SHURE

ELECTROMAGNETIC COMPATIBILITY LABORATORY
TEST REPORT

TEST REPORT TITLE: Electromagnetic Compatibility Tests of the Shure ADX1 Digital Wireless Transmitter.

TEST ITEM DESCRIPTION:

The Shure ADX1 is a digital wireless microphone transmitter.

For:	Shure Incorporated 5800 West Touhy Avenue Niles, IL 60714
Project ID Number:	SEL-032/ADX1
Test Date:	February 14, 2018 - March 1, 2018
Test Personnel:	Brad McClain
Test Specification:	FCC Part 15C, Section 15.236(g), Part 74.861(e)(5)(7) RSS-210, Section G.3.2 and G.3.4 ANSI C63.26-2015 ANSI C63.10-2013 EN 300 422-1 v1.4.2

TEST REPORT BY:	Bradley McClain	Global Compliance Engineer	3/22/2018
APPROVED BY:	Signature	Global Compliance Project Engr. (Position)	3/22/18 (Date)

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LIST OF APPENDICIES

APPENDIX	TEST DESCRIPTION
A	Necessary Bandwidth
B	Occupied Bandwidth

REPORT REVISION HISTORY

Revision	Date	Description
0	March 2, 2018	Initial release

1. INTRODUCTION

1.1. Scope of Tests

This report presents the results of testing per FCC Part 15C, Section 15.236(g), Part 74.861(e)(5)(7), and RSS-210, Section G.3.2 and G.3.4, Necessary Bandwidth and Occupied Bandwidth. The following data was taken following the measurement method as described in the document section(s) listed on page 1 of this document. Provided is the data for the test sample. Also included is a summary of the measurements made and a description of the measurement setup. The test samples meet the requirements of the above standards. The equipment under test (EUT) contained a transmitter that was designed to transmit in the UHF TV frequency bands shown in Table 1.

Model	Band	Frequency (MHz)	Output Power (mW)
ADX1	G57	470.125 – 607.875	2 and 40
ADX1	G57	614.125 – 615.875	2 and 10
ADX1	K54	606.000 – 607.875	2 and 40
ADX1	K54	614.125 – 615.875	2 and 10
ADX1	K54	653.125 – 657.000	2 and 10
ADX1	K54	657.000 – 662.875	2 and 10
ADX1	X55	941.625 – 959.725	2 and 40

Table 1. EUT Frequencies and Power Levels

1.2. Purpose

This series of testing was performed to determine if the test item would meet the requirements of FCC Part 15C, Section 15.236(g), Part 74.861(e)(5)(7), and RSS-210, Section G.3.2 and G.3.4.

1.3. Deviations, Additions and Exclusions

None

1.4. EMC Laboratory Identification

The electromagnetic compatibility tests were performed at the Shure Electromagnetic Laboratory, Shure Incorporated, 5800 West Touhy Ave, Niles, Illinois 60714-4608. This laboratory is registered with Industry Canada as Site # 616A-1. The Shure Electromagnetic Laboratory is accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP). The NVLAP Lab Code is: 200946-0.

1.5. Summary of Tests Performed

The following electromagnetic compatibility tests (Table 2) were performed.

Test Spec	Description	Tested Frequency	Appendix	Test Results
FCC Part 15C, Part 74 RSS-210	Necessary Bandwidth	N/A	A	Pass
FCC Part 15C, Part 74 RSS-210	Occupied Bandwidth	N/A	B	Pass

Table 2. Summary of tests performed

2. APPLICABLE DOCUMENTS

The following documents of the exact issue designated form part of this document to the extent specified herein:

-FCC Part 15C, Section 15.236(g), Part 74.861(e)(5)(7)
-RSS-210, Section G.3.2 and G.3.4
-ANSI C63.26-2015
-ANSI C63.10-2013

3. EUT SET-UP AND OPERATION

3.1. General Description

The test sample used was Shure ADX1 digital wireless microphone transmitter. The EUT was arranged and tested per individual Appendices.

3.2 Test Sample

The following product sample was tested:

ADX1 Serial Numbers
#73, #229, and #285

Table 3: Shure ADX1 Digital Wireless Transmitter Sample

3.3 Operational Mode

All necessary bandwidth tests were performed separately in the transmit frequency and output power modes shown in Table 4.

Band	Frequency in MHz	L/M/H	Power Level in mW
G57	470.125	Low	2 and 40
G57	539.000	Mid	2 and 40
G57	607.875	High	2 and 40
G57	614.125	Low	2 and 10
G57	615.000	Mid	2 and 10
G57	615.875	High	2 and 10
K54	606.000	Low	2 and 40
K54	606.938	Mid	2 and 40
K54	607.875	High	2 and 40
K54	614.125	Low	2 and 10
K54	615.000	Mid	2 and 10
K54	615.875	High	2 and 10
K54	653.125	Low	2 and 10
K54	655.063	Mid	2 and 10
K54	657.000	High	2 and 10
K54	657.000	Low	2 and 10
K54	659.938	Mid	2 and 10
K54	662.875	High	2 and 10
X55	941.625	Low	2 and 40
X55	950.675	Mid	2 and 40
X55	959.725	High	2 and 40

Table 4. EUT Frequencies and Power Levels

4. TEST INSTRUMENTATION

A list of the test equipment used can be found in Table 10-1. All equipment used was within calibration during and throughout the duration of the tests. All calibrations are traceable to the National Institute of Standards and Technology (NIST).

5. PROCEDURE

The specific test procedures are presented in the individual appendices.

6. OTHER TEST CONDITIONS

6.1. Test Personnel

All EMC tests were performed by qualified personnel from the Shure EMC Laboratory.

6.2. Disposition of the EUT

The EUTs and all associated equipment were returned to Shure Incorporated upon completion of the tests.

7. RESULTS

The results are presented in Appendices. It was found that the EUT meets all the requirements.

8. CONCLUSIONS

It was determined that the Shure ADX1 Digital Wireless Microphone Transmitter did fully comply with the all the requirements.

9. CERTIFICATION

Shure EMC Laboratory certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the test specifications.

The data presented in this test report pertains to the EUTs at the test date. Any electrical or mechanical modification made to the EUTs subsequent to the specified test date will serve to invalidate the data and void this certification.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

10. Equipment List

L# or ID	Description	Manufacturer	Model #	Serial #	Frequency Range	Cal Date	Due Date
L23-022-02	Spectrum Analyzer	Rohde & Schwarz	FSW26	103788	9kHz-26GHz	3/28/2017	3/28/2018
L23-040-09	20dB attenuator	Mini-Circuits	BW-S20W2	N/A	20MHz to 18GHz	2/21/2017	2/28/2019

Table 10-1 Test Equipment

Appendix A

NECESSARY BANDWIDTH MEASUREMENTS

A.1 PURPOSE

This test was performed to determine if the EUT meets the necessary bandwidth requirements of EN 300 422-1 v1.4.2, section 8.3.3.

A.2 REQUIREMENTS

As stated in EN 300 422-1 v1.4.2, section 8.3.3, the emission mask given in section 8.3.3.2 shall not be exceeded.

A.3 TEST SETUP AND INSTRUMENTATION

A photograph of the test setup is shown in Figure A-1. The test instrumentation can be determined from Table 10-1.

A.4 MEASUREMENT UNCERTAINTY

All measurements are an estimate of their true value. The measurement uncertainty characterizes, with a specified confidence level, the spread of values which may be possible for a given measurement system.

Values of Expanded Measurement Uncertainty (95% Confidence):

Measurement Type	U_{LAB}
Necessary Bandwidth	**±0.130 %**

U_{lab} = Determined for Shure EMC Laboratory

Since U_{LAB} is less than or equal to U_{ETSI}:

- Compliance is deemed to occur if no measured disturbance exceeds the disturbance limit;
- Non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.

A.5 EUT OPERATION

The EUT was powered up and the transmit frequency and power output of the EUT were selected. The EUT was checked for proper operation after it was setup for the test. The transmitter was modulated per EN300422-1 V1.4.2 (2011-08), clause 7.1.2.

A.6 TEST PROCEDURE

The test procedure followed is shown in EN300422-1 V1.4.2 (2011-08), section 8.3.3.1.

A.7 RESULTS

The necessary bandwidth data is presented on pages 10 through 129. Data is shown on the figures for each transmitter. The figure shows the maximum relative level within the emission mask with modulation. As shown by the test data, the necessary bandwidth of the EUT meets the requirements of EN 300 422-1, section 8.3.3.

Appendix A

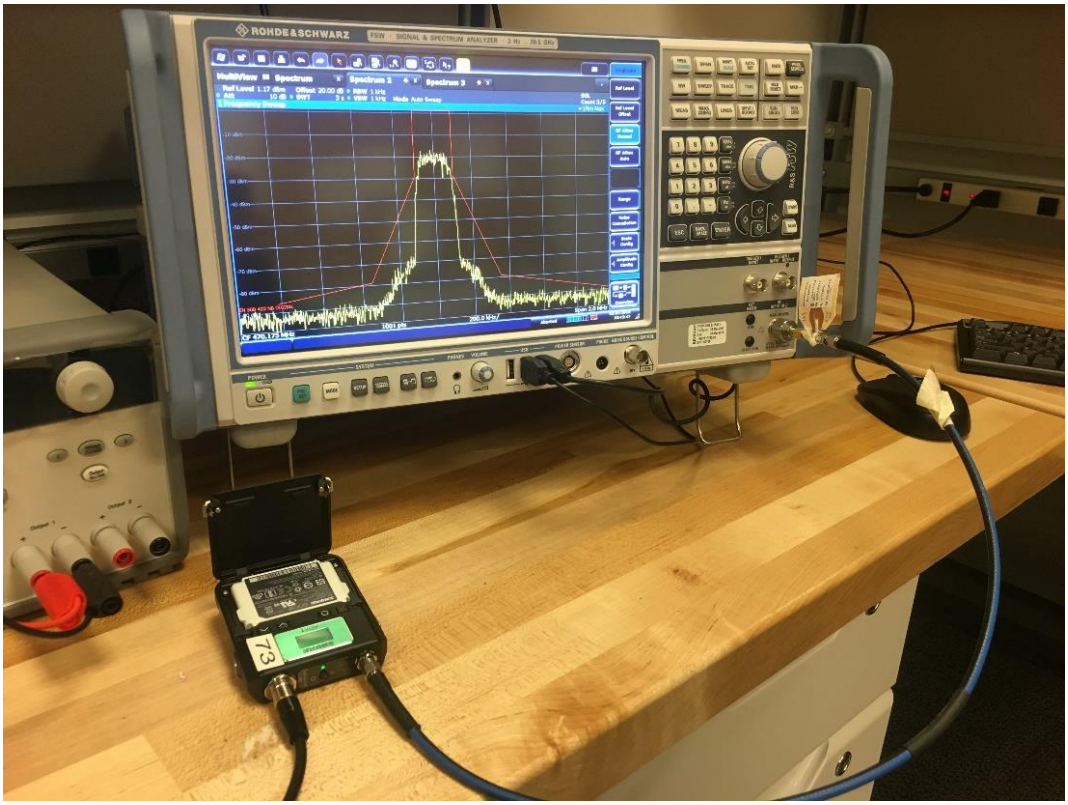
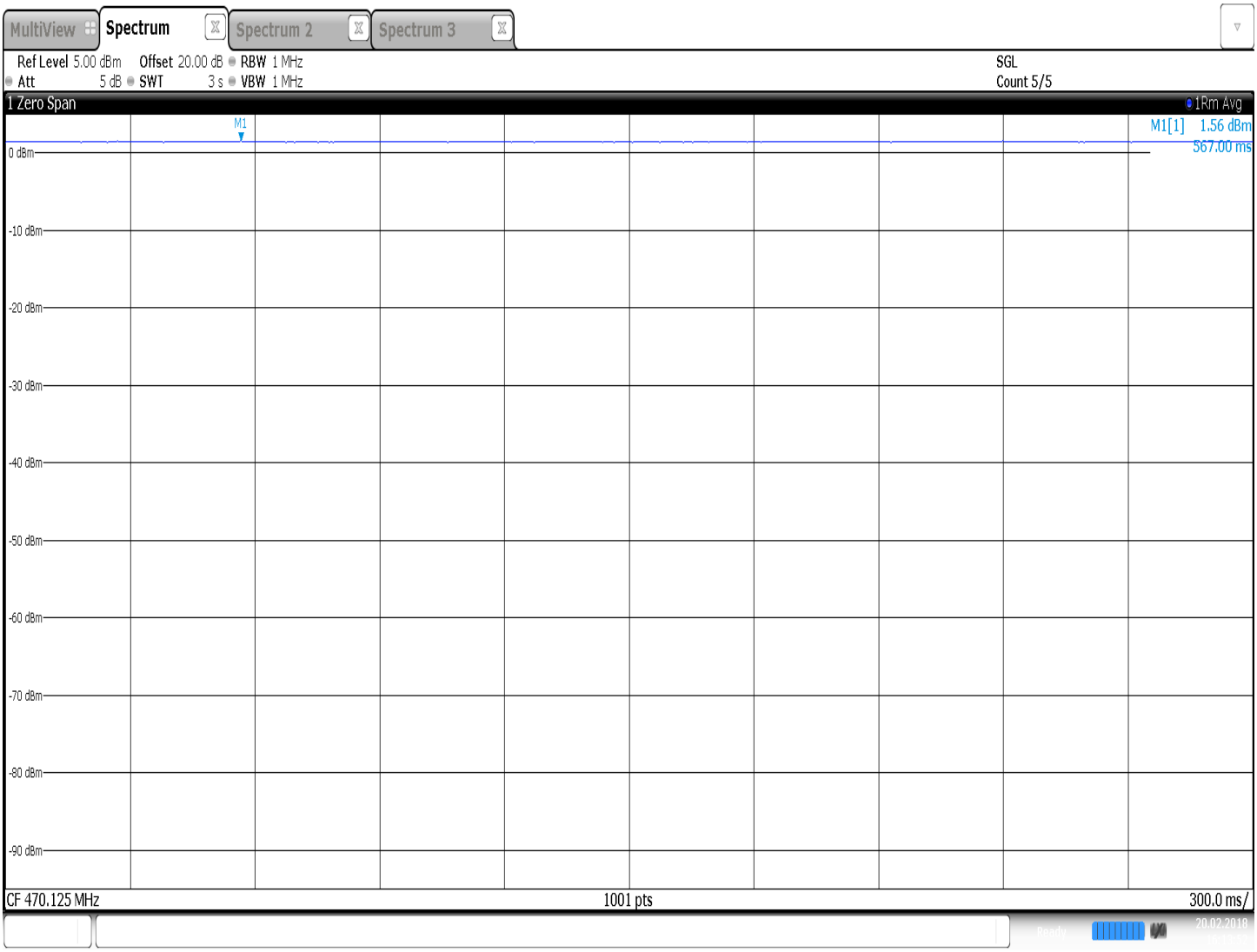


Figure A-1 - Test Setup for Necessary Bandwidth

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	470.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018



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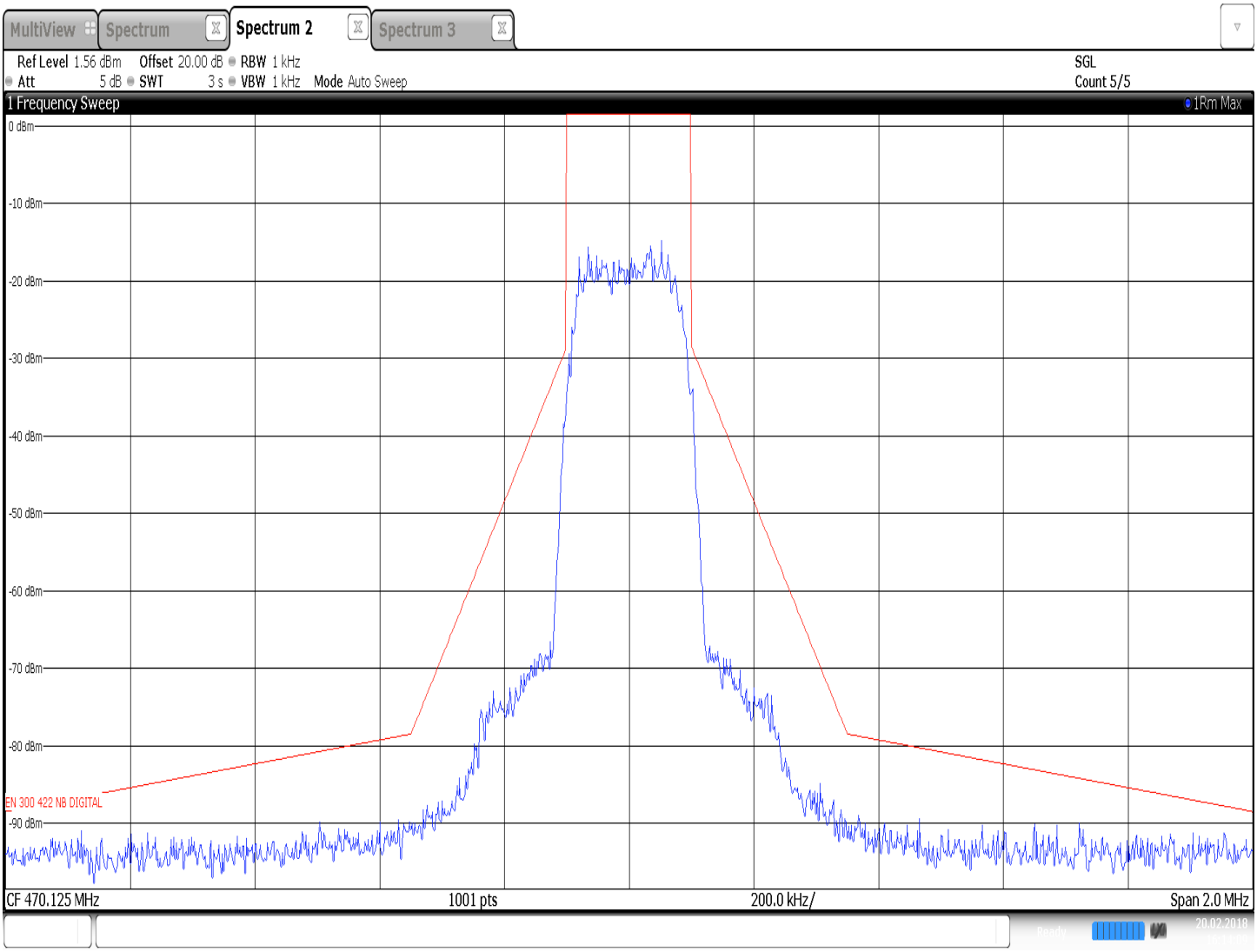
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	470.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Tested on February 20, 2018



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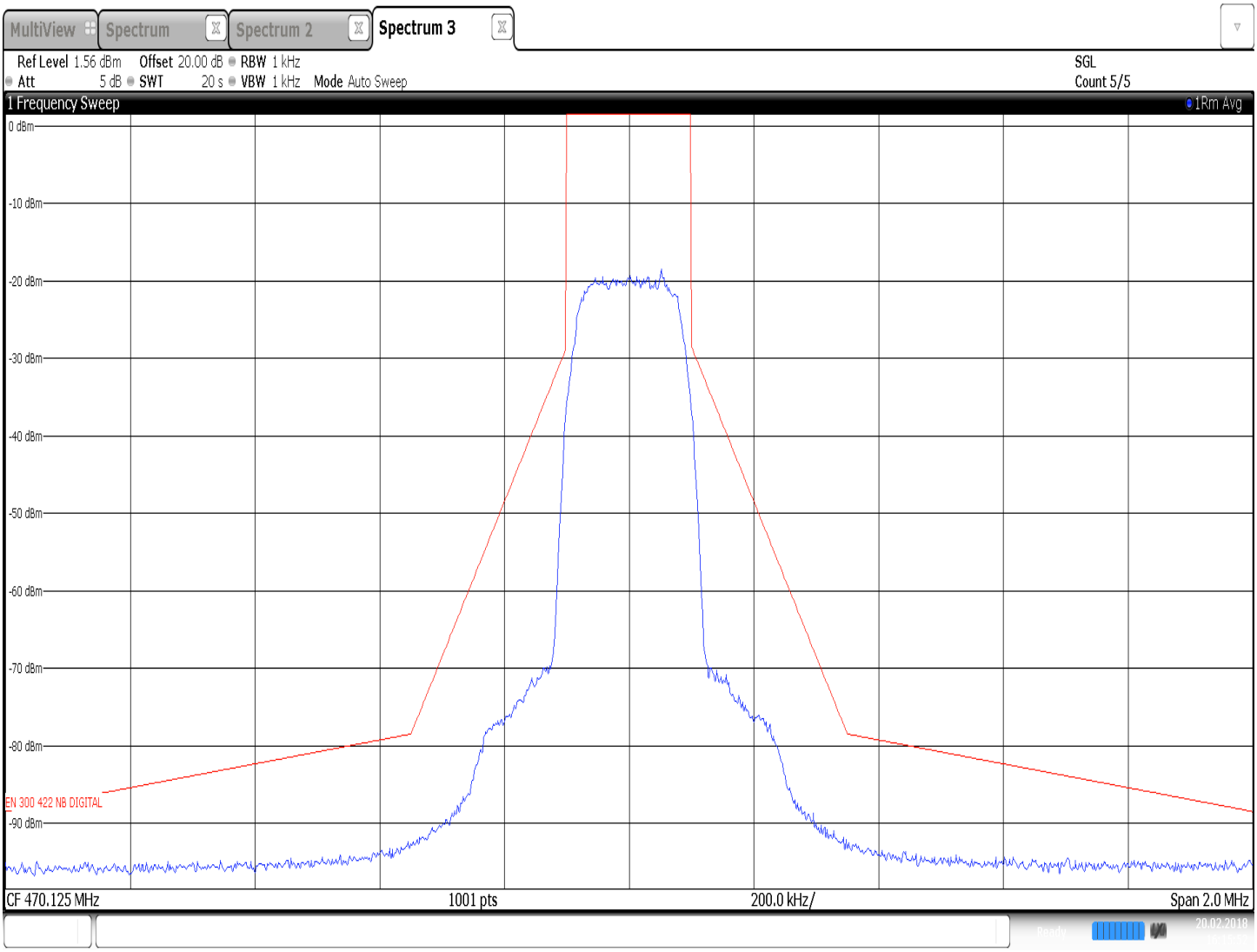
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	470.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Tested on February 20, 2018



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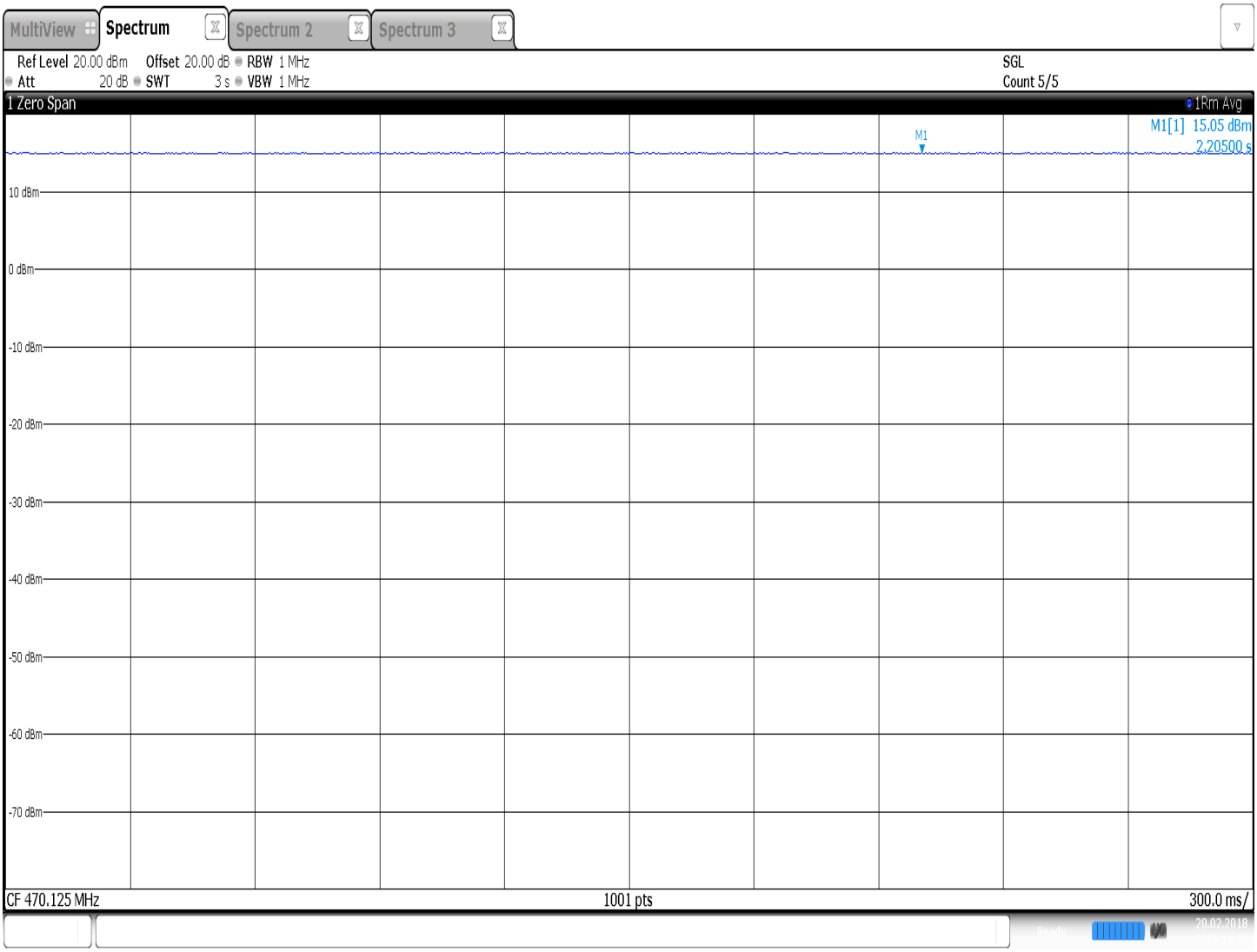
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	470.125 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018



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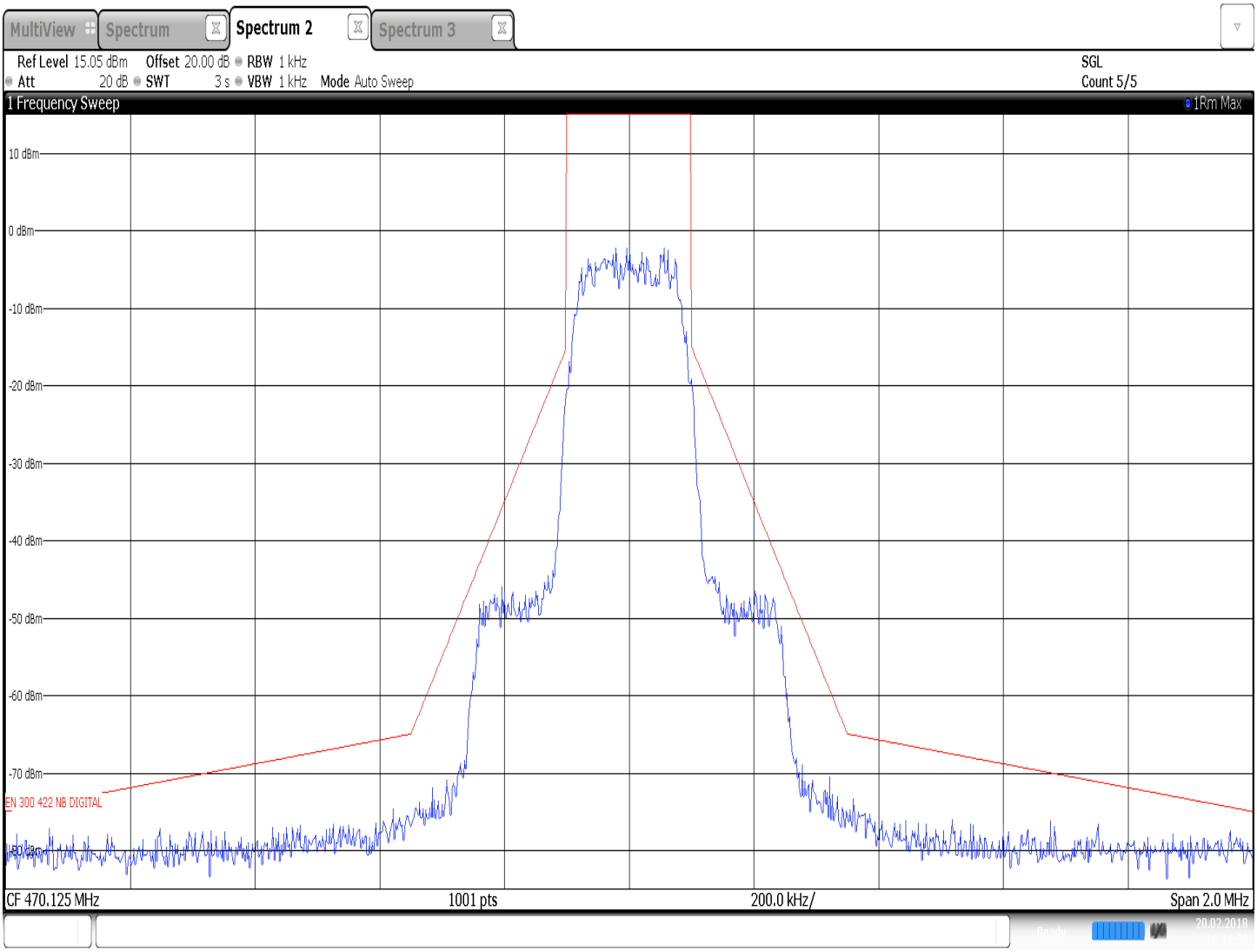
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	470.125 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018



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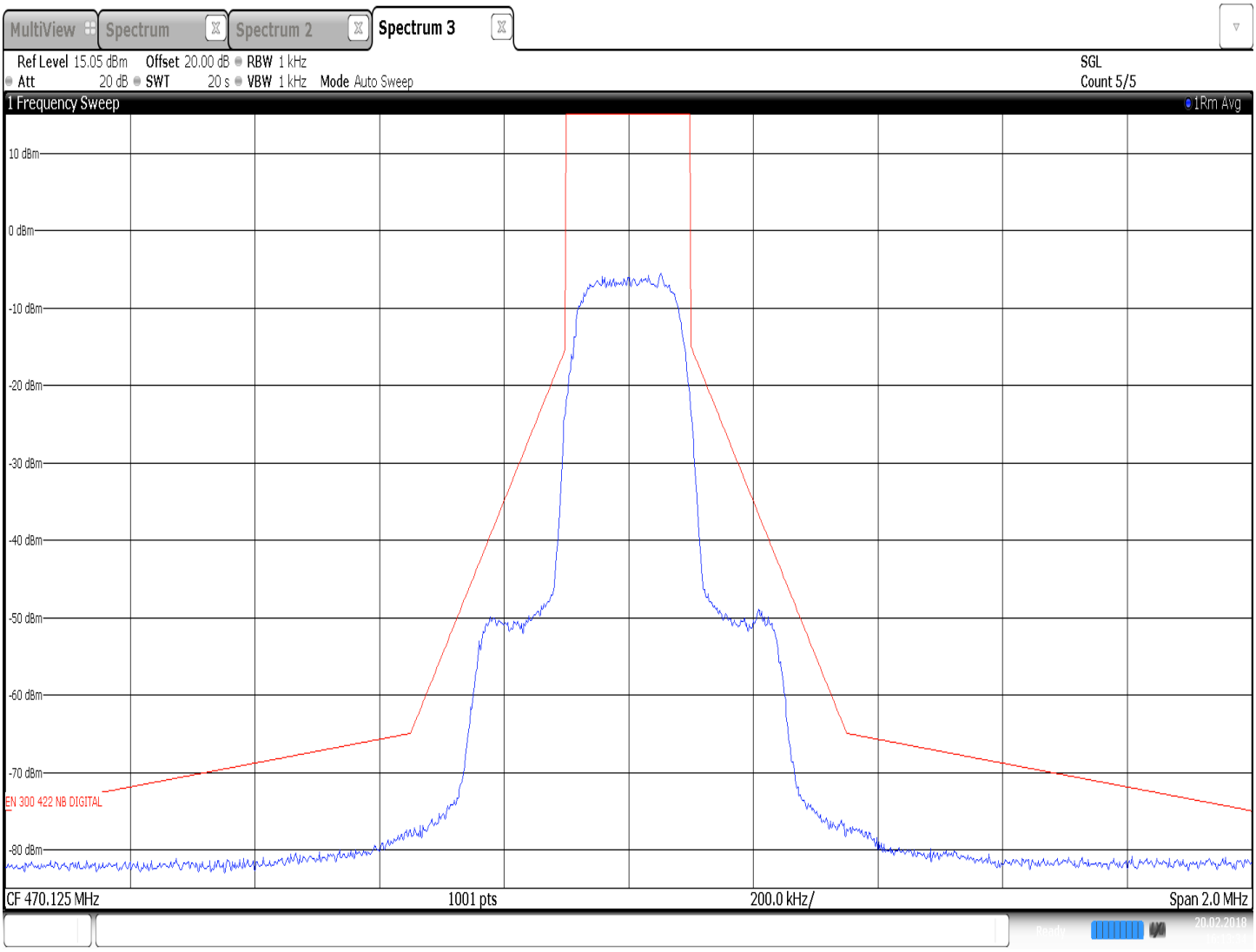
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	470.125 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018



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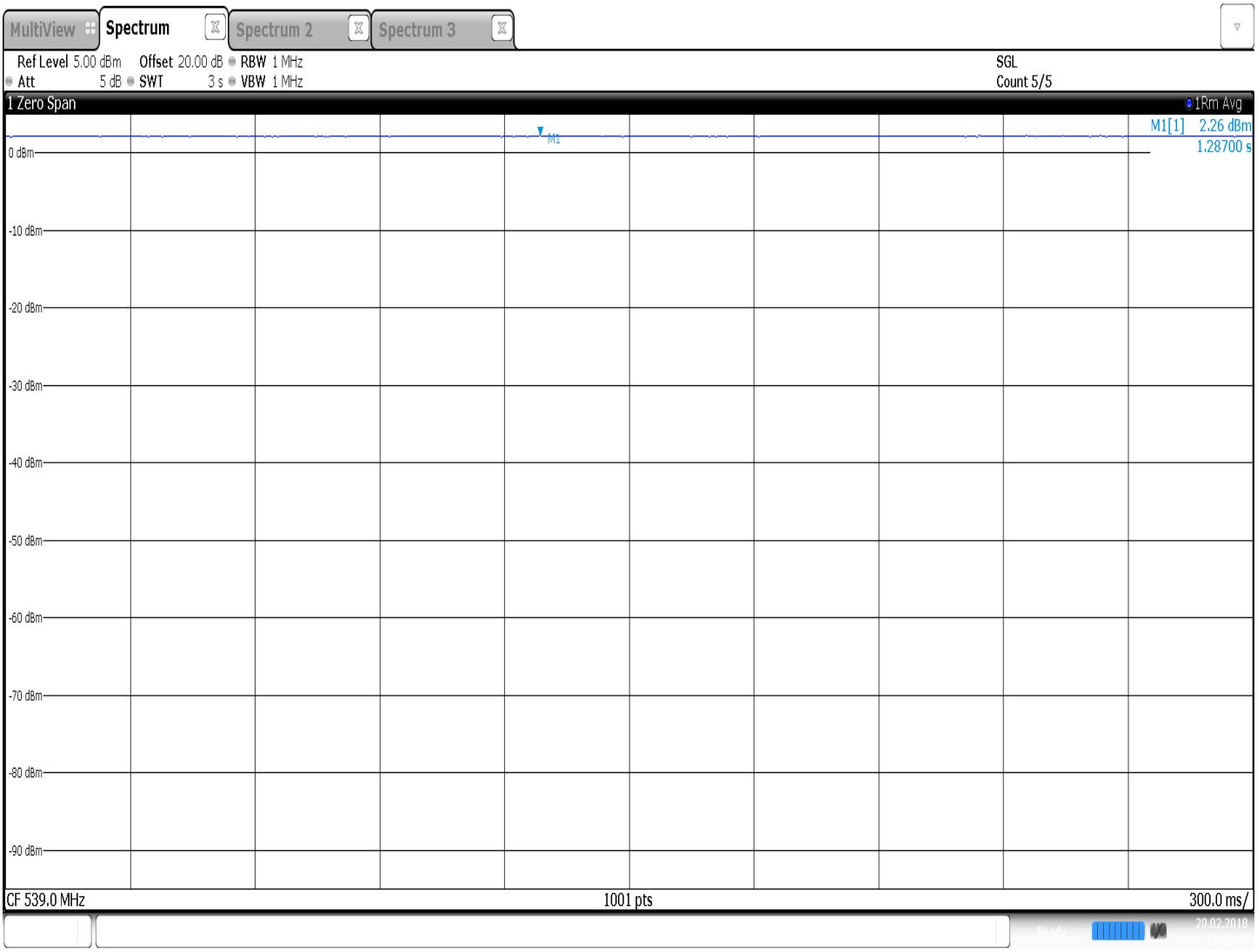
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	539.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018



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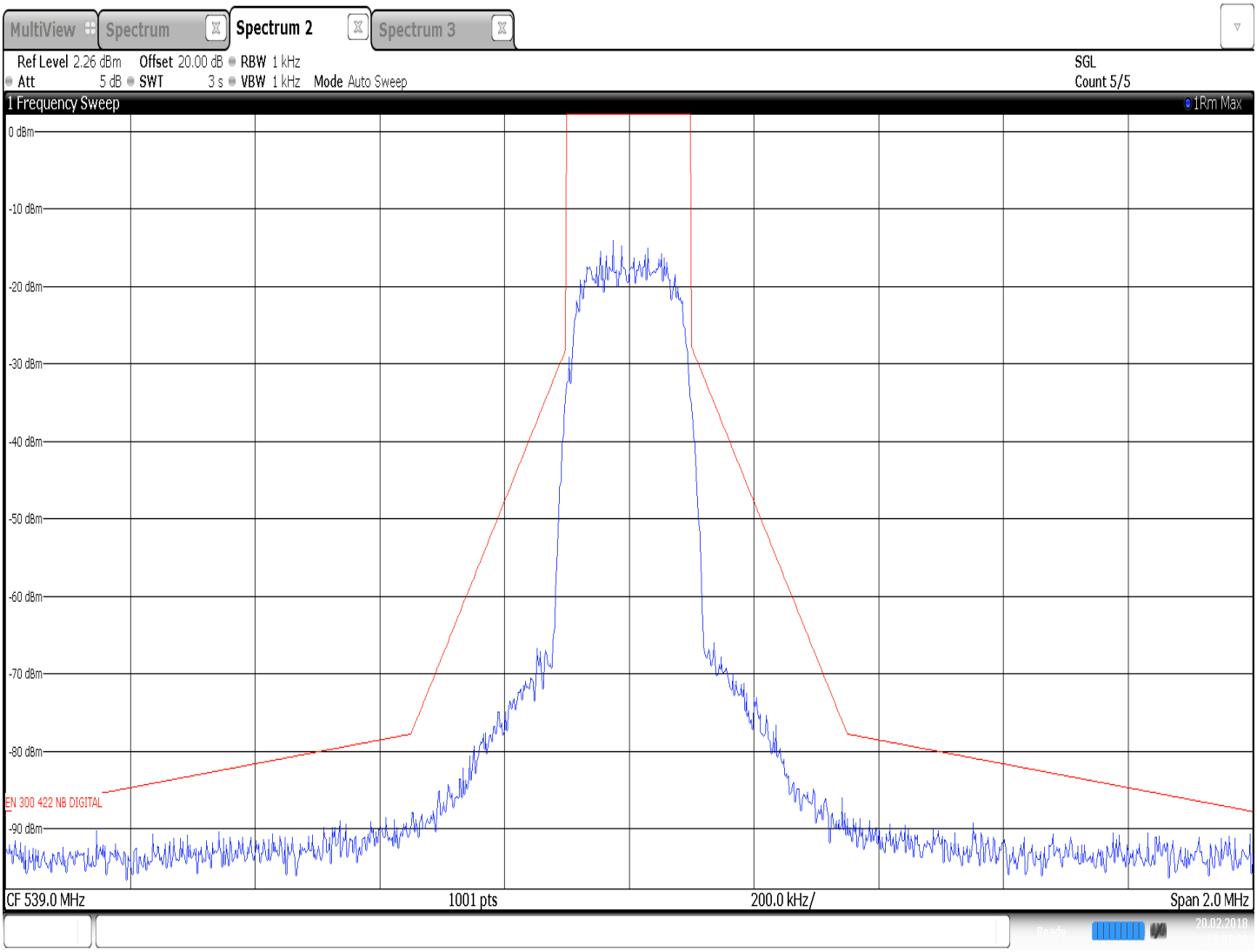
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	539.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018



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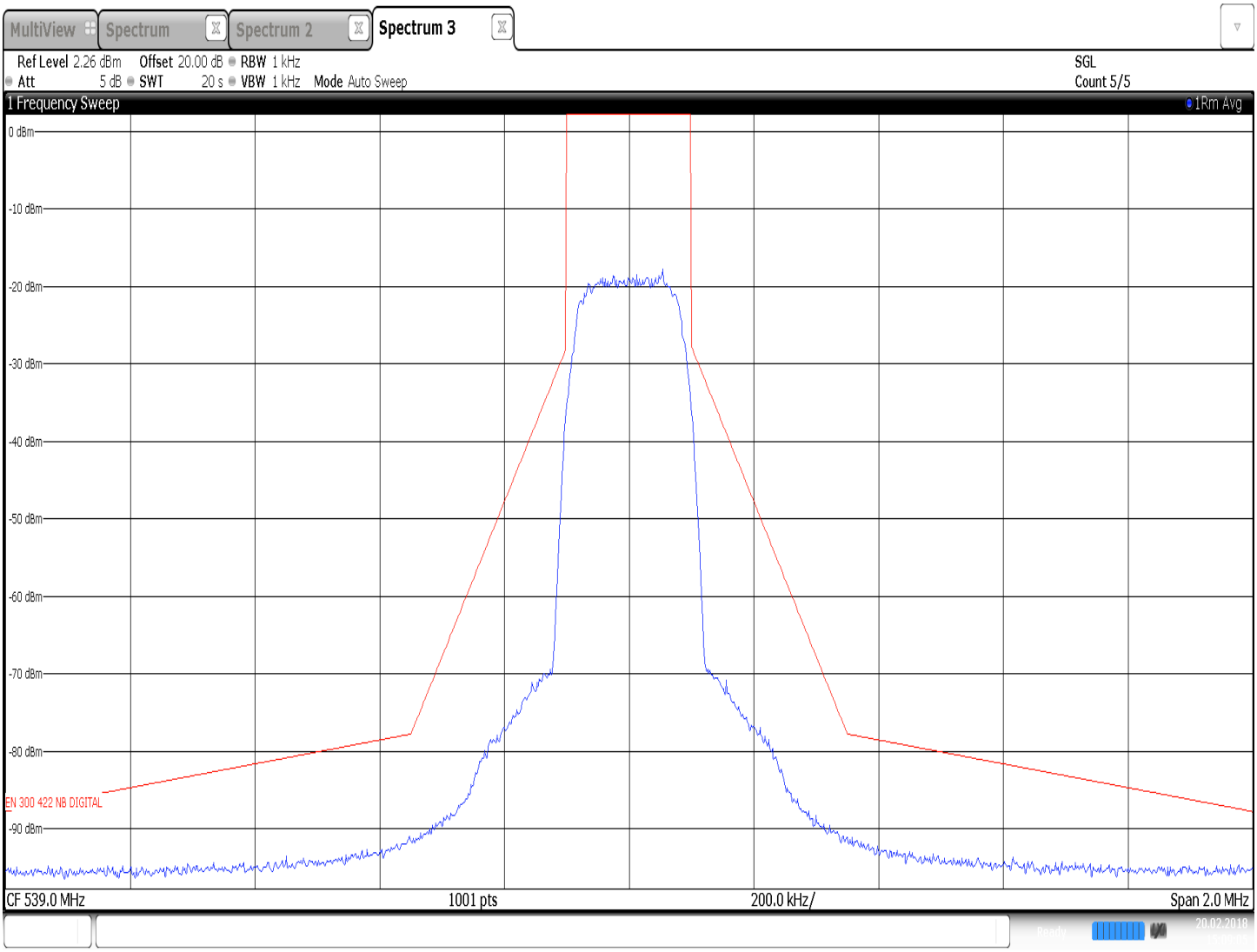
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	539.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018



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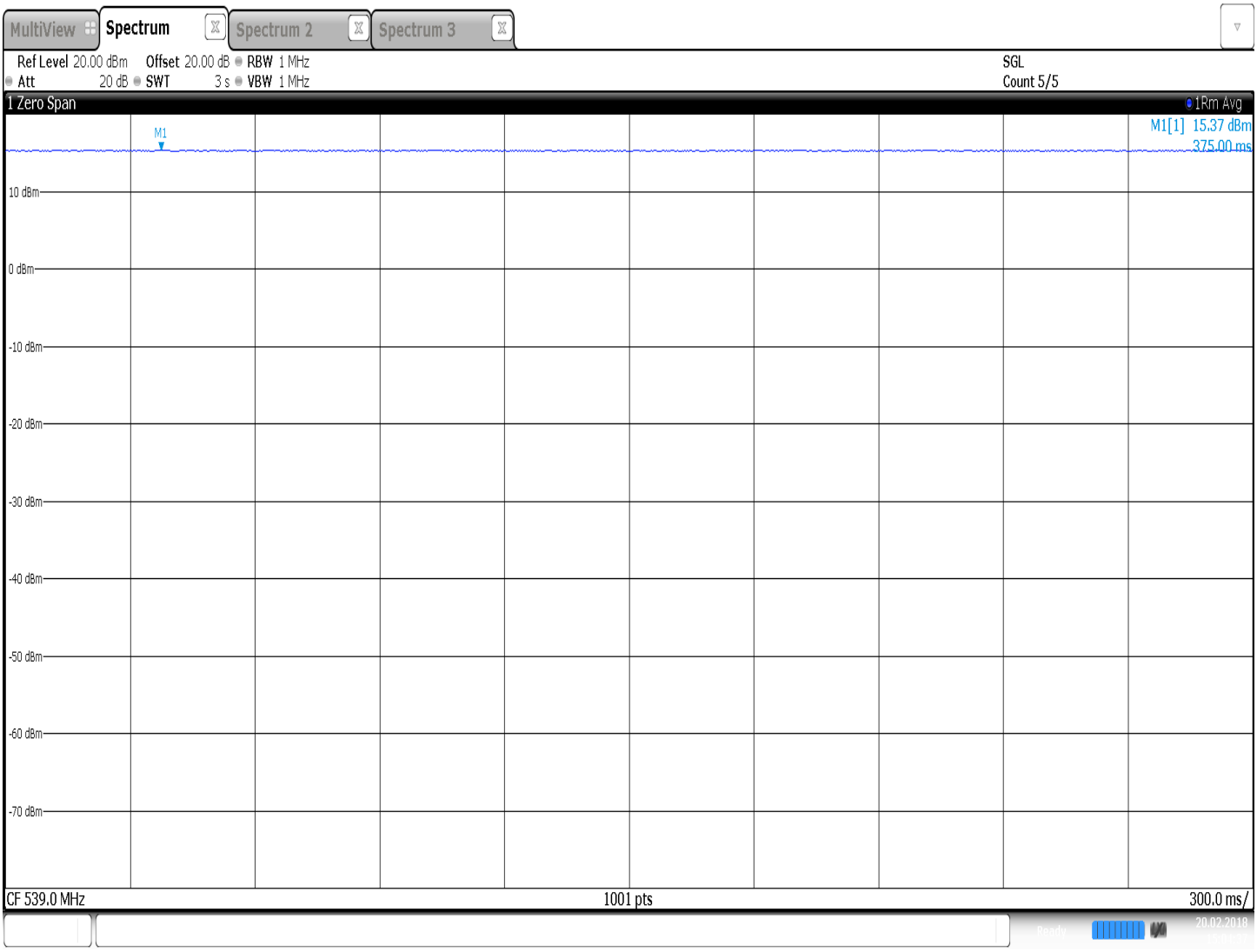
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	539.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018



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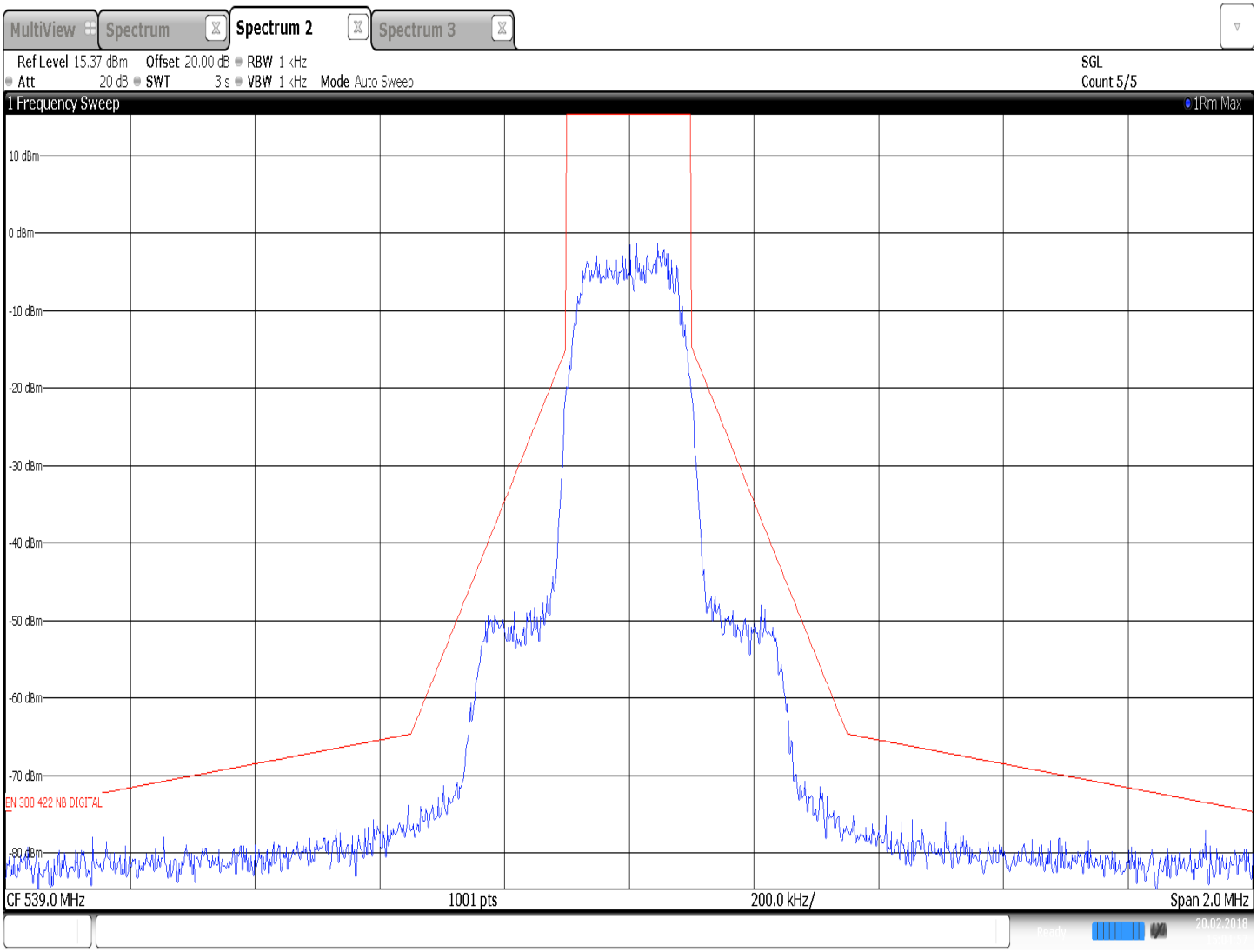
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	539.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018



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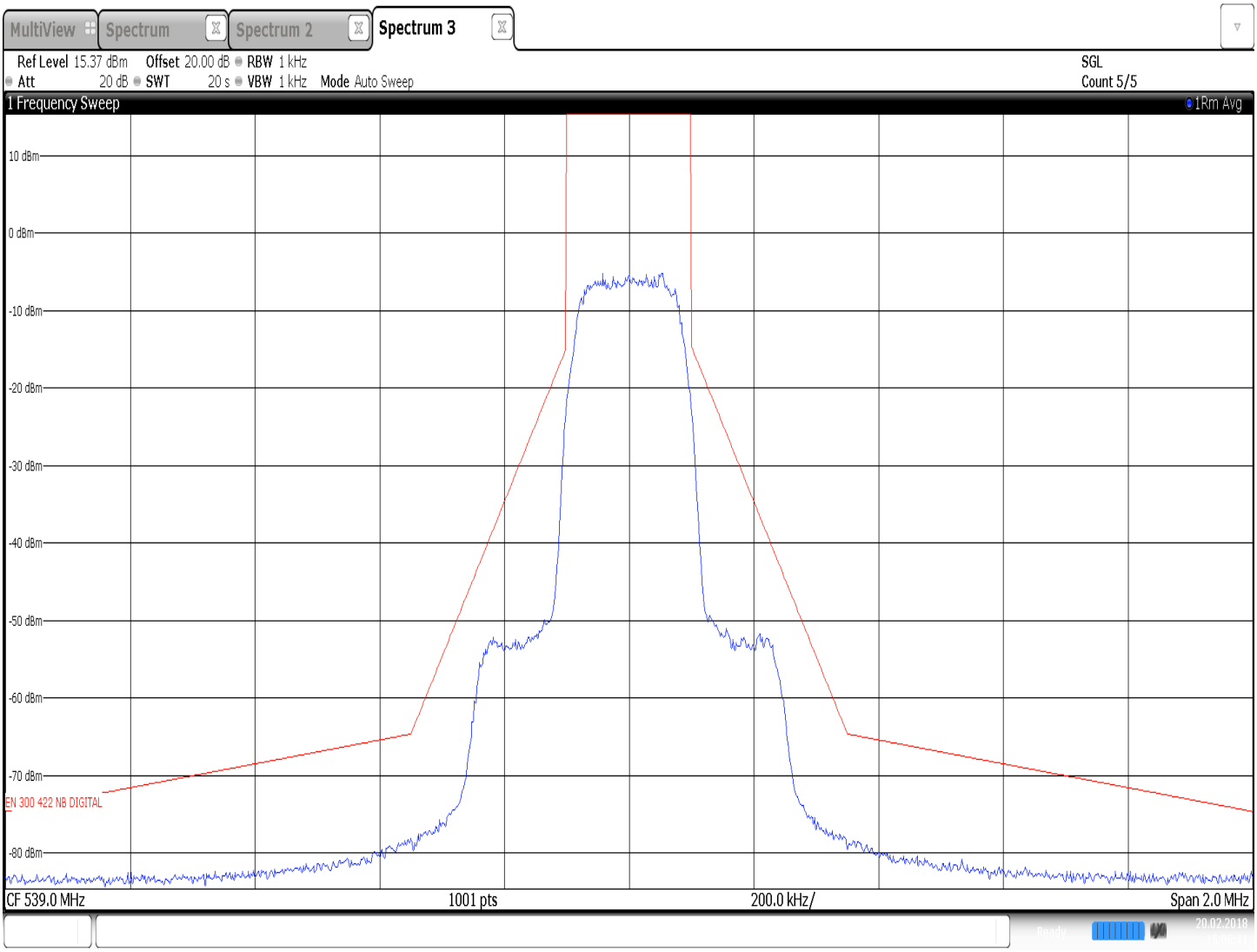
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	539.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018



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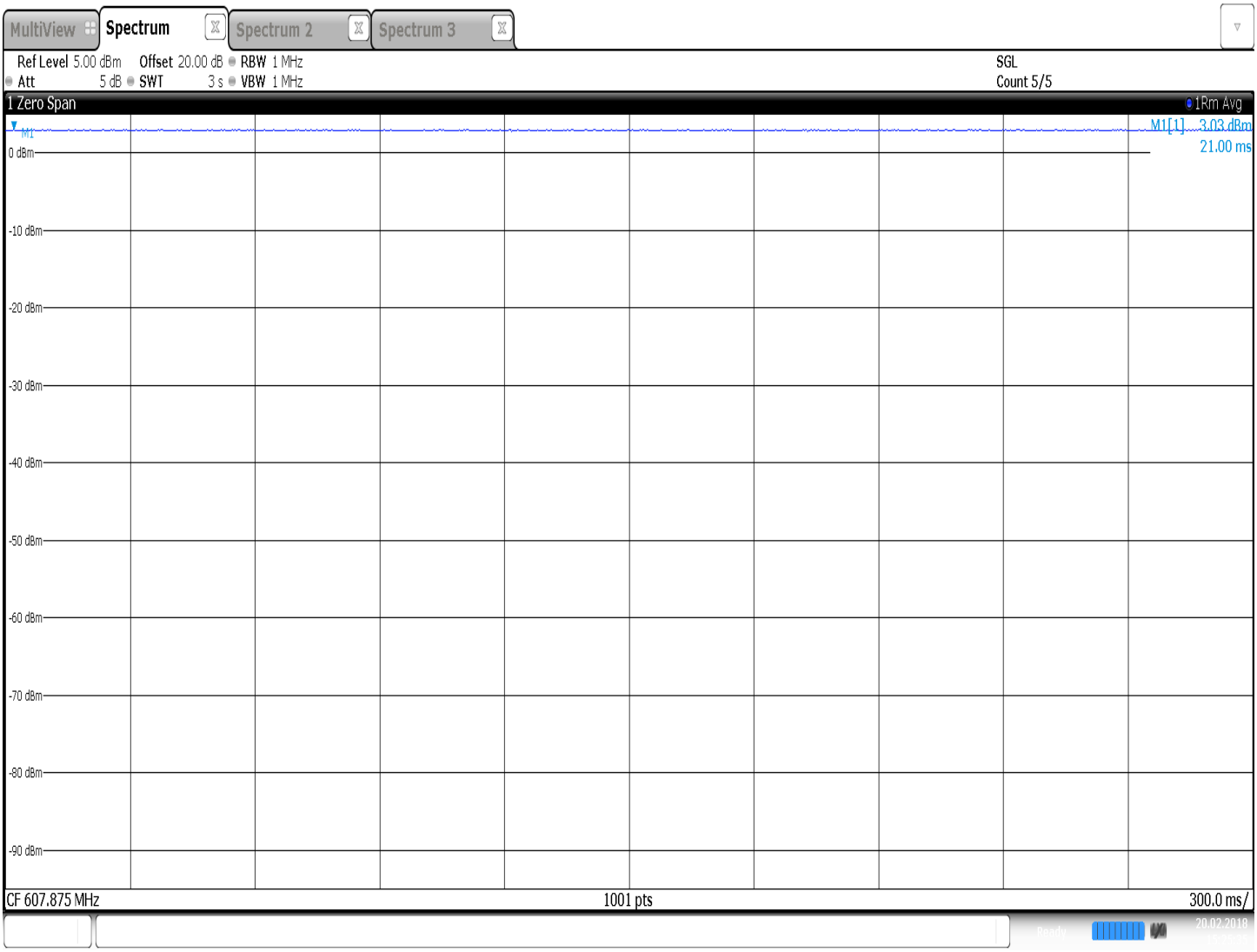
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018



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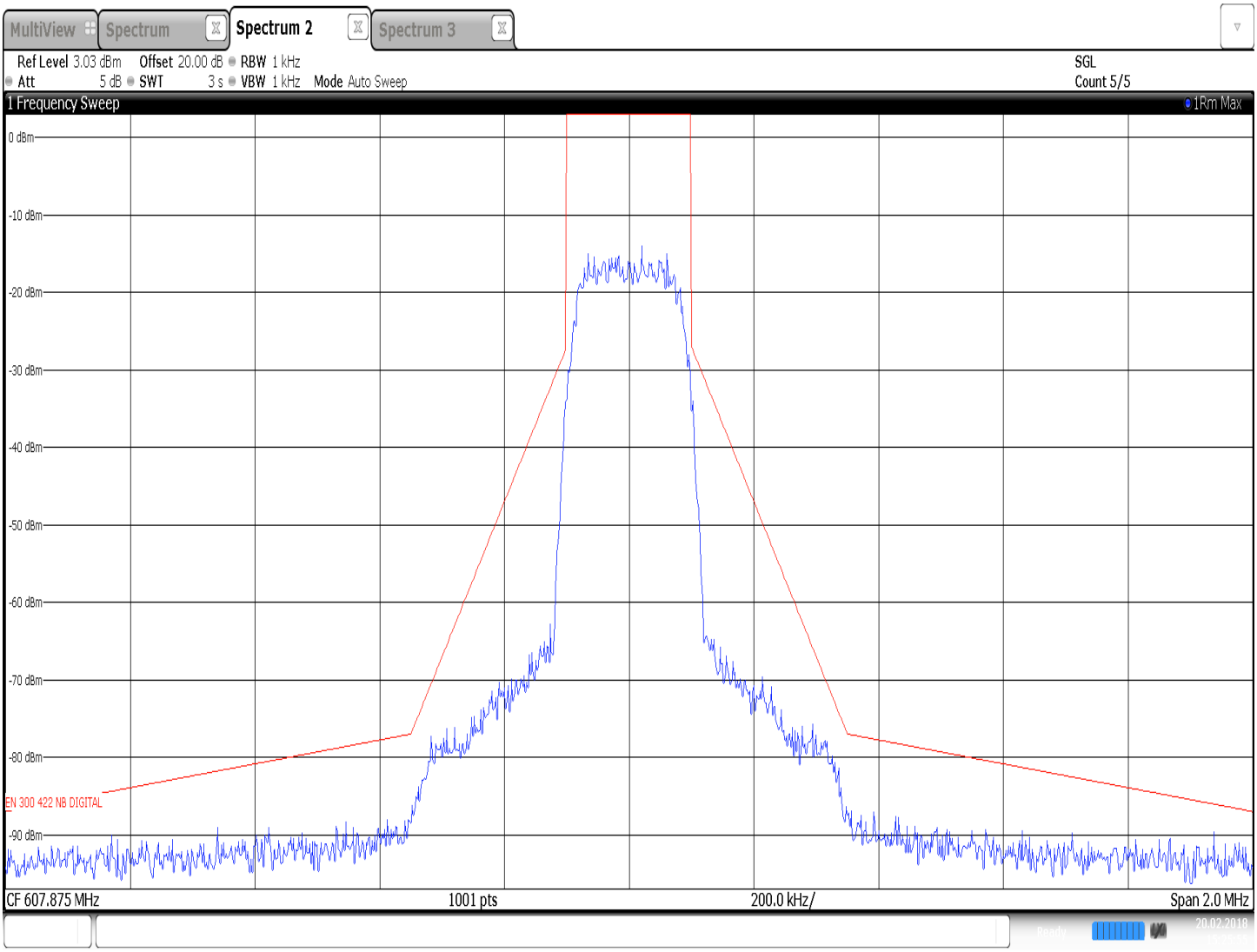
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018



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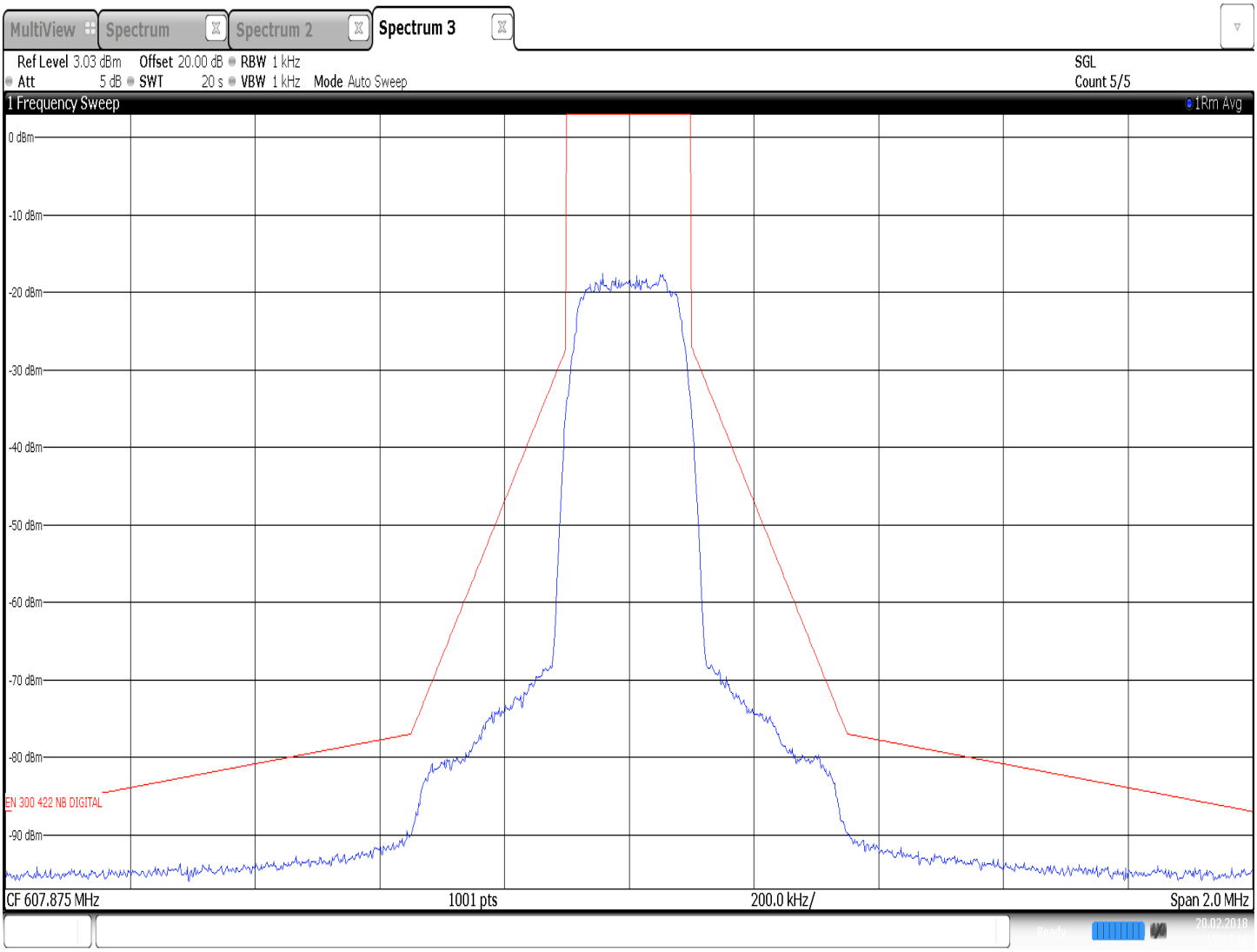
Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018



