Test of: RADWIN Ltd. AP0127730, AP0134760
Wireless Modules

To: FCC 47 CFR Part 15.407

Test Report Serial No.: RDWN33-U3 Rev A

TEST REPORT

FROM

Test of: RADWIN Ltd. AP0127730, AP0134760 Wireless Modules

to

To FCC 47 CFR Part 15.407

Test Report Serial No.: RDWN33-U3 Rev A

This report supersedes None

Applicant: RADWIN Ltd
27 Habarzel Street
Tel Aviv, 6971039
Israel

Product Function: 5 GHz 2x2 MIMO RF Module

Copy No: pdf Issue Date: 2nd February 2015

This Test Report is Issued Under the Authority of;

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

TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

This page has been left intentionally blank

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

ilac-MRA

American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

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

Presented this 28th day of February 2014.

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

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

RECOGNITION

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

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

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

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

**NB – Notified Body

PRODUCT CERTIFICATION

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

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

Industry Canada Certification Body - CAB Identifier – US0159

European Notified Body - Notified Body Identifier - 2280

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

DOCUMENT HISTORY

Document History		
Revision	**Date**	**Comments**
Draft		
Rev A	2nd February 2015	Initial release

1. TEST RESULT CERTIFICATE

Applicant:	RADWIN Ltd 27 Habarzel Street Tel Aviv, 6971039 Israel	Tested By:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California, 94566, USA
EUT:	RF Module operating in the 5.15– 5.25 GHz bands.	Tel:	+1 925 462 0304
Model:	AP0127730, AP0134760	Fax:	+1 925 462 0306
S/N:	20000000037		
Test Date(s):	2nd - 12th December 2014	Website:	www.micomlabs.com

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

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

Notes:

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

Approved & Released for MiCOM Labs, Inc. by:

A2LA ACCREDITED
TESTING CERT #2381.01

Graeme Grieve
Quality Manager MiCOM Labs,

Gordon Hurst
President & CEO MiCOM Labs, Inc.

2. REFERENCES AND MEASUREMENT UNCERTAINTY

2.1. Normative References

Ref.	Publication	Year	Title
(i)	FCC 47 CFR Part 15.407	18th December 2014	Code of Federal Regulations
(ii)	FCC 06-96	June 2006	Memorandum Opinion and Order
(iii)	FCC OET KDB 662911	4th April 2011	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
(iv)	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
(v)	CISPR 22/ EN 55022	2008 2006+A1:2007	Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment
(vi)	M 3003	Edition 1 Dec. 1997	Expression of Uncertainty and Confidence in Measurements
(vii)	LAB34	Edition 1 Aug 2002	The expression of uncertainty in EMC Testing
(viii)	ETSI TR 100 028	2001	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
(ix)	A2LA	July 2012	Reference to A2LA Accreditation Status – A2LA Advertising Policy
(x)	FCC Public Notice – DA 02-2138	2002	Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices

2.2. Test and Uncertainty Procedures

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

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

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

3. PRODUCT DETAILS AND TEST CONFIGURATIONS

3.1. Technical Details

Details	Description
Purpose:	Test of the RADWIN Ltd. AP0127730, AP0134760 Wireless Modules in the frequency ranges 5,150 to 5,250 MHz to FCC Part 15.407 regulations.
Applicant:	RADWIN Ltd 27 Habarzel Street Tel Aviv, 6971039 Israel
Manufacturer:	As applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton, California 94566 USA
Test report reference number:	RDWN33-U3 Rev A
Date EUT received:	1st December 2014
Standard(s) applied:	FCC 47 CFR Part 15.407
Dates of test (from - to):	2nd - 12th December 2014
No of Units Tested:	One
Type of Equipment:	5 GHz 2x2 MIMO RF module.
Applicants Trade Name:	RADWIN
Model(s):	AP0127730, AP0134760
Location for use:	Outdoor
Declared Frequency Range(s):	5,150 – 5,250 MHz
Hardware Rev	Prototype
Software Rev	Radwin Art GUI
Type of Modulation:	Per 802.11n – BPSK, QPSK, 16QAM, 64QAM, OFDM
Declared Nominal Output Power: (Average Power)	5 MHz: 23.5 dBm 10 MHz: 27.4 dBm 20 MHz: 28.3 dBm 40 MHz: 23.00 dBm
EUT Modes of Operation:	5, 10, 20, 40 MHz
Transmit/Receive Operation:	Time Division Duplex
System Beam Forming:	AP0127730, AP0134760 has no capability for beam-forming
Rated Input Voltage and Current:	POE 55 Vdc 1 A
Operating Temperature Range:	Declared range -35º to +60ºC
ITU Emission Designator:	5 MHz 5M00W7W 10 MHz 10M0W7W 20 MHz 20M0W7W 40 MHz 40M0W7W
Equipment Dimensions:	1.9” x 2.0” x 0.3” inches
Weight:	0.042 lb (19 g)
Primary function of equipment:	5 GHz 2x2 MIMO RF module

3.2. Scope of Test Program

AP0127730, AP0134760 RF Testing

The scope of the test program was to test the AP0127730, AP0134760 5 GHz 2x2 MIMO RF module configurations in the frequency range 5150 to 5250 MHz for compliance against FCC 47 CFR Part 15.407.

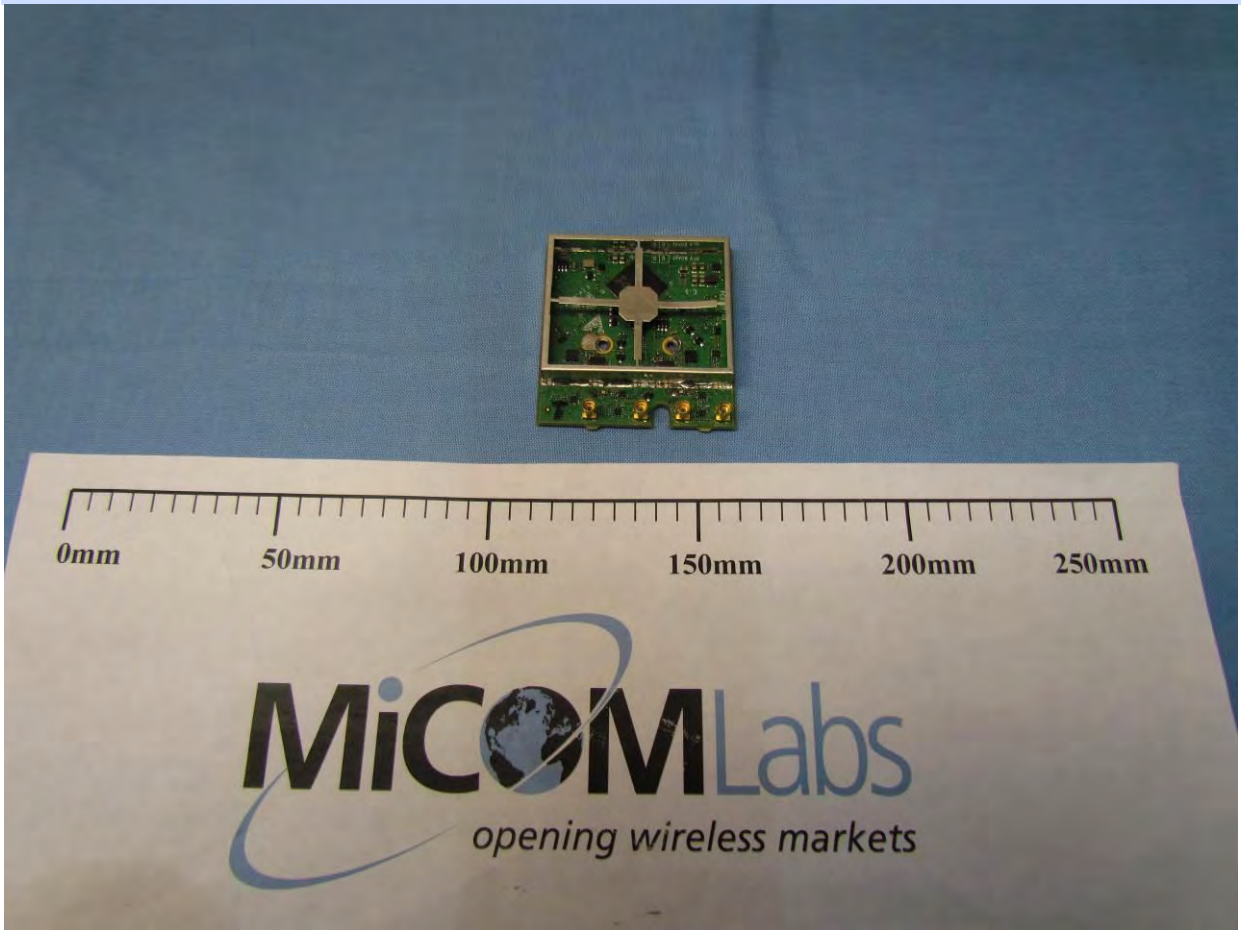
FCC OET KDB Implementation

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

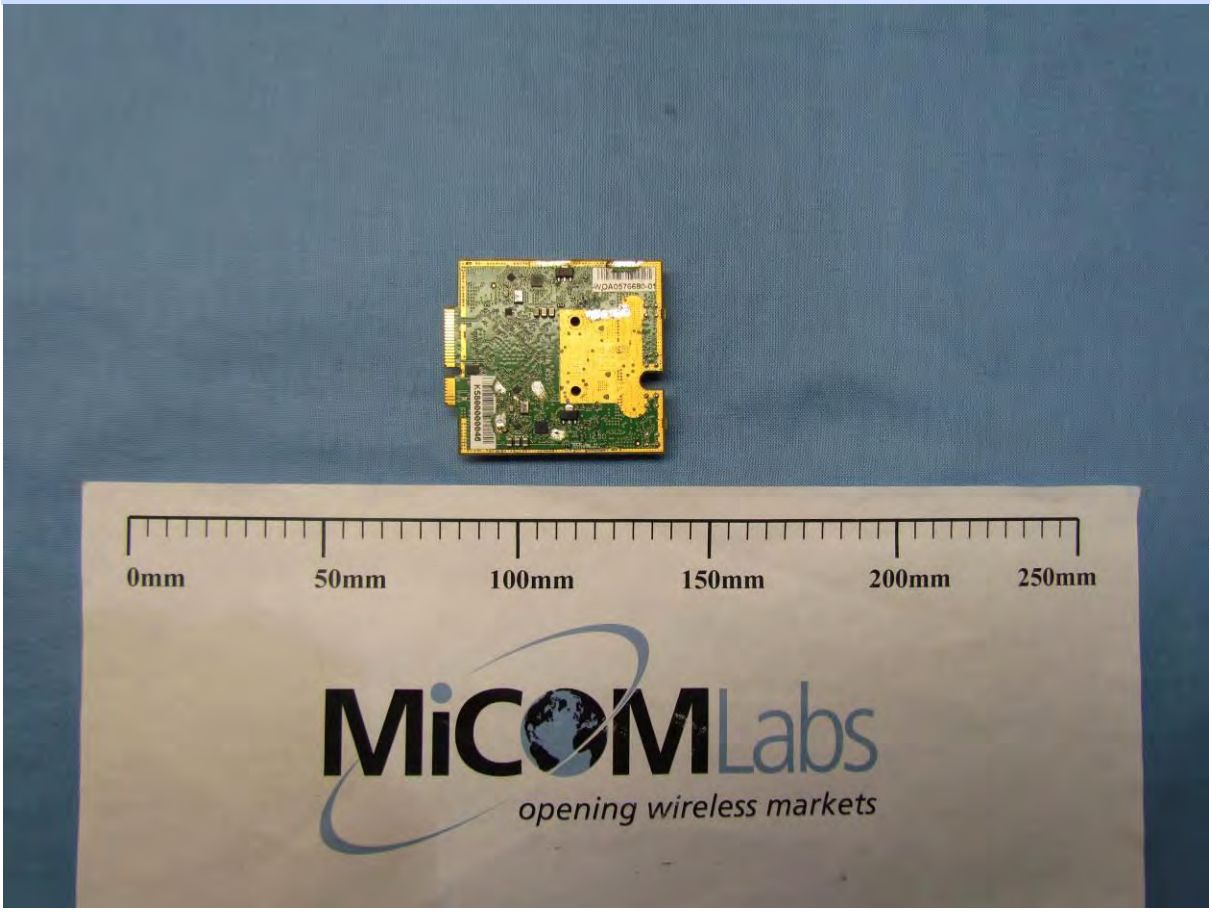
The KDB document provides guidance for measurements of conducted output emissions of devices that employ a single transmitter with multiple outputs in the same band, with the outputs occupying the same or overlapping frequency ranges. It applies to EMC compliance measurements on devices that transmit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

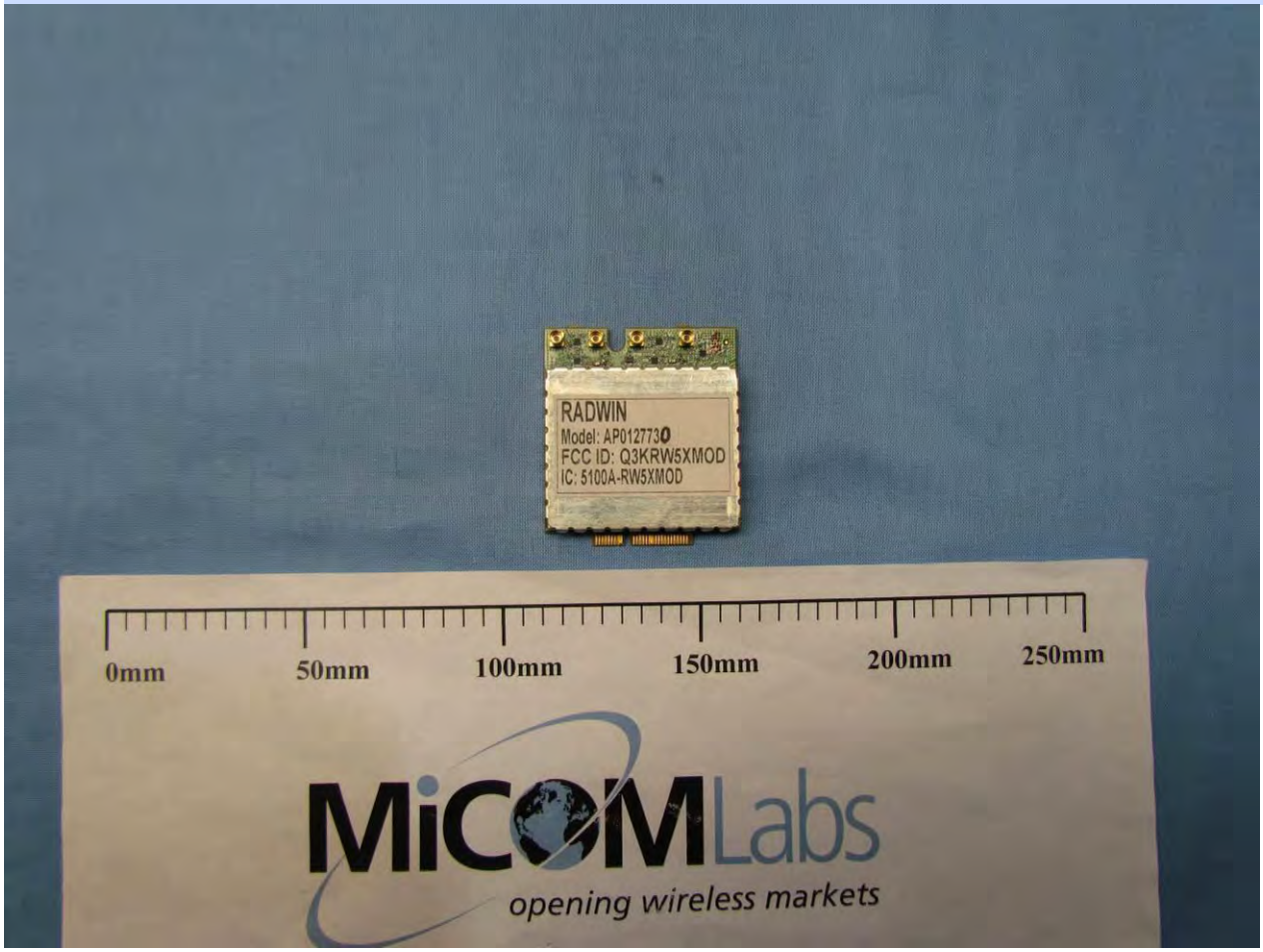
AP0127730, AP0134760



AP0127730, AP0134760 (Rear)



AP0127730, AP0134760



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

Equipment Type	Equipment Description (Including Brand Name)	Mfr	Model No.	Serial No.
EUT	RF module operating in the 4.9-5.8 GHz bands	RADWIN Ltd	AP0127730, AP0134760	None
Support	Laptop PC	DELL	LATITUDE D530	None

3.4. Antenna Details

Radiated emissions testing were performed in the mode with the highest spectral density to verify compliance. Radiated emissions were performed on the highest gain of each type of antenna as identified in the table below;-

Radiated Emission Results (Antenna #)	Antenna Type	Manufacturer	Model Number	Antenna Gain(dBi)
				5150-5250 MHz
1	Sector Dual Pole Integrated 120 Deg	RADWIN Ltd.	MT0128930	11
Not Tested	Sector Dual Pole 120 Deg	RADWIN Ltd.	RW-9061-5004	11
2	Sector Dual Pole Integrated 95 Deg	RADWIN Ltd.	AM0135060	12
Not Tested	Sector Dual Pole 90 Deg	RADWIN Ltd.	RW-9061-5001	14
3	Sector Dual Pole 60 Deg	RADWIN Ltd.	RW-9061-5002	15.5
Not Tested	Sector Dual Pole Integrated 90 Deg	RADWIN Ltd.	MT0125250	13
Not Tested	Flat Panel Dual Pole Integrated	RADWIN Ltd.	AM0119960	16
4	Flat Panel Dual Pole Integrated	RADWIN Ltd.	AM0111760	16
Not Tested	Flat Panel Dual Pole External	RADWIN Ltd.	RW-9612-5001	23
5	Flat Panel Dual Pole Integrated	RADWIN Ltd.	MT0070760	23.5
6	Flat Panel Dual Pole External	RADWIN Ltd.	RW-9622-5001	29
Not Tested	Dual Pole Dish	RADWIN Ltd.	RW-9721-5158	28
7	Dual Pole Dish	RADWIN Ltd.	RW-9732-4958	32
8	Shark Fin Monopole	RADWIN Ltd	RW-9401-5002	11.5

The “Not Tested” antennas were covered by testing higher gain antennas of the same family

3.5. Cabling and I/O Ports

Number and type of I/O ports

1. 1 x 10/100/1000 Ethernet (includes POE +55 Vdc)

3.6. Test Configurations

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

Matrix of test configurations

Channel Bandwidth	Data Rates with Highest Power	Frequencies (MHz)
5 MHz	15 MCS	5157 / 5200 / 5245
10 MHz	15 MCS	5162 / 5200 / 5245
20 MHz	15 MCS	5165 / 5200 / 5240
40 MHz	15 MCS	5172 / 5230

Antenna Test Configurations for Radiated Emissions and Band-Edge
The following measurements were performed on all antenna configurations identified in Section 3.4 Antenna Details.

Spurious Emission and Band-Edge Test Strategy

5 MHz
SE 5157
SE 5200
SE 5245
BE 5150 (5, 10, 20, 40 MHz)

KEY:-

SE – Spurious Emissions

BE – Band-Edge

3.7. Equipment Modifications

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

1. Band-Edge Power Reduction

   The power settings required for each antenna to comply with the requirements are detailed in Section 6.1.1.2 “Maximum Conducted Output Power”

3.8. Deviations from the Test Standard

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

1. NONE

3.9. Subcontracted Testing or Third Party Data

1. NONE

4. TESTING EQUIPMENT CONFIGURATION(S)

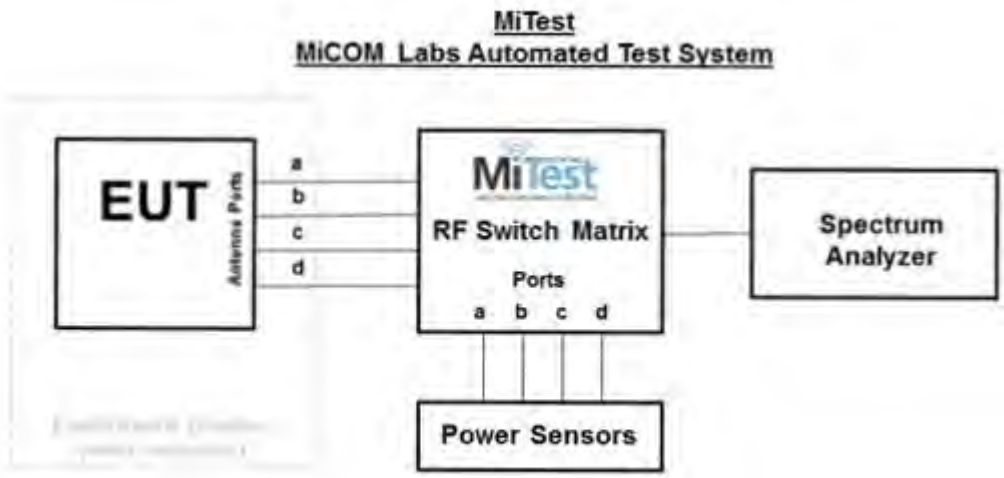
4.1. Conducted RF Emission Test Set-up

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

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

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

Conducted Test Set-Up Pictorial Representation



Conducted Test Measurement Setup

Traceability of Test Equipment Utilized for Conducted Testing

Asset#	Description	Manufacturer	Model #	Serial #	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2015
193	Receiver 20 Hz to 7 GHz	Rhode & Schwarz	ESI 7	838496/007	14 Jan 2015
249	Resistance Thermometer	Thermotronics	GR2105-02	9340 #2	30 Oct 2015
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	31 Jul 2015
361	Desktop for RF#1, Labview Software installed	Dell	Vostro 220	WS RF#1	Not Required
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	17 Jul 2015
380	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC001	20 Jan 2015
390	USB Power Head 50MHz - 24GHz -60 to +20dBm	Agilent	U2002A	MY50000103	17 Oct 2015
398	Test Software	MiCOM	MiTest ATS	Version 1.9	Not Required
405	DC Power Supply 0-60V	Agilent	6654A	MY4001826	Cal when used
408	USB to GPIB interface	National Instruments	GPIB-USB HS	14C0DE9	Not Required
440	USB Wideband Power Sensor	Boonton	55006	9178	25 Sep 2015
441	USB Wideband Power Sensor	Boonton	55006	9179	25 Sep 2015
442	USB Wideband Power Sensor	Boonton	55006	9181	25 Sep 2015
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
75	Environmental Chamber	Thermatron	SE-300-2-2	27946	28 Nov 2015
RF#1 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#1 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	20 Jan 2015
RF#1 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	20 Jan 2015
RF#1 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	20 Jan 2015
RF#1 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	20 Jan 2015
RF#1 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	20 Jan 2015
RF#1 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

Measurement and Presentation of Test Data

The measurement and graphical data presented in this test report was generated automatically using state-of-the-art technology creating an easy to read report structure. Numerical measurement data is separated from supporting graphical data (plots) through hyperlinks. Numerical measurement data can be reviewed without scrolling through numerous graphical pages to arrive at the next data matrix.

Plots have been relegated into the Appendix 'Graphical Data'.

Test and report automation was performed by MiTest. MiTest is an automated test system developed by MiCOM Labs. MiTest is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for conducted RF testing.

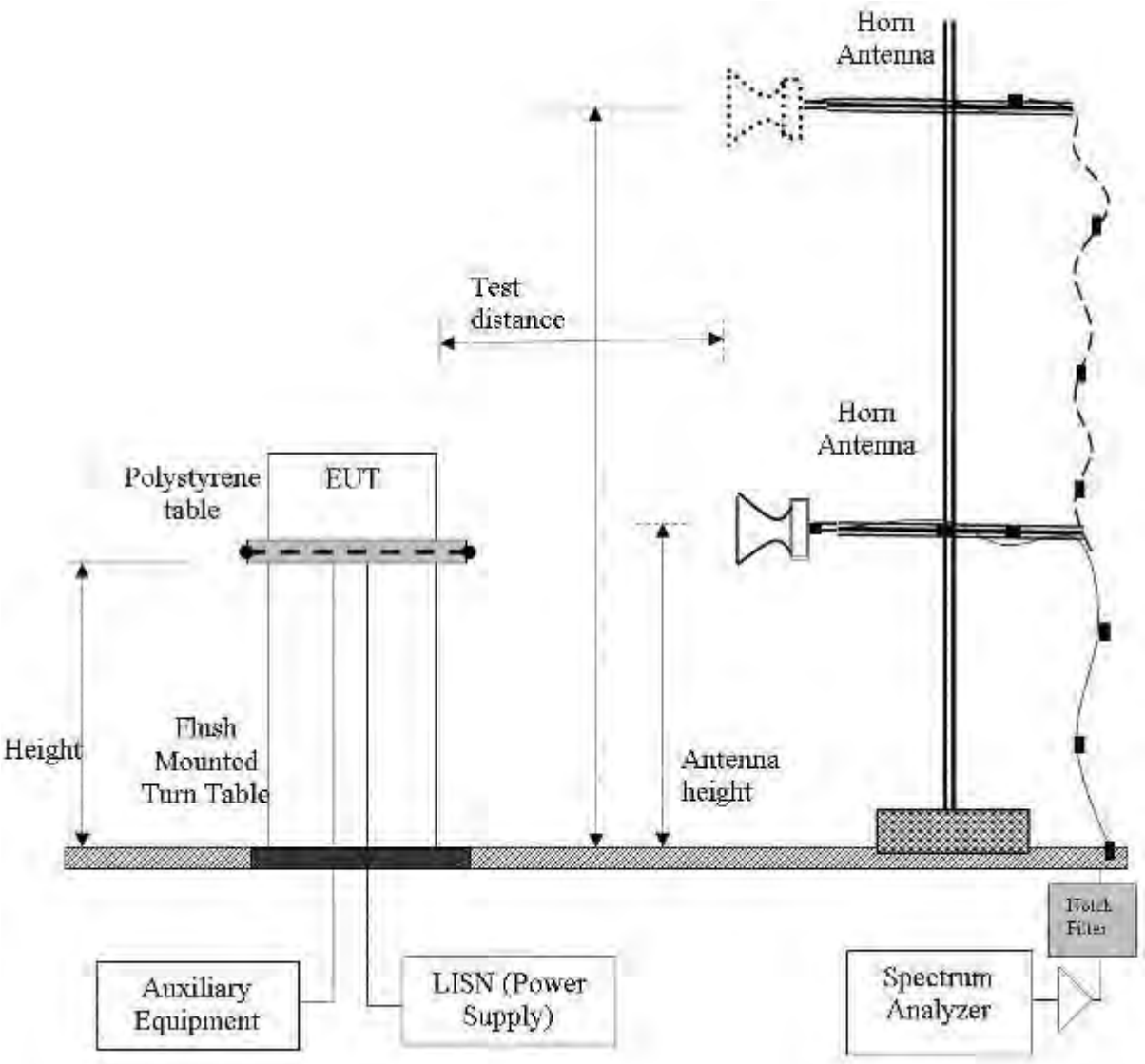
The MiCOM Labs "***MiTest***" Automated Test System" (Patent Pending)

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

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

1. Section 6.1.2.

Radiated Emission Measurement Setup – Above 1 GHz

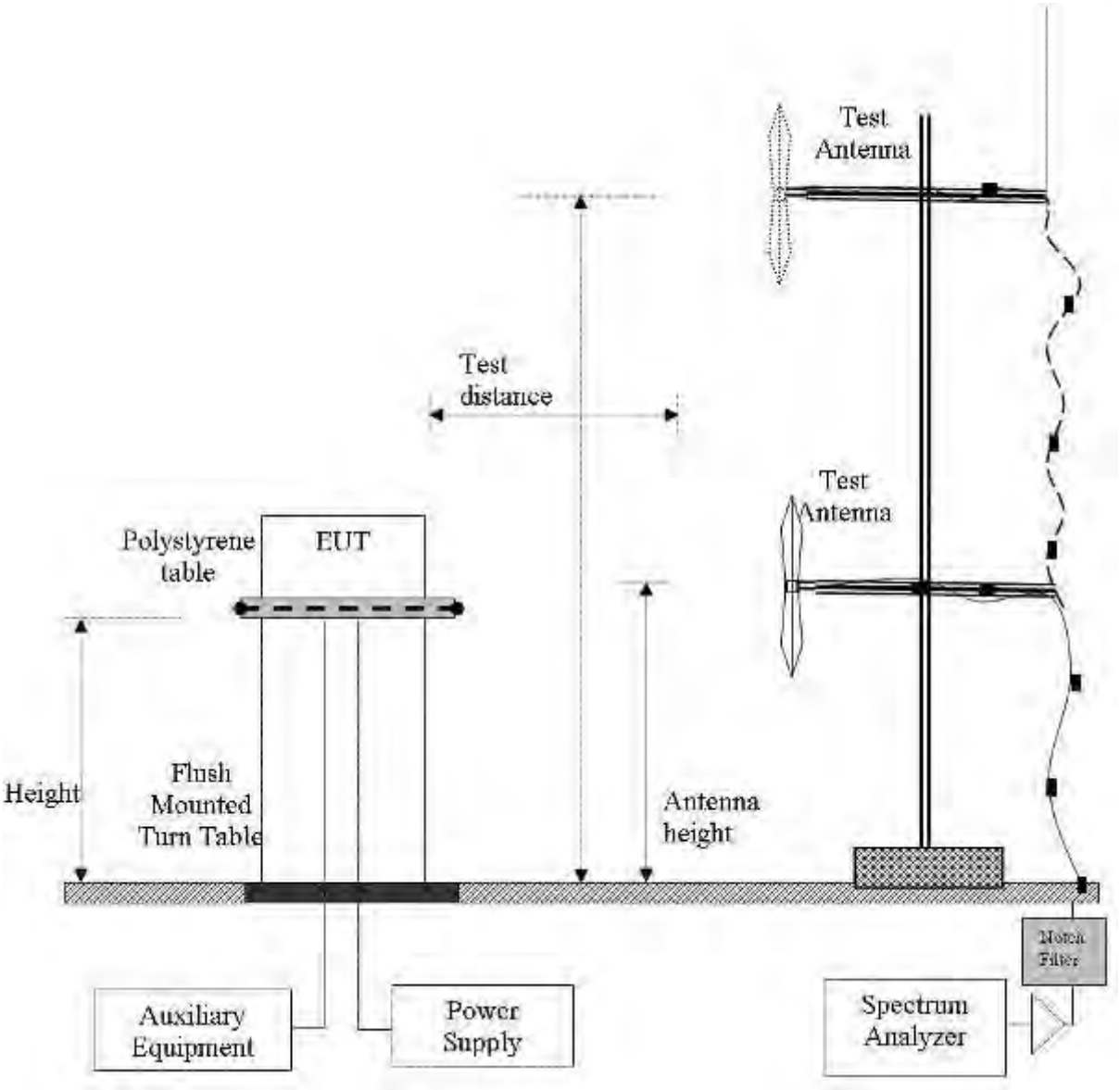


4.3. Digital Emissions Test Set-up (0.03 – 1 GHz)

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

1. Section 6.1.2.4. Digital Emissions

Digital Emission Measurement Setup – Below 1 GHz



Traceability of Test Equipment Utilized for Radiated Emission Testing

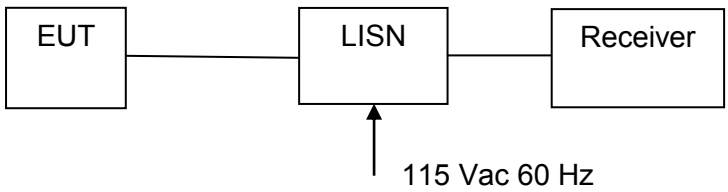
Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2015
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CY101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	31 Jul 2015
301	5470 to 5725 MHz Notch Filter	Microtronics	RBC50704	001	08 Oct 2015
302	5150 to 5350 MHz Notch Filter	Microtronics	BRC50703	002	08 Oct 2015
303	5725 to 5875 MHz Notch filter	Microtronics	BRC50705	003	08 Oct 2015
310	SMA Cable	Micro-Coax	UFA210A-0-0787-3G03G0	209089-001	30 Oct 2015
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	14 Aug 2015
342	2.4 GHz Notch Filter	EWT	EWT-14-0203	H1	08 Oct 2015
343	5.15 GHz Notch Filter	EWT	EWT-14-0200	H1	08 Oct 2015
344	5.35 GHz Notch Filter	EWT	EWT-14-0201	H1	08 Oct 2015
345	5.46 GHz Notch Filter	EWT	EWT-14-0202	H1	08 Oct 2015
377	Band Rejection Filter 5150 to 5880MHz	Microtronics	BRM50716	034	08 Oct 2015
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	07 Oct 2015
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	23 Oct 2015
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	10 Oct 2015
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	30 May 2015
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
414	DC Power Supply 0-60V	HP	6274	1029A01285	Cal when used
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
416	Gigabit ethernet filter	ETS-Lingren	Gigafoil 260366	None	Not Required
502	Test Software for Radiated Emissions	EMISoft	Vasona	Version 5 Build 59	Not Required
87	Uninterruptible Power Supply	Falcon Electric	ED2000-1/2LC	F3471 02/01	Cal when used

4.4. ac Wireline Emission Test Set-up

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

1. Section 6.1.3 ac Wireline Conducted Emissions

Conducted Test Set-Up Pictorial Representation



Measurement set up for ac Wireline Conducted Emissions Test

Traceability of Test Equipment Utilized for ac Wireline Emission Testing

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2015
184	Pulse Limiter	Rhode & Schwarz	ESH3Z2	357.8810.52	Cal when used
190	LISN (two-line V-network)	Rhode & Schwarz	ESH3Z5	836679/006	12 Sep 2015
193	Receiver 20 Hz to 7 GHz	Rhode & Schwarz	ESI 7	838496/007	14 Jan 2015
307	BNC-CABLE	Megaphase	1689 1GVT4	15F50B002	Cal when used
316	Dell desktop computer workstation with Vasona	Dell	Desktop	WS04	Not Required

5. TEST SUMMARY

List of Measurements

The following table represents the list of measurements required under the **FCC CFR47 Part 15.407**.

Section(s)	Test Items	Description	Condition	Result	Test Report Section
15.407(a)	26dB and 99% Emission BW	Emission bandwidth measurement	Conducted	Complies	6.1.1.1 A.1.1
15.407(a)	Maximum Conducted Output Power	Power Measurement	Conducted	Complies	6.1.1.2
15.407(a)	Peak Power Spectral Density	PPSD	Conducted	Complies	6.1.1.3 A.1.2
15.407(g) **15.31**	Frequency Stability	Limits: contained within band of operation at all times.	Applicant declaration	Complies	6.1.1.5
15.407(f)	Radio Frequency Radiation Exposure	Exposure to radio frequency energy levels, Maximum Permissible Exposure (MPE)	Conducted	See MPE attachment	6.1.1.6

List of Measurements (continued)

The following table represents the list of measurements required under the **FCC CFR47 Part 15.407**.

Section(s)	Test Items	Description	Condition	Result	Test Report Section
15.407(b)(2) **15.205(a)** **15.209(a)**	Radiated Emissions		Radiated		6.1.2
	Transmitter Radiated Spurious Emissions	Emissions above 1 GHz		Complies	6.1.2
	Radiated Band Edge	Band edge results		Complies	6.1.2
15.407(b)(6) **15.205(a)** **15.209(a)**	Digital Radiated Emissions	Emissions <1 GHz (30M-1 GHz)		Complies	6.1.4
15.407(b)(6) **15.207**	AC Wireline Conducted Emissions 150 kHz–30 MHz	Conducted Emissions	Conducted	Complies EUT is POE powered - not shipped with equipment	6.1.5

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

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

Note 3: Section 3.7 Equipment Modifications highlights the equipment modifications that were required to bring the product into compliance with the above test matrix

6. TEST RESULTS

6.1. Device Characteristics

6.1.1. Conducted Testing

6.1.1.1. 26 dB and 99 % Bandwidth

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

Test Procedure for 26 dB and 99% Bandwidth Measurement

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

Measurement Results for 26 dB and 99 % Operational Bandwidth(s)

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5157.0	6.563	5.987	--	--	6.563	5.987		
5200.0	5.912	6.187	--	--	6.187	5.912		
5245.0	6.363	6.237	--	--	6.363	6.237		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5157.0	4.659	4.659	--	--	4.659	4.659		
5200.0	4.659	4.659	--	--	4.659	4.659		
5245.0	4.659	4.659	--	--	4.659	4.659		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5162.0	10.170	10.120	--	--	10.170	10.120		
5200.0	10.721	10.571	--	--	10.721	10.571		
5245.0	10.371	10.170	--	--	10.371	10.170		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5162.0	8.918	8.918	--	--	8.918	8.918		
5200.0	8.968	8.968	--	--	8.968	8.968		
5245.0	8.918	8.918	--	--	8.918	8.918		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5165.0	22.545	22.044	--	--	22.545	22.044		
5200.0	21.844	21.543	--	--	21.844	21.543		
5240.0	22.946	22.044	--	--	22.946	22.044		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5165.0	17.836	17.836	--	--	17.836	17.836		
5200.0	17.836	17.836	--	--	17.836	17.836		
5240.0	17.836	17.836	--	--	17.836	17.836		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5172.0	41.683	41.483	--	--	41.683	41.483		
5230.0	42.485	41.884	--	--	42.485	41.884		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5172.0	36.273	36.273	--	--	36.273	36.273		
5230.0	36.273	36.273	--	--	36.273	36.273		

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).

6.1.1.2. Maximum Conducted Output Power

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

Test Procedure for Maximum Conducted Output Power Measurement

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

Antenna Power Levels

(a) *Power limits:*

(1) For the band 5.15-5.25 GHz

Outdoor Access Point

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

Fixed Point-to-Point

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Operating Frequency Band 5150 - 5250 MHz

Limit: +30 dBm

Antenna		Gain	Maximum Power Calculation	
Model Number	**Type**	**(dBi)**	**dBm/EIRP**	**Conducted Power**
MT0125250	Outdoor	13.0	36.0	23.0
RW-9061-5002	Outdoor	14.5*	36.0	21.5
RW-9061-5001	Outdoor	13.0*	36.0	23.0
RW-9061-5004	Outdoor	10.0*	36.0	26.0
MT0128930	Outdoor	11.0	36.0	25.0
AM0135060	Outdoor	12.0	36.0	24.0
RW-9401-5002	Outdoor	11.5	36.0	24.5
RW-9732-4958	Point - Point	31.0*	53.0	22.0
RW-9721-5158	Point - Point	27.0*	53.0	26.0
RW-9622-5001	Point - Point	28.0*	53.0	25.0
RW-9612-5001	Point - Point	22.0*	52.0	30.0
MT0070760	Point - Point	23.5	53.0	28.5
AM0111760	Point - Point	16.0	46.0	30.0

* The gain includes 1 dB feeder cable loss for external antennas

The AP0127730, AP0134760 has no beam-forming capability. The EUT operates in four different bandwidth modes;- 5 MHz; 10 MHz; 20 MHz; and 40 MHz. The 30 dBm limits are calculated for each mode along with the conducted power measurements for each antenna presented in this section of the test report.

Consolidated Power Results

The EUT was tested for radiated spurious emissions and radiated band-edge emissions and the following tables define the worst case compliant results defined for each parameter

Antenna Type - Outdoor

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
RW-9061-5002	14.5	5	5157	0.5	0.5	0.5
			5200	15.5		15.5
			5245	15.5		15.5
		10	5162		2.5	2.5
			5200			
			5245			
		20	5165		0.5	0.5
			5200			
			5240			
		40	5172		-1.5	-1.5
			5200			
			5230			

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
MT0128930	11	5	5157	7.5	1.5	1.5
			5200	18		18.0
			5245	18		18.0
		10	5162		4.0	4.0
			5200			
			5245			
		20	5165		2.0	2.0
			5200			
			5240			
		40	5172		-1.0	-1.0
			5200			
			5230			

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
AM0135060	12	5	5157	4.5	3.0	4.0
			5200	18.0		18.0
			5245	18.0		18.0
		10	5162		6.0	6.0
			5200			
			5245			
		20	5165		4.0	4.0
			5200			
			5240			
		40	5172		0.0	0.0
			5200			
			5230			

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
RW-9401-5002	12.5	5	5157	4.5	4.5	4.5
			5200	18.0		18.0
			5245	18.0		18.0
		10	5162		6.0	6.0
			5200			
			5245			
		20	5165		4.0	4.0
			5200			
			5240			
		40	5172		9.5	9.5
			5200			
			5230			

Antenna Type – Point - Point

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
RW-9732-4958	31	5	5157	-11.0	-11.0	-11.0
			5200	14.0		14.0
			5245	18.0		18.0
		10	5162		-10.0	-10.0
			5200			
			5245			
		20	5165		-12.0	-12.0
			5200			
			5240			
		40	5172		-13.0	-13.0
			5200			
			5230			

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
RW-9622-5001	28	5	5157	-10.0	-10.0	-10.0
			5200	17.5		17.5
			5245	19.0		19.0
		10	5162		-9.0	-9.0
			5200			
			5245			
		20	5165		-12.0	-12.0
			5200			
			5240			
		40	5172		-14.0	-14.0
			5200			
			5230			

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
MT0070760	23.5	5	5157	0.5	-7.0	-7.0
			5200	19.0		19.0
			5245	18.5		18.5
		10	5162		-5.0	-5.0
			5200			
			5245			
		20	5165		-8.0	-8.0
			5200			
			5240			
		40	5172		-11.0	-11.0
			5200			
			5230			

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	Final Setting
AM0111760	16	5	5157	0.5	0.5	0.5
			5200	23.0		23.0
			5245	23.0		23.0
		10	5162		2.5	2.5
			5200			
			5245			
		20	5165		0.5	0.5
			5200			
			5240			
		40	5172		-3.0	-3.0
			5200			
			5230			

Measurement Results for Maximum Conducted Output Power

The following tables used the lowest gain antenna (11 dBi) to calculate the maximum conducted power from the EUT. The output power was corrected for duty cycle. The output power on the channel closest to the 5150 MHz restricted band was reduced in order to comply with the band-edge limits.

