Test of: RADWIN Ltd AP0158770 Wireless Module

To: FCC 47 CFR Part 15.407
Industry Canada RSS-247 Issue 1

Test Report Serial No.: RDWN39-U3a Rev A

TEST REPORT

FROM

MiCOM Labs

Test of: RADWIN Ltd AP0158770 Wireless Module

to

To FCC 47 CFR Part 15.407
Industry Canada RSS-247 Issue 1

Test Report Serial No.: RDWN39-U3a Rev A

This report supersedes: NONE

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

Product Function: 5 GHz Wireless Module

Copy No: pdf Issue Date: 7th December 2015

This Test Report is Issued Under the Authority of;

MiCOM Labs, Inc.
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Pleasanton, California 94566
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A2LA ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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ACCREDITATION, LISTINGS & RECOGNITION

1.1. Testing Accreditation

MiCOM Labs, Inc. is an Electrical testing laboratory per the international standard ISO/IEC 17025:2005. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-01.pdf

ilac-MRA A2LA

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 December 31, 2015
Revised November 18, 2015

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

1.2. Recognition

MiCOM Labs, Inc has widely recognized wireless testing capabilities. Our international recognition includes Conformity Assessment Body designation by APEC MRA countries. MiCOM Labs test reports are accepted globally.

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

EU MRA – European Union Mutual Recognition Agreement.
NB – Notified Body
APEC MRA – Asia Pacific Economic Community Mutual Recognition Agreement. 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

1.3. Product Certification

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard ISO/IEC 17065:2012. 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

Accredited Product Certification Body

A2LA has accredited

MICOM LABS

Pleasanton, CA

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

Presented this 28th day of February 2014.

President & CEO
For the Accreditation Council
Certificate Number 2381.02
Valid to December 31, 2015
Revised November 18, 2015

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

United States of America – Telecommunication Certification Body (TCB)
Industry Canada – Certification Body, CAB Identifier – US0159
Europe – Notified Body (NB), NB Identifier - 2280
Japan – Recognized Certification Body (RCB), RCB Identifier - 210

DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	2nd December 2015	Added additional antenna AM0156430
Draft #2	6th December 2015	
Rev A	7th December 2015	Second Release
.		
.		
This report was originally issued under RDWN39-U3		
Rev A	18th November 2015	Added 5725 - 5850 MHz frequency band under 15.407 new rules Results for Radiated Emissions and ac Wireline Emission testing were performed in the original test program (RDWN34-6, 31st January 2015) and are used in this report, see Section 6.1.3 Digital Emissions and 6.1.4 ac Wireline Emissions

In the above table the latest report revision will replace all earlier versions.

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:	5 GHz Wireless Module.	Tel:	+1 925 462 0304
Model:	AP0158770	Fax:	+1 925 462 0306
S/N:	Prototype		
Test Date(s):	9th – 13th November 2015	Website:	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC 47 CFR Part 15.407 IC RSS-247 Issue 1	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	KDB 662911	Oct 31 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
II	KDB 905462 D07 v01	10th June 2015	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
III	KDB 926956 DO1 v01r02	17th October 2014	U-NII Device Transition Plan
IV	KDB 789033 D02 v01	6th June 2014	General UNII Test Procedures New Rules V01
V	A2LA	June 2015	R105 - Requirement's When Making Reference to A2LA Accreditation Status
VI	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
VII	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
VIII	CISPR 22	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
IX	ETSI TR 100 028	2001-12	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
X	FCC 06-96	Jun 3 2006	Memorandum Opinion and Order
XI	FCC 47 CFR Part 15.407	2014	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
XII	ICES-003	Issue 5 2012	Spectrum Management and Telecommunications; Interference-Causing Equipment Standard. Information Technology Equipment (ITE) – Limits and methods of measurement.
XIII	M 3003	Edition 3 Nov. 2012	Expression of Uncertainty and Confidence in Measurements
XIV	RSS-247 Issue 1	May 2015	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XV	RSS-Gen Issue 4	November 2014	General Requirements and Information for the Certification of Radiocommunication Equipment
XVI	KDB 644545 D03 v01	August 14th 2014	Guidance for IEEE 802.11ac New Rules
XVII	FCC 47 CFR Part 2.1033	2014	FCC requirements and rules regarding photographs and test setup diagrams.

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 RADWIN Ltd AP0158770 to FCC Part 15.407 and Industry Canada RSS-247 Issue 1 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:	RDWN39-U3a Rev A
Date EUT received:	4th November 2015
Standard(s) applied:	FCC 47 CFR Part 15.407; IC RSS-247 Issue 1
Dates of test (from - to):	9th – 13th November 2015
No of Units Tested:	One
Type of Equipment:	5 GHz Wireless Module 2x2 Spatial Multiplexing MIMO configuration
Applicants Trade Name:	RADWIN
Model(s):	AP0158770
Location for use:	Outdoor
Declared Frequency Range(s):	5725 – 5850 MHz
Hardware Rev	Prototype
Software Rev	Radwin Art GUI
Type of Modulation:	Per 802.11n/ac BPSK, QPSK, 16QAM, 64QAM, 256 QAM, OFDM
EUT Modes of Operation:	5, 10, 20, 40, 80 MHz
Declared Nominal Output Power: (Average Power)	5 MHz: +30.0 dBm 10 MHz: +30.0 dBm 20 MHz: +30.0 dBm 40 MHz: +30.0 dBm 80 MHz: +30.0 dBm
Transmit/Receive Operation:	Time Division Duplex
System Beam Forming:	AP0158770 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 80 MHz 80M0W7W
Equipment Dimensions:	1.9” X 2.0” x 0.3”
Weight:	0.042 lb. (19g)
Primary function of equipment:	RF module for transmitting and receiving data

3.2. Scope of Test Program

AP0158770 5 GHz Wireless Module
The scope of the test program was to test the AP0158770 5 GHz 2x2 MIMO RF module configurations in the frequency range 5725 – 5850 MHz for compliance against FCC 47 CFR Part 15.407 and Industry Canada RSS-247 Issue 1.

FCC OET KDB Implementation
This test program implements the following FCC KDB – 662911 31st October 2013; ***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.

RADWIN Ltd
AP0158770 Wireless Module

RADWIN Ltd
AP0158770 Wireless Module (Rear)

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

Equipment Type	Equipment Description (Including Brand Name)	Mfr	Model No.	Serial No.
EUT	5 GHz Wireless Module	RADWIN Ltd	AP0158770	Prototype
Support	Laptop PC	DELL	LATITUDE D530	None

3.4. Antenna Details

Radiated emission testing was performed in the mode with the highest spectral density to verify compliance, it was also 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)
				5725-5850 MHz
Not Tested	Sector Dual Pole Integrated 120 Deg	RADWIN Ltd.	MT0128930	11
Not Tested	Sector Dual Pole 120 Deg	RADWIN Ltd.	RW-9061-5004	11
1	Shark Fin Monopole	RADWIN Ltd	RW-9401-5002	12.5
Not Tested	Sector Dual Pole Integrated 95 Deg	RADWIN Ltd.	AM0135060	12
Not Tested	Sector Dual Pole 90 Deg	RADWIN Ltd.	RW-9061-5001	14
2	Sector Dual Pole 60 Deg	RADWIN Ltd.	RW-9061-5002	16.5
Not Tested	Sector Dual Pole Integrated 90 Deg	RADWIN Ltd.	MT0125250	13
3	Integrated Smart Flat Panel	RADWIN Ltd.	AM0156430	20.5
Not Tested	[1]Flat Panel Dual Pole Integrated	RADWIN Ltd.	AM0119960	16
Not Tested	[1]Flat Panel Dual Pole Integrated	RADWIN Ltd.	AM0111760	16.5
Not Tested	[1]Flat Panel Dual Pole External	RADWIN Ltd.	RW-9612-5001	23
Not Tested	[1]Flat Panel Dual Pole Integrated	RADWIN Ltd.	MT0070760	23.5
4	[1]Flat Panel Dual Pole External	RADWIN Ltd.	RW-9622-5001	29
Not Tested	[1]Dual Pole Dish	RADWIN Ltd.	RW-9721-5158	29
5	[1]Dual Pole Dish	RADWIN Ltd.	RW-9732-4958	32

[1] Antennas used for Pt-Pt operation

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 for Frequency Band 5725 – 5850 MHz

Channel Bandwidth	Data Rates with Highest Power	Frequencies (MHz)
5 MHz	15 MCS	5730 / 5787.5 / 5845
10 MHz	15 MCS	5731 / 5787 / 5844
20 MHz	15 MCS	5735 / 5787 / 5840
40 MHz	15 MCS	5745 / 5787 / 5830
80 MHz	15 MCS	5765 / 5810

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. Results for the following configurations are provided in this report.

5,725 – 5,850 MHz			
Operating Bandwidth V's Channel Frequencies (MHz)			
5 MHz	Con/SE/BE: 5730	40 MHz	Con/BE: 5745
	Con/SE: 5787.5		Con: 5787
	Con/SE/BE: 5845		Con: 5830
10 MHz	Con/BE: 5731	80 MHz	Con/BE: 5765
	Con: 5787		Con/BE: 5810
	Con/BE: 5844	KEY:	Con - Conducted Radiated SE – Spurious Emissions BE – Band-Edge
20 MHz	Con/BE: 5735		
	Con: 5787		
	Con/BE: 5840		

3.7. Equipment Modifications

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

1. Band-Edge Power Reduction

   Where applicable 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)

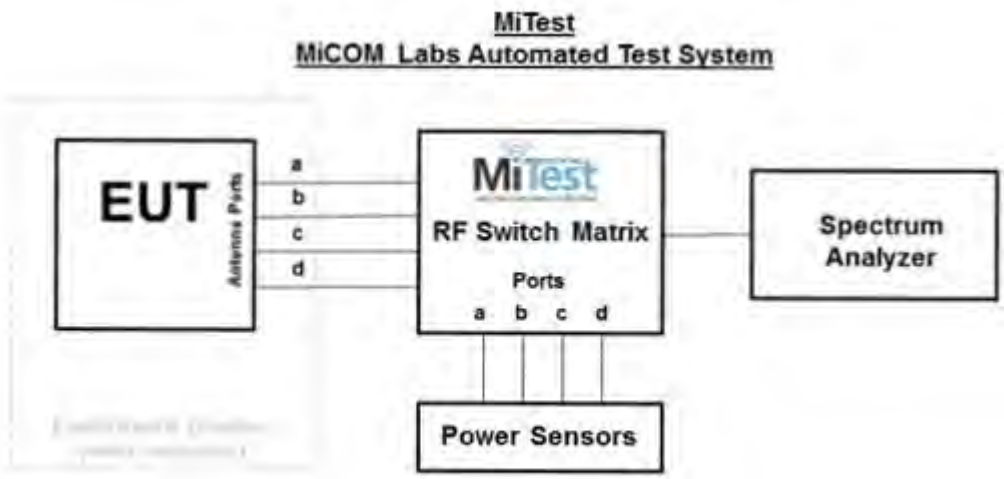
4.1. Conducted RF Emission Test Set-up

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
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
361	Desktop for RF#1, Labview Software installed	Dell	Vostro 220	WS RF#1	Not Required
380	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC001	20 Dec 2015
390	USB Power Head 50MHz - 24GHz -60 to +20dBm	Agilent	U2002A	MY50000103	17 Oct 2015
398	Test Software	MiCOM	MiTest ATS	Version 3.0.0.16	Not Required
408	USB to GPIB interface	National Instruments	GPIB-USB HS	14C0DE9	Not Required
435	USB Wideband Power Sensor	Boonton	55006	8730	31 Jul 2016
440	USB Wideband Power Sensor	Boonton	55006	9178	25 Sep 2016
441	USB Wideband Power Sensor	Boonton	55006	9179	25 Sep 2016
442	USB Wideband Power Sensor	Boonton	55006	9181	25 Sep 2016
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 Dec 2015
RF#1 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	20 Dec 2015
RF#1 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	20 Dec 2015
RF#1 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	20 Dec 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'.

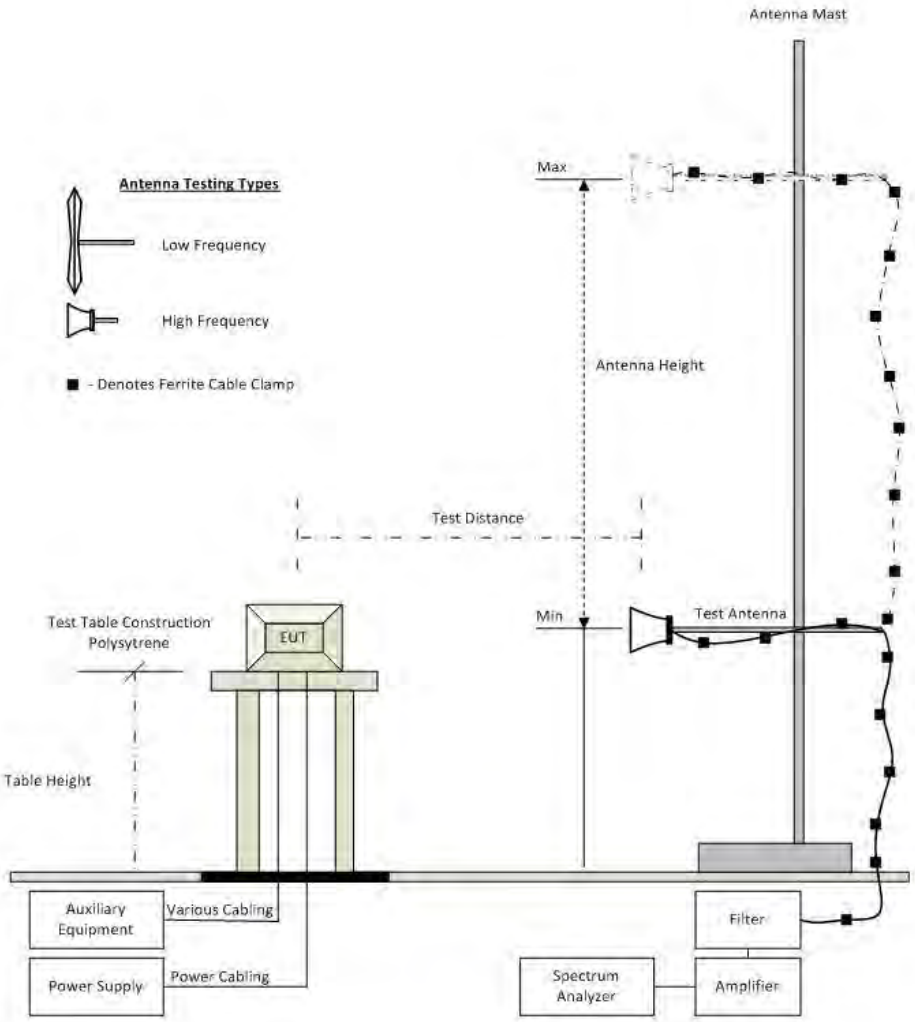
Test and report automation was performed by MiTest. MiTest is an automated test system developed by MiCOM Labs. MiTest is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for conducted RF testing.

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

4.2. Radiated Spurious Emission Test Set-up

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

1. Section 6.1.2
2. Section 6.1.3



Radiated Emission Test Setup

A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

Traceability of Test Equipment Utilized for Radiated Emission Testing

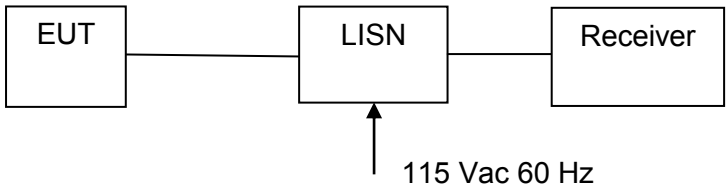
Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2015
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CY101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
310	SMA Cable	Micro-Coax	UFA210A-0-0787-3G03G0	209089-001	30 Oct 2016
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	15 Aug 2016
377	Band Rejection Filter 5150 to 5880MHz	Microtronics	BRM50716	034	18 Aug 2016
393	DC - 1050 MHz Low Pass Filter	Microcircuits	VLFX-1050	N/A	08 Oct 2016
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	24 Feb 2016
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	10 Dec 2015
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	28 May 2016
410	Desktop Computer	Dell	Inspiron 620	WS38	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
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
416	Gigabit ethernet filter	ETS-Lingren	Gigafoil 260366	None	Not Required
447	Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0.73	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	25 Feb 2016
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	25 Feb 2016
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	25 Feb 2016
480	Cable - Bulkhead to Amp	SRC Haverhill	157-157-3050360	480	11 Aug 2016
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-151-3050787	481	11 Aug 2016
482	Cable - Amp to Antenna	SRC Haverhill	157-157-3051574	482	11 Aug 2016

4.3. 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 2016
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 2016
193	Receiver 20 Hz to 7 GHz	Rhode & Schwarz	ESI 7	838496/007	14 Jan 2016
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 separate MPE attachment	N/A

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

* Testing was performed under the original program RDWN34 (31st January 2015)

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 - D02 General UNII Test Procedures New Rules 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:	6.00 MBit/s	**Antenna Gain (dBi):**	11.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	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**		
5730.0	6.263	7.365	--	--	7.365	6.263		
5787.5	6.187	7.290	--	--	7.290	6.187		
5845.0	6.237	9.995	--	--	9.995	6.237		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5730.0	4.559	4.659	--	--	4.659	4.559		
5787.5	4.559	4.634	--	--	4.634	4.559		
5845.0	4.559	5.110	--	--	5.110	4.559		

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 (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	11.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	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**		
5731.0	11.974	14.980	--	--	14.980	11.974		
5787.0	11.924	16.132	--	--	16.132	11.924		
5844.0	12.224	15.782	--	--	15.782	12.224		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5731.0	8.667	8.868	--	--	8.868	8.667		
5787.0	8.667	9.168	--	--	9.168	8.667		
5844.0	8.667	8.968	--	--	8.968	8.667		

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 (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	11.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	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**		
5735.0	21.443	24.048	--	--	24.048	21.443		
5787.0	21.343	24.248	--	--	24.248	21.343		
5840.0	22.244	34.168	--	--	34.168	22.244		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5735.0	16.834	17.034	--	--	17.034	16.834		
5787.0	16.733	16.934	--	--	16.934	16.733		
5840.0	16.834	17.936	--	--	17.936	16.834		

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 (%):**	99.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	11.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	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**		
5745.0	40.481	45.090	--	--	45.090	40.481		
5787.0	39.078	43.287	--	--	43.287	39.078		
5830.0	39.880	74.148	--	--	74.148	39.880		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	34.269	34.269	--	--	34.269	34.269		
5787.0	34.269	34.269	--	--	34.269	34.269		
5830.0	34.269	36.673	--	--	36.673	34.269		

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:	80 MHz	**Duty Cycle (%):**	99.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	11.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	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**		
5765.0	82.164	101.002	--	--	101.002	82.164		
5810.0	92.585	78.156	--	--	92.585	78.156		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5765.0	71.743	71.743	--	--	71.743	71.743		
5810.0	71.743	71.743	--	--	71.743	71.743		

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 - D02 General UNII Test Procedures New Rules v01		

Test Procedure for Maximum Conducted Output Power Measurement

Method PM (Measurement using an RF average power meter). KDB 789033 defines a methodology using an average wideband power meter. Measurements were made while the EUT was operating in a continuous transmission mode (100% duty cycle) at the appropriate center frequency. All operational modes and frequency bands were measured independently and the resultant calculated. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported separately. A summation (Σ) of each antenna port output power is provided which includes any offset due to Duty Cycle Correction Factor (DCCF). Testing was performed under ambient conditions at nominal voltage.

Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document.
Supporting Information
Calculated Power = A + G + Y+ 10 log (1/x) dBm

A = Total Power [10*Log10 ($10^{a/10}$ + $10^{b/10}$ + $10^{c/10}$ + $10^{d/10}$)]
G = Antenna Gain
Y = Beamforming Gain
x = Duty Cycle (average power measurements only)

Limits Maximum Conducted Output Power

Operating Frequency Band 5150-5250 MHz
15. 407 (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).

(ii) For an indoor 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.

(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.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 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.

Operating Frequency Band 5250-5350 and 5470 – 5725 MHz

15. 407 (a)(2)
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 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.

Operating Frequency Band 5725 – 5850 MHz

15. 407 (a)(3)
For the band 5.725-5.85 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 30 dBm in any 500-kHz 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

For Point-to-Point operation in the 5725 – 5850 MHz frequency band antenna gain is unlimited therefore no reduction in power is required for these antennas, see Section 3.4 Antenna Details for the list of Point-to-Point antennas.

For all other antennas greater than 6 dBi the output power may require modification. The following calculations have been made to take the maximum 36 dBi EIRP into consideration.

Non-Point-to-Point Antenna List

Model Number	Gain (dBi)
MT0128930	11.0
RW-9061-5004	11.0
AM0135060	12.0
RW-9401-5002	12.5
MT0125250	13.0
RW-9061-5001	14.0
RW-9061-5002	16.5

Operating Frequency Band 5725 - 5850 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
[1]RW-9061-5002	Outdoor	15.5*	36.0	20.5
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
[1]RW-9401-5002	Outdoor	11.5*	36.0	24.5
[1]AM0156430	Point - Point	20.5	Unlimited	30.0
[1]RW-9732-4958	Point - Point	31.0*	Unlimited	30.0
RW-9721-5158	Point - Point	28.0*	Unlimited	30.0
[1]RW-9622-5001	Point - Point	28.0*	Unlimited	30.0
RW-9612-5001	Point - Point	22.0*	Unlimited	30.0
MT0070760	Point - Point	23.5	Unlimited	30.0
MT0119960	Point - Point	16.0	Unlimited	30.0
AM0111760	Point - Point	16.5	Unlimited	30.0

[1] – Tested Antenna

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

The AP0158770 has no beam-forming capability. The EUT operates in five different bandwidth modes;- 5 MHz; 10 MHz; 20 MHz; 40 MHz, 80 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, radiated band-edge emissions and conducted output power and the following tables define the worst case compliant results defined for each measured parameter.

Tested: Antenna Type - Outdoor

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	5730	26.5	26.5	26.5
			5787.5	26.5		25.5
			5845	26.5	26.0	26.0
		10	5731		26.5	25.0
			5787			25.0
			5844		24.5	24.5
		20	5735		26.5	25.0
			5787			24.0
			5840		24.0	25.0
		40	5745		26.5	26.5
			5787			26.5
			5830		26.0	26.5
		80	5765		26.5	26.5
			5810		26.5	26.5

*Final Setting includes conducted output power, radiated spurious emissions and radiated band-edge measurements. The lower of the power setting values found are returned in this column. This column was the compliant power setting for the tested antenna.

Tested: 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	16.5	5	5730	26.5	26.5	26.5
			5787.5	26.5		25.5
			5845	26.5	26.5	26.0
		10	5731		26.5	25.0
			5787			25.0
			5844		20.0	24.5
		20	5735		26.5	25.0
			5787			24.0
			5840		19.0	25.0
		40	5745		26.5	26.5
			5787			26.5
			5830		25.0	25.0
		80	5765		26.0	26.0
			5810		26.5	26.5

*Final Setting includes conducted output power, radiated spurious emissions and radiated band-edge measurements. The lower of the power setting values found are returned in this column. This column was the compliant power setting for the tested antenna.

Tested: Antenna Type – Point-to-Point

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	*Final Setting
AM0156430	20.5	5	5730	26.5	26.5	26.5
			5787.5	26.5		25.5
			5845	26.5	25.0	25.0
		10	5731		24.5	24.5
			5787			25.0
			5844		20.0	20.0
		20	5735		21.5	21.5
			5787			24.0
			5840		14.5	14.5
		40	5745		25.5	25.5
			5787			26.5
			5830		22.5	22.5
		80	5765		25.0	25.0
			5810		24.5	24.5

*Final Setting includes conducted output power, radiated spurious emissions and radiated band-edge measurements. The lower of the power setting values found are returned in this column. This column was the compliant power setting for the tested antenna.

Tested: Antenna Type – Point-to-Point

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	dBi	MHz	MHz	Spurious Emissions	Band-Edge	*Final Setting
RW-9622-5001	29	5	5730	26.5	26.5	26.5
			5787.5	26.5		25.5
			5845	26.5	19.0	19.0
		10	5731		16.0	16.0
			5787			25.0
			5844		8.0	8.0
		20	5735		14.0	14.0
			5787			24.0
			5840		8.0	8.0
		40	5745		21.0	21.0
			5787			26.5
			5830		21.0	21.0
		80	5765		20.0	20.0
			5810		23.0	23.0

*Final Setting includes conducted output power, radiated spurious emissions and radiated band-edge measurements. The lower of the power setting values found are returned in this column. This column was the compliant power setting for the tested antenna.

Tested: Antenna Type - Point-to-Point

Antenna	Gain	Operational Mode	Channel	Radiated Power Setting		
Model Number	**dBi**	**MHz**	**MHz**	**Spurious Emissions**	**Band-Edge**	***Final Setting**
RW-9732-4958	32	5	5730	26.5	26.5	26.5
			5787.5	26.5		25.5
			5845	26.5	25.5	25.5
		10	5731		26.5	25.0
			5787			25.0
			5844		17.5	17.5
		20	5735		26.5	25.0
			5787			24.0
			5840		17.5	17.5
		40	5745		26.5	26.5
			5787			26.5
			5830		23.5	23.5
		80	5765		26.0	26.0
			5810		24.5	24.5

*Final Setting includes conducted output power, radiated spurious emissions and radiated band-edge measurements. The lower of the power setting values found are returned in this column. This column was the compliant power setting for the tested antenna.

Measurement Results for Maximum Conducted Output Power

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

The following matrix for each operational bandwidth is measured result

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Pt-Pt Unlimited Gain
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.04 dB) (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	dB	
5730.0	25.74	27.60	--	--	29.78	--	30.00	-0.22	26.50
5787.5	25.22	27.73	--	--	29.67	--	30.00	-0.33	25.50
5845.0	25.94	27.49	--	--	29.80	--	30.00	-0.20	26.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power			
Variant:	10 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Pt-Pt Unlimited Gain
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.04 dB) (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	dB	
5731.0	25.58	27.67	--	--	29.76	--	30.00	-0.24	25.00
5800.0	26.07	26.86	--	--	29.50	--	30.00	-0.50	25.00
5844.0	24.98	26.90	--	--	29.06	--	30.00	-0.94	24.50

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power			
Variant:	20 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Pt-Pt Unlimited Gain
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.04 dB) (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	dB	
5735.0	25.88	27.46	--	--	29.76	--	30.00	-0.24	25.00
5787.0	25.23	27.77	--	--	29.70	--	30.00	-0.30	24.00
5840.0	26.37	27.37	--	--	29.91	--	30.00	-0.09	25.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power			
Variant:	40 MHz	**Duty Cycle (%):**	99.0
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Pt-Pt Unlimited Gain
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.04 dB) (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	dB	
5745.0	26.03	27.22	--	--	29.68	--	30.00	-0.32	27.00
5787.0	25.12	27.07	--	--	29.22	--	30.00	-0.78	26.50
5830.0	25.26	28.01	--	--	29.86	--	30.00	-0.14	26.50

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power			
Variant:	80 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Pt-Pt Unlimited Gain
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.04 dB) (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	dB	
5765.0	25.79	27.23	--	--	29.58	--	30.00	-0.42	27.00
5810.0	27.22	24.93	--	--	29.24	--	30.00	-0.76	26.50

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

DCCF - Duty Cycle Correction Factor

Calculated EIRP values for non-Point-to-Point operation

Antenna Gain 11.0 dBi

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.0 (MT0128930 + RW-9061-5004)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5730.0	20.74	22.6	--	--	24.78	N/A	36	35.78	-0.22
5787.5	20.22	22.73	--	--	24.66	N/A	36	35.66	-0.34
5845.0	20.94	22.49	--	--	24.79	N/A	36	35.79	-0.21

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):**	11.0 (MT0128930 + RW-9061-5004)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5731.0	20.58	22.67	--	--	24.76	N/A	36	35.76	-0.24
5787.0	21.07	21.86	--	--	24.49	N/A	36	35.49	-0.51
5844.0	19.98	21.9	--	--	24.06	N/A	36	35.06	-0.94

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):**	11.0 (MT0128930 + RW-9061-5004)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5735.0	20.88	22.46	--	--	24.75	N/A	36	35.75	-0.25
5787.0	20.23	22.77	--	--	24.69	N/A	36	35.69	-0.31
5840.0	21.37	22.37	--	--	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:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11.0 (MT0128930 + RW-9061-5004)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5745.0	21.03	22.22	--	--	24.68	N/A	36	35.68	-0.32
5787.0	20.12	22.07	--	--	24.21	N/A	36	35.21	-0.79
5830.0	20.26	23.01	--	--	24.86	N/A	36	35.86	-0.14

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:	80 MHz	**Duty Cycle (%):**	76.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11.0 (MT0128930 + RW-9061-5004)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5765.0	20.79	22.23	--	--	24.58	N/A	36	35.58	-0.42
5810.0	22.22	19.93	--	--	24.23	N/A	36	35.23	-0.77

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

Antenna Gain 12.0 dBi

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	12.0 (AM0135060)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5730.0	19.74	21.6	--	--	23.78	N/A	36	35.78	-0.22
5787.5	19.22	21.73	--	--	23.66	N/A	36	35.66	-0.34
5845.0	19.94	21.49	--	--	23.79	N/A	36	35.79	-0.21

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):**	12.0 (AM0135060)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5731.0	19.58	21.67	--	--	23.76	N/A	36	35.76	-0.24
5787.0	20.07	20.86	--	--	23.49	N/A	36	35.49	-0.51
5844.0	18.98	20.9	--	--	23.06	N/A	36	35.06	-0.94

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):**	12.0 (AM0135060)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5735.0	19.88	21.46	--	--	23.75	N/A	36	35.75	-0.25
5787.0	19.23	21.77	--	--	23.69	N/A	36	35.69	-0.31
5840.0	20.37	21.37	--	--	23.91	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:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	12.0 (AM0135060)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5745.0	20.03	21.22	--	--	23.68	N/A	36	35.68	-0.32
5787.0	19.12	21.07	--	--	23.21	N/A	36	35.21	-0.79
5830.0	19.26	22.01	--	--	23.86	N/A	36	35.86	-0.14

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:	80 MHz	**Duty Cycle (%):**	76.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	12.0 (AM0135060)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5765.0	19.79	21.23	--	--	23.58	N/A	36	35.58	-0.42
5810.0	21.22	18.93	--	--	23.23	N/A	36	35.23	-0.77

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

Antenna Gain 12.5 dBi

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	11.5 (RW-9401-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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)**				**Calculated Total Power**	**Minimum 26 dB Bandwidth**	**Limit**	**EIRP**	**Margin**
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dBm**	**dB**
5730.0	20.24	22.10	--	--	24.28	N/A	36	35.78	-0.22
5787.5	19.72	22.23	--	--	24.16	N/A	36	35.66	-0.34
5845.0	20.44	21.99	--	--	24.29	N/A	36	35.79	-0.21

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 (RW-9401-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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)**				**Calculated Total Power**	**Minimum 26 dB Bandwidth**	**Limit**	**EIRP**	**Margin**
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dBm**	**dB**
5731.0	20.08	22.17	--	--	24.26	N/A	36	35.76	-0.24
5787.0	20.57	21.36	--	--	23.99	N/A	36	35.49	-0.51
5844.0	19.48	21.4	--	--	23.56	N/A	36	35.06	-0.94

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 (RW-9401-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5735.0	20.38	21.96	--	--	24.25	N/A	36	35.75	-0.25
5787.0	19.73	22.27	--	--	24.19	N/A	36	35.69	-0.31
5840.0	20.87	21.87	--	--	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:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11.5 (RW-9401-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5745.0	20.53	21.72	--	--	24.18	N/A	36	35.68	-0.32
5787.0	19.62	21.57	--	--	23.71	N/A	36	35.21	-0.79
5830.0	19.76	22.51	--	--	24.36	N/A	36	35.86	-0.14

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:	80 MHz	**Duty Cycle (%):**	76.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	11.5 (RW-9401-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5765.0	20.29	21.73	--	--	24.08	N/A	36	35.58	-0.42
5810.0	21.72	19.43	--	--	23.73	N/A	36	35.23	-0.77

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

Antenna Gain 13.0 dBi

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	13.0 (MT0125250)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5730.0	18.74	20.6	--	--	22.78	N/A	36	35.78	-0.22
5787.5	18.22	20.73	--	--	22.66	N/A	36	35.66	-0.34
5845.0	18.94	20.49	--	--	22.79	N/A	36	35.79	-0.21

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):**	13.0 (MT0125250)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5731.0	18.58	20.67	--	--	22.76	N/A	36	35.76	-0.24
5787.0	19.07	19.86	--	--	22.49	N/A	36	35.49	-0.51
5844.0	17.98	19.9	--	--	22.06	N/A	36	35.06	-0.94

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):**	13.0 (MT0125250)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5735.0	18.88	20.46	--	--	22.75	N/A	36	35.75	-0.25
5787.0	18.23	20.77	--	--	22.69	N/A	36	35.69	-0.31
5840.0	19.37	20.37	--	--	22.91	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:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	13.0 (MT0125250)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5745.0	19.03	20.22	--	--	22.68	N/A	36	35.68	-0.32
5787.0	18.12	20.07	--	--	22.21	N/A	36	35.21	-0.79
5830.0	18.26	21.01	--	--	22.86	N/A	36	35.86	-0.14

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:	80 MHz	**Duty Cycle (%):**	76.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	13.0 (MT0125250)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5765.0	18.79	20.23	--	--	22.58	N/A	36	35.58	-0.42
5810.0	20.22	17.93	--	--	22.23	N/A	36	35.23	-0.77

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

Antenna Gain 14.0 dBi

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	13.0 (RW-9061-5001)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5730.0	18.74	20.60	--	--	22.78	N/A	36	35.78	-0.22
5787.5	18.22	20.73	--	--	22.66	N/A	36	35.66	-0.34
5845.0	18.94	20.49	--	--	22.79	N/A	36	35.79	-0.21

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):**	13.0 (RW-9061-5001)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5731.0	18.58	20.67	--	--	22.76	N/A	36	35.76	-0.24
5787.0	19.07	19.86	--	--	22.49	N/A	36	35.49	-0.51
5844.0	17.98	19.9	--	--	22.06	N/A	36	35.06	-0.94

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):**	13.0 (RW-9061-5001)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5735.0	18.88	20.46	--	--	22.75	N/A	36	35.75	-0.25
5787.0	18.23	20.77	--	--	22.69	N/A	36	35.69	-0.31
5840.0	19.37	20.37	--	--	22.91	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:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	13.0 (RW-9061-5001)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5745.0	19.03	20.22	--	--	22.68	N/A	36	35.68	-0.32
5787.0	18.12	20.07	--	--	22.21	N/A	36	35.21	-0.79
5830.0	18.26	21.01	--	--	22.86	N/A	36	35.86	-0.14

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:	80 MHz	**Duty Cycle (%):**	76.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	13.0 (RW-9061-5001)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5765.0	18.79	20.23	--	--	22.58	N/A	36	35.58	-0.42
5810.0	20.22	17.93	--	--	22.23	N/A	36	35.23	-0.77

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

Antenna Gain 16.5 dBi

Equipment Configuration for Peak Transmit Power			
Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	Rate 8	**Antenna Gain (dBi):**	15.5 (RW-9061-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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)**				**Calculated Total Power**	**Minimum 26 dB Bandwidth**	**Limit**	**EIRP**	**Margin**
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dBm**	**dB**
5730.0	16.24	18.10	--	--	20.28	N/A	36	35.78	-0.22
5787.5	15.72	18.23	--	--	20.16	N/A	36	35.66	-0.34
5845.0	16.44	17.99	--	--	20.29	N/A	36	35.79	-0.21

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 (RW-9061-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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)**				**Calculated Total Power**	**Minimum 26 dB Bandwidth**	**Limit**	**EIRP**	**Margin**
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dBm**	**dB**
5731.0	16.08	18.17	--	--	20.26	N/A	36	35.76	-0.24
5787.0	16.57	17.36	--	--	19.99	N/A	36	35.49	-0.51
5844.0	15.48	17.4	--	--	19.56	N/A	36	35.06	-0.94

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 (RW-9061-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5735.0	16.38	17.96	--	--	20.25	N/A	36	35.75	-0.25
5787.0	15.73	18.27	--	--	20.19	N/A	36	35.69	-0.31
5840.0	16.87	17.87	--	--	20.41	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:	40 MHz	**Duty Cycle (%):**	92.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	15.5 (RW-9061-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5745.0	16.53	17.72	--	--	20.18	N/A	36	35.68	-0.32
5787.0	15.62	17.57	--	--	19.71	N/A	36	35.21	-0.79
5830.0	15.76	18.51	--	--	20.36	N/A	36	35.86	-0.14

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:	80 MHz	**Duty Cycle (%):**	76.0
Data Rate:	Rate 9	**Antenna Gain (dBi):**	15.5 (RW-9061-5002)
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	Calculated Values
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
5765.0	16.29	17.73	--	--	20.08	N/A	36	35.58	-0.42
5810.0	17.72	15.43	--	--	19.73	N/A	36	35.23	-0.77

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

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):	15.407 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	KDB 789033 - D02 General UNII Test Procedures New Rules 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

Limits Maximum Power Spectral Density

Operating Frequency Band 5150-5250 MHz
15. 407 (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).

(ii) For an indoor 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.

(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.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 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.

Operating Frequency Band 5250-5350 and 5470 – 5725 MHz

15. 407 (a)(2)
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 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.

Operating Frequency Band 5725 – 5850 MHz

15. 407 (a)(3)
For the band 5.725-5.85 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 30 dBm in any 500-kHz 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

Antenna's used to produce the following Power Spectral Density tables were Point-to-Point.

As can be observed in the Maximum Conducted Output Power for non-Point-to-Point operation as the antenna gain increases the power is reduced according to the regulations, as a result the Power Spectral Density follows and will always comply with the regulations.

Equipment Configuration for Power Spectral Density

Variant:	5 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5730.0	15.784	17.298	--	--	19.570	30.0	-10.4
5787.5	16.717	18.127	--	--	20.073	30.0	-9.9
5845.0	15.291	17.373	--	--	19.423	30.0	-10.6

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 Power Spectral Density			
Variant:	10 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5731.0	14.468	15.808	--	--	17.892	30.0	-12.1
5787.0	13.706	15.406	--	--	17.490	30.0	-12.5
5844.0	12.713	15.062	--	--	17.070	30.0	-12.9

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 Power Spectral Density			
Variant:	20 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5735.0	10.076	12.993	--	--	14.751	30.0	-15.3
5787.0	10.378	13.358	--	--	15.041	30.0	-15.0
5840.0	11.242	13.004	--	--	14.869	30.0	-15.1

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 Power Spectral Density			
Variant:	40 MHz	**Duty Cycle (%):**	99.0
Data Rate:	13.5 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	7.895	9.186	--	--	11.382	30.0	-18.6
5787.0	7.171	8.733	--	--	10.712	30.0	-19.3
5830.0	7.475	10.143	--	--	11.532	30.0	-18.5

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 Power Spectral Density			
Variant:	80 MHz	**Duty Cycle (%):**	99.0
Data Rate:	6 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5765.0	4.467	6.044	--	--	7.710	30.0	-22.3
5810.0	5.629	3.962	--	--	7.660	30.0	-22.4

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).

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

(b) *Undesirable emission limits.* Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.

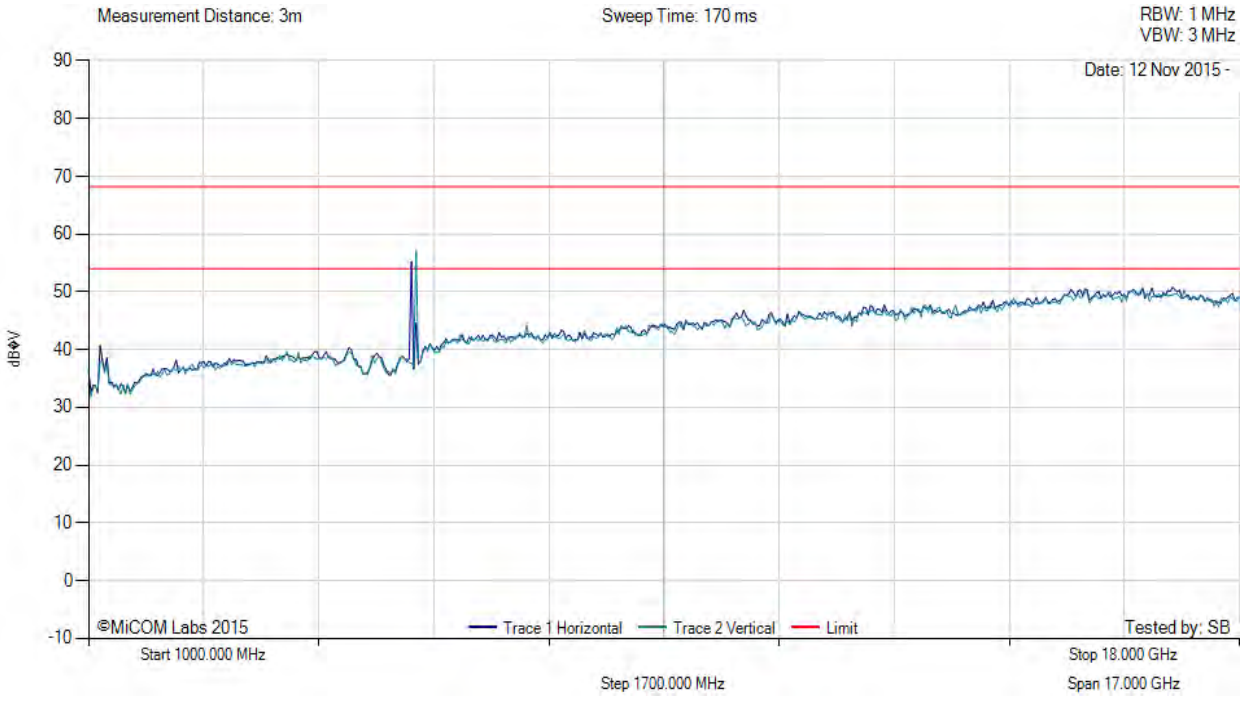
Note: The data in this Section identifies that the EUT is in compliance with the -27dBm/MHz EIRP limit (68.23 dBµV/m) for out of band emissions, -17 dBm/MHz EIRP limit (78.23 dBµV/m)

6.1.2.1. Outdoor Equipment Antenna

6.1.2.1.1 12.5 dBi Antenna RW-9401-5002

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	RADWIN Ltd RW-9401-5002	**Variant:**	5MHz
Antenna Gain (dBi):	12.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5730.00	**Data Rate:**	6 Mbit/s
Power Setting:	26.5	**Tested By:**	SB

Variant: 5MHz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd RW-9401-5002, Power Setting: 26.5, Duty Cycle (%): 99

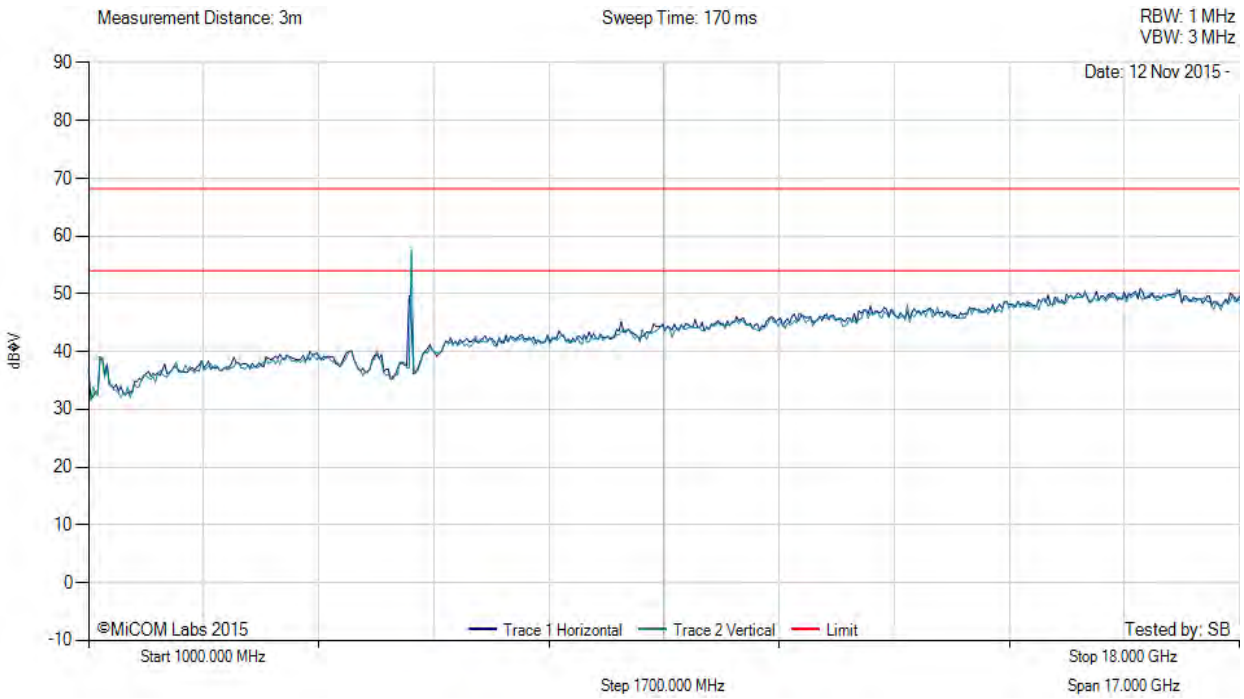


There are no emissions found within 6dB of the limit line.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	RADWIN Ltd RW-9401-5002	**Variant:**	5MHz
Antenna Gain (dBi):	12.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5787.50	**Data Rate:**	6 Mbit/s
Power Setting:	26.5	**Tested By:**	SB

Variant: 5MHz, Test Freq: 5787.50 MHz, Antenna: RADWIN Ltd RW-9401-5002, Power Setting: 26.5, Duty Cycle (%): 99

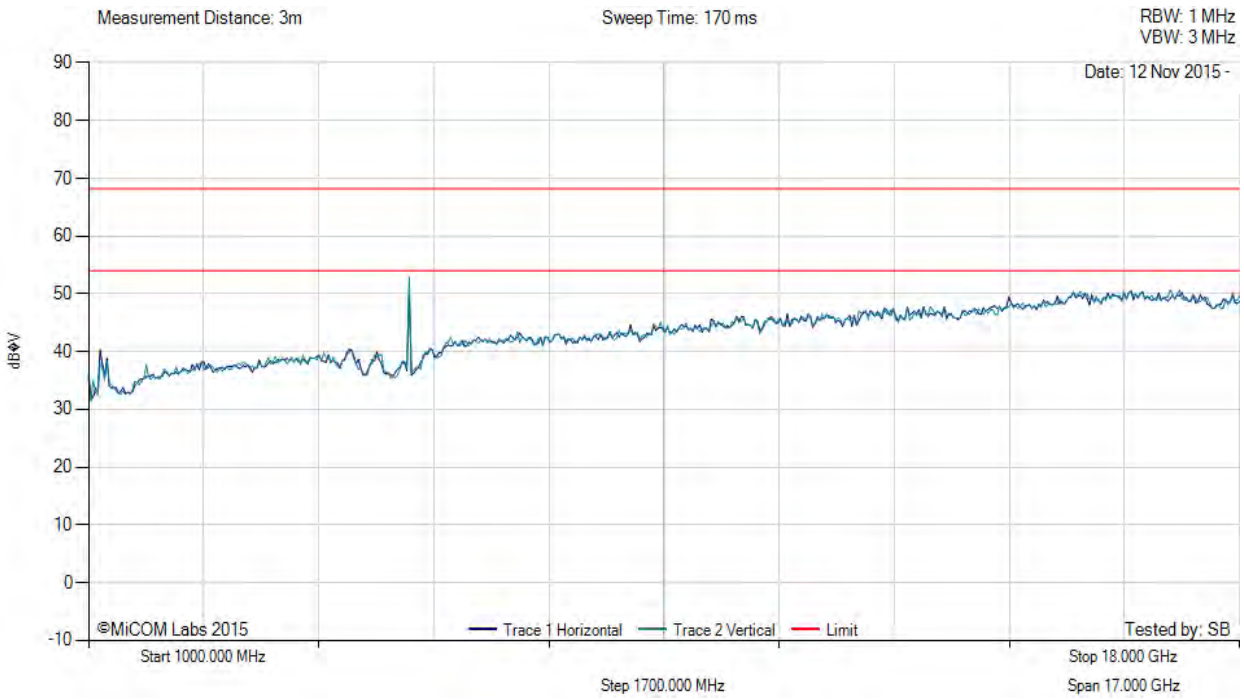


There are no emissions found within 6dB of the limit line.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	RADWIN Ltd RW-9401-5002	**Variant:**	5MHz
Antenna Gain (dBi):	12.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5845.00	**Data Rate:**	6 Mbit/s
Power Setting:	26.5	**Tested By:**	SB

Variant: 5MHz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd RW-9401-5002, Power Setting: 26.5, Duty Cycle (%): 99



There are no emissions found within 6dB of the limit line.

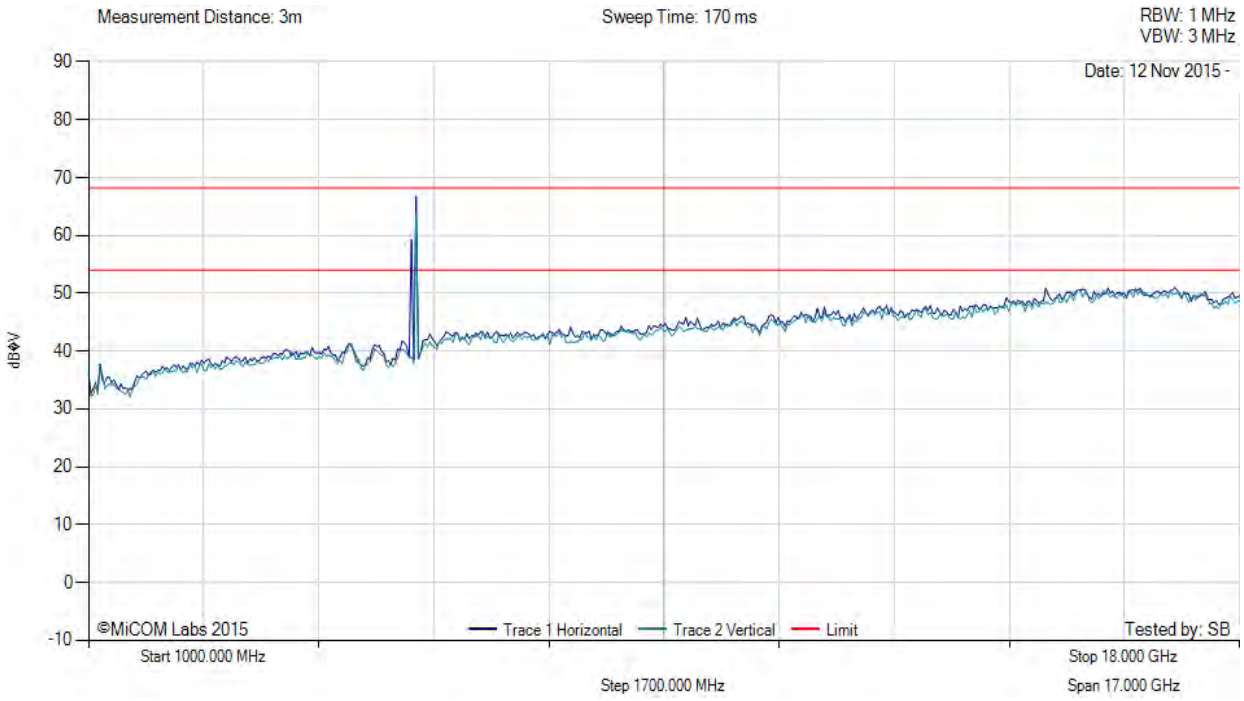
RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

RADWIN Ltd RW-9401-5002		Band-Edge Freq	Peak	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit -17/-27 dBm	
5 MHz	5730.00	5725.00	-37.37	26.5
10 MHz	5731.00	5725.00	-26.48	26.5
20 MHz	5735.00	5725.00	-20.34	26.5
40 MHz	5745.00	5725.00	25.92	26.5
80 MHz	5765.00	5725.00	-28.74	26.5
5 MHz	5845.00	5850.00	-25.14	26.0
10 MHz	5844.00	5850.00	-17.82	24.5
20 MHz	5840.00	5850.00	-17.64	24.0
40 MHz	5830.00	5850.00	-23.29	26.0
80 MHz	5810.00	5850.00	-29.30	26.5

6.1.2.1.2 16.5 dBi Antenna RW-9061-5002

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	RADWIN Ltd RW-9061-5002	**Variant:**	5MHz
Antenna Gain (dBi):	16.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5730.00	**Data Rate:**	6 Mbit/s
Power Setting:	26.5	**Tested By:**	SB

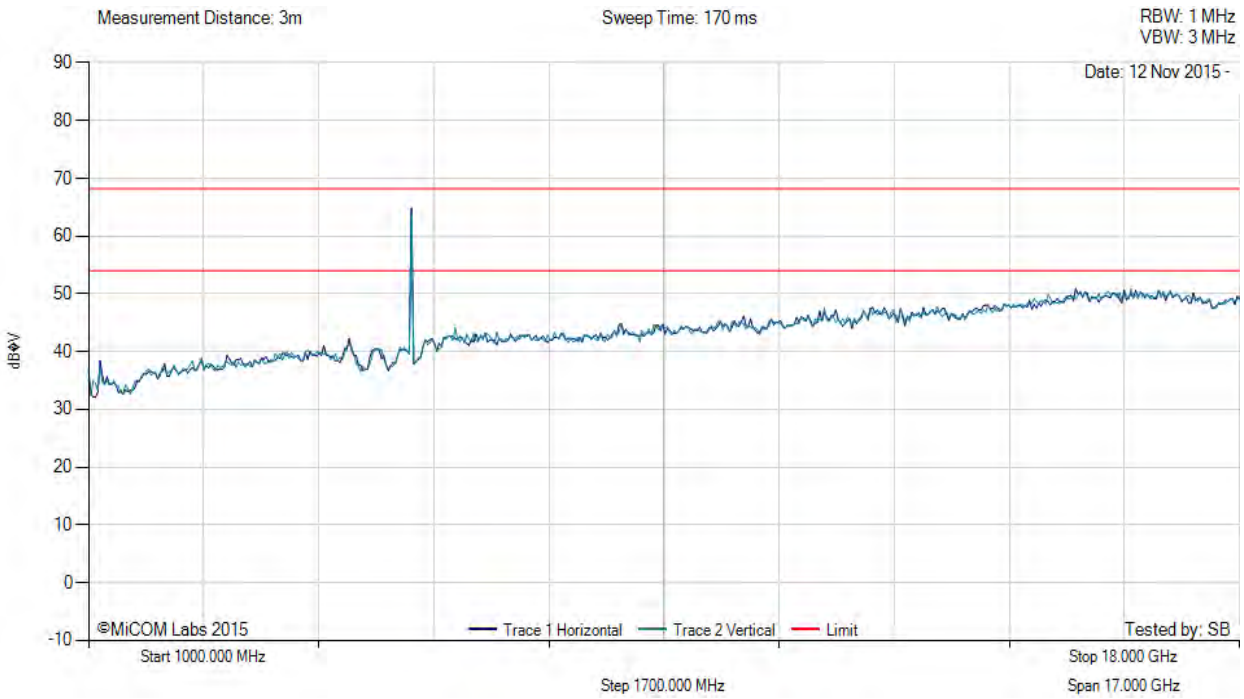
Variant: 5MHz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd RW-9061-5002, Power Setting: 26.5, Duty Cycle (%): 99



There are no emissions found within 6dB of the limit line.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	RADWIN Ltd RW-9061-5002	**Variant:**	5MHz
Antenna Gain (dBi):	16.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5787.50	**Data Rate:**	6 Mbit/s
Power Setting:	26.5	**Tested By:**	SB

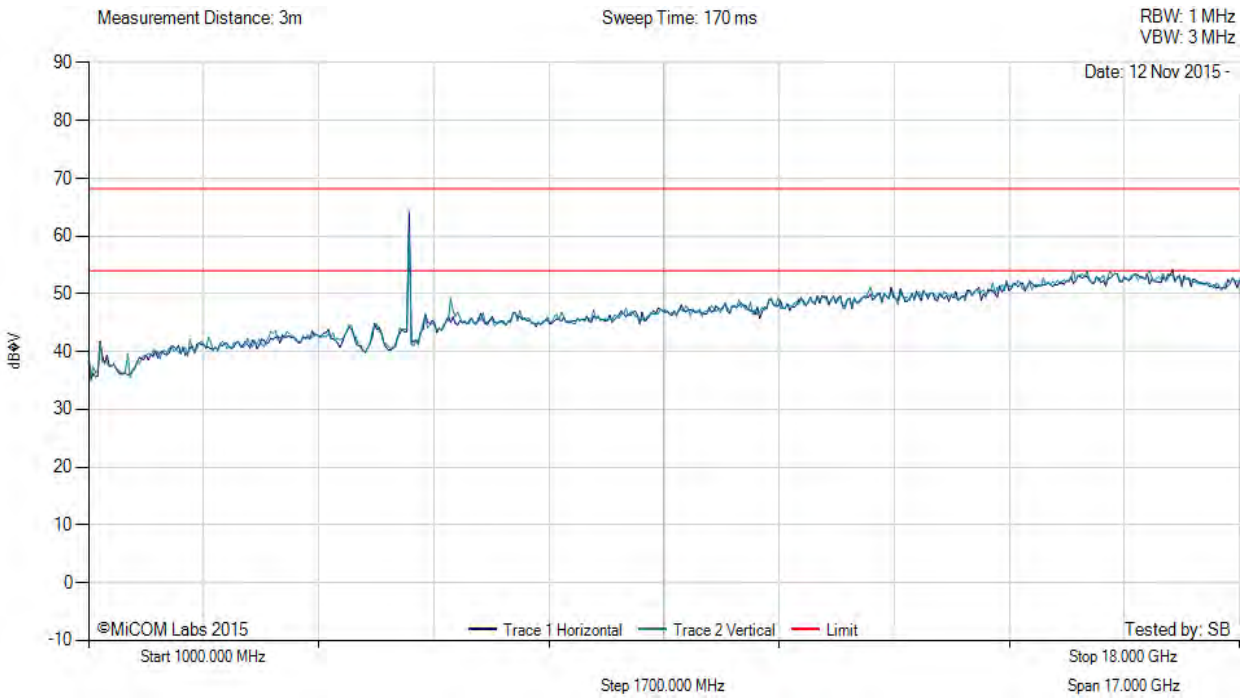
Variant: 5MHz, Test Freq: 5787.50 MHz, Antenna: RADWIN Ltd RW-9061-5002, Power Setting: 26.5, Duty Cycle (%): 99



There are no emissions found within 6dB of the limit line.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	RADWIN Ltd RW-9061-5002	**Variant:**	5MHz
Antenna Gain (dBi):	16.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5845.00	**Data Rate:**	6 Mbit/s
Power Setting:	26.5	**Tested By:**	SB

Variant: 5MHz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd RW-9061-5002, Power Setting: 26.5, Duty Cycle (%): 99



There are no emissions found within 6dB of the limit line.

