



## REGULATORY COMPLIANCE TEST REPORT

FCC CFR 47 15.407, RSS-247 Issue 2

Report No.: RDWN64-U2 Rev A

**Company:** Radwin Ltd.

**Model Name:** RADWIN JET DUO 5.x/5.x GHz

# REGULATORY COMPLIANCE TEST REPORT

**Company:** Radwin Ltd.

**Model Name:** RADWIN JET DUO 5.x/5.x GHz

**To:** FCC CFR 47 Part 15 Subpart E 15.407, RSS-247

Test Report Serial No.: RDWN64-U2 Rev A

This report supersedes: NONE

Applicant: Radwin Ltd.  
27 Habarzel Street  
Tel Aviv, 6971039  
Israel

Issue Date: 15<sup>th</sup> September 2019

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

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MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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## **1. ACCREDITATION, LISTINGS & RECOGNITION**

### **1.1. TESTING ACCREDITATION**

MiCOM Labs, Inc. is an accredited 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](http://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>



## 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](http://www.a2la.org) test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; <http://www.a2la.org/scopepdf/2381-02.pdf>



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

## **2. DOCUMENT HISTORY**

Document History		
Revision	Date	Comments
Draft	28 <sup>th</sup> August 2019	Draft for comment
Draft #2	11 <sup>th</sup> September 2019	2 <sup>nd</sup> Draft for comment
Rev A	15 <sup>th</sup> September 2019	Initial Release
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In the above table the latest report revision will replace all earlier versions.

### **3. TEST RESULT CERTIFICATE**

**Manufacturer:** Radwin Ltd.  
27 Habarzel Street  
Tel Aviv, 6971039  
Israel

**Tested By:** MiCOM Labs, Inc.  
575 Boulder Court  
Pleasanton California 94566  
USA

**Model:** RADWIN JET DUO 5.x/5.x GHz      **Telephone:** +1 925 462 0304

**Equipment Type:** Dual Carrier 5.x GHz Base Station  
with Beamforming Antenna

**Fax:** +1 925 462 0306

**S/N's:** Prototype

**Test Date(s):** 12<sup>th</sup> – 15<sup>th</sup> August 2019

**Website:** [www.micomlabs.com](http://www.micomlabs.com)

#### **STANDARD(S)**

**FCC CFR 47 Part 15 Subpart E 15.407  
ISED RSS-247 Issue 2**

#### **TEST RESULTS**

**EQUIPMENT COMPLIES**

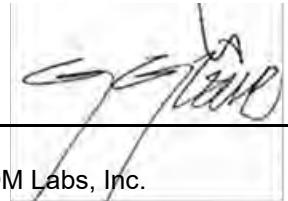
MiCOM Labs, Inc. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

#### **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:**

Graeme Grieve  
Quality Manager MiCOM Labs, Inc.



Gordon Hurst  
President & CEO MiCOM Labs, Inc.



## 4. REFERENCES AND MEASUREMENT UNCERTAINTY

### 4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	KDB 662911 D01 v02r01	31 <sup>st</sup> October 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 662911 D02 V01	25 <sup>th</sup> October 2013	MIMO with Cross-Polarized Antenna
III	KDB 905462 D07 v02	22 <sup>nd</sup> August 2016	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
IV	KDB 926956 D01 V02	22 <sup>nd</sup> August 2016	U-NII Device Transition Plan
V	A2LA	August 2018	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	2014	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 32	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements
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 30 2006	Memorandum Opinion and Order
XI	FCC 47 CFR Part 15.407	2016	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
XII	ICES-003	Issue 6 Jan 2016; Updated April 2019	Information Technology Equipment (Including Digital Apparatus) – Limits and methods of measurement.
XIII	M 3003	Edition 3 Nov.2012	Expression of Uncertainty and Confidence in Measurements
XIV	RSS-247 Issue 2	Feb 2017	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XV	RSS-Gen Issue 5	March 2019 Amendment 1	General Requirements for Compliance of Radio Apparatus
XVI	FCC 47 CFR Part 2.1033	2016	FCC requirements and rules regarding photographs and test setup diagrams.
XVII	KDB 789033 D02 V02r01	14 <sup>th</sup> December 2017	Guidelines For Compliance Testing Of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E

## **4.2. Test and Uncertainty Procedure**

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.

## **5. PRODUCT DETAILS AND TEST CONFIGURATIONS**

### **5.1. Technical Details**

<b>Details</b>	<b>Description</b>
Purpose:	Test of the RADWIN Dual Carrier 5.x GHz Base Station with Beamforming Antenna to FCC CFR 47 Part 15 Subpart E 15.407. Compliance Measurement Procedures for Unlicensed National Information Infrastructure devices operating in the 5150 to 5250 MHz and 5725 to 5850 MHz bands Included in this test report is the testing for ISED RSS 15.247 Issue 2. Testing for ISED will be limited to 5725 – 5850 MHz.
Applicant:	Radwin 27 Habarzel Street Tel Aviv 6971039 Israel
Manufacturer:	RADWIN
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	RDWN64-U2
Date EUT received:	6 <sup>th</sup> August 2019
Standard(s) applied:	FCC CFR 47 Part 15 Subpart E 15.407 ISED RSS 15.247 Issue 2
Dates of test (from - to):	12 <sup>th</sup> – 15 <sup>th</sup> August 2019
No of Units Tested:	1
Product Family Name:	RADWIN JET
Model(s):	RADWIN JET DUO 5.x/5.x GHz
Location for use:	Outdoor
Declared Frequency Range(s):	5150 - 5250 MHz (FCC only); 5725 - 5850 MHz;
Type of Modulation:	Dual Carrier 5.x GHz Base Station with Beamforming Antenna
EUT Bandwidths:	10; 20; 40; 80 MHz
Declared Nominal Output Power (dBm):	+30 dBm
Transmit/Receive Operation:	Transceiver
Rated Input Voltage and Current:	55V DC
Operating Temperature Range:	-40 to +60 °C
ITU Emission Designator:	10M0W7W, 20M0W7W, 40M0W7W, 80M0W7W
Equipment Dimensions:	2.6 x 14.2 x 13.9 in
Weight:	14.0 lb
Hardware Rev:	Prototype
Software Rev:	Prototype

## **5.2. Scope Of Test Program**

### **RADWIN JET DUO 5.x/5.x GHz**

The scope of the test program was to test the RADWIN JET DUO 5.x/5.x GHz, Dual Carrier 5.x GHz Base Station with Beamforming Antenna configurations in the frequency ranges 5150 - 5250 MHz; 5725 - 5850 MHz; for compliance against the following specification:

#### **FCC CFR 47 Part 15 Subpart E 15.407**

Compliance Measurement Procedures for Unlicensed National Information Infrastructure devices operating in the 5150 to 5250 MHz and 5725 to 5850 bands.

#### **RSS-247 Issue 2**

Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices. **As the RADWIN JET DUO 5.x/5.x GHz is an outdoor device the 5150 – 5250 MHz frequency band is not applicable for ISED certification**

As the RADWIN JET DUO 5.x/5.x GHz has integrated beamforming antenna this program was completed all radiatively.

#### **System Test and Measurement Configurations**

The RADWIN JET DUO 5.x/5.x GHz consists of 2 identical radios each with 2 ports driving one cross polarized antenna per radio. Each radio can transmit on all available frequencies, but both radios cannot transmit on the same frequency simultaneously.

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

Type (EUT/Support)	Equipment Description	Manufacturer	Model No.	Serial No.
EUT	Dual Carrier 5.x GHz Base Station with Beamforming Antenna	RADWIN	RADWIN JET DUO 5.x/5.x GHz	Prototype
Support	POE Power Supply	Sinpro	CPU55A-270-1	--
Support	Laptop	Dell	--	--

### 5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
Integrated	RADWIN Ltd.	AP0200600	Panel	7.0	--	80	Yes	5150 - 5250
Integrated	RADWIN Ltd.	AP0200600	Panel	9.0	--	80	Yes	5725 - 5850
Integrated	RADWIN Ltd.	AP0200600	Directional	7.0	10.0	18	Yes	5150 - 5250
Integrated	RADWIN Ltd.	AP0200600	Directional	9.0	10.0	19	Yes	5725 - 5850
BF Gain - Beamforming Gain								
Dir BW - Directional BeamWidth								
X-Pol - Cross Polarization								

### 5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# of Ports	Screened	Connector Type	Data Type	Data Rate(s)
Ethernet PoE IN	>30m	1	No	RJ45	Packet	10,100,1000

## 5.6. Test Configurations

Results for the following configurations are provided in this report:

Channel Bandwidths	Data Rate with Highest Power MBit/s	Channel Frequency (MHz)		
		Low	Mid	High
<b>5150 - 5250 MHz (Limited to FCC Only)</b>				
10	39	5,175.00	5,210.00	5,245.00
20	78	5,180.00	5,210.00	5,240.00
40	180	5,190.00	5,210.00	5,230.00
80	390	--	5,210.00	--
<b>5725 - 5850 MHz (FCC + ISED)</b>				
10	39	5,730.00	5,785.00	5,845.00
20	78	5,735.00	5,785.00	5,840.00
40	180	5,745.00	5,785.00	5,830.00
80	390	5,765.00	5,785.00	5,810.00

## 5.7. Equipment Modifications

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

1. NONE

## 5.8. Deviations from the Test Standard

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

1. NONE

## 6. TEST SUMMARY

### List of Measurements

Test Header	Result	Data Link
Peak Transmit Power	Complies	<a href="#">View Data</a>
26 dB & 99% Bandwidth	Complies	<a href="#">View Data</a>
6 dB & 99% Bandwidth	Complies	<a href="#">View Data</a>
Power Spectral Density	Complies	<a href="#">View Data</a>
Radiated	Complies	-
TX Spurious & Restricted Band Emissions	Complies	-
Antenna AP0200600 80°	Complies	<a href="#">View Data</a>
Antenna AP0200600 18° & 19°	Complies	<a href="#">View Data</a>
Restricted Edge & Band-Edge Emissions	Complies	-
Antenna AP0200600 80°	Complies	<a href="#">View Data</a>
Antenna AP0200600 18° & 19°	Complies	<a href="#">View Data</a>
Digital Emissions	Complies	<a href="#">View Data</a>
AC Wireline	Complies	<a href="#">View Data</a>

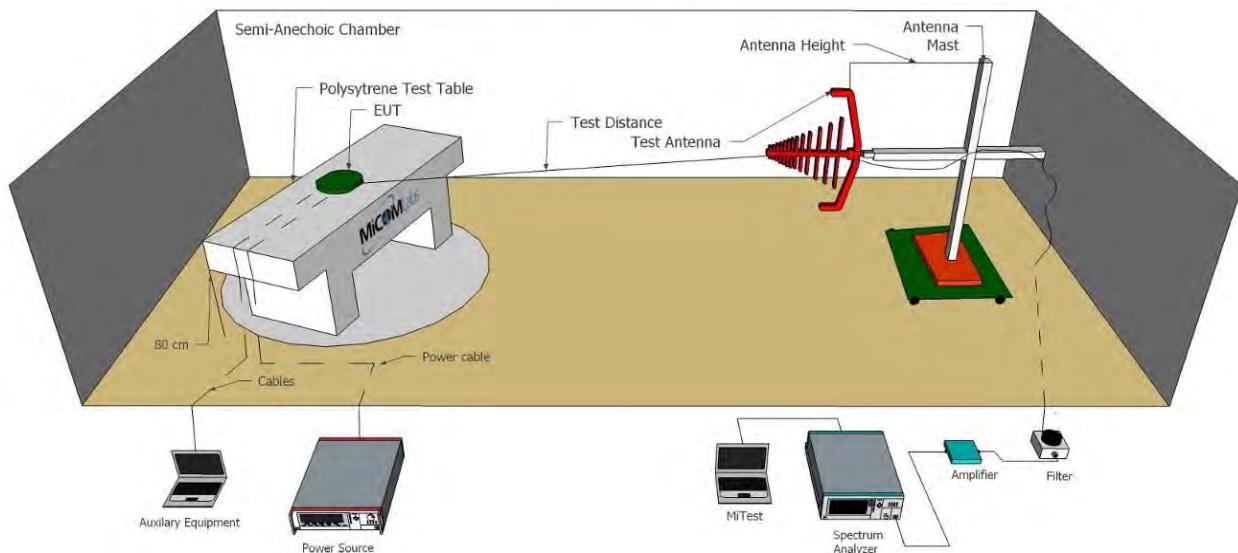
**Note:** The 5150-5250 MHz band results are only for submission to FCC, Not ISED as this device is an outdoor only device.

## 7. TEST EQUIPMENT CONFIGURATION(S)

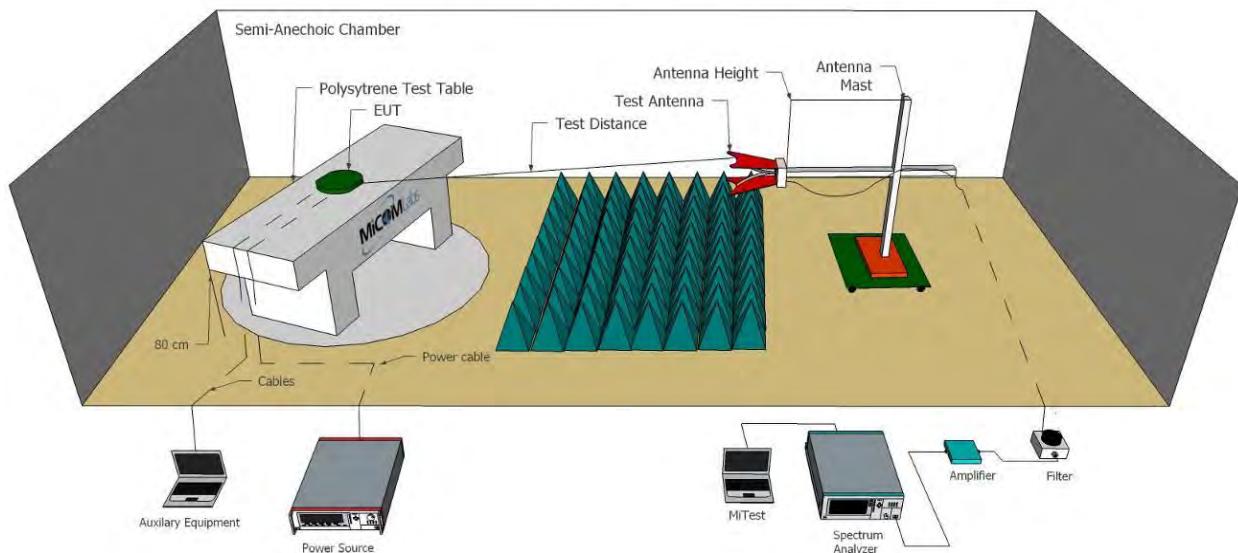
### 7.1. Radiated Emissions - 3m Chamber

Test Setup for Radiated Emissions for above and below 1 GHz

Radiated Emissions Below 1GHz Test Setup



Radiated Emissions Above 1GHz Test Setup



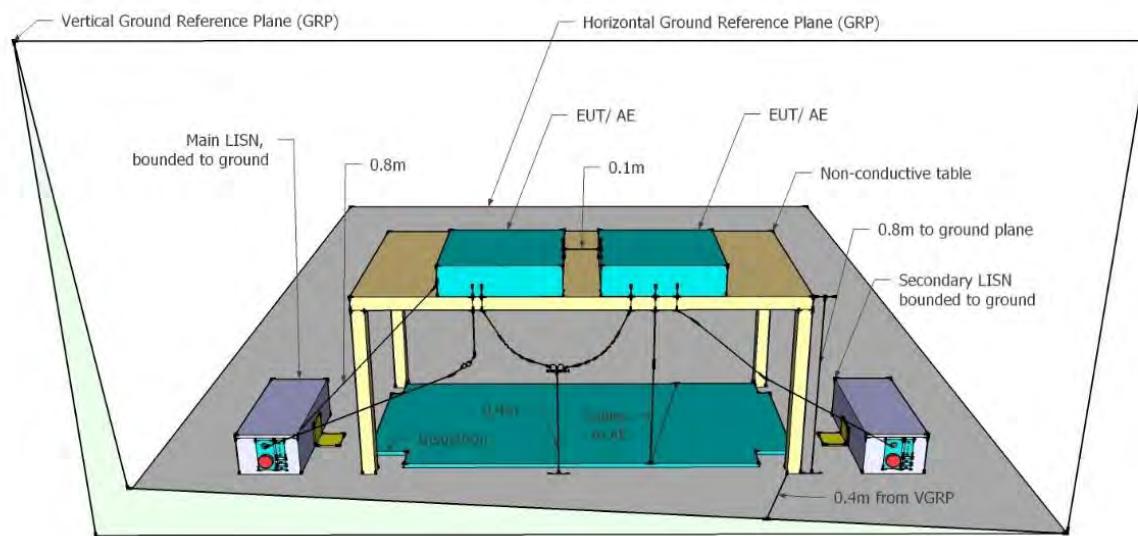
A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	21 Sep 2019
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	4 Apr 2020
377	Band Rejection Filter 5150 to 5880MHz	Microtronics	BRM50716	034	9 Oct 2019
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2019
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	8 Oct 2019
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	12 Sep 2019
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	12 Oct 2019
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	12 Sep 2019
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
447	MiTest Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	9 Oct 2019
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	9 Oct 2019
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	9 Oct 2019
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+ 02	VUU019014 02	9 Oct 2019
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	24 Sep 2019
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	24 Sep 2019
510	Barometer/Thermometer	Control Company	68000-49	170871375	11 Dec 2019
518	Cable - Amp to Antenna	SRC Haverhill	157-3051574	518	21 Sep 2019
CC05	Confidence Check	MiCOM	CC05	None	21 Sep 2019
VLF-1700	Low pass filter DC-1700 MHz	Mini Circuits	VLF-1700	None	8 Oct 2019

## 7.2. ac Wireline

The ac Wireline Conducted Emissions test was performed using the conducted test set-up shown in the diagram below.

## Test Measurement Set up



### Assets Utilized for ac Wireline Emission Testing

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.

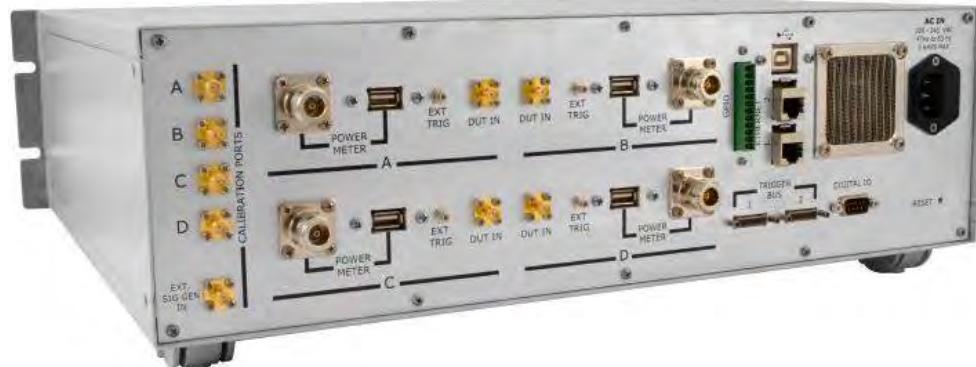
Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
184	Pulse Limiter	Rhode & Schwarz	ESH3Z2	357.8810.52	6 Oct 2019
190	LISN (two-line V-network)	Rhode & Schwarz	ESH3Z5	836679/006	18 Oct 2019
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	18 Sep 2019
295	Conducted Emissions Chamber Maintenance Check	MiCOM	Conducted Emissions Chamber	295	18 Sep 2019
307	BNC-CABLE	Megaphase	1689 1GVT4	15F50B002	11 Sep 2019
316	Dell desktop computer workstation	Dell	Desktop	WS04	Not Required
372	AC Variable PS	California Instruments	1251P	L06951	Cal when used
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2019
388	LISN (3 Phase) 9kHz - 30MHz	Rhode & Schwarz	ESH2-Z5	892107/022	20 Oct 2019
496	MiTest Conducted Emissions test software.	MiCOM	Conducted Emissions Test Software Version 1.0	496	Not Required
510	Barometer/Thermometer	Control Company	68000-49	170871375	11 Dec 2019
CCEMC01	Confidence Check.	MiCOM	CCEMC01	None	11 Sep 2019

## **8. 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)

## **9. TEST RESULTS**

### **9.1. Peak Transmit Power**

<b>Conducted Test Conditions for Maximum Conducted Output Power</b>			
<b>Standard:</b>	FCC CFR 47:15.407 RSS-247: 6.2.4.1	<b>Ambient Temp. (°C):</b>	24.0 - 27.5
<b>Test Heading:</b>	Maximum Conducted Output Power	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (a)(1)	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	KDB 789033 - D02 General UNII Test Procedures New Rules v01		

#### **Test Procedure for Maximum Output Power Measurement**

Spectrum Analyzer Method. KDB 789033 defines a methodology using spectrum analyzer. Where power shall be calculated by integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99% occupied bandwidth of the signal. However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with Section 15.407(a). Testing was performed under ambient conditions at nominal voltage.

Test configuration and setup used for the measurement was per the Radiated Test Set-up section specified in this document. Supporting KDB's referenced below.

#### **KDB 662911 D01 & KDB 662911 D02**

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.

Radiated measurements used for compliance with conducted limits, the following steps are required to ensure that the total emission power is determined for equipment driving cross polarized antennas:

- (1) Measure radiated emissions with vertical and horizontal polarizations of the measurement antenna;
- (2) Convert each radiated measurement to transmit power based on the antenna gain;

EIRP level to an equivalent electric field strength using the following relationship:

$$E = EIRP - 20 \log(D) + 104.8$$

Where:

E = electric field strength in dB $\mu$ V/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

- (3) Sum the powers across the two polarizations to compare the resultant electric field strength level to the applicable limit.

$$\text{Calculated Power} = A + G + Y + 10 \log(1/x) \text{ dBm}$$

$$A = \text{Total Power} [10 \log(10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})]$$

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 5725 – 5850 MHz

15. 407 (a)(3), RSS-247: 6.2.4.1

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.

### Consolidated Power Results, EIRP Limits

The EUT was tested for Radiated Output Power and the following tables define the worst case compliant results defined for each Antenna

#### ***Output Power Summary Table***

##### **Antenna Type – Integrated (outdoor use only)**

Antenna	Gain	Channel Bandwidths	Channel	Combined Output Power (H+V)	Calc EIRP	Limit	Margin	Power Setting
Model Number	dBi	MHz	MHz	dBm	dBm/EIRP	dBm/EIRP	dB	
AP0200600 80°	7.0	10	5175	28.51	35.51	36.00	-0.49	18.5
			5210	28.59	35.59	36.00	-0.41	18.5
			5245	28.6	35.6	36.00	-0.4	18.0
		20	5180	28.44	35.44	36.00	-0.56	19.0
			5210	28.69	35.69	36.00	-0.31	19.0
			5240	28.63	35.63	36.00	-0.37	18.5
		40	5190	28.75	35.75	36.00	-0.25	18.5
			5210	27.95	34.95	36.00	-1.05	18.5
			5230	28.4	35.4	36.00	-0.6	18.5
		80	5210	28.23	35.23	36.00	-0.77	18.5
AP0200600 80°	9.0	10	5730	26.51	35.51	36.00	-0.49	19.0
			5785	25.98	34.98	36.00	-1.02	17.0
			5845	26.5	35.5	36.00	-0.5	17.5
		20	5735	25.86	34.86	36.00	-1.14	19.5
			5785	26.96	35.96	36.00	-0.04	18.0
			5840	26.44	35.44	36.00	-0.56	18.0
		40	5745	26.37	35.37	36.00	-0.63	19.0
			5785	26.97	35.97	36.00	-0.03	17.0
			5830	26.77	35.77	36.00	-0.23	17.0
		80	5765	26.35	35.35	36.00	-0.65	17.0
			5785	26.63	35.63	36.00	-0.37	16.5
			5810	26.4	35.4	36.00	-0.6	16.5

### Output Power Summary Table

Antenna Type – Integrated (outdoor use only)

Antenna	Gain	Channel Bandwidths	Channel	Combined Output Power (H+V)	Calc EIRP	Limit	Margin	Power Setting
Model Number	dBi	MHz	MHz	dBm	dBm/EIRP	dBm/EIRP	dB	
AP0200600 18° (with Beam Forming)	17.0	10	5175	18.51	35.51	36.00	-0.49	8.5
			5210	18.59	35.59	36.00	-0.41	8.5
			5245	18.60	35.60	36.00	-0.4	8.0
		20	5180	18.44	35.44	36.00	-0.56	9.0
			5210	18.69	35.69	36.00	-0.31	9.0
			5240	18.63	35.63	36.00	-0.37	8.5
		40	5190	18.75	35.75	36.00	-0.25	8.5
			5210	17.95	34.95	36.00	-1.05	8.5
			5230	18.40	35.40	36.00	-0.6	8.5
		80	5210	18.23	35.23	36.00	-0.77	8.5
<hr/>								
AP0200600 19° (with Beam Forming)	19.0	10	5730	16.51	35.51	36.00	-0.49	9.0
			5785	15.98	34.98	36.00	-1.02	7.0
			5845	16.50	35.50	36.00	-0.5	7.5
		20	5735	15.86	34.86	36.00	-1.14	9.5
			5785	16.96	35.96	36.00	-0.04	8.0
			5840	16.44	35.44	36.00	-0.56	8.0
		40	5745	16.37	35.37	36.00	-0.63	9.0
			5785	16.97	35.97	36.00	-0.03	7.0
			5830	16.77	35.77	36.00	-0.23	7.0
		80	5765	16.35	35.35	36.00	-0.65	7.0
			5785	16.63	35.63	36.00	-0.37	6.5
			5810	16.40	35.40	36.00	-0.6	6.5

The following tables used the lowest gain antenna to calculate the maximum conducted power from the EUT.

**Note: The 5150-5250 Band Results are only submitted for FCC Part 15 Certification, Not RSS-247, as this device is an Outdoor only device.**

The following table identifies the power referenced to the "antenna ports"

#### Equipment Configuration for RF Output Power

<b>Variant:</b>	10MHz Bandwidth	<b>Duty Cycle (%):</b>	90.8
<b>Data Rate:</b>	39 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

#### Test Measurement Results

<b>Test Frequency MHz</b>	<b>Measured Output Power</b>		<b>Calculated Total Power</b>	<b>Limit</b>	<b>Margin</b>	<b>EUT Power Setting</b>
	<b>H</b>	<b>V</b>	<b>dBm</b>	<b>dB</b>	<b>Numeric</b>	<b>Numeric</b>
<b>5175</b>	17.33	22.61	28.51	29.00	-0.49	18.5
<b>5210</b>	20.39	21.19	28.59	29.00	-0.41	18.5
<b>5245</b>	22.27	18.62	28.60	29.00	-0.40	18.0

#### Traceability to Industry Recognized Test Methodologies

**Work Instruction:** WI-01 MEASURING RF OUTPUT POWER

**Uncertainty:**  $\pm 1.33$  dB

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.



#### Equipment Configuration for RF Output Power

<b>Variant:</b>	20MHz Bandwidth	<b>Duty Cycle (%):</b>	87.5
<b>Data Rate:</b>	78 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

#### Test Measurement Results

<b>Test Frequency MHz</b>	<b>Measured Output Power</b>		<b>Calculated Total Power</b>	<b>Limit</b>	<b>Margin</b>	<b>EUT Power Setting</b>
	<b>H</b>	<b>V</b>	<b>dBm</b>	<b>dB</b>	<b>Numeric</b>	<b>Numeric</b>
<b>5180</b>	17.89	22.33	28.44	29.00	-0.56	19.0
<b>5210</b>	20.34	21.41	28.69	29.00	-0.31	19.0
<b>5240</b>	22.15	18.99	28.63	29.00	-0.37	18.5

#### Traceability to Industry Recognized Test Methodologies

<b>Work Instruction:</b>	WI-01 MEASURING RF OUTPUT POWER
<b>Uncertainty:</b>	±1.33 dB

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.

### Equipment Configuration for RF Output Power

<b>Variant:</b>	40MHz Bandwidth	<b>Duty Cycle (%):</b>	79.7
<b>Data Rate:</b>	180 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

### Test Measurement Results

Test Frequency MHz	Measured Output Power		Calculated Total Power	Limit	Margin	EUT Power Setting
	H	V	dBm	dB	Numeric	Numeric
5190	17.25	22.94	28.75	29.00	-0.25	18.5
5210	19.87	20.45	27.95	29.00	-1.05	18.5
5230	21.80	19.00	28.40	29.00	-0.60	18.5

### Traceability to Industry Recognized Test Methodologies

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

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.



### Equipment Configuration for RF Output Power

<b>Variant:</b>	80MHz Bandwidth	<b>Duty Cycle (%):</b>	71.4
<b>Data Rate:</b>	390 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

### Test Measurement Results

<b>Test Frequency MHz</b>	<b>Measured Output Power</b>		<b>Calculated Total Power</b>	<b>Limit</b>	<b>Margin</b>	<b>EUT Power Setting</b>
	<b>H</b>	<b>V</b>	<b>dBm</b>	<b>dBm</b>	<b>dB</b>	<b>Numeric</b>
<b>5210</b>	20.1	20.77	28.23	29.00	-0.77	18.5

### Traceability to Industry Recognized Test Methodologies

<b>Work Instruction:</b>	WI-01 MEASURING RF OUTPUT POWER
<b>Uncertainty:</b>	±1.33 dB

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.

### Equipment Configuration for RF Output Power

<b>Variant:</b>	10MHz Bandwidth	<b>Duty Cycle (%):</b>	90.8
<b>Data Rate:</b>	39 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

### Test Measurement Results

<b>Test Frequency MHz</b>	<b>Measured Output Power</b>		<b>Calculated Total Power</b>	<b>Limit</b>	<b>Margin</b>	<b>EUT Power Setting</b>
	<b>H</b>	<b>V</b>	<b>dBm</b>	<b>dB</b>	<b>Numeric</b>	<b>Numeric</b>
<b>5730</b>	20.50	20.95	26.51	27.00	-0.49	19.0
<b>5785</b>	22.02	17.01	25.98	27.00	-1.02	17.0
<b>5845</b>	22.24	18.35	26.50	27.00	-0.50	17.5

### Traceability to Industry Recognized Test Methodologies

<b>Work Instruction:</b>	WI-01 MEASURING RF OUTPUT POWER
<b>Uncertainty:</b>	±1.33 dB

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.

### Equipment Configuration for RF Output Power

<b>Variant:</b>	20MHz Bandwidth	<b>Duty Cycle (%):</b>	87.5
<b>Data Rate:</b>	78 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256 QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

### Test Measurement Results

<b>Test Frequency MHz</b>	<b>Measured Output Power</b>		<b>Calculated Total Power</b>	<b>Limit</b>	<b>Margin</b>	<b>EUT Power Setting</b>
	<b>H</b>	<b>V</b>	<b>dBm</b>	<b>dB</b>	<b>Numeric</b>	<b>Numeric</b>
<b>5735</b>	20.25	19.9	25.86	27.00	-1.14	19.5
<b>5785</b>	22.80	18.55	26.96	27.00	-0.04	18.0
<b>5840</b>	22.27	18.05	26.44	27.00	-0.56	18.0

### Traceability to Industry Recognized Test Methodologies

<b>Work Instruction:</b>	WI-01 MEASURING RF OUTPUT POWER
<b>Uncertainty:</b>	±1.33 dB

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.

### Equipment Configuration for RF Output Power

<b>Variant:</b>	40MHz Bandwidth	<b>Duty Cycle (%):</b>	79.7
<b>Data Rate:</b>	180 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256 QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

### Test Measurement Results

<b>Test Frequency MHz</b>	<b>Measured Output Power</b>		<b>Calculated Total Power</b>	<b>Limit</b>	<b>Margin</b>	<b>EUT Power Setting</b>
	<b>H</b>	<b>V</b>	<b>dBm</b>	<b>dB</b>	<b>Numeric</b>	<b>Numeric</b>
<b>5745</b>	21.13	19.96	26.37	27.00	-0.63	19.0
<b>5785</b>	22.95	18.19	26.97	27.00	-0.03	17.0
<b>5830</b>	22.47	18.71	26.77	27.00	-0.23	17.0

### Traceability to Industry Recognized Test Methodologies

<b>Work Instruction:</b>	WI-01 MEASURING RF OUTPUT POWER
<b>Uncertainty:</b>	±1.33 dB

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.

### Equipment Configuration for RF Output Power

<b>Variant:</b>	80MHz Bandwidth	<b>Duty Cycle (%):</b>	71.4
<b>Data Rate:</b>	390 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256 QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

### Test Measurement Results

<b>Test Frequency MHz</b>	<b>Measured Output Power</b>		<b>Calculated Total Power</b>	<b>Limit</b>	<b>Margin</b>	<b>EUT Power Setting</b>
	<b>H</b>	<b>V</b>	<b>dBm</b>	<b>dB</b>	<b>Numeric</b>	<b>Numeric</b>
<b>5765</b>	21.95	18.53	26.35	27.00	-0.65	17.0
<b>5785</b>	22.39	18.43	26.63	27.00	-0.37	16.5
<b>5810</b>	22.25	17.96	26.40	27.00	-0.60	16.5

### Traceability to Industry Recognized Test Methodologies

<b>Work Instruction:</b>	WI-01 MEASURING RF OUTPUT POWER
<b>Uncertainty:</b>	±1.33 dB

**NOTE: KDB 412172 D01** was used to determine the EIRP from the results of a power measurements performed under far-field conditions with respect to all transmit and receive (measurement) antennas.

## **9.2. 26 dB & 99% Bandwidth**

Conducted Test Conditions for 26 dB and 99% Bandwidth			
<b>Standards:</b>	FCC CFR 47:15.407	<b>Ambient Temp. (°C):</b>	24.0 - 27.5
<b>Test Heading:</b>	26 dB and 99 % Bandwidth	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (a)	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	See Normative References		
<b>Test Procedure for 26 dB and 99% Bandwidth Measurement</b> The bandwidth at 26 dB and 99 % is measured radiated, in a 3 meter chamber, while EUT is operating in transmission mode at the appropriate center frequency. The Resolution Bandwidth was set to approximately 1% of the emission bandwidth. Testing was performed under ambient conditions at nominal voltage. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported. In this case Vertical a (V) and Horizontal for port b (H).  Test configuration and setup used for the measurement was per the Radiated Test Set-up section specified in this document.			

**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

<b>Variant:</b>	10 MHz Bandwidth	<b>Duty Cycle (%):</b>	Not Applicable
<b>Data Rate:</b>	39 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

<b>Test Frequency</b>	<b>Measured 26 dB Bandwidth (MHz)</b>		<b>26 dB Bandwidth (MHz)</b>			
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>	
<b>5175.0</b>	<a href="#"><u>11.52</u></a>	<a href="#"><u>11.32</u></a>		11.52	11.32	
<b>5210.0</b>	<a href="#"><u>17.11</u></a>	<a href="#"><u>12.87</u></a>		17.11	12.87	
<b>5245.0</b>	<a href="#"><u>12.10</u></a>	<a href="#"><u>12.02</u></a>		12.10	12.02	

<b>Test Frequency</b>	<b>Measured 99% Bandwidth (MHz)</b>		<b>99% Bandwidth (MHz)</b>			
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>	
<b>5175.0</b>	<a href="#"><u>8.90</u></a>	<a href="#"><u>8.90</u></a>		8.90	8.90	
<b>5210.0</b>	<a href="#"><u>9.10</u></a>	<a href="#"><u>9.02</u></a>		9.10	9.02	
<b>5245.0</b>	<a href="#"><u>8.98</u></a>	<a href="#"><u>8.98</u></a>		8.98	8.98	

**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**

<b>Variant:</b>	20 MHz Bandwidth	<b>Duty Cycle (%):</b>	Not Applicable
<b>Data Rate:</b>	78 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

<b>Test Frequency</b>	<b>Measured 26 dB Bandwidth (MHz)</b>		<b>26 dB Bandwidth (MHz)</b>			
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>	
5180.0	<a href="#">22.78</a>	<a href="#">22.85</a>		22.85	22.78	
5210.0	<a href="#">22.83</a>	<a href="#">23.47</a>		23.47	22.83	
5240.0	<a href="#">22.93</a>	<a href="#">22.61</a>		22.93	22.61	

<b>Test Frequency</b>	<b>Measured 99% Bandwidth (MHz)</b>		<b>99% Bandwidth (MHz)</b>			
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>	
5180.0	<a href="#">17.88</a>	<a href="#">17.80</a>		17.88	17.80	
5210.0	<a href="#">17.88</a>	<a href="#">17.88</a>		17.88	17.88	
5240.0	<a href="#">17.88</a>	<a href="#">17.88</a>		17.88	17.88	

**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**

<b>Variant:</b>	40 MHz Bandwidth	<b>Duty Cycle (%):</b>	Not Applicable
<b>Data Rate:</b>	180 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

Test Frequency	Measured 26 dB Bandwidth (MHz)		26 dB Bandwidth (MHz)			
	MHz	H	V	Highest	Lowest	
5190.0	<a href="#">47.29</a>	<a href="#">44.73</a>		47.29	44.73	
5210.0	<a href="#">45.73</a>	<a href="#">43.65</a>		45.73	43.65	
5230.0	<a href="#">46.13</a>	<a href="#">44.69</a>		46.13	44.69	

Test Frequency	Measured 99% Bandwidth (MHz)		99% Bandwidth (MHz)			
	MHz	H	V	Highest	Lowest	
5190.0	<a href="#">36.87</a>	<a href="#">36.72</a>		36.72	36.87	
5210.0	<a href="#">36.72</a>	<a href="#">36.55</a>		36.72	36.55	
5230.0	<a href="#">36.87</a>	<a href="#">36.71</a>		36.87	36.71	

**Traceability to Industry Recognized Test Methodologies**

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

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

**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

<b>Variant:</b>	80MHz Bandwidth	<b>Duty Cycle (%):</b>	Not Applicable
<b>Data Rate:</b>	390 MBit/s	<b>Antenna Gain (dBi):</b>	7.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

Test Frequency	Measured 26 dB Bandwidth (MHz)		26 dB Bandwidth (MHz)				
	MHz	H	V	Highest	Lowest		
5210.0		<a href="#">92.70</a>	<a href="#">92.38</a>	92.70	92.38		

Test Frequency	Measured 99% Bandwidth (MHz)		99% Bandwidth (MHz)				
	MHz	H	V	Highest	Lowest		
5210.0		<a href="#">76.63</a>	<a href="#">76.63</a>	76.63	76.63		

**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).

### **9.3. 6 dB & 99% Bandwidth**

Conducted Test Conditions for 6 dB and 99% Bandwidth			
<b>Standard:</b>	FCC CFR 47:15.407, RSS-247	<b>Ambient Temp. (°C):</b>	24.0 - 27.5
<b>Test Heading:</b>	6 dB and 99 % Bandwidth	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (a), RSS-247: 6.2.4.1	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	See Normative References		
<b>Test Procedure for 6 dB and 99% Bandwidth Measurement</b> The bandwidth at 6 dB and 99 % is measured radiated, in a 3 meter chamber, while EUT is operating in transmission mode at the appropriate center frequency. The Resolution Bandwidth was set to approximately 1% of the emission bandwidth. Testing was performed under ambient conditions at nominal voltage. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported. In this case Vertical a (V) and Horizontal for port b (H).  Test configuration and setup used for the measurement was per the Radiated Test Set-up section specified in this document.			



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for 6 dB & 99% Occupied Bandwidth

<b>Variant:</b>	10 MHz Bandwidth	<b>Duty Cycle (%):</b>	90.8
<b>Data Rate:</b>	39 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

<b>Test Frequency</b>	<b>Measured 6 dB Bandwidth (MHz)</b>		<b>6 dB Bandwidth (MHz)</b>				
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>		
5730.0	<a href="#">8.93</a>	<a href="#">8.97</a>		8.97	8.93		
5785.0	<a href="#">8.98</a>	<a href="#">8.98</a>		8.98	8.98		
5845.0	<a href="#">8.94</a>	<a href="#">8.98</a>		8.98	8.94		

<b>Test Frequency</b>	<b>Measured 99% Bandwidth (MHz)</b>		<b>99% Bandwidth (MHz)</b>				
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>		
5730.0	<a href="#">9.10</a>	<a href="#">9.02</a>		9.10	9.02		
5785.0	<a href="#">9.02</a>	<a href="#">9.06</a>		9.06	9.02		
5845.0	<a href="#">8.94</a>	<a href="#">9.02</a>		9.02	8.94		

#### Traceability to Industry Recognized Test Methodologies

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

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



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

<b>Variant:</b>	20 MHz Bandwidth	<b>Duty Cycle (%):</b>	87.5
<b>Data Rate:</b>	78 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

<b>Test Frequency</b>	<b>Measured 6 dB Bandwidth (MHz)</b>		<b>6 dB Bandwidth (MHz)</b>				
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>		
5735.0	<a href="#">17.80</a>	<a href="#">17.88</a>		17.88	17.80		
5785.0	<a href="#">17.88</a>	<a href="#">17.88</a>		17.88	17.88		
5840.0	<a href="#">17.67</a>	<a href="#">17.83</a>		17.83	17.67		

<b>Test Frequency</b>	<b>Measured 99% Bandwidth (MHz)</b>		<b>99% Bandwidth (MHz)</b>				
	<b>MHz</b>	<b>H</b>	<b>V</b>	<b>Highest</b>	<b>Lowest</b>		
5735.0	<a href="#">17.96</a>	<a href="#">17.88</a>		17.96	17.88		
5785.0	<a href="#">18.04</a>	<a href="#">18.04</a>		18.04	18.04		
5840.0	<a href="#">17.96</a>	<a href="#">17.88</a>		18.96	18.88		

**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).



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for 6 dB & 99% Occupied Bandwidth

<b>Variant:</b>	40 MHz Bandwidth	<b>Duty Cycle (%):</b>	79.7
<b>Data Rate:</b>	180 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

#### Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)		6 dB Bandwidth (MHz)				
	MHz	H	V	Highest	Lowest		
5745.0	<a href="#">36.72</a>	<a href="#">36.56</a>		36.72	36.56		
5785.0	<a href="#">36.63</a>	<a href="#">36.31</a>		36.63	36.31		
5830.0	<a href="#">36.52</a>	<a href="#">36.52</a>		36.52	36.52		

Test Frequency	Measured 99% Bandwidth (MHz)		99% Bandwidth (MHz)				
	MHz	H	V	Highest	Lowest		
5745.0	<a href="#">37.03</a>	<a href="#">36.87</a>		37.03	36.87		
5785.0	<a href="#">36.71</a>	<a href="#">36.55</a>		36.71	36.55		
5830.0	<a href="#">36.71</a>	<a href="#">36.87</a>		36.87	36.71		

#### Traceability to Industry Recognized Test Methodologies

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

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

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

<b>Variant:</b>	80MHz Bandwidth	<b>Duty Cycle (%):</b>	71.4
<b>Data Rate:</b>	390 MBit/s	<b>Antenna Gain (dBi):</b>	9.0
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

Test Frequency	Measured 6 dB Bandwidth (MHz)		6 dB Bandwidth (MHz)				
	MHz	H	V	Highest	Lowest		
5765.0	<a href="#">76.63</a>	<a href="#">75.99</a>		76.63	75.99		
5785.0	<a href="#">76.95</a>	<a href="#">76.63</a>		76.95	76.63		
5810.0	<a href="#">76.95</a>	<a href="#">76.31</a>		76.95	76.31		

Test Frequency	Measured 99% Bandwidth (MHz)		99% Bandwidth (MHz)				
	MHz	H	V	Highest	Lowest		
5765.0	<a href="#">76.95</a>	<a href="#">76.95</a>		76.95	76.95		
5785.0	<a href="#">76.95</a>	<a href="#">76.63</a>		76.95	76.63		
5810.0	<a href="#">76.95</a>	<a href="#">77.27</a>		76.95	77.27		

**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).

## 9.4. Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
<b>Standard:</b>	FCC CFR 47:15.407	<b>Ambient Temp. (°C):</b>	24.0 - 27.5
<b>Test Heading:</b>	Power Spectral Density	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (a)	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	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 v02.)

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 =  $A + 10 \log (1/x) \text{ dBm}$

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

$x = \text{Duty Cycle}$

Test configuration and setup used for the measurement was per the Radiated Test Set-up section specified in this document. Supporting KDB's referenced below.

### KDB 662911 D01 & KDB 662911 D02

Radiated measurements used for compliance with conducted limits, the following steps are required to ensure that the total emission power is determined for equipment driving cross polarized antennas:

- (1) Measure radiated emissions with vertical and horizontal polarizations of the measurement antenna;
- (2) Convert each radiated measurement to transmit power based on the antenna gain;

EIRP level to an equivalent electric field strength using the following relationship:

$$E = \text{EIRP} - 20 \log (D) + 104.8$$

Where:

$E$  = electric field strength in  $\text{dB}\mu\text{V/m}$ ,

$\text{EIRP}$  = equivalent isotropic radiated power in  $\text{dBm}$

$D$  = specified measurement distance in meters.

- (3) Sum the powers or PSDs across the two polarizations to compare the resultant electric field strength level to the applicable limit.

Calculated Power =  $A + G + Y + 10 \log (1/x) \text{ dBm}$

$A = \text{Total Power} [10 \log_{10} (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})]$

$G = \text{Antenna Gain}$

$Y = \text{Beamforming Gain}$

$x = \text{Duty Cycle (average power measurements only)}$

### 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 5725 – 5850 MHz

15. 407 (a)(3), RSS-247: 6.2.4.1

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.



**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	10 MHz Bandwidth	<b>Duty Cycle (%):</b>	90.8
<b>Data Rate:</b>	39 MBit/s	<b>Antenna Gain (dBi):</b>	7.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

Test Frequency	Measured Power Spectral Density		Summation Peak Marker + DCCF (+0.36 dB)	Limit	Margin
	(dBm/MHz)				
MHz	H	V	dBm/MHz	dBm/MHz	dB
5175.0	<a href="#">-0.01</a>	<a href="#">2.19</a>	9.43	16.0	-6.57
5210.0	<a href="#">3.26</a>	<a href="#">3.77</a>	11.72	16.0	-4.28
5245.0	<a href="#">4.87</a>	<a href="#">1.30</a>	11.64	16.0	-4.36

**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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density



**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	20 MHz Bandwidth	<b>Duty Cycle (%):</b>	87.5
<b>Data Rate:</b>	78 MBit/s	<b>Antenna Gain (dBi):</b>	7.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

Test Frequency	Measured Power Spectral Density		Summation Peak Marker + DCCF (+0.58 dB)	Limit	Margin
	MHz	(dBm/MHz)			
5180.0	<a href="#">-1.71</a>	<a href="#">3.03</a>	9.64	16.0	-6.36
5210.0	<a href="#">1.28</a>	<a href="#">1.94</a>	9.99	16.0	-6.01
5240.0	<a href="#">2.54</a>	<a href="#">-0.13</a>	9.77	16.0	-6.23

**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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density

**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	40 MHz Bandwidth	<b>Duty Cycle (%):</b>	79.7
<b>Data Rate:</b>	180 MBit/s	<b>Antenna Gain (dBi):</b>	7.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

Test Frequency	Measured Power Spectral Density		Summation Peak Marker + DCCF (+0.98 dB)	Limit	Margin
	(dBm/MHz)				
MHz	H	V	dBm/MHz	dBm/MHz	dB
5190.0	<a href="#">-5.57</a>	<a href="#">0.26</a>	7.03	16.0	-8.97
5210.0	<a href="#">-2.18</a>	<a href="#">-1.81</a>	6.78	16.0	-9.22
5230.0	<a href="#">-1.32</a>	<a href="#">-3.93</a>	6.34	16.0	-9.66

**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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density



**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	80 MHz Bandwidth	<b>Duty Cycle (%):</b>	71.4
<b>Data Rate:</b>	390 MBit/s	<b>Antenna Gain (dBi):</b>	7.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

<b>Test Frequency</b>	<b>Measured Power Spectral Density</b>		<b>Summation Peak Marker + DCCF (+1.46 dB)</b>	<b>Limit</b>	<b>Margin</b>
	<b>MHz</b>	<b>H</b>	<b>V</b>		
5210.0	-5.68		-4.57	4.16	16.0

**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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Power Spectral Density

<b>Variant:</b>	10 MHz Bandwidth	<b>Duty Cycle (%):</b>	90.8
<b>Data Rate:</b>	39 MBit/s	<b>Antenna Gain (dBi):</b>	7.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

#### Test Measurement Results

Test Frequency	Measured Power Spectral Density		Summation Peak Marker + DCCF (+0.42 dB)	Limit	Margin
	(dBm/MHz)				
MHz	H	V	dBm/MHz	dBm/MHz	dB
5730.0	0.73	0.42	8.78	27.0	-18.22
5785.0	2.82	-0.75	9.59	27.0	-17.41
5845.0	2.17	-1.51	8.91	27.0	-18.09

#### 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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Power Spectral Density

<b>Variant:</b>	20 MHz Bandwidth	<b>Duty Cycle (%):</b>	87.5
<b>Data Rate:</b>	78 MBit/s	<b>Antenna Gain (dBi):</b>	9.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

#### Test Measurement Results

<b>Test Frequency</b>	<b>Measured Power Spectral Density</b>		<b>Summation Peak Marker + DCCF (+0.58 dB)</b>	<b>Limit</b>	<b>Margin</b>
	<b>(dBm/MHz)</b>	<b>H</b>			
MHz					
5735.0	<u>-0.59</u>	<u>-2.08</u>	7.09	27.0	-19.91
5785.0	<u>1.42</u>	<u>-2.12</u>	8.36	27.0	-18.64
5840.0	<u>0.36</u>	<u>-1.76</u>	7.79	27.0	-19.21

#### 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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density



**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	40 MHz Bandwidth	<b>Duty Cycle (%):</b>	79.7
<b>Data Rate:</b>	180 MBit/s	<b>Antenna Gain (dBi):</b>	9.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

<b>Test Frequency</b>	<b>Measured Power Spectral Density</b>		<b>Summation Peak Marker + DCCF (+0.98 dB)</b>	<b>Limit</b>	<b>Margin</b>
	<b>(dBm/MHz)</b>	<b>H</b>	<b>V</b>		
<b>MHz</b>			<b>dBm/MHz</b>	<b>dBm/MHz</b>	<b>dB</b>
<b>5745.0</b>	<u>-1.72</u>		<u>-4.29</u>	5.95	27.0
<b>5785.0</b>	<u>-1.22</u>		<u>-4.70</u>	6.07	27.0
<b>5830.0</b>	<u>-2.42</u>		<u>-5.31</u>	5.14	27.0

**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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density



**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	80 MHz Bandwidth	<b>Duty Cycle (%):</b>	71.4
<b>Data Rate:</b>	390 MBit/s	<b>Antenna Gain (dBi):</b>	9.00
<b>Modulation:</b>	256QAM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	JMH
<b>Engineering Test Notes:</b>			

**Test Measurement Results**

<b>Test Frequency</b>	<b>Measured Power Spectral Density</b>		<b>Summation Peak Marker + DCCF (+1.46 dB)</b>	<b>Limit</b>	<b>Margin</b>
	<b>(dBm/MHz)</b>	<b>H</b>	<b>V</b>		
<b>MHz</b>			<b>dBm/MHz</b>	<b>dBm/MHz</b>	<b>dB</b>
<b>5765.0</b>	<u>-5.02</u>		<u>-7.62</u>	3.12	27.0
<b>5785.0</b>	<u>-3.84</u>		<u>-8.62</u>	3.63	27.0
<b>5810.0</b>	<u>-4.50</u>		<u>-8.66</u>	3.15	27.0

**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).

KDB 789033 - D02 General UNII Test Procedures New Rules v01 was used to calculate the above Power Spectral Density

## 9.5. Radiated

Radiated Test Conditions for Radiated Spurious and Band-Edge Emissions			
<b>Standard:</b>	FCC CFR 47:15.407	<b>Ambient Temp. (°C):</b>	20.0 - 24.5
<b>Test Heading:</b>	Radiated Spurious and Band-Edge Emissions	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (b), 15.205, 15.209	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	See Normative References		

### Test Procedure for Radiated Spurious and Band-Edge Emissions

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

Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

Test configuration and setup for Undesirable Measurement were per the Radiated Test Set-up specified in this document.

15.407 (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) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

### Limits for Restricted Bands (15.205, 15.209)

Peak emission: 74 dBuV/m

Average emission: 54 dBuV/m

### Field Strength Calculation

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

FS = R + AF + CORR - FO

where:

**FS** = Field Strength

**R** = Measured Spectrum analyzer Input Amplitude

**AF** = Antenna Factor

**CORR** = Correction Factor =  $CL - AG + NFL$

**CL** = Cable Loss

**AG** = Amplifier Gain

**FO** = Distance Falloff Factor

**NFL** = Notch Filter Loss

**Example:**

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength (dB $\mu$ V/m);

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

where P is the EIRP in Watts

Therefore: -27 dBm/MHz equates to 68.23 dB $\mu$ V/m

Conversion between dBmV/m (or dBmV) and mV/m (or mV) are as follows:

Level (dBmV/m) = 20 \* Log (level (mV/m))

40 dBmV/m = 100 mV/m

48 dBmV/m = 250 mV/m

**Restricted Bands of Operation (15.205)**

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

**Frequency Band**

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

(b) Except as provided 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 §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

(c) Except as provided in paragraphs (d) and (e) of this section, regardless of the field strength limits specified elsewhere in this subpart, the provisions of this section apply to emissions from any intentional radiator.

(d) The following devices are exempt from the requirements of this section:

(1) Swept frequency field disturbance sensors operating between 1.705 and 37 MHz provided their emissions only sweep through the bands listed in paragraph (a) of this section, the sweep is never stopped with the fundamental emission within the bands listed in paragraph (a) of this section, and the fundamental emission is outside of the bands listed in paragraph (a) of this section more than 99% of the time the device is actively transmitting, without compensation for duty cycle.

(2) Transmitters used to detect buried electronic markers at 101.4 kHz which are employed by telephone companies.

(3) Cable locating equipment operated pursuant to §15.213.

(4) Any equipment operated under the provisions of §15.253, 15.255, and 15.256 in the frequency band 75-85 GHz, or §15.257 of this part.

(5) Biomedical telemetry devices operating under the provisions of §15.242 of this part are not subject to the restricted band 608-614 MHz but are subject to compliance within the other restricted bands.

(6) Transmitters operating under the provisions of subparts D or F of this part.

(7) Devices operated pursuant to §15.225 are exempt from complying with this section for the 13.36-13.41 MHz band only.

(8) Devices operated in the 24.075-24.175 GHz band under §15.245 are exempt from complying with the requirements of this section for the 48.15-48.35 GHz and 72.225-72.525 GHz bands only, and shall not exceed the limits specified in §15.245(b).

(9) Devices operated in the 24.0-24.25 GHz band under §15.249 are exempt from complying with the requirements of this section for the 48.0-48.5 GHz and 72.0-72.75 GHz bands only, and shall not exceed the limits specified in §15.249(a).

(e) Harmonic emissions appearing in the restricted bands above 17.7 GHz from field disturbance sensors operating under the provisions of §15.245 shall not exceed the limits specified in §15.245(b).

### 9.5.1. TX Spurious & Restricted Band Emissions

#### 9.5.1.1. Antenna AP0200600 80°

##### Equipment Configuration for TX Spurious & Restricted Band Emissions

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5175.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

##### Test Measurement Results

###### 1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	4863.51	70.39	-2.54	-12.43	55.42	Max Peak	Horizontal	159	351	74.0	-12.8	Pass
#2	4863.51	56.43	-2.54	-12.43	41.46	Max Avg	Horizontal	159	351	54.0	-12.5	Pass
#3	5178.19	83.39	-2.65	-11.95	68.79	Fundamental	Vertical	100	0	--	--	
#4	6250.08	67.04	-2.87	-9.34	54.83	Peak (NRB)	Horizontal	151	0	--	--	Pass
#5	6899.94	63.17	-2.98	-7.99	52.20	Peak (NRB)	Horizontal	151	0	--	--	Pass
#6	10349.57	61.92	-3.78	-5.48	52.66	Peak (NRB)	Horizontal	151	0	--	--	Pass

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5210.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	4835.67	70.21	-2.54	-12.40	55.27	Max Peak	Horizontal	175	354	74.0	-13.0	Pass	
#2	4835.67	55.99	-2.54	-12.40	41.05	Max Avg	Horizontal	175	354	54.0	-13.0	Pass	
#3	5210.07	86.04	-2.64	-12.02	71.38	Fundamental	Vertical	100	0	--	--		
#4	6246.99	64.64	-2.88	-9.35	52.41	Peak (NRB)	Horizontal	150	0	--	--	Pass	
#5	6946.58	60.77	-2.98	-8.05	49.74	Peak (NRB)	Horizontal	150	0	--	--	Pass	
#6	10417.08	60.19	-4.14	-5.83	50.22	Peak (NRB)	Horizontal	150	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5245.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	4864.12	70.16	-2.54	-12.46	55.16	Max Peak	Horizontal	168	355	74.0	-13.1	Pass	
#2	4864.12	56.14	-2.54	-12.46	41.14	Max Avg	Horizontal	168	355	54.0	-12.9	Pass	
#3	5242.69	89.98	-2.62	-12.20	75.16	Fundamental	Horizontal	100	0	--	--		
#4	6246.49	63.36	-2.88	-9.35	51.13	Peak (NRB)	Horizontal	151	0	--	--	Pass	
#5	10489.46	58.55	-3.92	-6.12	48.51	Peak (NRB)	Horizontal	151	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5730.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5727.42	66.09	-2.74	-10.94	52.41	Fundamental	Horizontal	151	0	--	--		

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5785.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5788.73	69.58	-2.75	-10.78	56.05	Fundamental	Horizontal	151	0	--	--		
#2	6250.07	58.69	-2.87	-9.34	46.48	Peak (NRB)	Horizontal	151	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5845.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5848.86	70.86	-2.81	-10.68	57.37	Fundamental	Horizontal	151	0	--	--	Pass	
#2	6250.07	59.15	-2.87	-9.34	46.94	Peak (NRB)	Horizontal	151	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



### 9.5.1.2. Antenna AP0200600 18° & 19°

#### Equipment Configuration for TX Spurious & Restricted Band Emissions

<b>Antenna:</b>	AP0200600 18°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5175.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

#### Test Measurement Results

##### 1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	4832.62	69.14	-2.54	-12.40	54.20	Max Peak	Horizontal	138	351	74.0	-14.0	Pass
#2	4832.62	54.99	-2.54	-12.40	40.05	Max Avg	Horizontal	138	351	54.0	-14.0	Pass
#3	5177.20	86.77	-2.64	-11.93	72.20	Fundamental	Vertical	150	0	--	--	
#4	6211.93	64.11	-2.88	-9.32	51.91	Peak (NRB)	Horizontal	150	0	--	--	Pass
#5	6899.91	62.65	-2.98	-7.99	51.68	Peak (NRB)	Horizontal	150	0	--	--	Pass
#6	10350.11	61.13	-3.79	-5.49	51.85	Peak (NRB)	Horizontal	150	0	--	--	Pass

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 18°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5210.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 180000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	4865.95	70.18	-2.54	-12.48	55.16	Max Peak	Horizontal	172	355	74.0	-13.1	Pass	
#2	4865.95	55.77	-2.54	-12.48	40.75	Max Avg	Horizontal	172	355	54.0	-13.3	Pass	
#3	5206.20	89.86	-2.64	-11.98	75.24	Fundamental	Vertical	151	0	--	--		
#4	6250.41	63.48	-2.87	-9.34	51.27	Peak (NRB)	Horizontal	148	0	--	--	Pass	
#5	6946.61	58.76	-2.98	-8.05	47.73	Peak (NRB)	Horizontal	148	0	--	--	Pass	
#6	10420.45	57.62	-4.09	-5.85	47.68	Peak (NRB)	Horizontal	148	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 18°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5245.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	4864.25	70.29	-2.54	-12.46	55.29	Max Peak	Horizontal	149	354	74.0	-12.9	Pass	
#2	4864.25	56.28	-2.54	-12.46	41.28	Max Avg	Horizontal	149	354	54.0	-12.7	Pass	
#3	5245.01	90.88	-2.63	-12.19	76.06	Fundamental	Horizontal	151	0	--	--		
#4	6246.49	64.59	-2.88	-9.35	52.36	Peak (NRB)	Horizontal	151	0	--	--	Pass	
#5	10489.30	62.29	-3.92	-6.12	52.25	Peak (NRB)	Horizontal	151	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. With Beamforming 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 19°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5730.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5732.11	71.68	-2.74	-10.88	58.06	Fundamental	Vertical	151	0	--	--		
#2	6213.80	57.79	-2.88	-9.31	45.60	Peak (NRB)	Horizontal	151	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. With Beam Forming. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 19°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5785.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5788.66	70.16	-2.75	-10.78	56.63	Fundamental	Horizontal	151	0	--	--		
#2	6250.09	60.20	-2.87	-9.34	47.99	Peak (NRB)	Horizontal	151	0	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. With Beam Forming. 5 GHz notch in front of amp to prevent overload



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	AP0200600 19°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5845.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	24	<b>Tested By:</b>	JMH

**Test Measurement Results**

1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5848.42	71.79	-2.81	-10.68	58.30	Fundamental	Horizontal	150	0	--	--		
#2	6250.20	63.06	-2.87	-9.34	50.85	Peak (NRB)	Horizontal	150	356	--	--	Pass	

Test Notes: EUT powered by POE. Connected to laptop outside chamber. With Beam Forming. 5 GHz notch in front of amp to prevent overload

### 9.5.2. Restricted Edge & Band-Edge Emissions

#### 9.5.2.3. Antenna AP0200600 80°

#### RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Antenna AP0200600 80°		Band-Edge Freq	Limit 74.0dB $\mu$ V/m	Limit 54.0dB $\mu$ V/m	Power Setting
Bandwidth (MHz)	Operating Frequency (MHz)	MHz	dB $\mu$ V/m	dB $\mu$ V/m	
10	5175.00	5150.00	60.24	47.33	18.5
20	5180.00	5150.00	62.26	48.29	19
40	5190.00	5150.00	66.48	51.24	18.5
80	5210.00	5150.00	67.91	49.53	15

\* Includes Duty Cycle Correction for Average measurement

#### 5725 MHz Radiated Lower Band-Edge Emissions

Antenna AP0200600 80°		Band-Edge Freq	Limit 68.2dB $\mu$ V/m	Limit 122.2dB $\mu$ V/m	Power Setting
Bandwidth (MHz)	Operating Frequency (MHz)	MHz	dB $\mu$ V/m	dB $\mu$ V/m	
10	5730.00	5725.00	57.69	109.17	19
20	5735.00	5725.00	56.25	97.19	19.5
40	5745.00	5725.00	56.87	92.55	19
80	5765.00	5725.00	58.81	90.28	17

#### 5850 MHz Radiated Higher Band-Edge Emissions

Antenna AP0200600 80°		Band-Edge Freq	Limit 122.2dB $\mu$ V/m	Limit 68.2 dB $\mu$ V/m	Power Setting
Bandwidth (MHz)	Operating Frequency (MHz)	MHz	dB $\mu$ V/m	dB $\mu$ V/m	
10	5845.00	5850.00	107.58	60.07	17.5
20	5840.00	5850.00	98.41	60.49	18
40	5830.00	5850.00	95.20	60.90	17
80	5810.00	5850.00	92.99	63.18	16.5

Click on the links to view the data.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Restricted Lower Band-Edge Emissions

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5175.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	18.5	<b>Tested By:</b>	JMH

#### Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5134.97	15.31	-2.61	34.21	47.33*	Max Avg	Vertical	166	7	54.0	-6.7*	Pass	
#2	5150.00	28.64	-2.61	34.21	60.24	Max Peak	Vertical	166	7	74.0	-13.8	Pass	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \* Includes Duty Cycle Correction for Average measurement



**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	20 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	87.5
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	78 MBit/s
<b>Power Setting:</b>	19	<b>Tested By:</b>	JMH

**Test Measurement Results**

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5150.00	16.11	-2.61	34.21	48.29*	Max Avg	Vertical	166	7	54.0	-5.7*	Pass	
#2	5150.00	30.66	-2.61	34.21	62.26	Max Peak	Vertical	166	7	74.0	-6.0	Pass	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \* Includes Duty Cycle Correction for Average measurement



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Restricted Lower Band-Edge Emissions

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	40 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	79.7
<b>Channel Frequency (MHz):</b>	5190.00	<b>Data Rate:</b>	180 MBit/s
<b>Power Setting:</b>	18.5	<b>Tested By:</b>	JMH

#### Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5150.00	18.65	-2.61	34.21	51.24*	Max Avg	Vertical	167	7	54.0	-2.81*	Pass	
#2	5150.00	34.88	-2.61	34.21	66.48	Max Peak	Vertical	167	7	74.0	-1.8	Pass	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \* Includes Duty Cycle Correction for Average measurement



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Restricted Lower Band-Edge Emissions

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	80 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	71.4
<b>Channel Frequency (MHz):</b>	5210.00	<b>Data Rate:</b>	390 MBit/s
<b>Power Setting:</b>	18.5	<b>Tested By:</b>	JMH

#### Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5150.00	16.47	-2.61	34.21	49.5*	Max Avg	Vertical	166	7	54.0	-4.4*	Pass	
#2	5150.00	36.31	-2.61	34.21	67.91	Max Peak	Vertical	166	7	74.0	-6.1	Pass	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \* Includes Duty Cycle Correction for Average measurement



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5730.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	19	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5647.91	25.78	-2.72	34.63	57.69	Max Peak	Horizontal	169	355	74.0	-10.5	Pass	
#2	5725.00	77.19	-2.74	34.72	109.17	Max Peak	Horizontal	169	355	122.2	-13.0	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	20 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	87.5
<b>Channel Frequency (MHz):</b>	5735.00	<b>Data Rate:</b>	78 MBit/s
<b>Power Setting:</b>	19.5	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5629.15	24.32	-2.71	34.64	56.25	Max Peak	Horizontal	169	355	74.0	-12.0	Pass	
#2	5725.00	65.21	-2.74	34.72	97.19	Max Peak	Horizontal	169	355	122.2	-25.0	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	40 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	79.7
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	180 MBit/s
<b>Power Setting:</b>	19	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5646.46	24.96	-2.72	34.63	56.87	Max Peak	Horizontal	169	355	68.2	-11.4	Pass	
#2	5725.00	60.57	-2.74	34.72	92.55	Max Peak	Horizontal	169	355	122.2	-29.7	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	80 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	71.4
<b>Channel Frequency (MHz):</b>	5765.00	<b>Data Rate:</b>	390 MBit/s
<b>Power Setting:</b>	17	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5633.84	26.87	-2.70	34.64	58.81	Max Peak	Horizontal	169	355	68.2	-9.4	Pass	
#2	5725.00	58.30	-2.74	34.72	90.28	Max Peak	Horizontal	169	355	122.2	-31.9	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5845.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	17.5	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	75.43	-2.81	34.96	107.58	Peak Avg	Horizontal	165	339	122.2	-14.7	Pass	
#3	5935.59	27.73	-2.77	35.11	60.07	Peak Avg	Horizontal	165	339	68.2	-8.2	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	20 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	87.5
<b>Channel Frequency (MHz):</b>	5840.00	<b>Data Rate:</b>	78 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	66.26	-2.81	34.96	98.41	Max Peak	Horizontal	165	339	122.2	-23.8	Pass	
#3	5983.53	28.12	-2.83	35.20	60.49	Max Peak	Horizontal	165	339	68.2	-7.7	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	40 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	79.7
<b>Channel Frequency (MHz):</b>	5830.00	<b>Data Rate:</b>	180 MBit/s
<b>Power Setting:</b>	17	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	63.05	-2.81	34.96	95.20	Max Peak	Horizontal	165	339	122.2	-27.0	Pass	
#3	5957.72	28.56	-2.80	35.14	60.90	Max Peak	Horizontal	165	339	68.2	-7.3	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	AP0200600 80°	<b>Variant:</b>	80 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.0	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	71.4
<b>Channel Frequency (MHz):</b>	5810.00	<b>Data Rate:</b>	390 MBit/s
<b>Power Setting:</b>	16.5	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	60.84	-2.81	34.96	92.99	Max Peak	Horizontal	165	339	122.2	-29.2	Pass	
#3	5932.83	30.84	-2.77	35.11	63.18	Max Peak	Horizontal	165	339	68.2	-5.1	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.