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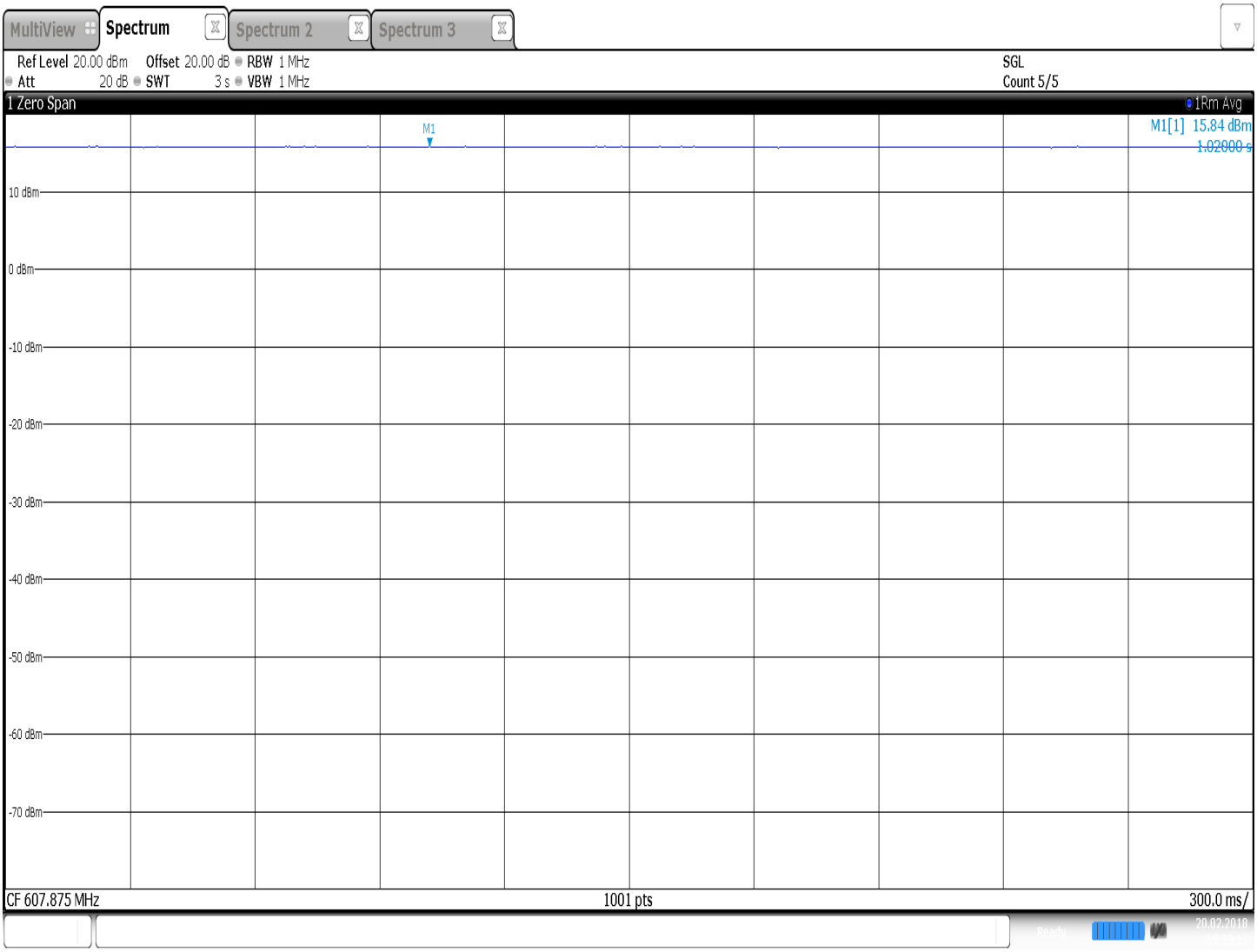
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018



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Appendix A

Test Information

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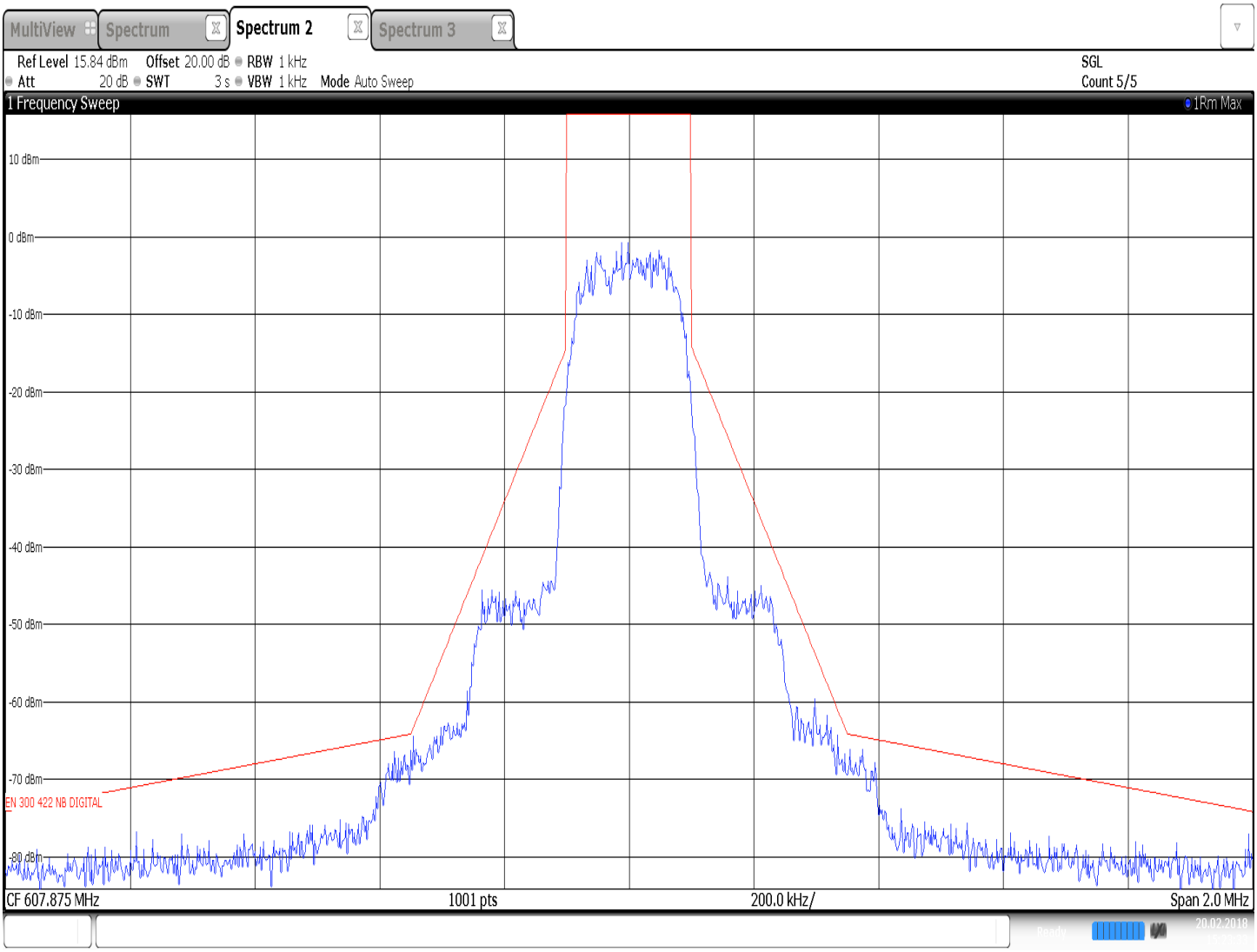
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018



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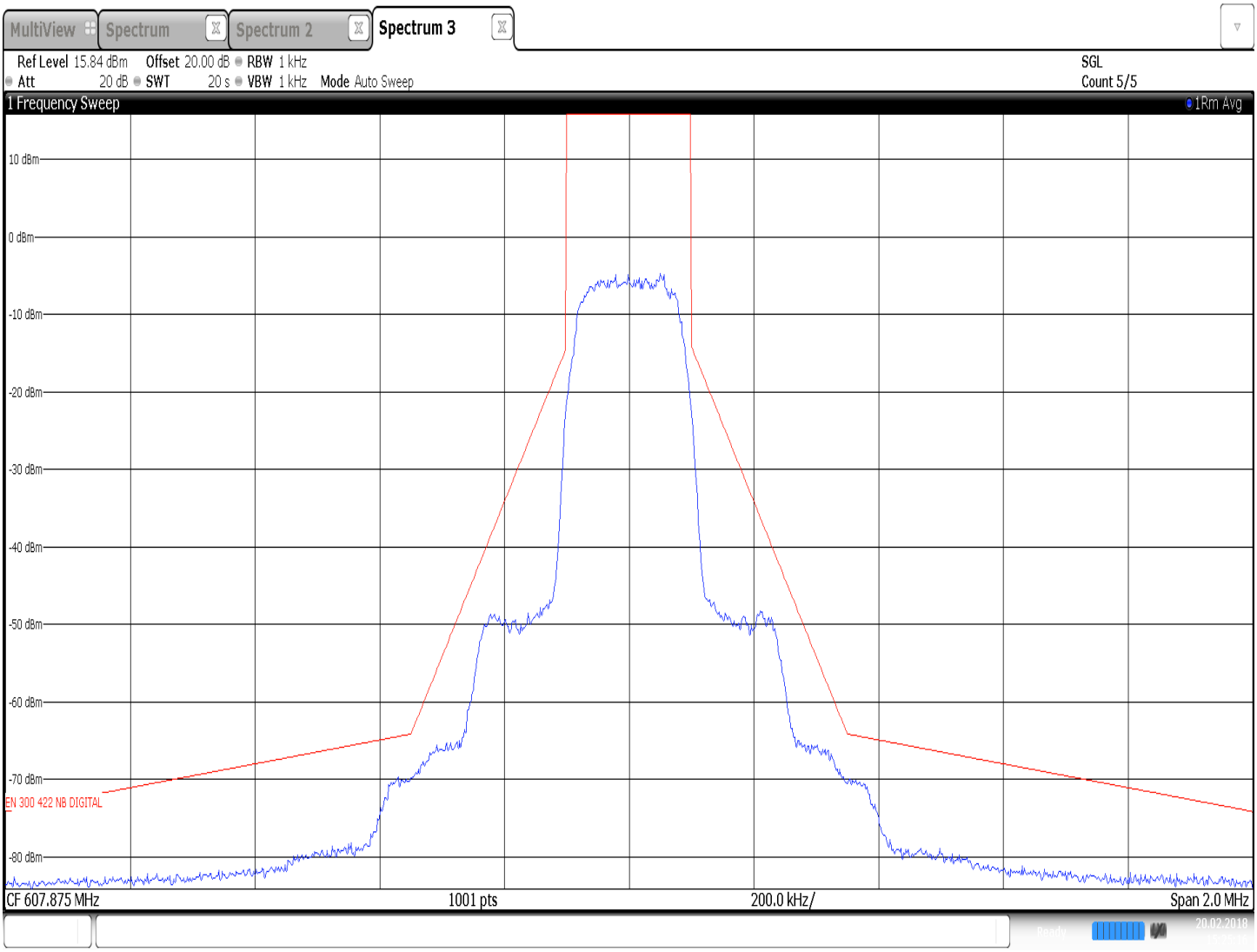
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018



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Appendix A

Test Information

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Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 2mW
Operator Name:	Brad McClain
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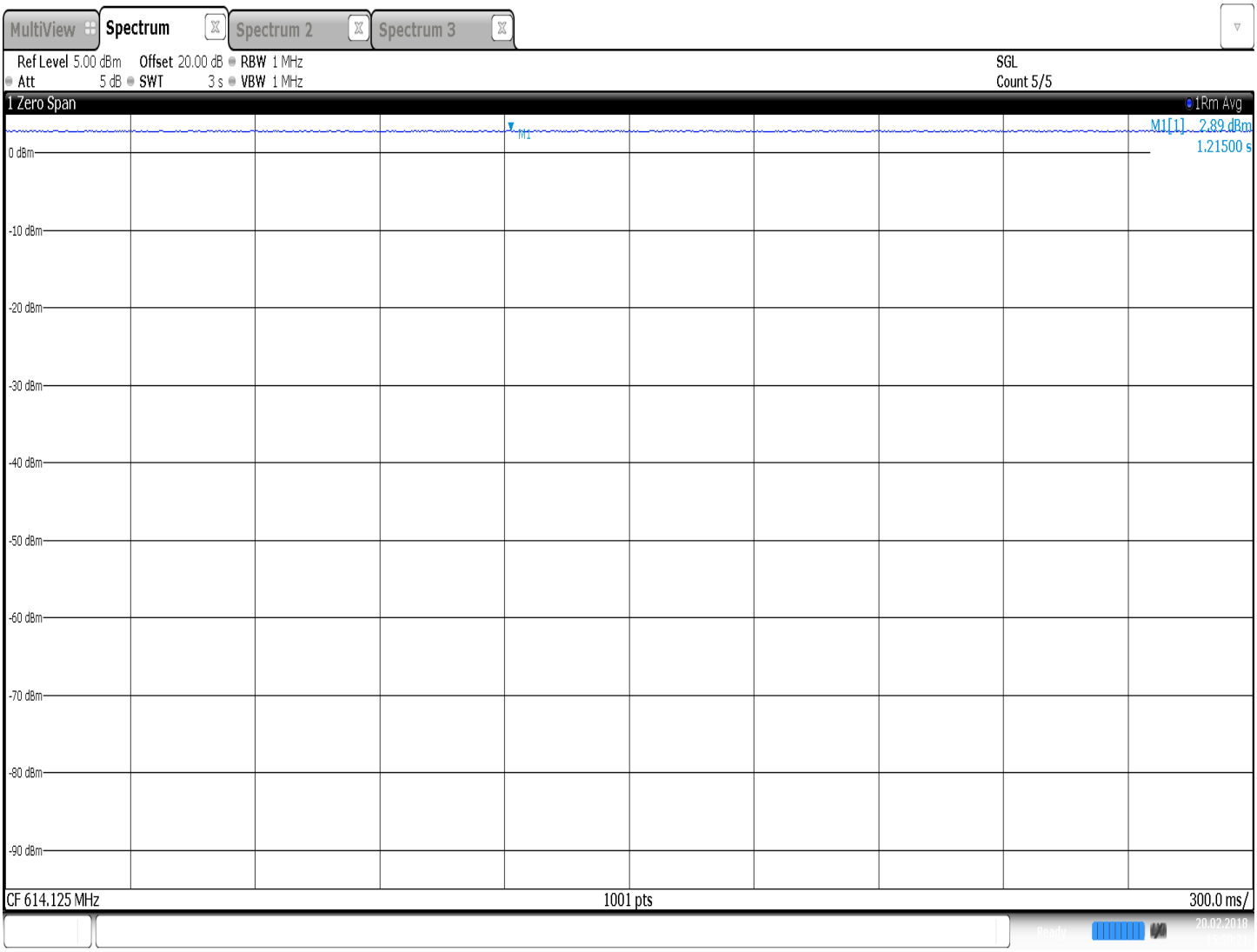
Date Tested:	Tested on February 20, 2018



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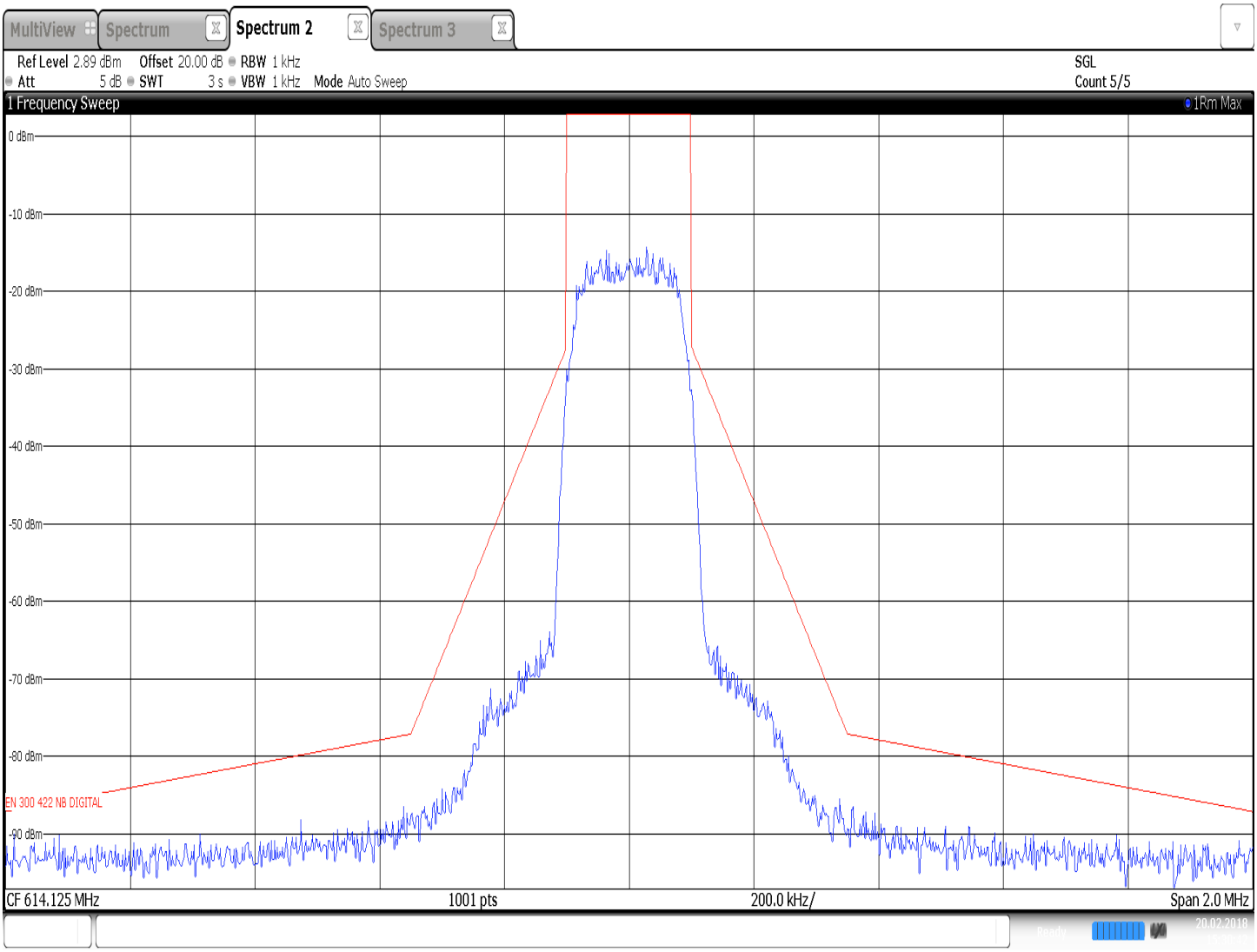
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018



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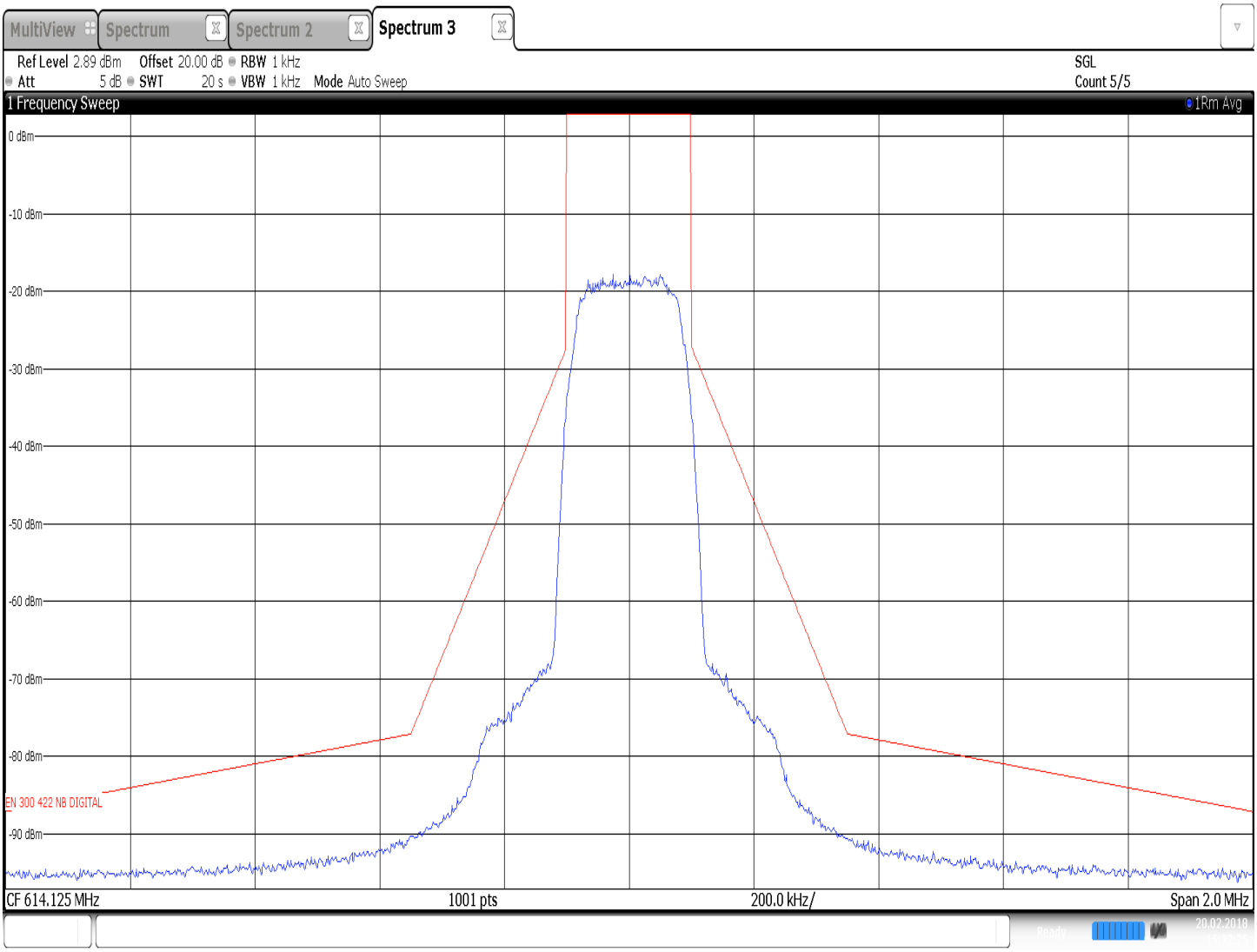
Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