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

RADWIN Ltd RW-9061-5002		Band-Edge Freq	Peak	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit -17/-27 dBm	
5 MHz	5730.00	5725.00	-30.46	26.5
10 MHz	5731.00	5725.00	-20.41	26.5
20 MHz	5735.00	5725.00	-17.97	26.5
40 MHz	5745.00	5725.00	-24.88	26.5
80 MHz	5765.00	5725.00	-26.80	26.0
5 MHz	5845.00	5850.00	-20.51	26.5
10 MHz	5844.00	5850.00	-17.57	20.0
20 MHz	5840.00	5850.00	-17.93	19.0
40 MHz	5830.00	5850.00	-27.61	25.0
80 MHz	5810.00	5850.00	-29.58	26.5

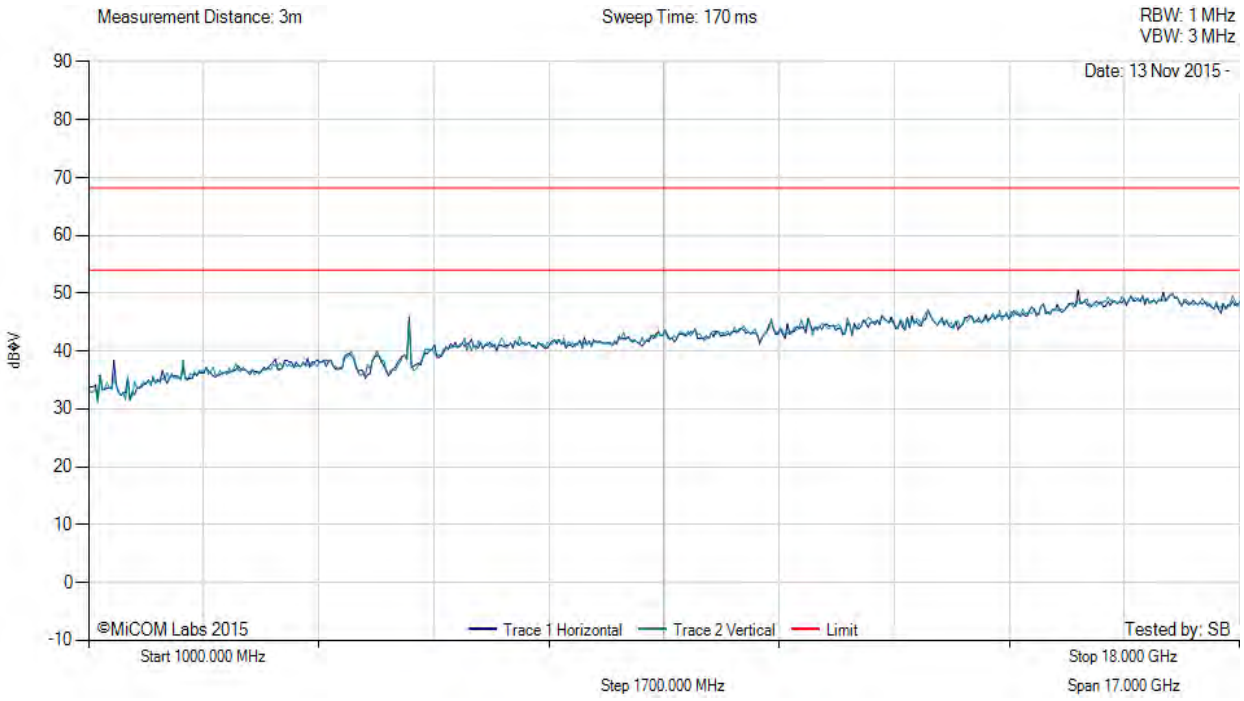
6.1.2.2. Point-to-Point Equipment Antenna

6.1.2.1.1 20.5 dBi Antenna AM0156430

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	AM0156430	**Variant:**	5MHz
Antenna Gain (dBi):	20.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5731.00	**Data Rate:**	6mbit/s
Power Setting:	max	**Tested By:**	SB

Test Measurement Results

Variant: 5MHz, Test Freq: 5731.00 MHz, Antenna: AM0156430, Power Setting: max, Duty Cycle (%): 99



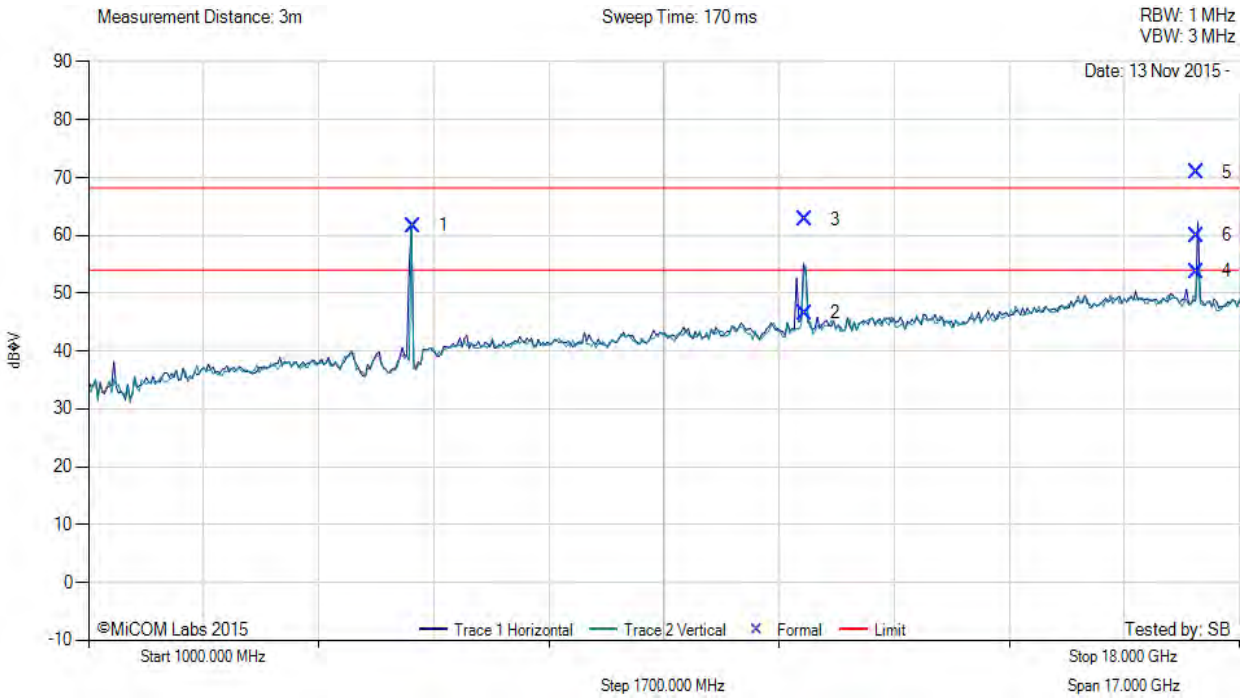
There are no emissions found within 6dB of the limit line.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AM0156430	**Variant:**	5MHz
Antenna Gain (dBi):	20.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5787.50	**Data Rate:**	6mbit/s
Power Setting:	max	**Tested By:**	SB

Test Measurement Results

Variant: 5MHz, Test Freq: 5787.50 MHz, Antenna: AM0156430, Power Setting: max, Duty Cycle (%): 99



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5788.66	68.27	3.79	-10.42	61.64	Peak (FUND)	Horizontal					
2	11576.43	45.75	5.42	-4.62	46.55	Max Avg	Horizontal	161	308	54.0	-7.5	Pass
3	11576.43	62.01	5.42	-4.62	62.81	Max Peak	Horizontal	161	308	68.2	-5.4	Pass
4	17363.92	47.45	6.35	-0.06	53.74	Max Avg	Horizontal	157	45	54.0	-0.3	Pass
5	17363.92	61.60	6.35	-0.06	67.89	Max Peak	Horizontal	157	45	68.2	-0.3	Pass
6	17363.92	53.73	6.35	-0.06	60.02	Peak (NRB)	Horizontal					

FUND – Fundamental Frequency

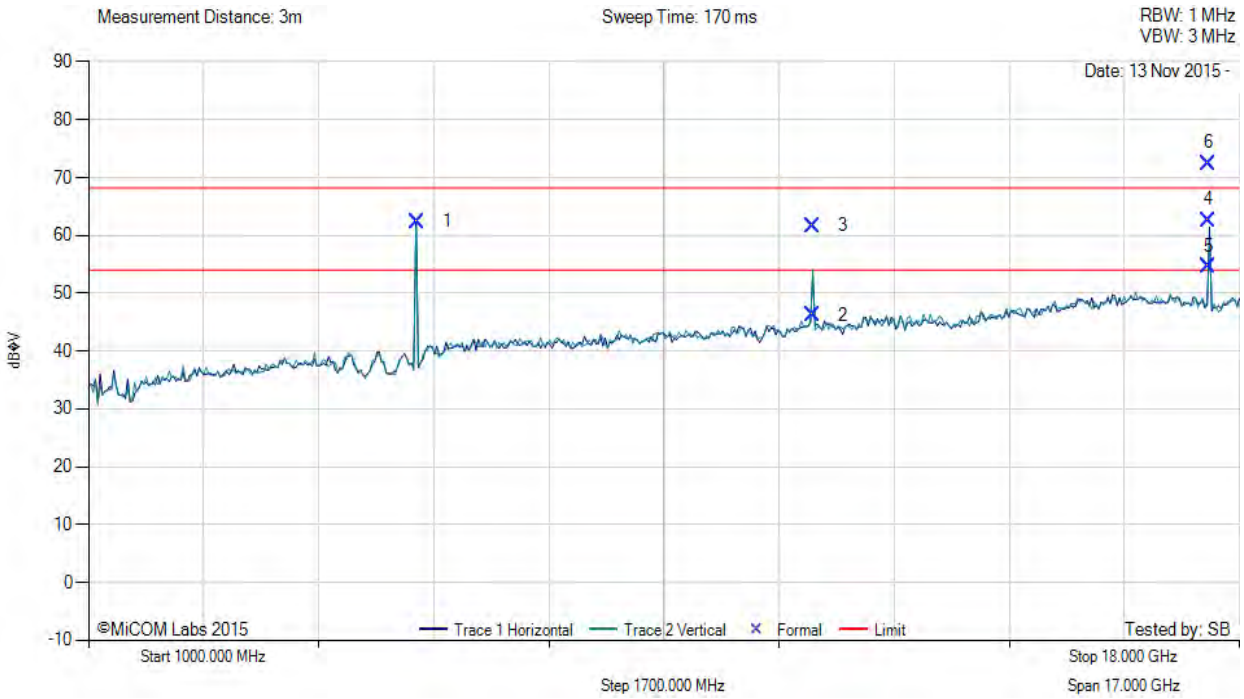
NRB – Non-Restricted Band

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AM0156430	**Variant:**	5MHz
Antenna Gain (dBi):	20.5	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5845.00	**Data Rate:**	6mbit/s
Power Setting:	max	**Tested By:**	SB

Test Measurement Results

Variant: 5MHz, Test Freq: 5845.00 MHz, Antenna: AM0156430, Power Setting: max, Duty Cycle (%): 99



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5845.90	68.75	3.82	-10.16	62.41	Peak (FUND)	Horizontal					
2	11688.37	45.13	5.55	-4.44	46.24	Max Avg	Horizontal	193	46	54.0	-7.8	Pass
3	11688.37	60.59	5.55	-4.44	61.70	Max Peak	Horizontal	193	46	68.2	-6.5	Pass
4	17536.99	57.20	6.33	-0.91	62.62	Peak (NRB)	Horizontal					
5	17536.99	48.20	6.33	-0.91	53.62	Max Avg	Horizontal	160	353	54.0	-0.4	Pass
6	17536.99	62.00	6.33	-0.91	67.42	Max Peak	Horizontal	160	353	68.2	-0.8	Pass

FUND – Fundamental Frequency

NRB – Non-Restricted Band

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

AM0156430		Band-Edge Freq	Peak (Limit -17/-27 dBm)	Power Setting
Operational Mode	Operating Frequency (MHz)	dBm	dBm	
5 MHz	5730.00	5725.00	-26.68	26.5
10 MHz	5731.00	5725.00	-17.17	24.5
20 MHz	5735.00	5725.00	-17.30	21.5
40 MHz	5745.00	5725.00	-28.79	25.5
80 MHz	5765.00	5725.00	-29.72	25.0

AM0156430		Band-Edge Freq	Peak (Limit -17/-27 dBm)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBm	
5 MHz	5845.00	5850.00	-17.20	25.0
10 MHz	5844.00	5850.00	-17.98	20.0
20 MHz	5840.00	5850.00	-17.54	14.5
40 MHz	5830.00	5850.00	-20.85	22.5
80 MHz	5810.00	5850.00	-27.89	24.5

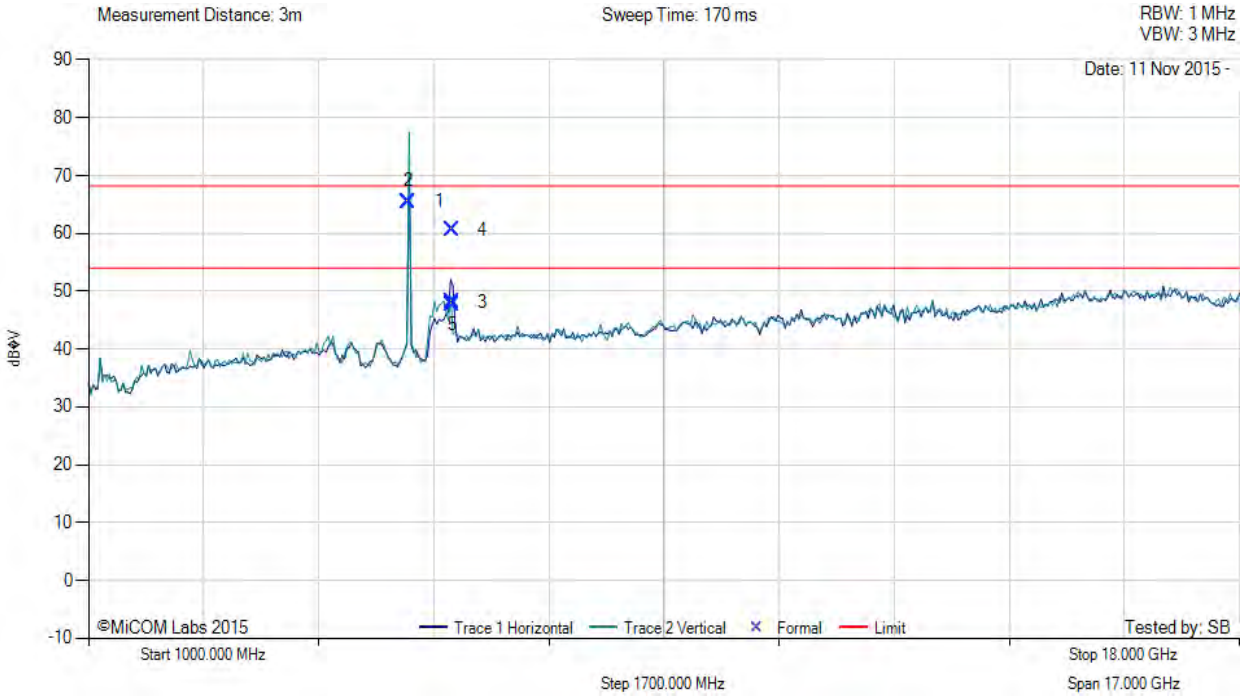
6.1.2.1.2 29 dBi Antenna RW-9622-5001

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	RADWIN Ltd RW-9622-5001	**Variant:**	5MHz
Antenna Gain (dBi):	29	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5730.00	**Data Rate:**	6 MBit/s
Power Setting:	26.5	**Tested By:**	SB

Test Measurement Results

Variant: 5MHz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd RW-9622-5001, Power Setting: 26.5, Duty Cycle (%): 99



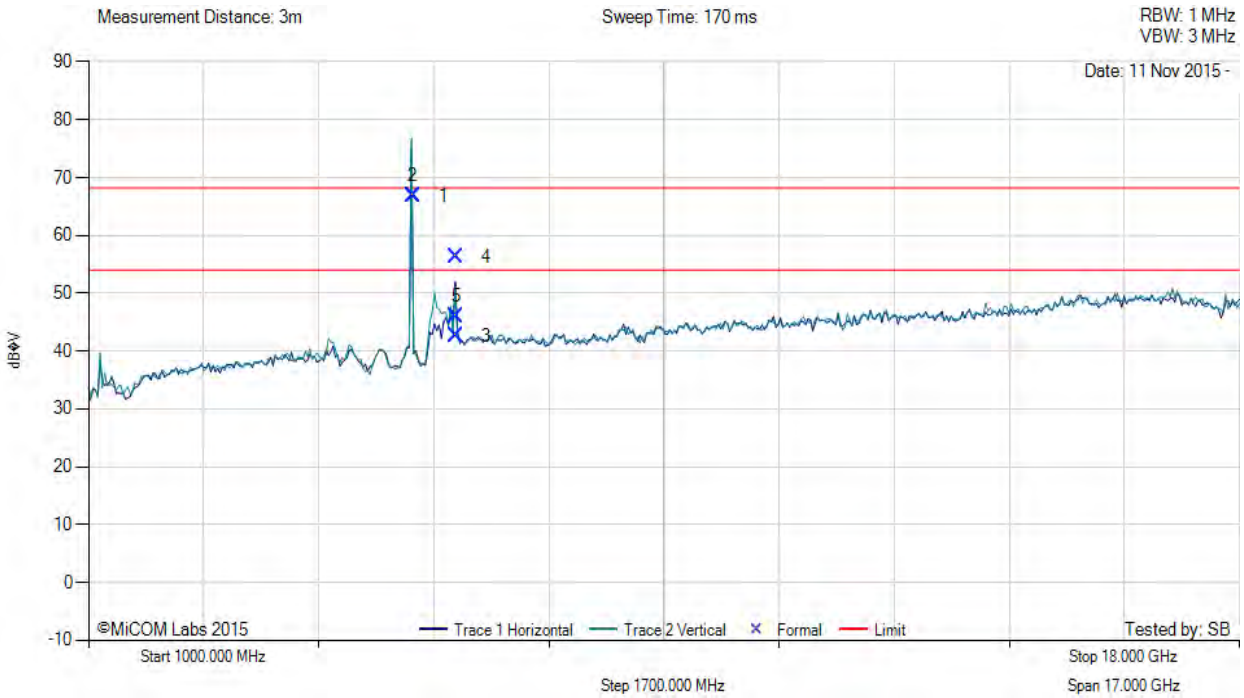
Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5728.82	72.44	3.80	-10.71	65.53	Fundamental	Vertical	148	1	--	--	
#2	6369.14	52.37	3.95	-8.12	48.20	Max Avg	Horizontal	158	10	54.0	-5.8	Pass
#3	6369.14	64.72	3.95	-8.12	60.55	Max Peak	Horizontal	158	10	68.2	-7.7	Pass
#4	6369.14	51.93	3.95	-8.12	47.76	Peak (NRB)	Horizontal	151	1	--	--	Pass
Non-restrictive Band (NRB)												

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	RADWIN Ltd RW-9622-5001	**Variant:**	5MHz
Antenna Gain (dBi):	29	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5787.50	**Data Rate:**	6 MBit/s
Power Setting:	26.5	**Tested By:**	SB

Test Measurement Results

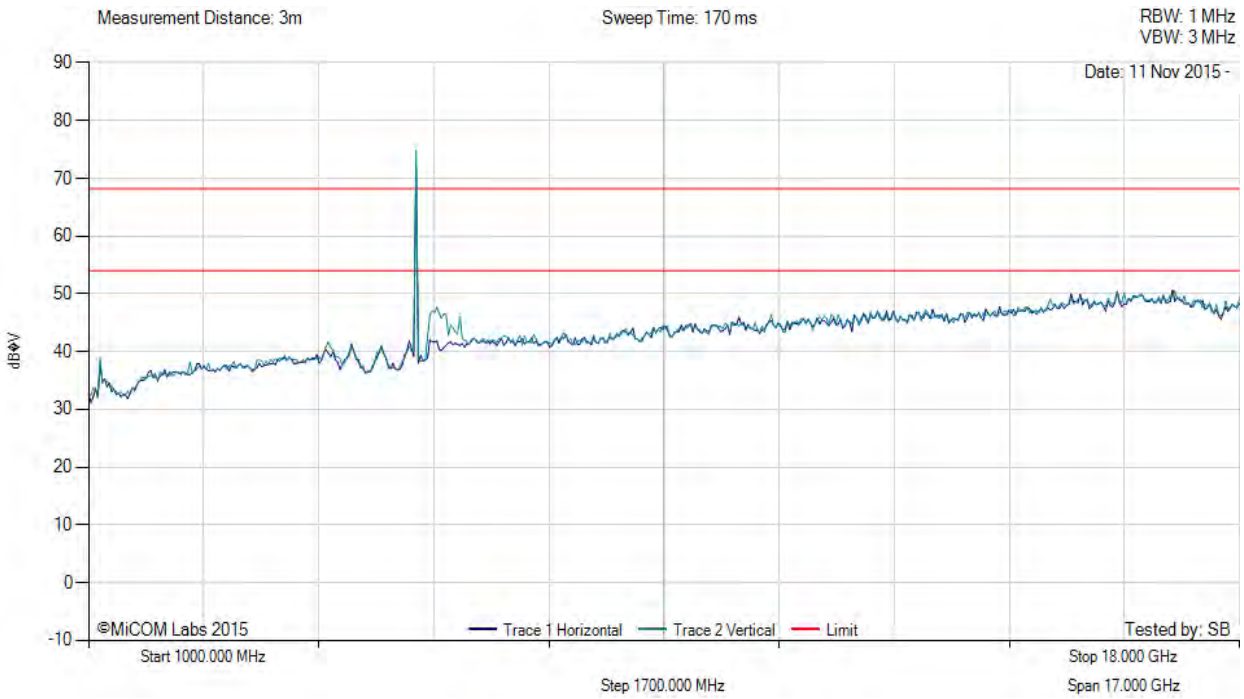
Variant: 5MHz, Test Freq: 5787.50 MHz, Antenna: RADWIN Ltd RW-9622-5001, Power Setting: 26.5, Duty Cycle (%): 99



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5788.54	73.44	3.79	-10.42	66.81	Fundamental	Vertical	151	1	--	--	
#2	6427.01	46.69	3.98	-7.99	42.68	Max Avg	Vertical	151	10	54.0	-11.3	Pass
#3	6427.01	60.23	3.98	-7.99	56.22	Max Peak	Vertical	151	10	68.2	-12.0	Pass
#4	6427.01	50.03	3.98	-7.99	46.02	Peak (NRB)	Vertical	151	11	--	--	Pass
Non-restrictive Band (NRB)												

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	RADWIN Ltd RW-9622-5001	**Variant:**	5MHz
Antenna Gain (dBi):	29	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5845.00	**Data Rate:**	6 MBit/s
Power Setting:	26.5	**Tested By:**	SB

Variant: 5MHz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd RW-9622-5001, Power Setting: 26.5, Duty Cycle (%): 99



Test Measurement Results
There are no emissions found within 6dB of the limit line.

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

RADWIN Ltd RW-9622-5001		Band-Edge Freq	Peak	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit -17/-27 dBm	
5 MHz	5730.00	5725.00	-28.0	26.5
10 MHz	5731.00	5725.00	-17.47	16.0
20 MHz	5735.00	5725.00	-17.16	14.0
40 MHz	5745.00	5725.00	-18.10	21.0
80 MHz	5765.00	5725.00	-28.44	20.0
5 MHz	5845.00	5850.00	-18.03	19.0
10 MHz	5844.00	5850.00	-17.40	8.0
20 MHz	5840.00	5850.00	-17.18	8.0
40 MHz	5830.00	5850.00	-17.08	21.0
80 MHz	5810.00	5850.00	-18.03	23.0

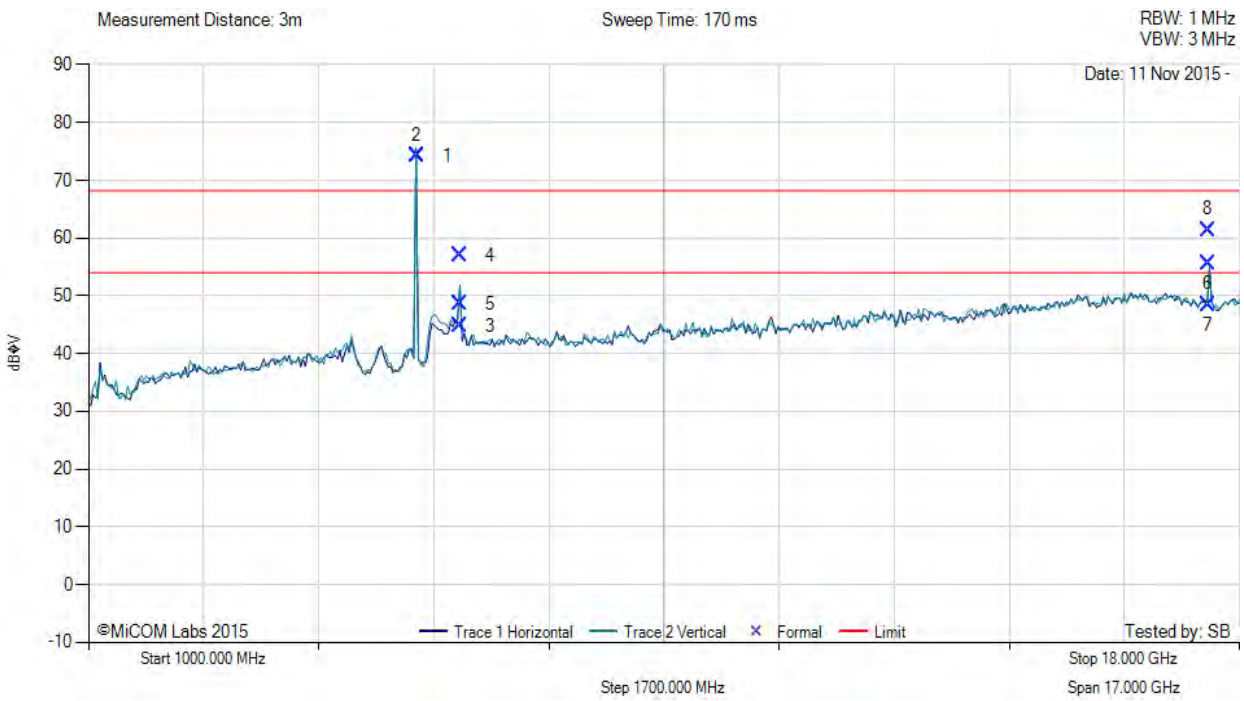
6.1.2.1.3 32 dBi Antenna RW-9732-4958

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	RADWIN Ltd RW-9732-4958	**Variant:**	5MHz
Antenna Gain (dBi):	32.0	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5730.00	**Data Rate:**	6 MBit/s
Power Setting:	26.5	**Tested By:**	SB

Test Measurement Results

Variant: 5MHz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd RW-9732-4958, Power Setting: 26.5, Duty Cycle (%): 99



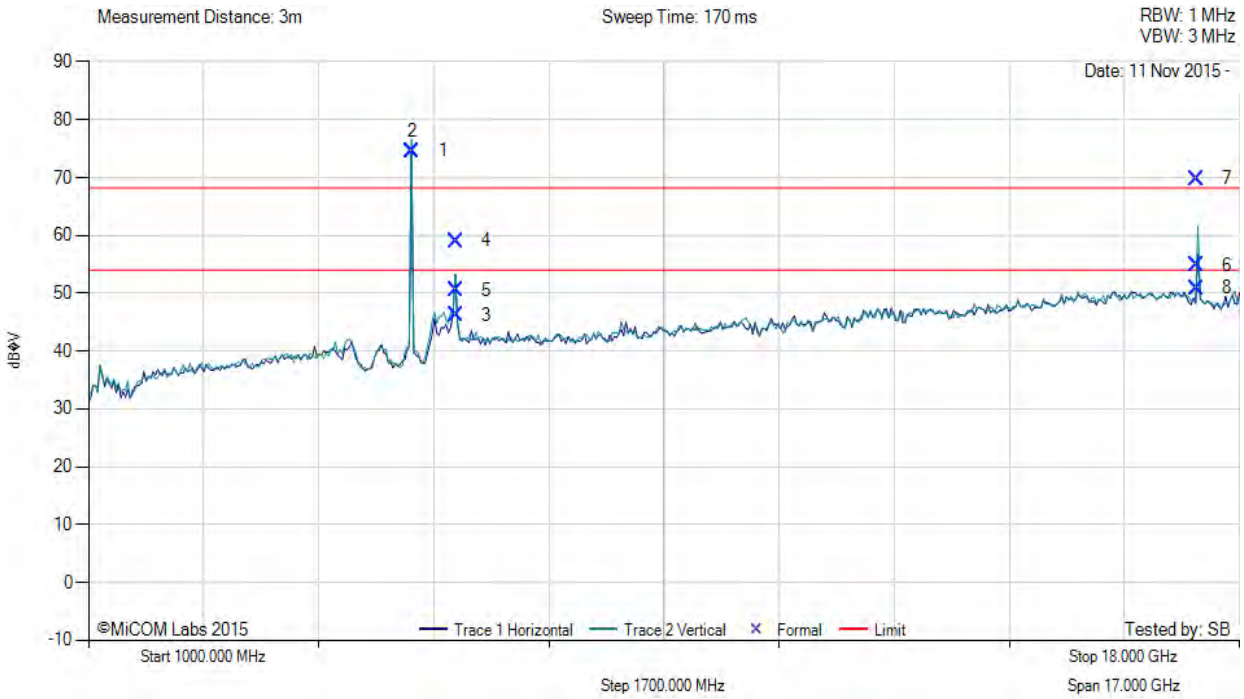
Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5728.70	78.49	3.80	-10.71	71.58	Fundamental	Vertical	200	1	--	--	
#2	6371.63	51.57	3.95	-8.12	47.40	Peak (NRB)	Vertical	198	1	--	--	Pass
#3	17187.09	46.15	6.18	0.41	52.74	Peak (NRB)	Vertical	200	356	--	--	Pass
Non-restrictive Band (NRB)												

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	RADWIN Ltd RW-9732-4958	**Variant:**	5MHz
Antenna Gain (dBi):	32.0	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5787.50	**Data Rate:**	6 MBit/s
Power Setting:	26.5	**Tested By:**	SB

Test Measurement Results

Variant: 5MHz, Test Freq: 5787.50 MHz, Antenna: RADWIN Ltd RW-9732-4958, Power Setting: 26.5, Duty Cycle (%): 99



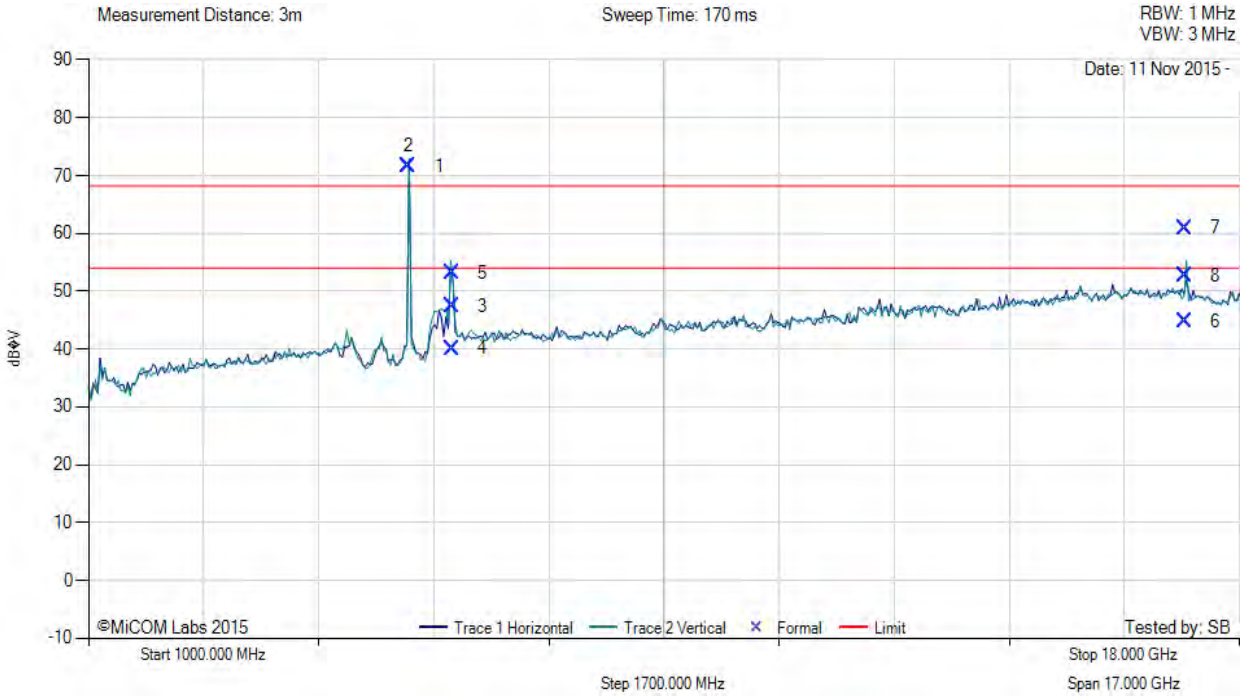
Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5787.90	81.20	3.79	-10.43	74.56	Fundamental	Vertical	198	0	--	--	
#2	6428.13	54.50	3.99	-7.99	50.50	Peak (NRB)	Horizontal	200	0	--	--	Pass
#3	17364.16	44.63	6.35	-0.06	50.92	Peak (NRB)	Vertical	200	0	--	--	Pass
Non-restrictive Band (NRB)												

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	RADWIN Ltd RW-9732-4958	**Variant:**	5MHz
Antenna Gain (dBi):	32.0	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5845.00	**Data Rate:**	6 MBit/s
Power Setting:	26.5	**Tested By:**	SB

Test Measurement Results

Variant: 5MHz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd RW-9732-4958, Power Setting: 26.5, Duty Cycle (%): 99



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5845.74	80.62	3.82	-10.16	74.28	Fundamental	Horizontal	200	0	--	--	
#2	6485.81	52.59	4.00	-7.93	48.66	Peak (NRB)	Horizontal	200	0	--	--	Pass
#3	17534.75	50.24	6.29	-0.89	55.64	Peak (NRB)	Horizontal	198	0	--	--	Pass
Non-restrictive Band (NRB)												

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

RADWIN Ltd RW-9732-4958		Band-Edge Freq	Peak	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit -17/-27 dBm	
5 MHz	5730.00	5725.00	-29.72	26.5
10 MHz	5731.00	5725.00	-20.41	26.5
20 MHz	5735.00	5725.00	-20.32	24.5
40 MHz	5745.00	5725.00	-27.08	26.5
80 MHz	5765.00	5725.00	-28.66	26.0
5 MHz	5845.00	5850.00	-19.68	25.5
10 MHz	5844.00	5850.00	-18.11	17.5
20 MHz	5840.00	5850.00	-17.57	17.5
40 MHz	5830.00	5850.00	-21.06	23.5
80 MHz	5810.00	5850.00	-26.68	24.5

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:

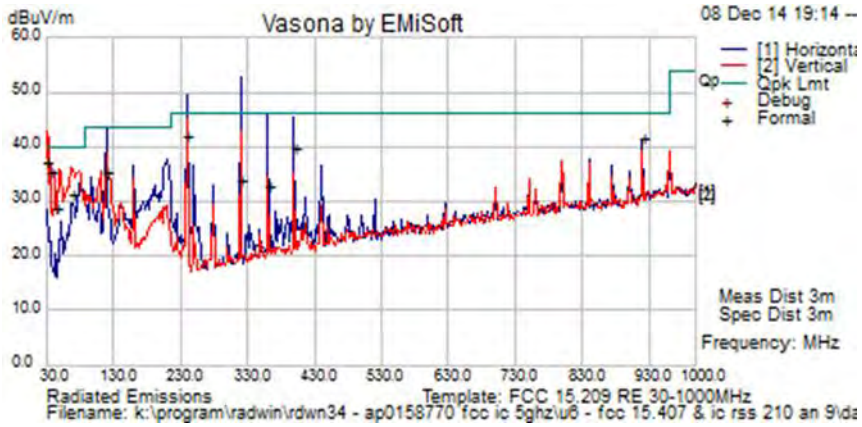
$$FS = 51.5 + 8.5 + 1.3 - 26.0 + 1 = 36.3 dB\mu V/m$$

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

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

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

Test Freq.	NA	**Engineer**	JMH
Variant	Digital Emissions	**Temp (ºC)**	20
Freq. Range	30-1000 MHz	**Rel. Hum.(%)**	56
Power Setting	NA	**Press. (mBars)**	848
Antenna	32 dBi		
Test Notes 1			
Test Notes 2			



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
319.999	45.4	5.2	-16.7	33.9	Quasi Max	H	99	179	46.0	-12.1	Pass	
240.015	56.0	4.8	-19.0	41.9	Quasi Max	H	100	157	46	-4.2	Pass	
30.251	43.5	3.5	-9.9	37.1	Quasi Max	V	224	18	40	-2.9	Pass	
34.975	45.3	3.6	-13.6	35.3	Quasi Max	V	142	12	40	-4.7	Pass	
120.005	48.6	4.2	-17.5	35.3	Quasi Max	H	209	204	43.5	-8.2	Pass	
360.008	42.9	5.3	-15.4	32.8	Quasi Max	H	217	152	46	-13.2	Pass	
399.995	49.0	5.5	-14.8	39.7	Quasi Max	H	160	202	46	-6.3	Pass	
66.934	50.9	3.8	-23.3	31.4	Quasi Max	V	108	313	40	-8.6	Pass	
44.815	45.7	3.6	-20.7	28.7	Quasi Max	V	130	349	40	-11.4	Pass	
919.995	42.0	7.2	-7.7	41.4	Quasi Max	H	109	181	46	-4.6	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

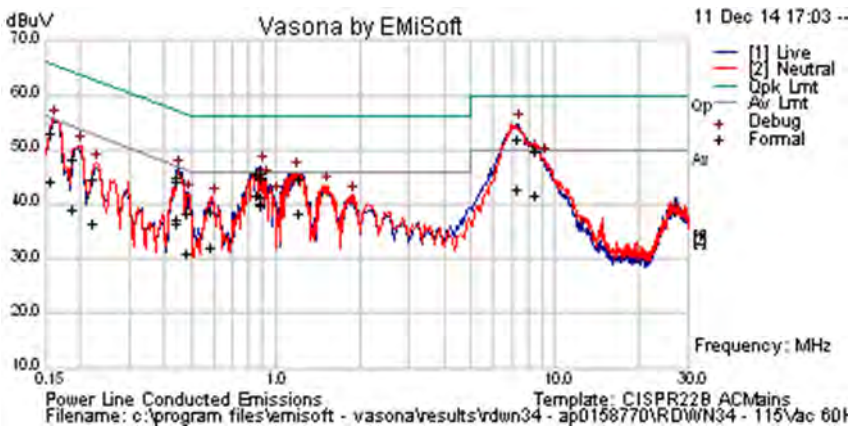
Test Procedure

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	DC Line Emissions	**Temp (ºC)**	20
Freq. Range	0.150 MHz - 30 MHz	**Rel. Hum.(%)**	75
Power Setting	NA	**Press. (mBars)**	999
Antenna	N/A		
Test Notes 1	POE: Sinpro 115Vac 60 Hz: 55 Vdc		
Test Notes 2	POE Model #: CPU55A-270-1		



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail	Comments
0.155	34.1	9.9	0.1	44.1	Average	Neutral	55.75	-11.7	Pass	
0.155	43.1	9.9	0.1	53.1	Quasi Peak	Neutral	65.75	-12.6	Pass	
0.187	38.1	9.9	0.1	48.1	Quasi Peak	Neutral	64.19	-16.1	Pass	
0.187	29.2	9.9	0.1	39.1	Average	Neutral	54.19	-15.1	Pass	
0.217	34.7	9.9	0.1	44.7	Quasi Peak	Neutral	62.92	-18.2	Pass	
0.217	26.4	9.9	0.1	36.3	Average	Neutral	52.92	-16.6	Pass	
0.440	34.8	9.9	0.1	44.8	Quasi Peak	Live	57.06	-12.3	Pass	
0.440	27.2	9.9	0.1	37.2	Average	Live	47.06	-9.8	Pass	
0.440	26.4	9.9	0.1	36.4	Average	Live	47.06	-10.7	Pass	
0.440	34.3	9.9	0.1	44.3	Quasi Peak	Live	57.06	-12.8	Pass	
0.472	28.4	9.9	0.1	38.4	Quasi Peak	Live	56.47	-18.1	Pass	
0.472	21.0	9.9	0.1	31.0	Average	Live	46.47	-15.5	Pass	
0.578	28.8	9.9	0.1	38.9	Quasi Peak	Neutral	56	-17.2	Pass	
0.578	21.9	9.9	0.1	31.9	Average	Neutral	46	-14.1	Pass	
0.843	31.6	9.9	0.1	41.6	Average	Live	46	-4.4	Pass	
0.843	35.8	9.9	0.1	45.9	Quasi Peak	Live	56	-10.2	Pass	

0.873	29.9	9.9	0.1	39.9	Average	Neutral	46	-6.1	Pass	
0.873	35.0	9.9	0.1	45.1	Quasi Peak	Neutral	56	-10.9	Pass	
0.876	30.1	9.9	0.1	40.2	Average	Live	46	-5.9	Pass	
0.876	35.5	9.9	0.1	45.5	Quasi Peak	Live	56	-10.5	Pass	
0.877	35.8	9.9	0.1	45.8	Quasi Peak	Live	56	-10.2	Pass	
0.877	31.2	9.9	0.1	41.2	Average	Live	46	-4.8	Pass	
1.189	28.2	9.9	0.1	38.2	Average	Neutral	46	-7.8	Pass	
1.189	34.6	9.9	0.1	44.6	Quasi Peak	Neutral	56	-11.4	Pass	
7.294	41.2	10.3	0.3	51.8	Quasi Peak	Live	60	-8.2	Pass	
7.294	32.0	10.3	0.3	42.6	Average	Live	50	-7.4	Pass	
8.379	39.2	10.3	0.3	49.9	Quasi Peak	Neutral	60	-10.1	Pass	
8.379	30.9	10.3	0.3	41.5	Average	Neutral	50	-8.5	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

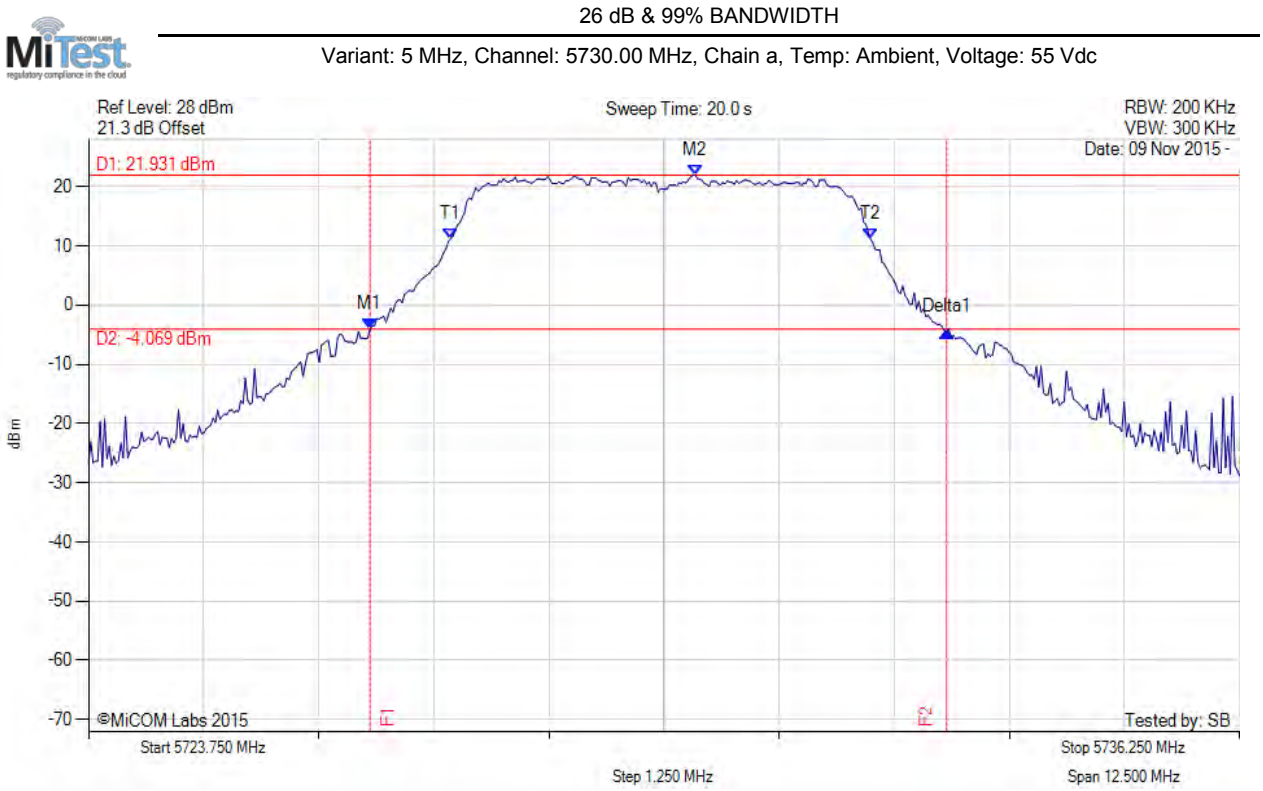
Measurement uncertainty	±2.64 dB

APPENDIX

A. SUPPORTING INFORMATION

A.1. CONDUCTED TEST PLOTS

A.1.1. 26 dB & 99% Bandwidth

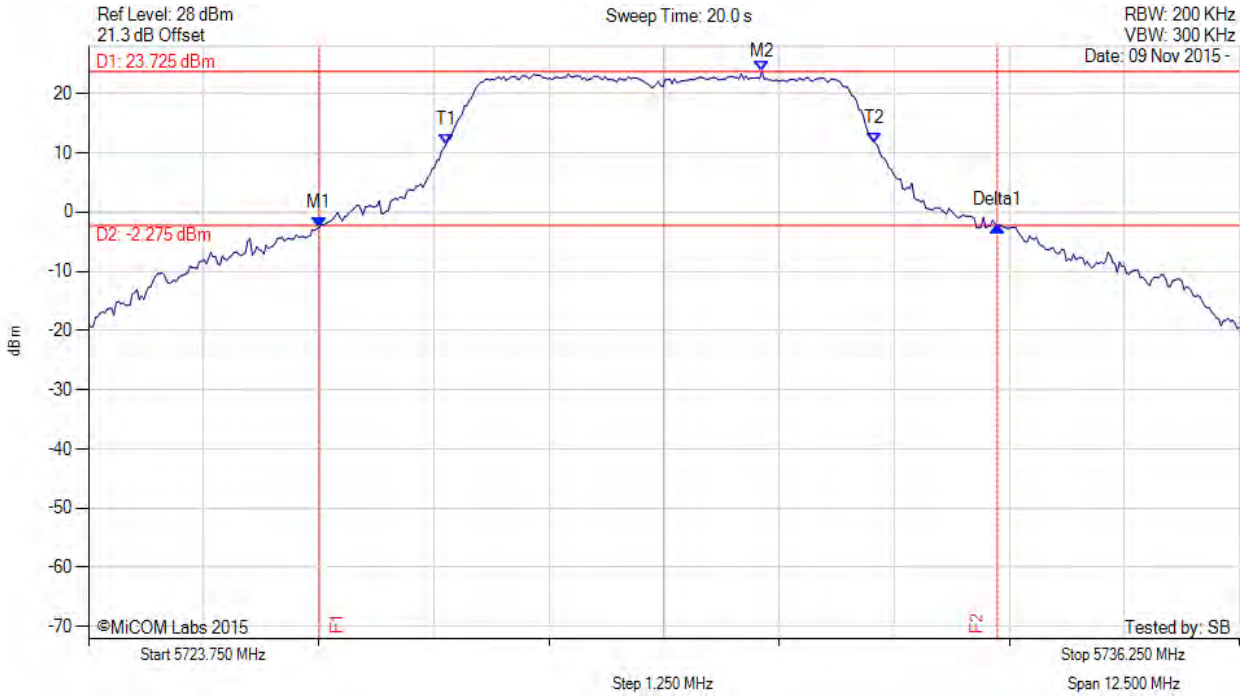


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5726.806 MHz : -4.135 dBm M2 : 5730.338 MHz : 21.931 dBm Delta1 : 6.263 MHz : -0.338 dB T1 : 5727.683 MHz : 11.203 dBm T2 : 5732.242 MHz : 11.157 dBm OBW : 4.559 MHz	Measured 26 dB Bandwidth: 6.263 MHz Measured 99% Bandwidth: 4.559 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5730.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

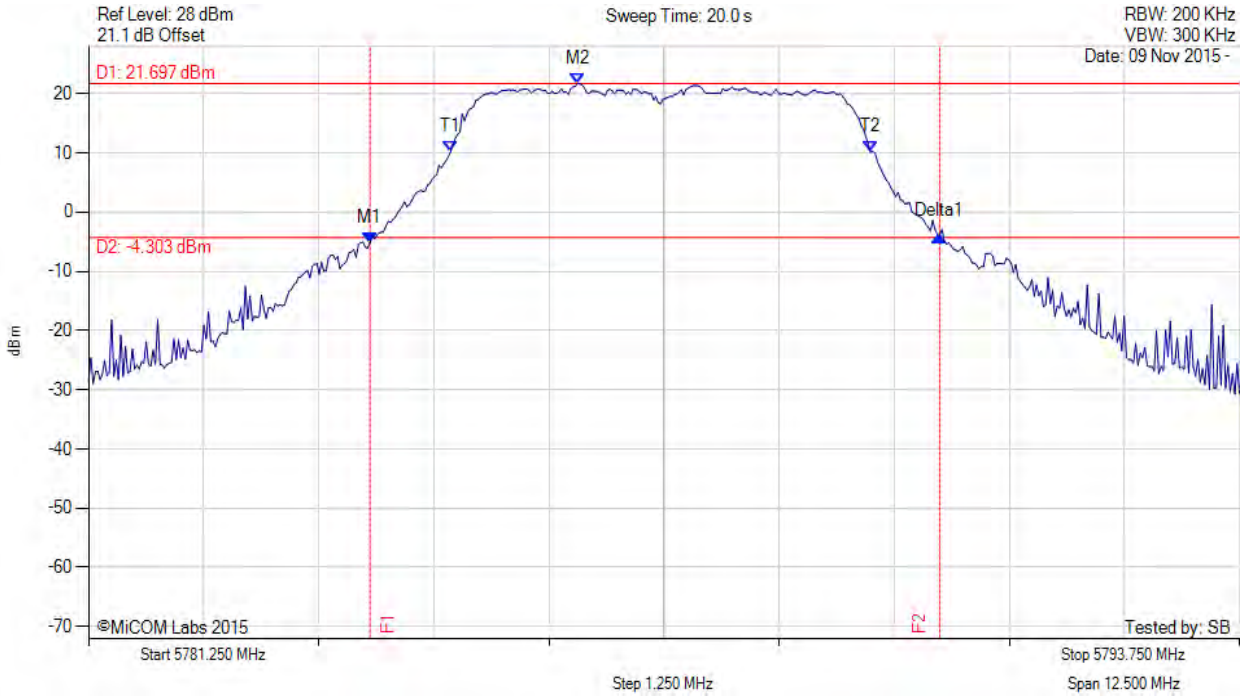


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5726.255 MHz : -2.557 dBm M2 : 5731.065 MHz : 23.725 dBm Delta1 : 7.365 MHz : 0.252 dB T1 : 5727.633 MHz : 11.409 dBm T2 : 5732.292 MHz : 11.655 dBm OBW : 4.659 MHz	Measured 26 dB Bandwidth: 7.365 MHz Measured 99% Bandwidth: 4.659 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5787.50 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

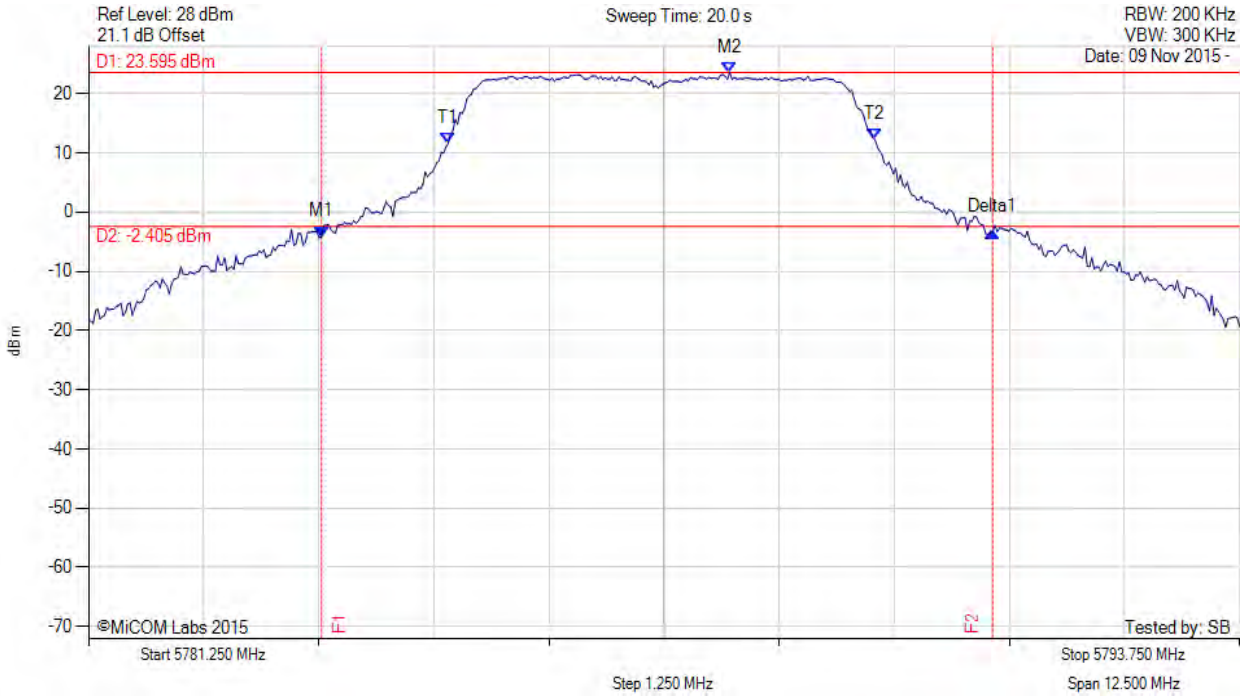


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5784.306 MHz : -5.181 dBm M2 : 5786.561 MHz : 21.697 dBm Delta1 : 6.187 MHz : 1.072 dB T1 : 5785.183 MHz : 10.233 dBm T2 : 5789.742 MHz : 10.134 dBm OBW : 4.559 MHz	Measured 26 dB Bandwidth: 6.187 MHz Measured 99% Bandwidth: 4.559 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5787.50 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

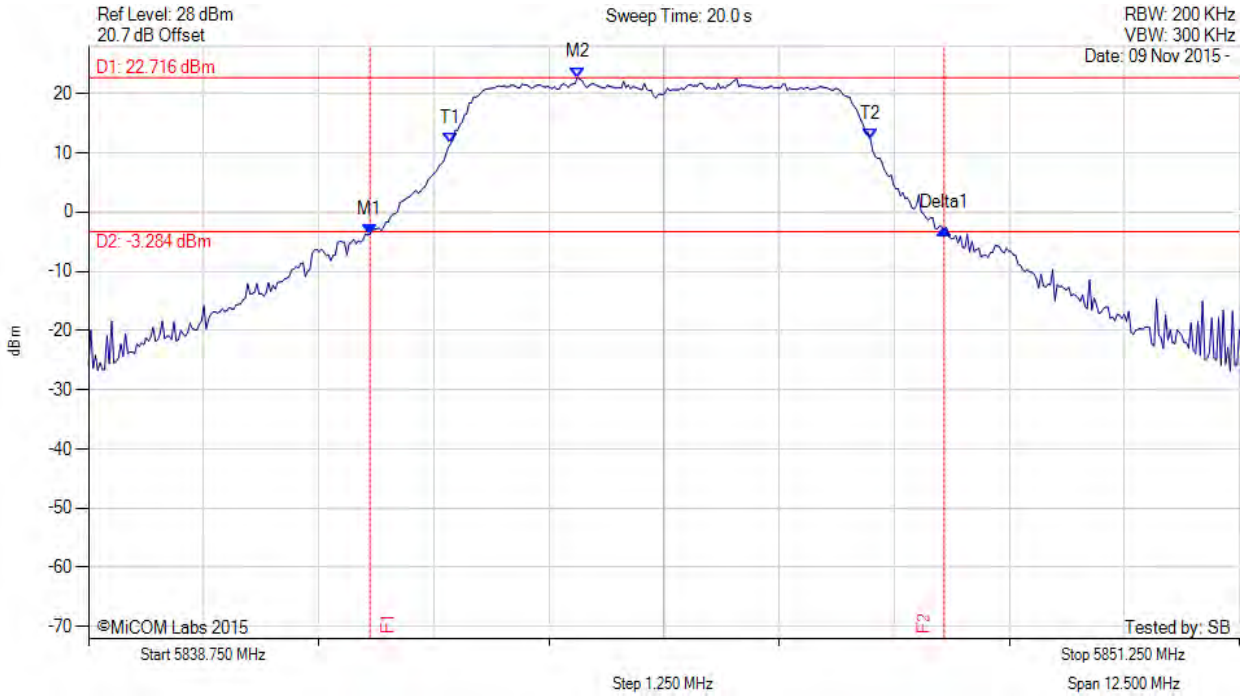


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5783.780 MHz : -4.168 dBm M2 : 5788.214 MHz : 23.595 dBm Delta1 : 7.290 MHz : 0.791 dB T1 : 5785.158 MHz : 11.580 dBm T2 : 5789.792 MHz : 12.222 dBm OBW : 4.634 MHz	Measured 26 dB Bandwidth: 7.290 MHz Measured 99% Bandwidth: 4.634 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5845.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

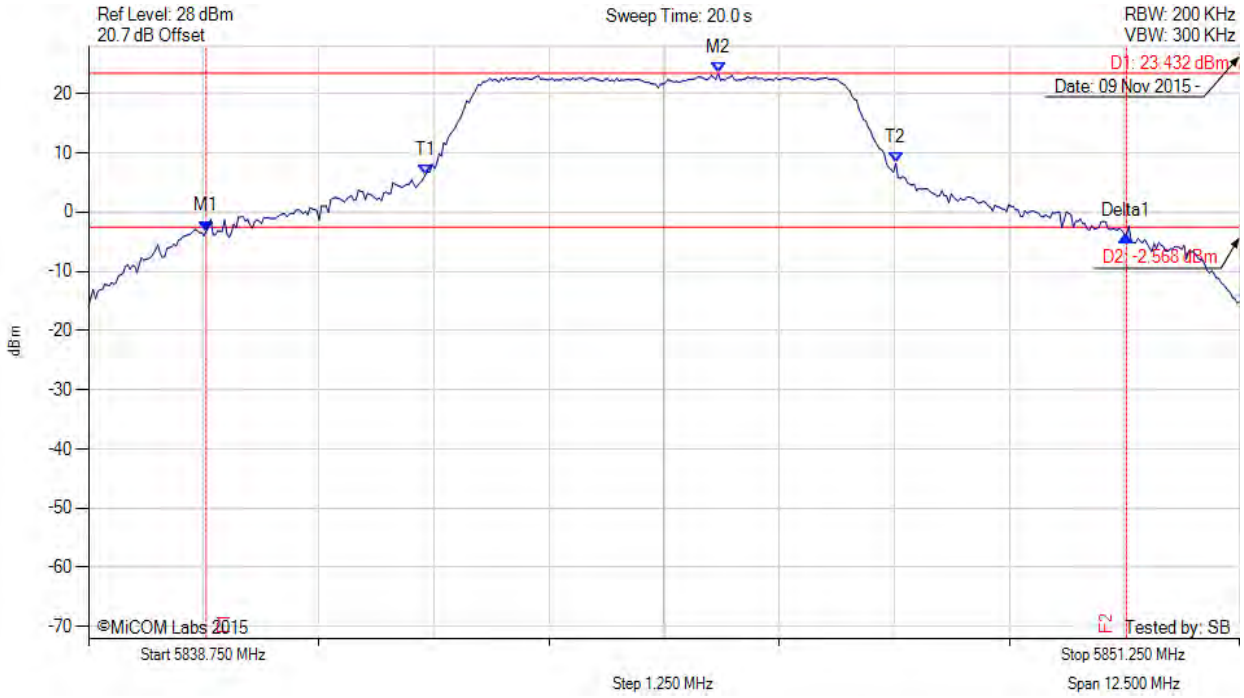


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5841.806 MHz : -3.737 dBm M2 : 5844.061 MHz : 22.716 dBm Delta1 : 6.237 MHz : 0.970 dB T1 : 5842.683 MHz : 11.547 dBm T2 : 5847.242 MHz : 12.306 dBm OBW : 4.559 MHz	Measured 26 dB Bandwidth: 6.237 MHz Measured 99% Bandwidth: 4.559 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 5 MHz, Channel: 5845.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

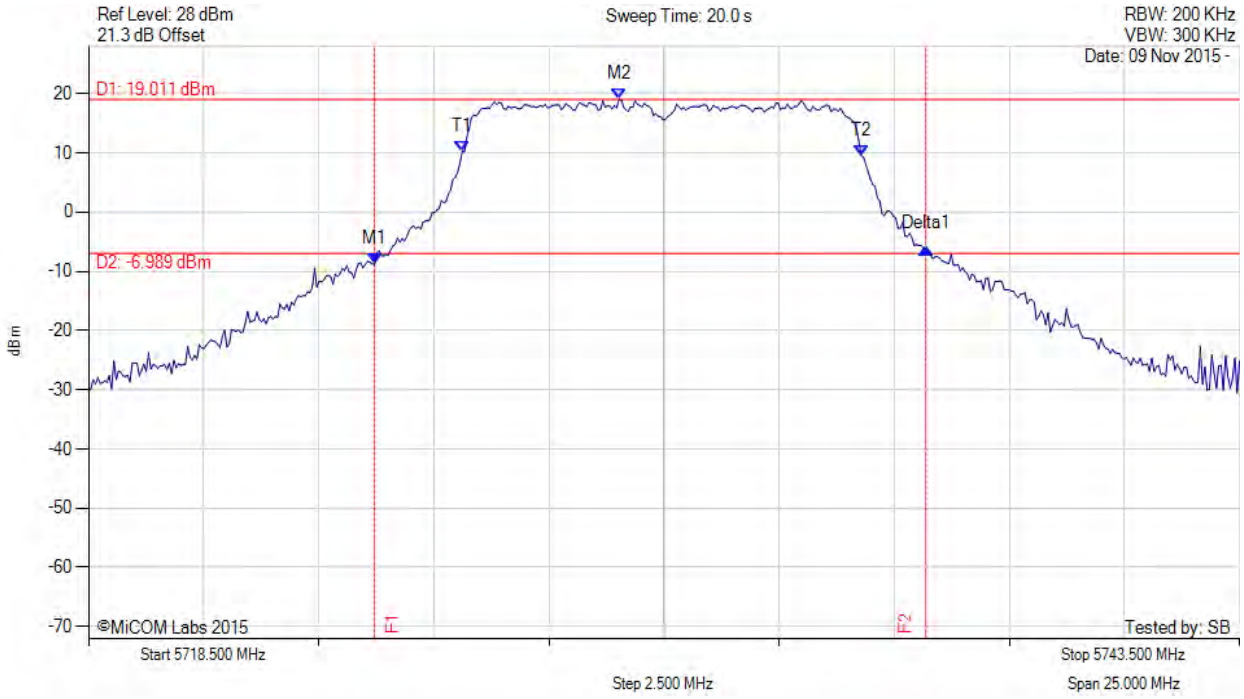


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5840.028 MHz : -3.228 dBm M2 : 5845.589 MHz : 23.432 dBm Delta1 : 9.995 MHz : -0.777 dB T1 : 5842.407 MHz : 6.255 dBm T2 : 5847.518 MHz : 8.248 dBm OBW : 5.110 MHz	Measured 26 dB Bandwidth: 9.995 MHz Measured 99% Bandwidth: 5.110 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5731.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