#### 9.5.2.4. Antenna AP0200600 18° & 19°

#### RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Antenna AP0200600 18°		Band-Edge Freq	Limit 74.0 dB $\mu$ V/m	Limit 54.0 dB $\mu$ V/m	Power Setting
Bandwidth (MHz)	Operating Frequency (MHz)	MHz	dB $\mu$ V/m	dB $\mu$ V/m	
10	5175.00	5150.00	63.78	51.84	14
20	5180.00	5150.00	65.07	52.24	14
40	5190.00	5150.00	67.23	53.51	14
80	5210.00	5150.00	66.41	52.88	8.5

\* Includes Duty Cycle Correction for Average measurement

#### 5725 MHz Radiated Lower Band-Edge Emissions

Antenna AP0200600 18°		Band-Edge Freq	Limit 68.2 dB $\mu$ V/m	Limit 122.2 dB $\mu$ V/m	Power Setting
Bandwidth (MHz)	Operating Frequency (MHz)	MHz	dB $\mu$ V/m	dB $\mu$ V/m	
10	5730.00	5725.00	63.22	116.32	19.0
20	5735.00	5725.00	62.64	108.06	19.5
40	5745.00	5725.00	64.71	102.27	19
80	5765.00	5725.00	63.73	96.84	17

#### 5850 MHz Radiated Higher Band-Edge Emissions

Antenna AP0200600 19°		Band-Edge Freq	Limit 122.2 dB $\mu$ V/m	Limit 68.2 dB $\mu$ V/m	Power Setting
Bandwidth (MHz)	Operating Frequency (MHz)	MHz	dB $\mu$ V/m	dB $\mu$ V/m	
10	5845.00	5850.00	112.78	65.72	17.5
20	5840.00	5850.00	103.86	65.69	18
40	5830.00	5850.00	100.21	66.21	17
80	5810.00	5850.00	97.21	67.45	16.5

Click on the links to view the data.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Restricted Lower Band-Edge Emissions

<b>Antenna:</b>	Antenna AP0200600 18°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5175.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	14	<b>Tested By:</b>	JMH

#### Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	500.12	19.80	-2.59	34.21	51.84*	Max Avg	Vertical	166	346	54.0	-2.2*	Pass	
#2	5148.50	32.18	-2.61	34.21	63.78	Max Peak	Vertical	166	346	74.0	-10.2	63.78	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Restricted Lower Band-Edge Emissions

<b>Antenna:</b>	Antenna AP0200600 18°	<b>Variant:</b>	20 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	87.5
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	78 MBit/s
<b>Power Setting:</b>	14	<b>Tested By:</b>	JMH

#### Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5001.20	20.04	-2.59	34.21	52.24*	Max Avg	Vertical	166	346	54.0	-1.8*	Pass	
#2	5146.99	33.47	-2.61	34.21	65.07	Max Peak	Vertical	166	346	74.0	-8.9	Pass	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Restricted Lower Band-Edge Emissions

<b>Antenna:</b>	Antenna AP0200600 18°	<b>Variant:</b>	40 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	79.7
<b>Channel Frequency (MHz):</b>	5190.00	<b>Data Rate:</b>	180 MBit/s
<b>Power Setting:</b>	14	<b>Tested By:</b>	JMH

#### Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5150.00	20.92	-2.61	34.21	53.51*	Max Avg	Vertical	166	346	54.0	-0.5*	Pass	
#2	5150.00	35.63	-2.61	34.21	67.23	Max Peak	Vertical	166	346	74.0	-6.8	Pass	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

#### Equipment Configuration for Restricted Lower Band-Edge Emissions

<b>Antenna:</b>	Antenna AP0200600 18°	<b>Variant:</b>	80 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	7.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	71.4
<b>Channel Frequency (MHz):</b>	5210.00	<b>Data Rate:</b>	390 MBit/s
<b>Power Setting:</b>	8.5	<b>Tested By:</b>	JMH

#### Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5000.50	19.80	-2.59	34.21	52.88*	Max Avg	Horizontal	166	346	54.0	-1.1*	Pass	
#2	5149.30	34.81	-2.61	34.21	66.41	Max Peak	Horizontal	166	346	74.0	-7.6	Pass	
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5730.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	19.0	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5632.39	31.28	-2.70	34.64	63.22	Max Peak	Horizontal	166	349	68.2	-5.0	Pass	
#2	5725.00	84.34	-2.74	34.72	116.32	Max Peak	Horizontal	166	349	122.2	-5.9	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	20 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	87.5
<b>Channel Frequency (MHz):</b>	5735.00	<b>Data Rate:</b>	78 MBit/s
<b>Power Setting:</b>	19.5	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5634.20	30.70	-2.70	34.64	62.64	Max Peak	Horizontal	166	349	68.2	-5.6	Pass	
#2	5725.00	76.08	-2.74	34.72	108.06	Max Peak	Horizontal	166	349	122.2	-14.1	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	40 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	79.7
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	180 MBit/s
<b>Power Setting:</b>	19	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5647.91	32.80	-2.72	34.63	64.71	Max Peak	Horizontal	166	349	68.2	-3.5	Pass	
#2	5725.00	70.29	-2.74	34.72	102.27	Max Peak	Horizontal	166	349	122.2	-19.9	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	80 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	71.4
<b>Channel Frequency (MHz):</b>	5765.00	<b>Data Rate:</b>	390 MBit/s
<b>Power Setting:</b>	17	<b>Tested By:</b>	JMH

**Test Measurement Results**

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5630.59	31.80	-2.71	34.64	63.73	Max Peak	Horizontal	166	349	68.2	-4.5	Pass	
#2	5725.00	64.86	-2.74	34.72	96.84	Max Peak	Horizontal	166	349	122.2	-25.4	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	10 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	90.8
<b>Channel Frequency (MHz):</b>	5845.00	<b>Data Rate:</b>	39 MBit/s
<b>Power Setting:</b>	17.5	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	80.63	-2.81	34.96	112.78	Max Peak	Horizontal	166	348	122.2	-9.5	Pass	
#3	5984.45	33.35	-2.83	35.20	65.72	Max Peak	Horizontal	166	348	68.2	-2.5	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	20 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	87.5
<b>Channel Frequency (MHz):</b>	5840.00	<b>Data Rate:</b>	78 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	71.71	-2.81	34.96	103.86	Max Peak	Horizontal	166	348	122.2	-18.4	Pass	
#3	5938.82	33.34	-2.77	35.12	65.69	Max Peak	Horizontal	166	348	68.2	-2.5	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	40 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	79.7
<b>Channel Frequency (MHz):</b>	5830.00	<b>Data Rate:</b>	180 MBit/s
<b>Power Setting:</b>	17	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	68.06	-2.81	34.96	100.21	Max Peak	Horizontal	166	348	122.2	-22.0	Pass	
#3	5974.31	33.85	-2.81	35.17	66.21	Max Peak	Horizontal	166	348	68.2	-2.0	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.



**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Antenna AP0200600 19°	<b>Variant:</b>	80 MHz Bandwidth
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	256QAM
<b>Beam Forming Gain (Y):</b>	10	<b>Duty Cycle (%):</b>	71.4
<b>Channel Frequency (MHz):</b>	5810.00	<b>Data Rate:</b>	390 MBit/s
<b>Power Setting:</b>	16.5	<b>Tested By:</b>	JMH

**Test Measurement Results**

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
#1	5850.00	65.06	-2.81	34.96	97.21	Max Peak	Horizontal	166	348	122.2	-25.0	Pass	
#3	5931.44	35.12	-2.78	35.11	67.45	Max Peak	Horizontal	166	348	68.2	-0.8	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber.

### **9.5.3. Digital Emissions**

FCC, Part 15 Subpart B §15.109  
Industry Canada ICES-003 Section 6.2

#### **Test Procedure**

Testing 30 – 1,000 MHz was performed in a 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 nearest the limits were chosen for maximization and formal measurement using a CISPR Compliant receiver. 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. Emissions above 1000 MHz are measured utilizing a CISPR compliant average detector with a tuned receiver, using a bandwidth of 1 MHz. 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.

$$\mathbf{FS = R + AF + CORR - FO}$$

FS = Field Strength

R = Measured Spectrum analyzer Input Amplitude

AF = Antenna Factor

FO = Distance Falloff Factor

$$\mathbf{CORR = Correction Factor = CL - AG + NFL}$$

CL = Cable Loss

AG = Amplifier Gain

NFL = Notch Filter Loss or Waveguide Loss

### Field Strength Calculation Example:

Given receiver input reading of 51.5 dB $\mu$ V; 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:

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

Conversion between dB $\mu$ V/m (or dB $\mu$ V) and  $\mu$ V/m (or  $\mu$ V) are done as:

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

$$40 \text{ dB}\mu\text{V/m} = 100 \mu\text{V/m}$$

$$48 \text{ dB}\mu\text{V/m} = 250 \mu\text{V/m}$$

## FCC and IC Spurious Emissions Limits

FCC, Part 15 Subpart B §15.109  
 Industry Canada ICES-003 Section 6.2

Except for Class A digital device, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values.

### Limits below 1 GHz:

Class A limits

Frequency(MHz)	Quasi-peak Limit (dB $\mu$ V/m)	Measurement Distance (meters)	Quasi-peak Limit (dB $\mu$ V/m)	Measurement Distance (meters)
30 to 88	40	10	49.5	3
88-216	43.5	10	54	3
216-960	46.4	10	56.5	3
960-1000	49.5	10	60	3

Class B limits

Frequency(MHz)	Quasi-peak Limit (dB $\mu$ V/m)	Measurement Distance (meters)	Quasi-peak Limit (dB $\mu$ V/m)	Measurement Distance (meters)
30 to 88	29.5	10	40	3
88-216	33	10	43.5	3
216-960	35.6	10	46	3
960-1000	43.5	10	54	3

### Limits above 1GHz:

Frequency(MHz)	Average Limit (dB $\mu$ V/m)	Peak Limit (dB $\mu$ V/m)	Measurement Distance (meters)	Class (A/B)
1 000 to 6000	54	74	3	Class B

Frequency(MHz)	Average Limit (dB $\mu$ V/m)	Peak Limit (dB $\mu$ V/m)	Measurement Distance (meters)	Class (A/B)
1 000 to 6000	60	80	3	Class A

### Traceability

#### Laboratory Measurement Uncertainty

Measurement uncertainty	+5.6/ -4.5 dB
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#### Method

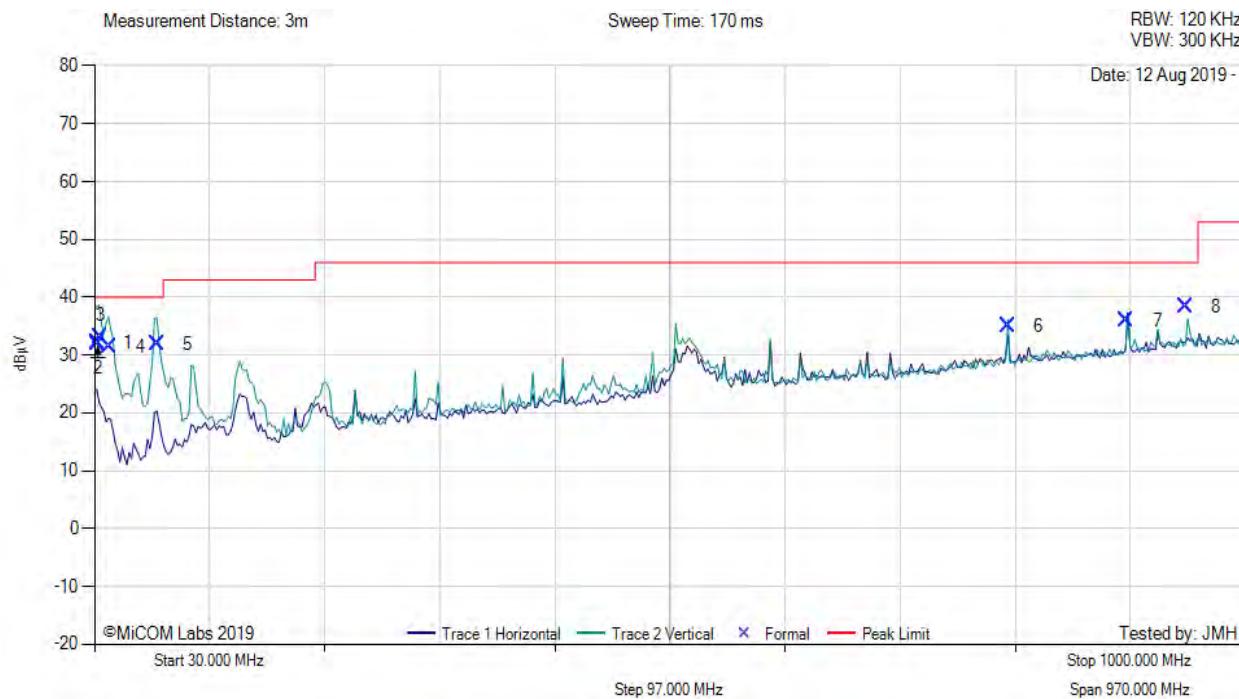
Work instruction WI-EMC-07: Radiated Emissions Test

Model:	RADWIN JET DUO 5.x/5.x GHz	Configuration tested:	PoE Powered
Input power:	120 Vac	Standard:	FCC Part 15



### DIGITAL EMISSIONS

Variant: 10, Test Freq: 5875.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 22, Duty Cycle (%): 90.8



30.00 - 1000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
1	32.16	38.04	3.54	-9.40	32.18	MaxQP	Vertical	98	0	40.0	-7.8	Pass	
2	32.83	37.79	3.54	-9.40	31.93	MaxQP	Vertical	107	263	40.0	-8.1	Pass	
3	34.74	40.48	3.55	-10.80	33.23	MaxQP	Vertical	114	274	40.0	-6.8	Pass	
4	43.05	45.22	3.64	-17.40	31.46	MaxQP	Vertical	101	316	40.0	-8.5	Pass	
5	83.21	48.98	3.93	-21.00	31.91	MaxQP	Vertical	100	112	40.0	-8.1	Pass	
6	799.95	34.55	6.37	-5.90	35.02	MaxQP	Vertical	103	174	46.0	-11.0	Pass	
7	899.99	34.25	6.65	-4.90	36.00	MaxQP	Horizontal	119	172	46.0	-10.0	Pass	
8	949.99	35.83	6.79	-4.20	38.42	MaxQP	Vertical	124	181	46.0	-7.6	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber.

## **9.6. AC Wireline**

### **Scope**

This test assesses the ability of the EUT to limit its internal noise from being present on the AC mains power input/output ports.

### **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.

## Limits

The equipment shall meet the class B limits given in FCC Part 15: 107. Alternatively, for equipment intended to be used in non-residential environments, the class A limits given in FCC Part 15: 107 may be used.

Limits for conducted disturbance at the mains ports of class B ITE

Frequency of emission (MHz)	Quasi-peak dBuV	Average dBuV
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50
Note 1	* Decreases with the logarithm of the frequency	
Note 2	* The lower limit applies at the boundary between frequency ranges	

Limits for conducted disturbance at the mains ports of class A ITE

Frequency of emission (MHz)	Quasi-peak dBuV	Average dBuV
0.15–0.5	79	66
0.5–30	73	60
Note 1	* The lower limit shall apply at the transition frequency.	

## Traceability

All conducted emission measurements are traceable to national standards. The uncertainty of measurement at a confidence level of not less than 95 %, with a coverage factor of k=2, in the range 9 kHz – 30 MHz (Average & Quasi-peak) is  $\pm 2.64$  dB.

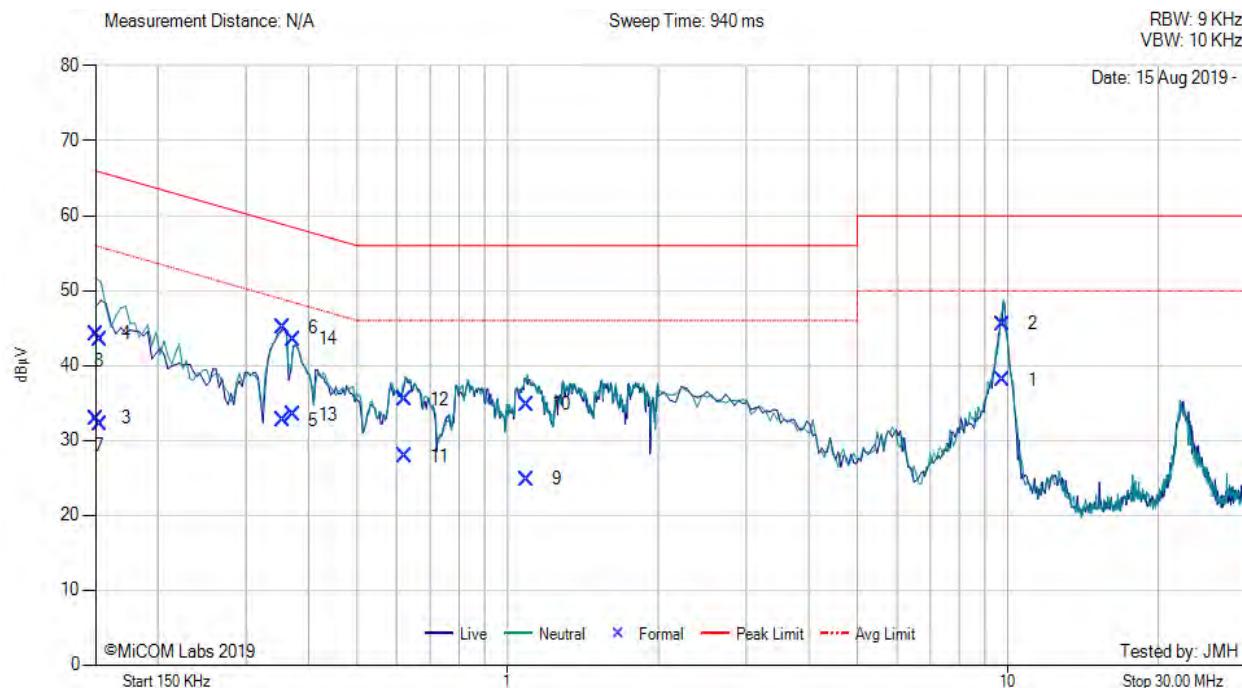
Laboratory Measurement Uncertainty	
Measurement uncertainty	$\pm 2.64$ dB

Method
Measurements were made per work instruction WI-EMC-01 'Measurement of Conducted Emissions'

Model:	RADWIN JET DUO 5.x/5.x GHz	Configuration tested:	PoE Powered
Input power:	120VAC/60Hz	Standard:	FCC 15B



Variant: , Test Freq: 0.00 MHz



Num	Frequency MHz	Raw dBµV	Cable Loss dB	Factor dB	Total Correction dBµV	Corrected Value dBµV	Measurement Type	Line	Limit dBµV/m	Margin dB	Pass /Fail
1	9.773	27.40	0.45	10.22	10.67	38.07	Max Avg	Neutral	50.0	-11.9	Pass
2	9.773	34.88	0.45	10.22	10.67	45.55	Max Qp	Neutral	60.0	-14.5	Pass
3	0.150	22.96	0.05	9.92	9.97	32.93	Max Avg	Neutral	56.0	-23.1	Pass
4	0.150	34.29	0.05	9.92	9.97	44.26	Max Qp	Neutral	66.0	-21.7	Pass
5	0.356	22.74	0.04	9.92	9.96	32.70	Max Avg	Live	50.1	-17.4	Pass
6	0.356	35.13	0.04	9.92	9.96	45.09	Max Qp	Live	60.1	-15.0	Pass
7	0.153	22.10	0.05	9.92	9.97	32.07	Max Avg	Live	55.9	-23.8	Pass
8	0.153	33.44	0.05	9.92	9.97	43.41	Max Qp	Live	65.9	-22.5	Pass
9	1.090	14.80	0.08	9.94	10.02	24.82	Max Avg	Neutral	46.0	-21.2	Pass
10	1.090	24.81	0.08	9.94	10.02	34.83	Max Qp	Neutral	56.0	-21.2	Pass
11	0.622	17.83	0.10	9.93	10.03	27.86	Max Avg	Neutral	46.0	-18.1	Pass
12	0.622	25.47	0.10	9.93	10.03	35.50	Max Qp	Neutral	56.0	-20.5	Pass
13	0.373	23.49	0.04	9.92	9.96	33.45	Max Avg	Neutral	49.6	-16.2	Pass
14	0.373	33.53	0.04	9.92	9.96	43.49	Max Qp	Neutral	59.6	-16.1	Pass

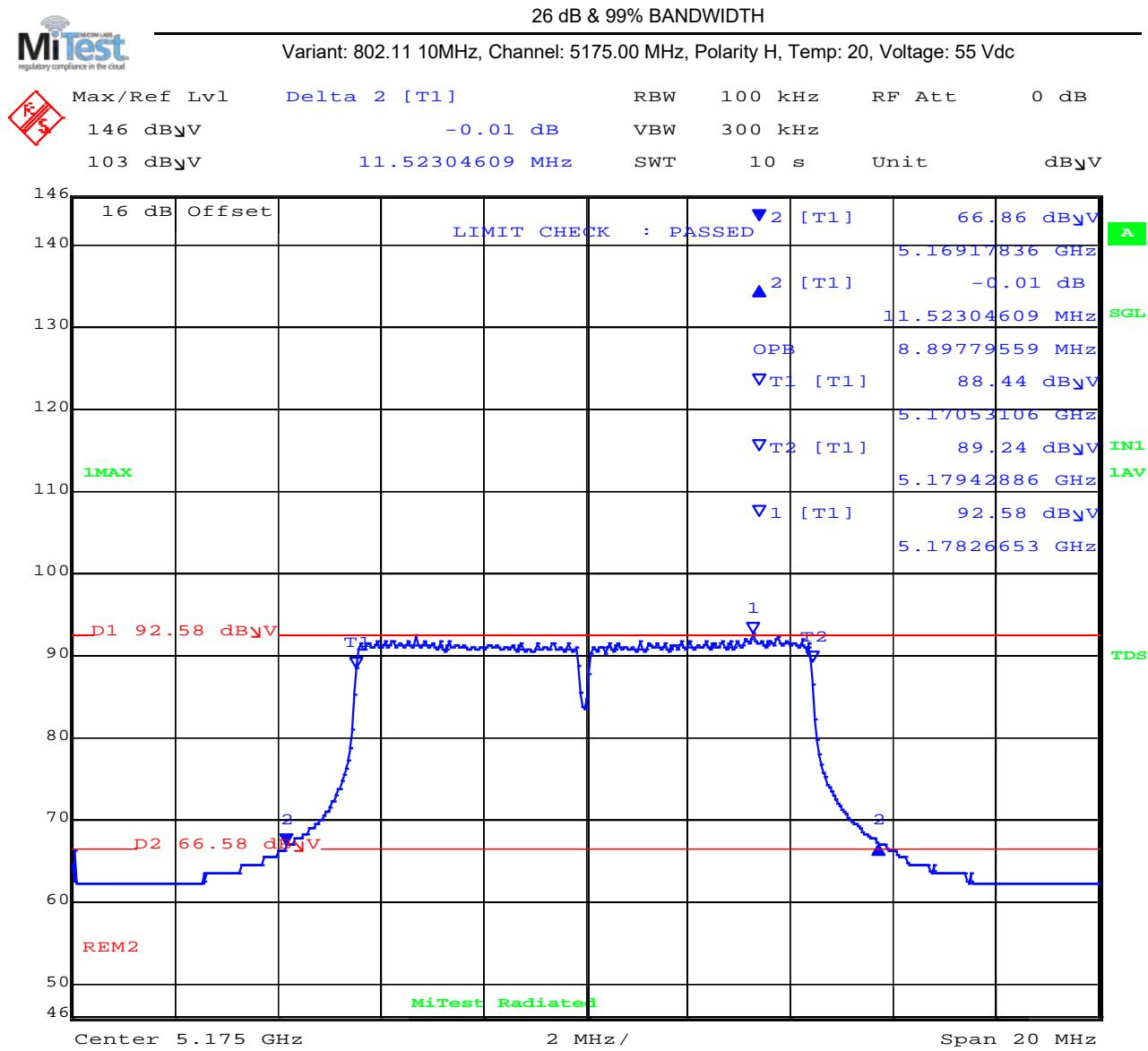
**Test Notes:** Powered by POE, 120V Mains



**Title:** RADWIN JET DUO 5.x/5.x GHz  
**To:** FCC CFR 47 Part 15 Subpart E 15.407, ISED RSS 247  
**Serial #:** RDWN64-U2 Rev A

## **A. APPENDIX - GRAPHICAL IMAGES**

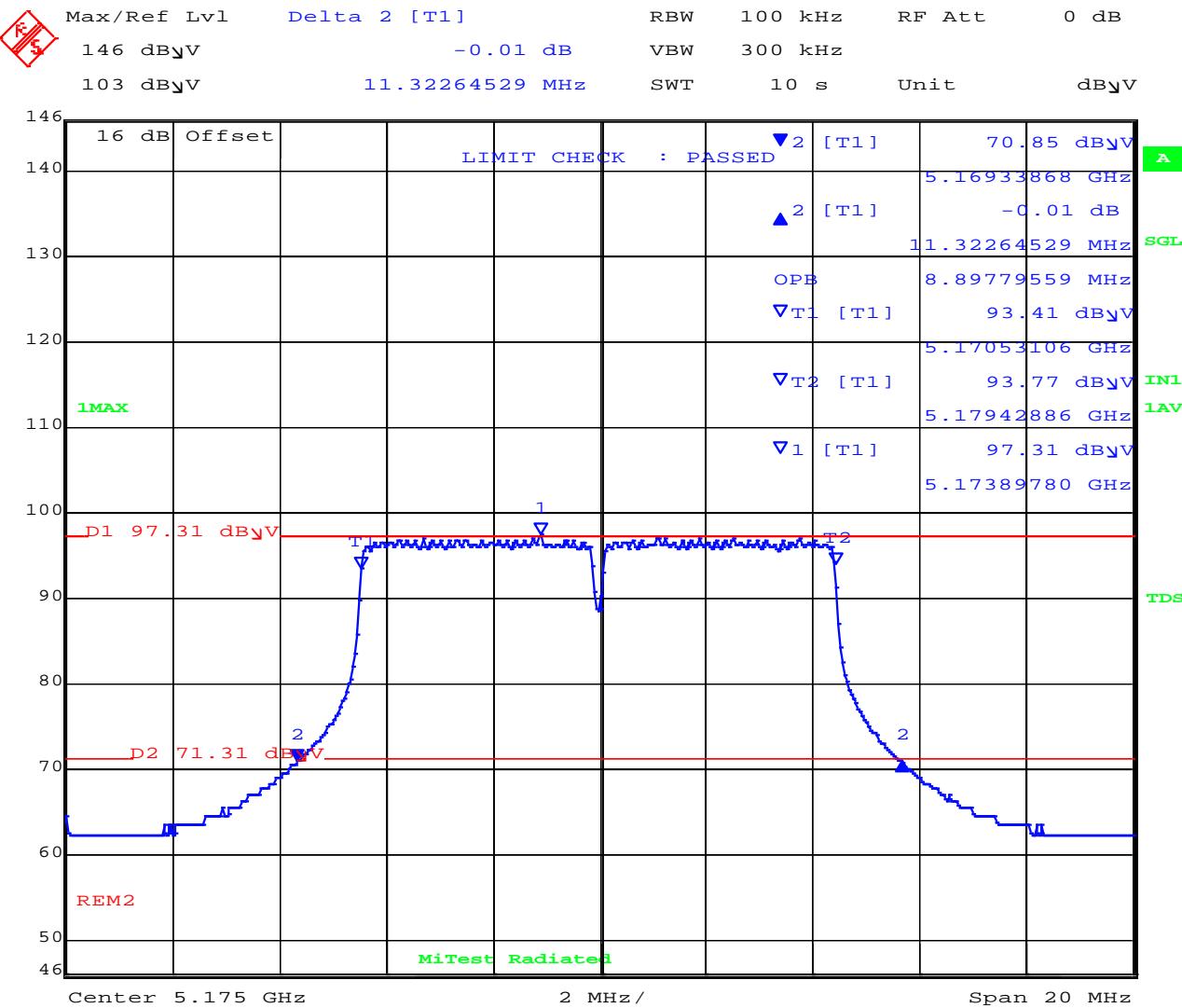
## A.1. 26 dB & 99% Bandwidth



26 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5175.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 13.AUG.2019 18:29:09

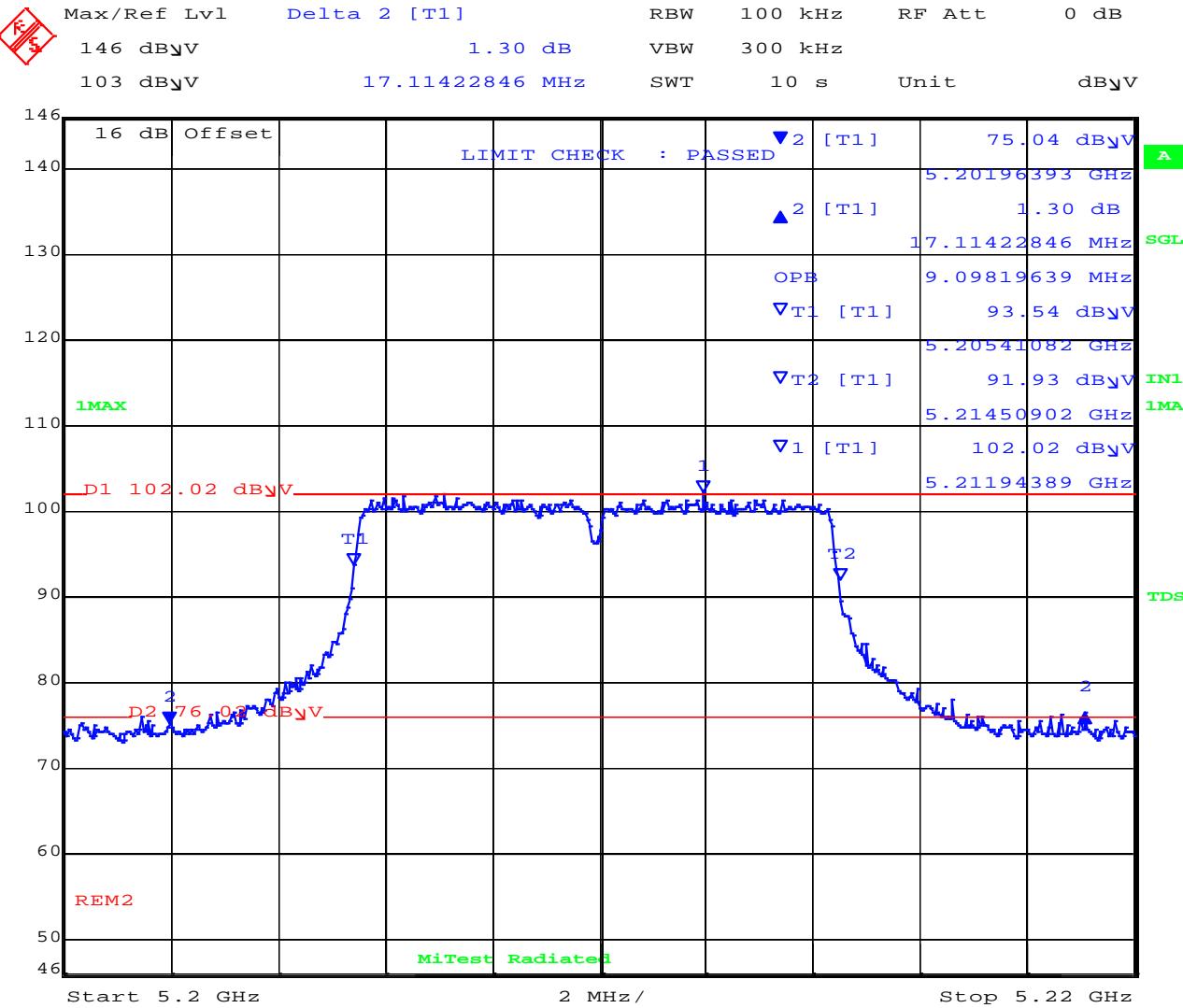
Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 11.32 MHz Measured 99% Bandwidth: 8.90 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 13.AUG.2019 19:17:47

Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 17.11 MHz Measured 99% Bandwidth: 9.10 MHz

[back to matrix](#)

## 26 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc

Max/Ref Lvl      Delta 2 [T1]      RBW      100 kHz      RF Att      0 dB  
 146 dB<sub>V</sub>      0.79 dB      VBW      300 kHz  
 103 dB<sub>V</sub>      12.86573146 MHz      SWT      10 s      Unit      dB<sub>V</sub>

146  
 140  
 130  
 120  
 110  
 100  
 90  
 80  
 70  
 60  
 50  
 46

16 dB Offset      LIMIT CHECK : PASSED

▼2 [T1] 78.44 dB<sub>V</sub>  
 ▲2 [T1] 5.20340681 GHz 0.79 dB  
 OPB 12.86573146 MHz  
 ▽T1 [T1] 9.01803607 MHz  
 ▽T2 [T1] 97.79 dB<sub>V</sub>  
 5.20541082 GHz  
 5.21442886 GHz 98.98 dB<sub>V</sub>  
 5.21218437 GHz 105.42 dB<sub>V</sub>

1MAX  
 D1 105.42 dB<sub>V</sub>  
 T1  
 D2 79.42 dB<sub>V</sub>  
 2  
 ▽1 [T1] 105.42 dB<sub>V</sub>  
 ▽2 [T1] 5.21218437 GHz  
 2  
 REM2

MiTest Radiated

Center 5.21 GHz      2 MHz /      Span 20 MHz

Date: 13.AUG.2019 19:14:24

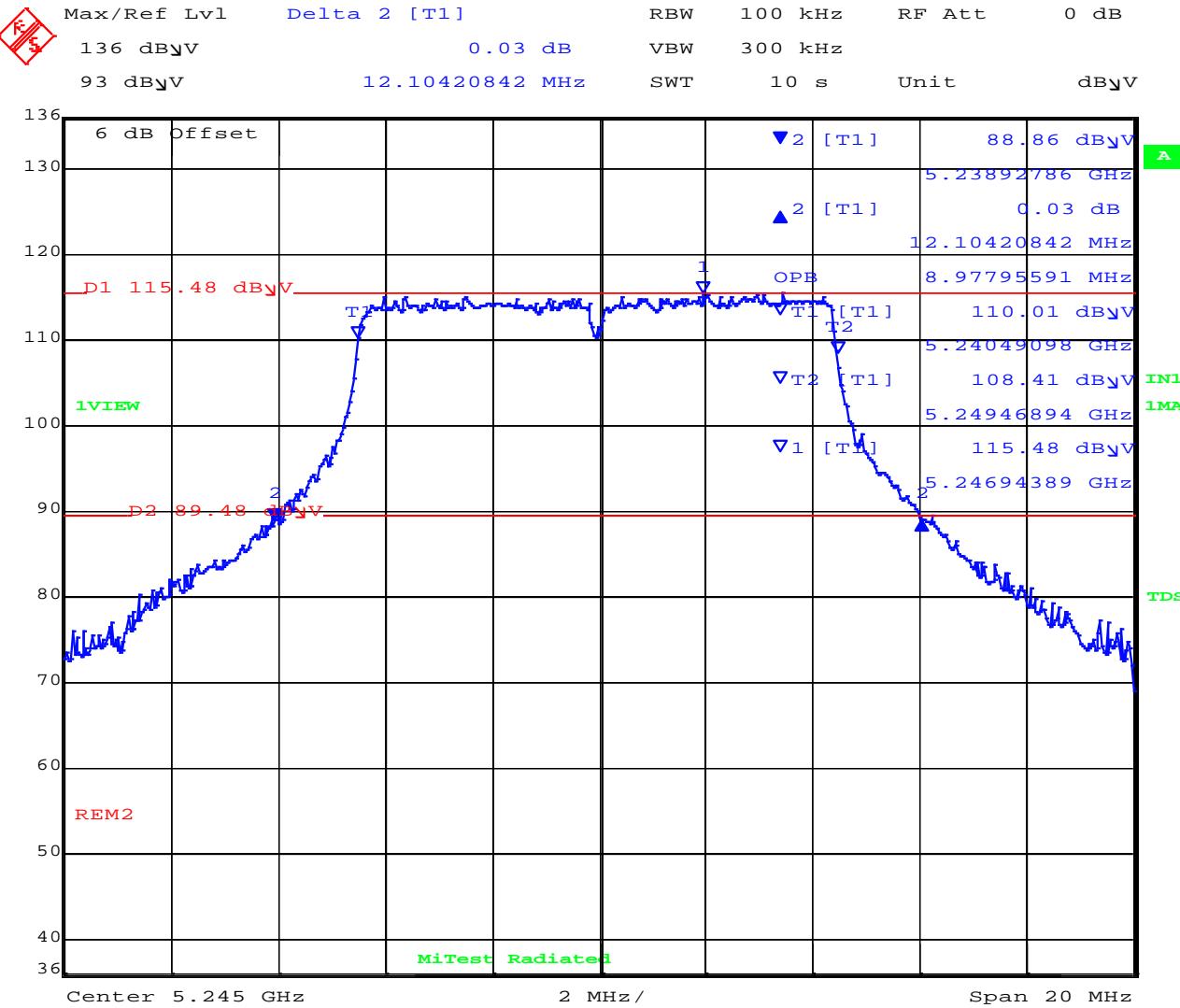
Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 12.87 MHz Measured 99% Bandwidth: 9.02 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5245.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 08:59:59

Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 12.10 MHz Measured 99% Bandwidth: 8.98 MHz

[back to matrix](#)

## 26 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5245.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc

Date: 14.AUG.2019 09:04:09

Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 12.02 MHz Measured 99% Bandwidth: 8.98 MHz

[back to matrix](#)

**Issue Date:** 15<sup>th</sup> September 2019

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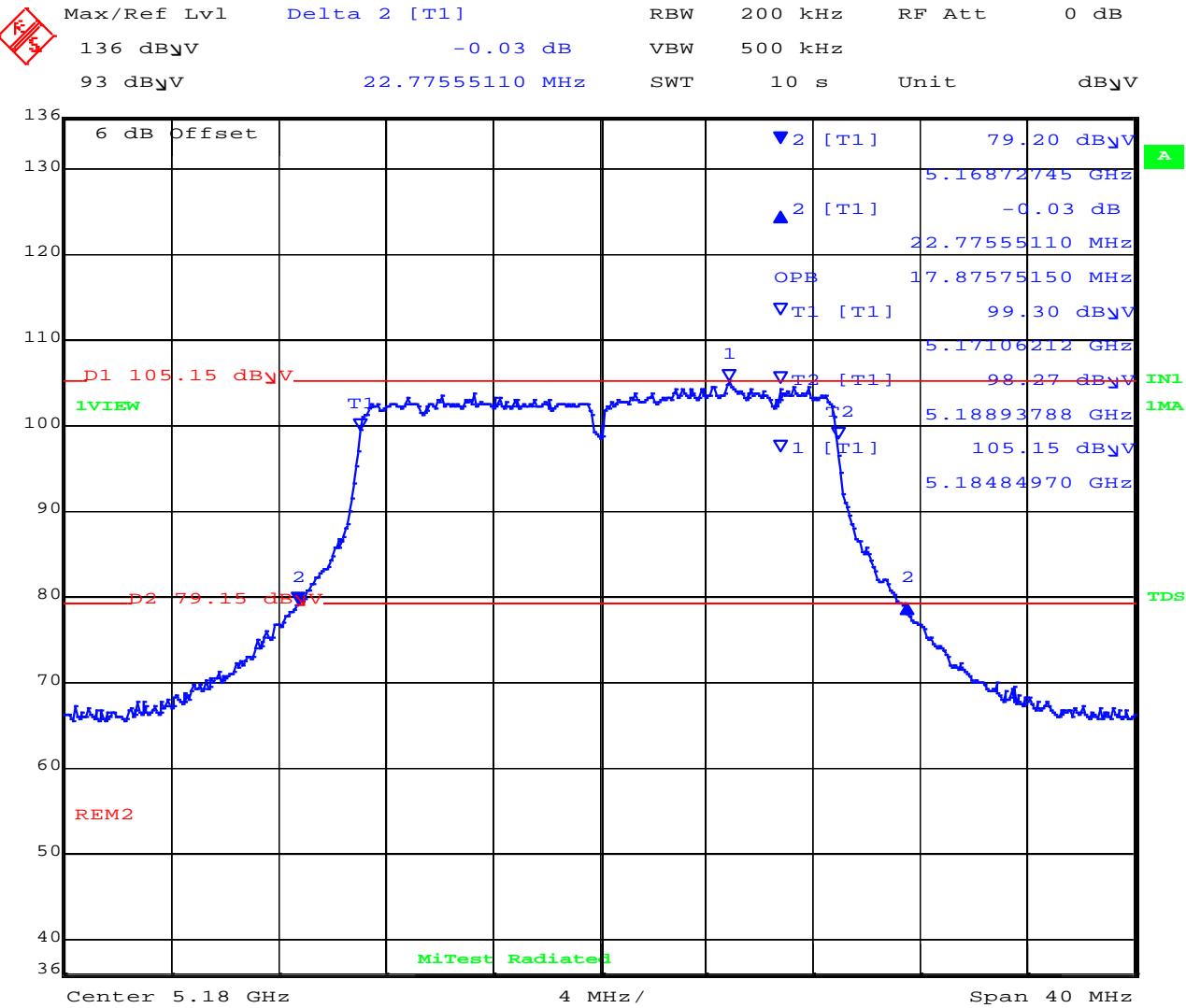
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26 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5180.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 09:44:12

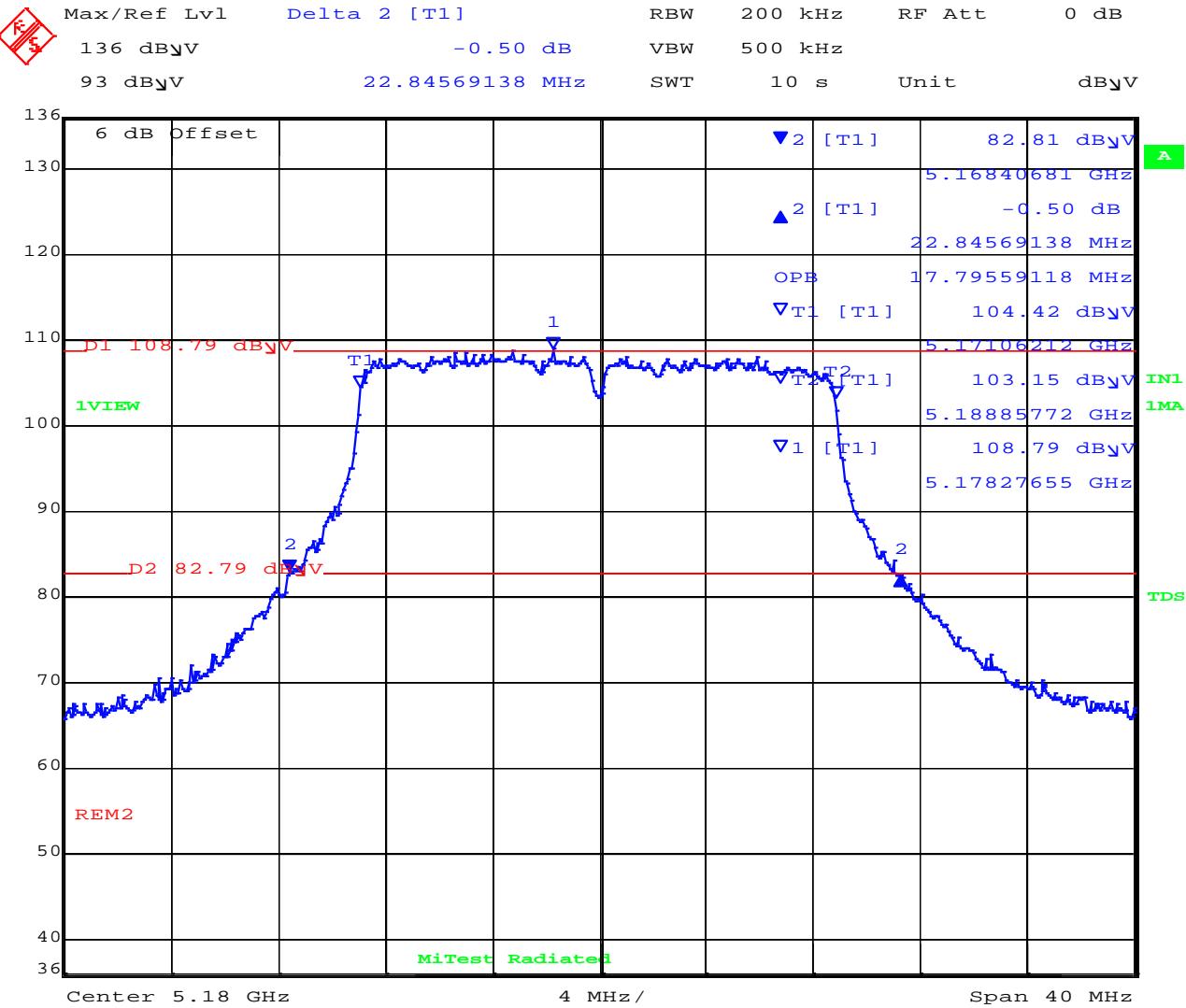
Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 22.78 MHz Measured 99% Bandwidth: 17.88 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5180.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 09:41:15

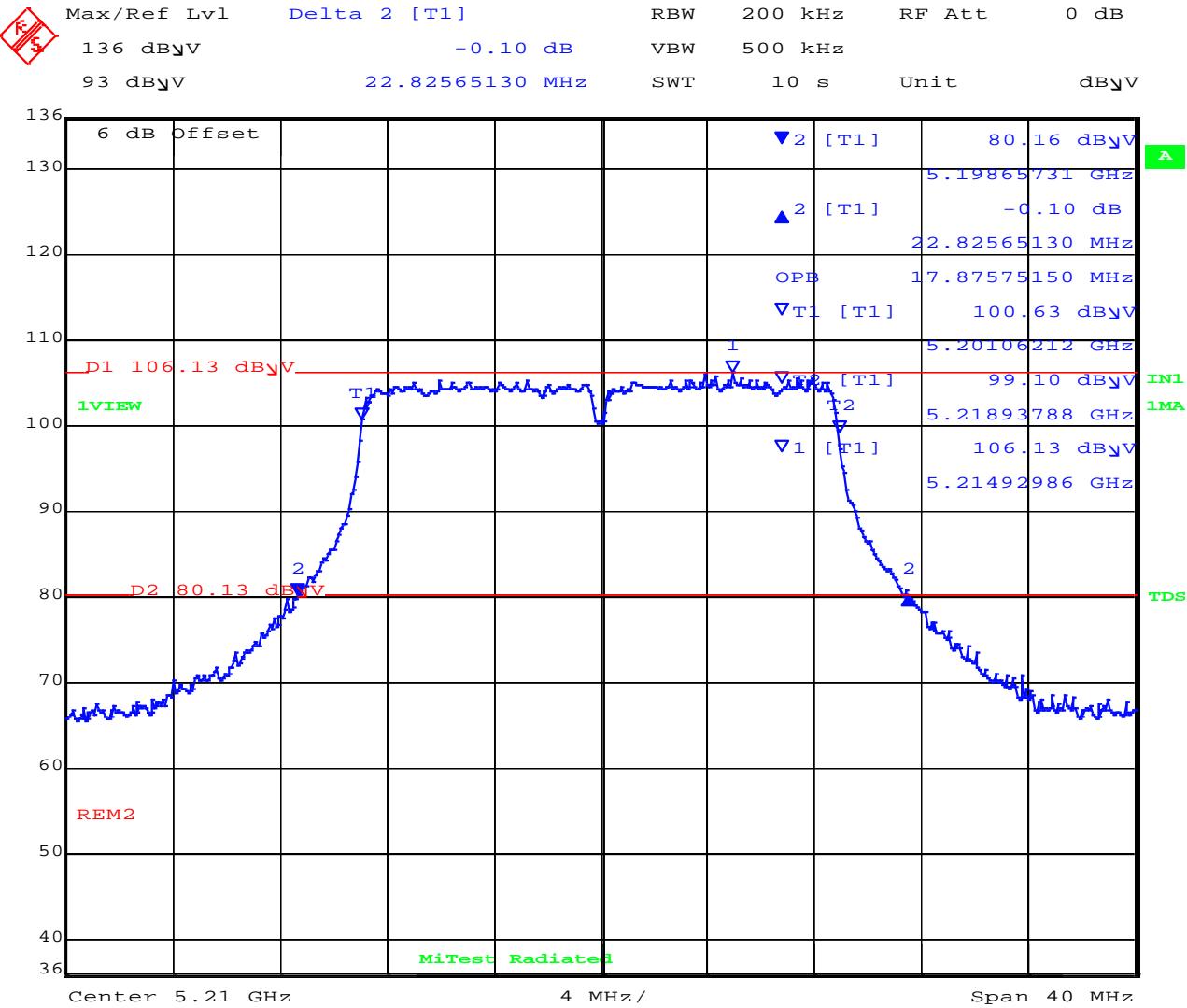
Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 22.85 MHz Measured 99% Bandwidth: 17.80 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 10:00:41

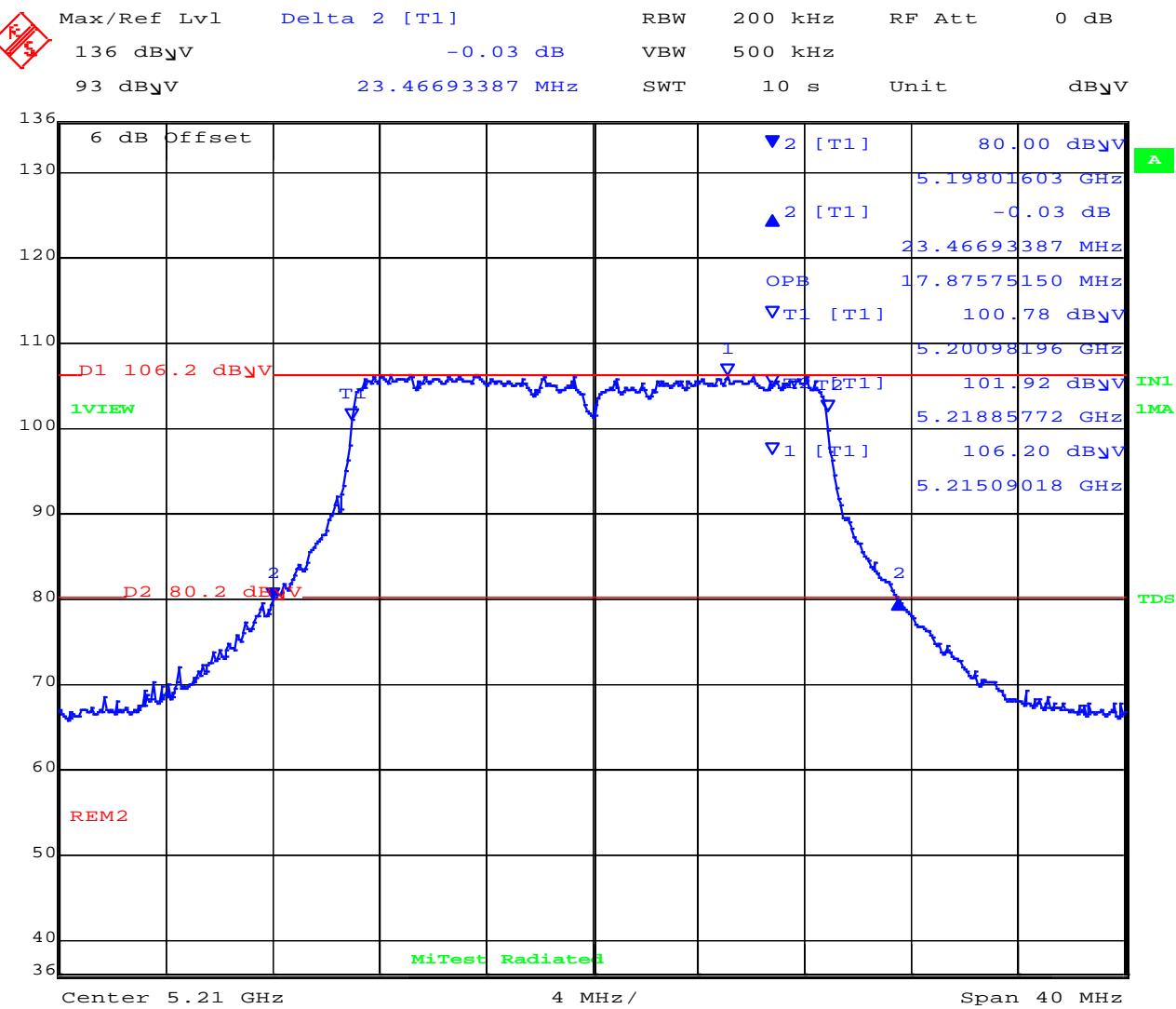
Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 22.83 MHz Measured 99% Bandwidth: 17.88 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 09:58:09

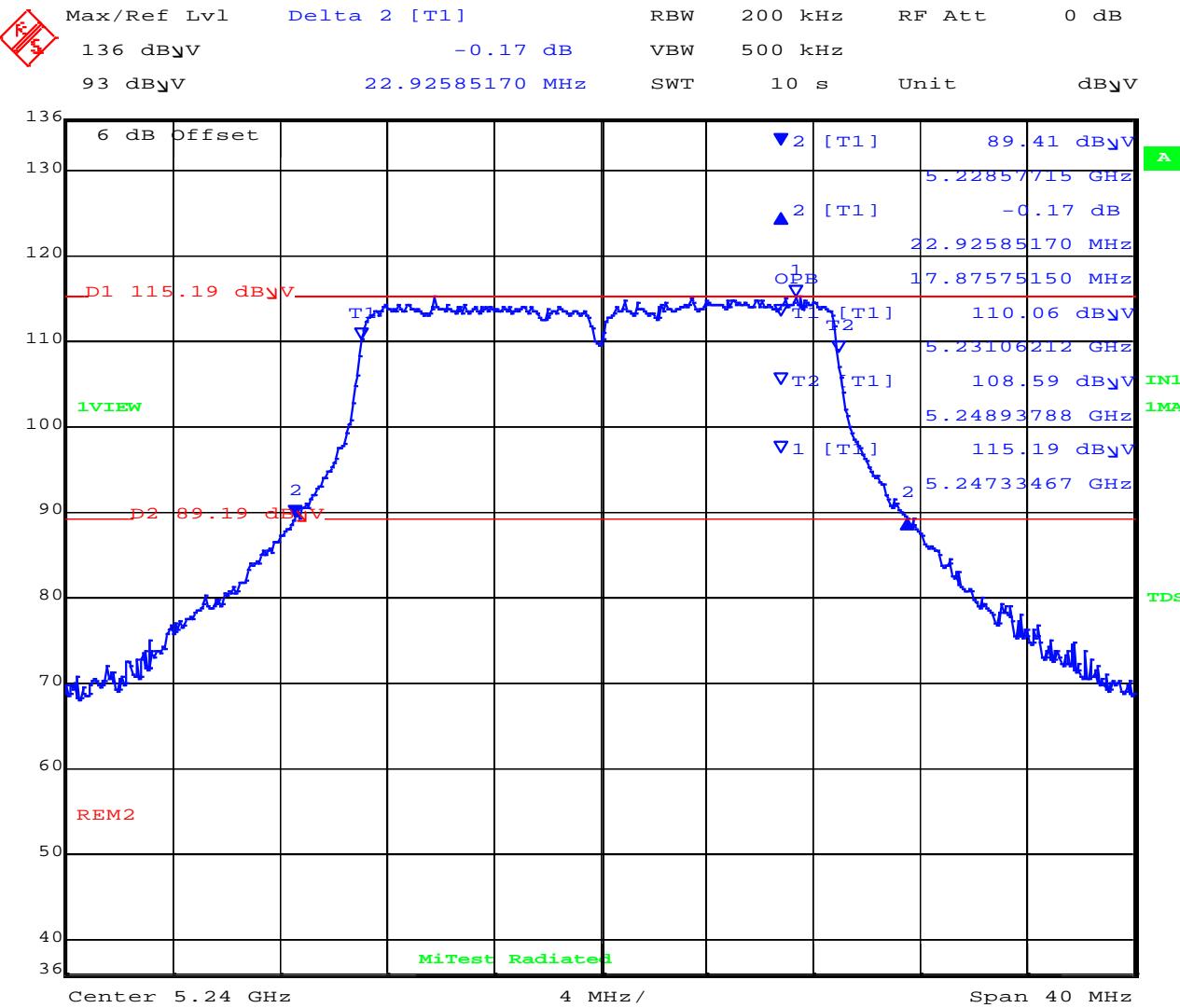
Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 23.47 MHz Measured 99% Bandwidth: 17.88 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5240.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 10:10:18

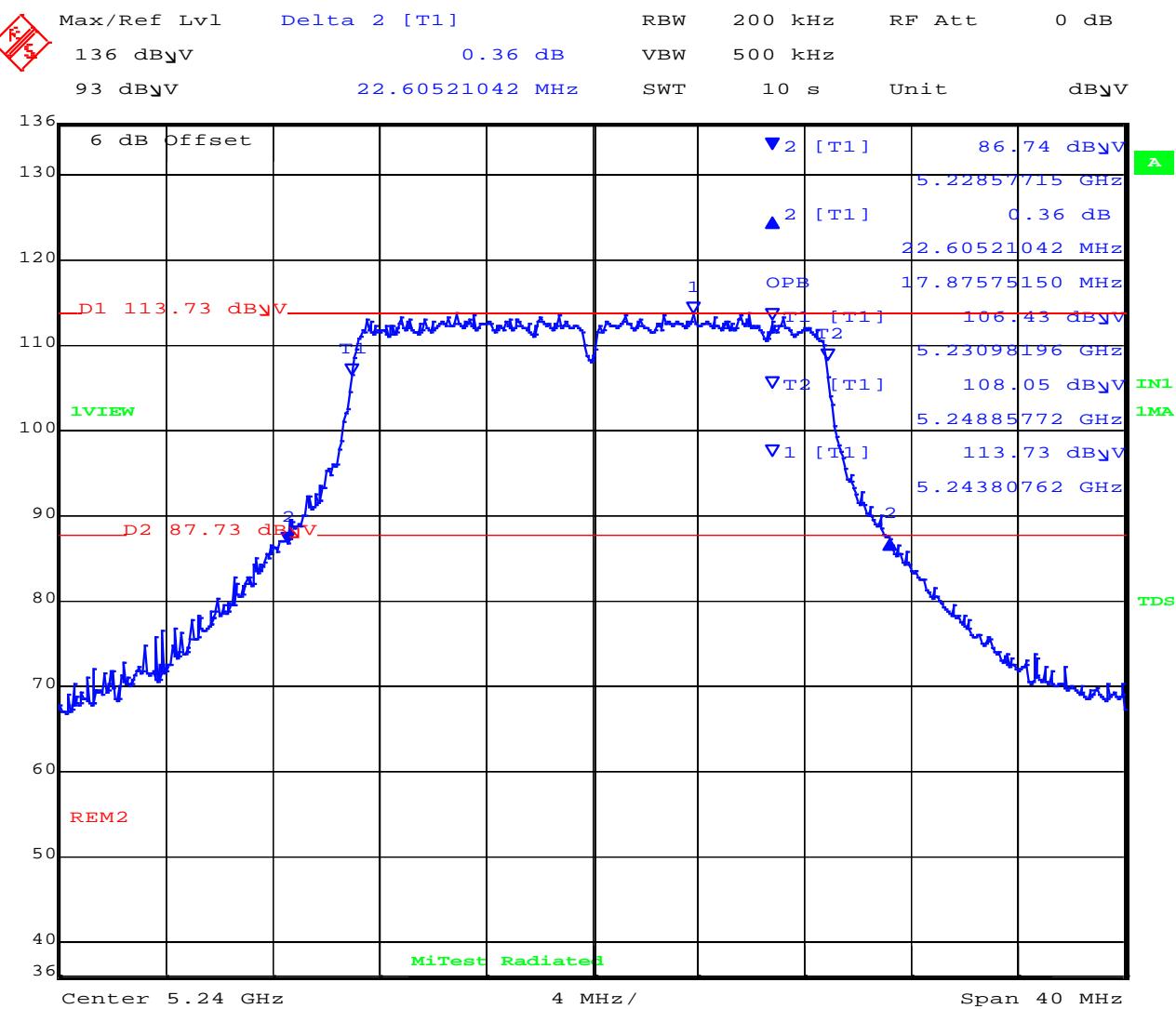
Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 22.93 MHz Measured 99% Bandwidth: 17.88 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5240.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



