Test of Xirrus Inc. XI-AC1300, XI-AC867

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

Test Report Serial No.: XIRR04-U3 Rev A


This report has measurement results for two separate RF modules XI-AC1300 and XI-AC867. The results have been compiled into a single report for referencing purposes, see Section 2.2 Scope of Test Program;

3x3 FCC ID: SK6-XI-AC1300

2x2 FCC ID: SK6-XI-AC867

# TEST REPORT

FROM

Test of Xirrus Inc. XI-AC1300, XI-AC867

to

To FCC 47 CFR Part 15.247 & IC RSS-210

Test Report Serial No.: XIRR04-U3 Rev A

Note: this report contains data with regard to the 2400 to 2483.5 MHz and 5725 to 5850 MHz operational modes of the Xirrus XI-AC1300 Wireless Access Point. Test data for the 5,150 - 5,250 (non-DFS bands) is reported in MiCOM Labs test report XIRR-U6

This report supersedes: NONE

Applicant: Xirrus Inc.
2101 Corporate Center Drive
Thousand Oaks
California 91320, USA

Product Function: 802.11a/b/g/n/ac Wireless Access Point

Copy No: pdf Issue Date: 29th April 2014

**This Test Report is Issued Under the Authority of;**

**MiCOM Labs, Inc.**
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Fax: +1 (925) 462-0306
www.micomlabs.com

ACCREDITED
TESTING CERT #2381.01

**MiCOM Labs is an ISO 17025 Accredited Testing Laboratory**

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# TABLE OF CONTENTS

# 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

American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

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

Presented this 28th day of February 2014.

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

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

## RECOGNITION

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

| Country | Recognition Body | Status | Phase | Identification No. |
|---|---|---|---|---|
| USA | Federal Communications Commission (FCC) | TCB | - | US0159<br>Listing #: 102167 |
| Canada | Industry Canada (IC) | FCB | APEC MRA 2 | US0159<br>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)<br>Bureau of Standards, Metrology and Inspection (BSMI) | CAB | APEC MRA 1 | |
| Vietnam | Ministry of Communication (MIC) | CAB | APEC MRA 1 | |

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

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

**NB – Notified Body

## PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard EN ISO/IEC Guide 65. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-02.pdf


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

**Industry Canada – Certification Body**
CAB Identifier – US0159

**Europe – Notified Body**
Notified Body Identifier - 2280

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

# DOCUMENT HISTORY

| Document History | | |
|---|---|---|
| Revision | Date | Comments |
| Draft | | |
| Rev A | 29th April 2014 | Initial release. |
| | | |
| | | |

# TEST RESULT CERTIFICATE

| | | | |
|---|---|---|---|
| Manufacturer: | Xirrus Inc.<br>2101 Corporate Center Drive<br>Thousand Oaks<br>California 91320, USA | Tested By: | MiCOM Labs, Inc.<br>575 Boulder Court<br>Pleasanton<br>California, 94566, USA |
| EUT: | 802.11a/b/g/n 802.11a/b/g/n/ac Wireless Access Point | Telephone: | +1 925 462 0304 |
| Model: | XI-AC1300, XI-AC867 | Fax: | +1 925 462 0306 |
| S/N's: | 145 | | |
| Test Date(s): | 24th Oct '13 - 6th March 2014 | Website: | www.micomlabs.com |

| STANDARD(S) | TEST RESULTS |
|---|---|
| FCC 47 CFR Part 15.247 & IC RSS-210 | EQUIPMENT COMPLIES |

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

**Notes:**

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

**Approved & Released for MiCOM Labs, Inc. by:**

A2LA ACCREDITED
TESTING CERT #2381.01

Graeme Grieve
Quality Manager MiCOM Labs,

Gordon Hurst
President & CEO MiCOM Labs, Inc.

# 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 Xirrus Inc. XI-AC1300, XI-AC867 to FCC Part 15.247 and Industry Canada RSS-210 regulations. |
| Applicant: | Xirrus Inc.<br>2101 Corporate Center Drive<br>Thousand Oaks<br>California 91320, USA |
| Manufacturer: | As applicant. |
| Laboratory performing the tests: | MiCOM Labs, Inc.<br>575 Boulder Court<br>Pleasanton, California 94566 USA |
| Test report reference number: | XIRR04-U3 Rev A |
| Date EUT received: | 24th October 2013 |
| Standard(s) applied: | FCC 47 CFR Part 15.247 & IC RSS-210 |
| Dates of test (from - to): | 24th Oct '13 - 6th March 2014 |
| No of Units Tested: | One |
| Type of Equipment: | 802.11a/b/g/n Wireless Access Point 2.4 GHz: 3x3, 5 GHz: 3x3 Spatial Multiplexing MIMO configuration |
| Manufacturers Trade Name: | Wireless Remote Access Point |
| Model(s): | XI-AC1300, XI-AC867 |
| Location for use: | Indoor/Outdoor Use |
| Declared Frequency Range(s): | 2400 - 2483.5 MHz; 5725 - 5850 MHz |
| Hardware Rev | Rev 2 |
| Software Rev | 6.7 |
| Type of Modulation: | Per 802.11 –CCK, BPSK, QPSK, DSSS, OFDM |
| Declared Nominal Average Output Power: | 802.11b/g/n/ac: +24 dBm<br>802.11a/n: +23 dBm<br>802.11ac: +22 dBm |
| EUT Modes of Operation: | Legacy 802.11a/b/g/n/ac |
| Transmit/Receive Operation: | Time Division Duplex |
| Rated Input Voltage and Current: | POE 56 Vdc |
| Operating Temperature Range: | Declared range 0° to +55ºC. |
| ITU Emission Designator: | 2400 – 2483.5 MHz 802.11b 13M0G1D<br>2400 – 2483.5 MHz 802.11g 22M0D1D<br>2400 – 2483.5 MHz 802.11n – HT-20 22M2D1D<br>2400 – 2483.5 MHz 802.11n – HT-40 36M9D1D<br>5725 – 5850 MHz 802.11a 16M9D1D<br>5725 – 5850 MHz 802.11n – HT-20 17M9D1D<br>5725 – 5850 MHz 802.11n – HT-40 36M4D1D<br>5725 – 5850 MHz 802.11n ac-20 36M4D1D<br>5725 – 5850 MHz 802.ac-80 76M3D1D |
| Equipment Dimensions: | 114 mm (L) x 75 mm (W) x 55 mm (H) |
| Weight: | 42 grams |
| Primary function of equipment: | Wireless Access Point for transmitting data and voice. |

## 2.2. Scope of Test Program

**Xirrus Inc. Wireless Access Point**

The scope of the test program was to test the Xirrus Inc. XI-AC1300, XI-AC867, 3x3 and 2x2 Spatial Multiplexing MIMO configurations in the frequency ranges 2400 - 2483.5 MHz and 5725 – 5850 MHz for compliance against FCC 47 CFR Part 15.247 and Industry Canada RSS-210 specifications.

The client requested that both the XI-AC1300 and XI-AC867 be treated as an SDR (Software Defined Radio)

2x2 Module: XI-AC867
3x3 Module: XI-AC1300

**Module Differences**
Client stated that the module differences between the 3x3 and 2x2 is that the 2x2 has the third antenna trace terminated with no access. As a result the test strategy determined full testing performed on the 3x3 module and limited testing on the 2x2. The output power on the 2x2 module was limited to approximately the same power that was observed on Ports a and b on the 3x3 module. This implies the maximum EIRP is less for the 2x2.

**Multiple Antenna Configuration**

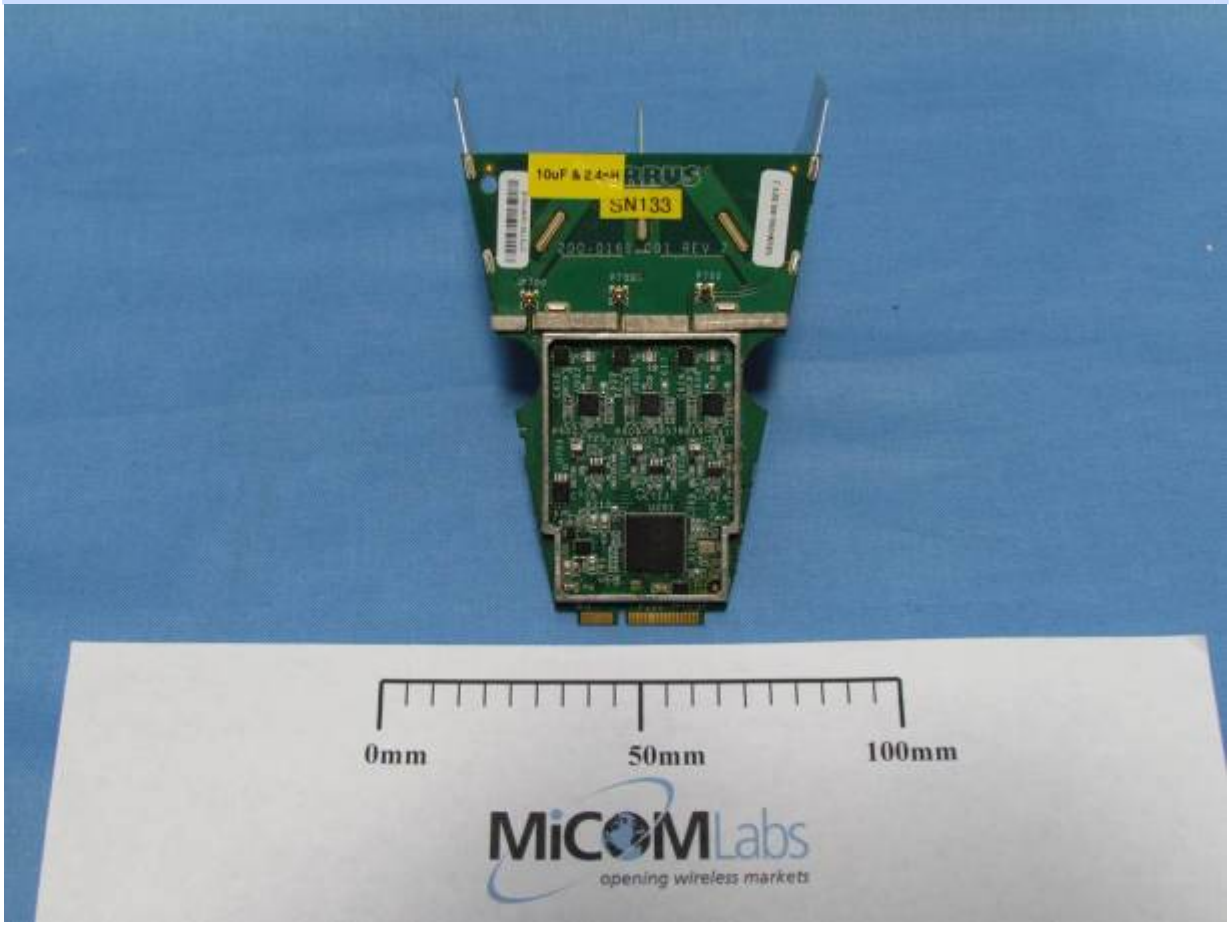
The XI-1300 and XI-AC867 can have multiple wireless modules incorporated into a single host device. The client declared that at any given time only a single transmitter can be active at any given time. The device does operate 2.4 GHz and 5 GHz frequency bands simultaneously therefore colocation testing is considered.

**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***

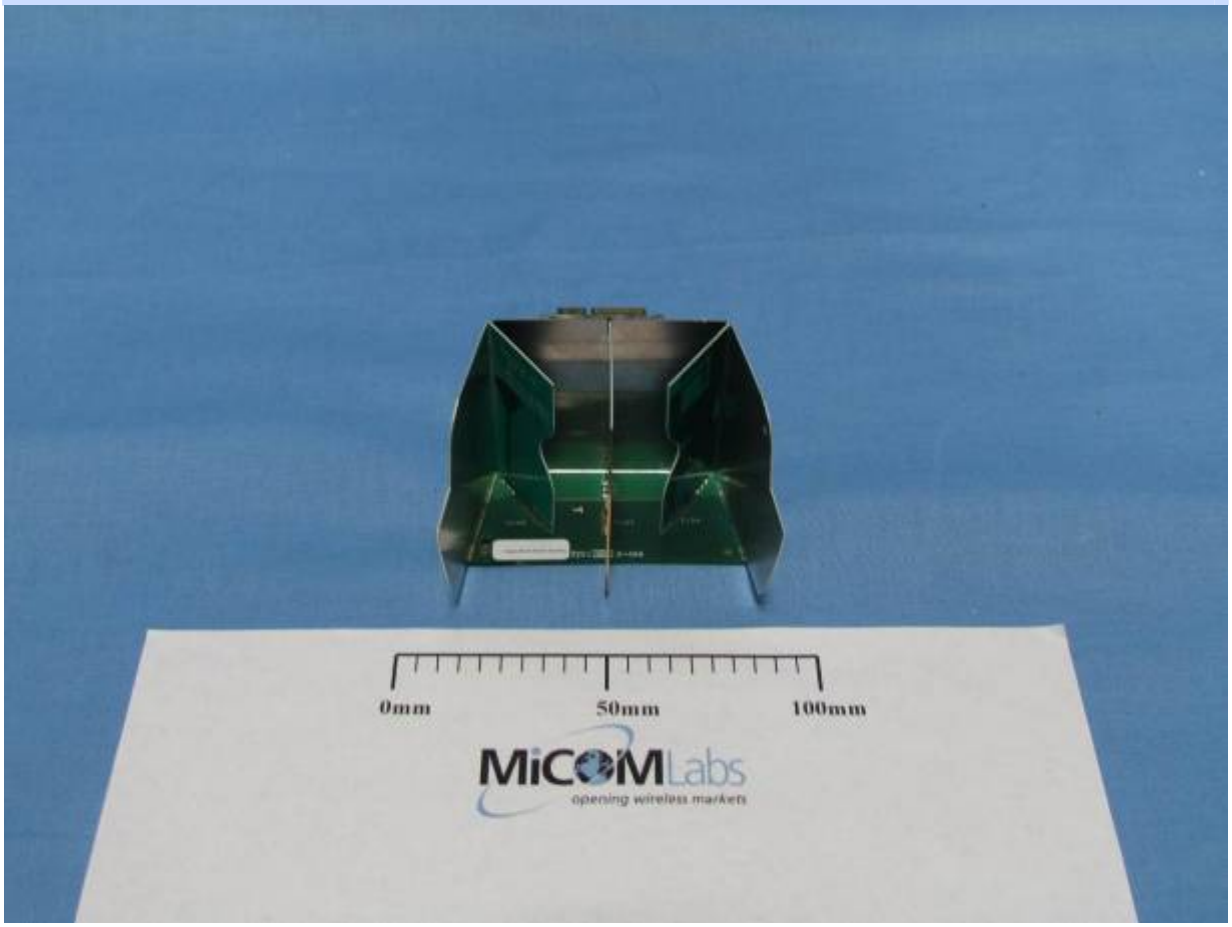
The KDB document provides guidance for measurements of conducted output emissions of devices that employ a single transmitter with multiple outputs in the same band, with the outputs occupying the same or overlapping frequency ranges. It applies to EMC compliance measurements on devices that transmit 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.

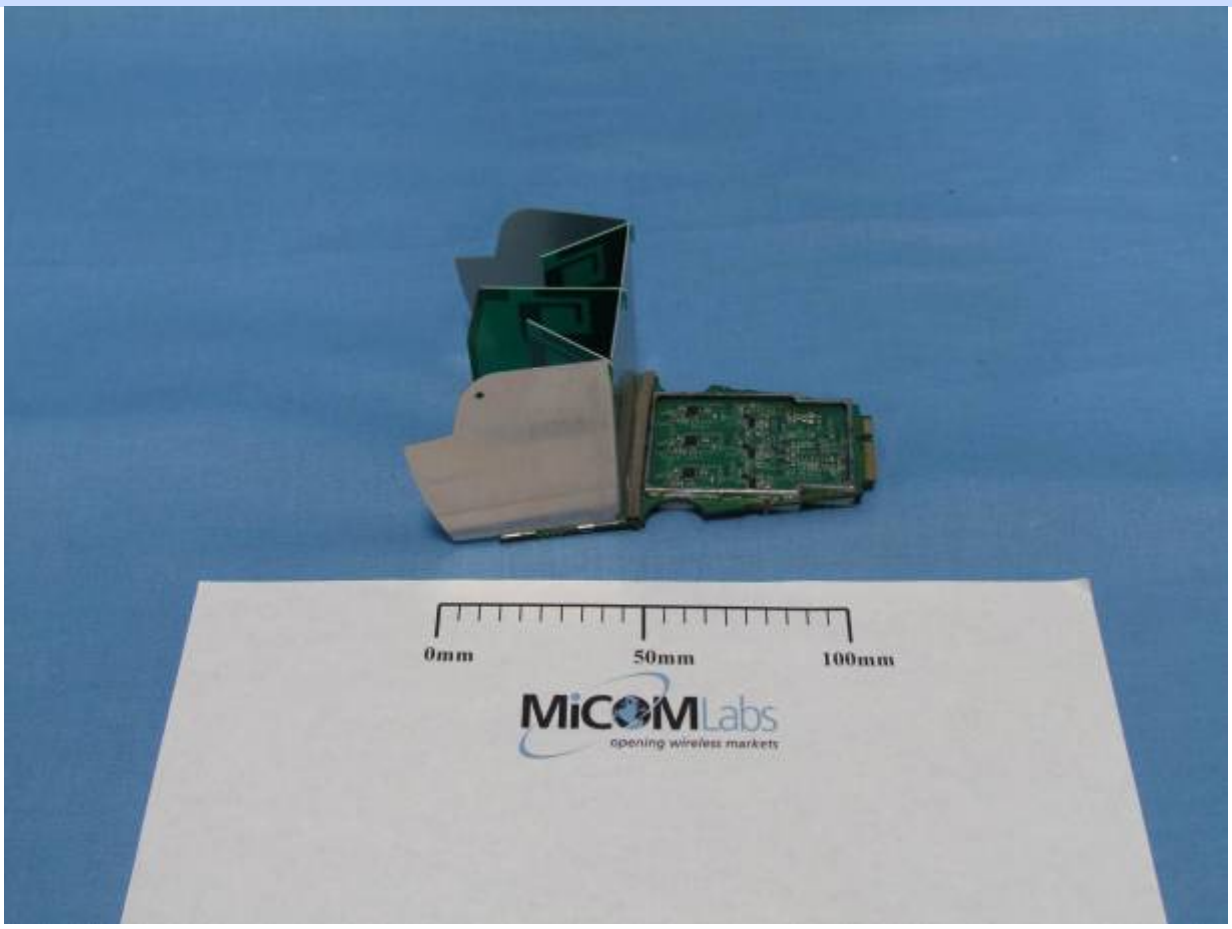
## XIRR04 Wireless LAN Module



## XIRR04 Wireless LAN Module



## XIRR04 Wireless LAN Module



## XIRR04 Power Injector (POE)

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

| Equipment Type | Equipment Description (Including Brand Name) | Mfr | Model No. | Serial No. |
|---|---|---|---|---|
| EUT | 3x3 802.11a/b/g/n/ac WLAN | Xirrus | XI-AC1300 | 145 |
| EUT | 2x2 802.11a/b/g/n/ac WLAN | Xirrus | XI-AC867 | 145 |
| Support | Single Port Injector (POE)<br>Input: 100-240 Vac ~ 2.0A<br>Output: 1). 56Vdc, 0.67A<br>Output: 2). 56Vdc, 0.67A | Xirrus | XP1-MSI-75 | None |
| Support | Laptop PC | IBM | Thinkpad | None |

Note: Serial number is from the host device which was used to test both modules

## 2.4. Antenna Details

| Model | Type | Gain (dBi) | Freq. Band (MHz) | Note |
|---|---|---|---|---|
| Integral | Omni Directional | 3.0 | 2400 - 2500 | |
| Integral | Omni Directional | 5.0 | 5150 - 5850 | |

## 2.5. Cabling and I/O Ports

Number and type of I/O ports

| Port Type | Port Description | Qty | Screened (Yes/ No) | Length |
|---|---|---|---|---|
| U.FI | RF port | 3 | NO | Not Applicable |

## 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/b/g/n) | Variant | Data Rate with Highest Power | Frequencies (MHz) |
|---|---|---|---|
| 2.4 GHz | | | |
| b | Legacy | 1 MBit/s | 2,412<br>2,437<br>2,462 |
| g | Legacy | 6 MBit/s | |
| n | HT-20 | 6.5 (MCS 0) | |
| | HT-40 | 13.5 (MCS 0) | 2,422<br>2,437<br>2,452 |
| 5.8 GHz | | | |
| a | Legacy | 6 MBit/s | 5,745<br>5,785<br>5,825 |
| n | HT-20 | 6.5 (MCS 0) | |
| | HT-40 | 13.5 (MCS 0) | 5,755<br>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 three different antennas that represent the highest gain for each antenna type intended for use with the EUT;- Integral antenna (As used in APINR109) ; ANT-18 60 degree sector antenna; ANT-19 monopole antenna.

Radiated emissions testing was performed for all possible configurations for antenna ANT-18 which is the highest gain antenna used with the equipment. Radiated emissions testing was performed for the other two antennas in worst case mode (mode with the highest spectral density)

2,400 – 2483.5 MHz

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

5,725 – 5850 MHz

| 15.247 | |
|---|---|
| 802.11a | a SE 5745 |
| | a SE 5785 |
| | a SE 5825 |
| | |
| 802.11n HT-20 | n HT-20 SE 5745 |
| | n HT-20 SE 5785 |
| | n HT-20 SE 5825 |
| | |
| 802.11n HT-40 | n HT-40 SE 5755 |
| | n HT-40 SE 5795 |
| | |
| 802.11ac-80 | ac-80 SE 5775 |

KEY;-

SE – Spurious Emission
BE – Band-Edge

## 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)

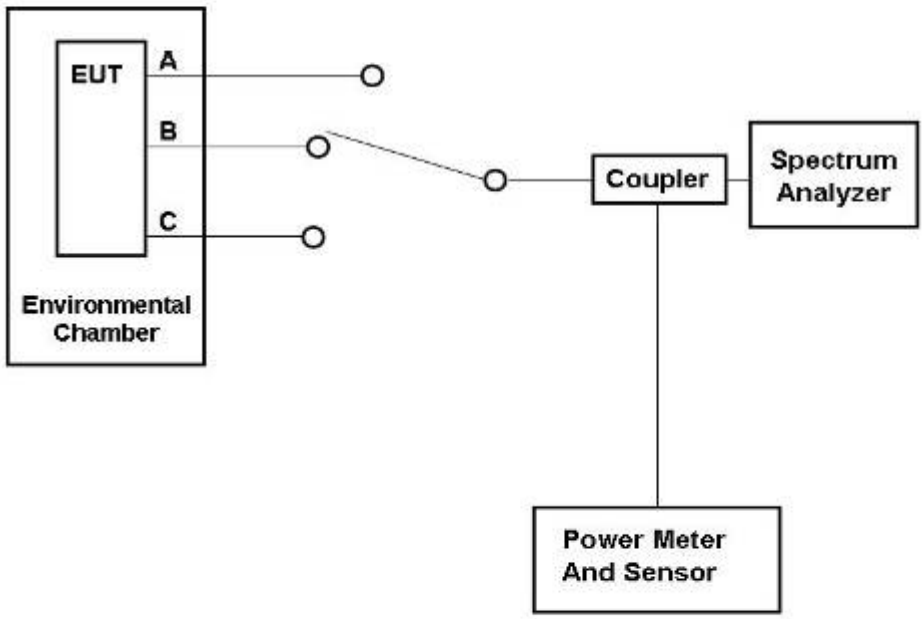
## 3.1. Conducted RF Emission Test Set-up

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

1. Section 6.1.1.1. 6 dB and 99% Bandwidth
2. Section 6.1.1.2. Peak Output Power
3. Section 6.1.1.3. Power Spectral Density
4. Section 6.1.1.4. Conducted Spurious Emissions

**Conducted Test Set-Up Pictorial Representation**

3 - Port Test Configuration

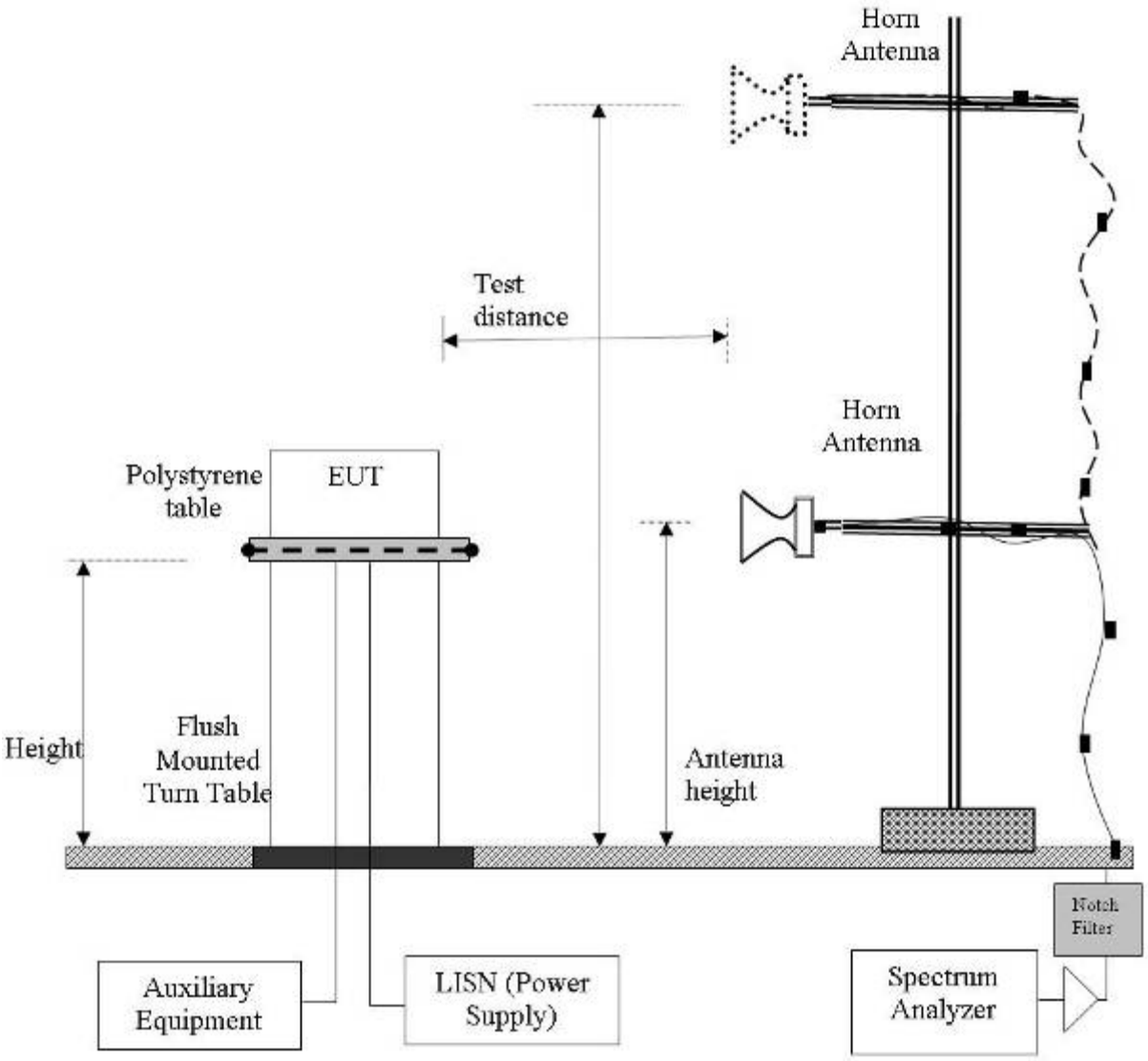



NOTE: 2.4 GHz operation had 2 antenna ports (2x2), 5.8 GHz operation had 3 antenna ports (3x3)

## 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.

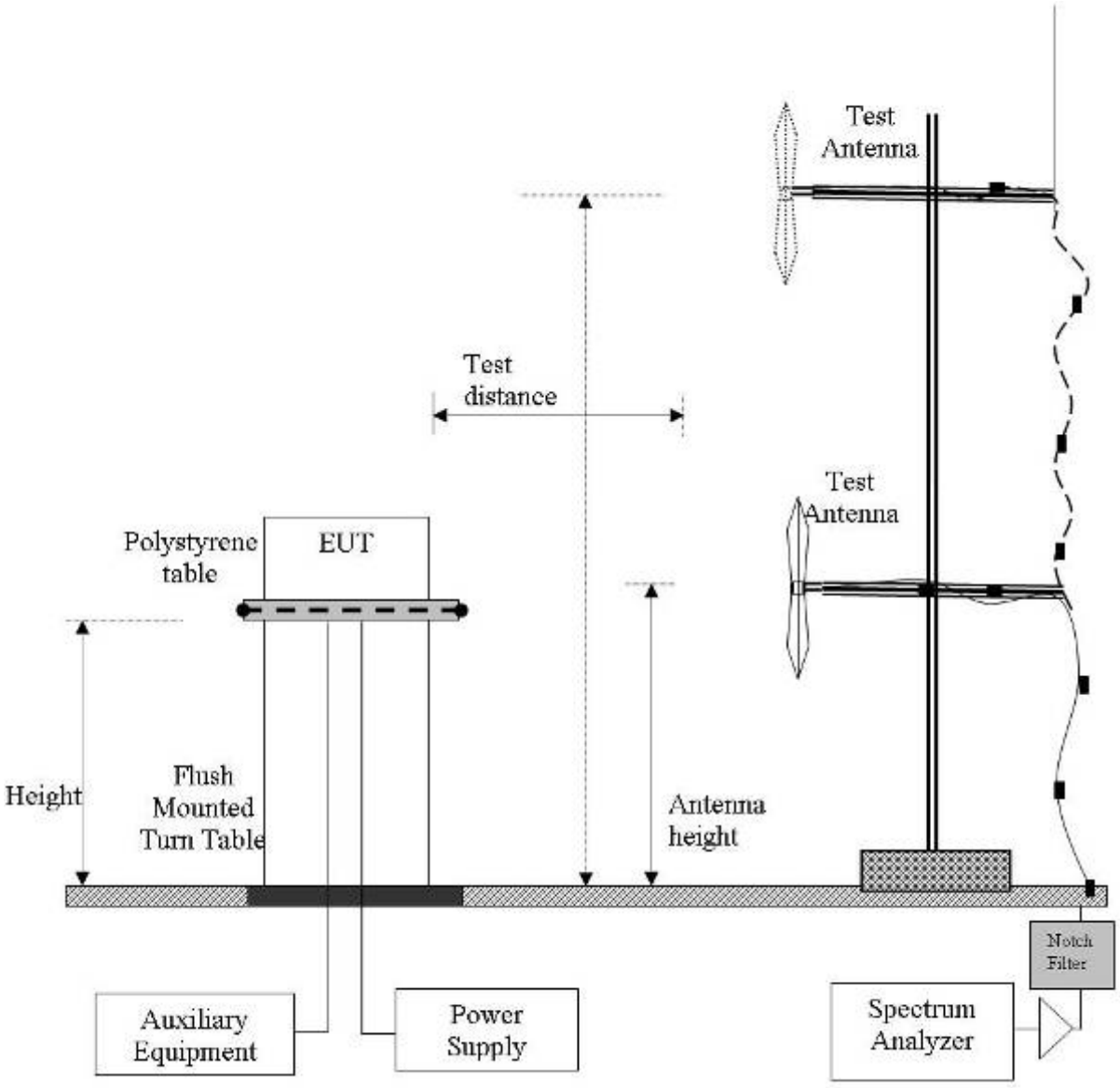
**Radiated Emission Measurement Setup – Above 1 GHz**



## 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.

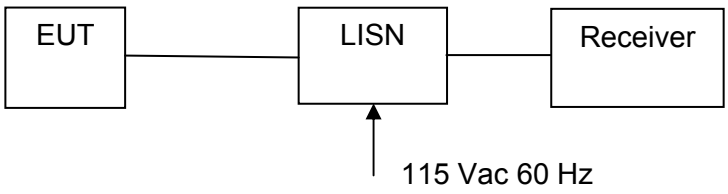
**Digital Emission Measurement Setup – Below 1 GHz**



## 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)**<br>**A8.2(1)**<br>**4.4** | 6 dB and 99 % Bandwidths | ≥500 kHz | Conducted | Complies | 5.1.1.1 |
| **15.247(b)(3)**<br>**15.31(e)**<br>**A8.4(4)** | Peak Output Power<br>Voltage Variation | Shall not exceed 1W<br>Variation of supply voltage 85 % -115 % | Conducted | Complies | 5.1.1.2 |
| **15.247(e)**<br>**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)**<br>**15.205 /**<br>**15.209**<br>**A8.5**<br>**2.2**<br>**4.7** | Spurious Emissions<br>(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)**<br>**15.205 /**<br>**15.209**<br>**A8.5**<br>**2.2**<br>**2.6**<br>**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<br>Peak Emissions | | Complies | |
| **15.205 /**<br>**15.209**<br>**2.2** | Radiated Spurious Emissions | Emissions <1 GHz (30M-1 GHz) | Radiated | Complies | *5.1.2.4* |
| **15.207**<br>**7.2.2** | AC Wireline Conducted<br>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 3.7 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.

## XI-AC1300 3x3 Operation

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 2412.0 | 7.214 | 7.214 | 7.214 | | 7.214 | 7.214 | ≥500.0 | -6.71 |
| 2437.0 | 7.214 | 7.214 | 7.214 | | 7.214 | 7.214 | ≥500.0 | -6.71 |
| 2462.0 | 7.695 | 7.214 | 7.214 | | 7.695 | 7.214 | ≥500.0 | -6.71 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 2412.0 | 12.745 | 12.906 | 12.826 | | 12.906 | | |
| 2437.0 | 12.745 | 12.906 | 12.585 | | 12.906 | | |
| 2462.0 | 12.906 | 12.986 | 12.665 | | 12.986 | | |

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

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

**Equipment Configuration for 6 dB & 99% Bandwidth**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11g | **Duty Cycle (%):** | 95 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 2412.0 | 16.593 | 16.593 | 16.593 | | 16.593 | | |
| 2437.0 | 21.964 | 21.964 | 20.922 | | 21.964 | | |
| 2462.0 | 16.834 | 16.914 | 16.673 | | 16.914 | | |

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

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

**Equipment Configuration for 6 dB & 99% Bandwidth**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 2412.0 | 17.475 | 17.715 | 17.475 | | 17.715 | 17.475 | ≥500.0 | -16.98 |
| 2437.0 | 17.715 | 17.475 | 17.715 | | 17.715 | 17.475 | ≥500.0 | -16.98 |
| 2462.0 | 17.475 | 17.475 | 17.715 | | 17.715 | 17.475 | ≥500.0 | -16.98 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 2412.0 | 17.715 | 17.796 | 17.715 | | 17.796 | | |
| 2437.0 | 21.884 | 22.204 | 20.681 | | 22.204 | | |
| 2462.0 | 17.876 | 17.876 | 17.796 | | 17.876 | | |

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

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

**Equipment Configuration for 6 dB & 99% Bandwidth**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| **2422.0** | 36.072 | 36.713 | 36.713 | | 36.713 | 36.072 | ≥500.0 | -35.57 |
| **2437.0** | 36.072 | 36.072 | 36.553 | | 36.553 | 36.072 | ≥500.0 | -35.57 |
| **2452.0** | 36.393 | 36.713 | 36.713 | | 36.713 | 36.393 | ≥500.0 | -35.89 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| **2422.0** | 36.393 | 36.393 | 36.393 | | 36.393 | | |
| **2437.0** | 36.874 | 36.874 | 36.713 | | 36.874 | | |
| **2452.0** | 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 links in the above matrix to view the graphical image (plot).

**Equipment Configuration for 6 dB & 99% Bandwidth**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11a | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 5745.0 | 16.754 | 16.914 | 16.593 | | 16.914 | | |
| 5785.0 | 16.754 | 16.914 | 16.593 | | 16.914 | | |
| 5825.0 | 16.593 | 16.754 | 16.593 | | 16.754 | | |

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

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

**Equipment Configuration for 6 dB & 99% Bandwidth**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| **5745.0** | 17.796 | 17.796 | 17.876 | | 17.876 | | |
| **5785.0** | 17.876 | 17.876 | 17.715 | | 17.876 | | |
| **5825.0** | 17.876 | 17.876 | 17.796 | | 17.876 | | |

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

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

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| **5755.0** | 36.713 | 36.713 | 36.393 | | 36.713 | 36.393 | ≥500.0 | -35.89 |
| **5795.0** | 36.713 | 36.713 | 36.393 | | 36.713 | 36.393 | ≥500.0 | -35.89 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| 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 links in the above matrix to view the graphical image (plot).

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-40 | **Duty Cycle (%):** | 87 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| **5755.0** | 36.713 | 36.393 | 36.393 | | 36.713 | 36.393 | ≥500.0 | -35.89 |
| **5795.0** | 36.713 | 35.752 | 36.713 | | 36.713 | 35.752 | ≥500.0 | -35.25 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| 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 links in the above matrix to view the graphical image (plot).

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-80 | **Duty Cycle (%):** | 76 |
| **Data Rate:** | 29.3 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 5775.0 | 76.633 | 74.068 | 73.747 | | 76.633 | 73.747 | ≥500.0 | -73.25 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 5775.0 | 75.992 | 76.313 | 75.671 | | 76.313 | | |

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

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

## XI-AC867 2x2 Operation

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 mbit | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 2412.0 | 7.214 | 7.214 | -- | -- | 7.214 | 7.214 | ≥500.0 | -6.71 |
| 2437.0 | 7.695 | 7.214 | -- | -- | 7.695 | 7.214 | ≥500.0 | -6.71 |
| 2462.0 | 7.214 | 7.214 | -- | -- | 7.214 | 7.214 | ≥500.0 | -6.71 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 2412.0 | 12.265 | 11.784 | -- | -- | 12.265 | | |
| 2437.0 | 12.745 | 11.944 | -- | -- | 12.745 | | |
| 2462.0 | 12.585 | 11.864 | -- | -- | 12.585 | | |

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

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

**Equipment Configuration for 6 dB & 99% Bandwidth**

| | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11g | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

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

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 2412.0 | 16.433 | 16.513 | -- | -- | 16.513 | | |
| 2437.0 | 16.433 | 16.593 | -- | -- | 16.593 | | |
| 2462.0 | 16.513 | 16.673 | -- | -- | 16.673 | | |

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

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

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 2412.0 | 17.715 | 17.475 | -- | -- | 17.715 | 17.475 | ≥500.0 | -16.98 |
| 2437.0 | 17.715 | 17.796 | -- | -- | 17.796 | 17.715 | ≥500.0 | -17.22 |
| 2462.0 | 17.796 | 17.715 | -- | -- | 17.796 | 17.715 | ≥500.0 | -17.22 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 2412.0 | 17.635 | 17.715 | -- | -- | 17.715 | | |
| 2437.0 | 17.715 | 20.681 | -- | -- | 20.681 | | |
| 2462.0 | 17.635 | 17.635 | -- | -- | 17.635 | | |

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

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

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 2422.0 | 36.713 | 36.713 | -- | -- | 36.713 | 36.713 | ≥500.0 | -36.21 |
| 2437.0 | 36.713 | 36.393 | -- | -- | 36.713 | 36.393 | ≥500.0 | -35.89 |
| 2452.0 | 36.713 | 36.393 | -- | -- | 36.713 | 36.393 | ≥500.0 | -35.89 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 2422.0 | 36.393 | 36.393 | -- | -- | 36.393 | | |
| 2437.0 | 36.232 | 36.553 | -- | -- | 36.553 | | |
| 2452.0 | 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 links in the above matrix to view the graphical image (plot).

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11a | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 5745.0 | 16.513 | 16.513 | -- | -- | 16.513 | 16.513 | ≥500.0 | -16.01 |
| 5785.0 | 16.513 | 16.673 | -- | -- | 16.673 | 16.513 | ≥500.0 | -16.01 |
| 5825.0 | 16.513 | 16.513 | -- | -- | 16.513 | 16.513 | ≥500.0 | -16.01 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| 5745.0 | 16.513 | 16.593 | -- | -- | 16.593 | | |
| 5785.0 | 16.513 | 16.593 | -- | -- | 16.593 | | |
| 5825.0 | 16.513 | 16.593 | -- | -- | 16.593 | | |

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

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

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11ac-80 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 29.3 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| **5775.0** | 77.275 | 77.275 | -- | -- | 77.275 | 77.275 | ≥500.0 | -76.78 |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| **5775.0** | 75.992 | 76.313 | -- | -- | 76.313 | | |

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

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

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 6 dB Bandwidth (MHz) Port(s) | | | | 6 dB Bandwidth (MHz) | | Limit | Lowest Margin |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Highest | Lowest | KHz | MHz |
| 5745.0 | 17.475 | 17.796 | -- | -- | 17.796 | 17.475 | ≥500.0 | -16.98 |
| 5785.0 | 17.715 | 17.796 | -- | -- | 17.796 | 17.715 | ≥500.0 | -17.22 |
| 5825.0 | 17.796 | 17.796 | -- | -- | 17.796 | 17.796 | ≥500.0 | -17.30 |

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

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

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

| Equipment Configuration for 6 dB & 99% Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

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

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | Maximum 99% Bandwidth (MHz) | | |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | | | |
| **5755.0** | 36.393 | 36.393 | -- | -- | 36.393 | | |
| **5795.0** | 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 links in the above matrix to view the graphical image (plot).

## 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<br><br>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**
The transmitter terminal of EUT was connected to the input of the spectrum analyzer set to measure peak power. The resolution filter bandwidth was set to 6 dB, peak detector selected and the analyzer built-in power function was used to integrate peak power over the 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

### 2.4 GHz Uncorrelated Operation (MIMO)

| Antenna | Gain | Max. Allowable Conducted Peak Power (dBm) | | Maximum EIRP |
|---|---|---|---|---|
| (dB) | (dBi) | Uncorrelated | Max. Power Per Chain | (dBm) |
| Integral | 3.0 | +30.0 | +27.00 | +33.0 |

### 5.8 GHz Uncorrelated Operation (MIMO)

| Antenna | Gain | Max. Allowable Conducted Peak Power (dBm) | | Maximum EIRP |
|---|---|---|---|---|
| (dB) | (dBi) | Uncorrelated | Max. Power Per Chain | (dBm) |
| Integral | 5.0 | +30.0 | +25.23 | +35.0 |

## Correlated Operation

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

| Antenna | Gain dBi | Antenna Gain Increase V's No. Antenna Ports | | Total Gain | Max. Allowable Conducted Peak Power | Maximum EIRP |
|---|---|---|---|---|---|---|
| (dB) | | Ports | dB | dBi | ∑ (dBm) | (dBm) |
| Integral | 3.0 | 3 | 4.77 | 7.77 | +28.23 | +36.0 |

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

| Antenna | Gain dBi | Antenna Gain Increase V's No. Antenna Ports | | Total Gain | Max. Allowable Conducted Peak Power | Maximum EIRP |
|---|---|---|---|---|---|---|
| (dB) | | Ports | dB | dBi | ∑ (dBm) | (dBm) |
| Integral | 5.0 | 3 | 4.77 | 9.77 | +26.23 | +36.0 |

## XI-AC1300 3x3 Operation

| Equipment Configuration for Average Output Power |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11b | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 1 MBit/s | **Antenna Gain (dBi):** | 2.50 |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dBm | |
| **2412.0** | 19.39 | 20.12 | 18.77 | -- | 24.24 | 30.00 | -5.76 | Target |
| **2437.0** | 19.14 | 20.25 | 18.47 | -- | 24.12 | 30.00 | -5.88 | Target |
| **2462.0** | 18.89 | 20.09 | 17.47 | -- | 23.72 | 30.00 | -6.28 | Target |

| 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:** | 3x3 802.11g | **Duty Cycle (%):** | 94.5 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | 2.50 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dBm | |
| **2412.0** | 16.55 | 16.61 | 16.16 | -- | 21.21 | 30.00 | -8.79 | 15.00 |
| **2437.0** | 19.52 | 20.45 | 18.74 | -- | 24.39 | 30.00 | -5.61 | Target |
| **2462.0** | 17.43 | 18.31 | 15.61 | -- | 22.02 | 30.00 | -7.98 | 16.00 |

| 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:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94.0 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | 2.50 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dBm | |
| **2412.0** | 16.72 | 17.59 | 16.02 | -- | 21.59 | 30.00 | -8.41 | 15.00 |
| **2437.0** | 19.55 | 20.56 | 18.43 | -- | 24.37 | 30.00 | -5.63 | Target |
| **2462.0** | 17.28 | 18.35 | 15.62 | -- | 21.99 | 30.00 | -8.01 | 16.00 |

| 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:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94.0 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | 2.50 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dBm | |
| **2422.0** | 17.01 | 17.82 | 16.17 | -- | 21.82 | 30.00 | -8.18 | 16.00 |
| **2437.0** | 17.95 | 19.34 | 17.38 | -- | 23.07 | 30.00 | -6.93 | Target |
| **2452.0** | 16.85 | 17.90 | 15.45 | -- | 21.62 | 30.00 | -8.38 | 16.00 |

| 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:** | 3x3 802.11a | **Duty Cycle (%):** | 94.0 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dBm | |
| **5745.0** | 17.42 | 18.38 | 17.51 | -- | 22.56 | 30.00 | -7.44 | 17.00 |
| **5785.0** | 17.74 | 18.20 | 17.26 | -- | 22.52 | 30.00 | -7.48 | 17.00 |
| **5825.0** | 17.57 | 18.31 | 17.41 | -- | 22.55 | 30.00 | -7.45 | 17.00 |

| 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:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94.0 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dBm | |
| **5745.0** | 17.29 | 18.25 | 17.21 | -- | 22.38 | 30.00 | -7.62 | 17.00 |
| **5785.0** | 17.51 | 18.05 | 17.21 | -- | 22.37 | 30.00 | -7.63 | 17.00 |
| **5825.0** | 17.29 | 18.09 | 17.32 | -- | 22.35 | 30.00 | -7.65 | 17.00 |

| 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:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94.0 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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** | 15.59 | 17.16 | 15.77 | -- | 21.00 | 30.00 | -9.00 | 17.00 |
| **5795.0** | 16.05 | 18.01 | 15.64 | -- | 21.46 | 30.00 | -8.54 | 17.00 |

| 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:** | 3x3 802.11ac-40 | **Duty Cycle (%):** | 86.6 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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** | 15.83 | 17.49 | 16.12 | -- | 21.32 | 30.00 | -8.68 | 17.00 |
| **5795.0** | 16.47 | 18.48 | 15.91 | -- | 21.88 | 30.00 | -8.12 | 17.00 |

| 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:** | 3x3 802.11ac-80 | **Duty Cycle (%):** | 76.3 |
| **Data Rate:** | 29.3 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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 | |
| **5775.0** | 16.22 | 17.97 | 15.97 | -- | 21.59 | 30.00 | -8.41 | 17.00 |

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

## XI-AC867 2x2 Operation

| Equipment Configuration for Average Output Power | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11b | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 1 Mbit/s | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.04 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| 2412.0 | 19.33 | 17.60 | -- | -- | 21.60 | 30.00 | -8.40 | 18.00 |
| 2437.0 | 19.94 | 18.96 | -- | -- | 22.53 | 30.00 | -7.47 | 19.00 |
| 2462.0 | 19.69 | 19.12 | -- | -- | 22.47 | 30.00 | -7.53 | 19.00 |

| 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:** | 2x2 802.11g | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.04 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| 2412.0 | 14.15 | 16.69 | -- | -- | 18.66 | 30.00 | -11.34 | 15.00 |
| 2437.0 | 17.48 | 19.08 | -- | -- | 21.41 | 30.00 | -8.59 | 18.00 |
| 2462.0 | 16.88 | 18.03 | -- | -- | 20.55 | 30.00 | -9.45 | 17.00 |

| 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:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| 2412.0 | 15.11 | 17.49 | -- | -- | 19.56 | 30.00 | -10.44 | 16.00 |
| 2437.0 | 18.24 | 19.72 | -- | -- | 22.14 | 30.00 | -7.86 | 19.00 |
| 2462.0 | 15.65 | 17.10 | -- | -- | 19.53 | 30.00 | -10.47 | 16.00 |

| 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:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| 2422.0 | 15.12 | 16.87 | -- | -- | 19.18 | 30.00 | -10.82 | 16.00 |
| 2437.0 | 17.13 | 18.61 | -- | -- | 21.03 | 30.00 | -8.97 | 18.00 |
| 2452.0 | 16.08 | 17.73 | -- | -- | 20.08 | 30.00 | -9.92 | 17.00 |

| 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:** | 2x2 802.11a | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| **5745.0** | 17.77 | 17.21 | -- | -- | 20.60 | 30.00 | -9.40 | 18.00 |
| **5785.0** | 17.98 | 17.97 | -- | -- | 21.07 | 30.00 | -8.93 | 18.00 |
| **5825.0** | 18.29 | 17.86 | -- | -- | 21.18 | 30.00 | -8.82 | 18.00 |

| 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:** | 2x2 802.11ac-80 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 29.3 mbits | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| **5775.0** | 16.58 | 16.65 | -- | -- | 19.71 | 30.00 | -10.29 | 18.00 |

| 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:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| **5745.0** | 17.92 | 17.15 | -- | -- | 20.65 | 30.00 | -9.35 | 18.00 |
| **5785.0** | 16.99 | 16.25 | -- | -- | 19.73 | 30.00 | -10.27 | 17.00 |
| **5825.0** | 17.28 | 16.80 | -- | -- | 20.14 | 30.00 | -9.86 | 17.00 |

| 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:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | 2.0 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Output Power (dBm) Port(s) | | | | Calculated Total Power Σ Port(s) + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm | dBm | dB | |
| **5755.0** | 15.59 | 16.01 | -- | -- | 18.90 | 30.00 | -11.10 | 17.00 |
| **5795.0** | 15.94 | 16.03 | -- | -- | 19.08 | 30.00 | -10.92 | 17.00 |

| 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 |

### 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 level in a 3 kHz bandwidth was measured. A peak value was found over the full emission bandwidth and the frequency span reduced to obtain enhanced resolution. Sweep time ≥ span / 3 kHz with video averaging turned off. The Peak Power Spectral Density is the highest level found across the emission in a 3 kHz resolution bandwidth.

**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

## XI-AC1300 3x3 Operation

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density (dBm) | | | | Calculated Total Power Spectral Density | | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| | Port(s) | | | | dBm | | | |
| MHz | a | b | c | d | Σ Port(s) per 30kHz RBW | Conversion to 3 kHz RBW | dBm | dB |
| 2412.0 | 1.607 | 3.049 | 0.820 | -- | 6.696 | -3.304 | 8.00 | -11.30 |
| 2437.0 | 0.486 | 1.384 | 0.827 | -- | 5.686 | -4.314 | 8.00 | -12.32 |
| 2462.0 | 1.607 | 2.591 | -1.026 | -- | 6.078 | -3.922 | 8.00 | -11.92 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11g | **Duty Cycle (%):** | 95 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density (dBm) | | | | Calculated Total Power Spectral Density | | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| | Port(s) | | | | dBm | | | |
| MHz | a | b | c | d | Σ Port(s) per 30kHz RBW | Conversion to 3 kHz RBW | dBm | dB |
| 2412.0 | -4.650 | -3.342 | -5.115 | -- | 0.469 | -9.531 | 8.00 | -17.53 |
| 2437.0 | -1.113 | -0.373 | -2.900 | -- | 3.433 | -6.567 | 8.00 | -14.57 |
| 2462.0 | -4.313 | -2.771 | -5.719 | -- | 0.670 | -9.330 | 8.00 | -17.33 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density (dBm) | | | | Calculated Total Power Spectral Density | | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| | Port(s) | | | | dBm | | | |
| MHz | a | b | c | d | Σ Port(s) per 30kHz RBW | Conversion to 3 kHz RBW | dBm | dB |
| 2412.0 | -5.412 | -4.047 | -5.606 | -- | -0.193 | -10.193 | 8.00 | -18.19 |
| 2437.0 | -1.585 | -1.703 | -3.211 | -- | 2.665 | -7.335 | 8.00 | -15.34 |
| 2462.0 | -4.390 | -3.114 | -6.348 | -- | 0.350 | -9.650 | 8.00 | -17.65 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density (dBm) | | | | Calculated Total Power Spectral Density | | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| | Port(s) | | | | dBm | | | |
| MHz | a | b | c | d | Σ Port(s) per 30kHz RBW | Conversion to 3 kHz RBW | dBm | dB |
| 2422.0 | -8.953 | -7.787 | -10.027 | -- | -4.055 | -14.055 | 8.00 | -22.06 |
| 2437.0 | -7.459 | -6.080 | -8.095 | -- | -2.357 | -12.357 | 8.00 | -20.36 |
| 2452.0 | -9.511 | -8.676 | -10.920 | -- | -4.835 | -14.835 | 8.00 | -22.84 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11a | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**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 | -4.138 | -3.045 | -4.527 | -- | 0.914 | -9.086 | 8.00 | -17.09 |
| 5785.0 | -3.880 | -3.233 | -4.454 | -- | 0.944 | -9.056 | 8.00 | -17.06 |
| 5825.0 | -3.588 | -3.293 | -3.990 | -- | 1.157 | -8.843 | 8.00 | -16.84 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**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 | -4.250 | -3.403 | -4.588 | -- | 0.720 | -9.280 | 8.00 | -17.28 |
| 5785.0 | -4.549 | -4.010 | -4.663 | -- | 0.373 | -9.627 | 8.00 | -17.63 |
| 5825.0 | -4.129 | -4.254 | -4.296 | -- | 0.545 | -9.455 | 8.00 | -17.46 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**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 | -9.897 | -9.054 | -10.166 | -- | -4.908 | -14.908 | 8.00 | -22.91 |
| 5795.0 | -9.857 | -8.496 | -9.953 | -- | -4.612 | -14.612 | 8.00 | -22.61 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-40 | **Duty Cycle (%):** | 87 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**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 | -10.697 | -9.299 | -10.732 | -- | -5.418 | -15.418 | 8.00 | -23.42 |
| 5795.0 | -10.183 | -8.455 | -10.884 | -- | -4.946 | -14.946 | 8.00 | -22.95 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-80 | **Duty Cycle (%):** | 76 |
| **Data Rate:** | 29.3 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | | | |

**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** | -15.387 | -13.639 | -16.262 | -- | -10.185 | -20.185 | 8.00 | -28.19 |

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

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

## XI-AC867 2x2 Operation

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11b | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 1 mbit/s | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.04 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 2412.0 | -11.705 | -13.565 | -- | -- | -9.746 | 8.0 | -17.8 |
| 2437.0 | -11.705 | -12.869 | -- | -- | -9.273 | 8.0 | -17.3 |
| 2462.0 | -11.519 | -12.591 | -- | -- | -9.230 | 8.0 | -17.2 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11g | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.04 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 2412.0 | -21.023 | -18.611 | -- | -- | -16.940 | 8.0 | -25.0 |
| 2437.0 | -17.482 | -17.310 | -- | -- | -15.042 | 8.0 | -23.1 |
| 2462.0 | -18.142 | -17.013 | -- | -- | -14.855 | 8.0 | -22.9 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 2412.0 | -20.738 | -17.520 | -- | -- | -15.794 | 8.0 | -23.8 |
| 2437.0 | -17.179 | -15.966 | -- | -- | -13.866 | 8.0 | -21.9 |
| 2462.0 | -19.961 | -18.039 | -- | -- | -16.132 | 8.0 | -24.1 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 2422.0 | -23.917 | -22.367 | -- | -- | -20.198 | 8.0 | -28.2 |
| 2437.0 | -21.874 | -20.908 | -- | -- | -18.710 | 8.0 | -26.7 |
| 2452.0 | -23.331 | -21.023 | -- | -- | -18.997 | 8.0 | -27.0 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11a | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 5745.0 | -17.386 | -17.936 | -- | -- | -14.940 | 8.0 | -23.0 |
| 5785.0 | -17.050 | -17.160 | -- | -- | -14.635 | 8.0 | -22.6 |
| 5825.0 | -17.310 | -17.050 | -- | -- | -14.536 | 8.0 | -22.5 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11ac-80 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 29.3 mbits | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 5775.0 | -26.268 | -26.322 | -- | -- | -23.250 | 8.0 | -31.3 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 5745.0 | -17.579 | -18.246 | -- | -- | -15.127 | 8.0 | -23.1 |
| 5785.0 | -18.655 | -19.561 | -- | -- | -16.259 | 8.0 | -24.3 |
| 5825.0 | -18.438 | -18.879 | -- | -- | -15.973 | 8.0 | -24.0 |

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

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

| Equipment Configuration for Power Spectral Density - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98.0 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | 2.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/3KHz) | | | | Amplitude Summation + DCCF Duty Cycle Correction Factor : +0.09 dB | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/3KHz | dBm/3KHz | dB |
| 5755.0 | -23.522 | -22.782 | -- | -- | -20.559 | 8.0 | -28.6 |
| 5795.0 | -23.483 | -22.925 | -- | -- | -20.375 | 8.0 | -28.4 |

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

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

**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<br><br>**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 at a limit of 20 dB below the highest in-band spectral density measured with a spectrum analyzer connected to the antenna terminal. 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.

## XI-AC1300 3x3 Operation

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -40.38 | -27.17 | 2403.20 | | | -13.21 |
| b | -39.78 | -26.46 | 2403.10 | | | -13.32 |
| c | -40.18 | -27.82 | 2403.10 | | | -12.36 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -51.84 | -28.18 | 2470.90 | -- | -- | -12.600 |
| b | -47.82 | -26.89 | 2471.00 | -- | -- | -12.500 |
| c | -52.39 | -29.14 | 2470.80 | -- | -- | -12.700 |

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

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

**Equipment Configuration for Transmitter Conducted Spurious Emissions**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2412.0** | 30.0 - 26000.0 | -66.480 | -44.31 | -66.480 | -43.39 | -66.480 | -44.66 | -- | -- |
| **2437.0** | 30.0 - 26000.0 | -66.480 | -44.54 | -66.480 | -43.40 | -66.480 | -45.42 | -- | -- |
| **2462.0** | 30.0 - 26000.0 | -66.480 | -45.15 | -66.480 | -43.84 | -67.504 | -46.52 | -- | -- |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11g | **Duty Cycle (%):** | 95 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. Limit for Band-Edge conducted emissions was found to be 802.11b 2412 MHz Port b = -26.46 dBm | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -33.65 | -26.46 | 2402.50 | | | -7.19 |
| b | -32.68 | -26.46 | 2402.20 | | | -6.22 |
| c | -34.24 | -26.46 | 2402.80 | | | -7.78 |

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

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

Per communication with the FCC the limit for Conducted Band-Edge Emissions can be increased to the highest limit observed for any operational mode in the same frequency band. The highest limit found was 802.11b 2412 MHz @ -26.46 dBm. This limit was used to determine compliance.

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11g | **Duty Cycle (%):** | 95 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -48.32 | -34.07 | 2474.90 | -- | -- | -8.600 |
| b | -44.72 | -32.92 | 2475.80 | -- | -- | -7.700 |
| c | -50.06 | -35.54 | 2475.20 | -- | -- | -8.300 |

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

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

**Equipment Configuration for Transmitter Conducted Spurious Emissions**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11g | **Duty Cycle (%):** | 95 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2412.0** | 30.0 - 26000.0 | -66.480 | -45.89 | -66.480 | -44.93 | -66.480 | -46.52 | -- | -- |
| **2437.0** | 30.0 - 26000.0 | -66.480 | -42.24 | -66.480 | -42.63 | -66.480 | -42.94 | -- | -- |
| **2462.0** | 30.0 - 26000.0 | -66.480 | -45.46 | -66.480 | -44.17 | -67.504 | -46.90 | -- | -- |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. Loss of pigtail not considered. Limit for Band-Edge conducted emissions was found to be 802.11b 2412 MHz Port b = -26.46 dBm | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -33.73 | -26.46 | 2402.10 | -- | -- | -7.27 |
| b | -32.05 | -26.46 | 2401.80 | -- | -- | -5.59 |
| c | -33.68 | -26.46 | 2402.20 | -- | -- | -7.22 |

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

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

Per communication with the FCC the limit for Conducted Band-Edge Emissions can be increased to the highest limit observed for any operational mode in the same frequency band. The highest limit found was 802.11b 2412 MHz @ -26.46 dBm. This limit was used to determine compliance.

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -47.53 | -34.29 | 2475.20 | -- | -- | -8.300 |
| b | -44.44 | -33.34 | 2475.80 | -- | -- | -7.700 |
| c | -50.58 | -35.92 | 2475.20 | -- | -- | -8.300 |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2412.0** | 30.0 - 26000.0 | -66.480 | -46.51 | -66.480 | -45.02 | -66.480 | -46.38 | -- | -- |
| **2437.0** | 30.0 - 26000.0 | -66.480 | -42.01 | -66.480 | -40.92 | -66.480 | -42.87 | -- | -- |
| **2462.0** | 30.0 - 26000.0 | -66.480 | -44.94 | -66.480 | -43.97 | -67.504 | -46.53 | -- | -- |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. Limit for Band-Edge conducted emissions was found to be 802.11b 2412 MHz Port b = -26.46 dBm | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -32.29 | -26.46 | 2403.20 | -- | -- | -5.83 |
| b | -32.90 | -26.46 | 2402.90 | -- | -- | -6.44 |
| c | -33.43 | -26.46 | 2403.20 | -- | -- | -6.97 |

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

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

Per communication with the FCC the limit for Conducted Band-Edge Emissions can be increased to the highest limit observed for any operational mode in the same frequency band. The highest limit found was 802.11b 2412 MHz @ -26.46 dBm. This limit was used to determine compliance.

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -42.94 | -38.60 | 2478.60 | -- | -- | -4.900 |
| b | -39.95 | -37.47 | 2480.70 | -- | -- | -2.800 |
| c | -44.84 | -39.74 | 2478.60 | -- | -- | -4.900 |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2422.0** | 30.0 - 26000.0 | -66.480 | -47.05 | -66.480 | -45.89 | -66.480 | -47.64 | -- | -- |
| **2437.0** | 30.0 - 26000.0 | -66.480 | -41.05 | -66.480 | -40.21 | -66.480 | -42.58 | -- | -- |
| **2452.0** | 30.0 - 26000.0 | -66.480 | -42.45 | -66.480 | -41.60 | -67.504 | -44.36 | -- | -- |

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

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

| Equipment Configuration for Low Conducted Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11a | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| **a** | -49.68 | -33.64 | 5732.80 | | | -16.04 |
| **b** | -47.04 | -33.25 | 5731.80 | | | -13.79 |
| **c** | -51.37 | -33.87 | 5732.30 | | | -17.50 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11a | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| **a** | -48.89 | -33.49 | 5837.70 | -- | -- | -12.300 |
| **b** | -56.59 | -33.45 | 5837.90 | -- | -- | -12.100 |
| **c** | -57.39 | -33.93 | 5837.40 | -- | -- | -12.600 |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11a | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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 | -59.121 | -49.53 | -57.266 | -48.49 | -56.938 | -49.30 | -- | -- |
| **5785.0** | 30.0 - 26000.0 | -59.121 | -44.62 | -55.462 | -44.16 | -56.938 | -44.81 | -- | -- |
| **5825.0** | 30.0 - 26000.0 | -56.938 | -44.86 | -55.195 | -43.85 | -56.938 | -44.95 | -- | -- |

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

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

| Equipment Configuration for Low Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -48.34 | -34.19 | 5732.10 | -- | -- | -14.15 |
| b | -46.48 | -33.74 | 5731.50 | -- | -- | -12.74 |
| c | -50.54 | -34.76 | 5731.80 | -- | -- | -15.78 |

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

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

| Equipment Configuration for High Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -48.24 | -34.28 | 5837.90 | -- | -- | -12.100 |
| b | -55.00 | -33.78 | 5838.20 | -- | -- | -11.800 |
| c | -55.80 | -34.65 | 5837.70 | -- | -- | -12.300 |

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

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

**Equipment Configuration for Transmitter Conducted Spurious Emissions**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-20 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 6.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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 | -59.121 | -49.64 | -57.266 | -48.50 | -56.938 | -49.52 | -- | -- |
| **5785.0** | 30.0 - 26000.0 | -57.607 | -45.12 | -55.738 | -44.09 | -56.938 | -44.80 | -- | -- |
| **5825.0** | 30.0 - 26000.0 | -56.938 | -44.92 | -55.462 | -44.00 | -57.266 | -44.66 | -- | -- |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| **a** | -42.87 | -38.97 | 5727.80 | | | -3.90 |
| **b** | -41.52 | -38.11 | 5728.10 | | | -3.41 |
| **c** | -44.82 | -39.43 | 5729.30 | | | -5.39 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| **a** | -48.89 | -39.03 | 5820.70 | -- | -- | -29.300 |
| **b** | -58.42 | -37.56 | 5821.30 | -- | -- | -28.700 |
| **c** | -59.22 | -39.91 | 5820.40 | -- | -- | -29.600 |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11n HT-40 | **Duty Cycle (%):** | 94 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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 | -62.044 | -45.40 | -59.990 | -44.12 | -62.044 | -45.45 | -- | -- |
| **5795.0** | 30.0 - 26000.0 | -59.990 | -48.90 | -55.738 | -46.90 | -63.286 | -49.46 | -- | -- |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-40 | **Duty Cycle (%):** | 87 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -42.54 | -39.47 | 5728.10 | -- | -- | -3.07 |
| b | -41.52 | -38.41 | 5727.50 | -- | -- | -3.11 |
| c | -44.82 | -39.48 | 5729.30 | -- | -- | -5.34 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-40 | **Duty Cycle (%):** | 87 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**Test Measurement Results**

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

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M3 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| a | -48.89 | -39.14 | 5821.30 | -- | -- | -28.700 |
| b | -58.42 | -37.23 | 5821.30 | -- | -- | -28.700 |
| c | -59.22 | -40.00 | 5820.40 | -- | -- | -29.600 |

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

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

**Equipment Configuration for Transmitter Conducted Spurious Emissions**

| | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-40 | **Duty Cycle (%):** | 87 |
| **Data Rate:** | 13.5 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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 | -62.044 | -45.50 | -60.956 | -44.02 | -63.286 | -45.51 | -- | -- |
| **5795.0** | 30.0 - 26000.0 | -59.990 | -48.81 | -55.738 | -46.71 | -63.286 | -49.32 | -- | -- |

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

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

| Equipment Configuration for Conducted Low and High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-80 | **Duty Cycle (%):** | 76 |
| **Data Rate:** | 29.3 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered.<br>Limit for Band-Edge conducted emissions was found to be 802.11a 5825 MHz @ -33.45 dBm | | |

**Test Measurement Results**

| | |
|---|---|
| **Channel Frequency:** | 5775.0 MHz |
| **Band-Edge Frequency:** | 5725.0 MHz |
| **Test Frequency Range:** | 5600.0 - 5900.0 MHz |

| Port(s) | Band-Edge Markers and Limit | | | Amended Limit | | Margin |
|---|---|---|---|---|---|---|
| | M1 Amplitude (dBm) | Plot Limit (dBm) | M2 Frequency (MHz) | Amplitude (dBm) | M2A Frequency (MHz) | (MHz) |
| **a** | -43.561 | -33.45 | 5735.90 | -- | -- | -10.11 |
| **b** | -41.738 | -33.45 | 5732.90 | -- | -- | -8.29 |
| **c** | -43.661 | -33.45 | 5735.90 | -- | -- | -10.21 |

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

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

Per communication with the FCC the limit for Band-Edge 5755 MHz "Port a" can be increased to the highest limit observed for any operational mode in the same frequency band. The highest limit found was 802.11a 5825 MHz @ -33.45 dBm which was used to determine compliance.

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 3x3 802.11ac-80 | **Duty Cycle (%):** | 76 |
| **Data Rate:** | 29.3 MBit/s | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | GMH |
| **Engineering Test Notes:** | Test setup: 6" SMA pigtails soldered onto the pcb. Loss of pigtail not considered. | | |

**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** | 30.0 - 26000.0 | -60.956 | -44.92 | -56.622 | -43.17 | -63.286 | -45.17 | -- | -- |

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

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

## XI-AC867 2x2 Operation

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 mbit | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2412.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2400.0 MHz | | | | | |
| **Test Frequency Range:** | 2350.0 - 2422.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -40.33 | -27.11 | 2403.50 | | | -3.500 |
| **b** | -52.26 | -28.56 | 2404.00 | | | -4.000 |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11g | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2412.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2400.0 MHz | | | | | |
| **Test Frequency Range:** | 2350.0 - 2422.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -42.34 | -36.71 | 2401.40 | | | -1.400 |
| **b** | -36.58 | -33.92 | 2401.10 | | | -1.100 |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2412.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2400.0 MHz | | | | | |
| **Test Frequency Range:** | 2350.0 - 2422.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -41.48 | -37.10 | 2400.90 | | | -0.900 |
| **b** | -36.23 | -34.15 | 2400.60 | | | -0.600 |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2422.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2400.0 MHz | | | | | |
| **Test Frequency Range:** | 2292.0 - 2442.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -42.45 | -40.89 | 2400.50 | | | -0.500 |
| **b** | -38.00 | -27.11 | 2403.20 | | | -3.200 |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11a | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 5745.0 MHz | | | | | |
| **Band-Edge Frequency:** | 5725.0 MHz | | | | | |
| **Test Frequency Range:** | 5683.0 - 5755.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -49.22 | -32.61 | 5734.20 | | | -9.200 |
| **b** | -50.69 | -33.70 | 5733.90 | | | -8.900 |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11ac-80 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 29.3 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 5775.0 MHz | | | | | |
| **Band-Edge Frequency:** | 5725.0 MHz | | | | | |
| **Test Frequency Range:** | 5600.0 - 5900.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -44.77 | -41.22 | 5730.50 | | | -5.500 |
| **b** | -45.00 | -41.20 | 5730.50 | | | -5.500 |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 5745.0 MHz | | | | | |
| **Band-Edge Frequency:** | 5725.0 MHz | | | | | |
| **Test Frequency Range:** | 5683.0 - 5755.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -48.83 | -33.22 | 5733.60 | | | -8.600 |
| **b** | -49.42 | -33.95 | 5733.40 | | | -8.400 |

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

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

| Equipment Configuration for Conducted Low Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 5755.0 MHz | | | | | |
| **Band-Edge Frequency:** | 5725.0 MHz | | | | | |
| **Test Frequency Range:** | 5625.0 - 5775.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M1 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -49.42 | -39.31 | 5732.30 | | | -7.300 |
| **b** | -46.06 | -38.35 | 5732.30 | | | -7.300 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 mbit | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2462.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2483.5 MHz | | | | | |
| **Test Frequency Range:** | 2452.0 - 2524.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M3 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -54.39 | -26.50 | 2470.60 | | | -12.900 |
| **b** | -61.80 | -27.78 | 2470.30 | | | -13.200 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11g | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2462.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2483.5 MHz | | | | | |
| **Test Frequency Range:** | 2452.0 - 2524.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M3 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -52.36 | -34.06 | 2473.10 | | | -10.400 |
| **b** | -42.84 | -32.56 | 2475.20 | | | -8.300 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2462.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2483.5 MHz | | | | | |
| **Test Frequency Range:** | 2452.0 - 2524.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M3 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -58.38 | -35.61 | 2473.10 | | | -10.400 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 2452.0 MHz | | | | | |
| **Band-Edge Frequency:** | 2483.5 MHz | | | | | |
| **Test Frequency Range:** | 2432.0 - 2582.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M3 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -51.67 | -39.22 | 2474.10 | | | -9.400 |
| **b** | -39.95 | -36.72 | 2478.90 | | | -4.600 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11a | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| **Channel Frequency:** | 5825.0 MHz | | | | | |
|---|---|---|---|---|---|---|
| **Band-Edge Frequency:** | 5850.0 MHz | | | | | |
| **Test Frequency Range:** | 5815.0 - 5887.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M3 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -51.16 | -32.67 | 5836.10 | | | -13.900 |
| **b** | -55.34 | -32.75 | 5836.10 | | | -13.900 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| **Channel Frequency:** | 5825.0 MHz | | | | | |
|---|---|---|---|---|---|---|
| **Band-Edge Frequency:** | 5850.0 MHz | | | | | |
| **Test Frequency Range:** | 5815.0 - 5887.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M3 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -51.66 | -33.87 | 5836.50 | | | -13.500 |
| **b** | -56.17 | -34.44 | 5836.50 | | | -13.500 |

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

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

| Equipment Configuration for Conducted High Band-Edge Emissions - Average | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Channel Frequency:** | 5795.0 MHz | | | | | |
| **Band-Edge Frequency:** | 5850.0 MHz | | | | | |
| **Test Frequency Range:** | 5775.0 - 5925.0 MHz | | | | | |
| **Port(s)** | **Band-Edge Markers and Limit** | | | **Amended Limit** | | **Margin** |
| | **M3 Amplitude (dBm)** | **Plot Limit (dBm)** | **M2 Frequency (MHz)** | **Amplitude (dBm)** | **M2A Frequency (MHz)** | **(MHz)** |
| **a** | -53.89 | -38.59 | 5817.40 | | | -32.600 |
| **b** | -62.29 | -38.80 | 5817.10 | | | -32.900 |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11b | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 1 mbit | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | CCK | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2412.0** | 30.0 - 26000.0 | -70.002 | -44.56 | -68.663 | -46.17 | | | | |
| **2437.0** | 30.0 - 26000.0 | -70.002 | -43.75 | -68.663 | -45.04 | | | | |
| **2462.0** | 30.0 - 26000.0 | -70.002 | -44.21 | -70.002 | -45.19 | | | | |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 802.11g | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2412.0** | 30.0 - 26000.0 | -67.504 | -48.08 | -66.480 | -45.51 | -- | -- | -- | -- |
| **2437.0** | 30.0 - 26000.0 | -66.480 | -46.11 | -66.480 | -44.36 | -- | -- | -- | -- |
| **2462.0** | 30.0 - 26000.0 | -66.480 | -45.38 | -65.565 | -43.79 | -- | -- | -- | -- |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2412.0** | 30.0 - 26000.0 | -67.504 | -47.15 | -66.480 | -44.65 | -- | -- | -- | -- |
| **2437.0** | 30.0 - 26000.0 | -66.480 | -43.05 | -64.737 | -41.62 | -- | -- | -- | -- |
| **2462.0** | 30.0 - 26000.0 | -66.480 | -46.16 | -66.480 | -44.77 | -- | -- | -- | -- |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **2422.0** | 30.0 - 26000.0 | -67.504 | -48.20 | -66.480 | -46.52 | -- | -- | -- | -- |
| **2437.0** | 30.0 - 26000.0 | -66.480 | -41.66 | -66.480 | -40.30 | -- | -- | -- | -- |
| **2452.0** | 30.0 - 26000.0 | -66.480 | -42.59 | -66.480 | -41.09 | -- | -- | -- | -- |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11a | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Frequency Range | Transmitter Conducted Spurious Emissions (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Port a | | Port b | | Port c | | Port d | |
| MHz | MHz | SE | Limit | SE | Limit | SE | Limit | SE | Limit |
| **5745.0** | 30.0 - 26000.0 | -56.938 | -48.35 | -60.956 | -48.99 | -- | -- | -- | -- |
| **5785.0** | 30.0 - 26000.0 | -57.607 | -43.91 | -58.717 | -43.99 | -- | -- | -- | -- |
| **5825.0** | 30.0 - 26000.0 | -55.738 | -43.62 | -55.738 | -43.96 | -- | -- | -- | -- |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11ac-80 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 29.3 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | 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** | 30.0 - 26000.0 | -62.643 | -42.51 | -58.717 | -42.12 | -- | -- | -- | -- |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-20 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 6.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | 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 | -57.266 | -48.02 | -60.956 | -49.13 | -- | -- | -- | -- |
| **5785.0** | 30.0 - 26000.0 | -57.607 | -44.46 | -61.483 | -45.50 | -- | -- | -- | -- |
| **5825.0** | 30.0 - 26000.0 | -58.331 | -44.36 | -58.717 | -44.86 | -- | -- | -- | -- |

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

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

| Equipment Configuration for Transmitter Conducted Spurious Emissions | | | |
|---|---|---|---|
| **Variant:** | 2x2 802.11n HT-40 | **Duty Cycle (%):** | 98 |
| **Data Rate:** | 13.5 mbits | **Antenna Gain (dBi):** | Not Applicable |
| **Modulation:** | OFDM | **Beam Forming Gain (Y):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | AH |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | 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 | -44.78 | -62.643 | -44.26 | -- | -- | -- | -- |
| **5795.0** | 30.0 - 26000.0 | -60.460 | -48.22 | -63.286 | -48.32 | -- | -- | -- | -- |

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

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

## 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 5$^{th}$ 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))

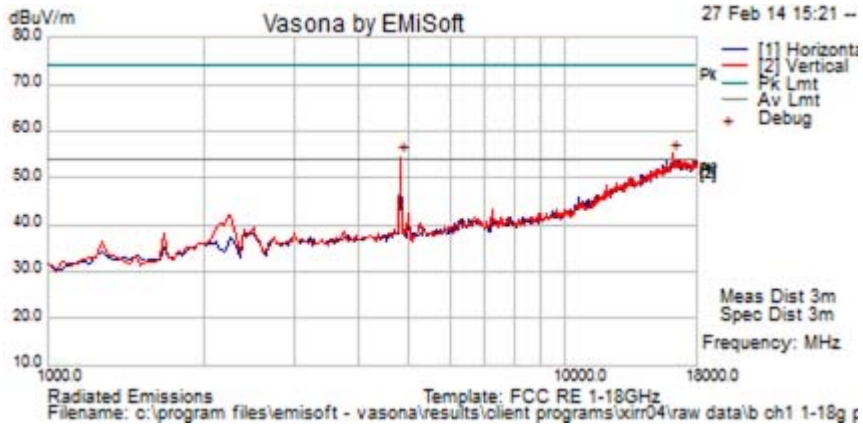
40 dBμV/m = 100 μV/m
48 dBμV/m = 250 μV/m

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

**Selection of test modes were operational modes that returned the highest power spectral density during conducted testing.**

### 5.1.2.1. Spurious Emissions

| | | | |
|---|---|---|---|
| **Test Freq.** | 2412 MHz | **Engineer** | SB |
| **Variant** | 802.11b; 1 Mbs | **Temp (ºC)** | 21 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 27 |
| **Power Setting** | 12 | **Press. (mBars)** | 1008 |
| **Antenna** | Integral | **Duty Cycle (%)** | 100 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

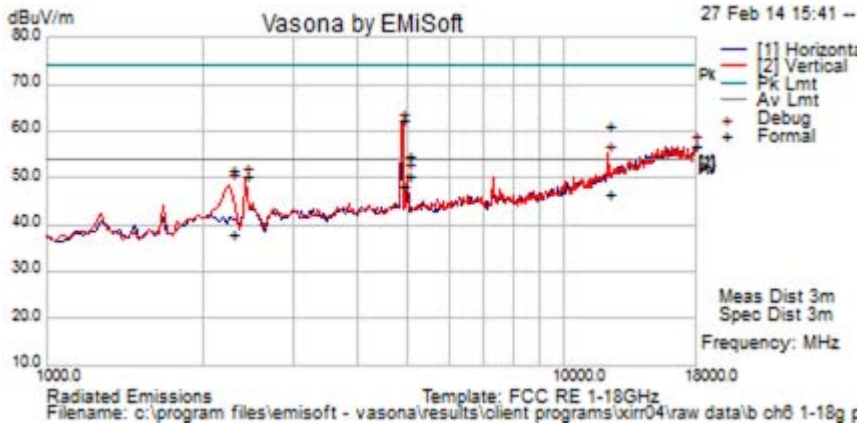



## Formally measured emission peaks

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2409.165 | 51.8 | 3.9 | -5.6 | 50.2 | Peak [Scan] | V | | | | | | FUND |
| 16228.457 | 41.2 | 11.9 | 9.4 | 62.5 | Peak Max | V | 170 | 295 | 74.0 | -11.5 | Pass | Noise Floor |
| 4825.651 | 57.9 | 5.7 | -2.6 | 61.0 | Peak Max | V | 138 | 361 | 74.0 | -13.0 | Pass | RB |
| 16228.457 | 28.0 | 11.9 | 9.4 | 49.3 | Average Max | V | 170 | 295 | 54 | -4.7 | Pass | Noise Floor |
| 4825.651 | 43.0 | 5.7 | -2.6 | 46.1 | Average Max | V | 138 | 361 | 54 | -7.9 | Pass | RB |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak |

| | | | |
|---|---|---|---|
| **Test Freq.** | 2437 MHz | **Engineer** | SB |
| **Variant** | 802.11b; 1 Mbs | **Temp (ºC)** | 21 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 27 |
| **Power Setting** | 12 | **Press. (mBars)** | 1008 |
| **Antenna** | Integral | **Duty Cycle (%)** | 100 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

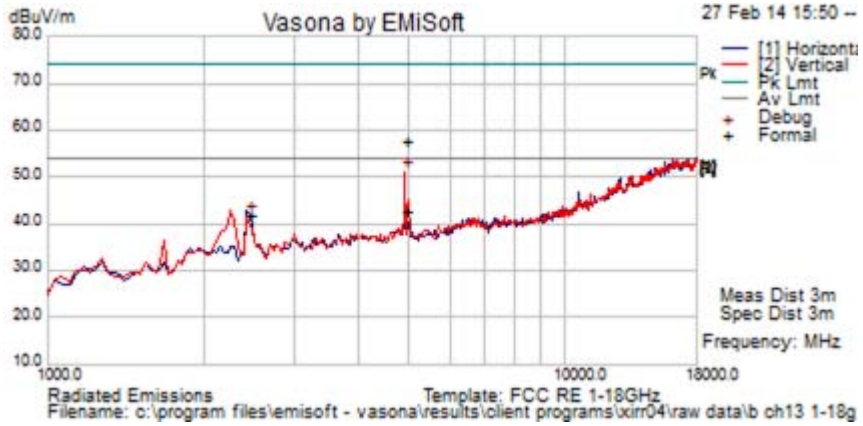



## Formally measured emission peaks

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4873.046 | 59.2 | 5.7 | -2.6 | 62.3 | Peak Max | V | 147 | 352 | 74.0 | -11.7 | Pass | RB |
| 5000.05 | 51.5 | 5.8 | -2.8 | 54.5 | Peak Max | V | 126 | 316 | 74.0 | -19.5 | Pass | RB |
| 2278.156 | 53.8 | 3.8 | -6.0 | 51.6 | Peak Max | V | 99 | 245 | 74.0 | -22.5 | Pass | RB |
| 12183.81 | 46.1 | 9.7 | 5.3 | 61.0 | Peak Max | V | 98 | 221 | 74.0 | -13.0 | Pass | RB |
| 17931.864 | 41.2 | 11.9 | 9.4 | 62.5 | Peak Max | V | 170 | 295 | 74.0 | -11.5 | Pass | Noise Floor |
| 4873.046 | 45.2 | 5.7 | -2.6 | 48.3 | Average Max | V | 147 | 352 | 54 | -5.7 | Pass | RB |
| 5000.050 | 47.2 | 5.8 | -2.8 | 50.2 | Average Max | V | 126 | 316 | 54 | -3.8 | Pass | RB |
| 2278.156 | 40.2 | 3.8 | -6.0 | 38.0 | Average Max | V | 99 | 245 | 54 | -16.0 | Pass | RB |
| 12183.810 | 31.6 | 9.7 | 5.3 | 46.5 | Average Max | V | 98 | 221 | 54 | -7.5 | Pass | RB |
| 17931.864 | 28.0 | 11.9 | 9.4 | 49.3 | Average Max | V | 170 | 295 | 54 | -4.7 | Pass | Noise Floor |
| 2430.862 | 51.8 | 3.9 | -5.6 | 50.2 | Peak [Scan] | V | | | | | | |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak |

| | | | |
|---|---|---|---|
| **Test Freq.** | 2462 MHz | **Engineer** | SB |
| **Variant** | 802.11b; 1 Mbs | **Temp (ºC)** | 21 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 27 |
| **Power Setting** | 13 | **Press. (mBars)** | 1008 |
| **Antenna** | Integral | **Duty Cycle (%)** | 100 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