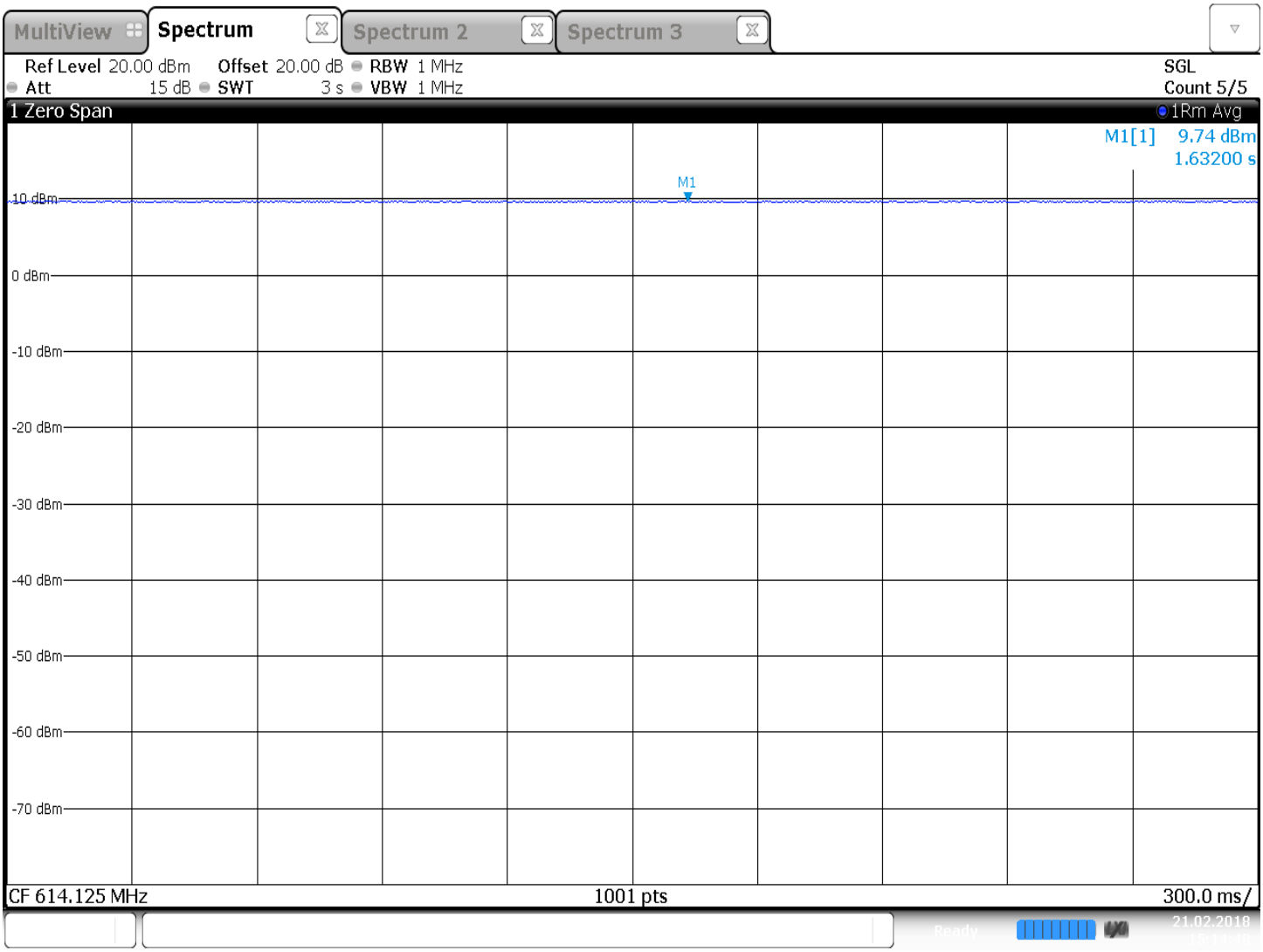


15:32:25 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

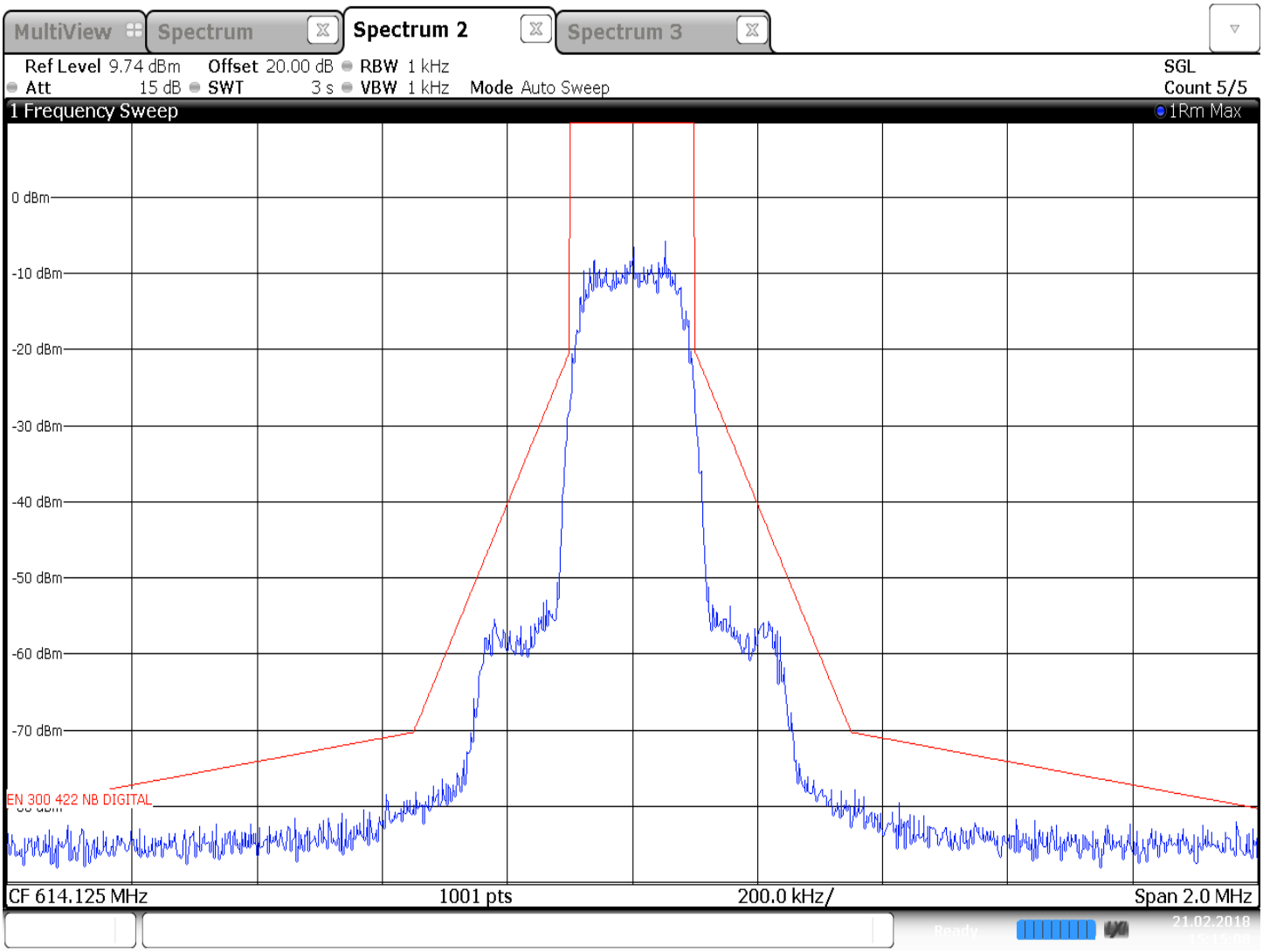


15:14:48 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

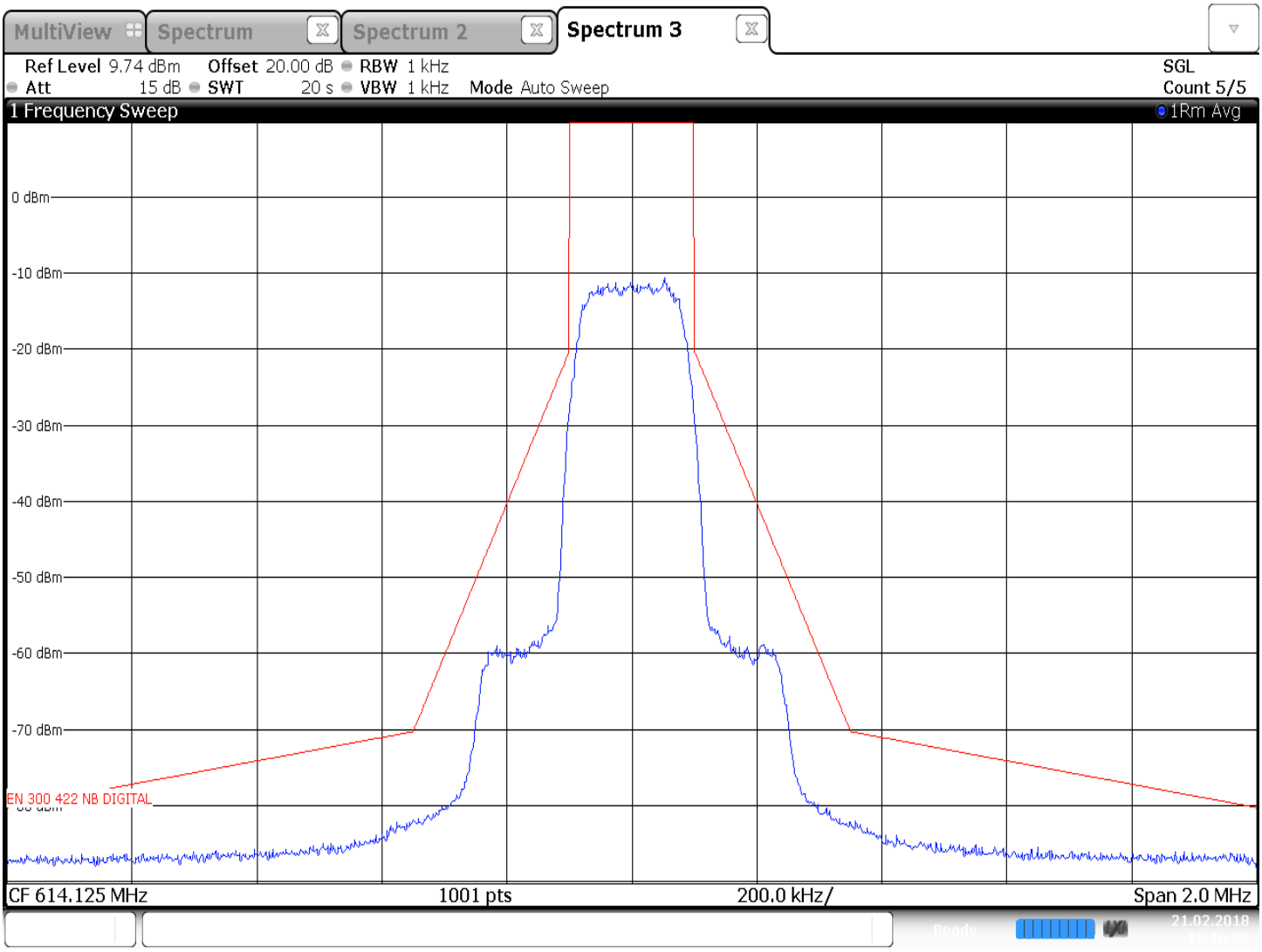


15:15:08 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

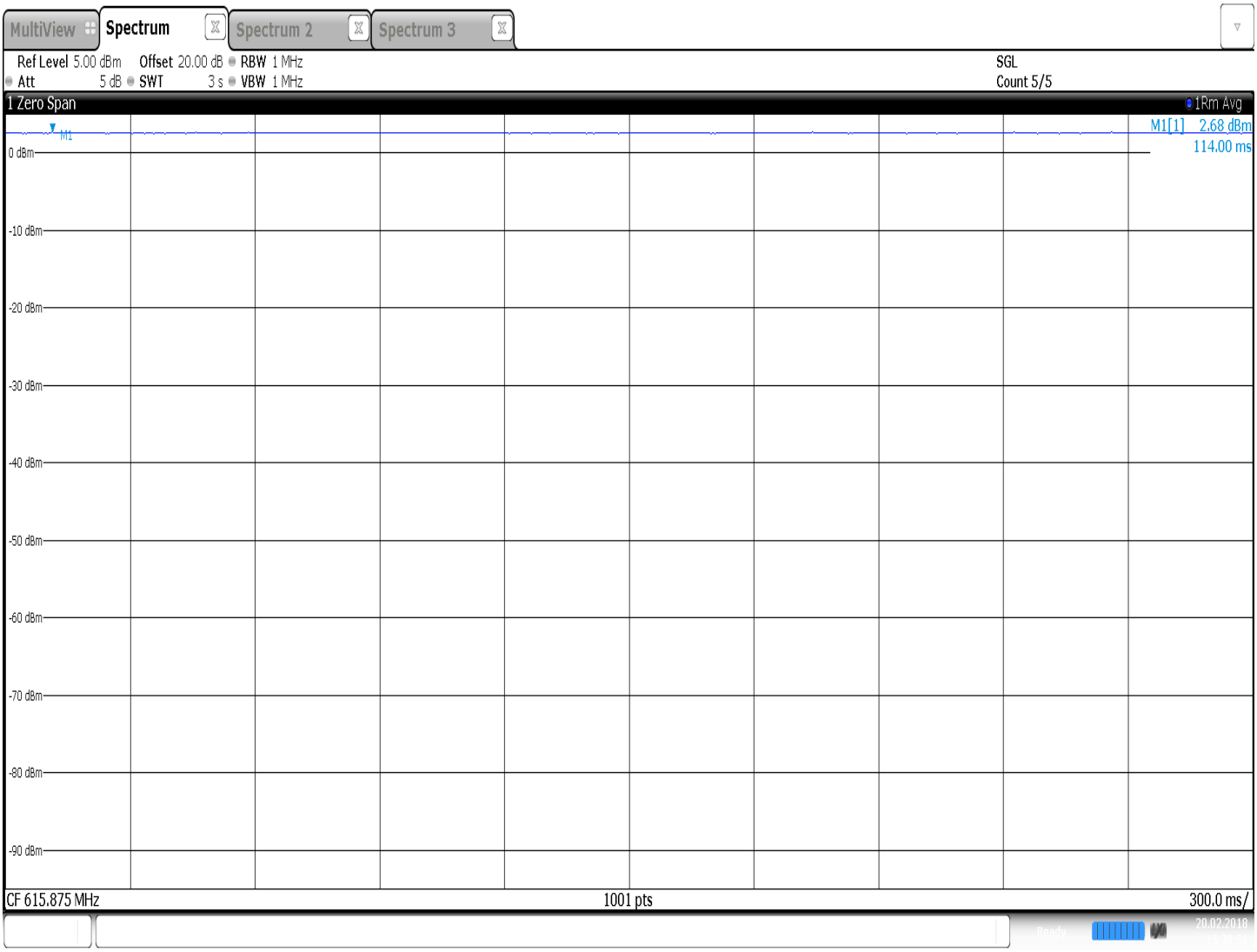


15:16:52 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

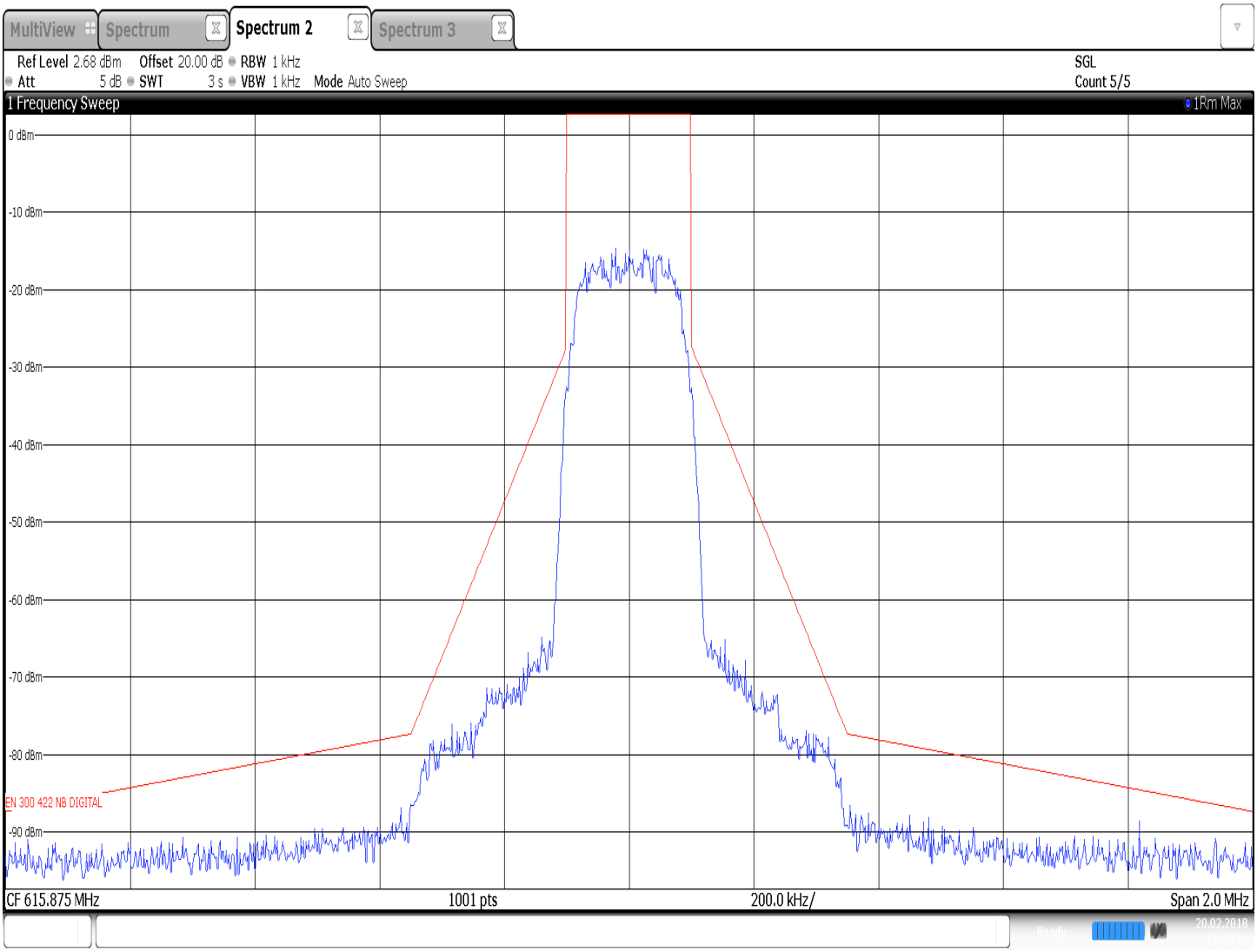


15:39:52 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

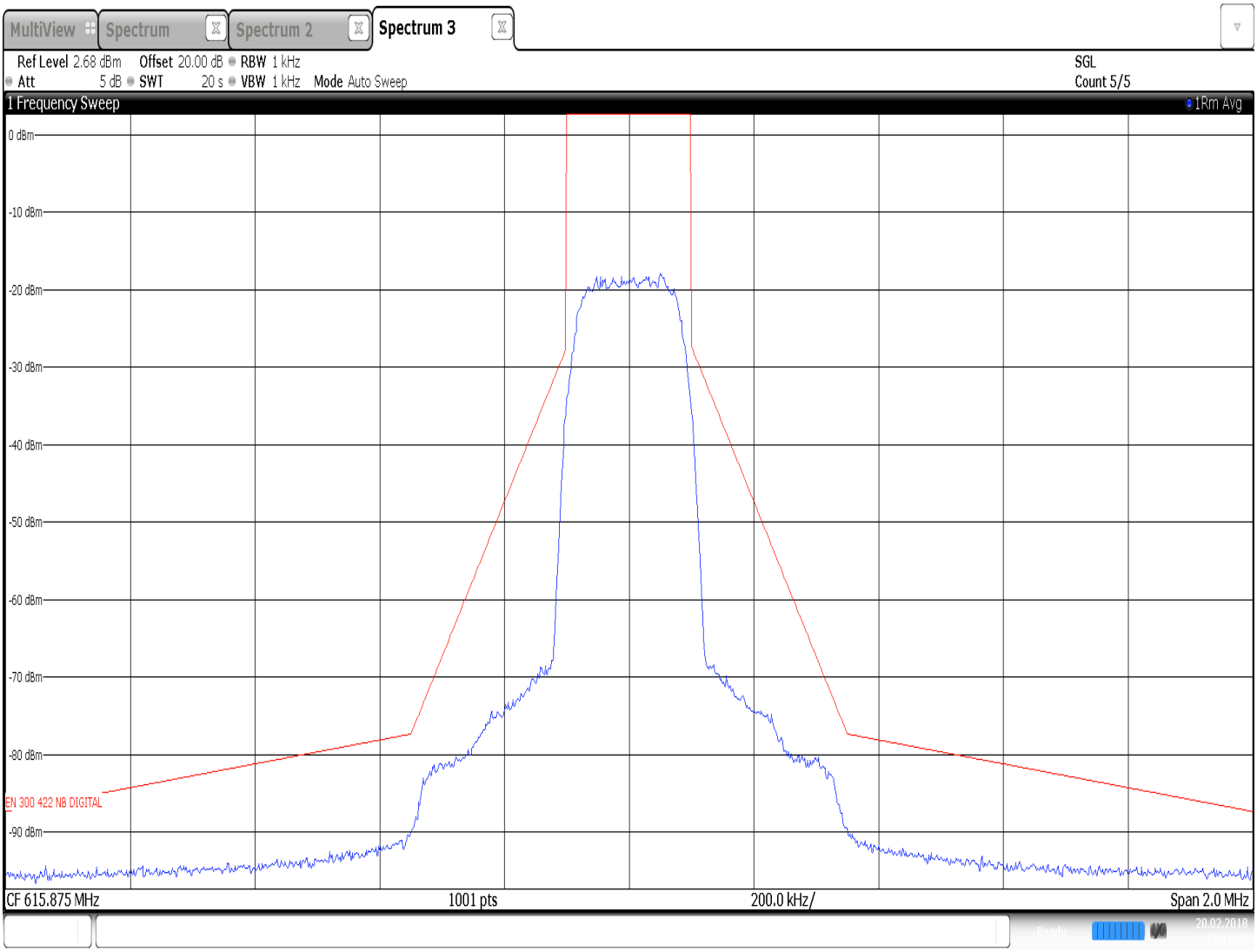


15:40:11 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

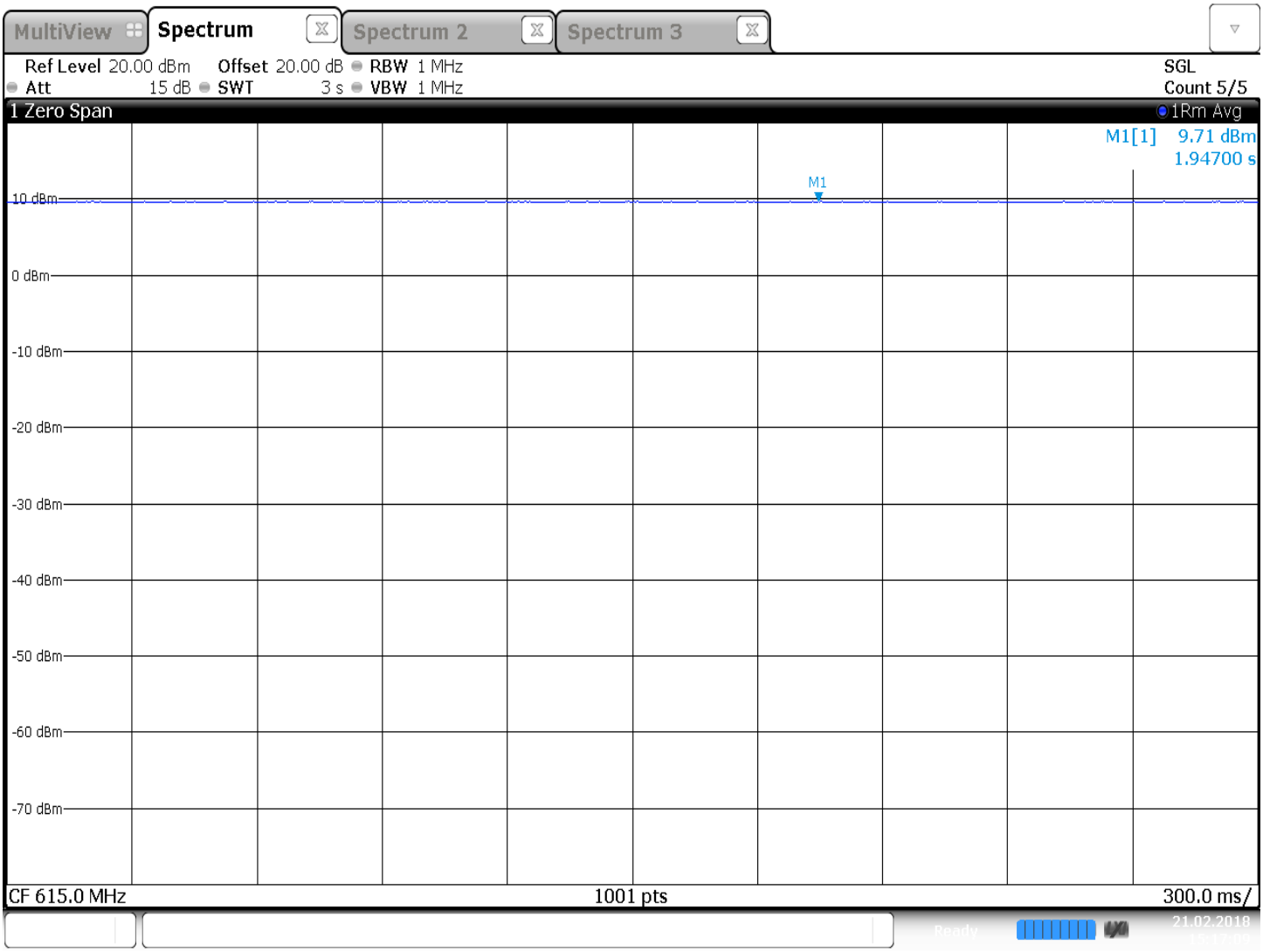


15:41:56 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

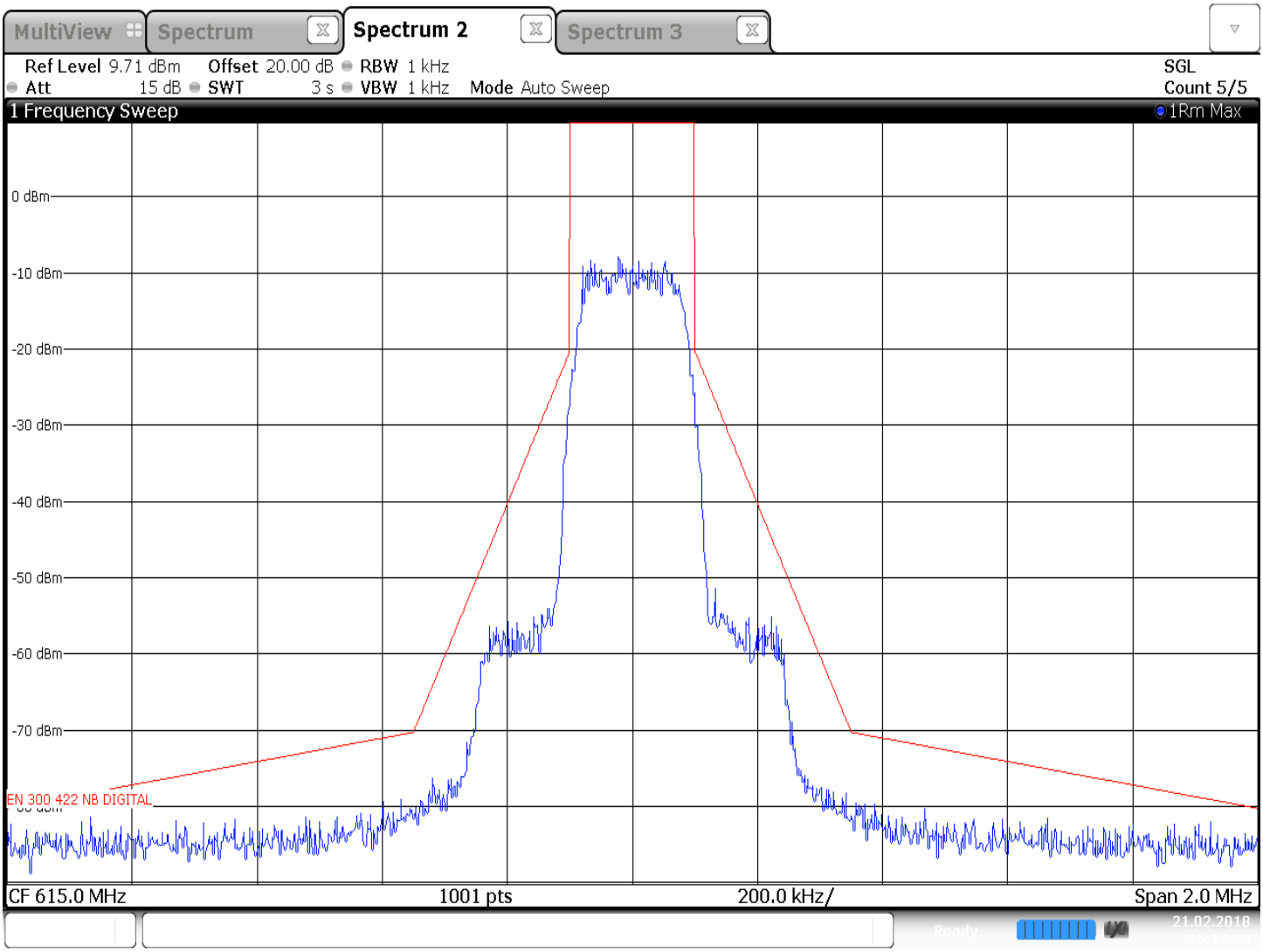


15:17:10 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

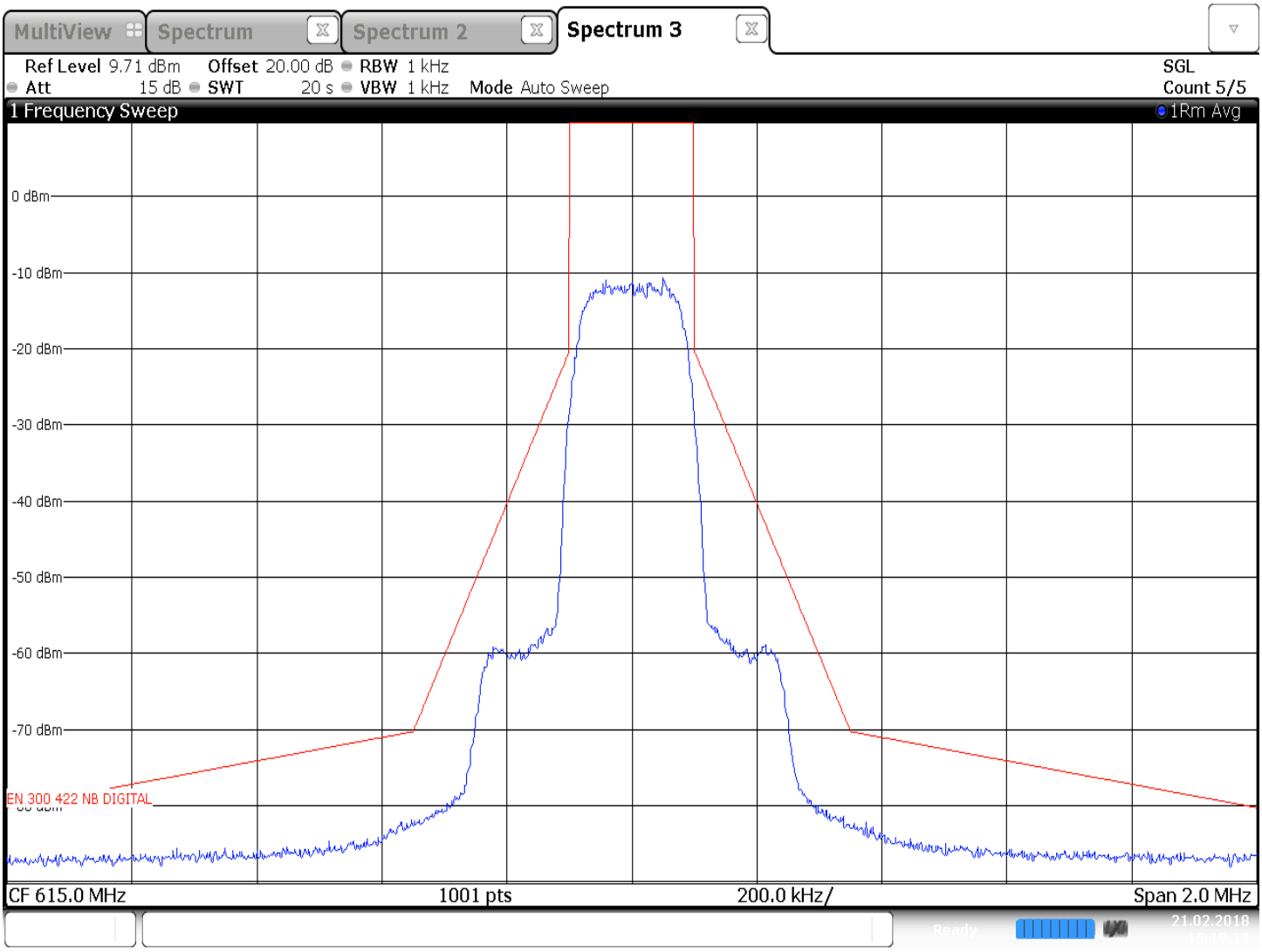


15:17:30 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

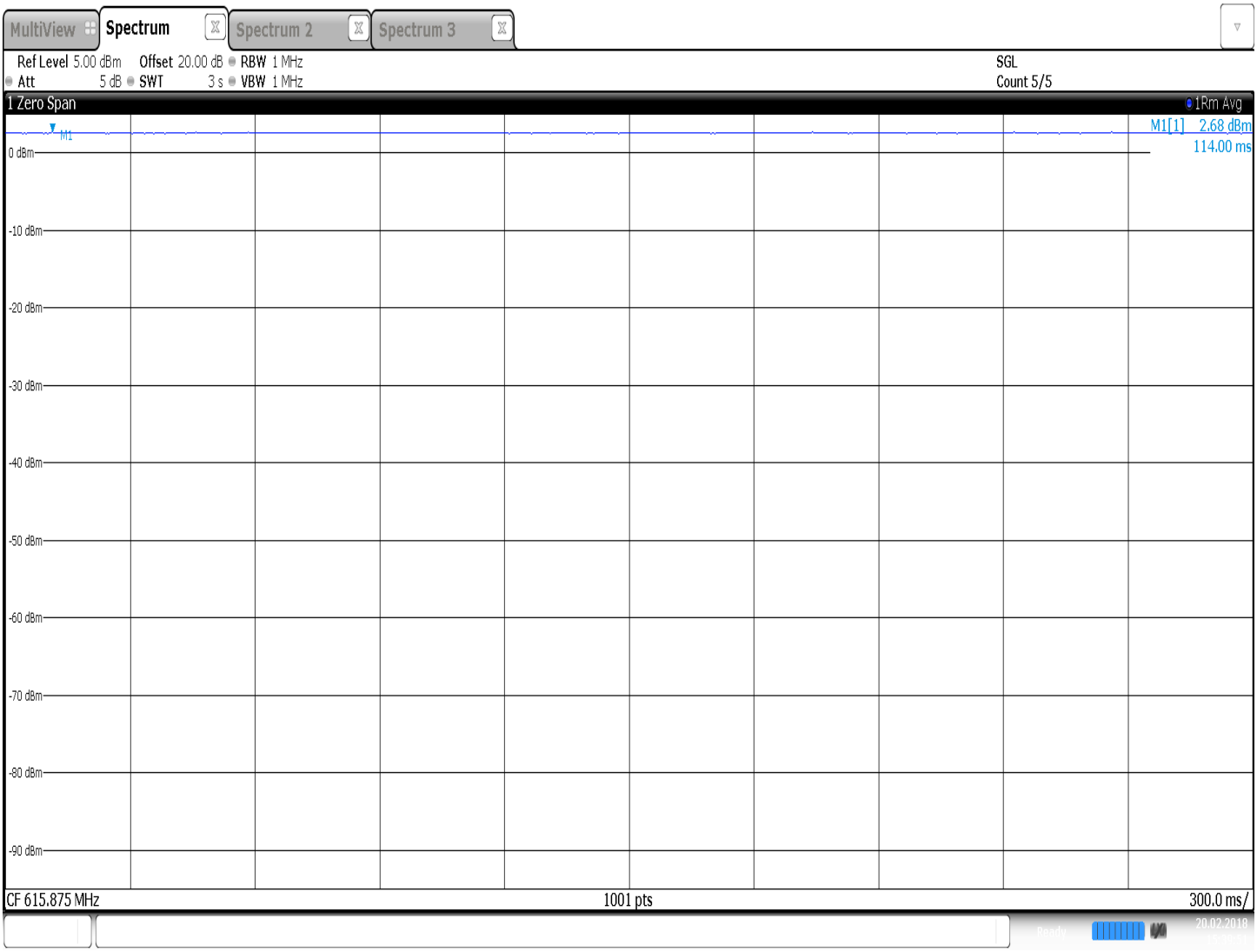


15:19:14 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

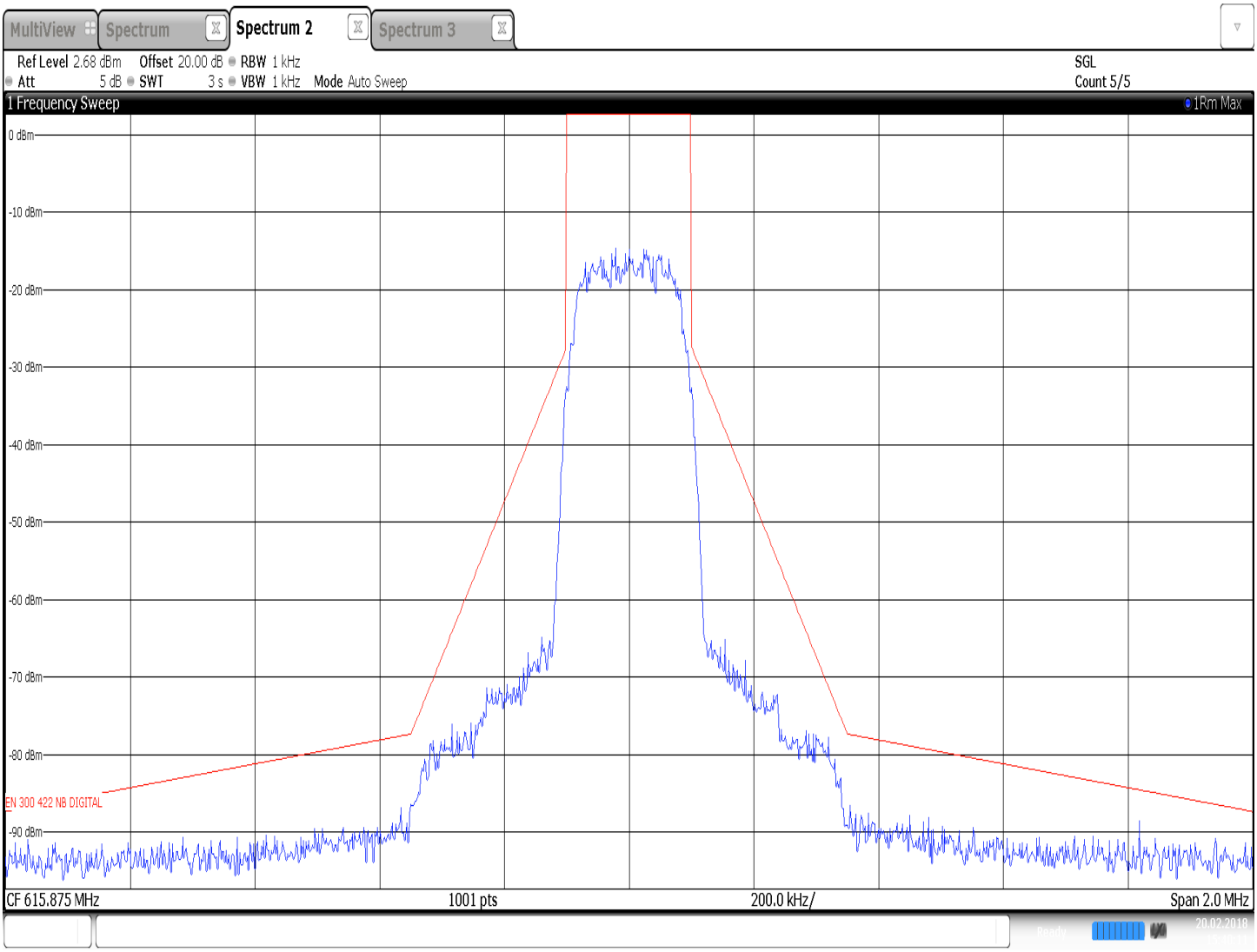


15:39:52 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

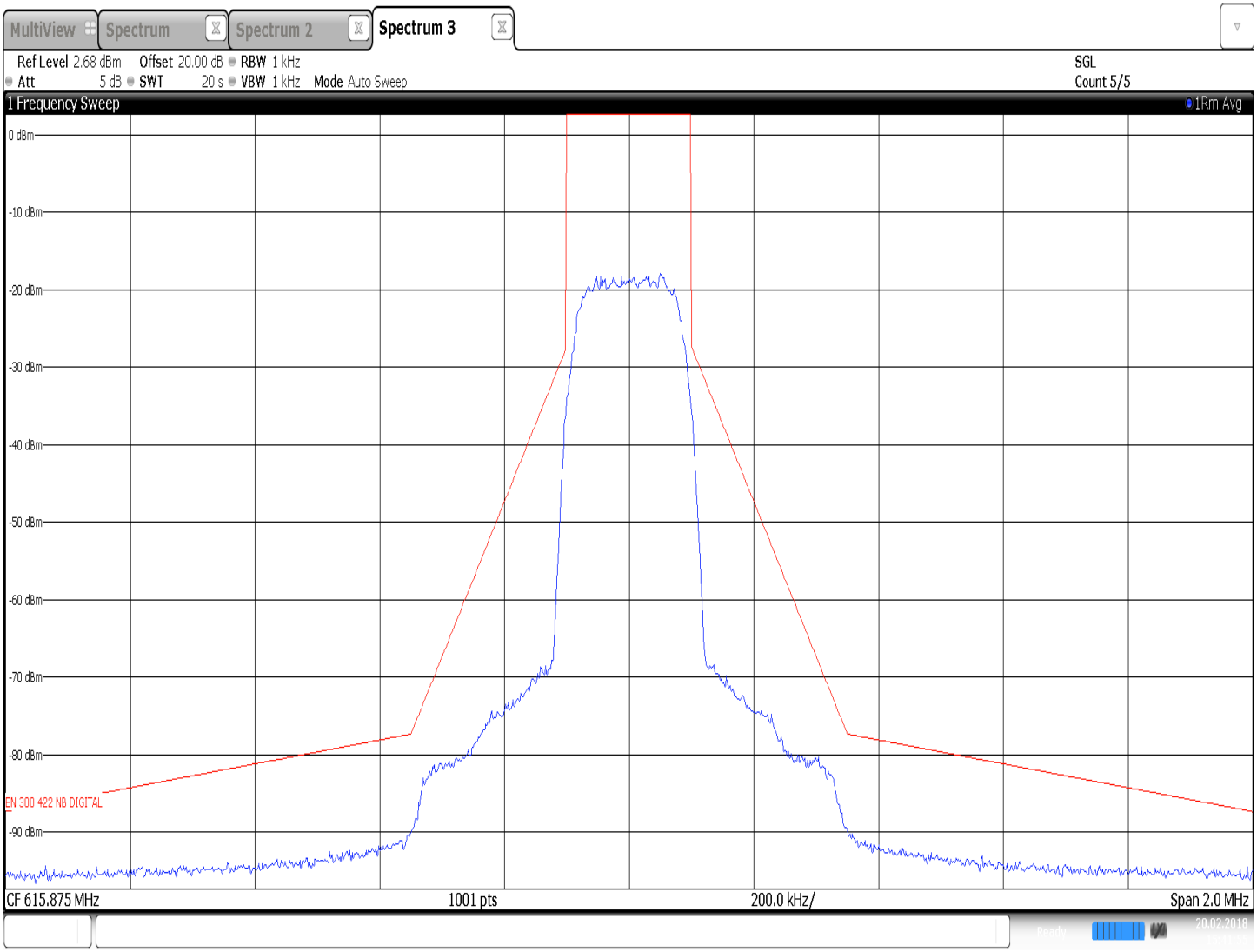


15:40:11 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

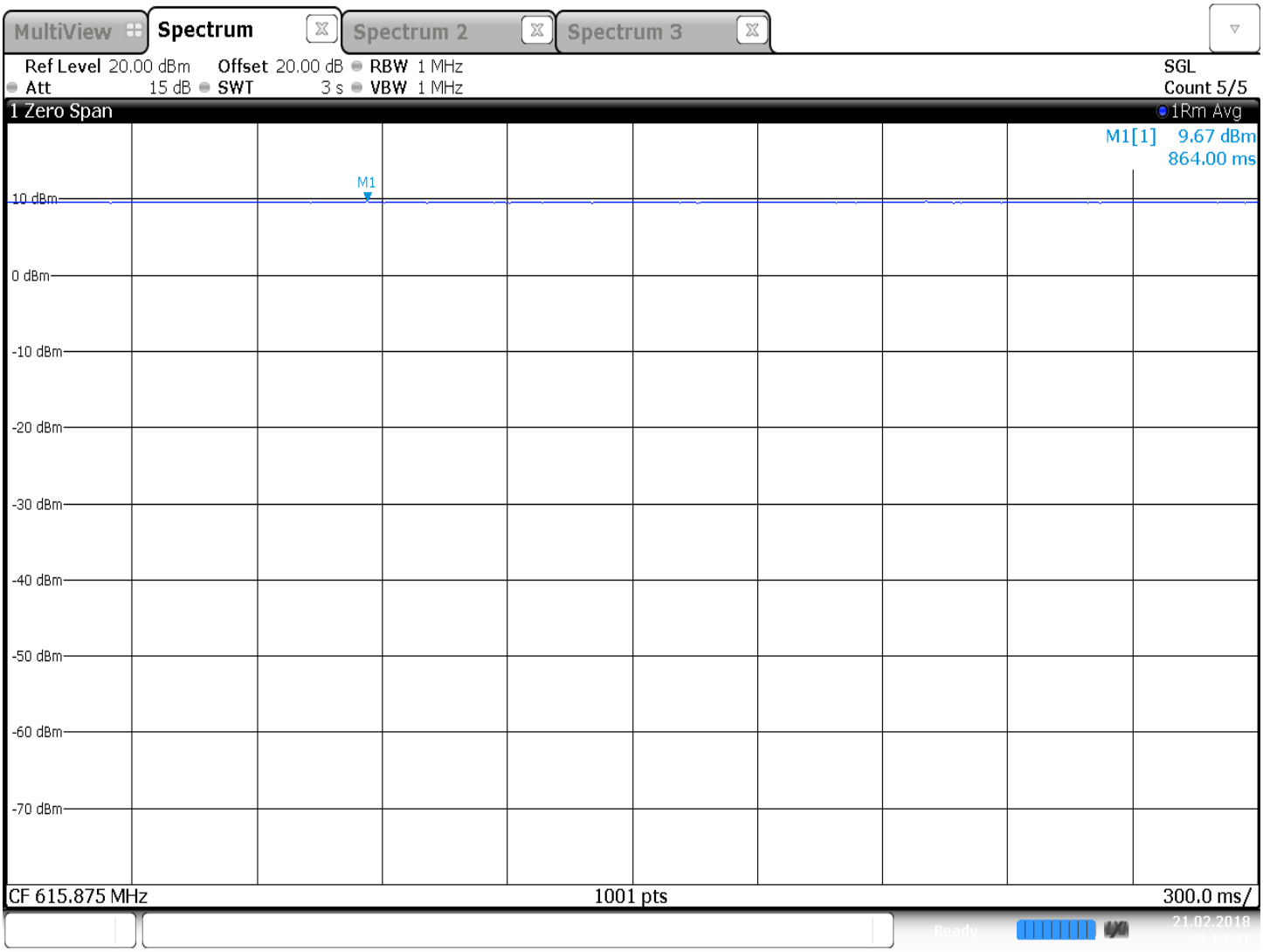


15:41:56 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

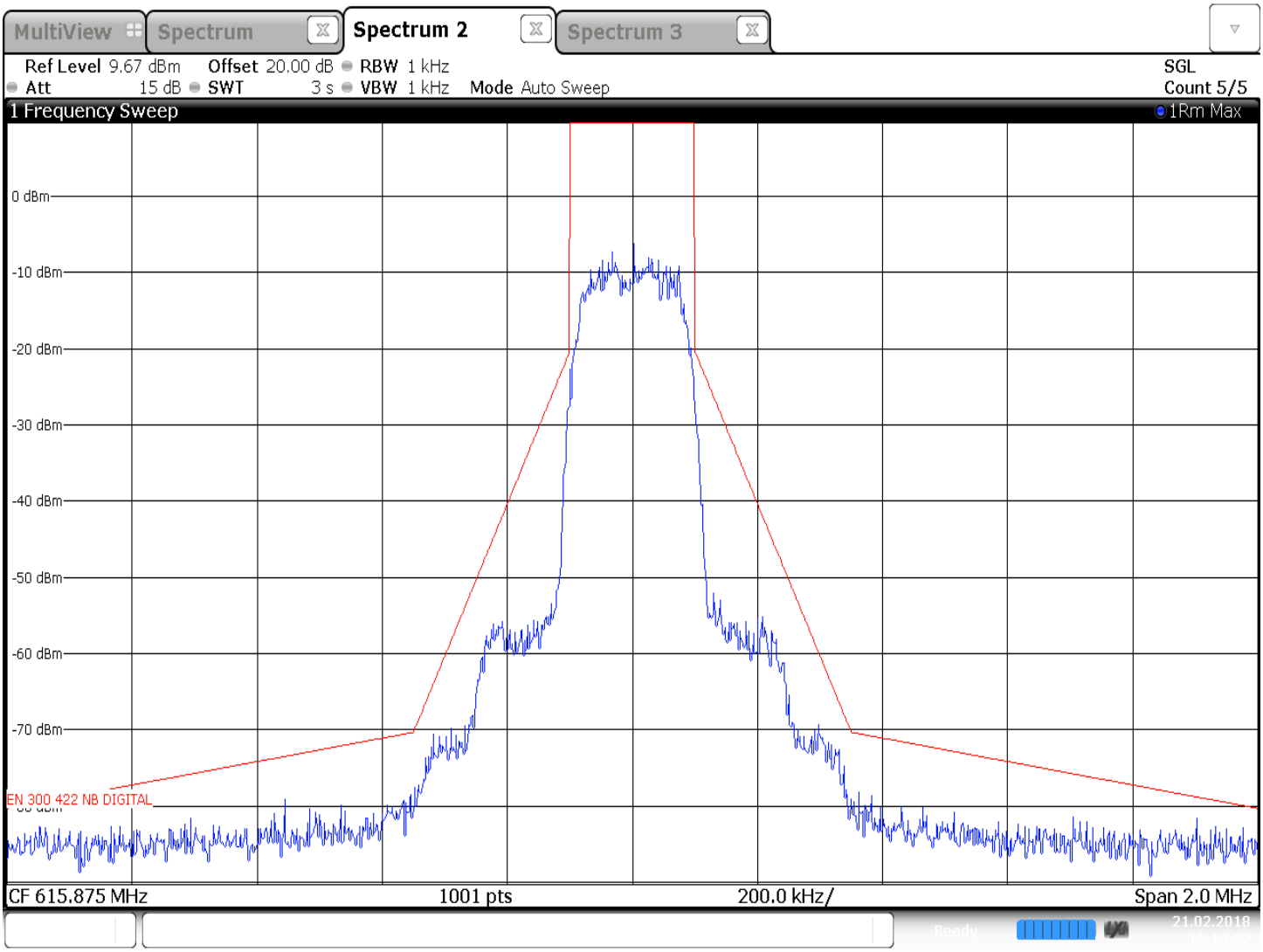


15:19:32 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

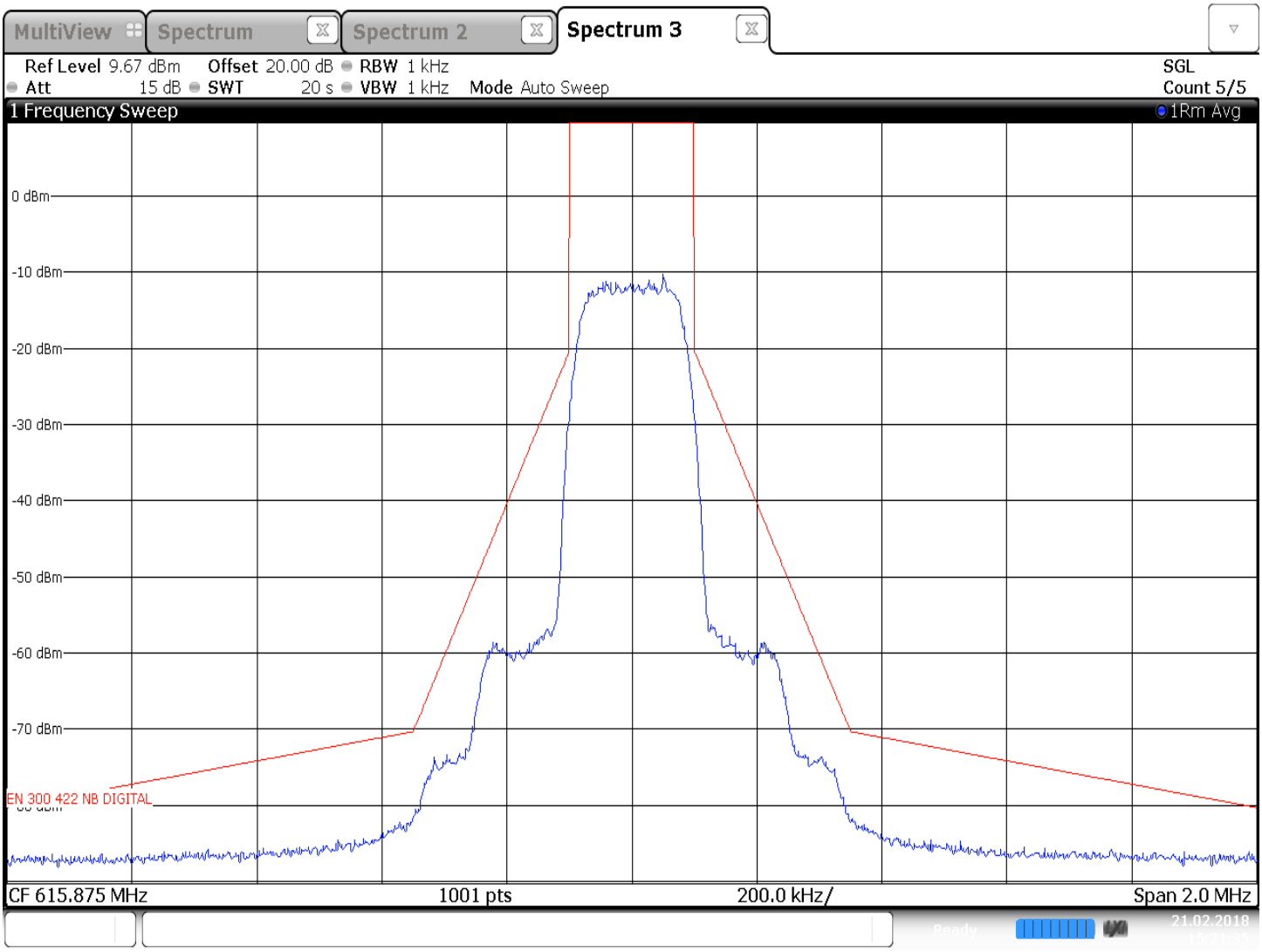


15:19:52 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

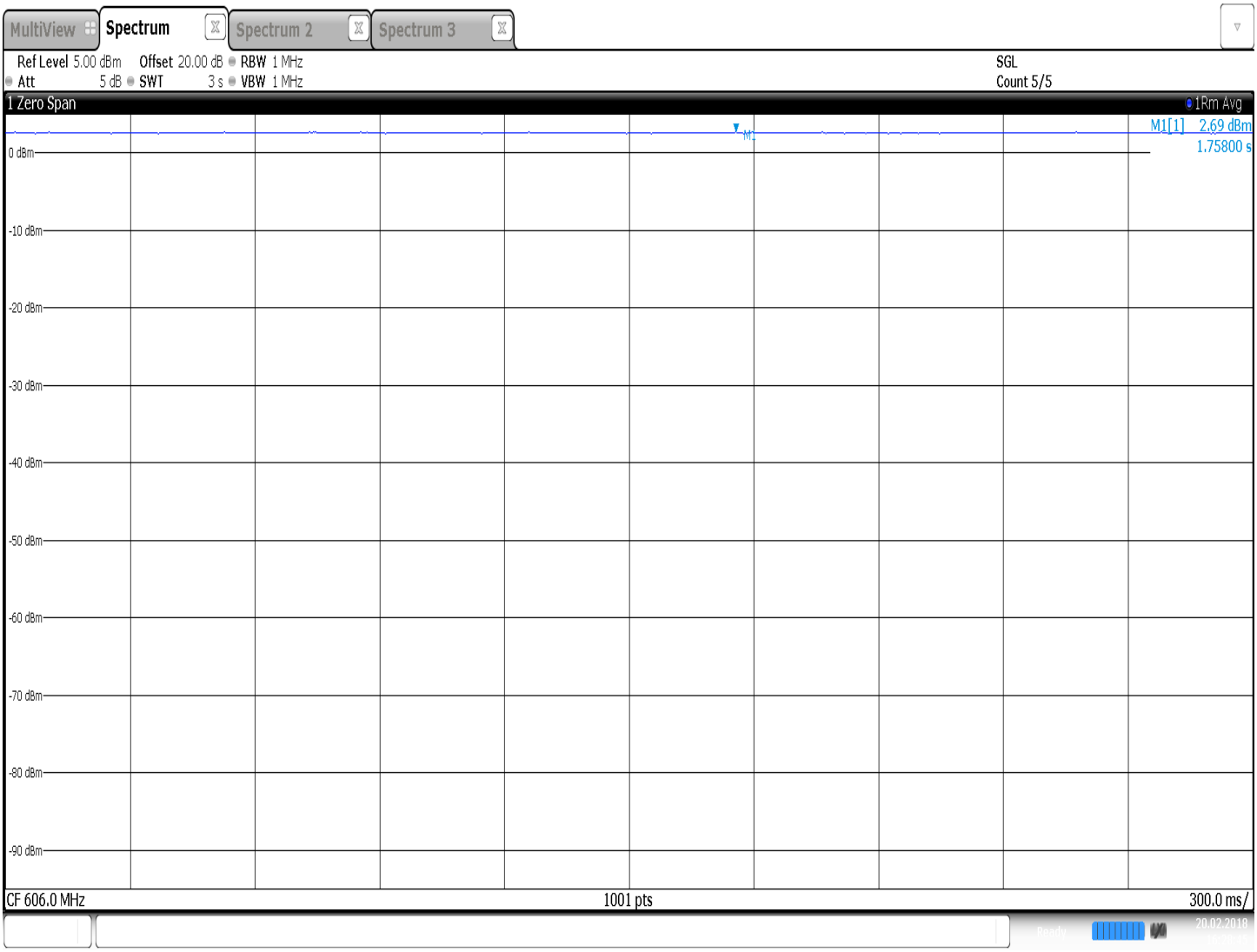


15:21:36 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

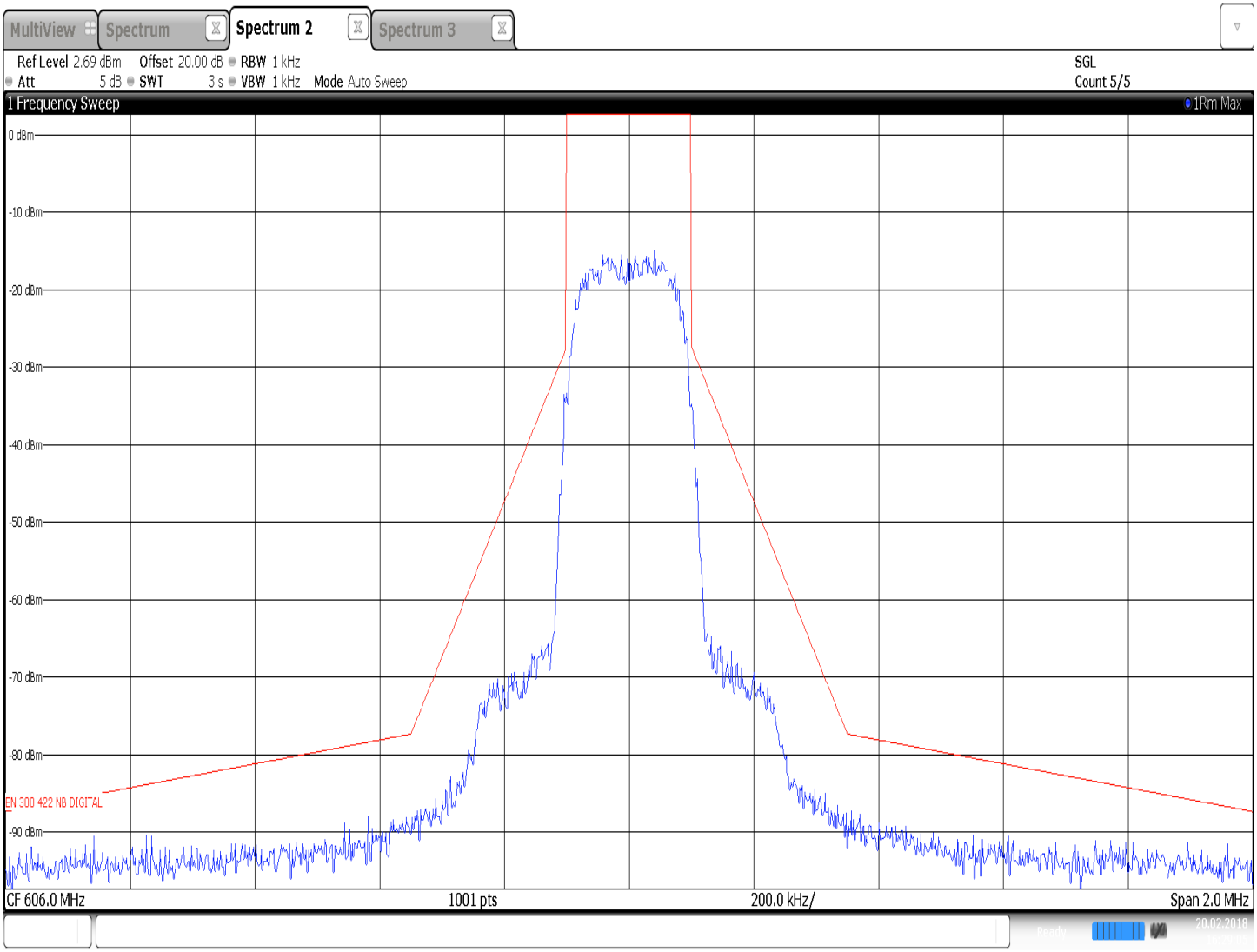


16:28:45 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

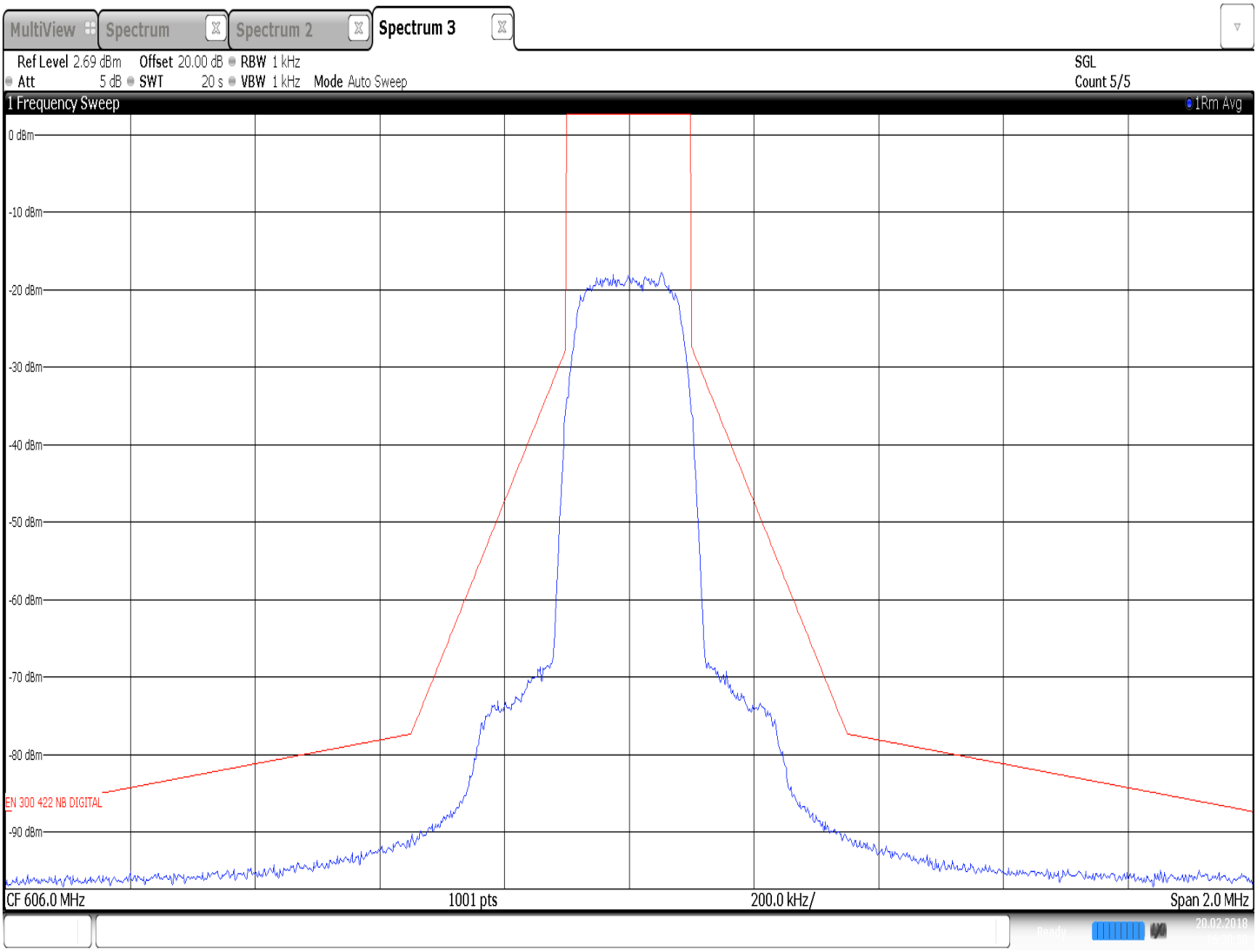


16:29:06 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

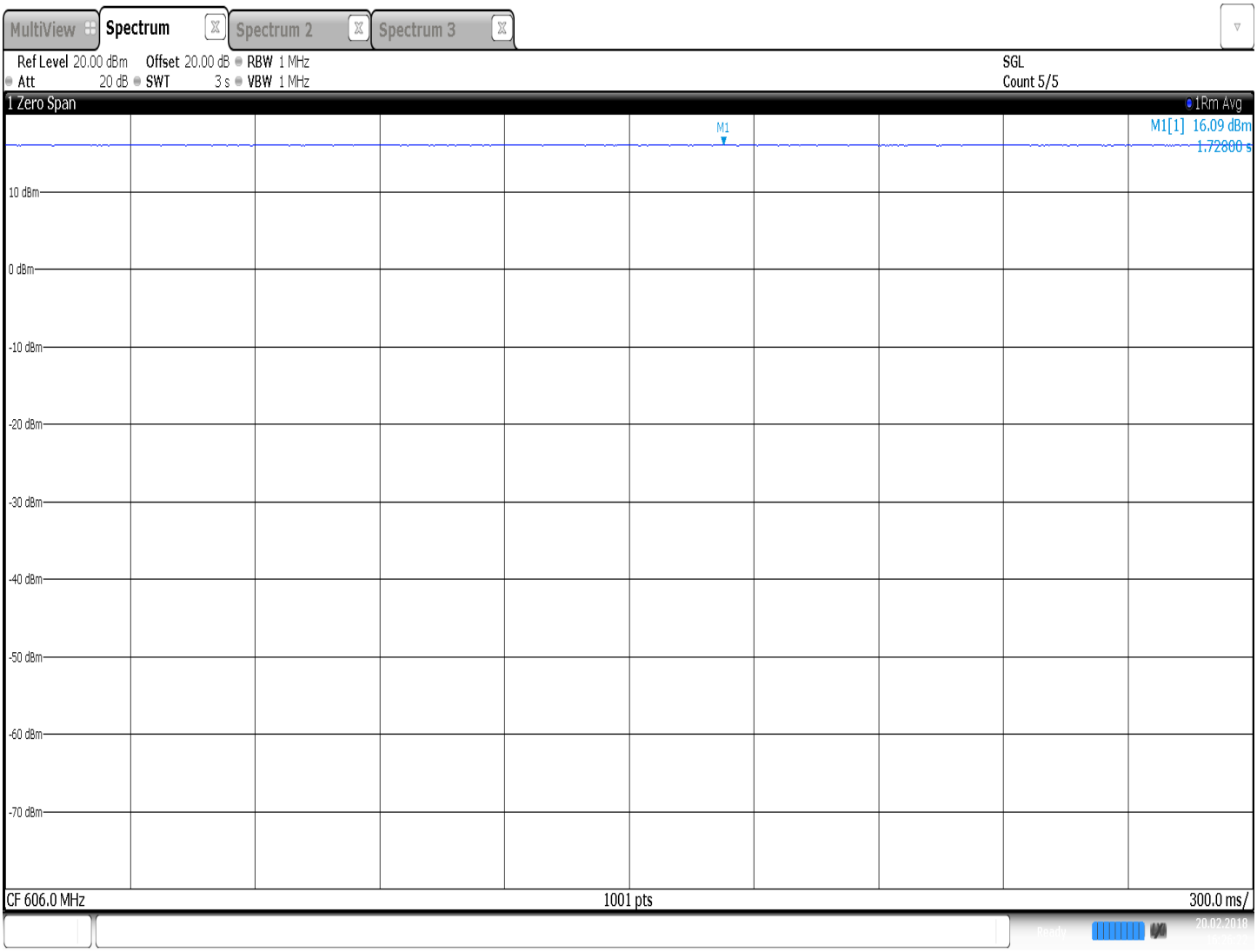


16:30:51 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

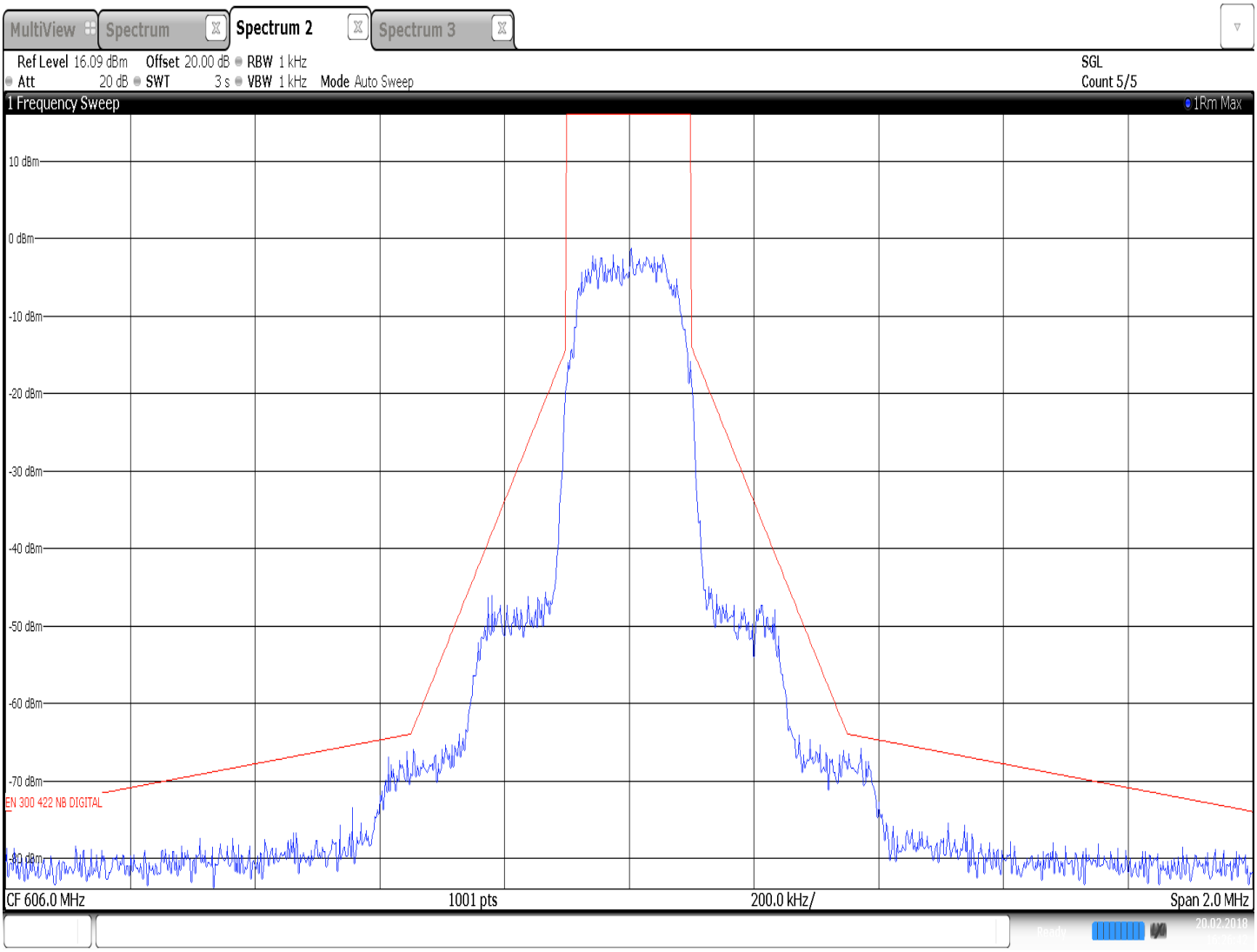


16:26:22 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

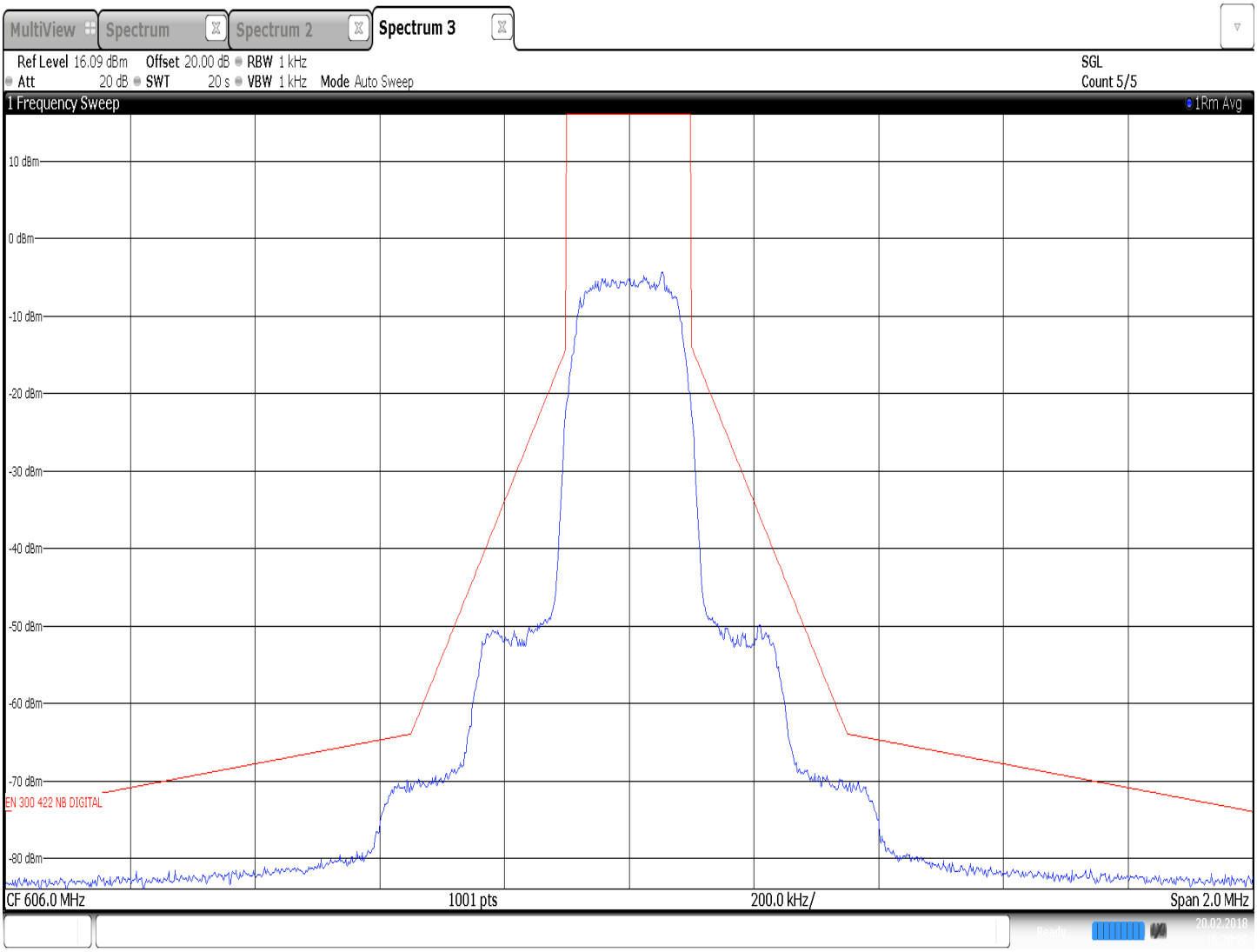


16:26:43 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

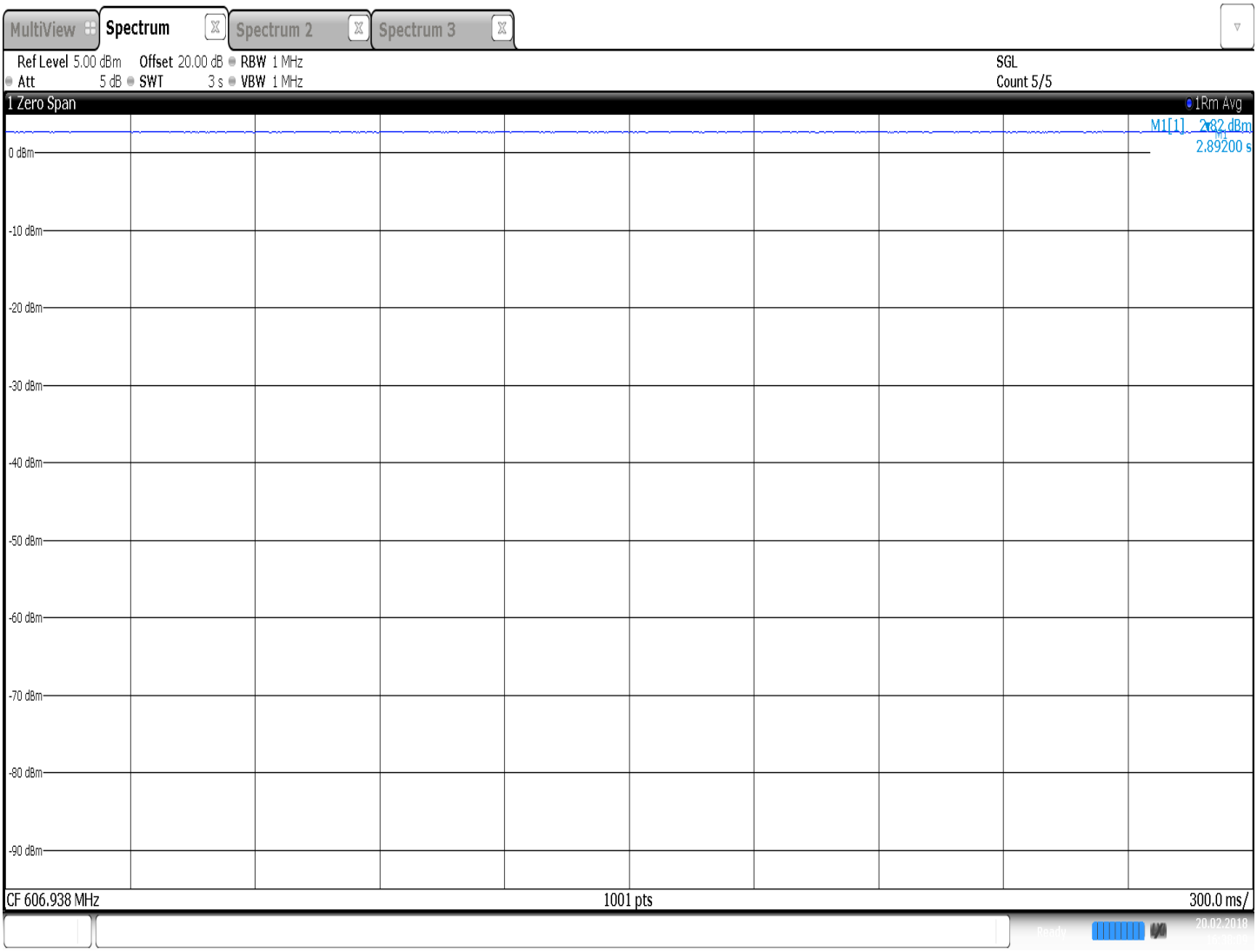


16:28:27 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.938 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

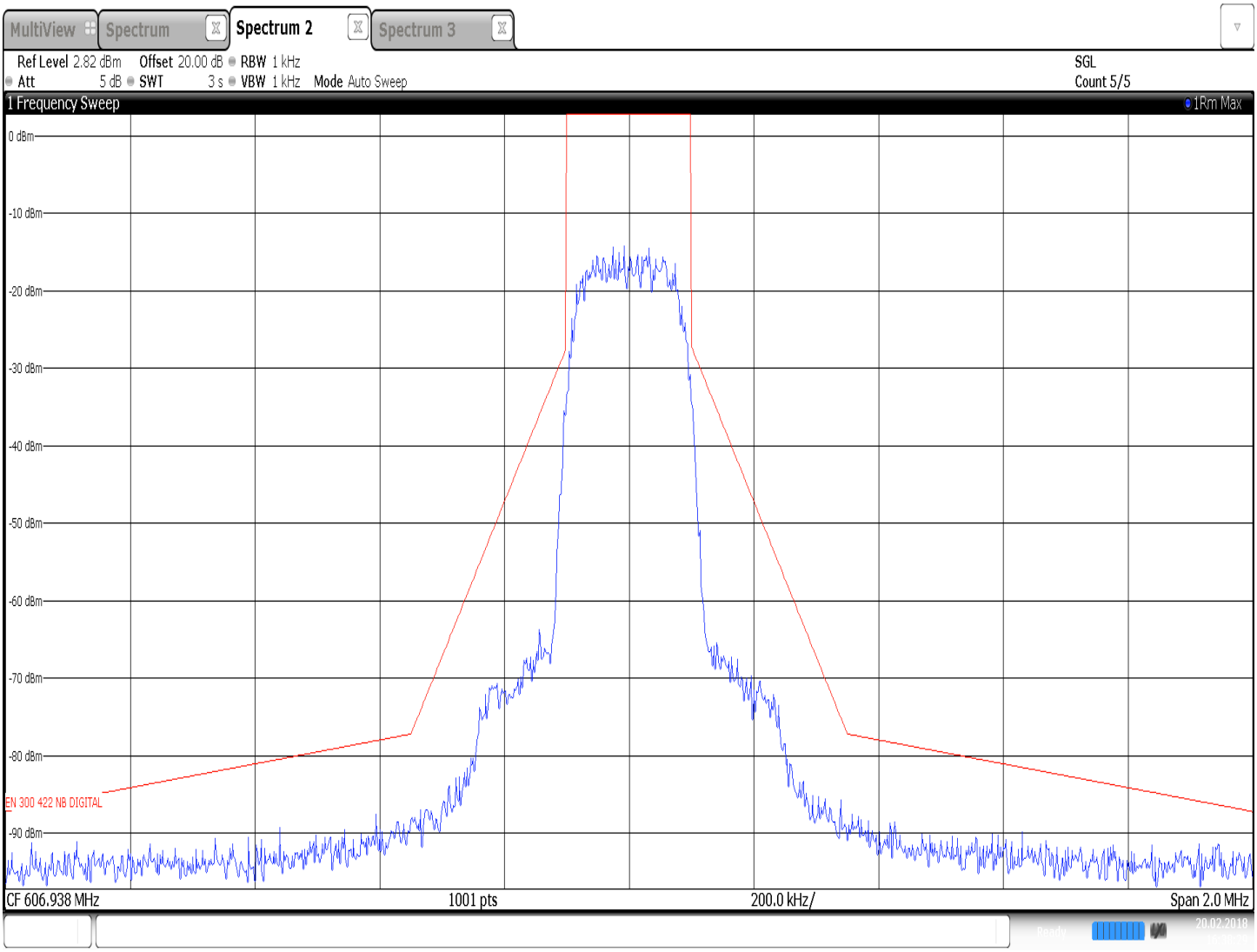


16:38:09 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.938 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

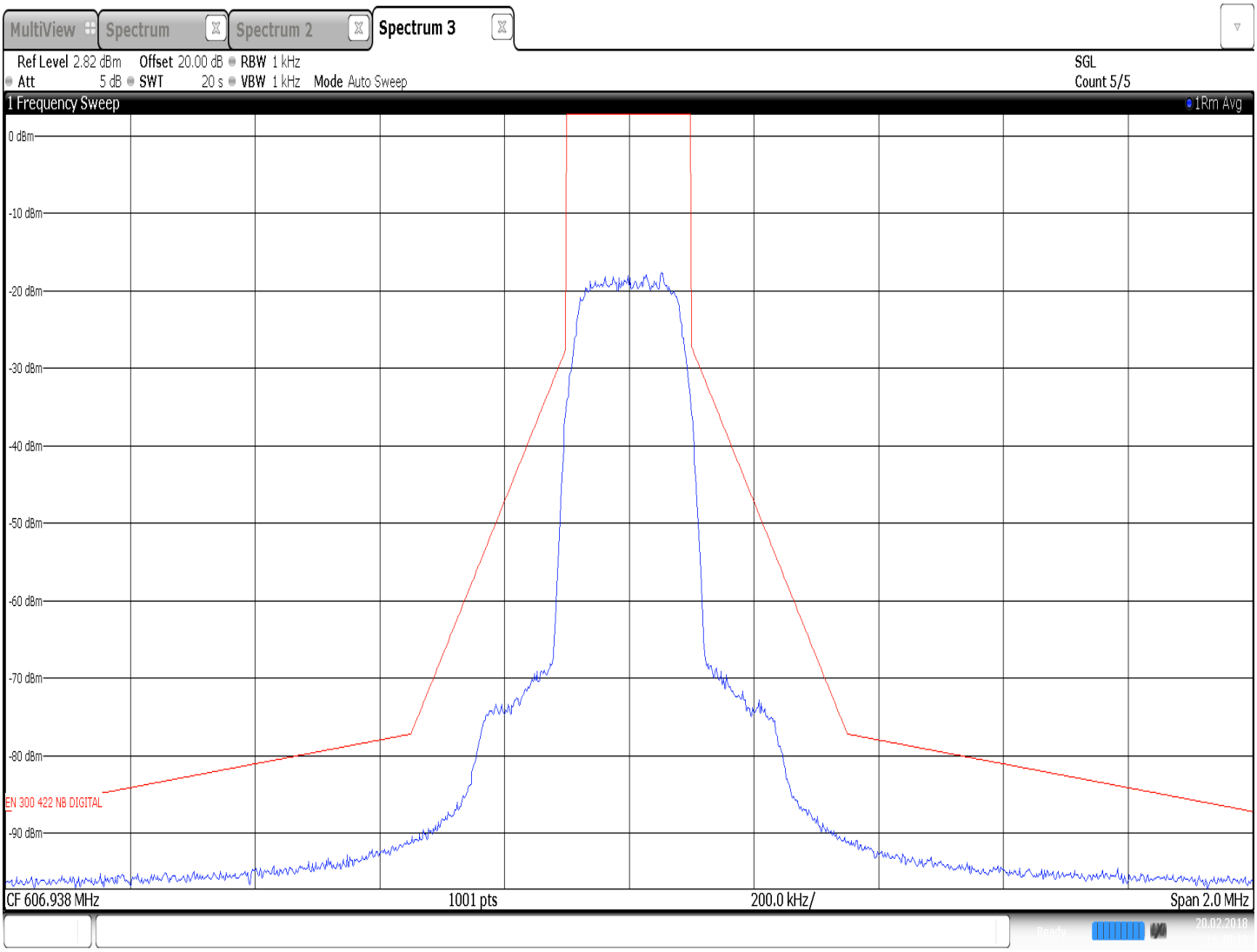


16:38:29 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.938 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

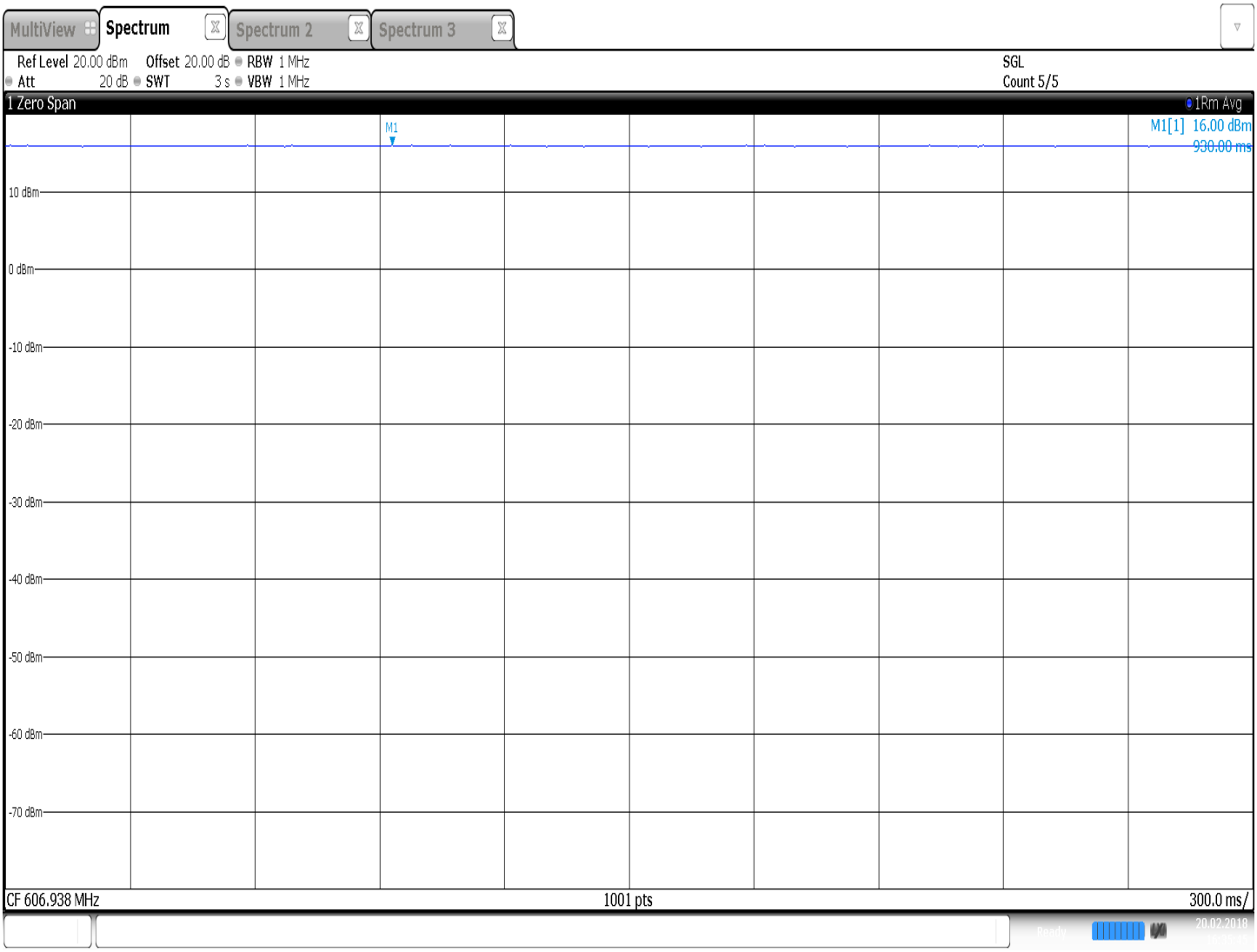


16:40:14 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.938 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

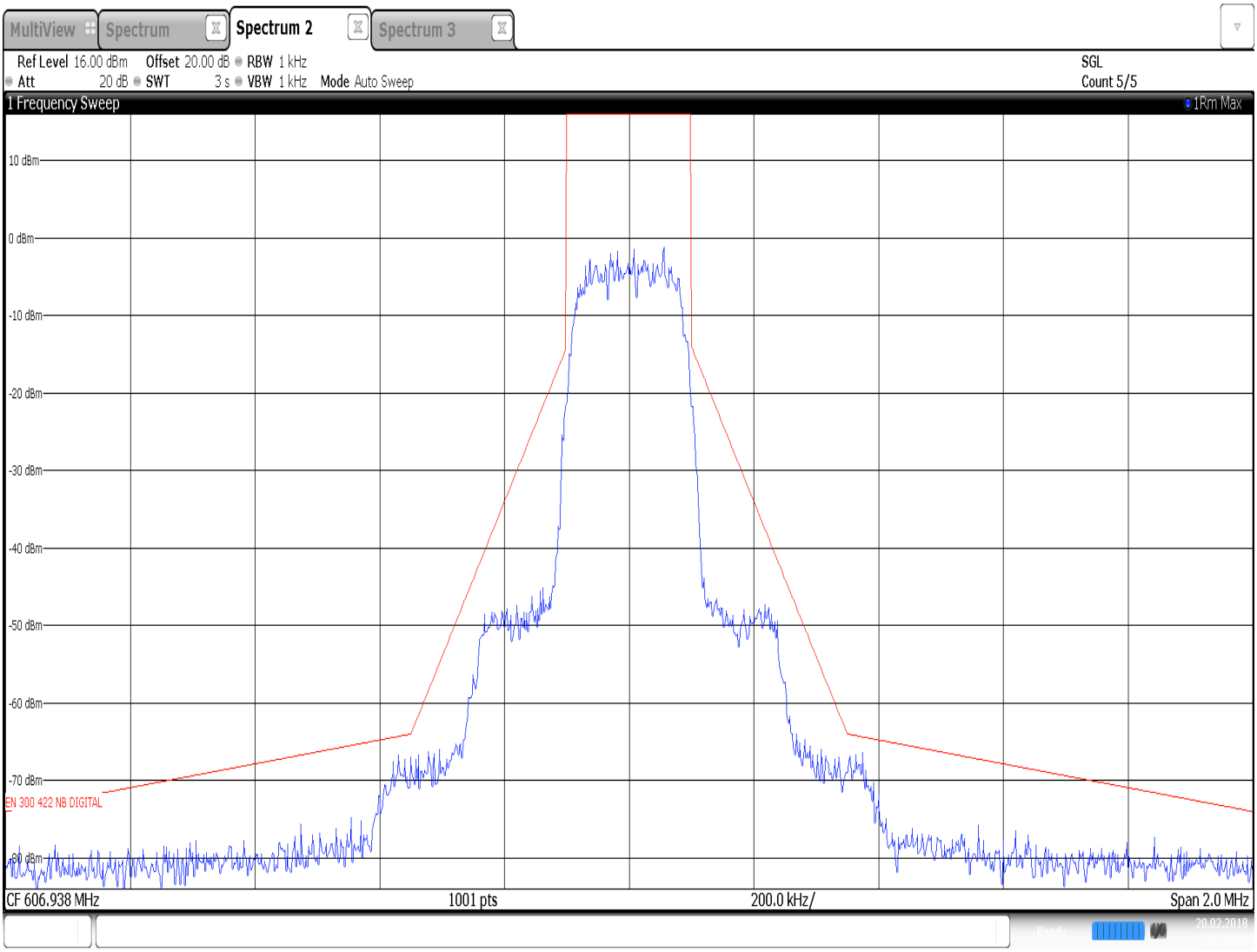


16:35:46 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.938 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

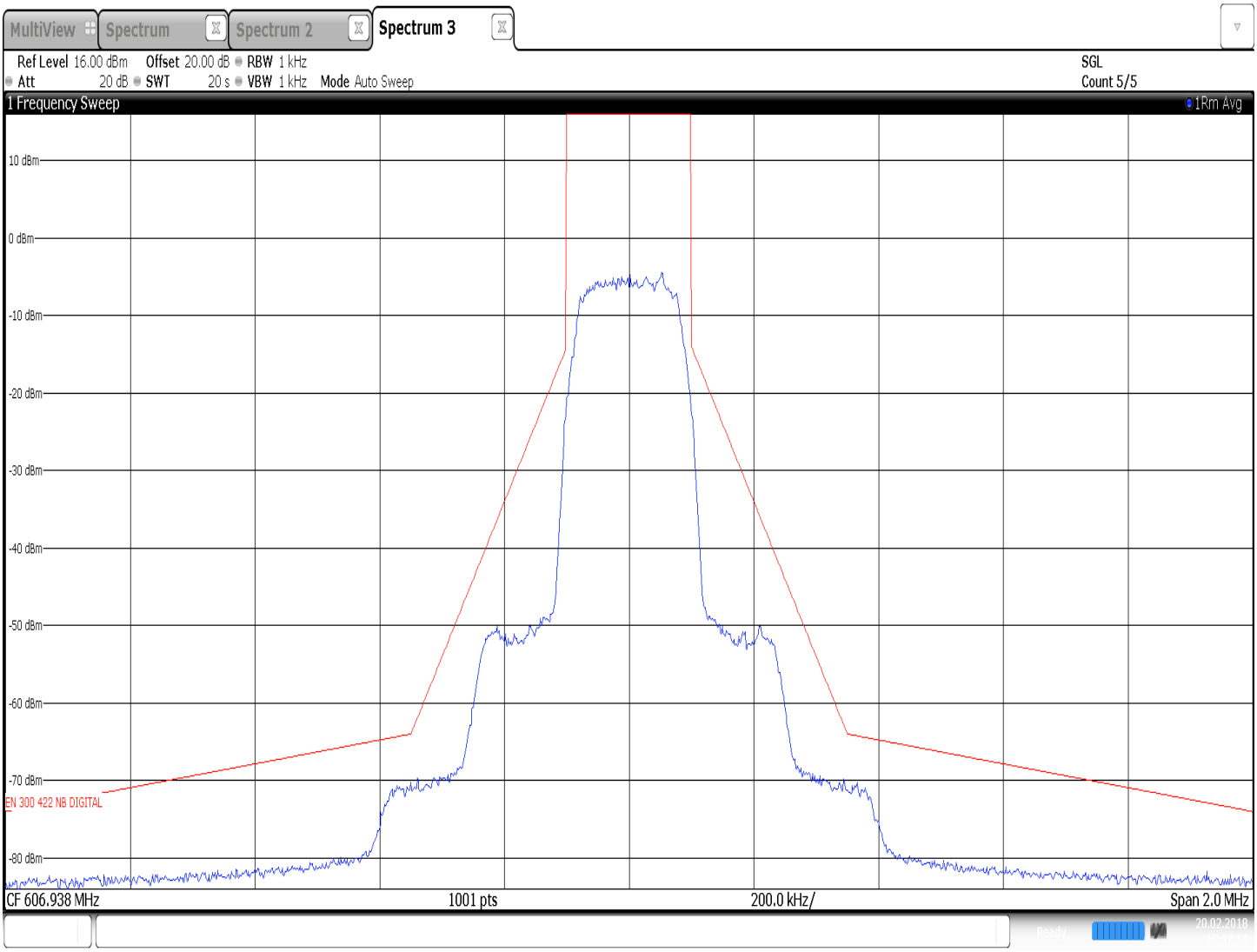


16:36:06 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	606.938 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

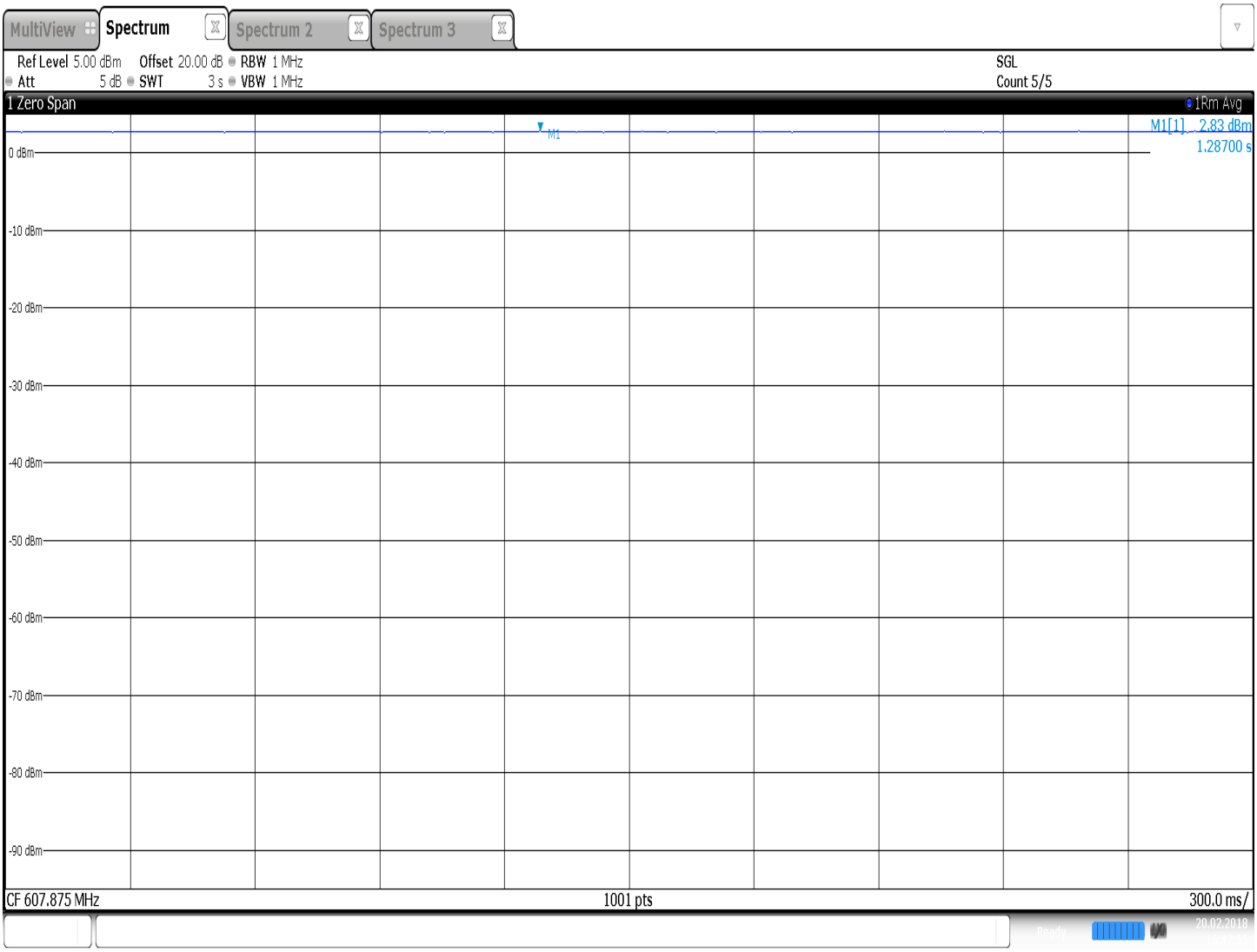


16:37:51 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

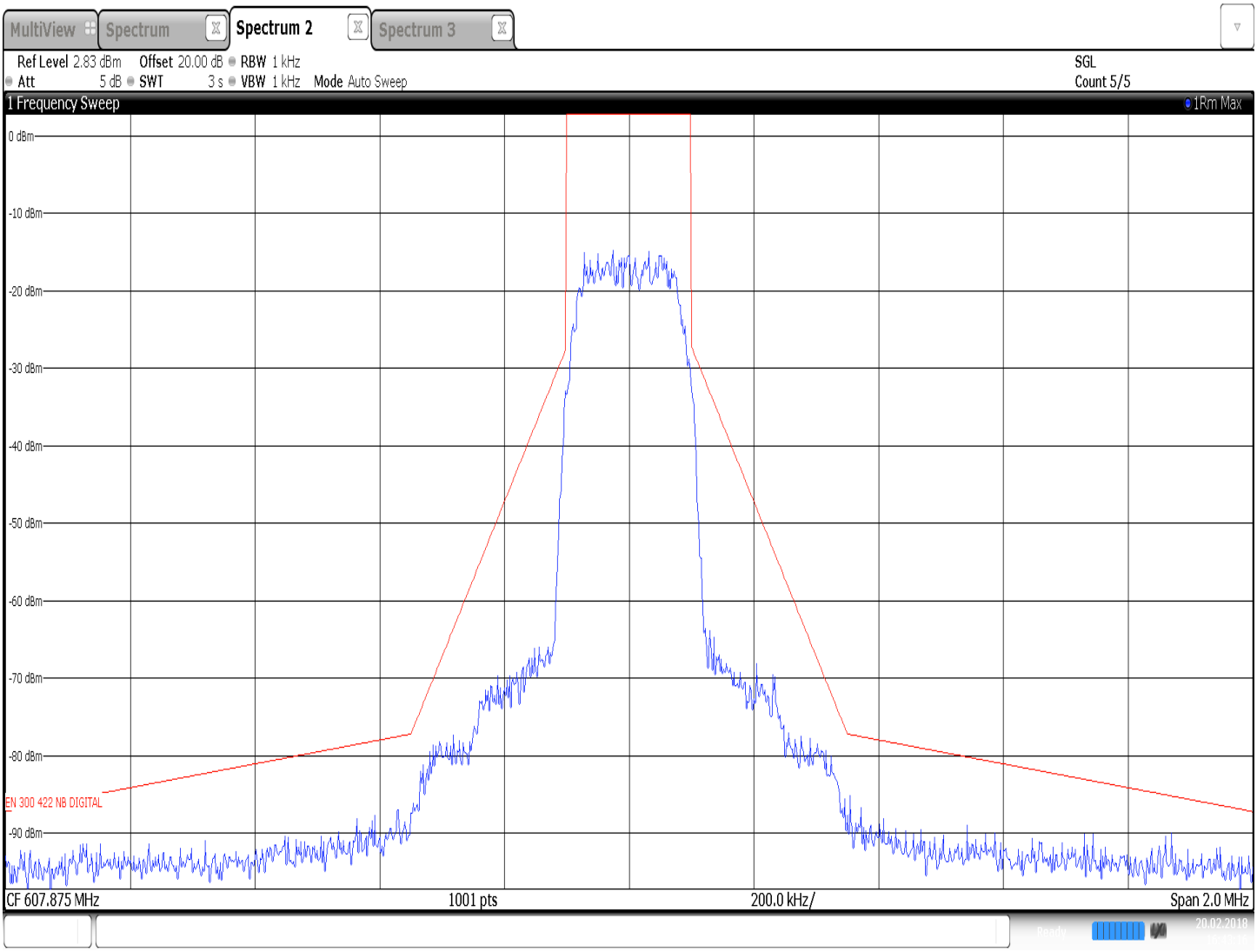


16:42:55 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

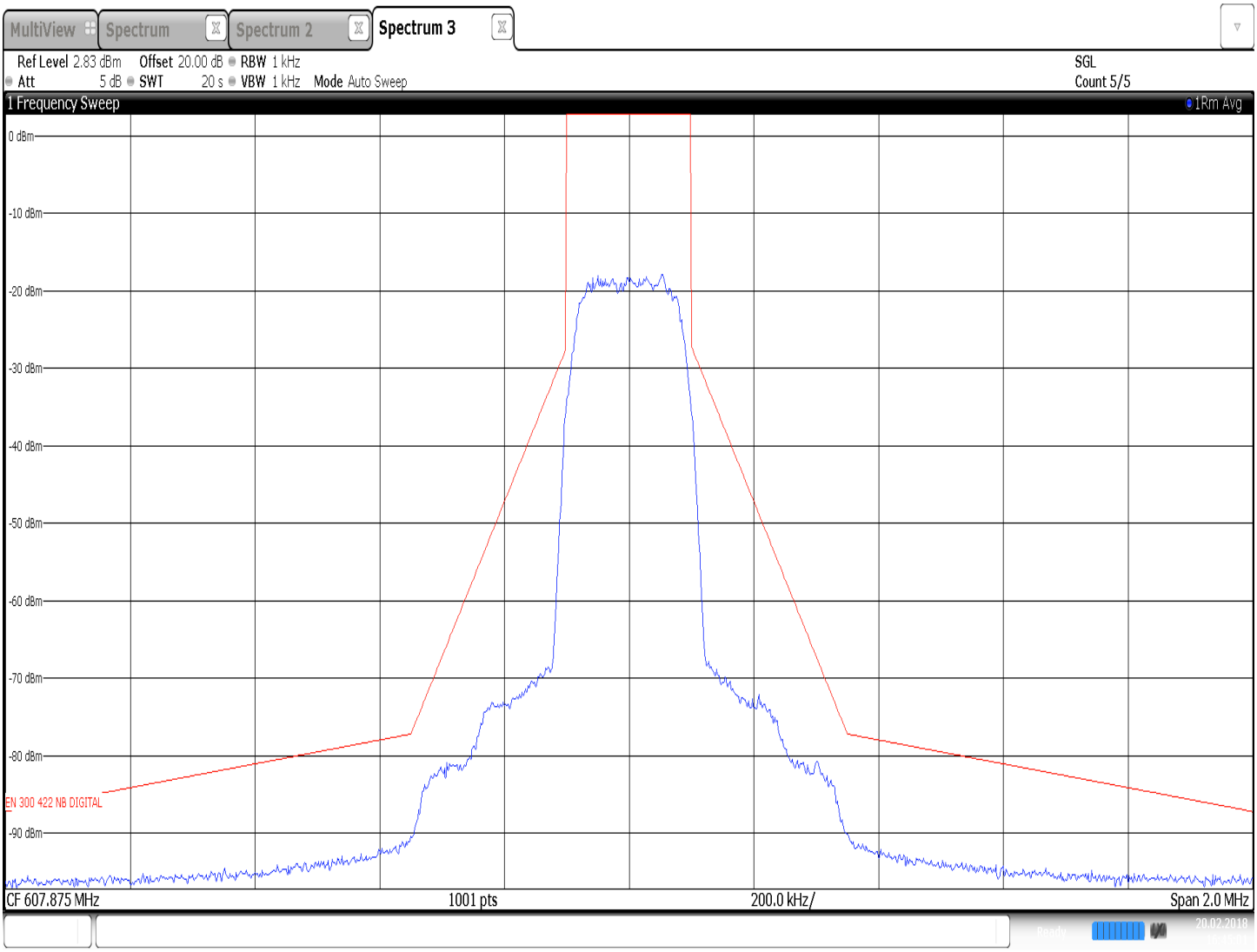


16:43:16 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on Ja February 20, 2018

