Test of Hewlett Packard MRLBB-1303 Wireless Module

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

Test Report Serial No.: HPWD41-U3 Rev A

MiCOM Labs

opening wireless markets

TEST REPORT

FROM

Test of Hewlett Packard MRLBB-1303 Wireless Module

to

To FCC 47 CFR Part 15.247 & IC RSS-210

Test Report Serial No.: HPWD41-U3 Rev A

Note: this report contains data with regard to the 5725-5850 MHz operational mode of the Hewlett Packard MRLBB-1303 Wireless Module. Test data for the 5,150 - 5,350 and 5,470–5,725 MHz is reported in MiCOM Labs test report HPWD41-U6

This report supersedes: NONE

Applicant: Hewlett Packard
8000 Foothills Blvd
Roseville, 95947 California
USA

Product Function: Wireless LAN Access Point

Copy No: pdf Issue Date: 10th September 2013

This Test Report is Issued Under the Authority of;

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ACCREDITED

TEST CERTIFICATE #2381.01

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ACCREDITATION, LISTINGS & RECOGNITION

TESTING ACCREDITATION

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

ilac-MRA

The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

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MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

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

Presented this 27th day of March 2012.

President & CEO
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2013

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

RECOGNITION

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

Country	Recognition Body	Status	Phase	Identification No.
USA	Federal Communications Commission (FCC)	TCB	-	US0159 Listing #: 102167
Canada	Industry Canada (IC)	FCB	APEC MRA 2	US0159 Listing #: 4143A-2
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

The American Association for Laboratory Accreditation

"World Class Accreditation"

Accredited Product Certification Body

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence as a

Product Certification Body

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC Guide 65:1996 *General requirements for bodies operating product certification systems*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.

Presented this 27th day of March 2012.

President & CEO
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2013

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

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 A	10th September 2013	Initial release.

TEST RESULT CERTIFICATE

Manufacturer:	Hewlett Packard 8000 Foothills Blvd Roseville, 95947 California USA	Tested By:	MiCOM Labs, Inc. 440 Boulder Court Suite 200 Pleasanton California, 94566, USA
EUT:	802.11a/b/g/n/ac Wireless LAN Access Point	Telephone:	+1 925 462 0304
Model:	MRLBB-1303	Fax:	+1 925 462 0306
S/N's:	Not Available		
Test Date(s):	18th June - 25th July 2013	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.

ACCREDITED

TEST CERTIFICATE #2381.01

Approved & Released for MiCOM Labs, Inc. by:

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

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.

2. PRODUCT DETAILS AND TEST CONFIGURATIONS

2.1. Technical Details

Details	Description
Purpose:	Test of the Hewlett Packard MRLBB-1303 Wireless Module to FCC Part 15.247 and Industry Canada RSS-210 regulations.
Applicant:	Hewlett Packard 8000 Foothills Blvd Roseville, 95947 California, USA
Manufacturer:	As applicant.
Laboratory performing the tests:	MiCOM Labs, Inc. 440 Boulder Court, Suite 200 Pleasanton, California 94566 USA
Test report reference number:	HPWD41-U3 Rev A
Date EUT received:	12th June 2013
Standard(s) applied:	FCC 47 CFR Part 15.247 & IC RSS-210
Dates of test (from - to):	18th June - 25th July 2013
No of Units Tested:	One
Type of Equipment:	802.11a/b/g/n/ac Wireless Access Point 3x3 Spatial Multiplexing MIMO configuration
Manufacturers Trade Name:	Wireless Access Point
Model(s):	MRLBB-1303
Location for use:	Indoor only
Declared Frequency Range(s):	5725 - 5850 MHz
Hardware Rev	LP2
Software Rev	LSDK 10.1.357
EUT Modes of Operation:	Legacy 802.11a/b/g, 802.11n HT-20, HT-40, ac-40, ac-80
Type of Modulation:	Per 802.11 – OFDM
Declared Nominal Average Output Power:	802.11a:Leg. +20 dBm,HT-20 +20 dBm,HT-40 +20 dBm
Transmit/Receive Operation:	Time Division Duplex
System Beam Forming:	Device has no capability for antenna beam forming
Rated Input Voltage and Current:	3.3 Vdc ±10%
Operating Temperature Range:	Declared range 0° to +55° client declared range
ITU Emission Designator:	802.11a 16M7G1D 802.11n HT-20 17M8D1D 802.11n HT-40 36M4D1D 802.11 ac-40 36M4D1D 802.11 ac-80 76M0D1D
Equipment Dimensions:	50mm wide, 55.8mm length, 4mm thick
Weight:	0.40 ounces
Primary function of equipment:	Wireless Access Point for transmitting data and voice.

2.2. Scope of Test Program

Hewlett Packard MRLBB-1303 802.11 a/b/g/n/ac Wireless Module

The scope of the test program was to test the Hewlett Packard MRLBB-1303 Wireless Module, 3x3 Spatial Multiplexing MIMO configurations in the frequency range 5725 – 5850 MHz for compliance against FCC 47 CFR Part 15.247 and Industry Canada RSS-210 specifications.

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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Hewlett Packard Inc
MRLBB-1303 802.11 a/b/g/n/ac Wireless Module

Hewlett Packard Inc
MRLBB-1303 802.11 a/b/g/n/ac Wireless Module

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

Equipment Type	Equipment Description (Including Brand Name)	Mfr	Model No.	Serial No.
EUT	Wireless LAN Access Point	Hewlett Packard	MRLBB-1303	Not Available
Support	Laptop PC	IBM	Thinkpad	None

2.4. Antenna Details

Model	Type	Gain	Freq. Band	Note
		dBi	MHz	
5184-6684	PIFA	7.4	5150 - 5350	
5184-6684	PIFA	7.81	5470 - 5725	
5184-6684	PIFA	7.79	5725 - 5850	

2.5. Cabling and I/O Ports

Number and type of I/O ports

1. 3 x u.FL RF connectors

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)
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
ac	ac-40	13.5 (MCS 0)	5,795
ac	ac-80	29.3 (MCS 0)	5,775

Legacy – data rates for 802.11abg products

Results for the above configurations are provided in this report

Antenna Test Configurations for Radiated Emissions

Results for the following configurations are provided in this report.

Radiated emissions testing was performed for the integral PIFA antenna in the 5725 – 5850 MHz band.

5,725 – 5850 MHz Radiated EmmissionTesting

15.247 – 5.8 GHz Operation	
802.11a **802.11n HT-20**	SE 5745 (802.11a) BE 5745 (802.11a, n HT-20)
	a SE 5785
	a SE 5825
802.11n HT-40 **802.11ac-40**	BE 5755 (802.11n HT-40, ac-40)
802.11ac-80	BE 5775

KEY;-

SE – Spurious Emission
BE – Band-Edge (5460 MHz)

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

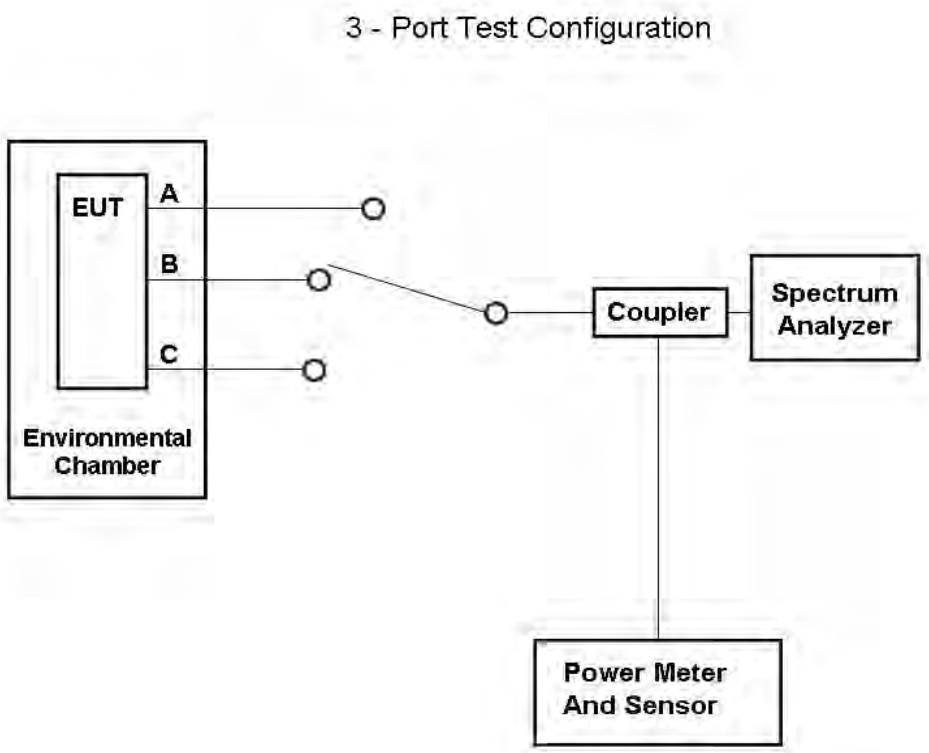
3. TEST EQUIPMENT CONFIGURATION(S)

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

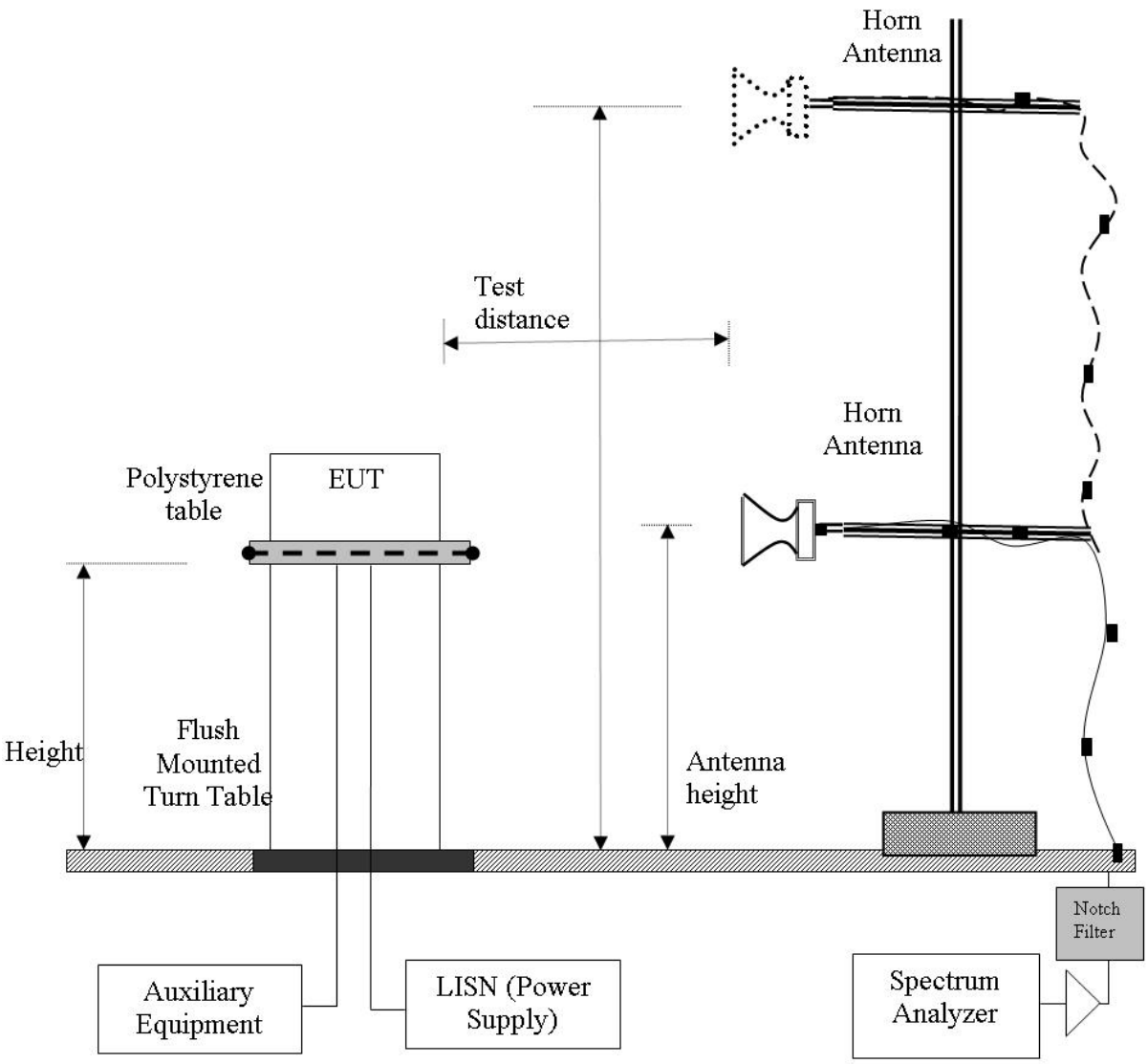
Conducted Test Set-Up Pictorial Representation



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.

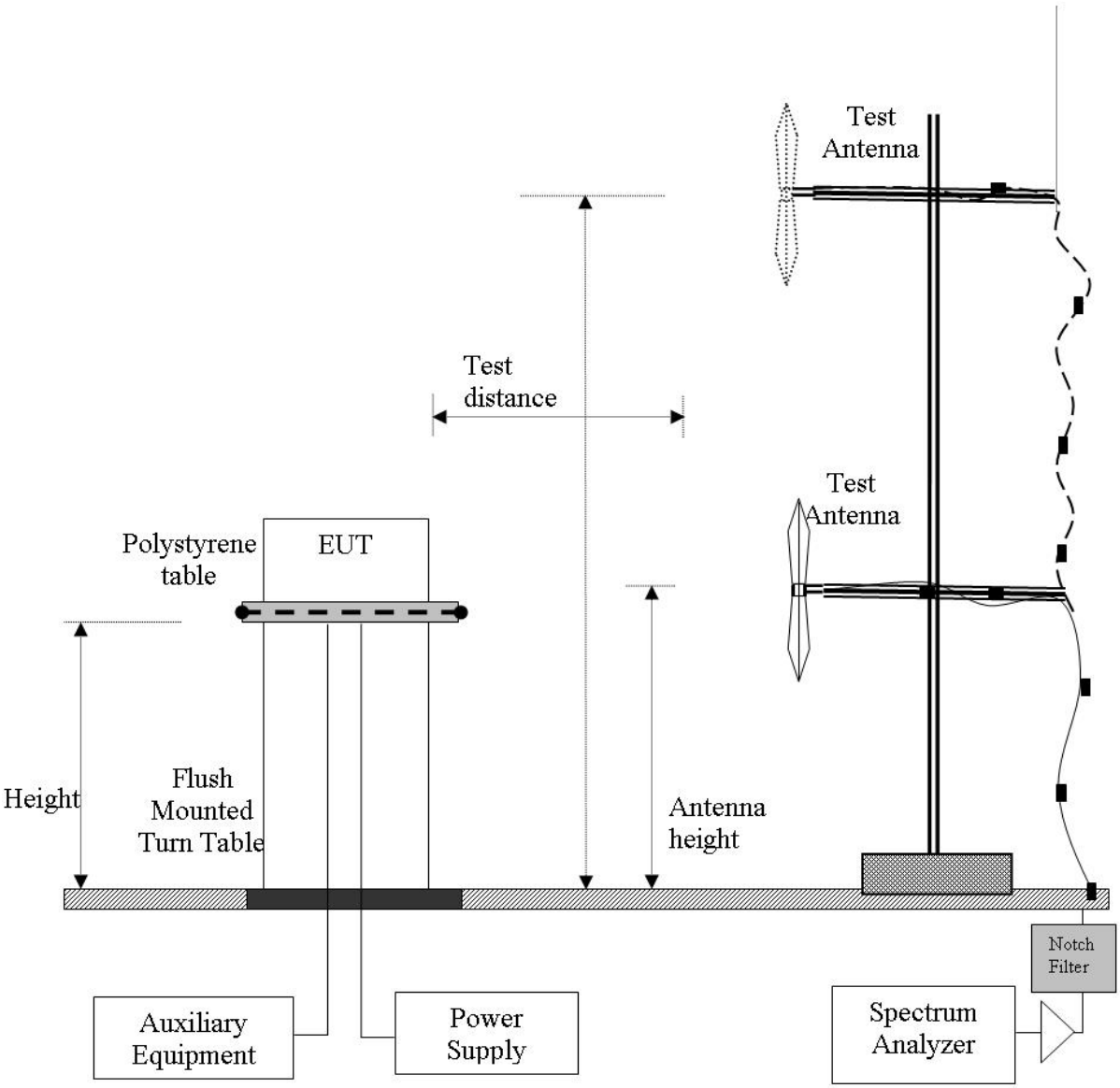
Radiated Emission Measurement Setup – Above 1 GHz



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

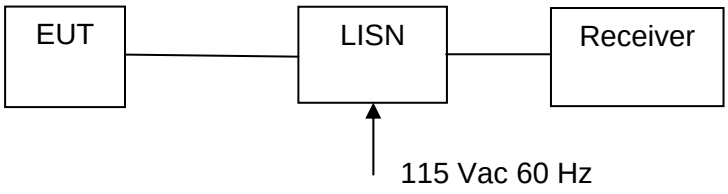


3.4. ac Wireline Emission Test Set-up

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



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

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*

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.

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	100%
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:			

Test Measurement Results

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

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)		
	Port(s)						
MHz	a	b	c	d			
5745.0	16.673	16.673	16.673	--	16.673		
5785.0	16.673	16.593	16.593	--	16.673		
5825.0	16.673	16.673	16.593	--	16.673		

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

Note: click the link in the above results matrix to view the plot

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	100%
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5745.0	17.475	17.475	17.715	--	17.715	17.475	≥500.0	-16.98
5785.0	17.635	17.715	17.715	--	17.715	17.635	≥500.0	-17.14
5825.0	17.715	17.715	17.715	--	17.715	17.715	≥500.0	-17.22

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

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

Note: click the link in the above results matrix to view the plot

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	100%
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5755.0	36.713	36.713	36.713		36.713	36.713	≥500.0	-36.21
5795.0	36.713	36.072	36.072		36.713	36.072	≥500.0	-35.57

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

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

Note: click the link in the above results matrix to view the plot

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

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5755.0	36.393	35.431	35.591	--	36.393	35.431	≥500.0	-34.93
5795.0	36.393	36.713	36.232	--	36.713	36.232	≥500.0	-35.73

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)		
	Port(s)						
MHz	a	b	c	d			
5755.0	36.393	36.393	36.393	--	36.393		
5795.0	36.393	36.393	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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Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11ac-80	**Duty Cycle (%):**	100%
Data Rate:	29.3 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Not Applicable		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
5775.0	76.313	73.427	75.992	--	76.313	73.427	≥500.0	-72.93

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)		
	Port(s)						
MHz	a	b	c	d			
5775.0	75.671	75.671	75.992	--	75.992		

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

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

15.247 (c) Operation with directional antenna gains greater than 6 dBi.
If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Uncorrelated Operation

5.8 GHz Uncorrelated Operation (MIMO)

Antenna (dB)	Gain (dBi)	Max. Allowable Conducted Peak Power (dBm)		Maximum EIRP (dBm)
		Uncorrelated	Max. Power Per Chain	
Integral	+7.79	+30.0	+23.44	+36.0

Correlated Operation

5.8 GHz Correlated Operation (Non-MIMO i.e. Legacy)

Antenna (dB)	Gain dBi	Antenna Gain Increase V's No. Antenna Ports		Total Gain dBi	Max. Allowable Conducted Peak Power ∑ (dBm)	Maximum EIRP (dBm)
		Ports	dB			
Integral	7.79	3	4.77	12.56	+23.44	+36.0

Equipment Configuration for Average Output Power

Variant:	802.11a	**Duty Cycle (%):**	100%
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	7.80
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	N/A		
Engineering Test Notes:			

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	18.74	20.57	20.30	--	24.71	28.20	-3.49	Target (20)
5785.0	19.68	20.28	20.67	--	25.00	28.20	-3.20	Target (20)
5825.0	20.13	19.20	20.80	--	24.86	28.20	-3.34	Target (20)

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

Equipment Configuration for Average Output Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	100%
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	7.80
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	N/A		
Engineering Test Notes:			

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	18.76	20.93	20.14	--	24.80	28.20	-3.40	Target (20)
5785.0	19.58	20.00	20.60	--	24.85	28.20	-3.35	Target (20)
5825.0	19.90	19.06	20.73	--	24.72	28.20	-3.48	Target (20)

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

Equipment Configuration for Average Output Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	100%
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	7.80
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	N/A		
Engineering Test Notes:			

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	18.54	20.05	20.19	--	24.43	28.20	-3.77	Target (20)
5795.0	19.10	19.26	20.49	--	24.43	28.20	-3.77	Target (20)

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

Equipment Configuration for Average Output Power			
Variant:	802.11ac-40	**Duty Cycle (%):**	99
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	7.80
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Not Applicable		

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	19.05	18.06	18.61	--	23.36	28.20	-4.84	Target (20)
5795.0	19.31	17.16	18.69	--	23.25	28.20	-4.95	Target (20)

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

Equipment Configuration for Average Output Power			
Variant:	802.11ac-80	**Duty Cycle (%):**	99
Data Rate:	29.3 MBit/s	**Antenna Gain (dBi):**	7.80
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Not Applicable		

Test Measurement Results

Test Frequency	Measured Output Power (dBm)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
	Port(s)							
MHz	a	b	c	d	dBm	dBm	dBm	
5775.0	17.80	18.32	18.08	--	22.84	28.20	-5.36	Target (20)

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

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.

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11a	**Duty Cycle (%):**	100%
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	None		

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	-3.619	-0.916	-1.990	--	2.734	-7.266	8.00	-15.3
5785.0	-2.575	-0.840	-1.362	--	3.238	-6.762	8.00	-14.8
5825.0	-1.900	-2.544	-1.329	--	2.875	-7.125	8.00	-15.1

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

Note: click the link in the above results matrix to view the plot

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	100%
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	None		

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	-3.456	-1.125	-2.203	--	2.613	-7.387	8.00	-15.4
5785.0	-2.303	-1.738	-1.641	--	2.887	-7.113	8.00	-15.1
5825.0	-2.579	-3.241	-2.029	--	2.183	-7.817	8.00	-15.8

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

Note: click the link in the above results matrix to view the plot

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	100%
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	None		

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	-8.293	-6.866	-6.247	--	-2.282	-12.282	8.00	-20.3
5795.0	-7.154	-7.219	-5.977	--	-1.974	-11.974	8.00	-20.0

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

Note: click the link in the above results matrix to view the plot

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11ac-40	**Duty Cycle (%):**	99
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

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	-6.279	-7.818	-6.332	--	-1.982	-11.982	8.00	-19.98
5795.0	-6.963	-8.049	-7.780	--	-2.801	-12.801	8.00	-20.80

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

Note: click the link in the above results matrix to view the plot

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11ac-80	**Duty Cycle (%):**	100%
Data Rate:	29.3 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

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
5775.0	-13.751	-12.915	-13.826	--	-8.706	-18.706	8.00	-26.71

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

Note: click the link in the above results matrix to view the plot

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

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.

Equipment Configuration for Transmitter Conducted Spurious and Band-Edge Emissions			
Variant:	802.11a	**Duty Cycle (%):**	100%
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	None		

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	-59.990	-48.17	-59.121	-46.37	-59.990	-46.91	--	--
5785.0	30.0 - 26000.0	-59.990	-42.88	-59.121	-42.50	-59.545	-42.04	--	--
5825.0	30.0 - 26000.0	-59.545	-42.46	-59.121	-43.18	-59.545	-41.85	--	--

SE - Maximum spurious emission found

Test Frequency	Band-Edge Frequency	Transmitter Conducted Band-Edge Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	BE	Limit	BE	Limit	BE	Limit	BE	Limit
5745.0	5725.0	-50.837	-32.42	-49.582	-30.58	-49.386	-31.43	--	--
5825.0	5850.0	-52.380	-31.54	-51.880	-31.93	-54.363	-30.95	--	--

BE - Maximum band-edge emission found

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 link in the above results matrix to view the plot

Equipment Configuration for Transmitter Conducted Spurious and Band-Edge Emissions			
Variant:	802.11n HT-20	**Duty Cycle (%):**	100%
Data Rate:	6.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	None		

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	-59.990	-47.73	-59.545	-45.45	-59.990	-46.12	--	--
5785.0	30.0 - 26000.0	-59.545	-42.83	-59.121	-42.28	-59.545	-41.65	--	--
5825.0	30.0 - 26000.0	-59.545	-42.34	-59.121	-43.08	-59.545	-41.54	--	--

SE - Maximum spurious emission found

Test Frequency	Band-Edge Frequency	Transmitter Conducted Band-Edge Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	BE	Limit	BE	Limit	BE	Limit	BE	Limit
5745.0	5725.0	-50.082	-32.65	-48.243	-30.62	-48.144	-31.53	--	--
5825.0	5850.0	-51.465	-31.97	-51.880	-32.84	-54.363	-31.48	--	--

BE - Maximum band-edge emission found

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 link in the above results matrix to view the plot

Equipment Configuration for Transmitter Conducted Spurious and Band-Edge Emissions

Variant:	802.11n HT-40	**Duty Cycle (%):**	100%
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	None		

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	-42.63	-59.545	-41.16	-59.990	-41.23	--	--
5795.0	30.0 - 26000.0	-59.545	-46.03	-59.121	-45.79	-59.545	-44.80	--	--

SE - Maximum spurious emission found

Test Frequency	Band-Edge Frequency	Transmitter Conducted Band-Edge Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	BE	Limit	BE	Limit	BE	Limit	BE	Limit
5755.0	5725.0	-45.845	-37.08	-43.307	-35.20	-42.722	-35.46	--	--
5795.0	5850.0	-6.450	-36.45	-5.950	-35.95	-5.380	-35.38	--	--

BE - Maximum band-edge emission found

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 link in the above results matrix to view the plot

Equipment Configuration for Transmitter Conducted Spurious and Band-Edge Emissions

Variant:	802.11ac-40	**Duty Cycle (%):**	99
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	Not Applicable		

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 - 26000	-59.121	-41.46	-58.717	-42.43	-59.545	-41.77		
5795.0	30 - 26000	-59.121	-45.28	-58.717	-47.35	-59.545	-46.12		

SE - Maximum spurious emission found

Test Frequency	Band-Edge Frequency	Transmitter Conducted Band-Edge Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	BE	Limit	BE	Limit	BE	Limit	BE	Limit
5755.0	5725.0	-43.207	-35.95	-44.890	-36.79	-41.723	-36.49		
5795.0	5850.0	-52.080	-35.92	-60.923	-37.40	-59.224	-36.66		

BE - Maximum band-edge emission found

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 and Band-Edge Emissions			
Variant:	802.11ac-80	**Duty Cycle (%):**	100%
Data Rate:	29.3 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable		
Engineering Test Notes:	Not Applicable		

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
5775.0	30 - 26000	-57.607	-41.88	-56.938	-41.38	-57.266	-41.52		

SE - Maximum spurious emission found

Test Frequency	Band-Edge Frequency	Transmitter Conducted Band-Edge Emissions (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	BE	Limit	BE	Limit	BE	Limit	BE	Limit
5775.0	5725.0	-40.401	-30.58	-39.901	-30.58	-39.644	-30.58		

BE - Maximum band-edge emission found

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: from the Band-Edge Spurious Emision plot it should be noted that the 802.11a 5745 MHz Port b, 30 dBc limit (-30.58 dBm) was used in order to provove compliance for the ac-80 operational mode. FCC specifies the highest limit found within the band of interest can be used in order to prove compliance hence the higher limit.

802.11ac-80 complies with the band-edge spurious emission limit.

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.

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:

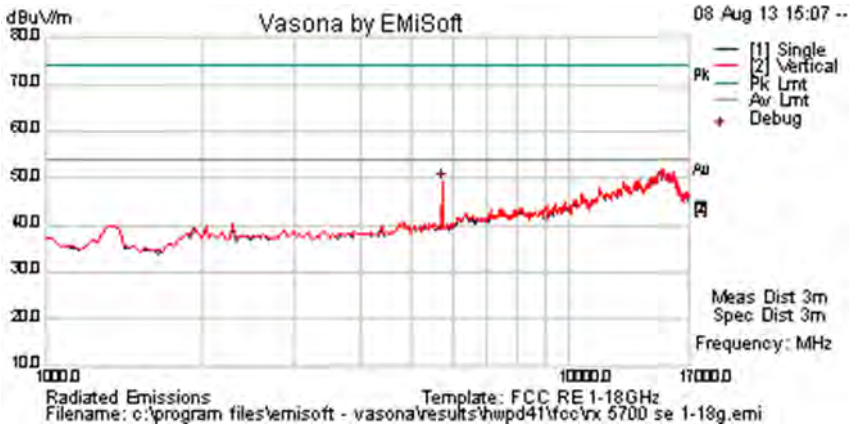
Level (dBμV/m) = 20 * Log (level (μV/m))

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

5.1.2.1. Integral antenna – Spurious Emissions

Test Freq.	5745 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	24
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	30
Power Setting	20.0	**Press. (mBars)**	1010
Antenna	i Integral 7.79 dBi PIFA ntegral	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

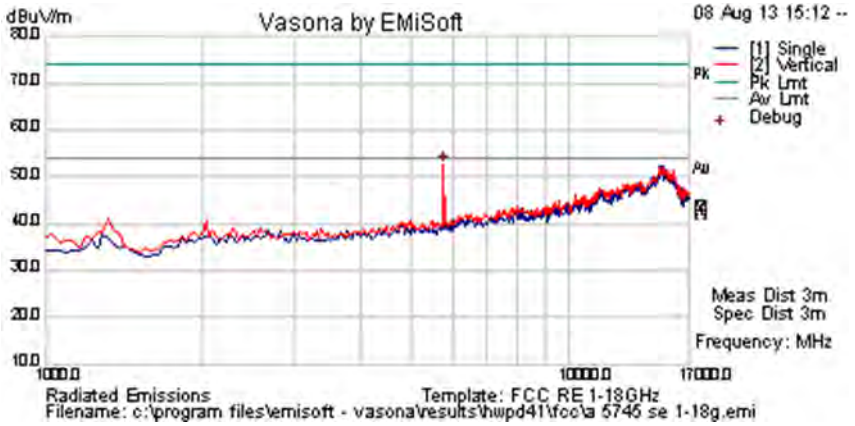


Formally measured emission peaks

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
5745.491	53.8	5.0	-9.5	49.2	Peak [Scan]	V	0	0				FUND

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

Test Freq.	5785 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	24
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	30
Power Setting	20.0	**Press. (mBars)**	1010
Antenna	Integral 7.79 dBi PIFA	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

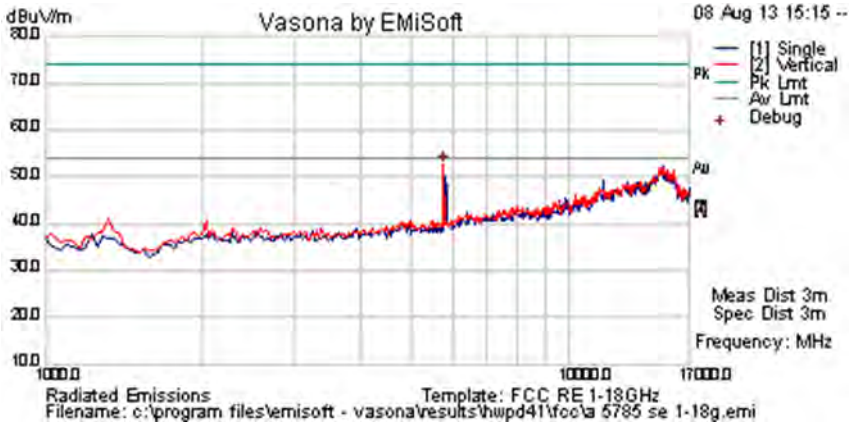


Formally measured emission peaks

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
5777.555	57.1	5.0	-9.4	52.7	Peak [Scan]	V	0	0				FUND

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

Test Freq.	5825 MHz	**Engineer**	SB
Variant	802.11a; 6 Mbs	**Temp (ºC)**	24
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	30
Power Setting	20.0	**Press. (mBars)**	1010
Antenna	Integral 7.79 dBi PIFA	**Duty Cycle (%)**	100
Test Notes 1			
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
5777.555	57.1	5.0	-9.4	52.7	Peak [Scan]	V	0	0	54.0	-1.3	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

5.1.2.2. Band-Edge - Spurious Emissions

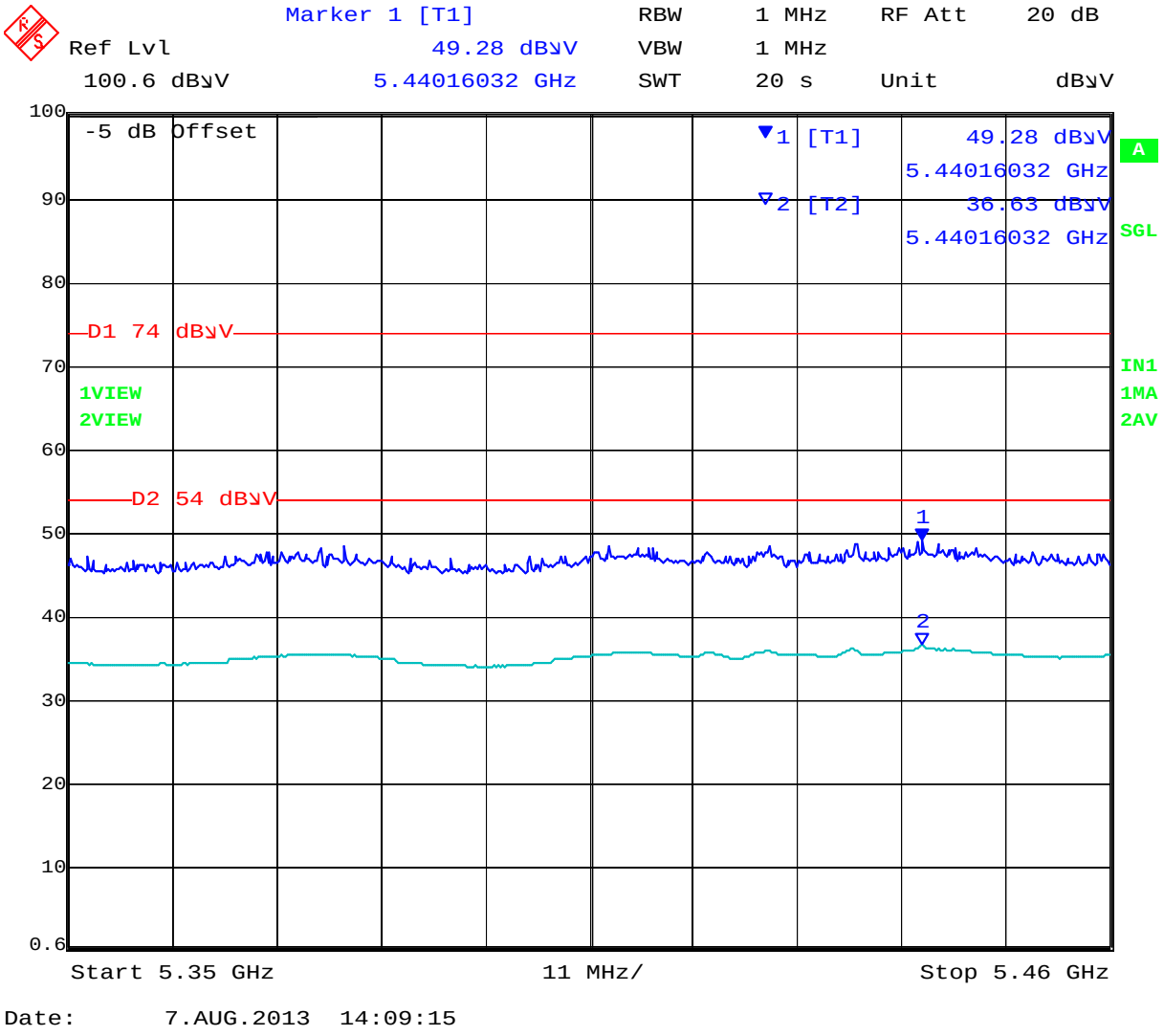
5.8 GHz Frequency Band – Restricted Band-edge @ 5460 MHz

Peak Limit 74.0 dBµV, Peak Limit 54.0 dBµV

Integral Antenna

	5460 MHz		
	dBµV		Power Setting
Operational Mode	Peak	Average	
a	49.28	36.63	20.0
n HT-20	49.38	36.63	20.0
n HT-40	49.90	37.08	20.0
ac-40	49.12	37.08	20.0
ac-80	49.06	36.86	20.0

802.11a Restricted Band-Edge @ 5460 MHz



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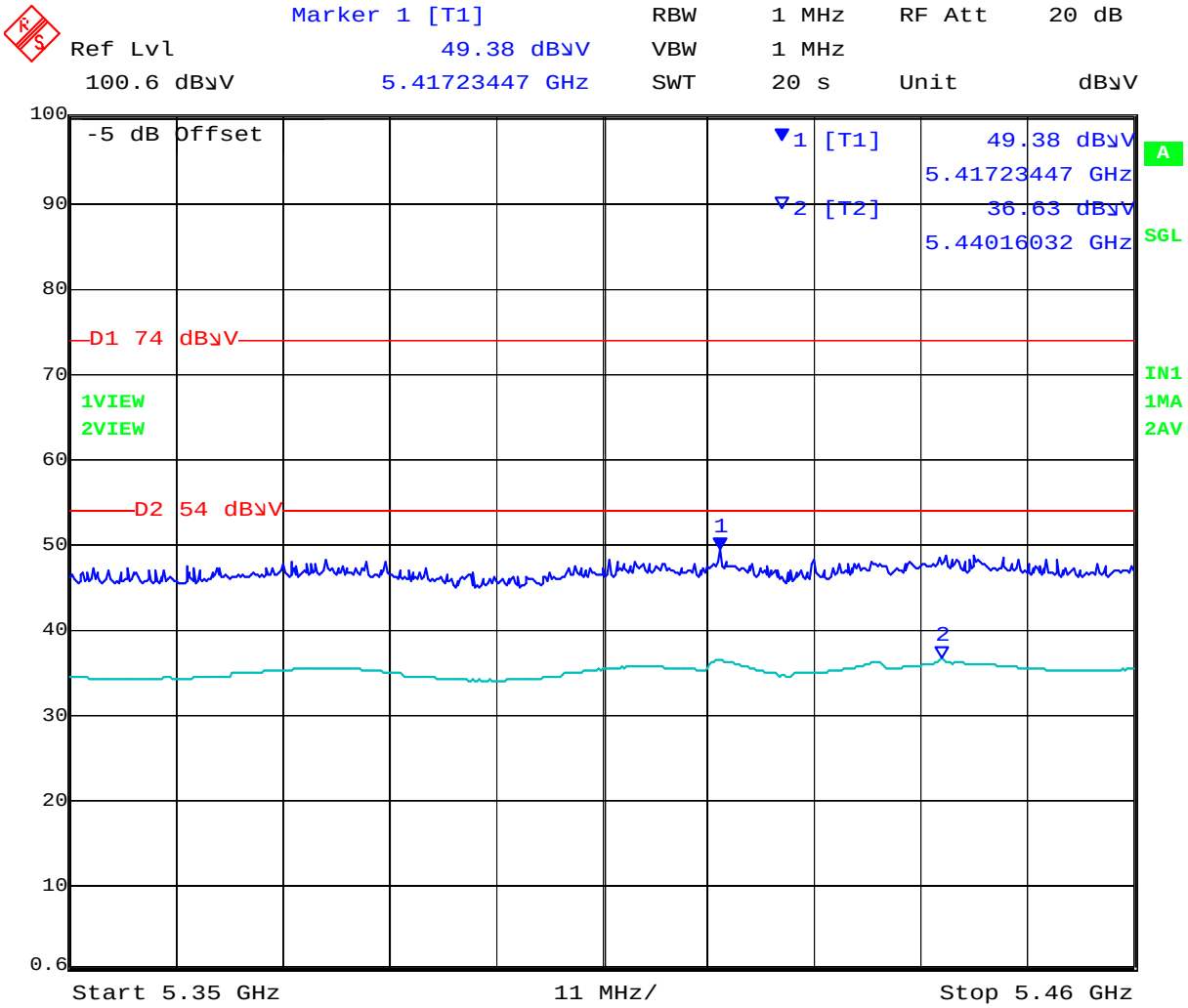
802.11n HT-20 Restricted Band-Edge @ 5460 MHz



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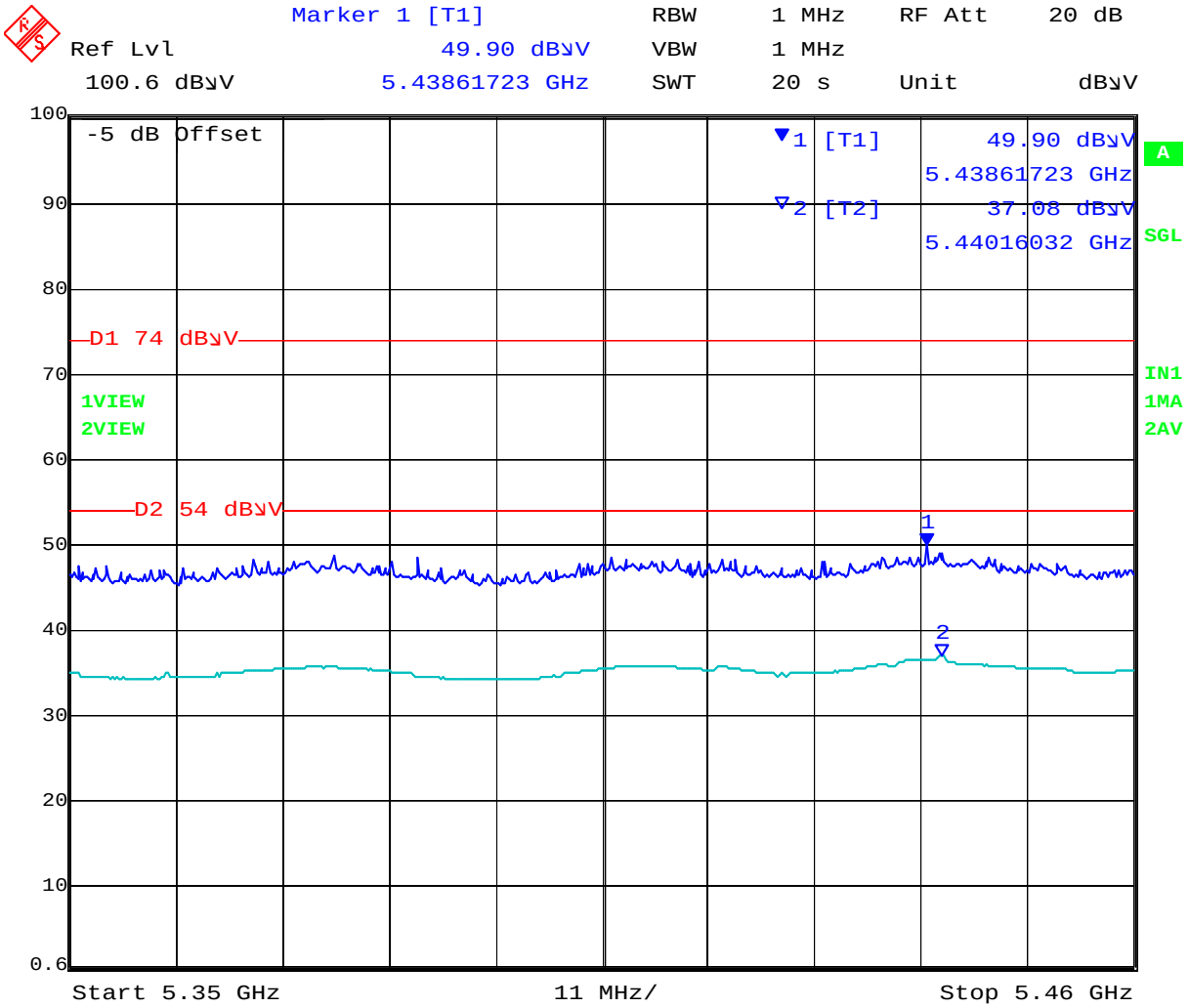
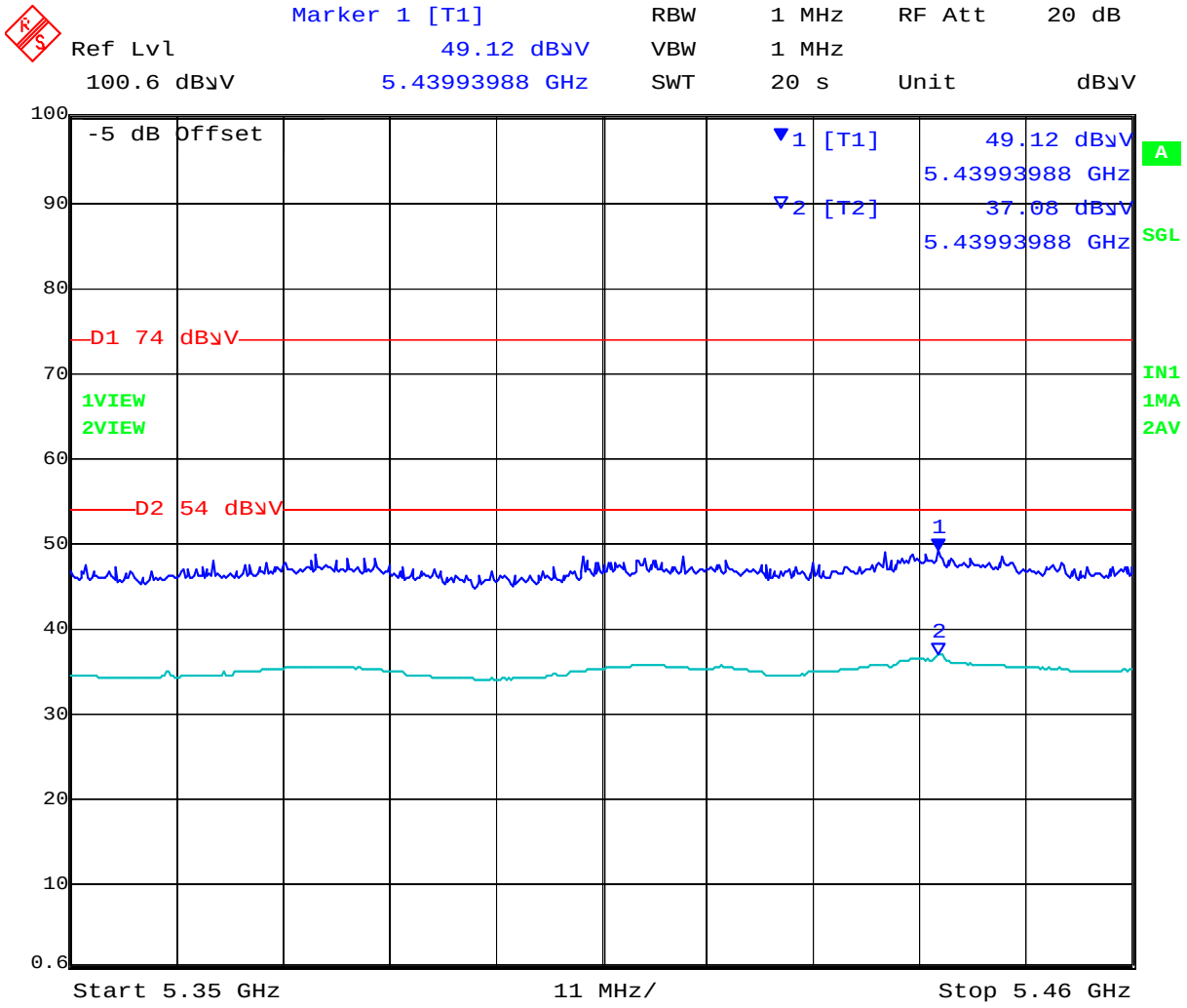
802.11n HT-40 Restricted Band-Edge @ 5460 MHz



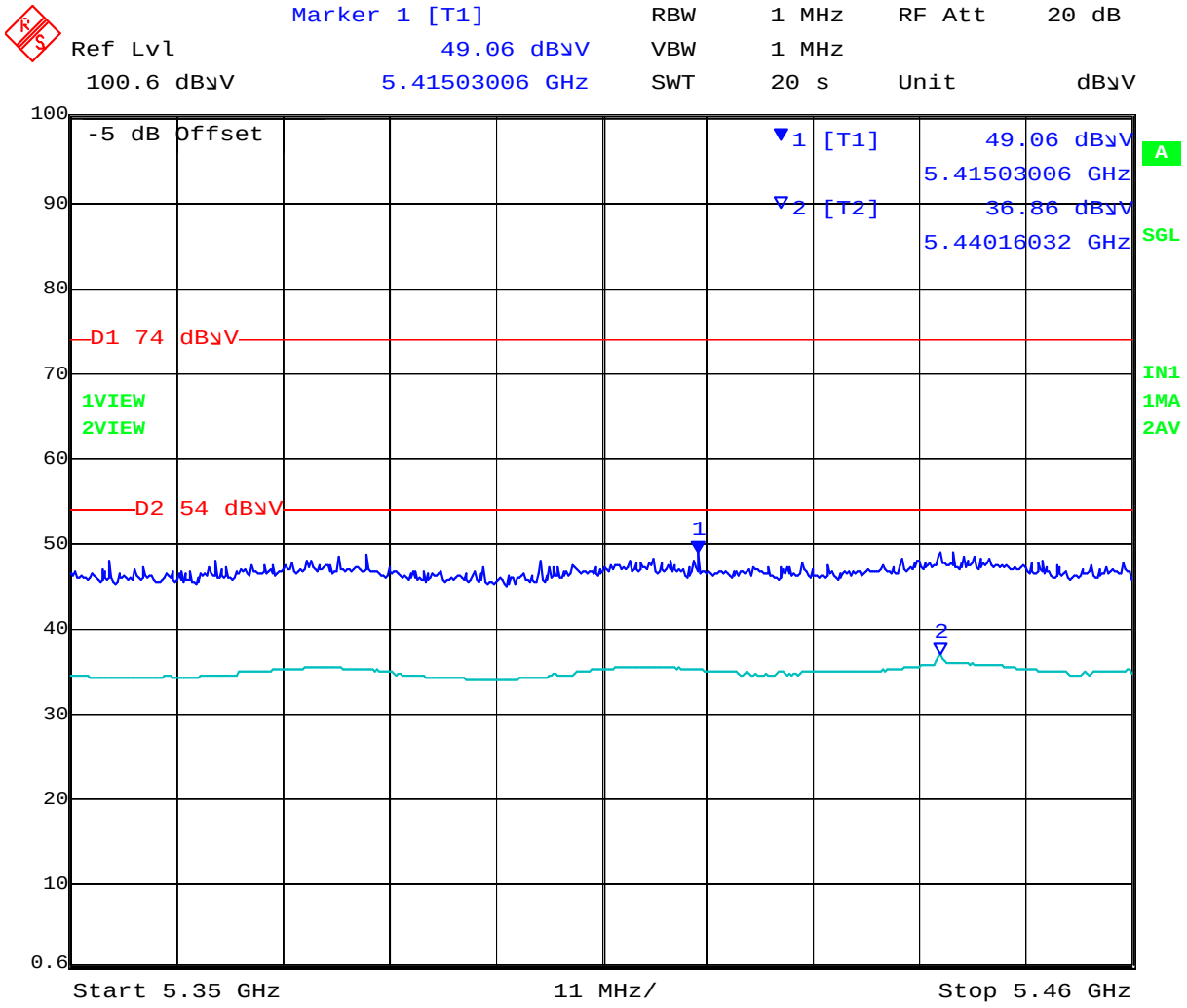
Date: 7.AUG.2013 14:16:09

802.11ac-40 Restricted Band-Edge @ 5460 MHz



Date: 7.AUG.2013 14:19:41

802.11ac-80 Restricted Band-Edge @ 5460 MHz



Date: 7.AUG.2013 14:23:35

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.

§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

5.1.2.3. 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:

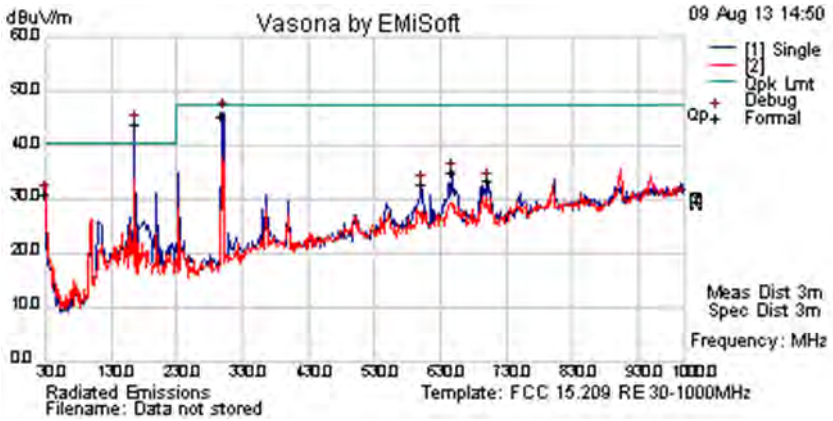
FS = 51.5 + 8.5 + 1.3 - 26.0 +1 = 36.3dBμV/m

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

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

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

Test Freq.	5180 MHz	**Engineer**	SB
Variant	Digital Emissions	**Temp (ºC)**	24.5
Freq. Range	30 MHz - 1000 MHz	**Rel. Hum.(%)**	30
Power Setting	18	**Press. (mBars)**	1005
Antenna	integral		
Test Notes 1	EUT on PCMIA card on laptop		
Test Notes 2			



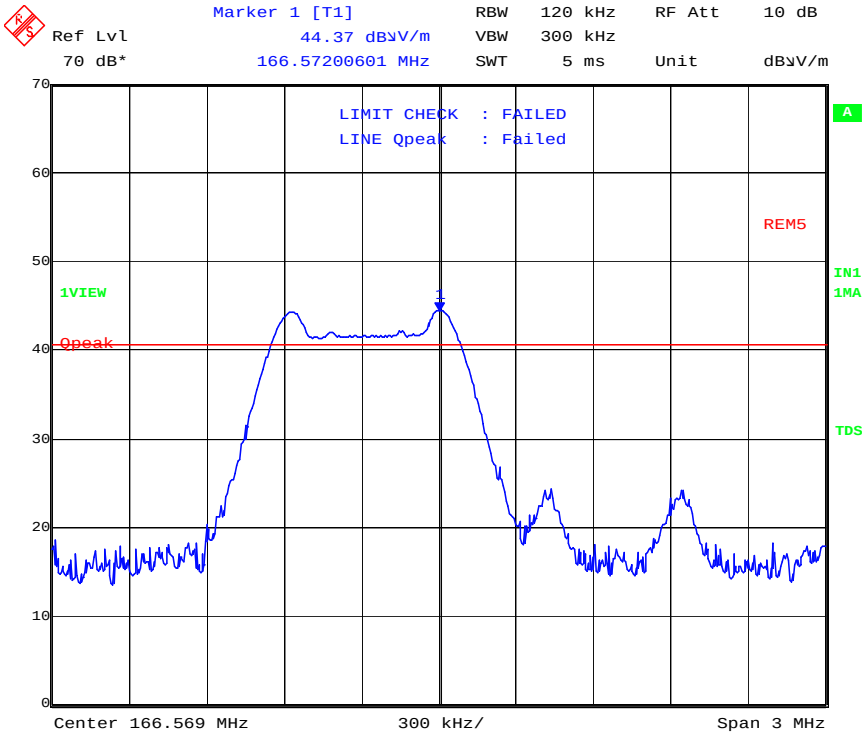
Formally measured emission peaks

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
166.569	--	--	--	--	Quasi Peak	H	102	297	40.5	--	Pass	PCMIA Card Issue
298.758	--	--	--	--	Quasi Peak	H	102	261	47.5	--	Pass	PCMIA Card Issue
30.424	37.6	3.5	-10.1	31.0	Peak [Scan]	V	102	340	40.5	-9.5	Pass	
646.116	39.4	6.3	-10.6	35.1	Peak [Scan]	V	102	340	47.5	-12.4	Pass	
599.941	38.2	6.2	-11.6	32.9	Peak [Scan]	V	102	340	47.5	-14.7	Pass	
702.610	37.0	6.5	-10.1	33.4	Peak [Scan]	V	102	340	47.5	-14.1	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

The two emissions at 166.569 and 298.758 MHz were found to be emanating from the PCM CIA slot on the laptop and not from the wireless module. The following plots were taken to prove compliance;

PCMCIA Emission - 166.659 MHz



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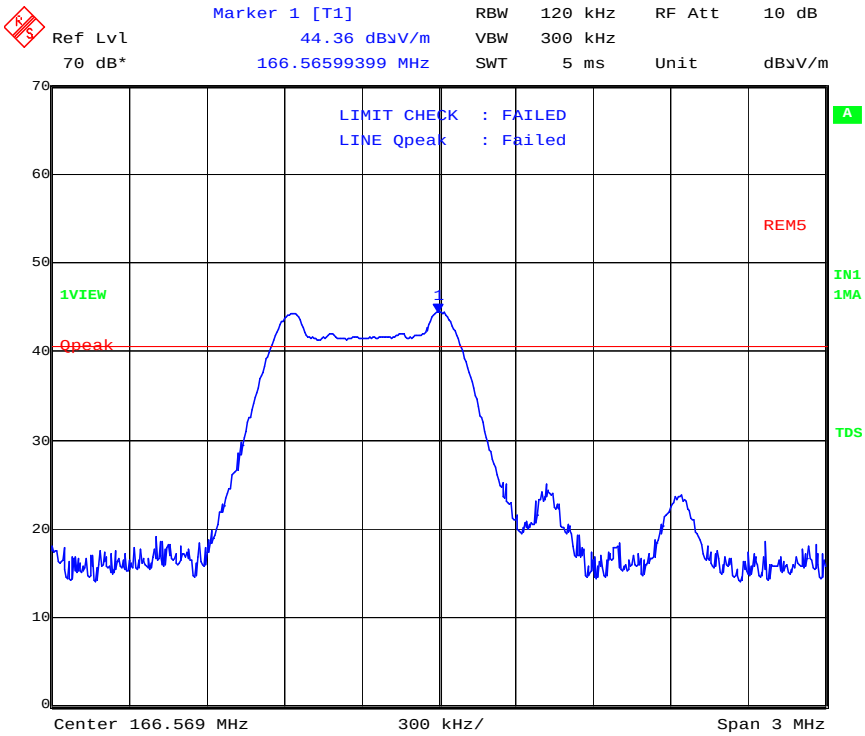
Laptop with PCMCIA card - no wireless module



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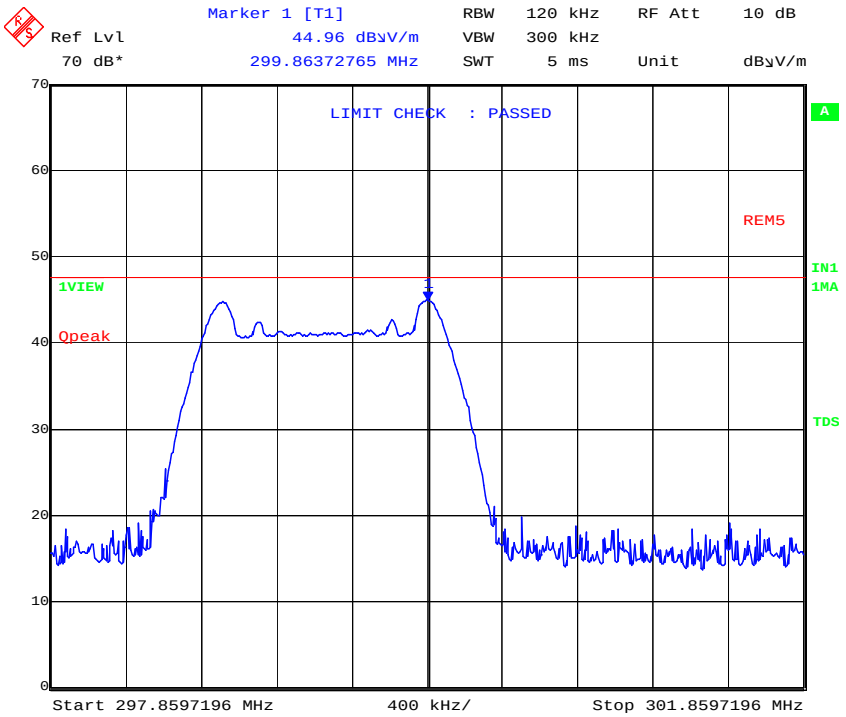
Laptop with PCMCIA card - wireless module installed

PCMCIA Emission - 298.758 MHz



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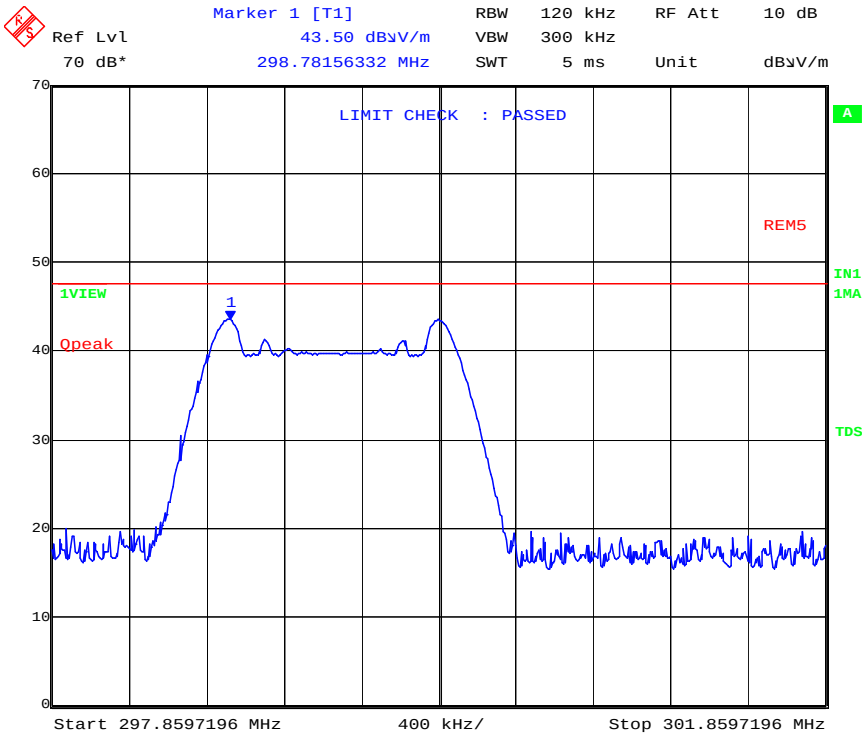
Laptop with PCMCIA card - no wireless module



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Laptop with PCMCIA card - wireless module installed

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

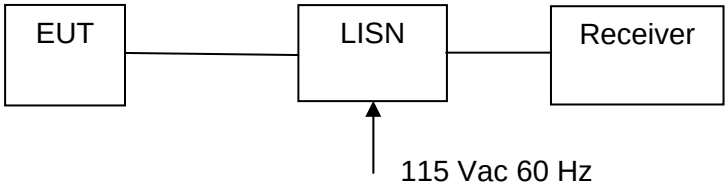
Method	Test Equipment Used
Measurements were made per work instruction WI-03 'Measurement of Radiated Emissions'	0088, 0158, 0134, 0304, 0311, 0315, 0310, 0312

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



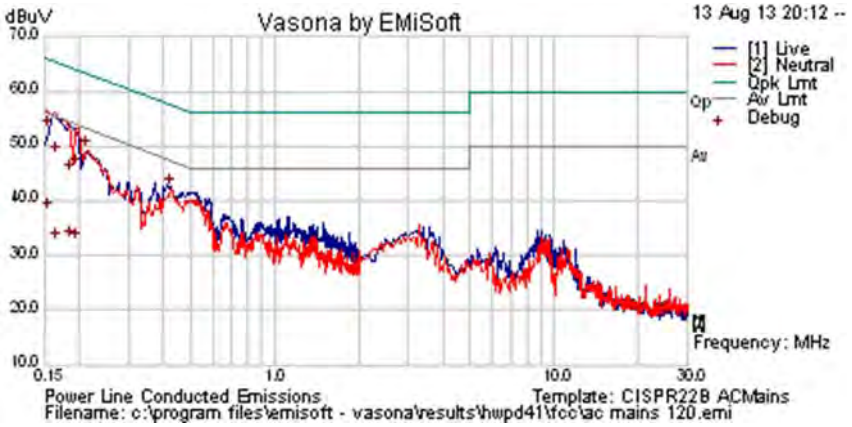
Measurement set up for AC Wireline Conducted Emissions Test