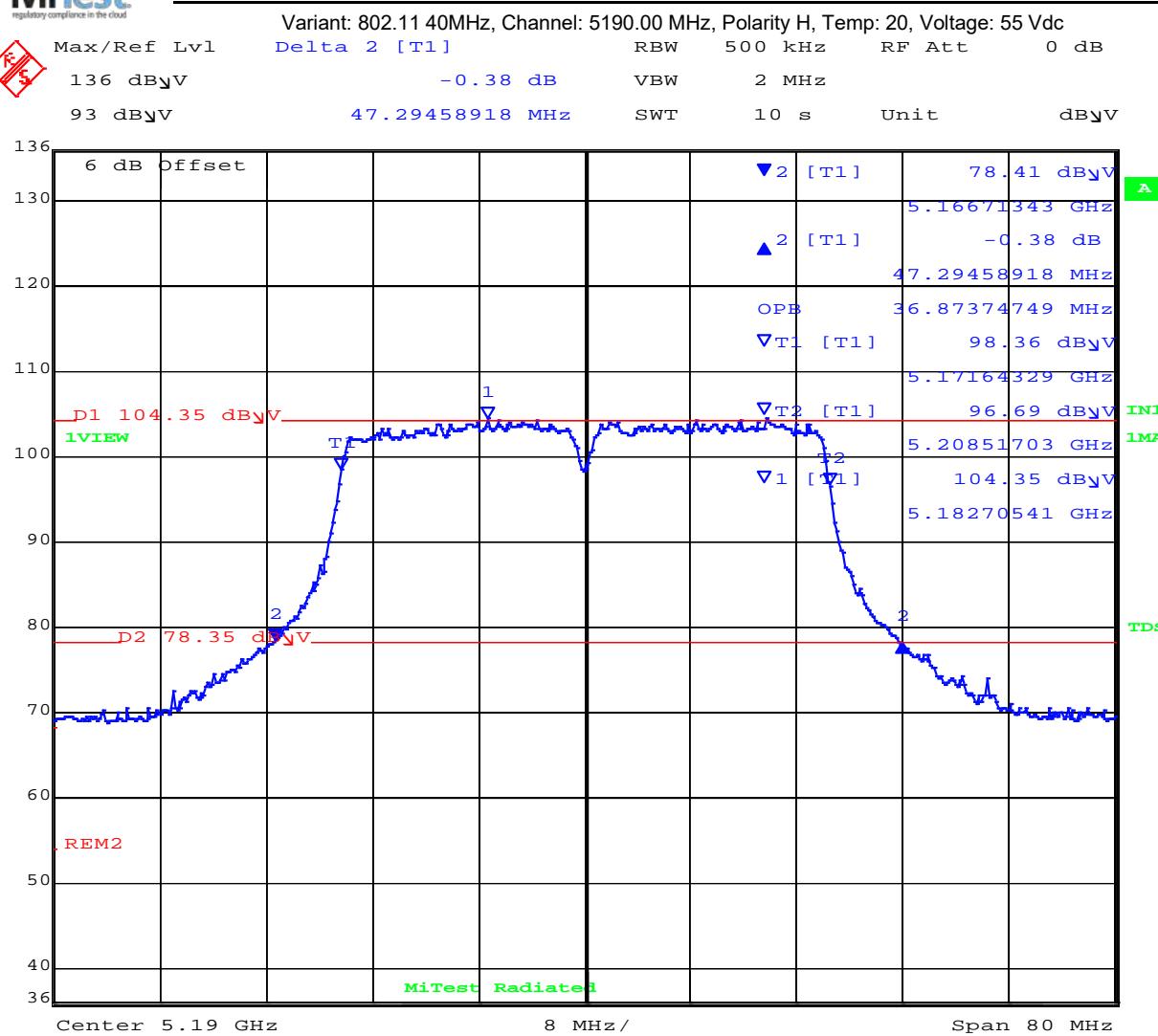
Date: 14.AUG.2019 10:08:20

Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 22.61 MHz Measured 99% Bandwidth: 17.88 MHz

[back to matrix](#)



26 dB & 99% BANDWIDTH



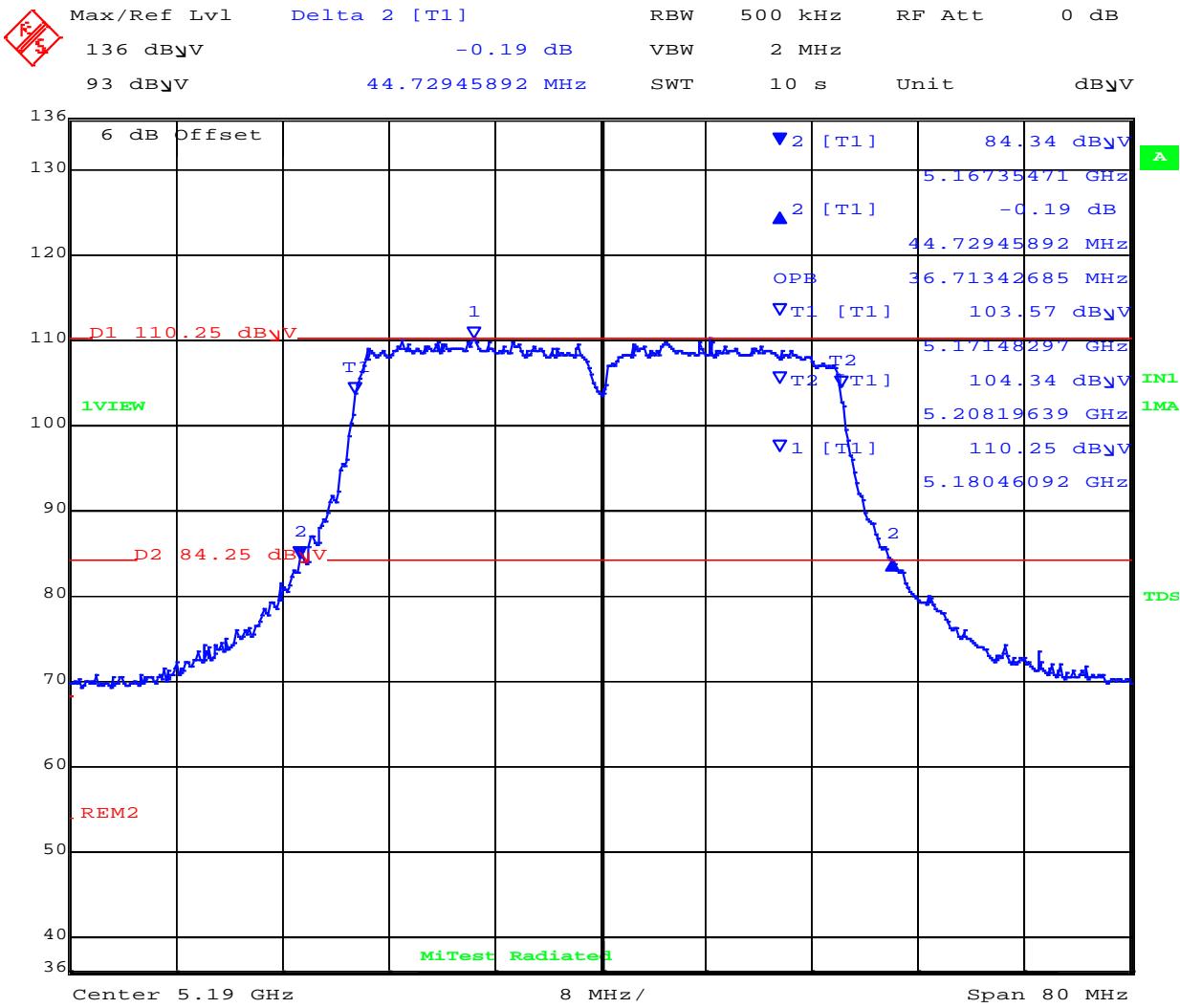
Date: 14.AUG.2019 10:20:47

Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 47.29 MHz Measured 99% Bandwidth: 36.87 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH

Variant: 802.11 40MHz, Channel: 5190.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 10:18:55

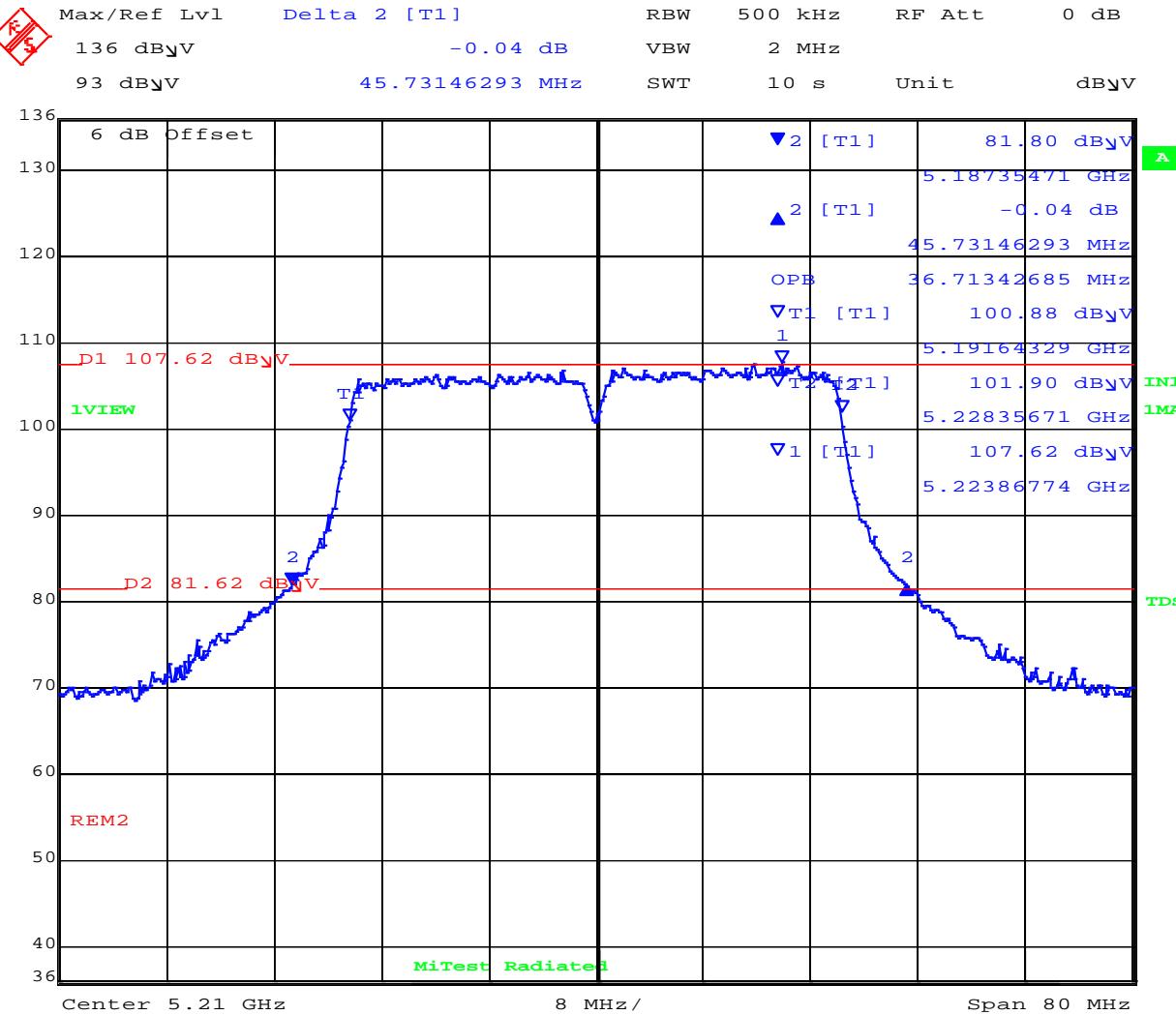
Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 44.73 MHz Measured 99% Bandwidth: 36.72 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 10:33:20

Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 45.73 MHz Measured 99% Bandwidth: 36.72 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc

Date: 14.AUG.2019 10:30:58

Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 43.65 MHz Measured 99% Bandwidth: 36.55 MHz

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Issue Date: 15<sup>th</sup> September 2019

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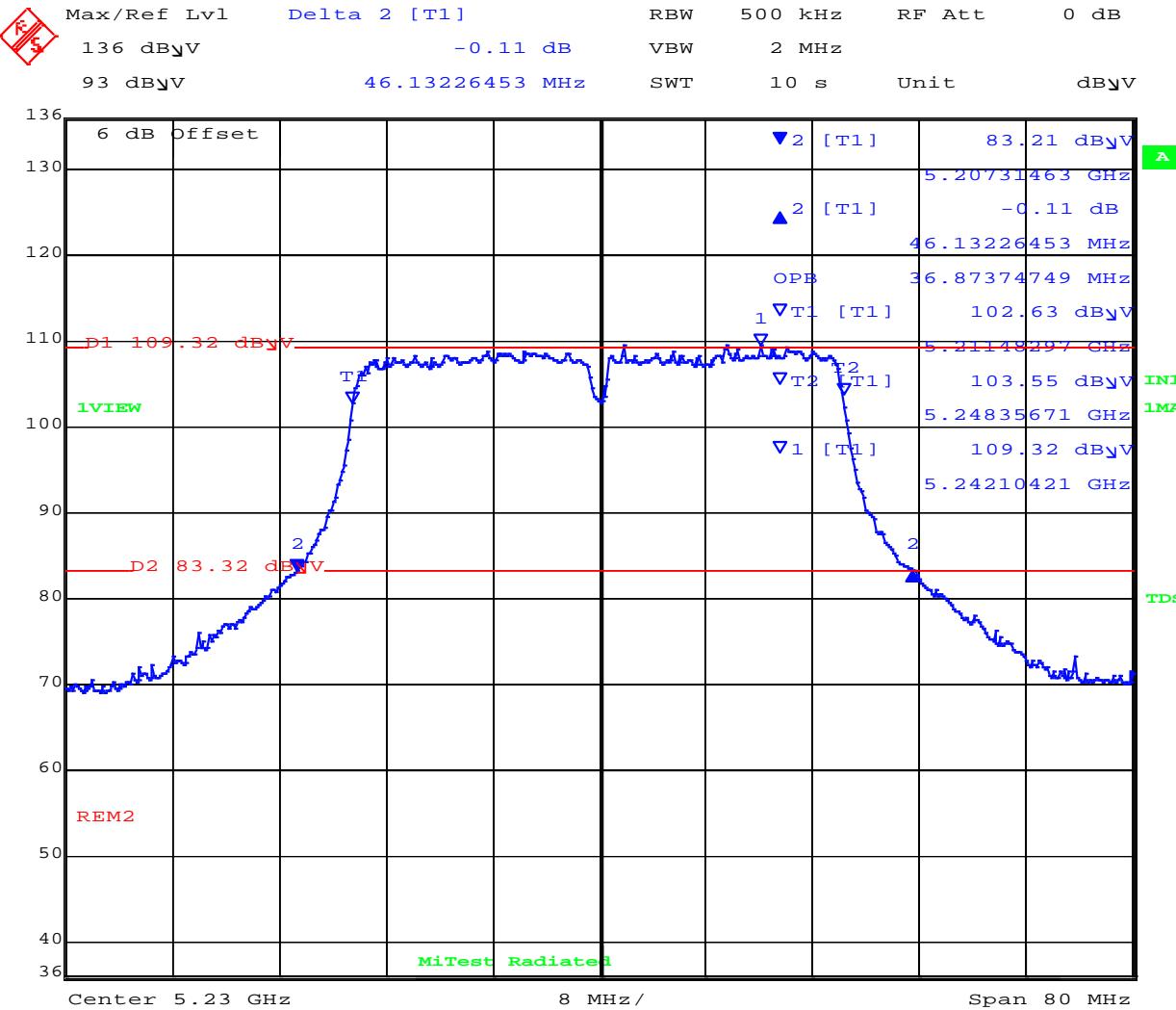
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26 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5230.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 10:42:24

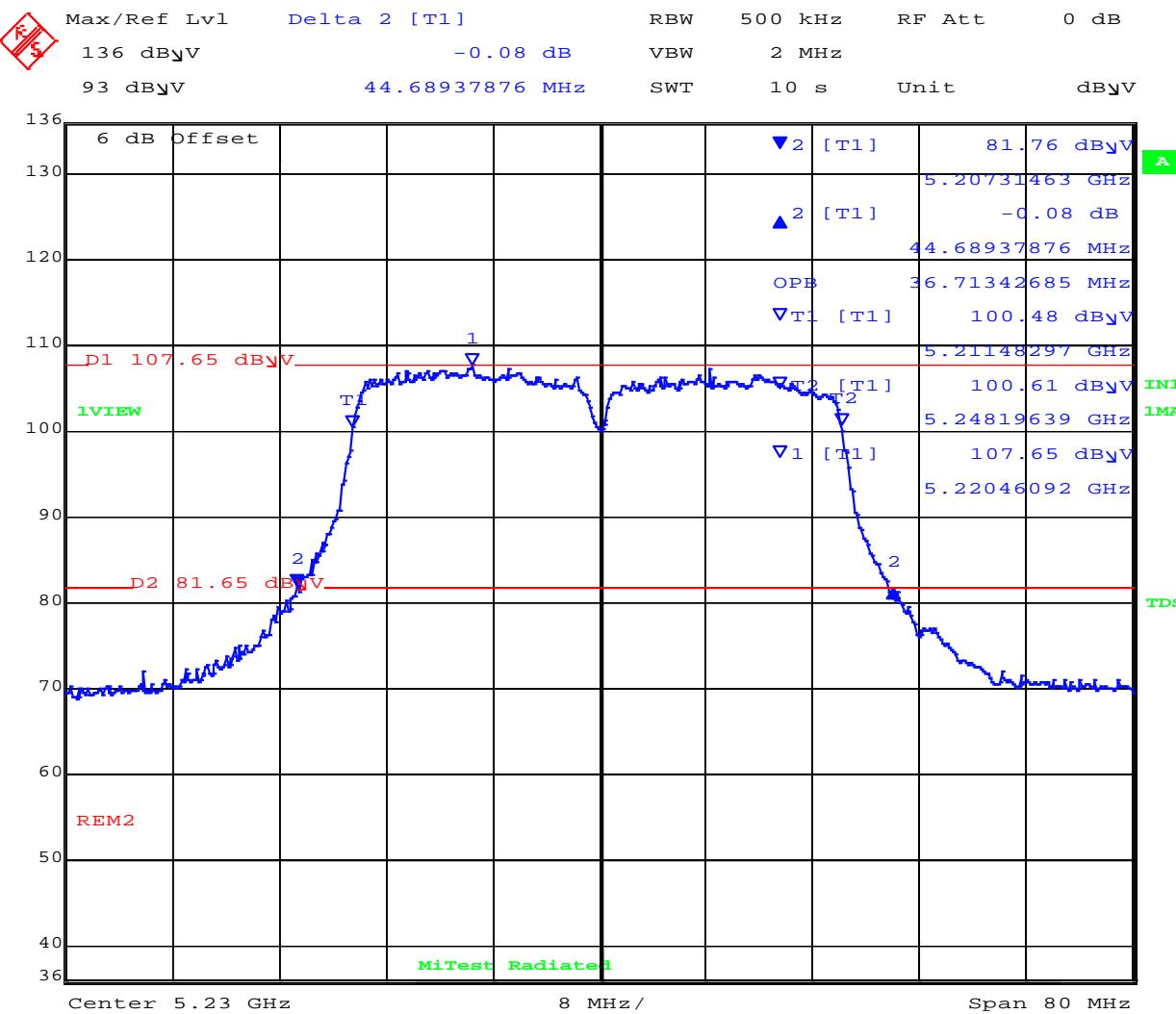
Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 46.13 MHz Measured 99% Bandwidth: 36.87 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5230.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date : 14.AUG.2019 10:40:11

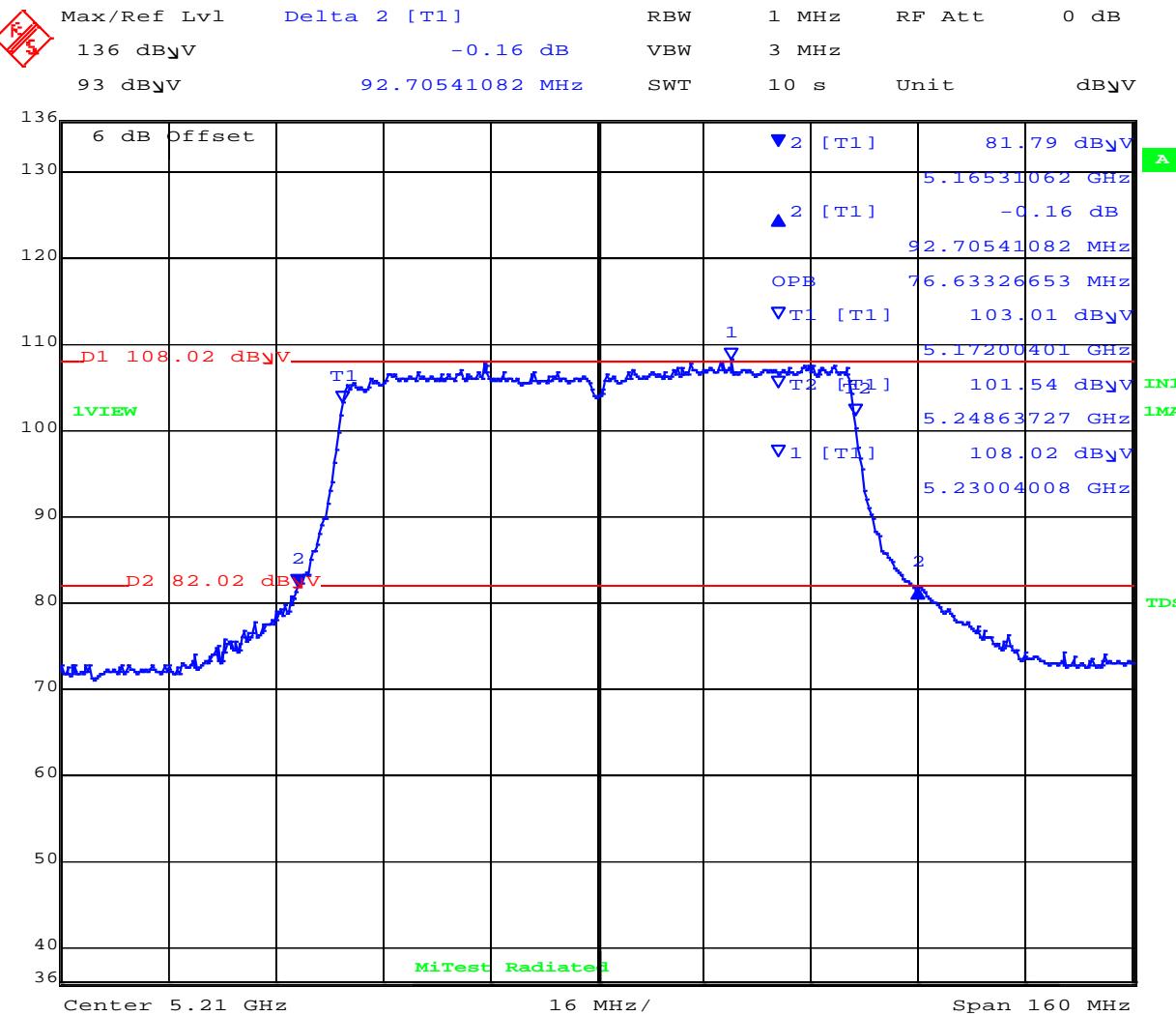
Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 44.69 MHz Measured 99% Bandwidth: 36.71 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH HORIZONTAL



Variant: 802.11 80MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 10:56:46

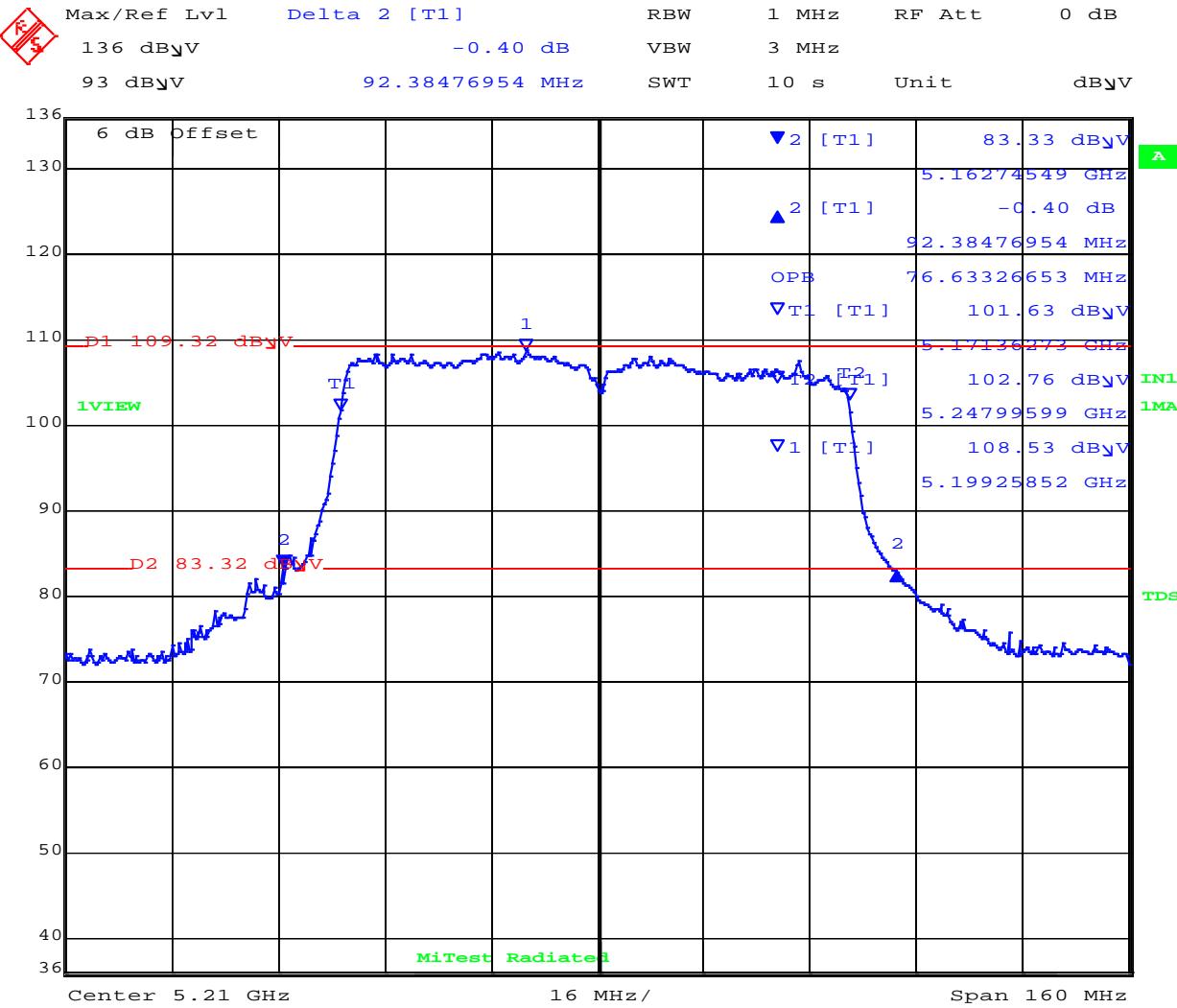
Analyzer Setup	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD	Measured 26 dB Bandwidth: 92.71 MHz Measured 99% Bandwidth: 76.63 MHz

[back to matrix](#)

26 dB & 99% BANDWIDTH



Variant: 802.11 80MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc

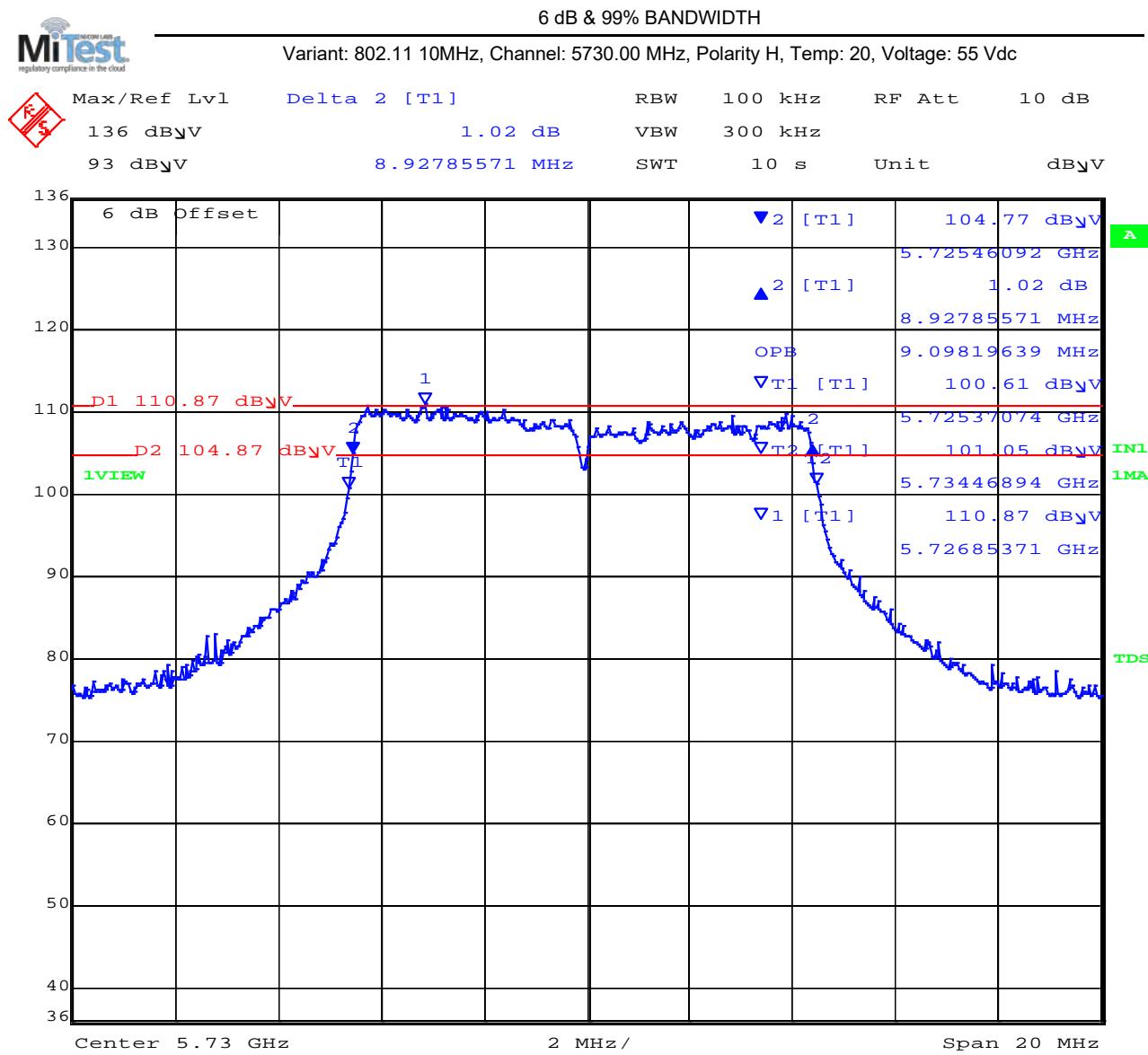


Date: 14.AUG.2019 10:54:33

Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 26 dB Bandwidth: 92.38 MHz Measured 99% Bandwidth: 76.63 MHz

[back to matrix](#)

## A.2. 6 dB & 99% Bandwidth



Date: 14.AUG.2019 13:52:05

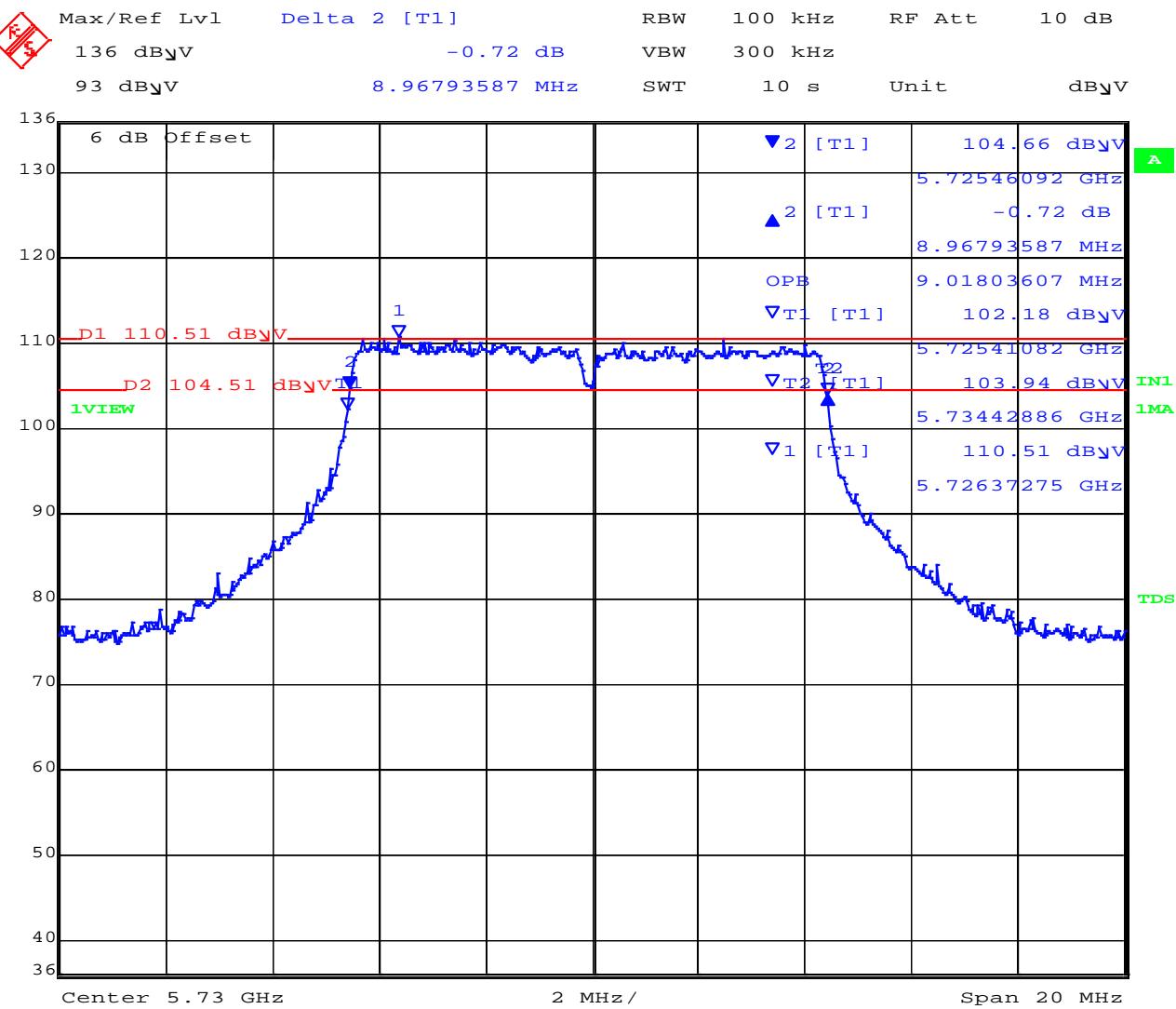
Analyzer Setup		Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 8.93 MHz Measured 99% Bandwidth: 9.10 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5730.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:53:58

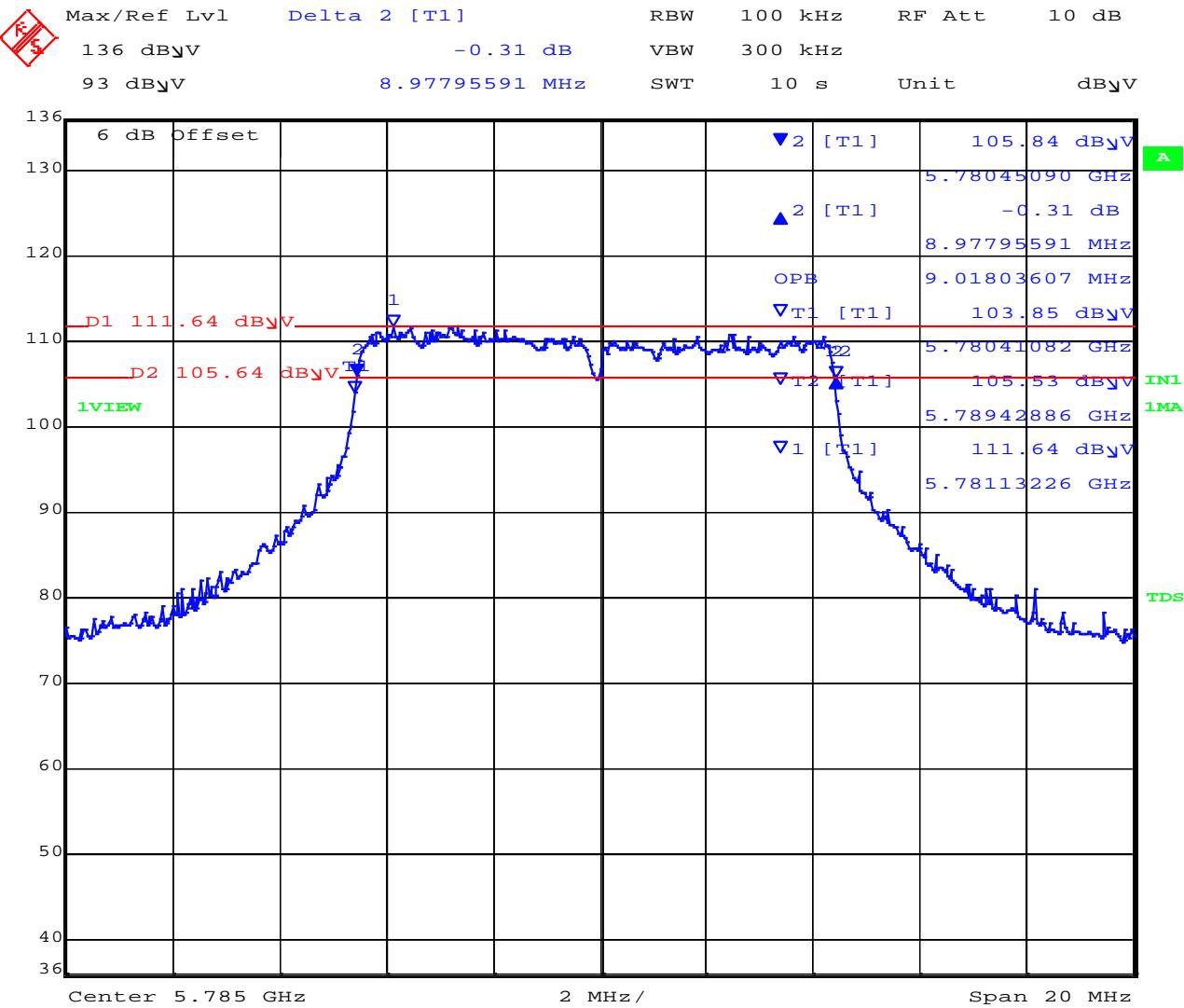
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 8.97 MHz Measured 99% Bandwidth: 9.02 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:57:59

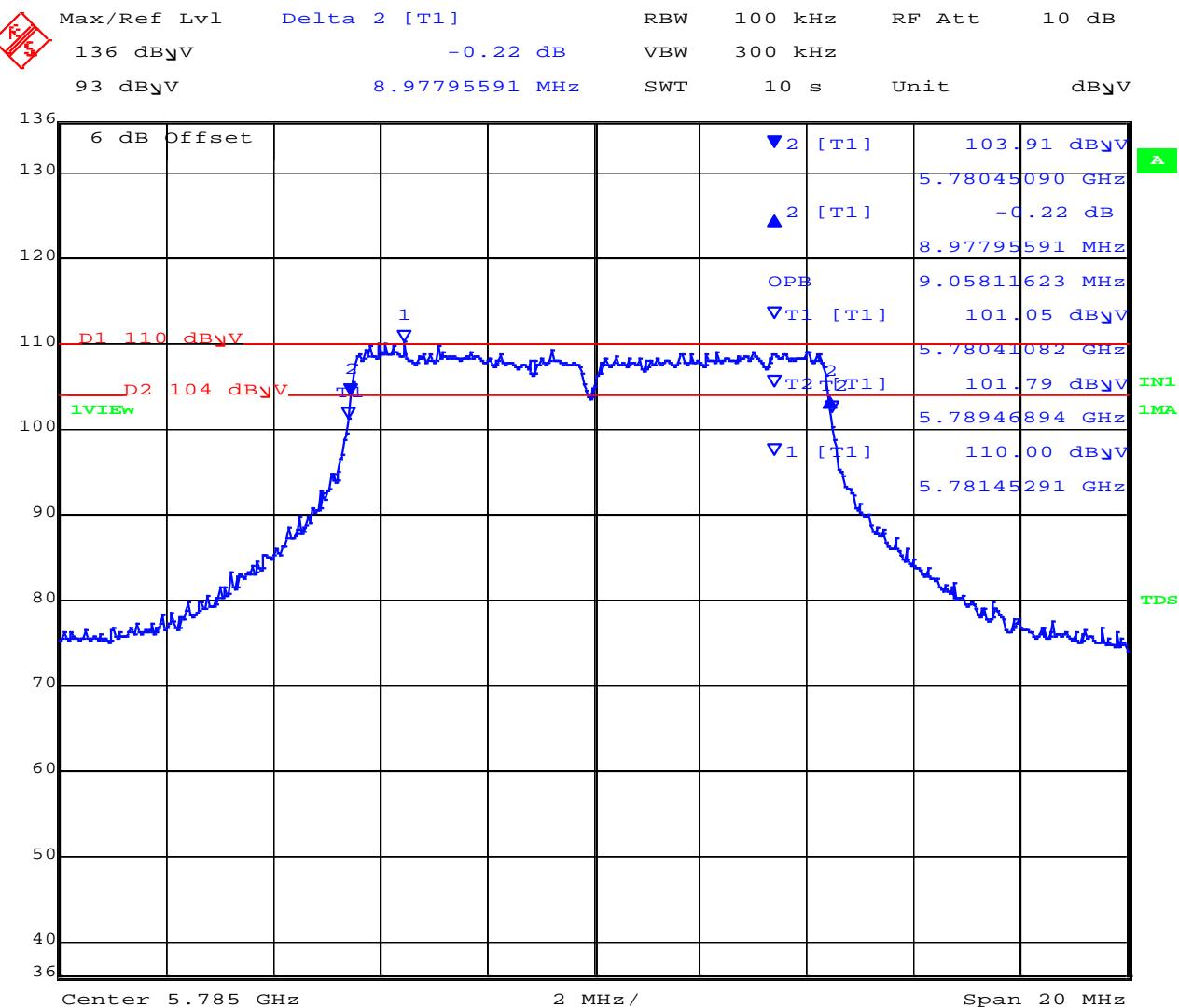
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 8.98 MHz Measured 99% Bandwidth: 9.02 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:56:14

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 8.98 MHz Measured 99% Bandwidth: 9.06 MHz

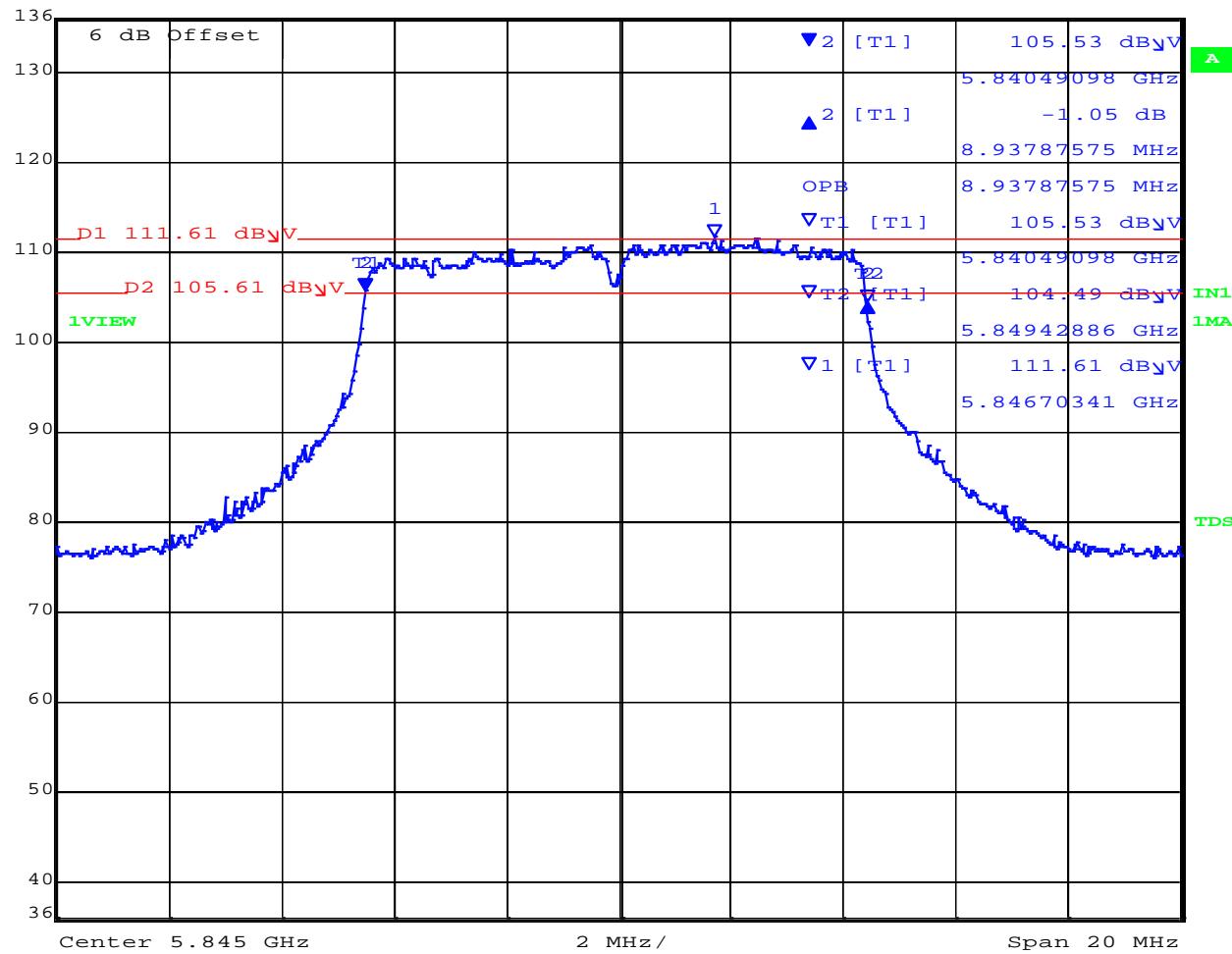
[back to matrix](#)

## 6 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5845.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc

Max/Ref Lvl	Delta 2 [T1]	RBW	100 kHz	RF Att	10 dB
136 dB <sub>V</sub>	-1.05 dB	VBW	300 kHz		
93 dB <sub>V</sub>	8.93787575 MHz	SWT	10 s	Unit	dB <sub>V</sub>



Date: 14.AUG.2019 14:05:51

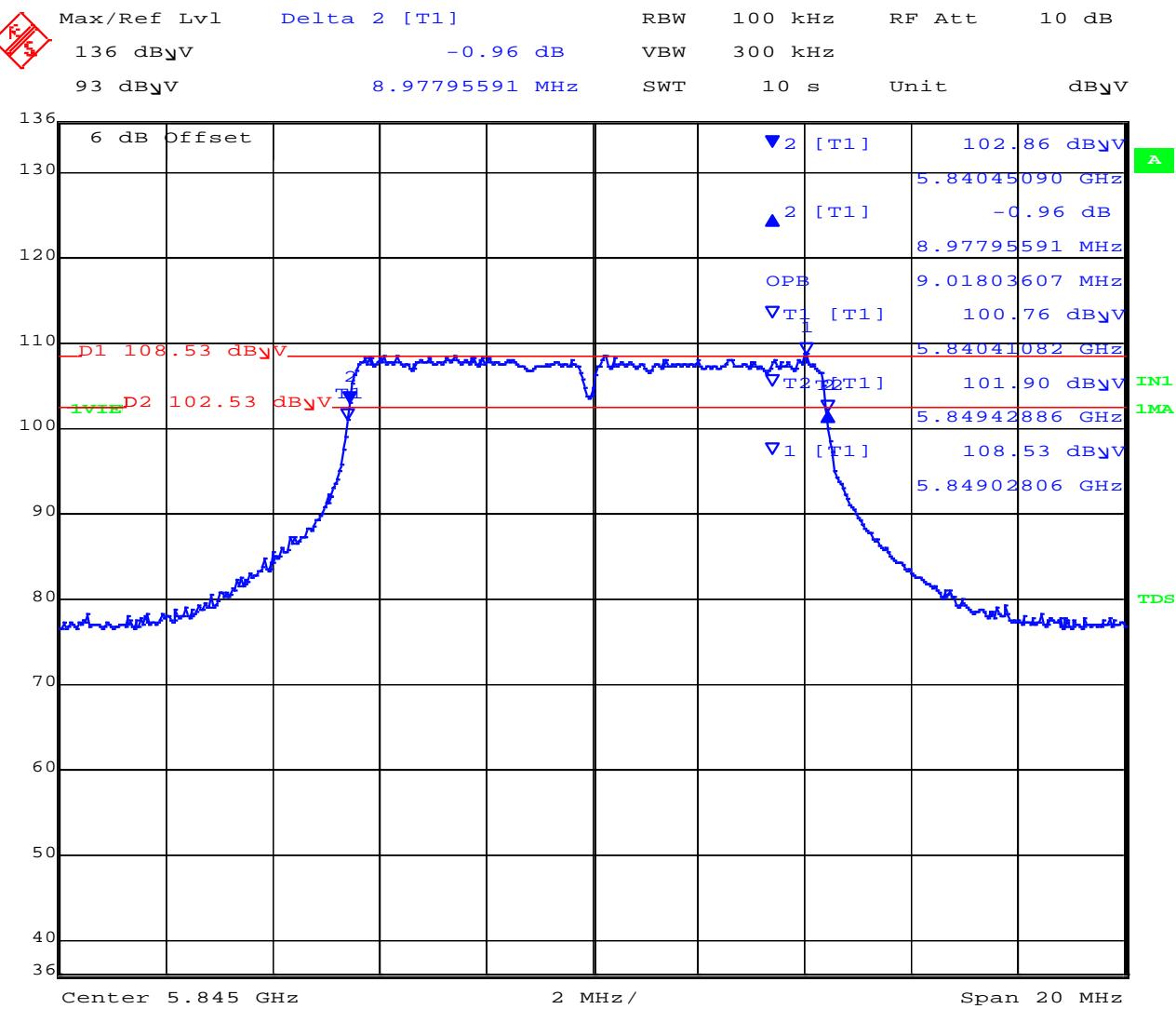
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 8.94 MHz Measured 99% Bandwidth: 8.94 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 10MHz, Channel: 5845.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 14:13:27

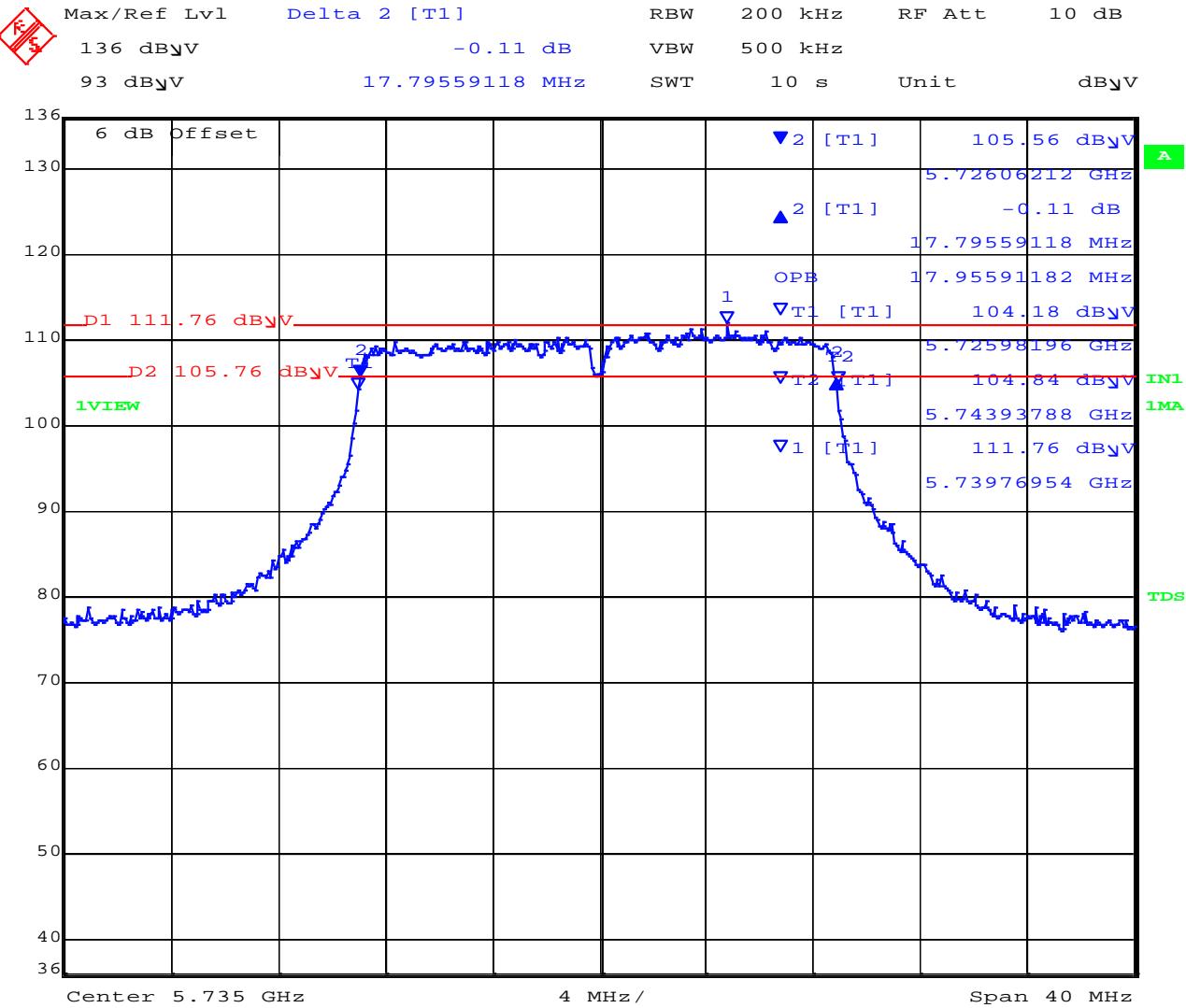
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 8.98 MHz Measured 99% Bandwidth: 9.02 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5735.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:47:32

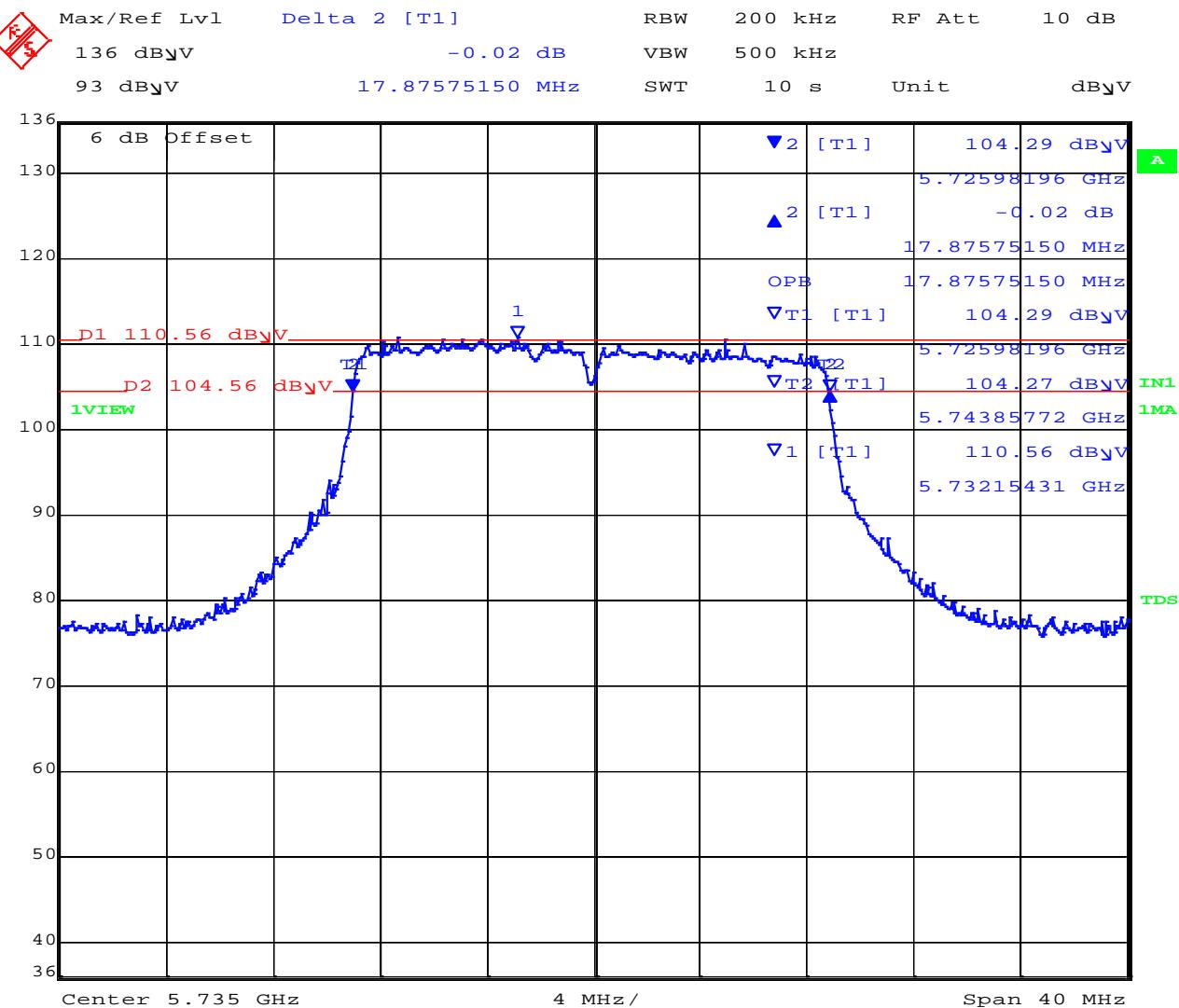
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 17.80 MHz Measured 99% Bandwidth: 17.96 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5735.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:45:42

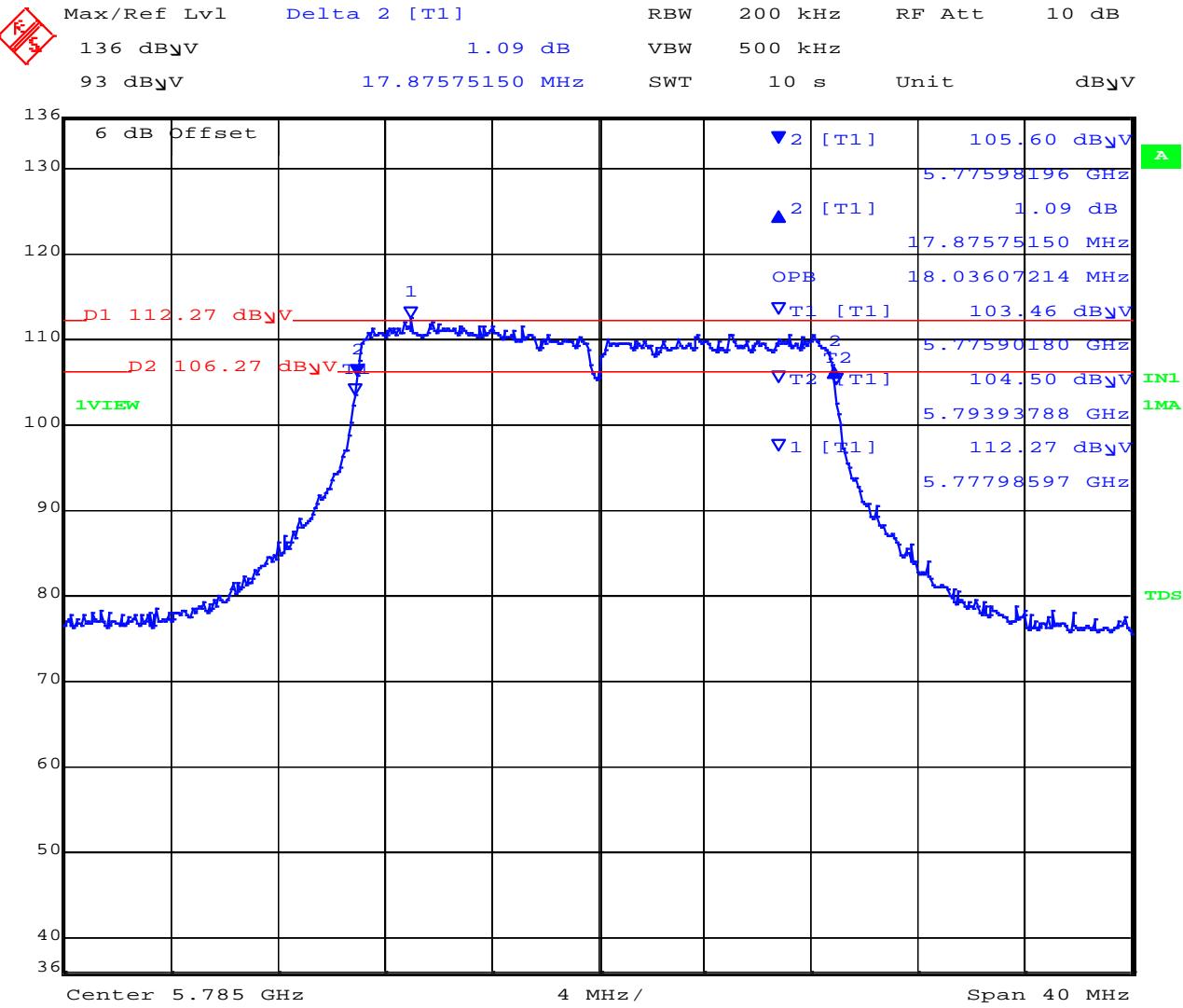
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 17.88 MHz Measured 99% Bandwidth: 17.88 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



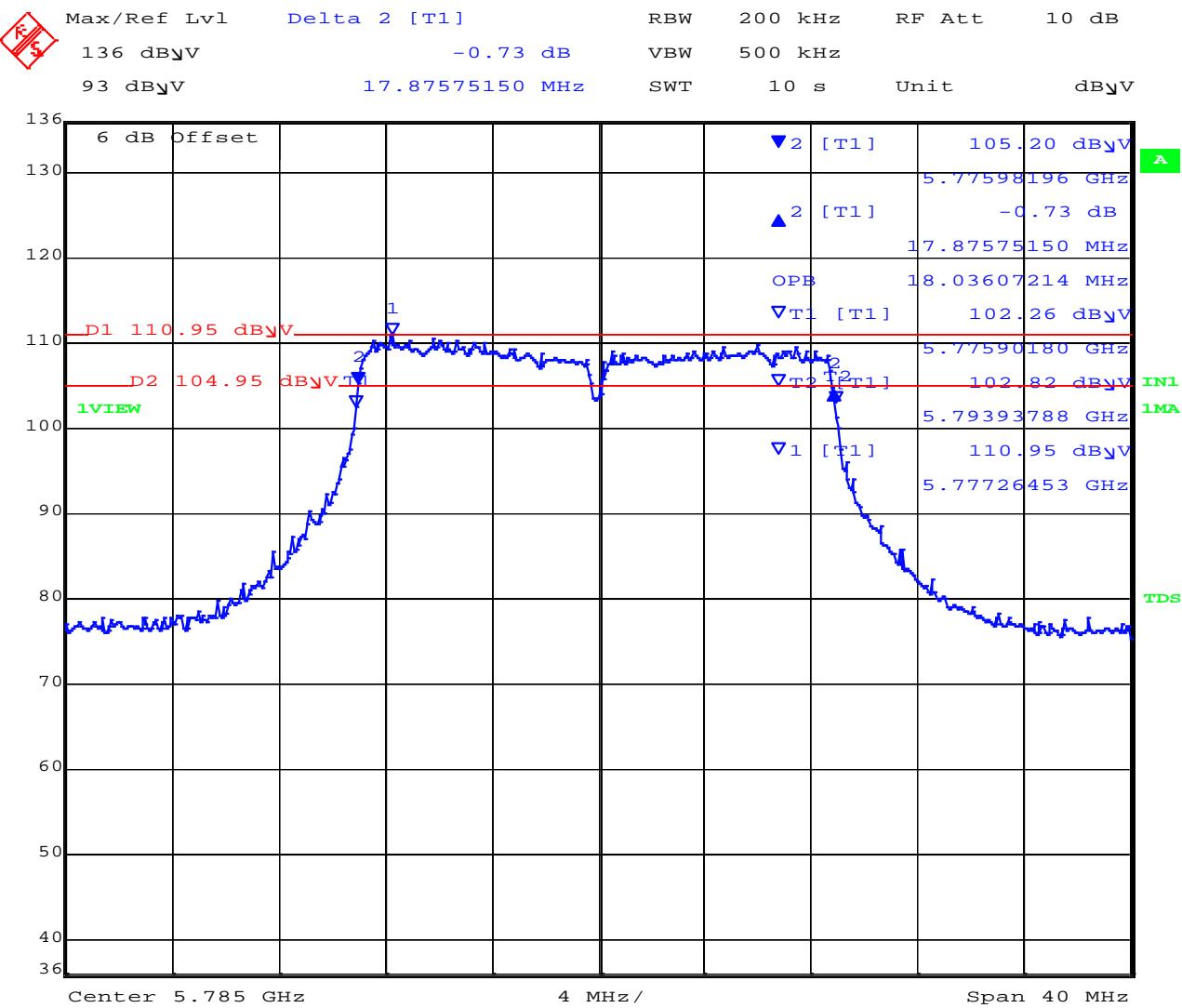
Date: 14.AUG.2019 13:40:04

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 17.88 MHz Measured 99% Bandwidth: 18.04 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH