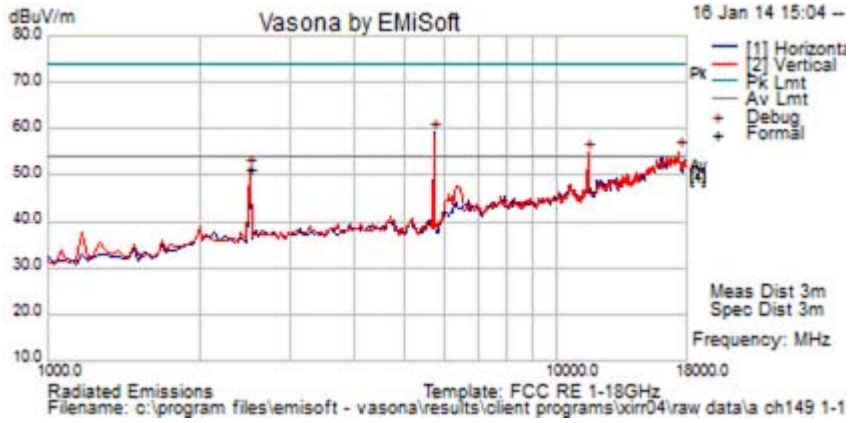



## Formally measured emission peaks

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4924.800 | 54.5 | 5.7 | -2.7 | 57.6 | Peak Max | V | 113 | 352 | 74.0 | -16.4 | Pass | RB |
| 4924.800 | 39.6 | 5.7 | -2.7 | 42.6 | Average Max | V | 113 | 352 | 54.0 | -11.4 | Pass | RB |
| 2464.024 | 43.5 | 4.0 | -5.5 | 42.0 | Peak [Scan] | V | | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5745 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6.5 Mbs | **Temp (ºC)** | 22.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 25 |
| **Power Setting** | Target | **Press. (mBars)** | 1007 |
| **Antenna** | Integral | **Duty Cycle (%)** | 100 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

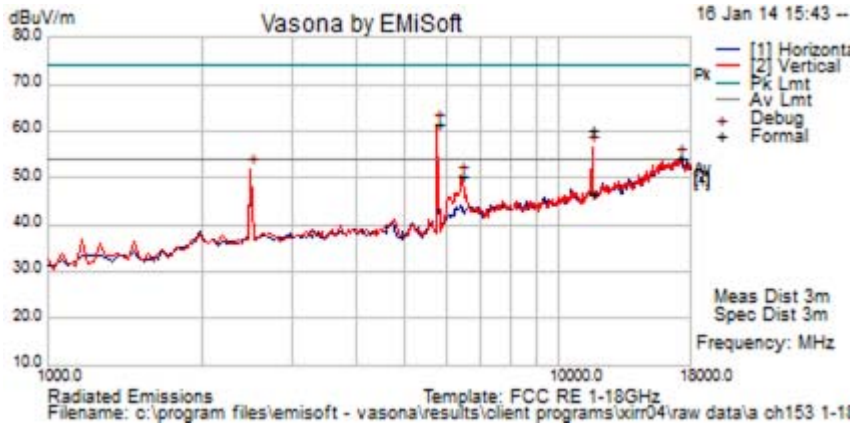



## Formally measured emission peaks

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2500.050 | 60.4 | 4.0 | -11.5 | 53.0 | Peak Max | V | 177 | 196 | 74 | -21.0 | Pass | RB |
| 2500.05 | 58.9 | 4.0 | -11.5 | 51.4 | Average Max | V | 177 | 196 | 54.0 | -2.6 | Pass | RB |
| 17386.774 | 43.1 | 12.4 | 1.4 | 56.9 | Peak Max | V | 99 | 100 | 74 | -17.1 | Pass | Noise Floor |
| 11492.356 | 49.6 | 9.4 | -2.0 | 57.0 | Peak Max | V | 361 | 151 | 74 | -17.0 | Pass | RB |
| 17386.774 | 29.9 | 12.4 | 1.4 | 43.6 | Average Max | V | 99 | 100 | 54 | -10.4 | Pass | Noise Floor |
| 11494.051 | 35.6 | 9.4 | -2.0 | 43.0 | Average Max | V | 361 | 151 | 54 | -11.0 | Pass | RB |
| 5735.471 | 62.5 | 6.2 | -9.5 | 59.2 | Peak [Scan] | H | | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5785 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6.5 Mbs | **Temp (ºC)** | 22.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 25 |
| **Power Setting** | Target | **Press. (mBars)** | 1007 |
| **Antenna** | Integral | **Duty Cycle (%)** | 100 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

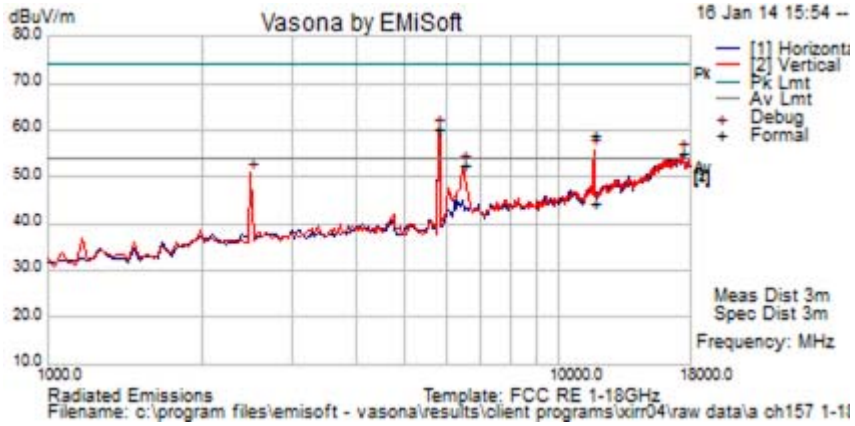



## Formally measured emission peaks

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11571.142 | 52.8 | 9.4 | -2.0 | 60.2 | Peak Max | V | 111 | 361 | 74.0 | -13.8 | Pass | RB |
| 2500.050 | 60.4 | 4.0 | -11.5 | 53.0 | Peak Max | V | 177 | 196 | 74 | -21.0 | Pass | RB |
| 11571.142 | 39.1 | 9.4 | -2.0 | 46.5 | Average Max | V | 111 | 361 | 54.0 | -7.5 | Pass | RB |
| 2500.05 | 58.9 | 4.0 | -11.5 | 51.4 | Average Max | V | 177 | 196 | 54.0 | -2.6 | Pass | RB |
| 5769.539 | 64.5 | 6.3 | -9.5 | 61.3 | Peak [Scan] | V | 200 | 0 | 54 | 7.3 | Fail | FUND |
| 17250.501 | 41.0 | 12.4 | 1.0 | 54.4 | Peak [Scan] | H | 100 | 0 | 54 | 0.4 | Fail | Noise Floor |
| 6416.834 | 51.0 | 6.7 | -7.2 | 50.5 | Peak [Scan] | V | 100 | 0 | 54 | -3.5 | Pass | NRB |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5825 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6.5 Mbs | **Temp (ºC)** | 22.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 25 |
| **Power Setting** | Target | **Press. (mBars)** | 1007 |
| **Antenna** | Integral | **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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11651.028 | 51.9 | 9.4 | -2.3 | 59.0 | Peak Max | V | 102 | 350 | 74.0 | -15.0 | Pass | RB |
| 2500.050 | 60.4 | 4.0 | -11.5 | 53.0 | Peak Max | V | 177 | 196 | 74 | -21.0 | Pass | RB |
| 11651.028 | 37.3 | 9.4 | -2.3 | 44.5 | Average Max | V | 102 | 350 | 54.0 | -9.5 | Pass | RB |
| 2500.05 | 58.9 | 4.0 | -11.5 | 51.4 | Average Max | V | 177 | 196 | 54.0 | -2.6 | Pass | RB |
| 5803.607 | 63.4 | 6.3 | -9.4 | 60.3 | Peak [Scan] | V | 200 | 0 | 54 | 6.3 | Fail | FUND |
| 17318.637 | 41.3 | 12.4 | 1.2 | 54.9 | Peak [Scan] | V | 150 | 0 | 54 | 0.9 | Fail | Noise Floor |
| 6484.970 | 52.8 | 6.7 | -7.1 | 52.5 | Peak [Scan] | V | 150 | 0 | 54 | -1.6 | Pass | NRB |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak |

### 5.1.2.2. Radiated Band-Edge

**2.4 GHz Frequency Band**

**Peak Limit 74.0 dBµV, Peak Limit 54.0 dBµV**

**Integral Antenna**

| | 2390 MHz | | | 2483.5 MHz | | |
|---|---|---|---|---|---|---|
| | dBµV | | Power Setting | dBµV | | Power Setting |
| Operational Mode | Peak | Average | | Peak | Average | |
| b | 67.28 | 52.58 | 12 | 70.66 | 51.62 | 14 |
| g | 66.57 | 51.75 | 12 | 68.78 | 51.40 | 14 |
| n HT-20 | 69.09 | 53.72 | 12 | 69.86 | 51.28 | 14 |
| n HT-40 | 67.45 | 53.25 | 12 | 70.08 | 52.44 | 12 |

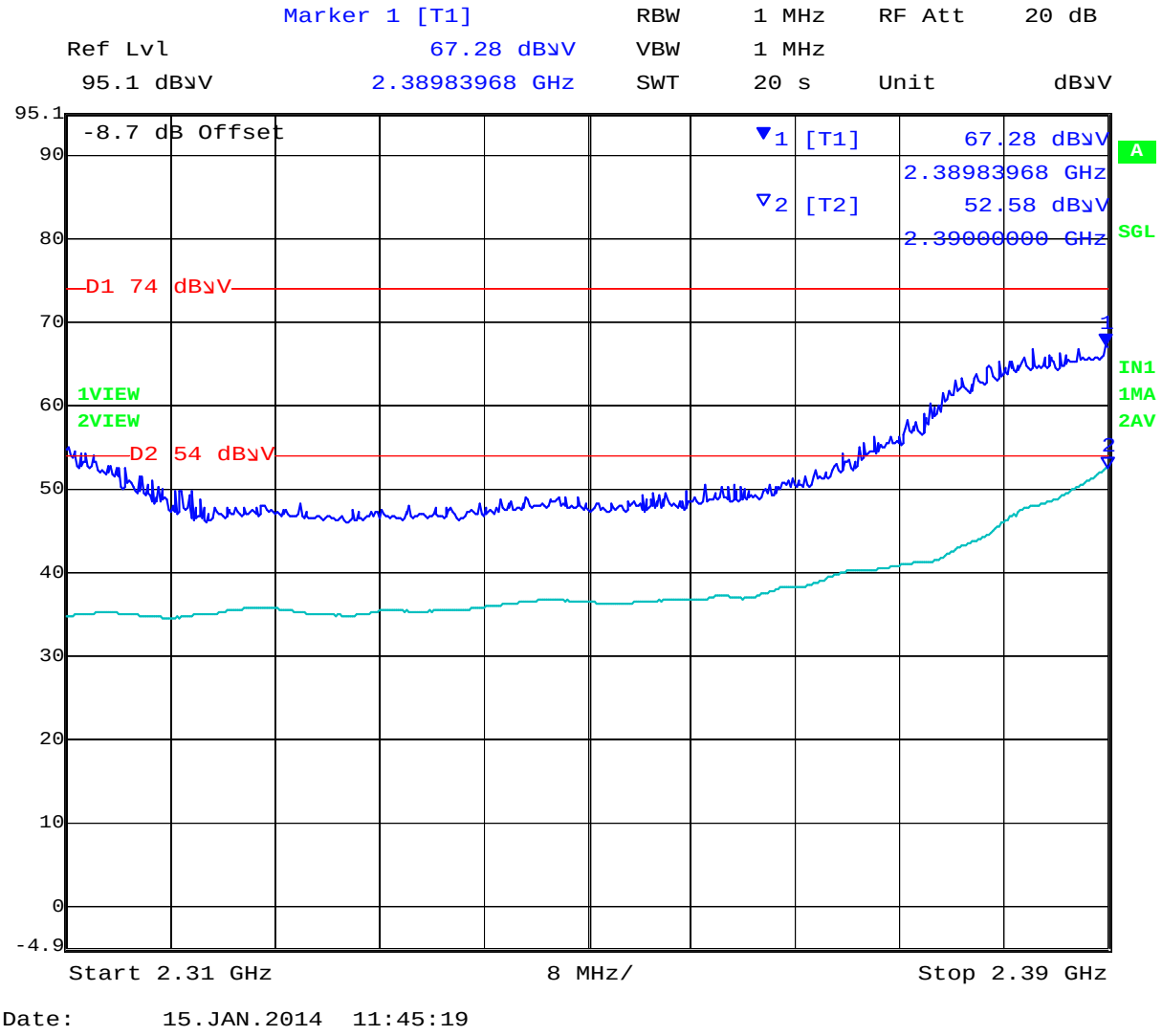
**5.8 GHz Frequency Band**

**Integral Antenna**

| | 5460 MHz | | |
|---|---|---|---|
| Operational Mode | Peak | Average | Power Setting |
| a | 65.41 | 53.82 | 18 |
| n HT-20 | 66.11 | 53.85 | 18 |
| n HT-40 | 51.66 | 66.50 | 18 |
| ac-40 | 64.04 | 51.72 | 18 |
| ac-80 | 66.16 | 52.06 | 18 |

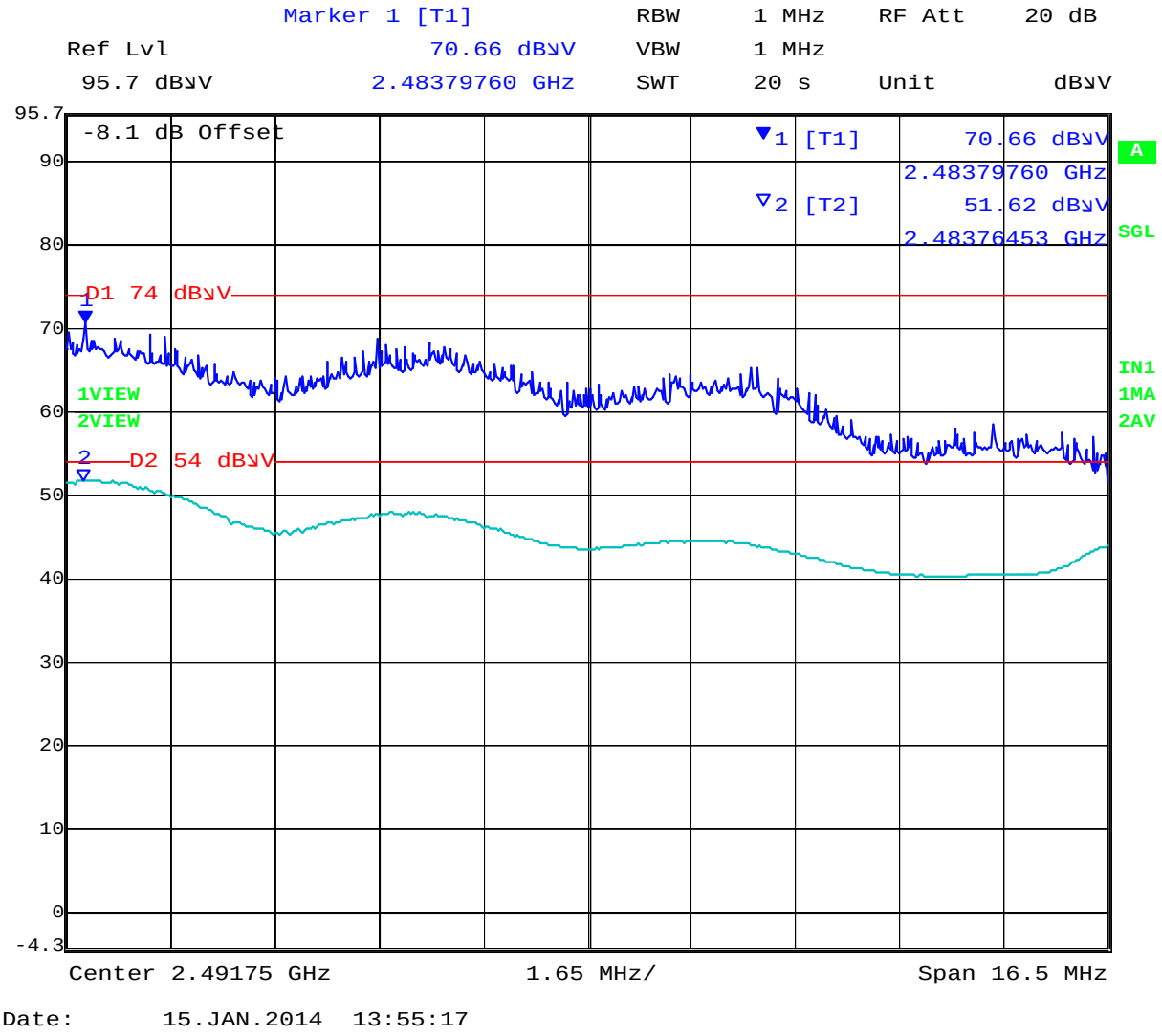
11b 2390 MHz Band Edge

Power Setting = 12



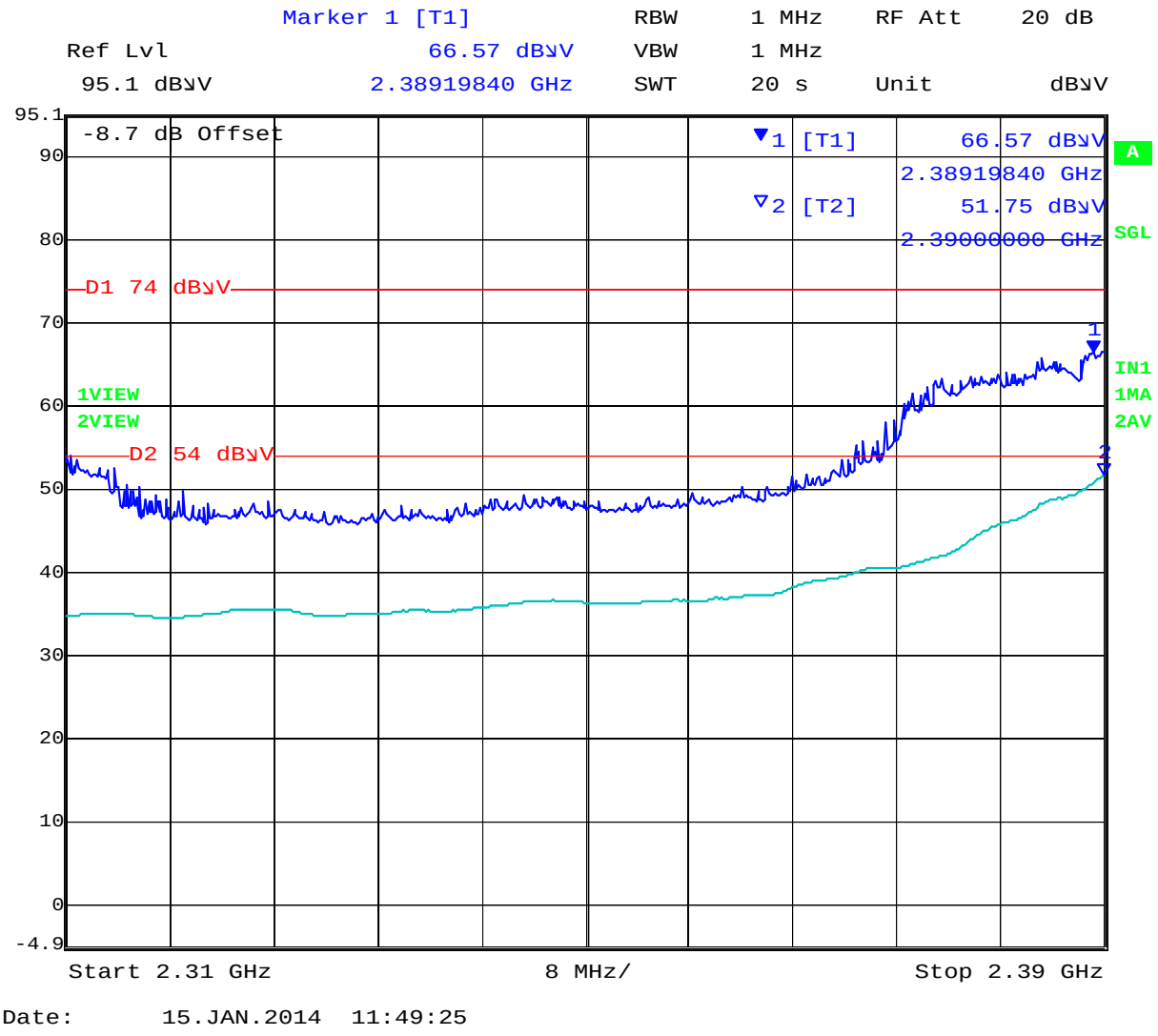
11b 2483.5 MHz Band Edge

Power Setting = 14



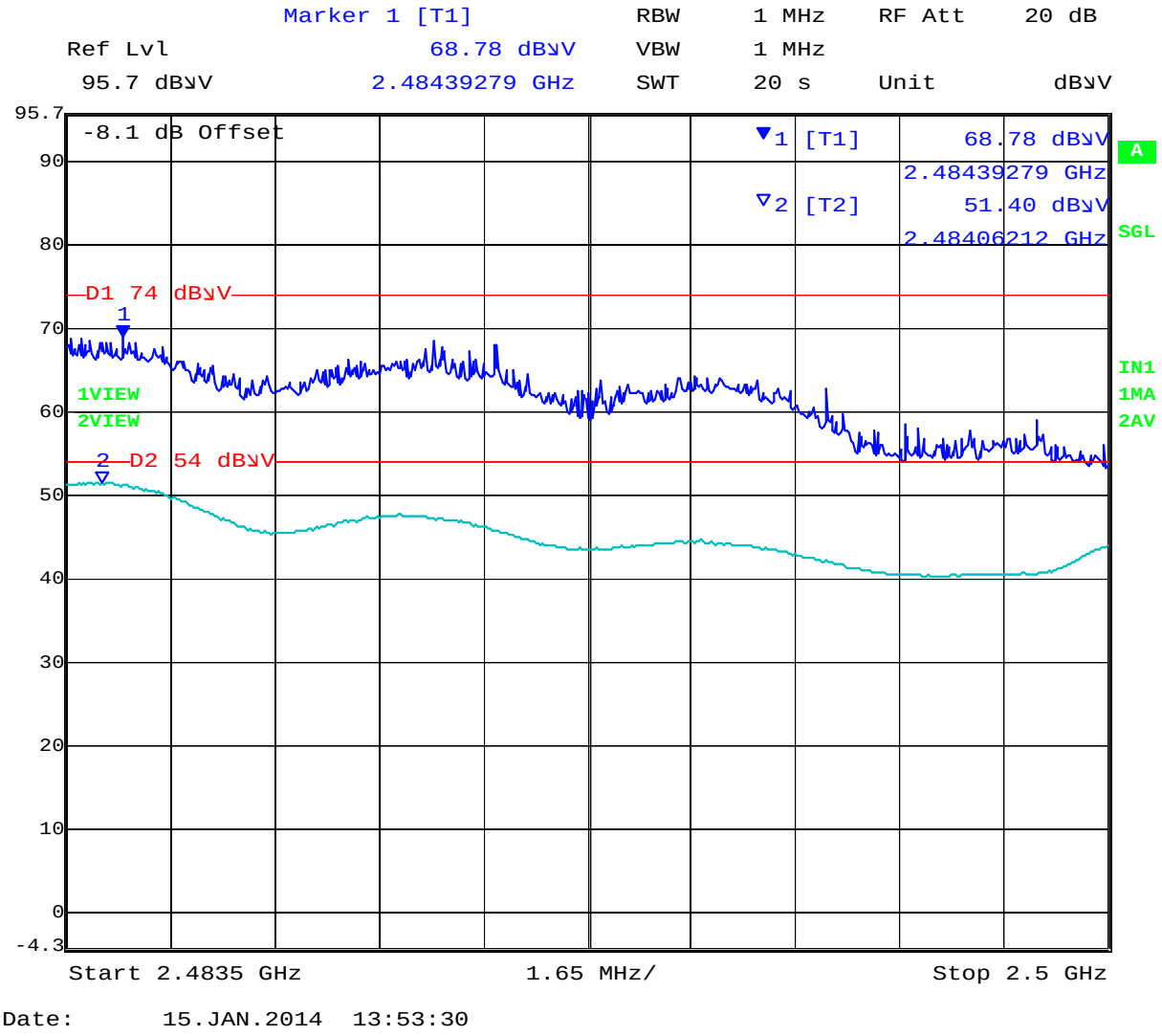
11g 2390 MHz Band Edge

Power Setting = 12



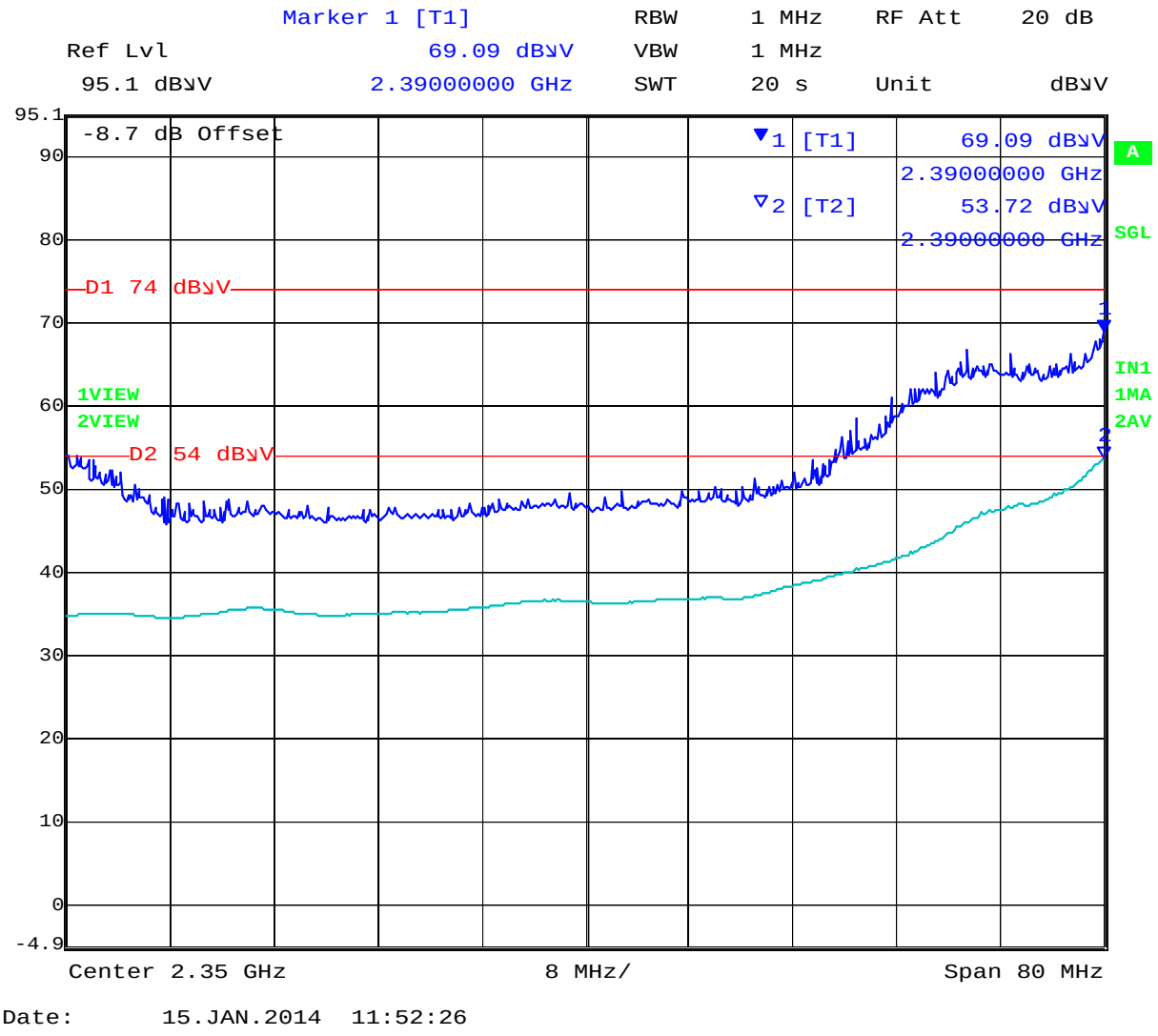
11g 2483.5 MHz Band Edge

Power Setting = 14



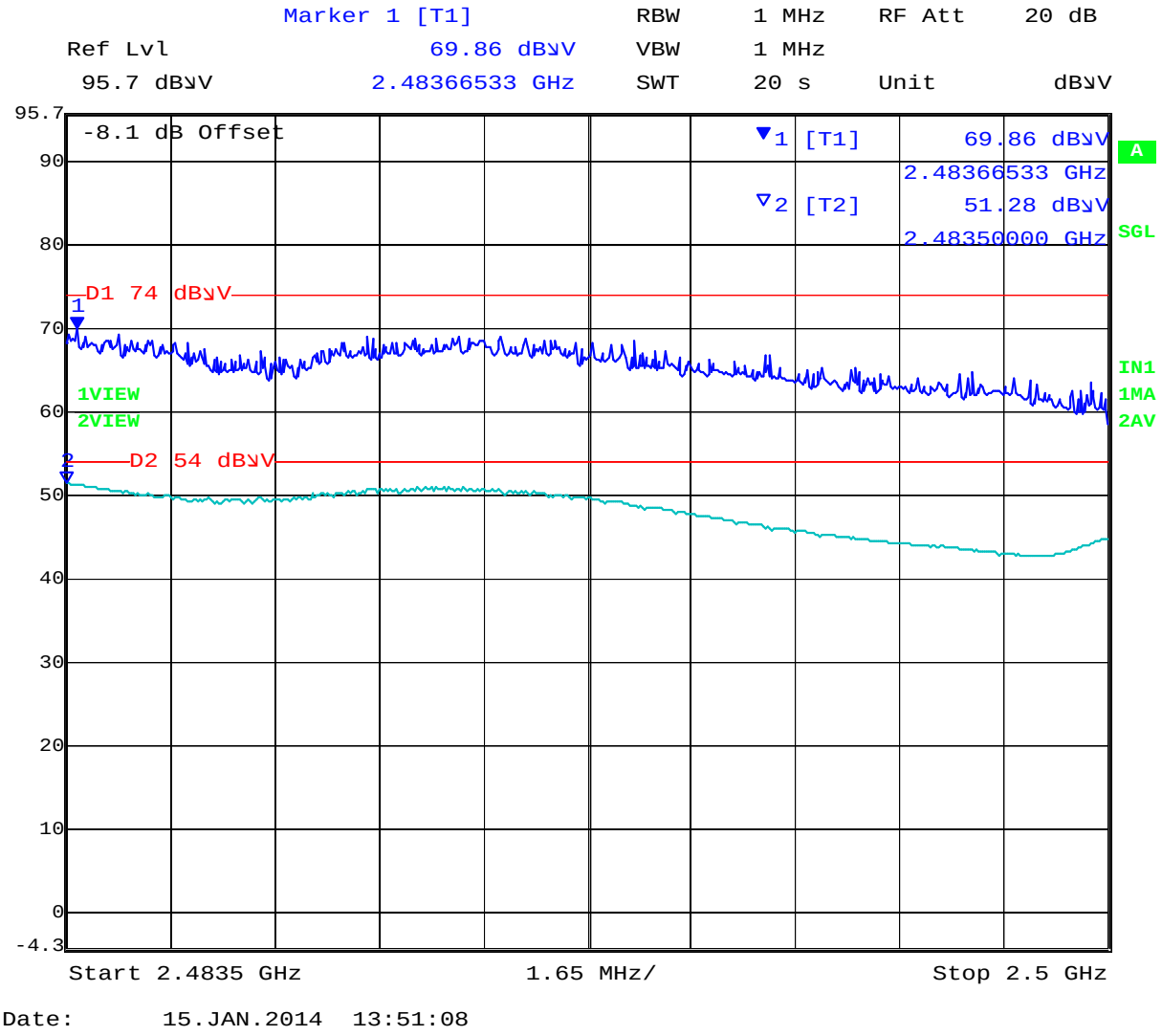
11n HT-20 2390 MHz Band Edge

Power Setting = 12



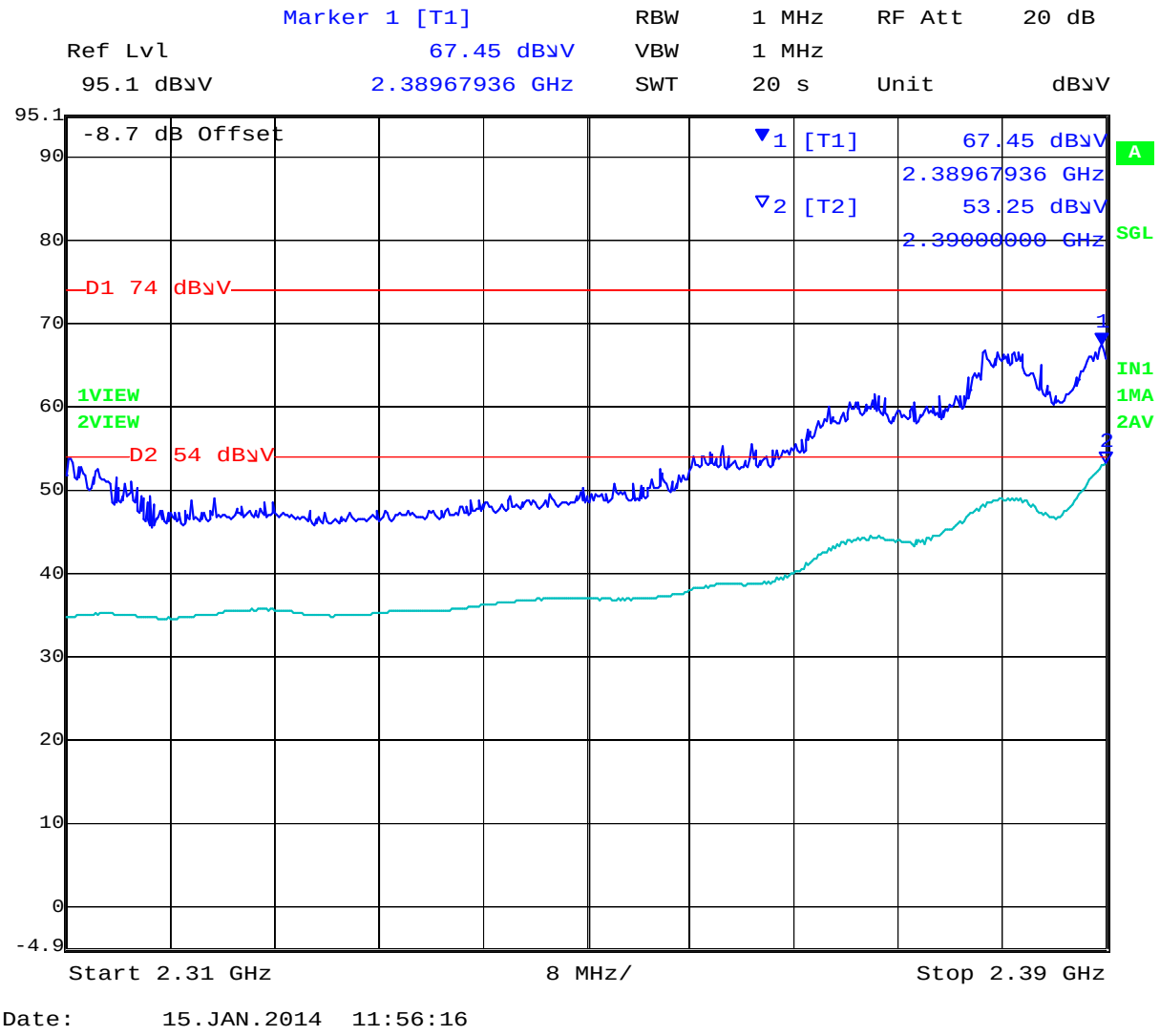
11n HT20 2483.5 MHz Band Edge

Power Setting = 14



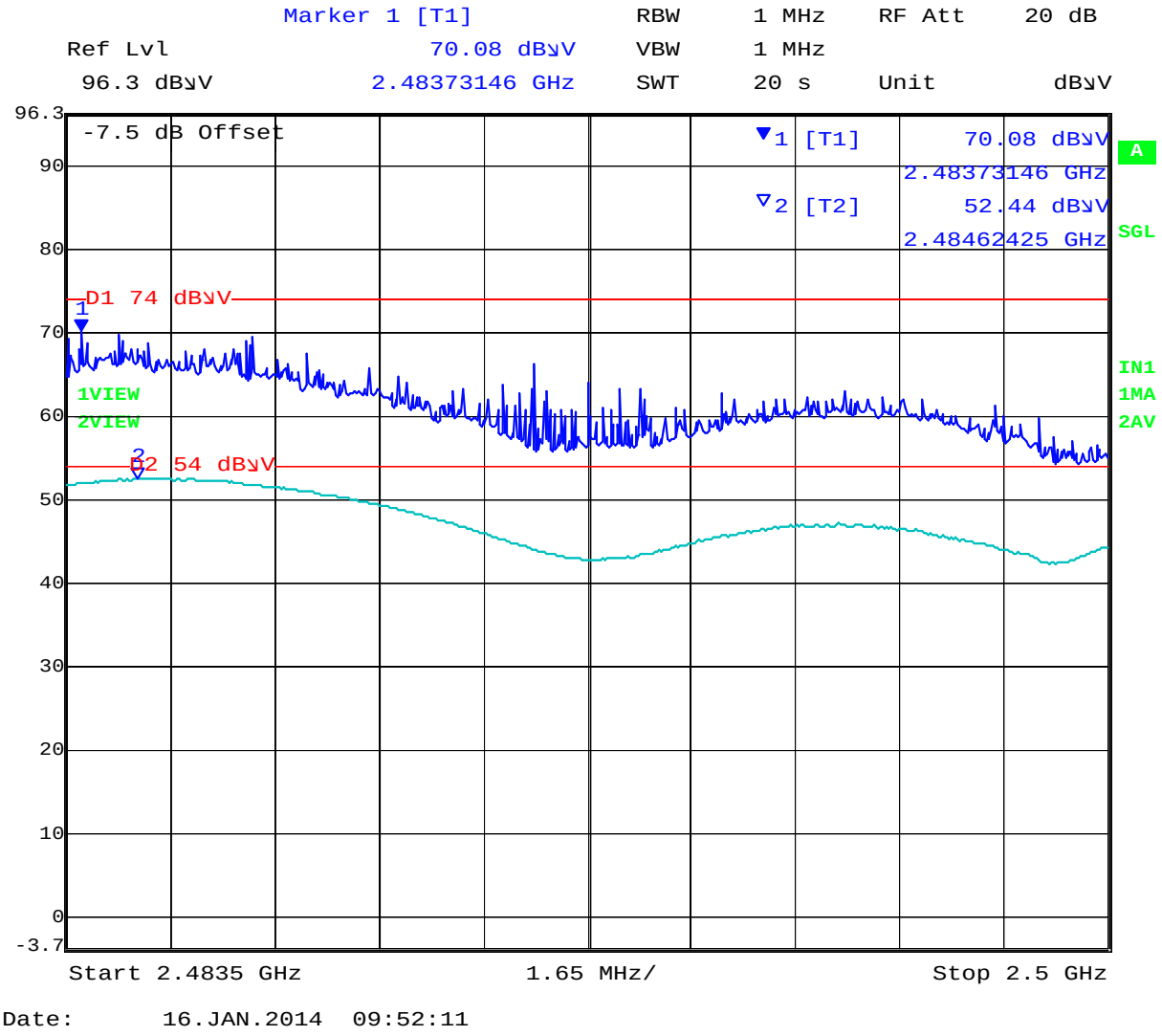
11n HT-40 2390 MHz Band Edge

Power Setting = 12



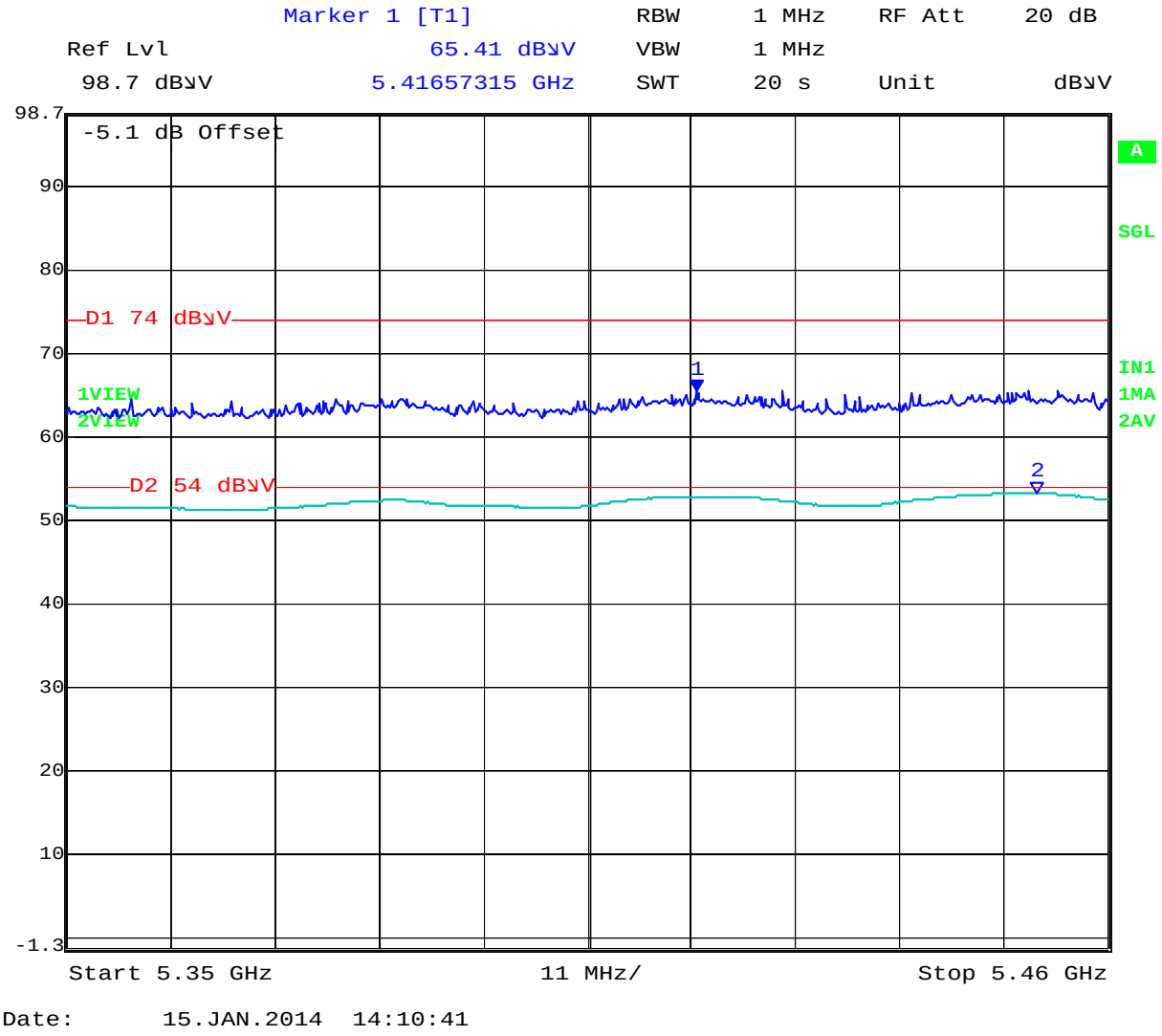
11n HT-40 2483.5 MHz Band Edge

Power Setting = 12



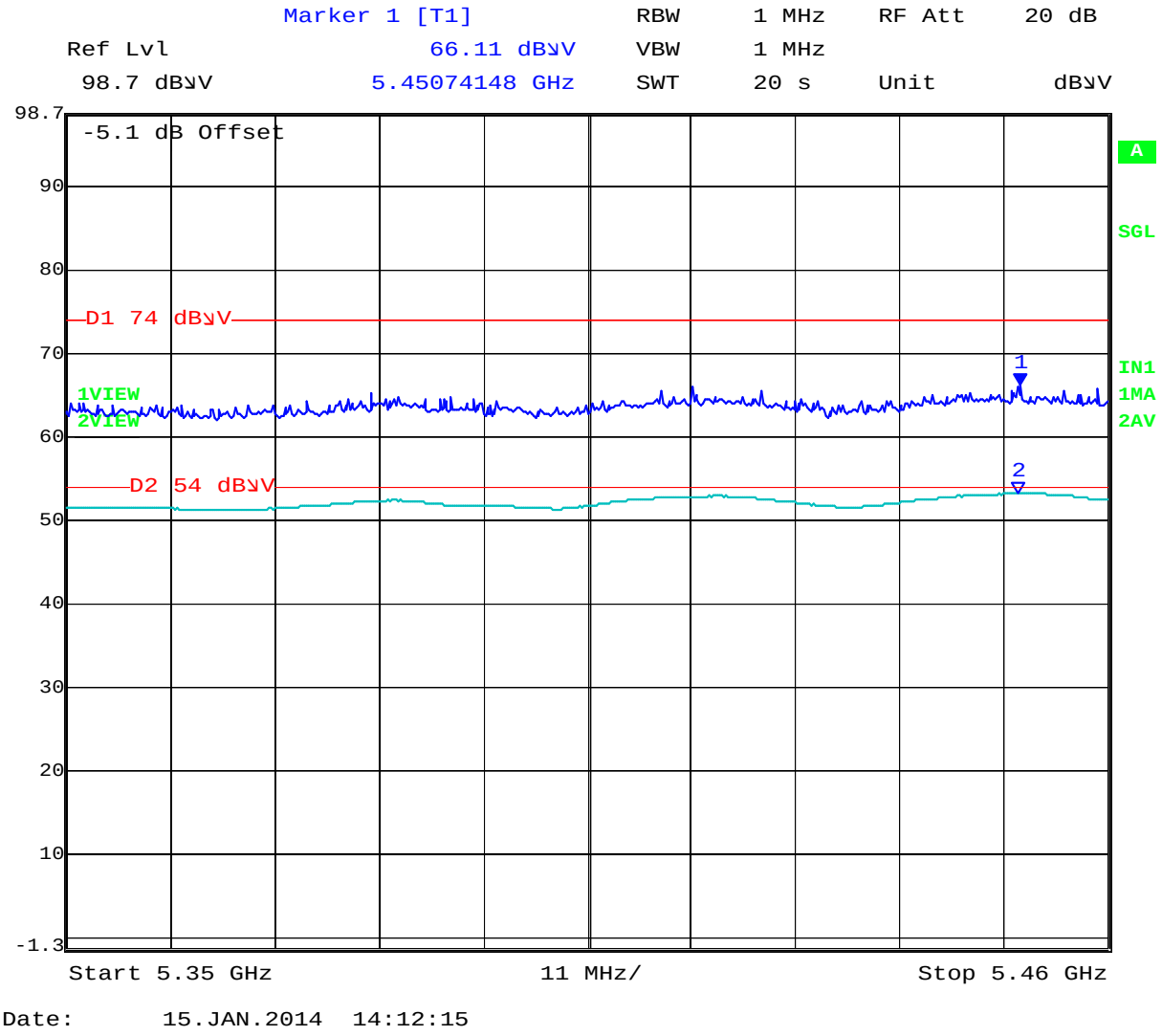
11a 5460 MHz Band Edge

Power Setting = 18



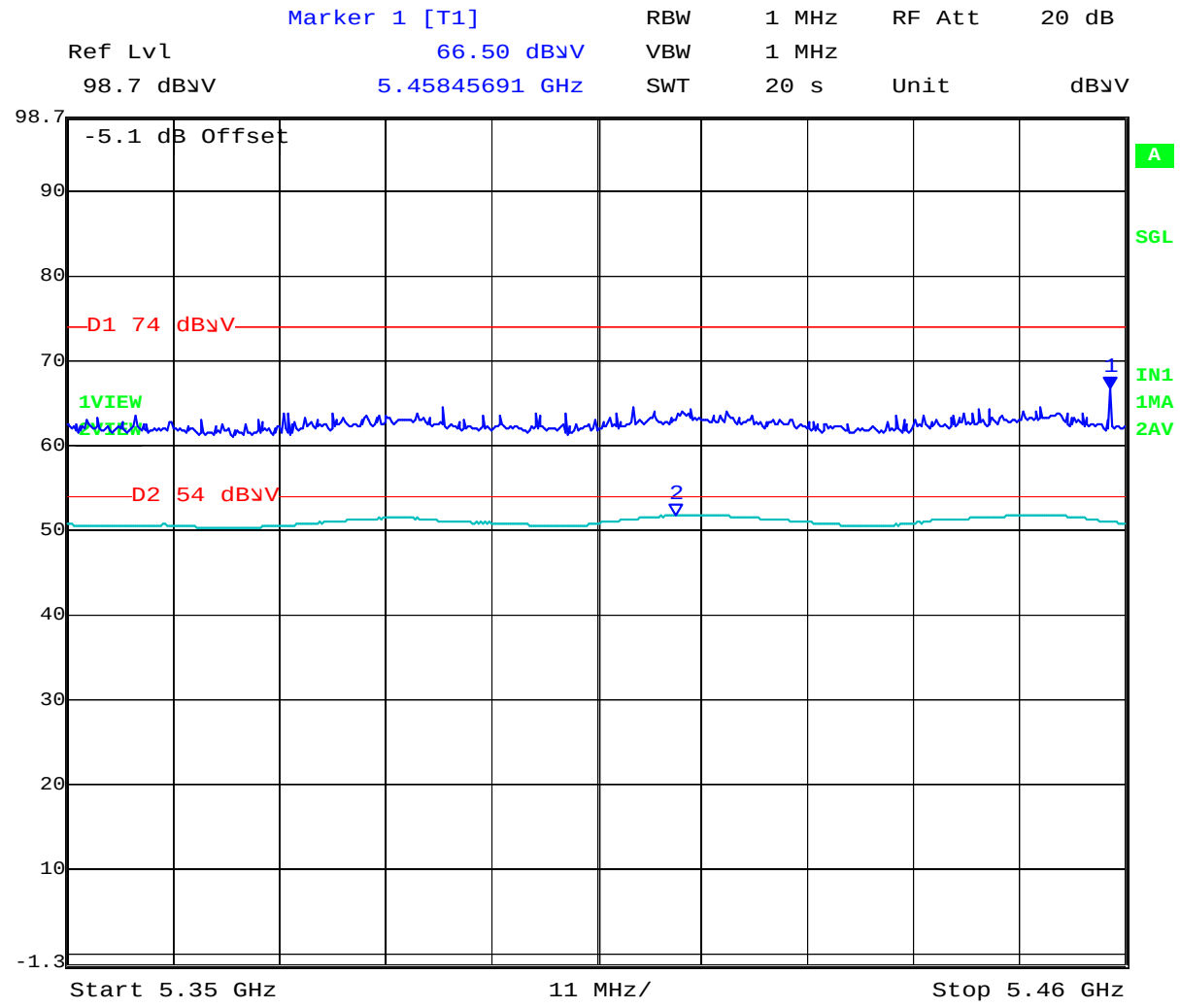
11n HT-20 5460 MHz Band Edge

Power Setting = 18



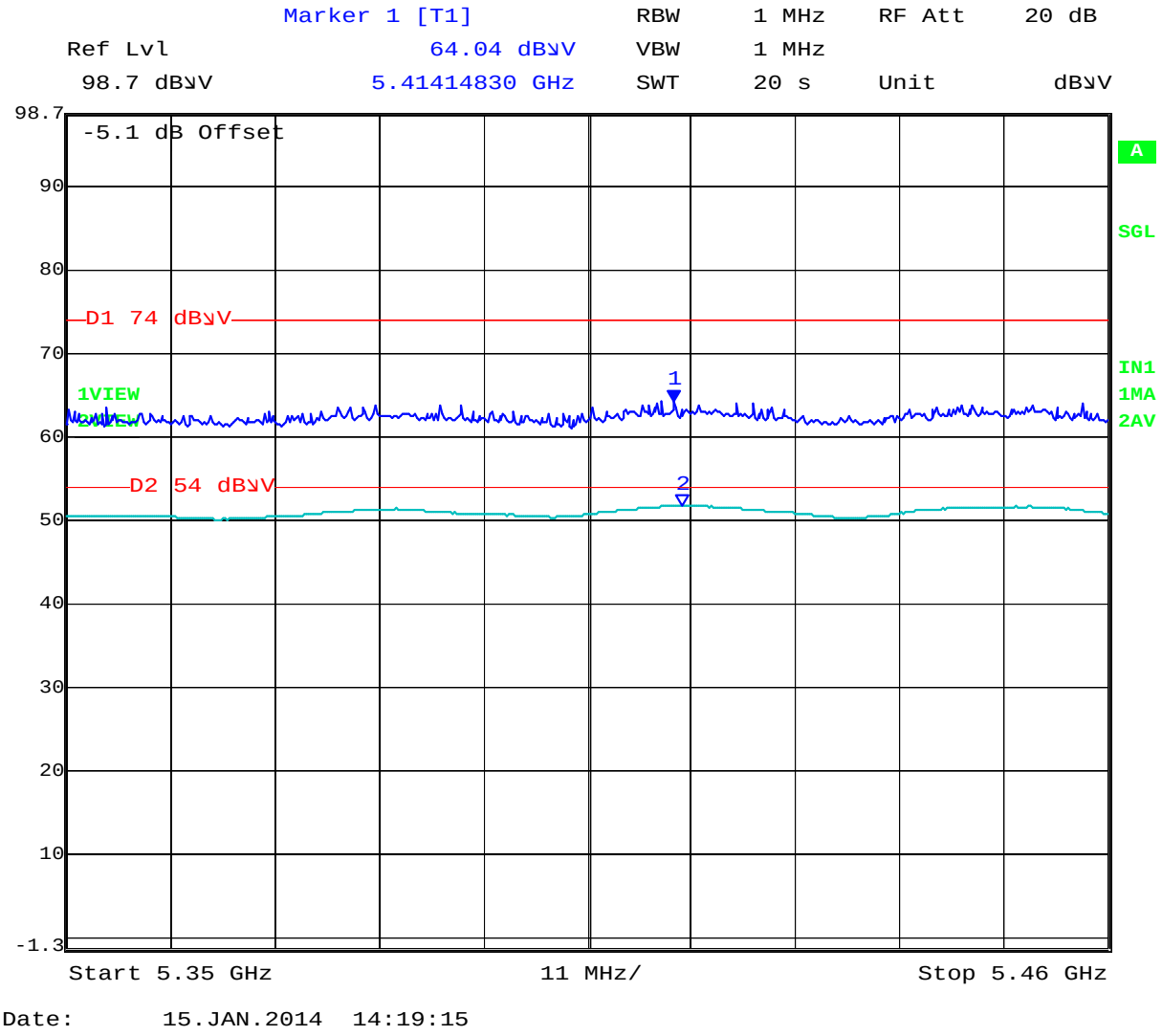
11n HT-40 5460 MHz Band Edge

Power Setting = 18



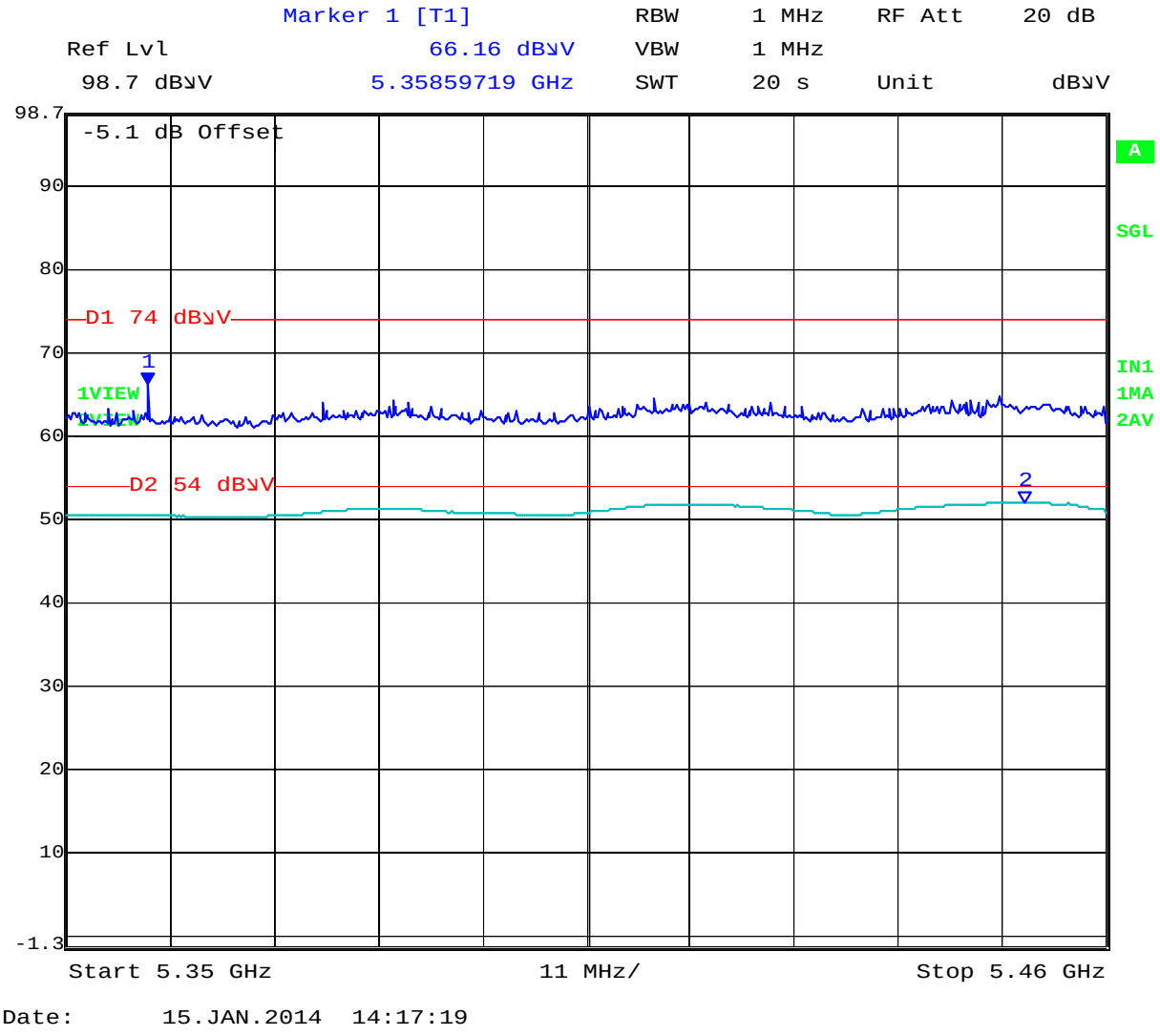
11n ac-40 5460 MHz Band Edge

Power Setting = 18



11n ac-80 5460 MHz Band Edge

Power Setting = 18



## 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 $5^{th}$ 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:

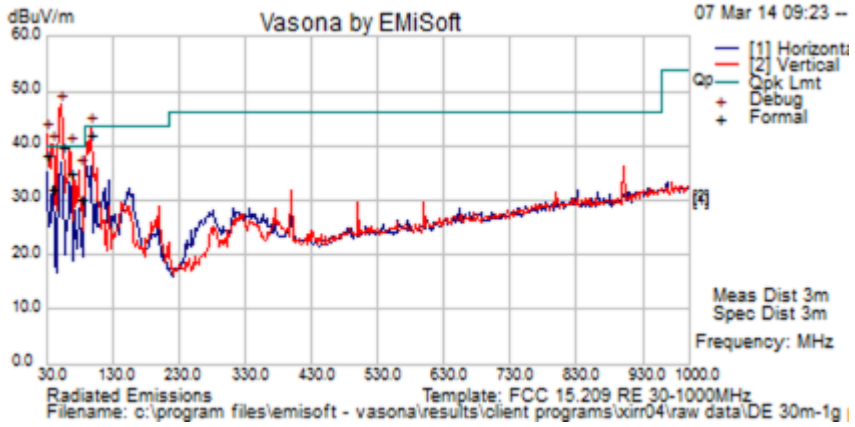
FS = 51.5 + 8.5 + 1.3 - 26.0 +1 = 36.3dBμV/m

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.** | 2437 MHz | **Engineer** | SB |
| **Variant** | Digital Emissions | **Temp (ºC)** | 22.5 |
| **Freq. Range** | 30 MHz - 1000 MHz | **Rel. Hum.(%)** | 25 |
| **Power Setting** | Target | **Press. (mBars)** | 1007 |
| **Antenna** | Integral | | |
| **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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54.139 | 60.1 | 3.7 | -24.0 | 39.8 | Quasi Max | V | 103 | 212 | 40 | -0.2 | Pass | |
| 30.000 | 44.4 | 3.5 | -9.7 | 38.1 | Quasi Max | V | 109 | 35 | 40 | -1.9 | Pass | |
| 37.776 | 44.3 | 3.6 | -15.9 | 32.0 | Quasi Max | V | 123 | 83 | 40 | -8.0 | Pass | |
| 97.252 | 60.0 | 4.1 | -22.1 | 42.0 | Quasi Max | V | 98 | 27 | 43.5 | -1.5 | Pass | |
| 66.608 | 54.5 | 3.8 | -23.4 | 34.9 | Quasi Max | V | 115 | 303 | 40 | -5.1 | Pass | |
| 80.025 | 49.7 | 3.9 | -23.5 | 30.1 | Quasi Max | V | 143 | 77 | 40 | -9.9 | 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

### 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 |

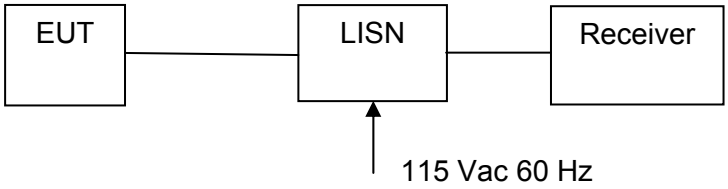
### 5.1.3. AC Wireline Conducted Emissions (150 kHz – 30 MHz)

**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**

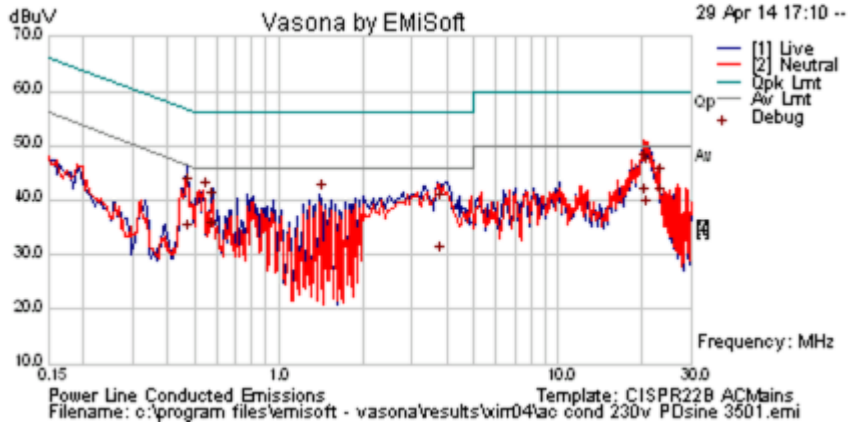



Measurement set up for AC Wireline Conducted Emissions Test

**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

| | | | |
|---|---|---|---|
| **Test Freq.** | N/A | **Engineer** | JMH |
| **Variant** | AC Line Emissions | **Temp (ºC)** | 23 |
| **Freq. Range** | 0.150 MHz - 30 MHz | **Rel. Hum.(%)** | 35 |
| **Power Setting** | NA | **Press. (mBars)** | 1008 |
| **Antenna** | N/A | | |
| **Test Notes 1** | EUT CHASSIS Model#XR-2426, SN#XR213470F09C9, PowerDsine Model 3501G POE | | |
| **Test Notes 2** | 230 Vac, 50 Hz | | |




## Formally measured emission peaks

| Frequency MHz | Raw dBuV | Cable Loss | Factors dB | Level dBuV | Measurement Type | Line | Limit dBuV | Margin dB | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.469 | 24.0 | 9.9 | 0.1 | 34.0 | Average | Live | 46.5 | -12.5 | Pass | |
| 0.469 | 32.5 | 9.9 | 0.1 | 42.5 | Quasi Peak | Live | 56.5 | -14.0 | Pass | |
| 0.574 | 24.4 | 9.9 | 0.1 | 34.4 | Average | Live | 46.0 | -11.6 | Pass | |
| 0.574 | 29.7 | 9.9 | 0.1 | 39.7 | Quasi Peak | Live | 56.0 | -16.3 | Pass | |
| 3.743 | 29.3 | 10.1 | 0.2 | 39.6 | Quasi Peak | Live | 56.0 | -16.4 | Pass | |
| 3.743 | 19.8 | 10.1 | 0.2 | 30.1 | Average | Live | 46.0 | -16.0 | Pass | |
| 20.258 | 35.7 | 10.5 | 0.7 | 46.9 | Quasi Peak | Neutral | 60.0 | -13.1 | Pass | |
| 20.258 | 29.1 | 10.5 | 0.7 | 40.4 | Average | Neutral | 50.0 | -9.6 | Pass | |
| 20.648 | 27.1 | 10.5 | 0.8 | 38.4 | Average | Live | 50.0 | -11.6 | Pass | |
| 20.648 | 35.0 | 10.5 | 0.8 | 46.3 | Quasi Peak | Live | 60.0 | -13.8 | Pass | |
| 23.130 | 29.0 | 10.6 | 0.9 | 40.4 | Average | Neutral | 50.0 | -9.6 | Pass | |
| 23.130 | 32.8 | 10.6 | 0.9 | 44.3 | Quasi Peak | Neutral | 60.0 | -15.7 | Pass | |
| 0.539 | 31.7 | 9.9 | 0.1 | 41.7 | Peak [Scan] | Neutral | 46.0 | -4.3 | Pass | |
| 1.411 | 31.1 | 10.0 | 0.1 | 41.1 | Peak [Scan] | Live | 46.0 | -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

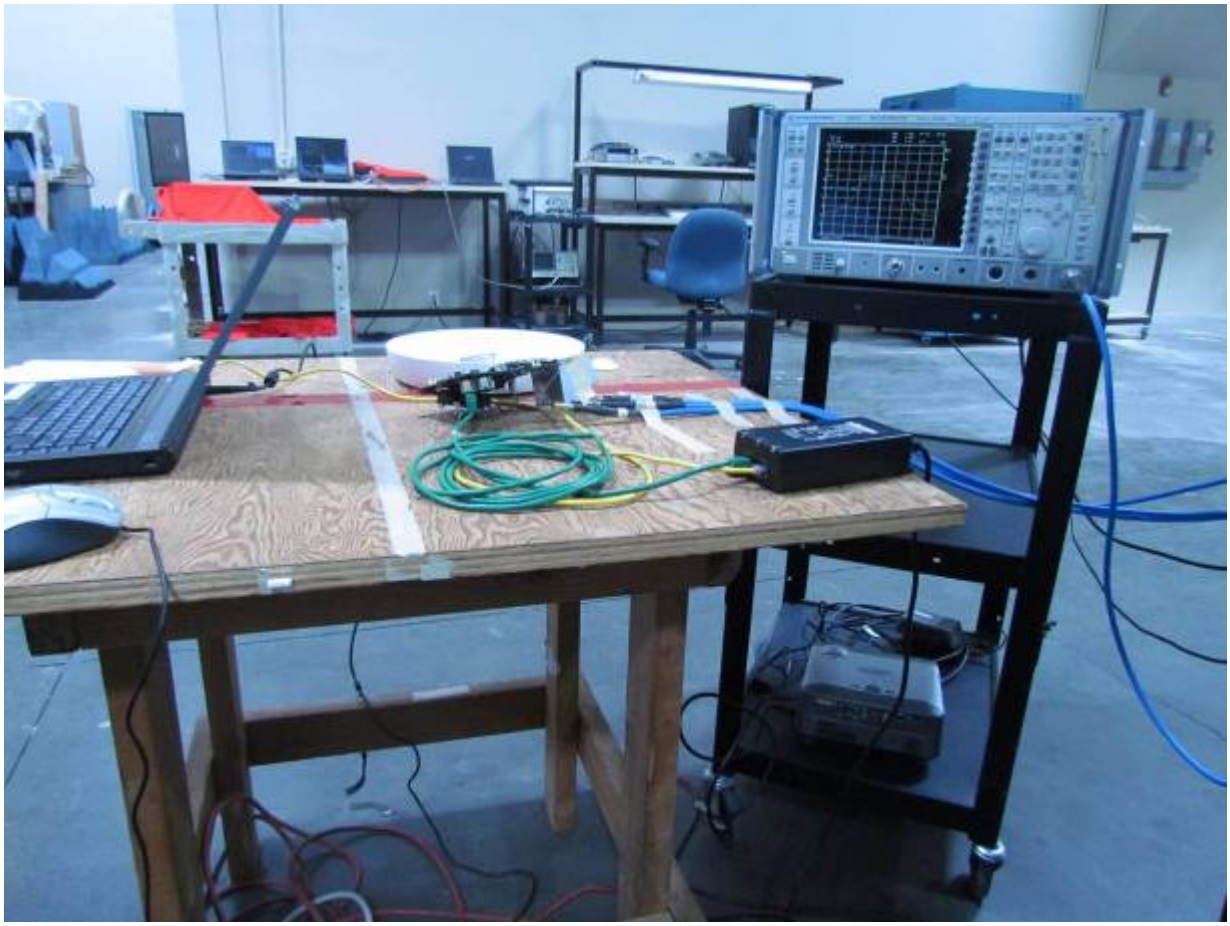
| | |
|---|---|
| Measurement uncertainty | ±2.64 dB |

### Traceability

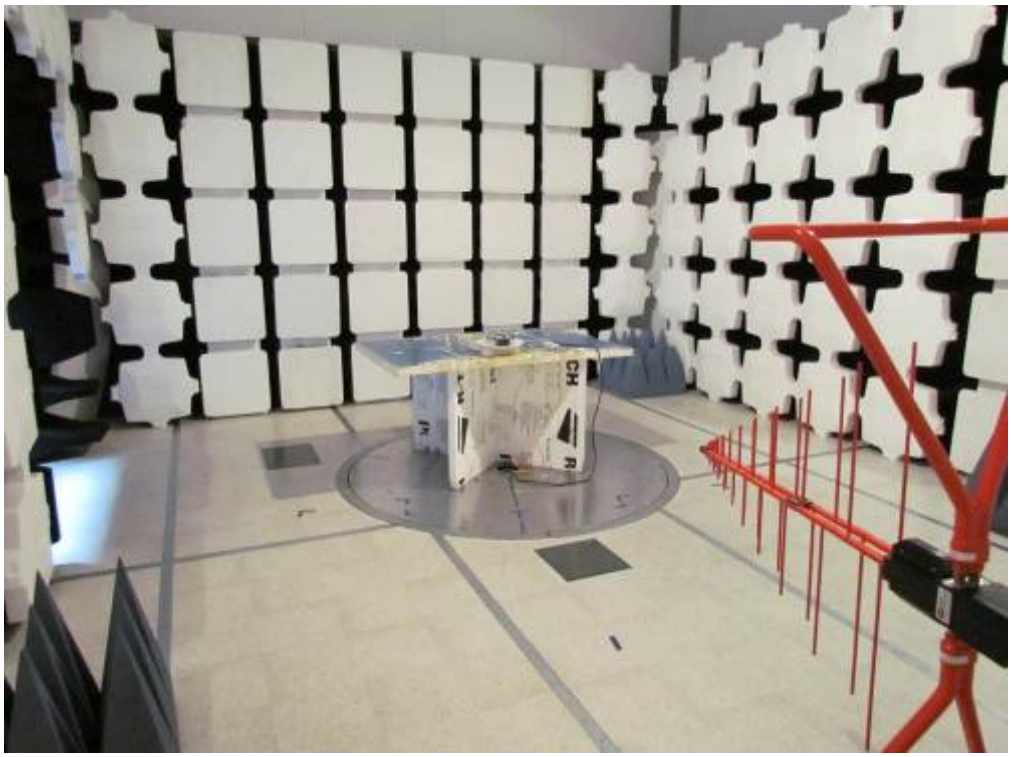
| Method | Test Equipment Used |
|---|---|
| Measurements were made per work instruction WI-EMC-01 'Measurement of Conducted Emissions' | 0158, 0184, 0287, 0190, 0293, 0307 |

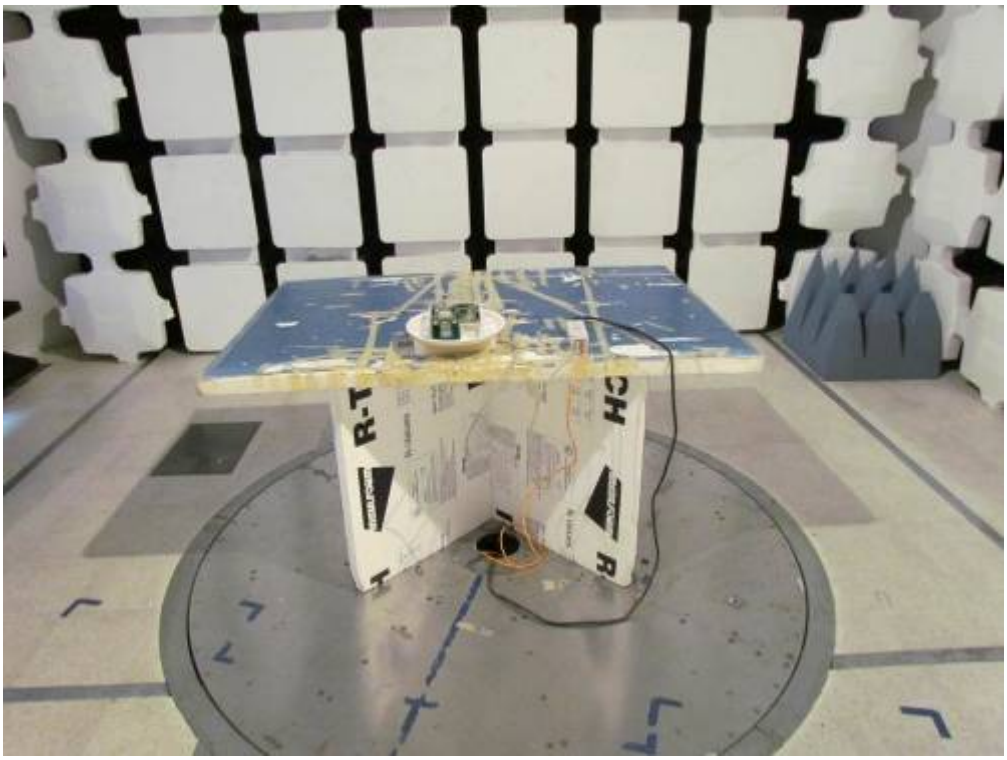
# 6. PHOTOGRAPHS

## 6.1. Conducted Test Setup

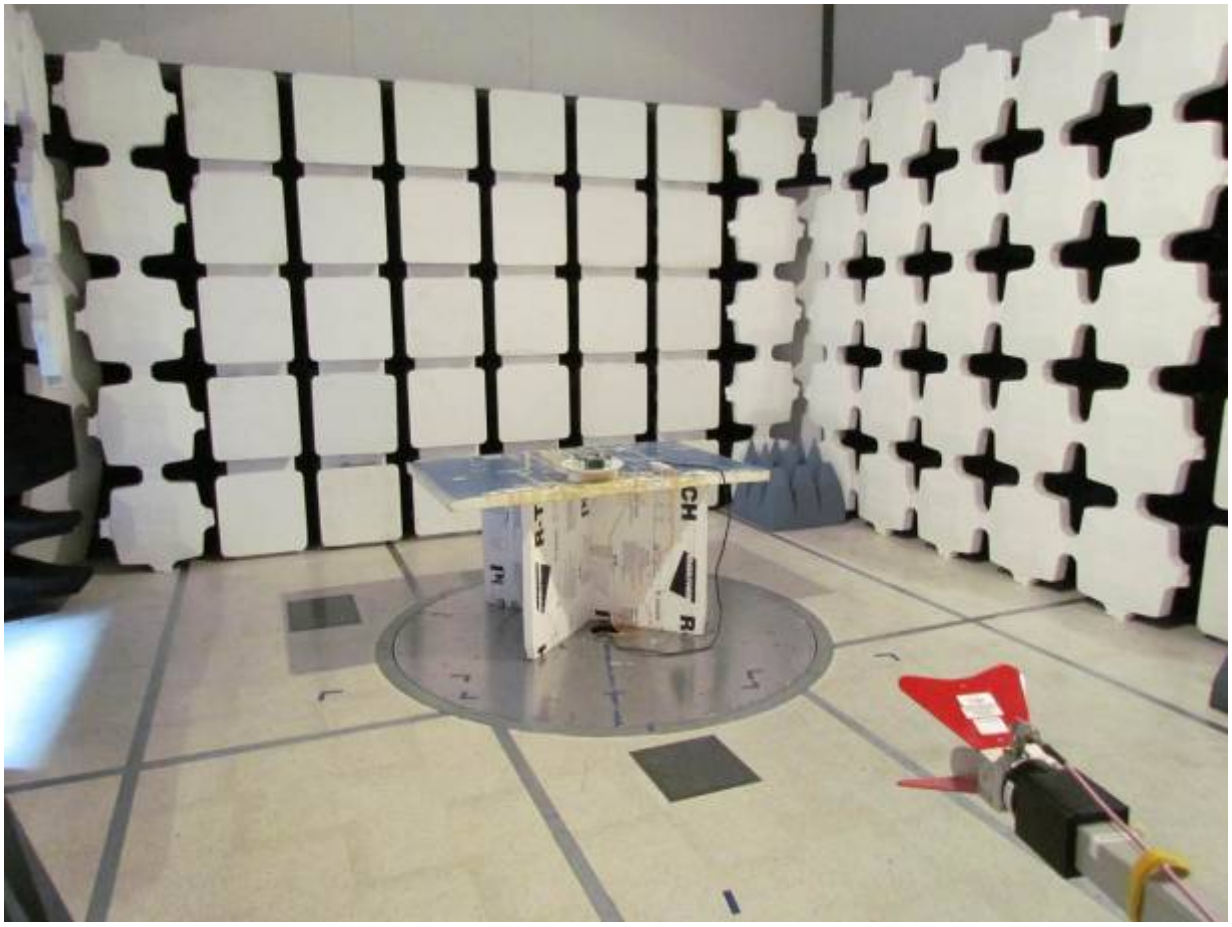


## 6.2. Test Setup - Digital Emissions below 1 GHz





## 6.3. Radiated Emissions Test Setup >1 GHz



# 7. TEST EQUIPMENT

| Asset # | Instrument | Manufacturer | Part # | Serial # | Calibration Due Date |
|---|---|---|---|---|---|
| 0117 | Power Sensor | Hewlett Packard | 8487D | 3318A00371 | 18th Oct 14 |
| 0223 | Power Meter | Hewlett Packard | EPM-442A | US37480256 | 18th Oct 14 |
| 0376 | Power Sensor | Agilent | U2000A | MY51440005 | 28th Oct 14 |
| 0390 | Power Sensor | Agilent | U2002A | MY50000103 | 17th Oct 14 |
| 0158 | Barometer /Thermometer | Control Co. | 4196 | E2846 | 6th Dec 14 |
| 0193 | EMI Receiver | Rhode & Schwartz | ESI 7 | 838496/007 | 2nd Dec 14 |
| 0287 | EMI Receiver | Rhode & Schwartz | ESIB40 | 100201 | 31st Jul 14 |
| 0378 | EMI Receiver | Rhode & Schwartz | ESIB40 | 100107/040 | 17th Jul 14 |
| 0338 | 30 - 3000 MHz Antenna | Sunol | JB3 | A052907 | 14th Aug 14 |
| 0399 | 1-18 GHz Horn Antenna | EMCO | 3117 | 00154575 | 10th Oct 14 |
| 0252 | SMA Cable | Megaphase | Sucoflex 104 | None | N/A |
| 0310 | 2m SMA Cable | Micro-Coax | UFA210A-0-0787-3G03G0 | 209089-001 | N/A |
| 0312 | 3m SMA Cable | Micro-Coax | UFA210A-1-1181-3G0300 | 209092-001 | N/A |
| 0314 | 30dB N-Type Attenuator | ARRA | N9444-30 | 1623 | N/A |
| 0359 | DFS Test System | Aeroflex | PXI-1042 | 300001/004 | 21st Oct 14 |
| 0299 | DFS Test Software | Aeroflex | PXIModule | Version 7.1.0 | N/A |
| 0502 | EMC Test Software | EMISoft | Vasona | 5.0051 | N/A |
| 0503 | RF Conducted Test Software | National Instruments | Labview | Version 8.2 | N/A |
| 0398 | RF Conducted Test Software | MiCOM Labs ATS | -- | Version 1.8 | N/A |
| 0380 | RF Switch | MiCOM Labs | MIC001 | MIC001 | 20th March 14 |

