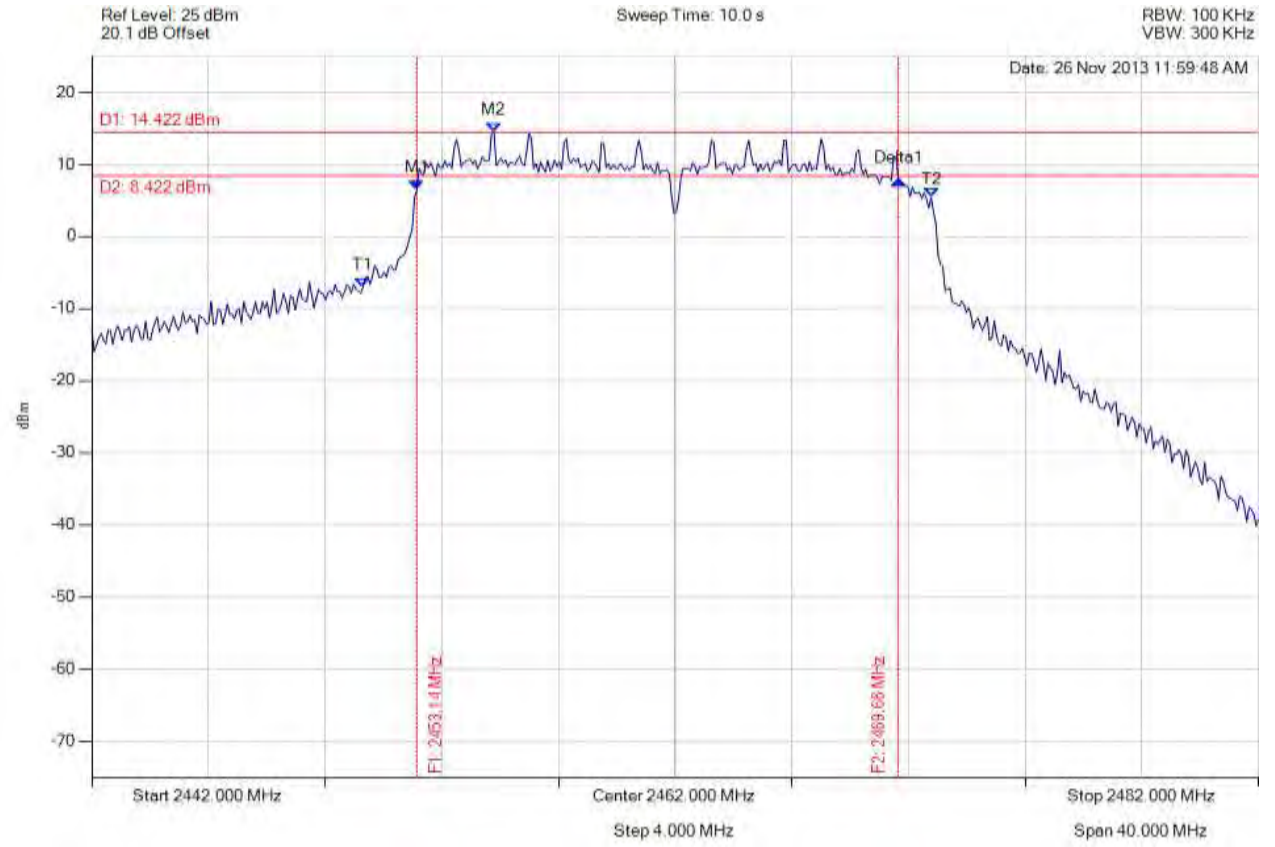
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2453.142 MHz : 6.525 dBm M2 : 2455.788 MHz : 14.422 dBm Delta1 : 16.513 MHz : 1.316 dB T1 : 2451.299 MHz : -6.999 dBm T2 : 2470.778 MHz : 5.433 dBm OBW : 19.479 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

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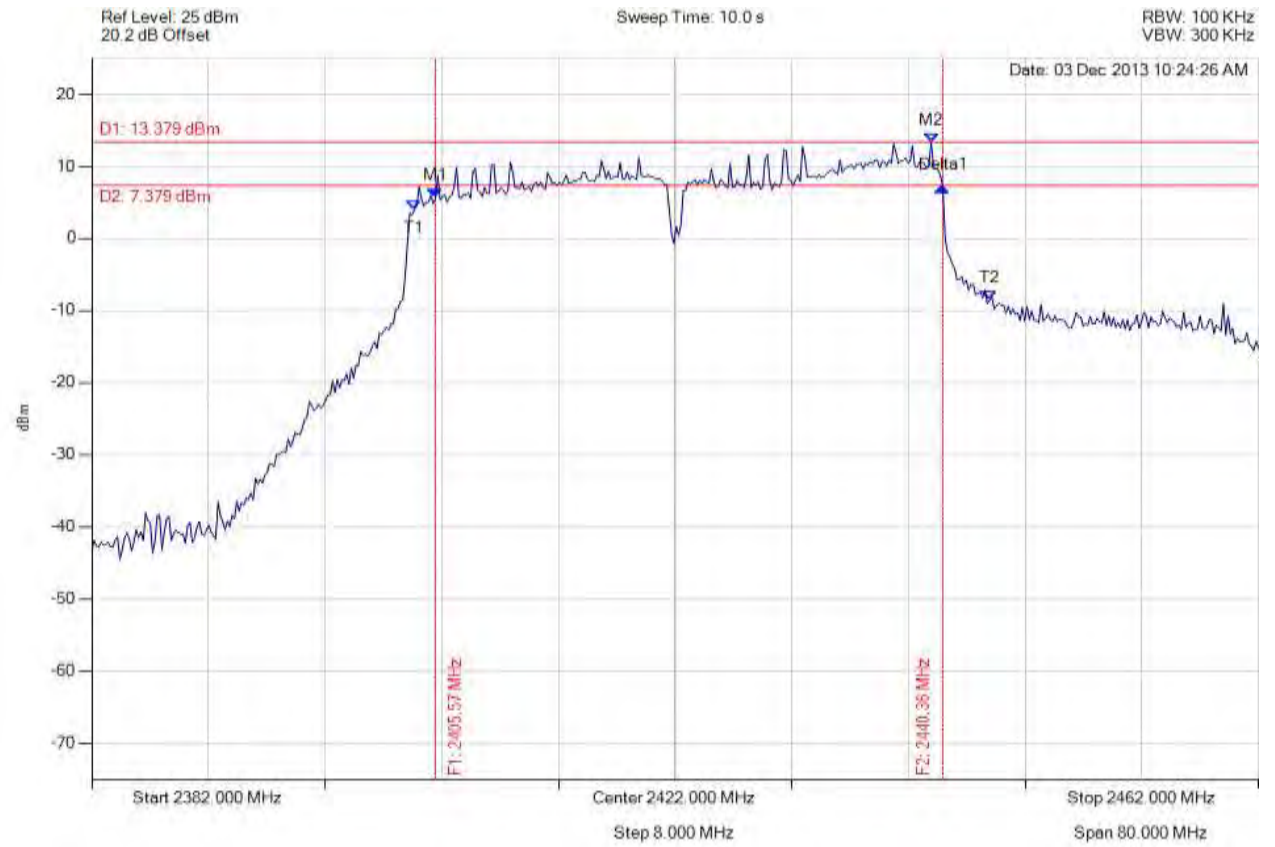
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2405.567 MHz : 5.578 dBm M2 : 2439.555 MHz : 13.379 dBm Delta1 : 34.790 MHz : 1.560 dB T1 : 2404.124 MHz : 3.959 dBm T2 : 2443.563 MHz : -8.543 dBm OBW : 39.439 MHz	Measured 6 dB Bandwidth: 34.790 MHz Limit: ≥500.0 kHz Margin: -34.29 MHz

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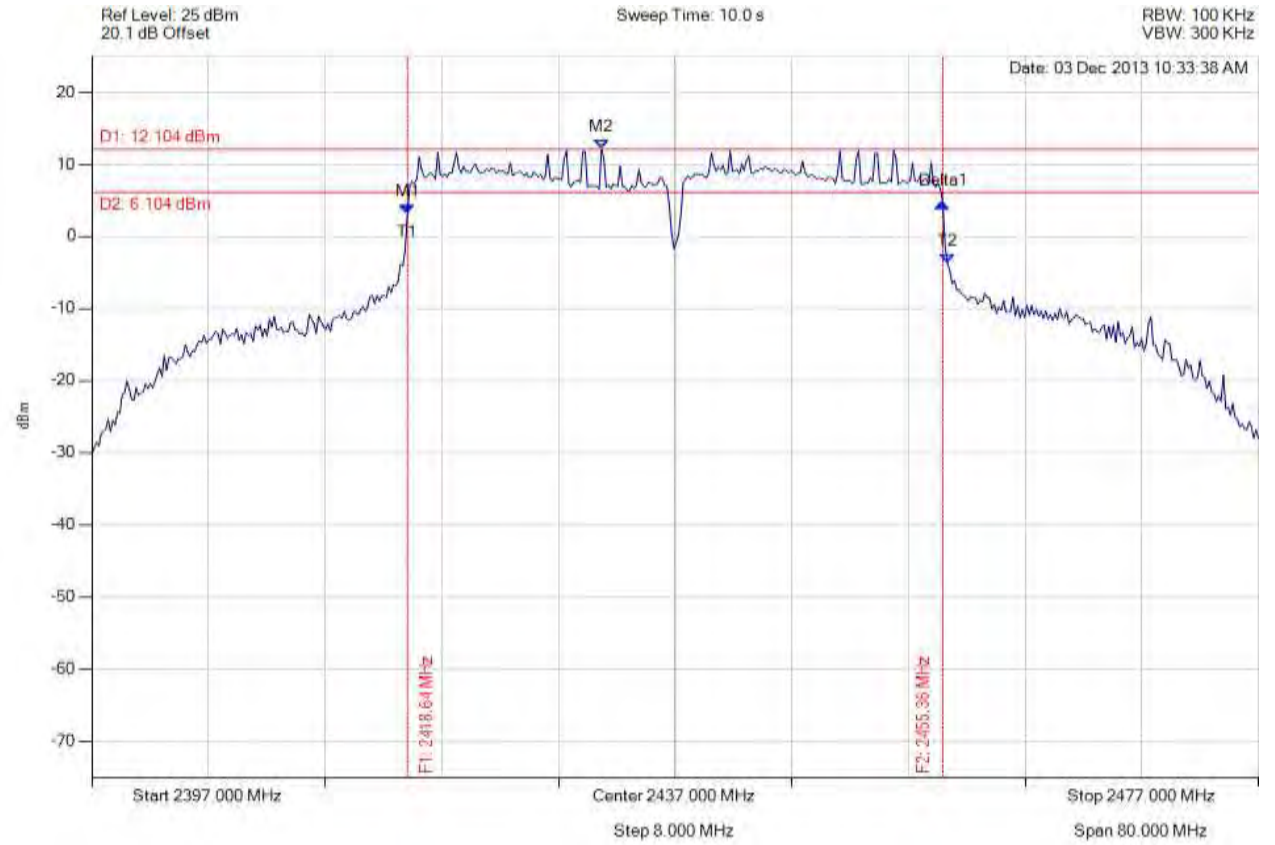
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2418.643 MHz : 3.074 dBm M2 : 2431.950 MHz : 12.104 dBm Delta1 : 36.713 MHz : 1.540 dB T1 : 2418.643 MHz : 3.074 dBm T2 : 2455.677 MHz : -3.759 dBm OBW : 37.034 MHz	Measured 6 dB Bandwidth: 36.713 MHz Limit: ≥500.0 kHz Margin: -36.21 MHz

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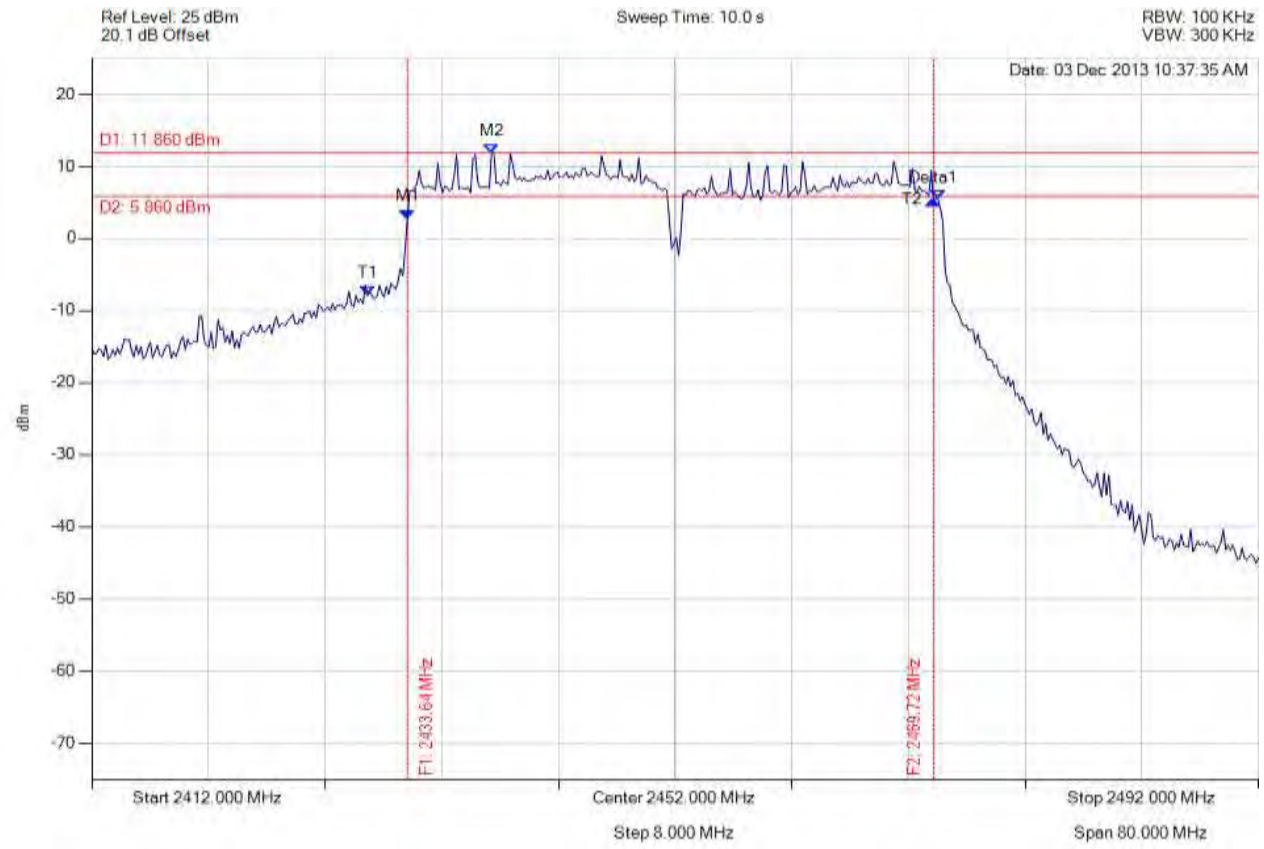
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2433.643 MHz : 2.712 dBm M2 : 2439.415 MHz : 11.860 dBm Delta1 : 36.072 MHz : 2.571 dB T1 : 2430.918 MHz : -7.900 dBm T2 : 2470.036 MHz : 5.450 dBm OBW : 39.118 MHz	Measured 6 dB Bandwidth: 36.072 MHz Limit: ≥500.0 kHz Margin: -35.57 MHz

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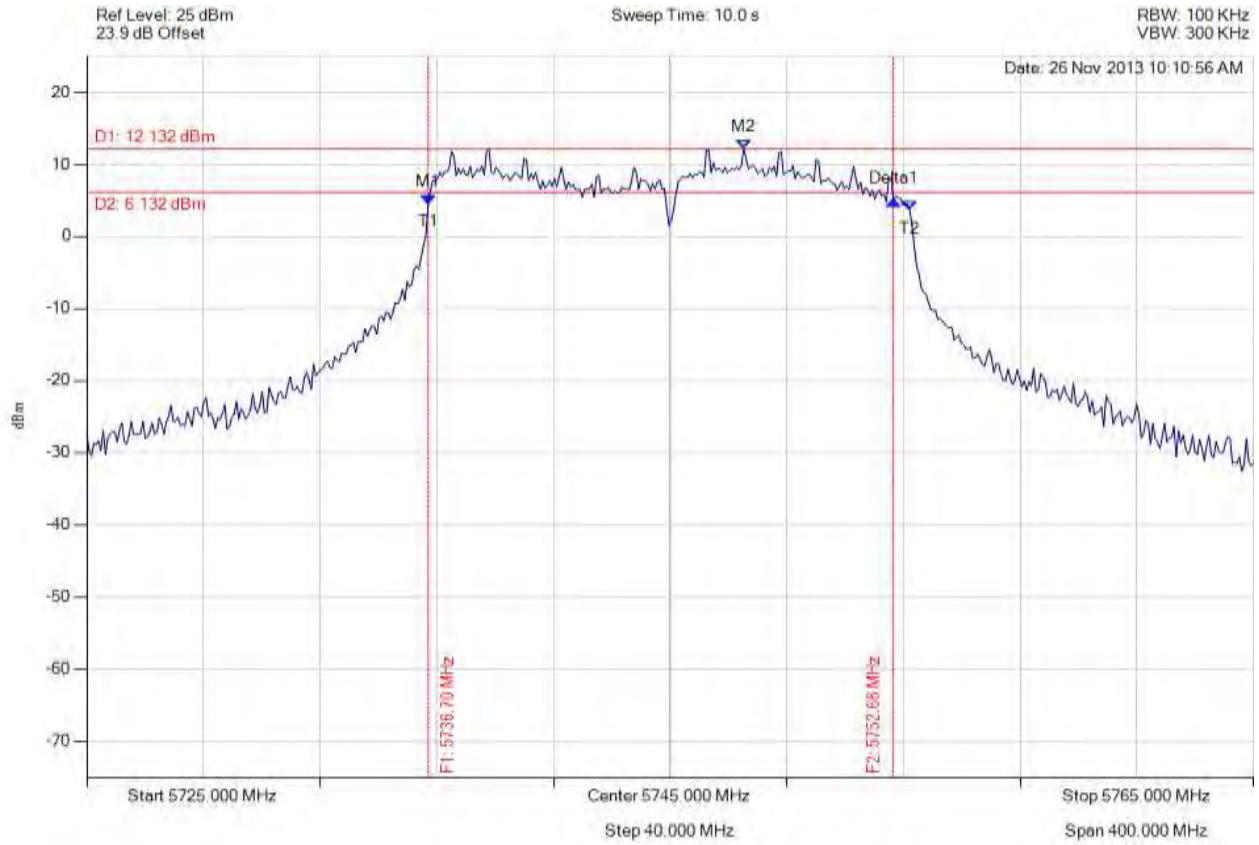
6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.703 MHz : 4.528 dBm M2 : 5747.525 MHz : 12.132 dBm Delta1 : 15.952 MHz : 0.488 dB T1 : 5736.703 MHz : 4.528 dBm T2 : 5753.216 MHz : 3.589 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 15.952 MHz Limit: ≥500.0 kHz Margin: -15.45 MHz

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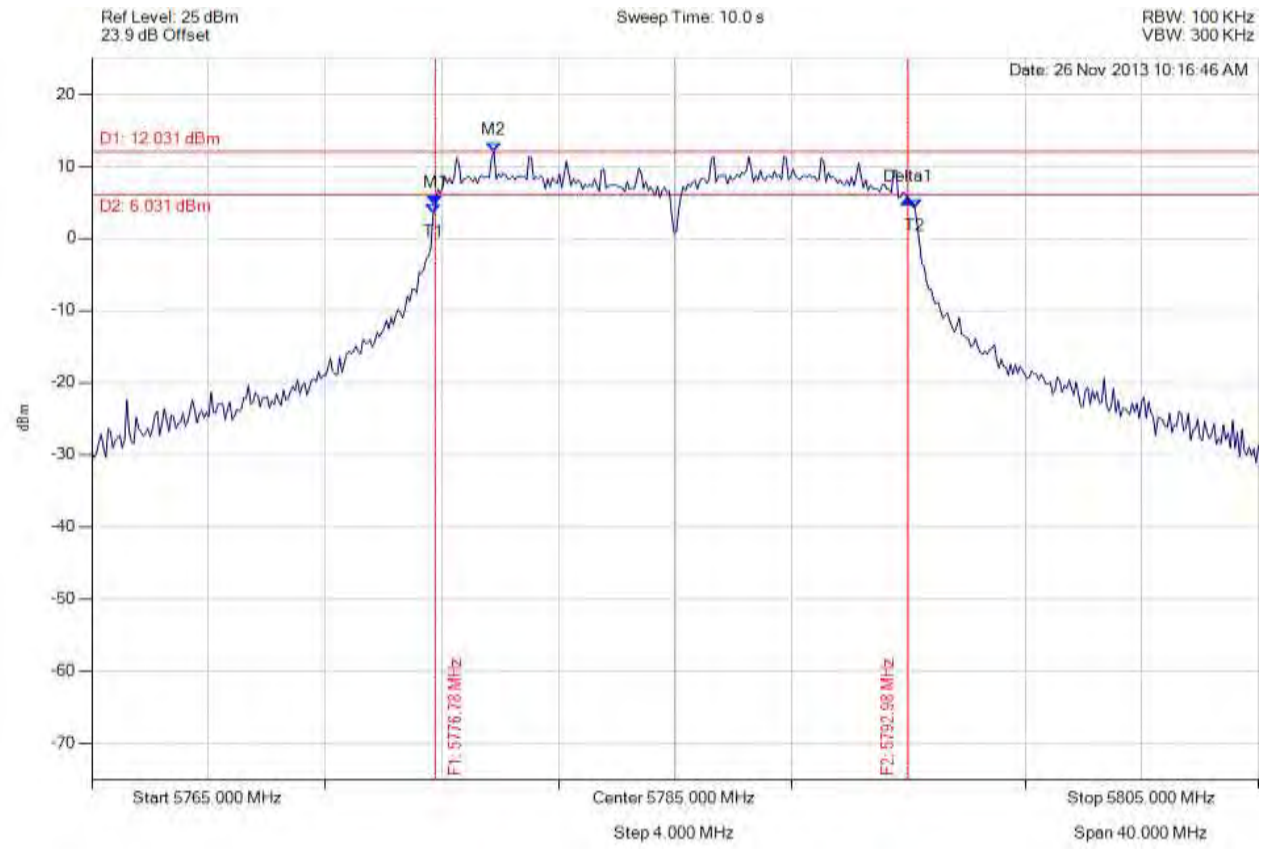
6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.784 MHz : 4.575 dBm M2 : 5778.788 MHz : 12.031 dBm Delta1 : 16.192 MHz : 0.917 dB T1 : 5776.703 MHz : 3.420 dBm T2 : 5793.216 MHz : 4.181 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.192 MHz Limit: ≥500.0 kHz Margin: -15.69 MHz

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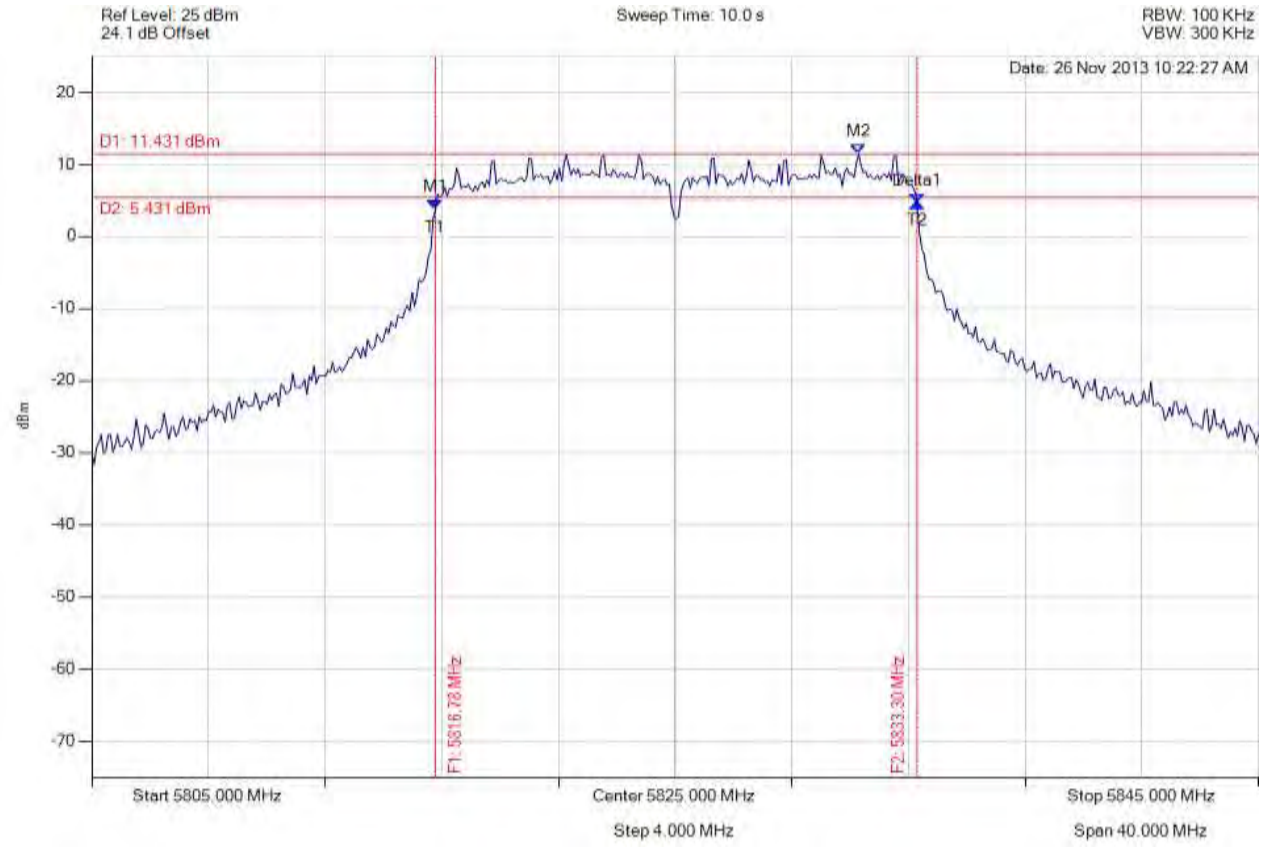
6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.784 MHz : 3.784 dBm M2 : 5831.293 MHz : 11.431 dBm Delta1 : 16.513 MHz : 0.887 dB T1 : 5816.784 MHz : 3.784 dBm T2 : 5833.297 MHz : 4.671 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

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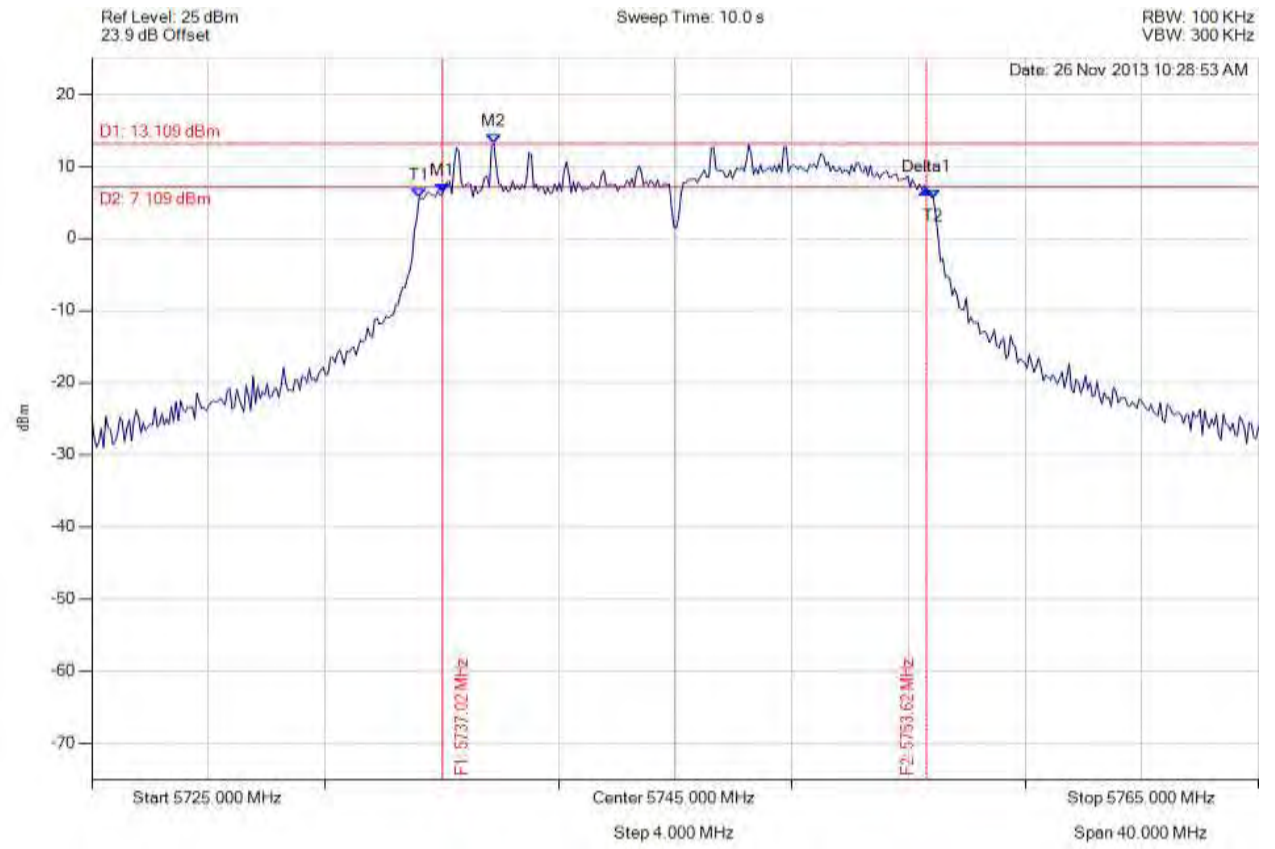
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.024 MHz : 6.233 dBm M2 : 5738.788 MHz : 13.109 dBm Delta1 : 16.593 MHz : 0.628 dB T1 : 5736.222 MHz : 5.667 dBm T2 : 5753.858 MHz : 5.500 dBm OBW : 17.635 MHz	Measured 6 dB Bandwidth: 16.593 MHz Limit: ≥500.0 kHz Margin: -16.09 MHz

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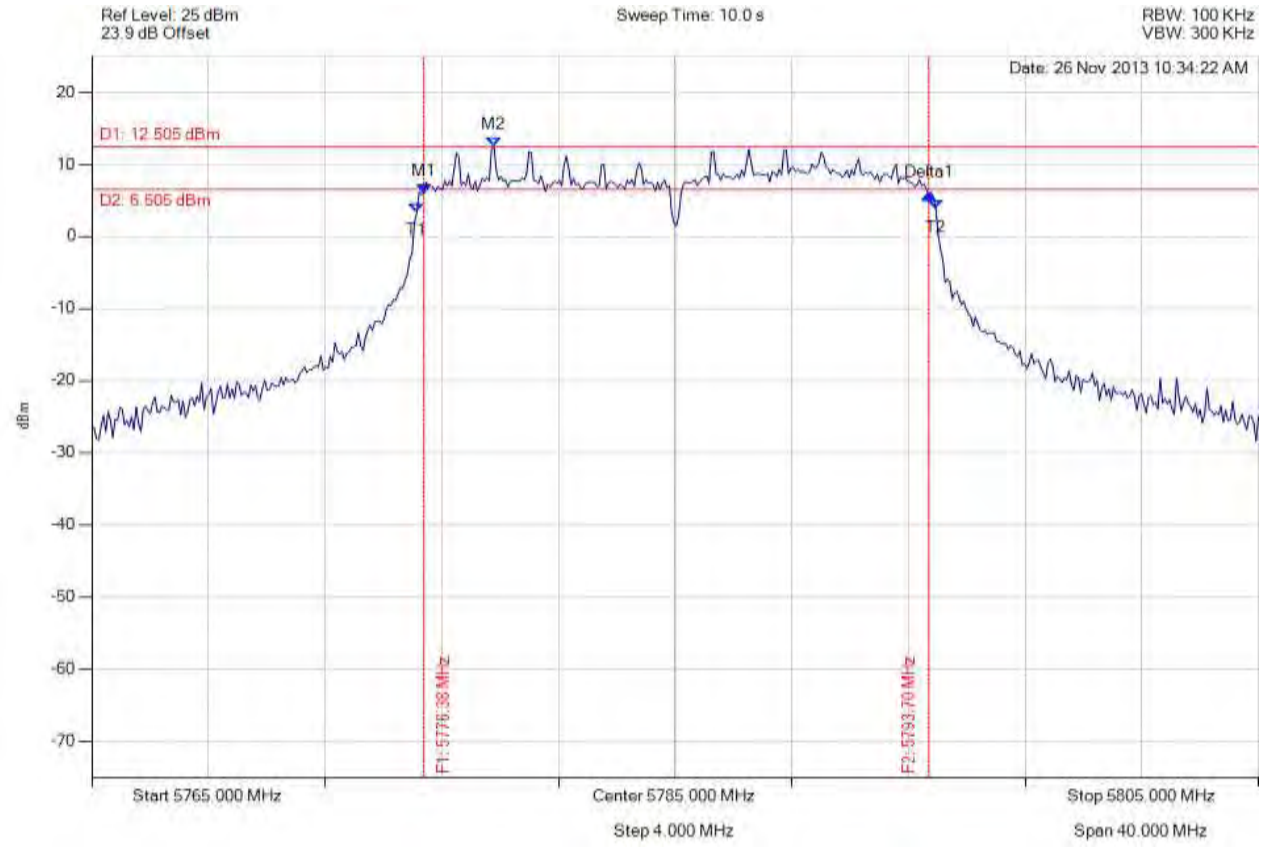
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.383 MHz : 5.987 dBm M2 : 5778.788 MHz : 12.505 dBm Delta1 : 17.315 MHz : -0.209 dB T1 : 5776.142 MHz : 3.337 dBm T2 : 5793.938 MHz : 3.788 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.315 MHz Limit: ≥500.0 kHz Margin: -16.82 MHz

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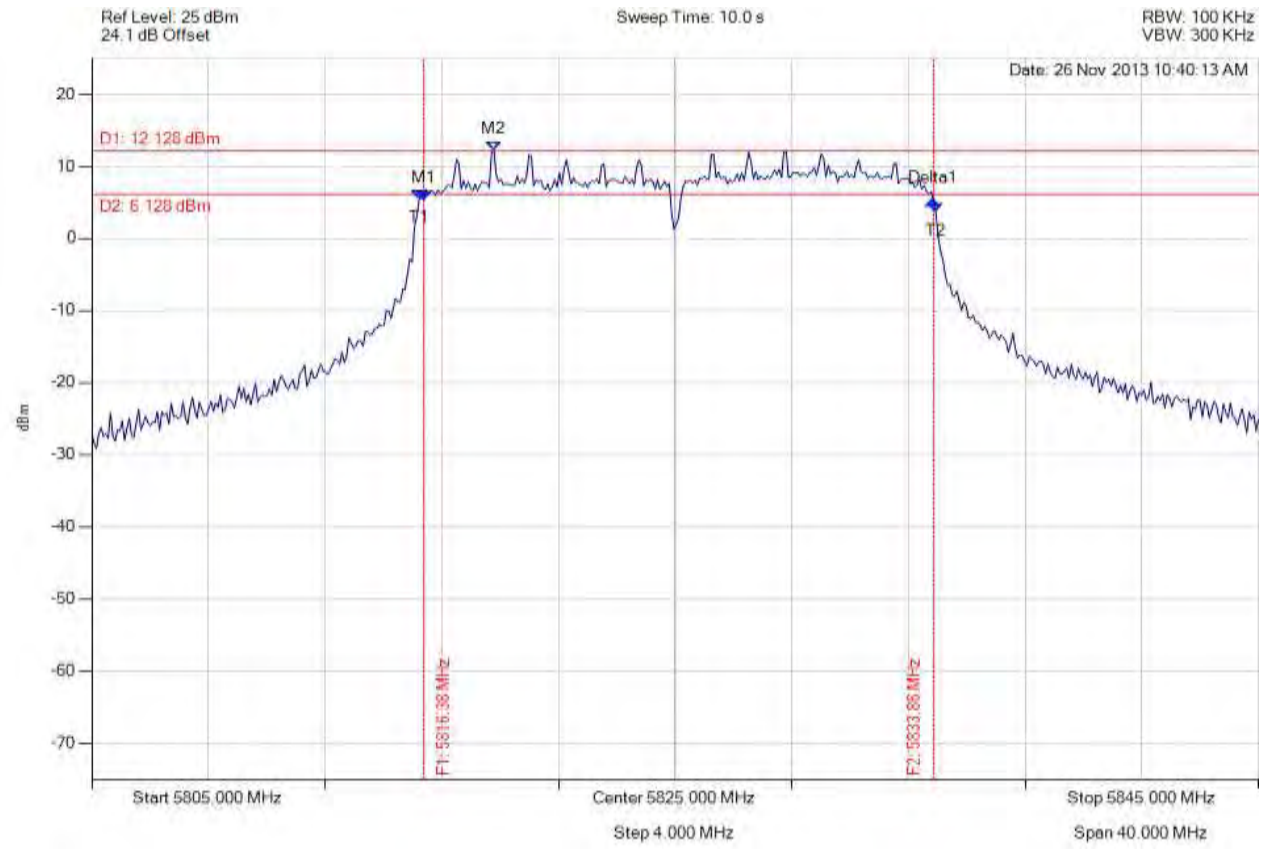
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.383 MHz : 5.356 dBm M2 : 5818.788 MHz : 12.128 dBm Delta1 : 17.475 MHz : -0.092 dB T1 : 5816.222 MHz : 5.454 dBm T2 : 5833.938 MHz : 3.587 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.475 MHz Limit: ≥500.0 kHz Margin: -16.98 MHz

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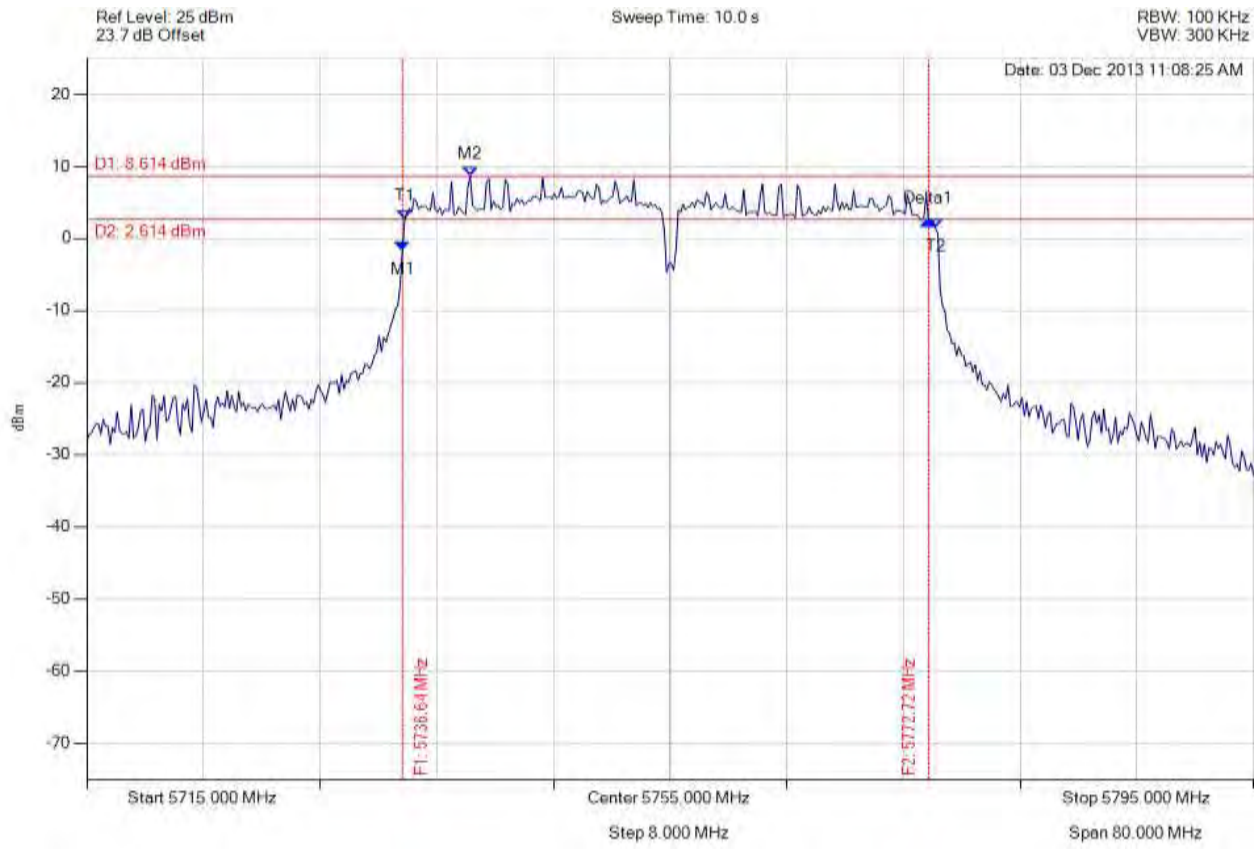
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.643 MHz : -1.697 dBm M2 : 5741.293 MHz : 8.614 dBm Delta1 : 36.072 MHz : 4.222 dB T1 : 5736.804 MHz : 2.710 dBm T2 : 5773.196 MHz : 1.417 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.072 MHz Limit: ≥500.0 kHz Margin: -35.57 MHz