Variant: 802.11 20MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:42:38

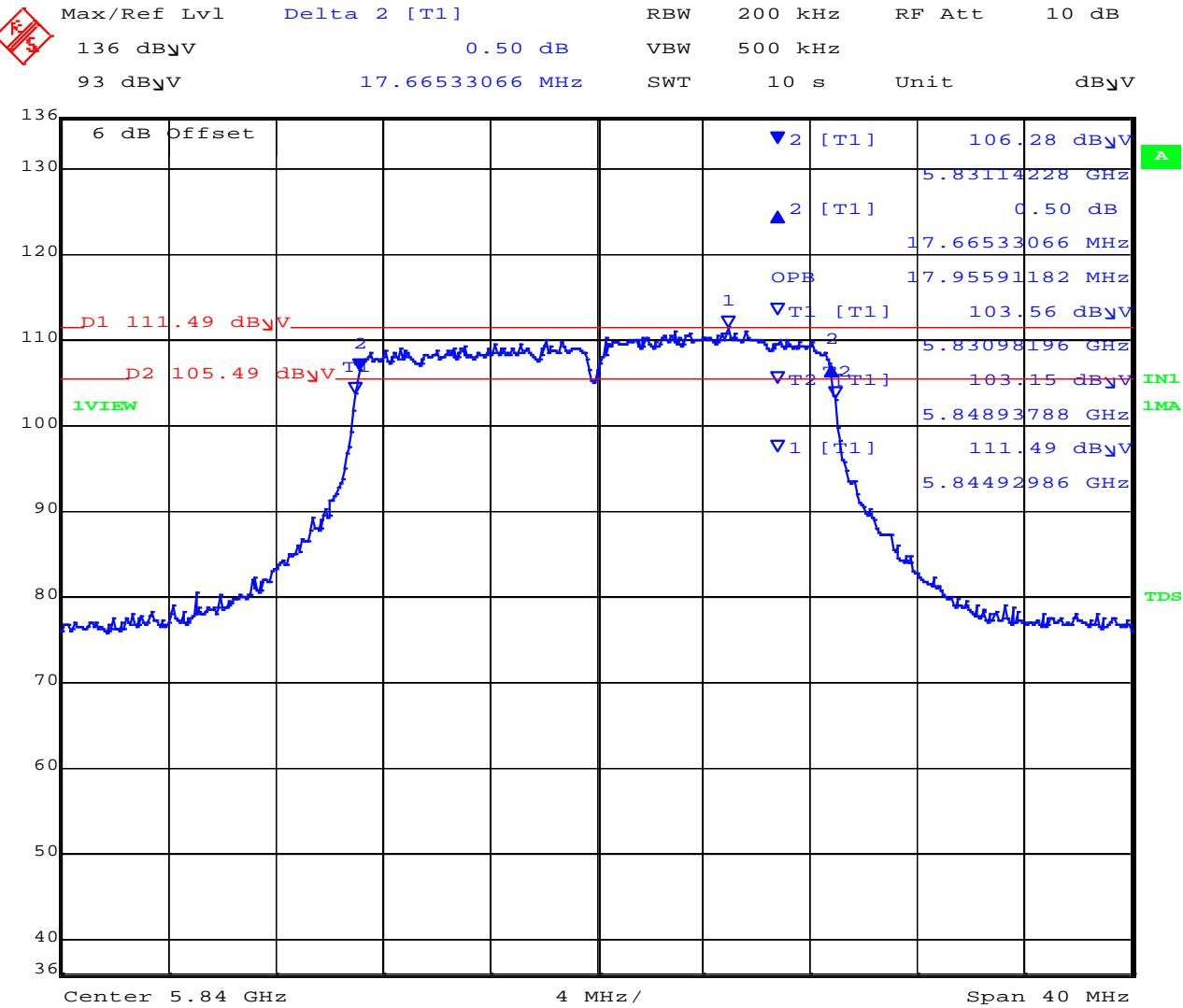
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 17.88 MHz Measured 99% Bandwidth: 18.04 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5840.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:37:32

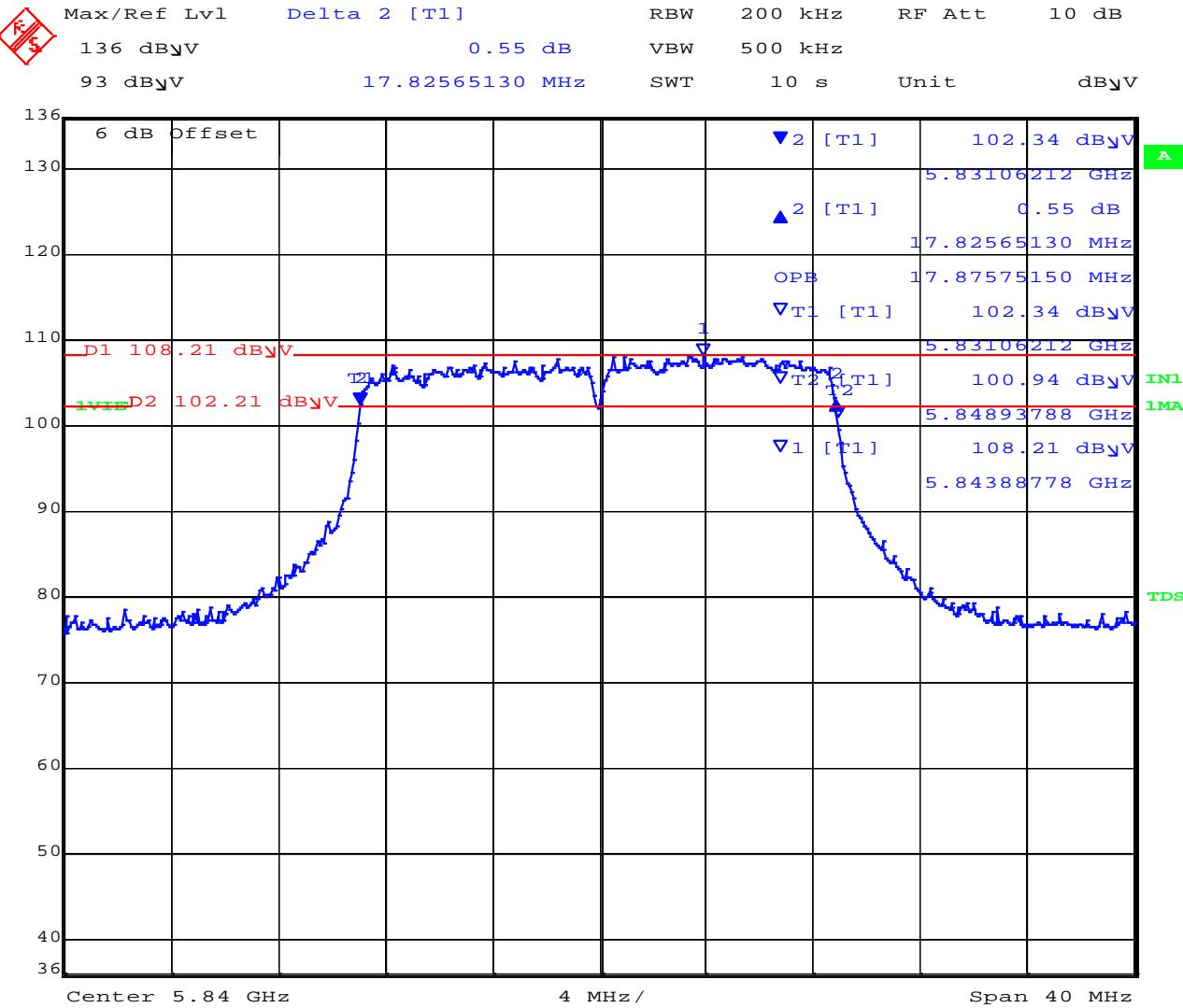
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 17.67 MHz Measured 99% Bandwidth: 17.96 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 20MHz, Channel: 5840.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14 . AUG . 2019 13 : 34 : 48

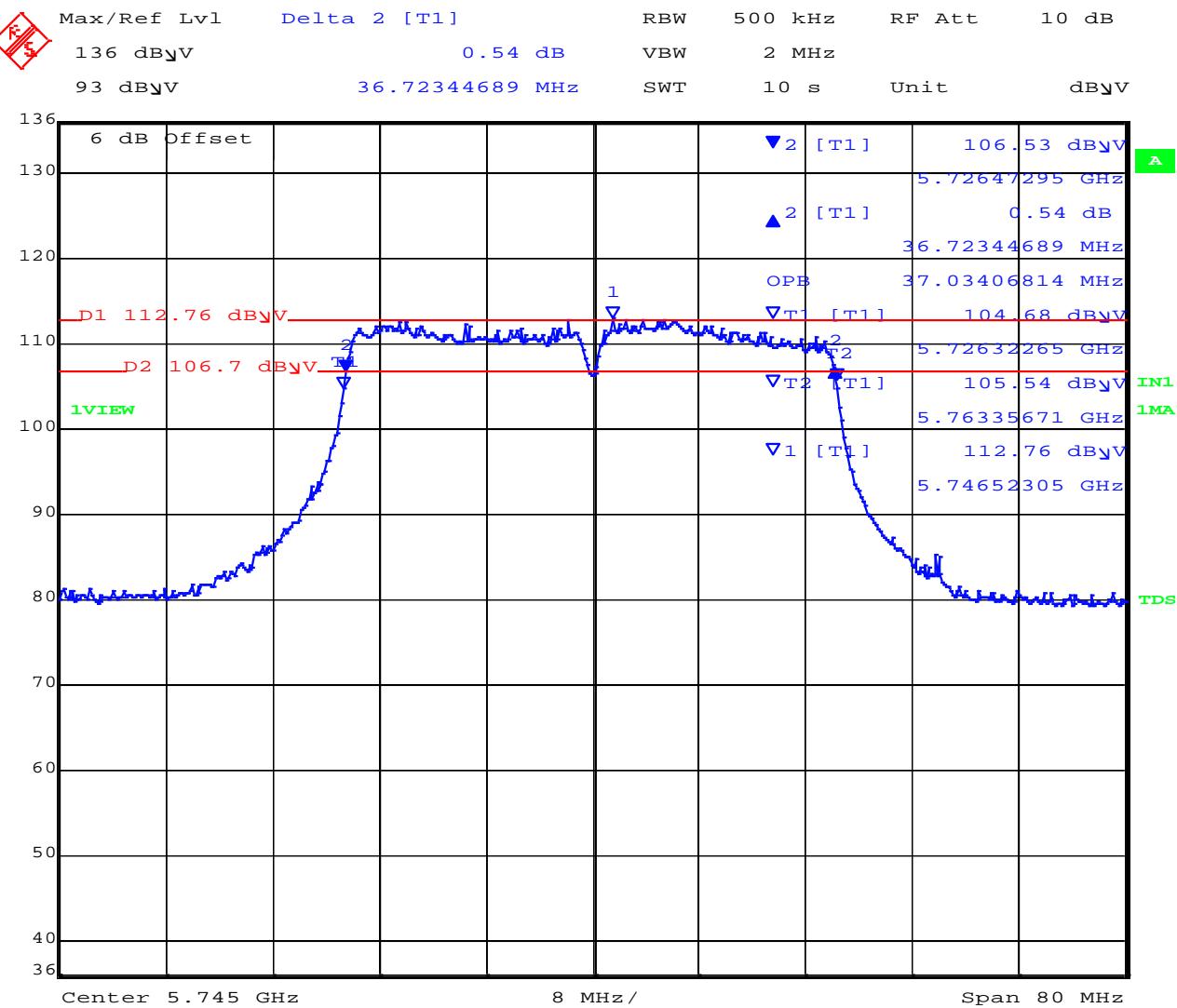
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 17.83 MHz Measured 99% Bandwidth: 17.88 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5745.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:14:13

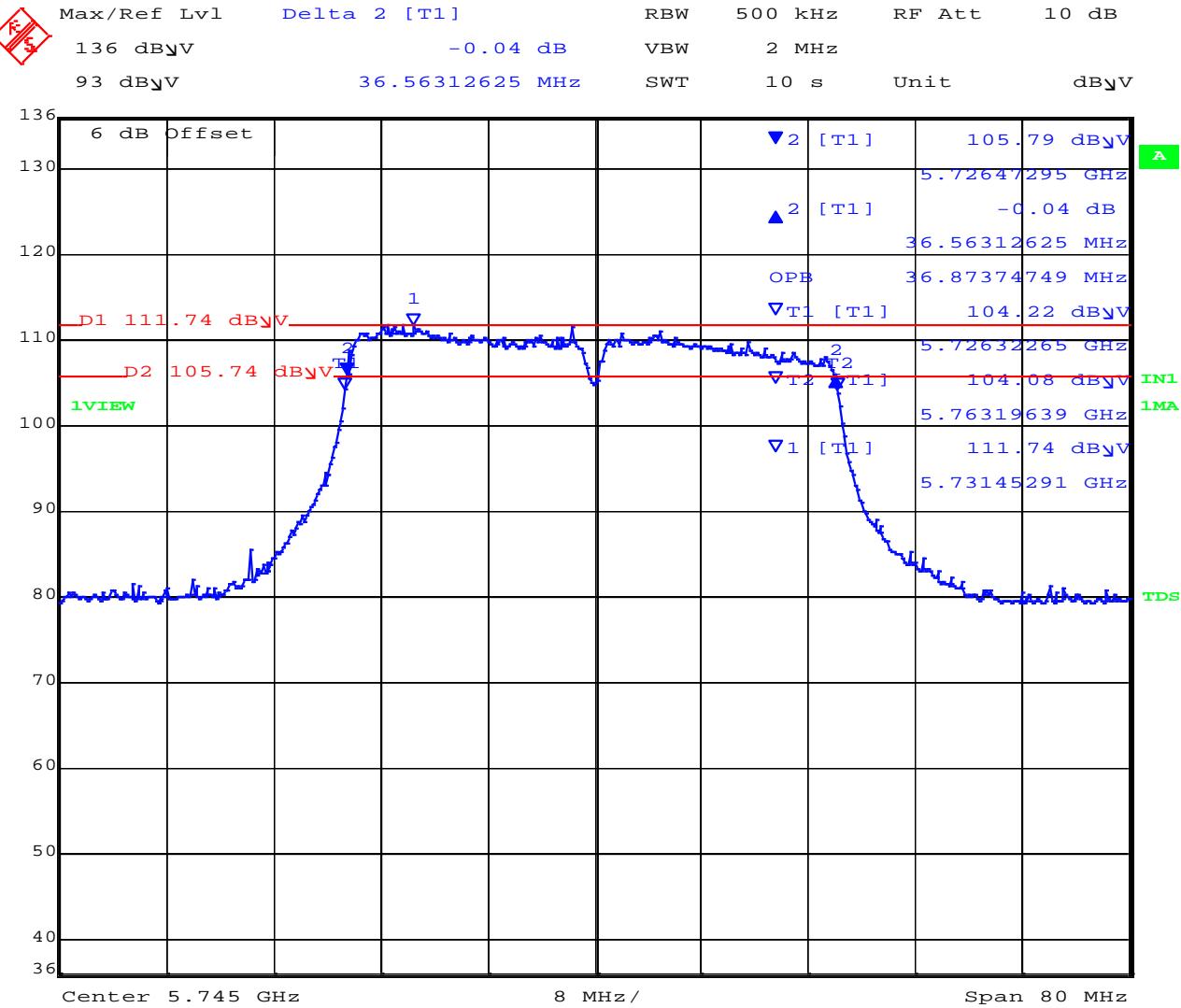
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 36.72 MHz Measured 99% Bandwidth: 37.03 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5745.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:16:14

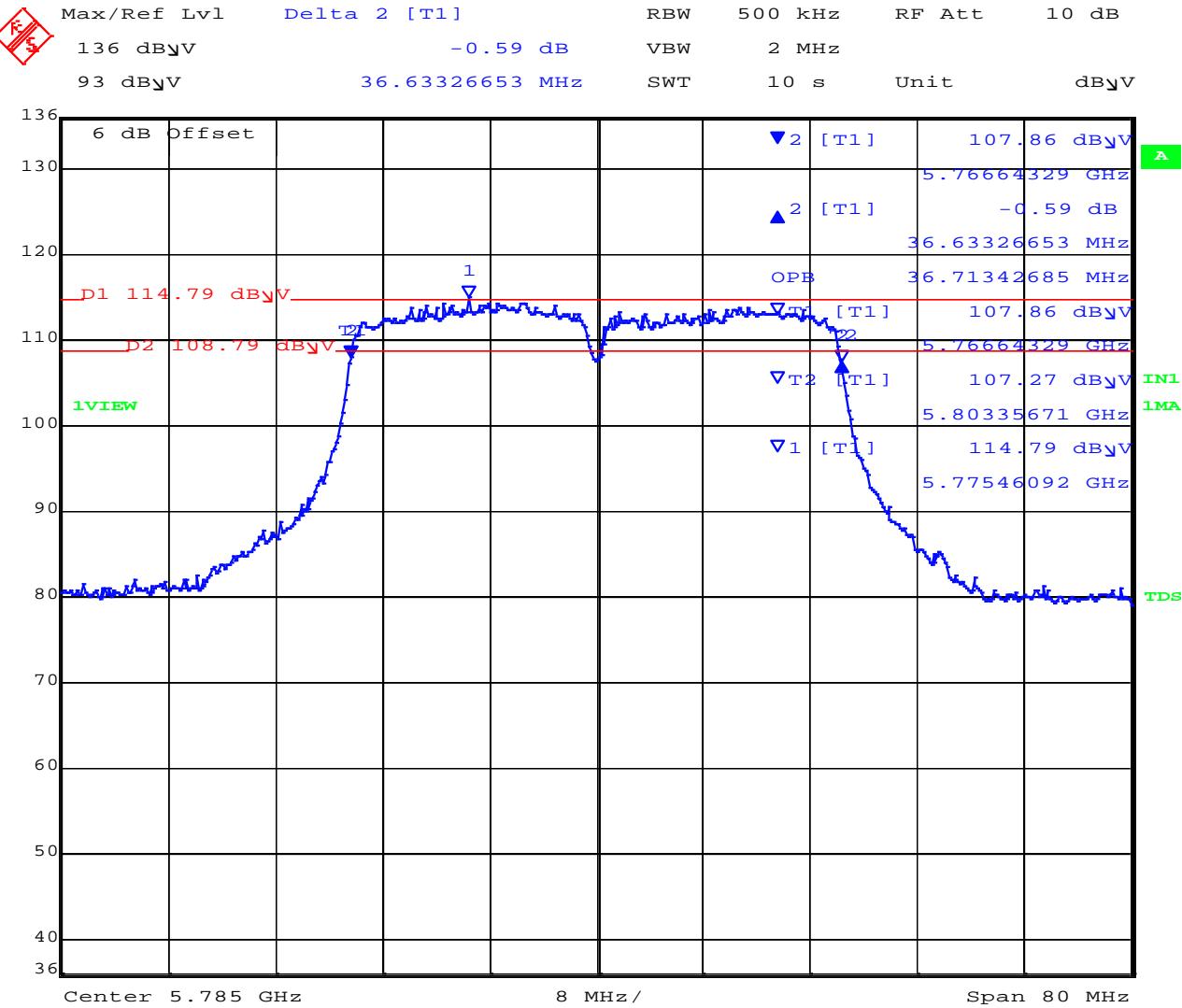
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 36.56 MHz Measured 99% Bandwidth: 36.87 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:21:30

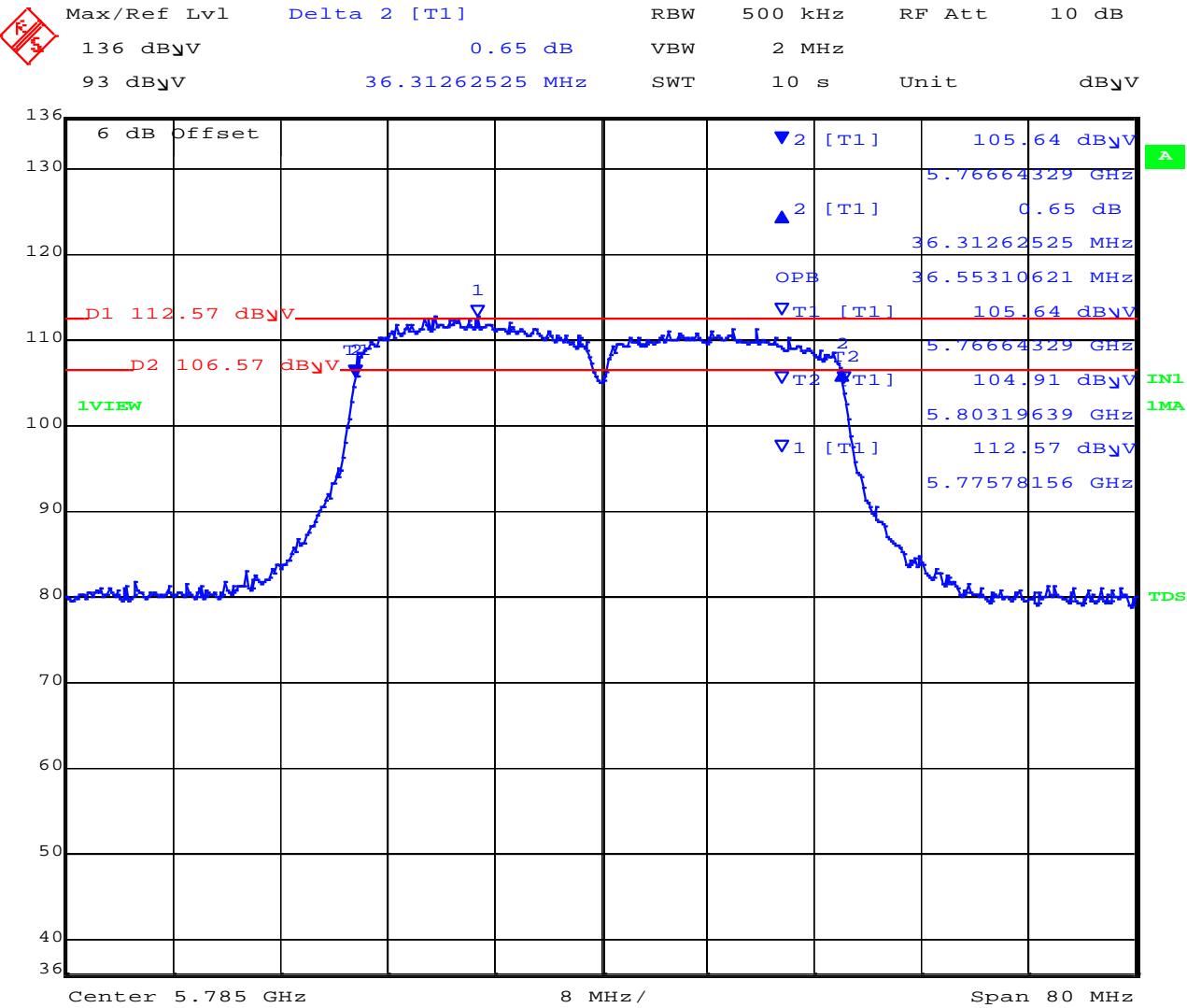
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 36.63 MHz Measured 99% Bandwidth: 36.71 MHz

[back to matrix](#)

6 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:19:24

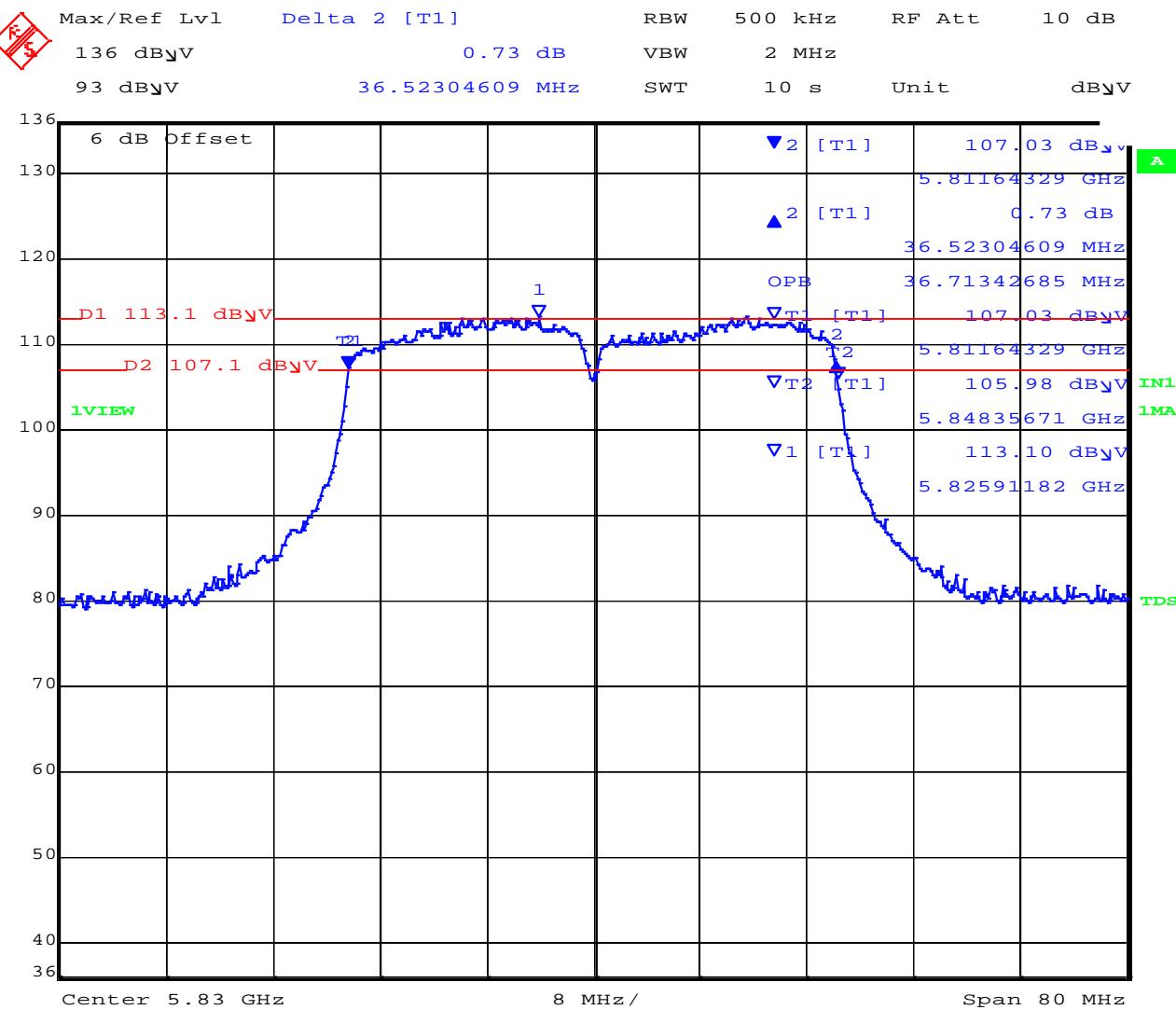
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 36.31 MHz Measured 99% Bandwidth: 36.55 MHz

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6 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5830.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:25:40

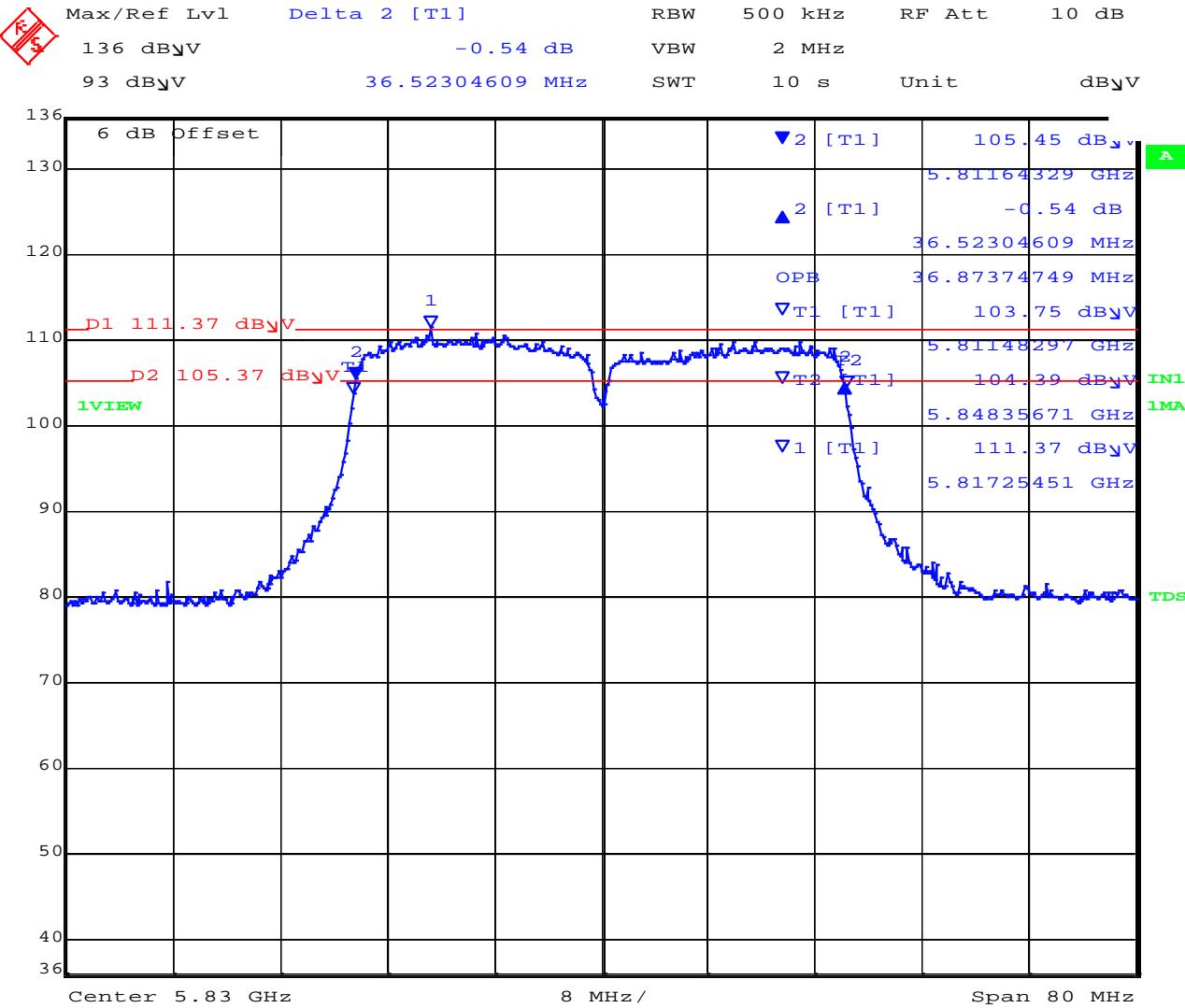
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 36.52MHz Measured 99% Bandwidth: 36.71 MHz

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6 dB & 99% BANDWIDTH



Variant: 802.11 40MHz, Channel: 5830.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:27:52

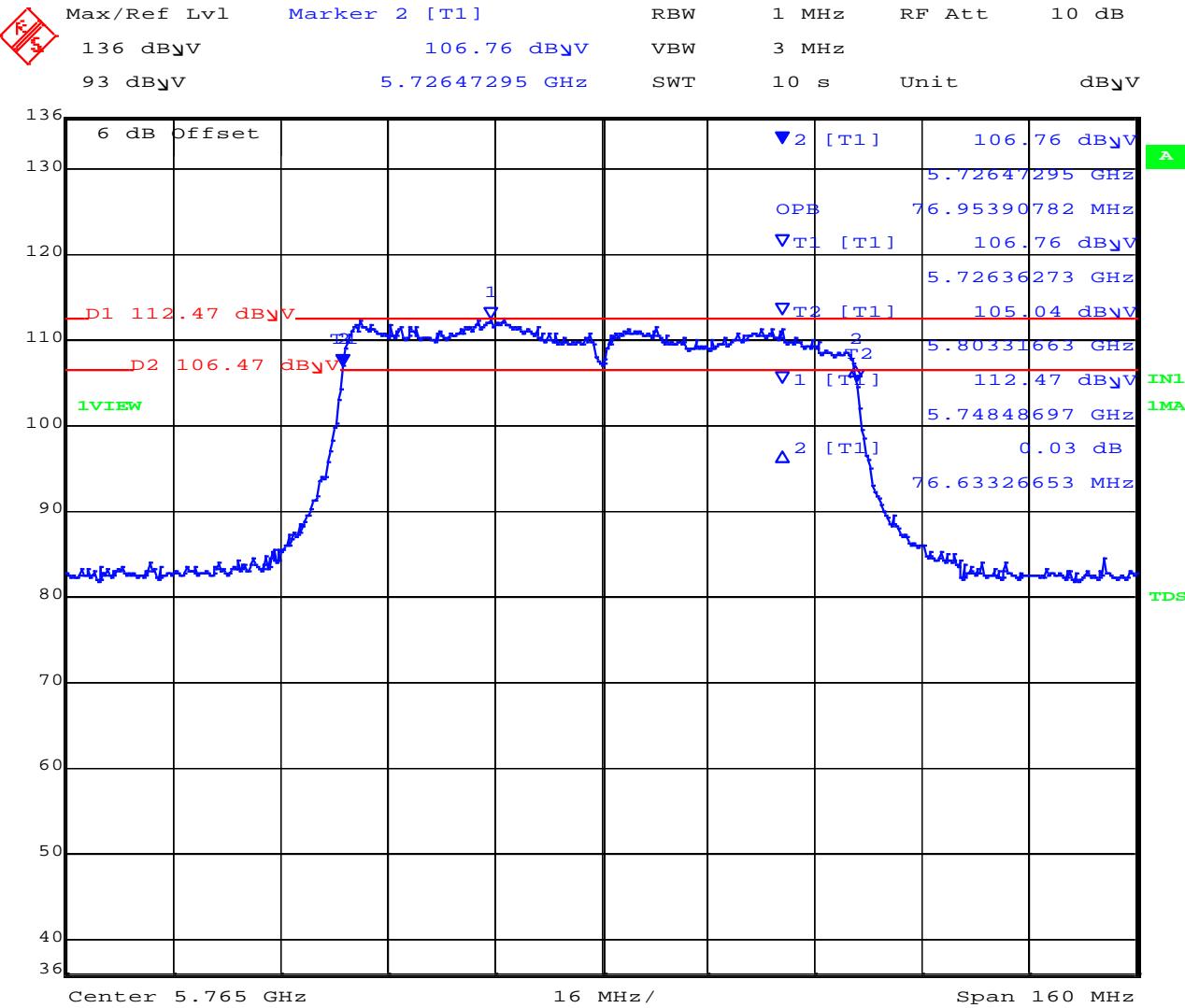
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 36.52MHz Measured 99% Bandwidth: 36.87 MHz

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6 dB & 99% BANDWIDTH



Variant: 802.11 80MHz, Channel: 5765.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



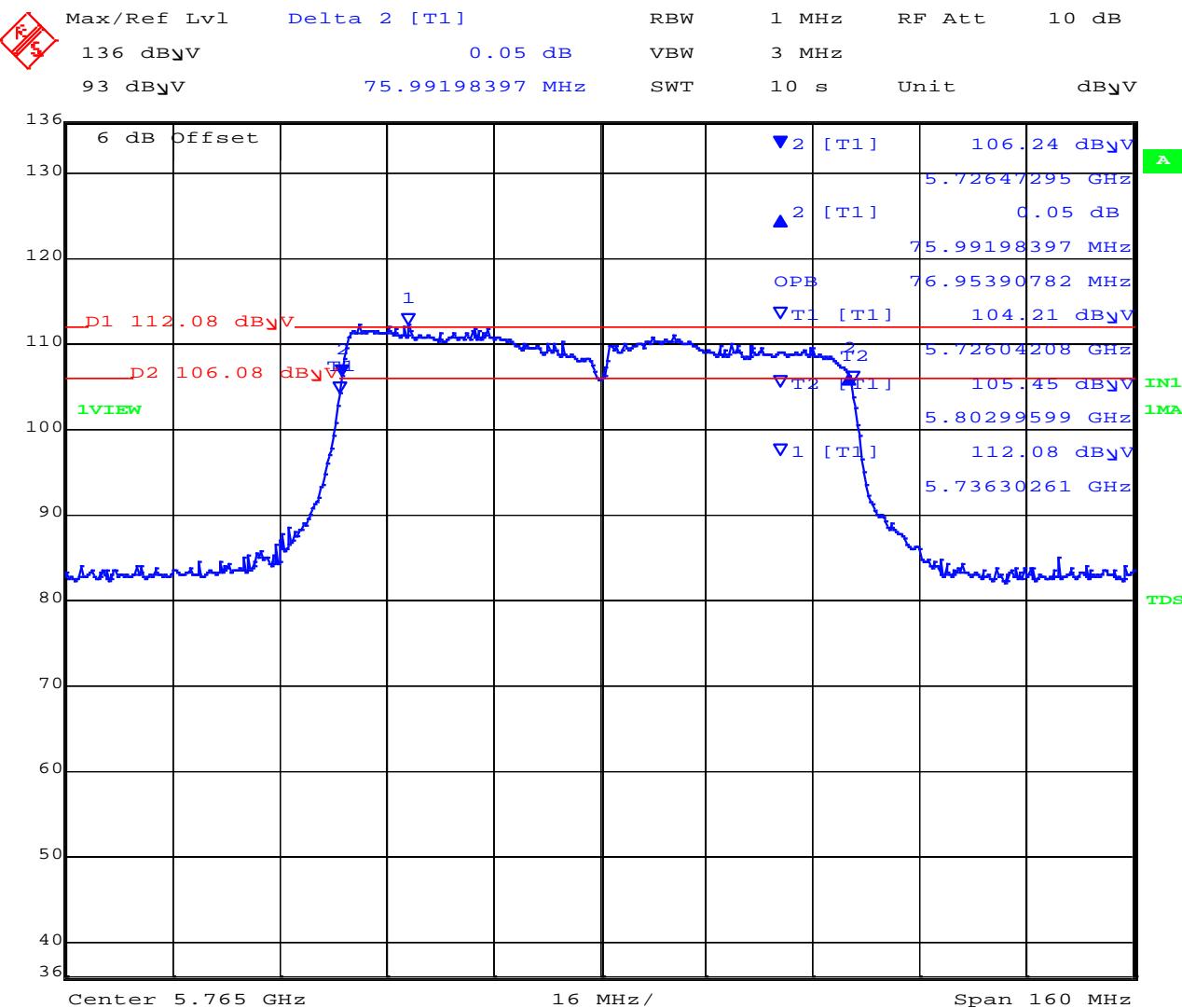
Date: 14.AUG.2019 13:09:25

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 76.63 MHz Measured 99% Bandwidth: 76.95 MHz

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6 dB & 99% BANDWIDTH

Variant: 802.11 80MHz, Channel: 5765.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:07:04

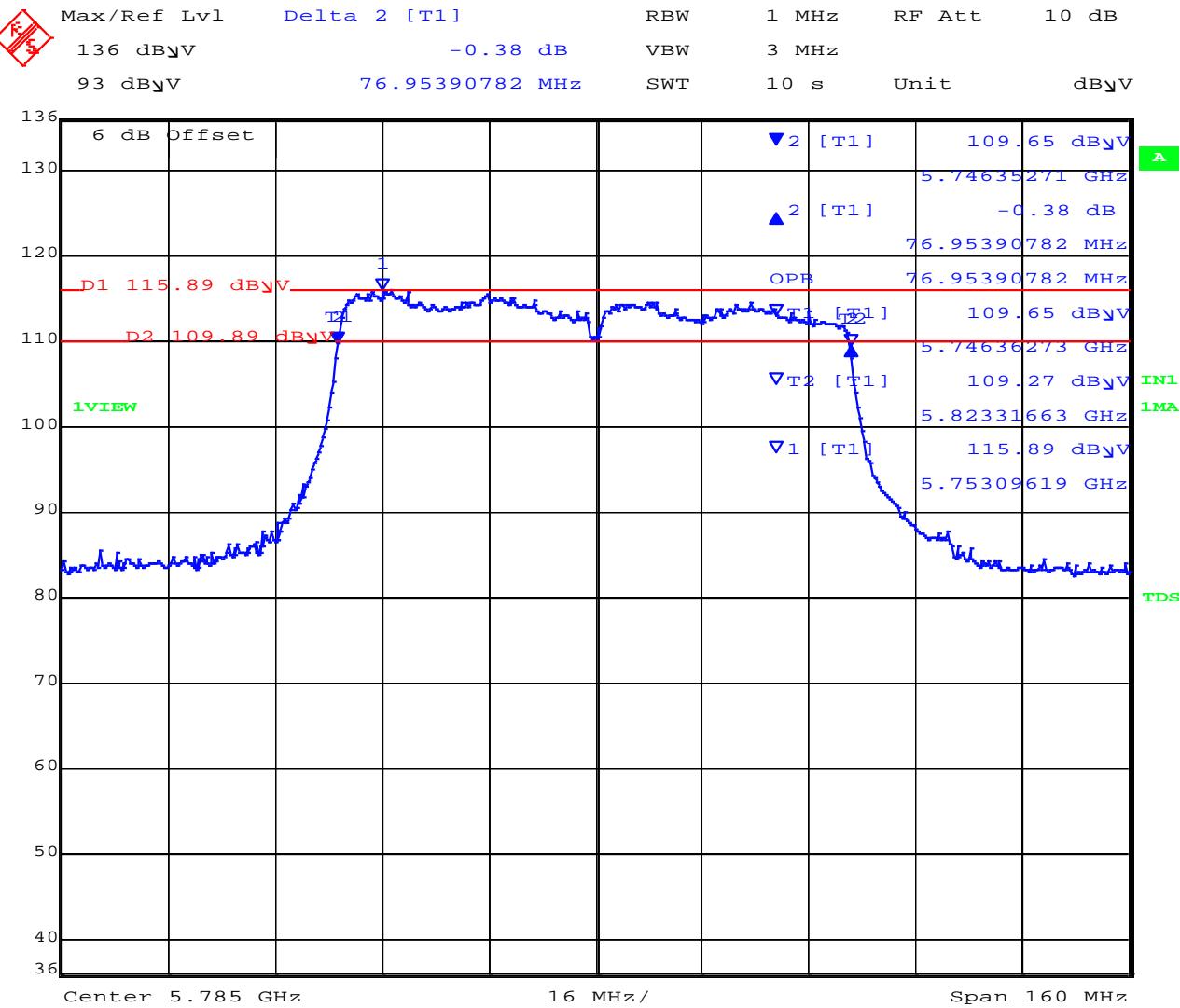
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 75.99 MHz Measured 99% Bandwidth: 76.95 MHz

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6 dB & 99% BANDWIDTH



Variant: 802.11 80MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:00:53

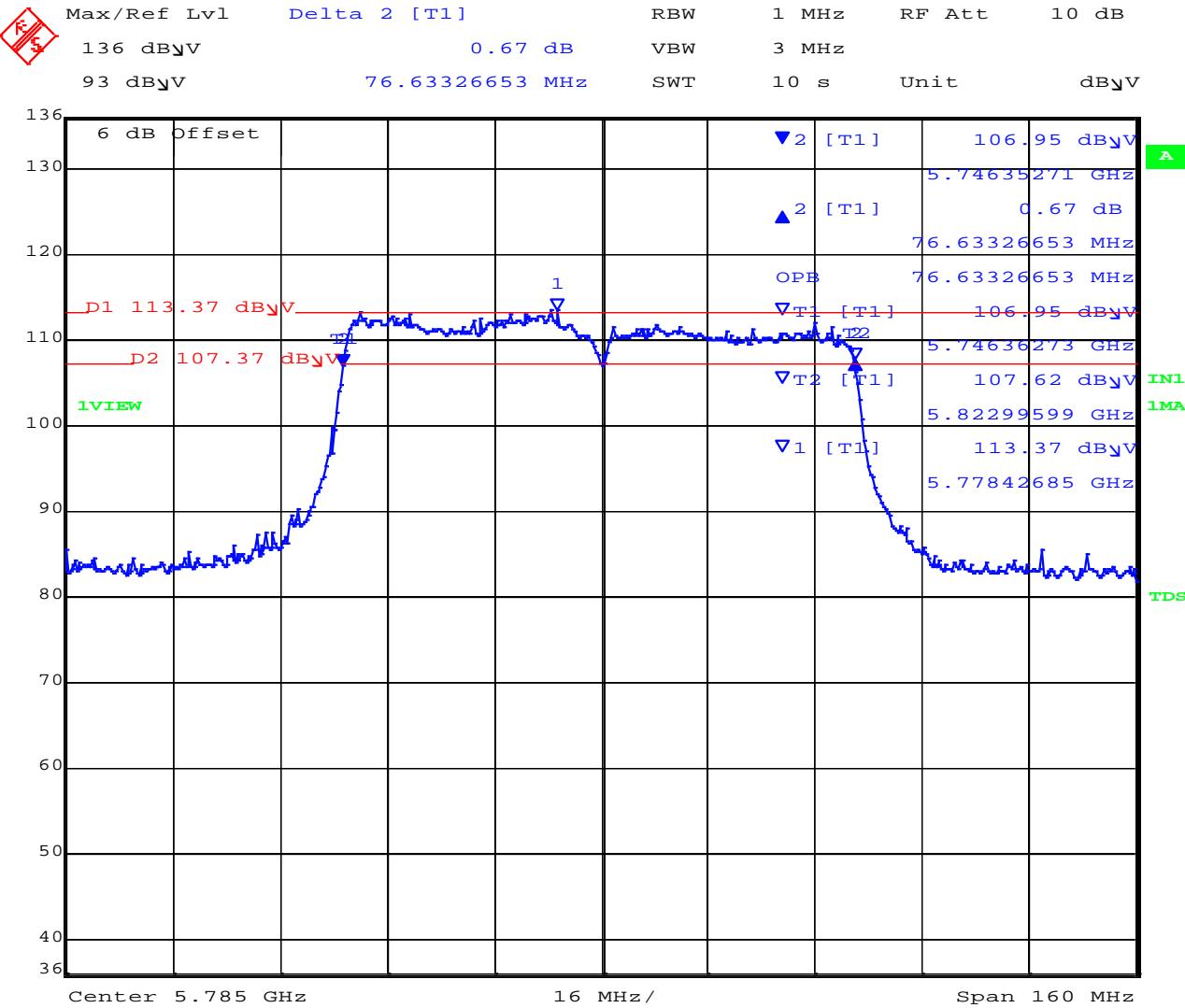
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 76.95 MHz Measured 99% Bandwidth: 76.95 MHz

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6 dB & 99% BANDWIDTH



Variant: 802.11 80MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 13:03:05

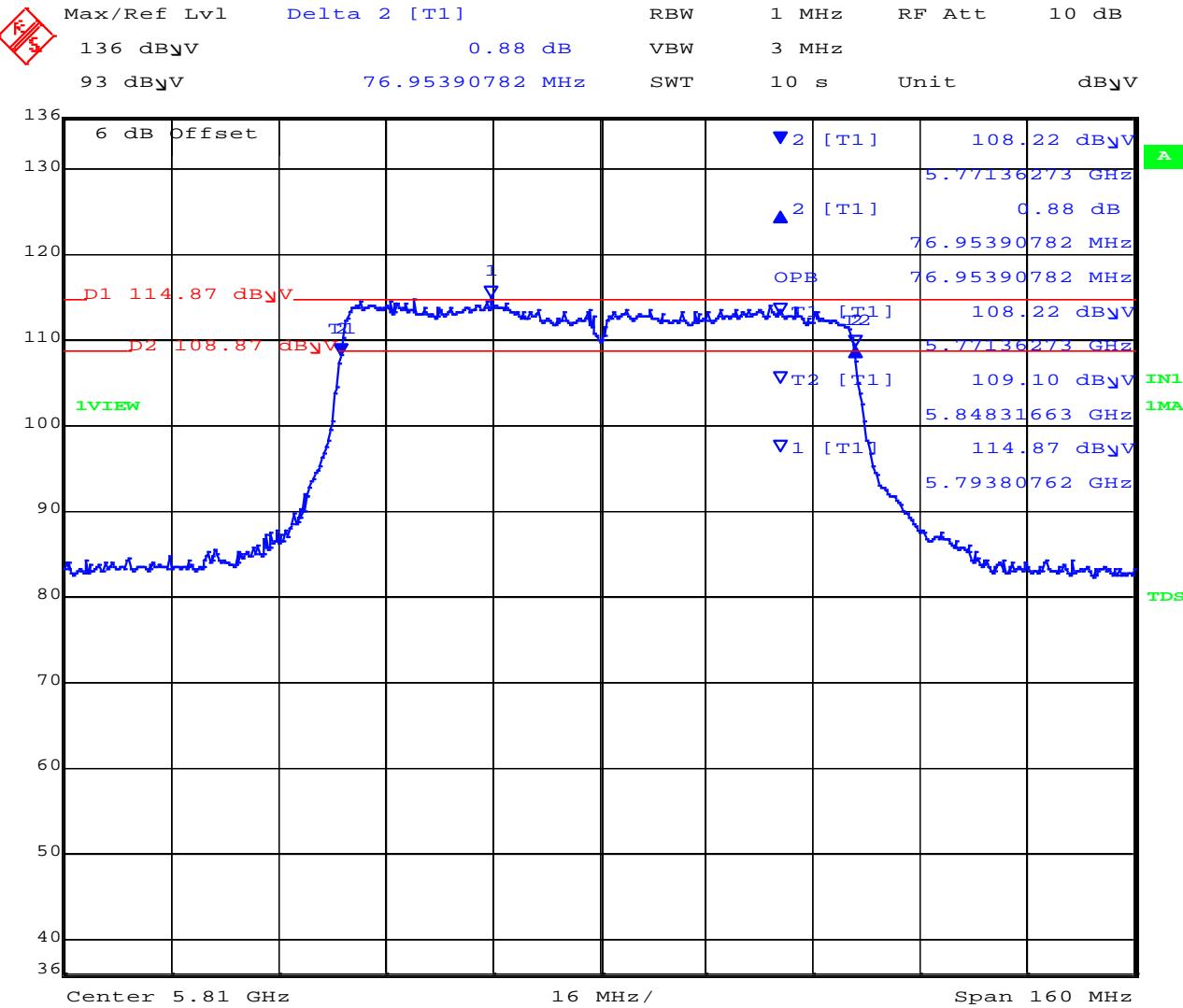
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 76.63 MHz Measured 99% Bandwidth: 76.63 MHz

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6 dB & 99% BANDWIDTH



Variant: 802.11 80MHz, Channel: 5810.00 MHz, Polarity H, Temp: 20, Voltage: 55 Vdc



Date: 14.AUG.2019 12:57:12

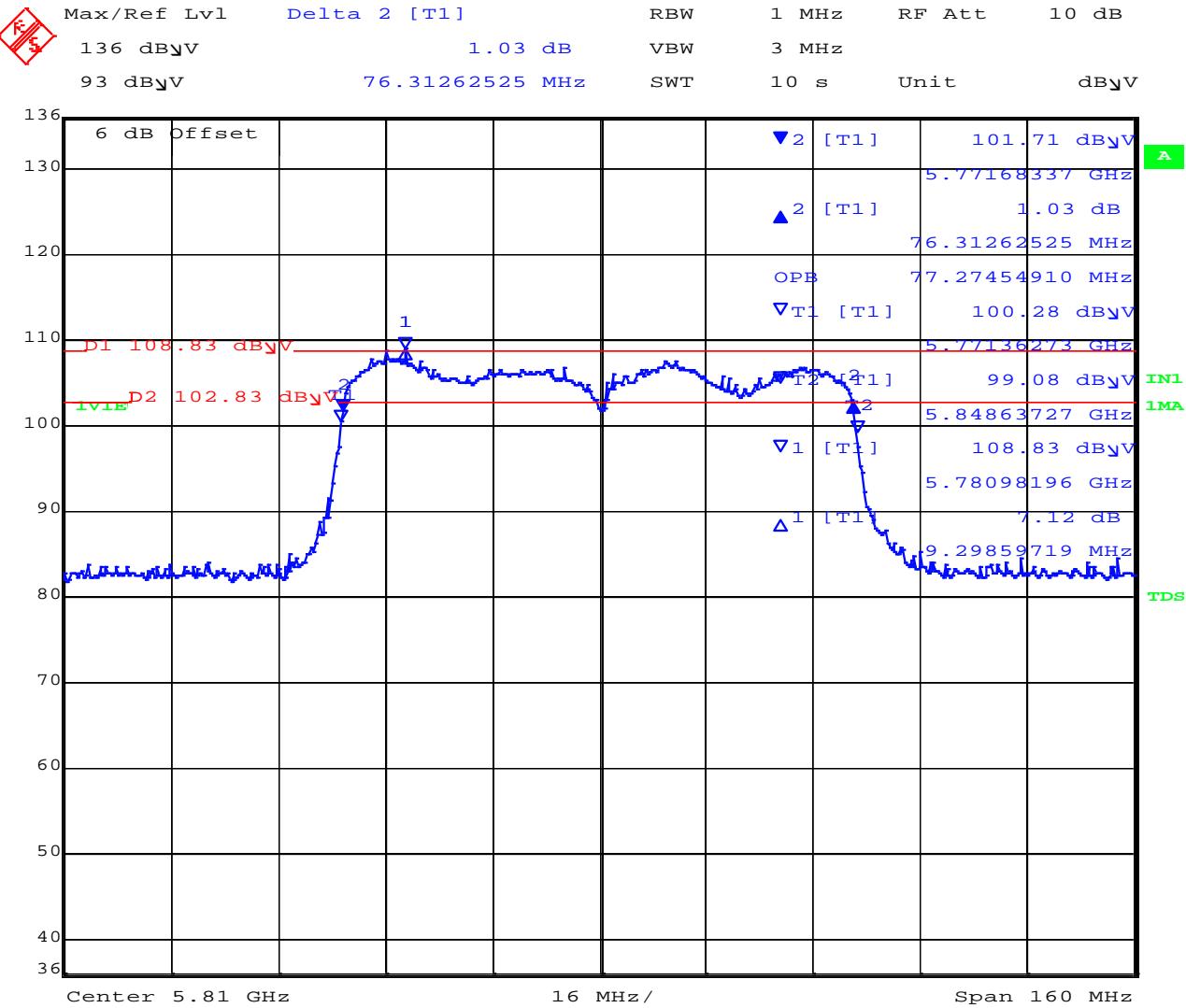
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 76.95 MHz Measured 99% Bandwidth: 76.95 MHz

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6 dB & 99% BANDWIDTH



Variant: 802.11 80MHz, Channel: 5810.00 MHz, Polarity V, Temp: 20, Voltage: 55 Vdc

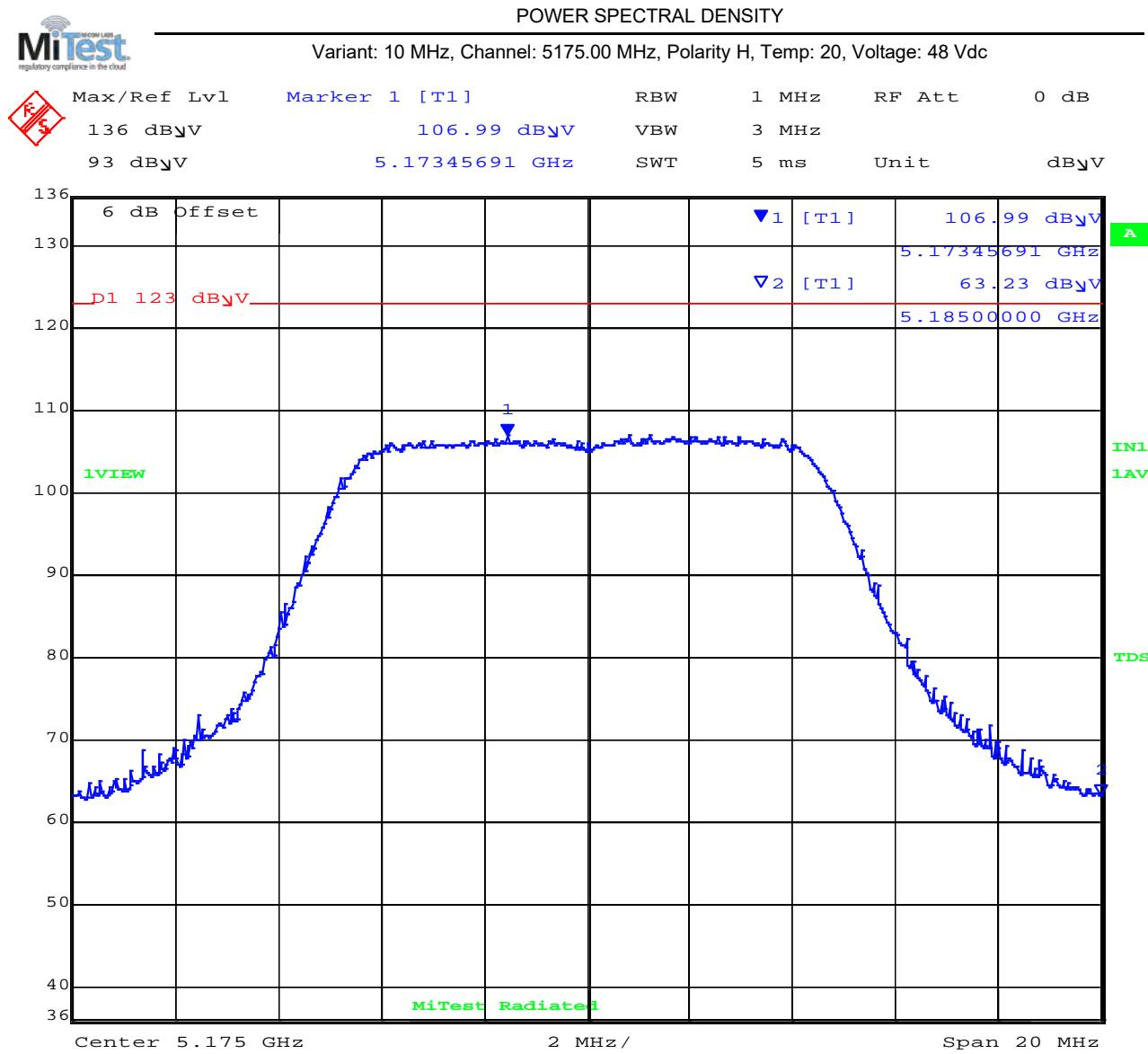


Date: 14.AUG.2019 12:51:10

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 0 Trace Mode = MAX HOLD		Measured 6 dB Bandwidth: 76.31 MHz Measured 99% Bandwidth: 76.27 MHz

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### A.3. Power Spectral Density



Date: 14.AUG.2019 15:36:13

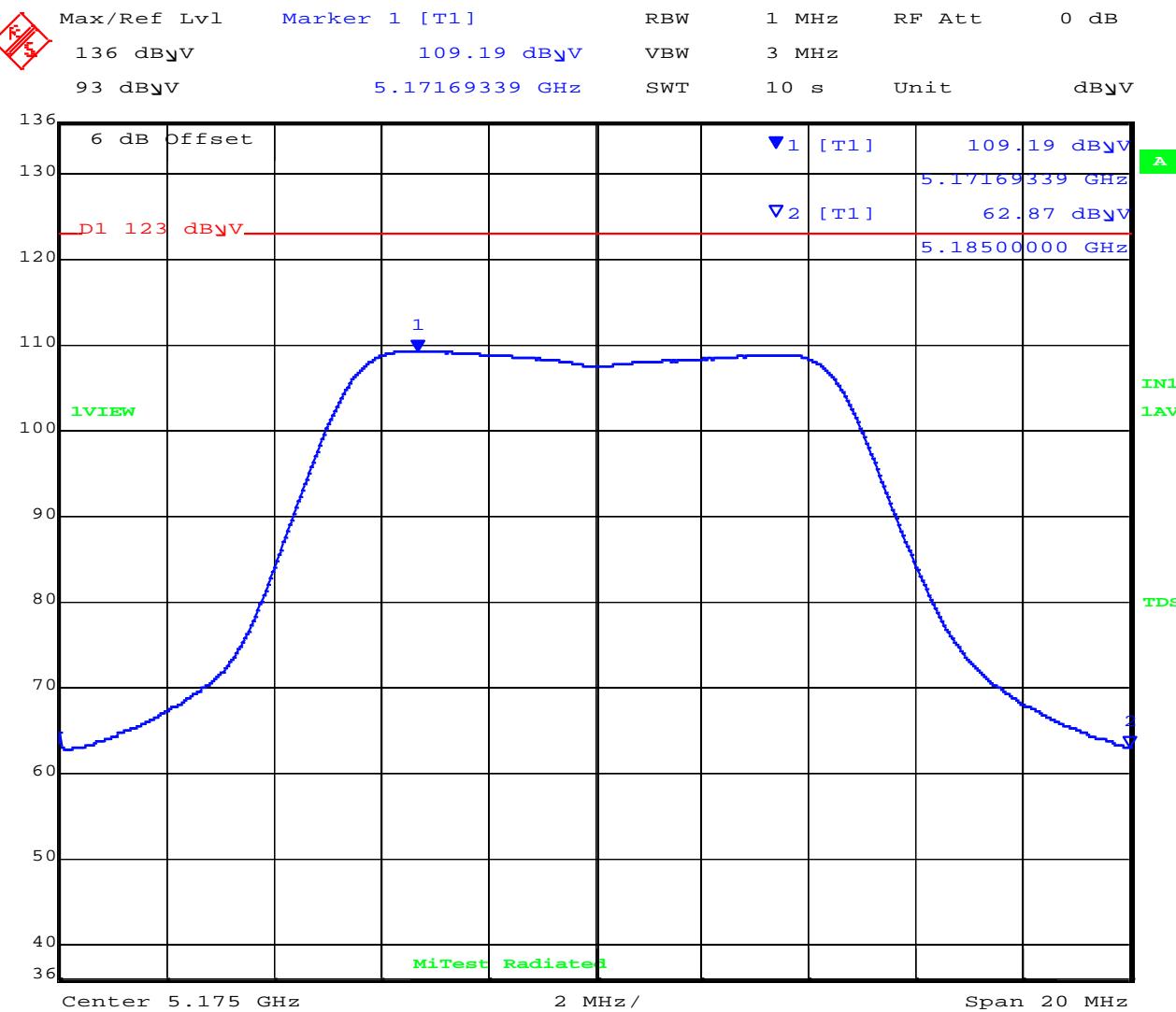
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5173.456 MHz : 106.99 dBuV/m	Limit: ≤ 16.00 dBm, 123 dBuVm

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5175.00 MHz, Polarity V Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:21:31