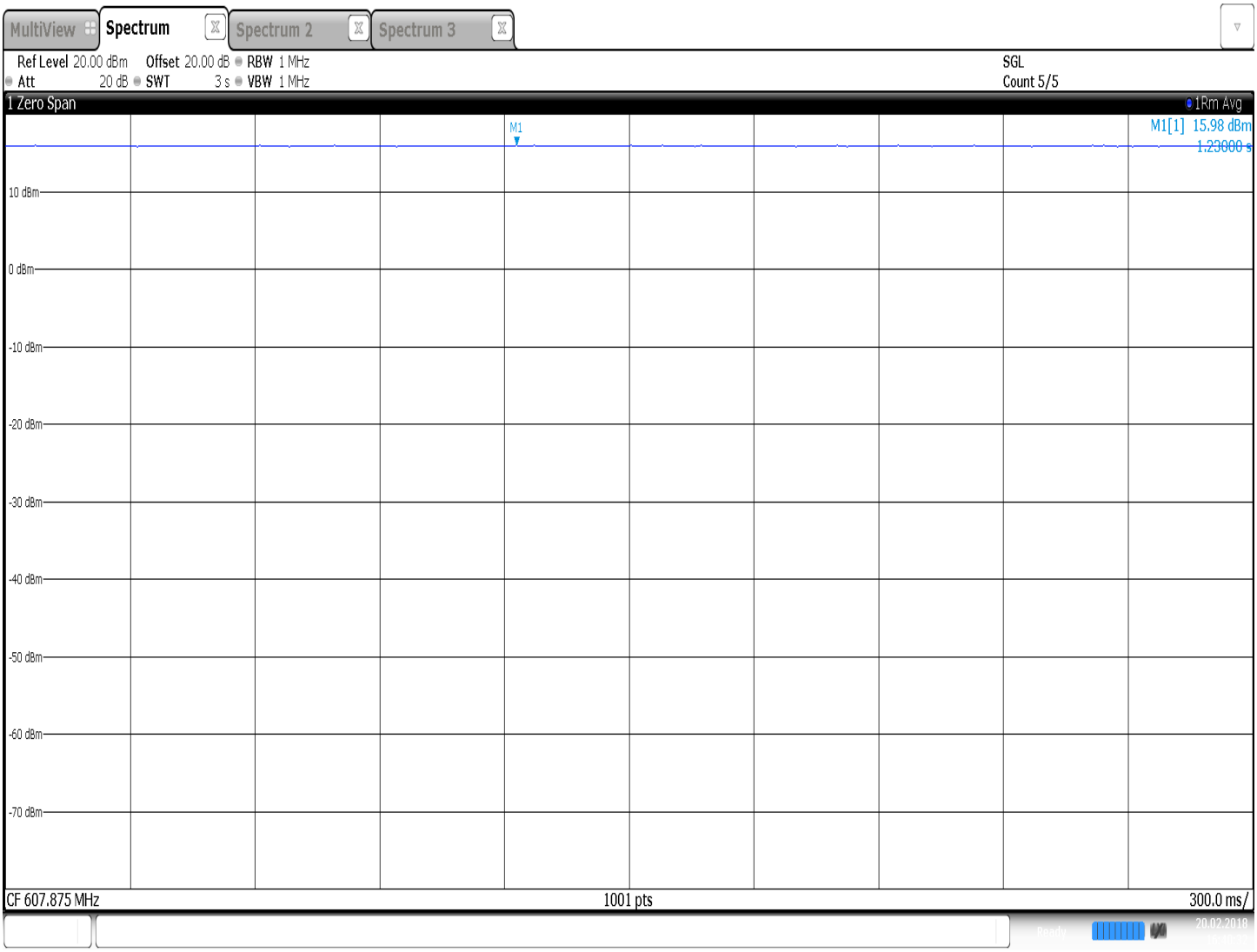


16:45:01 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

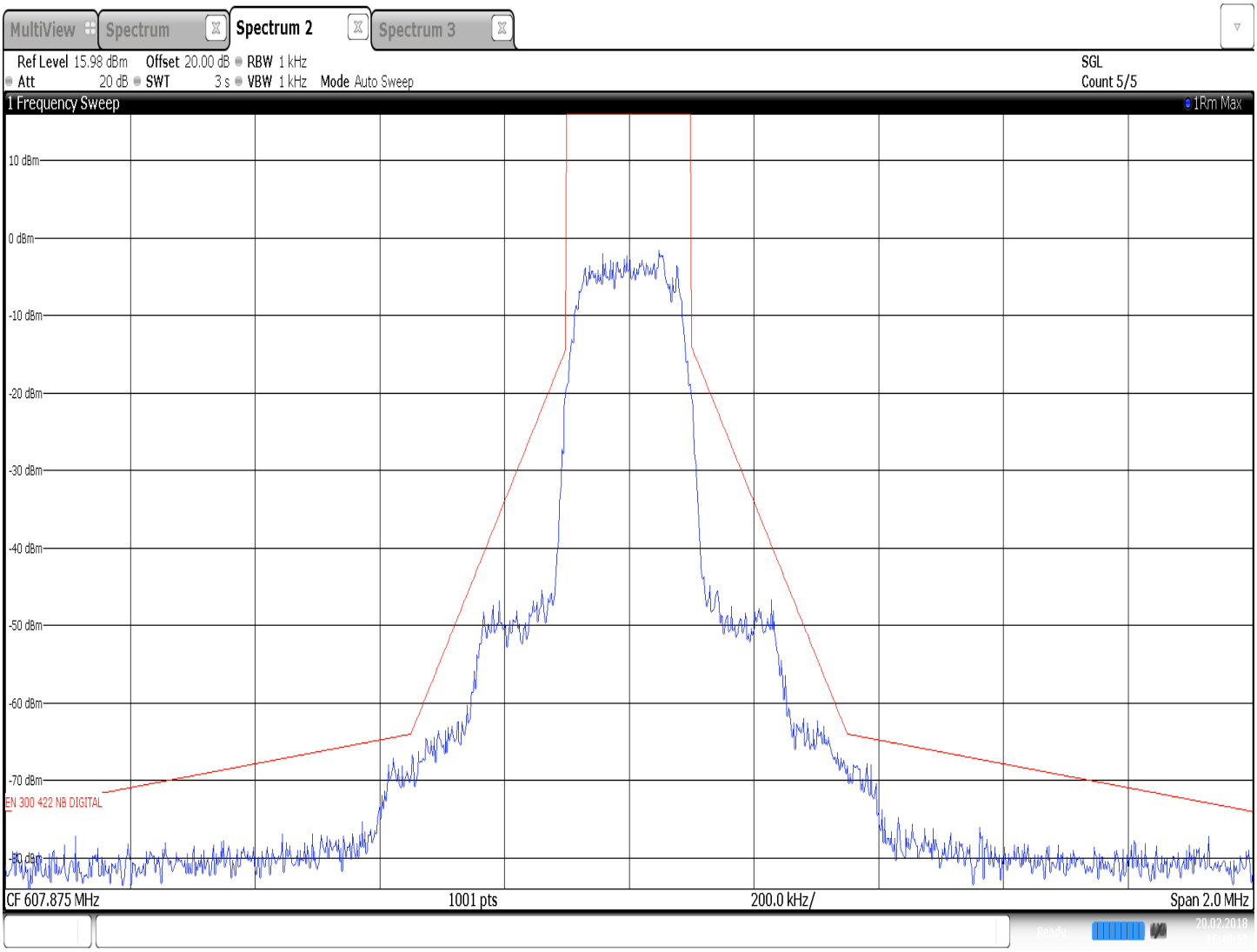


16:40:32 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

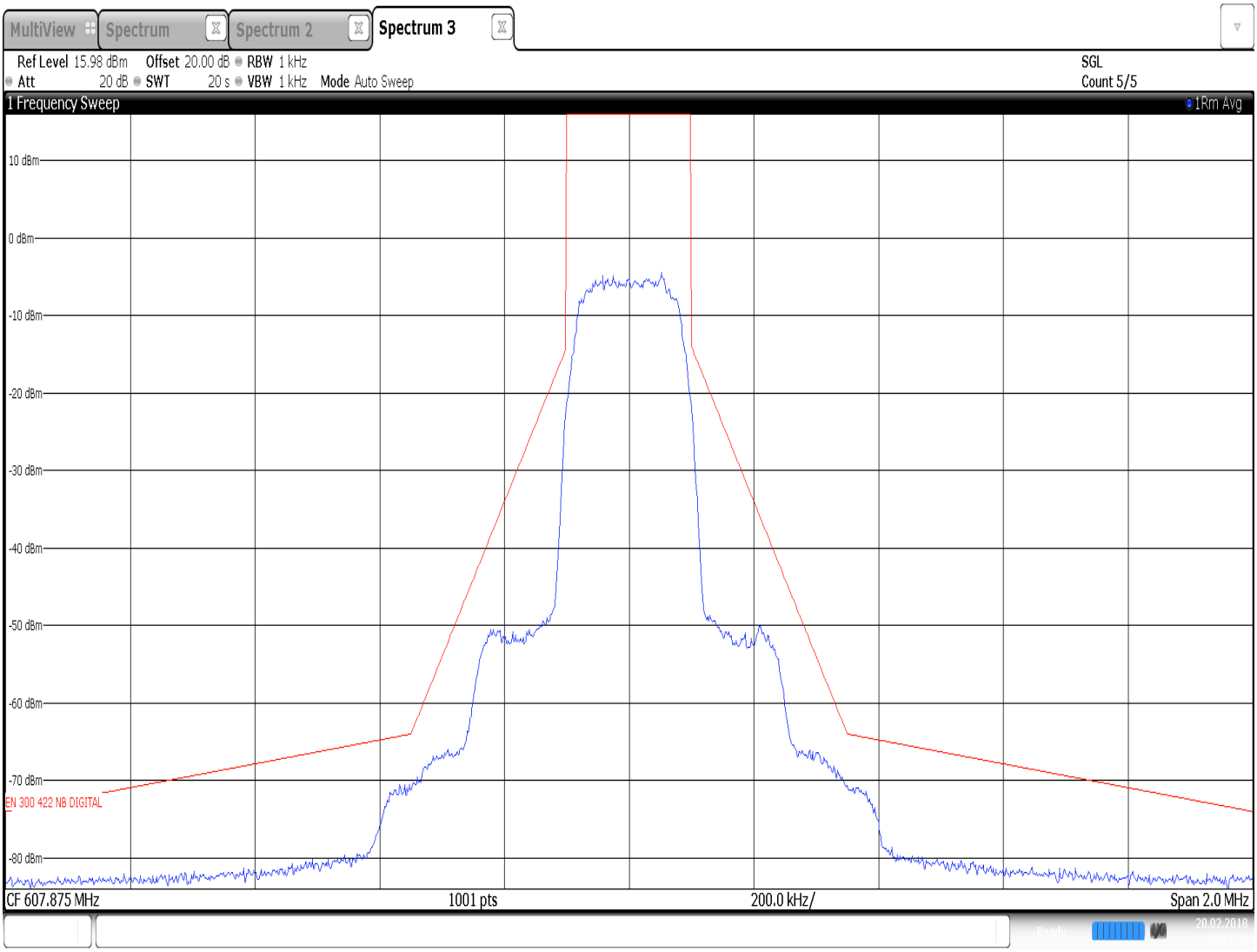


16:40:53 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	607.875 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

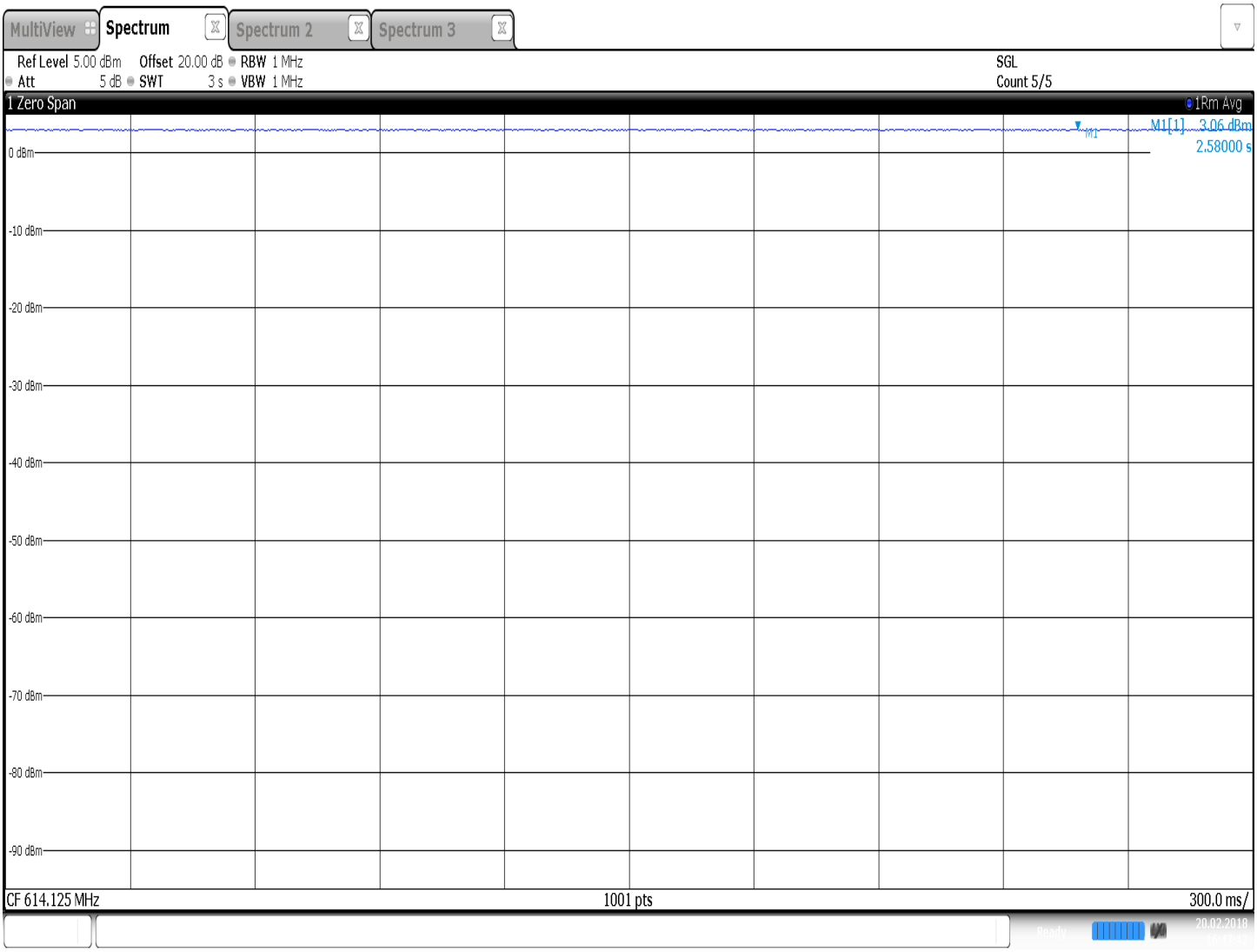


16:42:37 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

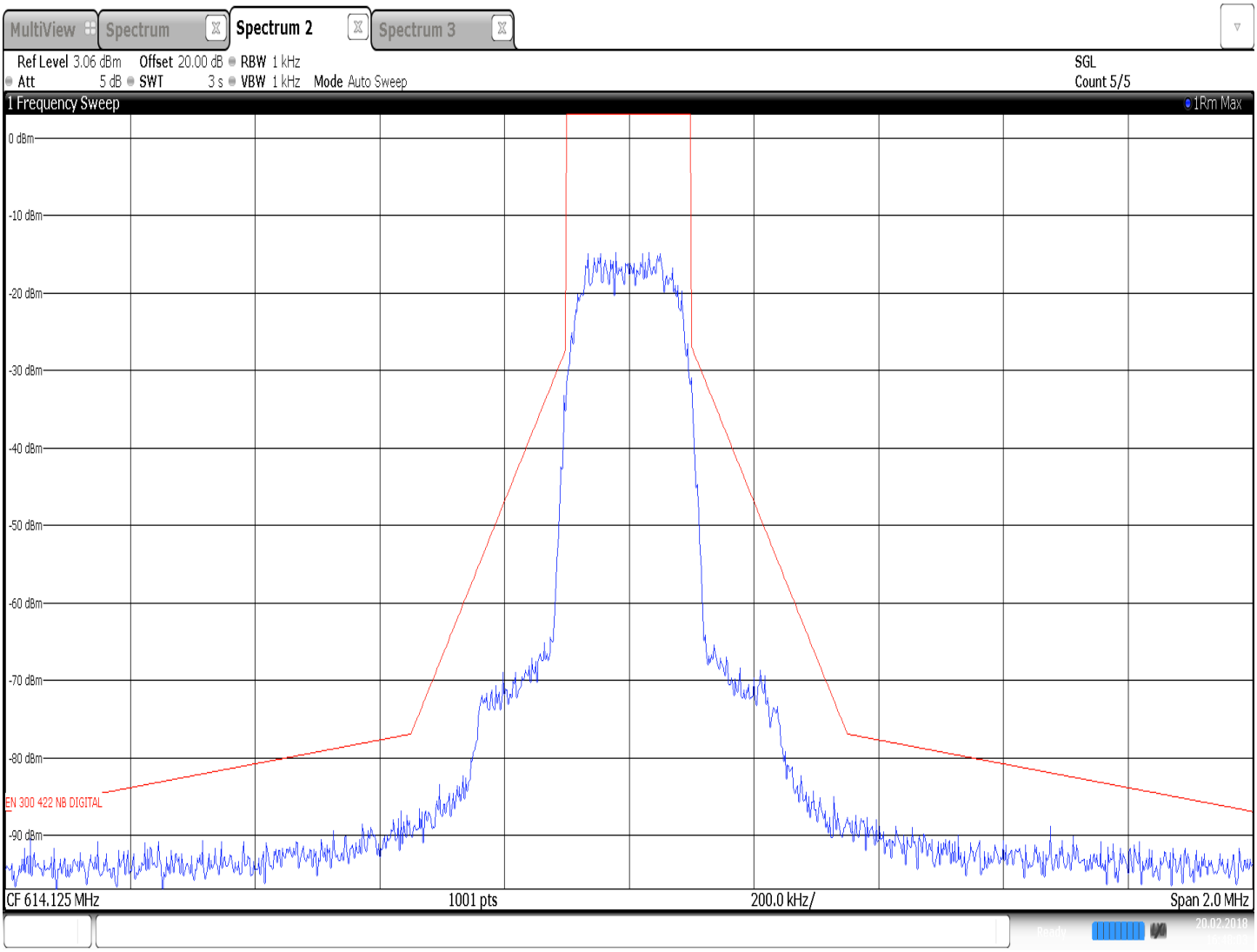


16:47:43 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

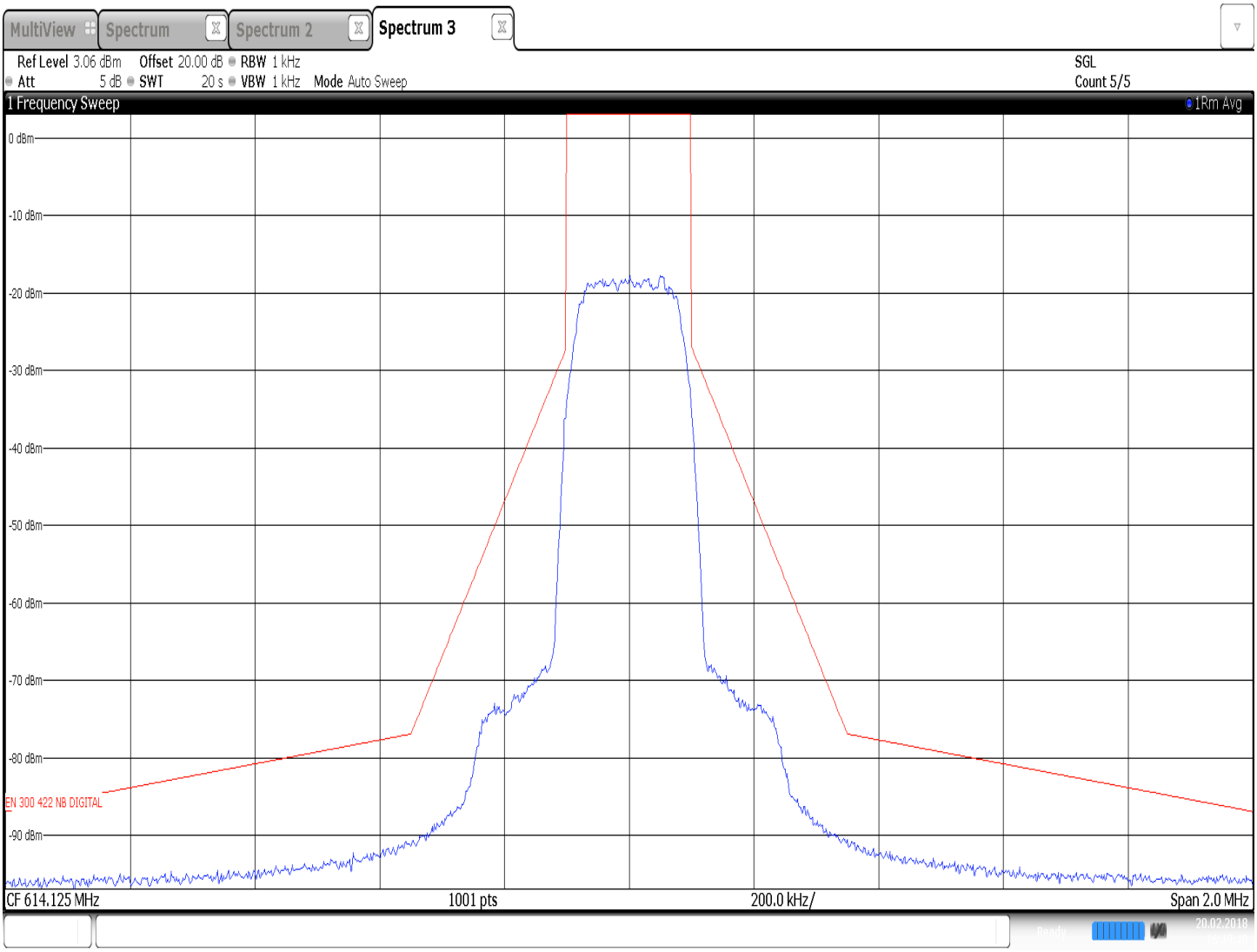


16:48:04 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

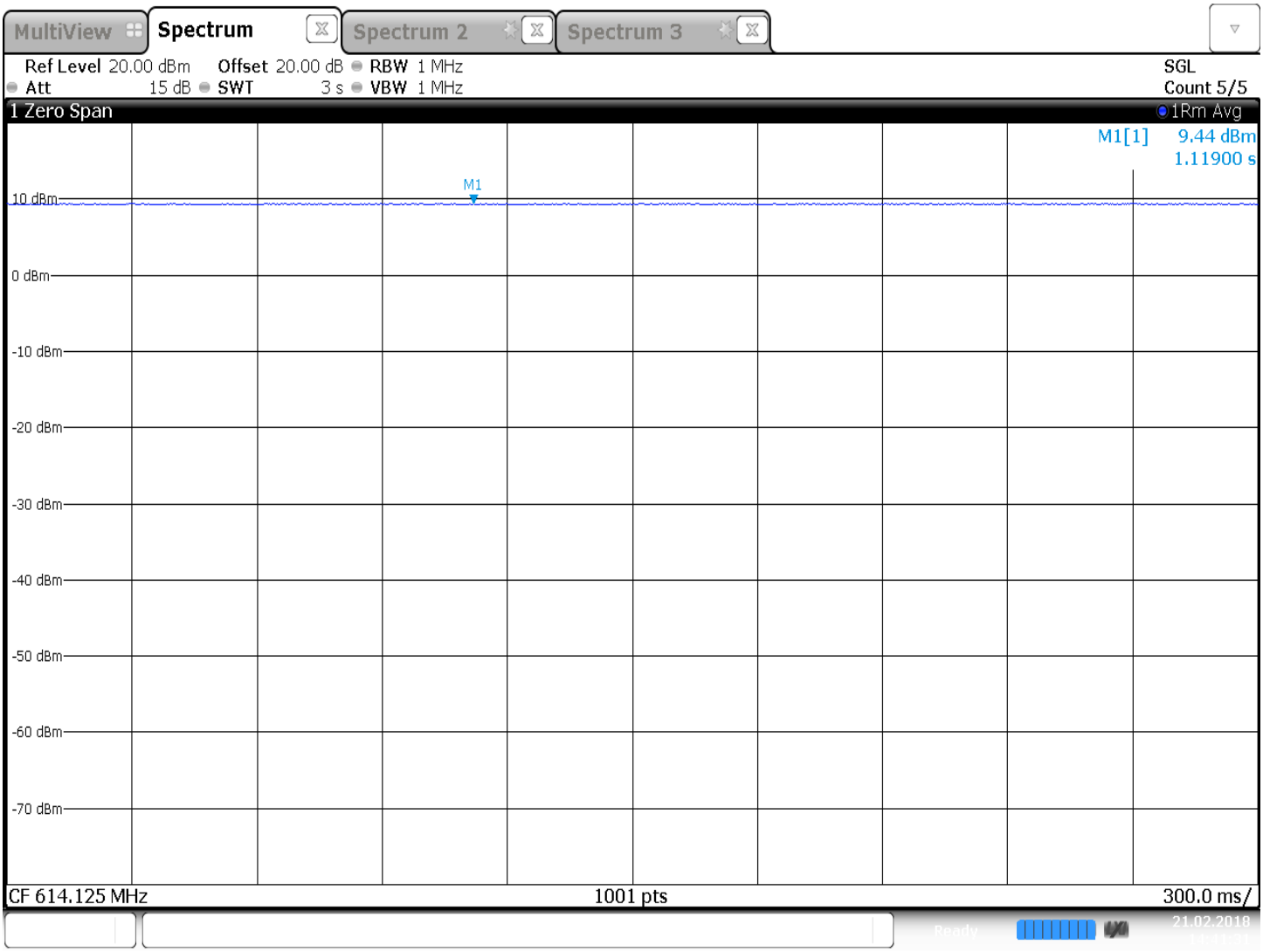


16:49:48 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

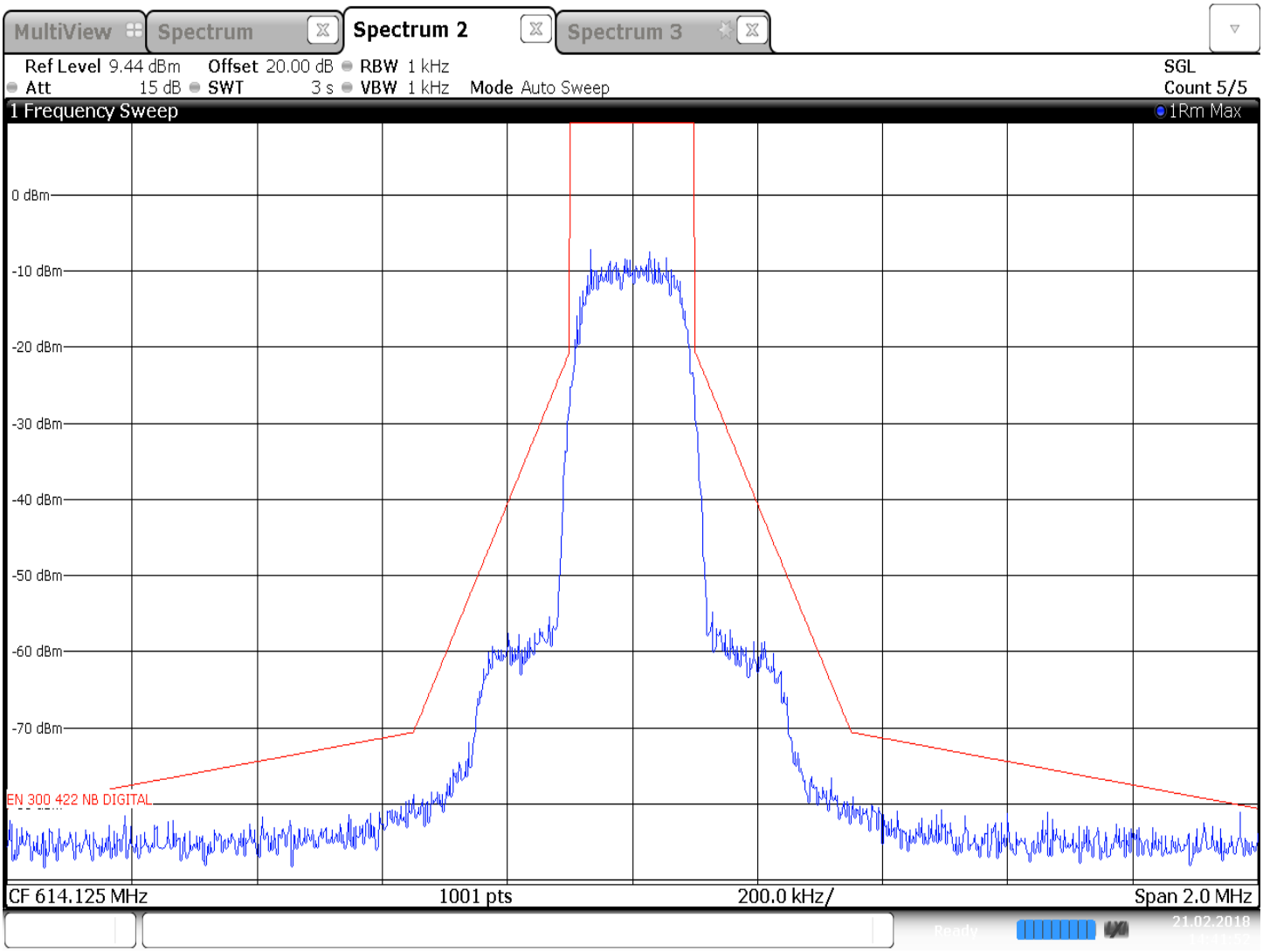


14:41:31 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

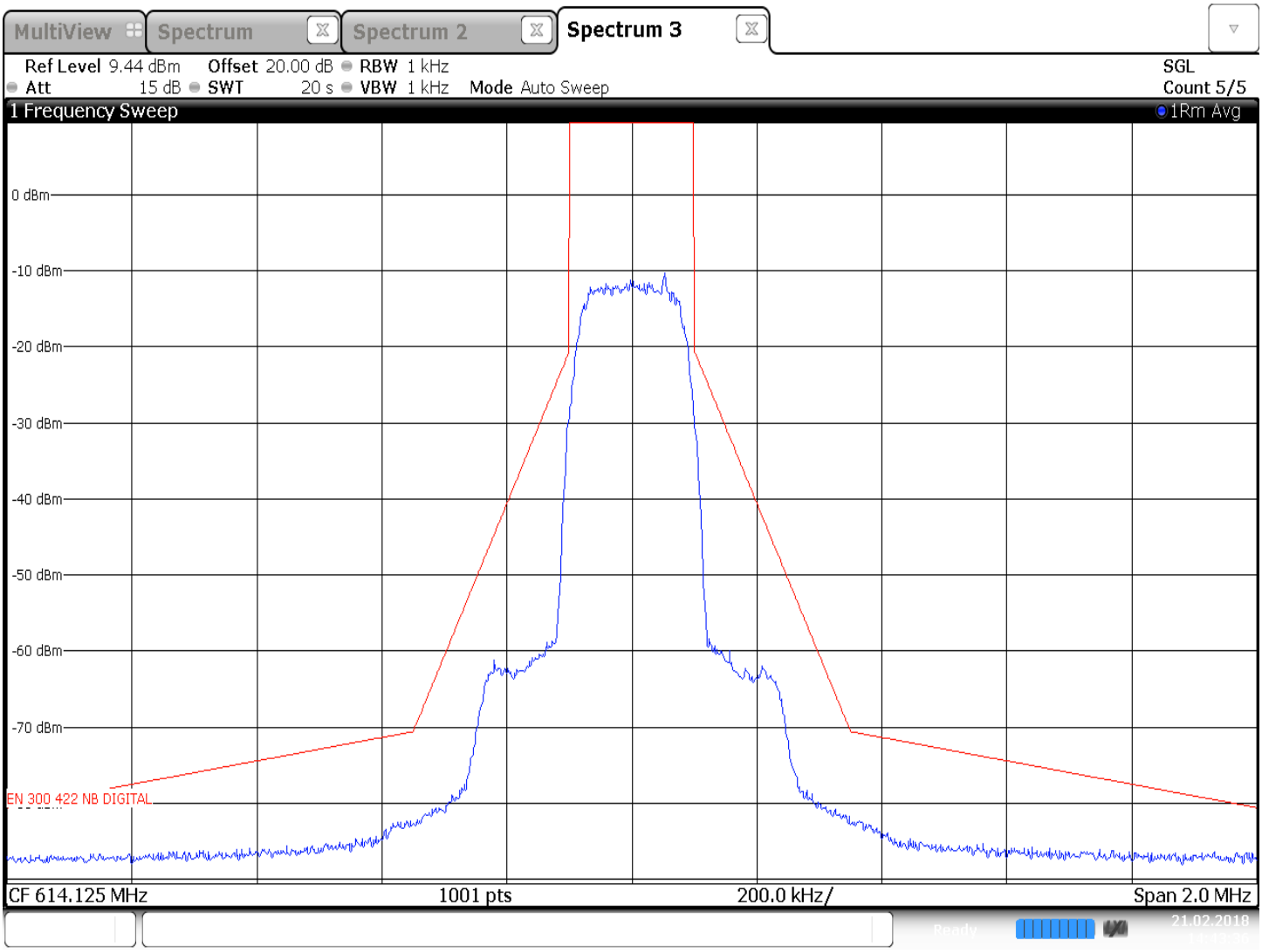


14:41:52 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	614.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