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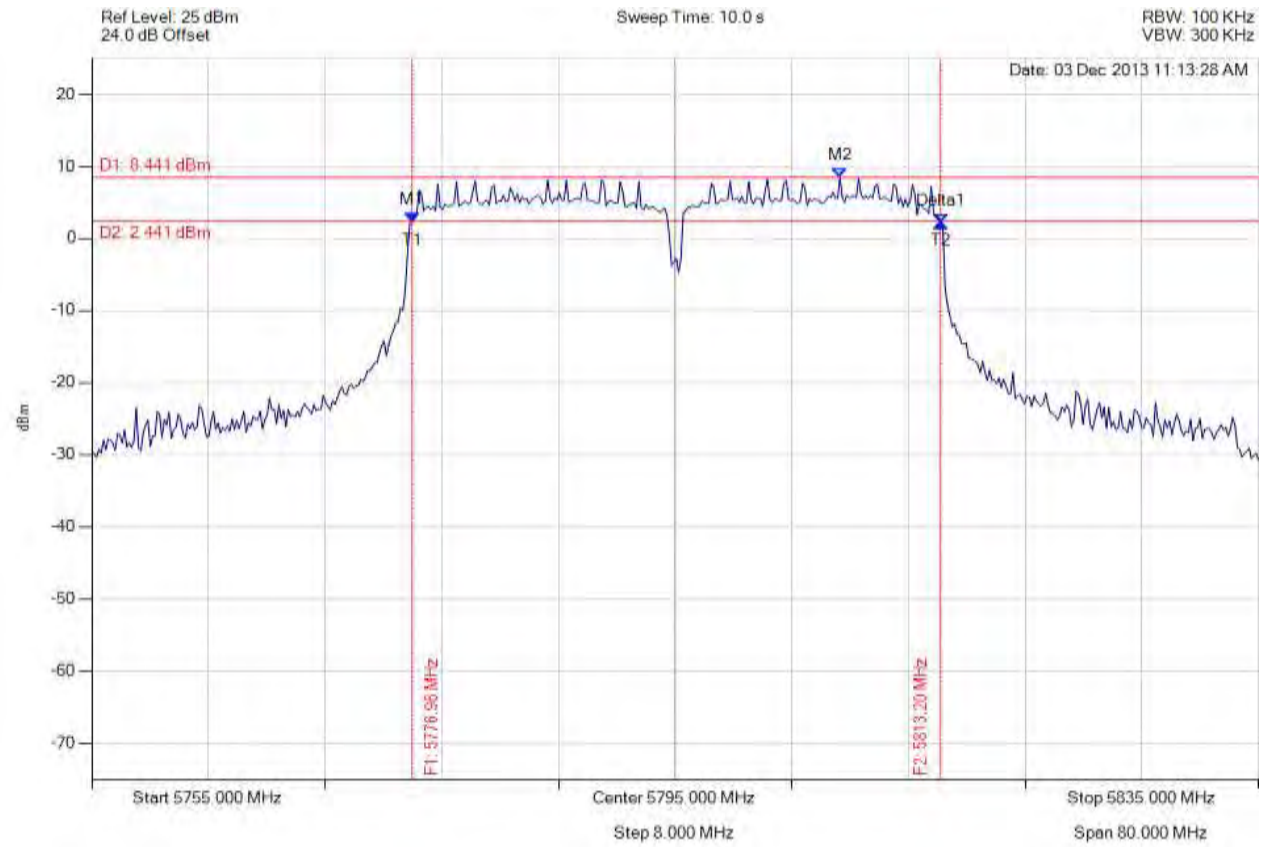
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.964 MHz : 2.295 dBm M2 : 5806.303 MHz : 8.441 dBm Delta1 : 36.232 MHz : -0.110 dB T1 : 5776.964 MHz : 2.295 dBm T2 : 5813.196 MHz : 2.185 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.232 MHz Limit: ≥500.0 kHz Margin: -35.73 MHz

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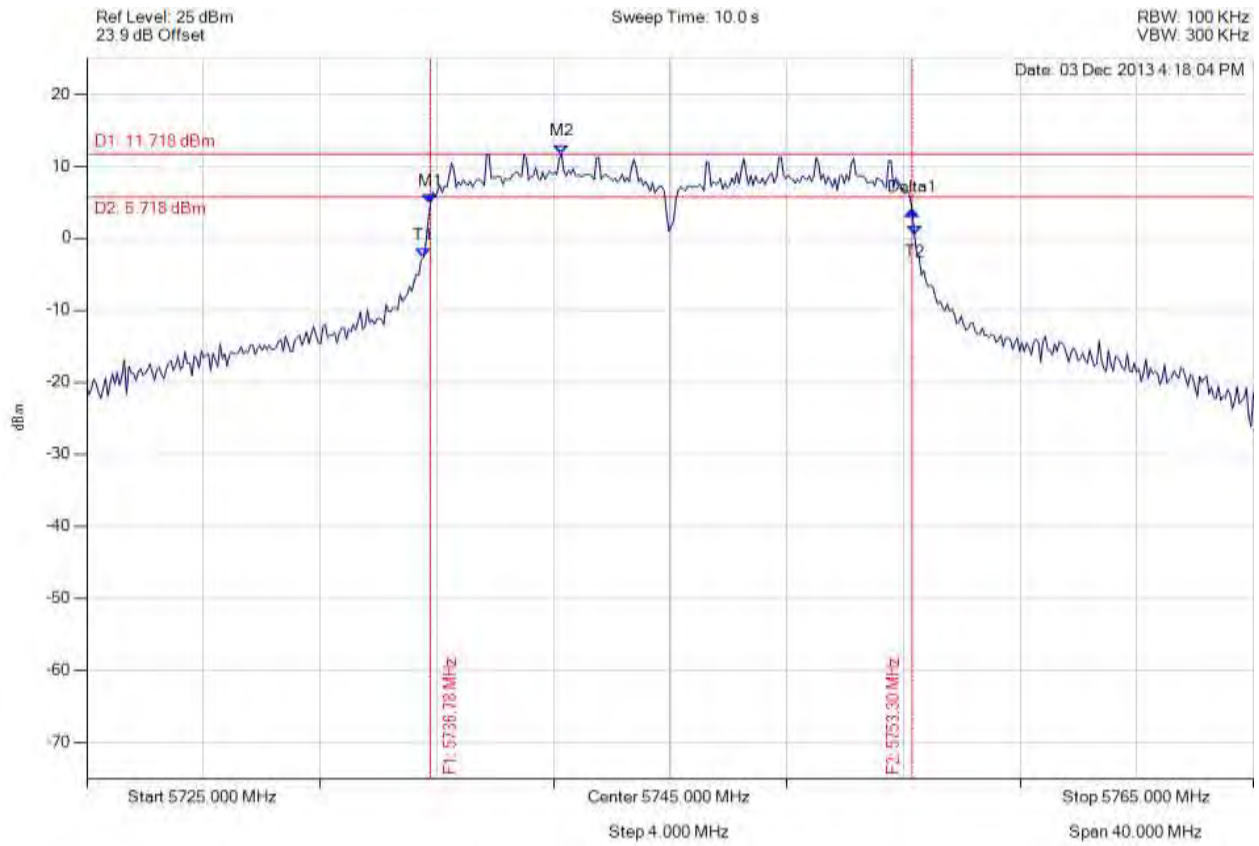
6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.784 MHz : 4.809 dBm M2 : 5741.273 MHz : 11.718 dBm Delta1 : 16.513 MHz : -0.929 dB T1 : 5736.543 MHz : -2.712 dBm T2 : 5753.377 MHz : 0.534 dBm OBW : 16.834 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

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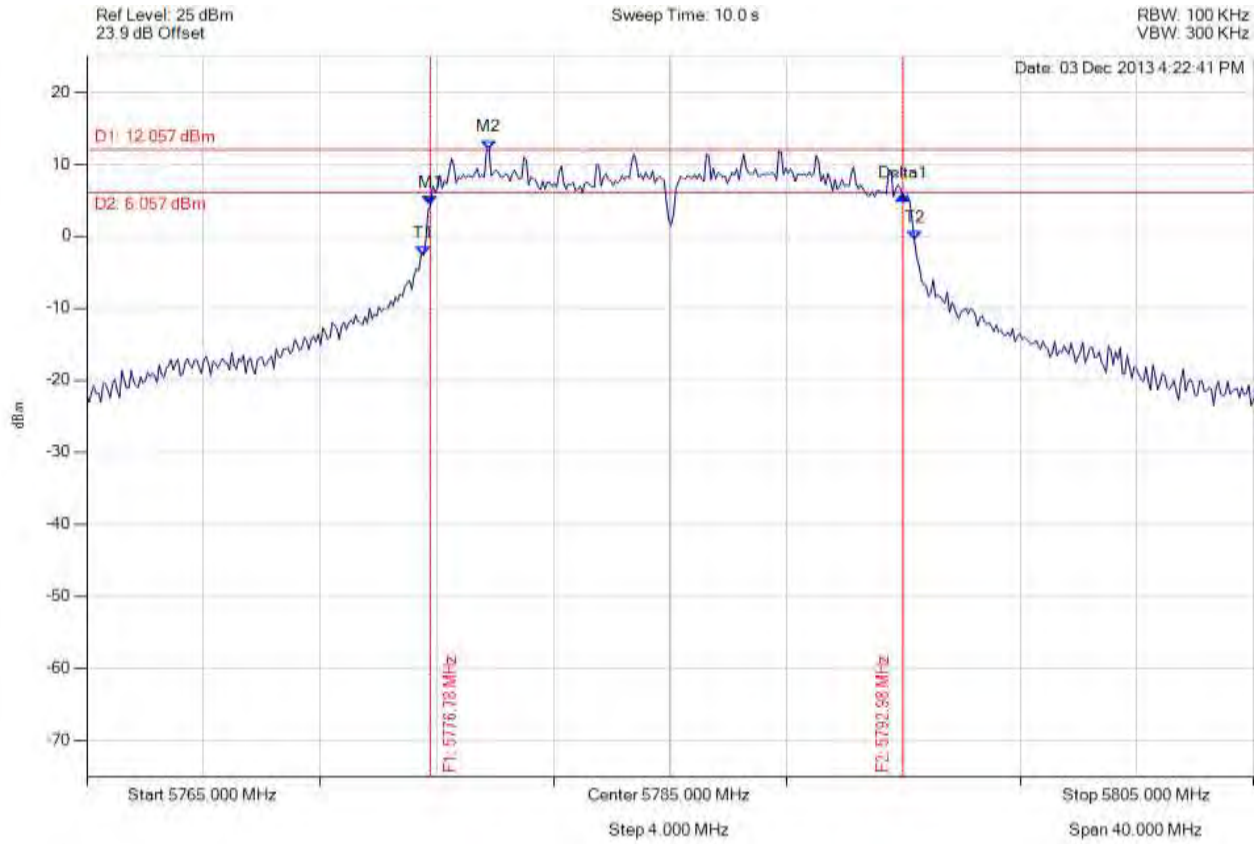
6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.784 MHz : 4.284 dBm M2 : 5778.788 MHz : 12.057 dBm Delta1 : 16.192 MHz : 1.340 dB T1 : 5776.543 MHz : -2.714 dBm T2 : 5793.377 MHz : -0.595 dBm OBW : 16.834 MHz	Measured 6 dB Bandwidth: 16.192 MHz Limit: ≥500.0 kHz Margin: -15.69 MHz

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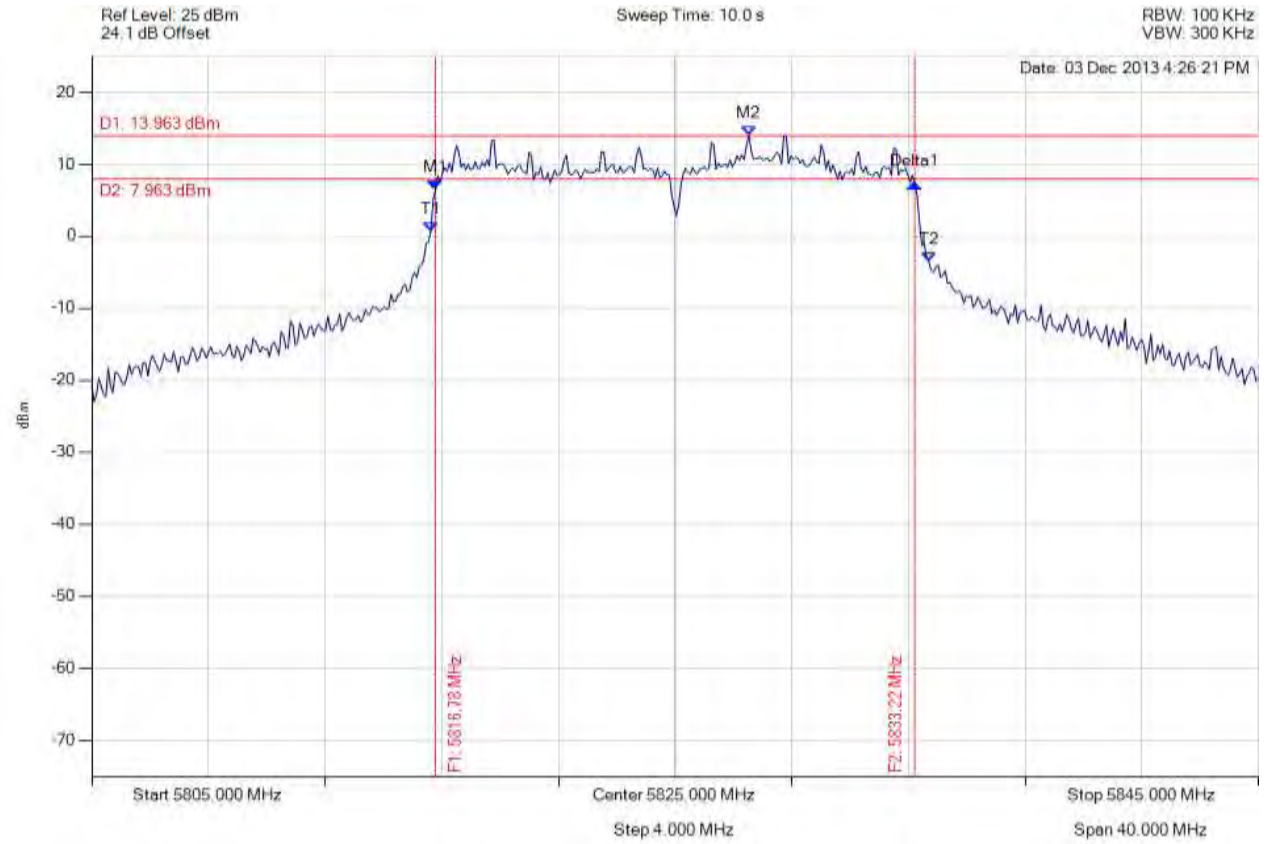
6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.784 MHz : 6.403 dBm M2 : 5827.525 MHz : 13.963 dBm Delta1 : 16.433 MHz : 0.911 dB T1 : 5816.623 MHz : 0.689 dBm T2 : 5833.697 MHz : -3.479 dBm OBW : 17.074 MHz	Measured 6 dB Bandwidth: 16.433 MHz Limit: ≥500.0 kHz Margin: -15.93 MHz

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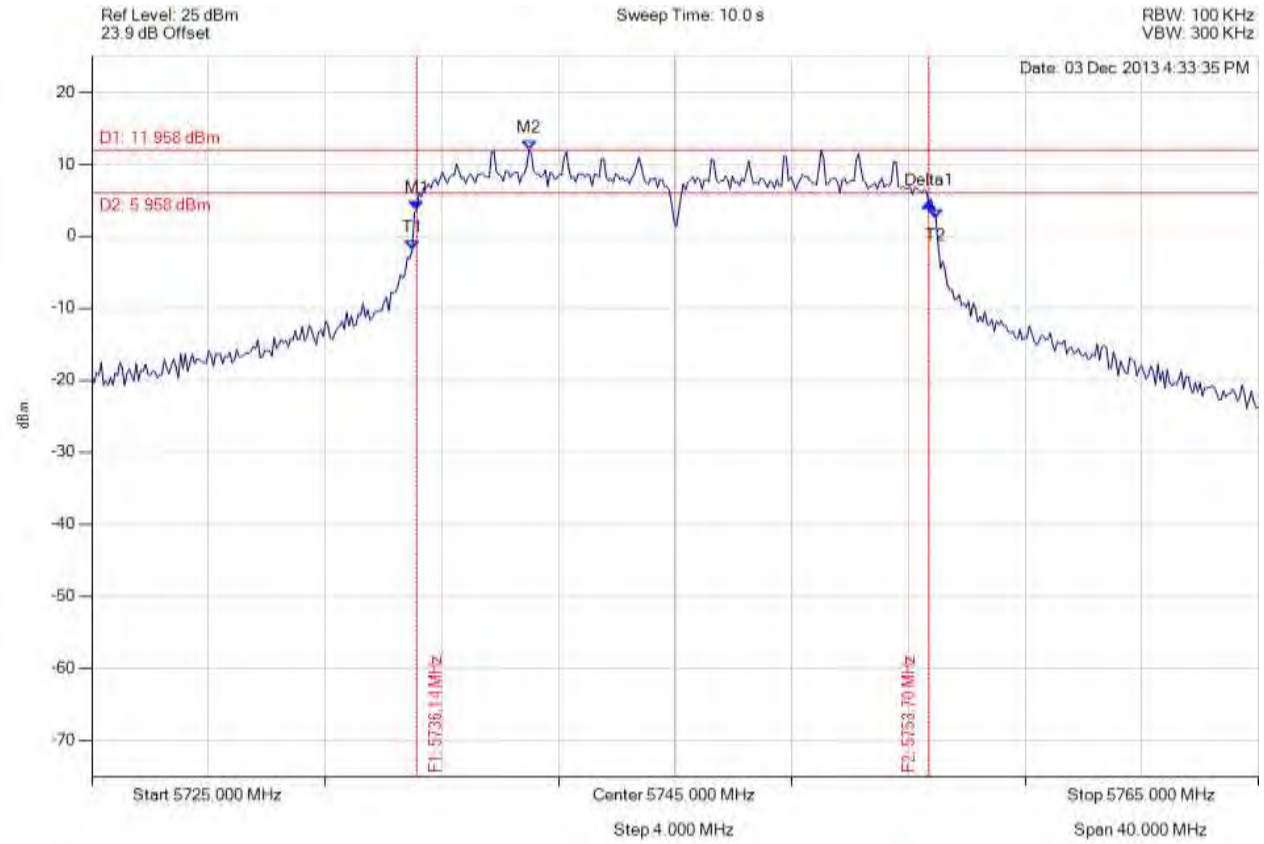
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.142 MHz : 3.707 dBm M2 : 5739.990 MHz : 11.958 dBm Delta1 : 17.555 MHz : 0.875 dB T1 : 5735.982 MHz : -1.929 dBm T2 : 5753.938 MHz : 2.505 dBm OBW : 17.956 MHz	Measured 6 dB Bandwidth: 17.555 MHz Limit: ≥500.0 kHz Margin: -17.06 MHz

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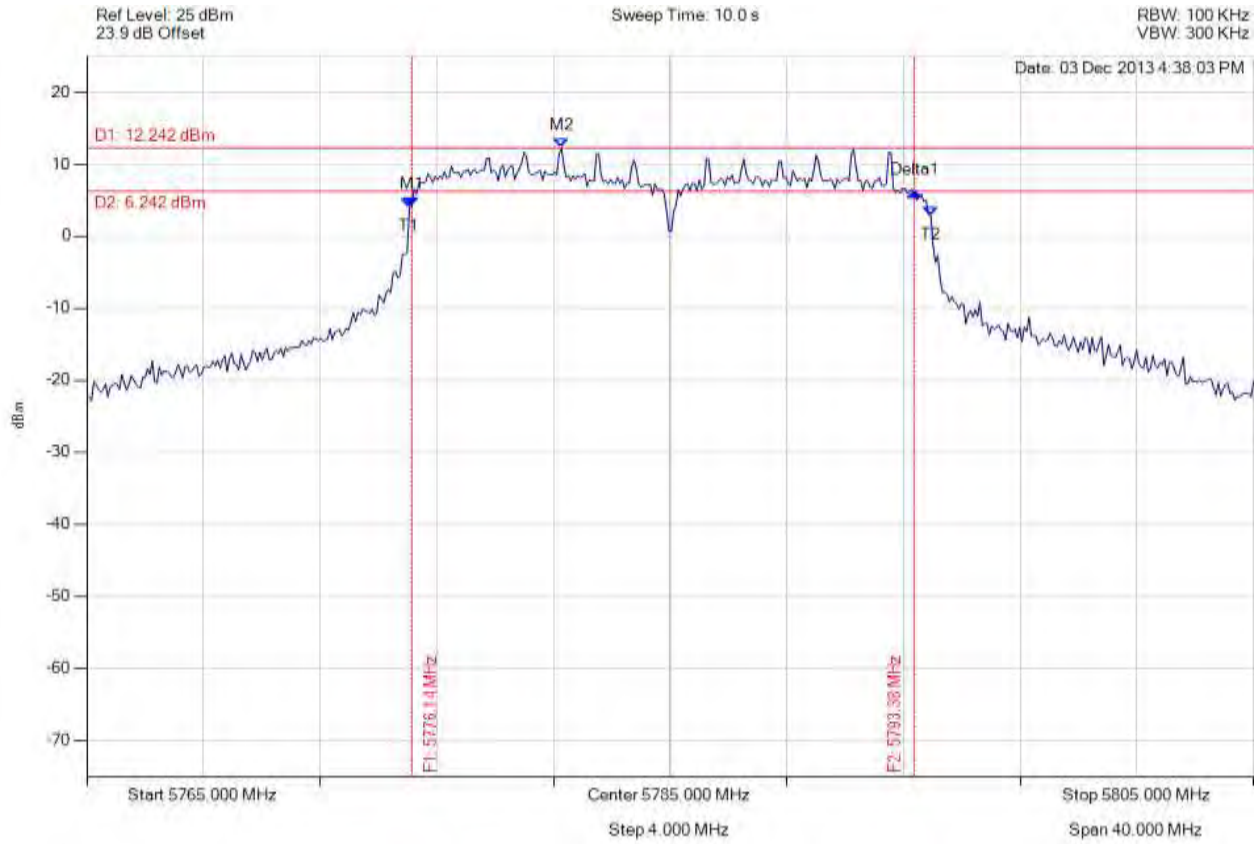
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.142 MHz : 4.189 dBm M2 : 5781.273 MHz : 12.242 dBm Delta1 : 17.234 MHz : 1.924 dB T1 : 5776.062 MHz : 3.963 dBm T2 : 5793.938 MHz : 2.743 dBm OBW : 17.876 MHz	Measured 6 dB Bandwidth: 17.234 MHz Limit: ≥500.0 kHz Margin: -16.73 MHz

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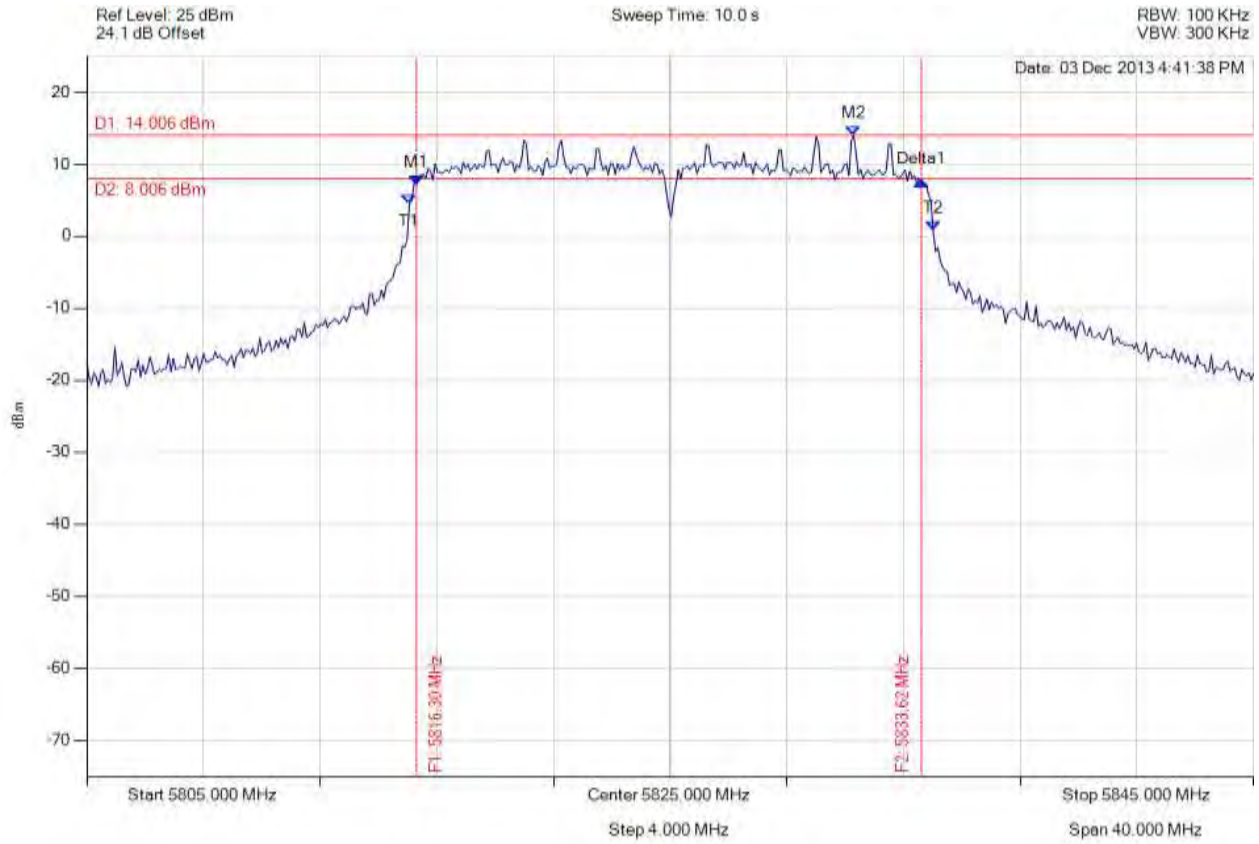
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.303 MHz : 7.203 dBm M2 : 5831.293 MHz : 14.006 dBm Delta1 : 17.315 MHz : 0.439 dB T1 : 5816.062 MHz : 4.526 dBm T2 : 5834.018 MHz : 0.776 dBm OBW : 17.956 MHz	Measured 6 dB Bandwidth: 17.315 MHz Limit: ≥500.0 kHz Margin: -16.82 MHz

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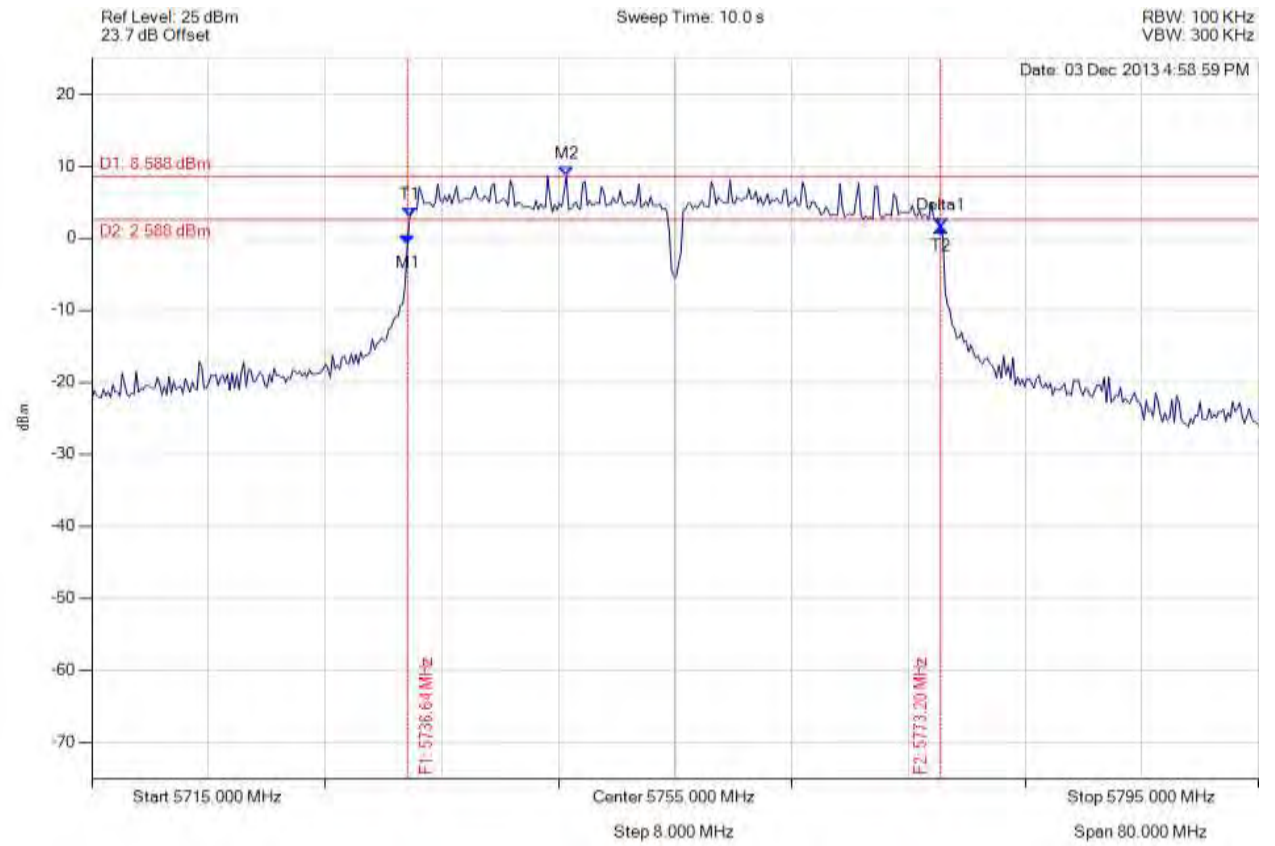
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.643 MHz : -0.879 dBm M2 : 5747.545 MHz : 8.588 dBm Delta1 : 36.553 MHz : 2.323 dB T1 : 5736.804 MHz : 2.930 dBm T2 : 5773.196 MHz : 1.443 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.553 MHz Limit: ≥500.0 kHz Margin: -36.05 MHz

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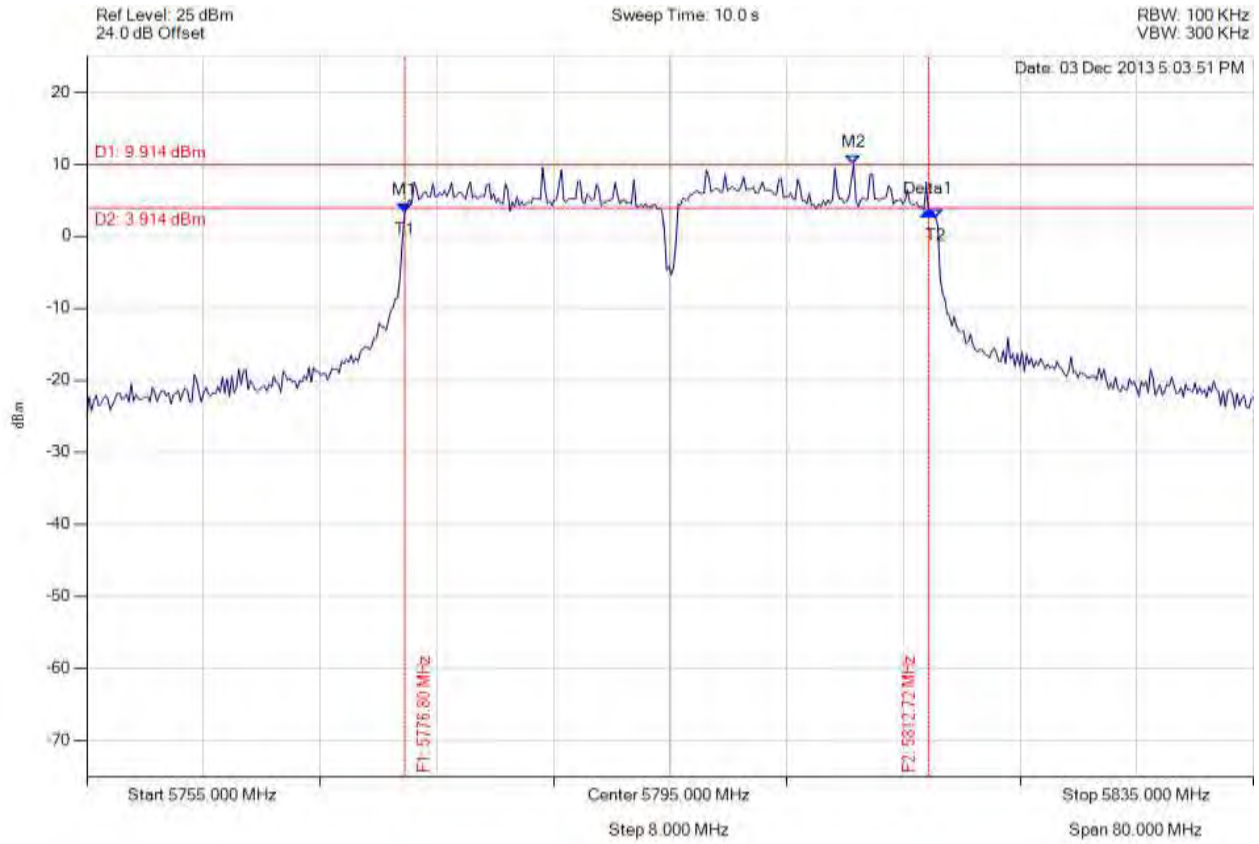
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.804 MHz : 3.357 dBm M2 : 5807.585 MHz : 9.914 dBm Delta1 : 35.912 MHz : 0.169 dB T1 : 5776.804 MHz : 3.357 dBm T2 : 5813.196 MHz : 2.533 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 35.912 MHz Limit: ≥500.0 kHz Margin: -35.41 MHz

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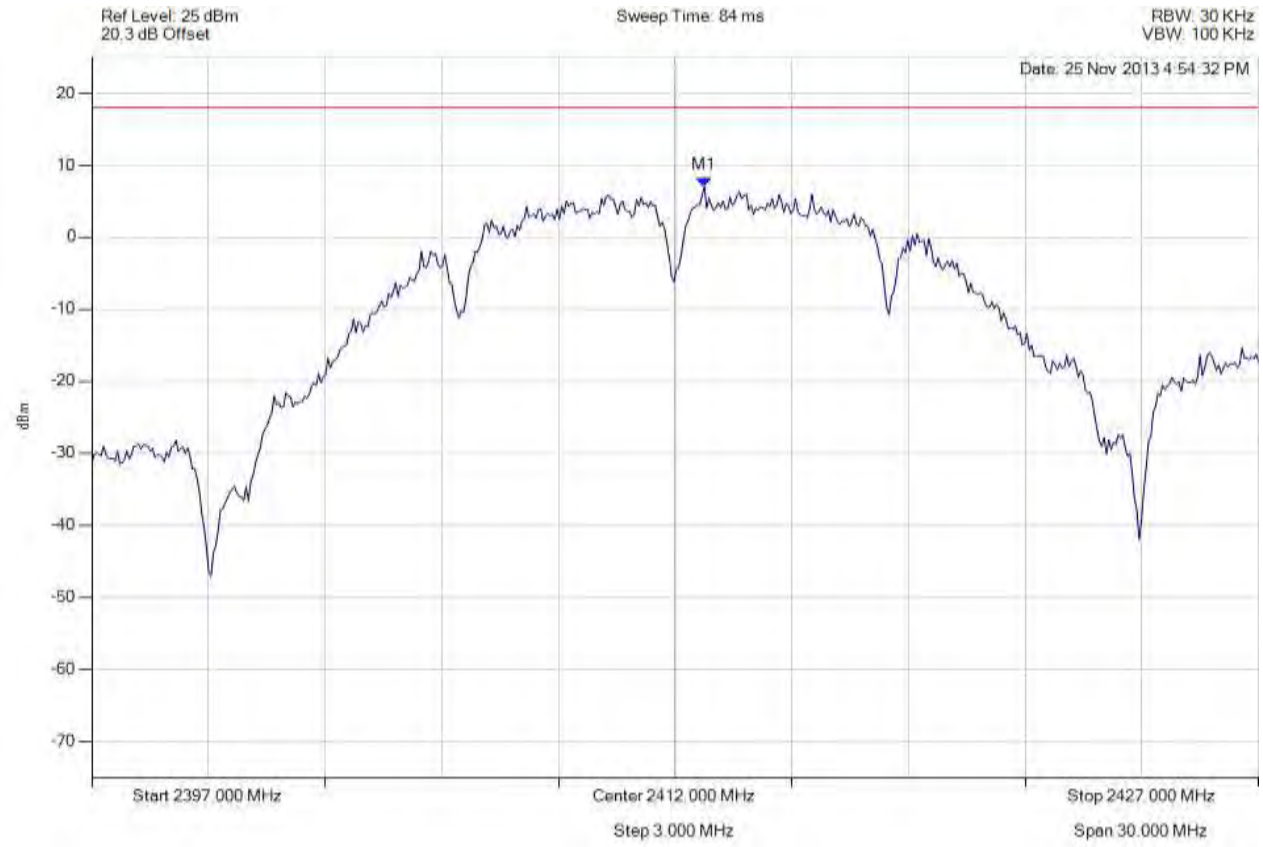
A.1.2. Power Spectral Density

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2412.752 MHz : 6.999 dBm	Limit: ≤ 18.000 dBm Margin: -11.00 dB

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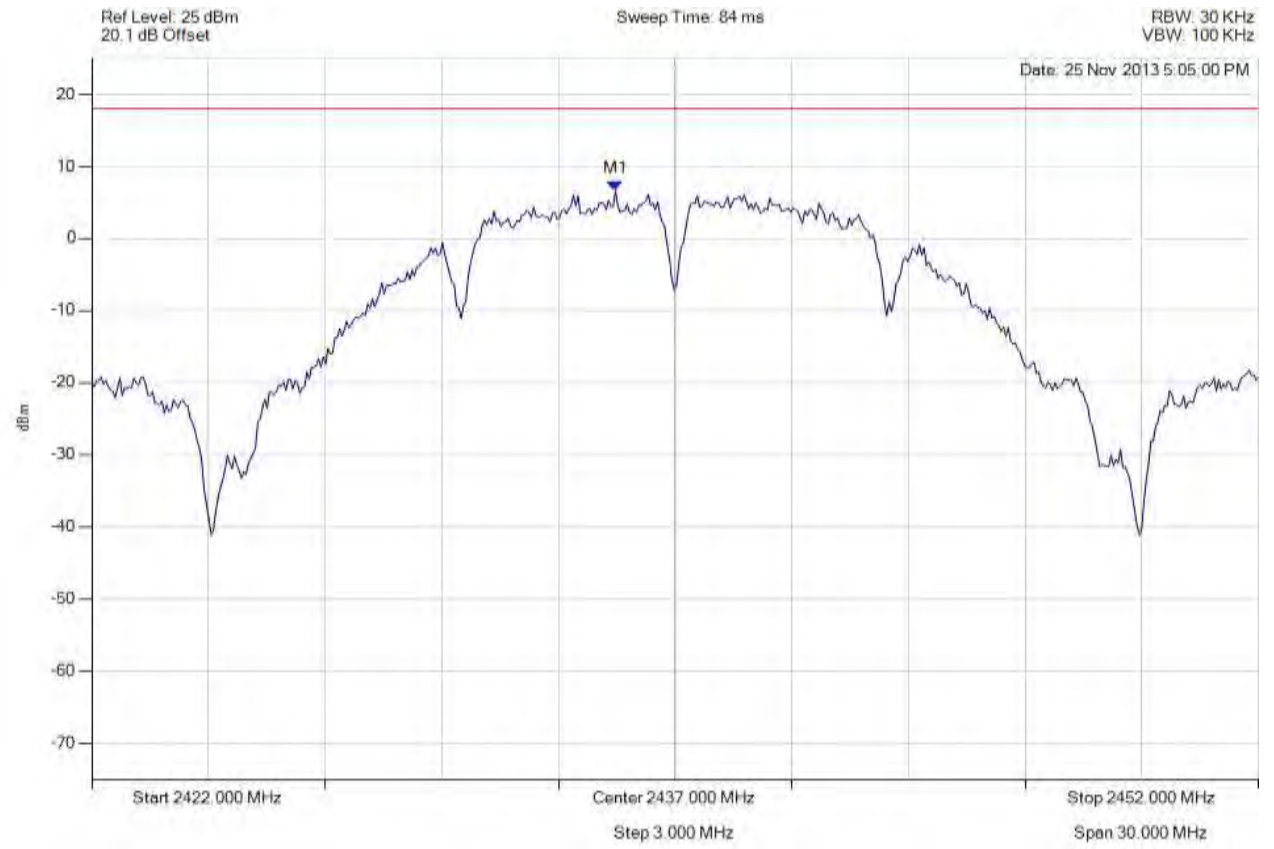
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2435.467 MHz : 6.585 dBm	Limit: ≤ 18.000 dBm Margin: -11.41 dB

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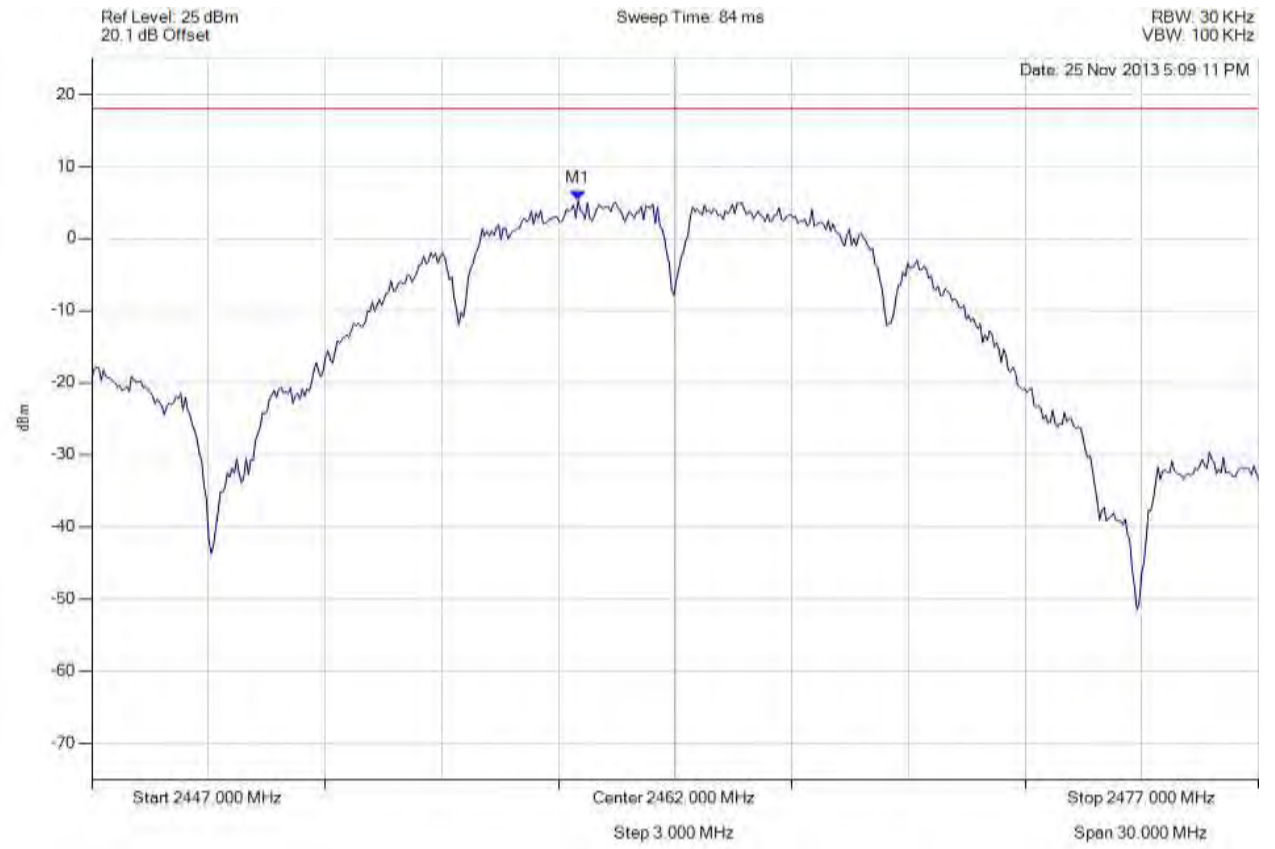
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2459.505 MHz : 5.271 dBm	Limit: ≤ 18.000 dBm Margin: -12.73 dB