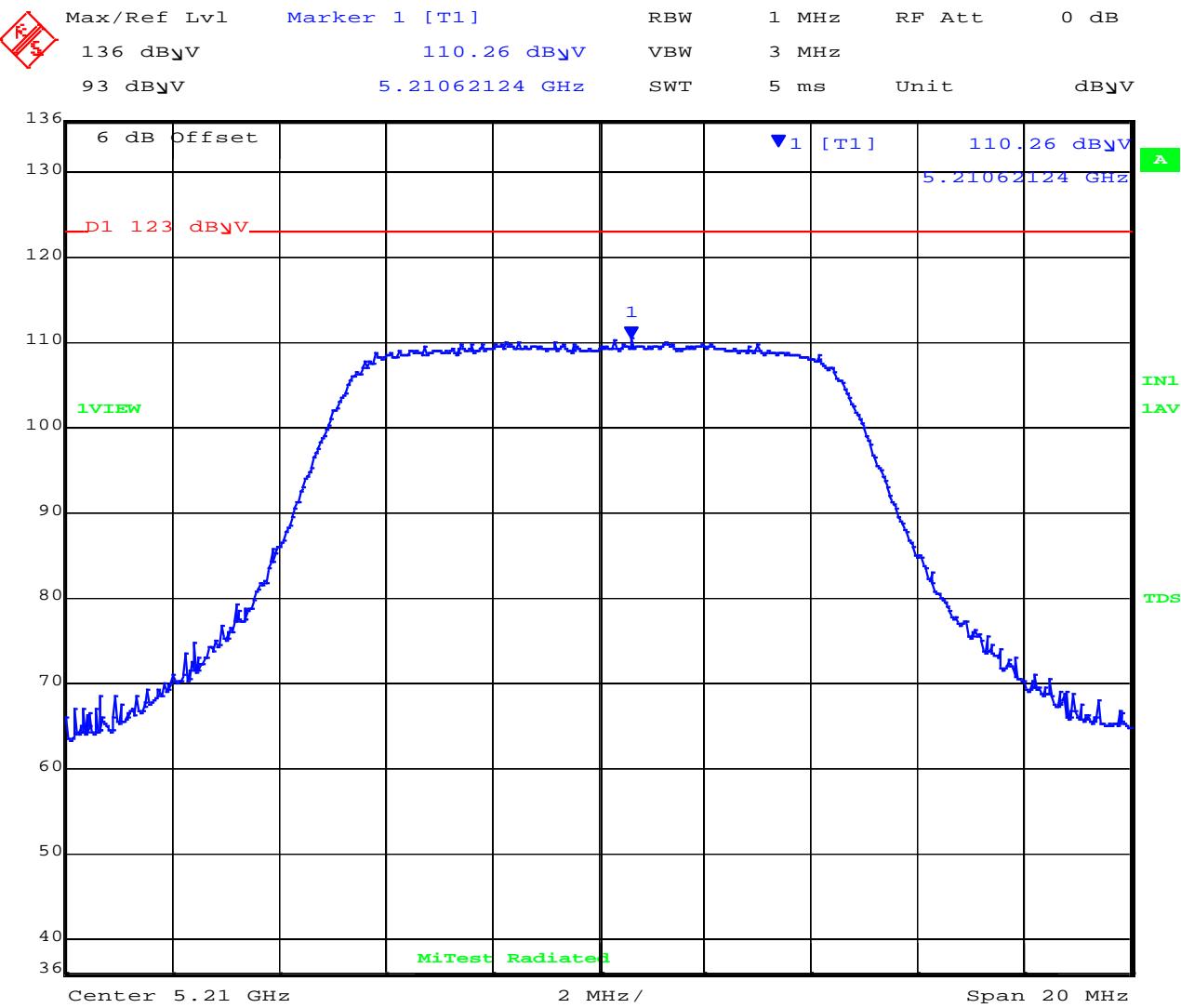
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5171.693 MHz :109.19 dB <sub>u</sub> V/m	Limit: ≤ 16.00 dBm, 123 dB <sub>u</sub> Vm

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### POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:44:41

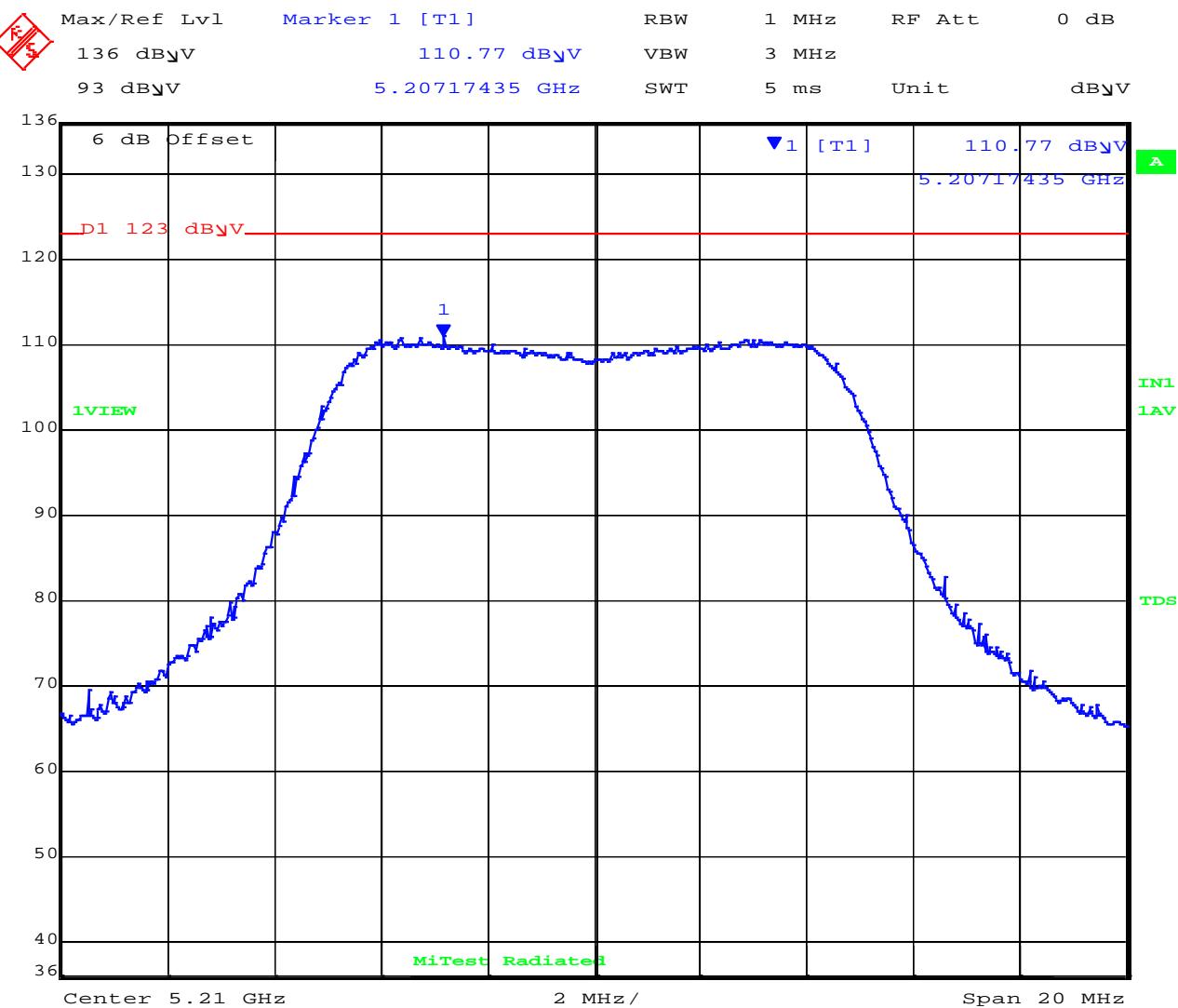
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5210.62 MHz : 110.26 dB <sub>u</sub> V/m	Limit: ≤ 16.00 dBm, 123 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:43:24

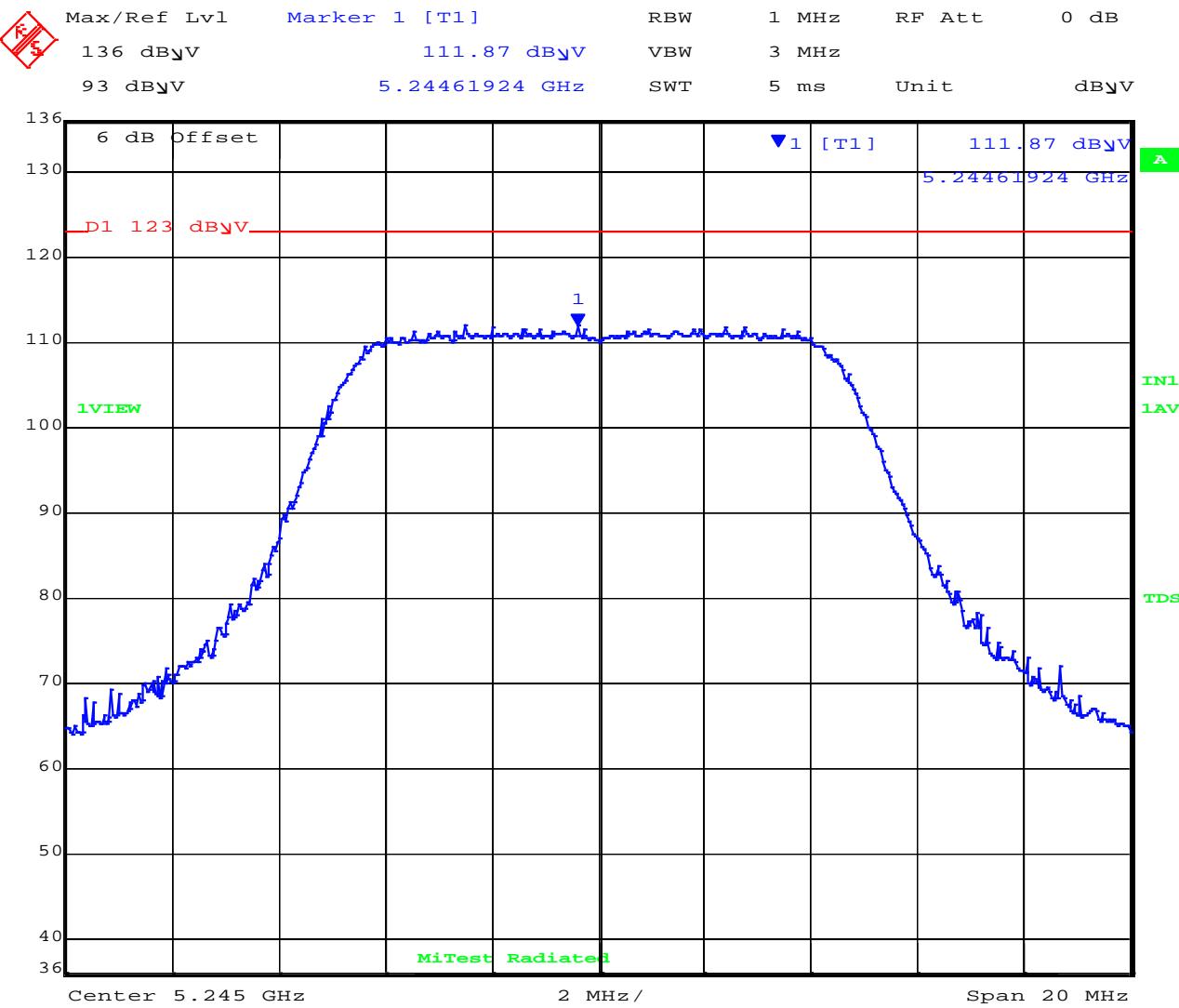
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5207.17 MHz : 110.77 dB <sub>uV/m</sub>	Limit: ≤ 16.00 dBm, 123 dB <sub>uV/m</sub>

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5245.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:46:32

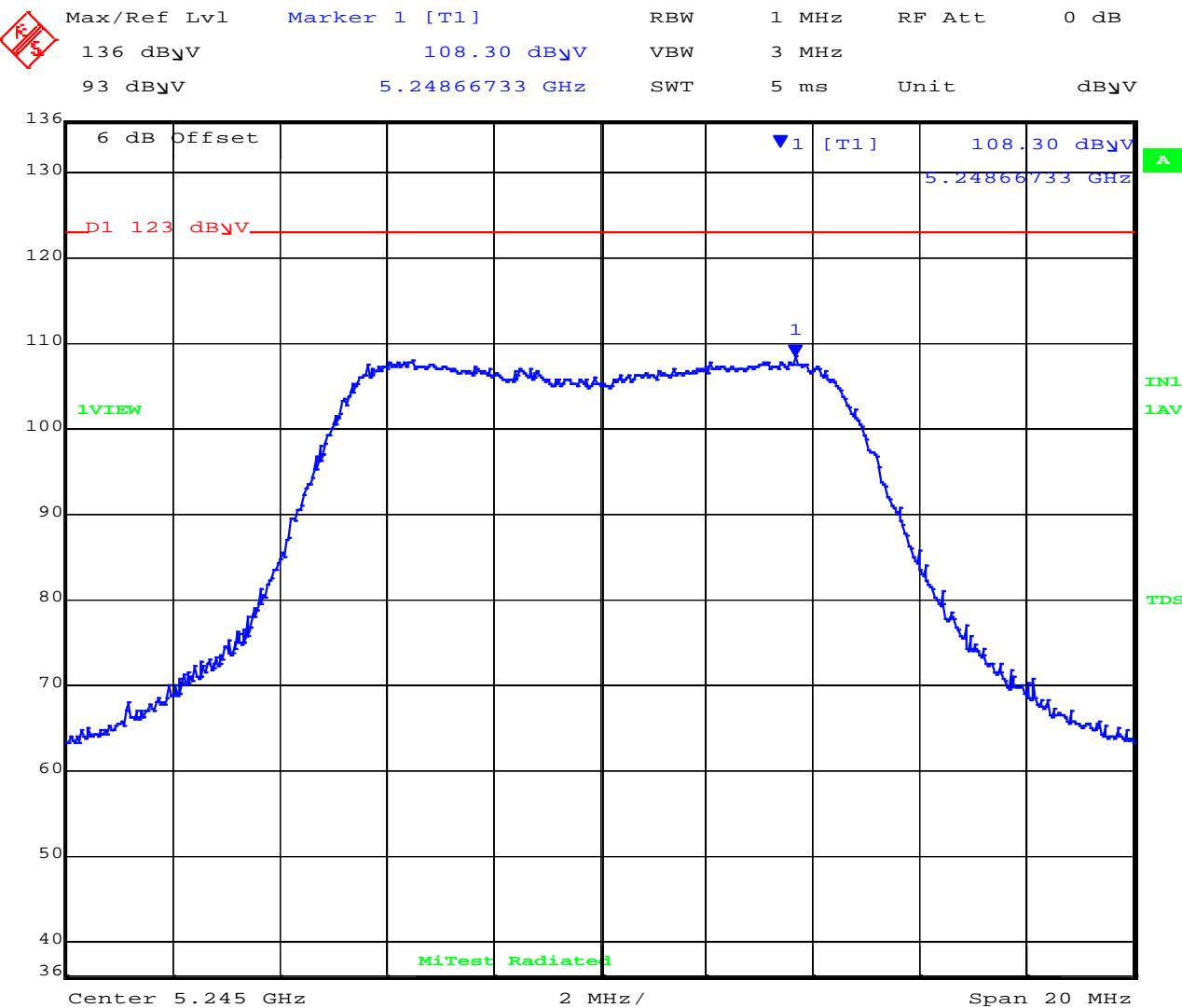
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5244.62 MHz : 111.87 dB <sub>u</sub> V/m	Limit: ≤ 16.00 dBm, 123 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5245.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc

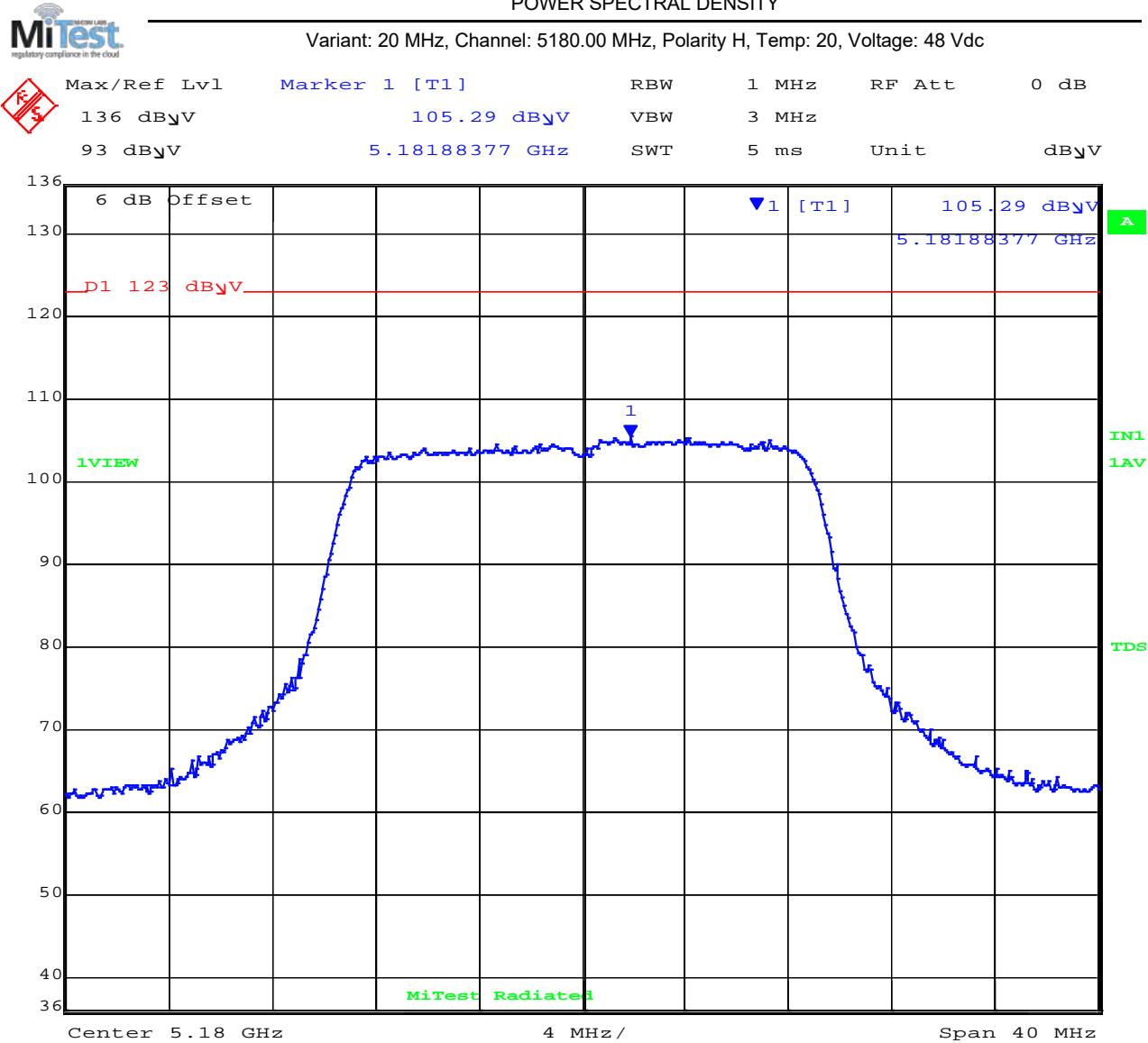


Date: 14.AUG.2019 15:47:36

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5248.67 MHz : 108.30 dB <sub>uV/m</sub>	Limit: ≤ 16.00 dBm, 123 dB <sub>uV/m</sub>

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## POWER SPECTRAL DENSITY



Date: 14.AUG.2019 15:51:30

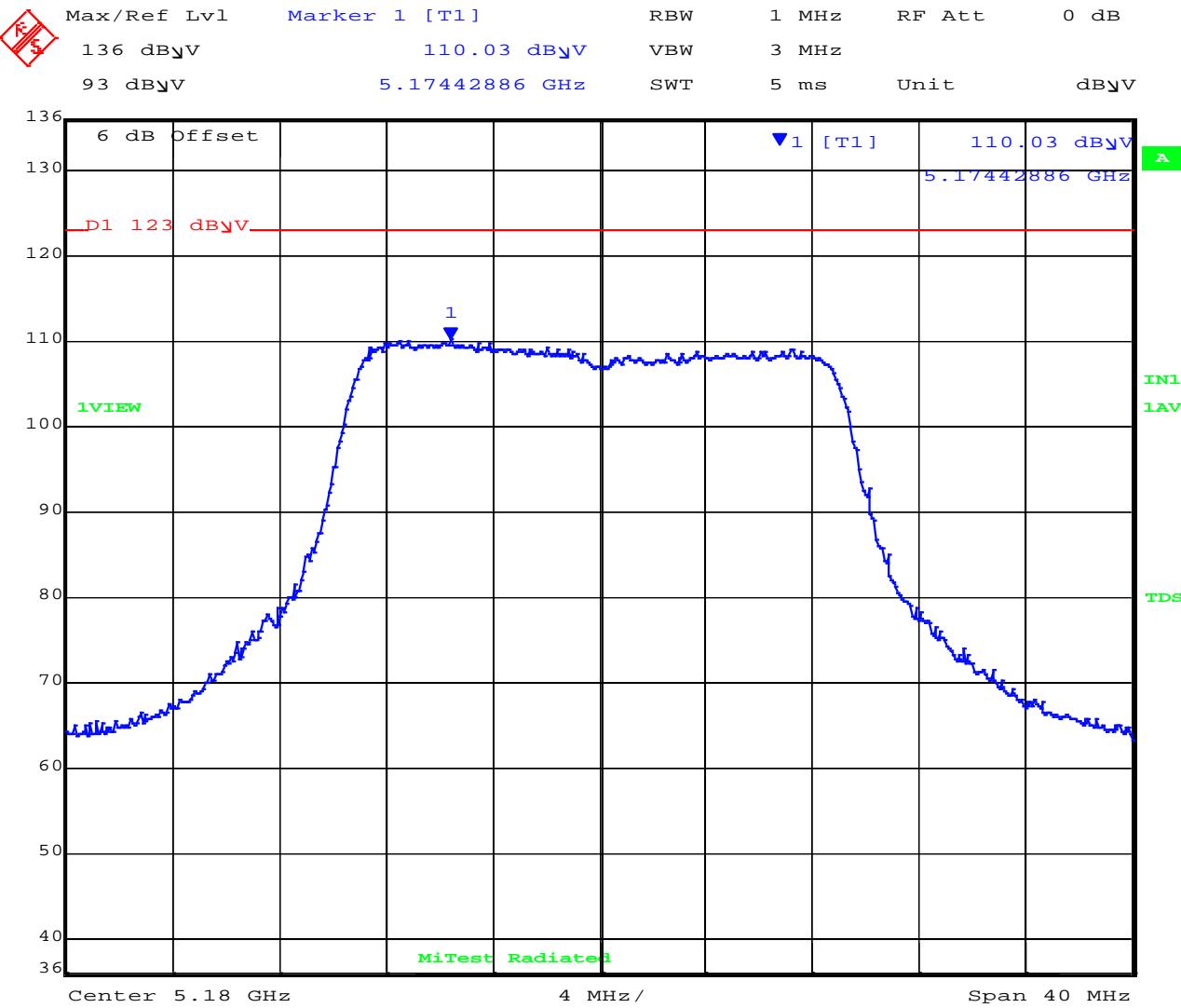
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5181.88 MHz : 105.29 dBuV/m	Limit: ≤ 16.00 dBm, 123 dBuVm

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5180.00 MHz, Polarity V Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:49:39

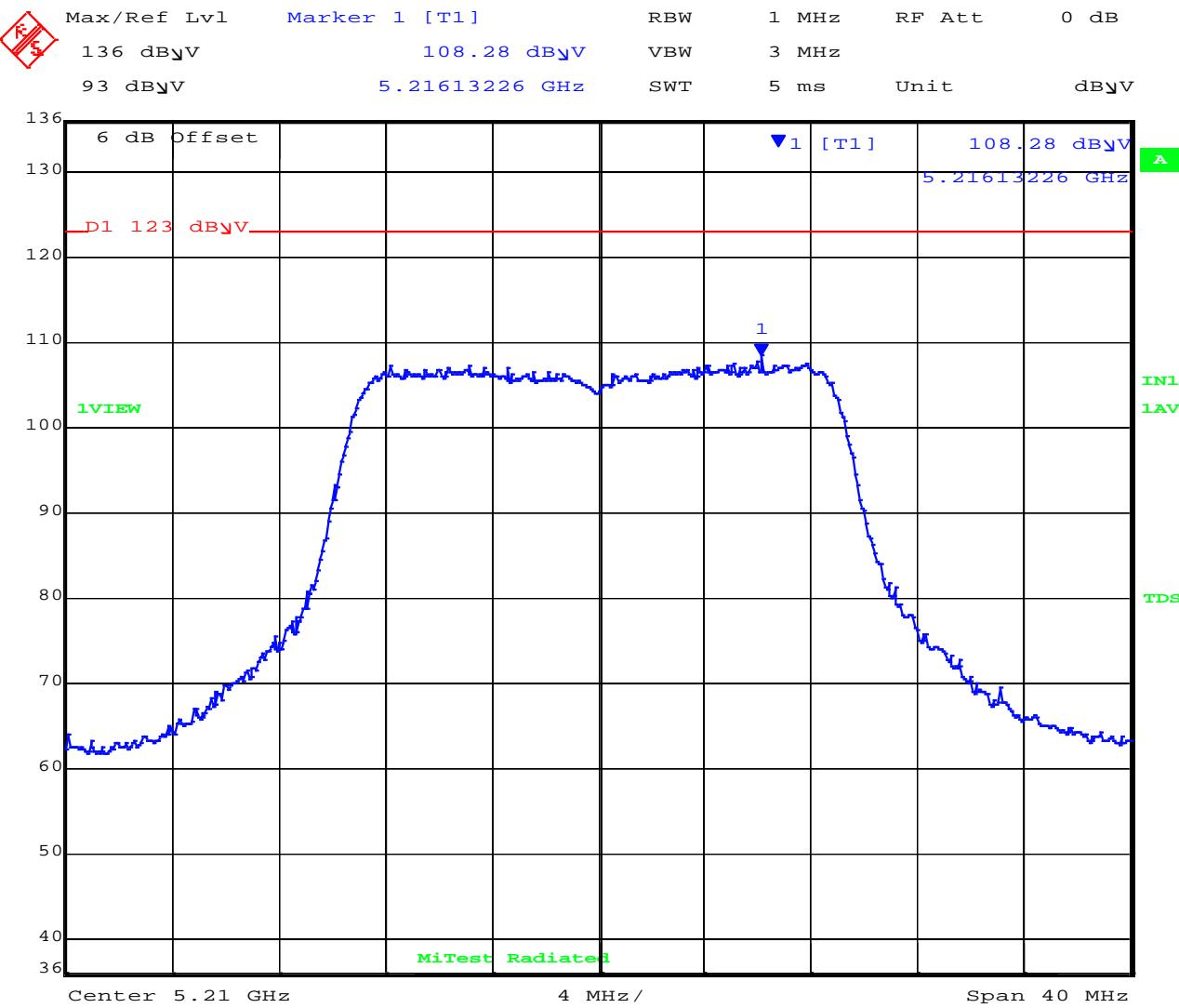
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5174.43 MHz :110.03 dB <sub>uV/m</sub>	Limit: ≤ 16.00 dBm, 123 dB <sub>uV/m</sub>

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:52:34

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5216.13.73 MHz : 108.28 dB <sub>u</sub> V/m	Limit: ≤ 16.00 dBm, 123 dB <sub>u</sub> Vm

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## POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc

Date: 14.AUG.2019 15:53:32

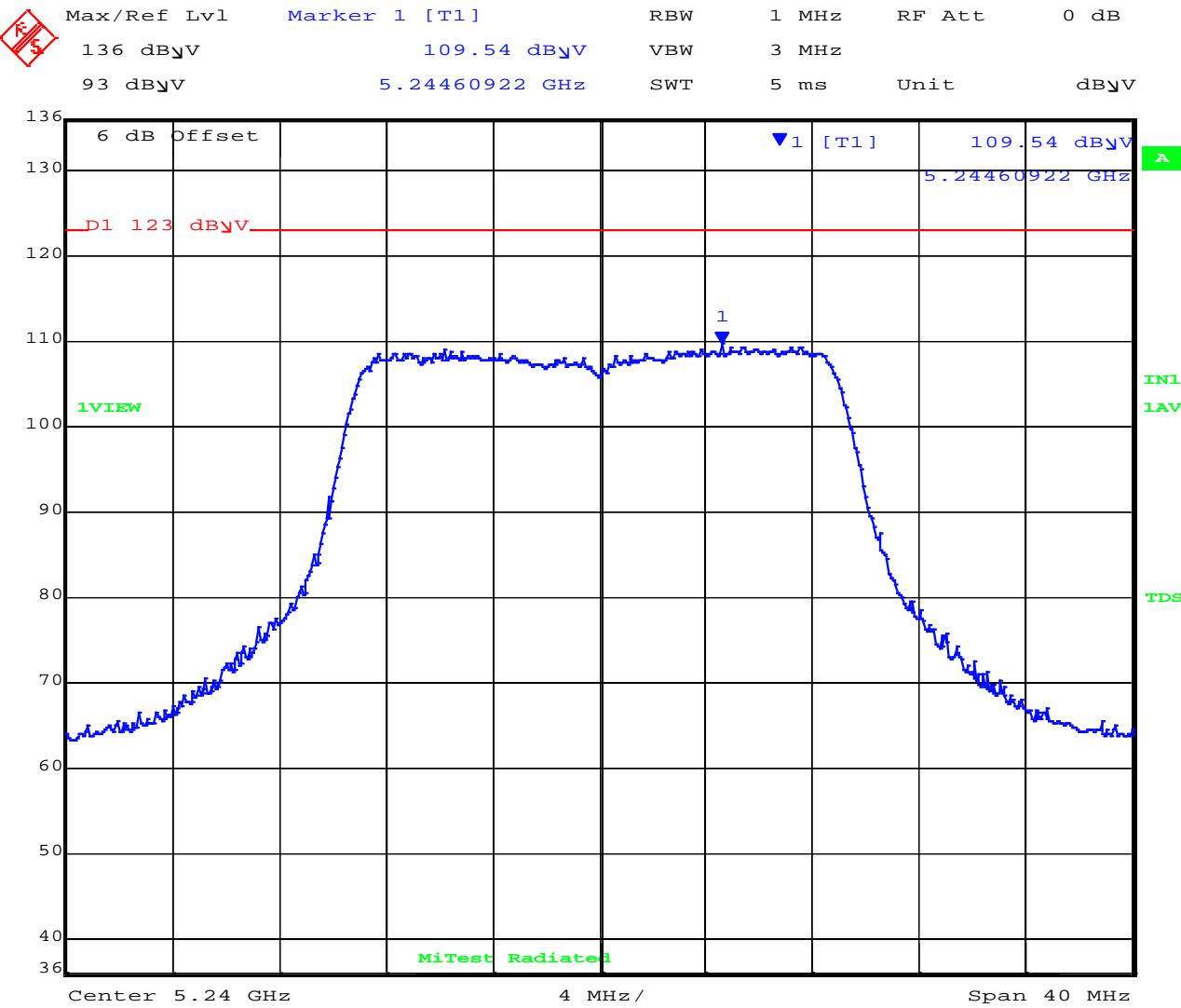
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5207.55 MHz : 108.94 dBuV/m	Limit: ≤ 16.00 dBm, 123 dBuVm

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5240.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:56:11

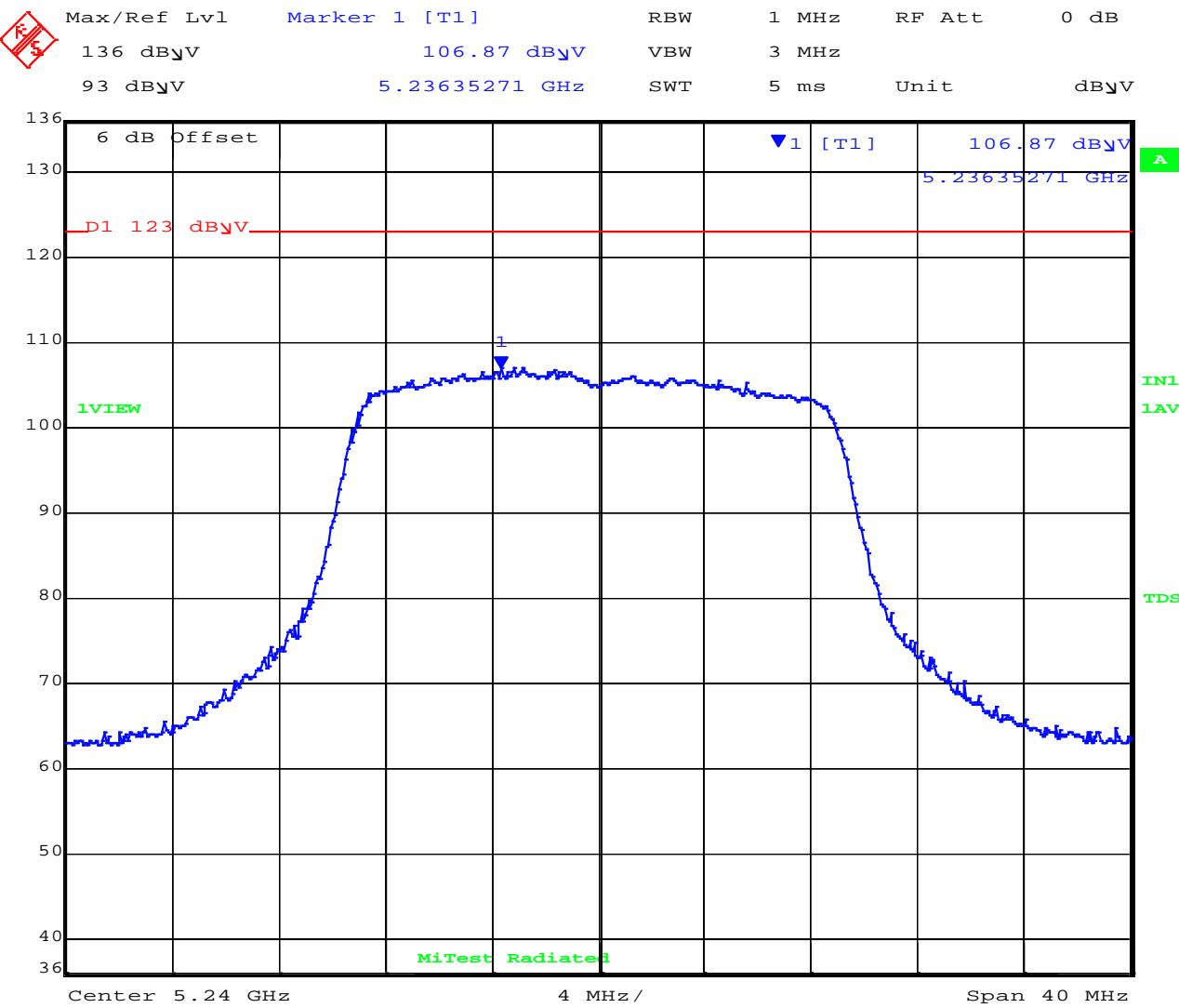
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5244.61 MHz : 109.54.16 dBuV/m	Limit: ≤ 16.00 dBm, 123 dBuVm

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5240.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:54:59

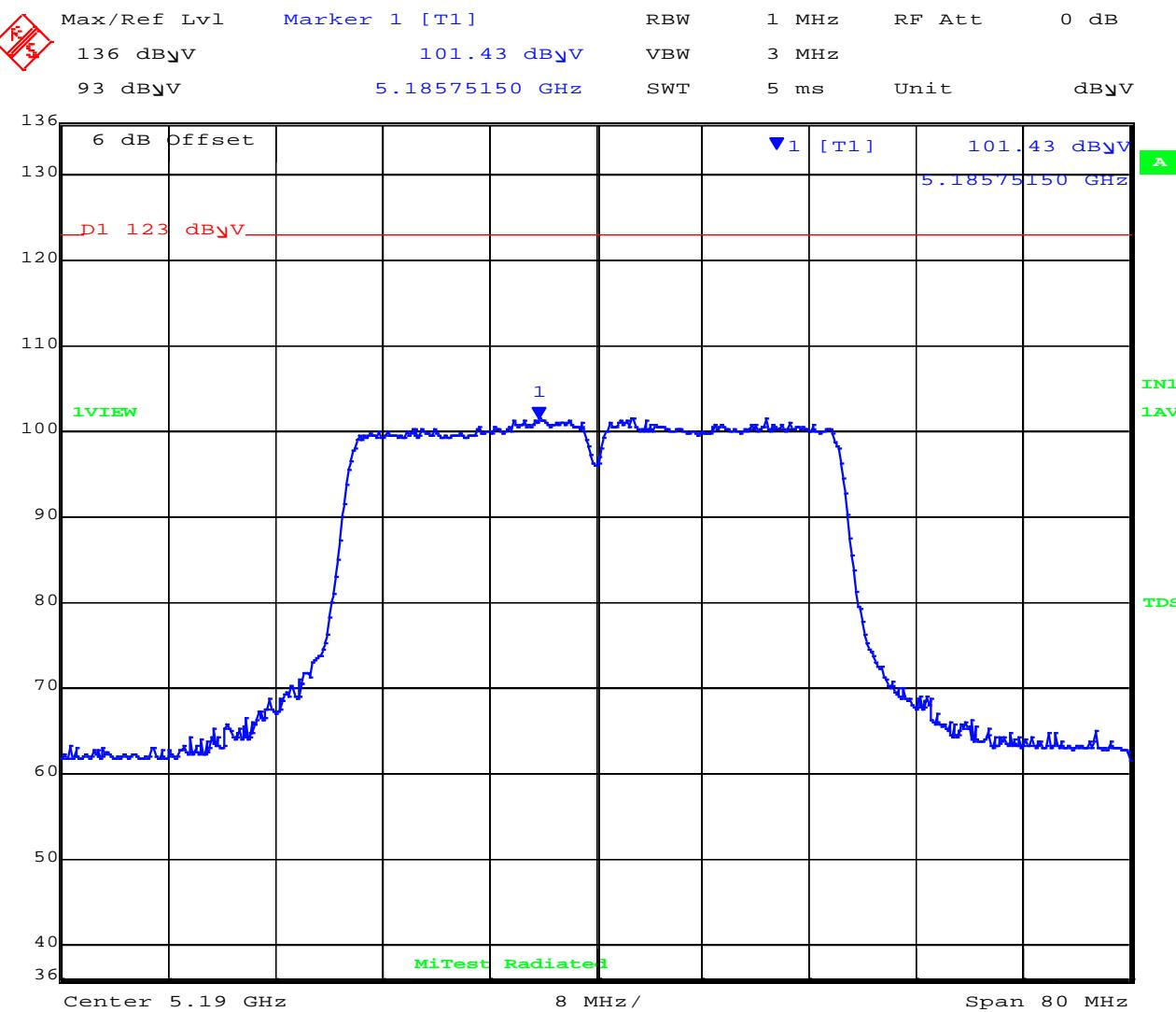
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5236.36 MHz : 106.87 dB <sub>V</sub> /m	Limit: ≤ 16.00 dBm, 123 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5190.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:58:14

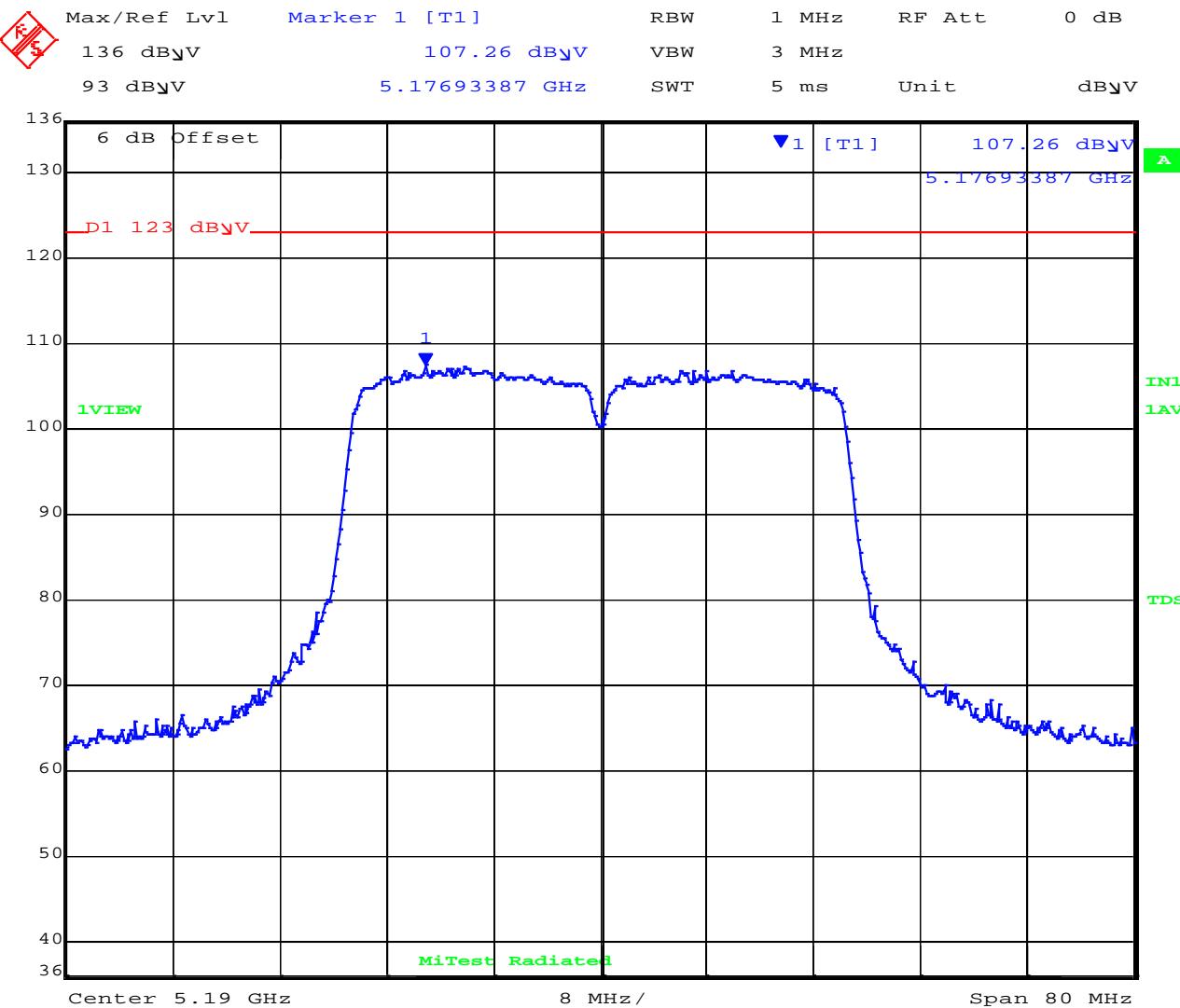
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1: 5185.75 MHz: 101.43 dB <sub>V</sub> /m	Limit: ≤ 16.00 dBm, 123 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5190.00 MHz, Polarity V Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 15:59:41

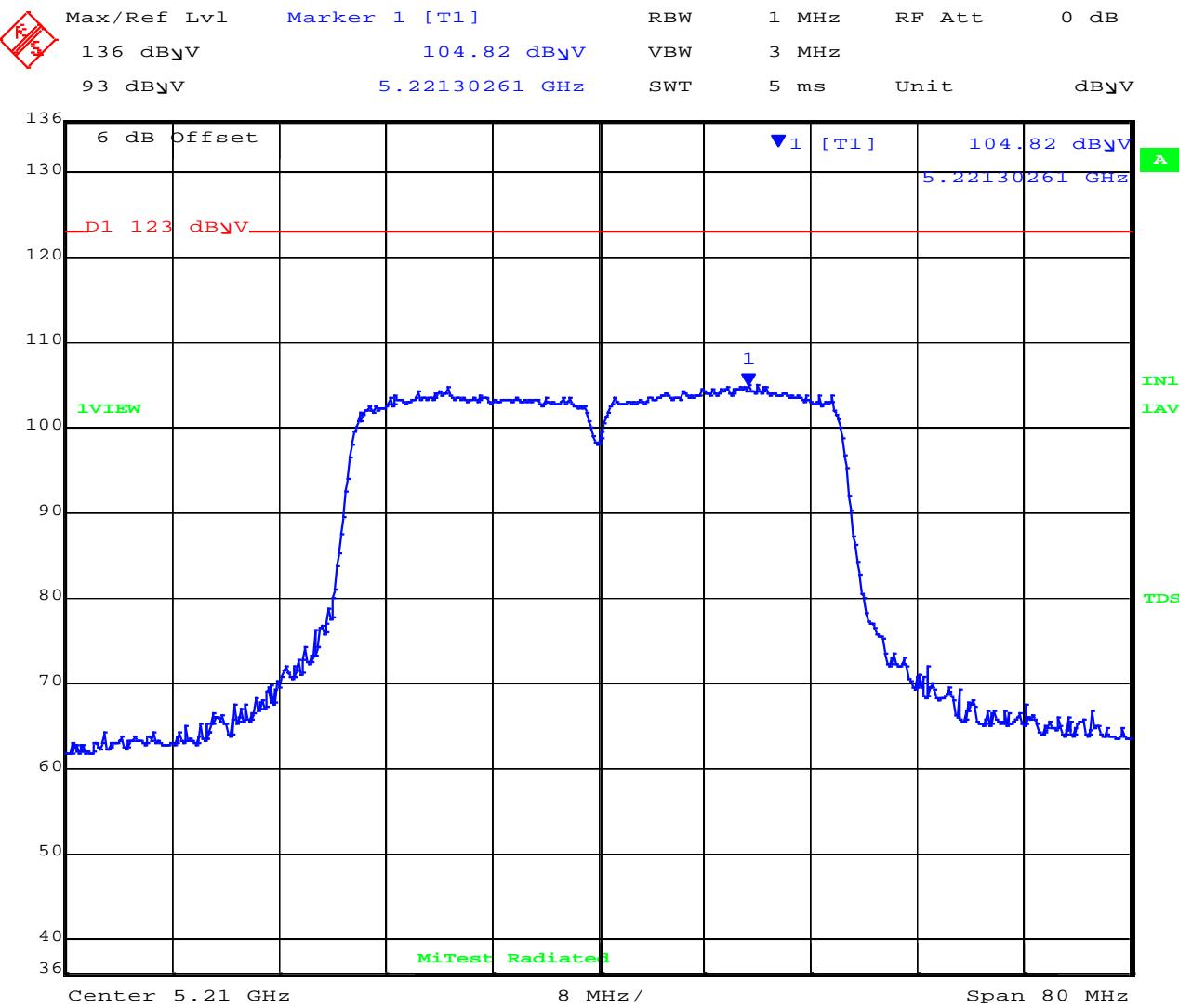
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5176.93 MHz :107.26 dB <sub>u</sub> V/m	Limit: ≤ 16.00 dBm, 123 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:04:37

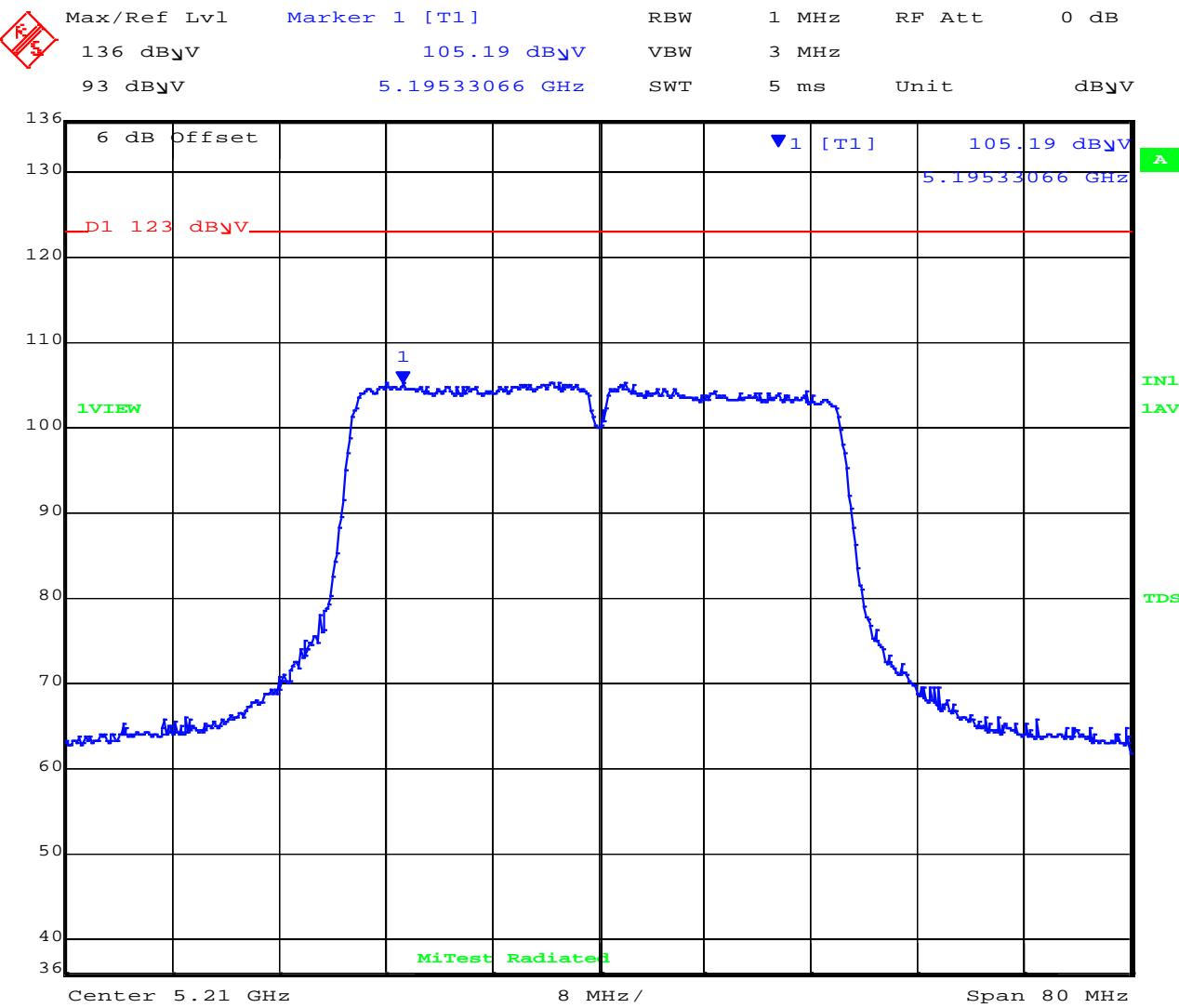
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5221.30 MHz : 104.8203 dB <sub>V</sub> /m	Limit: ≤ 16.00 dBm, 123 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:01:11

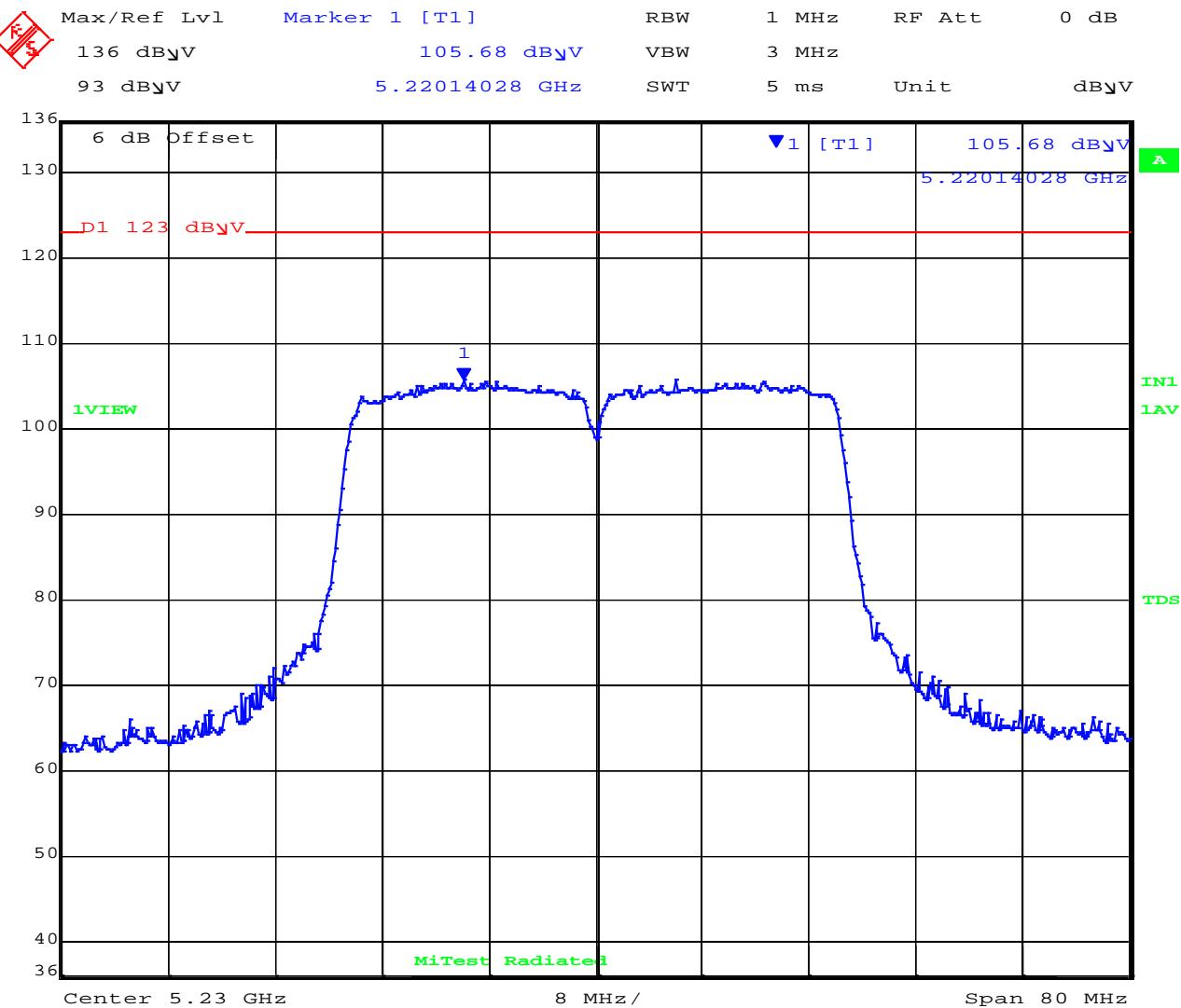
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5195.33 MHz : 105.19 dB <sub>uV/m</sub>	Limit: ≤ 16.00 dBm, 123 dB <sub>uV/m</sub>

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5230.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:06:15

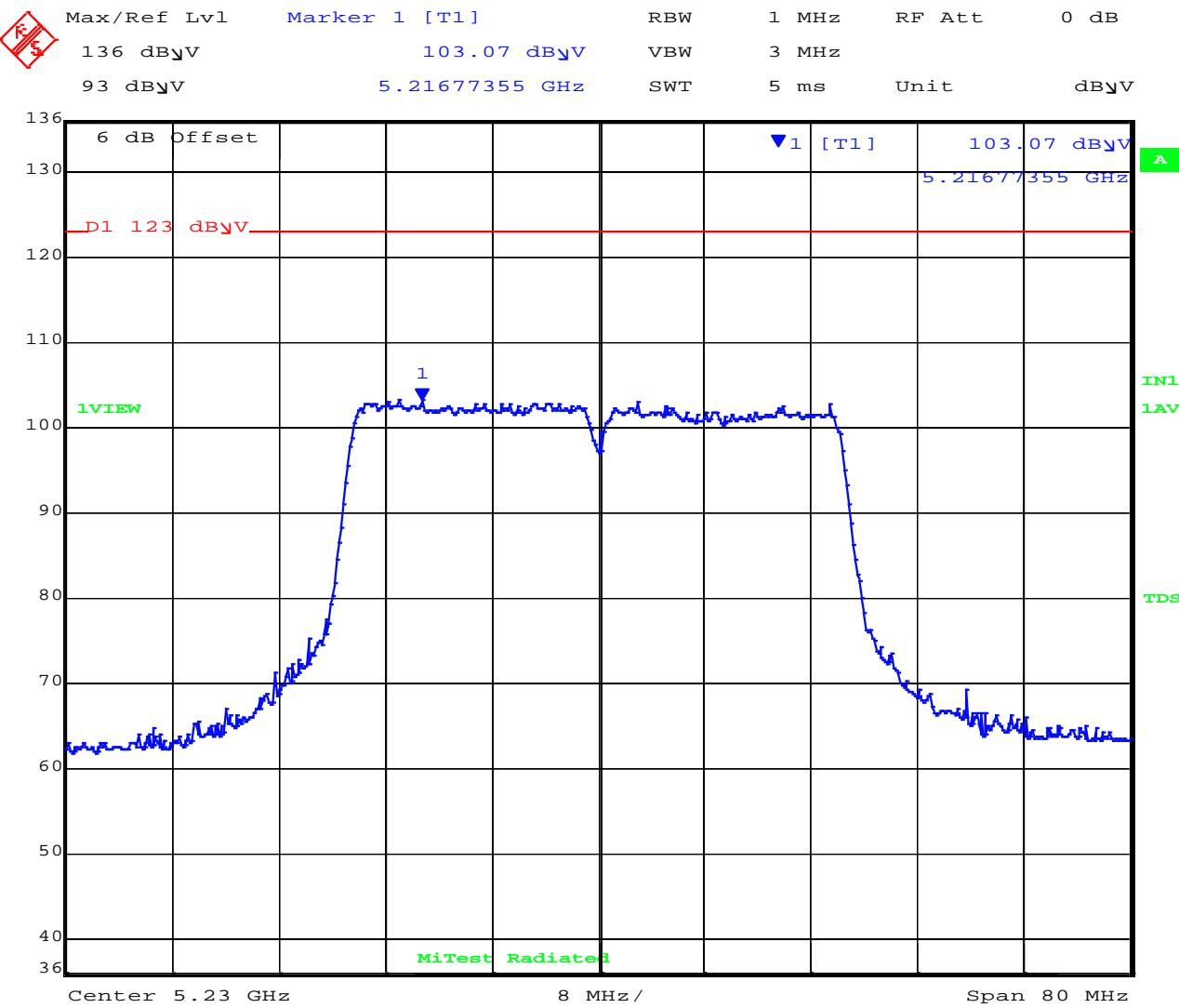
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5220.14 MHz : 105.68 dB <sub>u</sub> V/m	Limit: ≤ 16.00 dBm, 123 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5230.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



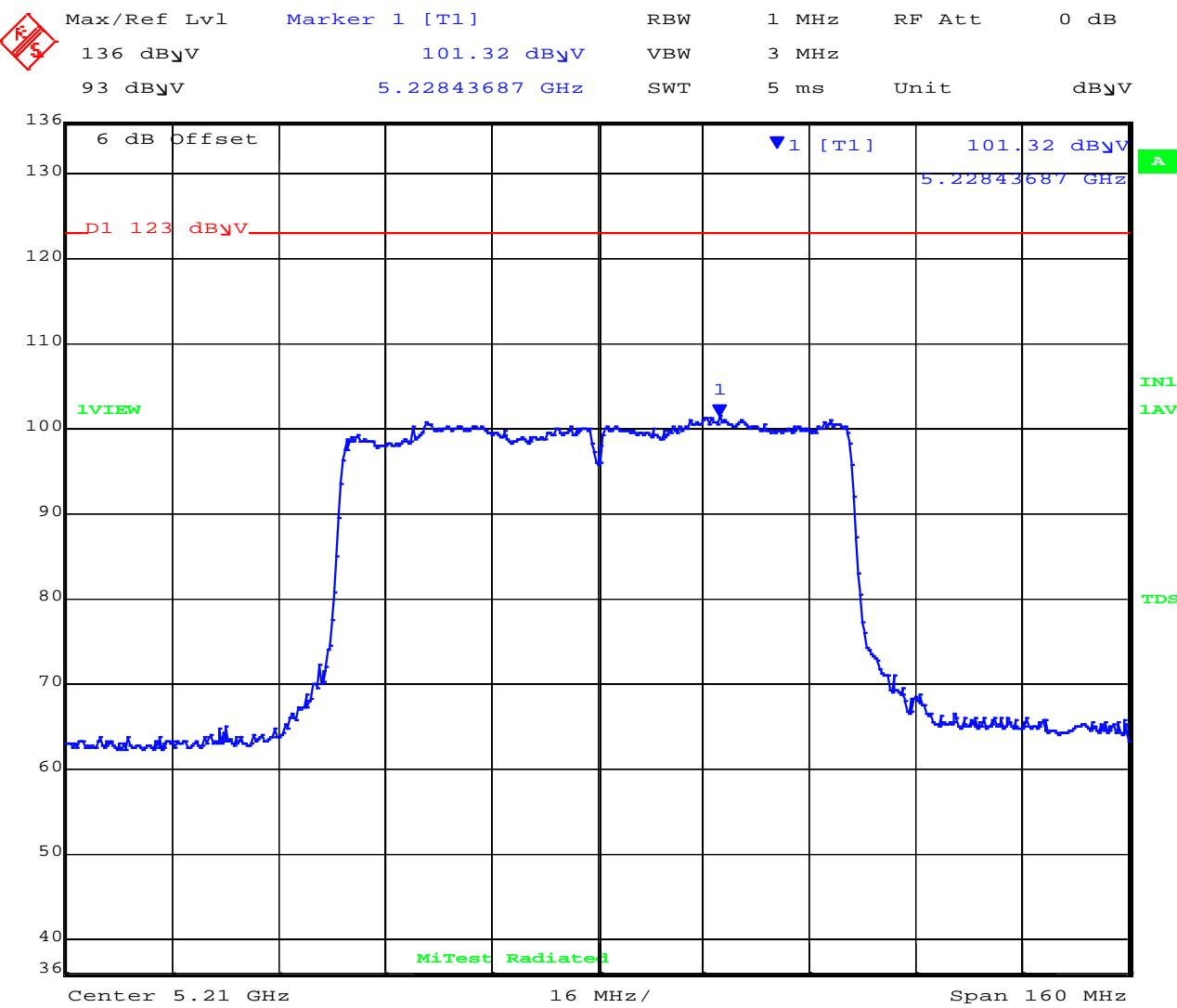
Date: 14.AUG.2019 16:07:13

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5216.77 MHz : 103.07 dB <sub>uV/m</sub>	Limit: ≤ 16.00 dBm, 123 dB <sub>uV/m</sub>

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### POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5210.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



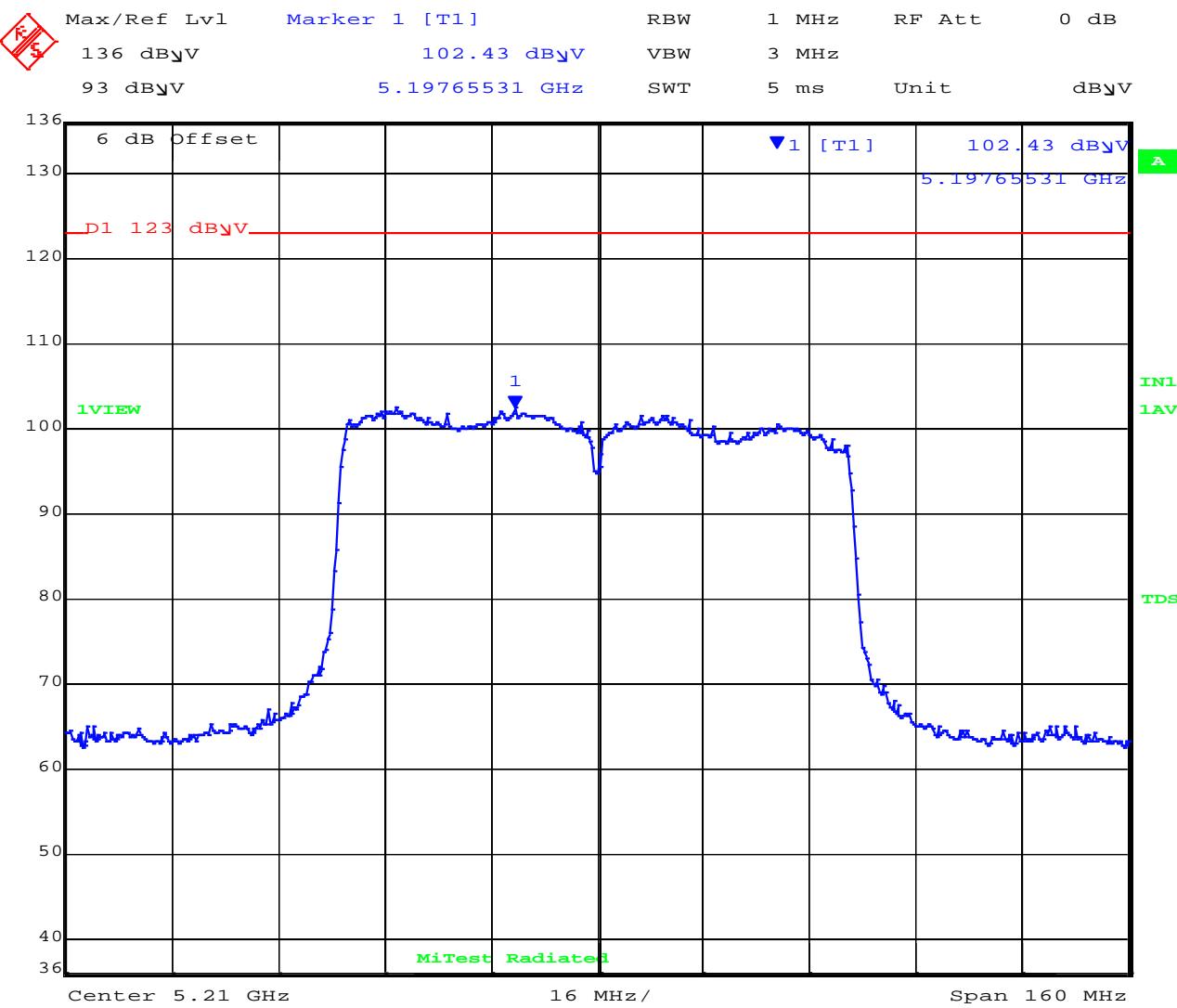
Date: 14.AUG.2019 16:10:04

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5228.44 MHz : 102.32 dB <sub>uV/m</sub>	Limit: ≤ 16.00 dBm, 123 dB <sub>uV/m</sub>