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

Laptop 120 Vac, 60 Hz Supply Voltage

Test Freq.	N/A	**Engineer**	JMH
Variant	AC Line Emissions	**Temp (ºC)**	28
Freq. Range	0.150 MHz - 30 MHz	**Rel. Hum.(%)**	37
Power Setting	Maximum	**Press. (mBars)**	998
Antenna	Terminated in 50 Ω		
Test Notes 1	120V 60 Ha, module installed in laptop		
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
0.155	43.3	9.9	0.1	53.2	Quasi Peak	Neutral	65.73	-12.5	Pass	
0.155	28.1	9.9	0.1	38.1	Average	Neutral	55.73	-17.6	Pass	
0.166	38.2	9.9	0.1	48.2	Quasi Peak	Neutral	65.16	-17.0	Pass	
0.166	22.6	9.9	0.1	32.6	Average	Neutral	55.16	-22.6	Pass	
0.187	23.0	9.9	0.1	32.9	Average	Live	54.17	-21.2	Pass	
0.187	35.1	9.9	0.1	45.1	Quasi Peak	Live	64.17	-19.1	Pass	
0.196	22.3	9.9	0.1	32.3	Average	Neutral	53.78	-21.5	Pass	
0.196	36.1	9.9	0.1	46.0	Quasi Peak	Neutral	63.78	-17.8	Pass	
0.213	39.3	9.9	0.1	49.3	Peak [Scan]	Neutral	53.09	-3.8	Pass	
0.426	32.5	9.9	0.1	42.5	Peak [Scan]	Live	47.33	-4.9	Pass	

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

Specification

Limit

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

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

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

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

* Decreases with the logarithm of the frequency

Laboratory Measurement Uncertainty for Conducted Emissions

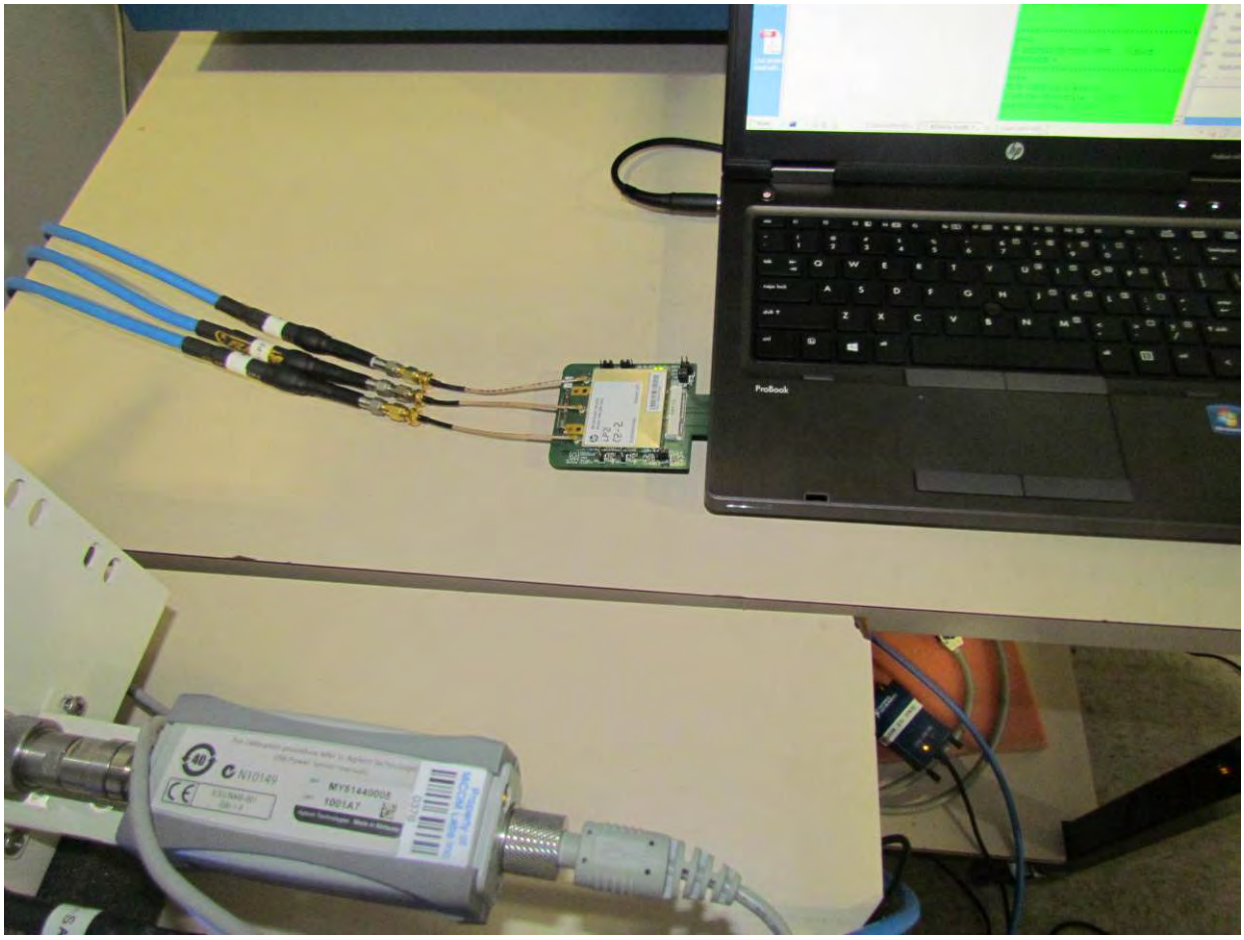
Measurement uncertainty	±2.64 dB

Traceability

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

6. PHOTOGRAPHS

6.1. Conducted Test Setup



6.2. Test Setup - Digital Emissions <1 GHz

6.3. ac Wireline Test Setup >1 GHz

7. TEST EQUIPMENT

Asset #	Instrument	Manufacturer	Part #	Serial #	Calibration Due Date
0070	Power Meter	Hewlett Packard	437B	3125U11552	28th Nov 13
0117	Power Sensor	Hewlett Packard	8487D	3318A00371	15th Nov 13
0223	Power Meter	Hewlett Packard	EPM-442A	US37480256	15th Nov 13
0374	Power Sensor	Hewlett Packard	8485A	3318A19694	29th Nov 13
0158	Barometer /Thermometer	Control Co.	4196	E2846	8th Dec 13
0193	EMI Receiver	Rhode & Schwartz	ESI 7	838496/007	2nd Dec 13
0287	EMI Receiver	Rhode & Schwartz	ESIB40	100201	16th Nov 13
0338	30 - 3000 MHz Antenna	Sunol	JB3	A052907	8th Nov 13
0335	1-18 GHz Horn Antenna	EMCO	3117	00066580	7th Nov 13
0252	SMA Cable	Megaphase	Sucoflex 104	None	N/A
0293	BNC Cable	Megaphase	1689 1GVT4	15F50B001	N/A
0307	BNC Cable	Megaphase	1689 1GVT4	15F50B002	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
	EMC Test Software	EMISoft	Vasona	5.0051	N/A
	RF Conducted Test Software	National Instruments	Labview	Version 8.2	N/A
	RF Conducted Test Software	MiCOM Labs ATS		Version 1.5	N/A

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APPENDIX

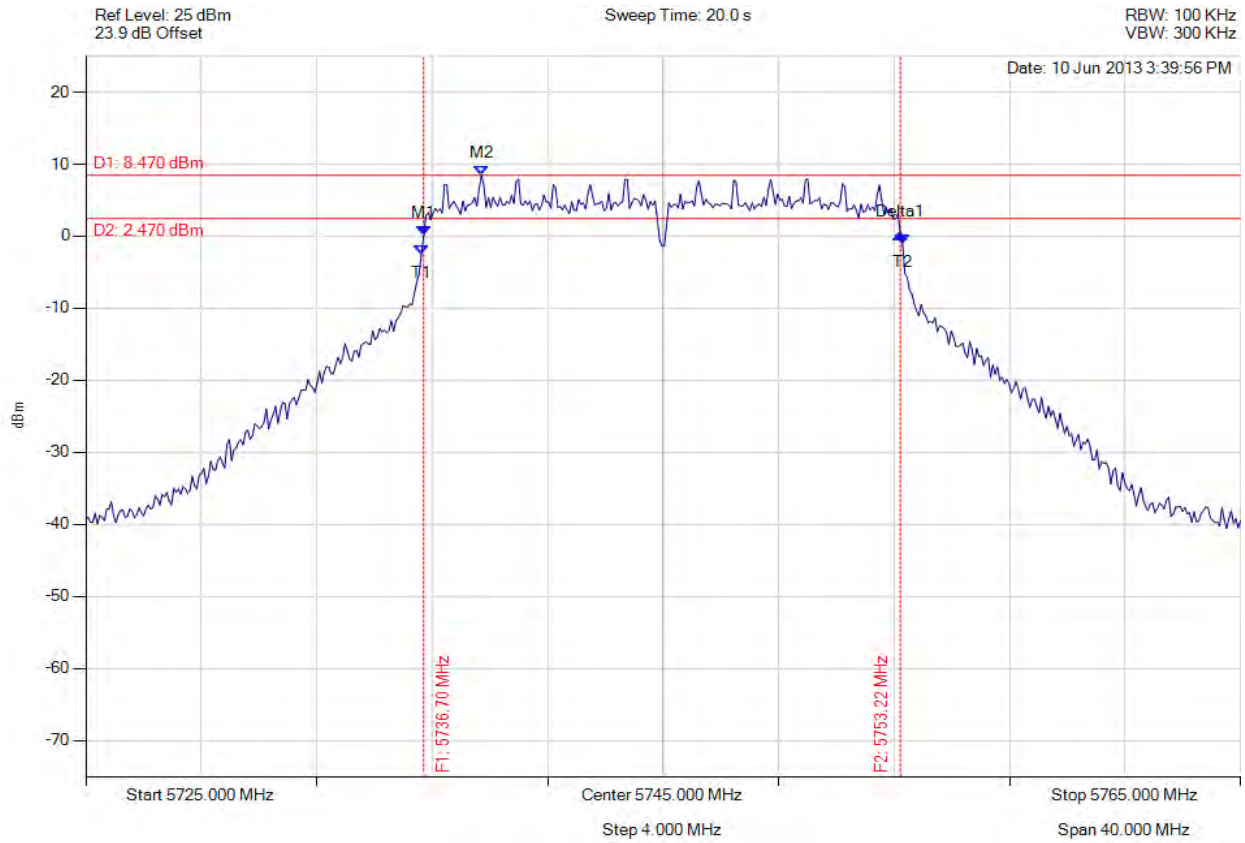
A. SUPPORTING INFORMATION

A.1. CONDUCTED TEST PLOTS

A.1.1. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

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

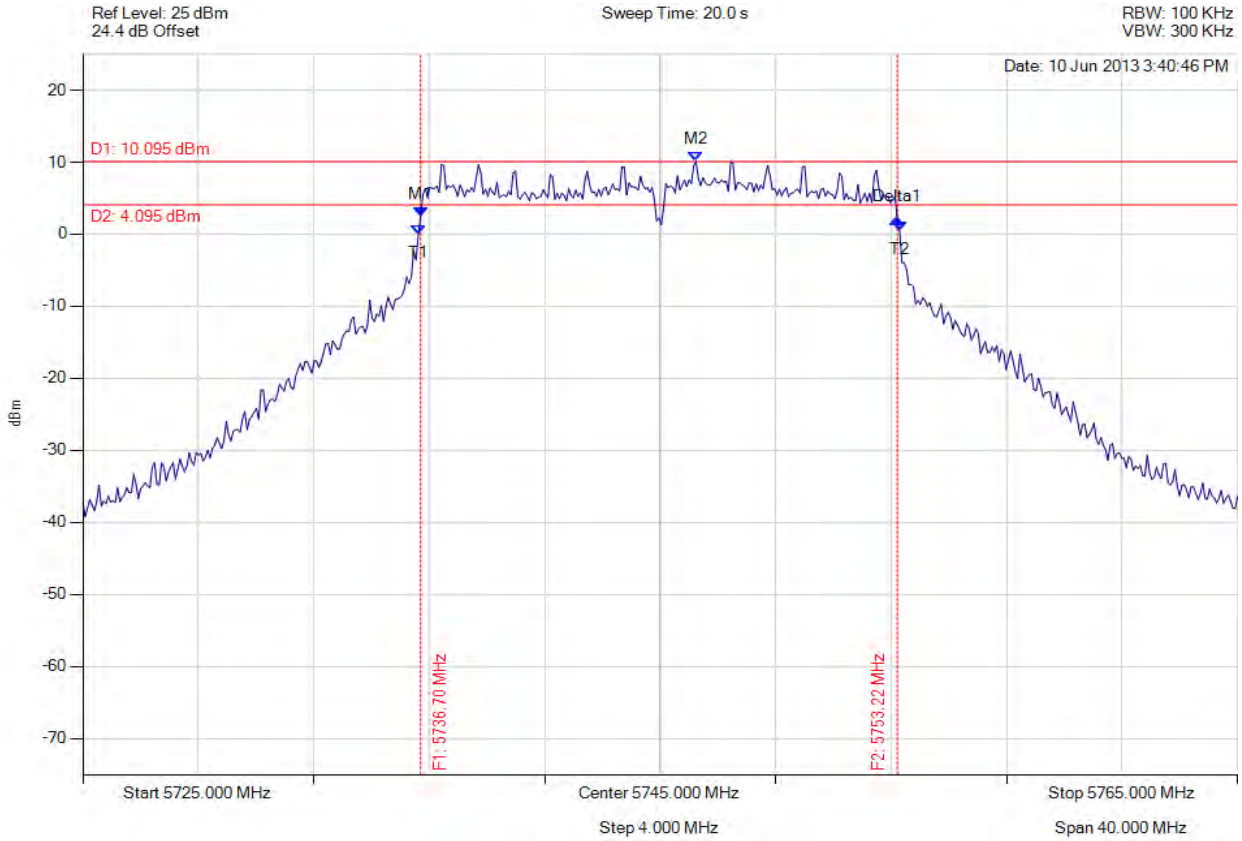


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.703 MHz : 0.083 dBm M2 : 5738.707 MHz : 8.470 dBm Delta1 : 16.513 MHz : 0.181 dB T1 : 5736.623 MHz : -2.541 dBm T2 : 5753.297 MHz : -1.109 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

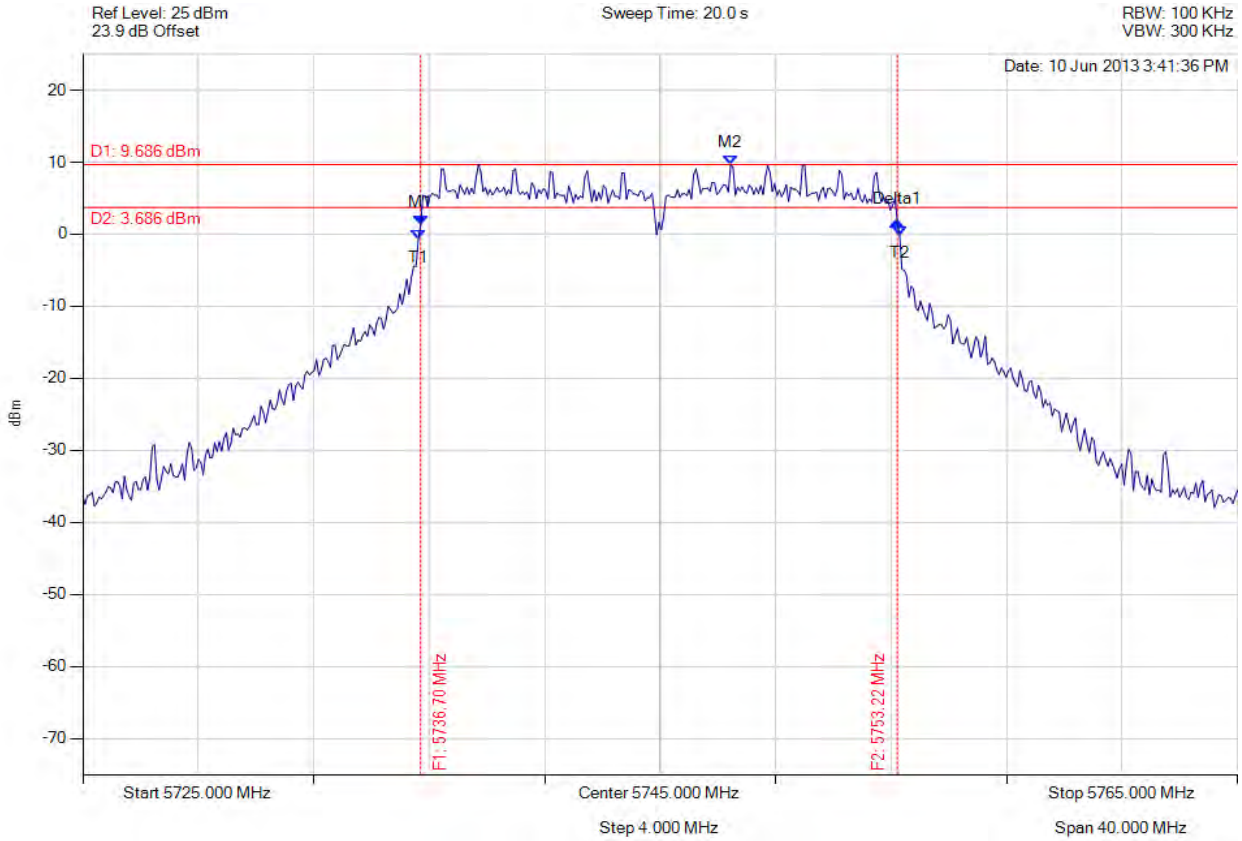


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.703 MHz : 2.482 dBm M2 : 5746.242 MHz : 10.095 dBm Delta1 : 16.513 MHz : -0.360 dB T1 : 5736.623 MHz : -0.058 dBm T2 : 5753.297 MHz : 0.438 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

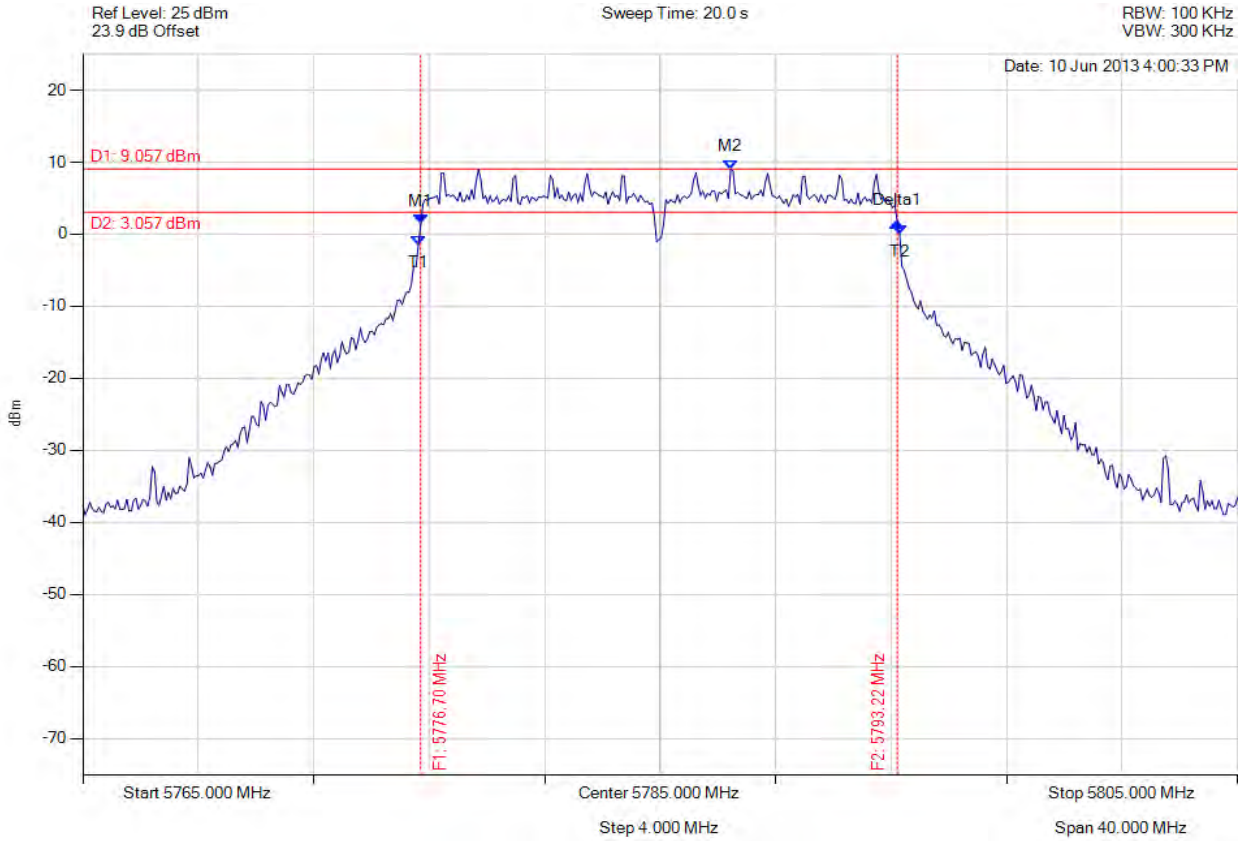


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.703 MHz : 1.360 dBm M2 : 5747.445 MHz : 9.686 dBm Delta1 : 16.513 MHz : 0.423 dB T1 : 5736.623 MHz : -0.674 dBm T2 : 5753.297 MHz : -0.151 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

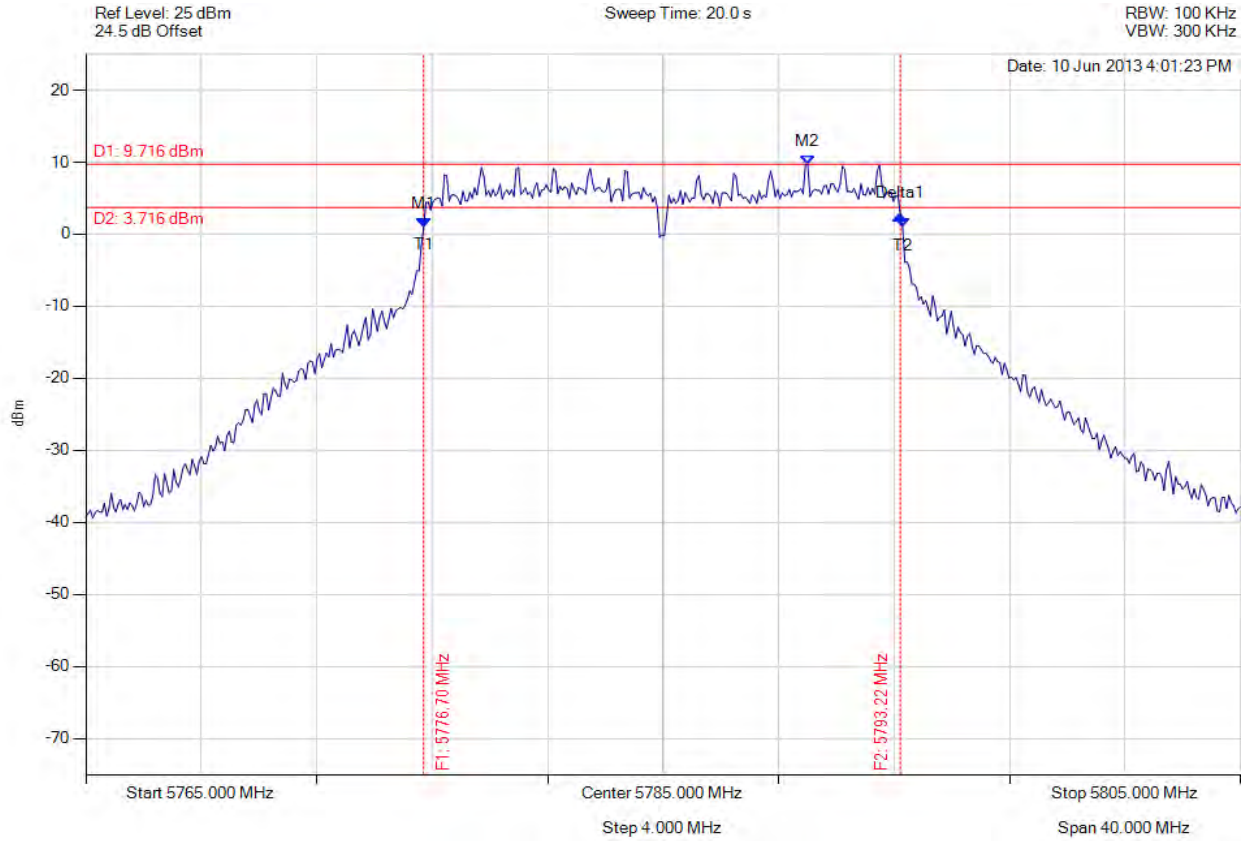


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.703 MHz : 1.390 dBm M2 : 5787.445 MHz : 9.057 dBm Delta1 : 16.513 MHz : 0.179 dB T1 : 5776.623 MHz : -1.488 dBm T2 : 5793.297 MHz : 0.054 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

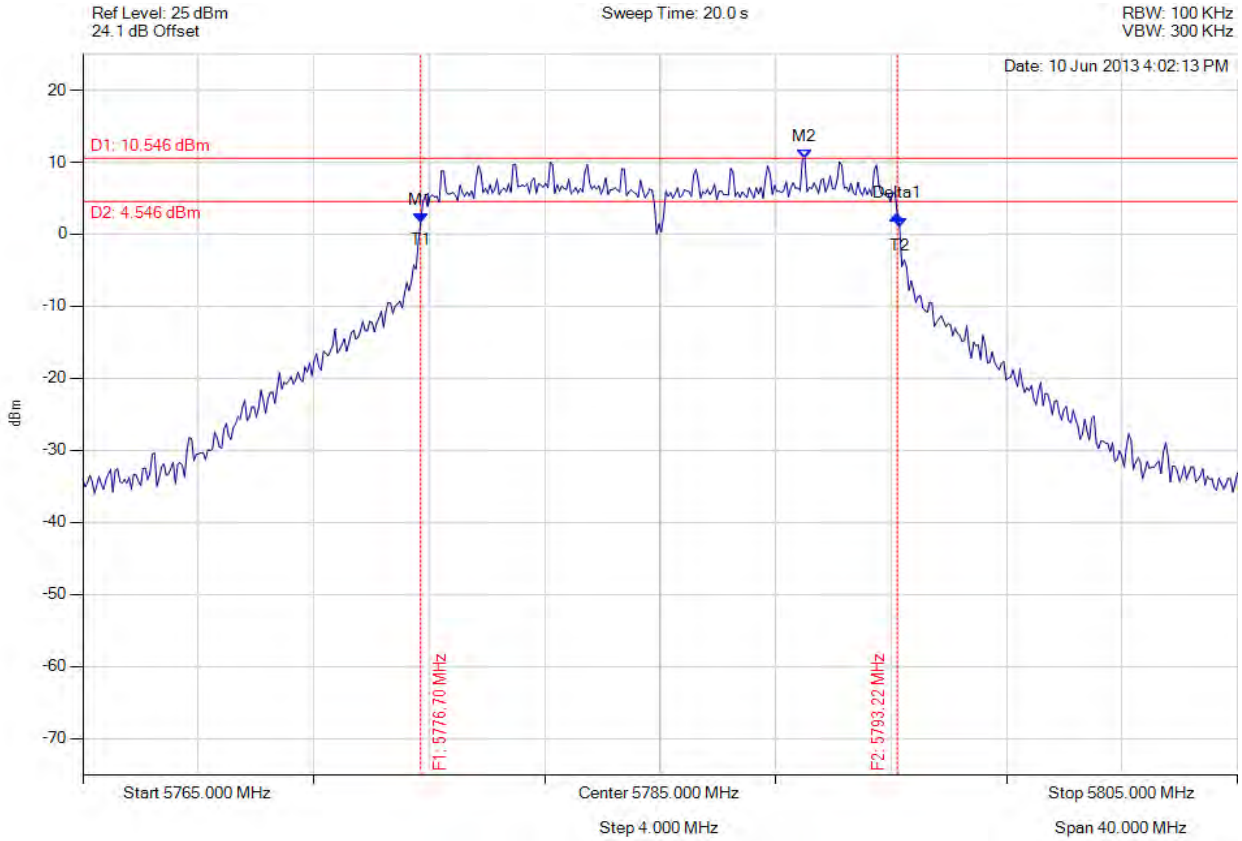


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.703 MHz : 1.055 dBm M2 : 5790.010 MHz : 9.716 dBm Delta1 : 16.513 MHz : 1.578 dB T1 : 5776.703 MHz : 1.055 dBm T2 : 5793.297 MHz : 0.906 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

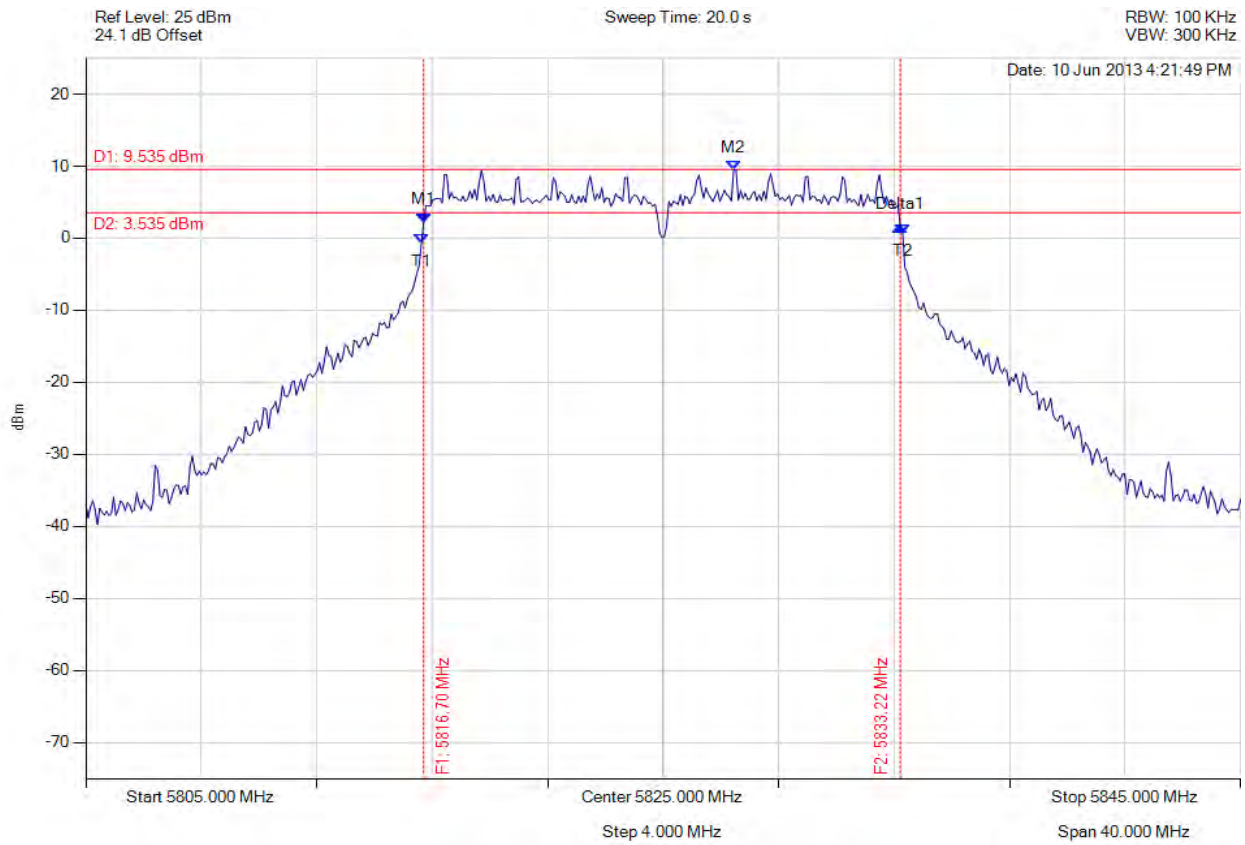


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.703 MHz : 1.701 dBm M2 : 5790.010 MHz : 10.546 dBm Delta1 : 16.513 MHz : 0.968 dB T1 : 5776.703 MHz : 1.701 dBm T2 : 5793.297 MHz : 0.994 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

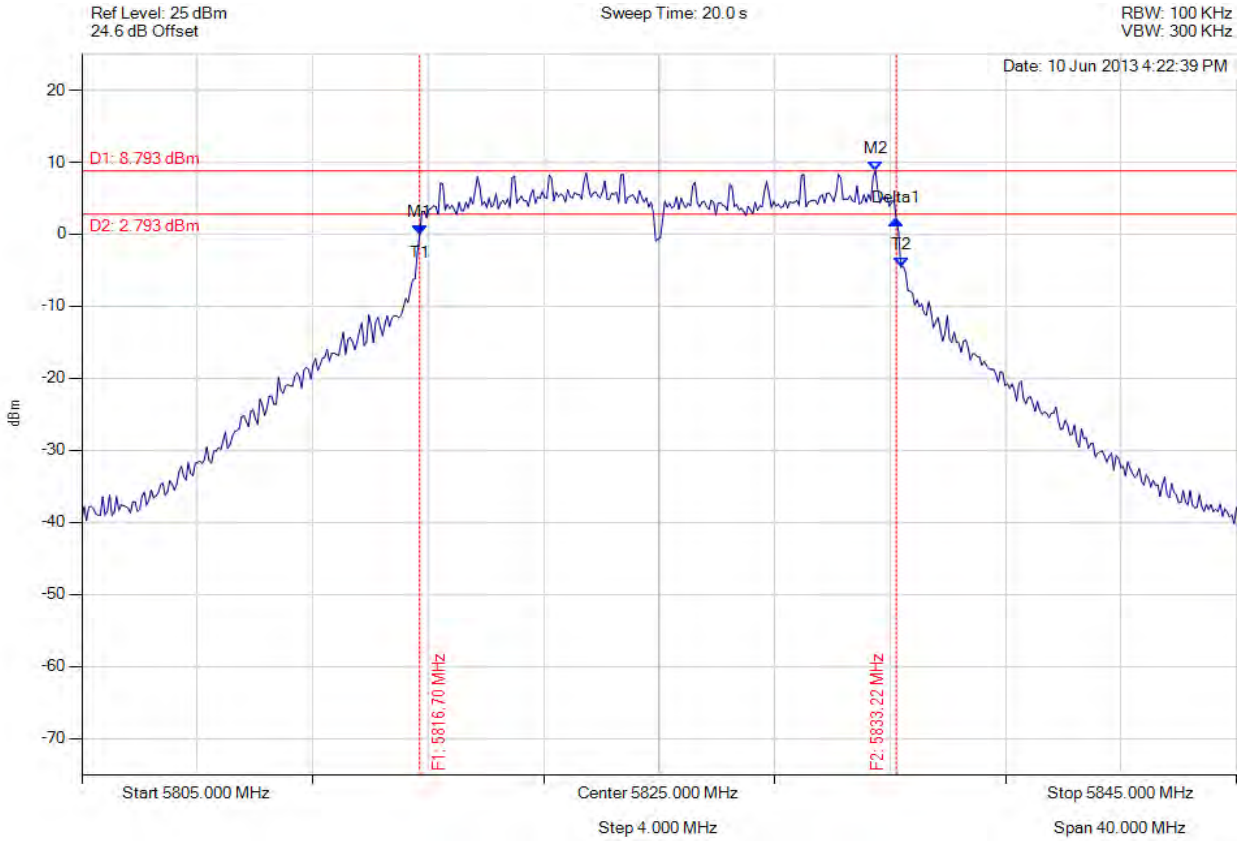


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.703 MHz : 2.210 dBm M2 : 5827.445 MHz : 9.535 dBm Delta1 : 16.513 MHz : -0.590 dB T1 : 5816.623 MHz : -0.774 dBm T2 : 5833.297 MHz : 0.711 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

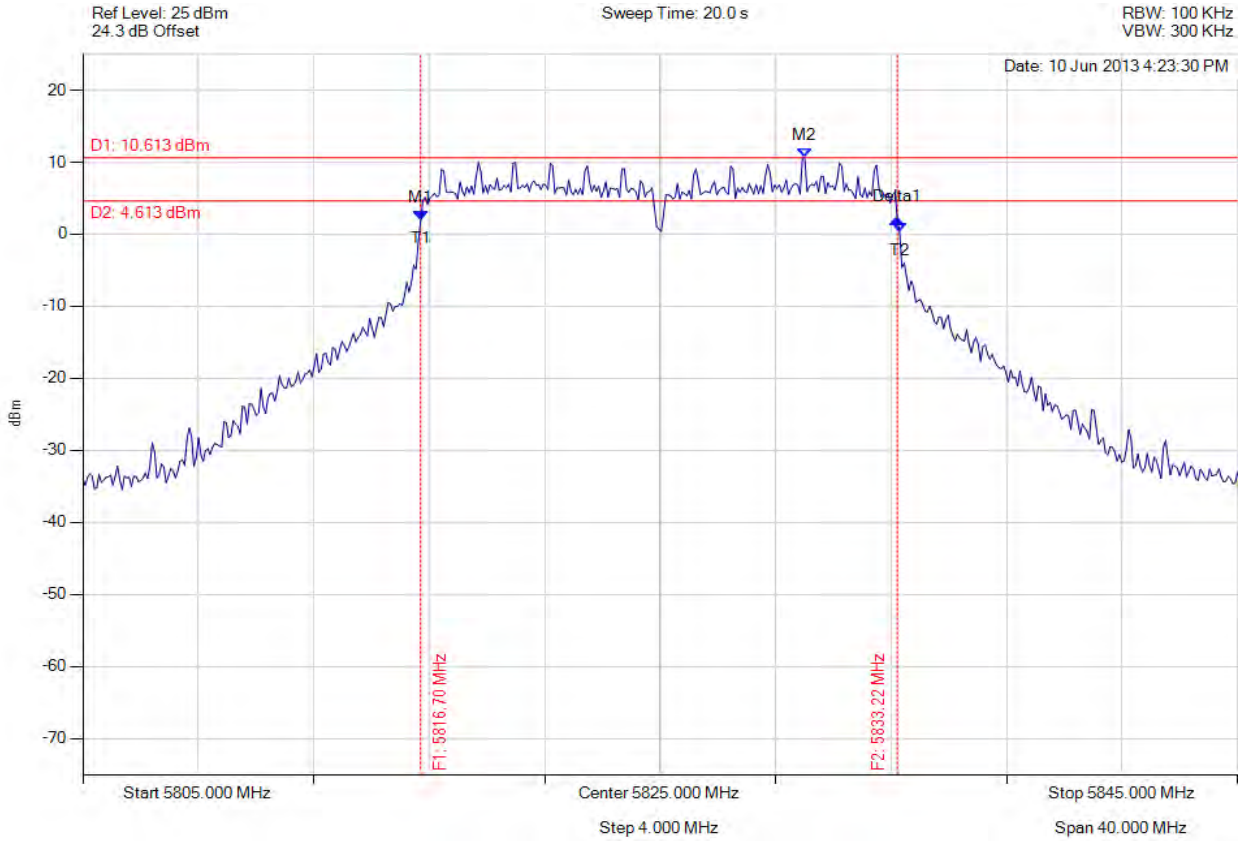


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.703 MHz : -0.044 dBm M2 : 5832.495 MHz : 8.793 dBm Delta1 : 16.513 MHz : 1.981 dB T1 : 5816.703 MHz : -0.044 dBm T2 : 5833.377 MHz : -4.613 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

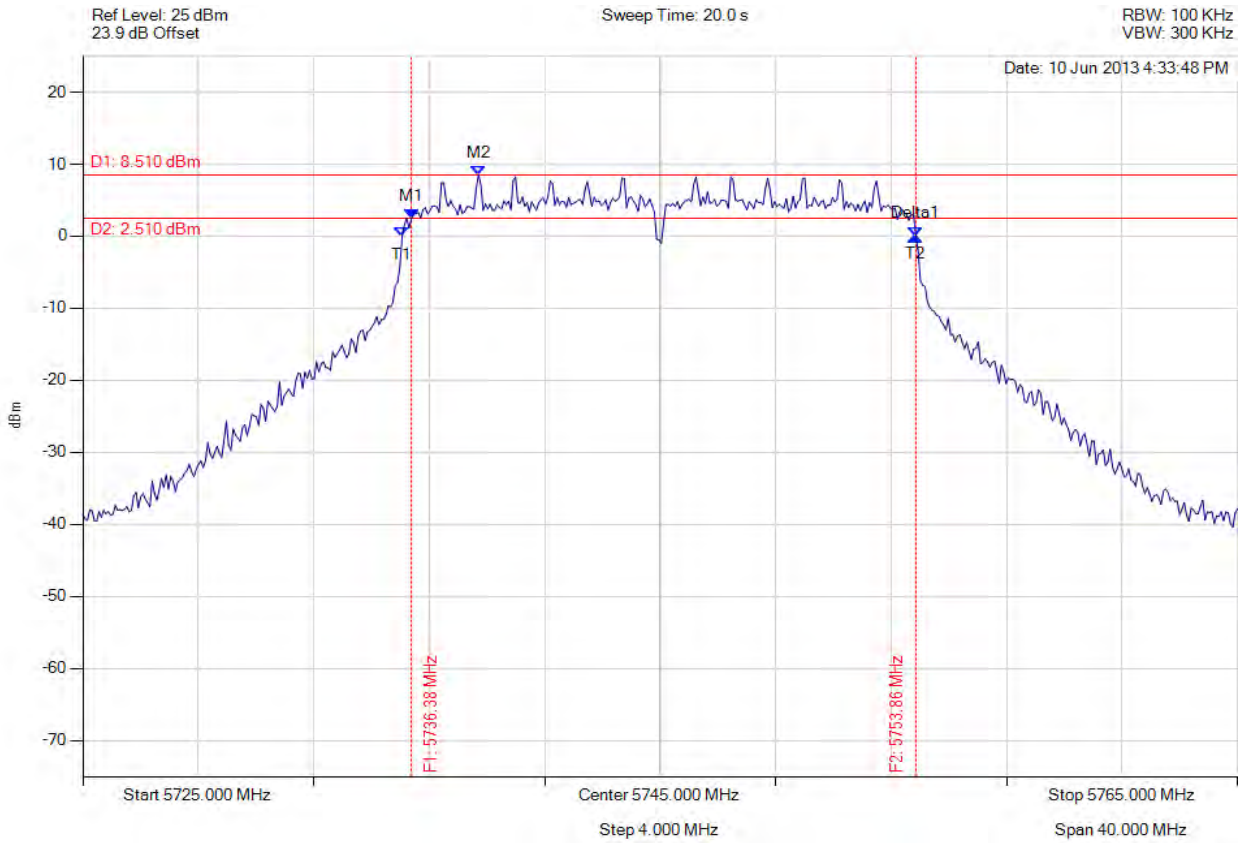


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.703 MHz : 1.950 dBm M2 : 5830.010 MHz : 10.613 dBm Delta1 : 16.513 MHz : 0.252 dB T1 : 5816.703 MHz : 1.950 dBm T2 : 5833.297 MHz : 0.316 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.513 MHz Limit: ≥500.0 kHz Margin: -16.01 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

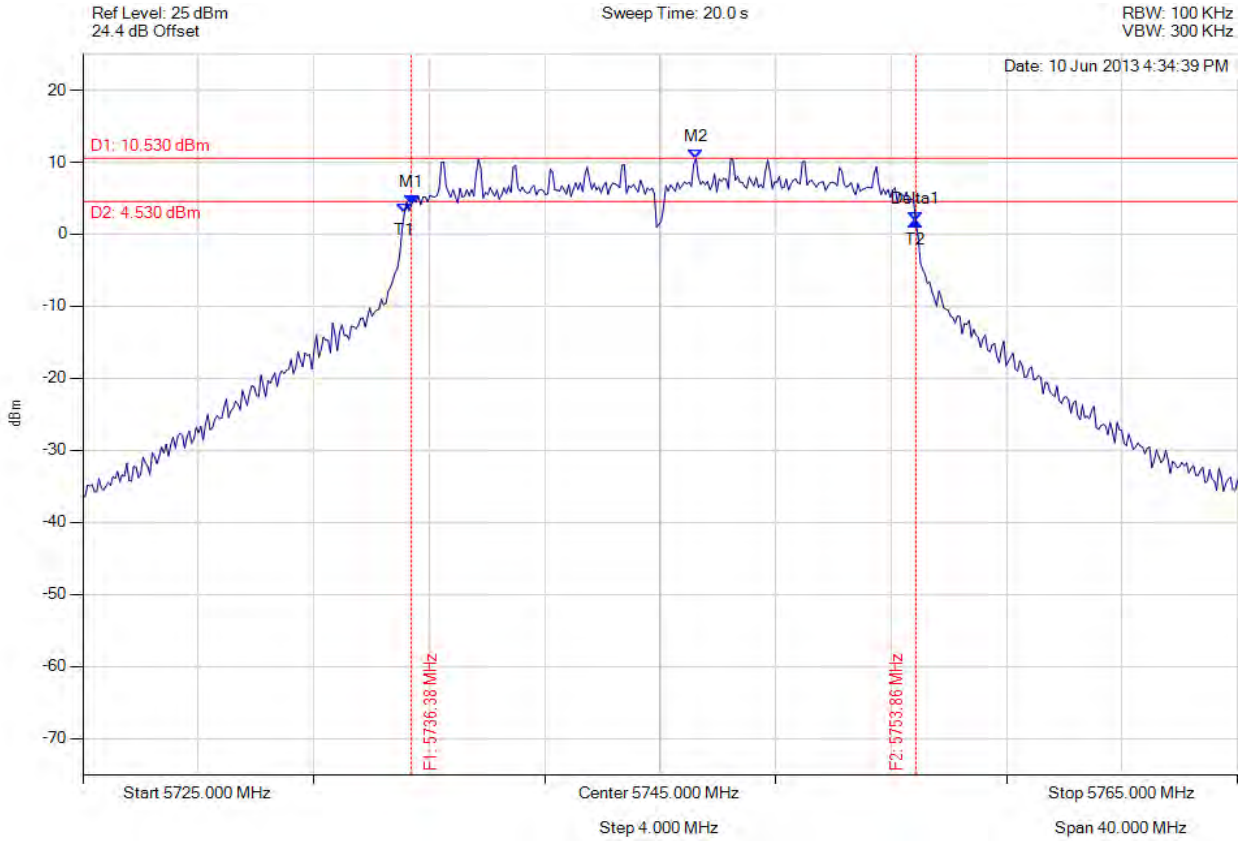


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.383 MHz : 2.480 dBm M2 : 5738.707 MHz : 8.510 dBm Delta1 : 17.475 MHz : -2.432 dB T1 : 5736.062 MHz : -0.064 dBm T2 : 5753.858 MHz : 0.048 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.475 MHz Limit: ≥500.0 kHz Margin: -16.98 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

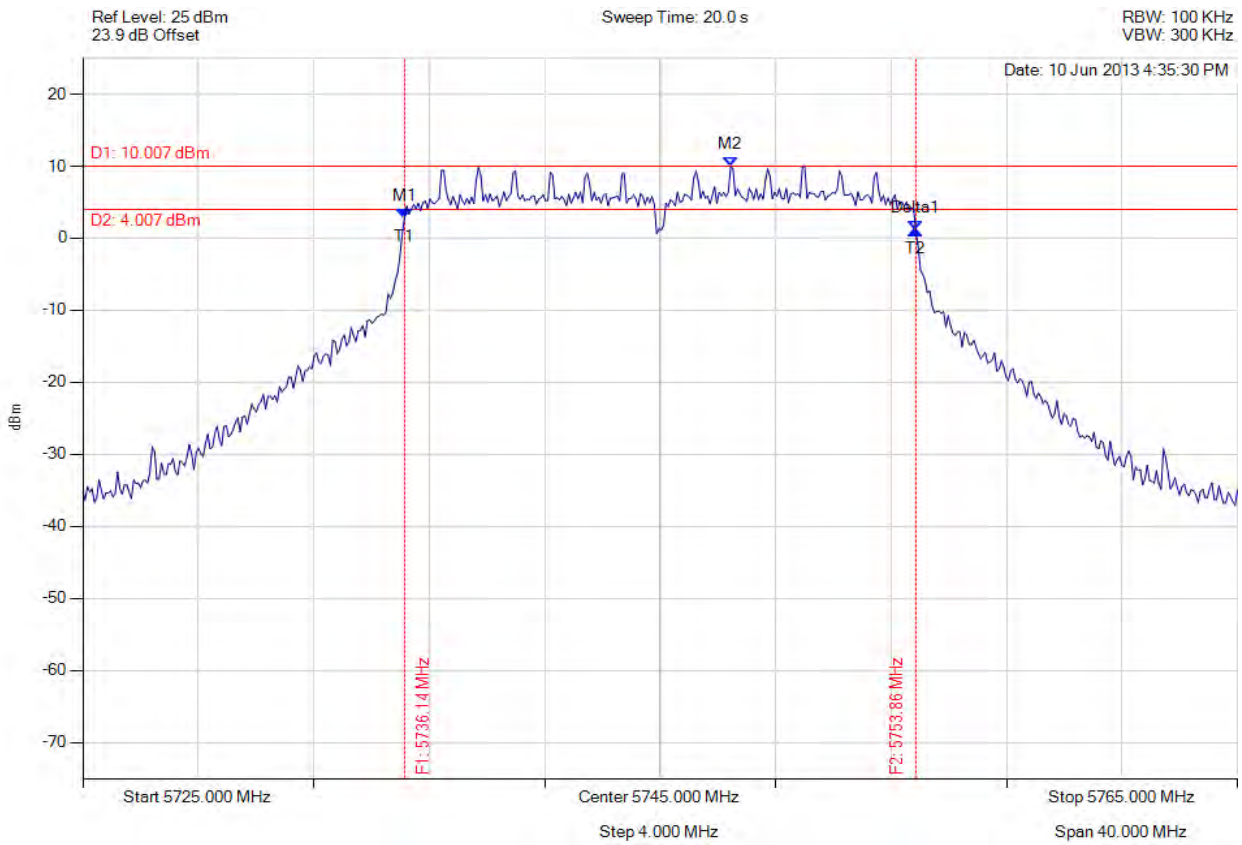


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.383 MHz : 4.103 dBm M2 : 5746.242 MHz : 10.530 dBm Delta1 : 17.475 MHz : -2.298 dB T1 : 5736.142 MHz : 3.046 dBm T2 : 5753.858 MHz : 1.805 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.475 MHz Limit: ≥500.0 kHz Margin: -16.98 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

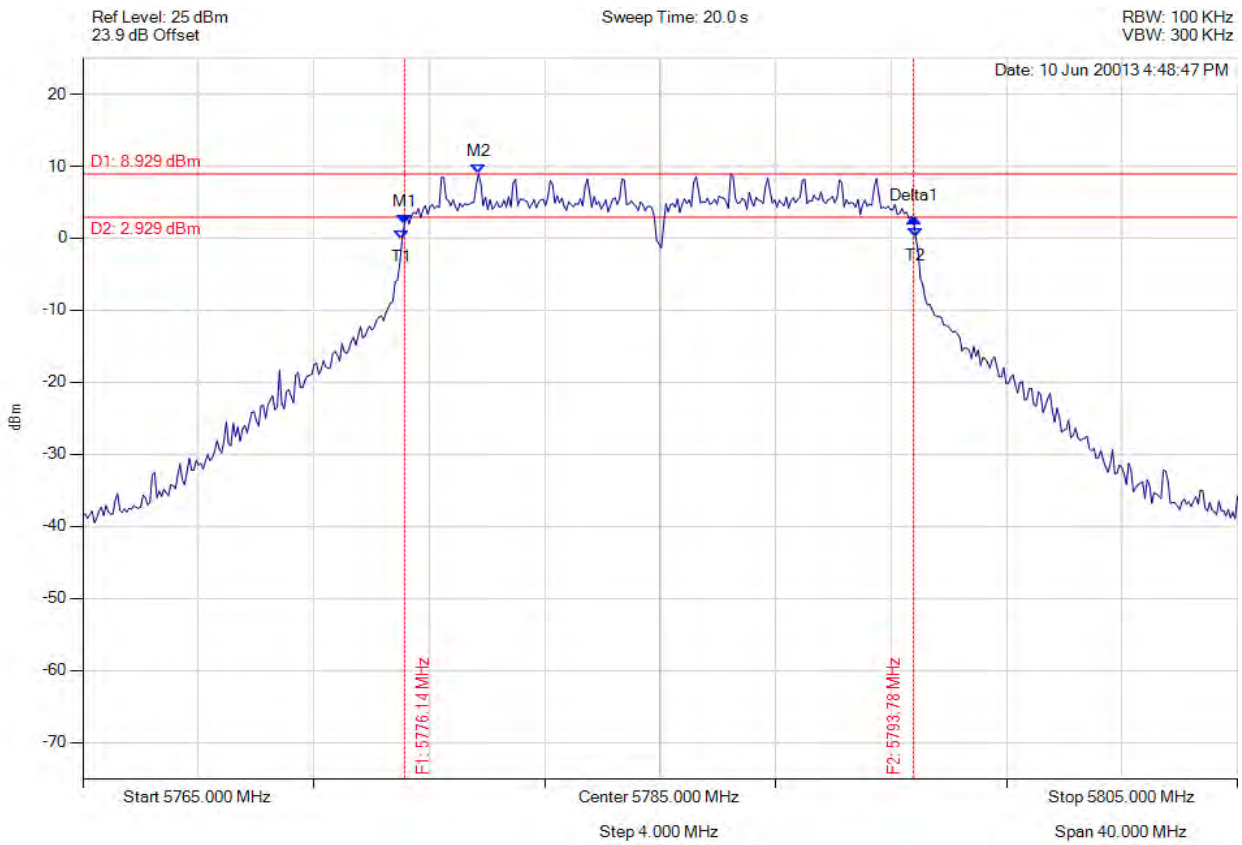


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.142 MHz : 2.820 dBm M2 : 5747.445 MHz : 10.007 dBm Delta1 : 17.715 MHz : -1.712 dB T1 : 5736.142 MHz : 2.820 dBm T2 : 5753.858 MHz : 1.108 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.715 MHz Limit: ≥500.0 kHz Margin: -17.22 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

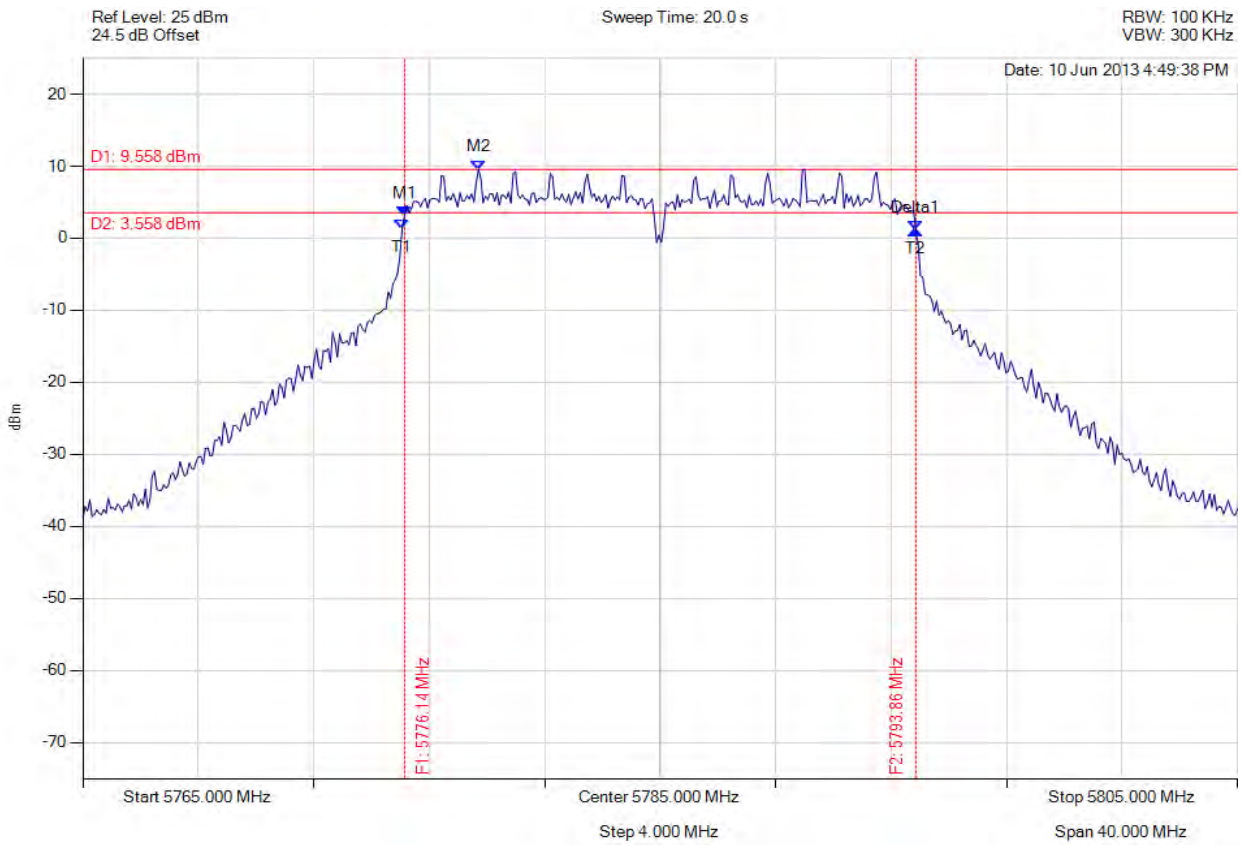


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.142 MHz : 2.035 dBm M2 : 5778.707 MHz : 8.929 dBm Delta1 : 17.635 MHz : 0.724 dB T1 : 5776.062 MHz : -0.113 dBm T2 : 5793.858 MHz : 0.056 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.635 MHz Limit: ≥500.0 kHz Margin: -17.14 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

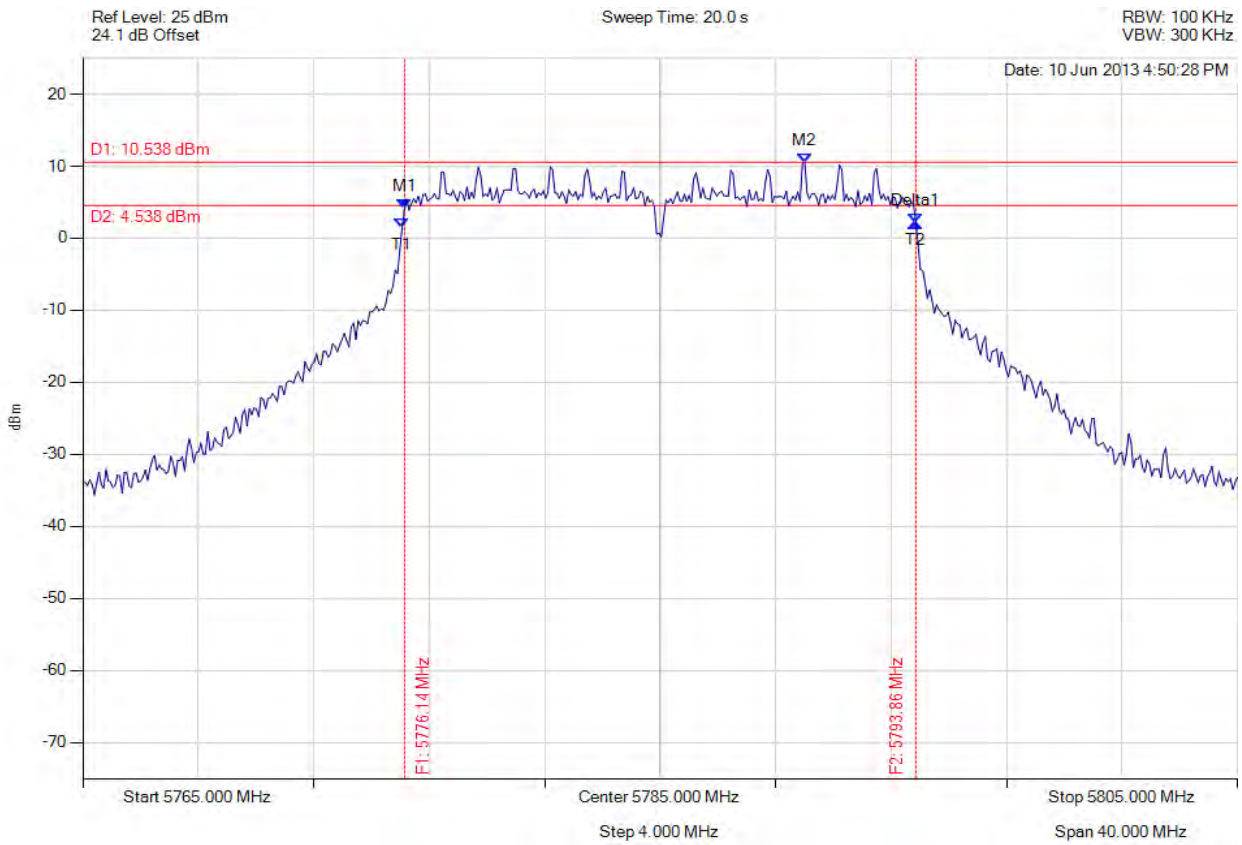


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.142 MHz : 3.117 dBm M2 : 5778.707 MHz : 9.558 dBm Delta1 : 17.715 MHz : -2.024 dB T1 : 5776.062 MHz : 1.280 dBm T2 : 5793.858 MHz : 1.093 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.715 MHz Limit: ≥500.0 kHz Margin: -17.22 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

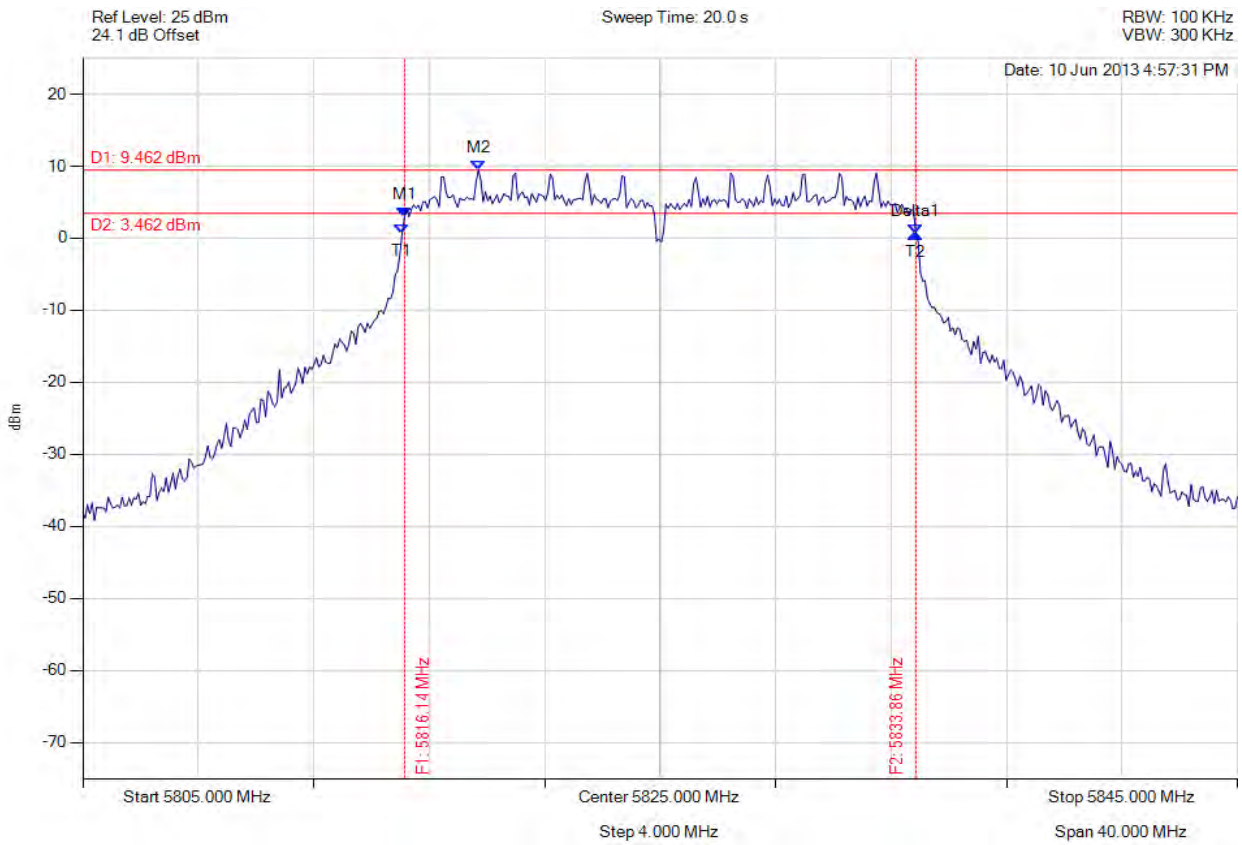


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.142 MHz : 4.069 dBm M2 : 5790.010 MHz : 10.538 dBm Delta1 : 17.715 MHz : -1.885 dB T1 : 5776.062 MHz : 1.500 dBm T2 : 5793.858 MHz : 2.183 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.715 MHz Limit: ≥500.0 kHz Margin: -17.22 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