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix are measured values		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5157.0	5.62	4.82	--	--	8.29	N/A	30.00	-21.71	4.50
5200.0	18.70	19.33	--	--	22.08	N/A	30.00	-7.92	19.00
5245.0	21.42	19.22	--	--	23.51	N/A	30.00	-6.49	19.00

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

Equipment Configuration for Peak Transmit Power			
Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix are measured values		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5162.0	9.11	6.50	--	--	11.10	N/A	30.00	-18.90	6.00
5200.0	24.72	23.87	--	--	27.41	N/A	30.00	-2.59	22.00
5245.0	23.51	23.84	--	--	26.78	N/A	30.00	-3.22	22.00

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

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix are measured values		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5165.0	4.14	5.62	--	--	8.13	N/A	30.00	-21.87	4.00
5200.0	20.45	20.83	--	--	23.83	N/A	30.00	-6.17	19.00
5240.0	25.26	24.90	--	--	28.27	N/A	30.00	-1.73	23.00

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix are measured values		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	
5172.0	9.83	9.84	--	--	13.21	N/A	30.00	-16.79	9.50
5230.0	20.28	18.83	--	--	22.99	N/A	30.00	-7.01	19.00

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

The following Output Power tables define the maximum permissible power (EIRP) that can be transmitted per antenna. The following sections are split into two FCC equipment categories "Outdoor Equipment" +36 dBm EIRP limits and "Point – Point Equipment" +53 dBm EIRP limits. The output power specified in the following tables takes into account the power setting obtained from testing Radiated Spurious Emissions and Radiated Band-Edge

11 dBi Antenna – Outdoor Equipment

Equipment Configuration for Peak Transmit Power

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	9.11	6.5	--	--	11.01	N/A	36	22.01	-13.99
5200.0	22.31	21.46	--	--	24.92	N/A	36	35.92	-0.08
5245.0	21.73	22.06	--	--	24.91	N/A	36	35.91	-0.09

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

Equipment Configuration for Peak Transmit Power

Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	9.11	6.5	--	--	11.01	N/A	36	22.01	-13.99
5200.0	22.31	21.46	--	--	24.92	N/A	36	35.92	-0.08
5245.0	21.73	22.06	--	--	24.91	N/A	36	35.91	-0.09

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

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	4.14	5.62	--	--	7.95	N/A	36	18.95	-17.05
5200.0	20.45	20.83	--	--	23.65	N/A	36	34.65	-1.35
5240.0	21.99	21.63	--	--	24.82	N/A	36	35.82	-0.18

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	9.83	9.84	--	--	12.85	N/A	36	23.85	-12.15
5230.0	20.28	18.83	--	--	22.63	N/A	36	33.63	-2.37

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

12 dBi Antenna – Outdoor Equipment

Equipment Configuration for Peak Transmit Power

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	9.11	6.5	--	--	11.01	N/A	36	22.51	-13.49
5200.0	21.31	20.46	--	--	23.92	N/A	36	35.42	-0.58
5245.0	20.73	21.06	--	--	23.91	N/A	36	35.41	-0.59

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

Equipment Configuration for Peak Transmit Power

Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	9.11	6.5	--	--	11.01	N/A	36	22.51	-13.49
5200.0	21.31	20.46	--	--	23.92	N/A	36	35.42	-0.58
5245.0	20.73	21.06	--	--	23.91	N/A	36	35.41	-0.59

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

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	4.14	5.62	--	--	7.95	N/A	36	19.45	-16.55
5200.0	20.45	20.83	--	--	23.65	N/A	36	35.15	-0.85
5240.0	20.99	20.63	--	--	23.82	N/A	36	35.32	-0.68

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	9.83	9.84	--	--	12.85	N/A	36	24.35	-11.65
5230.0	20.28	18.83	--	--	22.63	N/A	36	34.13	-1.87

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

11.5 dBi Antenna – Outdoor Equipment

Equipment Configuration for Peak Transmit Power

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	10.11	7.5	--	--	12.01	N/A	36	23.51	-12.49
5200.0	21.81	20.96	--	--	24.42	N/A	36	35.92	-0.08
5245.0	21.23	21.56	--	--	24.41	N/A	36	35.91	-0.09

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

Equipment Configuration for Peak Transmit Power

Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	10.11	7.5	--	--	12.01	N/A	36	23.51	-12.49
5200.0	21.81	20.96	--	--	24.42	N/A	36	35.92	-0.08
5245.0	21.23	21.56	--	--	24.41	N/A	36	35.91	-0.09

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	5.14	6.62	--	--	8.95	N/A	36	20.45	-15.55
5200.0	20.45	20.83	--	--	23.65	N/A	36	35.15	-0.85
5240.0	21.49	21.13	--	--	24.32	N/A	36	35.82	-0.18

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	10.83	10.84	--	--	13.85	N/A	36	25.35	-10.65
5230.0	21.28	19.83	--	--	23.63	N/A	36	35.13	-0.87

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

15.5 dBi Antenna – Outdoor Equipment

Equipment Configuration for Peak Transmit Power

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	15.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	10.11	7.5	--	--	12.01	N/A	36	26.51	-9.49
5200.0	18.81	17.96	--	--	21.42	N/A	36	35.92	-0.08
5245.0	18.23	18.56	--	--	21.41	N/A	36	35.91	-0.09

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

Equipment Configuration for Peak Transmit Power

Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	15.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	10.11	7.5	--	--	12.01	N/A	36	26.51	-9.49
5200.0	18.81	17.96	--	--	21.42	N/A	36	35.92	-0.08
5245.0	18.23	18.56	--	--	21.41	N/A	36	35.91	-0.09

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

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	15.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	5.14	6.62	--	--	8.95	N/A	36	23.45	-12.55
5200.0	17.45	17.83	--	--	20.65	N/A	36	35.15	-0.85
5240.0	18.49	18.13	--	--	21.32	N/A	36	35.82	-0.18

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	15.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	10.83	10.84	--	--	13.85	N/A	36	28.35	-7.65
5230.0	18.79	17.34	--	--	21.14	N/A	36	35.64	-0.36

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

The following Output Power tables define the maximum permissible power (EIRP) that can be transmitted. The equipment falls under the FCC category of "Point - Point Equipment" +53 dBm EIRP limit.

16 dBi Antenna – Point - Point Equipment

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	16
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	9.11	6.5	--	--	11.01	N/A	53	27.01	-25.99
5200.0	24.72	23.87	--	--	27.33	N/A	53	43.33	-9.67
5245.0	23.51	23.84	--	--	26.69	N/A	53	42.69	-10.31

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

Equipment Configuration for Peak Transmit Power			
Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	16
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	9.11	6.5	--	--	11.01	N/A	53	27.01	-25.99
5200.0	24.72	23.87	--	--	27.33	N/A	53	43.33	-9.67
5245.0	23.51	23.84	--	--	26.69	N/A	53	42.69	-10.31

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

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	16
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	4.14	5.62	--	--	7.95	N/A	53	23.95	-29.05
5200.0	20.45	20.83	--	--	23.65	N/A	53	39.65	-13.35
5240.0	25.26	24.9	--	--	28.09	N/A	53	44.09	-8.91

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	16
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	9.83	9.84	--	--	12.85	N/A	53	28.85	-24.15
5230.0	20.28	18.83	--	--	22.63	N/A	53	38.63	-14.37

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

23.5 dBi Antenna – Point - Point Equipment

Equipment Configuration for Peak Transmit Power

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	23.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	9.11	6.5	--	--	11.01	N/A	53	34.51	-18.49
5200.0	24.72	23.87	--	--	27.33	N/A	53	50.83	-2.17
5245.0	23.51	23.84	--	--	26.69	N/A	53	50.19	-2.81

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

Equipment Configuration for Peak Transmit Power

Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	23.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	9.11	6.5	--	--	11.01	N/A	53	34.51	-18.49
5200.0	24.72	23.87	--	--	27.33	N/A	53	50.83	-2.17
5245.0	23.51	23.84	--	--	26.69	N/A	53	50.19	-2.81

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	23.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	4.14	5.62	--	--	7.95	N/A	53	31.45	-21.55
5200.0	20.45	20.83	--	--	23.65	N/A	53	47.15	-5.85
5240.0	25.26	24.9	--	--	28.09	N/A	53	51.59	-1.41

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	23.5
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	9.83	9.84	--	--	12.85	N/A	53	36.35	-16.65
5230.0	20.28	18.83	--	--	22.63	N/A	53	46.13	-6.87

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

29 dBi Antenna – Point - Point Equipment

Equipment Configuration for Peak Transmit Power

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	28
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	10.11	7.5	--	--	12.01	N/A	53	40.01	-12.99
5200.0	22.31	21.46	--	--	24.92	N/A	53	52.92	-0.08
5245.0	21.73	22.06	--	--	24.91	N/A	53	52.91	-0.09

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

Equipment Configuration for Peak Transmit Power

Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	28
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	10.11	7.5	--	--	12.01	N/A	53	40.01	-12.99
5200.0	22.31	21.46	--	--	24.92	N/A	53	52.92	-0.08
5245.0	21.73	22.06	--	--	24.91	N/A	53	52.91	-0.09

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	28
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	5.14	6.62	--	--	8.95	N/A	53	36.95	-16.05
5200.0	21.45	21.83	--	--	24.65	N/A	53	52.65	-0.35
5240.0	21.99	21.63	--	--	24.82	N/A	53	52.82	-0.18

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	28
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	10.83	10.84	--	--	13.85	N/A	53	41.85	-11.15
5230.0	21.28	19.83	--	--	23.63	N/A	53	51.63	-1.37

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

32 dBi Antenna – Point - Point Equipment

Equipment Configuration for Peak Transmit Power

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	31
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5157.0	10.11	7.5	--	--	12.01	N/A	53	43.01	-9.99
5200.0	19.31	18.46	--	--	21.92	N/A	53	52.92	-0.08
5245.0	18.73	19.06	--	--	21.91	N/A	53	52.91	-0.09

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

Equipment Configuration for Peak Transmit Power

Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	31
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5162.0	10.11	7.5	--	--	12.01	N/A	53	43.01	-9.99
5200.0	19.31	18.46	--	--	21.92	N/A	53	52.92	-0.08
5245.0	18.73	19.06	--	--	21.91	N/A	53	52.91	-0.09

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

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	31
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	EIRP	Margin
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dBm	dB
5165.0	5.14	6.62	--	--	8.95	N/A	53	39.95	-13.05
5200.0	18.62	19.00	--	--	21.82	N/A	53	52.82	-0.18
5240.0	18.99	18.63	--	--	21.82	N/A	53	52.82	-0.18

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

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	31
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:	The data contained in this matrix were calculated values based on measured data		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	Margin
MHz	a	b	c	d	Σ Port(s) dBm	dB	dBm	dBm	dB
5172.0	10.83	10.84	--	--	13.85	N/A	53	44.85	-8.15
5230.0	19.29	17.84	--	--	21.64	N/A	53	52.64	-0.36

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

Specification Limits

FCC, Part 15 §15.407 (a)(1), (a)(2)

(a)(1)(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

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

(a)(1)(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

6.1.1.3. Peak Power Spectral Density

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

Test Procedure for Power Spectral Density

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

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

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

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

x = Duty Cycle

Using the lowest gain antenna (11 dBi) the measured Power Spectral Density values were the highest values that the equipment can transmit. As can be observed in the Maximum Conducted Output Power as the antenna gain increases the power is reduced according to the regulations, as a result the Power Spectral Density follows and will comply with the regulations.

Equipment Configuration for Peak Power Spectral Density

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5157.0	0.387	-0.846	--	--	2.619	17.0	-14.4
5200.0	13.915	13.328	--	--	16.232	17.0	**-0.8**
5245.0	14.131	13.850	--	--	16.382	17.0	**-0.6**

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Peak Power Spectral Density			
Variant:	10 MHz	**Duty Cycle (%):**	98.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5162.0	-2.576	-1.726	--	--	0.924	17.0	-16.1
5200.0	13.739	13.751	--	--	16.348	17.0	**-0.7**
5245.0	13.631	13.753	--	--	16.270	17.0	**-0.7**

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Peak Power Spectral Density			
Variant:	20 MHz	**Duty Cycle (%):**	96.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+0.18 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5165.0	-6.264	-6.852	--	--	-3.503	17.0	-20.5
5200.0	8.156	8.257	--	--	11.303	17.0	**-5.7**
5240.0	12.415	11.946	--	--	15.271	17.0	**-1.7**

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Peak Power Spectral Density			
Variant:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+0.36 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5172.0	-4.134	-4.033	--	--	-0.829	17.0	-17.8
5230.0	5.238	5.228	--	--	8.601	17.0	-8.4

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

DCCF - Duty Cycle Correction Factor

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

Specification

FCC, Part 15 §15.407 (a)(1), (a)(2)

(a)(1)(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

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

(a)(1)(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

6.1.1.4. Frequency Stability

FCC, Part 15 Subpart C §15.407(g)

Test Procedure

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

Manufacturer Declaration

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

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

Specification

Limits

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

6.1.2. Radiated Emission Testing

FCC, Part 15 Subpart C §15.407(b)(2), §15.205(a)/15.209(a)

Test Procedure

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

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

Field Strength Calculation

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

FS = R + AF + CORR – FO

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

CORR = Correction Factor = CL – AG + NFL

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

Field Strength Calculation Example:

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

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

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

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

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

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

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

where P is the EIRP in Watts

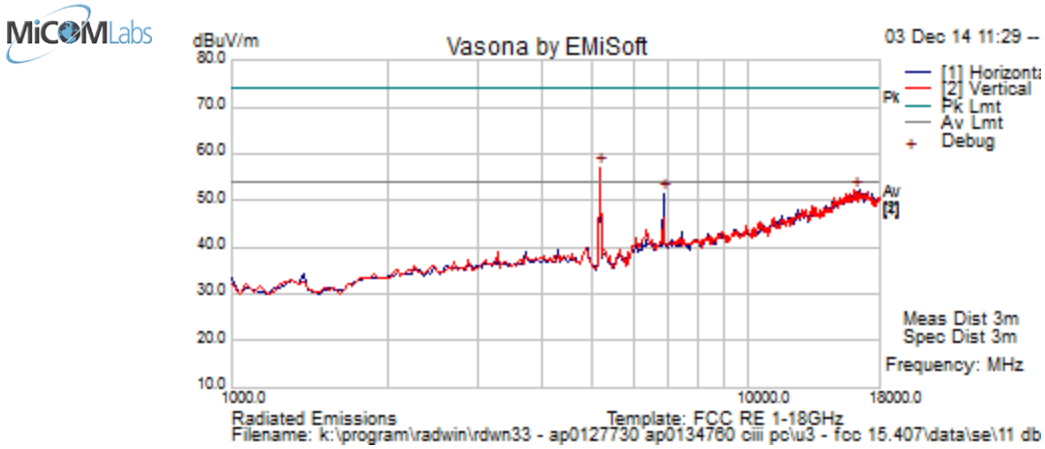
Therefore: -27 dBm/MHz = 68.23 dBuV/m

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

6.1.2.1. Outdoor Equipment Antenna

11 dBi Antenna MT0128930 Outdoor Equipment

Test Freq.	5157 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	7.5	**Press. (mBars)**	800
Antenna	11 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	11dBi Sector, MT0128930		

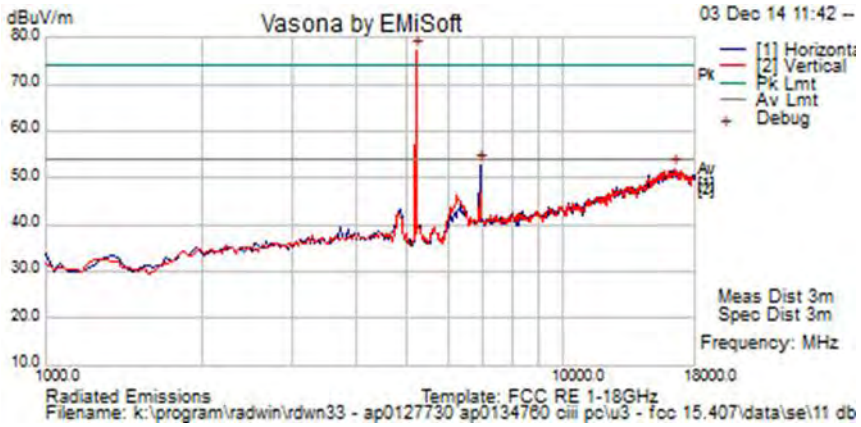


Formally measured emission peaks

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
5156.31263	62.7	5.9	-11.6	57.0	Peak [Scan]	V						FUND
16058.116	39.5	11.9	0.8	52.3	Peak [Scan]	V	200	0	54	-1.7	Pass	Noise
6859.719	52.3	6.9	-7.7	51.5	Peak [Scan]	H	150					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	18	**Press. (mBars)**	800
Antenna	11 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	11dBi Sector, MT0128930		

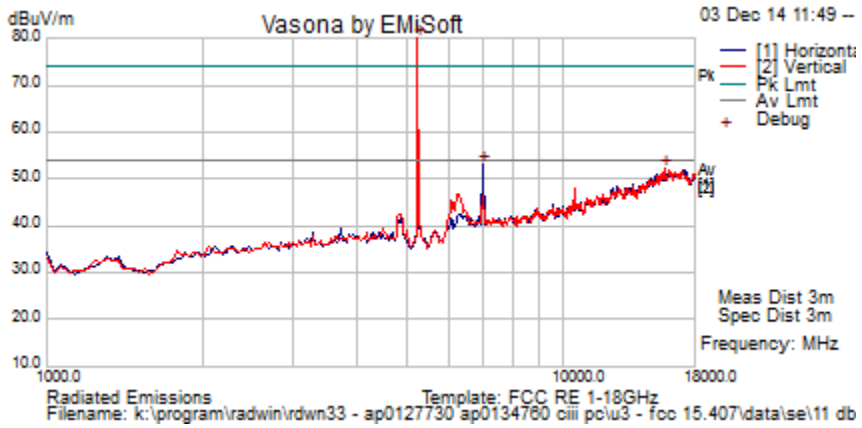


Formally measured emission peaks

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
5190.381	82.8	5.9	-11.5	77.2	Peak [Scan]							FUND
6927.85571	53.3	7.0	-7.5	52.8	Peak [Scan]	H						NRB
16466.934	38.2	12.0	1.7	51.9	Peak [Scan]	H	100	0	54	-2.1	Pass	Noise

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	18	**Press. (mBars)**	800
Antenna	11 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	11dBi Sector, MT0128930		



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
5224.4489	85.6	5.9	-11.4	80.2	Peak [Scan]							FUND
6995.992	53.5	7.0	-7.5	53.1	Peak [Scan]	H						NRB
15683.367	40.4	11.6	0.2	52.2	Peak [Scan]	V	100	0	54	-1.8	Pass	Noise

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

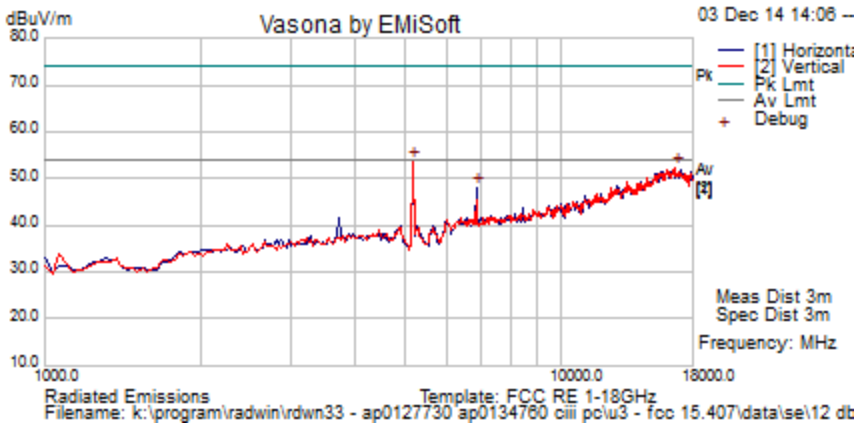
11 dBi Antenna MT0128930 - Radiated Band-Edge

Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	73.07	45.45	1.5
10	73.66	51.00	4.0
20	73.92	53.95	2.0
40	73.54	52.33	-1.0

12 dBi Antenna - AM0135060 Outdoor Equipment

Test Freq.	5157 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	4.5	**Press. (mBars)**	800
Antenna	12 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	12dBi Sector, AM0135060		

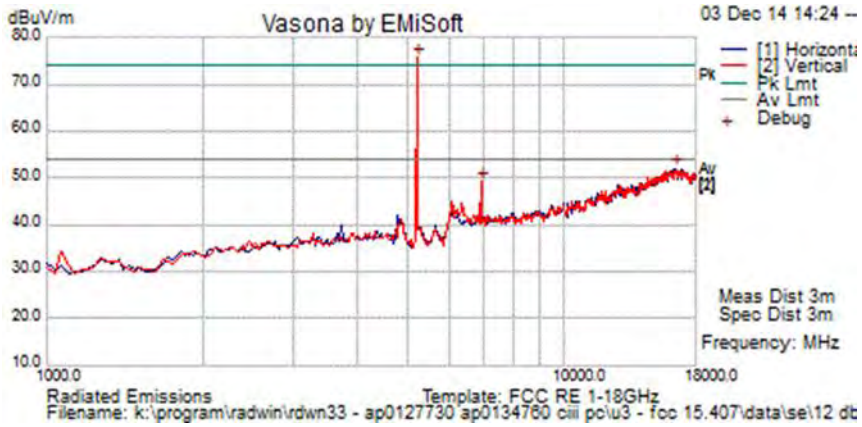


Formally measured emission peaks

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
5156.31263	59.3	5.9	-11.6	53.6	Peak [Scan]	V						FUND
16637.275	38.9	12.0	1.6	52.4	Peak [Scan]	V	200	0	54	-1.6	Pass	Noise
6859.719	48.9	6.9	-7.7	48.1	Peak [Scan]	H	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	18	**Press. (mBars)**	800
Antenna	12 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	12dBi Sector, AM0135060		

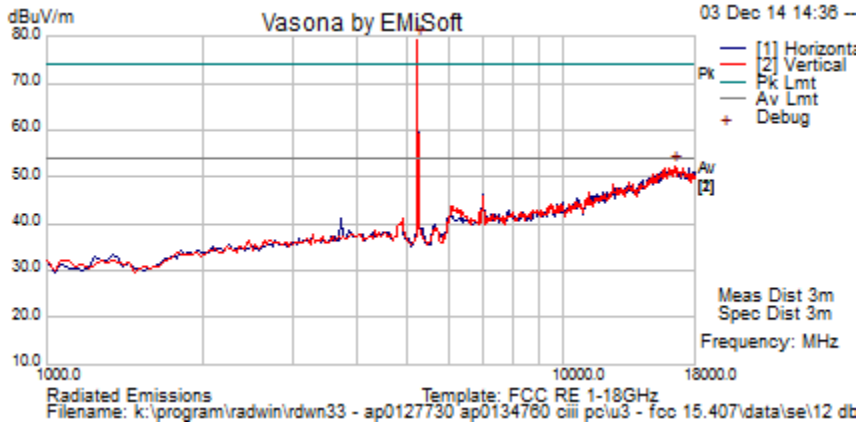


Formally measured emission peaks

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
5190.381	81.2	5.9	-11.5	75.6	Peak [Scan]							FUND
16466.934	38.2	12.0	1.7	51.9	Peak [Scan]	H	100	0	54.0	-2.1	Pass	Noise
6927.856	49.7	7.0	-7.5	49.2	Peak [Scan]	V						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	18	**Press. (mBars)**	800
Antenna	12 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	12dBi Sector, AM0135060		



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
5224.4489	85.0	5.9	-11.4	79.5	Peak [Scan]							FUND
16466.934	38.7	12.0	1.7	52.4	Peak [Scan]	H	100	0	54	-1.6	Pass	Noise

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

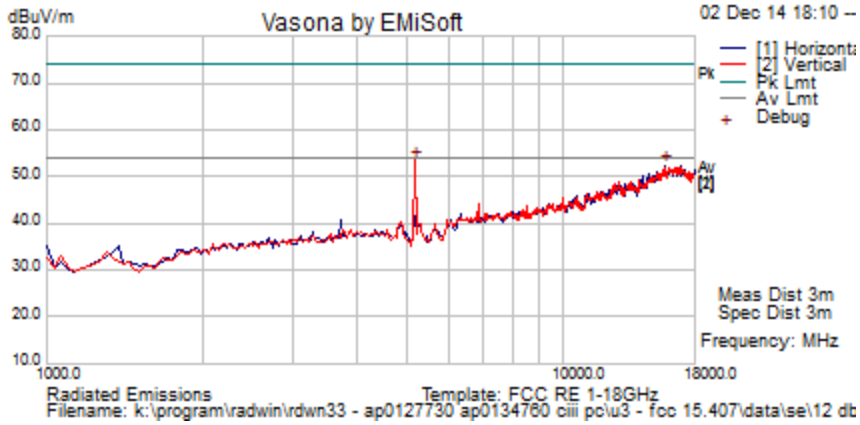
12 dBi Antenna - AM0135060 - Radiated Band-Edge

Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	73.83	44.03	3.0
10	73.49	50.22	6.0
20	73.07	53.87	4.0
40	72.83	51.58	0.0

12 dBi Antenna - RW-9401-5002 Outdoor Equipment

Test Freq.	5157 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	4.5	**Press. (mBars)**	800
Antenna	12 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	12dBi Mobile Antenna, RW-9401-5002		

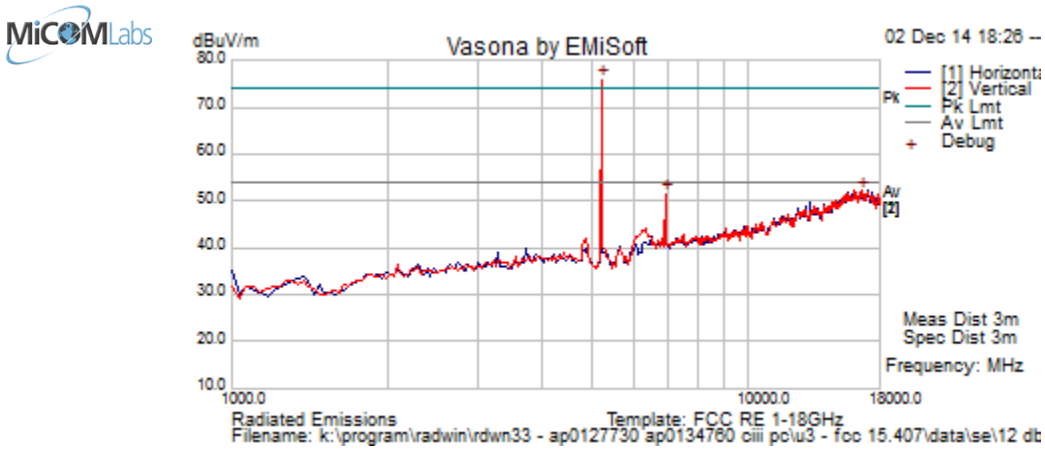


Formally measured emission peaks

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
5156.31263	59.3	5.9	-11.6	53.6	Peak [Scan]	V						FUND
15683.367	40.5	11.6	0.2	52.3	Peak [Scan]	H	100	0	54	-1.7	Pass	Noise

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	18	**Press. (mBars)**	800
Antenna	12 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	12dBi Mobile Antenna, RW-9401-5002		

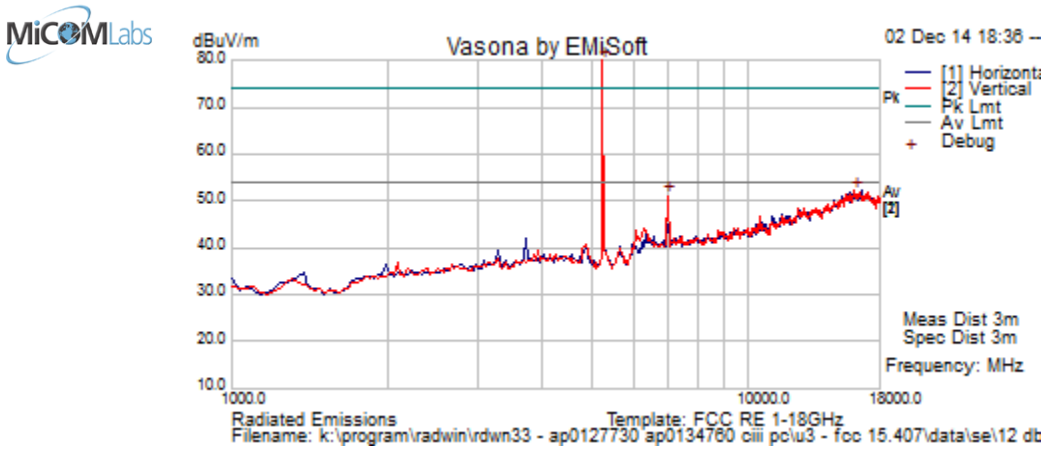


Formally measured emission peaks

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
5190.381	81.6	5.9	-11.5	76.0	Peak [Scan]							FUND
16569.138	38.7	11.9	1.6	52.3	Peak [Scan]	V	150	0	54.0	-1.7	Pass	Noise
6927.856	52.2	7.0	-7.5	51.6	Peak [Scan]	V						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	18	**Press. (mBars)**	800
Antenna	12 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# EUT has no serial number		
Test Notes 2	12dBi Mobile Antenna, RW-9401-5002		



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
5224.4489	85.4	5.9	-11.4	80.0	Peak [Scan]							Fund
16058.116	39.3	11.9	0.8	52.1	Peak [Scan]	V	200	0	54	-1.9	Pass	Noise
6995.992	51.6	7.0	-7.5	51.2	Peak [Scan]	V						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

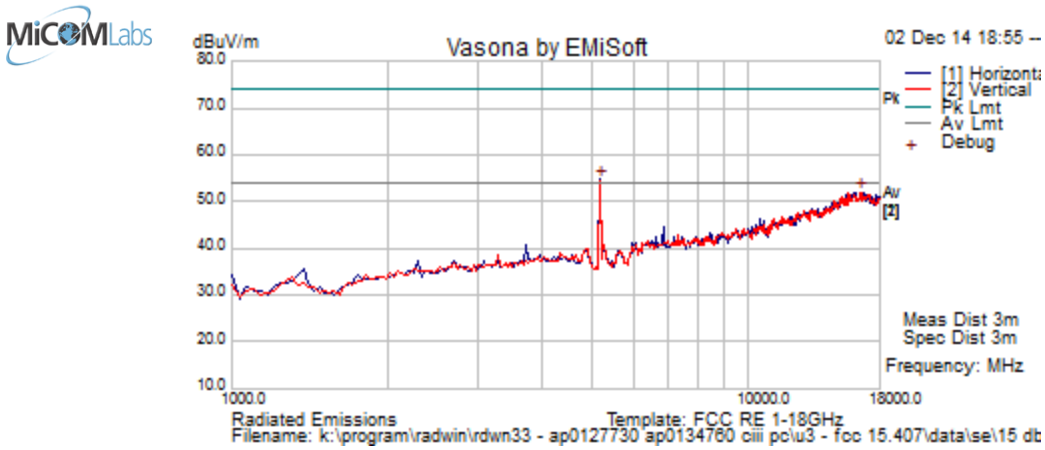
12 dBi Antenna - RW-9401-5002 - Radiated Band-Edge

Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	73.96	45.84	4.5
10	73.84	49.52	6.0
20	73.30	53.61	4.0
40	72.05	48.67	9.5

15.5 dBi Antenna - RW-9061-5002 Outdoor Equipment

Test Freq.	5157 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	0.5	**Press. (mBars)**	800
Antenna	15 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	15 dBi Sector, RW-9061-5002		

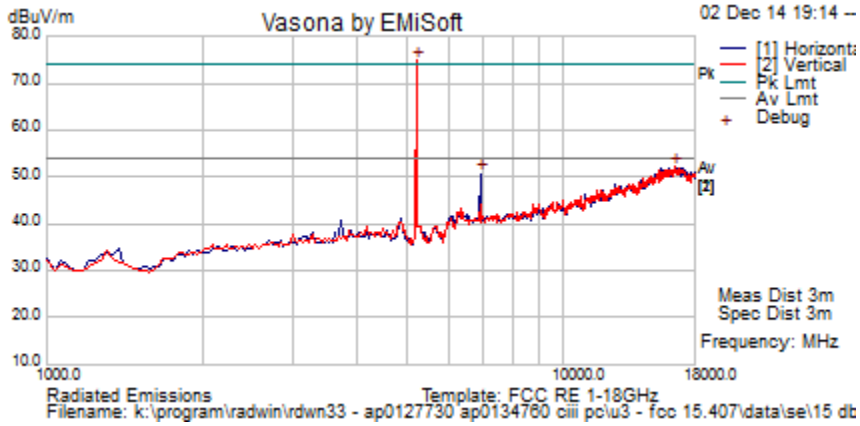


Formally measured emission peaks

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
5156.31263	60.4	5.9	-11.6	54.7	Peak [Scan]	H						FUND
16432.866	38.3	12.0	1.7	52.0	Peak [Scan]	V	100	0	54	-2.0	Pass	Noise

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	15.5	**Press. (mBars)**	800
Antenna	15 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	15 dBi Sector, RW-9061-5002		

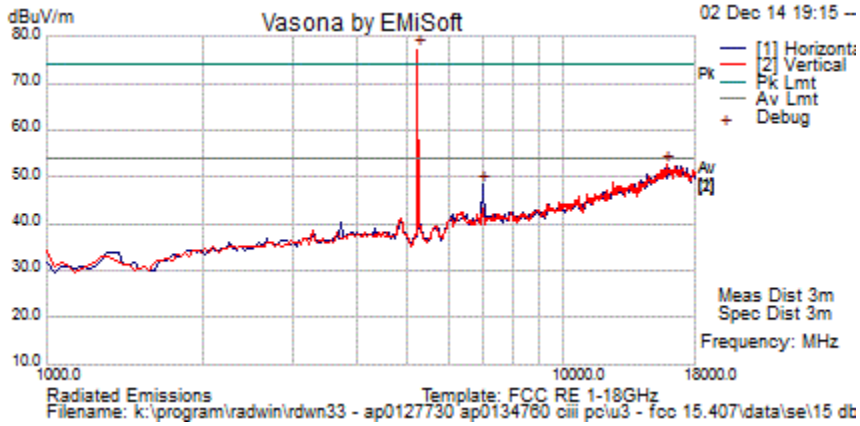


Formally measured emission peaks

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
5190.381	80.5	5.9	-11.5	74.9	Peak [Scan]							Fund
16398.798	38.6	12.0	1.6	52.1	Peak [Scan]	V	100	0	54.0	-1.9	Pass	Noise
6927.856	51.2	7.0	-7.5	50.7	Peak [Scan]	H						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	15.5	**Press. (mBars)**	800
Antenna	15 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	15 dBi Sector, RW-9061-5002		



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
5224.449	82.7	5.9	-11.4	77.2	Peak [Scan]	V						FUND
15853.707	40.7	11.8	0	52.5	Peak [Scan]	V	100	0	54	-1.5	Pass	Noise
6995.992	48.8	7	-7.4	48.3	Peak [Scan]	H	150					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

15.5 dBi Antenna - RW-9061-5002 - Radiated Band-Edge

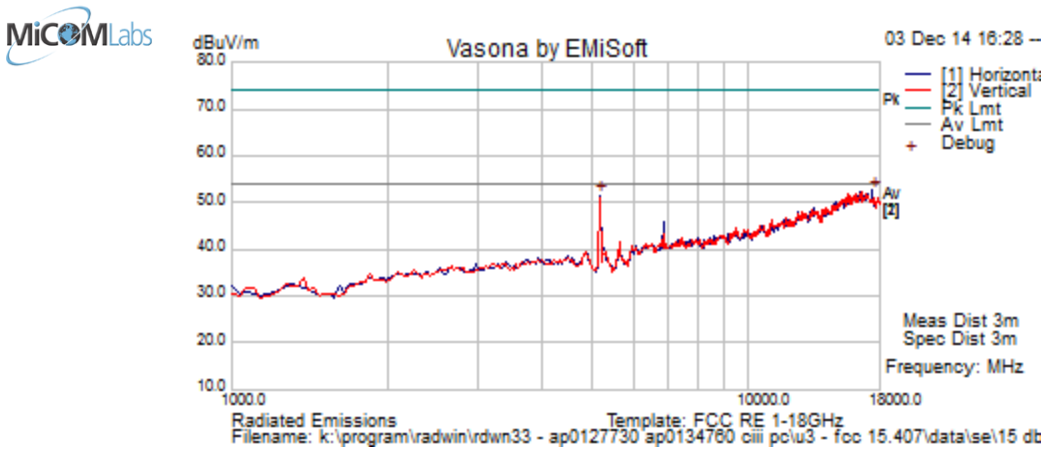
Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	71.84	42.17	0.5
10	73.46	50.11	2.5
20	70.12	52.23	0.5
40	73.72	52.43	-1.5

6.1.2.2. Point - Point Equipment Antenna

16 dBi Antenna - AM0111760 Point - Point

Test Freq.	5157 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	0.5	**Press. (mBars)**	800
Antenna	15 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	16 dBi Panel, AM0111760		

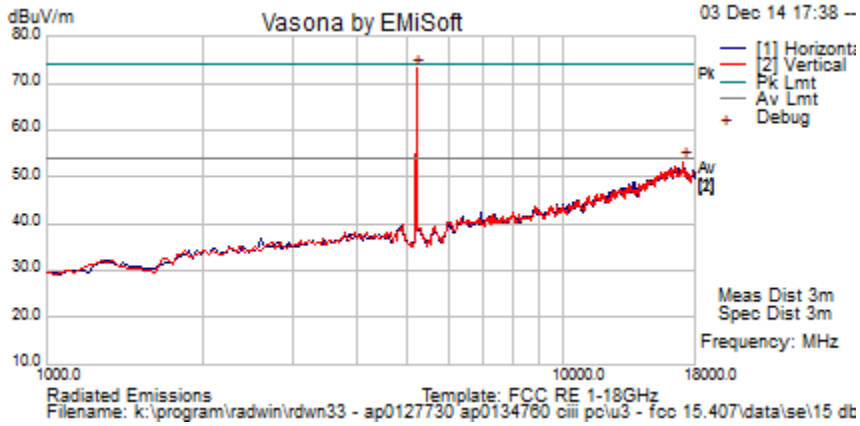


Formally measured emission peaks

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
17420.842	40.5	12.4	-0.3	52.5	Peak [Scan]	H	100	0	54.0	-1.5	Pass	Noise
5156.313	57.3	5.9	-11.6	51.6	Peak [Scan]							FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	23	**Press. (mBars)**	800
Antenna	15 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	16 dBi Panel, AM0111760		

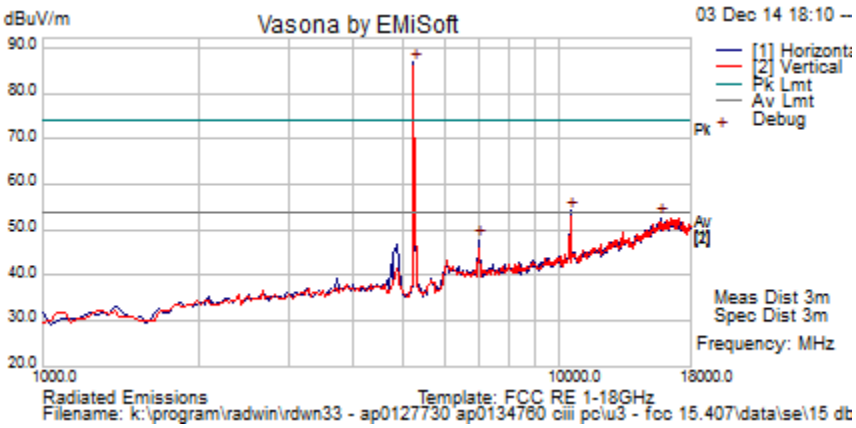


Formally measured emission peaks

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
5190.381	87.7	5.9	-11.5	82.1	Peak [Scan]							FUND
16160.321	39.2	12.0	1.1	52.3	Peak [Scan]	H	100	0	54.0	-1.7	Pass	Noise
6927.856	50.5	7.0	-7.5	50.0	Peak [Scan]	H						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	23	**Press. (mBars)**	800
Antenna	15 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	16 dBi Panel, AM0111760		



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
5224.4489	92.2	5.9	-11.4	86.7	Peak [Scan]							FUND
10505.010	49.5	9.0	-4.3	54.2	Peak [Scan]	H						NRB
15751.503	40.8	11.7	0.2	52.6	Peak [Scan]	H	100	0	54	-1.4	Pass	Noise
6995.479	48.1	7.0	-7.5	47.7	Peak [Scan]	H						NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