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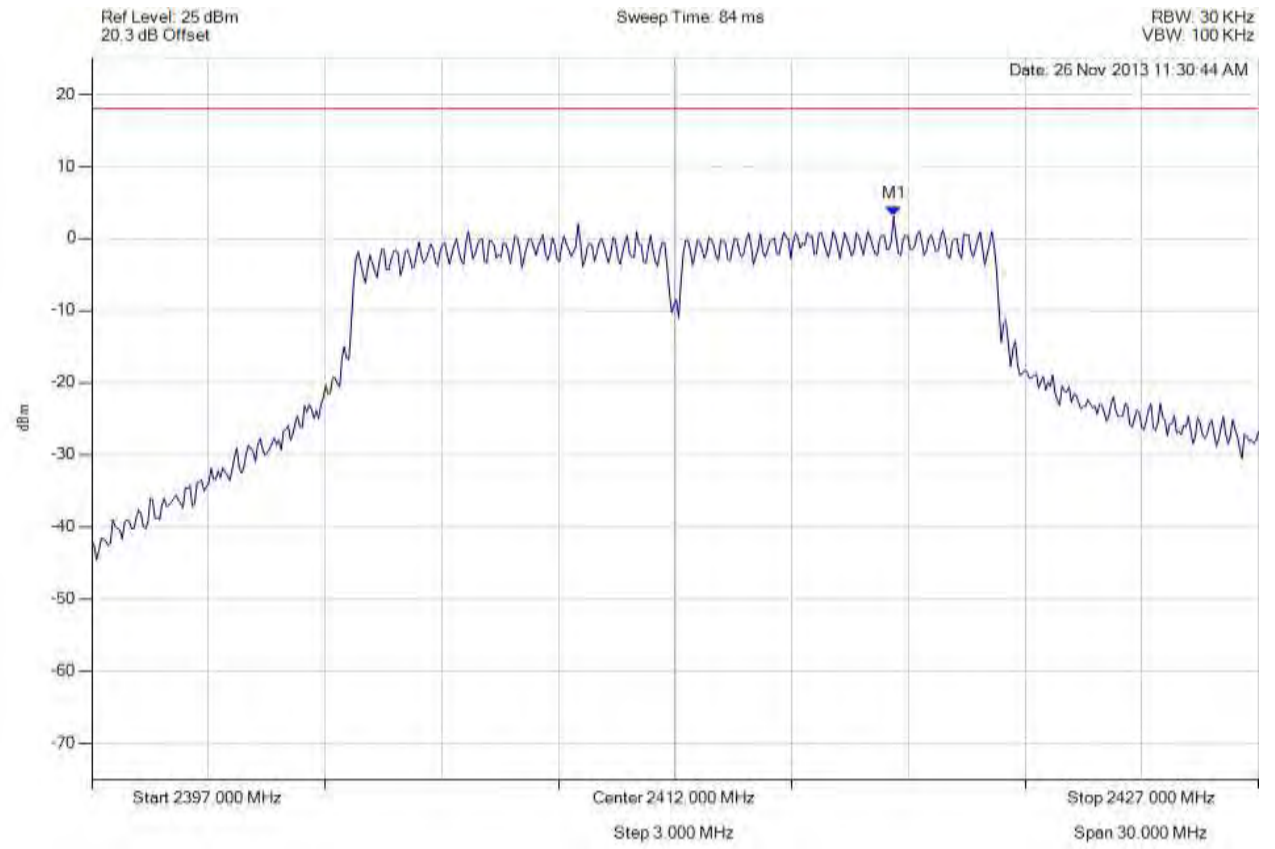
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2417.621 MHz : 3.067 dBm	Limit: ≤ 18.000 dBm Margin: -14.93 dB

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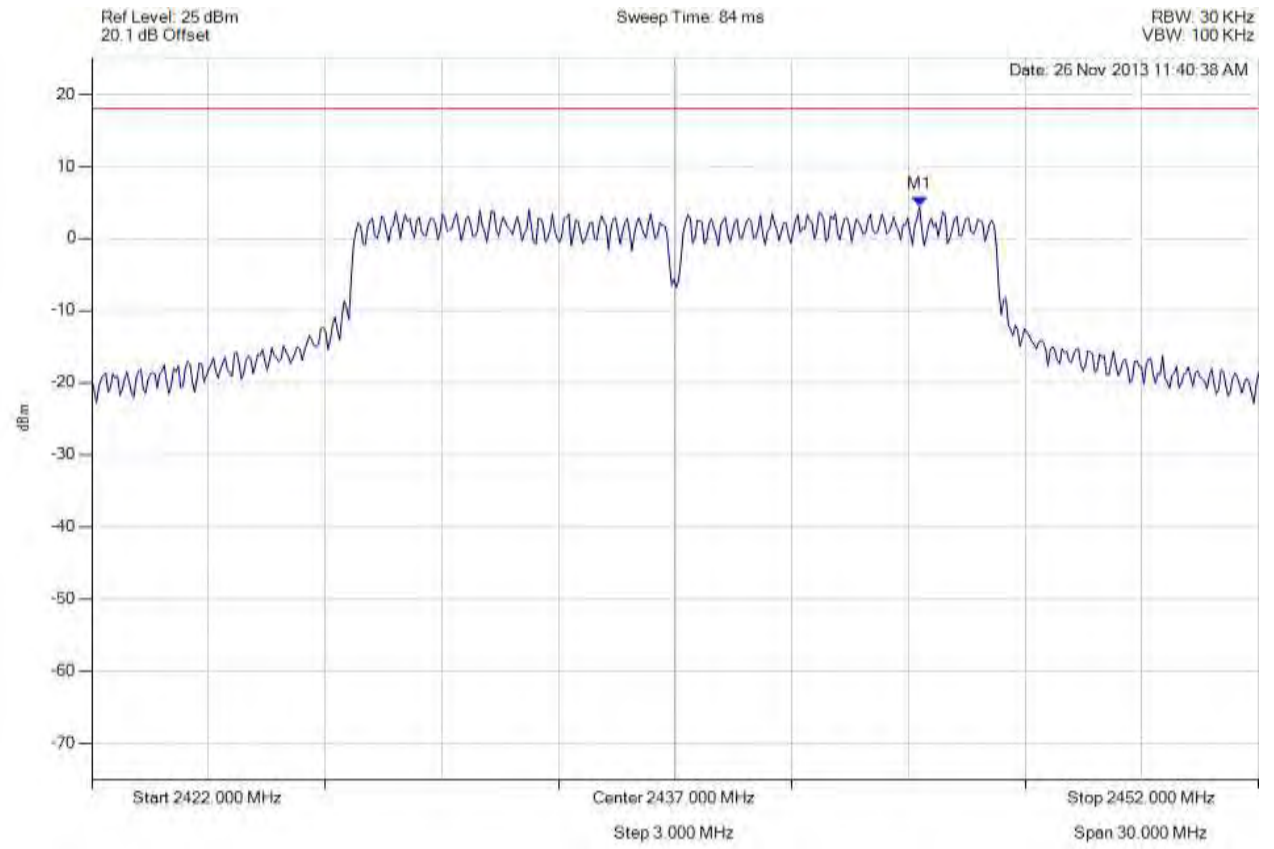
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2443.283 MHz : 4.454 dBm	Limit: ≤ 18.000 dBm Margin: -13.55 dB

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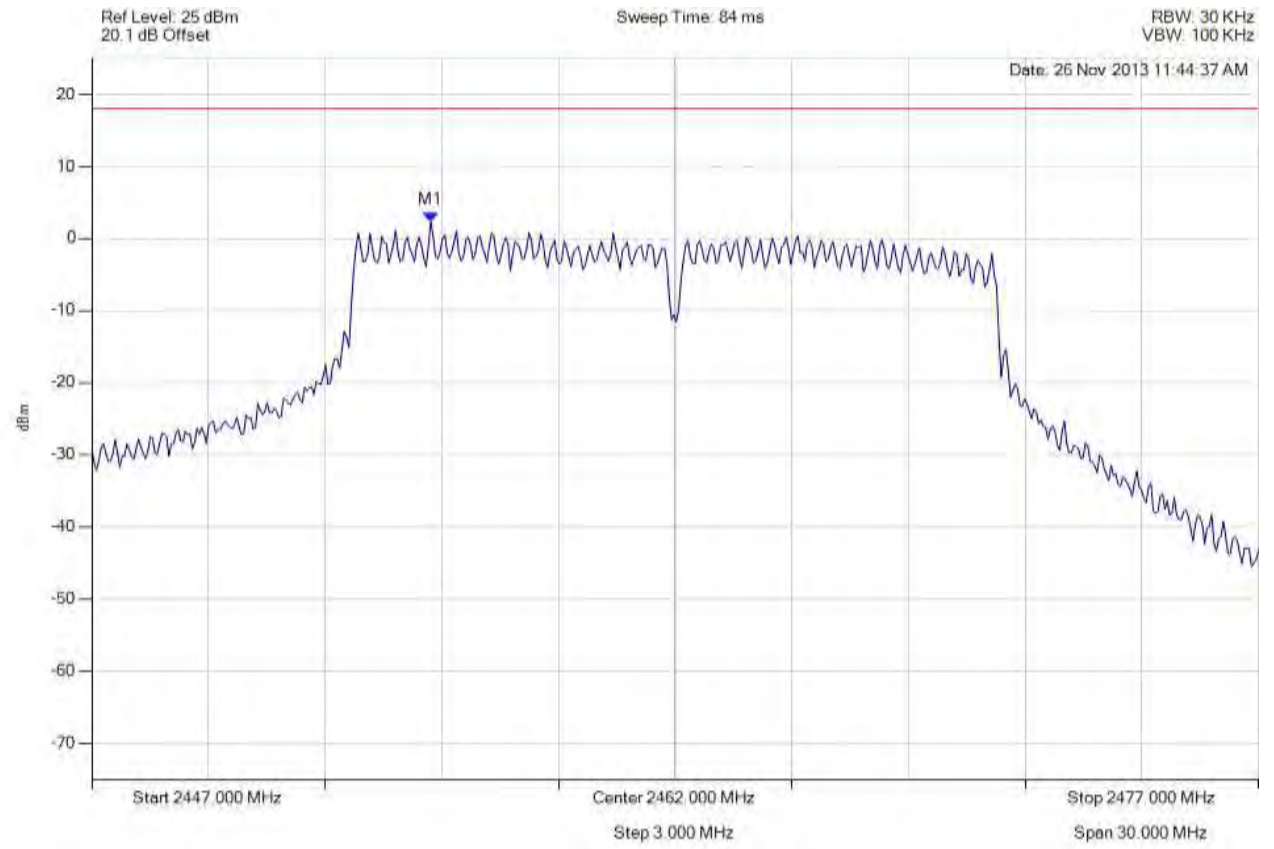
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2455.717 MHz : 2.290 dBm	Limit: ≤ 18.000 dBm Margin: -15.71 dB

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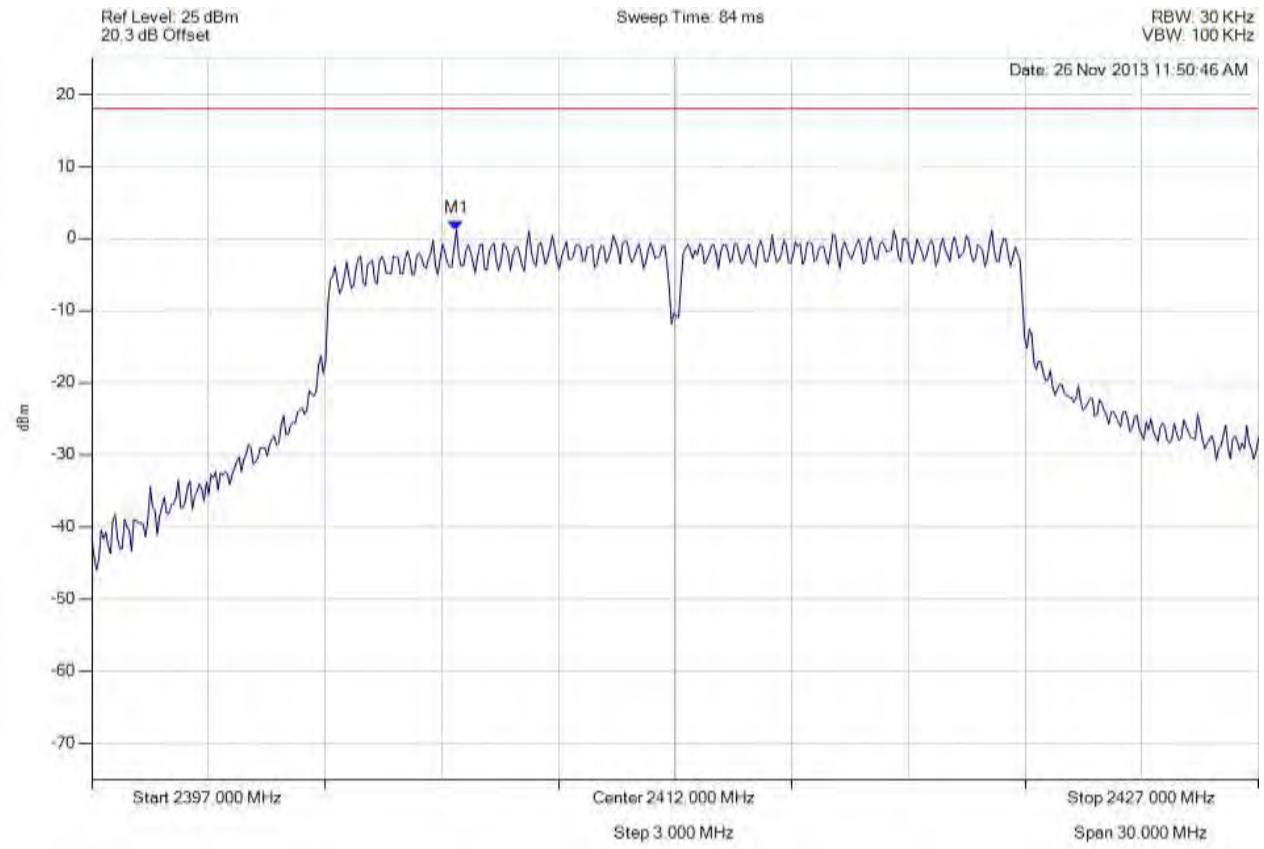
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2406.379 MHz : 1.202 dBm	Limit: ≤ 18.000 dBm Margin: -16.80 dB

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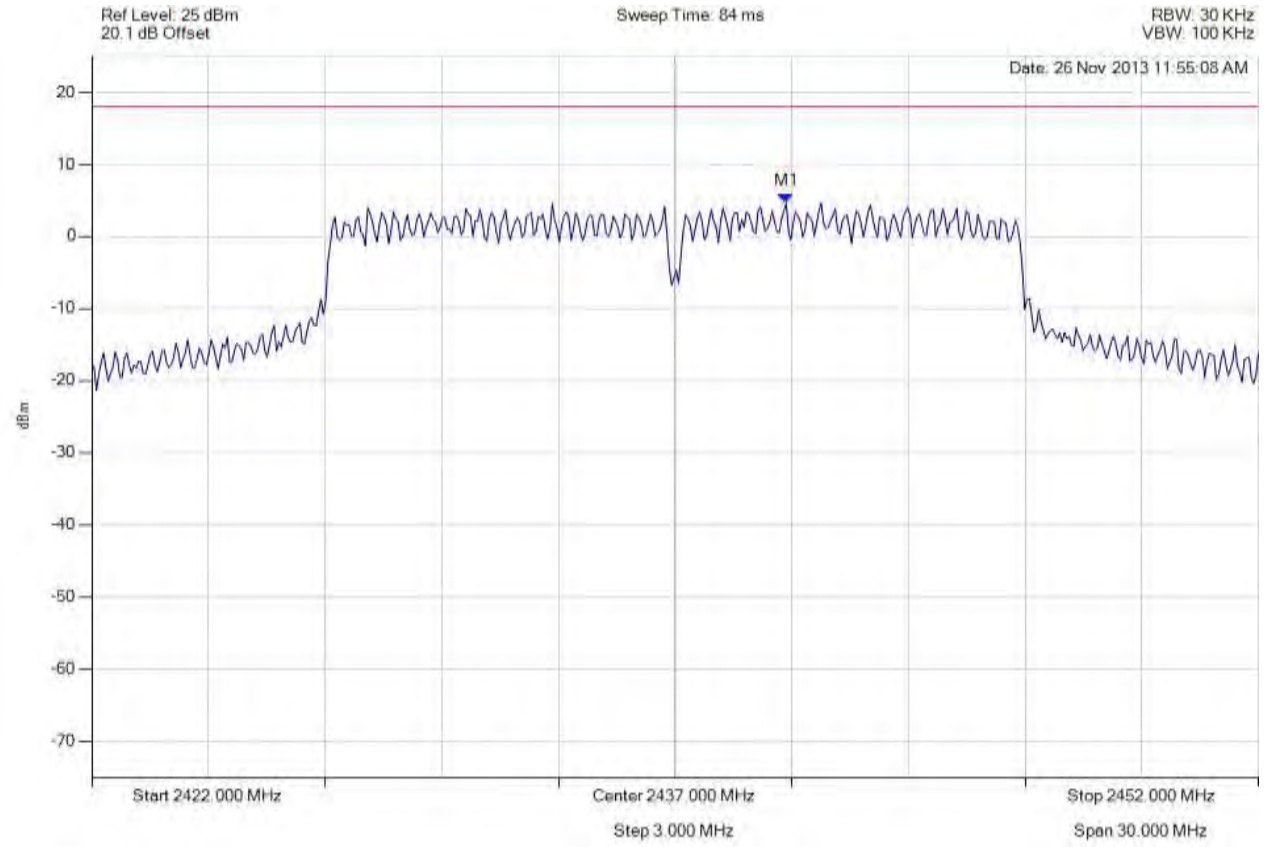
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2439.856 MHz : 4.592 dBm	Limit: ≤ 18.000 dBm Margin: -13.41 dB

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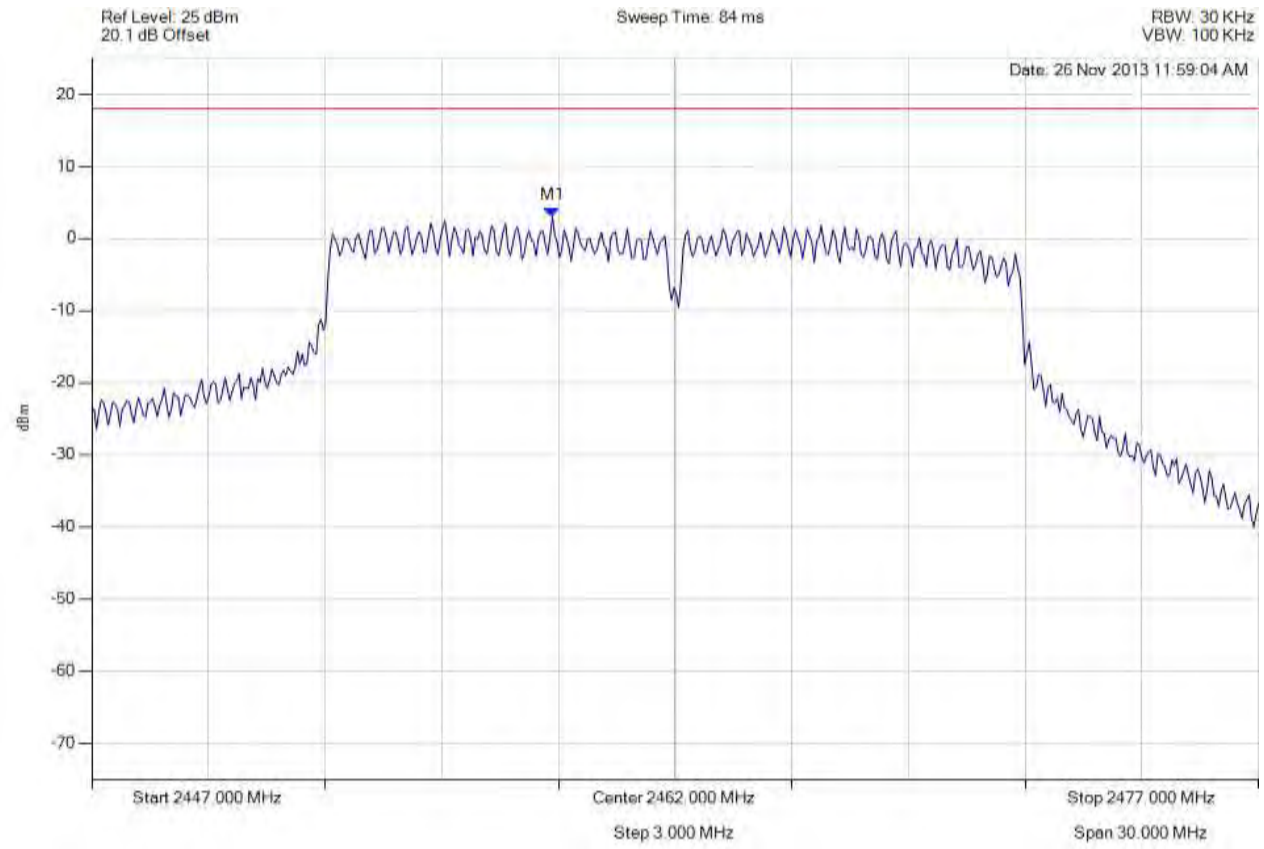
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2458.844 MHz : 2.978 dBm	Limit: ≤ 18.000 dBm Margin: -15.02 dB

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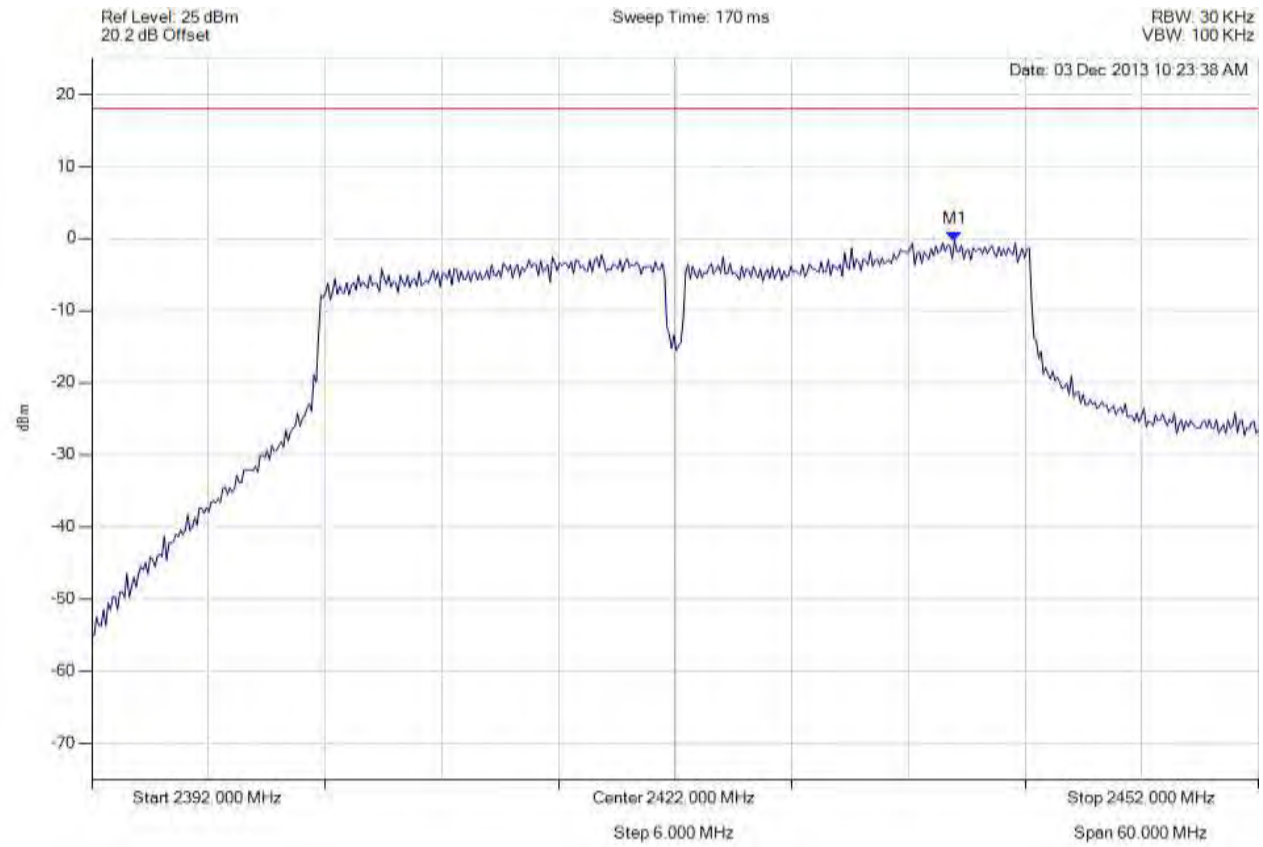
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.369 MHz : -0.346 dBm	Limit: ≤ 18.000 dBm Margin: -18.35 dB

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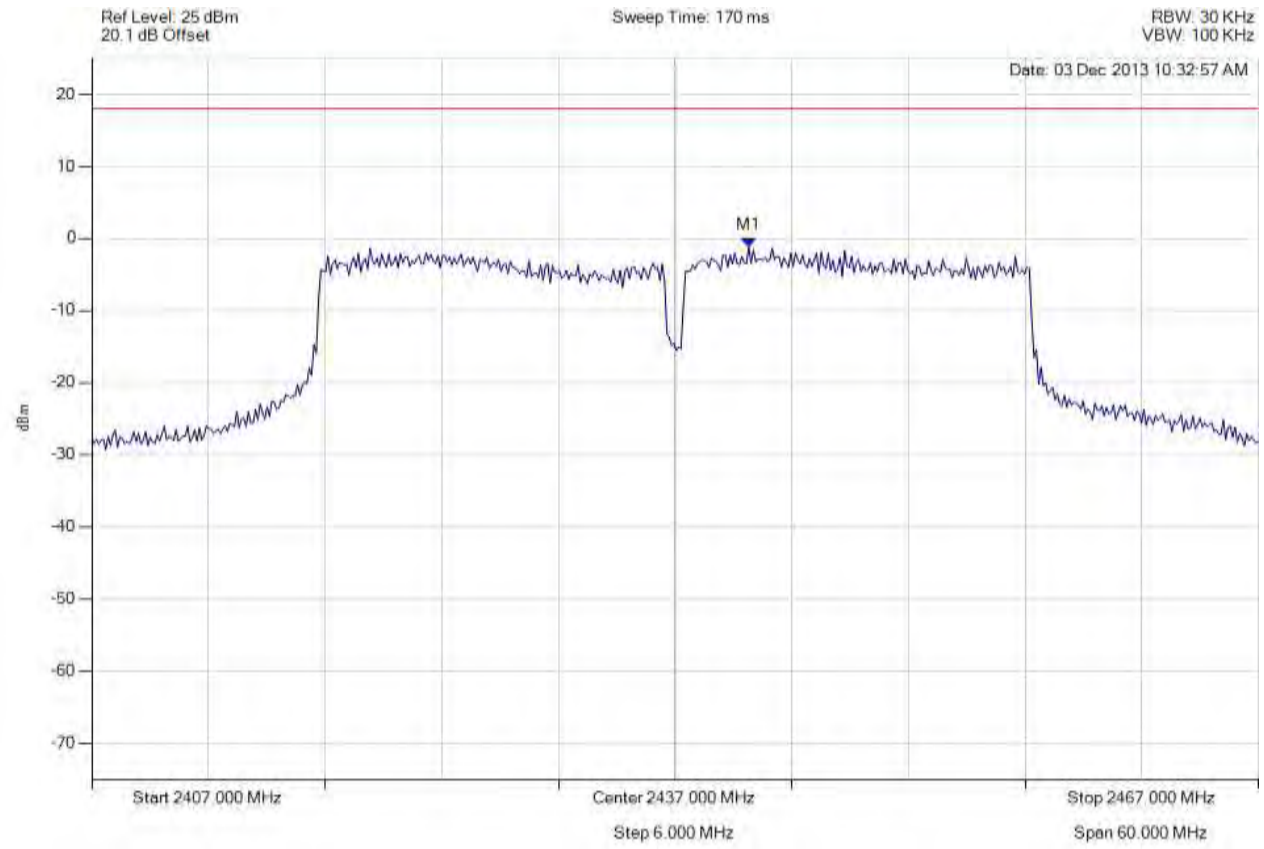
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2440.788 MHz : -1.134 dBm	Limit: ≤ 18.000 dBm Margin: -19.13 dB

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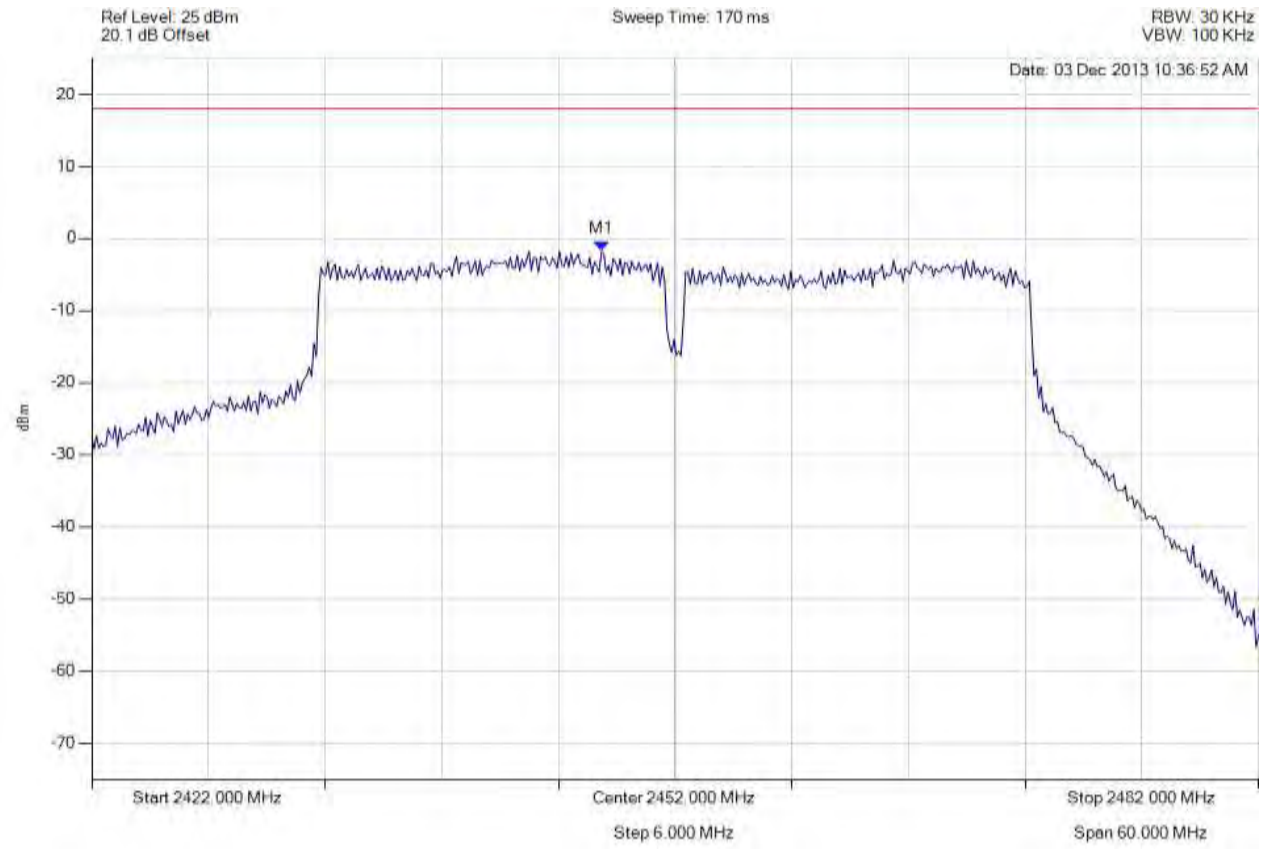
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2448.212 MHz : -1.760 dBm	Limit: ≤ 18.000 dBm Margin: -19.76 dB

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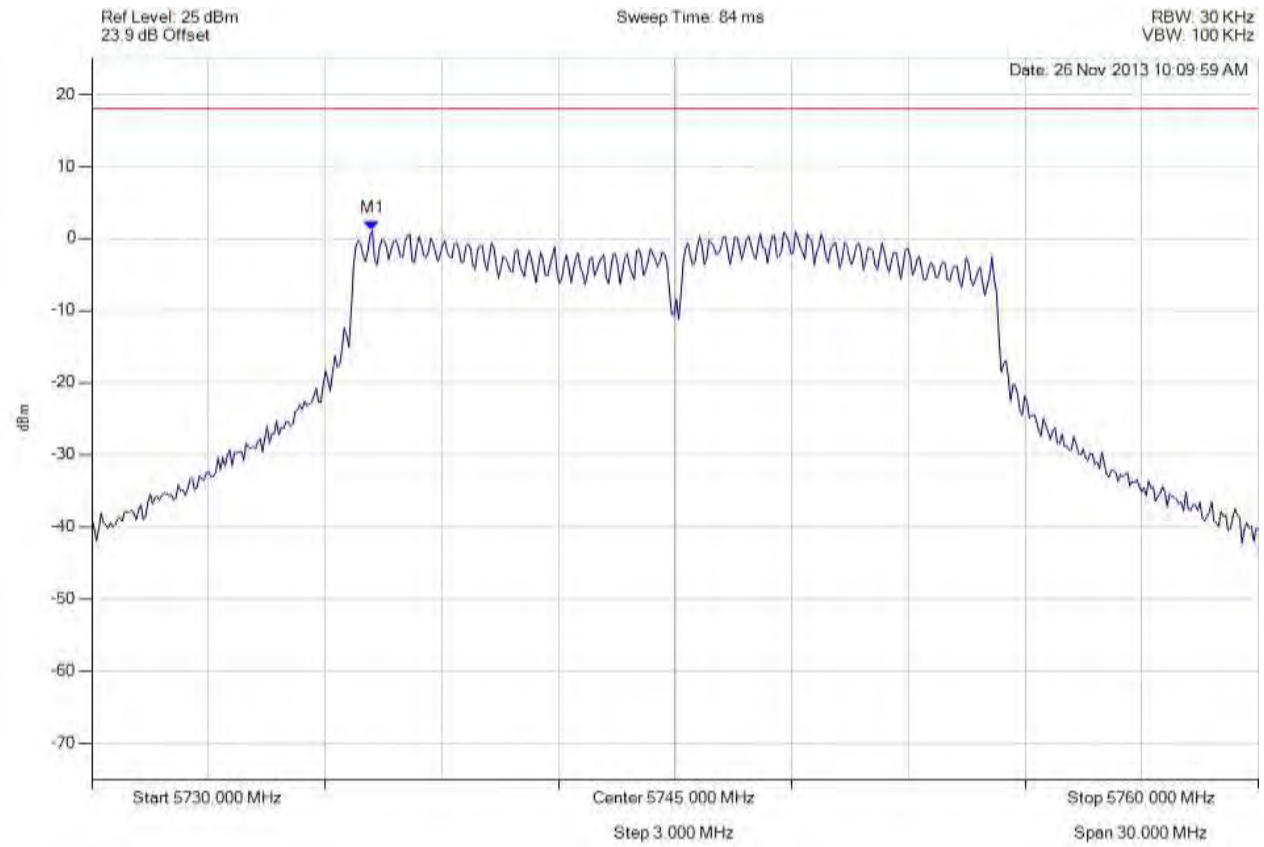
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.214 MHz : 1.094 dBm	Limit: ≤ 18.000 dBm Margin: -16.91 dB

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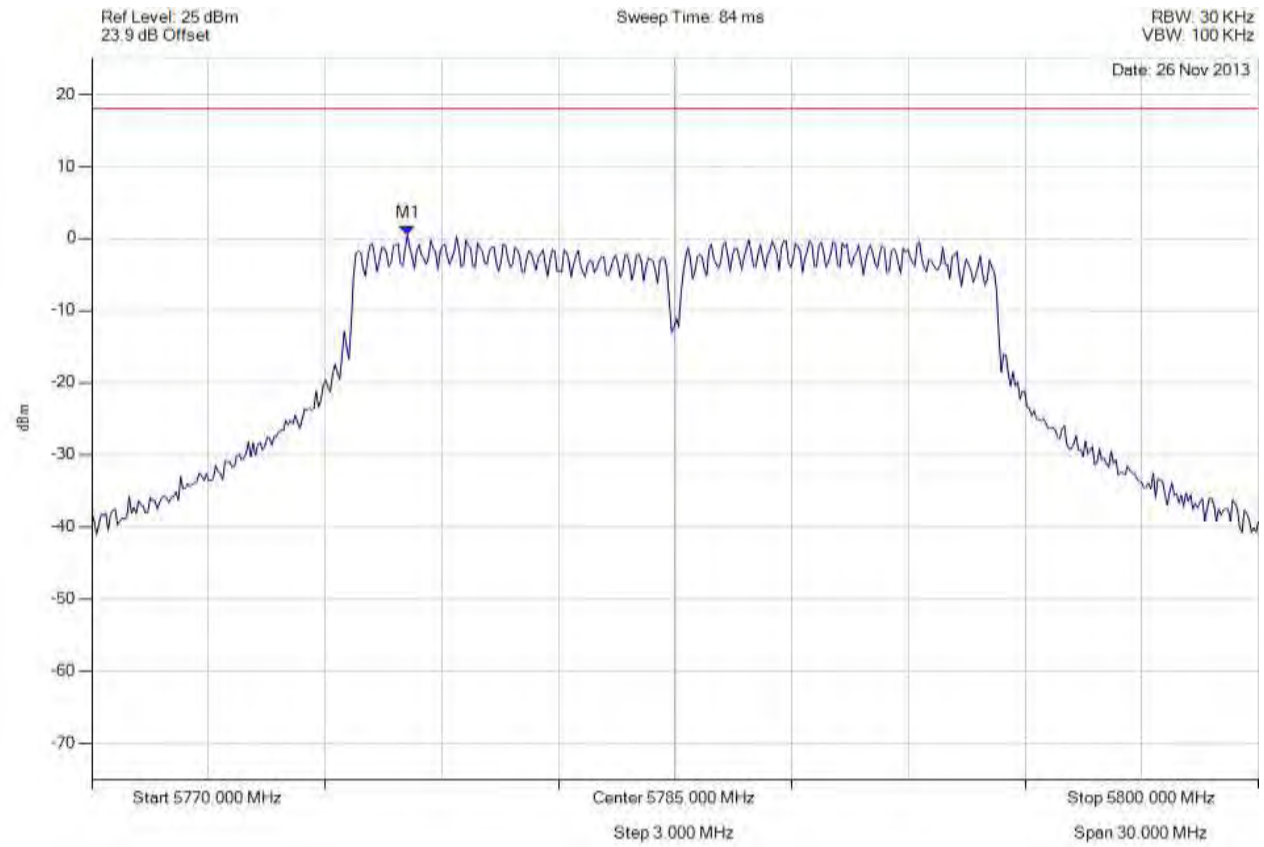
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.116 MHz : 0.500 dBm	Limit: ≤ 18.000 dBm Margin: -17.50 dB

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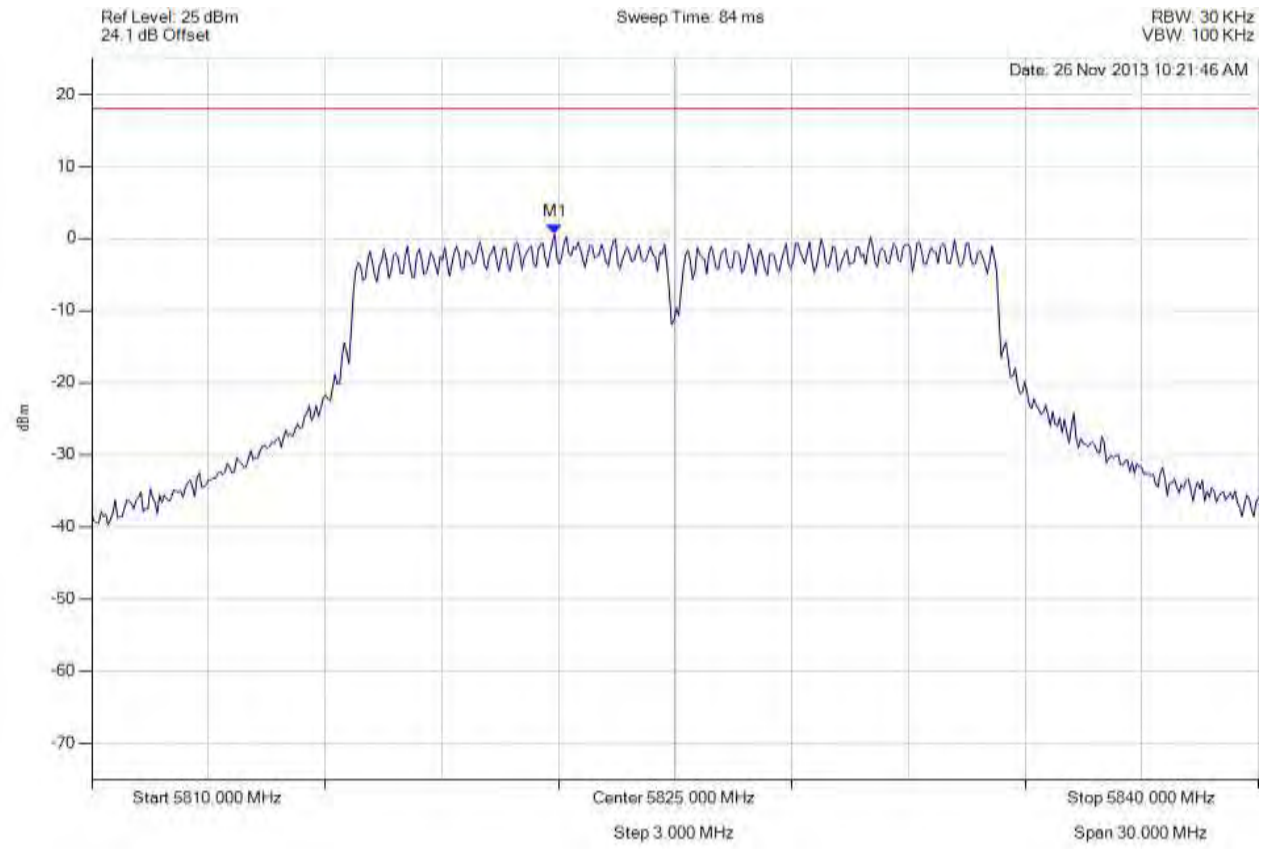
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5821.904 MHz : 0.594 dBm	Limit: ≤ 18.000 dBm Margin: -17.41 dB