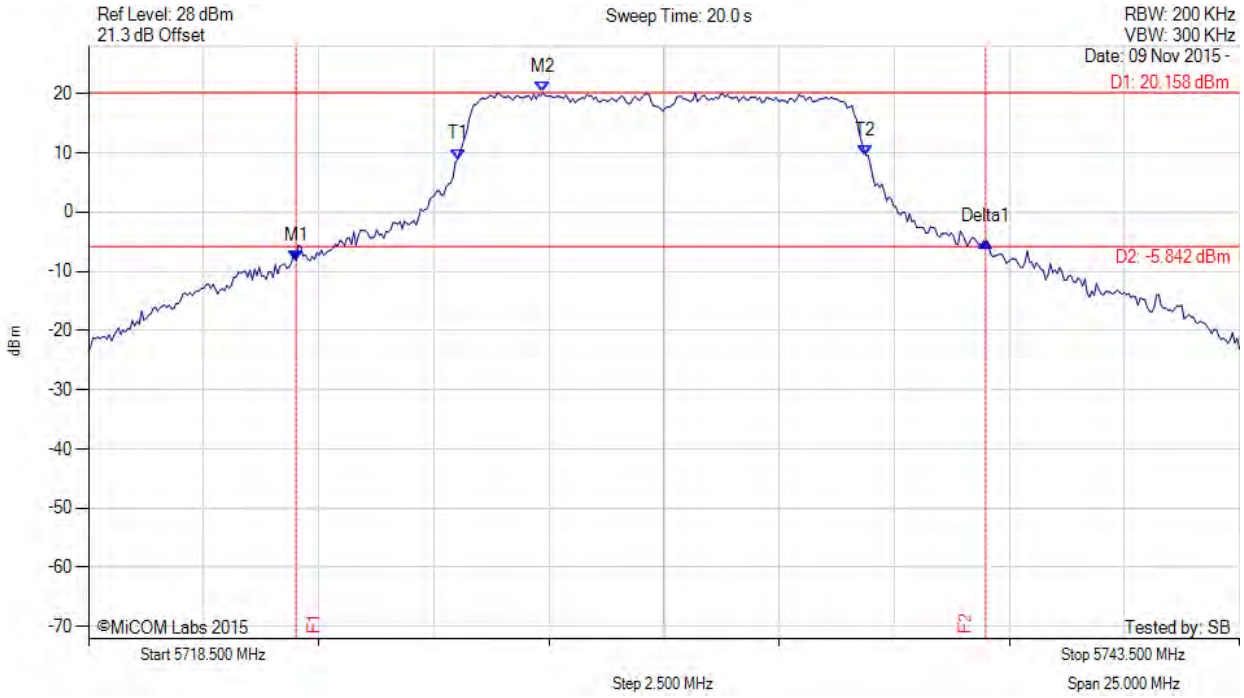


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5724.712 MHz : -8.784 dBm M2 : 5730.023 MHz : 19.011 dBm Delta1 : 11.974 MHz : 2.717 dB T1 : 5726.616 MHz : 10.223 dBm T2 : 5735.284 MHz : 9.599 dBm OBW : 8.667 MHz	Measured 26 dB Bandwidth: 11.974 MHz Measured 99% Bandwidth: 8.667 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5731.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

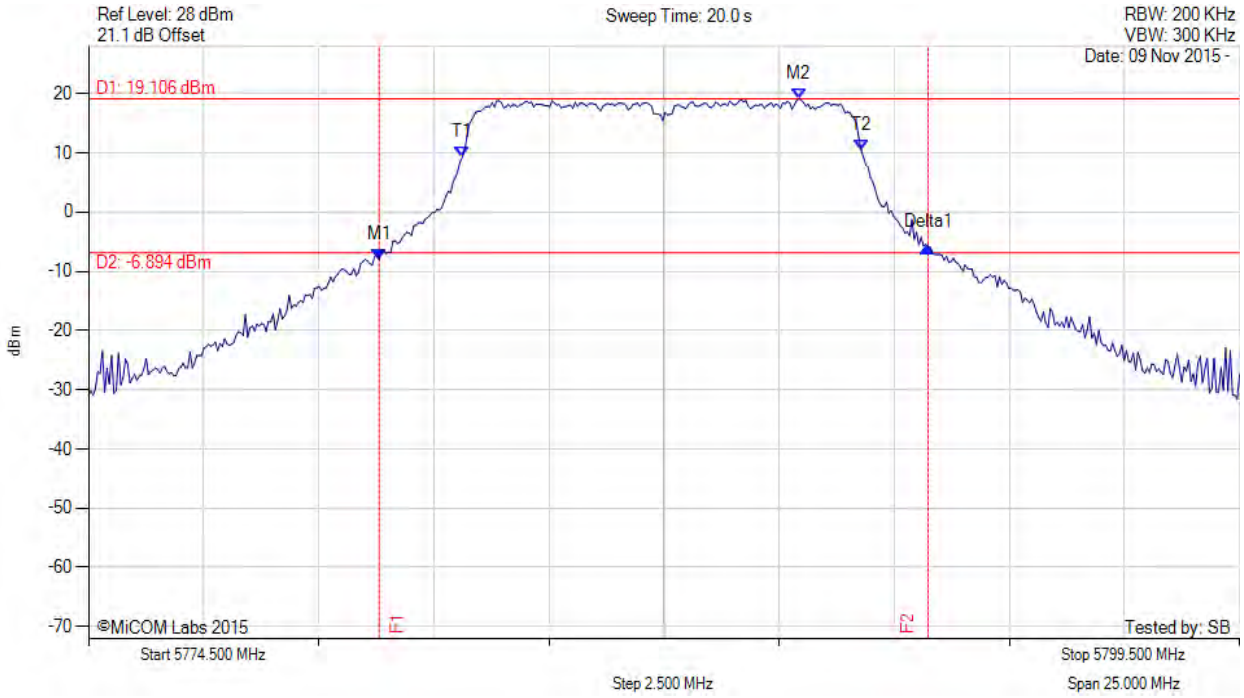


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5723.009 MHz : -8.209 dBm M2 : 5728.370 MHz : 20.158 dBm Delta1 : 14.980 MHz : 3.291 dB T1 : 5726.516 MHz : 8.934 dBm T2 : 5735.384 MHz : 9.572 dBm OBW : 8.868 MHz	Measured 26 dB Bandwidth: 14.980 MHz Measured 99% Bandwidth: 8.868 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5787.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

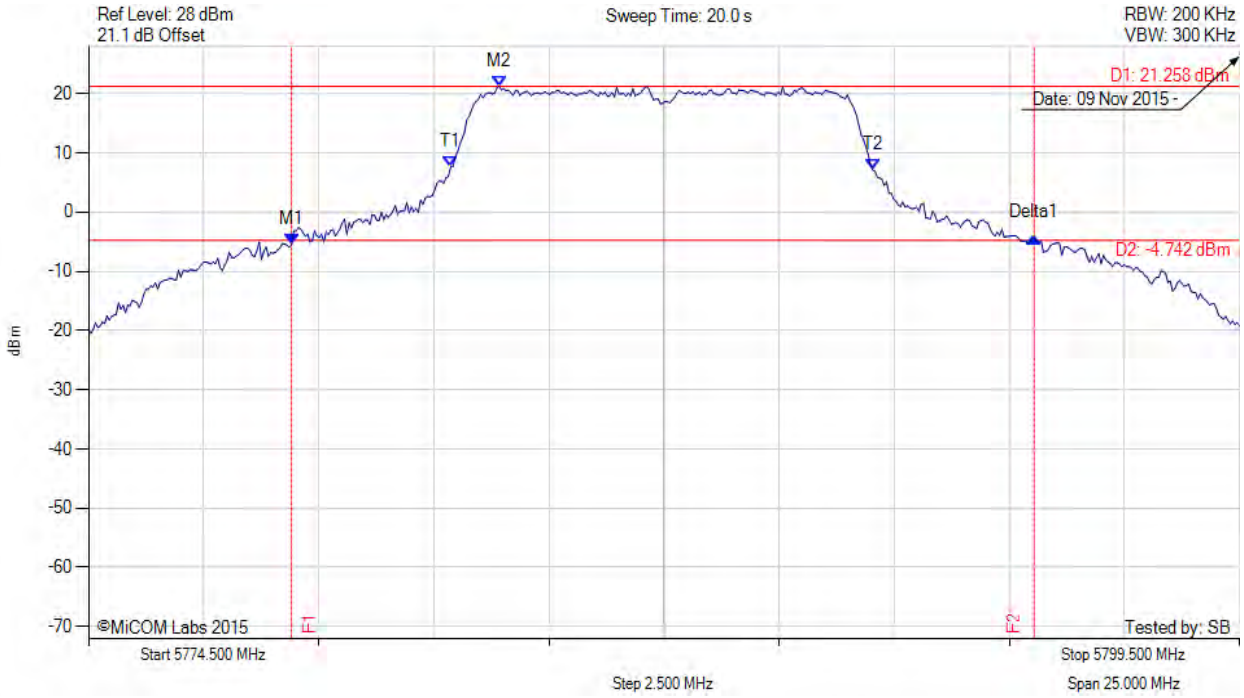


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5780.813 MHz : -8.050 dBm M2 : 5789.931 MHz : 19.106 dBm Delta1 : 11.924 MHz : 2.076 dB T1 : 5782.616 MHz : 9.218 dBm T2 : 5791.284 MHz : 10.508 dBm OBW : 8.667 MHz	Measured 26 dB Bandwidth: 11.924 MHz Measured 99% Bandwidth: 8.667 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5787.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

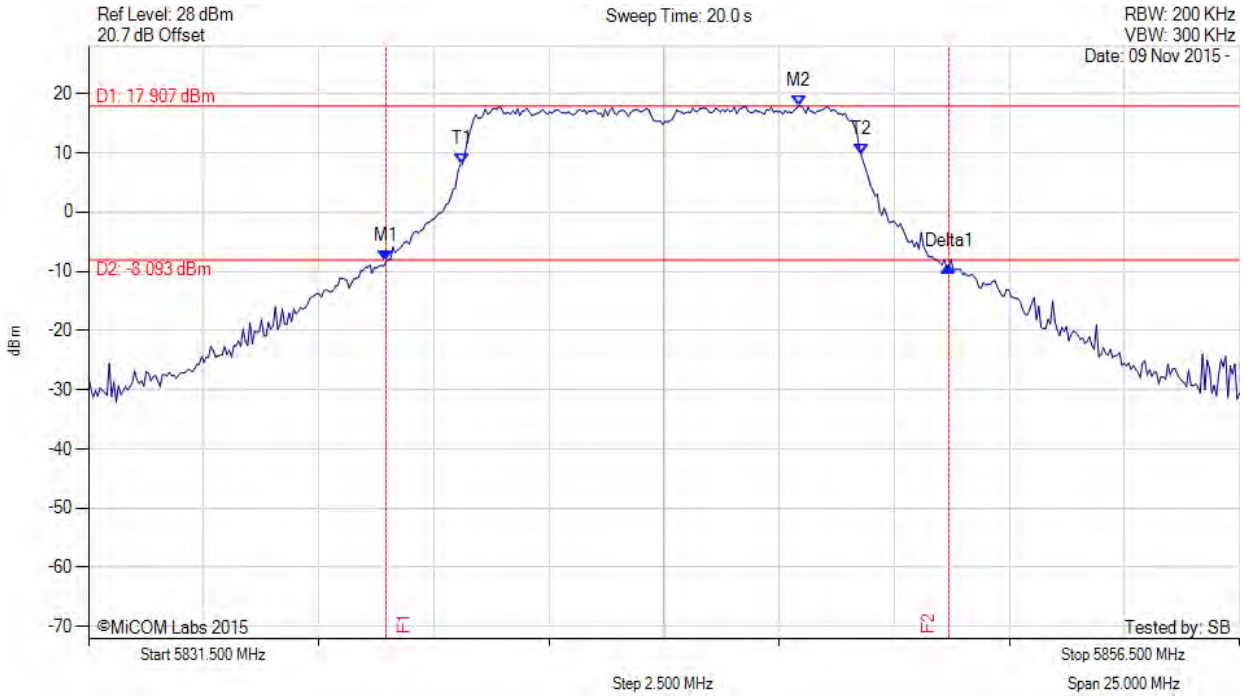


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5778.909 MHz : -5.534 dBm M2 : 5783.418 MHz : 21.258 dBm Delta1 : 16.132 MHz : 1.206 dB T1 : 5782.366 MHz : 7.591 dBm T2 : 5791.534 MHz : 7.124 dBm OBW : 9.168 MHz	Measured 26 dB Bandwidth: 16.132 MHz Measured 99% Bandwidth: 9.168 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5844.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

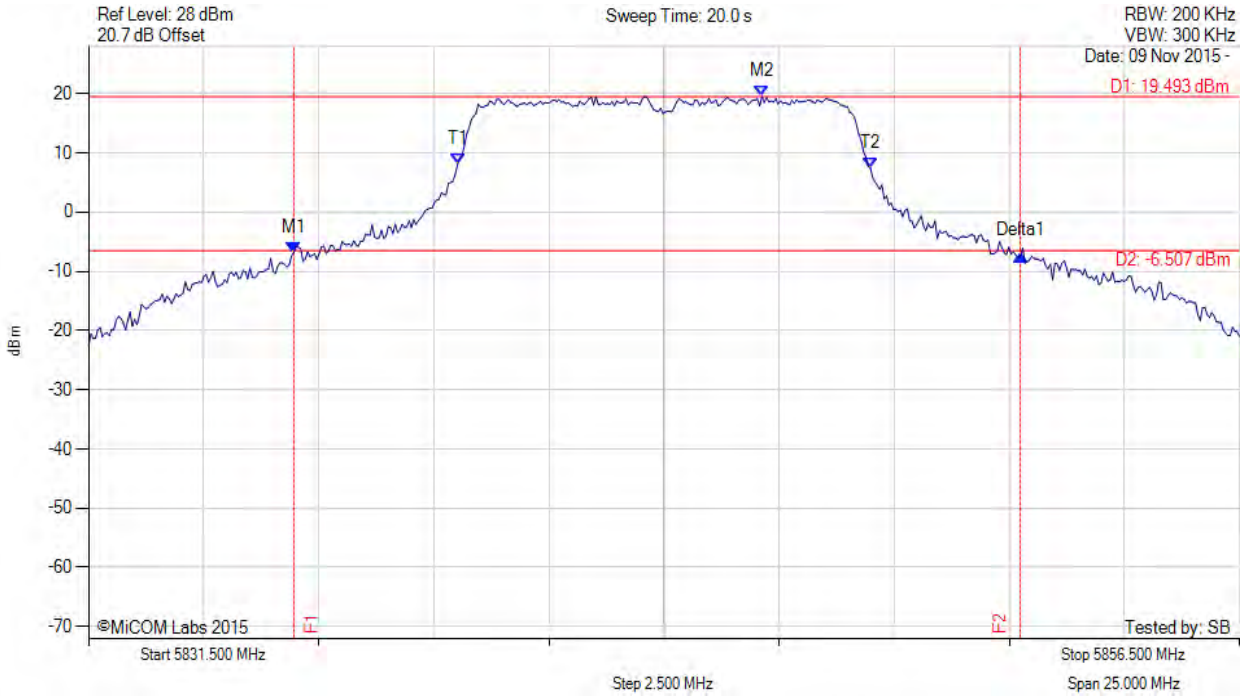


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5837.963 MHz : -8.341 dBm M2 : 5846.931 MHz : 17.907 dBm Delta1 : 12.224 MHz : -0.897 dB T1 : 5839.616 MHz : 8.047 dBm T2 : 5848.284 MHz : 9.684 dBm OBW : 8.667 MHz	Measured 26 dB Bandwidth: 12.224 MHz Measured 99% Bandwidth: 8.667 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 10 MHz, Channel: 5844.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

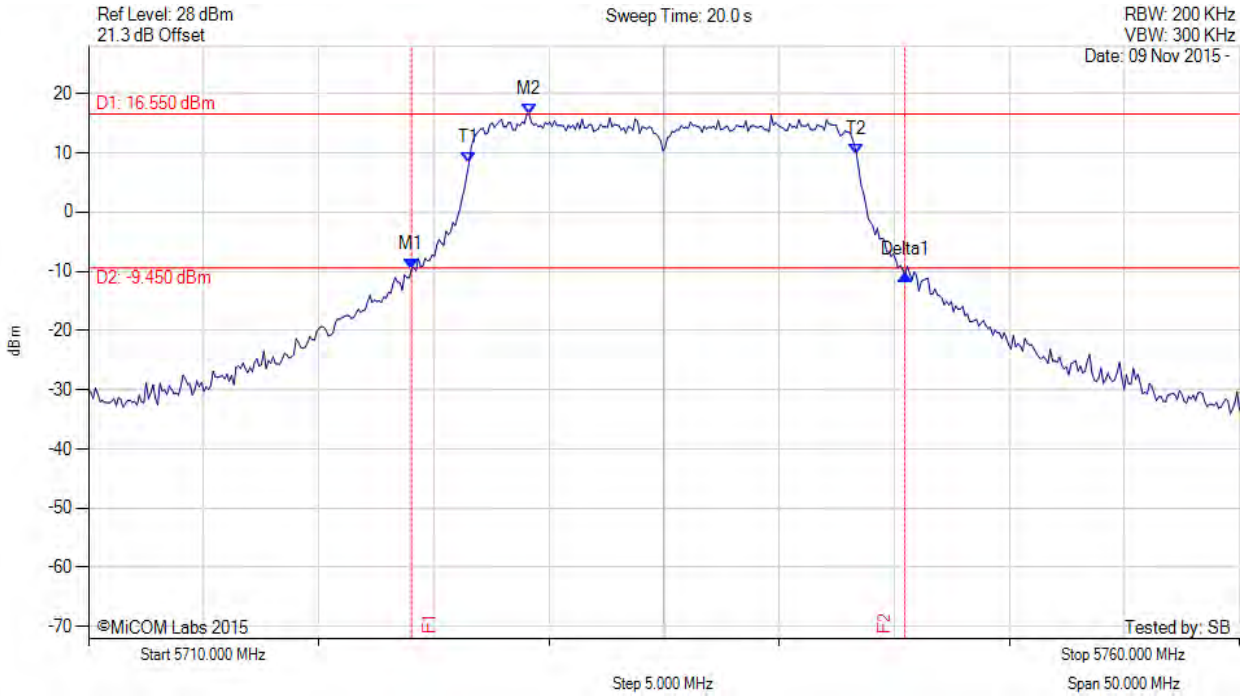


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5835.959 MHz : -6.779 dBm M2 : 5846.129 MHz : 19.493 dBm Delta1 : 15.782 MHz : -0.604 dB T1 : 5839.516 MHz : 8.039 dBm T2 : 5848.484 MHz : 7.451 dBm OBW : 8.968 MHz	Measured 26 dB Bandwidth: 15.782 MHz Measured 99% Bandwidth: 8.968 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5735.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

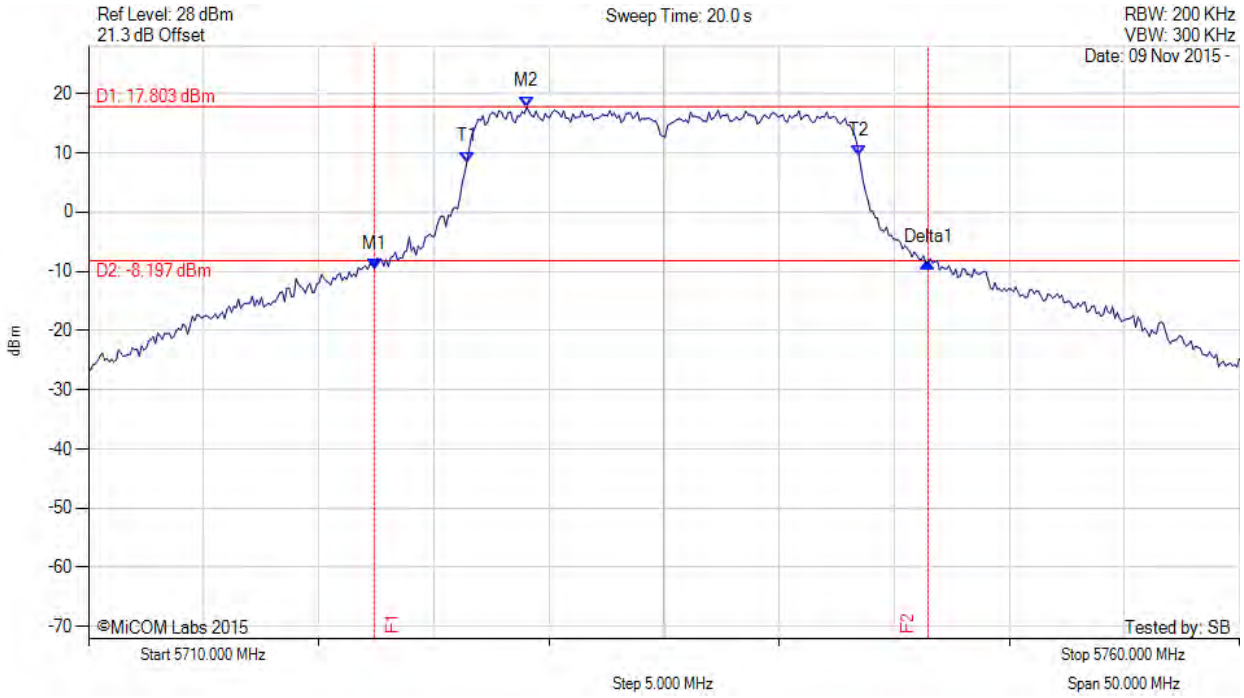


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5724.028 MHz : -9.691 dBm M2 : 5729.138 MHz : 16.550 dBm Delta1 : 21.443 MHz : -0.850 dB T1 : 5726.533 MHz : 8.380 dBm T2 : 5743.367 MHz : 9.723 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 21.443 MHz Measured 99% Bandwidth: 16.834 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5735.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

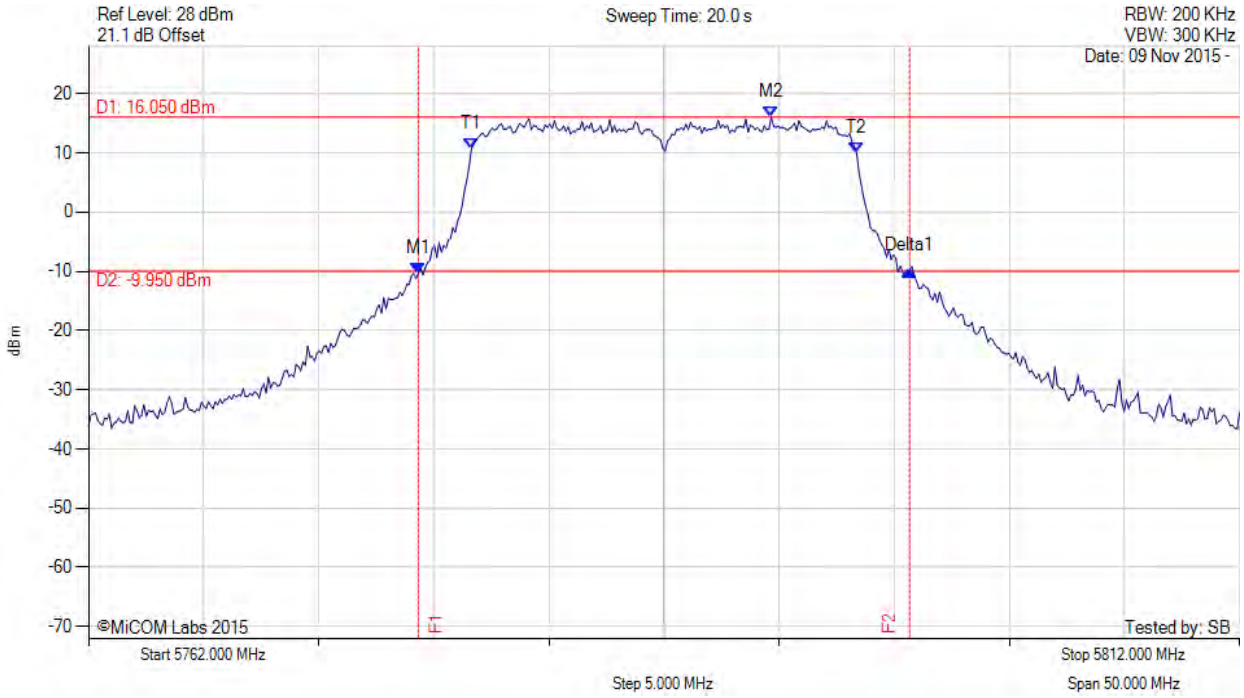


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5722.425 MHz : -9.567 dBm M2 : 5729.038 MHz : 17.803 dBm Delta1 : 24.048 MHz : 1.011 dB T1 : 5726.433 MHz : 8.448 dBm T2 : 5743.467 MHz : 9.572 dBm OBW : 17.034 MHz	Measured 26 dB Bandwidth: 24.048 MHz Measured 99% Bandwidth: 17.034 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5787.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

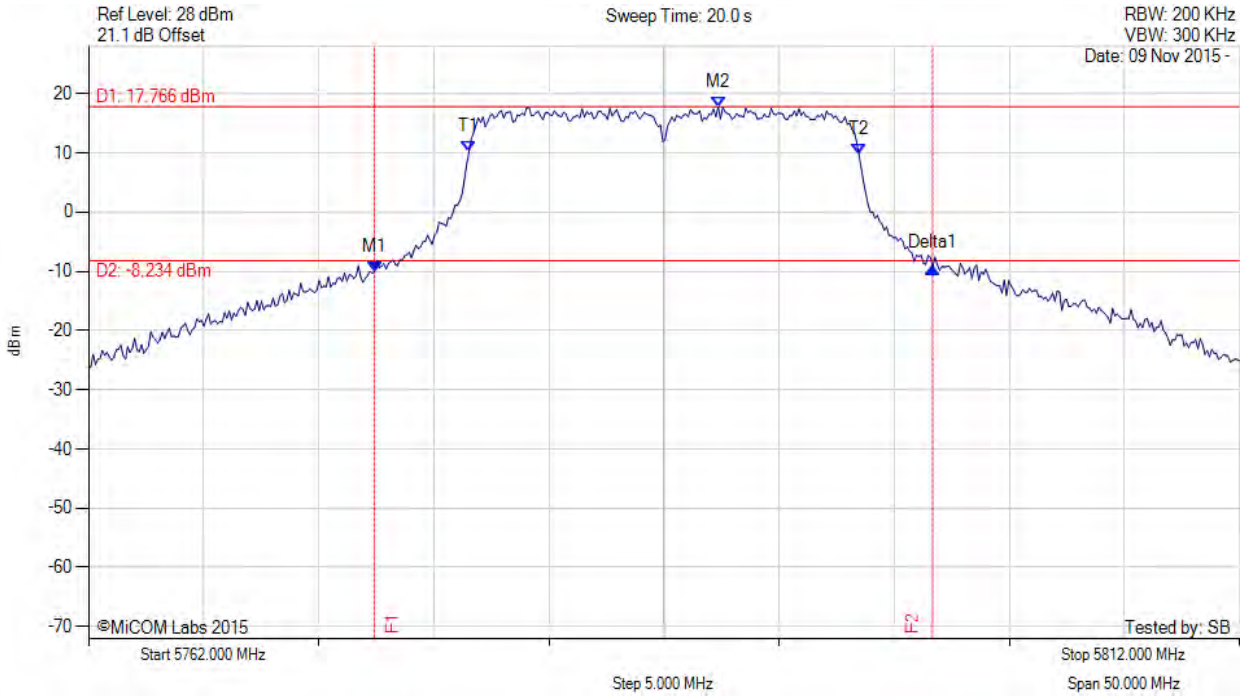


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.329 MHz : -10.306 dBm M2 : 5791.659 MHz : 16.050 dBm Delta1 : 21.343 MHz : 0.482 dB T1 : 5778.633 MHz : 10.630 dBm T2 : 5795.367 MHz : 10.052 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 21.343 MHz Measured 99% Bandwidth: 16.733 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5787.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

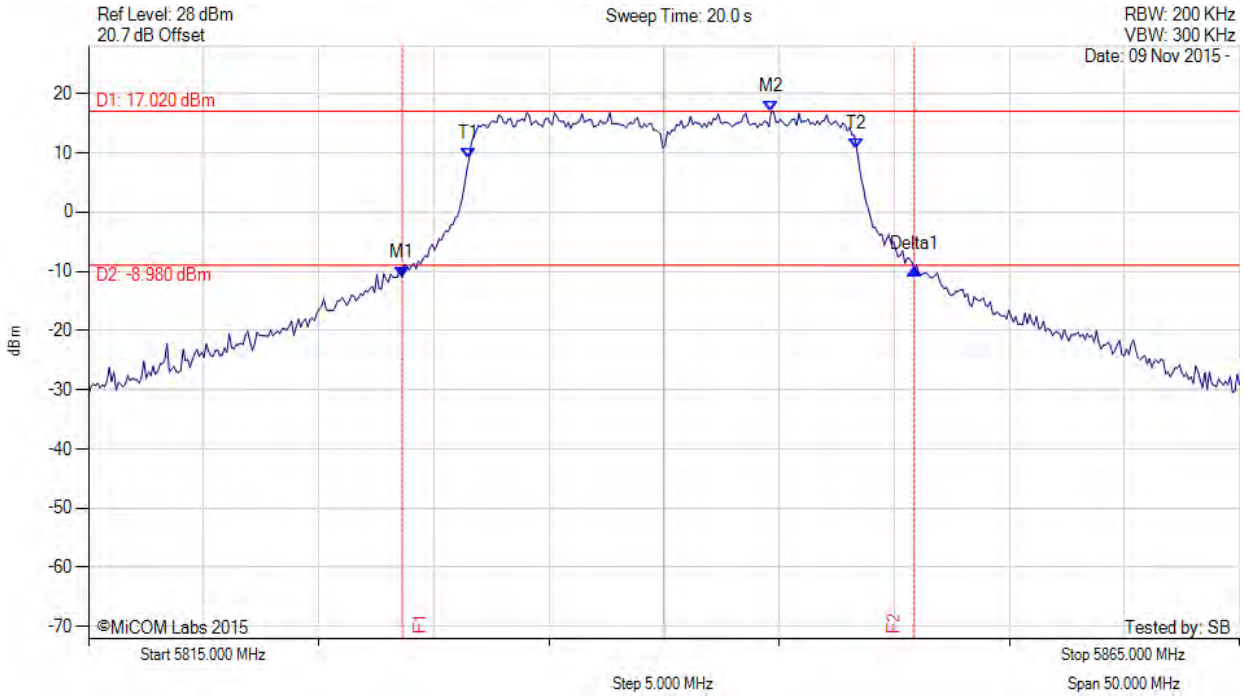


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.425 MHz : -10.092 dBm M2 : 5789.355 MHz : 17.766 dBm Delta1 : 24.248 MHz : 0.769 dB T1 : 5778.533 MHz : 10.241 dBm T2 : 5795.467 MHz : 9.786 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 24.248 MHz Measured 99% Bandwidth: 16.934 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5840.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

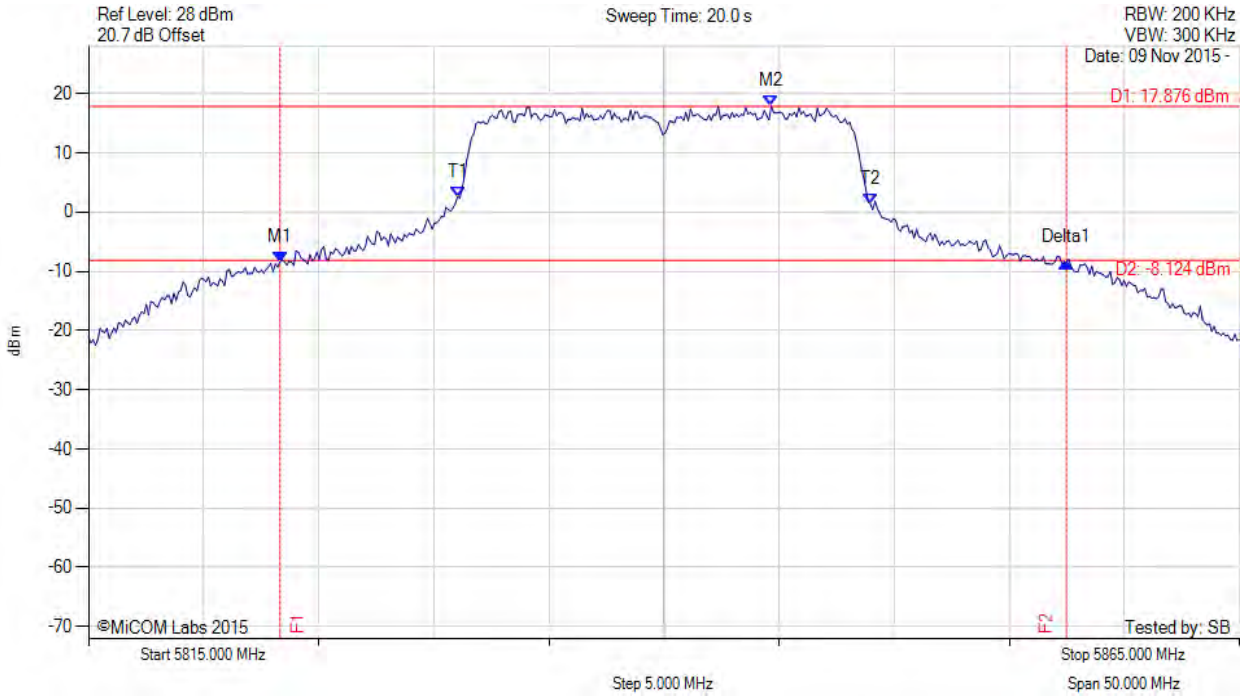


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5828.627 MHz : -11.054 dBm M2 : 5844.659 MHz : 17.020 dBm Delta1 : 22.244 MHz : 1.397 dB T1 : 5831.533 MHz : 8.942 dBm T2 : 5848.367 MHz : 10.778 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 22.244 MHz Measured 99% Bandwidth: 16.834 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 20 MHz, Channel: 5840.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

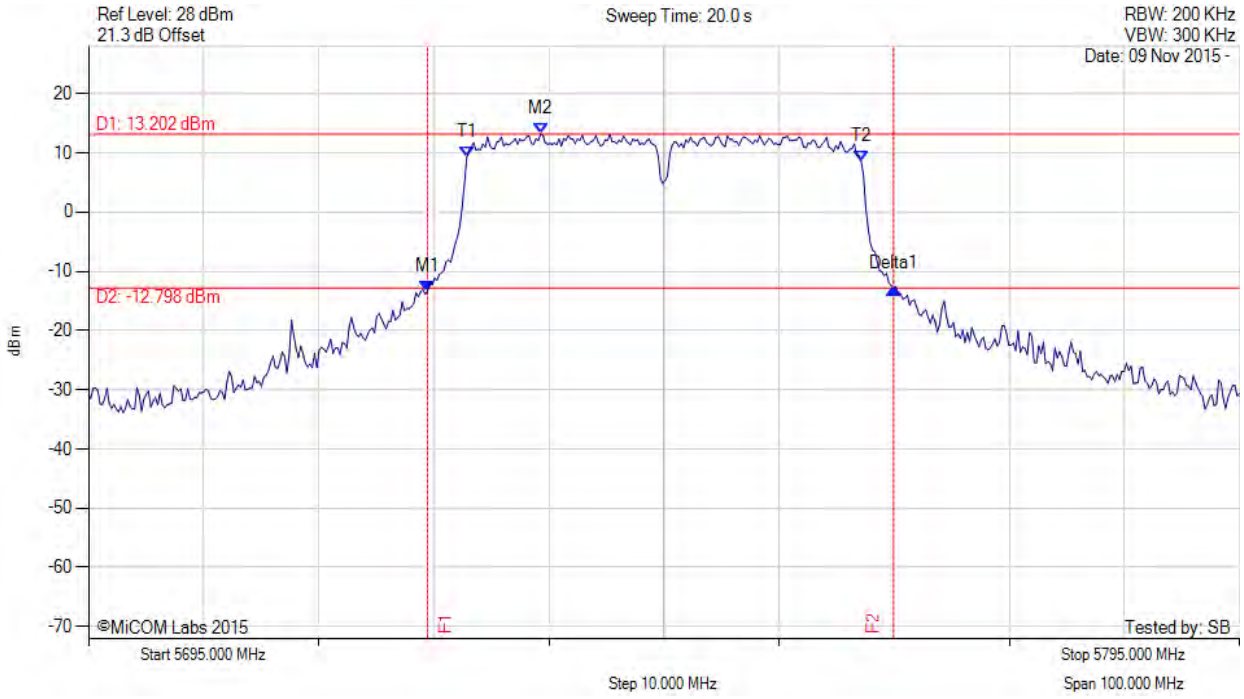


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5823.317 MHz : -8.426 dBm M2 : 5844.659 MHz : 17.876 dBm Delta1 : 34.168 MHz : -0.031 dB T1 : 5831.032 MHz : 2.590 dBm T2 : 5848.968 MHz : 1.331 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 34.168 MHz Measured 99% Bandwidth: 17.936 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

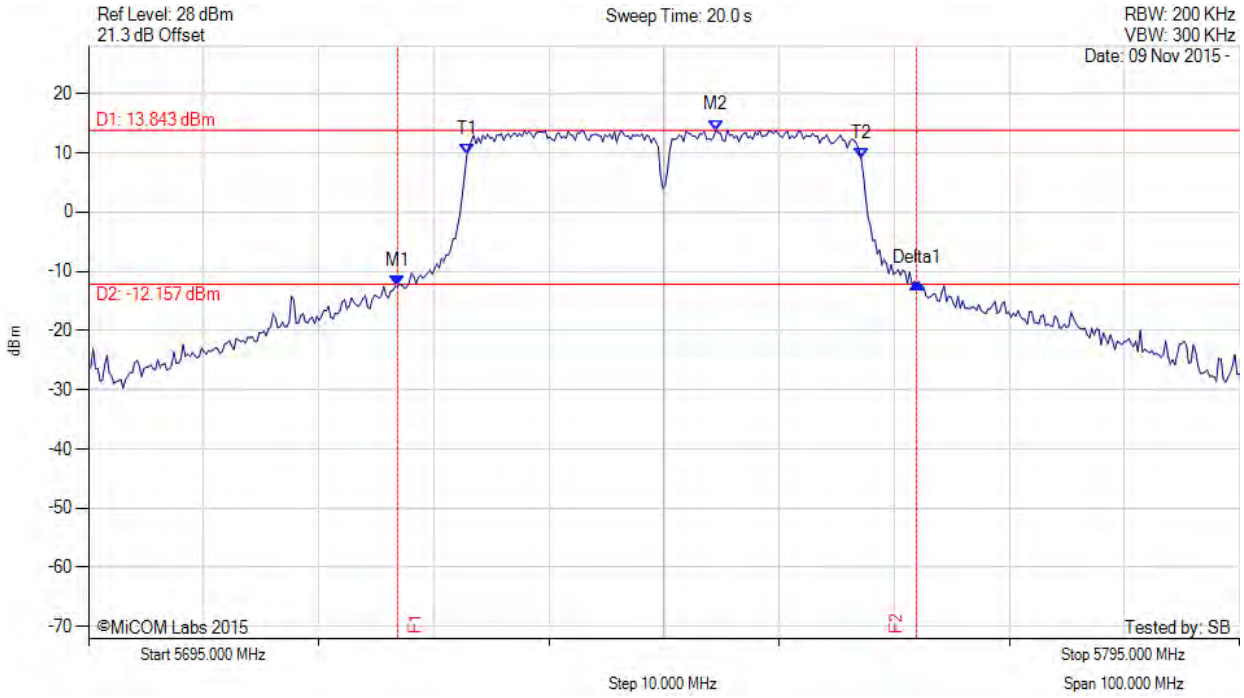


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5724.459 MHz : -13.293 dBm M2 : 5734.279 MHz : 13.202 dBm Delta1 : 40.481 MHz : 0.460 dB T1 : 5727.866 MHz : 9.226 dBm T2 : 5762.134 MHz : 8.537 dBm OBW : 34.269 MHz	Measured 26 dB Bandwidth: 40.481 MHz Measured 99% Bandwidth: 34.269 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

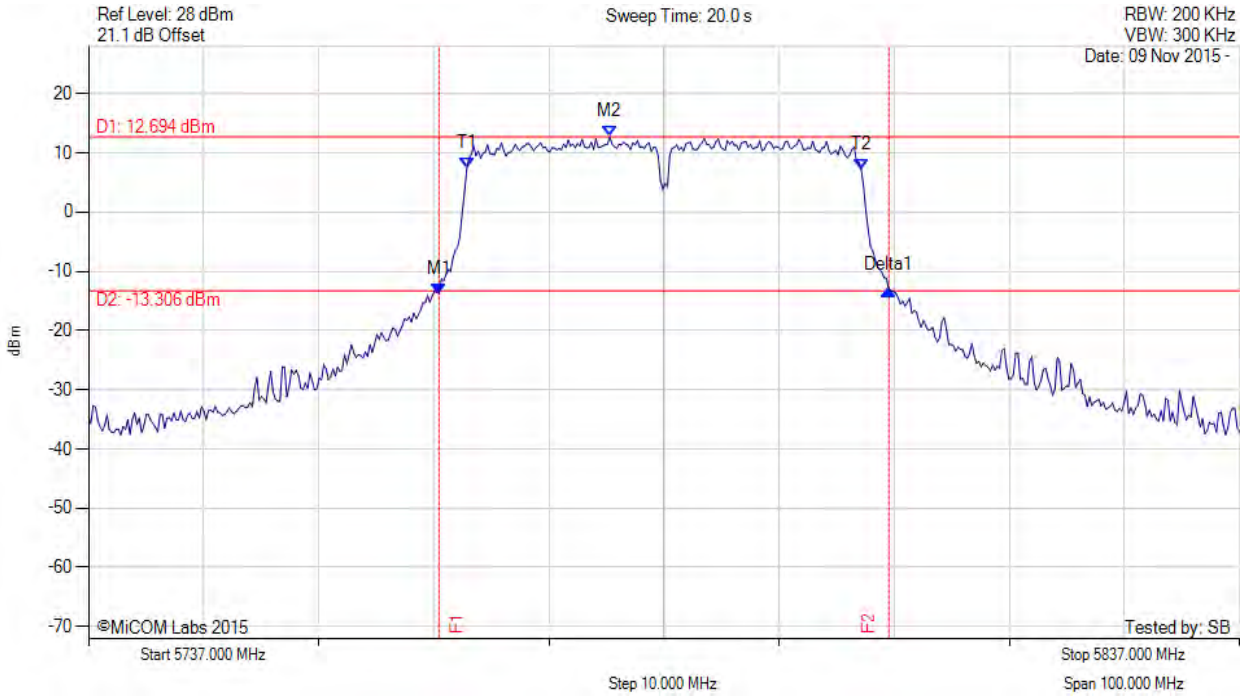


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5721.854 MHz : -12.561 dBm M2 : 5749.509 MHz : 13.843 dBm Delta1 : 45.090 MHz : 0.513 dB T1 : 5727.866 MHz : 9.643 dBm T2 : 5762.134 MHz : 8.997 dBm OBW : 34.269 MHz	Measured 26 dB Bandwidth: 45.090 MHz Measured 99% Bandwidth: 34.269 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5787.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

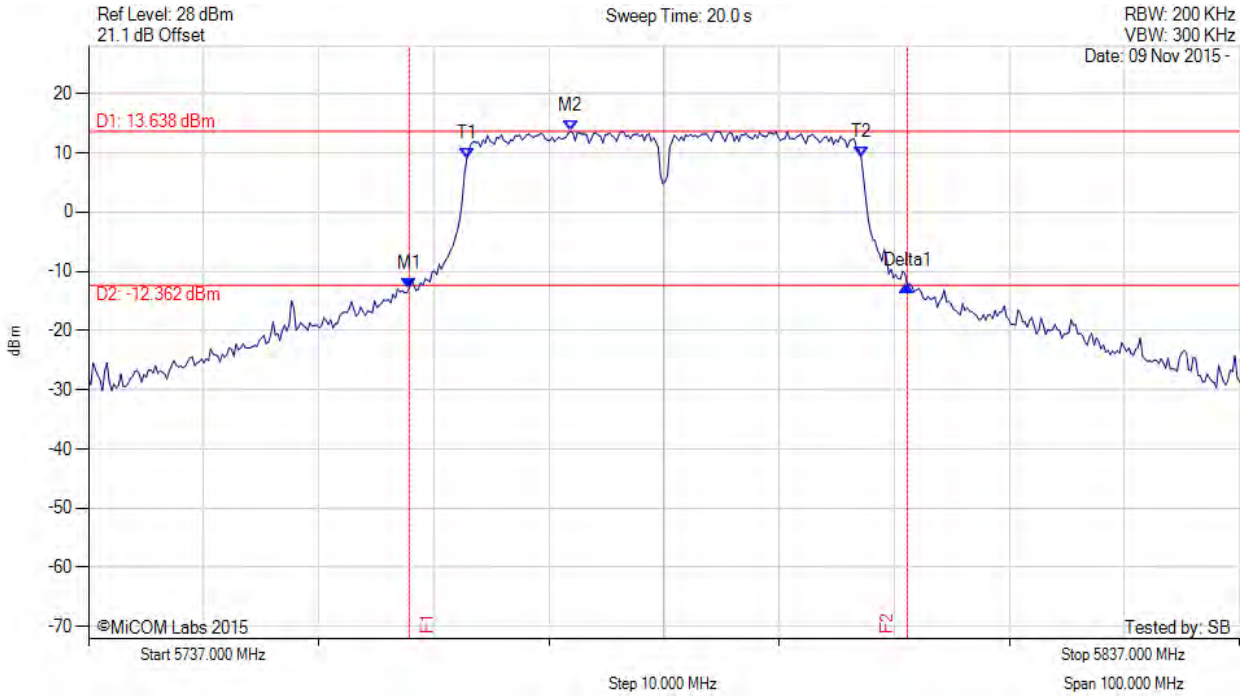


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5767.461 MHz : -13.777 dBm M2 : 5782.291 MHz : 12.694 dBm Delta1 : 39.078 MHz : 0.606 dB T1 : 5769.866 MHz : 7.307 dBm T2 : 5804.134 MHz : 7.244 dBm OBW : 34.269 MHz	Measured 26 dB Bandwidth: 39.078 MHz Measured 99% Bandwidth: 34.269 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5787.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

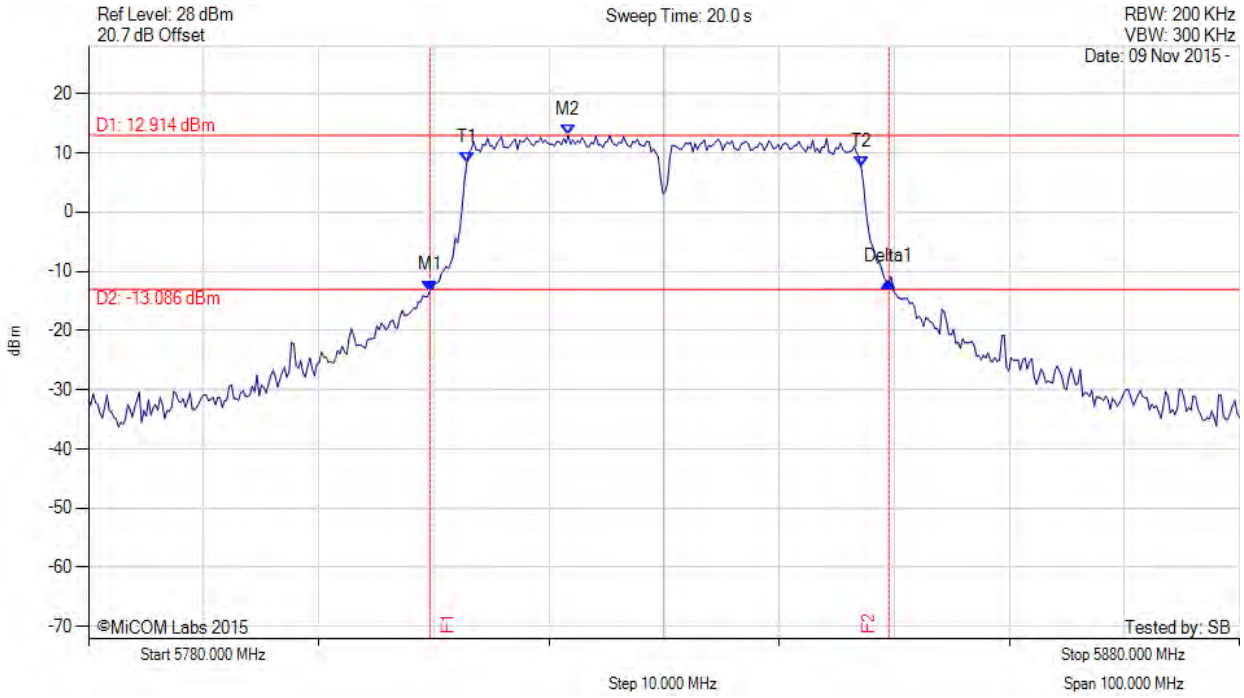


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5764.856 MHz : -12.905 dBm M2 : 5778.884 MHz : 13.638 dBm Delta1 : 43.287 MHz : 0.451 dB T1 : 5769.866 MHz : 9.025 dBm T2 : 5804.134 MHz : 9.202 dBm OBW : 34.269 MHz	Measured 26 dB Bandwidth: 43.287 MHz Measured 99% Bandwidth: 34.269 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 40 MHz, Channel: 5830.00 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 = MAX HOLD	M1 : 5809.659 MHz : -13.273 dBm M2 : 5821.683 MHz : 12.914 dBm Delta1 : 39.880 MHz : 1.479 dB T1 : 5812.866 MHz : 8.301 dBm T2 : 5847.134 MHz : 7.567 dBm OBW : 34.269 MHz	Measured 26 dB Bandwidth: 39.880 MHz Measured 99% Bandwidth: 34.269 MHz

back to matrix

26 dB & 99% BANDWIDTH

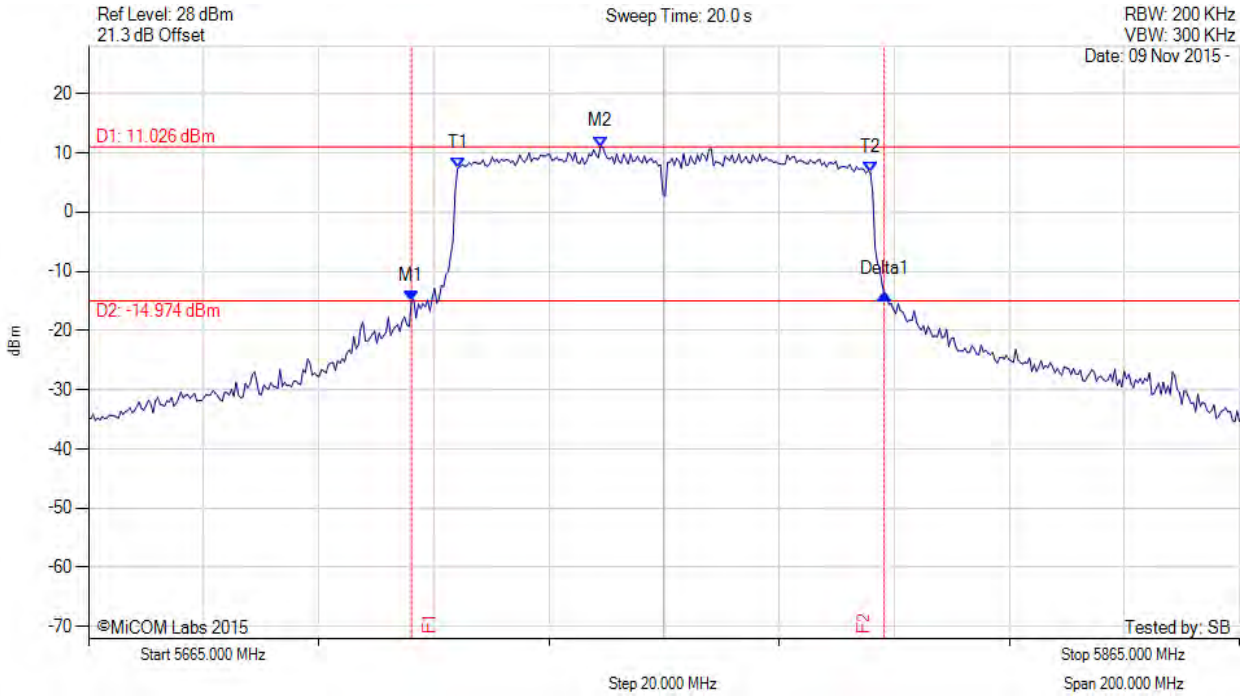
Variant: 40 MHz, Channel: 5830.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5793.427 MHz : -11.497 dBm M2 : 5834.709 MHz : 15.159 dBm Delta1 : 74.148 MHz : 0.407 dB T1 : 5812.064 MHz : 0.030 dBm T2 : 5848.737 MHz : -2.834 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 74.148 MHz Measured 99% Bandwidth: 36.673 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 80 MHz, Channel: 5765.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

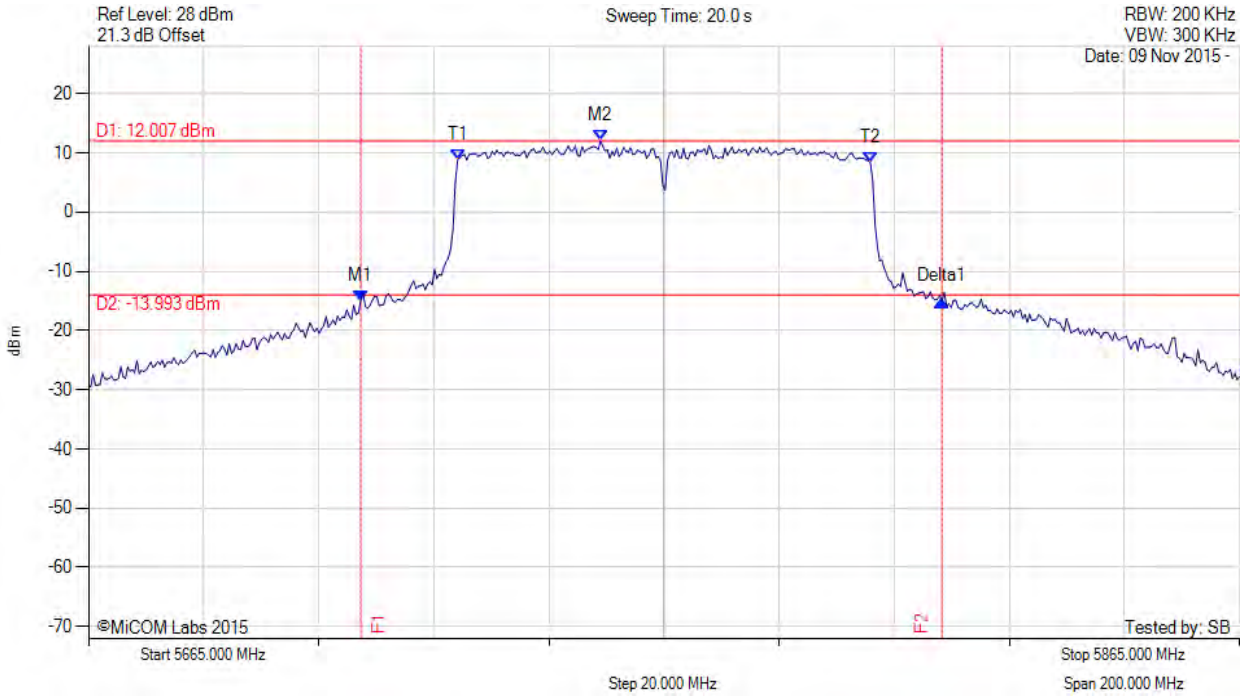


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5721.112 MHz : -15.018 dBm M2 : 5753.978 MHz : 11.026 dBm Delta1 : 82.164 MHz : 1.125 dB T1 : 5729.128 MHz : 7.345 dBm T2 : 5800.872 MHz : 6.617 dBm OBW : 71.743 MHz	Measured 26 dB Bandwidth: 82.164 MHz Measured 99% Bandwidth: 71.743 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 80 MHz, Channel: 5765.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

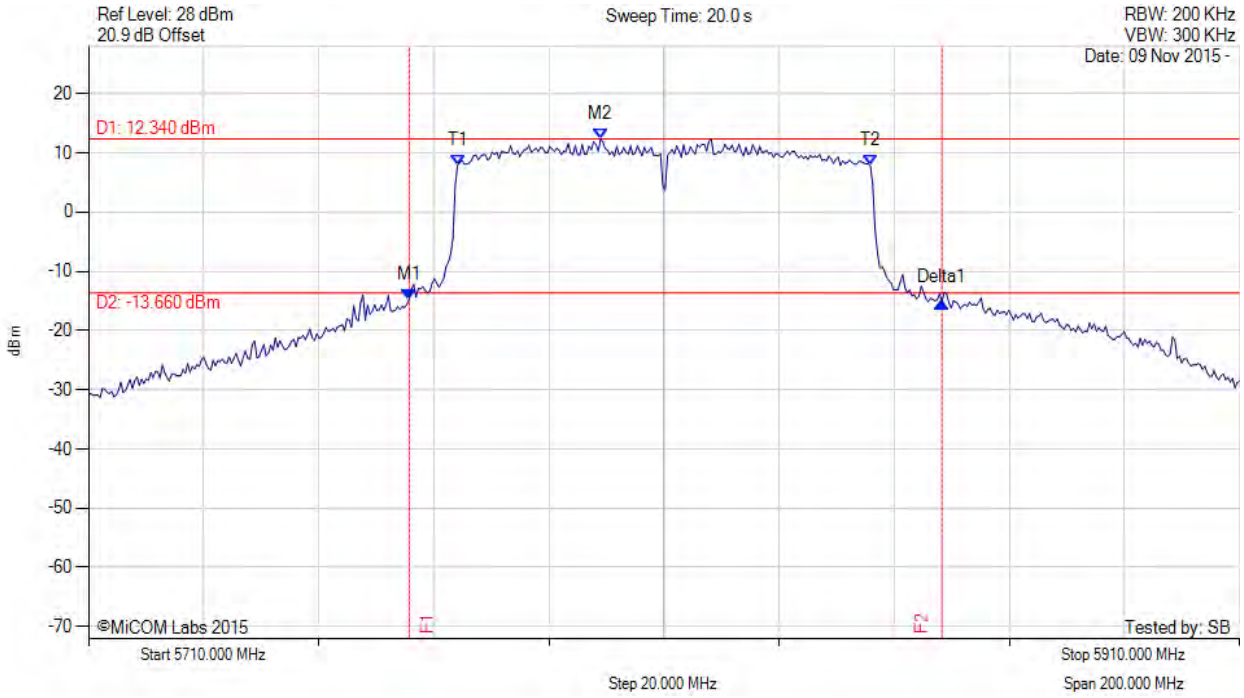


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5712.295 MHz : -14.953 dBm M2 : 5753.978 MHz : 12.007 dBm Delta1 : 101.002 MHz : -0.098 dB T1 : 5729.128 MHz : 8.767 dBm T2 : 5800.872 MHz : 8.289 dBm OBW : 71.743 MHz	Measured 26 dB Bandwidth: 101.002 MHz Measured 99% Bandwidth: 71.743 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 80 MHz, Channel: 5810.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

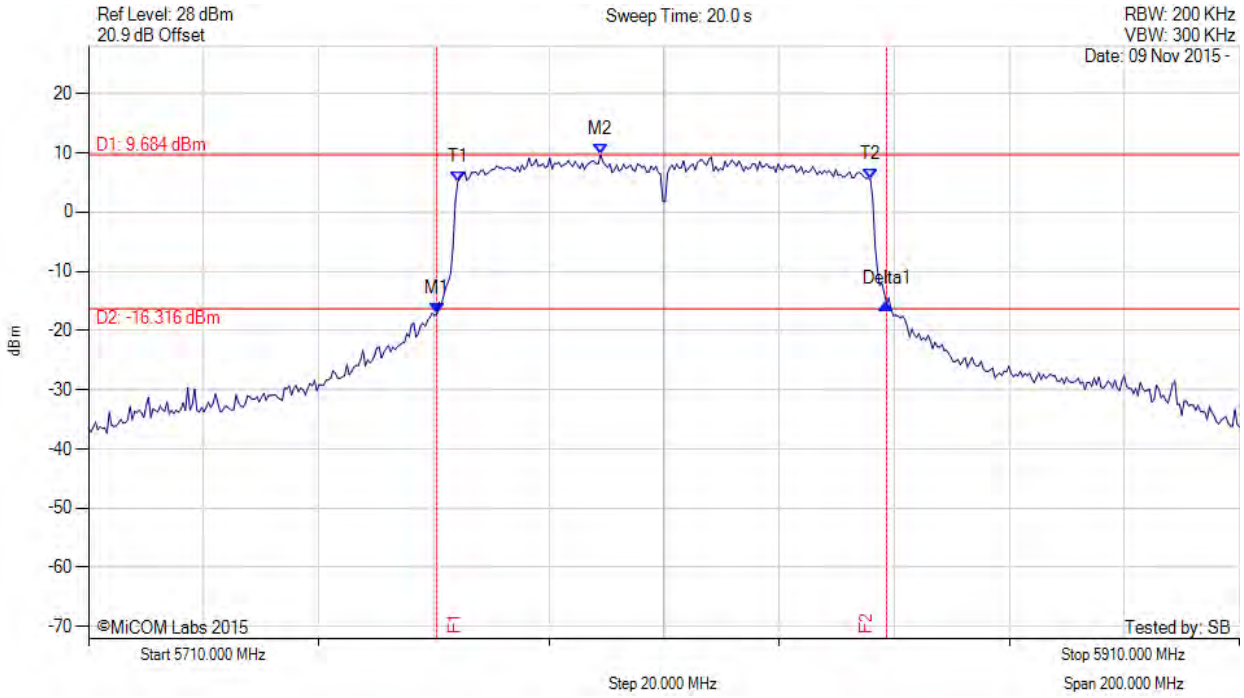


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5765.711 MHz : -14.743 dBm M2 : 5798.978 MHz : 12.340 dBm Delta1 : 92.585 MHz : -0.519 dB T1 : 5774.128 MHz : 7.878 dBm T2 : 5845.872 MHz : 7.785 dBm OBW : 71.743 MHz	Measured 26 dB Bandwidth: 92.585 MHz Measured 99% Bandwidth: 71.743 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 80 MHz, Channel: 5810.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc



