TESTING CERT #3478.01

TEST REPORT

EUT Description	**WLAN and BT, 2x2 PCIe M.2 1216 SD adapter card**
Brand Name	**Intel® Dual Band Wireless-AC 8265**
Model Name	**8265D2W**
Serial Number	**TA#: J10070-002** **WF MAC: 34:13:E8:53:75:37 / 34:13:E8:53:75:05 / 34:13:E8:53:75:00** **BT MAC: 34:13:E8:53:75:3B / 34:13:E8:53:75:09 / 34:13:E8:53:75:04** (see section 4)
FCC ID	**FCC ID: PD98265D2**
Antenna type	**SkyCross WIMAX/WLAN Reference Antenna**
Hardware/Software Version	**HW: WsP1216 cfg15.2SD** **Test SW: DRTU 1.8.7-03036** **Op SW: 19.0.0.3**
Date of Sample Receipt	**2016-04-27**
Date of Test Start/End	**2016-05-10 / 2016-06-09**
Features	**802.11 a/b/g/n/ac Wireless LAN + BT 4.2** (see section 5)

Applicant	**Intel Mobile Communications**
Address	**100 Center Point Circle, Suite 200** **Columbia, South Carolina 29210** **USA**
Contact Person	**Steven Hackett**
Telephone/Fax/ Email	**steven.c.hackett@intel.com**

Reference Standards	**FCC CFR Title 47 Part 15E** (see section 1)

Test Report number	**160321-02.TR01**
Revision Control	**Rev.00**

The test results relate only to the samples tested.
The test report shall not be reproduced in full, without written approval of the laboratory.

Issued by

Digitally signed by Olivier FARGANT
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Table of Contents

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1. Standards, reference documents and applicable test methods

1. FCC 47 CFR part 15 – Subpart E – Unlicensed National Information Infrastructure Devices.
2. FCC 47 CFR part 15 - Subpart C – §15.209 Radiated emission limits; general requirements.
3. FCC OET KDB 789033 D02 General UNII Test Procedures New Rules – Guidelines for compliance testing of Unlicensed National Information Infrastructure (U-NII) Devices.
4. FCC OET KDB 644545 D03 Guidance for IEEE 802.11ac v01 - GUIDANCE FOR IEEE Std 802.11ac™ DEVICES EMISSION TESTING.
5. ANSI C63.10-2013 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

2. General conditions, competences and guarantees

- ✓ Intel Mobile Communications Wireless RF Lab (Intel WRF Lab) is a testing laboratory accredited by the American Association for Laboratory Accreditation (A2LA).
- ✓ Intel Mobile Communications Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm listed by the FCC, with Designation Number FR0011.
- ✓ Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
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- ✓ Intel WRF Lab has developed calibration and proficiency programs for its measurement equipment to ensure correlated and reliable results to its customers.
- ✓ This report is only referred to the item that has undergone the test.
- ✓ This report does not imply an approval of the product by the Certification Bodies or competent Authorities.
- ✓ Complete or partial reproduction of the report cannot be made without written permission of Intel WRF Lab.

3. Environmental Conditions

- ✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

Temperature	22ºC ± 4ºC
Humidity	50% ± 25%

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4. Test samples

Sample	Control #	Description	Model	Serial #	Date of reception	Note
#01	160321-02.S02	WiFi/BT Module	8265D2W	WF MAC: 34:13:E8:53:75:00 BT MAC: 34:13:E8:53:75:04	2016-04-27	Used for conducted tests
	160321-02.S12	Socket	D2W	8882-043	2016-04-27	
	160107-01.S13	Extender board	PCB00495	4955013-026	2016-01-07	
	15051101.S11	AC/DC Adapter	SPU60-102	07990499 1249	2015-05-12	
	15040201.S15	Laptop	DELL Latitude	9R8YN32	2015-04-30	
#02	160321-02.S03	WiFi/BT Module	8265D2W	WF MAC: 34:13:E8:53:75:05 BT MAC: 34:13:E8:53:75:09	2016-04-27	Used for radiated tests (from 30MHz to 1 GHz and 26.5GHz to 40GHz)
	160321-02.S13	Socket	D2W	8882-031	2016-04-27	
	160107-01.S11	Extender board	PC00495	4955013-097	2016-01-07	
	160107-01.S28	Laptop	Latitude E5440	BJSYN32	2016-01-15	
#03	160321-02.S01	WiFi/BT Module	8265D2W	WF MAC: 34:13:E8:53:75:37 BT MAC: 34:13:E8:53:75:3B	2016-04-27	Used for radiated tests (from 1GHz to 26.5GHz)
	160321-02.S11	Socket	D2W	8880-017	2016-04-27	
	160107-01.S12	Extender board	PC00495	4955013-034	2016-01-07	
	15051101.S09	Laptop	Dell E5440	9FSYN32	2015-05-12	

NA: Not Applicable

5. EUT features

These are the detailed bands and modes supported by the Equipment Under Test:

802.11b/g/n	2.4GHz (2400.0 – 2483.5 MHz)
802.11a/n/ac	5.2GHz (5150.0 – 5250.0 MHz) 5.3GHz (5250.0 – 5350.0 MHz) 5.6GHz (5470.0 – 5725.0 MHz) 5.8GHz (5725.0 – 5850.0 MHz)
BDR/EDR/BLE 4.2	2.4GHz (2400.0 – 2483.5 MHz)

6. Remarks and comments

N/A

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7. Test Verdicts summary

7.1. 802.11 a/n/ac – U-NII-1

FCC part	Test name	Verdict
15.407 (a) (1)	Power Limits. Maximum output power	P
15.407 (a) (1)	Peak power spectral density	P
15.407 (b) (1) 15.209	Undesirable emissions limits: Band Edge (conducted)	P
15.407 (b) (1) 15.209	Undesirable emissions limits (radiated)	P

7.2. 802.11 a/n/ac – U-NII-2A

FCC part	Test name	Verdict
15.407 (a) (2)	Power Limits. Maximum output power	P
15.407 (a) (2)	Peak power spectral density	P
15.407 (b) (2) 15.209	Undesirable emissions limits: Band Edge (conducted)	P
15.407 (b) (2) 15.209	Undesirable emissions limits (radiated)	P

P: Pass
F: Fail
NM: Not Measured
NA: Not Applicable

8. Document Revision History

Revision #	Date	Modified by	Details
Rev. 00	2016-06-14	G.Gerbaud M. Lefebvre F. Sauvan	First Issue

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Annex A.Test & System Description

A.1 Test Conditions

For 802.11a mode the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, but not simultaneously.

For 802.11n20 (20 MHz channel bandwidth), 802.11n40 (40MHz channel bandwidth) and 802.11ac80 (80MHz channel bandwidth) modes the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, and also simultaneously.

The conducted RF output power at chain A was adjusted according to the client's supplied Target values (see following table) using the Intel DRTU tool and measuring the power by using a spectrum analyzer with the channel integration method according to point II) E) 2) e) (Method SA-2 Alternative) of Guidance 789033 D02.
Measured values for adjustment were within -0.2 dB/+0.3 dB from the declared Target values.

U-NII-1

					Conducted Power, Target Value (dBm)		
Mode	**BW (MHz)**	**Data Rate**	**CH #**	**Freq. (MHz)**	**SISO Chain A**	**SISO Chain B**	**MIMO at both ports A and B**
802.11a	20	6Mbps	36	5180	18.0	18.5	N/A
			40	5200	21.5	20.5	N/A
			48	5240	21.0	21.0	N/A
802.11n	20	HT0 HT8*	36	5180	18.0	17.5	16.0
			40	5200	20.5	20.5	18.5
			48	5240	20.5	20.5	18.0
	40	HT0 HT8*	38F	5190	18.0	18.5	13.0
			46F	5230	21.0	21.0	18.0
802.11ac	80	VHT0	42ac80	5210	14.0	14.0	12.5

U-NII-2A

					Conducted Power, Target Value (dBm)		
Mode	**BW (MHz)**	**Data Rate**	**CH #**	**Freq. (MHz)**	**SISO Chain A**	**SISO Chain B**	**MIMO at both ports A and B**
802.11a	20	6Mbps	52	5260	20.0	21.0	N/A
			60	5300	20.5	20.5	N/A
			64	5320	16.0	16.0	N/A
802.11n	20	HT0 HT8*	52	5260	20.5	21.0	19.0
			60	5300	20.5	20.5	18.5
			64	5320	16.0	16.5	15.5
	40	HT0 HT8*	54F	5270	20.0	20.0	19.0
			62F	5310	14.5	15.0	11.5
802.11ac	80	VHT0	58ac80	5290	12.0	11.5	10.5

The following data rates were selected based on preliminary testing that identified those rates as the worst cases for output power and spurious levels at the band edges:

802.11a → 6Mbps
802.11n20 and 802.11n40 (SISO) → HT0
802.11n20 and 802.11n40 (MIMO) → HT8
802.11ac80 (SISO) → VHT0
802.11ac80 (MIMO) → VHT0

Alternative channels to the lowest and highest channels per band have been also tested for Band Edge compliance.