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POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5210.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:08:49

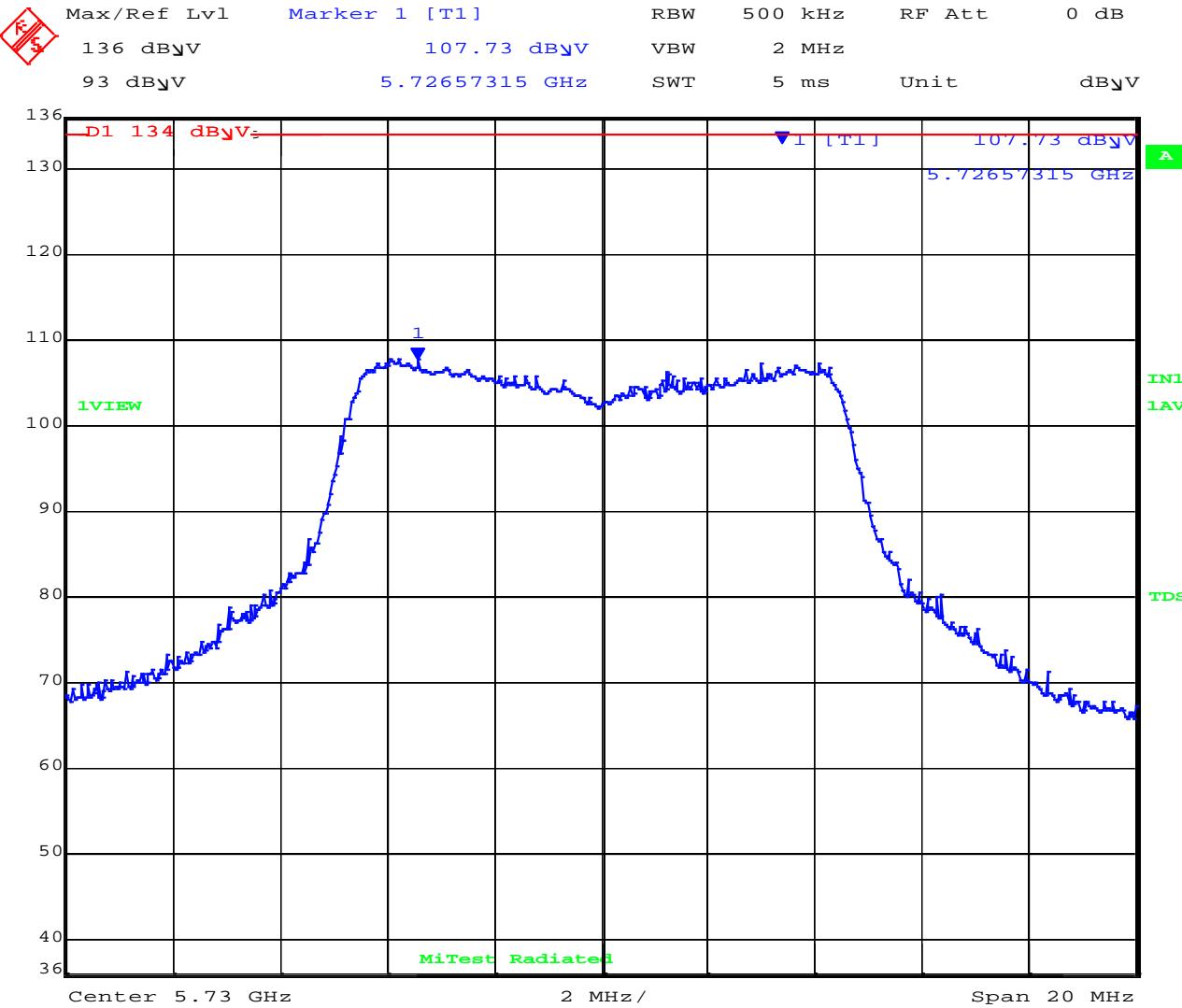
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5197.66 MHz : 102.43 dB <sub>uV/m</sub>	Limit: ≤ 16.00 dBm, 123 dB <sub>uVm</sub>

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5730.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14 . AUG . 2019 16 : 19 : 03

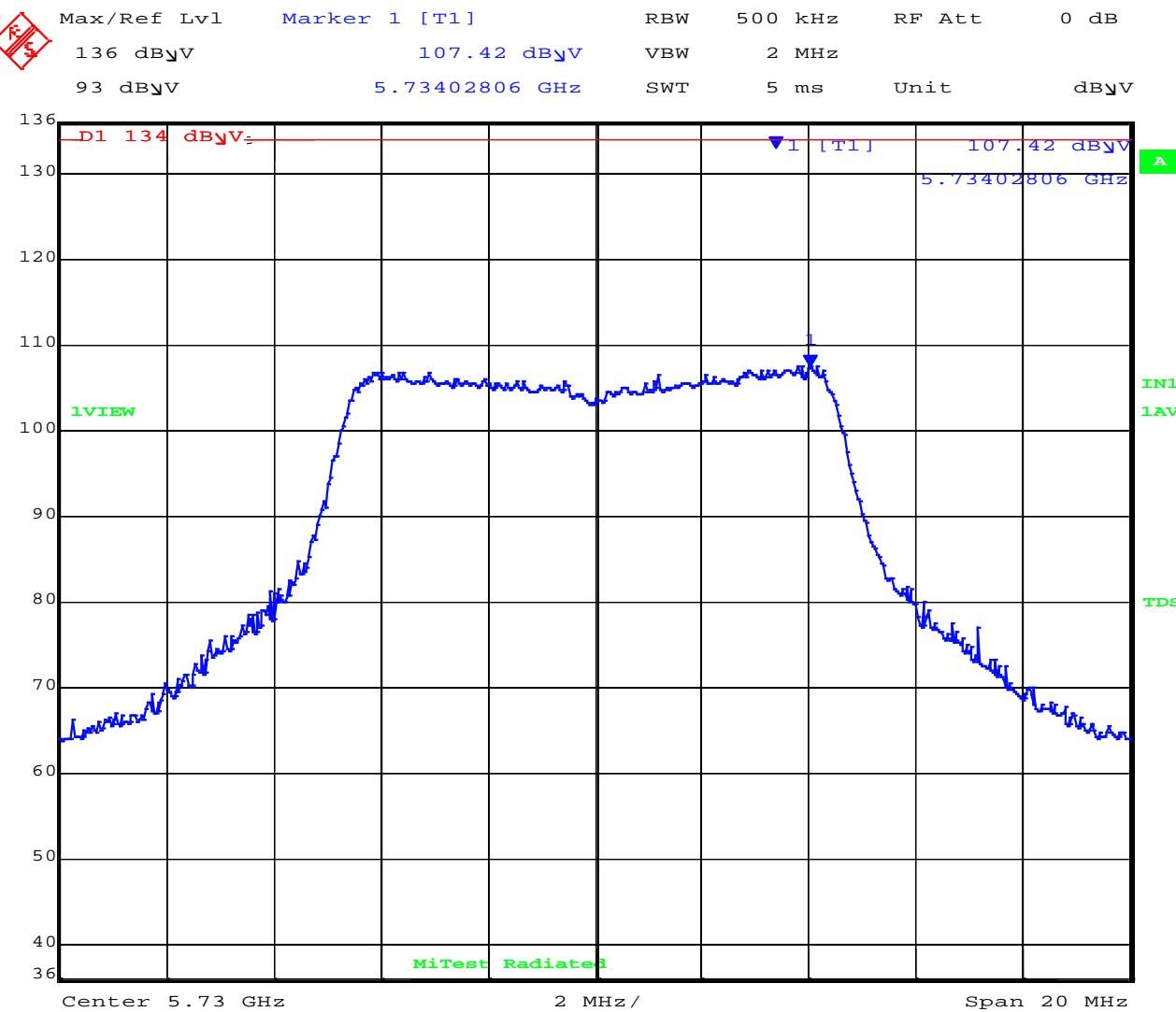
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5726.57 MHz : 107.735 dB <sub>V</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5730.00 MHz, Polarity V Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:17:57

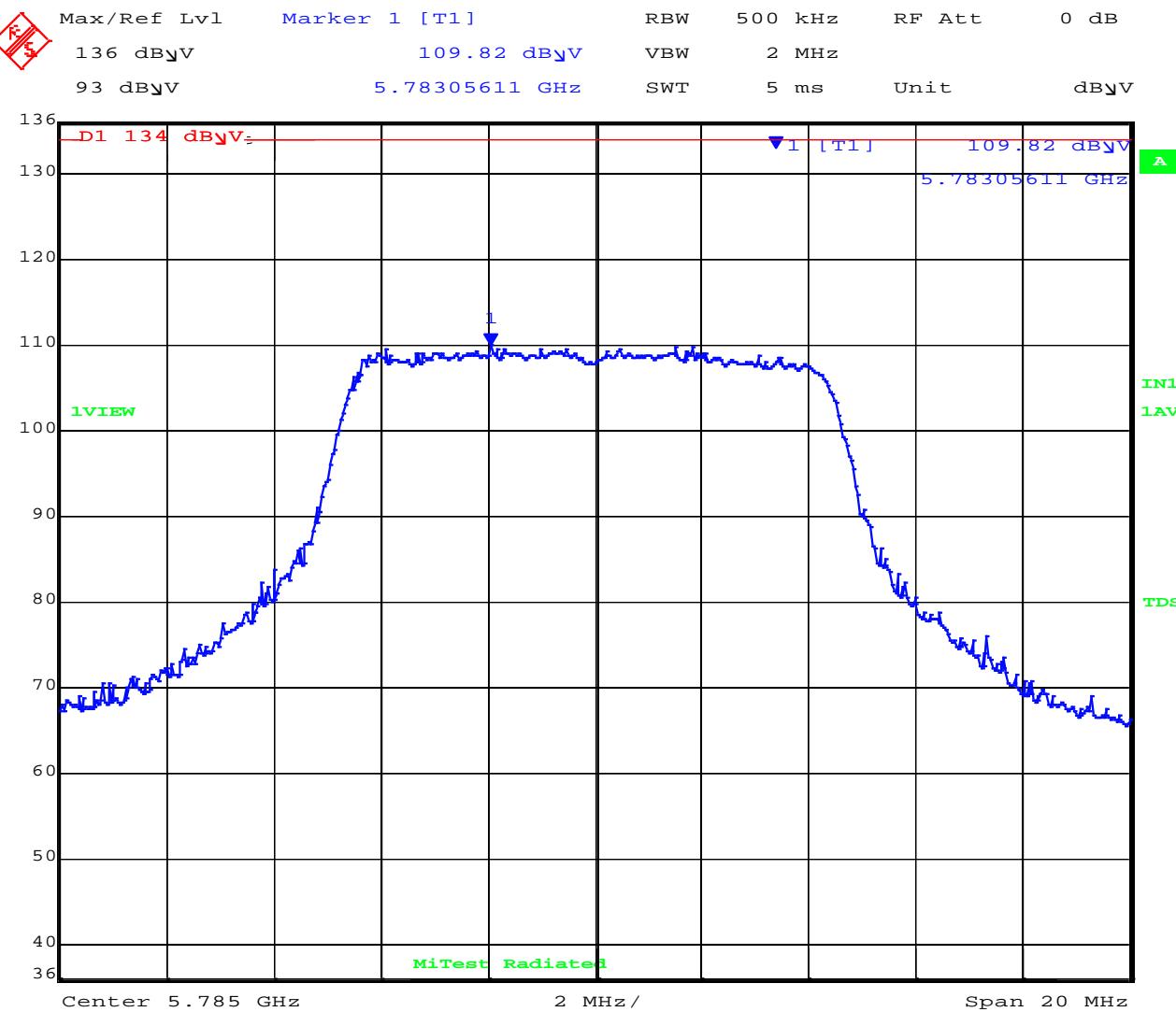
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5734.02 MHz : 107.42 dBuV/m	Limit: ≤ 27.00 dBm, 134 dBuVm

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:20:35

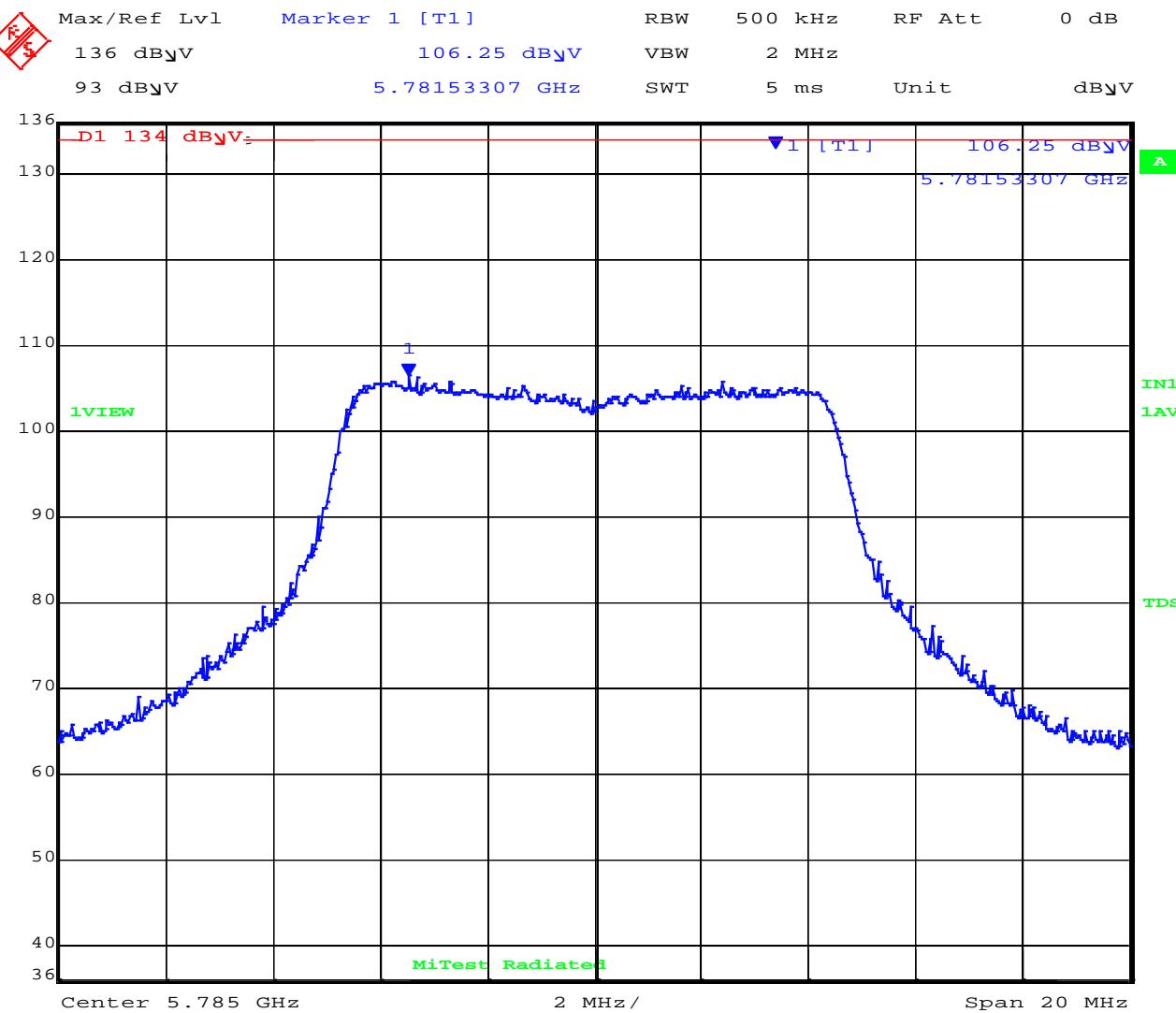
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5783.06 MHz : 109.82 dB <sub>uV/m</sub>	Limit: ≤ 27.00 dBm, 134 dB <sub>uVm</sub>

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:21:47

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5781.53 MHz : 106.25 dBuV/m	Limit: ≤ 27.00 dBm, 134 dBuVm

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## POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5845.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc

Date: 14.AUG.2019 16:24:55

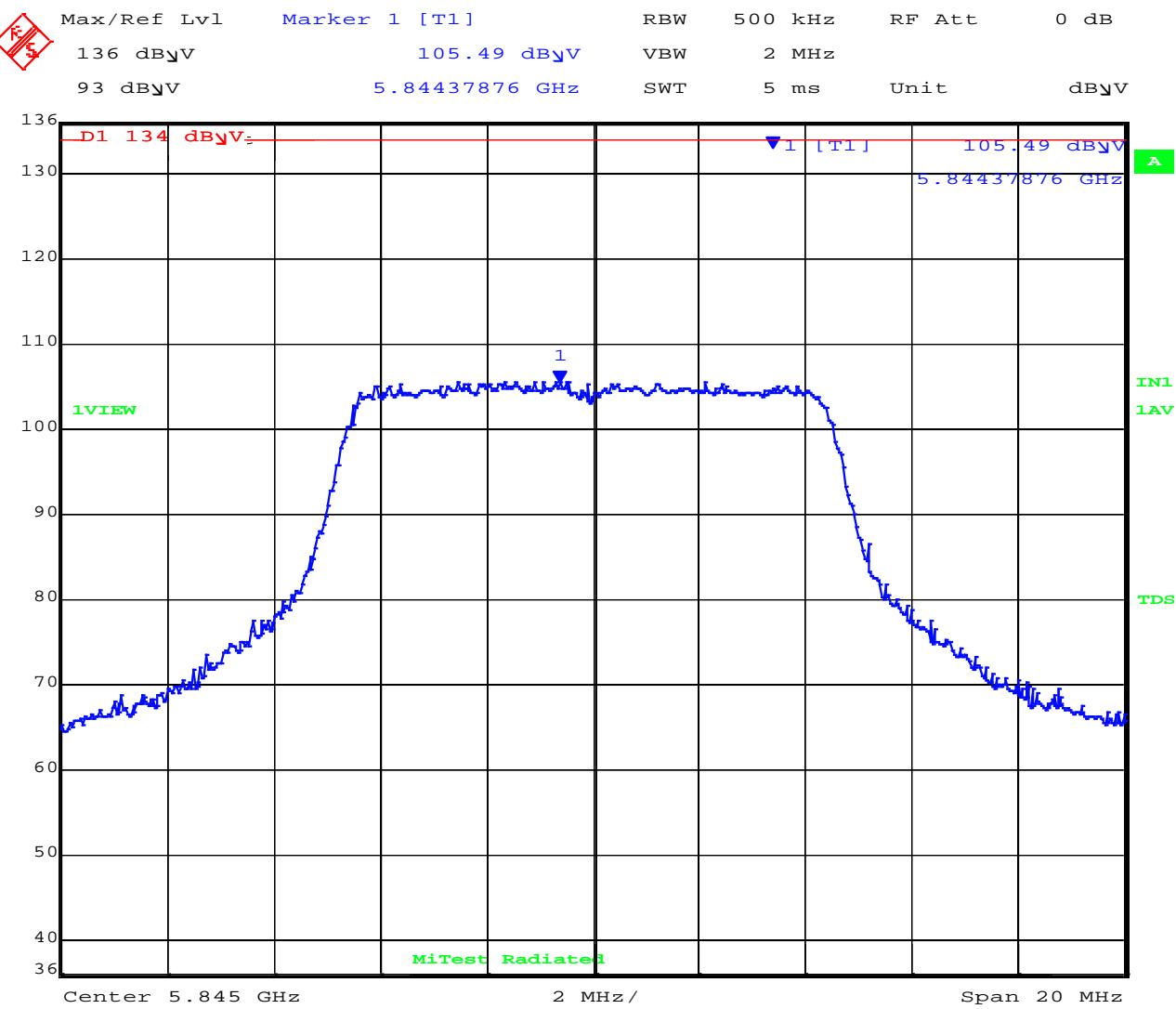
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5848.67 MHz : 109.17 dBuV/m	Limit: ≤ 27.00 dBm, 134 dBuVm

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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5845.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:23:49

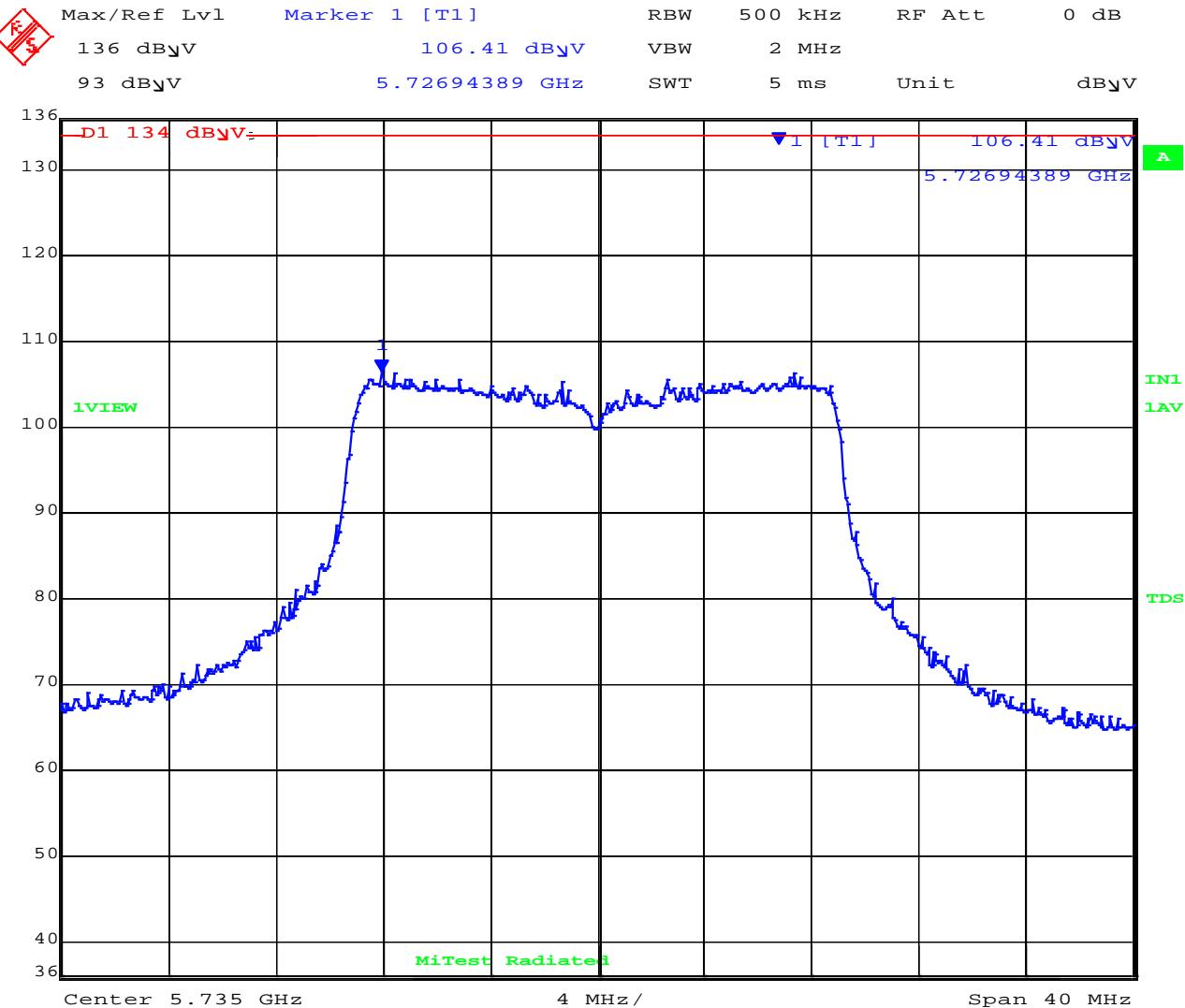
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5844.38 MHz : 105.49 dB <sub>V</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5735.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:27:02

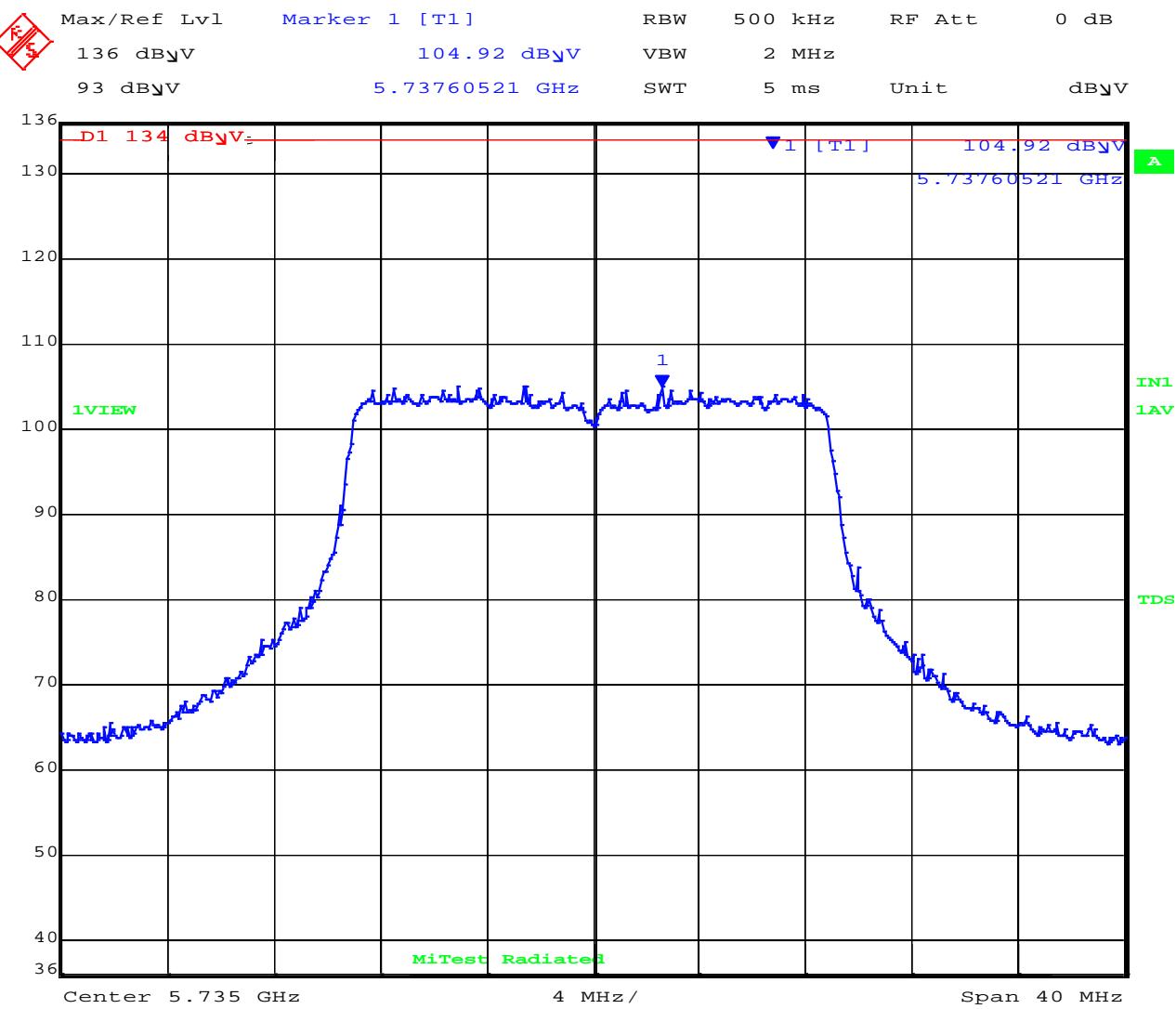
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5726.94 MHz : 106.41 dB <sub>u</sub> V/m	Limit: ≤ 27.00 dBm, 134 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5735.00 MHz, Polarity V Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:28:00

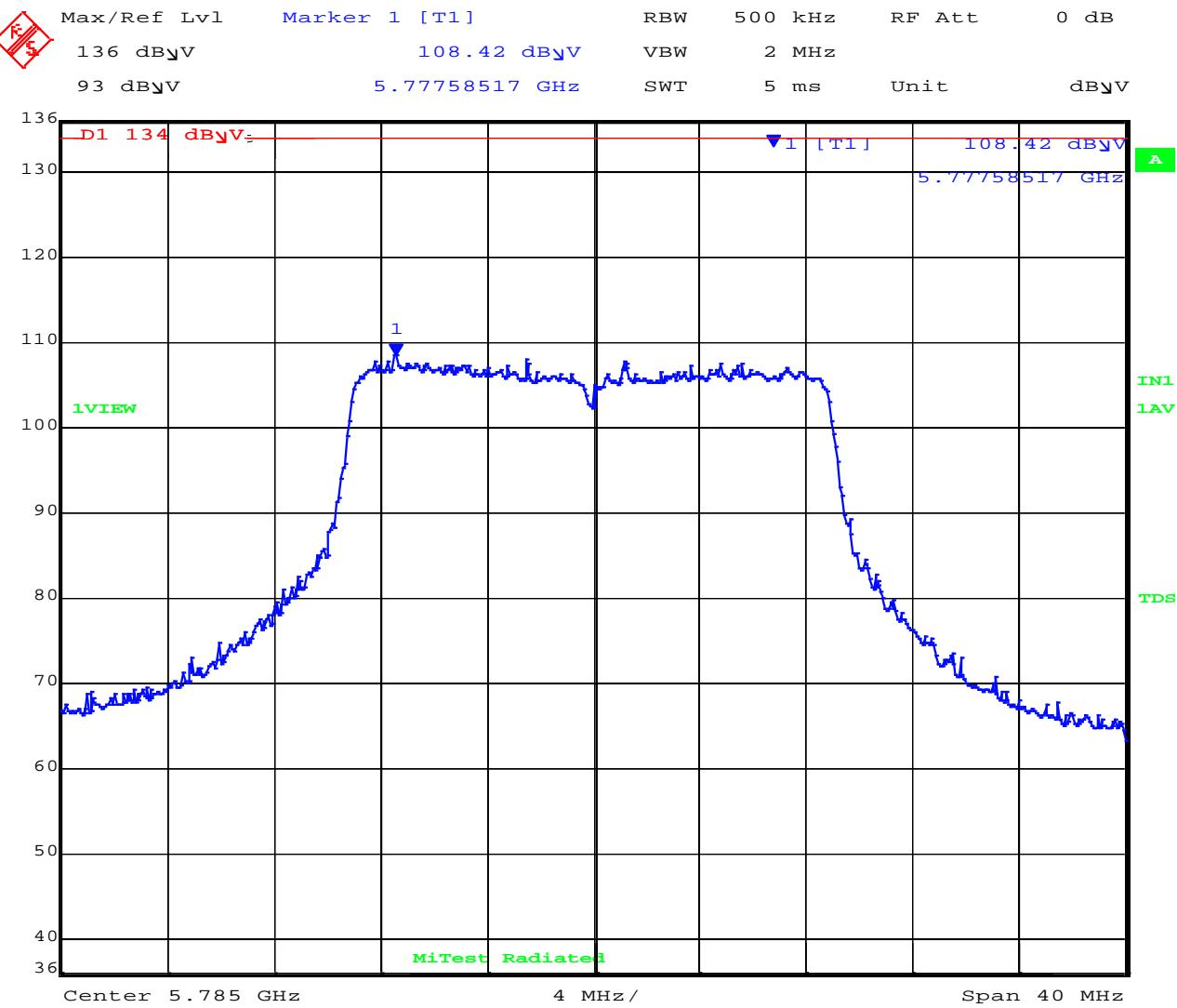
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5737.76 MHz :104.92 dB <sub>uV/m</sub>	Limit: ≤ 27.00 dBm, 134 dB <sub>uVm</sub>

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:32:04

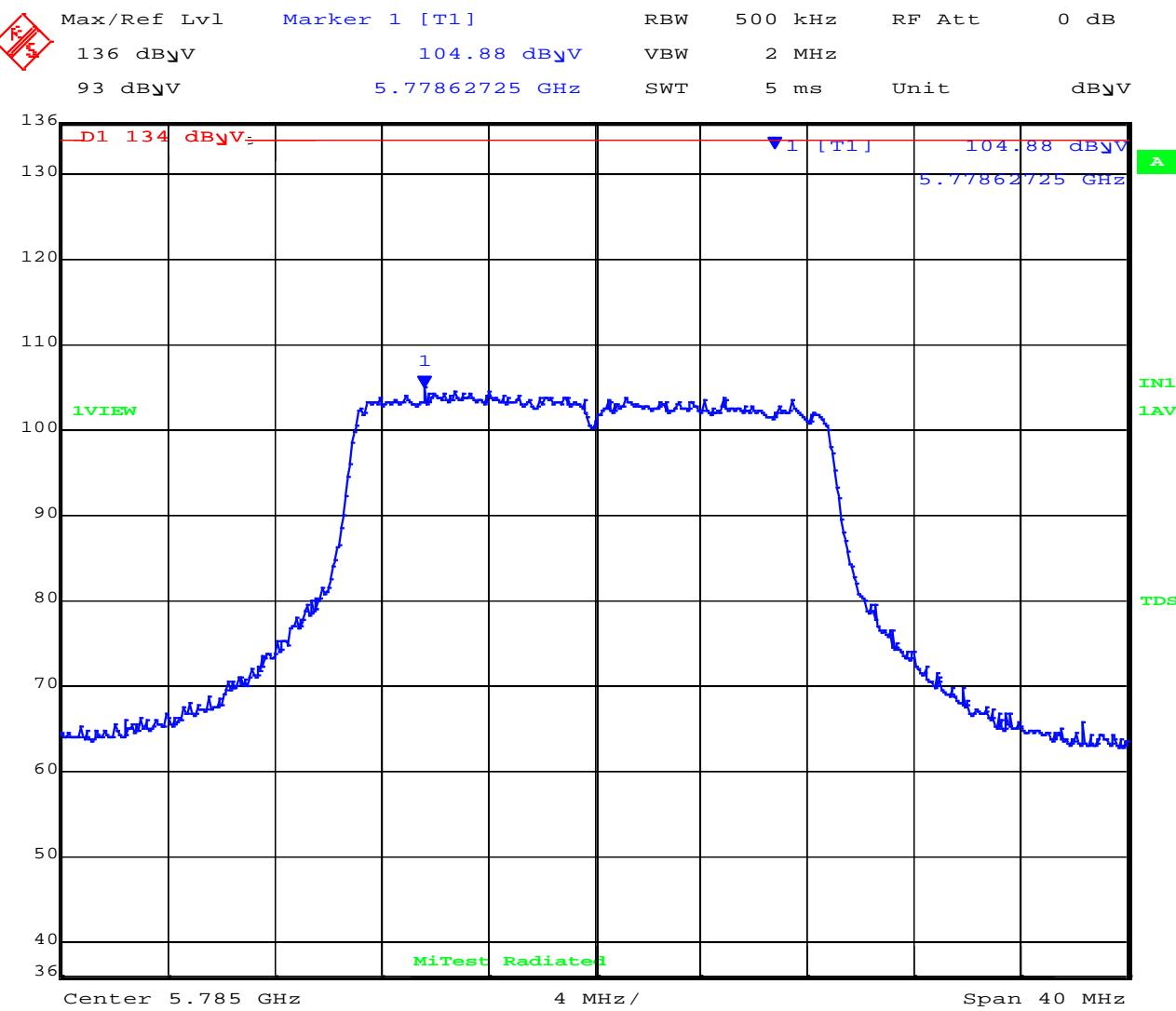
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5775.85 MHz : 108.42 dB <sub>u</sub> V/m	Limit: ≤ 27.00 dBm, 134 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:31:05

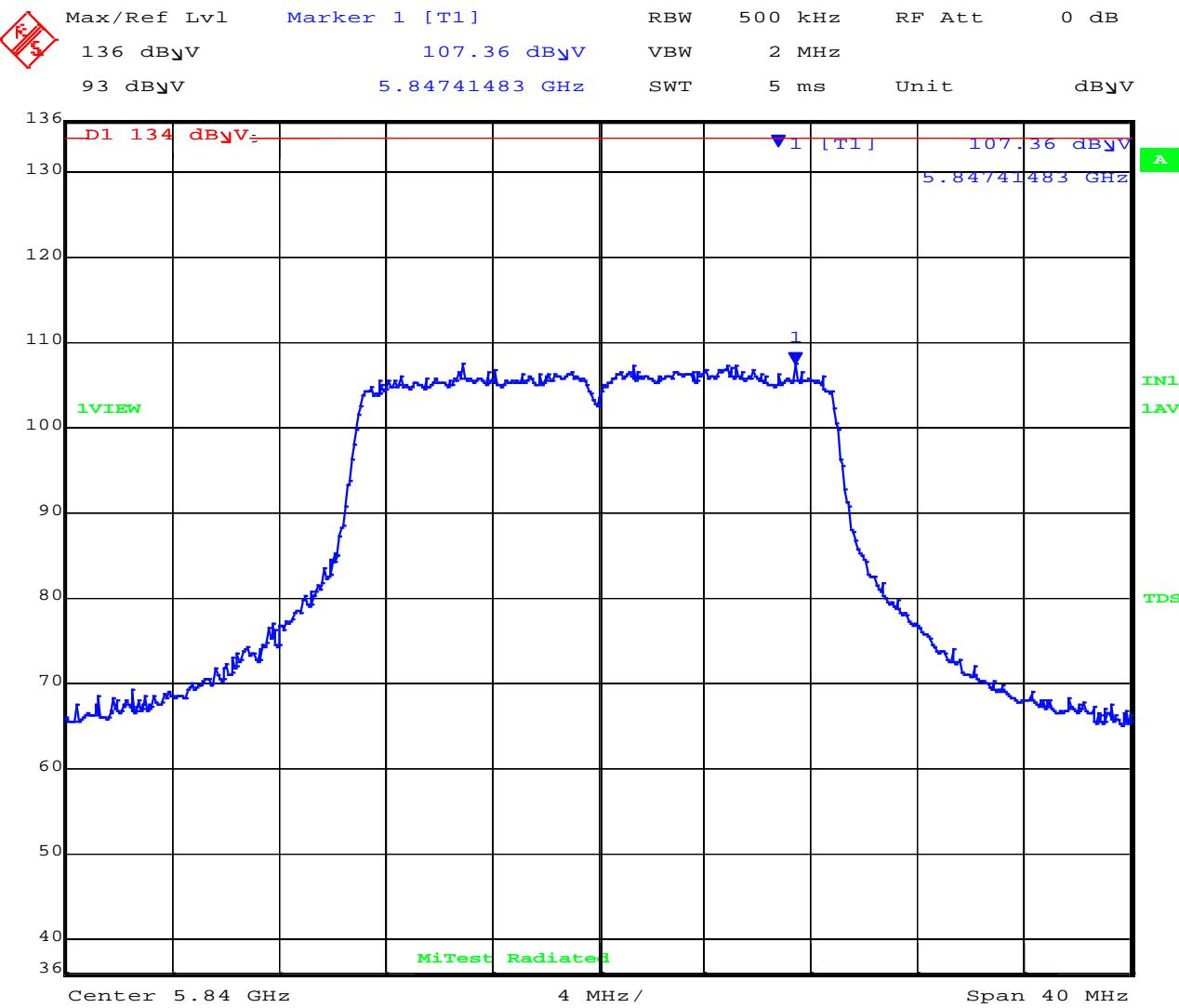
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5778.63 MHz : 104.88 dB <sub>V</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5840.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:33:43

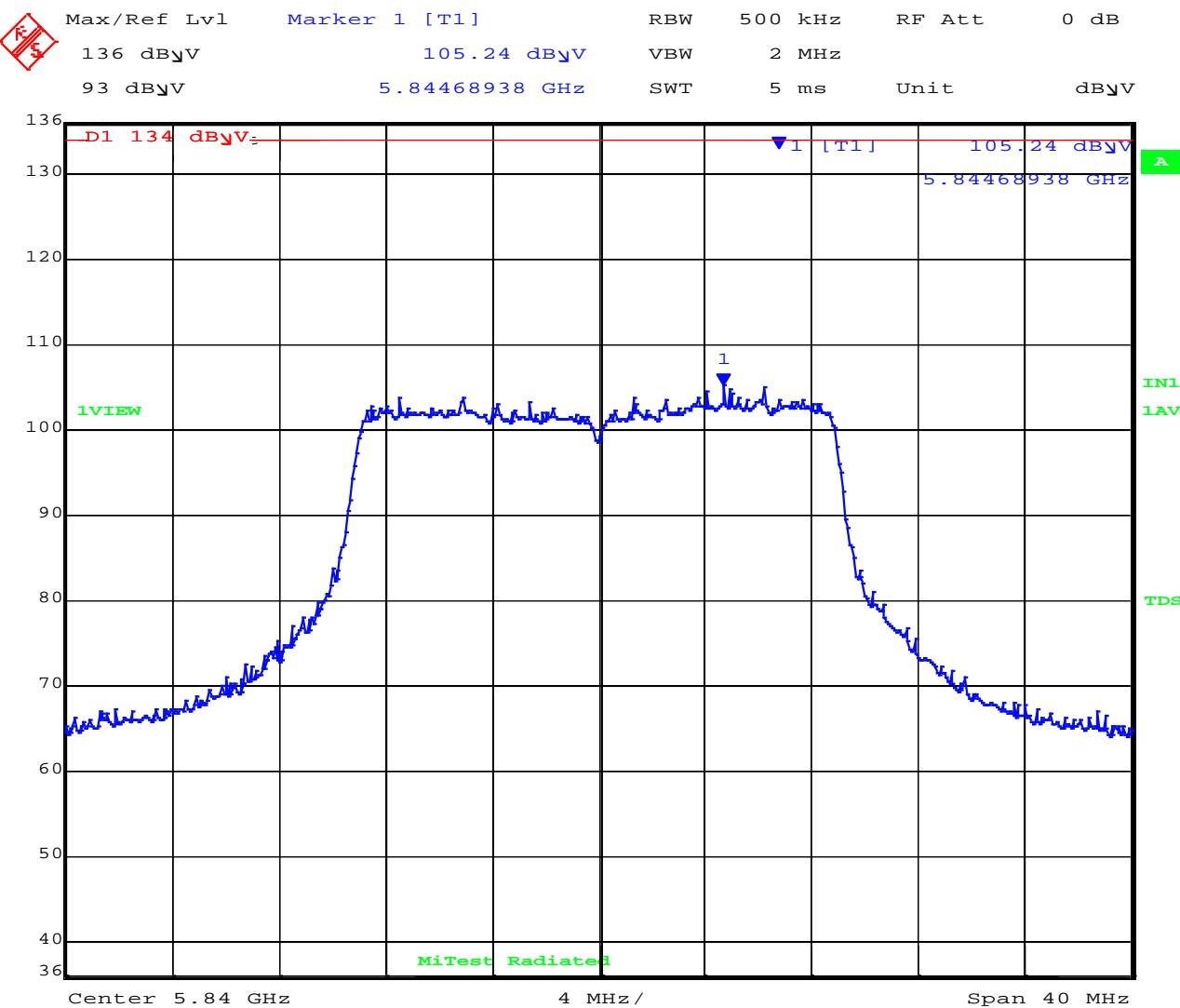
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5847.41 MHz : 107.36 dB <sub>u</sub> V/m	Limit: ≤ 27.00 dBm, 134 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5840.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:34:46

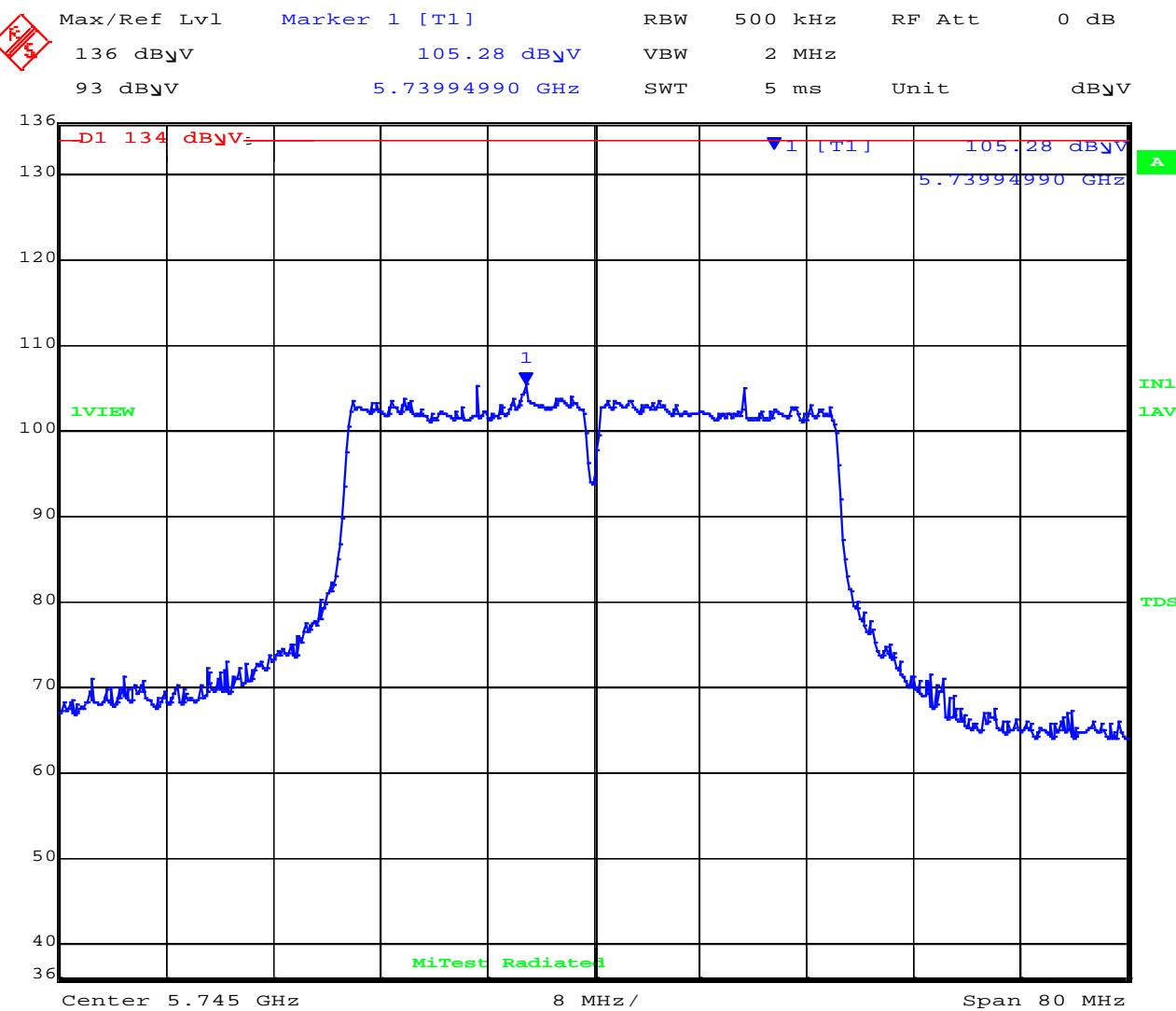
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5844.69 MHz : 105.24 dB <sub>uV/m</sub>	Limit: ≤ 27.00 dBm, 134 dB <sub>uV/m</sub>

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5745.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:37:35

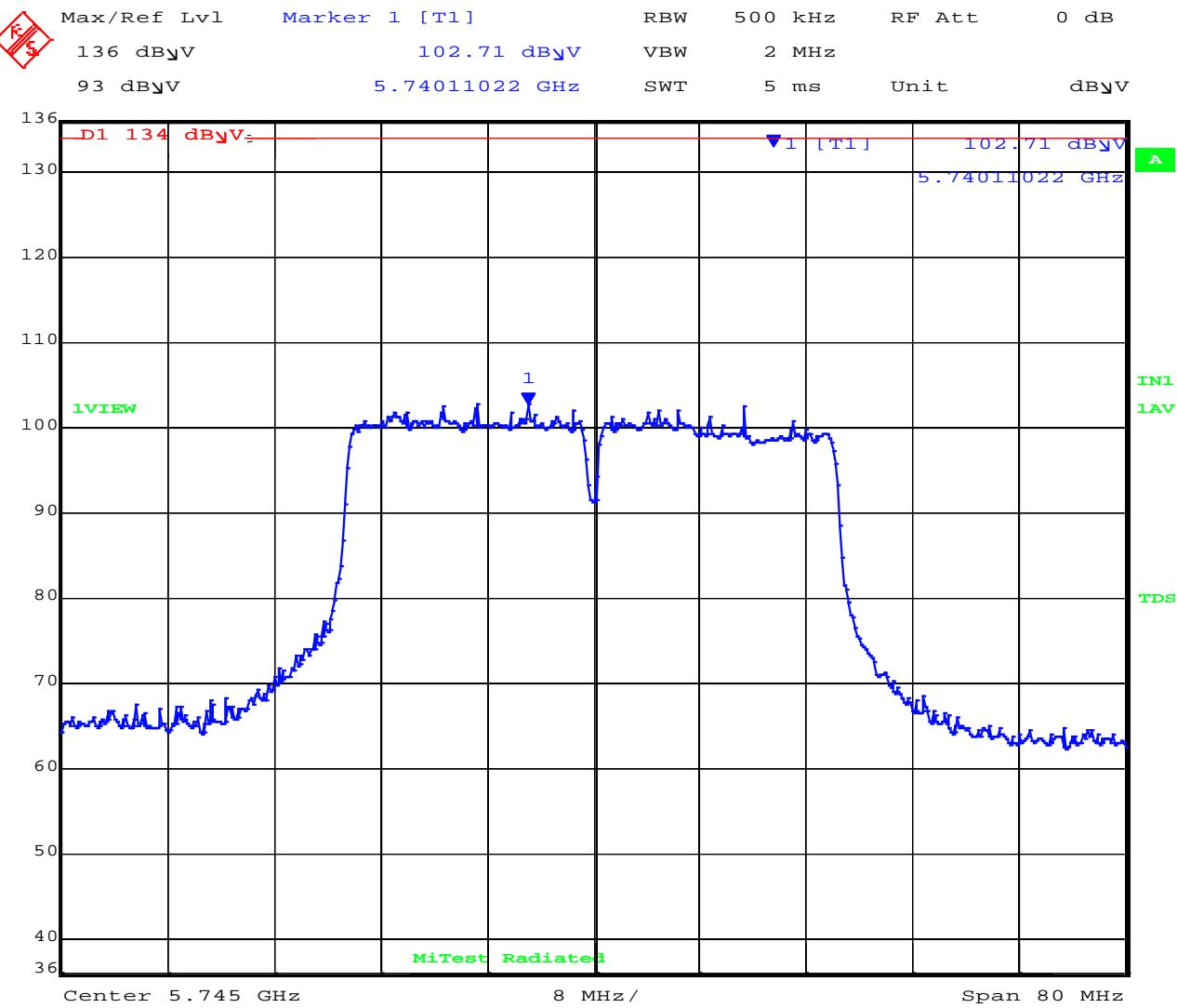
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1: 5739.95 MHz : 105.28 dB <sub>u</sub> V/m	Limit: ≤ 27.00 dBm, 134 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5745.00 MHz, Polarity V Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:36:20

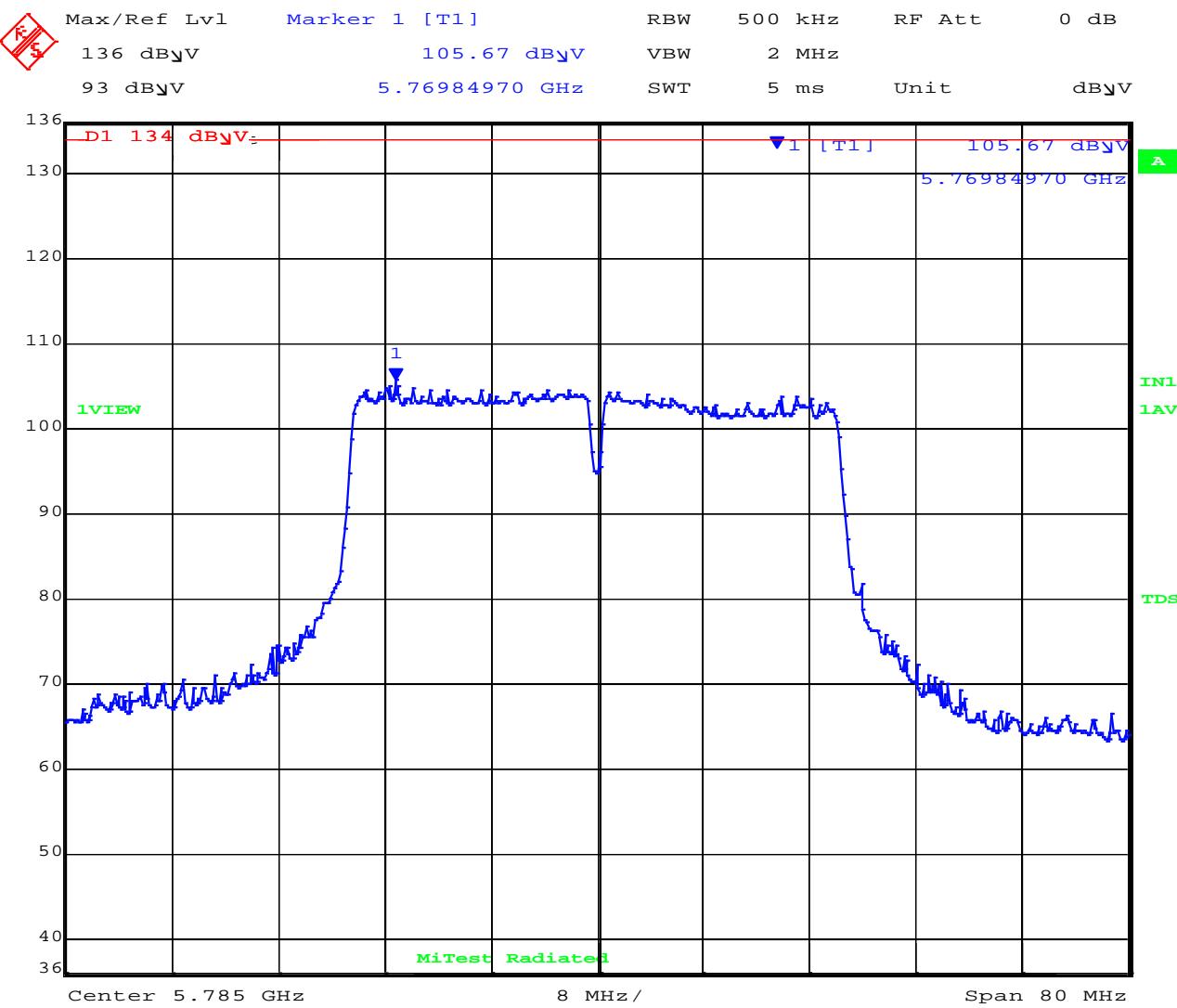
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5740.11 MHz :102.71 dB <sub>uV/m</sub>	Limit: ≤ 27.00 dBm, 134 dB <sub>uVm</sub>

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:39:00

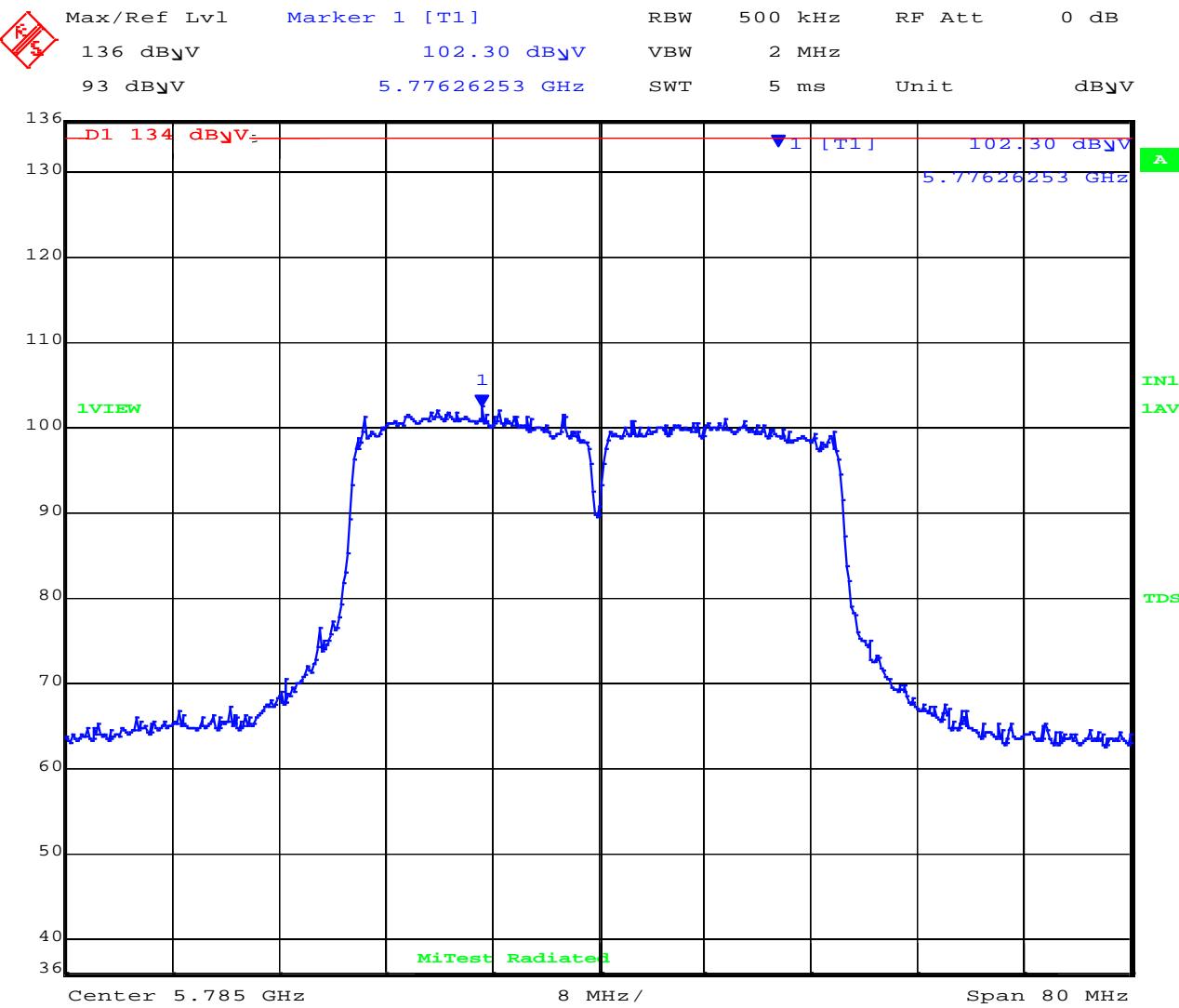
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5769.85 MHz : 105.67 dB <sub>u</sub> V/m	Limit: ≤ 27.00 dBm, 134 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:40:10

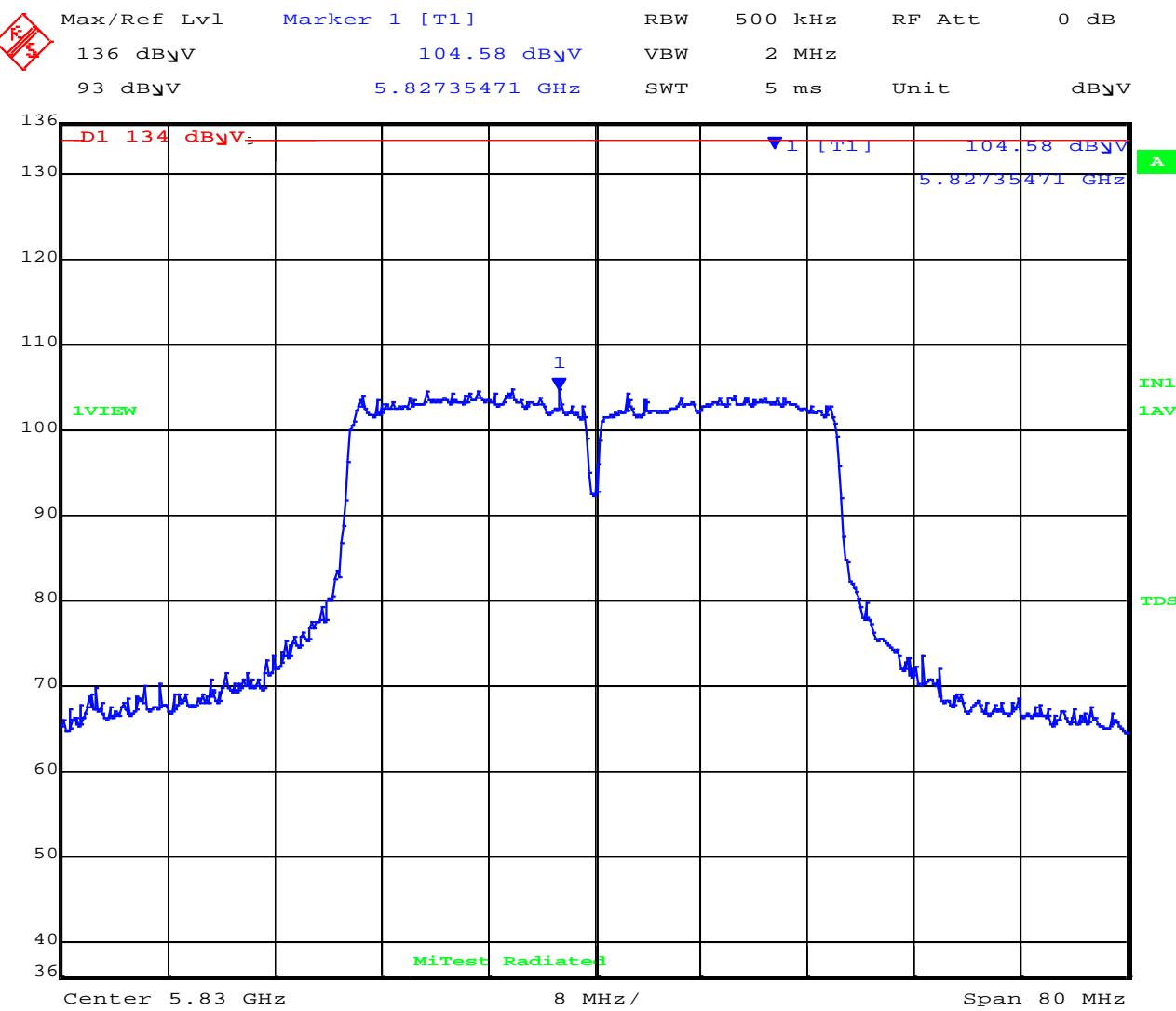
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5776.26 MHz : 102.30 dB <sub>uV/m</sub>	Limit: ≤ 27.00 dBm, 134 dB <sub>uVm</sub>

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5830.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:43:00