# APPENDIX

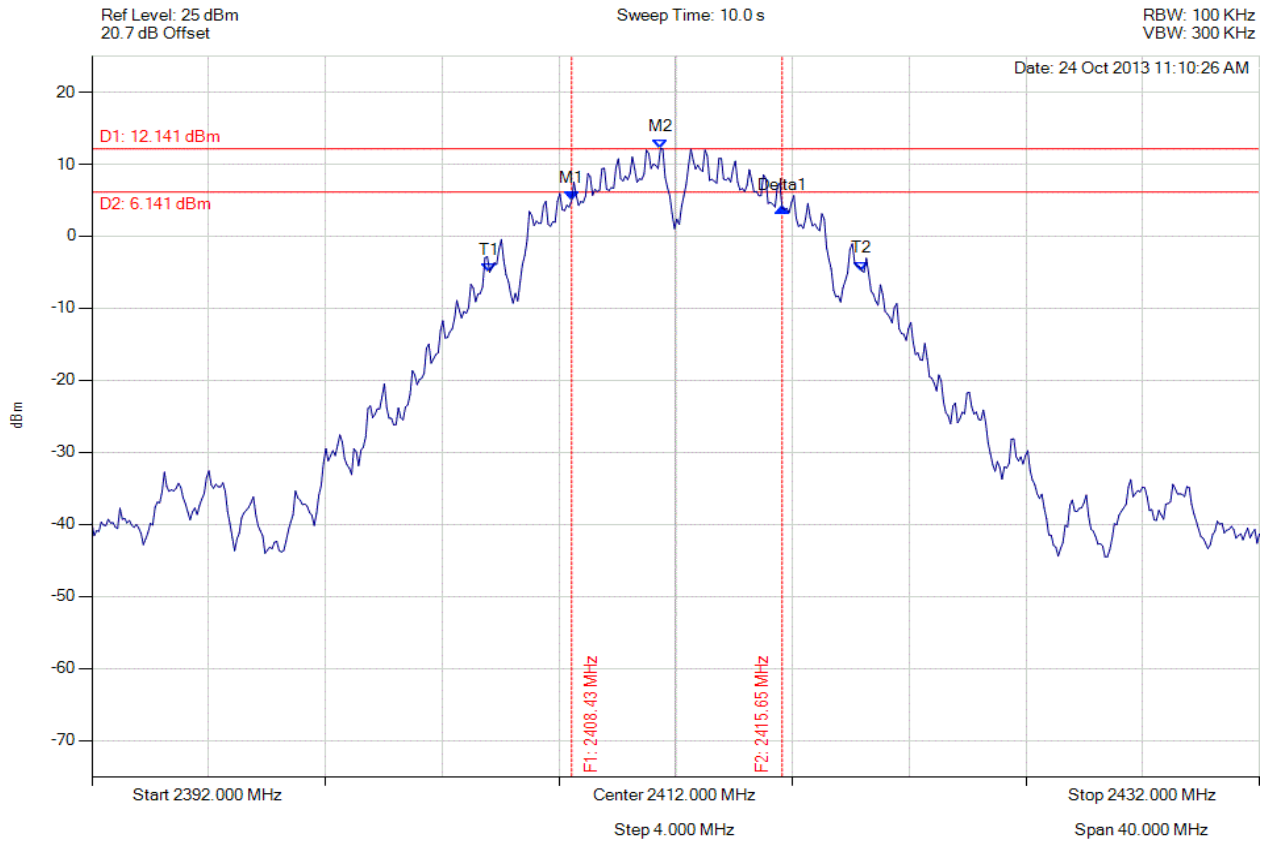
# A. SUPPORTING INFORMATION

## A.1. 3x3 CONDUCTED TEST PLOTS

## A.1.1. 6 dB & 99% Bandwidth

**6 dB & 99% BANDWIDTH**

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

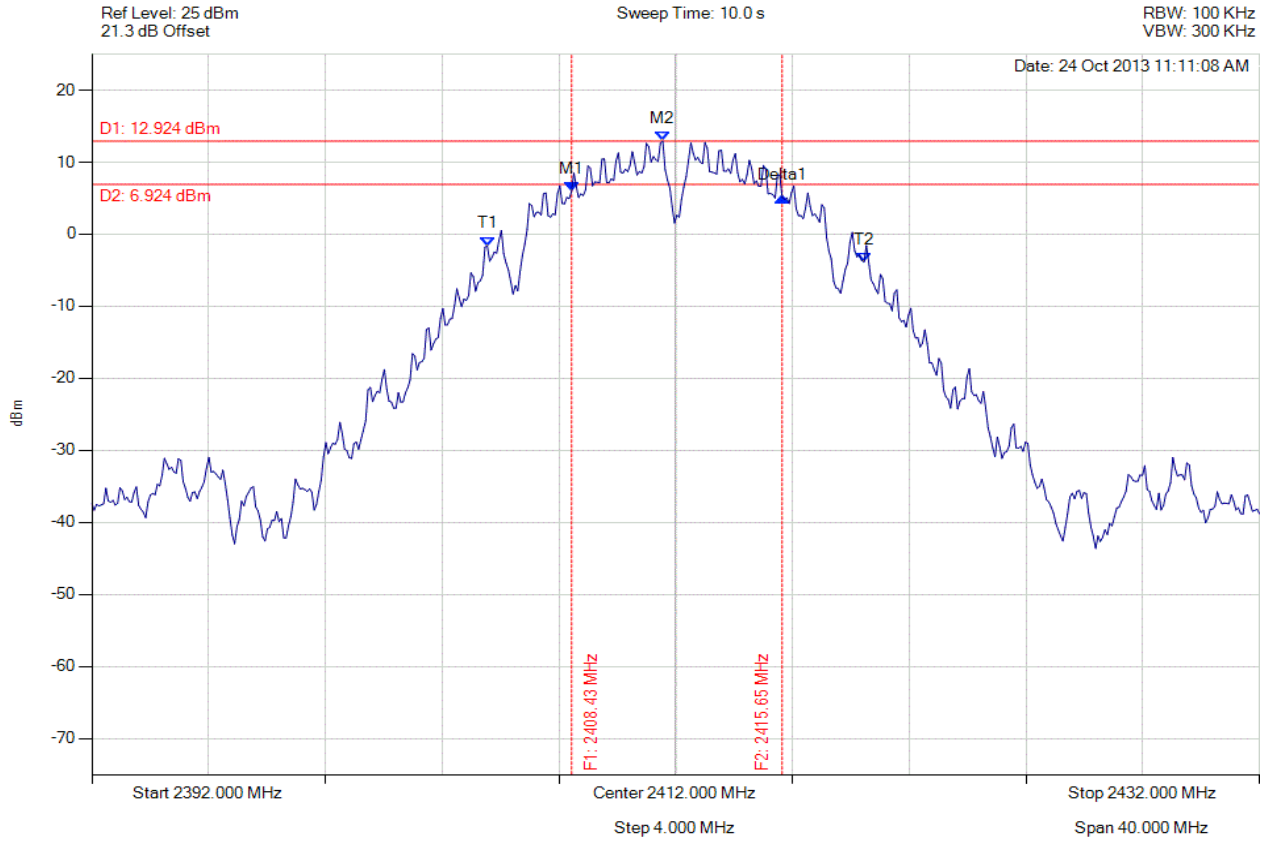



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2408.433 MHz : 4.980 dBm<br>M2 : 2411.479 MHz : 12.141 dBm<br>Delta1 : 7.214 MHz : -1.070 dB<br>T1 : 2405.627 MHz : -5.020 dBm<br>T2 : 2418.373 MHz : -4.782 dBm<br>OBW : 12.745 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

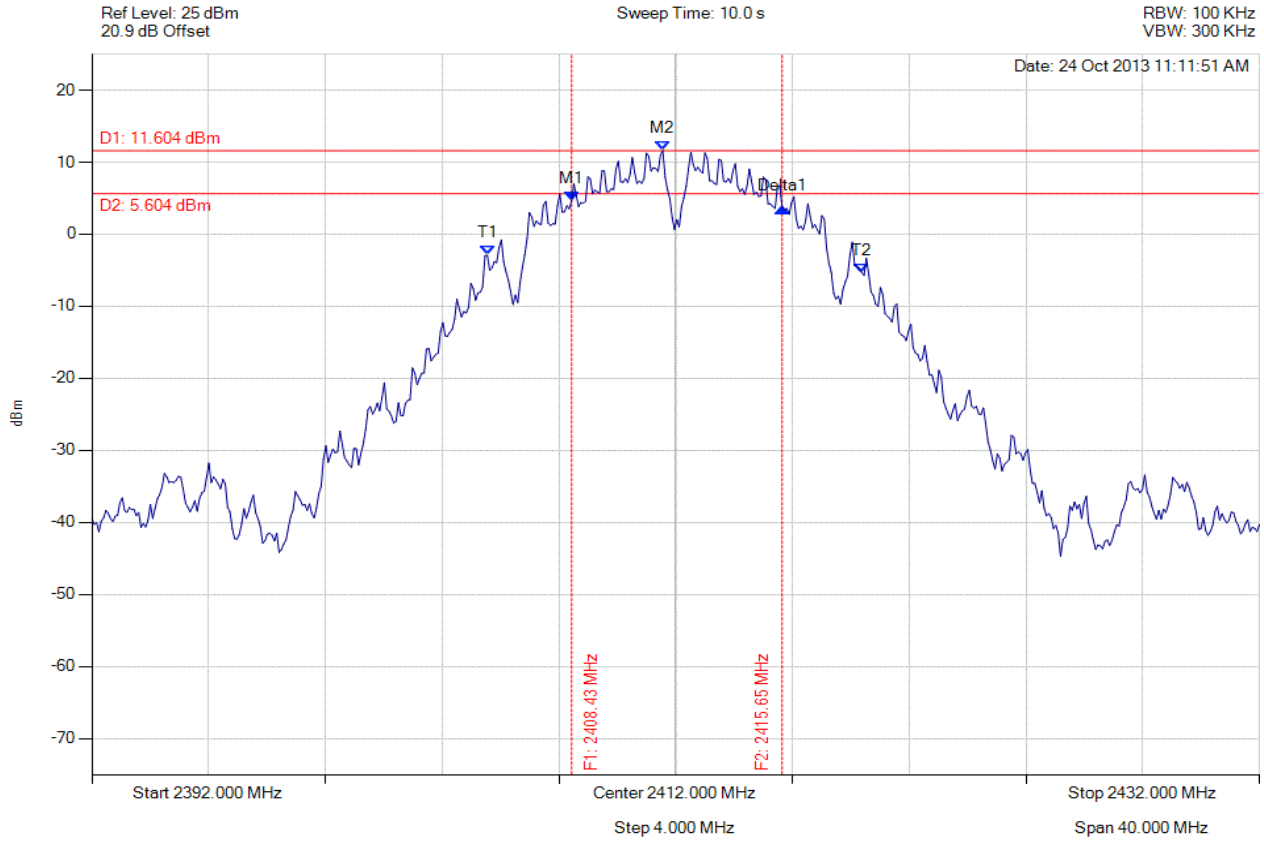



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2408.433 MHz : 5.976 dBm<br>M2 : 2411.559 MHz : 12.924 dBm<br>Delta1 : 7.214 MHz : -0.889 dB<br>T1 : 2405.547 MHz : -1.618 dBm<br>T2 : 2418.453 MHz : -3.879 dBm<br>OBW : 12.906 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

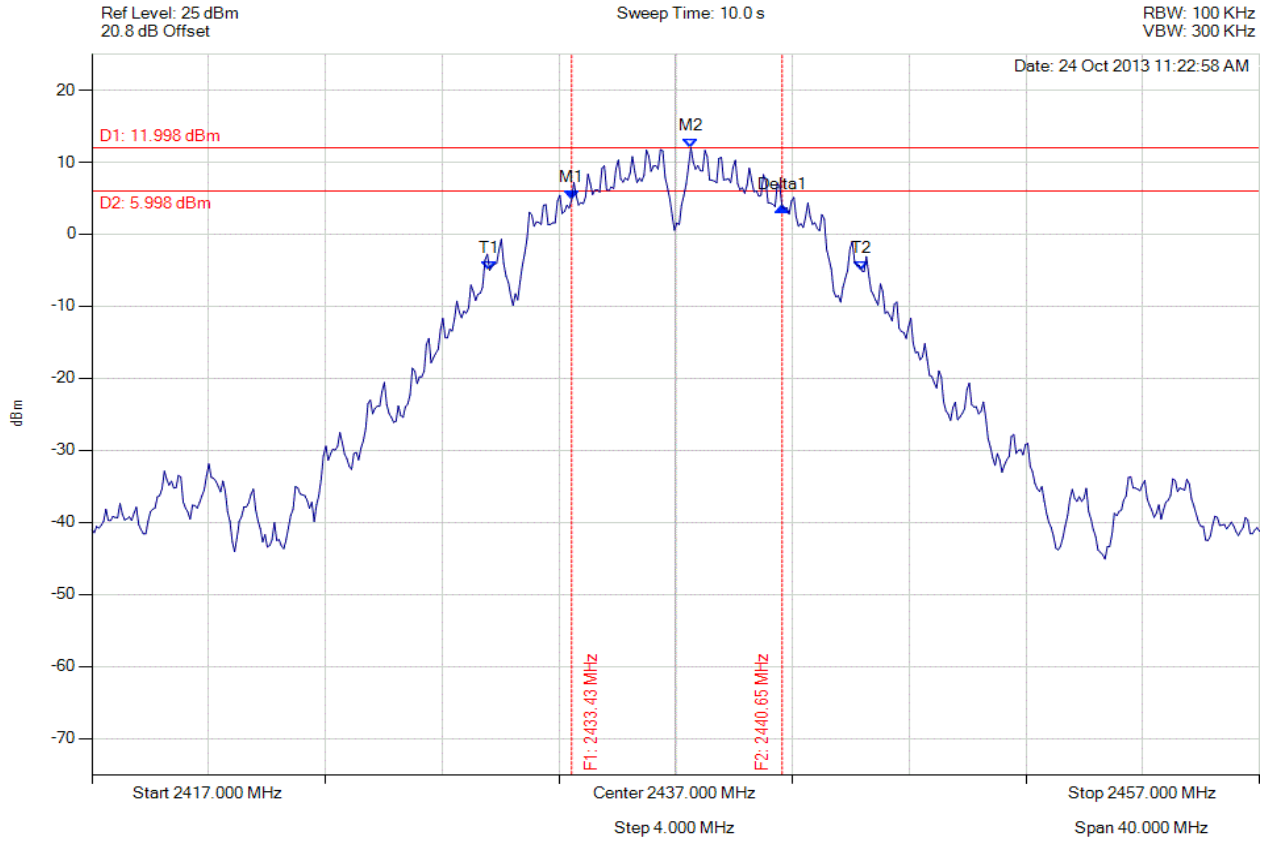



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2408.433 MHz : 4.620 dBm<br>M2 : 2411.559 MHz : 11.604 dBm<br>Delta1 : 7.214 MHz : -1.019 dB<br>T1 : 2405.547 MHz : -2.907 dBm<br>T2 : 2418.373 MHz : -5.303 dBm<br>OBW : 12.826 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

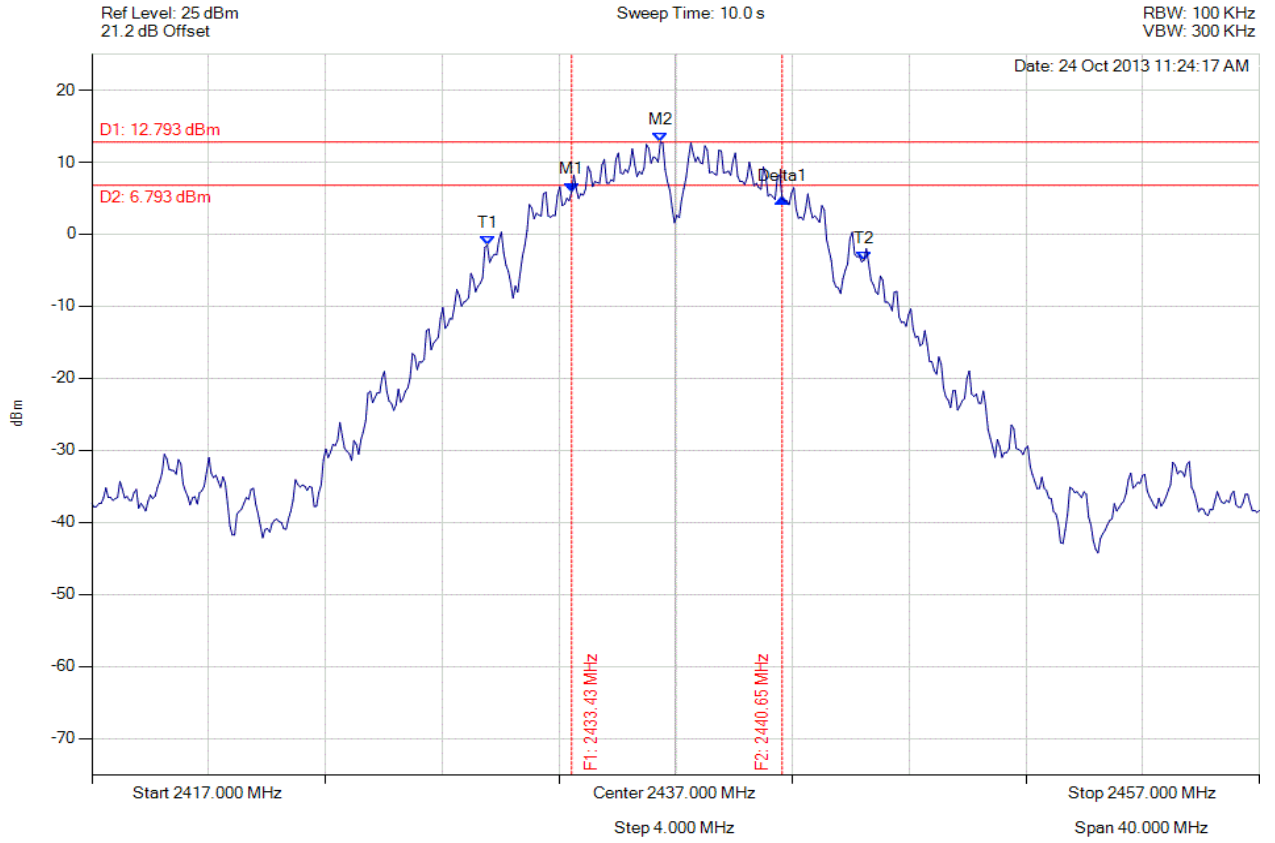



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2433.433 MHz : 4.791 dBm<br>M2 : 2437.521 MHz : 11.998 dBm<br>Delta1 : 7.214 MHz : -1.027 dB<br>T1 : 2430.627 MHz : -5.018 dBm<br>T2 : 2443.373 MHz : -5.065 dBm<br>OBW : 12.745 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

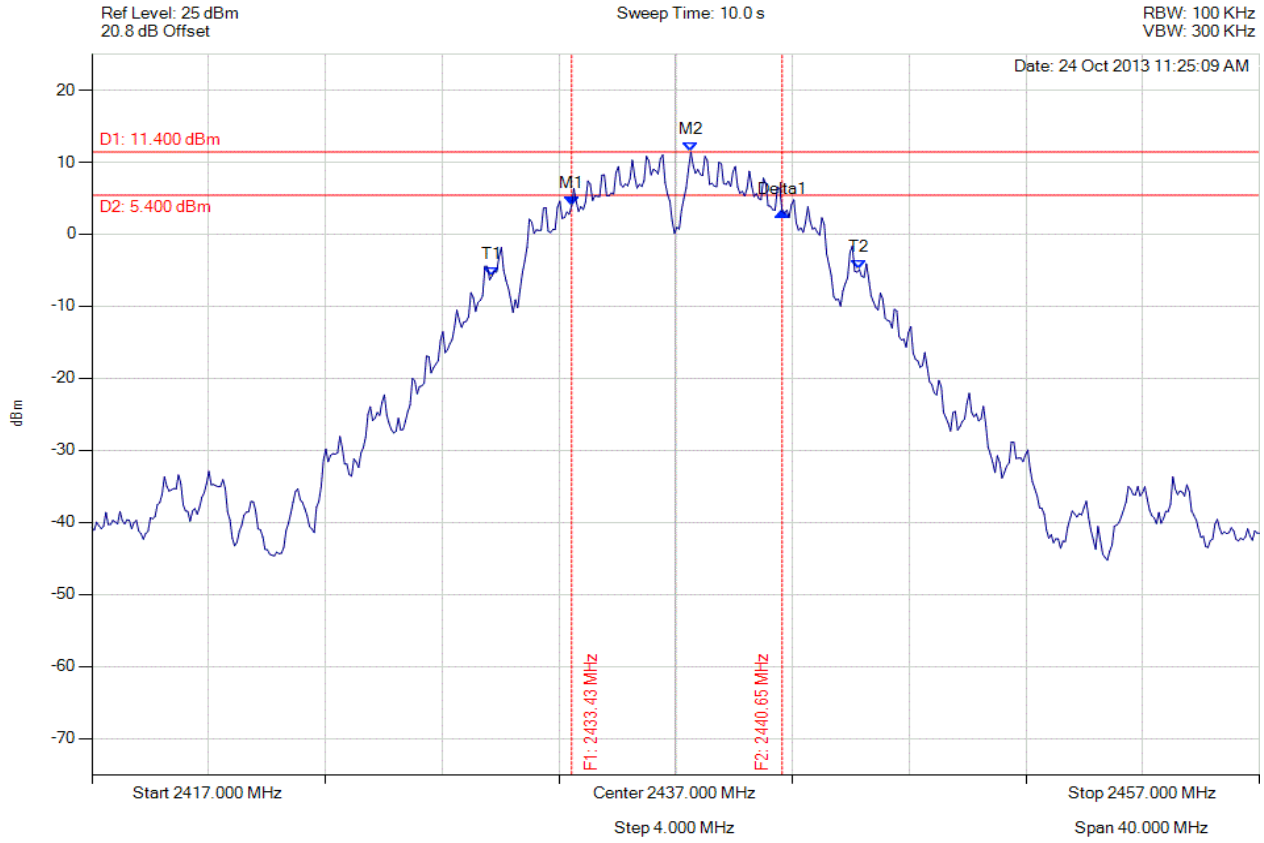



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2433.433 MHz : 5.887 dBm<br>M2 : 2436.479 MHz : 12.793 dBm<br>Delta1 : 7.214 MHz : -0.980 dB<br>T1 : 2430.547 MHz : -1.481 dBm<br>T2 : 2443.453 MHz : -3.631 dBm<br>OBW : 12.906 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

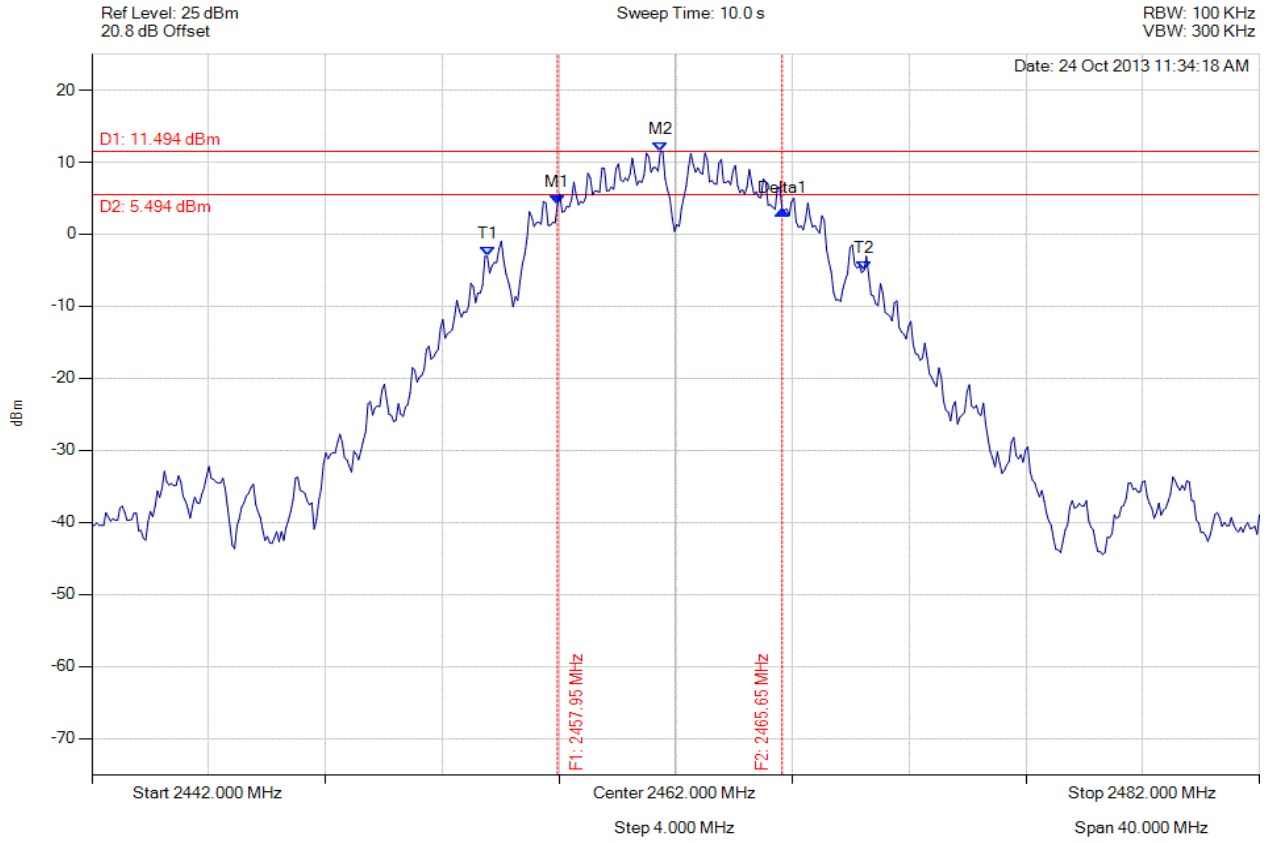



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2433.433 MHz : 3.936 dBm<br>M2 : 2437.521 MHz : 11.400 dBm<br>Delta1 : 7.214 MHz : -0.757 dB<br>T1 : 2430.707 MHz : -5.797 dBm<br>T2 : 2443.293 MHz : -4.908 dBm<br>OBW : 12.585 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

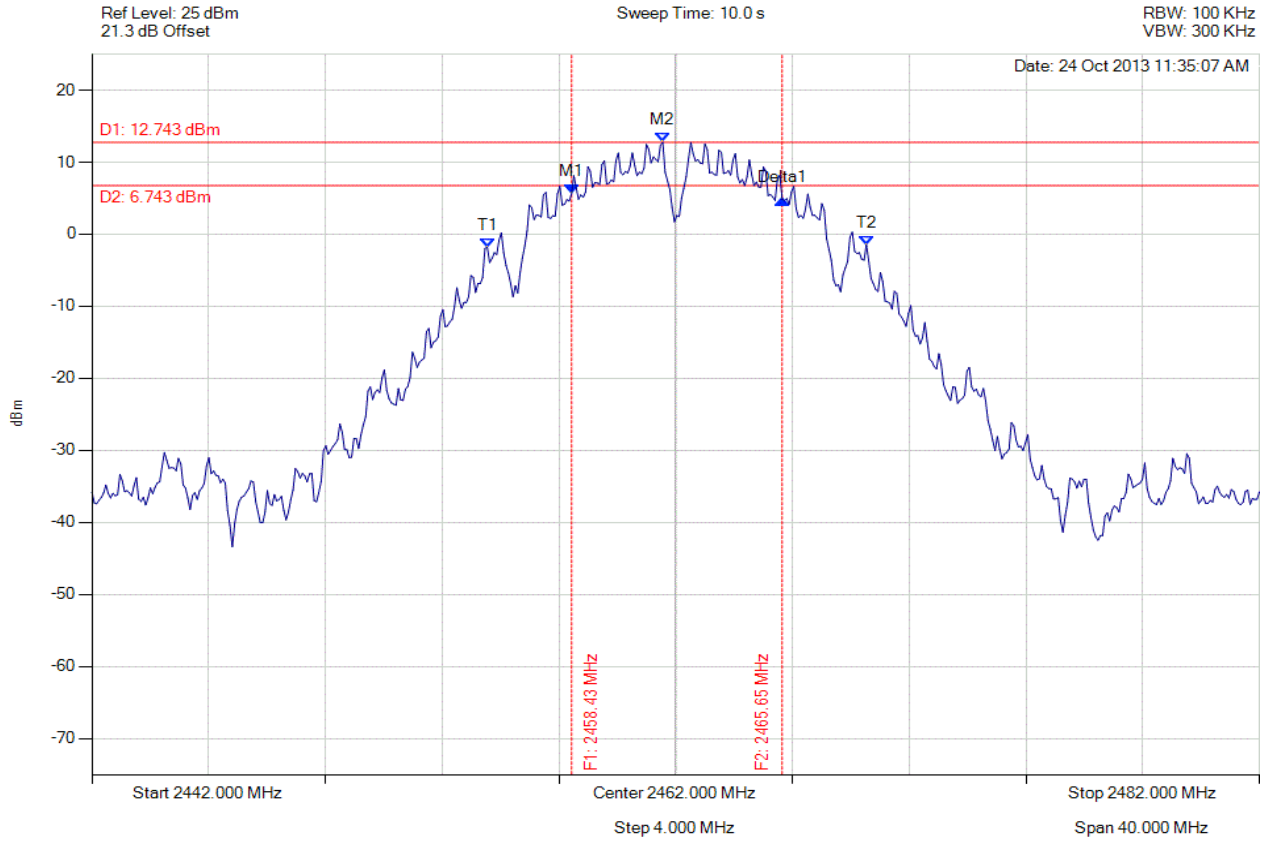



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2457.952 MHz : 4.189 dBm<br>M2 : 2461.479 MHz : 11.494 dBm<br>Delta1 : 7.695 MHz : -0.852 dB<br>T1 : 2455.547 MHz : -3.066 dBm<br>T2 : 2468.453 MHz : -5.059 dBm<br>OBW : 12.906 MHz | Measured 6 dB Bandwidth: 7.695 MHz<br>Limit: ≥500.0 kHz<br>Margin: -7.20 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

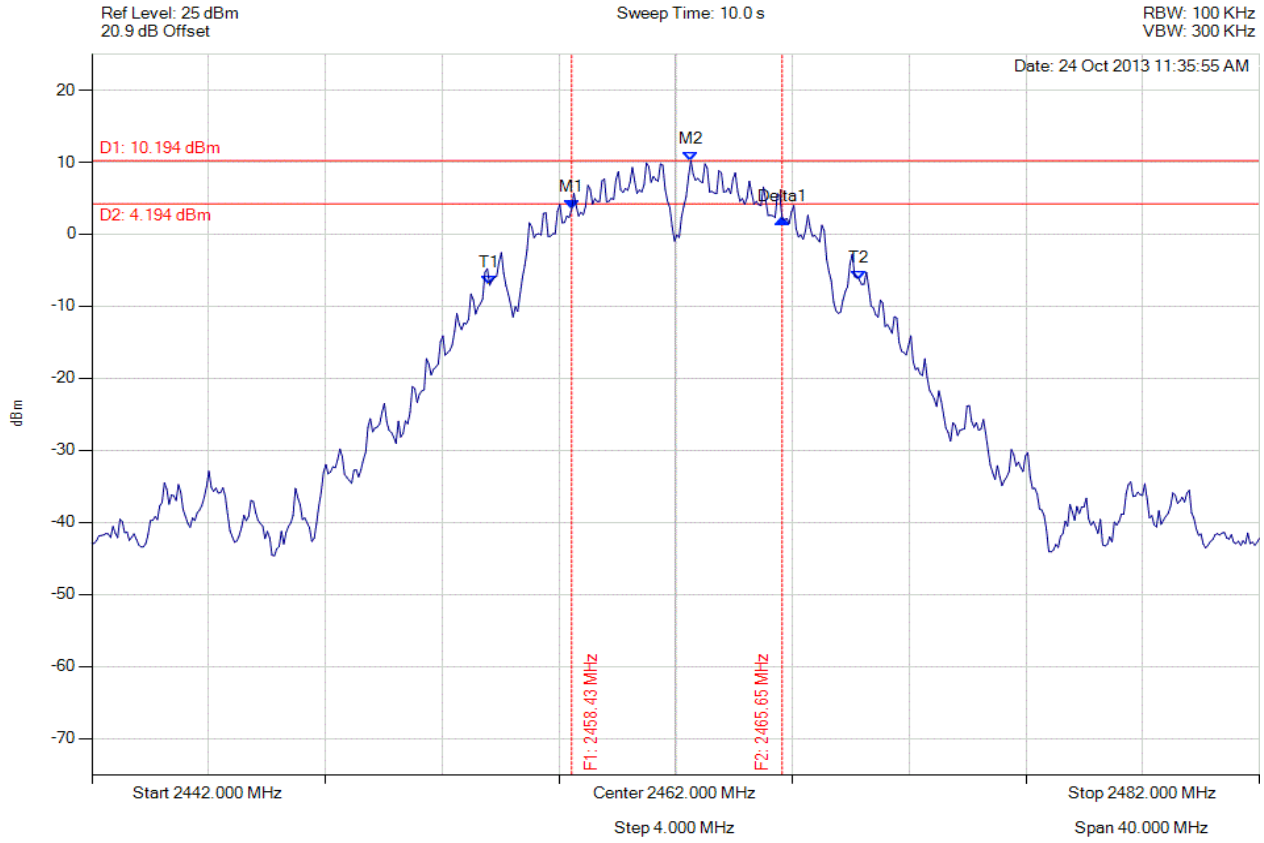



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2458.433 MHz : 5.629 dBm<br>M2 : 2461.559 MHz : 12.743 dBm<br>Delta1 : 7.214 MHz : -0.775 dB<br>T1 : 2455.547 MHz : -1.819 dBm<br>T2 : 2468.533 MHz : -1.473 dBm<br>OBW : 12.986 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

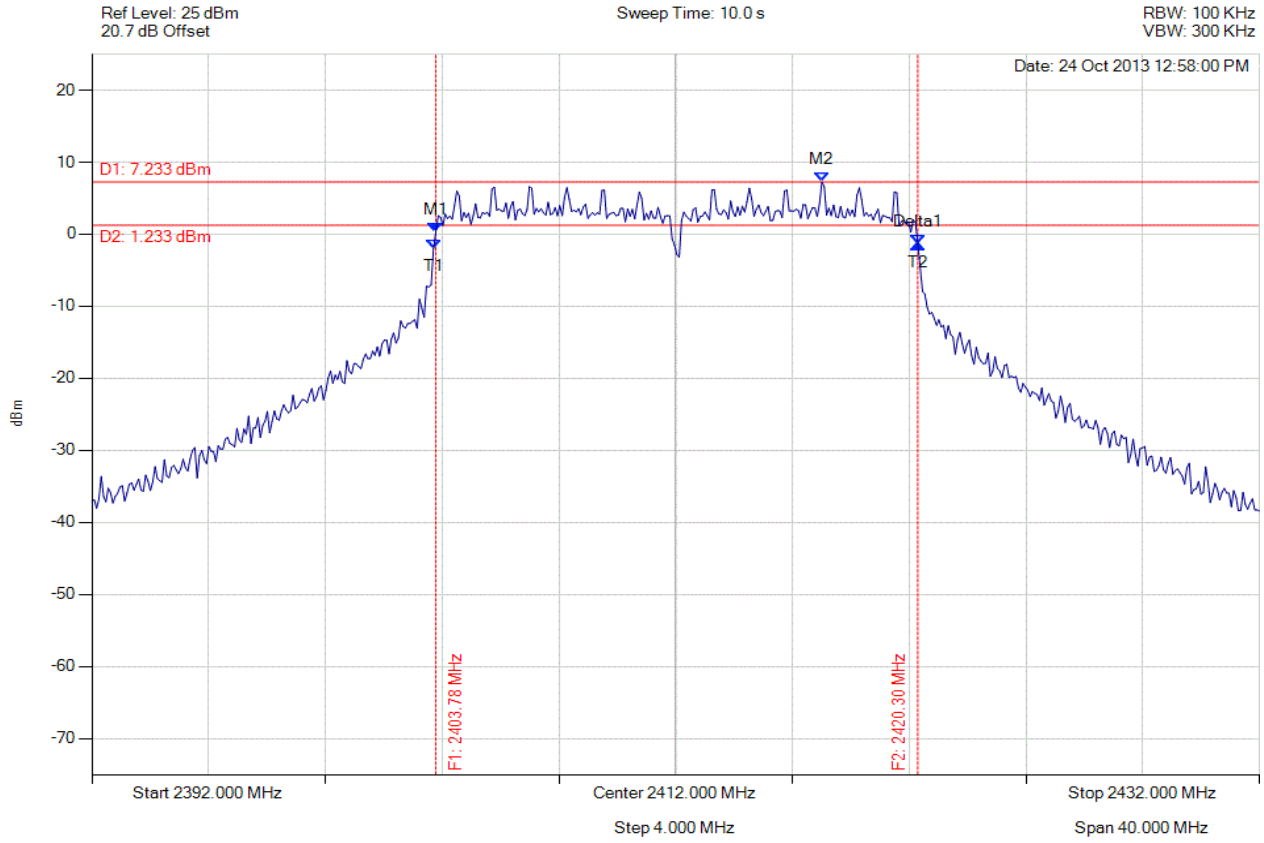



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2458.433 MHz : 3.454 dBm<br>M2 : 2462.521 MHz : 10.194 dBm<br>Delta1 : 7.214 MHz : -1.273 dB<br>T1 : 2455.627 MHz : -7.078 dBm<br>T2 : 2468.293 MHz : -6.326 dBm<br>OBW : 12.665 MHz | Measured 6 dB Bandwidth: 7.214 MHz<br>Limit: ≥500.0 kHz<br>Margin: -6.71 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

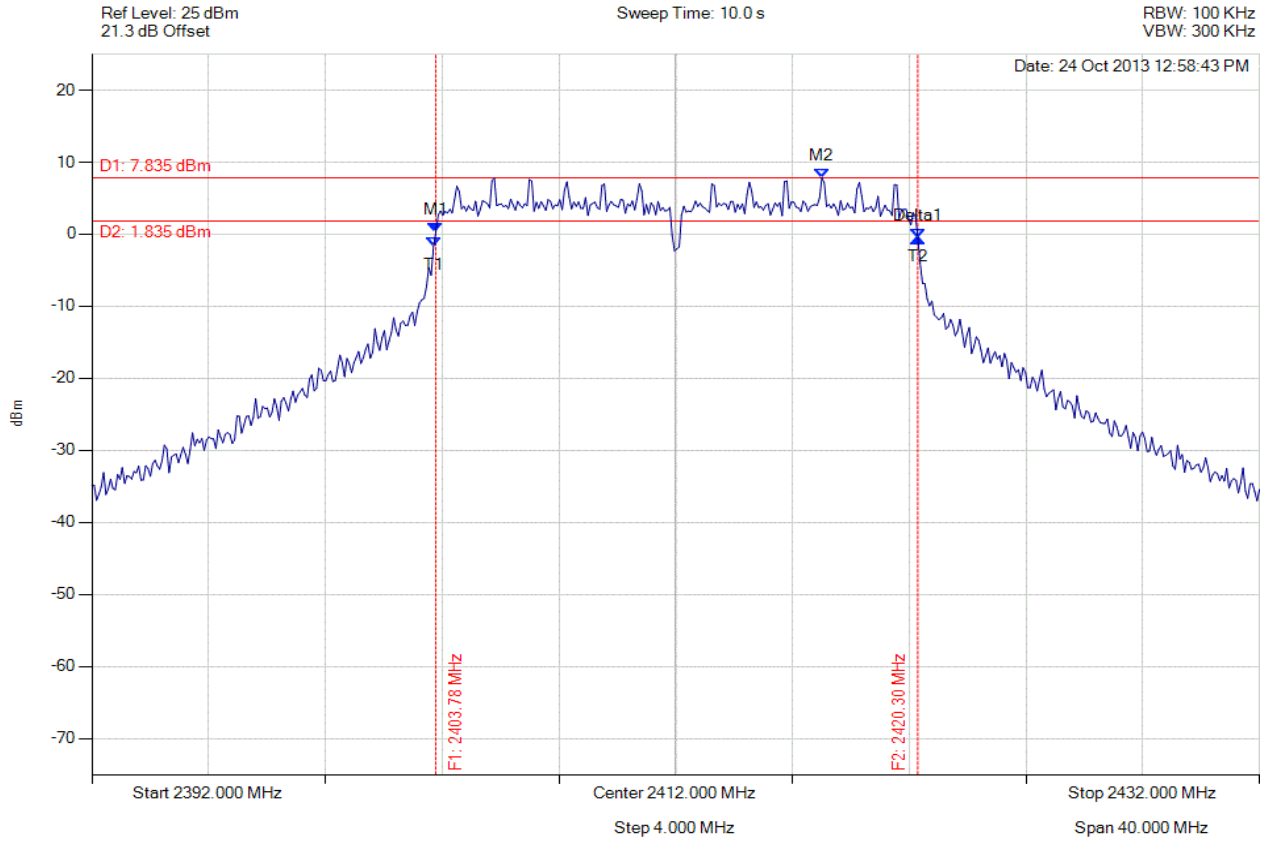



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.784 MHz : 0.325 dBm<br>M2 : 2417.010 MHz : 7.233 dBm<br>Delta1 : 16.513 MHz : -1.763 dB<br>T1 : 2403.703 MHz : -1.996 dBm<br>T2 : 2420.297 MHz : -1.439 dBm<br>OBW : 16.593 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

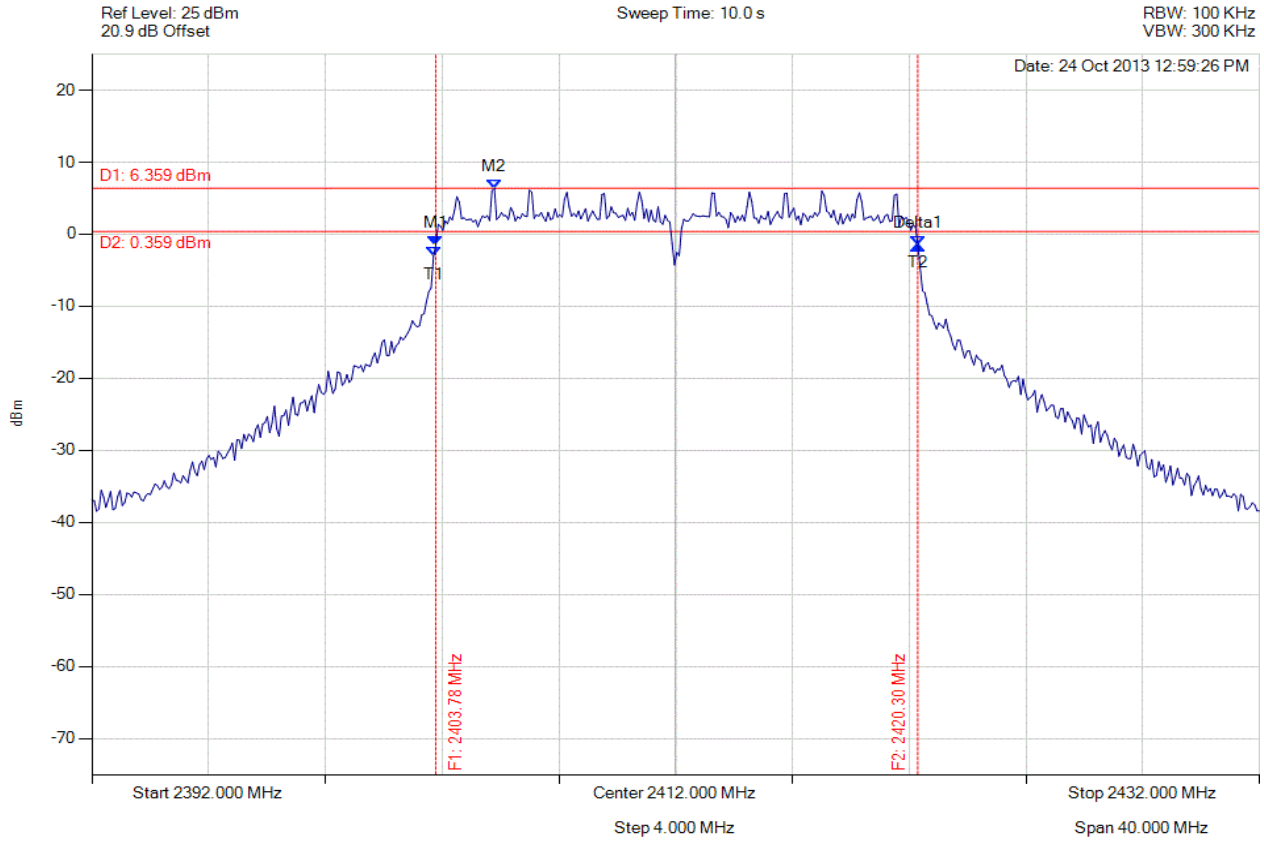



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.784 MHz : 0.270 dBm<br>M2 : 2417.010 MHz : 7.835 dBm<br>Delta1 : 16.513 MHz : -0.803 dB<br>T1 : 2403.703 MHz : -1.723 dBm<br>T2 : 2420.297 MHz : -0.534 dBm<br>OBW : 16.593 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

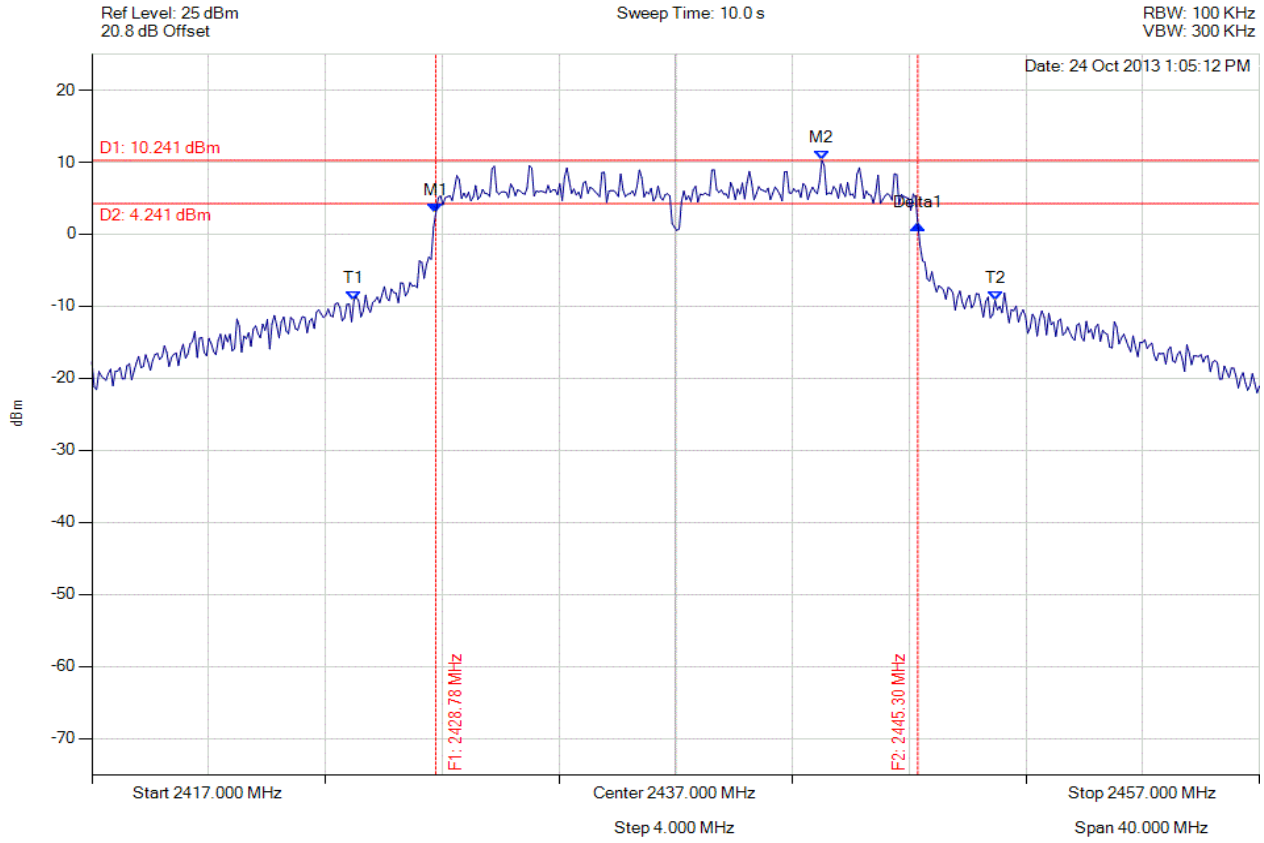



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.784 MHz : -1.483 dBm<br>M2 : 2405.788 MHz : 6.359 dBm<br>Delta1 : 16.513 MHz : -0.002 dB<br>T1 : 2403.703 MHz : -3.068 dBm<br>T2 : 2420.297 MHz : -1.485 dBm<br>OBW : 16.593 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

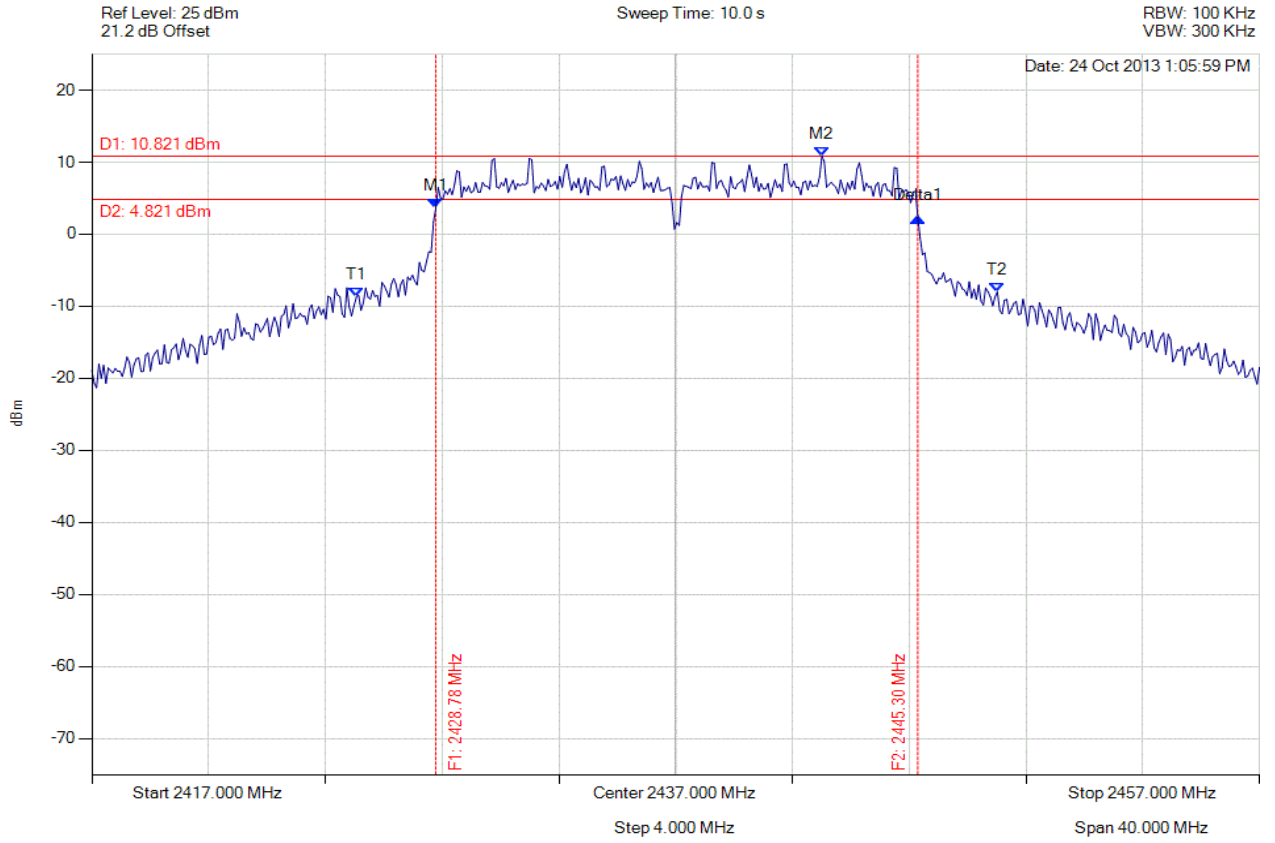



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2428.784 MHz : 2.907 dBm<br>M2 : 2442.010 MHz : 10.241 dBm<br>Delta1 : 16.513 MHz : -1.562 dB<br>T1 : 2425.978 MHz : -9.149 dBm<br>T2 : 2447.942 MHz : -9.177 dBm<br>OBW : 21.964 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

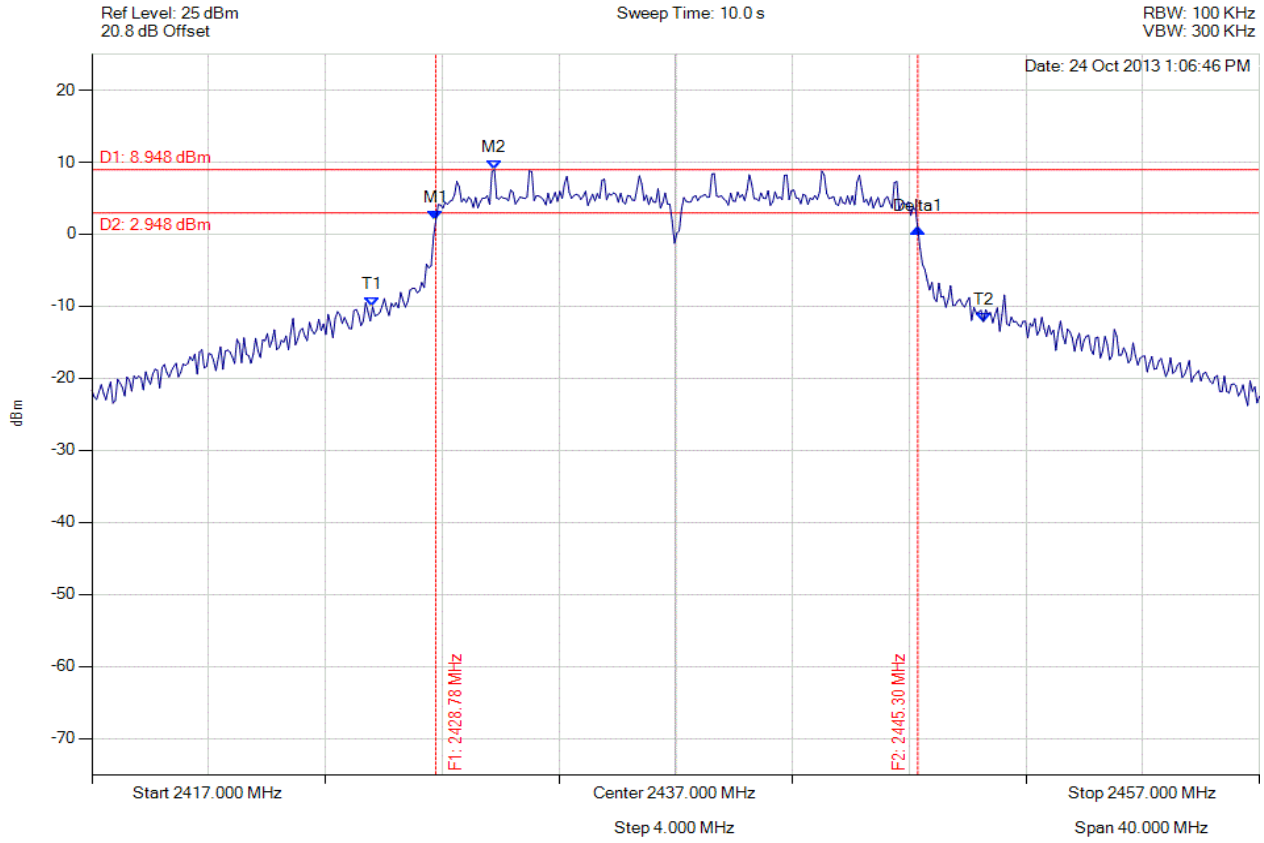



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2428.784 MHz : 3.629 dBm<br>M2 : 2442.010 MHz : 10.821 dBm<br>Delta1 : 16.513 MHz : -1.363 dB<br>T1 : 2426.058 MHz : -8.736 dBm<br>T2 : 2448.022 MHz : -8.026 dBm<br>OBW : 21.964 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

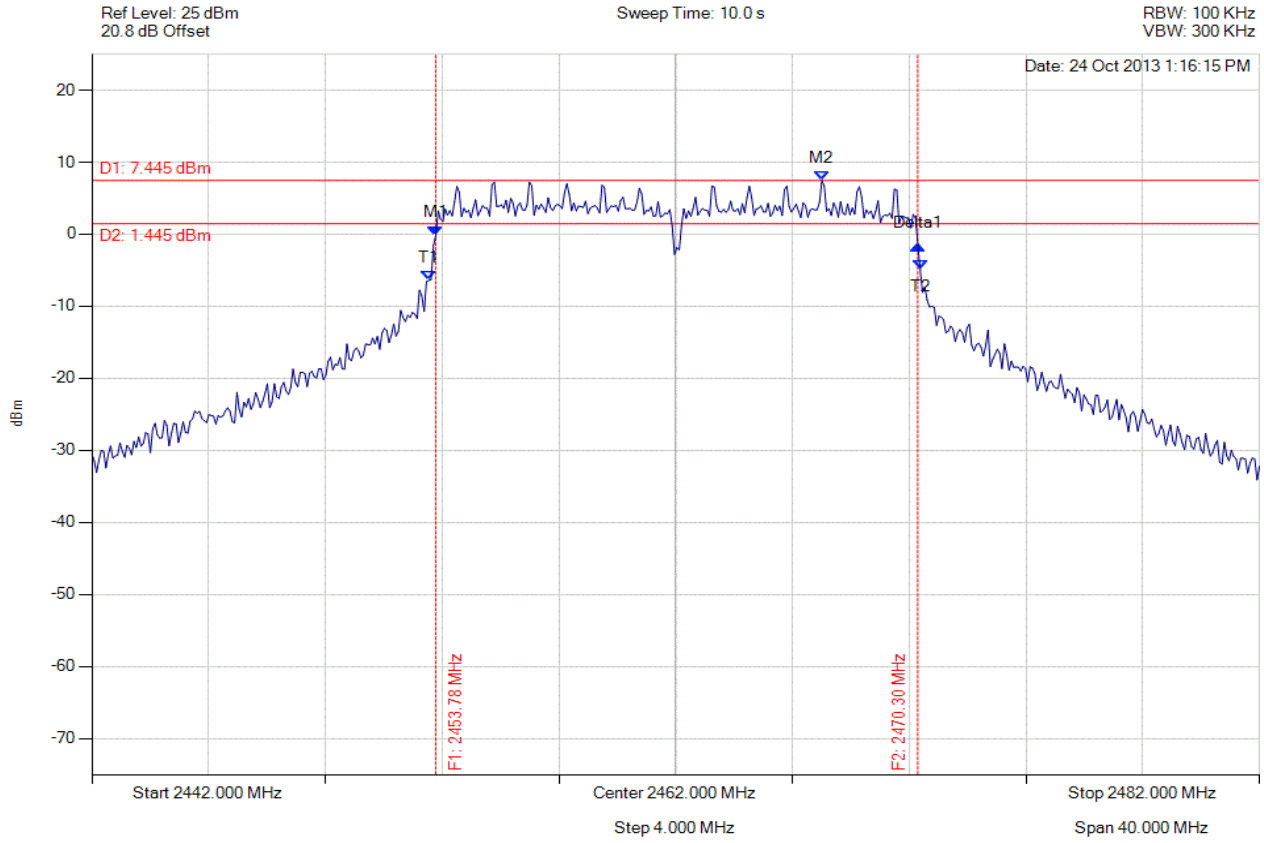



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2428.784 MHz : 1.921 dBm<br>M2 : 2430.788 MHz : 8.948 dBm<br>Delta1 : 16.513 MHz : -1.192 dB<br>T1 : 2426.619 MHz : -10.082 dBm<br>T2 : 2447.541 MHz : -12.138 dBm<br>OBW : 20.922 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

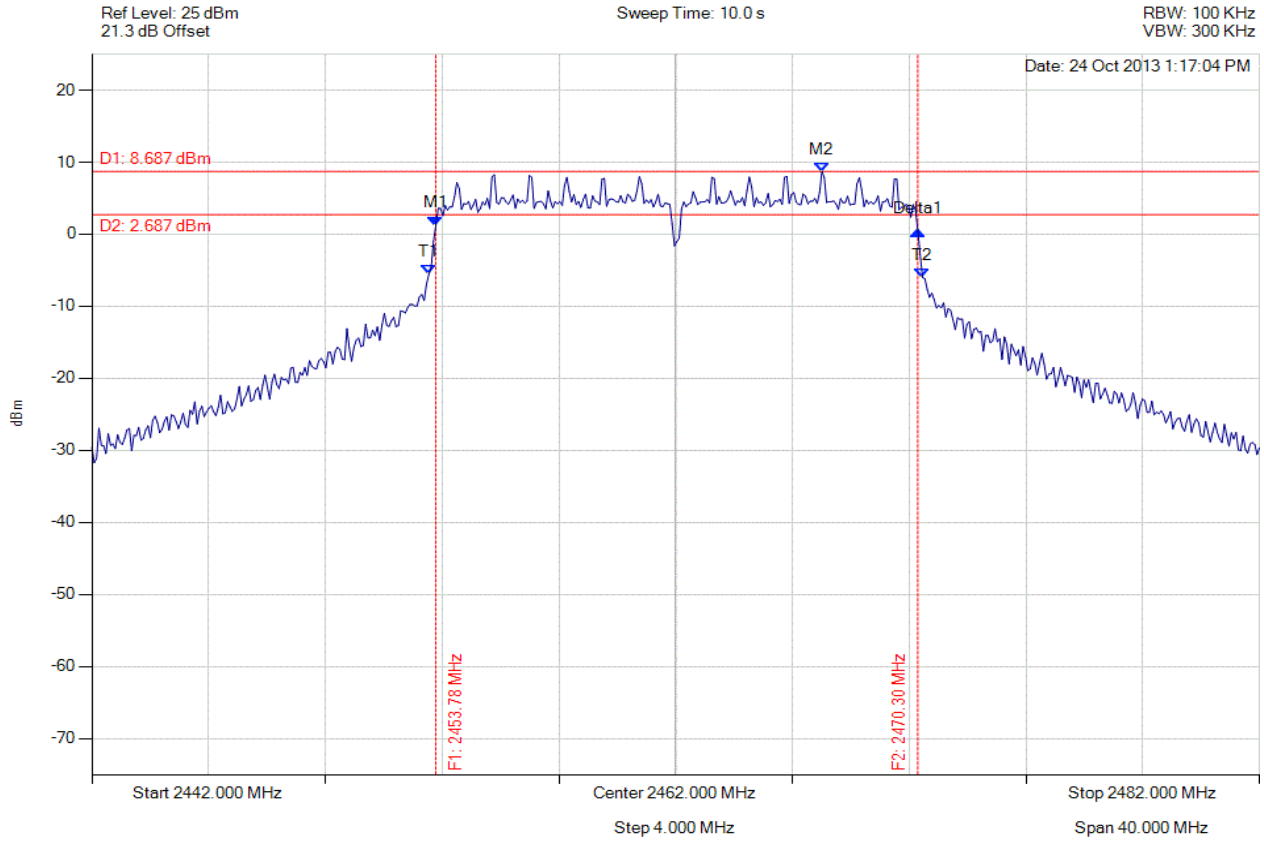



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2453.784 MHz : -0.121 dBm<br>M2 : 2467.010 MHz : 7.445 dBm<br>Delta1 : 16.513 MHz : -1.385 dB<br>T1 : 2453.543 MHz : -6.401 dBm<br>T2 : 2470.377 MHz : -4.807 dBm<br>OBW : 16.834 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

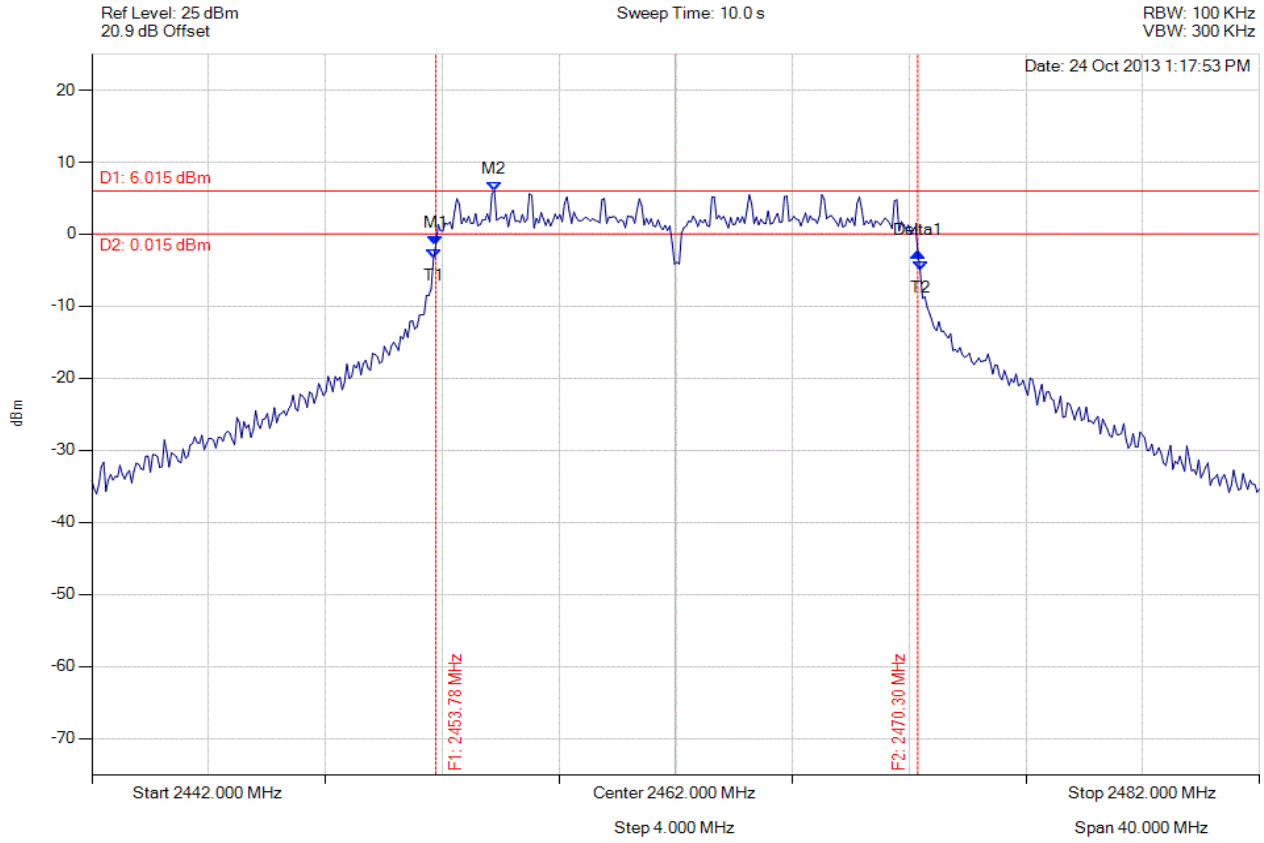



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2453.784 MHz : 1.213 dBm<br>M2 : 2467.010 MHz : 8.687 dBm<br>Delta1 : 16.513 MHz : -0.773 dB<br>T1 : 2453.543 MHz : -5.573 dBm<br>T2 : 2470.457 MHz : -5.992 dBm<br>OBW : 16.914 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

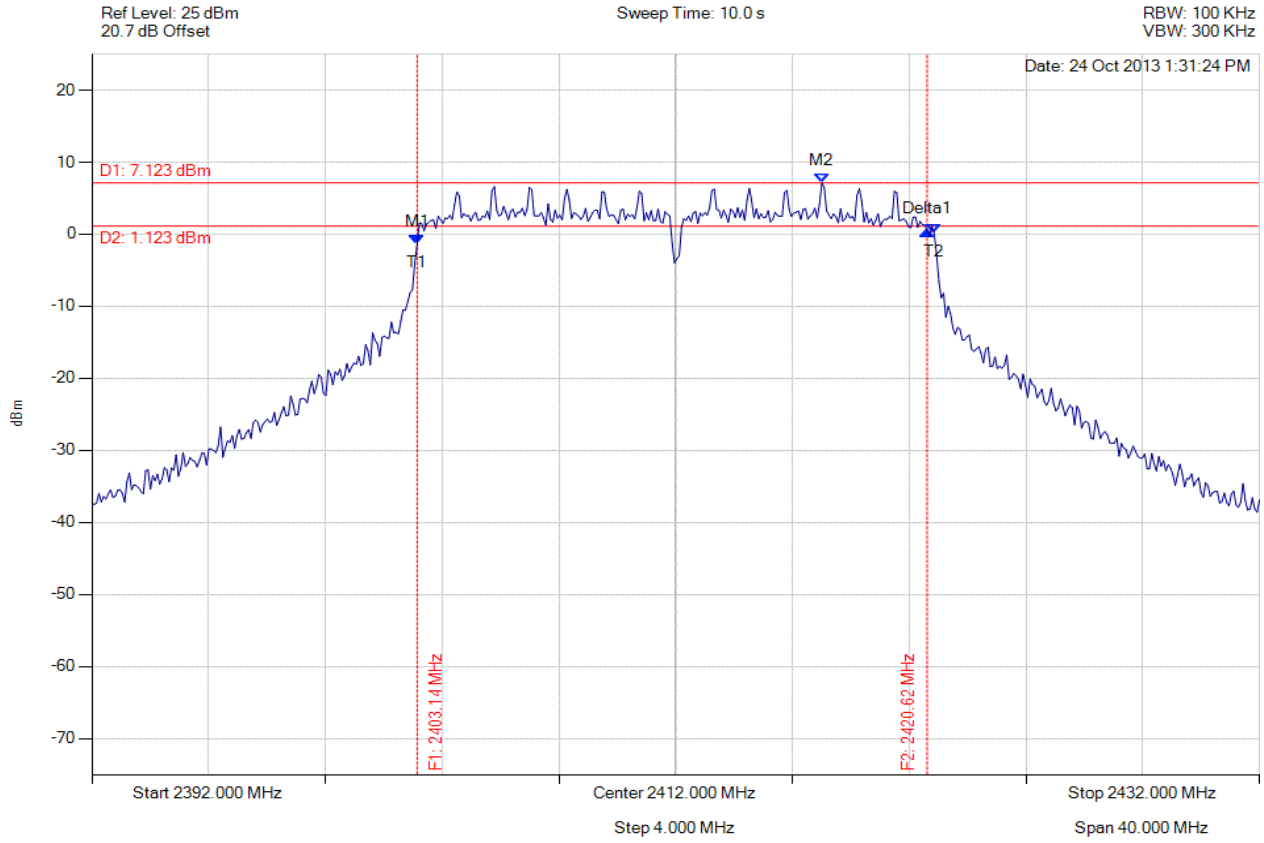



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2453.784 MHz : -1.528 dBm<br>M2 : 2455.788 MHz : 6.015 dBm<br>Delta1 : 16.513 MHz : -0.994 dB<br>T1 : 2453.703 MHz : -3.326 dBm<br>T2 : 2470.377 MHz : -5.002 dBm<br>OBW : 16.673 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

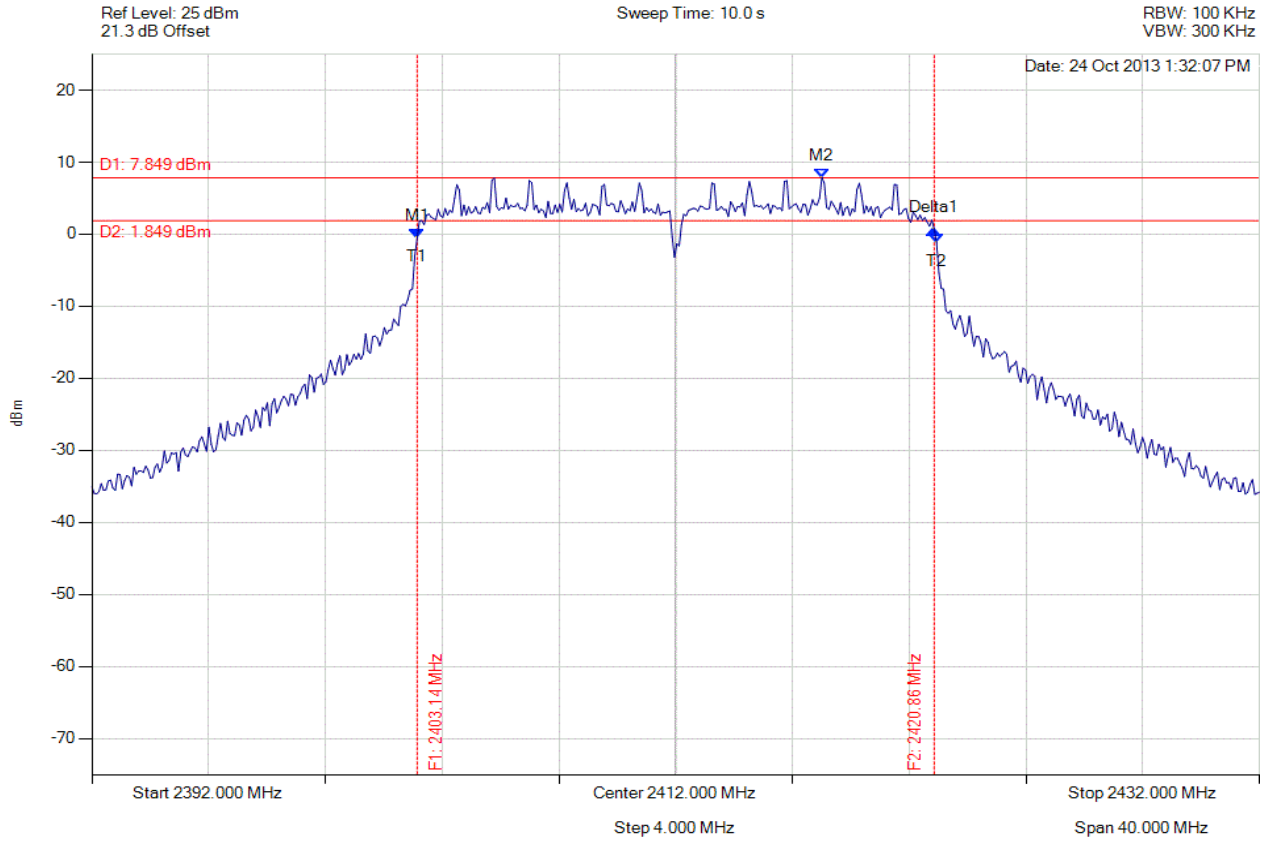



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.142 MHz : -1.382 dBm<br>M2 : 2417.010 MHz : 7.123 dBm<br>Delta1 : 17.475 MHz : 1.869 dB<br>T1 : 2403.142 MHz : -1.382 dBm<br>T2 : 2420.858 MHz : 0.068 dBm<br>OBW : 17.715 MHz | Measured 6 dB Bandwidth: 17.475 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.98 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

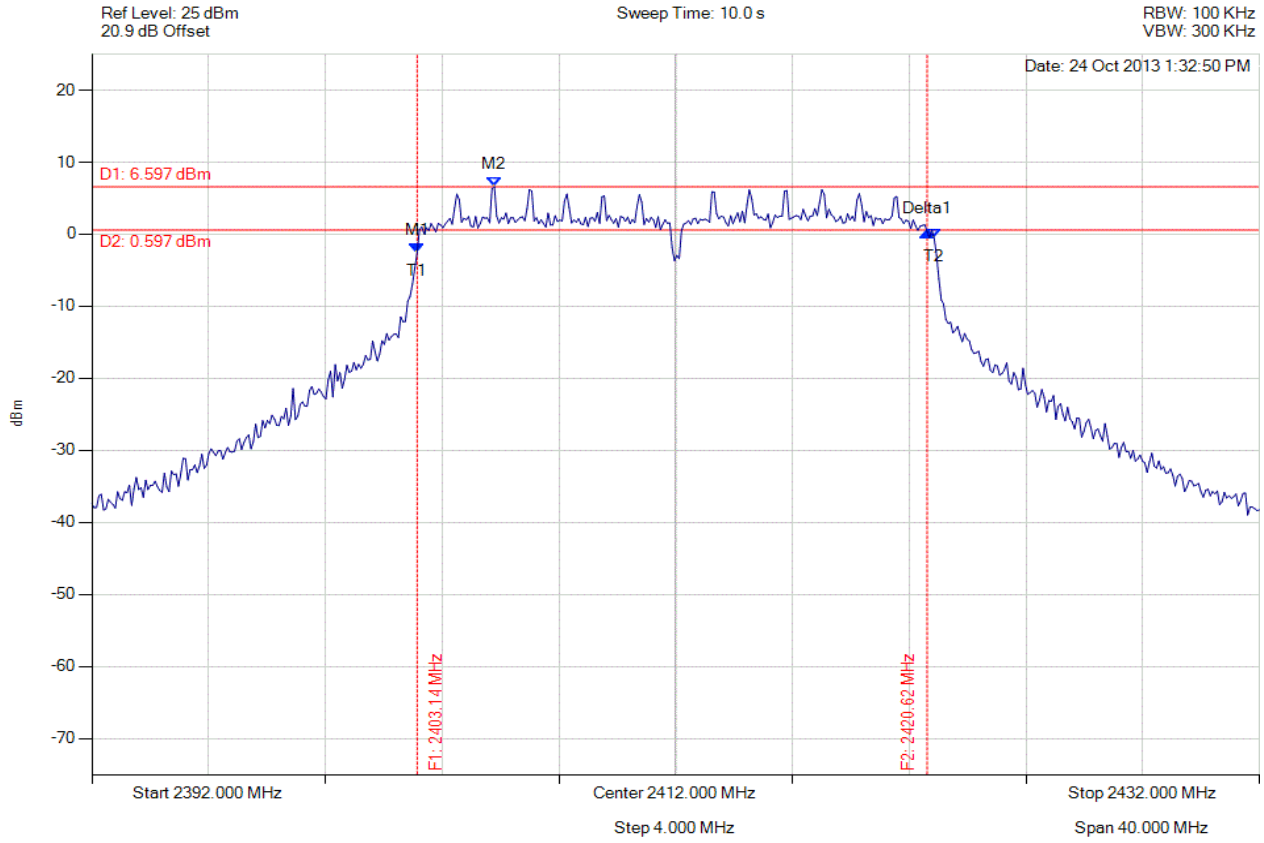



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.142 MHz : -0.585 dBm<br>M2 : 2417.010 MHz : 7.849 dBm<br>Delta1 : 17.715 MHz : 1.289 dB<br>T1 : 2403.142 MHz : -0.585 dBm<br>T2 : 2420.938 MHz : -1.197 dBm<br>OBW : 17.796 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>Margin: -17.22 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

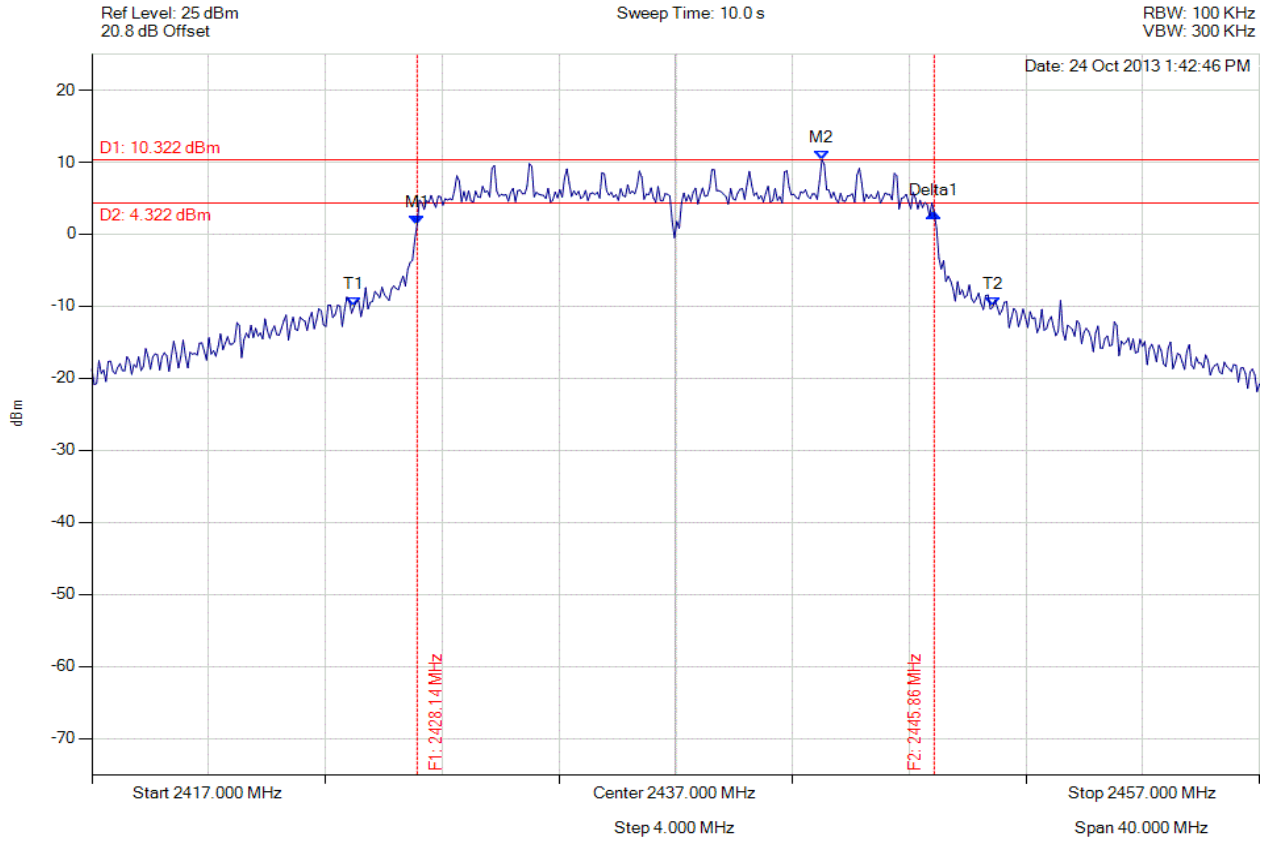



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.142 MHz : -2.525 dBm<br>M2 : 2405.788 MHz : 6.597 dBm<br>Delta1 : 17.475 MHz : 2.900 dB<br>T1 : 2403.142 MHz : -2.525 dBm<br>T2 : 2420.858 MHz : -0.591 dBm<br>OBW : 17.715 MHz | Measured 6 dB Bandwidth: 17.475 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.98 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

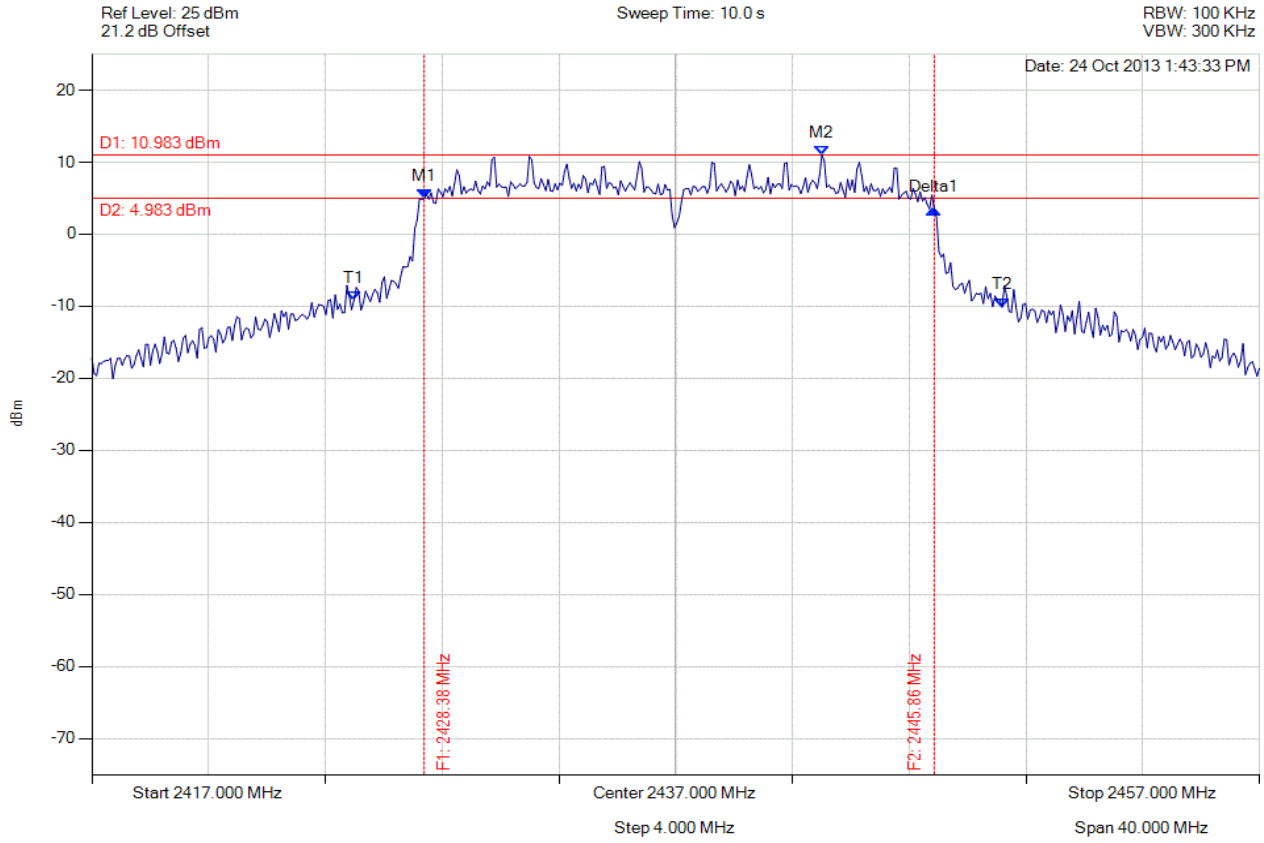



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2428.142 MHz : 1.370 dBm<br>M2 : 2442.010 MHz : 10.322 dBm<br>Delta1 : 17.715 MHz : 1.633 dB<br>T1 : 2425.978 MHz : -10.076 dBm<br>T2 : 2447.862 MHz : -10.113 dBm<br>OBW : 21.884 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>Margin: -17.22 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