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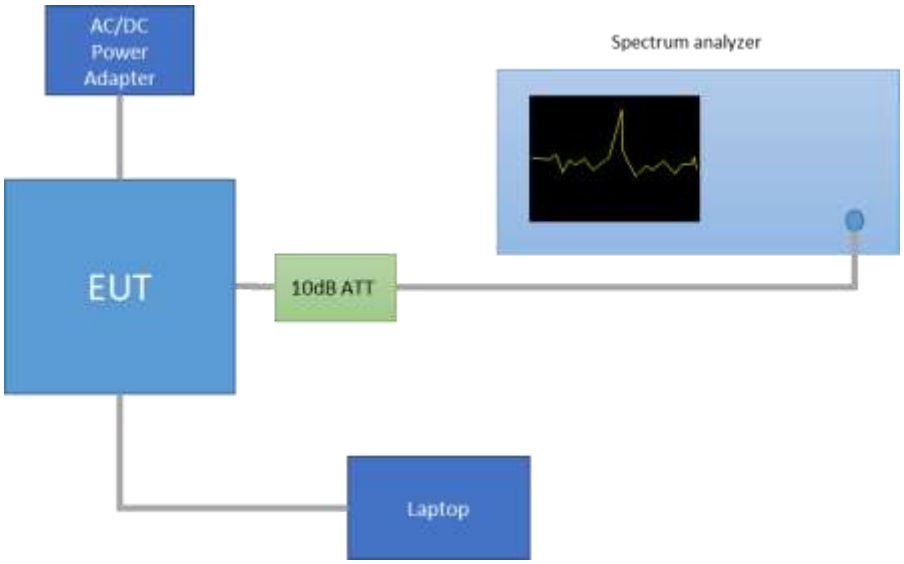
A.2 Measurement system

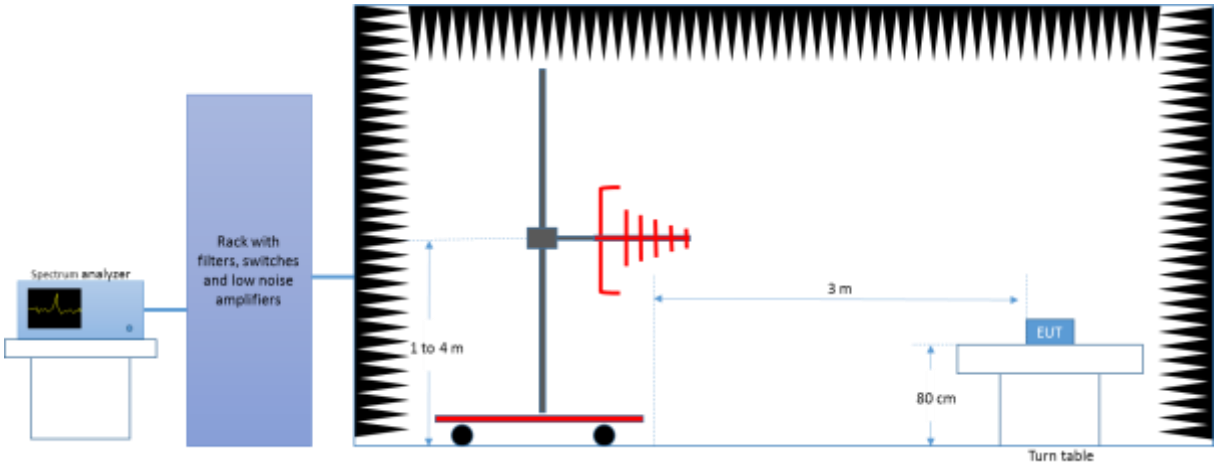
Measurements were performed using the following setups, made in accordance to the general provisions of FCC KDB 789033 D02 General UNII Test Procedures.

The DUT was installed in a test fixture and this test fixture is connected to a laptop computer and AC/DC power adapter. The laptop computer was used to configure the EUT to continuously transmit at a specified output power using all different modes and modulation schemes, using the Intel proprietary tool DRTU.

Conducted Setup



Radiated Setup < 1GHz



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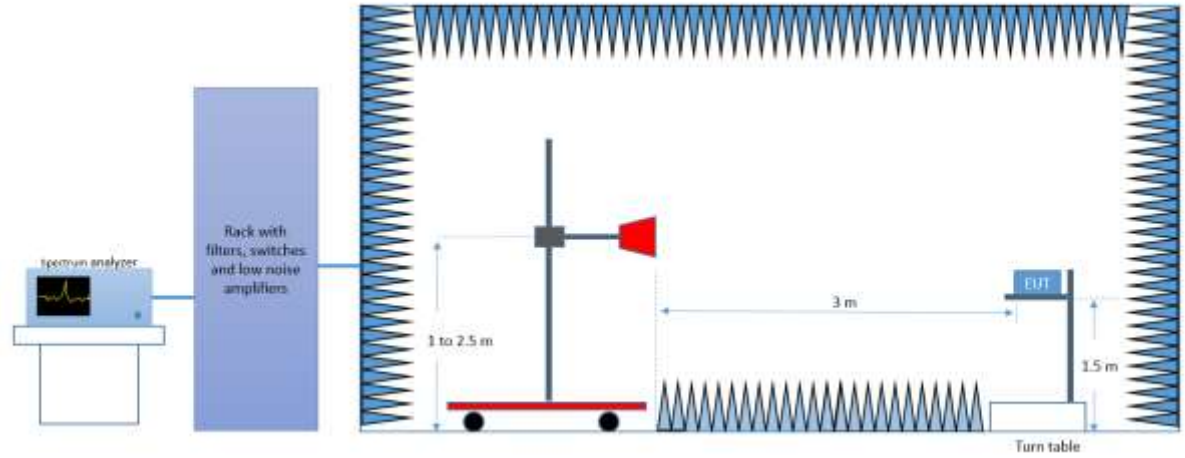
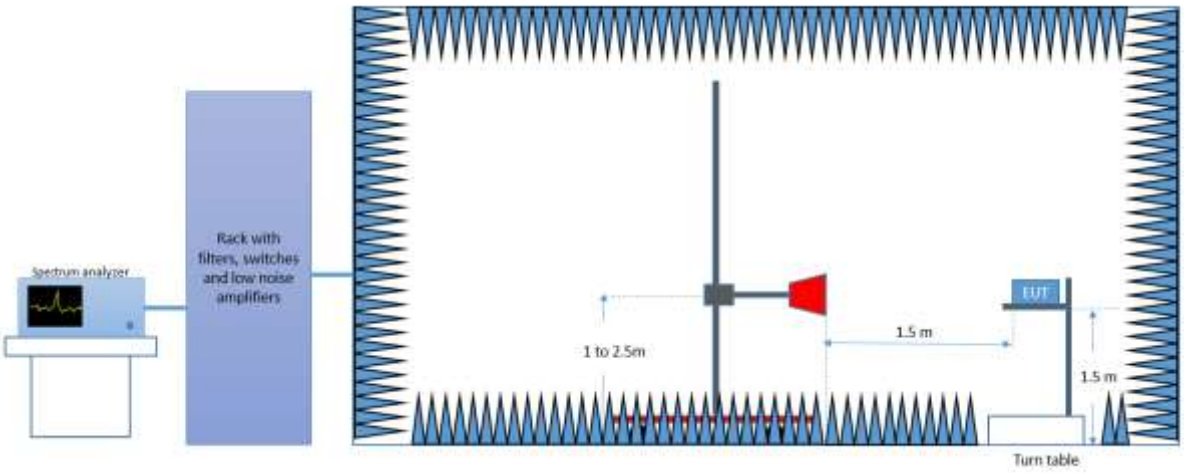
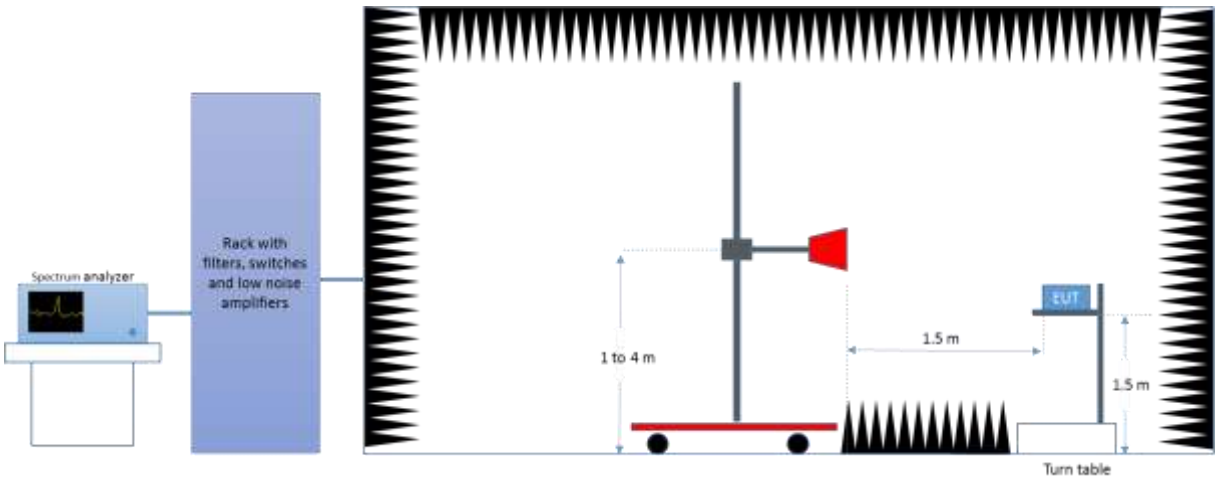
Radiated Setup 1 GHz - 18 GHz