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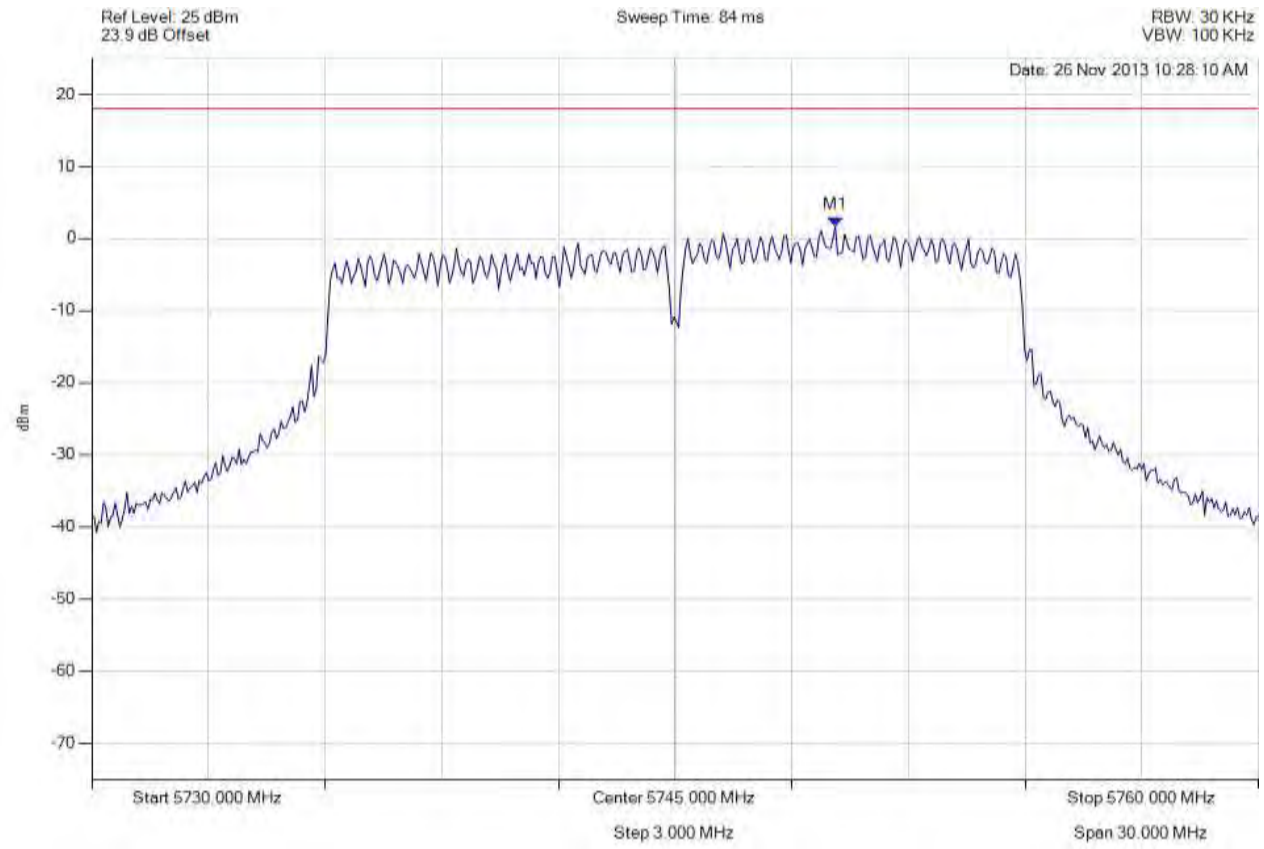
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5749.118 MHz : 1.661 dBm	Limit: ≤ 18.000 dBm Margin: -16.34 dB

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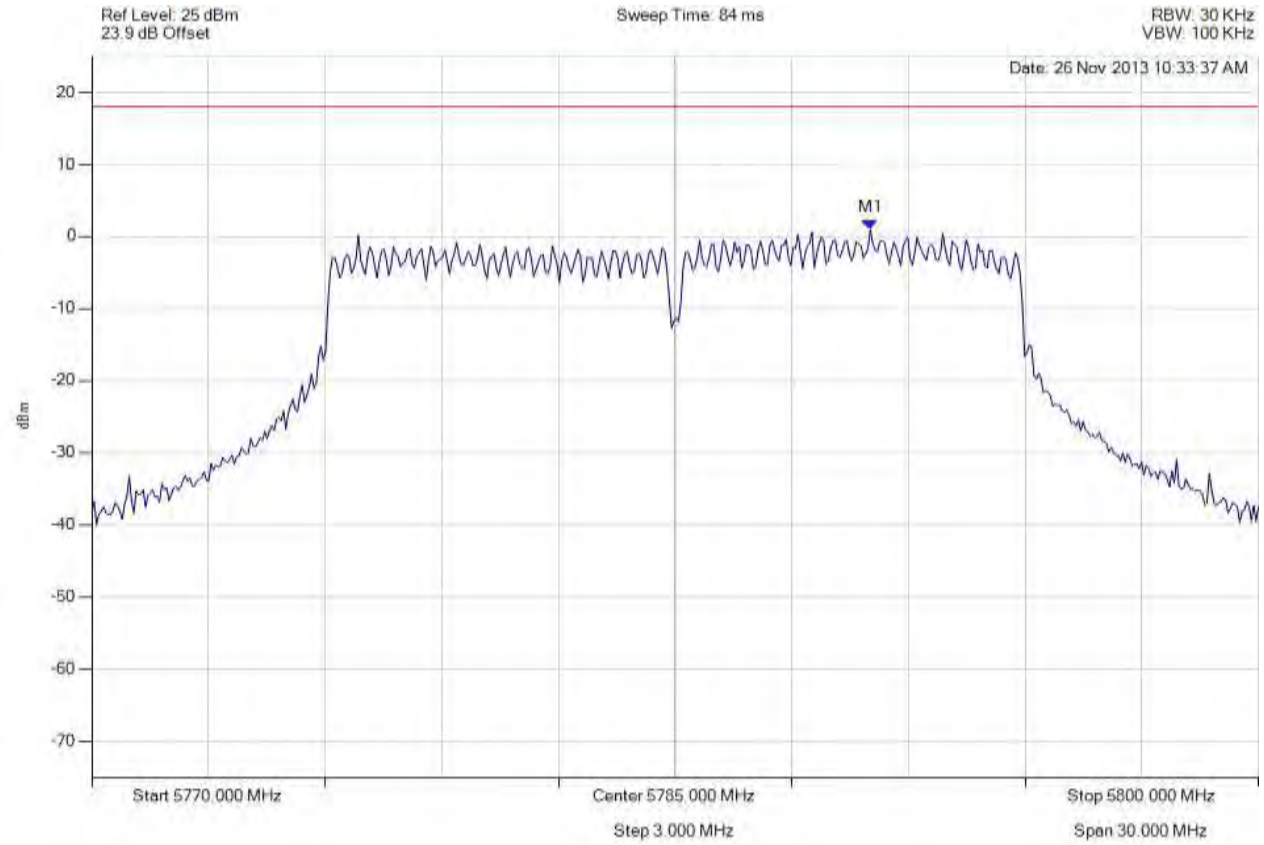
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5790.020 MHz : 0.941 dBm	Limit: ≤ 18.000 dBm Margin: -17.06 dB

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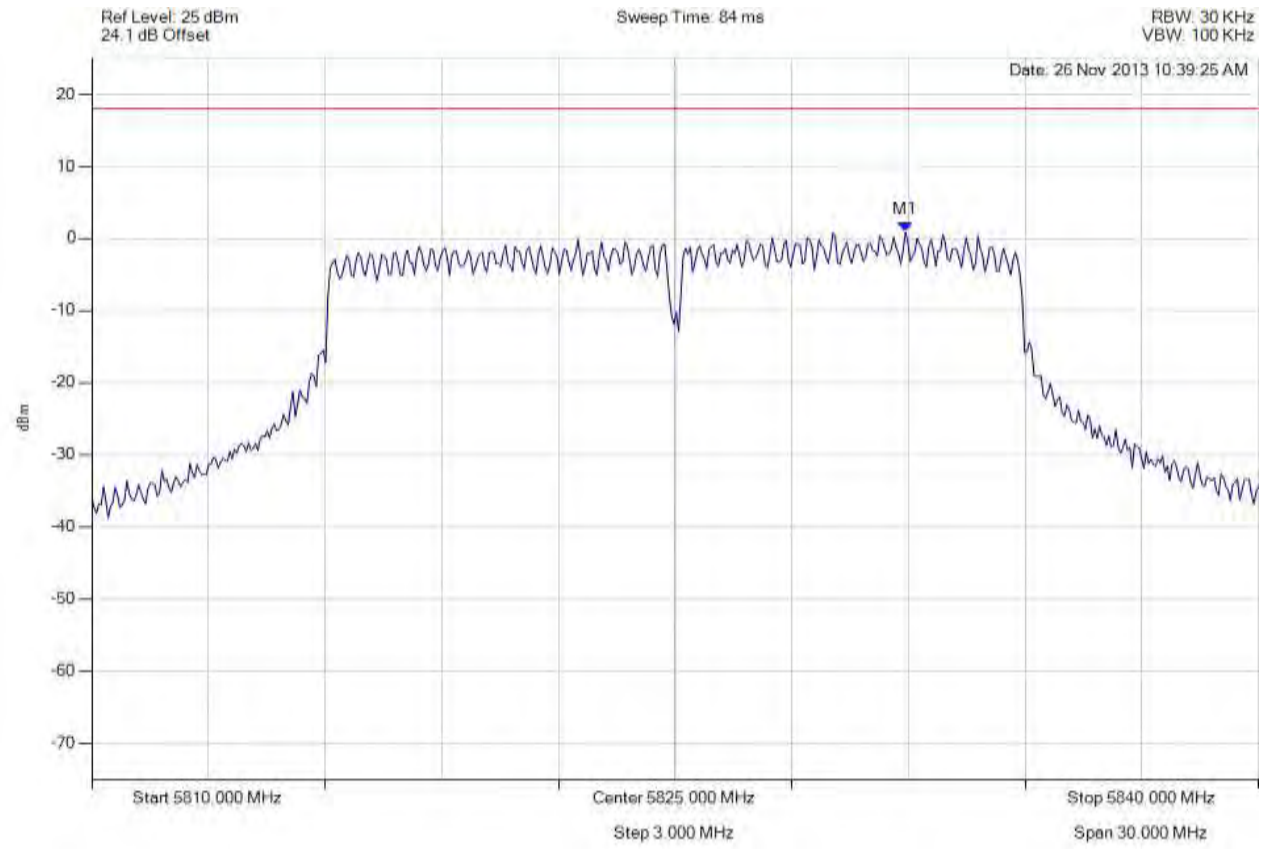
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5830.922 MHz : 0.890 dBm	Limit: ≤ 18.000 dBm Margin: -17.11 dB

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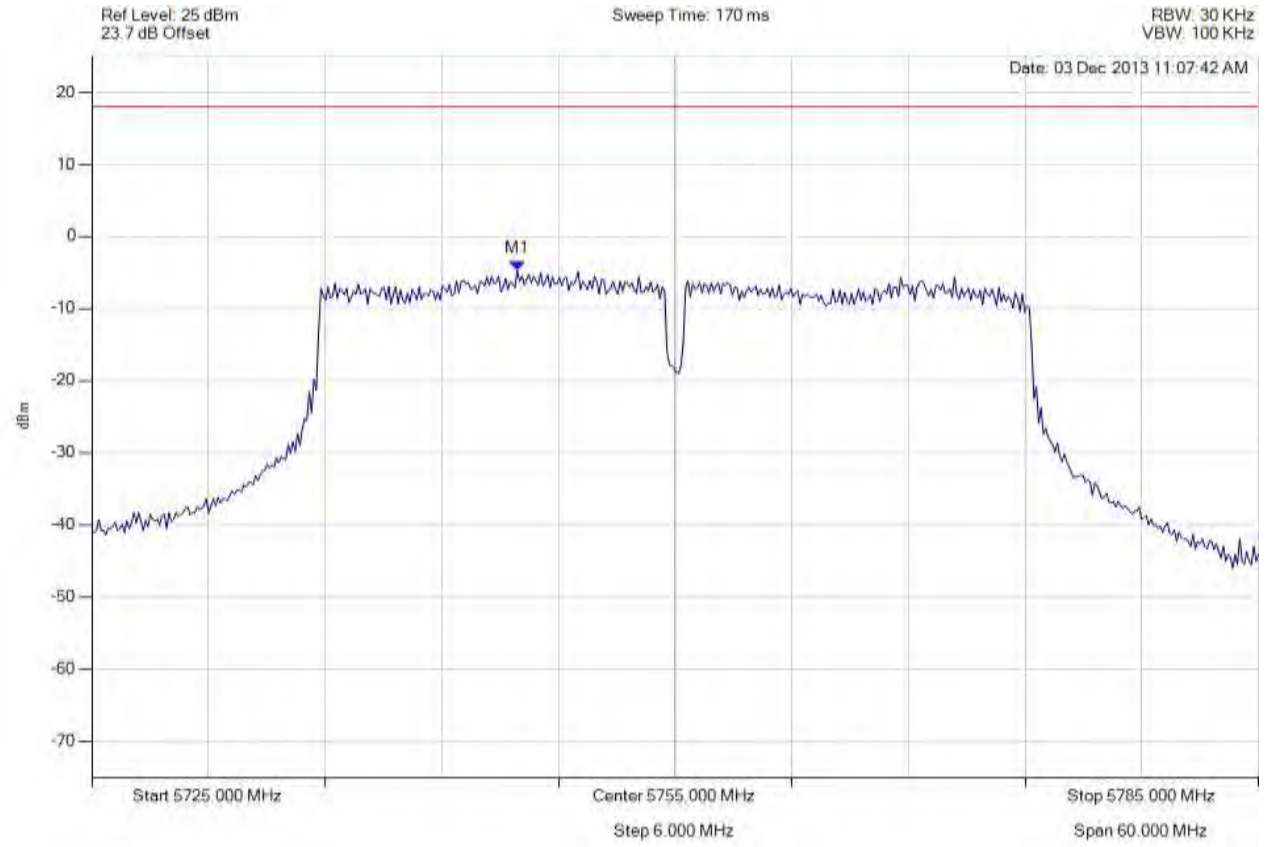
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5746.884 MHz : -4.720 dBm	Limit: ≤ 18.000 dBm Margin: -22.72 dB

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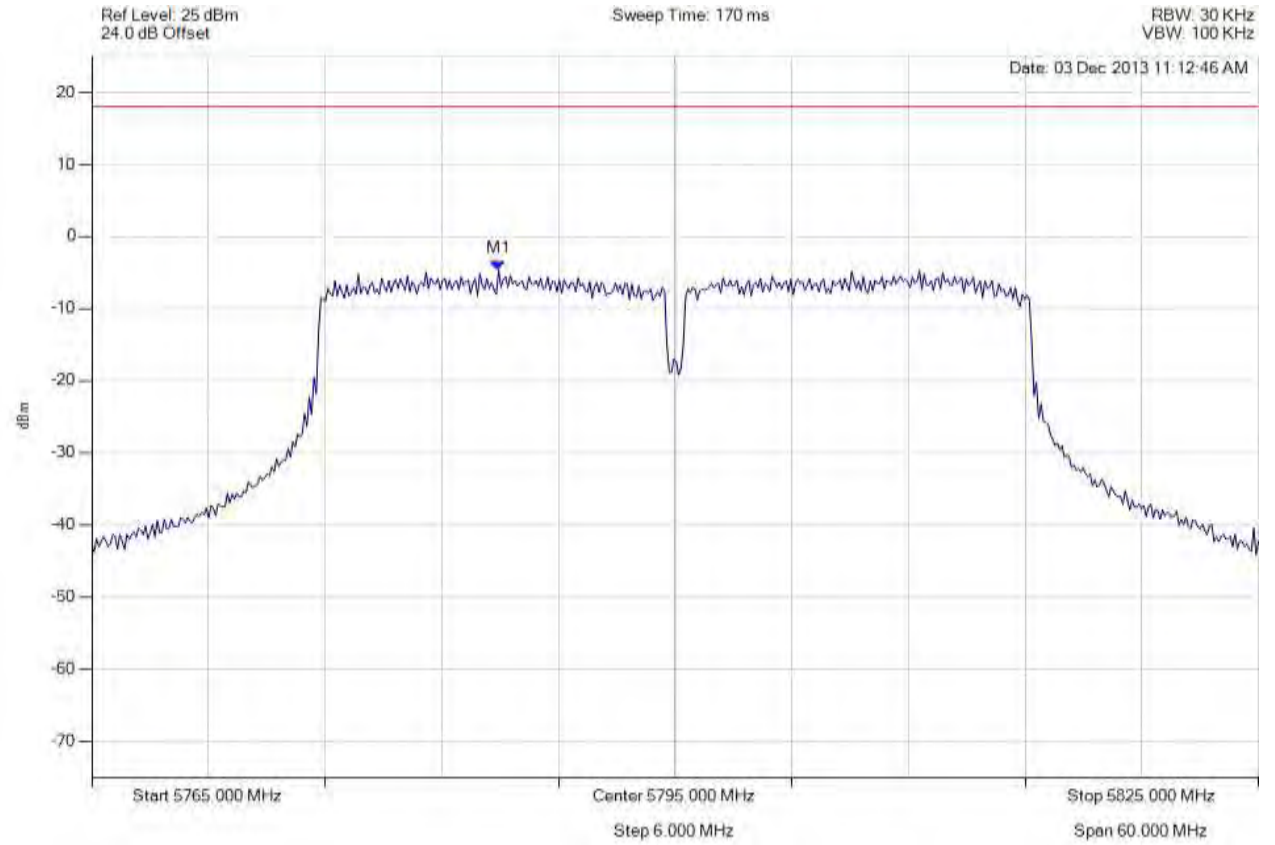
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5785.922 MHz : -4.742 dBm	Limit: ≤ 18.000 dBm Margin: -22.74 dB

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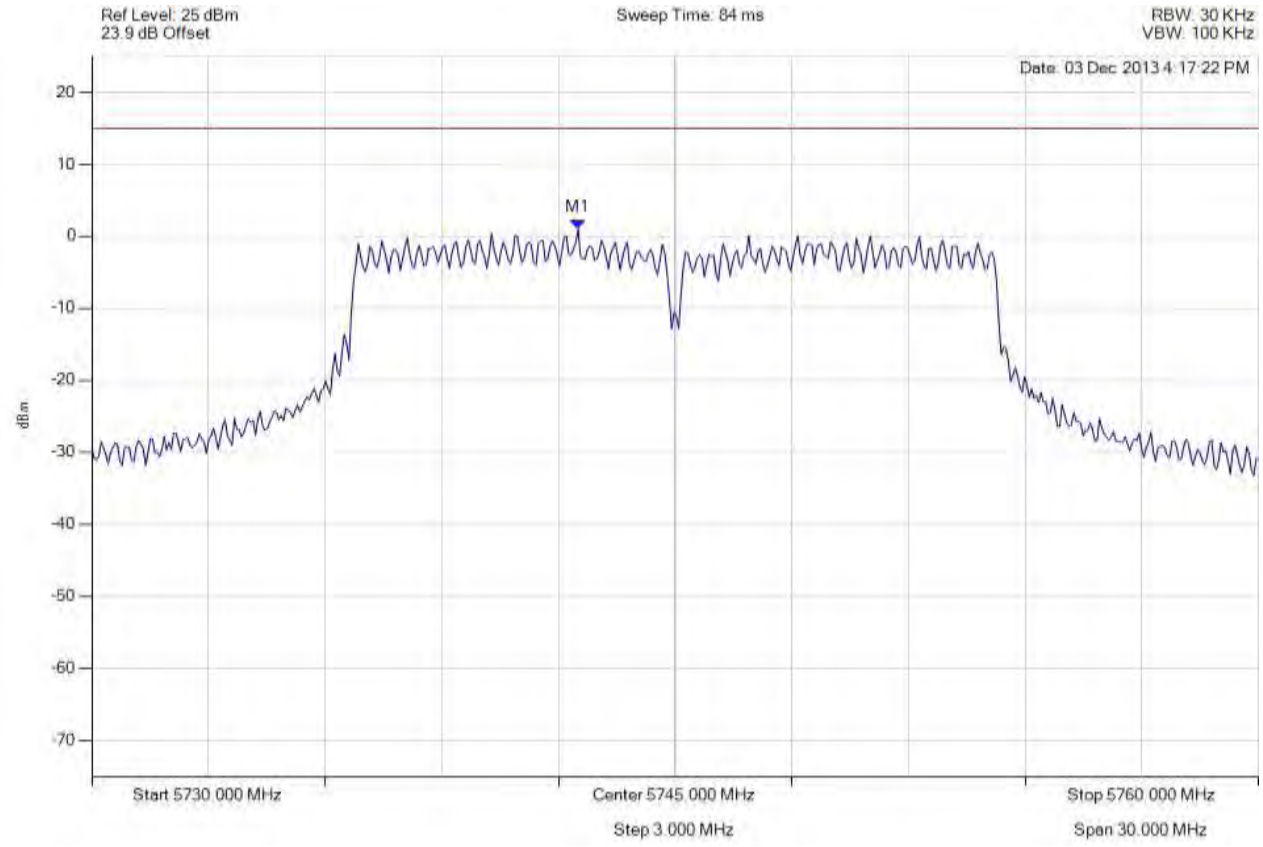
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5742.505 MHz : 0.991 dBm	Limit: ≤ 14.990 dBm Margin: -14.00 dB

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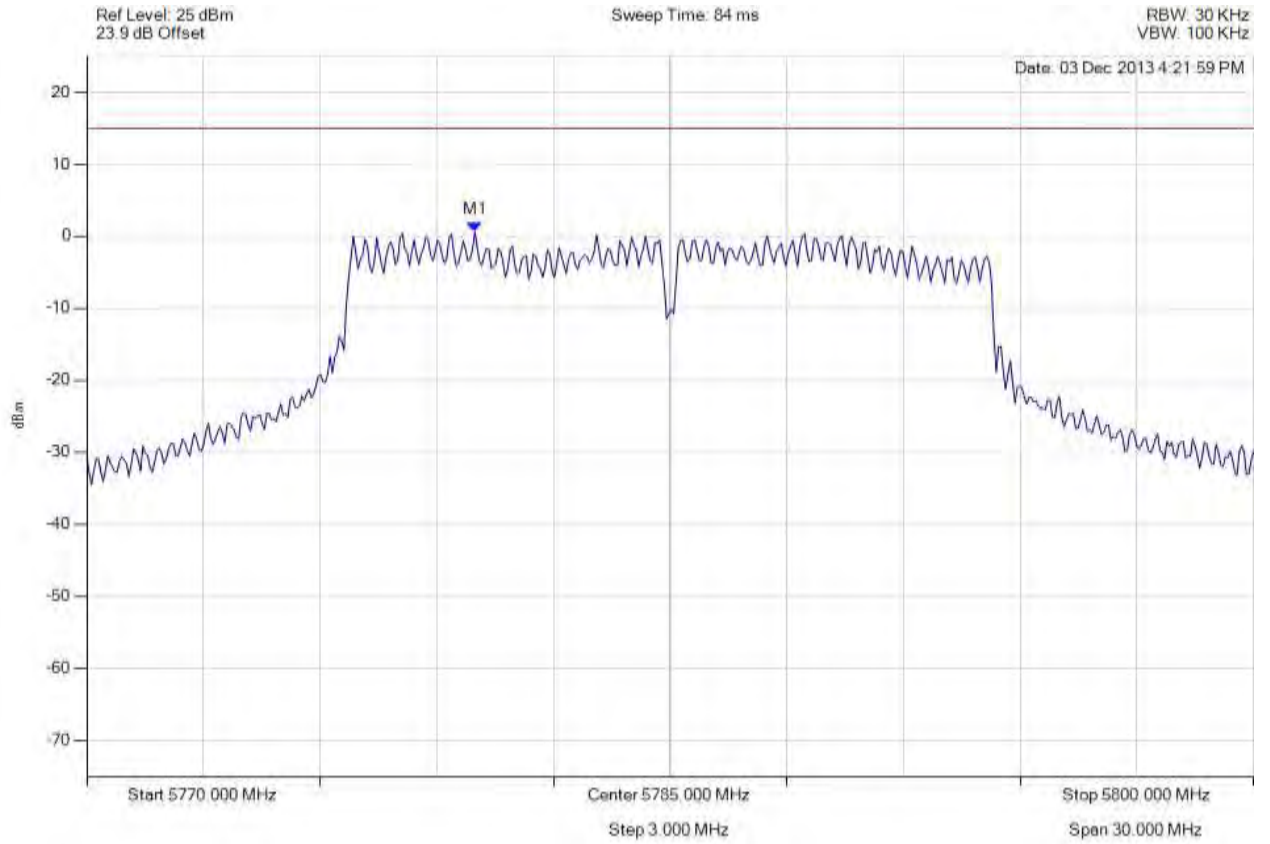
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5779.980 MHz : 0.599 dBm	Limit: ≤ 14.990 dBm Margin: -14.39 dB

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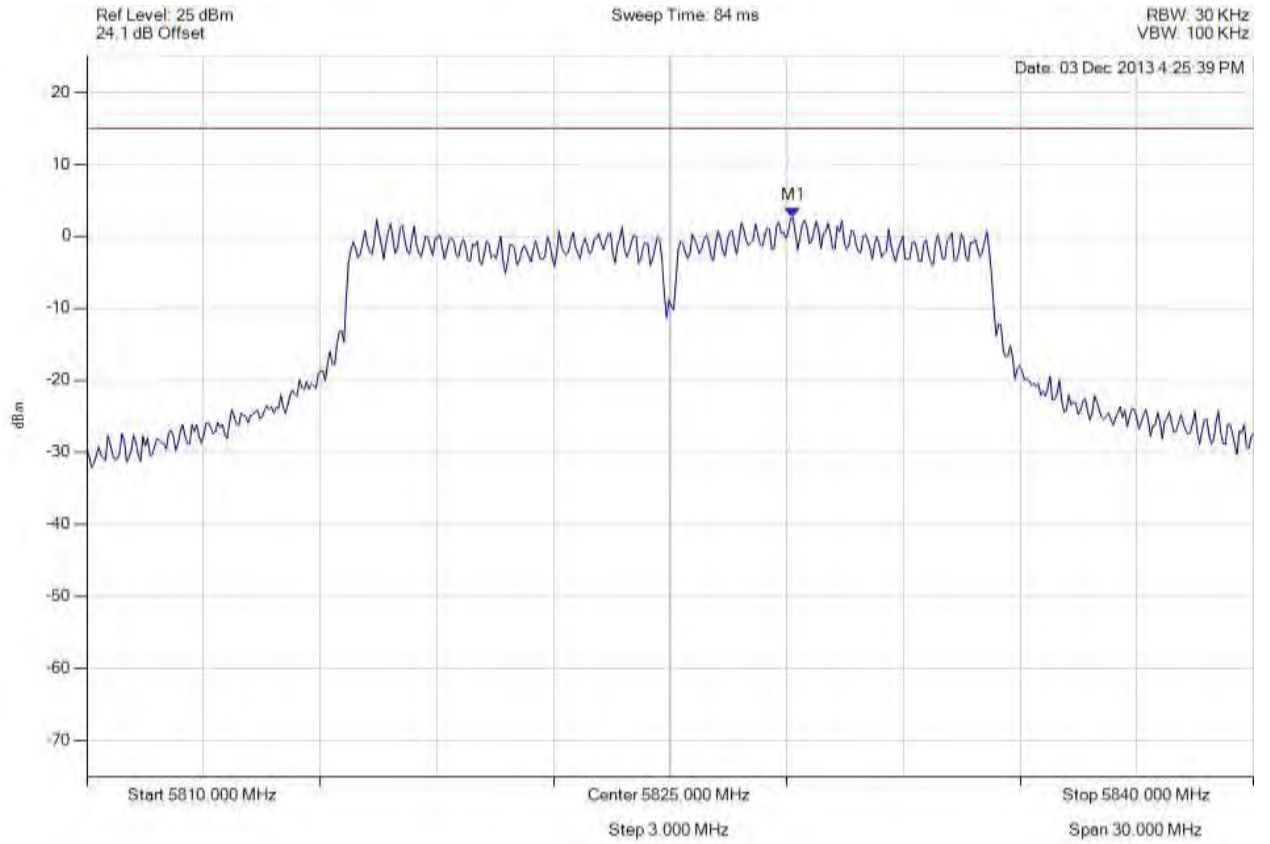
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5828.156 MHz : 2.604 dBm	Limit: ≤ 14.990 dBm Margin: -12.39 dB

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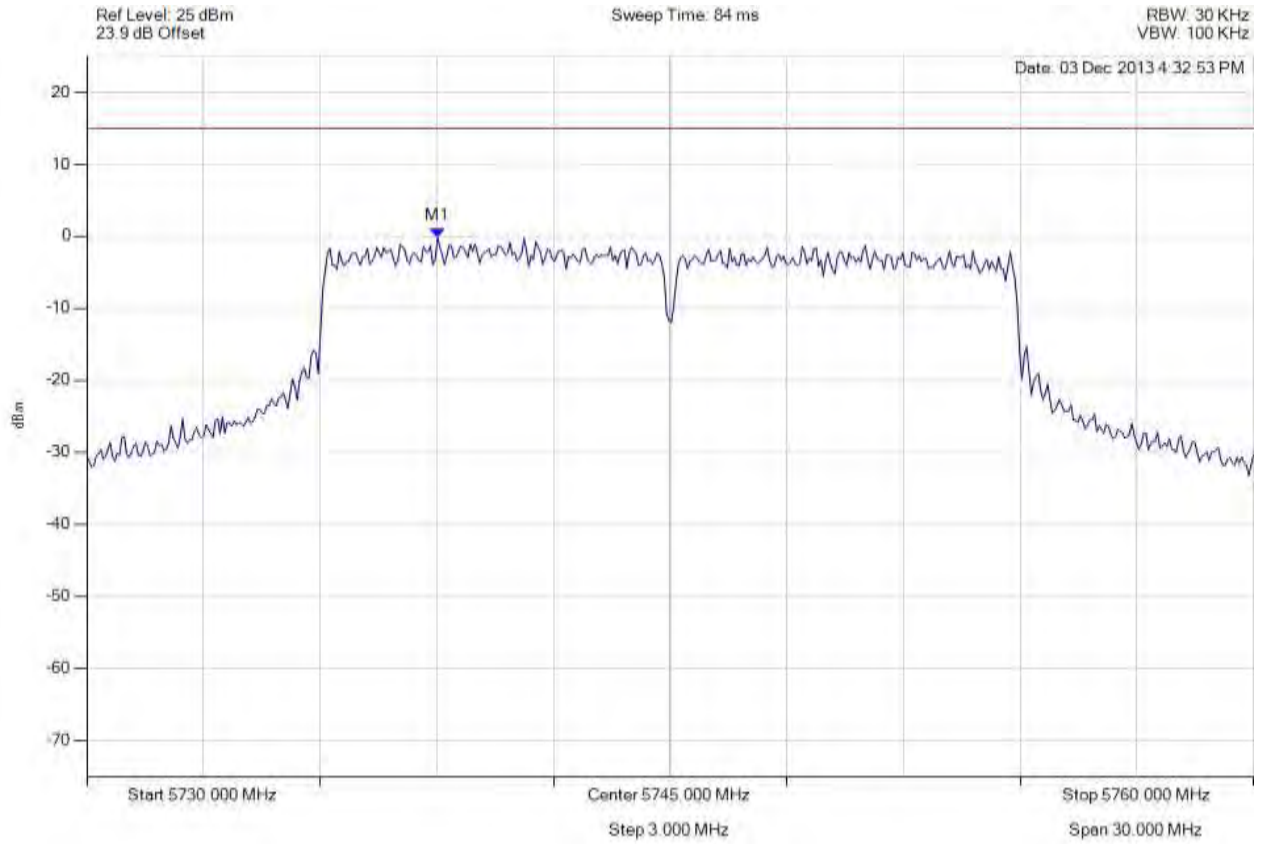
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5739.018 MHz : -0.182 dBm	Limit: ≤ 14.990 dBm Margin: -15.17 dB

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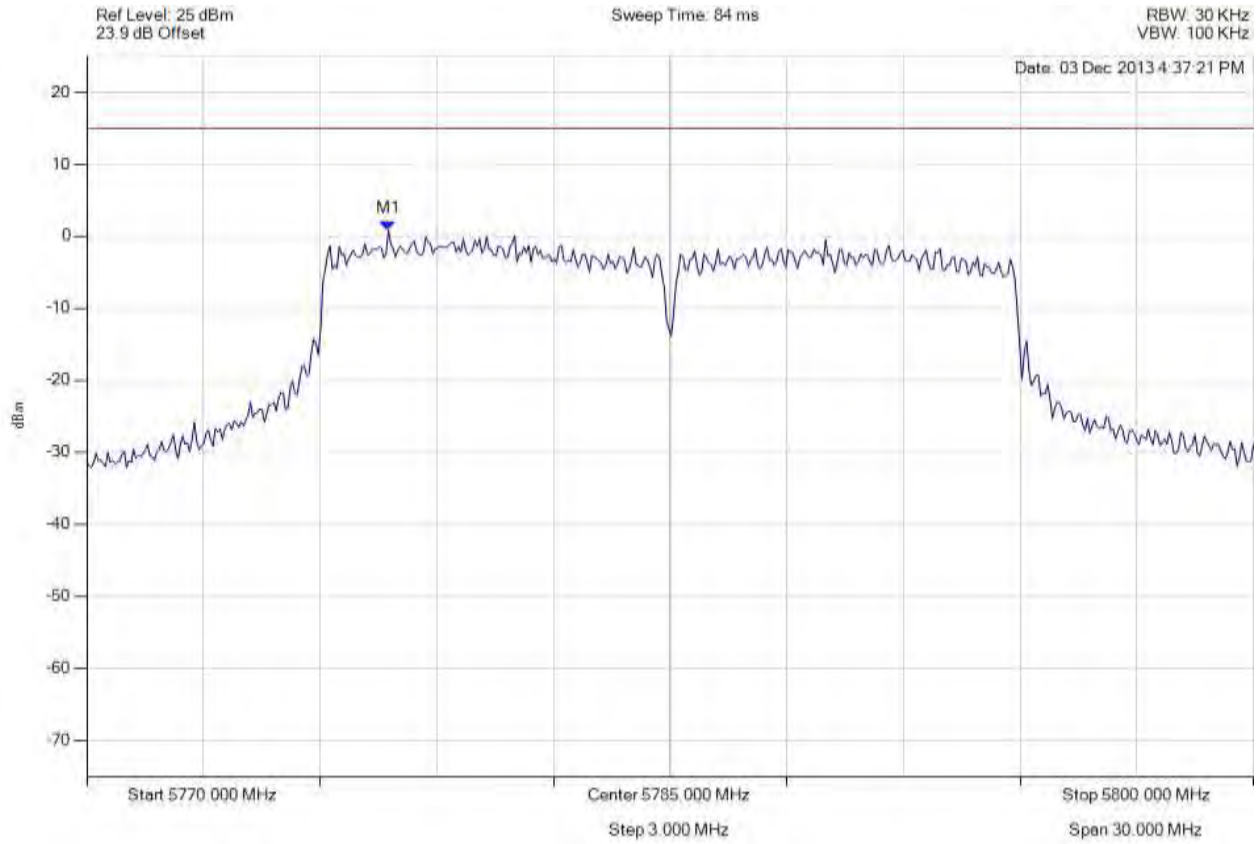
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5777.756 MHz : 0.827 dBm	Limit: ≤ 14.990 dBm Margin: -14.16 dB

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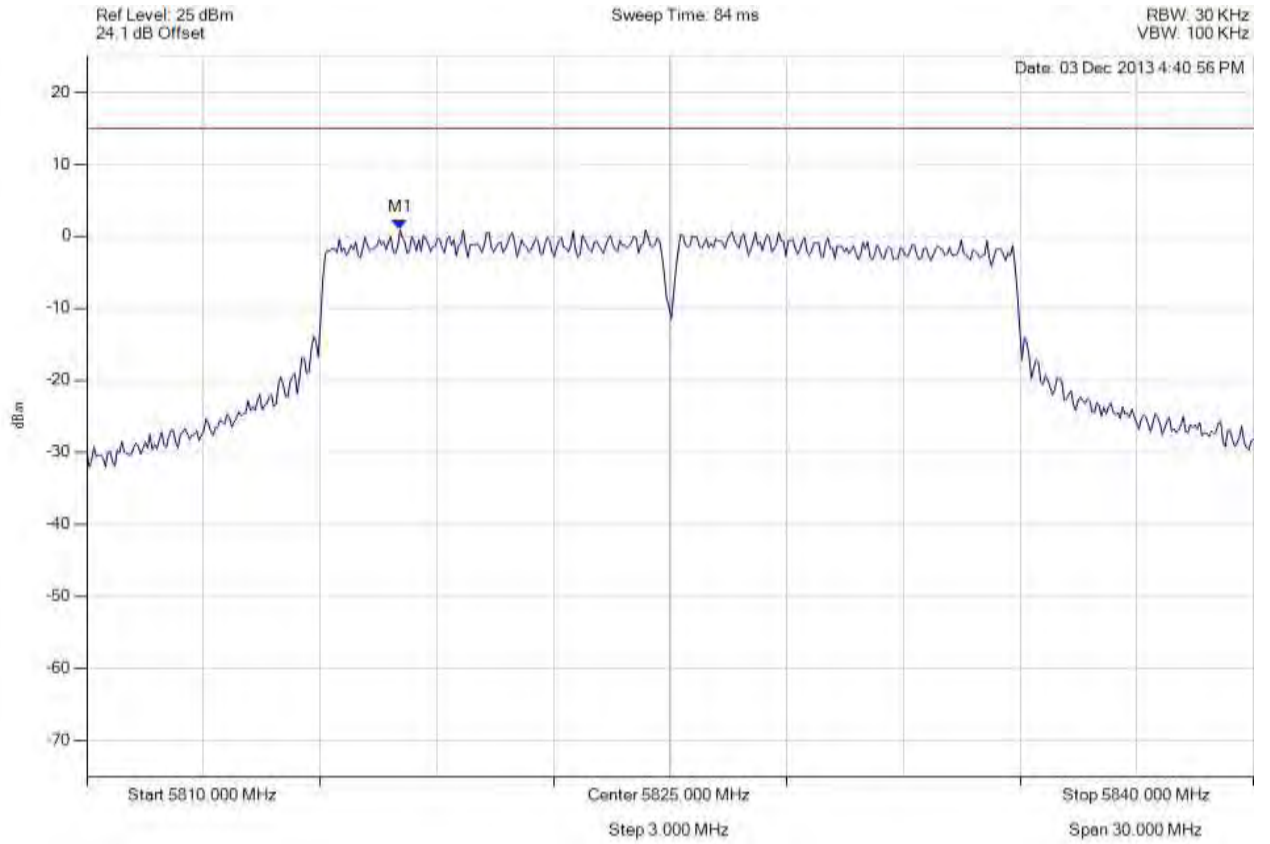
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5818.056 MHz : 0.908 dBm	Limit: ≤ 14.990 dBm Margin: -14.08 dB

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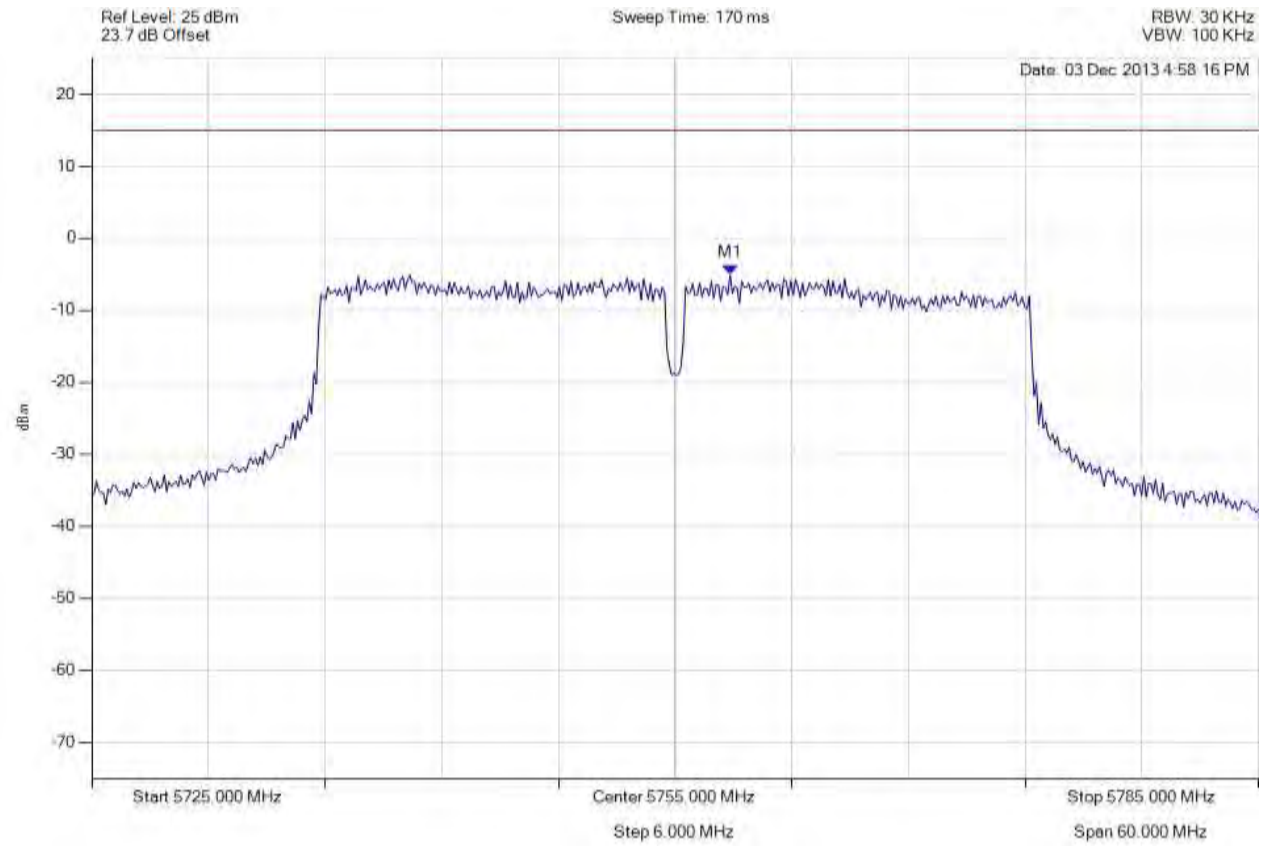
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5757.826 MHz : -5.078 dBm	Limit: ≤ 14.990 dBm Margin: -20.07 dB