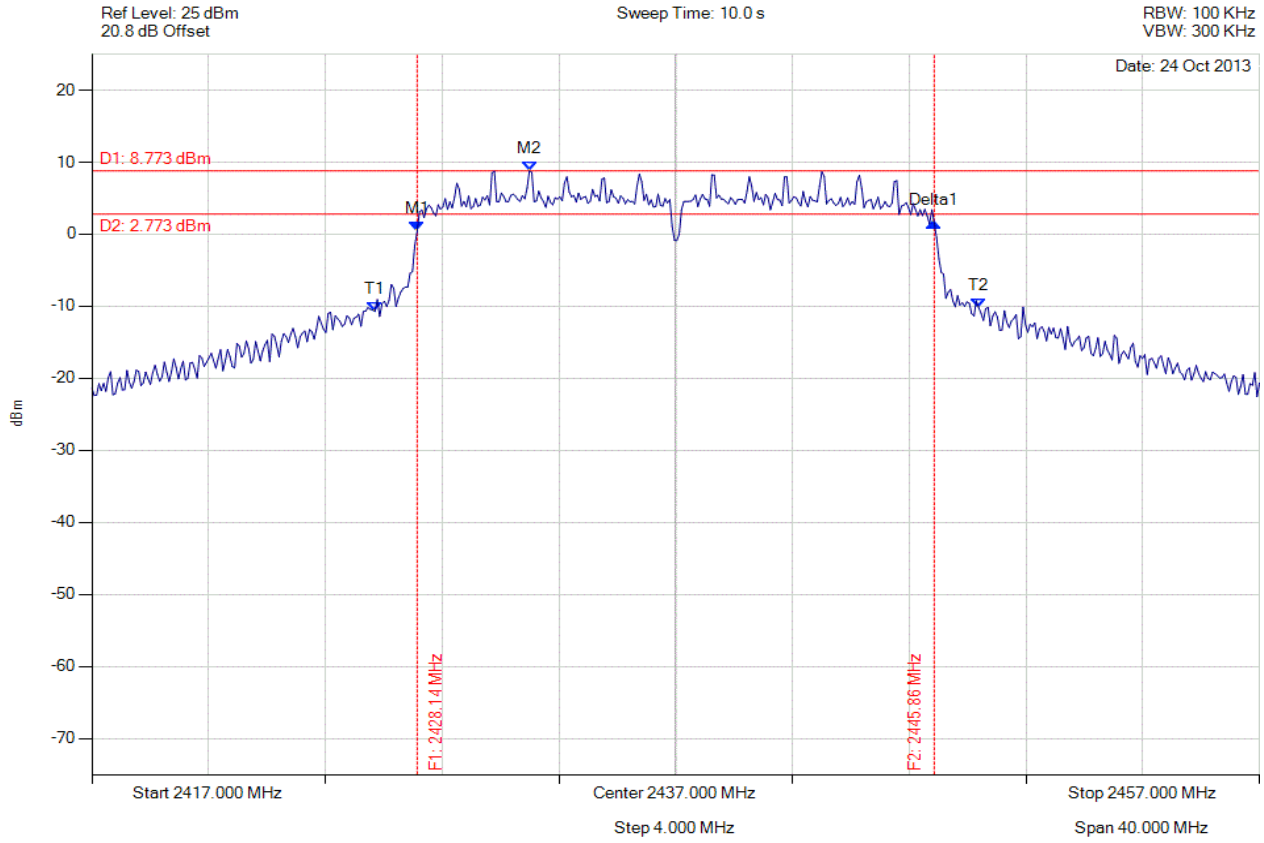



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2428.383 MHz : 4.923 dBm<br>M2 : 2442.010 MHz : 10.983 dBm<br>Delta1 : 17.475 MHz : -1.483 dB<br>T1 : 2425.978 MHz : -9.161 dBm<br>T2 : 2448.182 MHz : -10.123 dBm<br>OBW : 22.204 MHz | Measured 6 dB Bandwidth: 17.475 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.98 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

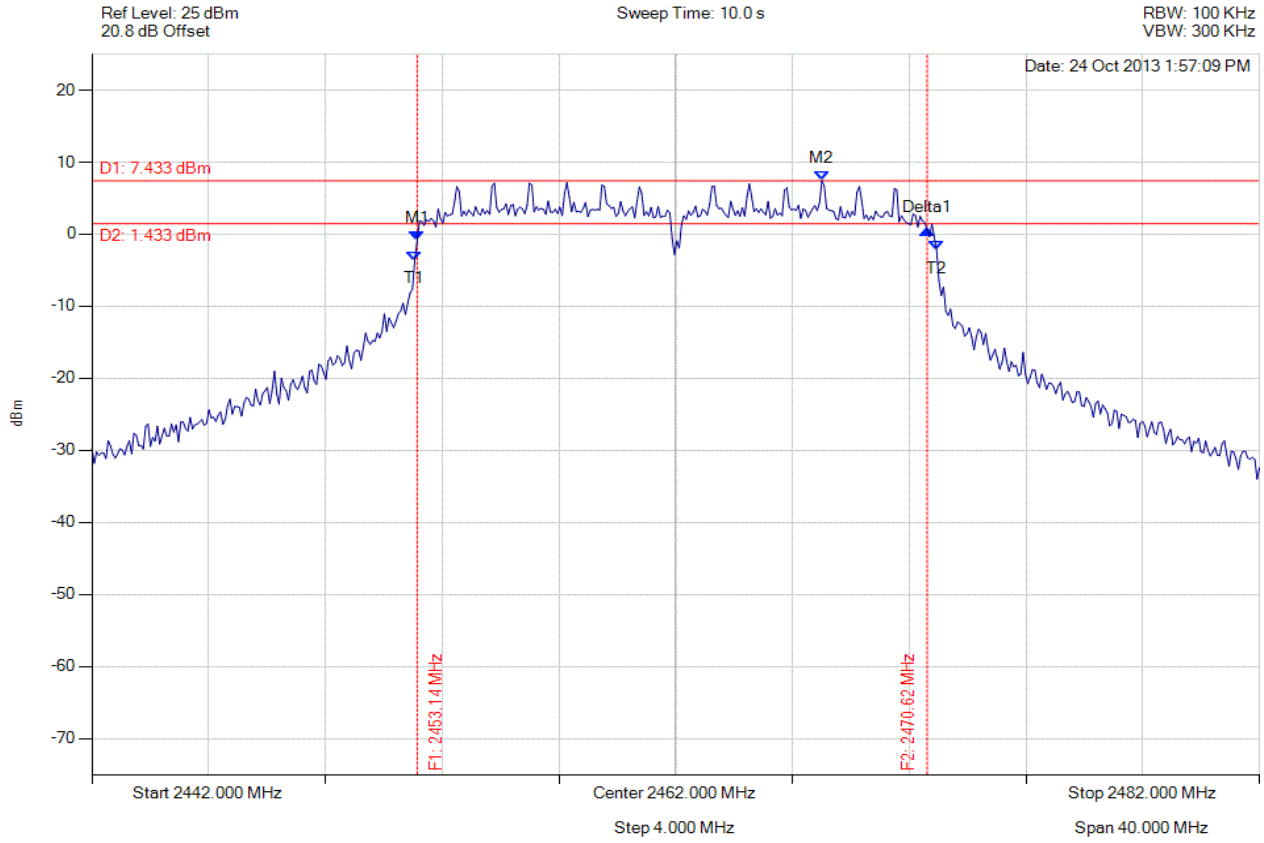



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2428.142 MHz : 0.402 dBm<br>M2 : 2431.990 MHz : 8.773 dBm<br>Delta1 : 17.715 MHz : 1.214 dB<br>T1 : 2426.699 MHz : -10.729 dBm<br>T2 : 2447.381 MHz : -10.200 dBm<br>OBW : 20.681 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>Margin: -17.22 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

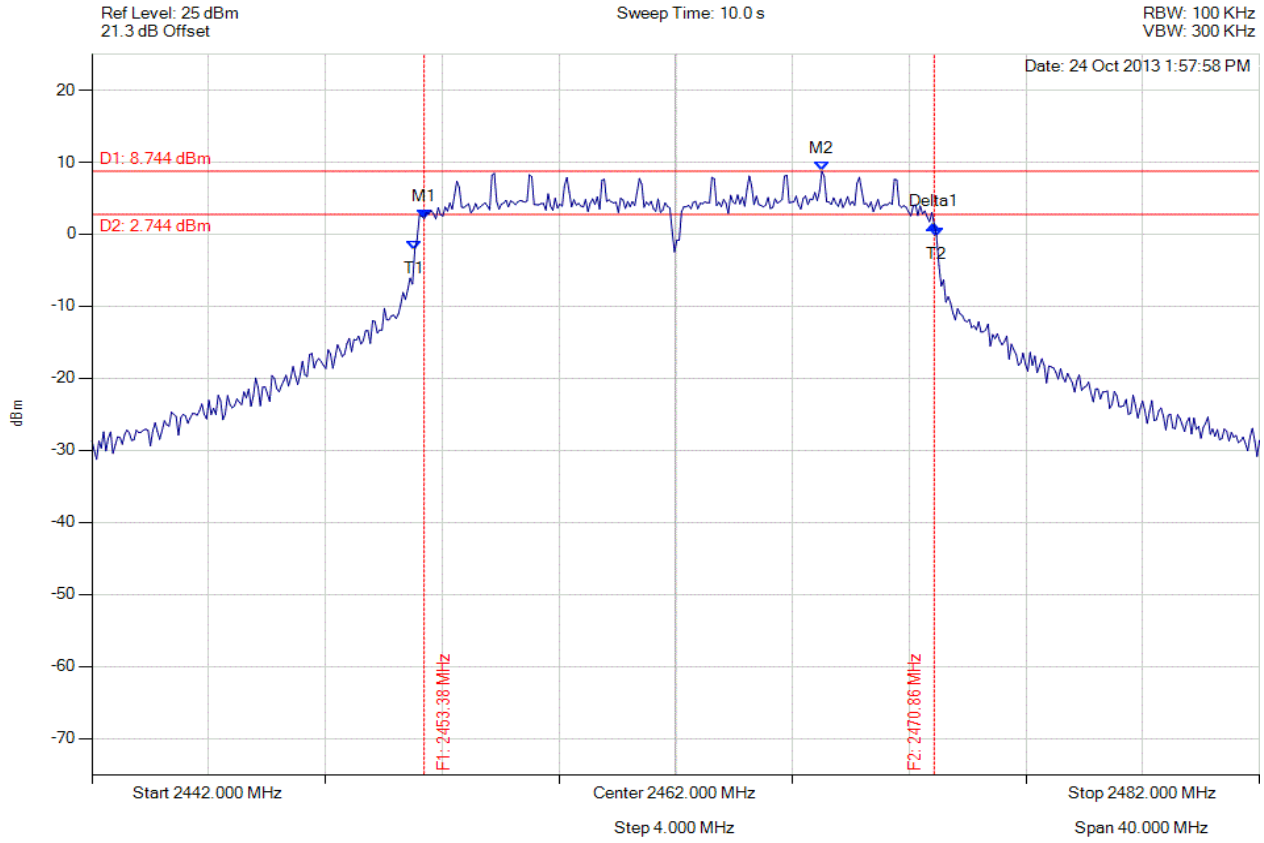



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2453.142 MHz : -0.920 dBm<br>M2 : 2467.010 MHz : 7.432 dBm<br>Delta1 : 17.475 MHz : 1.544 dB<br>T1 : 2453.062 MHz : -3.651 dBm<br>T2 : 2470.938 MHz : -2.214 dBm<br>OBW : 17.876 MHz | Measured 6 dB Bandwidth: 17.475 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.98 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

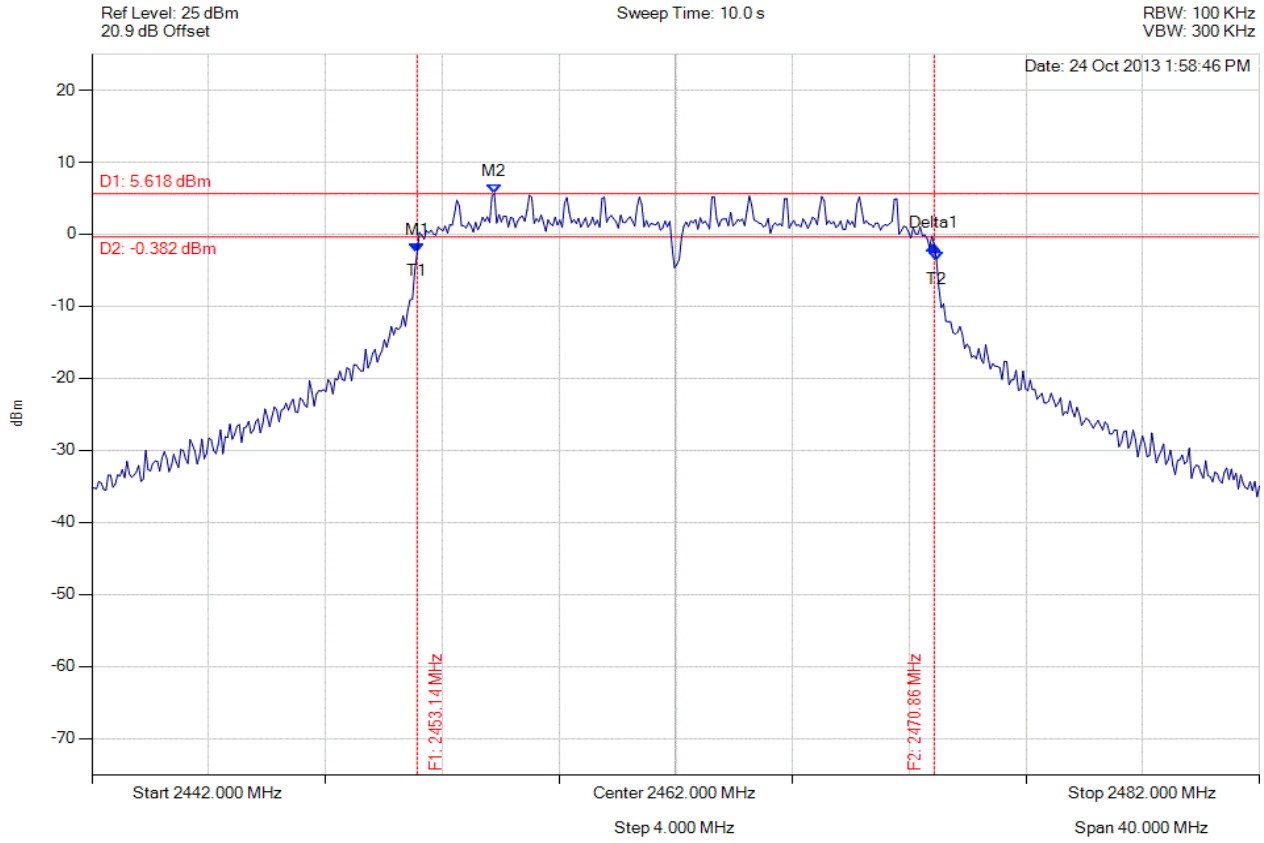



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2453.383 MHz : 2.147 dBm<br>M2 : 2467.010 MHz : 8.744 dBm<br>Delta1 : 17.475 MHz : -0.765 dB<br>T1 : 2453.062 MHz : -2.228 dBm<br>T2 : 2470.938 MHz : -0.330 dBm<br>OBW : 17.876 MHz | Measured 6 dB Bandwidth: 17.475 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.98 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

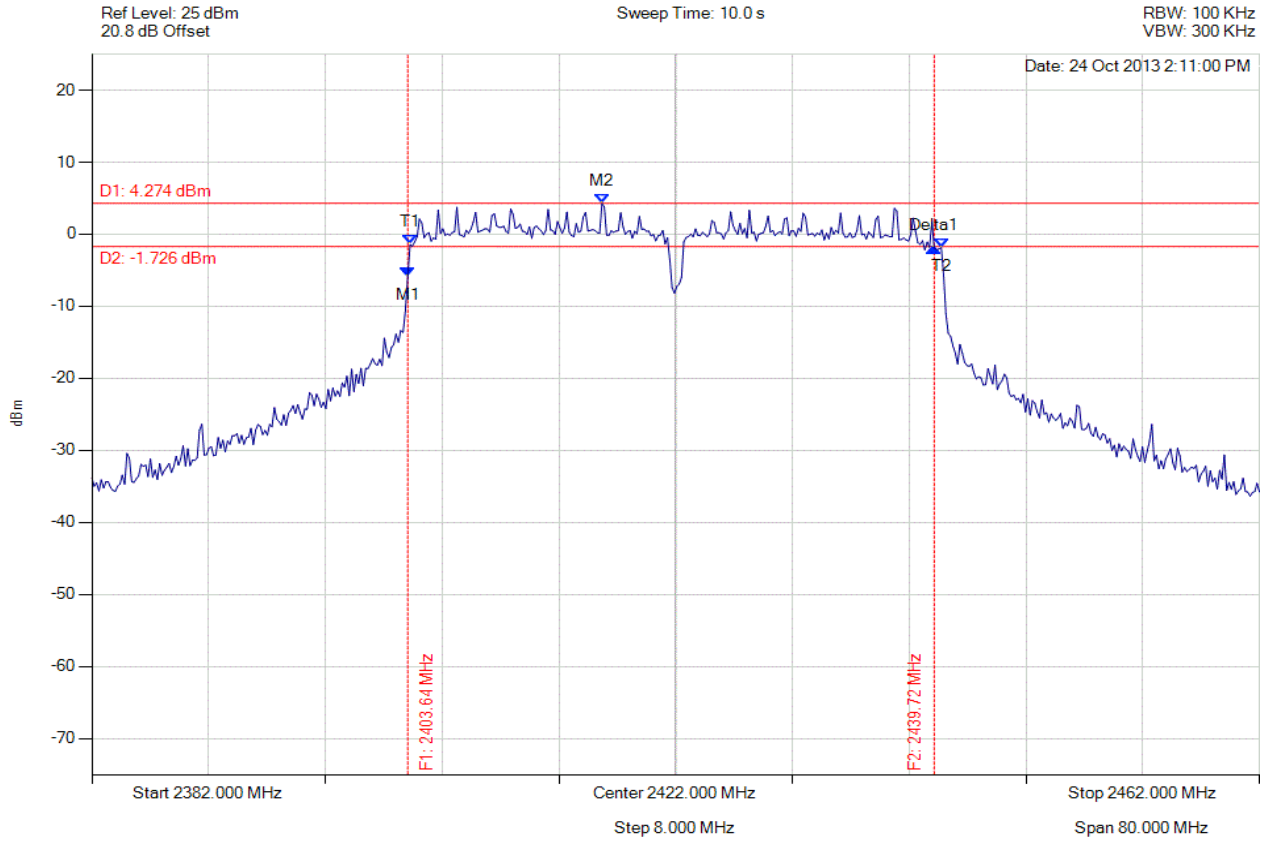



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2453.142 MHz : -2.600 dBm<br>M2 : 2455.788 MHz : 5.618 dBm<br>Delta1 : 17.715 MHz : 1.117 dB<br>T1 : 2453.142 MHz : -2.600 dBm<br>T2 : 2470.938 MHz : -3.737 dBm<br>OBW : 17.796 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>Margin: -17.22 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

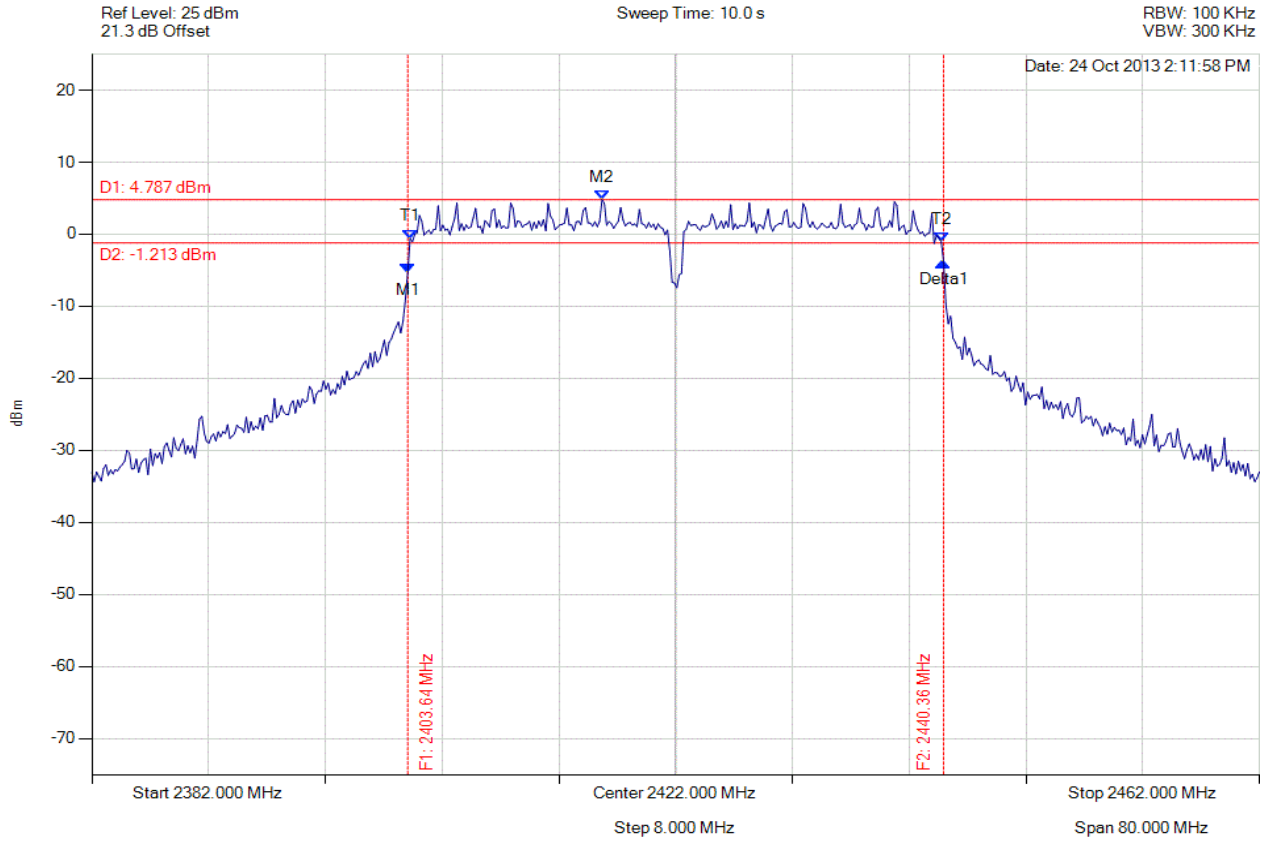



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.643 MHz : -5.870 dBm<br>M2 : 2416.950 MHz : 4.274 dBm<br>Delta1 : 36.072 MHz : 3.964 dB<br>T1 : 2403.804 MHz : -1.441 dBm<br>T2 : 2440.196 MHz : -1.880 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.072 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.57 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

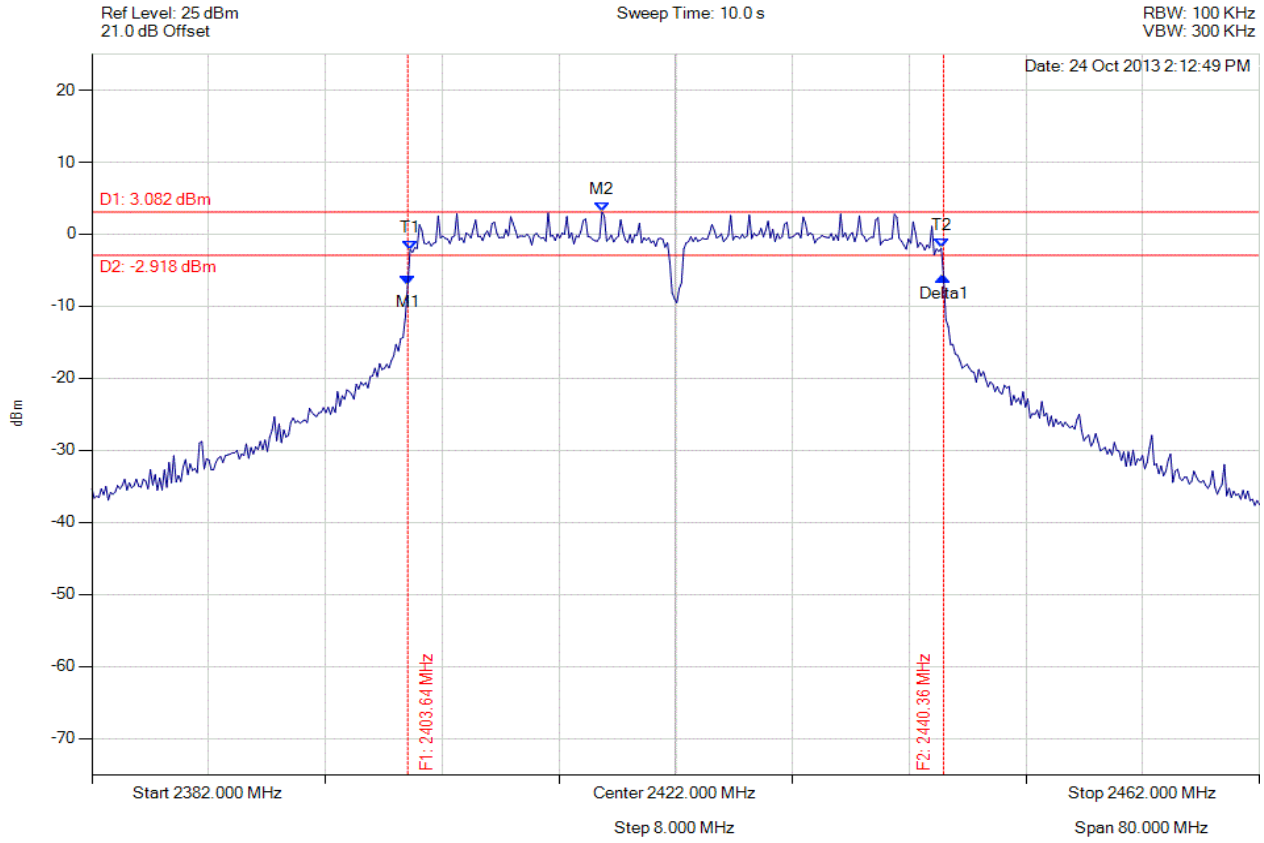



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.643 MHz : -5.289 dBm<br>M2 : 2416.950 MHz : 4.787 dBm<br>Delta1 : 36.713 MHz : 1.491 dB<br>T1 : 2403.804 MHz : -0.615 dBm<br>T2 : 2440.196 MHz : -1.024 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

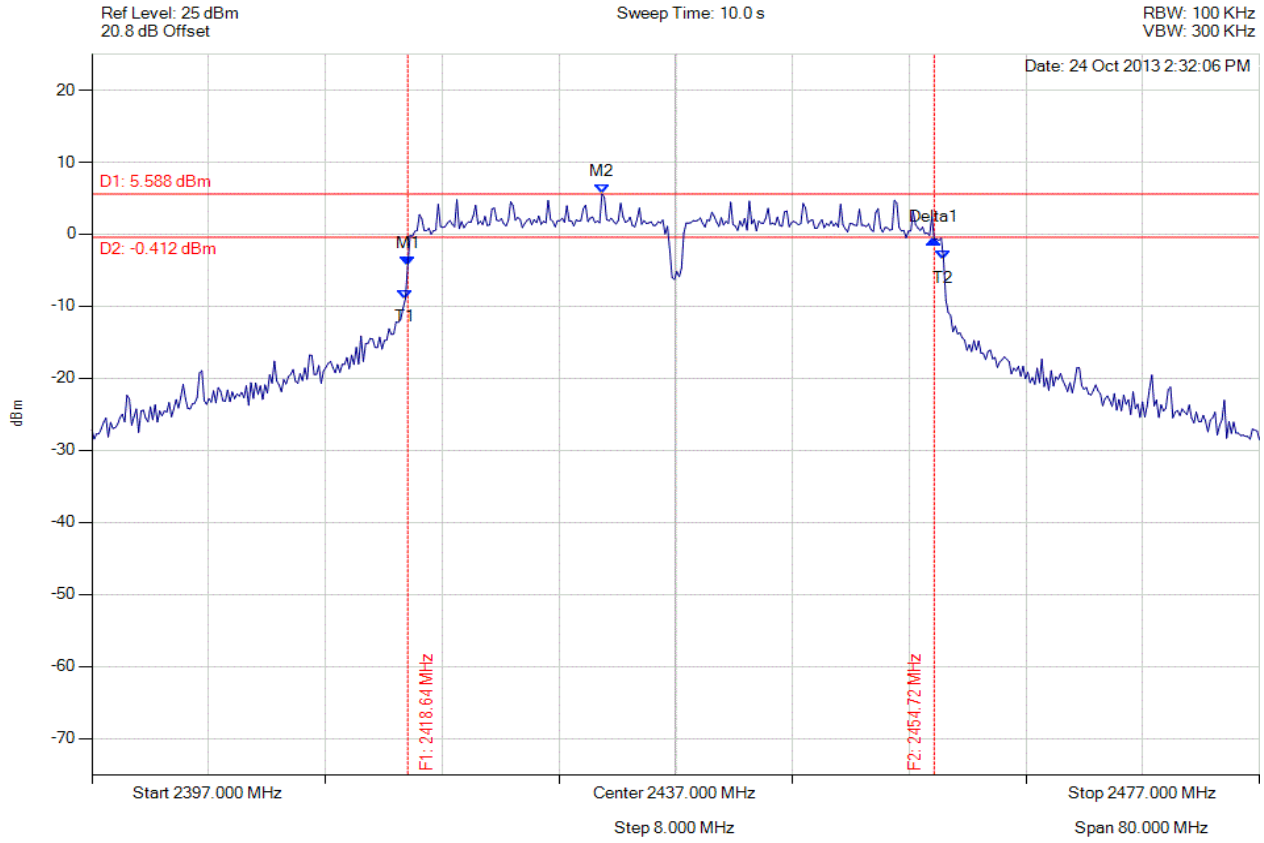



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2403.643 MHz : -6.968 dBm<br>M2 : 2416.950 MHz : 3.082 dBm<br>Delta1 : 36.713 MHz : 1.135 dB<br>T1 : 2403.804 MHz : -2.140 dBm<br>T2 : 2440.196 MHz : -1.933 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

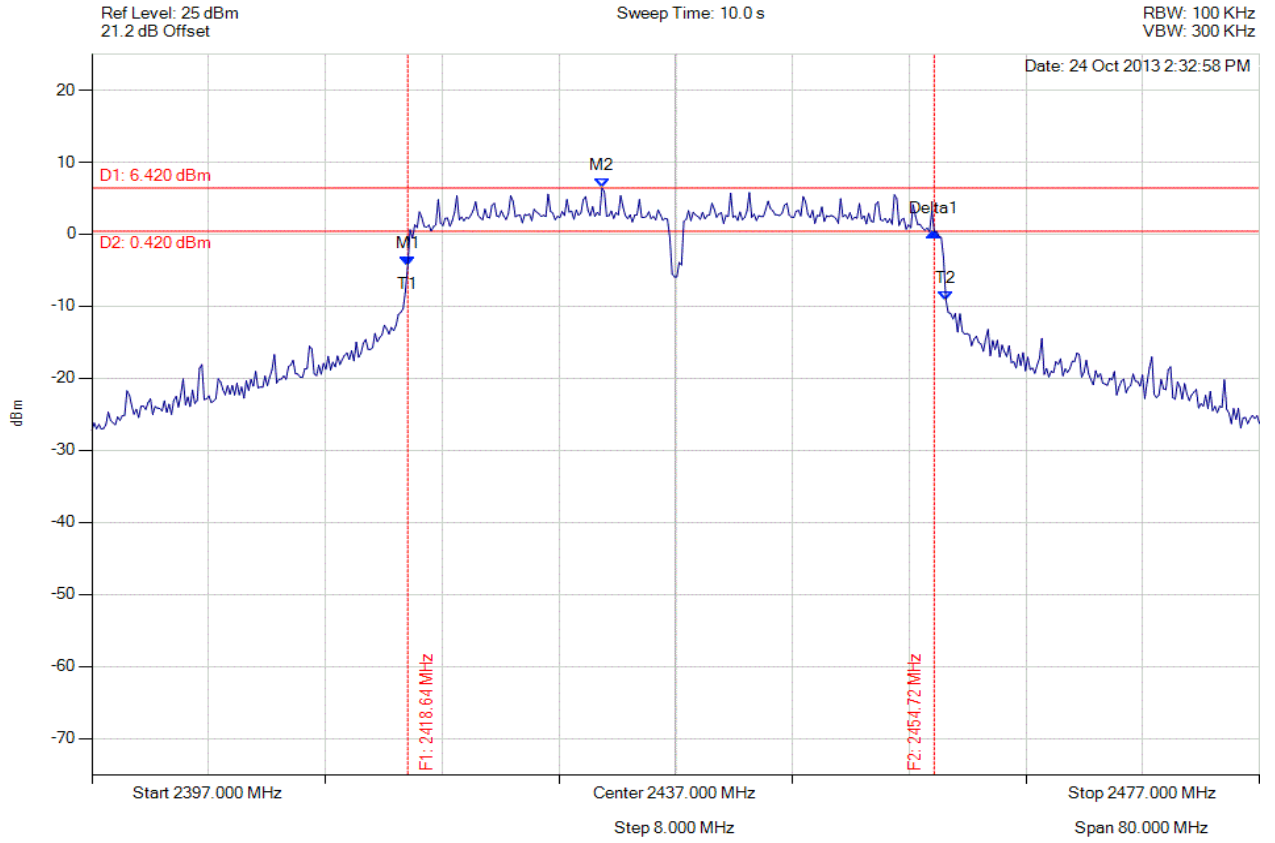



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2418.643 MHz : -4.327 dBm<br>M2 : 2431.950 MHz : 5.588 dBm<br>Delta1 : 36.072 MHz : 3.588 dB<br>T1 : 2418.483 MHz : -8.962 dBm<br>T2 : 2455.357 MHz : -3.566 dBm<br>OBW : 36.874 MHz | Measured 6 dB Bandwidth: 36.072 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.57 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

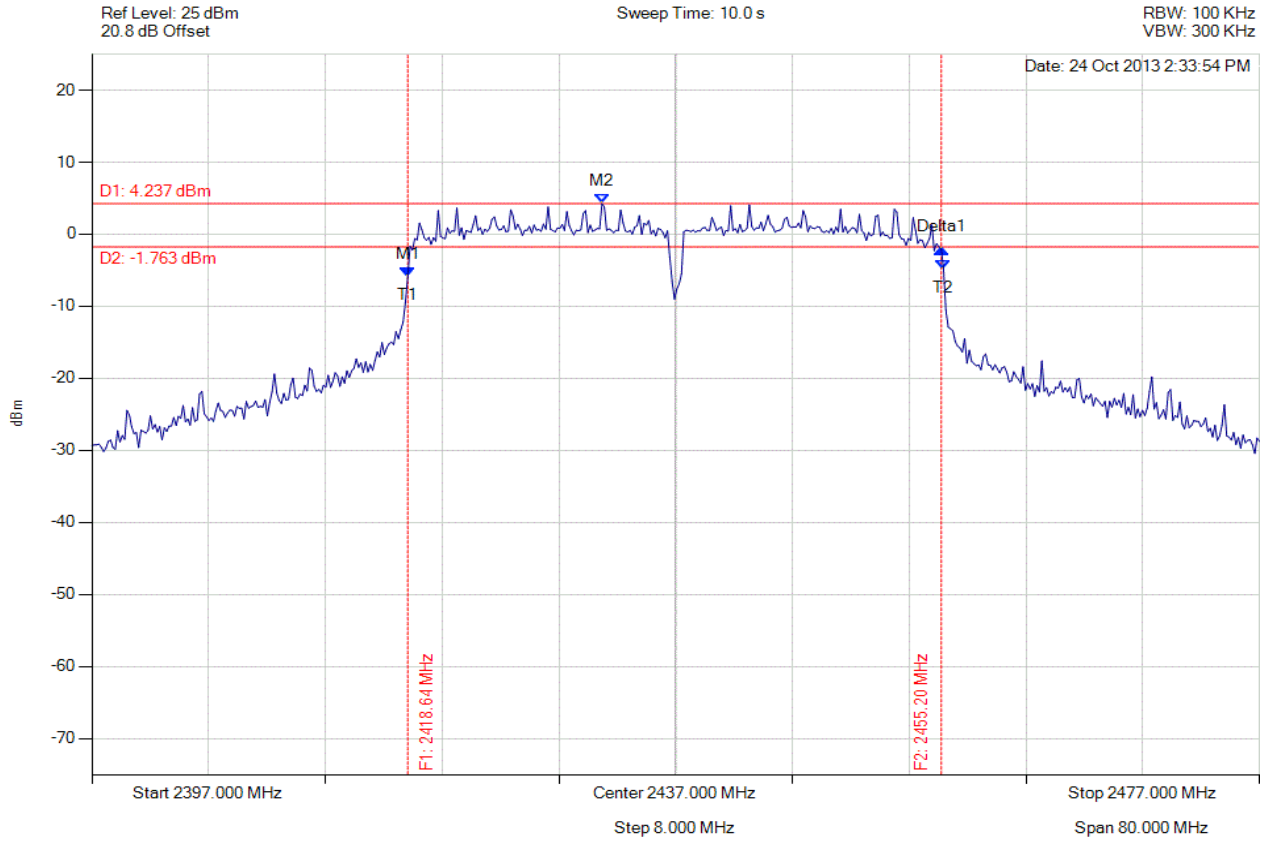



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2418.643 MHz : -4.365 dBm<br>M2 : 2431.950 MHz : 6.420 dBm<br>Delta1 : 36.072 MHz : 4.751 dB<br>T1 : 2418.643 MHz : -4.365 dBm<br>T2 : 2455.517 MHz : -9.132 dBm<br>OBW : 36.874 MHz | Measured 6 dB Bandwidth: 36.072 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.57 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

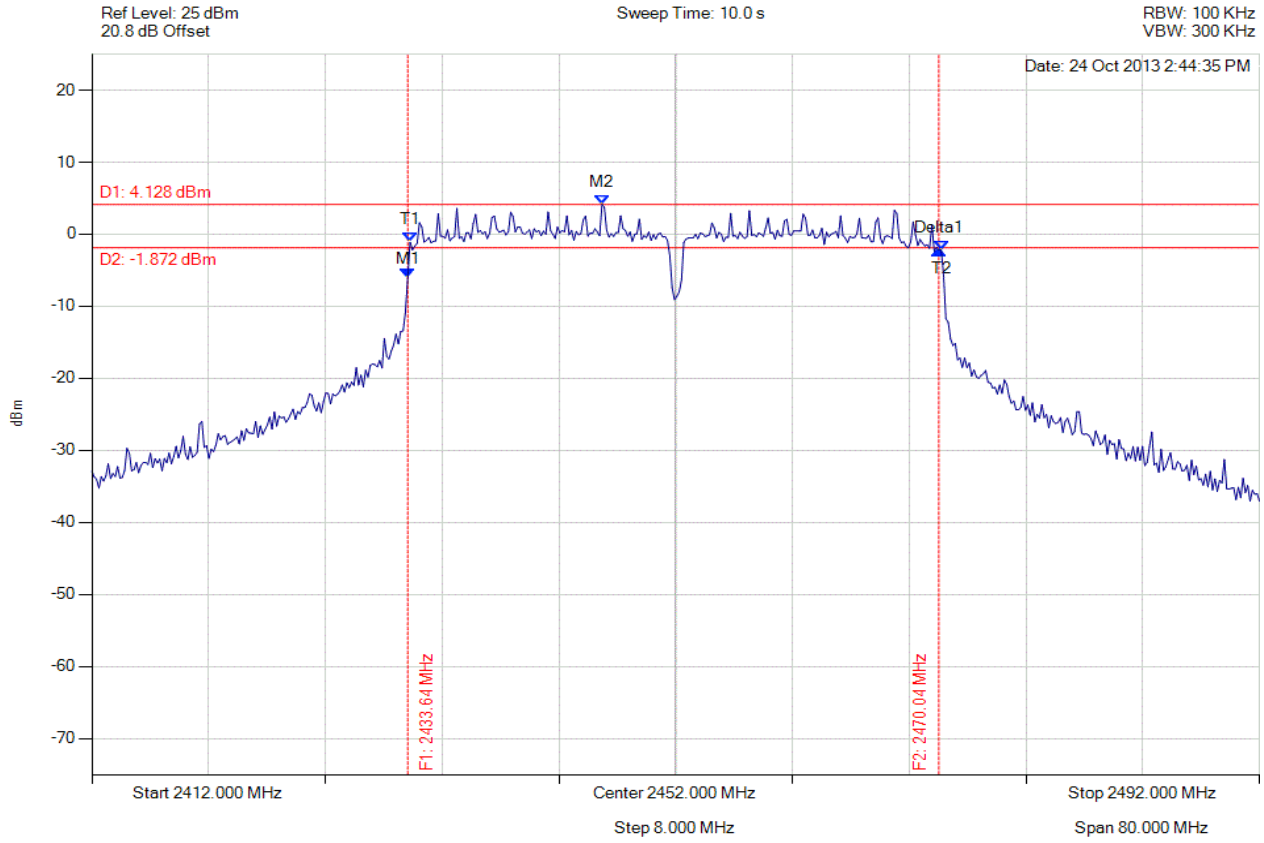



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2418.643 MHz : -5.882 dBm<br>M2 : 2431.950 MHz : 4.237 dBm<br>Delta1 : 36.553 MHz : 3.807 dB<br>T1 : 2418.643 MHz : -5.882 dBm<br>T2 : 2455.357 MHz : -4.923 dBm<br>OBW : 36.713 MHz | Measured 6 dB Bandwidth: 36.553 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.05 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

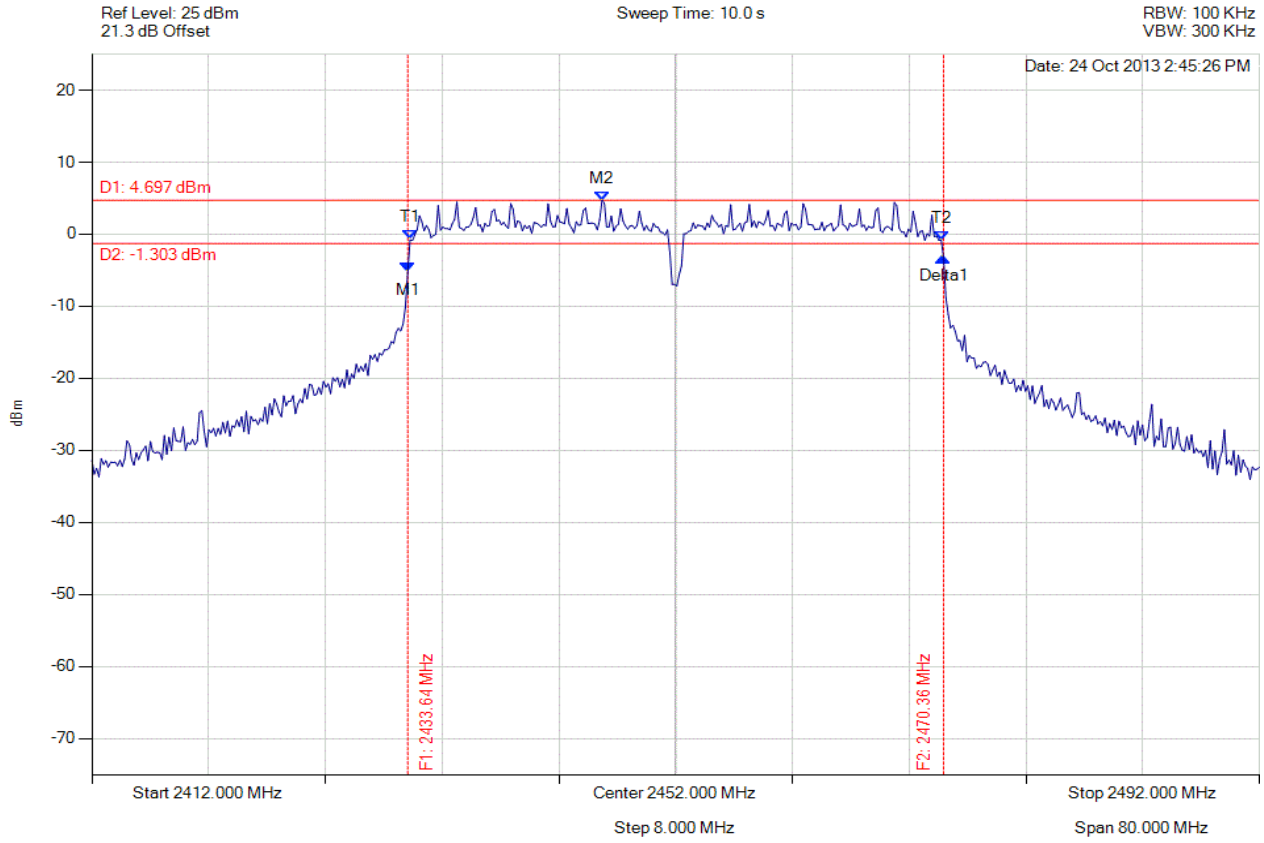



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2433.643 MHz : -5.956 dBm<br>M2 : 2446.950 MHz : 4.128 dBm<br>Delta1 : 36.393 MHz : 3.758 dB<br>T1 : 2433.804 MHz : -1.107 dBm<br>T2 : 2470.196 MHz : -2.201 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.393 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.89 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

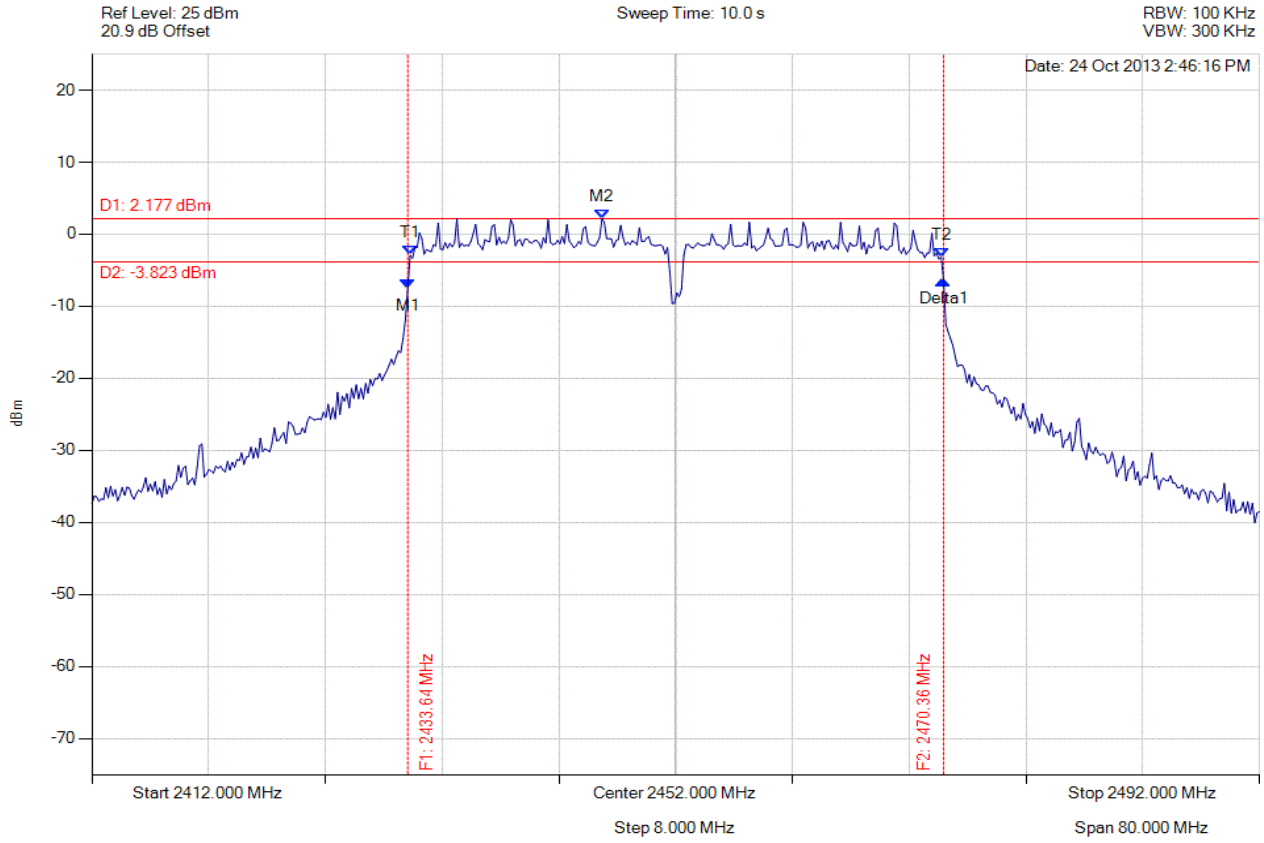



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2433.643 MHz : -5.193 dBm<br>M2 : 2446.950 MHz : 4.697 dBm<br>Delta1 : 36.713 MHz : 1.918 dB<br>T1 : 2433.804 MHz : -0.770 dBm<br>T2 : 2470.196 MHz : -0.853 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

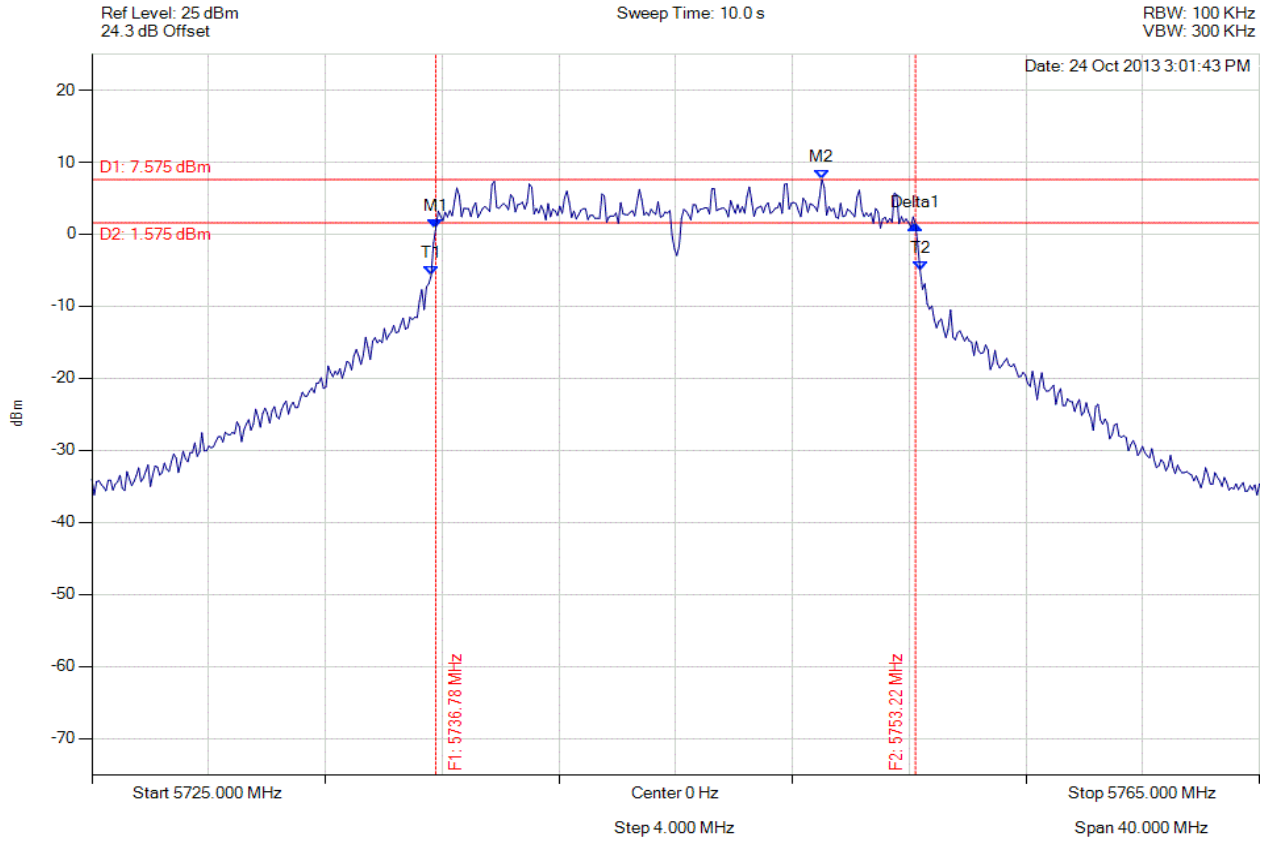



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2433.643 MHz : -7.475 dBm<br>M2 : 2446.950 MHz : 2.177 dBm<br>Delta1 : 36.713 MHz : 1.051 dB<br>T1 : 2433.804 MHz : -2.940 dBm<br>T2 : 2470.196 MHz : -3.202 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

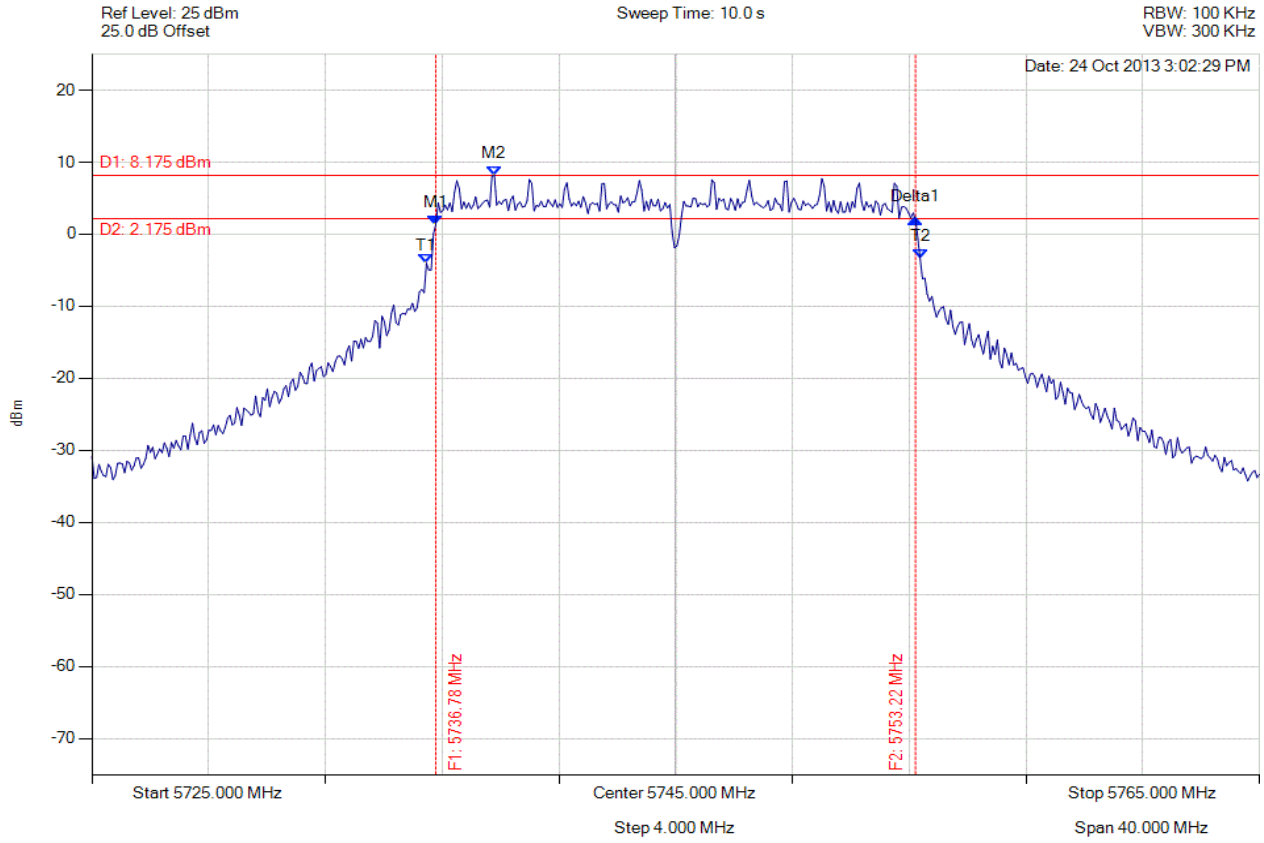



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.784 MHz : 0.843 dBm<br>M2 : 5750.010 MHz : 7.575 dBm<br>Delta1 : 16.433 MHz : 0.521 dB<br>T1 : 5736.623 MHz : -5.762 dBm<br>T2 : 5753.377 MHz : -4.990 dBm<br>OBW : 16.754 MHz | Measured 6 dB Bandwidth: 16.433 MHz<br>Limit: ≥500.0 kHz<br>Margin: -15.93 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

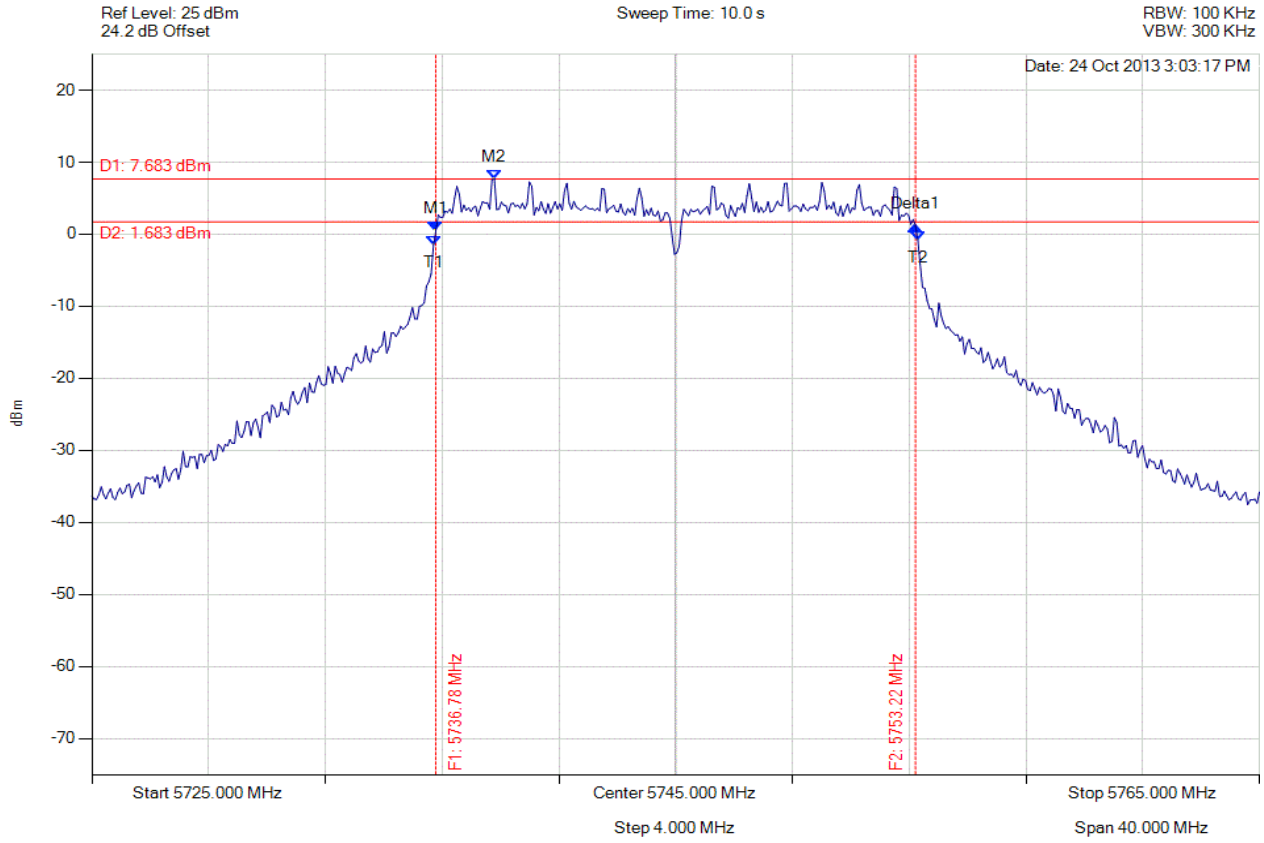



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.784 MHz : 1.356 dBm<br>M2 : 5738.788 MHz : 8.175 dBm<br>Delta1 : 16.433 MHz : 0.712 dB<br>T1 : 5736.463 MHz : -4.040 dBm<br>T2 : 5753.377 MHz : -3.428 dBm<br>OBW : 16.914 MHz | Measured 6 dB Bandwidth: 16.433 MHz<br>Limit: ≥500.0 kHz<br>Margin: -15.93 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

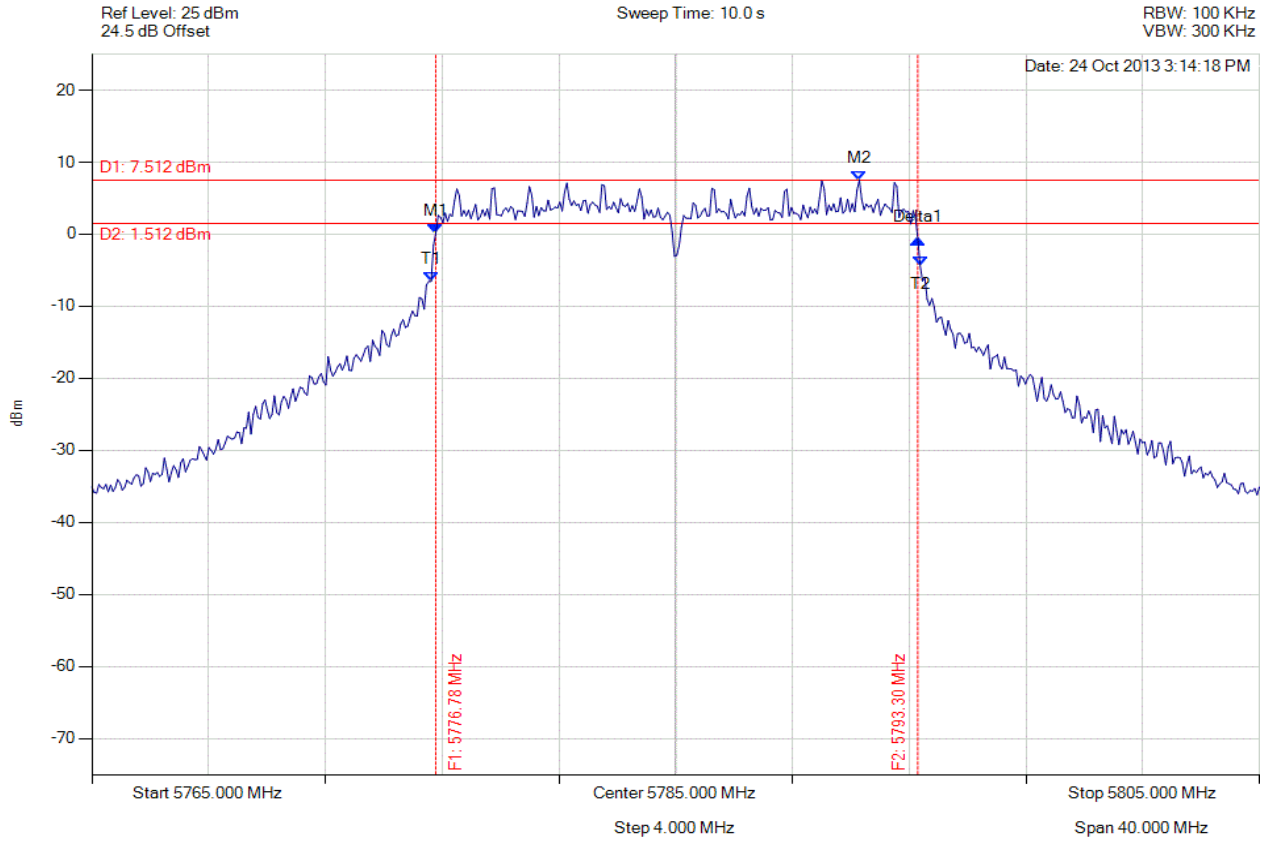



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.784 MHz : 0.412 dBm<br>M2 : 5738.788 MHz : 7.683 dBm<br>Delta1 : 16.433 MHz : 0.732 dB<br>T1 : 5736.703 MHz : -1.500 dBm<br>T2 : 5753.297 MHz : -0.822 dBm<br>OBW : 16.593 MHz | Measured 6 dB Bandwidth: 16.433 MHz<br>Limit: ≥500.0 kHz<br>Margin: -15.93 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

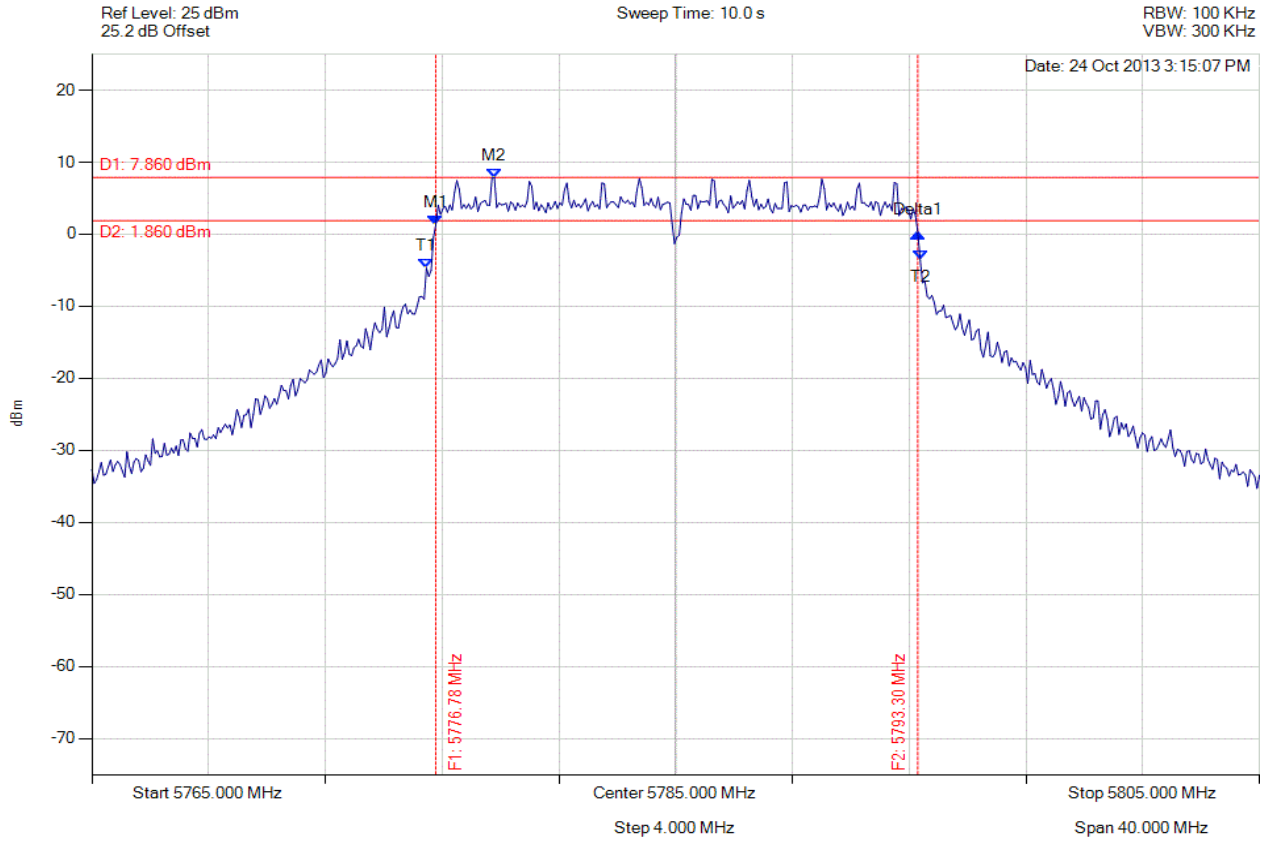



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.784 MHz : 0.178 dBm<br>M2 : 5791.293 MHz : 7.512 dBm<br>Delta1 : 16.513 MHz : -0.842 dB<br>T1 : 5776.623 MHz : -6.554 dBm<br>T2 : 5793.377 MHz : -4.365 dBm<br>OBW : 16.754 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

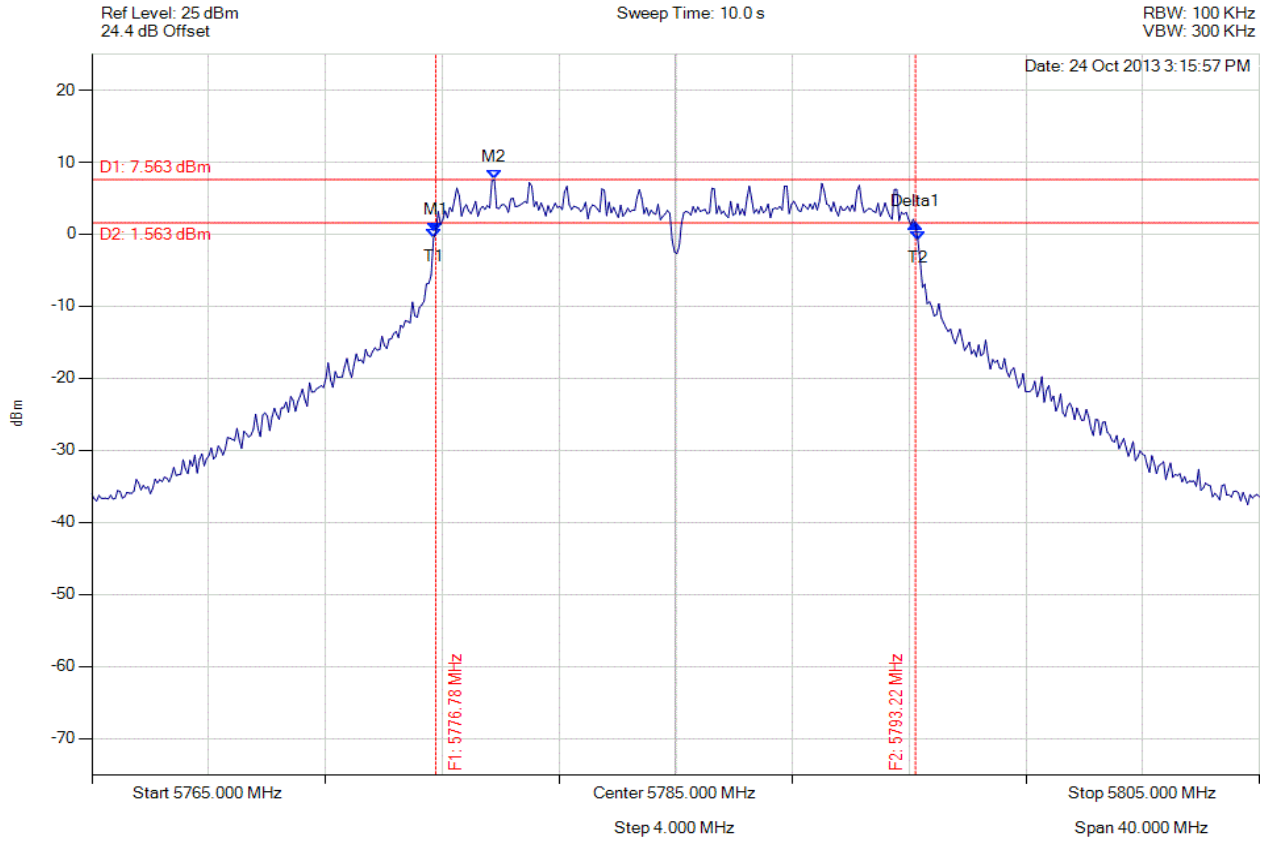



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.784 MHz : 1.333 dBm<br>M2 : 5778.788 MHz : 7.860 dBm<br>Delta1 : 16.513 MHz : -1.121 dB<br>T1 : 5776.463 MHz : -4.699 dBm<br>T2 : 5793.377 MHz : -3.468 dBm<br>OBW : 16.914 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

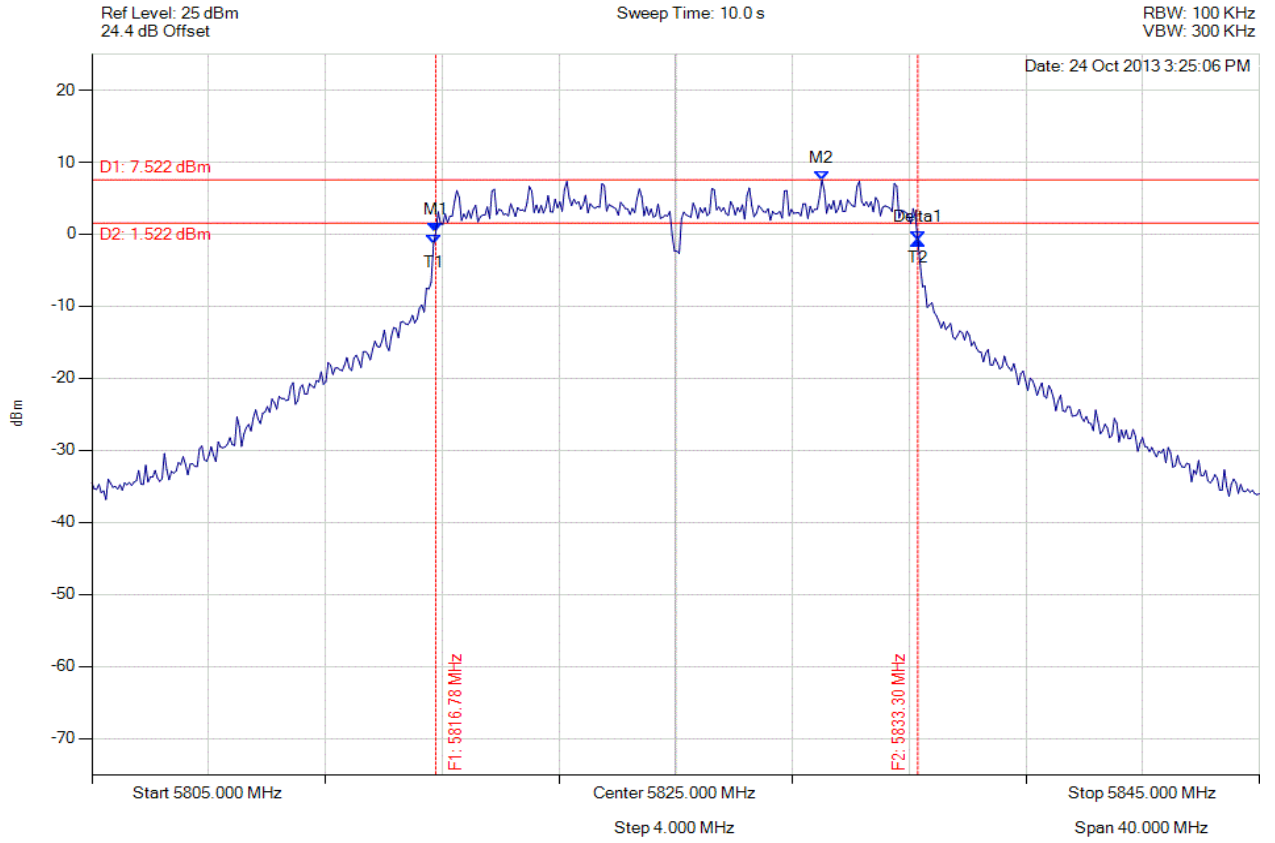



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.784 MHz : 0.314 dBm<br>M2 : 5778.788 MHz : 7.563 dBm<br>Delta1 : 16.433 MHz : 1.086 dB<br>T1 : 5776.703 MHz : -0.589 dBm<br>T2 : 5793.297 MHz : -0.839 dBm<br>OBW : 16.593 MHz | Measured 6 dB Bandwidth: 16.433 MHz<br>Limit: ≥500.0 kHz<br>Margin: -15.93 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

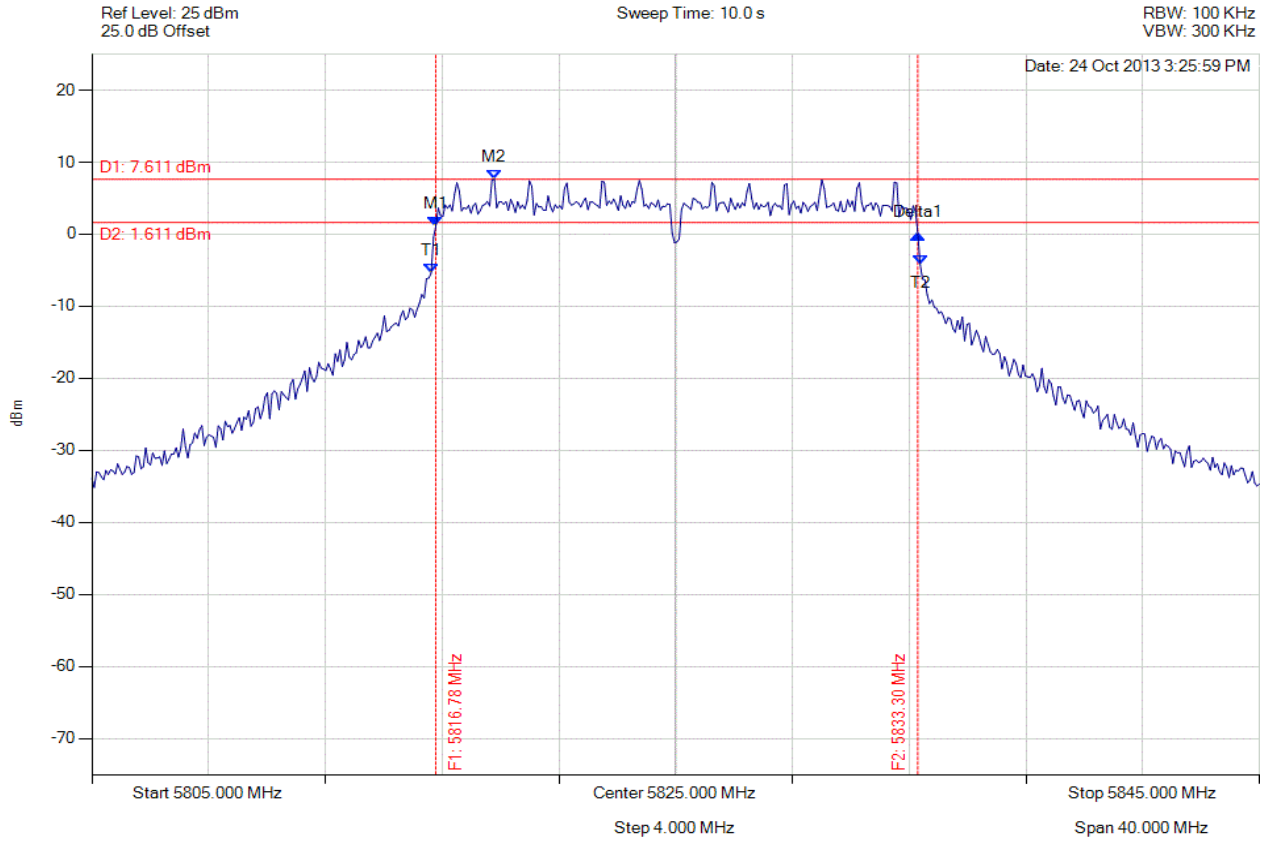



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5816.784 MHz : 0.347 dBm<br>M2 : 5830.010 MHz : 7.522 dBm<br>Delta1 : 16.513 MHz : -1.127 dB<br>T1 : 5816.703 MHz : -1.410 dBm<br>T2 : 5833.297 MHz : -0.780 dBm<br>OBW : 16.593 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

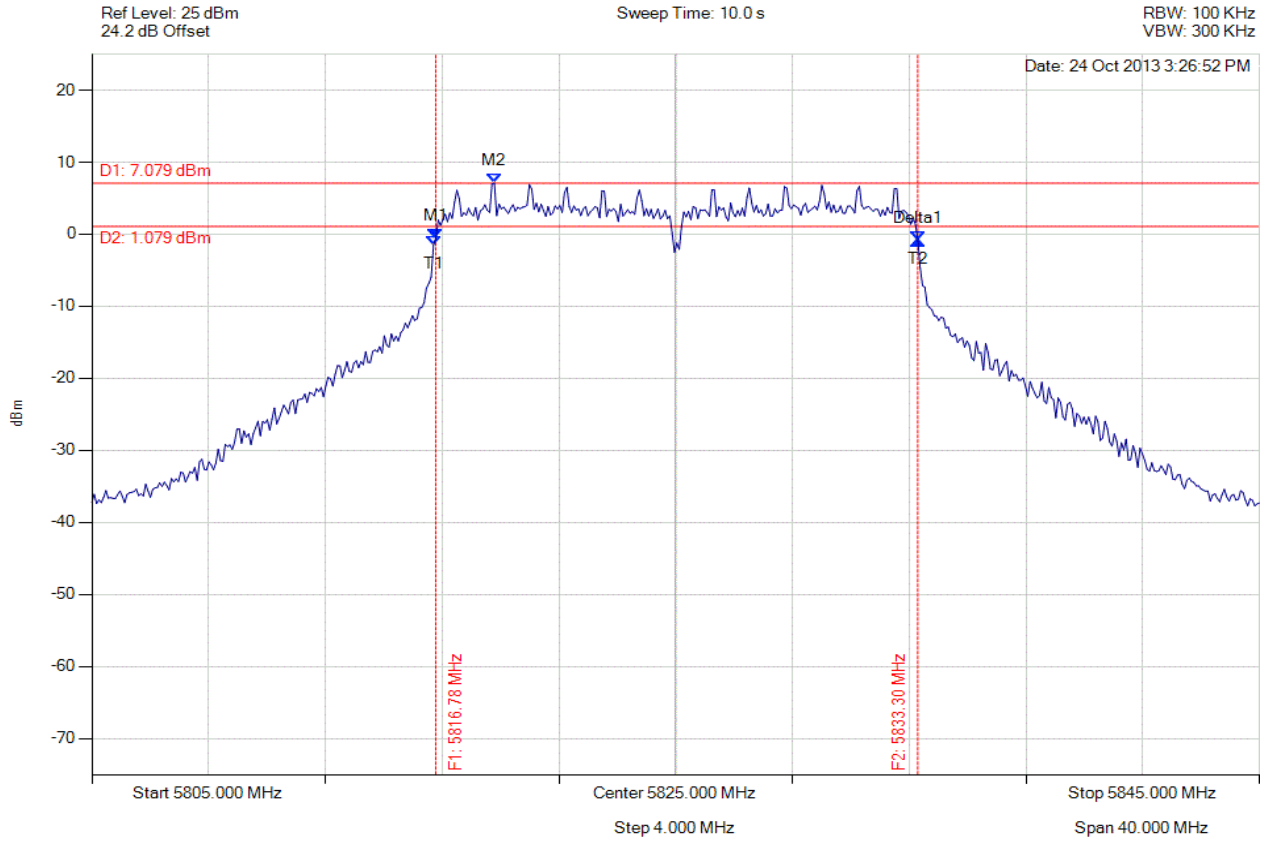



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5816.784 MHz : 1.093 dBm<br>M2 : 5818.788 MHz : 7.611 dBm<br>Delta1 : 16.513 MHz : -1.088 dB<br>T1 : 5816.623 MHz : -5.409 dBm<br>T2 : 5833.377 MHz : -4.180 dBm<br>OBW : 16.754 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