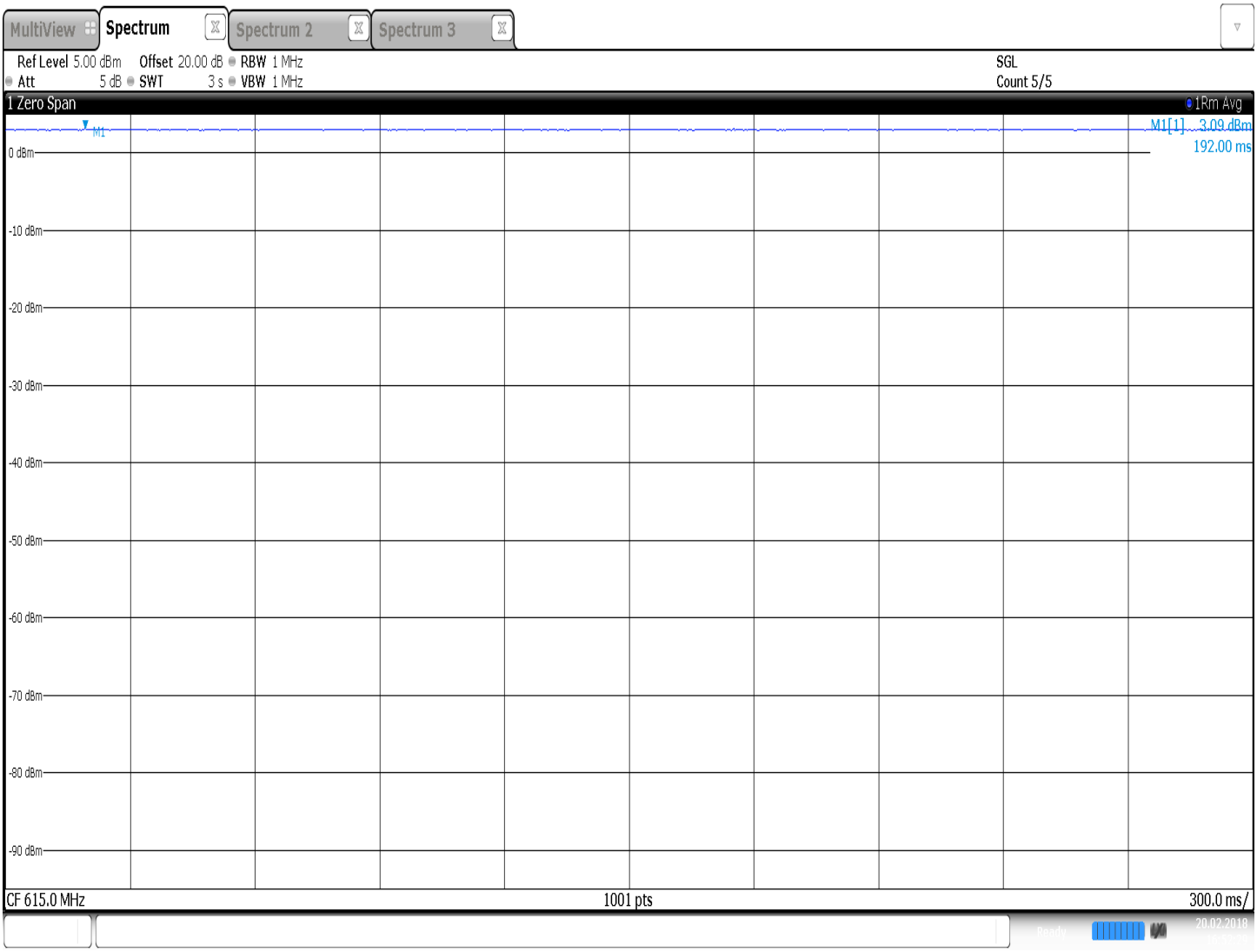


14:43:36 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

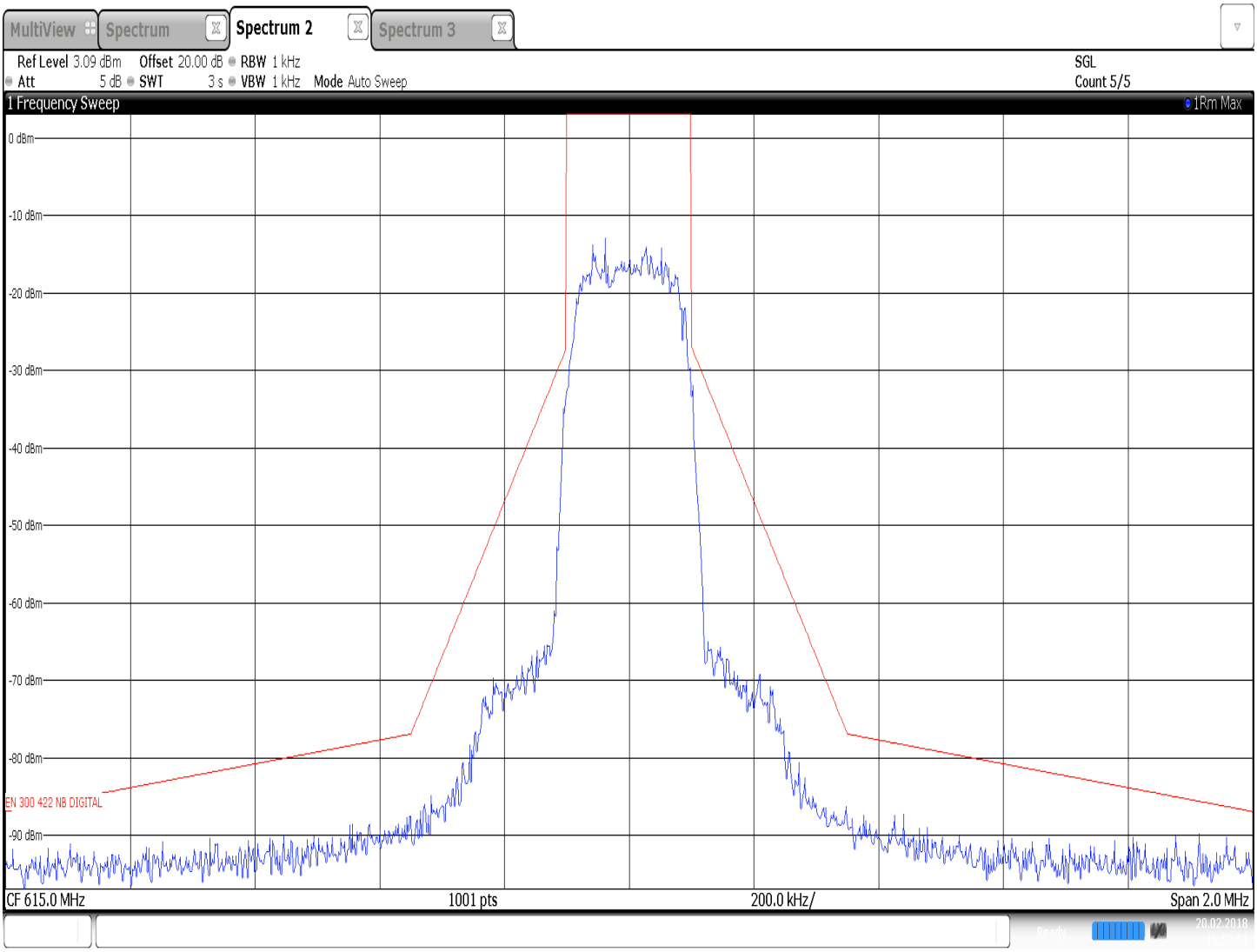


16:52:30 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

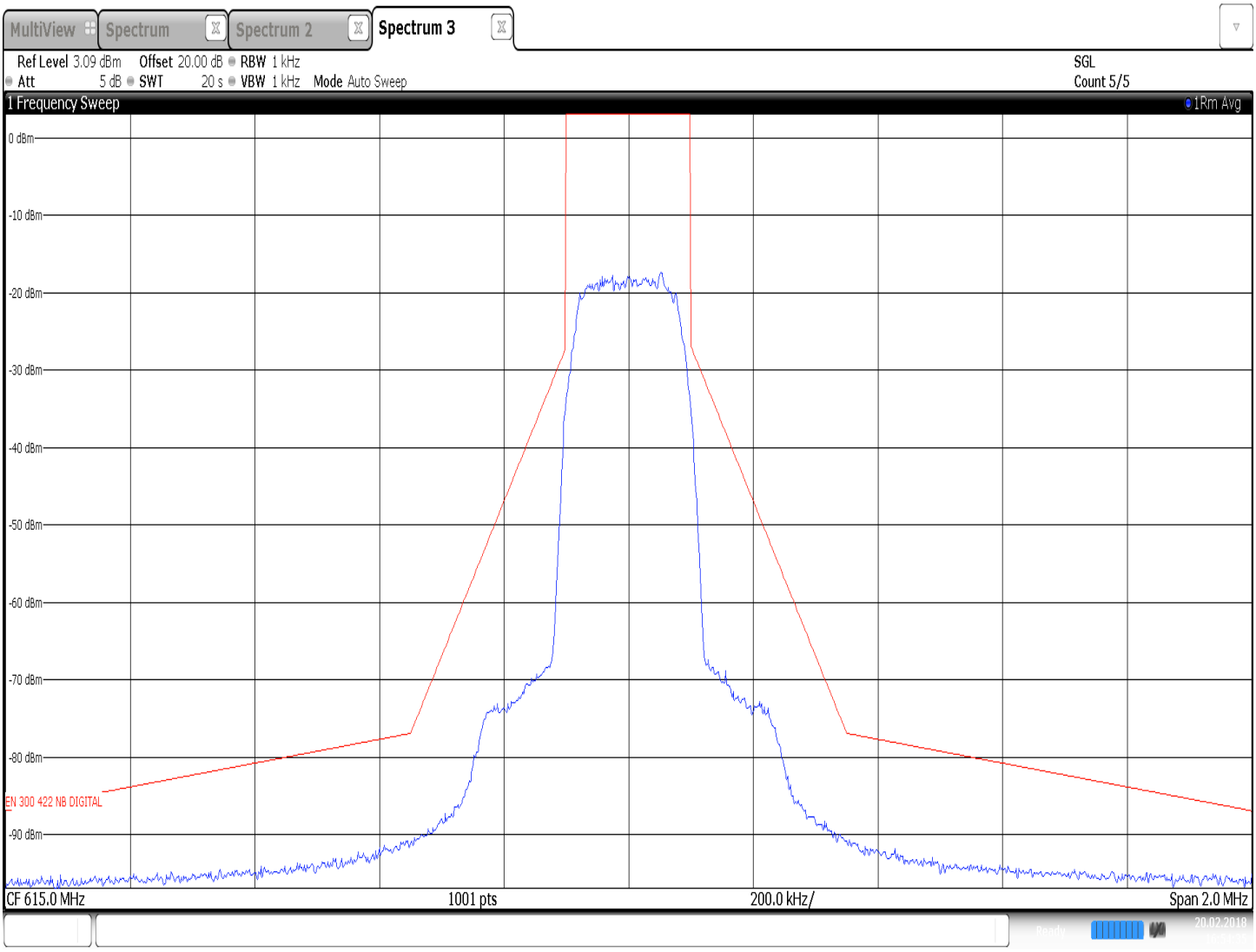


16:52:51 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

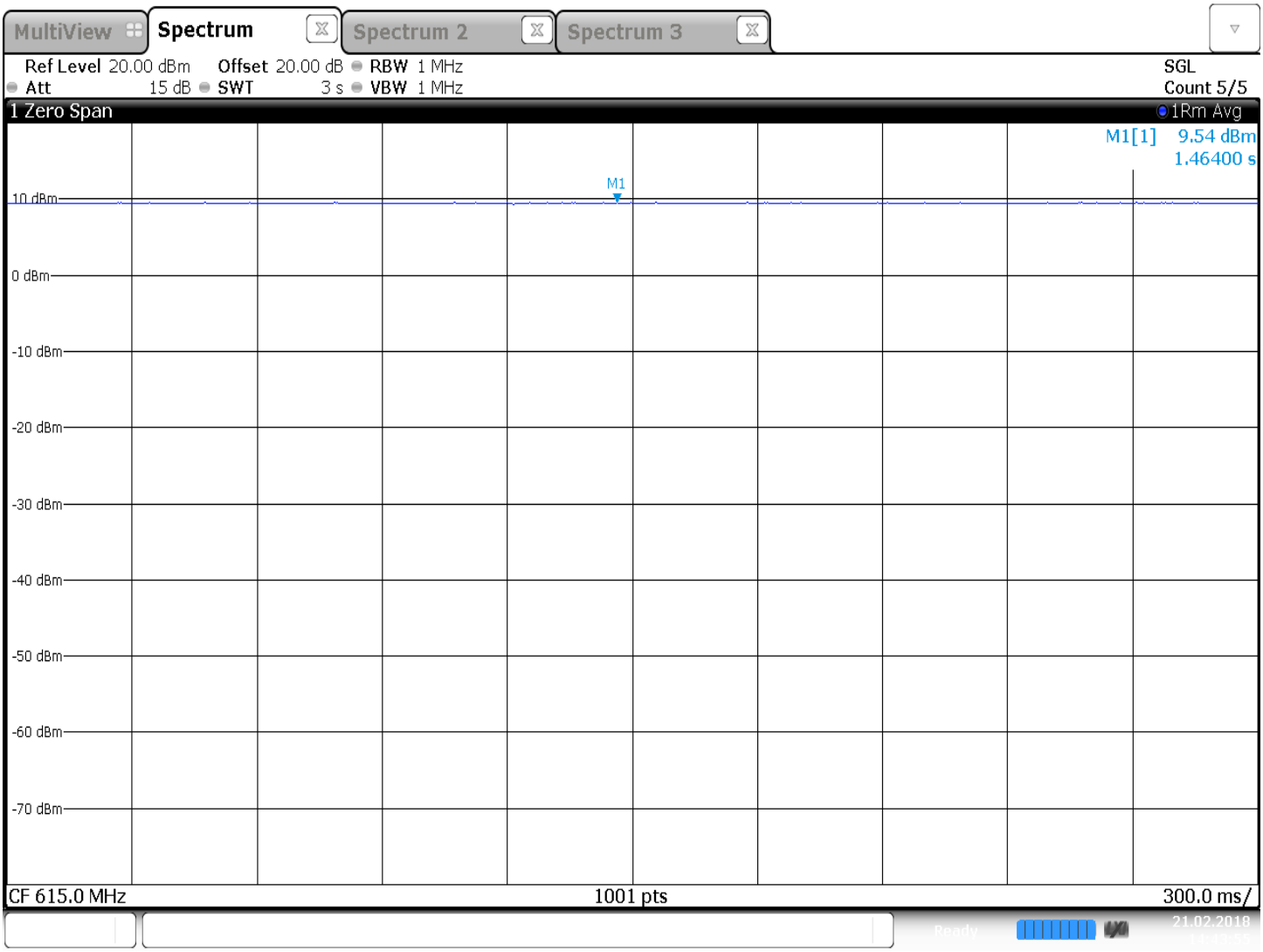


16:54:35 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

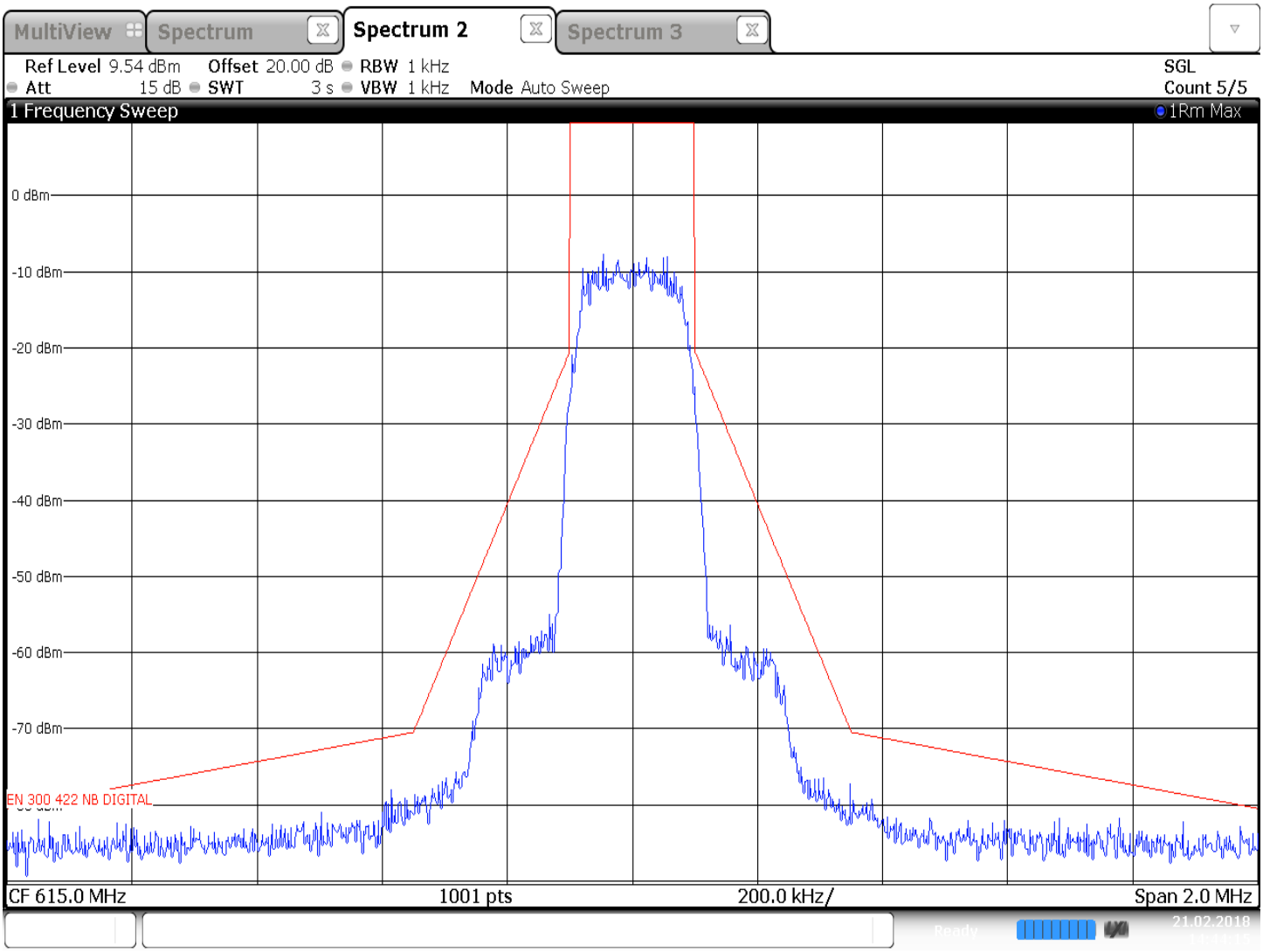


14:43:55 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

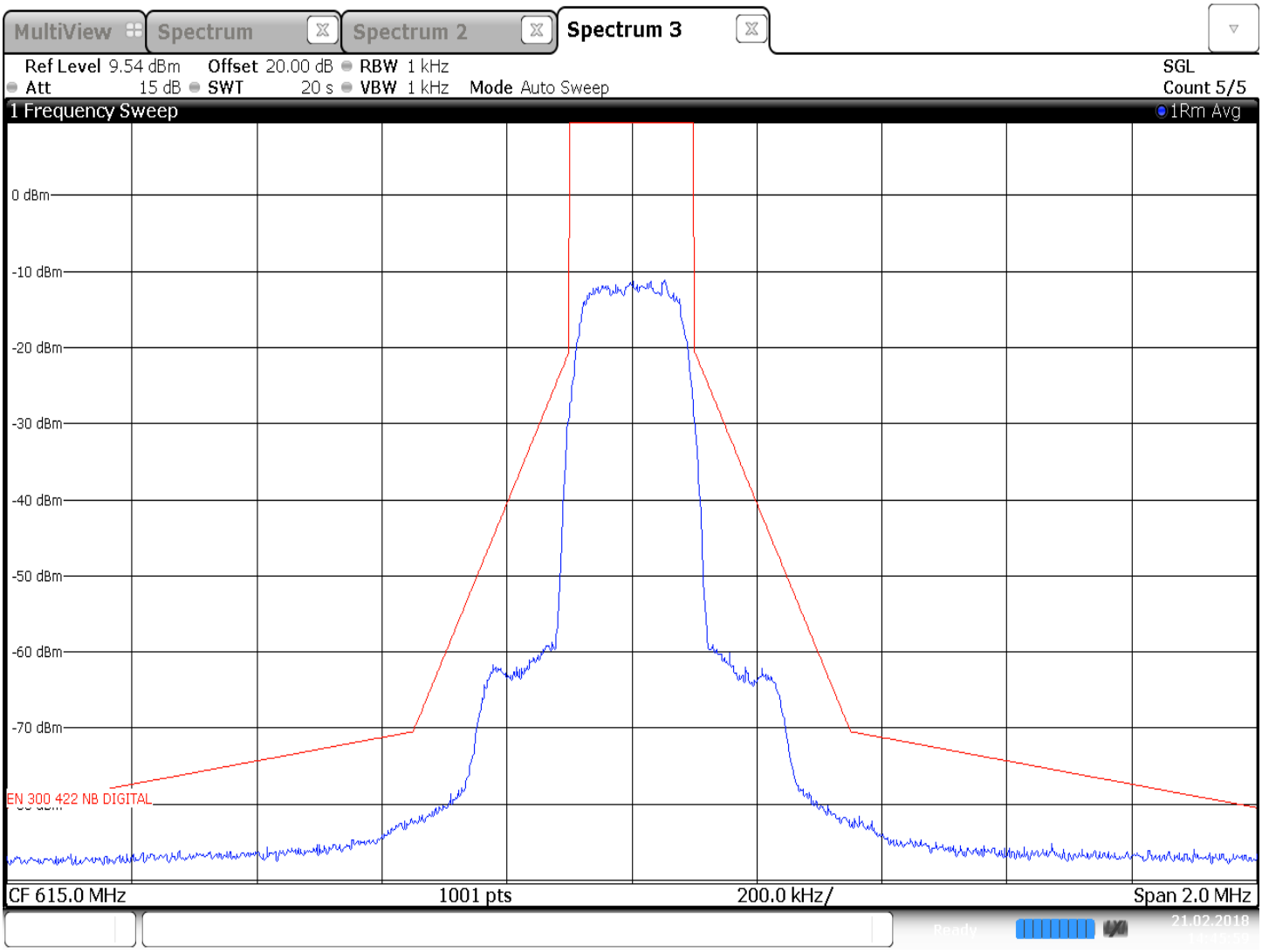


14:44:15 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

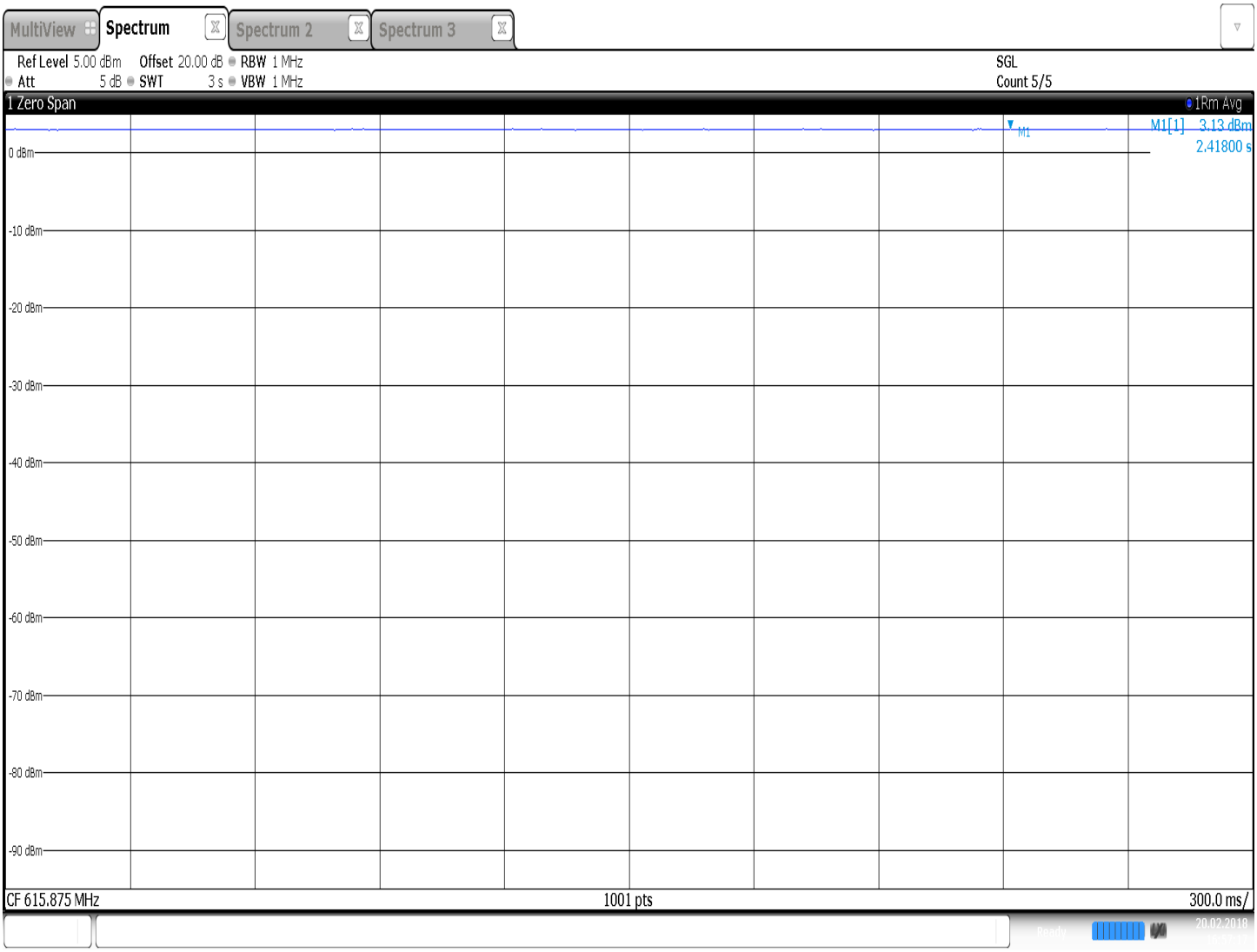


14:46:00 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

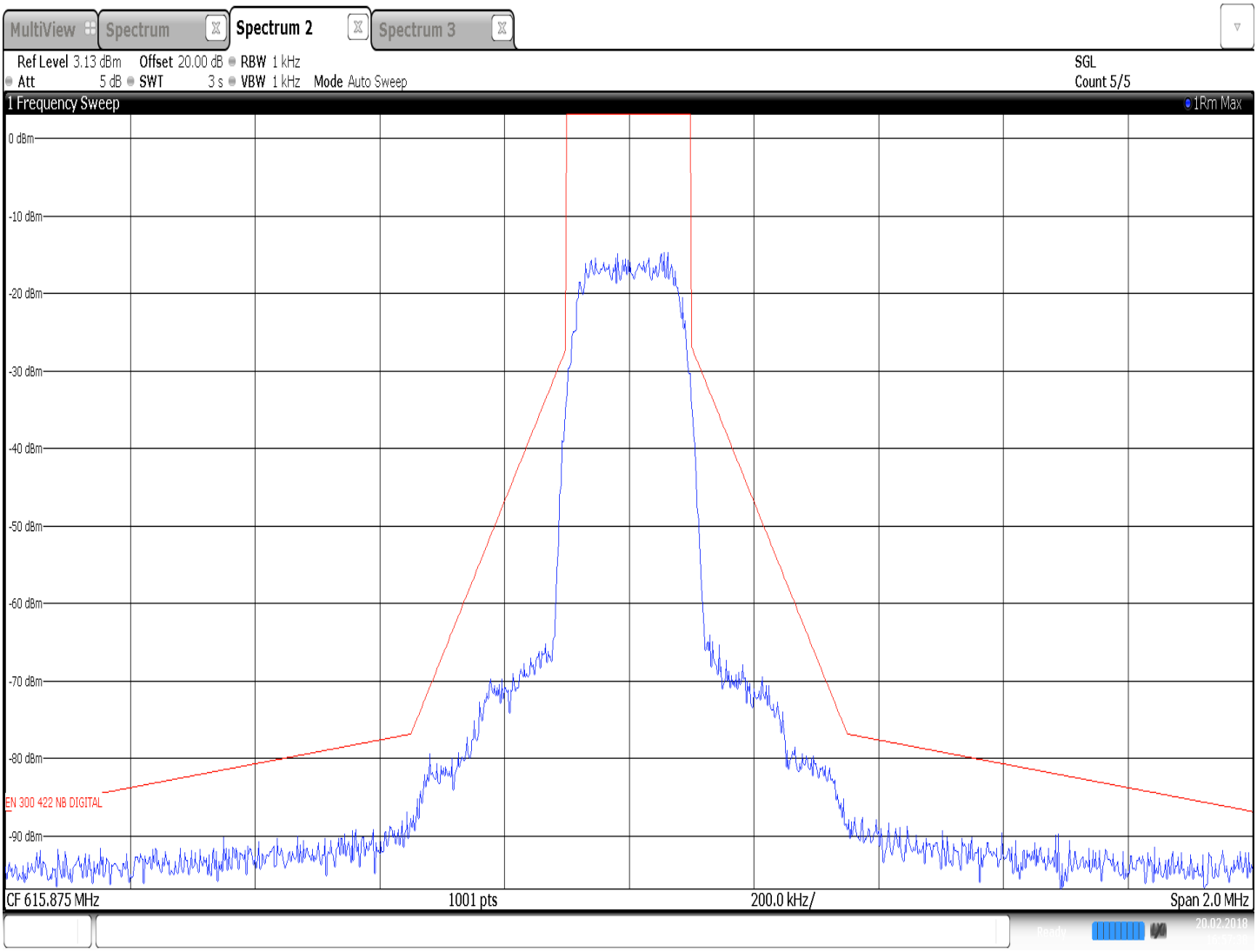


16:57:17 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

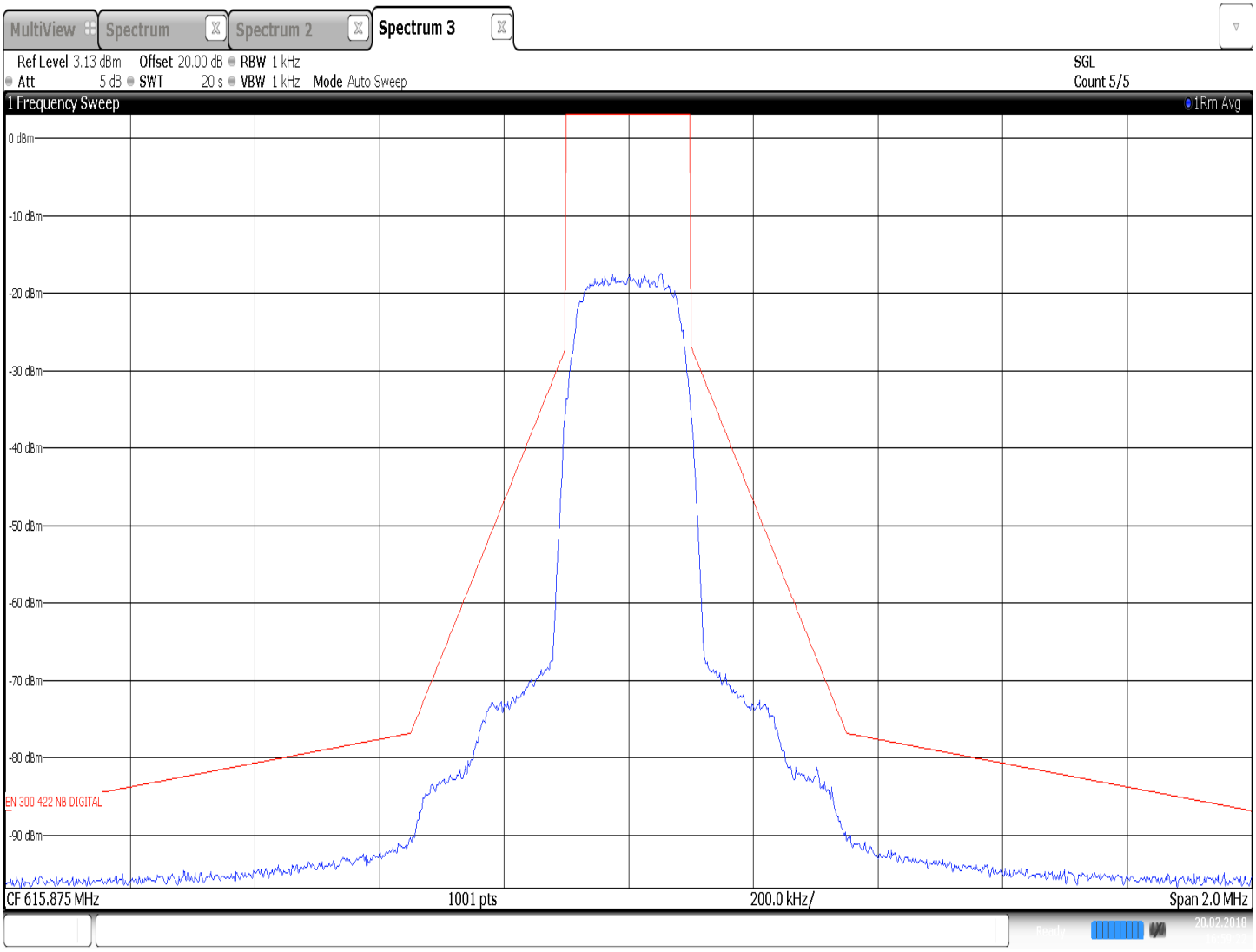


16:57:38 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

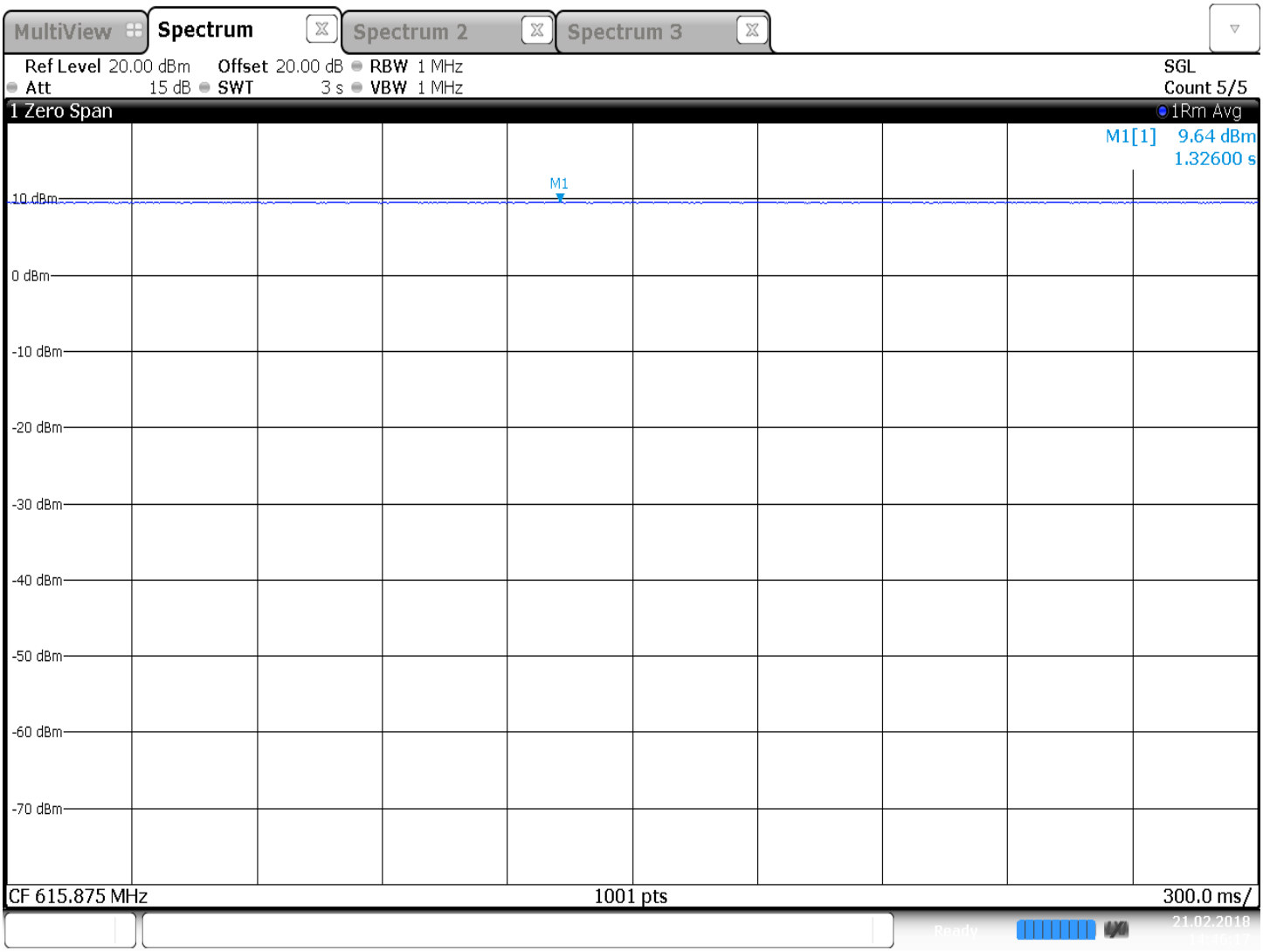


16:59:23 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

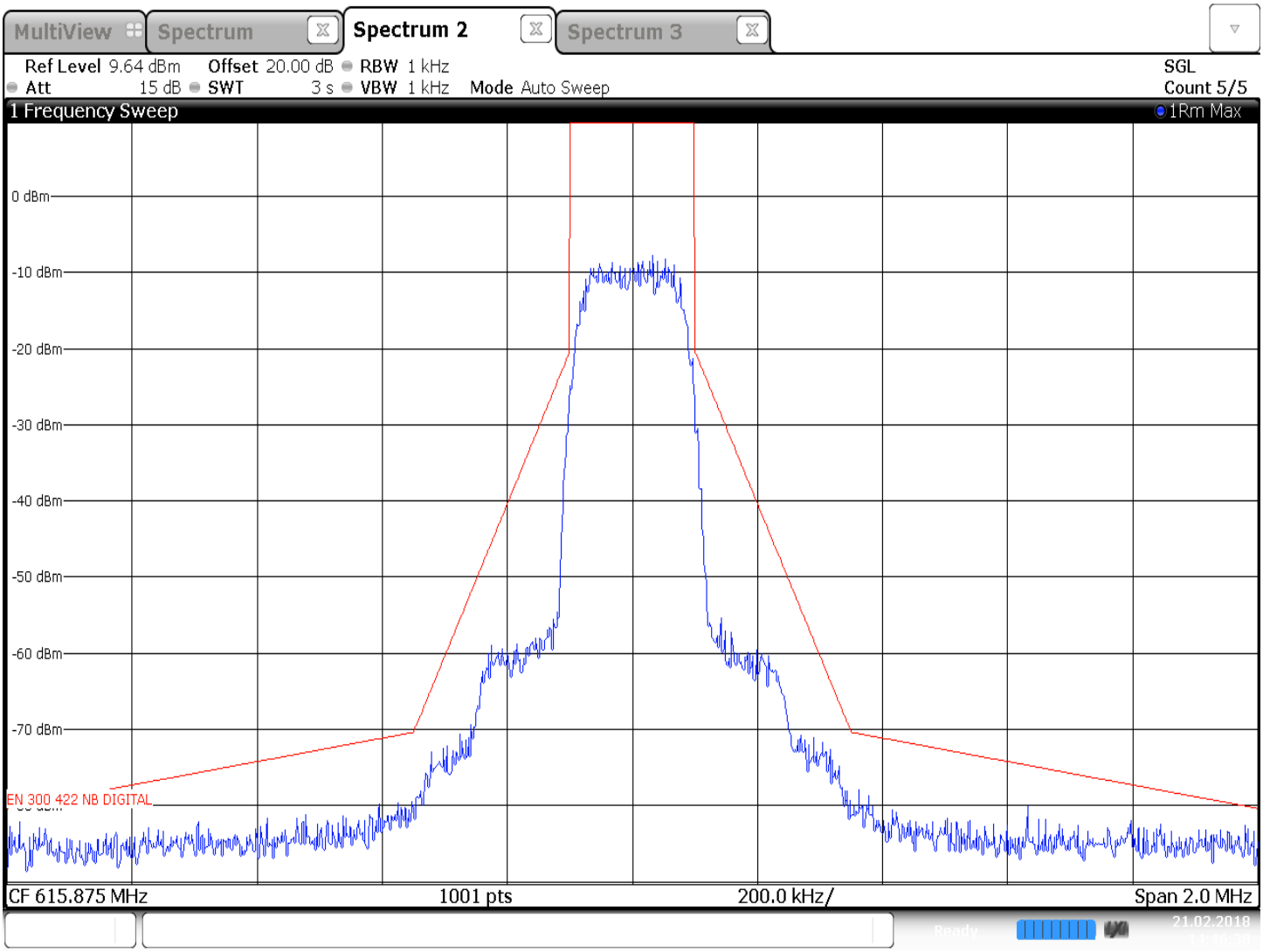


14:46:18 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

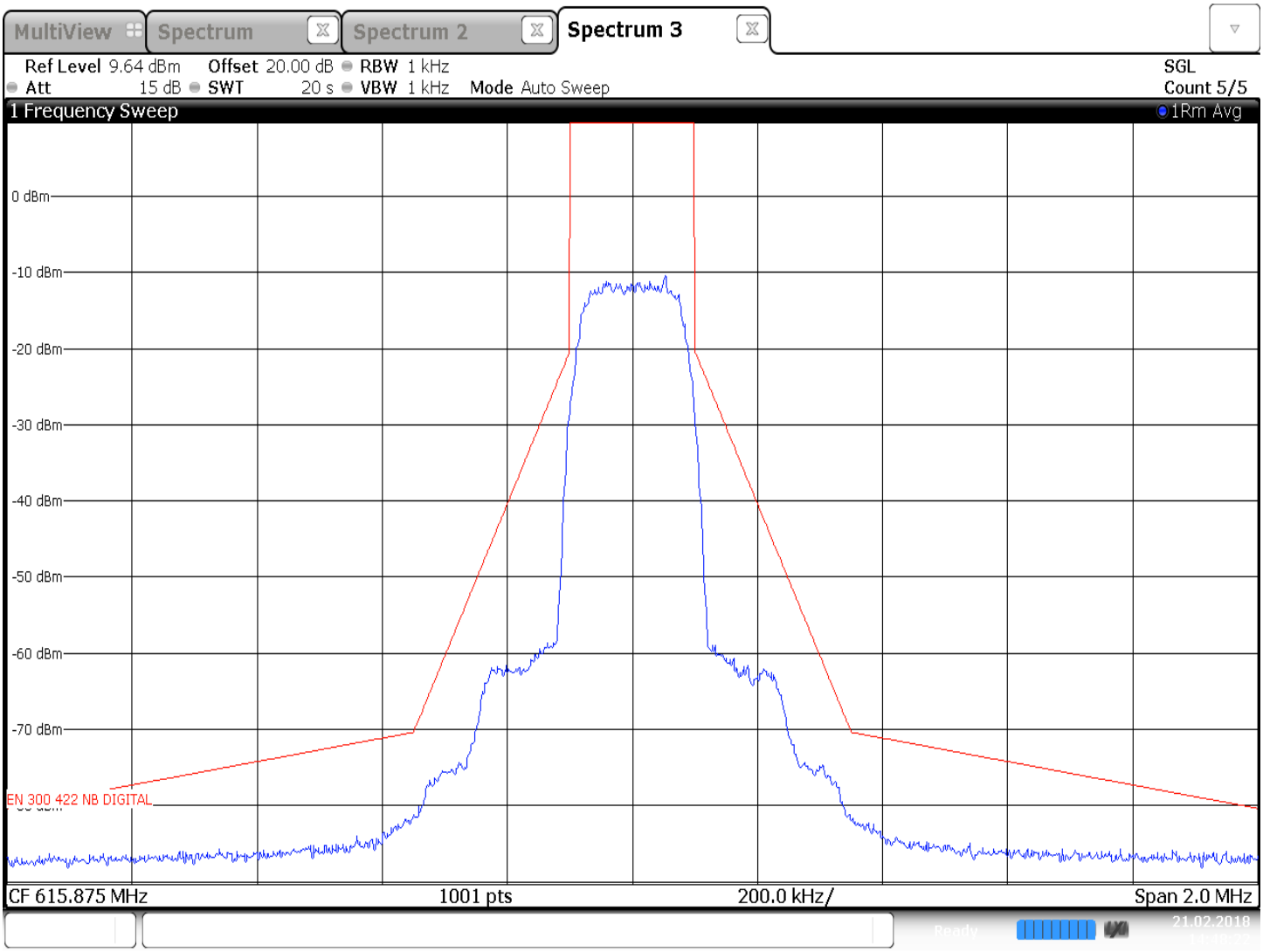


14:46:38 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	615.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

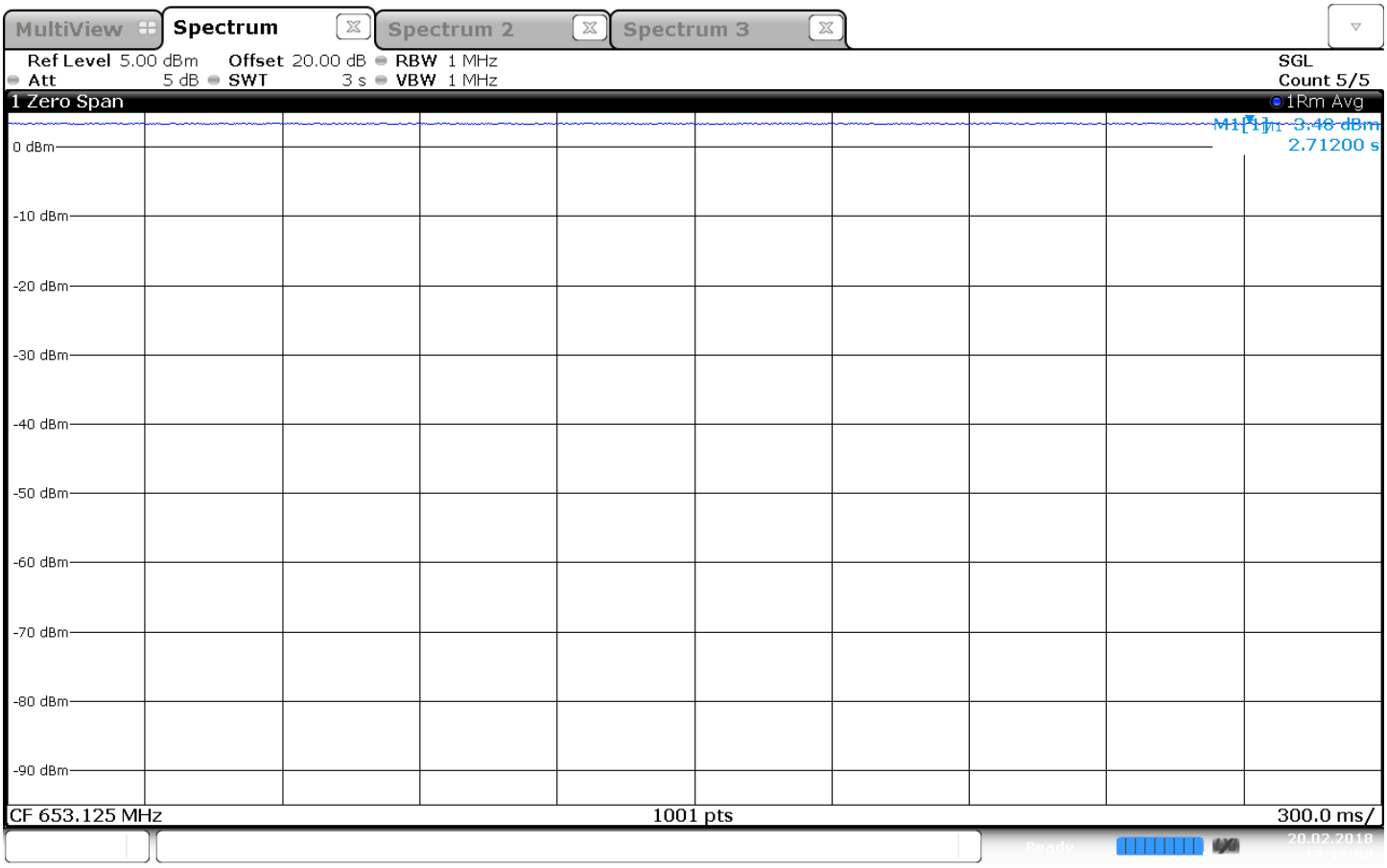


14:48:23 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	653.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

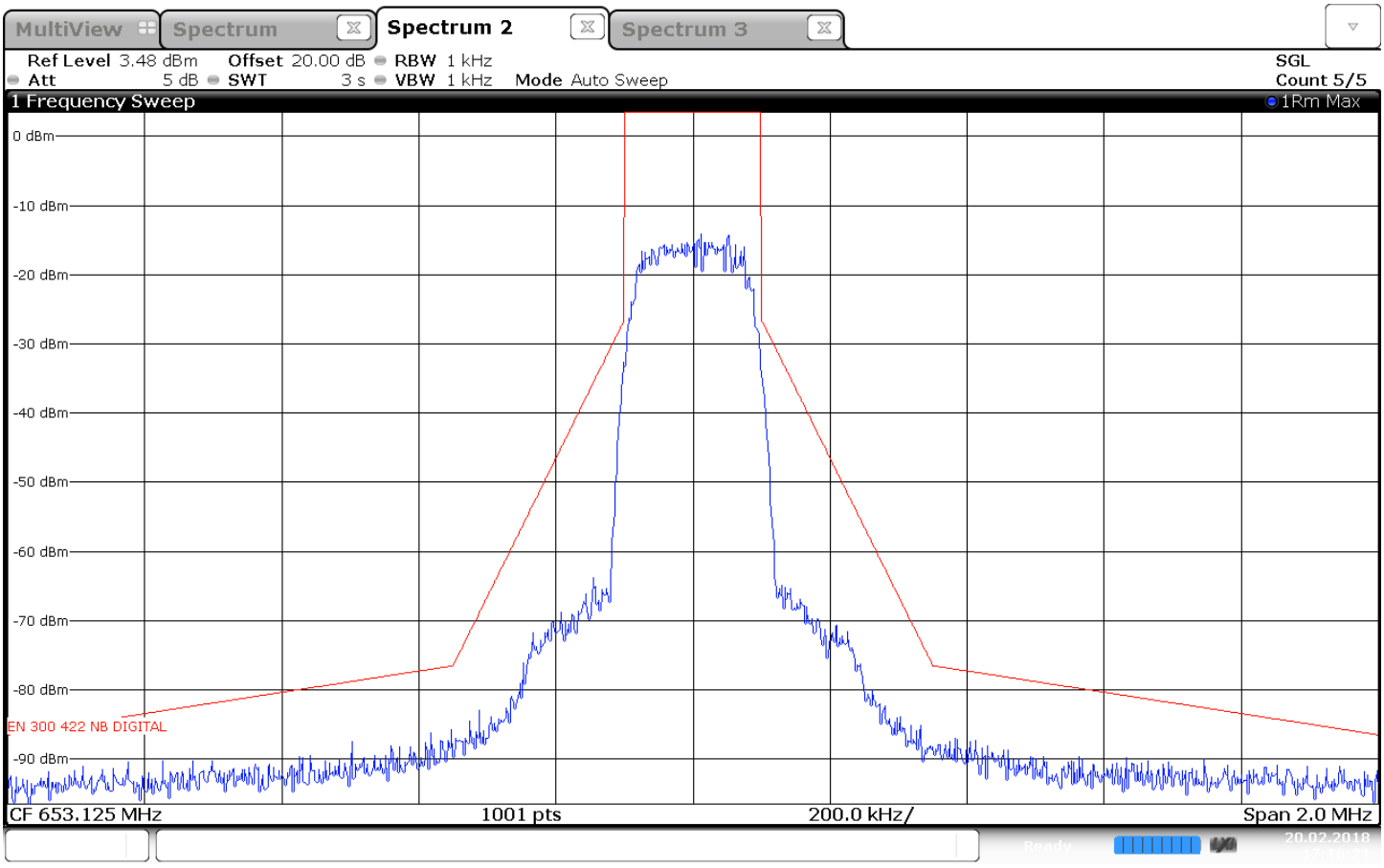


17:16:01 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	653.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

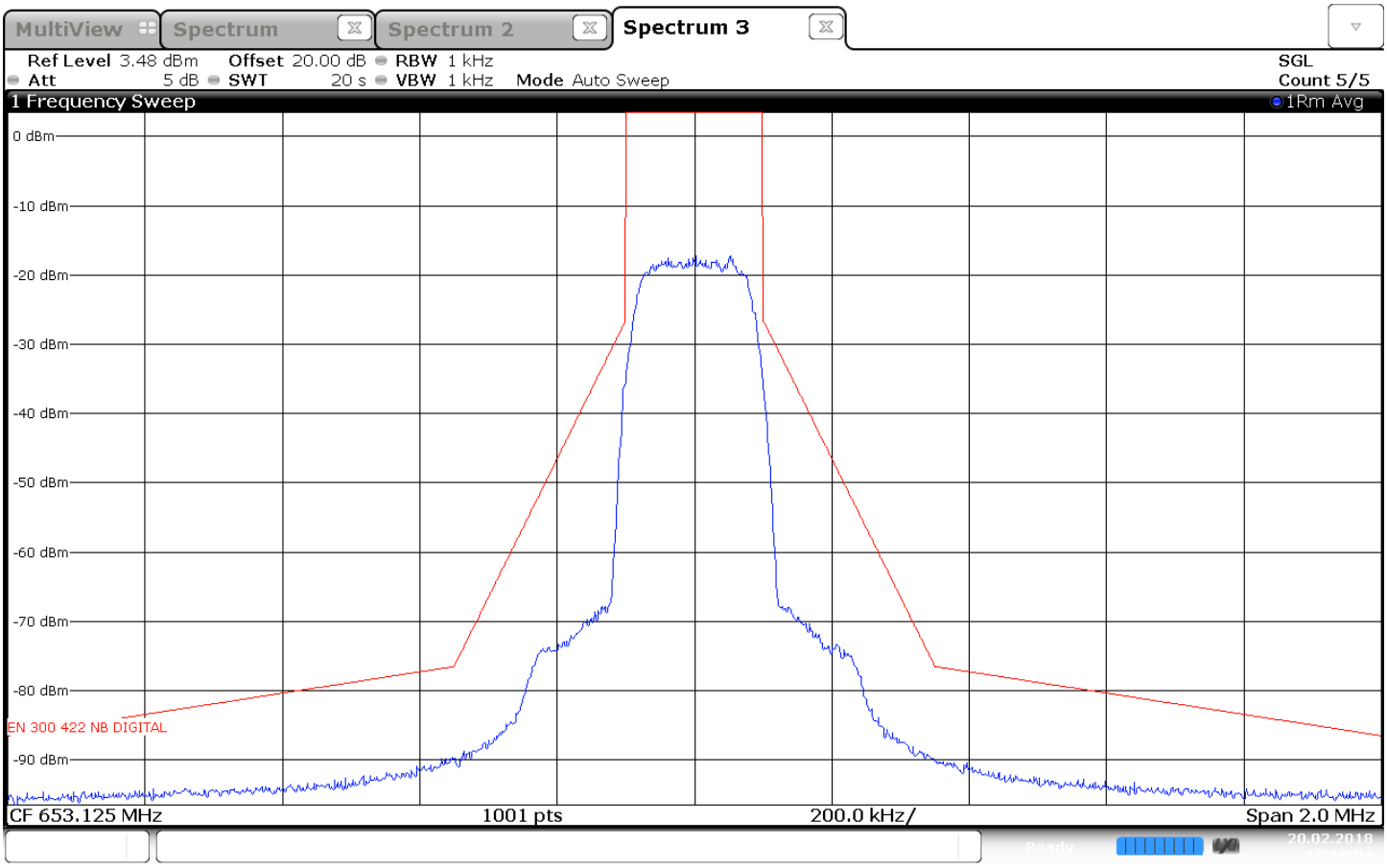


17:16:21 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	653.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

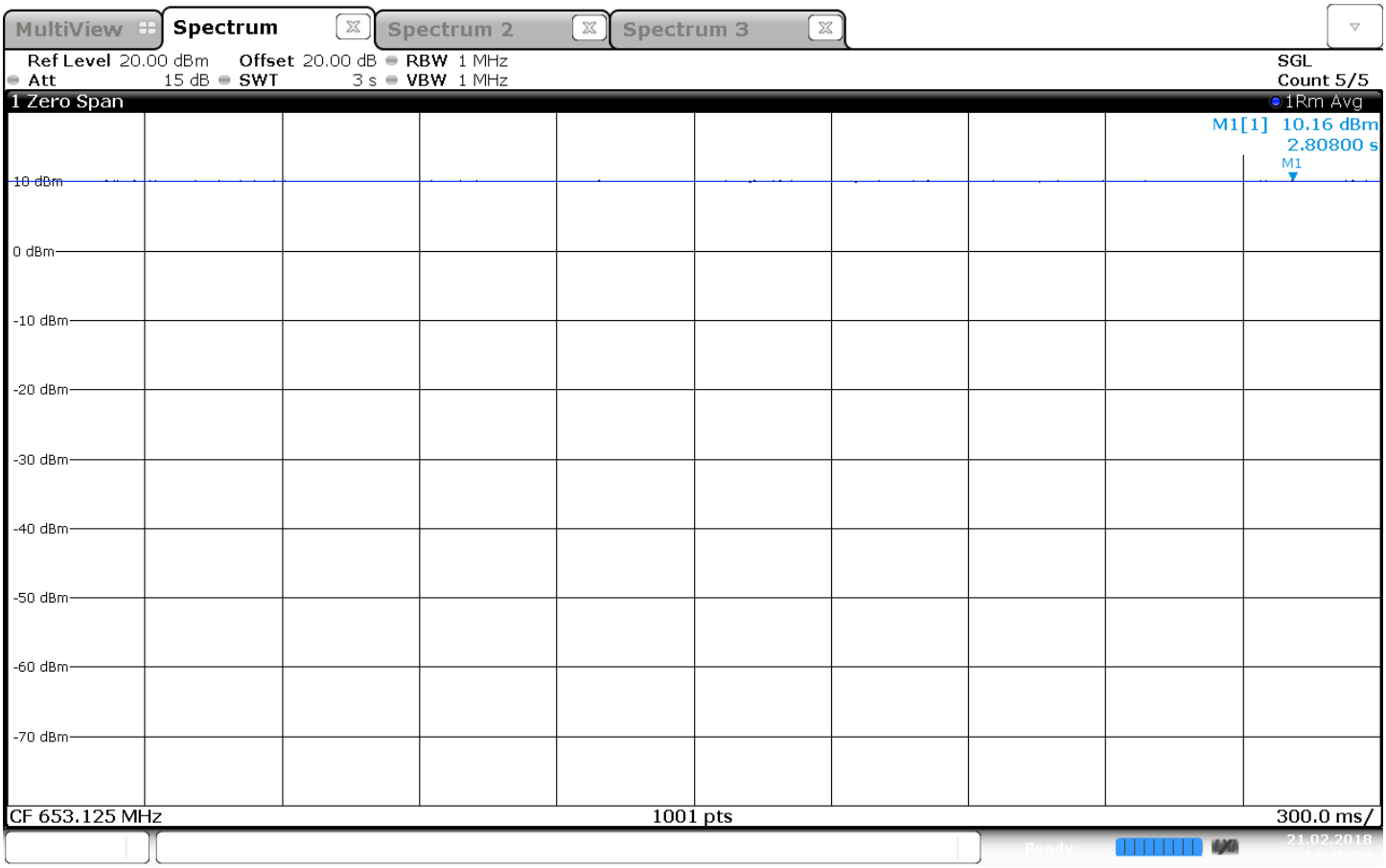


17:18:05 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	653.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

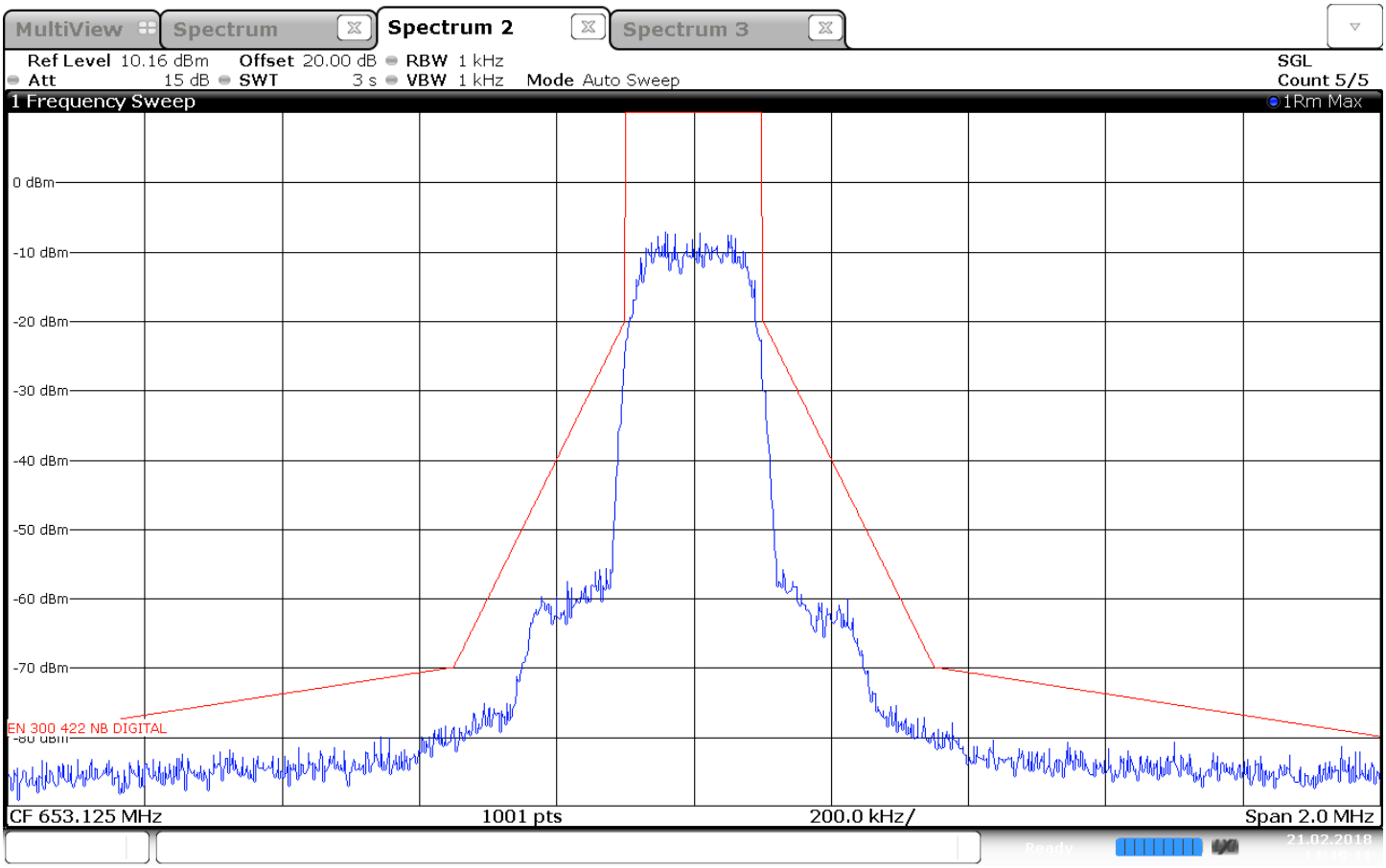


14:48:51 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	653.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

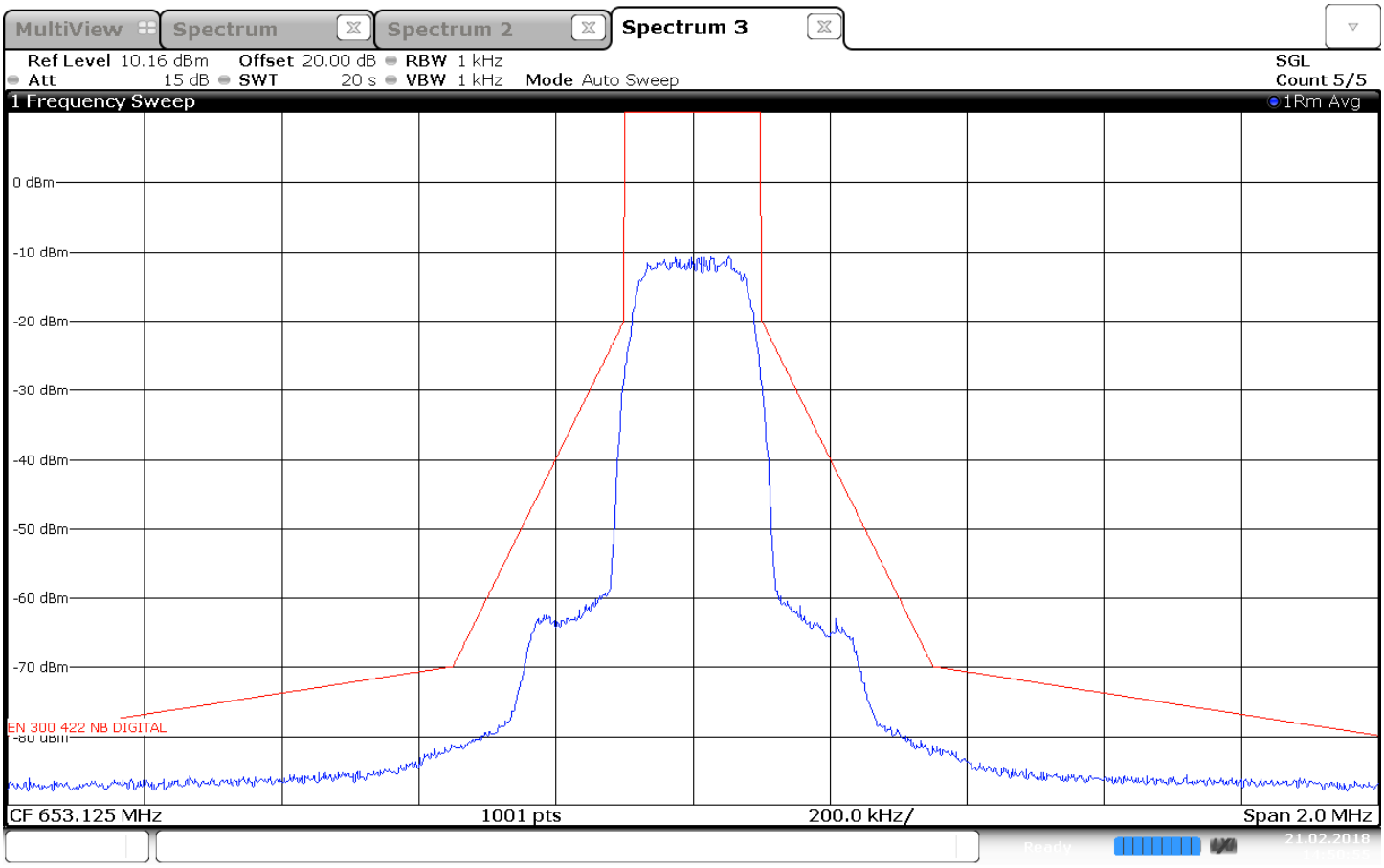


14:49:12 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	653.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

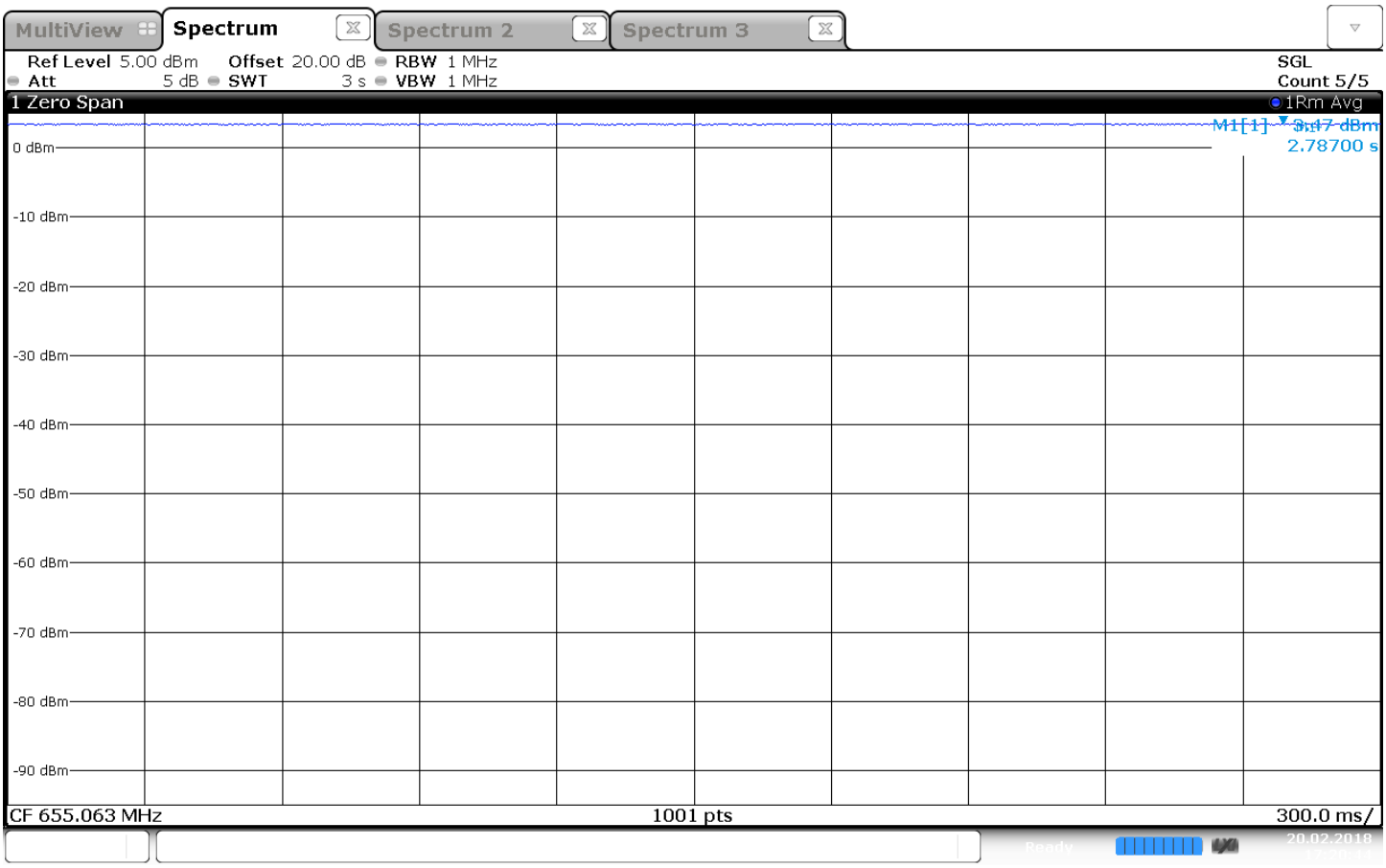


14:50:56 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	655.063 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

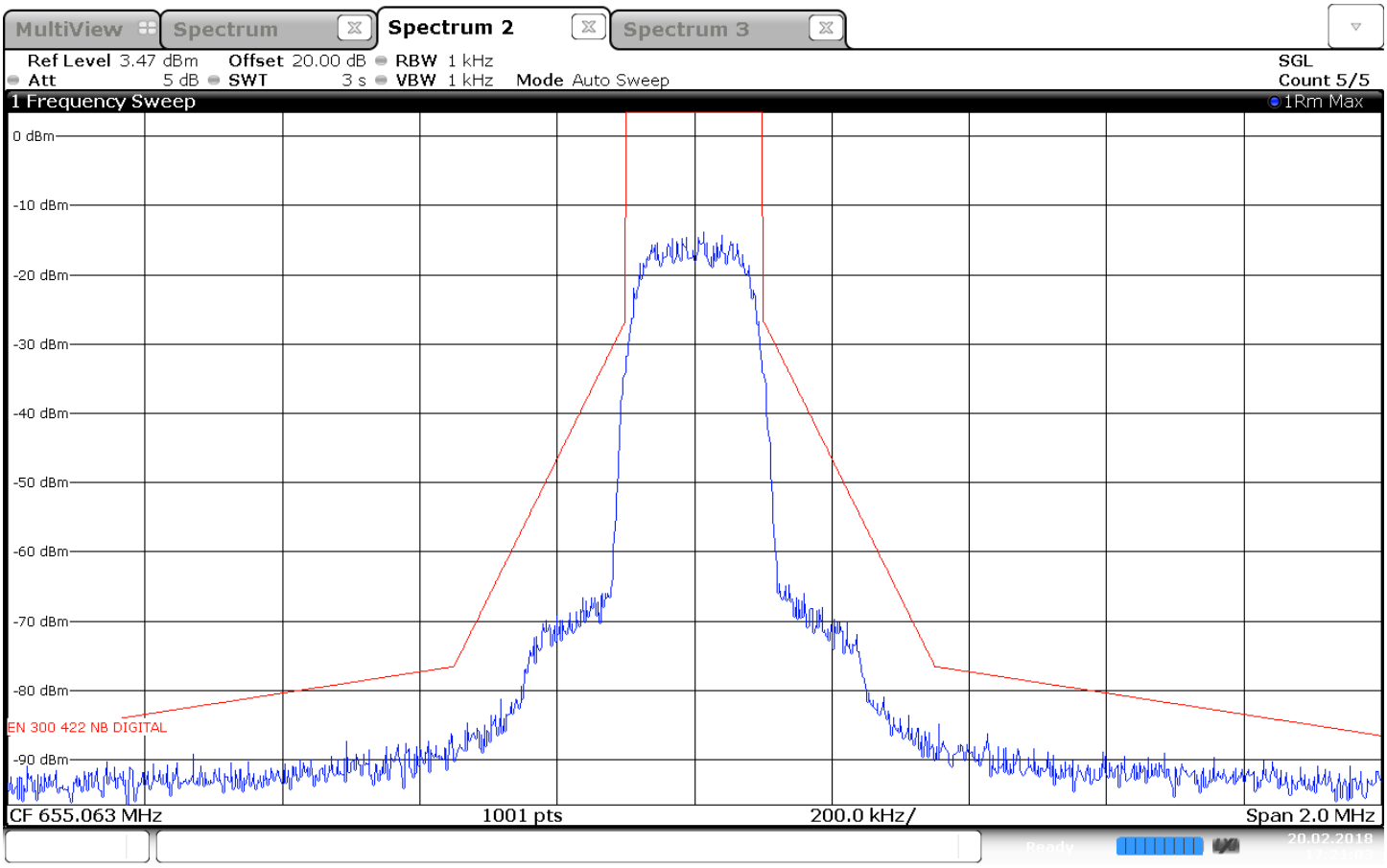


17:20:44 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	655.063 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

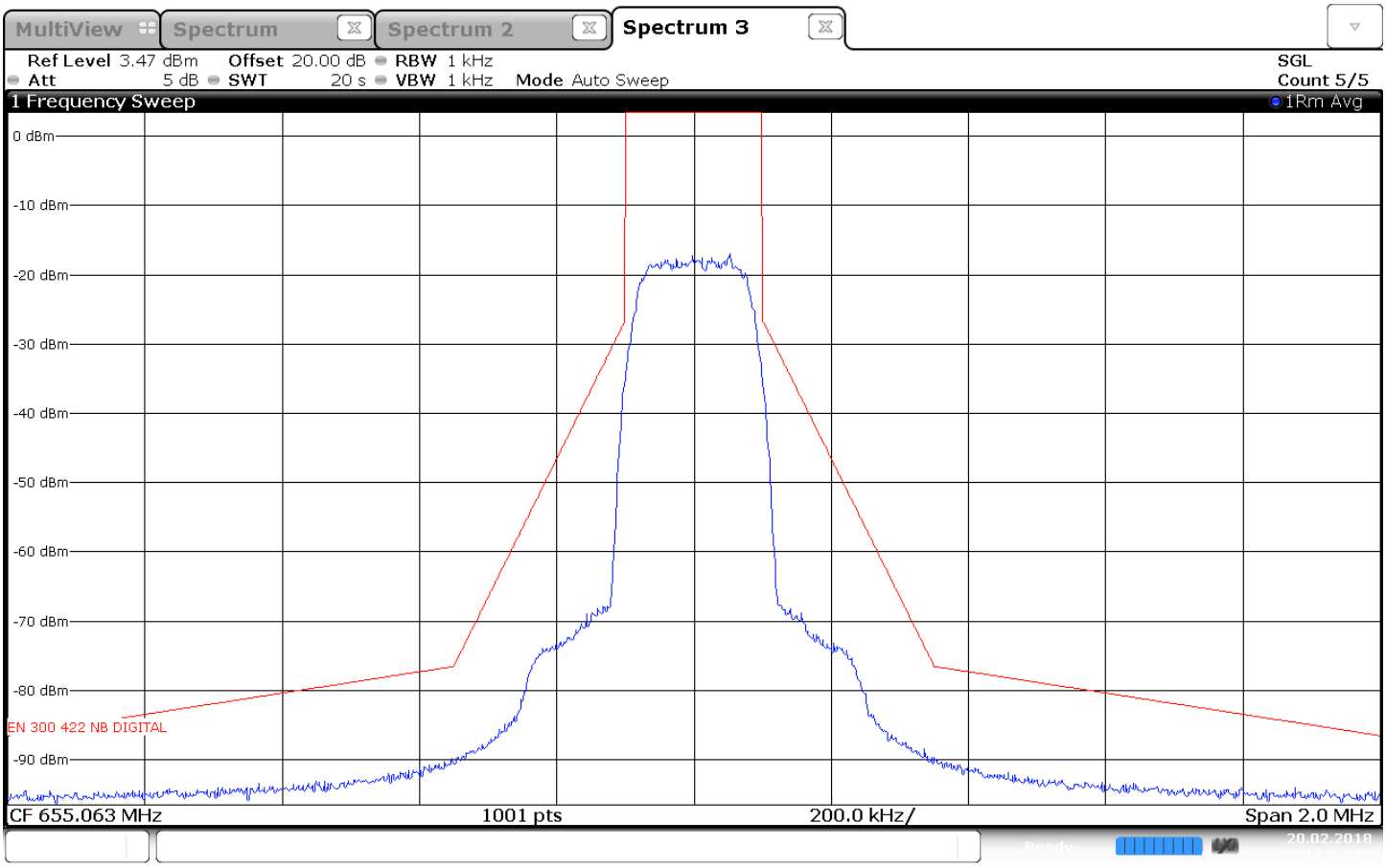


17:21:04 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	655.063 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

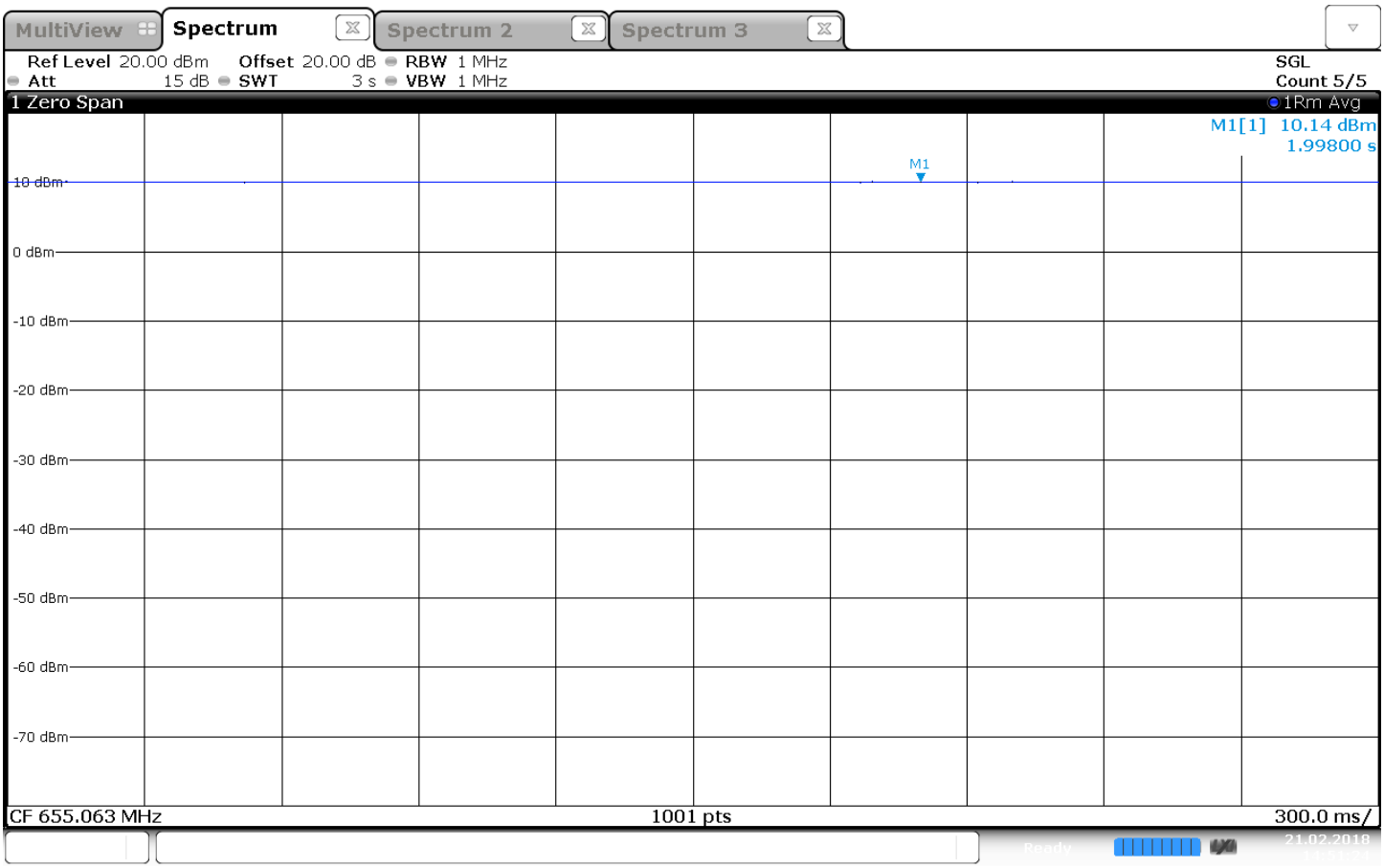


17:22:48 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	655.063 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

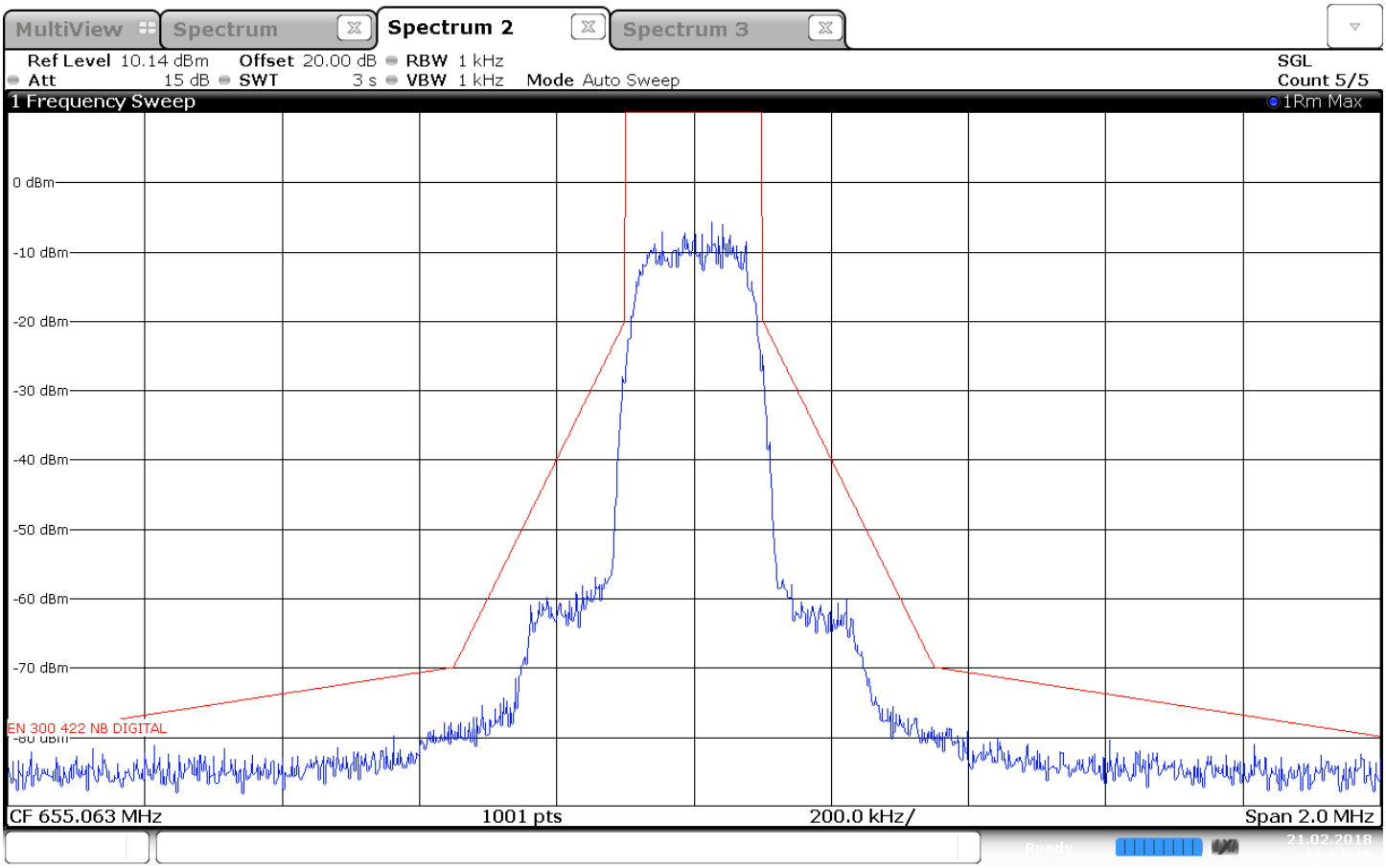


14:51:24 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	655.063 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

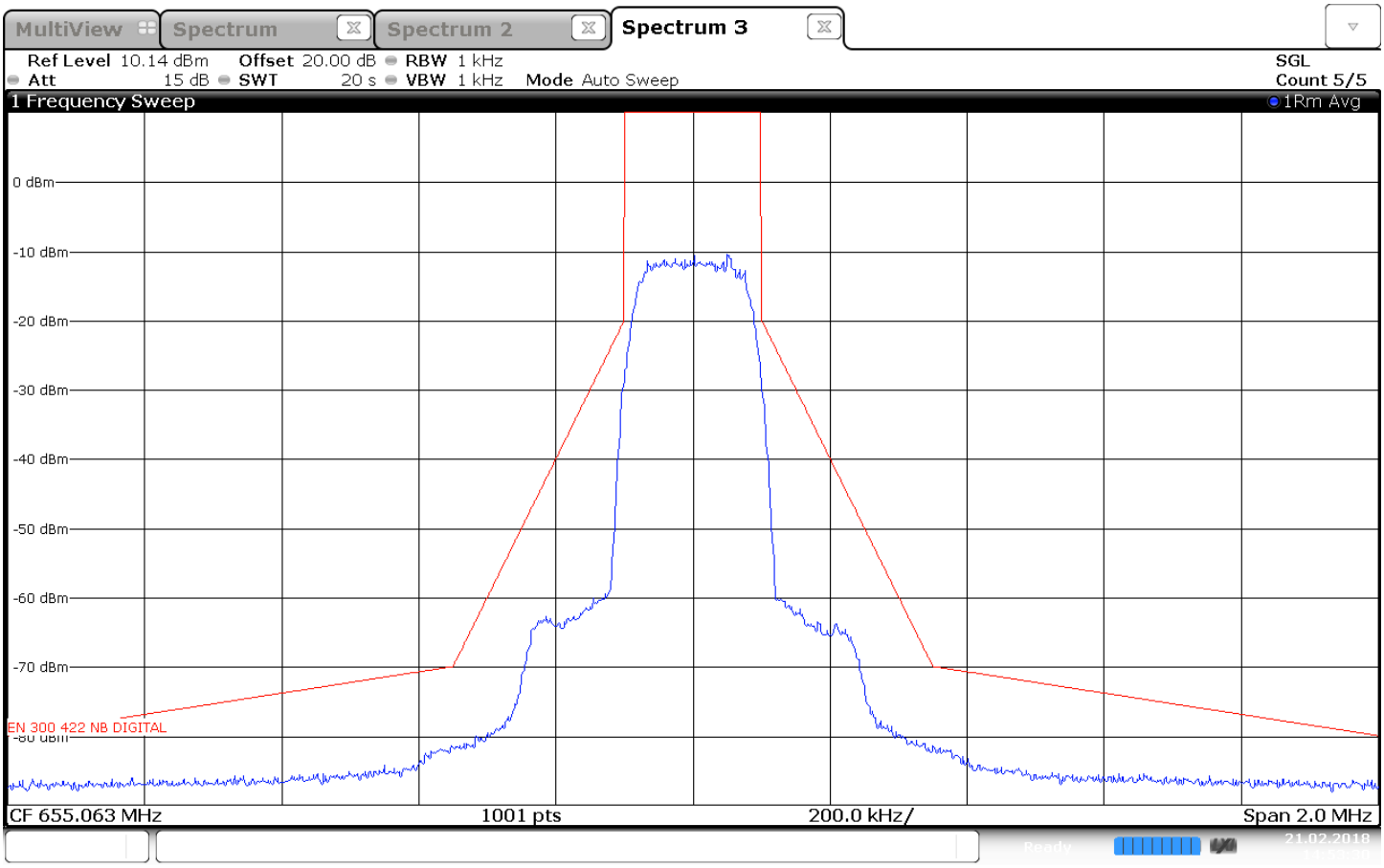


14:51:45 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	655.063 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

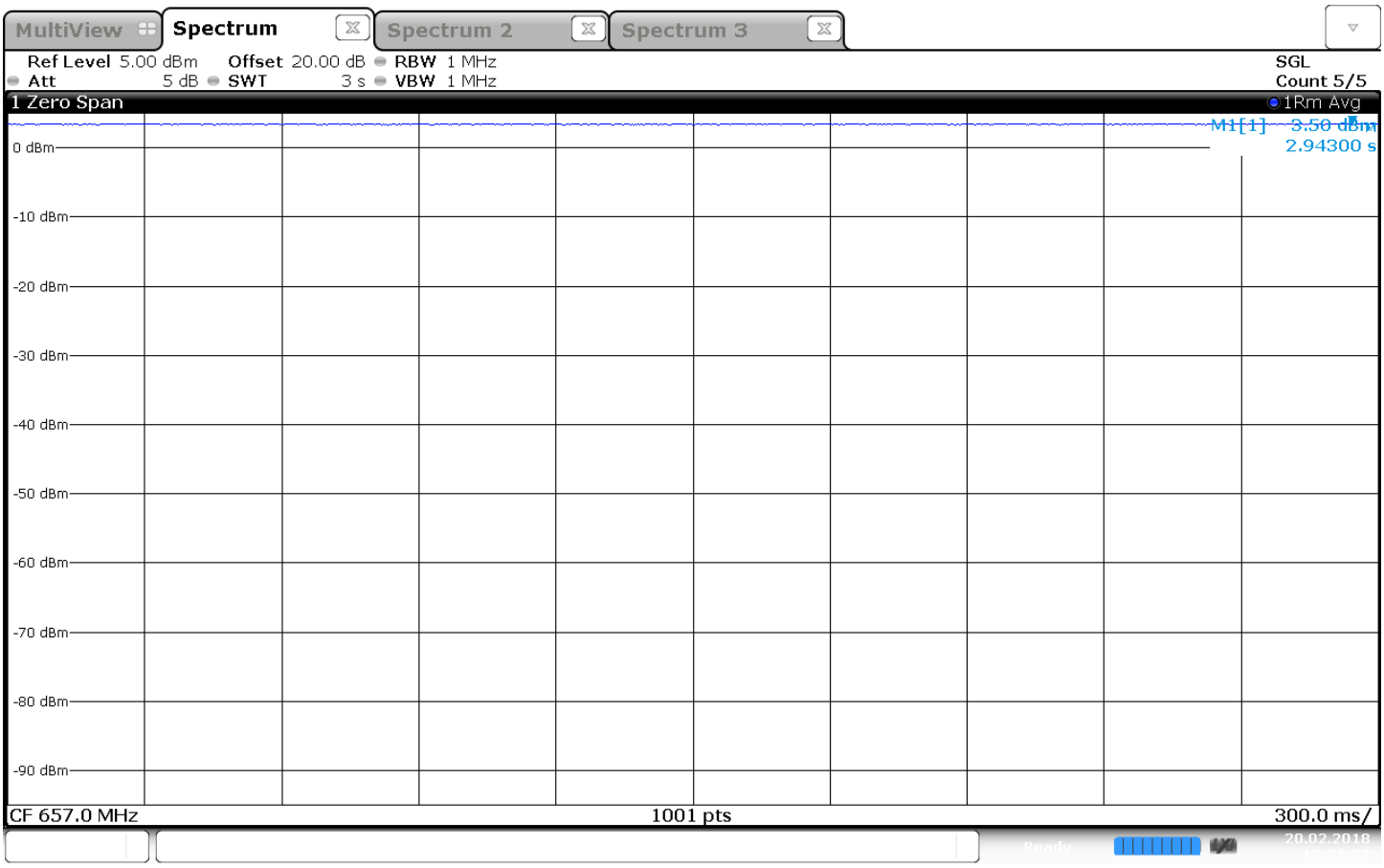


14:53:30 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	657.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