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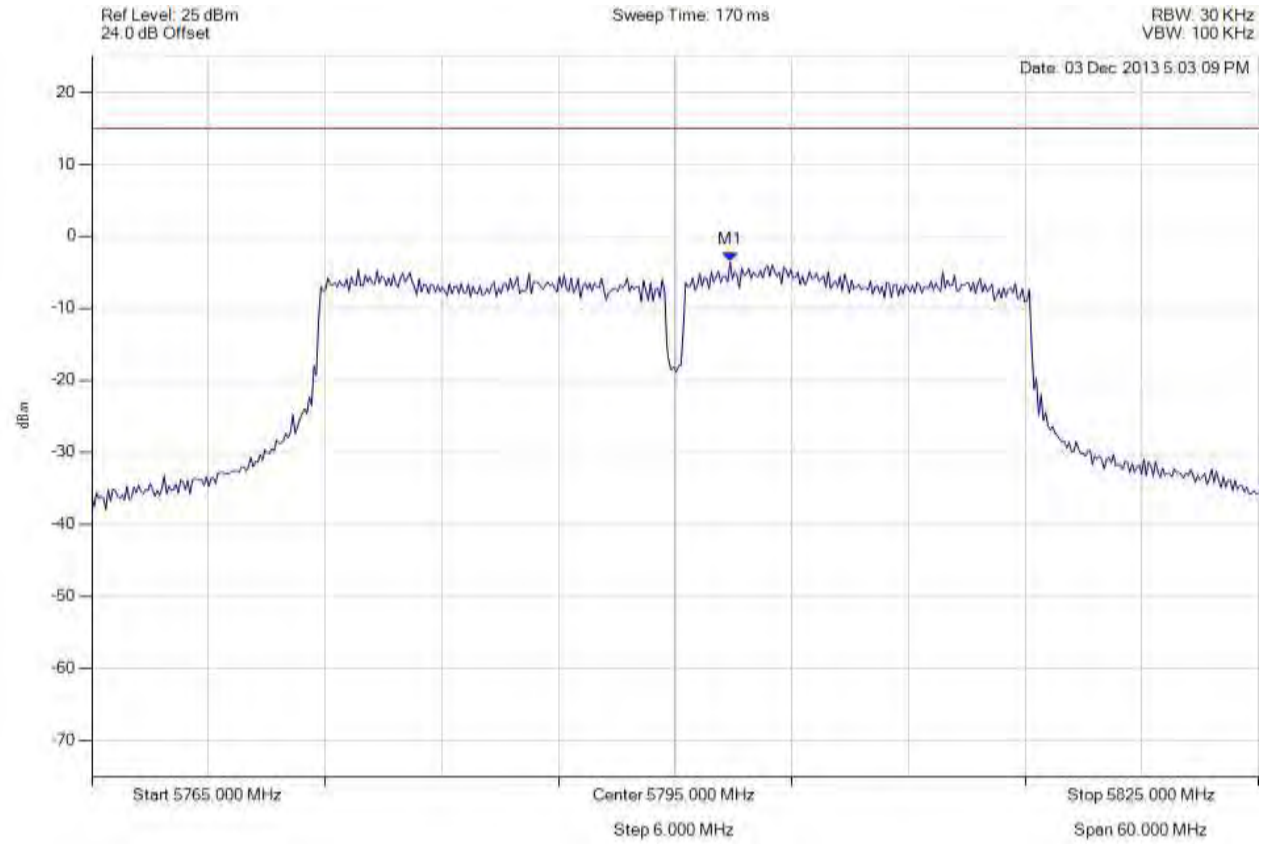
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5797.826 MHz : -3.611 dBm	Limit: ≤ 14.990 dBm Margin: -18.60 dB

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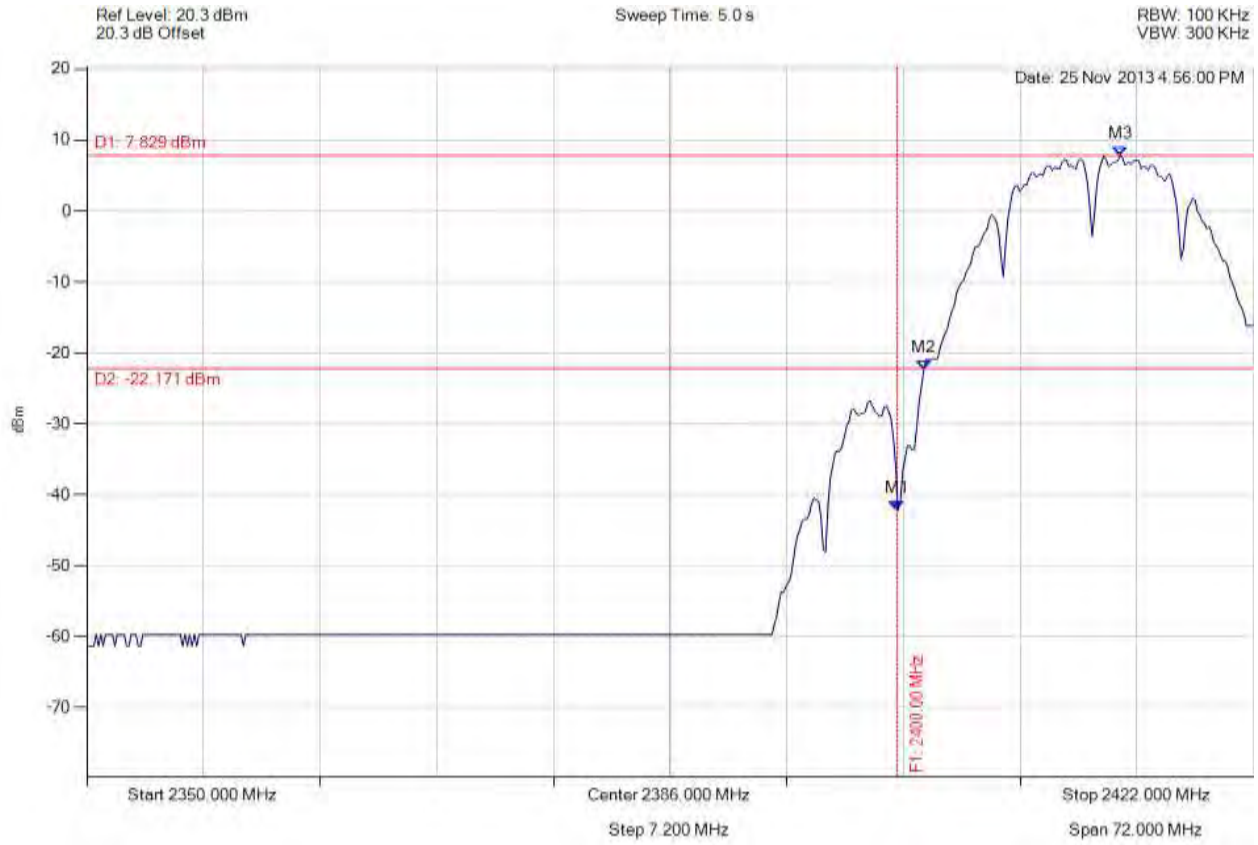
A.1.3. Conducted Spurious Emissions

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -42.201 dBm M2 : 2401.655 MHz : -22.357 dBm M3 : 2413.776 MHz : 7.829 dBm	Channel Frequency: 2412.00 MHz

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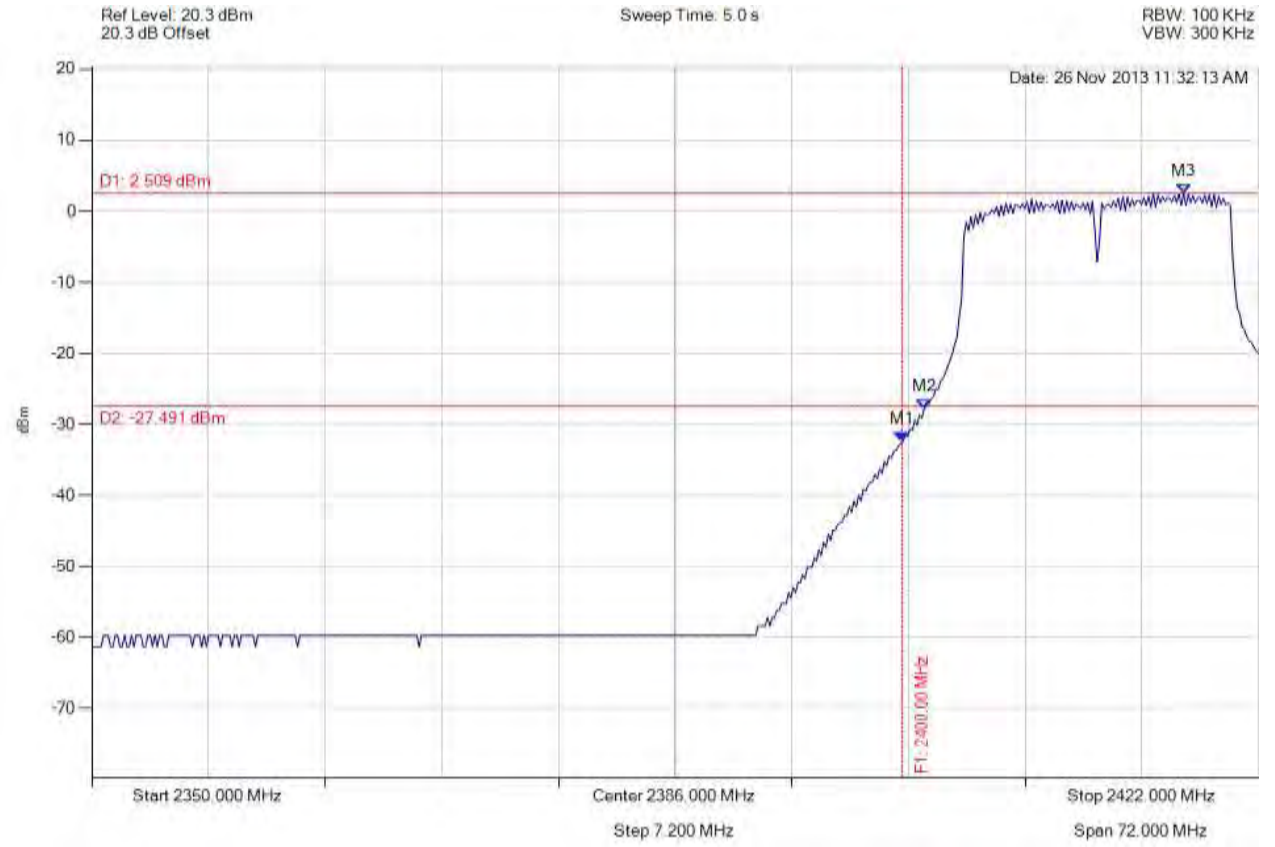
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -32.343 dBm M2 : 2401.367 MHz : -27.807 dBm M3 : 2417.383 MHz : 2.509 dBm	Channel Frequency: 2412.00 MHz

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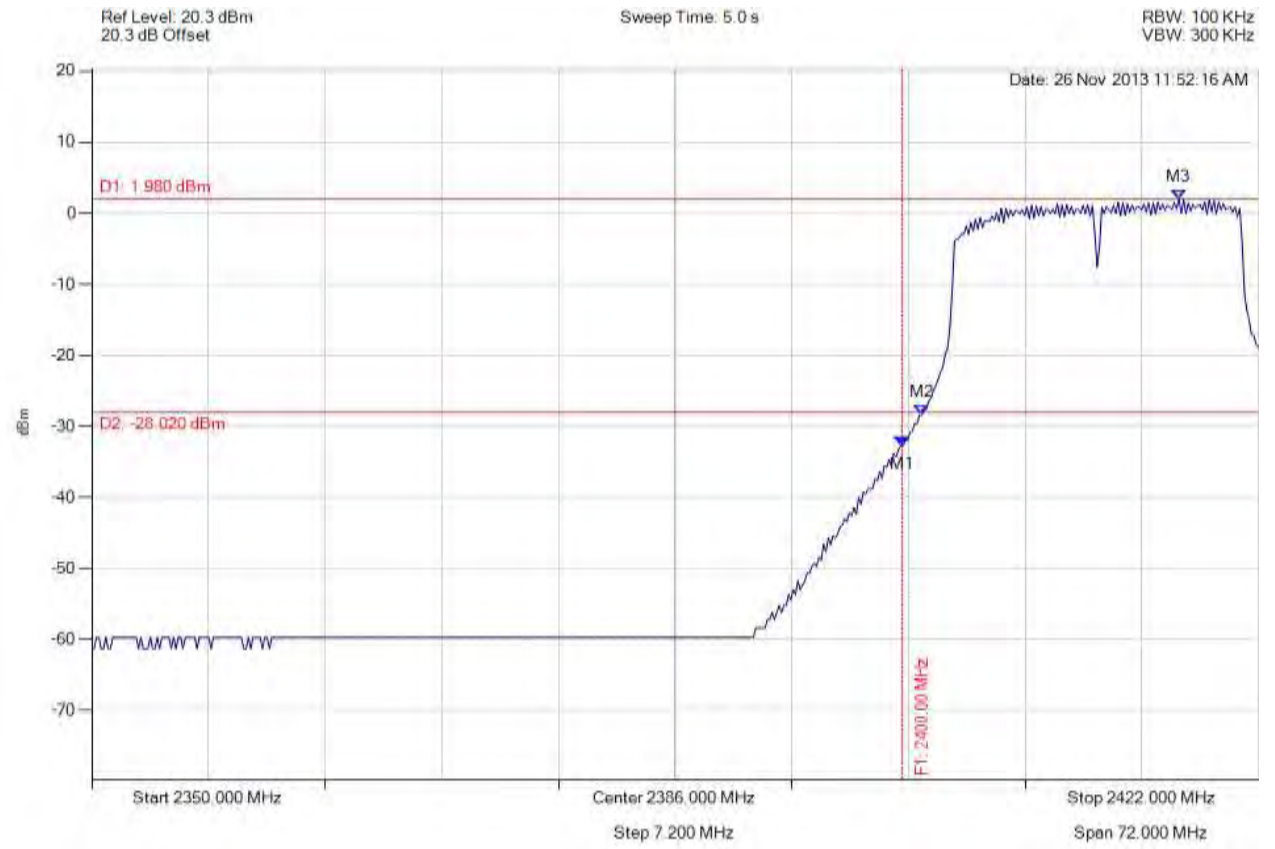
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -32.723 dBm M2 : 2401.222 MHz : -28.377 dBm M3 : 2417.094 MHz : 1.980 dBm	Channel Frequency: 2412.00 MHz

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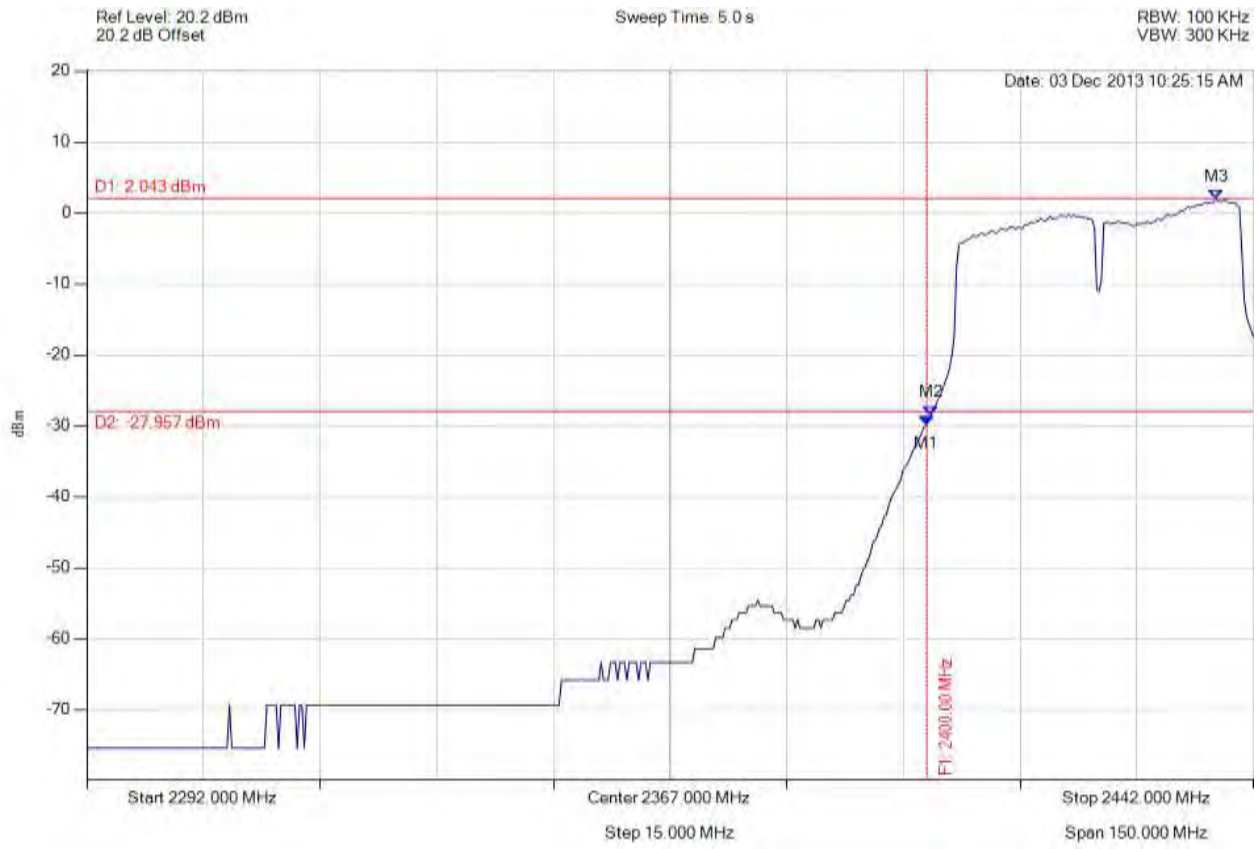
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -29.882 dBm M2 : 2400.517 MHz : -28.438 dBm M3 : 2437.190 MHz : 2.043 dBm	Channel Frequency: 2422.00 MHz

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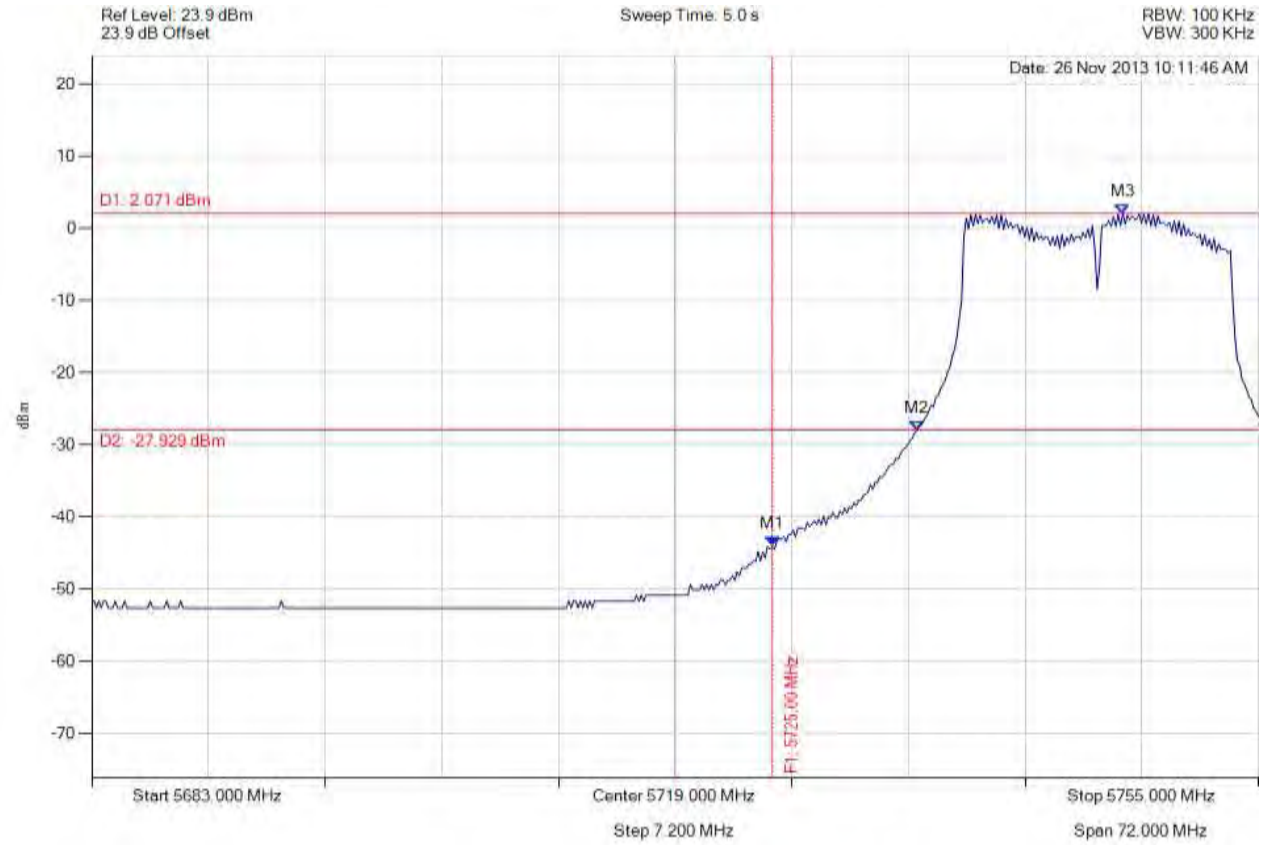
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -44.061 dBm M2 : 5733.934 MHz : -27.972 dBm M3 : 5746.631 MHz : 2.071 dBm	Channel Frequency: 5745.00 MHz

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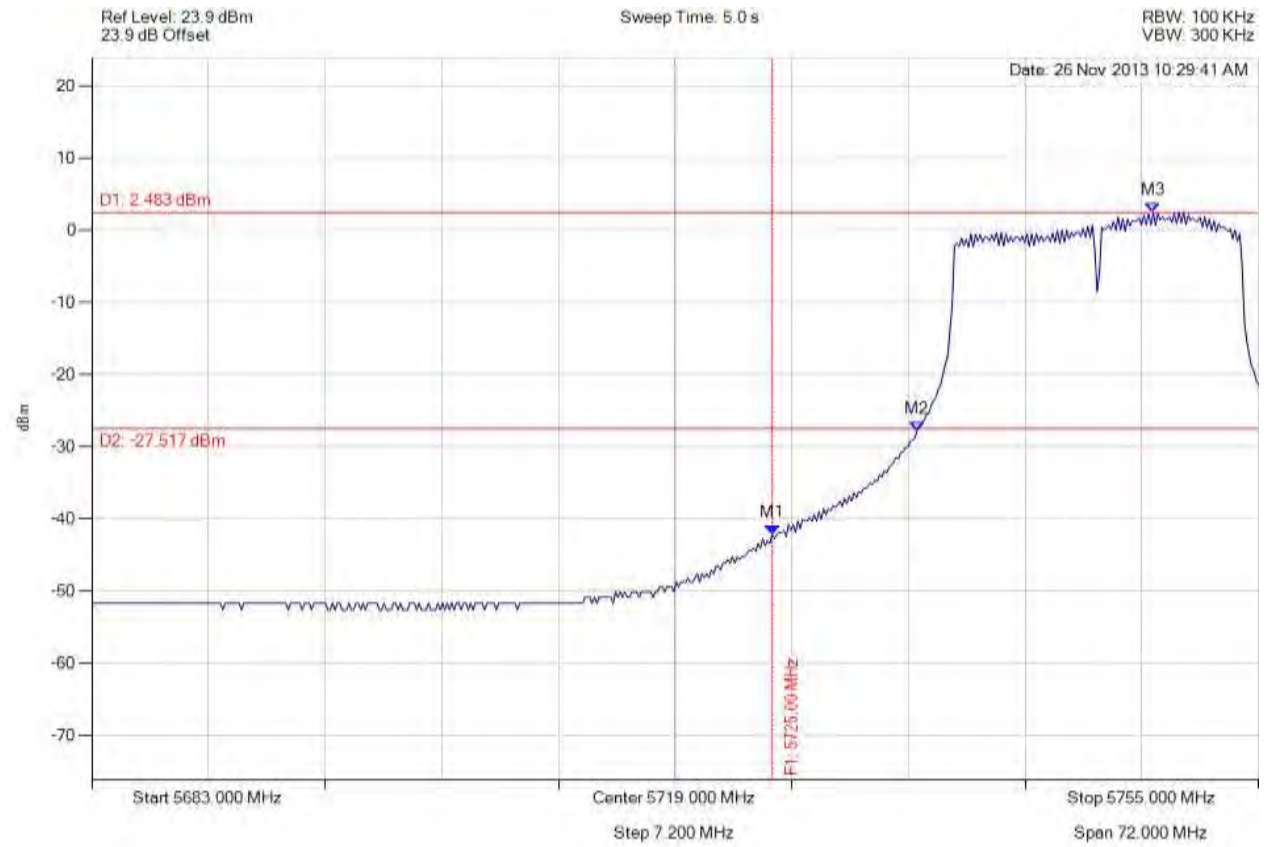
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -42.123 dBm M2 : 5733.934 MHz : -27.747 dBm M3 : 5748.507 MHz : 2.483 dBm	Channel Frequency: 5745.00 MHz

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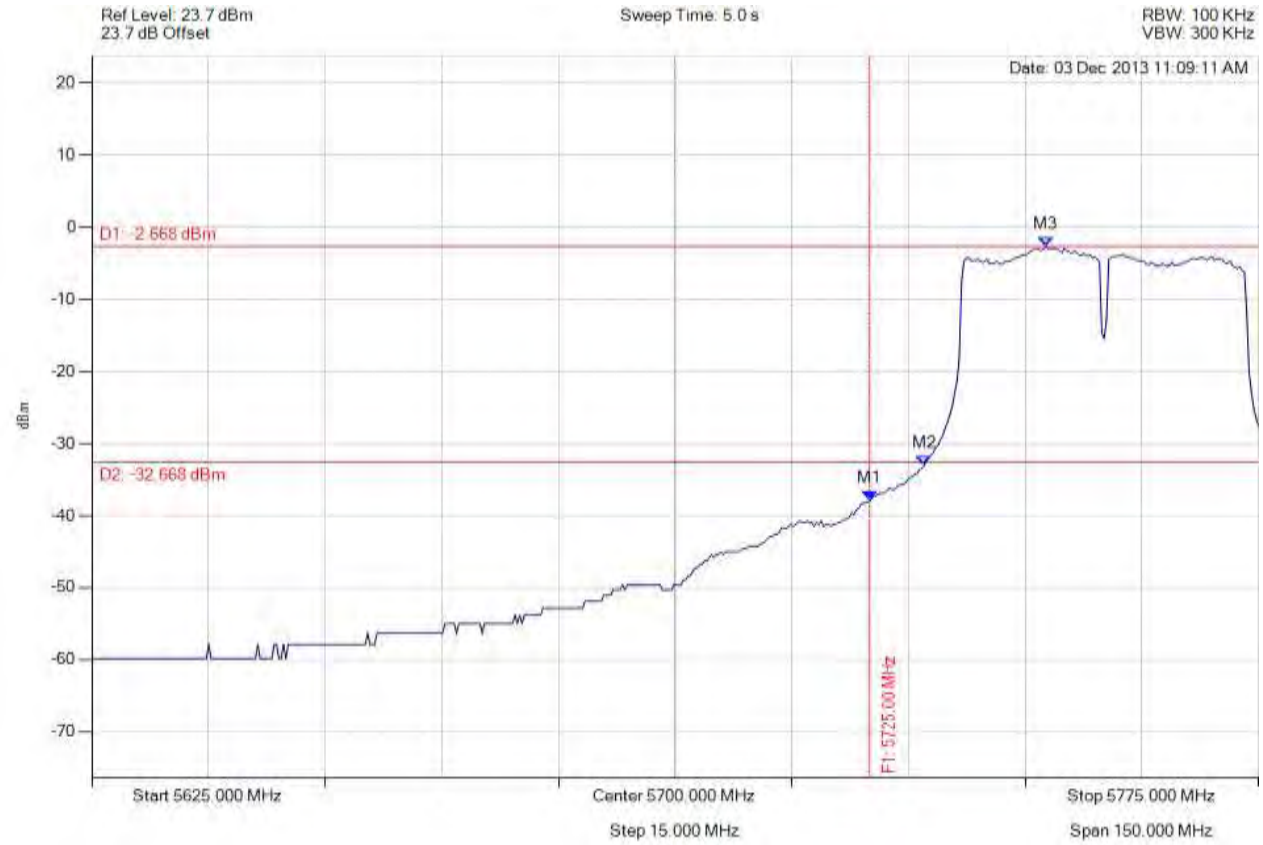
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5725.000 MHz : -37.886 dBm M2 : 5732.014 MHz : -33.075 dBm M3 : 5747.645 MHz : -2.668 dBm	Channel Frequency: 5755.00 MHz

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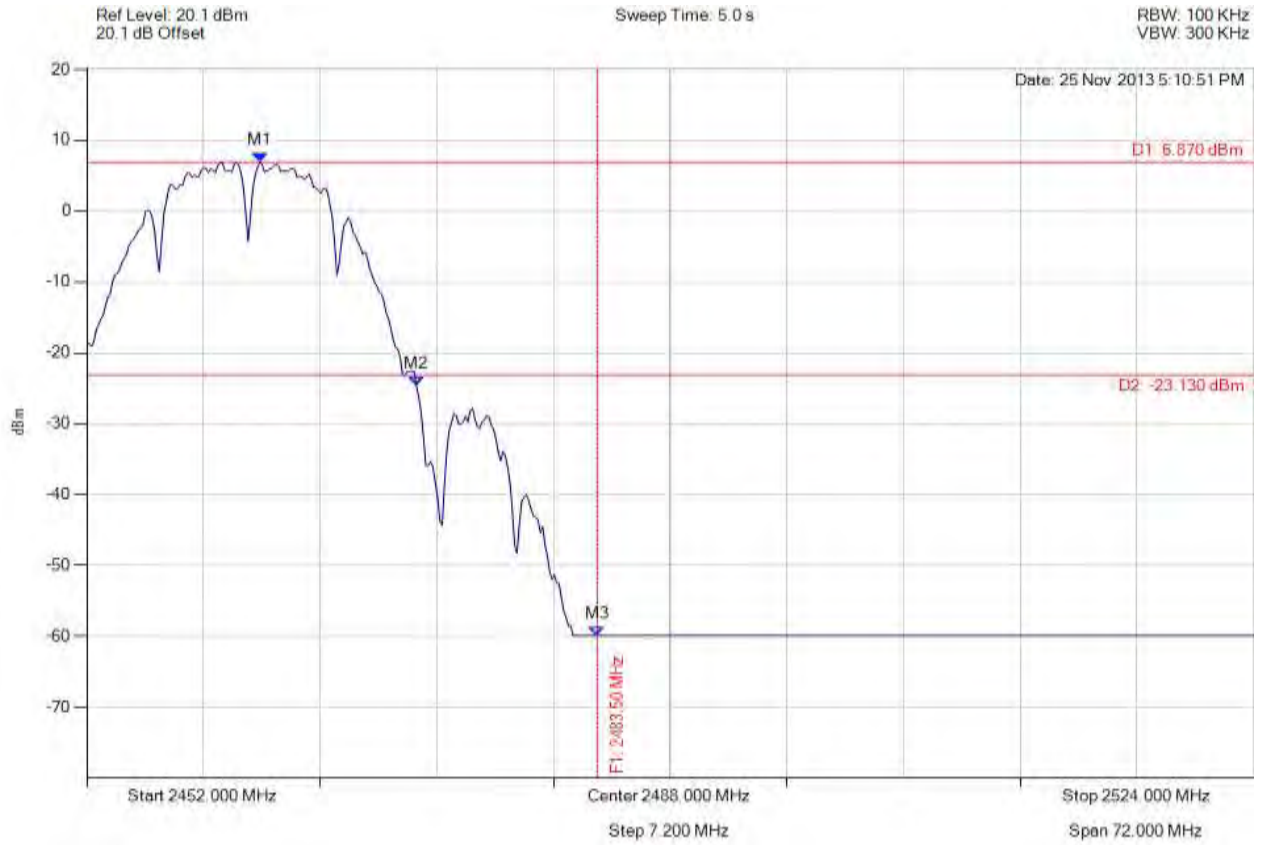
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2462.677 MHz : 6.870 dBm M2 : 2472.345 MHz : -24.684 dBm M3 : 2483.500 MHz : -59.902 dBm	Channel Frequency: 2462.00 MHz

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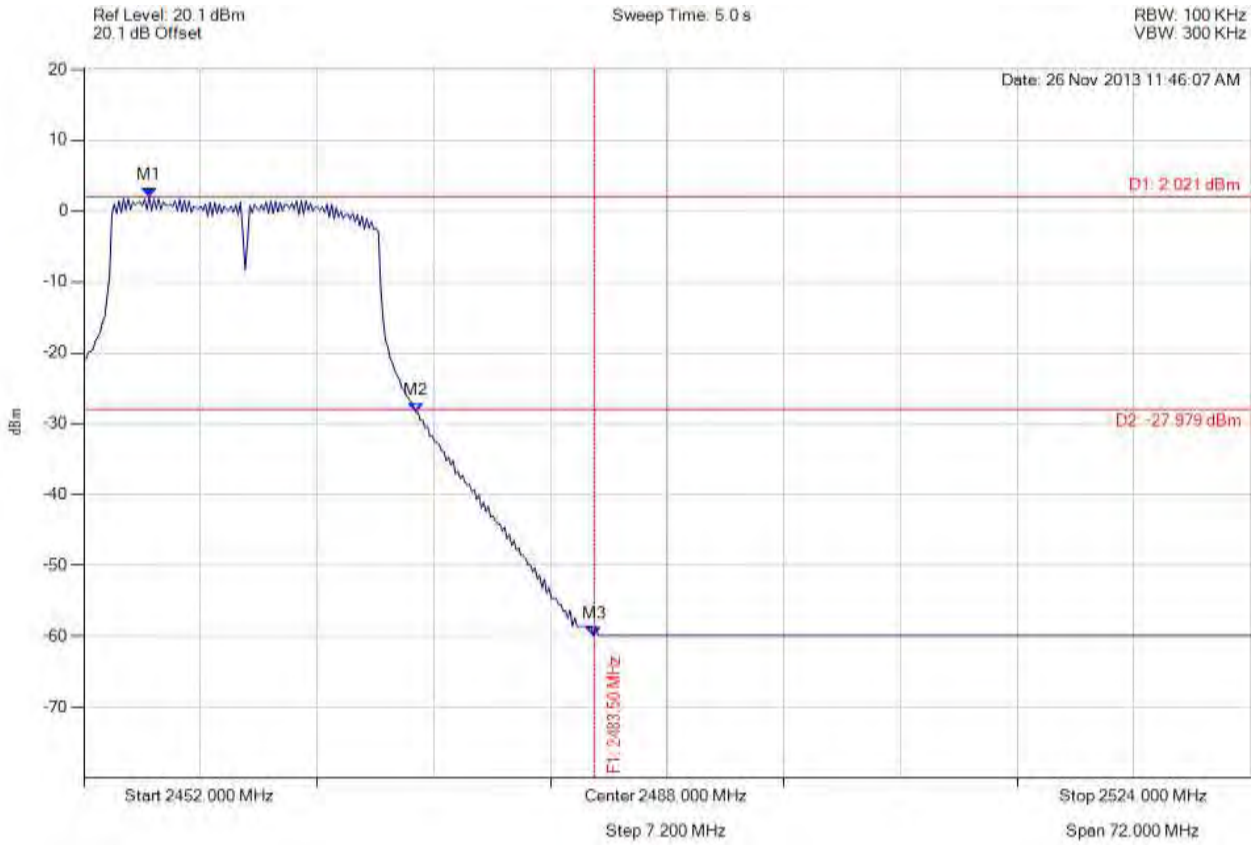
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2456.040 MHz : 2.021 dBm M2 : 2472.489 MHz : -28.383 dBm M3 : 2483.500 MHz : -59.902 dBm	Channel Frequency: 2462.00 MHz

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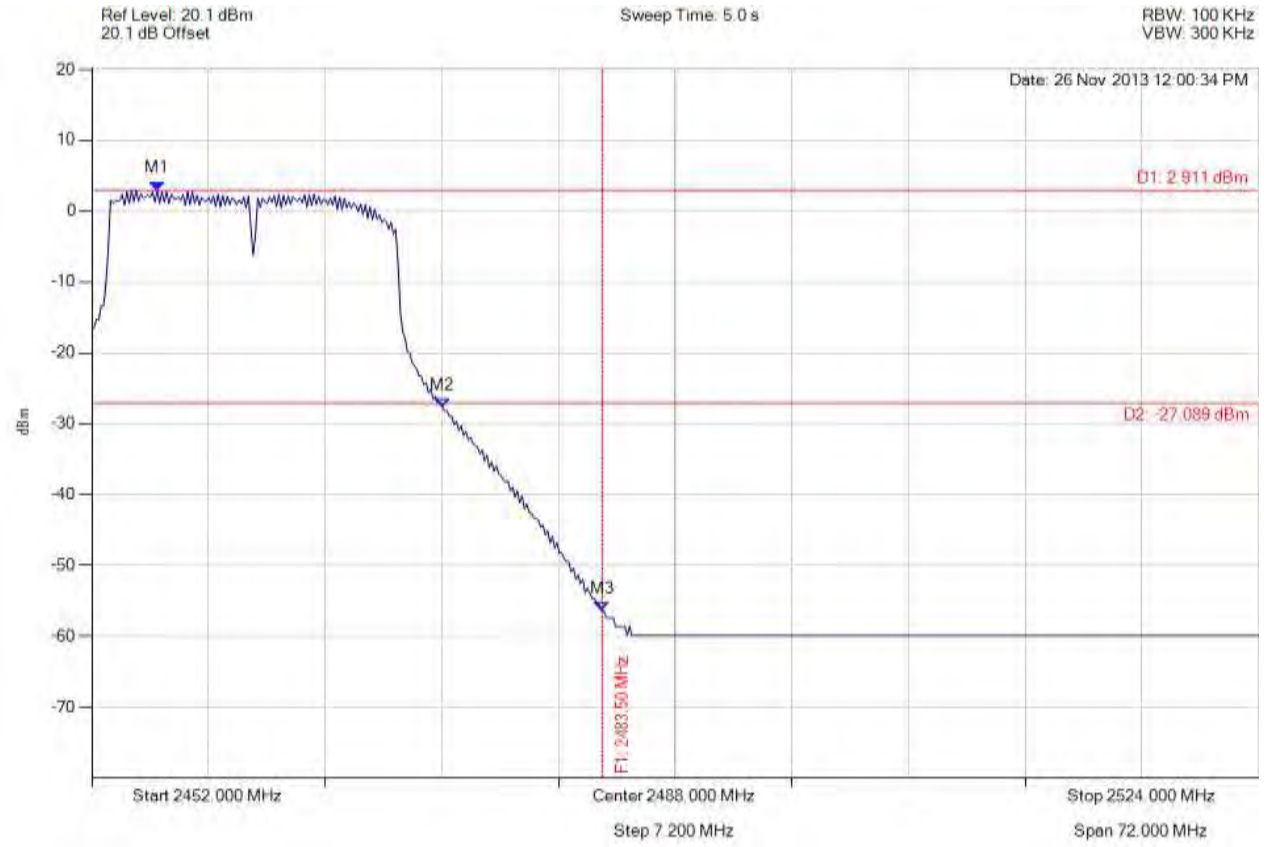
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2456.040 MHz : 2.911 dBm M2 : 2473.643 MHz : -27.718 dBm M3 : 2483.500 MHz : -56.380 dBm	Channel Frequency: 2462.00 MHz