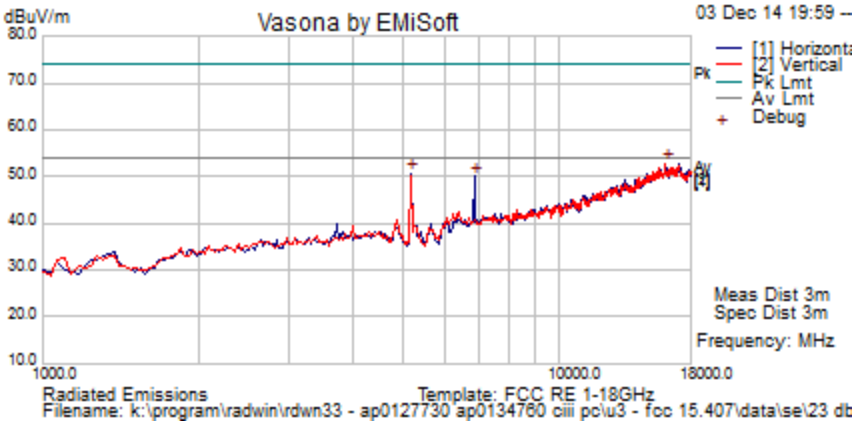
16 dBi Antenna - AM0111760 - Radiated Band-Edge

Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	71.72	43.32	0.5
10	72.90	51.58	2.5
20	70.00	53.27	0.5
40	73.87	52.16	-3.0

23.5 dBi Antenna - MT0070760 Point – Point

Test Freq.	5157 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	0.5	**Press. (mBars)**	800
Antenna	23 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	23.5 dBi Panel, MT0070760		

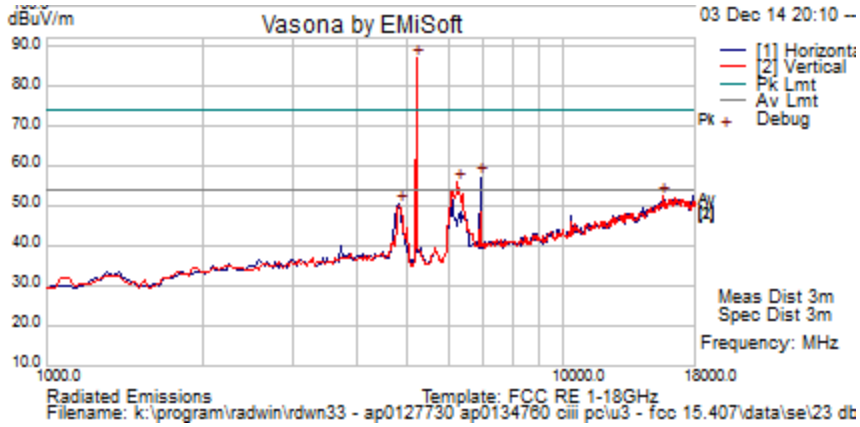


Formally measured emission peaks

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
16058.116	40.1	11.9	0.8	52.9	Peak [Scan]	V	100	0	54.0	-1.1	Pass	Noise
5156.313	56.4	5.9	-11.6	50.7	Peak [Scan]	H						Fund
6859.719	50.9	6.9	-7.7	50.2	Peak [Scan]	H	100					NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	19	**Press. (mBars)**	800
Antenna	23 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	23.5 dBi Panel, MT0070760		

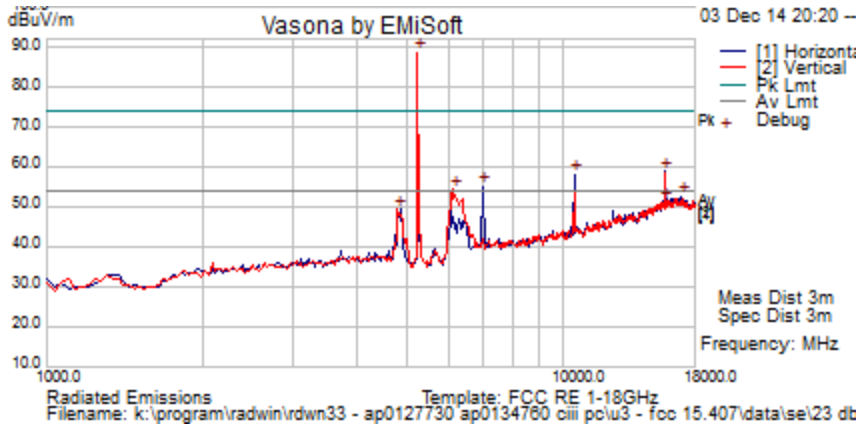


Formally measured emission peaks

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
5190.381	92.6	5.9	-11.5	87.0	Peak [Scan]							FUND
6927.85571	57.6	7.0	-7.5	57.1	Peak [Scan]	H						NRB
6246.493	57.9	6.6	-8.6	55.9	Peak [Scan]	V						NRB
15615.230	41.1	11.5	-0.1	52.5	Peak [Scan]	V	100	0	54	-1.5	Pass	Noise
4815.631	55.9	5.7	-11.2	50.4	Peak [Scan]	H	100	0	54	-3.6	Pass	BE RB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	17.5
Freq. Range	1-18 G	**Rel. Hum.(%)**	67
Power Setting	18.5	**Press. (mBars)**	800
Antenna	23 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	23.5 dBi Panel, MT0070760		



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
5224.4489	94.2	5.9	-11.4	88.7	Peak [Scan]							
15736.723	47.1	11.7	0.2	59.0	Peak	H	100	0	74	-15.1	Pass	RB
15734.210	39.5	11.6	0.2	51.3	Average	H	98	-3	54	-2.7	Pass	RB
10505.010	53.5	9.0	-4.3	58.2	Peak [Scan]	H						NRB
6995.992	55.6	7.0	-7.5	55.1	Peak [Scan]	H						NRB
6144.289	57.1	6.5	-9.2	54.3	Peak [Scan]	V						NRB
16977.956	39.4	12.4	0.8	52.6	Peak [Scan]	H	200	0	54	-1.4	Pass	Noise
4781.563	54.8	5.6	-11.1	49.3	Peak [Scan]	V	100	0	54	-4.7	Pass	BE RB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

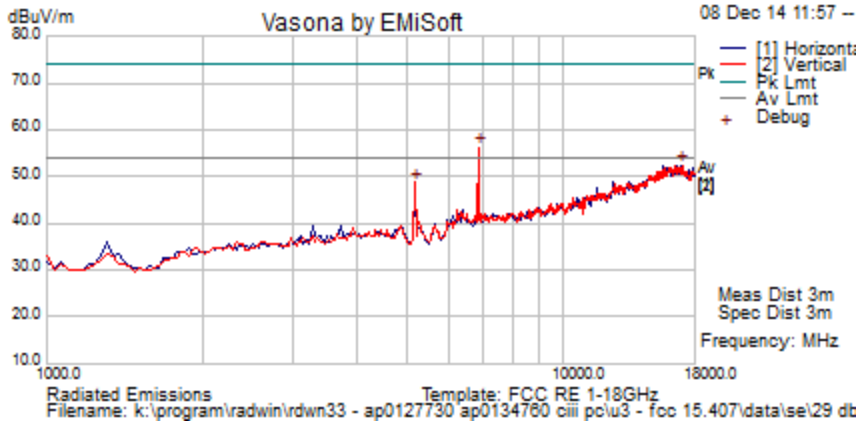
23.5 dBi Antenna - MT0070760 - Radiated Band-Edge

Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	72.05	47.64	-7.0
10	72.48	49.86	-5.0
20	69.61	53.24	-8.0
40	73.24	52.53	-11.0

29dBi Antenna - RW-9622-5001 Point – Point

Test Freq.	5157 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	18
Freq. Range	1-18 G	**Rel. Hum.(%)**	59
Power Setting	-10	**Press. (mBars)**	848
Antenna	29 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	29 dBi Panel, RW-9622-5001		

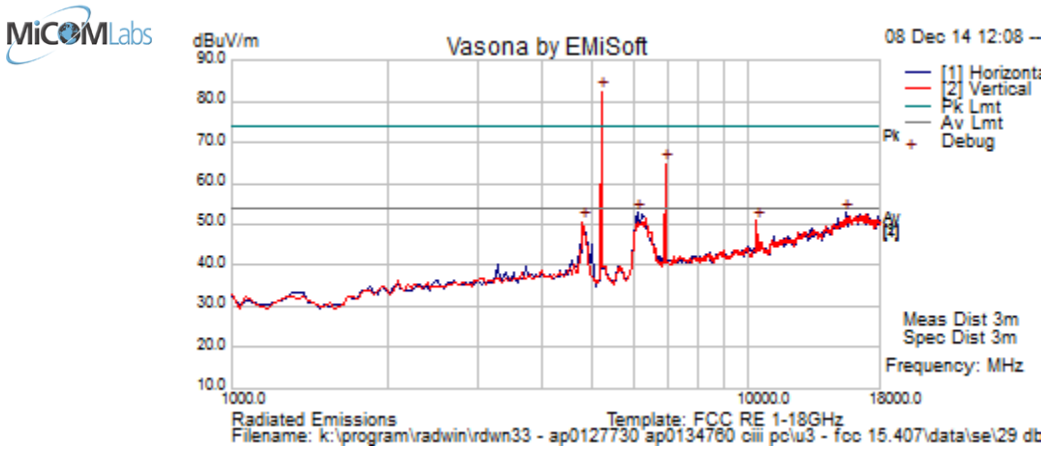


Formally measured emission peaks

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
6859.71944	57.0	6.9	-7.7	56.3	Peak [Scan]	V	100					NRB
16909.820	39.3	12.3	0.9	52.5	Peak [Scan]	H	100	0	54	-1.5	Pass	Noise
5156.313	54.3	5.9	-11.6	48.6	Peak [Scan]	V						FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	18
Freq. Range	1-18 G	**Rel. Hum.(%)**	59
Power Setting	17.5	**Press. (mBars)**	848
Antenna	29 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	29 dBi Panel, RW-9622-5001		

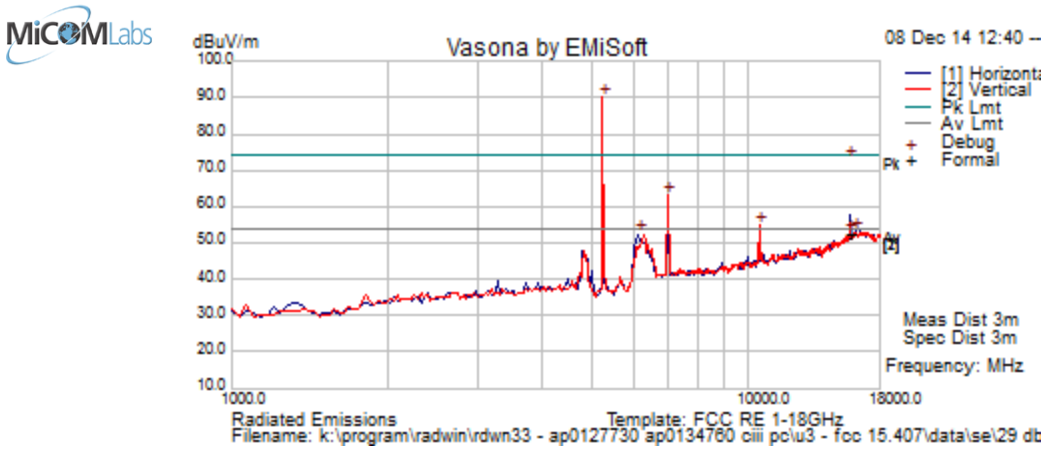


Formally measured emission peaks

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
5190.381	88.1	5.9	-11.5	82.5	Peak [Scan]							FUND
6927.85571	65.4	7.0	-7.5	64.9	Peak [Scan]	V						NRB
6110.220	55.9	6.5	-9.5	52.9	Peak [Scan]	H						NRB
15478.958	42.3	11.4	-0.9	52.8	Peak [Scan]	H	100	0	54	-1.2	Pass	Noise
10402.806	46.9	9.0	-5.0	50.8	Peak [Scan]	V						NRB
4781.563	56.2	5.6	-11.1	50.7	Peak [Scan]	V	100	0	54	-3.3	Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	18
Freq. Range	1-18 G	**Rel. Hum.(%)**	59
Power Setting		**Press. (mBars)**	848
Antenna	29 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	29 dBi Panel, RW-9622-5001		



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
5224.4489	95.8	5.9	-11.4	90.3	Peak [Scan]							FUND
6995.992	63.5	7.0	-7.5	63.0	Peak [Scan]	V						NRB
15735.586	40.5	11.6	0.2	52.4	Average.	V	106	351	54	-1.7	Pass	RB
15735.586	61.1	11.6	0.2	72.9	Peak.	V	106	351	74	-1.1	Pass	RB
10505.010	50.2	9.0	-4.3	55.0	Peak [Scan]	V						NRB
16160.321	40.3	12.0	1.1	53.3	Peak [Scan]	H	200	0	54	-0.7	Pass	Noise
6144.289	55.1	6.5	-9.2	52.4	Peak [Scan]	H						NRB

Legend: TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

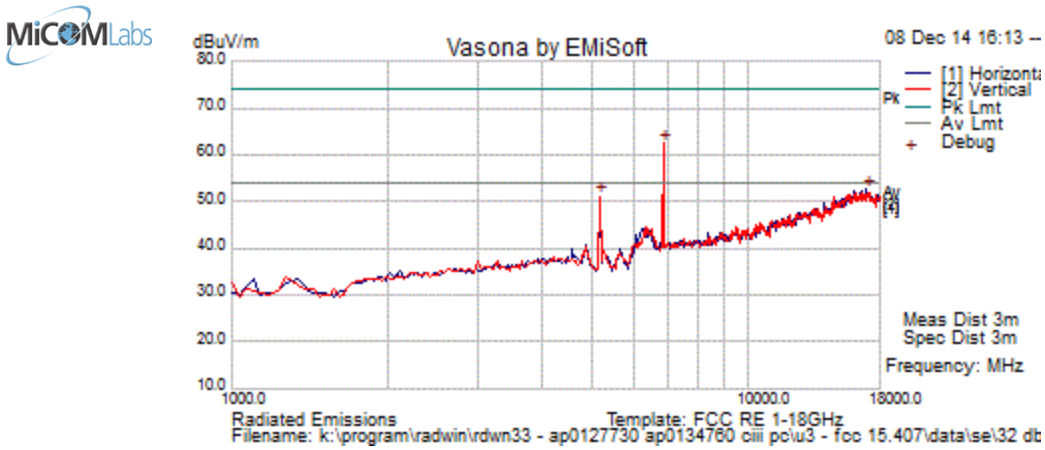
29dBi Antenna - RW-9622-5001 - Radiated Band-Edge

Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	73.65	50.18	-10.0
10	73.74	53.39	-9.0
20	69.44	53.34	-12.0
40	73.59	52.73	-14.0

32dBi Antenna - RW-9732-4958 Point – Point

Test Freq.	5157	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	18
Freq. Range	1-18 G	**Rel. Hum.(%)**	59
Power Setting	-11	**Press. (mBars)**	848
Antenna	32 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	32 dBi Dish, RW-9732-4958		

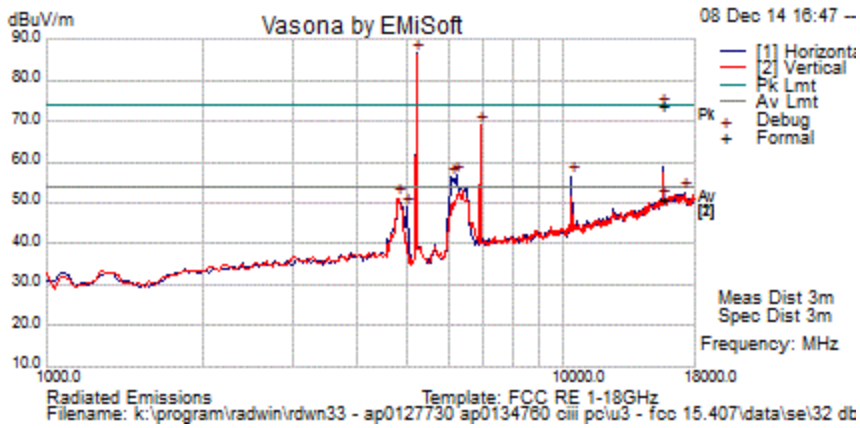


Formally measured emission peaks

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
6859.719	63.2	6.9	-7.7	62.4	Peak [Scan]	V						NRB
16977.956	39.4	12.4	0.8	52.6	Peak [Scan]	H	100	0	54	-1.4	Pass	Noise
5156.313	56.7	5.9	-11.6	51	Peak [Scan]							FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5200 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	18
Freq. Range	1-18 G	**Rel. Hum.(%)**	59
Power Setting	14	**Press. (mBars)**	848
Antenna	32 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	32 dBi Dish, RW-9732-4958		

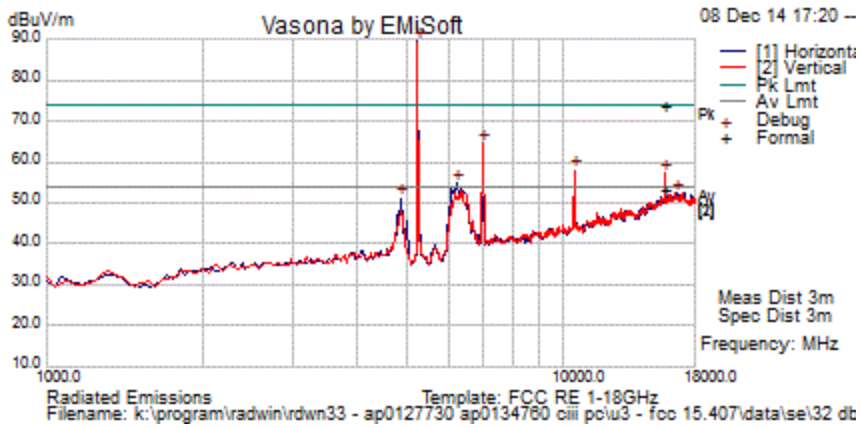


Formally measured emission peaks

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
5190.381	92.3	5.9	-11.5	86.7	Peak [Scan]							FUND
6927.85571	69.4	7.0	-7.5	68.9	Peak [Scan]	V						NRB
15599.452	62.2	11.5	-0.2	73.5	Peak	V	99	3	74	-0.5	Pass	RB
15599.312	39.3	11.5	-0.2	50.6	Average	V	99	3	54	-3.4	Pass	RB
6212.425	59.1	6.6	-8.8	56.8	Peak [Scan]	H						NRB
6083.111	59.4	6.5	-9.6	56.3	Peak [Scan]	H						NRB
10402.806	52.6	9.0	-5.0	56.6	Peak [Scan]	H						NRB
17216.433	39.8	12.4	0.4	52.5	Peak [Scan]	H	200	0	54	-1.5	Pass	Noise
4781.563	56.5	5.6	-11.1	51.0	Peak [Scan]	V	100	0	54	-3.0	Pass	BE
4985.972	54.8	5.8	-11.5	49.0	Peak [Scan]	H	100	0	54	-5.0	Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

Test Freq.	5245 MHz	**Engineer**	JMH
Variant	802.11; 5 MHz	**Temp (ºC)**	18
Freq. Range	1-18 G	**Rel. Hum.(%)**	59
Power Setting		**Press. (mBars)**	848
Antenna	32 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2	32 dBi Dish, RW-9732-4958		



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
5224.4489	95.0	5.9	-11.4	89.5	Peak [Scan]							FUND
6995.992	64.9	7.0	-7.5	64.5	Peak [Scan]	V						NRB
10505.010	53.2	9.0	-4.3	58.0	Peak [Scan]	V						NRB
15734.082	61.5	11.6	0.2	73.3	Peak.	V	100	3	74	-0.7	Pass	RB
15734.082	41.6	11.6	0.2	53.4	Average.	V	100	3	54	-0.6	Pass	RB
6212.425	57.1	6.6	-8.8	54.8	Peak [Scan]	H						NRB
16501.002	38.6	12.0	1.7	52.3	Peak [Scan]	V	150	0	54	-1.7	Pass	Noise
4849.699	56.6	5.7	-11.2	51.1	Peak [Scan]	H	100	0	54	-2.9	Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

32dBi Antenna - RW-9732-4958 - Radiated Band-Edge

Peak Limit 74.0 dBµV/m, Average Limit 54.0 dBµV/m

	5150 MHz Restricted Band-Edge		
	dBµV/m		Power Setting
Operational Mode (MHz)	Peak	Average	
5	72.80	49.40	-11.0
10	71.94	50.46	-10.0
20	70.82	53.89	-12.0
40	66.93	51.09	-13.0

Specification

Radiated Spurious Emissions

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

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

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

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

Table 1: FCC 15.209 & RSS-Gen Spurious Emissions Limits

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

6.1.3. Digital Emissions (30M-1 GHz)

FCC, Part 15 Subpart C §15.205/ §15.209

Test Procedure

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

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

Field Strength Calculation

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

$$FS = R + AF + CORR$$

where:

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

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

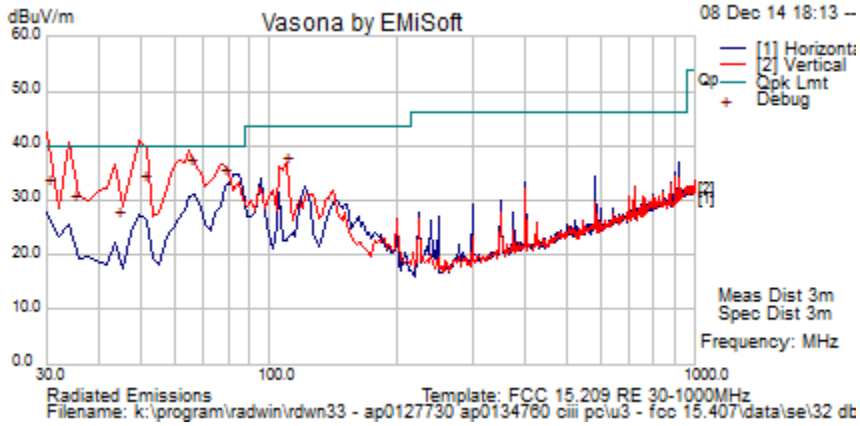
FS = 51.5 + 8.5 + 1.3 - 26.0 +1 = 36.3dBμV/m

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

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

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

Test Freq.	NA	**Engineer**	JMH
Variant	Digital Emissions	**Temp (°C)**	18
Freq. Range	30-1000 MHz	**Rel. Hum.(%)**	59
Power Setting	NA	**Press. (mBars)**	848
Antenna	32 dBi		
Test Notes 1	AP0127730 AP0134760 CIII SN# No Serial number on unit		
Test Notes 2			



Formally measured emission peaks

)ata : List of Debug Frequencies

Frequency MHz	Raw dBuV	Cable	AF dB	Level dBuV/	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/	Margin dB	Pass /Fail	Comments
65.49	55.3	3.8	-23.5	35.6	Quasi Max	V	99	337	40.0	-4.4	Pass	
78.773	53.4	3.9	-23.4	33.8	Quasi Max	V	142	353	40	-6.2	Pass	
51.097	52.5	3.7	-23.4	32.7	Quasi Max	V	100	110	40	-7.3	Pass	
30.241	38.4	3.5	-9.9	32.0	Quasi Max	V	177	82	40	-8.0	Pass	
34.624	39.0	3.6	-13.3	29.3	Quasi Max	V	99	-1	40	-10.7	Pass	
44.274	43.1	3.6	-20.5	26.2	Quasi Max	V	101	292	40	-13.8	Pass	
109.989	50.9	4.1	-18.8	36.2	Peak [Scan]	V	177	82	43.5	-7.3	Pass	

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental Frequency
	ETSI Vid Avg Type = 100 kHz RBW, 100 kHz VBW, Peak Detector, Video Average, 100 Sweeps

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

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

FCC, Part 15 Subpart C §15.207

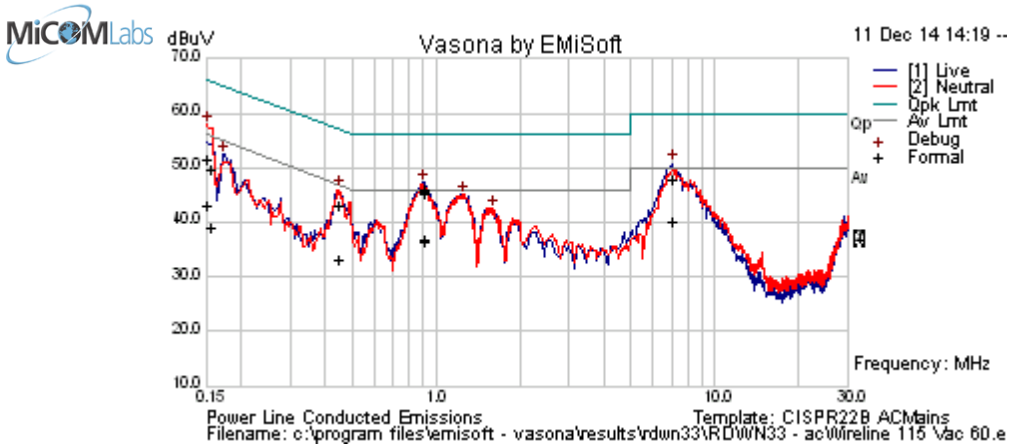
Test Procedure

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

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

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

Test Freq.	N/A	**Engineer**	GMH
Variant	ac Wireline Emissions	**Temp (ºC)**	18
Freq. Range	0.150 MHz - 30 MHz	**Rel. Hum.(%)**	75.5
Power Setting	NA	**Press. (mBars)**	999
Antenna	N/A		
Test Notes 1	Sinpro POE 55Vdc		
Test Notes 2	POE Model #: CPU55A2701; Serial #: c35474131322		



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail	Comments
0.150	33.0	9.9	0.1	43.0	Average	Neutral	56	-13.0	Pass	
0.150	41.7	9.9	0.1	51.7	Quasi Peak	Neutral	66	-14.3	Pass	
0.154	28.9	9.9	0.1	38.9	Average	Live	55.78	-16.9	Pass	
0.154	39.8	9.9	0.1	49.7	Quasi Peak	Live	65.78	-16.1	Pass	
0.442	33.0	9.9	0.1	43.0	Quasi Peak	Neutral	57.03	-14.1	Pass	
0.442	23.2	9.9	0.1	33.2	Average	Neutral	47.03	-13.9	Pass	
0.901	35.5	9.9	0.1	45.6	Quasi Peak	Neutral	56	-10.5	Pass	
0.901	26.7	9.9	0.1	36.7	Average	Neutral	46	-9.3	Pass	
0.901	35.9	9.9	0.1	45.9	Quasi Peak	Live	56	-10.1	Pass	
0.901	26.9	9.9	0.1	36.9	Average	Live	46	-9.1	Pass	
0.901	35.5	9.9	0.1	45.5	Quasi Peak	Neutral	56	-10.5	Pass	
0.901	26.5	9.9	0.1	36.5	Average	Neutral	46	-9.5	Pass	
7.029	37.2	10.2	0.3	47.7	Quasi Peak	Live	60	-12.3	Pass	
7.029	29.6	10.2	0.3	40.1	Average	Live	50	-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