Radiated Setup 18 GHz - 26.5 GHz



Radiated Setup > 26.5 GHz



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A.3 Test Equipment List

Conducted Setup

ID#	Device	Type/Model	Serial Number	Manufacturer	Cal. Date	Cal. Due Date
0310	Spectrum analyzer	FSV40	101425	Rohde & Schwarz	2015-03-25	2017-03-25

Radiated Setup

ID#	Device	Type/Model	Serial Number	Manufacturer	Cal. Date	Cal. Due Date
0133	Spectrum analyzer	FSV40	101358	Rohde & Schwarz	2016-04-15	2018-04-15
0258	Spectrum analyzer	FSV30	101318	Rohde & Schwarz	2016-04-27	2018-04-27
0137	Log antenna 30 MHz – 1 GHz	3142E	00156946	ETS Lindgren	2015-12-11	2017-12-11
0138	Horn antenna 1 GHz – 6.4 GHz	3117	00157734	ETS Lindgren	2016-03-14	2018-03-14
0343	Horn Antenna 6.4 GHz – 18 GHz	3117-PA	00201542	ETS Lindgren	2015-07-16	2017-07-16
0334	Horn Antenna 10 GHz – 40 GHz	3116C	00169308	ETS Lindgren	2015-07-15	2017-07-15
0139	Horn Antenna 18 GHz - 26.5 GHz	114514	00167100	ETS Lindgren	2014-08-14	2016-08-14
0140	Horn Antenna 26.5 GHz - 40 GHz	120722	00169638	ETS Lindgren	2016-03-16	2018-03-16
0135	Semi Anechoic chamber	FACT 3	5720	ETS Lindgren	2016-04-28	2018-04-28
0337	Full Anechoic chamber	RFD_FA_100	5996	ETS Lindgren	2016-04-28	2018-04-28
0329	Measurement Software	EMC32	1300.7027.00 (100401)	Rohde & Schwarz	N/A	N/A
N/A	Measurement Software	EMC32	012109650000013B (009977)	Rohde & Schwarz	N/A	N/A

A.4 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the below table:

Measurement type	Uncertainty [±dB]
Conducted Power	±1.0
Conducted Spurious Emission	±2.9
Radiated tests <1GHz	±3.8
Radiated tests 1GHz - 40 GHz	±4.7

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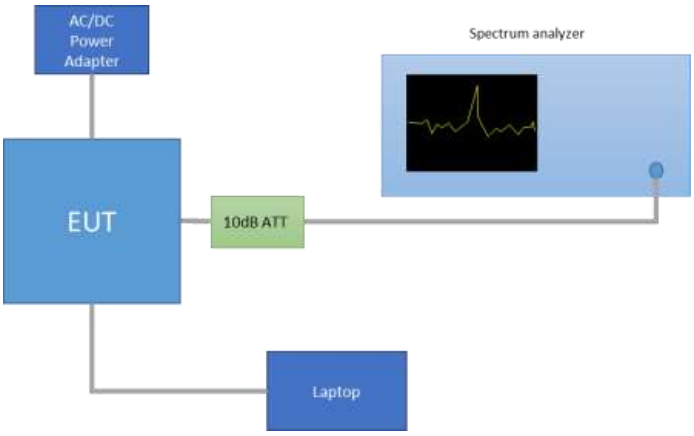
Annex B.Test Results UNII-1

B.1 26dB & 99% Bandwidth

Test procedure

The setup below was used to measure the 26dB & 99% Bandwidth. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.



Results tables

Mode	Rate	Antenna	Channel	Frequency [MHz]	26dB BW [MHz]	99% BW [MHz]
802.11a	6Mbps	SISO CHAIN A	36	5180	23.00	16.56
			40	5200	33.55	21.52
			48	5240	**33.75**	**21.56**
		SISO CHAIN B	36	5180	23.15	16.60
			40	5200	32.50	19.24
			48	5240	33.20	20.68
802.11n20	HT0	SISO CHAIN A	36	5180	23.20	17.72
			40	5200	31.90	**19.80**
			48	5240	33.40	19.52
		SISO CHAIN B	36	5180	23.35	17.68
			40	5200	31.25	19.60
			48	5240	**33.55**	19.72
802.11n20	HT8	MIMO CHAIN A	36	5180	24.00	17.76
			40	5200	26.60	18.00
			48	5240	26.95	18.04
		MIMO CHAIN B	36	5180	23.15	17.68
			40	5200	25.25	17.92
			48	5240	25.55	18.04

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Mode	Rate	Antenna	Channel	Frequency [MHz]	26dB BW [MHz]	99% BW [MHz]
802.11n40	HT0	SISO CHAIN A	38F	5190	45.54	36.32
			46F	5230	55.53	37.44
		SISO CHAIN B	38F	5190	45.81	36.40
			46F	5230	**58.50**	**37.68**
	HT8	MIMO CHAIN A	38F	5190	44.91	36.32
			46F	5230	48.24	36.48
		MIMO CHAIN B	38F	5190	44.37	36.16
			46F	5230	45.45	36.24
802.11ac80	VHT0	SISO CHAIN A	42ac80	5210	85.88	75.00
		SISO CHAIN B	42ac80	5210	85.88	75.00
	VHT0	MIMO CHAIN A	42ac80	5210	85.69	75.00
		MIMO CHAIN B	42ac80	5210	83.60	74.88

Max Value

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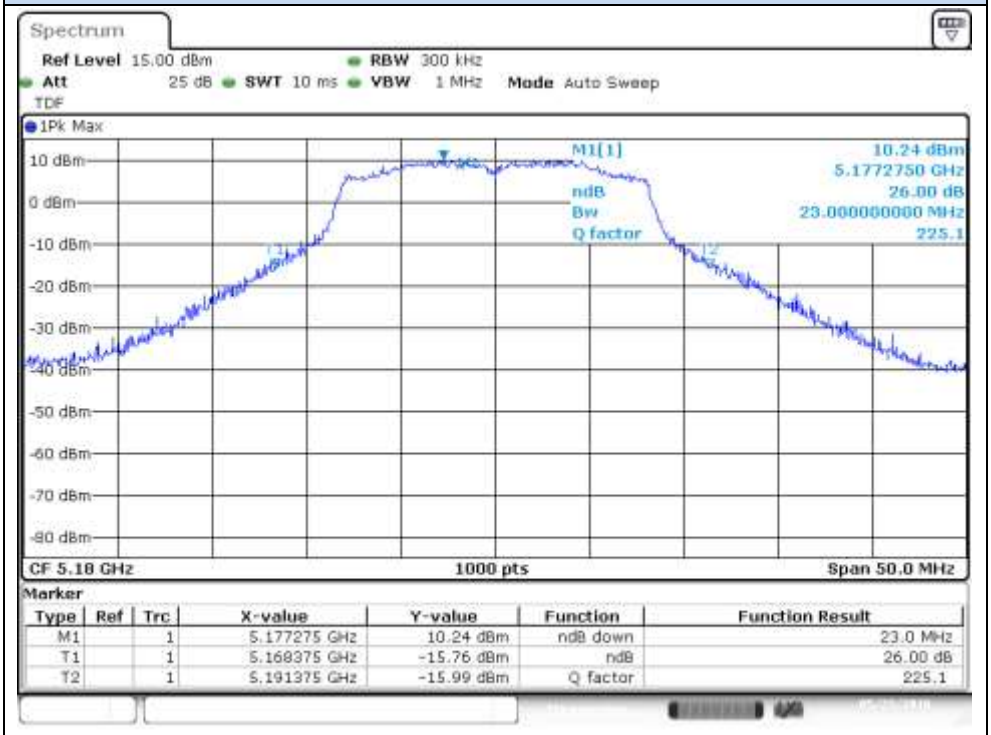
Results screenshot