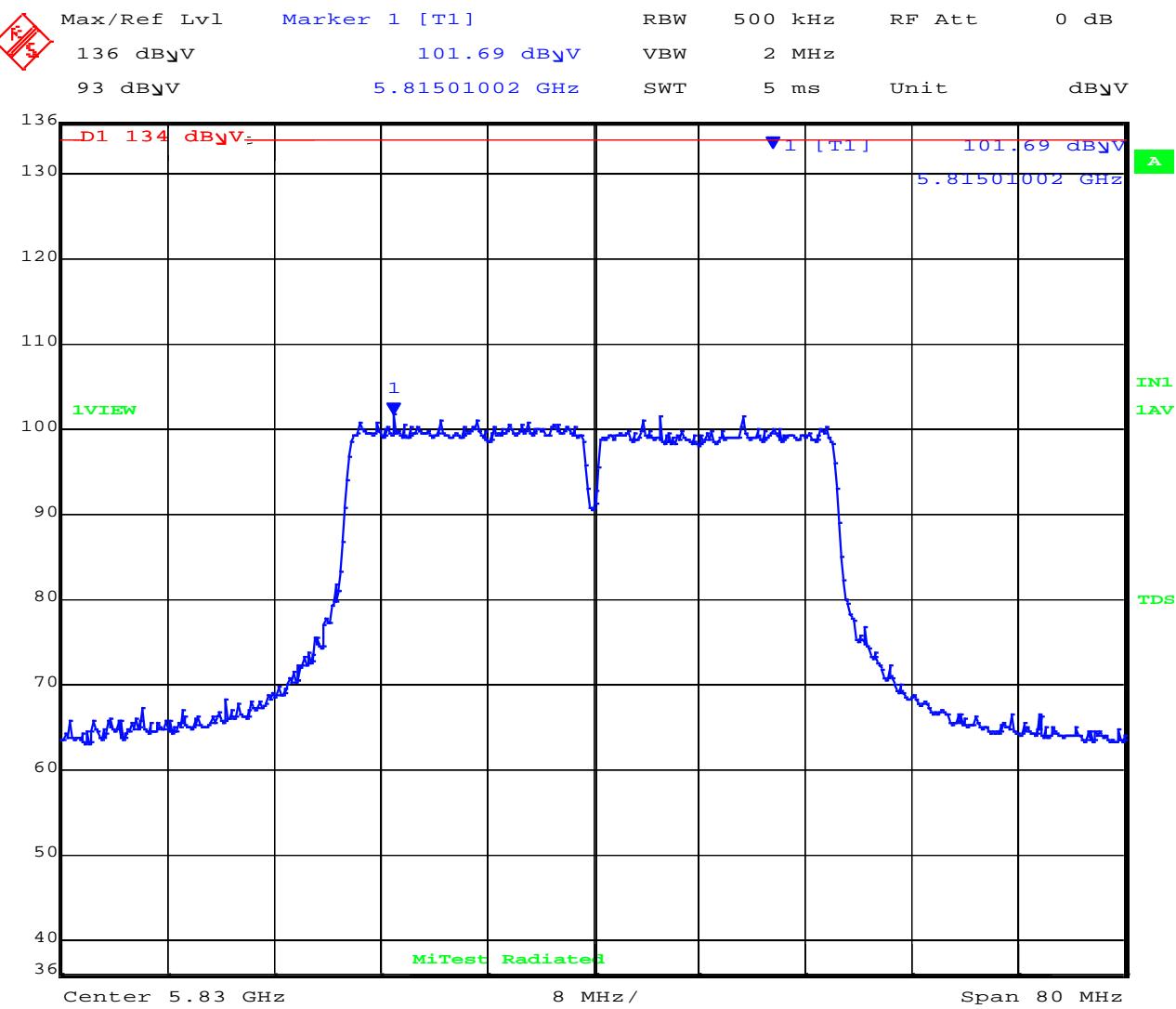
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5827.35 MHz : 104.58 dB <sub>V</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5830.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:41:33

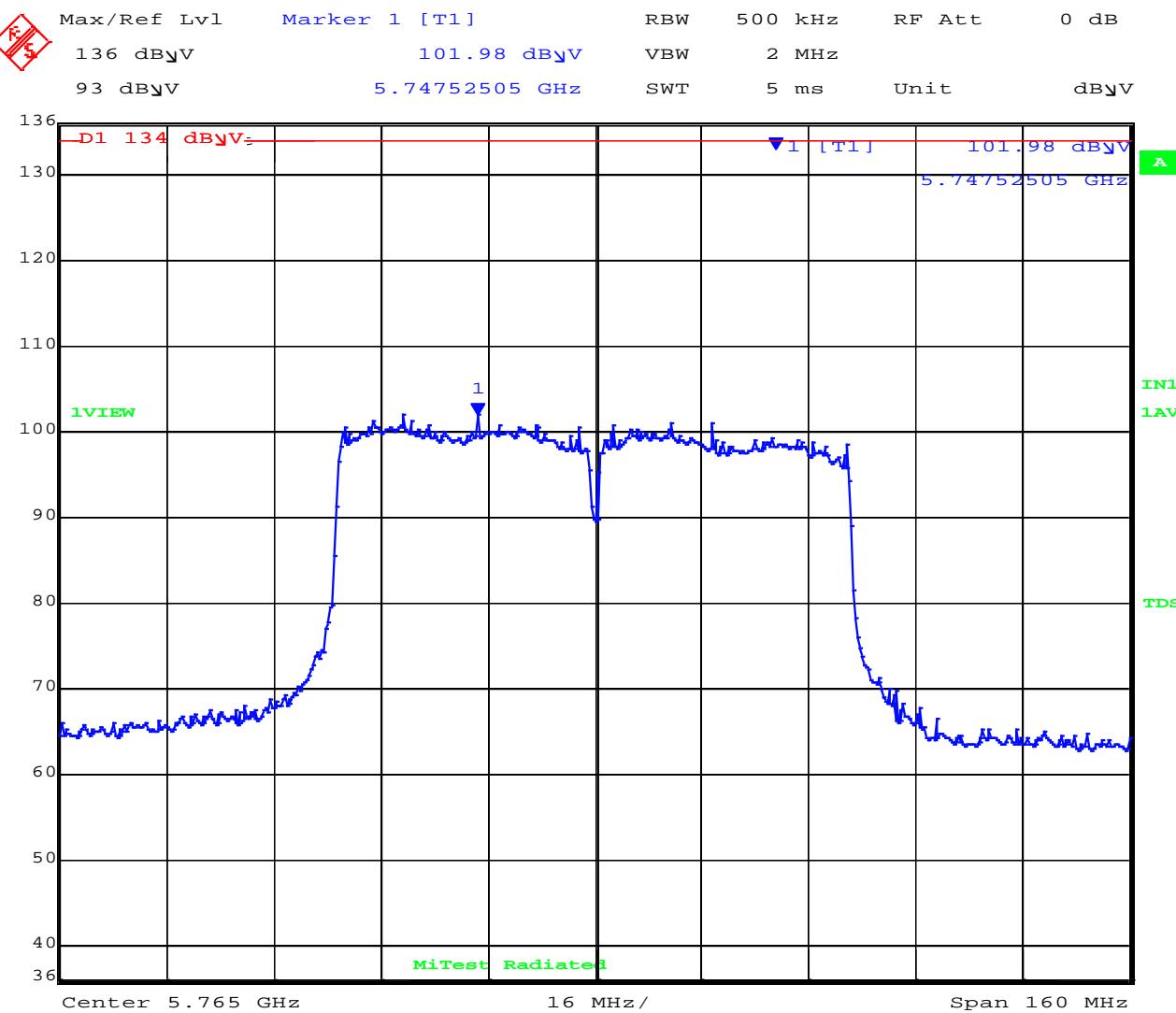
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5815.01 MHz : 101.69 dB <sub>uV</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>uV</sub> m

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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5765.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:44:38

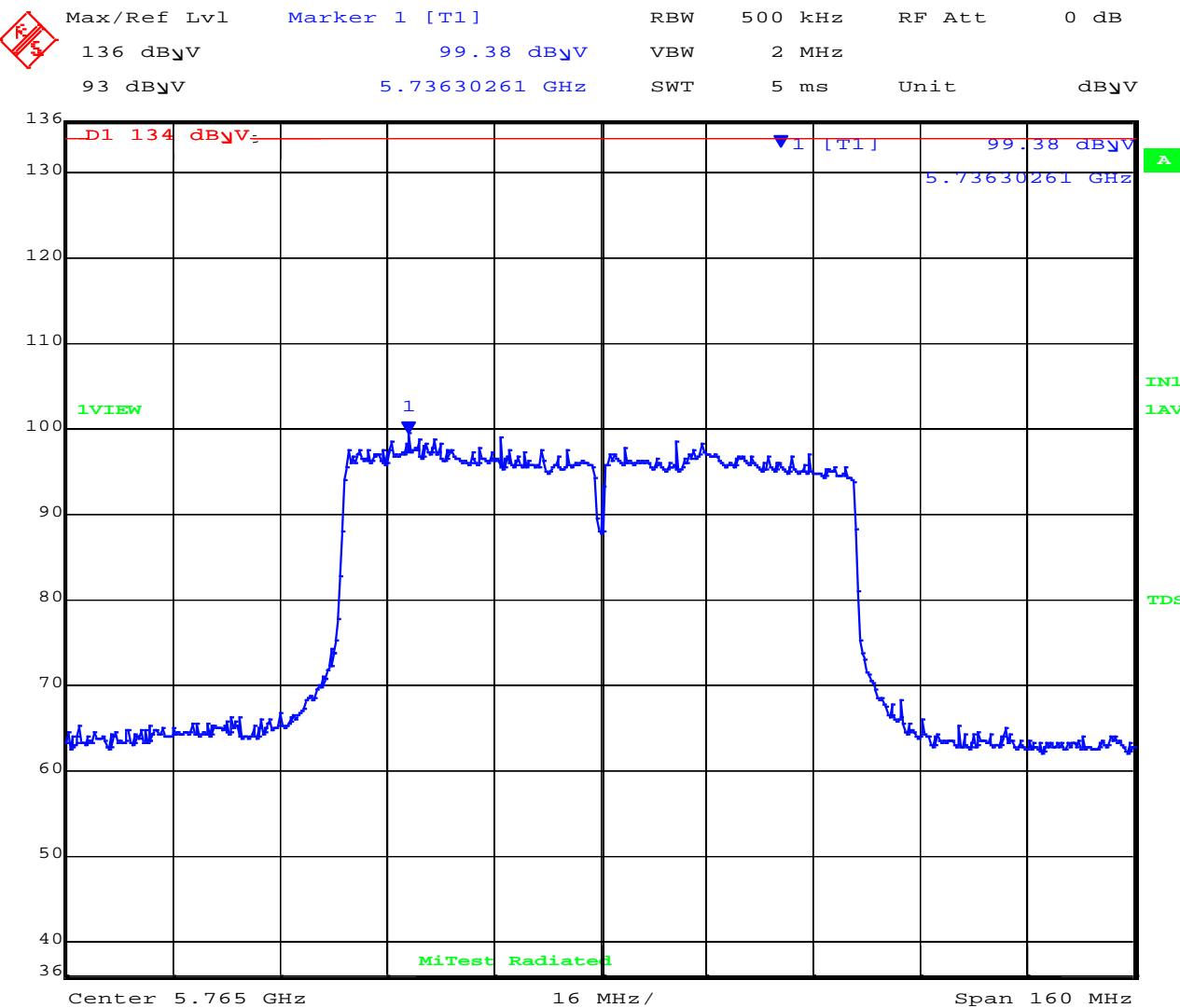
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1: 5747.53 MHz: 101.98 dB <sub>u</sub> V/m	Limit: ≤ 27.00 dBm, 134 dB <sub>u</sub> Vm

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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5765.00 MHz, Polarity V Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:45:35

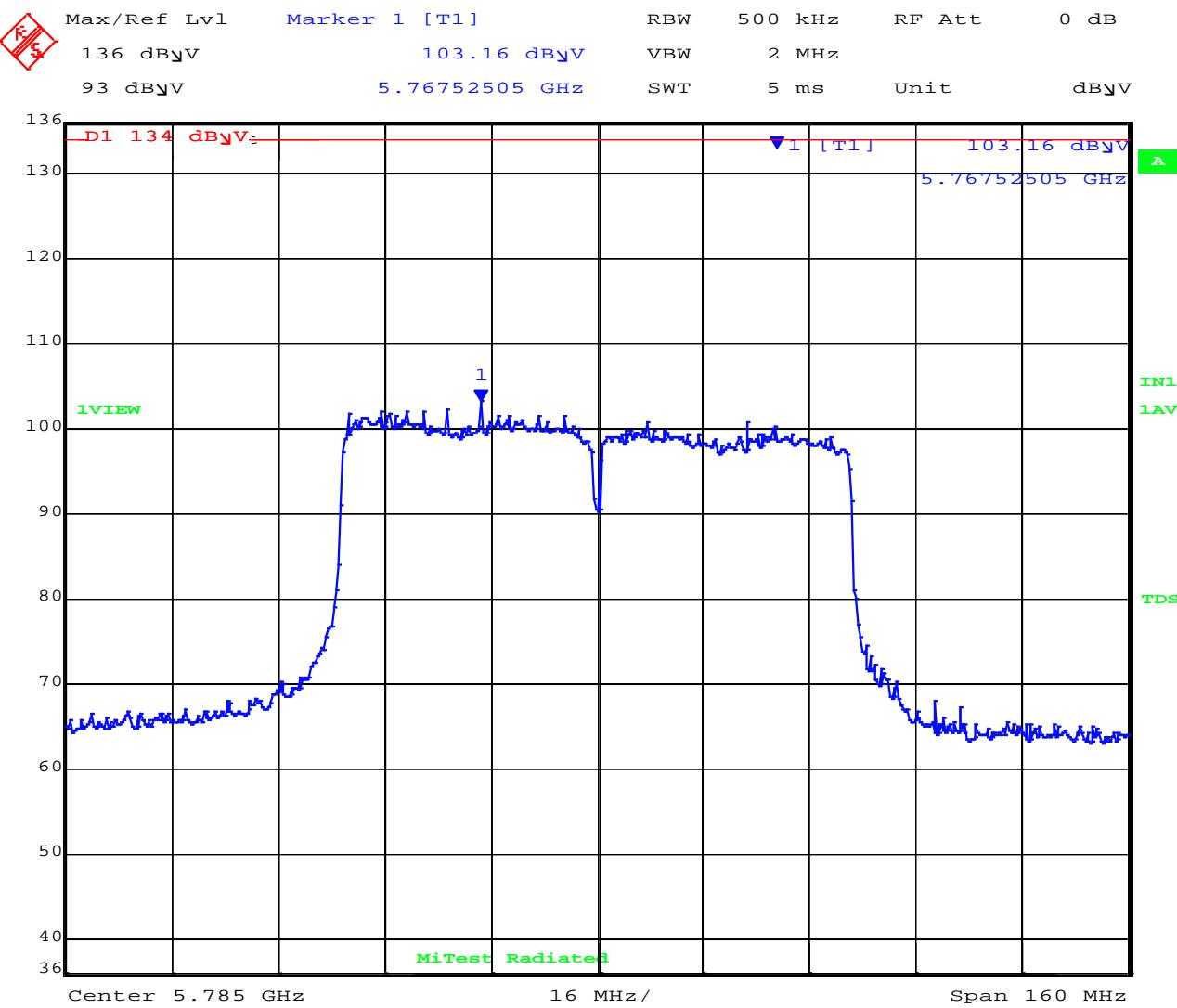
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5736.03 MHz : 99.38 dB <sub>V</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5785.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:48:15

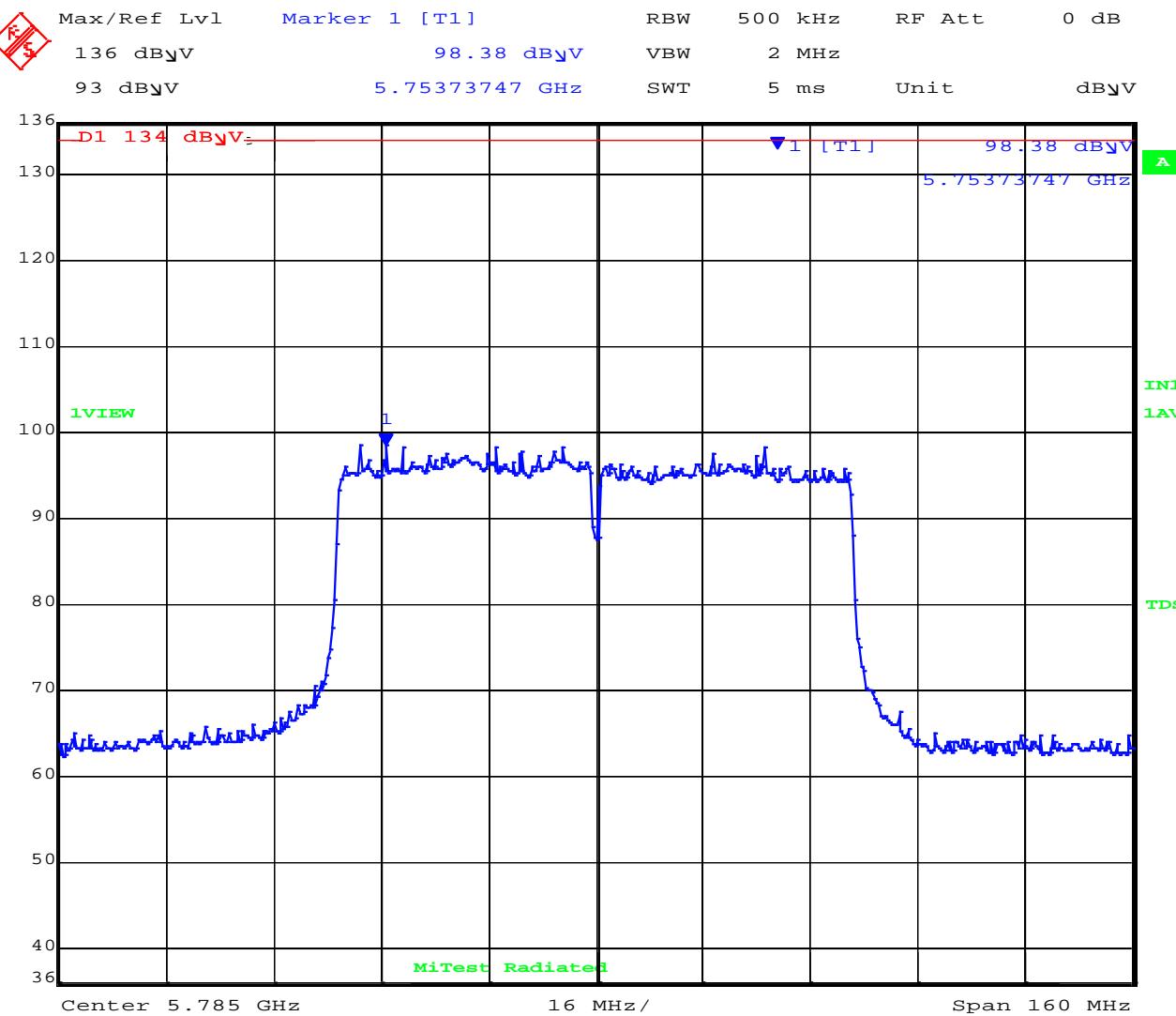
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5767.53 MHz : 103.16 dBuV/m	Limit: ≤ 27.00 dBm, 134 dBuVm

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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5785.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:46:57

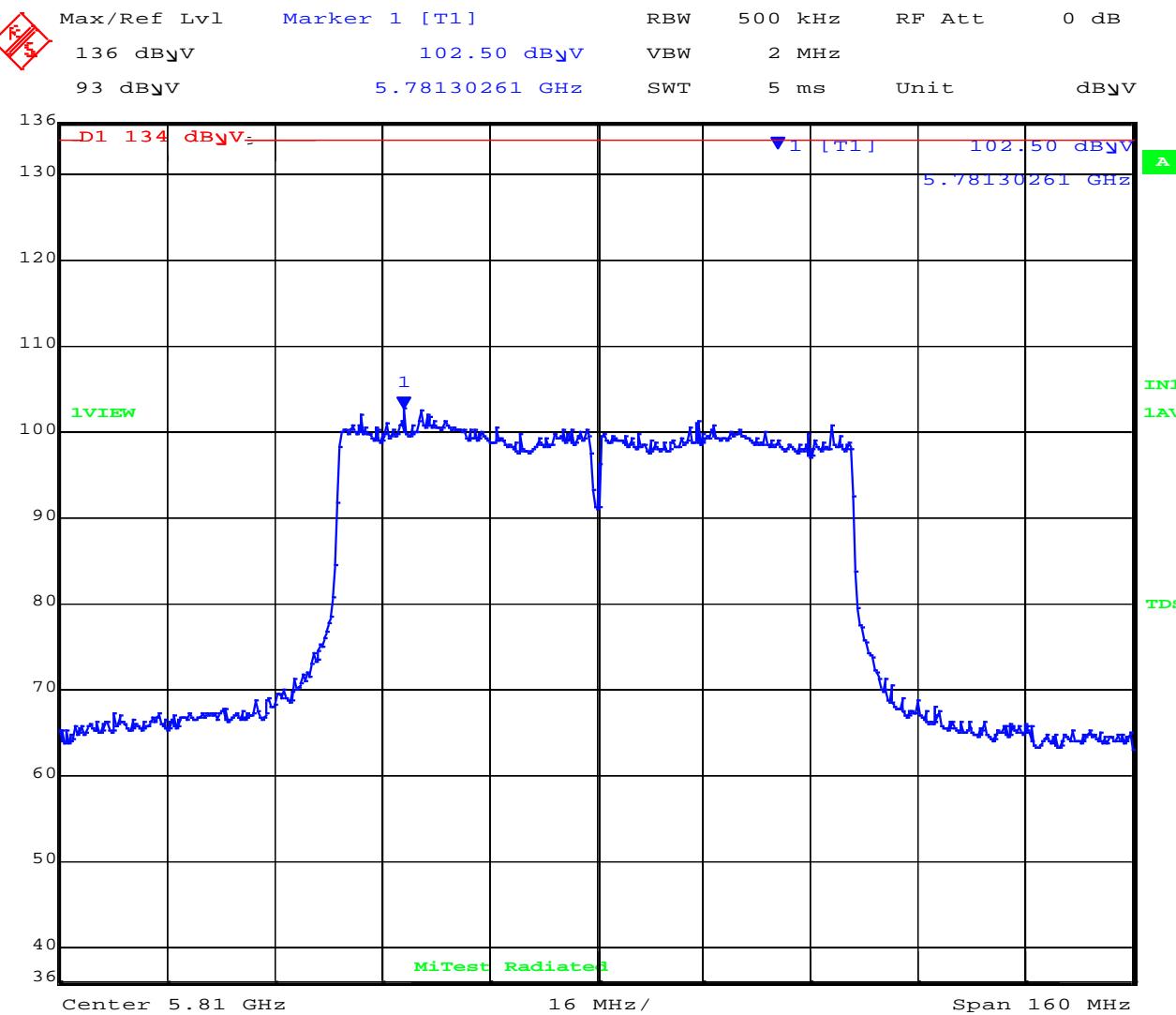
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5753.74 MHz : 98.38 dB <sub>uV/m</sub>	Limit: ≤ 27.00 dBm, 134 dB <sub>uVm</sub>

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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5810.00 MHz, Polarity H, Temp: 20, Voltage: 48 Vdc



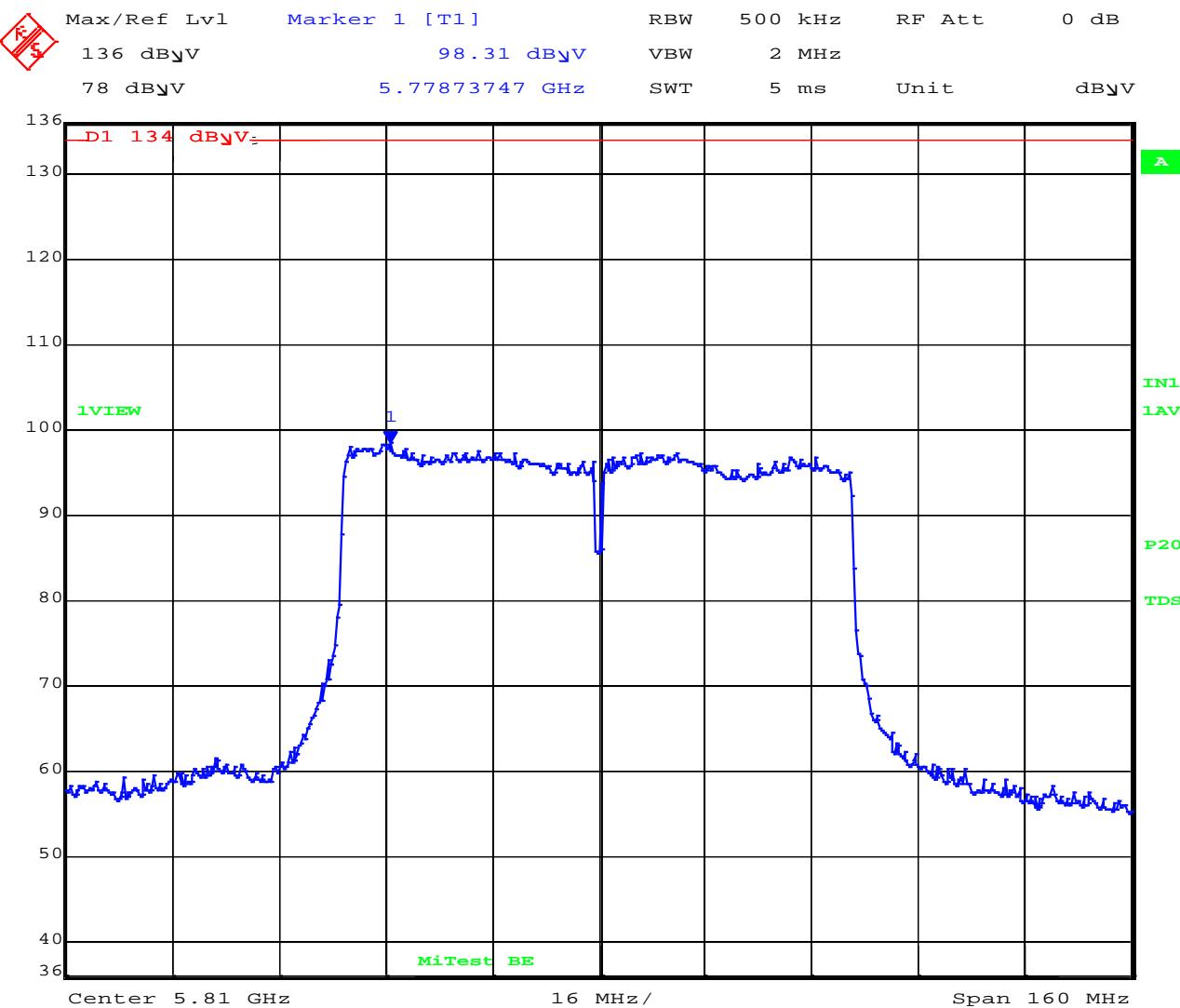
Date: 14.AUG.2019 16:49:34

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5781.30 MHz : 102.50 dB <sub>V</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>V</sub> m

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POWER SPECTRAL DENSITY

Variant: 80 MHz, Channel: 5810.00 MHz, Polarity V, Temp: 20, Voltage: 48 Vdc



Date: 14.AUG.2019 16:57:04

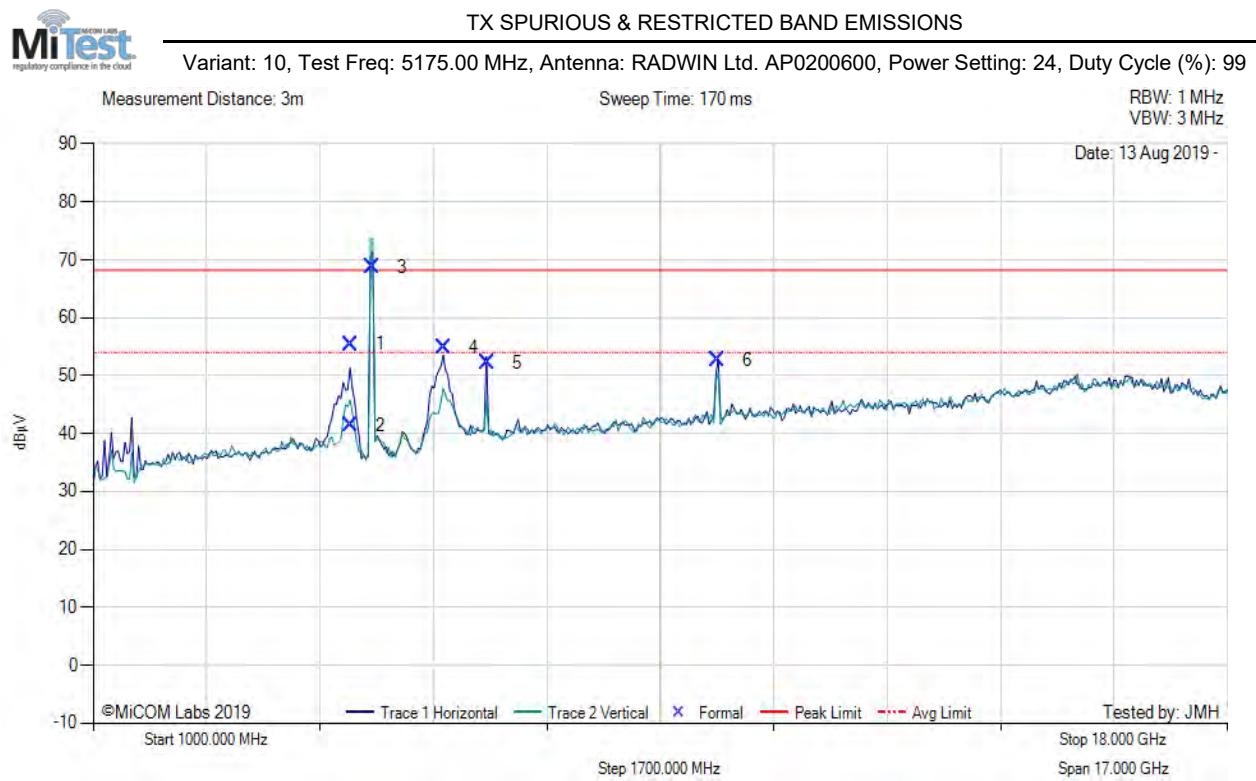
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = Average Sweep Count = 100 RF Atten (dB) = 0 Trace Mode = VIEW	M1 : 5778.73 MHz : 98.31 dB <sub>V</sub> /m	Limit: ≤ 27.00 dBm, 134 dB <sub>V</sub> m

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## A.4. Radiated

### A.4.1. TX Spurious & Restricted Band Emissions

#### A.4.1.1. RADWIN Ltd. AP0200600



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
1	4863.51	70.39	-2.54	-12.43	55.42	Max Peak	Horizontal	159	351	68.2	-12.8	Pass	
2	4863.51	56.43	-2.54	-12.43	41.46	Max Avg	Horizontal	159	351	54.0	-12.5	Pass	
3	5178.19	83.39	-2.65	-11.95	68.79	Fundamental	Vertical	100	0	--	--		
4	6250.08	67.04	-2.87	-9.34	54.83	Peak (NRB)	Horizontal	151	0	--	--	Pass	
5	6899.94	63.17	-2.98	-7.99	52.20	Peak (NRB)	Horizontal	151	0	--	--	Pass	
6	10349.57	61.92	-3.78	-5.48	52.66	Peak (NRB)	Horizontal	151	0	--	--	Pass	

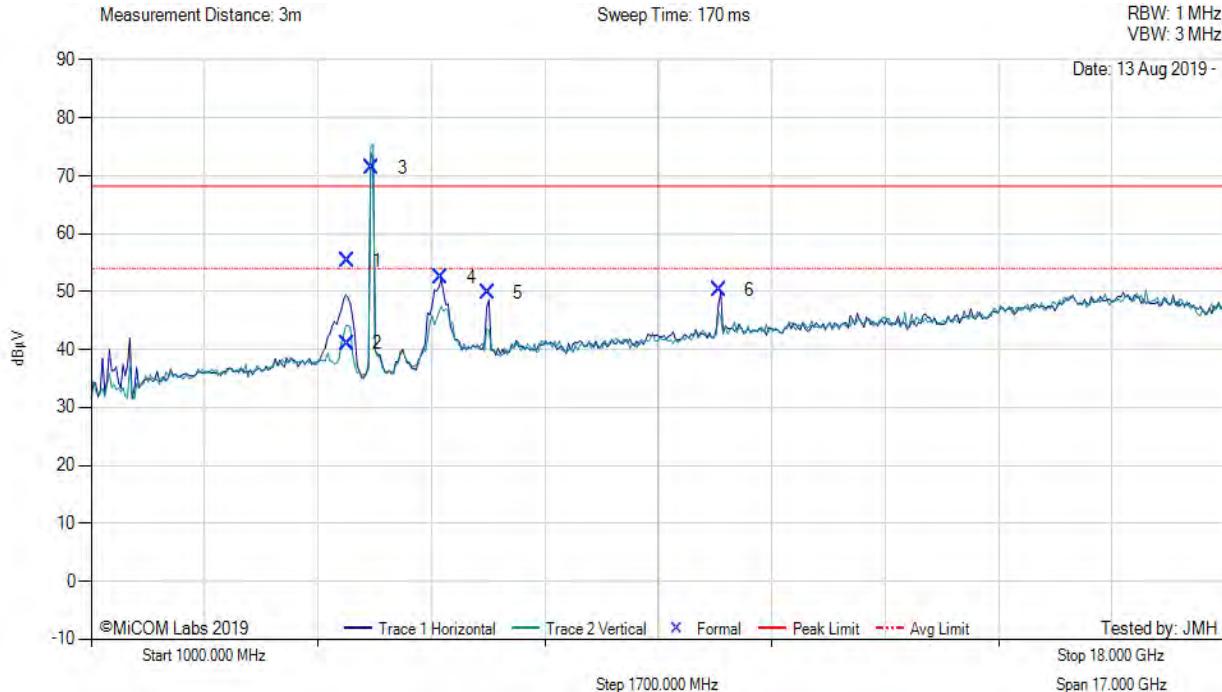
**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10, Test Freq: 5210.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 24, Duty Cycle (%): 99



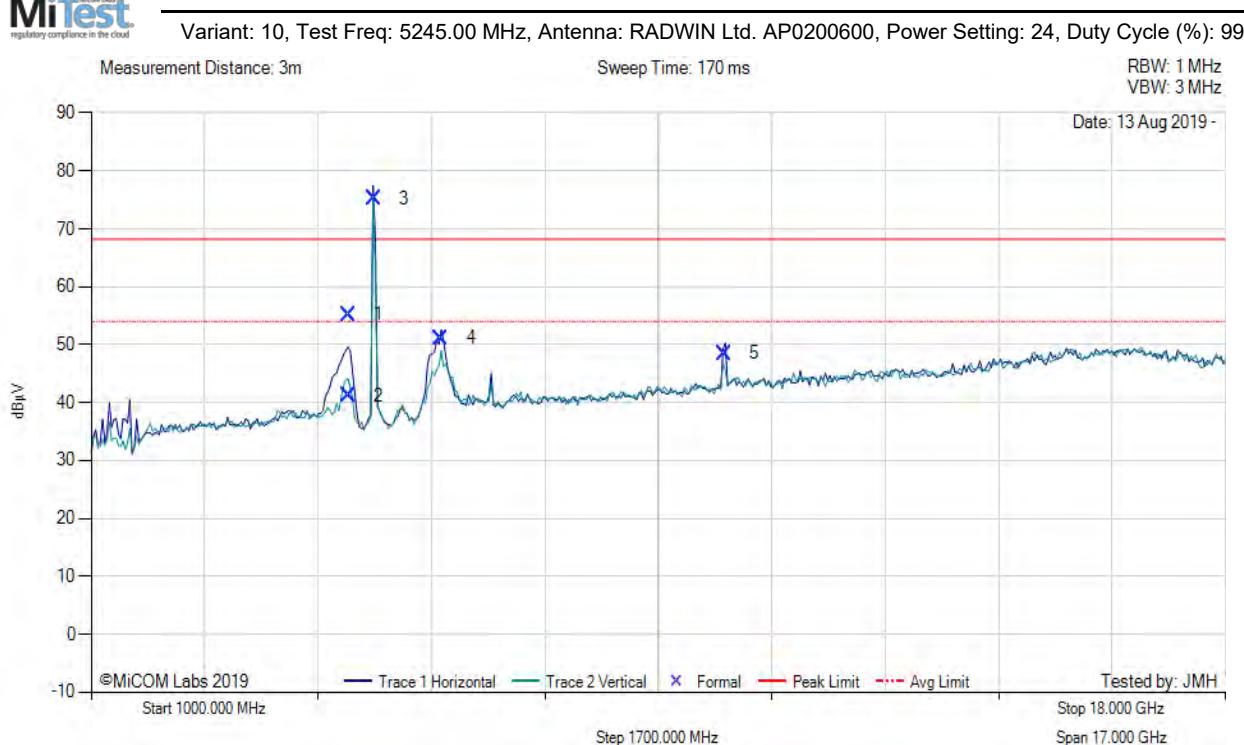
1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	4835.67	70.21	-2.54	-12.40	55.27	Max Peak	Horizontal	175	354	68.2	-13.0	Pass	
2	4835.67	55.99	-2.54	-12.40	41.05	Max Avg	Horizontal	175	354	54.0	-13.0	Pass	
3	5210.07	86.04	-2.64	-12.02	71.38	Fundamental	Vertical	100	0	--	--		
4	6246.99	64.64	-2.88	-9.35	52.41	Peak (NRB)	Horizontal	150	0	--	--	Pass	
5	6946.58	60.77	-2.98	-8.05	49.74	Peak (NRB)	Horizontal	150	0	--	--	Pass	
6	10417.08	60.19	-4.14	-5.83	50.22	Peak (NRB)	Horizontal	150	0	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	4864.12	70.16	-2.54	-12.46	55.16	Max Peak	Horizontal	168	355	68.2	-13.1	Pass	
2	4864.12	56.14	-2.54	-12.46	41.14	Max Avg	Horizontal	168	355	54.0	-12.9	Pass	
3	5242.69	89.98	-2.62	-12.20	75.16	Fundamental	Horizontal	100	0	--	--		
4	6246.49	63.36	-2.88	-9.35	51.13	Peak (NRB)	Horizontal	151	0	--	--	Pass	
5	10489.46	58.55	-3.92	-6.12	48.51	Peak (NRB)	Horizontal	151	0	--	--	Pass	

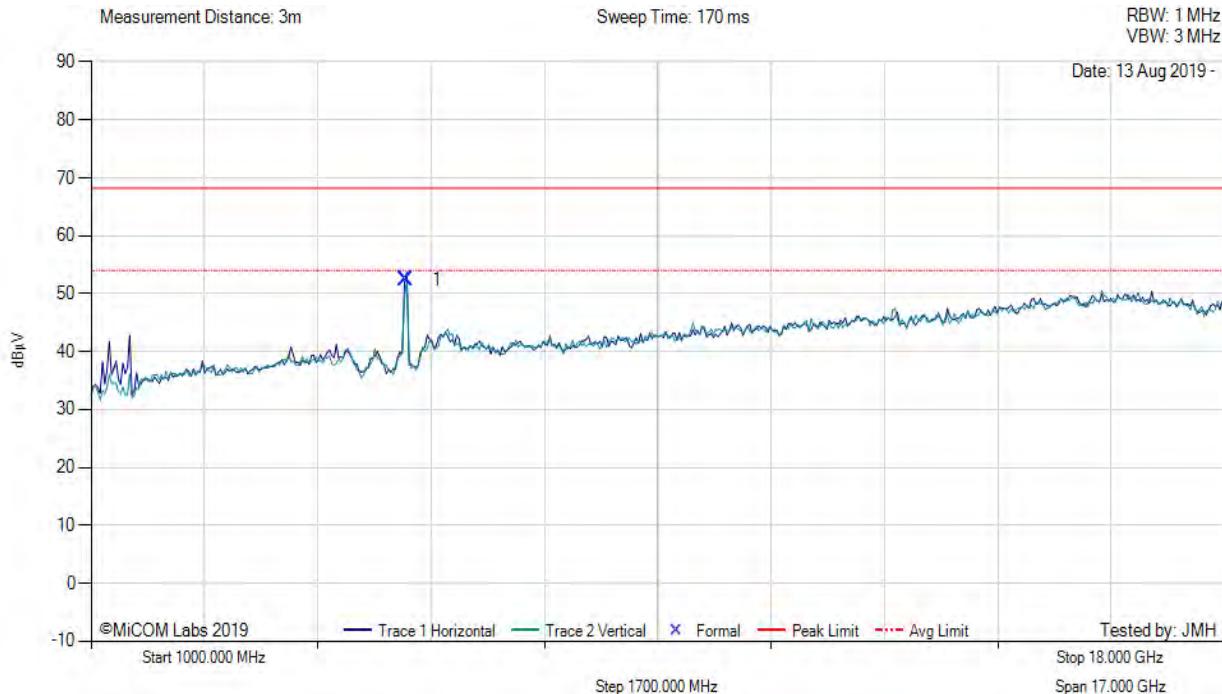
**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 24, Duty Cycle (%): 99



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dB <sub>μ</sub> V	Cable Loss dB	AF dB/m	Level dB <sub>μ</sub> V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB <sub>μ</sub> V/m	Margin dB	Pass /Fail	
1	5727.42	66.09	-2.74	-10.94	52.41	Fundamental	Horizontal	151	0	--	--		

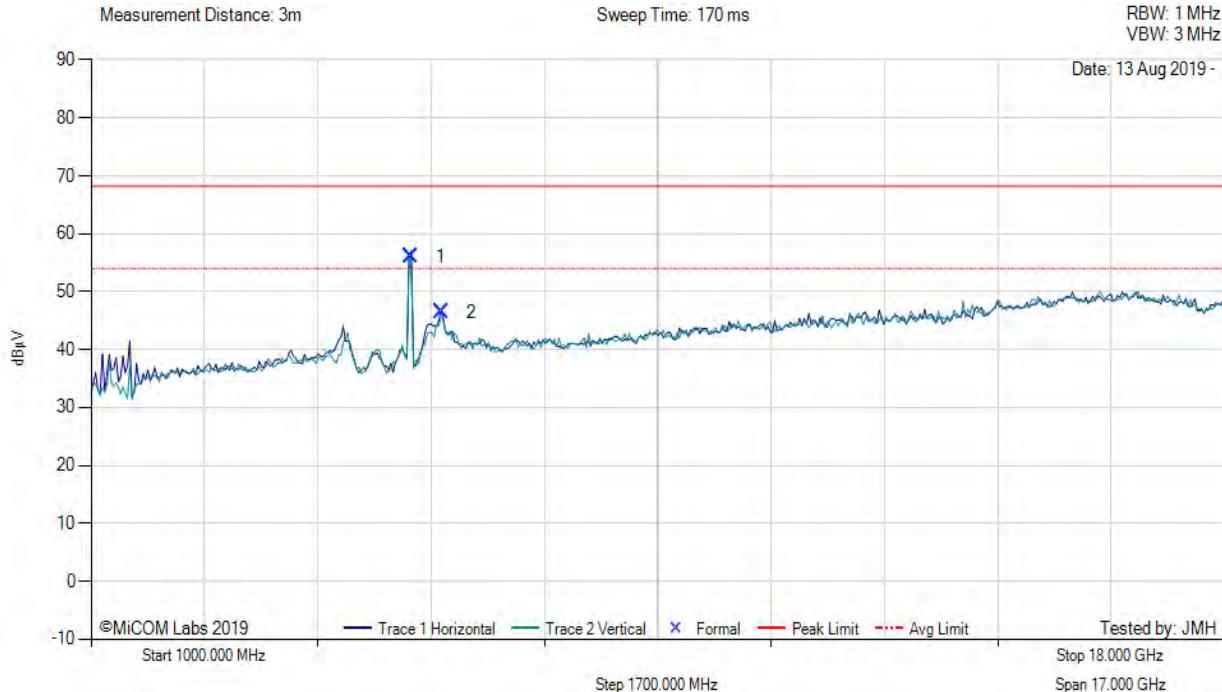
**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10, Test Freq: 5785.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 24, Duty Cycle (%): 99



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5788.73	69.58	-2.75	-10.78	56.05	Fundamental	Horizontal	151	0	--	--		
2	6250.07	58.69	-2.87	-9.34	46.48	Peak (NRB)	Horizontal	151	0	--	--	Pass	

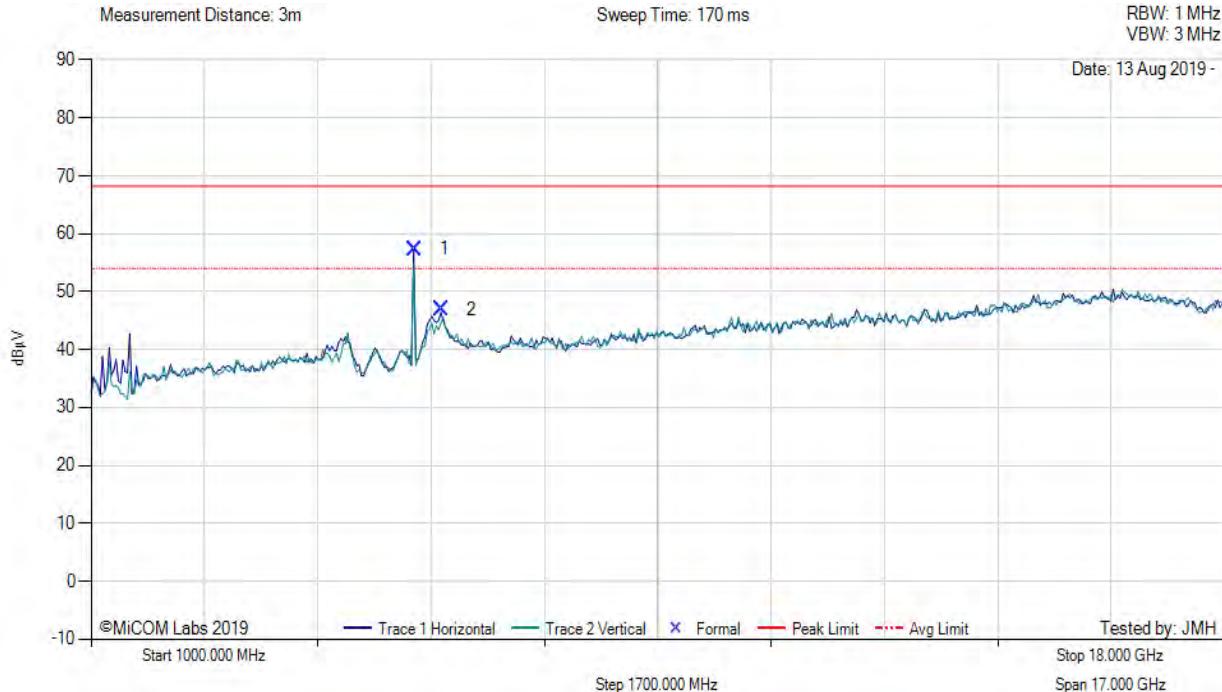
**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 24, Duty Cycle (%): 99

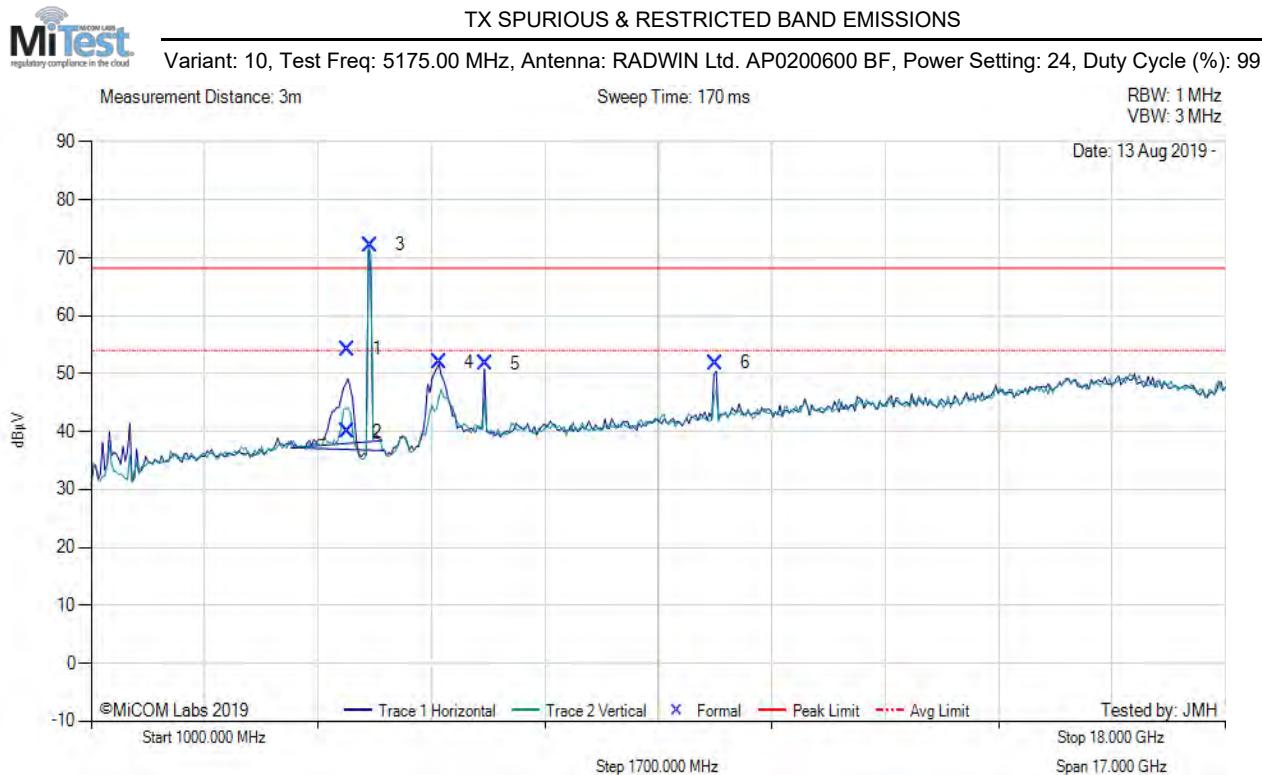


1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5848.86	70.86	-2.81	-10.68	57.37	Fundamental	Horizontal	151	0	--	--	Pass	
2	6250.07	59.15	-2.87	-9.34	46.94	Peak (NRB)	Horizontal	151	0	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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#### A.4.1.2. RADWIN Ltd. AP0200600 BF



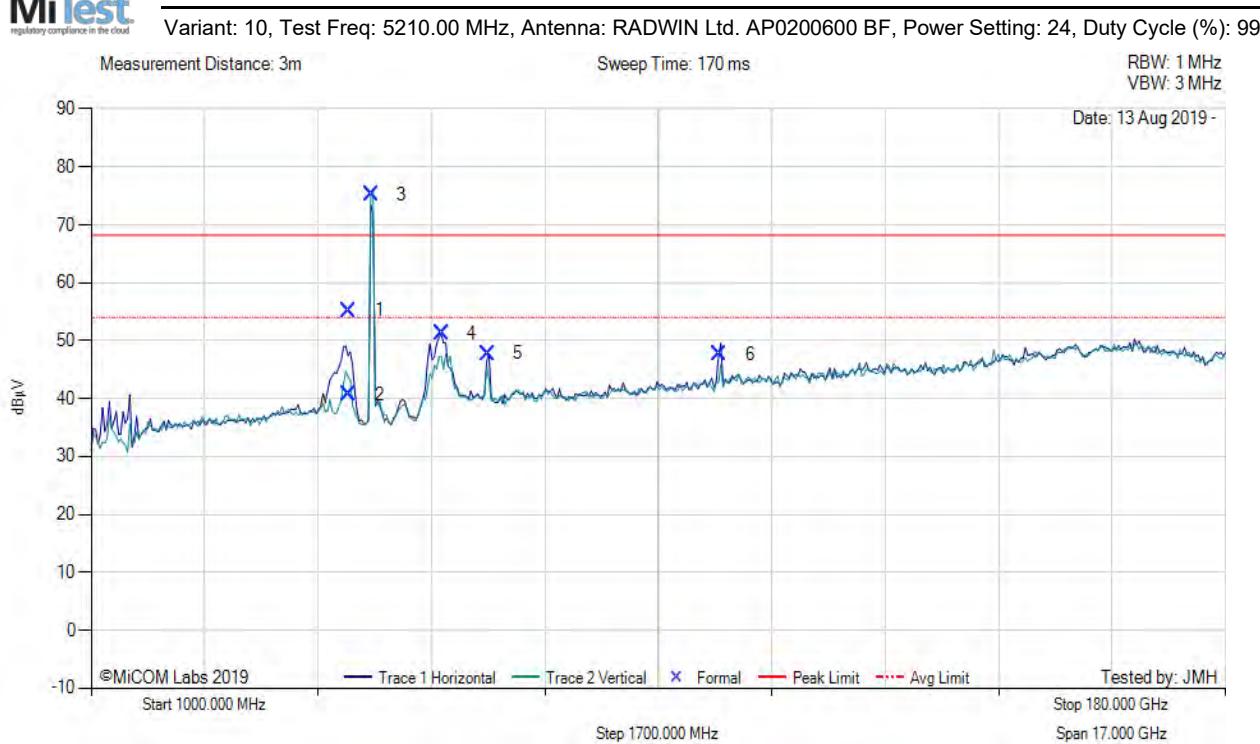
1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	4832.62	69.14	-2.54	-12.40	54.20	Max Peak	Horizontal	138	351	68.2	-14.0	Pass	
2	4832.62	54.99	-2.54	-12.40	40.05	Max Avg	Horizontal	138	351	54.0	-14.0	Pass	
3	5177.20	86.77	-2.64	-11.93	72.20	Fundamental	Vertical	150	0	--	--		
4	6211.93	64.11	-2.88	-9.32	51.91	Peak (NRB)	Horizontal	150	0	--	--	Pass	
5	6899.91	62.65	-2.98	-7.99	51.68	Peak (NRB)	Horizontal	150	0	--	--	Pass	
6	10350.11	61.13	-3.79	-5.49	51.85	Peak (NRB)	Horizontal	150	0	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS

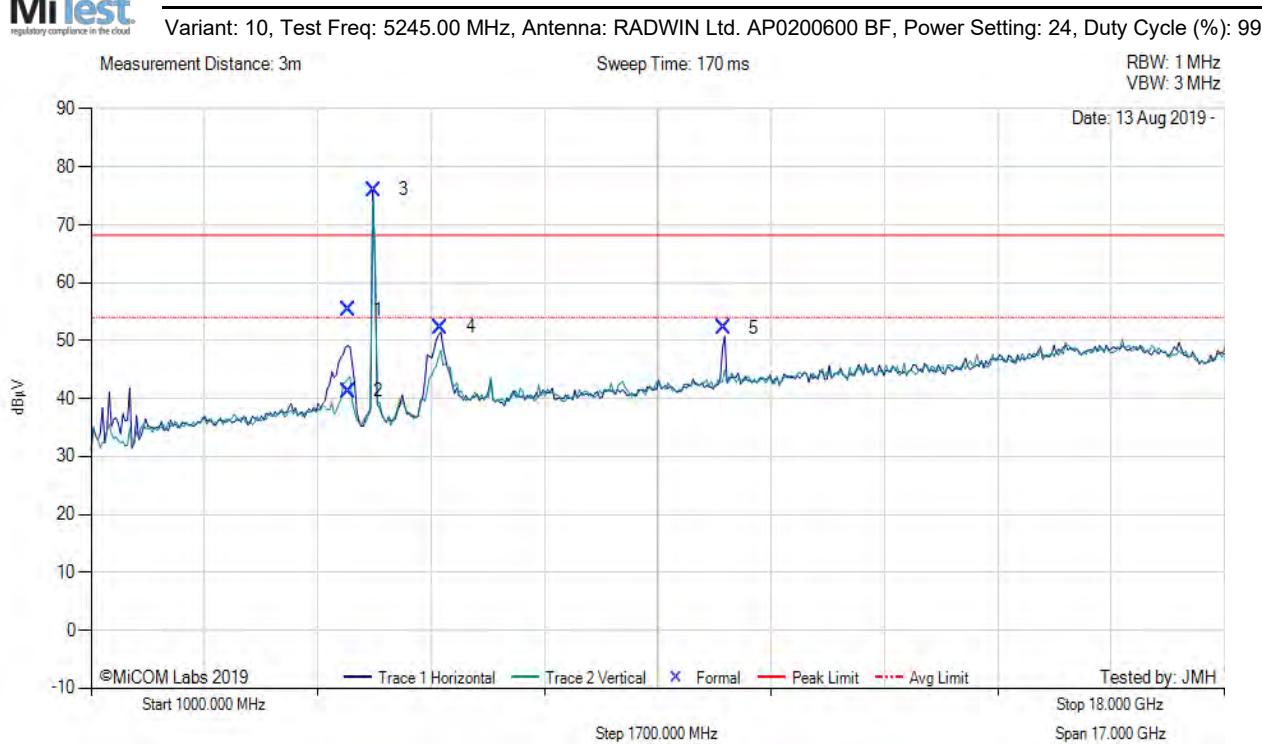


1000.00 - 180000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	4865.95	70.18	-2.54	-12.48	55.16	Max Peak	Horizontal	172	355	68.2	-13.1	Pass	
2	4865.95	55.77	-2.54	-12.48	40.75	Max Avg	Horizontal	172	355	54.0	-13.3	Pass	
3	5206.20	89.86	-2.64	-11.98	75.24	Fundamental	Vertical	151	0	--	--		
4	6250.41	63.48	-2.87	-9.34	51.27	Peak (NRB)	Horizontal	148	0	--	--	Pass	
5	6946.61	58.76	-2.98	-8.05	47.73	Peak (NRB)	Horizontal	148	0	--	--	Pass	
6	10420.45	57.62	-4.09	-5.85	47.68	Peak (NRB)	Horizontal	148	0	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	4864.25	70.29	-2.54	-12.46	55.29	Max Peak	Horizontal	149	354	68.2	-12.9	Pass	
2	4864.25	56.28	-2.54	-12.46	41.28	Max Avg	Horizontal	149	354	54.0	-12.7	Pass	
3	5245.01	90.88	-2.63	-12.19	76.06	Fundamental	Horizontal	151	0	--	--		
4	6246.49	64.59	-2.88	-9.35	52.36	Peak (NRB)	Horizontal	151	0	--	--	Pass	
5	10489.30	62.29	-3.92	-6.12	52.25	Peak (NRB)	Horizontal	151	0	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. With Beamforming 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5732.11	71.68	-2.74	-10.88	58.06	Fundamental	Vertical	151	0	--	--		
2	6213.80	57.79	-2.88	-9.31	45.60	Peak (NRB)	Horizontal	151	0	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. With Beam Forming. 5 GHz notch in front of amp to prevent overload

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TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5788.66	70.16	-2.75	-10.78	56.63	Fundamental	Horizontal	151	0	--	--		
2	6250.09	60.20	-2.87	-9.34	47.99	Peak (NRB)	Horizontal	151	0	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. With Beam Forming. 5 GHz notch in front of amp to prevent overload

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### TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5848.42	71.79	-2.81	-10.68	58.30	Fundamental	Horizontal	150	0	--	--		
2	6250.20	63.06	-2.87	-9.34	50.85	Peak (NRB)	Horizontal	150	356	--	--	Pass	

**Test Notes:** EUT powered by POE. Connected to laptop outside chamber. With Beam Forming. 5 GHz notch in front of amp to prevent overload

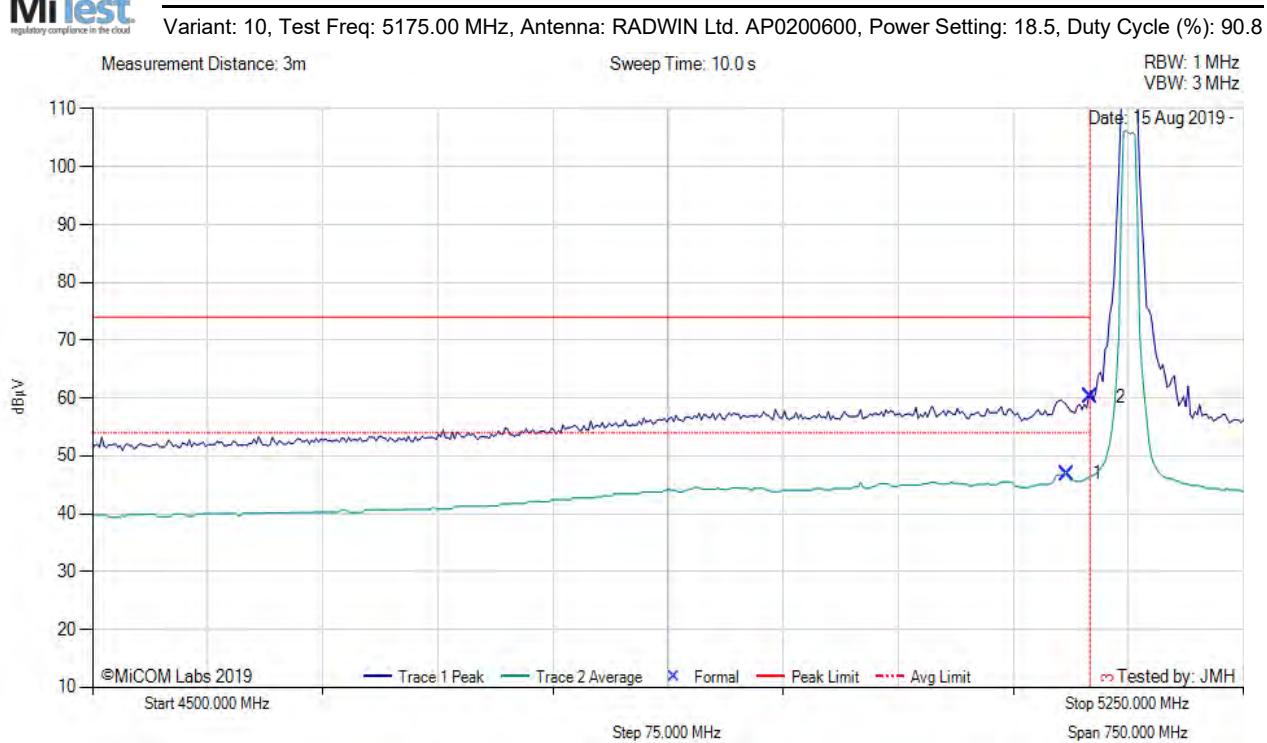
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#### A.4.2. Restricted Edge & Band-Edge Emissions

##### A.4.2.3. RADWIN Ltd. AP0200600



#### RESTRICTED LOWER BAND-EDGE EMISSIONS



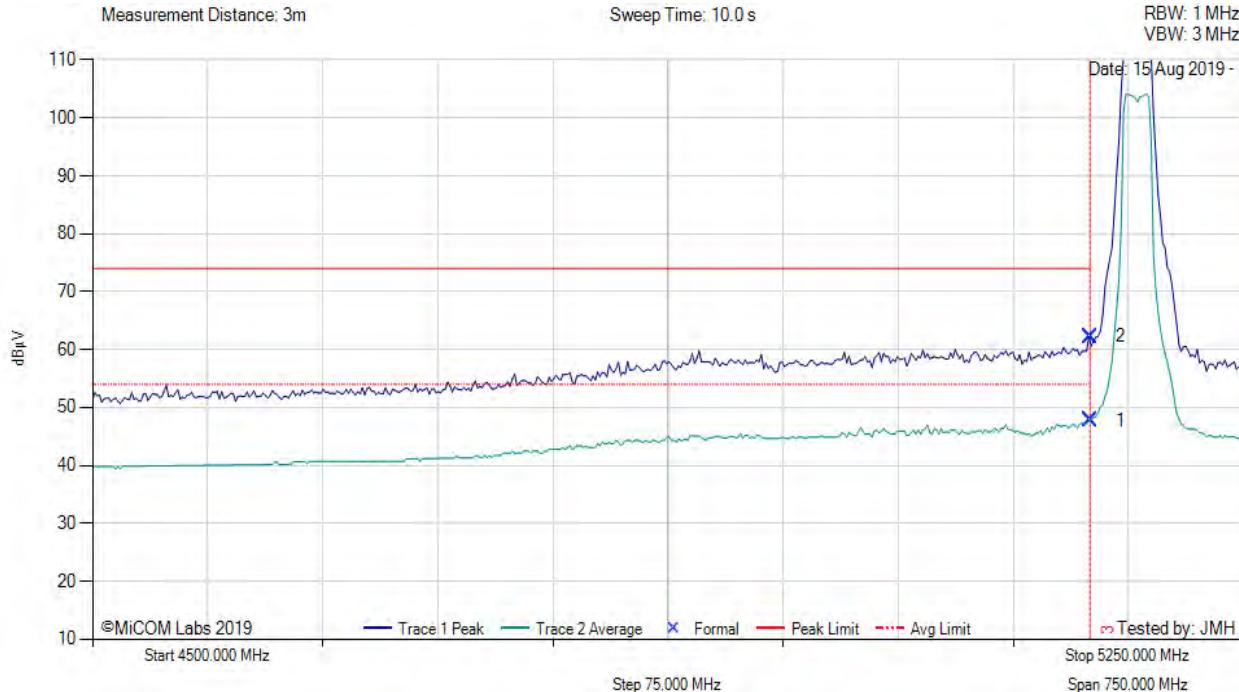
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5134.97	15.31	-2.61	34.21	47.33*	Max Avg	Vertical	166	7	54.0	-6.7*	Pass	
2	5150.00	28.64	-2.61	34.21	60.24	Max Peak	Vertical	166	7	74.0	-13.8	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber. \* Includes Duty Cycle Correction for Average measurement

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 20, Test Freq: 5180.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 19, Duty Cycle (%): 87.5