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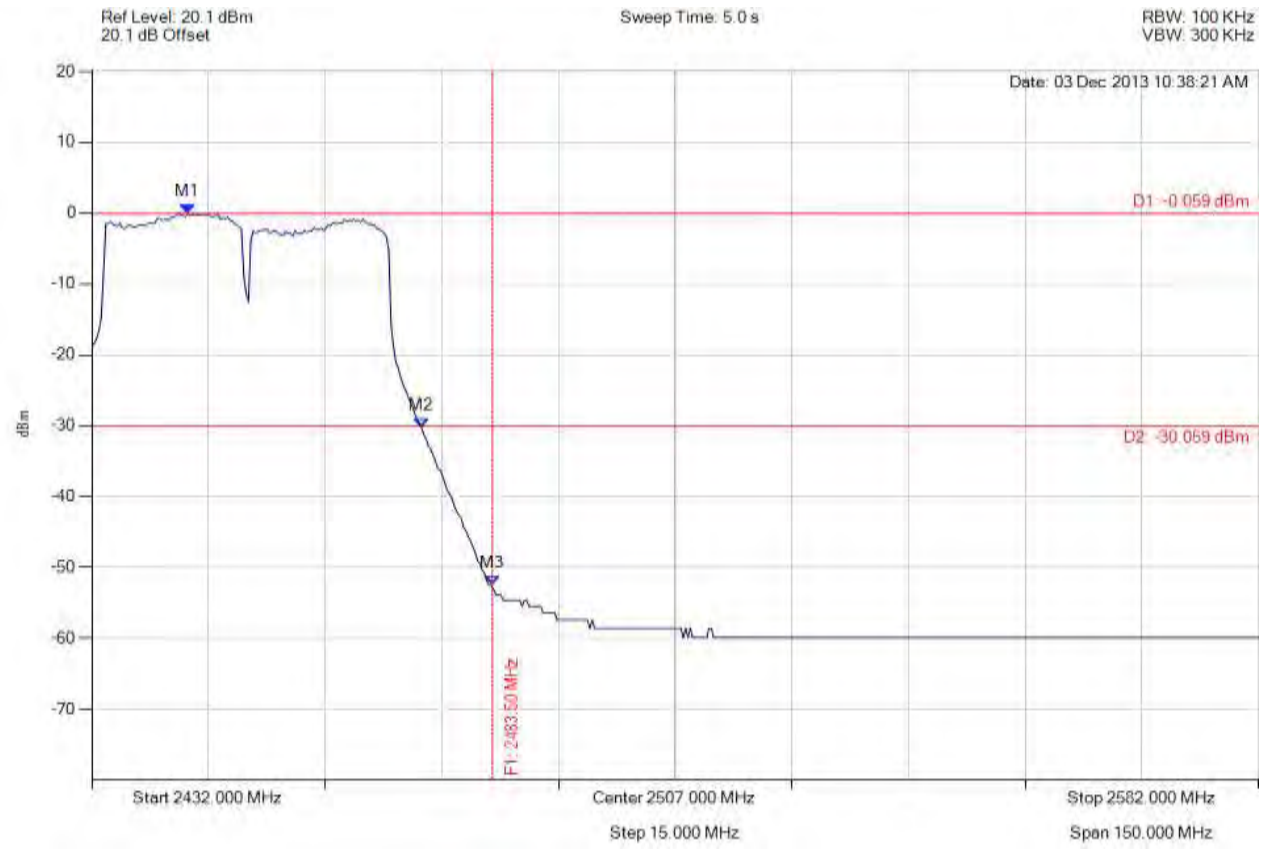
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2444.325 MHz : -0.059 dBm M2 : 2474.385 MHz : -30.264 dBm M3 : 2483.500 MHz : -52.543 dBm	Channel Frequency: 2452.00 MHz

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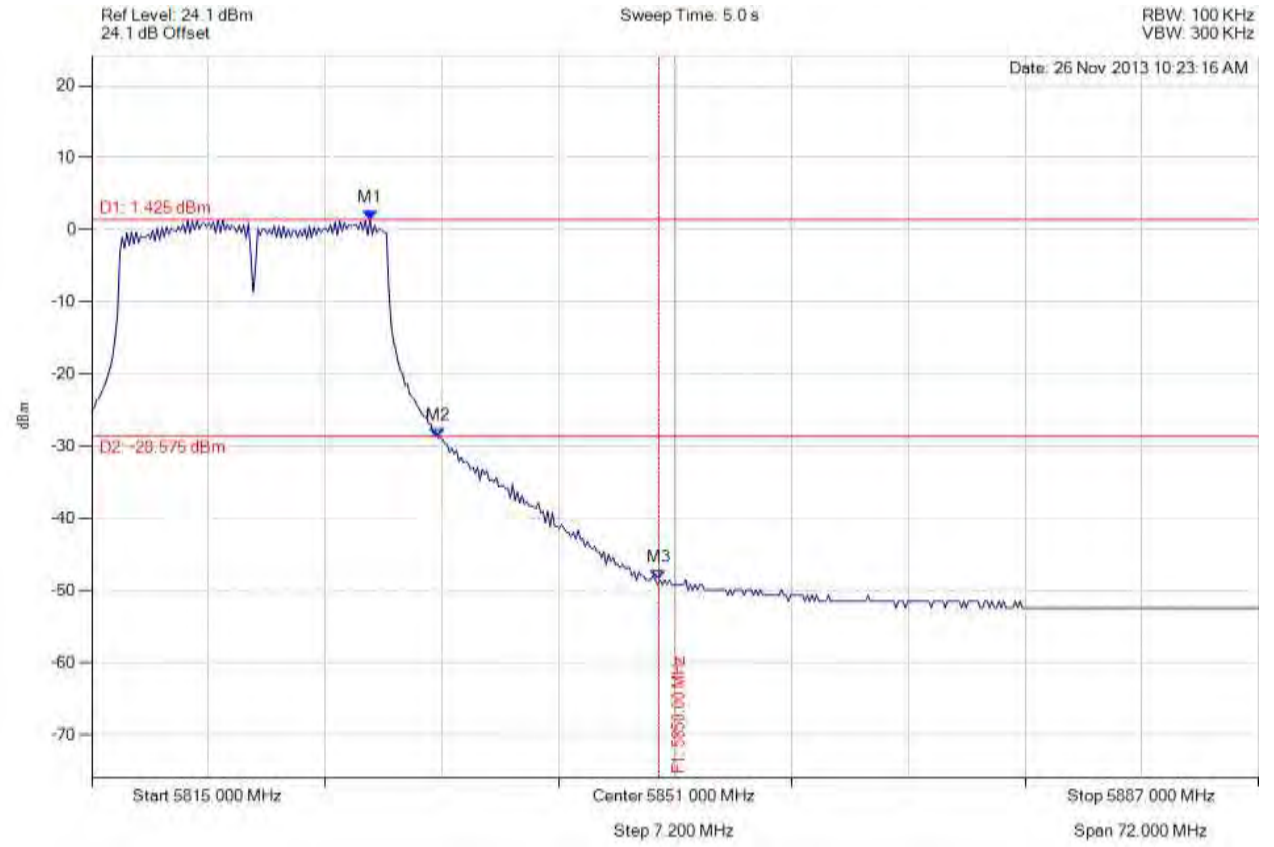
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5832.170 MHz : 1.425 dBm M2 : 5836.355 MHz : -28.795 dBm M3 : 5850.000 MHz : -48.543 dBm	Channel Frequency: 5825.00 MHz

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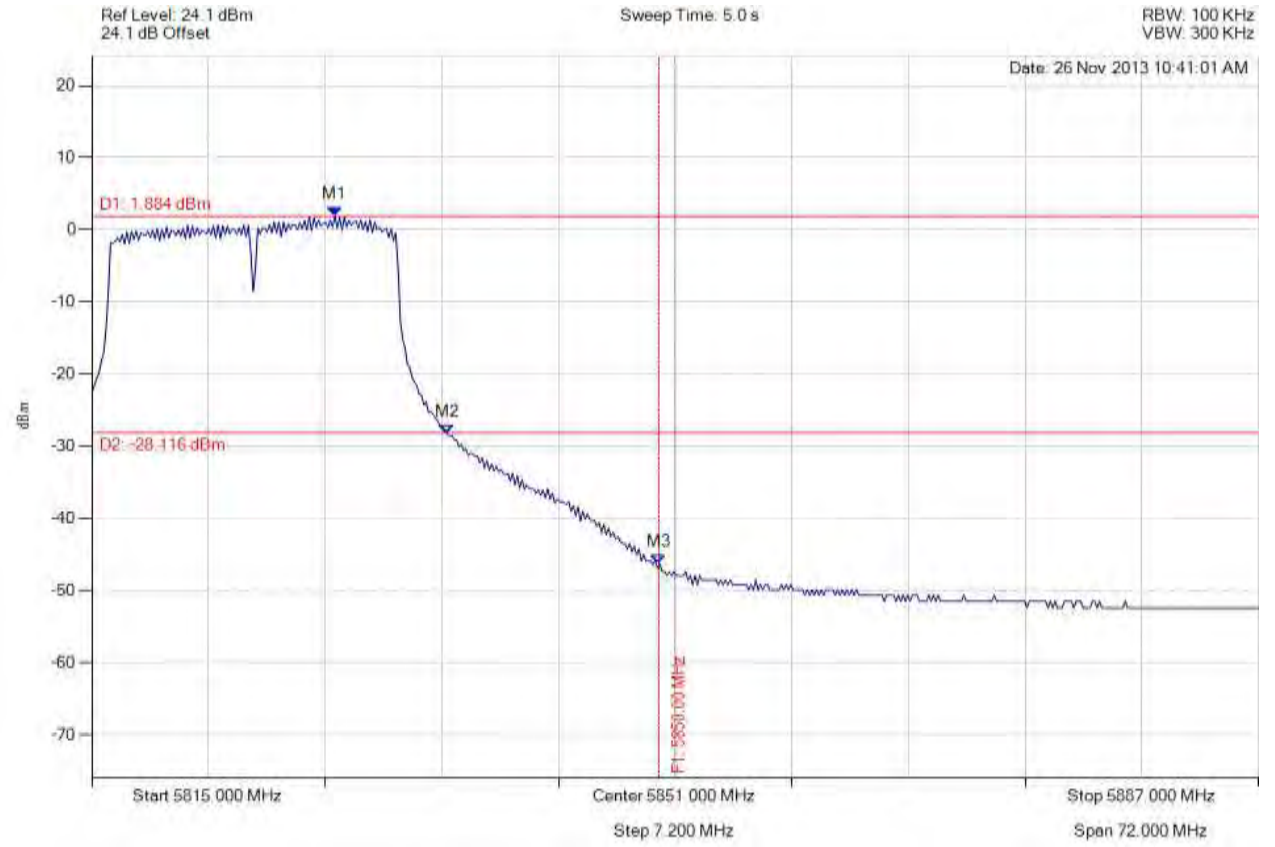
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5830.006 MHz : 1.884 dBm M2 : 5836.932 MHz : -28.238 dBm M3 : 5850.000 MHz : -46.360 dBm	Channel Frequency: 5825.00 MHz

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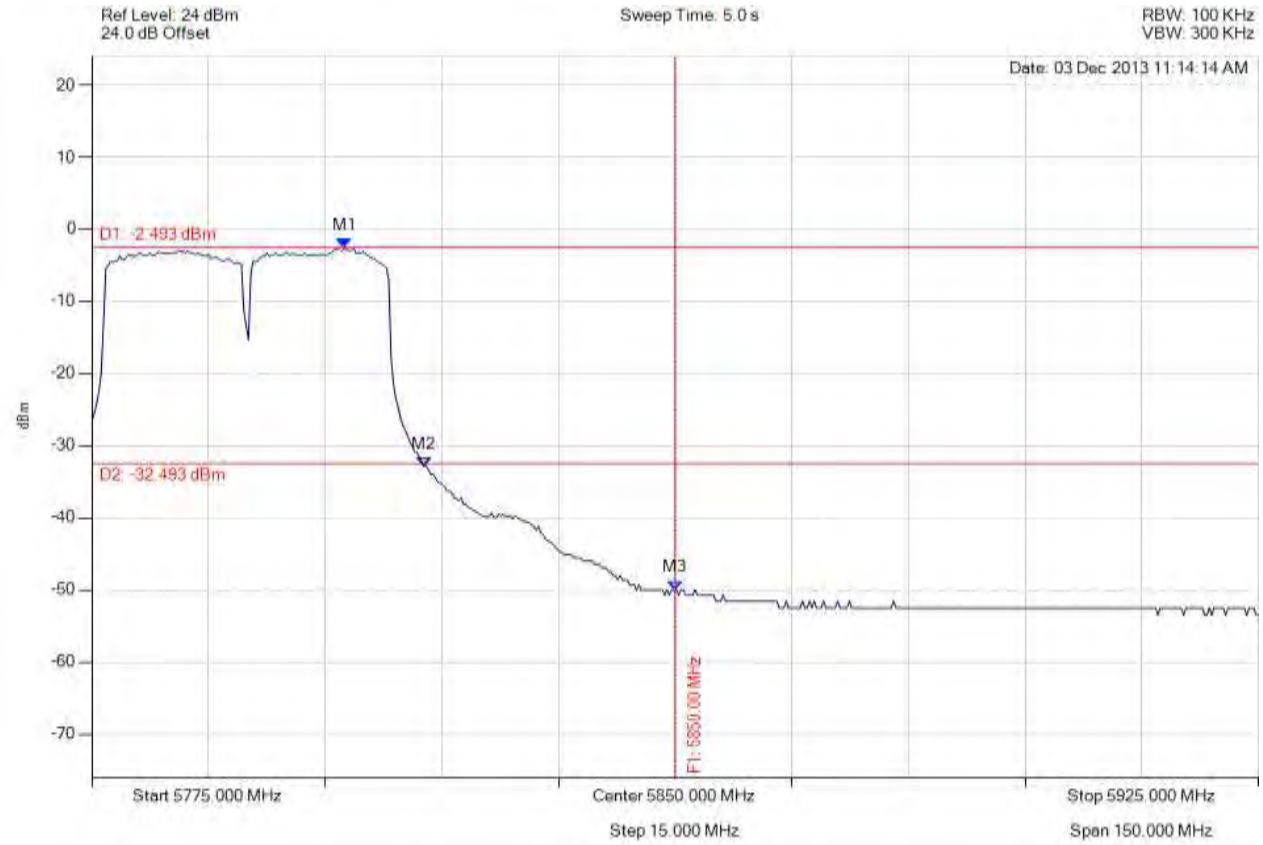
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5807.465 MHz : -2.493 dBm M2 : 5817.685 MHz : -32.875 dBm M3 : 5850.000 MHz : -49.982 dBm	Channel Frequency: 5795.00 MHz

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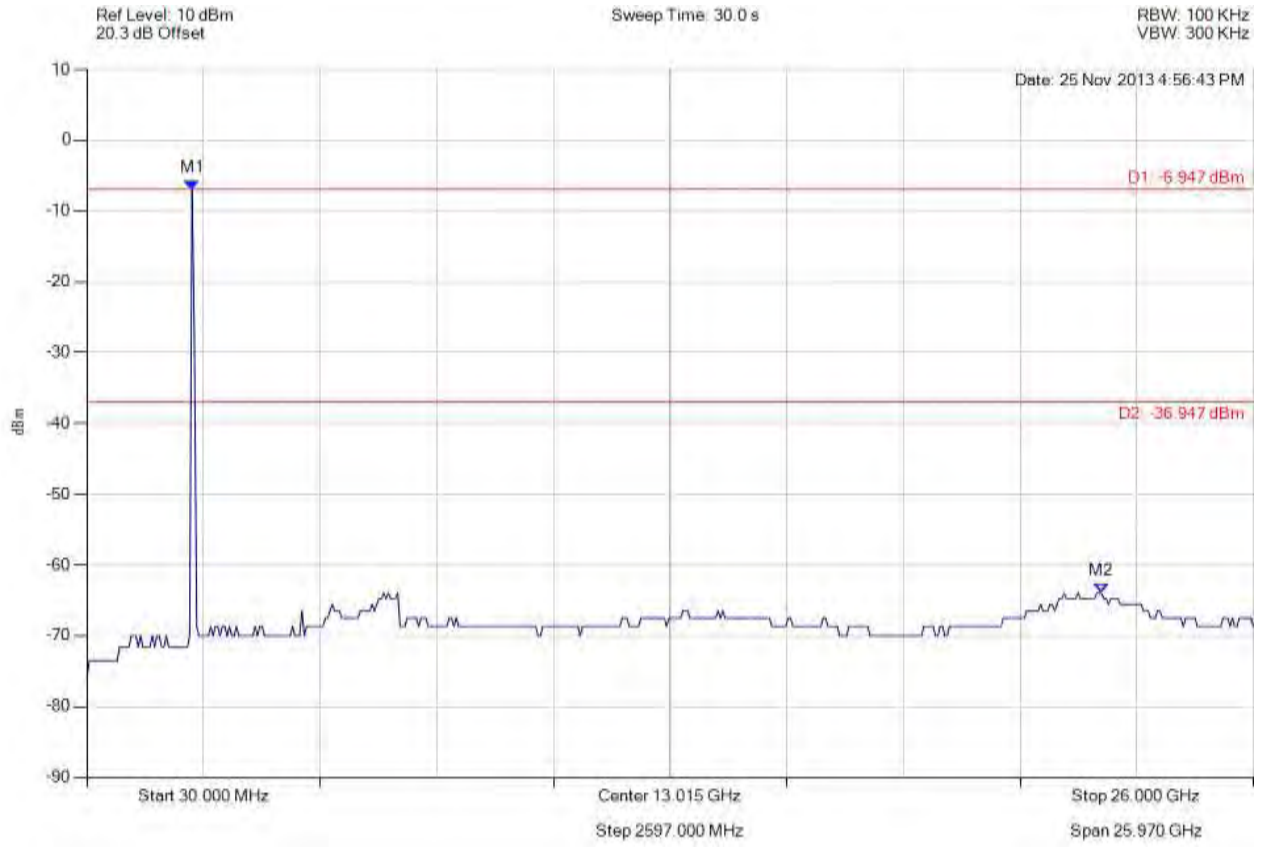
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -6.947 dBm M2 : 22.617 GHz : -63.982 dBm	Limit: -36.95 dBm Margin: -27.03 dB

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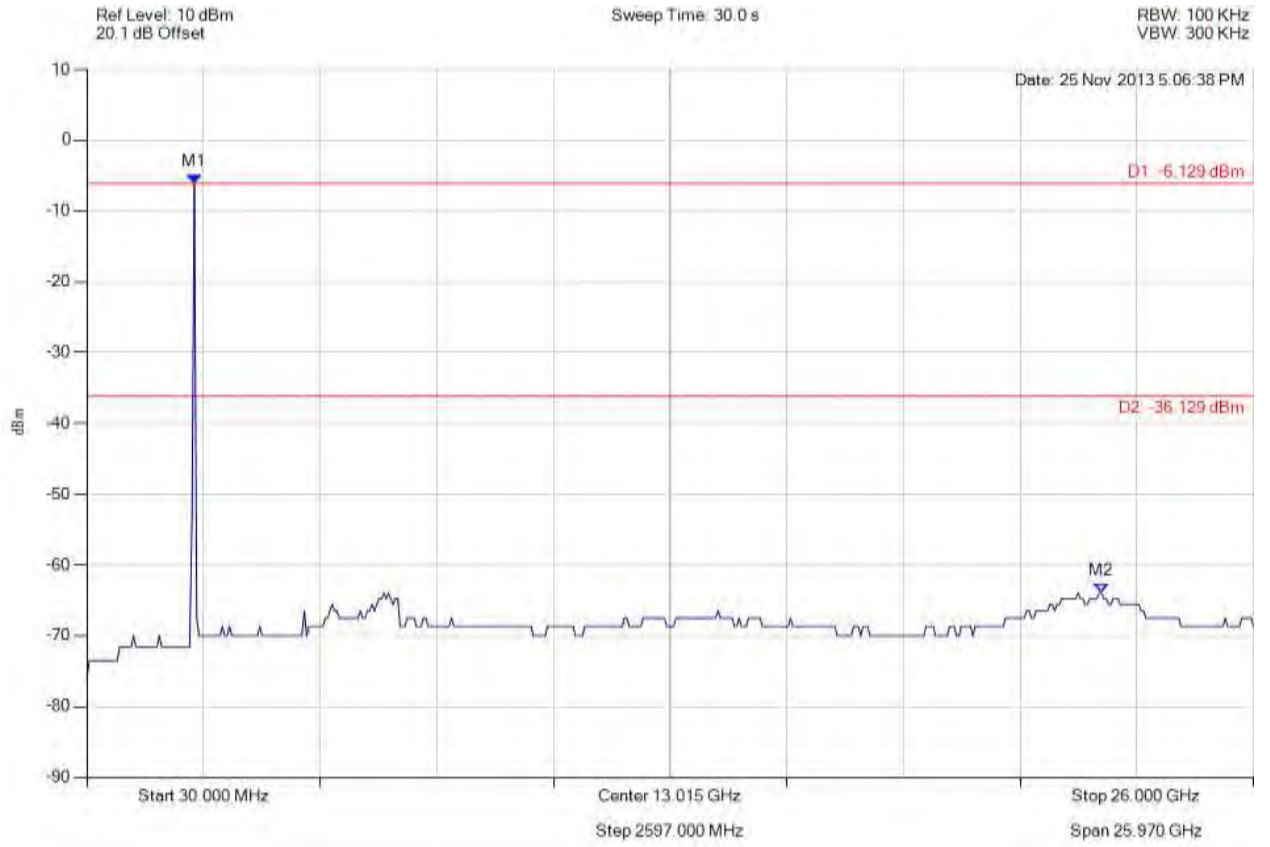
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -6.129 dBm M2 : 22.617 GHz : -63.982 dBm	Limit: -36.13 dBm Margin: -27.85 dB

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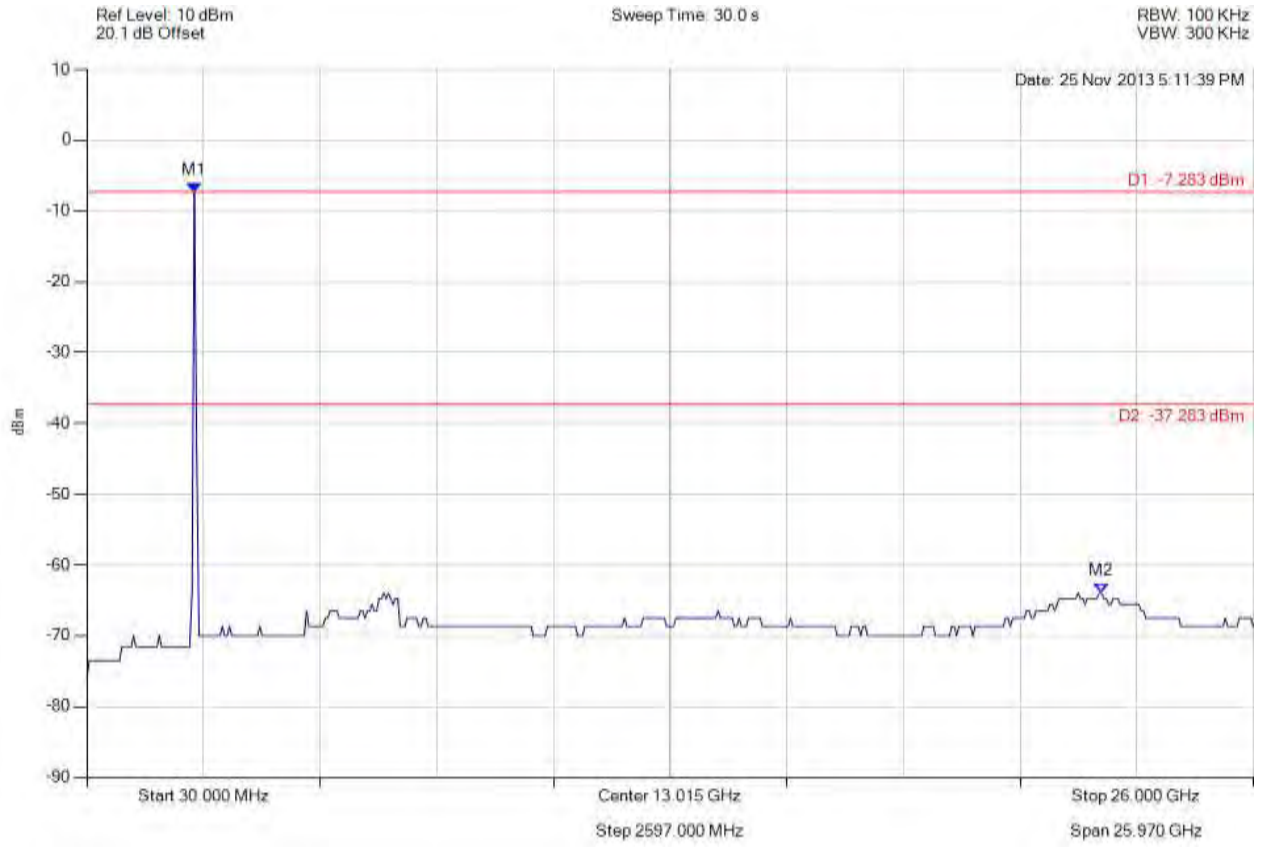
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -7.283 dBm M2 : 22.617 GHz : -63.982 dBm	Limit: -37.28 dBm Margin: -26.70 dB

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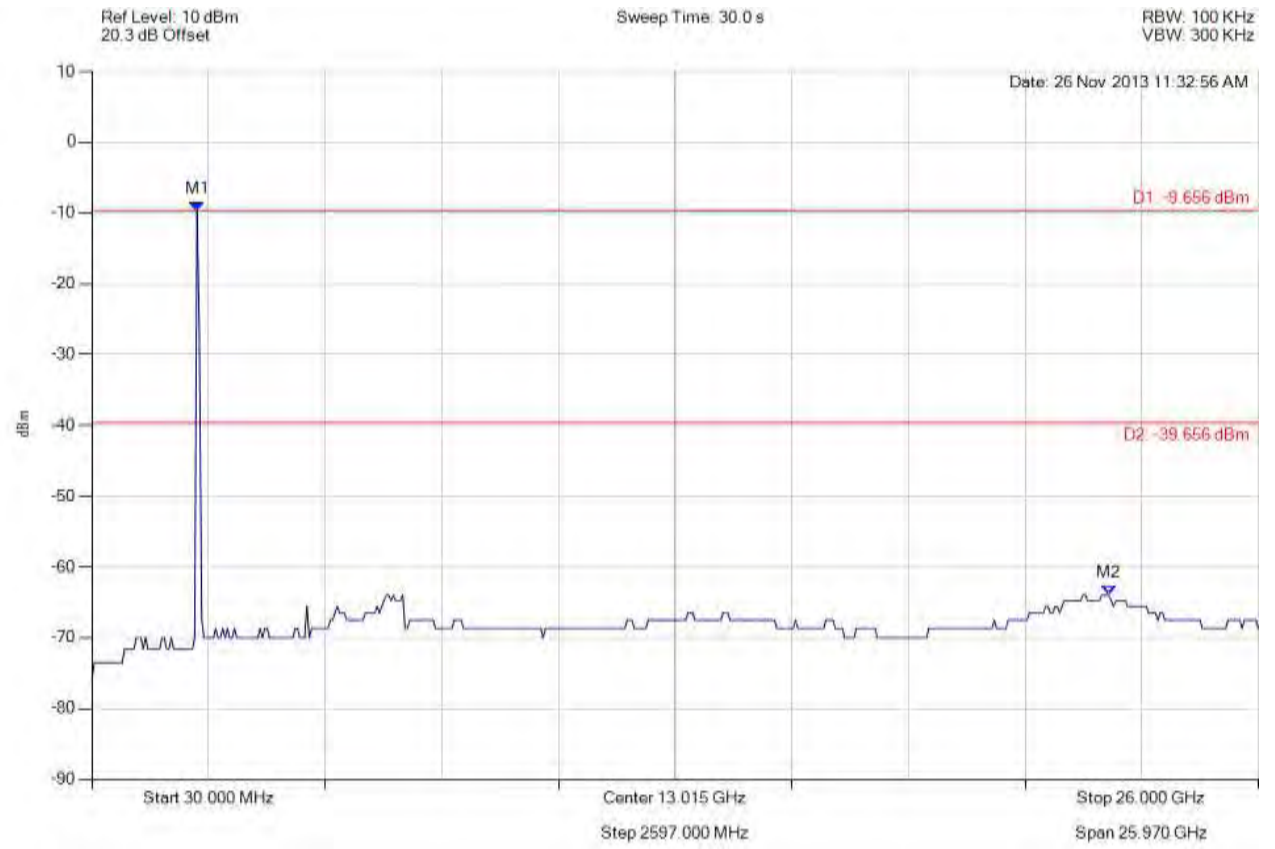
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -9.656 dBm M2 : 22.669 GHz : -63.982 dBm	Limit: -39.66 dBm Margin: -24.32 dB

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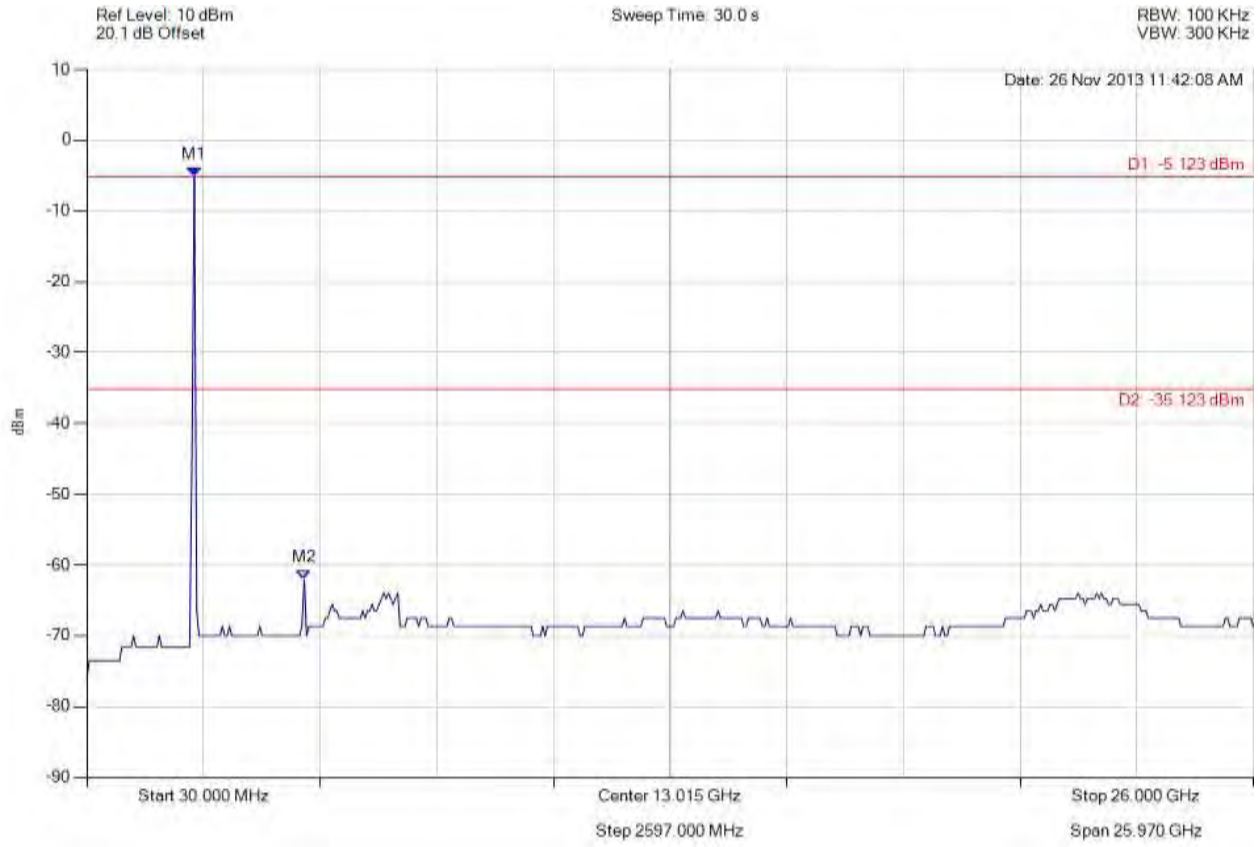
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -5.123 dBm M2 : 4870.100 MHz : -62.044 dBm	Limit: -35.12 dBm Margin: -26.92 dB

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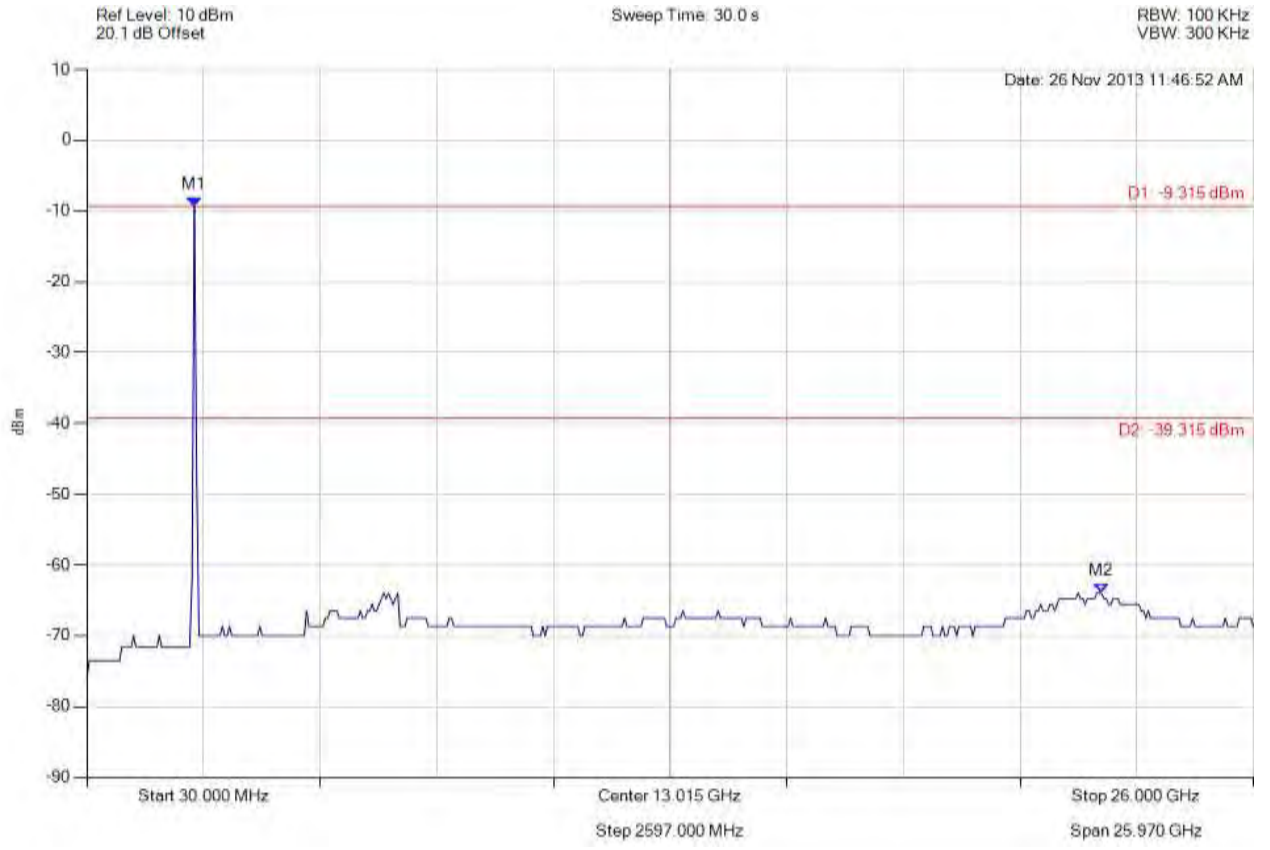
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -9.315 dBm M2 : 22.617 GHz : -63.982 dBm	Limit: -39.32 dBm Margin: -24.66 dB

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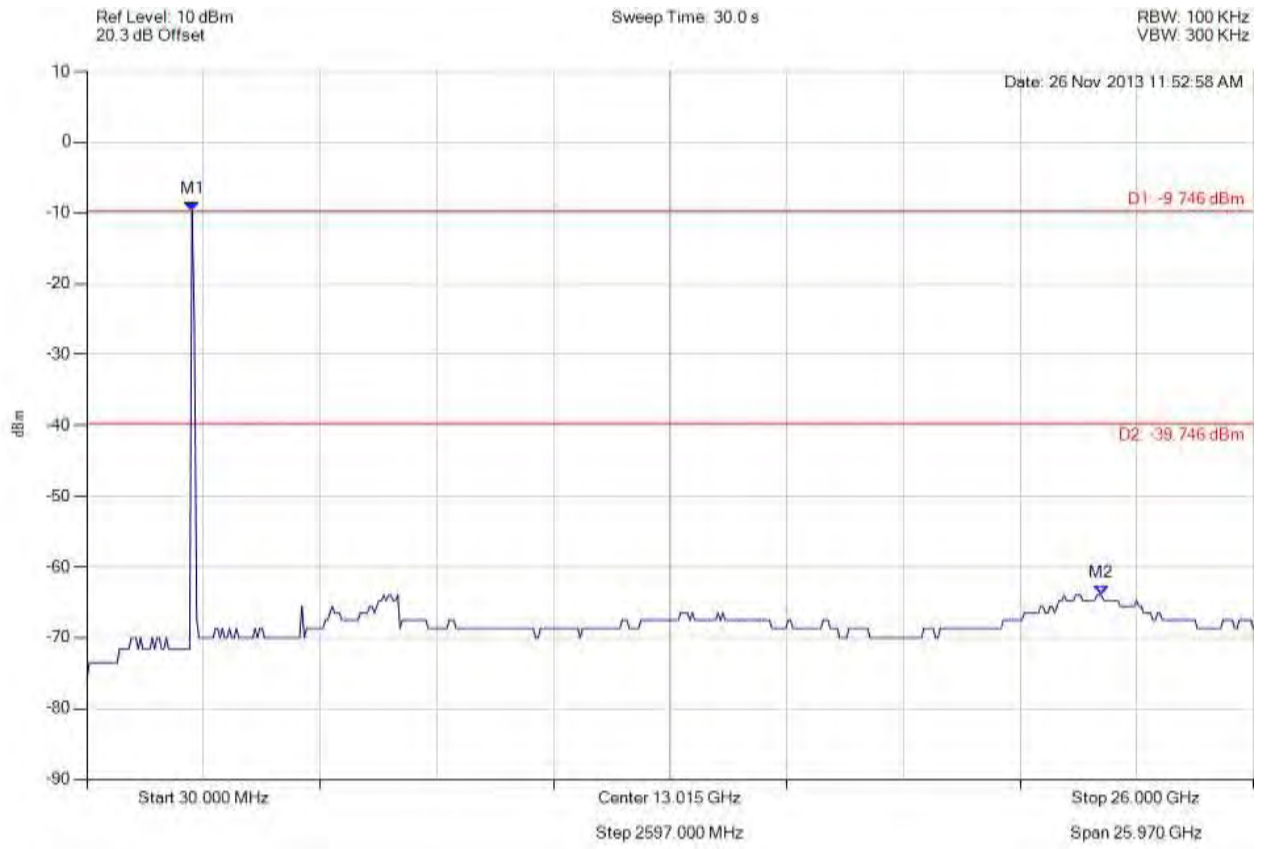
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -9.746 dBm M2 : 22.617 GHz : -63.982 dBm	Limit: -39.75 dBm Margin: -24.23 dB

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc

Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -4.267 dBm M2 : 4870.100 MHz : -61.483 dBm	Limit: -34.27 dBm Margin: -27.21 dB

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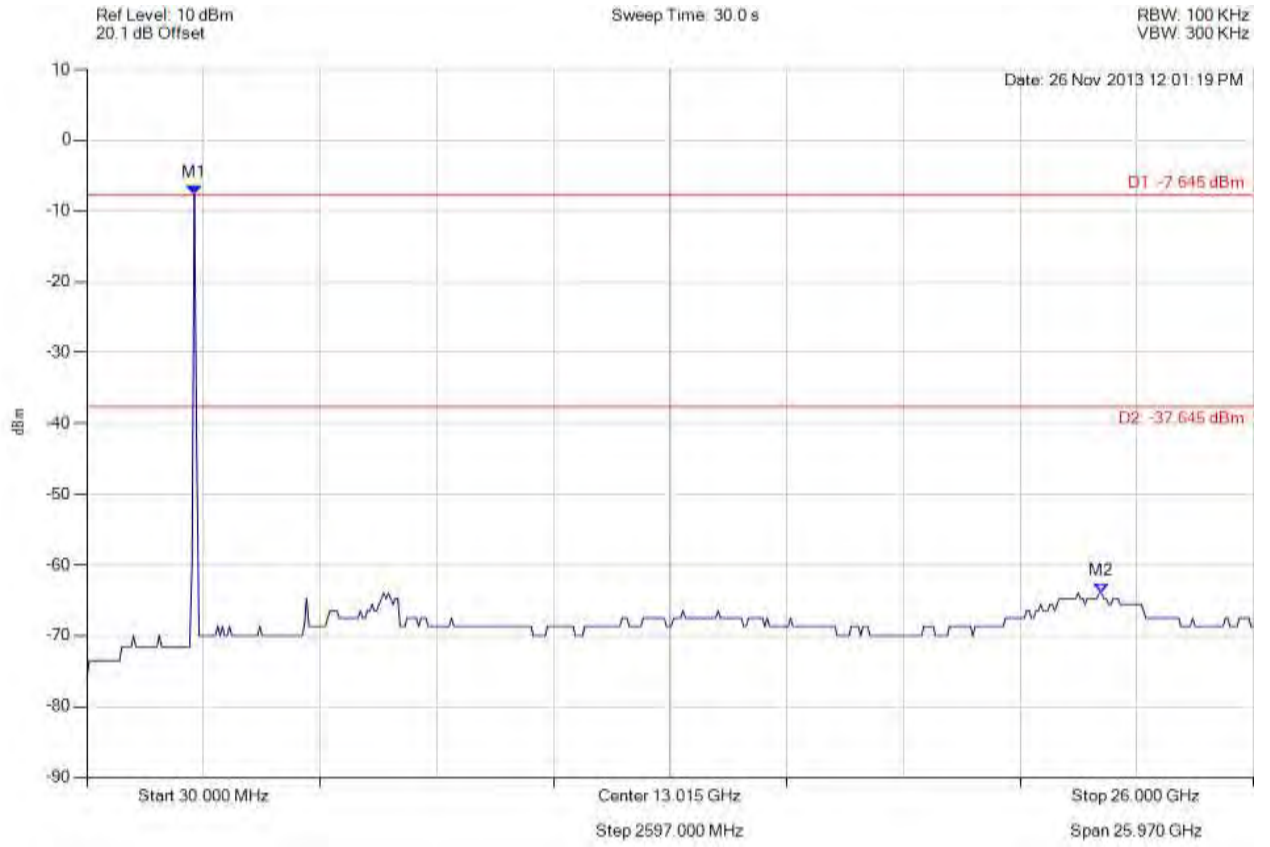
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -7.645 dBm M2 : 22.617 GHz : -63.982 dBm	Limit: -37.65 dBm Margin: -26.33 dB