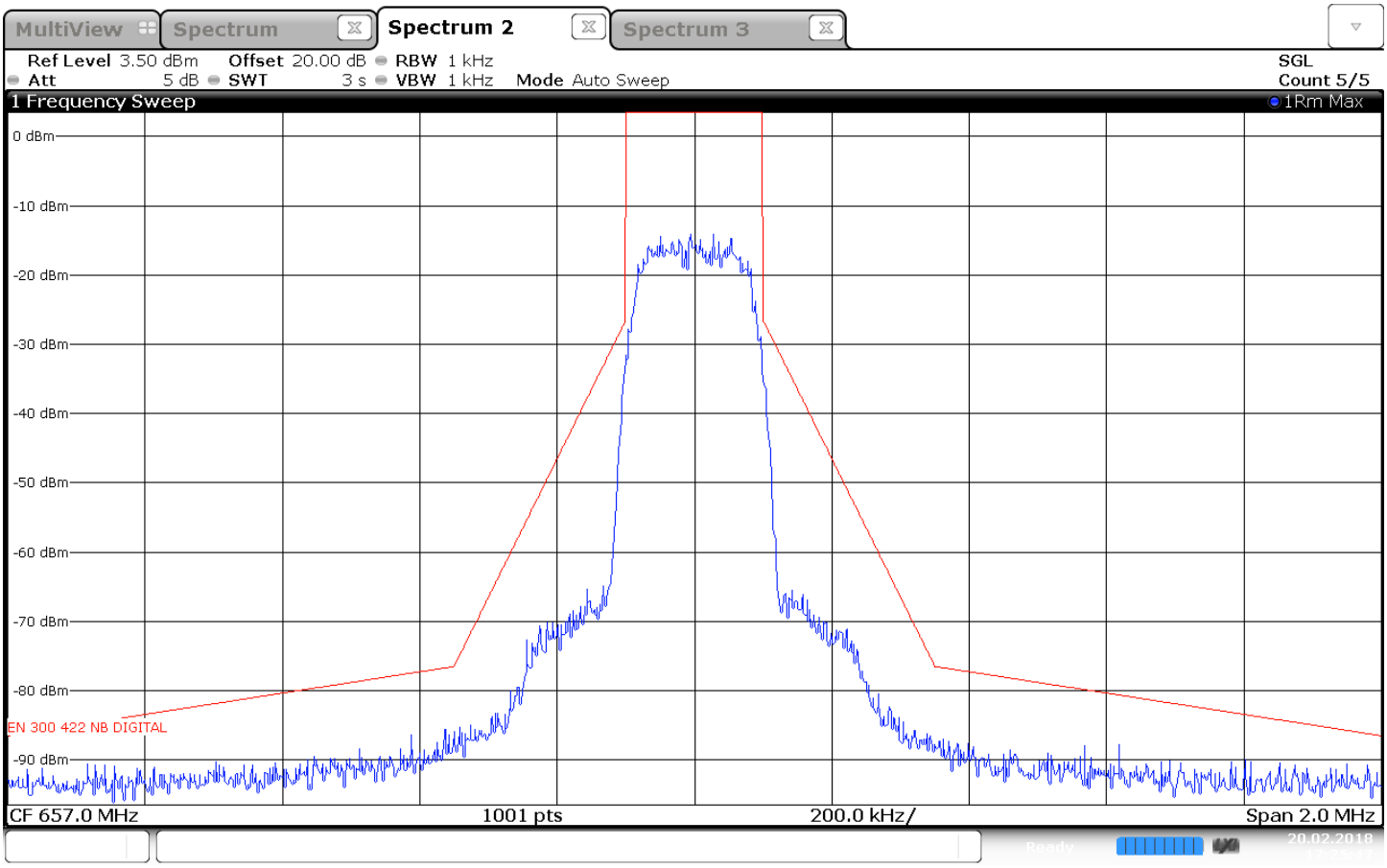


17:25:27 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	657.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

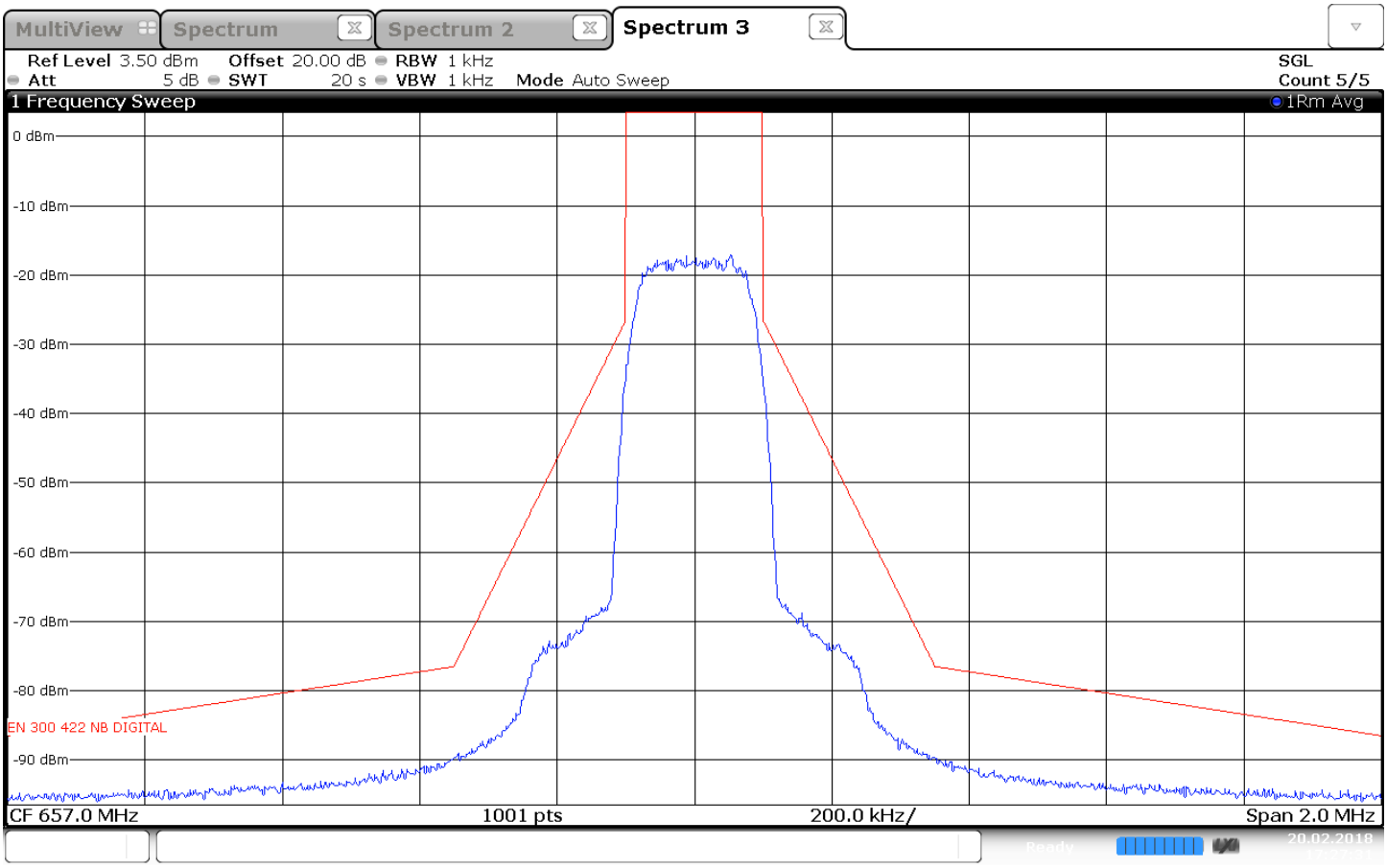


17:25:47 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	657.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

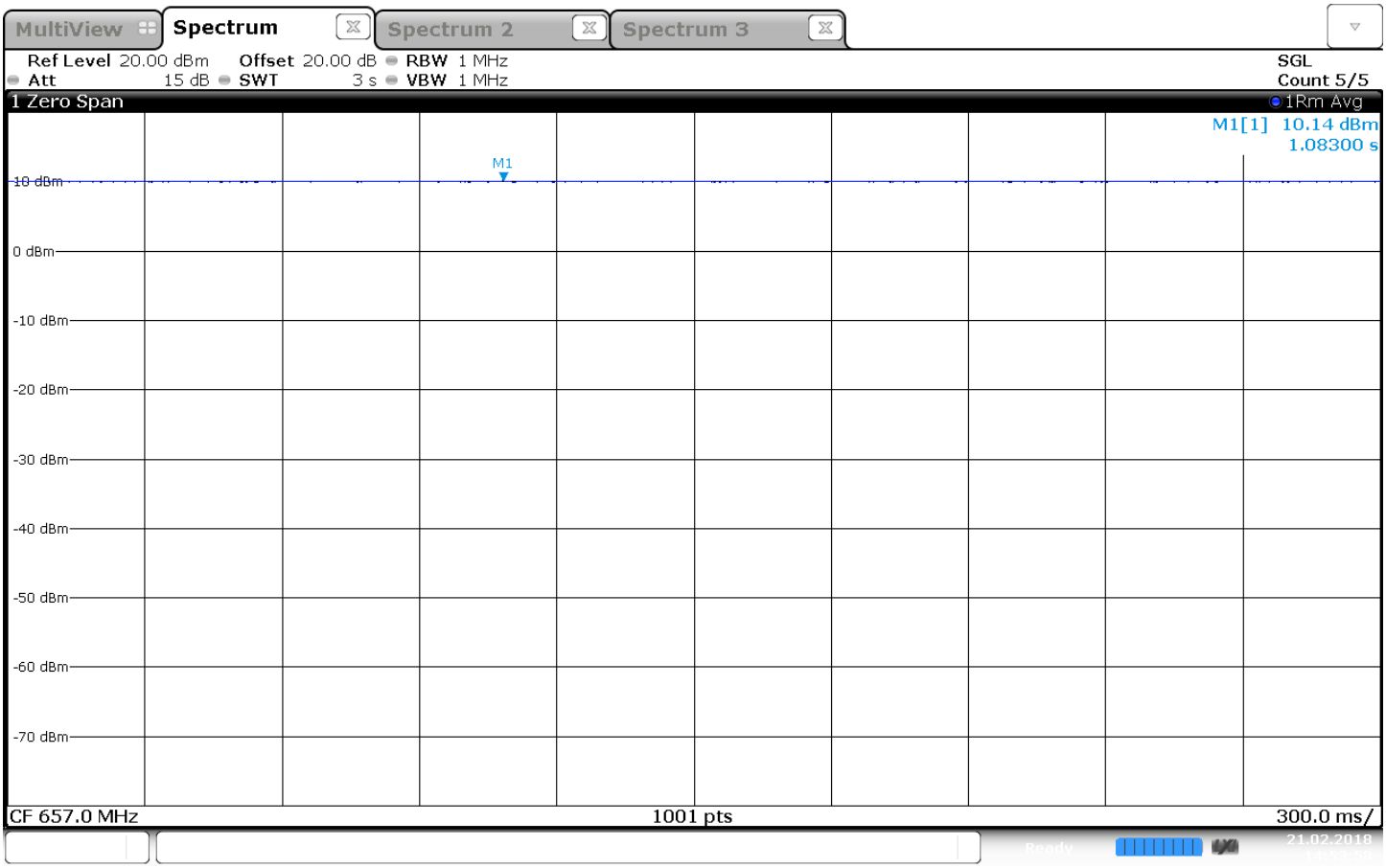


17:27:32 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	657.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

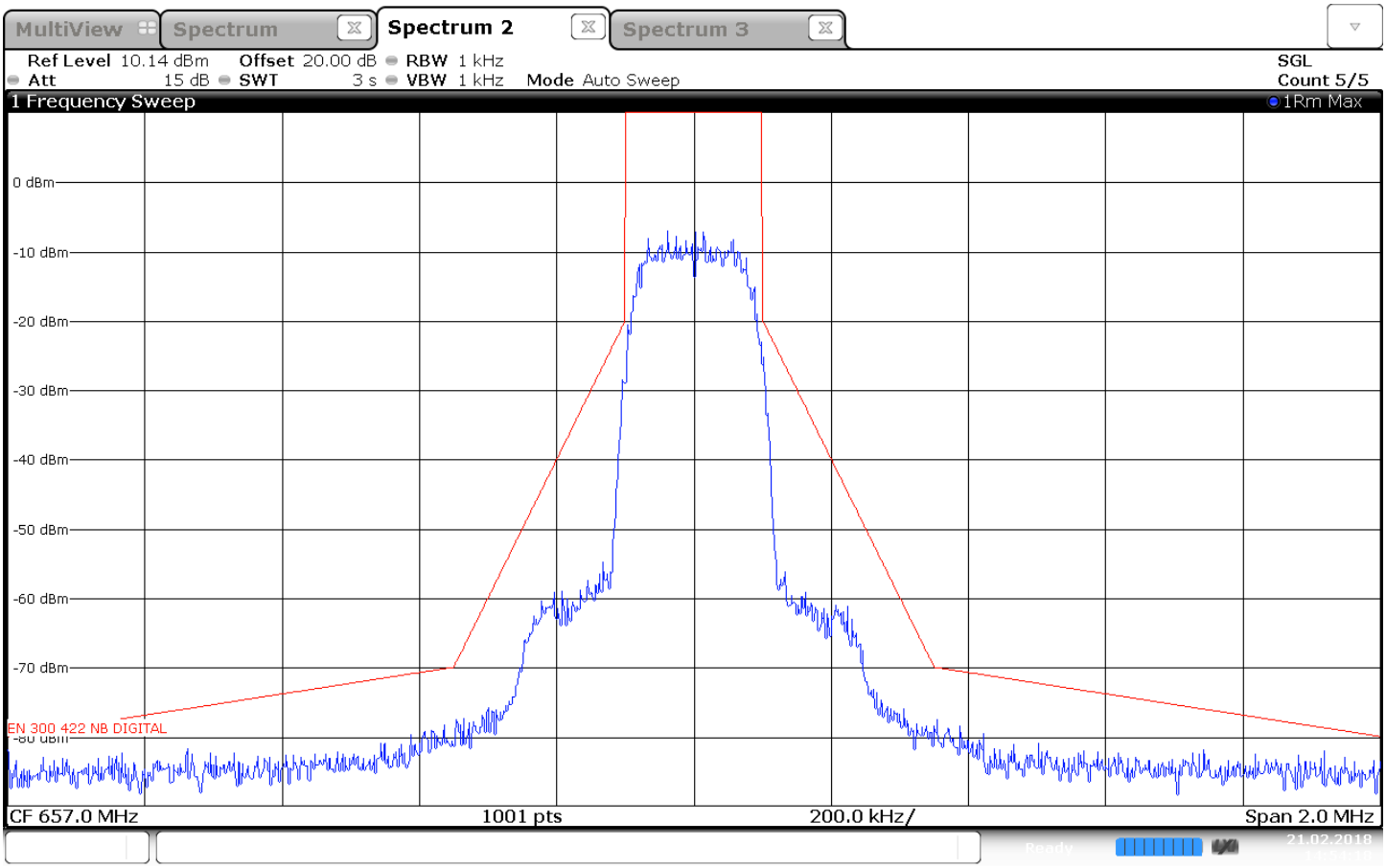


14:53:58 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	657.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

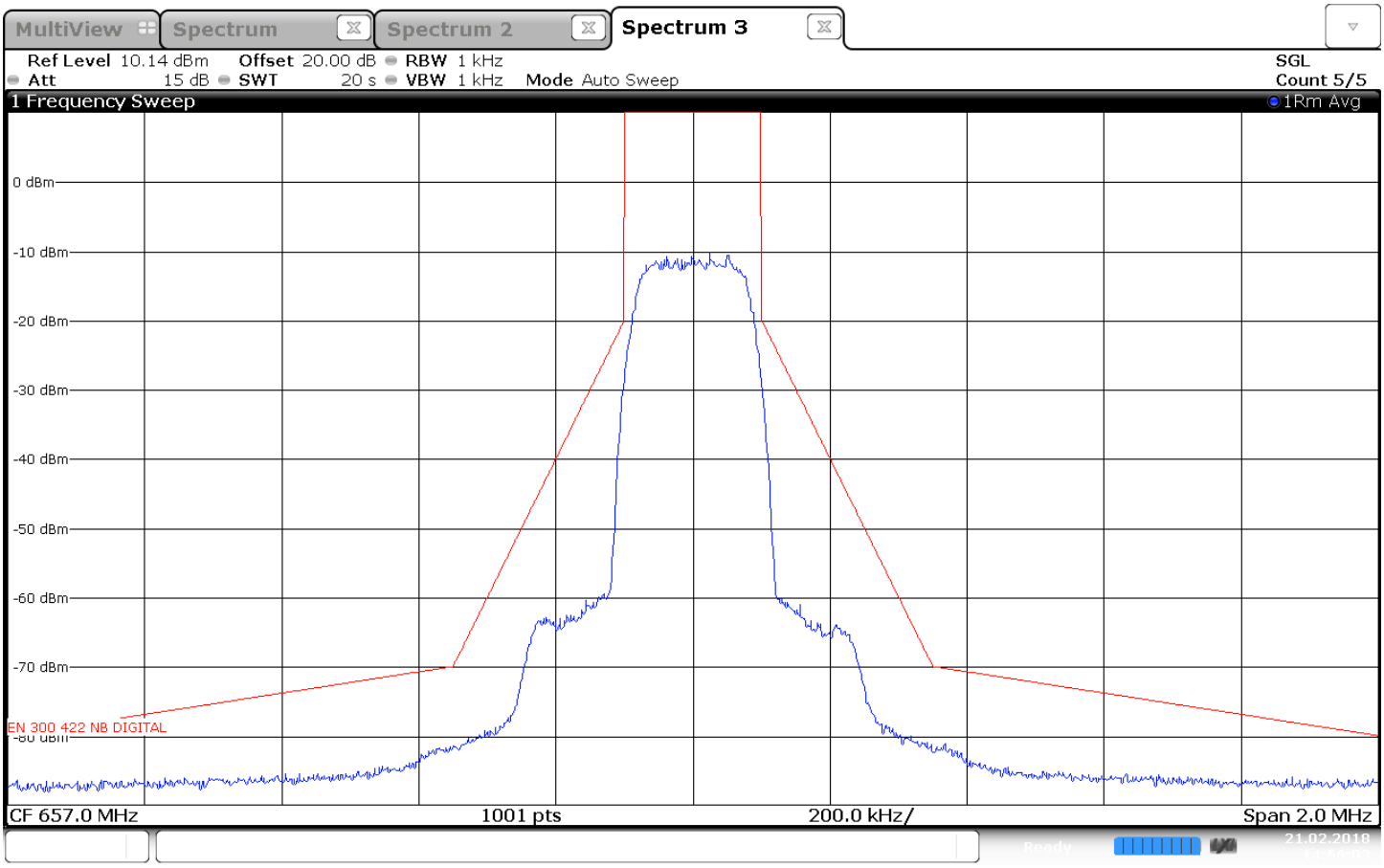


14:54:18 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	657.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

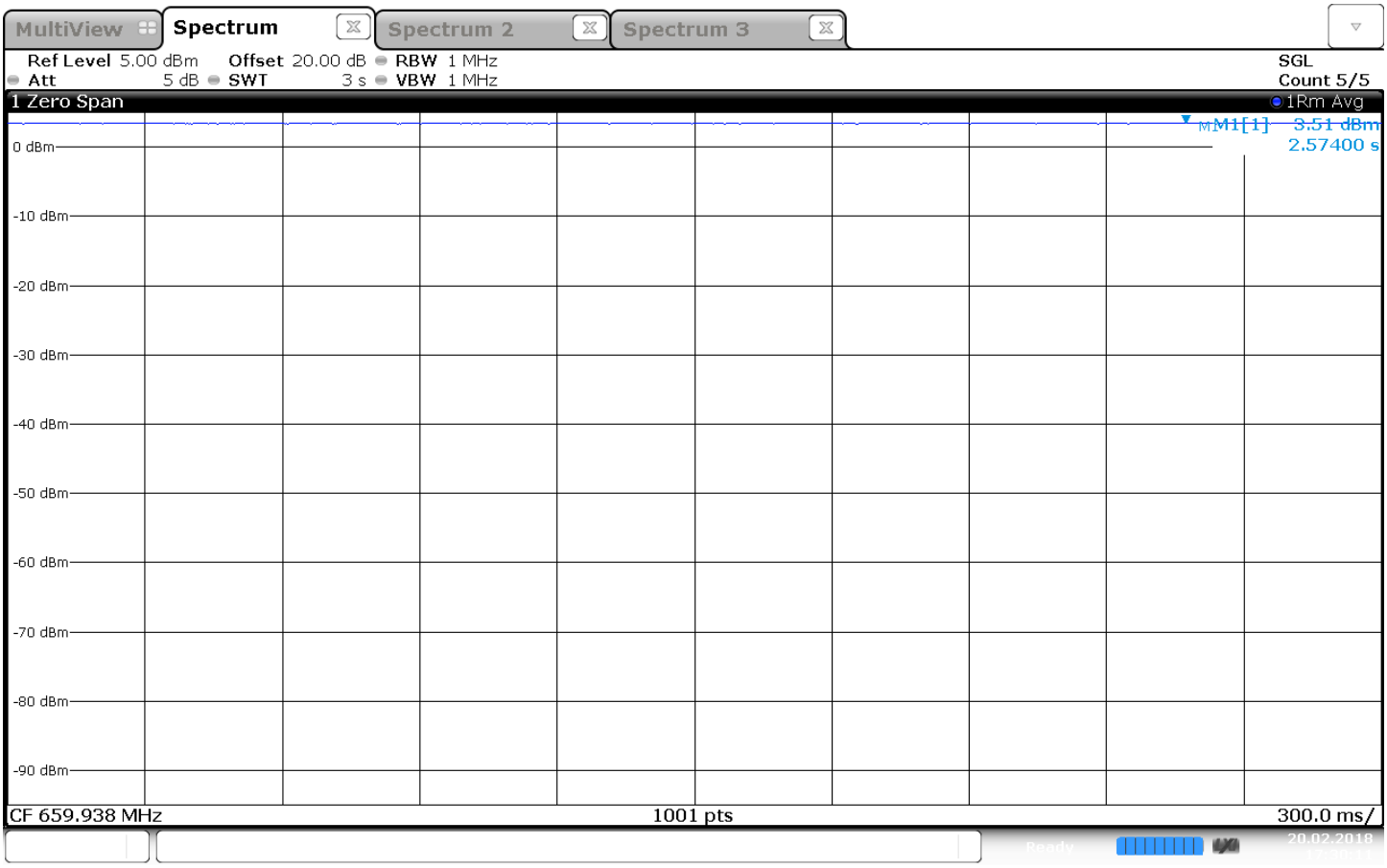


14:56:03 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	659.938 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 20, 2018

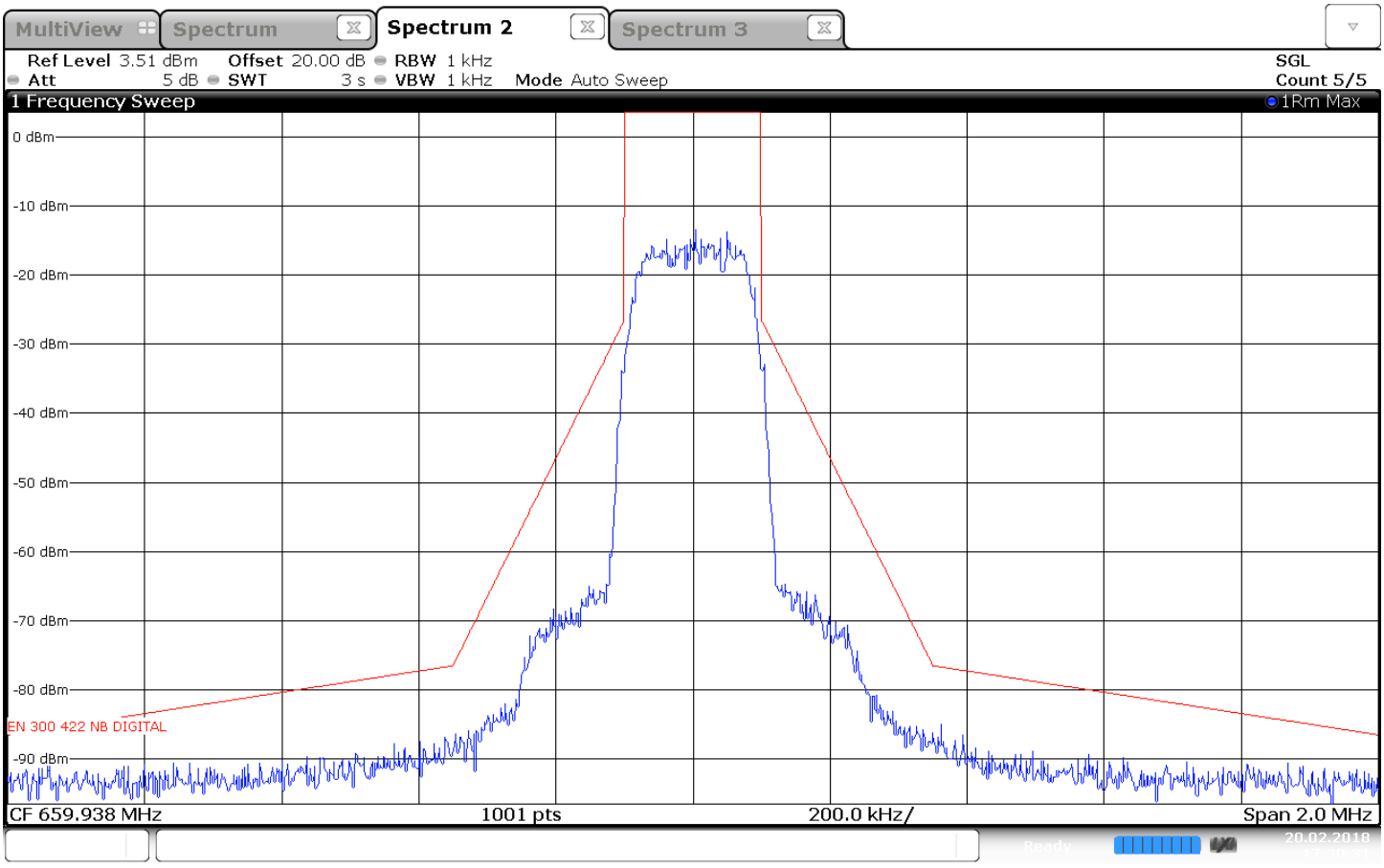


17:30:11 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	659.938 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 20, 2018

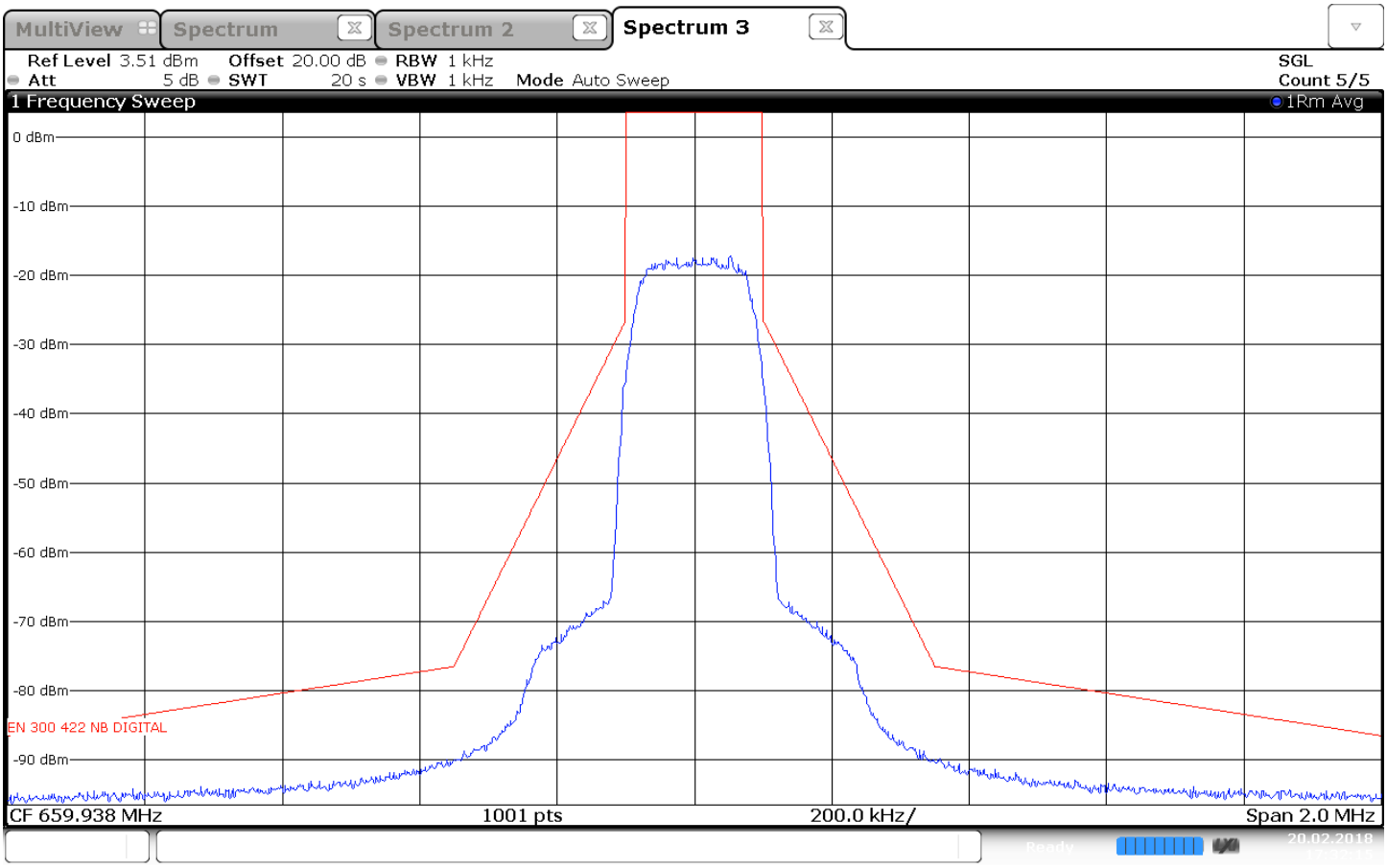


17:30:31 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	659.938 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 20, 2018

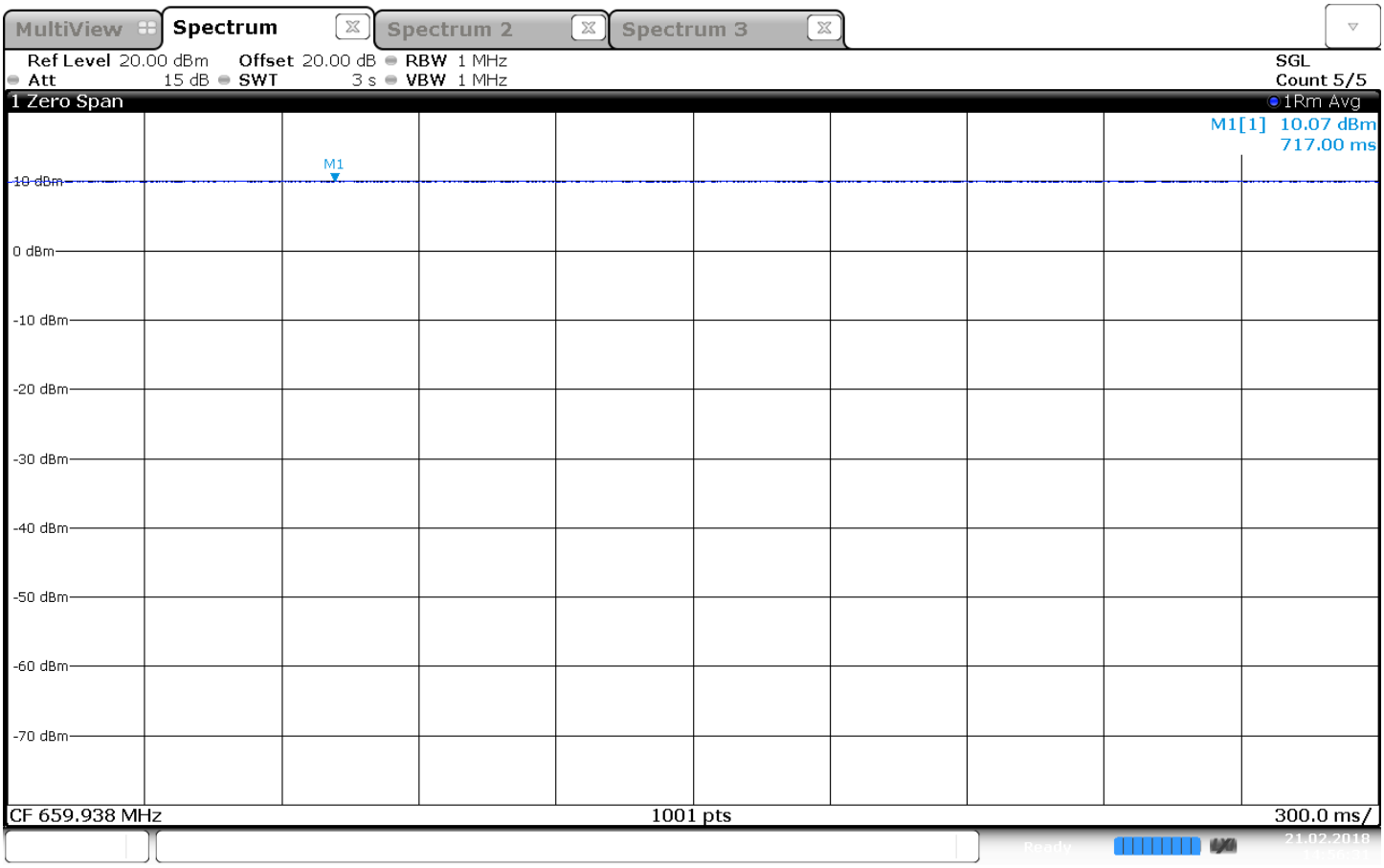


17:32:16 20.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	659.938 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 21, 2018

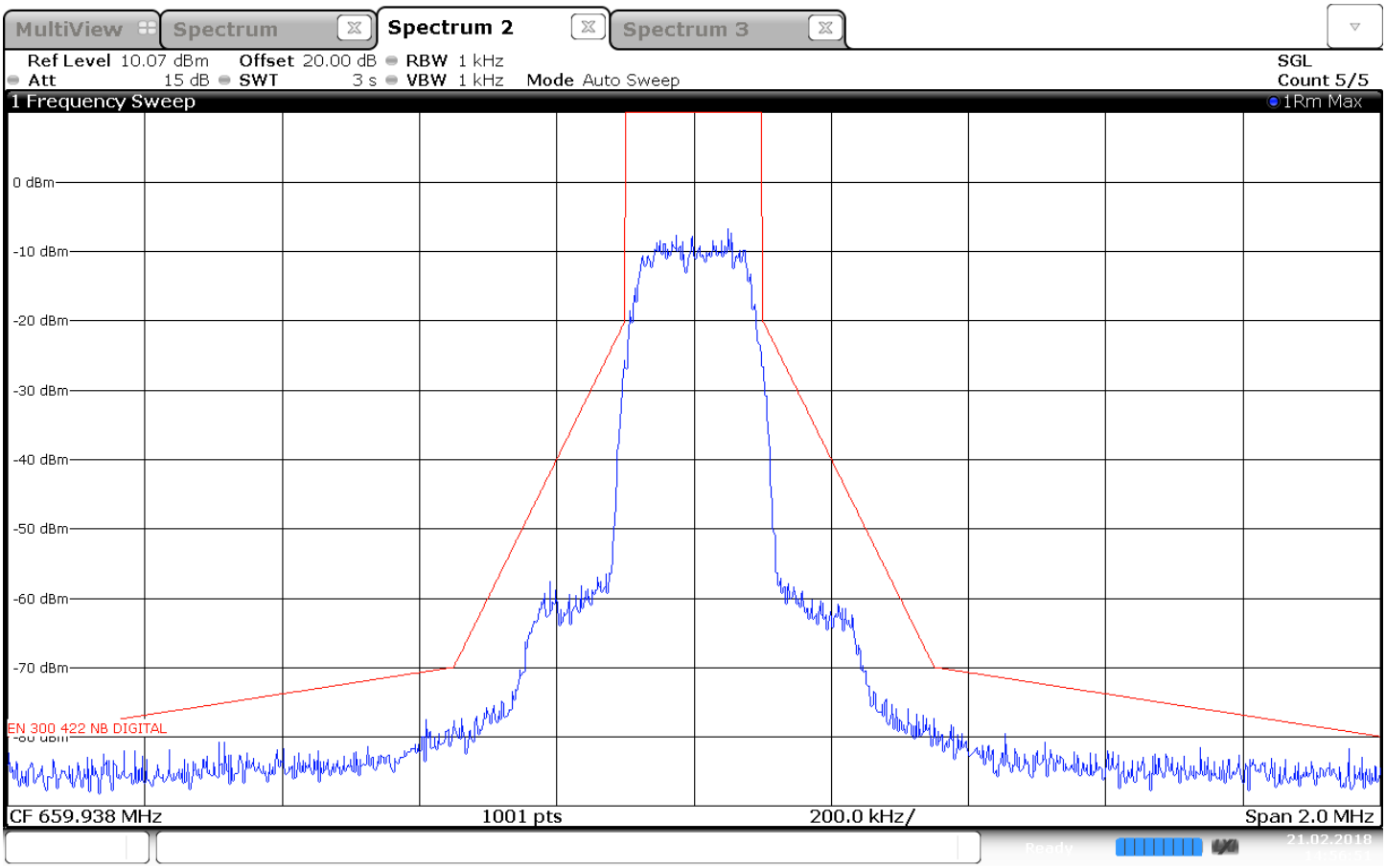


14:56:31 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	659.938 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 21, 2018

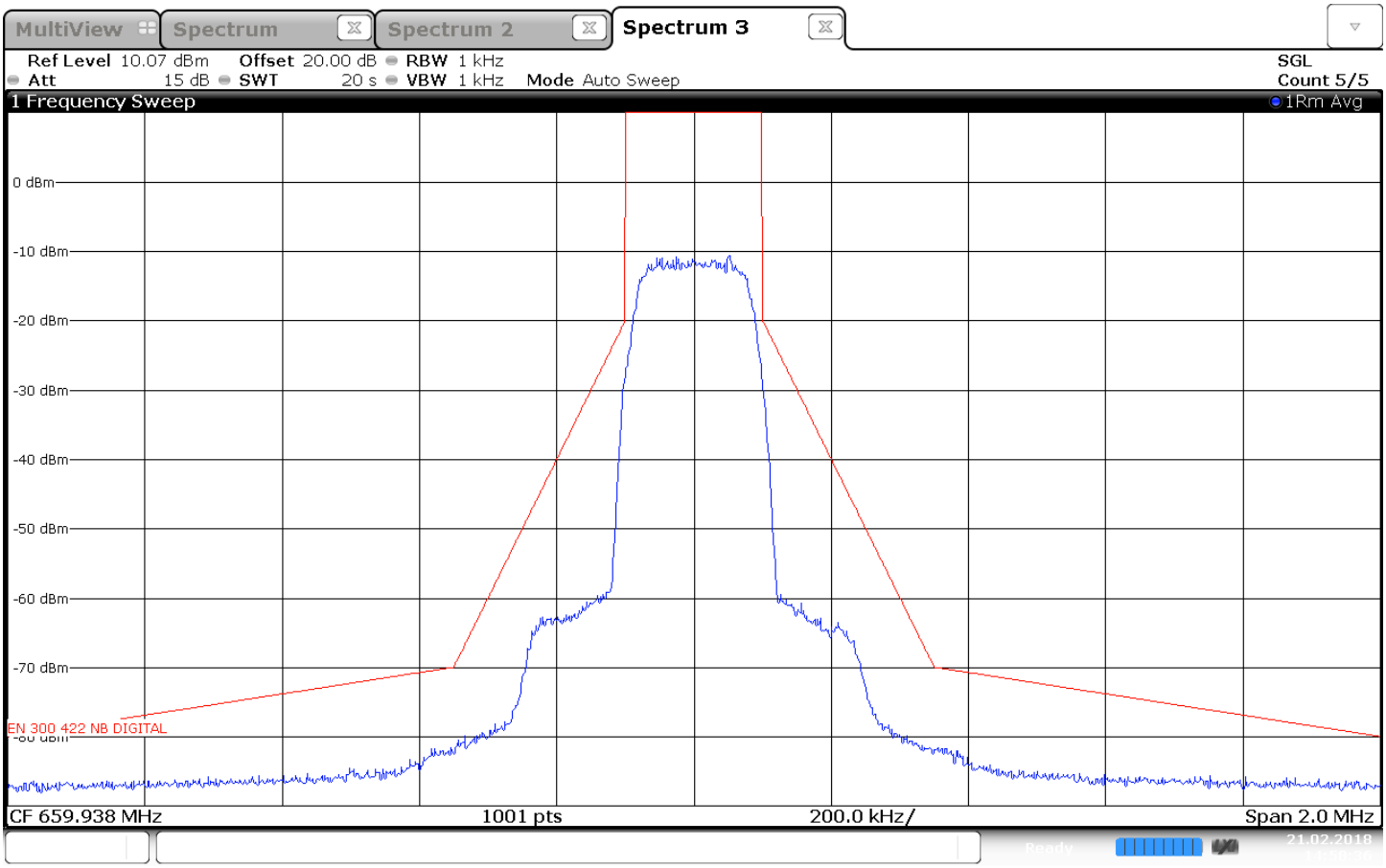


14:56:52 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	659.938 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 21, 2018

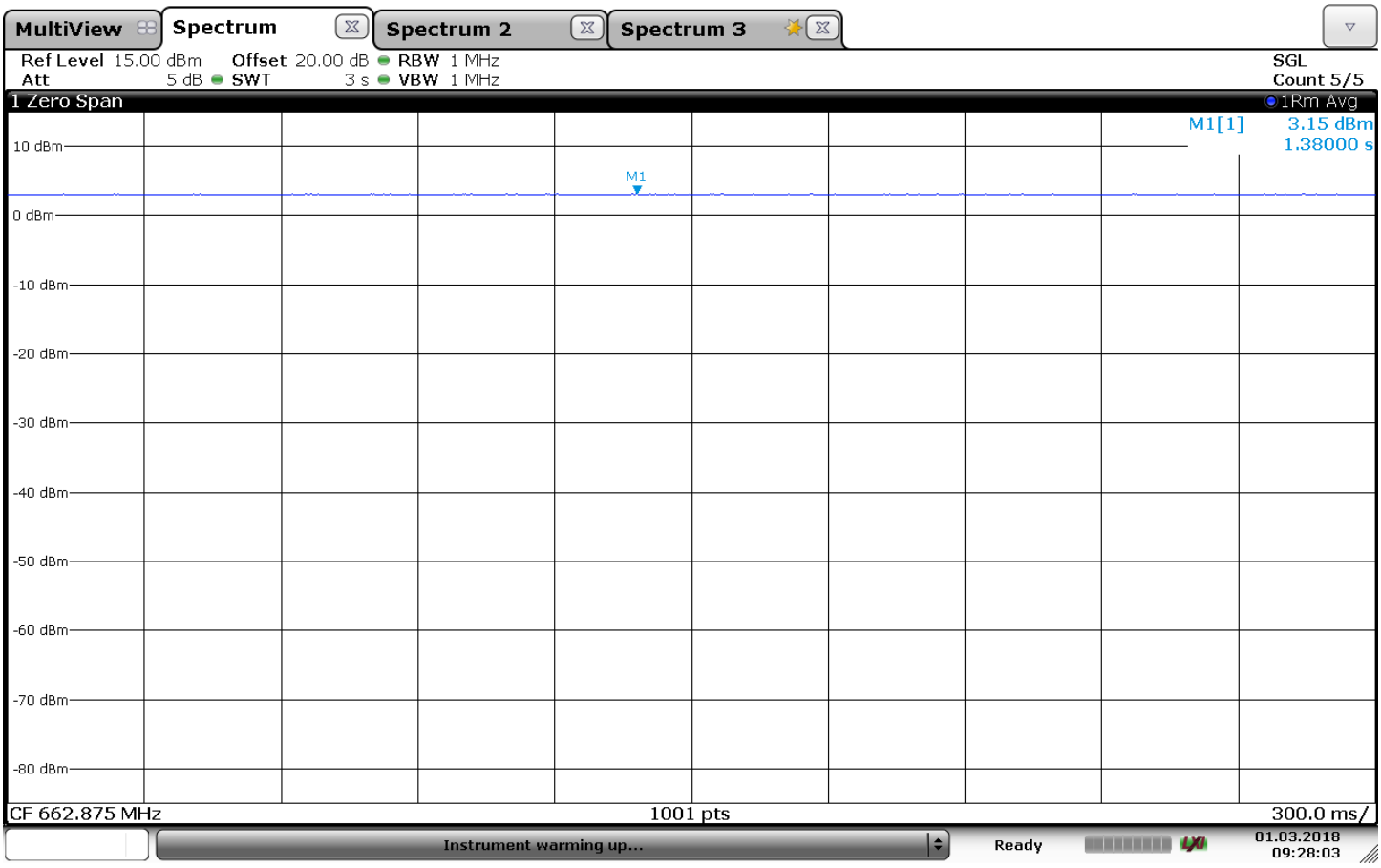


14:58:36 21.02.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	662.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on March 1, 2018

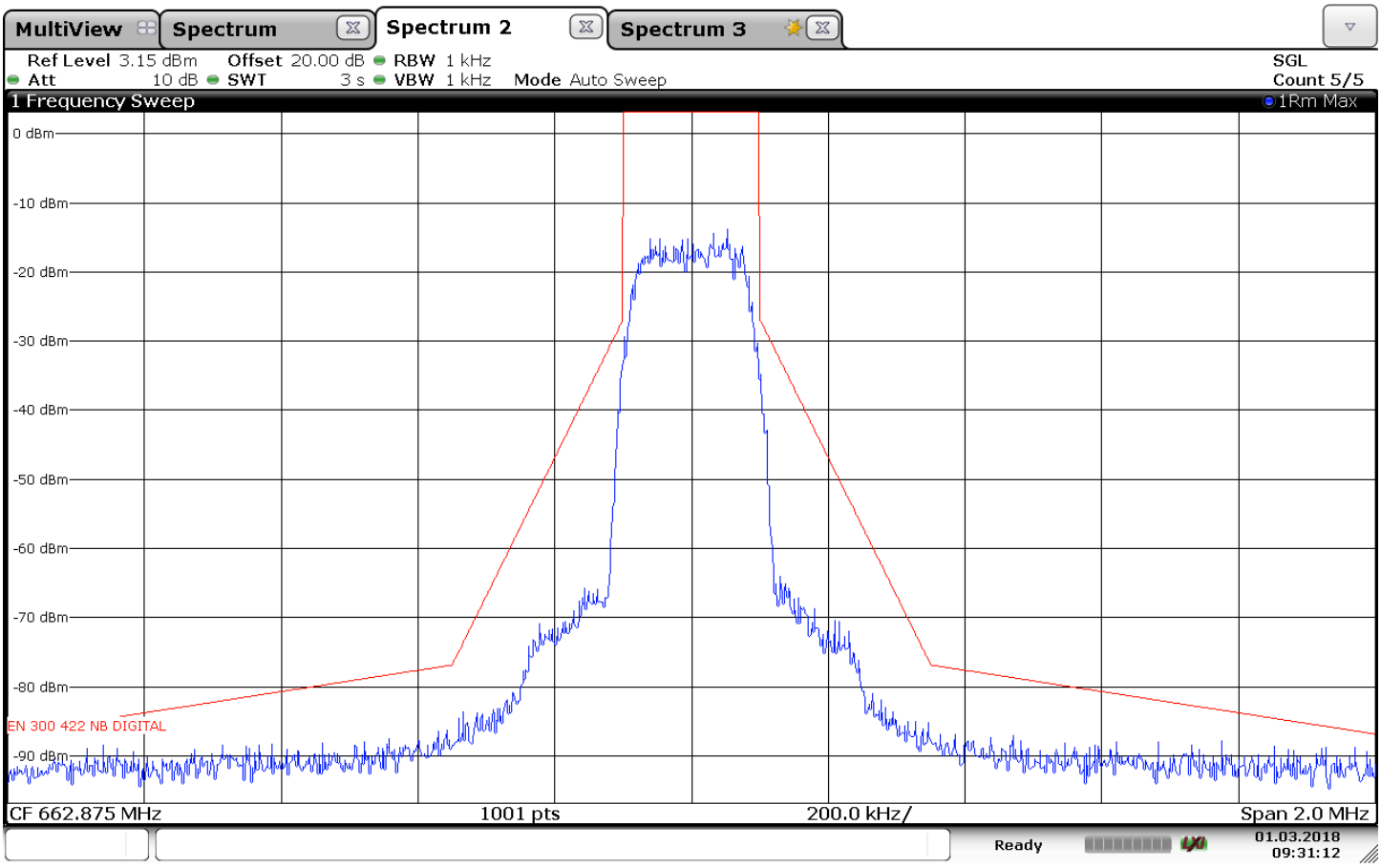


09:28:04 01.03.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	662.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on March 1, 2018

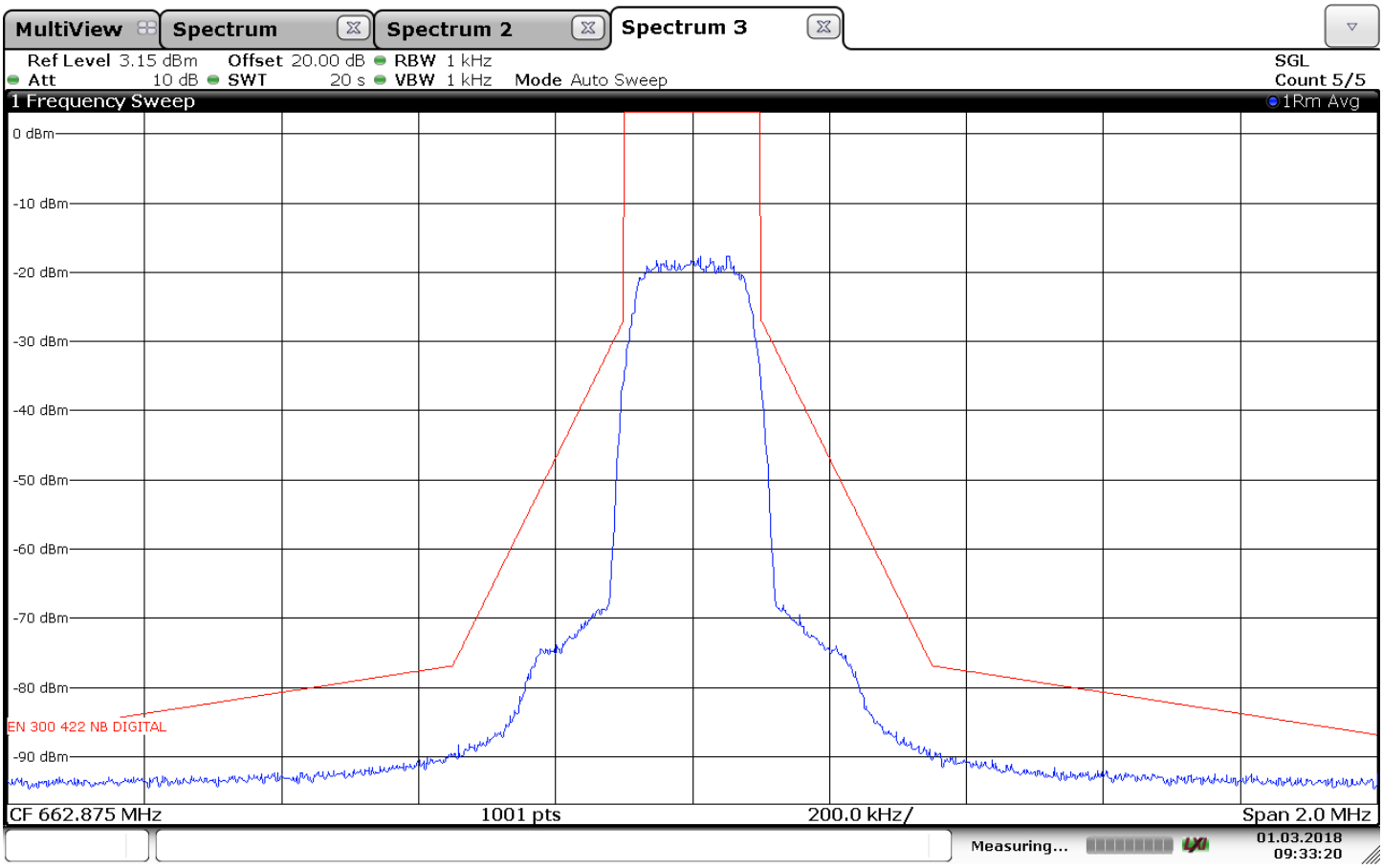


09:31:13 01.03.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	662.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on March 1, 2018

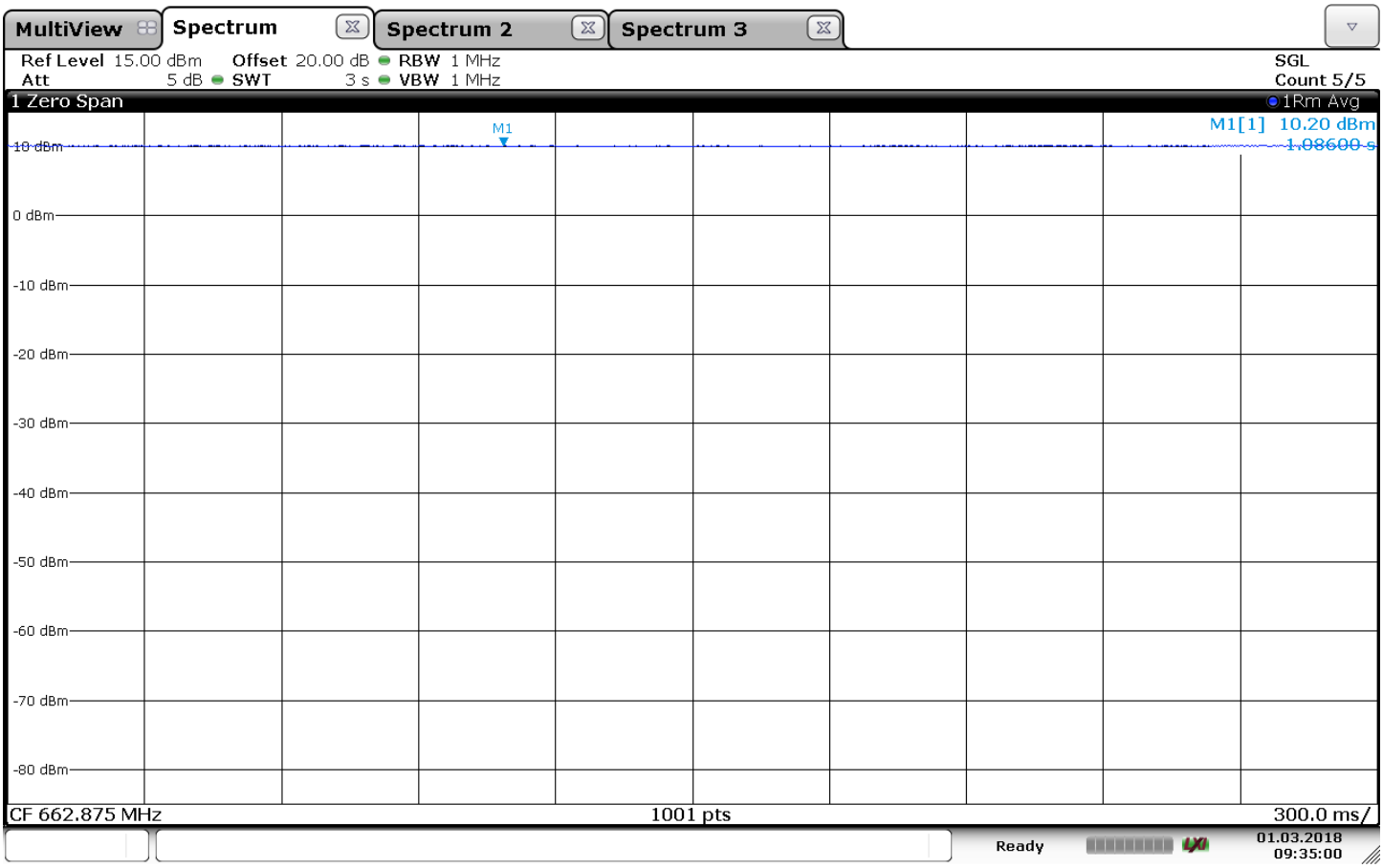


09:33:20 01.03.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	662.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on March 1, 2018

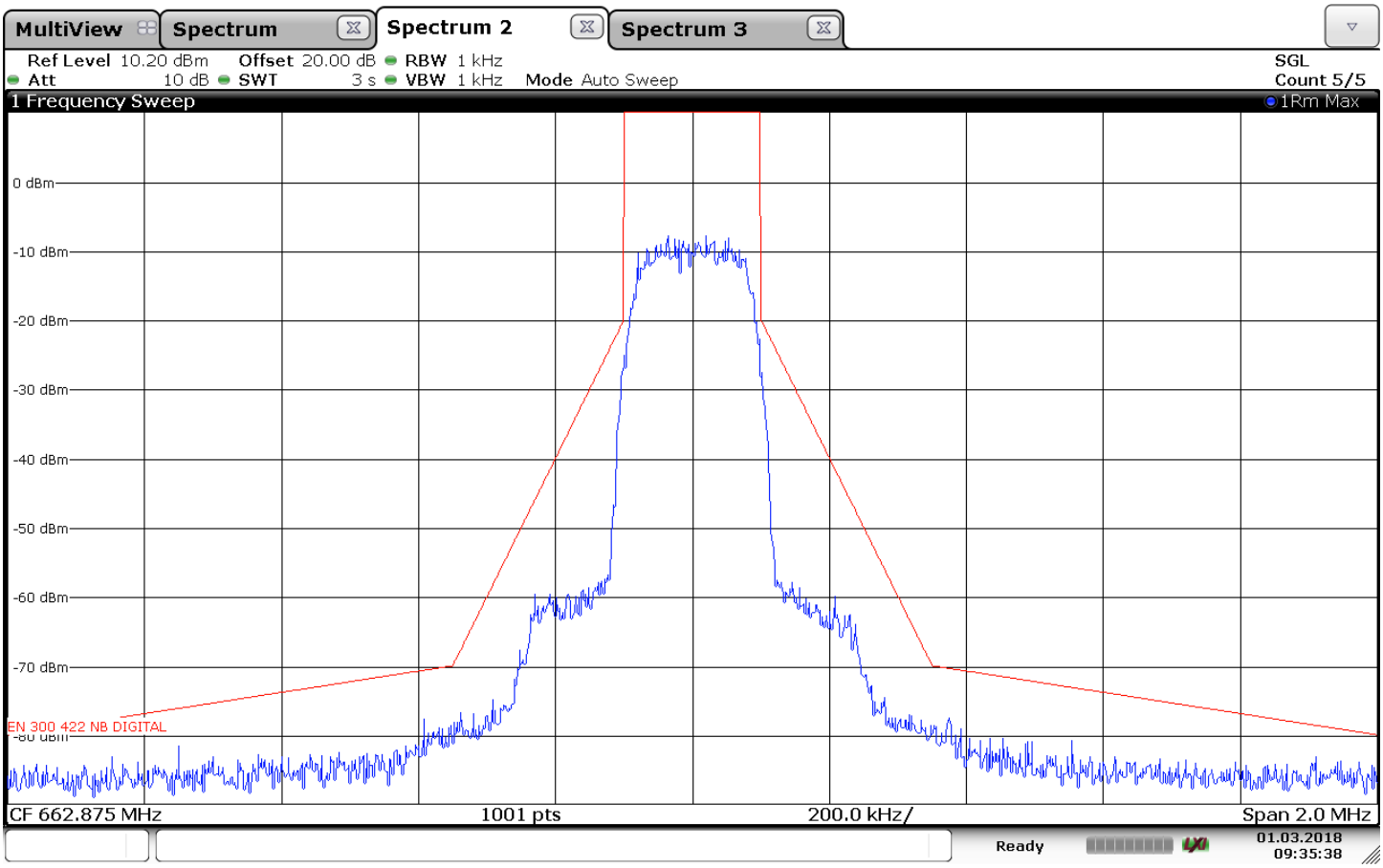


09:35:01 01.03.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	662.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on March 1, 2018

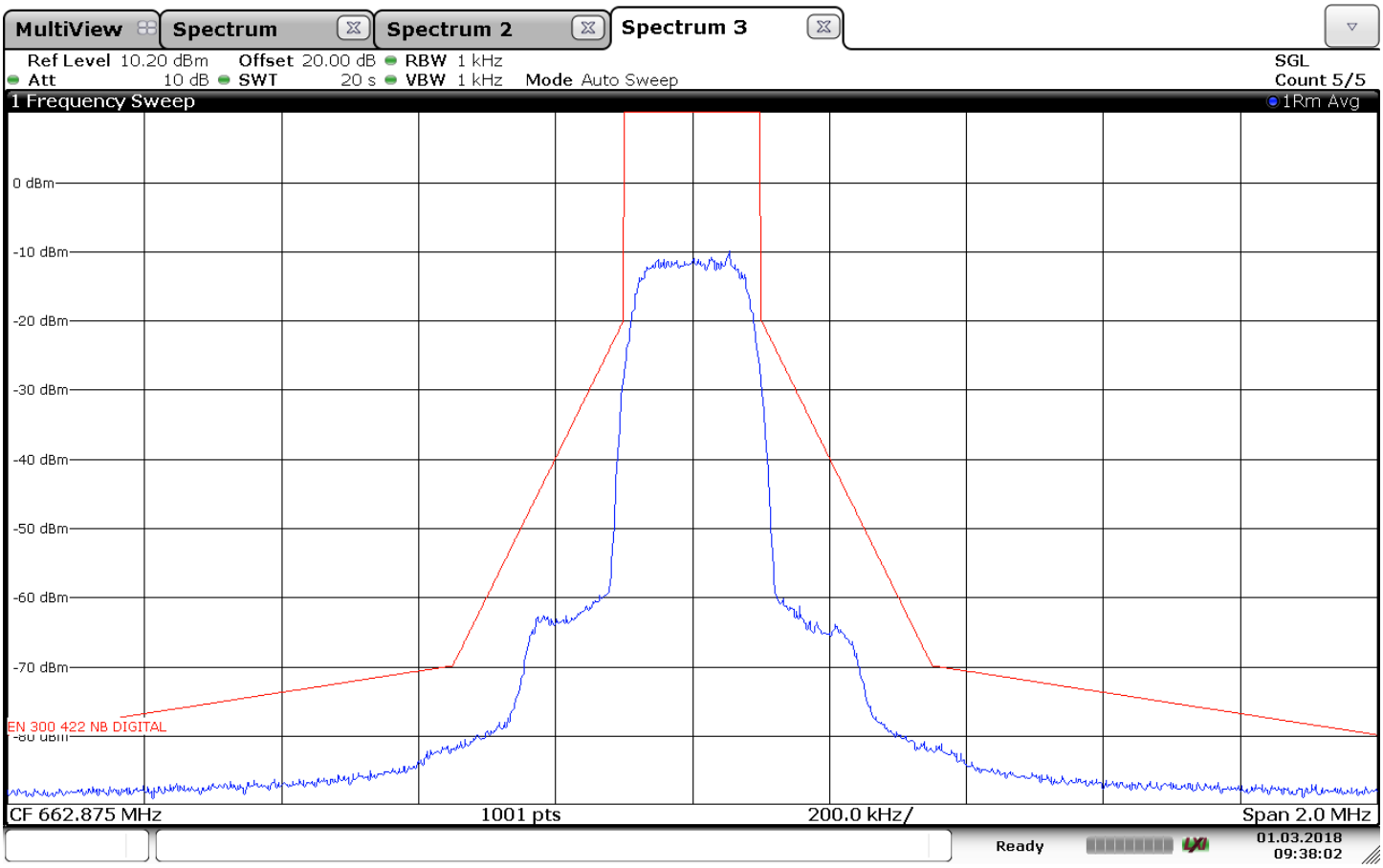


09:35:38 01.03.2018

Appendix A

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	662.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on March 1, 2018

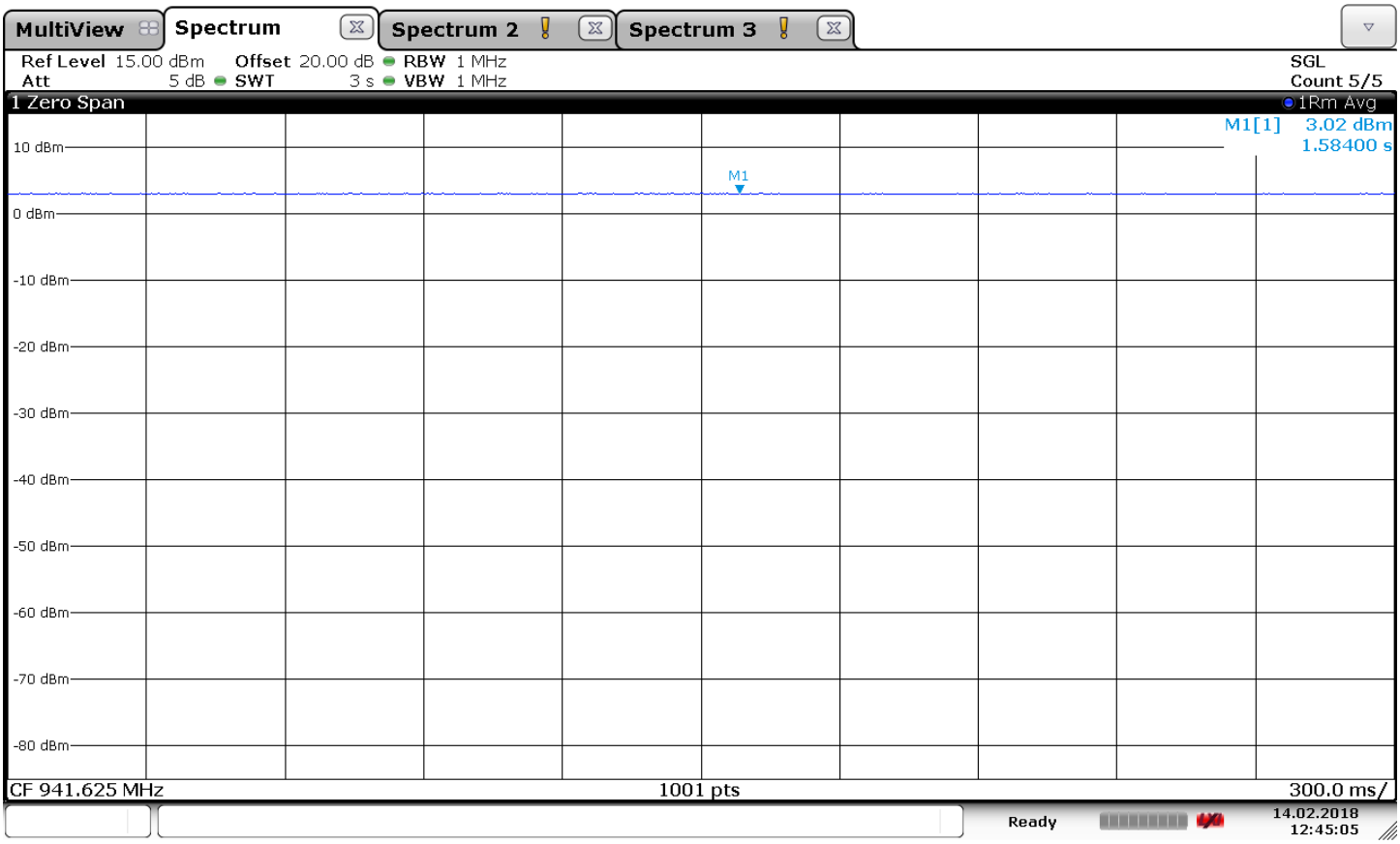


09:38:02 01.03.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	941.625 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 14, 2018