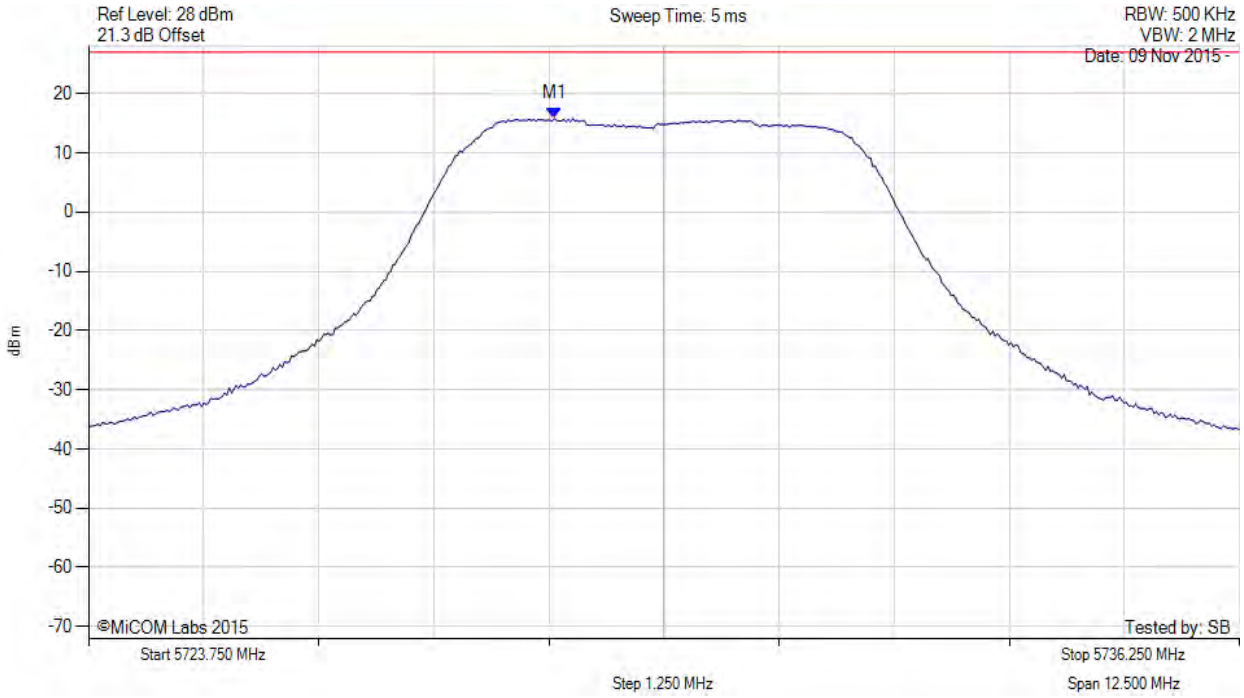
Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5770.521 MHz : -17.169 dBm M2 : 5798.978 MHz : 9.684 dBm Delta1 : 78.156 MHz : 1.686 dB T1 : 5774.128 MHz : 4.990 dBm T2 : 5845.872 MHz : 5.513 dBm OBW : 71.743 MHz	Measured 26 dB Bandwidth: 78.156 MHz Measured 99% Bandwidth: 71.743 MHz

back to matrix

A.1.2. Peak Power Spectral Density

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5730.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

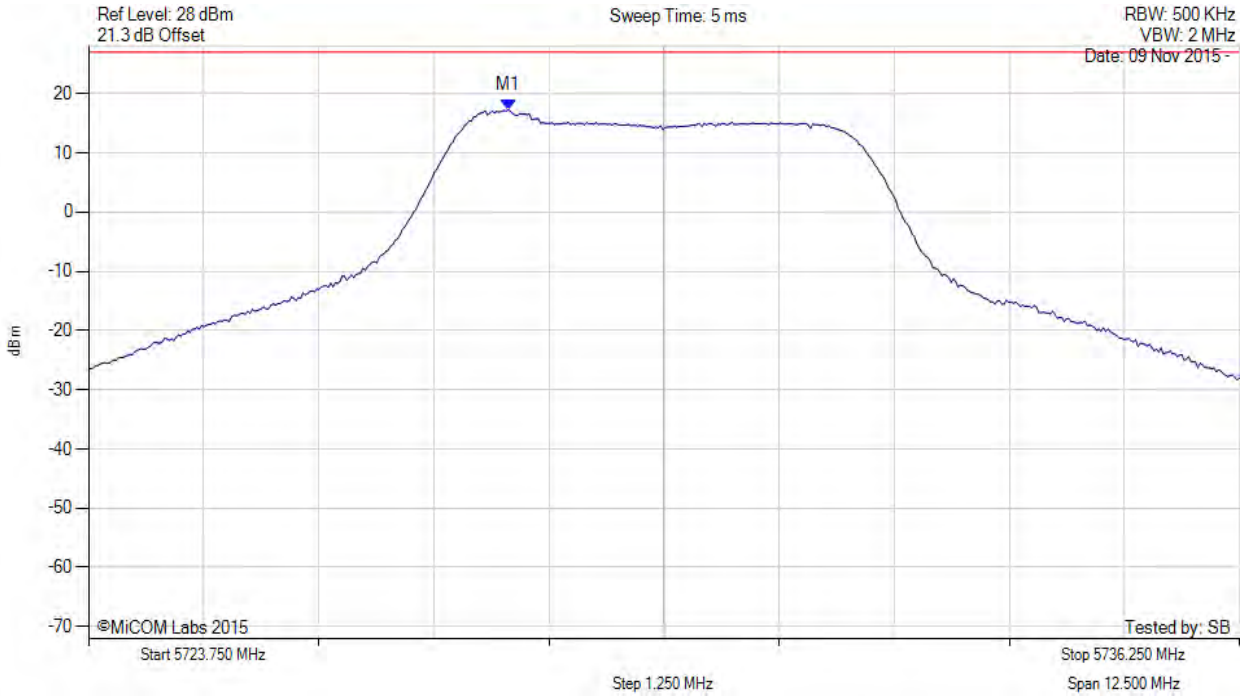


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5728.810 MHz : 15.784 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5730.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

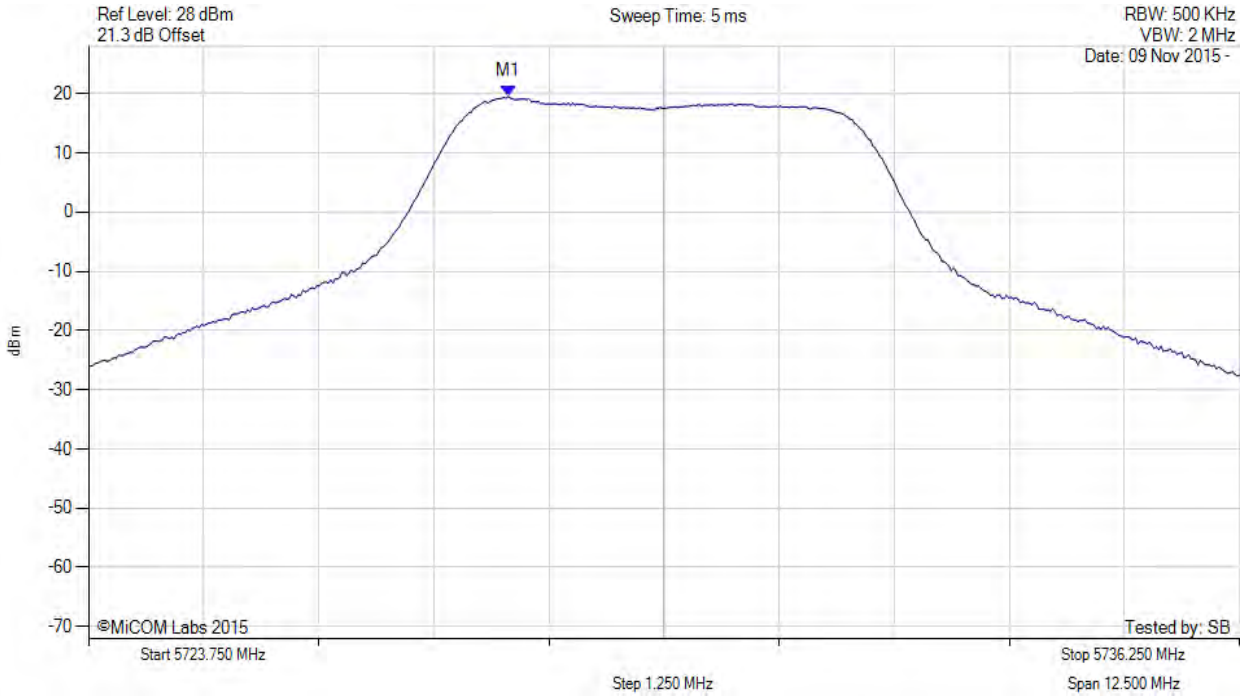


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5728.309 MHz : 17.298 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5730.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

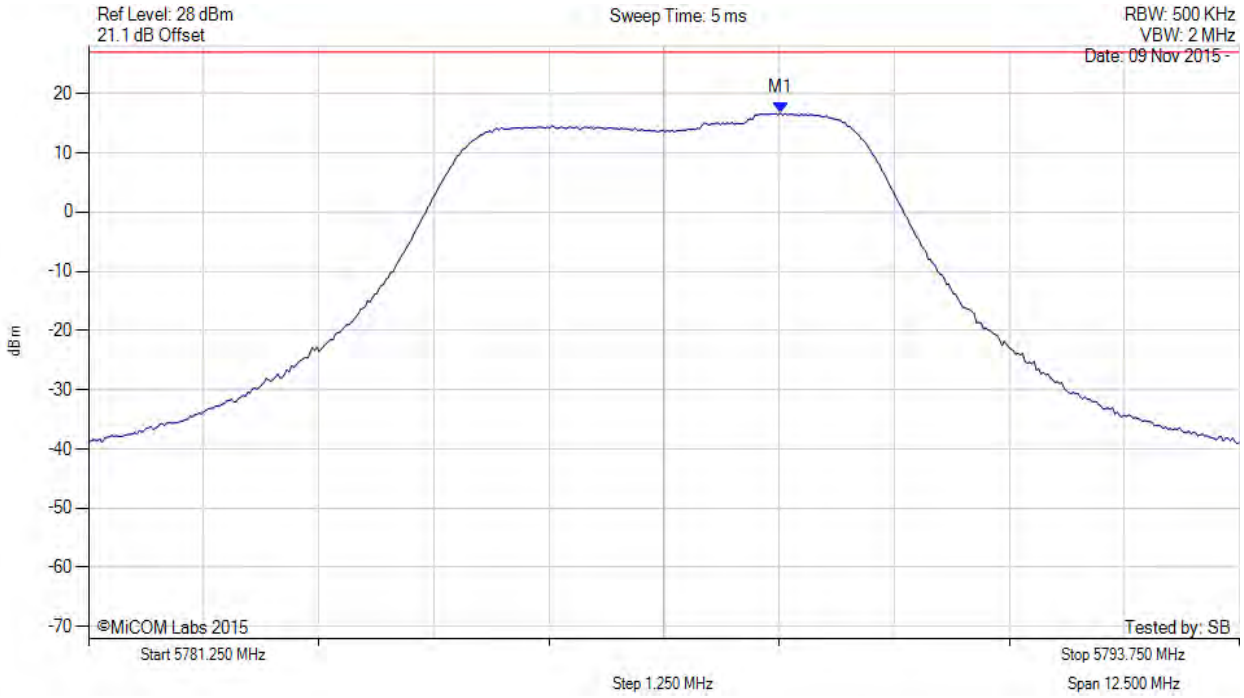


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5728.300 MHz : 19.526 dBm M1 + DCCF : 5728.300 MHz : 19.570 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -10.4 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5787.50 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

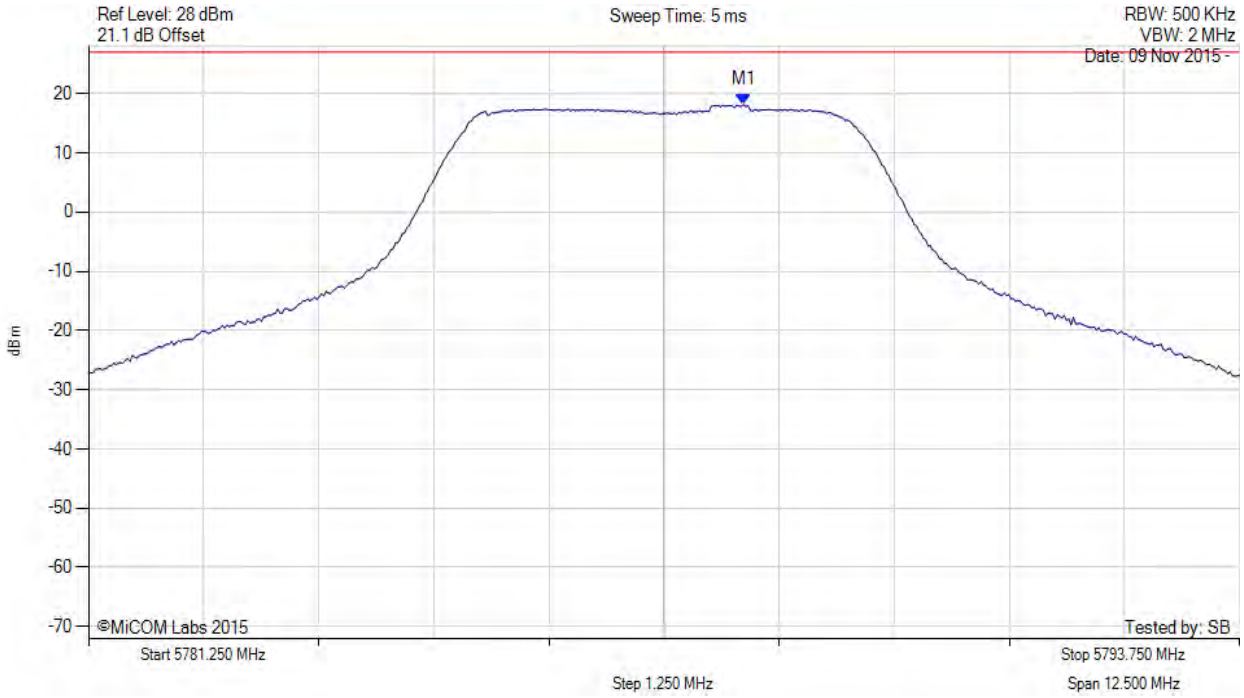


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5788.765 MHz : 16.717 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5787.50 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

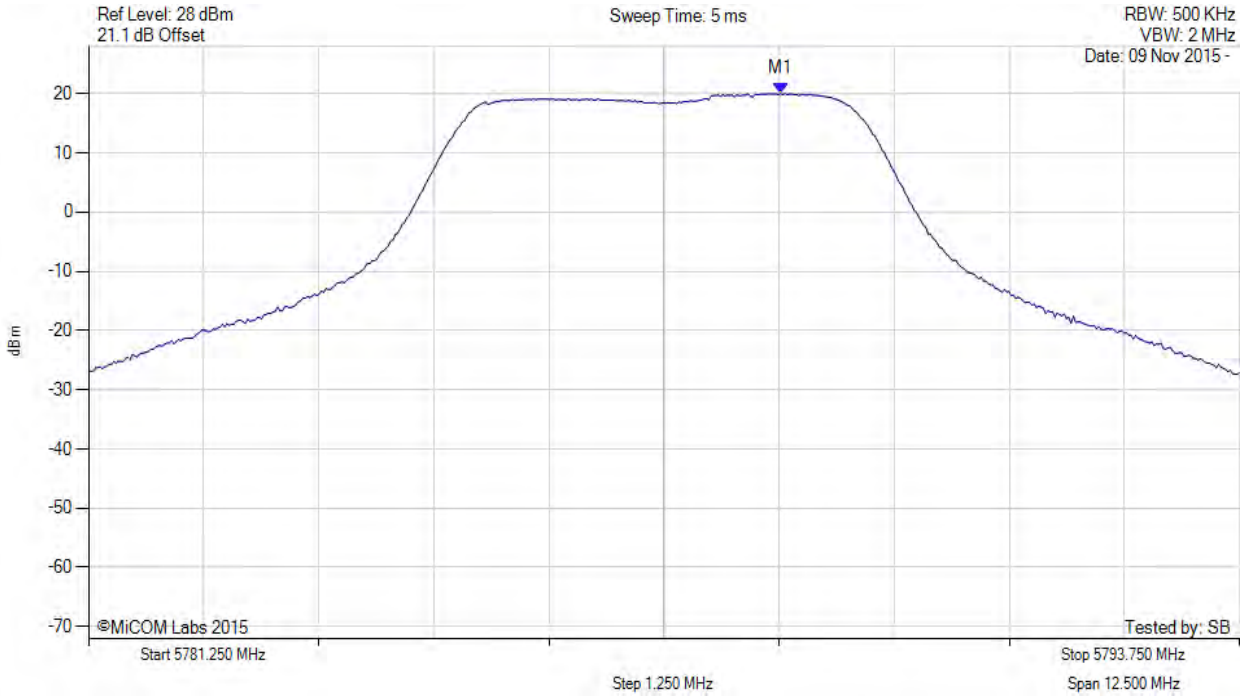


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5788.364 MHz : 18.127 dBm	Channel Frequency: 5787.50 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5787.50 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

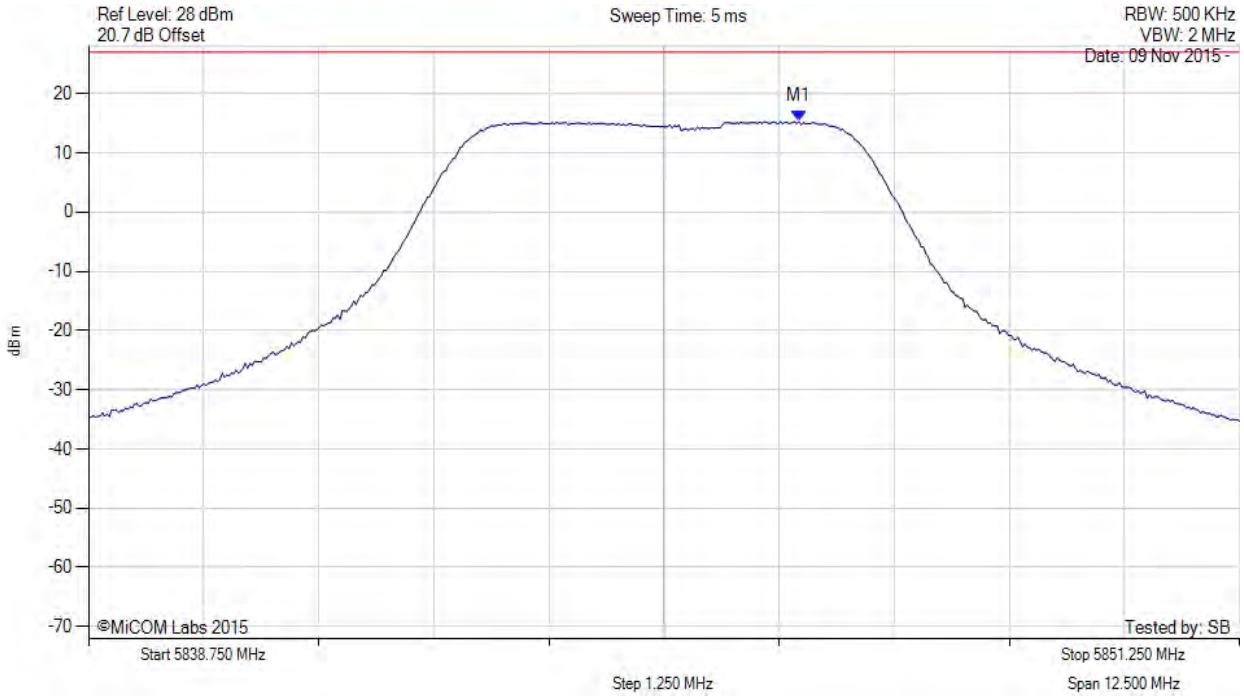


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5788.800 MHz : 20.029 dBm M1 + DCCF : 5788.800 MHz : 20.073 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -9.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5845.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

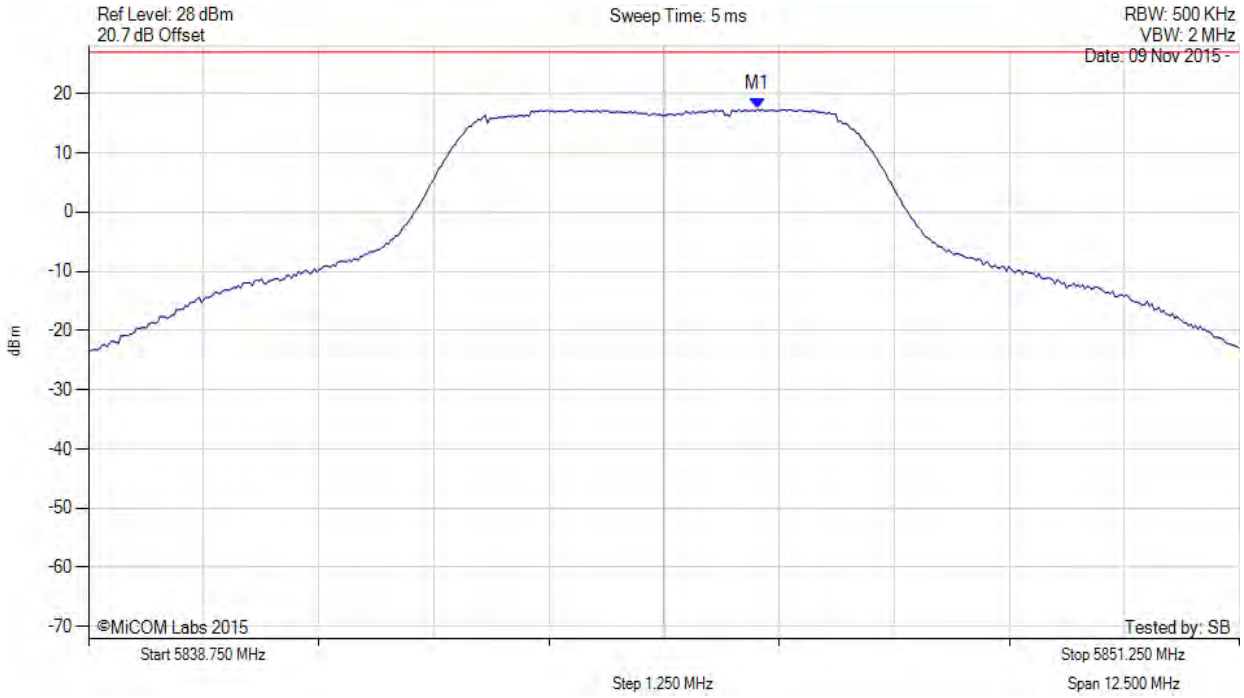


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5846.465 MHz : 15.291 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5845.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

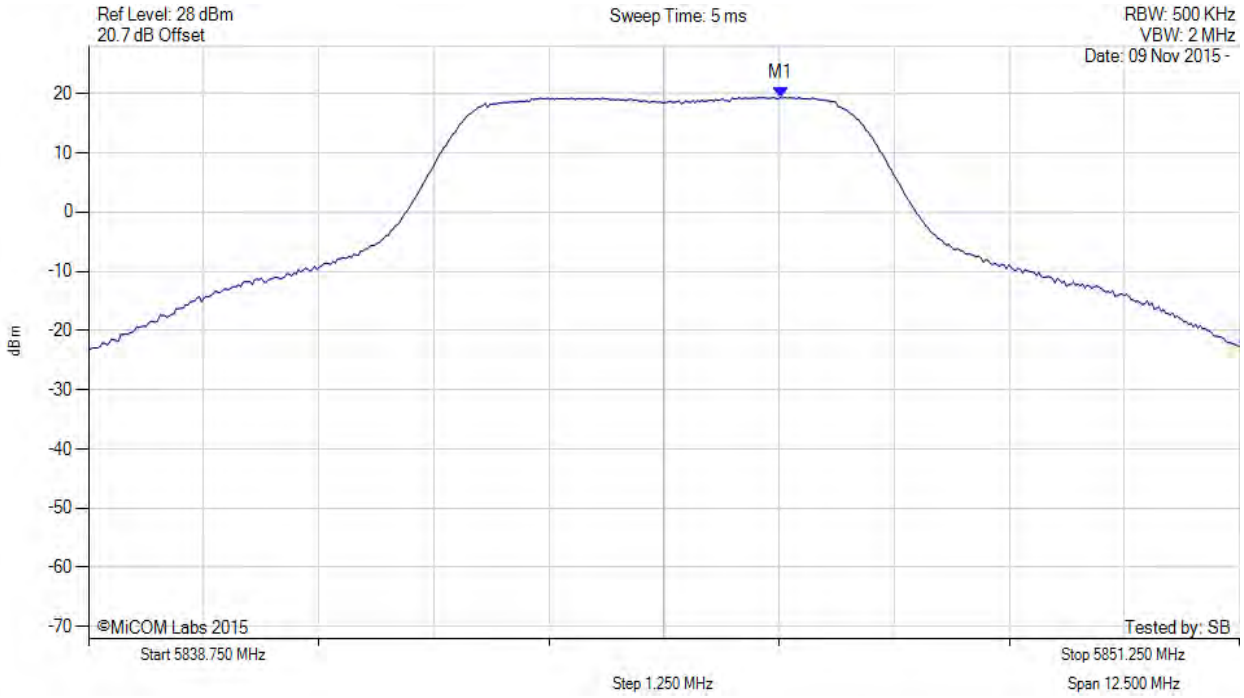


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5846.015 MHz : 17.373 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 5 MHz, Channel: 5845.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

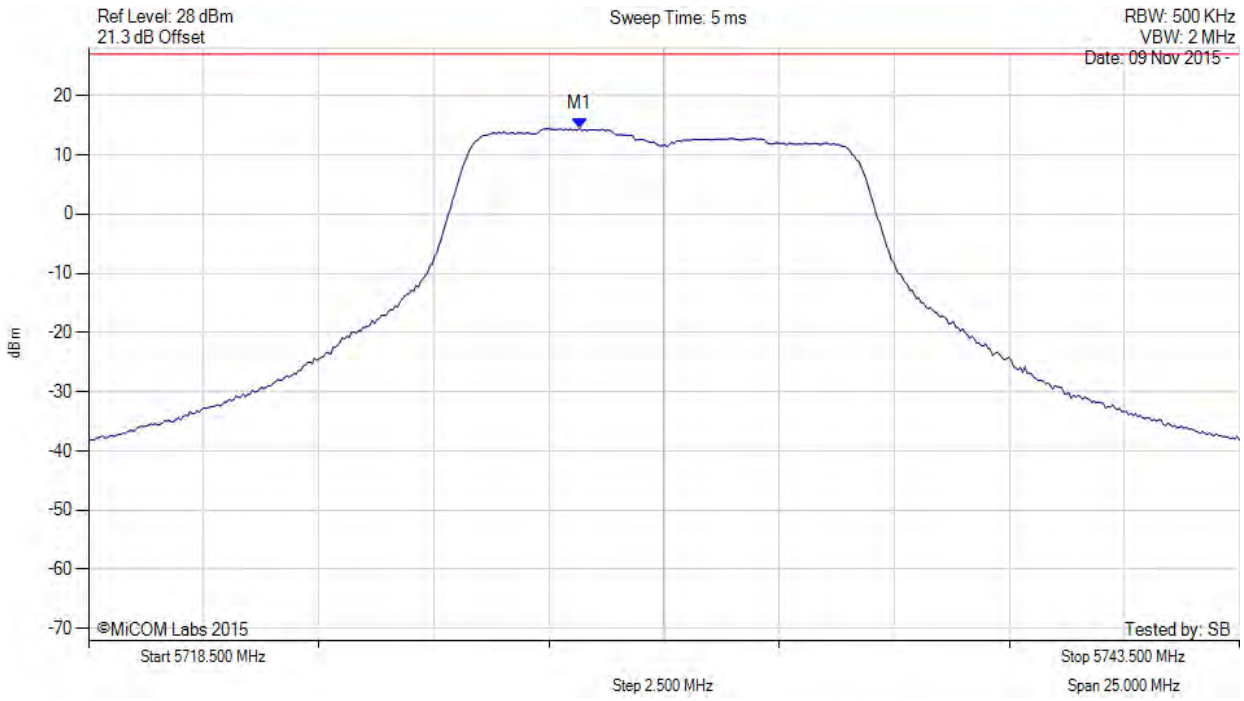


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5846.300 MHz : 19.379 dBm M1 + DCCF : 5846.300 MHz : 19.423 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -10.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5731.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

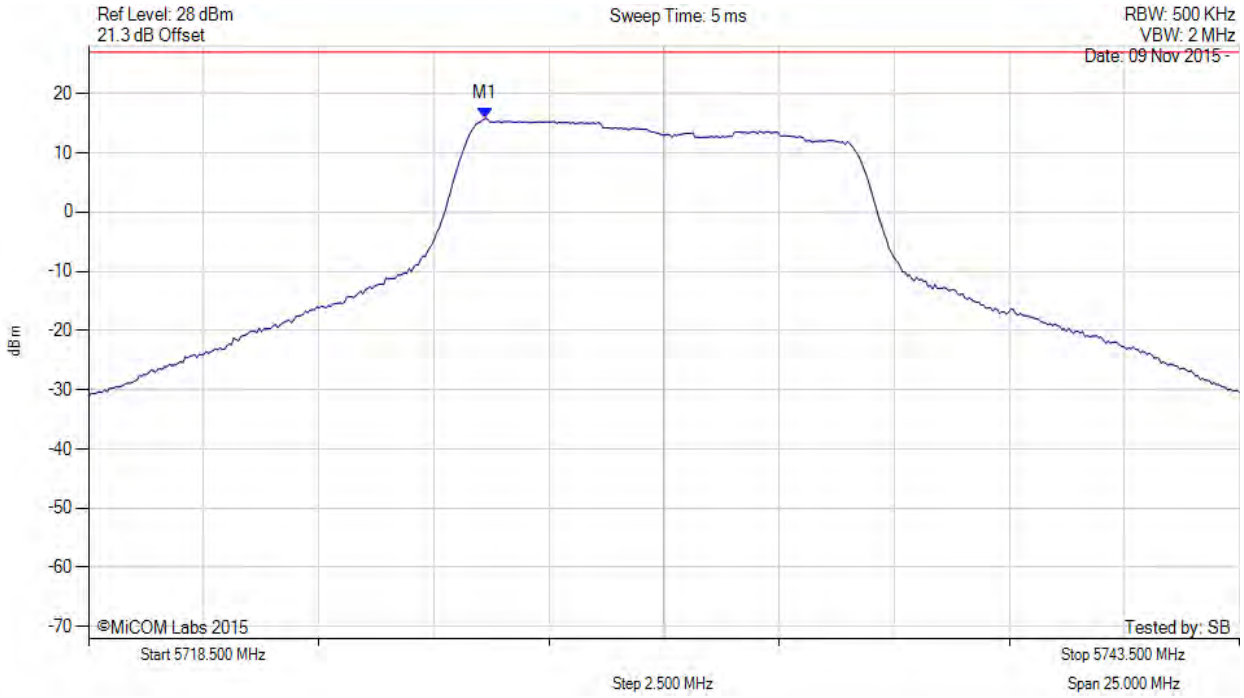


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5729.171 MHz : 14.468 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5731.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

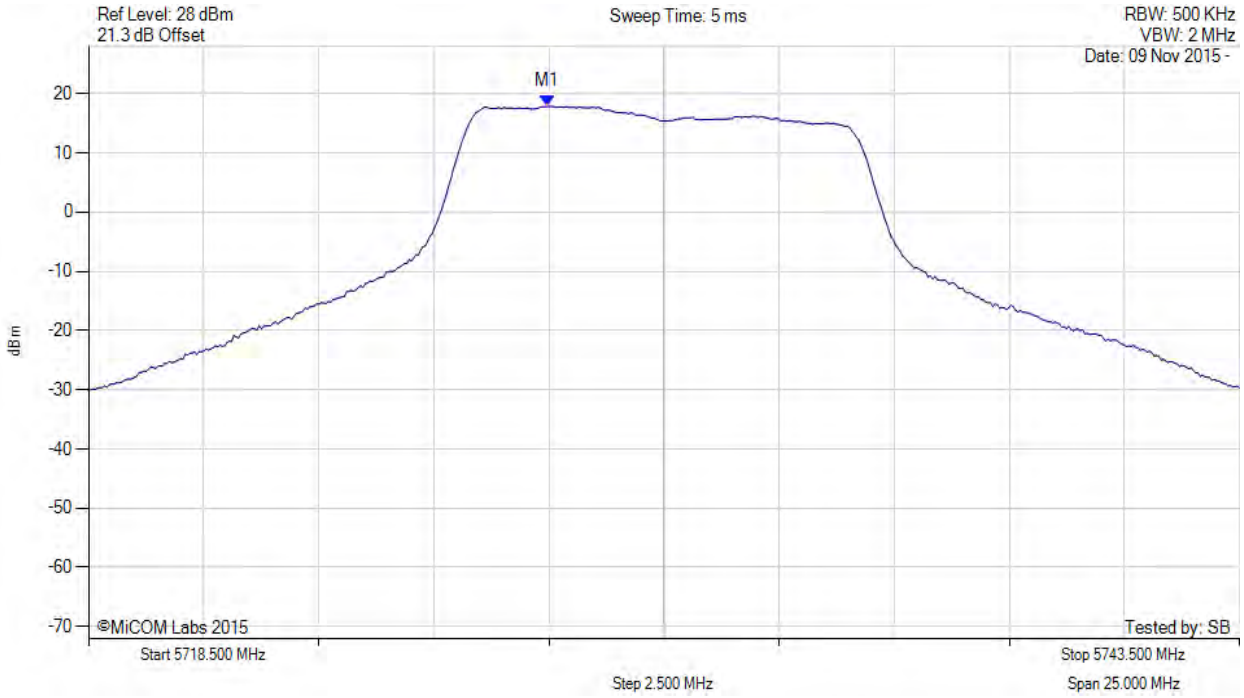


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5727.117 MHz : 15.808 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5731.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

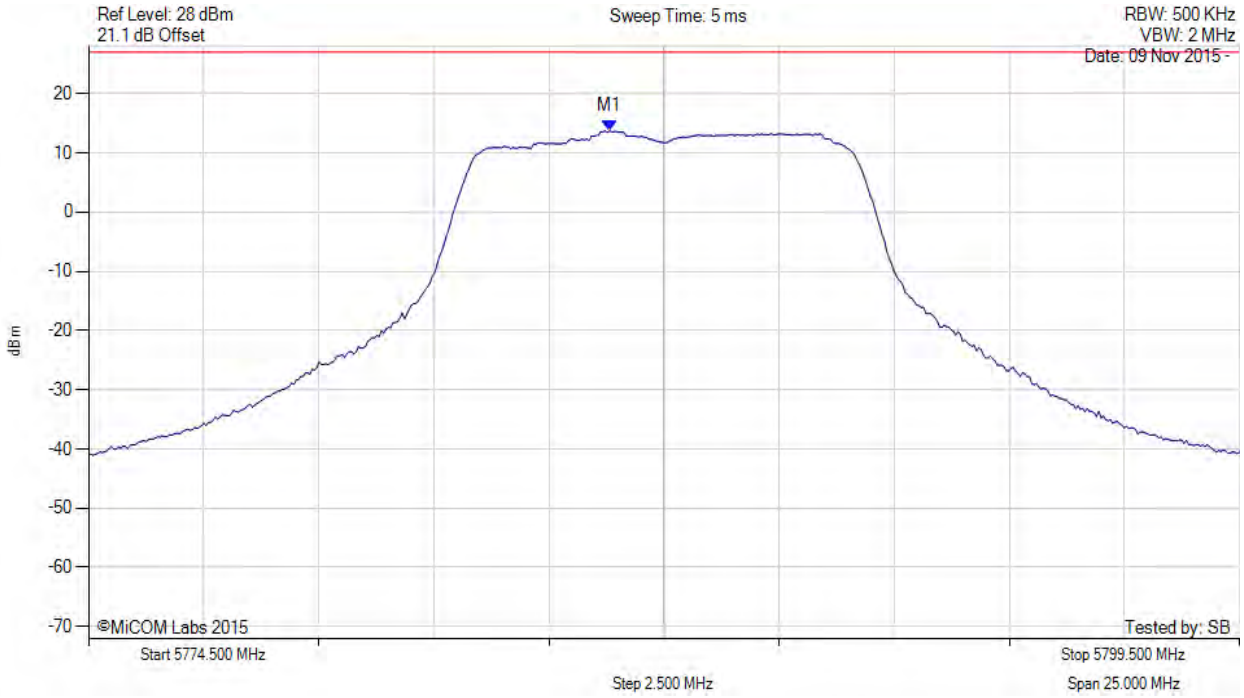


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5728.500 MHz : 17.848 dBm M1 + DCCF : 5728.500 MHz : 17.892 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -12.1 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5787.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

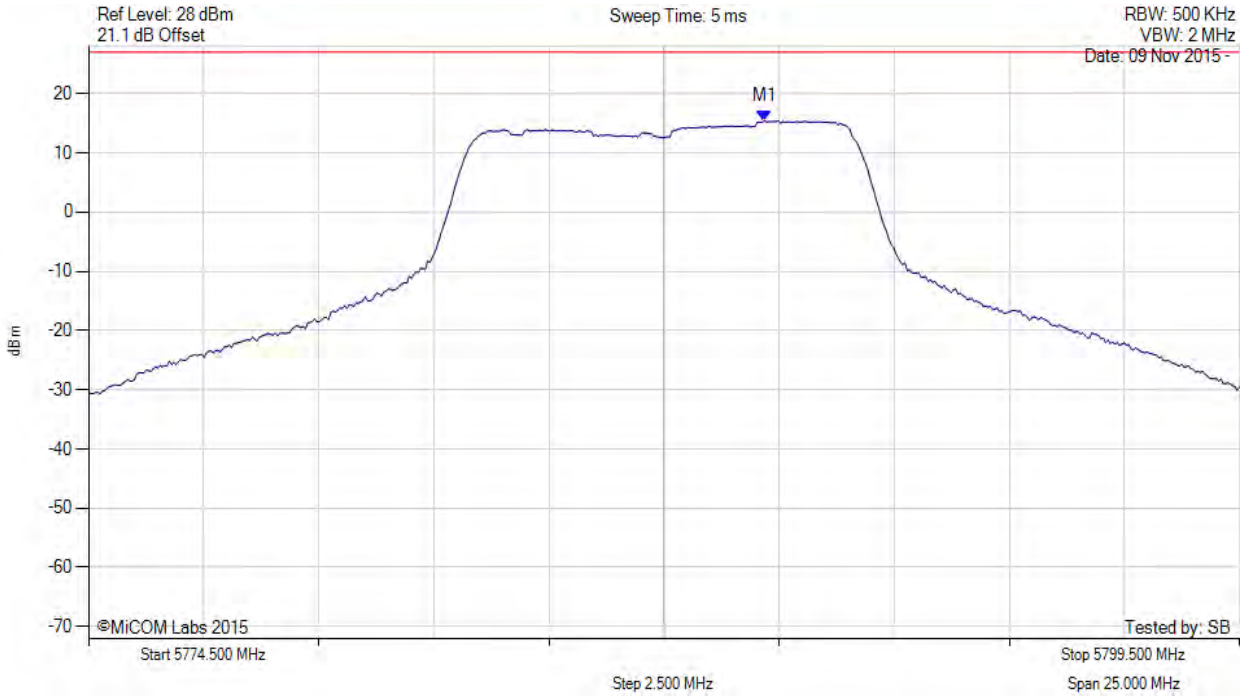


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5785.823 MHz : 13.706 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5787.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

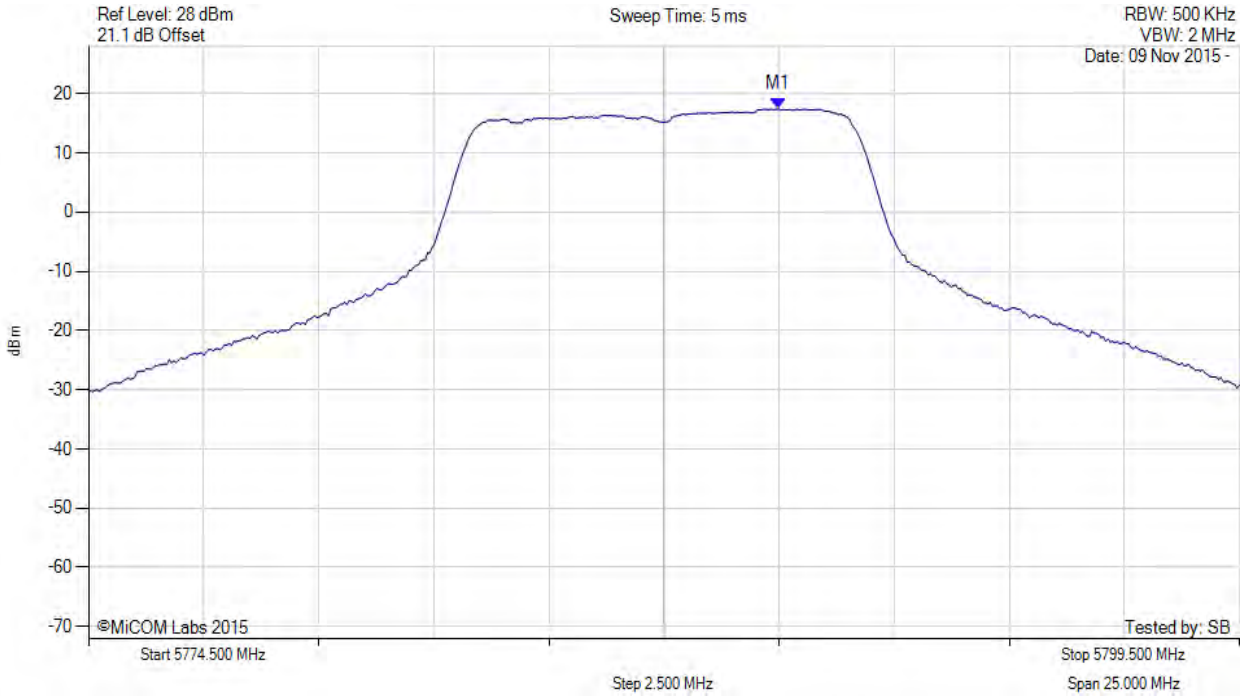


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.179 MHz : 15.406 dBm	Channel Frequency: 5787.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5787.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

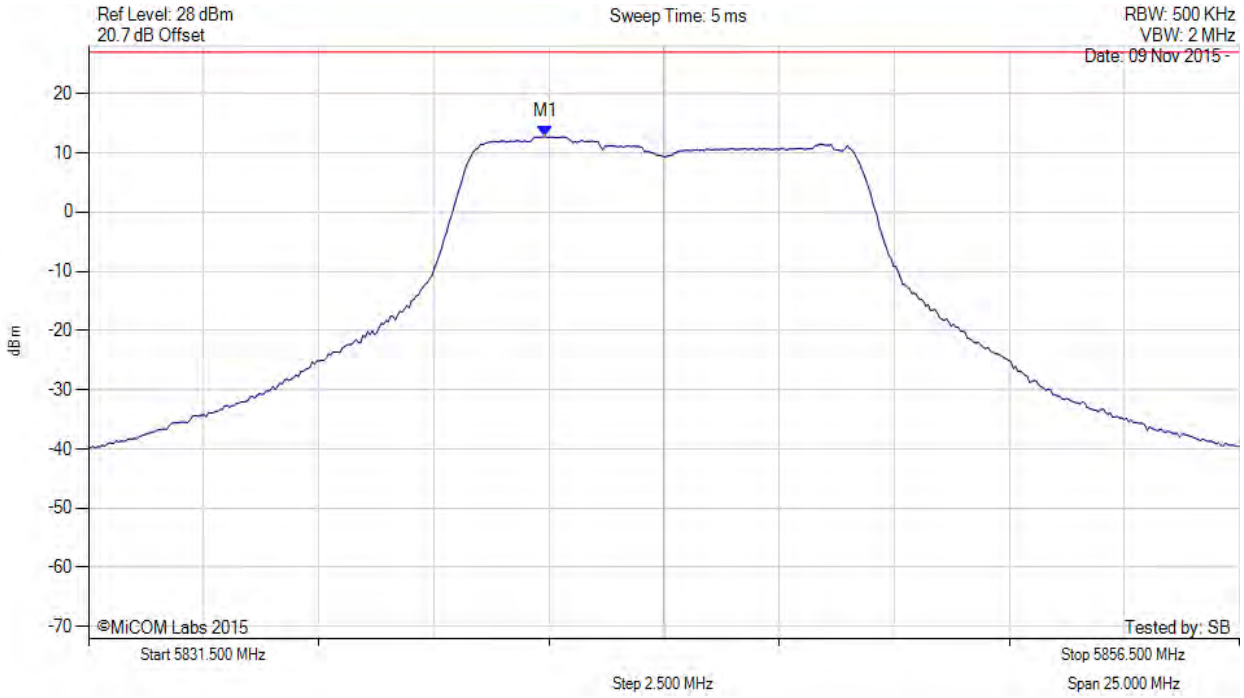


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.500 MHz : 17.446 dBm M1 + DCCF : 5789.500 MHz : 17.490 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -12.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5844.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

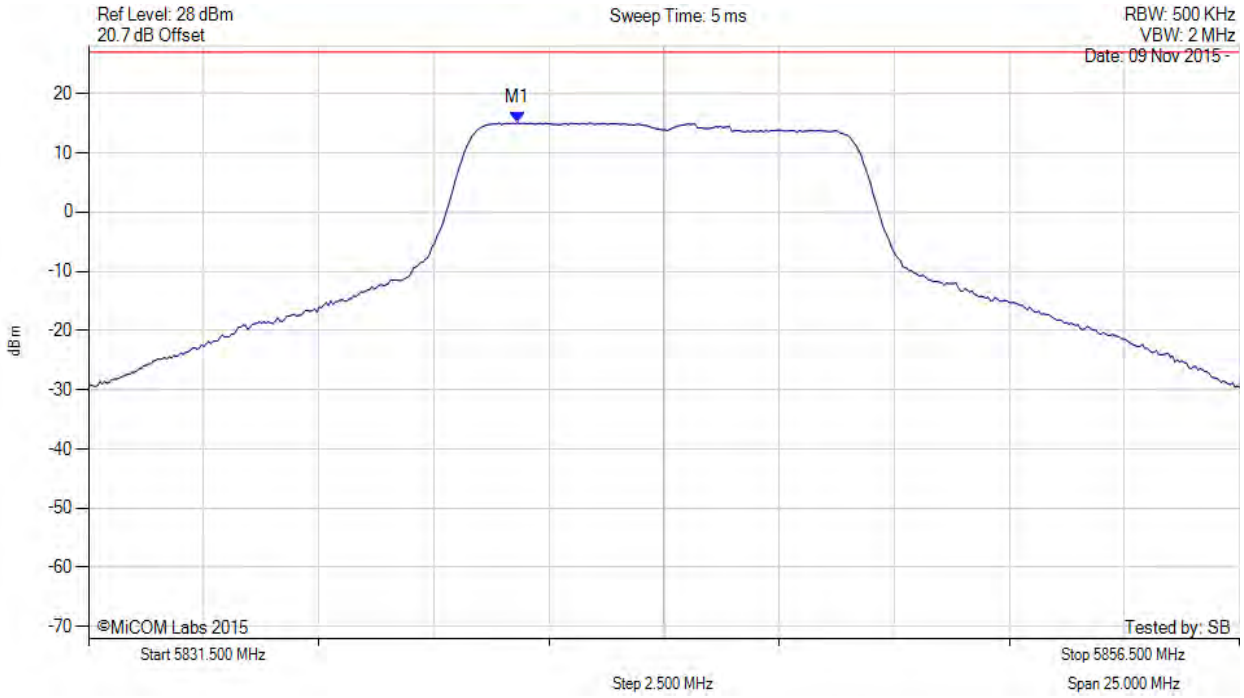


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5841.420 MHz : 12.713 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5844.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

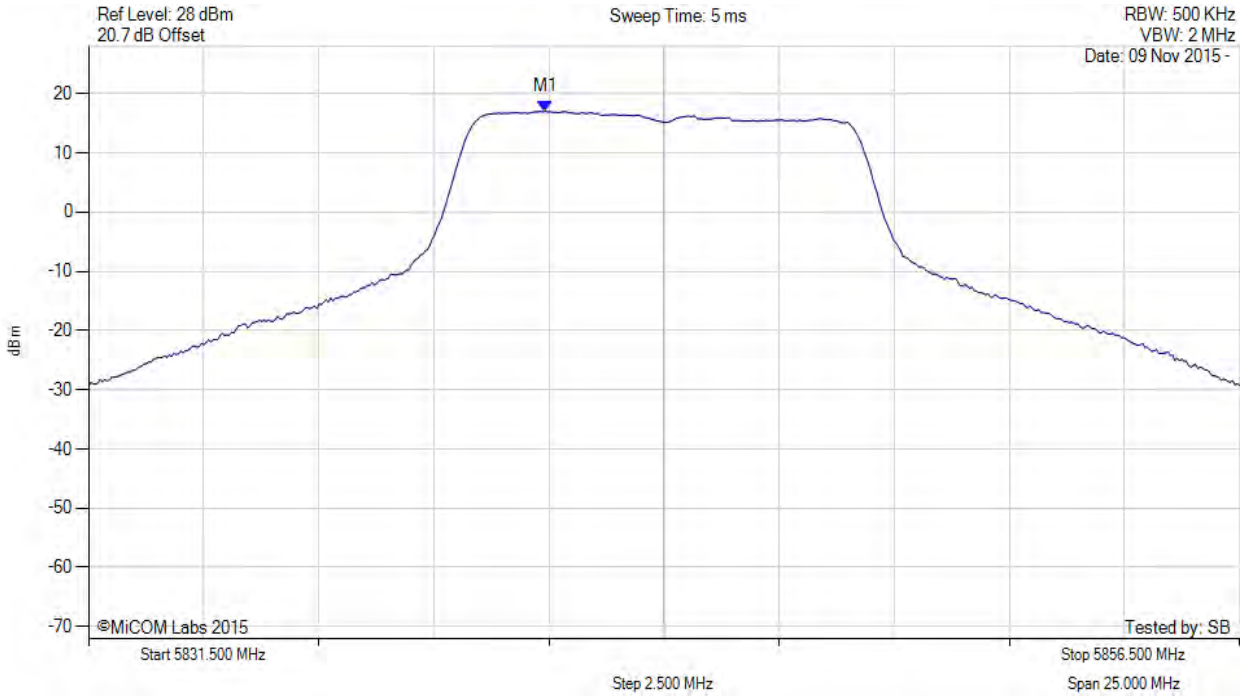


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5840.819 MHz : 15.062 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5844.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

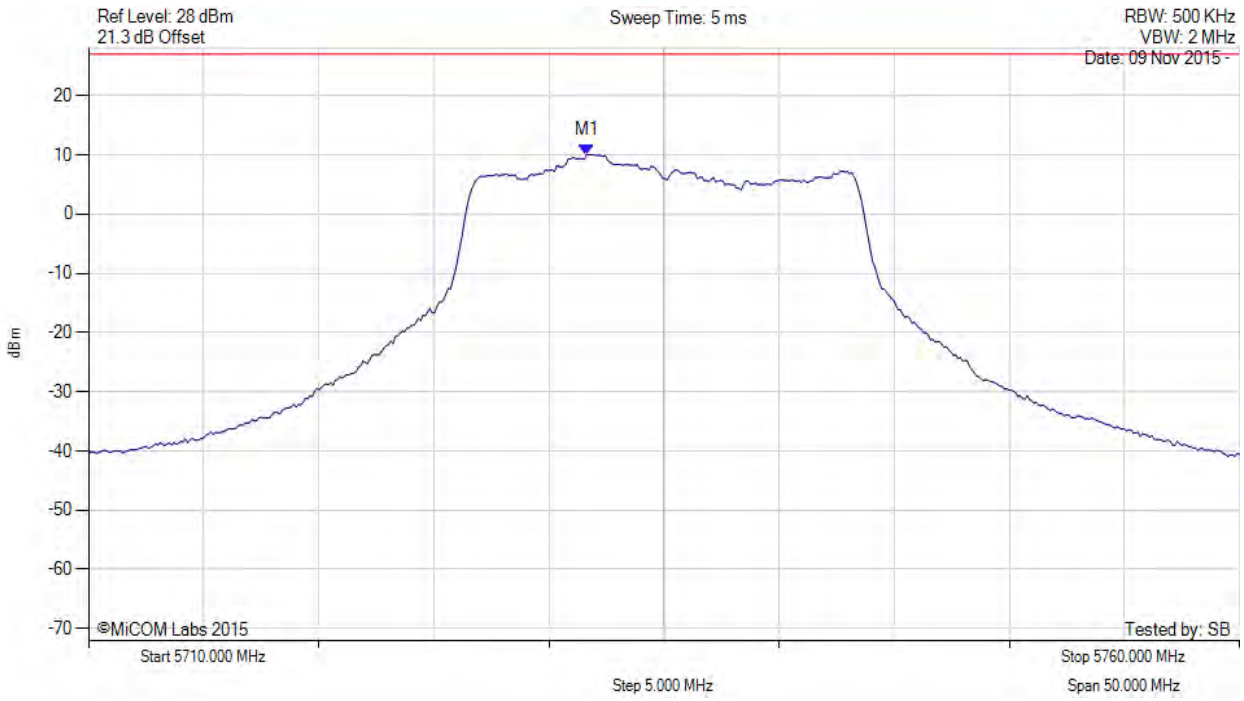


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5841.400 MHz : 17.026 dBm M1 + DCCF : 5841.400 MHz : 17.070 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -12.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5735.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

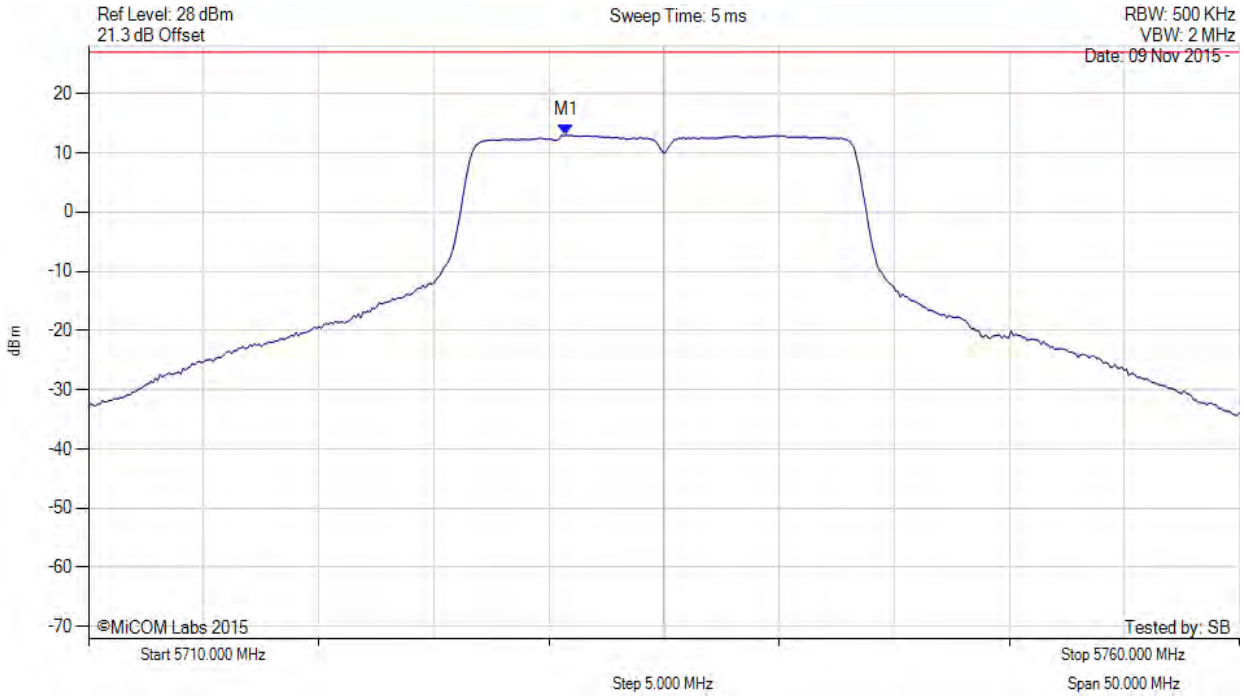


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5731.643 MHz : 10.076 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5735.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

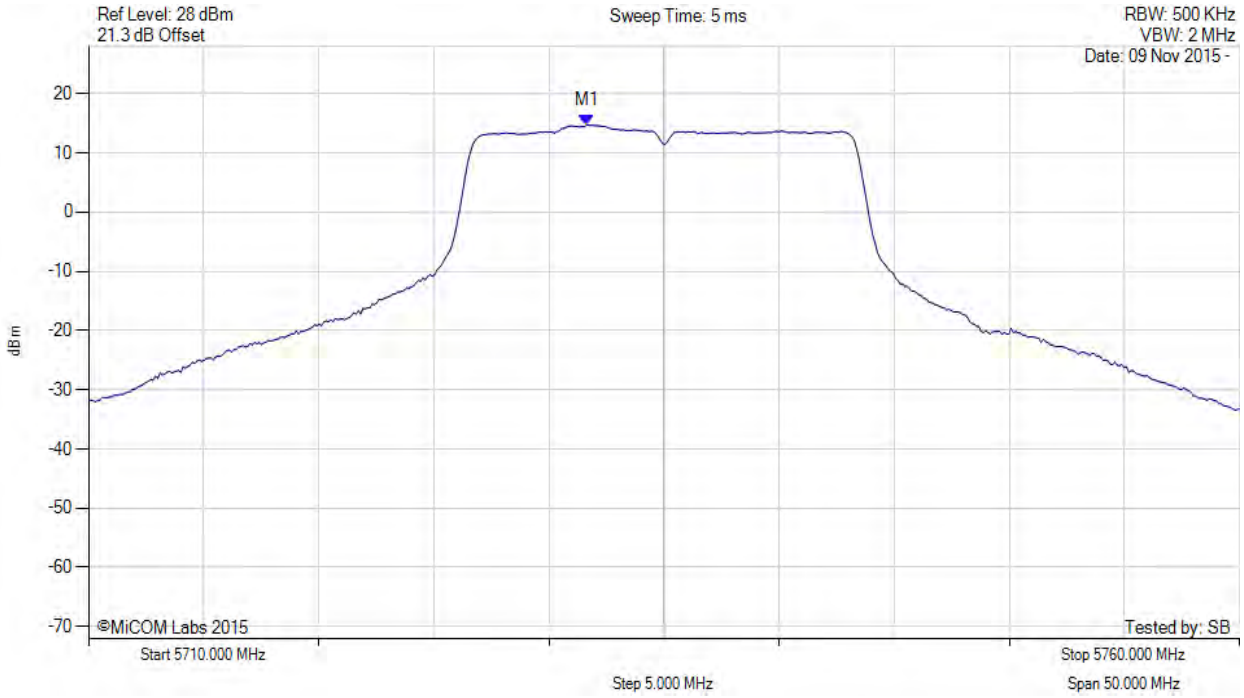


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5730.741 MHz : 12.993 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5735.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

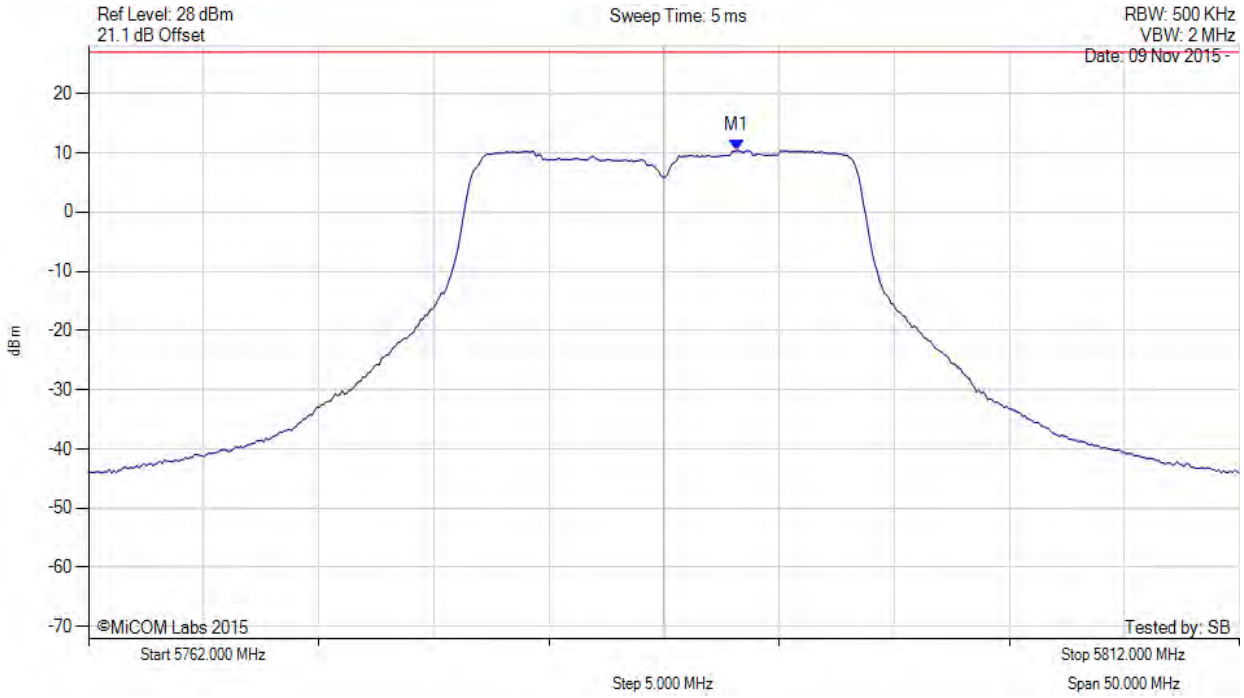


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5731.600 MHz : 14.707 dBm M1 + DCCF : 5731.600 MHz : 14.751 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -15.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5787.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