802.11a, 6Mbps – SISO - Chain A

26dB BW – CH36



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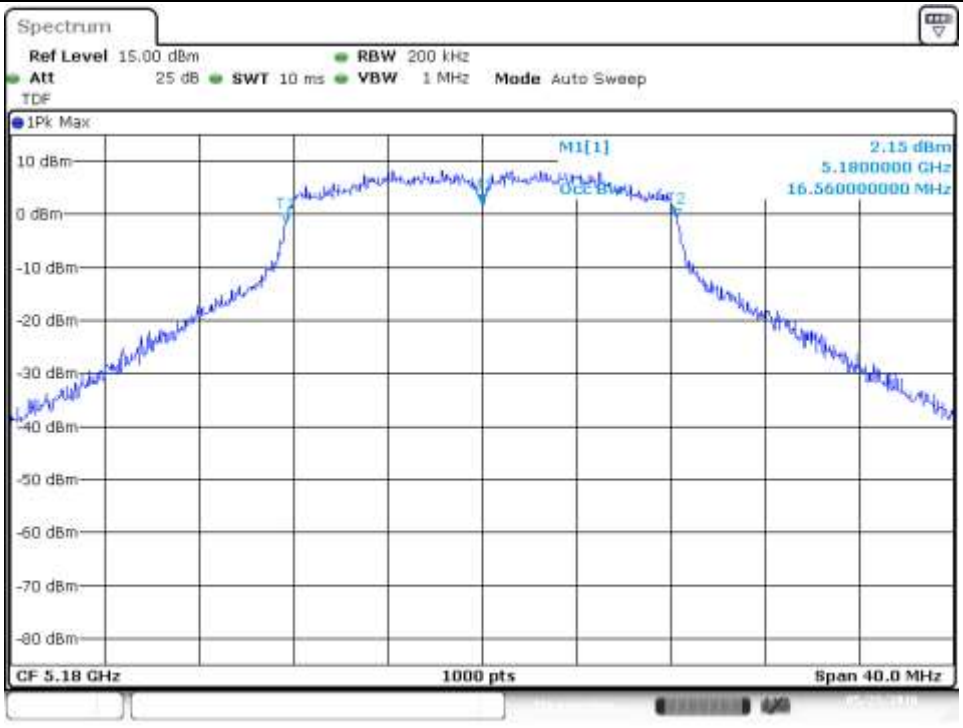
99% BW – CH36



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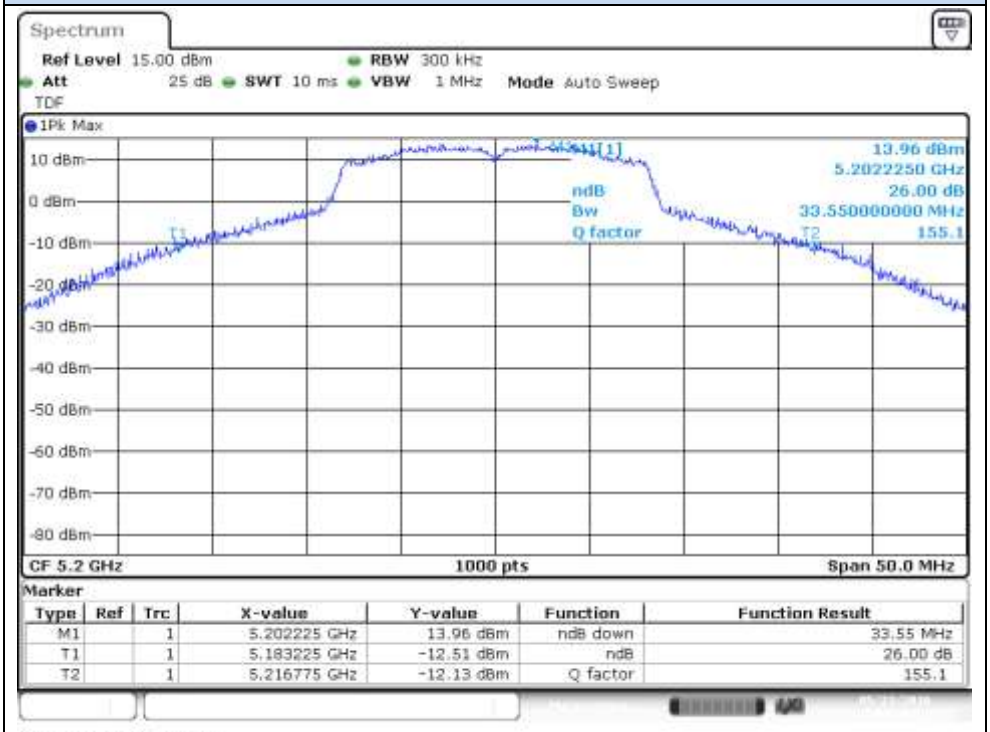
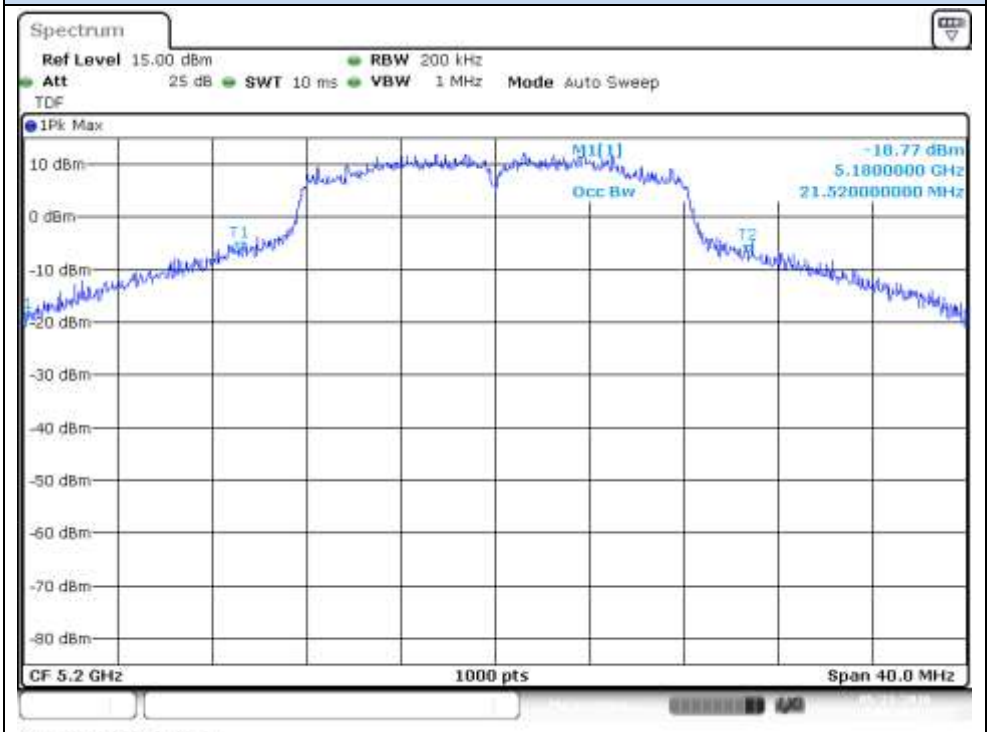
26dB BW – CH40



99% BW – CH40



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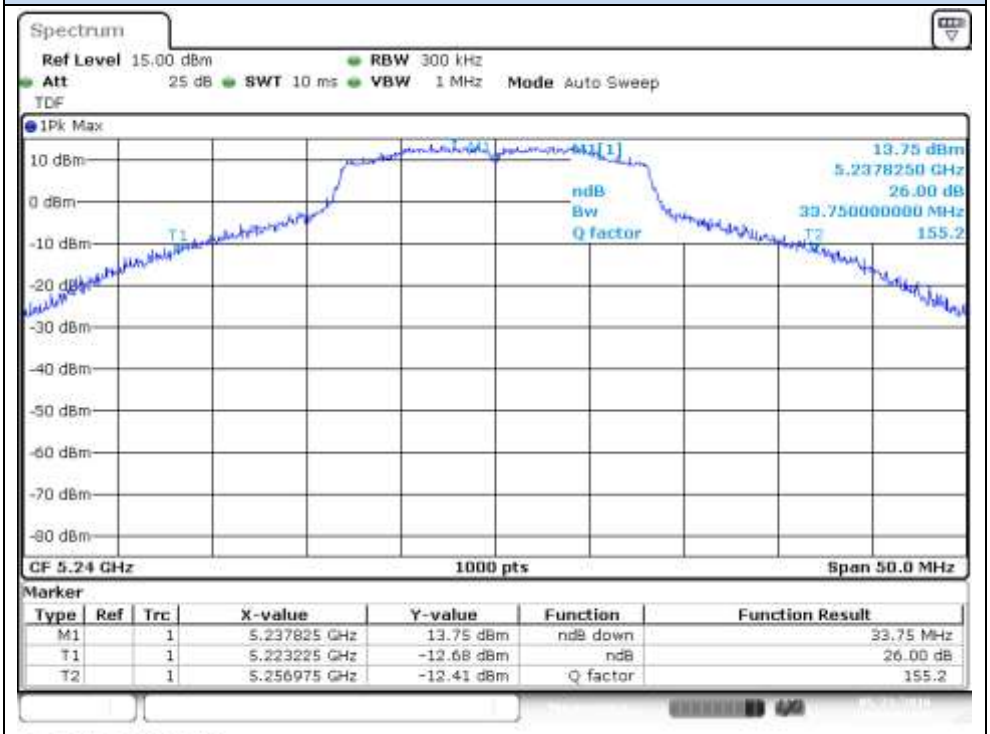
26dB BW – CH48