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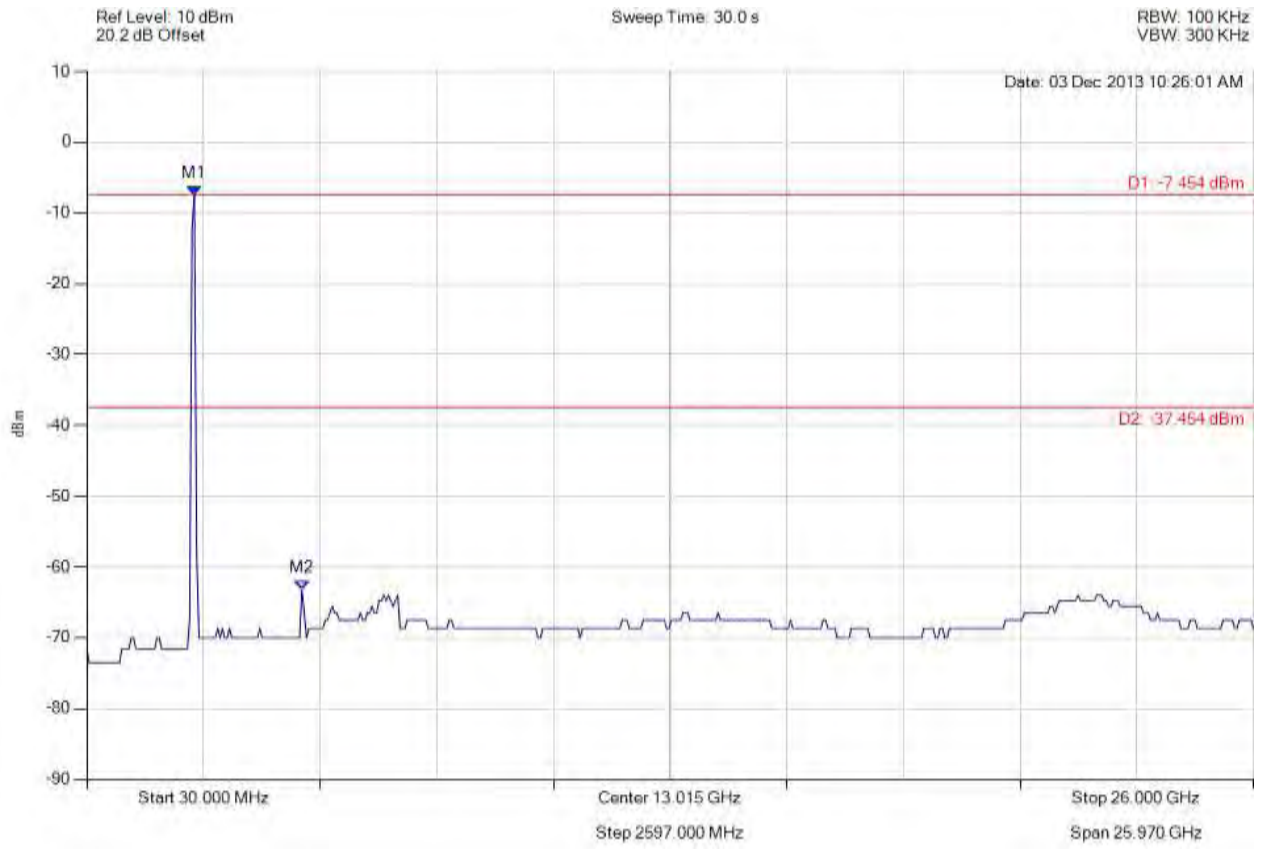
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -7.454 dBm M2 : 4818.056 MHz : -63.286 dBm	Limit: -37.45 dBm Margin: -25.84 dB

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CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc

Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -3.832 dBm M2 : 4870.100 MHz : -63.286 dBm	Limit: -33.83 dBm Margin: -29.46 dB

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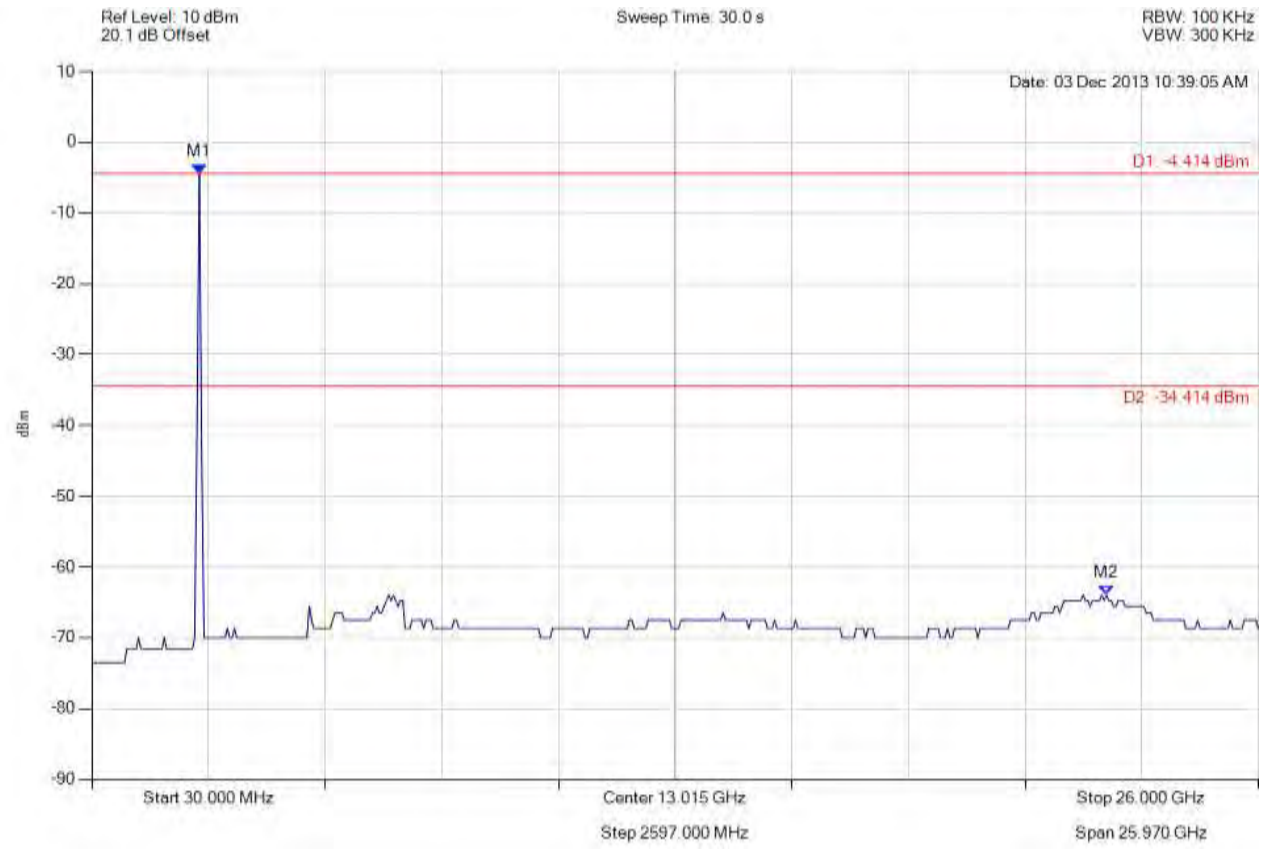
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -4.414 dBm M2 : 22.617 GHz : -63.982 dBm	Limit: -34.41 dBm Margin: -29.57 dB

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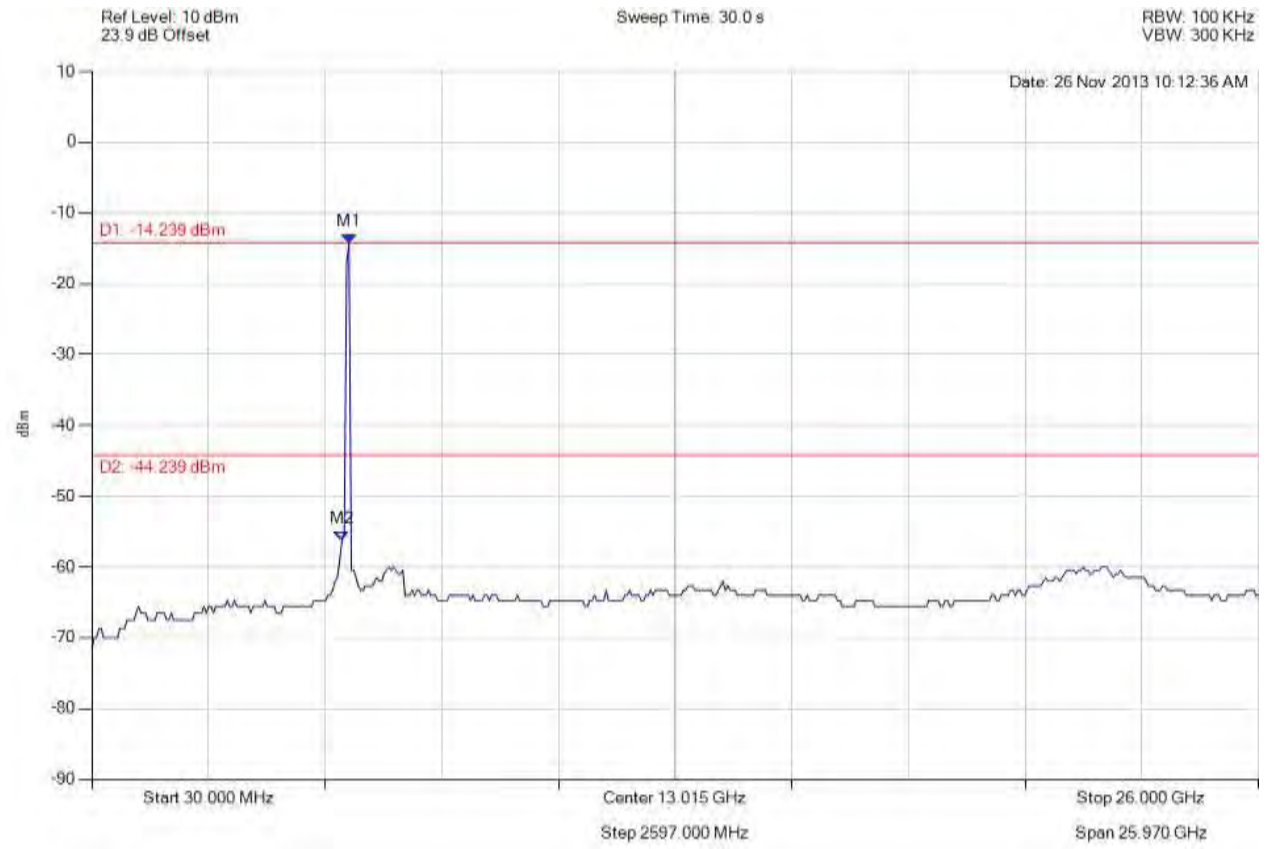
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -14.239 dBm M2 : 5598.717 MHz : -56.317 dBm	Limit: -44.24 dBm Margin: -12.08 dB

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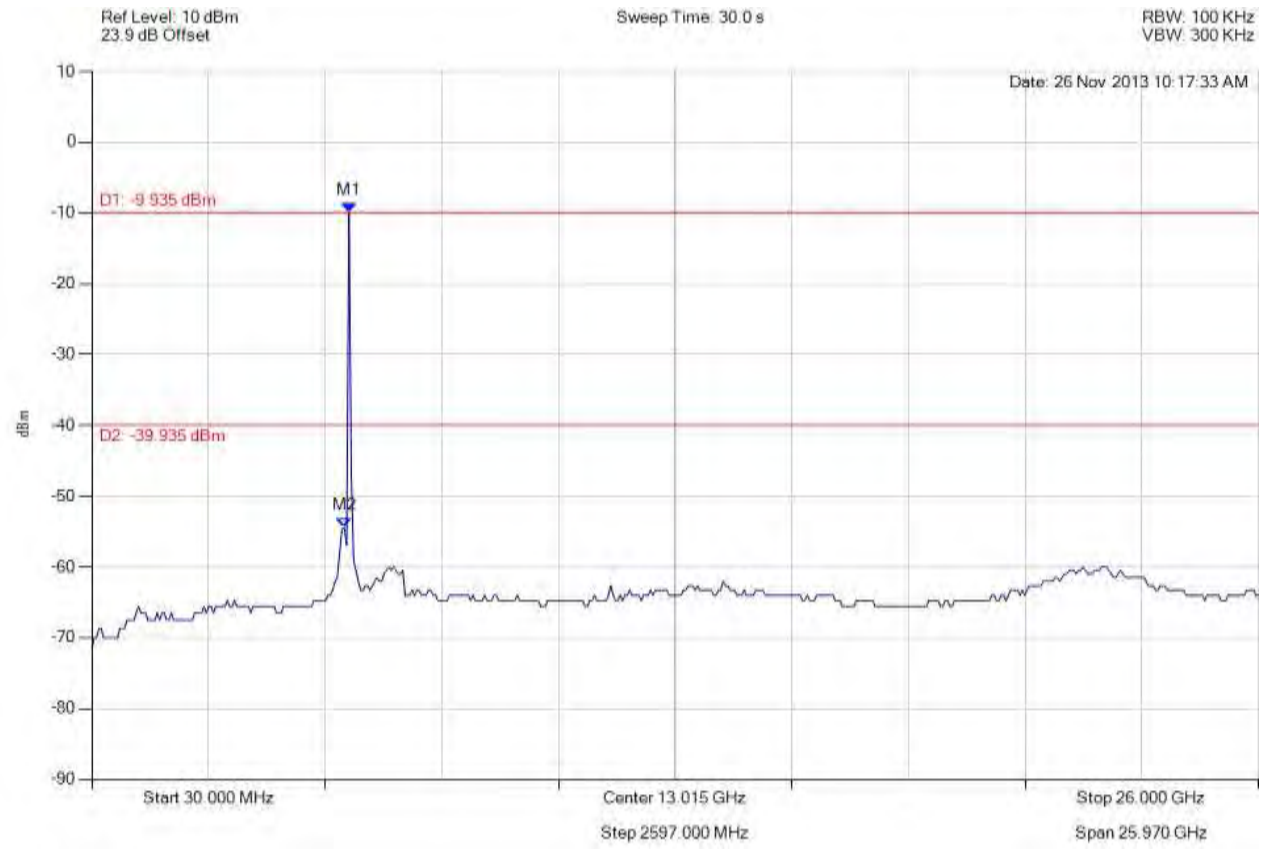
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -9.935 dBm M2 : 5650.762 MHz : -54.439 dBm	Limit: -39.94 dBm Margin: -14.50 dB

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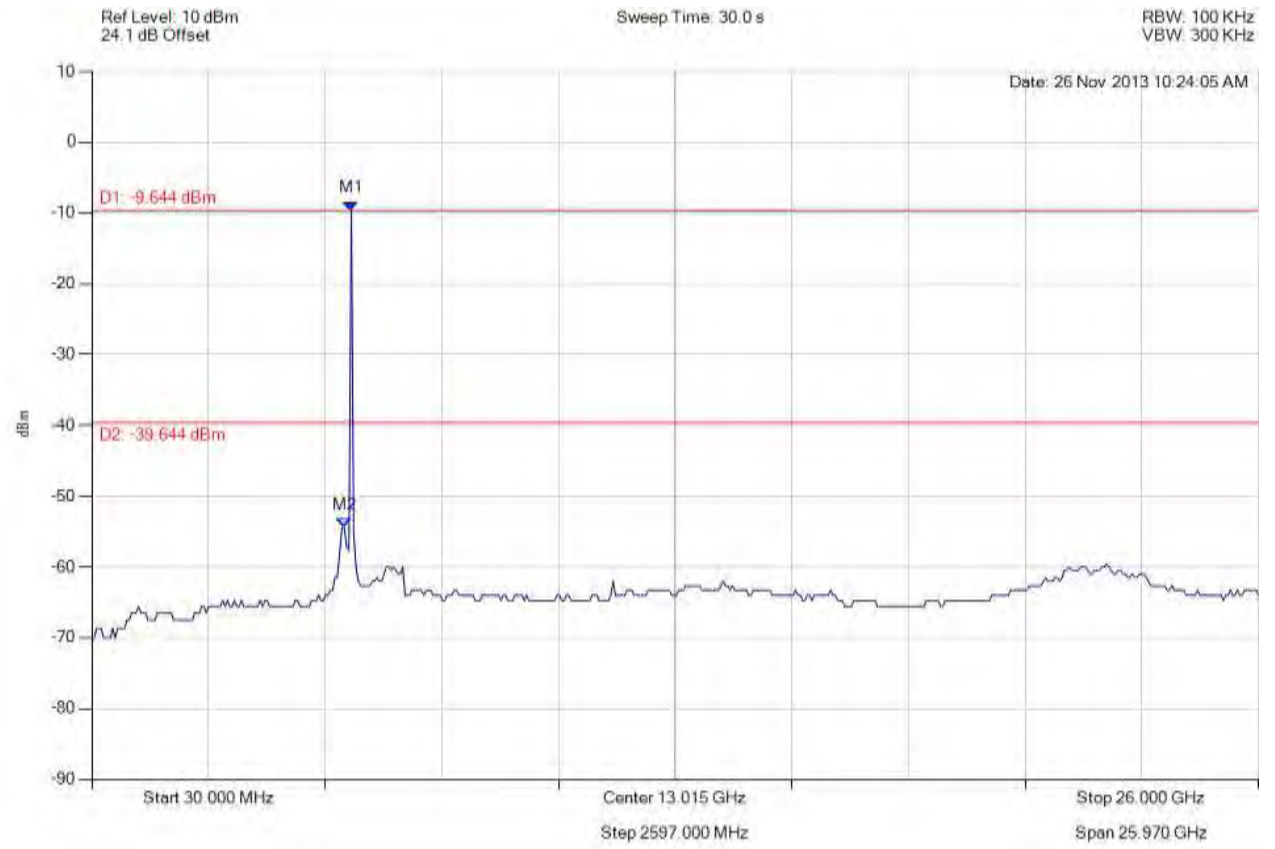
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -9.644 dBm M2 : 5650.762 MHz : -54.439 dBm	Limit: -39.64 dBm Margin: -14.80 dB

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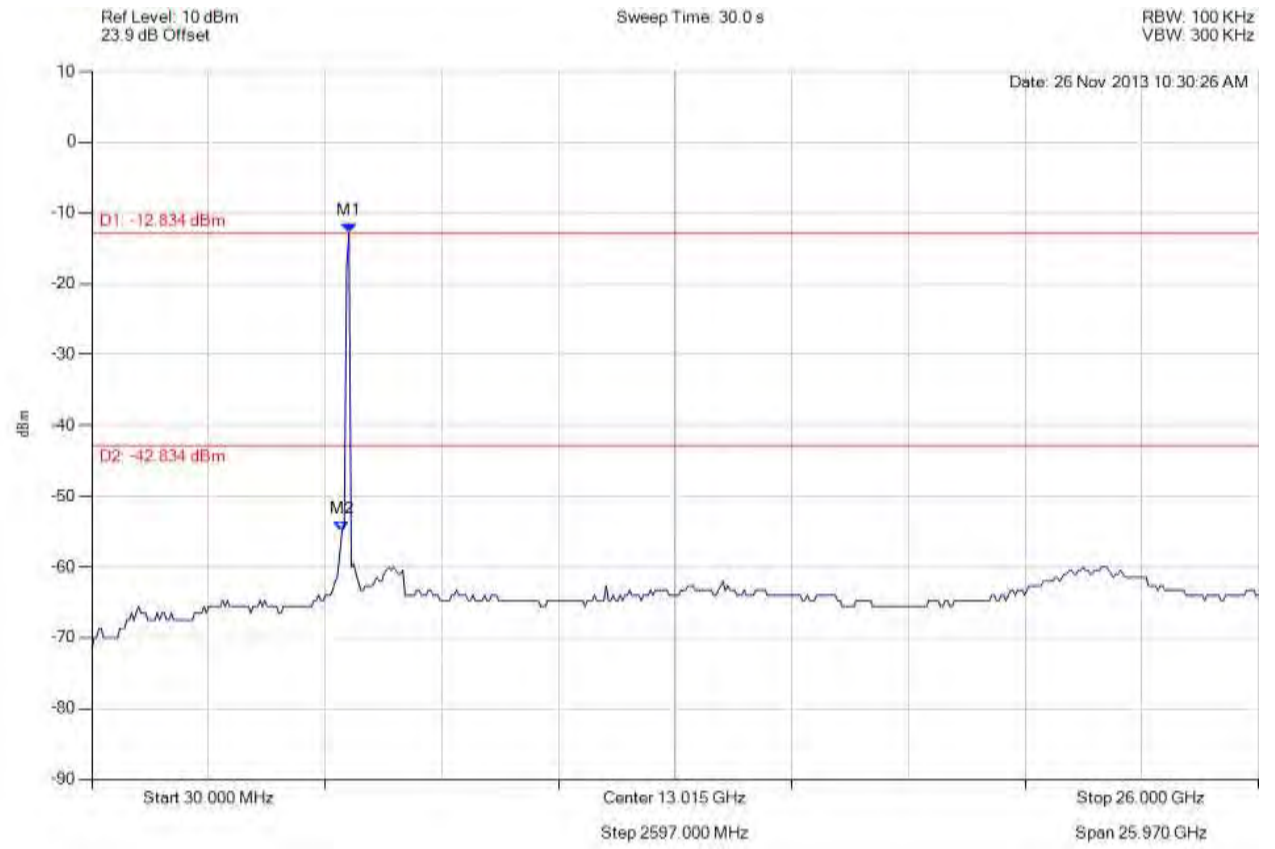
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -12.834 dBm M2 : 5598.717 MHz : -54.936 dBm	Limit: -42.83 dBm Margin: -12.11 dB

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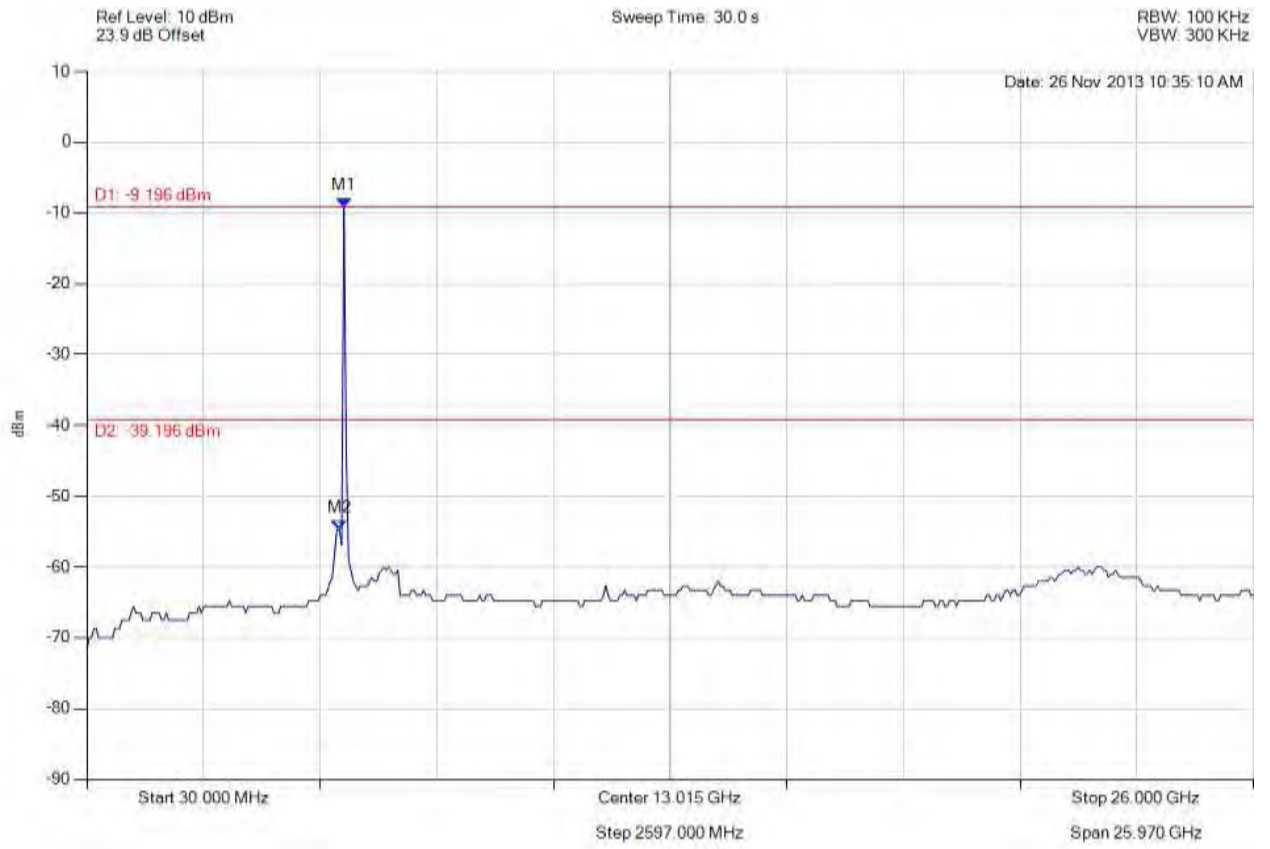
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -9.196 dBm M2 : 5650.762 MHz : -54.684 dBm	Limit: -39.20 dBm Margin: -15.48 dB

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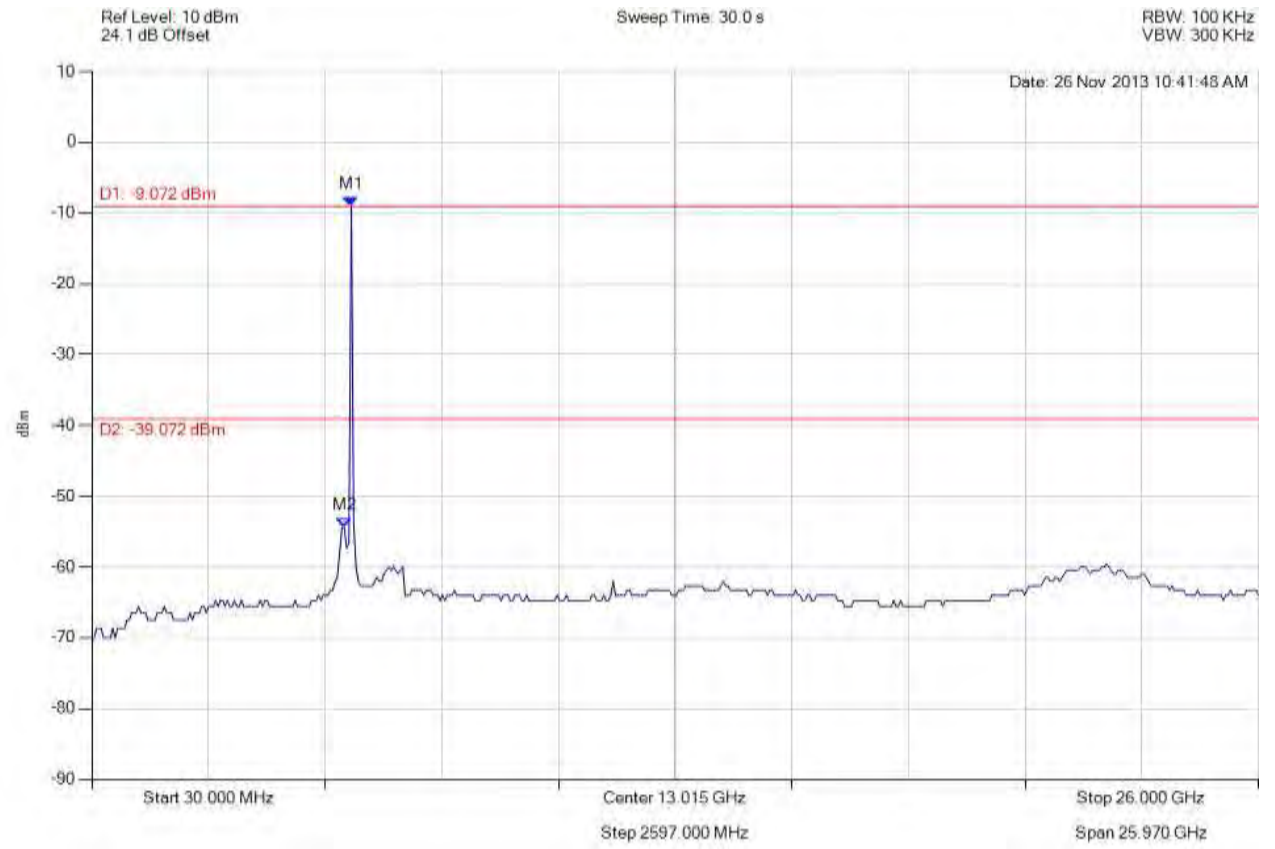
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -9.072 dBm M2 : 5650.762 MHz : -54.439 dBm	Limit: -39.07 dBm Margin: -15.37 dB

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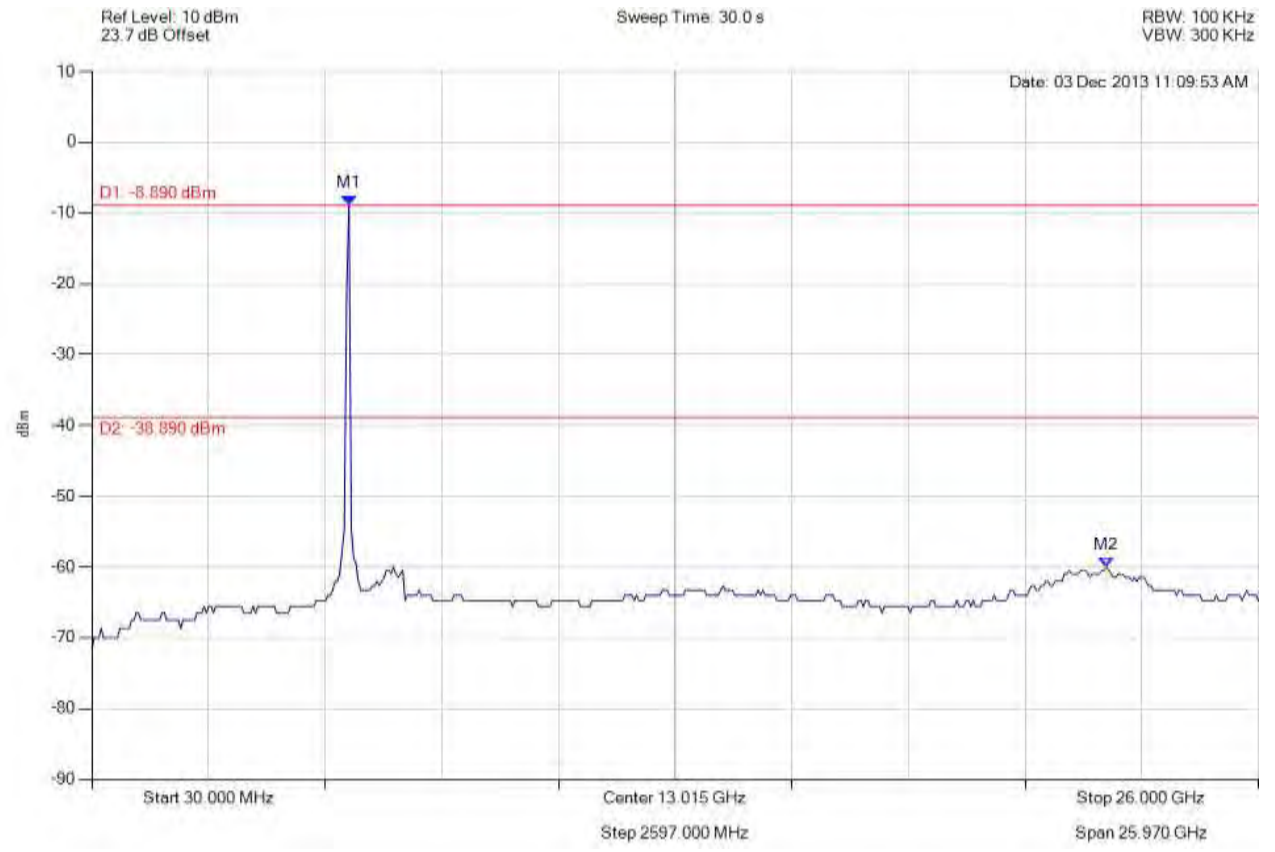
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -8.890 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -38.89 dBm Margin: -21.10 dB

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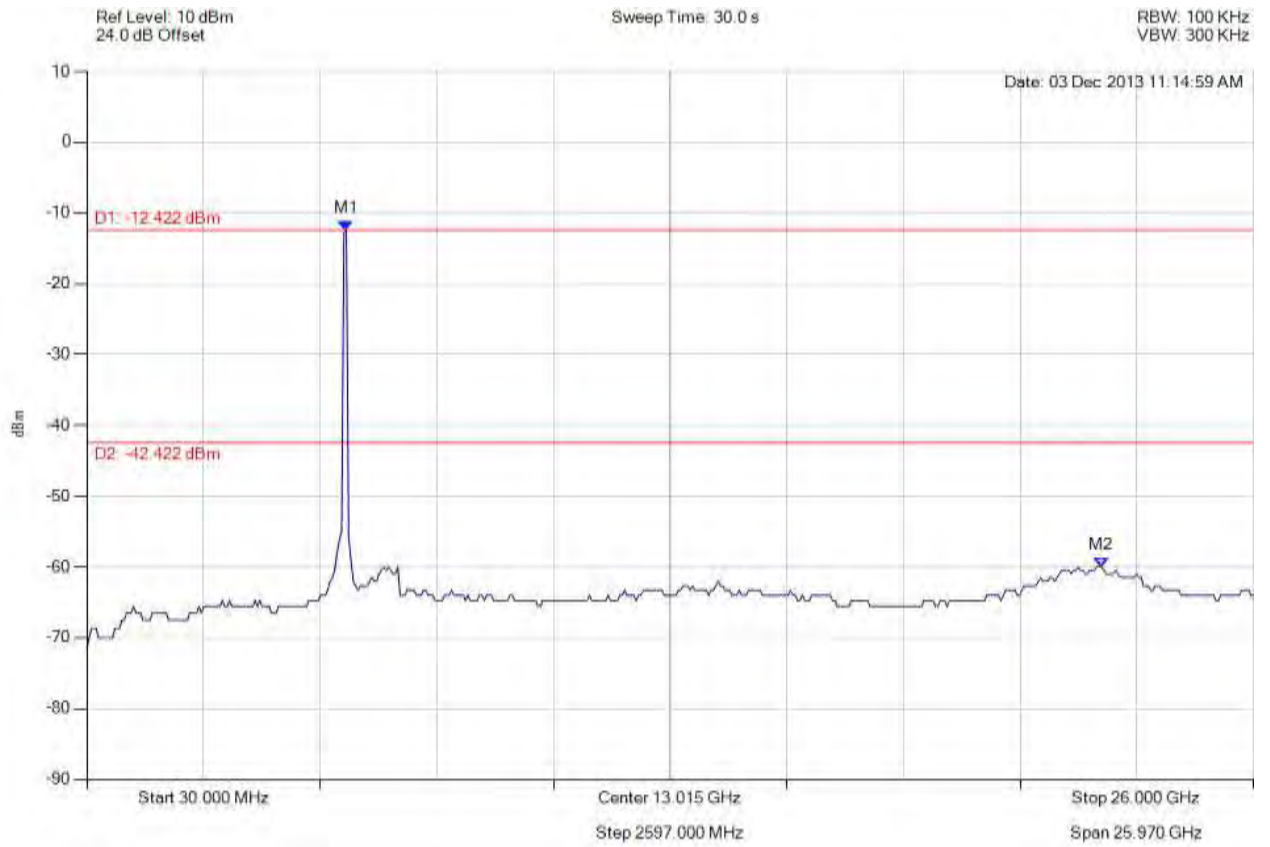
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -12.422 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -42.42 dBm Margin: -17.57 dB

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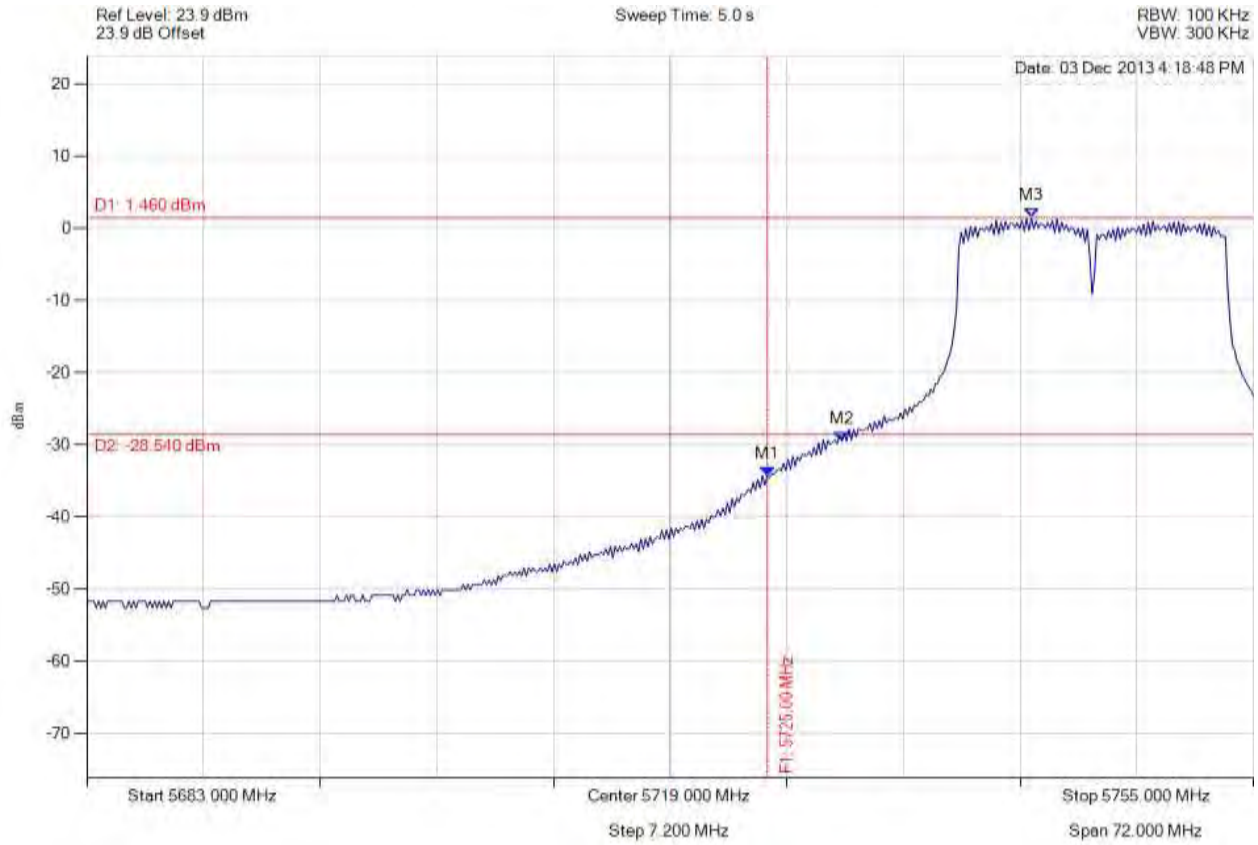
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -34.281 dBm M2 : 5729.605 MHz : -29.521 dBm M3 : 5741.293 MHz : 1.460 dBm	Channel Frequency: 5745.00 MHz

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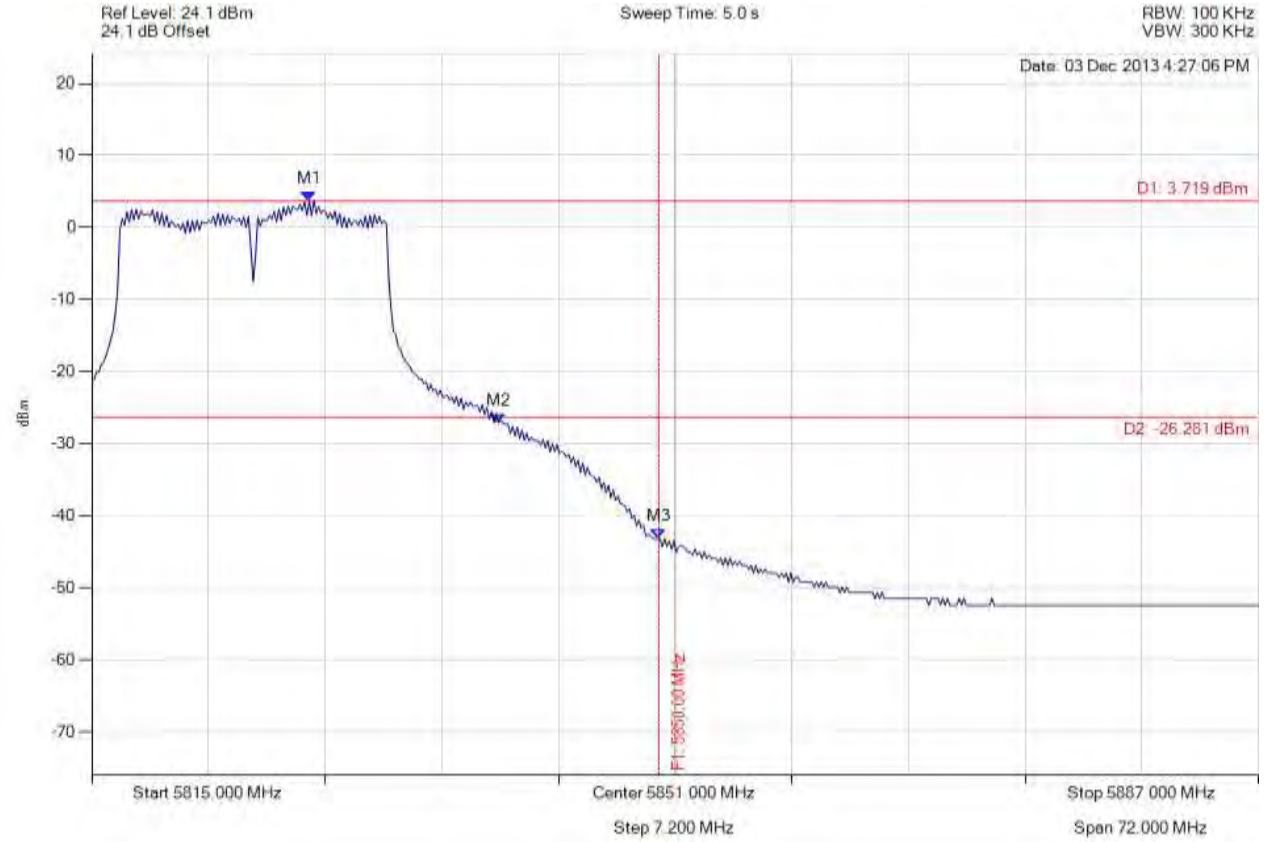
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5828.419 MHz : 3.719 dBm M2 : 5840.106 MHz : -27.063 dBm M3 : 5850.000 MHz : -43.166 dBm	Channel Frequency: 5825.00 MHz