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

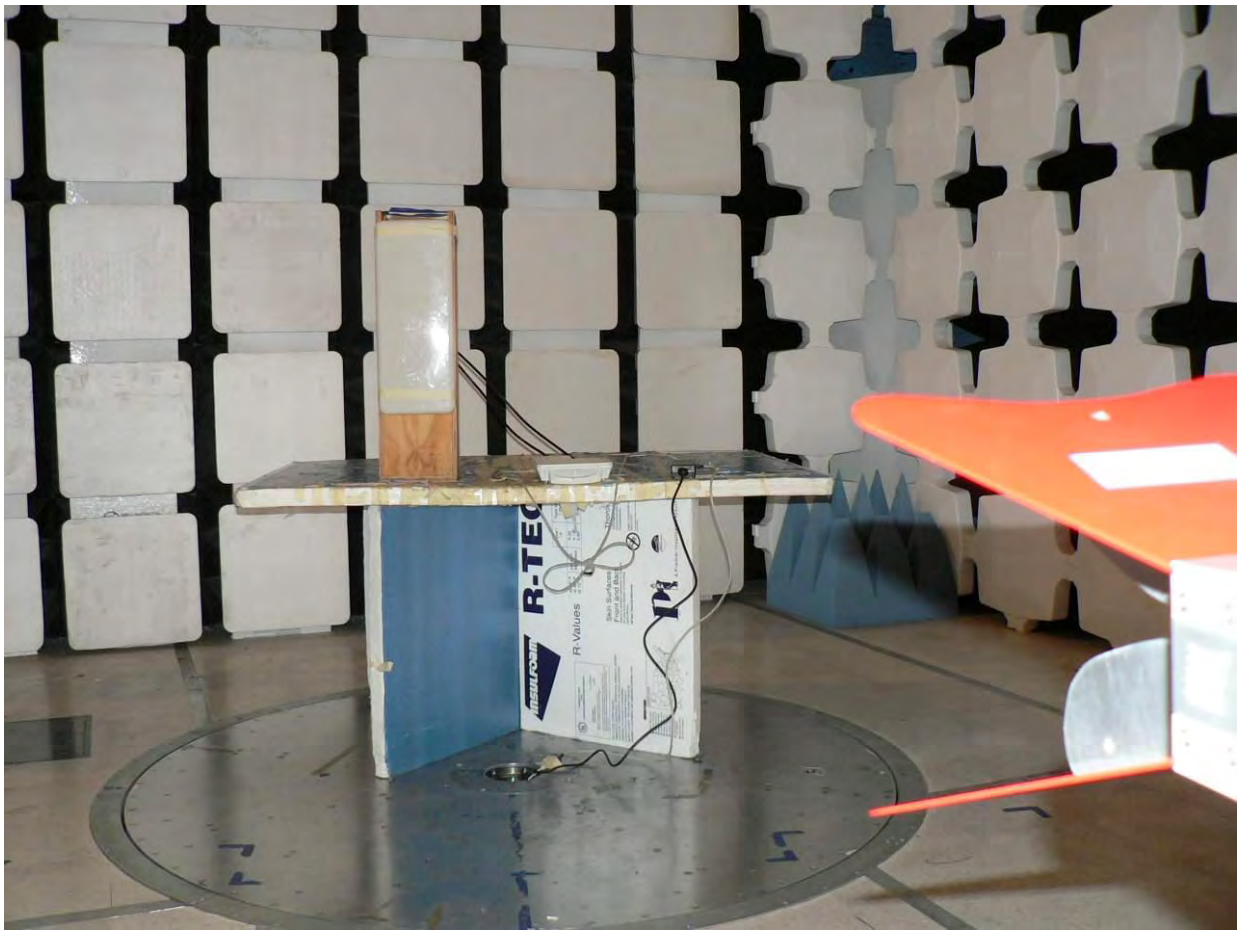
Measurement uncertainty	±2.64 dB

7. PHOTOGRAPHS

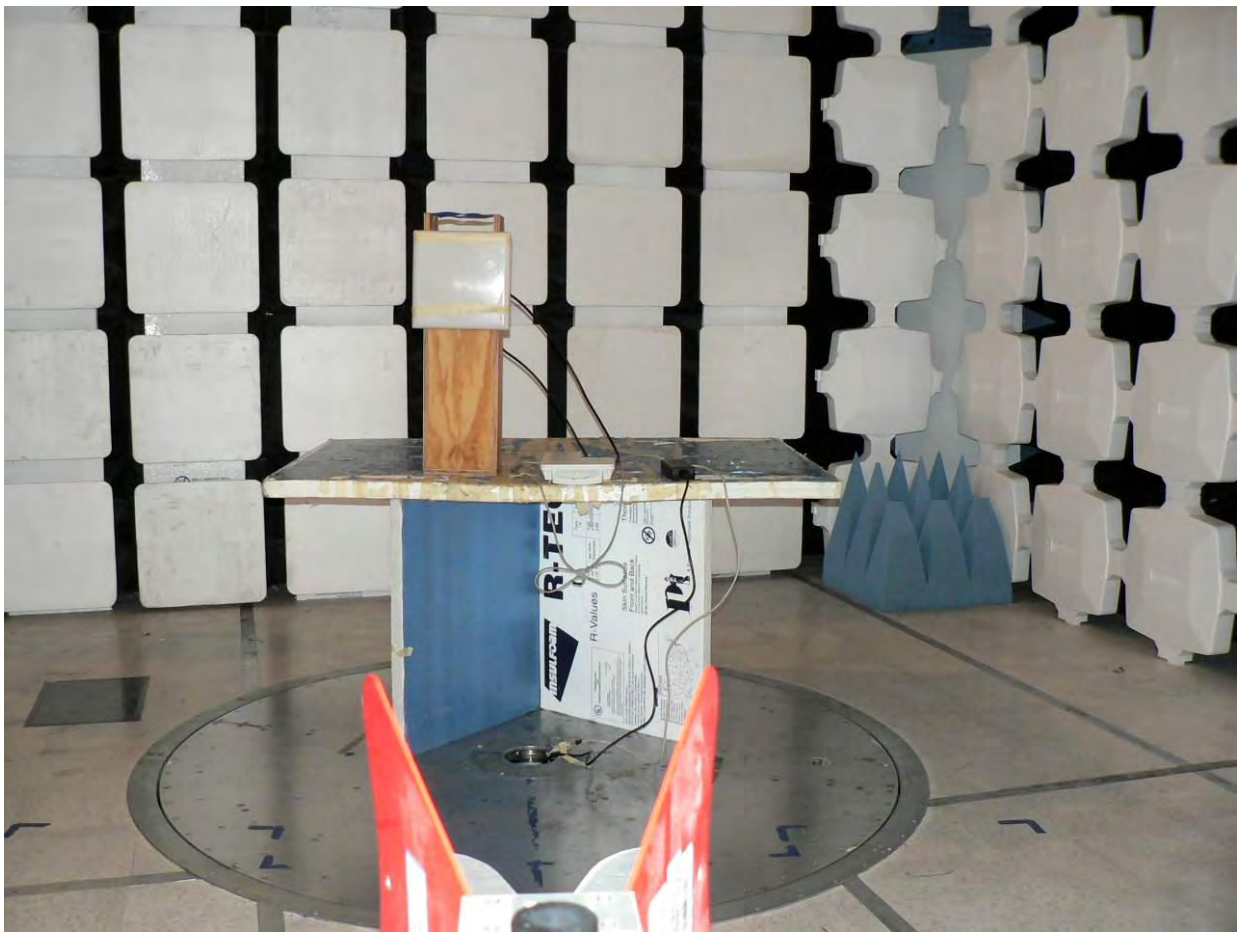
7.1. Conducted Test Setup

7.2. Test Setup - Digital Emissions above 1 GHz

11 dBi Sector Antenna

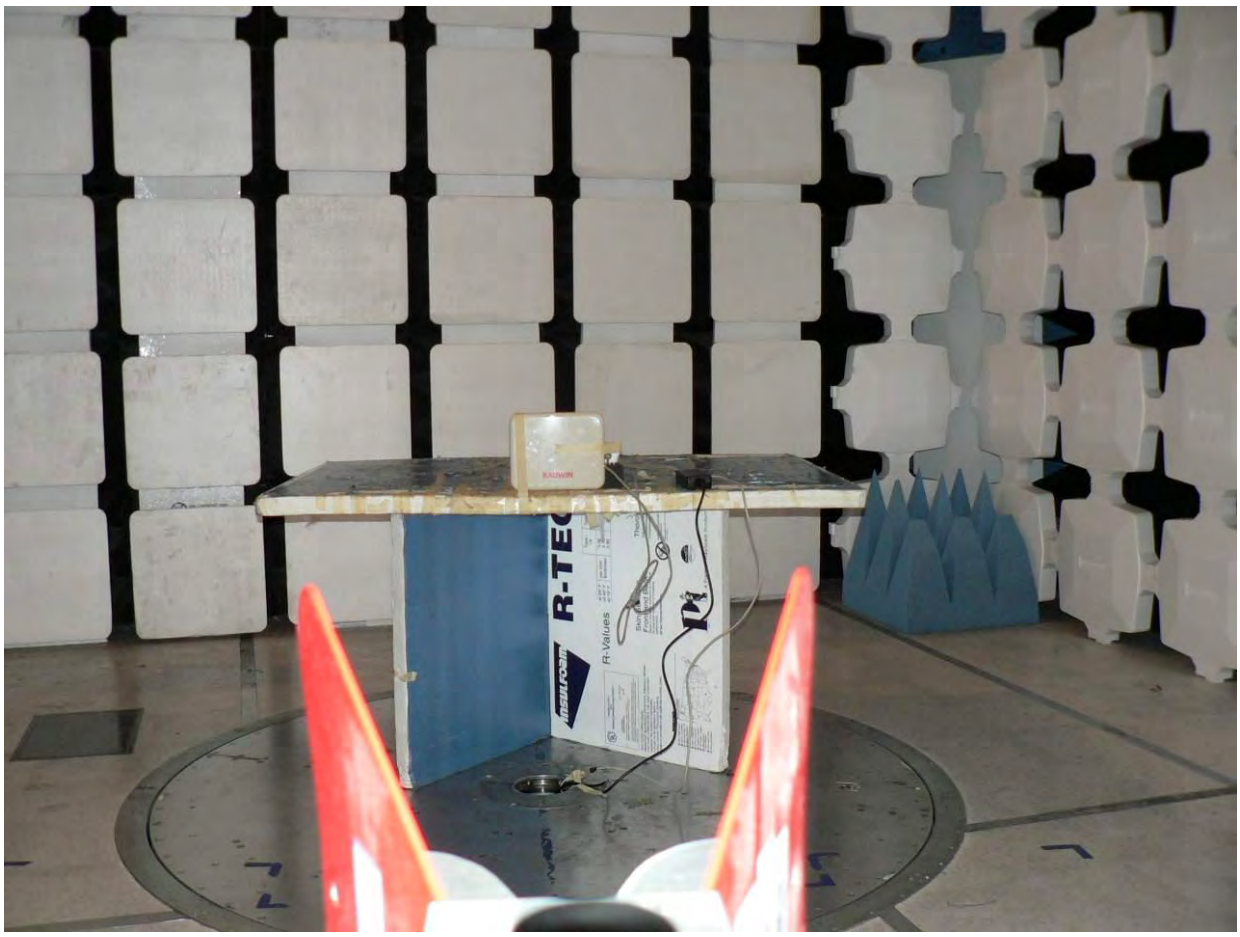


12 dBi Sector Antenna

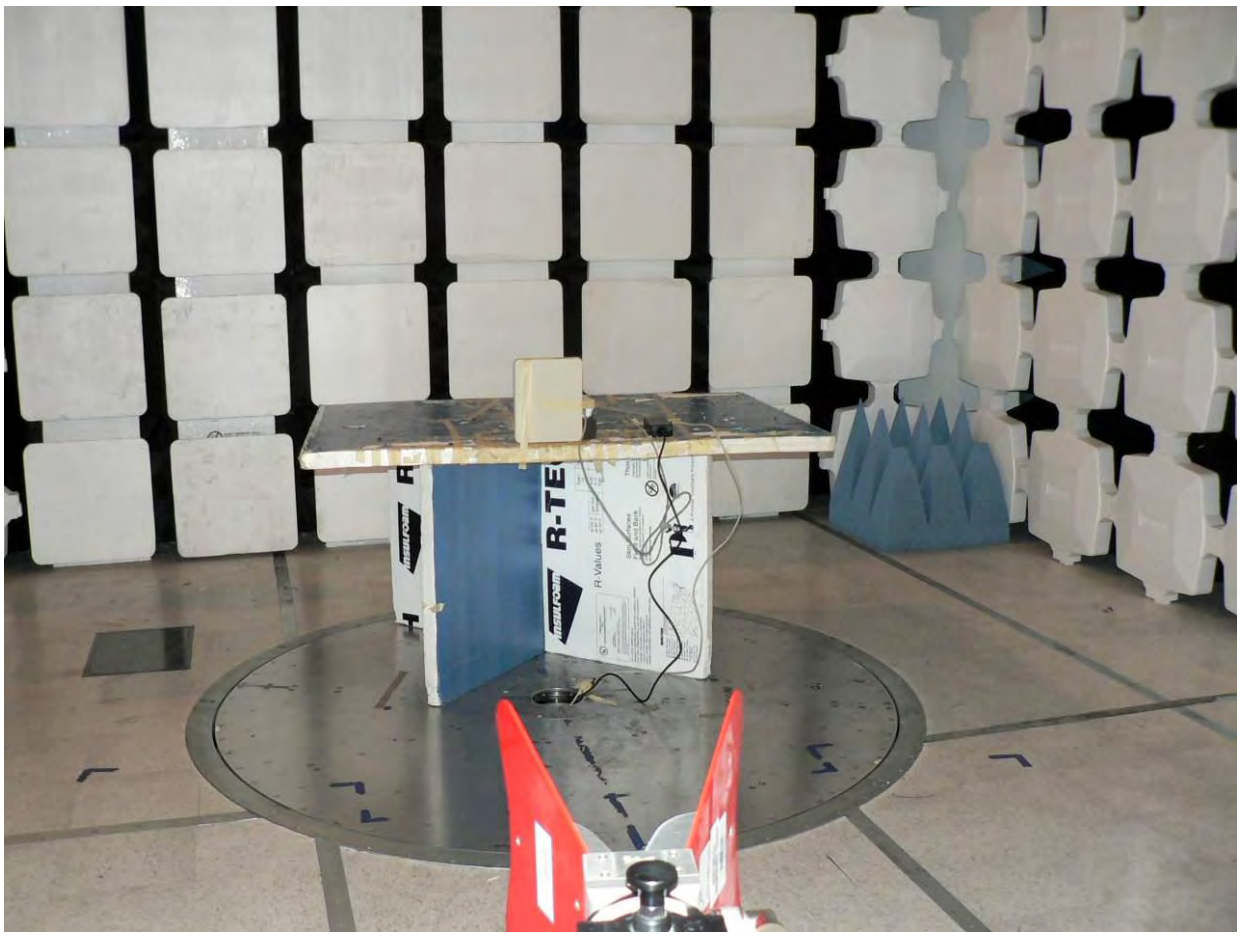


11.5 dBi Shark Fin Antenna

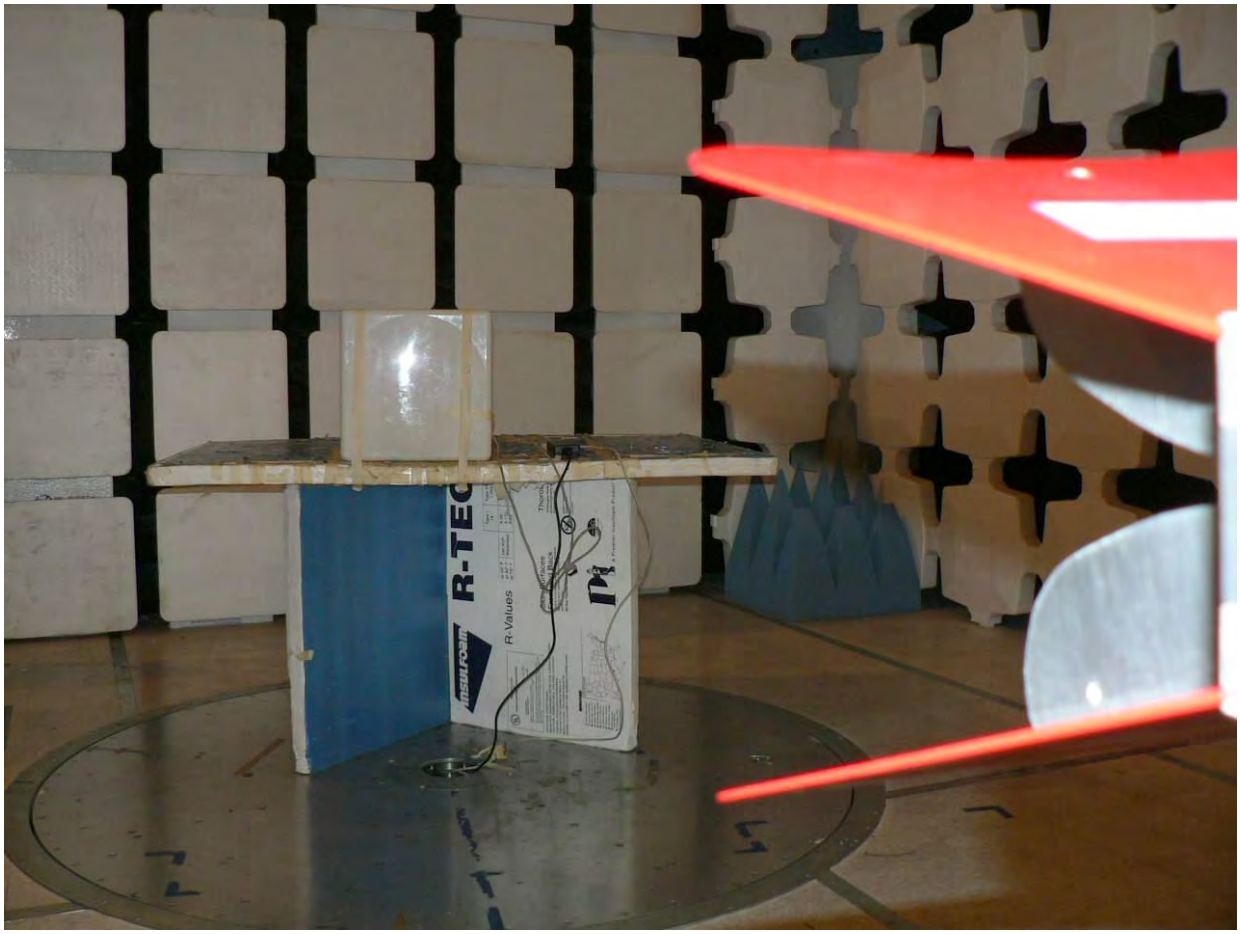
15 dBi Sector Antenna



16 dBi Panel Antenna

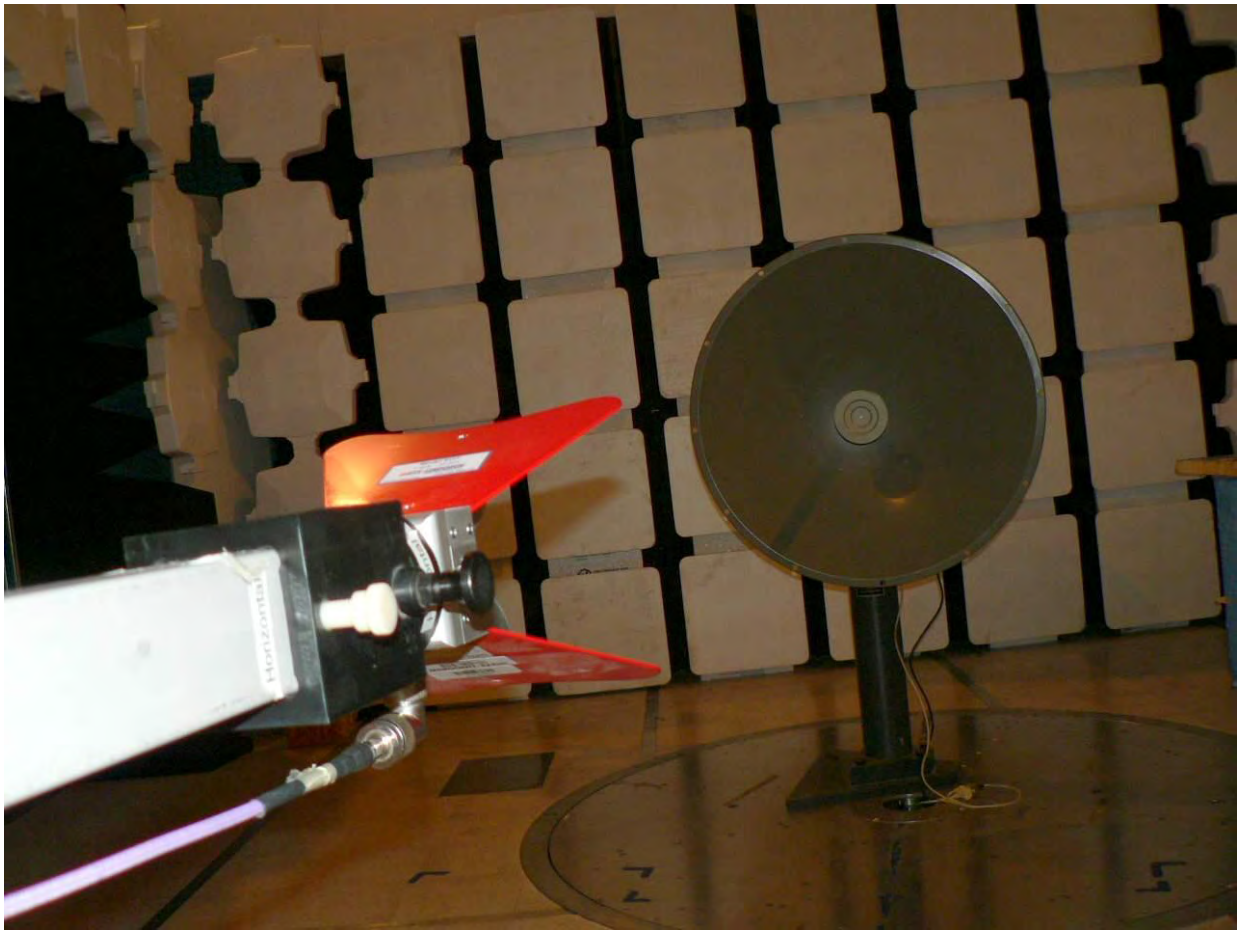


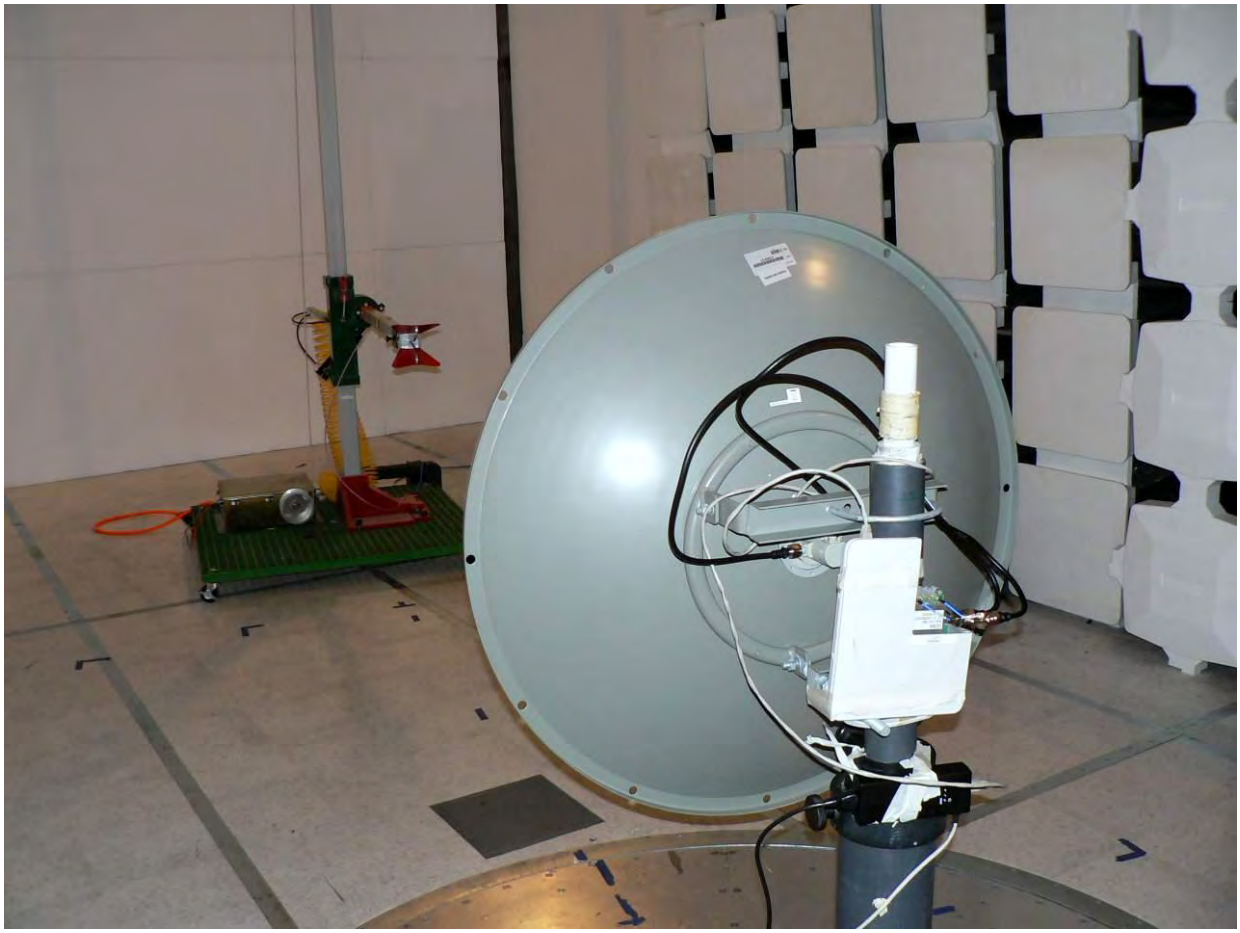
23 dBi Panel Antenna



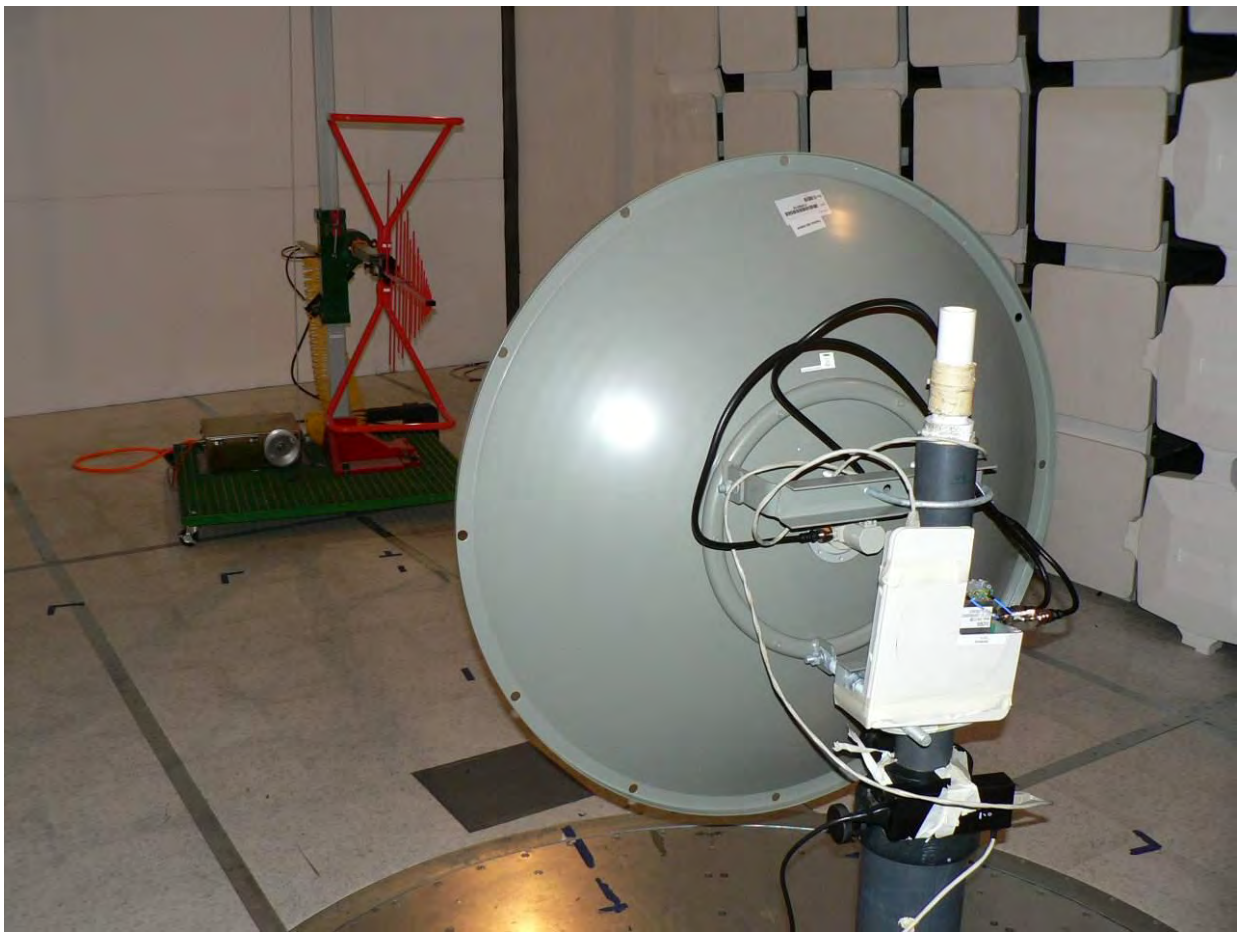
29 dBi Panel Antenna

32 dBi Dish Antenna

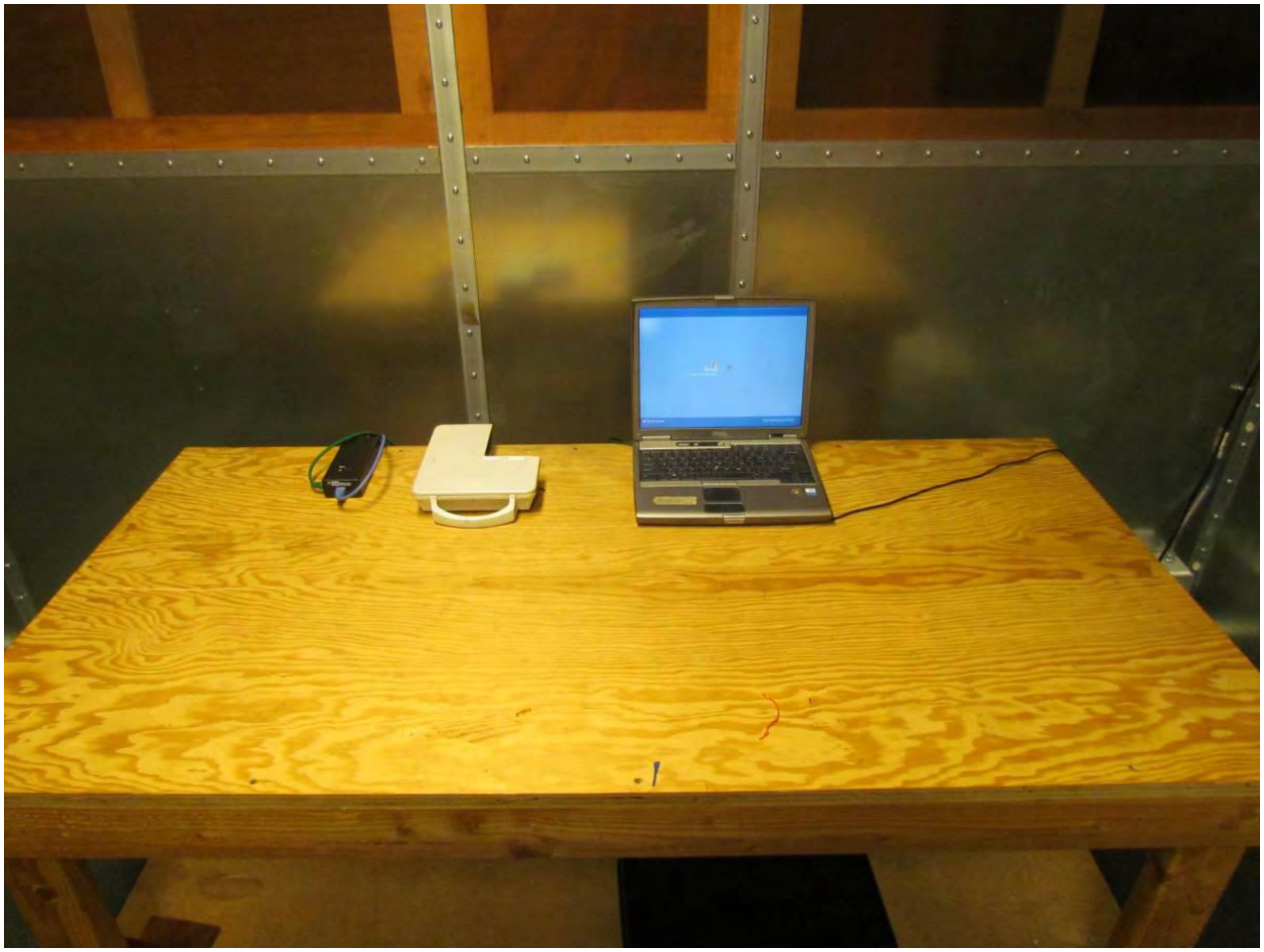




7.3. Digital Emissions Test Setup below 1 GHz



7.4. ac Wireline Emissions



APPENDIX

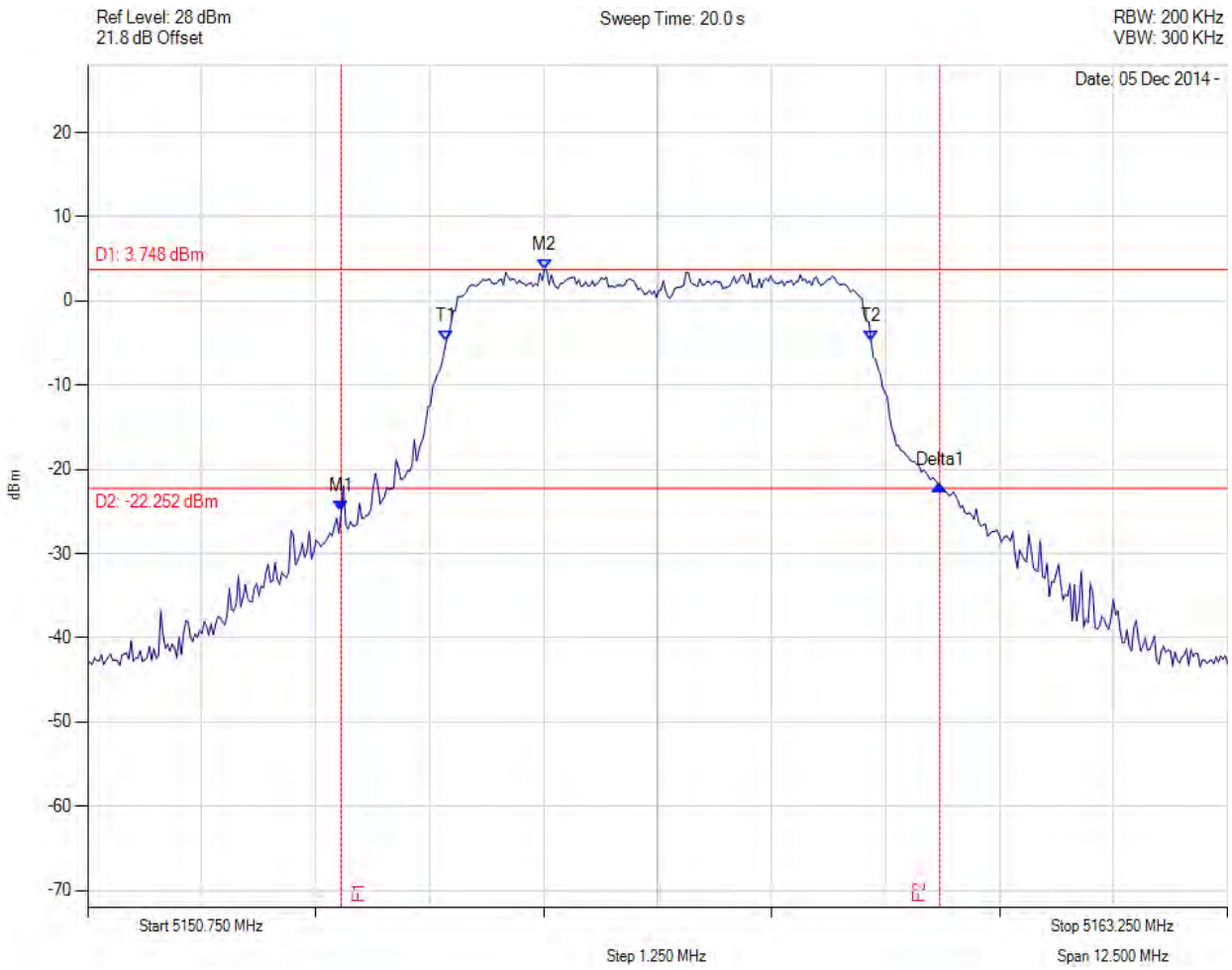
A. SUPPORTING INFORMATION

A.1. CONDUCTED TEST PLOTS

A.1.1. 26 dB & 99% Bandwidth

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5157.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

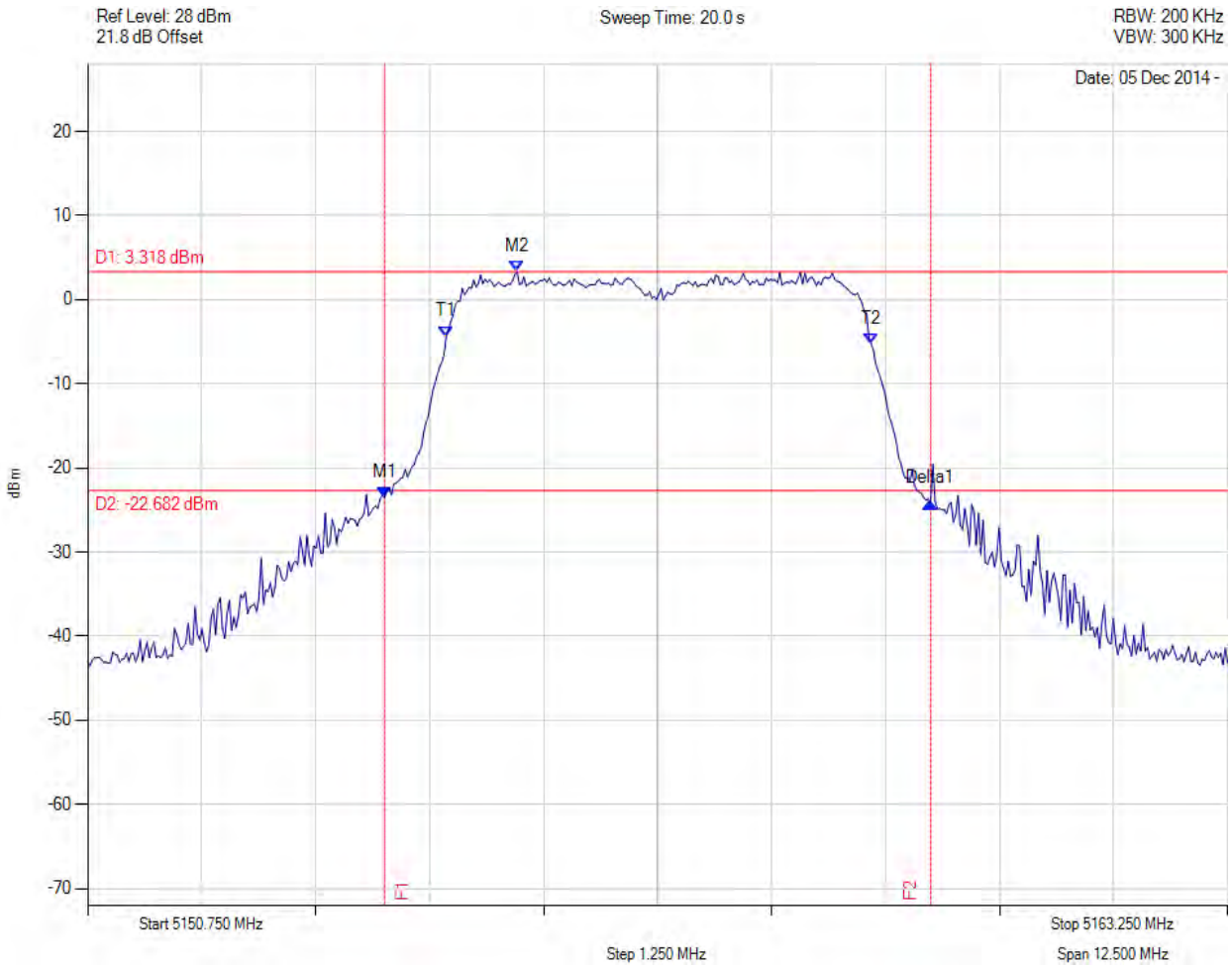


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5153.531 MHz : -24.967 dBm M2 : 5155.760 MHz : 3.748 dBm Delta1 : 6.563 MHz : 3.045 dB T1 : 5154.683 MHz : -4.715 dBm T2 : 5159.342 MHz : -4.800 dBm OBW : 4.659 MHz	Measured 26 dB Bandwidth: 6.563 MHz Measured 99% Bandwidth: 4.659 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5157.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

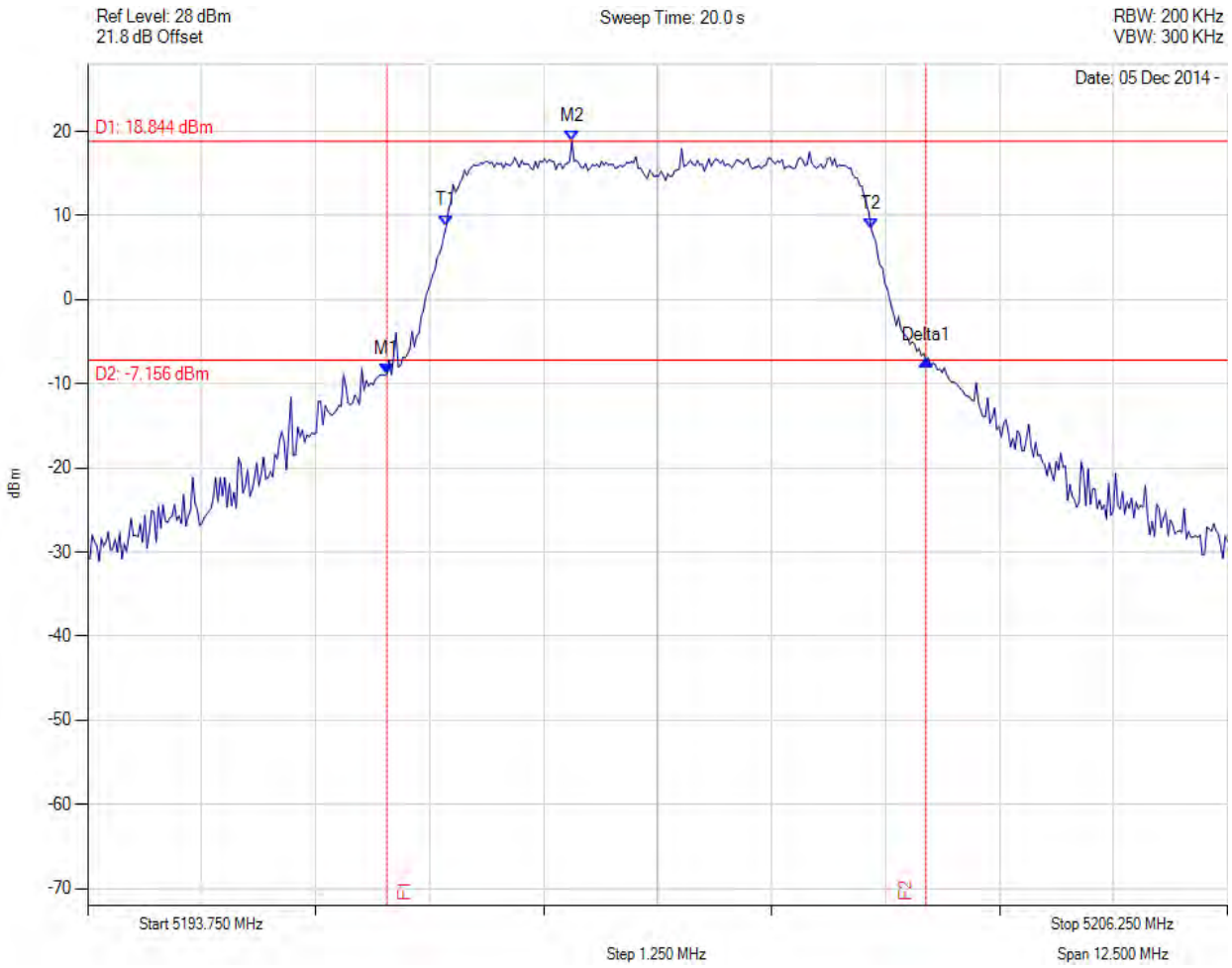


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5154.007 MHz : -23.484 dBm M2 : 5155.459 MHz : 3.318 dBm Delta1 : 5.987 MHz : -0.632 dB T1 : 5154.683 MHz : -4.349 dBm T2 : 5159.342 MHz : -5.227 dBm OBW : 4.659 MHz	Measured 26 dB Bandwidth: 5.987 MHz Measured 99% Bandwidth: 4.659 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

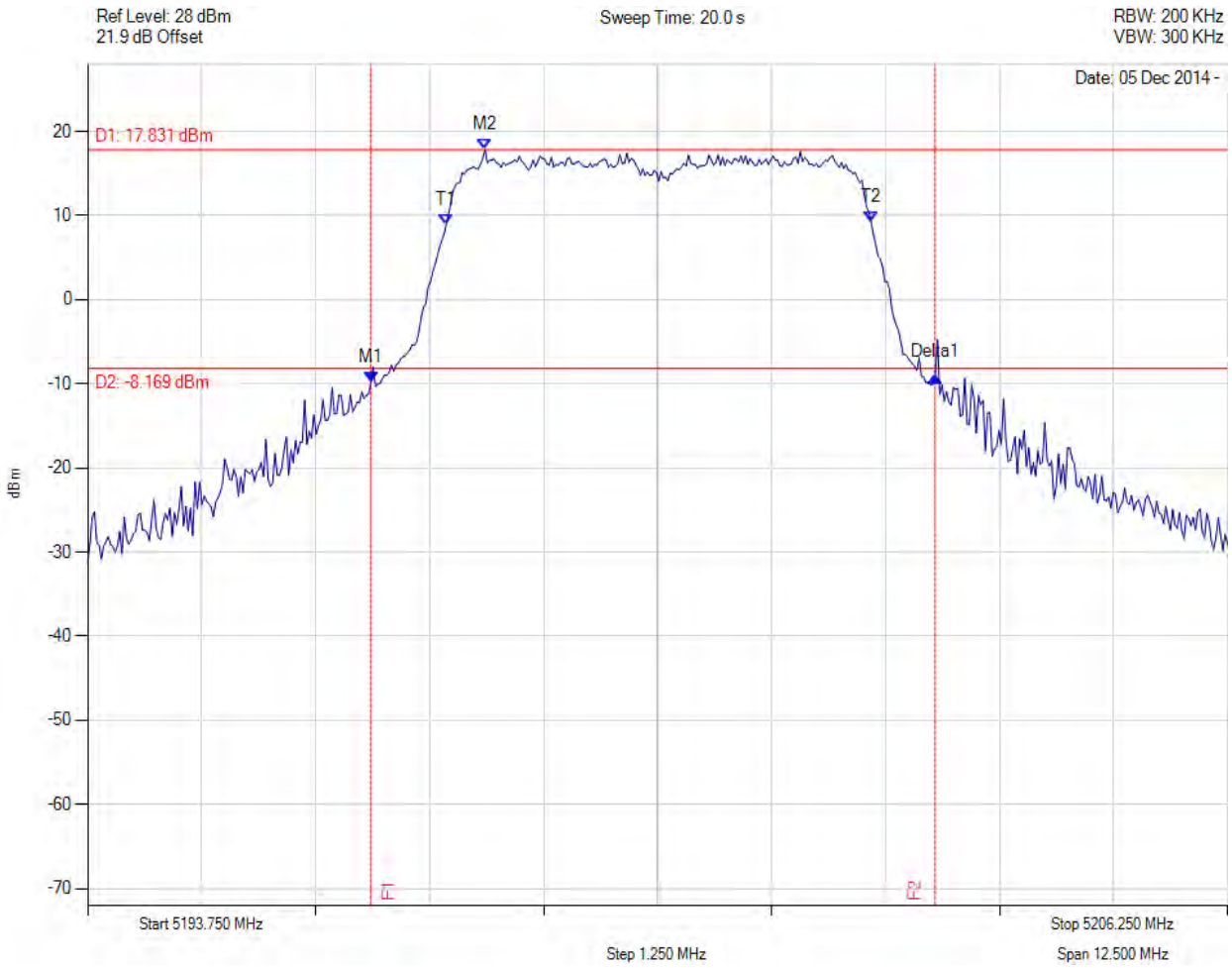


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.032 MHz : -8.833 dBm M2 : 5199.061 MHz : 18.844 dBm Delta1 : 5.912 MHz : 1.580 dB T1 : 5197.683 MHz : 8.838 dBm T2 : 5202.342 MHz : 8.478 dBm OBW : 4.659 MHz	Measured 26 dB Bandwidth: 5.912 MHz Measured 99% Bandwidth: 4.659 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

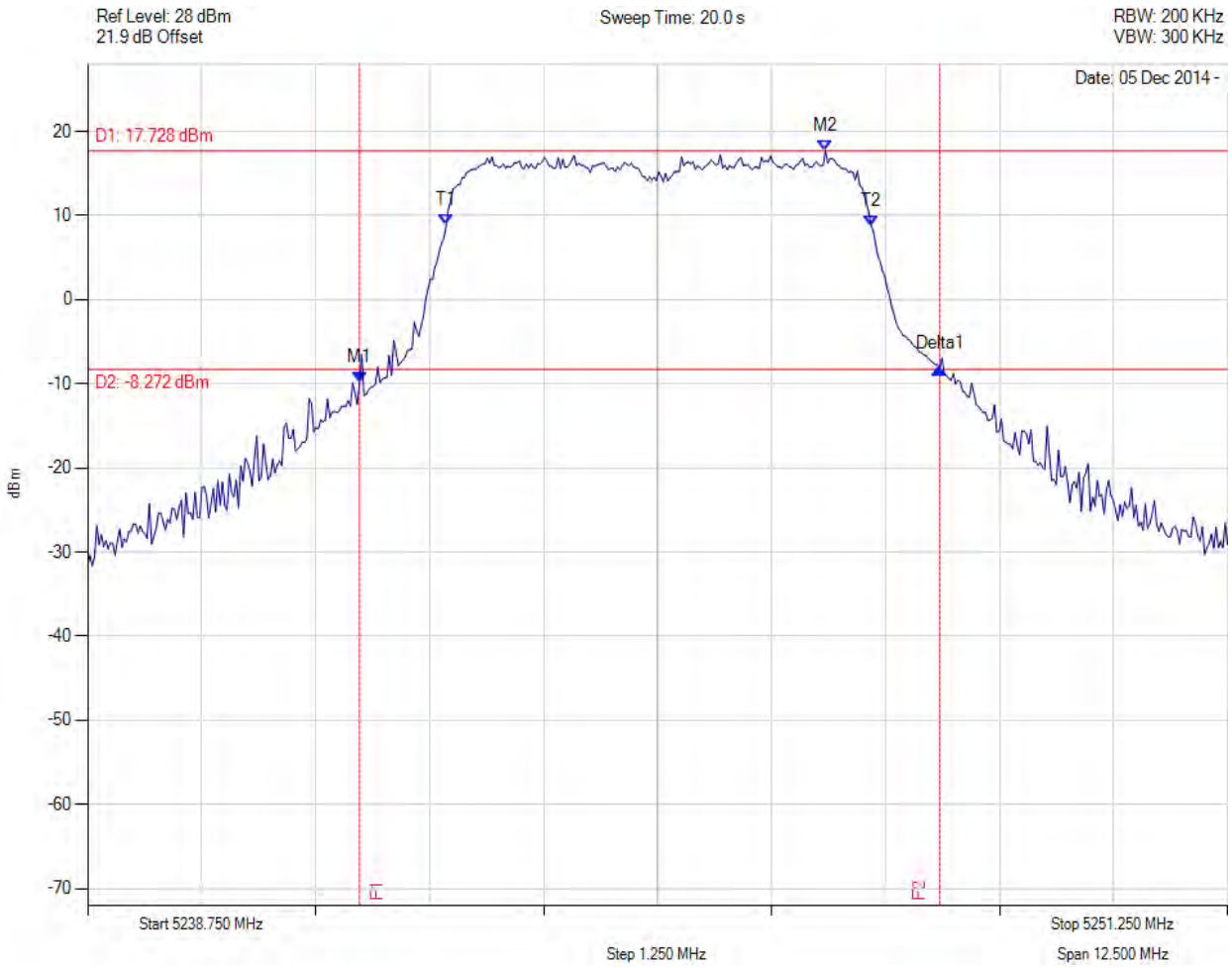


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.856 MHz : -9.811 dBm M2 : 5198.109 MHz : 17.831 dBm Delta1 : 6.187 MHz : 0.663 dB T1 : 5197.683 MHz : 8.991 dBm T2 : 5202.342 MHz : 9.229 dBm OBW : 4.659 MHz	Measured 26 dB Bandwidth: 6.187 MHz Measured 99% Bandwidth: 4.659 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5245.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

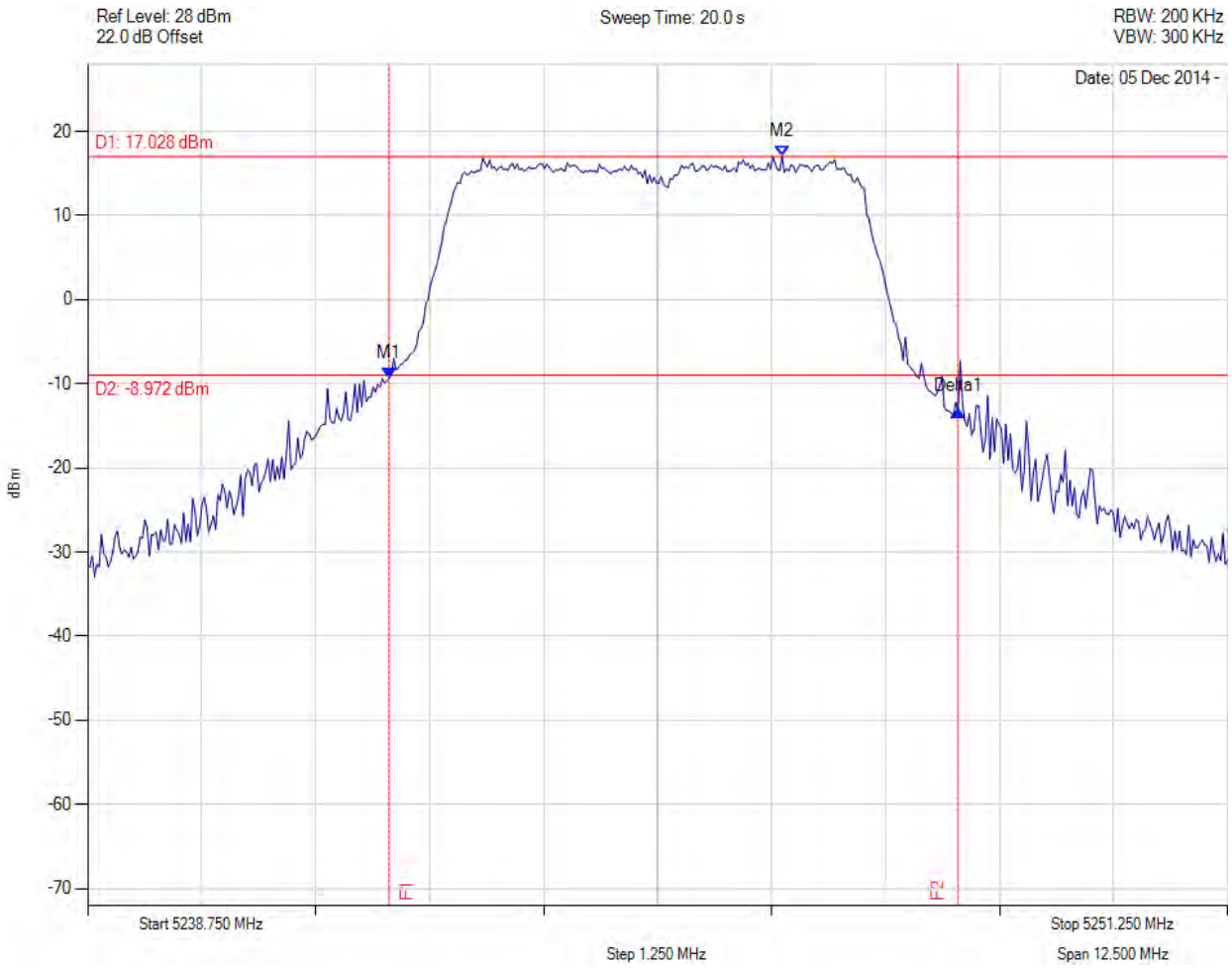


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5241.731 MHz : -9.879 dBm M2 : 5246.841 MHz : 17.728 dBm Delta1 : 6.363 MHz : 1.676 dB T1 : 5242.683 MHz : 8.964 dBm T2 : 5247.342 MHz : 8.820 dBm OBW : 4.659 MHz	Measured 26 dB Bandwidth: 6.363 MHz Measured 99% Bandwidth: 4.659 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5245.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