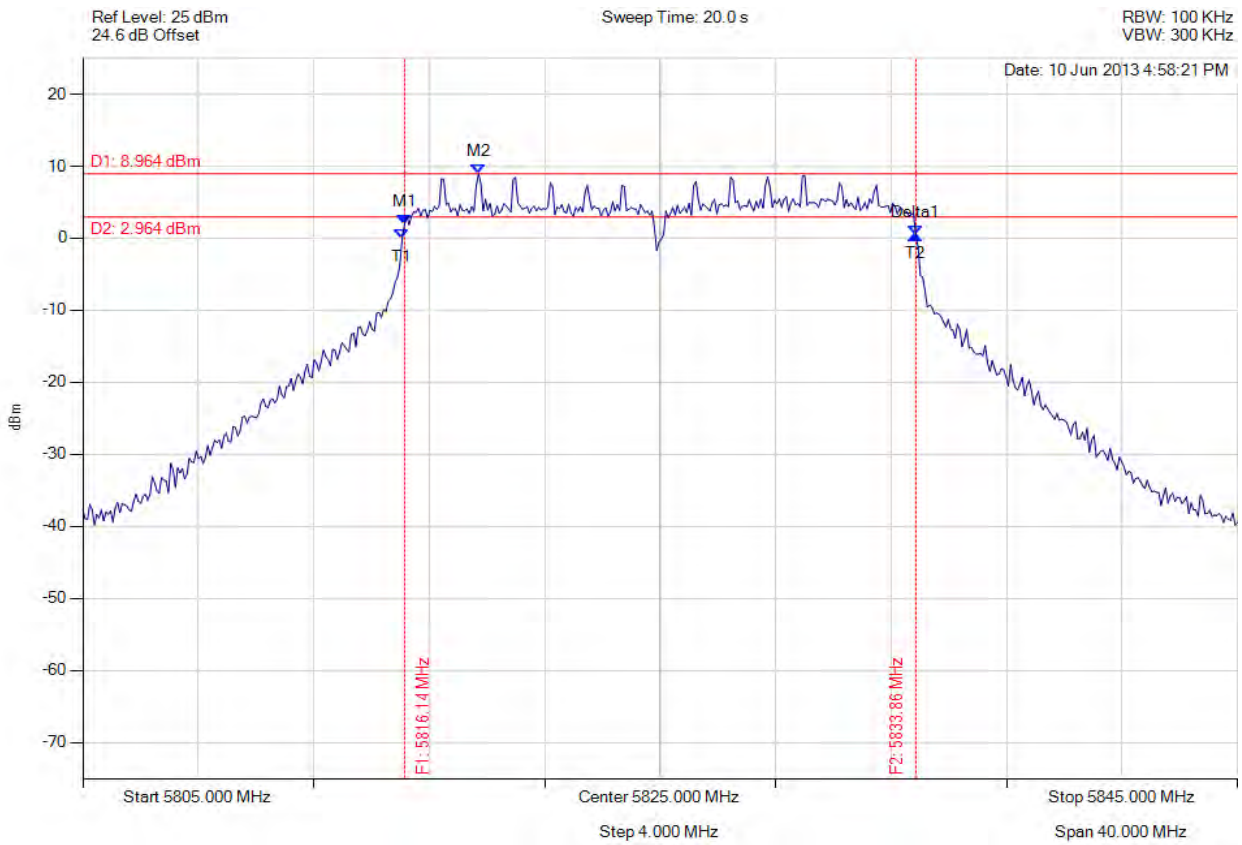


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.142 MHz : 2.930 dBm M2 : 5818.707 MHz : 9.462 dBm Delta1 : 17.715 MHz : -2.288 dB T1 : 5816.062 MHz : 0.709 dBm T2 : 5833.858 MHz : 0.642 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.715 MHz Limit: ≥500.0 kHz Margin: -17.22 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

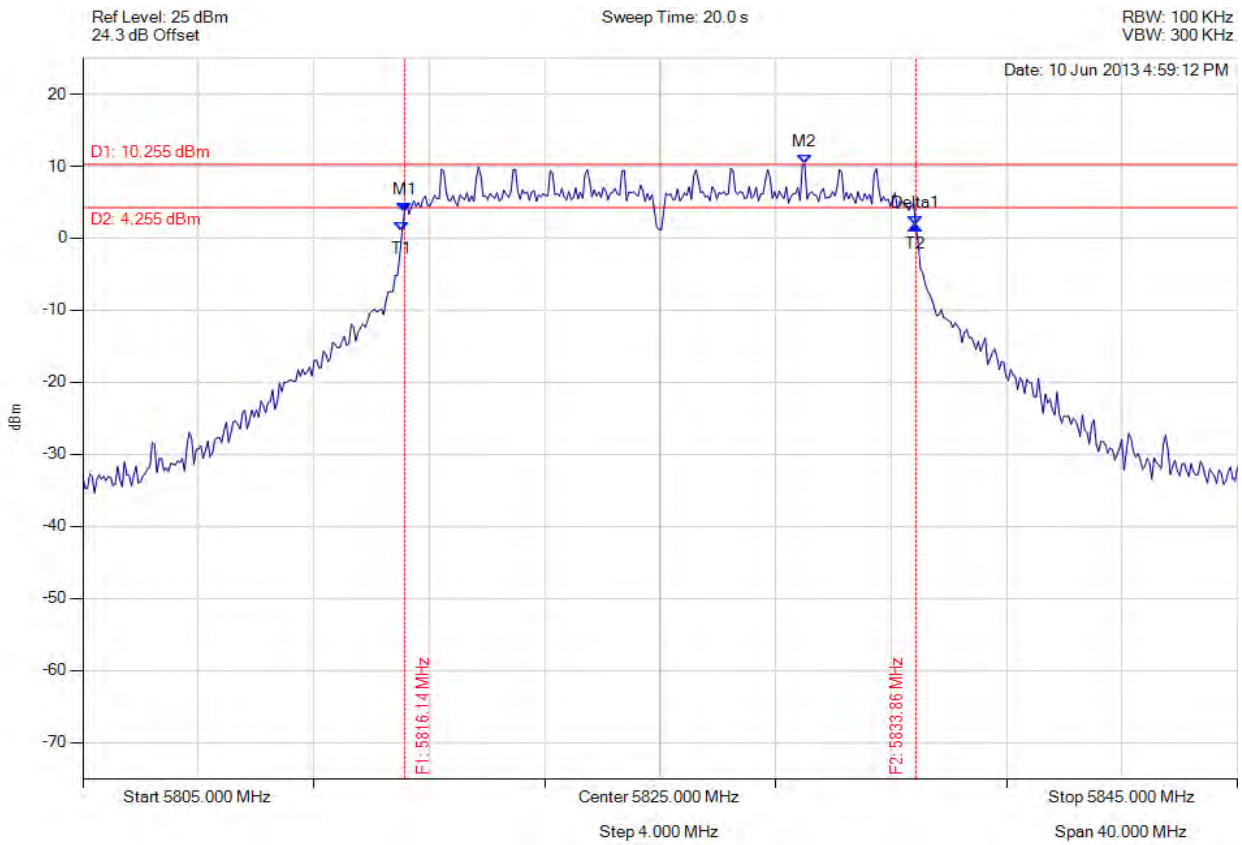


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.142 MHz : 1.899 dBm M2 : 5818.707 MHz : 8.964 dBm Delta1 : 17.715 MHz : -1.460 dB T1 : 5816.062 MHz : -0.098 dBm T2 : 5833.858 MHz : 0.438 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.715 MHz Limit: ≥500.0 kHz Margin: -17.22 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

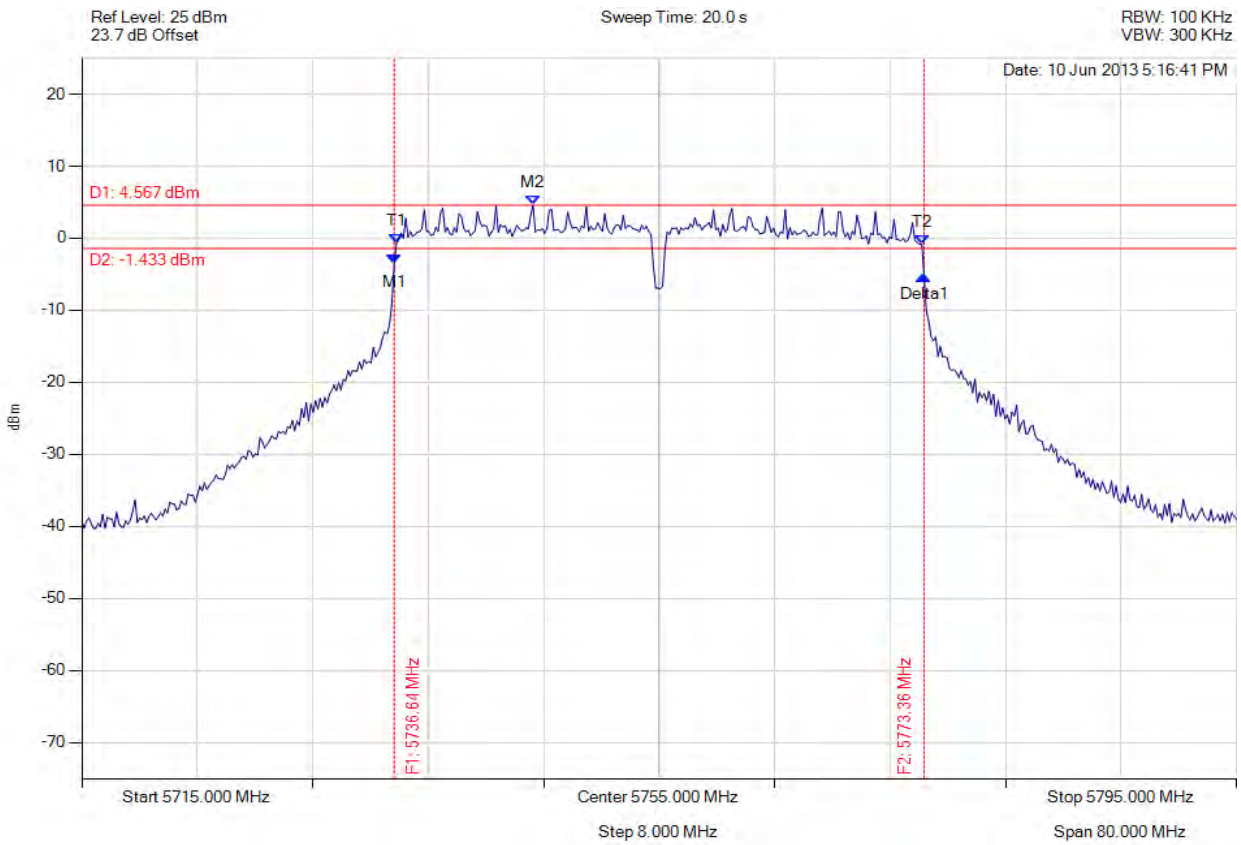


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5816.142 MHz : 3.662 dBm M2 : 5830.010 MHz : 10.255 dBm Delta1 : 17.715 MHz : -1.875 dB T1 : 5816.062 MHz : 1.022 dBm T2 : 5833.858 MHz : 1.787 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.715 MHz Limit: ≥500.0 kHz Margin: -17.22 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

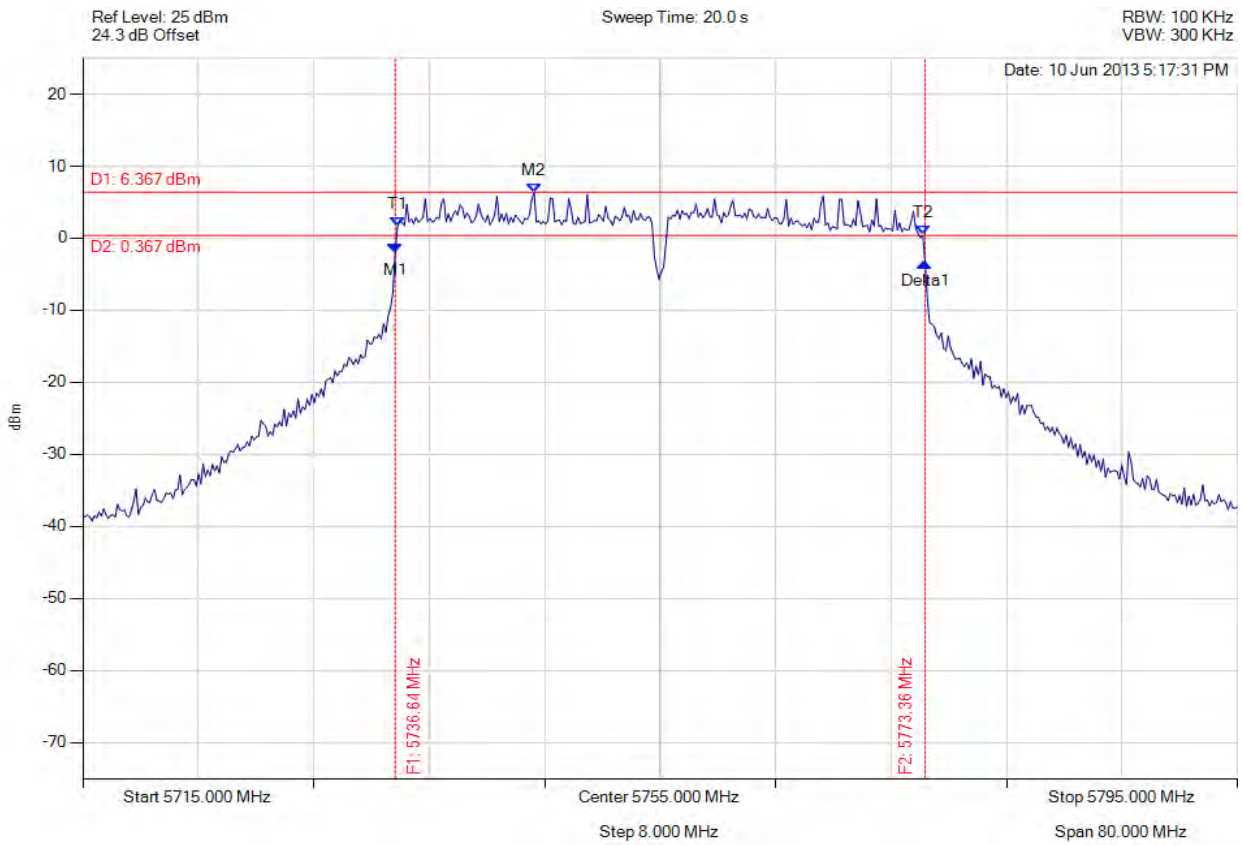


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.643 MHz : -3.609 dBm M2 : 5746.263 MHz : 4.567 dBm Delta1 : 36.713 MHz : -1.609 dB T1 : 5736.804 MHz : -0.639 dBm T2 : 5773.196 MHz : -0.833 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.713 MHz Limit: ≥500.0 kHz Margin: -36.21 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

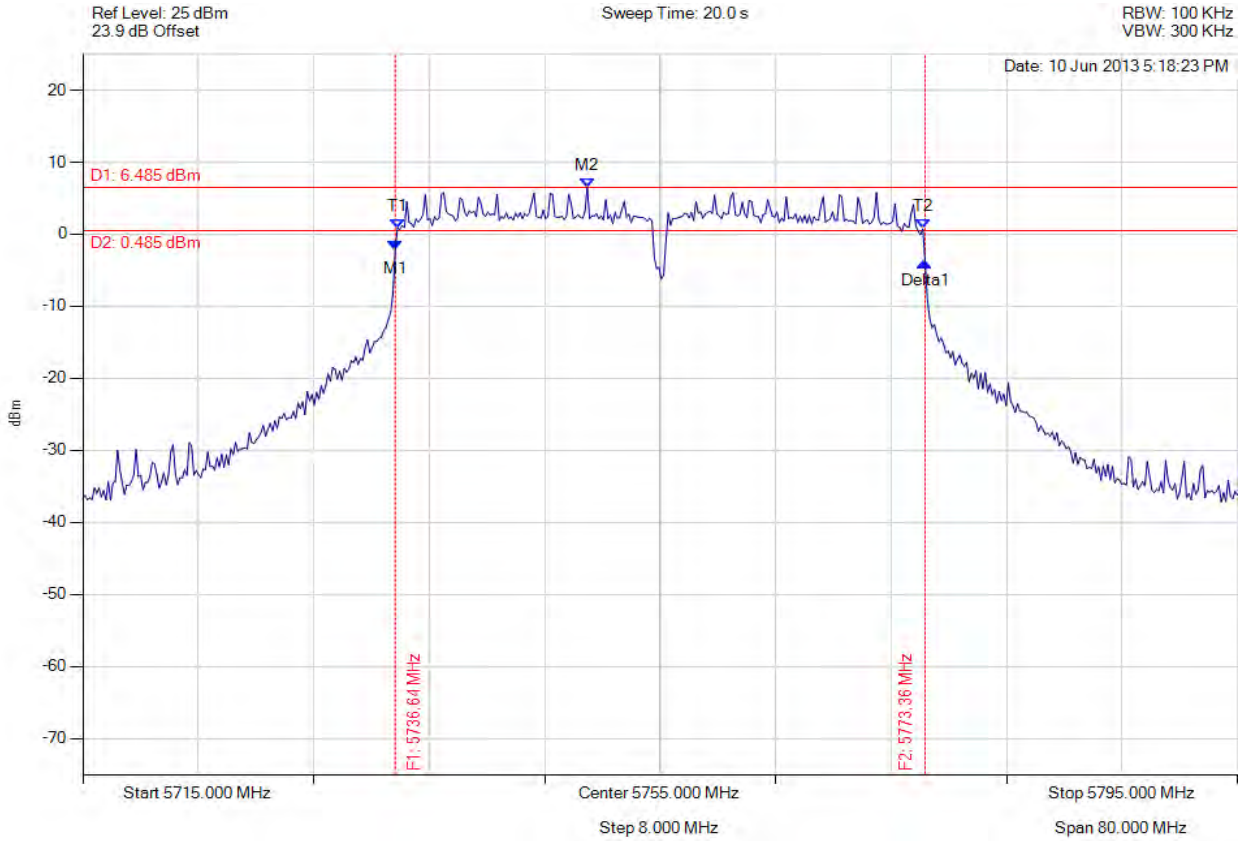


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.643 MHz : -1.951 dBm M2 : 5746.263 MHz : 6.367 dBm Delta1 : 36.713 MHz : -1.485 dB T1 : 5736.804 MHz : 1.671 dBm T2 : 5773.196 MHz : 0.394 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.713 MHz Limit: ≥500.0 kHz Margin: -36.21 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

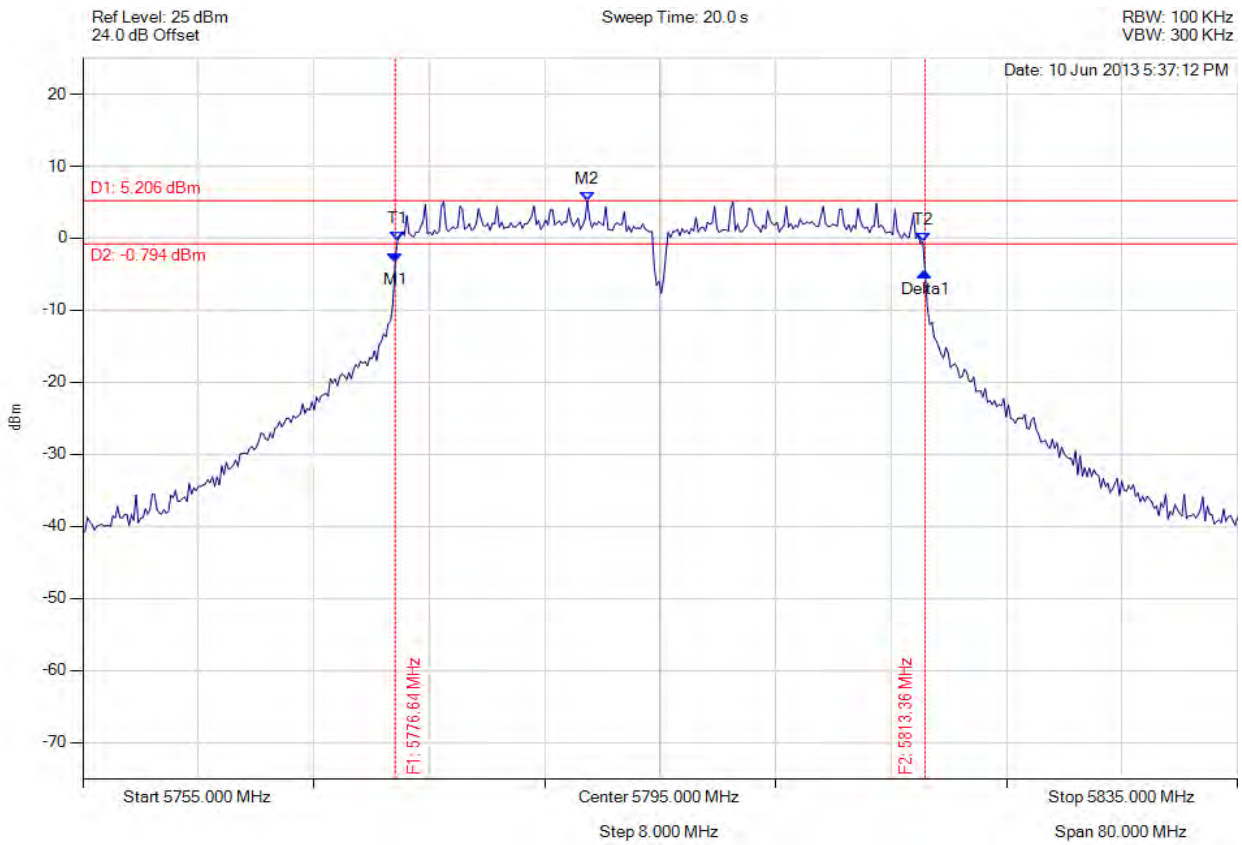


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.643 MHz : -2.216 dBm M2 : 5749.950 MHz : 6.485 dBm Delta1 : 36.713 MHz : -1.664 dB T1 : 5736.804 MHz : 0.868 dBm T2 : 5773.196 MHz : 0.735 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.713 MHz Limit: ≥500.0 kHz Margin: -36.21 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

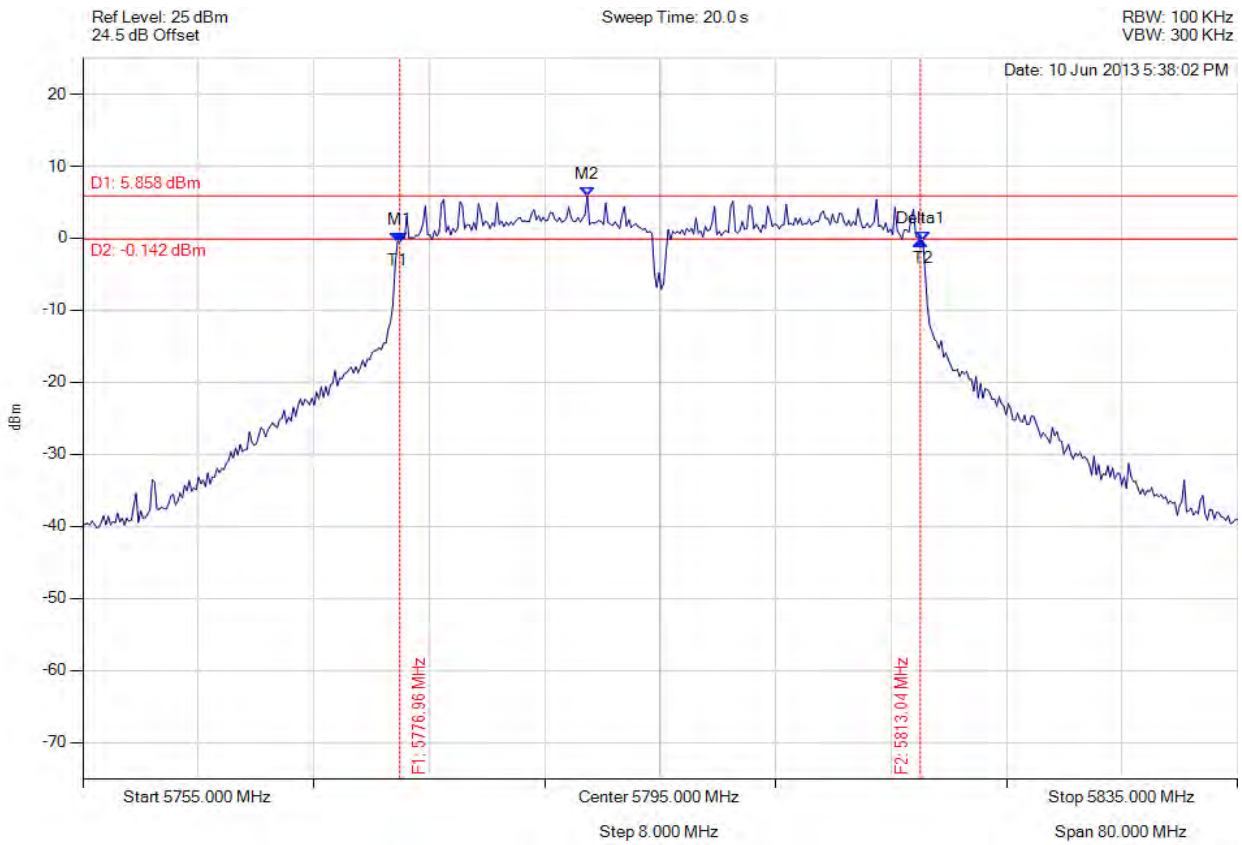


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.643 MHz : -3.338 dBm M2 : 5789.950 MHz : 5.206 dBm Delta1 : 36.713 MHz : -1.330 dB T1 : 5776.804 MHz : -0.312 dBm T2 : 5813.196 MHz : -0.515 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.713 MHz Limit: ≥500.0 kHz Margin: -36.21 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

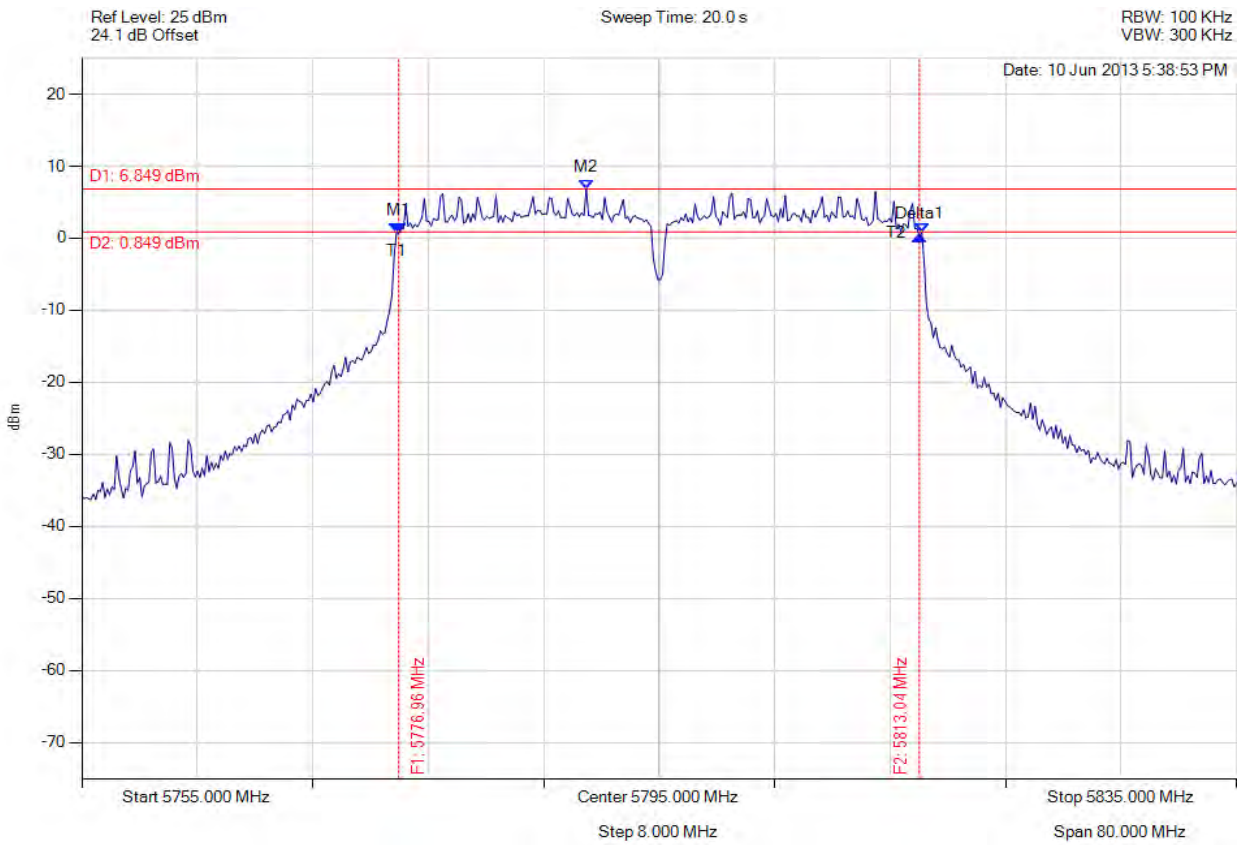


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.964 MHz : -0.499 dBm M2 : 5789.950 MHz : 5.858 dBm Delta1 : 36.072 MHz : 0.098 dB T1 : 5776.804 MHz : -0.578 dBm T2 : 5813.196 MHz : -0.300 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.072 MHz Limit: ≥500.0 kHz Margin: -35.57 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

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

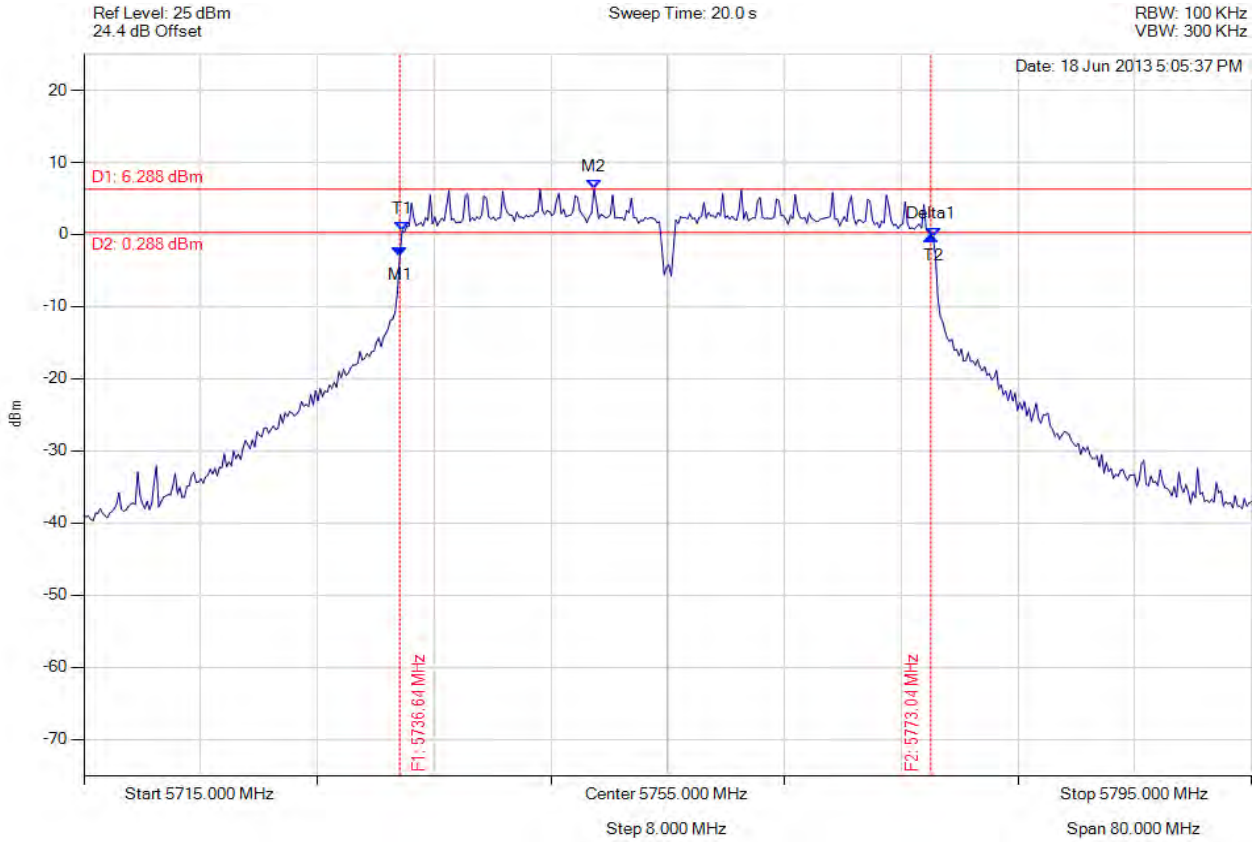


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.964 MHz : 0.772 dBm M2 : 5789.950 MHz : 6.849 dBm Delta1 : 36.072 MHz : -0.533 dB T1 : 5776.804 MHz : 0.752 dBm T2 : 5813.196 MHz : 0.768 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.072 MHz Limit: ≥500.0 kHz Margin: -35.57 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

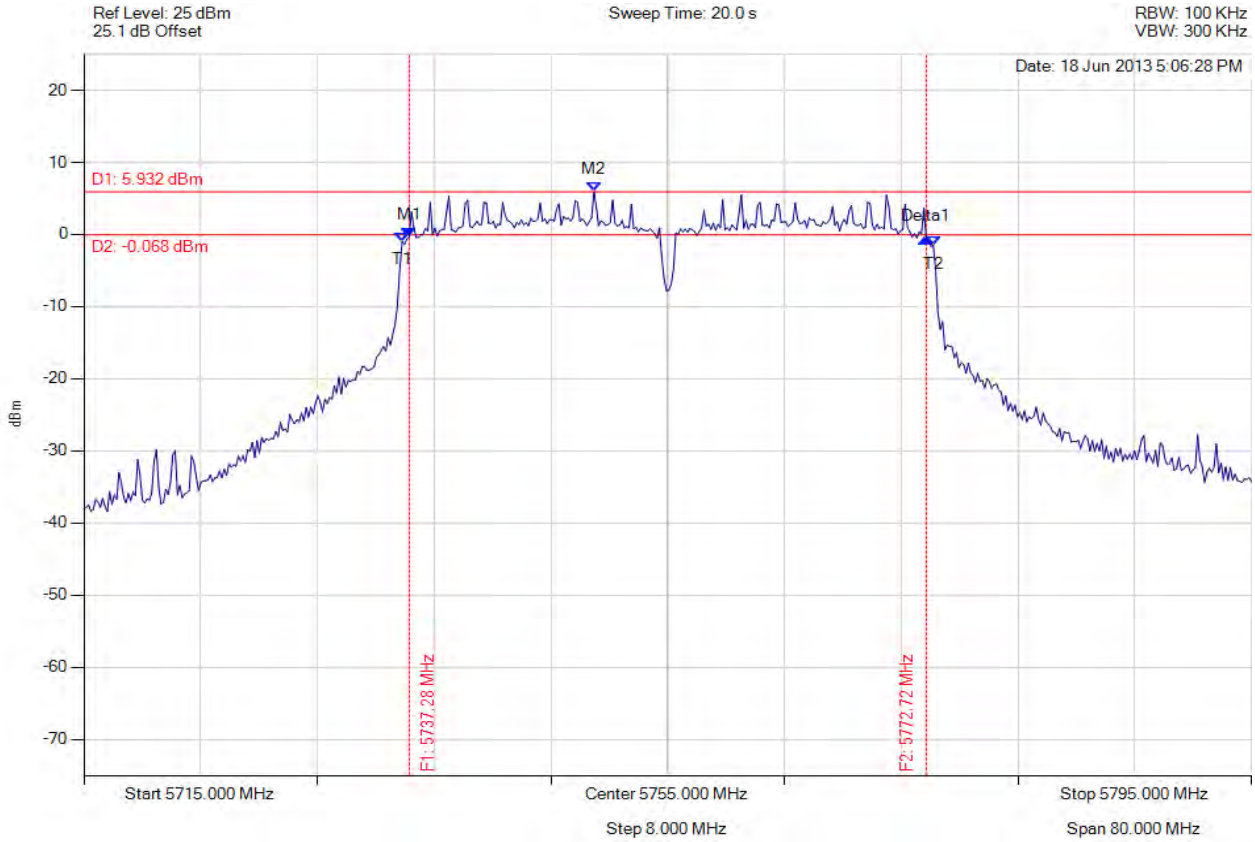


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.643 MHz : -3.068 dBm M2 : 5749.950 MHz : 6.288 dBm Delta1 : 36.393 MHz : 2.920 dB T1 : 5736.804 MHz : 0.451 dBm T2 : 5773.196 MHz : -0.381 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.393 MHz Limit: ≥500.0 kHz Margin: -35.89 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc

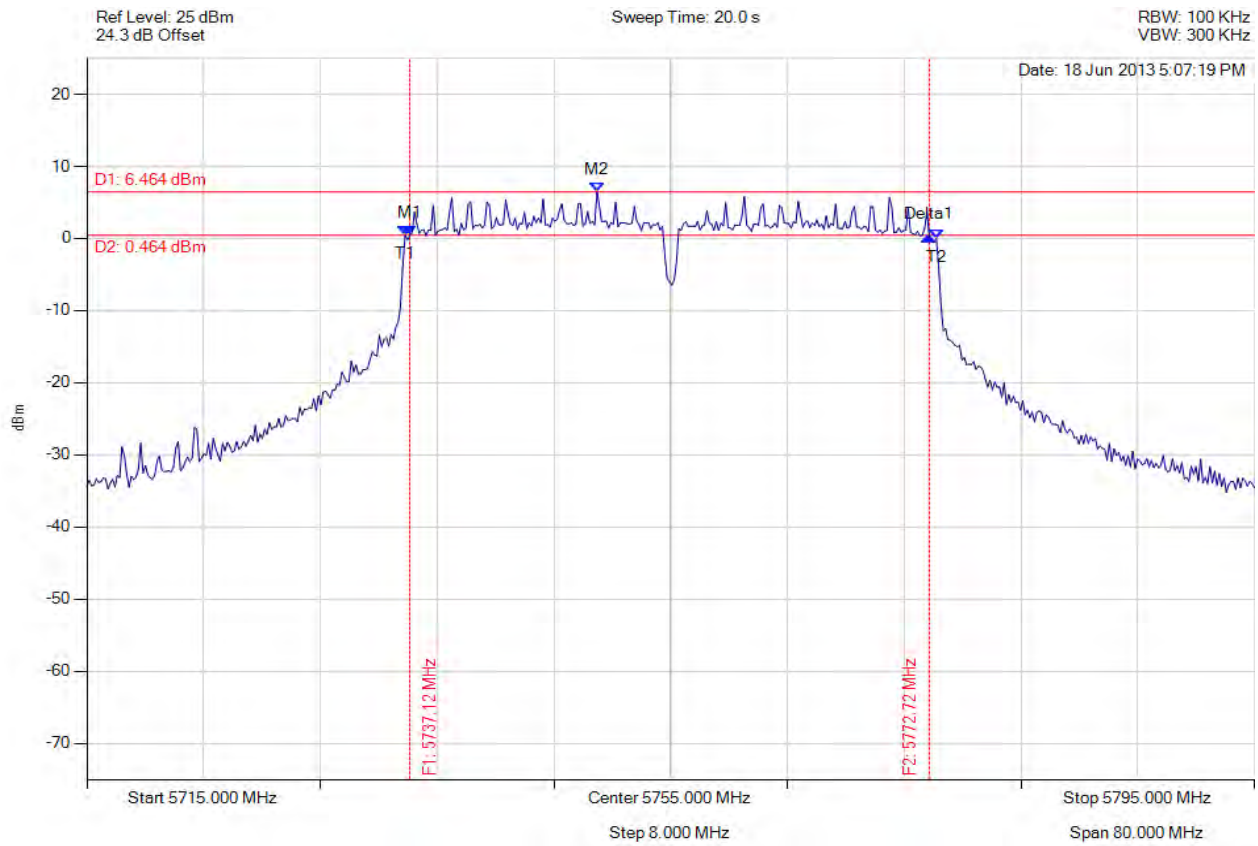


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.285 MHz : -0.381 dBm M2 : 5749.950 MHz : 5.932 dBm Delta1 : 35.431 MHz : -0.110 dB T1 : 5736.804 MHz : -0.977 dBm T2 : 5773.196 MHz : -1.530 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 35.431 MHz Limit: ≥500.0 kHz Margin: -34.93 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc

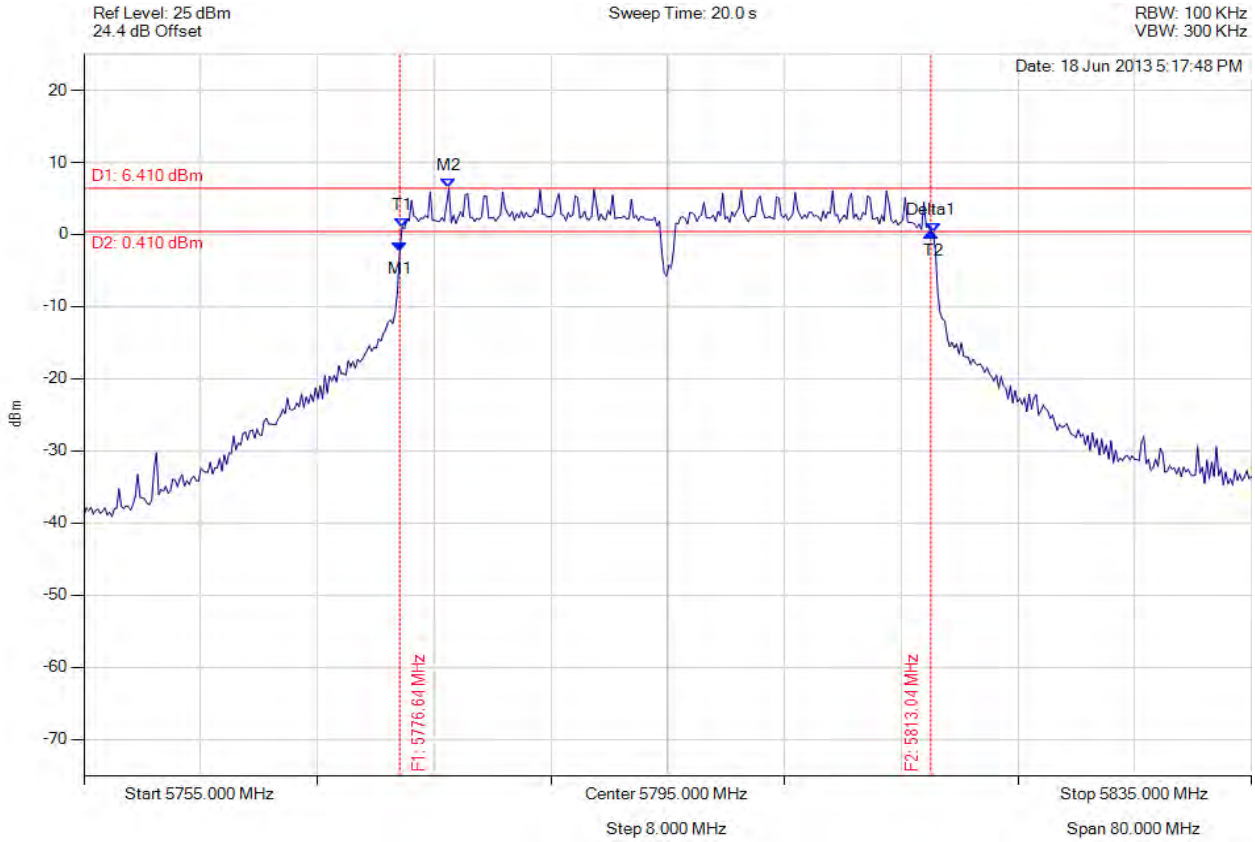


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.124 MHz : 0.432 dBm M2 : 5749.950 MHz : 6.464 dBm Delta1 : 35.591 MHz : -0.098 dB T1 : 5736.804 MHz : 0.451 dBm T2 : 5773.196 MHz : -0.035 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 35.591 MHz Limit: ≥500.0 kHz Margin: -35.09 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

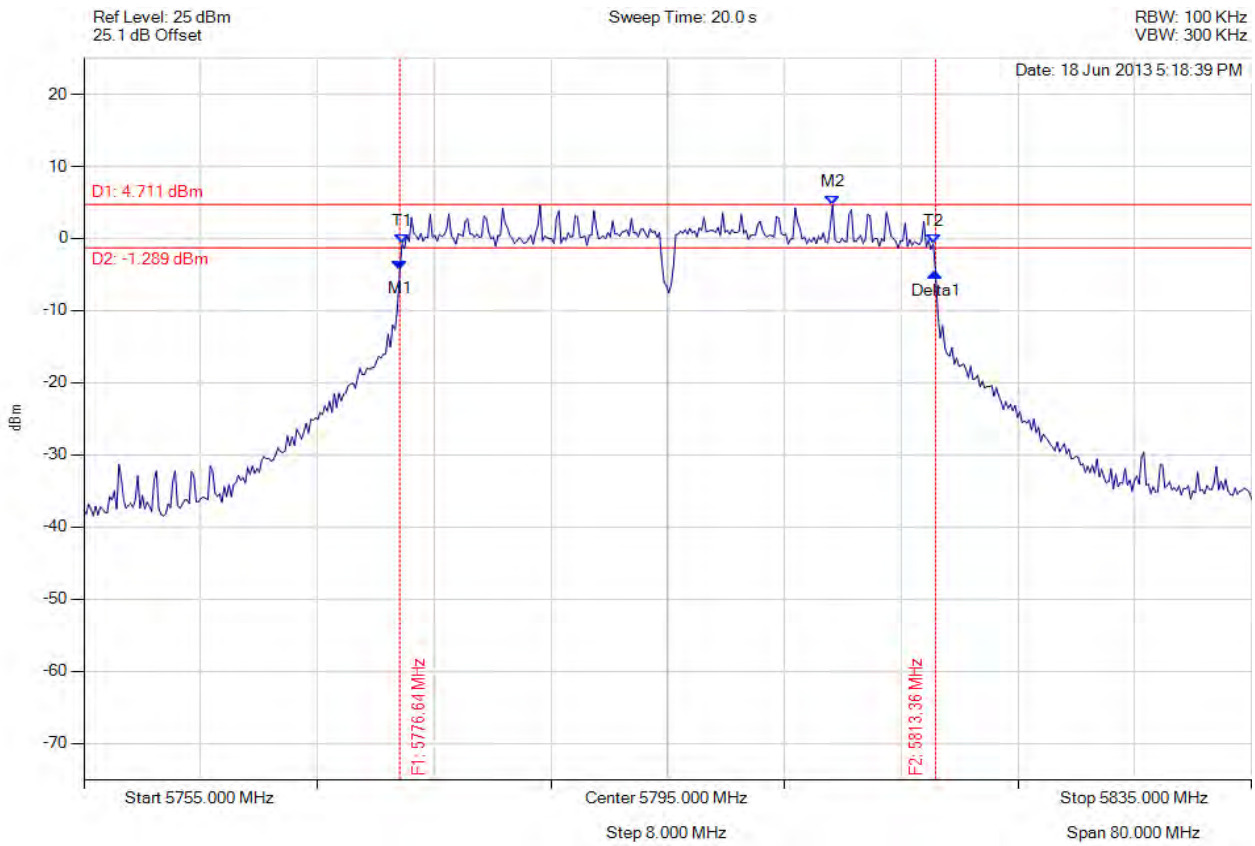


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.643 MHz : -2.293 dBm M2 : 5780.010 MHz : 6.410 dBm Delta1 : 36.393 MHz : 2.615 dB T1 : 5776.804 MHz : 1.034 dBm T2 : 5813.196 MHz : 0.296 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.393 MHz Limit: ≥500.0 kHz Margin: -35.89 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc

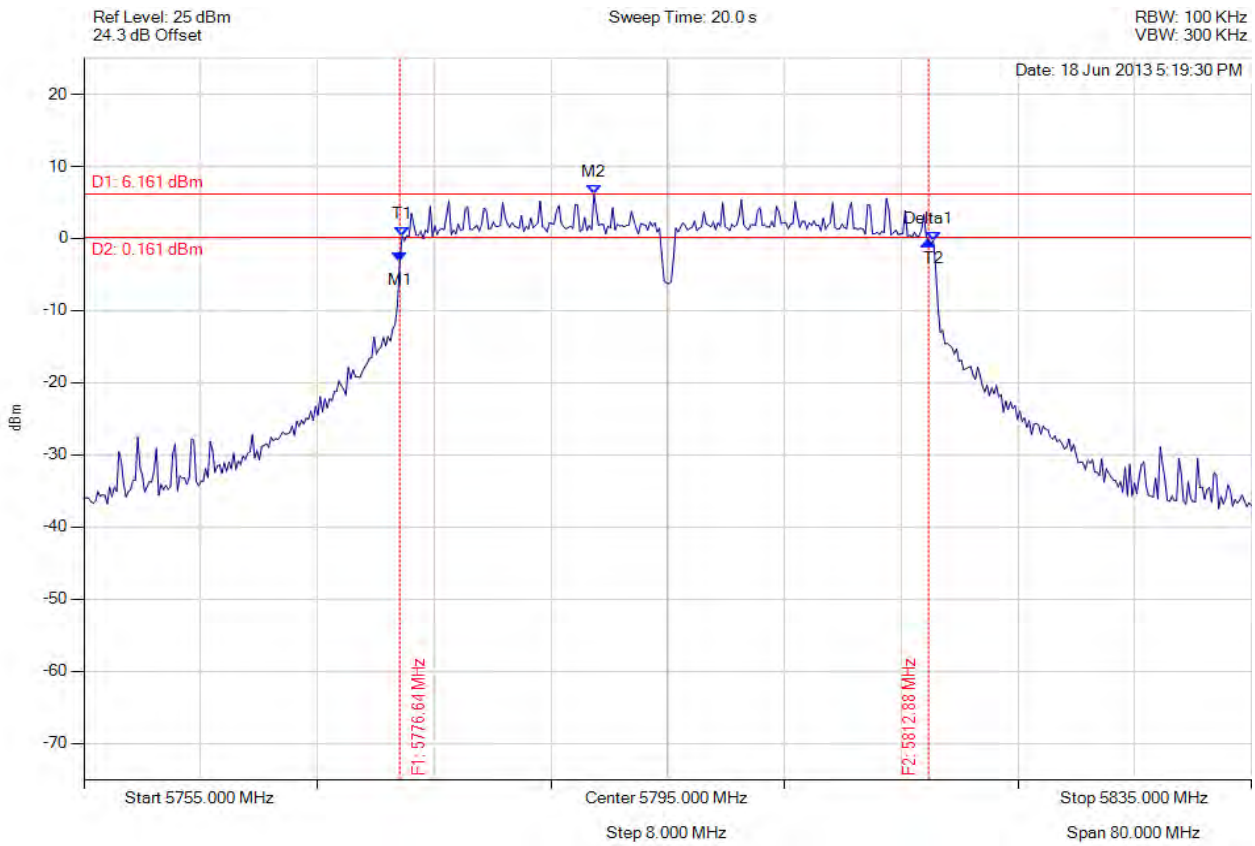


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.643 MHz : -4.436 dBm M2 : 5806.303 MHz : 4.711 dBm Delta1 : 36.713 MHz : -0.252 dB T1 : 5776.804 MHz : -0.698 dBm T2 : 5813.196 MHz : -0.725 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.713 MHz Limit: ≥500.0 kHz Margin: -36.21 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc

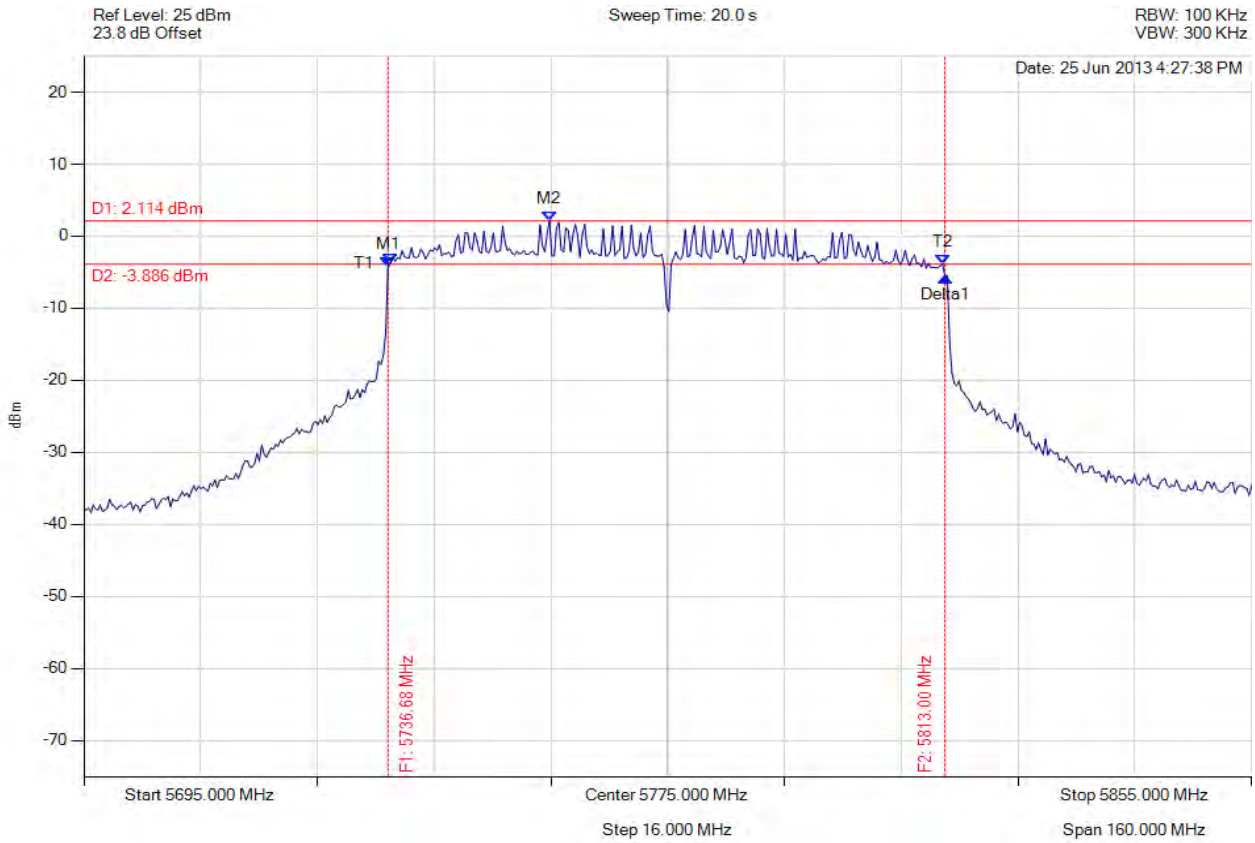


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5776.643 MHz : -3.188 dBm M2 : 5789.950 MHz : 6.161 dBm Delta1 : 36.232 MHz : 2.851 dB T1 : 5776.804 MHz : 0.302 dBm T2 : 5813.196 MHz : -0.290 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.232 MHz Limit: ≥500.0 kHz Margin: -35.73 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

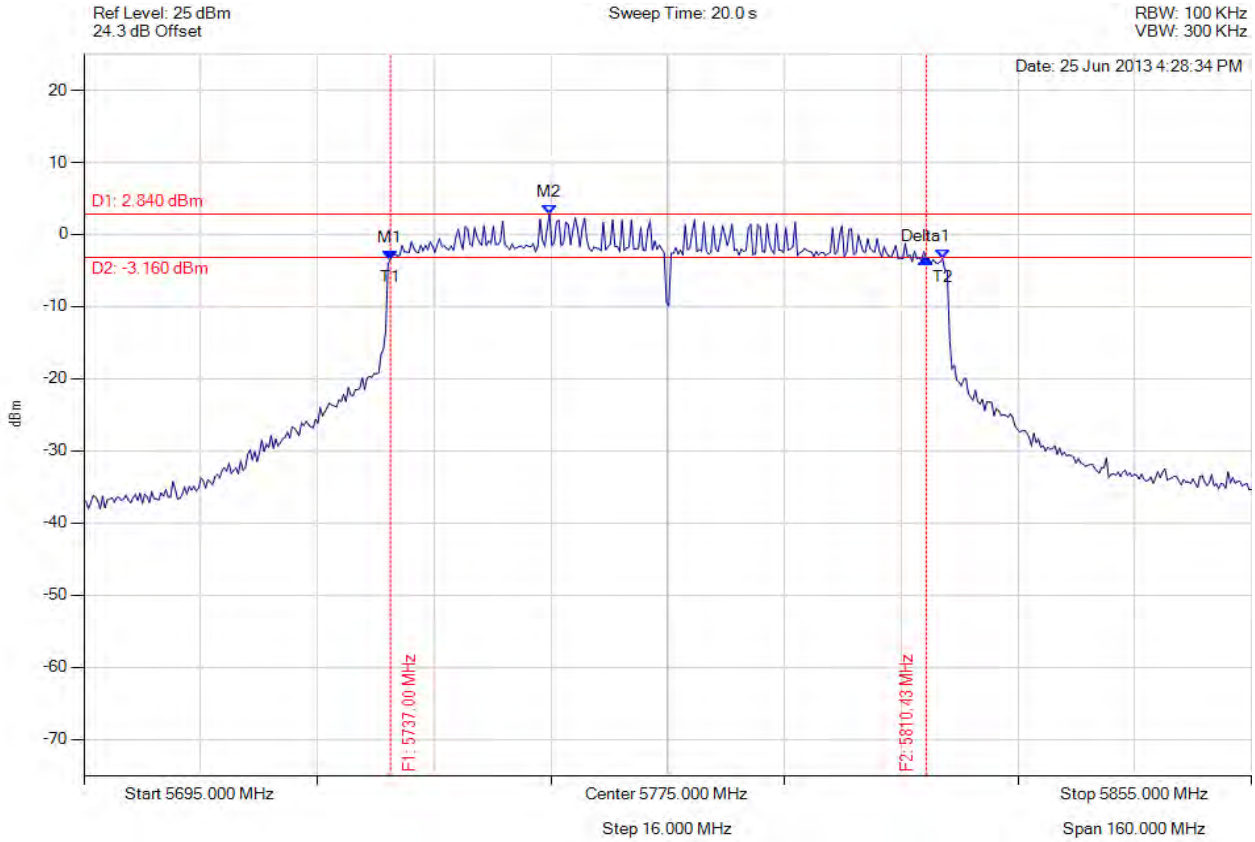


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.683 MHz : -4.270 dBm M2 : 5758.808 MHz : 2.114 dBm Delta1 : 76.313 MHz : -1.354 dB T1 : 5737.004 MHz : -3.753 dBm T2 : 5812.675 MHz : -3.816 dBm OBW : 75.671 MHz	Measured 6 dB Bandwidth: 76.313 MHz Limit: ≥500.0 kHz Margin: -75.81 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc

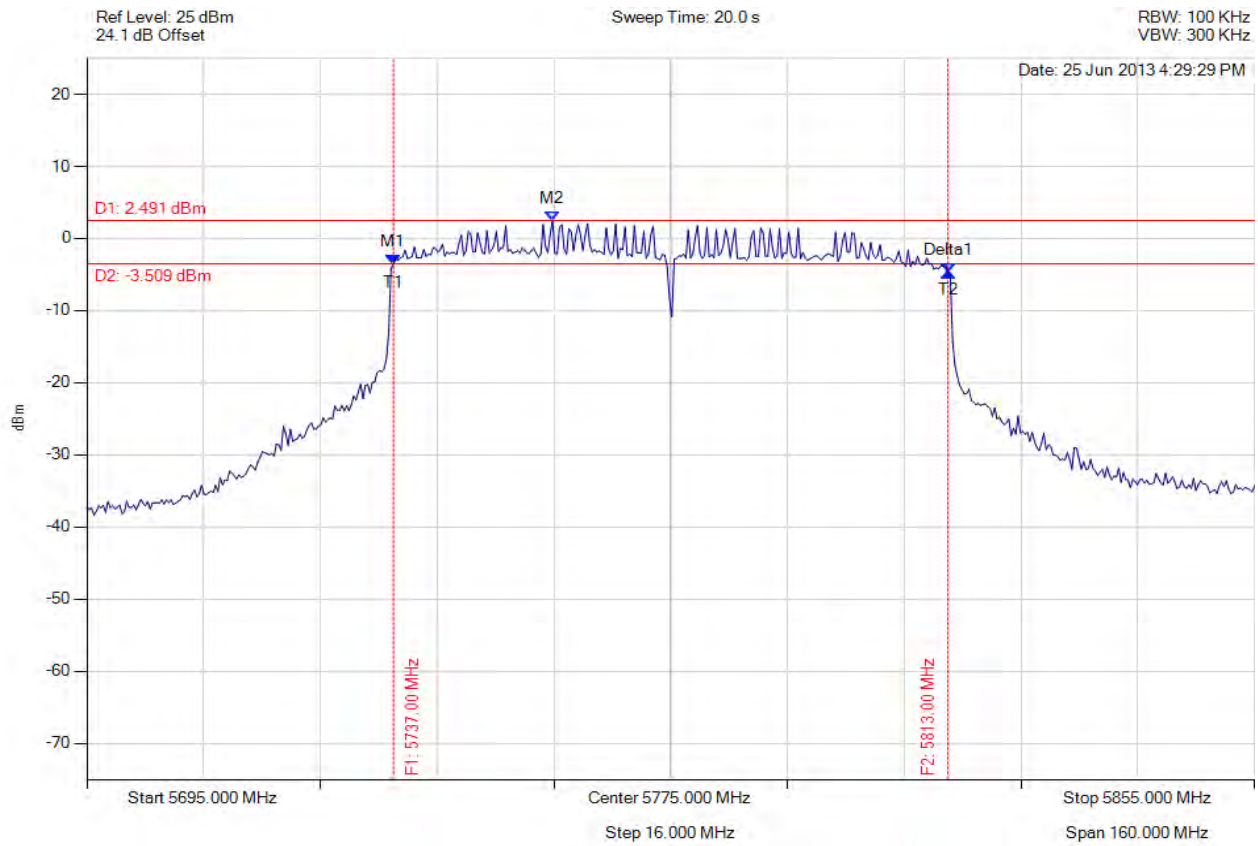


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.004 MHz : -3.466 dBm M2 : 5758.808 MHz : 2.840 dBm Delta1 : 73.427 MHz : 0.083 dB T1 : 5737.004 MHz : -3.466 dBm T2 : 5812.675 MHz : -3.346 dBm OBW : 75.671 MHz	Measured 6 dB Bandwidth: 73.427 MHz Limit: ≥500.0 kHz Margin: -72.93 MHz

Back to the Matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc



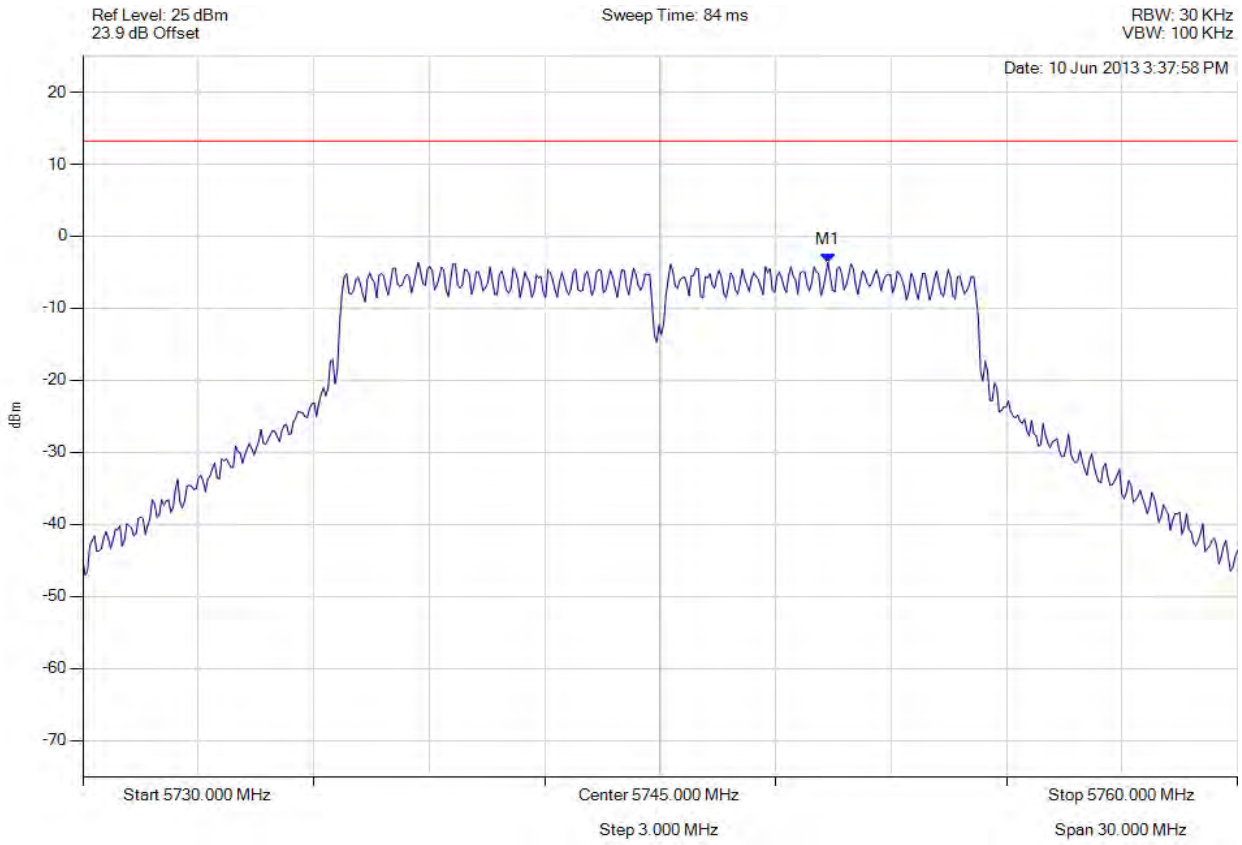
Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.004 MHz : -3.570 dBm M2 : 5758.808 MHz : 2.491 dBm Delta1 : 75.992 MHz : -1.070 dB T1 : 5737.004 MHz : -3.570 dBm T2 : 5812.996 MHz : -4.640 dBm OBW : 75.992 MHz	Measured 6 dB Bandwidth: 75.992 MHz Limit: ≥500.0 kHz Margin: -75.49 MHz