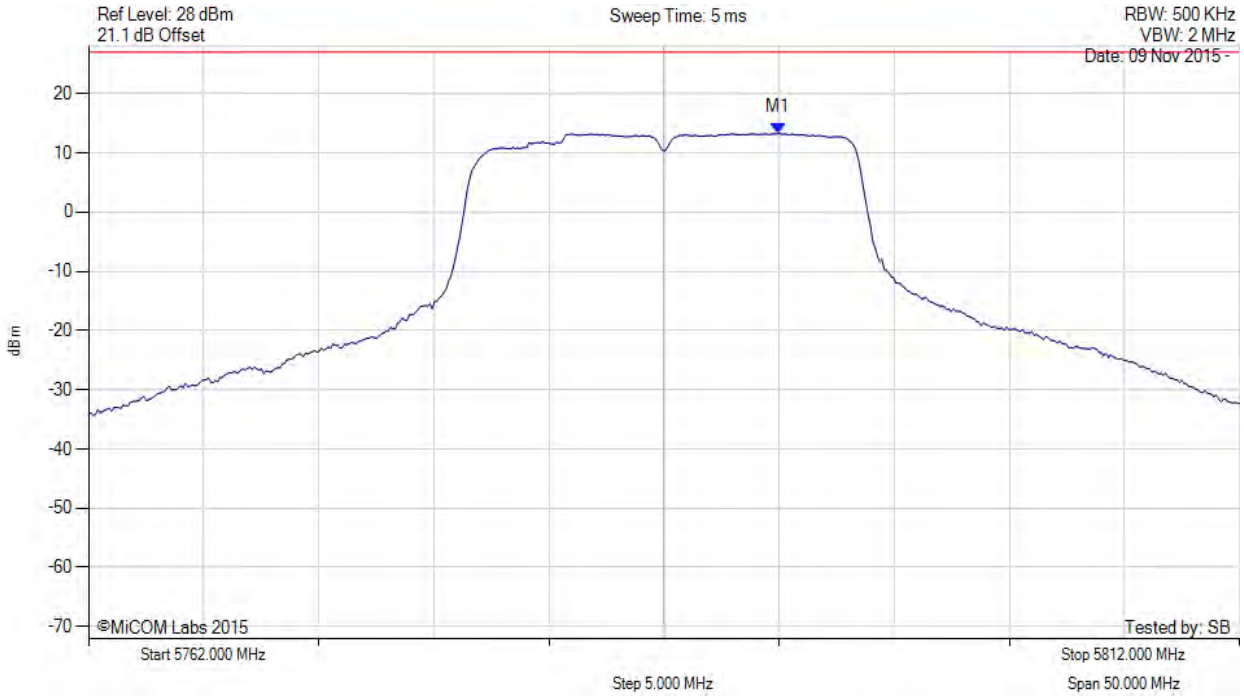


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5790.156 MHz : 10.378 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5787.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

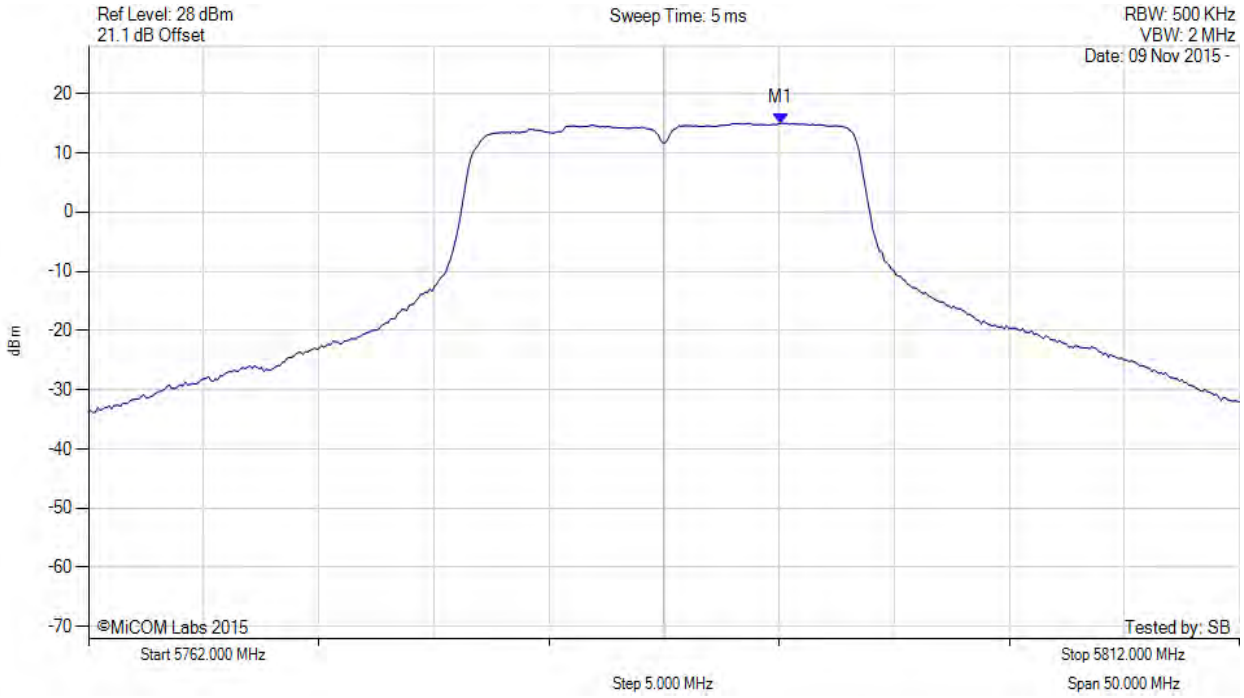


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5791.960 MHz : 13.358 dBm	Channel Frequency: 5787.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5787.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

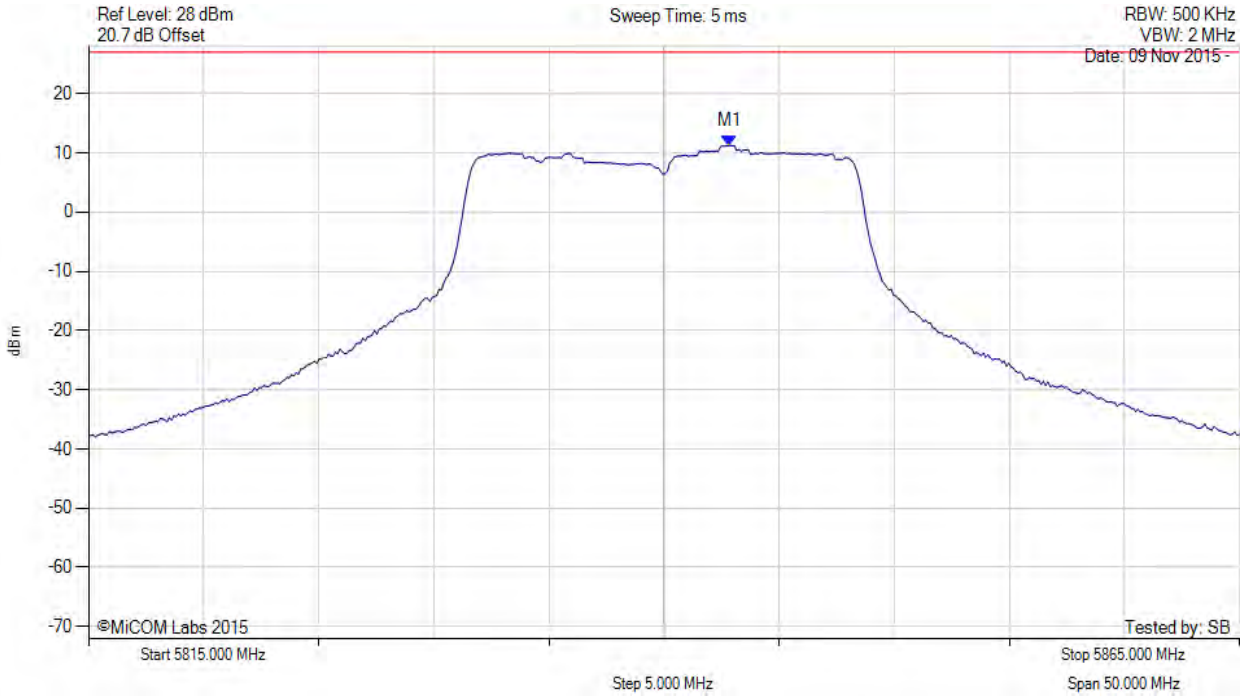


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.100 MHz : 14.997 dBm M1 + DCCF : 5792.100 MHz : 15.041 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -15.0 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5840.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

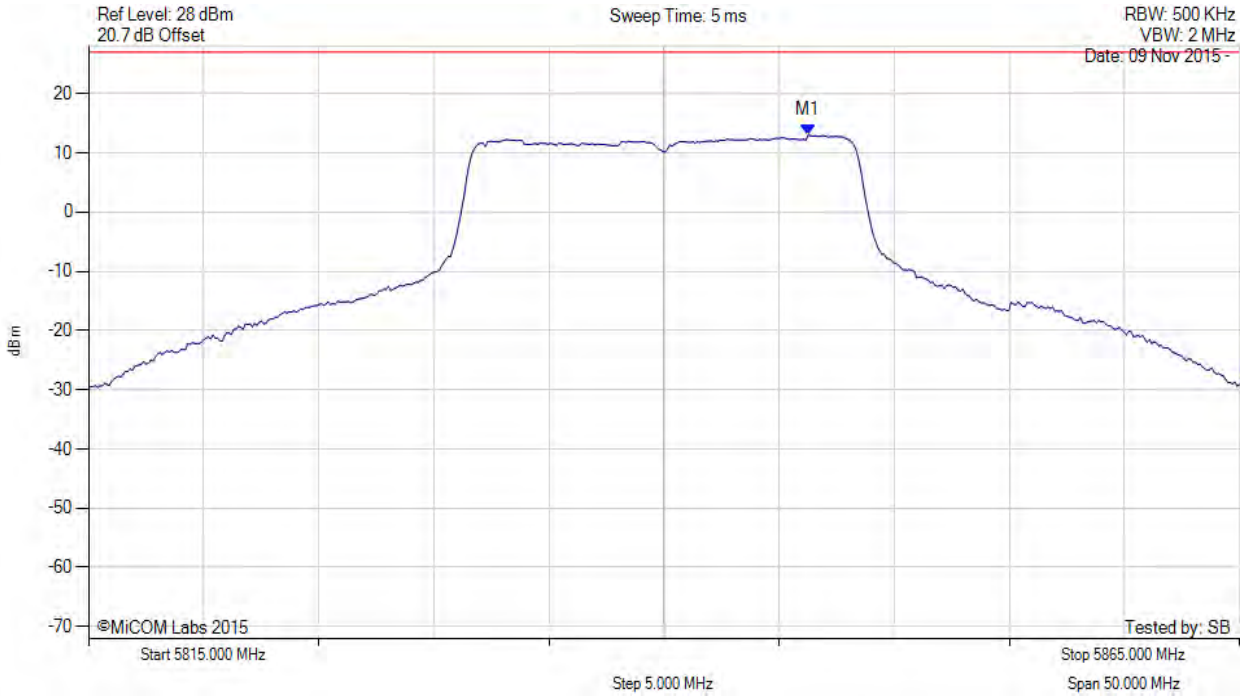


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5842.856 MHz : 11.242 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5840.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

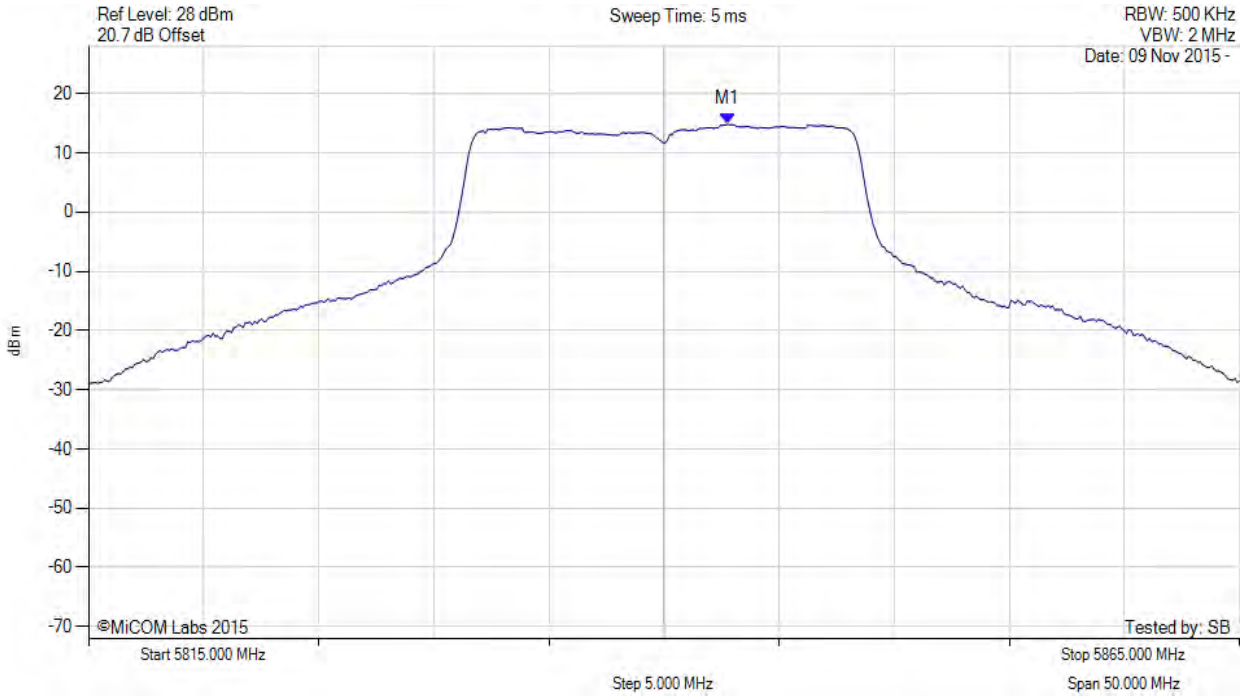


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5846.263 MHz : 13.004 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5840.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

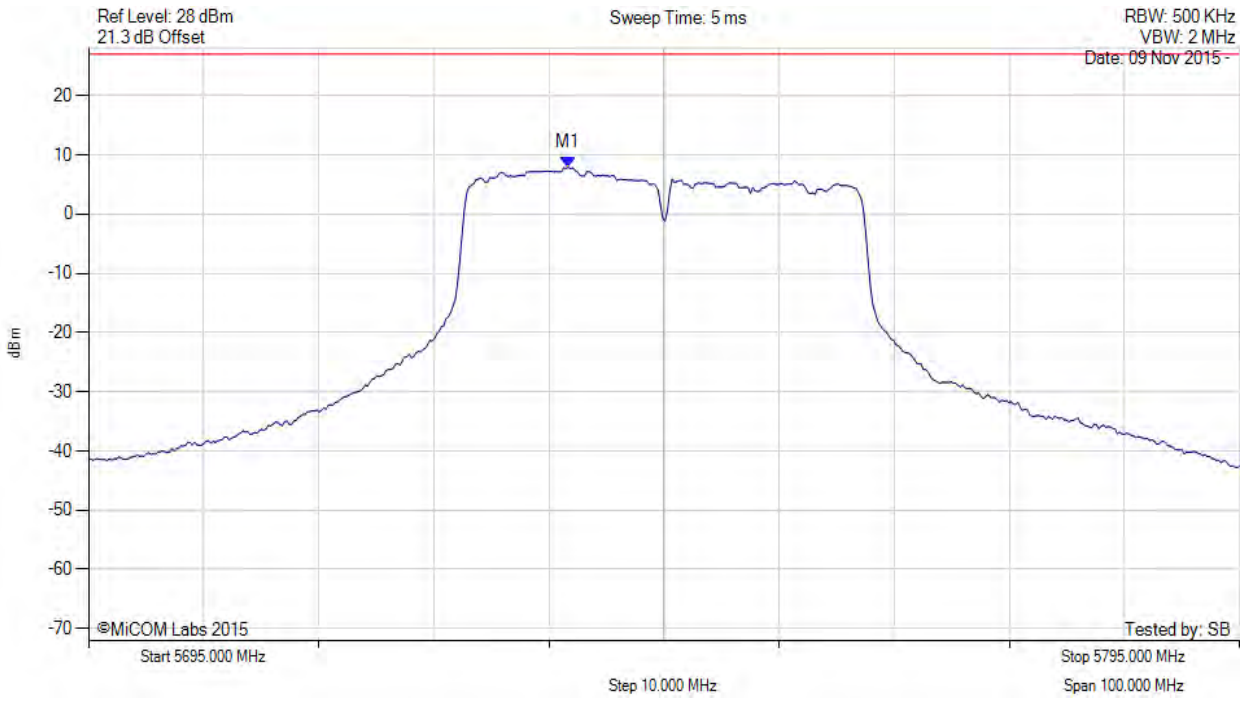


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5842.800 MHz : 14.825 dBm M1 + DCCF : 5842.800 MHz : 14.869 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -15.1 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

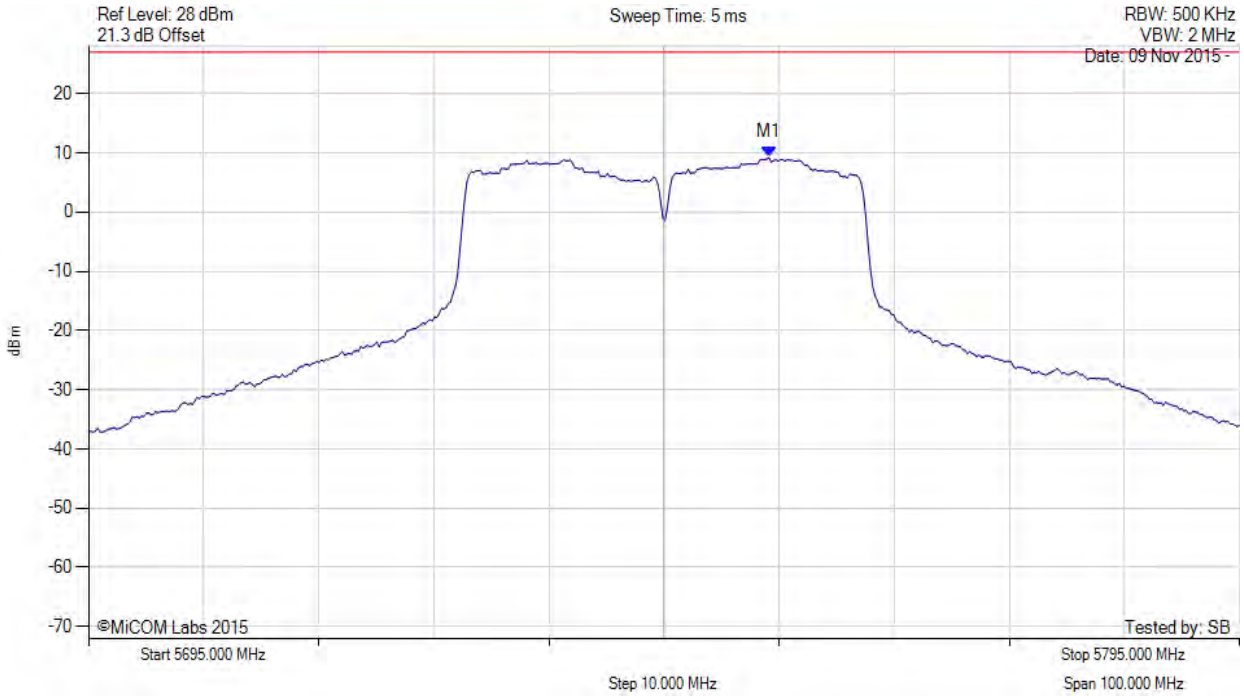


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.683 MHz : 7.895 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

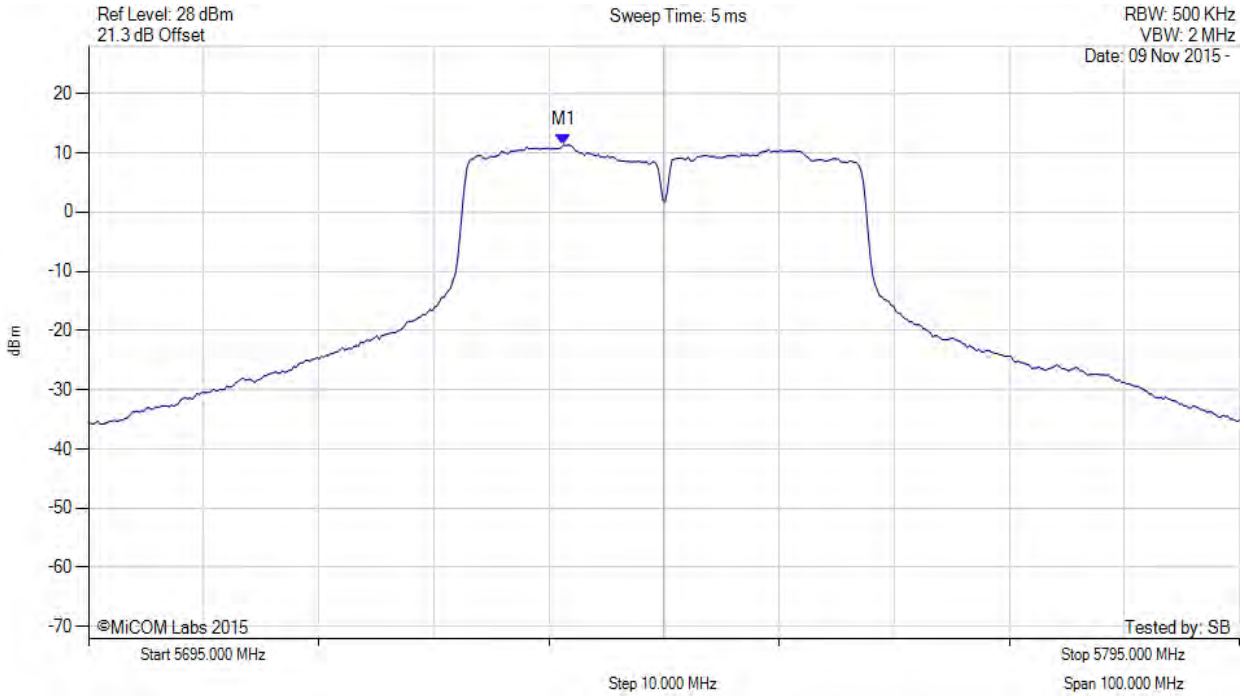


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5754.118 MHz : 9.186 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5745.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

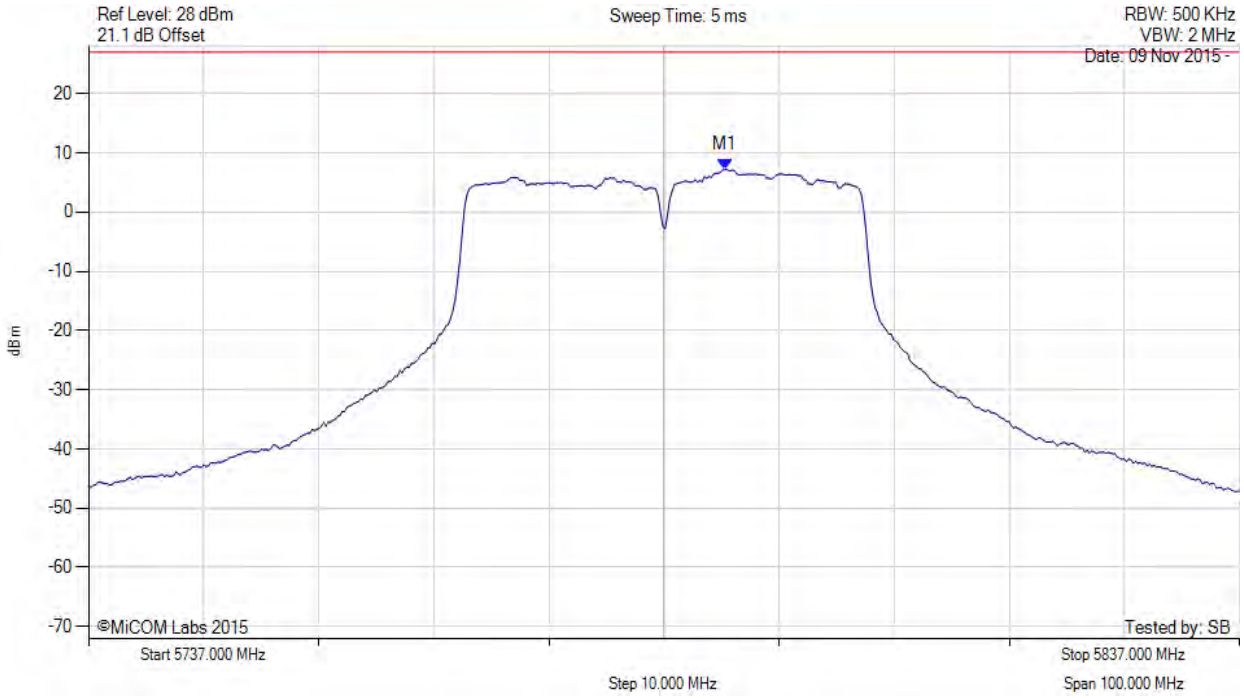


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.300 MHz : 11.338 dBm M1 + DCCF : 5736.300 MHz : 11.382 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -18.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5787.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

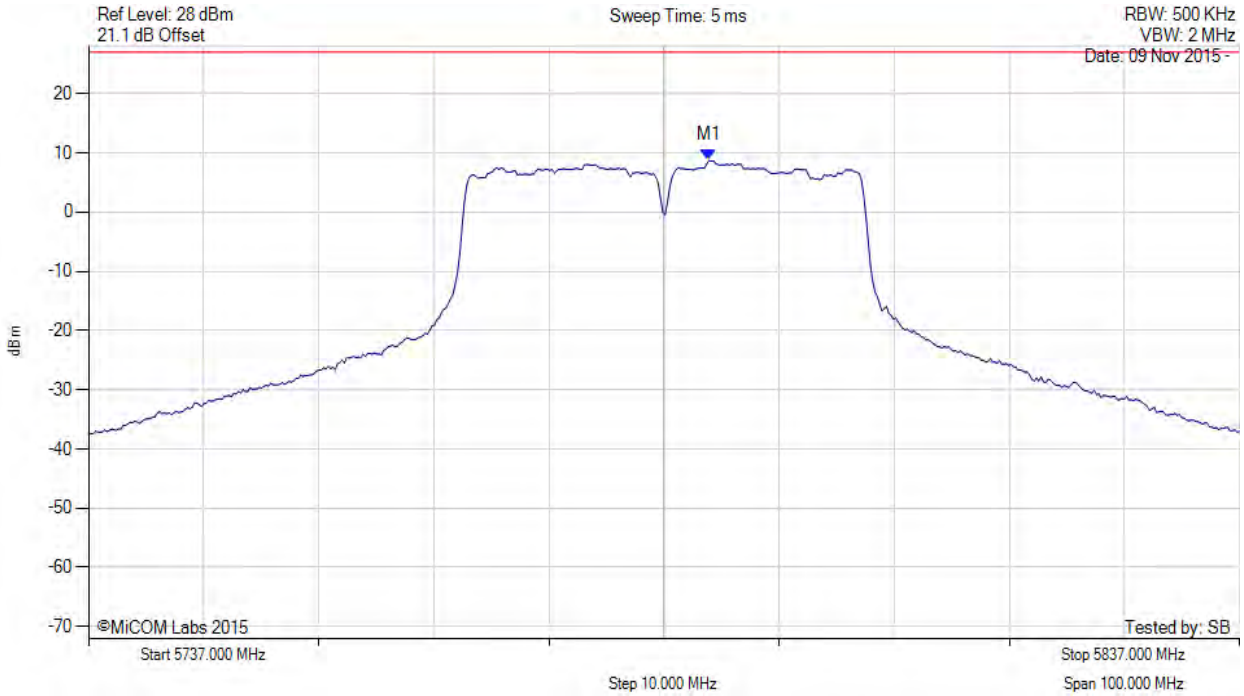


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.311 MHz : 7.171 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5787.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

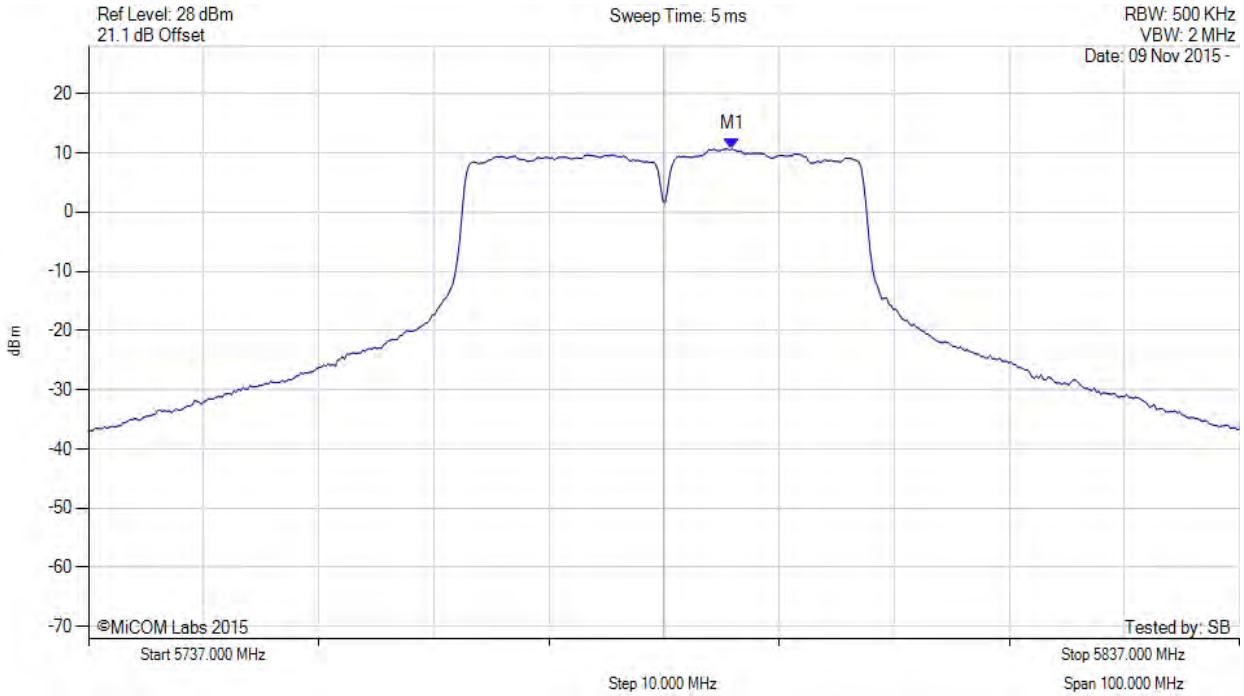


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5790.908 MHz : 8.733 dBm	Channel Frequency: 5787.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5787.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

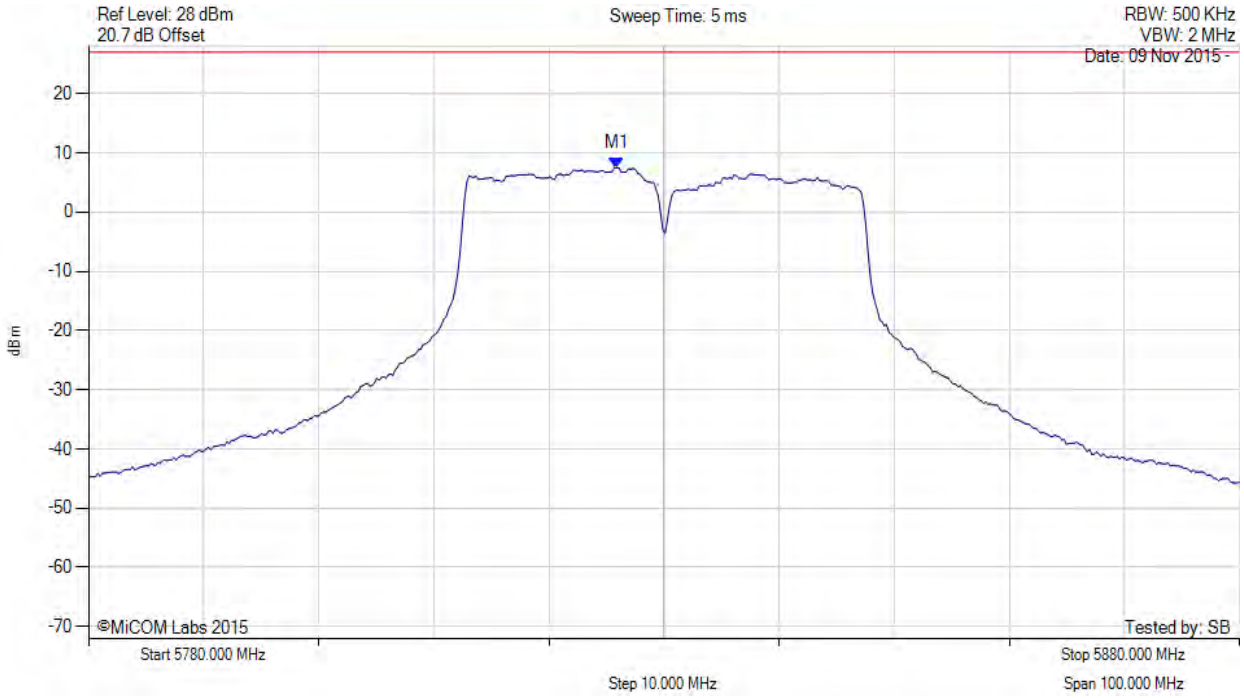


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.900 MHz : 10.668 dBm M1 + DCCF : 5792.900 MHz : 10.712 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -19.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5830.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

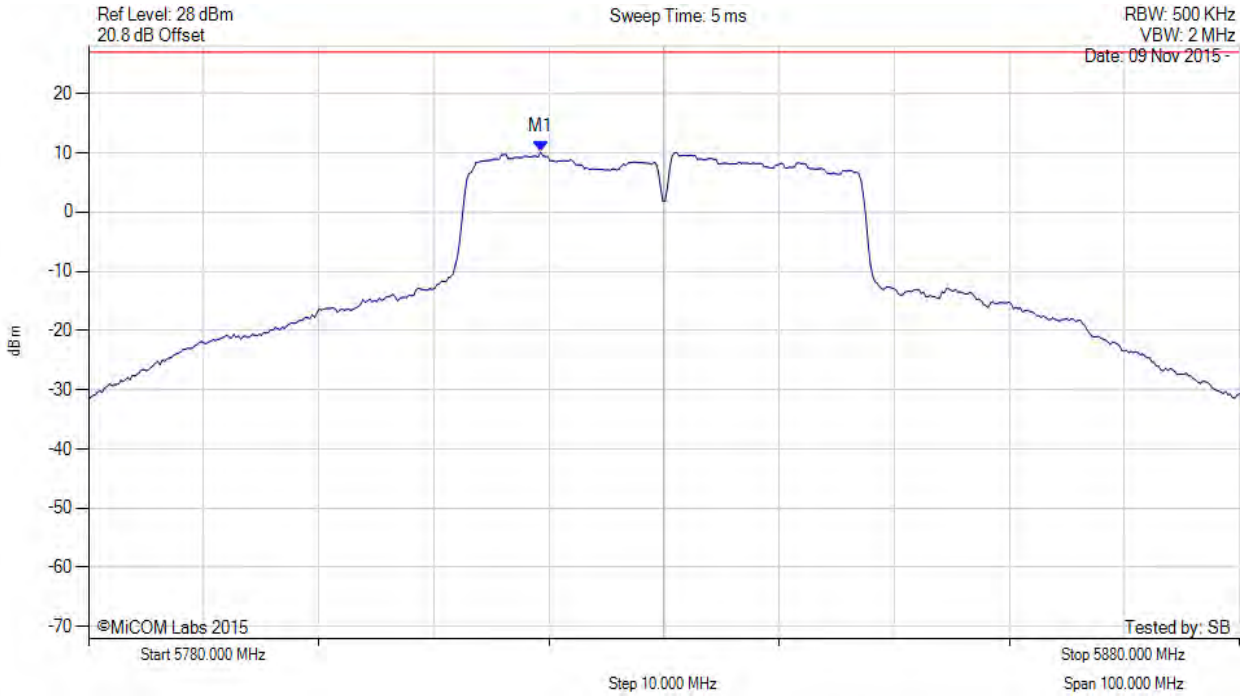


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5825.892 MHz : 7.475 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5830.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

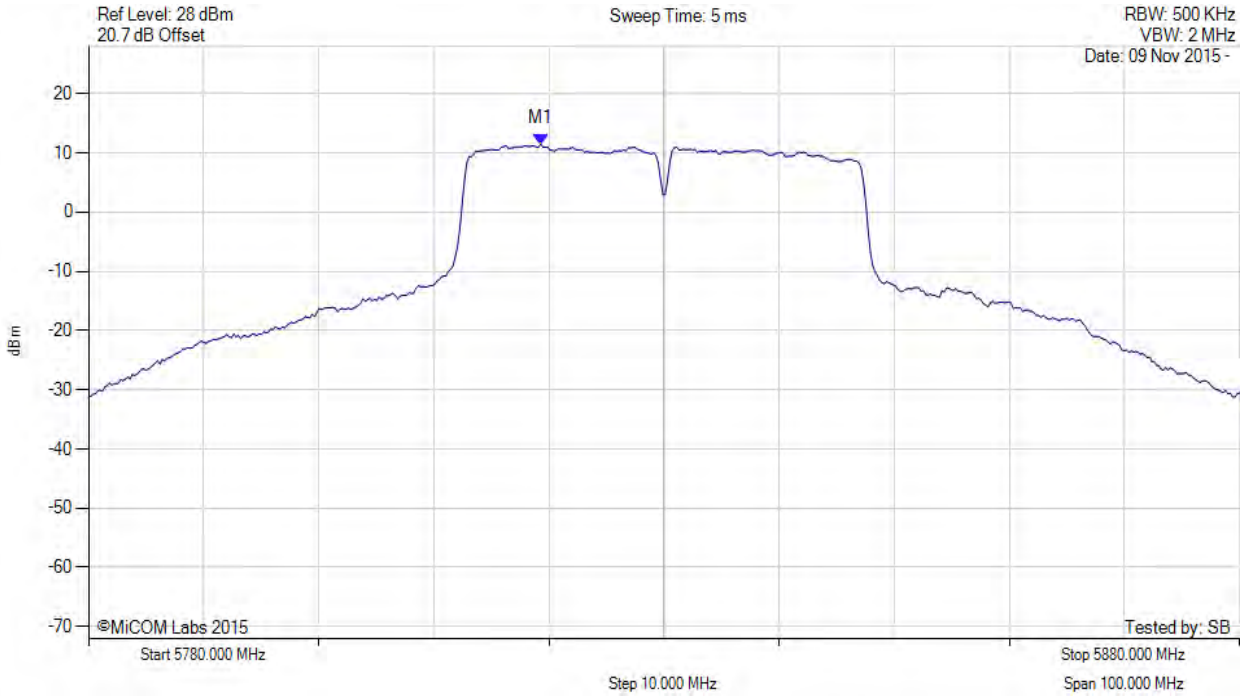


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5819.279 MHz : 10.143 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 40 MHz, Channel: 5830.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

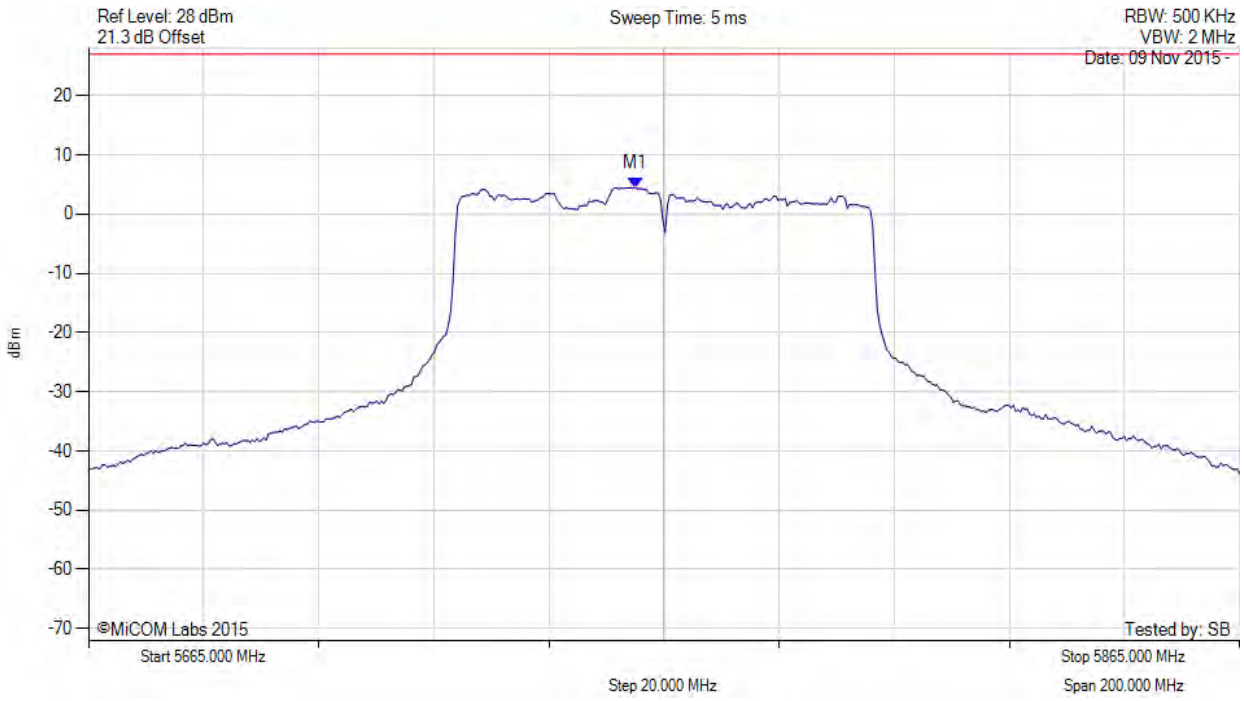


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5819.300 MHz : 11.488 dBm M1 + DCCF : 5819.300 MHz : 11.532 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -18.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5765.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

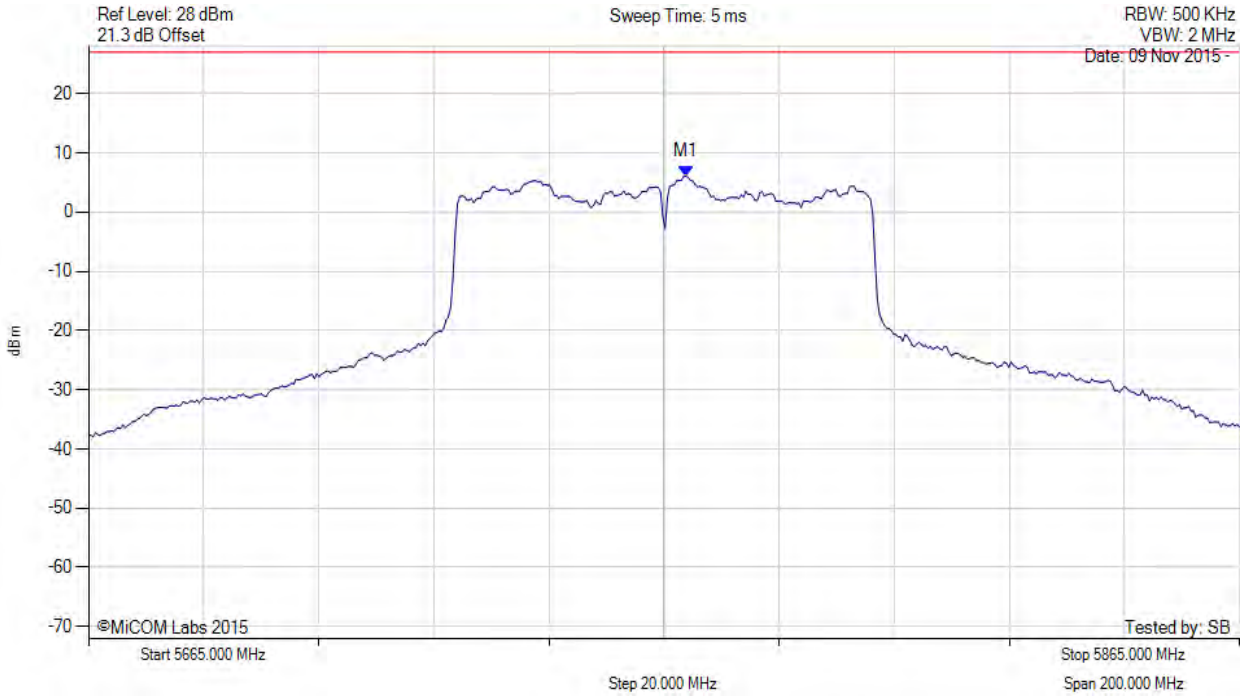


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5759.990 MHz : 4.467 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5765.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

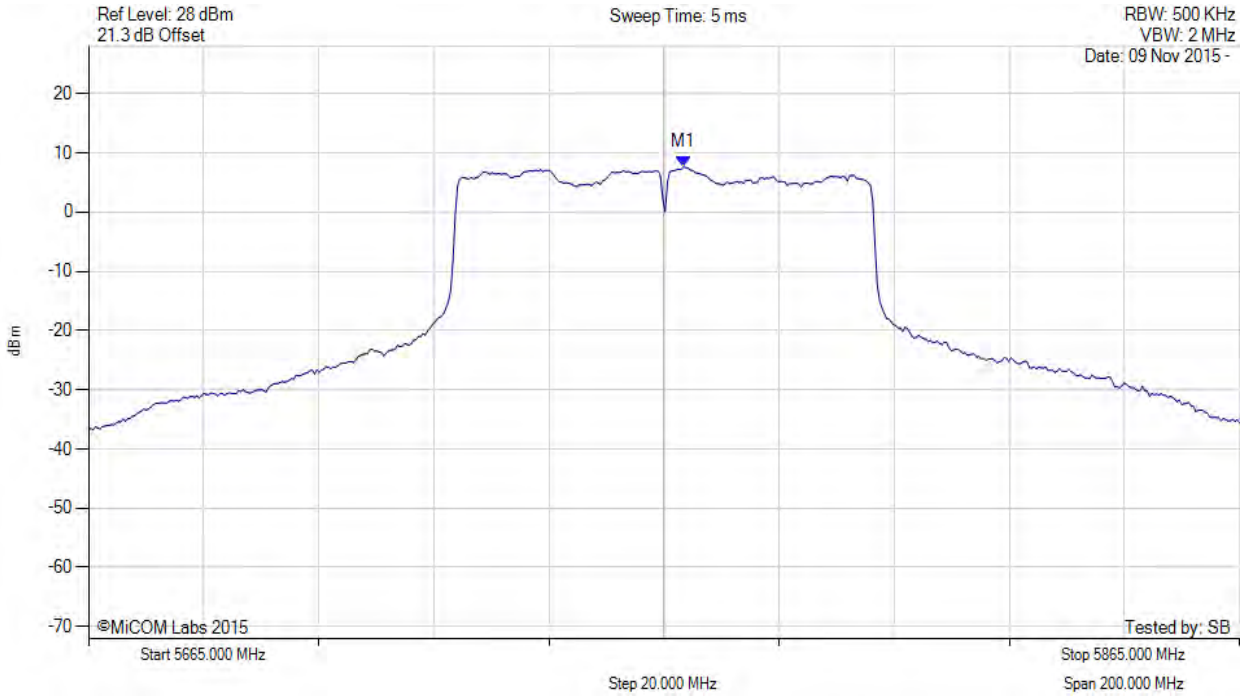


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5768.808 MHz : 6.044 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5765.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

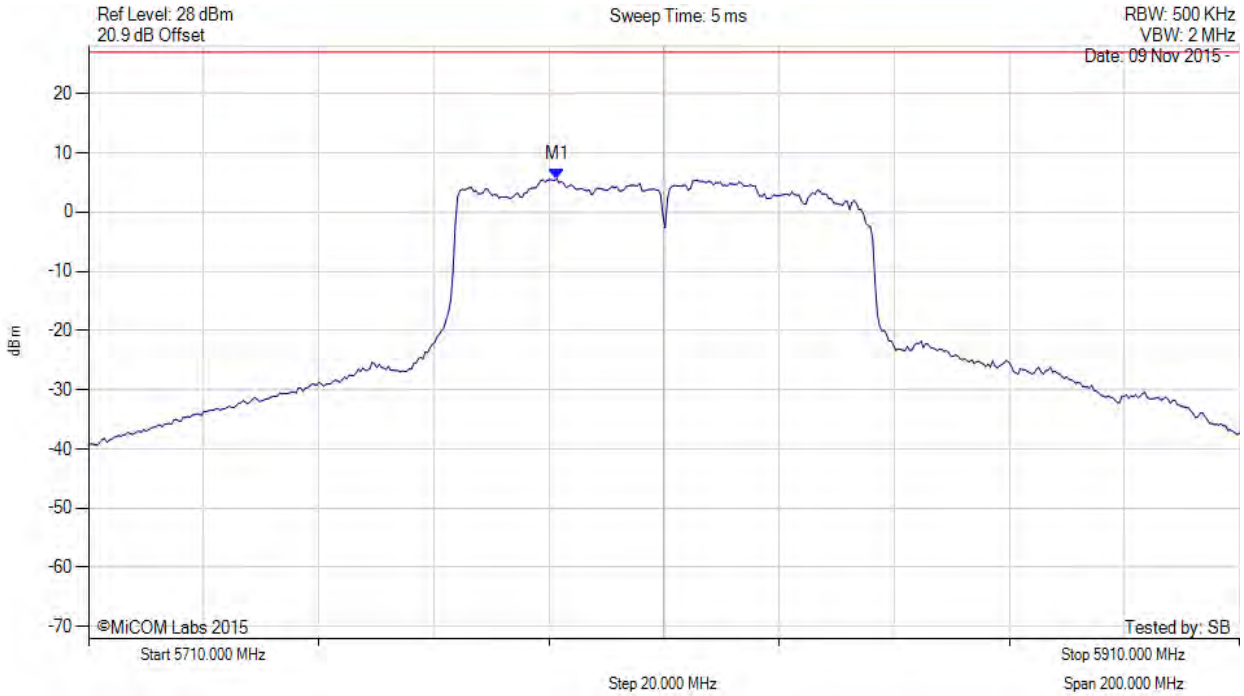


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5768.400 MHz : 7.666 dBm M1 + DCCF : 5768.400 MHz : 7.710 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -22.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5810.00 MHz, Chain a, Temp: Ambient, Voltage: 55 Vdc

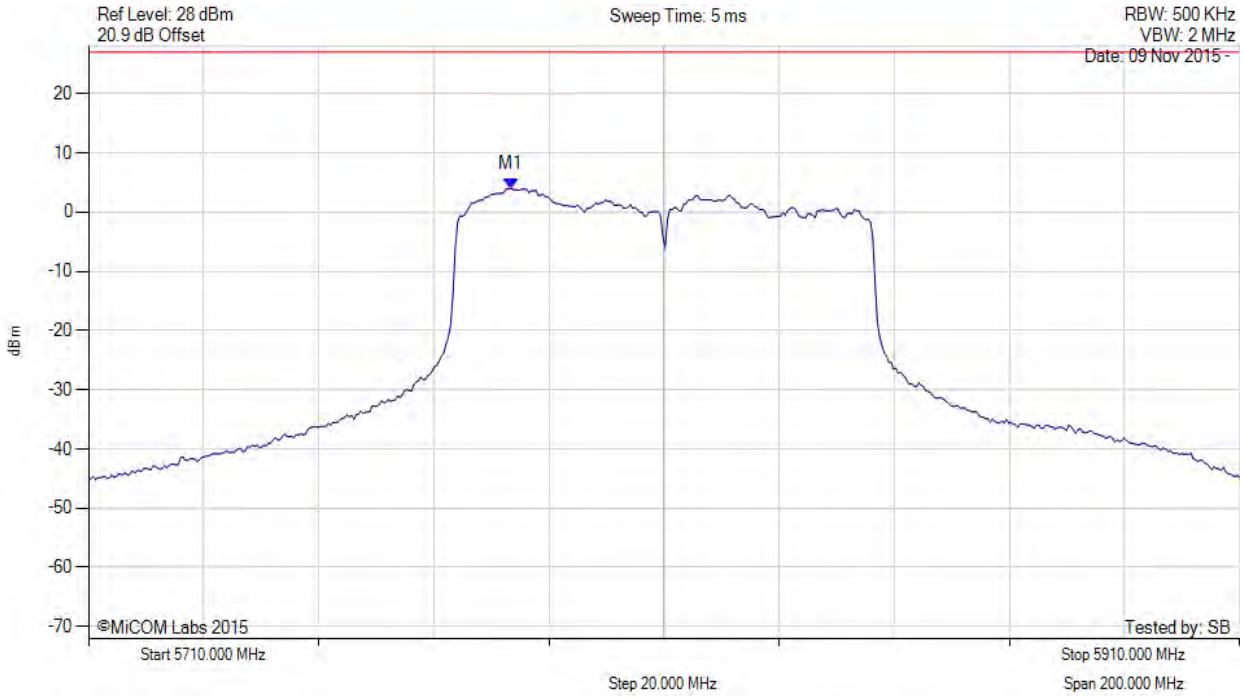


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5791.363 MHz : 5.629 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5810.00 MHz, Chain b, Temp: Ambient, Voltage: 55 Vdc

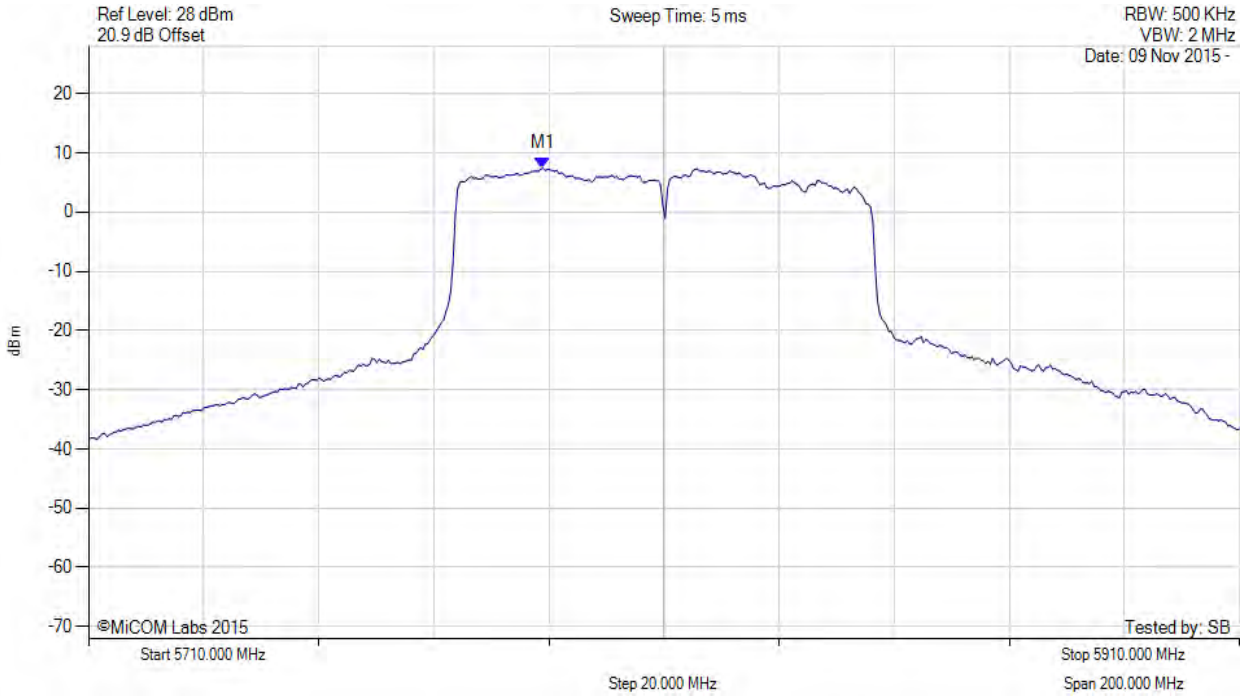


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.347 MHz : 3.962 dBm	Limit: ≤ 27.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5810.00 MHz, SUM, Temp: Ambient, Voltage: 55 Vdc