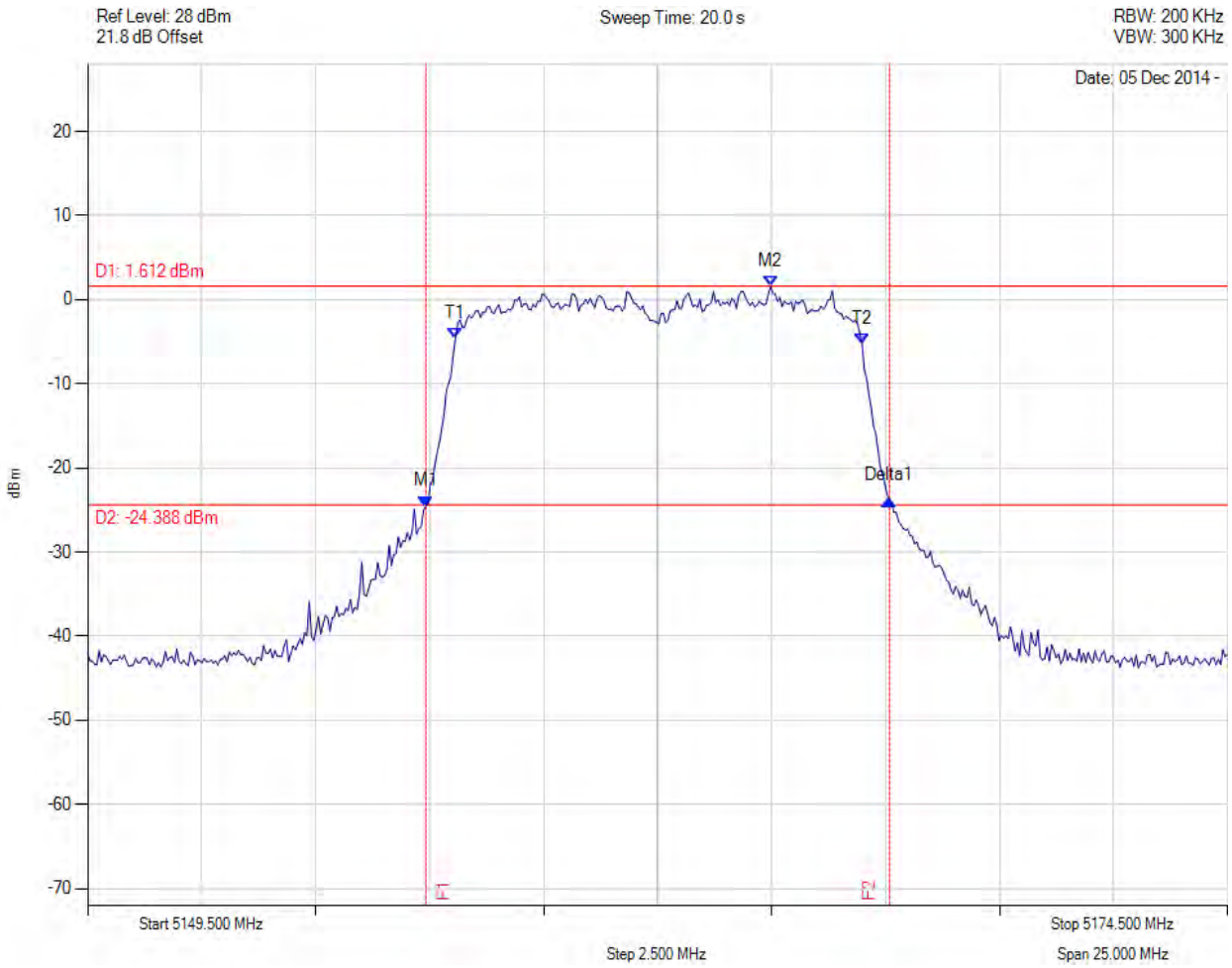


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5242.057 MHz : -9.299 dBm M2 : 5246.365 MHz : 17.028 dBm Delta1 : 6.237 MHz : -3.895 dB T1 : 0 Hz : 500.000 dBm T2 : 0 Hz : 500.000 dBm OBW : 4.659 MHz	Measured 26 dB Bandwidth: 6.237 MHz Measured 99% Bandwidth: 4.659 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5162.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

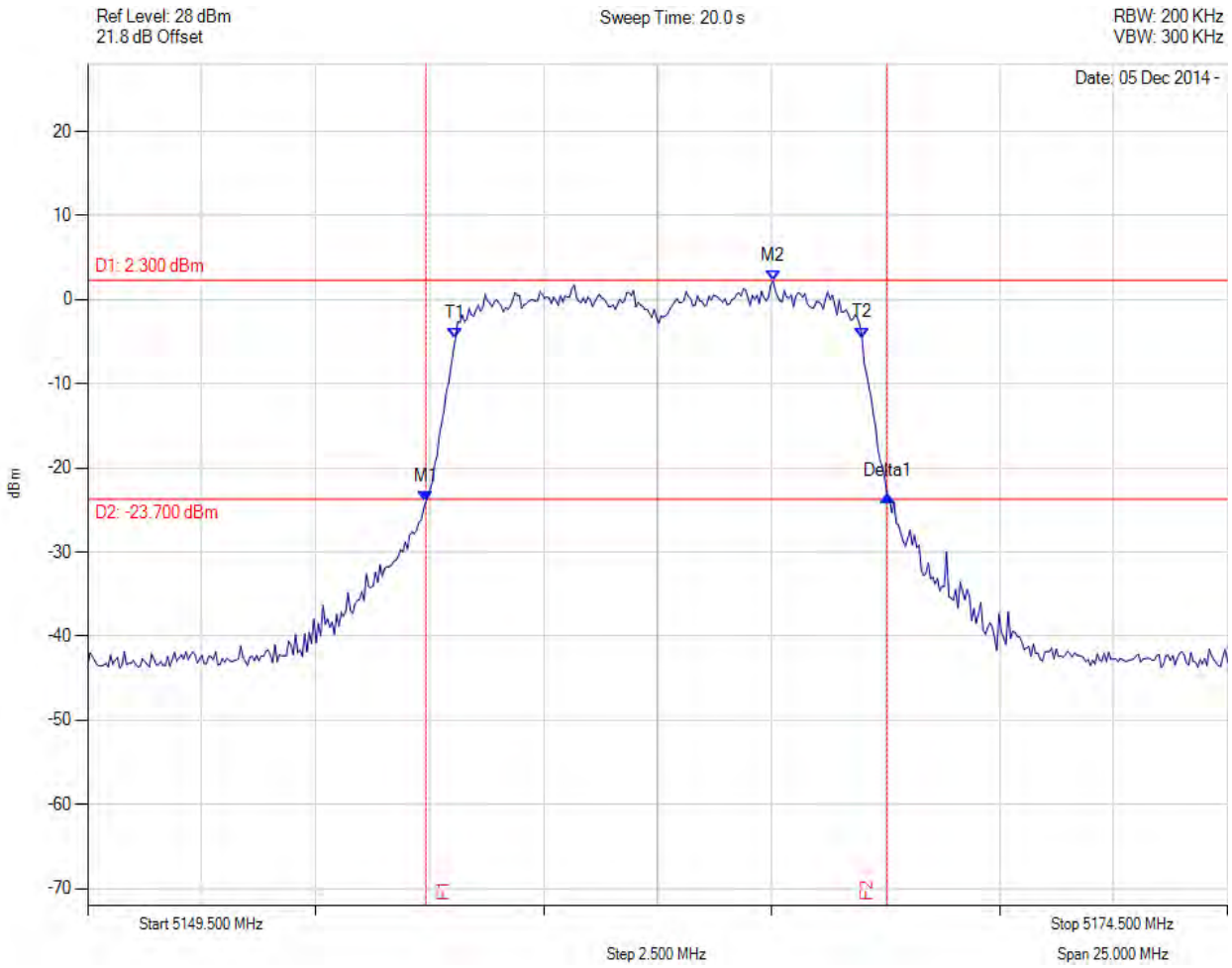


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5156.915 MHz : -24.544 dBm M2 : 5164.480 MHz : 1.612 dBm Delta1 : 10.170 MHz : 0.748 dB T1 : 5157.566 MHz : -4.546 dBm T2 : 5166.484 MHz : -5.242 dBm OBW : 8.918 MHz	Measured 26 dB Bandwidth: 10.170 MHz Measured 99% Bandwidth: 8.918 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5162.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

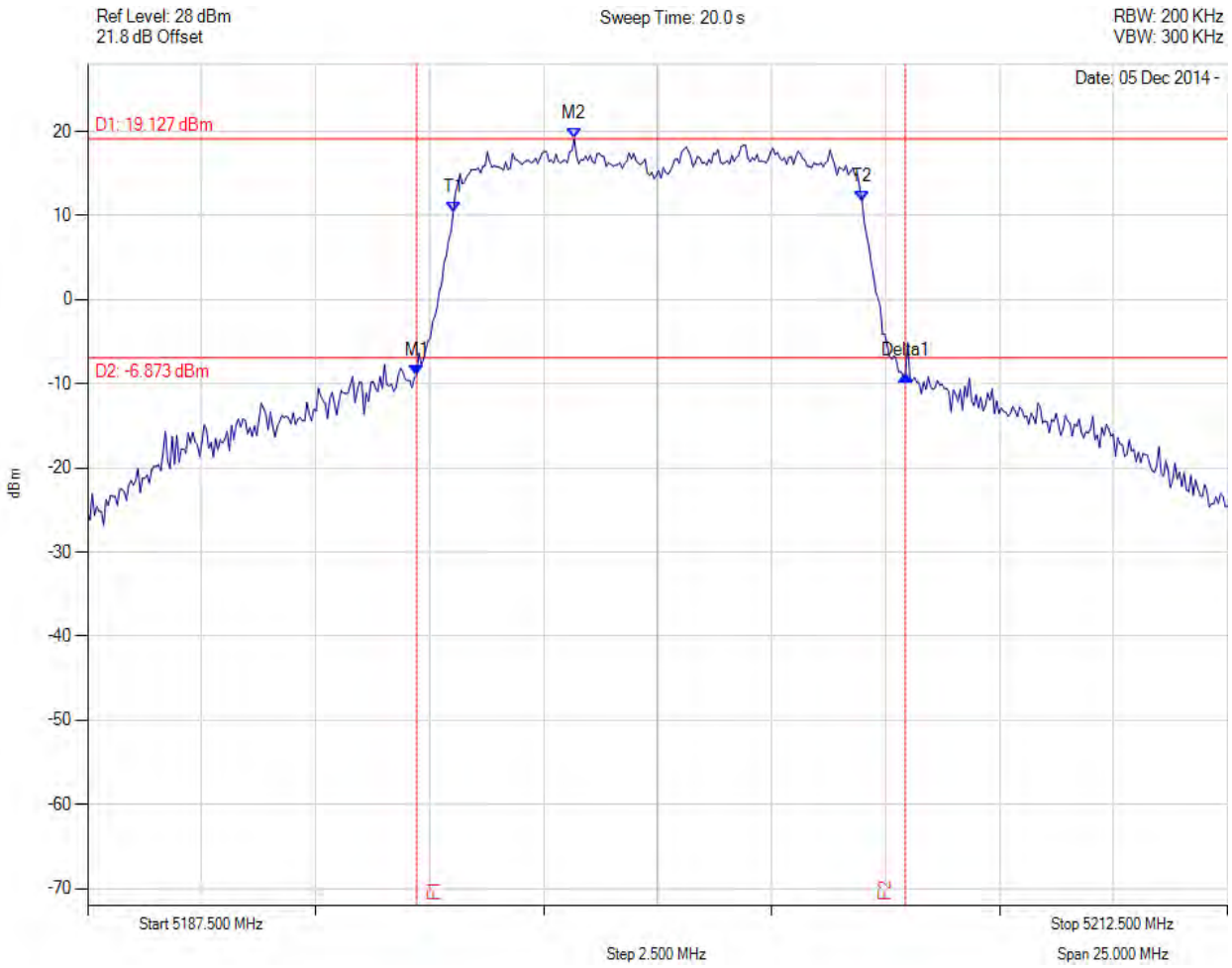


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5156.915 MHz : -23.989 dBm M2 : 5164.530 MHz : 2.300 dBm Delta1 : 10.120 MHz : 0.677 dB T1 : 5157.566 MHz : -4.595 dBm T2 : 5166.484 MHz : -4.526 dBm OBW : 8.918 MHz	Measured 26 dB Bandwidth: 10.120 MHz Measured 99% Bandwidth: 8.918 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

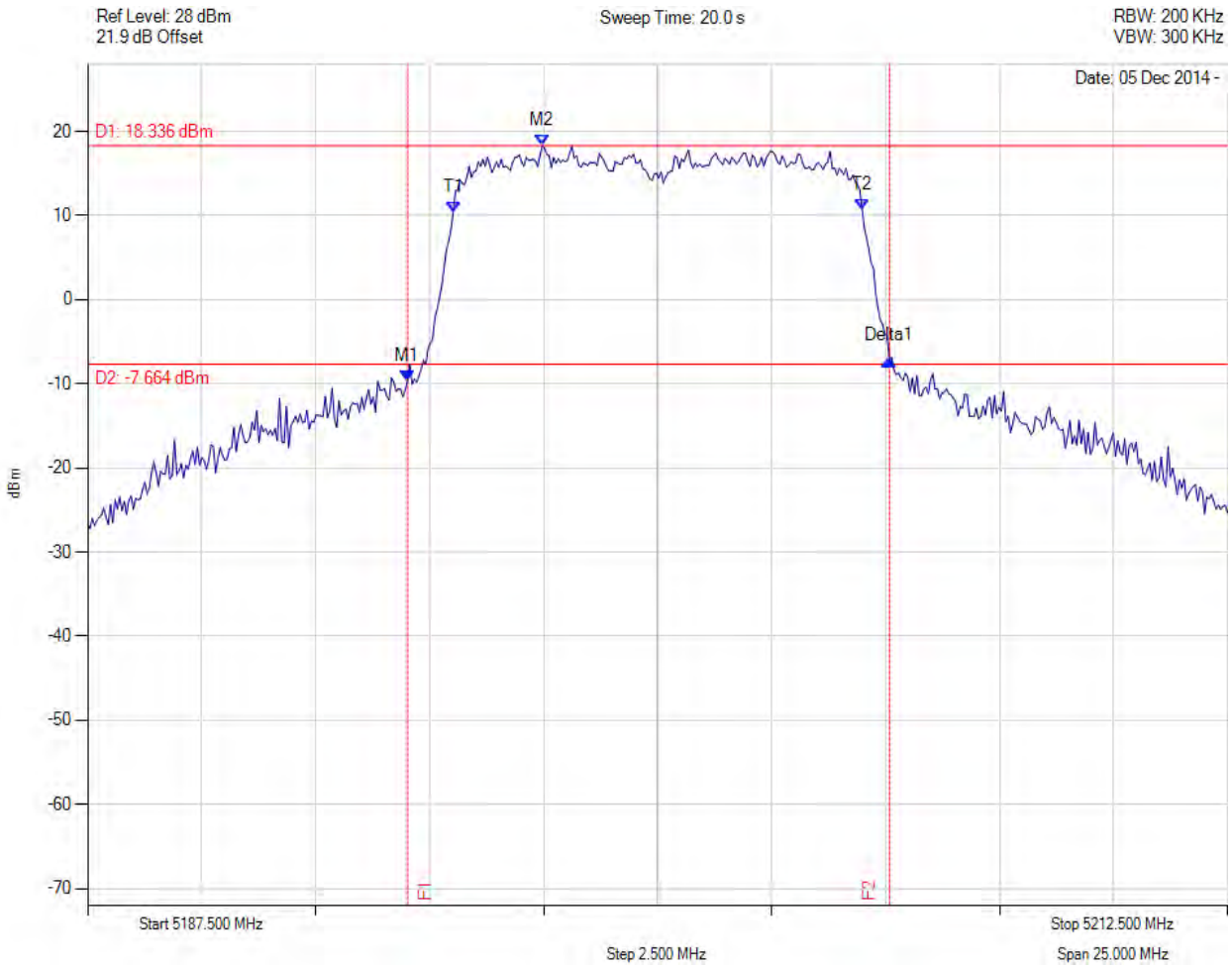


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5194.714 MHz : -8.974 dBm M2 : 5198.171 MHz : 19.127 dBm Delta1 : 10.721 MHz : -0.094 dB T1 : 5195.516 MHz : 10.380 dBm T2 : 5204.484 MHz : 11.722 dBm OBW : 8.968 MHz	Measured 26 dB Bandwidth: 10.721 MHz Measured 99% Bandwidth: 8.968 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

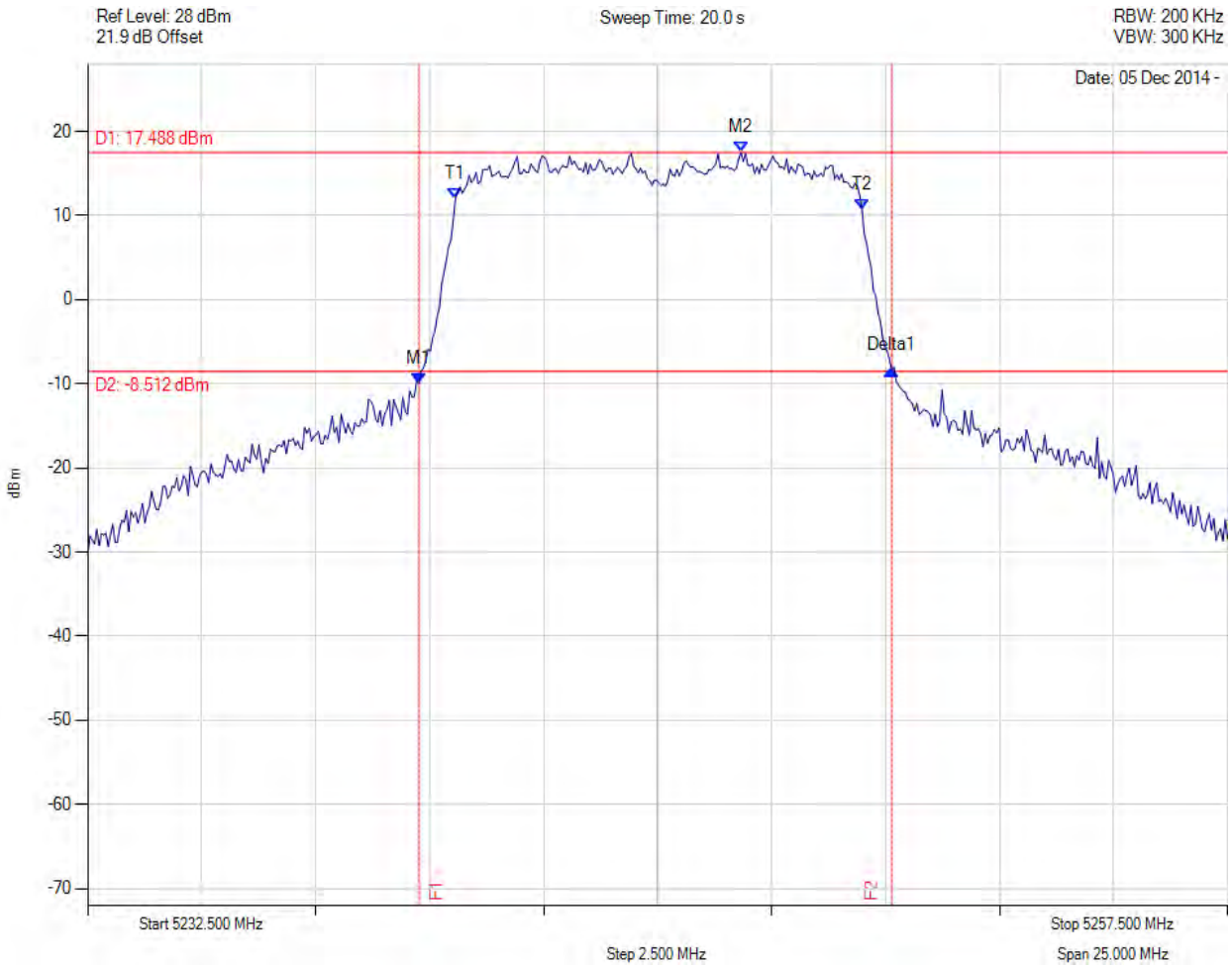


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5194.514 MHz : -9.647 dBm M2 : 5197.470 MHz : 18.336 dBm Delta1 : 10.571 MHz : 2.398 dB T1 : 5195.516 MHz : 10.406 dBm T2 : 5204.484 MHz : 10.762 dBm OBW : 8.968 MHz	Measured 26 dB Bandwidth: 10.571 MHz Measured 99% Bandwidth: 8.968 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5245.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

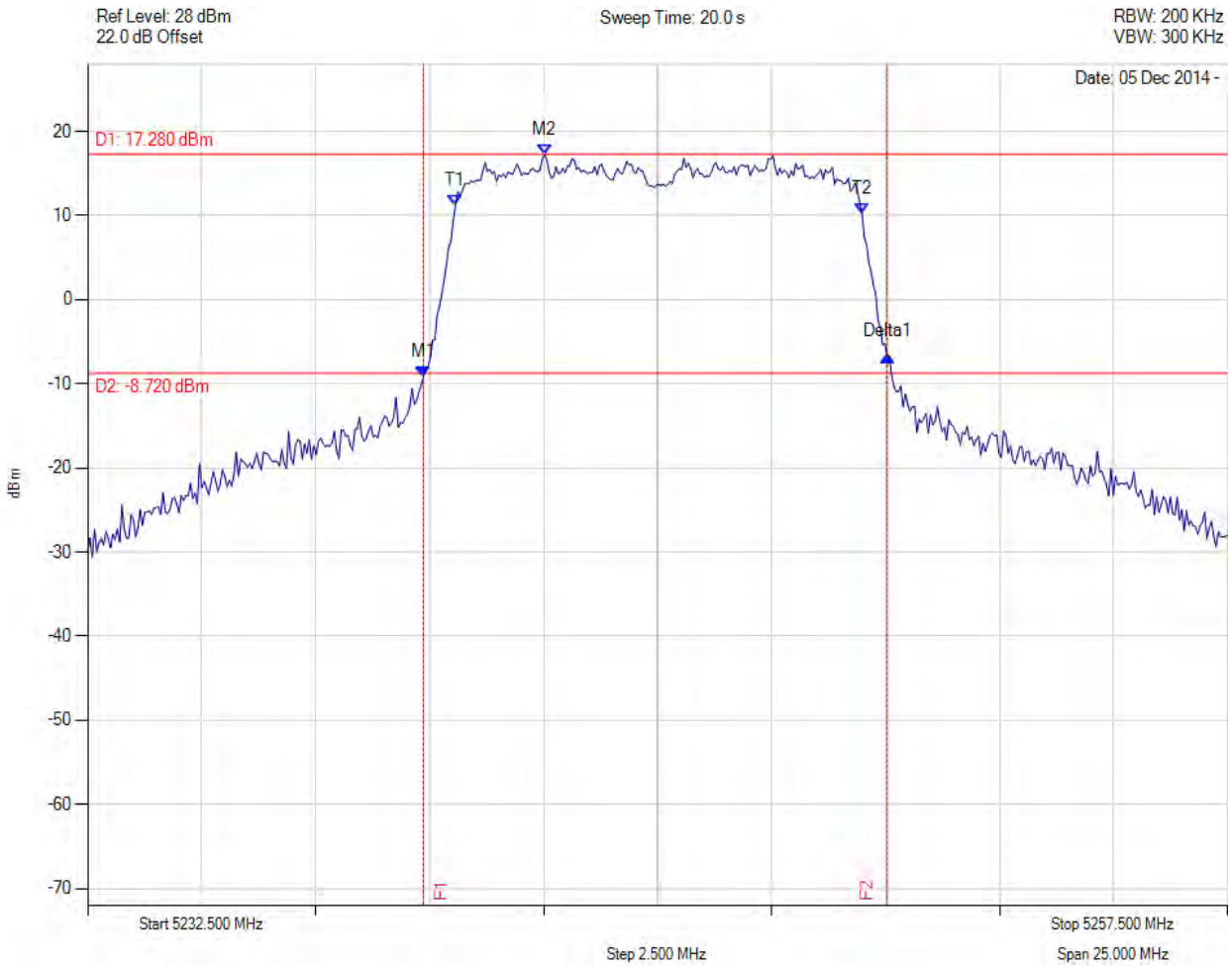


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5239.765 MHz : -9.927 dBm M2 : 5246.829 MHz : 17.488 dBm Delta1 : 10.371 MHz : 1.548 dB T1 : 5240.566 MHz : 12.078 dBm T2 : 5249.484 MHz : 10.662 dBm OBW : 8.918 MHz	Measured 26 dB Bandwidth: 10.371 MHz Measured 99% Bandwidth: 8.918 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5245.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

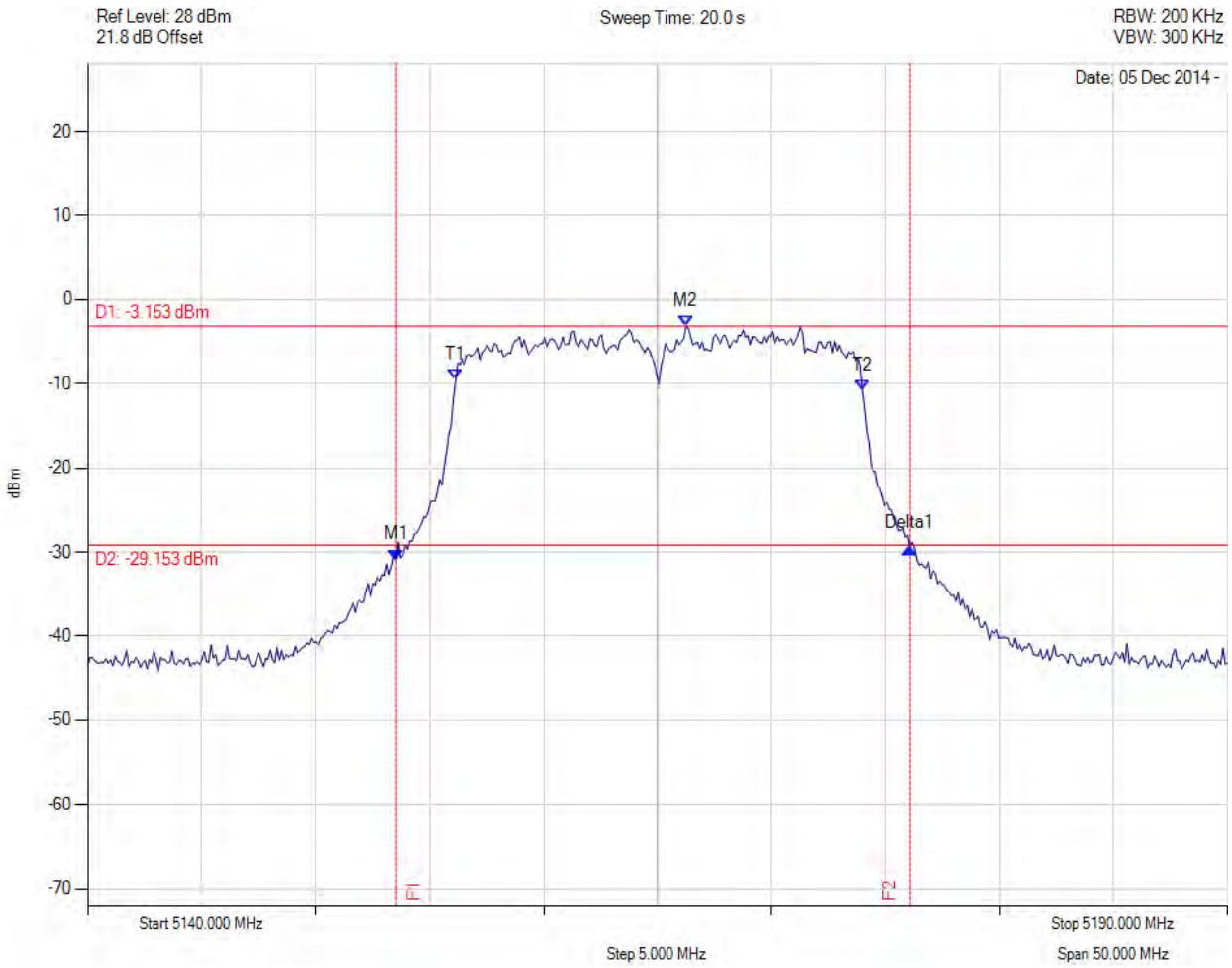


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5239.865 MHz : -9.155 dBm M2 : 5242.520 MHz : 17.280 dBm Delta1 : 10.170 MHz : 2.487 dB T1 : 5240.566 MHz : 11.268 dBm T2 : 5249.484 MHz : 10.231 dBm OBW : 8.918 MHz	Measured 26 dB Bandwidth: 10.170 MHz Measured 99% Bandwidth: 8.918 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5165.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

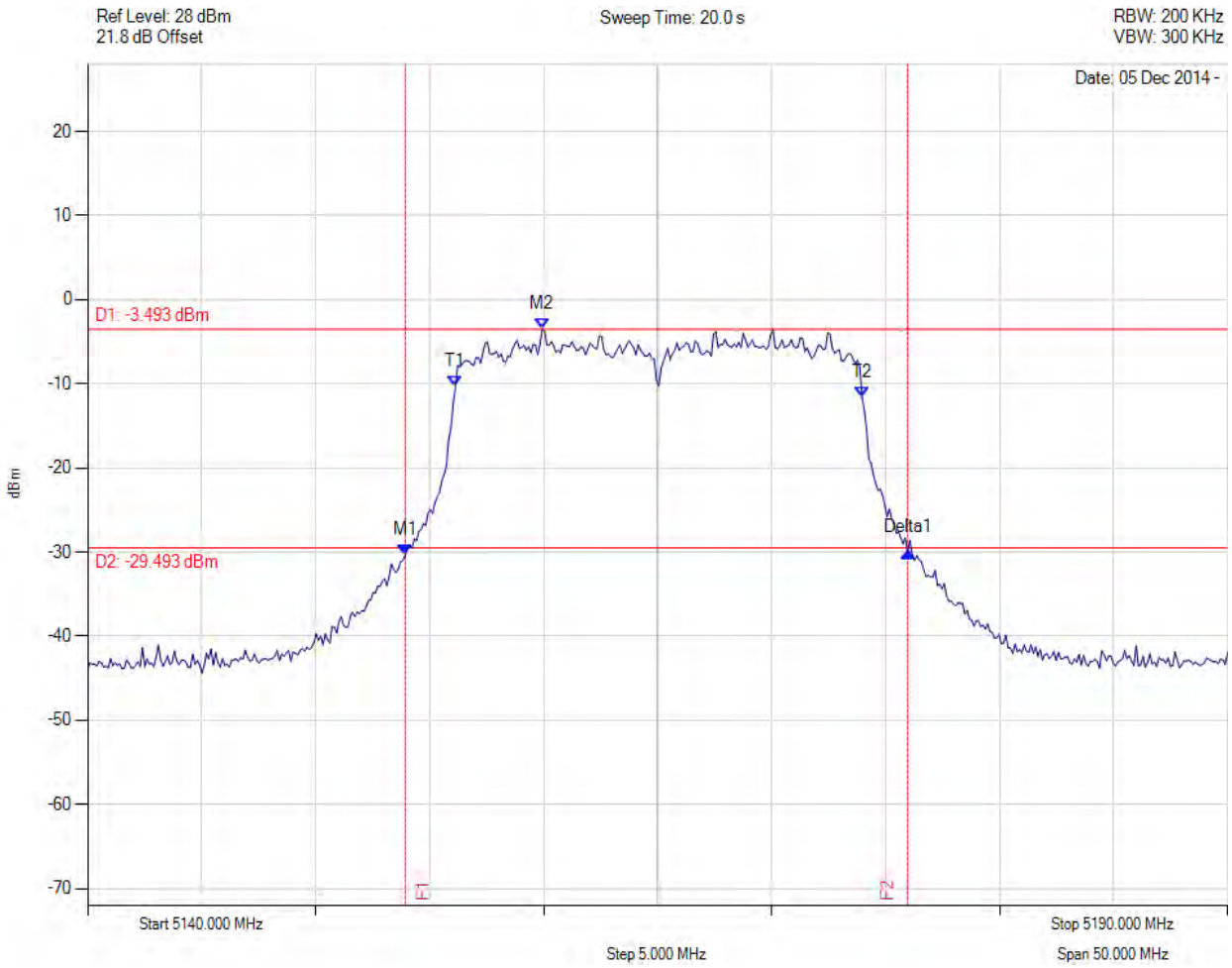


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5153.527 MHz : -30.899 dBm M2 : 5166.253 MHz : -3.153 dBm Delta1 : 22.545 MHz : 1.424 dB T1 : 5156.132 MHz : -9.537 dBm T2 : 5173.968 MHz : -10.845 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 22.545 MHz Measured 99% Bandwidth: 17.836 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5165.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

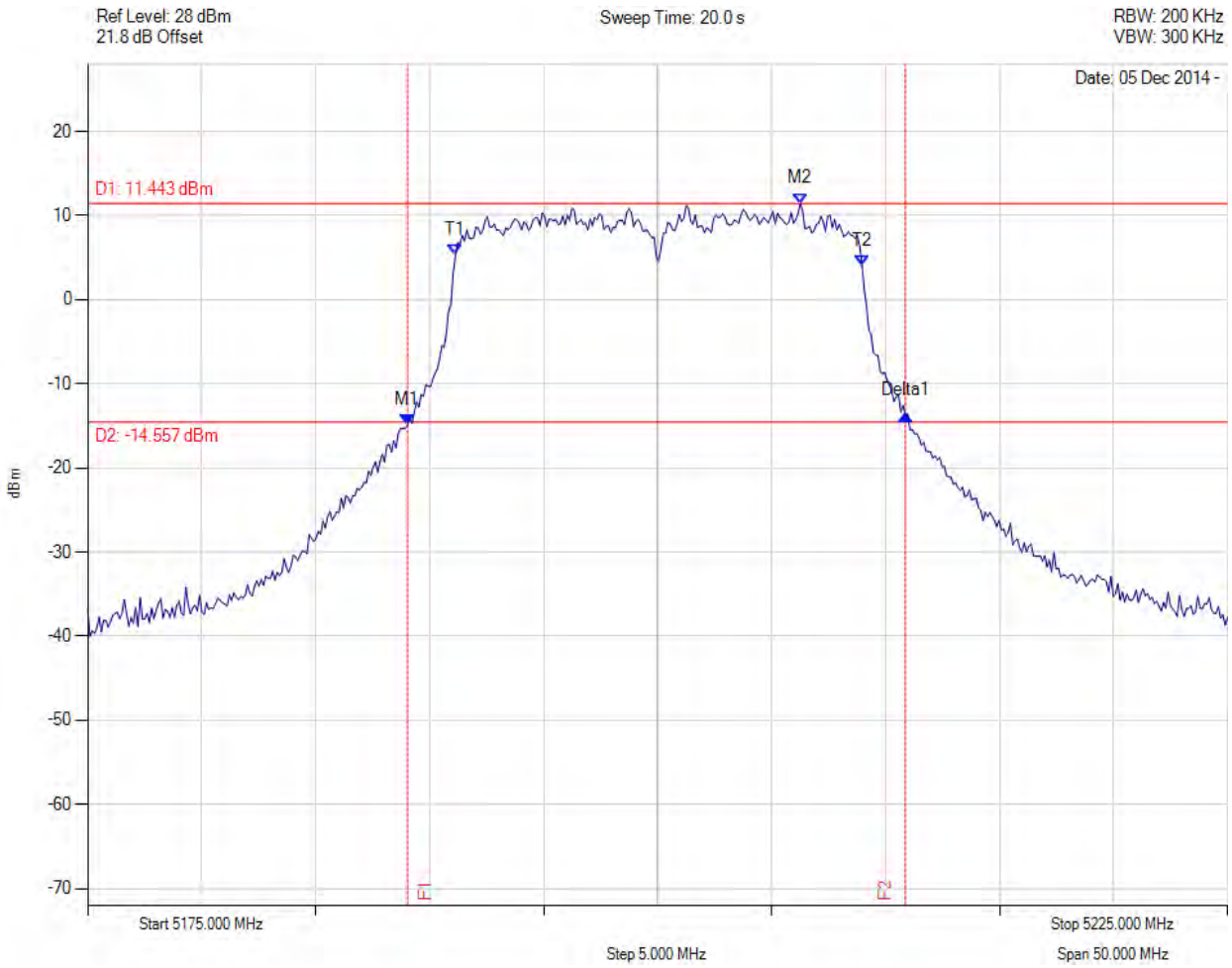


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5153.928 MHz : -30.352 dBm M2 : 5159.940 MHz : -3.493 dBm Delta1 : 22.044 MHz : 0.299 dB T1 : 5156.132 MHz : -10.308 dBm T2 : 5173.968 MHz : -11.597 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 22.044 MHz Measured 99% Bandwidth: 17.836 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

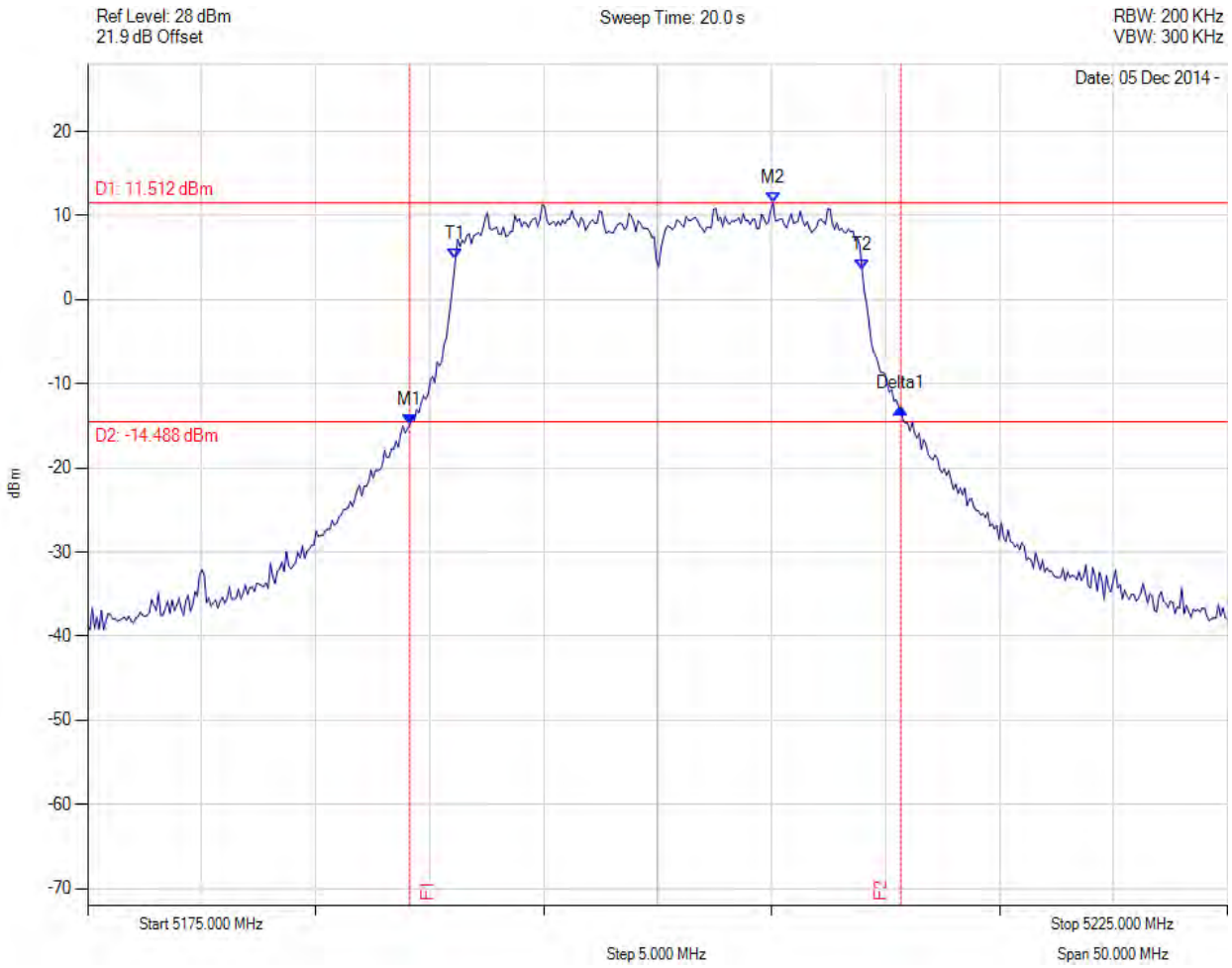


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5189.028 MHz : -14.930 dBm M2 : 5206.263 MHz : 11.443 dBm Delta1 : 21.844 MHz : 1.218 dB T1 : 5191.132 MHz : 5.283 dBm T2 : 5208.968 MHz : 3.994 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 21.844 MHz Measured 99% Bandwidth: 17.836 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