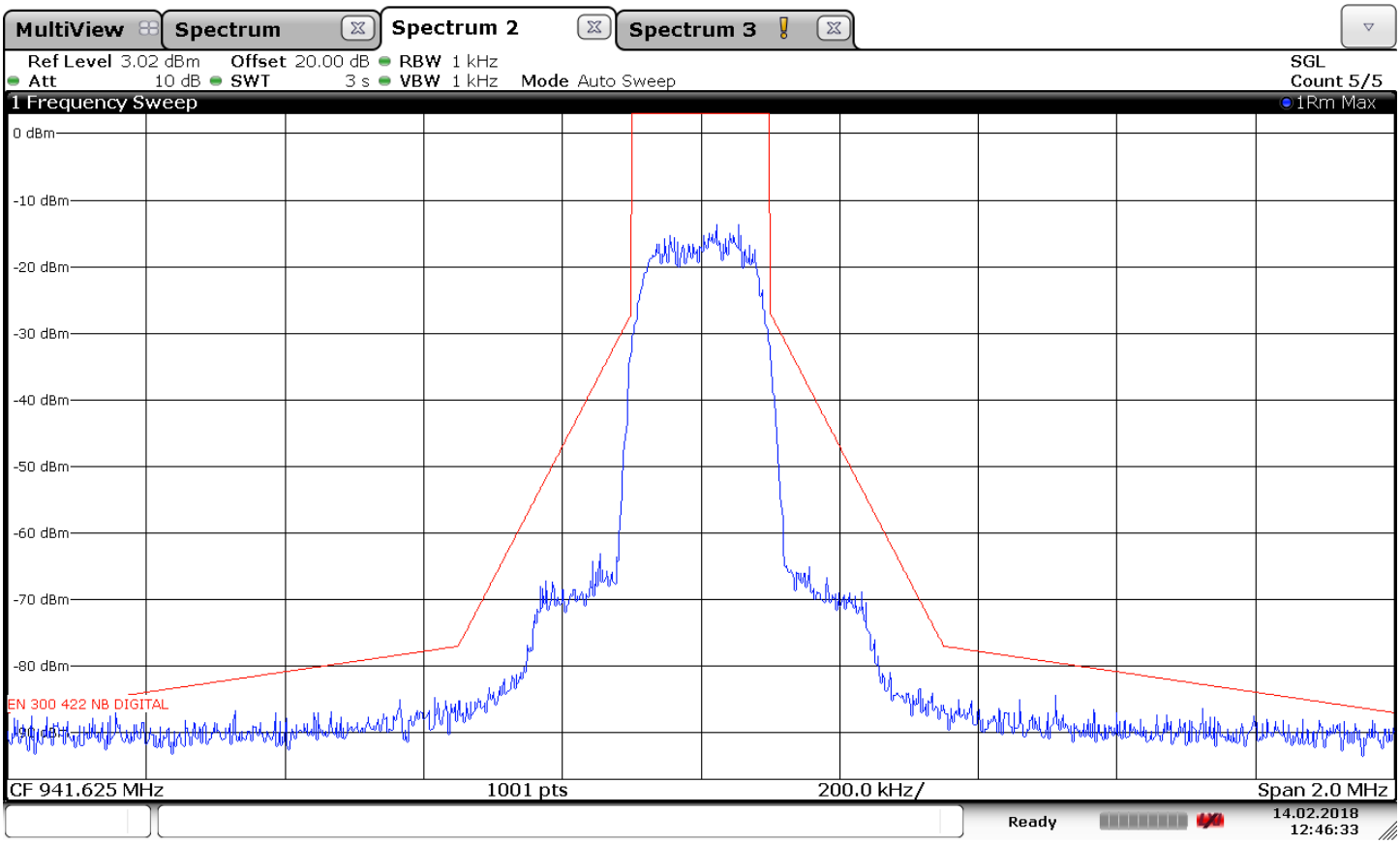


12:45:05 14.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	941.625 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 14, 2018

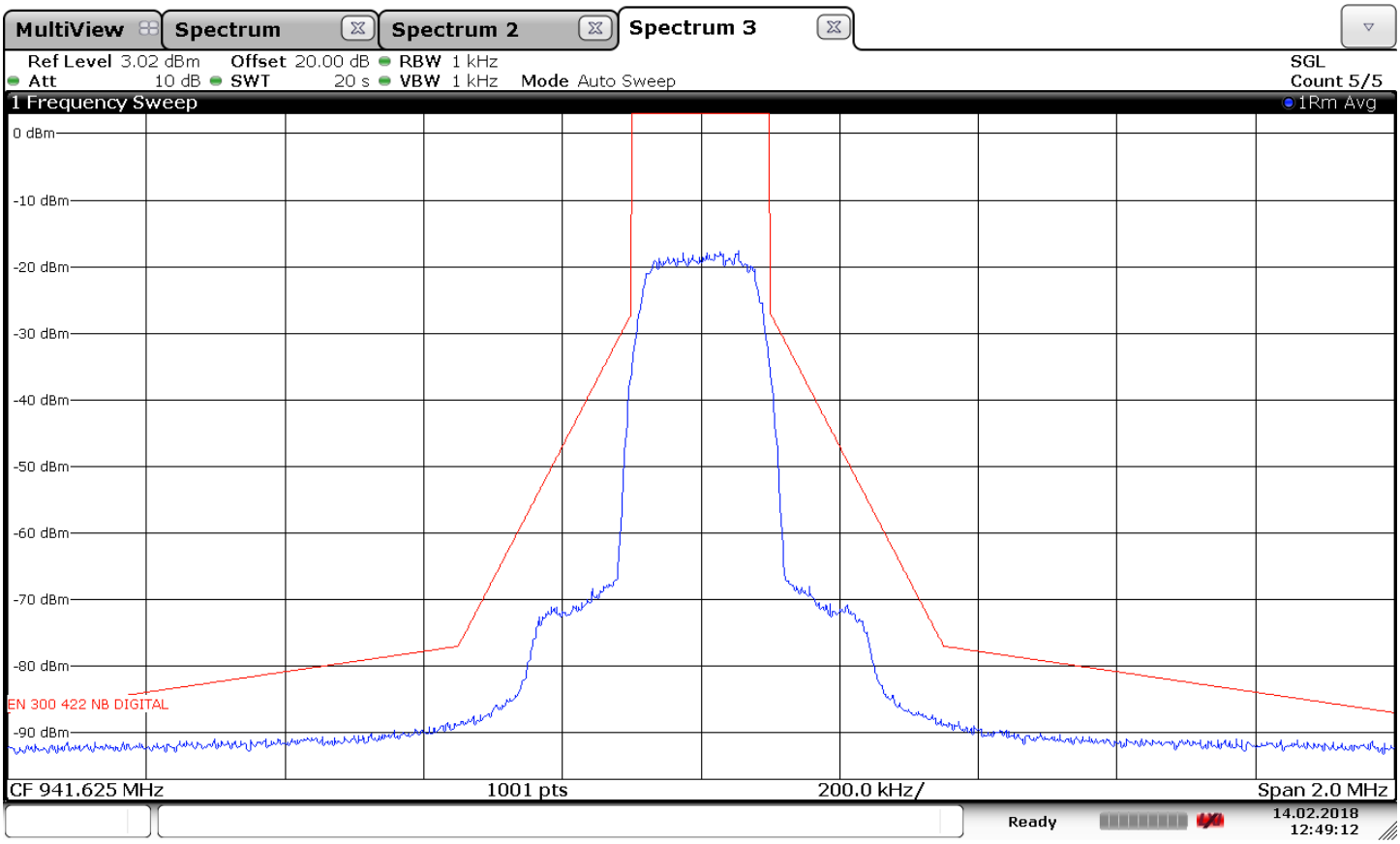


12:46:33 14.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	941.625 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 14, 2018

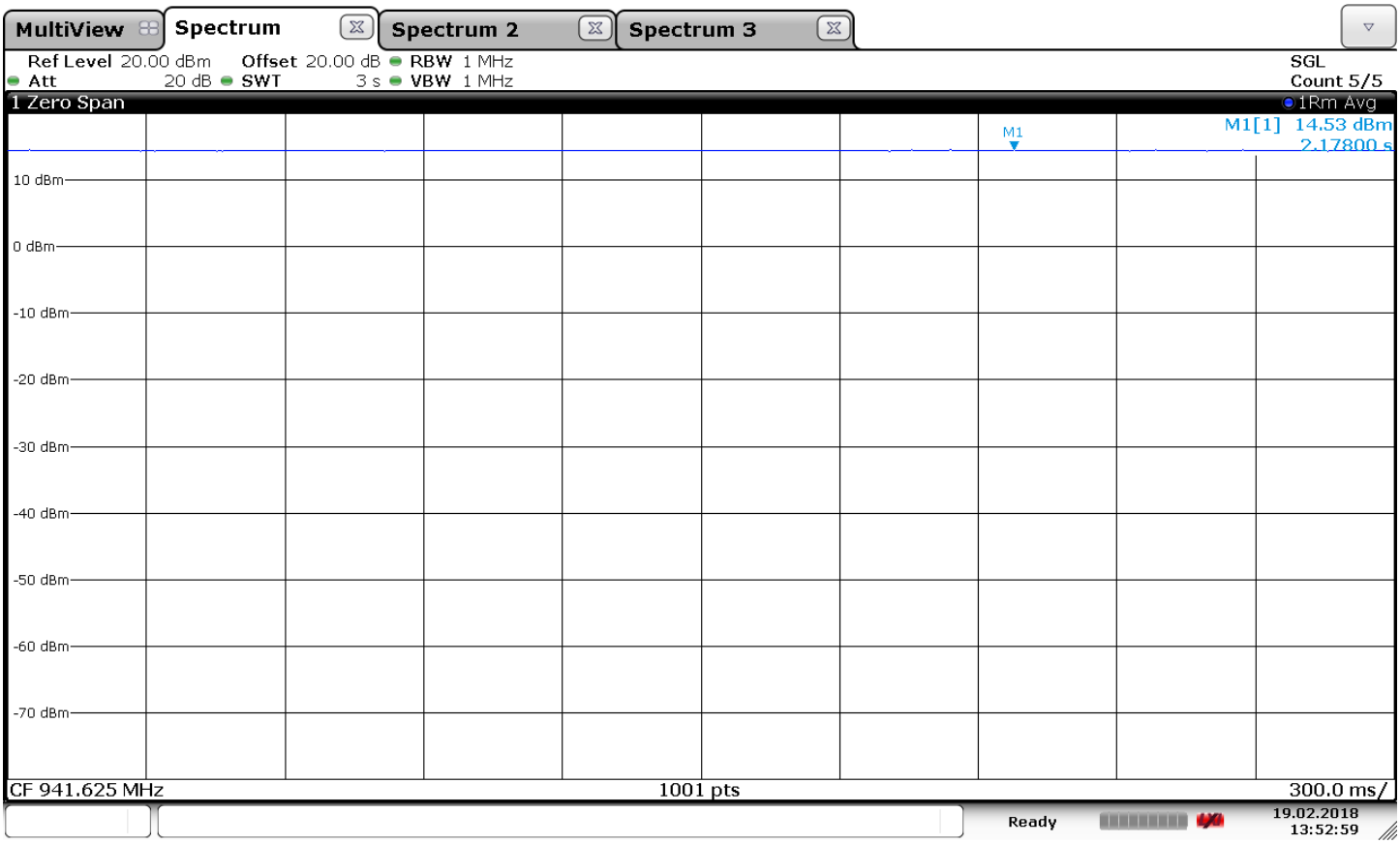


12:49:13 14.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	941.625 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 19, 2018

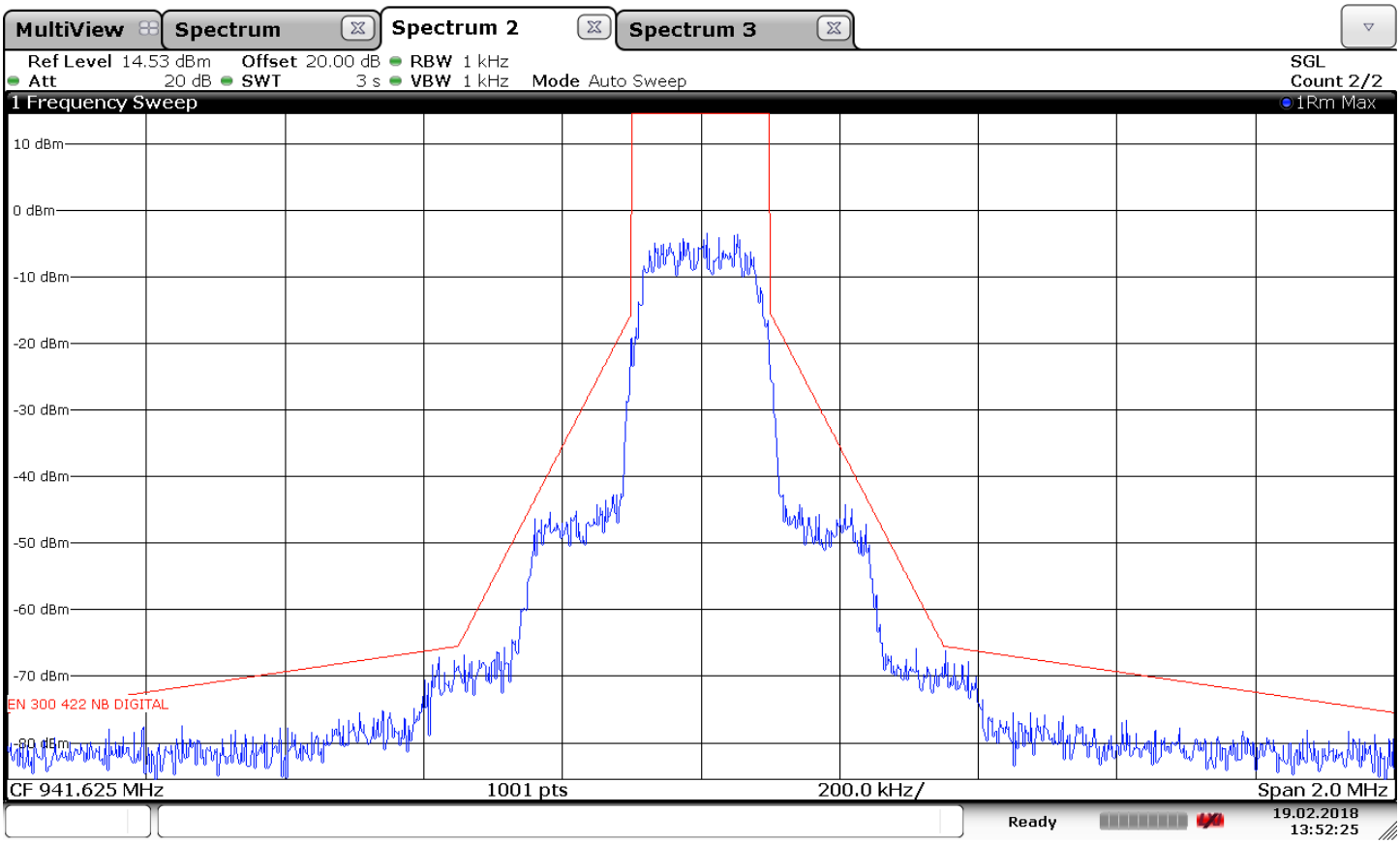


13:53:00 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	941.625 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 19, 2018

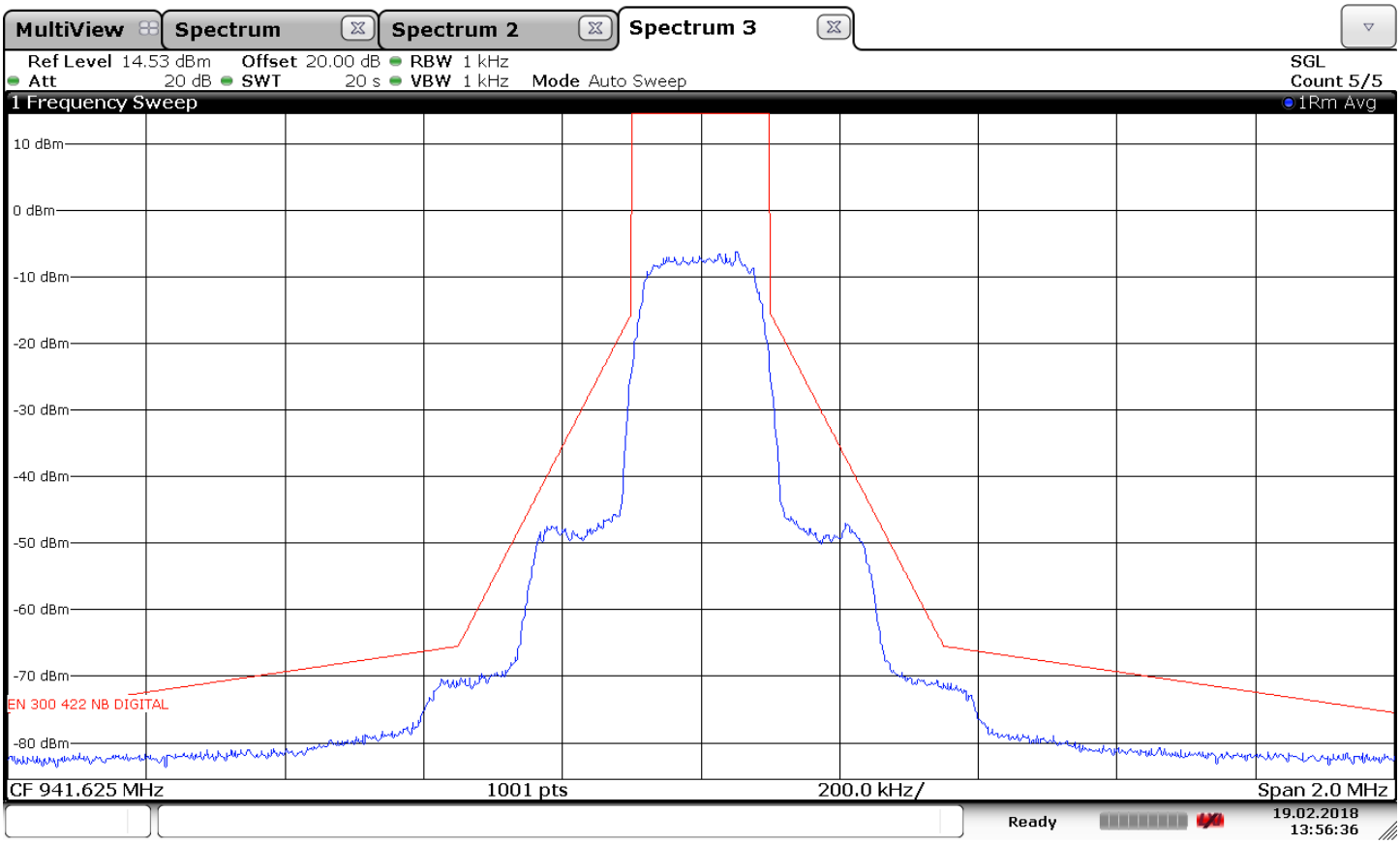


13:52:26 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	941.625 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 19, 2018

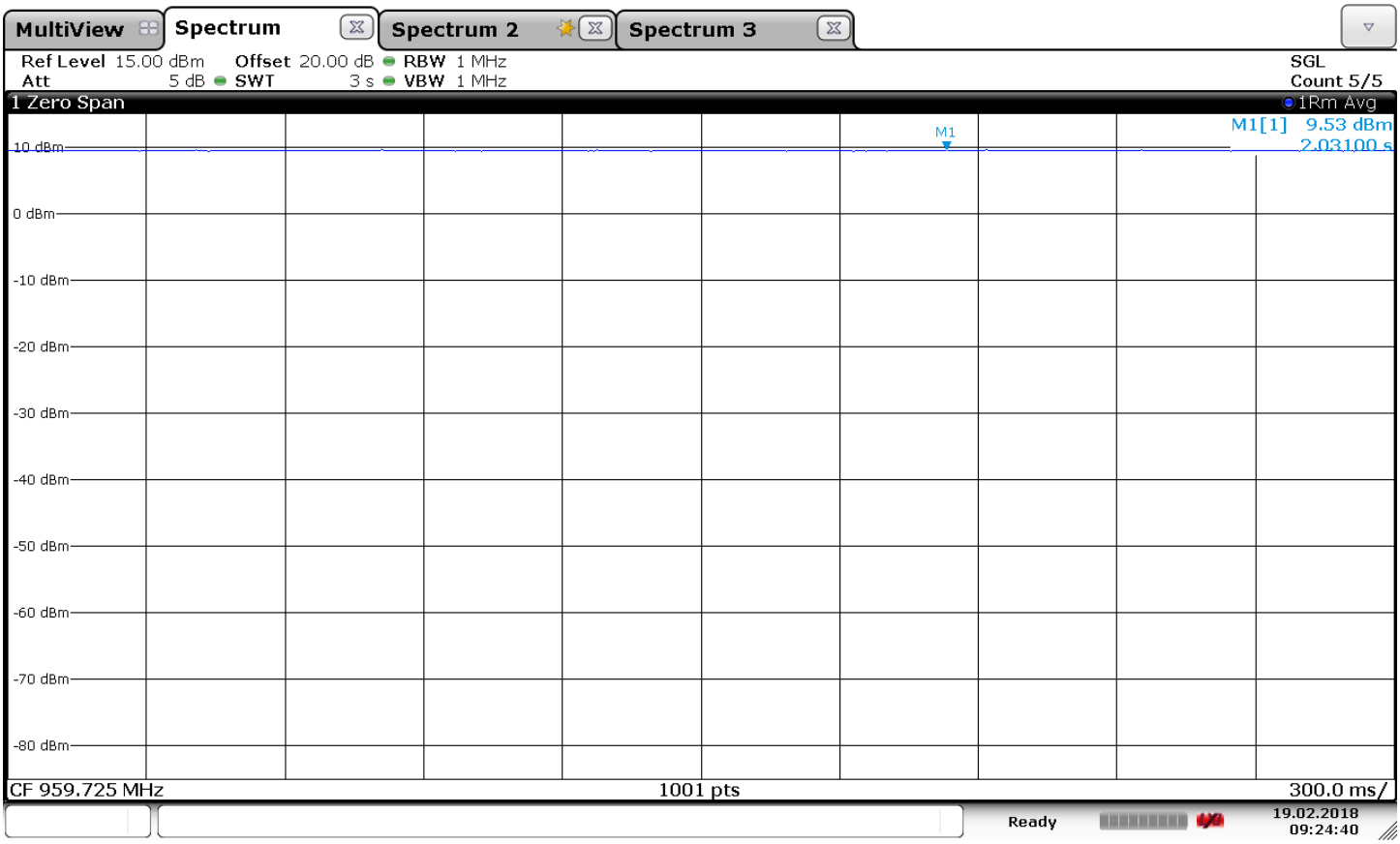


13:56:36 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	950.675 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 19, 2018

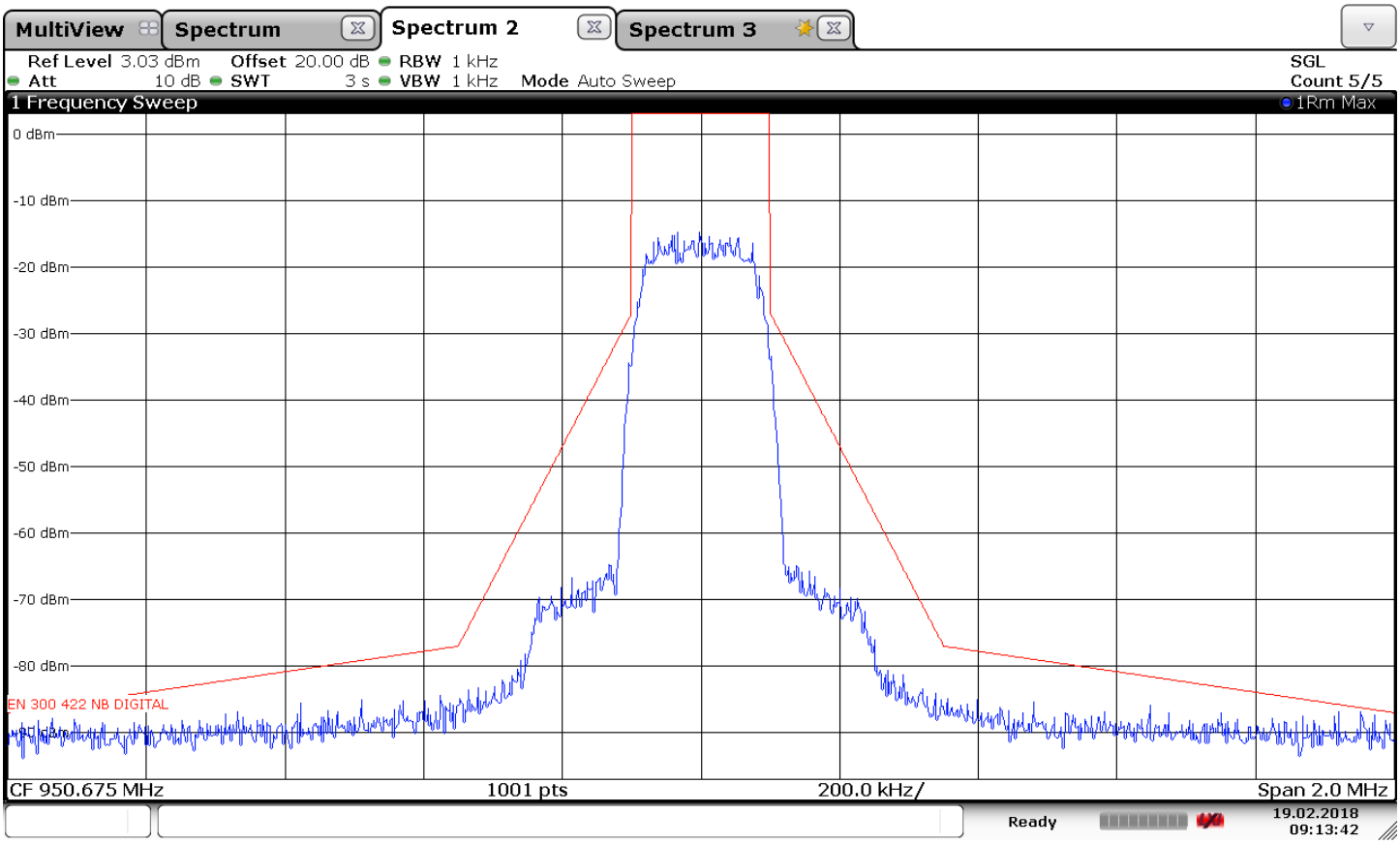


09:24:40 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	950.675 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 19, 2018

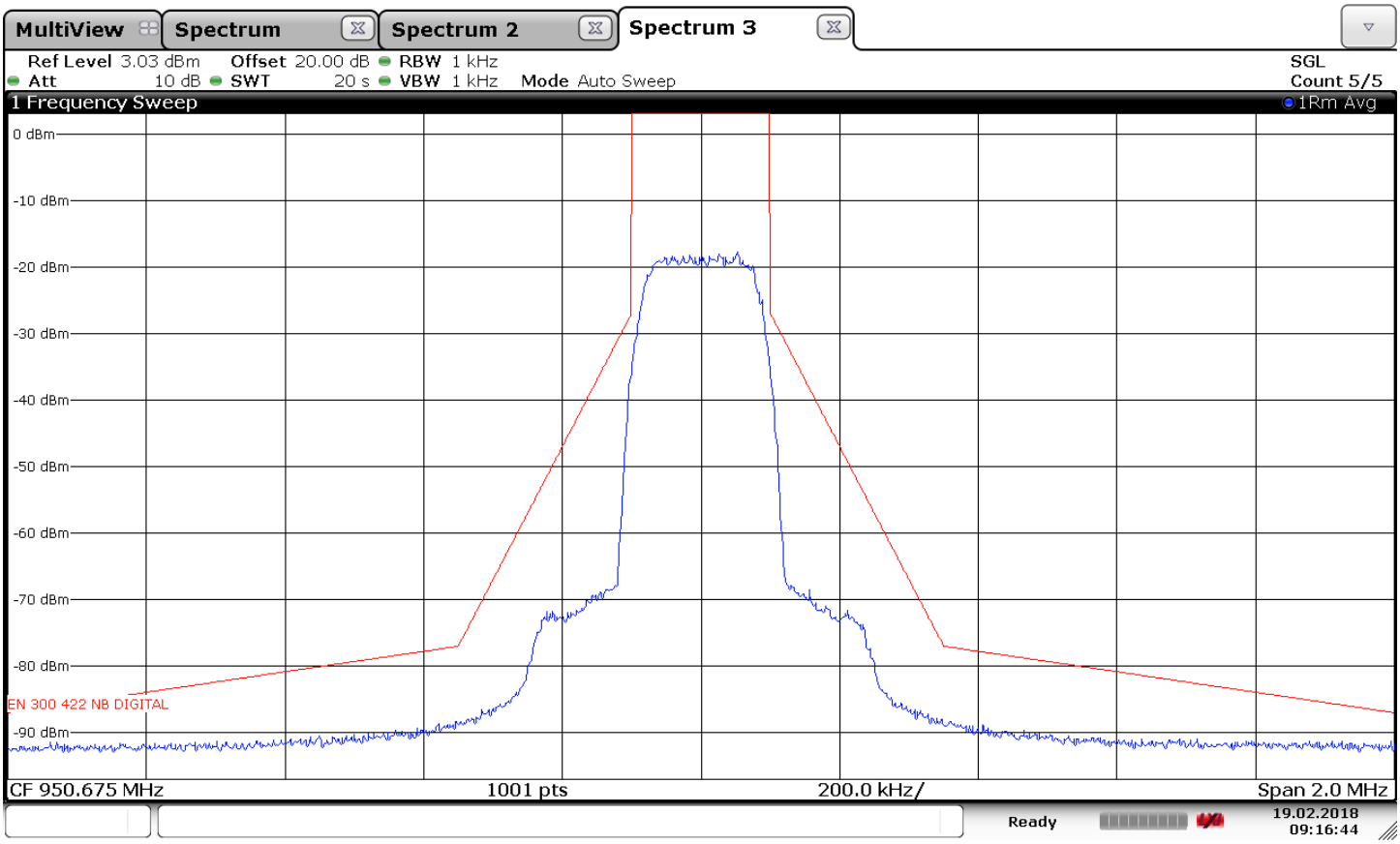


09:13:43 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	950.675 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 19, 2018

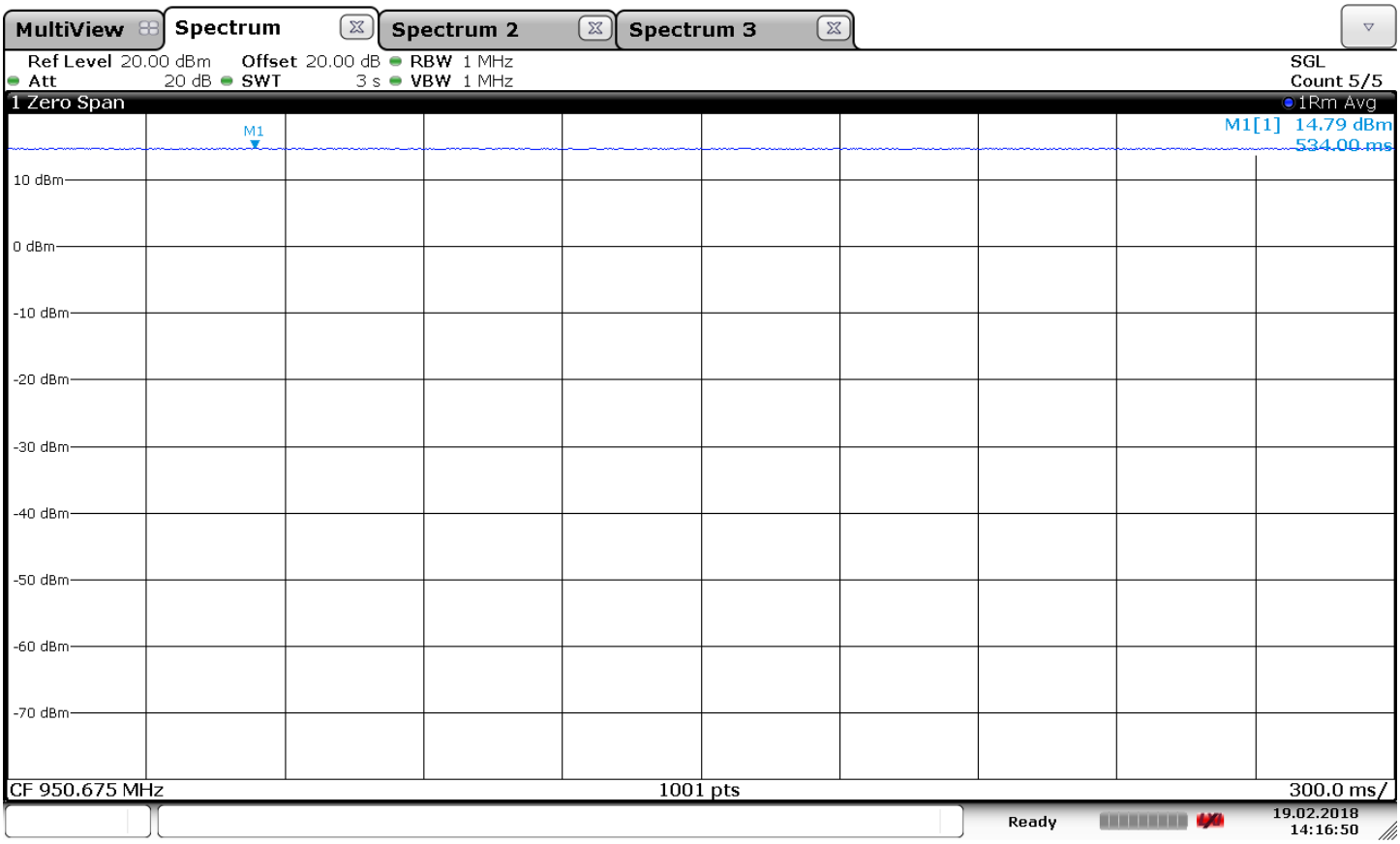


09:16:45 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	950.675 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 19, 2018

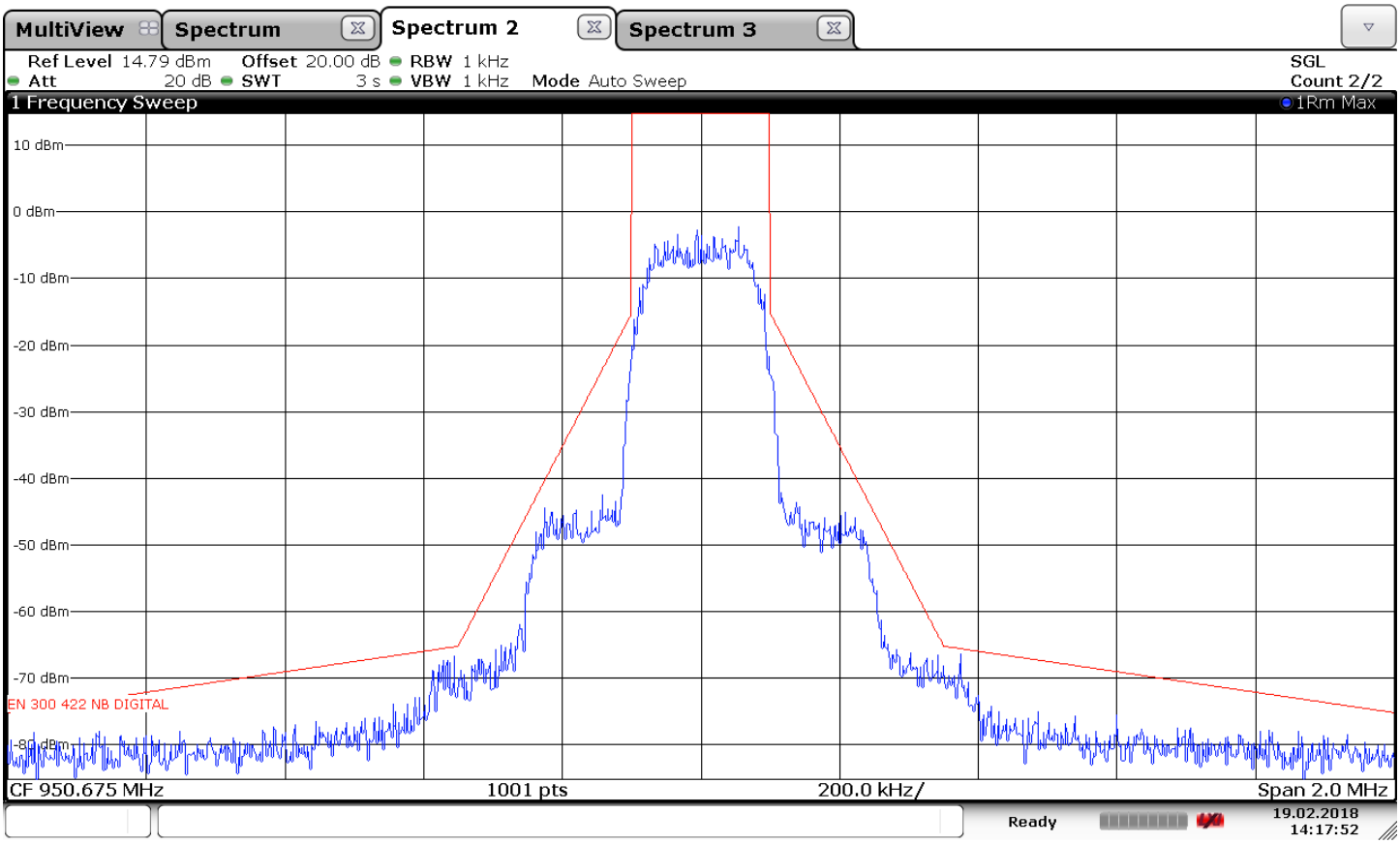


14:16:51 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	950.675 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 19, 2018

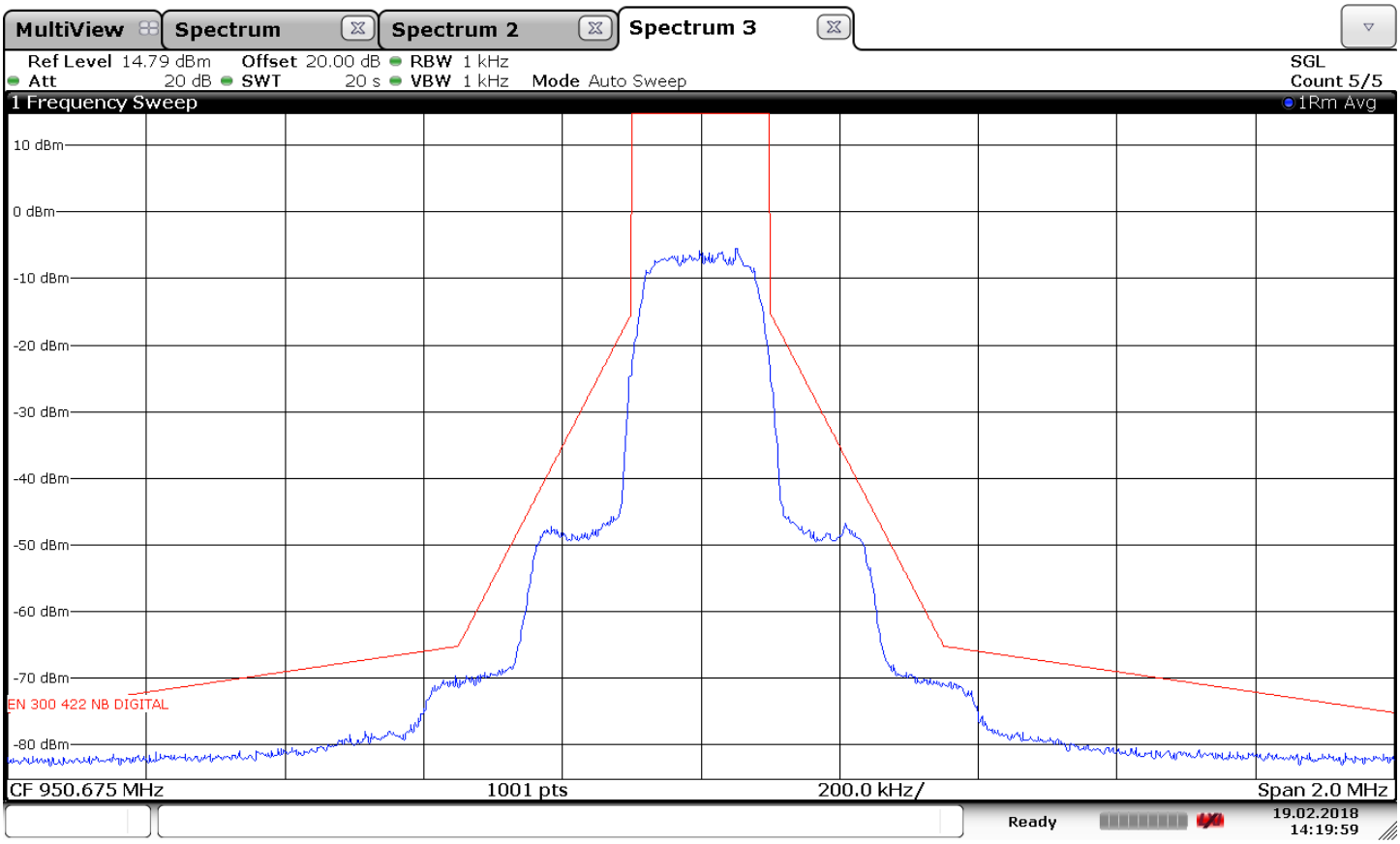


14:17:53 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	950.675 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 19, 2018

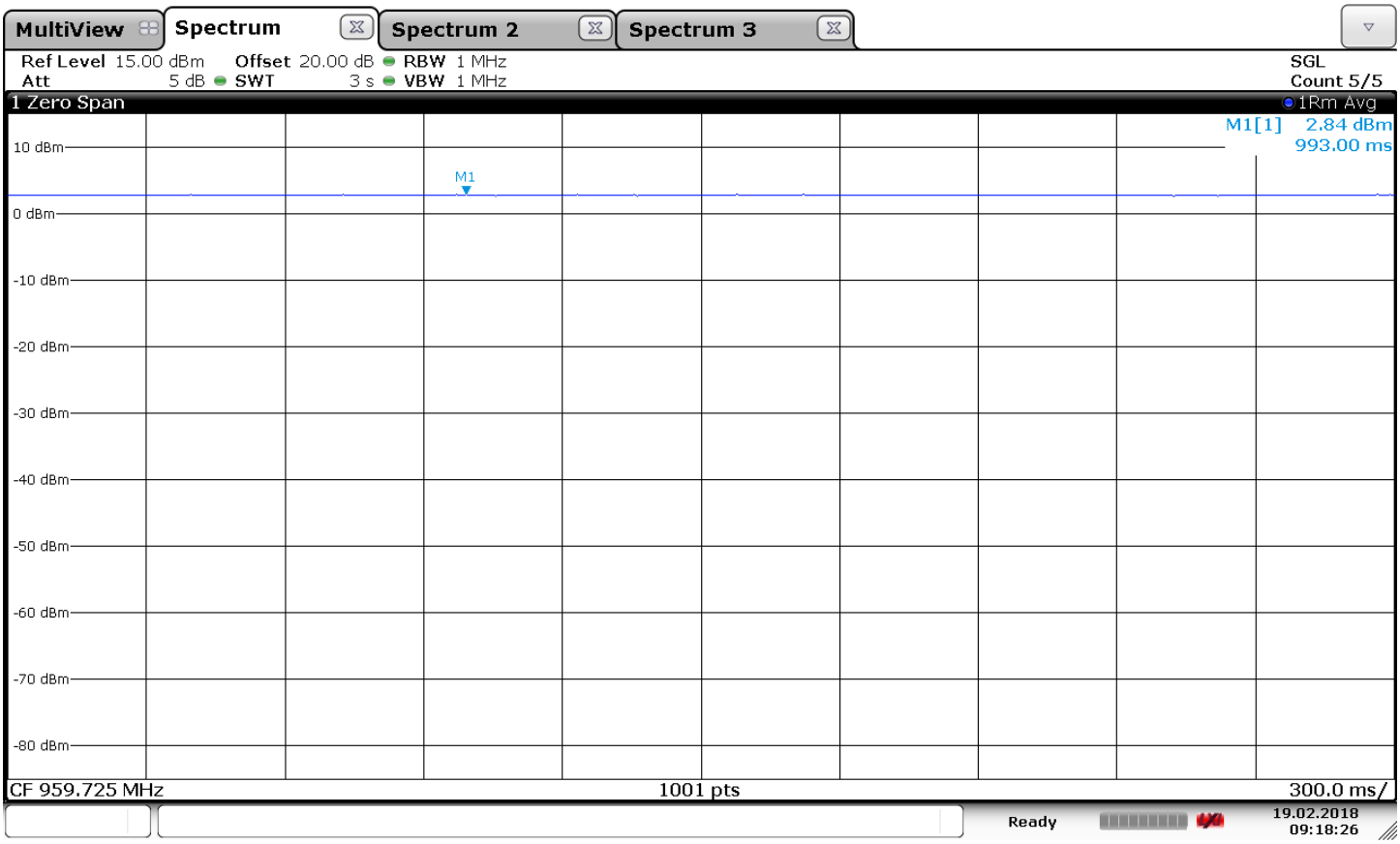


14:19:59 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	959.725 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 19, 2018

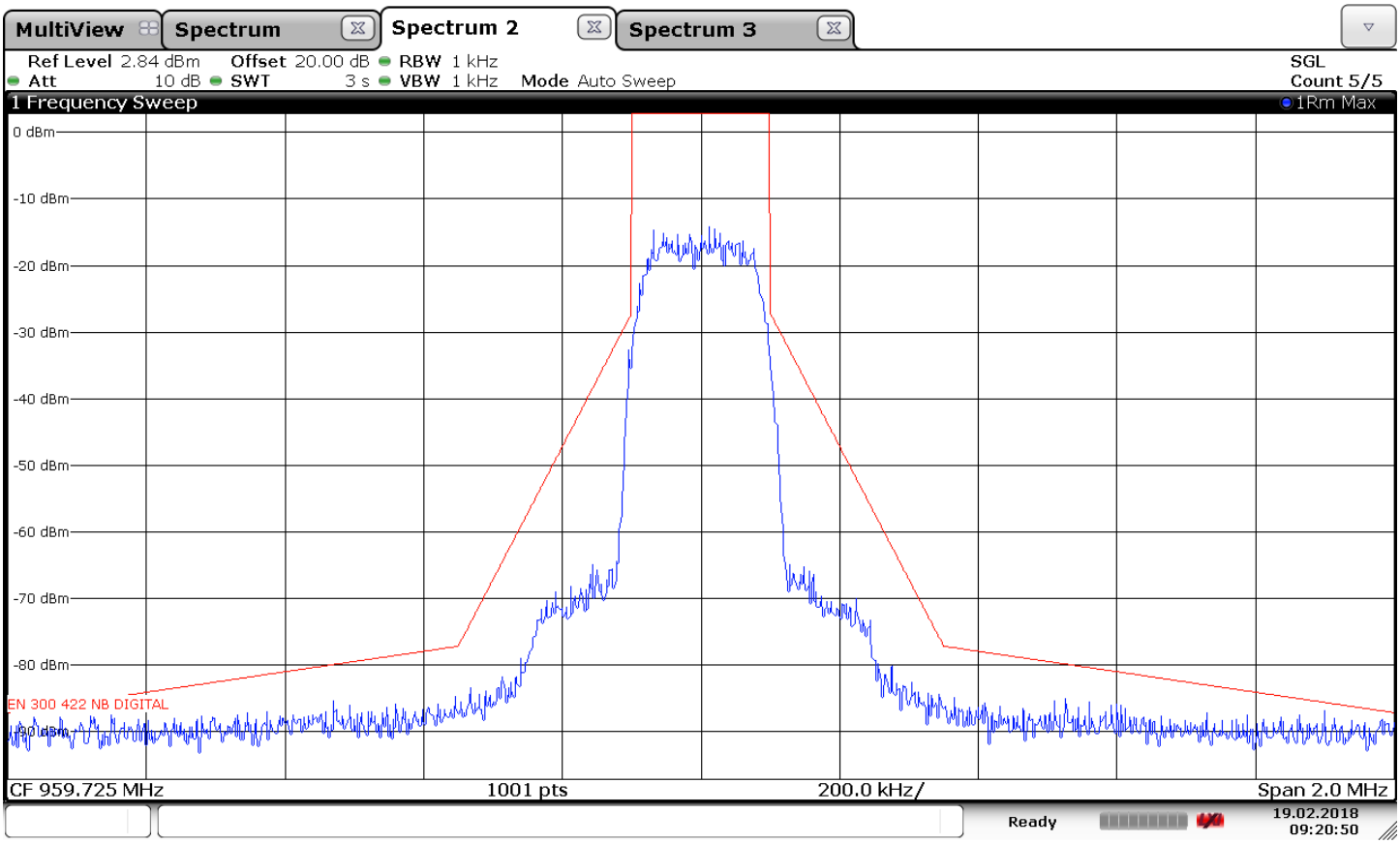


09:18:26 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	959.725 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 19, 2018

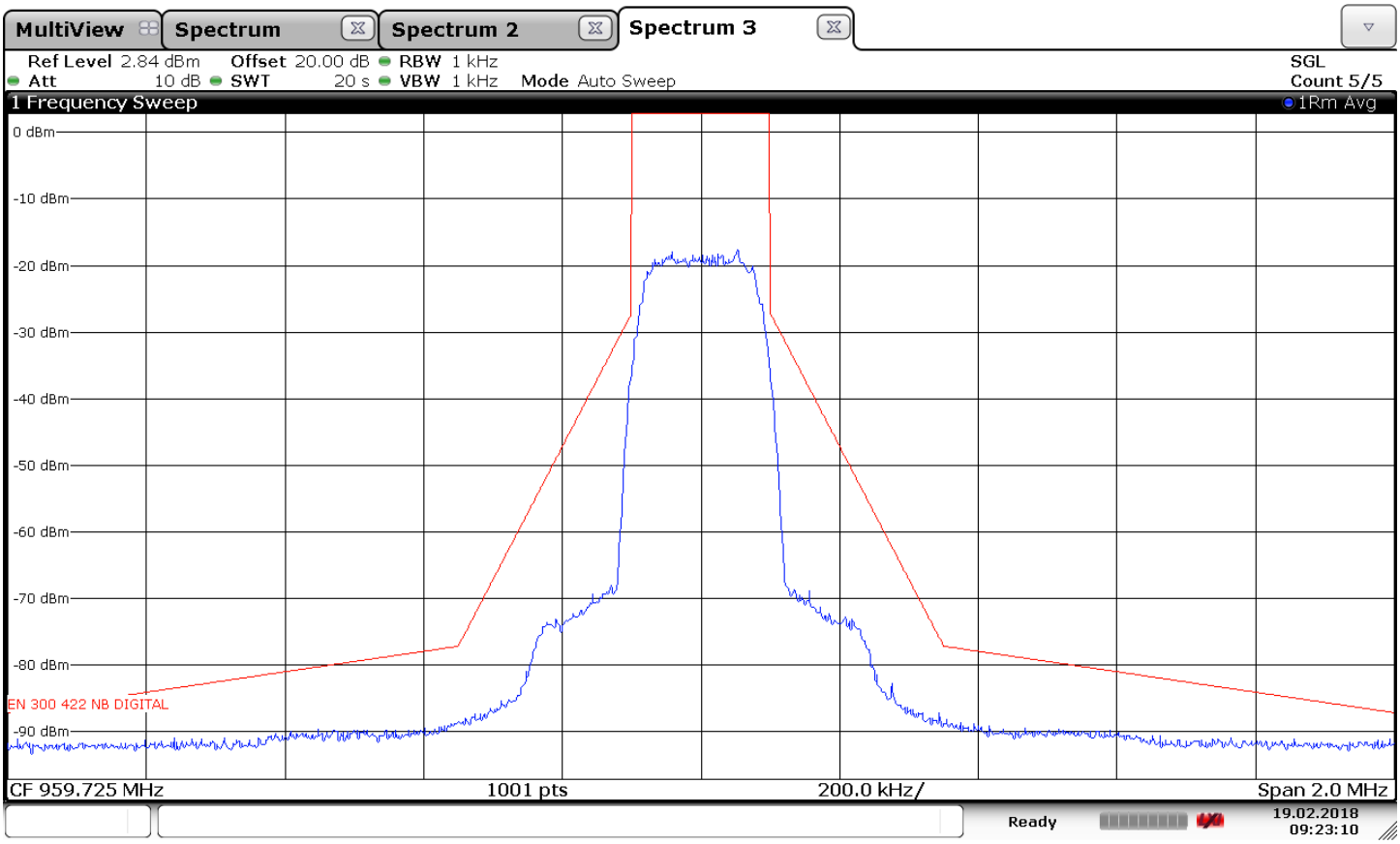


09:20:50 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	959.725 MHz, 2mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 19, 2018

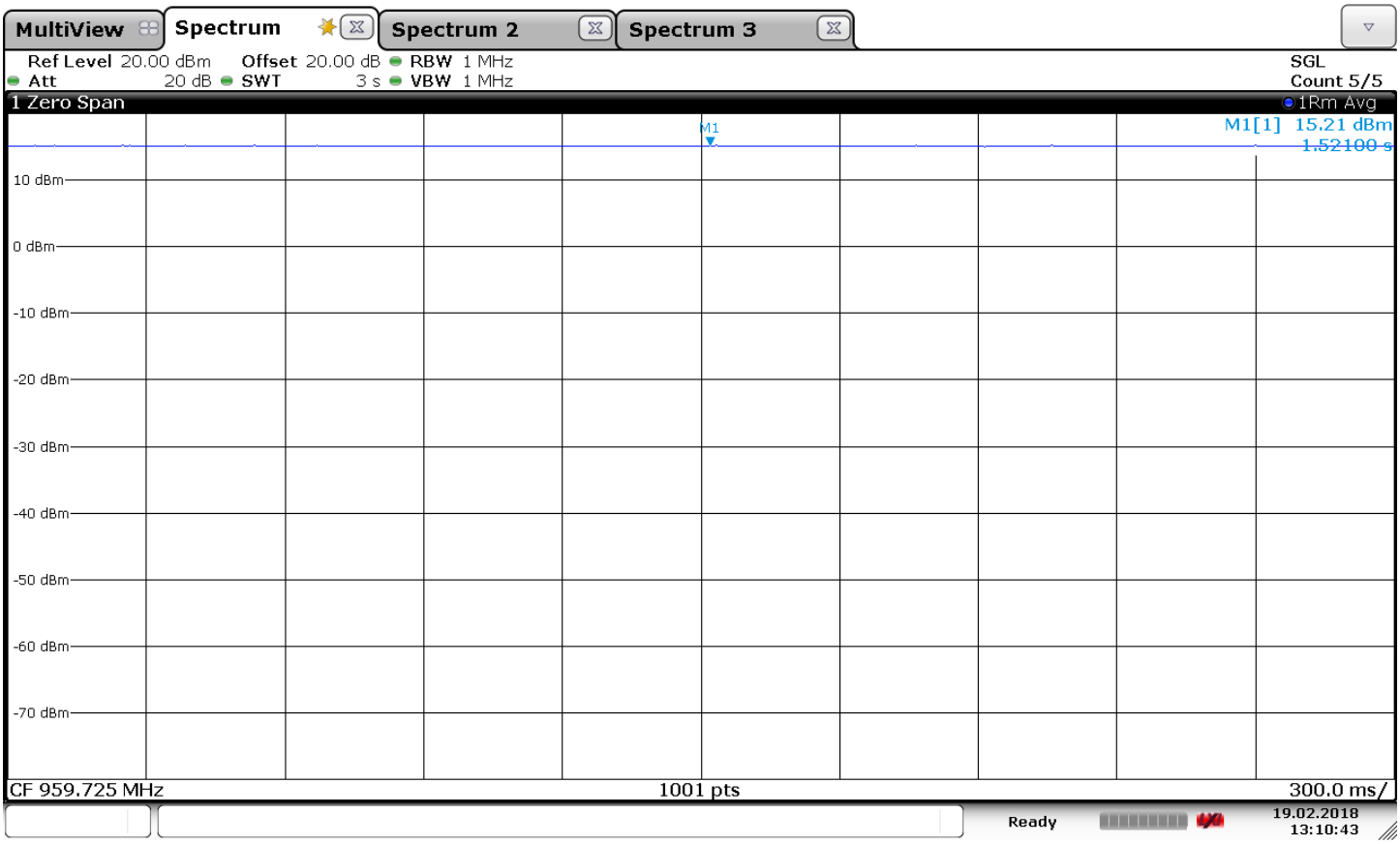


09:23:10 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	959.725 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 1; Carrier Power
Date Tested:	Tested on February 19, 2018

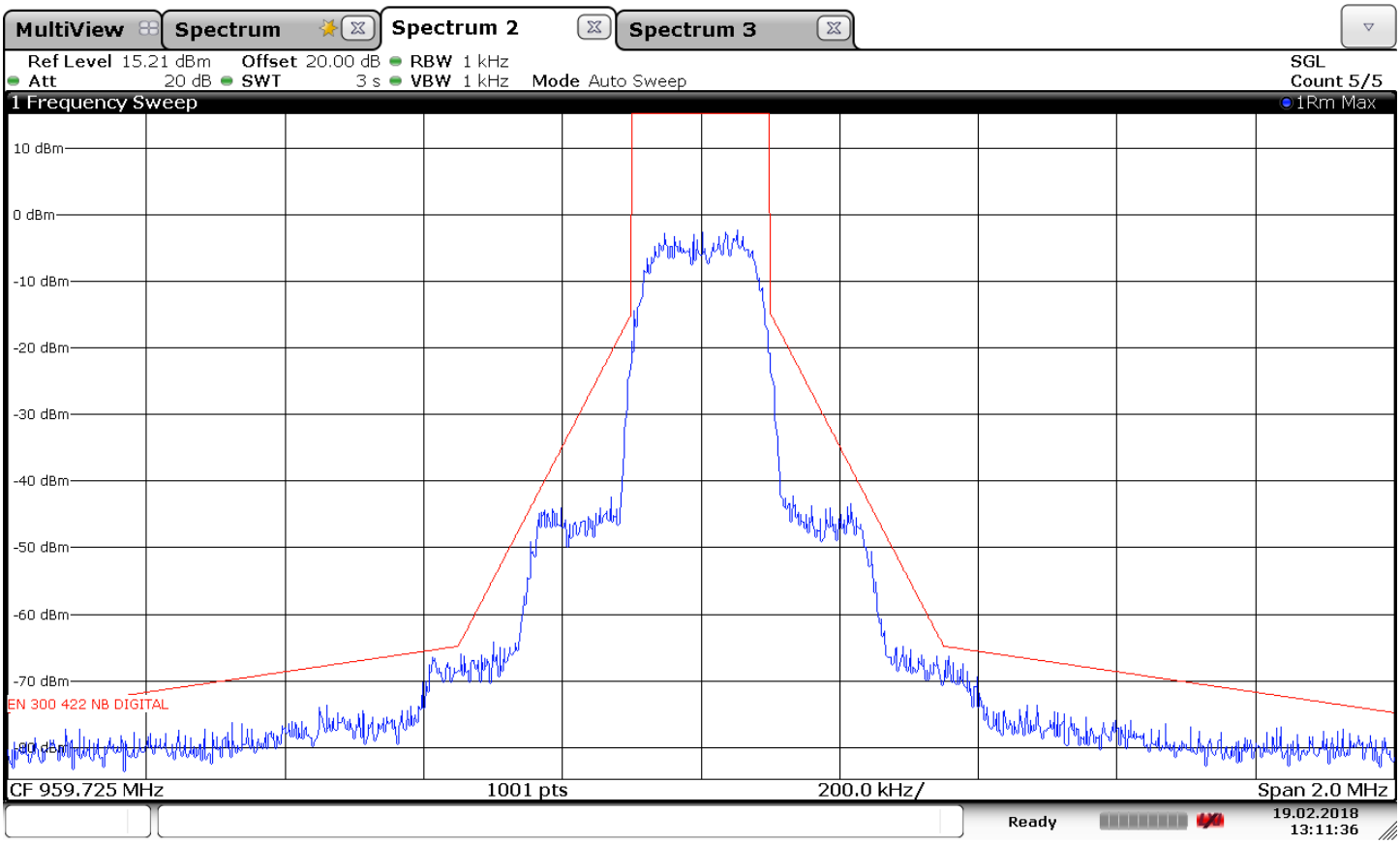


13:10:44 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	959.725 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 2;Maximum Relative Level
Date Tested:	Test on February 19, 2018

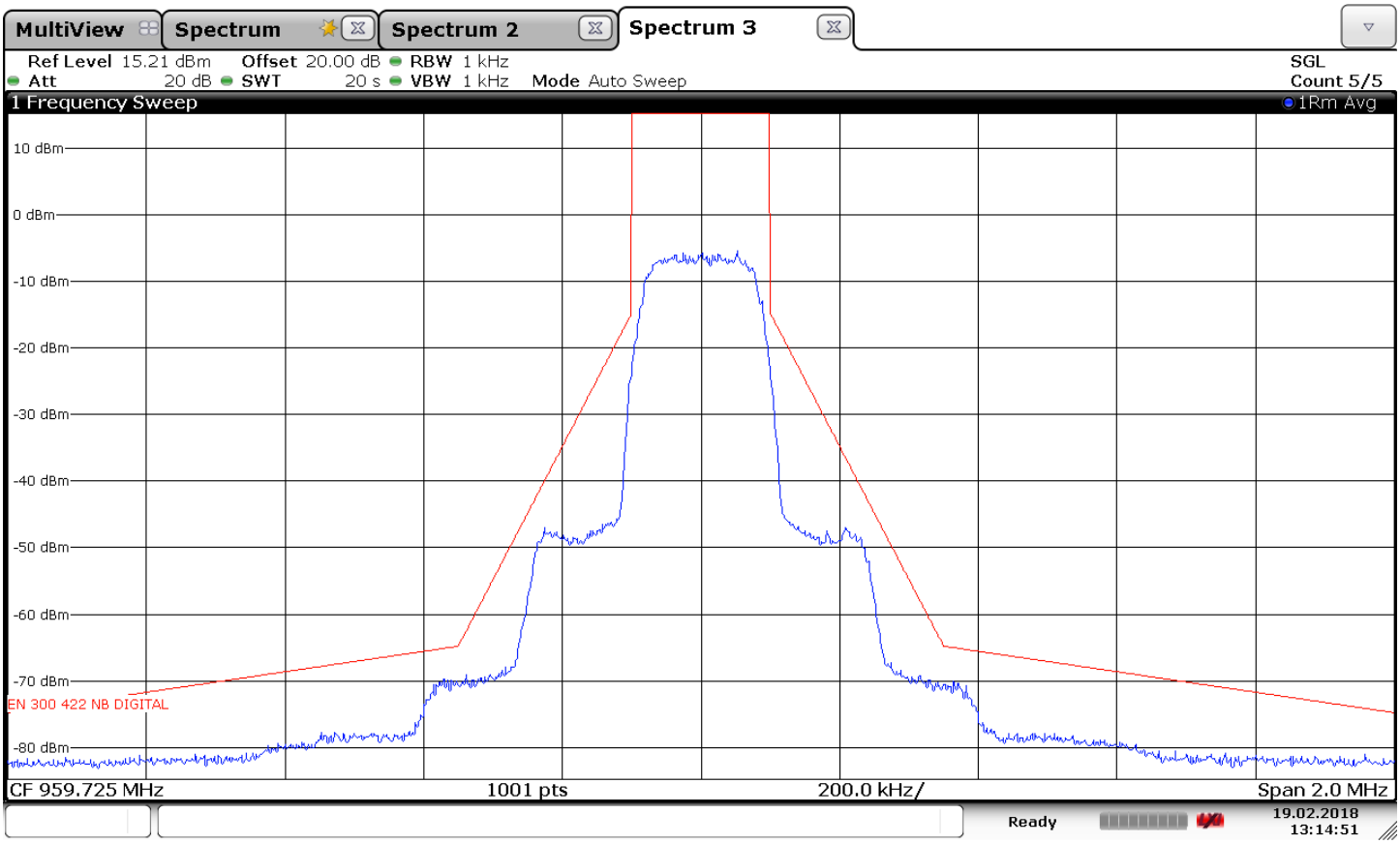


13:11:36 19.02.2018

Appendix A

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	EN 300 422-1 Digital Necessary Bandwidth
Operating Conditions:	959.725 MHz, 40mW
Operator Name:	Brad McClain
Comment:	8.3.3.1: Step 3;Lower and upper frequency transmitter Wide band noise floor
Date Tested:	Test on February 19, 2018



13:14:51 19.02.2018

Appendix B

OCCUPIED BANDWIDTH MEASUREMENTS

B.1 PURPOSE

This test was performed to determine if the EUT meets the occupied bandwidth requirements of the FCC Part 15.236(f)(2), the FCC Part 74.861(e)(5), and the RSS-210, Annex G, section G.3.2 specifications over the EUT's operating frequency range.