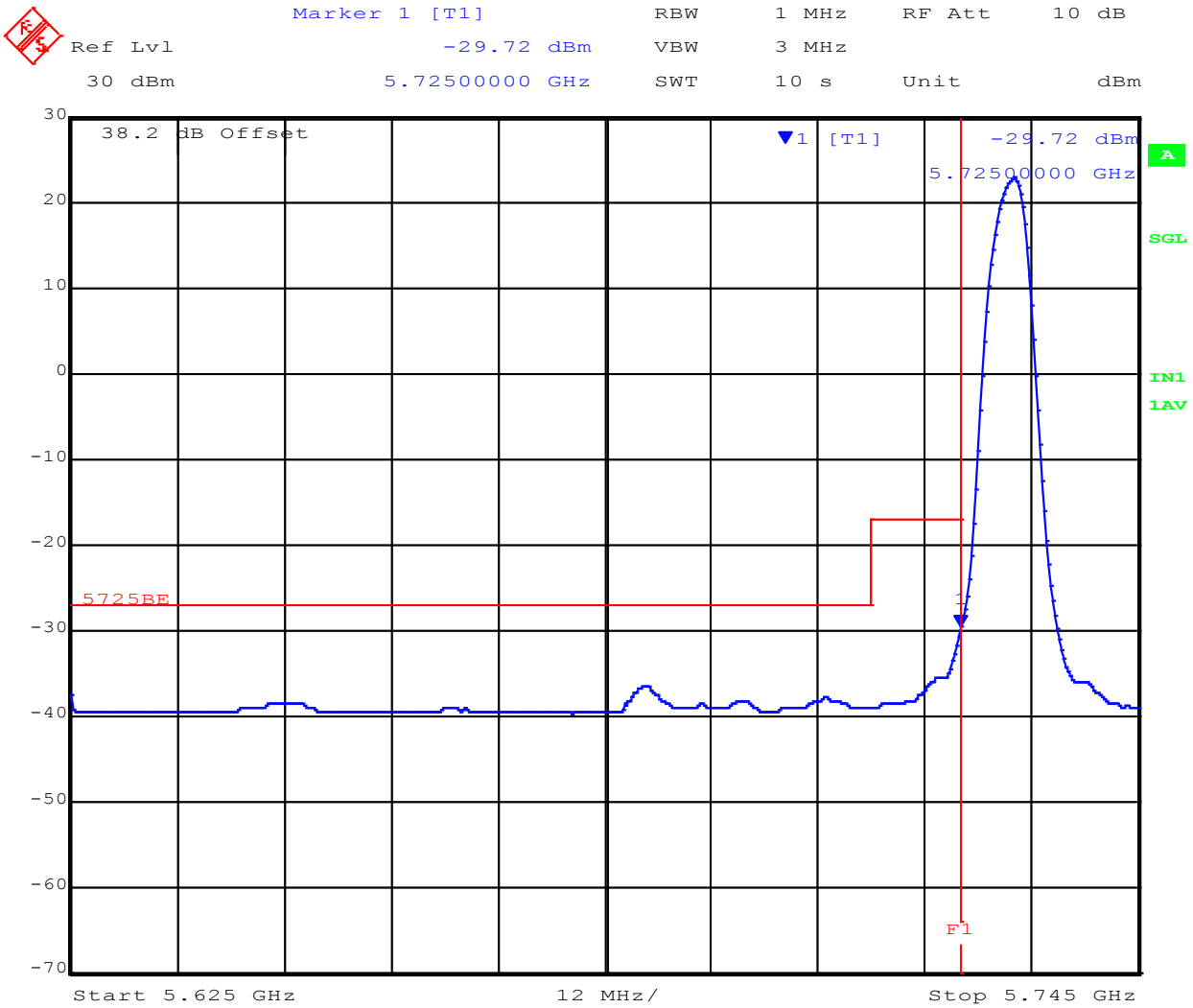


Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.000 MHz : 7.437 dBm M1 + DCCF : 5789.000 MHz : 7.660 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -22.4 dB

back to matrix

A.1.3. Radiated Restricted Band-Edge Emissions

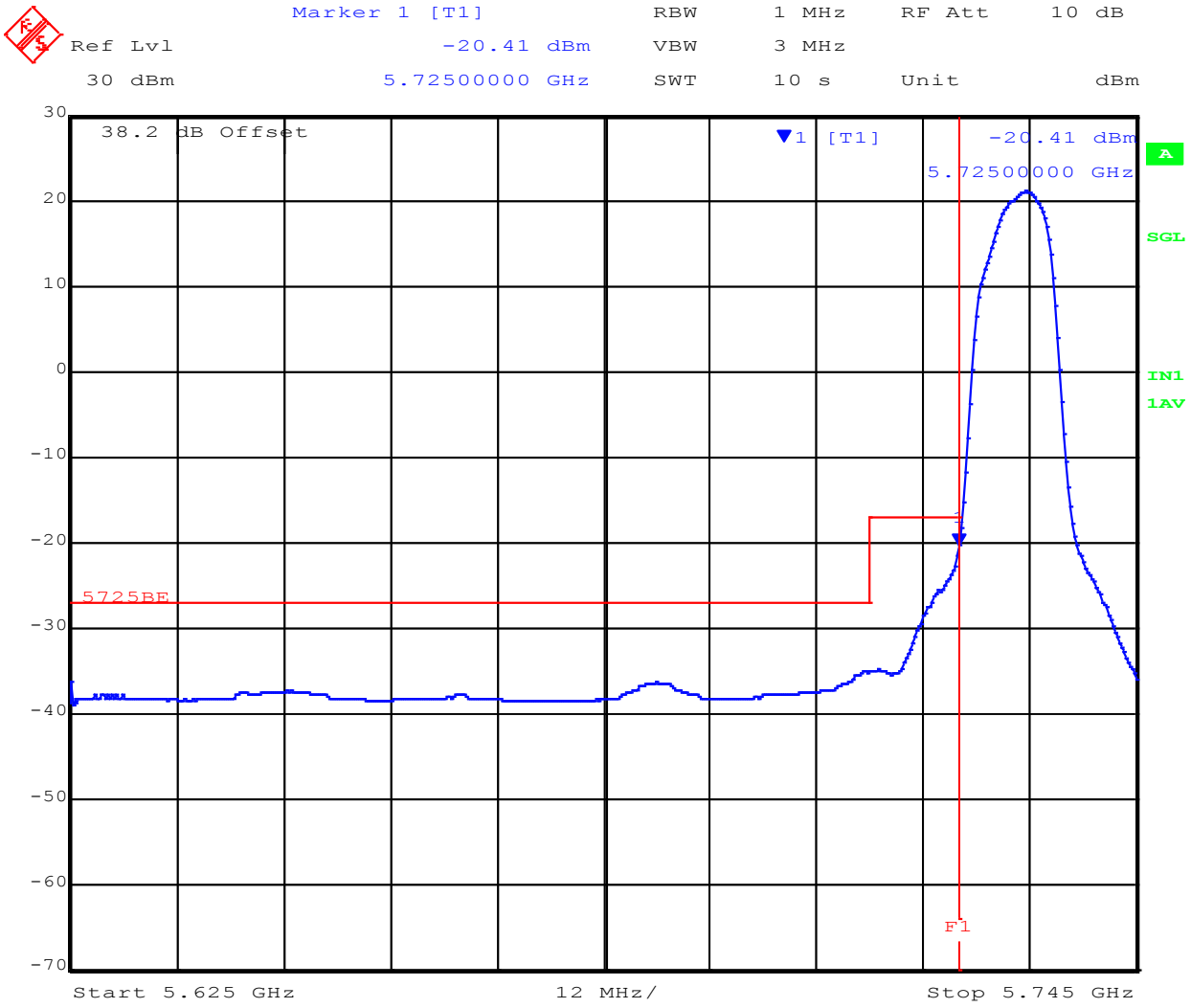
RADWIN Ltd RW-9732-4958 5 MHz Low



Date: 13.NOV.2015 09:39:12

Back to Matrix

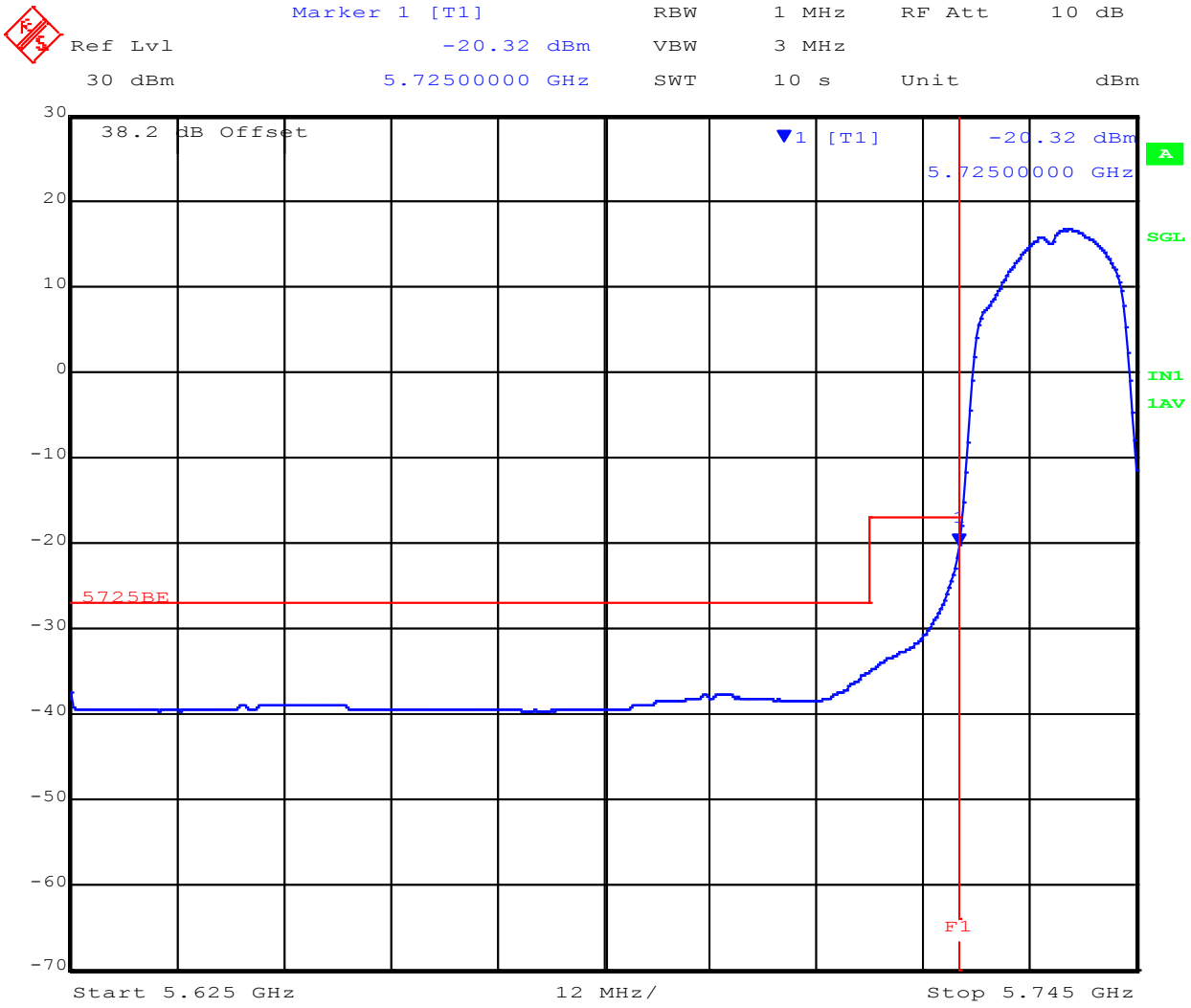
RADWIN Ltd RW-9732-4958 10 MHz Low



Date: 13.NOV.2015 09:42:00

Back to Matrix

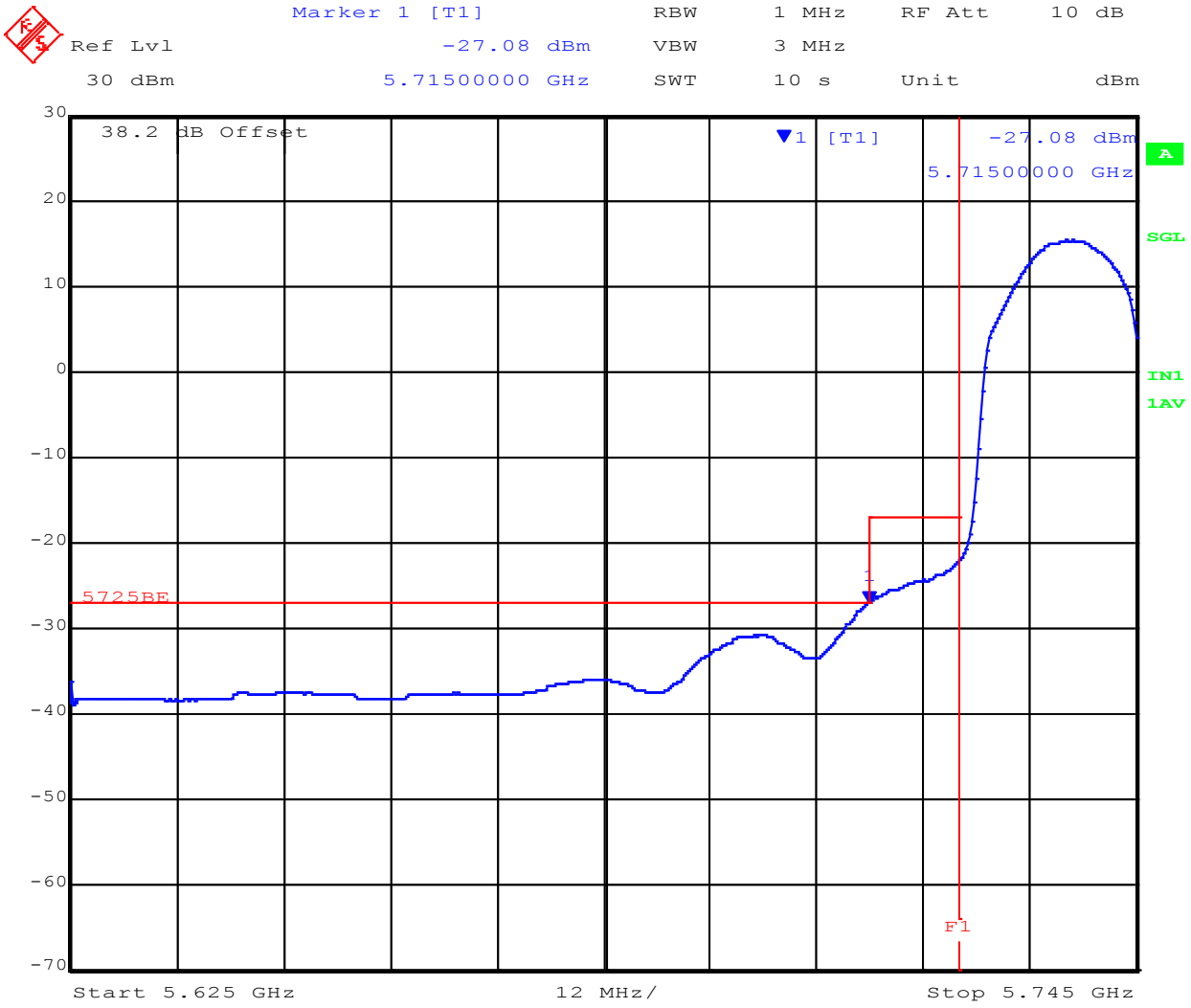
RADWIN Ltd RW-9732-4958 20 MHz Low



Date: 13.NOV.2015 09:45:22

Back to Matrix

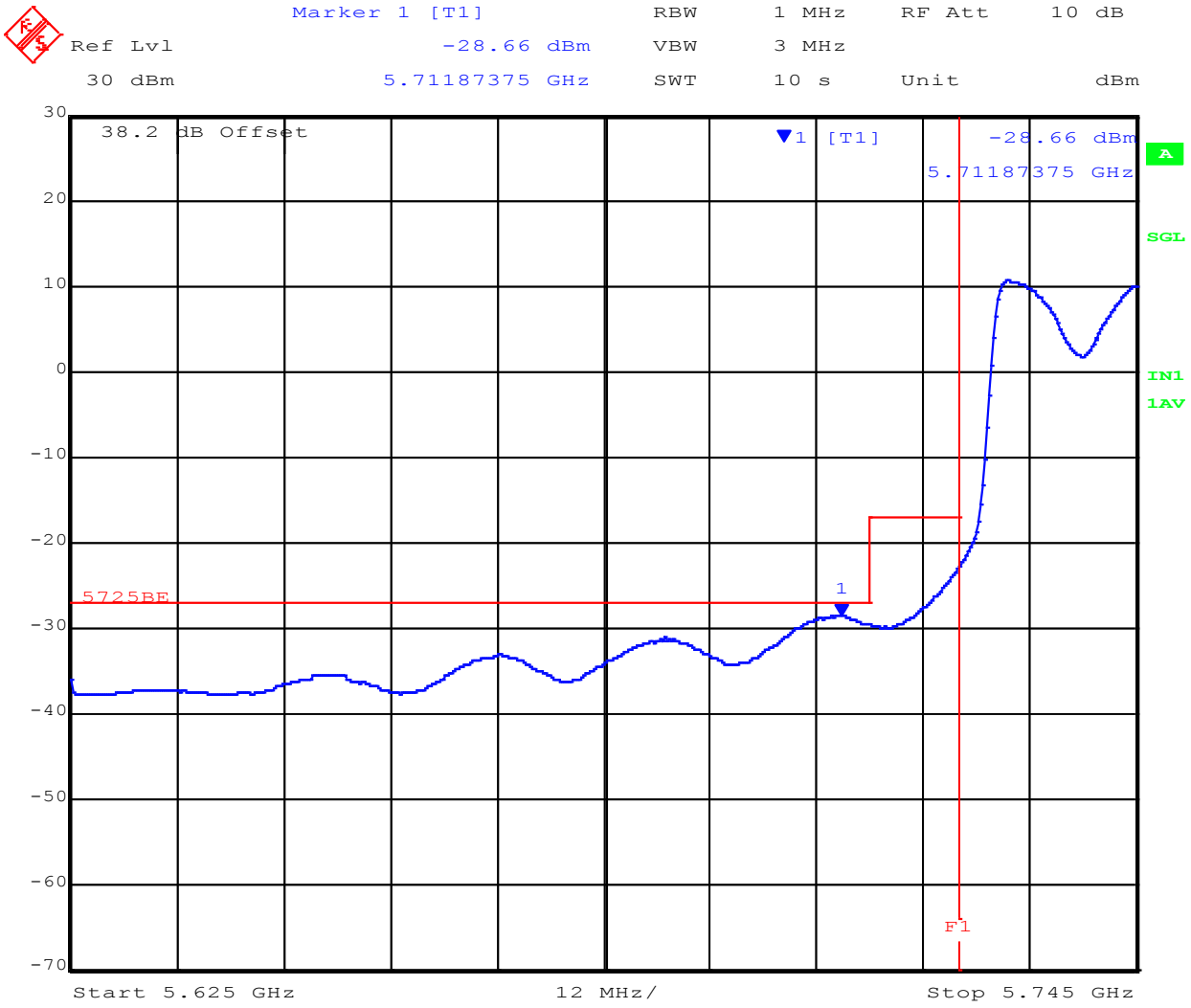
RADWIN Ltd RW-9732-4958 40 MHz Low



Date: 13.NOV.2015 09:48:29

Back to Matrix

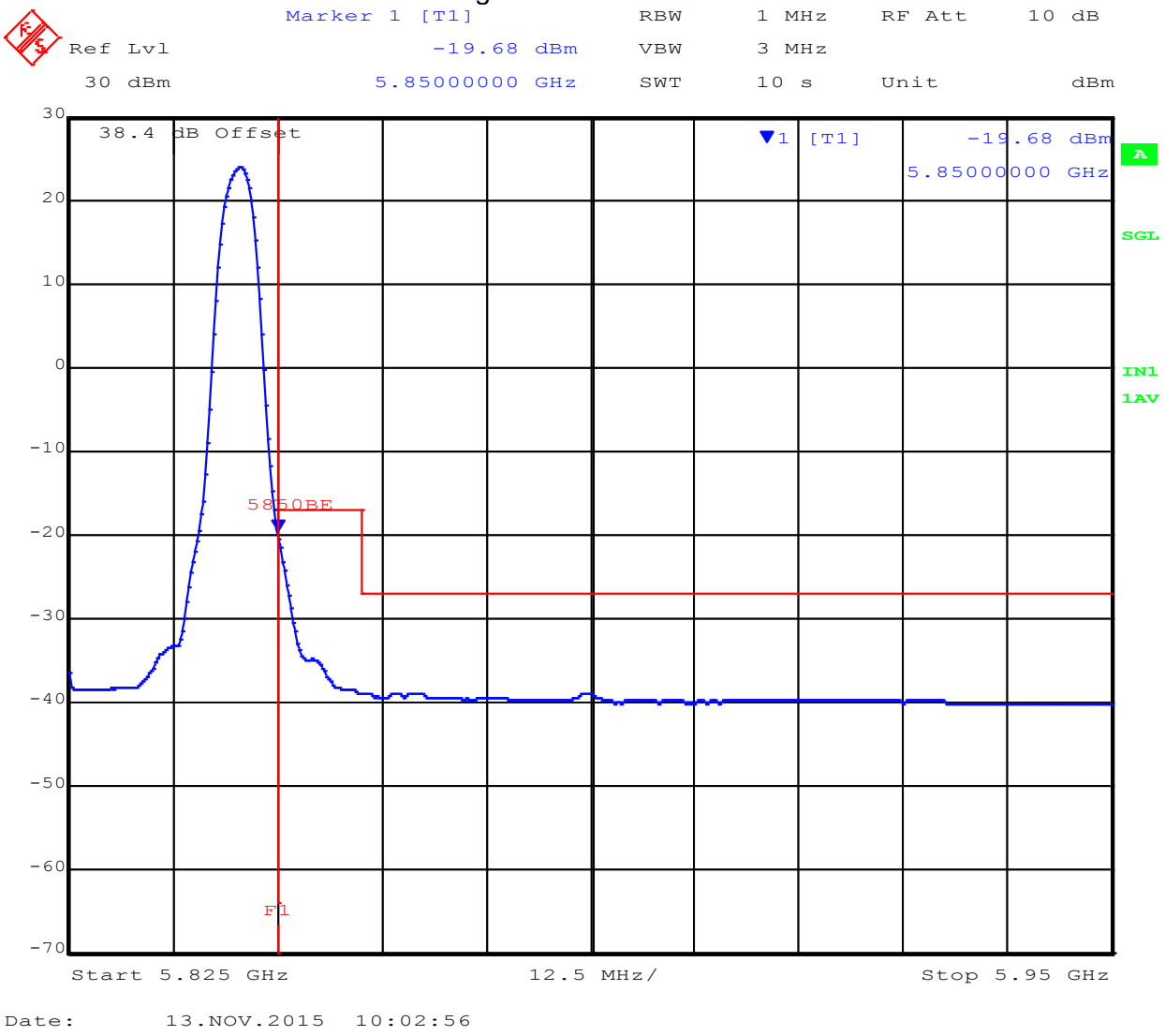
RADWIN Ltd RW-9732-4958 80 MHz Low



Date: 13.NOV.2015 09:50:17

Back to Matrix

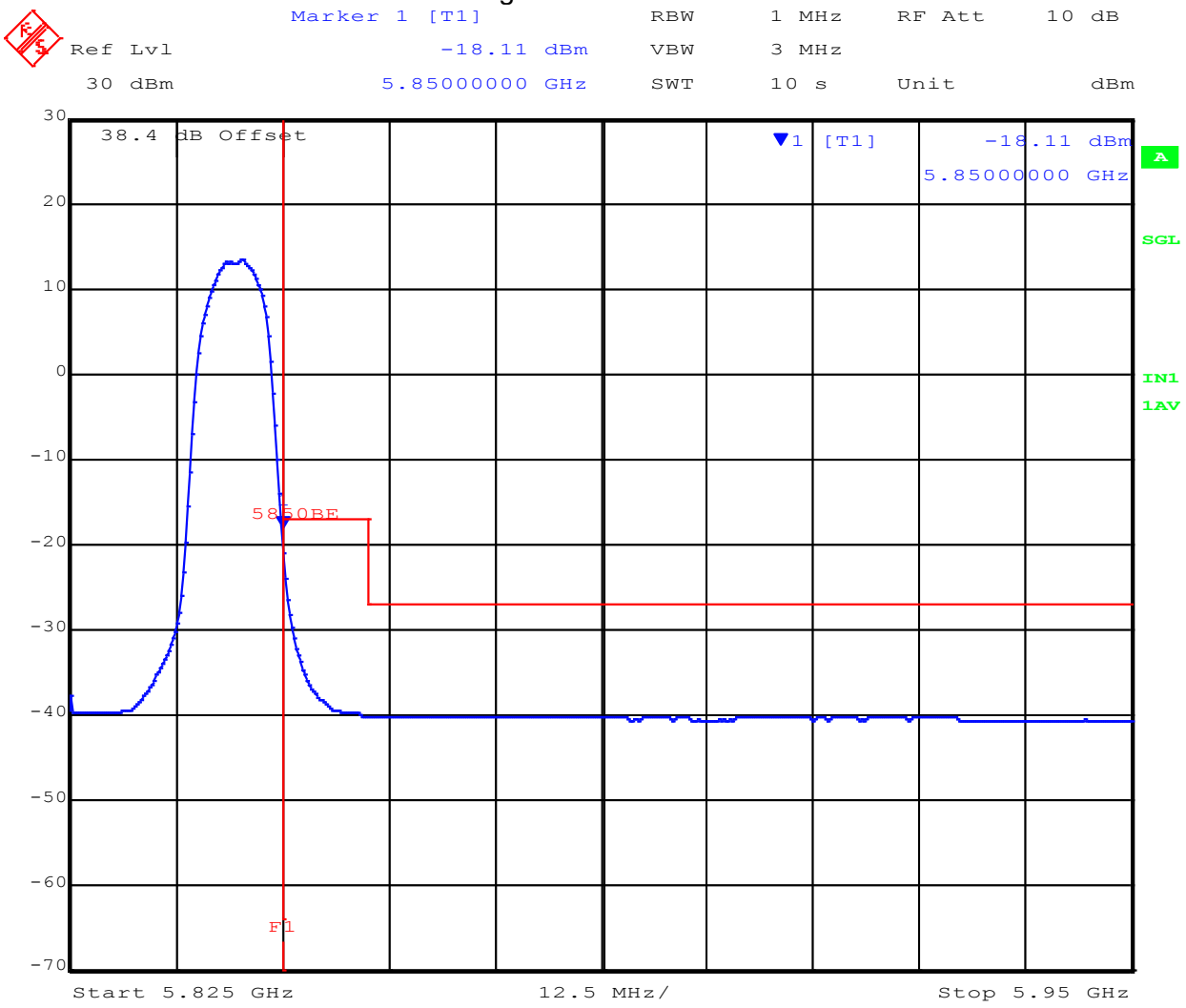
RADWIN Ltd RW-9732-4958 5 MHz High



Date: 13.NOV.2015 10:02:56

Back to Matrix

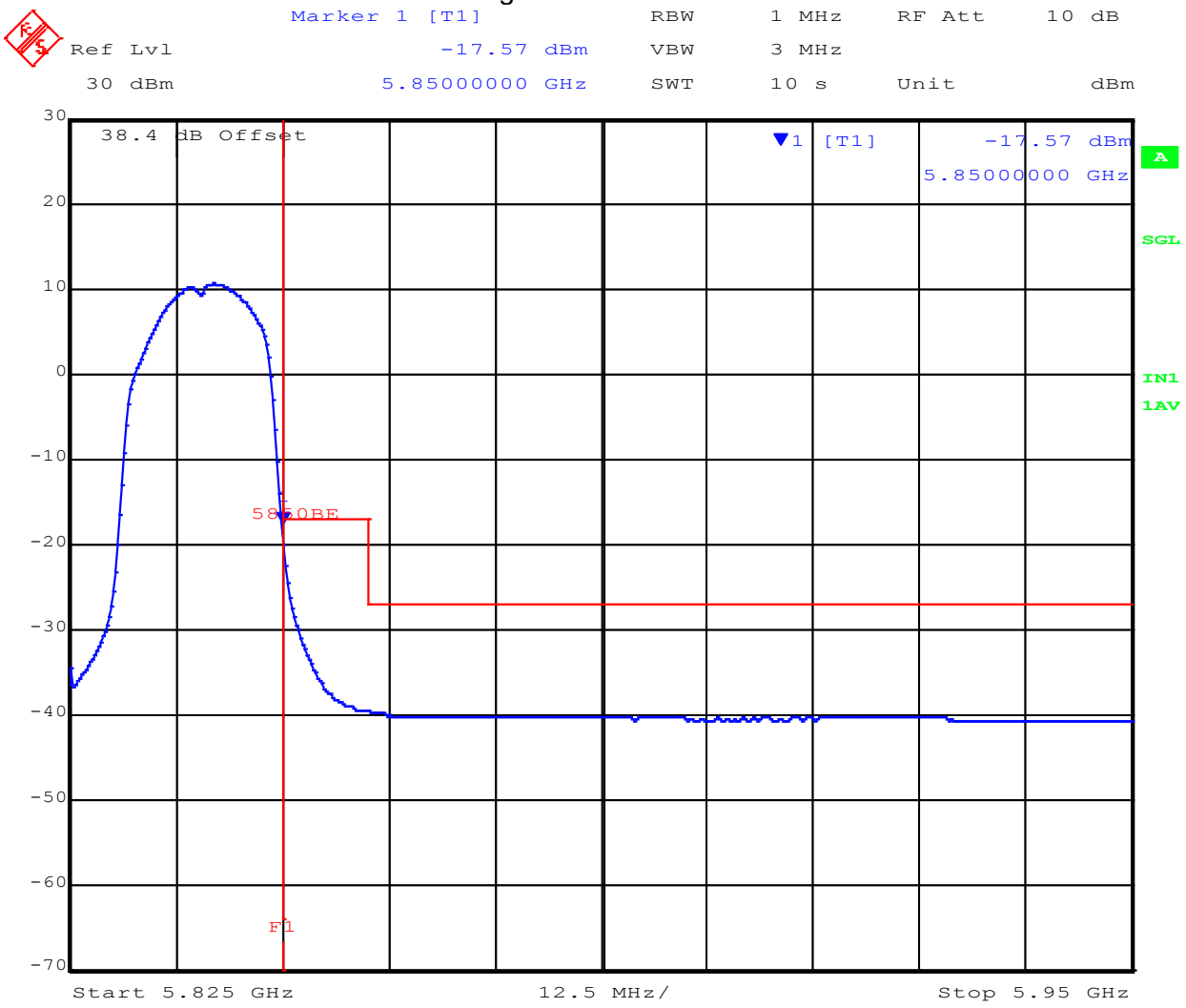
RADWIN Ltd RW-9732-4958 10 MHz High



Date: 13.NOV.2015 10:01:39

Back to Matrix

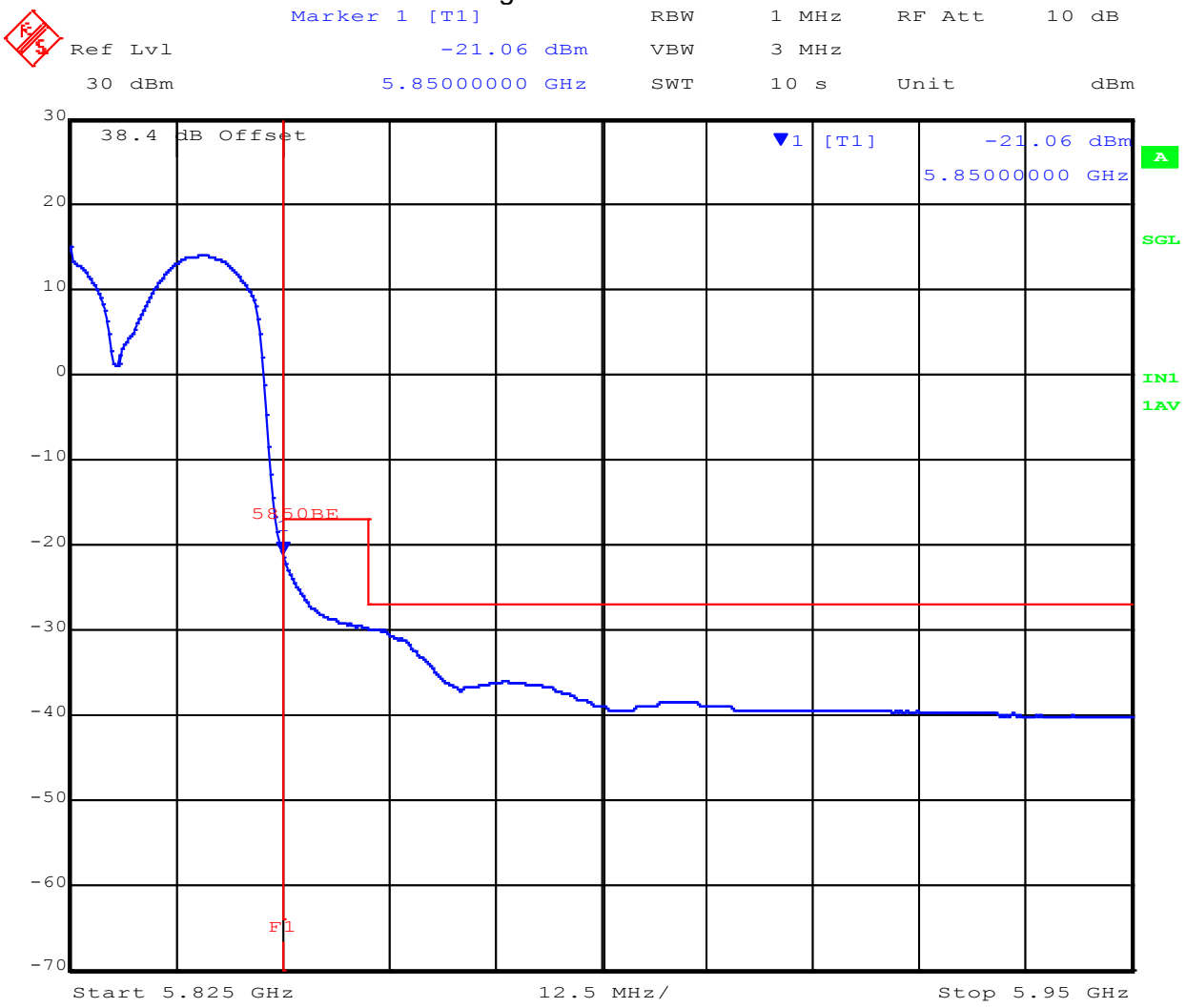
RADWIN Ltd RW-9732-4958 20 MHz High



Date: 13.NOV.2015 10:00:41

Back to Matrix

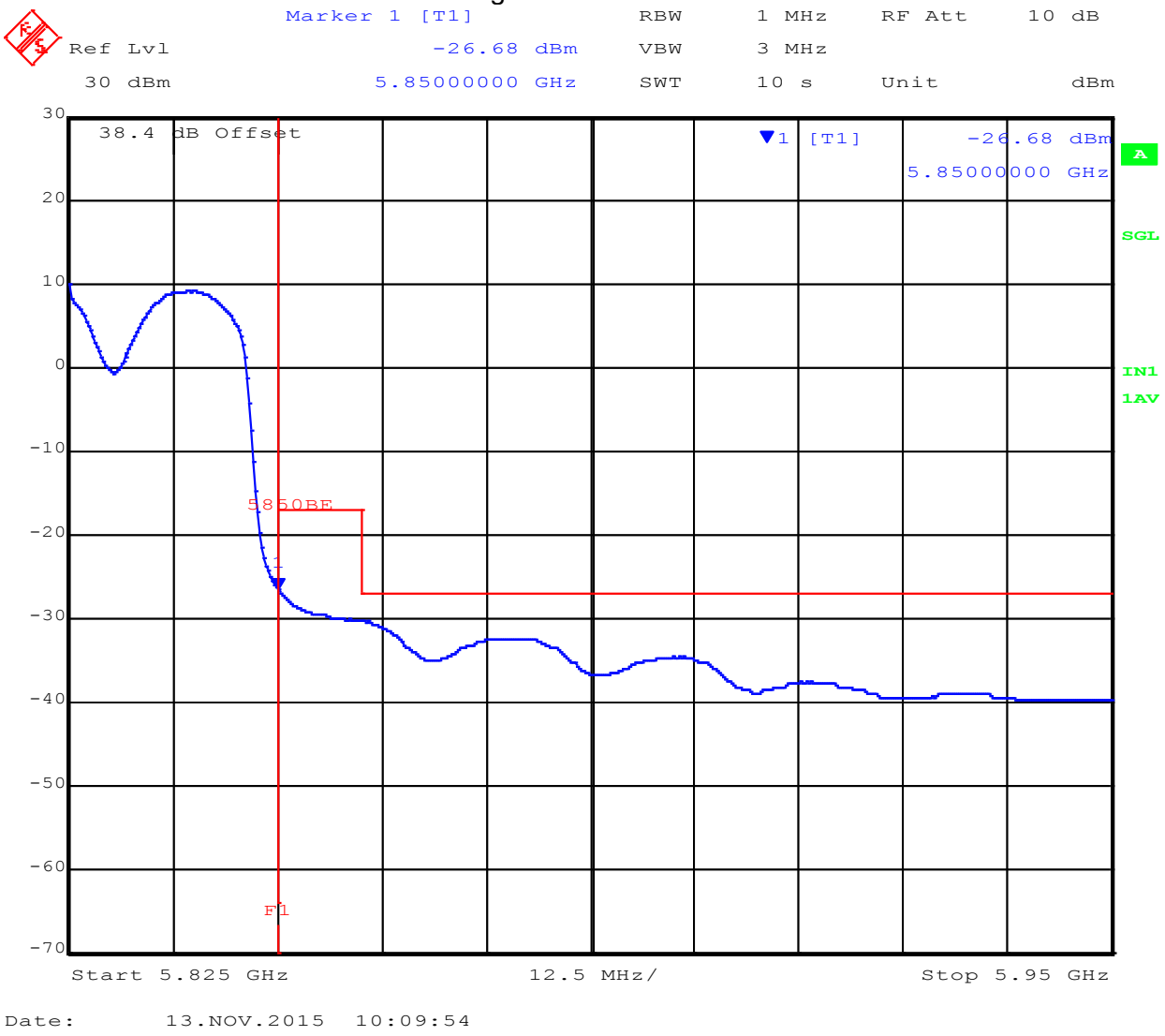
RADWIN Ltd RW-9732-4958 40 MHz High



Date: 13.NOV.2015 10:08:23

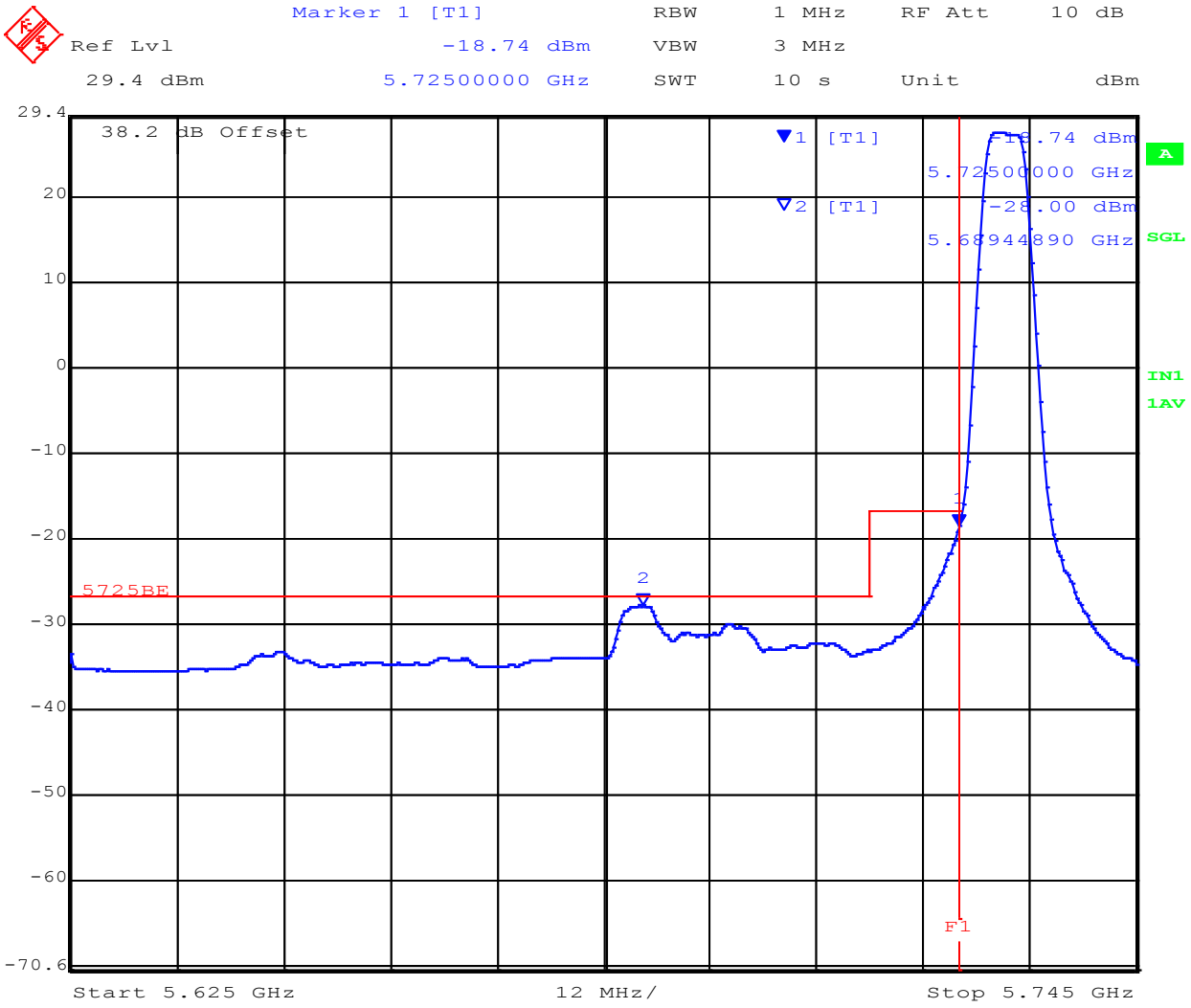
Back to Matrix

RADWIN Ltd RW-9732-4958 80 MHz High



Back to Matrix

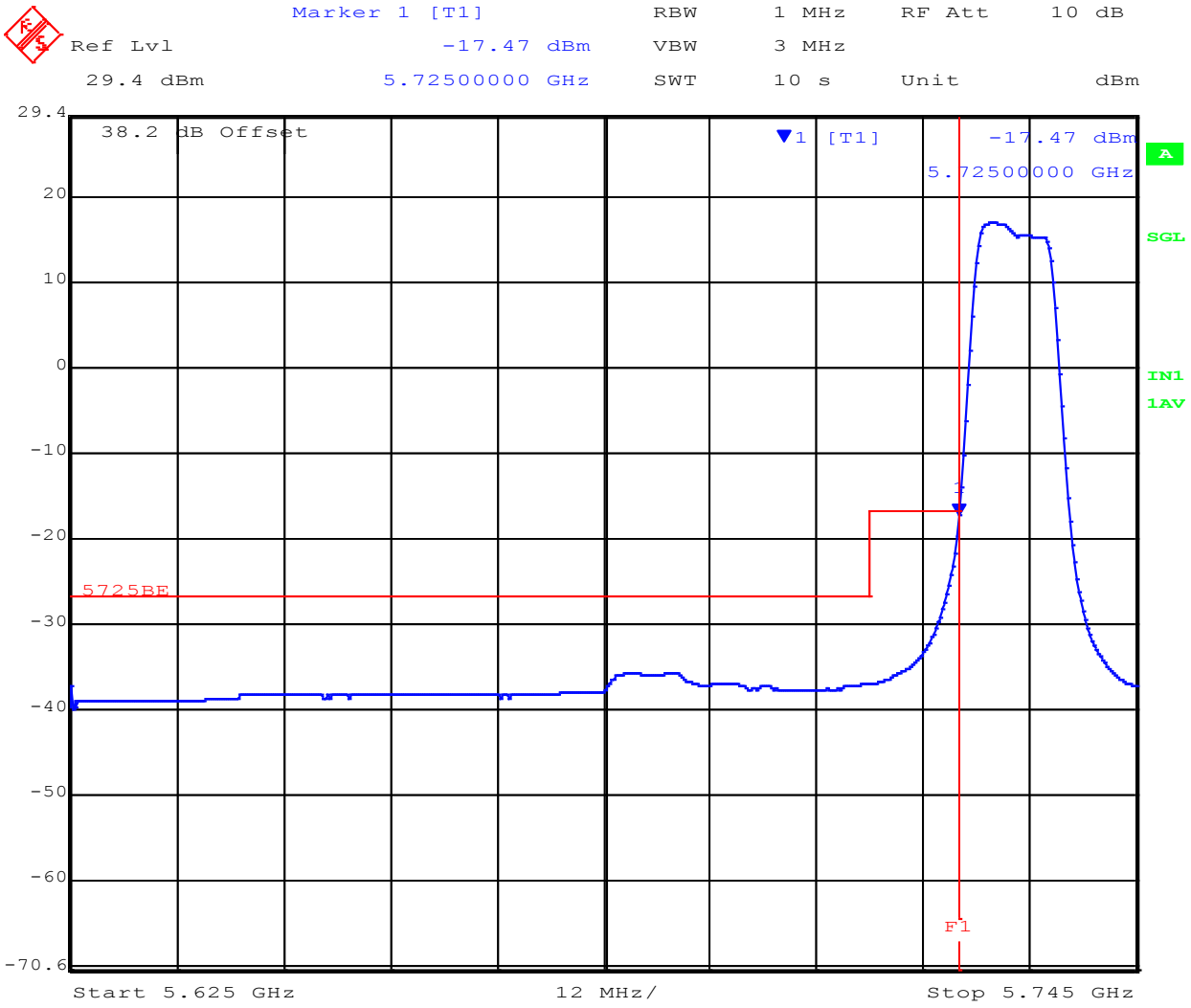
RADWIN Ltd RW-9622-5001 5 MHz Low



Date: 12.NOV.2015 15:37:46

Back to Matrix

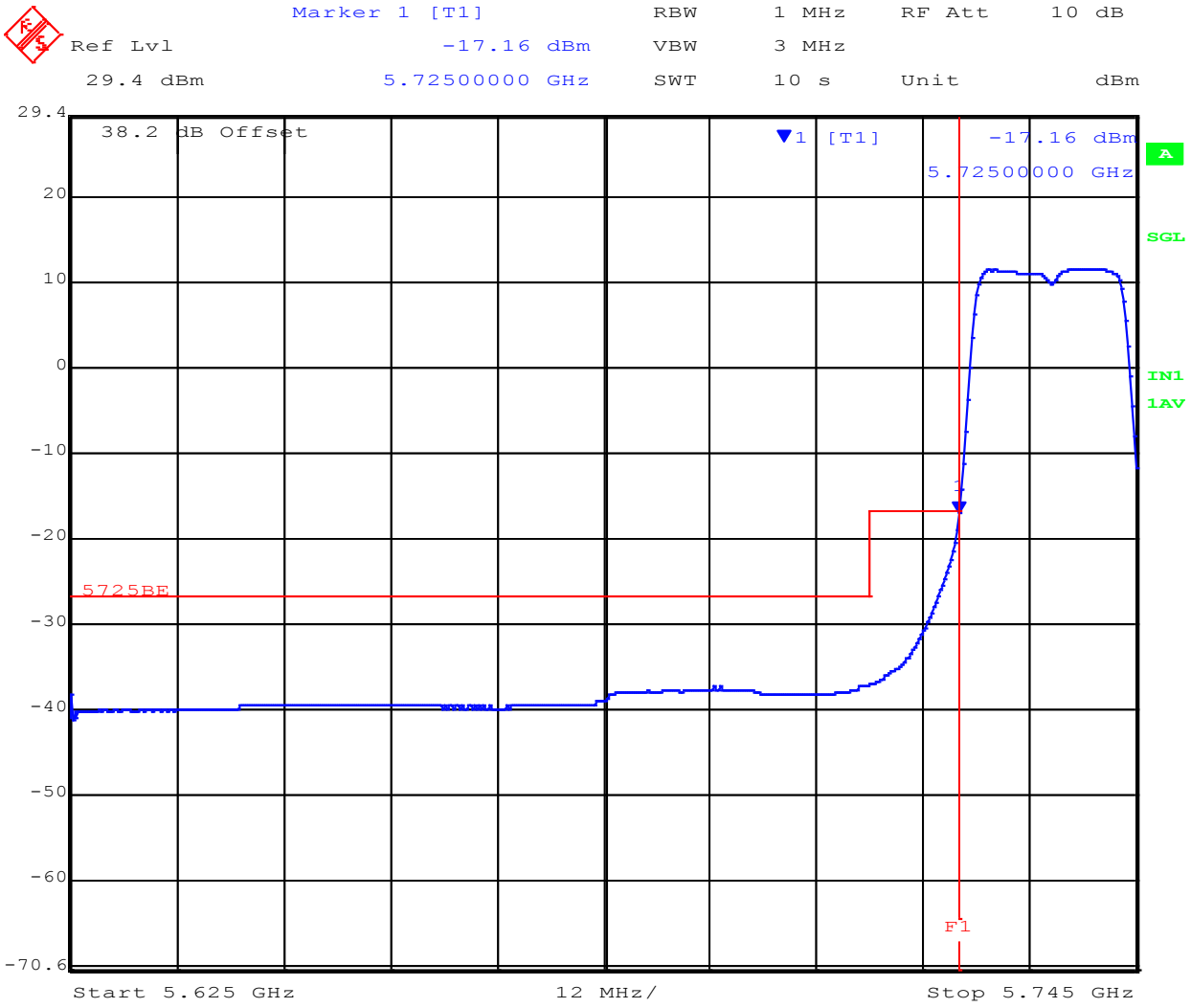
RADWIN Ltd RW-9622-5001 10 MHz Low



Date: 12.NOV.2015 15:41:56

Back to Matrix

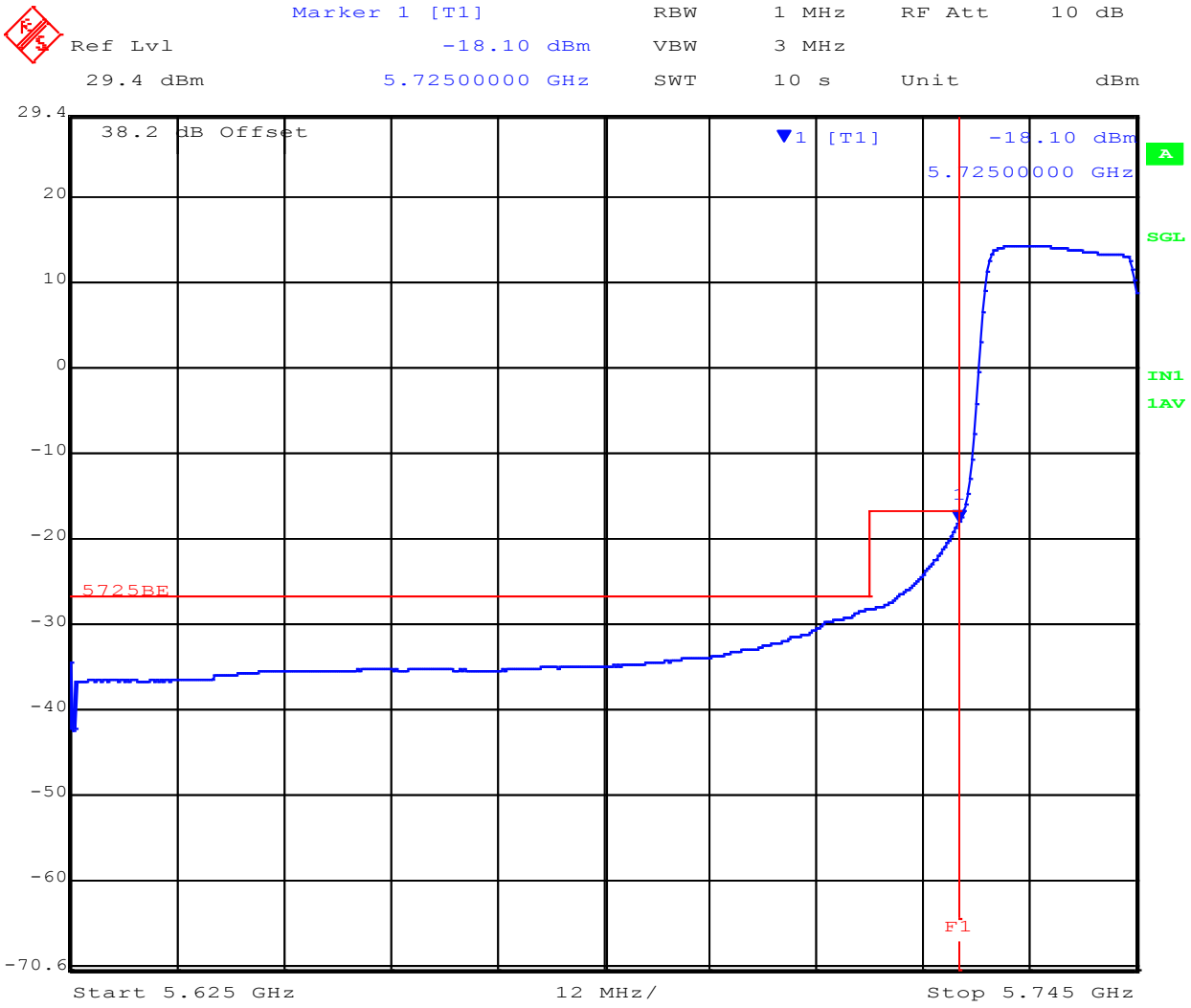
RADWIN Ltd RW-9622-5001 20 MHz Low



Date: 12.NOV.2015 15:44:00

Back to Matrix

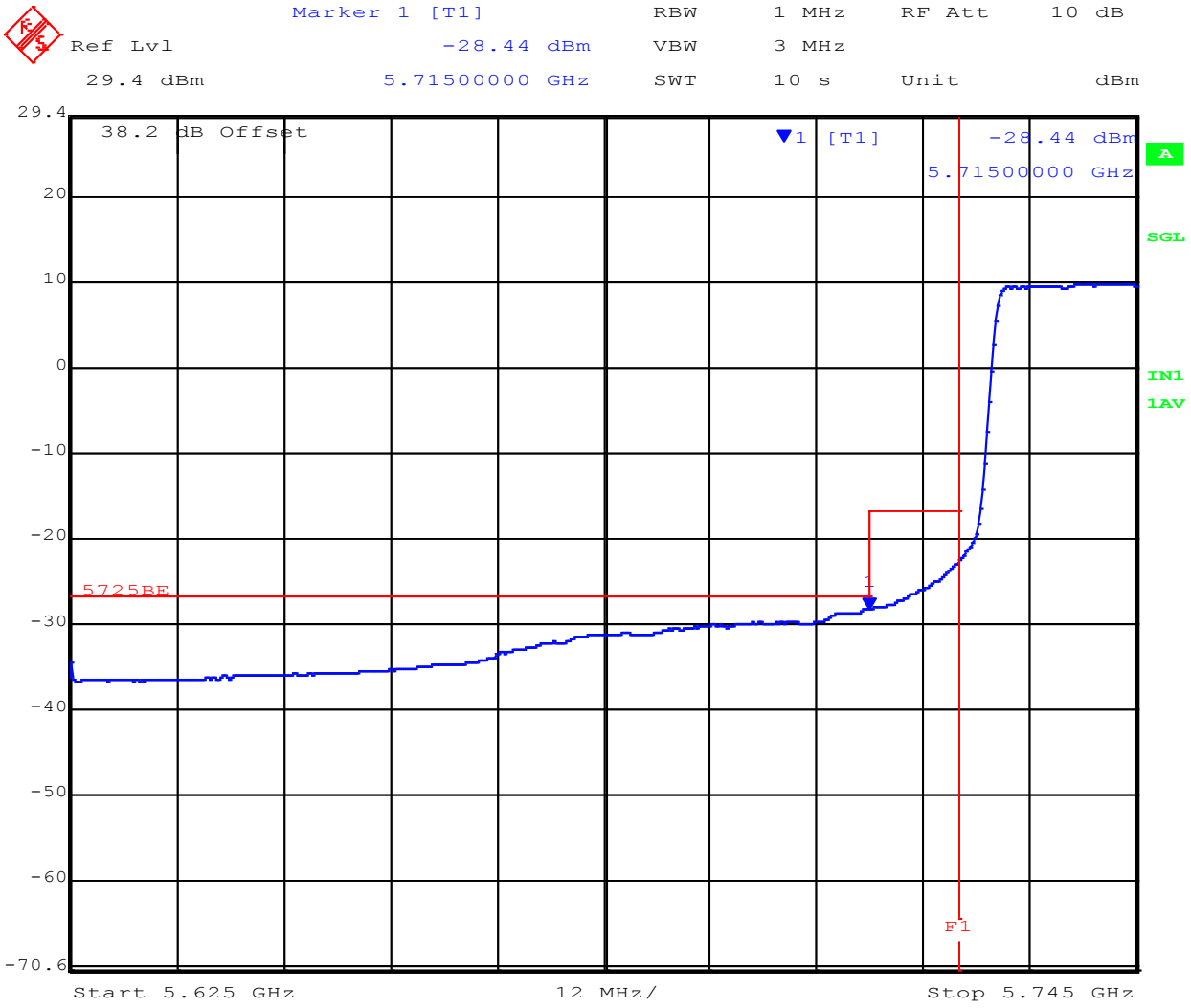
RADWIN Ltd RW-9622-5001 40 MHz Low



Date: 12.NOV.2015 15:46:49

Back to Matrix

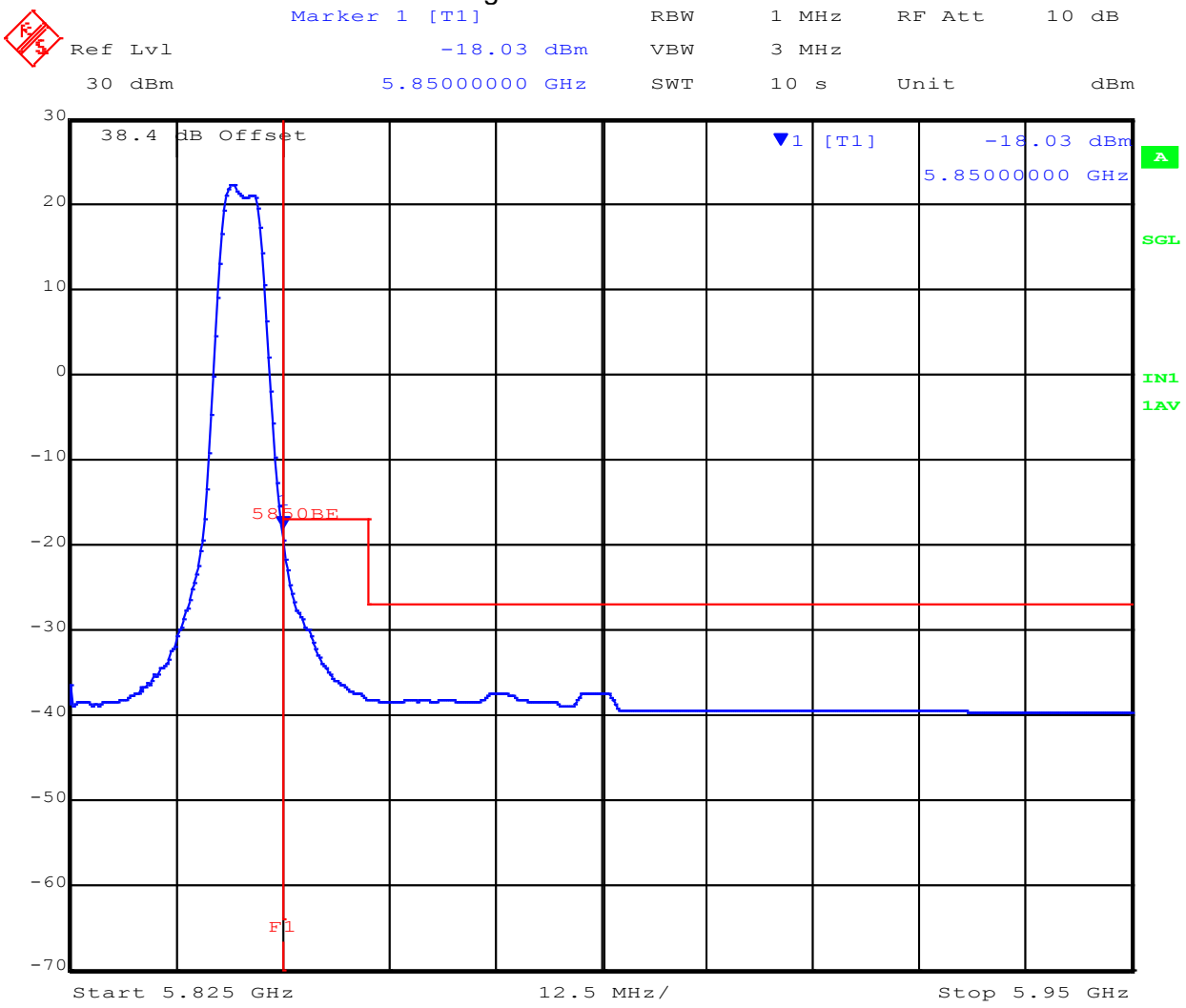
RADWIN Ltd RW-9622-5001 80 MHz Low



Date: 12.NOV.2015 15:47:54

Back to Matrix

RADWIN Ltd RW-9622-5001 5 MHz High



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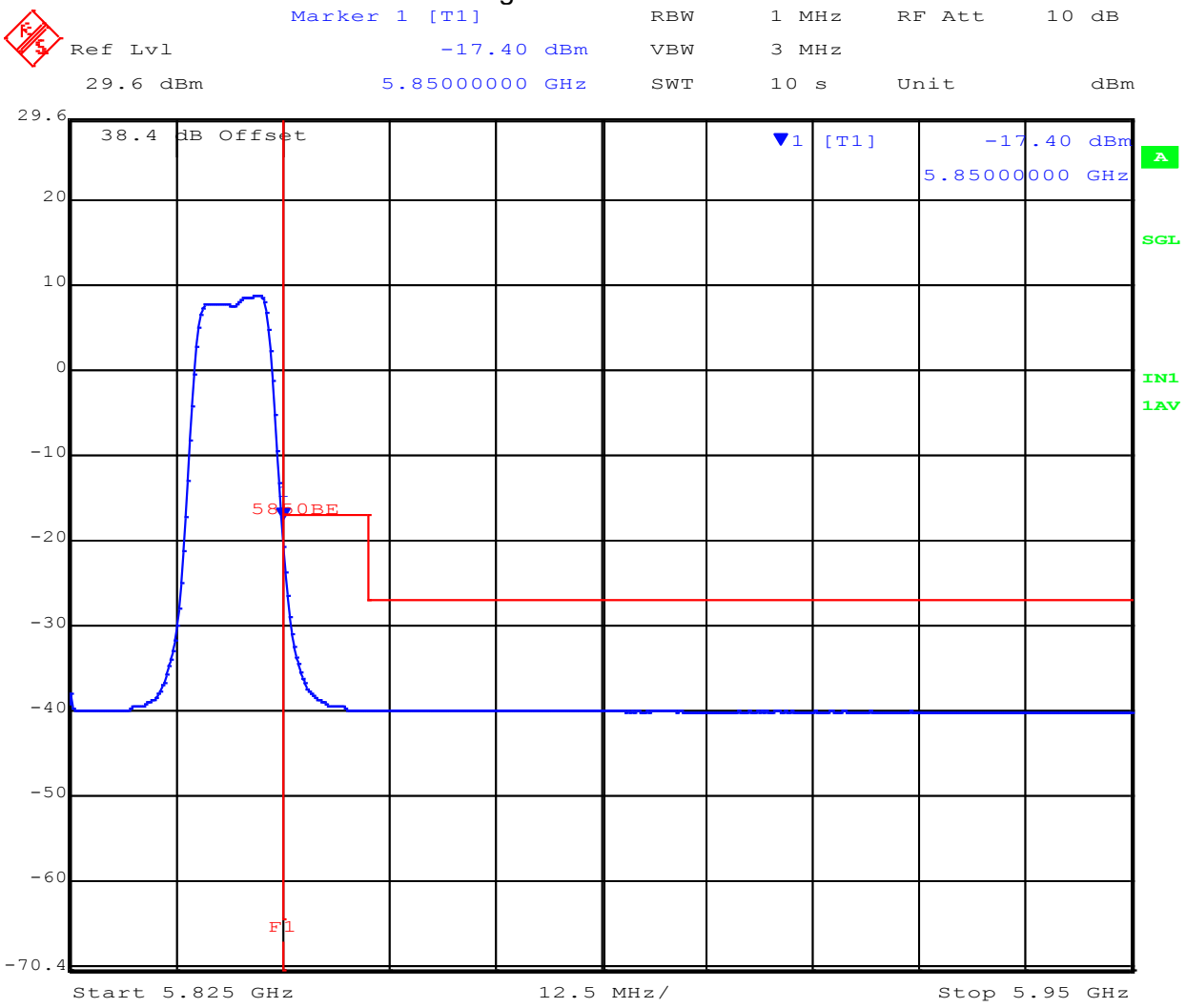
Back to Matrix