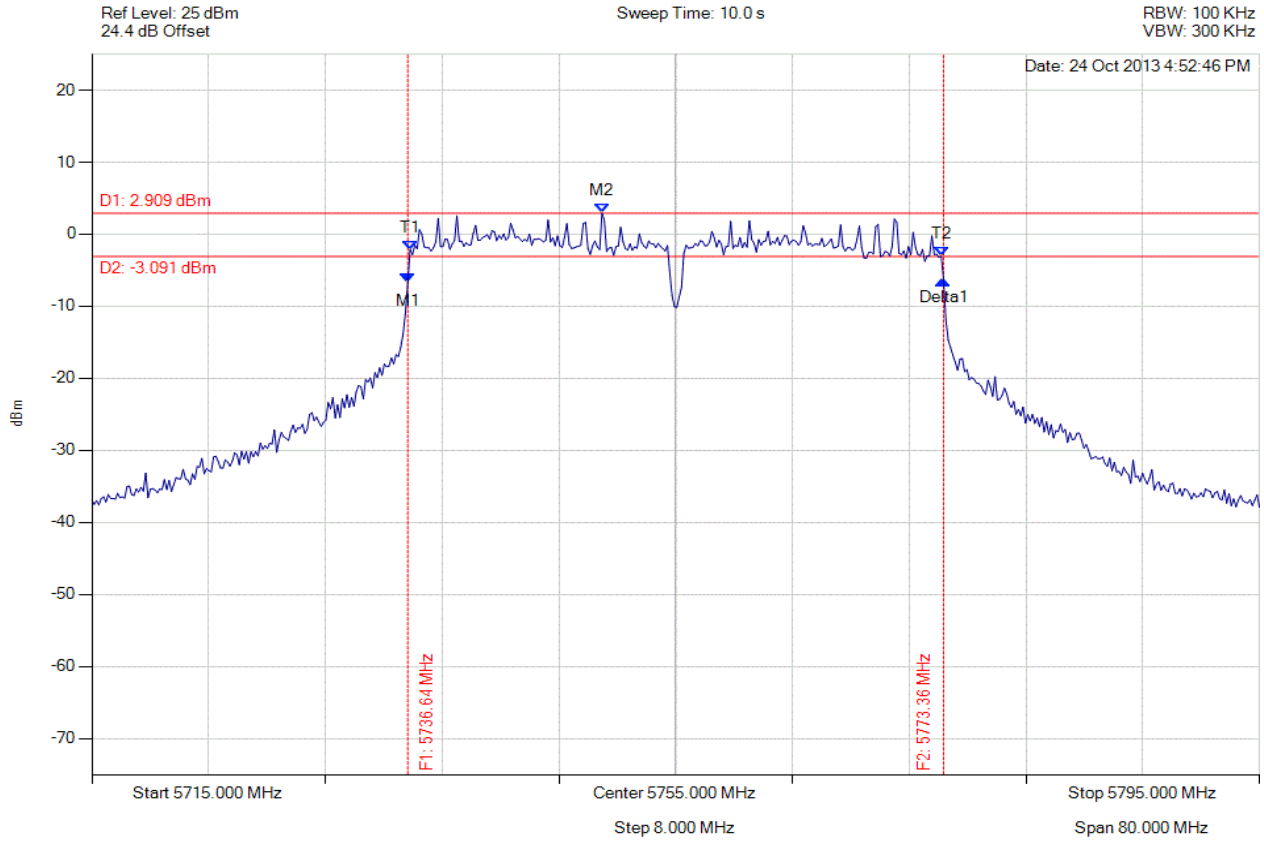



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5816.784 MHz : -0.552 dBm<br>M2 : 5818.788 MHz : 7.079 dBm<br>Delta1 : 16.513 MHz : -0.386 dB<br>T1 : 5816.703 MHz : -1.512 dBm<br>T2 : 5833.297 MHz : -0.938 dBm<br>OBW : 16.593 MHz | Measured 6 dB Bandwidth: 16.513 MHz<br>Limit: ≥500.0 kHz<br>Margin: -16.01 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

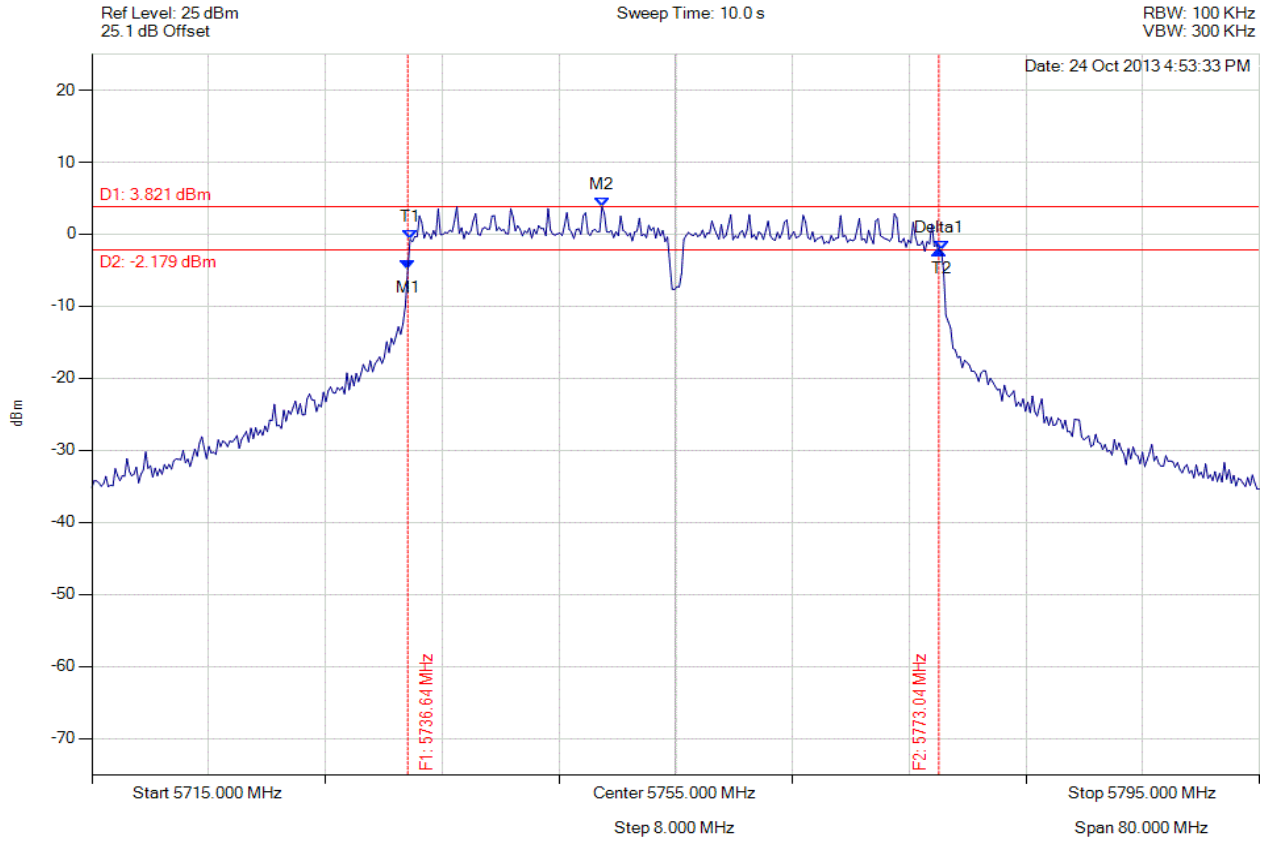



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.643 MHz : -6.749 dBm<br>M2 : 5749.950 MHz : 2.909 dBm<br>Delta1 : 36.713 MHz : 0.411 dB<br>T1 : 5736.804 MHz : -2.132 dBm<br>T2 : 5773.196 MHz : -3.078 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

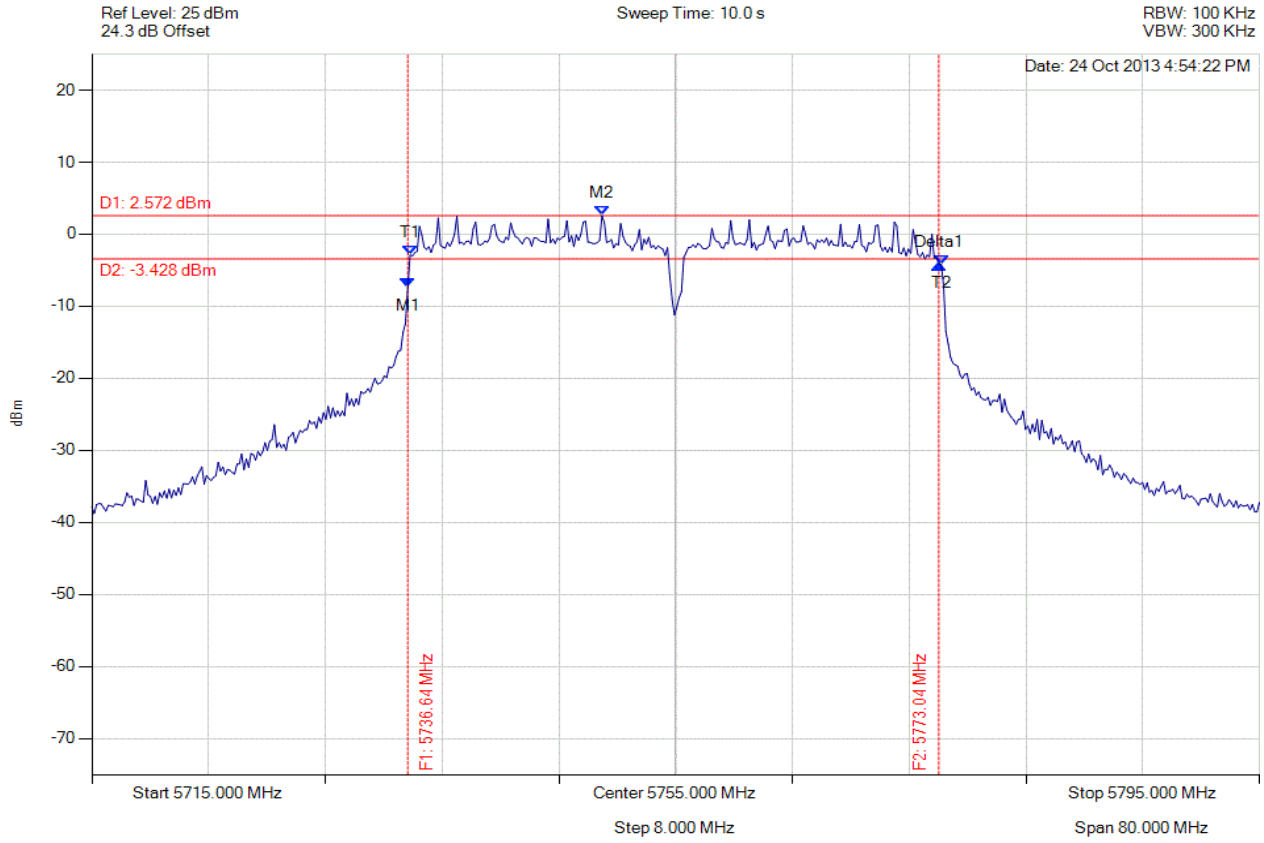



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.643 MHz : -4.888 dBm<br>M2 : 5749.950 MHz : 3.821 dBm<br>Delta1 : 36.393 MHz : 2.628 dB<br>T1 : 5736.804 MHz : -0.684 dBm<br>T2 : 5773.196 MHz : -2.246 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.393 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.89 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

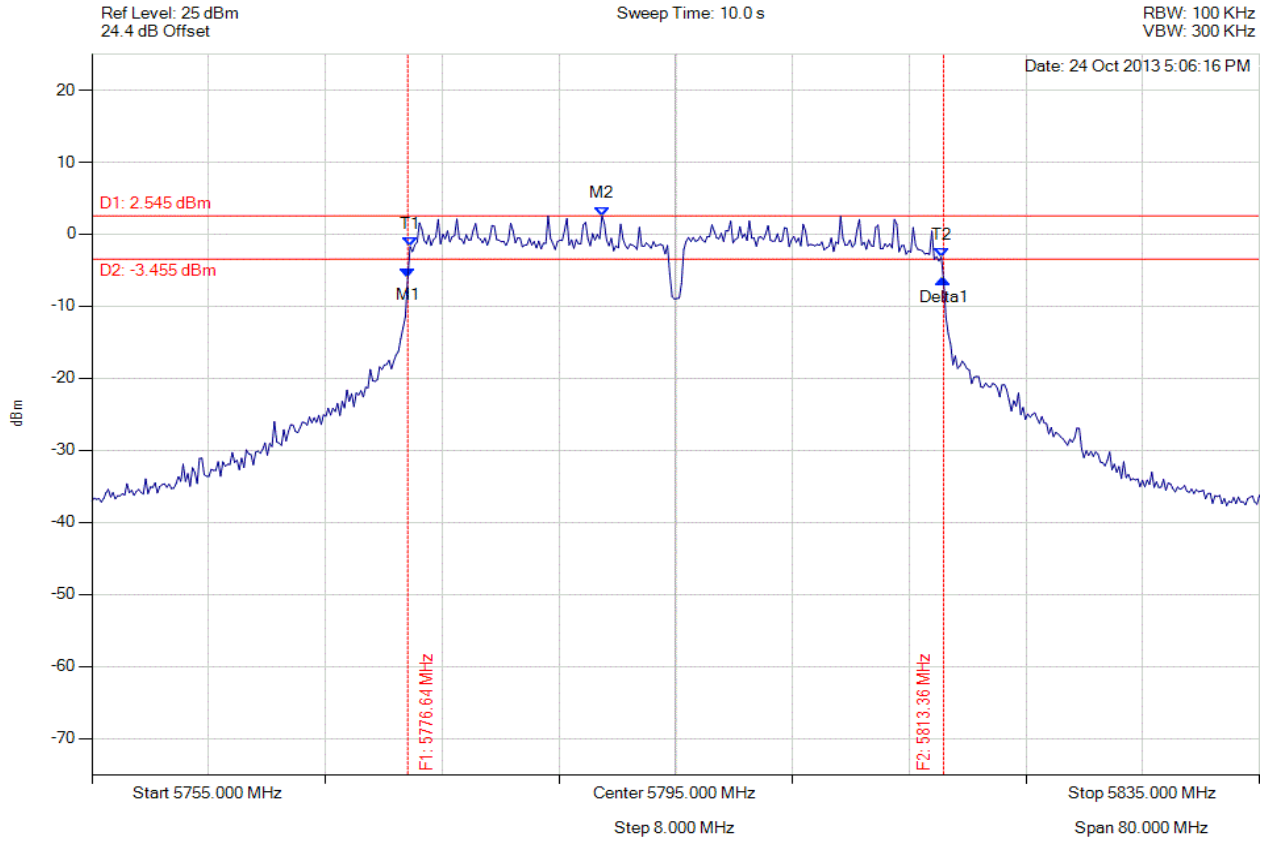



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.643 MHz : -7.440 dBm<br>M2 : 5749.950 MHz : 2.572 dBm<br>Delta1 : 36.393 MHz : 3.282 dB<br>T1 : 5736.804 MHz : -2.901 dBm<br>T2 : 5773.196 MHz : -4.184 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.393 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.89 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

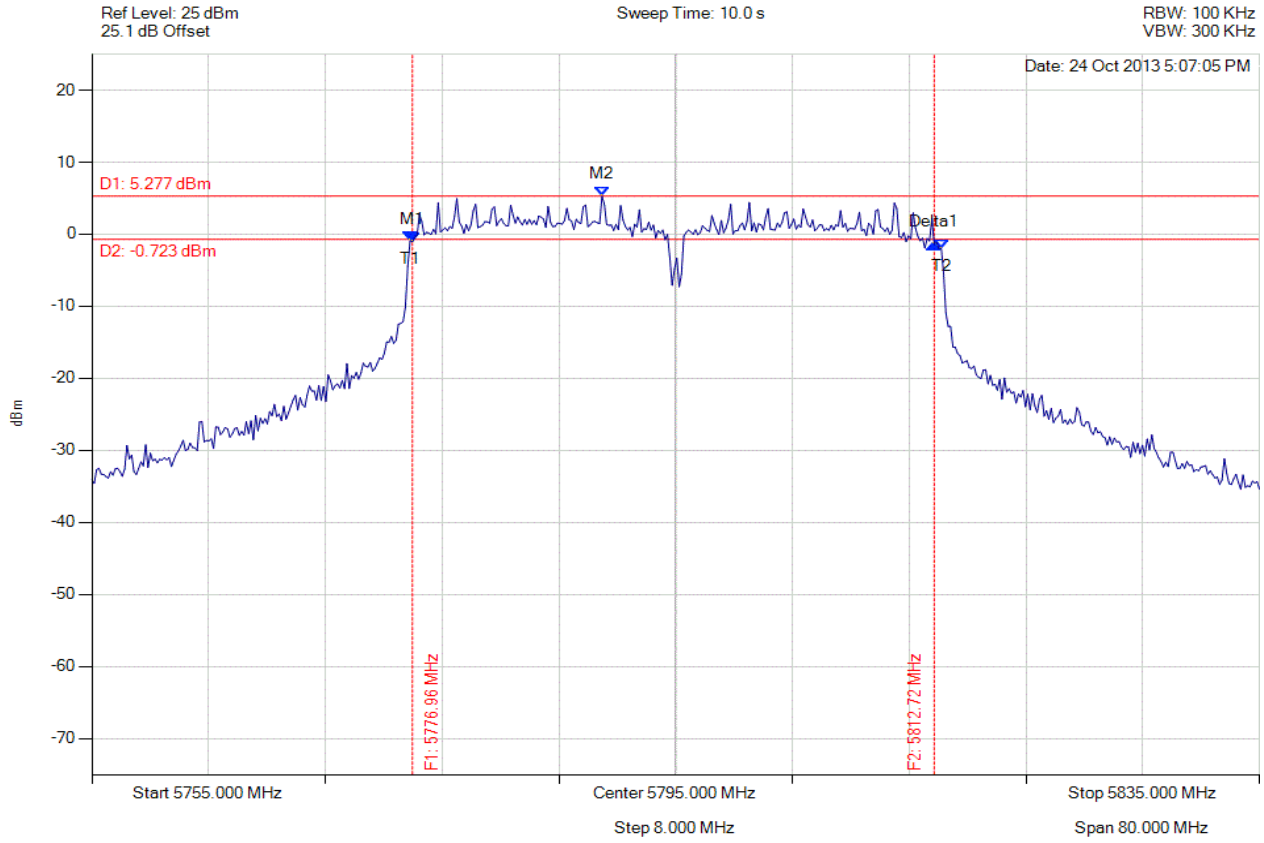



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.643 MHz : -5.962 dBm<br>M2 : 5789.950 MHz : 2.545 dBm<br>Delta1 : 36.713 MHz : -0.291 dB<br>T1 : 5776.804 MHz : -1.709 dBm<br>T2 : 5813.196 MHz : -3.173 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

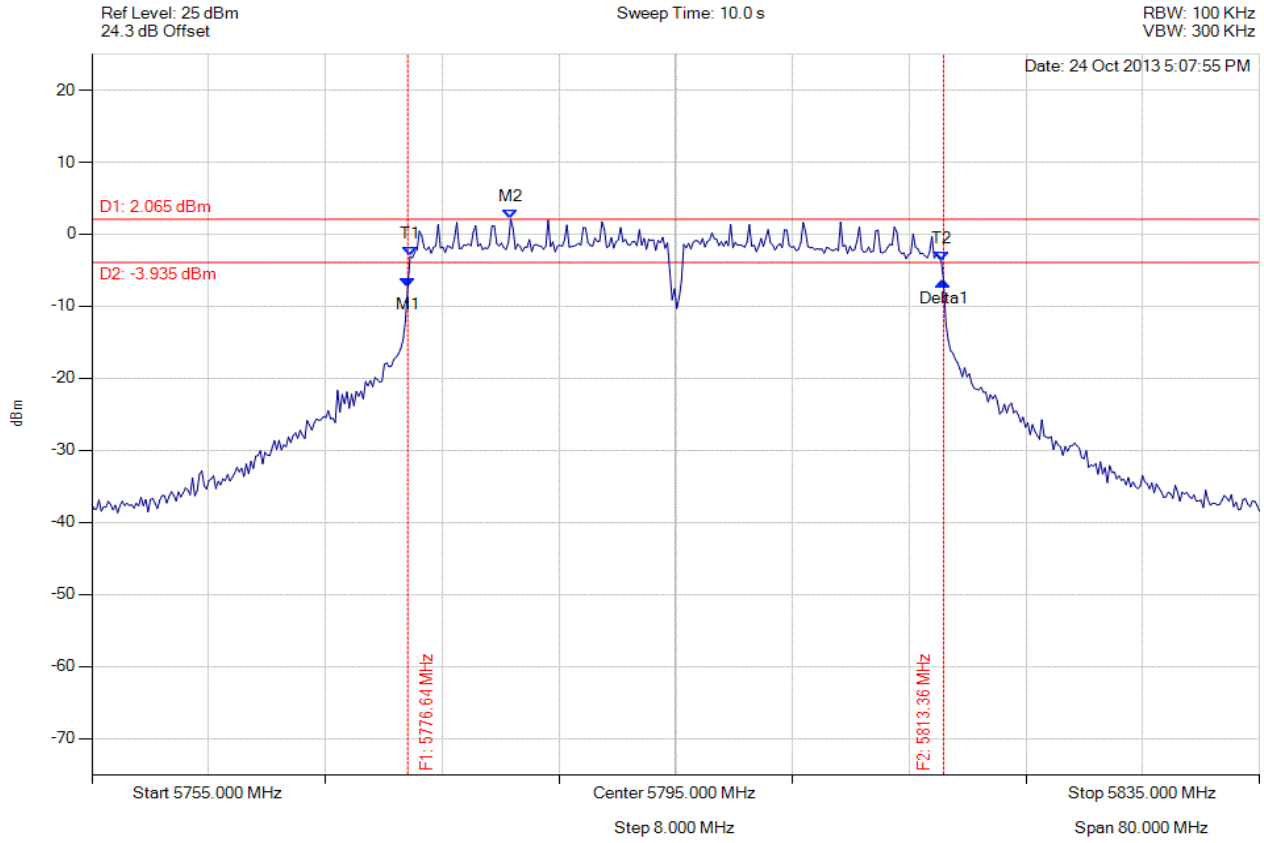



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.964 MHz : -1.032 dBm<br>M2 : 5789.950 MHz : 5.277 dBm<br>Delta1 : 35.752 MHz : -0.360 dB<br>T1 : 5776.804 MHz : -0.916 dBm<br>T2 : 5813.196 MHz : -1.967 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 35.752 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.25 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

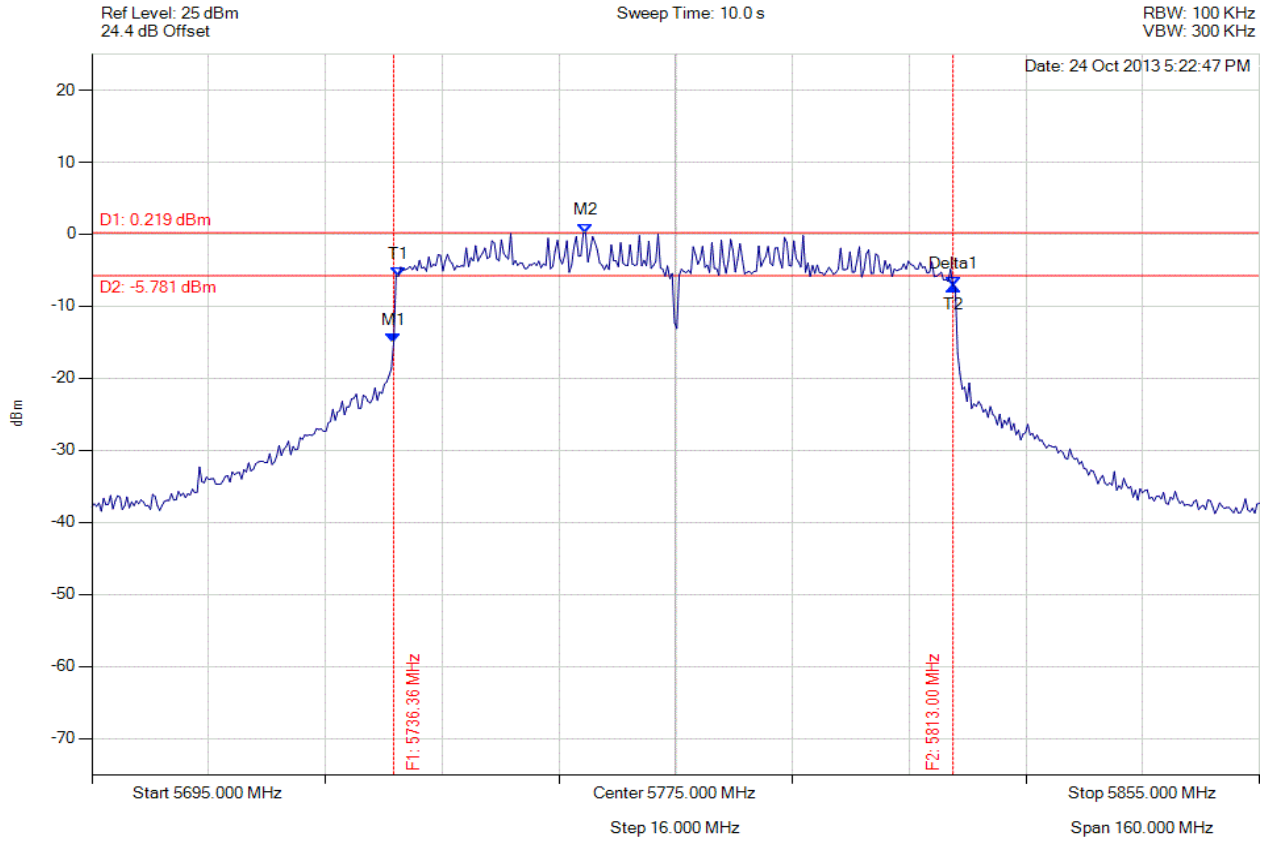



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.643 MHz : -7.328 dBm<br>M2 : 5783.697 MHz : 2.065 dBm<br>Delta1 : 36.713 MHz : 0.856 dB<br>T1 : 5776.804 MHz : -3.098 dBm<br>T2 : 5813.196 MHz : -3.692 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

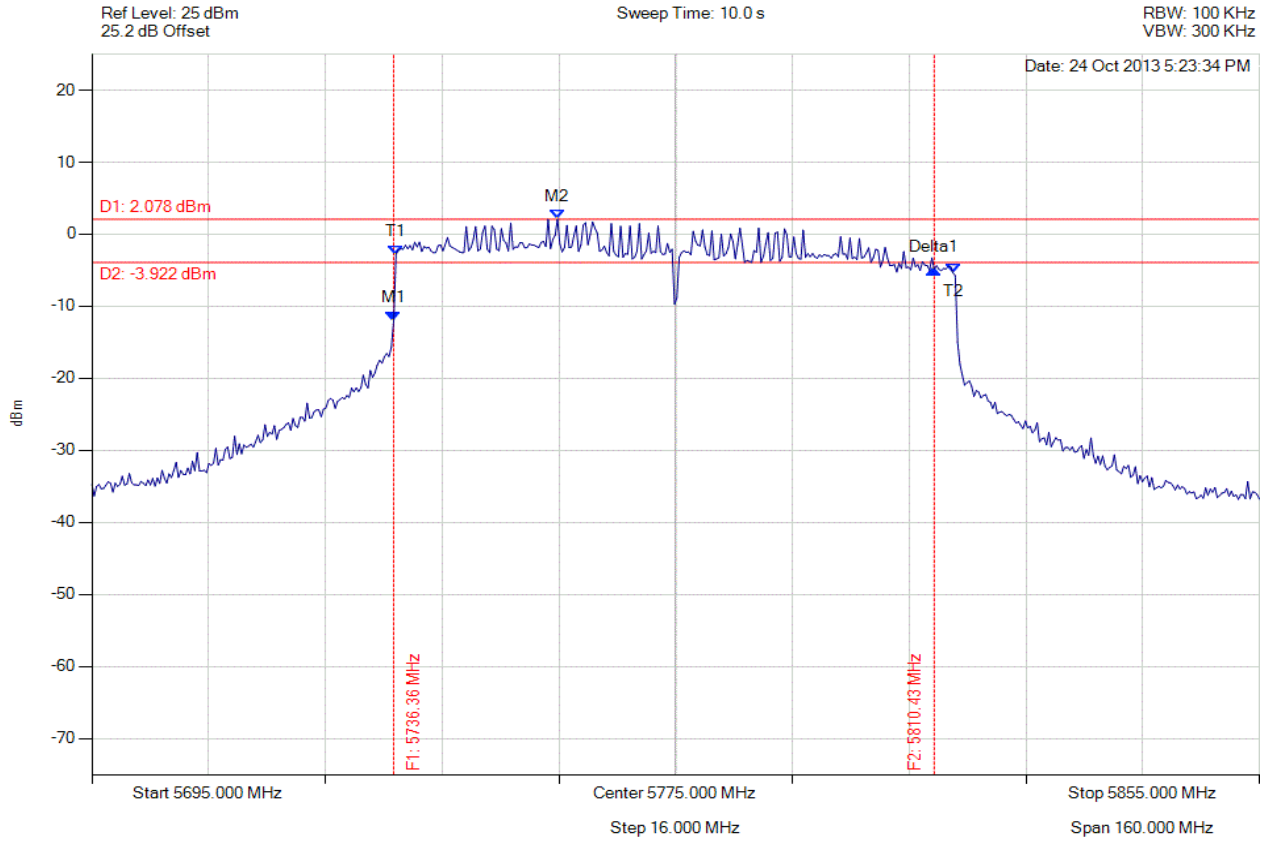



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.363 MHz : -15.030 dBm<br>M2 : 5762.655 MHz : 0.219 dBm<br>Delta1 : 76.633 MHz : 7.844 dB<br>T1 : 5737.004 MHz : -5.819 dBm<br>T2 : 5812.996 MHz : -7.186 dBm<br>OBW : 75.992 MHz | Measured 6 dB Bandwidth: 76.633 MHz<br>Limit: ≥500.0 kHz<br>Margin: -76.13 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

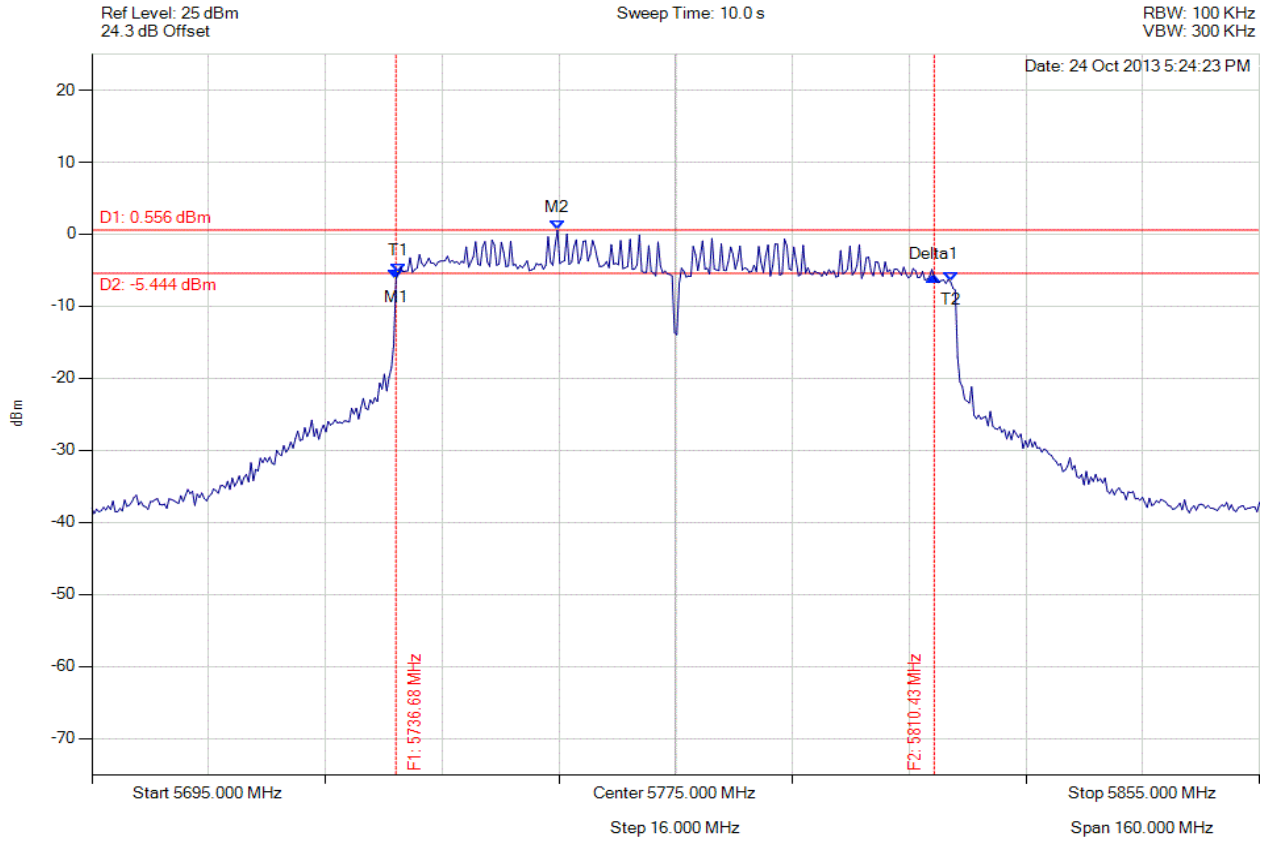



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.363 MHz : -11.965 dBm<br>M2 : 5758.808 MHz : 2.078 dBm<br>Delta1 : 74.068 MHz : 7.104 dB<br>T1 : 5736.683 MHz : -2.787 dBm<br>T2 : 5812.996 MHz : -5.343 dBm<br>OBW : 76.313 MHz | Measured 6 dB Bandwidth: 74.068 MHz<br>Limit: ≥500.0 kHz<br>Margin: -73.57 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

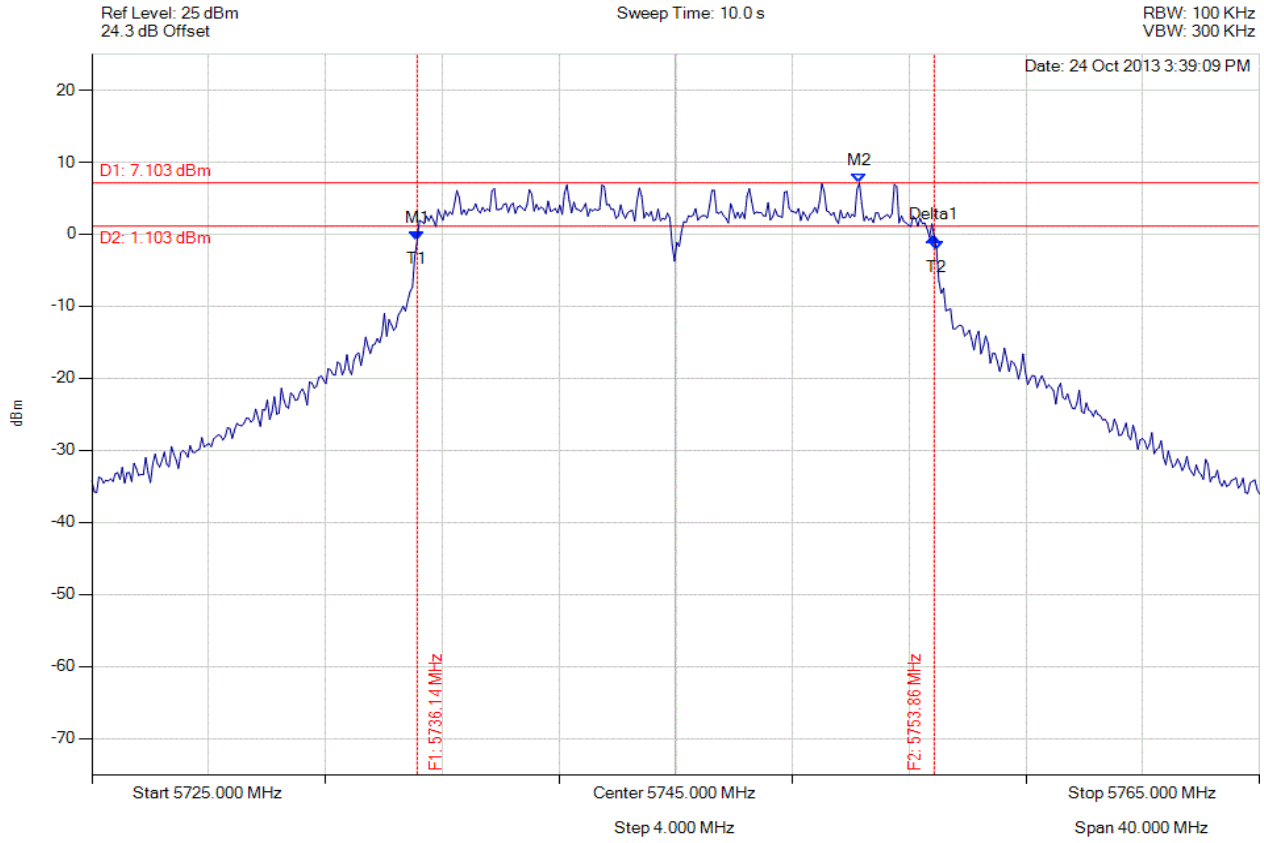



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.683 MHz : -6.249 dBm<br>M2 : 5758.808 MHz : 0.556 dBm<br>Delta1 : 73.747 MHz : 0.305 dB<br>T1 : 5737.004 MHz : -5.398 dBm<br>T2 : 5812.675 MHz : -6.564 dBm<br>OBW : 75.671 MHz | Measured 6 dB Bandwidth: 73.747 MHz<br>Limit: ≥500.0 kHz<br>Margin: -73.25 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

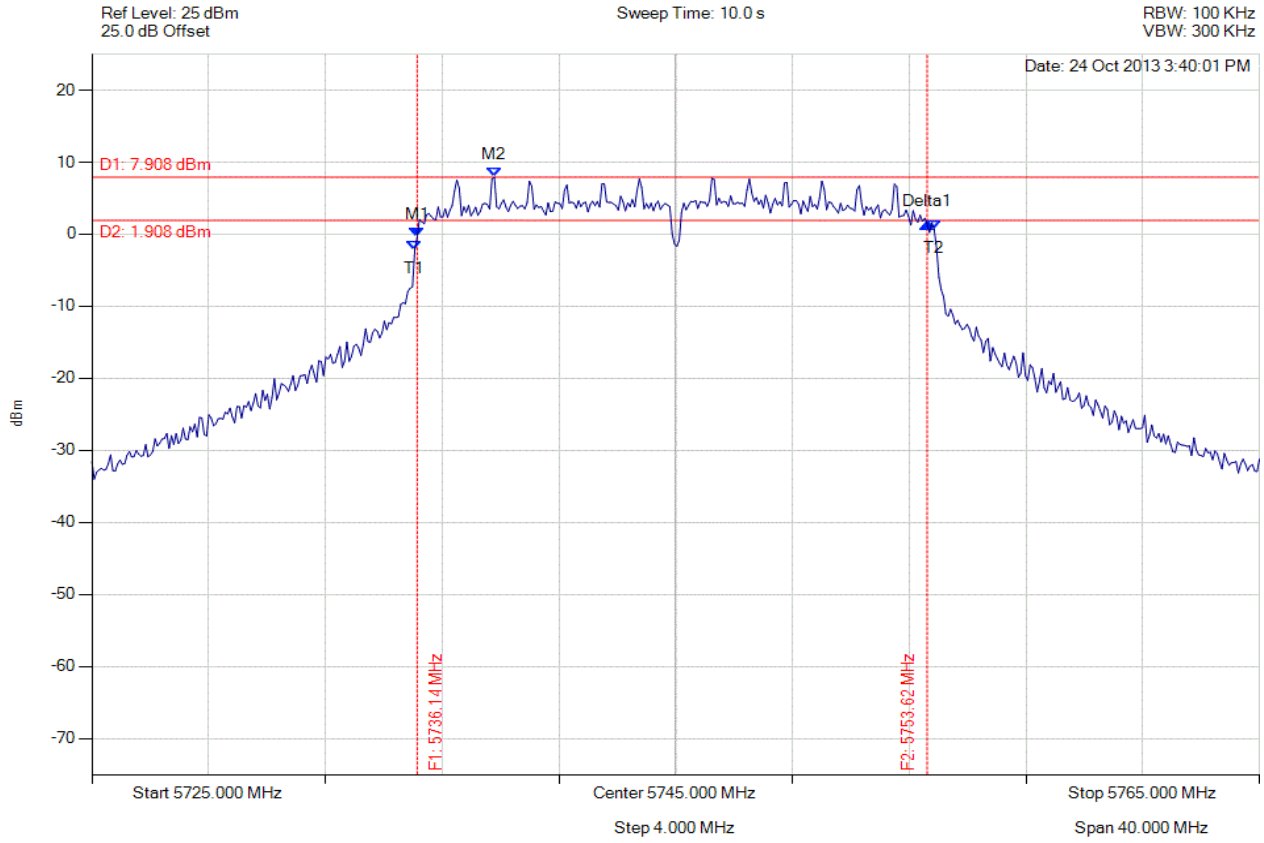



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.142 MHz : -0.900 dBm<br>M2 : 5751.293 MHz : 7.103 dBm<br>Delta1 : 17.715 MHz : 0.498 dB<br>T1 : 5736.142 MHz : -0.900 dBm<br>T2 : 5753.938 MHz : -2.171 dBm<br>OBW : 17.796 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>Margin: -17.22 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

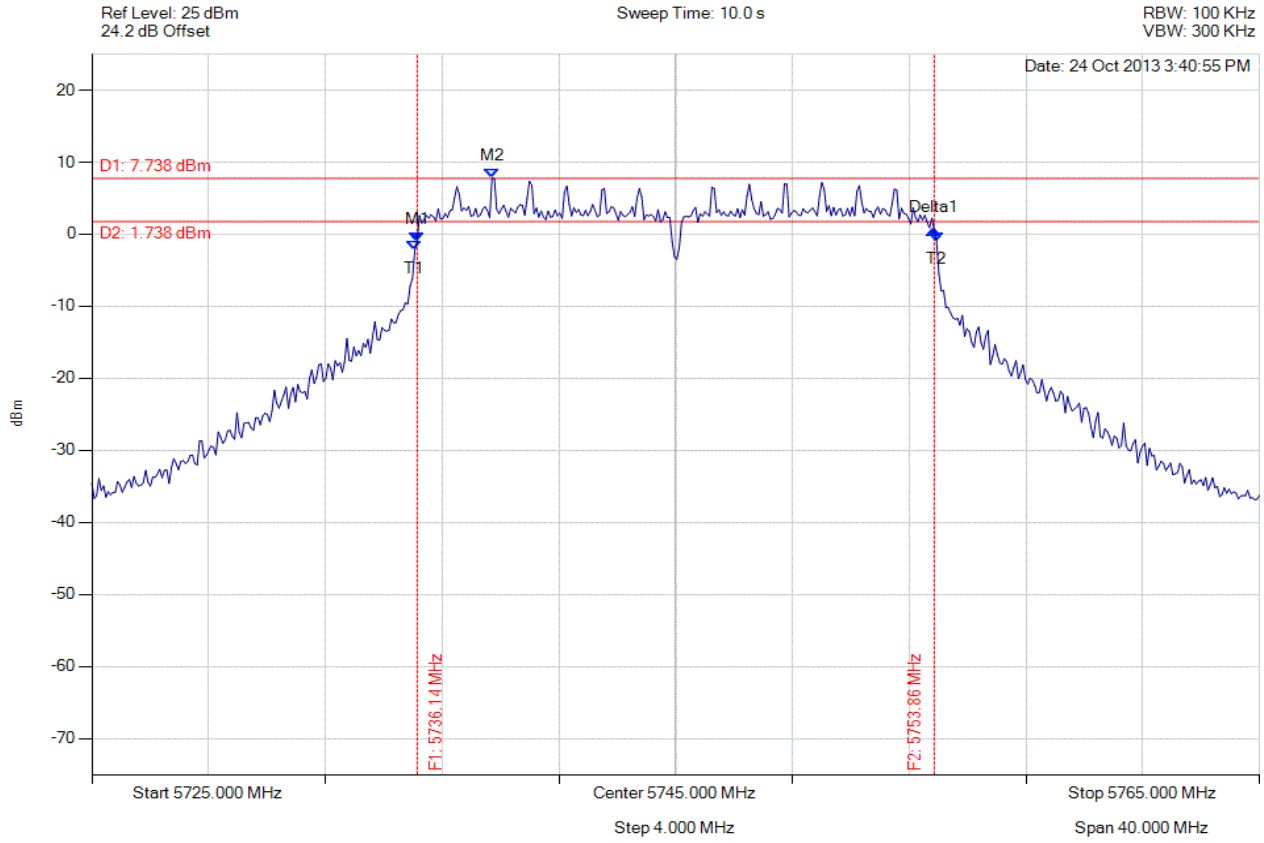



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.142 MHz : -0.424 dBm<br>M2 : 5738.788 MHz : 7.908 dBm<br>Delta1 : 17.475 MHz : 1.855 dB<br>T1 : 5736.062 MHz : -2.183 dBm<br>T2 : 5753.858 MHz : 0.650 dBm<br>OBW : 17.796 MHz | Measured 6 dB Bandwidth: 17.475 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

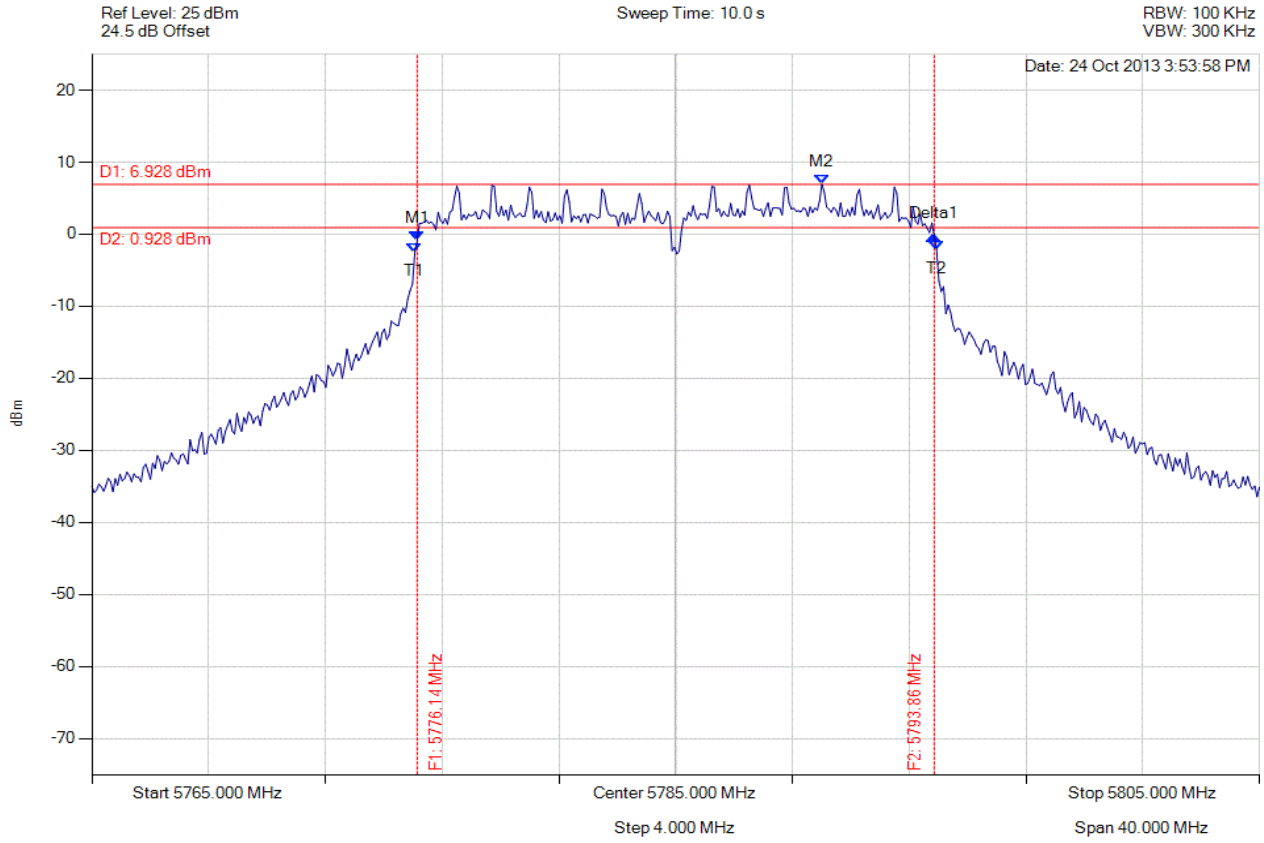



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.142 MHz : -0.971 dBm<br>M2 : 5738.707 MHz : 7.738 dBm<br>Delta1 : 17.715 MHz : 1.548 dB<br>T1 : 5736.062 MHz : -2.248 dBm<br>T2 : 5753.938 MHz : -0.999 dBm<br>OBW : 17.876 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

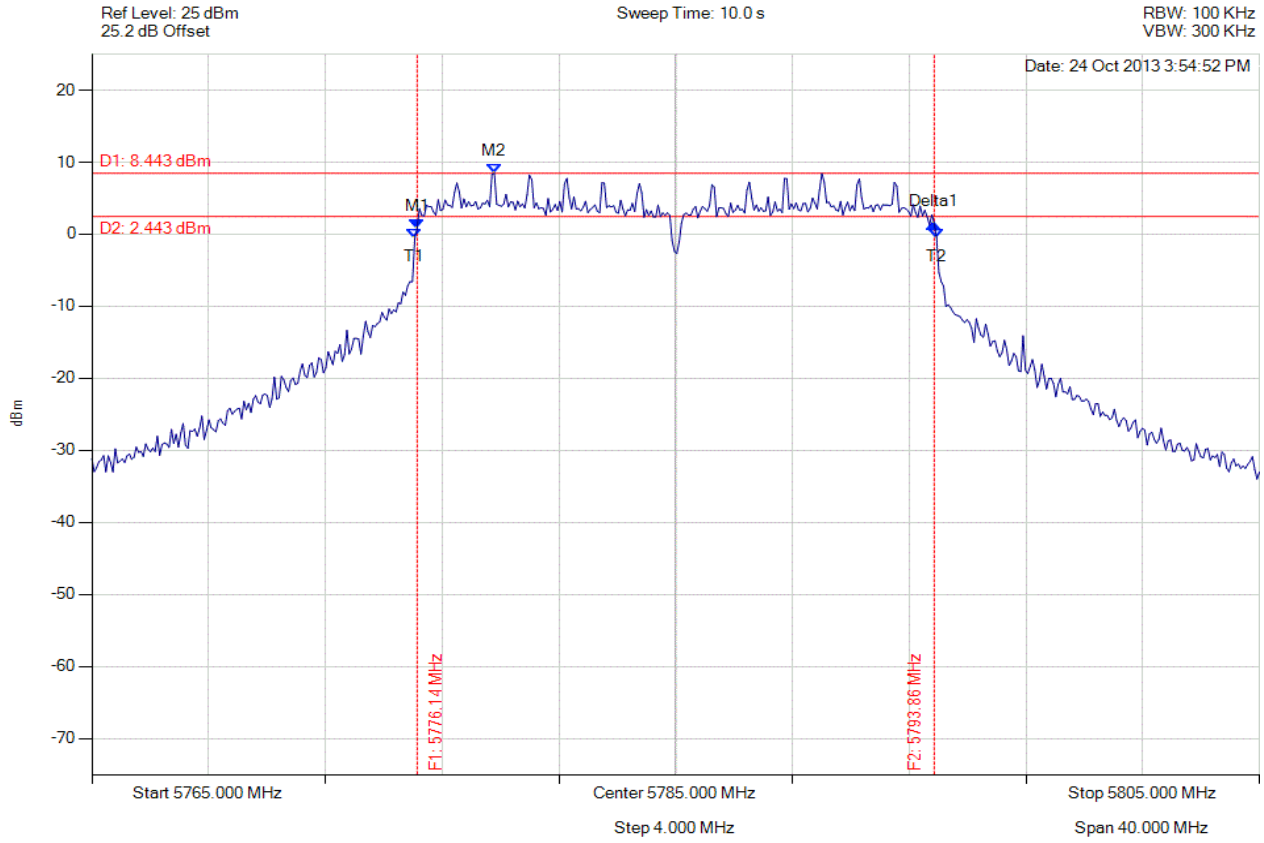



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.142 MHz : -0.920 dBm<br>M2 : 5790.010 MHz : 6.928 dBm<br>Delta1 : 17.715 MHz : 0.689 dB<br>T1 : 5776.062 MHz : -2.604 dBm<br>T2 : 5793.938 MHz : -2.183 dBm<br>OBW : 17.876 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>Margin: -17.22 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

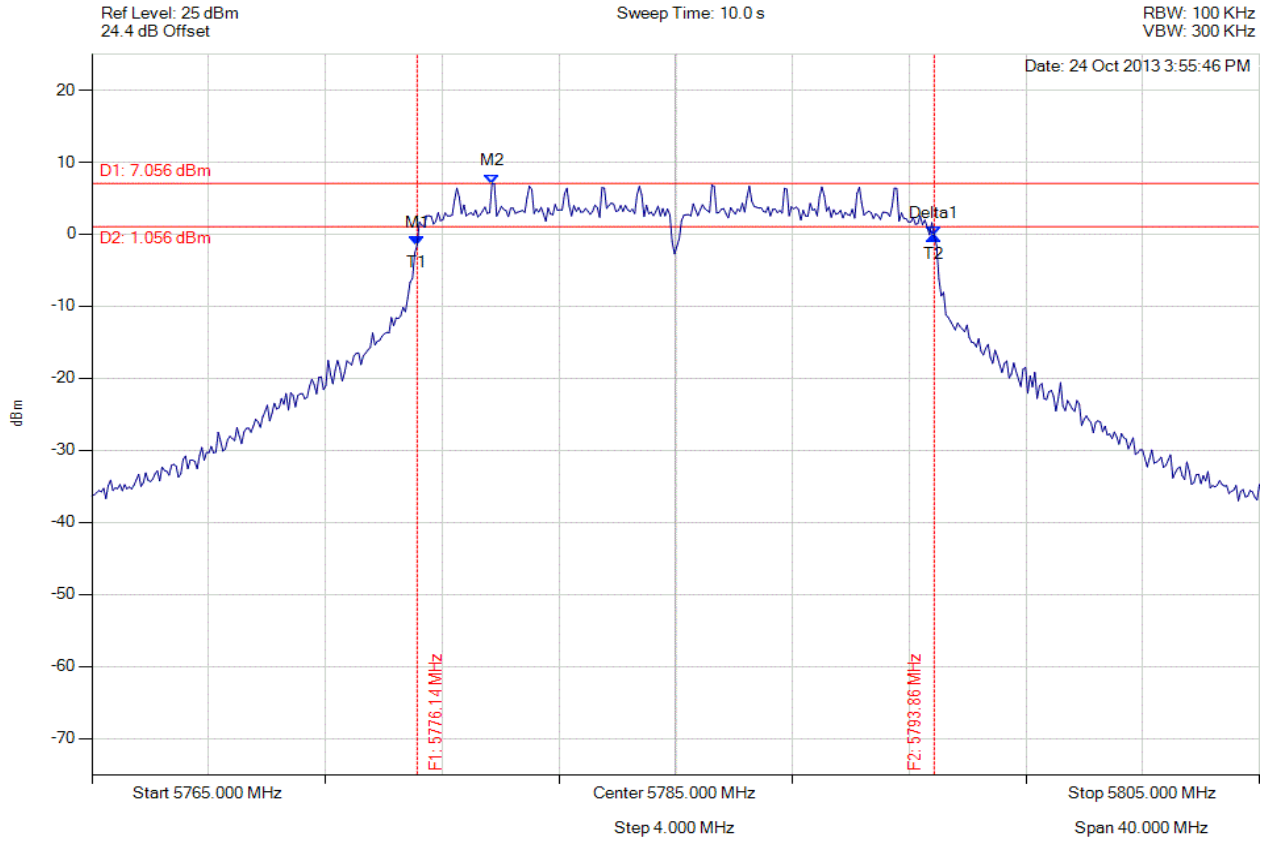



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.142 MHz : 0.874 dBm<br>M2 : 5778.788 MHz : 8.443 dBm<br>Delta1 : 17.715 MHz : 0.645 dB<br>T1 : 5776.062 MHz : -0.609 dBm<br>T2 : 5793.938 MHz : -0.558 dBm<br>OBW : 17.876 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

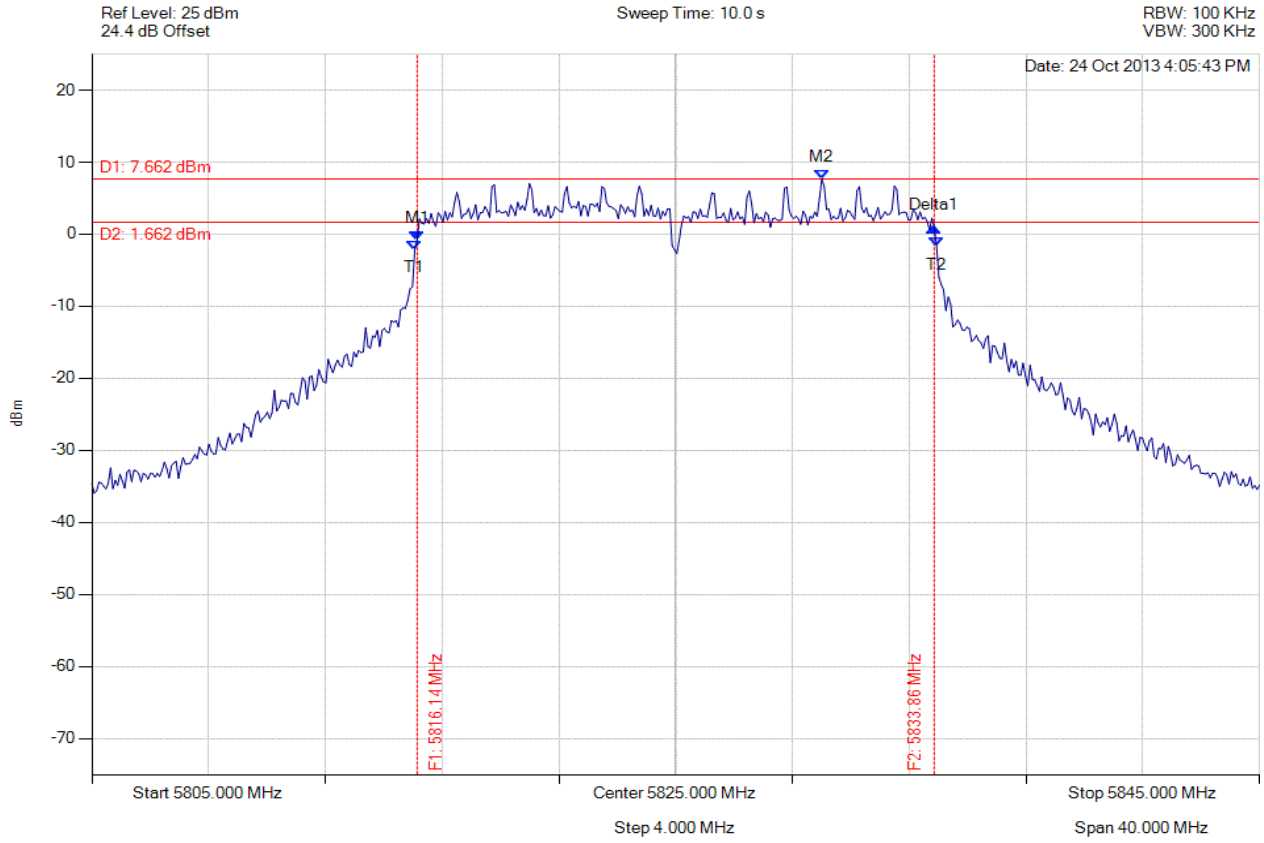



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.142 MHz : -1.483 dBm<br>M2 : 5778.707 MHz : 7.056 dBm<br>Delta1 : 17.715 MHz : 1.245 dB<br>T1 : 5776.142 MHz : -1.483 dBm<br>T2 : 5793.858 MHz : -0.239 dBm<br>OBW : 17.715 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

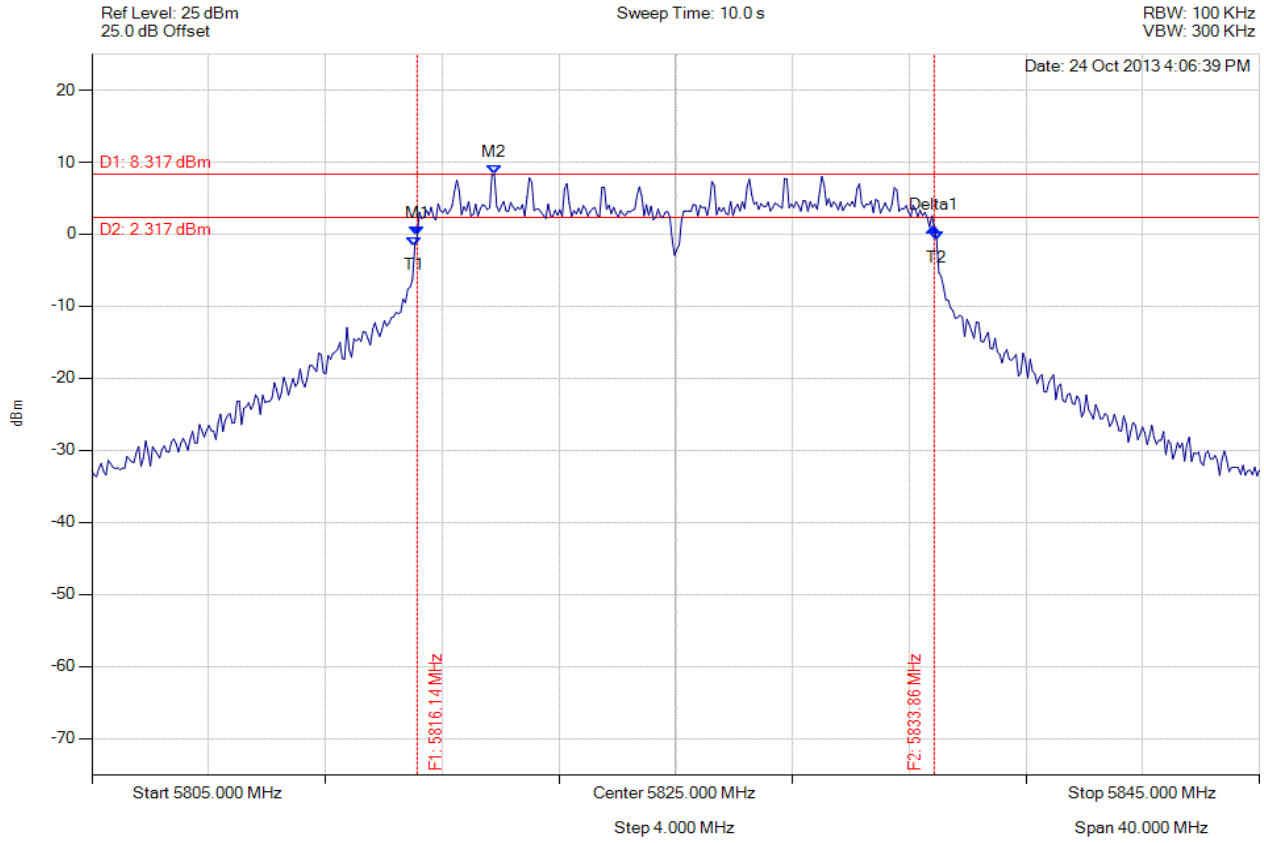



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5816.142 MHz : -0.851 dBm<br>M2 : 5830.010 MHz : 7.662 dBm<br>Delta1 : 17.715 MHz : 1.853 dB<br>T1 : 5816.062 MHz : -2.134 dBm<br>T2 : 5833.938 MHz : -1.703 dBm<br>OBW : 17.876 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

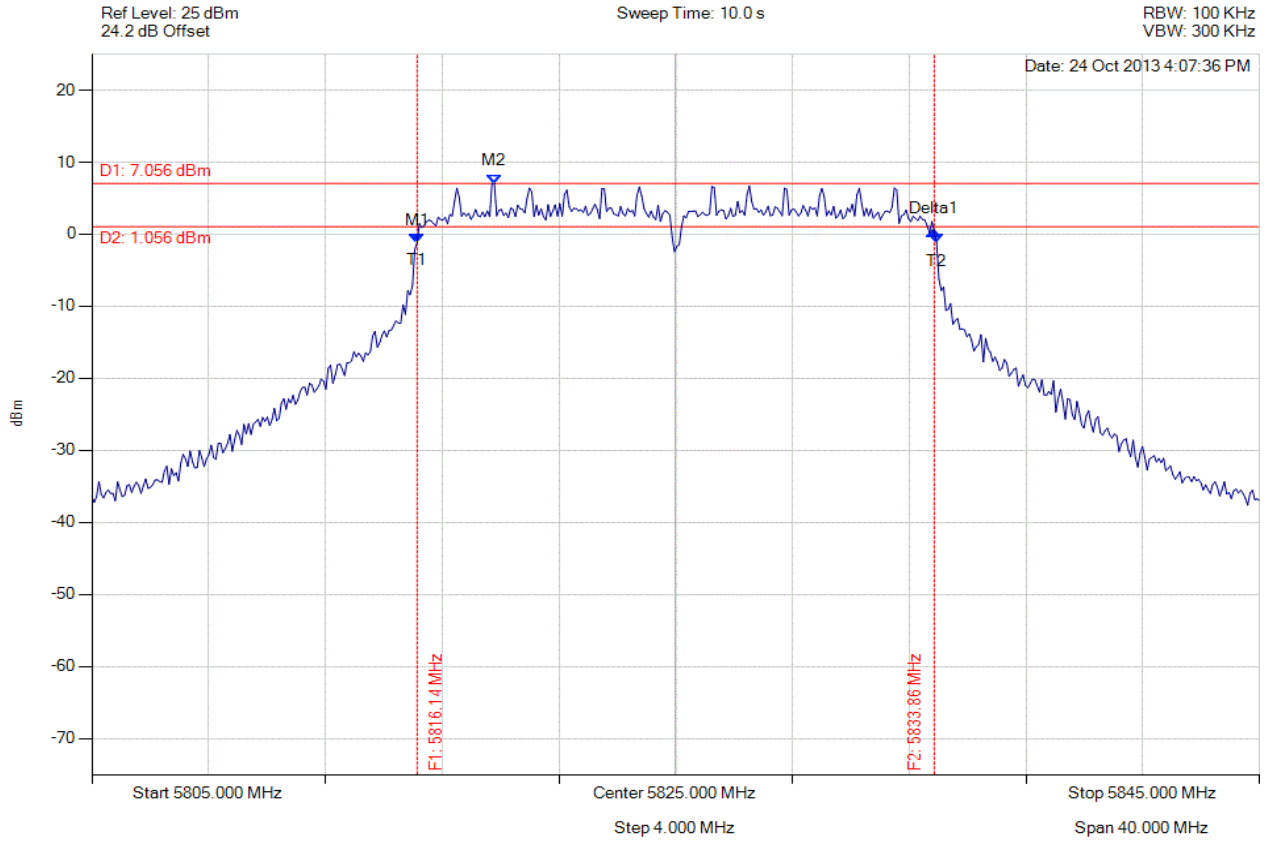



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5816.142 MHz : -0.231 dBm<br>M2 : 5818.788 MHz : 8.317 dBm<br>Delta1 : 17.715 MHz : 1.173 dB<br>T1 : 5816.062 MHz : -1.736 dBm<br>T2 : 5833.938 MHz : -0.784 dBm<br>OBW : 17.876 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

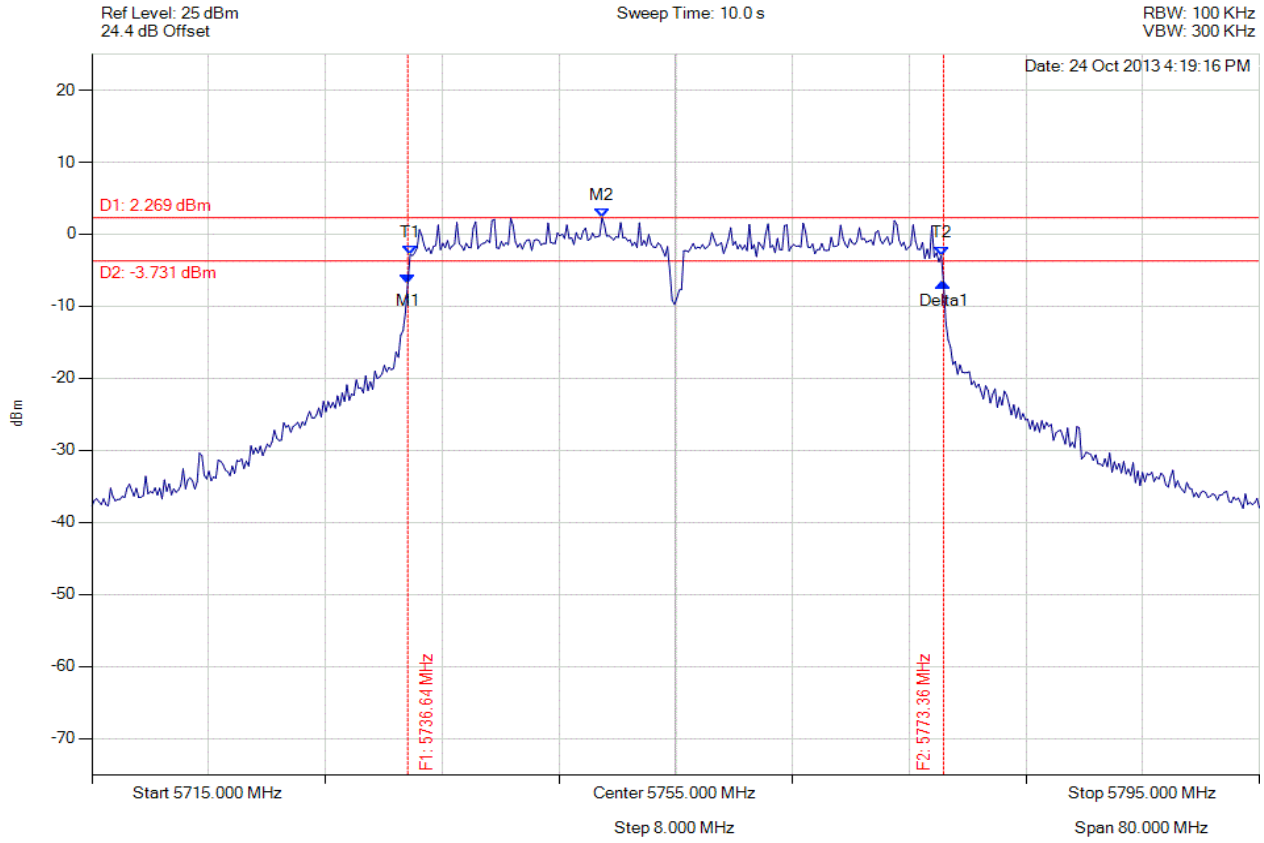



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5816.142 MHz : -1.166 dBm<br>M2 : 5818.788 MHz : 7.056 dBm<br>Delta1 : 17.715 MHz : 1.572 dB<br>T1 : 5816.142 MHz : -1.166 dBm<br>T2 : 5833.938 MHz : -1.201 dBm<br>OBW : 17.796 MHz | Measured 6 dB Bandwidth: 17.715 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

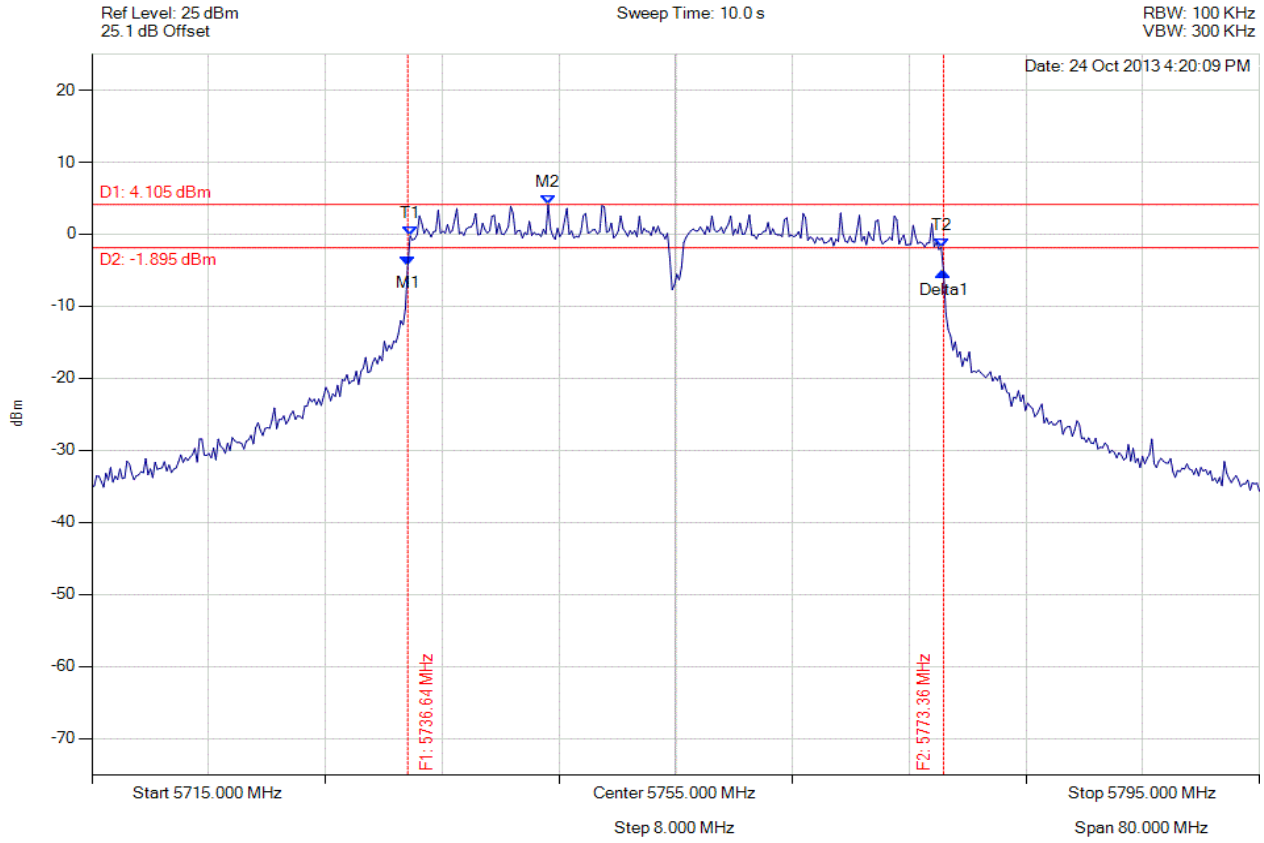



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.643 MHz : -6.834 dBm<br>M2 : 5749.950 MHz : 2.269 dBm<br>Delta1 : 36.713 MHz : 0.087 dB<br>T1 : 5736.804 MHz : -2.864 dBm<br>T2 : 5773.196 MHz : -2.960 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

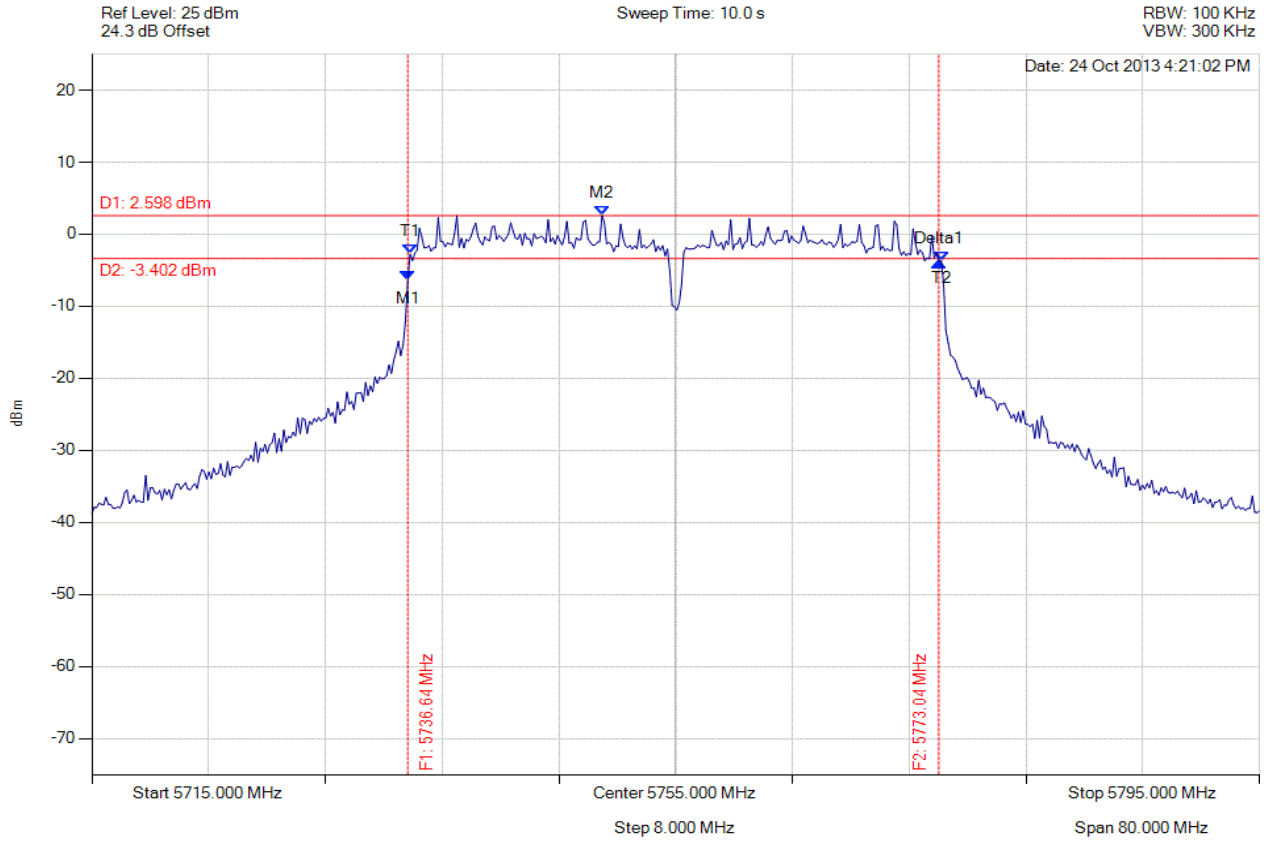



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.643 MHz : -4.314 dBm<br>M2 : 5746.263 MHz : 4.105 dBm<br>Delta1 : 36.713 MHz : -0.868 dB<br>T1 : 5736.804 MHz : -0.212 dBm<br>T2 : 5773.196 MHz : -1.852 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

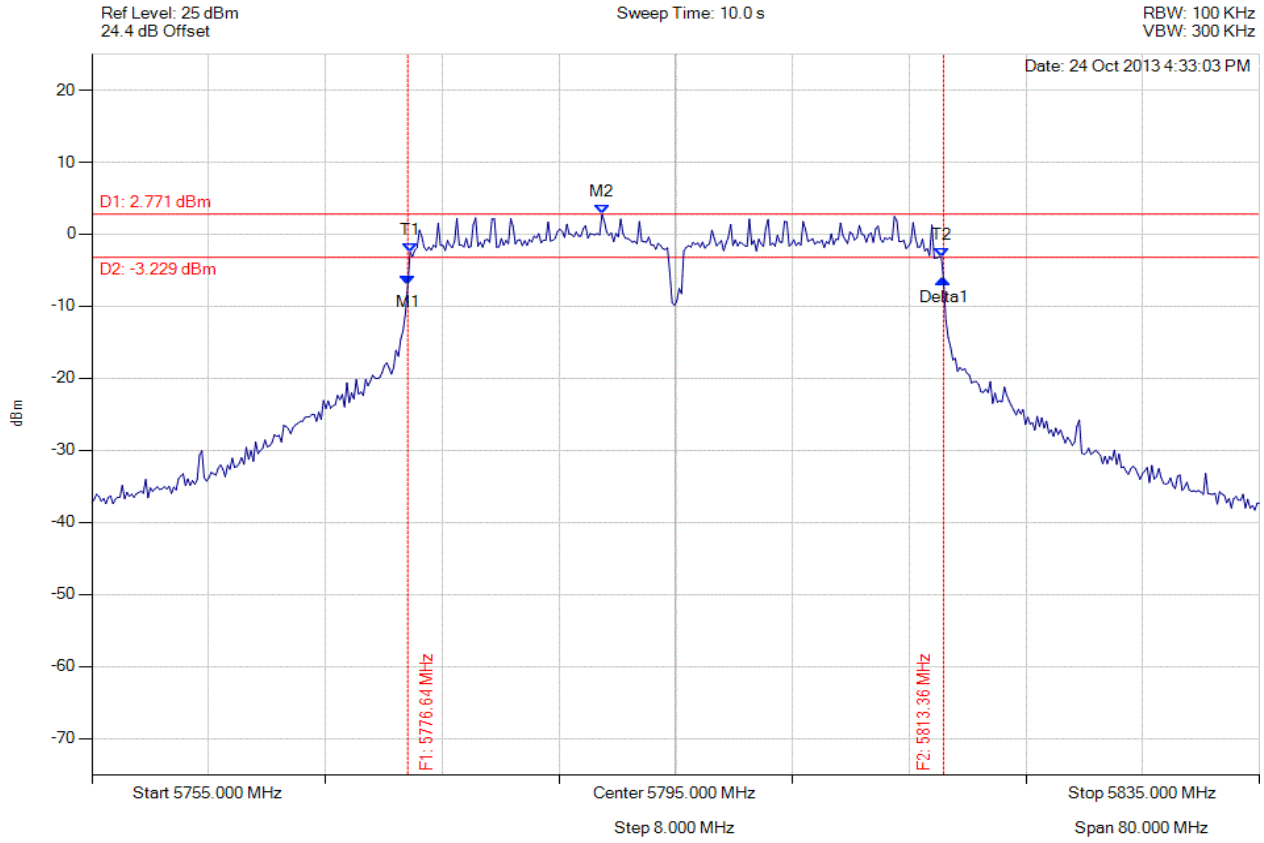



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5736.643 MHz : -6.434 dBm<br>M2 : 5749.950 MHz : 2.598 dBm<br>Delta1 : 36.393 MHz : 2.652 dB<br>T1 : 5736.804 MHz : -2.757 dBm<br>T2 : 5773.196 MHz : -3.666 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.393 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.89 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