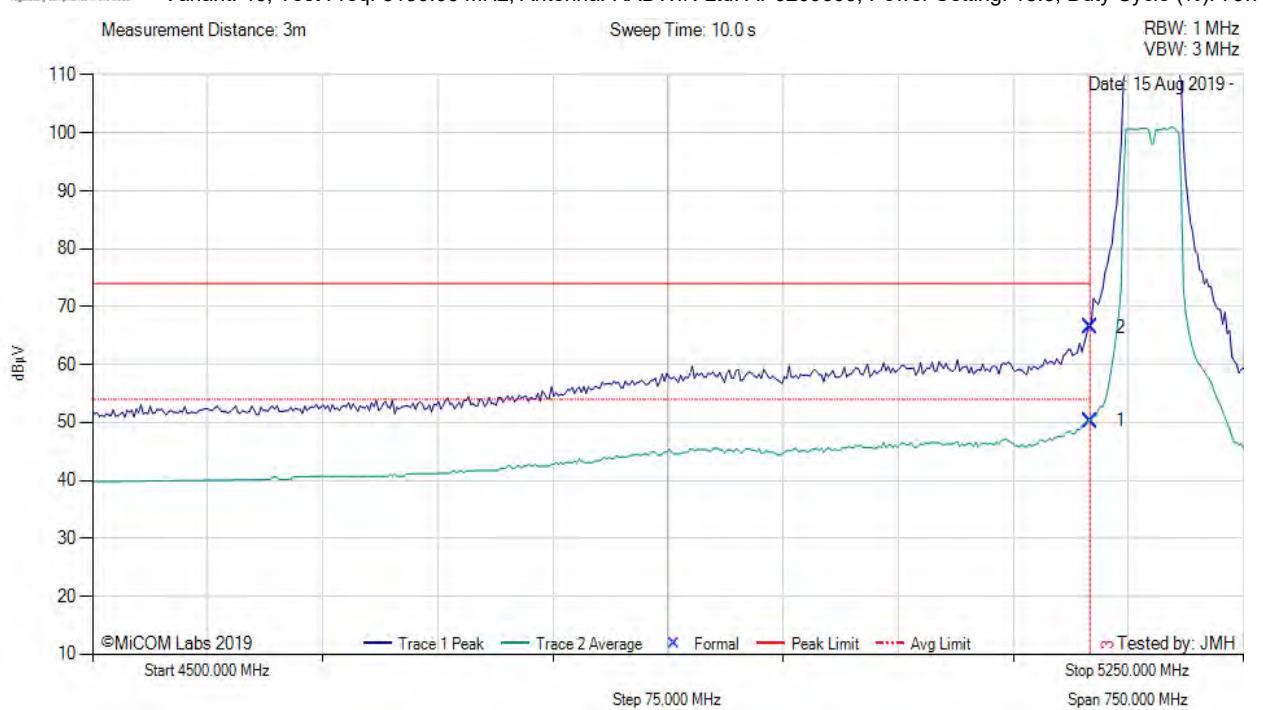


4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail	
1	5150.00	16.11	-2.61	34.21	48.29*	Max Avg	Vertical	166	7	54.0	-5.7*	Pass	
2	5150.00	30.66	-2.61	34.21	62.26	Max Peak	Vertical	166	7	68.2	-6.0	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement

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RESTRICTED LOWER BAND-EDGE EMISSIONS

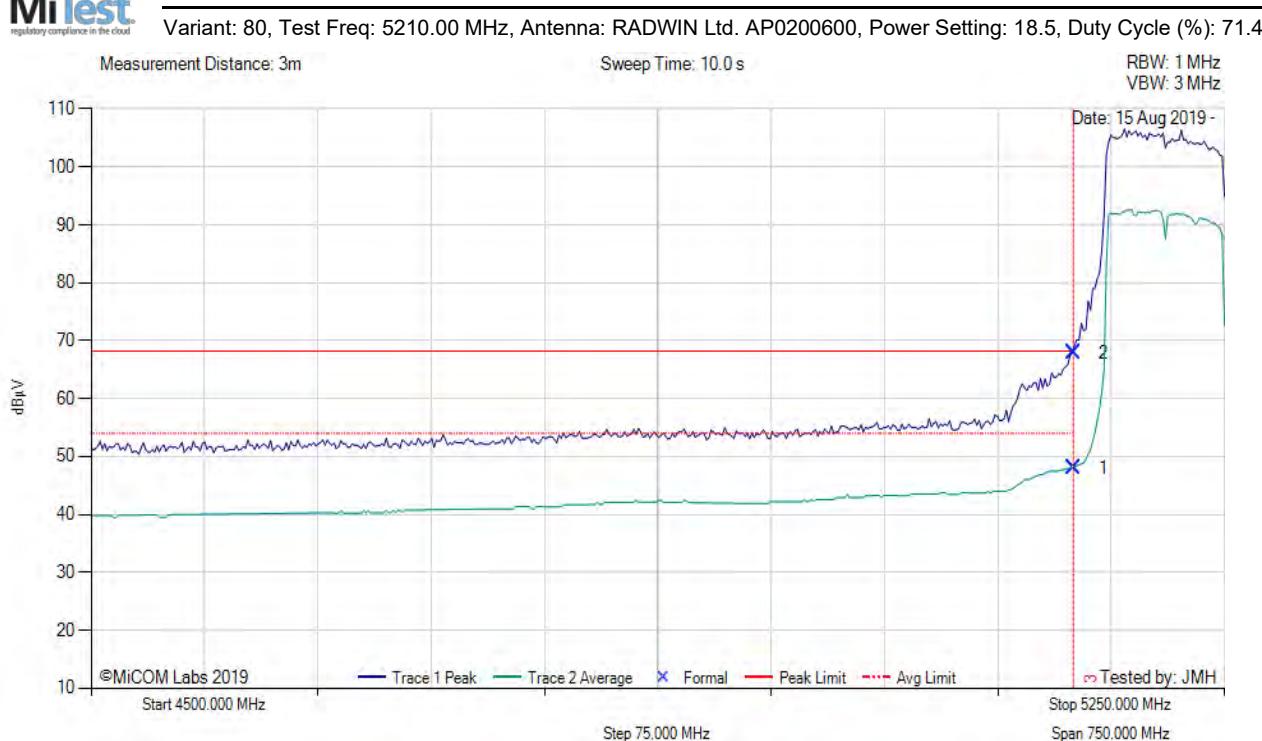


4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail	
1	5150.00	18.65	-2.61	34.21	51.24*	Max Avg	Vertical	167	7	54.0	-2.81*	Pass	
2	5150.00	34.88	-2.61	34.21	66.48	Max Peak	Vertical	167	7	68.2	-1.8	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

Test Notes: EUT powered by POE, connected to laptop outside chamber. \* Includes Duty Cycle Correction for Average measurement

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### RESTRICTED LOWER BAND-EDGE EMISSIONS



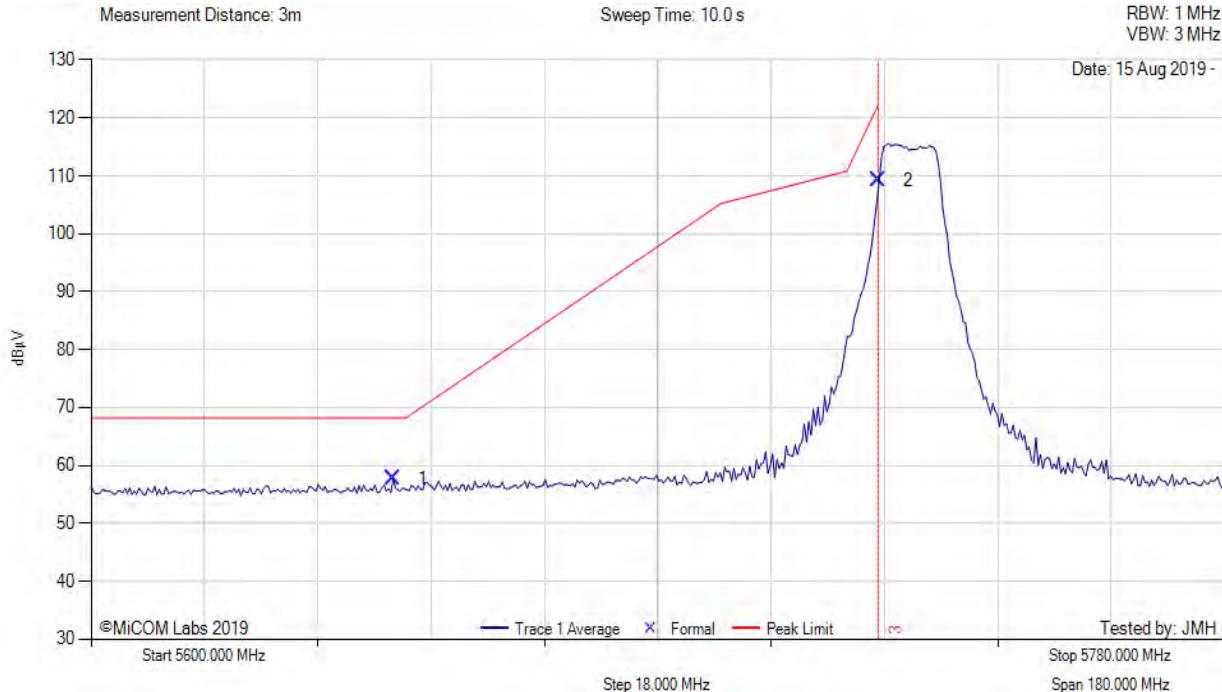
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5150.00	16.47	-2.61	34.21	49.5*	Max Avg	Vertical	166	7	54.0	-4.4*	Pass	
2	5150.00	36.31	-2.61	34.21	67.91	Max Peak	Vertical	166	7	68.2	-0.3	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.\* Includes Duty Cycle Correction for Average measurement

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 19, Duty Cycle (%): 90.8

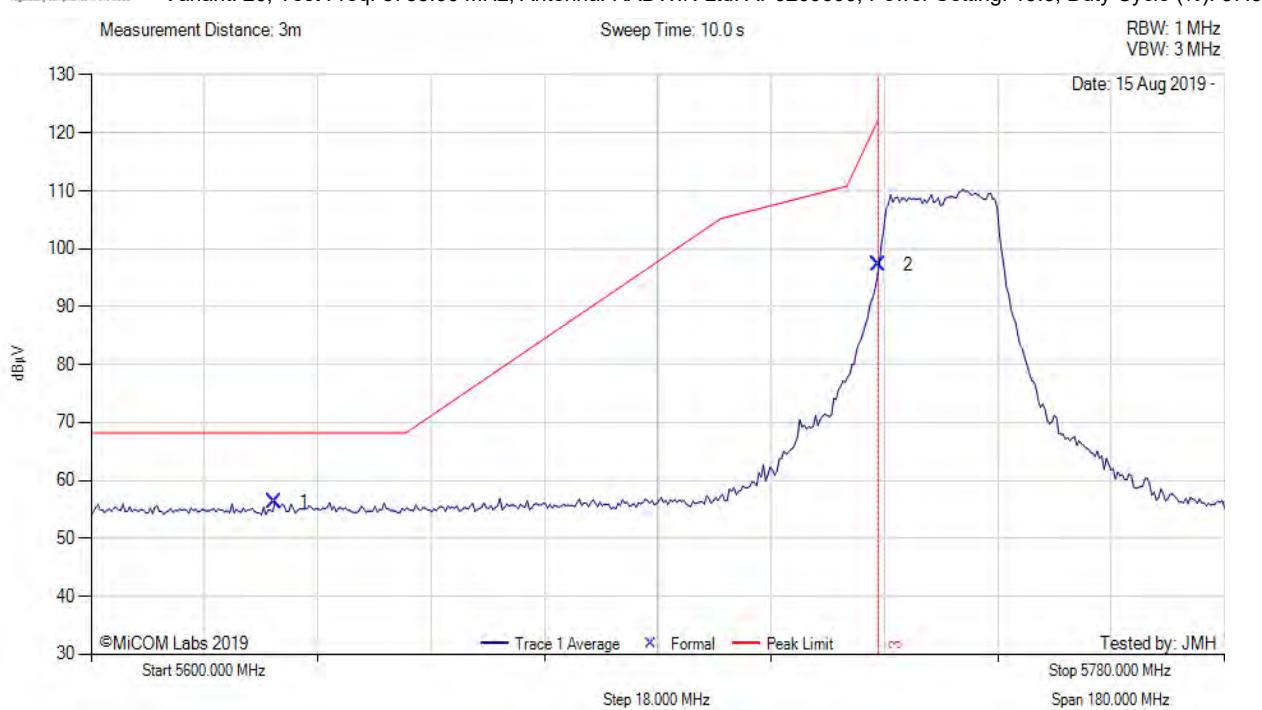


5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5647.91	25.78	-2.72	34.63	57.69	Max Peak	Horizontal	169	355	68.2	-10.5	Pass	
2	5725.00	77.19	-2.74	34.72	109.17	Max Peak	Horizontal	169	355	122.2	-13.0	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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### 5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5629.15	24.32	-2.71	34.64	56.25	Max Peak	Horizontal	169	355	68.2	-12.0	Pass	
2	5725.00	65.21	-2.74	34.72	97.19	Max Peak	Horizontal	169	355	122.2	-25.0	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

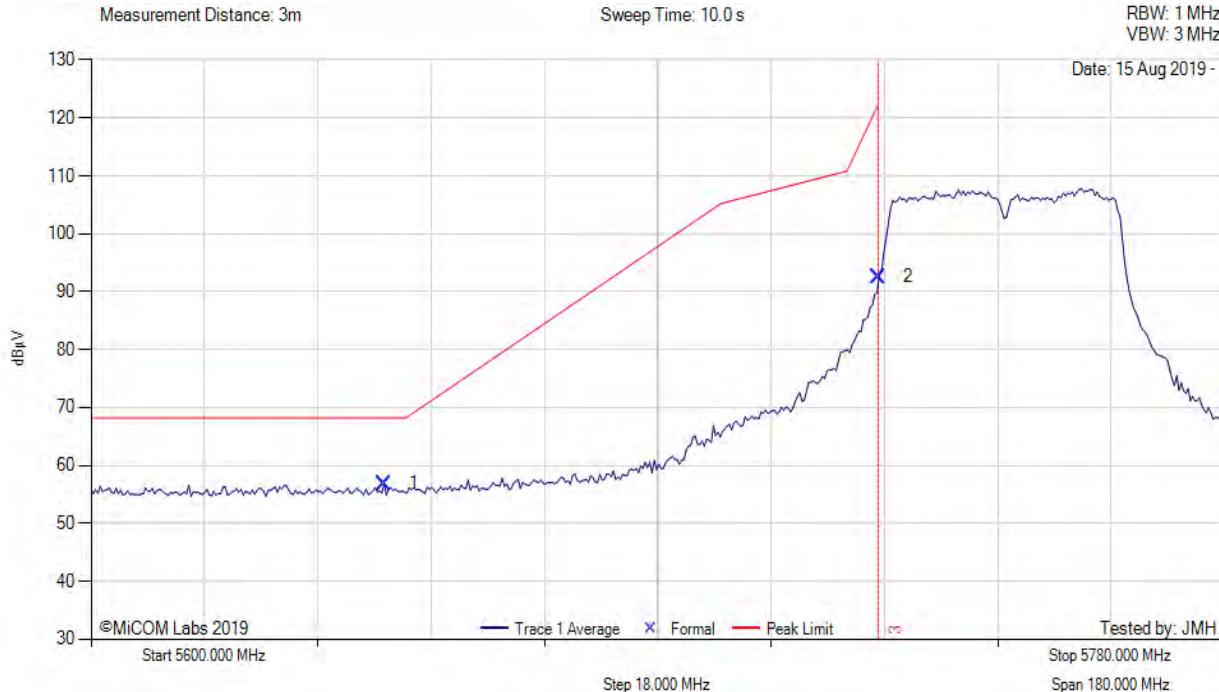
**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40, Test Freq: 5745.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 19, Duty Cycle (%): 79.7



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5646.46	24.96	-2.72	34.63	56.87	Max Peak	Horizontal	169	355	68.2	-11.4	Pass	
2	5725.00	60.57	-2.74	34.72	92.55	Max Peak	Horizontal	169	355	122.2	-29.7	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

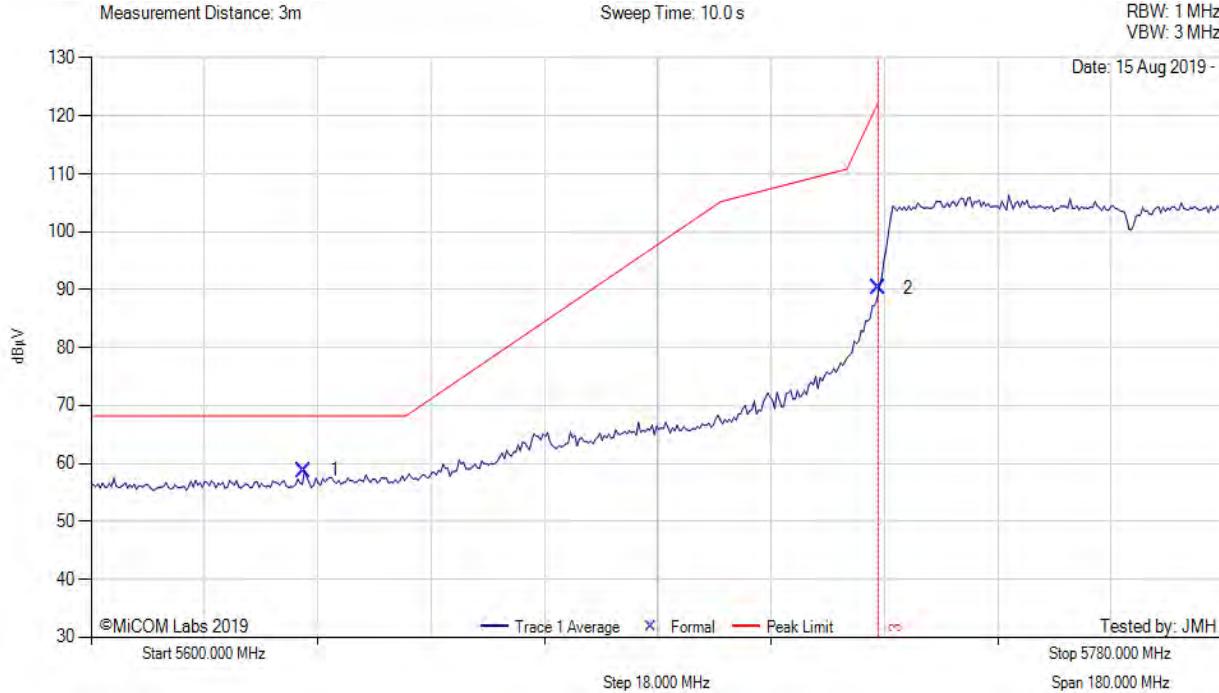
**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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### 5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 80, Test Freq: 5765.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 17, Duty Cycle (%): 71.4



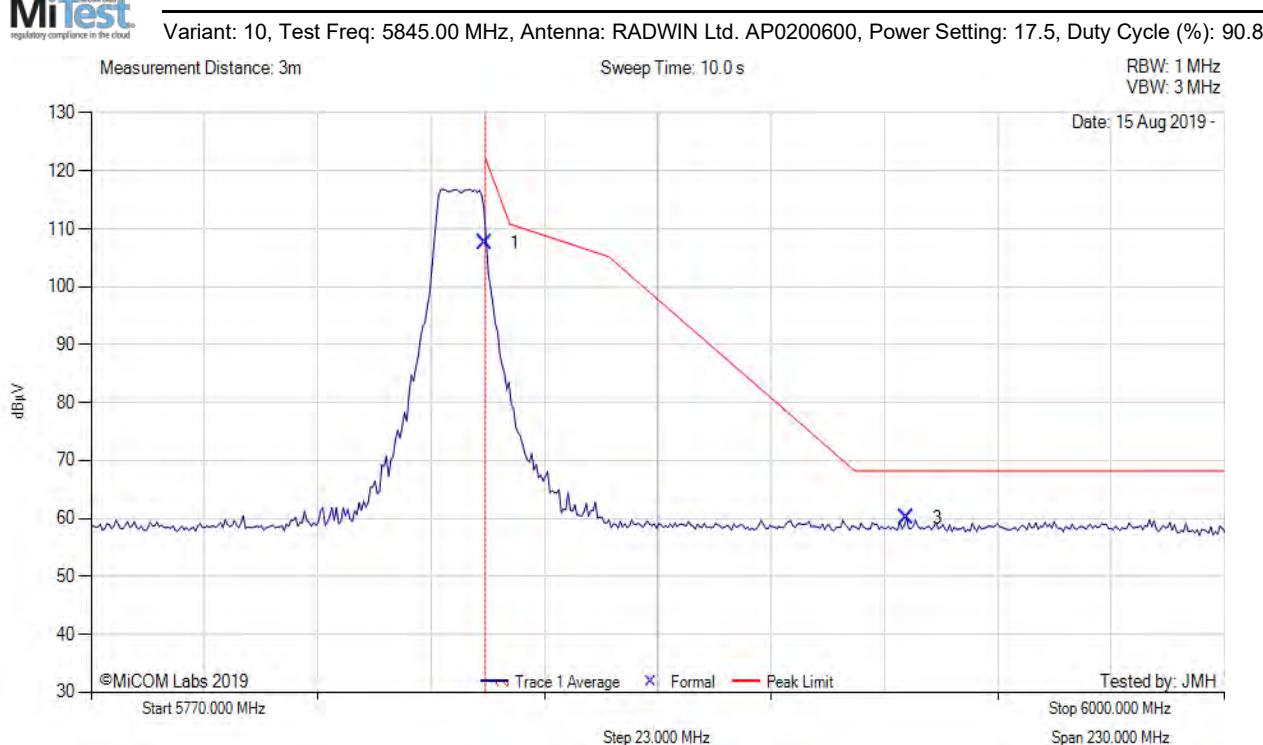
5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5633.84	26.87	-2.70	34.64	58.81	Max Peak	Horizontal	169	355	68.2	-9.4	Pass	
2	5725.00	58.30	-2.74	34.72	90.28	Max Peak	Horizontal	169	355	122.2	-31.9	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5850.00	75.43	-2.81	34.96	107.58	Peak Avg	Horizontal	165	339	122.2	-14.7	Pass	
3	5935.59	27.73	-2.77	35.11	60.07	Peak Avg	Horizontal	165	339	68.2	-8.2	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

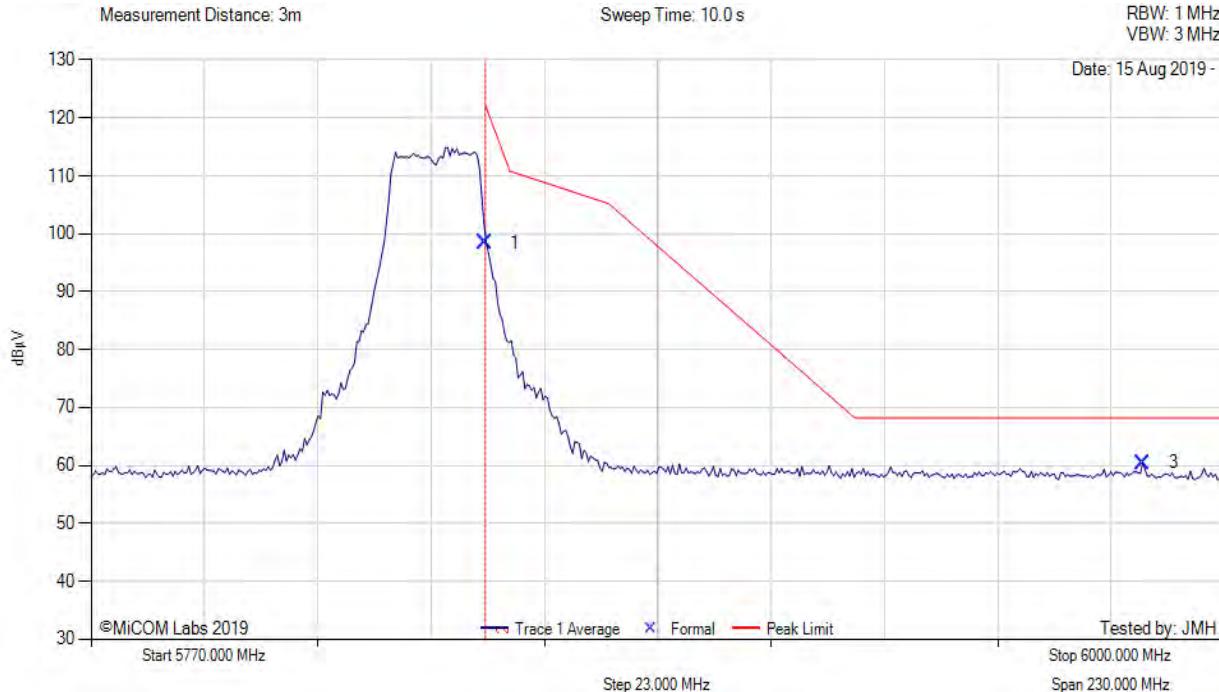
**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 20, Test Freq: 5840.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 18, Duty Cycle (%): 87.5



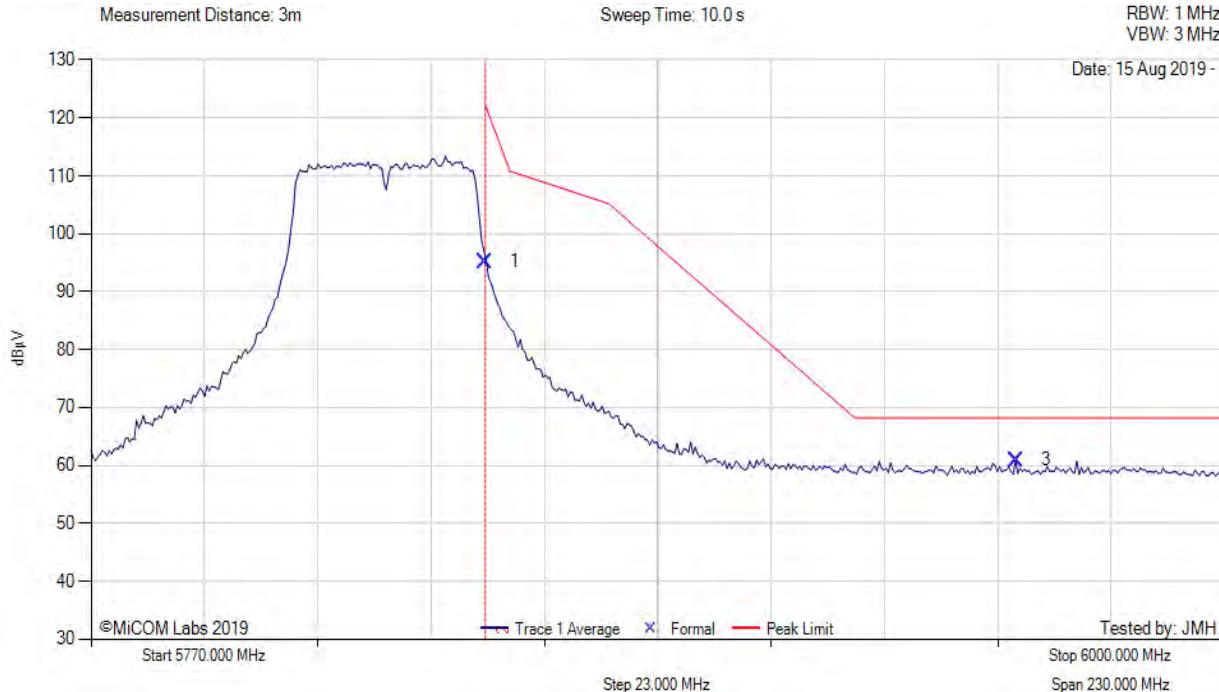
5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5850.00	66.26	-2.81	34.96	98.41	Max Peak	Horizontal	165	339	122.2	-23.8	Pass	
3	5983.53	28.12	-2.83	35.20	60.49	Max Peak	Horizontal	165	339	68.2	-7.7	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40, Test Freq: 5830.00 MHz, Antenna: RADWIN Ltd. AP0200600, Power Setting: 17, Duty Cycle (%): 79.7



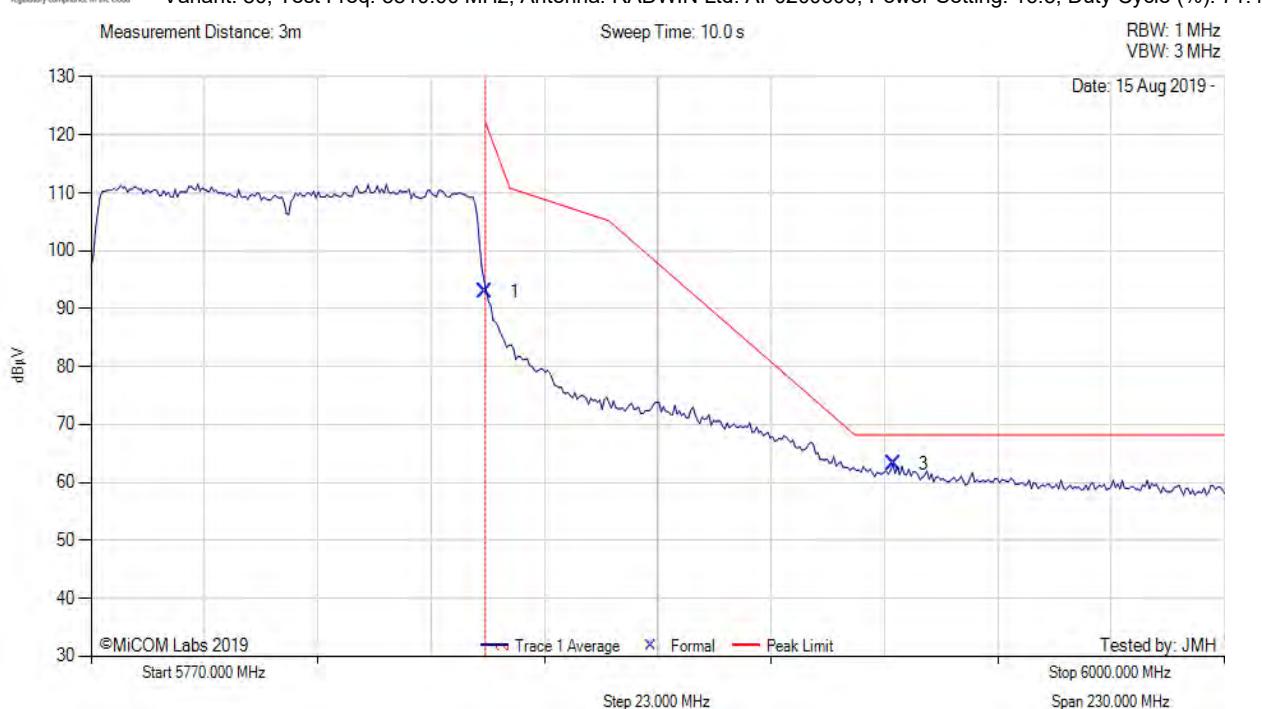
5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5850.00	63.05	-2.81	34.96	95.20	Max Peak	Horizontal	165	339	122.2	-27.0	Pass	
3	5957.72	28.56	-2.80	35.14	60.90	Max Peak	Horizontal	165	339	68.2	-7.3	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

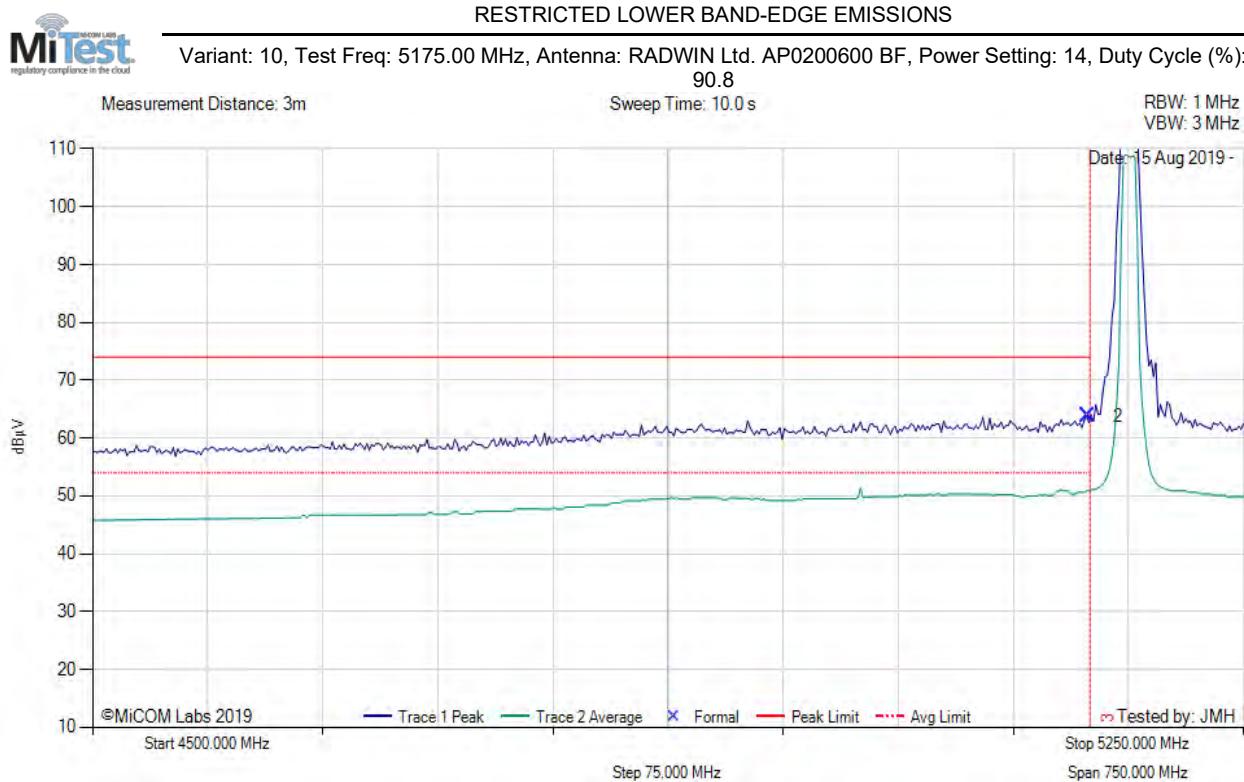


5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail	
1	5850.00	60.84	-2.81	34.96	92.99	Max Peak	Horizontal	165	339	122.2	-29.2	Pass	
3	5932.83	30.84	-2.77	35.11	63.18	Max Peak	Horizontal	165	339	68.2	-5.1	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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#### A.4.2.4. RADWIN Ltd. AP0200600 BF



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	500.12	19.80	-2.59	34.21	51.84*	Max Avg	Vertical	166	346	54.0	-2.2*	Pass	
2	5148.50	32.18	-2.61	34.21	63.78	Max Peak	Vertical	166	346	74.0	-10.2	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement

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RESTRICTED LOWER BAND-EDGE EMISSIONS



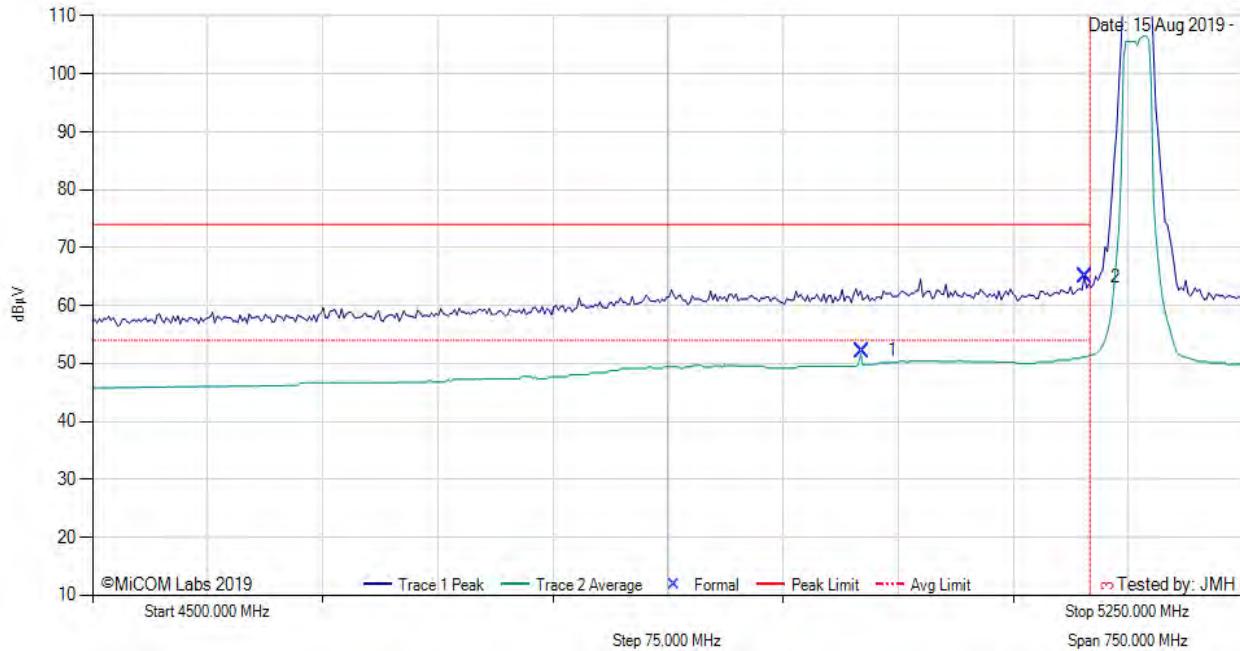
Variant: 20, Test Freq: 5180.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 14, Duty Cycle (%):

87.5

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
1	5001.20	20.04	-2.59	34.21	52.24*	Max Avg	Vertical	166	346	54.0	-1.8*	Pass	
2	5146.99	33.47	-2.61	34.21	65.07	Max Peak	Vertical	166	346	74.0	-8.9	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



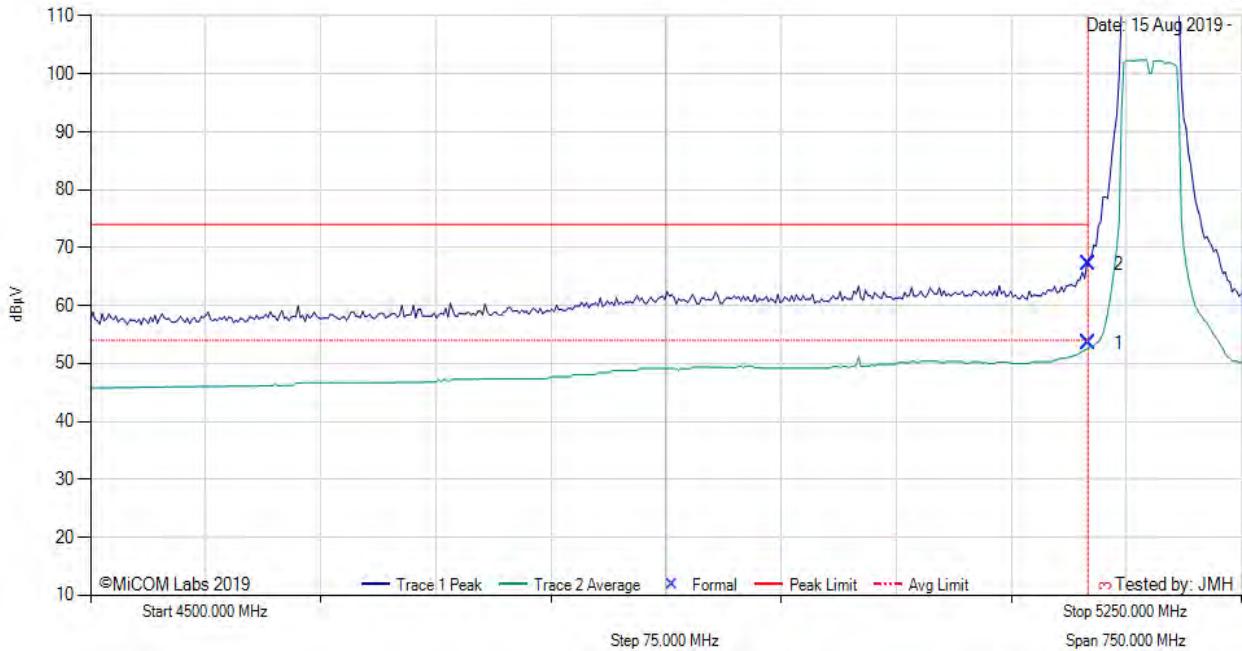
Variant: 40, Test Freq: 5190.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 14, Duty Cycle (%):

79.7

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5150.00	20.92	-2.61	34.21	53.51*	Max Avg	Vertical	166	346	54.0	-0.5*	Pass	
2	5150.00	35.63	-2.61	34.21	67.23	Max Peak	Vertical	166	346	74.0	-6.8	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



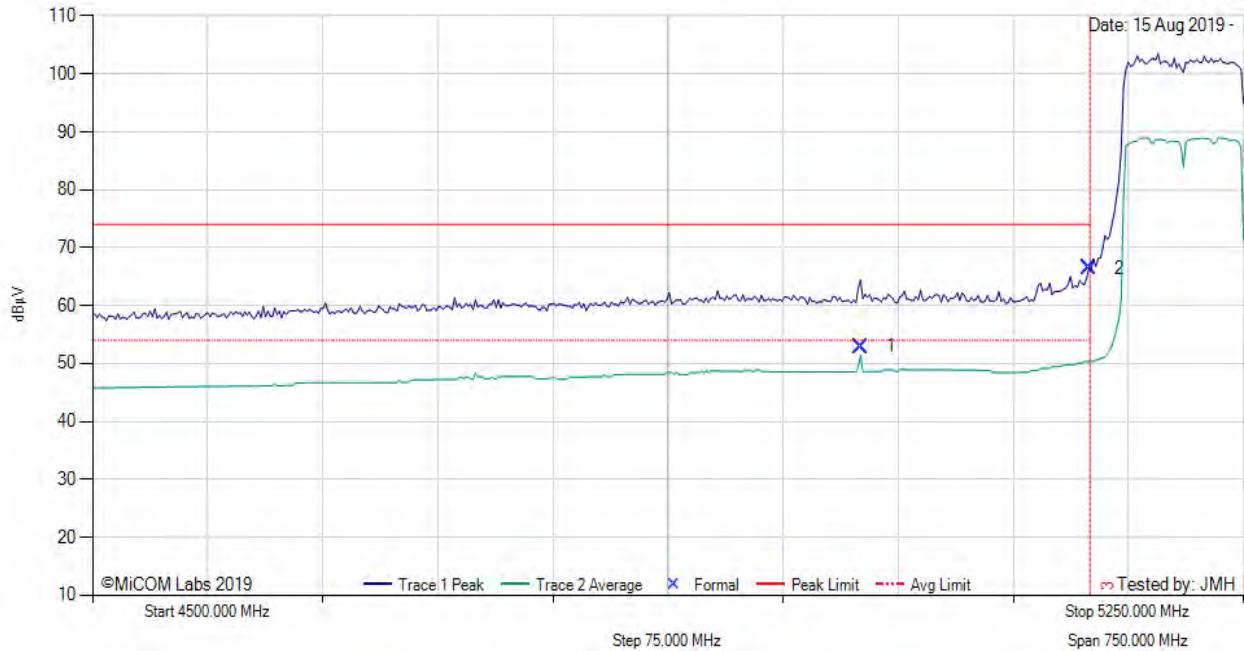
Variant: 80, Test Freq: 5210.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 8.5, Duty Cycle (%):

71.4

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
1	5000.50	19.80	-2.59	34.21	52.88*	Max Avg	Horizontal	166	346	54.0	-1.1*	Pass	
2	5149.30	34.81	-2.61	34.21	66.41	Max Peak	Horizontal	166	346	74.0	-7.6	Pass	
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--	

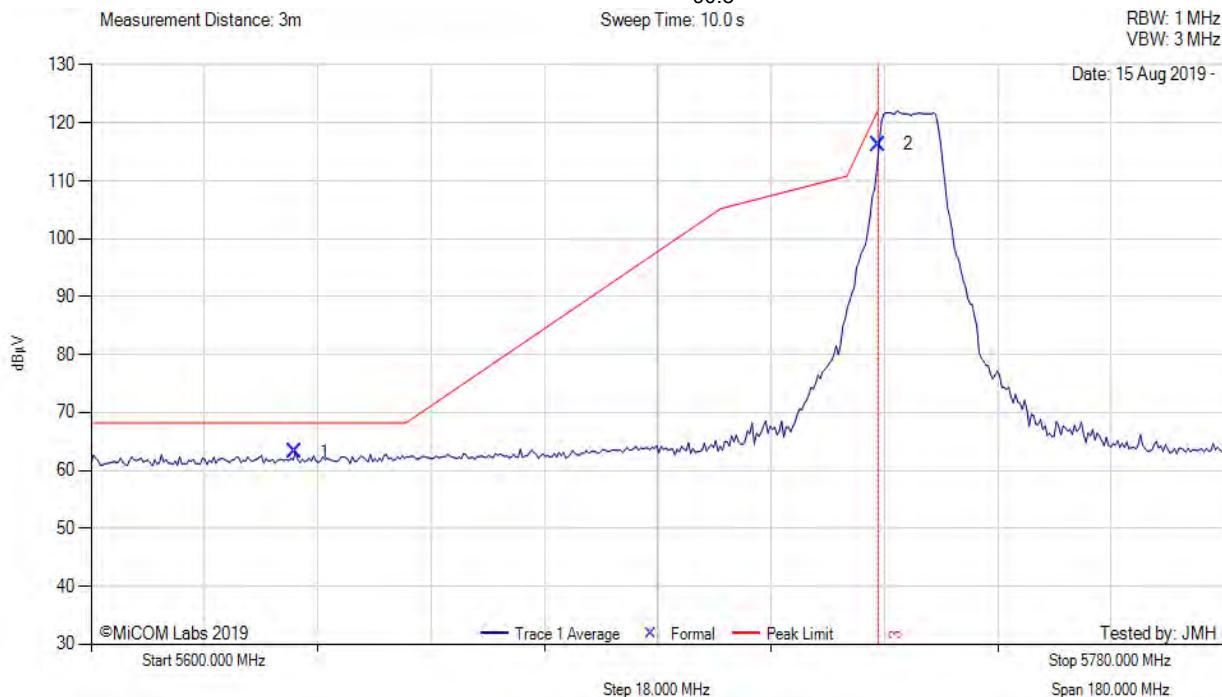
**Test Notes:** EUT powered by POE, connected to laptop outside chamber. \*Includes Duty Cycle Correction for Average measurement.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 10, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 19.0, Duty Cycle (%): 90.8



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5632.39	31.28	-2.70	34.64	63.22	Max Peak	Horizontal	166	349	68.2	-5.0	Pass	
2	5725.00	84.34	-2.74	34.72	116.32	Max Peak	Horizontal	166	349	122.2	-5.9	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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## 5725 MHz RADIATED BAND-EDGE EMISSIONS



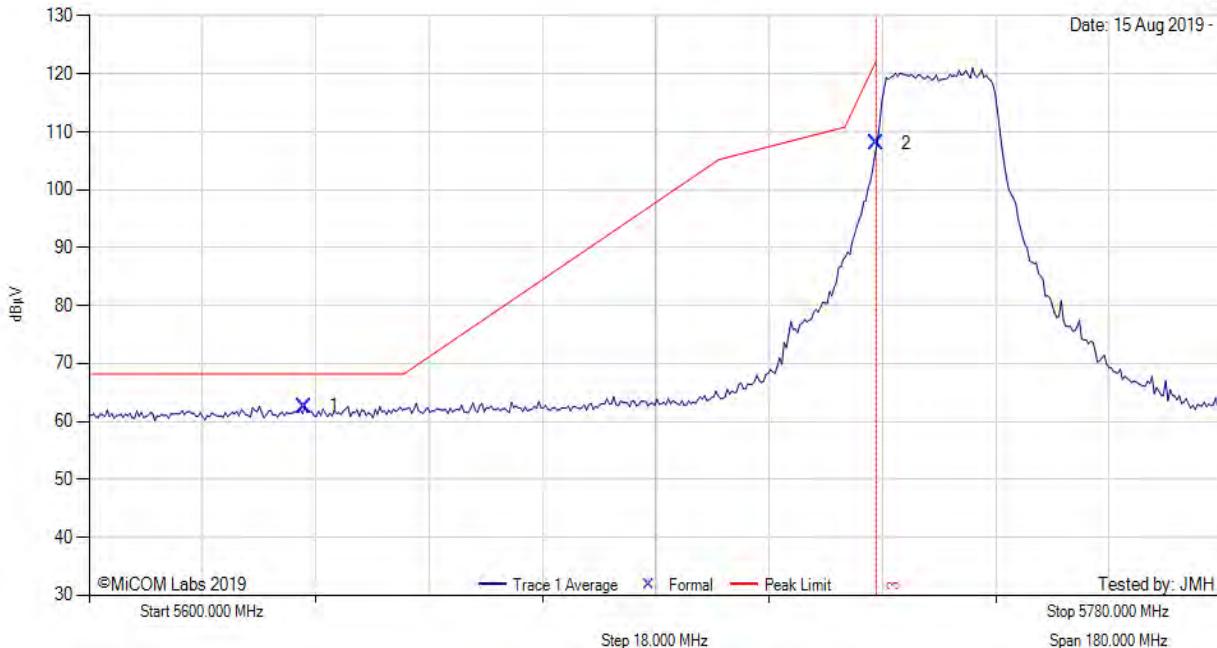
Variant: 20, Test Freq: 5735.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 19.5, Duty Cycle (%):

Measurement Distance: 3m

Sweep Time: 10.0 s

87.5

RBW: 1 MHz  
VBW: 3 MHz



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
1	5634.20	30.70	-2.70	34.64	62.64	Max Peak	Horizontal	166	349	68.2	-5.6	Pass
2	5725.00	76.08	-2.74	34.72	108.06	Max Peak	Horizontal	166	349	122.2	-14.1	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



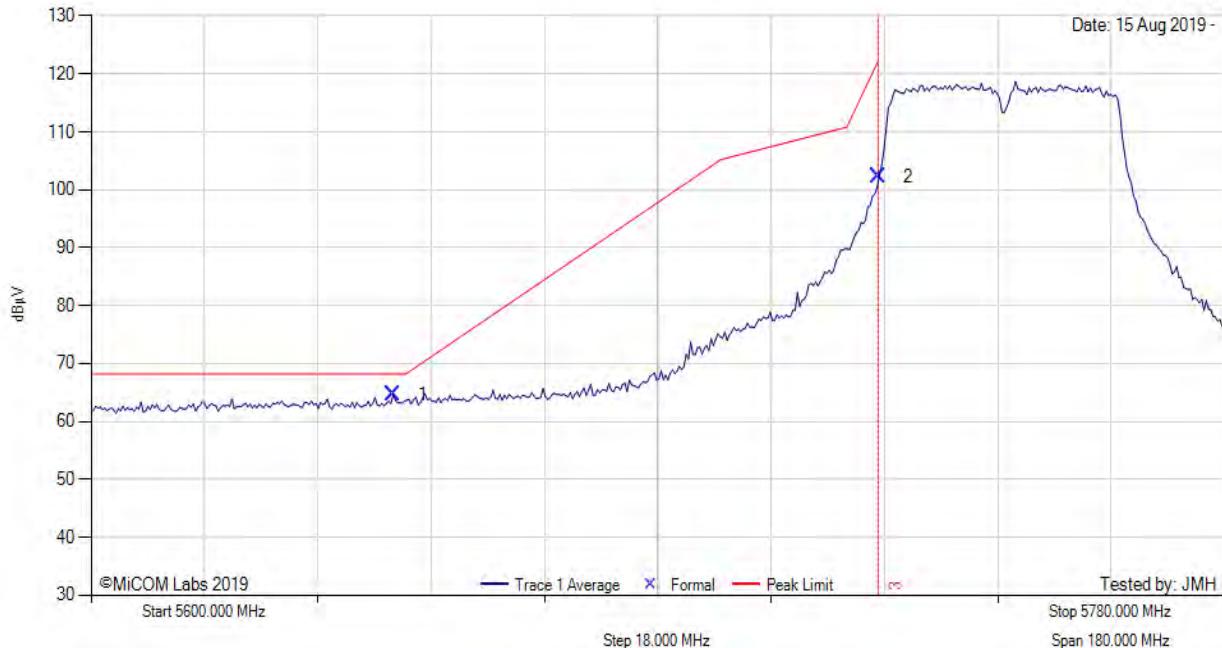
Variant: 40, Test Freq: 5745.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 19, Duty Cycle (%):

79.7

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
1	5647.91	32.80	-2.72	34.63	64.71	Max Peak	Horizontal	166	349	68.2	-3.5	Pass	
2	5725.00	70.29	-2.74	34.72	102.27	Max Peak	Horizontal	166	349	122.2	-19.9	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



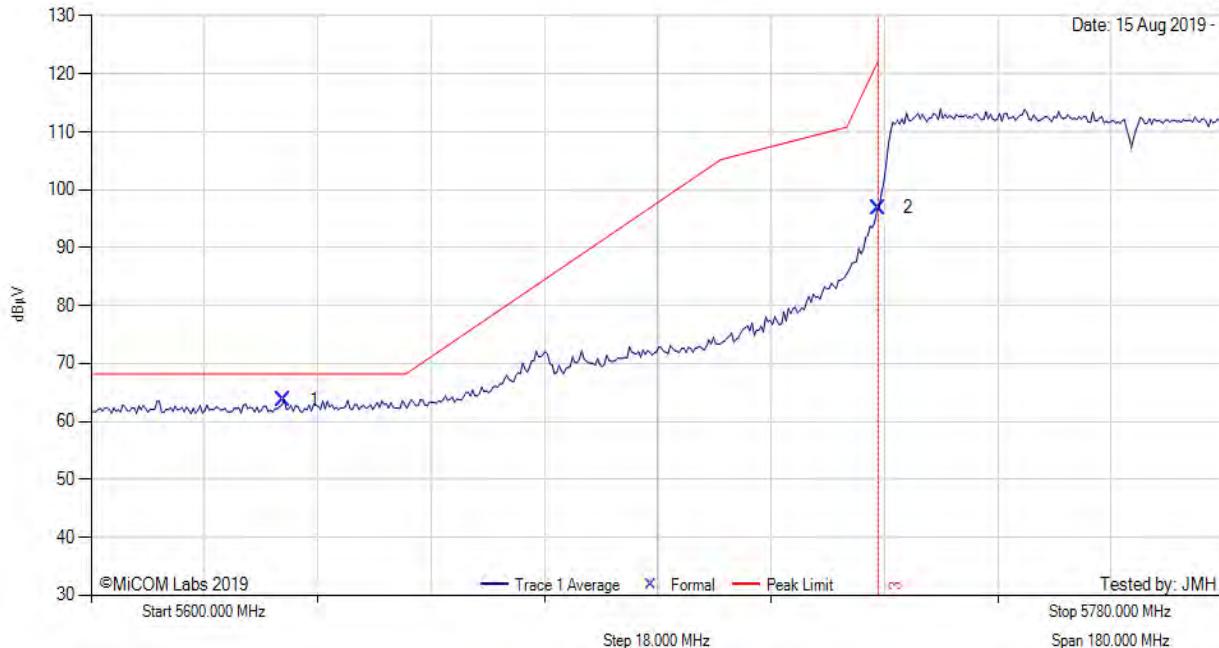
Variant: 80, Test Freq: 5765.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 17, Duty Cycle (%):

71.4

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
1	5630.59	31.80	-2.71	34.64	63.73	Max Peak	Horizontal	166	349	68.2	-4.5	Pass	
2	5725.00	64.86	-2.74	34.72	96.84	Max Peak	Horizontal	166	349	122.2	-25.4	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

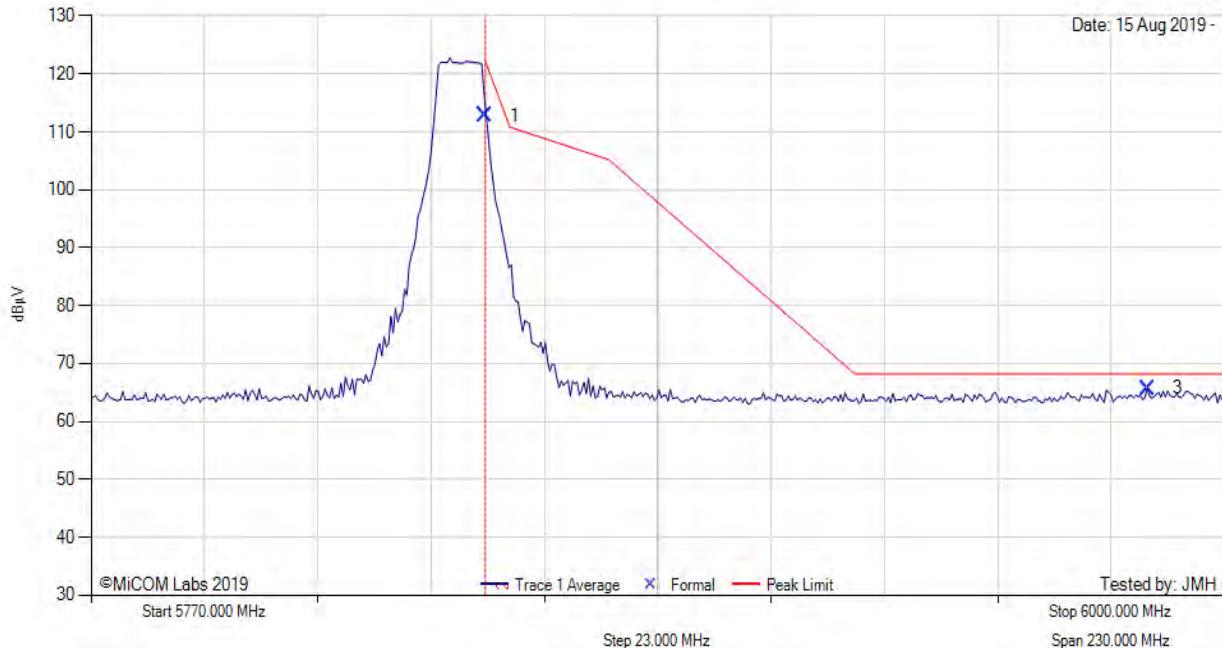


Variant: 10, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 17.5, Duty Cycle (%): 90.8

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail	
1	5850.00	80.63	-2.81	34.96	112.78	Max Peak	Horizontal	166	348	122.2	-9.5	Pass	
3	5984.45	33.35	-2.83	35.20	65.72	Max Peak	Horizontal	166	348	68.2	-2.5	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 20, Test Freq: 5840.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 18, Duty Cycle (%):

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz

5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
1	5850.00	71.71	-2.81	34.96	103.86	Max Peak	Horizontal	166	348	122.2	-18.4	Pass
3	5938.82	33.34	-2.77	35.12	65.69	Max Peak	Horizontal	166	348	68.2	-2.5	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



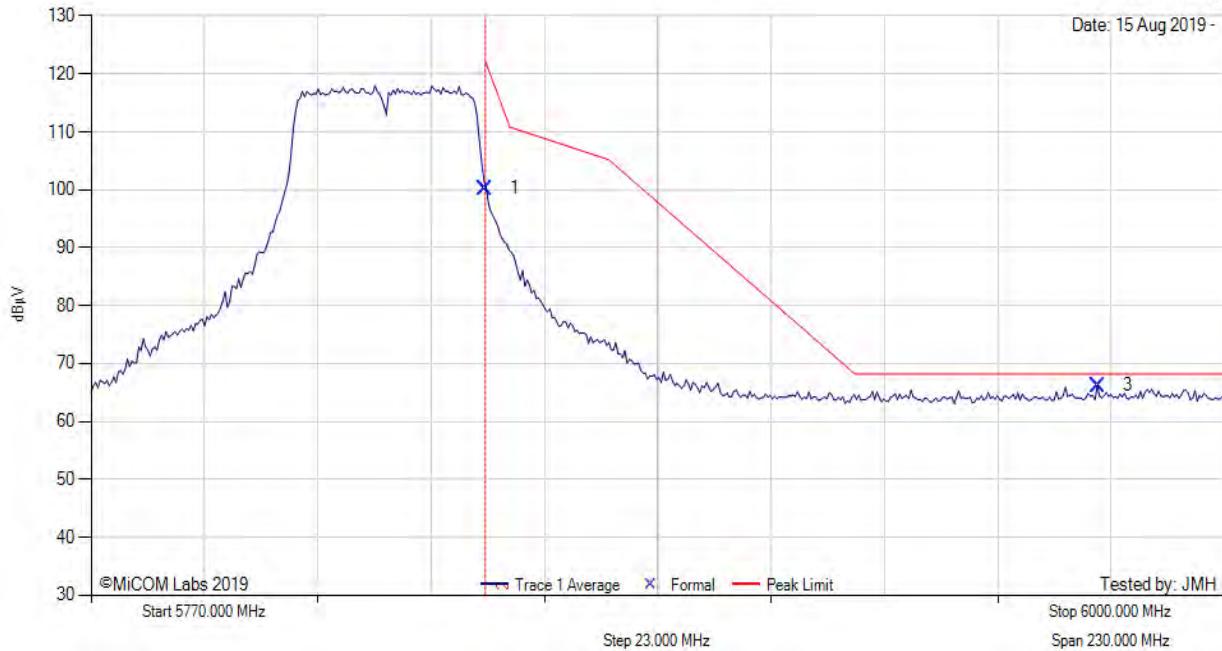
Variant: 40, Test Freq: 5830.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 17, Duty Cycle (%):

79.7

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail	
1	5850.00	68.06	-2.81	34.96	100.21	Max Peak	Horizontal	166	348	122.2	-22.0	Pass	
3	5974.31	33.85	-2.81	35.17	66.21	Max Peak	Horizontal	166	348	68.2	-2.0	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



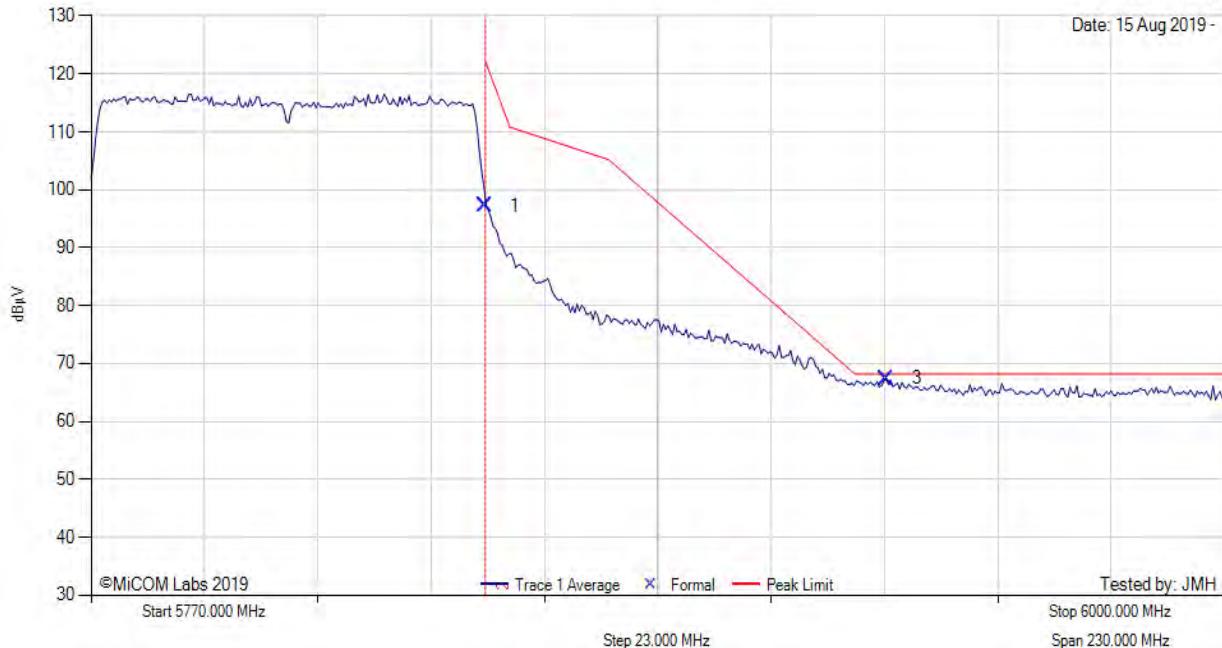
Variant: 80, Test Freq: 5810.00 MHz, Antenna: RADWIN Ltd. AP0200600 BF, Power Setting: 16.5, Duty Cycle (%):

71.4

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz  
VBW: 3 MHz



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB/m	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail	
1	5850.00	65.06	-2.81	34.96	97.21	Max Peak	Horizontal	166	348	122.2	-25.0	Pass	
3	5931.44	35.12	-2.78	35.11	67.45	Max Peak	Horizontal	166	348	68.2	-0.8	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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