Back to the Matrix

A.1.2. Power Spectral Density

POWER SPECTRAL DENSITY - AVERAGE

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

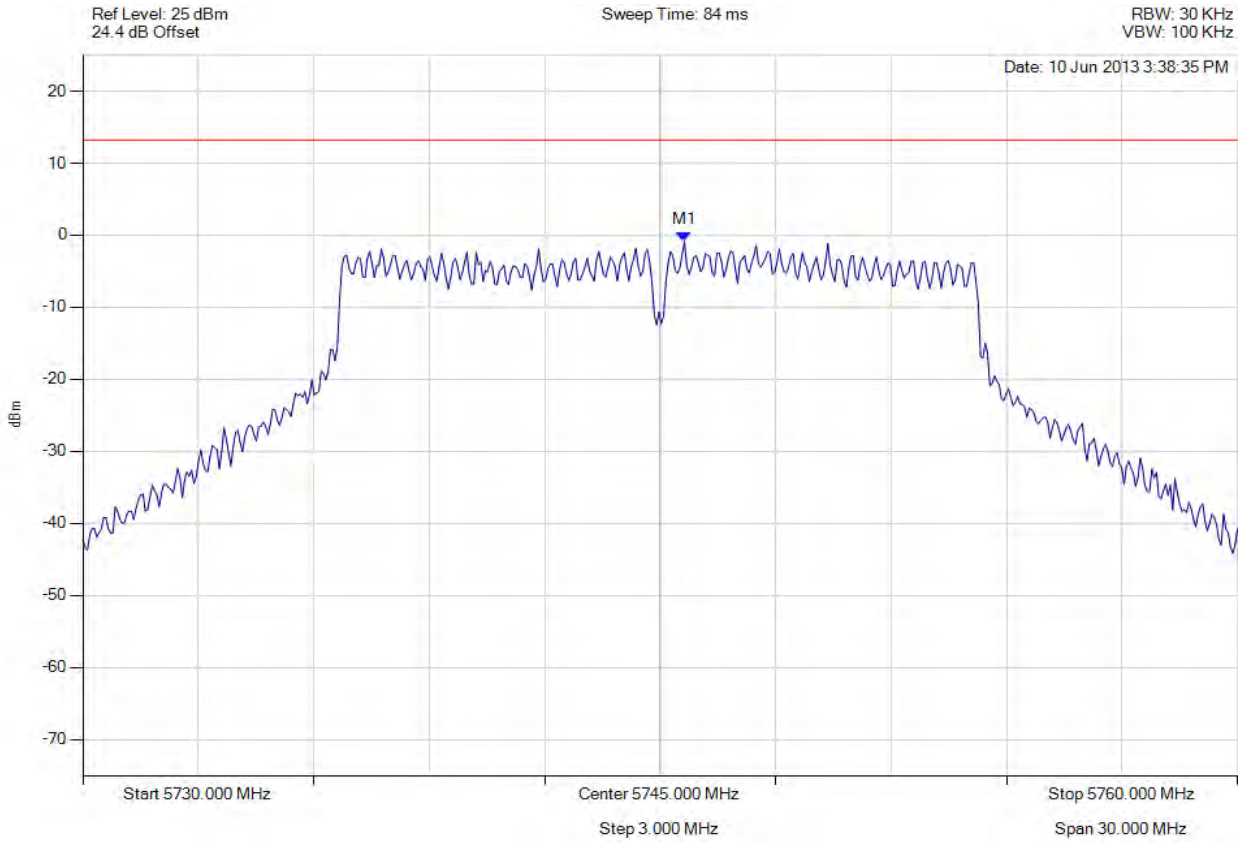


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5749.359 MHz : -3.619 dBm	Limit: ≤ 13.229 dBm Margin: -16.85 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

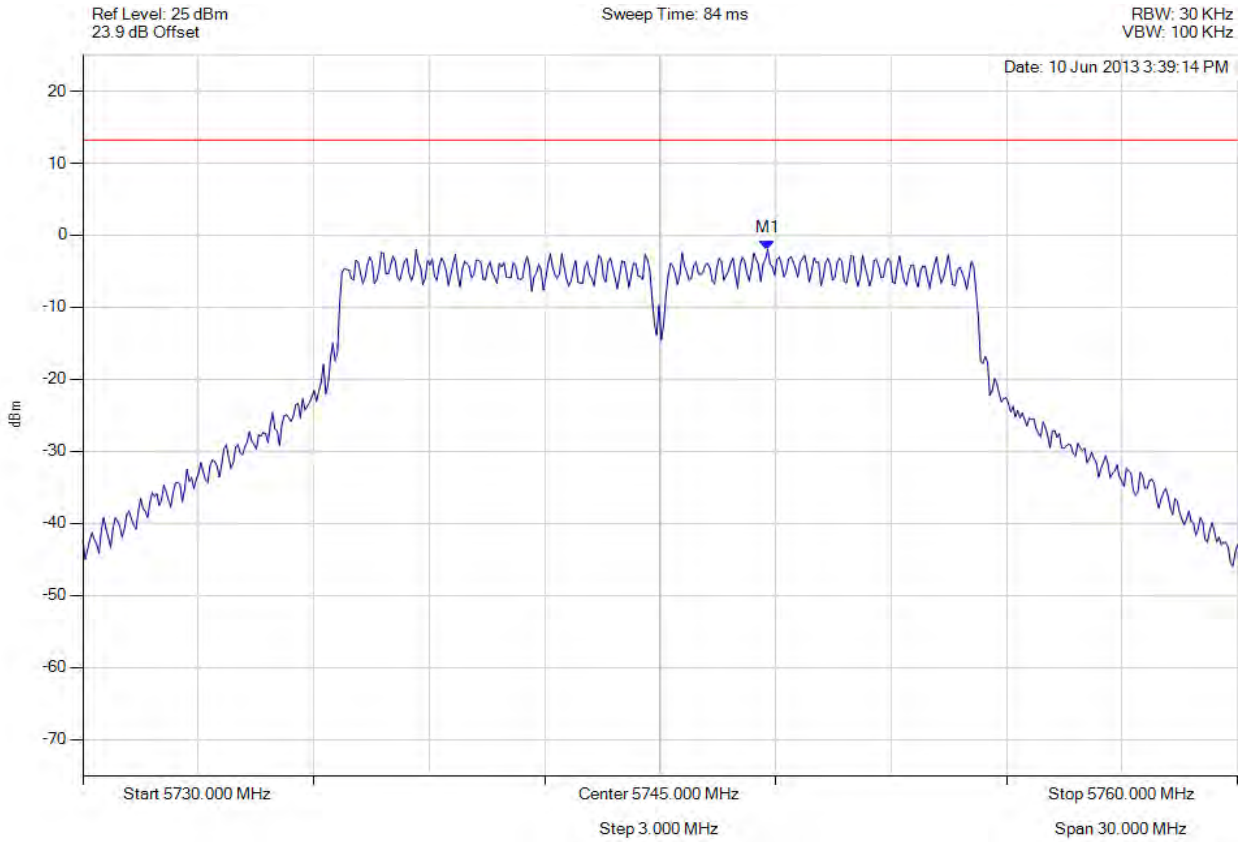


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5745.631 MHz : -0.916 dBm	Limit: ≤ 13.229 dBm Margin: -14.15 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

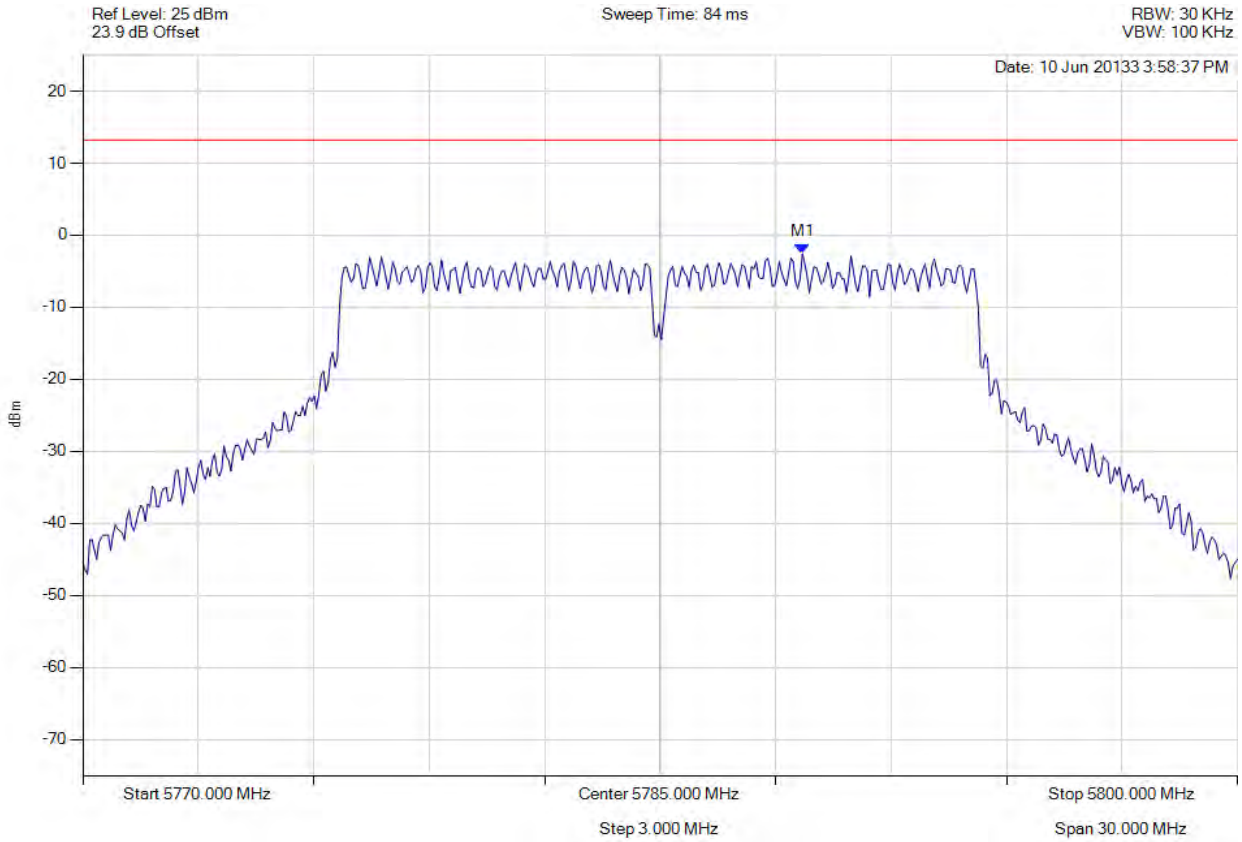


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5747.796 MHz : -1.990 dBm	Limit: ≤ 13.229 dBm Margin: -15.22 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

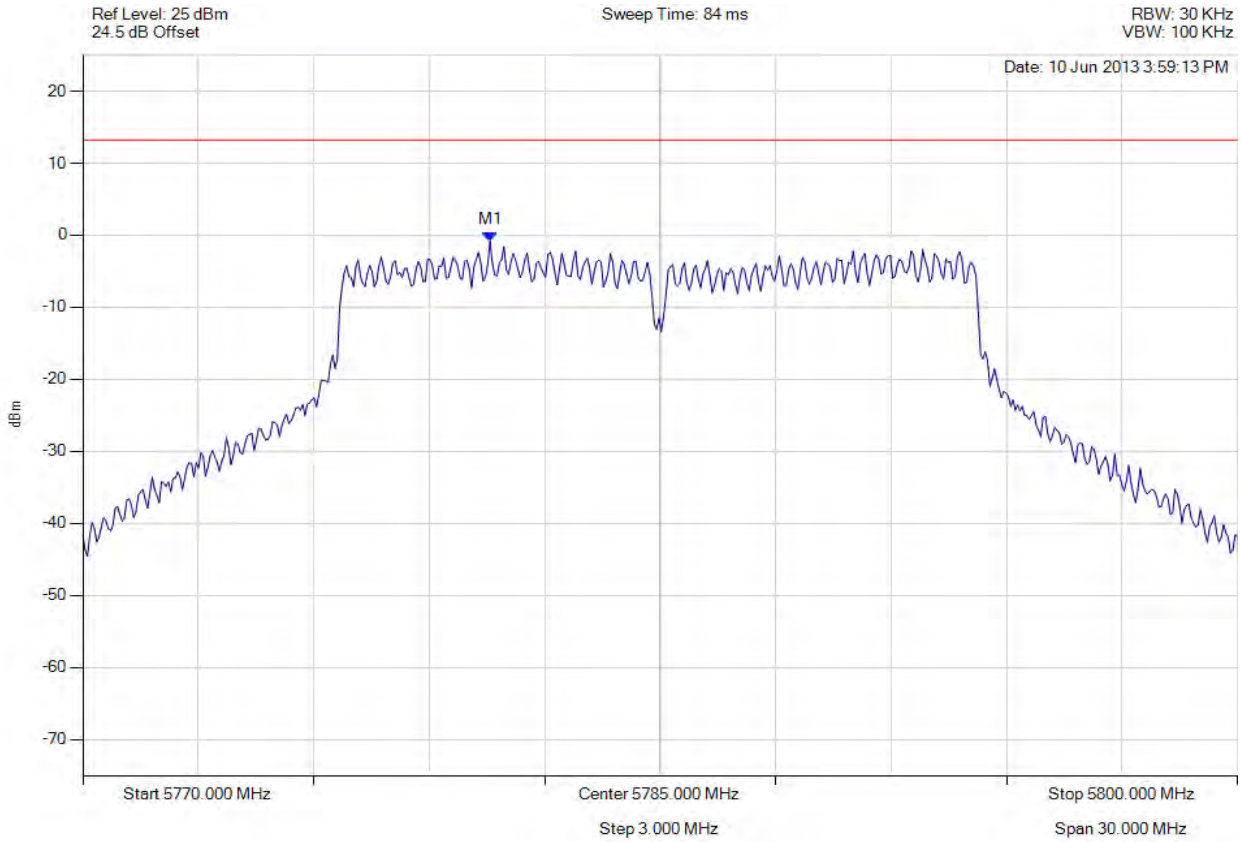


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5788.697 MHz : -2.575 dBm	Limit: ≤ 13.229 dBm Margin: -15.81 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

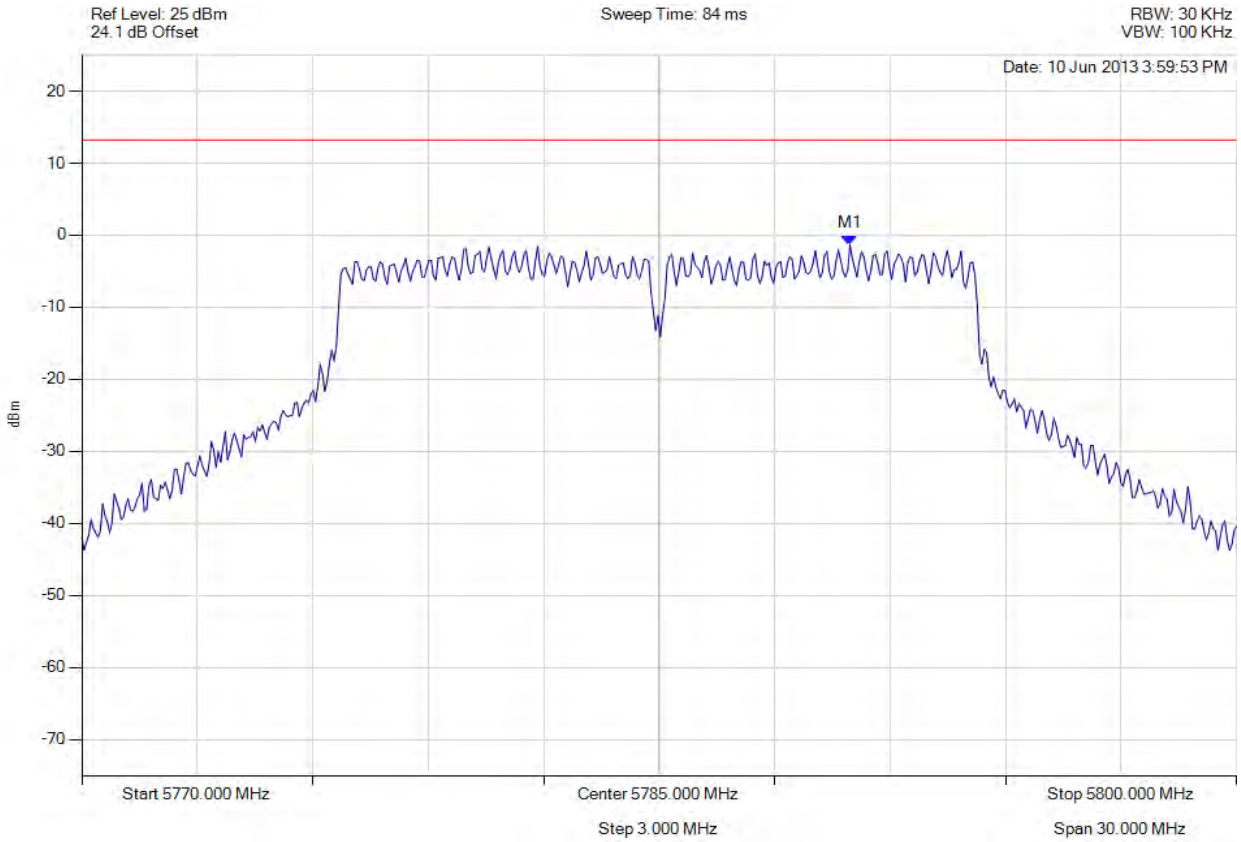


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5780.581 MHz : -0.840 dBm	Limit: ≤ 13.229 dBm Margin: -14.07 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

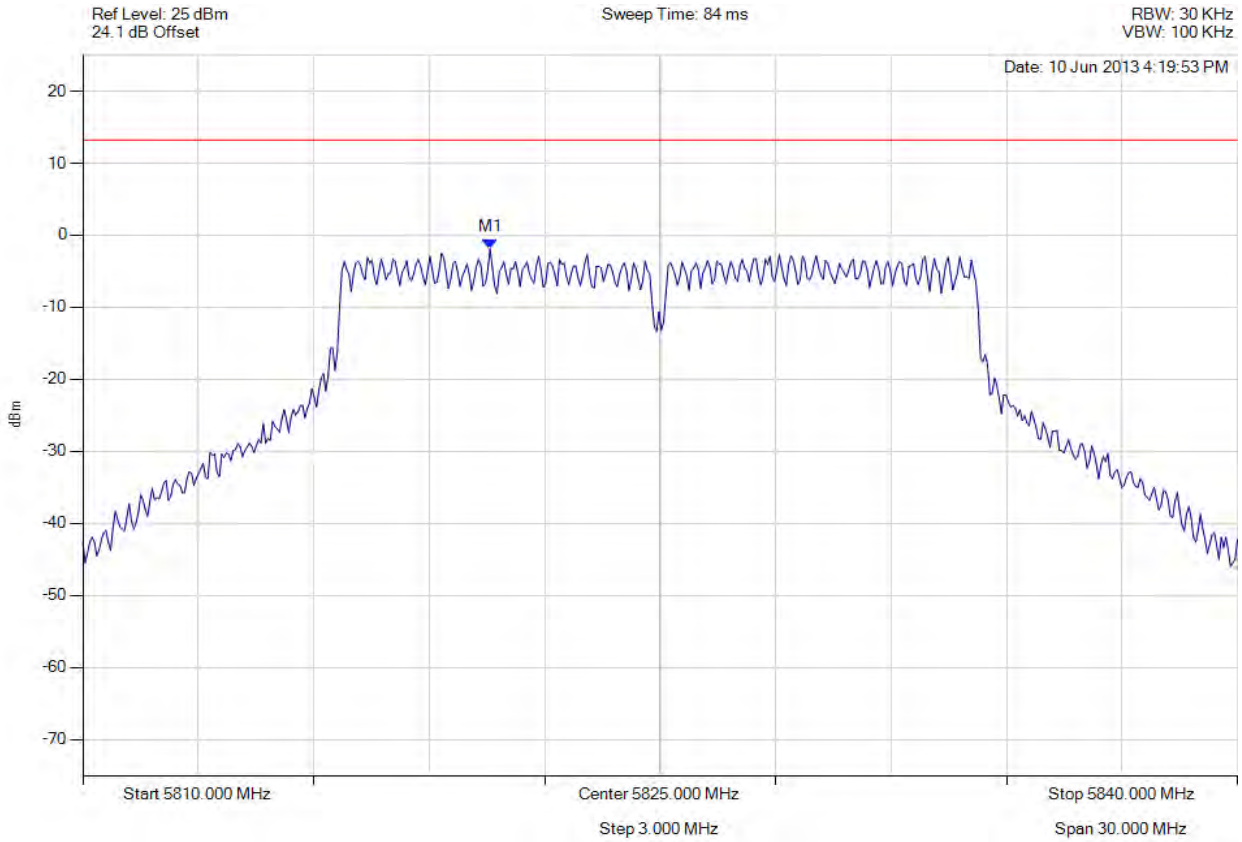


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.960 MHz : -1.362 dBm	Limit: ≤ 13.229 dBm Margin: -14.59 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

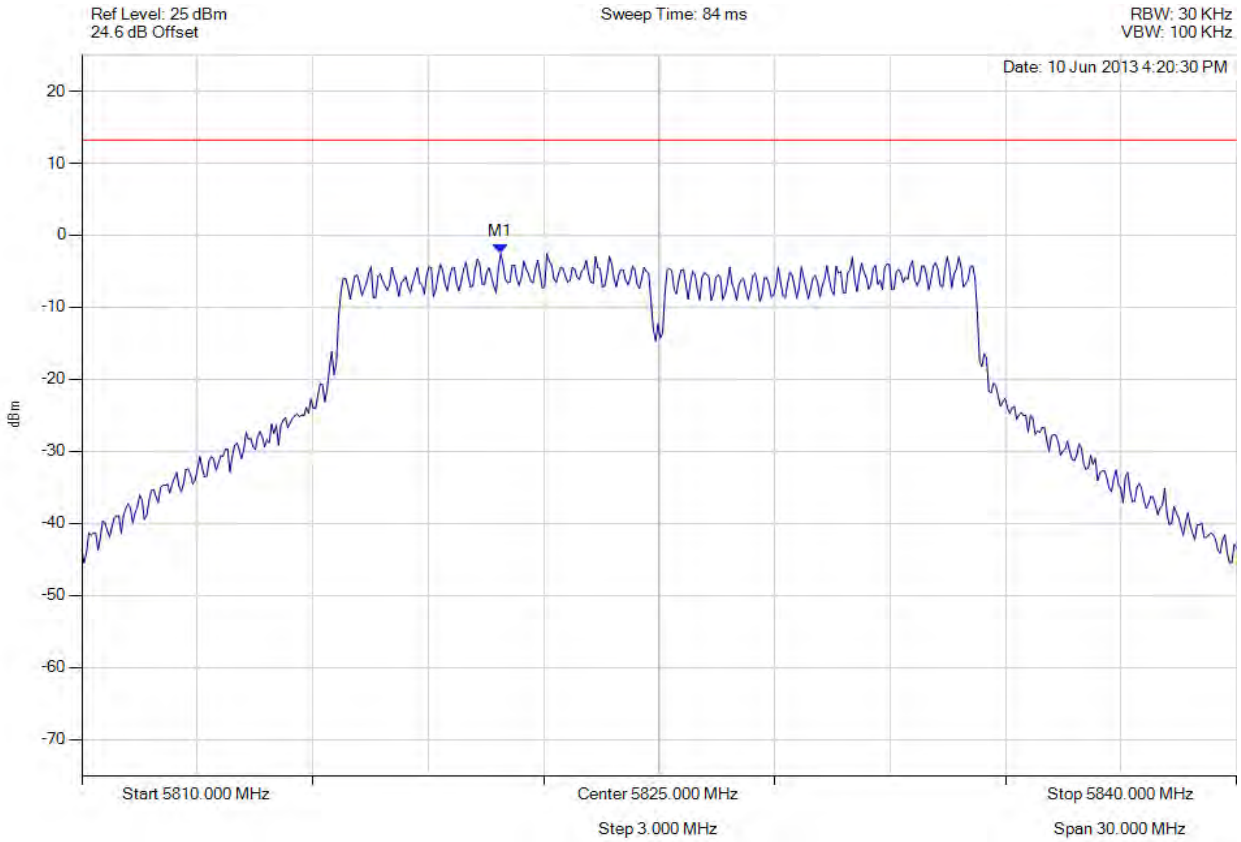


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5820.581 MHz : -1.900 dBm	Limit: ≤ 13.229 dBm Margin: -15.13 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

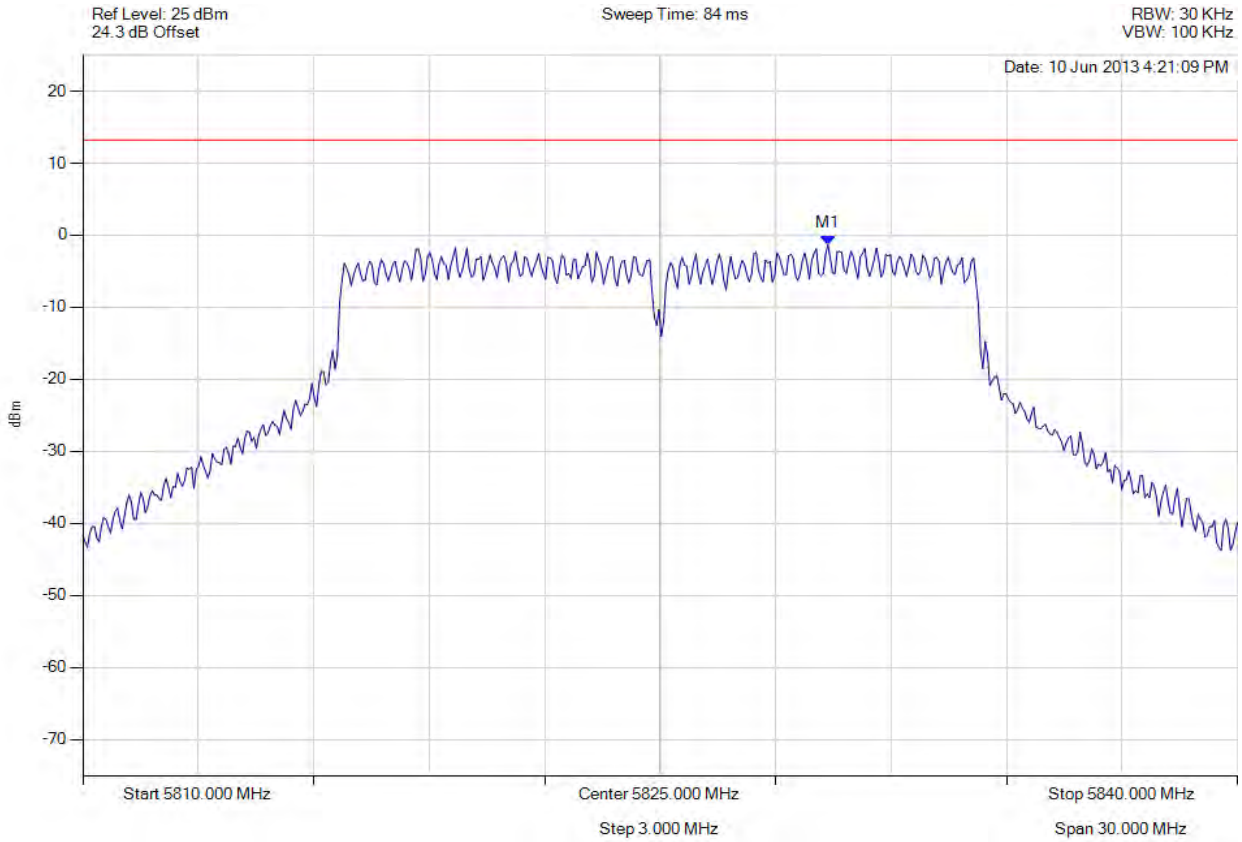


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5820.882 MHz : -2.544 dBm	Limit: ≤ 13.229 dBm Margin: -15.77 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

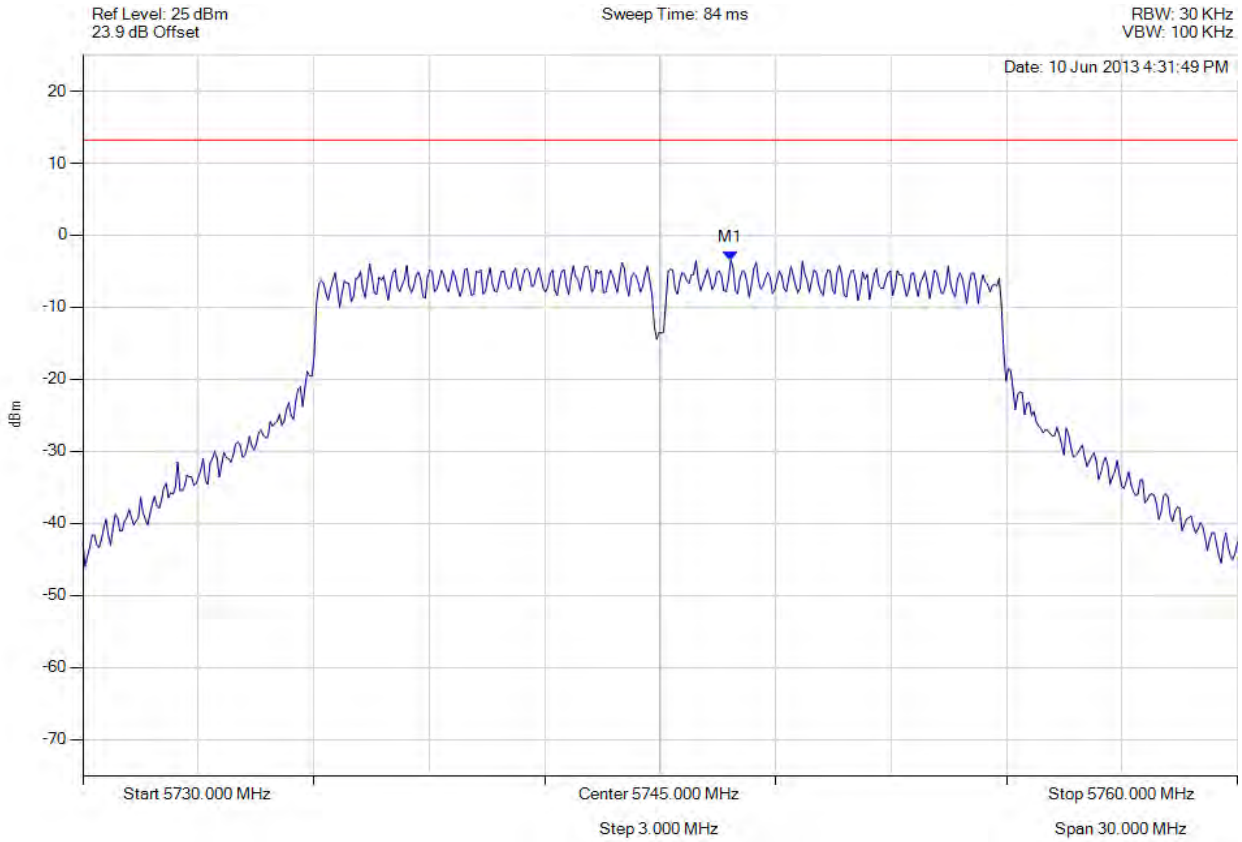


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5829.359 MHz : -1.329 dBm	Limit: ≤ 13.229 dBm Margin: -14.56 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

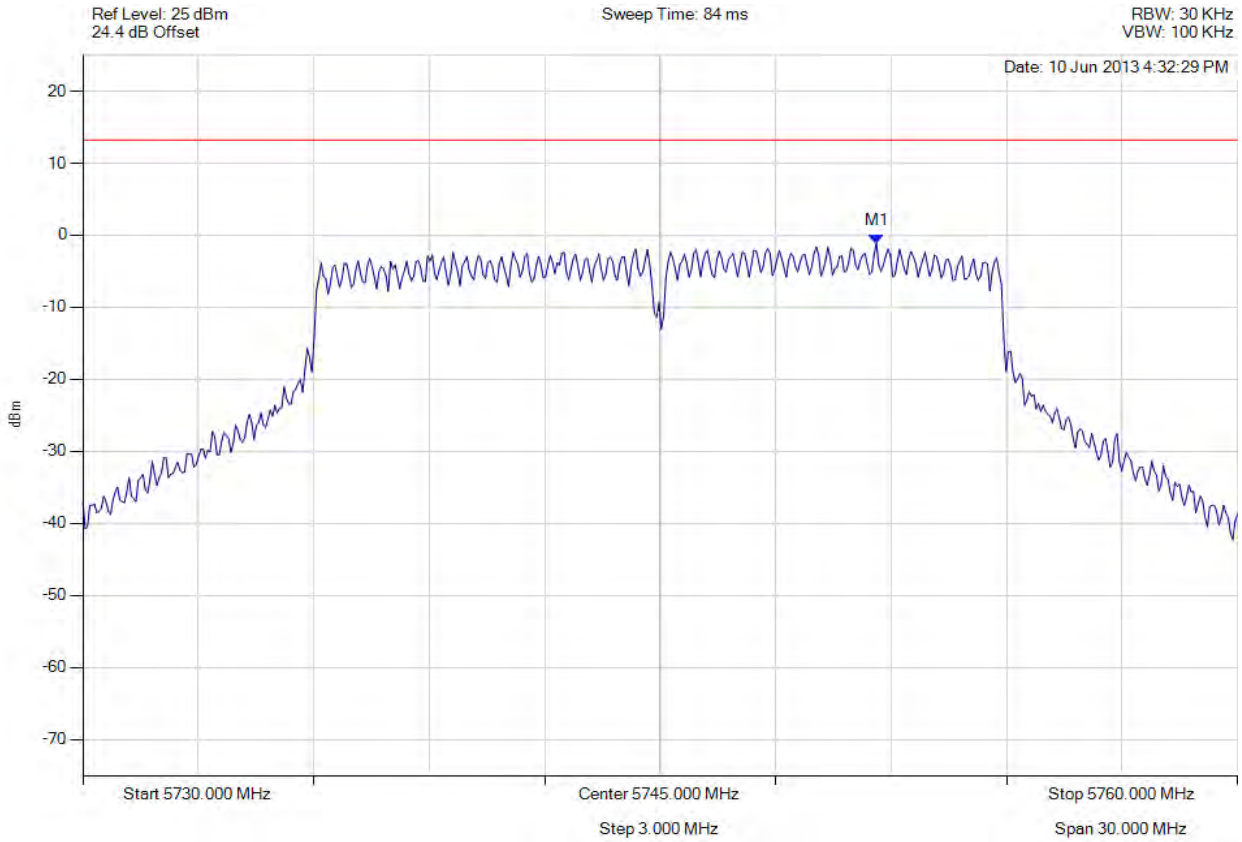


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5746.834 MHz : -3.456 dBm	Limit: ≤ 13.229 dBm Margin: -16.69 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

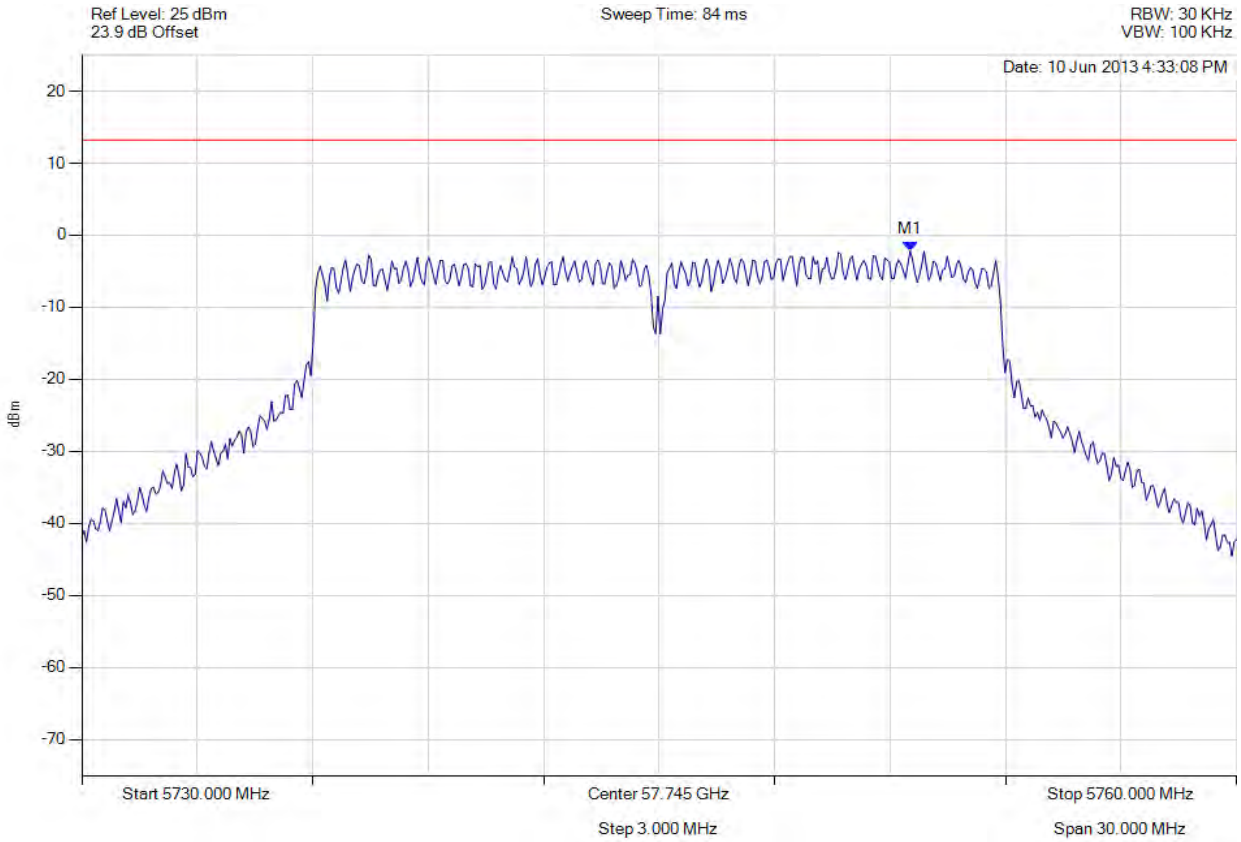


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5750.621 MHz : -1.125 dBm	Limit: ≤ 13.229 dBm Margin: -14.36 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

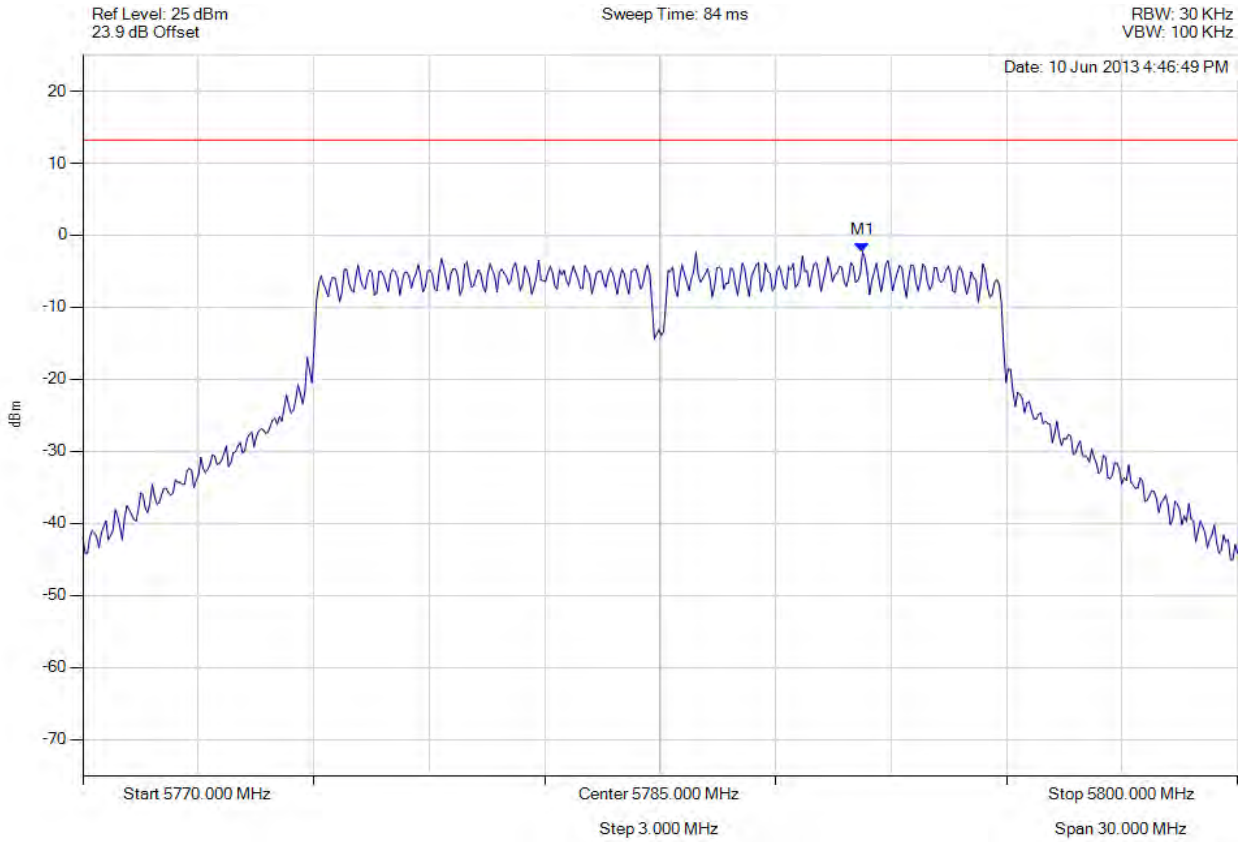


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5751.523 MHz : -2.203 dBm	Limit: ≤ 13.229 dBm Margin: -15.43 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

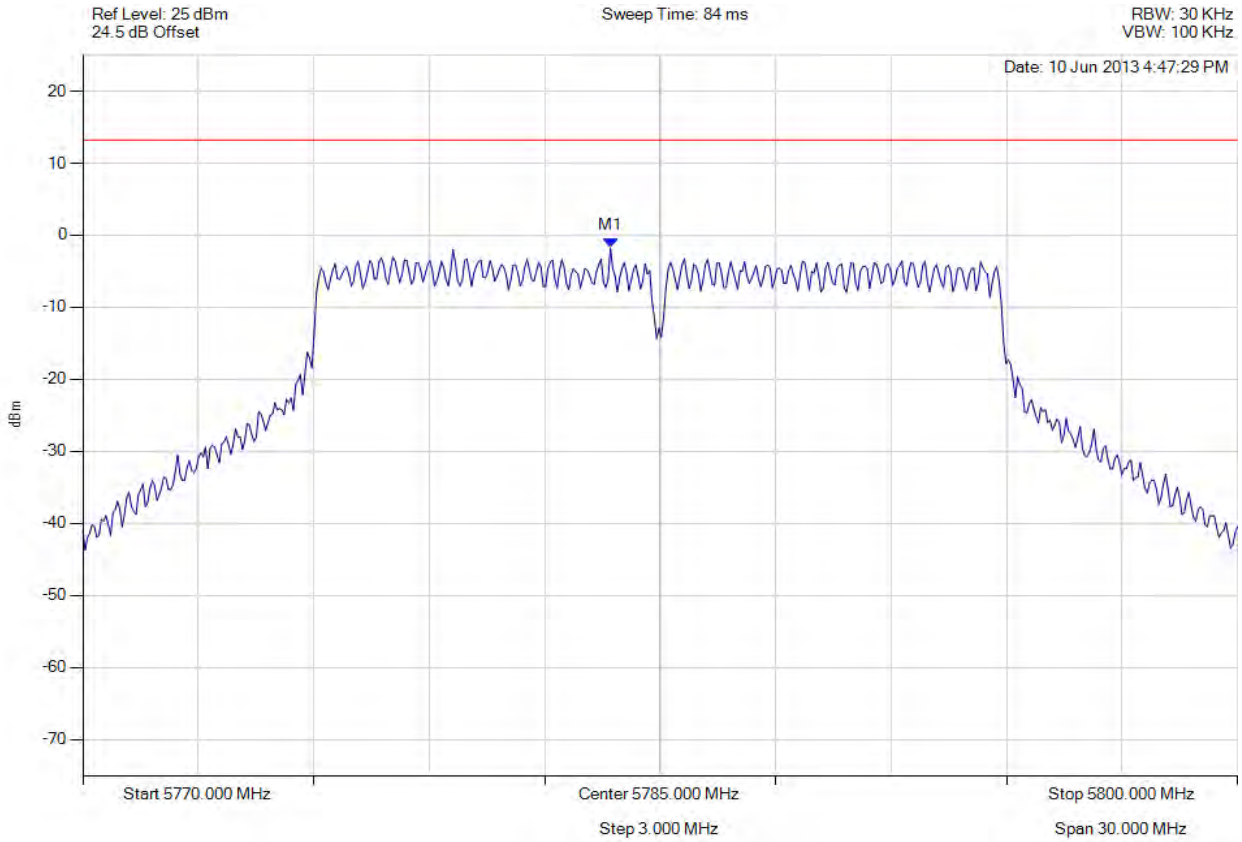


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5790.261 MHz : -2.303 dBm	Limit: ≤ 13.229 dBm Margin: -15.53 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

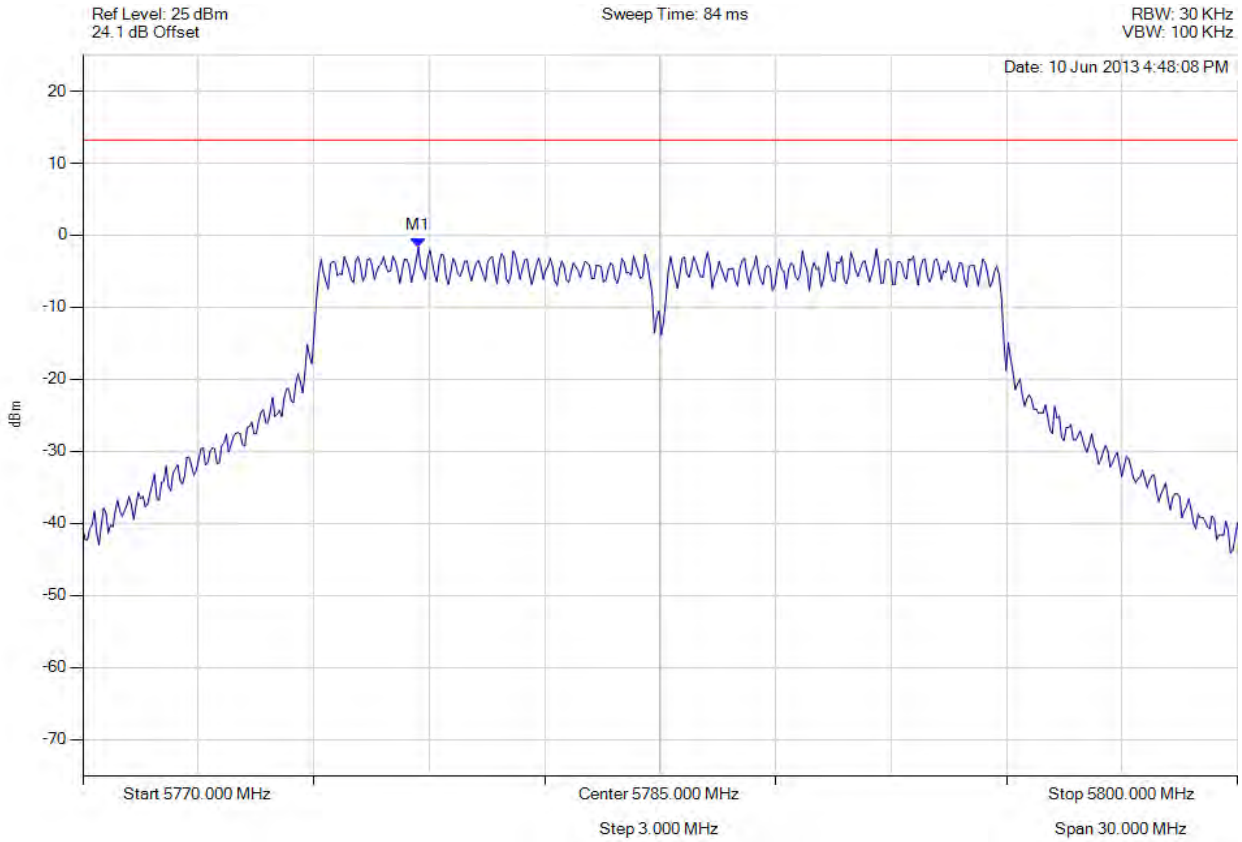


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.707 MHz : -1.738 dBm	Limit: ≤ 13.229 dBm Margin: -14.97 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

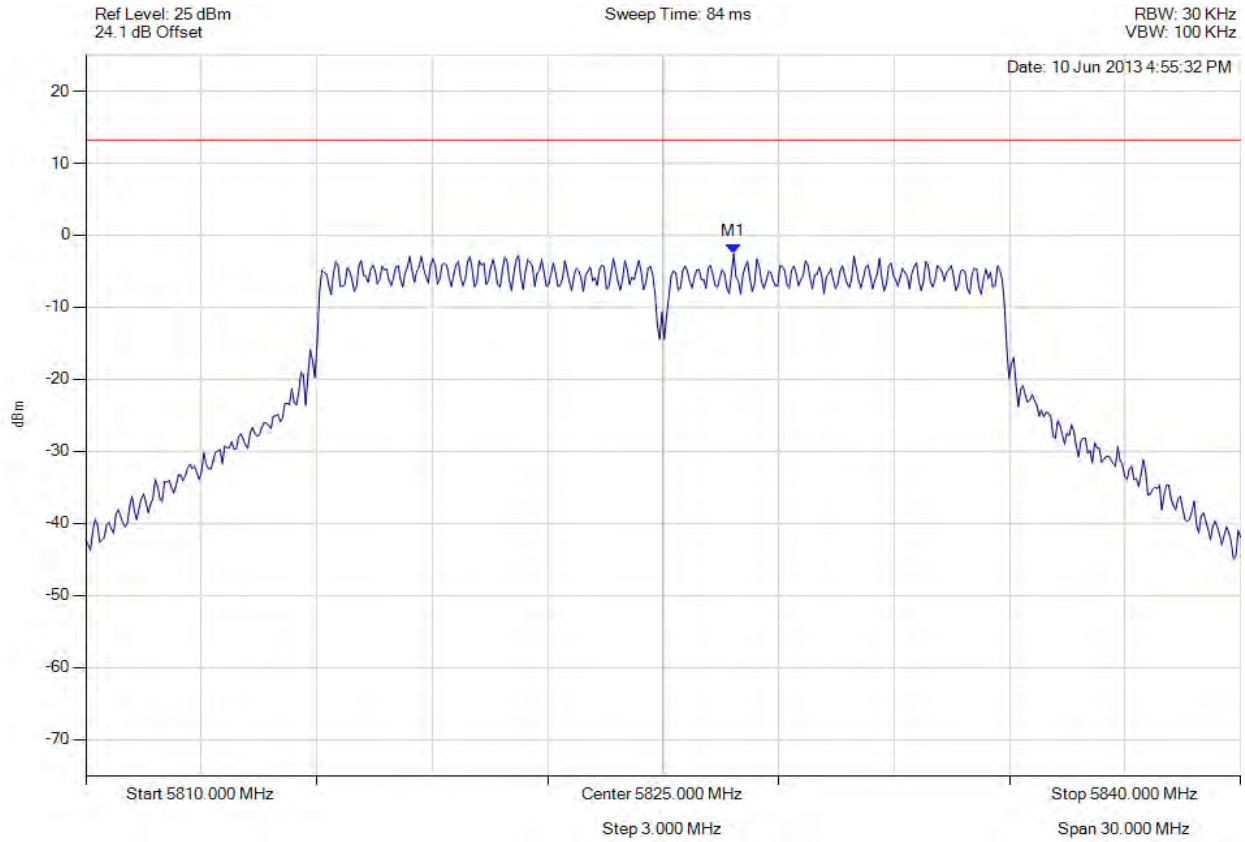


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.717 MHz : -1.641 dBm	Limit: ≤ 13.229 dBm Margin: -14.87 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

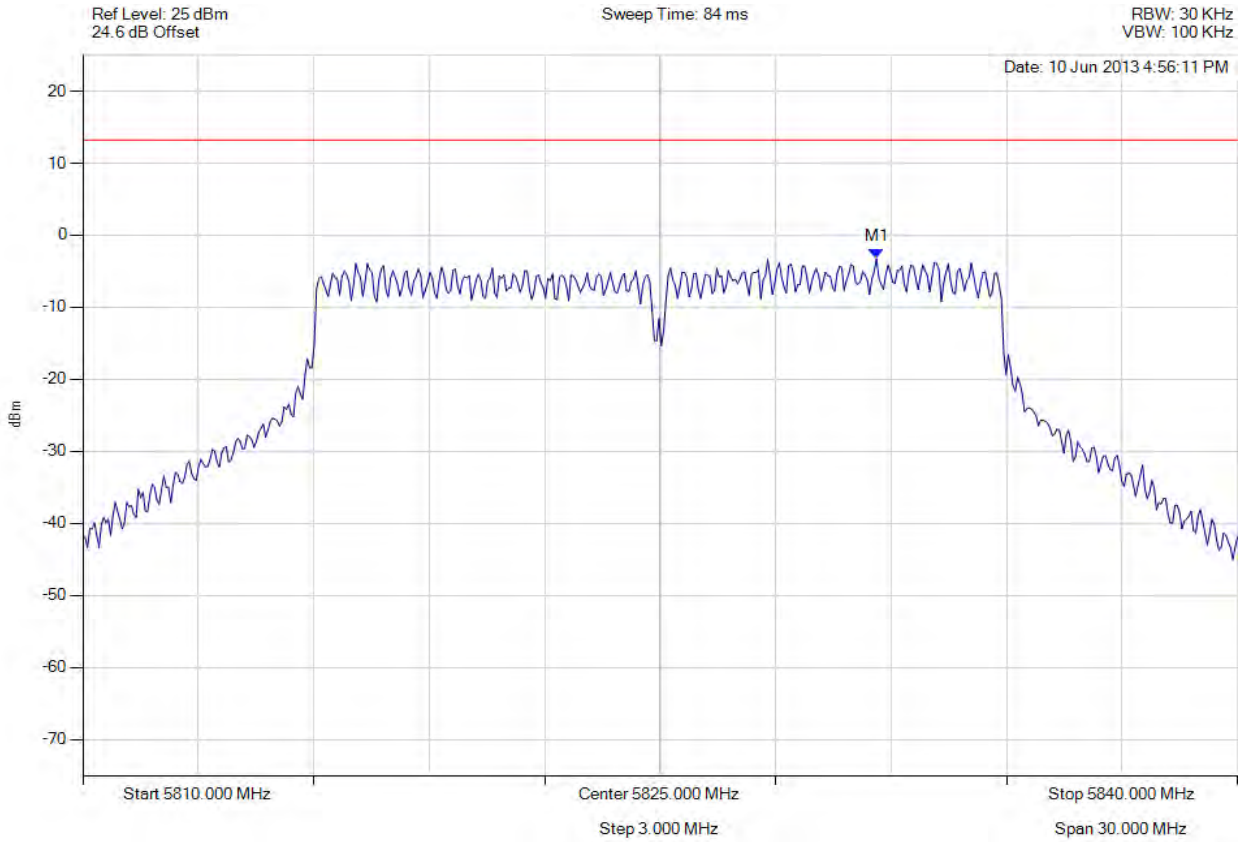


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.834 MHz : -2.579 dBm	Limit: ≤ 13.229 dBm Margin: -15.81 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

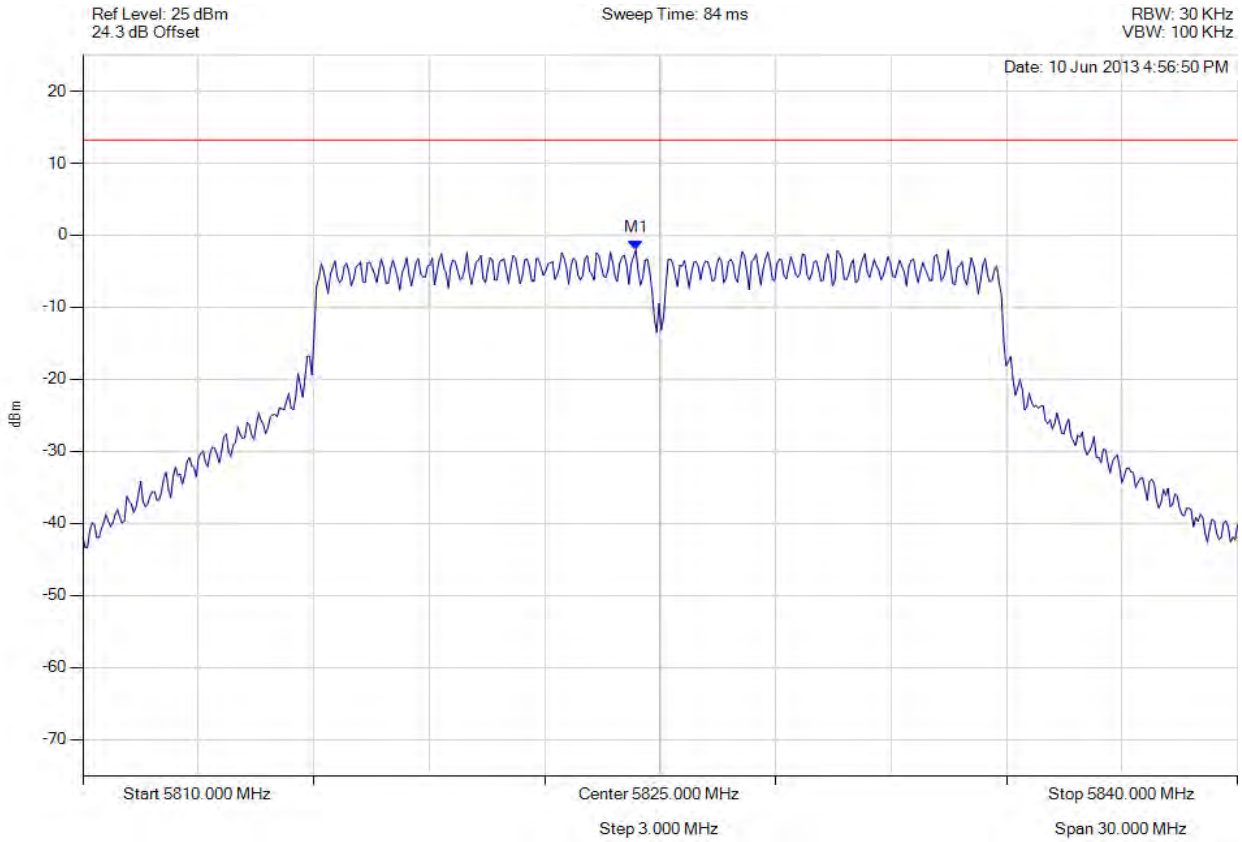


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5830.621 MHz : -3.241 dBm	Limit: ≤ 13.229 dBm Margin: -16.47 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

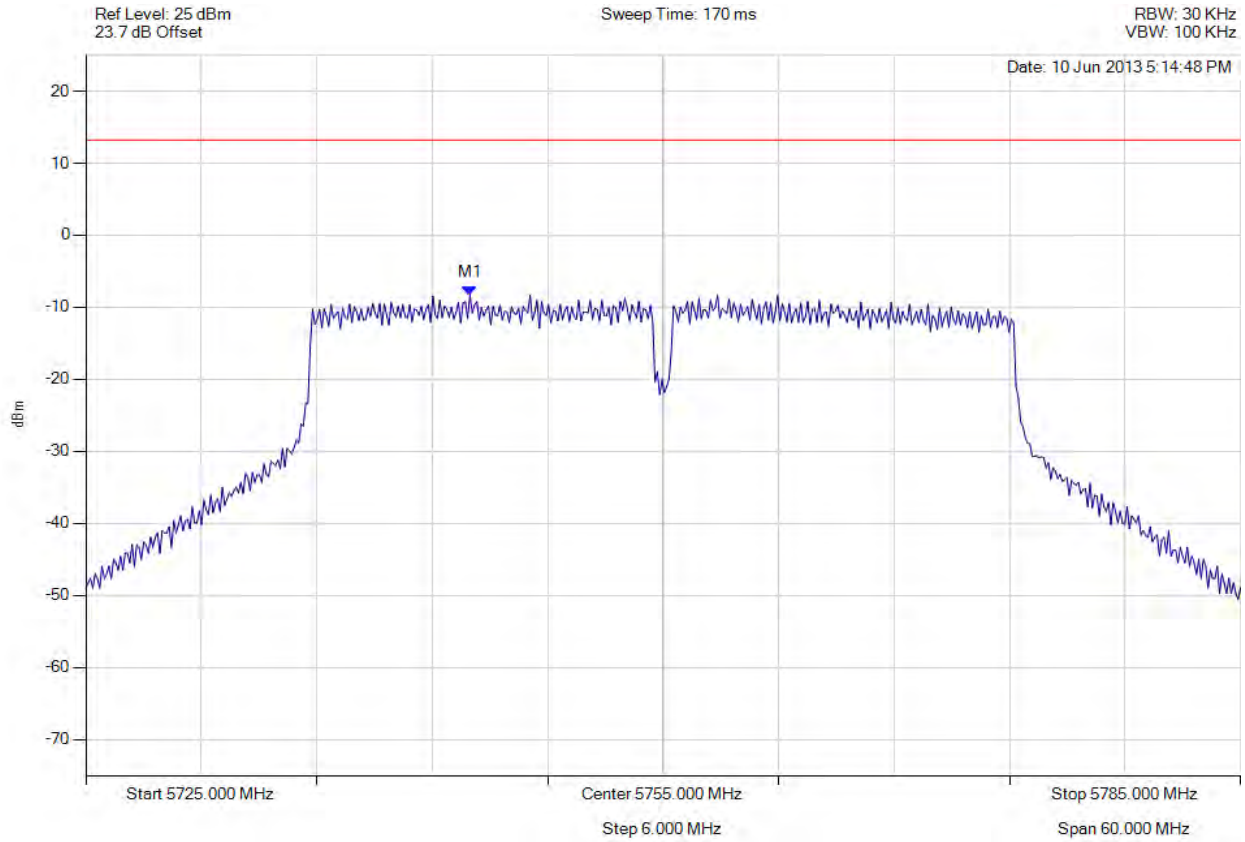


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5824.369 MHz : -2.029 dBm	Limit: ≤ 13.229 dBm Margin: -15.26 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