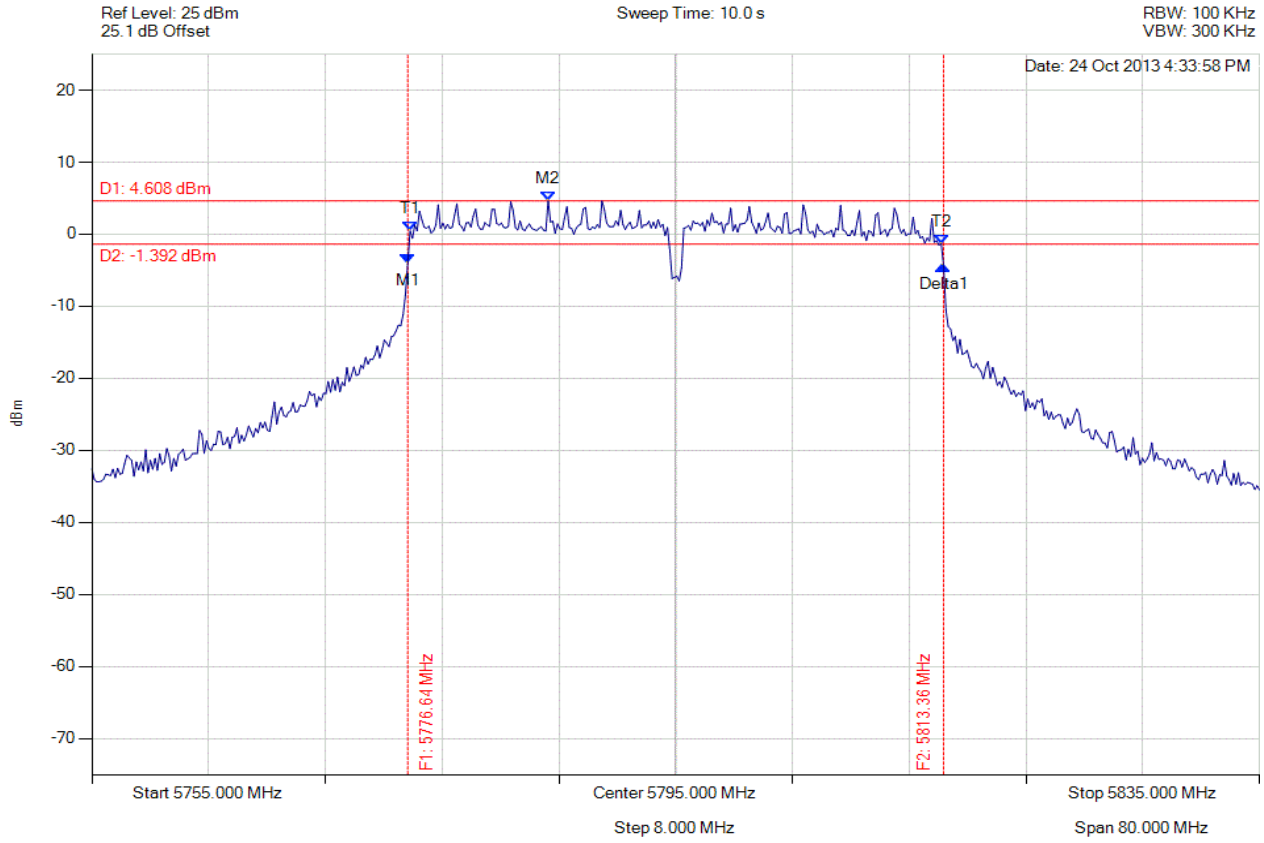



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.643 MHz : -6.970 dBm<br>M2 : 5789.950 MHz : 2.771 dBm<br>Delta1 : 36.713 MHz : 0.724 dB<br>T1 : 5776.804 MHz : -2.496 dBm<br>T2 : 5813.196 MHz : -3.163 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>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: 56 Vdc

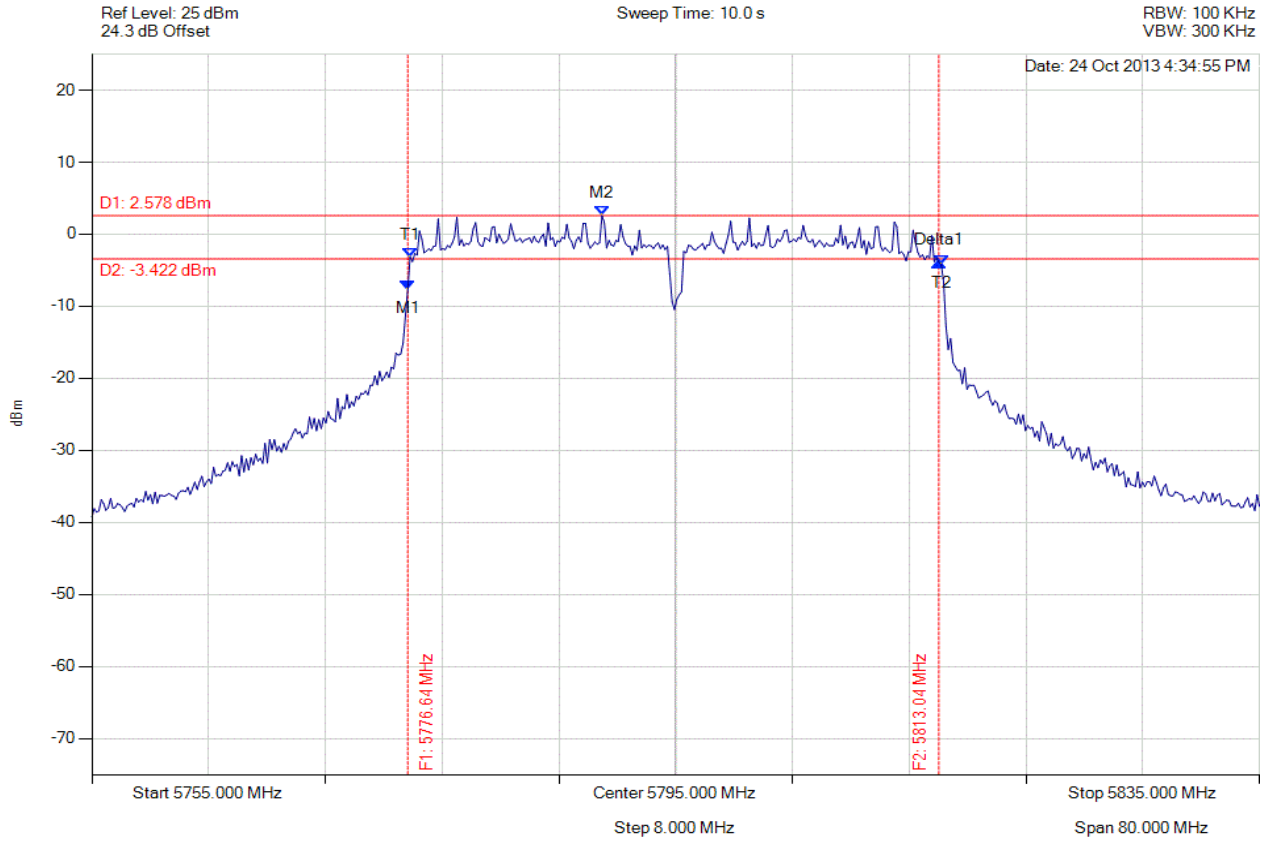



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.643 MHz : -3.967 dBm<br>M2 : 5786.263 MHz : 4.608 dBm<br>Delta1 : 36.713 MHz : -0.395 dB<br>T1 : 5776.804 MHz : 0.459 dBm<br>T2 : 5813.196 MHz : -1.341 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.713 MHz<br>Limit: ≥500.0 kHz<br>Margin: -36.21 MHz |

Back to the Matrix

## 6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc



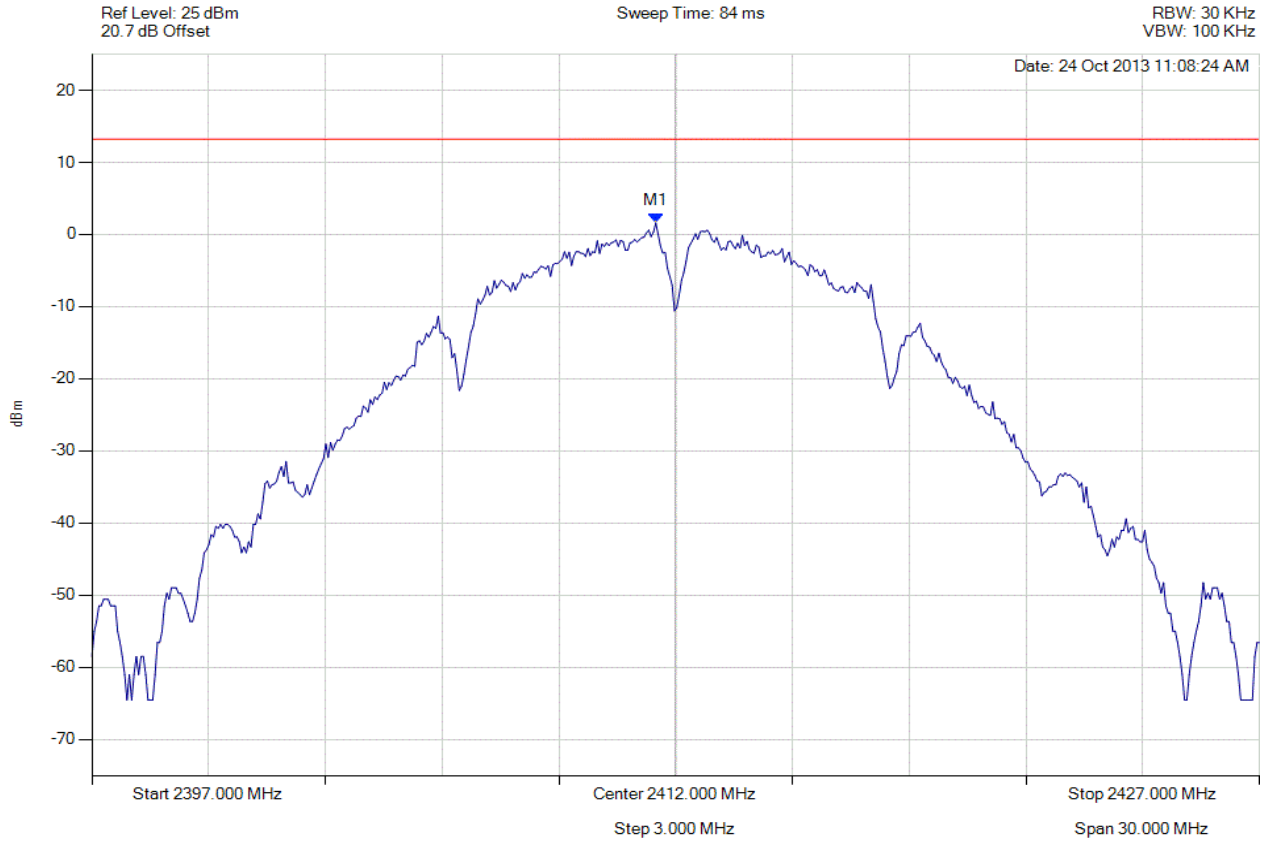

| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5776.643 MHz : -7.701 dBm<br>M2 : 5789.950 MHz : 2.578 dBm<br>Delta1 : 36.393 MHz : 3.809 dB<br>T1 : 5776.804 MHz : -3.141 dBm<br>T2 : 5813.196 MHz : -4.176 dBm<br>OBW : 36.393 MHz | Measured 6 dB Bandwidth: 36.393 MHz<br>Limit: ≥500.0 kHz<br>Margin: -35.89 MHz |

Back to the Matrix

## A.1.2. Power Spectral Density

**POWER SPECTRAL DENSITY - AVERAGE**

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

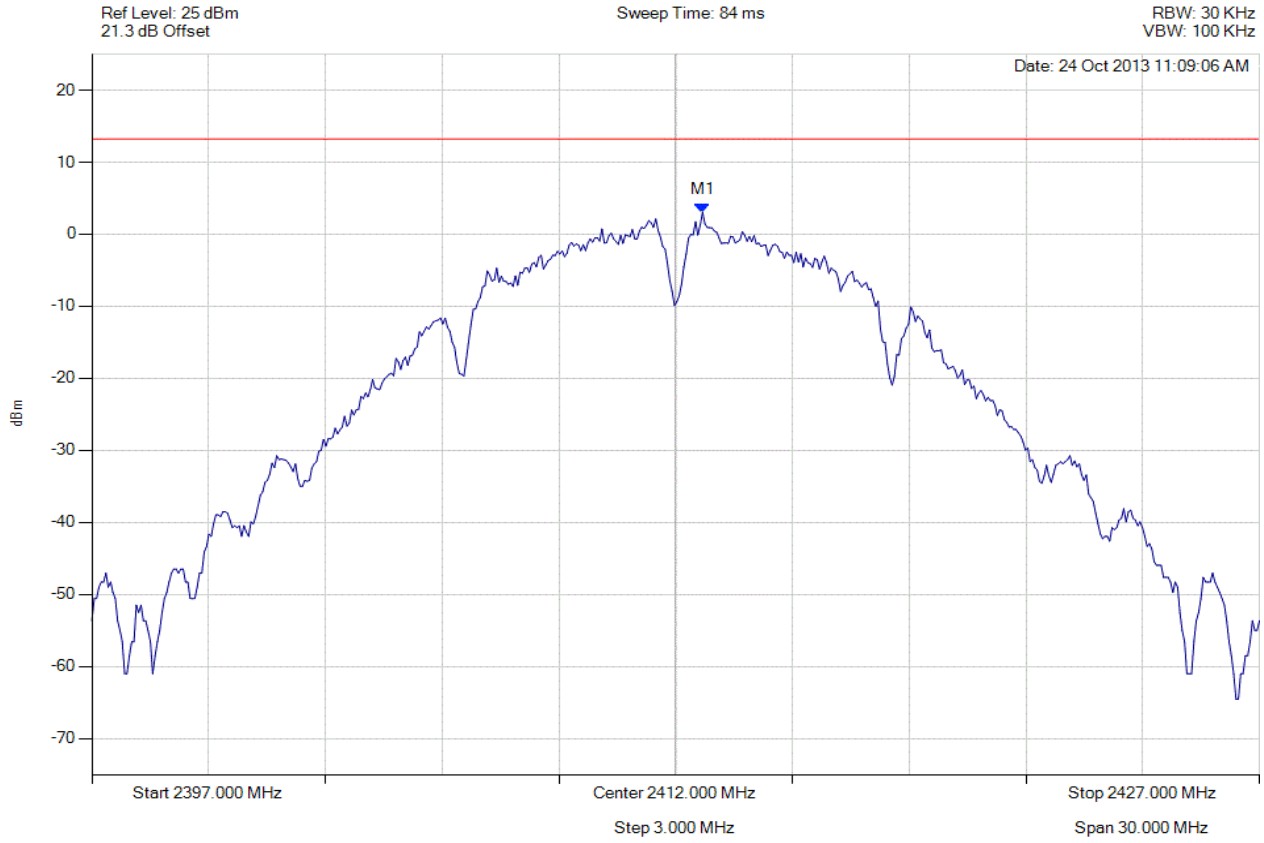



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2411.489 MHz : 1.607 dBm | Limit: ≤ 13.229 dBm<br>Margin: -11.62 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

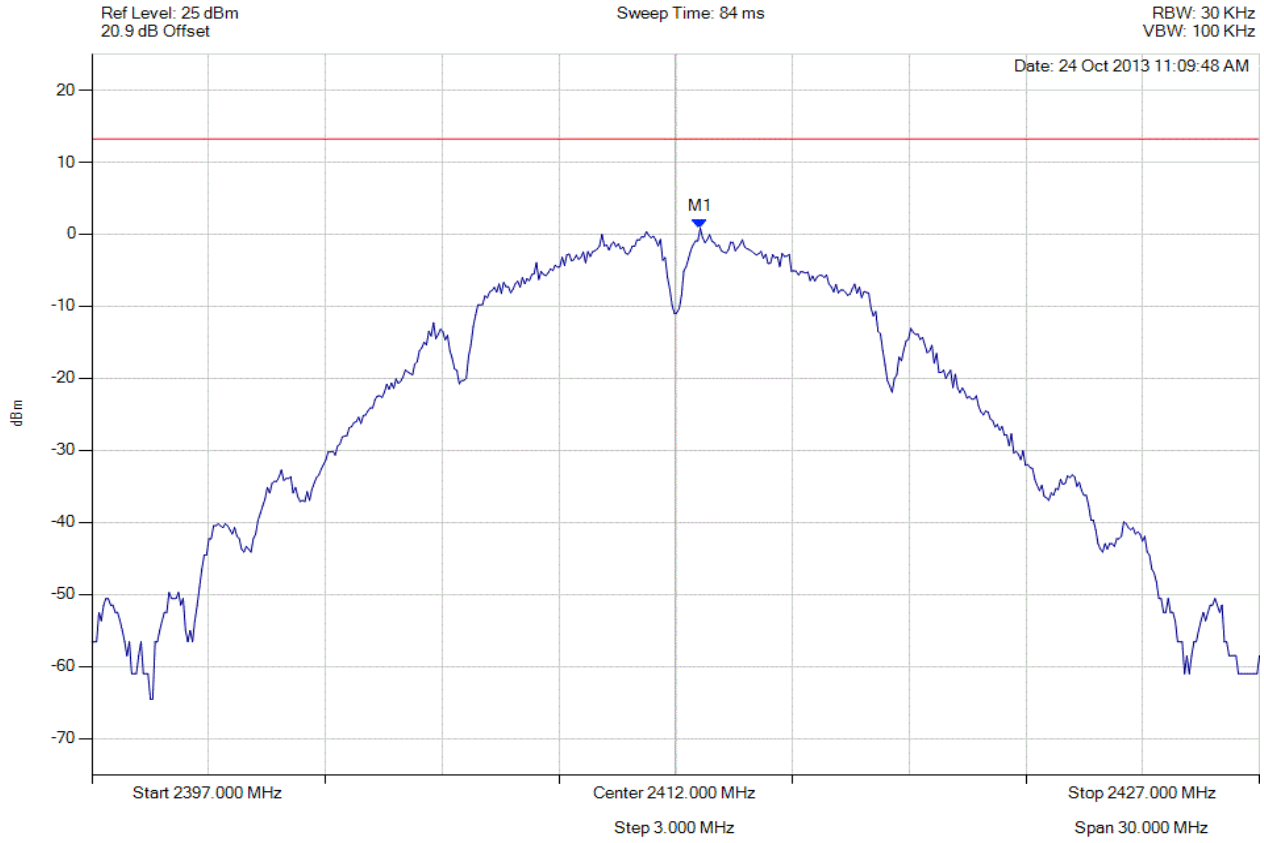



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2412.691 MHz : 3.049 dBm | Limit: ≤ 13.229 dBm<br>Margin: -10.18 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

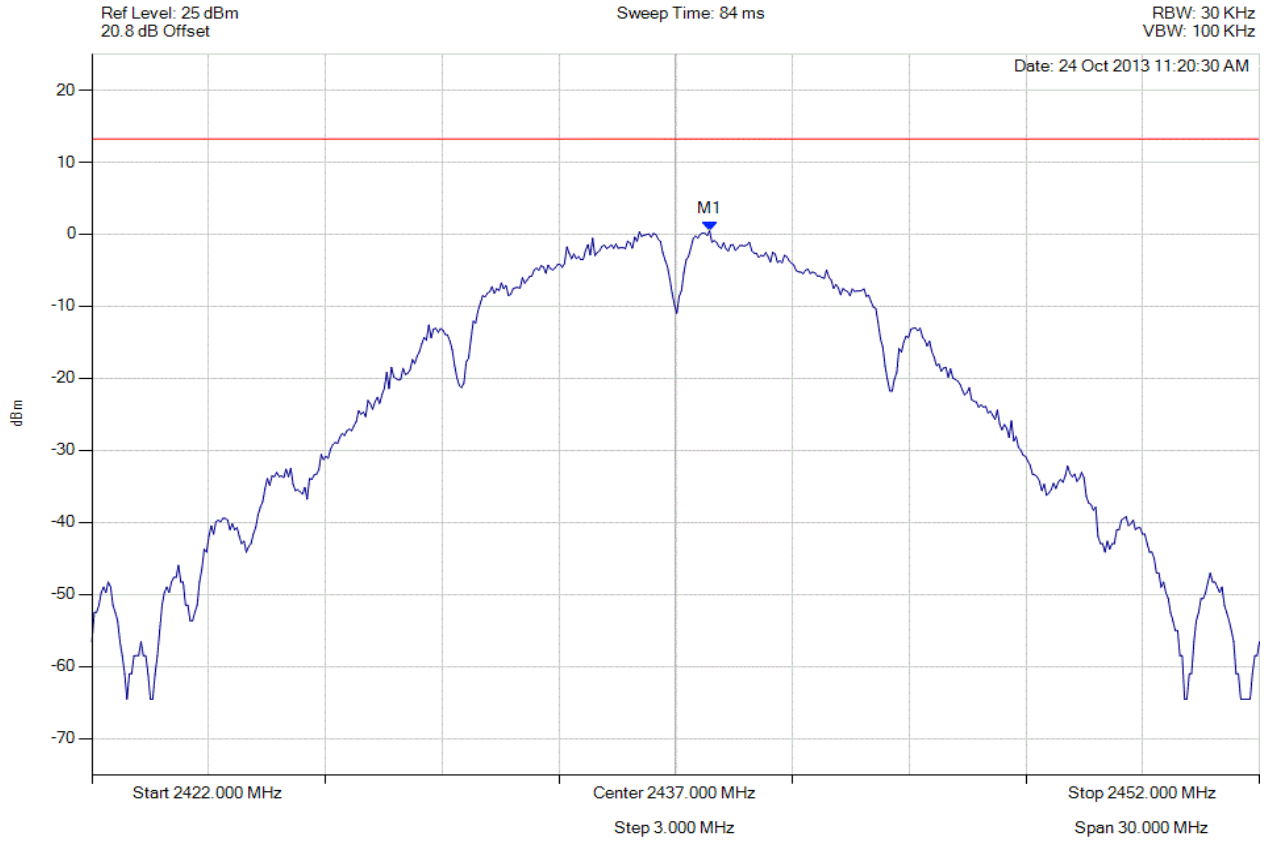



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2412.631 MHz : 0.820 dBm | Limit: ≤ 13.229 dBm<br>Margin: -12.41 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

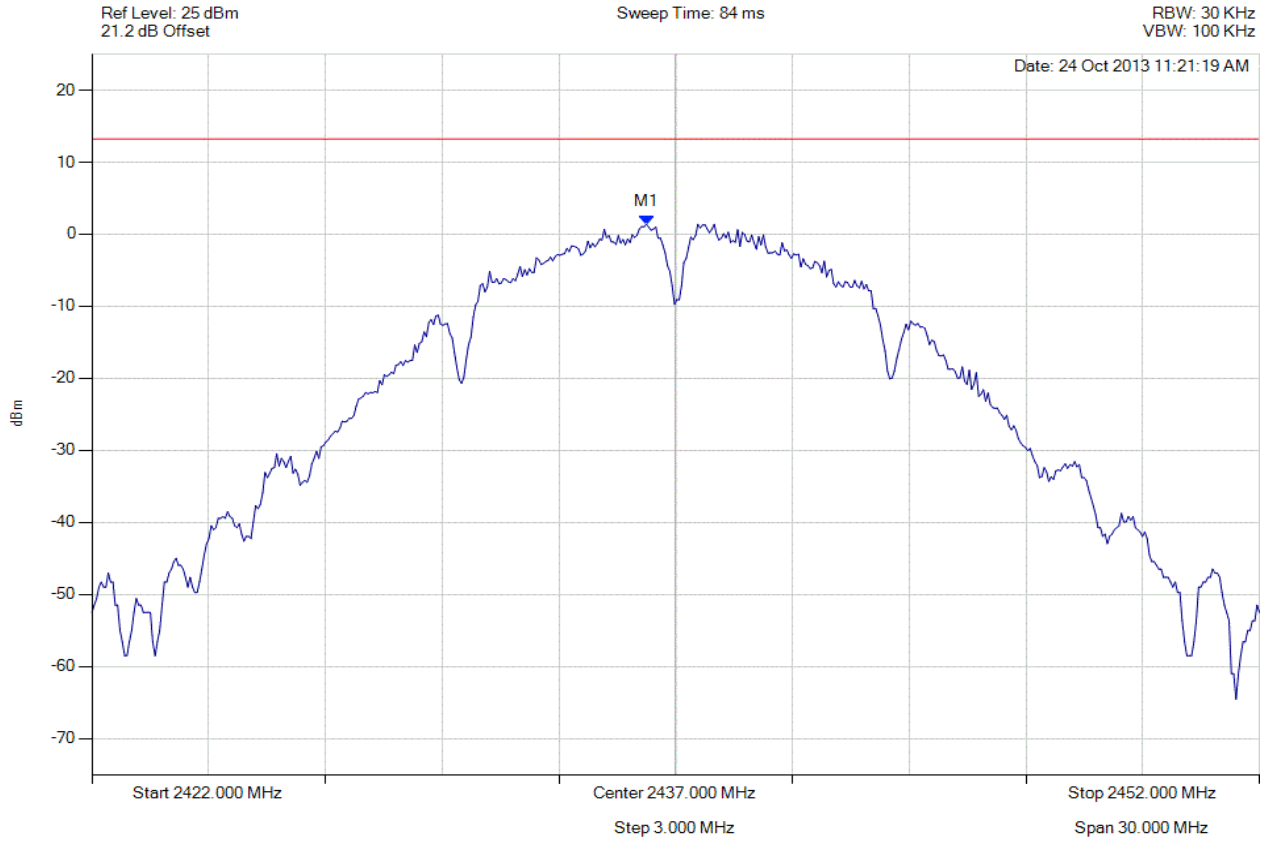



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2437.872 MHz : 0.486 dBm | Limit: ≤ 13.229 dBm<br>Margin: -12.74 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

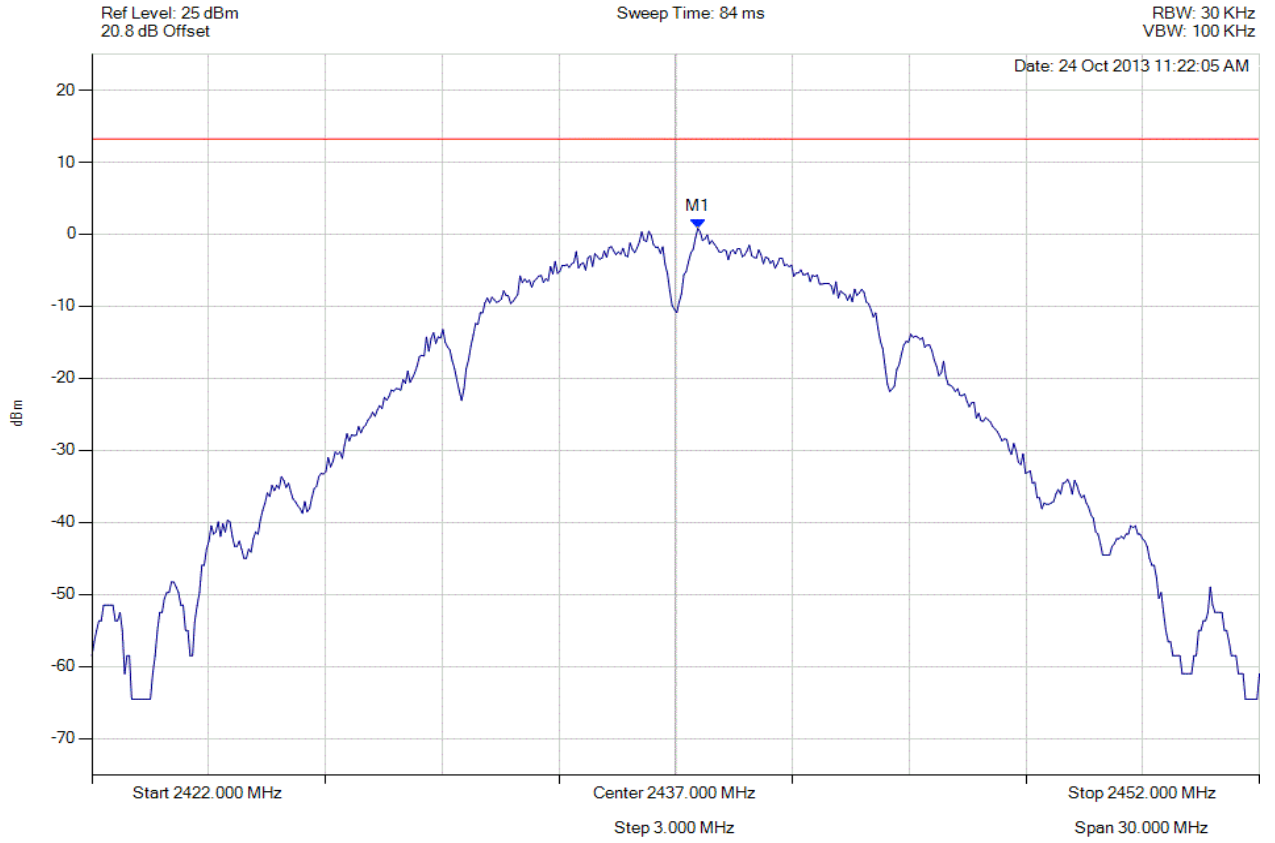



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2436.248 MHz : 1.384 dBm | Limit: ≤ 13.229 dBm<br>Margin: -11.85 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

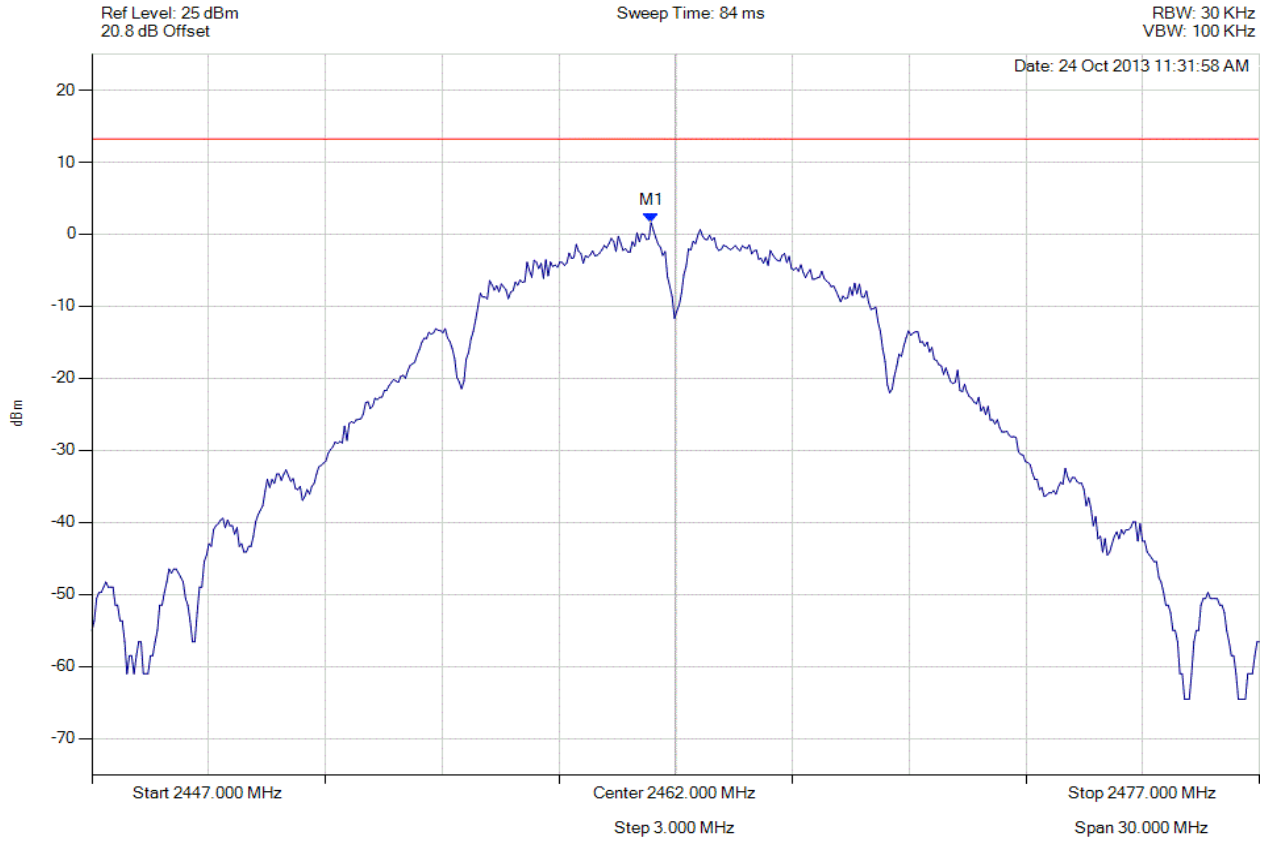



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2437.571 MHz : 0.827 dBm | Limit: ≤ 13.229 dBm<br>Margin: -12.40 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

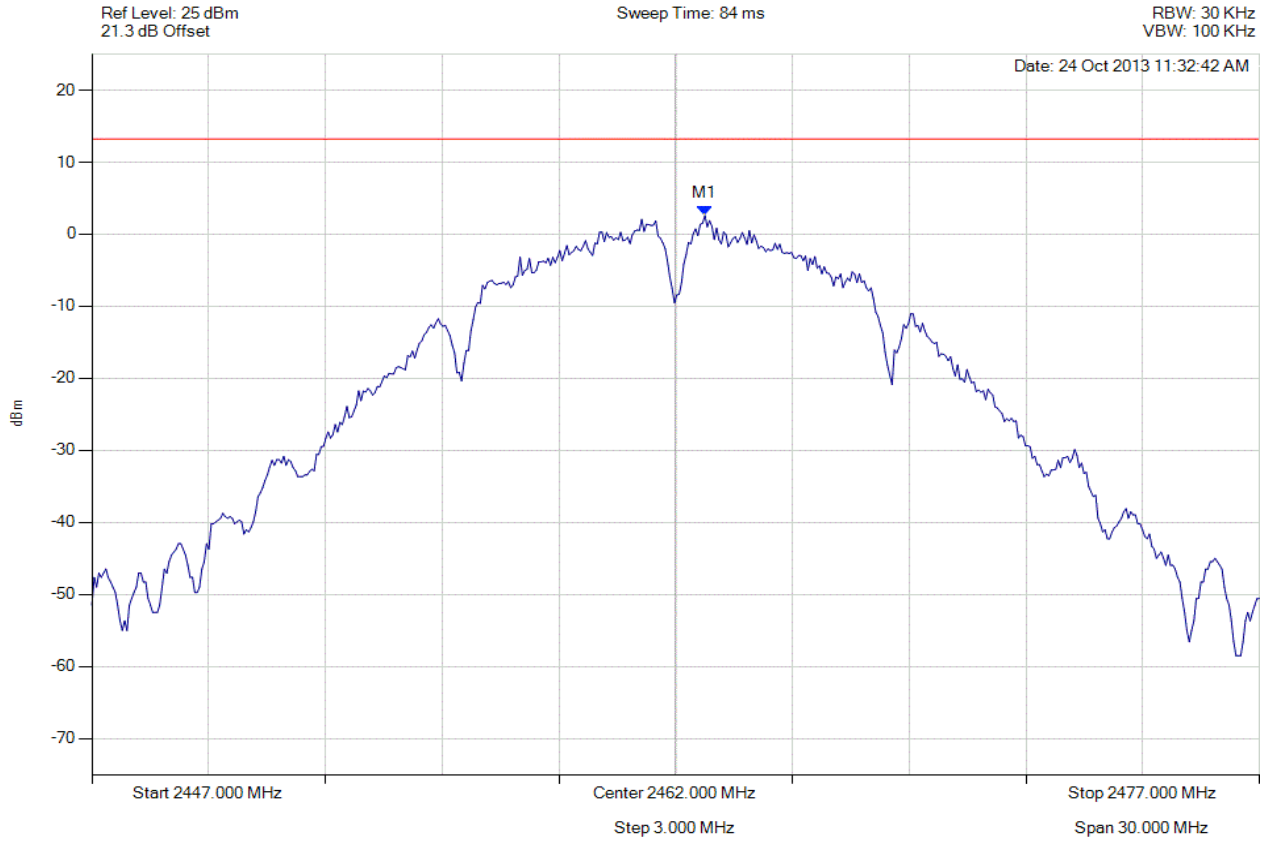



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2461.369 MHz : 1.607 dBm | Limit: ≤ 13.229 dBm<br>Margin: -11.62 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

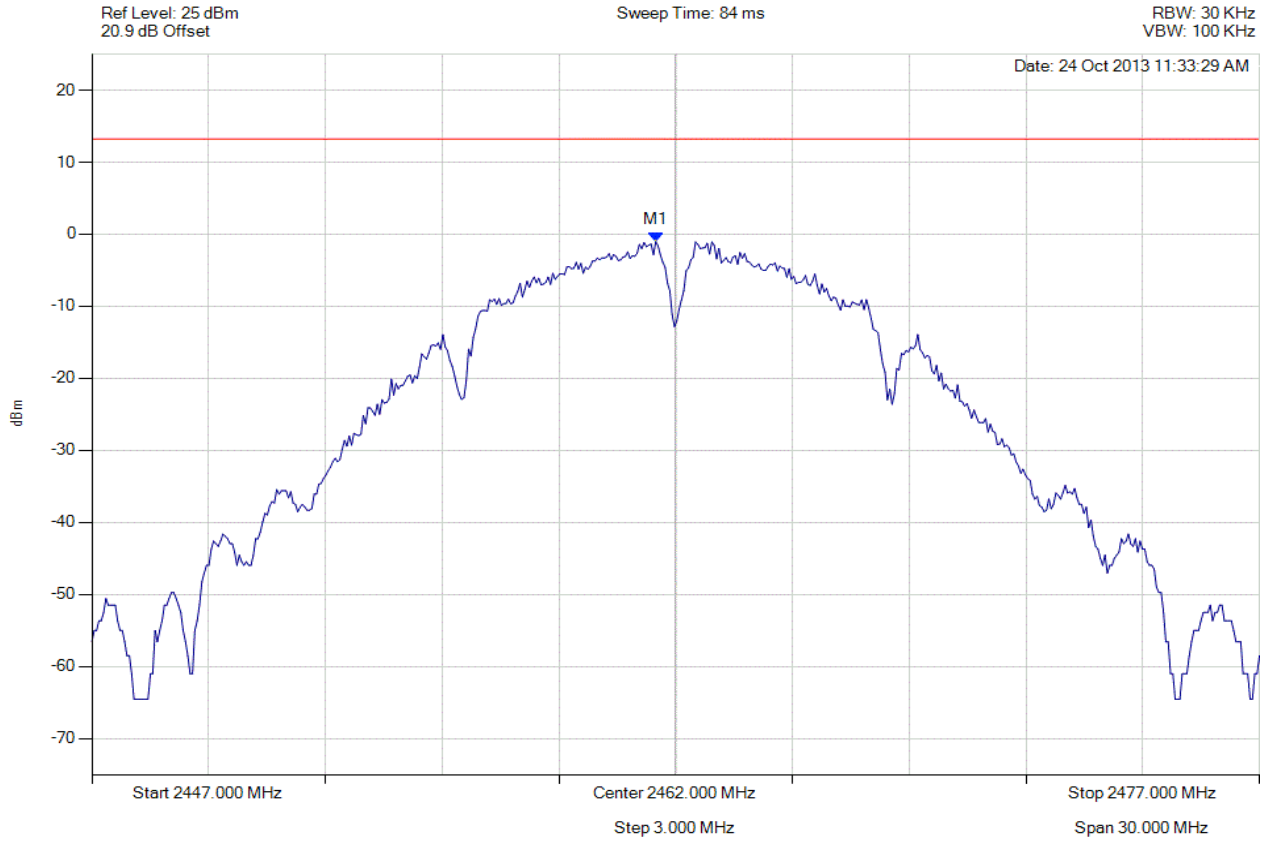



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2462.752 MHz : 2.591 dBm | Limit: ≤ 13.229 dBm<br>Margin: -10.64 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

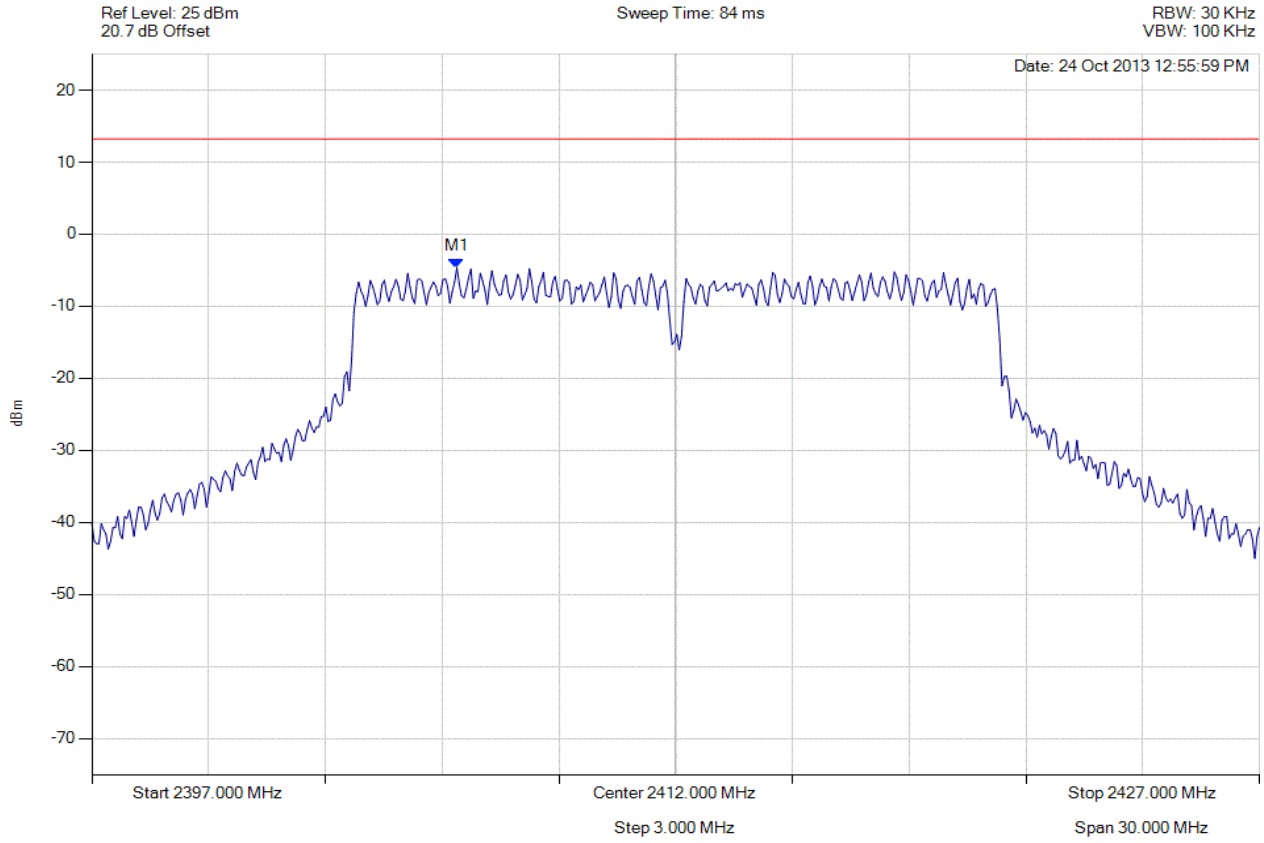



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2461.489 MHz : -1.026 dBm | Limit: ≤ 13.229 dBm<br>Margin: -14.26 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

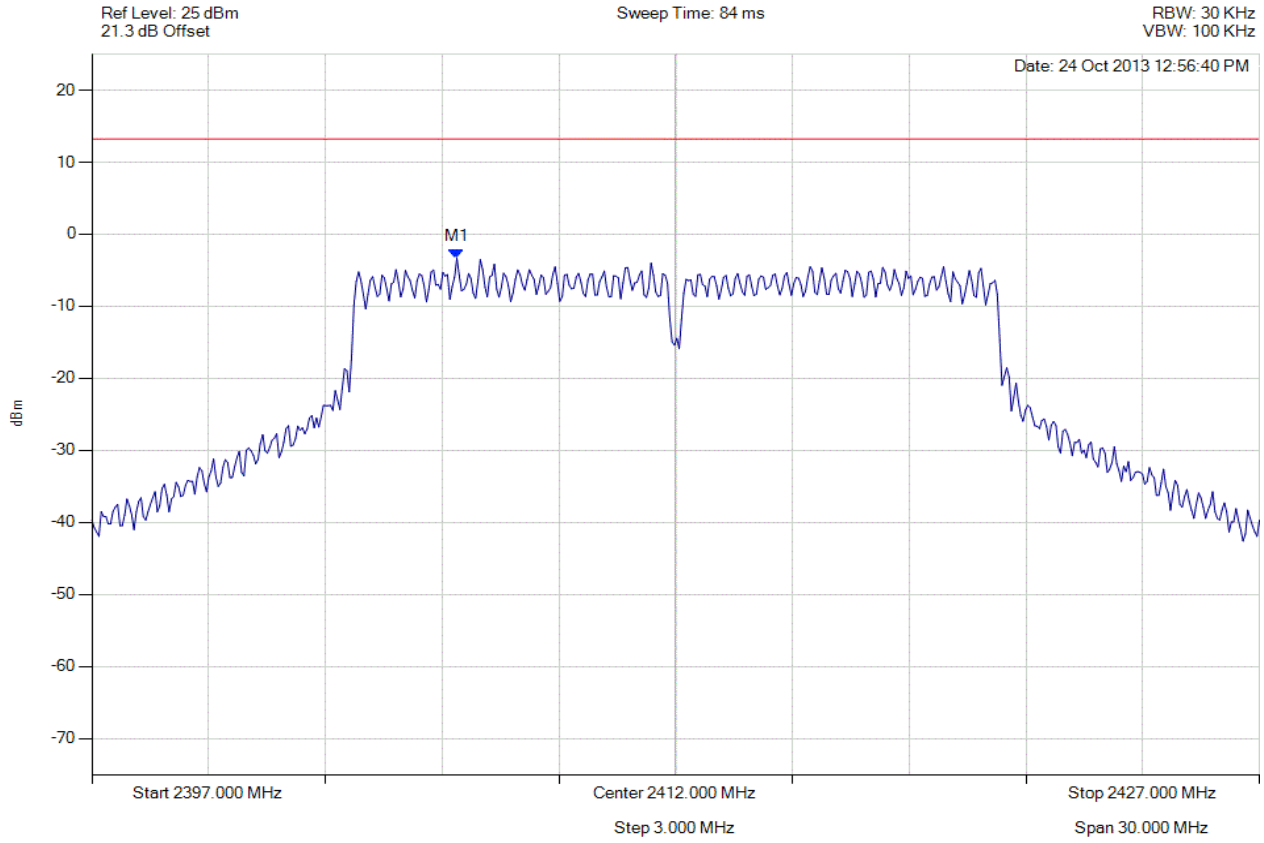



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2406.379 MHz : -4.650 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.88 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

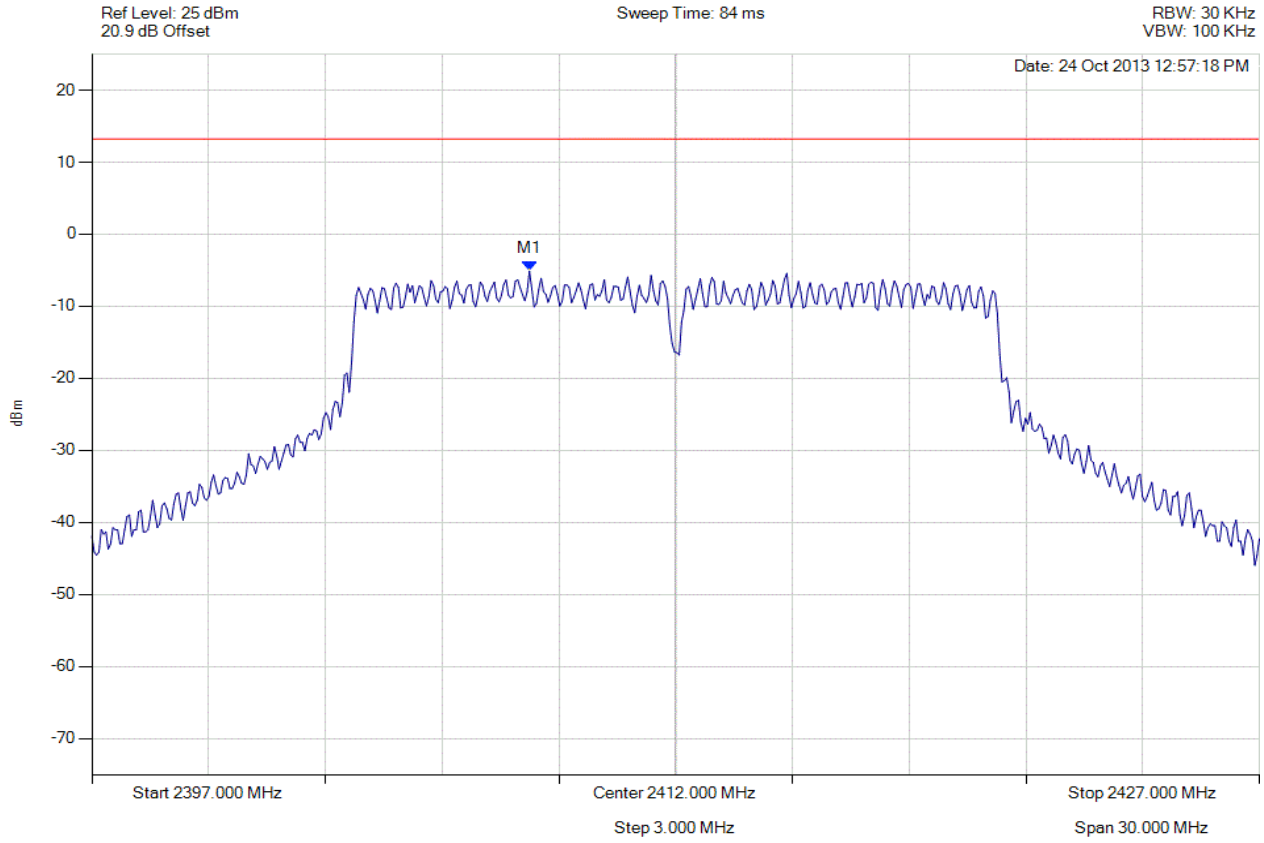



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2406.379 MHz : -3.342 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.57 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

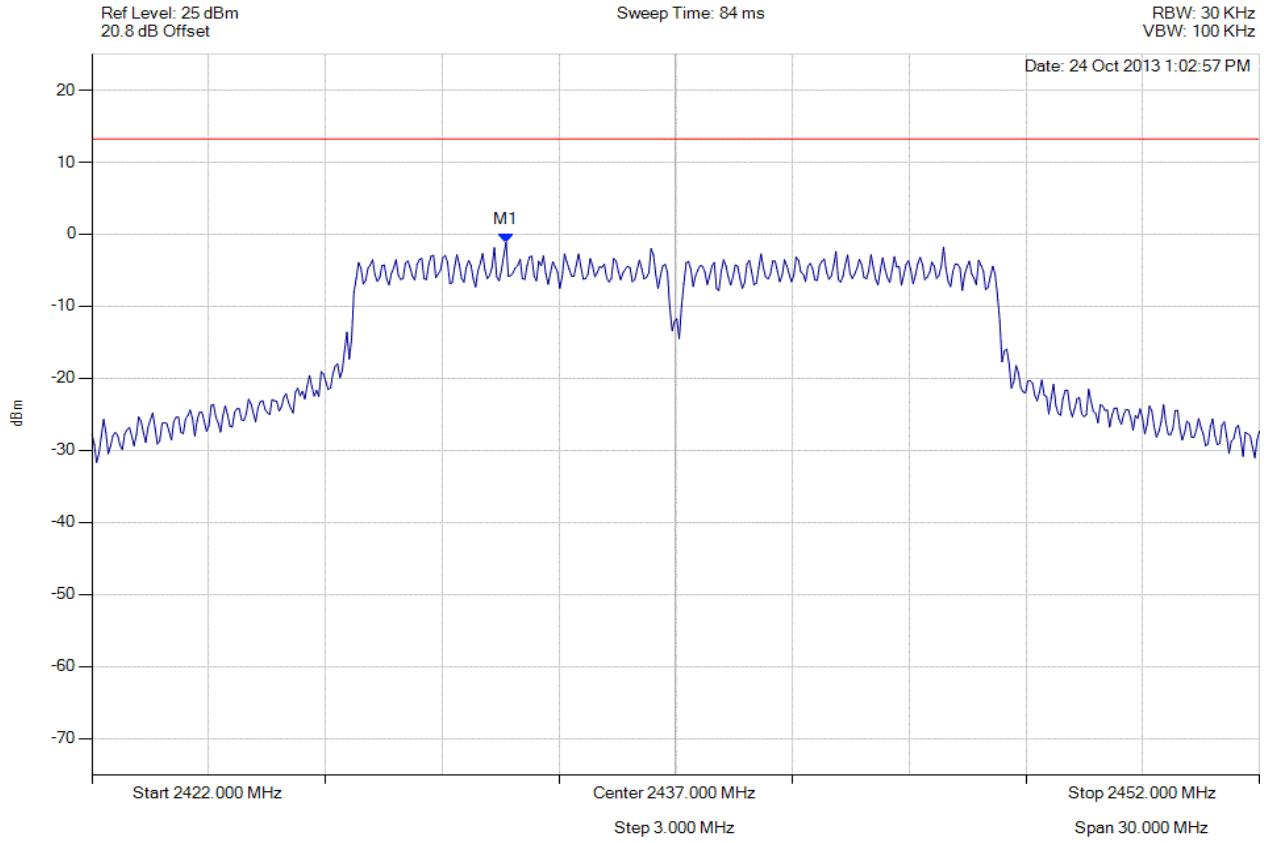



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2408.242 MHz : -5.115 dBm | Limit: ≤ 13.229 dBm<br>Margin: -18.34 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

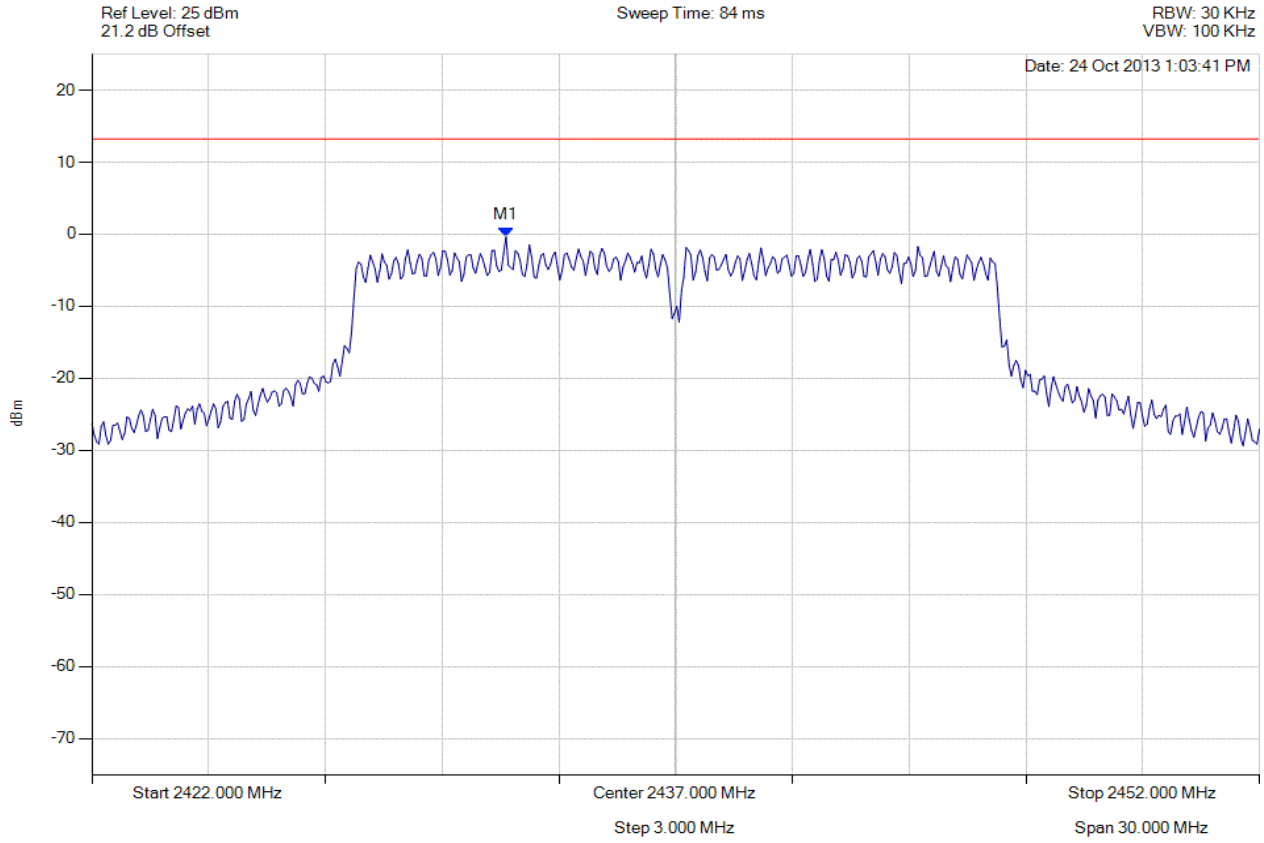



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2432.641 MHz : -1.113 dBm | Limit: ≤ 13.229 dBm<br>Margin: -14.34 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

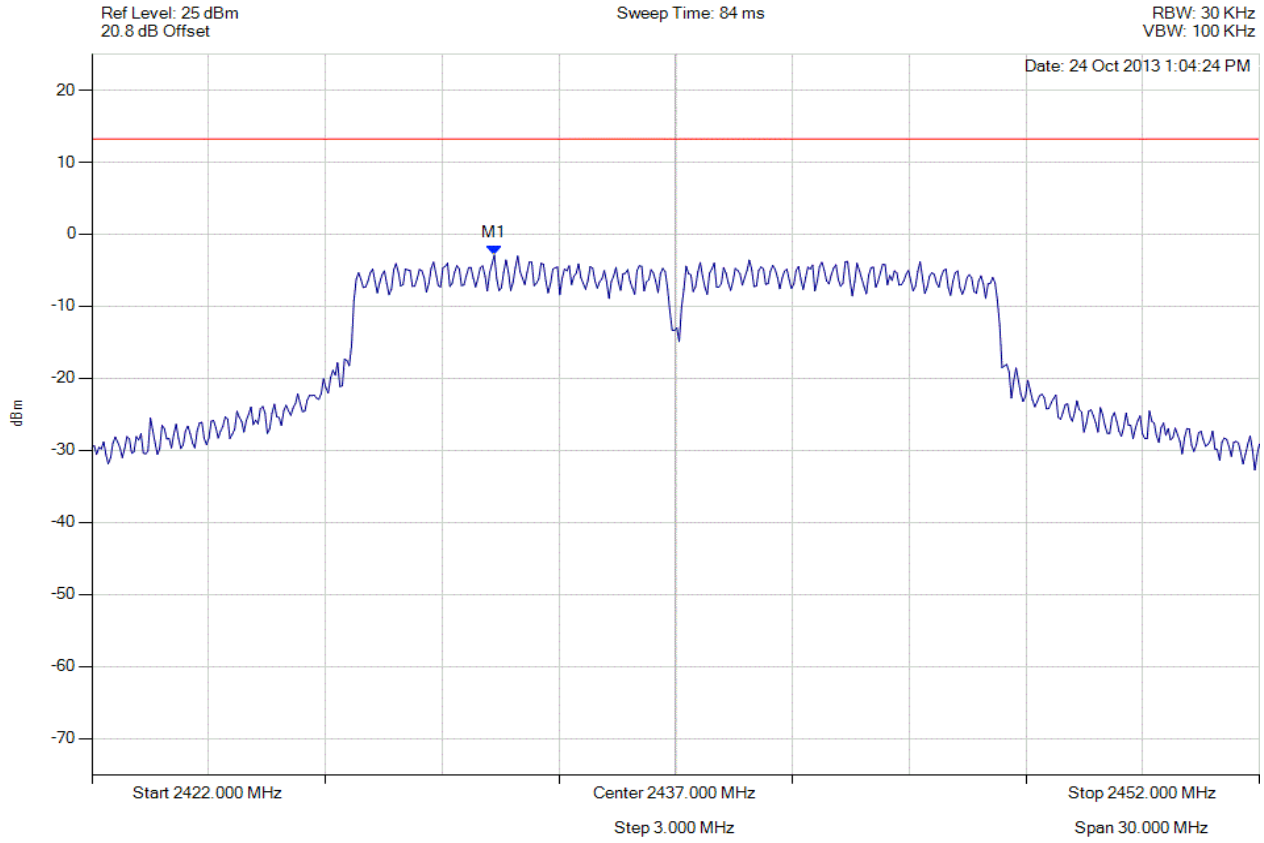



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2432.641 MHz : -0.373 dBm | Limit: ≤ 13.229 dBm<br>Margin: -13.60 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

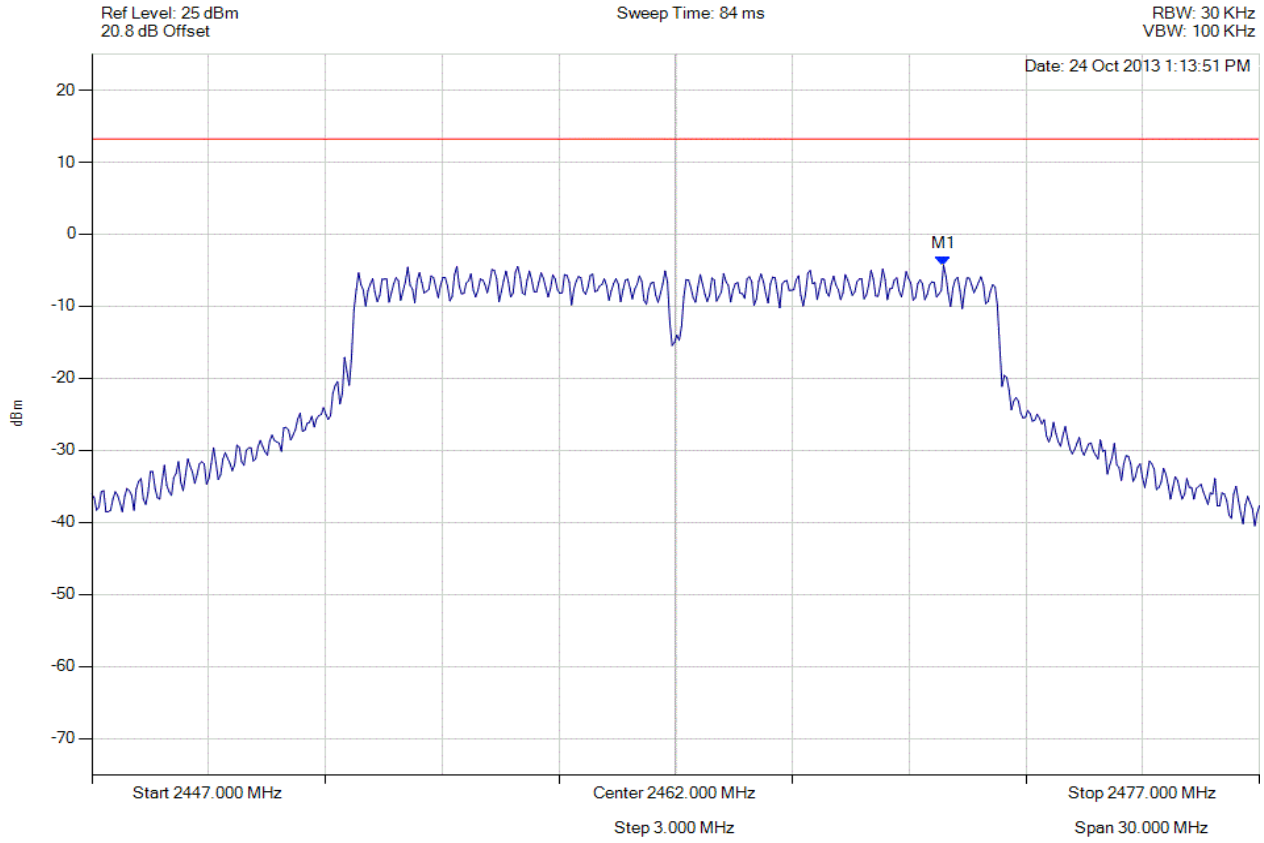



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2432.341 MHz : -2.900 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.13 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

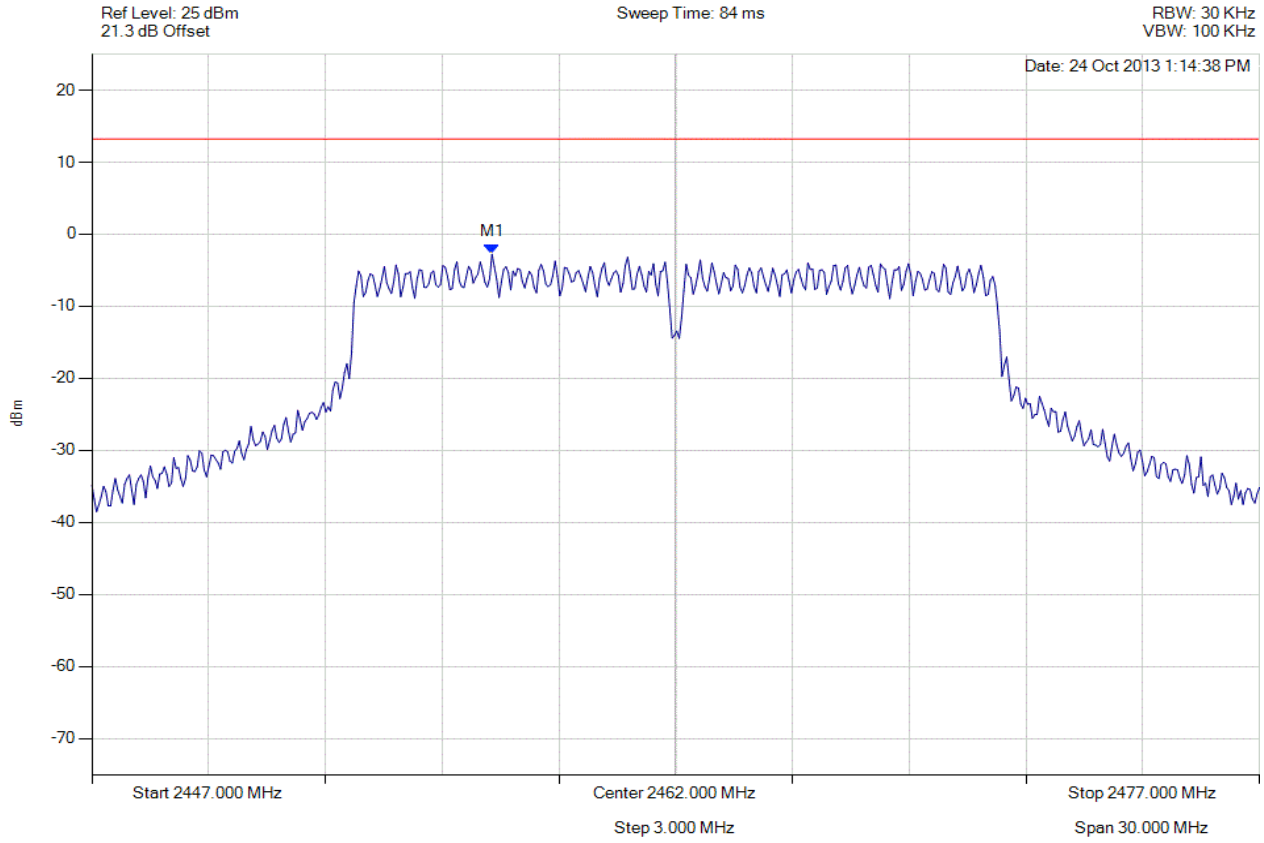



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2468.884 MHz : -4.313 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.54 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

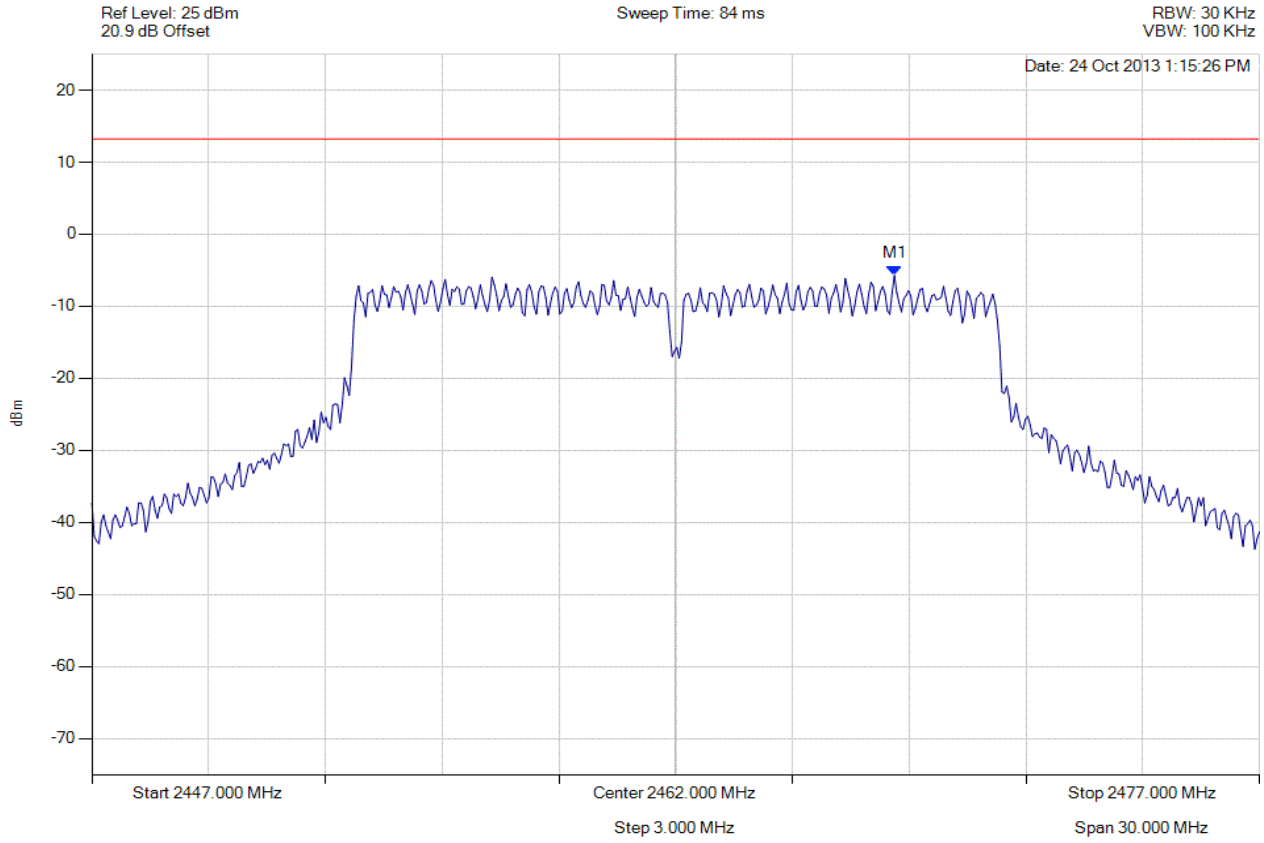



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2457.281 MHz : -2.771 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.00 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

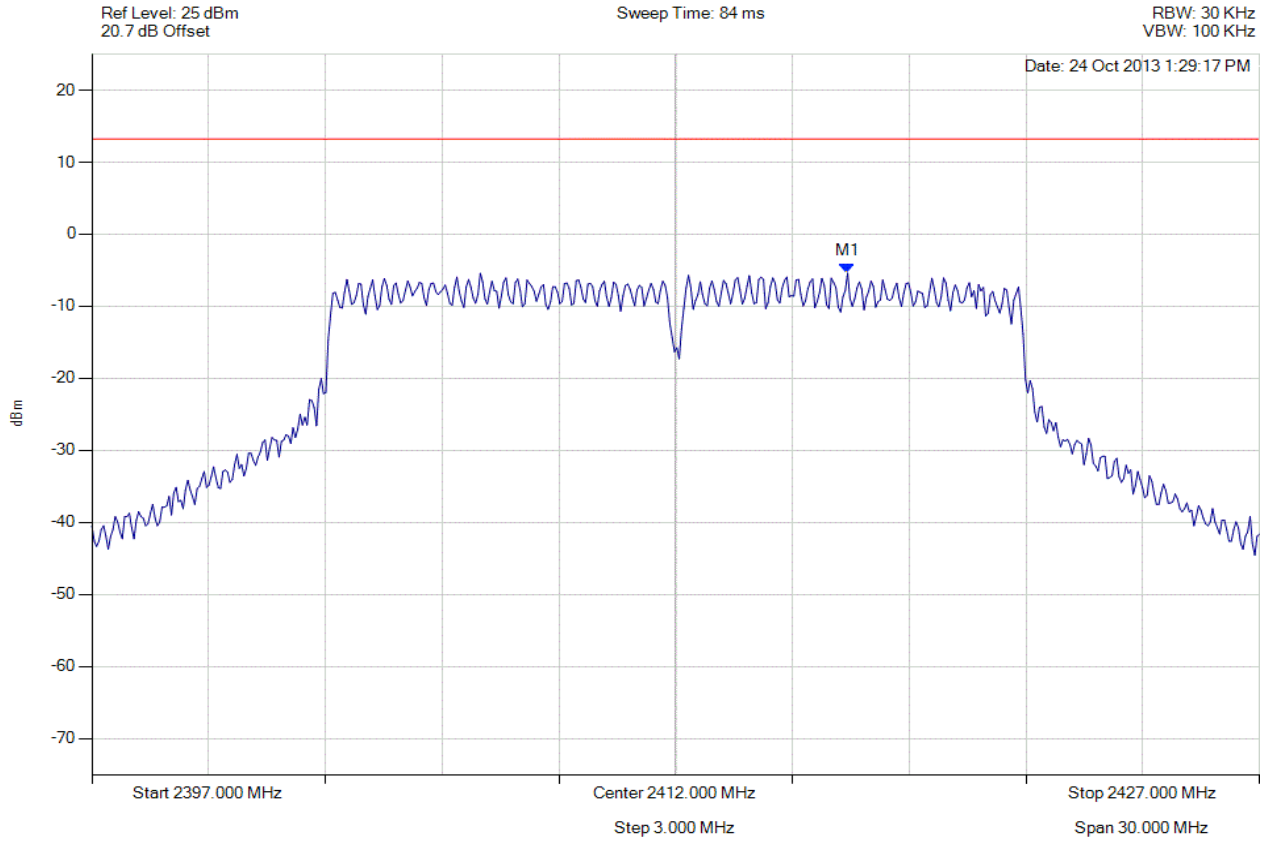



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2467.621 MHz : -5.719 dBm | Limit: ≤ 13.229 dBm<br>Margin: -18.95 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

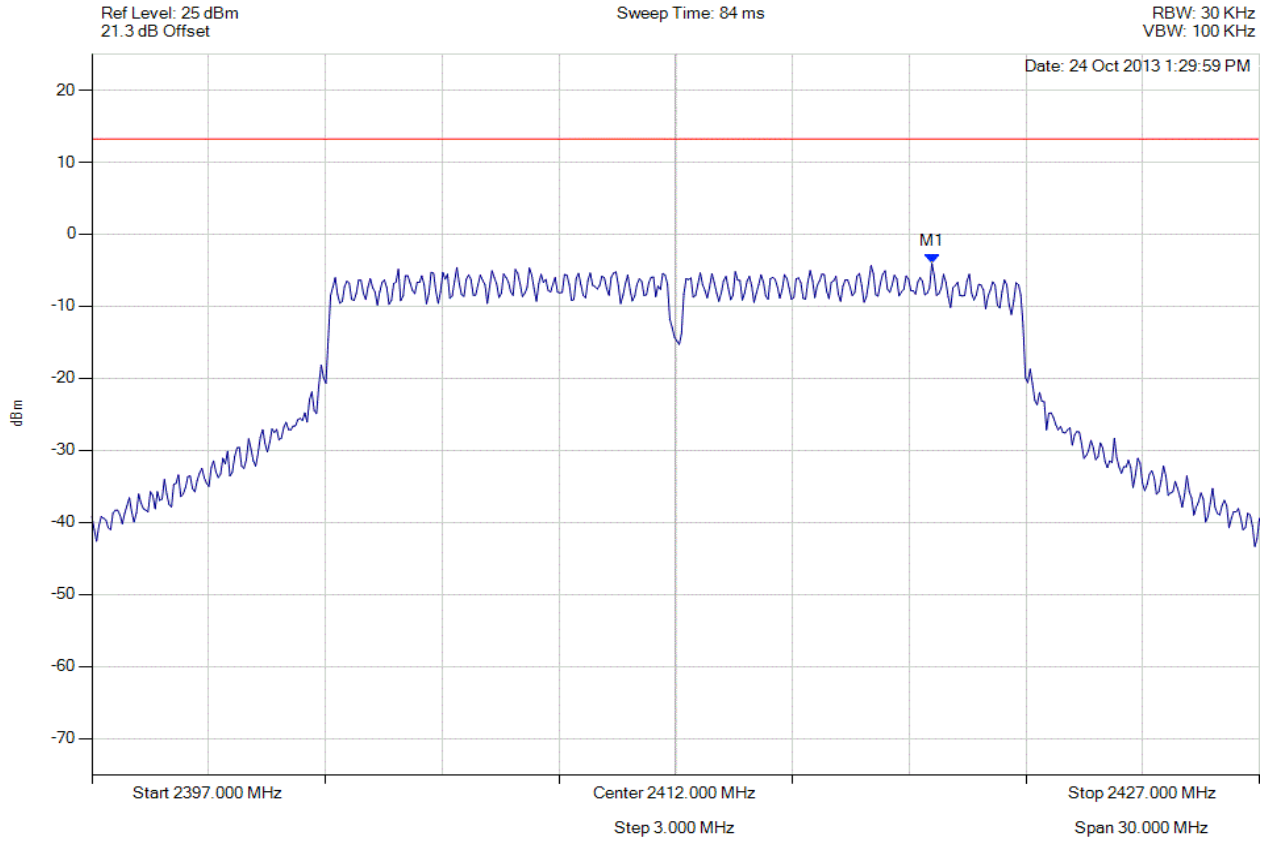



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2416.419 MHz : -5.412 dBm | Limit: ≤ 13.229 dBm<br>Margin: -18.64 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

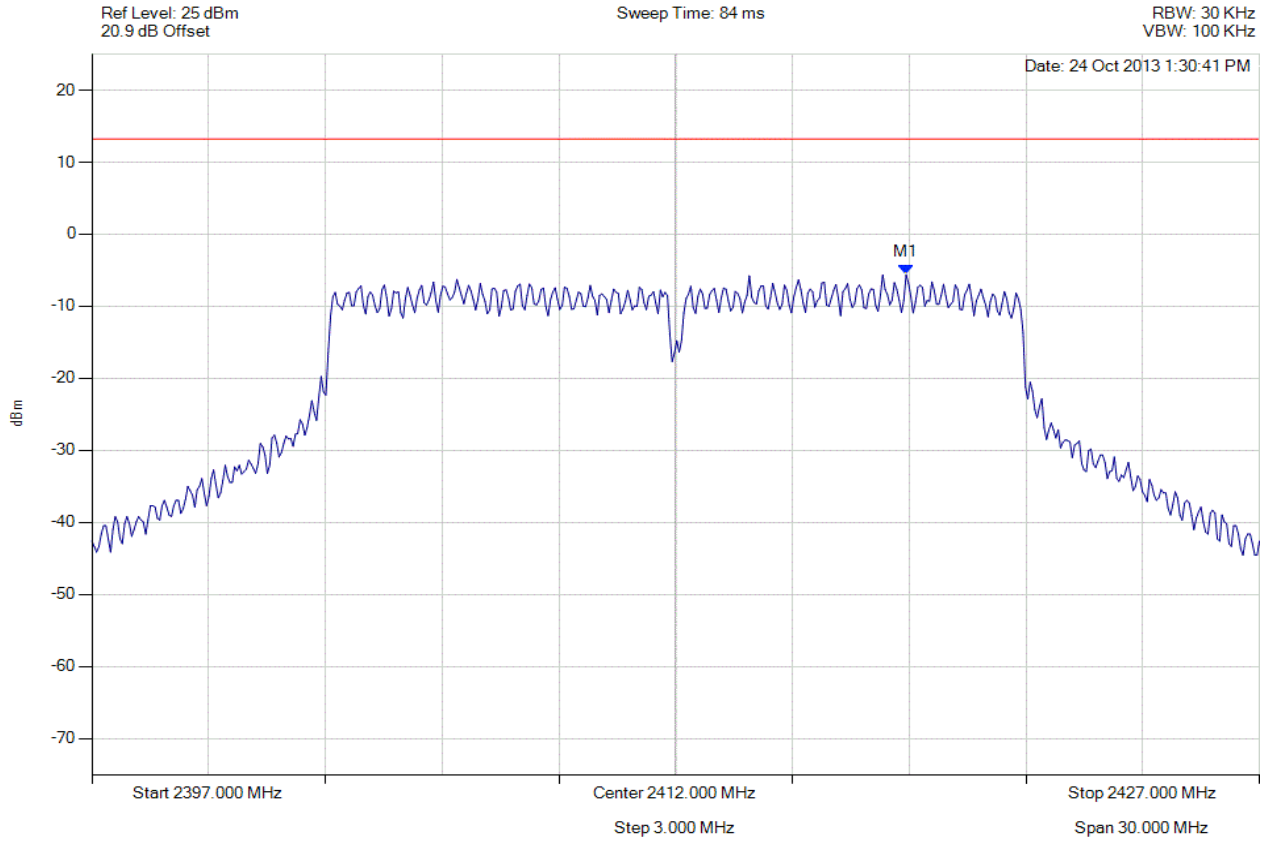



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2418.583 MHz : -4.047 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.28 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