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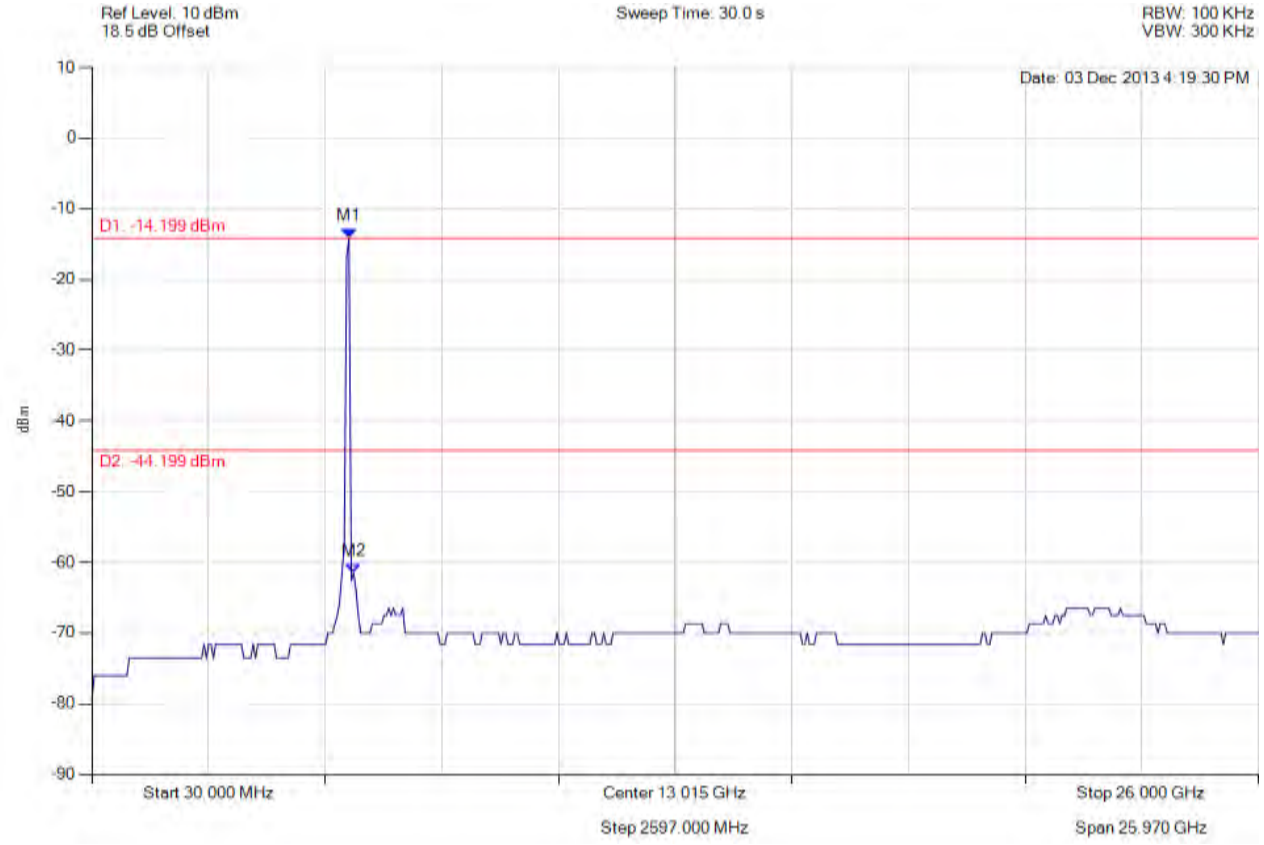
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -14.199 dBm M2 : 5858.938 MHz : -61.483 dBm	Limit: -44.20 dBm Margin: -17.28 dB

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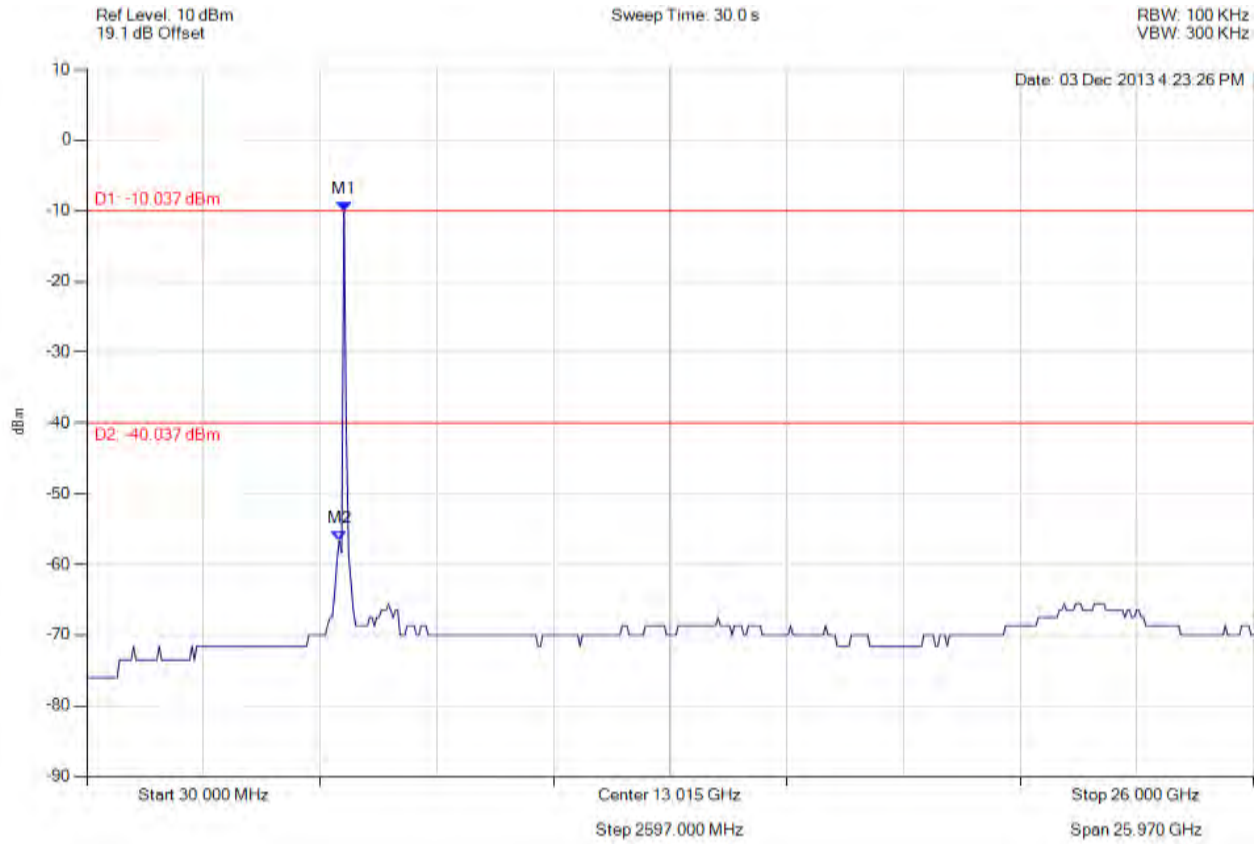
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -10.037 dBm M2 : 5650.762 MHz : -56.622 dBm	Limit: -40.04 dBm Margin: -16.58 dB

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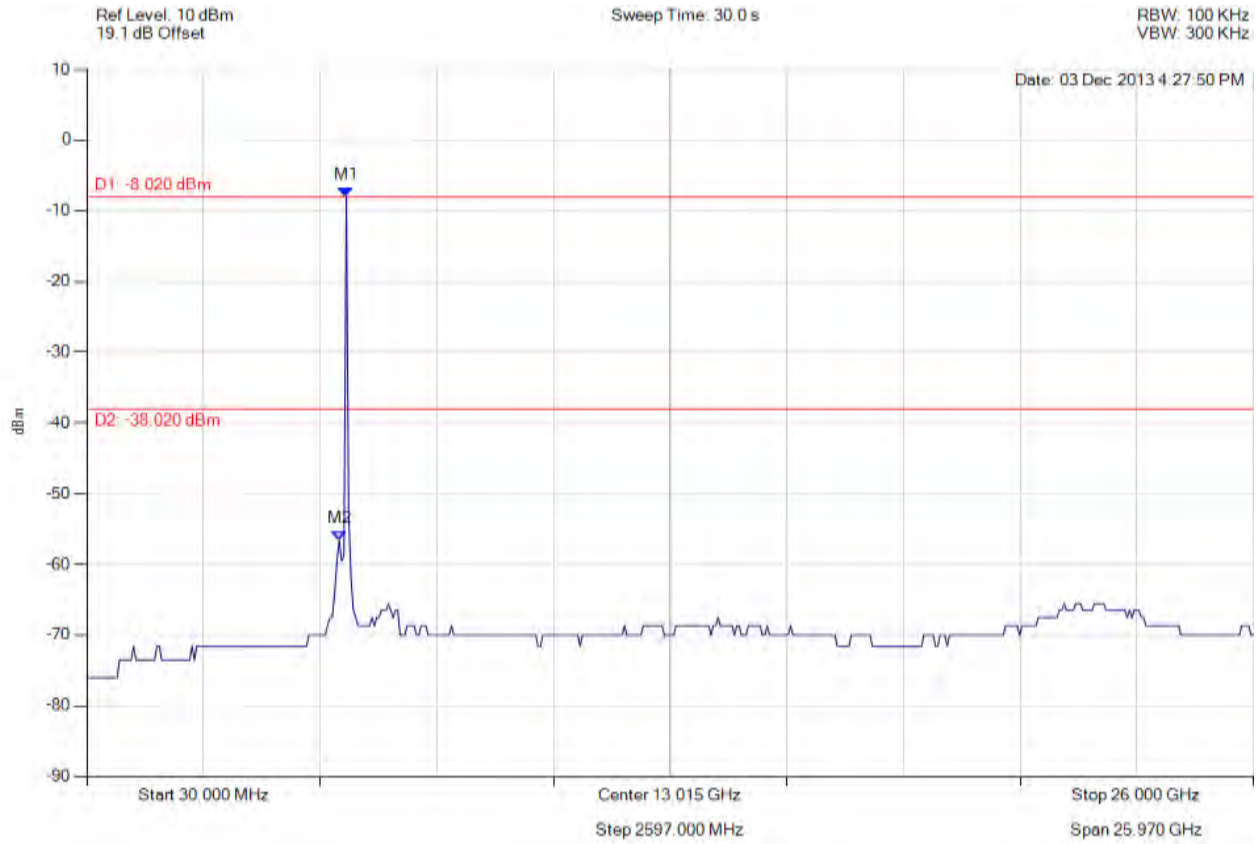
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -8.020 dBm M2 : 5650.762 MHz : -56.622 dBm	Limit: -38.02 dBm Margin: -18.60 dB

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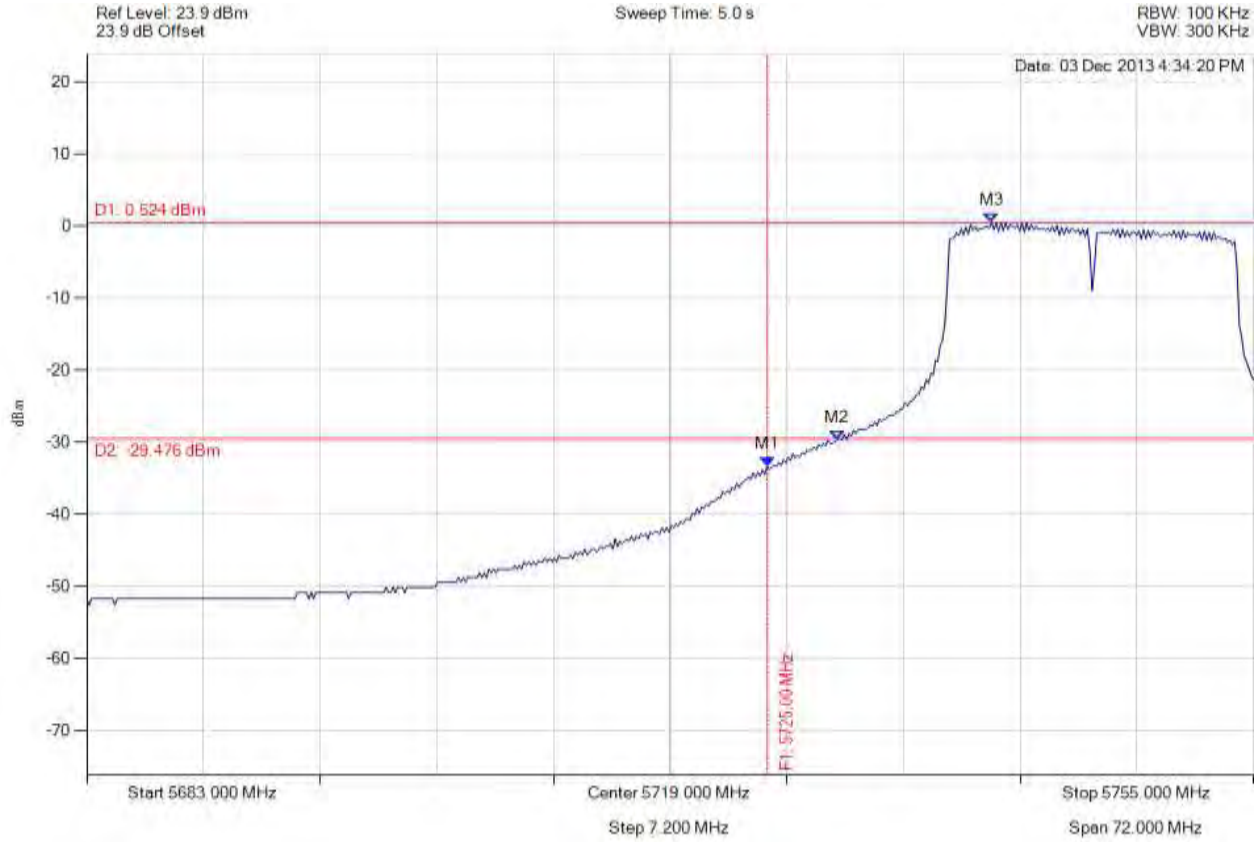
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -33.284 dBm M2 : 5729.317 MHz : -29.589 dBm M3 : 5738.840 MHz : 0.524 dBm	Channel Frequency: 5745.00 MHz

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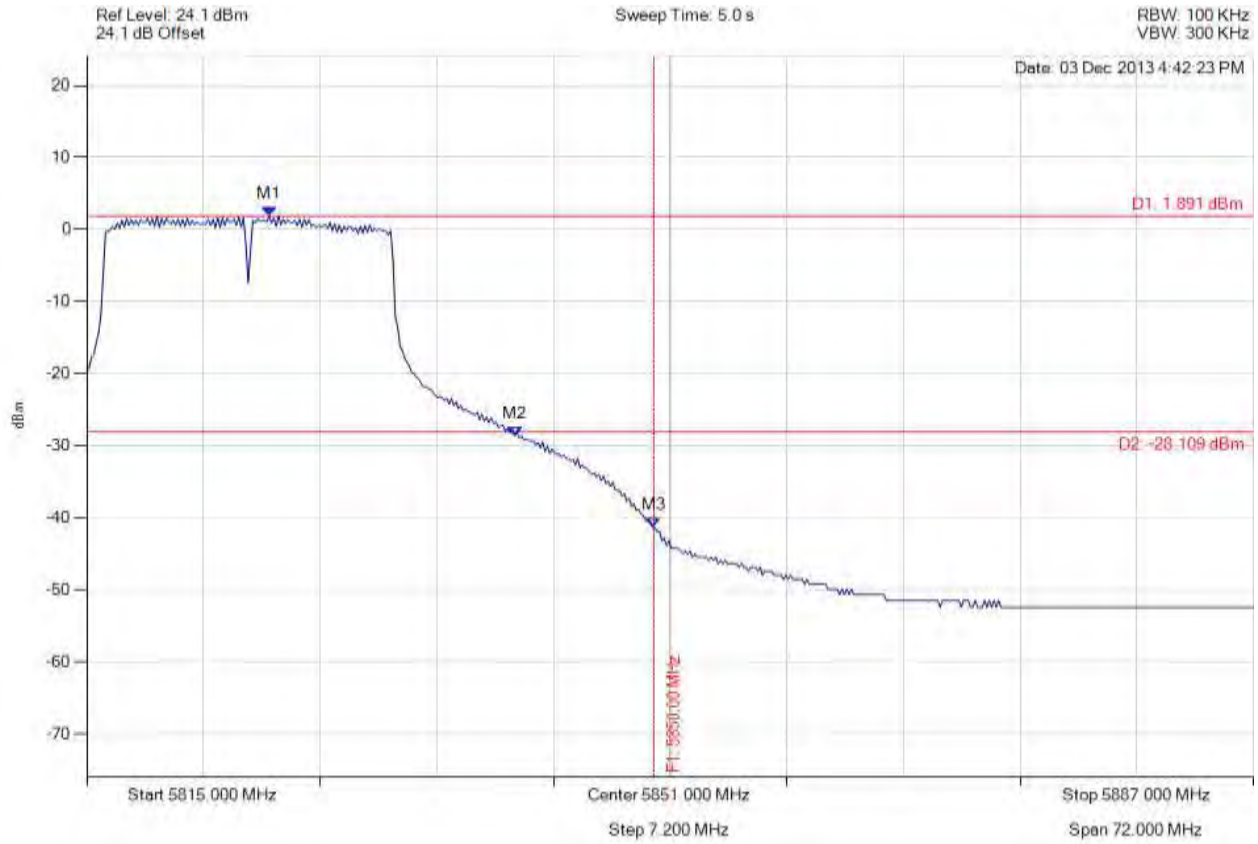
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.255 MHz : 1.891 dBm M2 : 5841.405 MHz : -28.605 dBm M3 : 5850.000 MHz : -41.362 dBm	Channel Frequency: 5825.00 MHz

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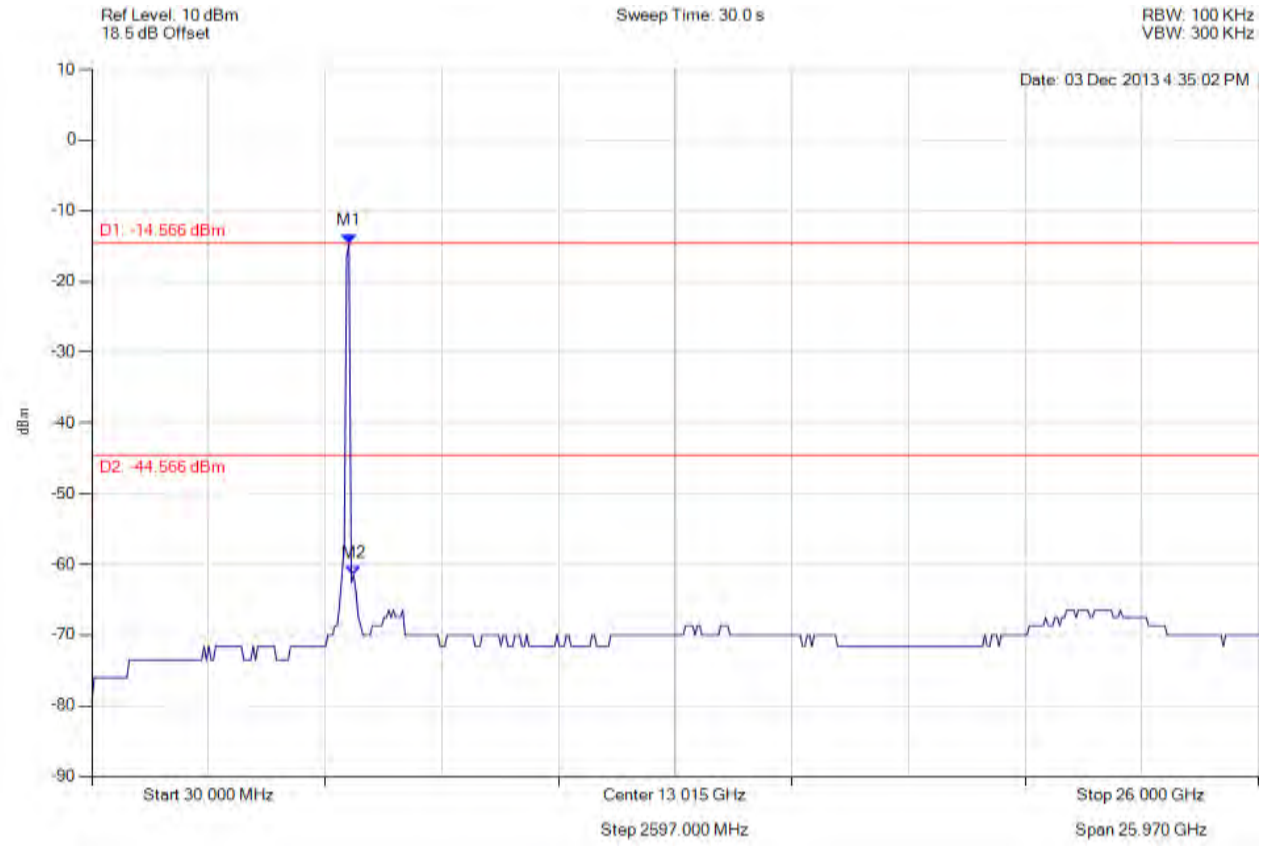
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -14.566 dBm M2 : 5858.938 MHz : -61.483 dBm	Limit: -44.57 dBm Margin: -16.91 dB

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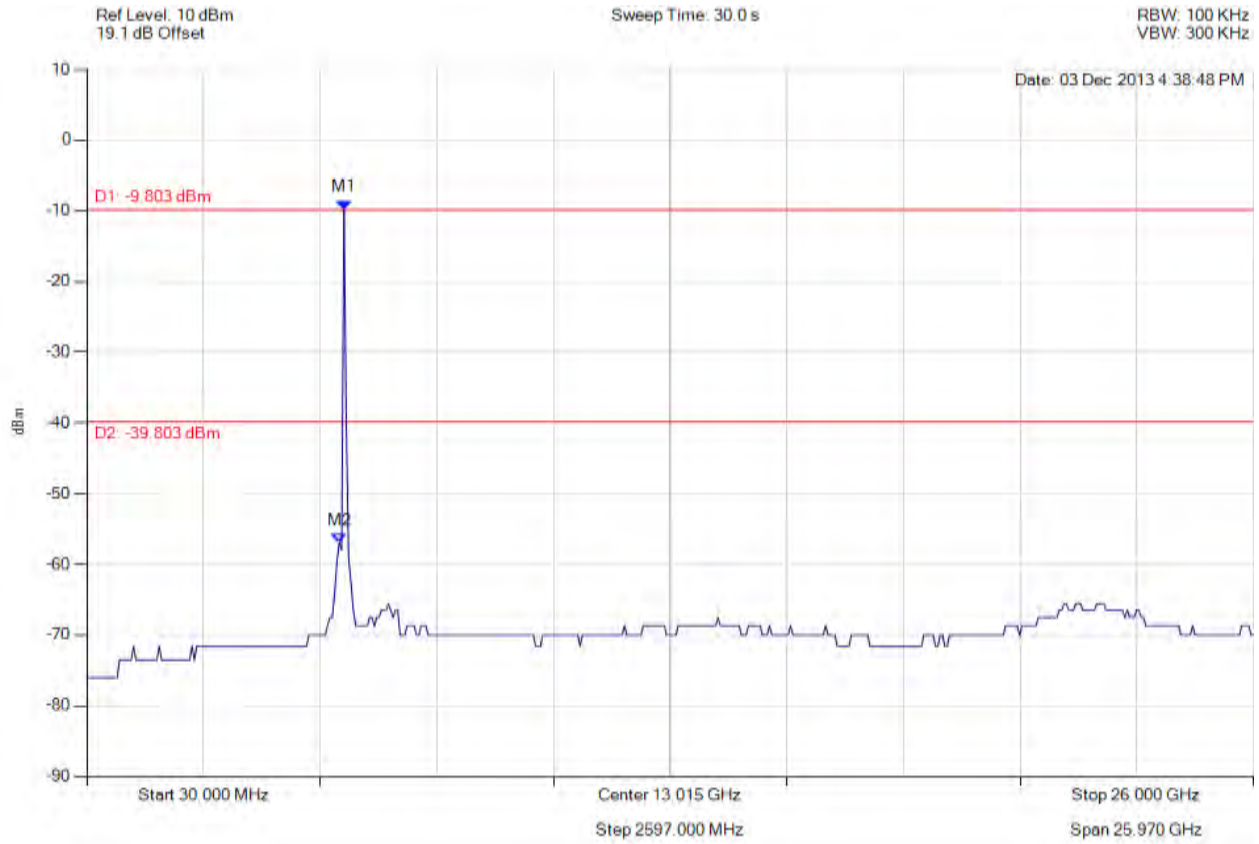
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -9.803 dBm M2 : 5650.762 MHz : -56.938 dBm	Limit: -39.80 dBm Margin: -17.14 dB

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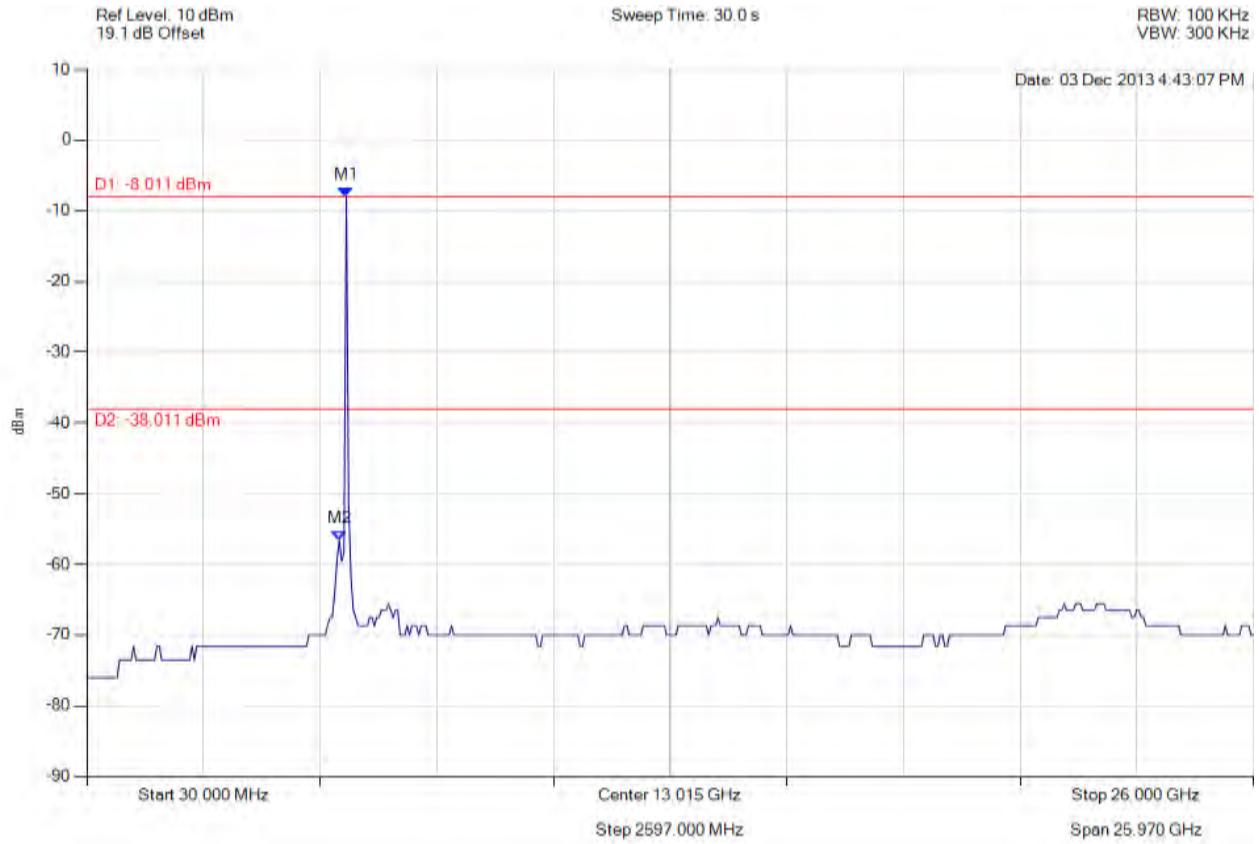
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -8.011 dBm M2 : 5650.762 MHz : -56.622 dBm	Limit: -38.01 dBm Margin: -18.61 dB

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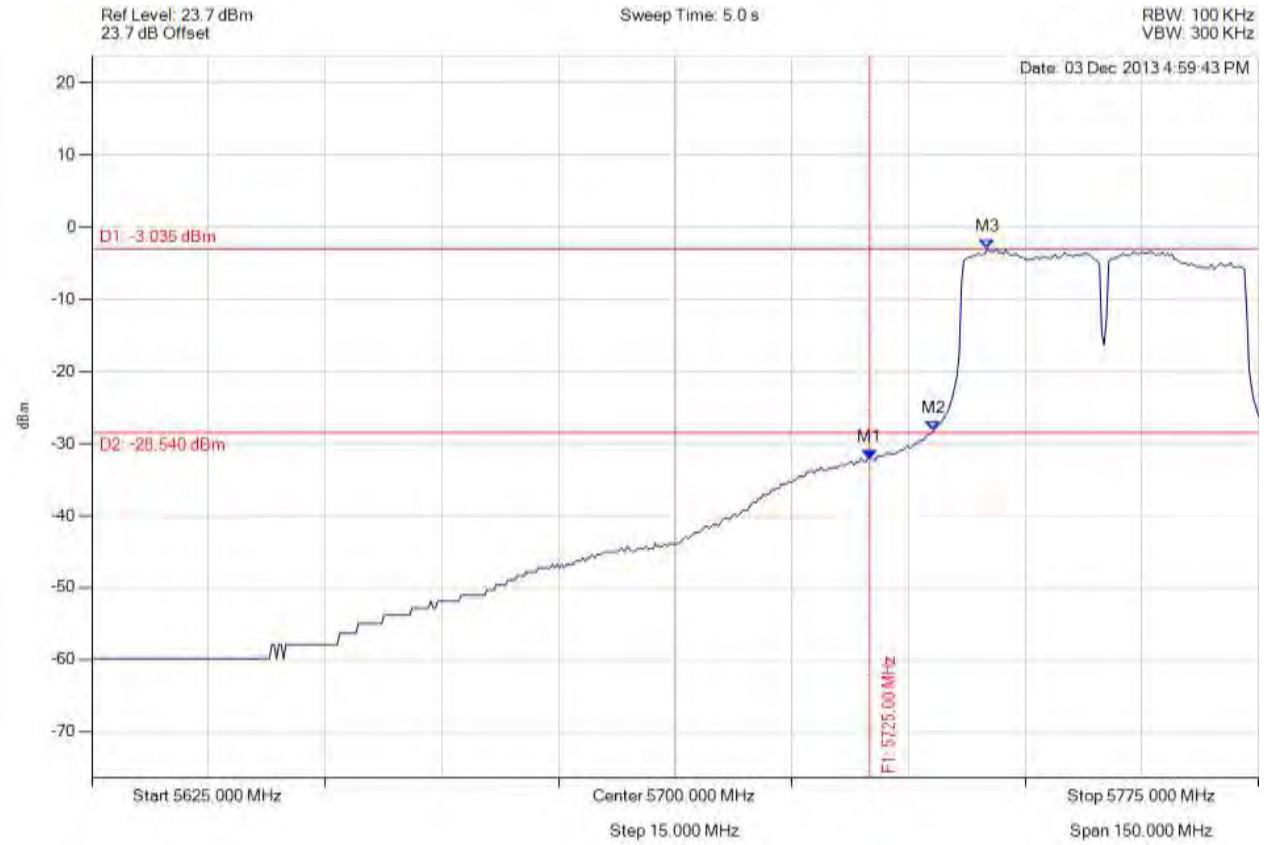
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5725.000 MHz : -32.130 dBm M2 : 5733.216 MHz : -28.172 dBm M3 : 5740.130 MHz : -3.035 dBm	Channel Frequency: 5755.00 MHz

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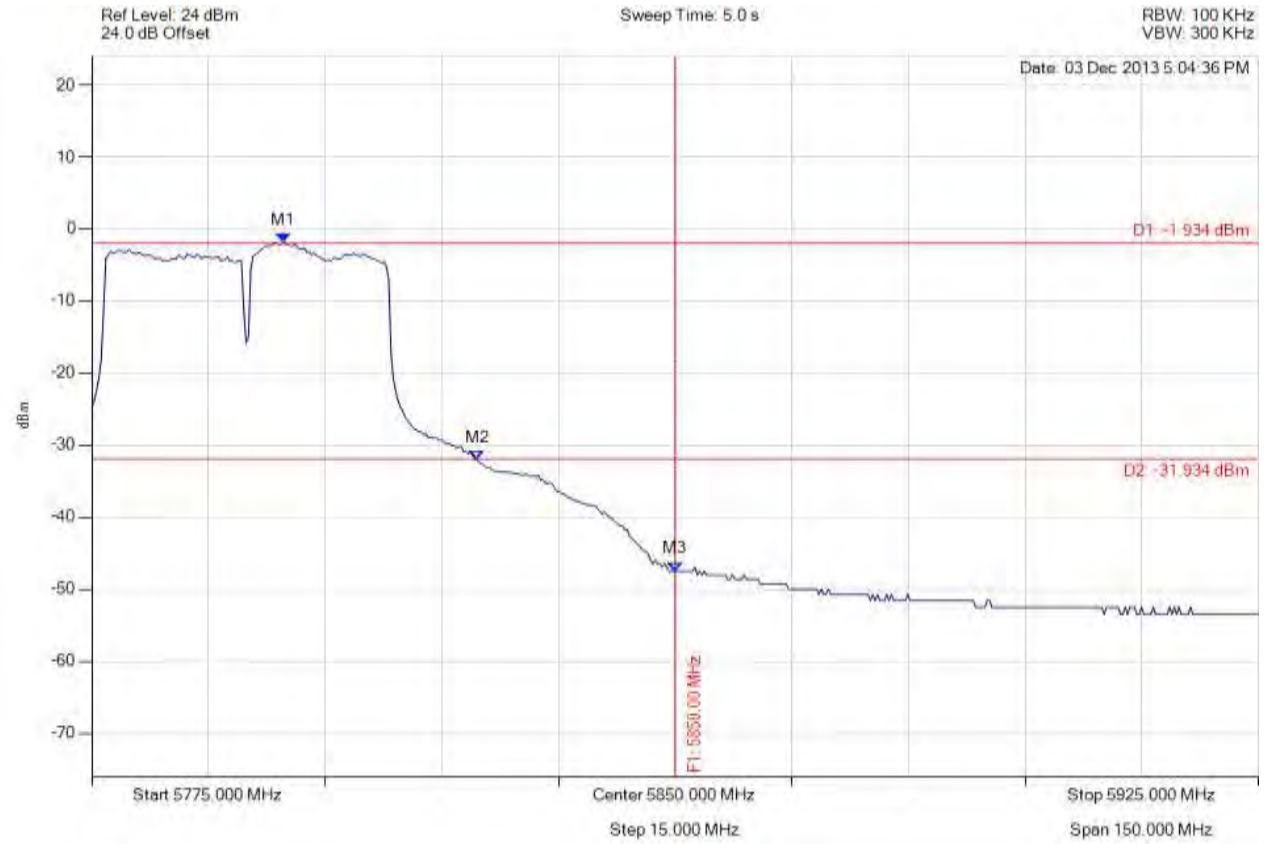
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5799.649 MHz : -1.934 dBm M2 : 5824.599 MHz : -32.103 dBm M3 : 5850.000 MHz : -47.483 dBm	Channel Frequency: 5795.00 MHz

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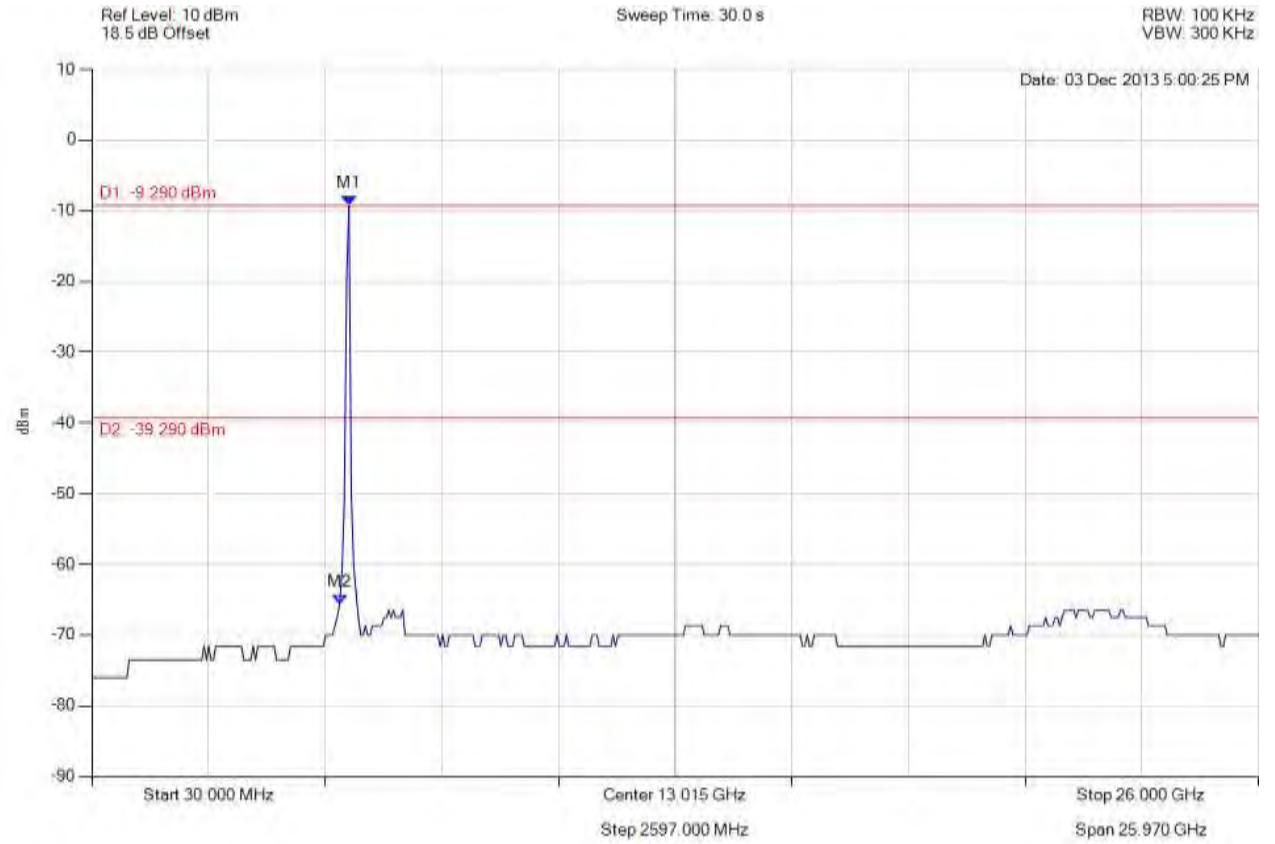
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -9.290 dBm M2 : 5546.673 MHz : -65.565 dBm	Limit: -39.29 dBm Margin: -26.27 dB

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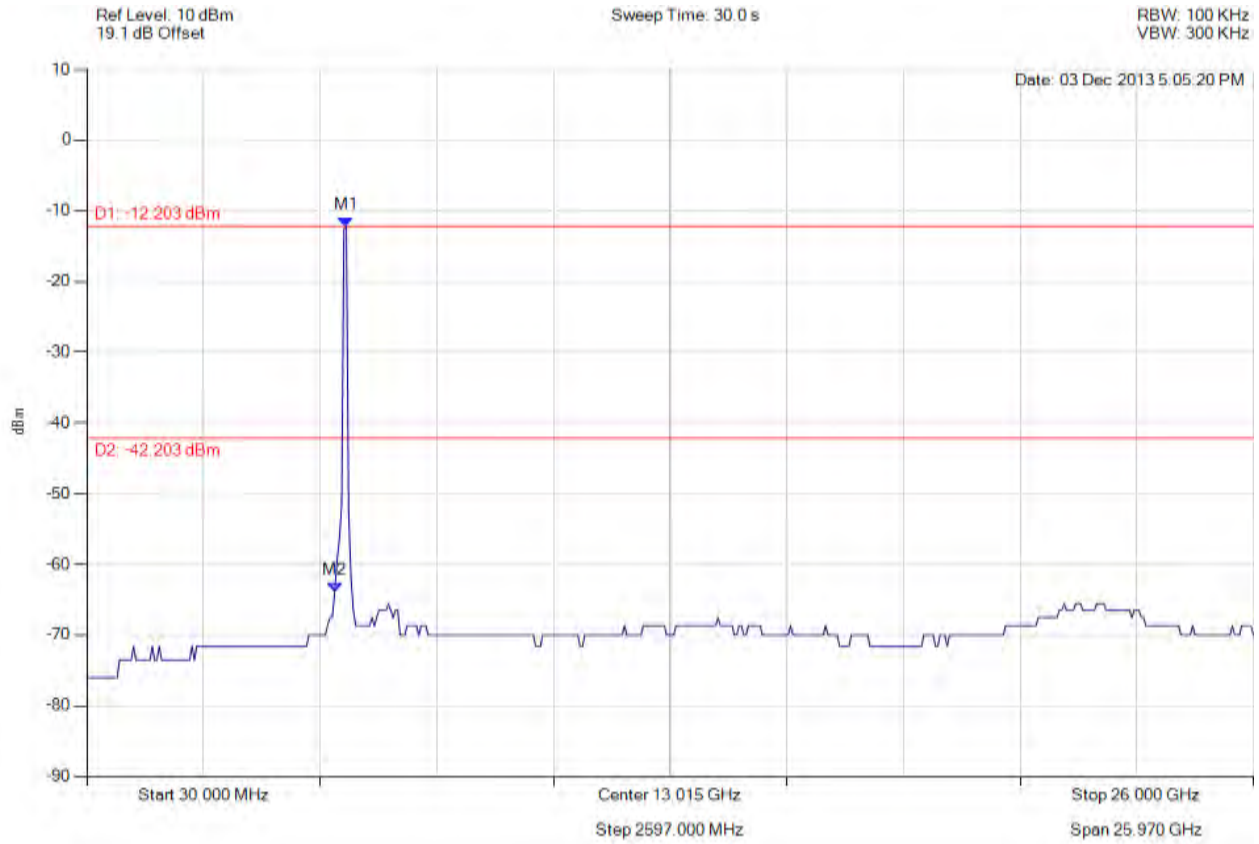
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -12.203 dBm M2 : 5546.673 MHz : -63.982 dBm	Limit: -42.20 dBm Margin: -21.78 dB

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