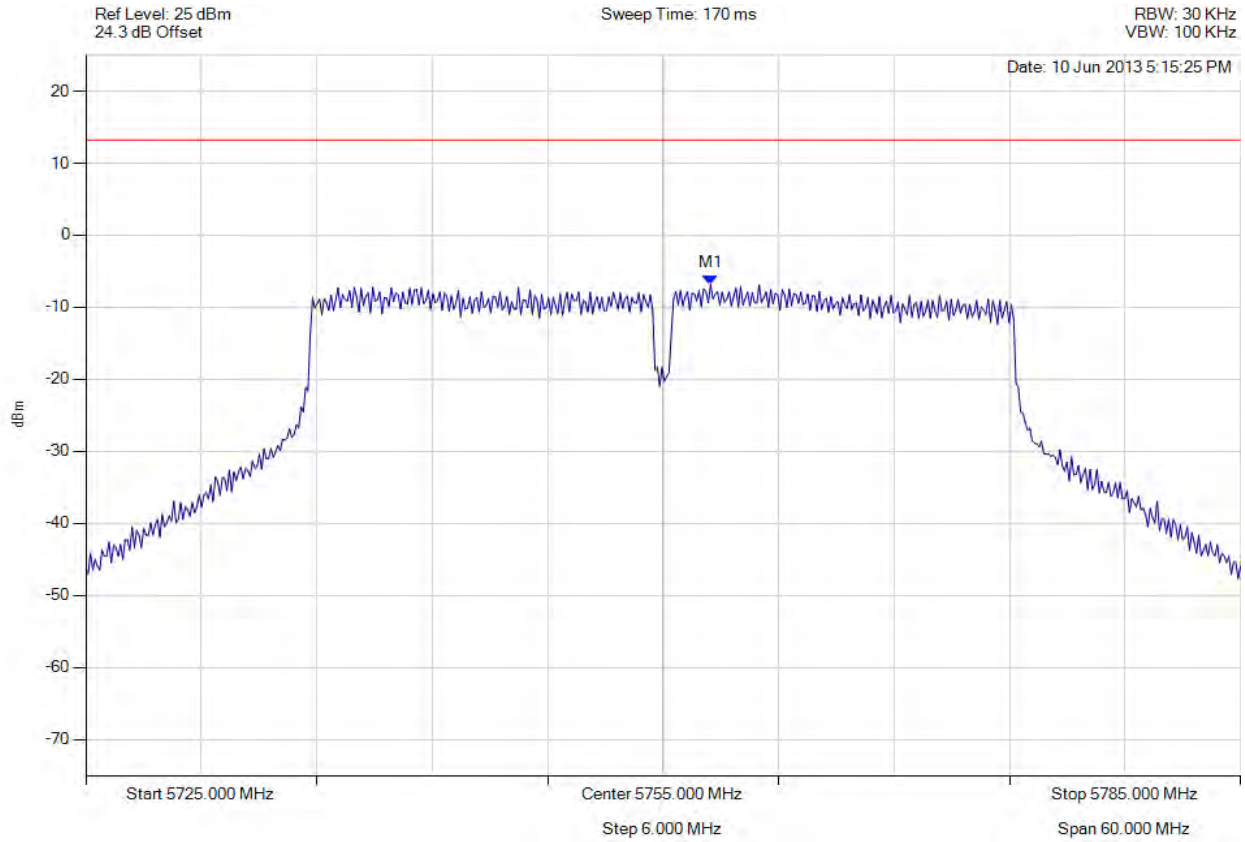


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5744.960 MHz : -8.293 dBm	Limit: ≤ 13.229 dBm Margin: -21.52 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

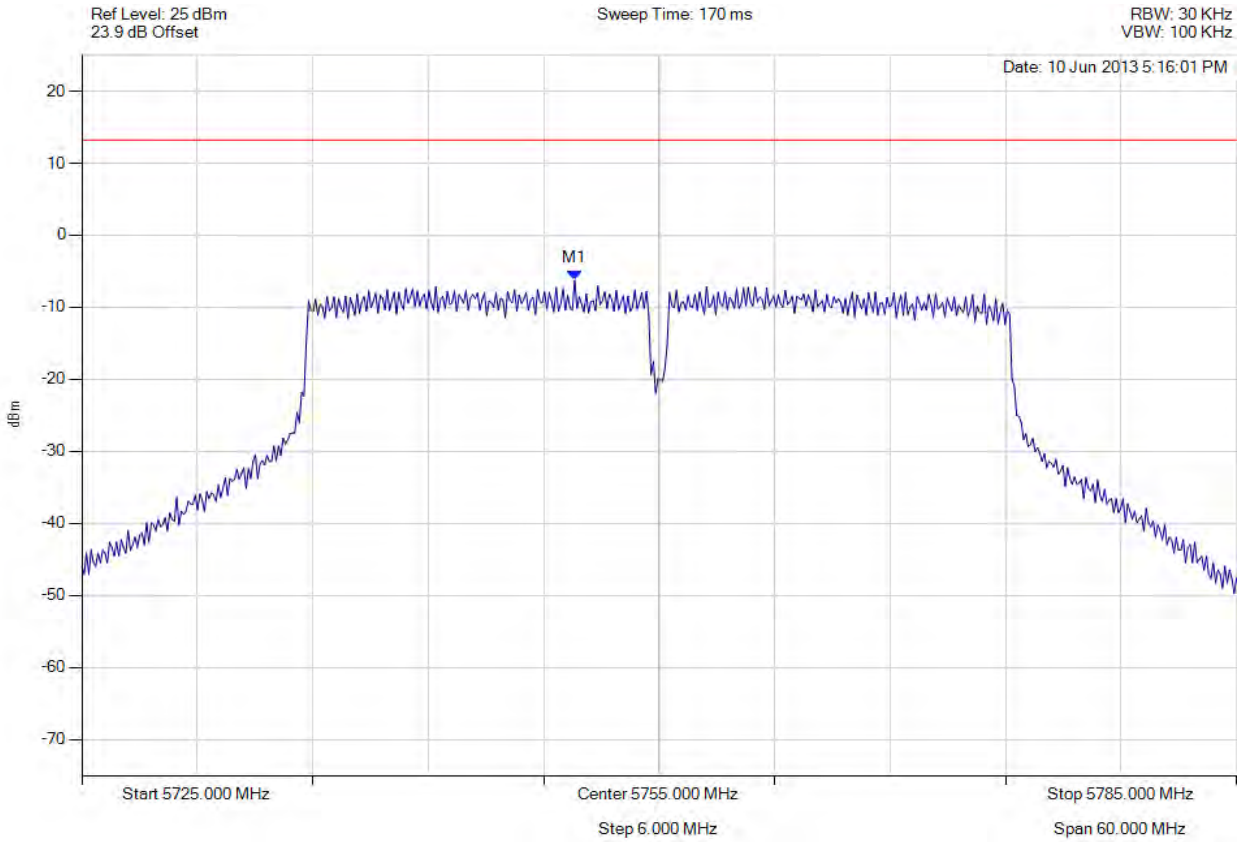


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5757.465 MHz : -6.866 dBm	Limit: ≤ 13.229 dBm Margin: -20.10 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

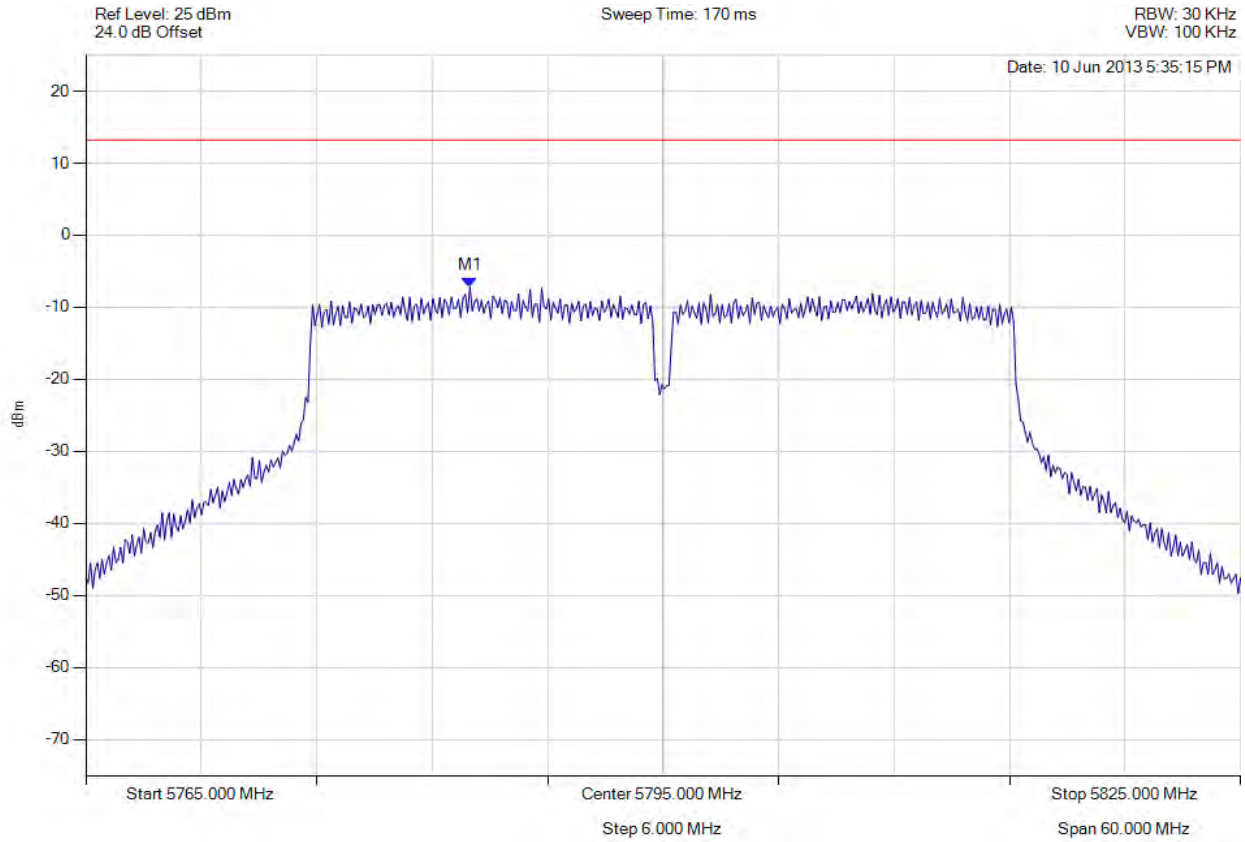


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5750.611 MHz : -6.247 dBm	Limit: ≤ 13.229 dBm Margin: -19.48 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

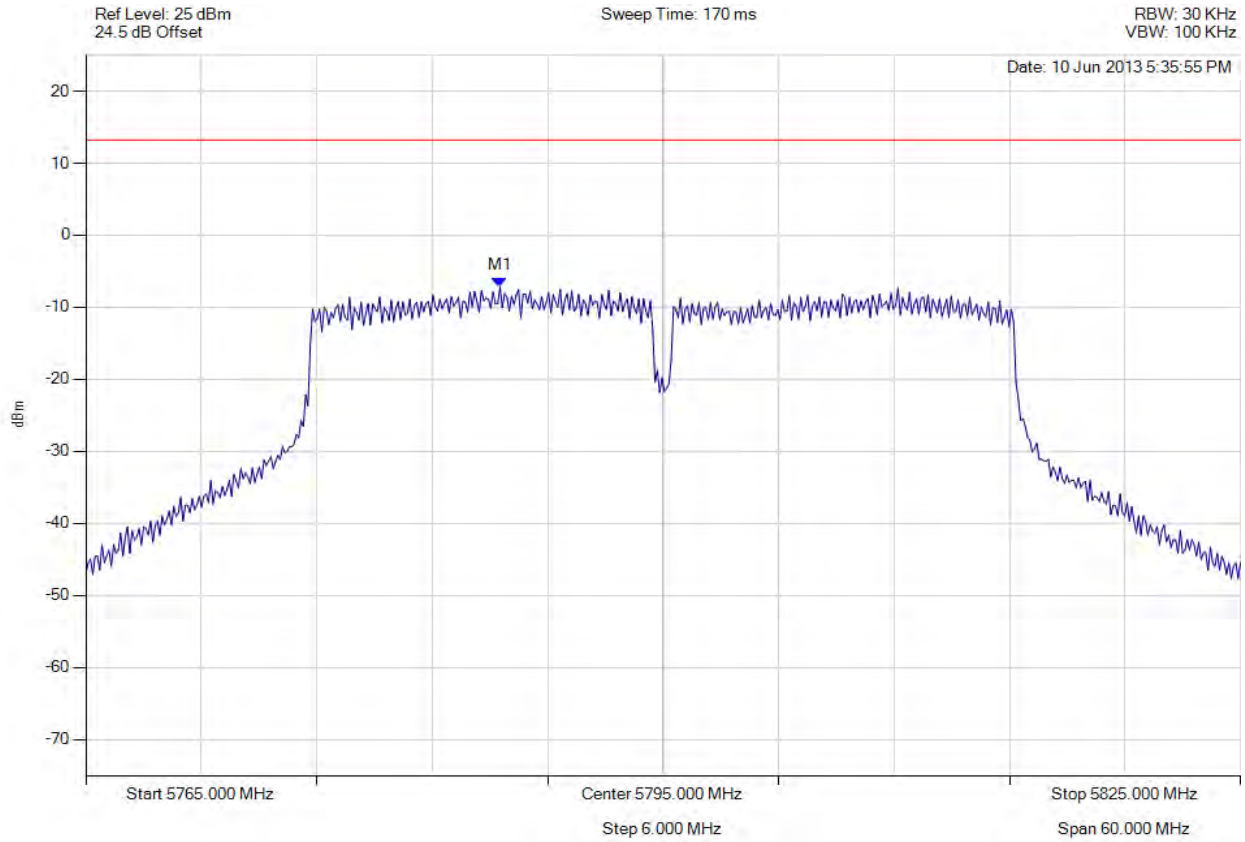


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5784.960 MHz : -7.154 dBm	Limit: ≤ 13.229 dBm Margin: -20.38 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

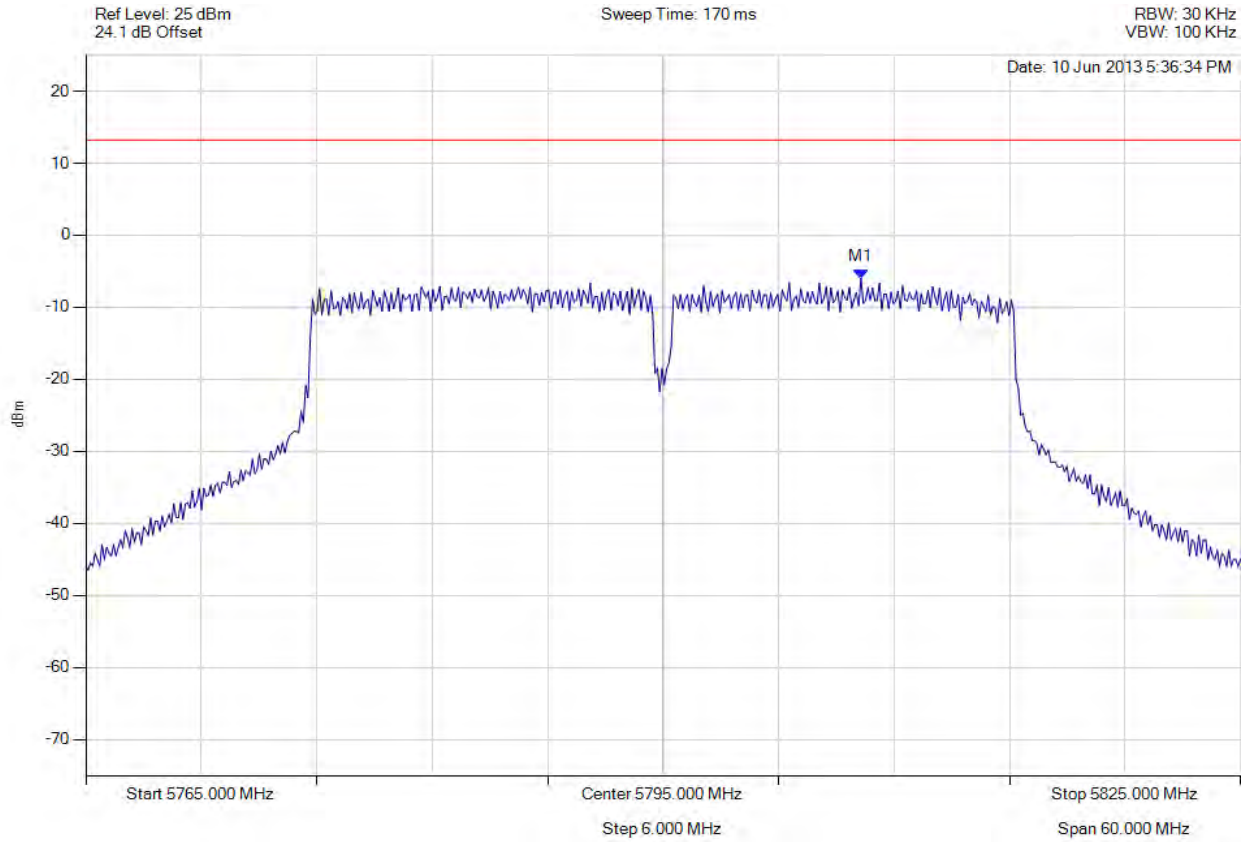


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.523 MHz : -7.219 dBm	Limit: ≤ 13.229 dBm Margin: -20.45 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

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

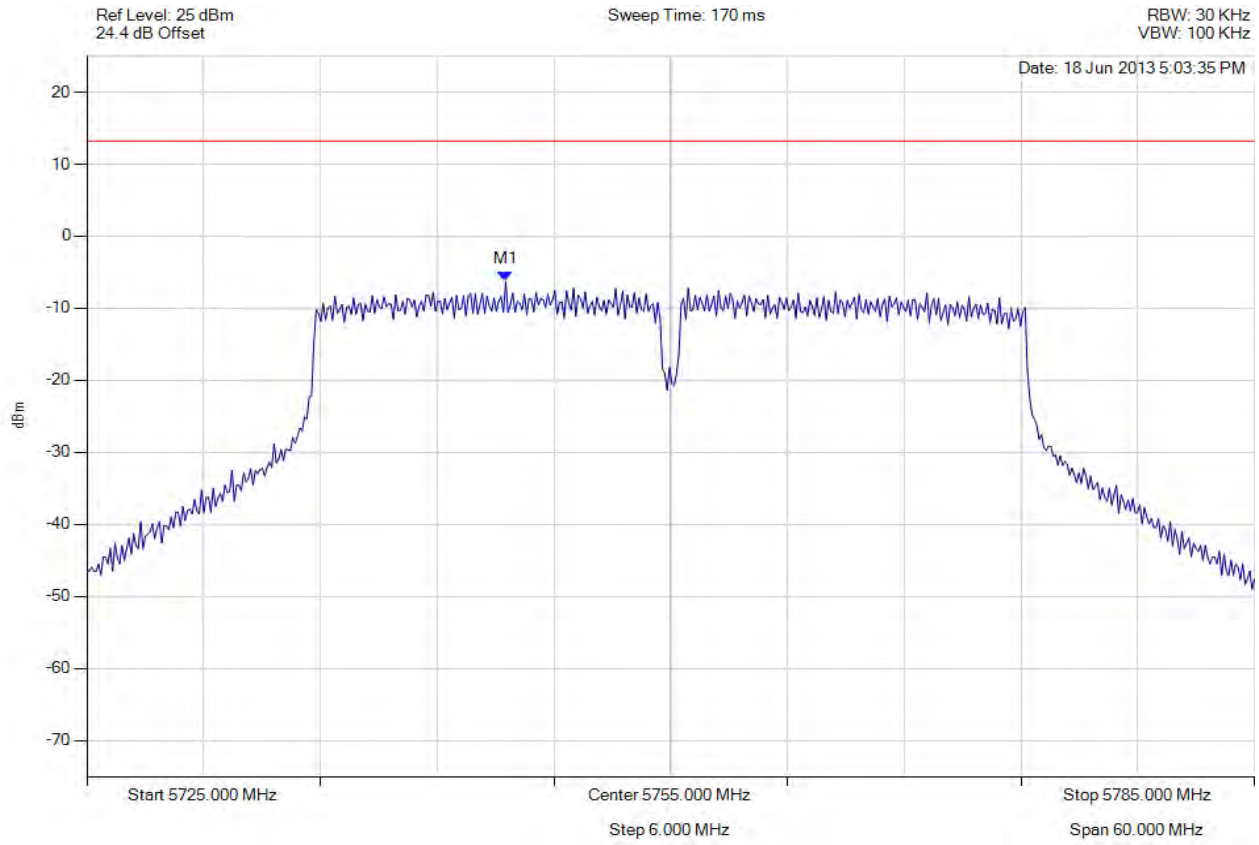


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5805.281 MHz : -5.977 dBm	Limit: ≤ 13.229 dBm Margin: -19.21 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

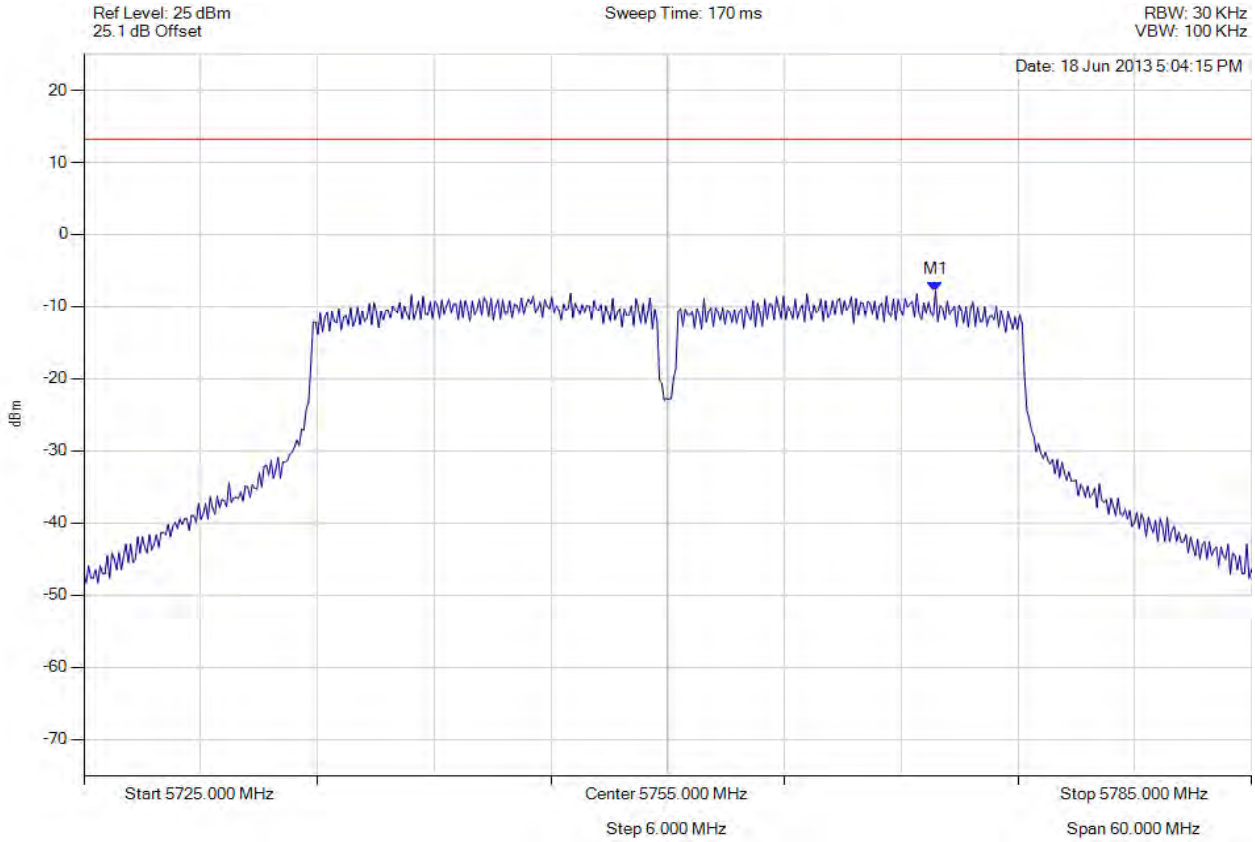


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5746.523 MHz : -6.279 dBm	Limit: ≤ 13.229 dBm Margin: -19.51 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc

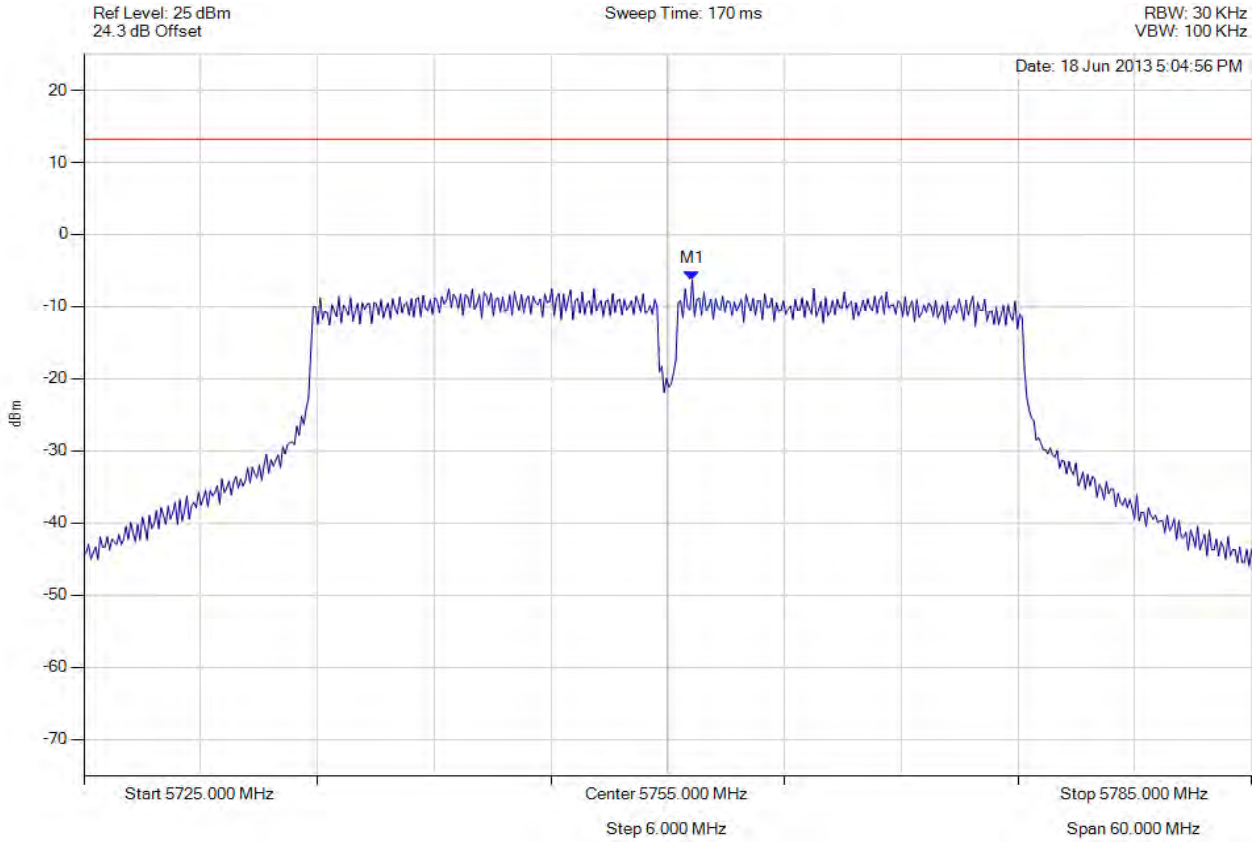


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5768.768 MHz : -7.818 dBm	Limit: ≤ 13.229 dBm Margin: -21.05 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc

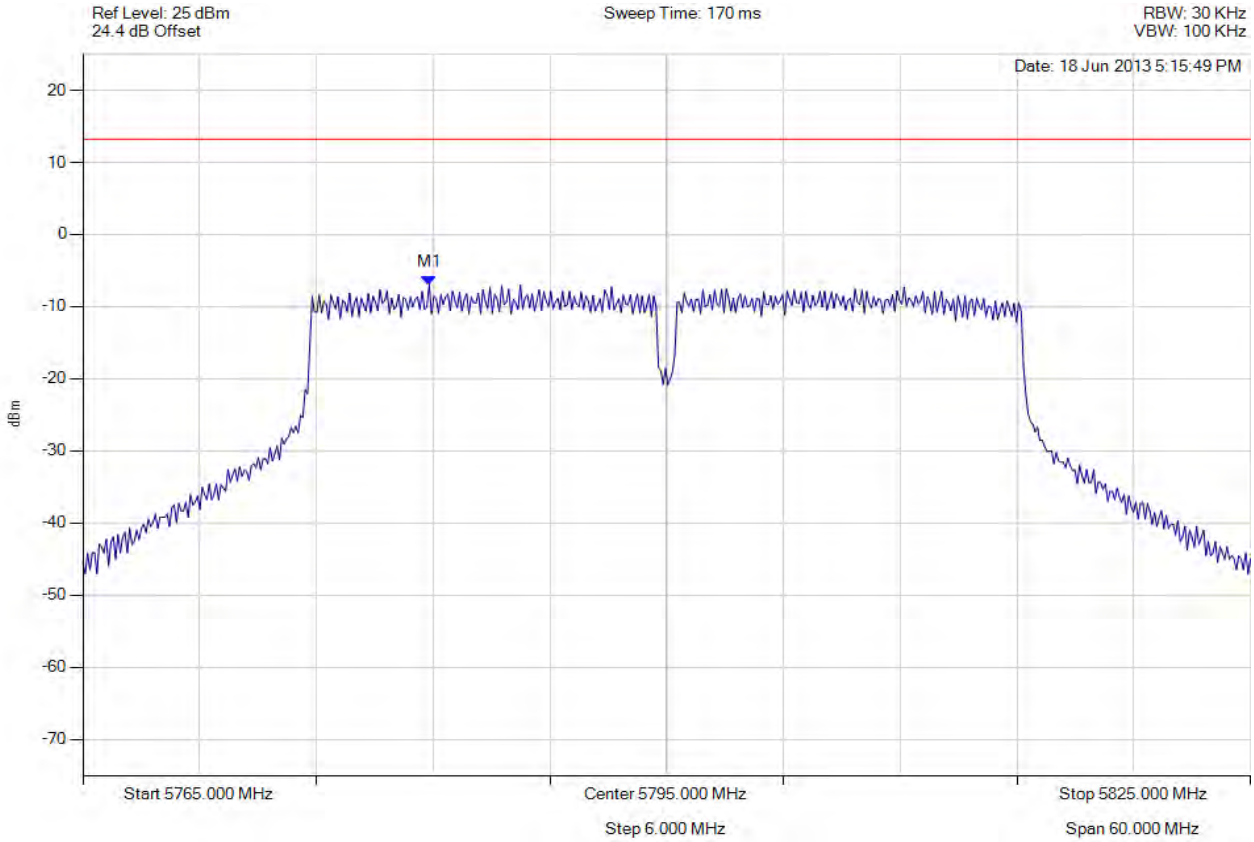


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5756.263 MHz : -6.332 dBm	Limit: ≤ 13.229 dBm Margin: -19.56 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

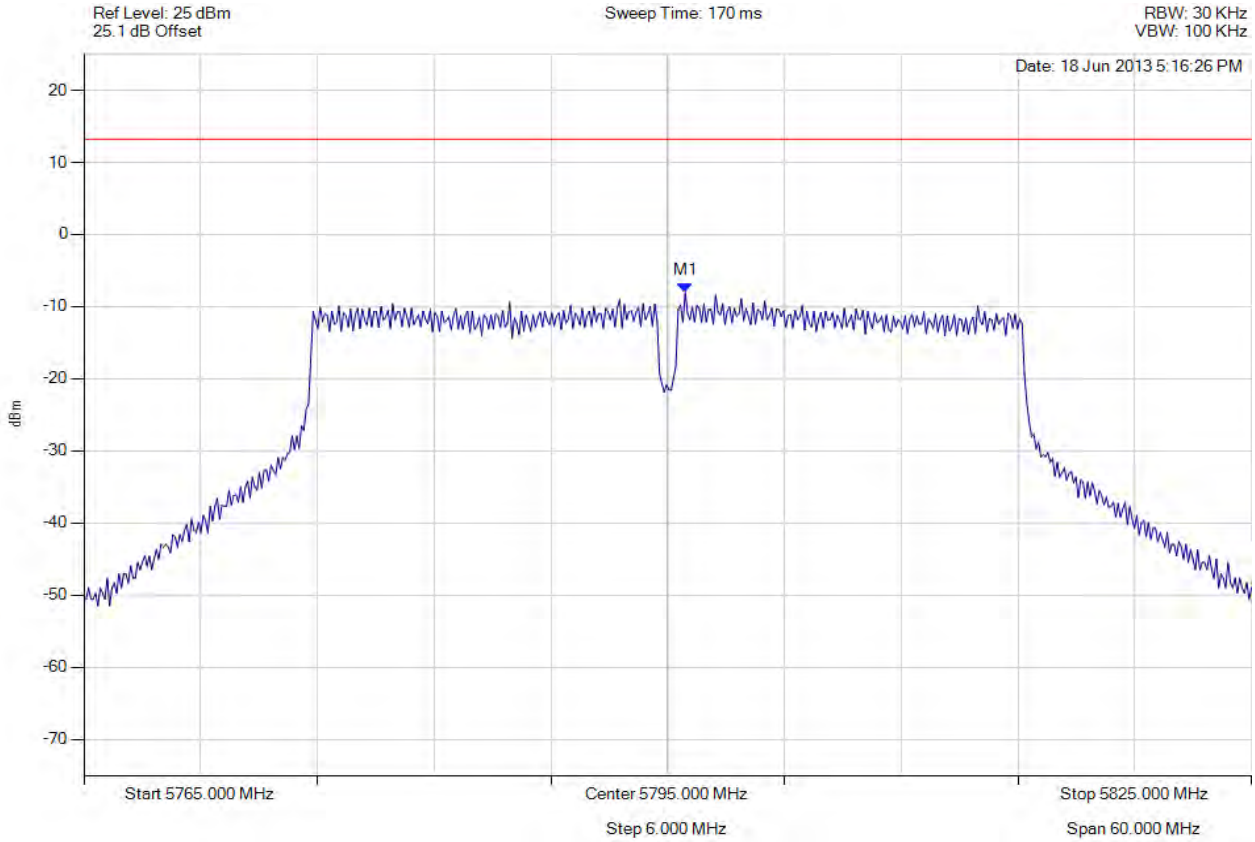


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5782.796 MHz : -6.963 dBm	Limit: ≤ 13.229 dBm Margin: -20.19 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc

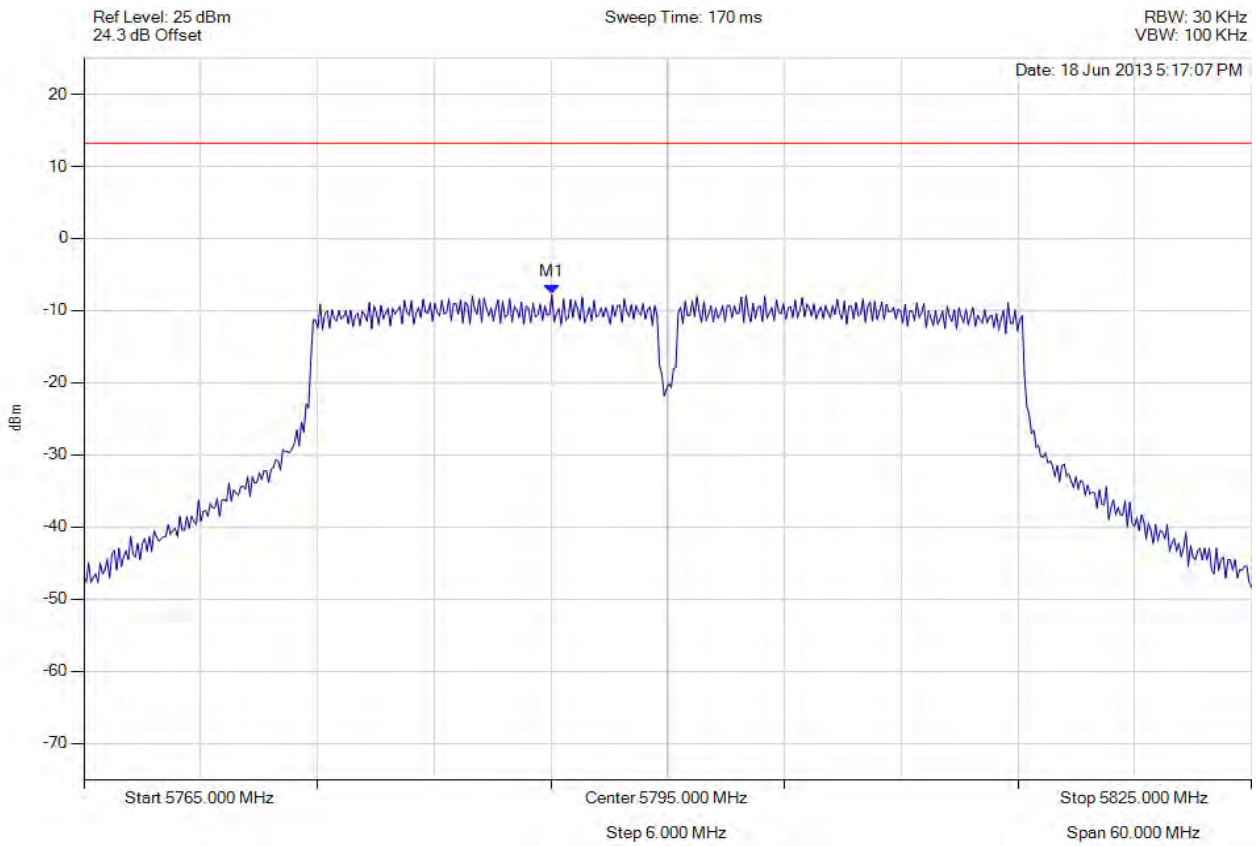


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5795.902 MHz : -8.049 dBm	Limit: ≤ 13.229 dBm Margin: -21.28 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc

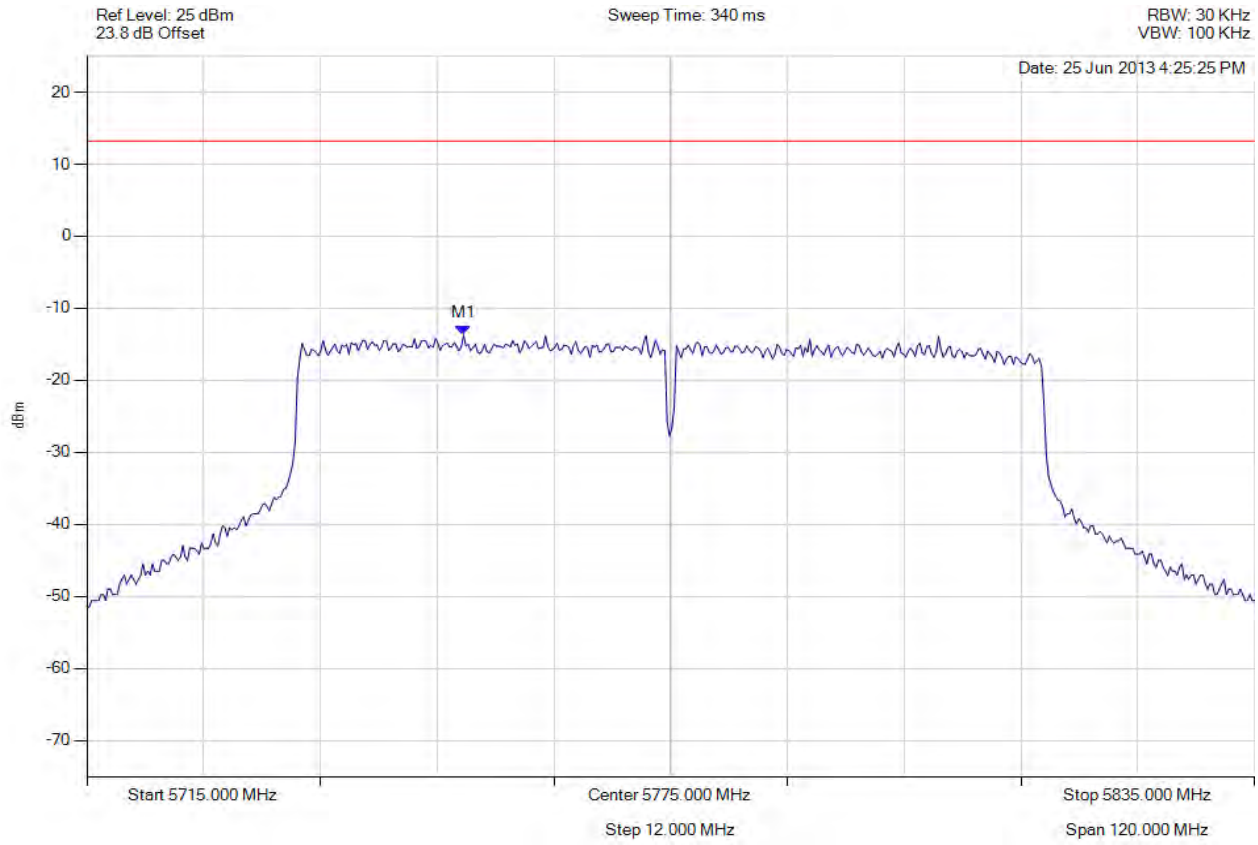


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.048 MHz : -7.780 dBm	Limit: ≤ 13.229 dBm Margin: -21.01 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

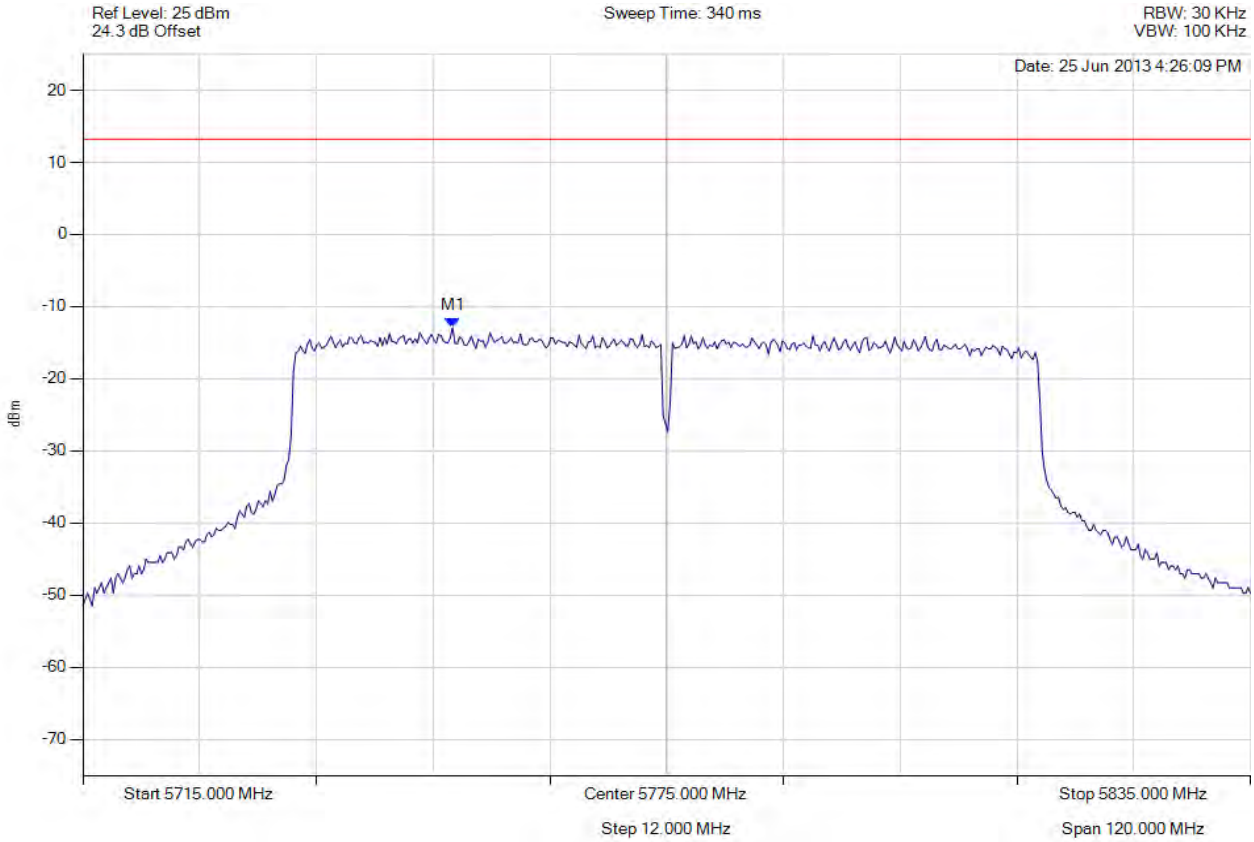


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5753.717 MHz : -13.751 dBm	Limit: ≤ 13.229 dBm Margin: -26.98 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc

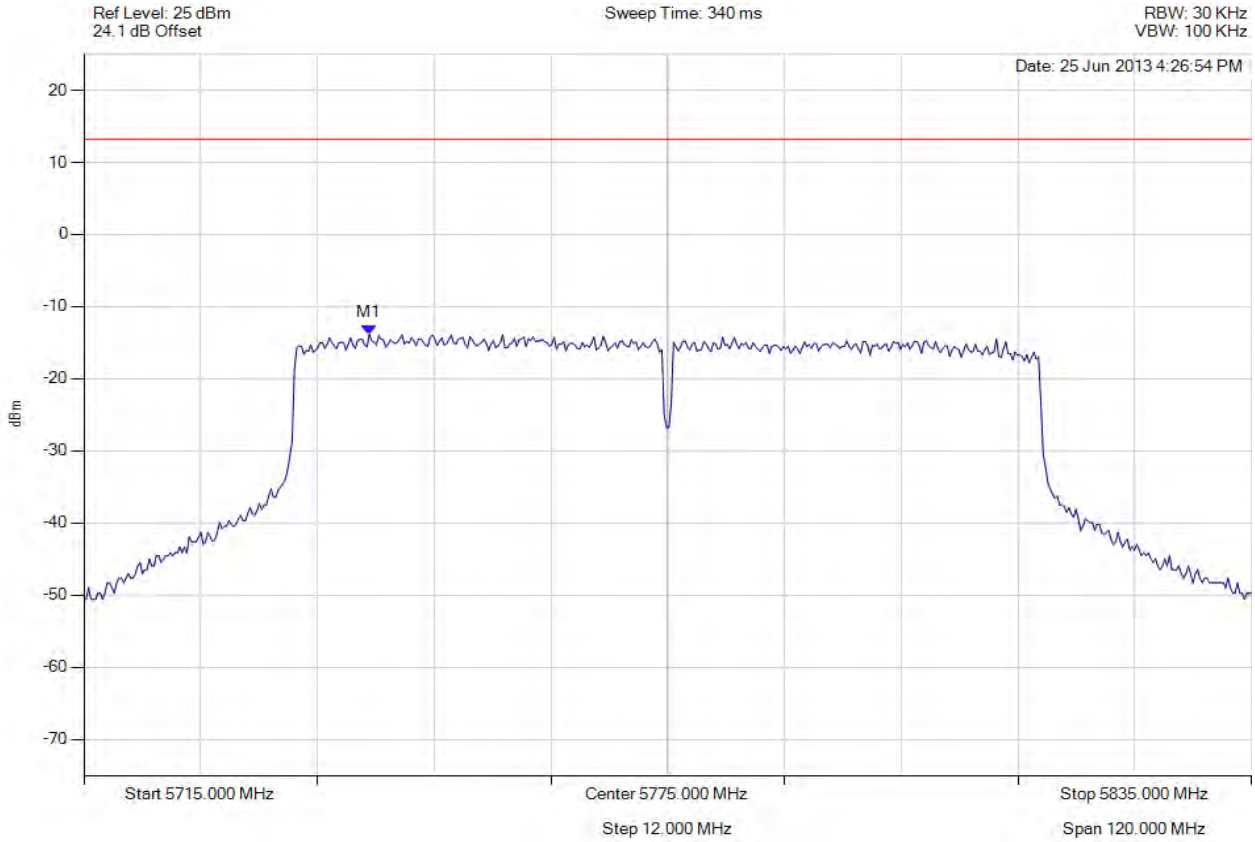


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5752.996 MHz : -12.915 dBm	Limit: ≤ 13.229 dBm Margin: -26.15 dB

Back to the Matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc



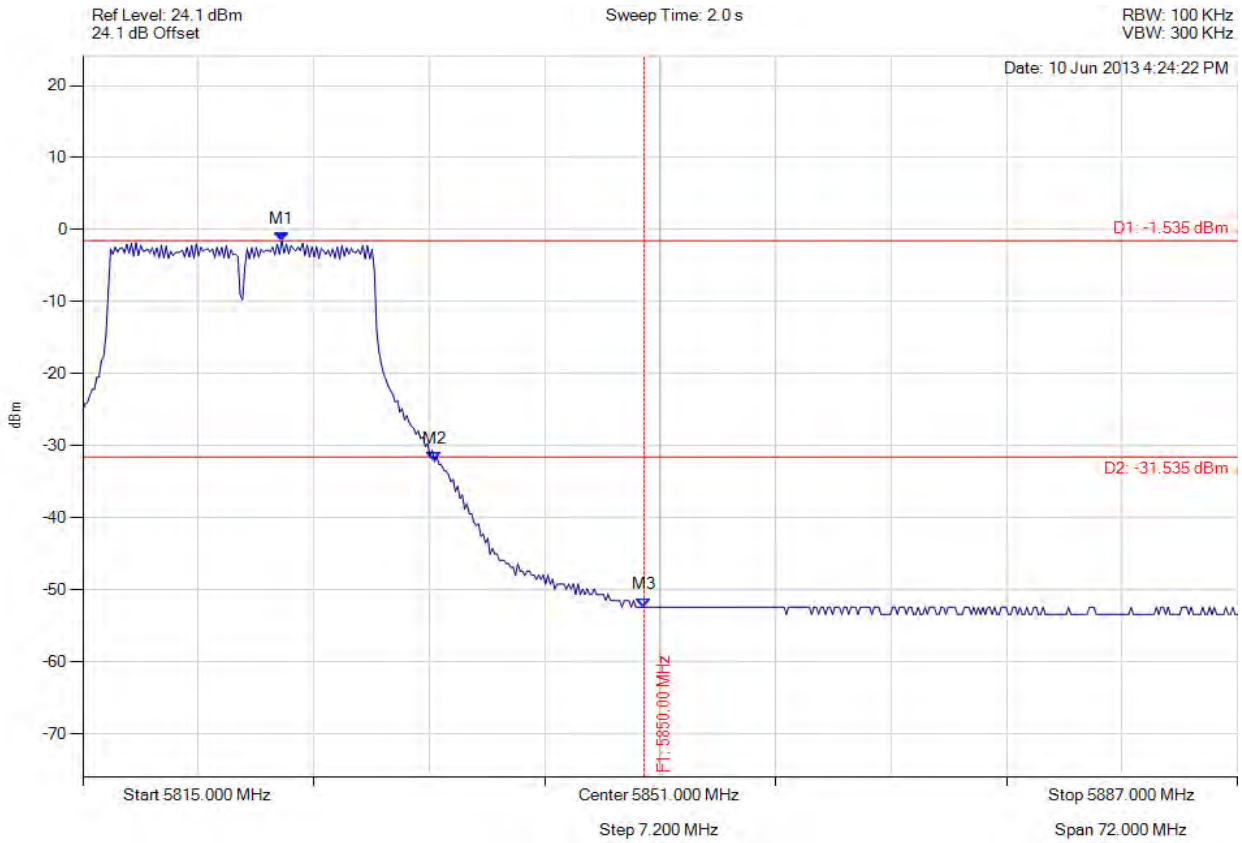
Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5744.339 MHz : -13.826 dBm	Limit: ≤ 13.229 dBm Margin: -27.06 dB

Back to the Matrix

A.1.3. Conducted Spurious Emissions

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

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

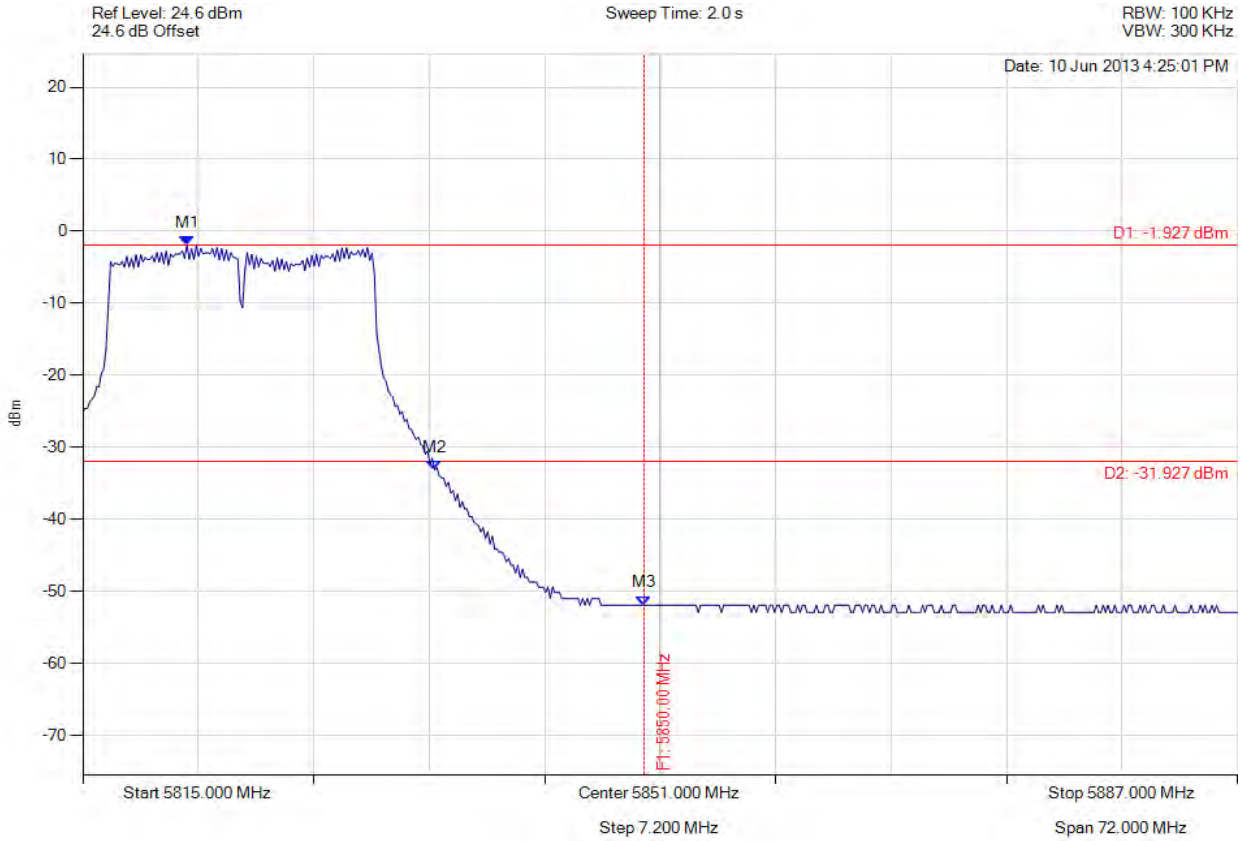


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5827.409 MHz : -1.535 dBm M2 : 5836.932 MHz : -32.190 dBm M3 : 5850.000 MHz : -52.380 dBm	Limit: -31.54 dBm Margin: -20.84 dB

Back to the Matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

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

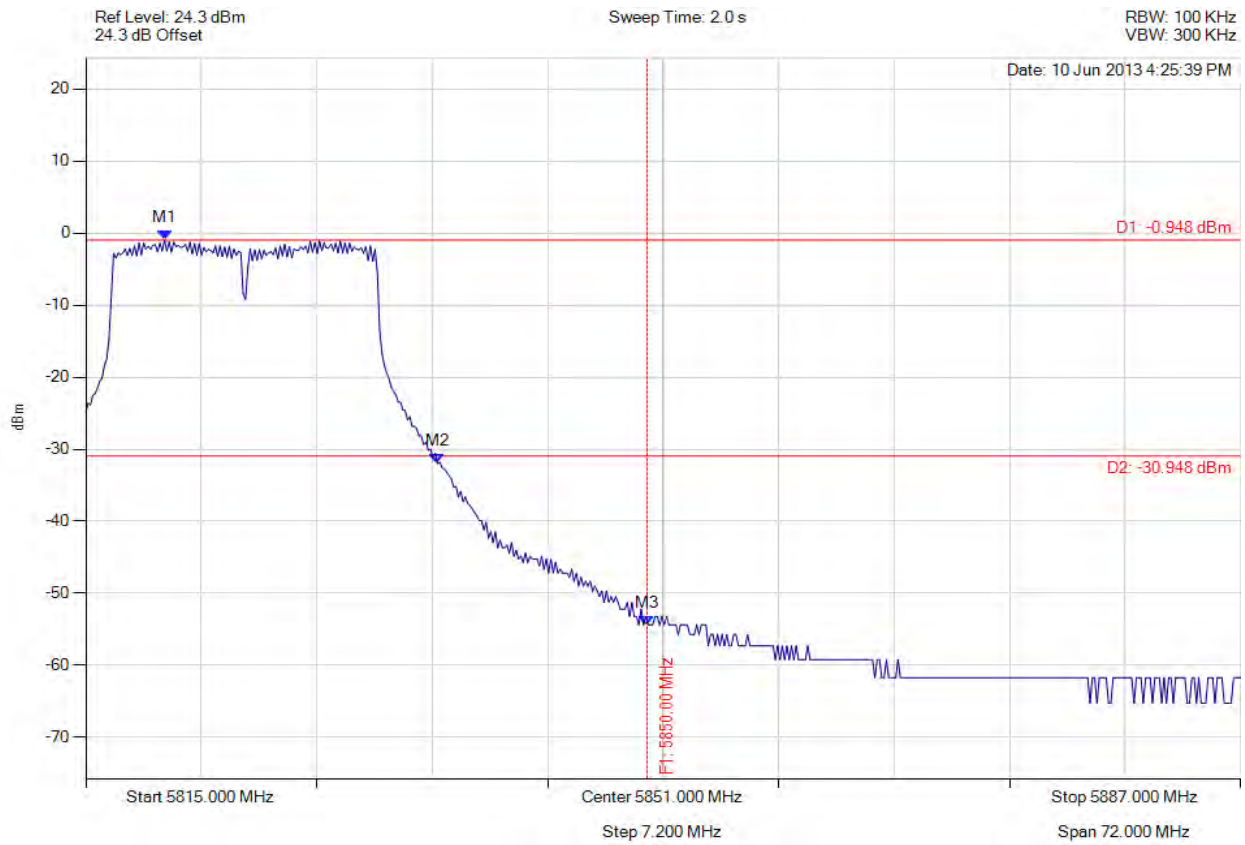


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5821.493 MHz : -1.927 dBm M2 : 5836.932 MHz : -33.123 dBm M3 : 5850.000 MHz : -51.880 dBm	Limit: -31.93 dBm Margin: -19.95 dB

Back to the Matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

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

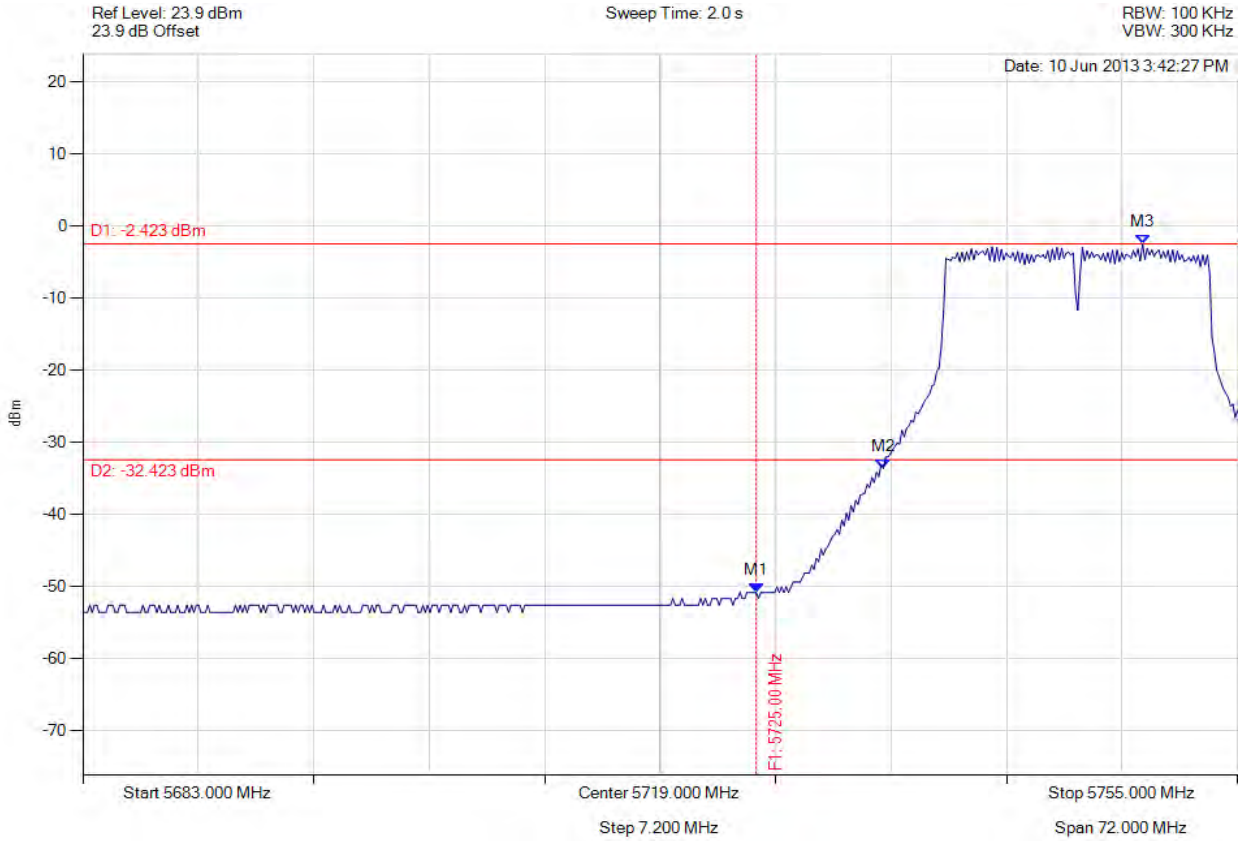


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5819.906 MHz : -0.948 dBm M2 : 5836.932 MHz : -31.990 dBm M3 : 5850.000 MHz : -54.363 dBm	Limit: -30.95 dBm Margin: -23.41 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

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

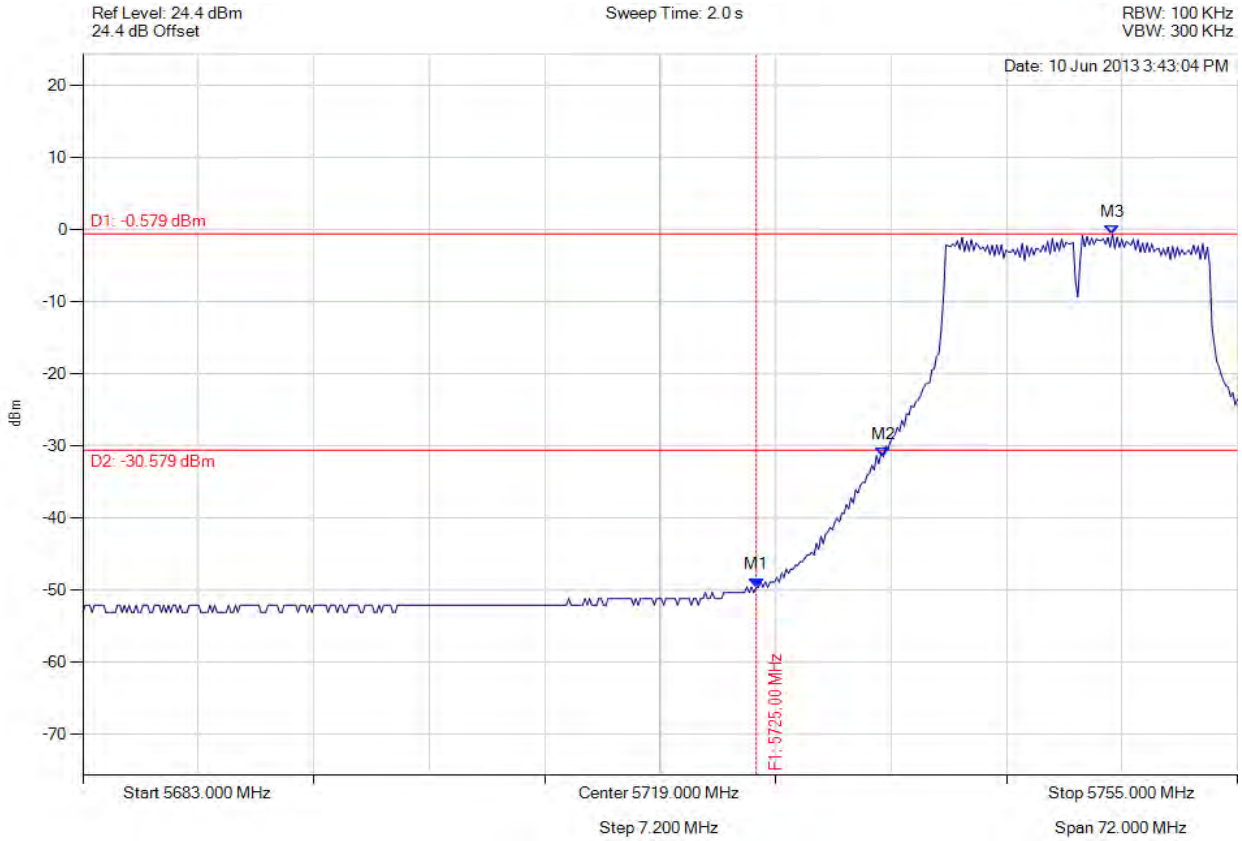


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -50.837 dBm M2 : 5732.924 MHz : -33.604 dBm M3 : 5749.084 MHz : -2.423 dBm	Limit: -32.42 dBm Margin: -18.42 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, 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 : -49.582 dBm M2 : 5732.924 MHz : -31.520 dBm M3 : 5747.208 MHz : -0.579 dBm	Limit: -30.58 dBm Margin: -19.00 dB