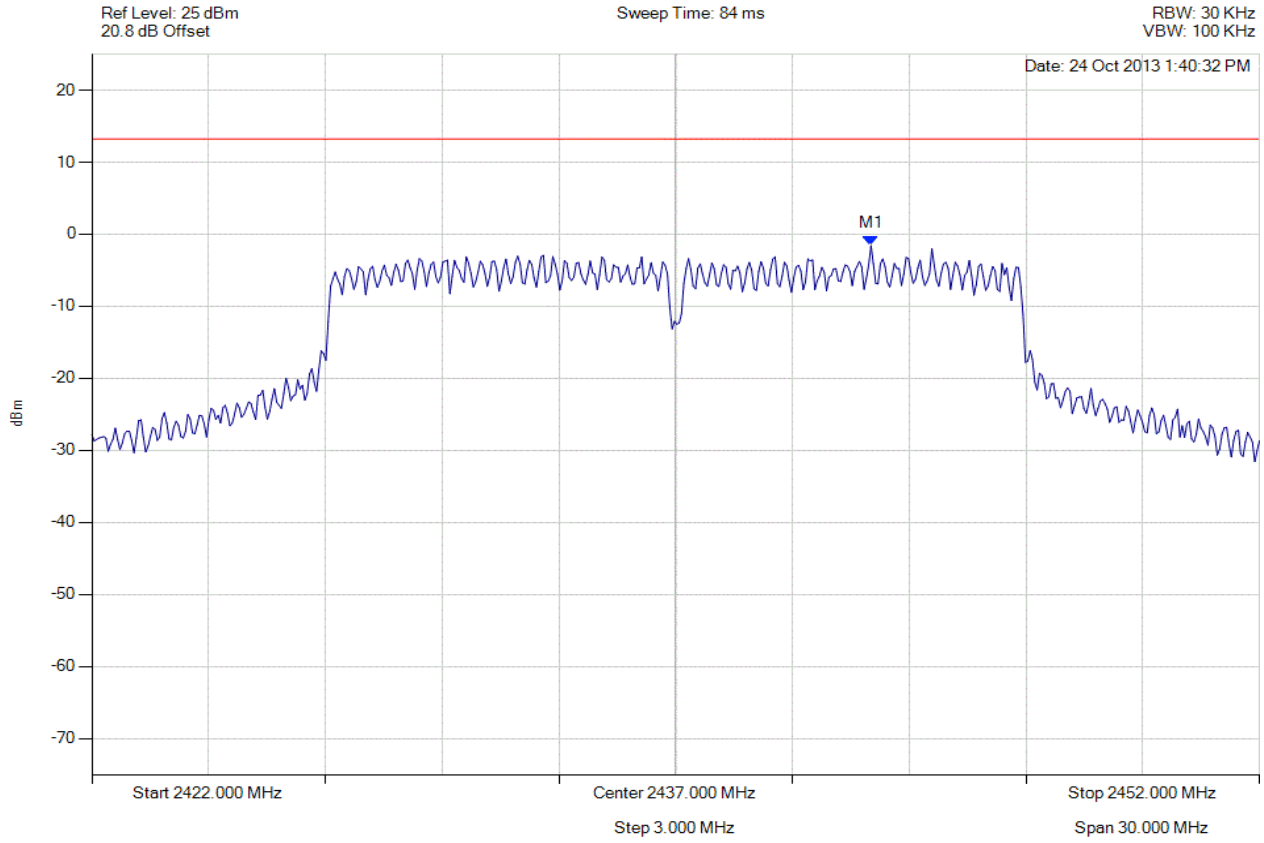



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2417.922 MHz : -5.606 dBm | Limit: ≤ 13.229 dBm<br>Margin: -18.84 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

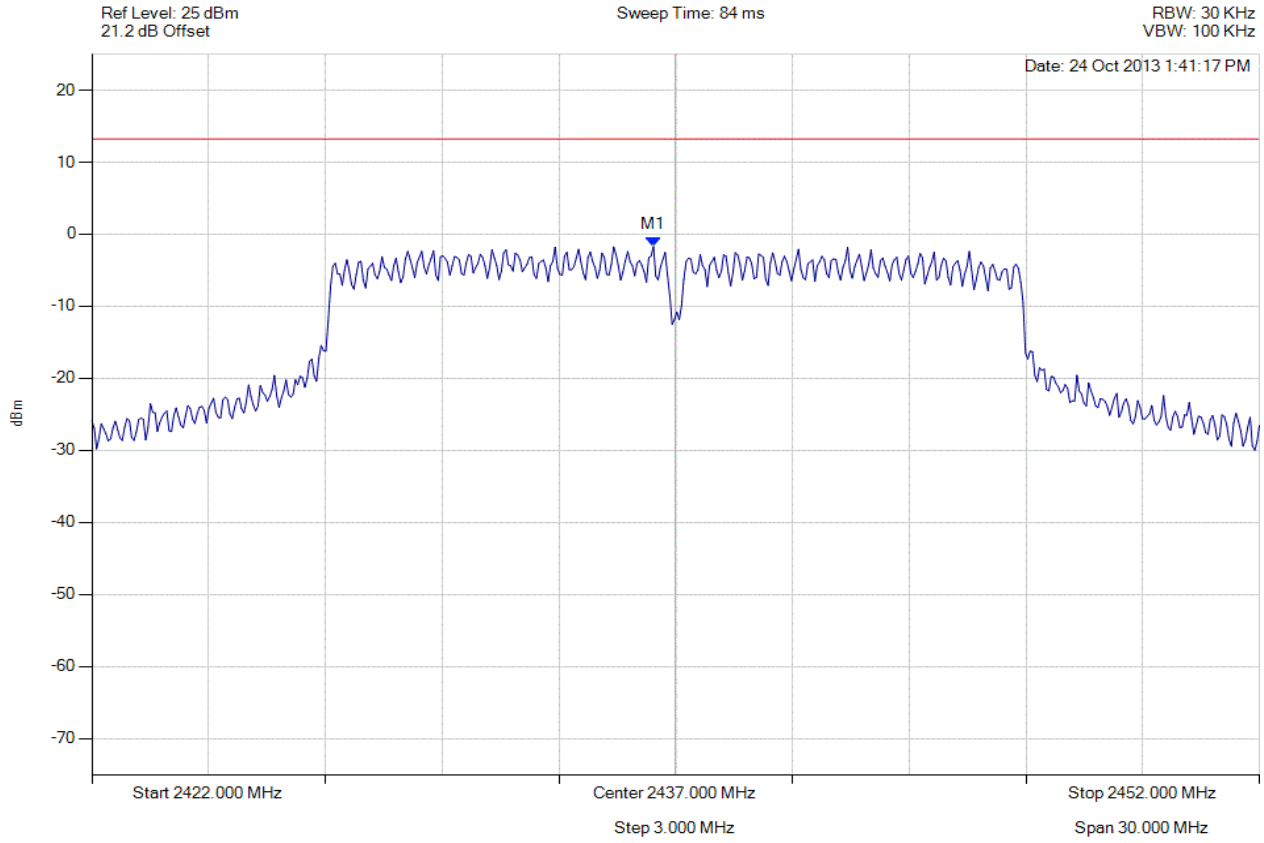



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2442.020 MHz : -1.585 dBm | Limit: ≤ 13.229 dBm<br>Margin: -14.82 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

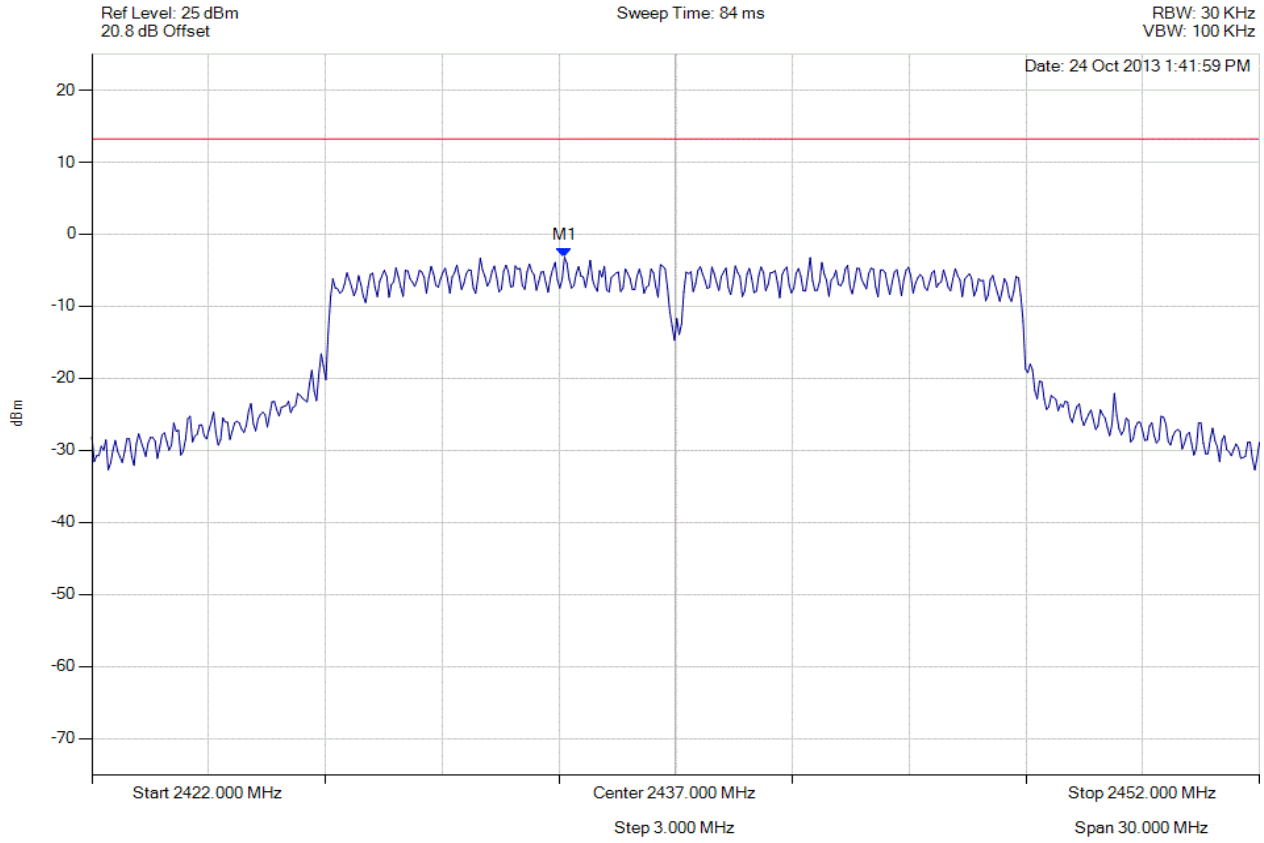



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2436.429 MHz : -1.703 dBm | Limit: ≤ 13.229 dBm<br>Margin: -14.93 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

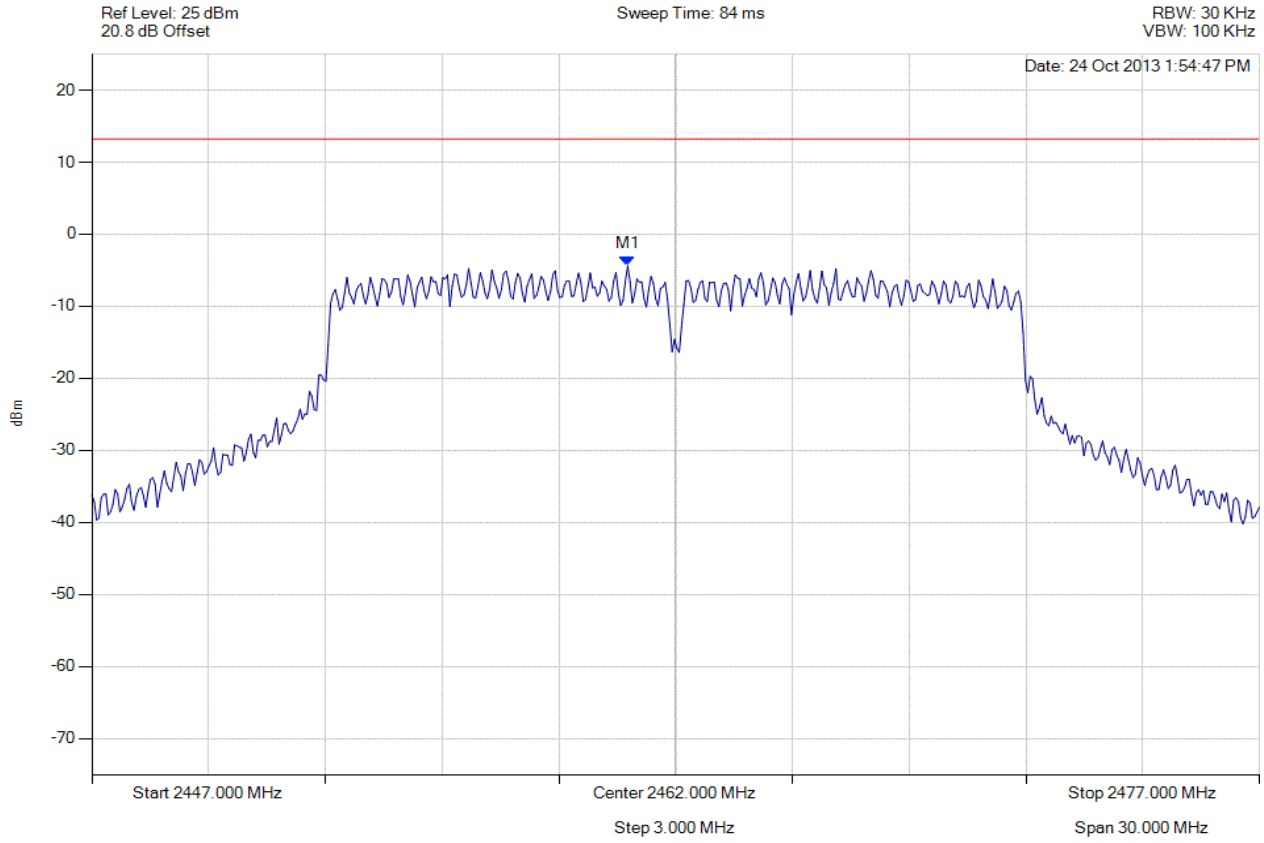



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2434.144 MHz : -3.211 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.44 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

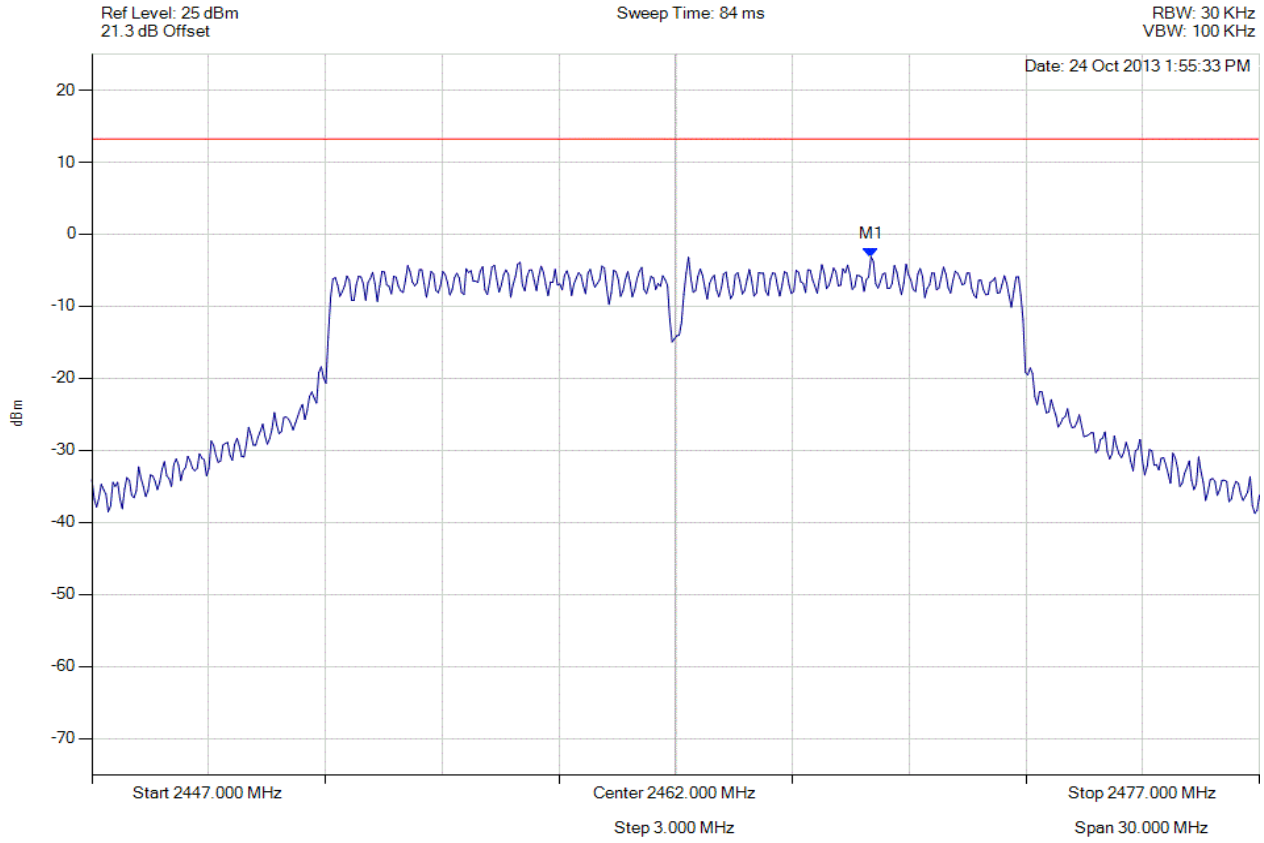



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2460.768 MHz : -4.390 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.62 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

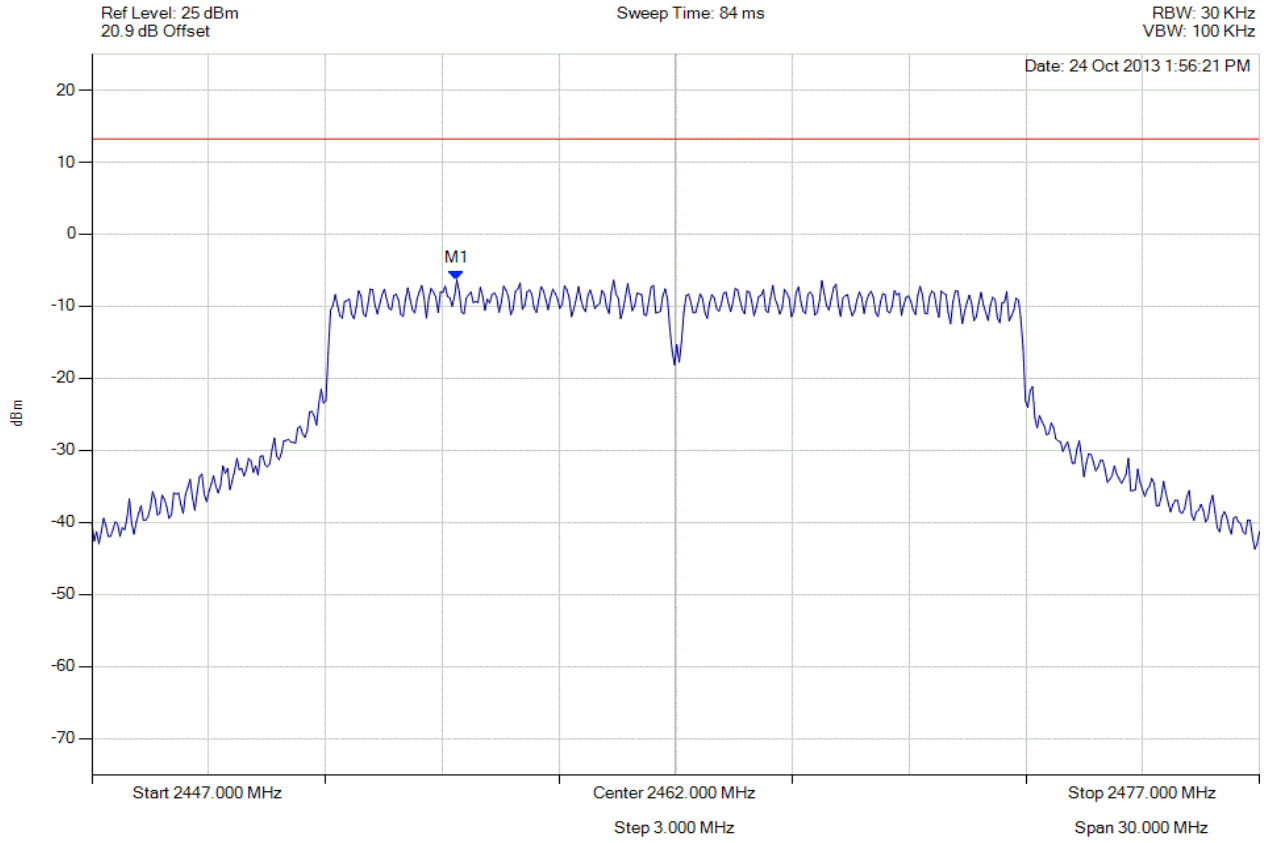



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2467.020 MHz : -3.114 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.34 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

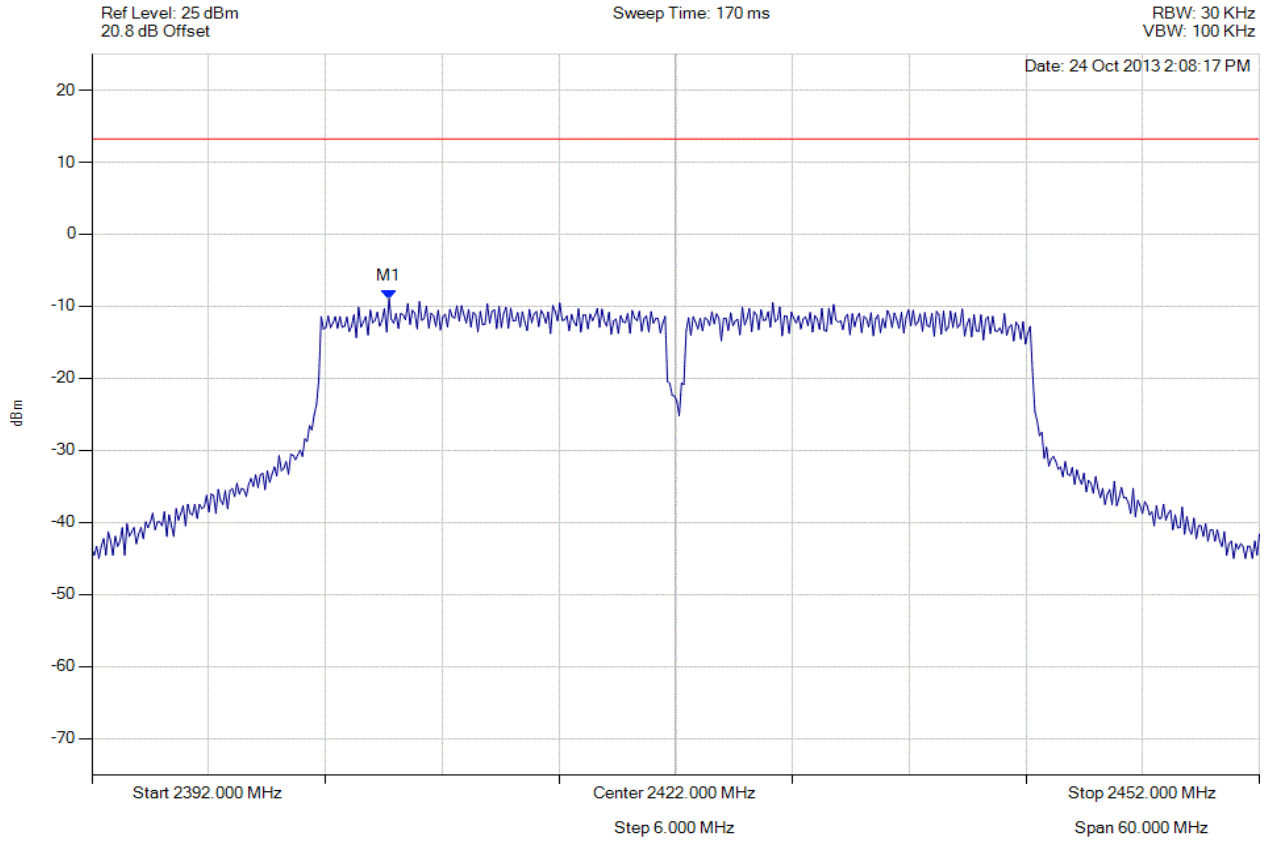



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2456.379 MHz : -6.348 dBm | Limit: ≤ 13.229 dBm<br>Margin: -19.58 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

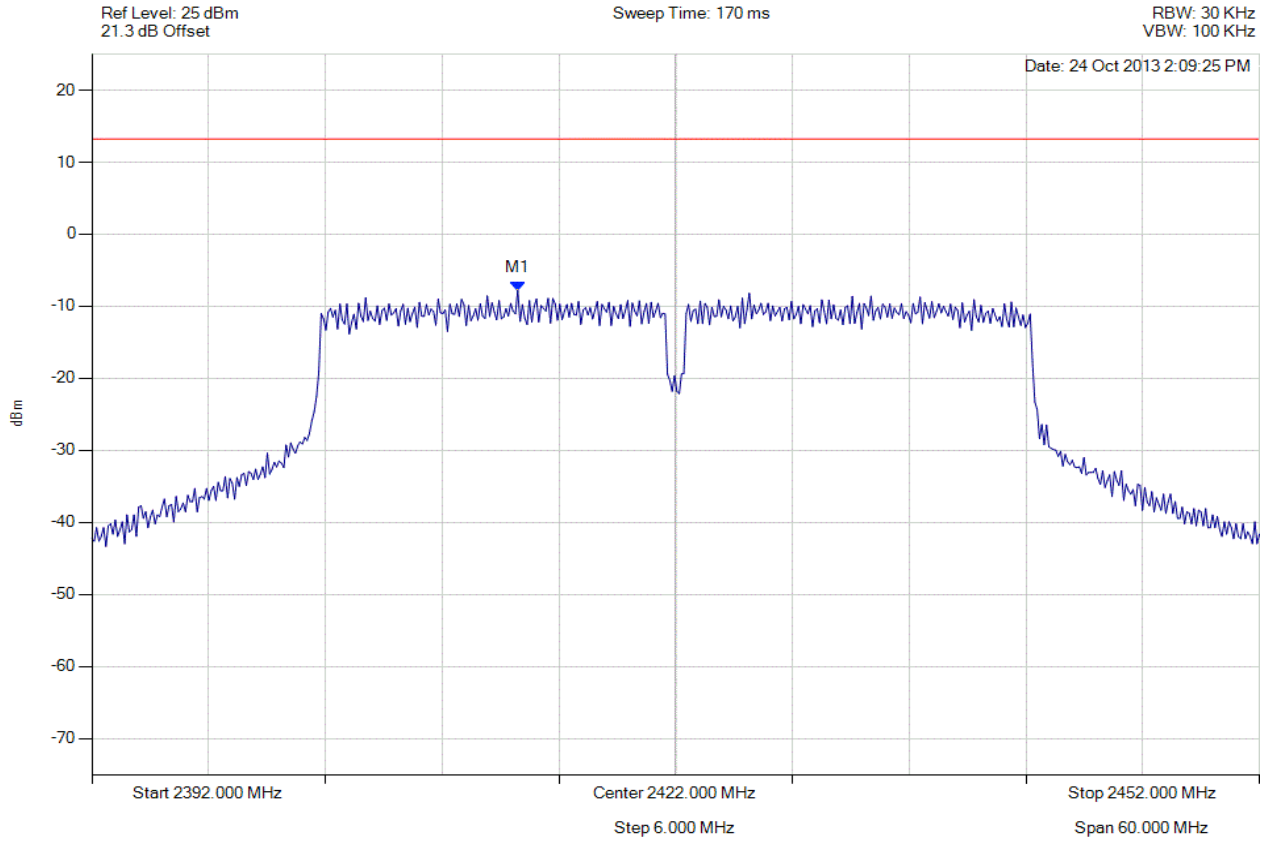



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2407.271 MHz : -8.953 dBm | Limit: ≤ 13.229 dBm<br>Margin: -22.18 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

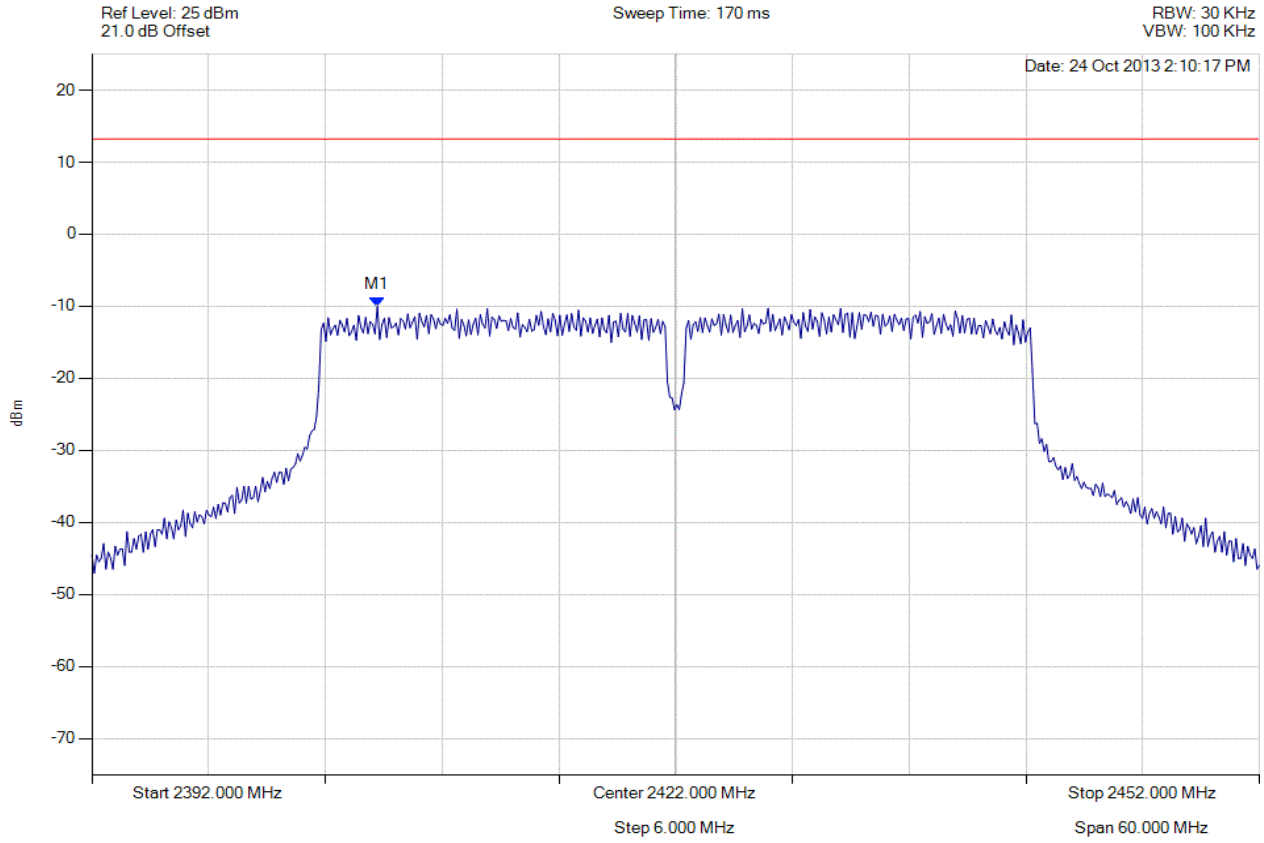



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2413.884 MHz : -7.787 dBm | Limit: ≤ 13.229 dBm<br>Margin: -21.02 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

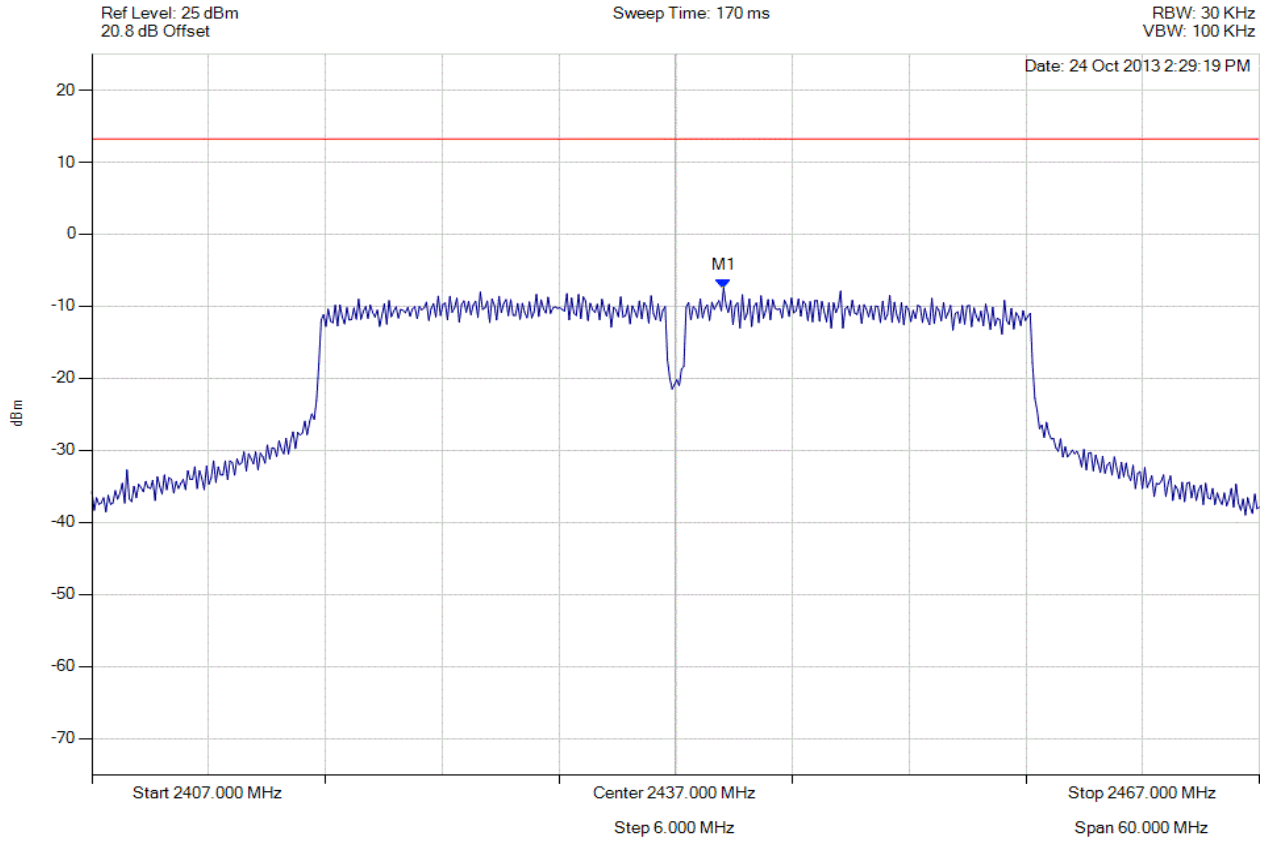



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2406.669 MHz : -10.027 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.26 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

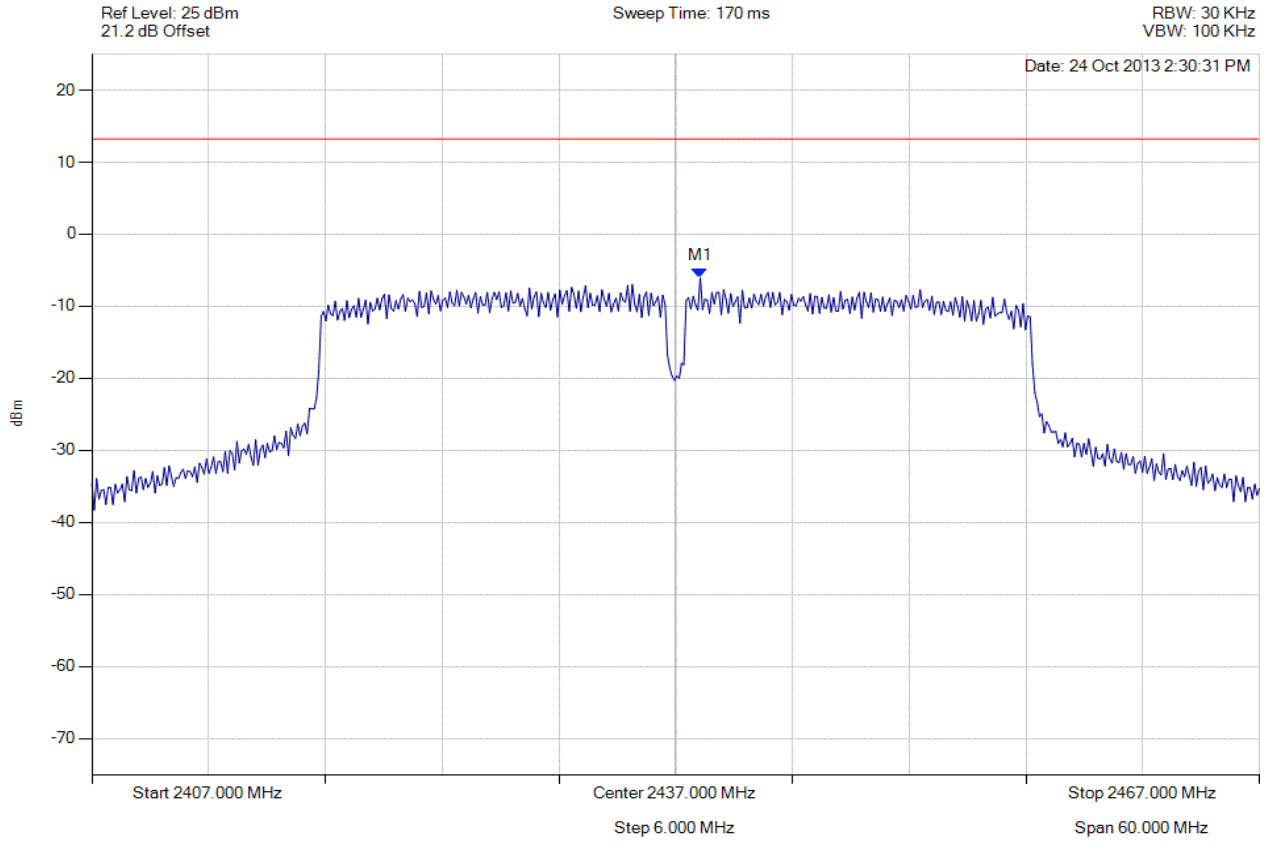



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2439.465 MHz : -7.459 dBm | Limit: ≤ 13.229 dBm<br>Margin: -20.69 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

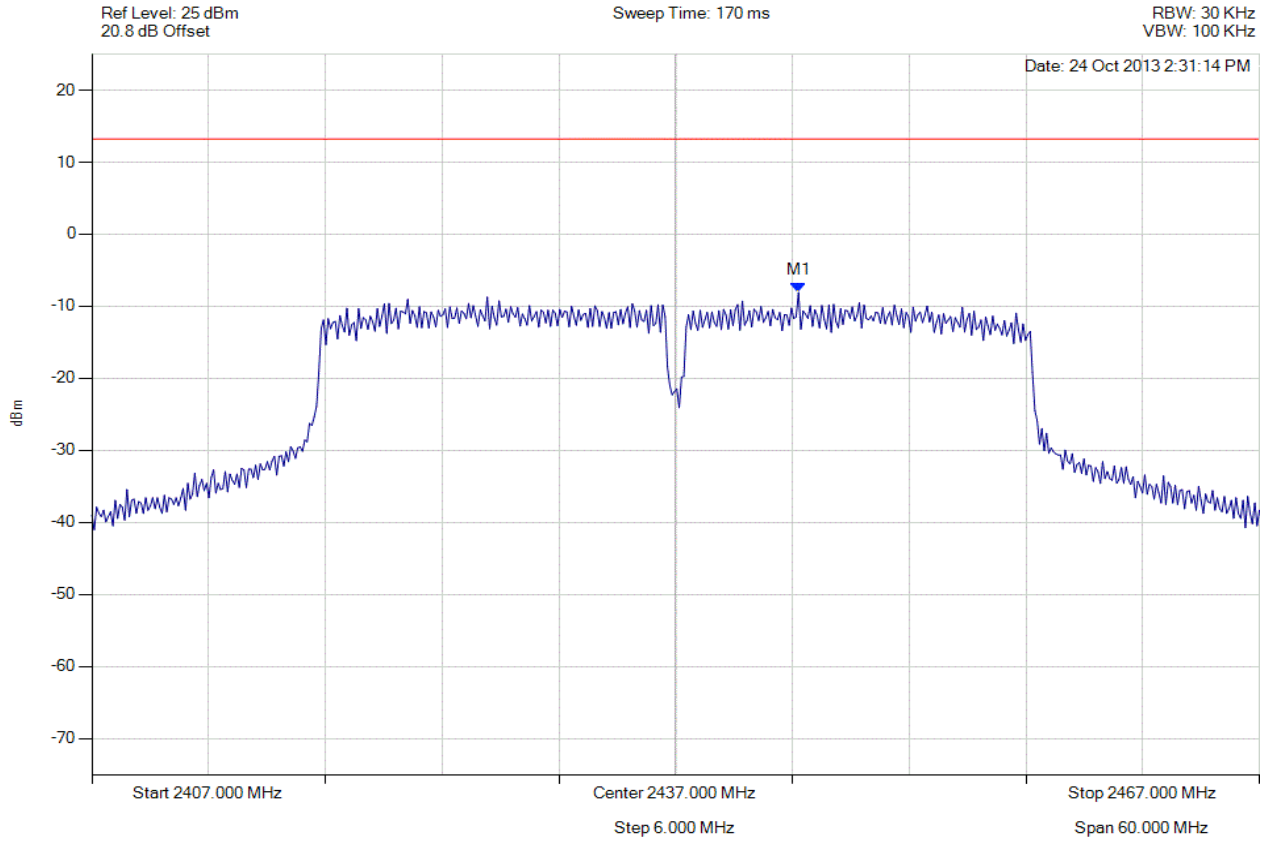



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2438.263 MHz : -6.080 dBm | Limit: ≤ 13.229 dBm<br>Margin: -19.31 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

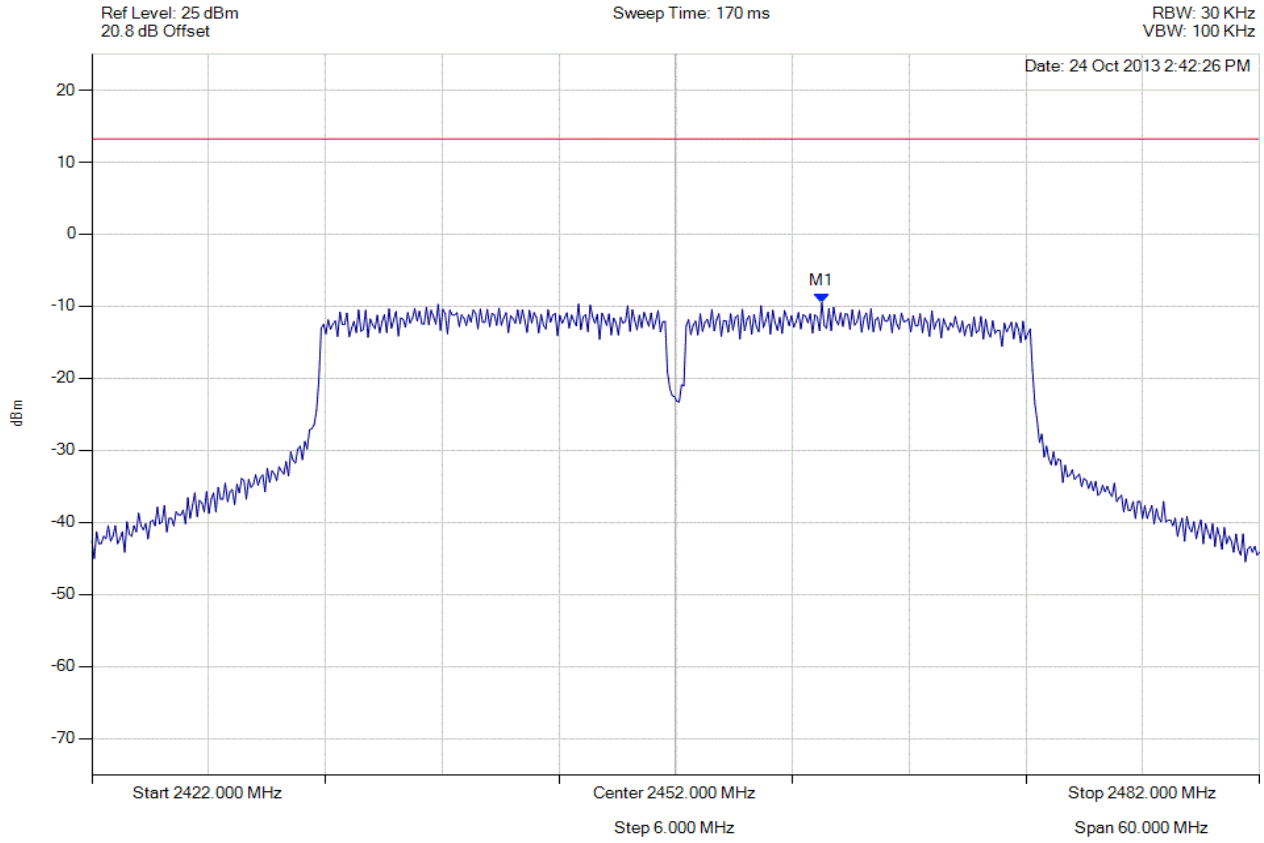



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2443.313 MHz : -8.095 dBm | Limit: ≤ 13.229 dBm<br>Margin: -21.33 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

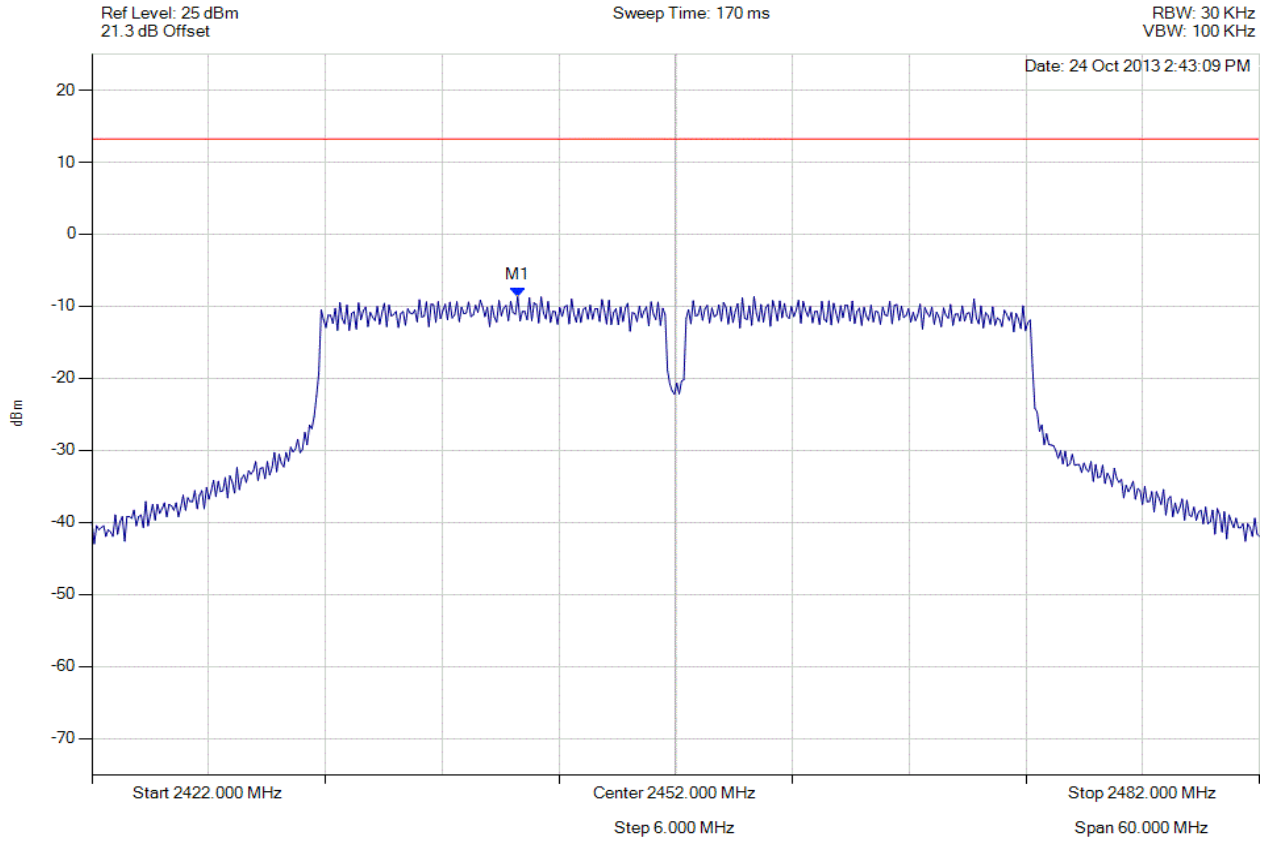



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2459.515 MHz : -9.511 dBm | Limit: ≤ 13.229 dBm<br>Margin: -22.74 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

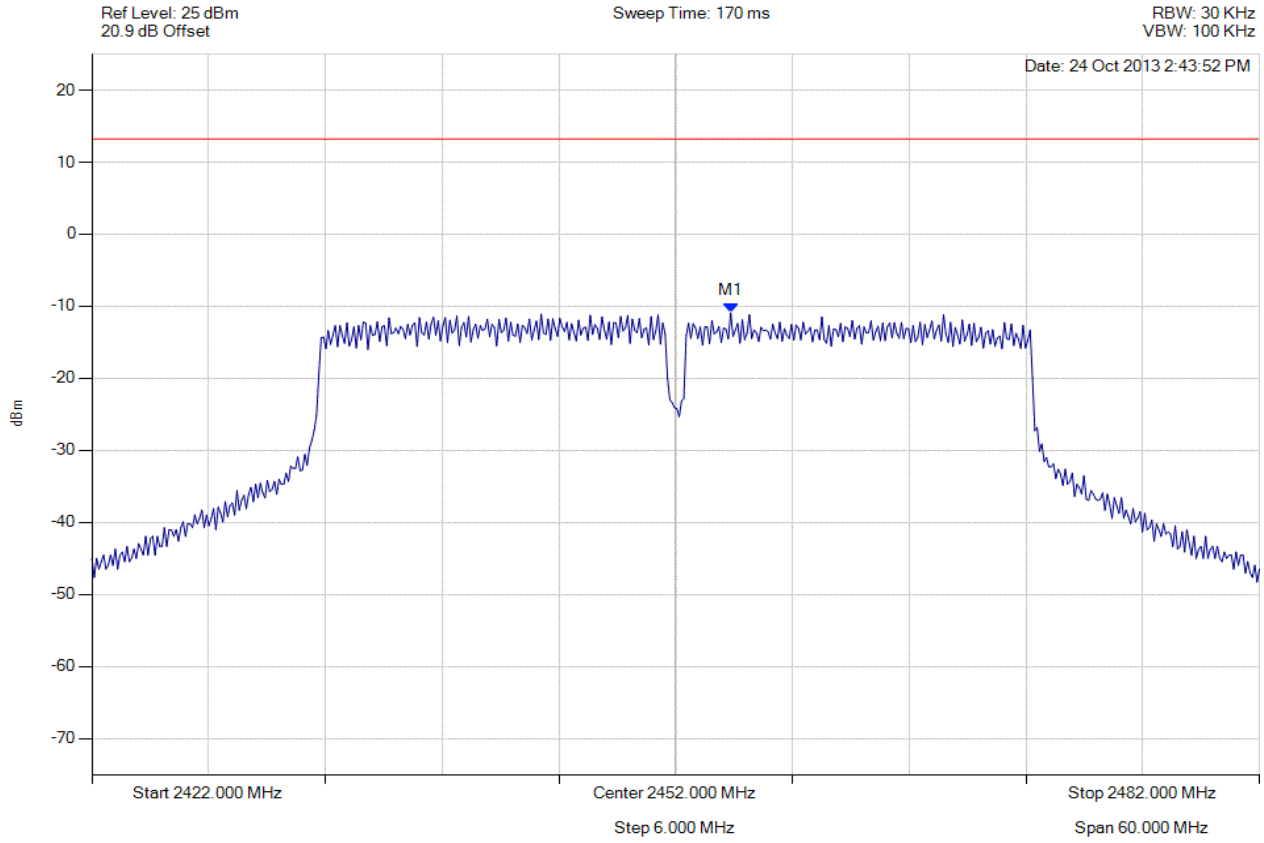



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2443.884 MHz : -8.676 dBm | Limit: ≤ 13.229 dBm<br>Margin: -21.91 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

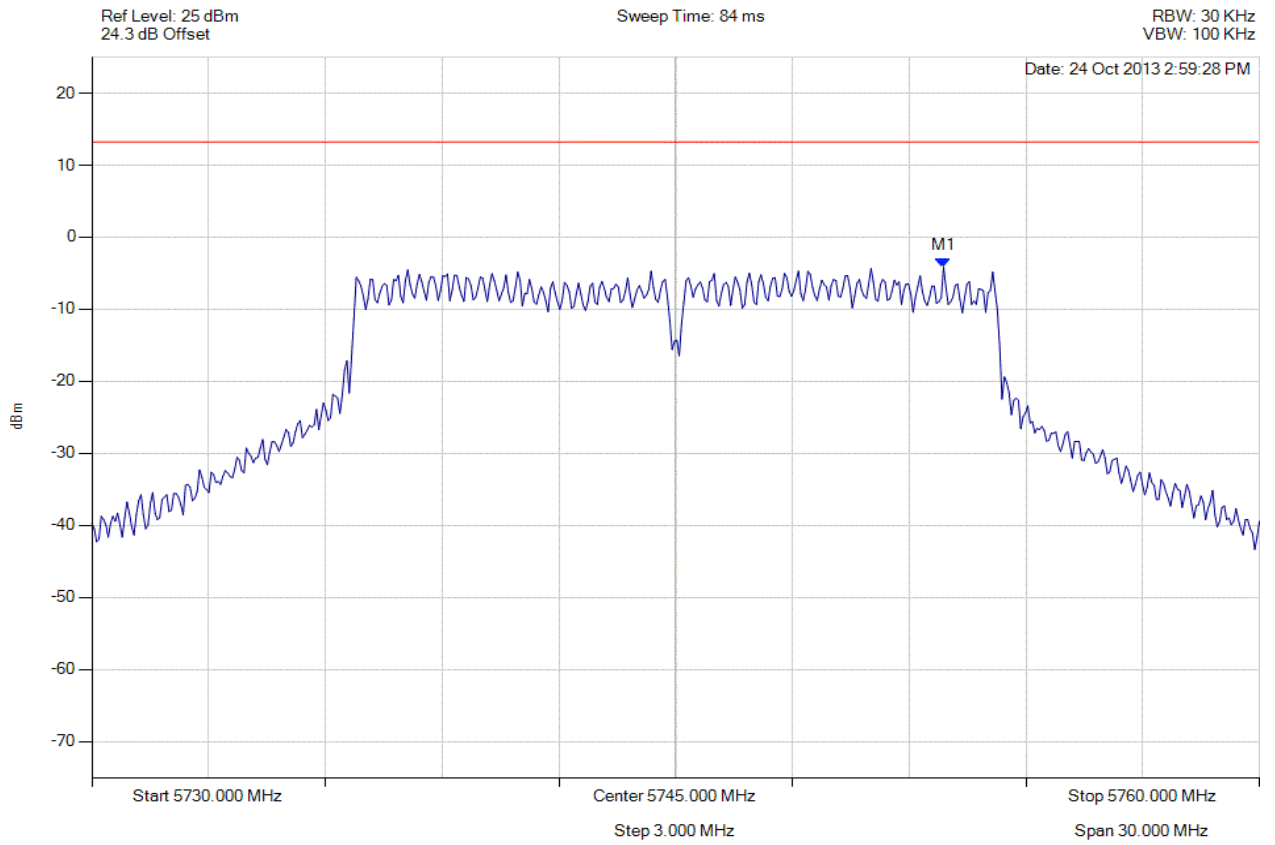



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 2454.826 MHz : -10.920 dBm | Limit: ≤ 13.229 dBm<br>Margin: -24.15 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

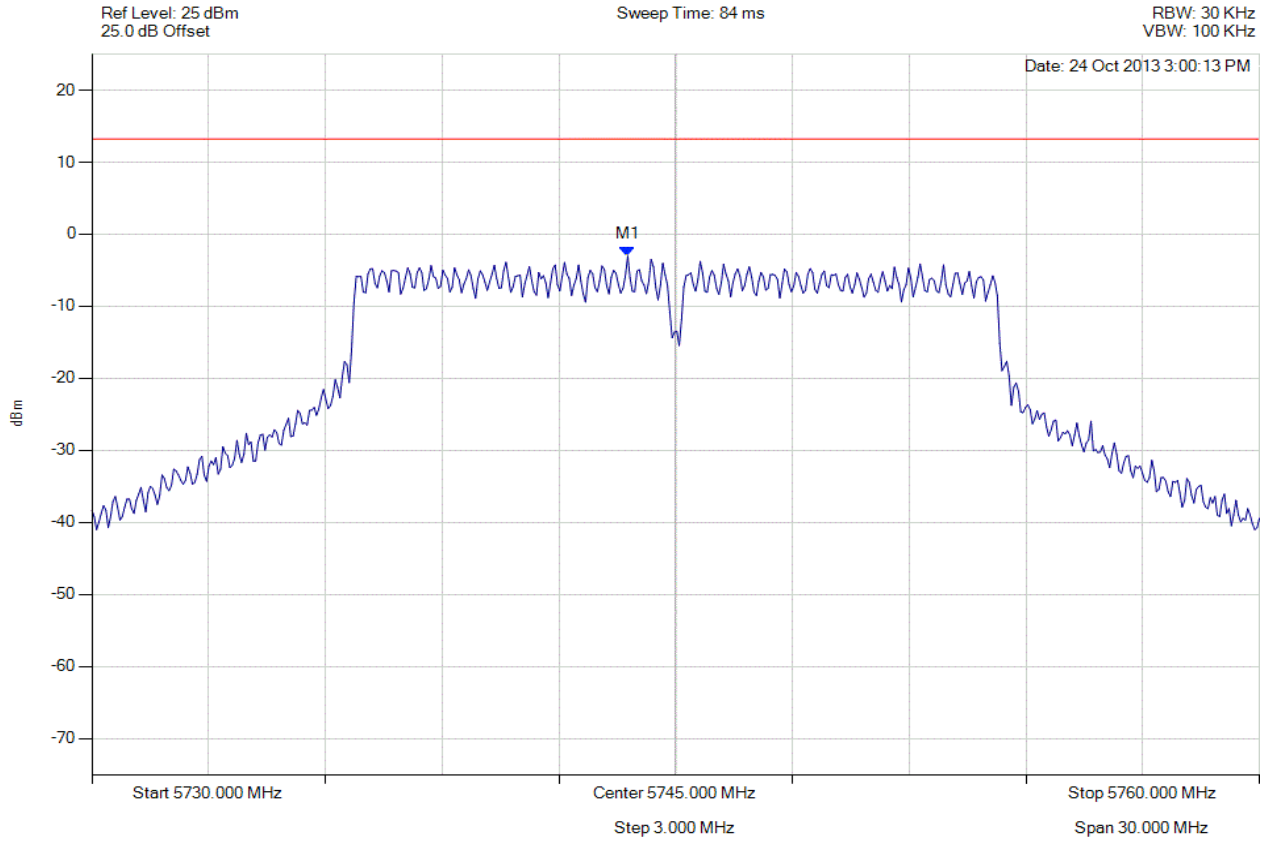



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5751.884 MHz : -4.138 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.37 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

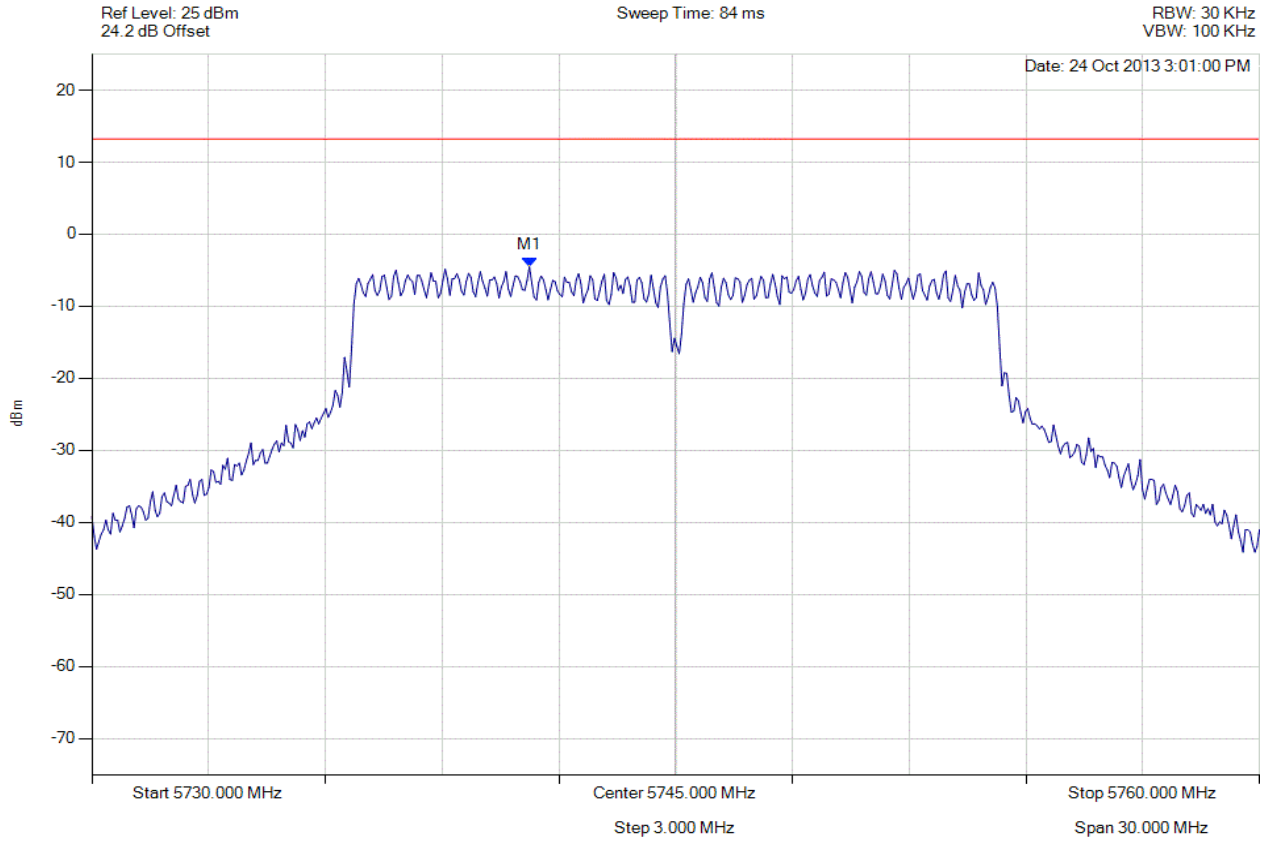



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5743.768 MHz : -3.045 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.27 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

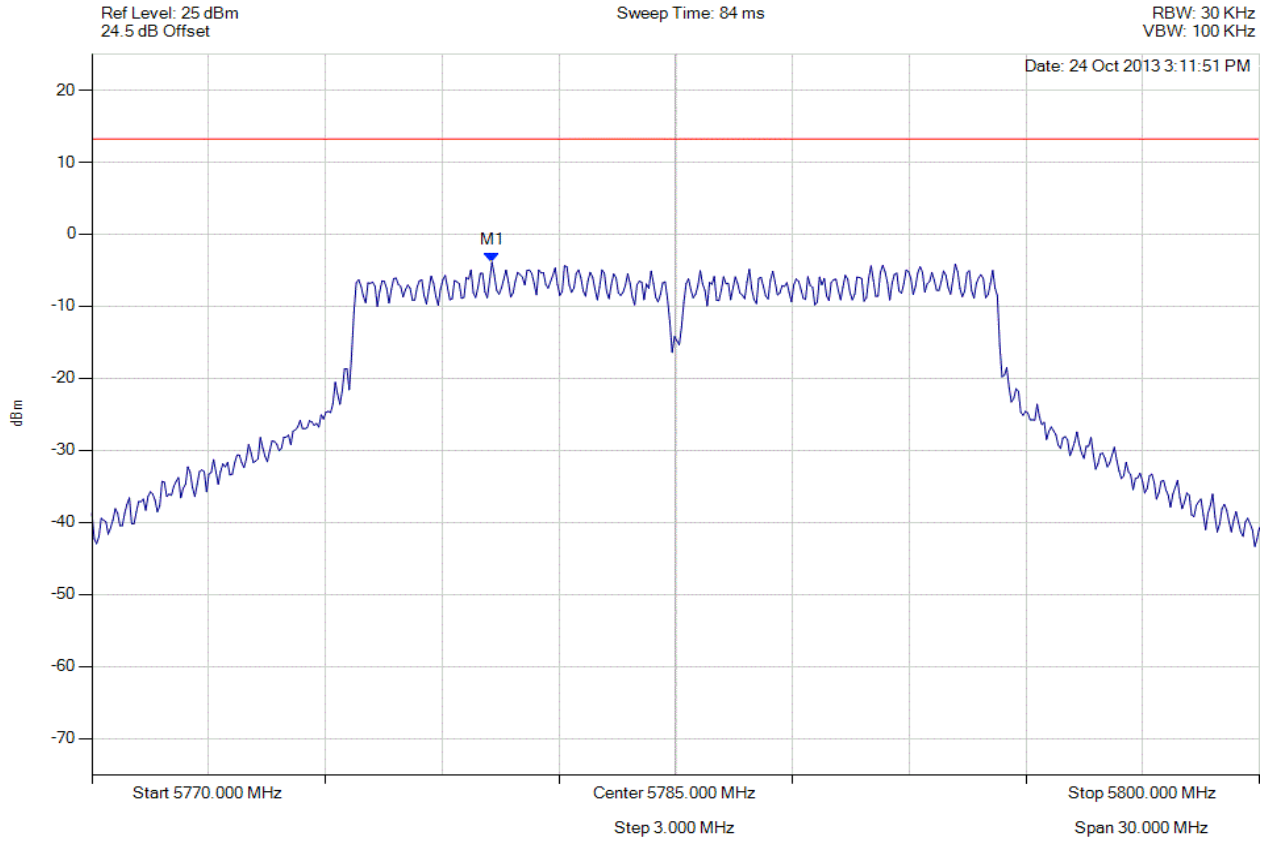



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5741.242 MHz : -4.527 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.76 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

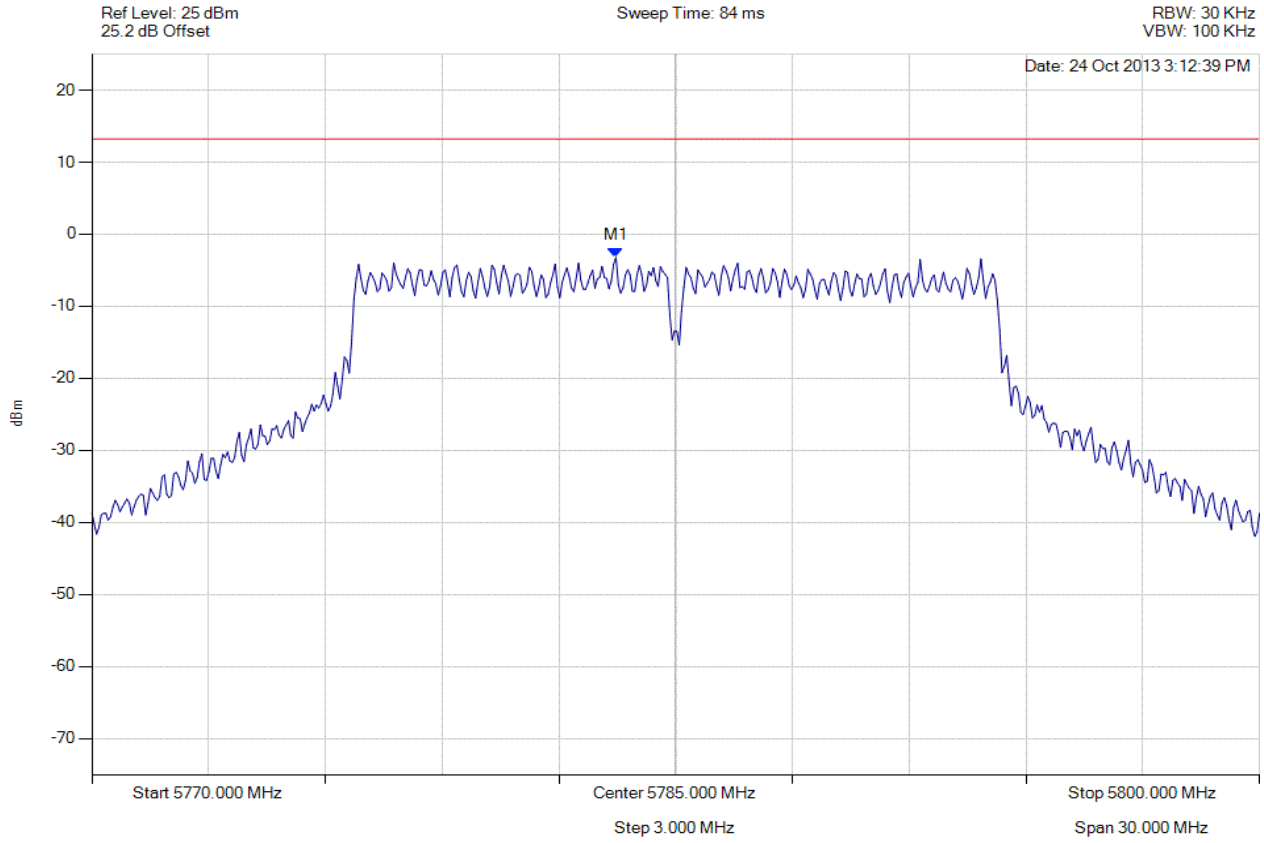



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5780.281 MHz : -3.880 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.11 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

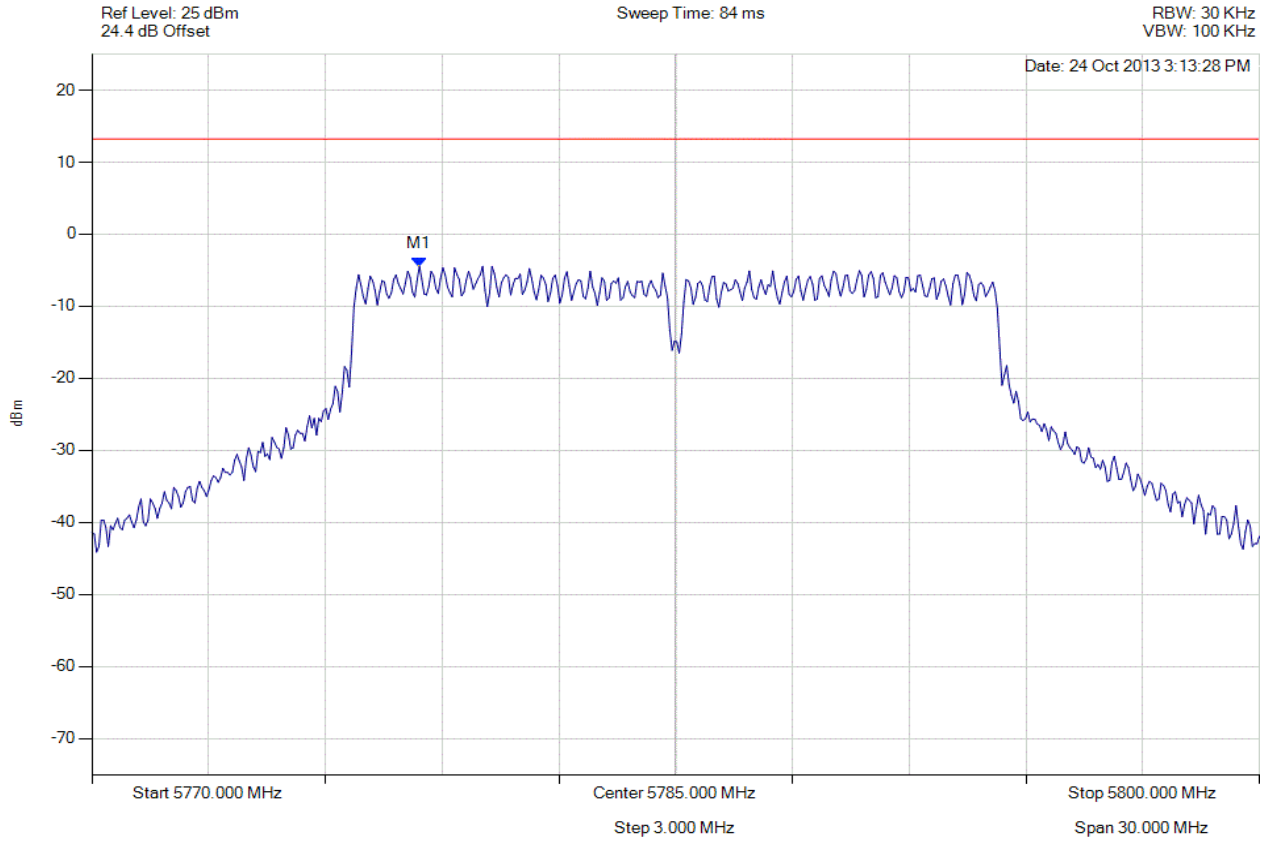



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5783.467 MHz : -3.233 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.46 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

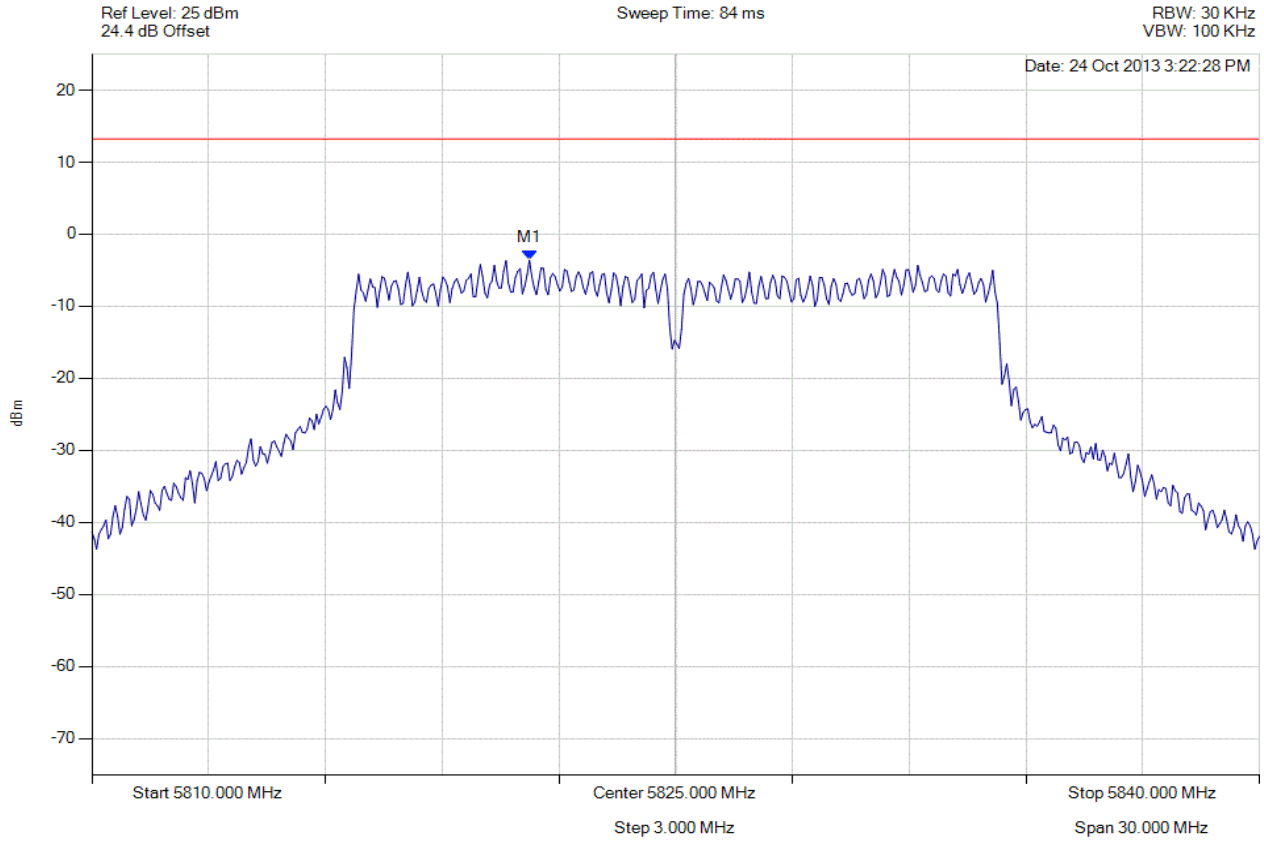



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5778.417 MHz : -4.454 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.68 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

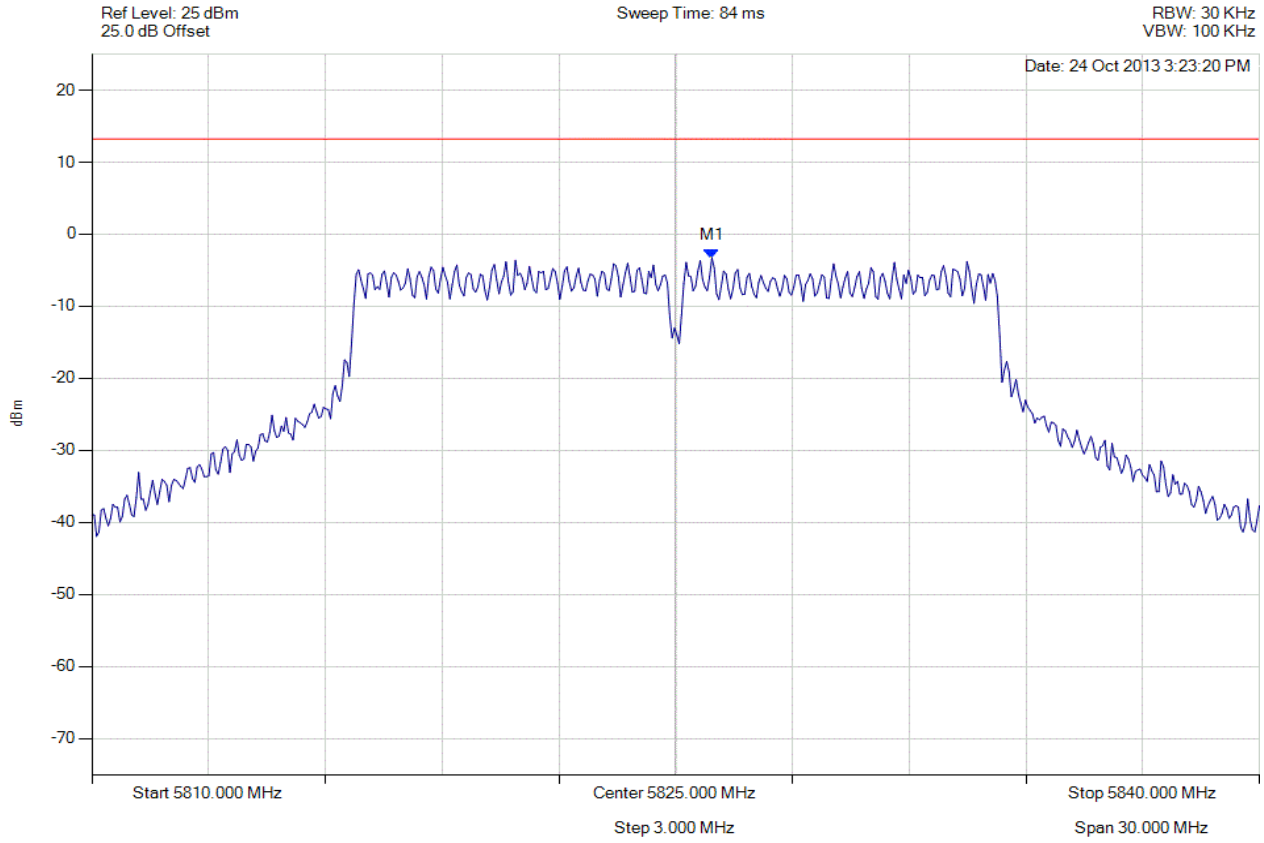



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5821.242 MHz : -3.588 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.82 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

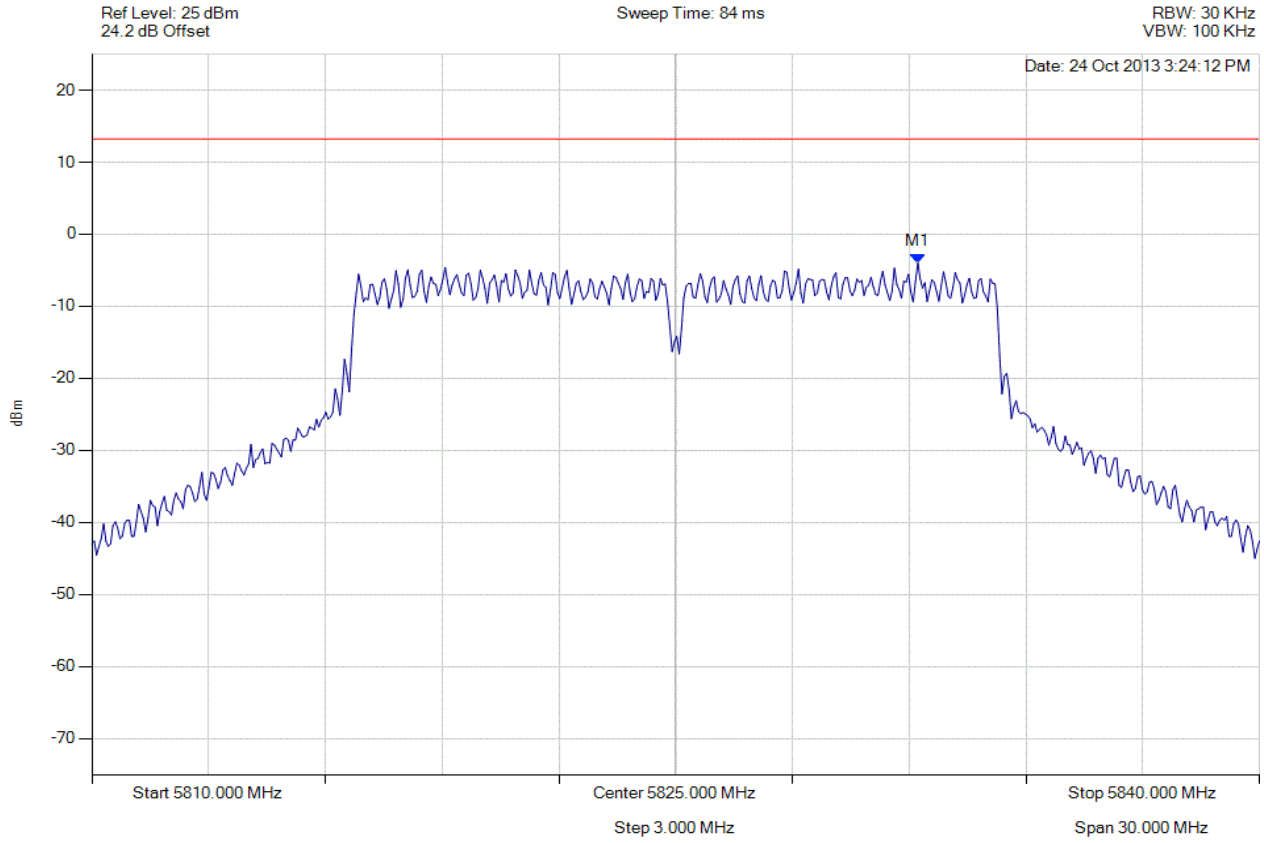



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5825.932 MHz : -3.293 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.52 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11a, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