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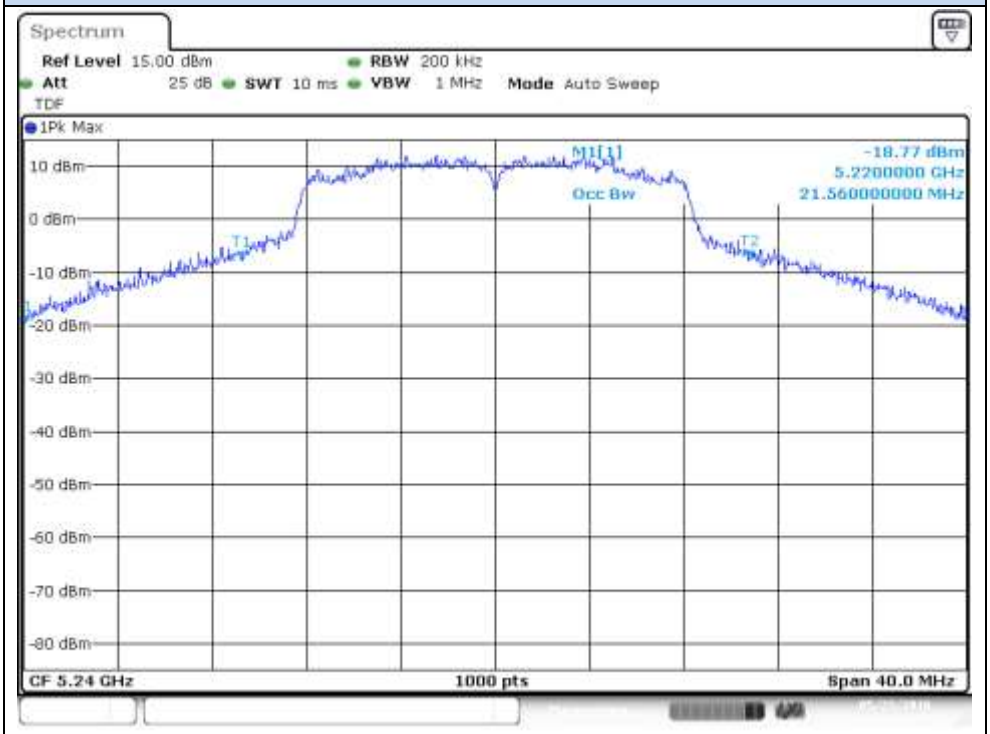
99% BW – CH48



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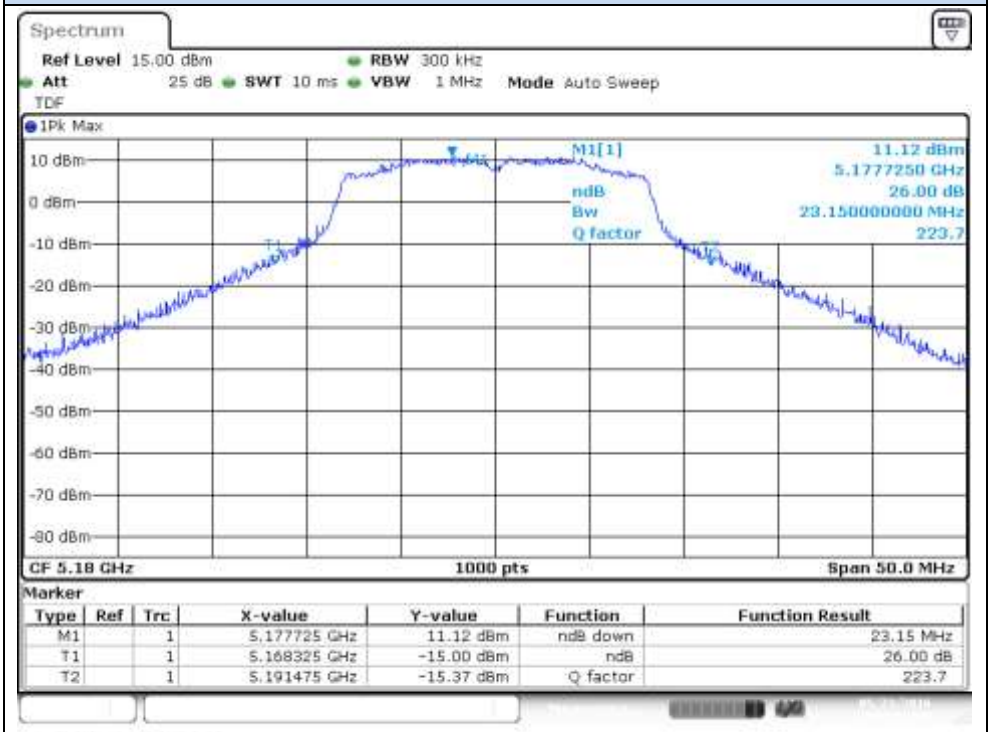
802.11a, 6Mbps – SISO - Chain B

26dB BW – CH36



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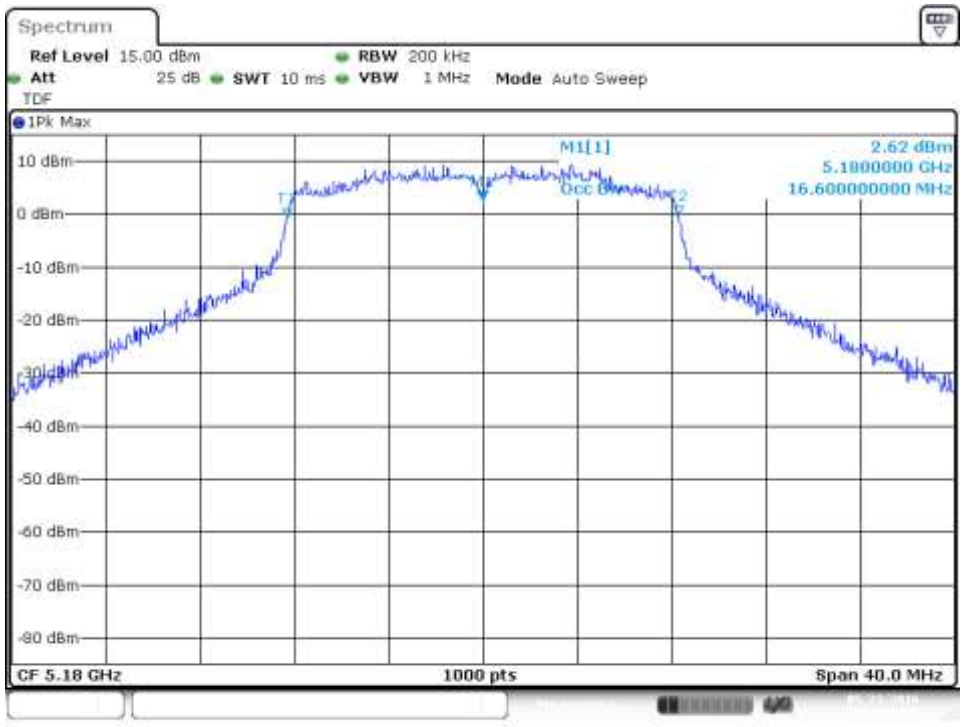

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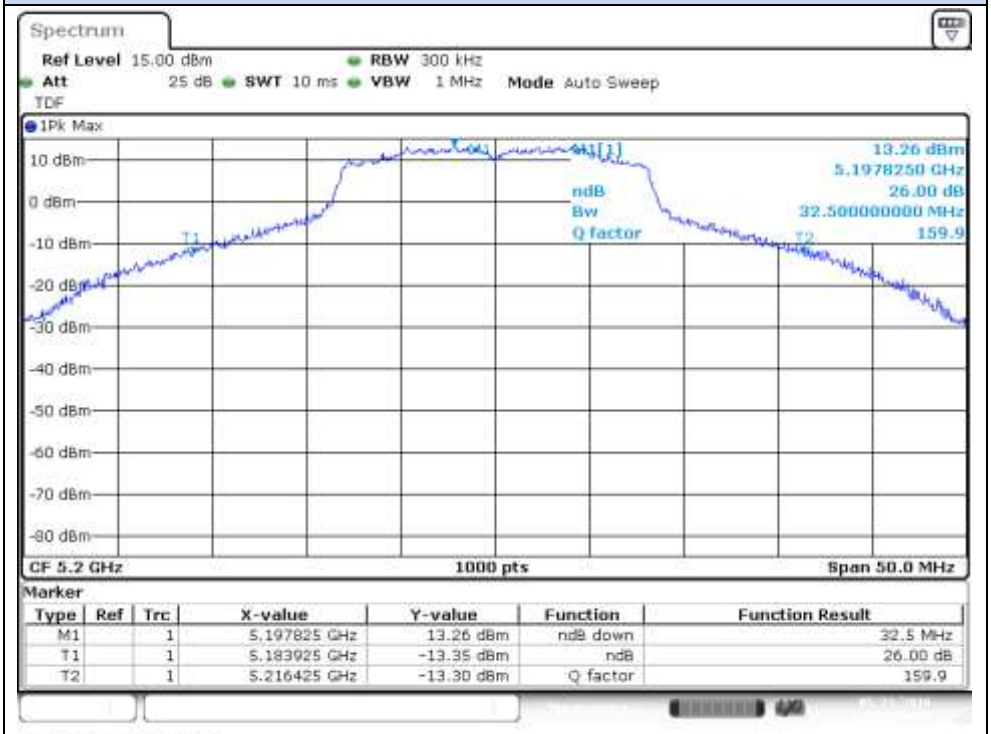
26dB BW – CH40