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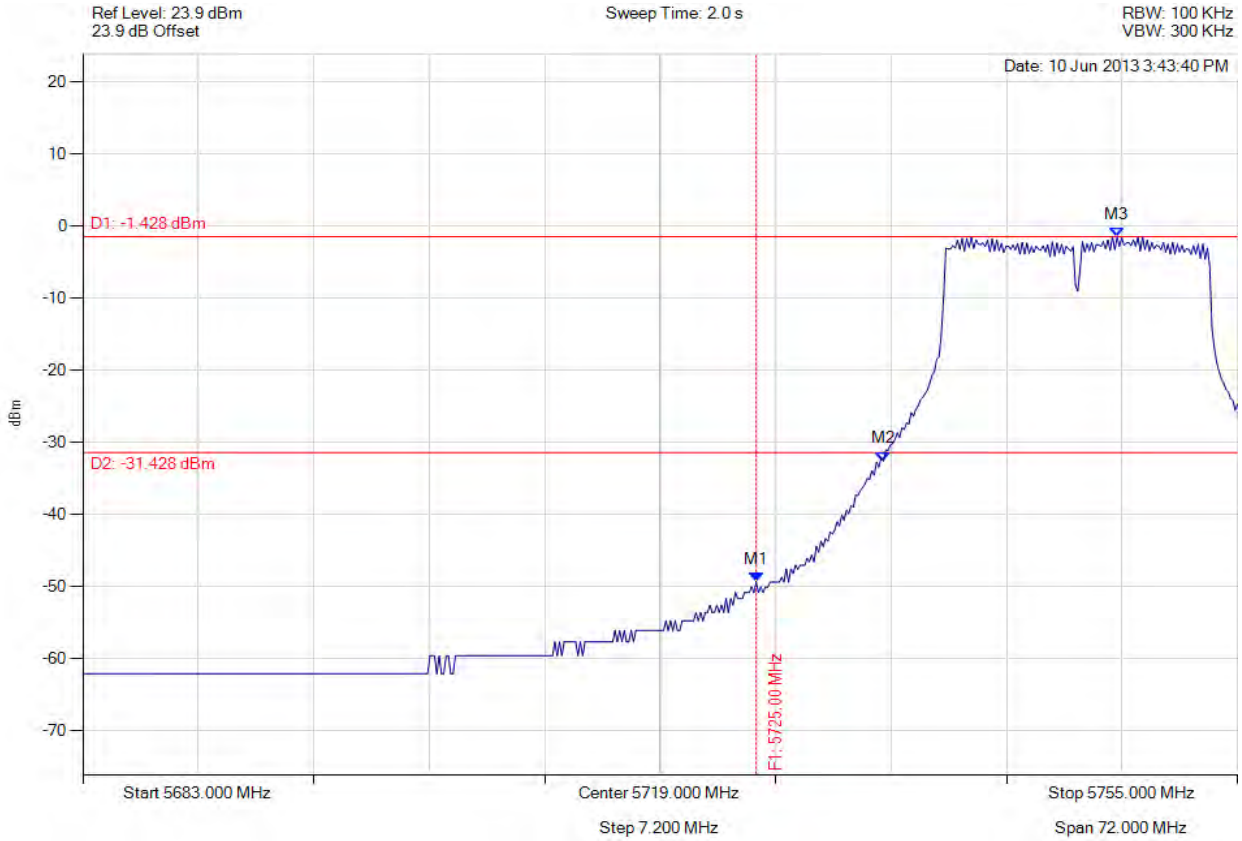
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

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

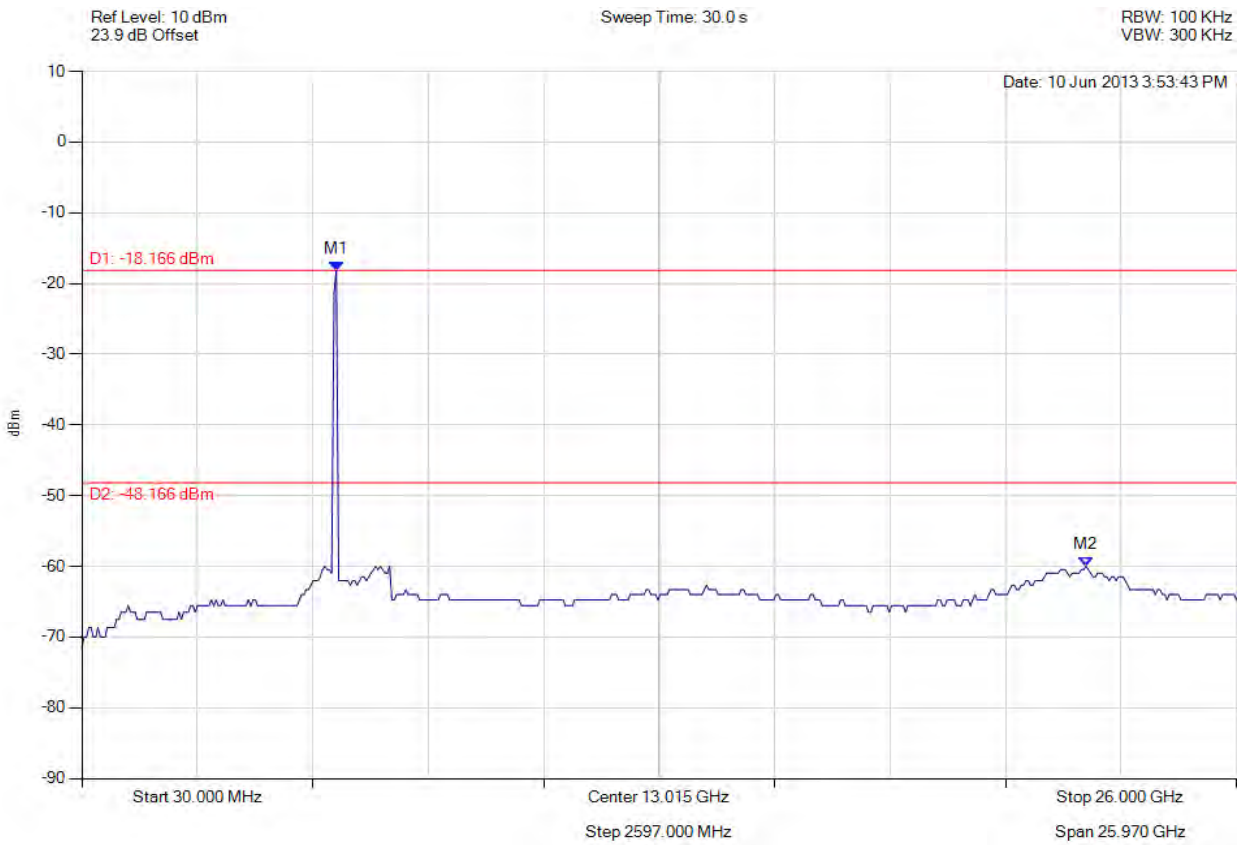


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5725.000 MHz : -49.386 dBm M2 : 5732.924 MHz : -32.580 dBm M3 : 5747.497 MHz : -1.428 dBm	Limit: -31.43 dBm Margin: -17.96 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

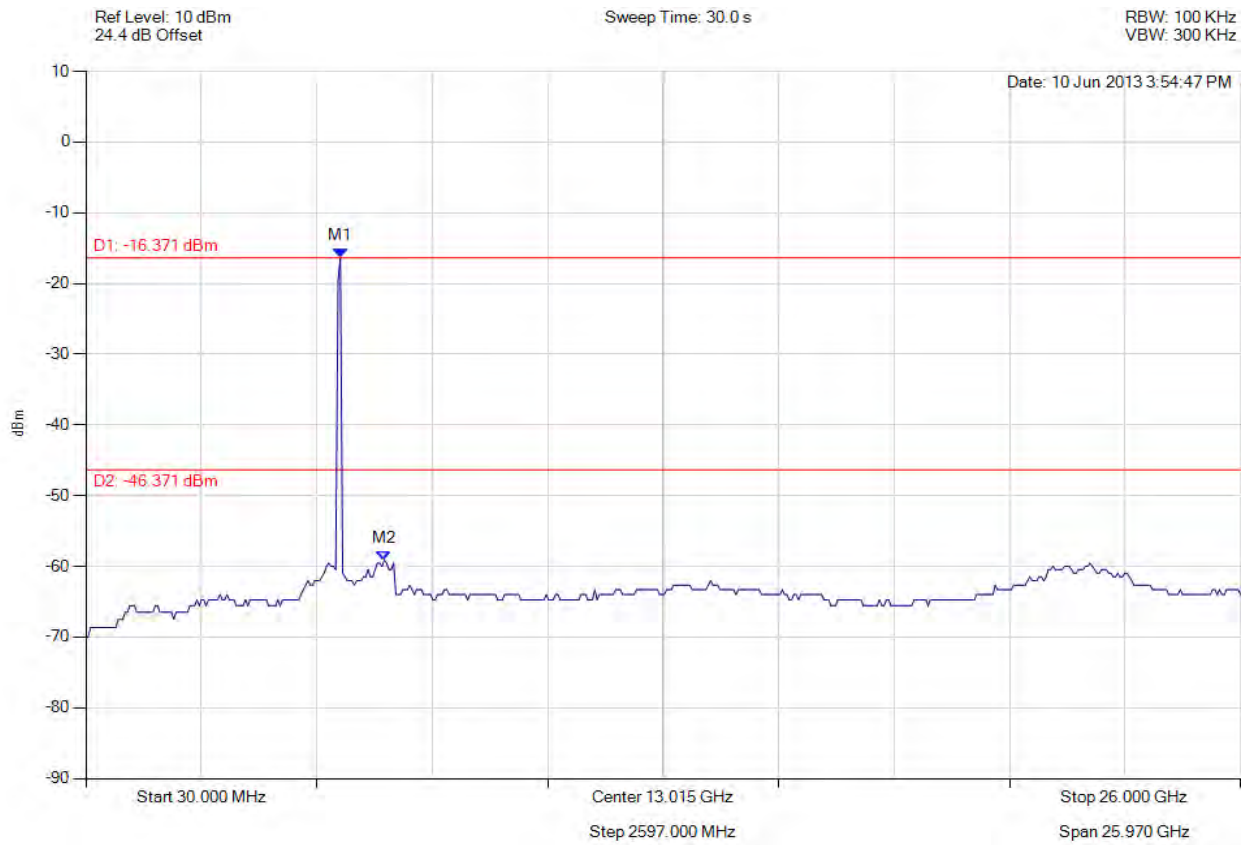


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -18.166 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -48.17 dBm Margin: -11.82 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

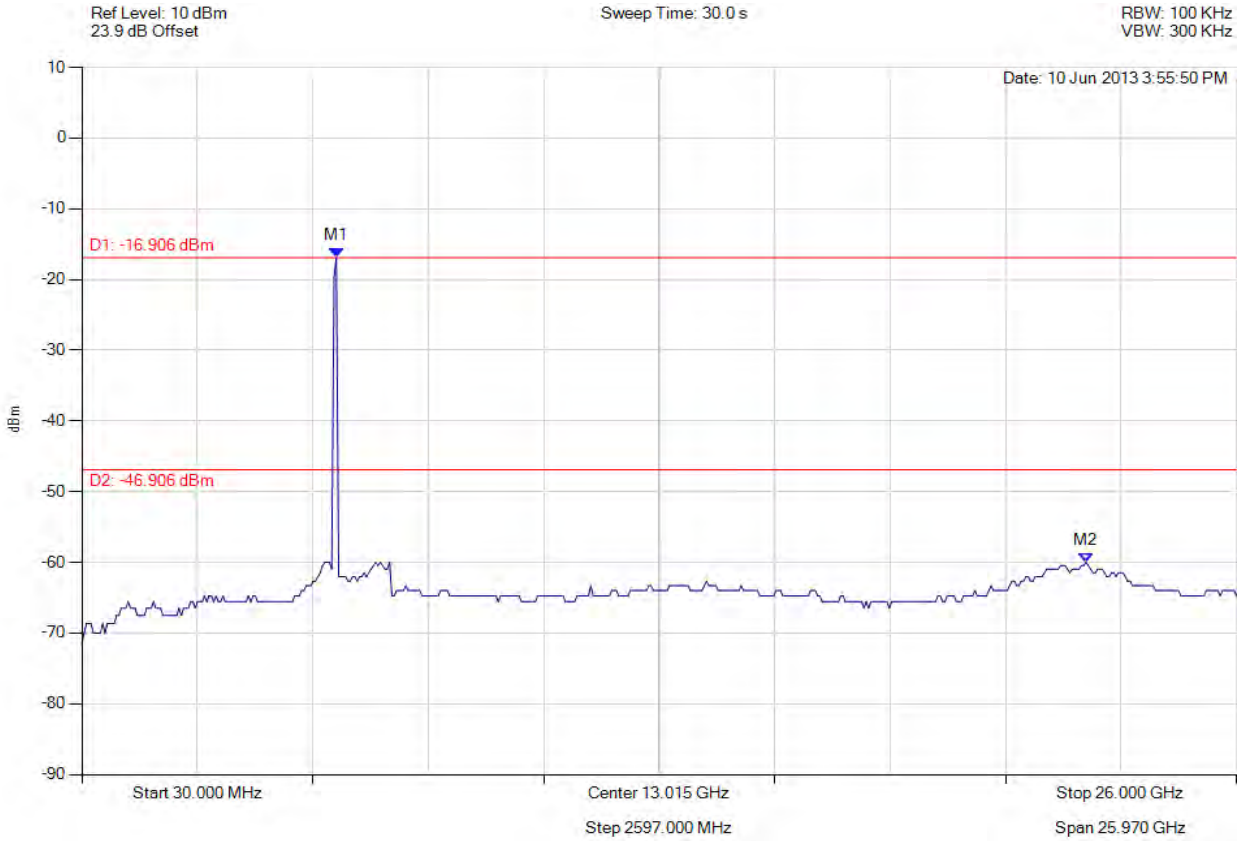


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -16.371 dBm M2 : 6743.687 MHz : -59.121 dBm	Limit: -46.37 dBm Margin: -12.75 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

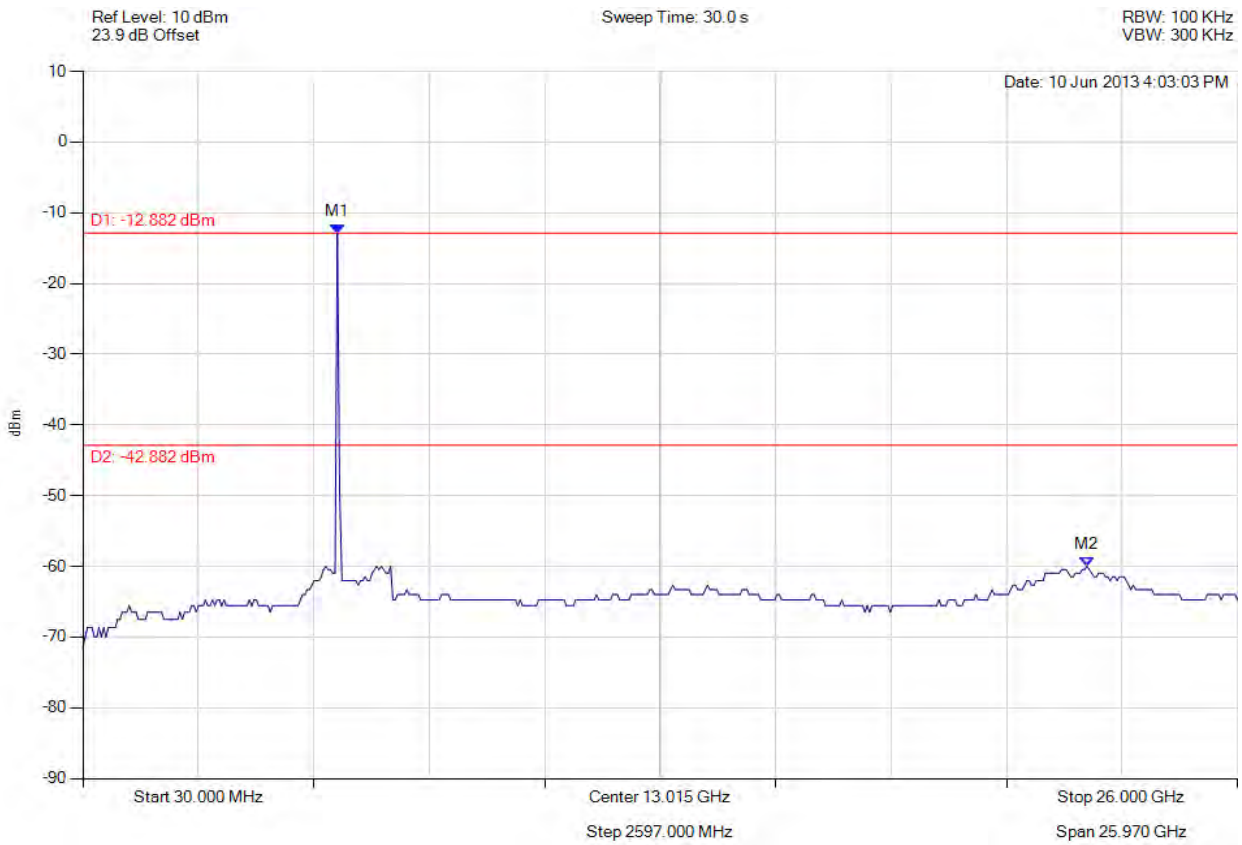


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -16.906 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -46.91 dBm Margin: -13.08 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

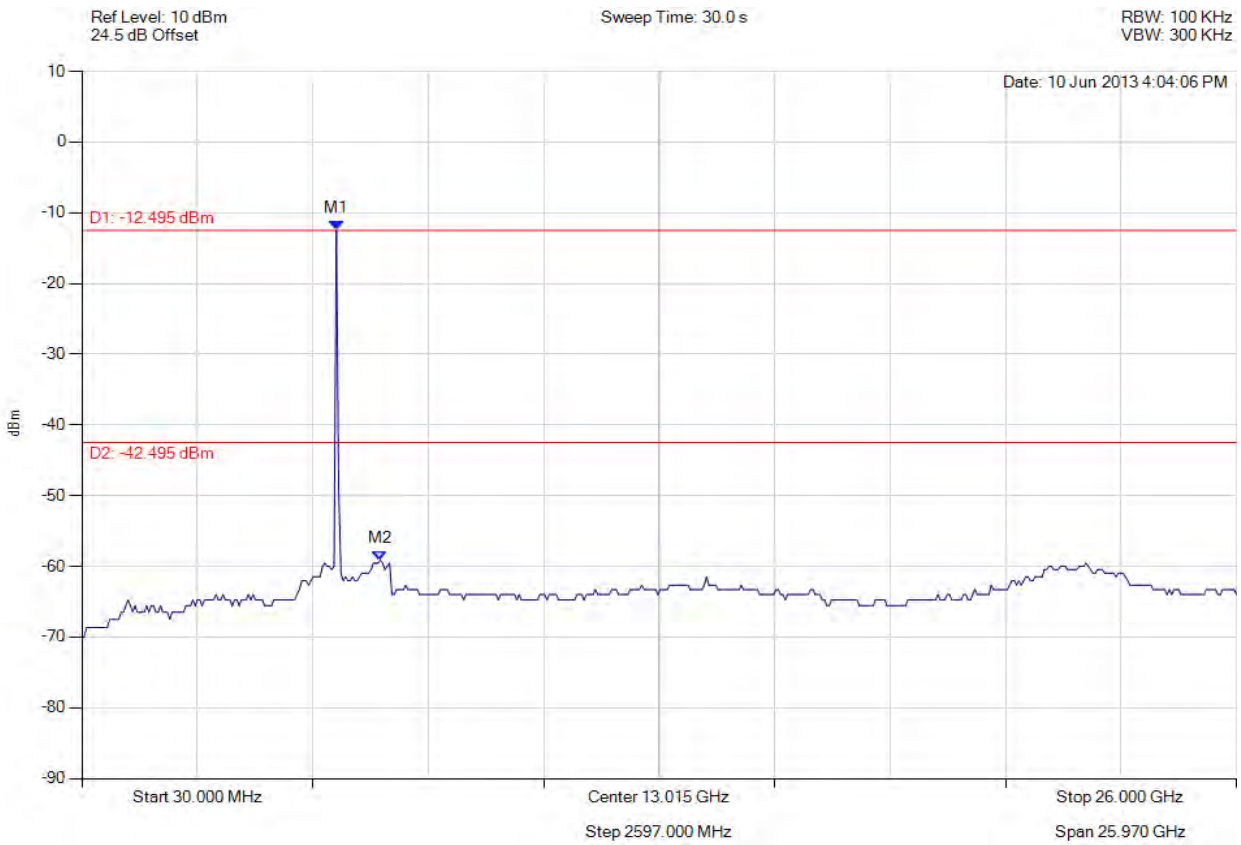


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -12.882 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -42.88 dBm Margin: -17.11 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

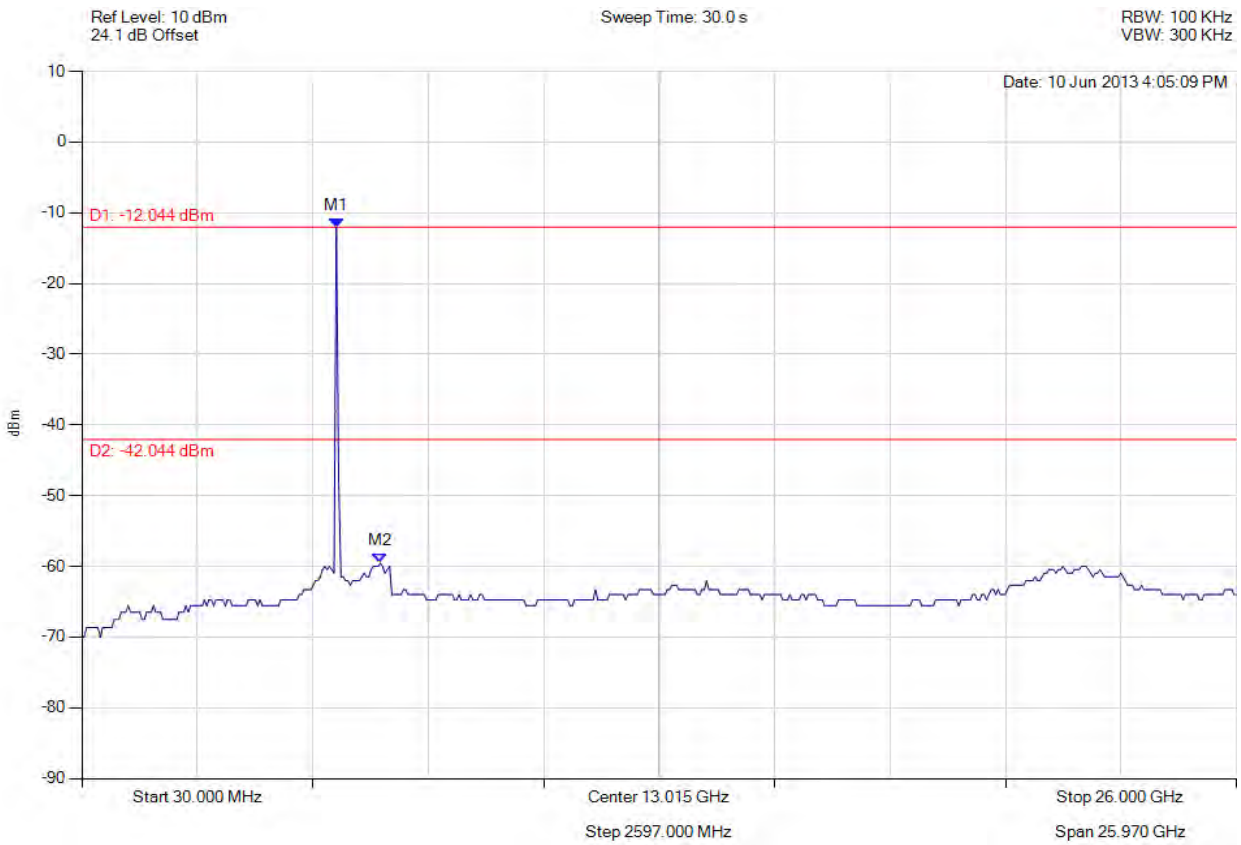


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -12.495 dBm M2 : 6743.687 MHz : -59.121 dBm	Limit: -42.50 dBm Margin: -16.62 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

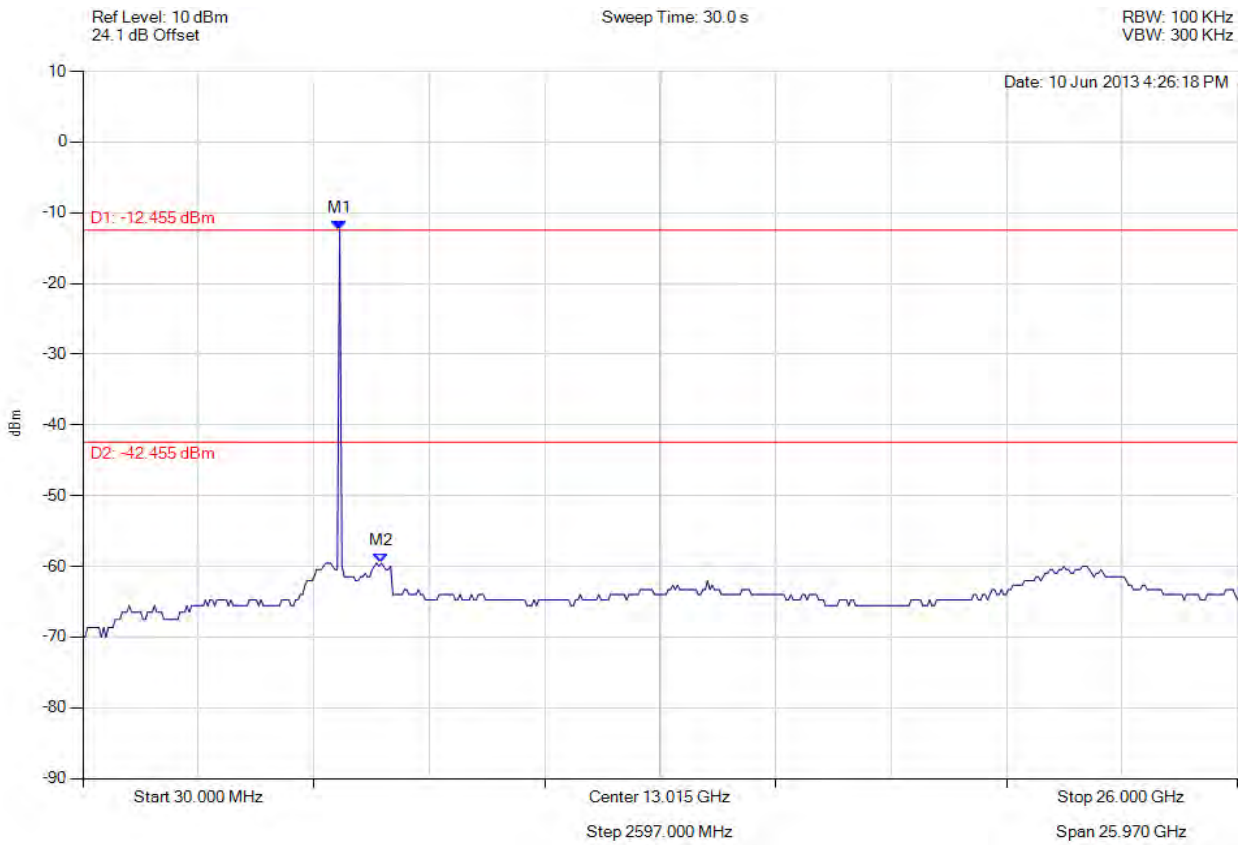


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -12.044 dBm M2 : 6743.687 MHz : -59.545 dBm	Limit: -42.04 dBm Margin: -17.51 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

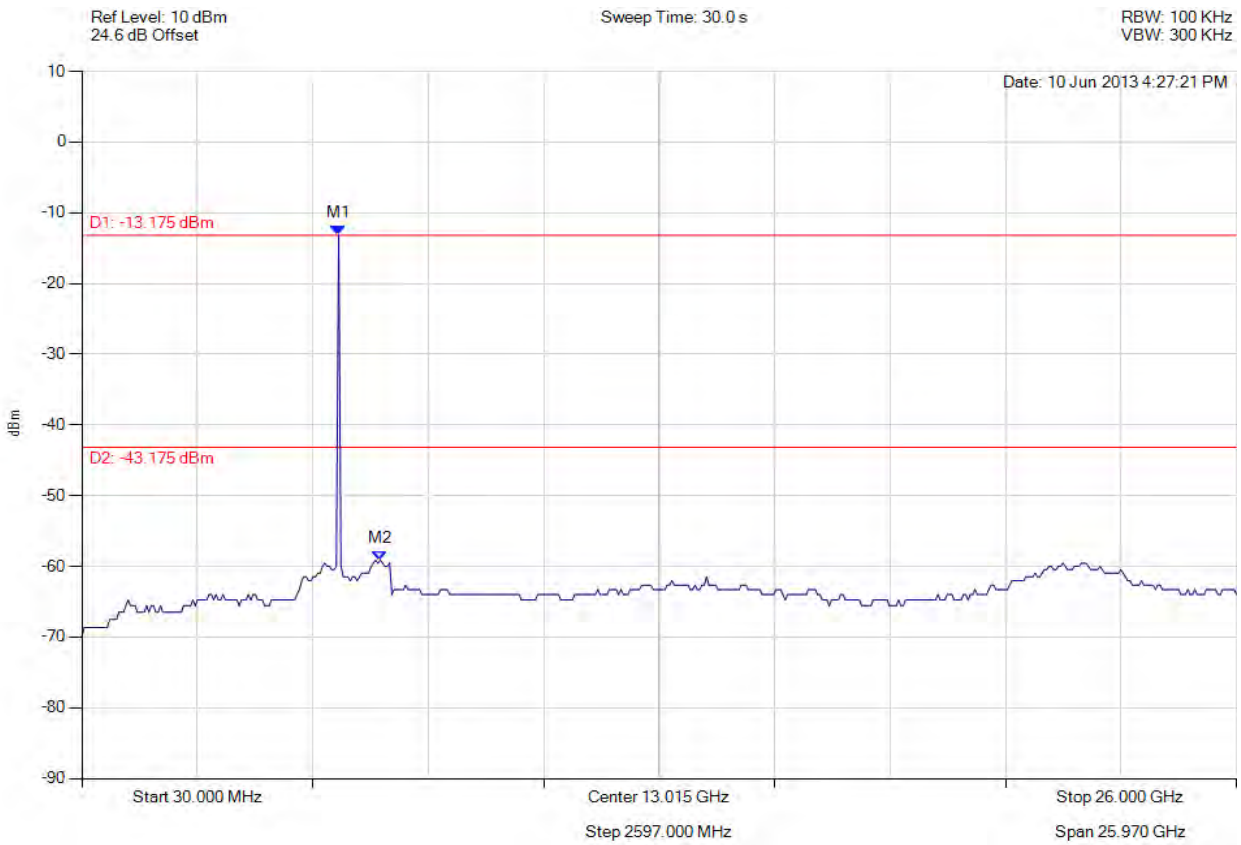


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -12.455 dBm M2 : 6743.687 MHz : -59.545 dBm	Limit: -42.46 dBm Margin: -17.09 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

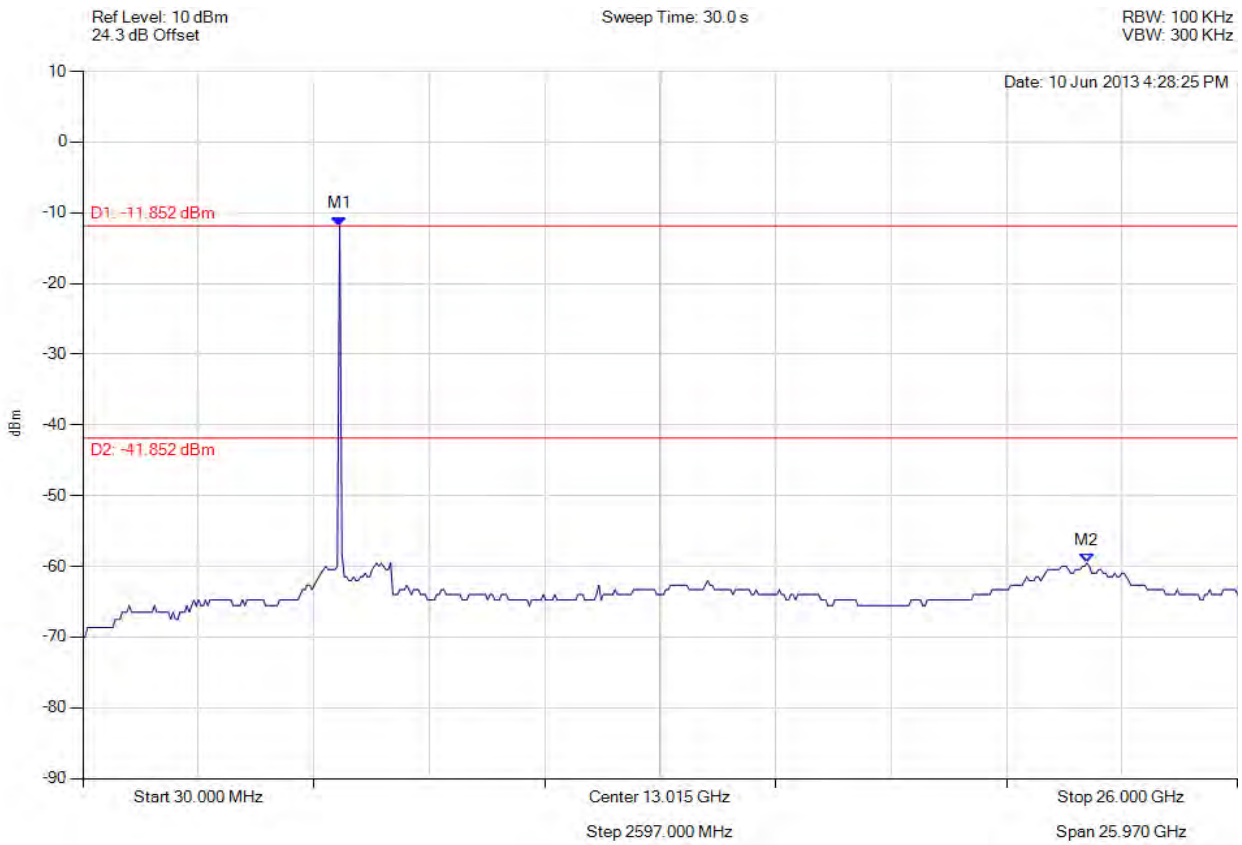


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -13.175 dBm M2 : 6743.687 MHz : -59.121 dBm	Limit: -43.18 dBm Margin: -15.94 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

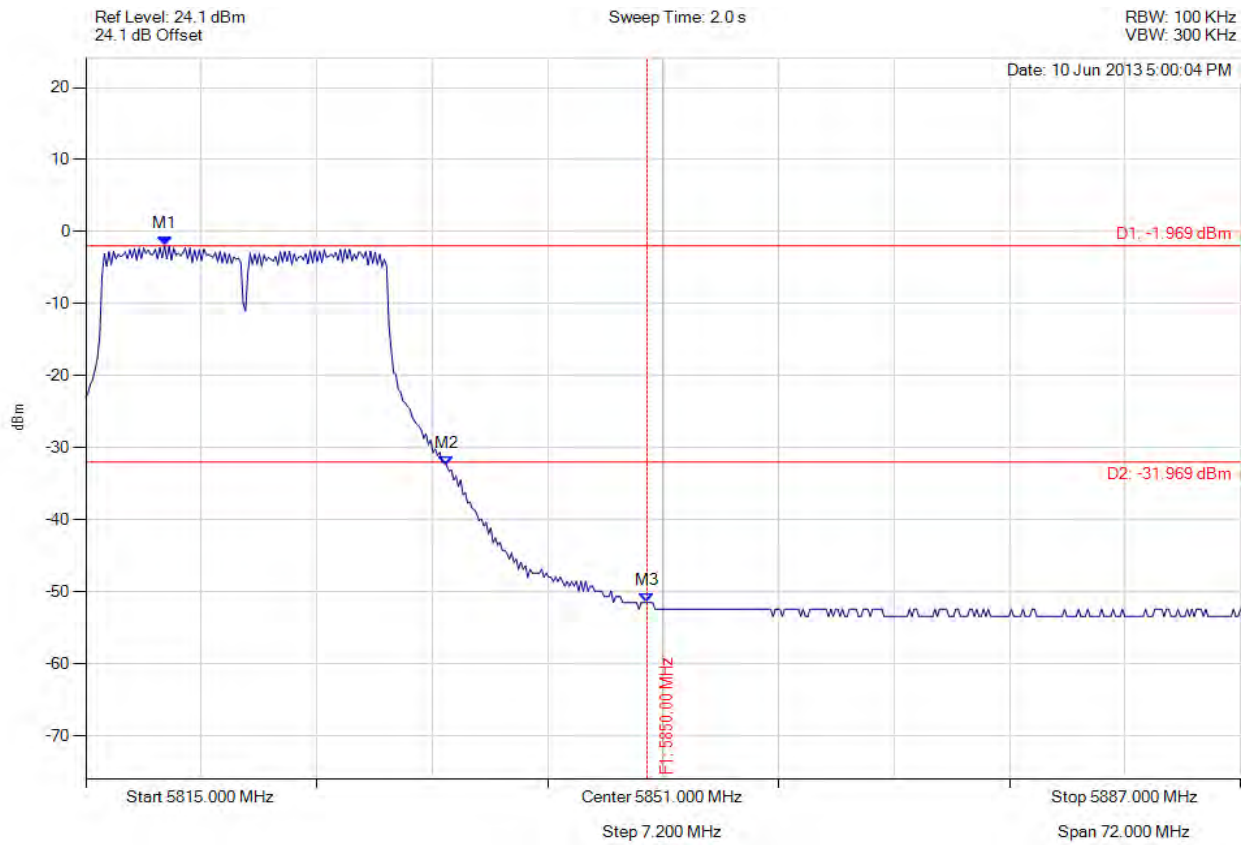


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5806.894 MHz : -11.852 dBm M2 : 22.617 GHz : -59.545 dBm	Limit: -41.85 dBm Margin: -17.70 dB

Back to the Matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

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

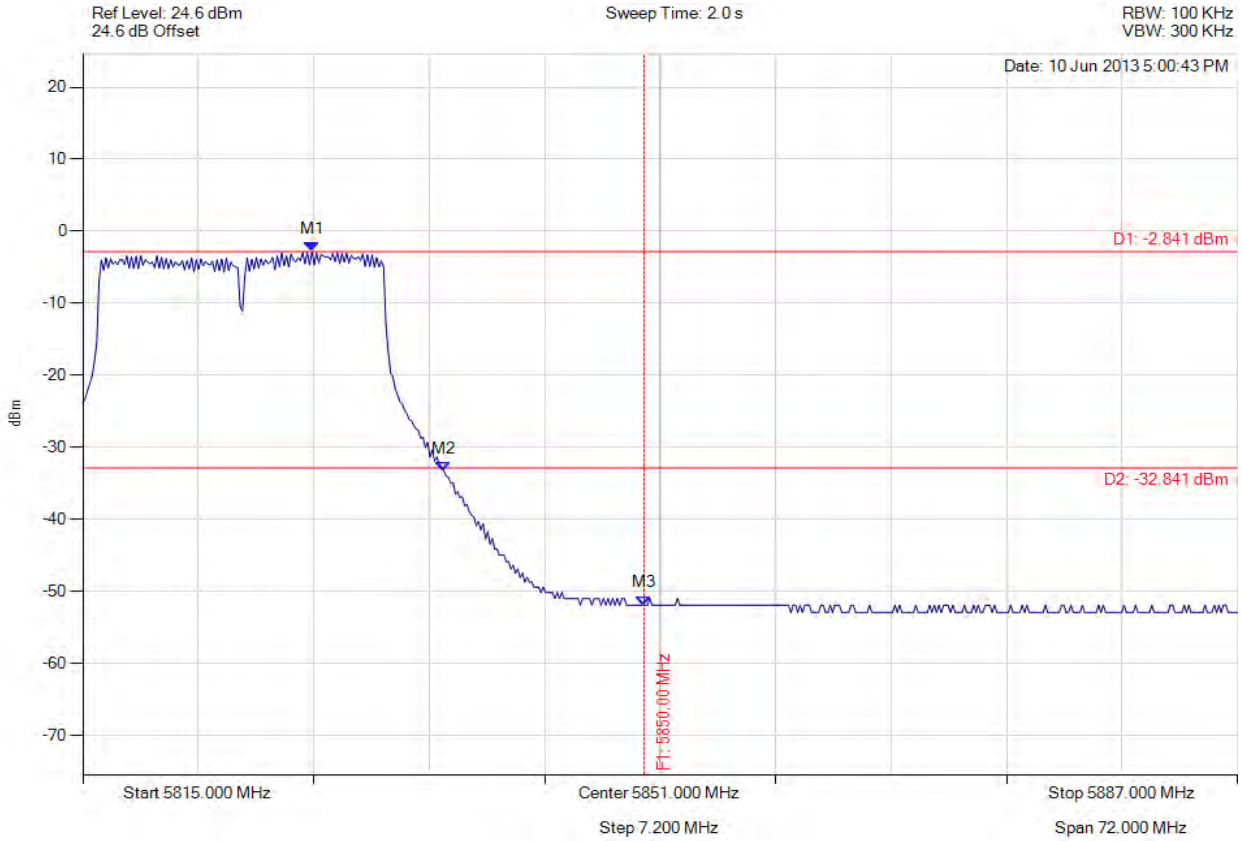


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5819.906 MHz : -1.969 dBm M2 : 5837.509 MHz : -32.478 dBm M3 : 5850.000 MHz : -51.465 dBm	Limit: -31.97 dBm Margin: -19.50 dB

Back to the Matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

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

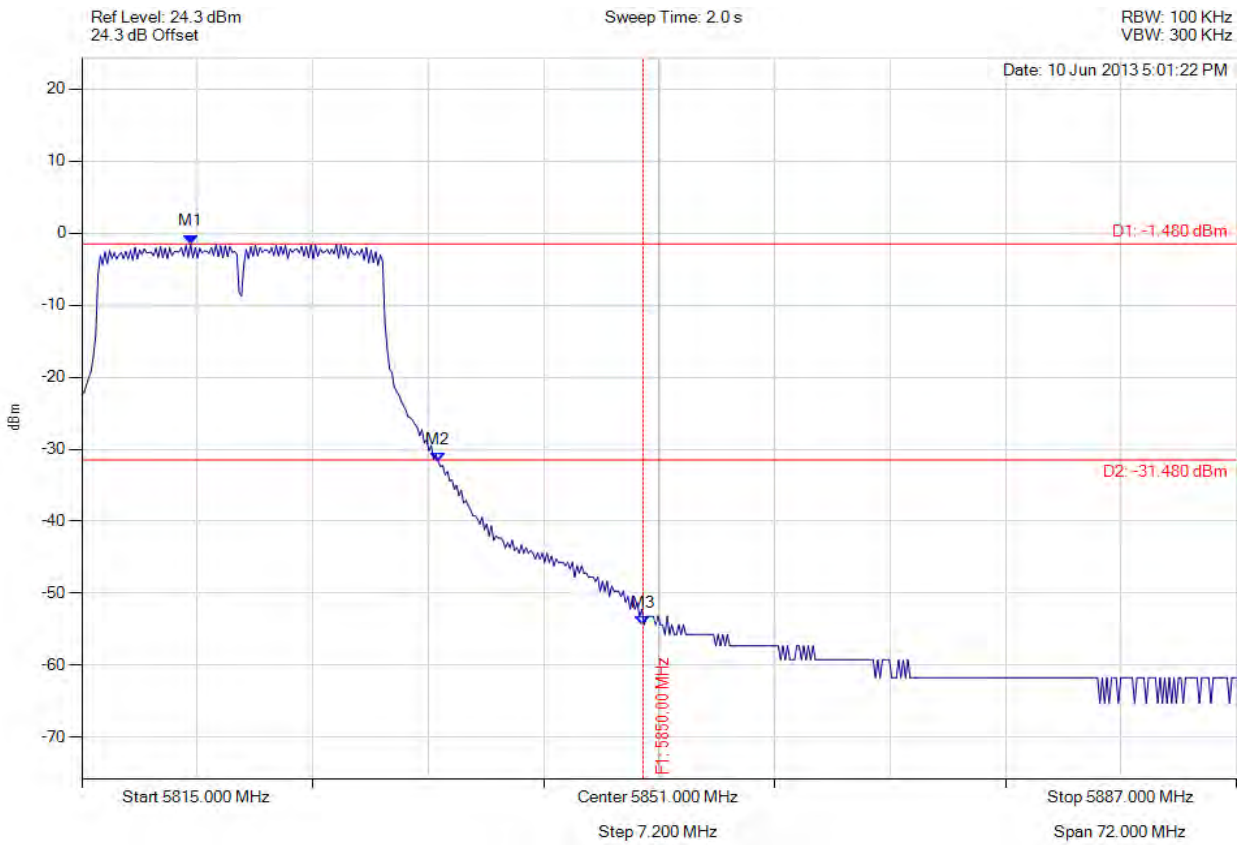


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5829.285 MHz : -2.841 dBm M2 : 5837.509 MHz : -33.236 dBm M3 : 5850.000 MHz : -51.880 dBm	Limit: -32.84 dBm Margin: -19.04 dB

Back to the Matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

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

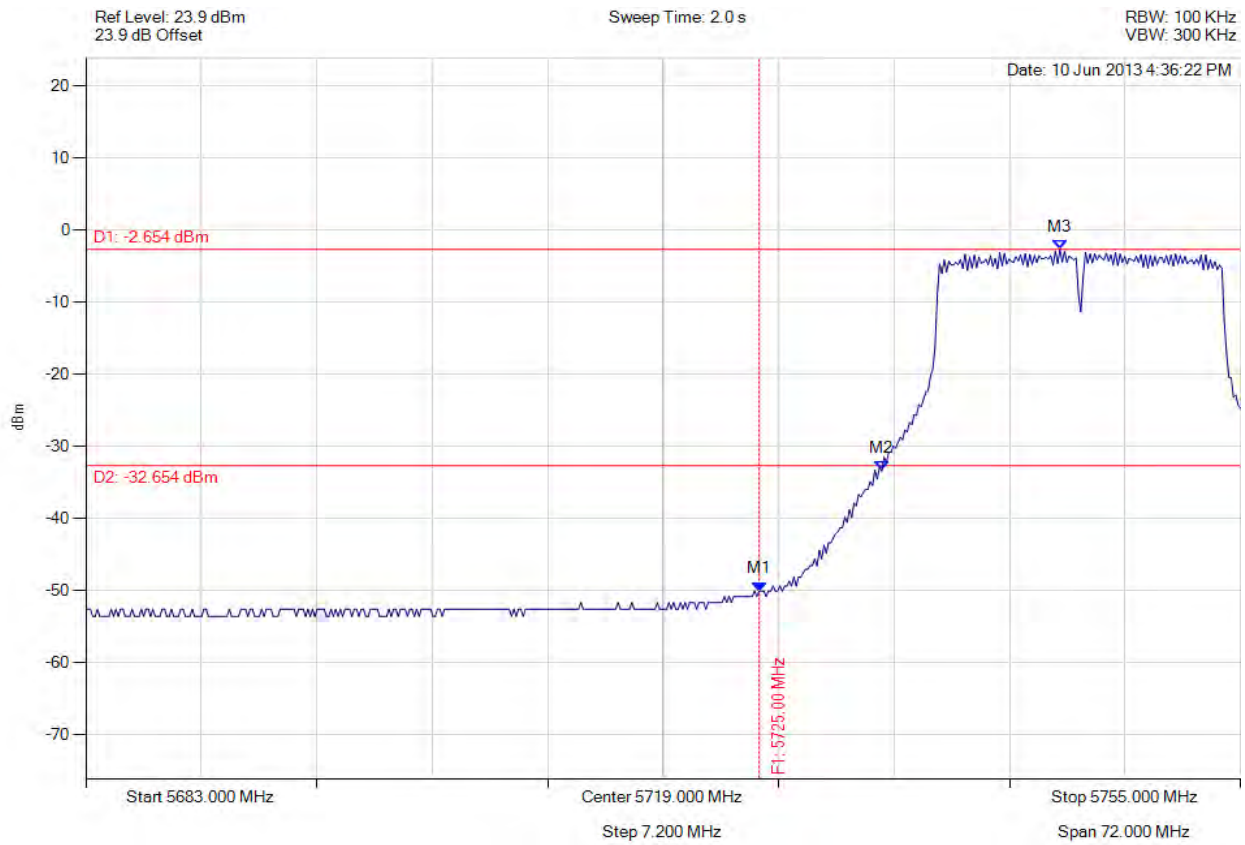


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5821.782 MHz : -1.480 dBm M2 : 5837.220 MHz : -31.711 dBm M3 : 5850.000 MHz : -54.363 dBm	Limit: -31.48 dBm Margin: -22.88 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

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

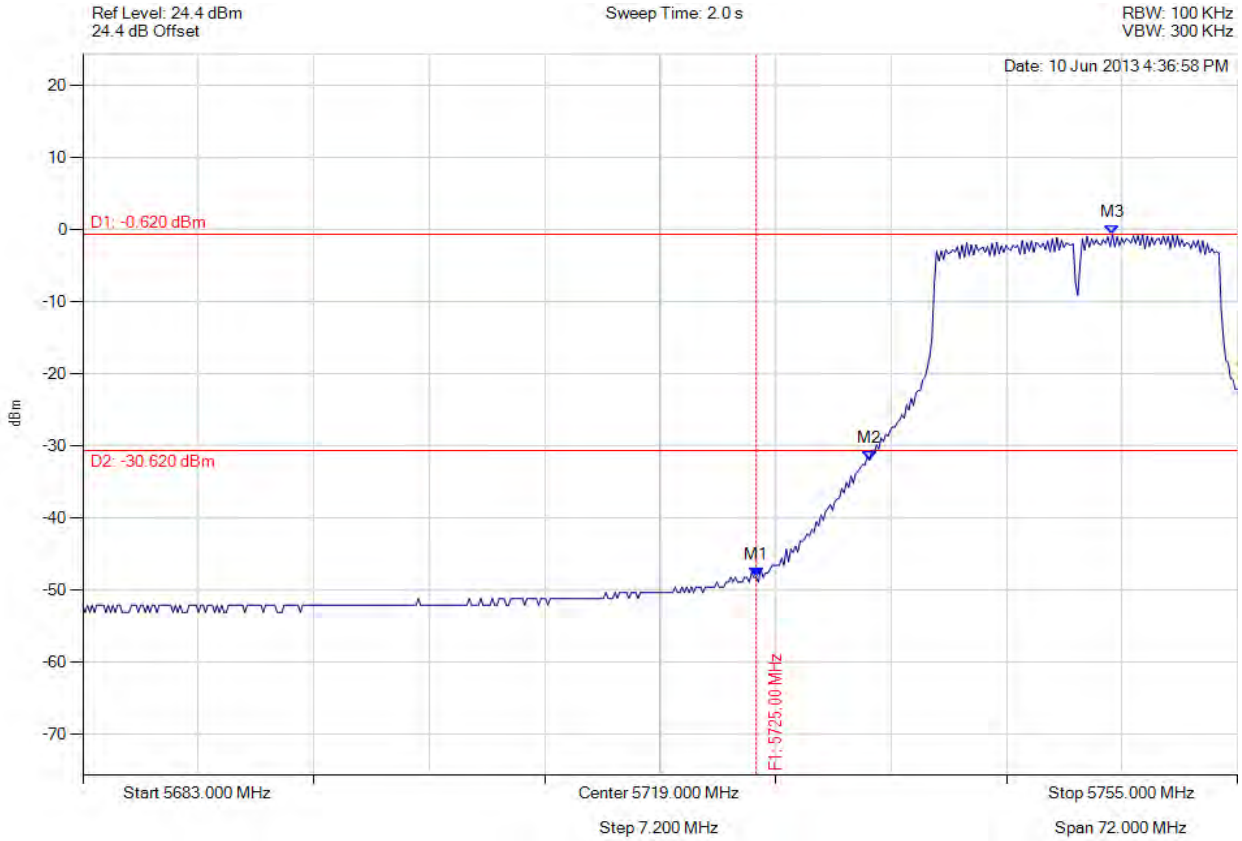


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -50.082 dBm M2 : 5732.635 MHz : -33.389 dBm M3 : 5743.745 MHz : -2.654 dBm	Limit: -32.65 dBm Margin: -17.43 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, 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 : -48.243 dBm M2 : 5732.058 MHz : -31.985 dBm M3 : 5747.208 MHz : -0.620 dBm	Limit: -30.62 dBm Margin: -17.62 dB

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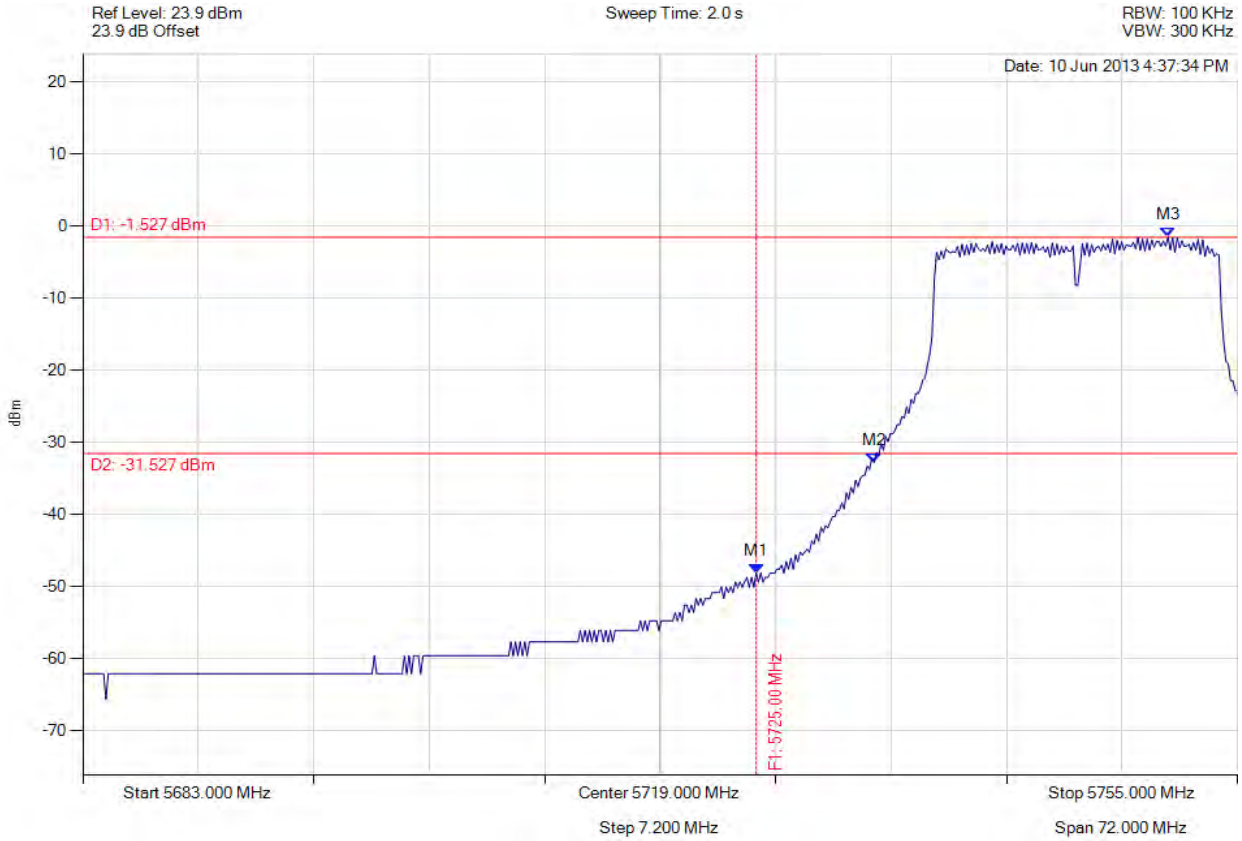
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain c, 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 : -48.144 dBm M2 : 5732.347 MHz : -32.776 dBm M3 : 5750.671 MHz : -1.527 dBm	Limit: -31.53 dBm Margin: -16.61 dB

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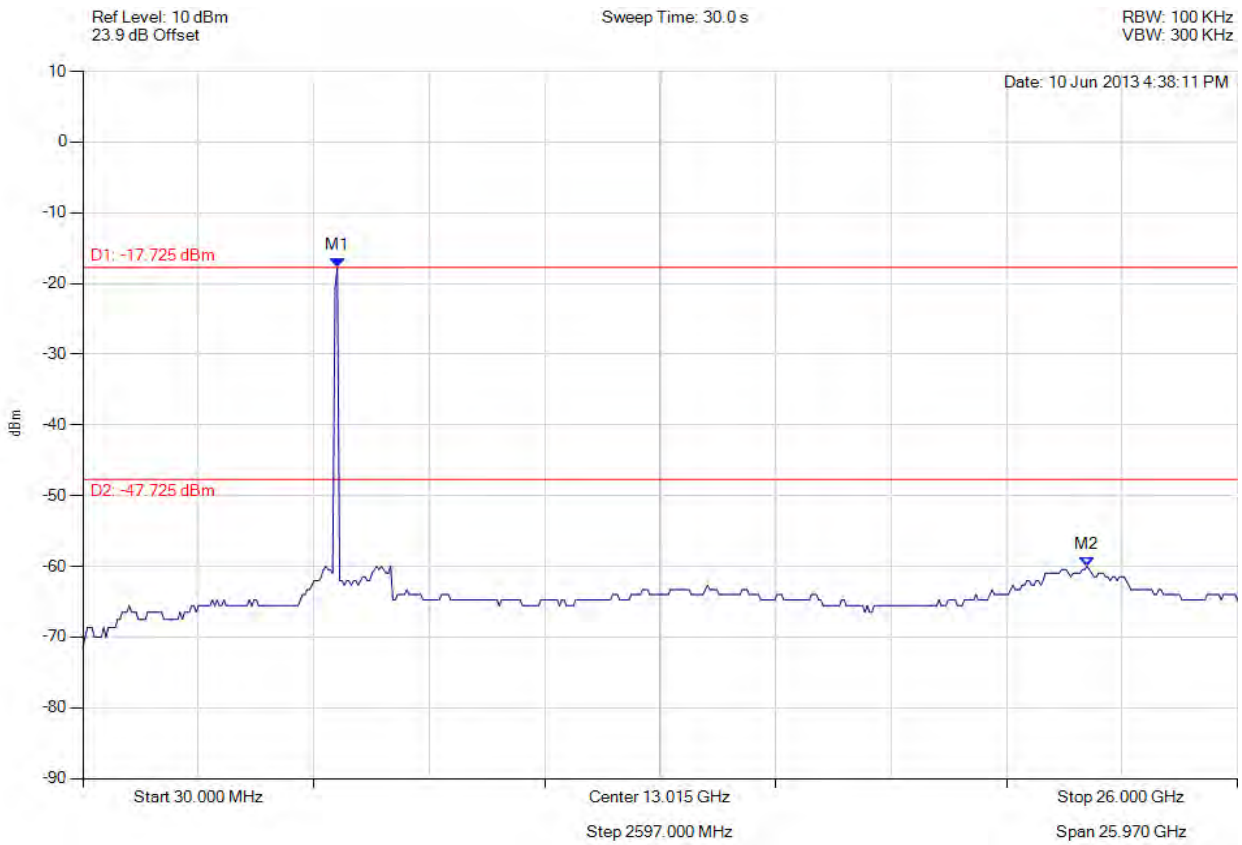
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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 : -17.725 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -47.73 dBm Margin: -12.26 dB

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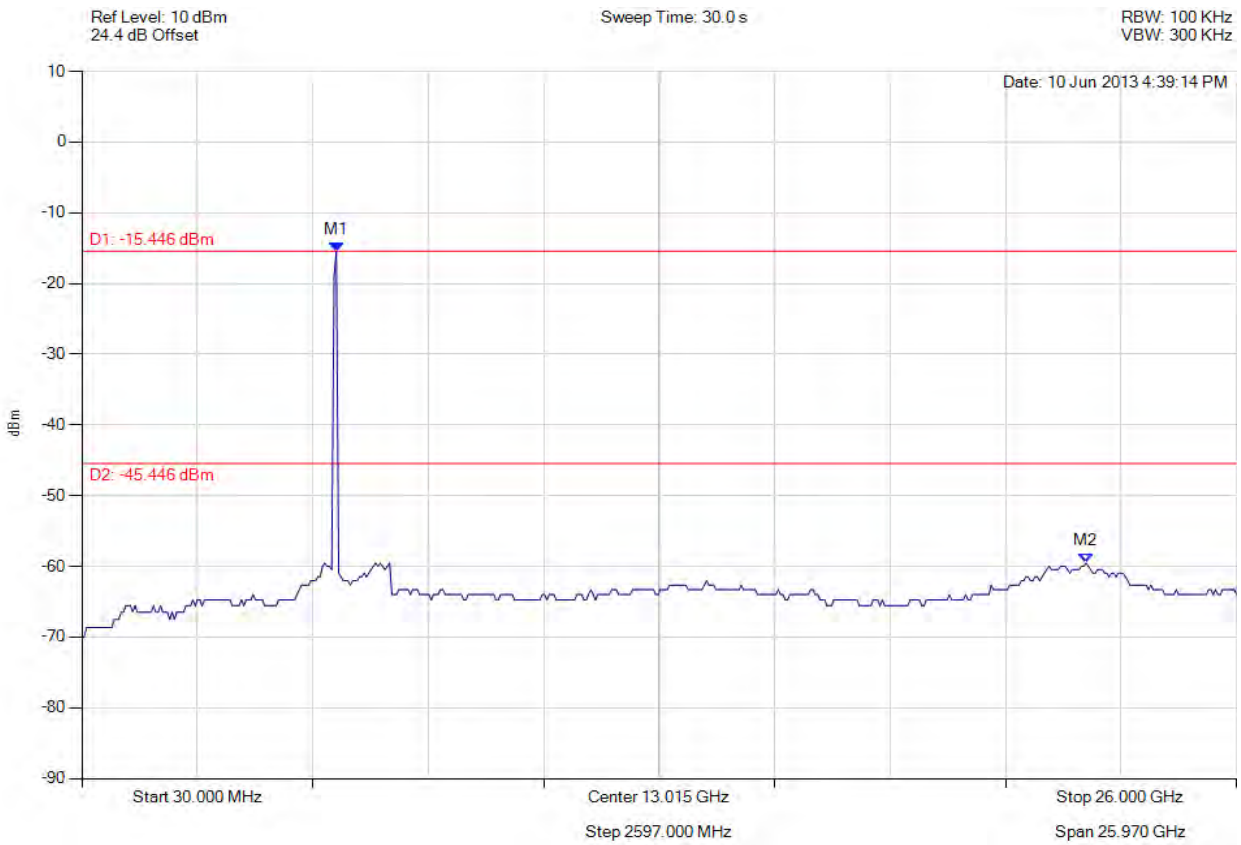
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, 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 : -15.446 dBm M2 : 22.617 GHz : -59.545 dBm	Limit: -45.45 dBm Margin: -14.09 dB