B.2 REQUIREMENTS

As stated in the FCC Part 15.236(f)(2), the FCC Part 74.861(e)(5), and the RSS-210, Annex G, section G.3.2g the operating bandwidth shall not exceed 200 kHz.

B.3 TEST SETUP AND INSTRUMENTATION

A photograph of the test setup is shown in Figure B-1. The test instrumentation can be determined from Table 10-1.

B.4 MEASUREMENT UNCERTAINTY

All measurements are an estimate of their true value. The measurement uncertainty characterizes, with a specified confidence level, the spread of values which may be possible for a given measurement system.

Values of Expanded Measurement Uncertainty (95% Confidence):

Measurement Type	U_{LAB}
Occupied Bandwidth	**±0.130 %**

U_{lab} = Determined for Shure EMC Laboratory

Since U_{LAB} is less than or equal to U_{ETSI}:

- Compliance is deemed to occur if no measured disturbance exceeds the disturbance limit;
- Non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.

B.5 EUT OPERATION

The EUT was powered up and the transmit frequency and power output of the EUT were selected. The EUT was checked for proper operation after it was setup for the test. Testing was performed to demonstrate compliance to the occupied bandwidth requirements stated in section B.2.

B.6 TEST PROCEDURE

The test procedure followed is shown in ANSI C63.26-2015 section 5.4.4 and ANSI C63.10-2013 section 6.9.3.

B.7 RESULTS

The occupied bandwidth data is presented on pages 132 through 147. Data is shown on the figures for each transmitter.

Appendix B

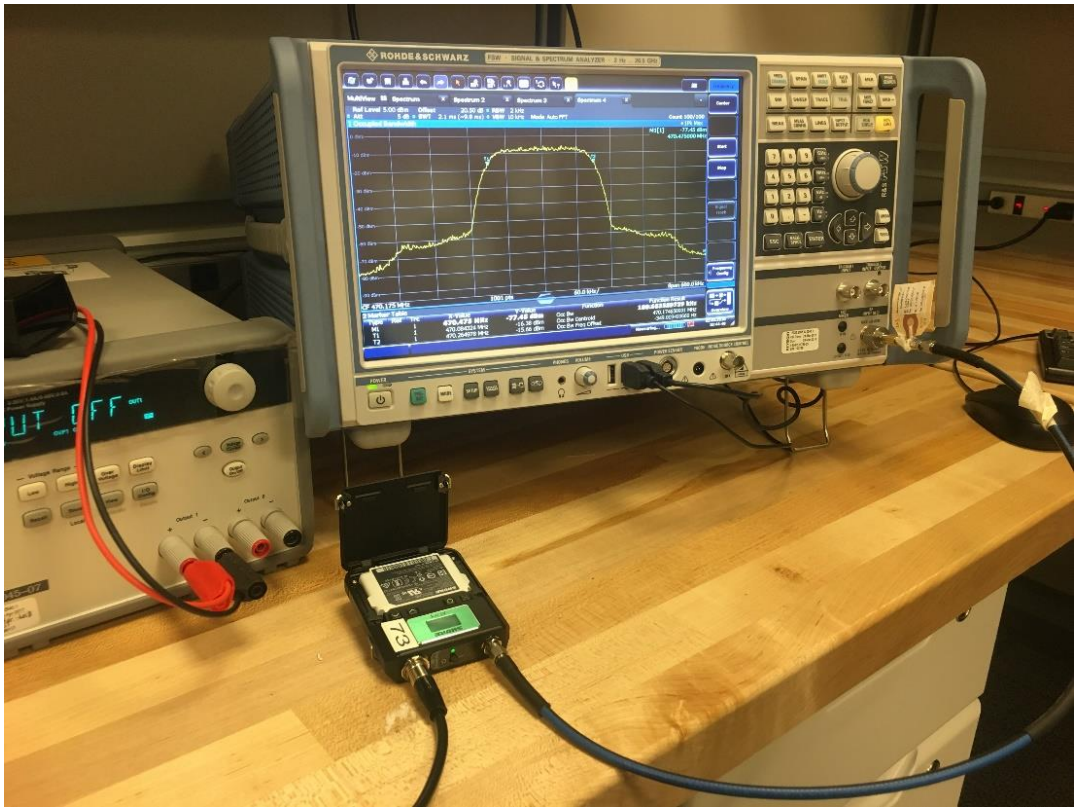
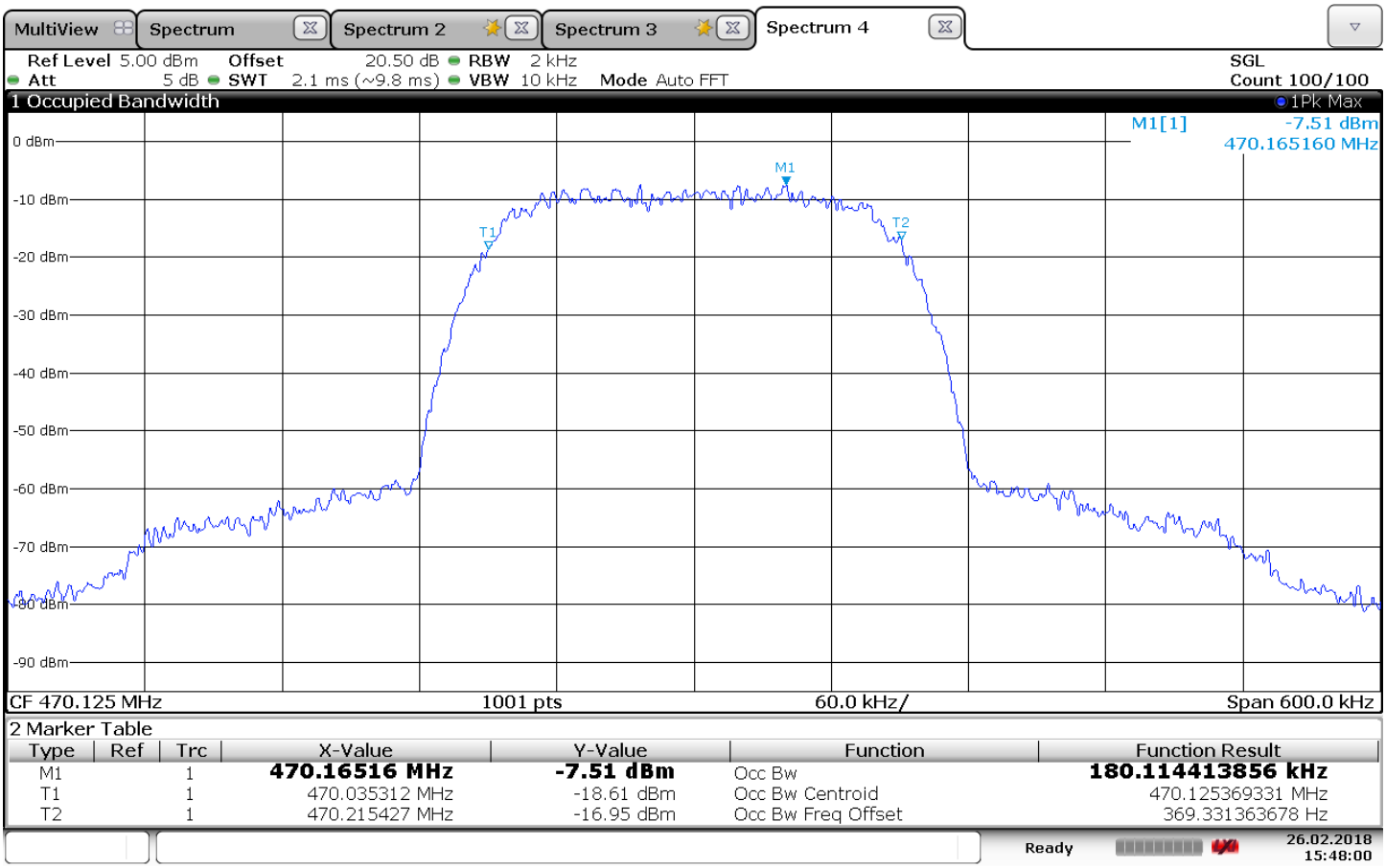


Figure B-1 - Test Setup for Occupied Bandwidth

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	470.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

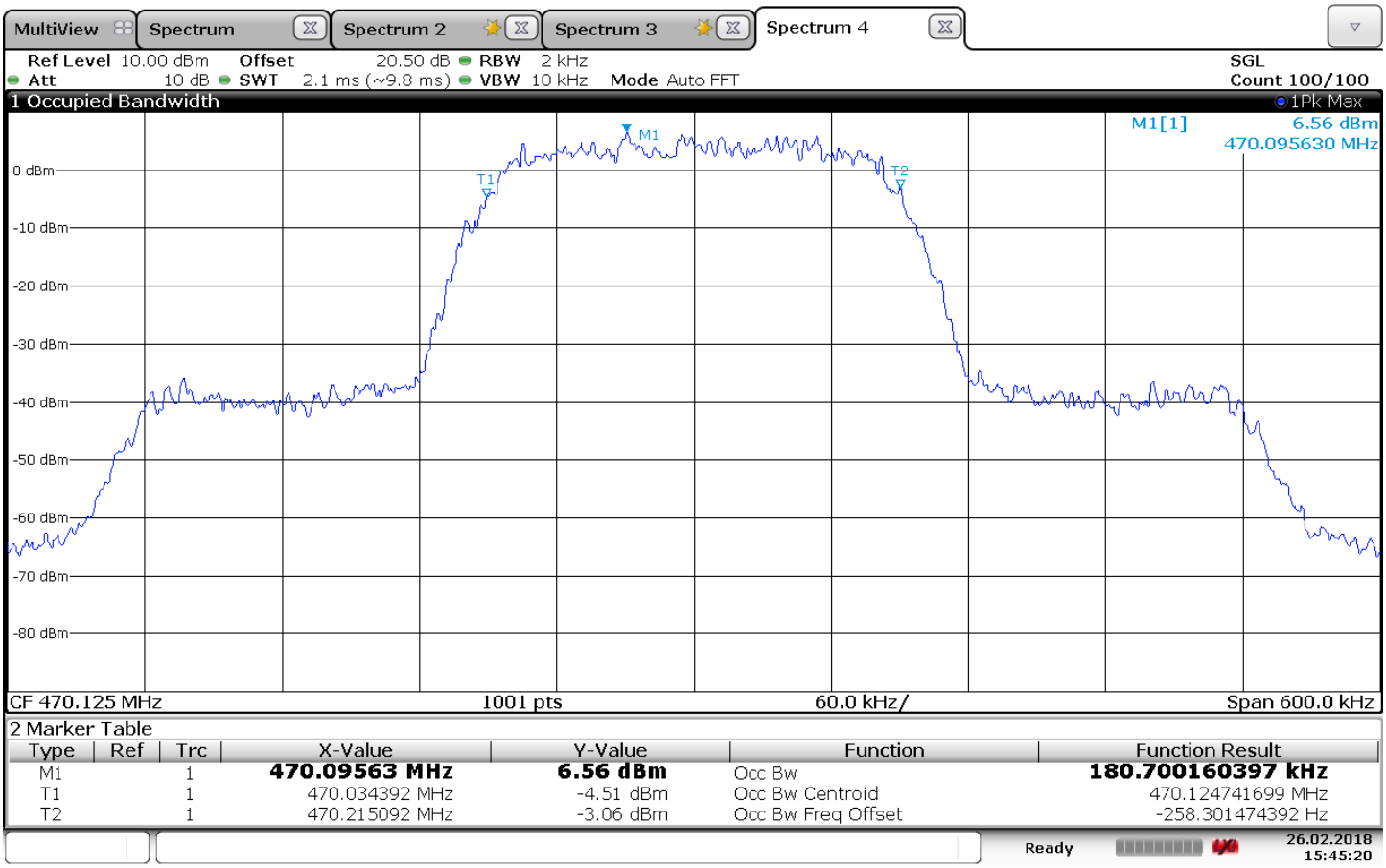


15:48:01 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	470.125 MHz, 40mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

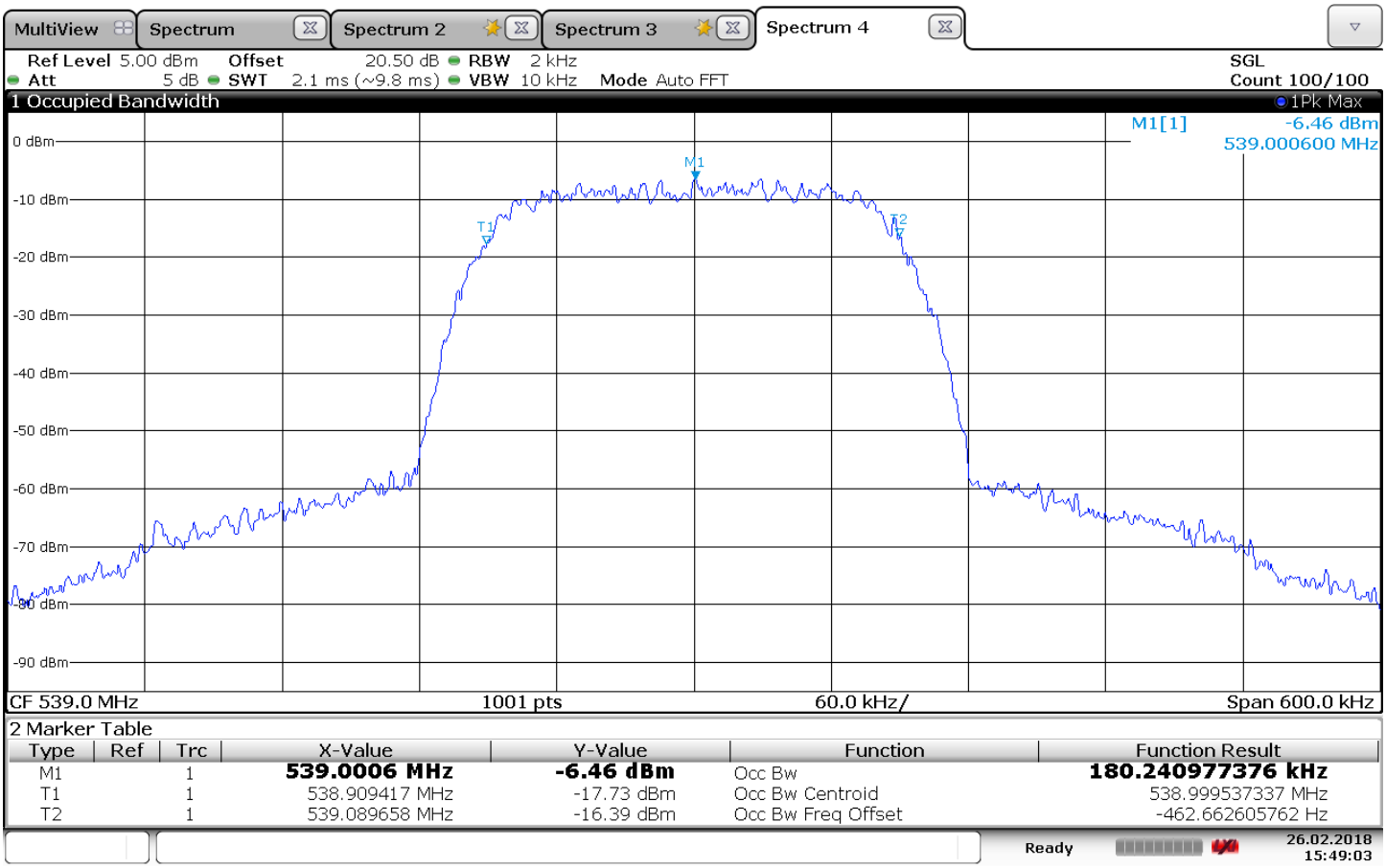


15:45:21 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	539.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

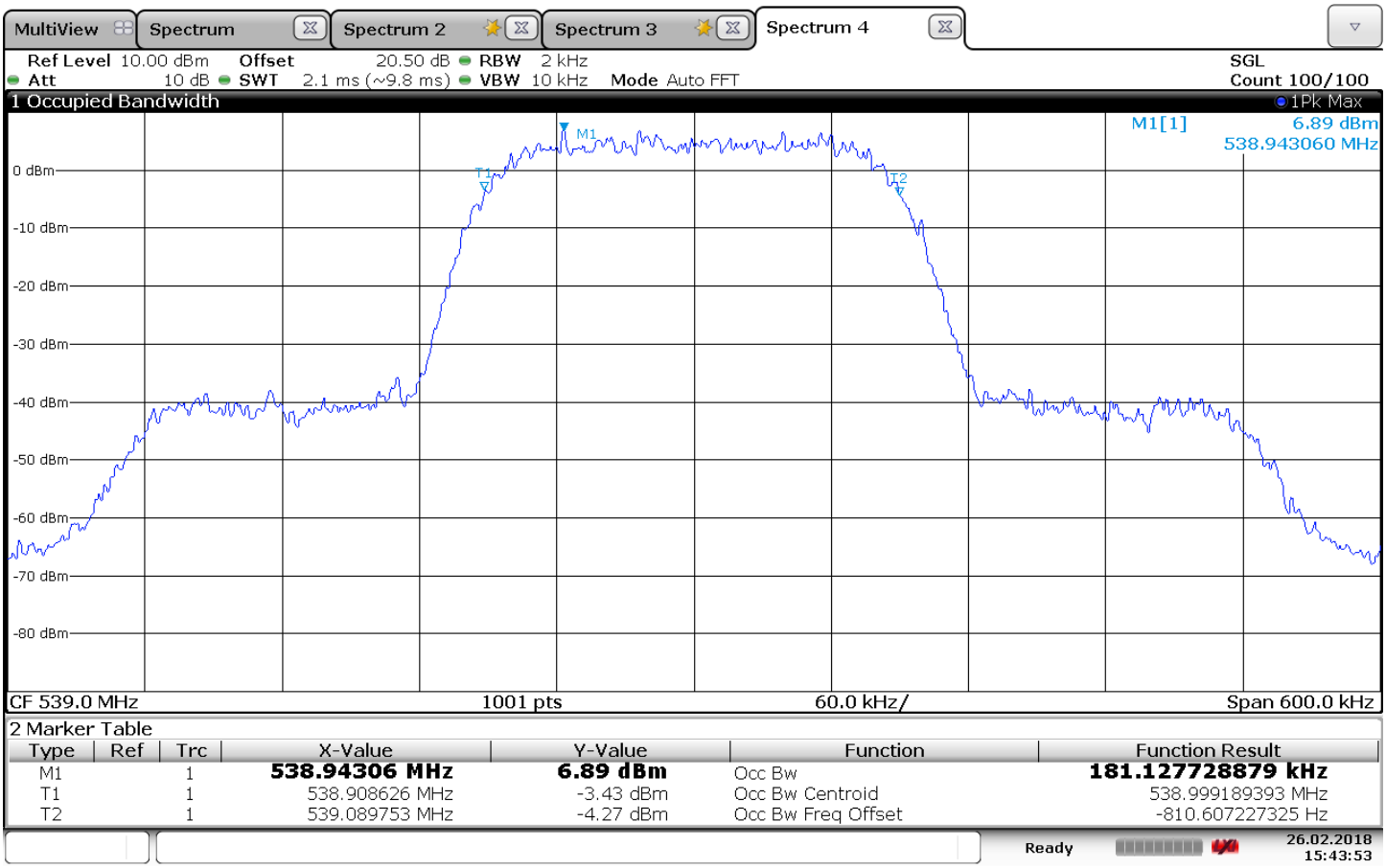


15:49:04 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	539.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

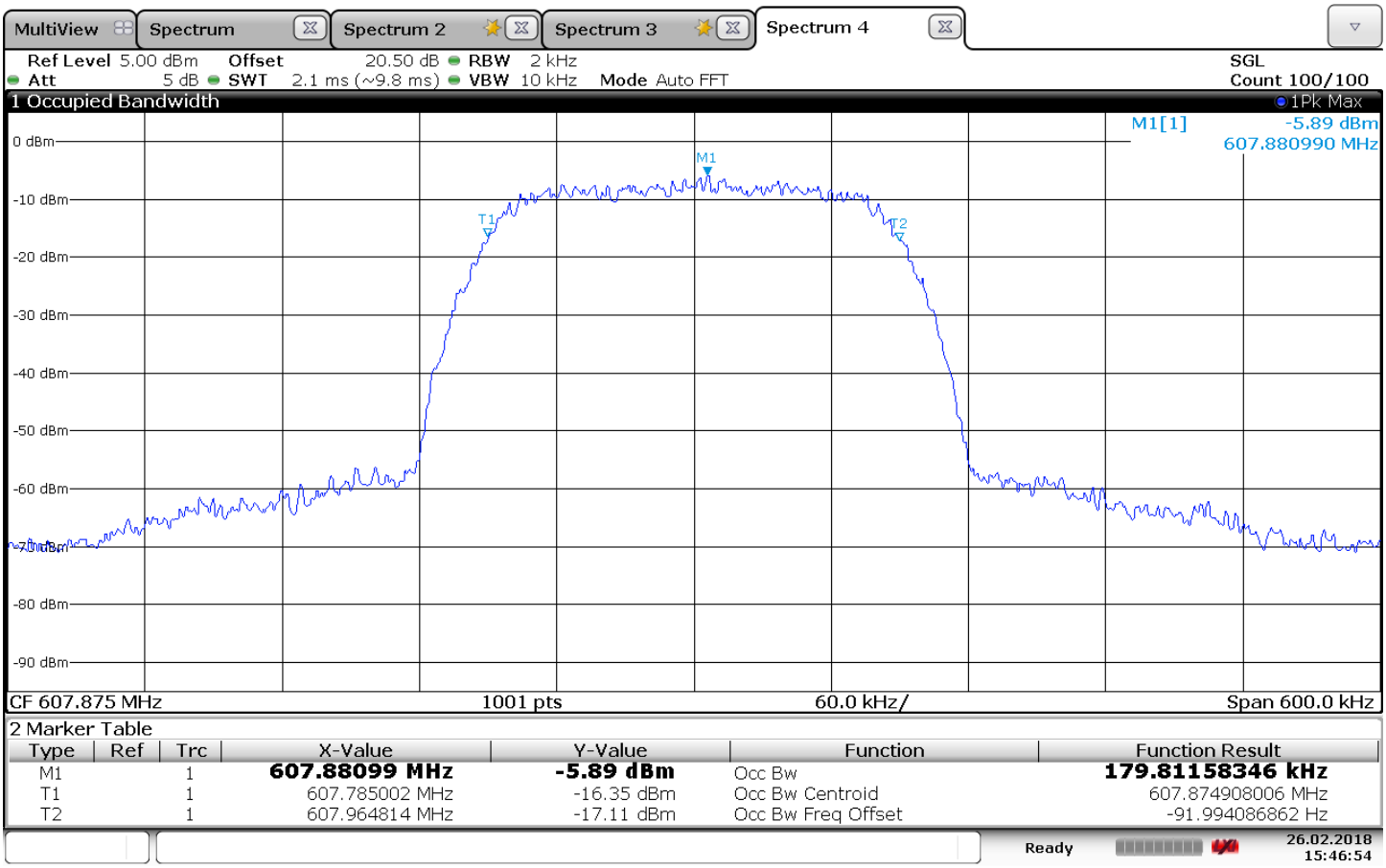


15:43:54 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	607.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

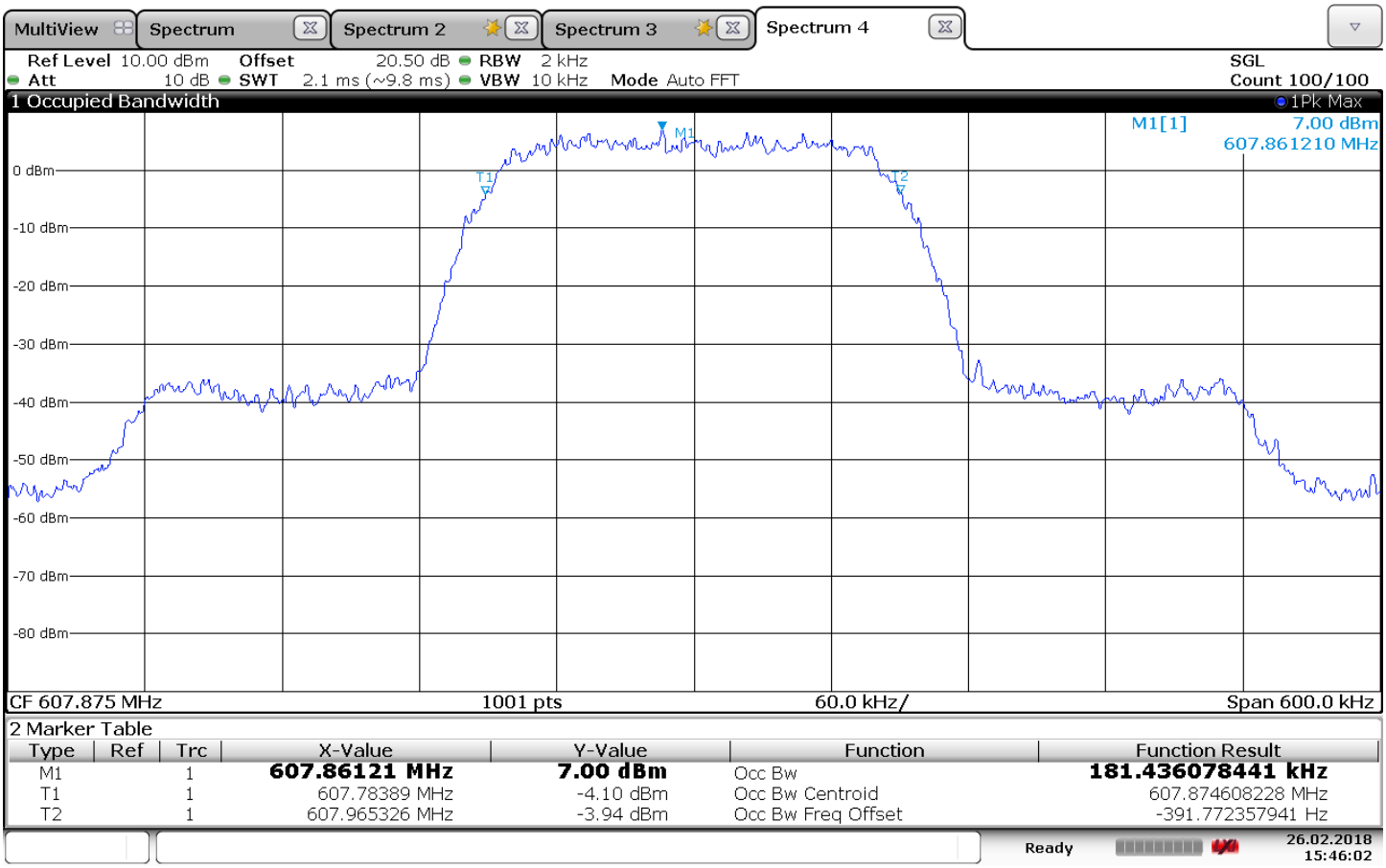


15:46:55 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	607.875 MHz, 40mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

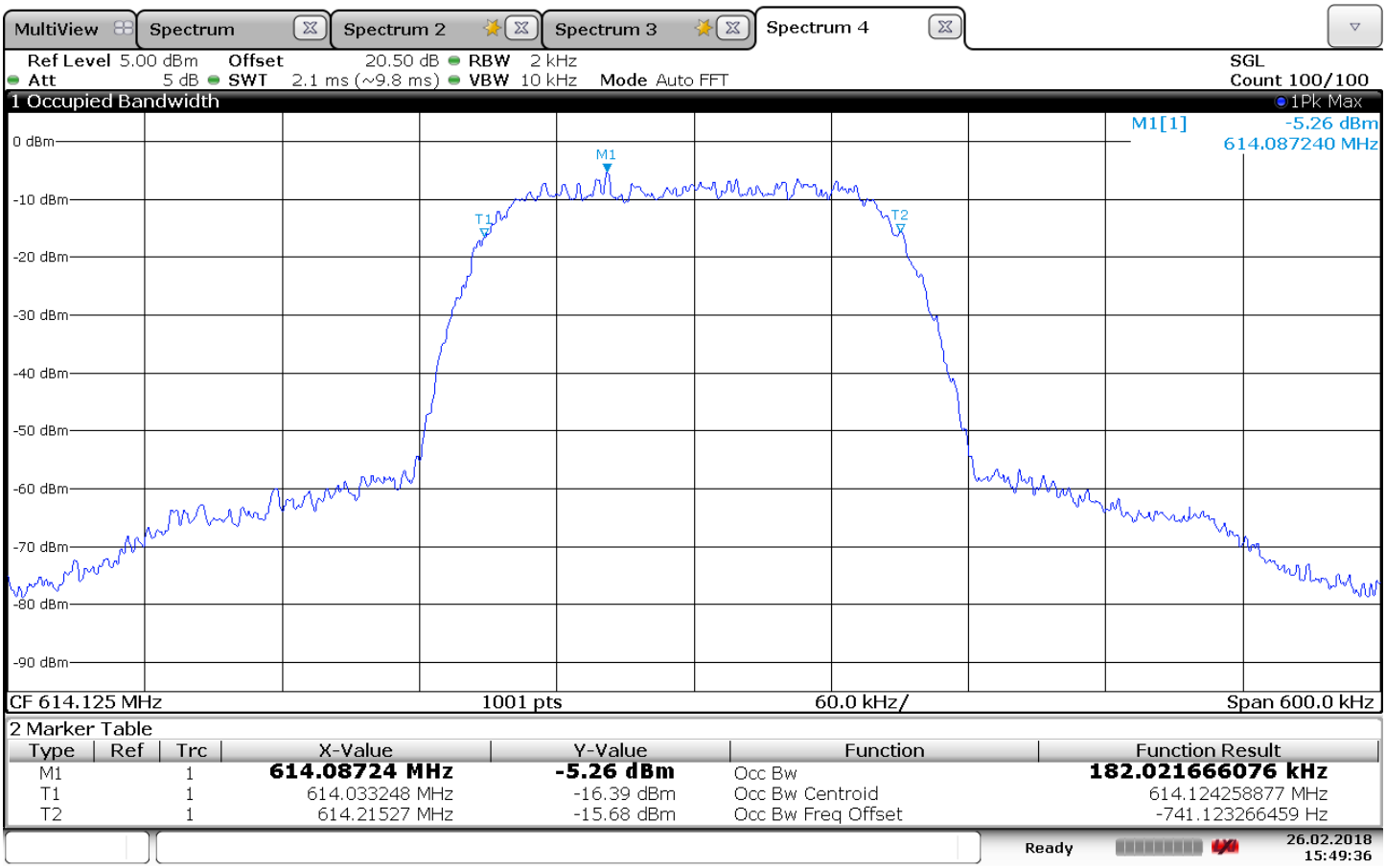


15:46:02 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	614.125 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

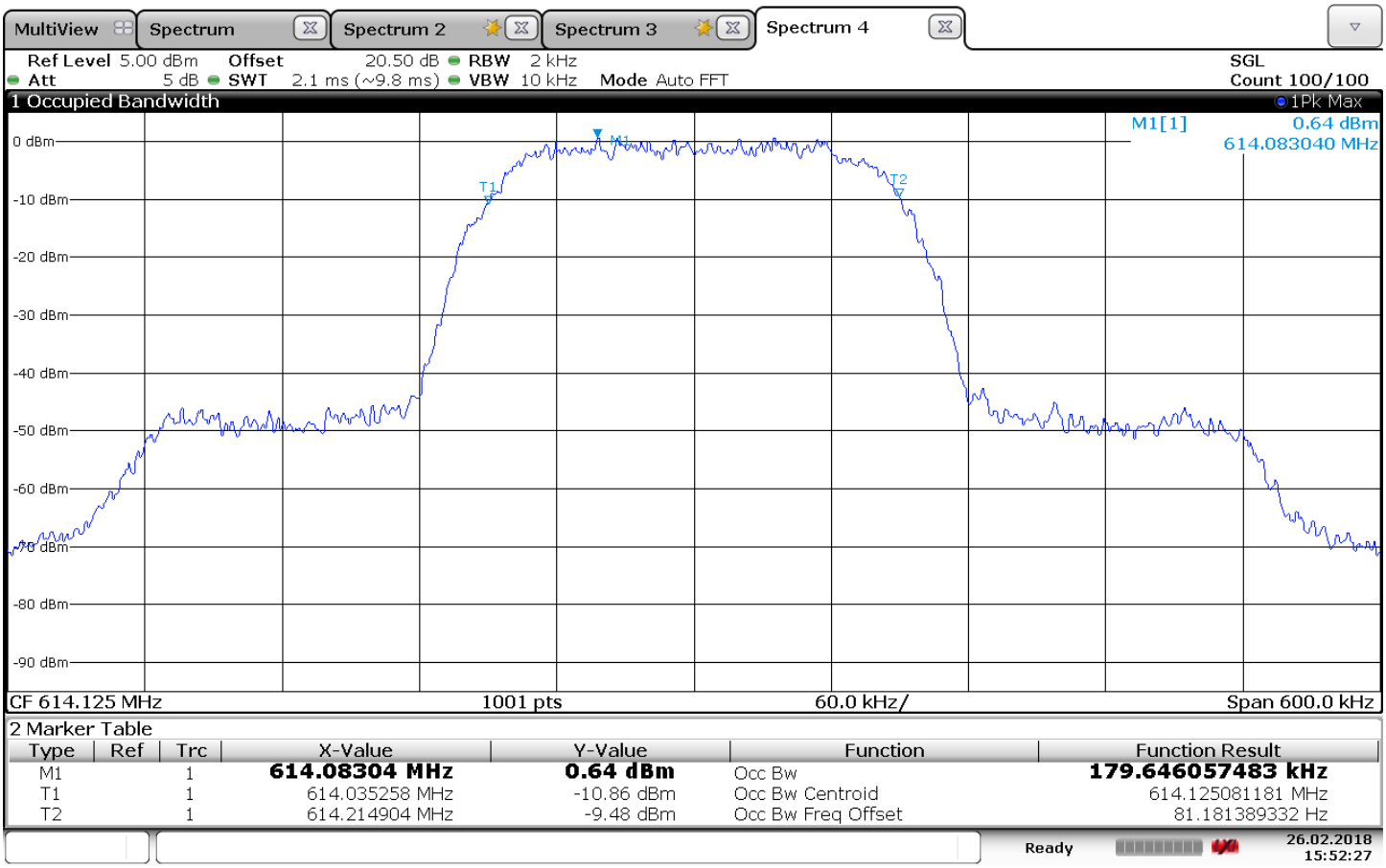


15:49:36 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	614.125 MHz, 10mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

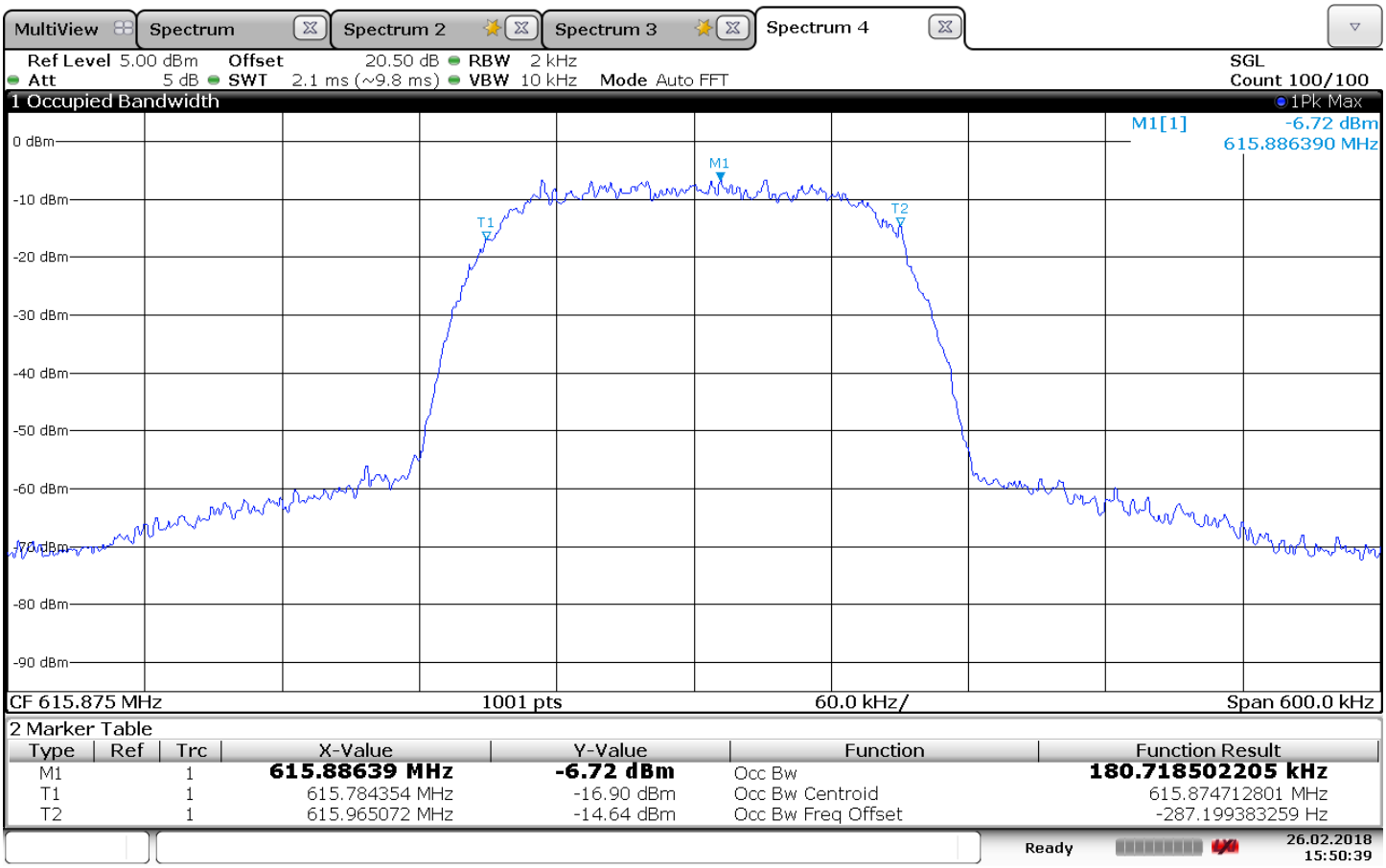


15:52:27 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	615.875 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

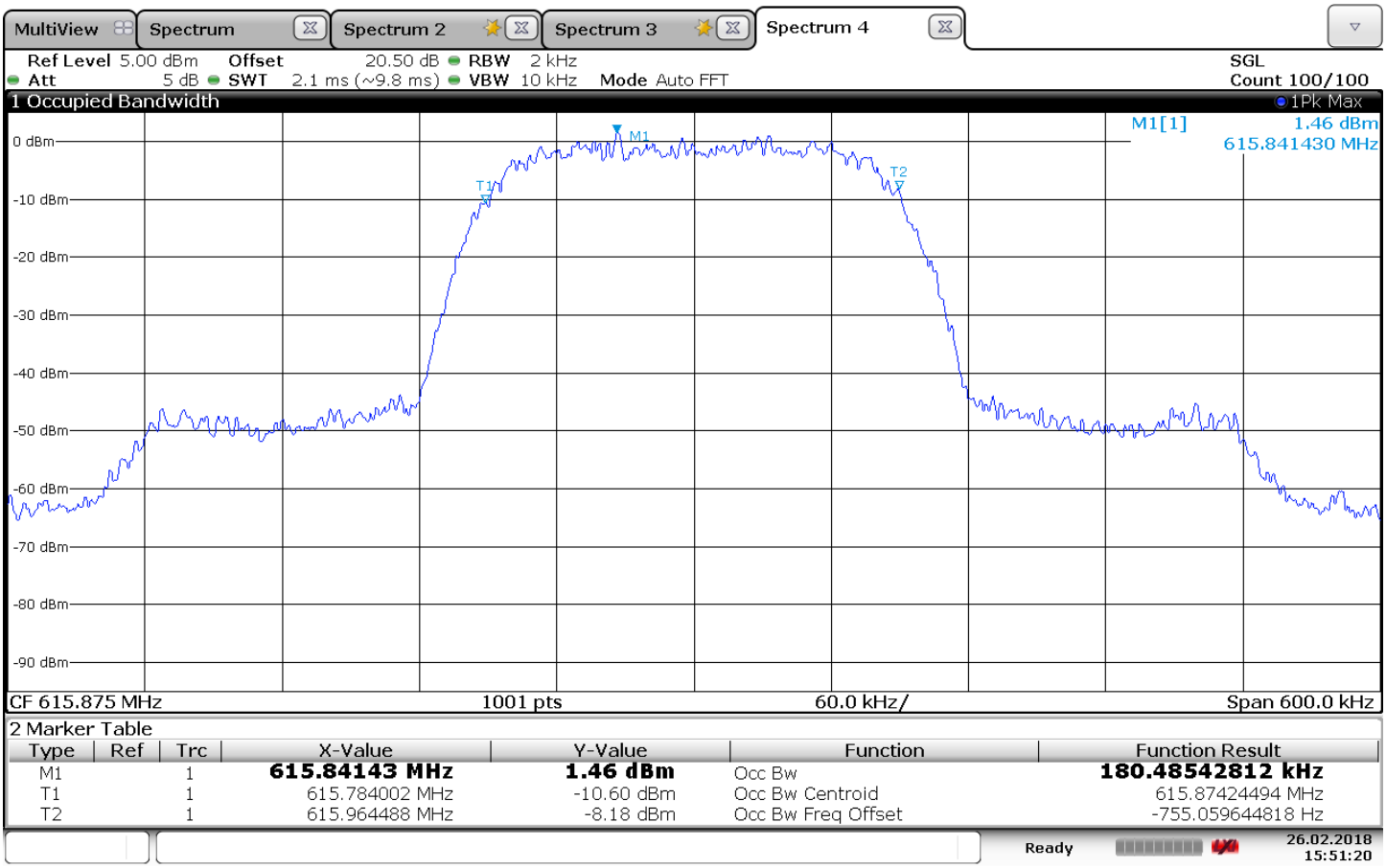


15:50:39 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 G57
Serial Number:	# 73
Test Description:	Occupied Bandwidth
Operating Conditions:	615.875 MHz, 10mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

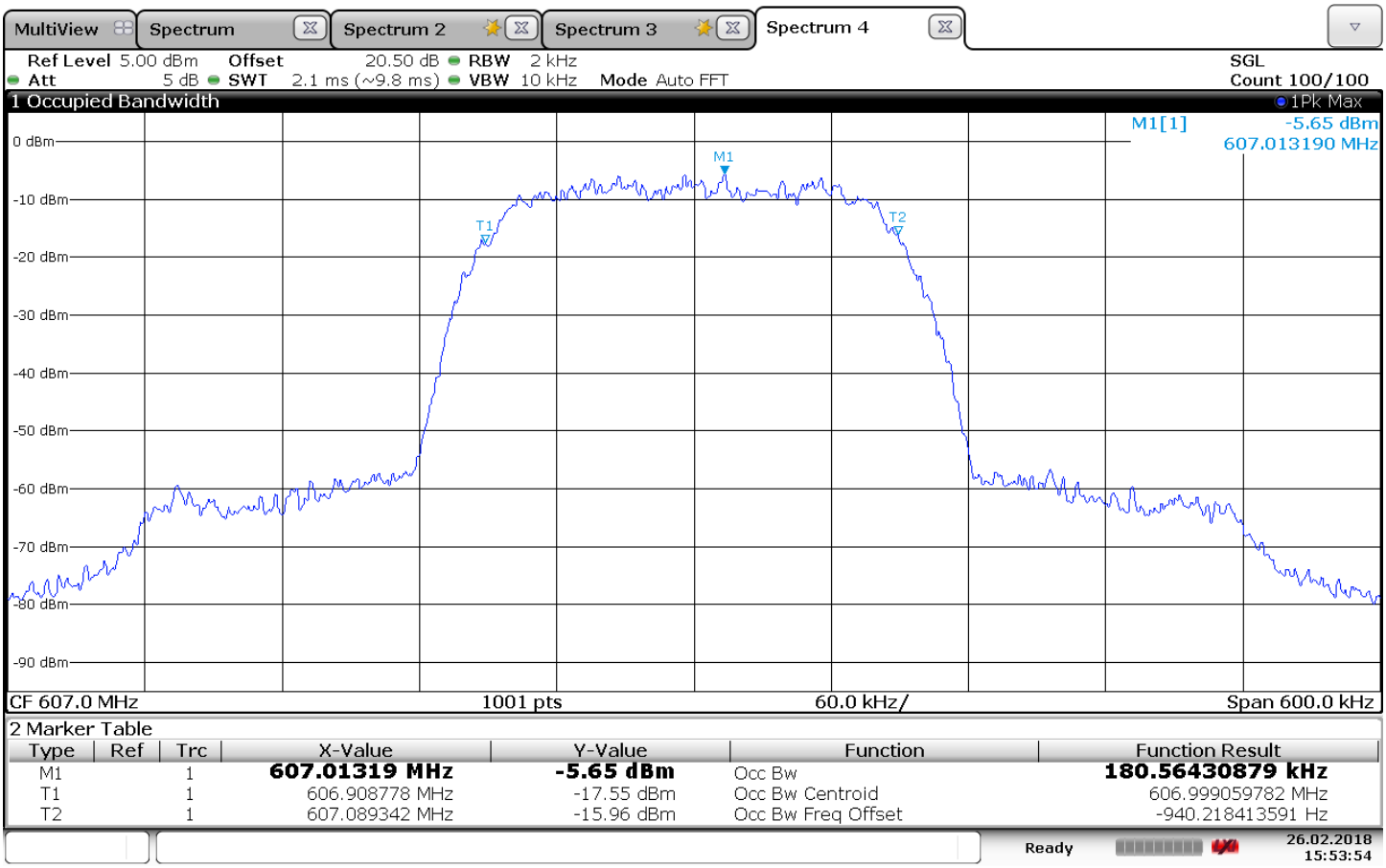


15:51:21 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	Occupied Bandwidth
Operating Conditions:	607.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

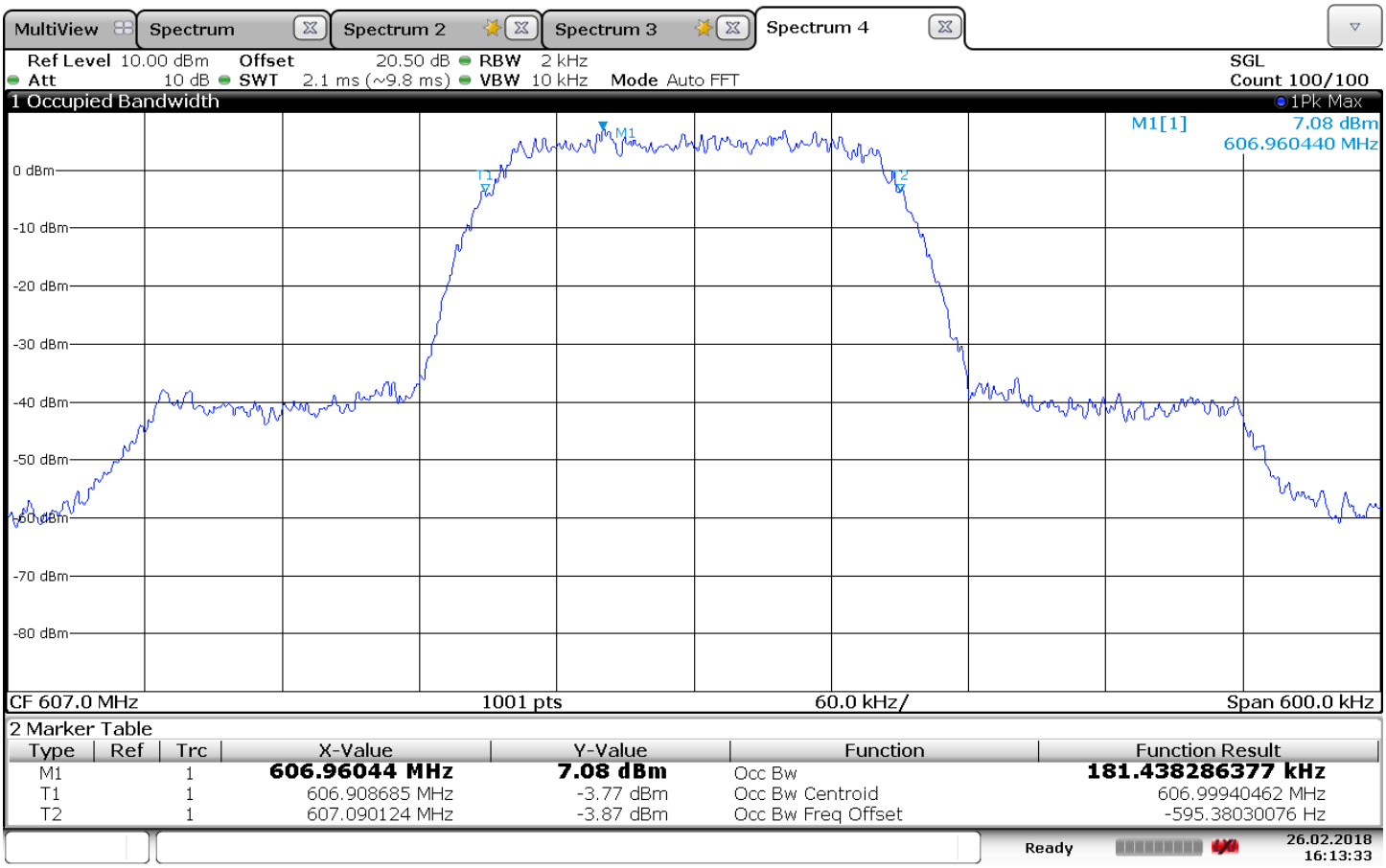


15:53:55 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	Occupied Bandwidth
Operating Conditions:	607.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

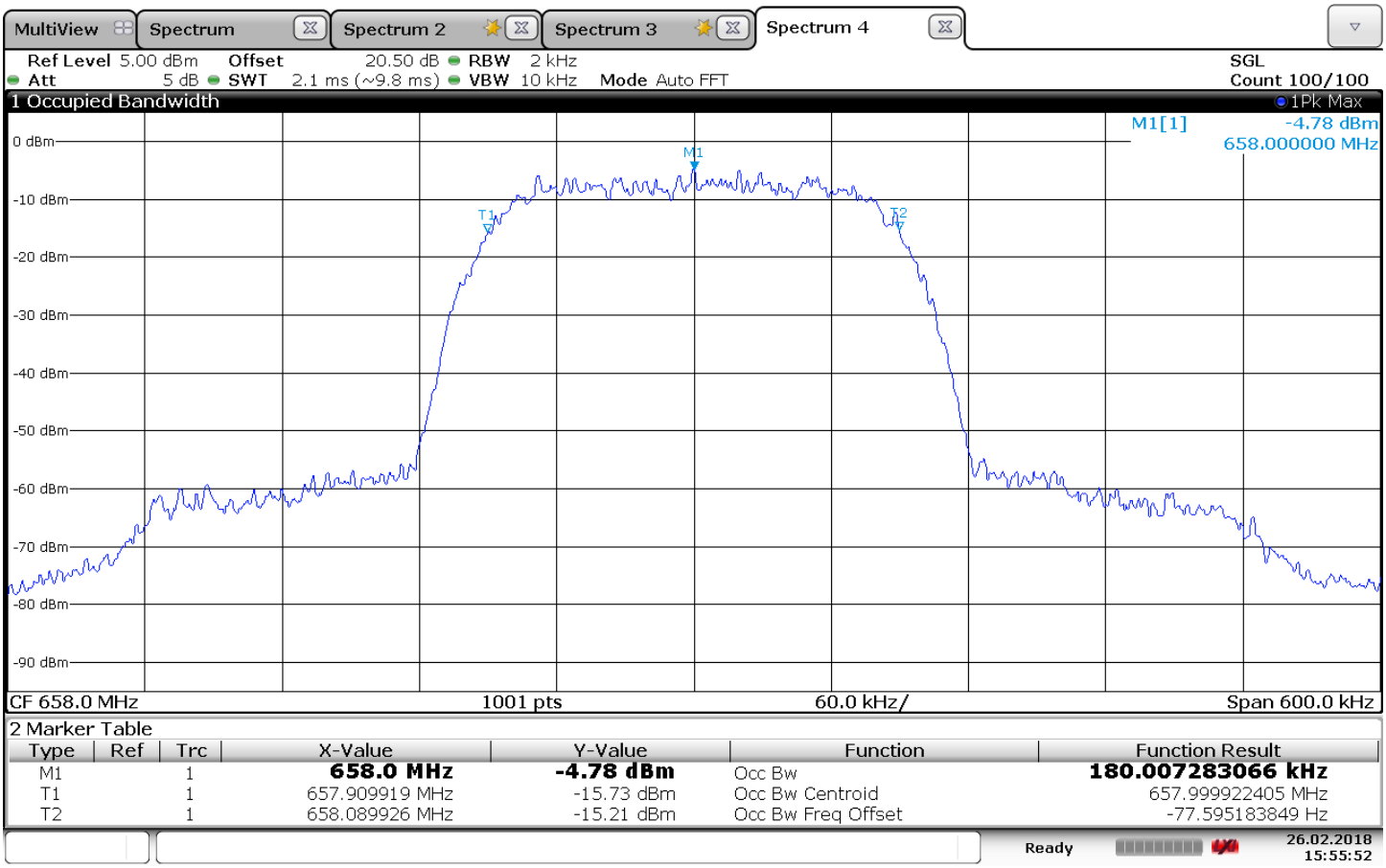


16:13:33 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	Occupied Bandwidth
Operating Conditions:	658.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

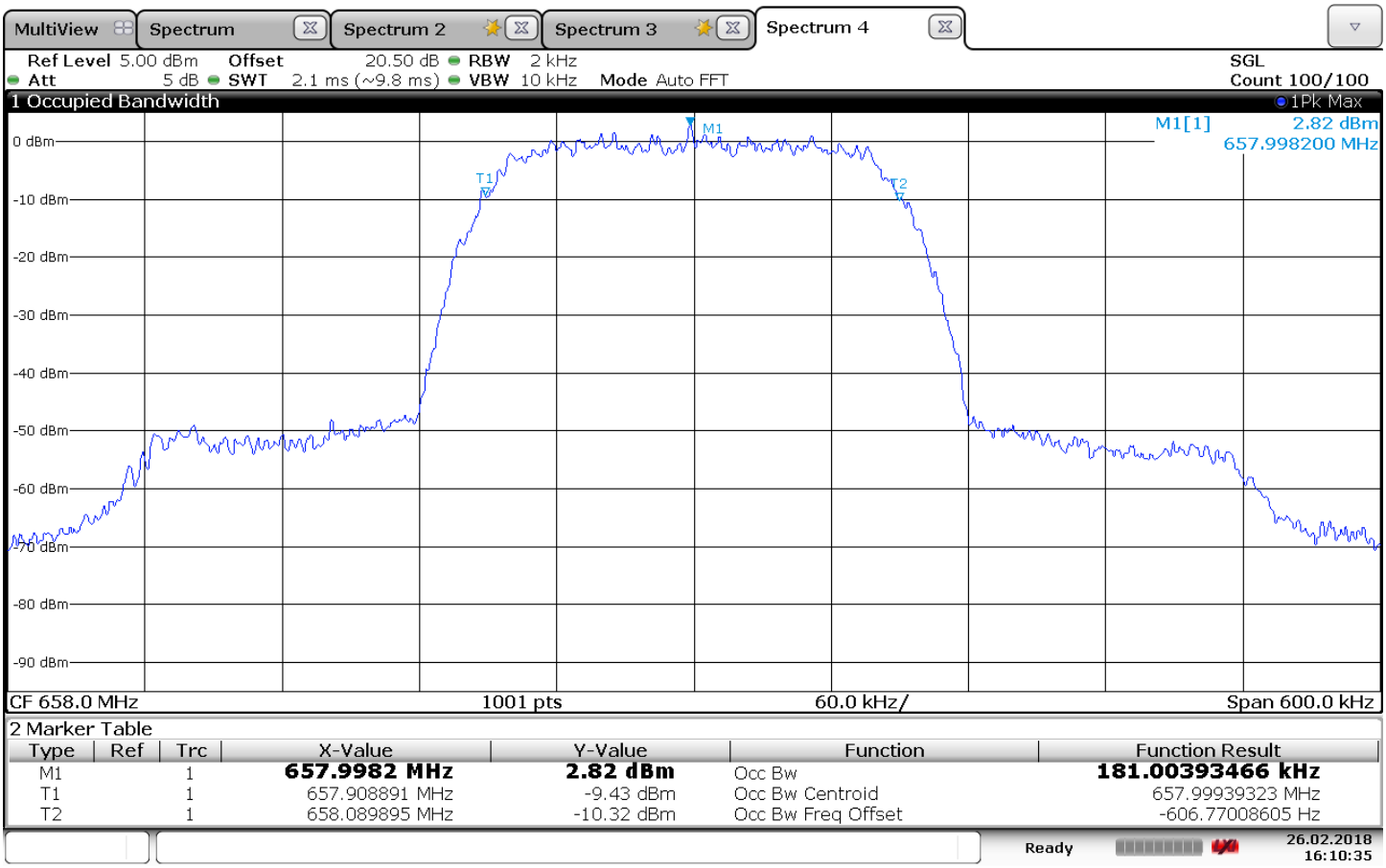


15:55:53 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	Occupied Bandwidth
Operating Conditions:	658.000 MHz, 10mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

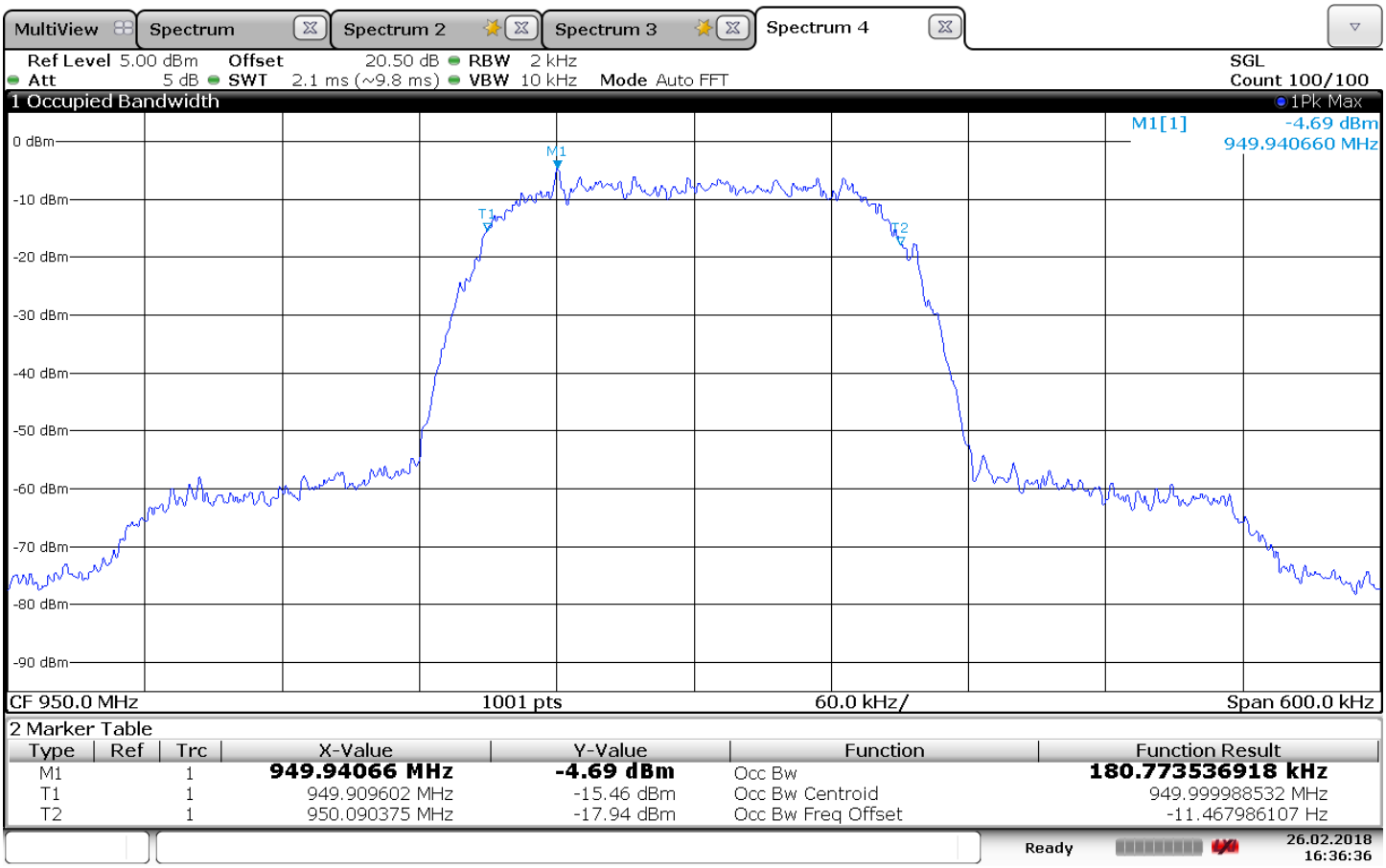


16:10:36 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 X55
Serial Number:	# 285
Test Description:	Occupied Bandwidth
Operating Conditions:	950.000 MHz, 2mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018

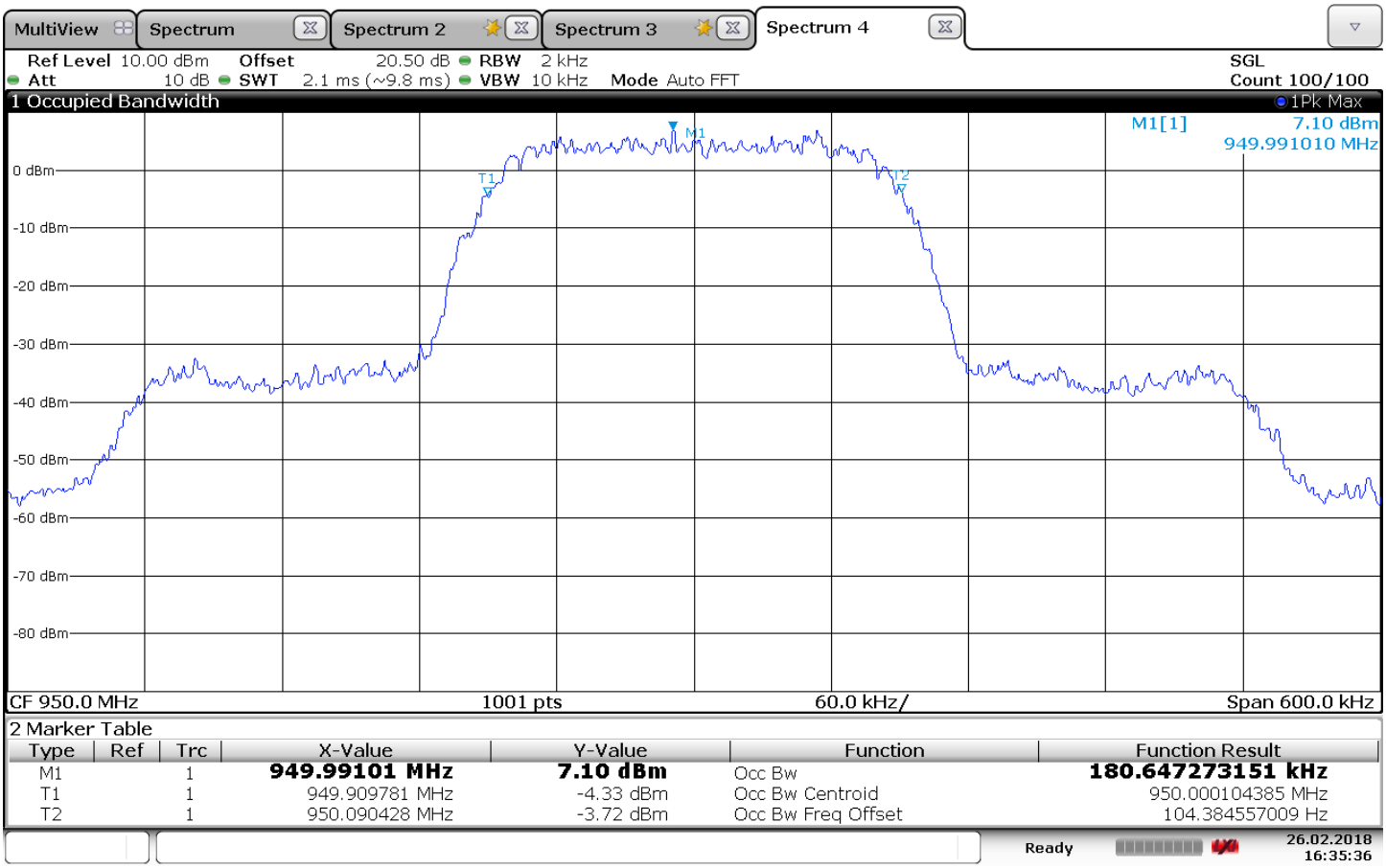


16:36:36 26.02.2018

Appendix B

Test Information

EUT Name:	ADX1 K54
Serial Number:	# 229
Test Description:	Occupied Bandwidth
Operating Conditions:	950.000 MHz, 40mW
Operator Name:	Brad McClain
Comment:	R & S FSW Spectrum Analyzer
Date Tested:	Tested on February 26, 2018



16:35:37 26.02.2018