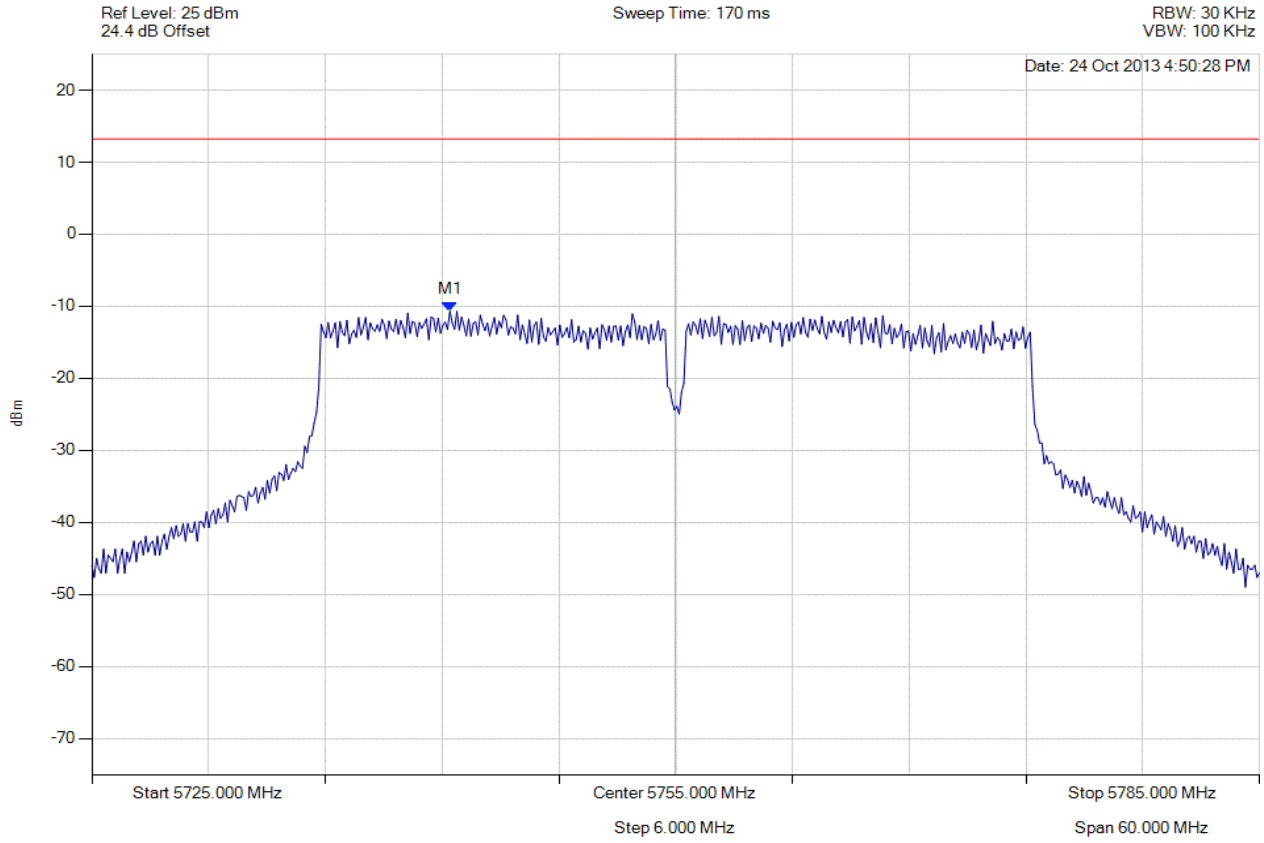



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5831.222 MHz : -3.990 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.22 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

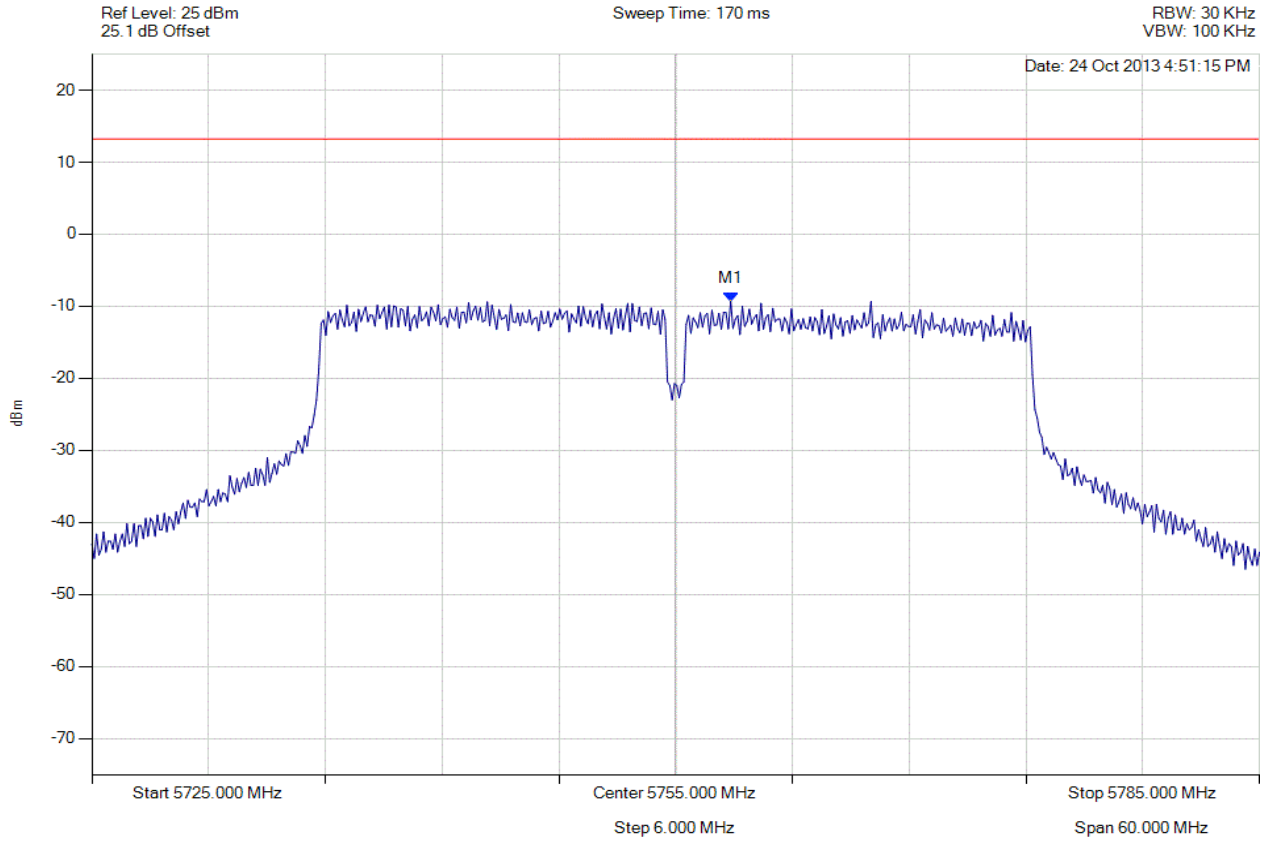



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5743.397 MHz : -10.697 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.93 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

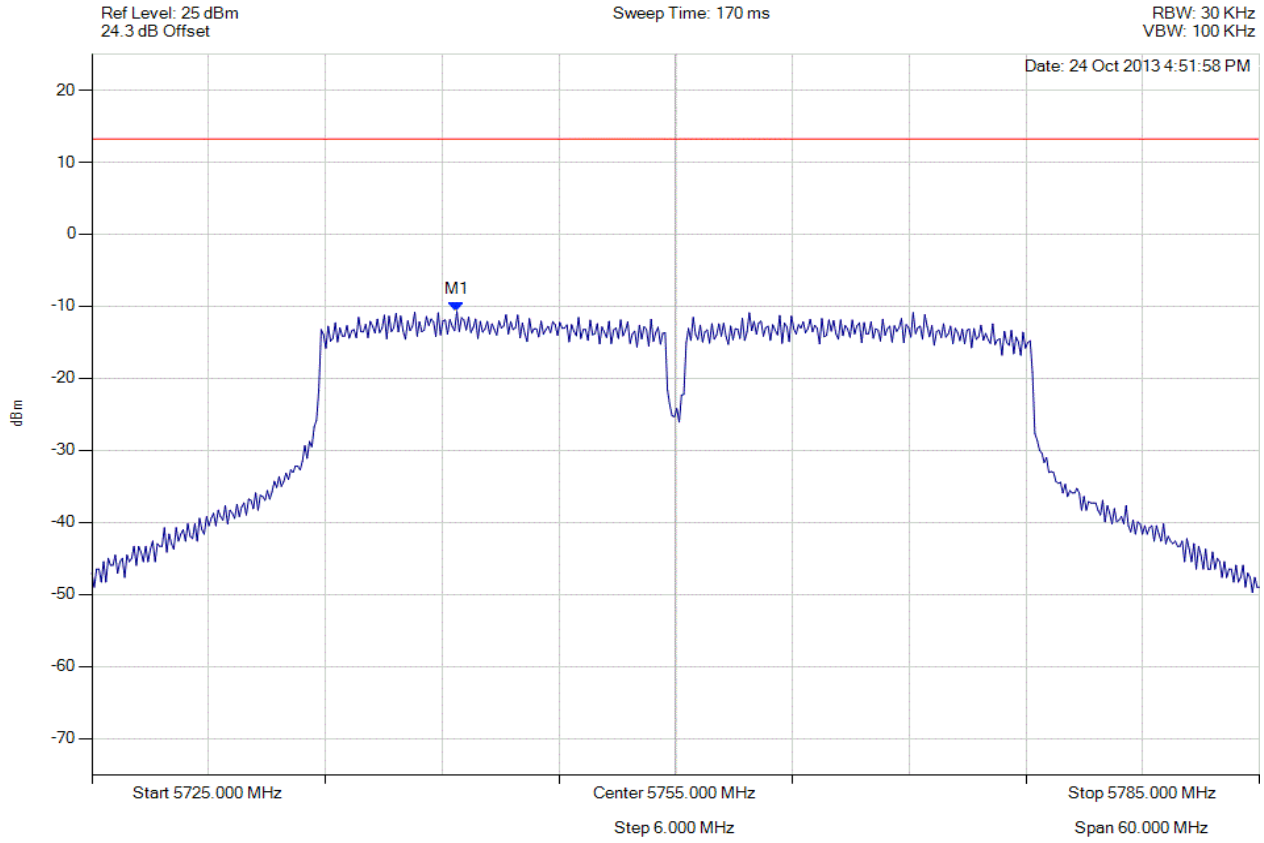



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5757.826 MHz : -9.299 dBm | Limit: ≤ 13.229 dBm<br>Margin: -22.53 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

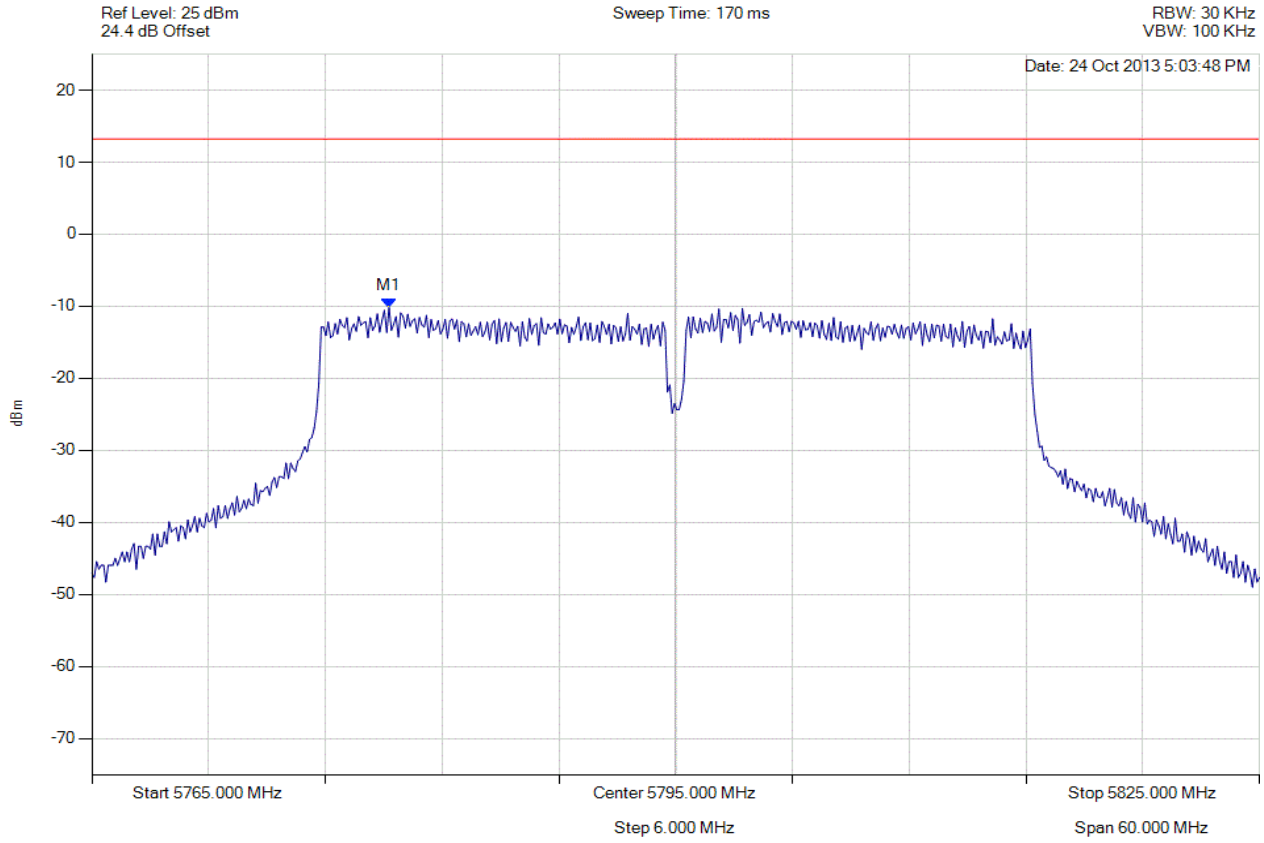



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5743.758 MHz : -10.732 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.96 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

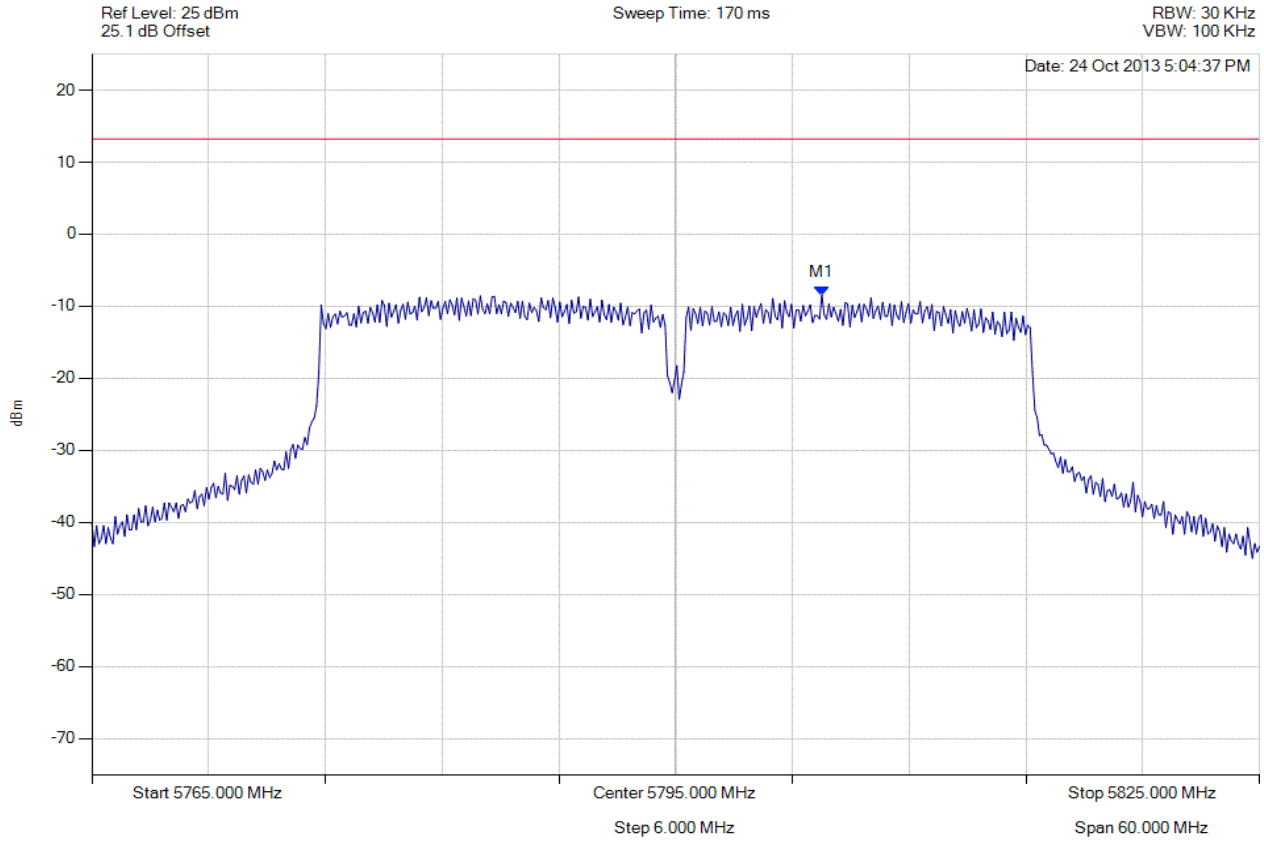



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5780.271 MHz : -10.183 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.41 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

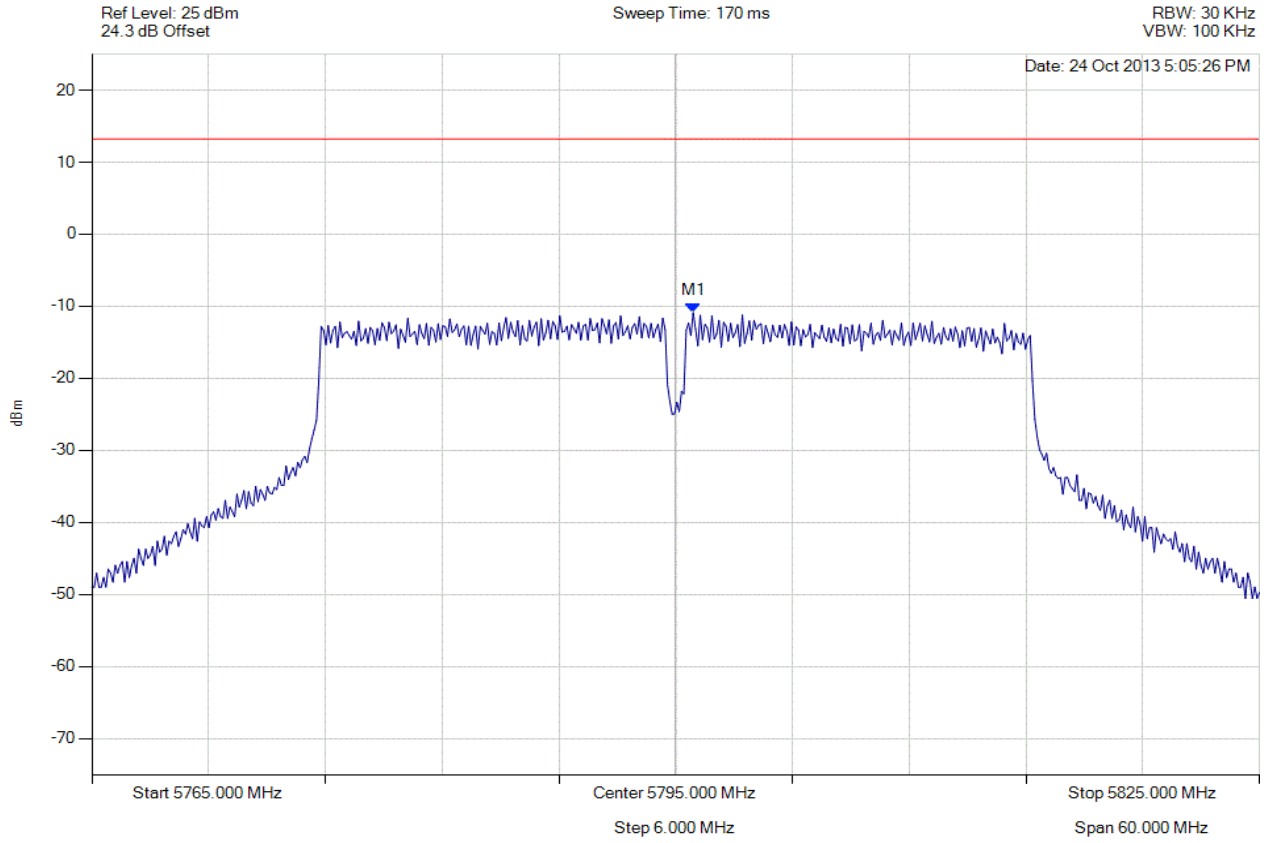



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5802.515 MHz : -8.455 dBm | Limit: ≤ 13.229 dBm<br>Margin: -21.69 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

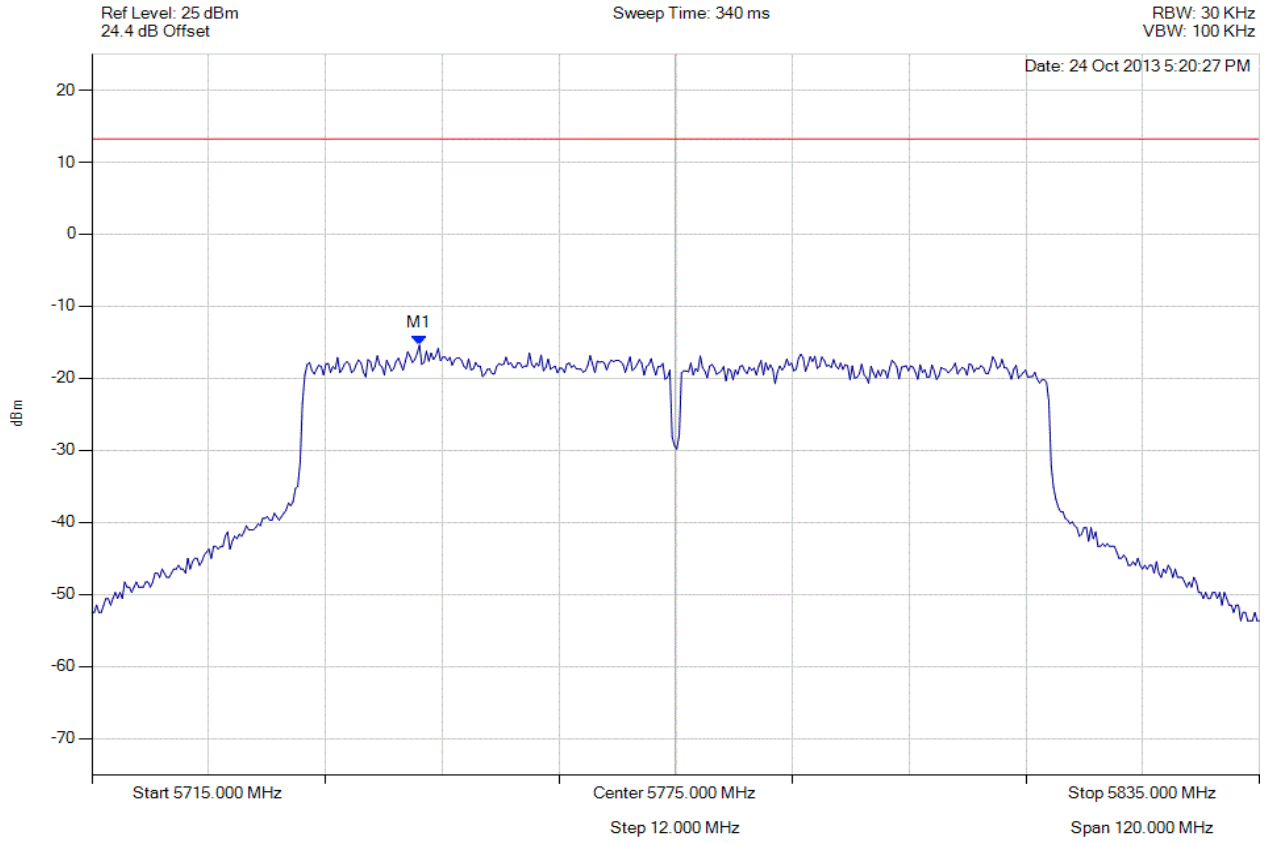



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5795.902 MHz : -10.884 dBm | Limit: ≤ 13.229 dBm<br>Margin: -24.11 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

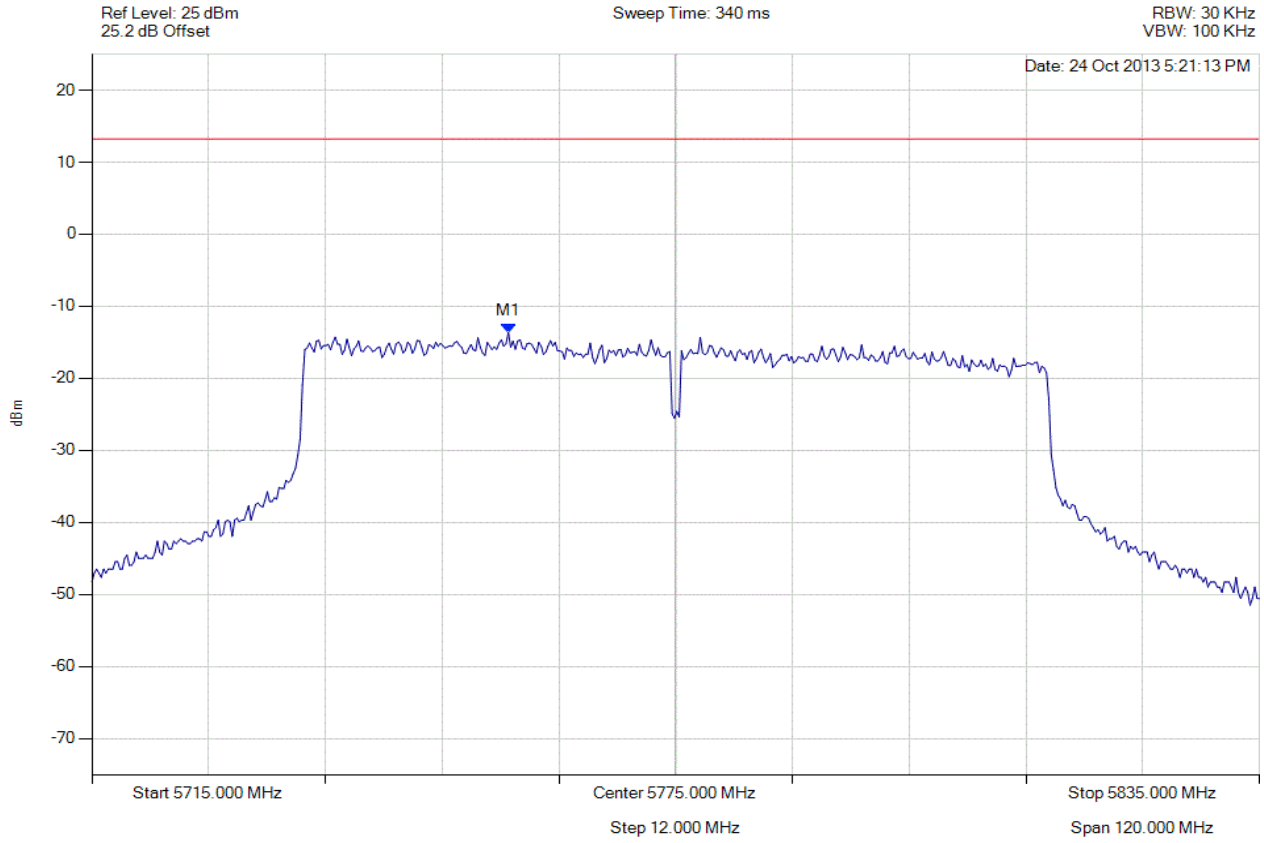



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5748.667 MHz : -15.387 dBm | Limit: ≤ 13.229 dBm<br>Margin: -28.62 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

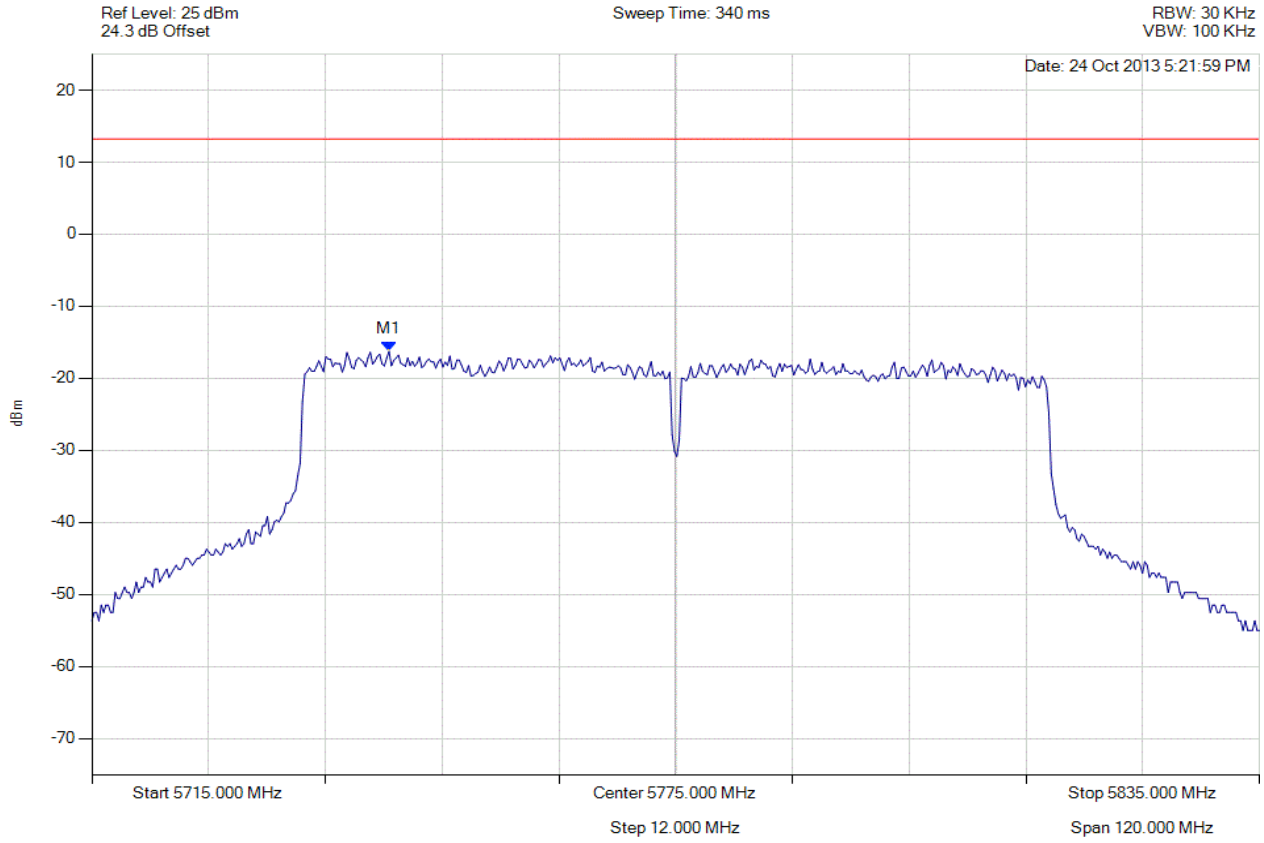



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5757.806 MHz : -13.639 dBm | Limit: ≤ 13.229 dBm<br>Margin: -26.87 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

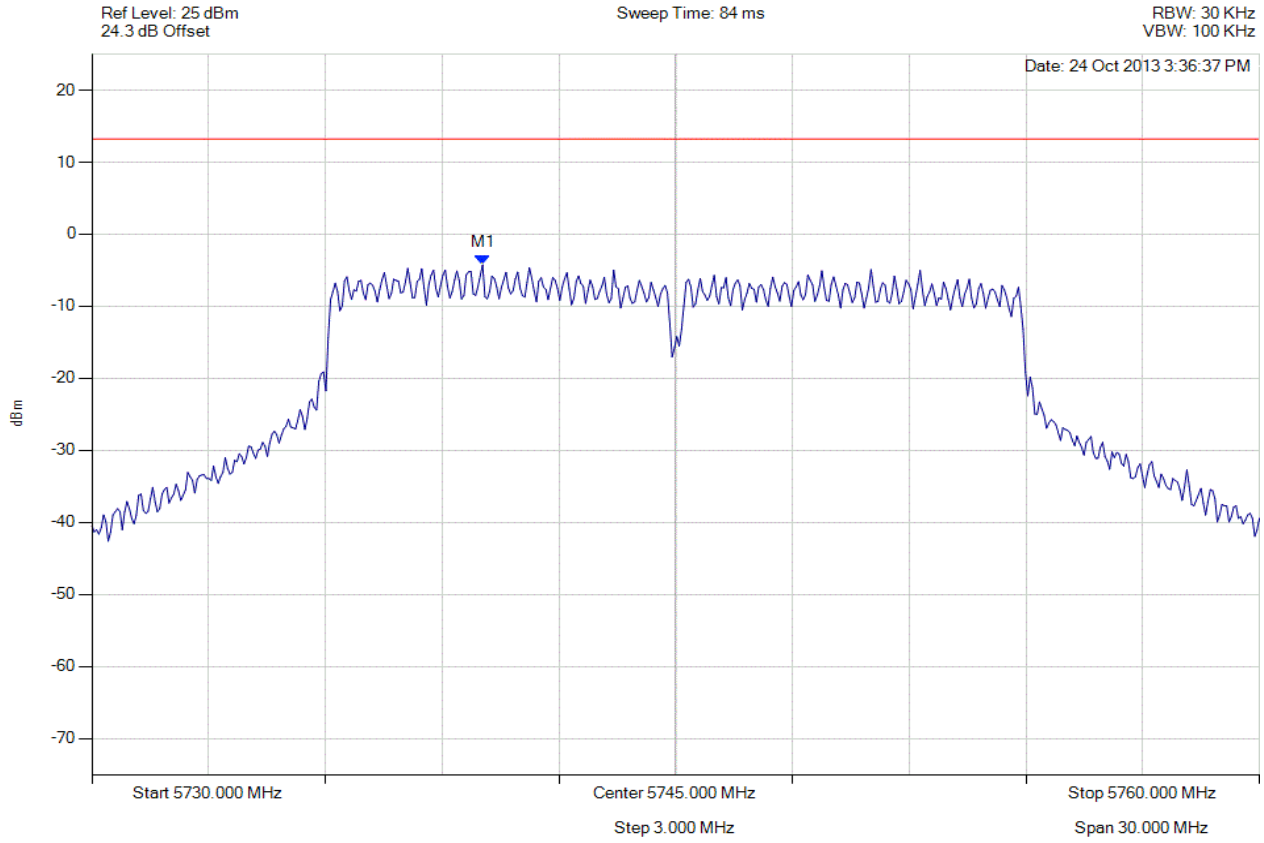



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5745.541 MHz : -16.262 dBm | Limit: ≤ 13.229 dBm<br>Margin: -29.49 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

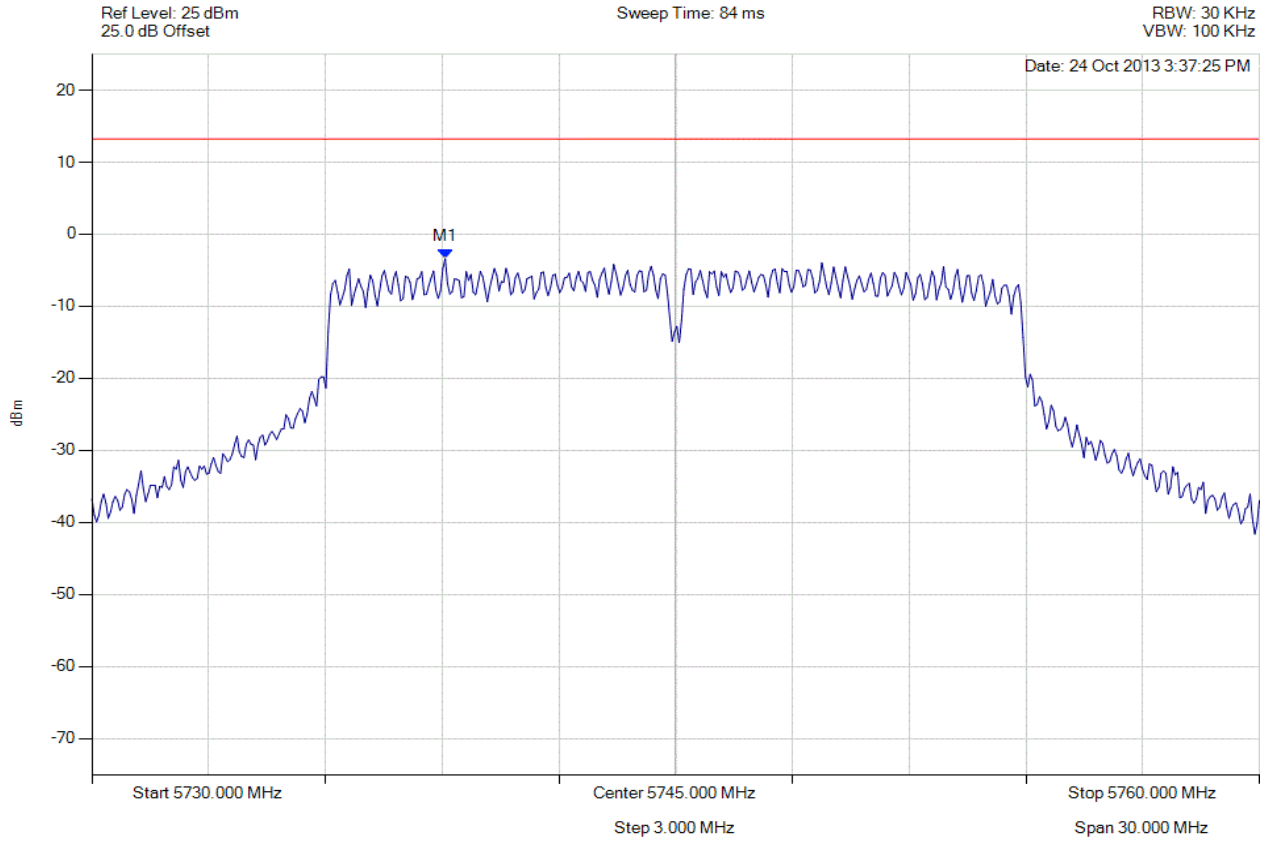



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5740.040 MHz : -4.250 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.48 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

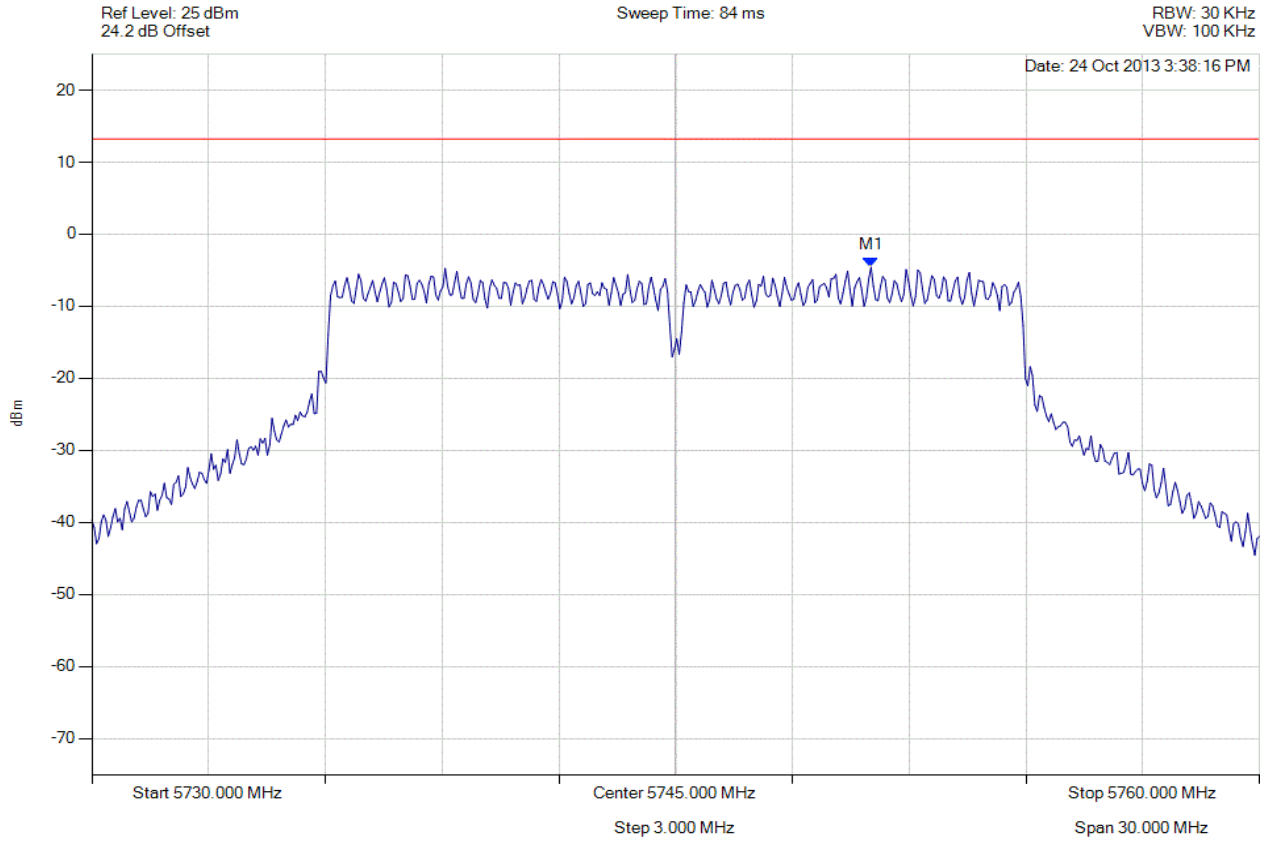



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5739.078 MHz : -3.403 dBm | Limit: ≤ 13.229 dBm<br>Margin: -16.63 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

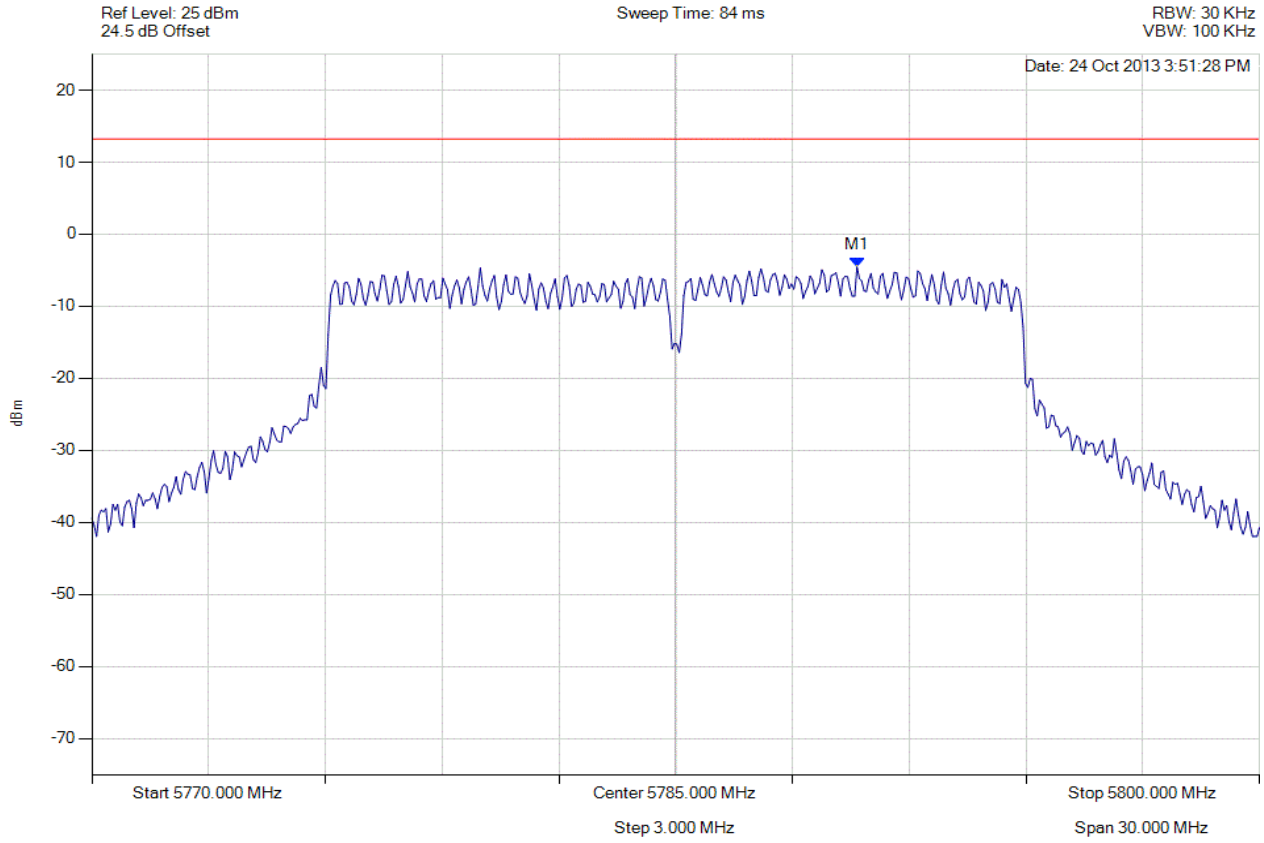



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5750.020 MHz : -4.588 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.82 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

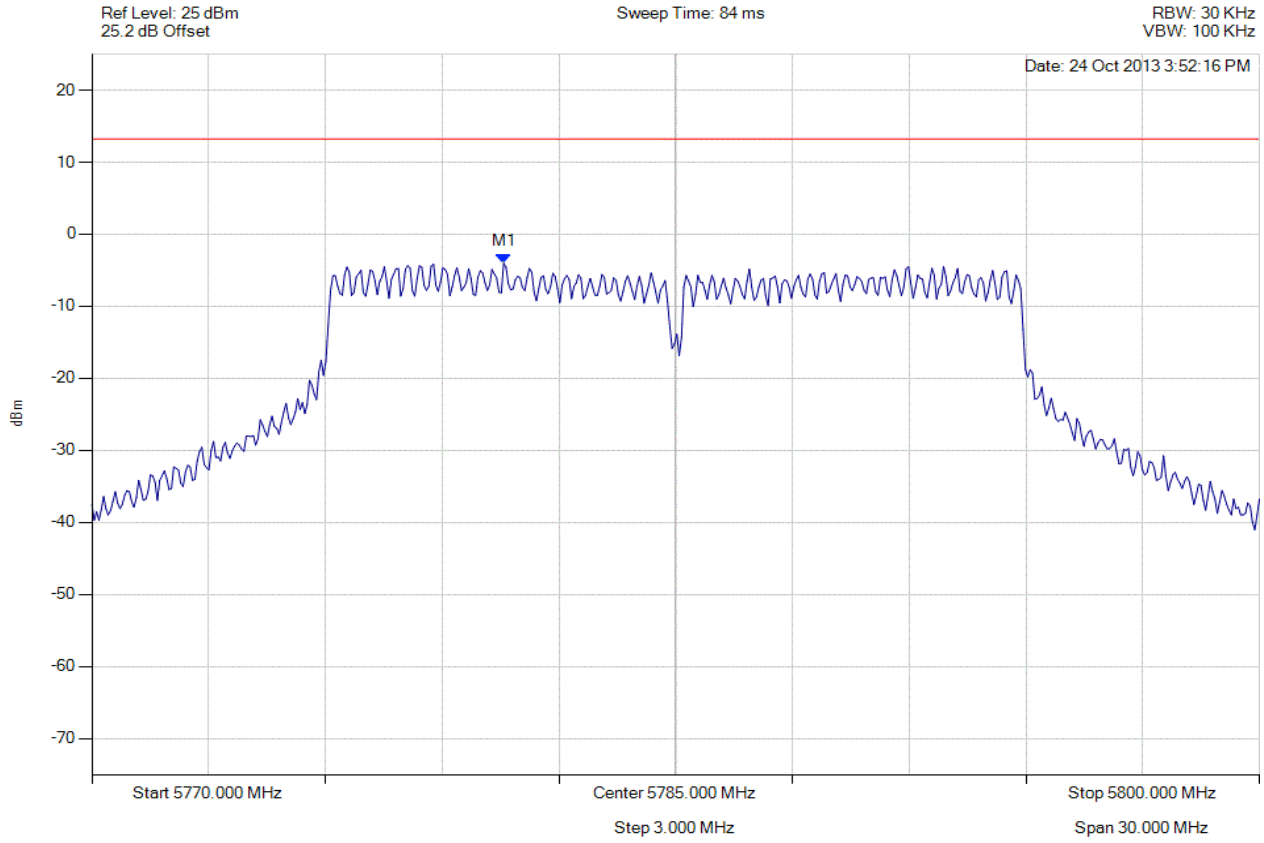



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5789.659 MHz : -4.549 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.78 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

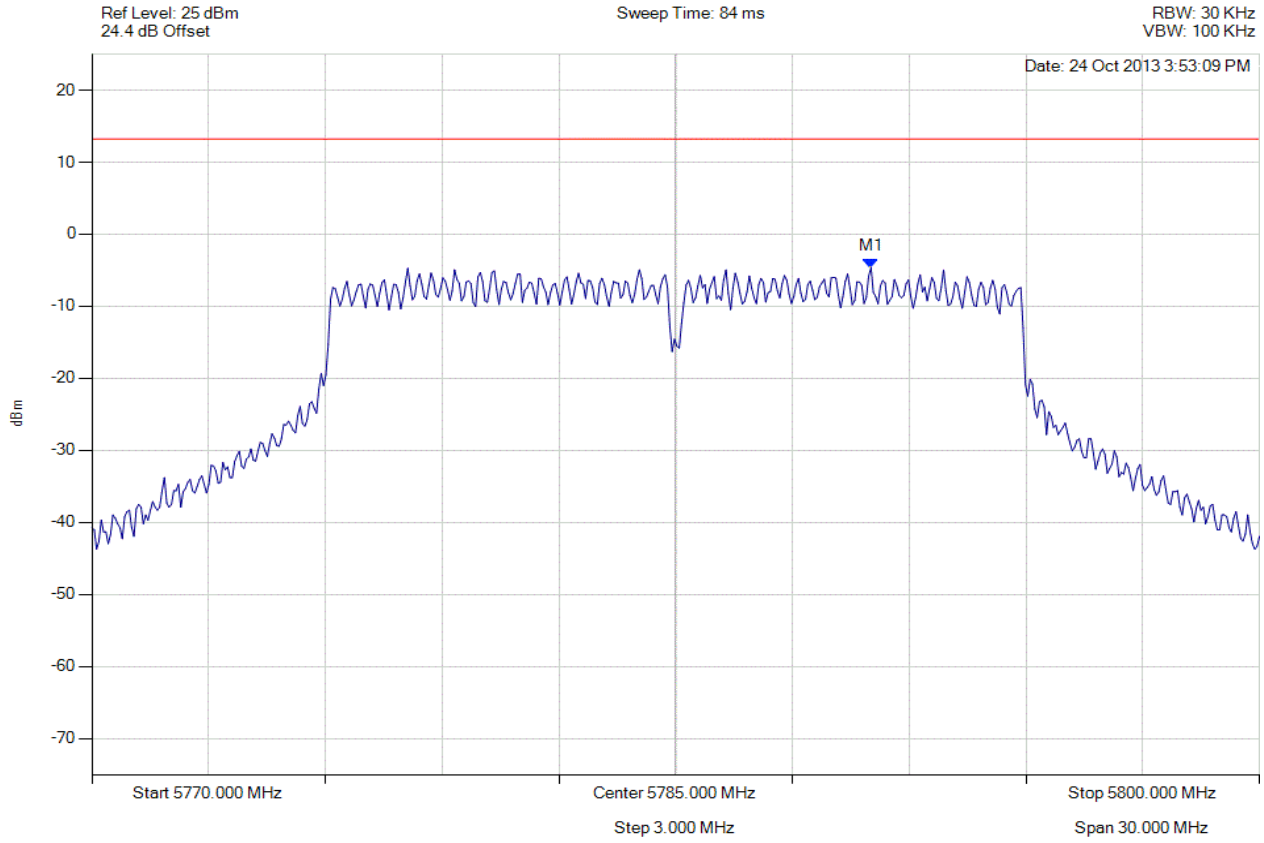



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5780.581 MHz : -4.010 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.24 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

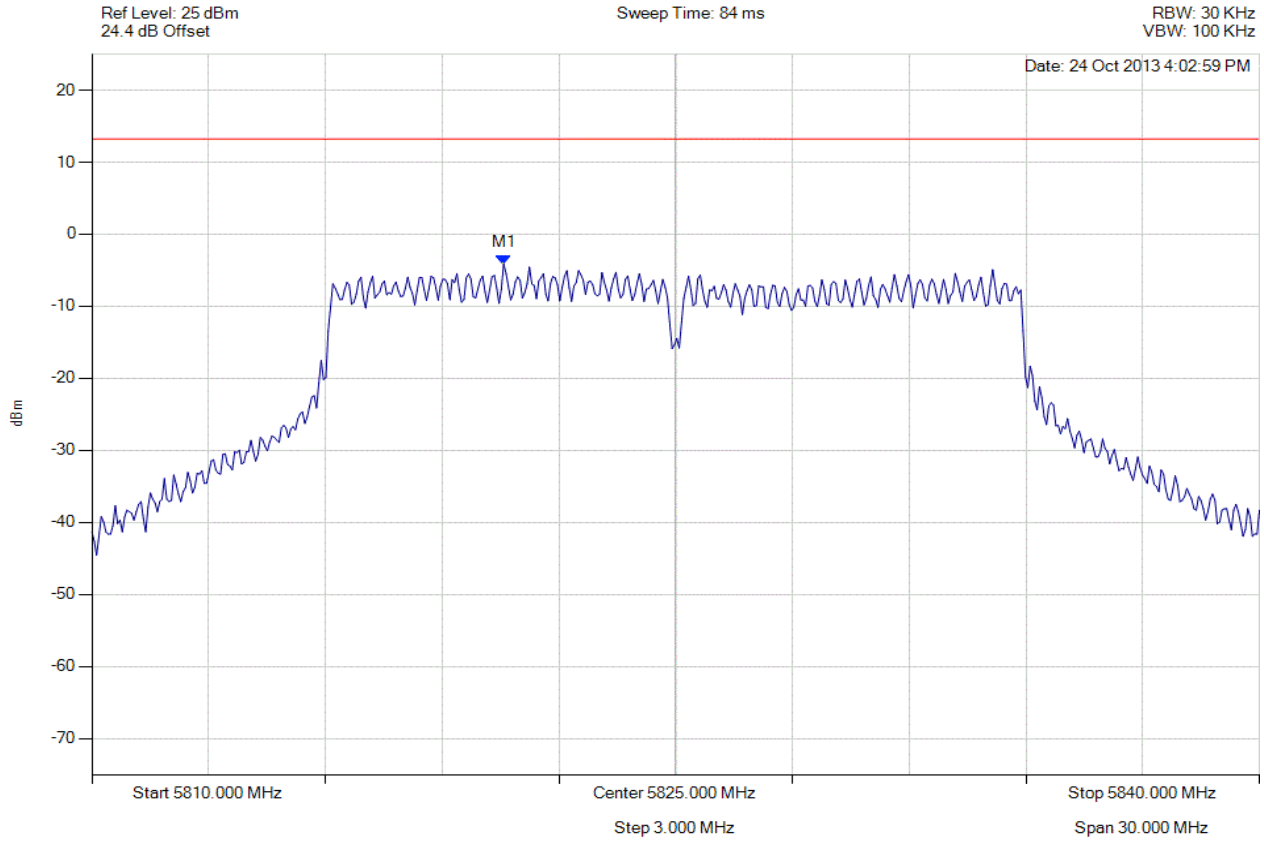



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5790.020 MHz : -4.663 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.89 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

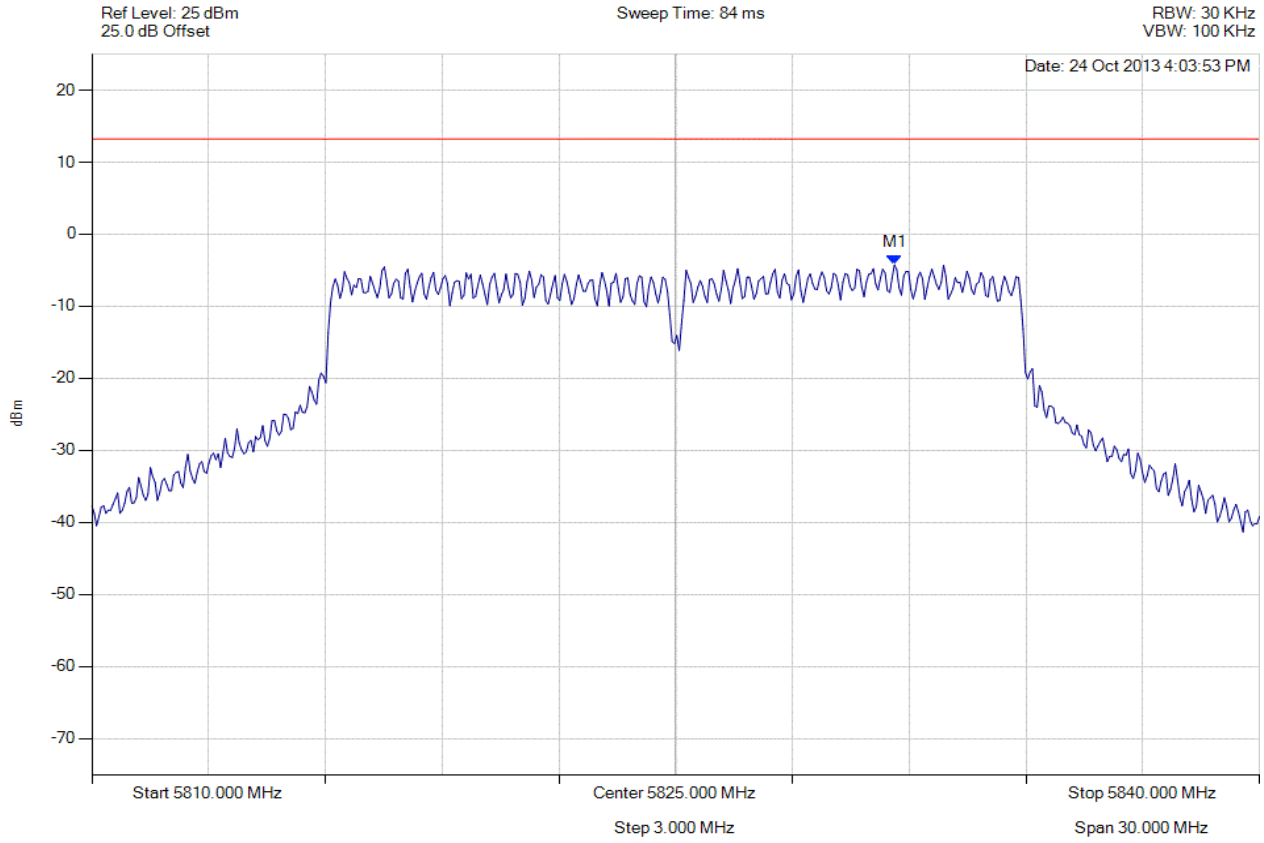



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5820.581 MHz : -4.129 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.36 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

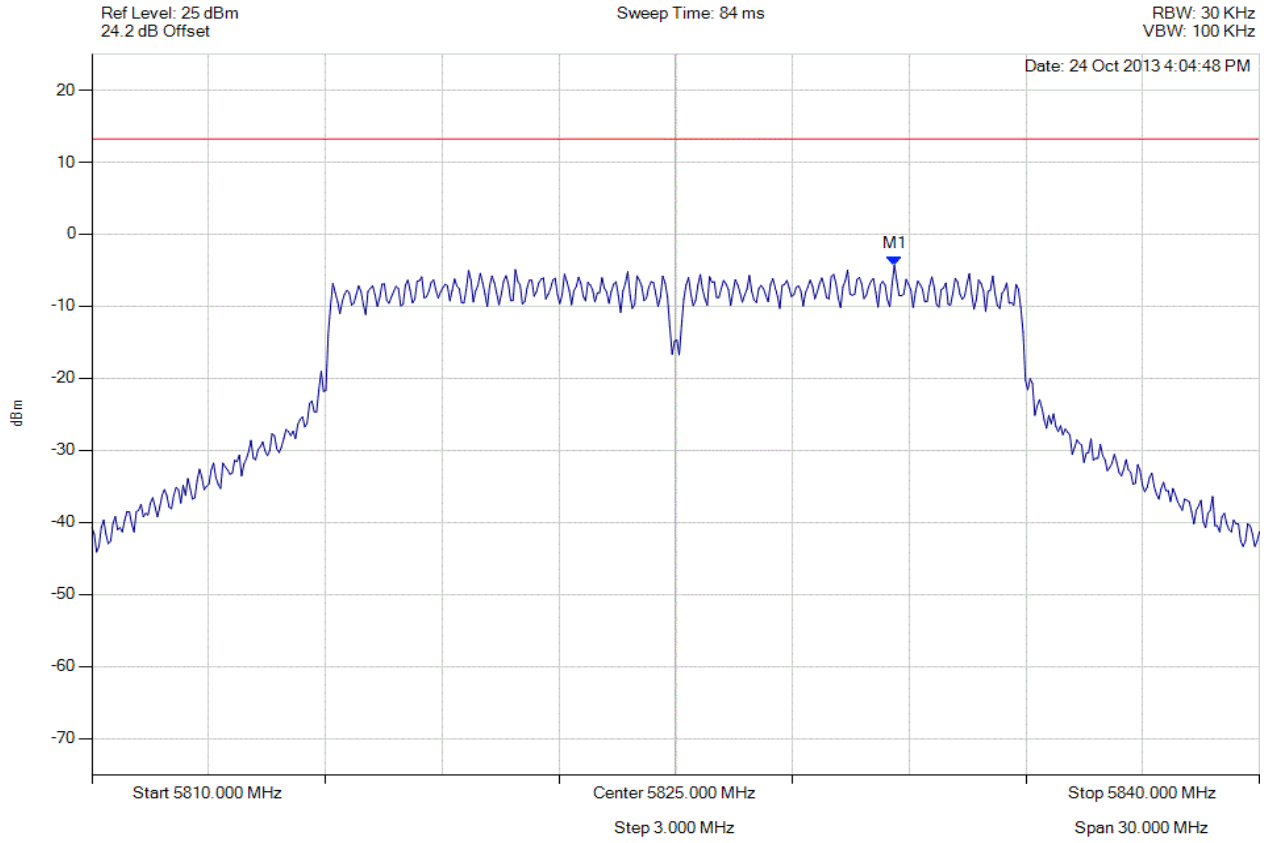



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5830.621 MHz : -4.254 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.48 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

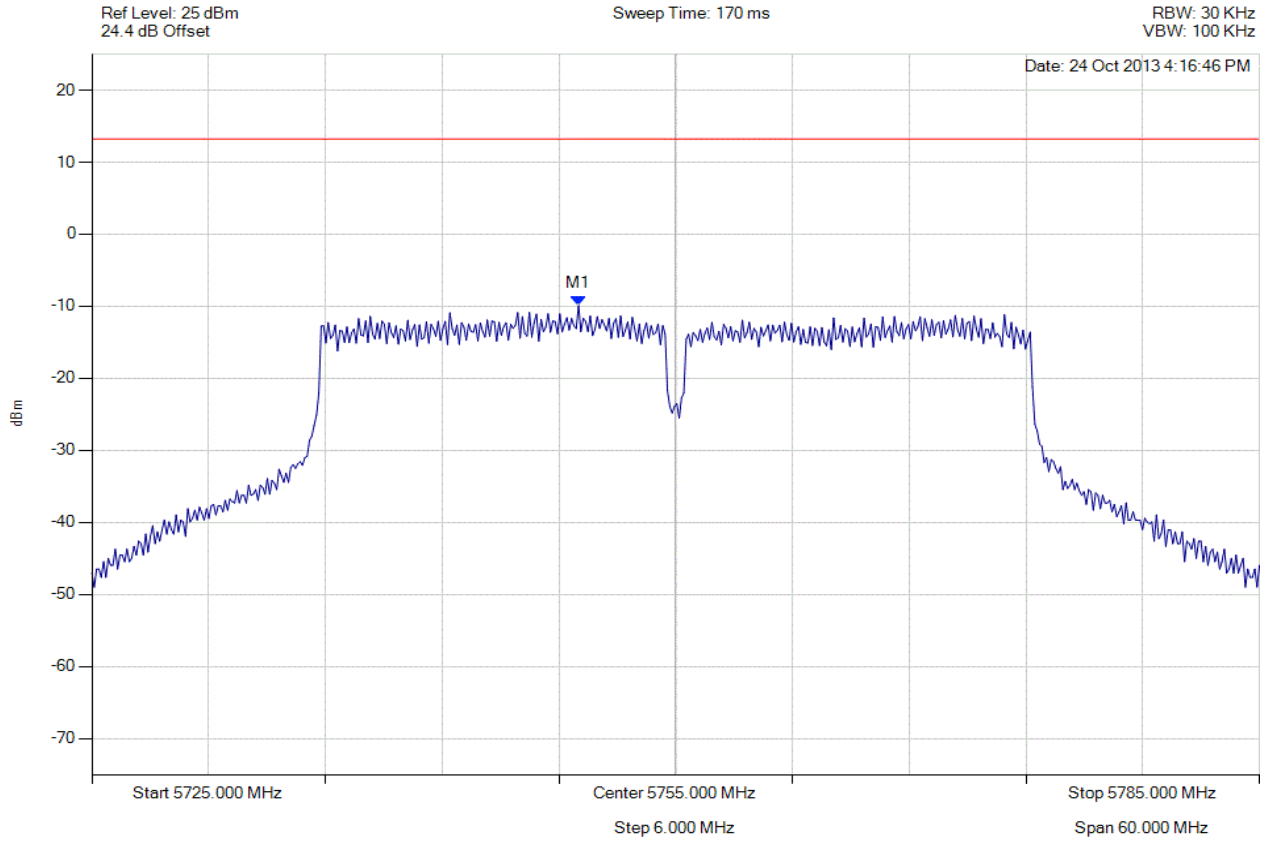



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5830.621 MHz : -4.296 dBm | Limit: ≤ 13.229 dBm<br>Margin: -17.53 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

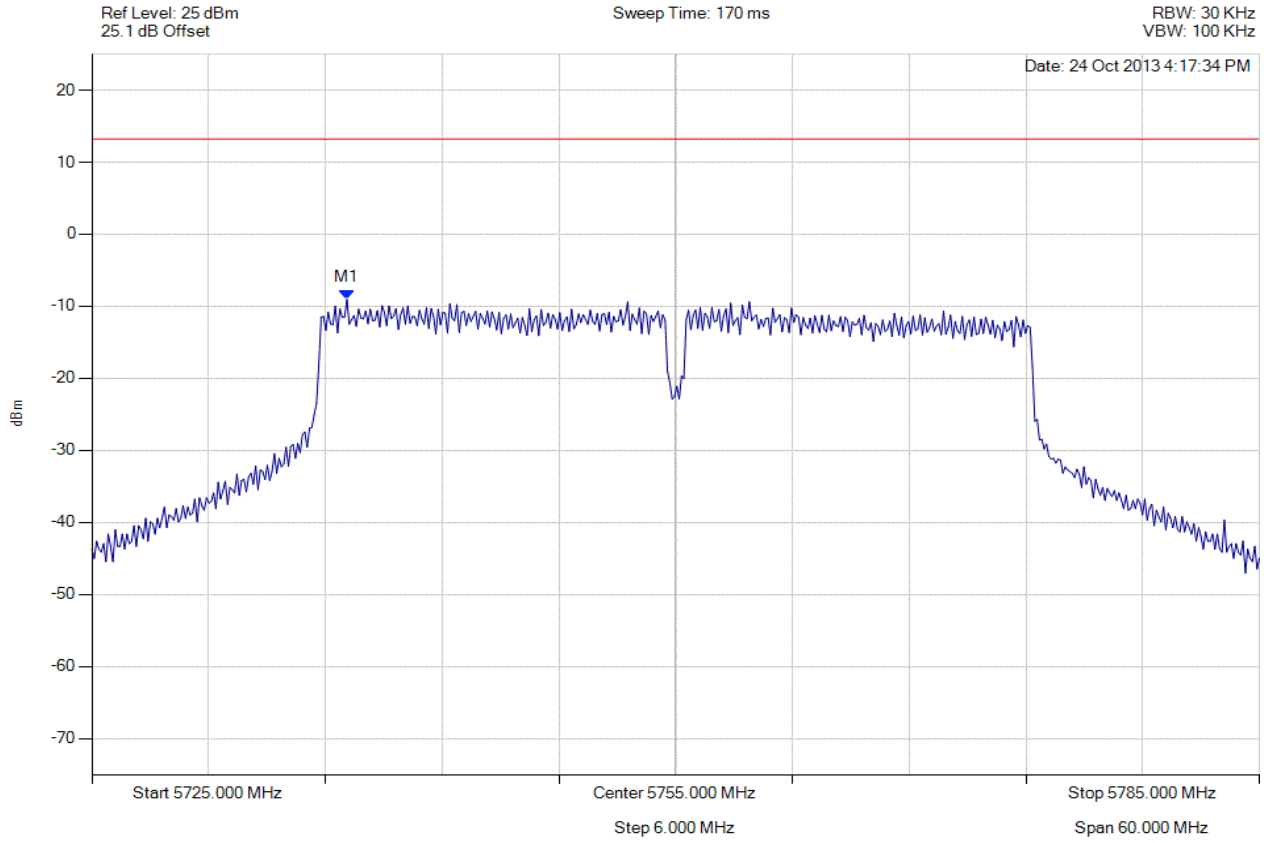



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5750.010 MHz : -9.897 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.13 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

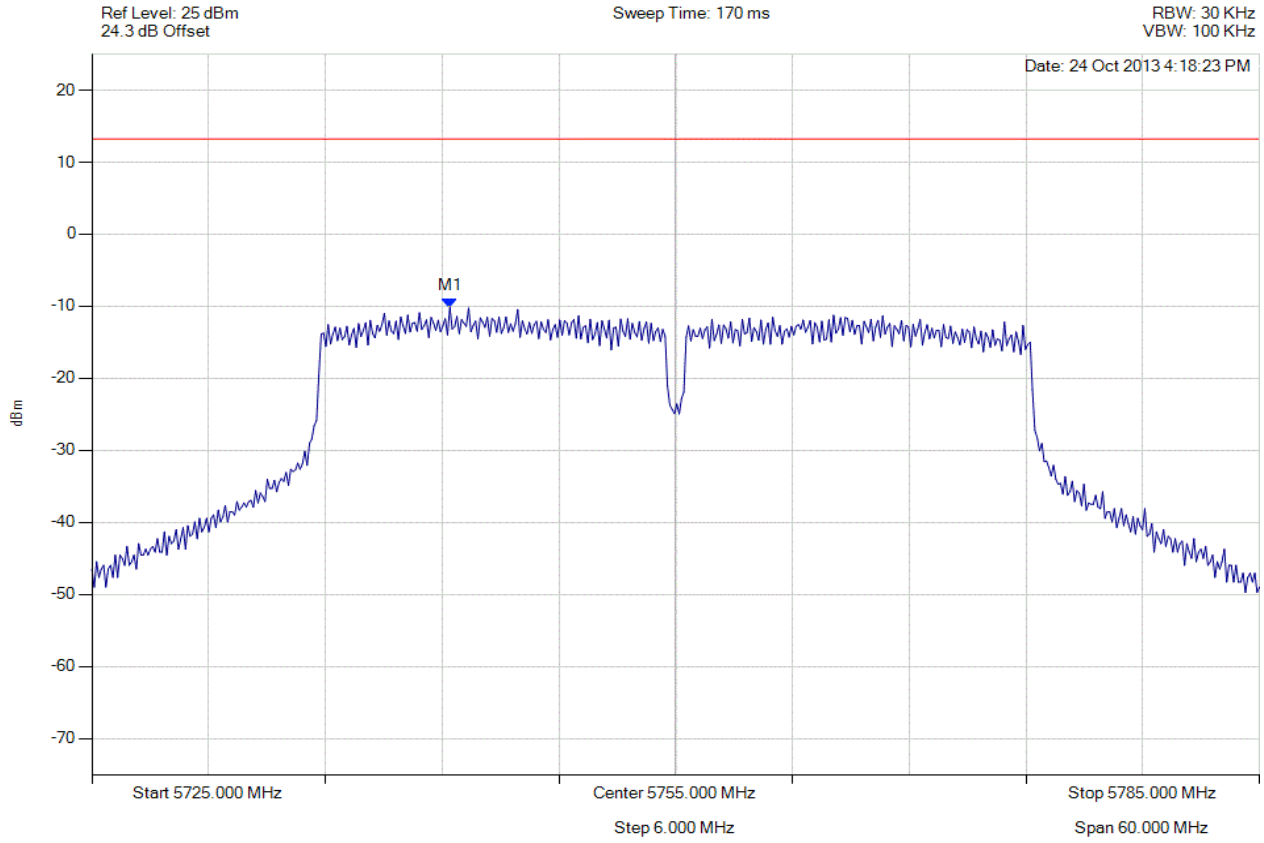



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5738.106 MHz : -9.054 dBm | Limit: ≤ 13.229 dBm<br>Margin: -22.28 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc

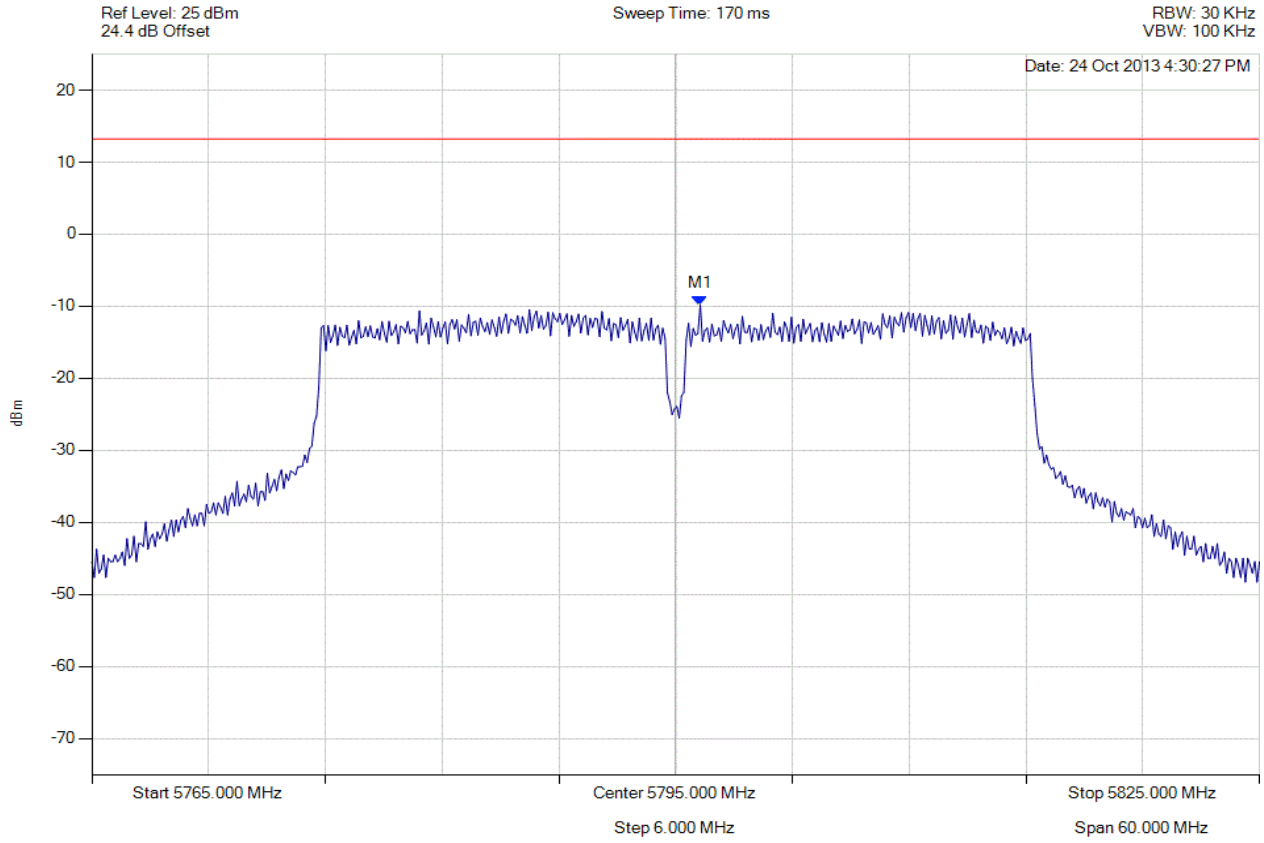



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5743.397 MHz : -10.166 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.40 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

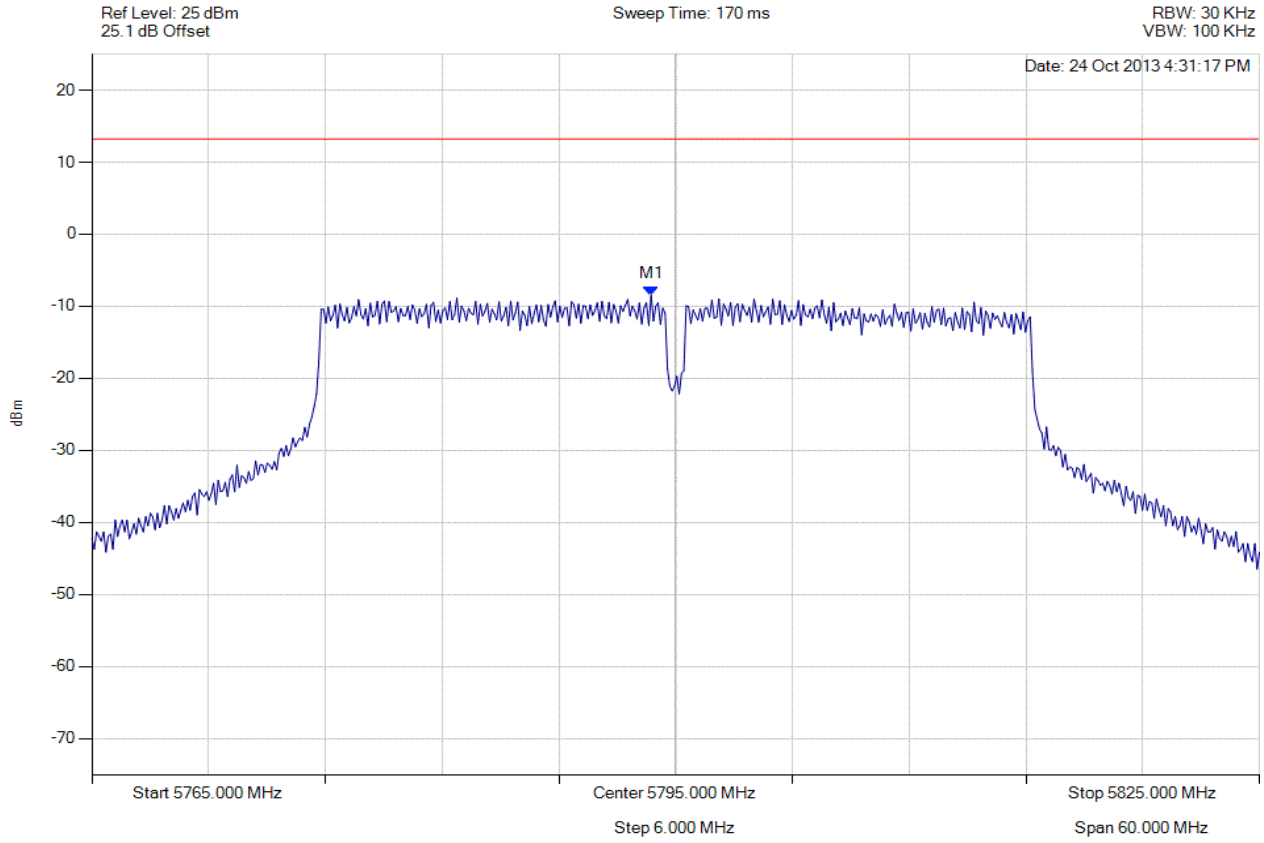



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5796.263 MHz : -9.857 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.09 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

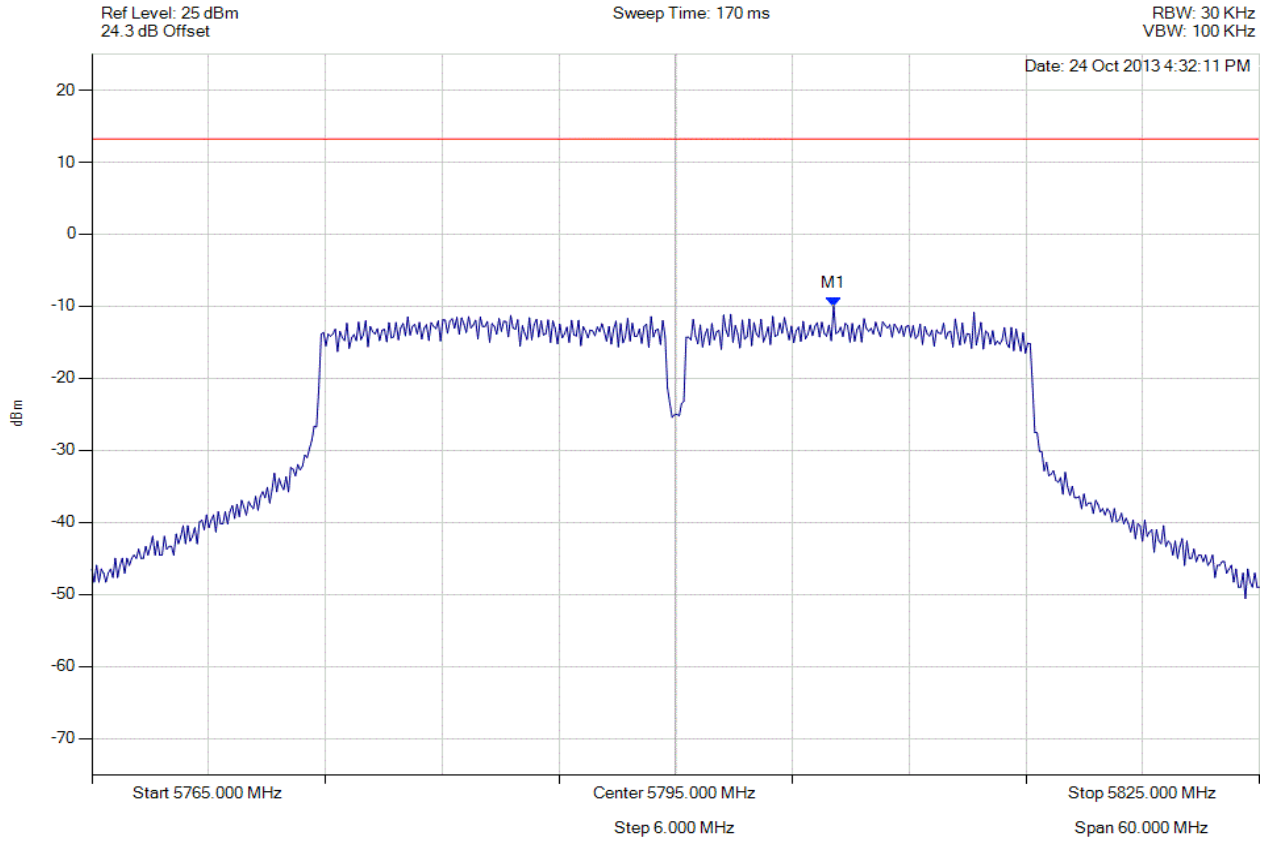



| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5793.737 MHz : -8.496 dBm | Limit: ≤ 13.229 dBm<br>Margin: -21.73 dB |

Back to the Matrix

## POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker : Frequency : Amplitude | Test Results |
|---|---|---|
| Detector = AVERAGE<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5803.116 MHz : -9.953 dBm | Limit: ≤ 13.229 dBm<br>Margin: -23.18 dB |

Back to the Matrix