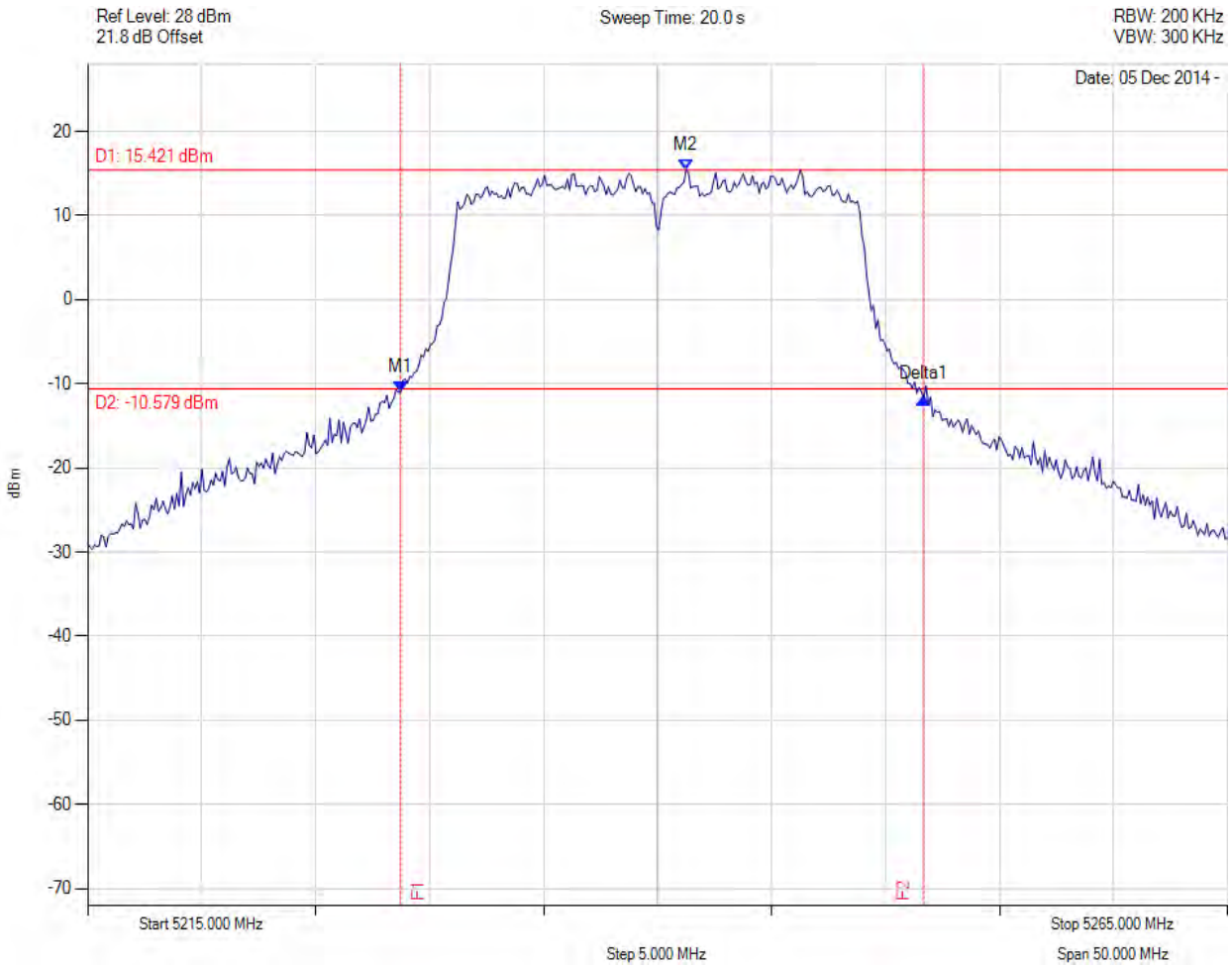


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5189.128 MHz : -14.814 dBm M2 : 5205.060 MHz : 11.512 dBm Delta1 : 21.543 MHz : 1.839 dB T1 : 5191.132 MHz : 4.860 dBm T2 : 5208.968 MHz : 3.593 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 21.543 MHz Measured 99% Bandwidth: 17.836 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

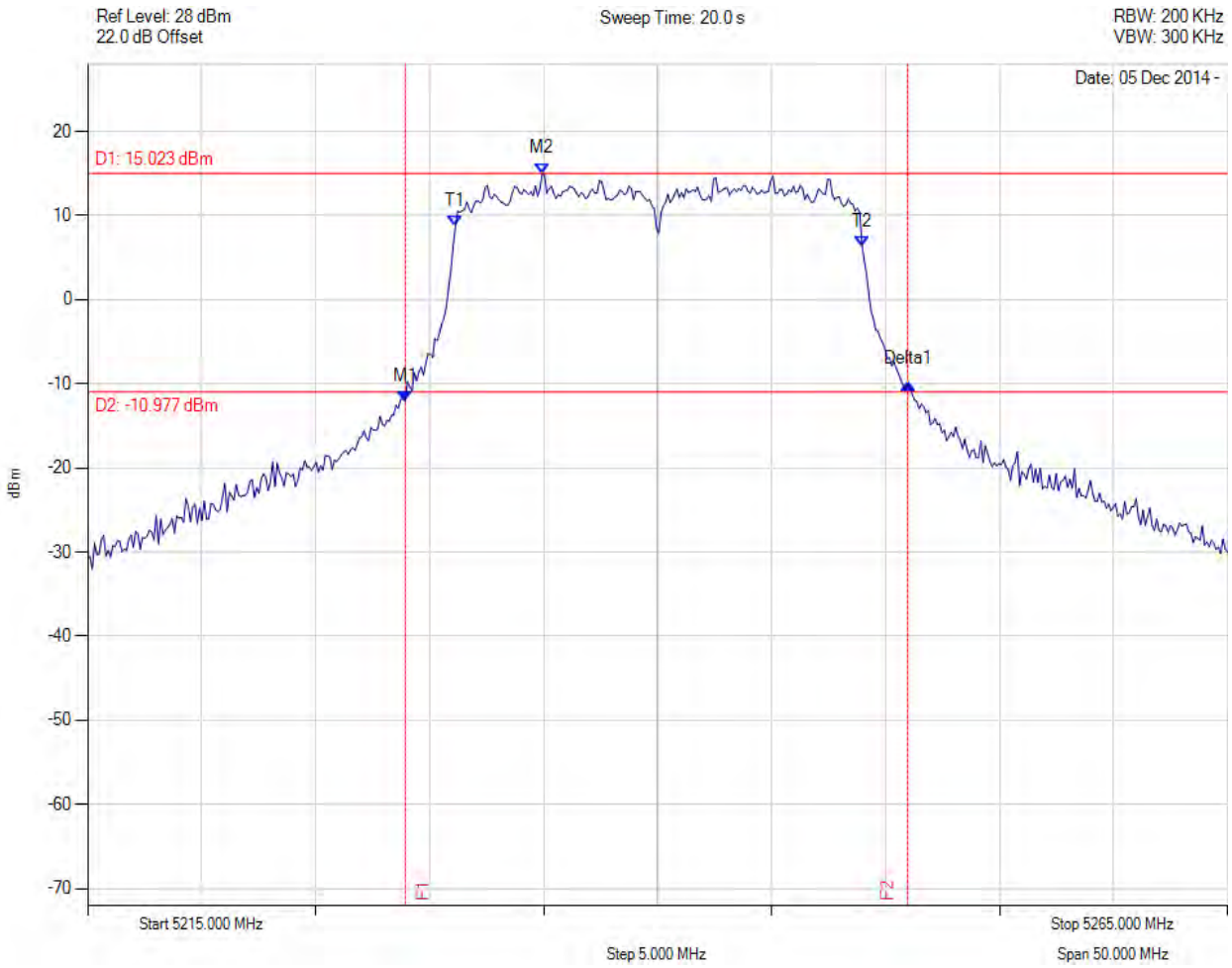


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5228.727 MHz : -10.967 dBm M2 : 5241.253 MHz : 15.421 dBm Delta1 : 22.946 MHz : -0.777 dB T1 : 0 Hz : 500.000 dBm T2 : 0 Hz : 500.000 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 22.946 MHz Measured 99% Bandwidth: 17.836 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

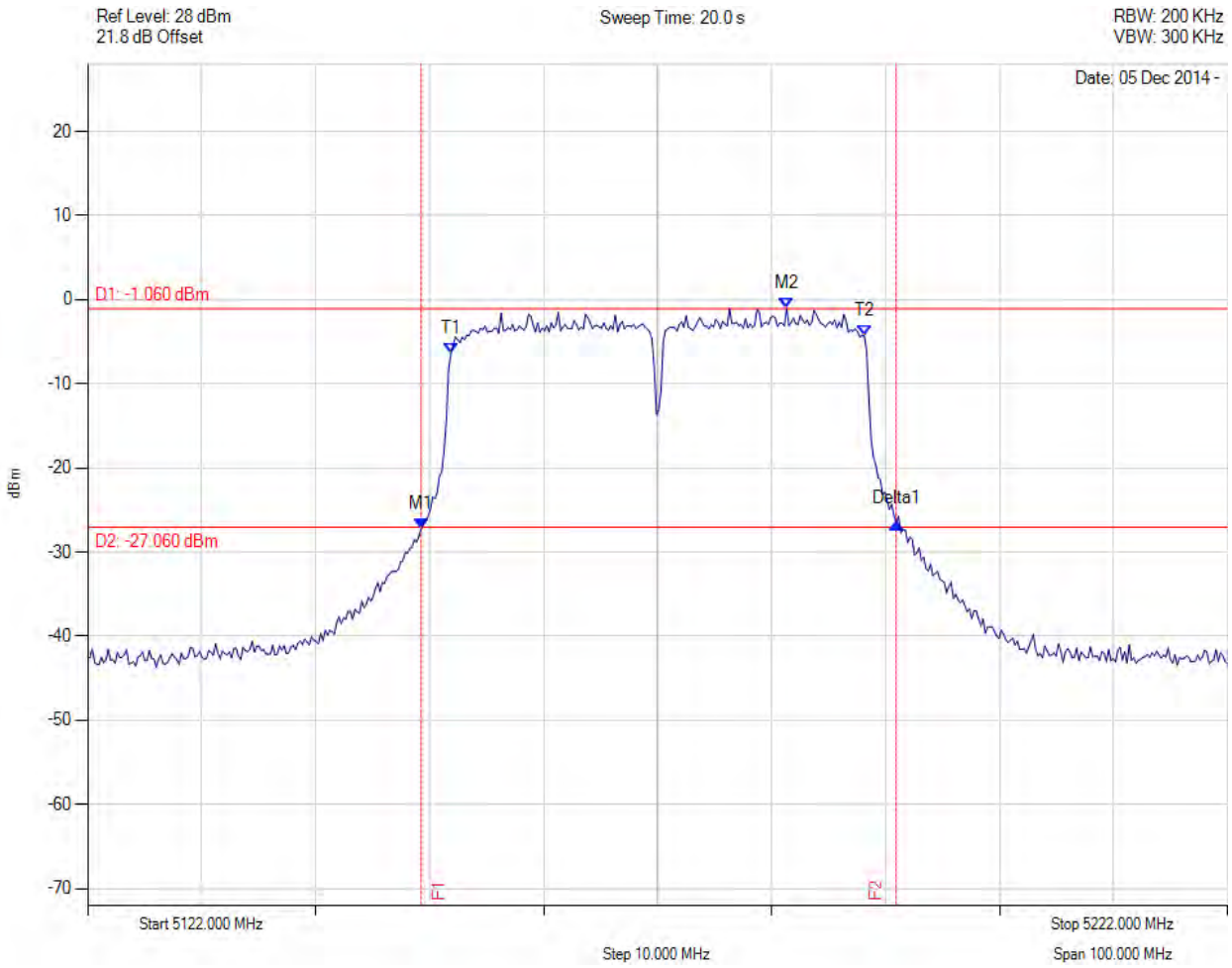


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5228.928 MHz : -12.085 dBm M2 : 5234.940 MHz : 15.023 dBm Delta1 : 22.044 MHz : 2.066 dB T1 : 5231.132 MHz : 8.803 dBm T2 : 5248.968 MHz : 6.377 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 22.044 MHz Measured 99% Bandwidth: 17.836 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5172.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

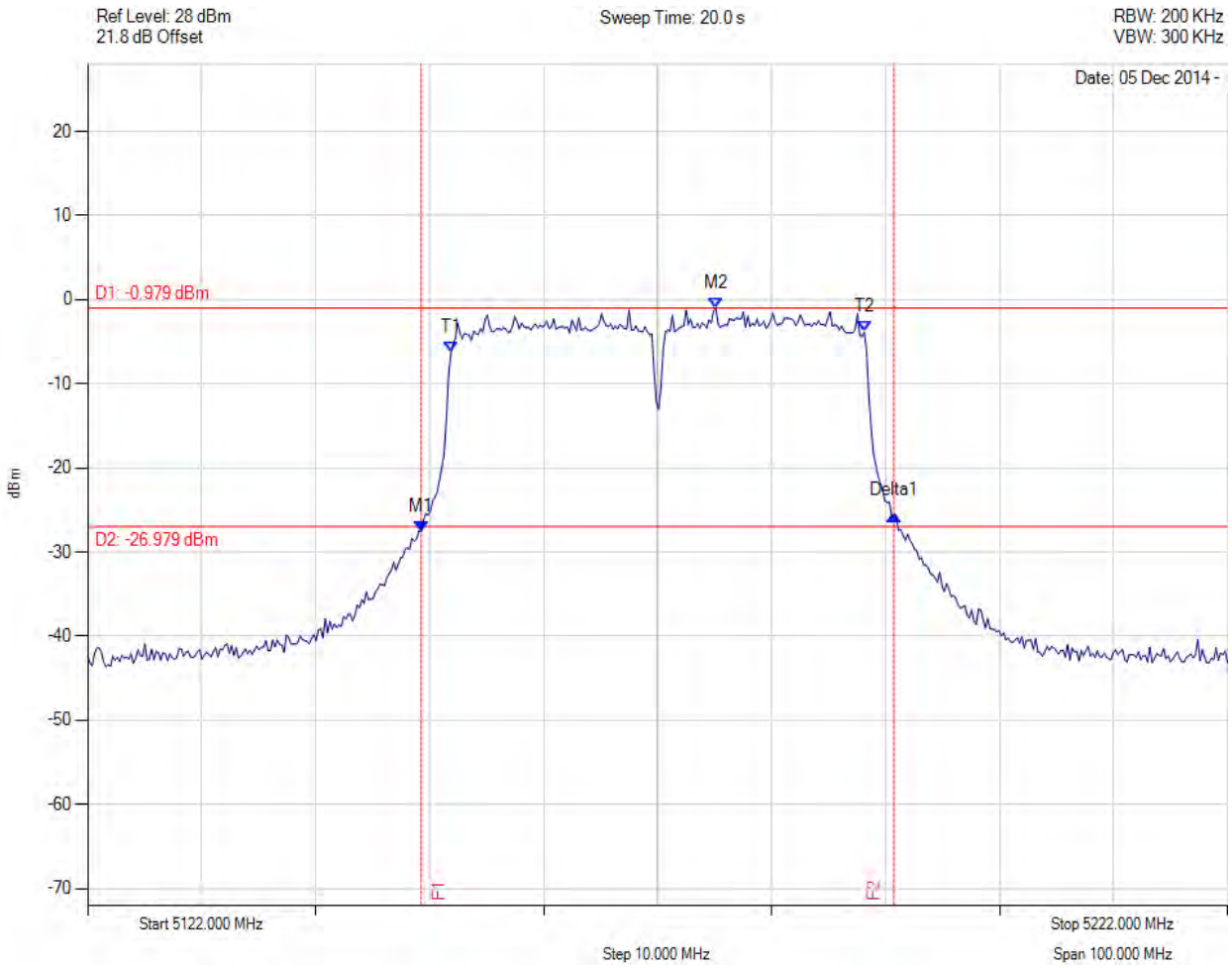


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5151.259 MHz : -27.239 dBm M2 : 5183.323 MHz : -1.060 dBm Delta1 : 41.683 MHz : 0.718 dB T1 : 5153.864 MHz : -6.391 dBm T2 : 5190.136 MHz : -4.265 dBm OBW : 36.273 MHz	Measured 26 dB Bandwidth: 41.683 MHz Measured 99% Bandwidth: 36.273 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5172.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

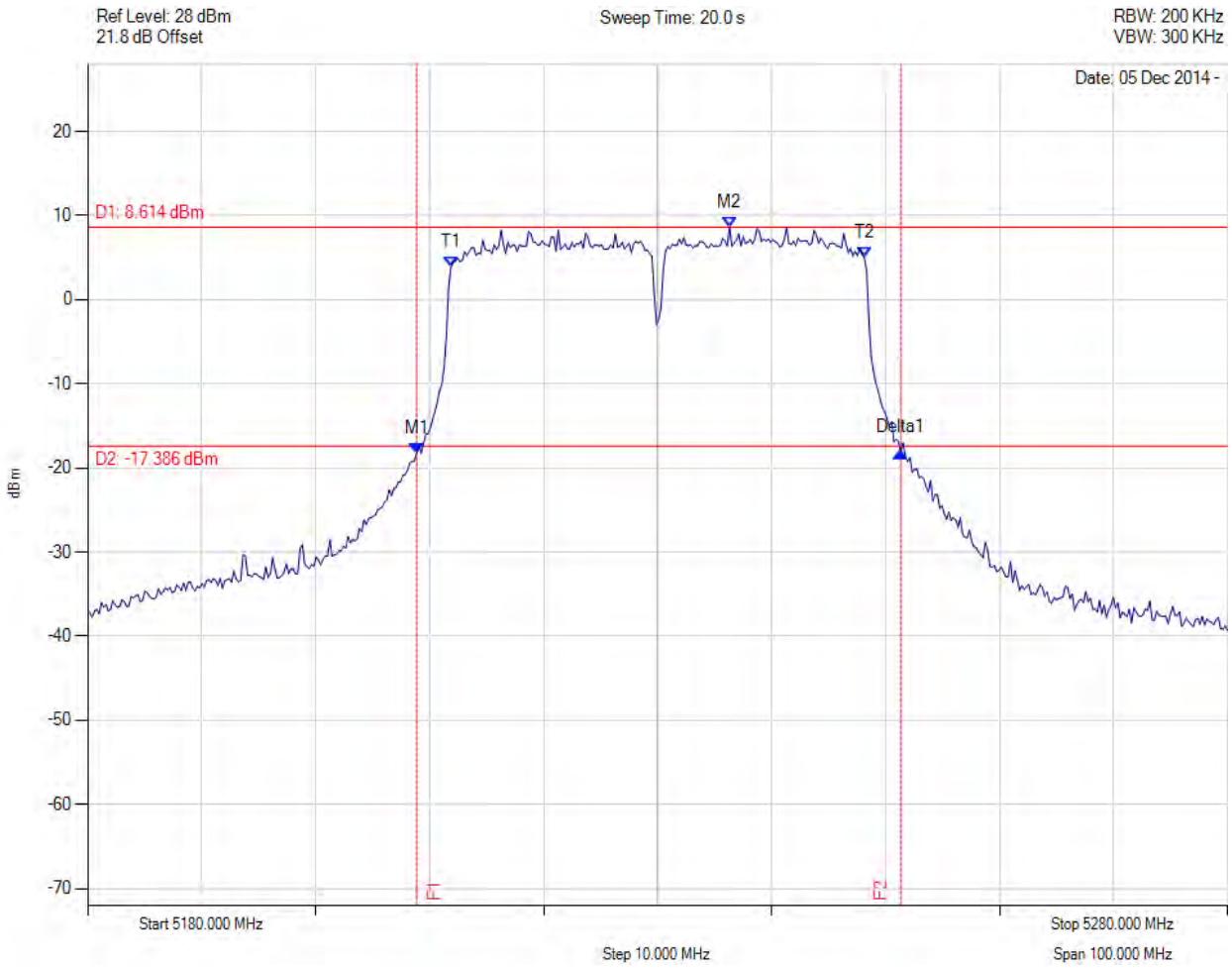


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5151.259 MHz : -27.560 dBm M2 : 5177.110 MHz : -0.979 dBm Delta1 : 41.483 MHz : 1.954 dB T1 : 5153.864 MHz : -6.244 dBm T2 : 5190.136 MHz : -3.853 dBm OBW : 36.273 MHz	Measured 26 dB Bandwidth: 41.483 MHz Measured 99% Bandwidth: 36.273 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

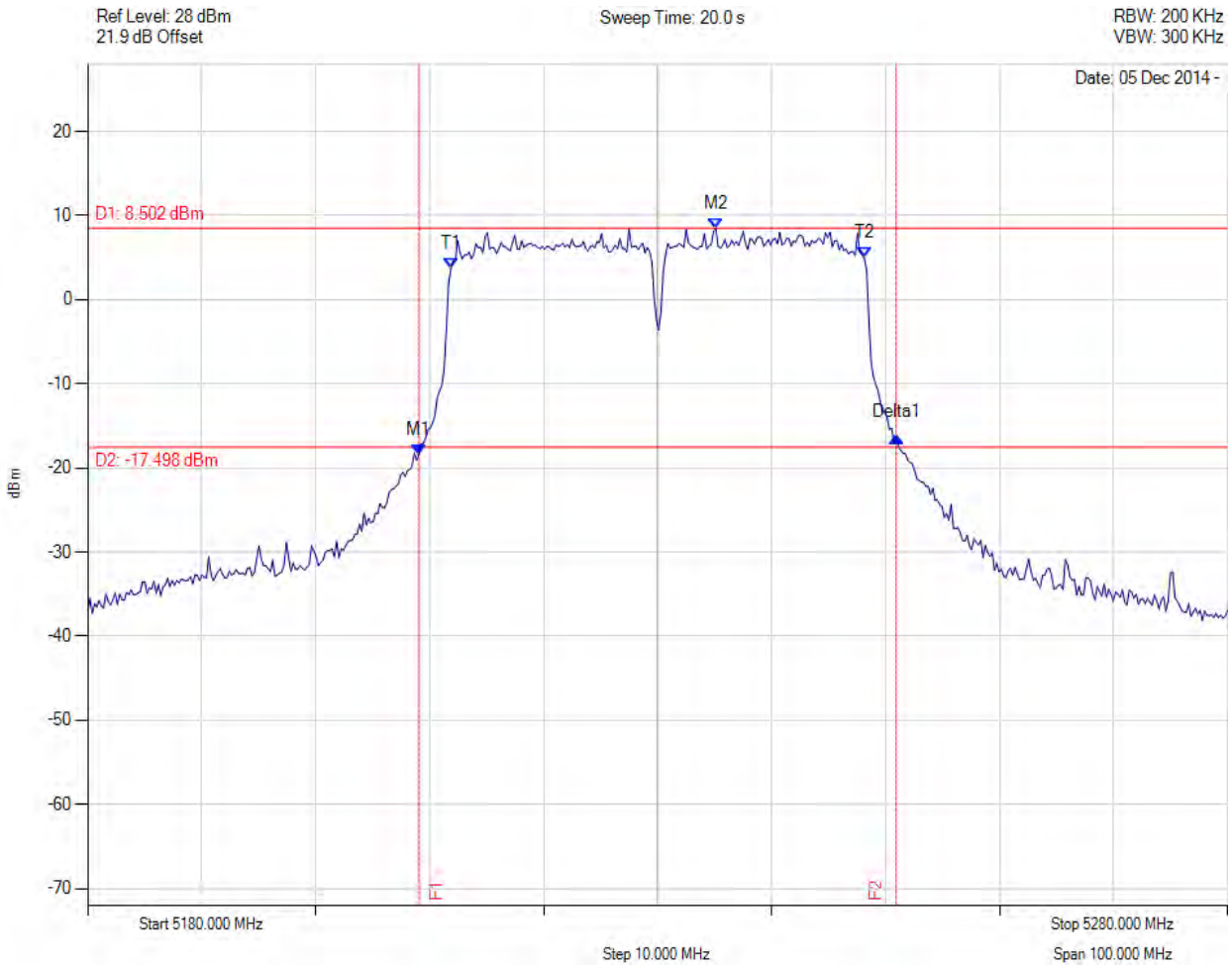


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5208.858 MHz : -18.262 dBm M2 : 5236.313 MHz : 8.614 dBm Delta1 : 42.485 MHz : 0.177 dB T1 : 5211.864 MHz : 3.933 dBm T2 : 5248.136 MHz : 5.015 dBm OBW : 36.273 MHz	Measured 26 dB Bandwidth: 42.485 MHz Measured 99% Bandwidth: 36.273 MHz

Back to Matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5230.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc



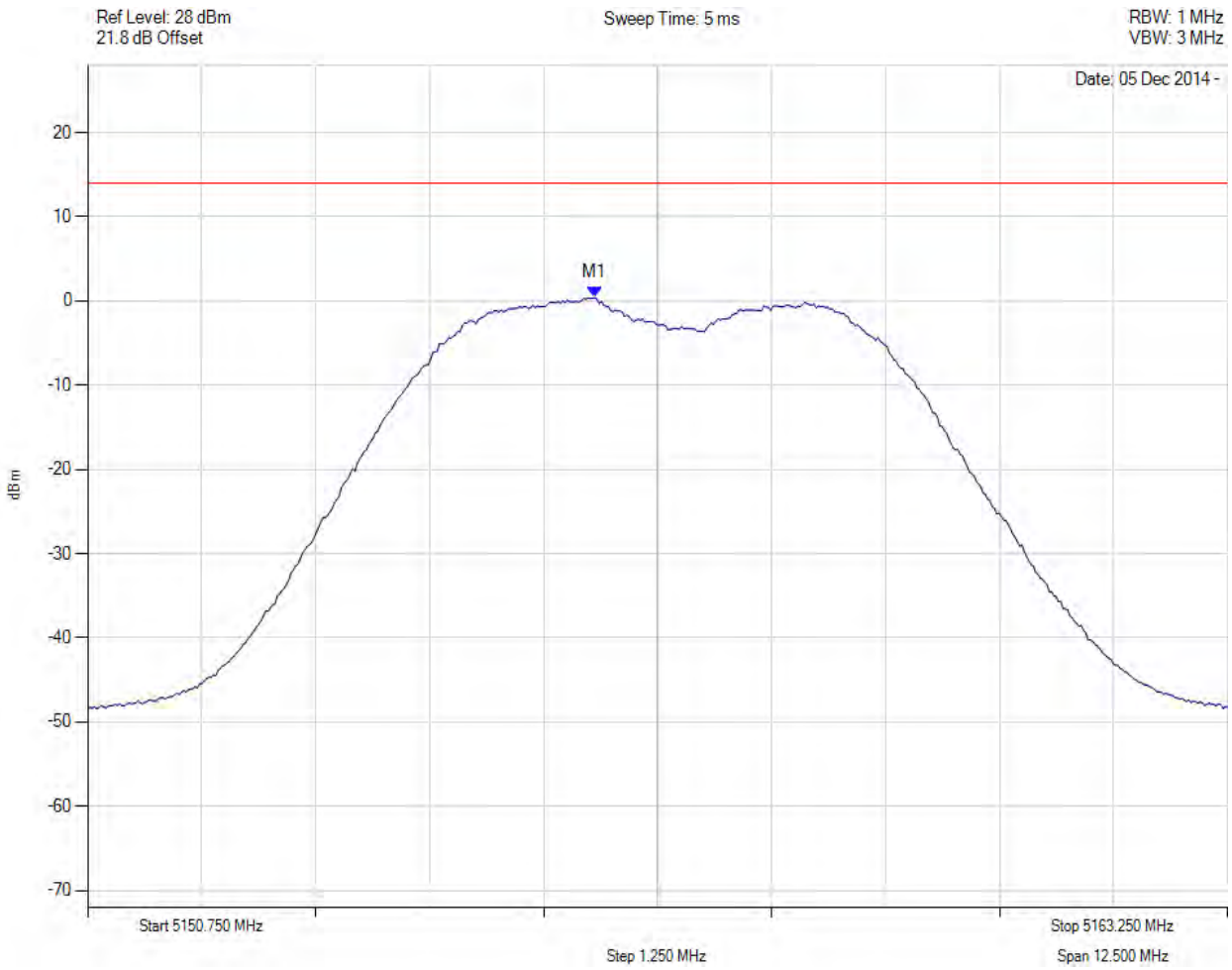
Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5209.058 MHz : -18.378 dBm M2 : 5235.110 MHz : 8.502 dBm Delta1 : 41.884 MHz : 2.081 dB T1 : 5211.864 MHz : 3.689 dBm T2 : 5248.136 MHz : 4.952 dBm OBW : 36.273 MHz	Measured 26 dB Bandwidth: 41.884 MHz Measured 99% Bandwidth: 36.273 MHz

Back to Matrix

A.1.2. Peak Power Spectral Density

PEAK POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5157.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

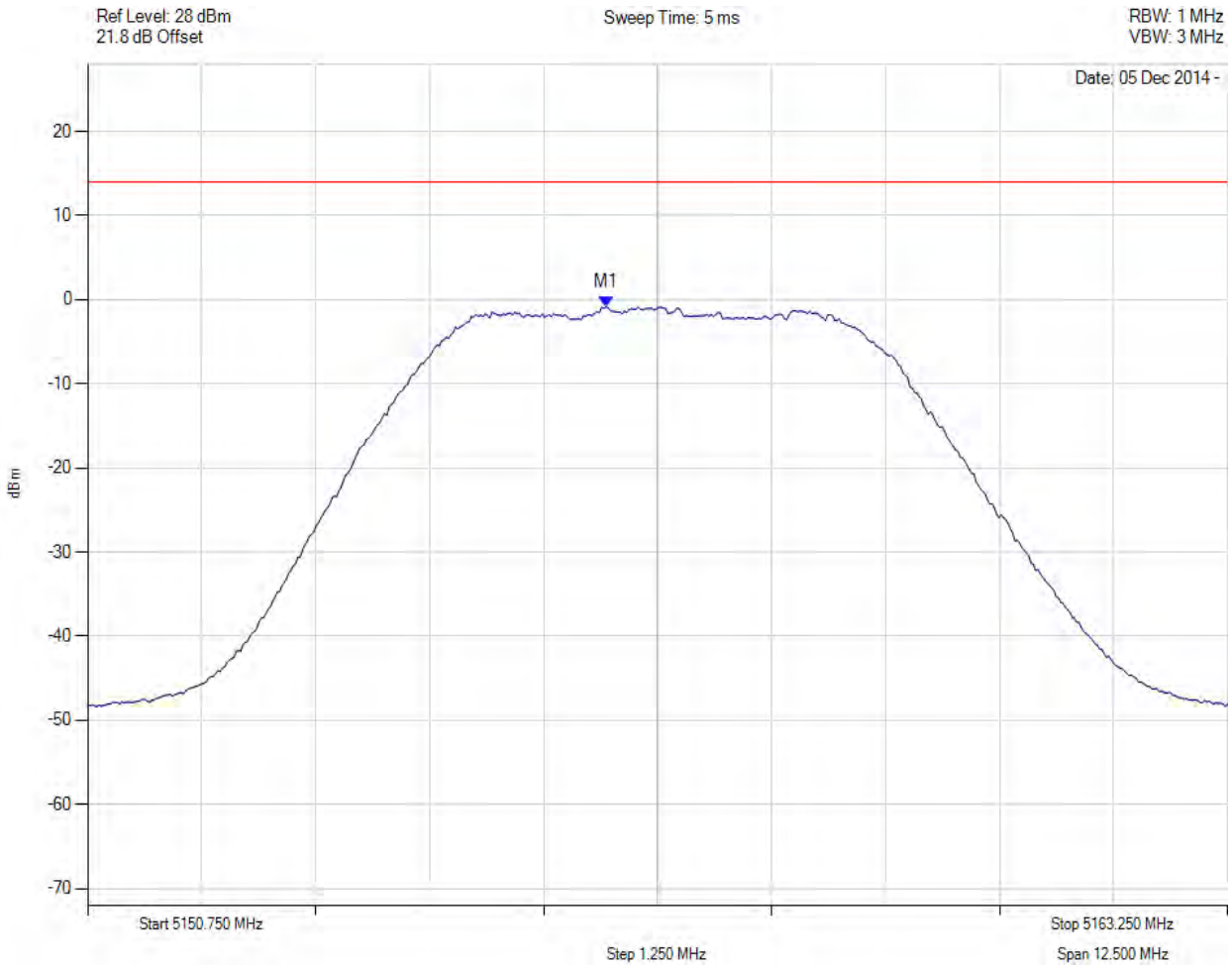


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5156.311 MHz : 0.387 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5157.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

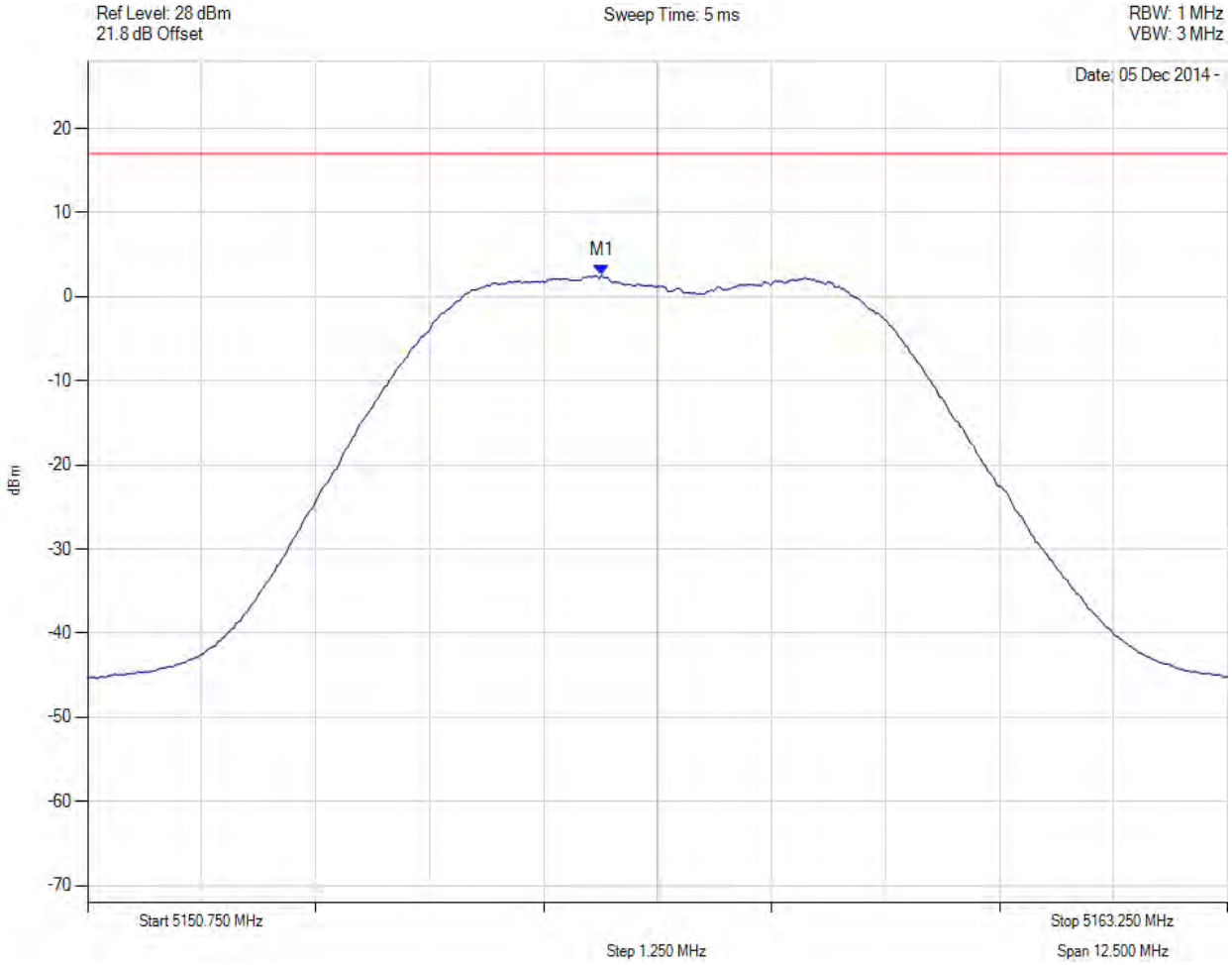


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5156.436 MHz : -0.846 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5157.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5156 MHz : 3 dBm M1 + DCCF : 5156 MHz : 2.619 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -14.4 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5198.459 MHz : 13.915 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

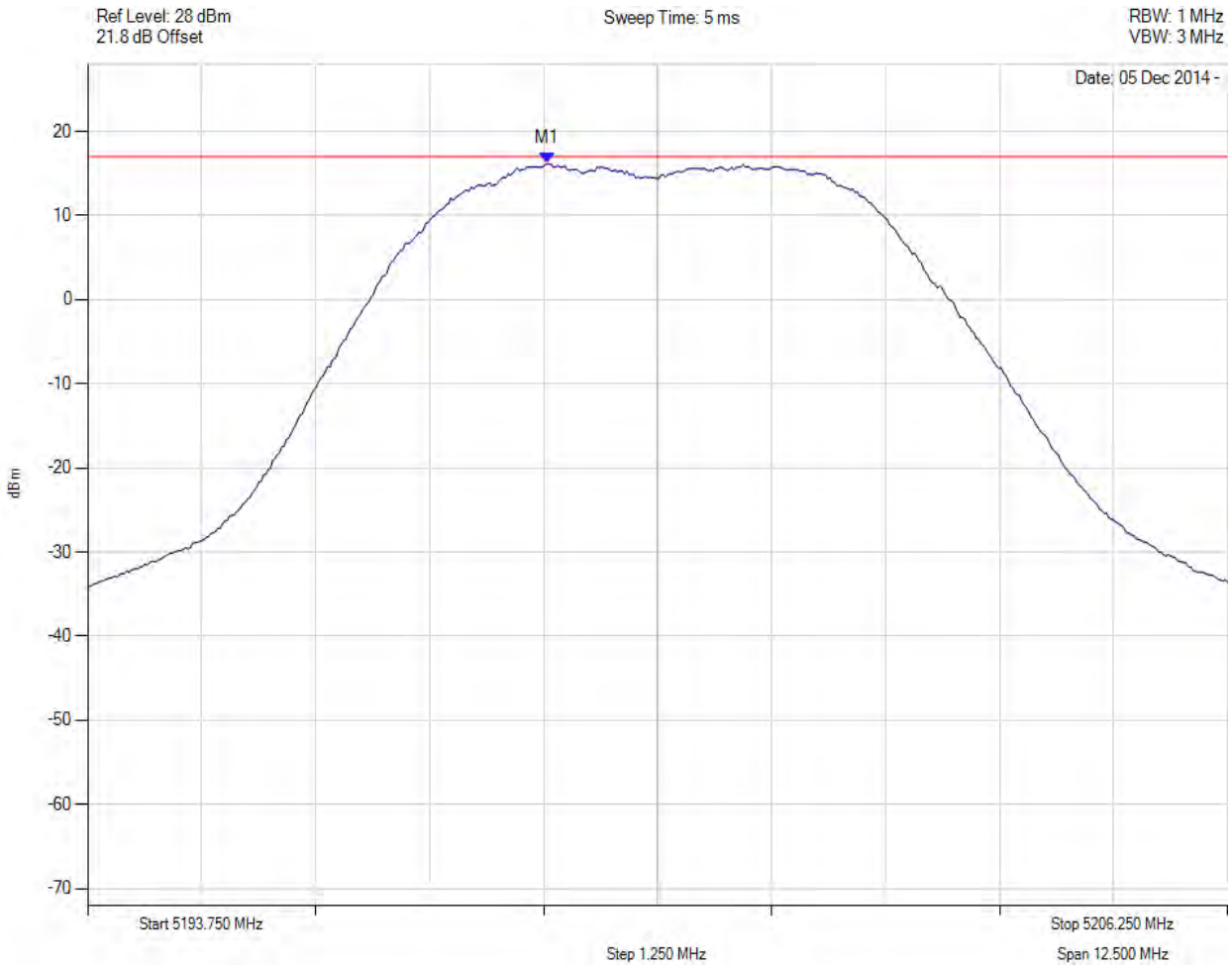
Variant: 5 MHz, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5201.115 MHz : 13.328 dBm	Channel Frequency: 5200.00 MHz