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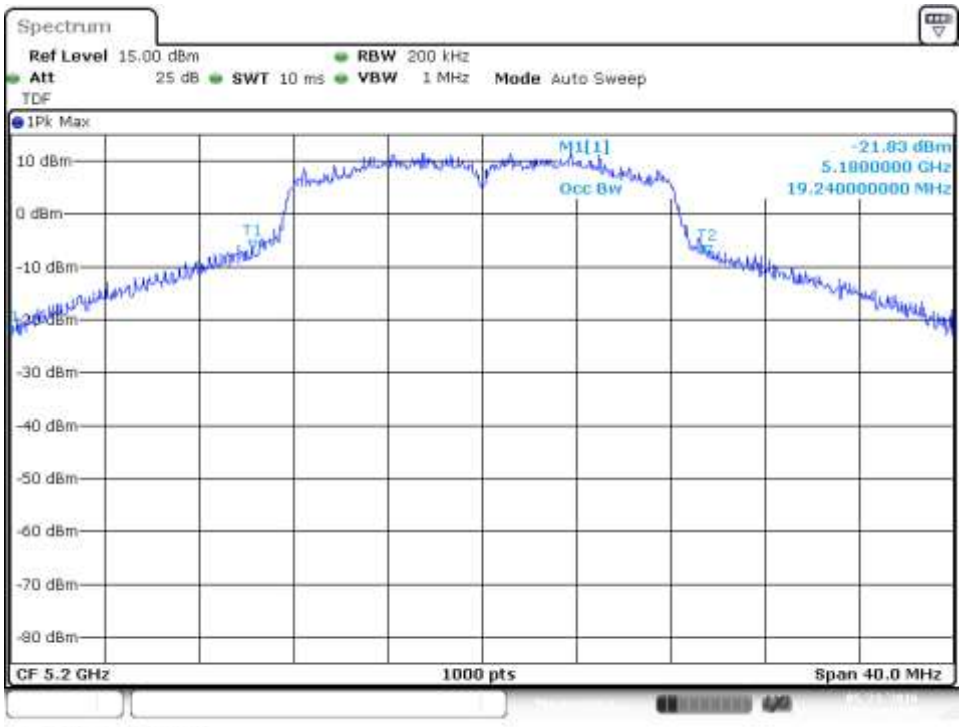

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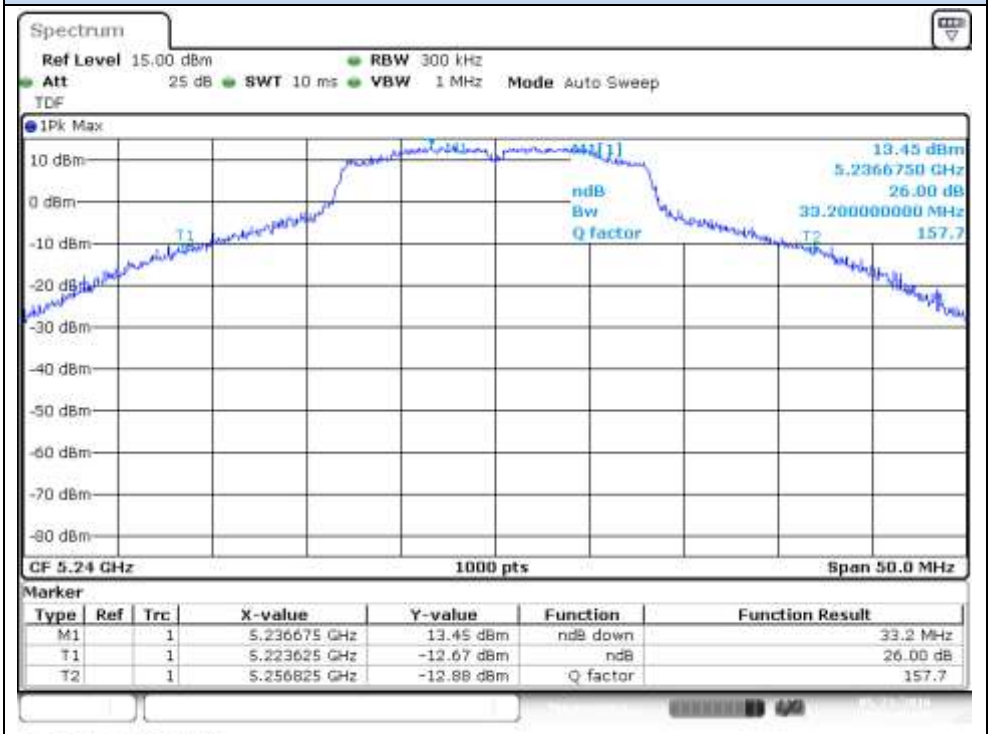
26dB BW – CH48



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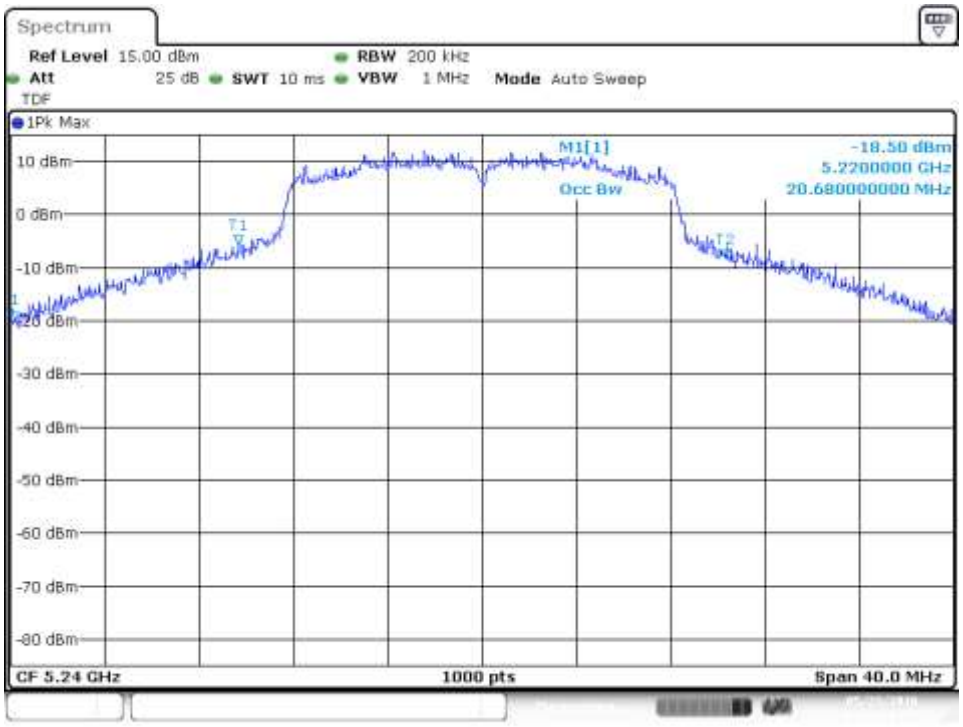