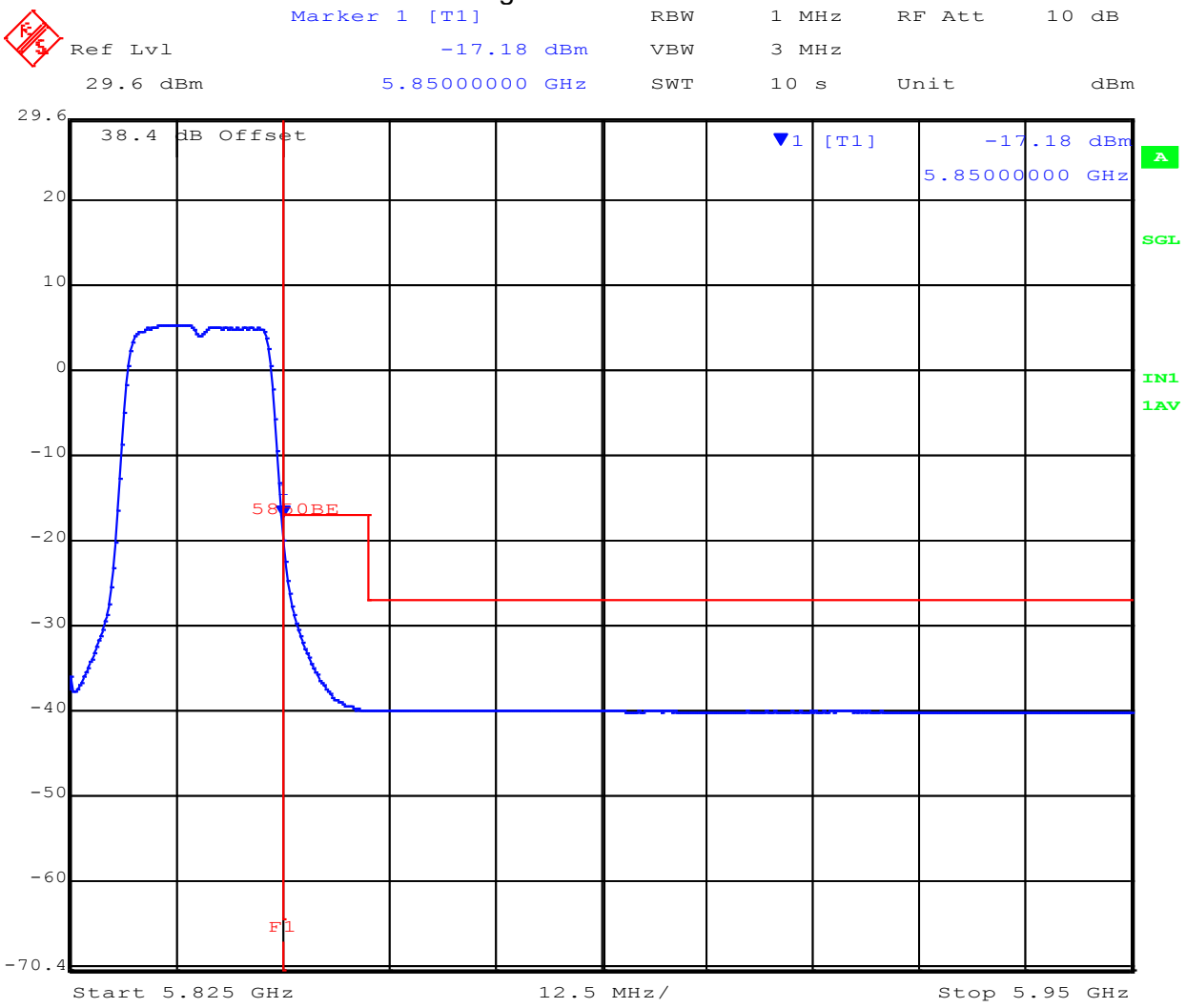
RADWIN Ltd RW-9622-5001 10 MHz High



Date: 12.NOV.2015 15:55:47

Back to Matrix

RADWIN Ltd RW-9622-5001 20 MHz High



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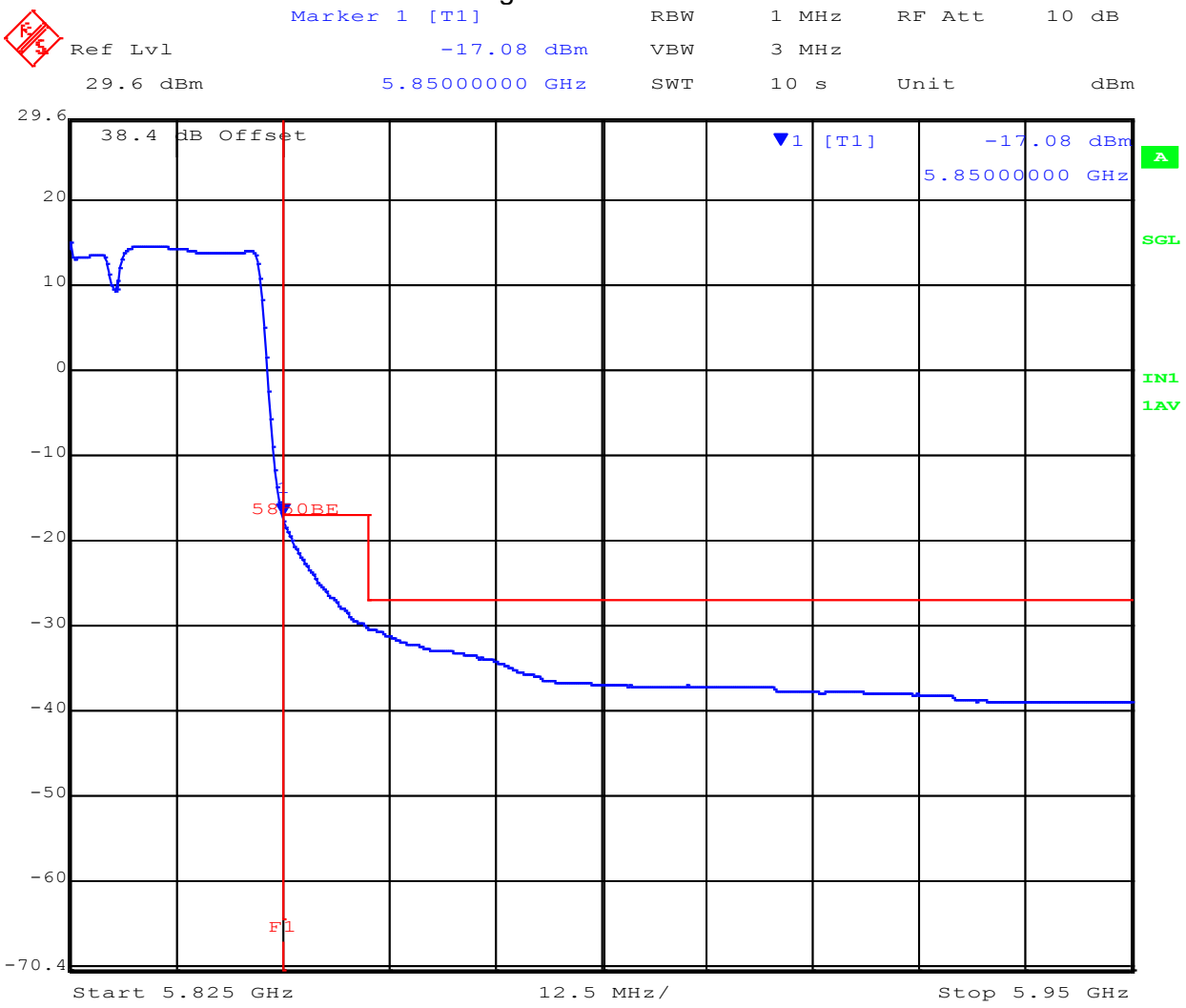
RADWIN Ltd RW-9622-5001 40 MHz High



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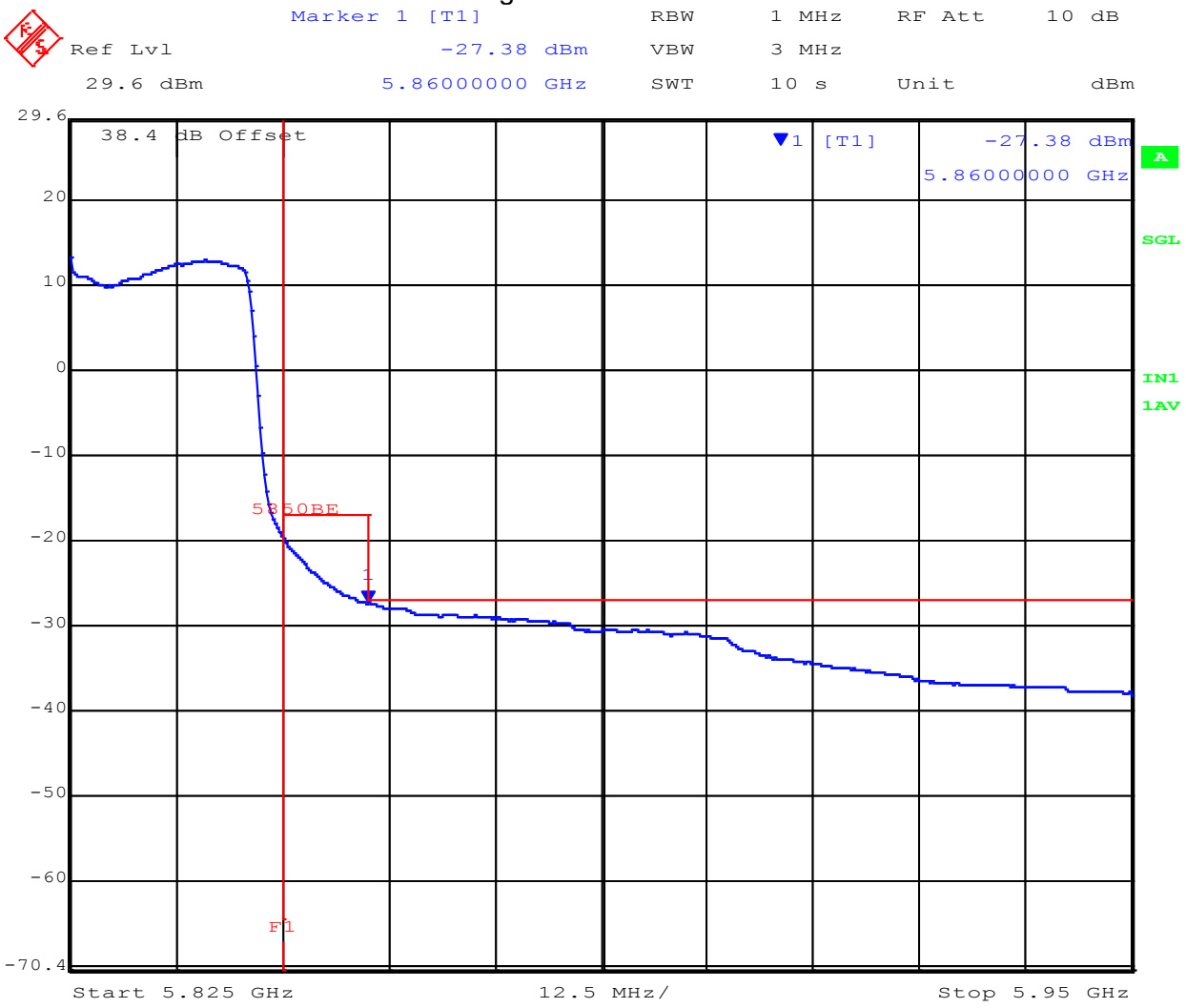
RADWIN Ltd RW-9622-5001 80 MHz High



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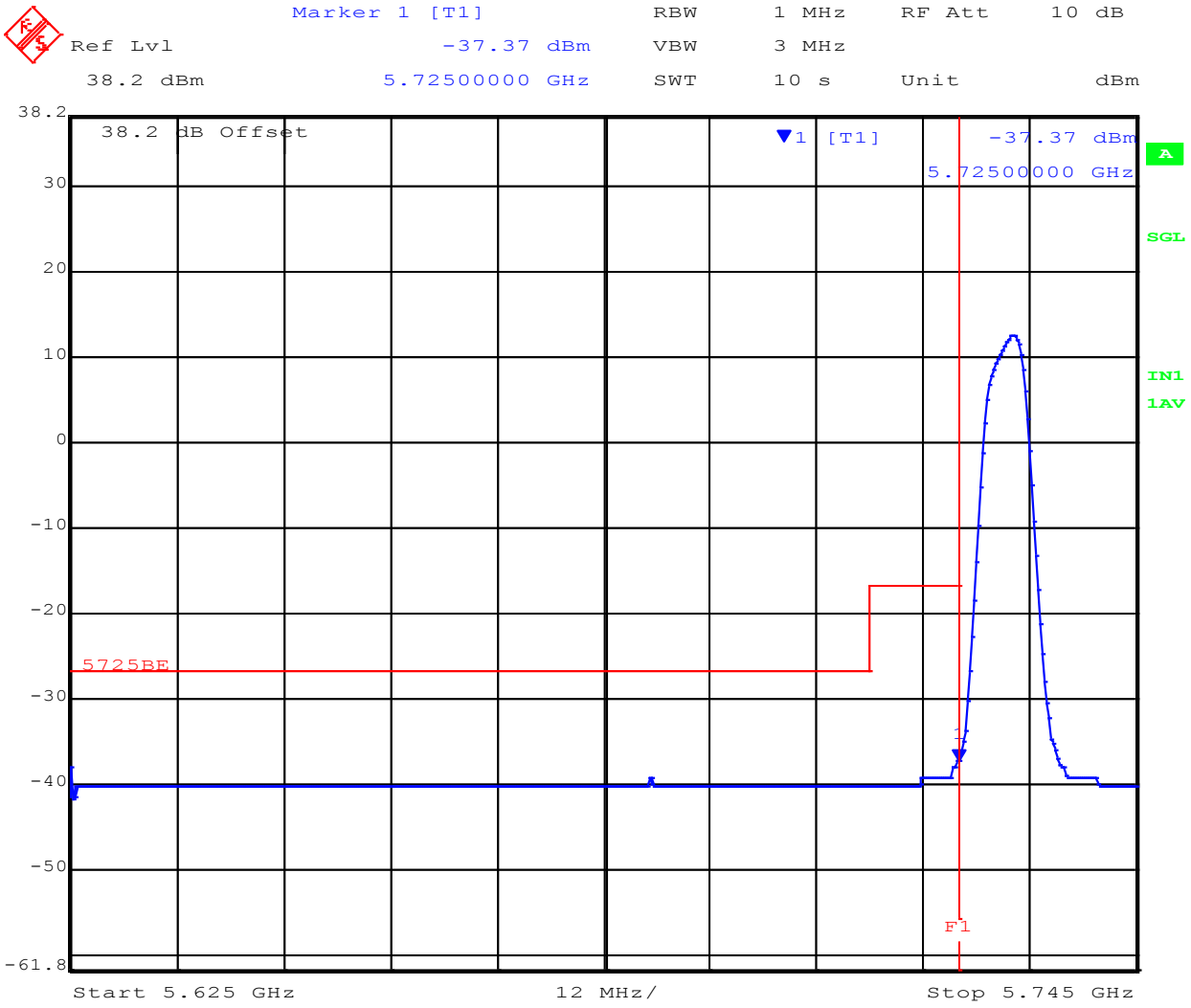
RADWIN Ltd RW-9401-5002 5 MHz Low



Date: 12.NOV.2015 14:37:43

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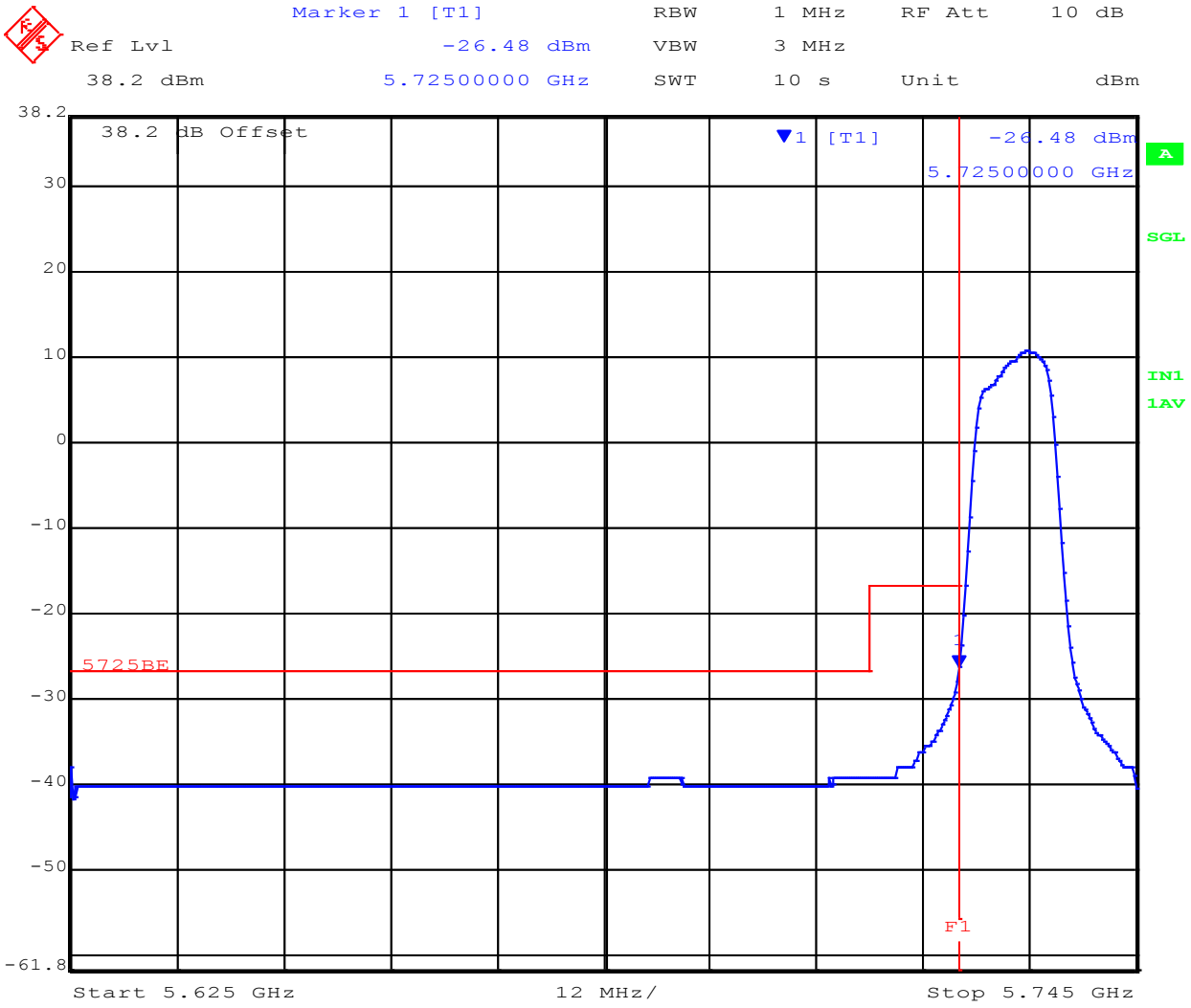
RADWIN Ltd RW-9401-5002 10 MHz Low



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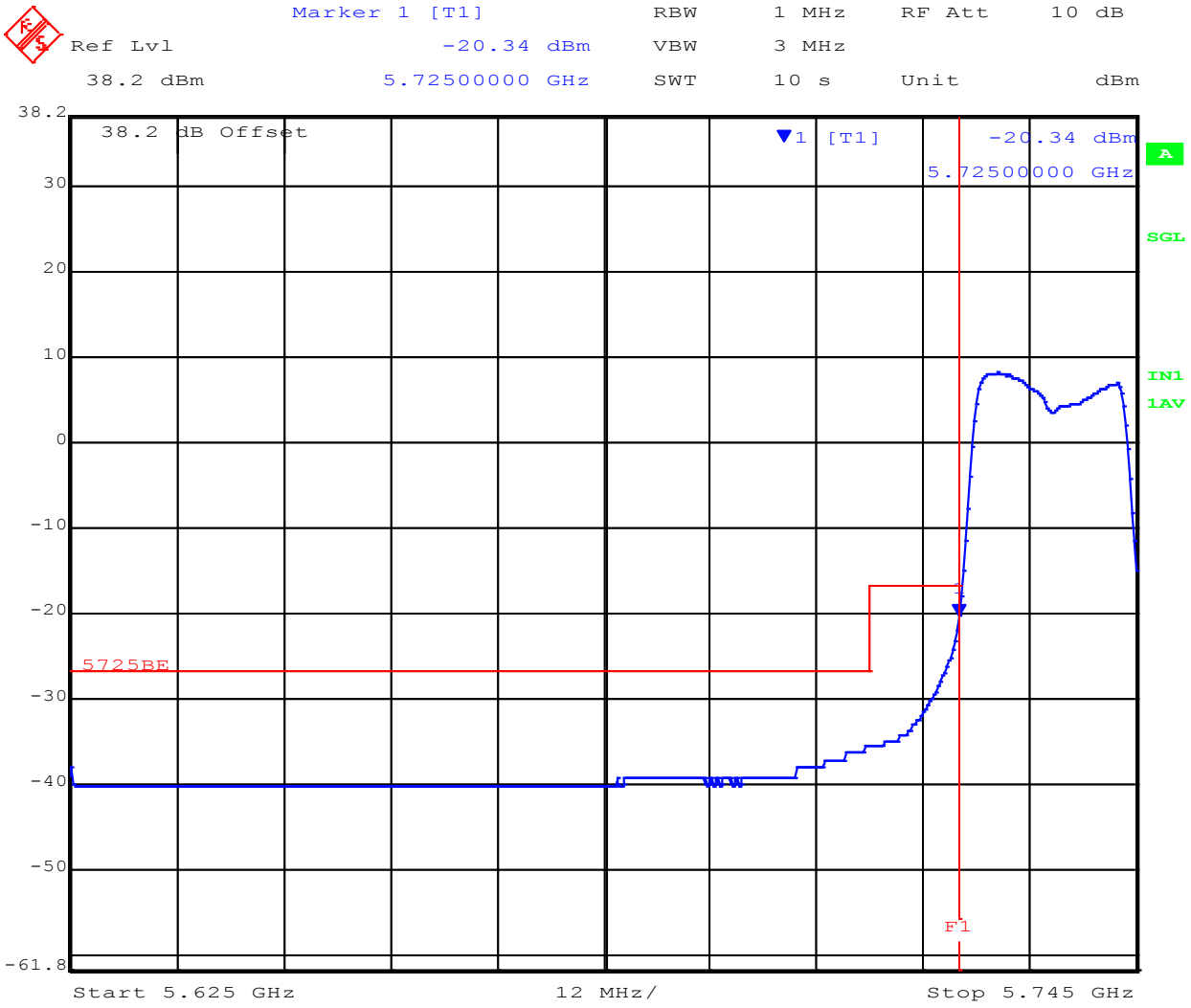
RADWIN Ltd RW-9401-5002 20 MHz Low



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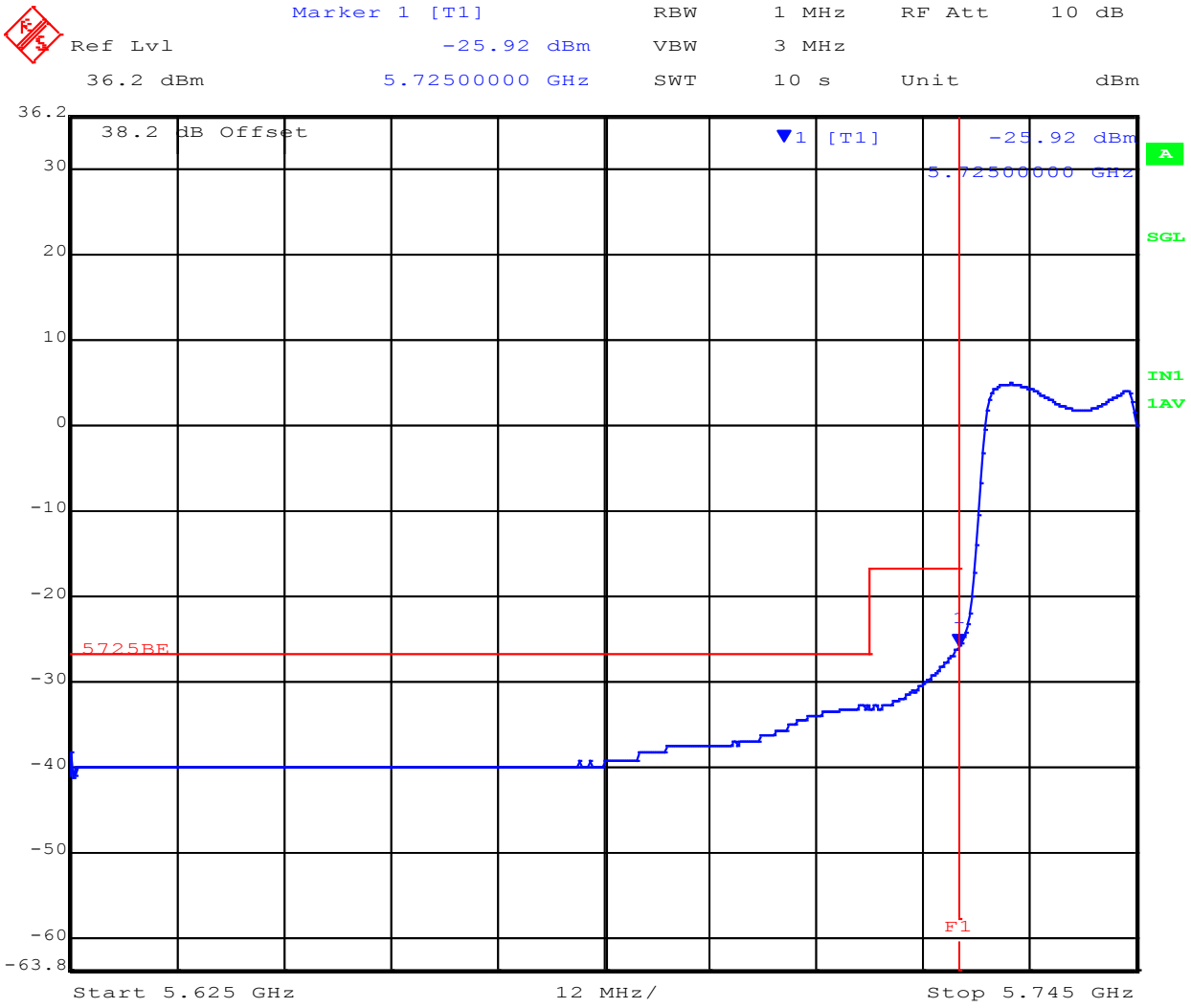
RADWIN Ltd RW-9401-5002 40 MHz Low



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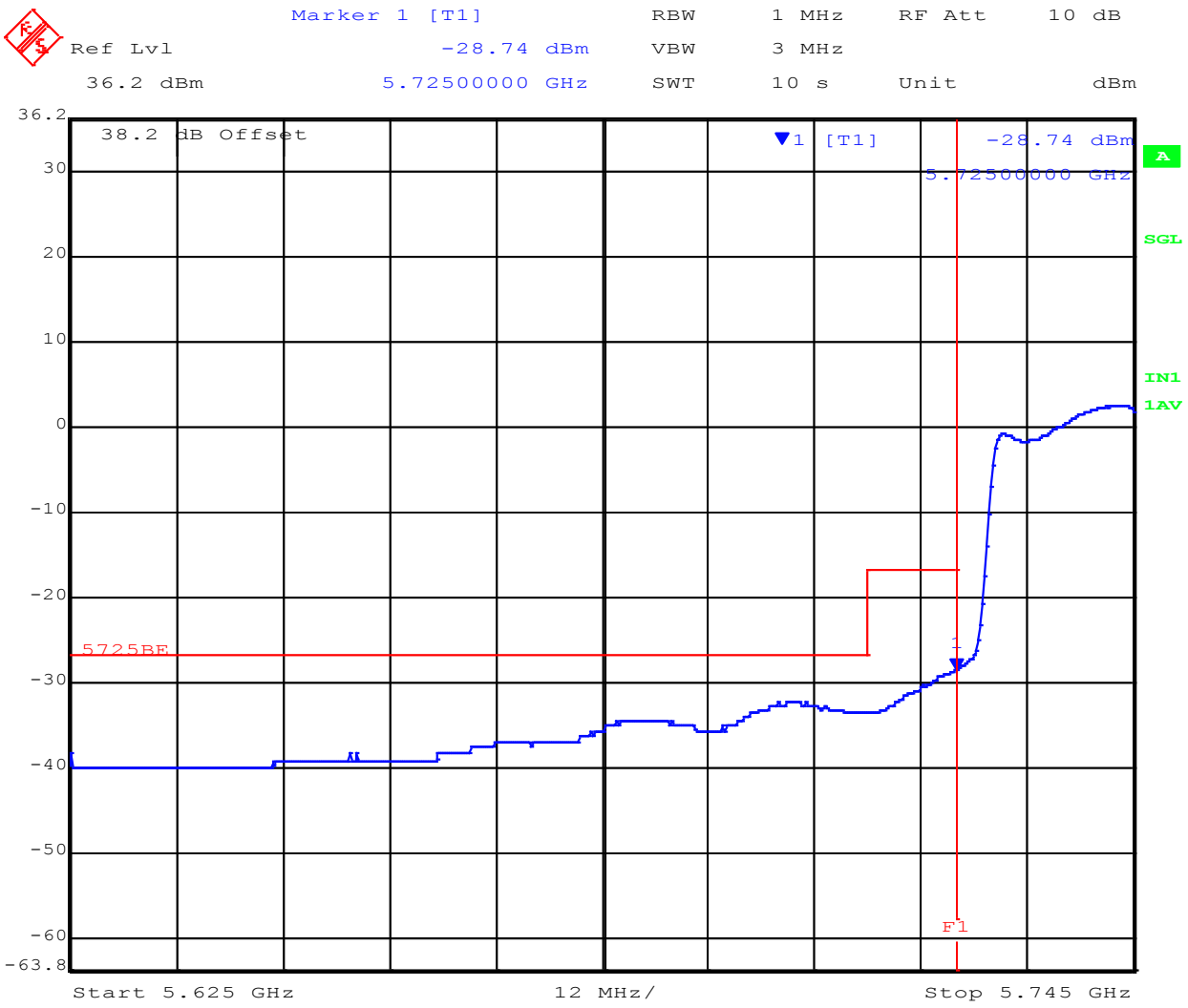
RADWIN Ltd RW-9401-5002 80 MHz Low



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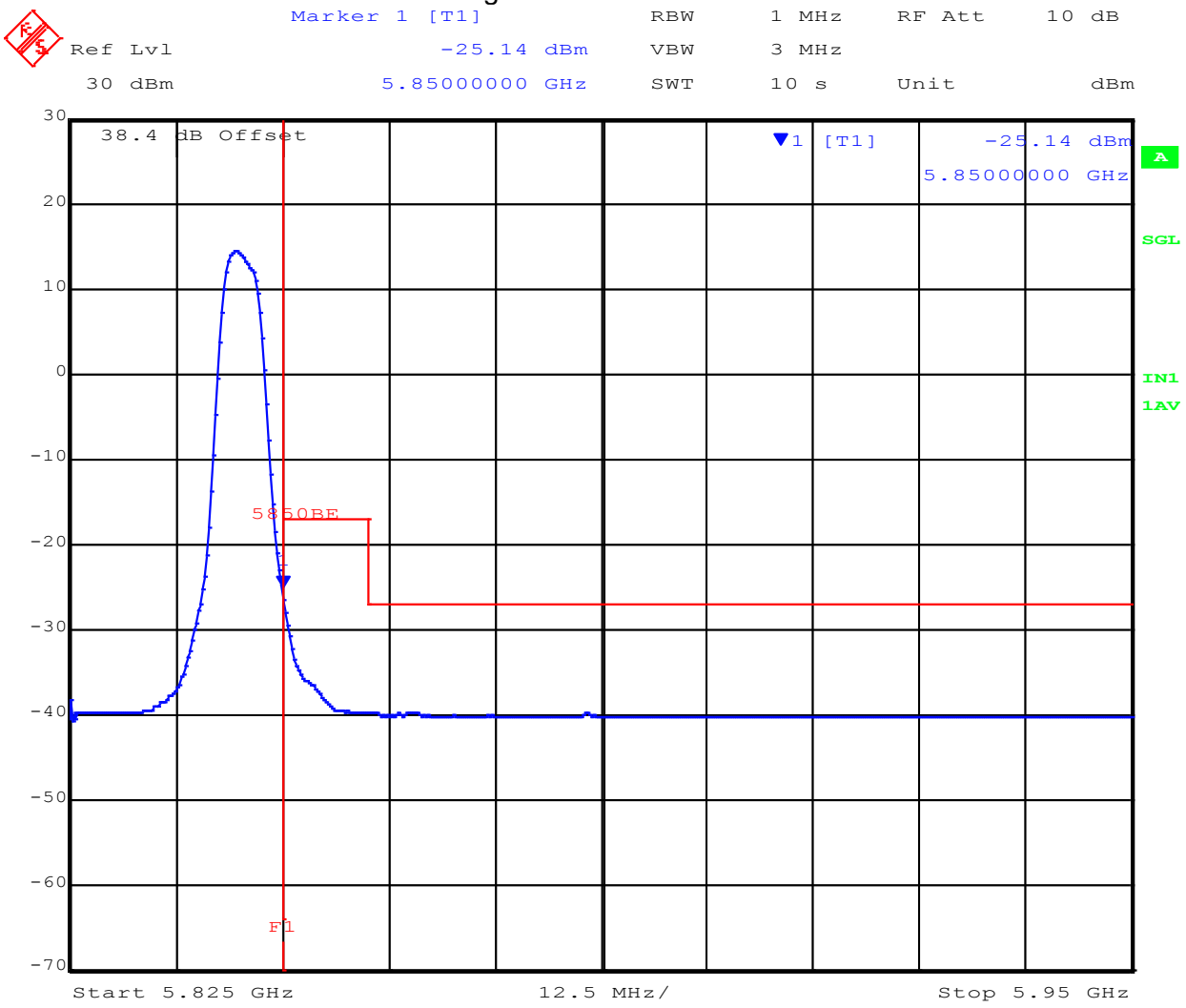
RADWIN Ltd RW-9401-5002 5 MHz High



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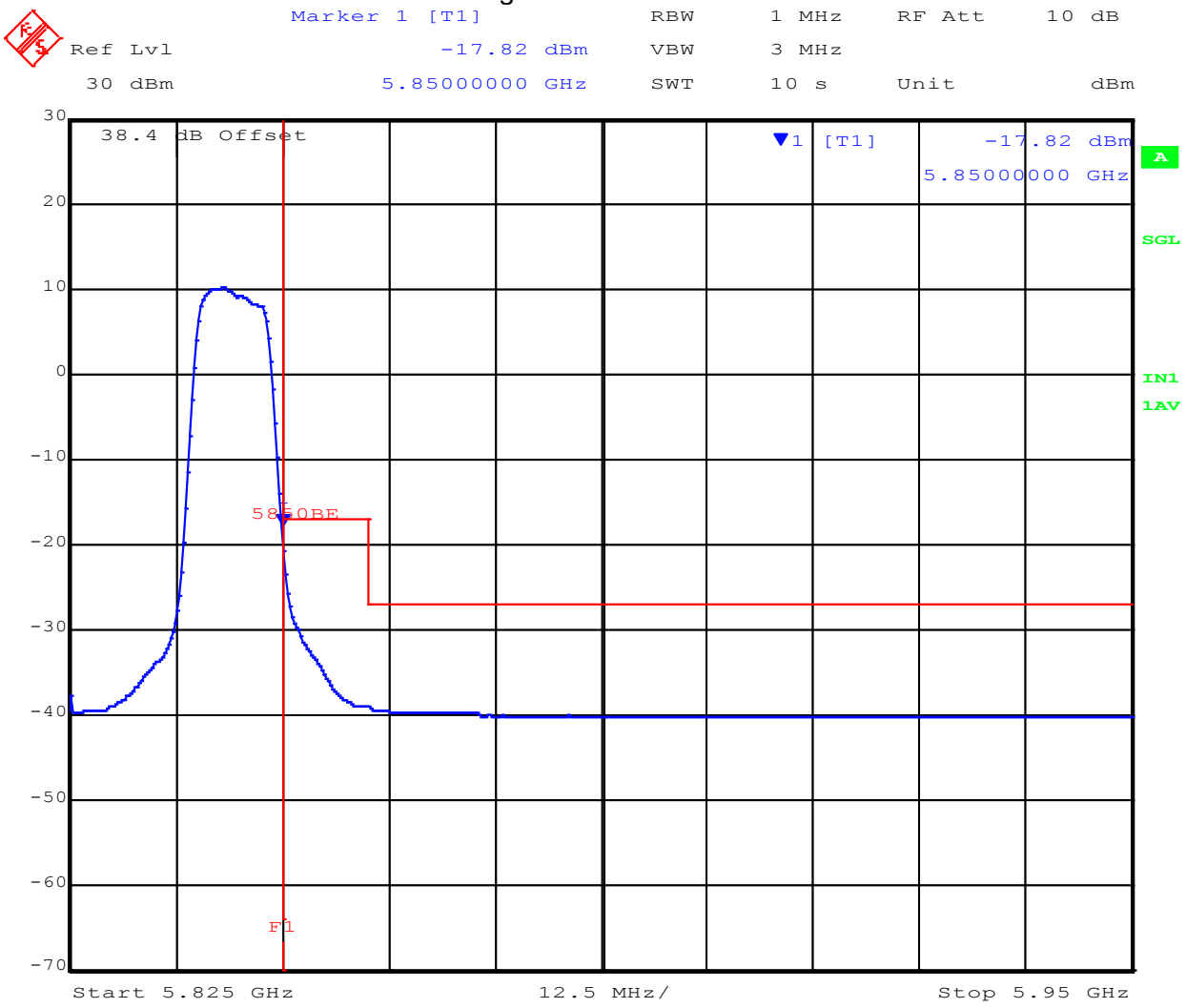
RADWIN Ltd RW-9401-5002 10 MHz High



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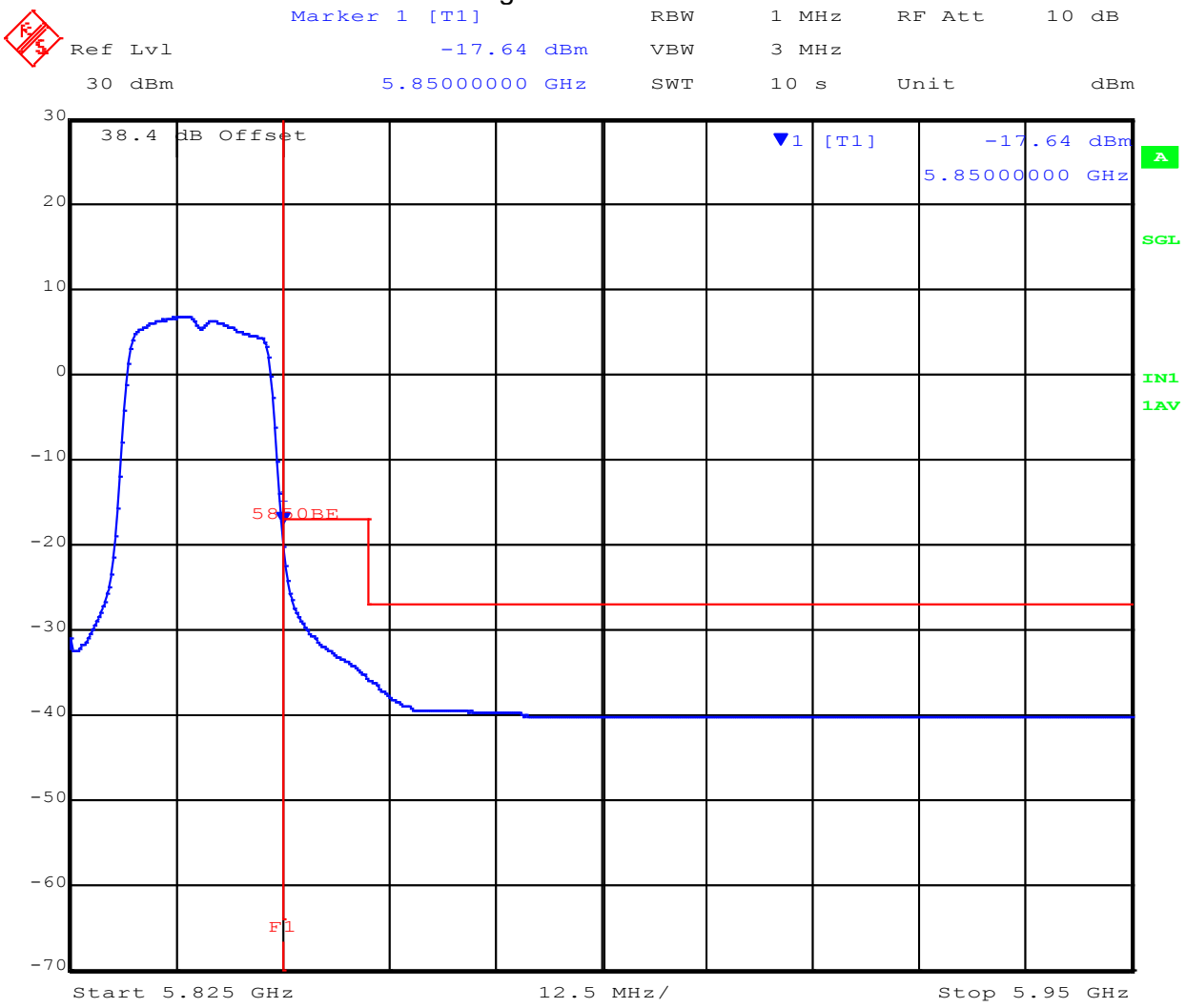
RADWIN Ltd RW-9401-5002 20 MHz High



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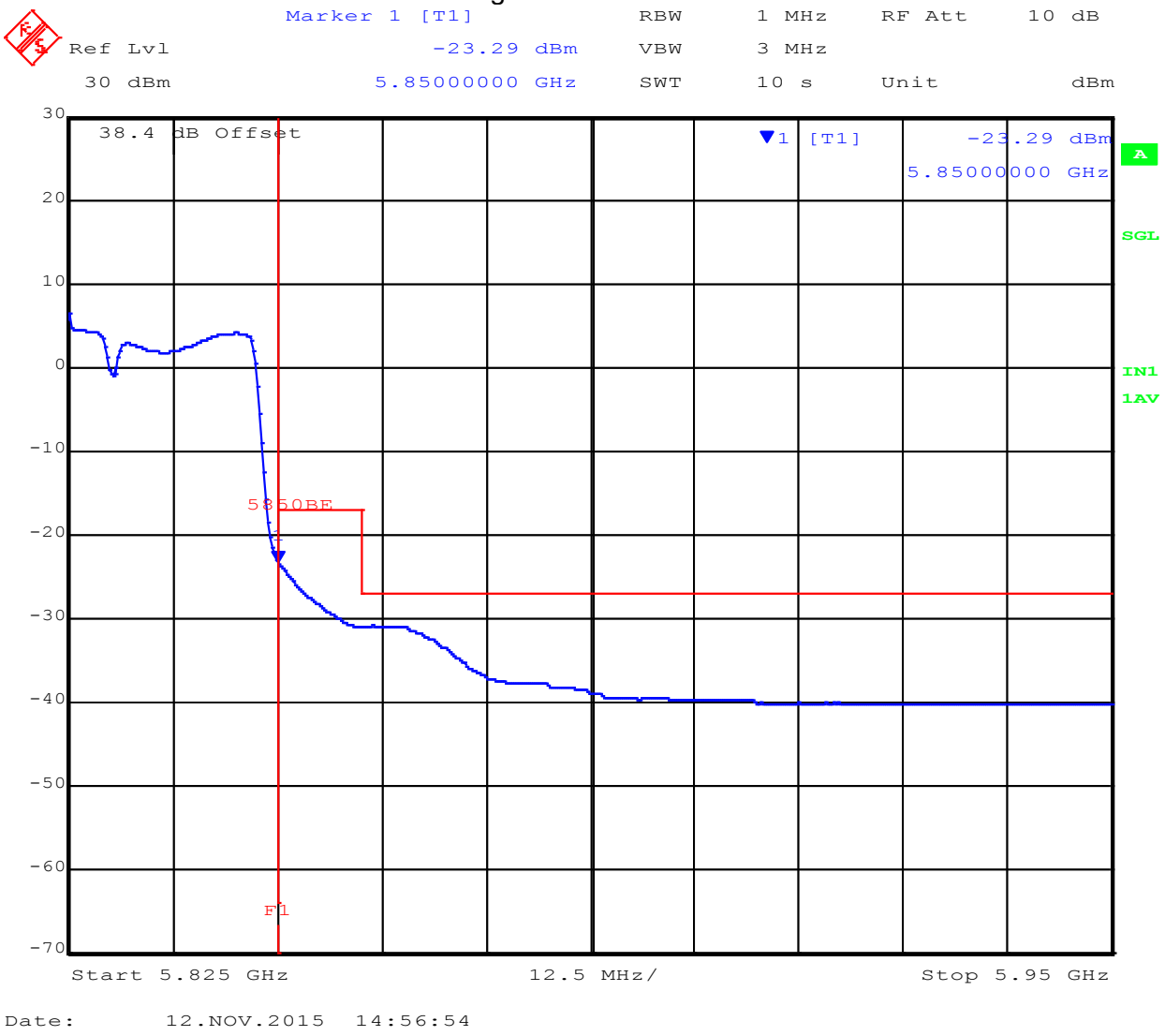
RADWIN Ltd RW-9401-5002 40 MHz High



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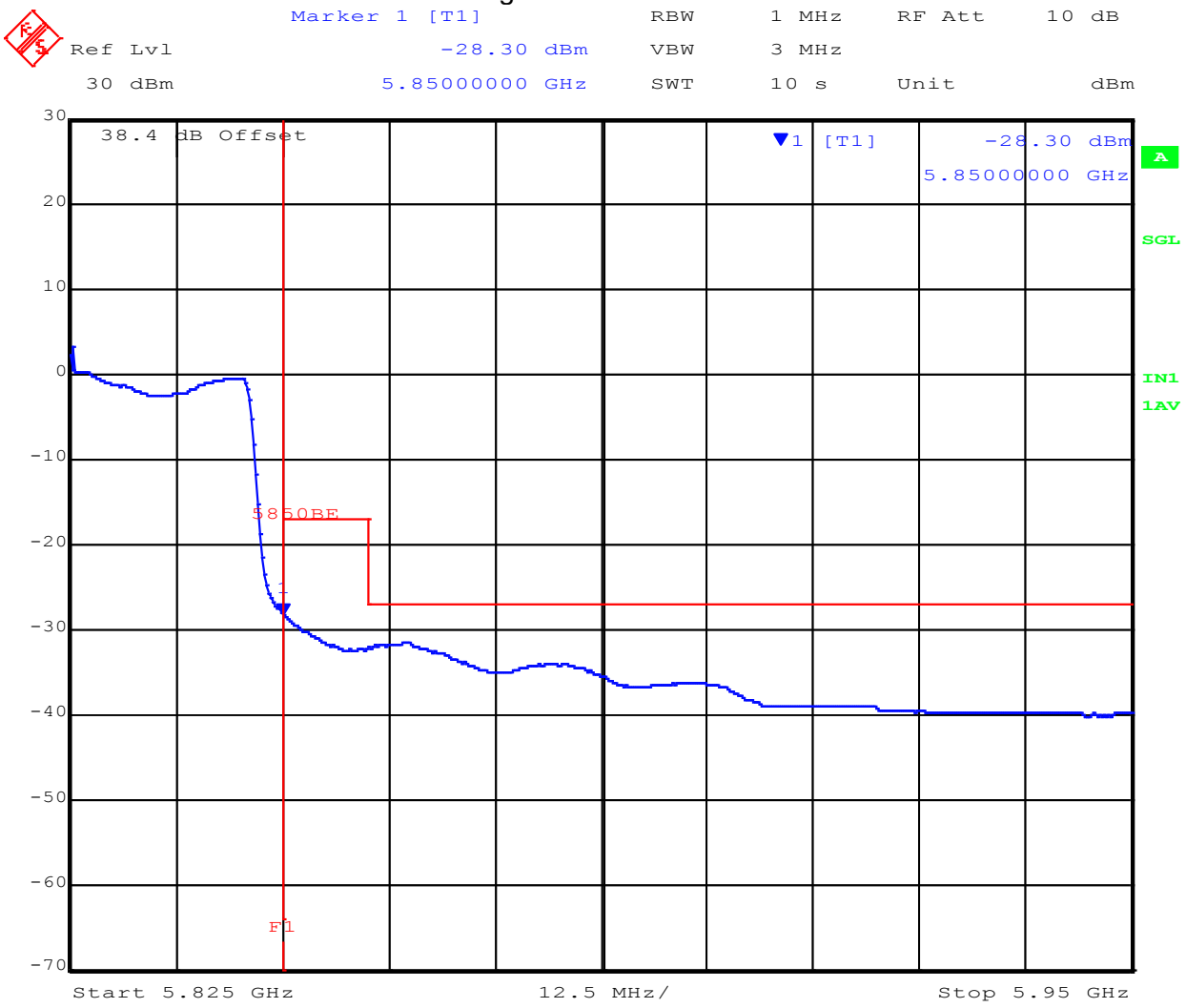
RADWIN Ltd RW-9401-5002 80 MHz High



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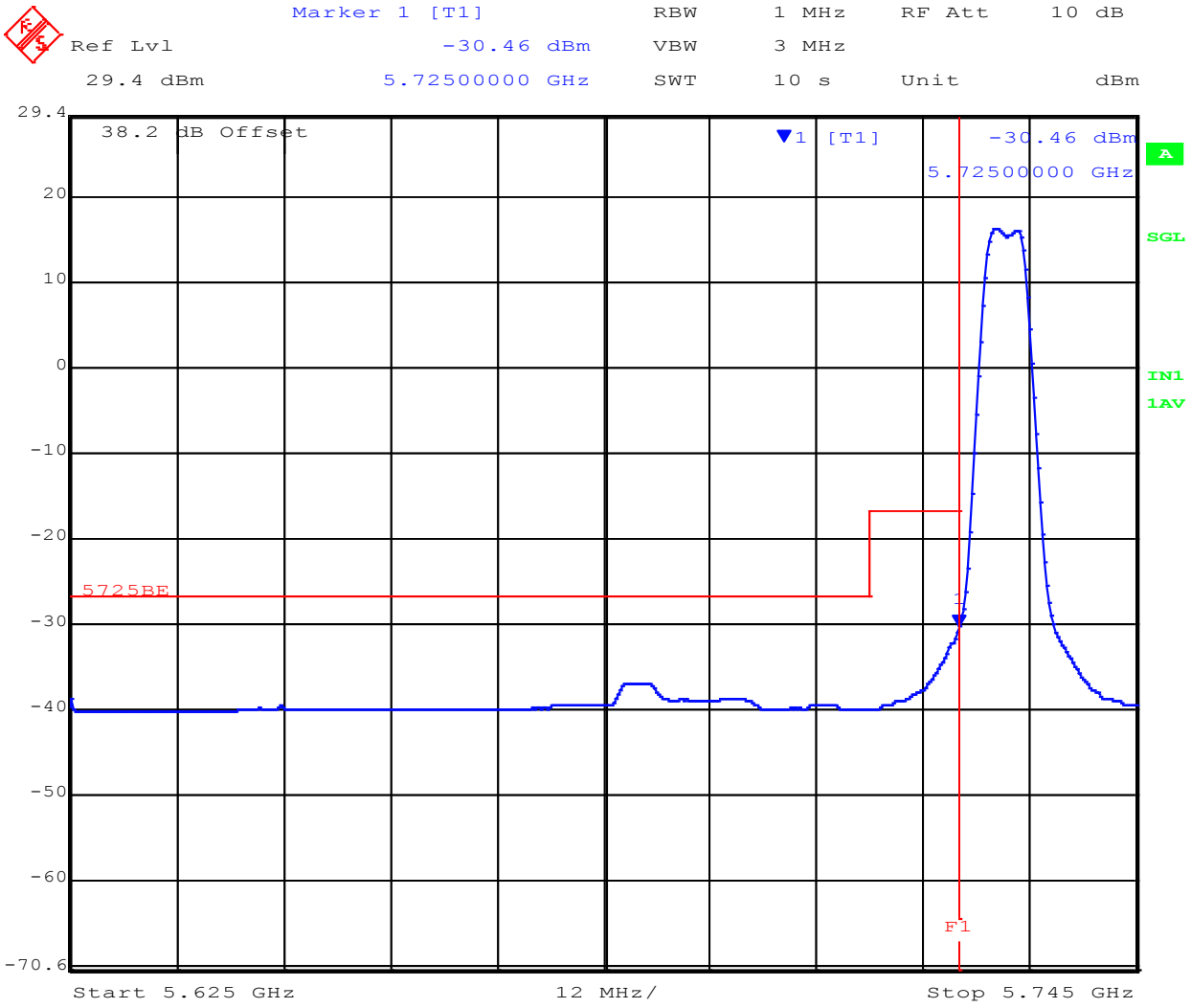
RADWIN Ltd RW-9061-5002 5 MHz Low



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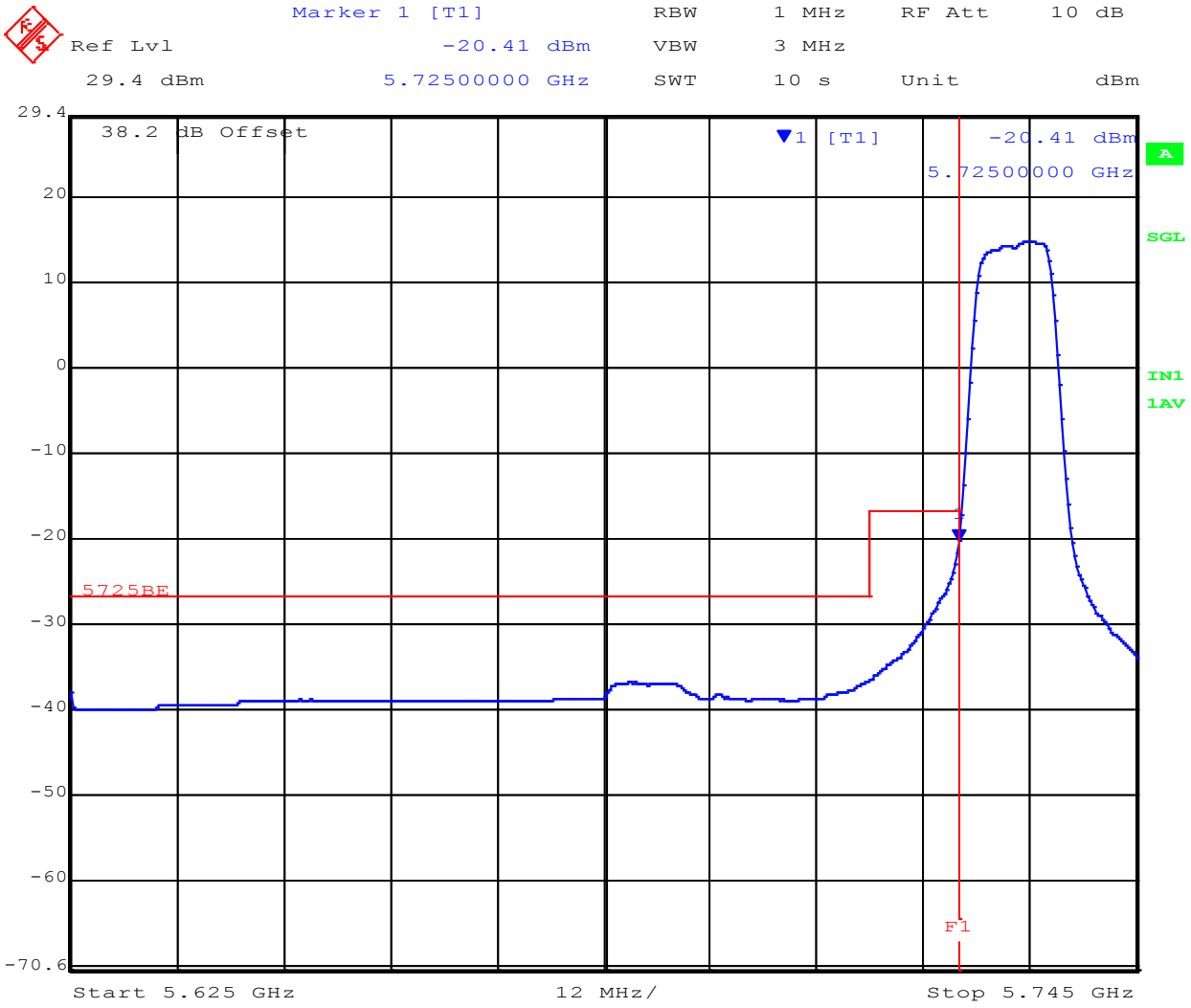

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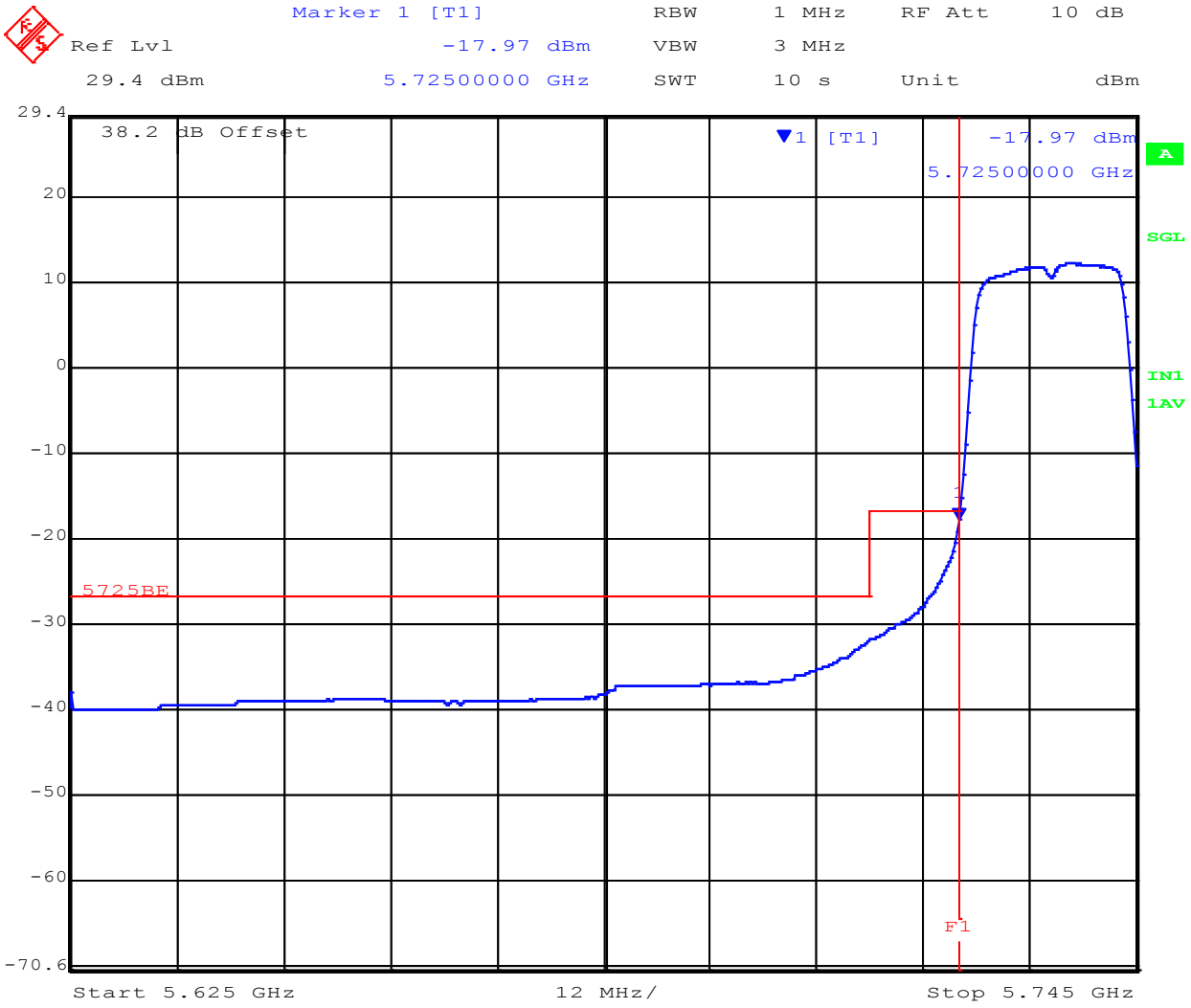

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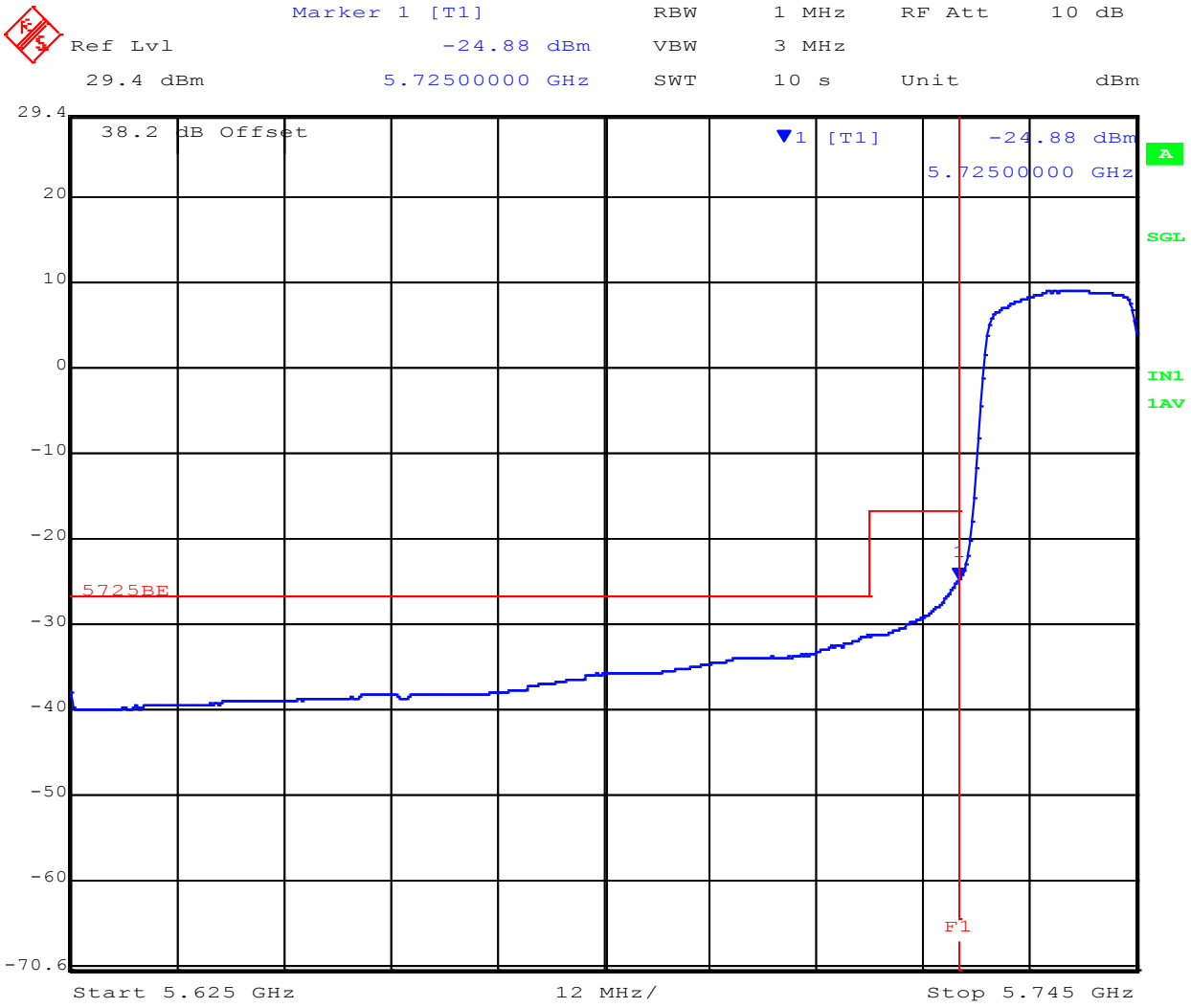
RADWIN Ltd RW-9061-5002 40 MHz Low