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

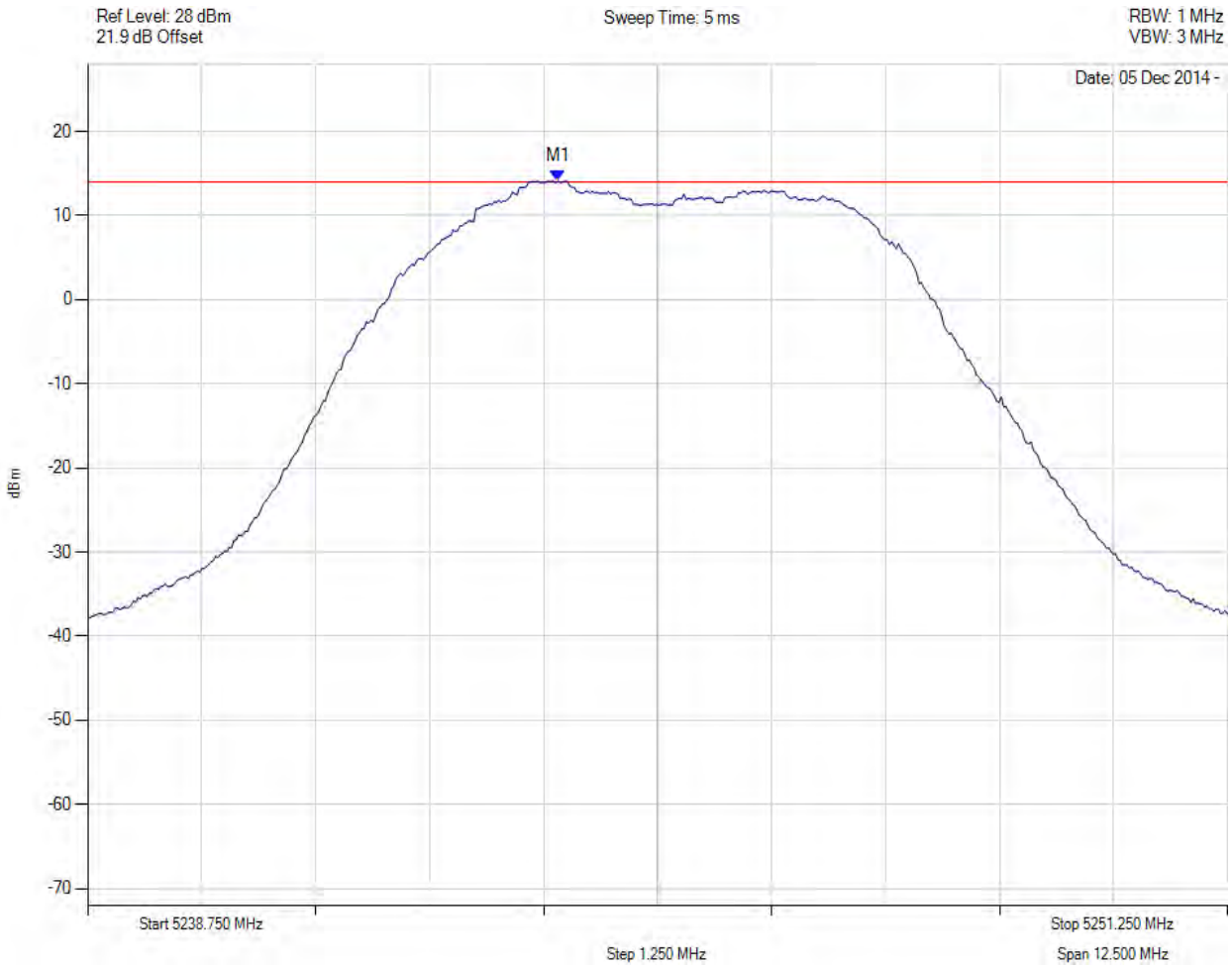


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5199 MHz : 16 dBm M1 + DCCF : 5199 MHz : 16.232 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -0.8 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5245.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

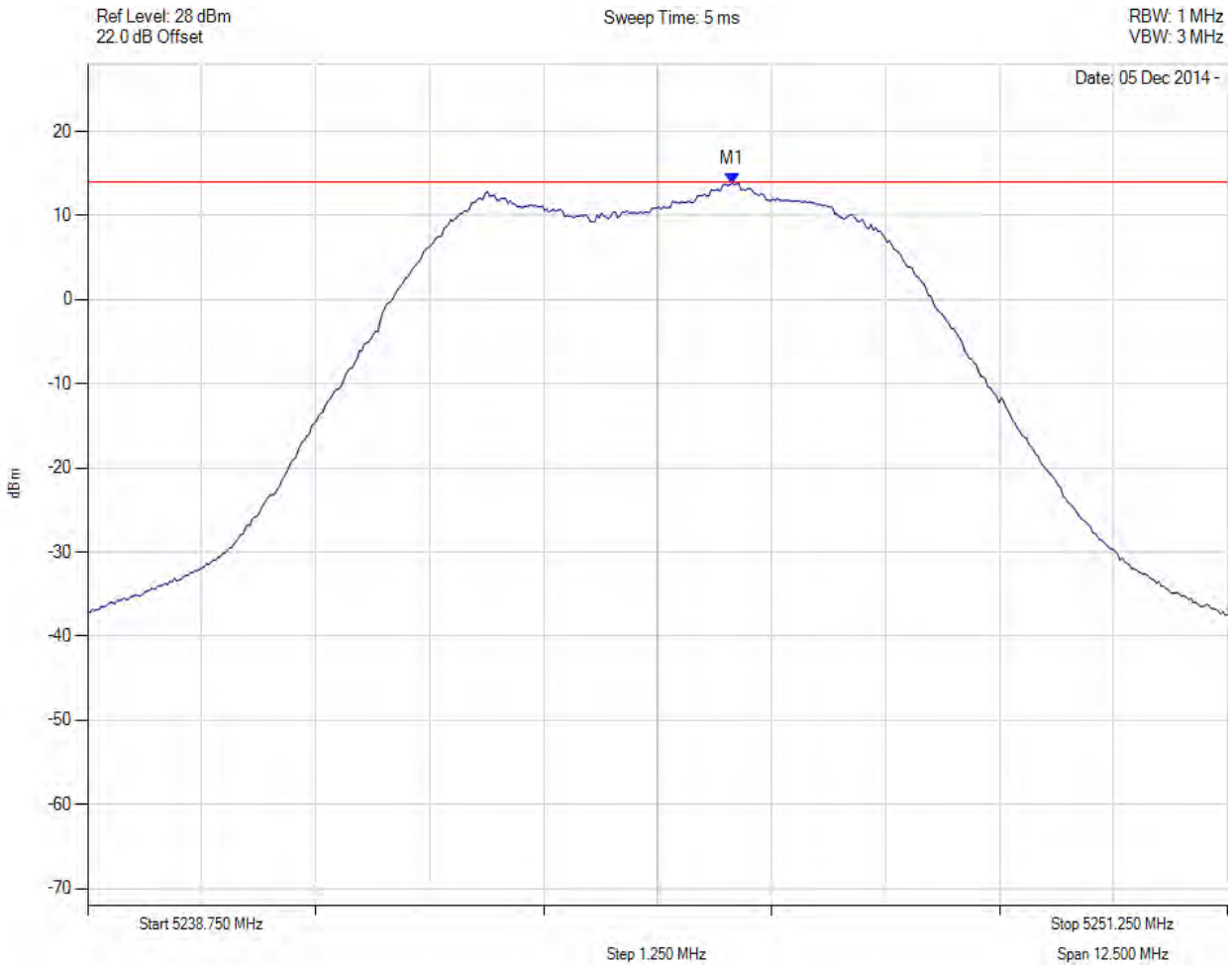


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.910 MHz : 14.131 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5245.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245.814 MHz : 13.850 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

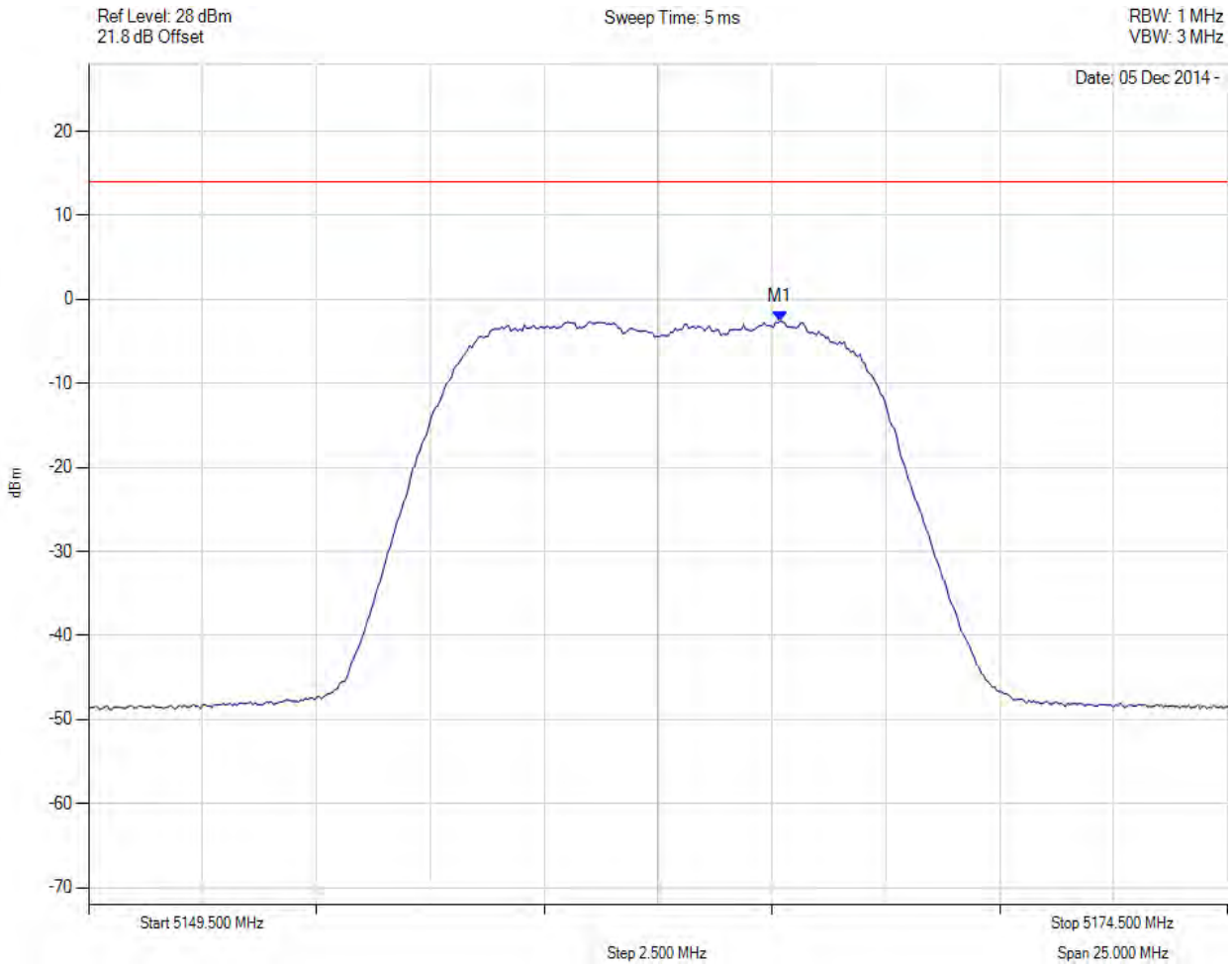
Variant: 5 MHz, Channel: 5245.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246 MHz : 16 dBm M1 + DCCF : 5246 MHz : 16.382 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -0.6 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5162.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

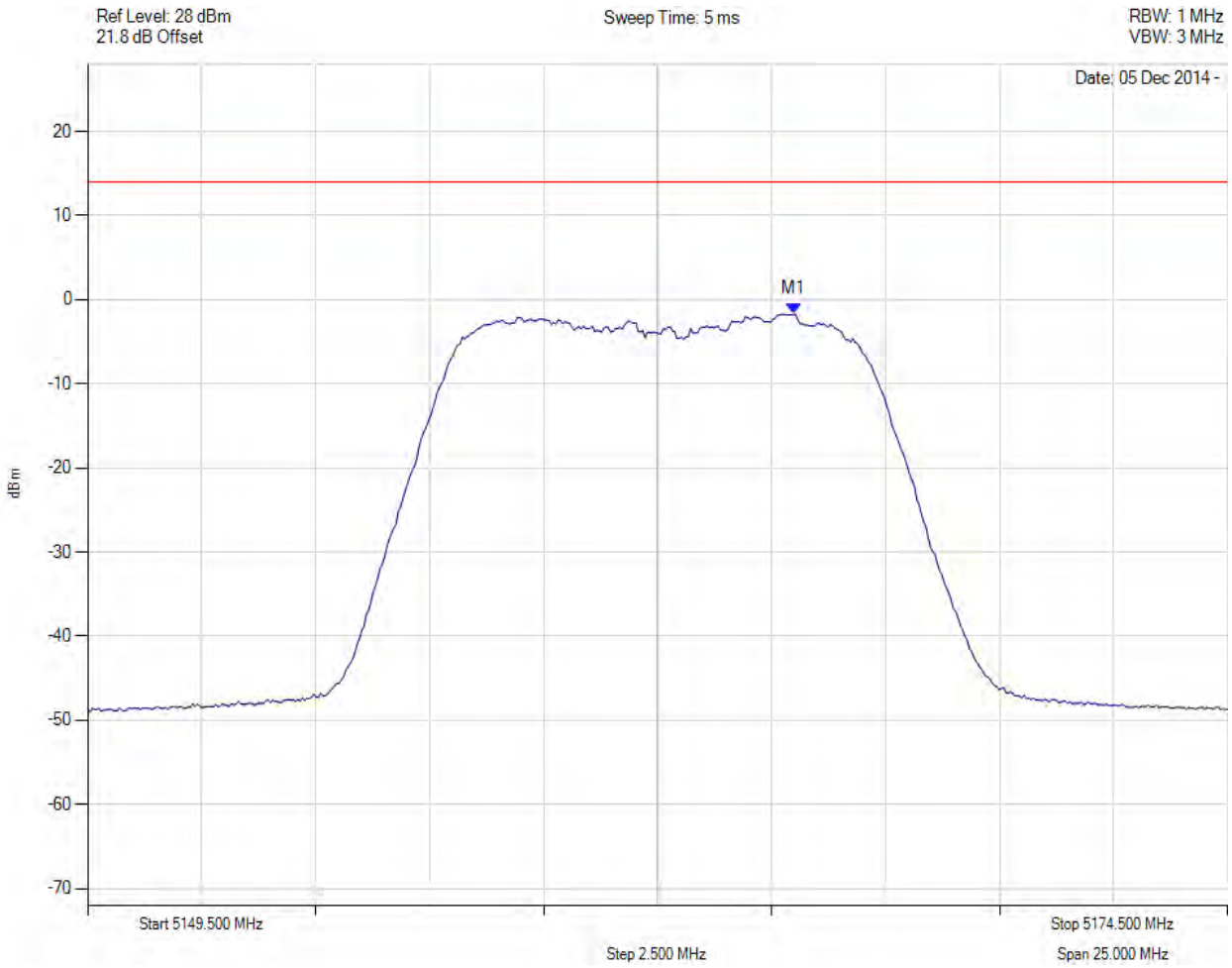


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5164.680 MHz : -2.576 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5162.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

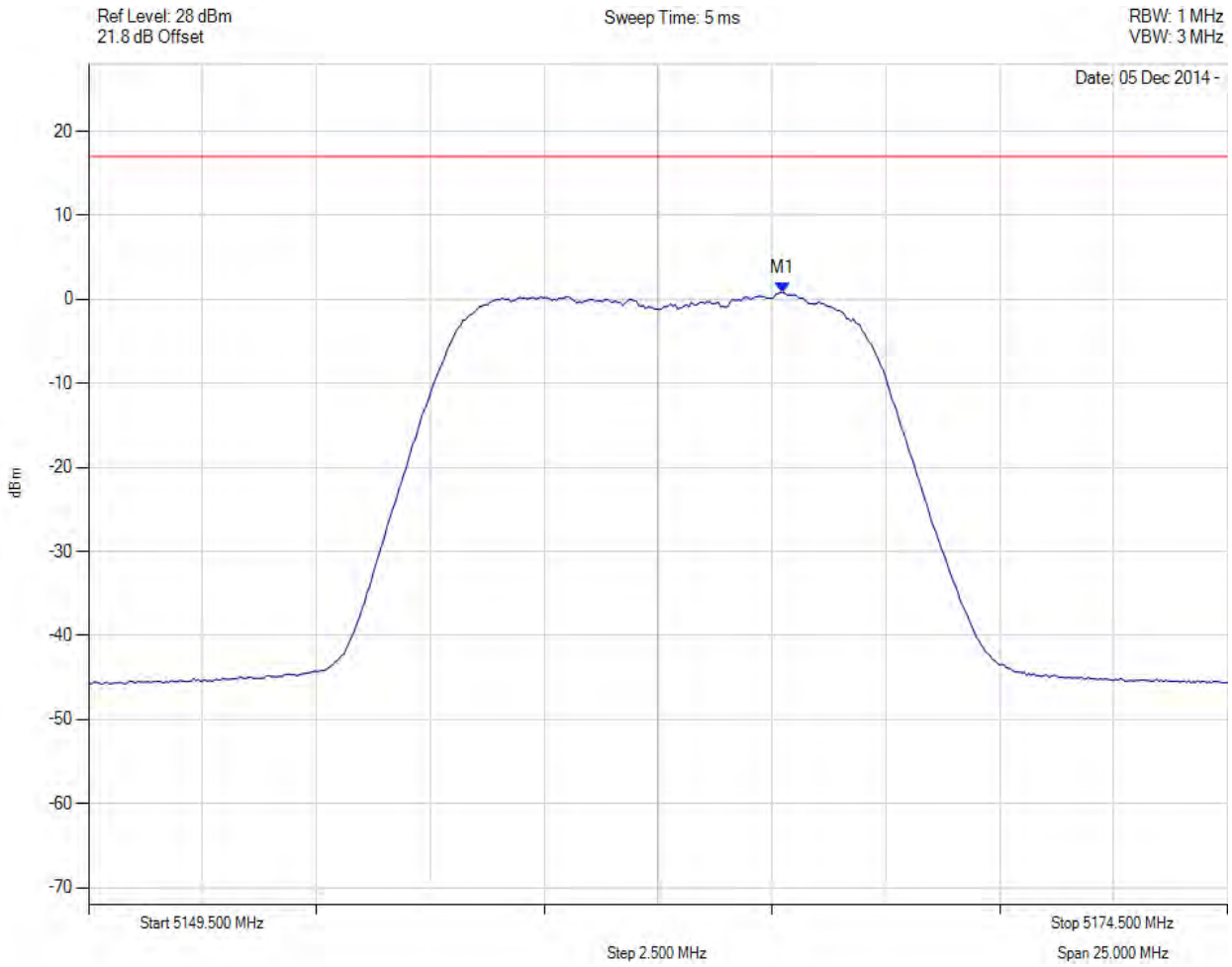


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5164.981 MHz : -1.726 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5162.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

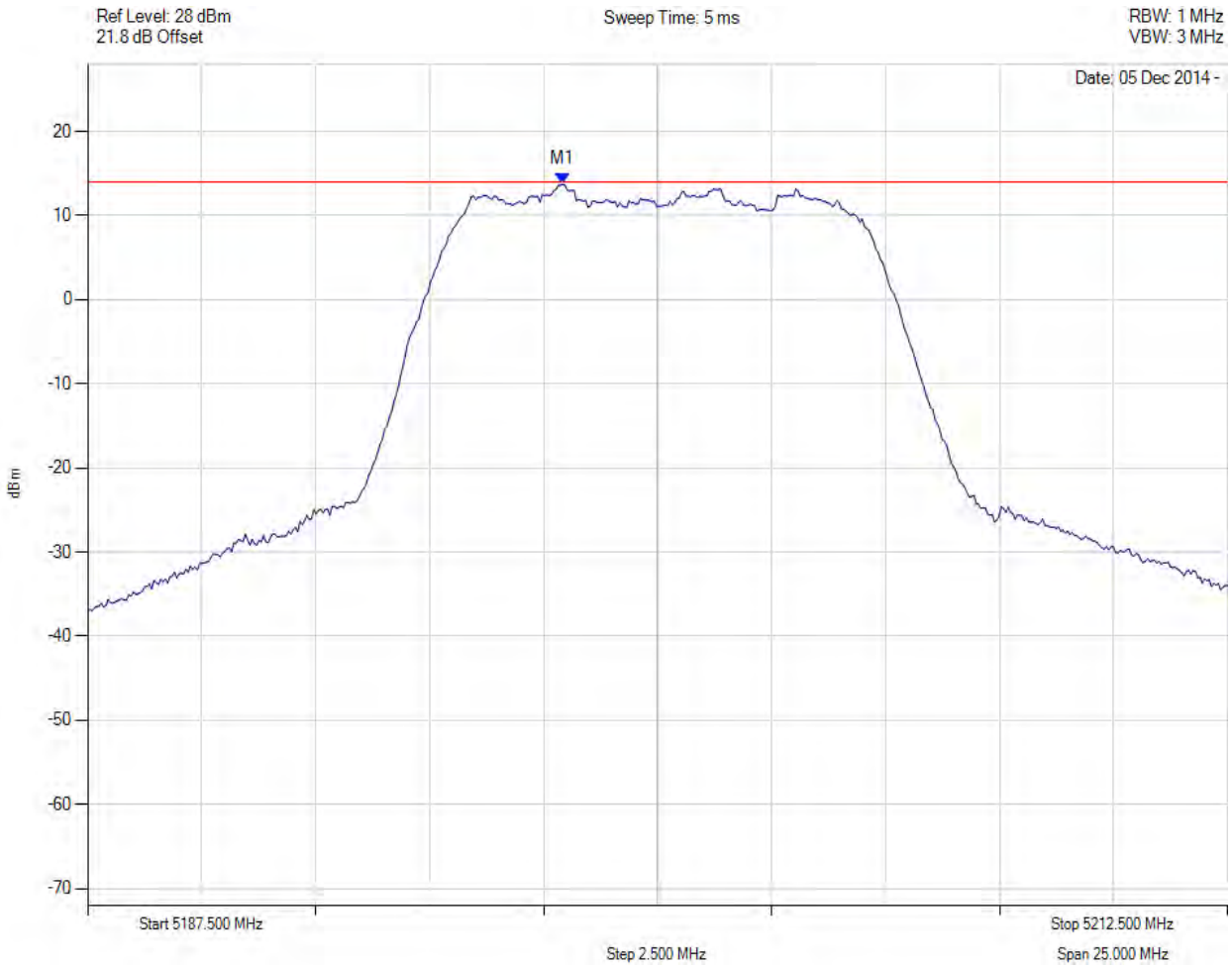


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5165 MHz : 1 dBm M1 + DCCF : 5165 MHz : 0.924 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 17.0 dBm Margin: -16.1 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

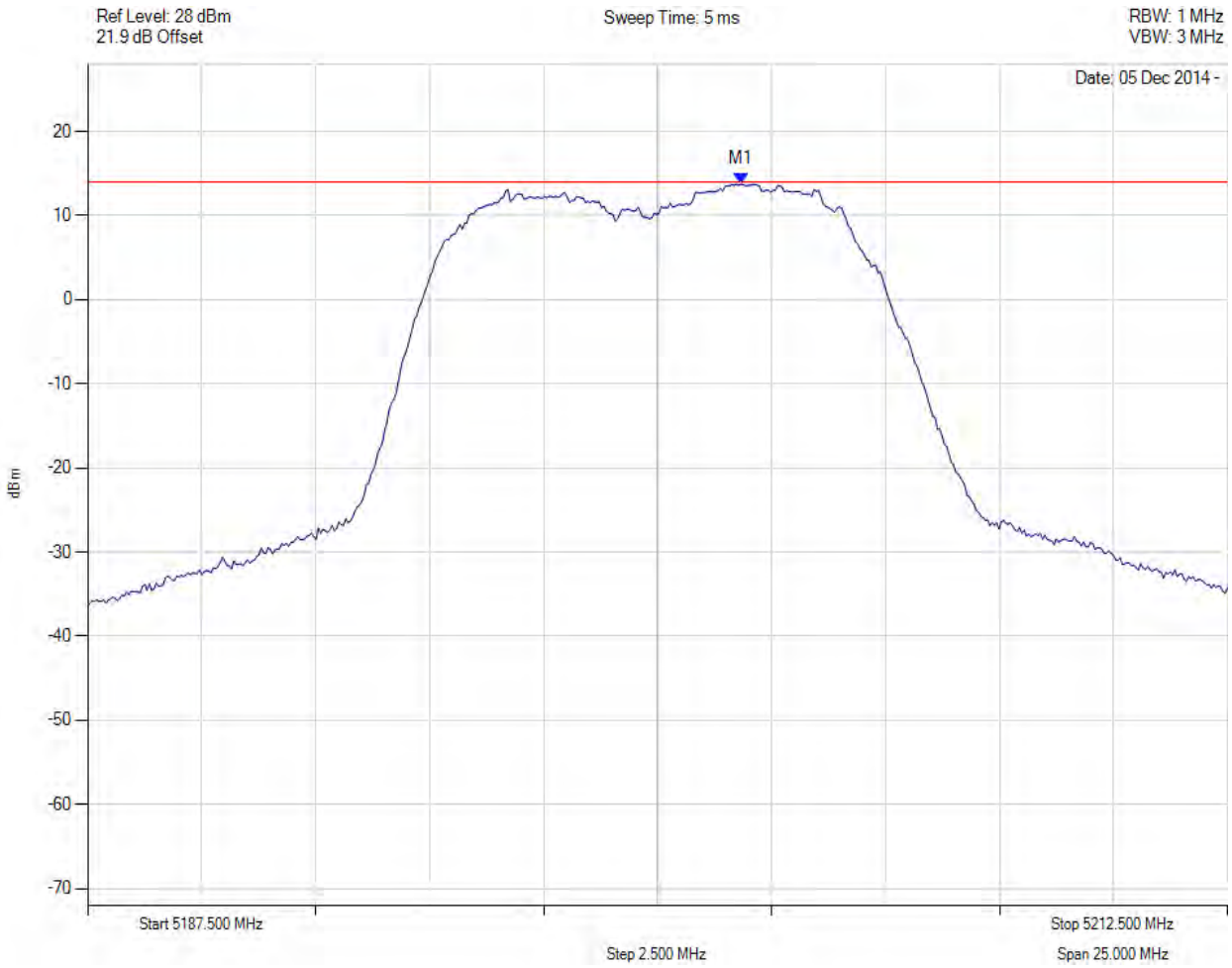


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.921 MHz : 13.739 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

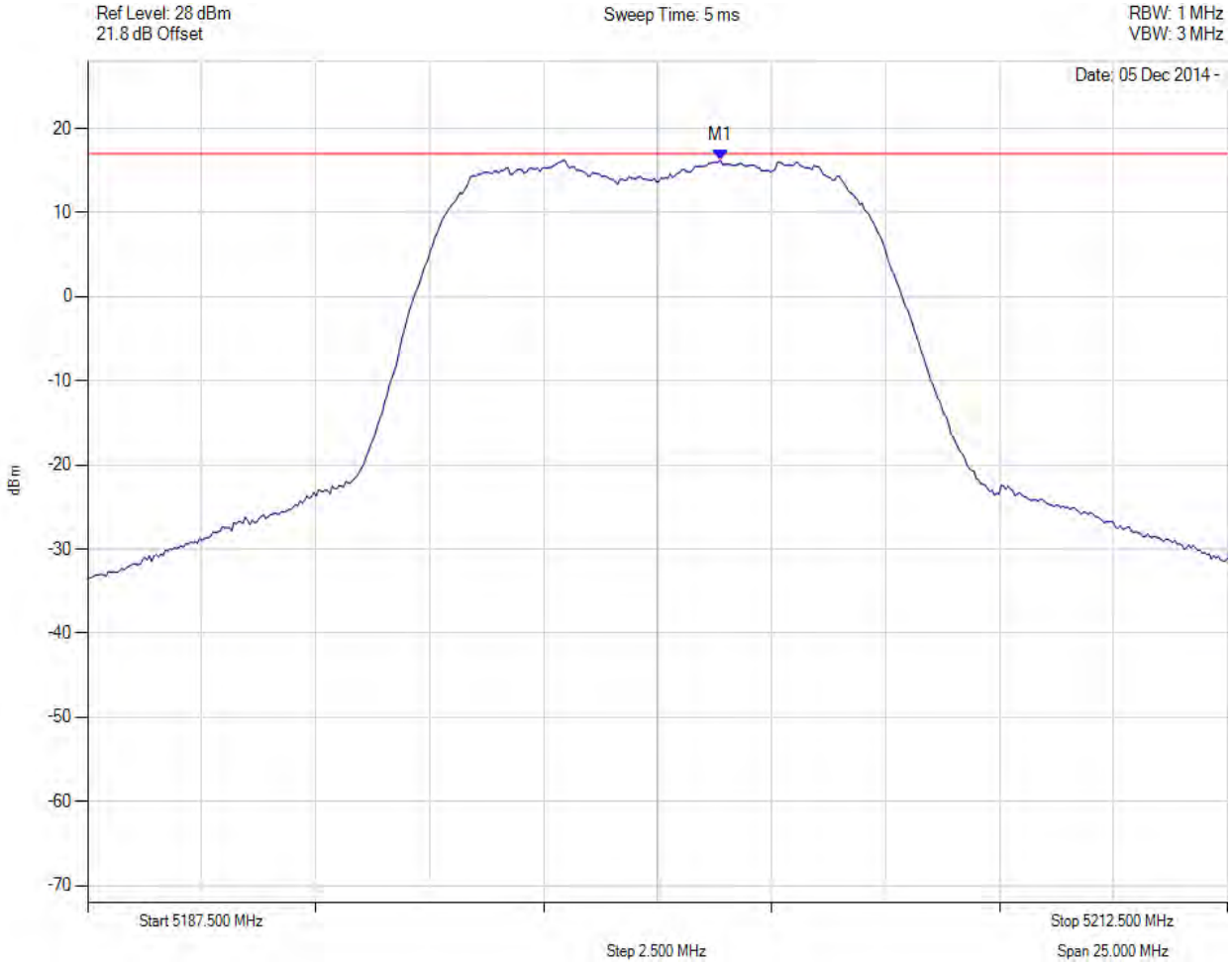


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5201.829 MHz : 13.751 dBm	Channel Frequency: 5200.00 MHz

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5201 MHz : 16 dBm M1 + DCCF : 5201 MHz : 16.348 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 17.0 dBm Margin: -0.7 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5245.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246.528 MHz : 13.631 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5245.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5242.420 MHz : 13.753 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

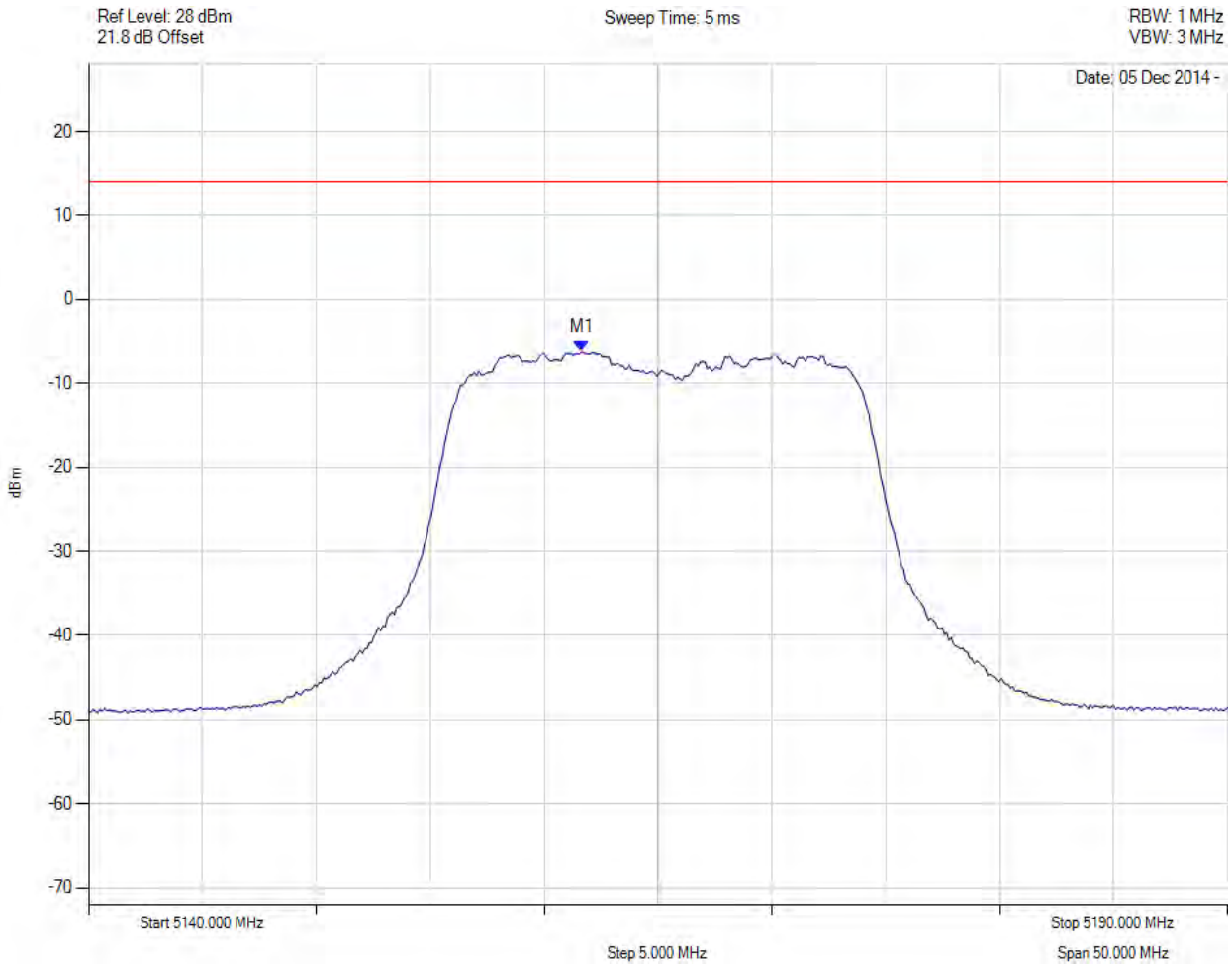
Variant: 10 MHz, Channel: 5245.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5247 MHz : 16 dBm M1 + DCCF : 5247 MHz : 16.270 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 17.0 dBm Margin: -0.7 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5165.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

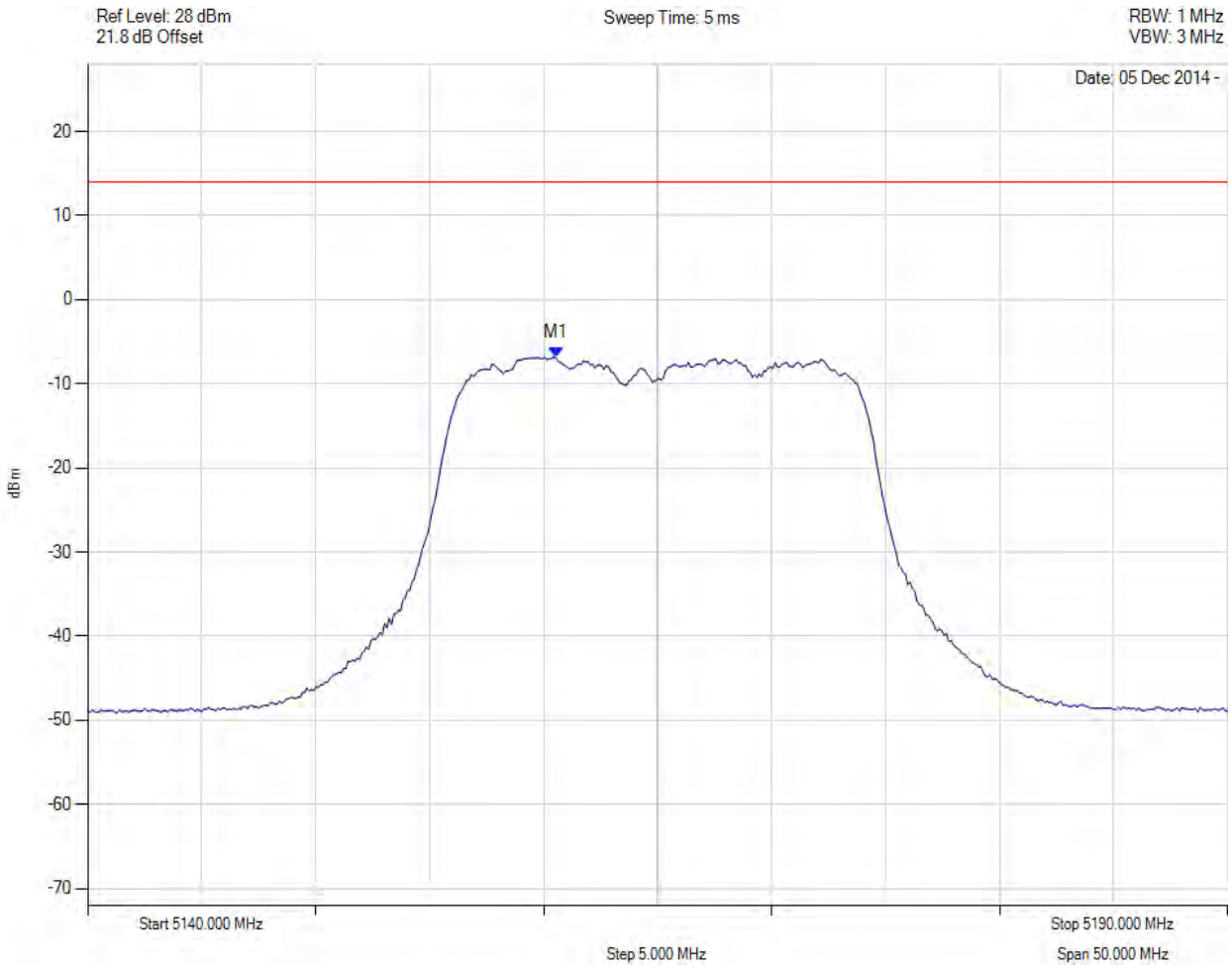


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5161.643 MHz : -6.264 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5165.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

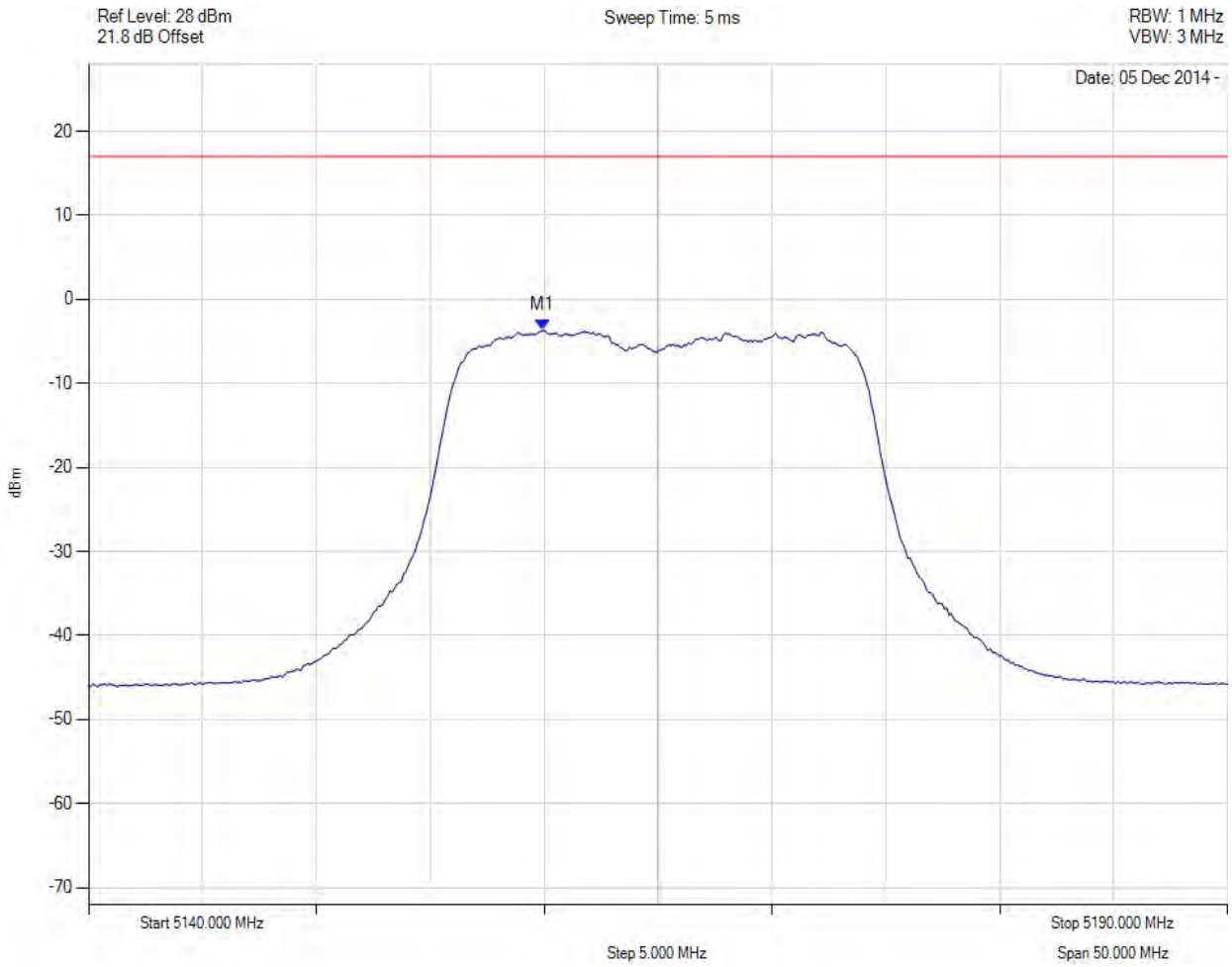


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5160.541 MHz : -6.852 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5165.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