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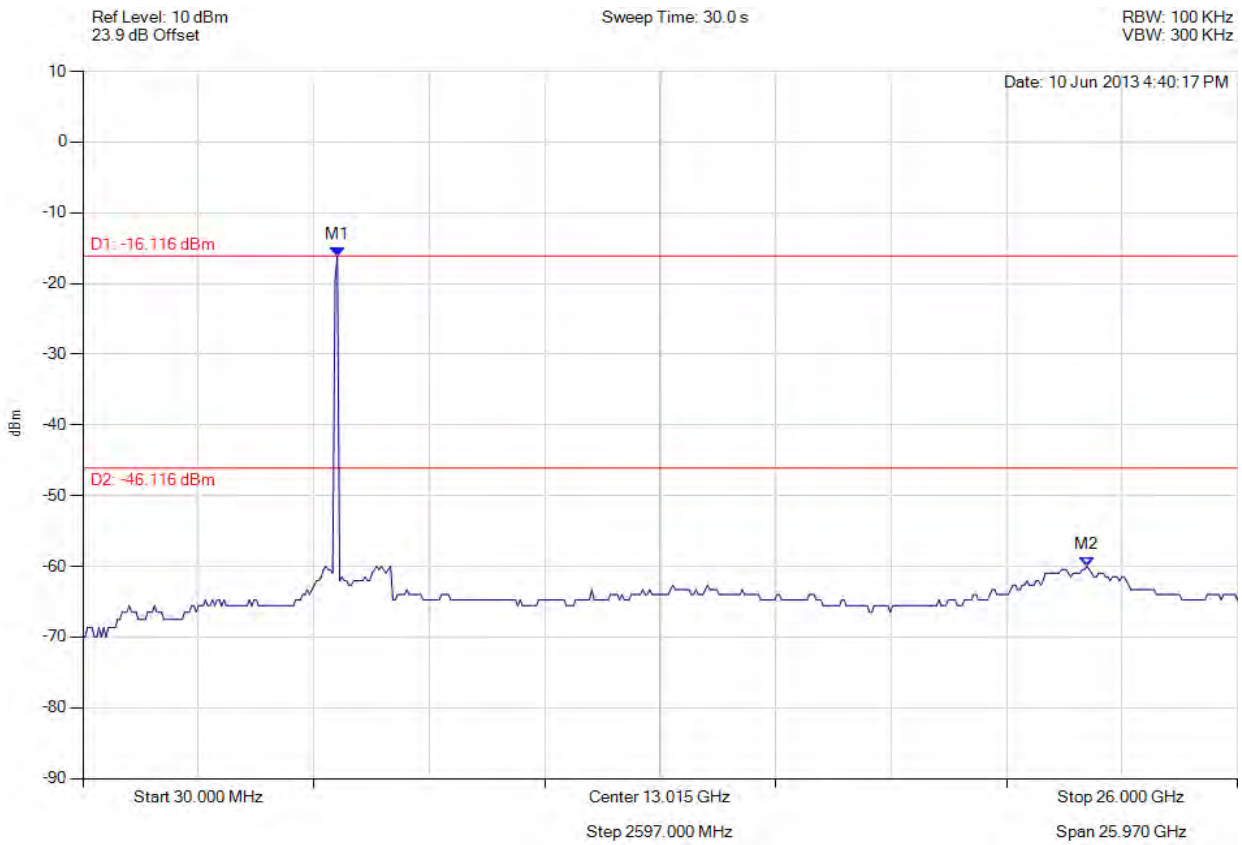
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain c, 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 : -16.116 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -46.12 dBm Margin: -13.87 dB

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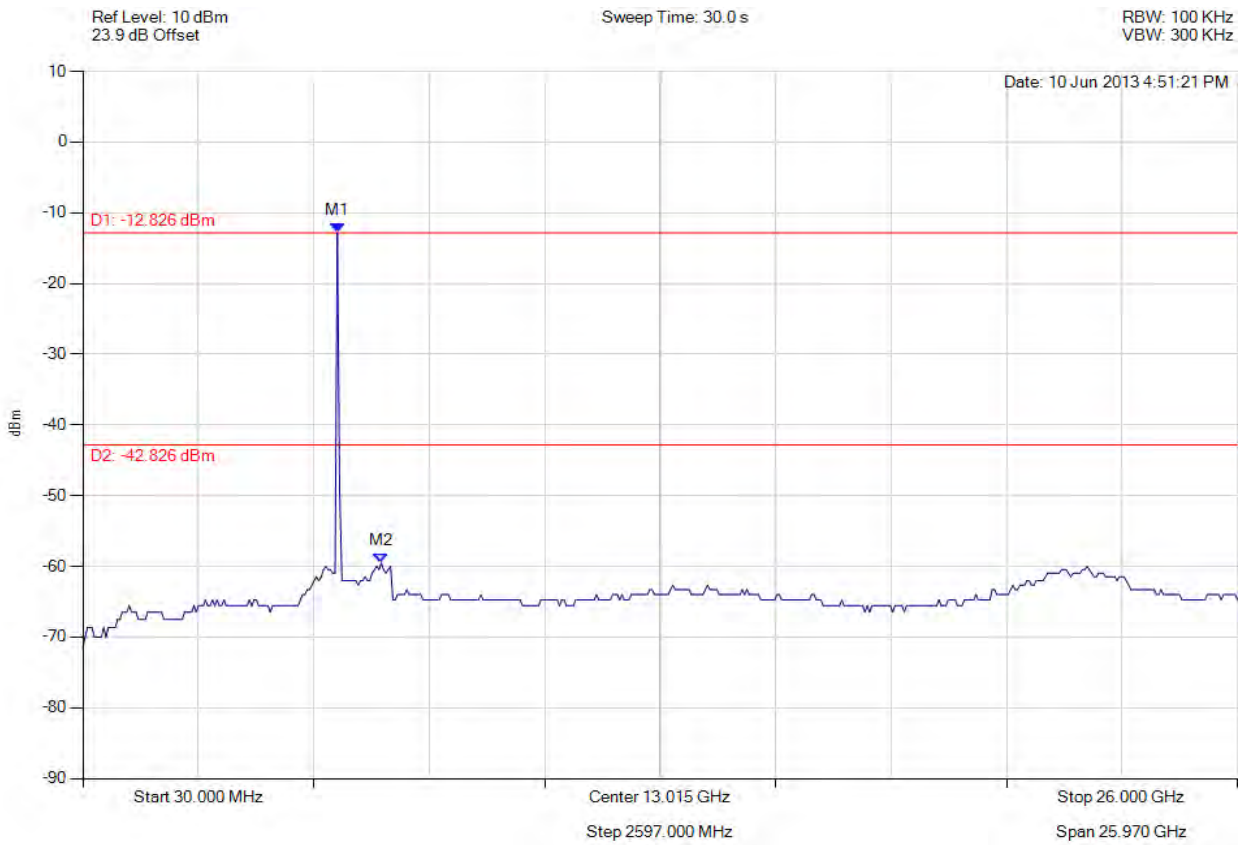
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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 : -12.826 dBm M2 : 6743.687 MHz : -59.545 dBm	Limit: -42.83 dBm Margin: -16.72 dB

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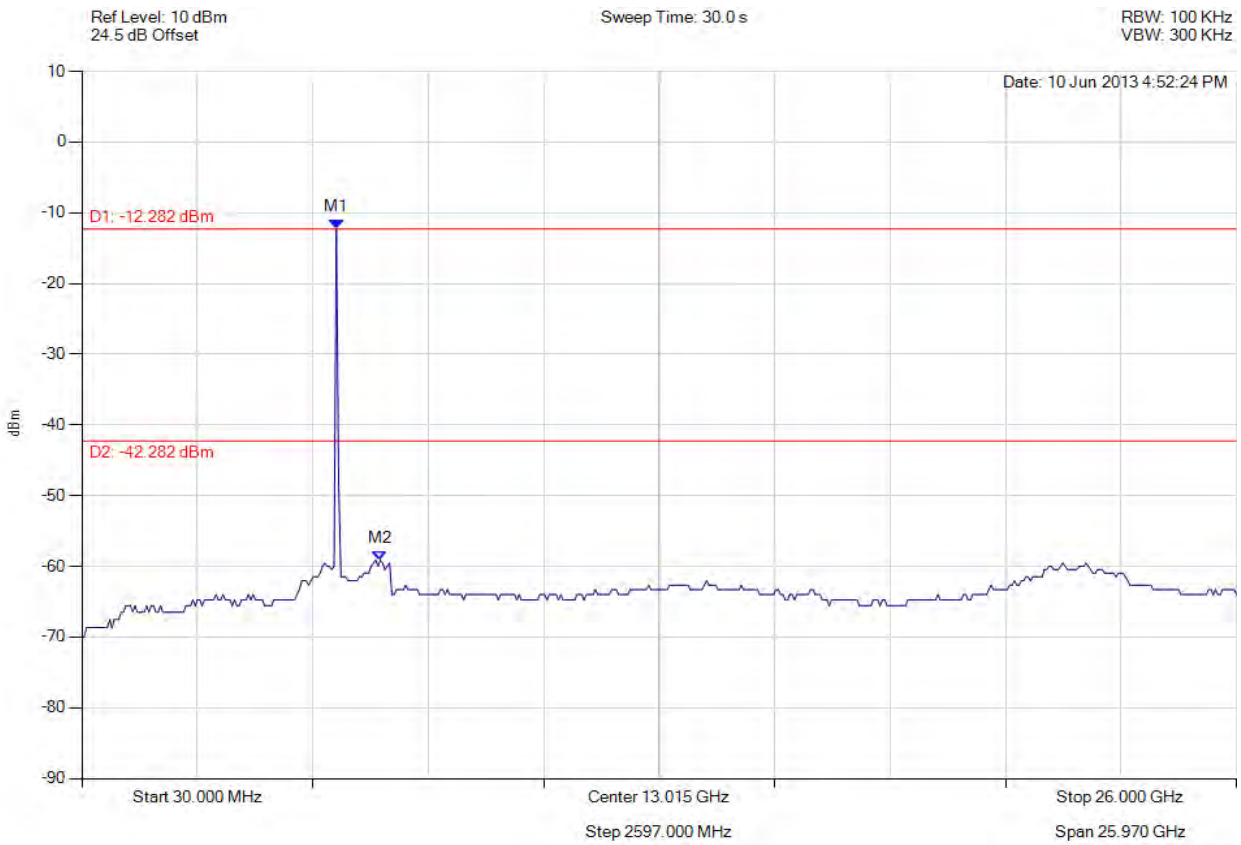
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

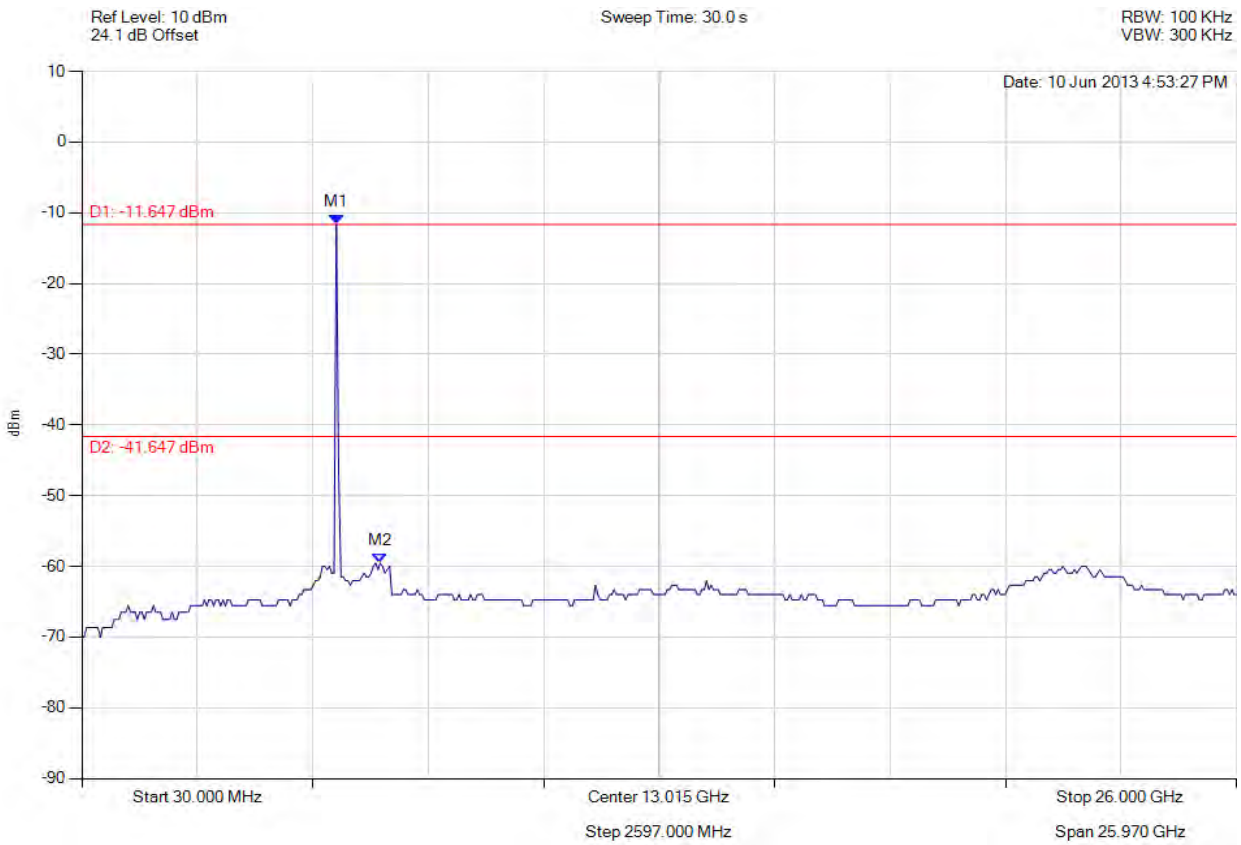


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -12.282 dBm M2 : 6743.687 MHz : -59.121 dBm	Limit: -42.28 dBm Margin: -16.84 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

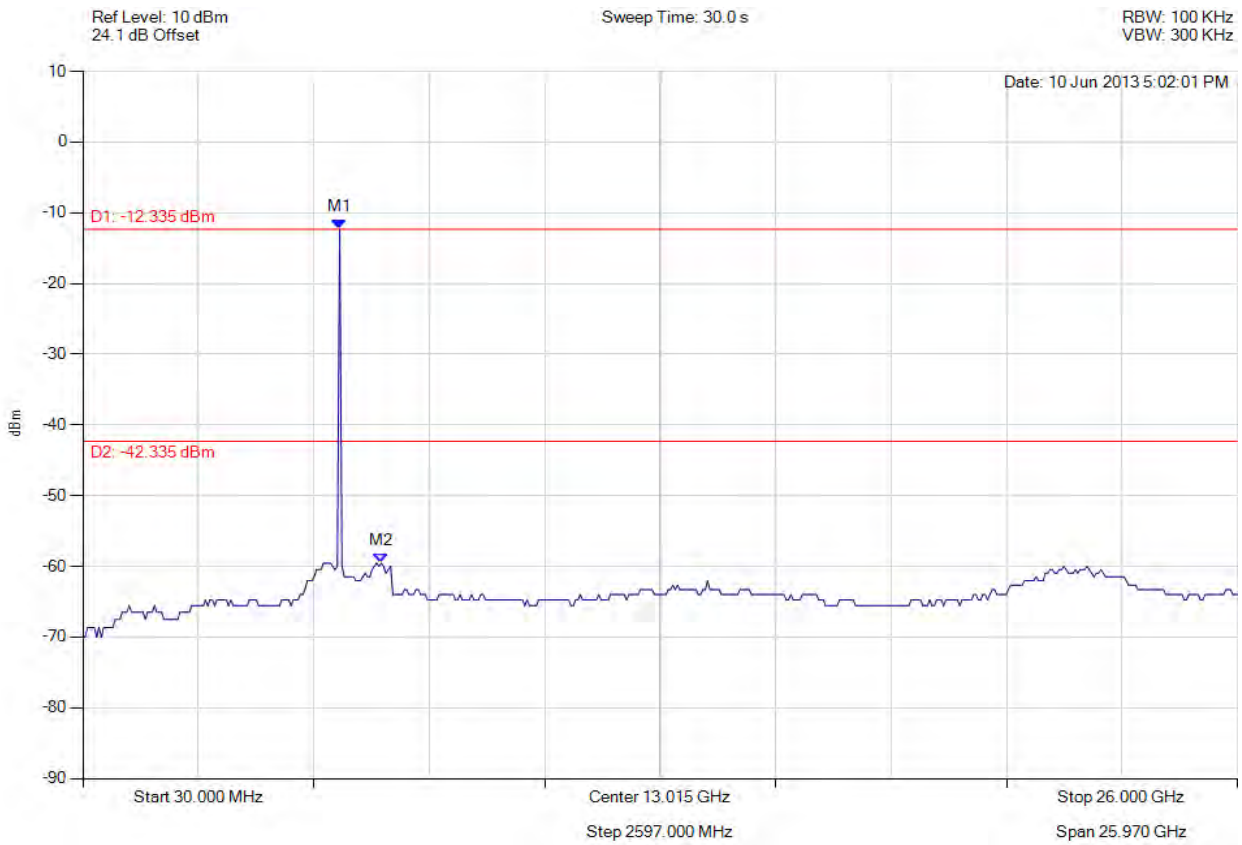


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -11.647 dBm M2 : 6743.687 MHz : -59.545 dBm	Limit: -41.65 dBm Margin: -17.90 dB

Back to the Matrix

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 : -12.335 dBm M2 : 6743.687 MHz : -59.545 dBm	Limit: -42.34 dBm Margin: -17.20 dB

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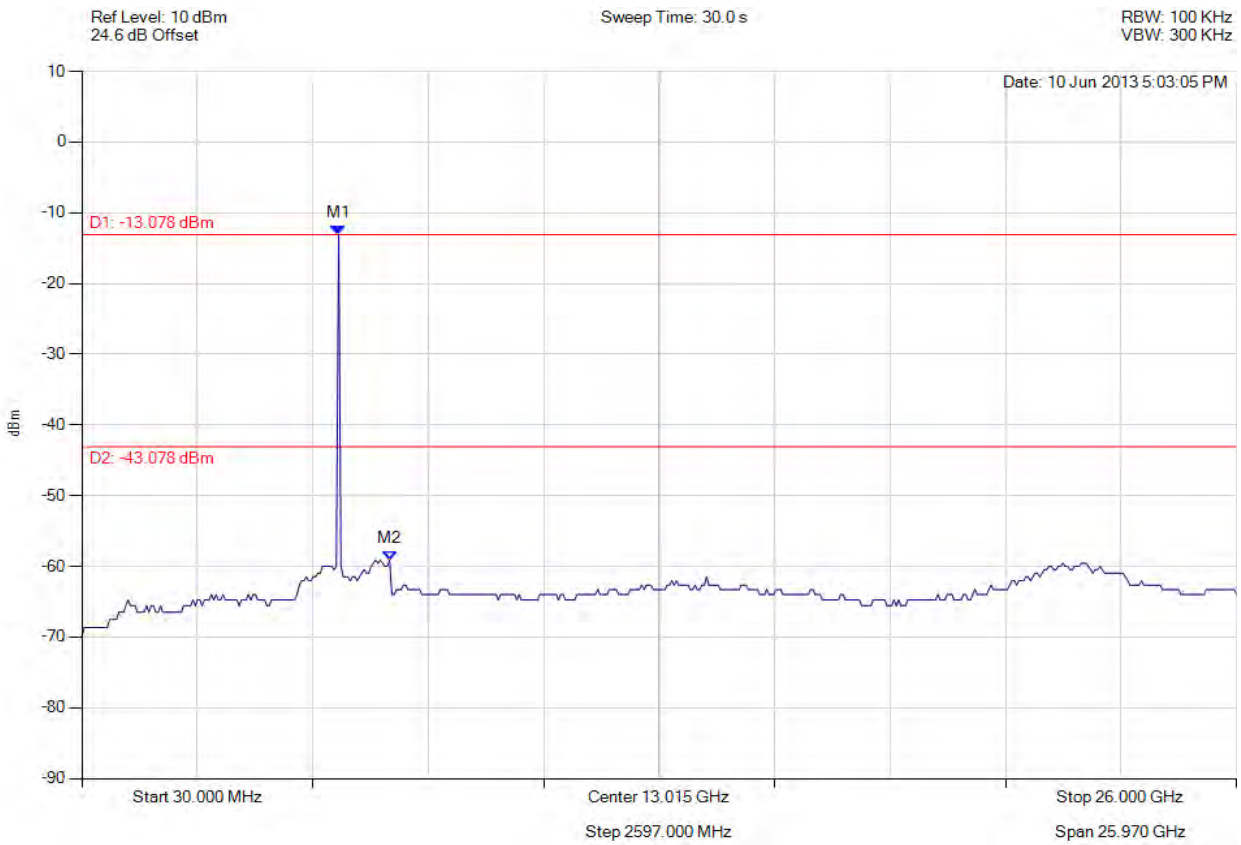
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, 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 : -13.078 dBm M2 : 6951.864 MHz : -59.121 dBm	Limit: -43.08 dBm Margin: -16.04 dB

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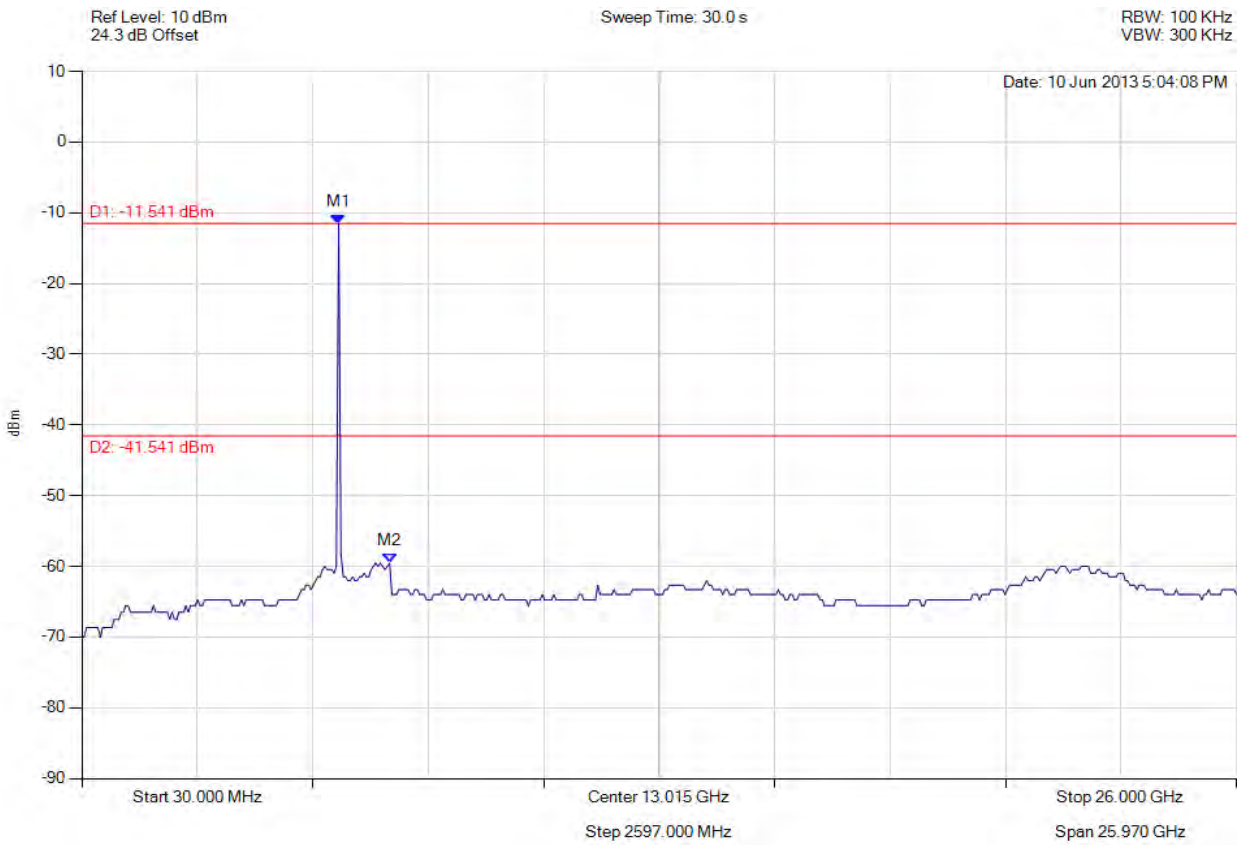
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain c, 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 : -11.541 dBm M2 : 6951.864 MHz : -59.545 dBm	Limit: -41.54 dBm Margin: -18.01 dB

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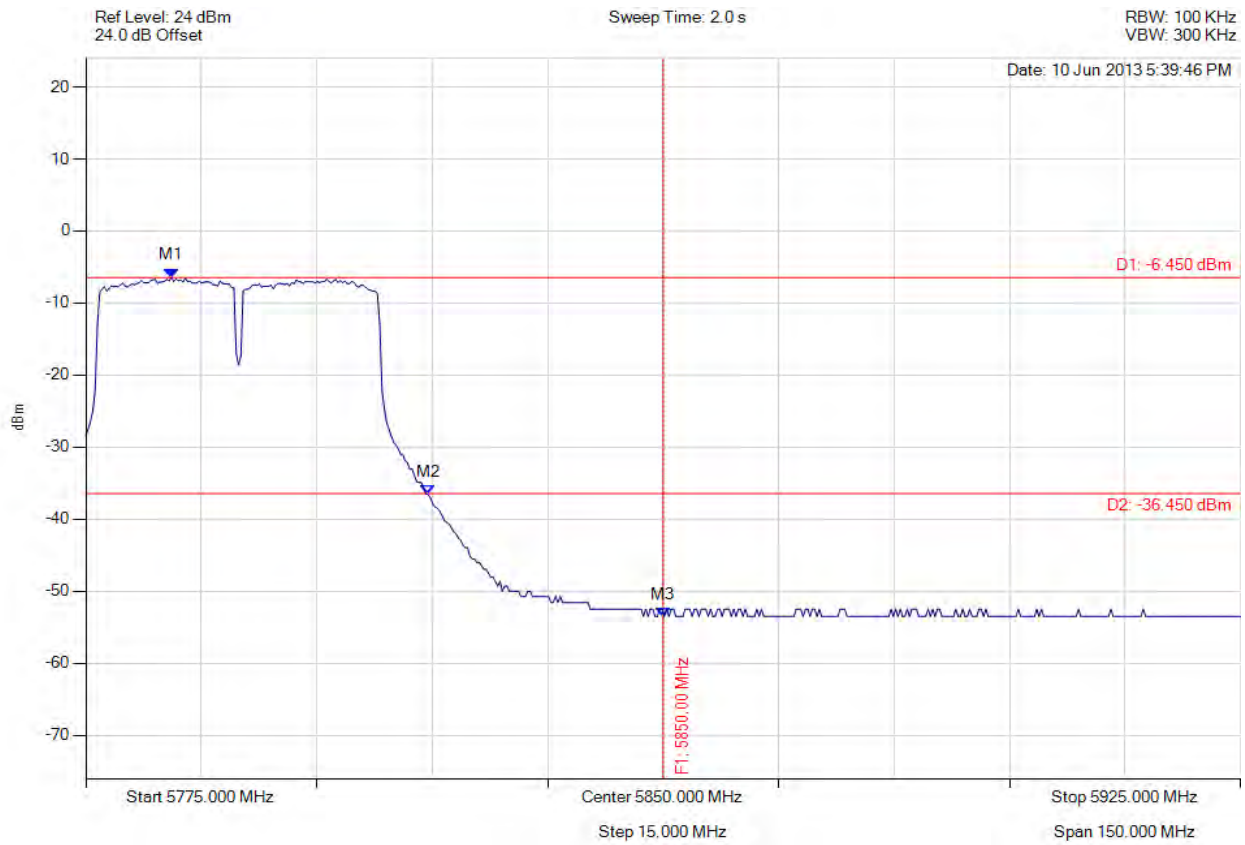
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

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

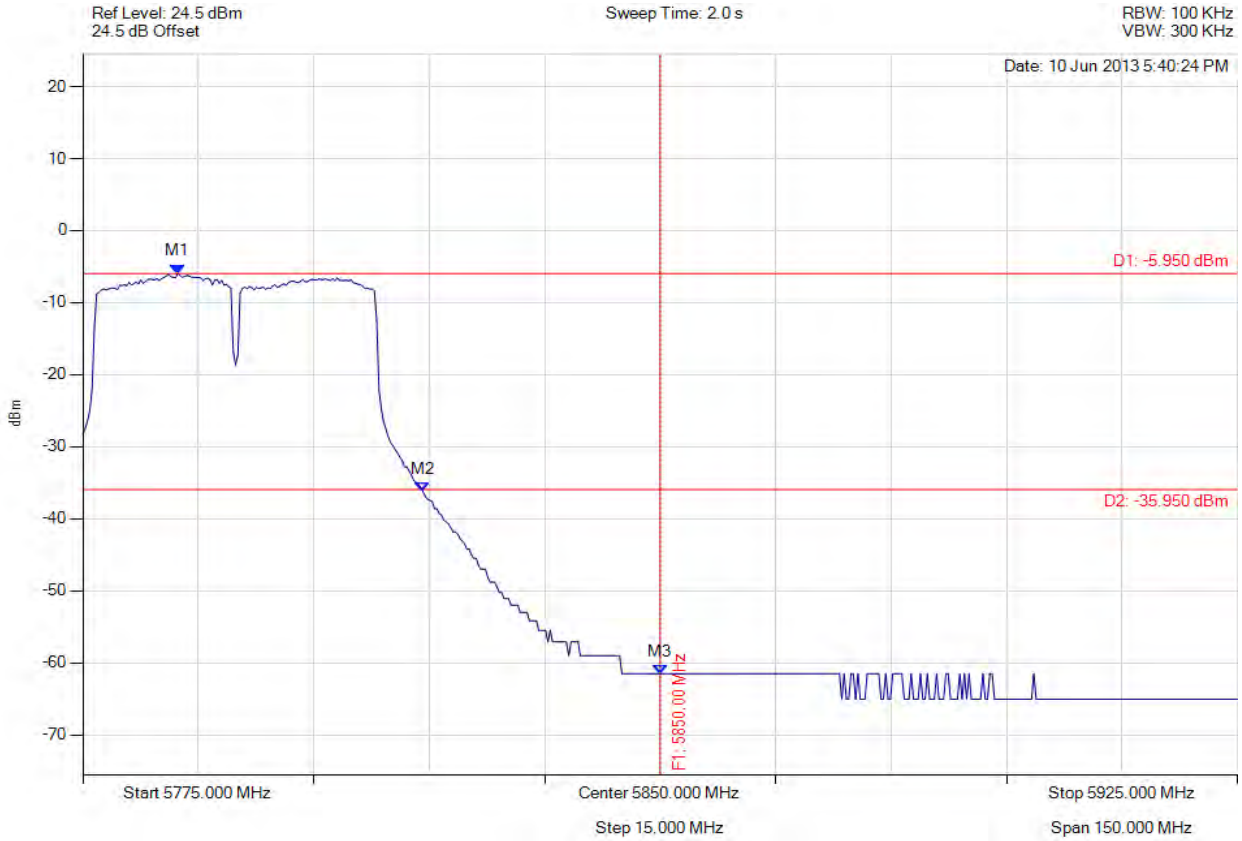


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.122 MHz : -6.450 dBm M2 : 5819.489 MHz : -36.602 dBm M3 : 5850.000 MHz : -53.504 dBm	Limit: -36.45 dBm Margin: 30.00 dB

Back to the Matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, 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 : 5787.325 MHz : -5.950 dBm M2 : 5819.188 MHz : -36.258 dBm M3 : 5850.000 MHz : -61.523 dBm	Limit: -35.95 dBm Margin: 30.00 dB

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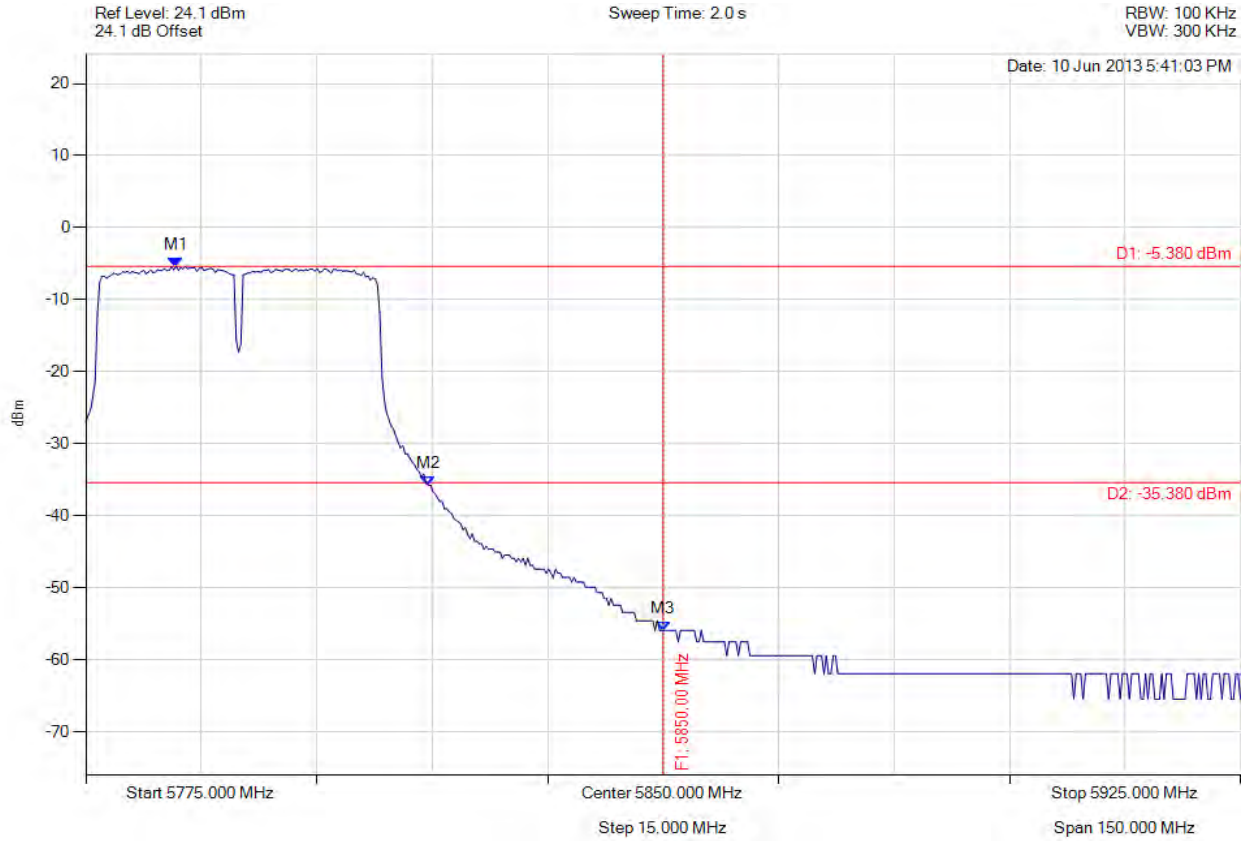
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain c, 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 : 5786.723 MHz : -5.380 dBm M2 : 5819.489 MHz : -35.759 dBm M3 : 5850.000 MHz : -55.902 dBm	Limit: -35.38 dBm Margin: 30.00 dB

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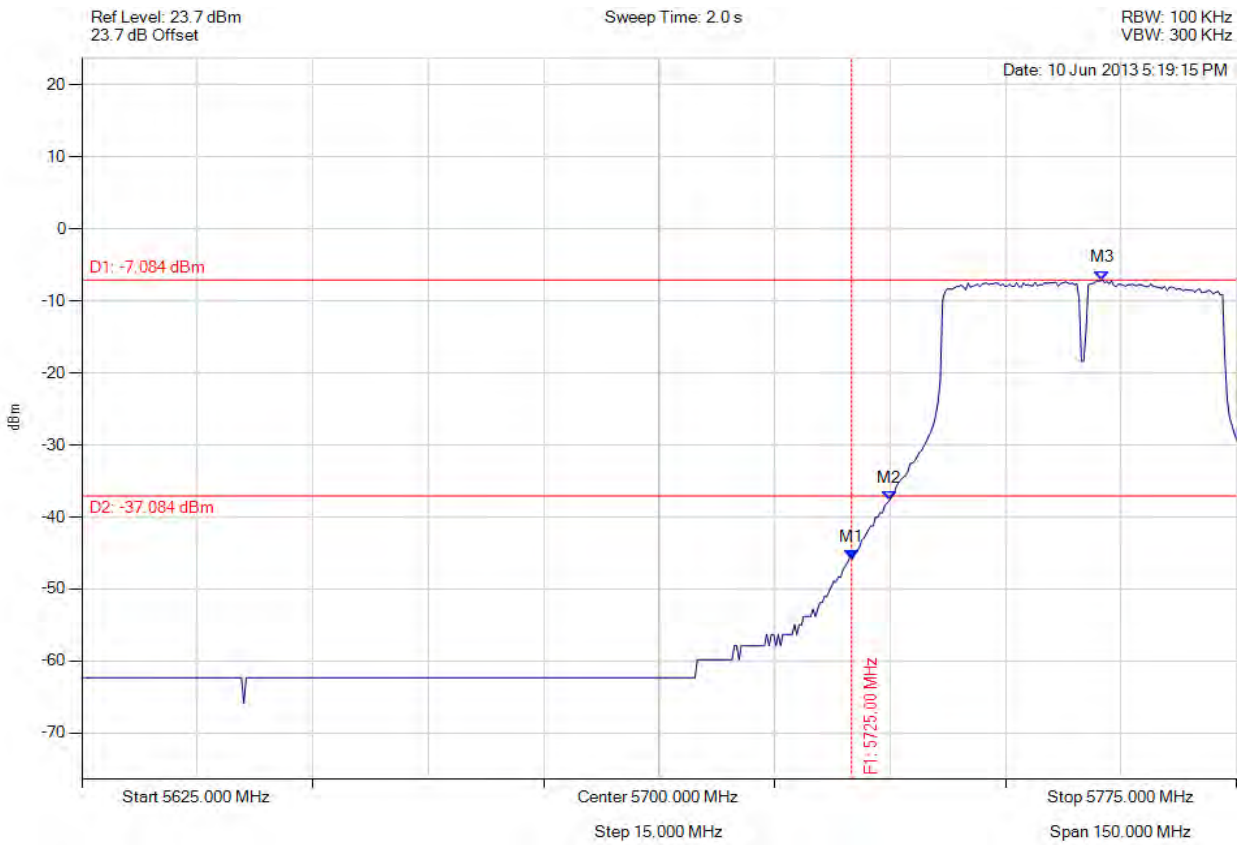
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

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 : -45.845 dBm M2 : 5729.910 MHz : -37.714 dBm M3 : 5757.565 MHz : -7.084 dBm	Limit: -37.08 dBm Margin: -8.77 dB

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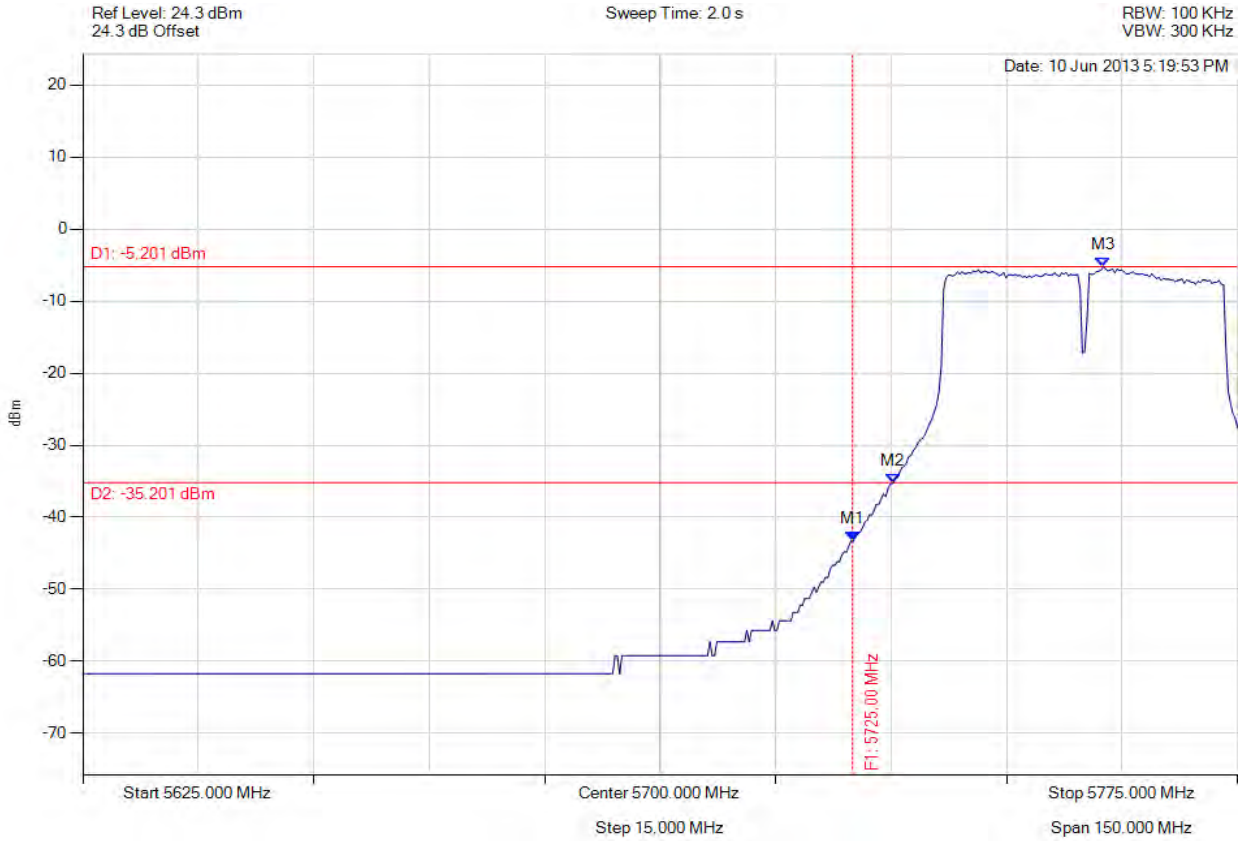
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

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

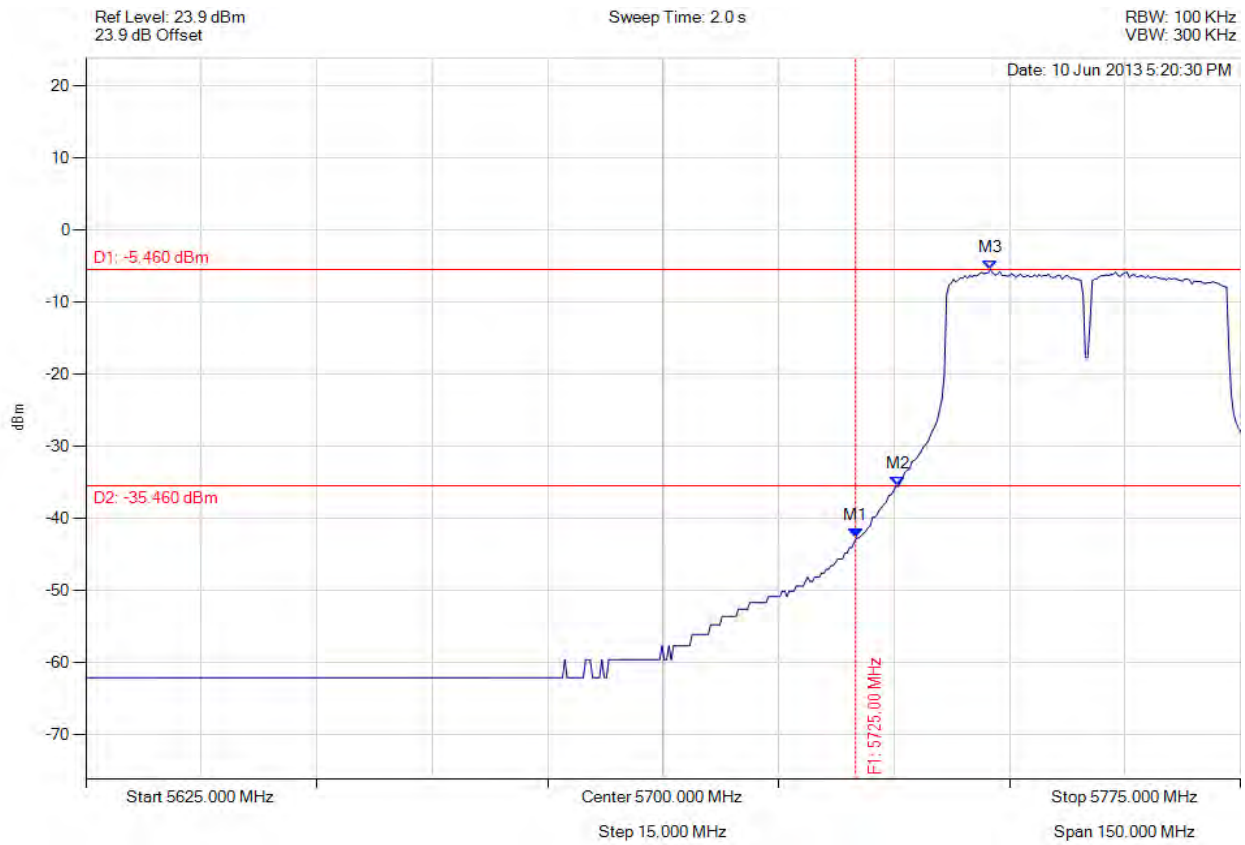


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5725.000 MHz : -43.307 dBm M2 : 5730.210 MHz : -35.279 dBm M3 : 5757.565 MHz : -5.201 dBm	Limit: -35.20 dBm Margin: -8.11 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

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

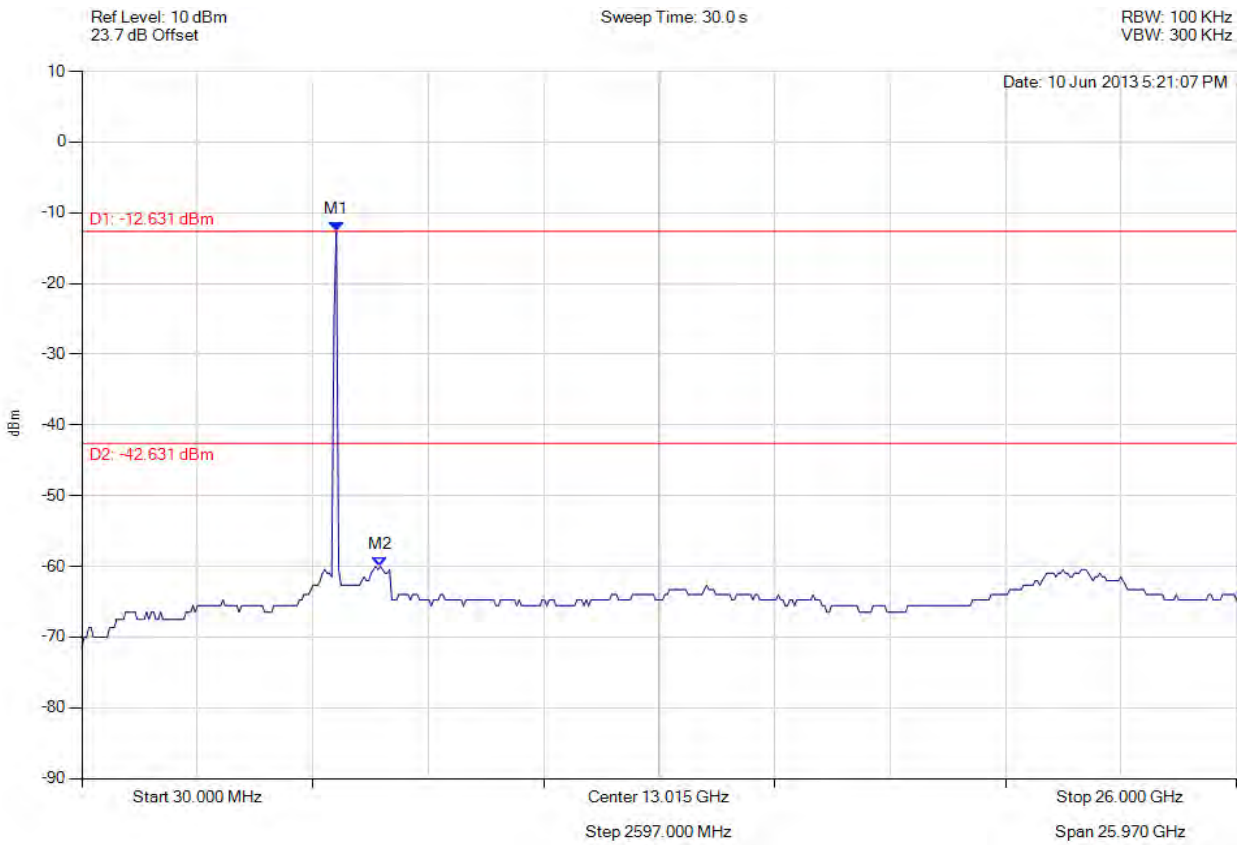


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5725.000 MHz : -42.722 dBm M2 : 5730.511 MHz : -35.542 dBm M3 : 5742.535 MHz : -5.460 dBm	Limit: -35.46 dBm Margin: -7.26 dB

Back to the Matrix

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 : -12.631 dBm M2 : 6743.687 MHz : -59.990 dBm	Limit: -42.63 dBm Margin: -17.36 dB

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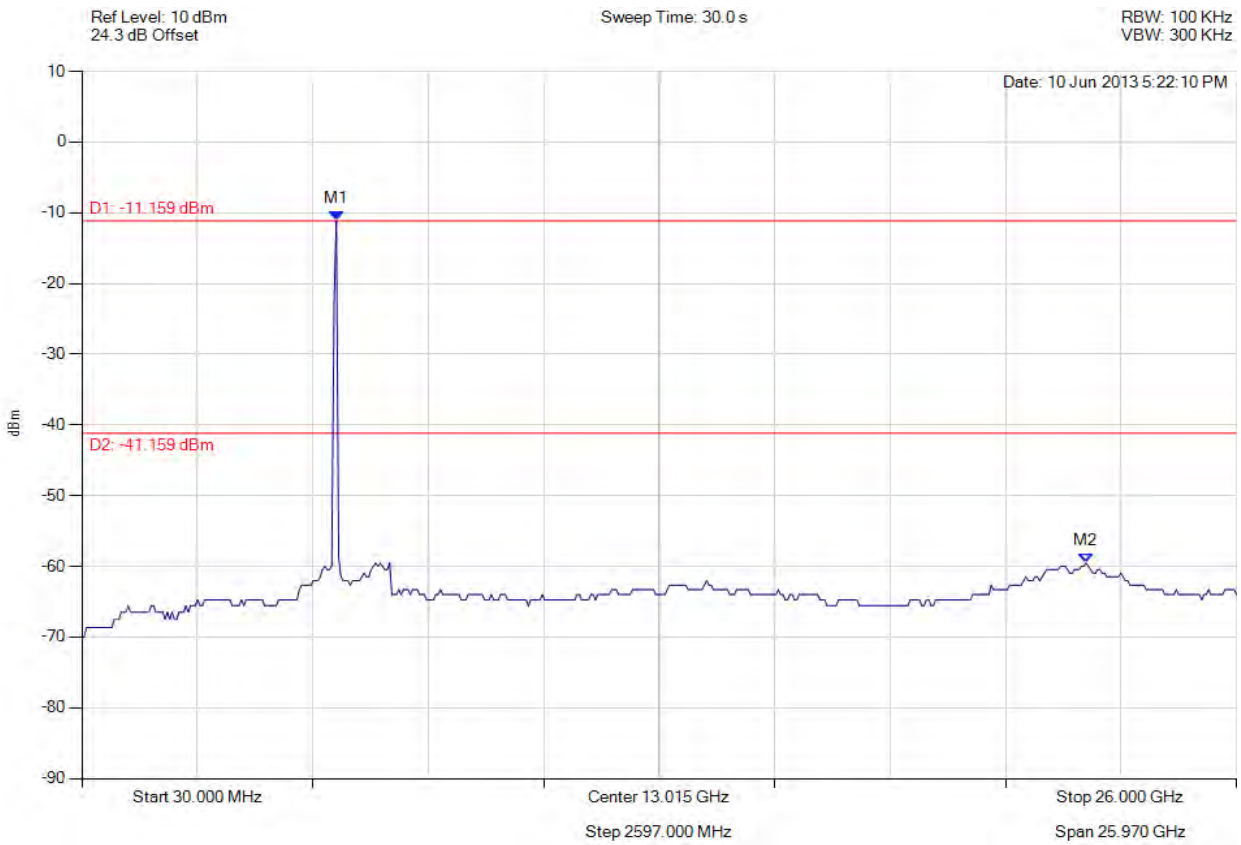
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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

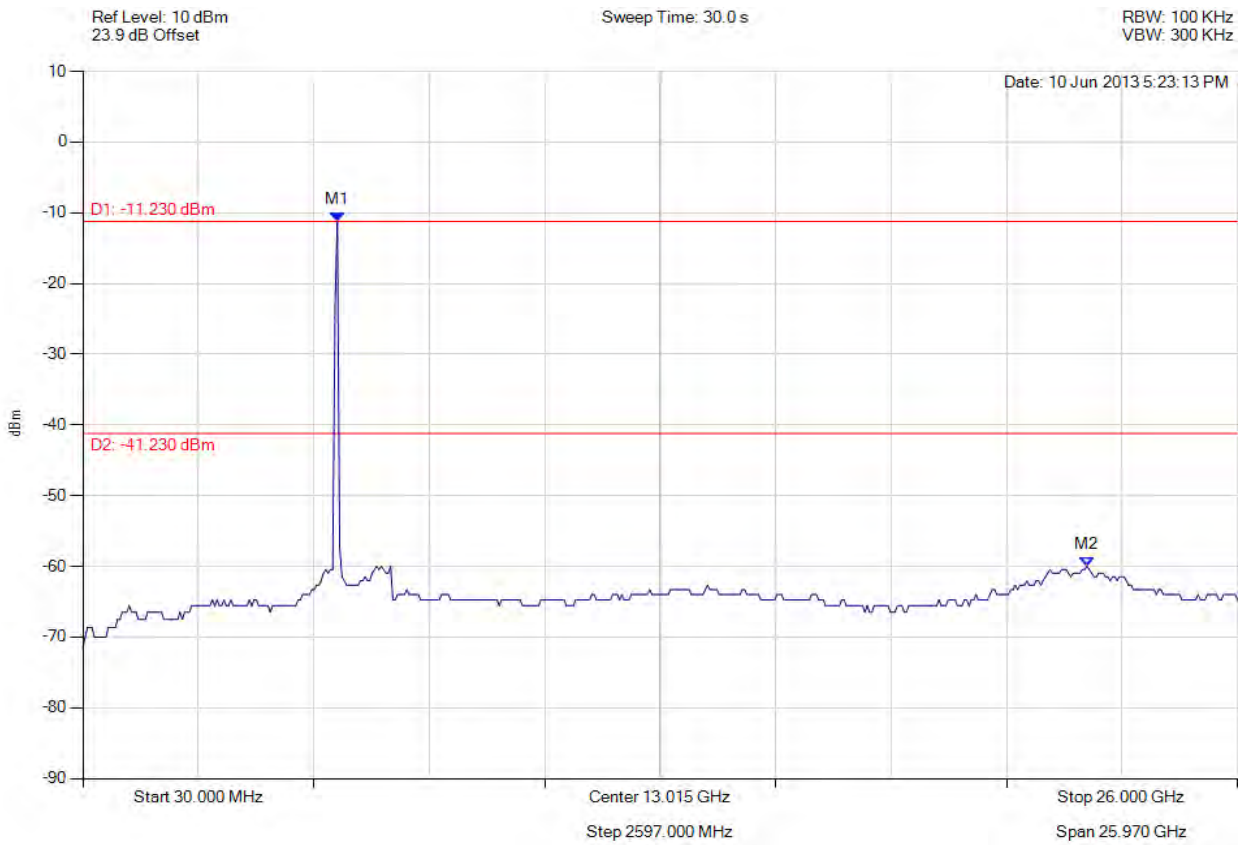


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -11.159 dBm M2 : 22.617 GHz : -59.545 dBm	Limit: -41.16 dBm Margin: -18.39 dB

Back to the Matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain c, 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 : -11.230 dBm M2 : 22.617 GHz : -59.990 dBm	Limit: -41.23 dBm Margin: -18.76 dB

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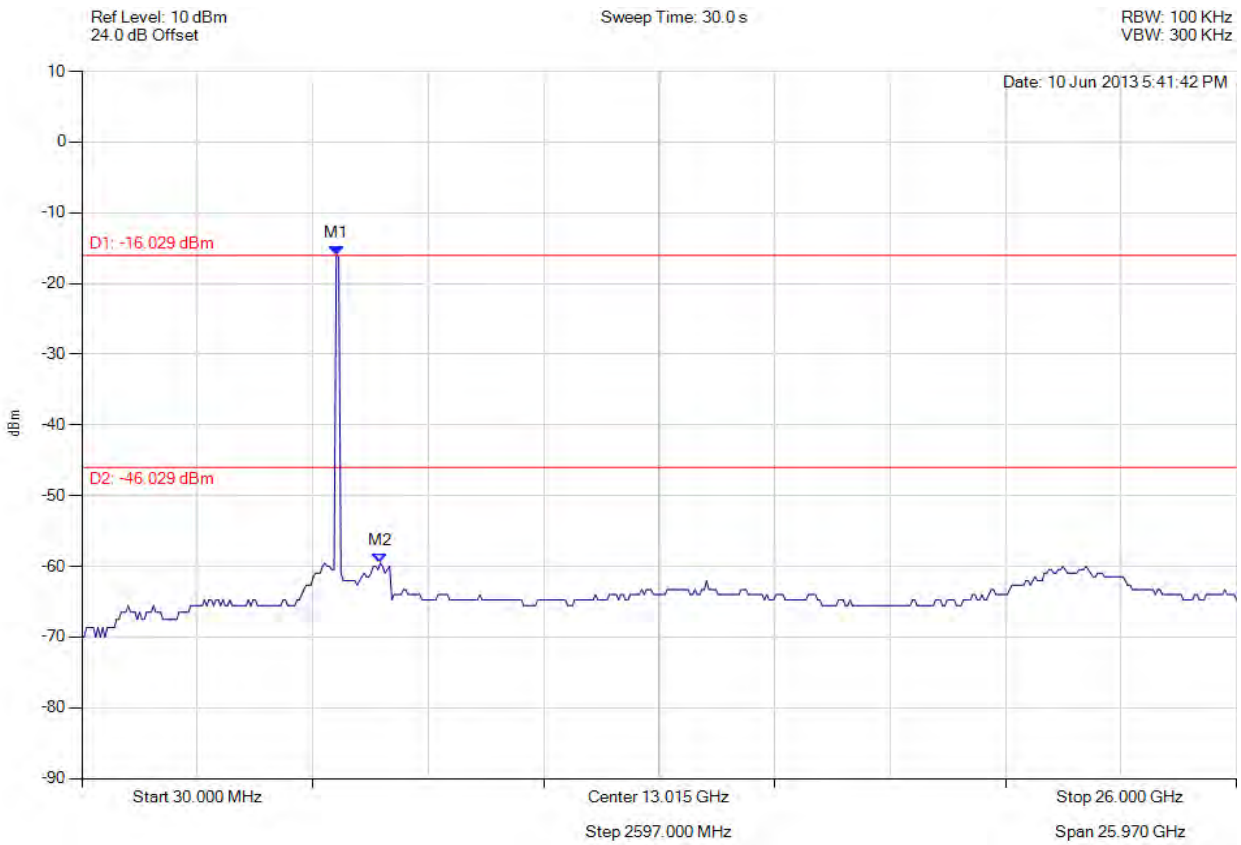
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

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 : 5754.850 MHz : -16.029 dBm M2 : 6743.687 MHz : -59.545 dBm	Limit: -46.03 dBm Margin: -13.52 dB

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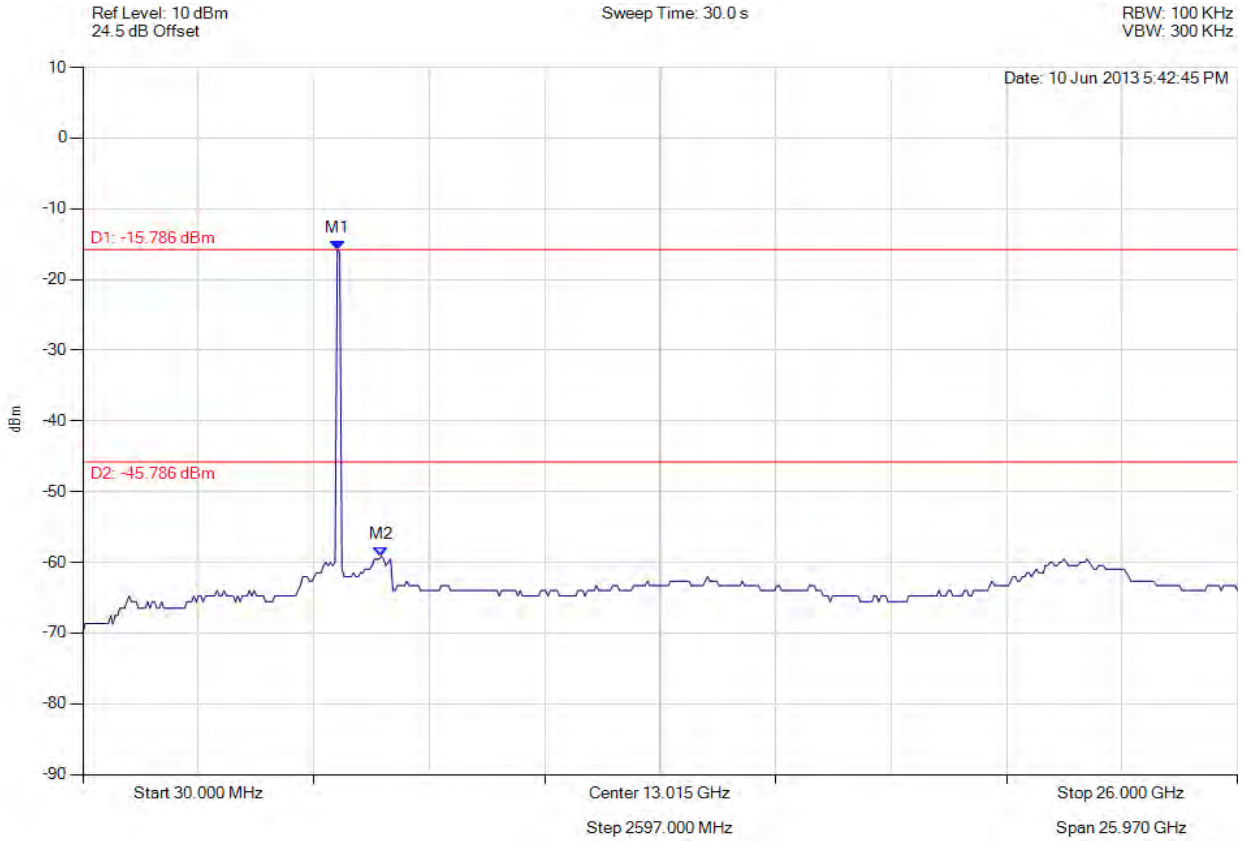
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, 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 : -15.786 dBm M2 : 6743.687 MHz : -59.121 dBm	Limit: -45.79 dBm Margin: -13.33 dB

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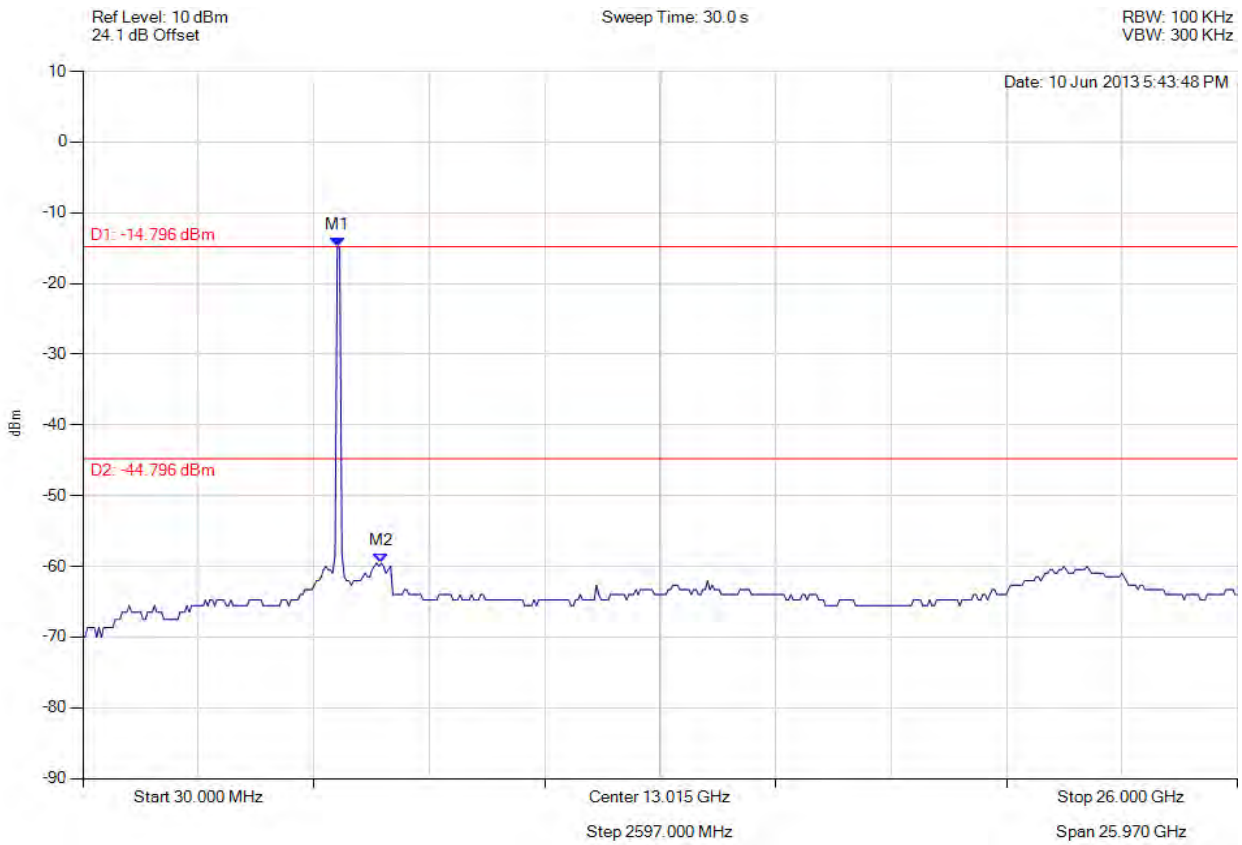
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain c, 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 : -14.796 dBm M2 : 6743.687 MHz : -59.545 dBm	Limit: -44.80 dBm Margin: -14.75 dB