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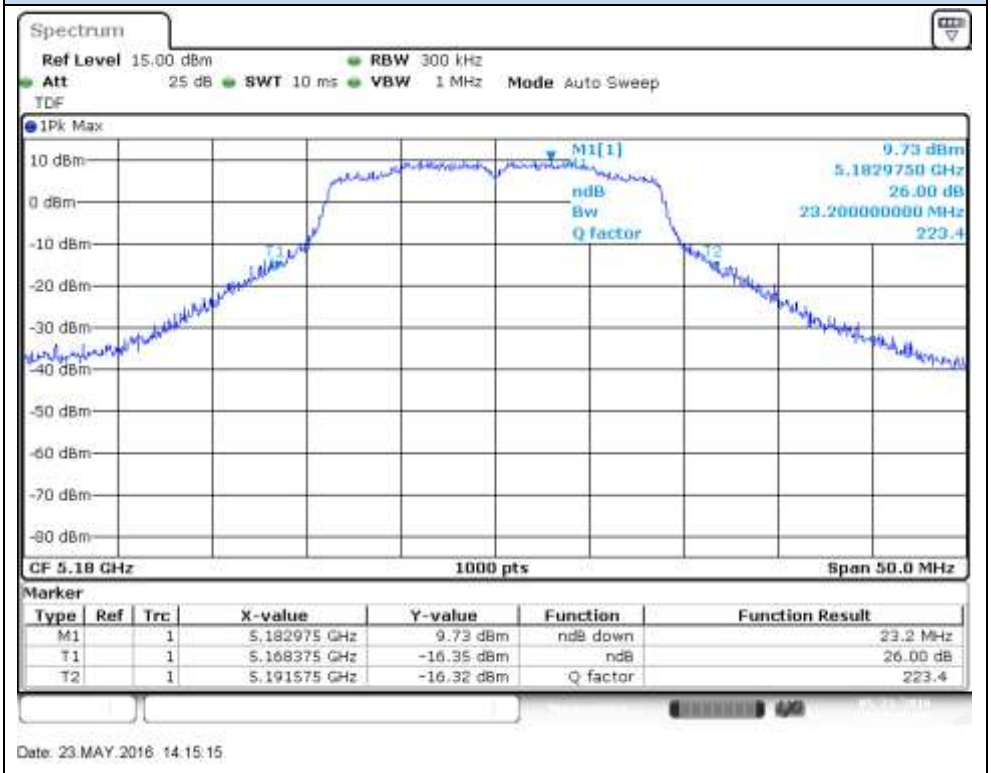
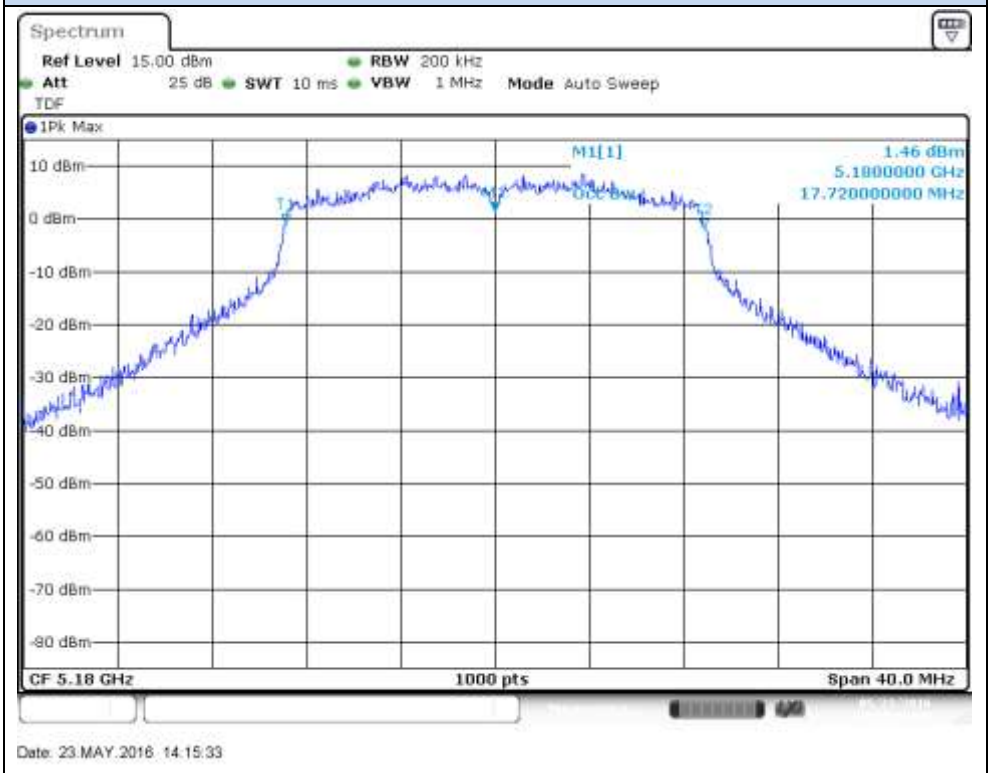
802.11n20, HT0 – SISO - Chain A

26dB BW – CH36



99% BW – CH36



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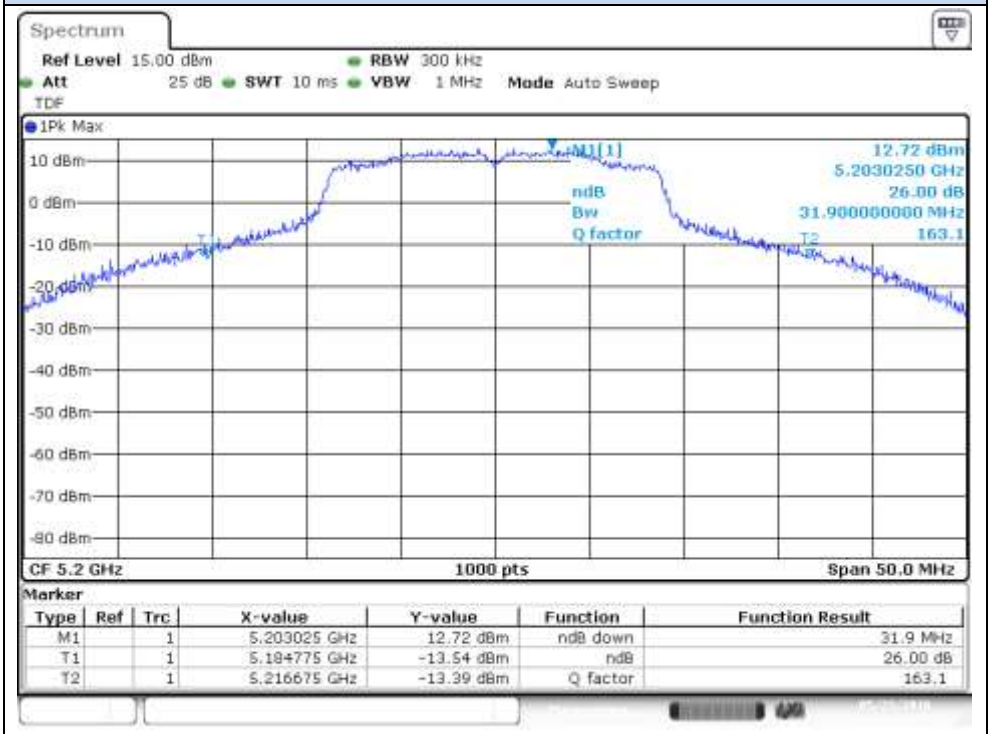
26dB BW – CH40



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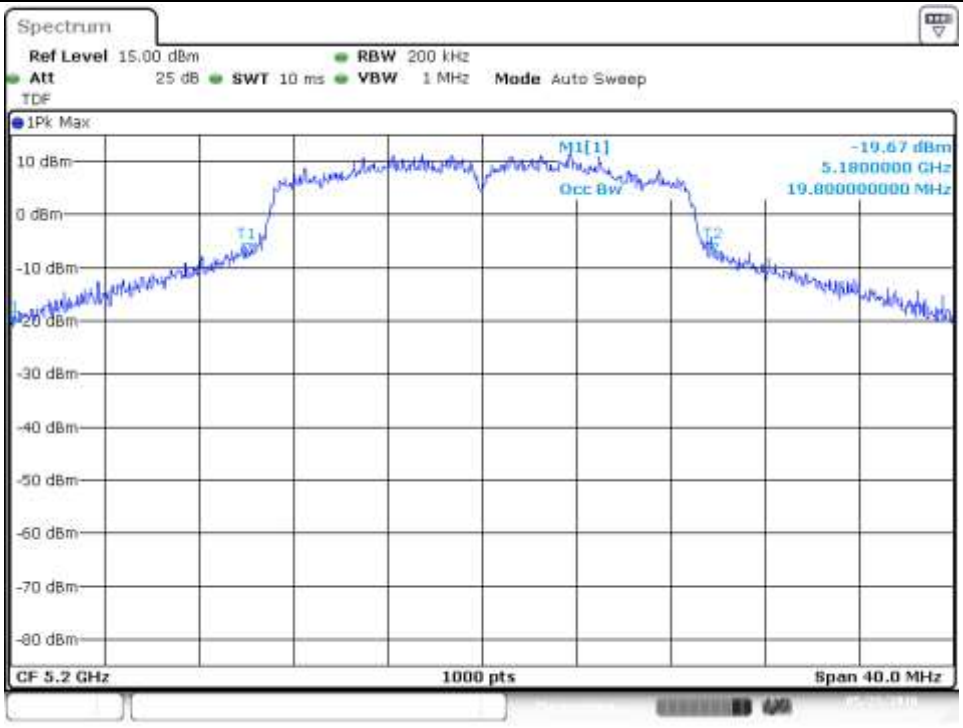
99% BW – CH40