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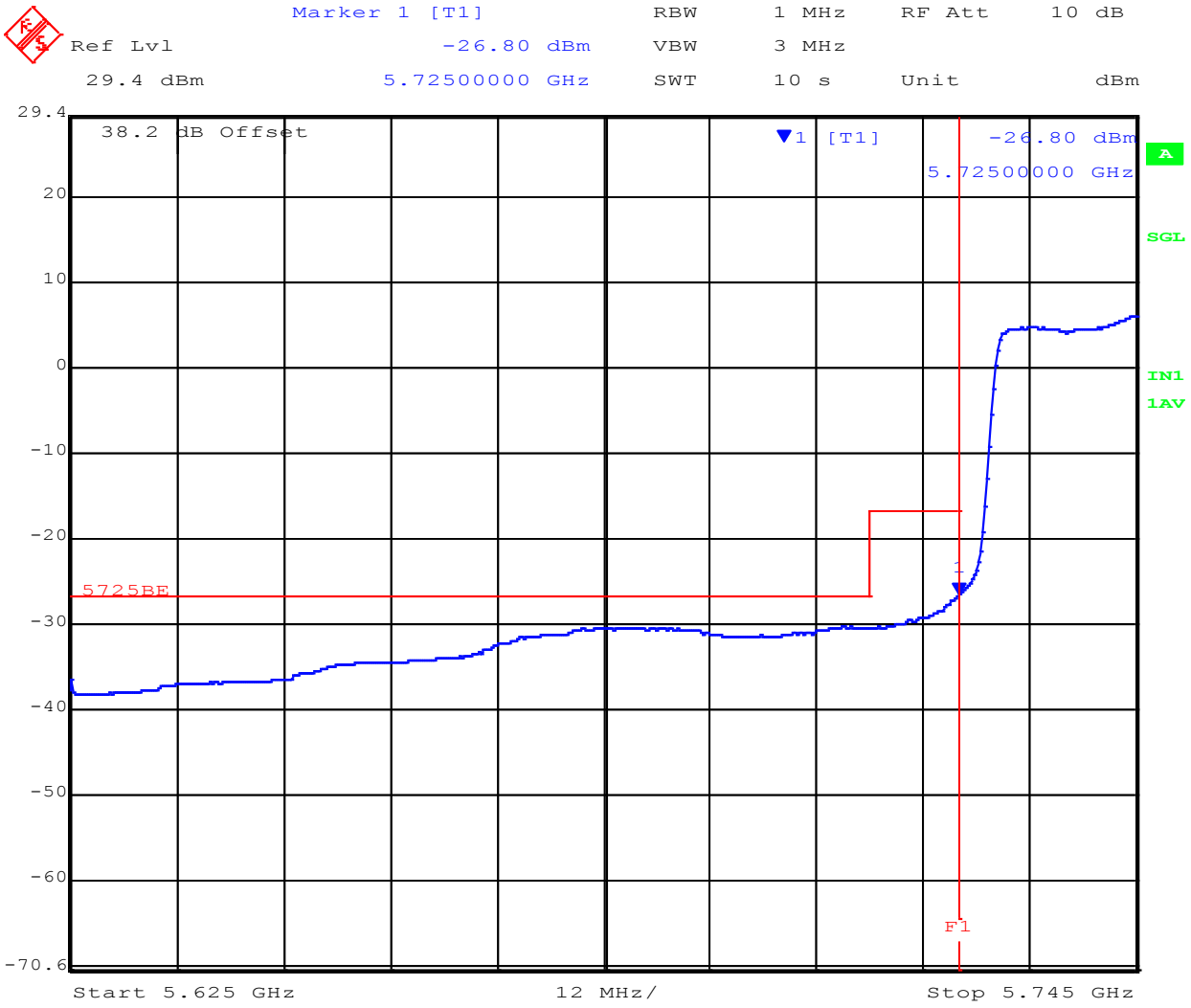
RADWIN Ltd RW-9061-5002 80 MHz Low



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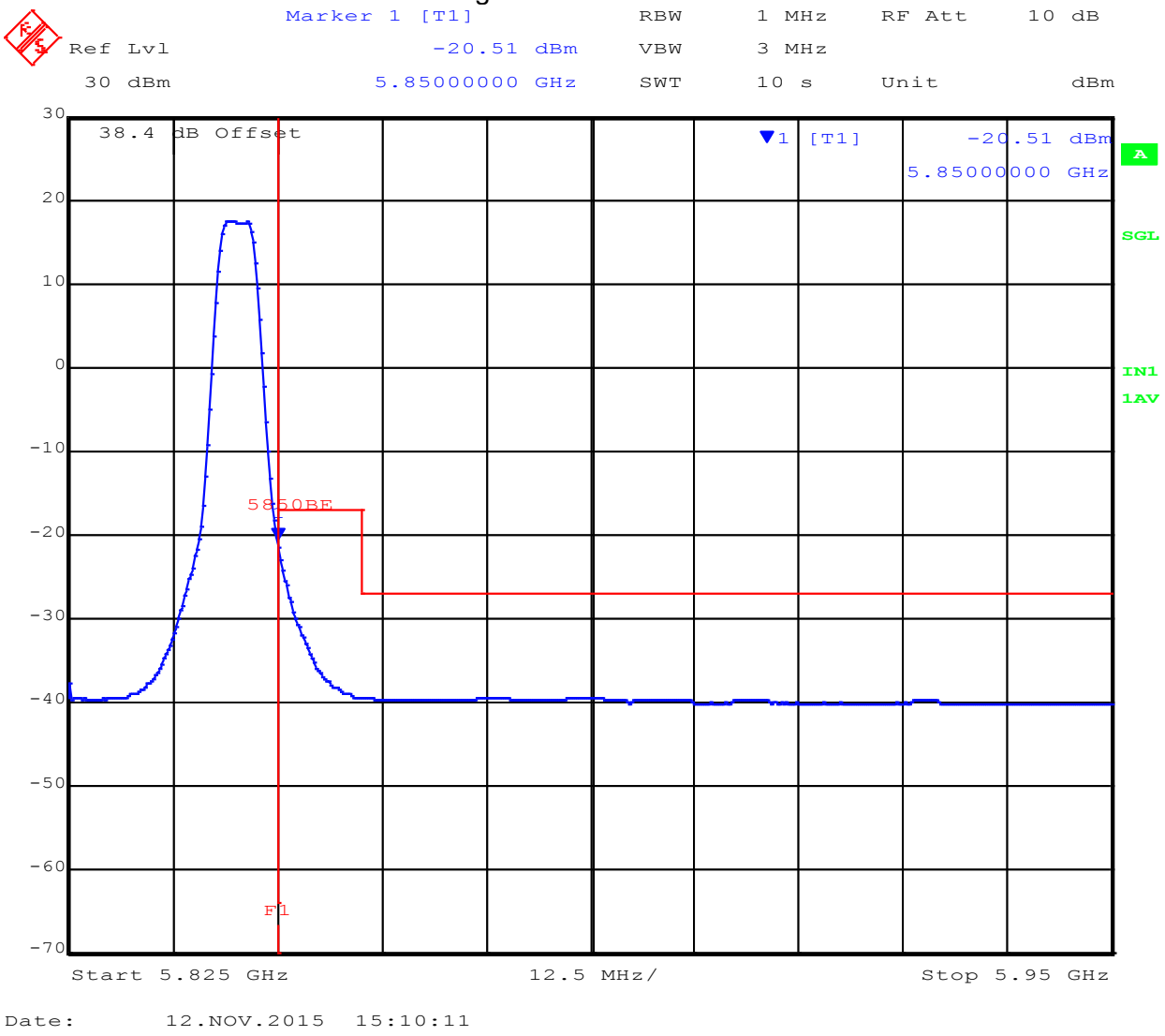

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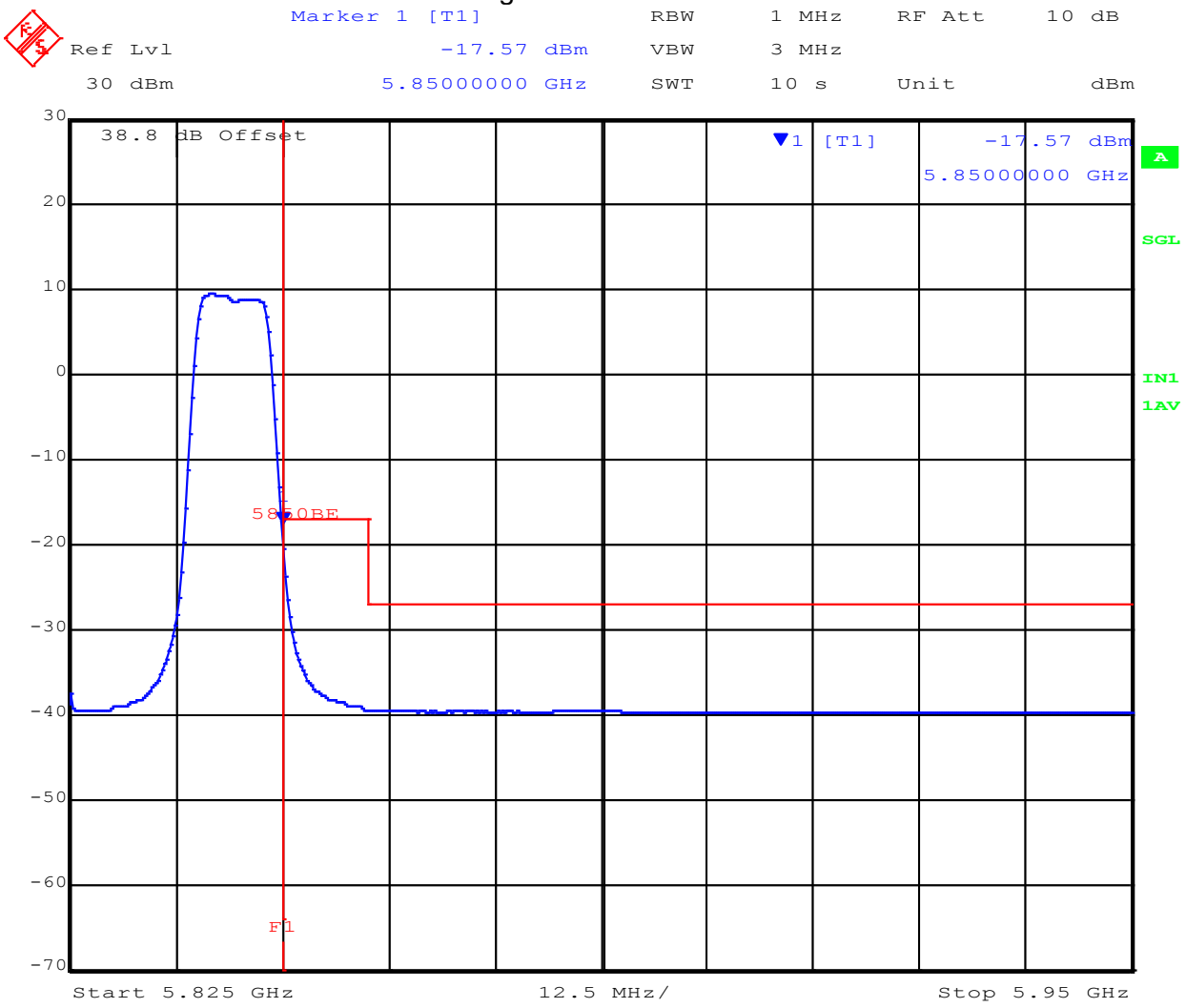
RADWIN Ltd RW-9061-5002 10 MHz High



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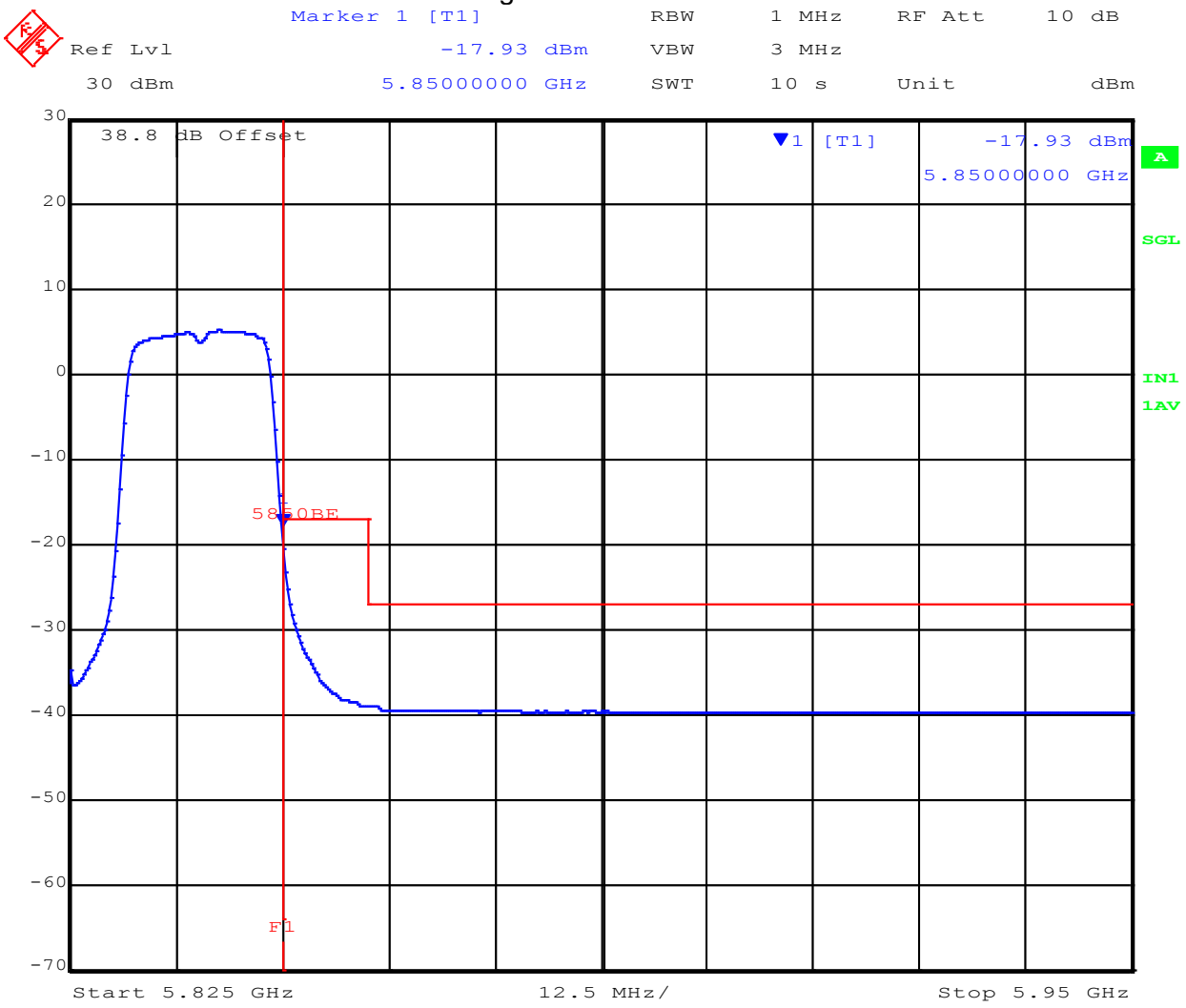

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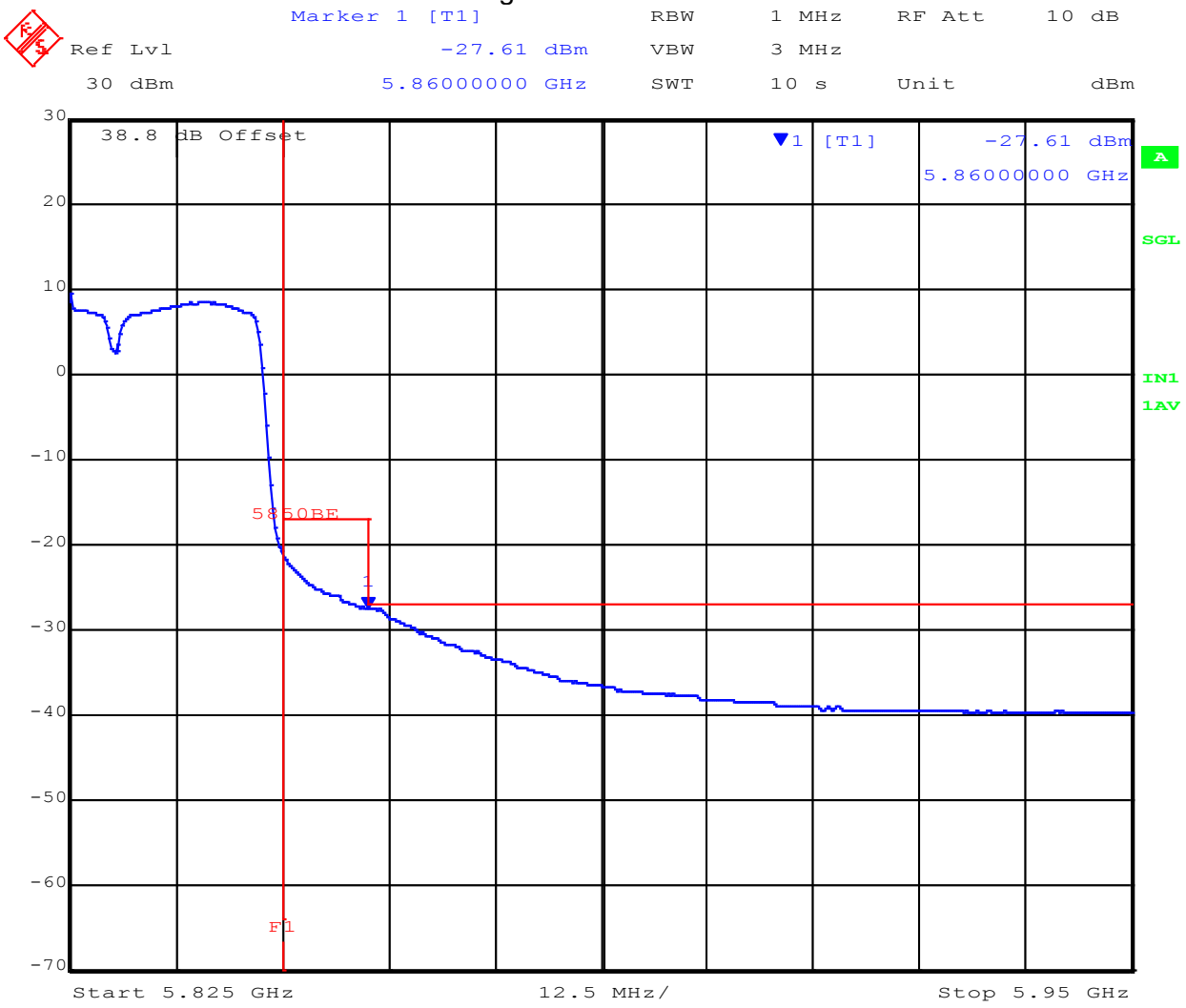
RADWIN Ltd RW-9061-5002 40 MHz High



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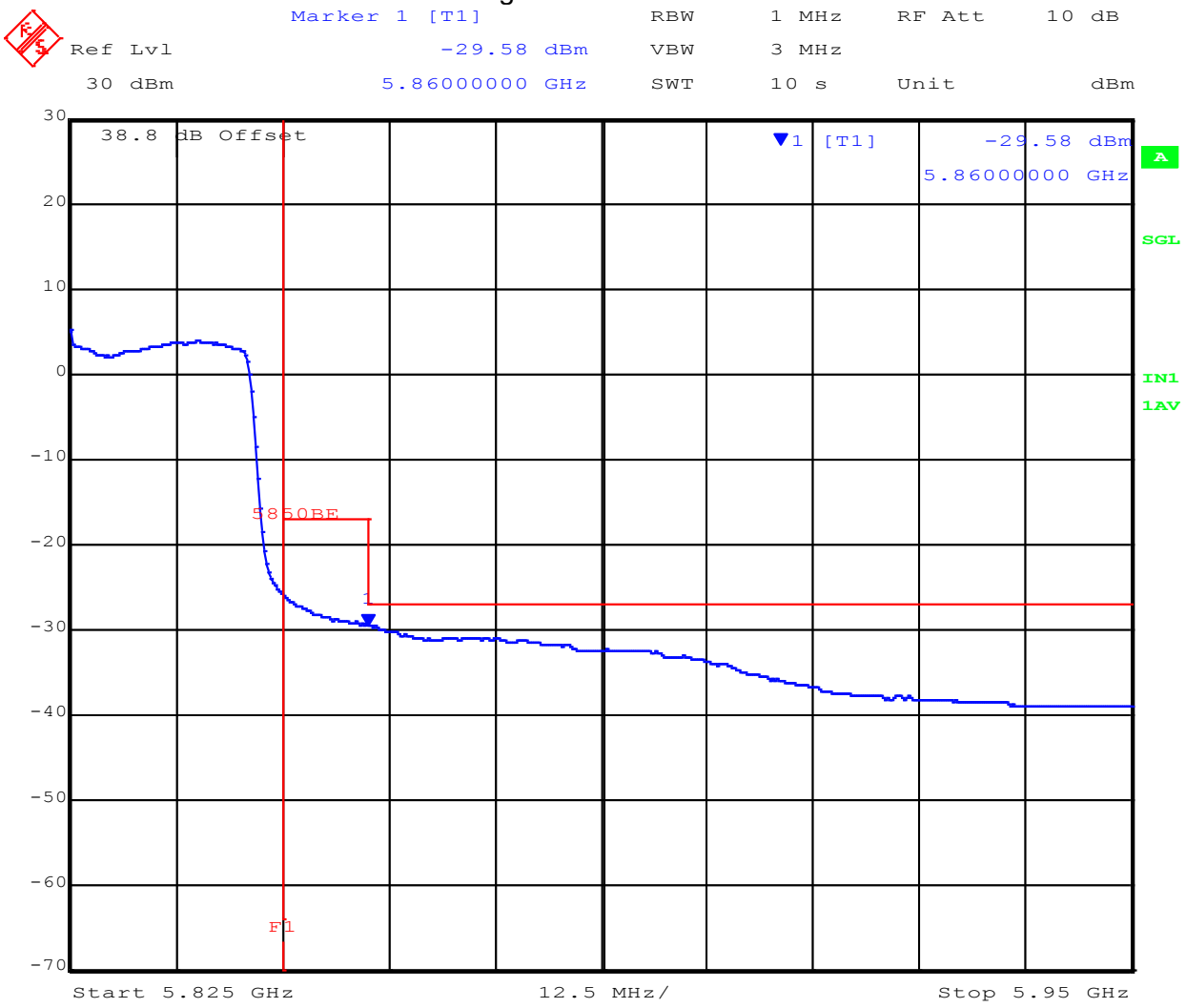
RADWIN Ltd RW-9061-5002 80 MHz High



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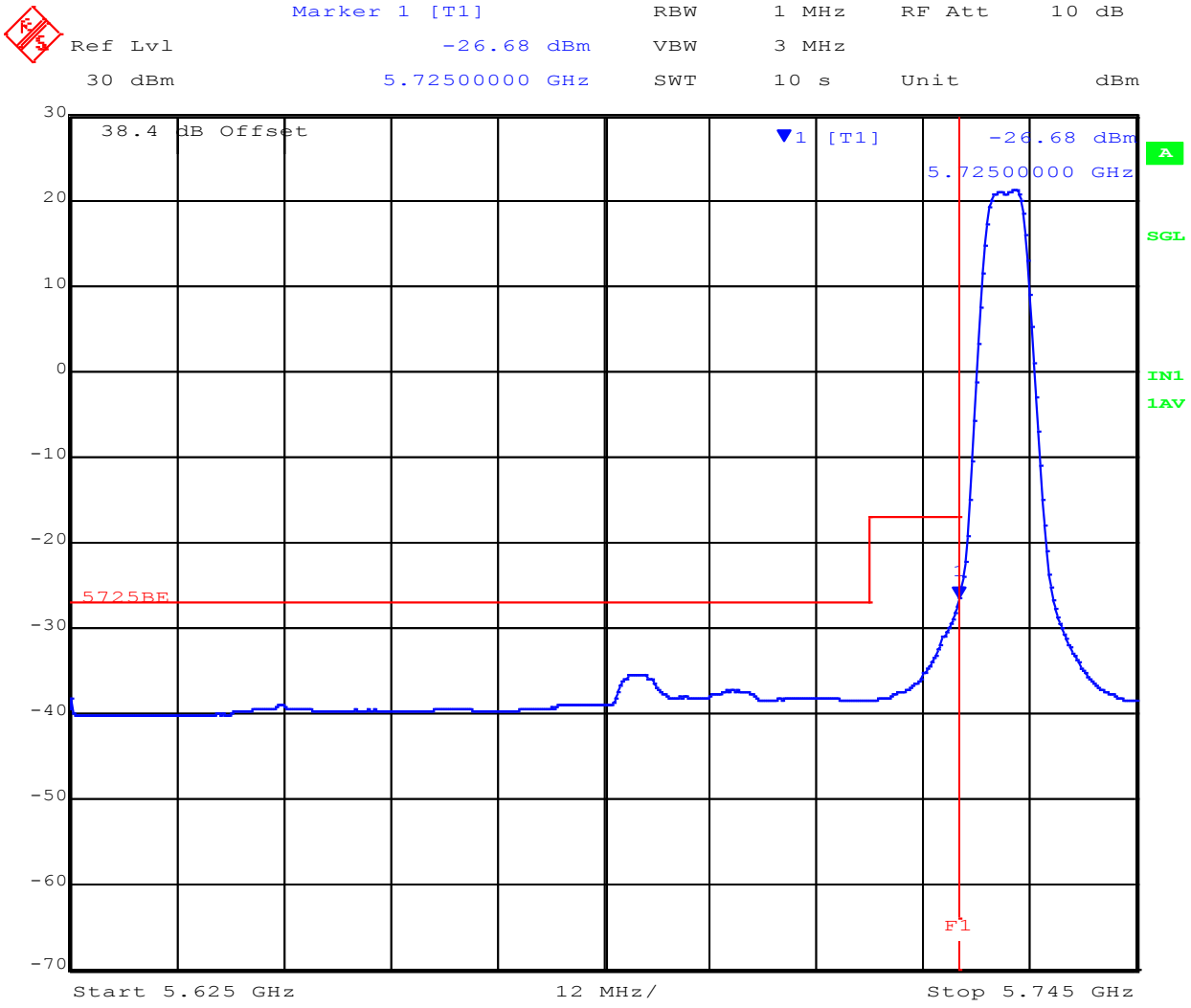
AM0156430 5 MHz 5725



Date: 13.NOV.2015 11:01:05

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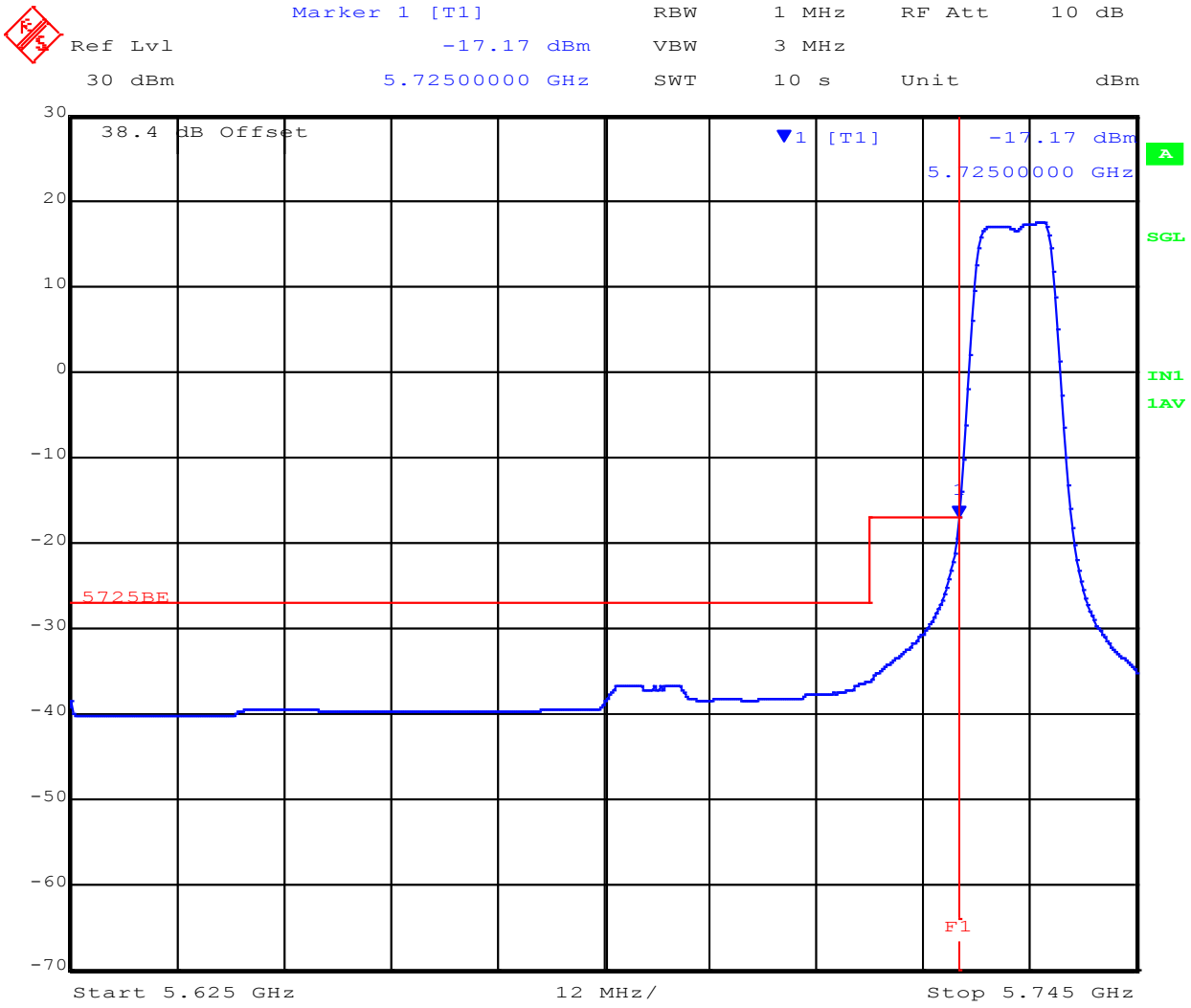
AM0156430 10 MHz 5725



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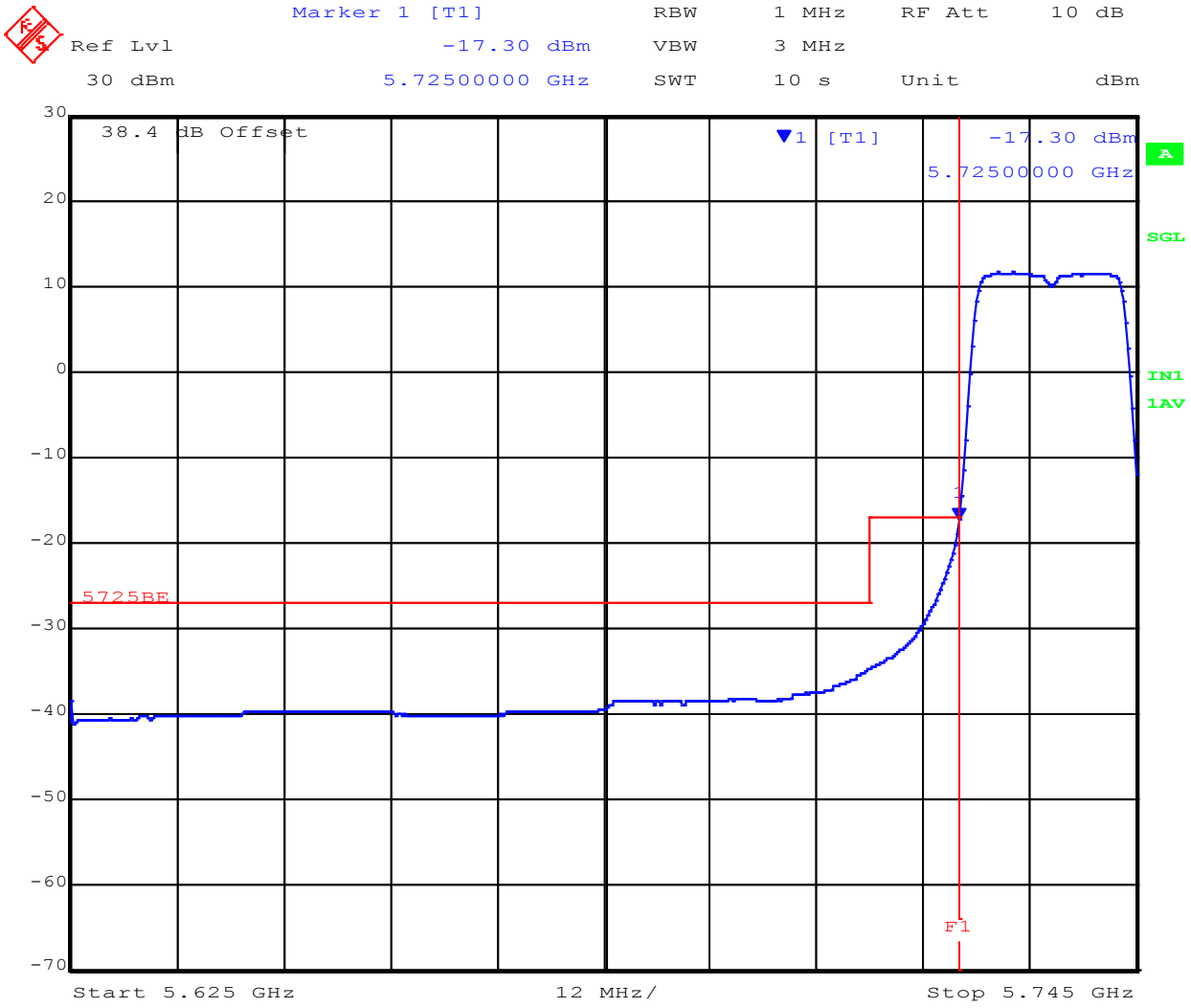
AM0156430 20 MHz 5725



Date: 13.NOV.2015 11:07:58

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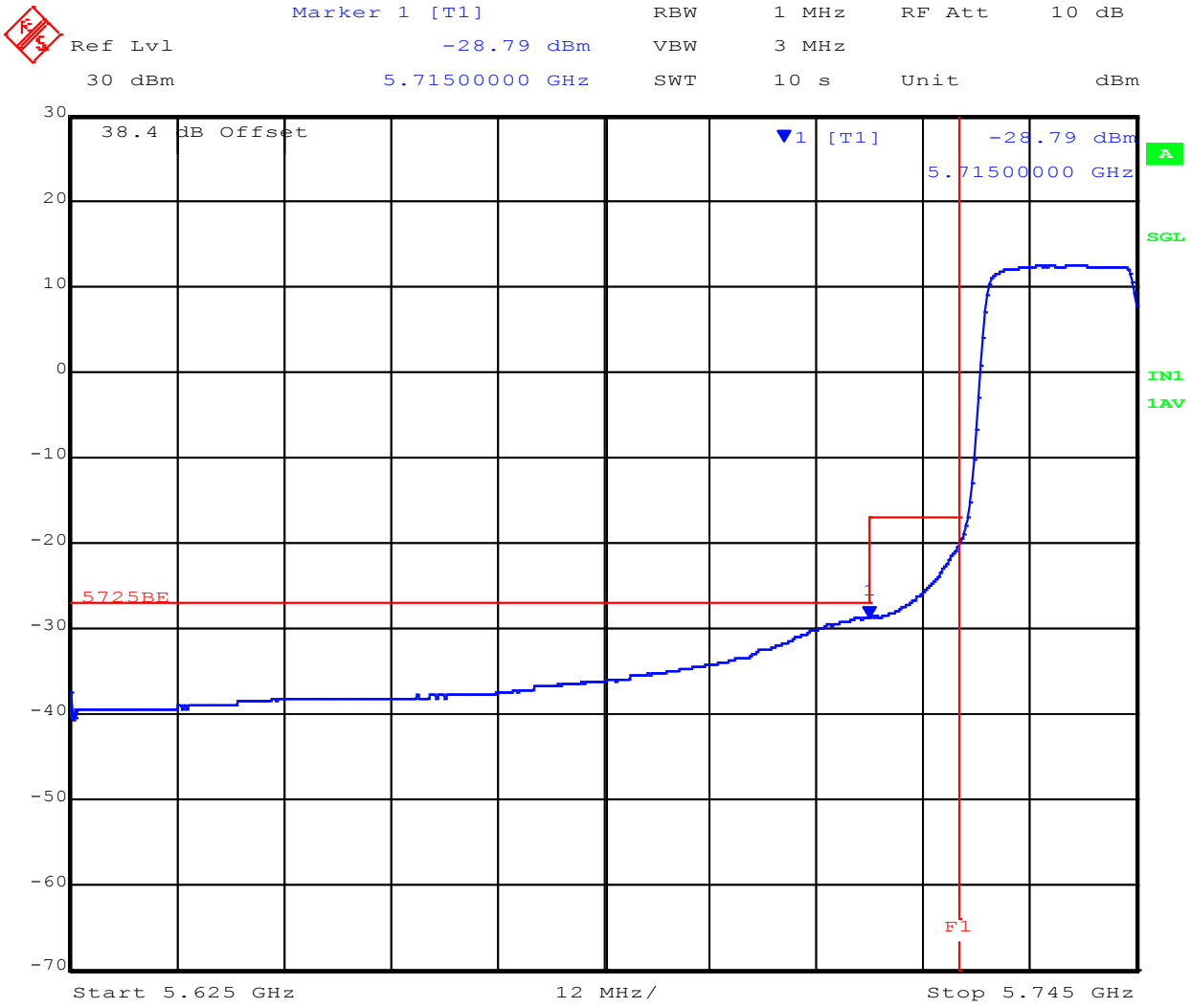
AM0156430 40 MHz 5725



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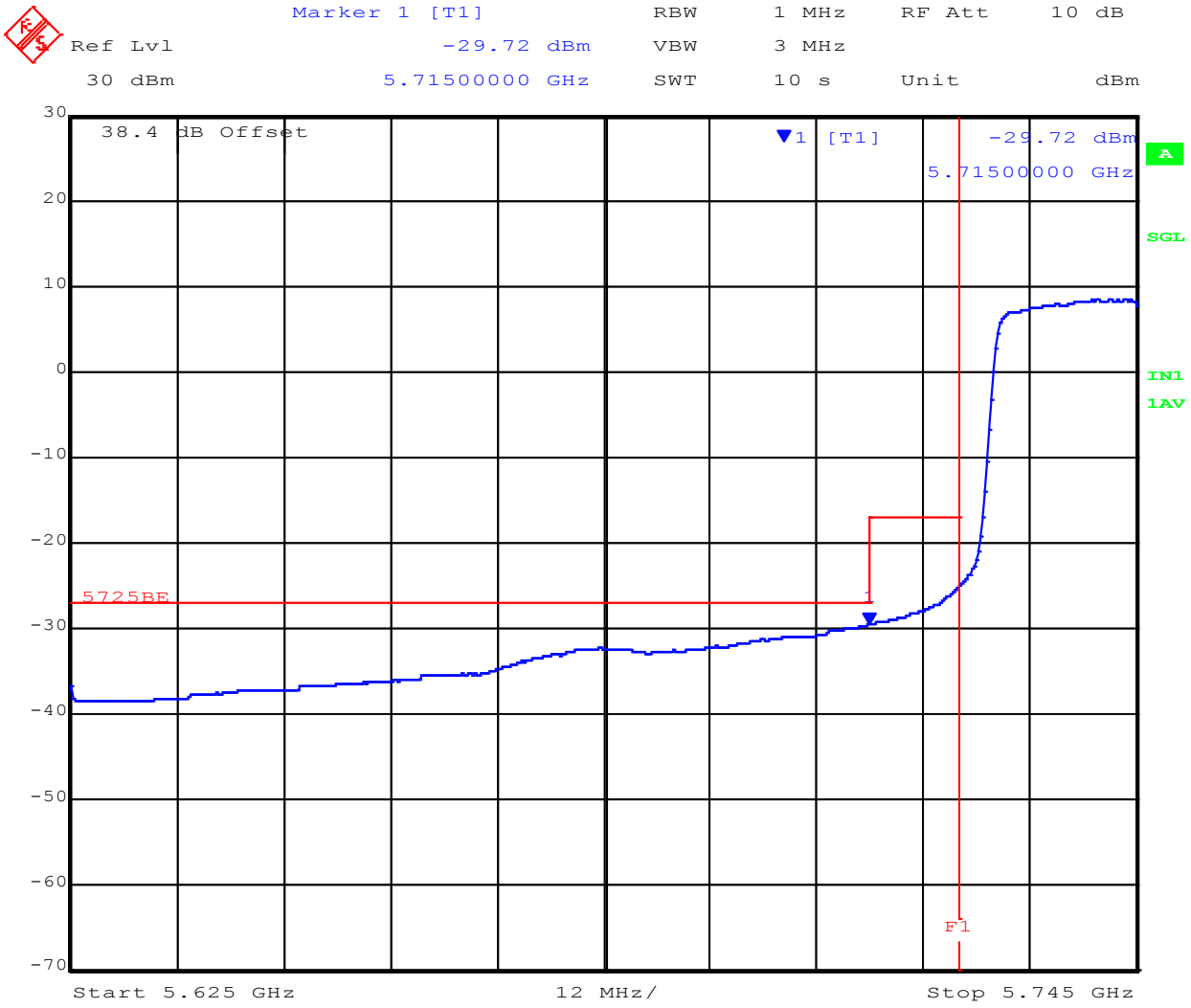
AM0156430 80 MHz 5725



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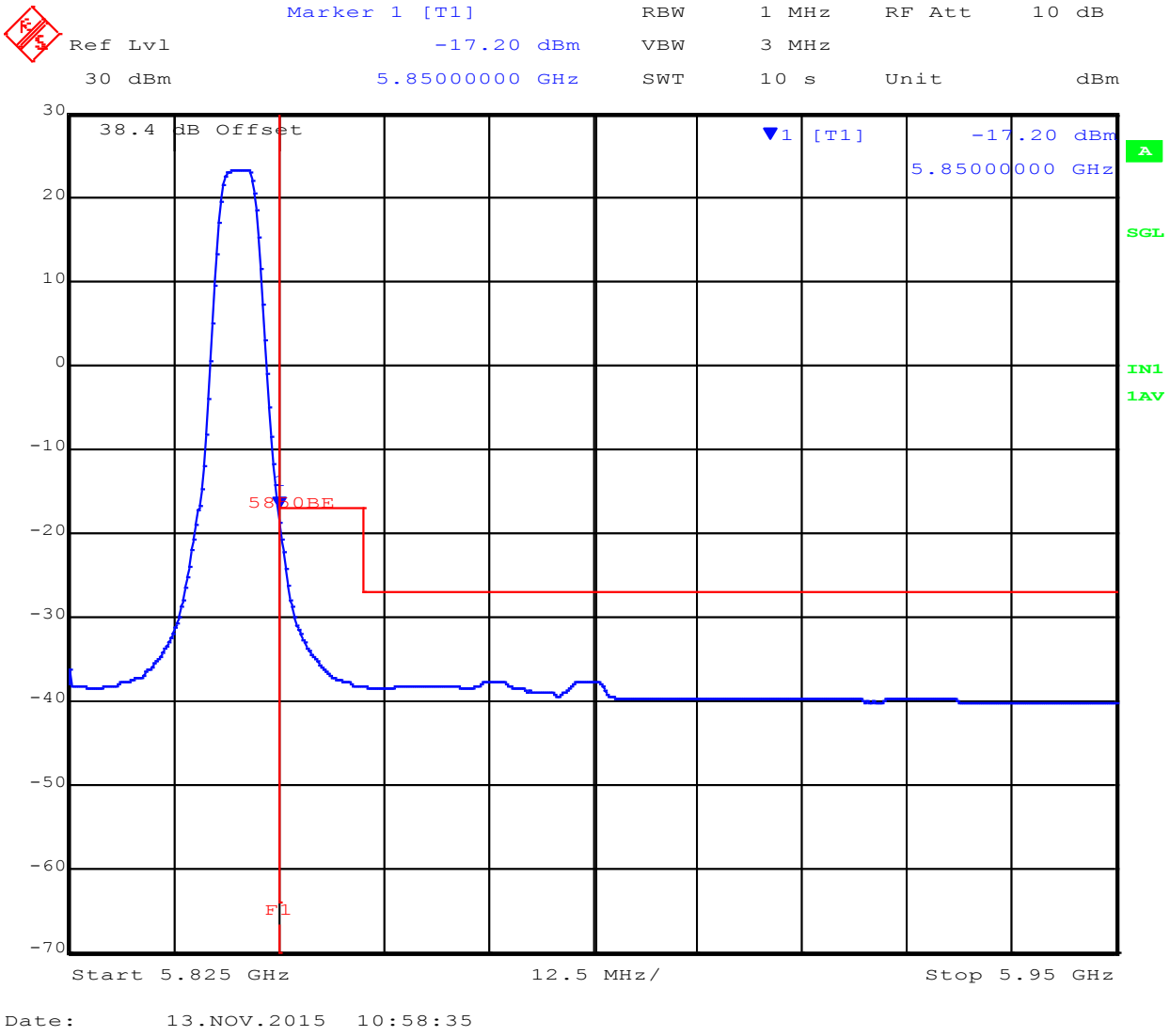
AM0156430 5 MHz 5850



Date: 13.NOV.2015 10:58:35

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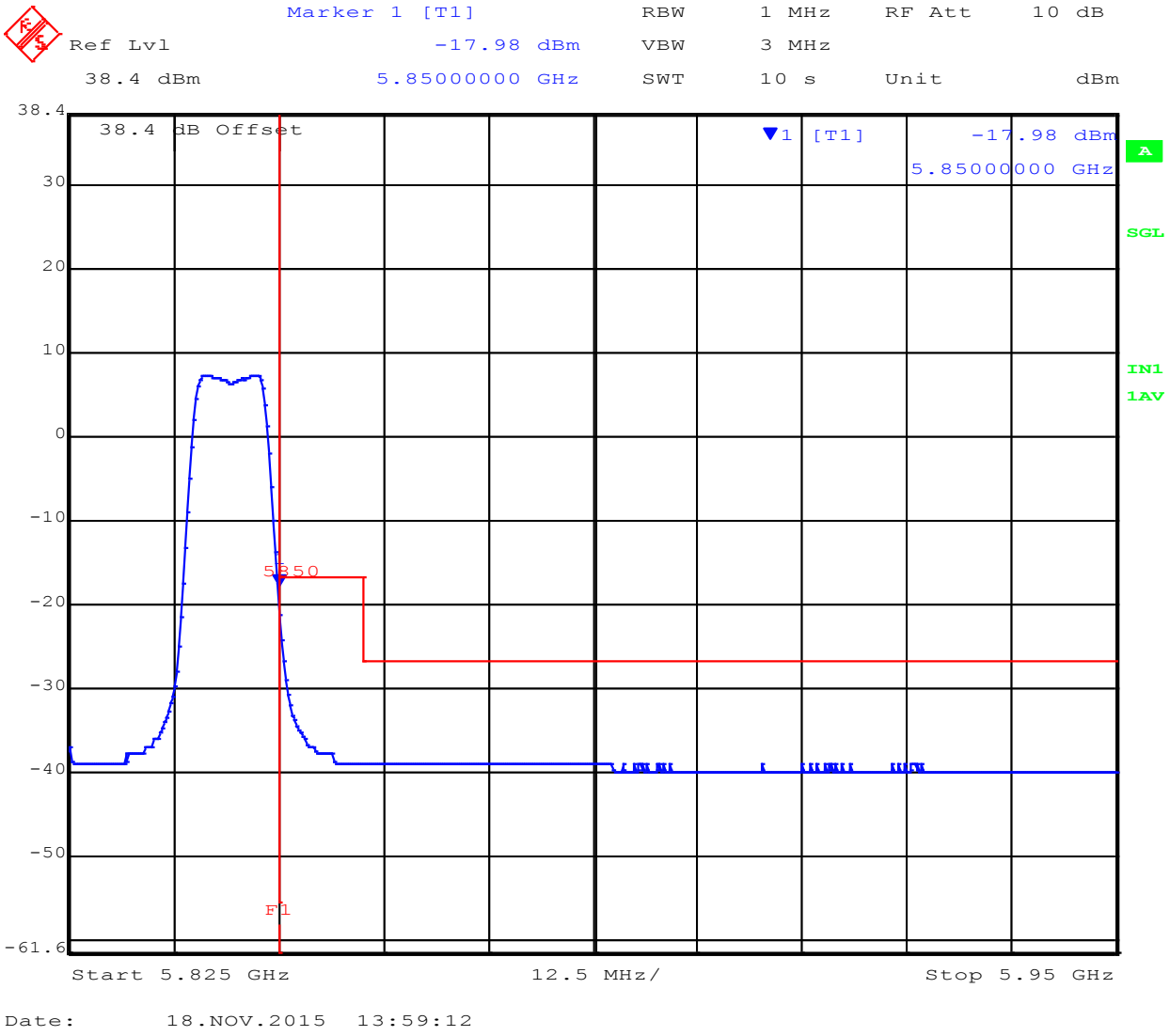
AM0156430 10 MHz 5850



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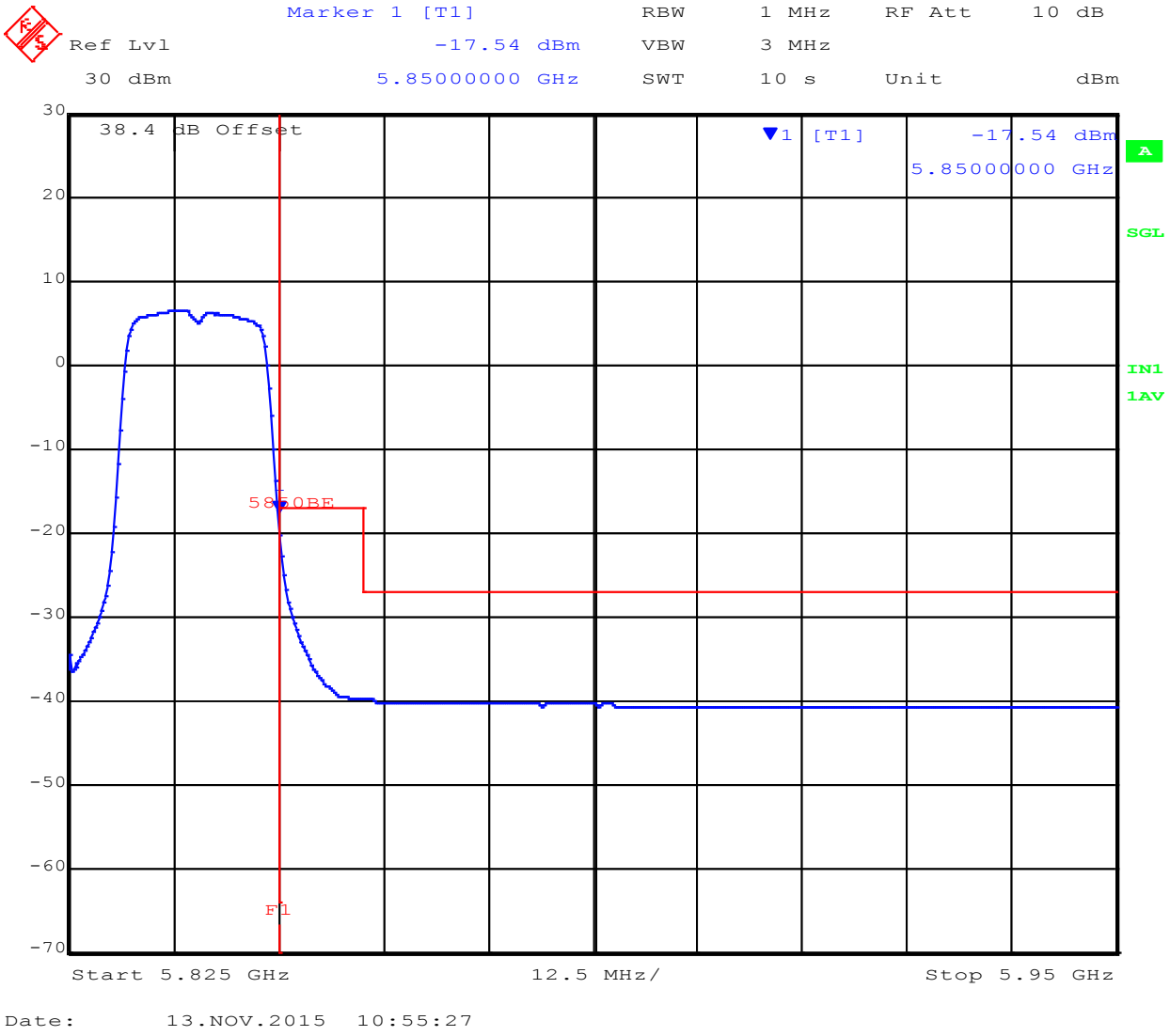
AM0156430 20 MHz 5850



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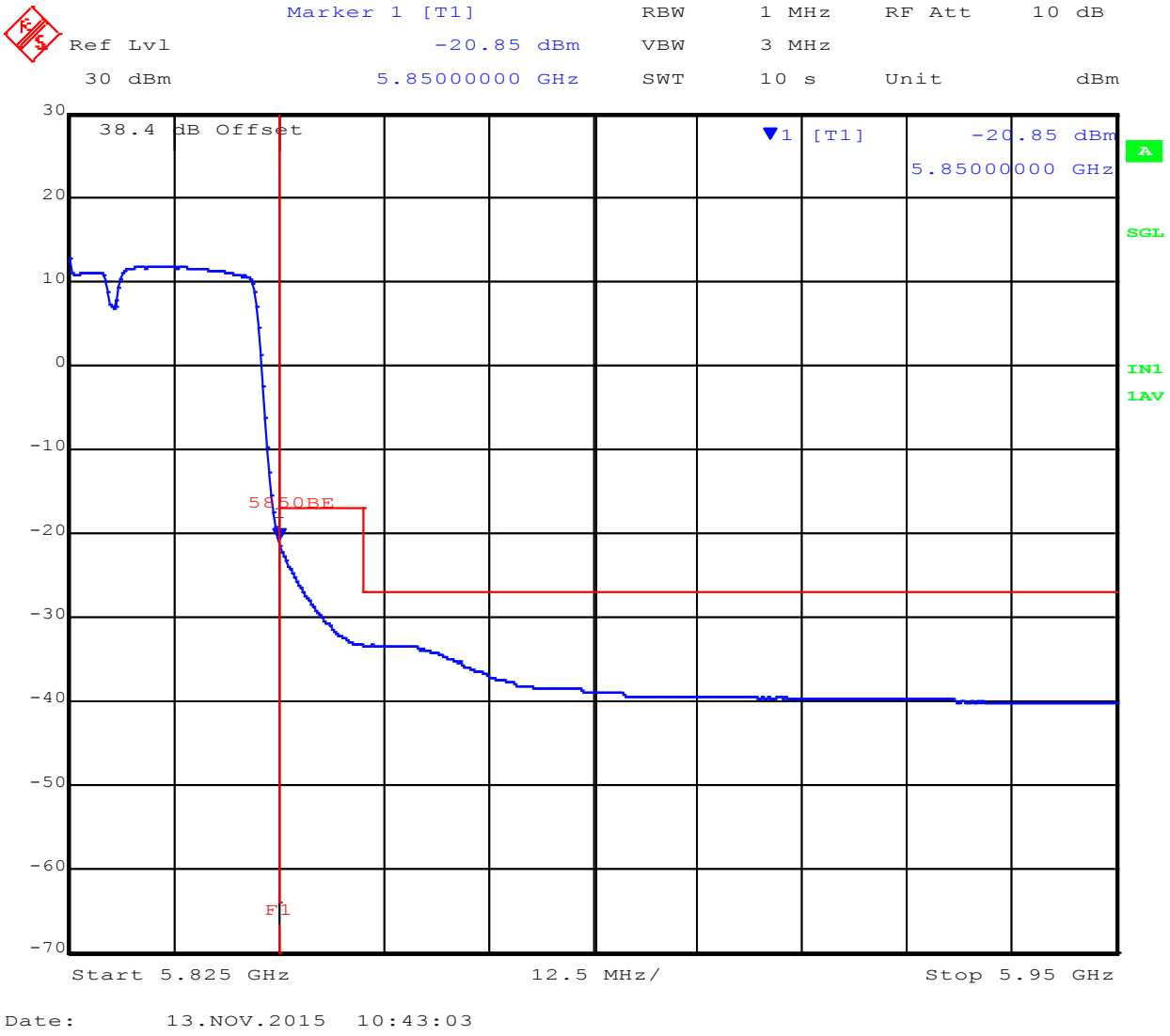
AM0156430 40 MHz 5850



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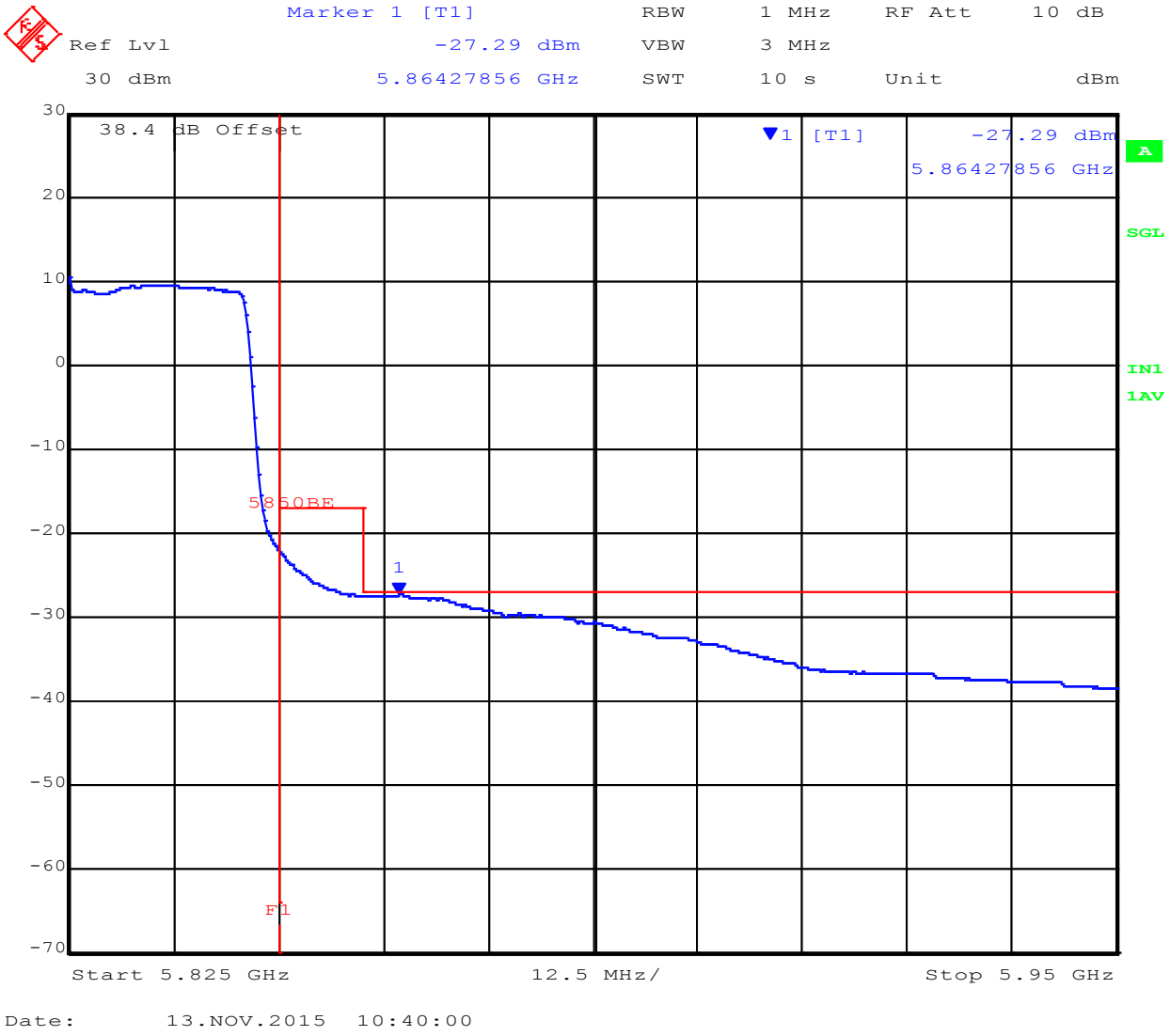
AM0156430 80 MHz 5850



Back to Matrix

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