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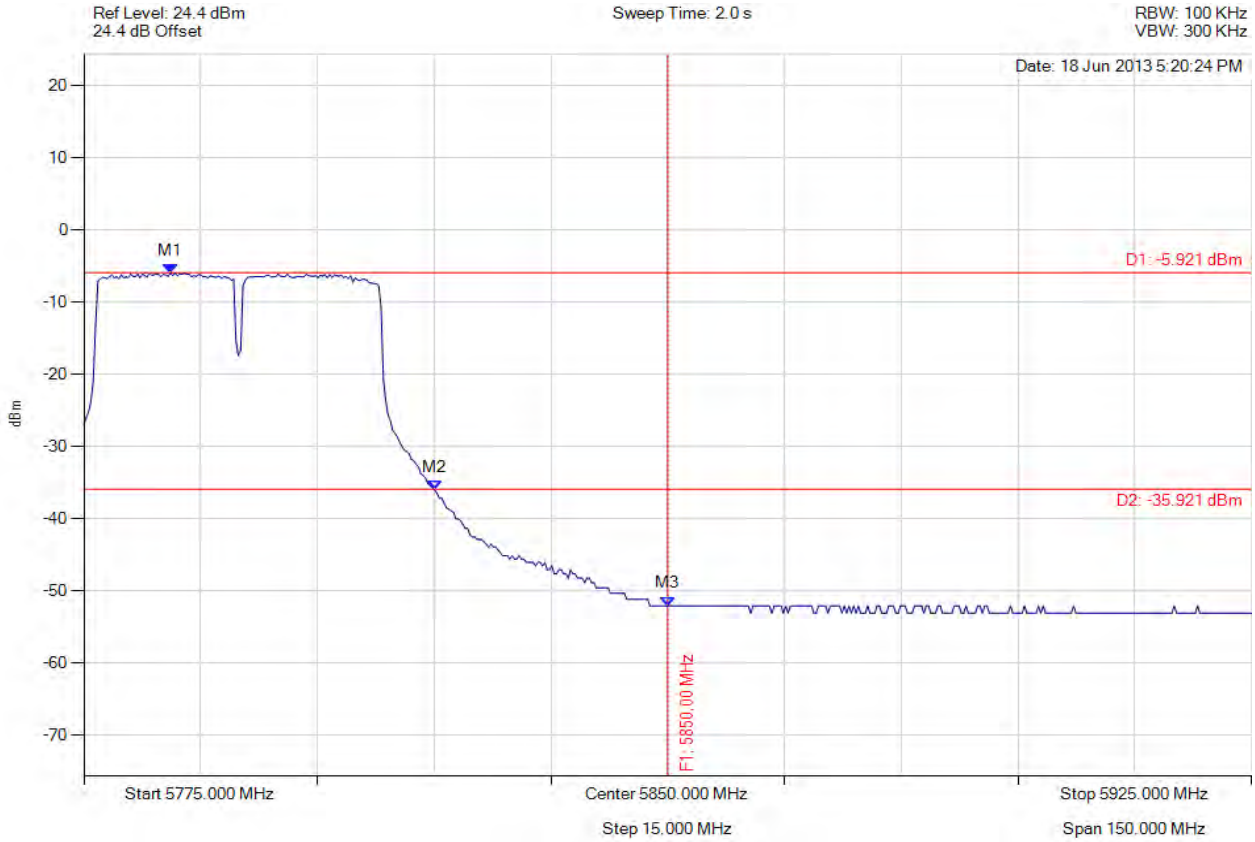
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

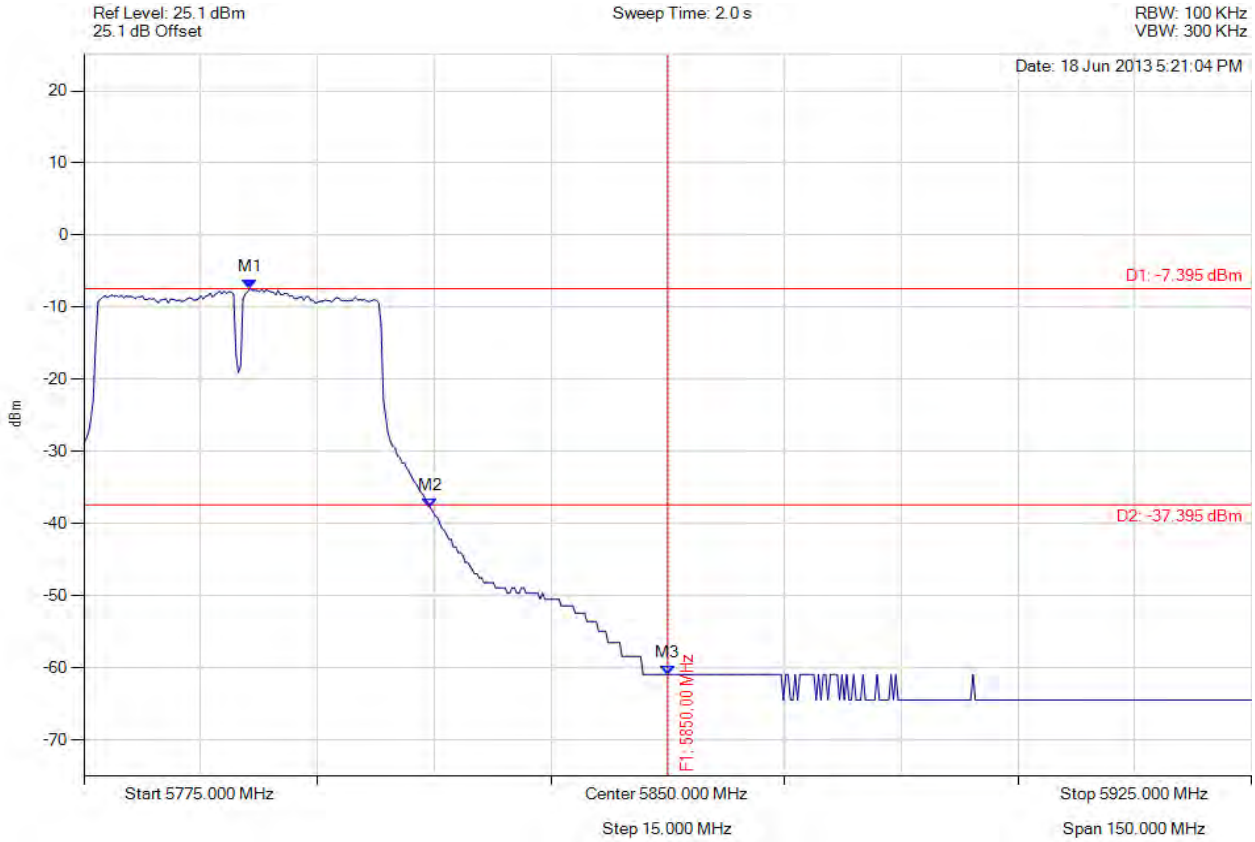


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.122 MHz : -5.921 dBm M2 : 5820.090 MHz : -36.048 dBm M3 : 5850.000 MHz : -52.080 dBm	Limit: -35.92 dBm Margin: -16.16 dB

Back to the Matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5796.343 MHz : -7.395 dBm M2 : 5819.489 MHz : -37.796 dBm M3 : 5850.000 MHz : -60.923 dBm	Limit: -37.40 dBm Margin: -23.52 dB

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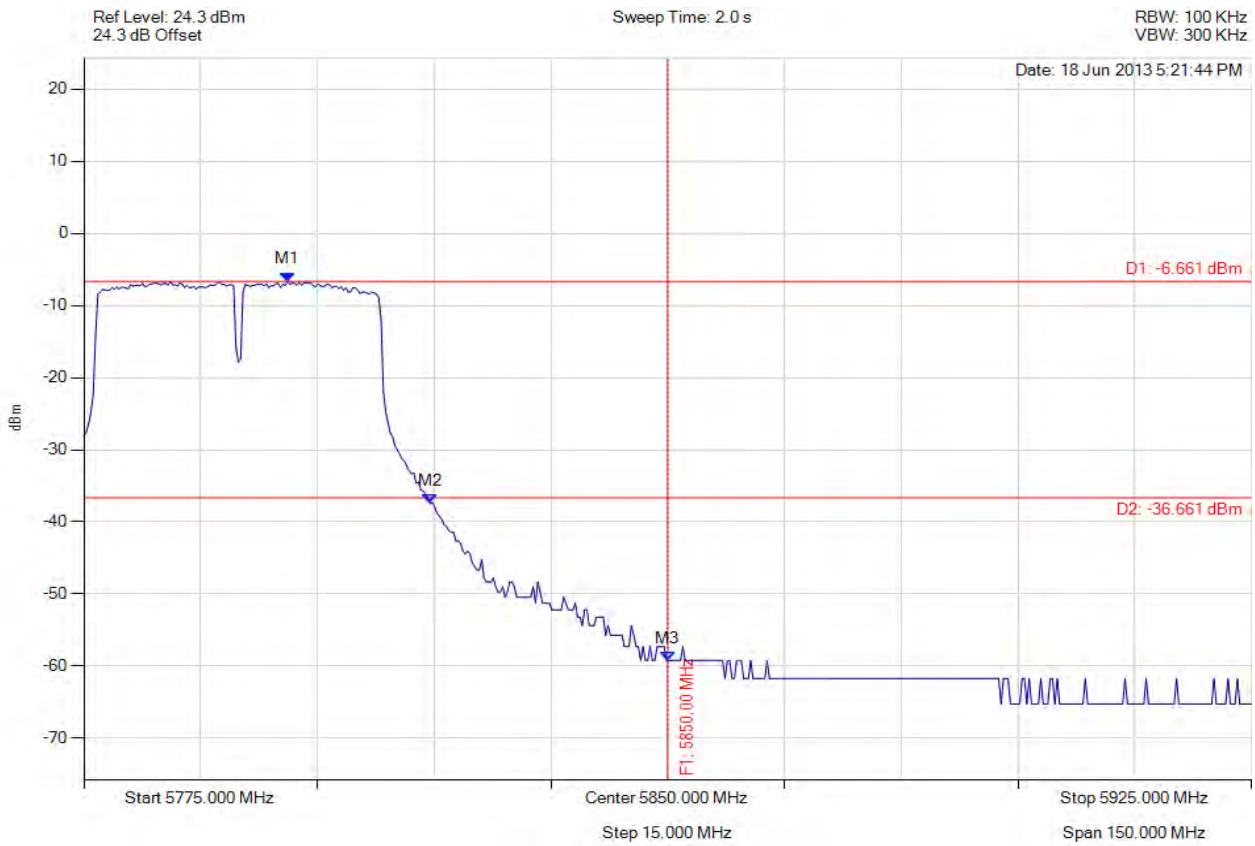
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc

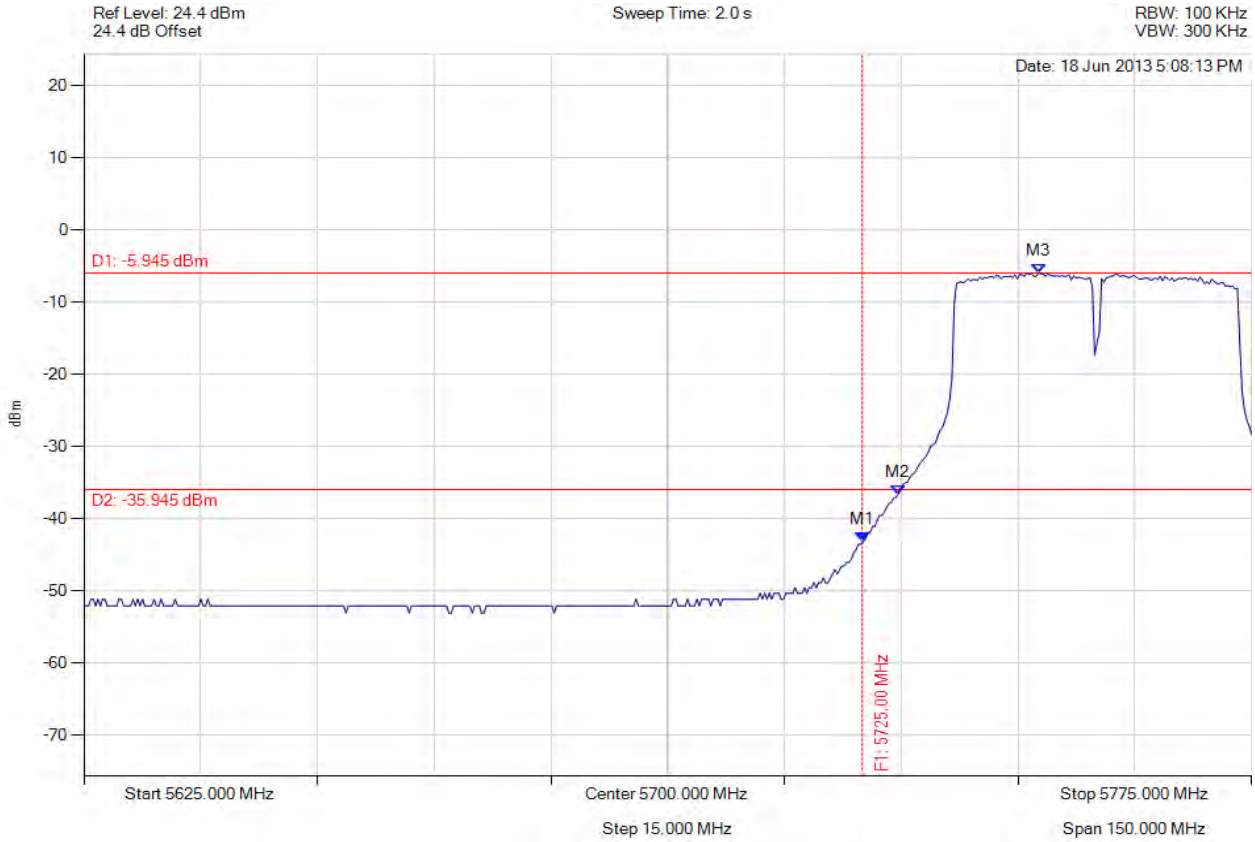


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5801.152 MHz : -6.661 dBm M2 : 5819.489 MHz : -37.461 dBm M3 : 5850.000 MHz : -59.224 dBm	Limit: -36.66 dBm Margin: -22.56 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc

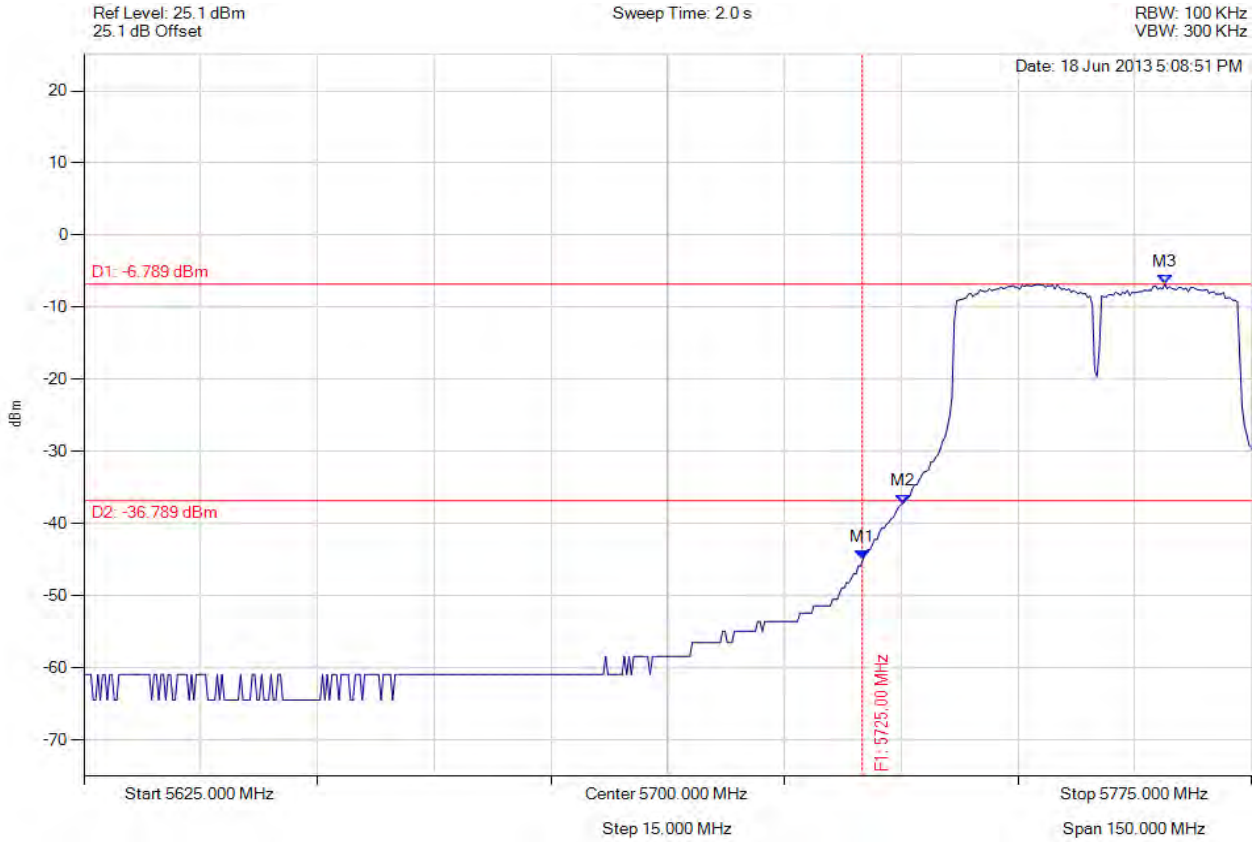


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -43.207 dBm M2 : 5729.609 MHz : -36.680 dBm M3 : 5747.645 MHz : -5.945 dBm	Limit: -35.95 dBm Margin: -7.26 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc

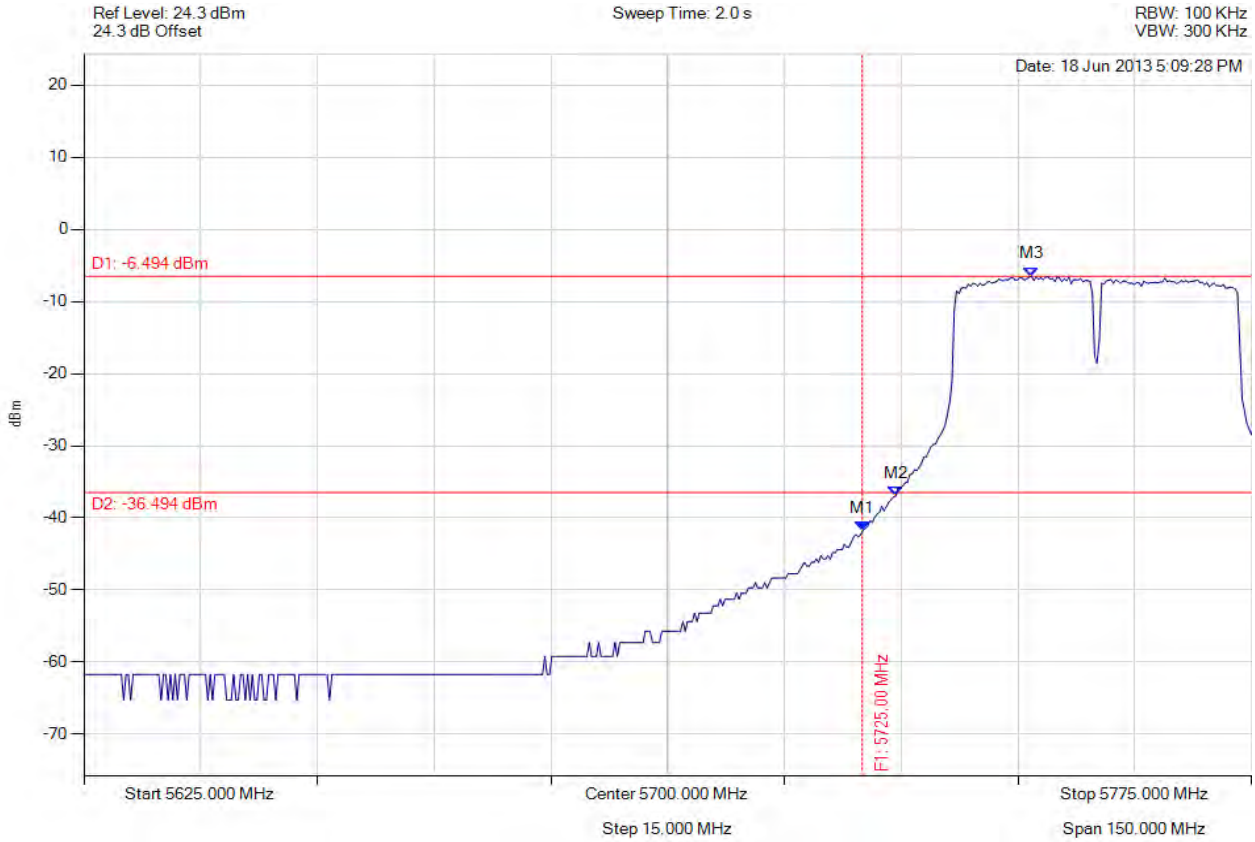


Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5725.000 MHz : -44.890 dBm M2 : 5730.210 MHz : -37.210 dBm M3 : 5763.878 MHz : -6.789 dBm	Limit: -36.79 dBm Margin: -8.10 dB

Back to the Matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5725.000 MHz : -41.723 dBm M2 : 5729.309 MHz : -36.945 dBm M3 : 5746.743 MHz : -6.494 dBm	Limit: -36.49 dBm Margin: -5.23 dB

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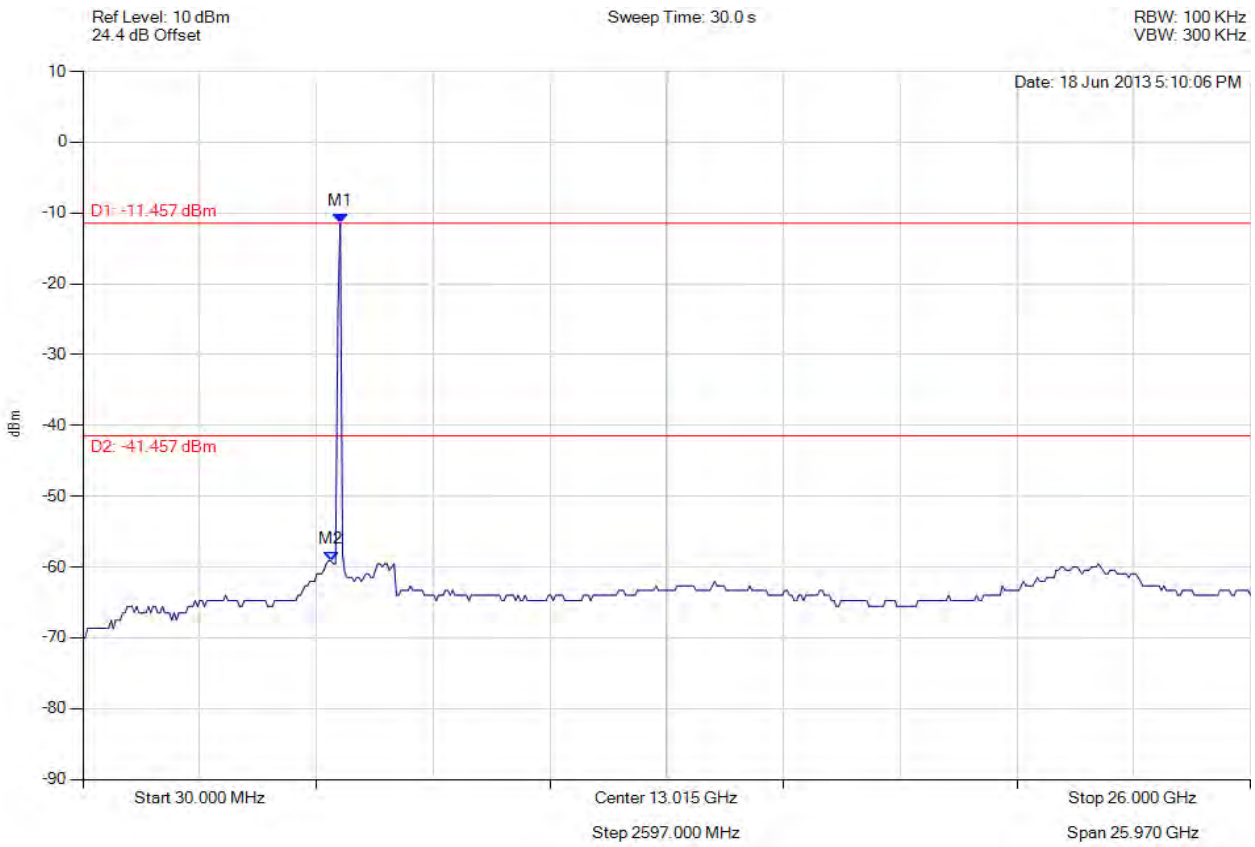
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -11.457 dBm M2 : 5546.673 MHz : -59.121 dBm	Limit: -41.46 dBm Margin: -17.66 dB

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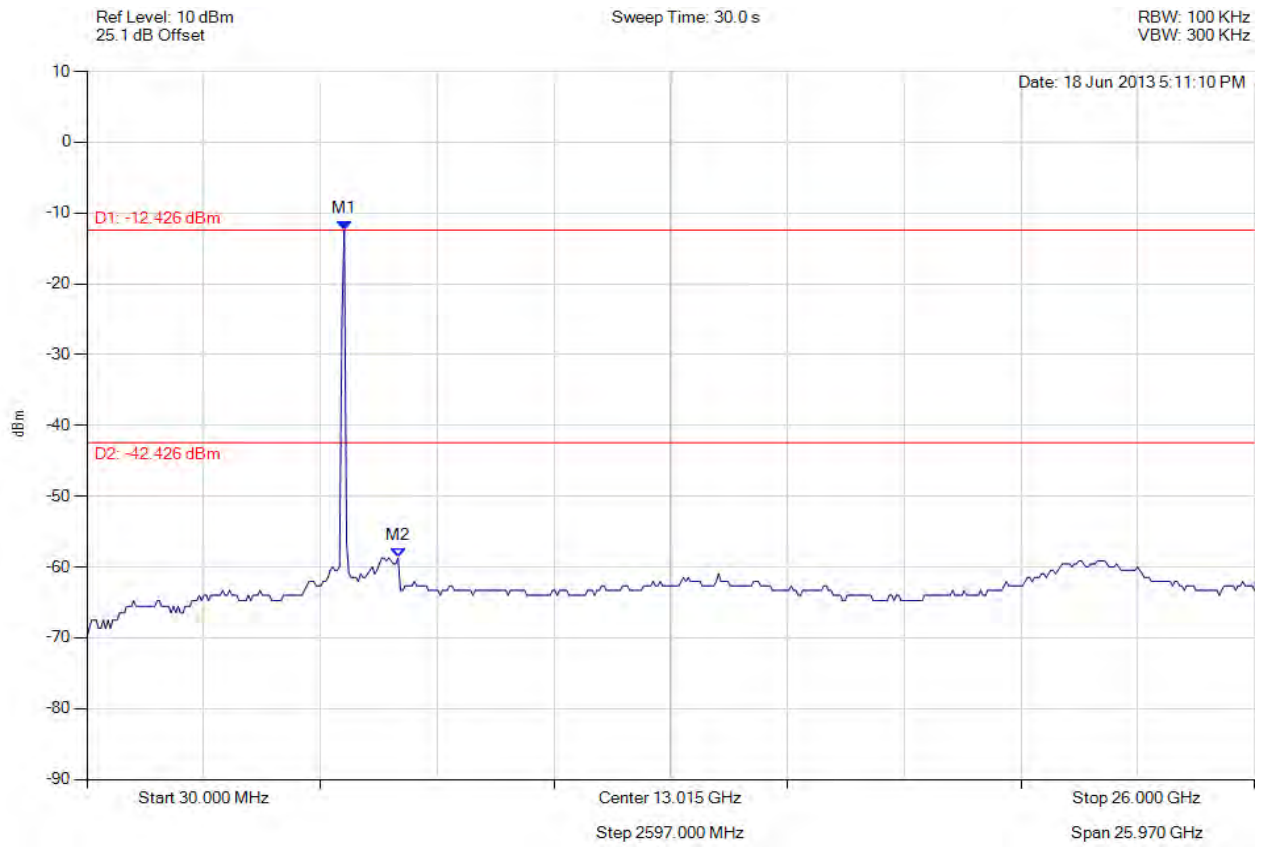
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -12.426 dBm M2 : 6951.864 MHz : -58.717 dBm	Limit: -42.43 dBm Margin: -16.29 dB

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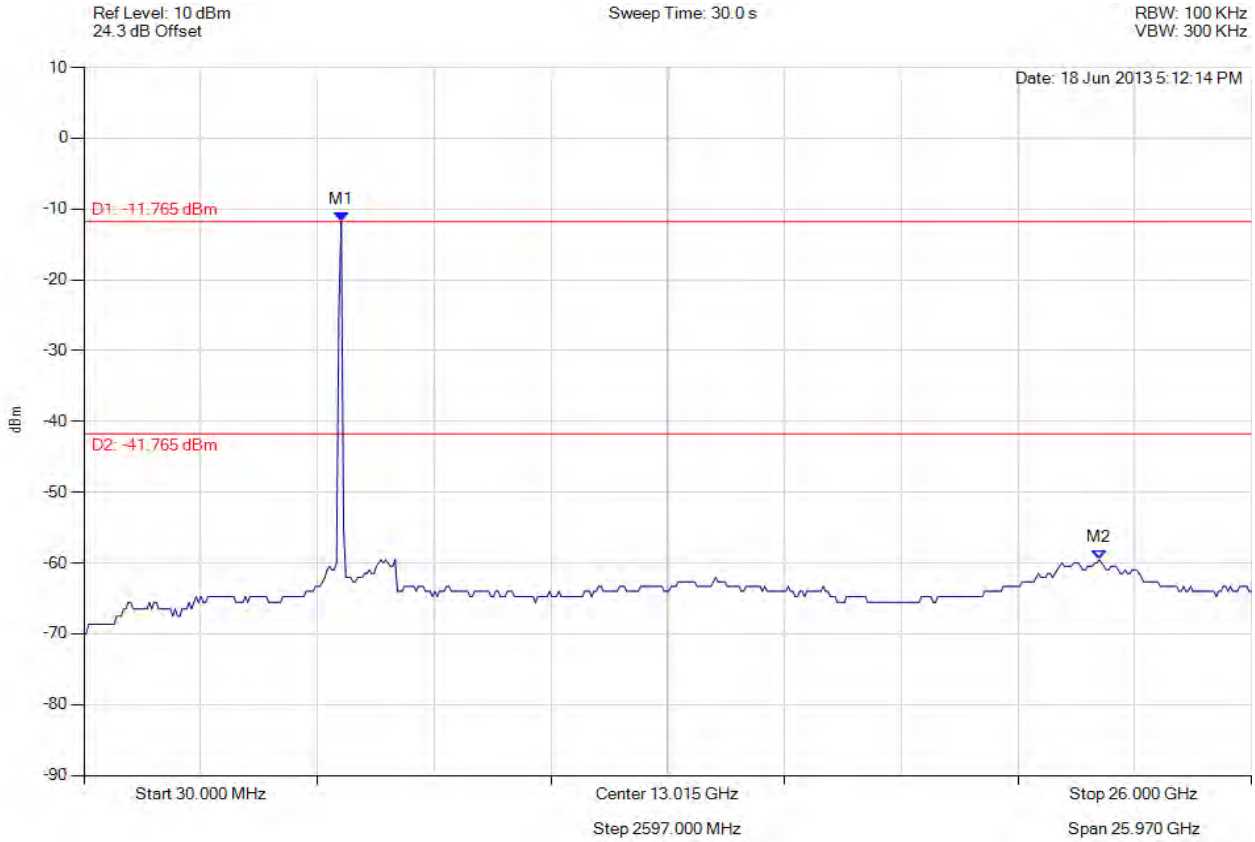
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -11.765 dBm M2 : 22.617 GHz : -59.545 dBm	Limit: -41.77 dBm Margin: -17.77 dB

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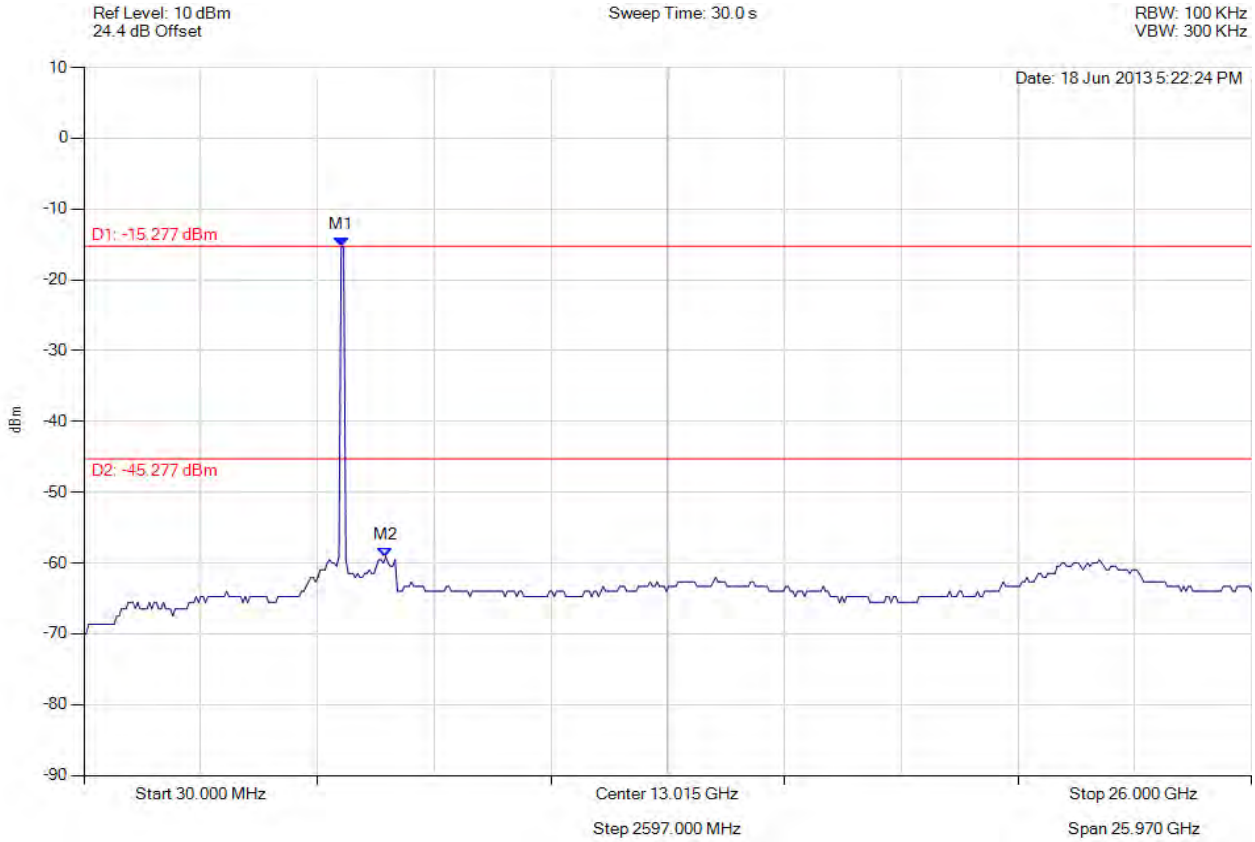
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -15.277 dBm M2 : 6743.687 MHz : -59.121 dBm	Limit: -45.28 dBm Margin: -13.84 dB

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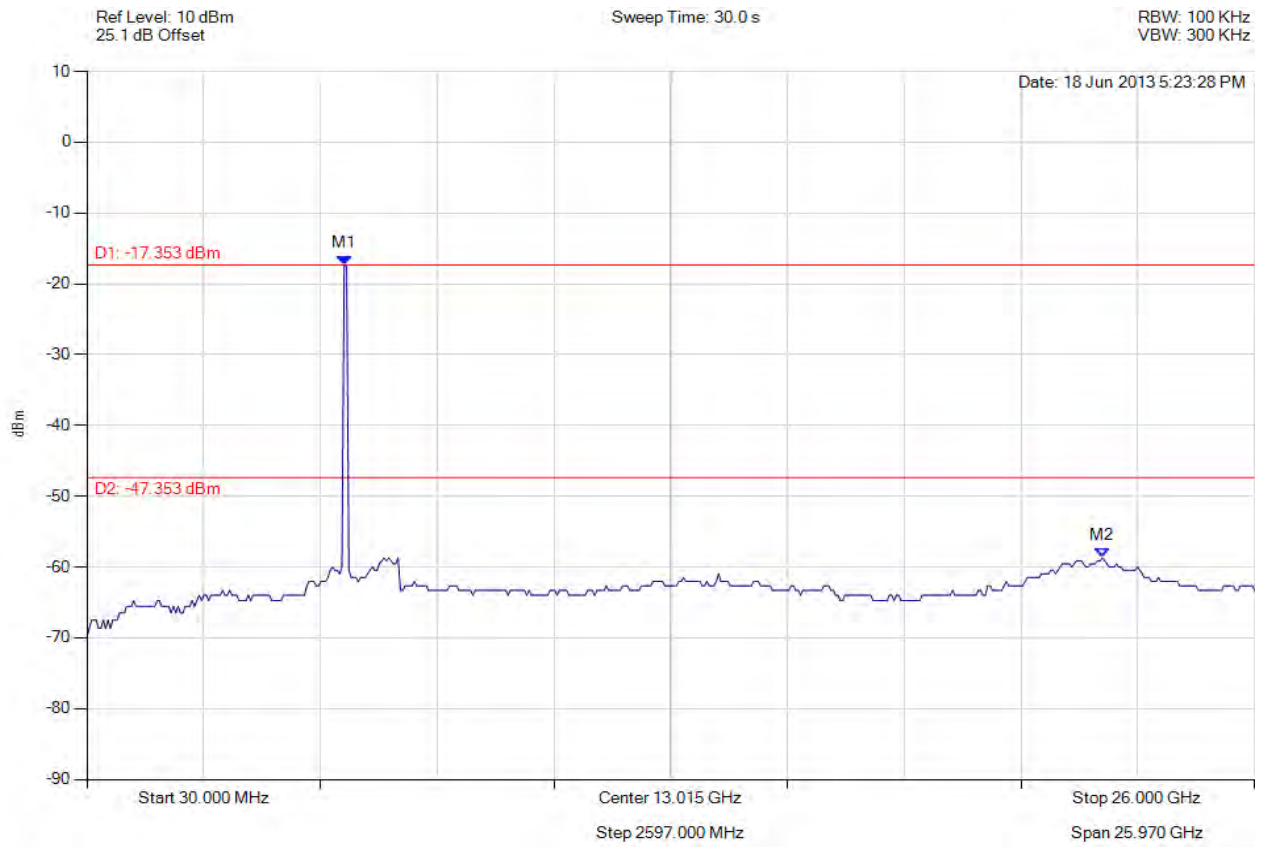
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -17.353 dBm M2 : 22.617 GHz : -58.717 dBm	Limit: -47.35 dBm Margin: -11.37 dB

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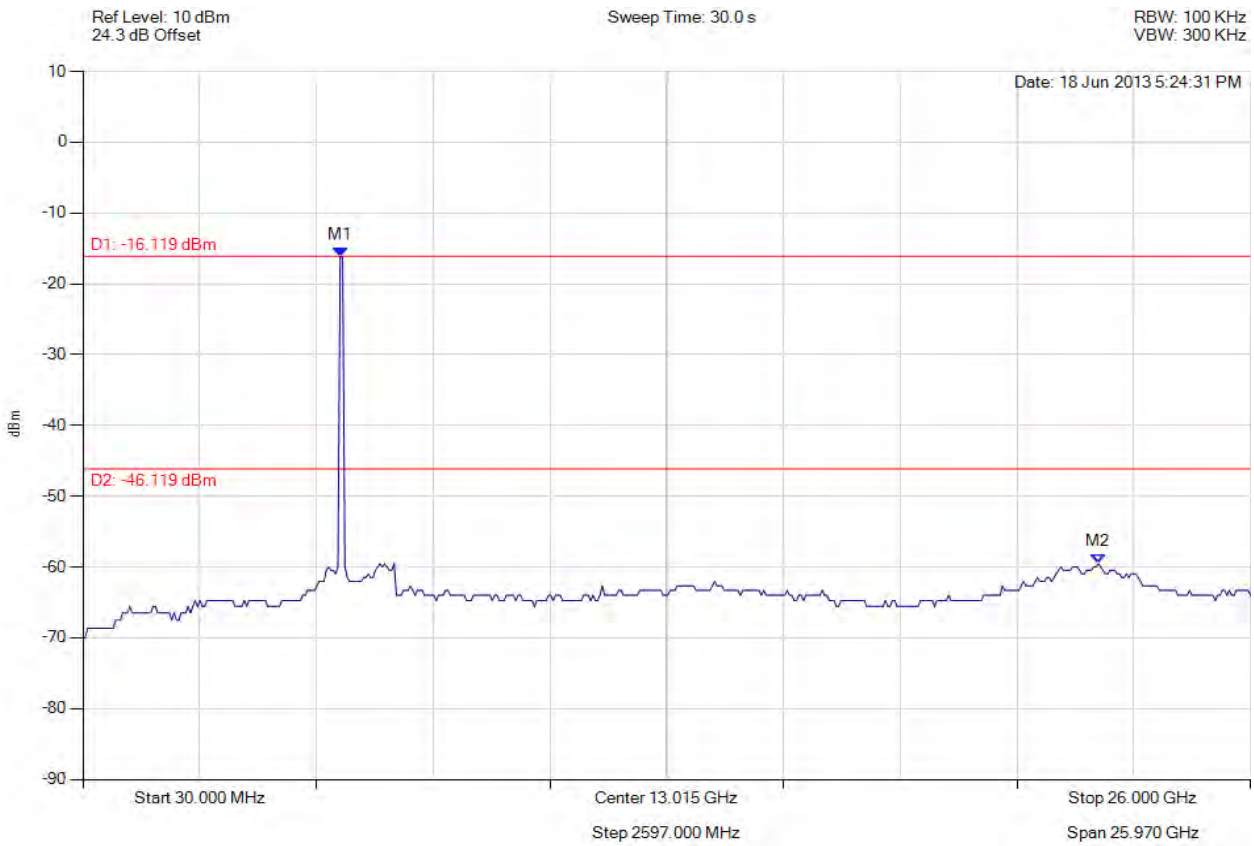
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -16.119 dBm M2 : 22.617 GHz : -59.545 dBm	Limit: -46.12 dBm Margin: -13.43 dB

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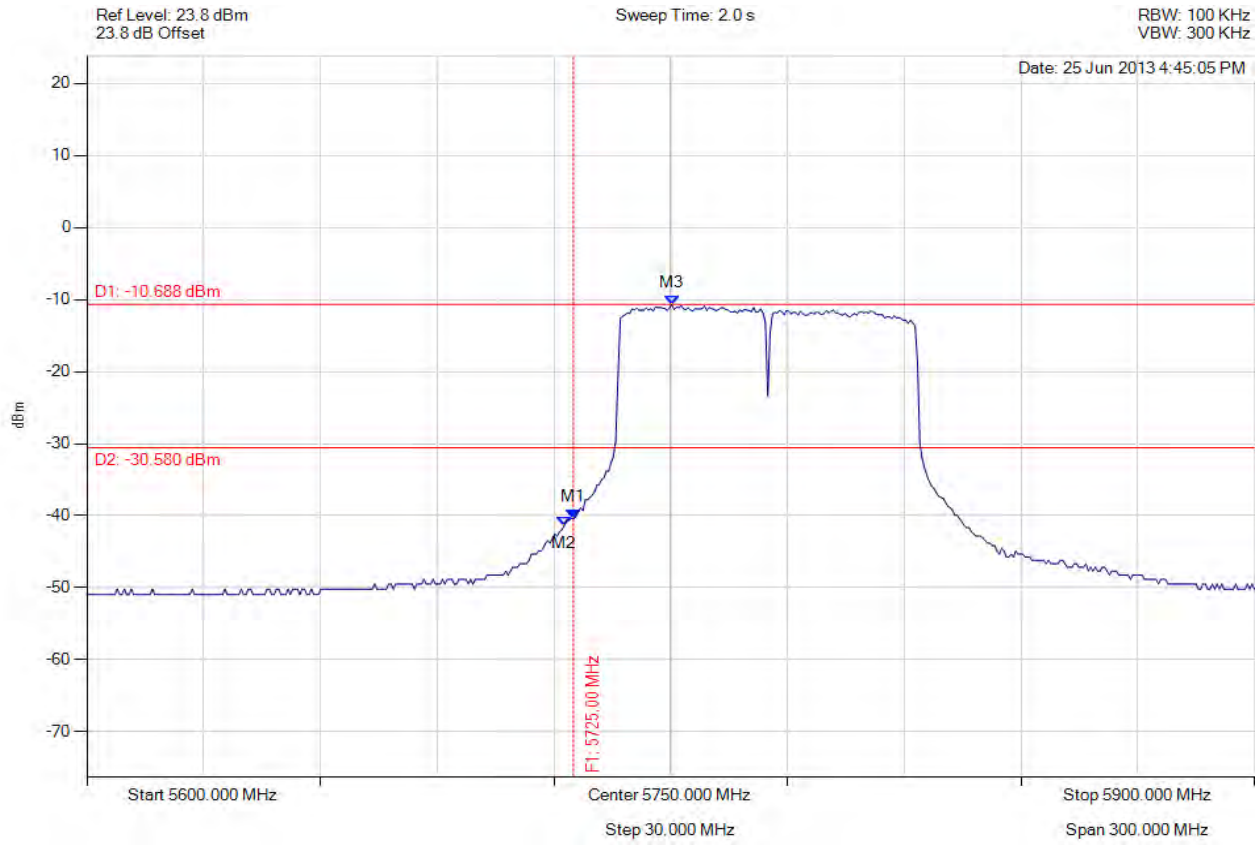
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -40.401 dBm M2 : 5722.645 MHz : -41.395 dBm M3 : 5750.301 MHz : -10.688 dBm	Limit: -30.58 dBm Margin: -9.82 dB

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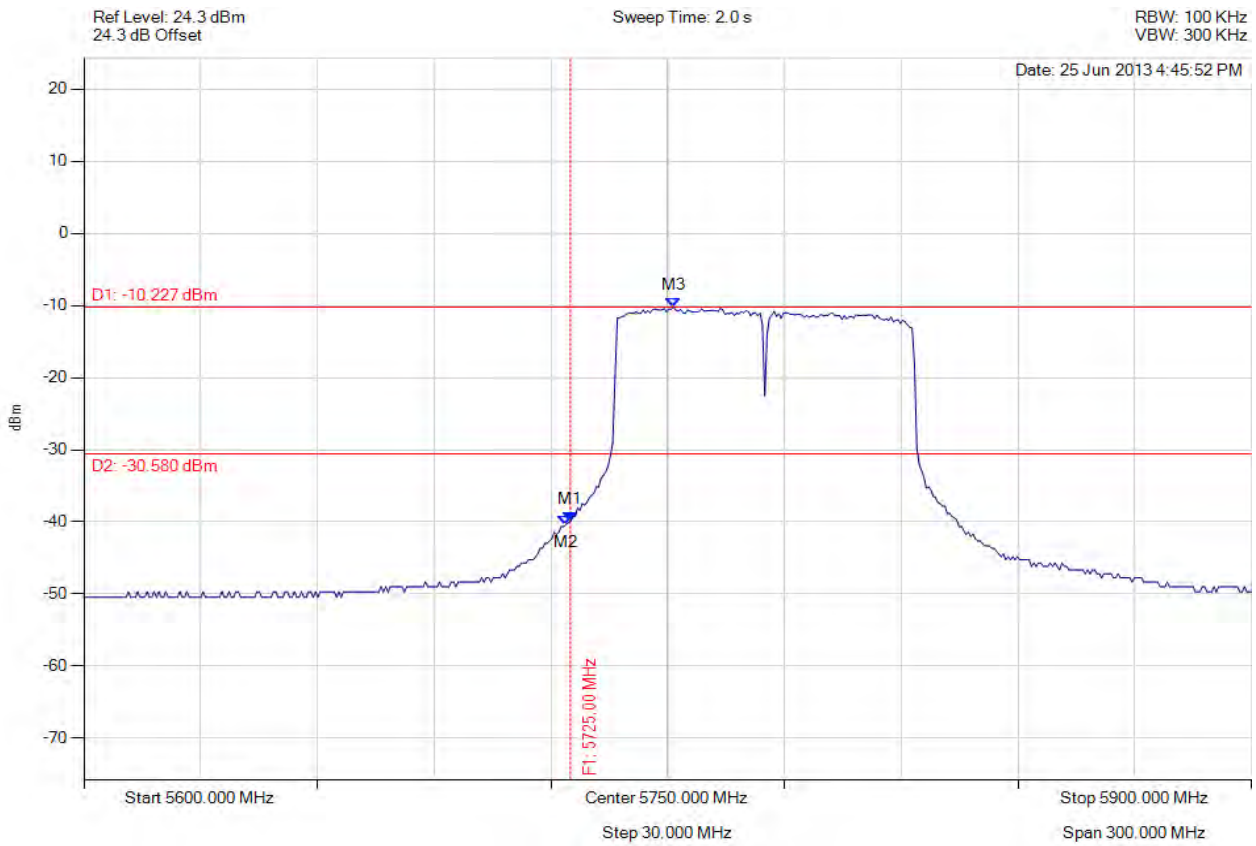
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -39.901 dBm M2 : 5723.848 MHz : -40.384 dBm M3 : 5751.503 MHz : -10.227 dBm	Limit: -30.58 dBm Margin: -9.32 dB

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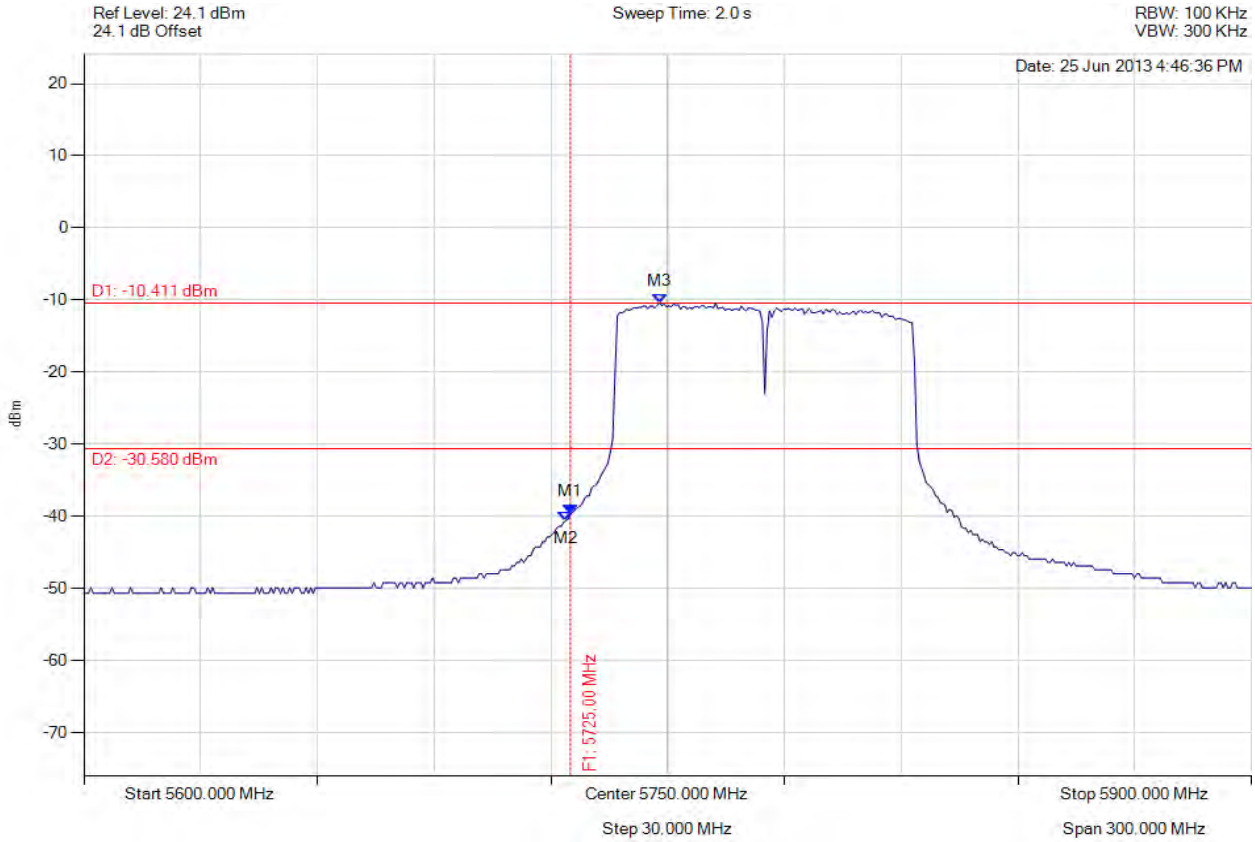
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5725.000 MHz : -39.644 dBm M2 : 5723.848 MHz : -40.584 dBm M3 : 5747.896 MHz : -10.411 dBm	Limit: -30.58 dBm Margin: -9.06 dB

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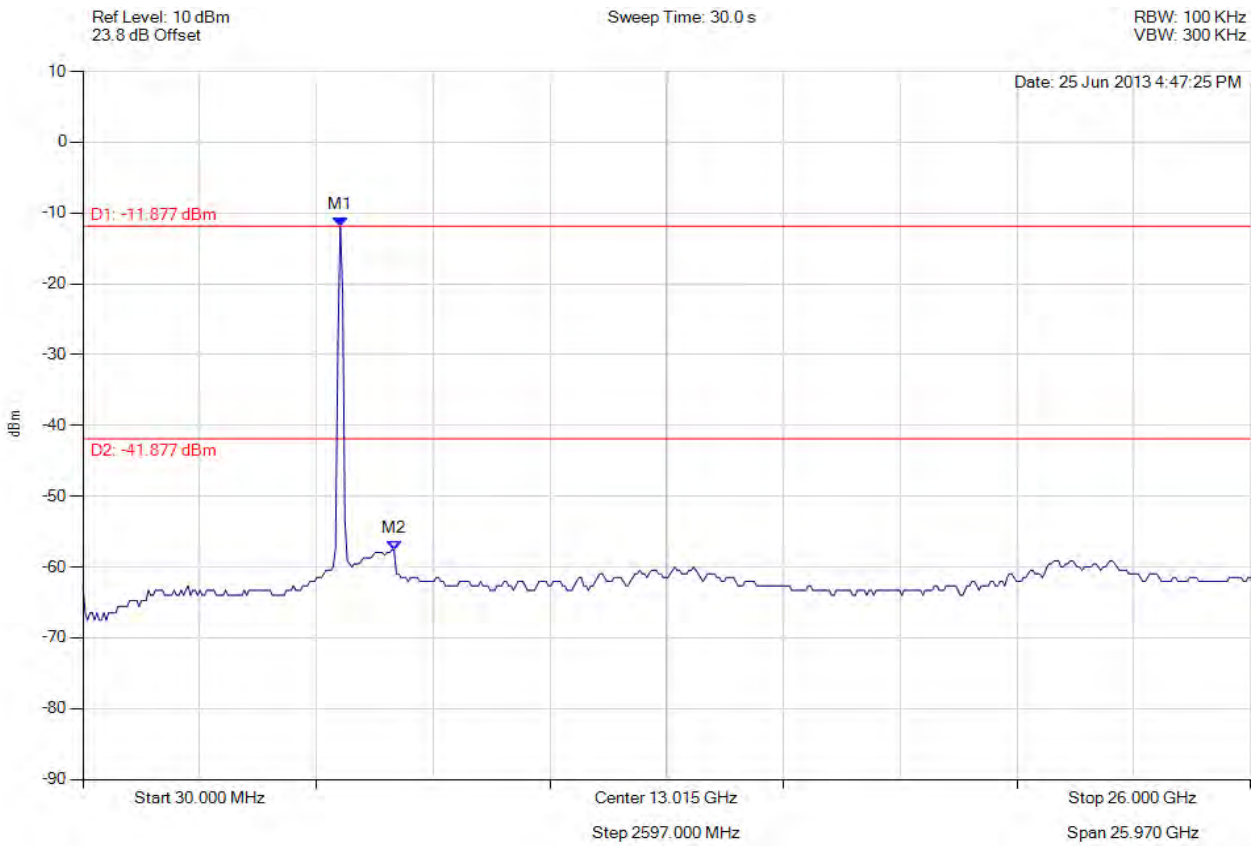
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -11.877 dBm M2 : 6951.864 MHz : -57.607 dBm	Limit: -41.88 dBm Margin: -15.73 dB

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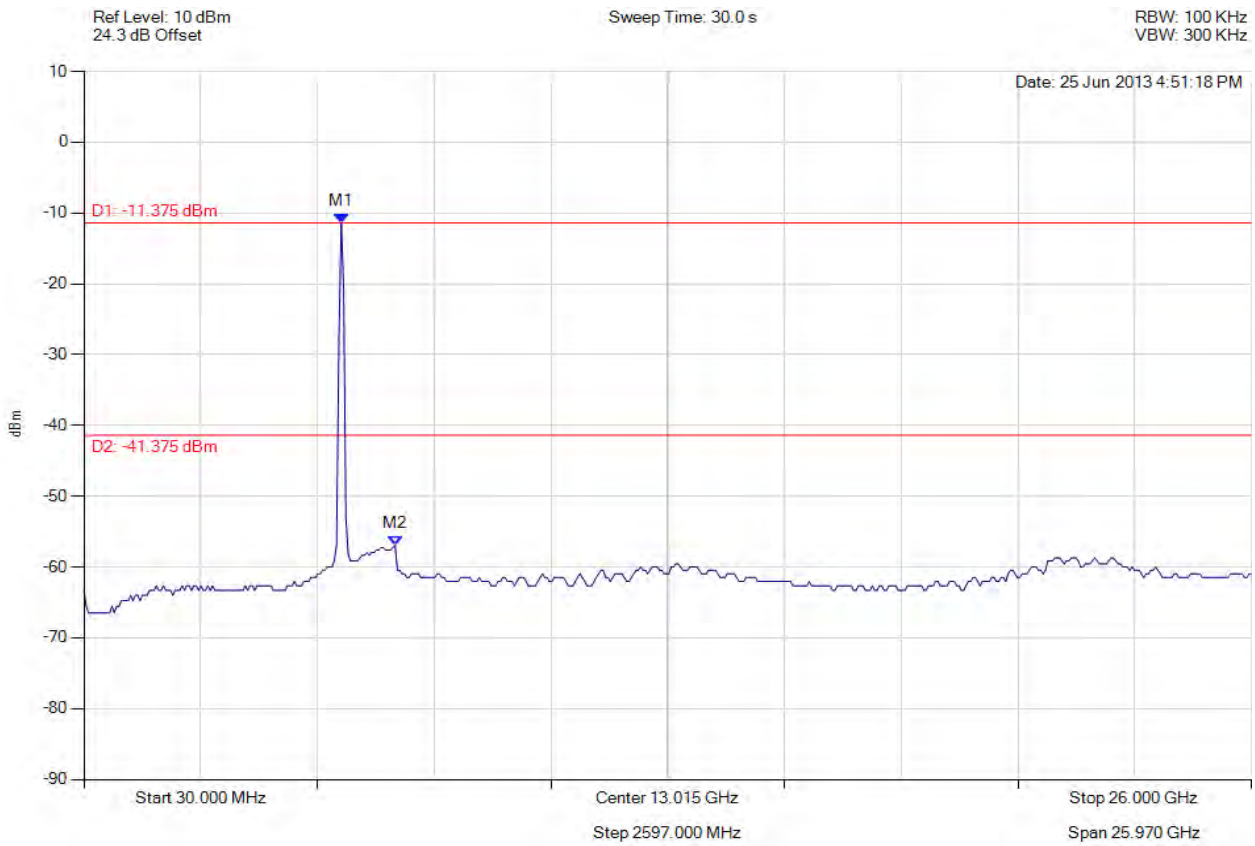
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -11.375 dBm M2 : 6951.864 MHz : -56.938 dBm	Limit: -41.38 dBm Margin: -15.56 dB

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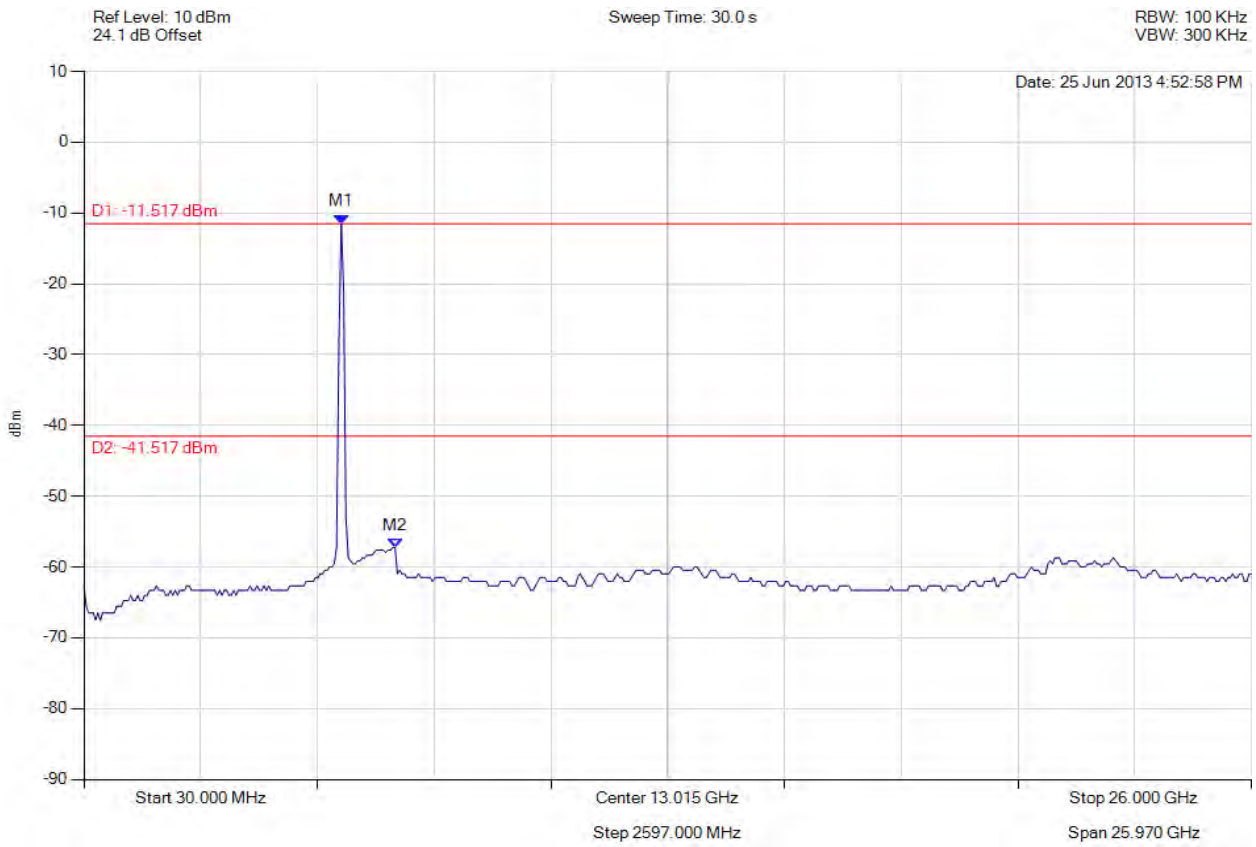
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 5 Vdc



Analyser Setup	Marker : Frequency : Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 5754.850 MHz : -11.517 dBm M2 : 6951.864 MHz : -57.266 dBm	Limit: -41.52 dBm Margin: -15.75 dB

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