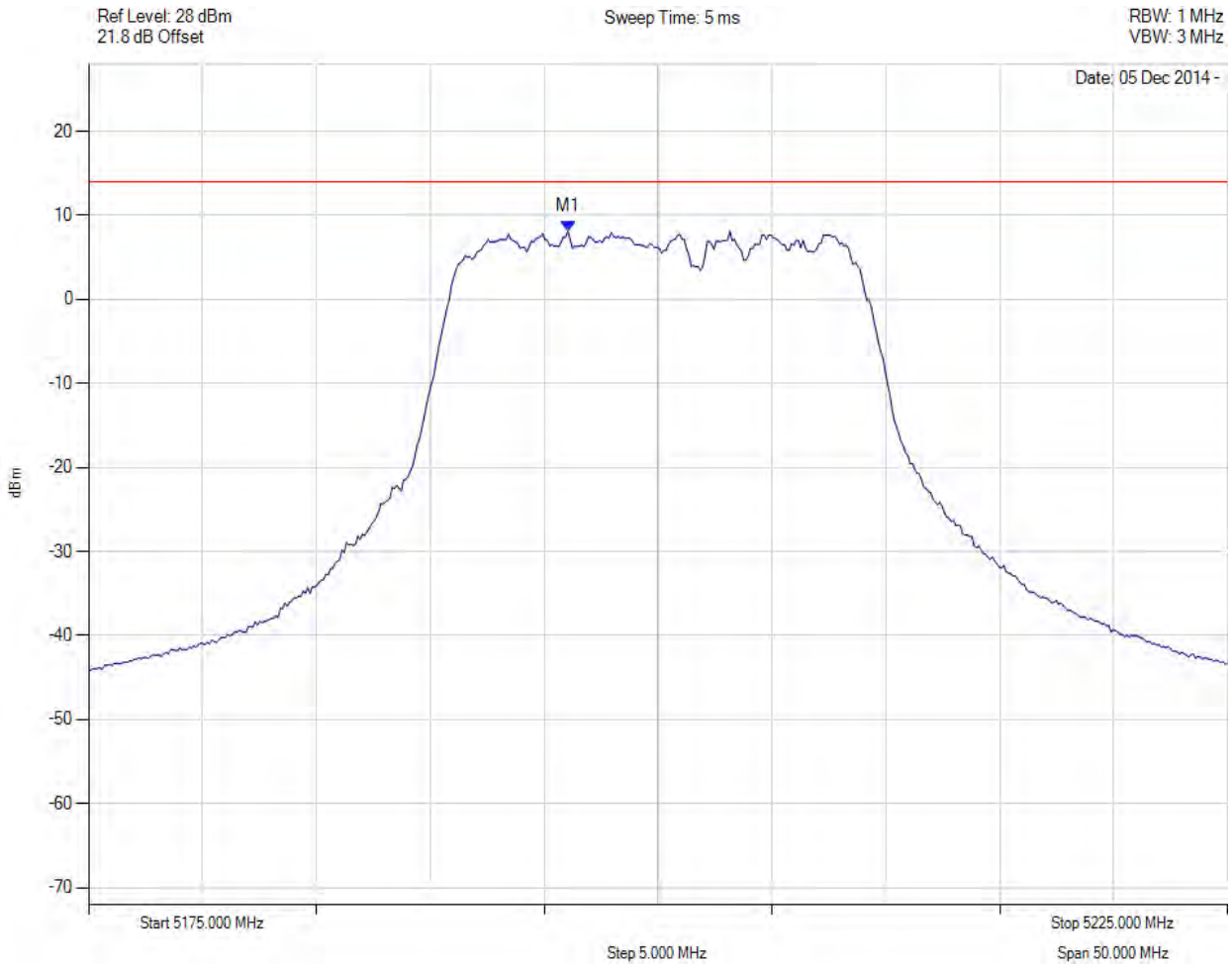


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5160 MHz : -4 dBm M1 + DCCF : 5160 MHz : -3.503 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 17.0 dBm Margin: -20.5 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

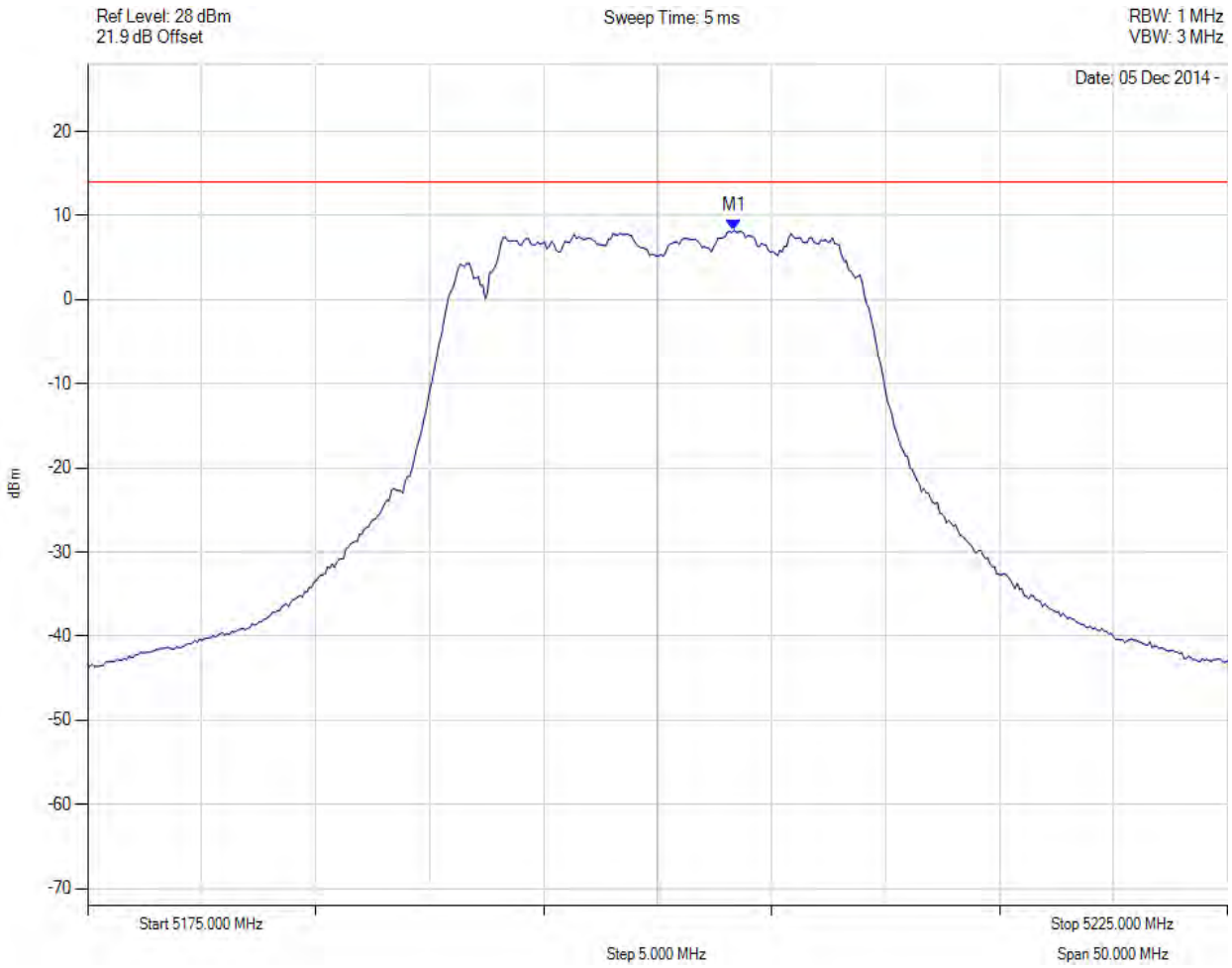


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.042 MHz : 8.156 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

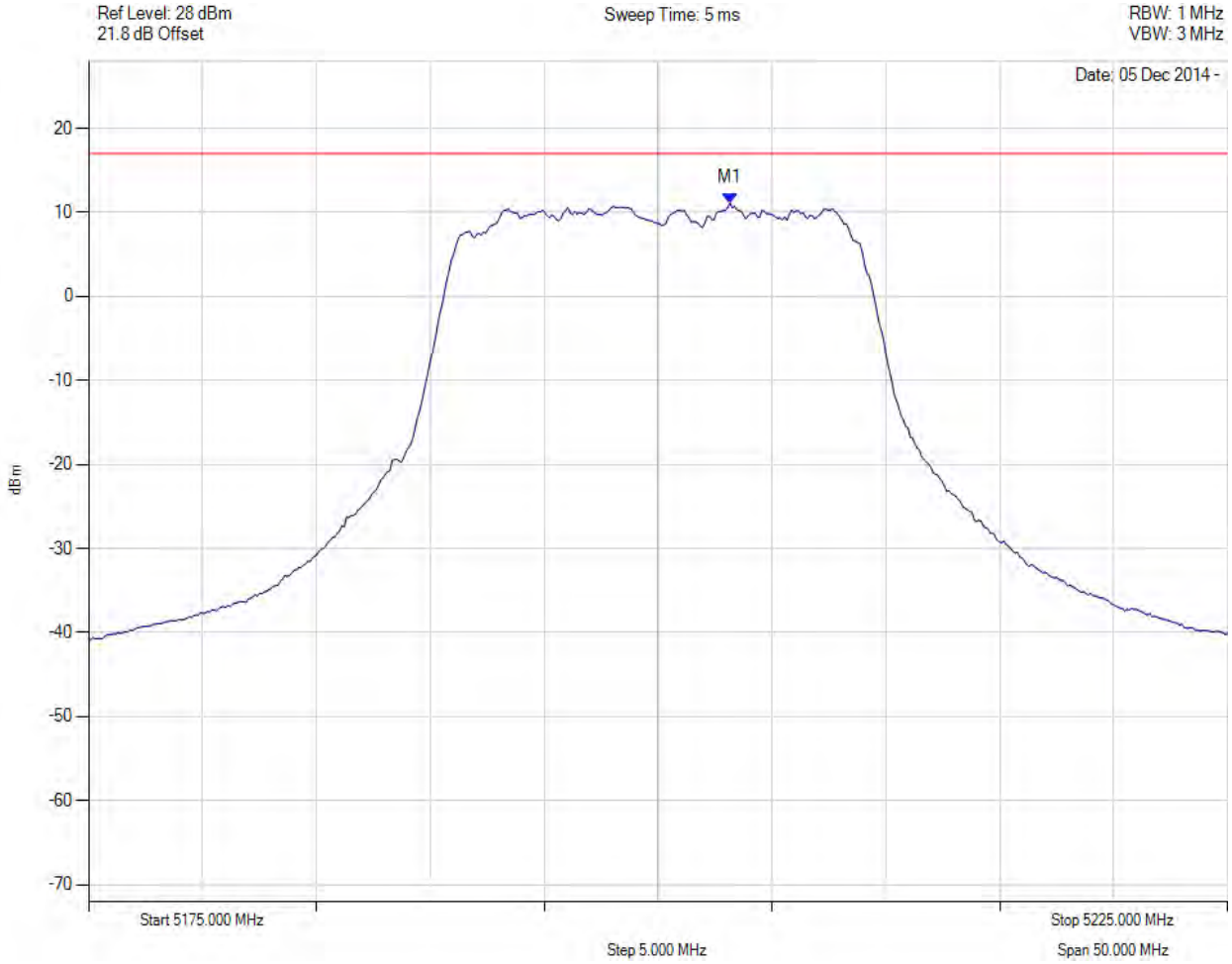


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5203.357 MHz : 8.257 dBm	Channel Frequency: 5200.00 MHz

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

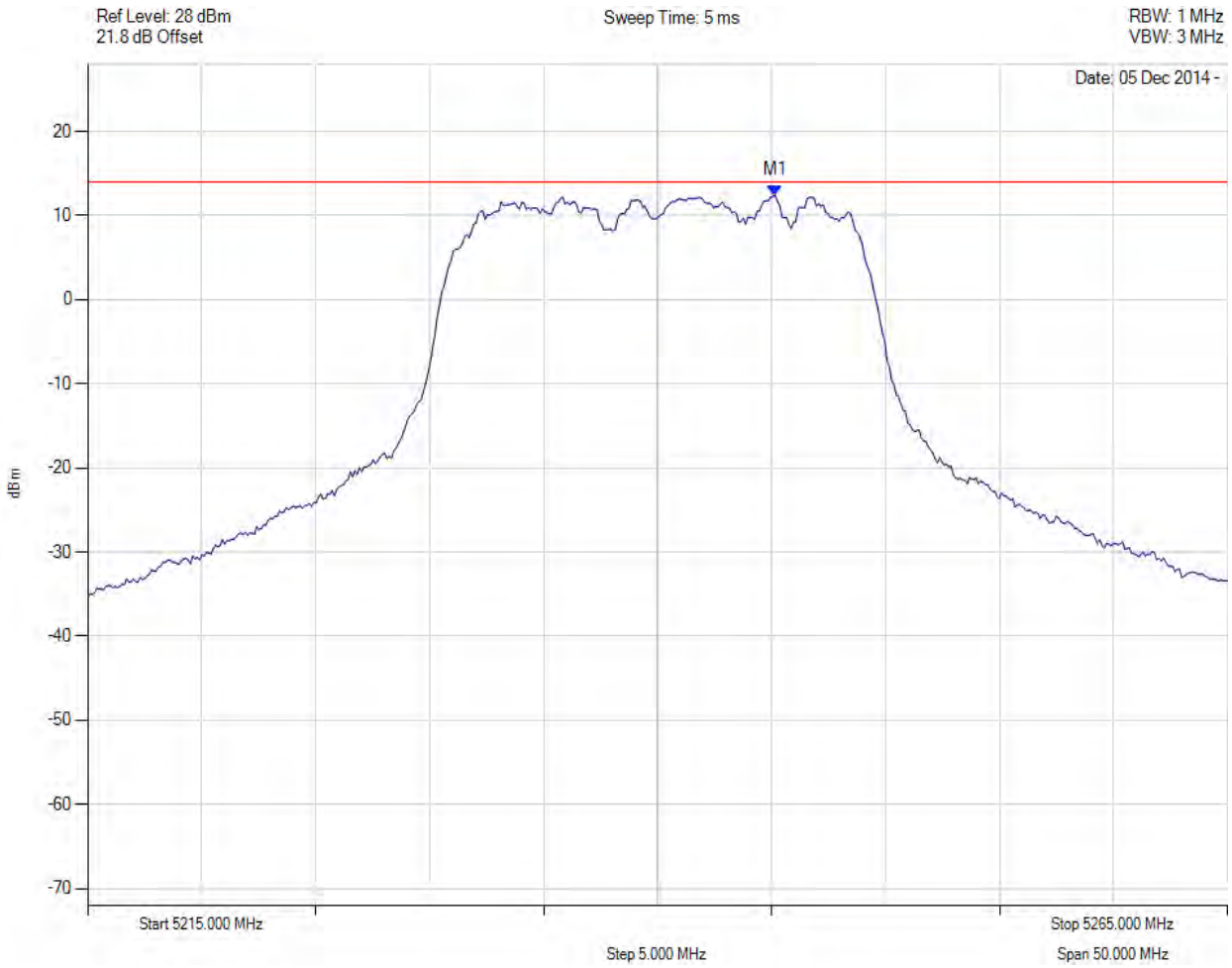


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5203 MHz : 11 dBm M1 + DCCF : 5203 MHz : 11.303 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 17.0 dBm Margin: -5.7 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245.160 MHz : 12.415 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

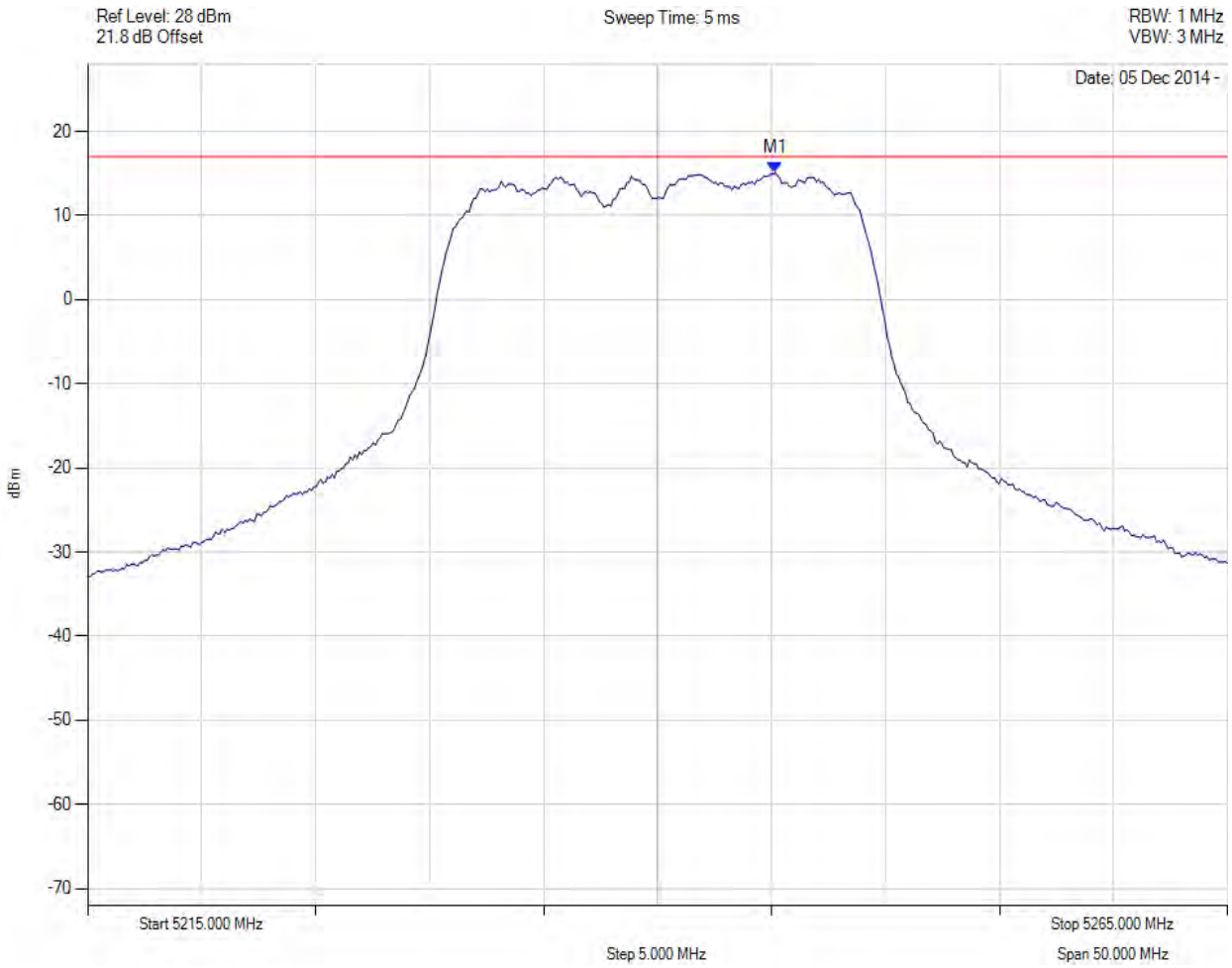
Variant: 20 MHz, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5244.158 MHz : 11.946 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5240.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

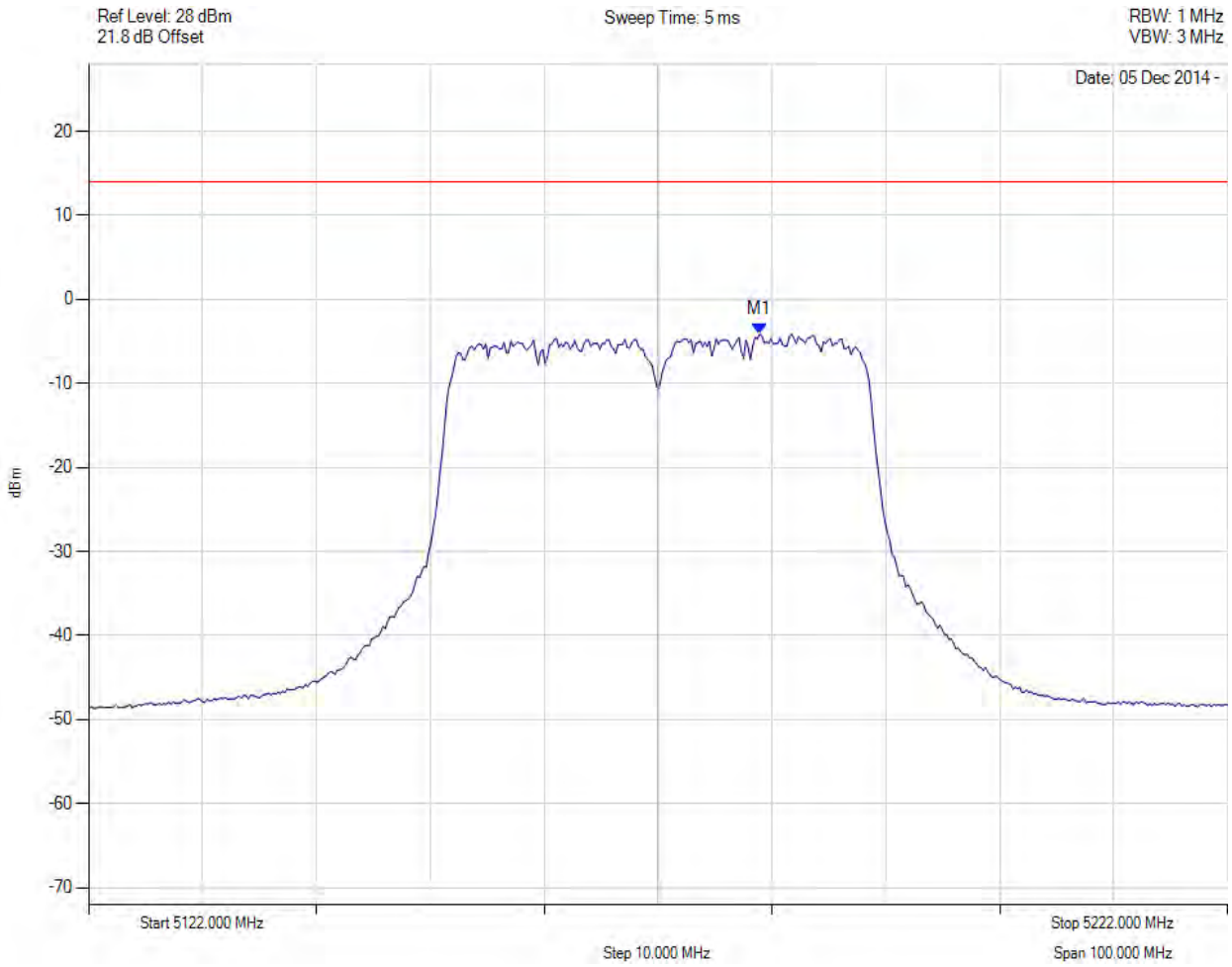


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245 MHz : 15 dBm M1 + DCCF : 5245 MHz : 15.271 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 17.0 dBm Margin: -1.7 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5172.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

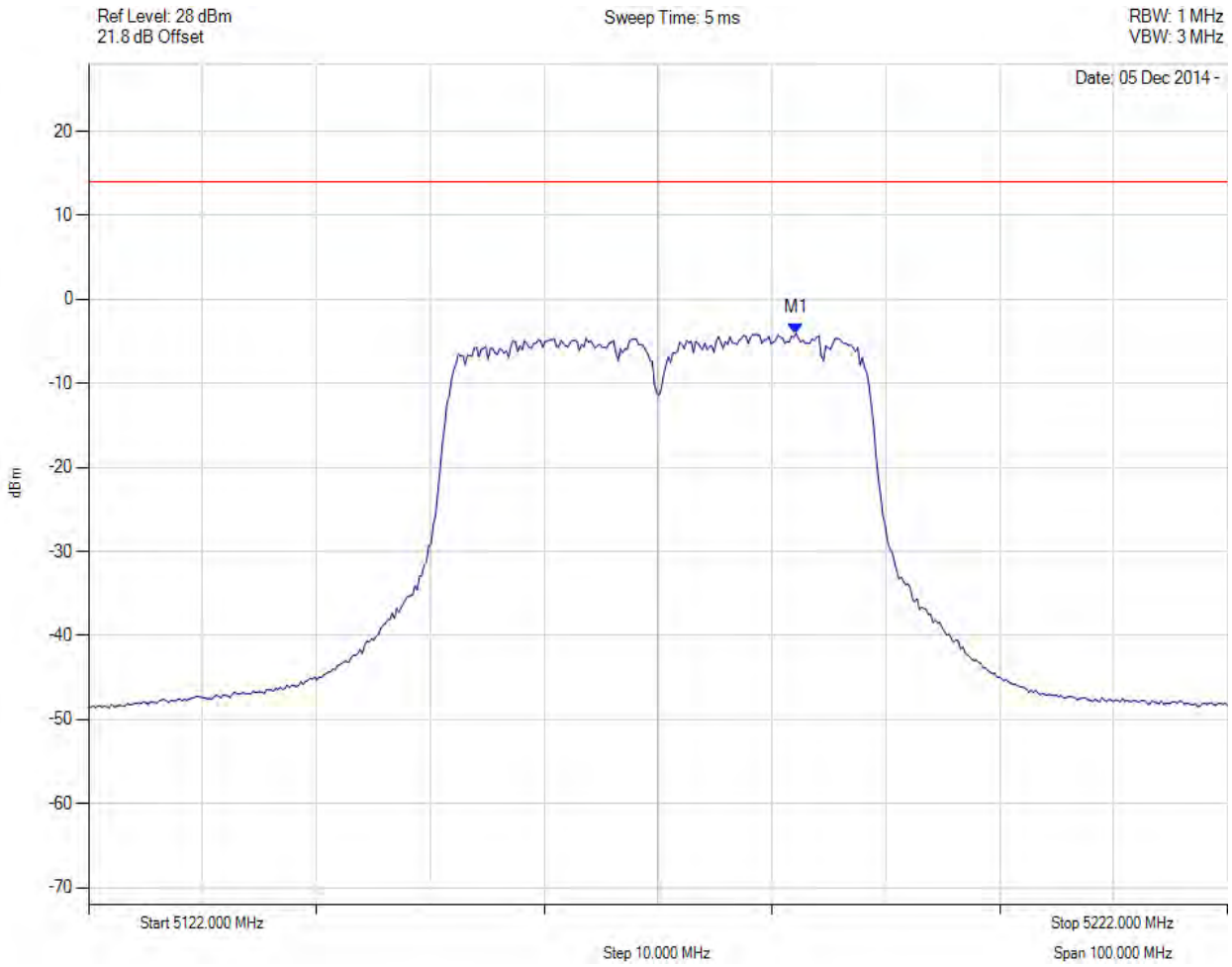


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5180.918 MHz : -4.134 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5172.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

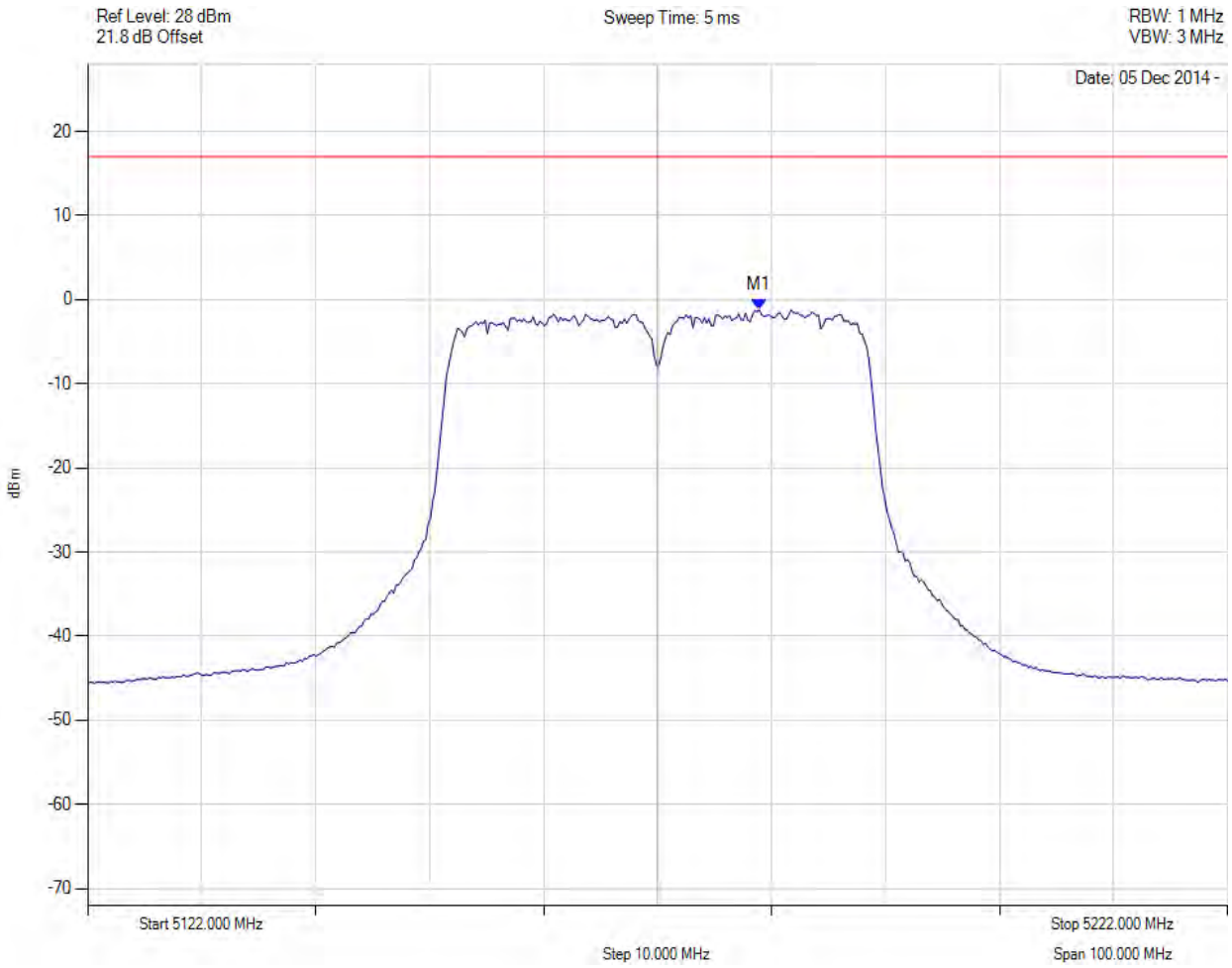


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5184.124 MHz : -4.033 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5172.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

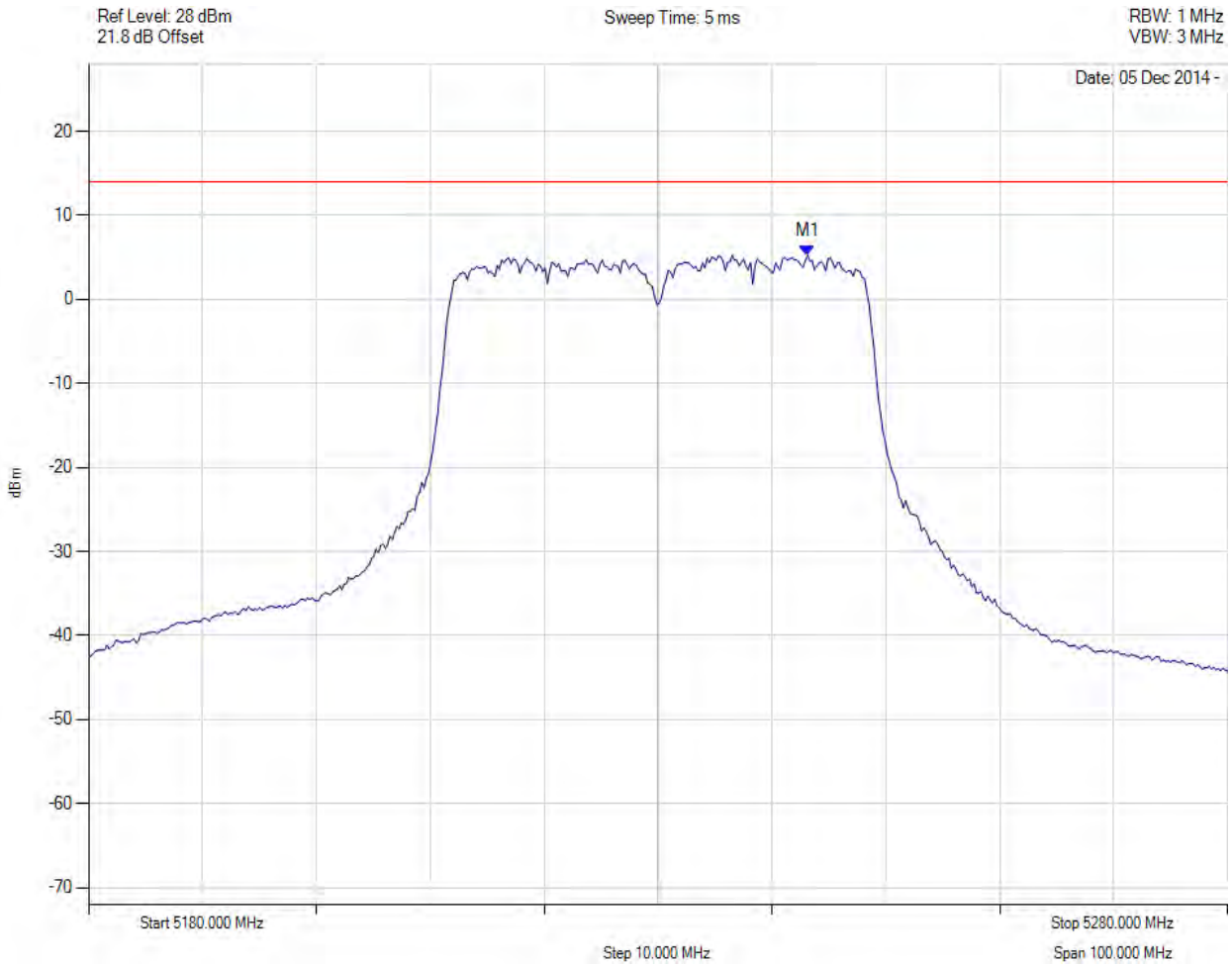


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5181 MHz : -1 dBm M1 + DCCF : 5181 MHz : -0.829 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 17.0 dBm Margin: -17.8 dB

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

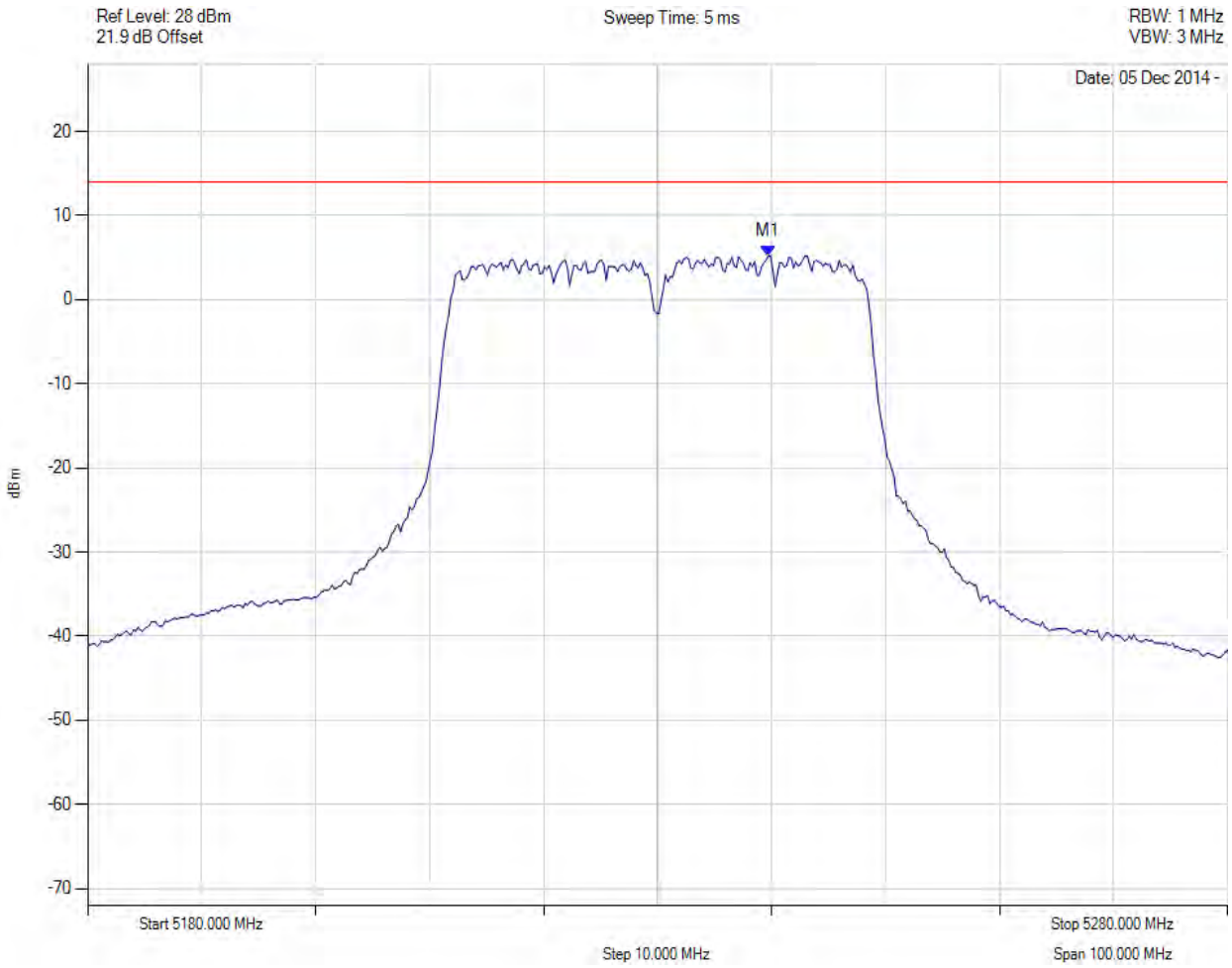


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.126 MHz : 5.238 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5230.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

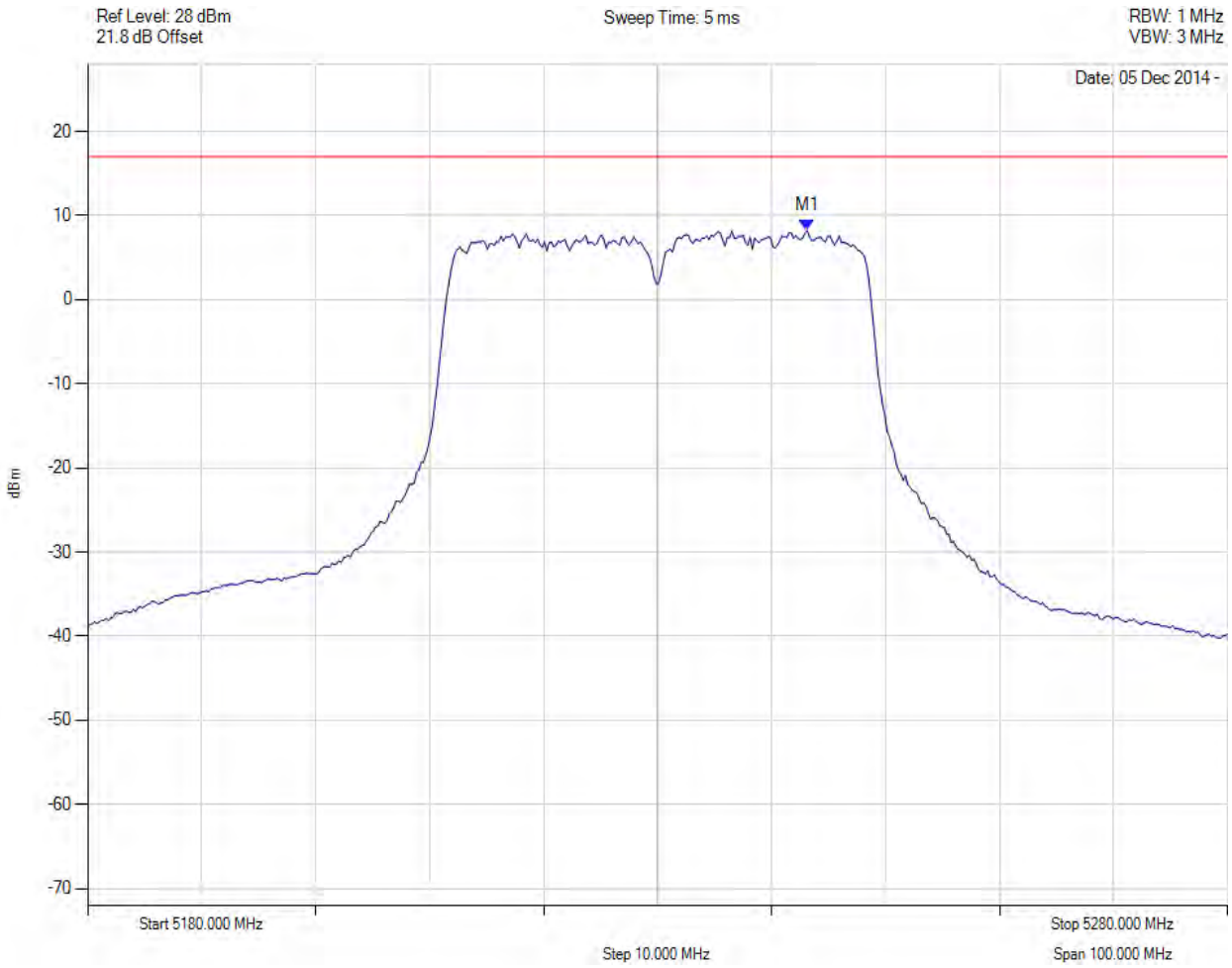


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5239.719 MHz : 5.228 dBm	Limit: ≤ 13.990 dBm

Back to Matrix

PEAK POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5230.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243 MHz : 8 dBm M1 + DCCF : 5243 MHz : 8.601 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 17.0 dBm Margin: -8.4 dB

Back to Matrix

575 Boulder Court
Pleasanton, California 94566, USA
Tel: 1.925.462.0304
Fax: 1.925.462.0306
www.micomlabs.com