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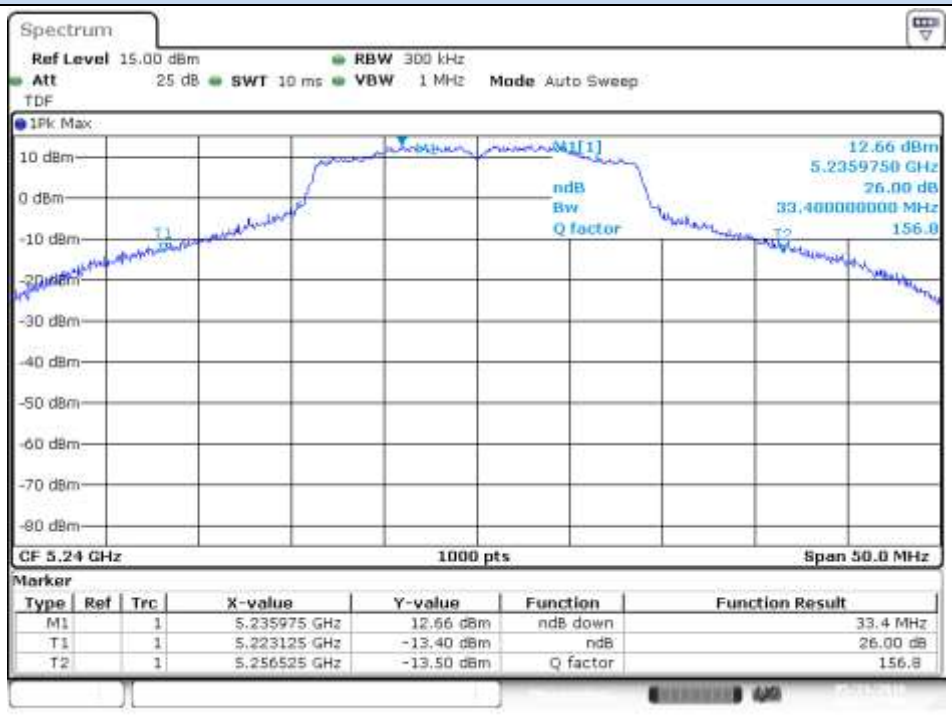
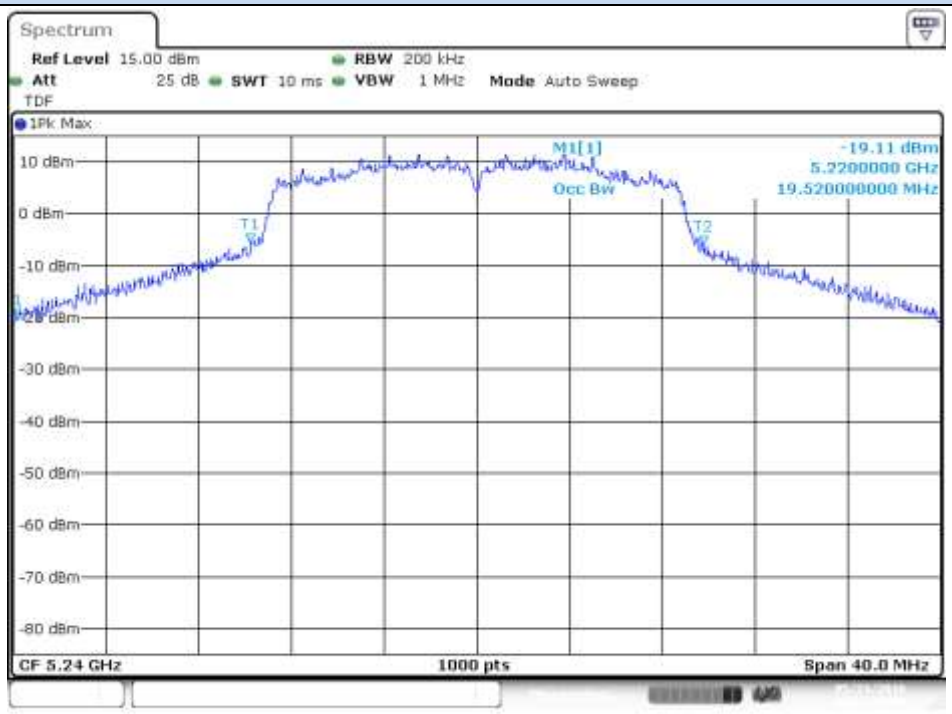
Printed copies are not controlled documents

26dB BW – CH48



Date: 23.MAY.2016 14:24:24

99% BW – CH48



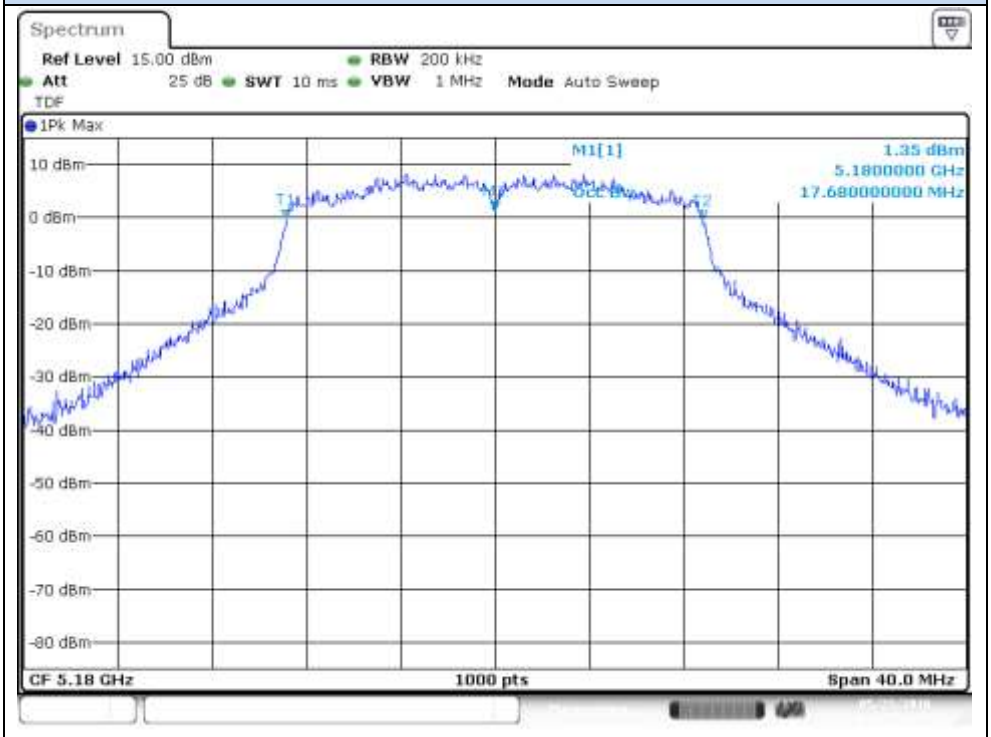
Date: 23.MAY.2016 14:24:45

Printed copies are not controlled documents

802.11n20, HT0 – SISO - Chain B

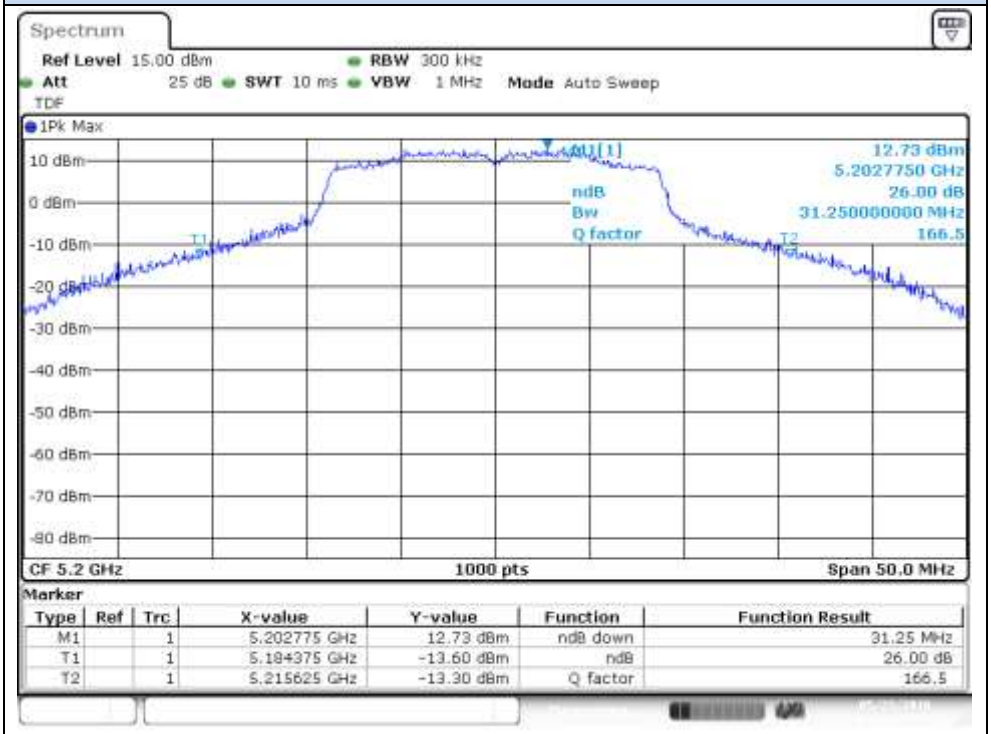
26dB BW – CH36

99% BW – CH36

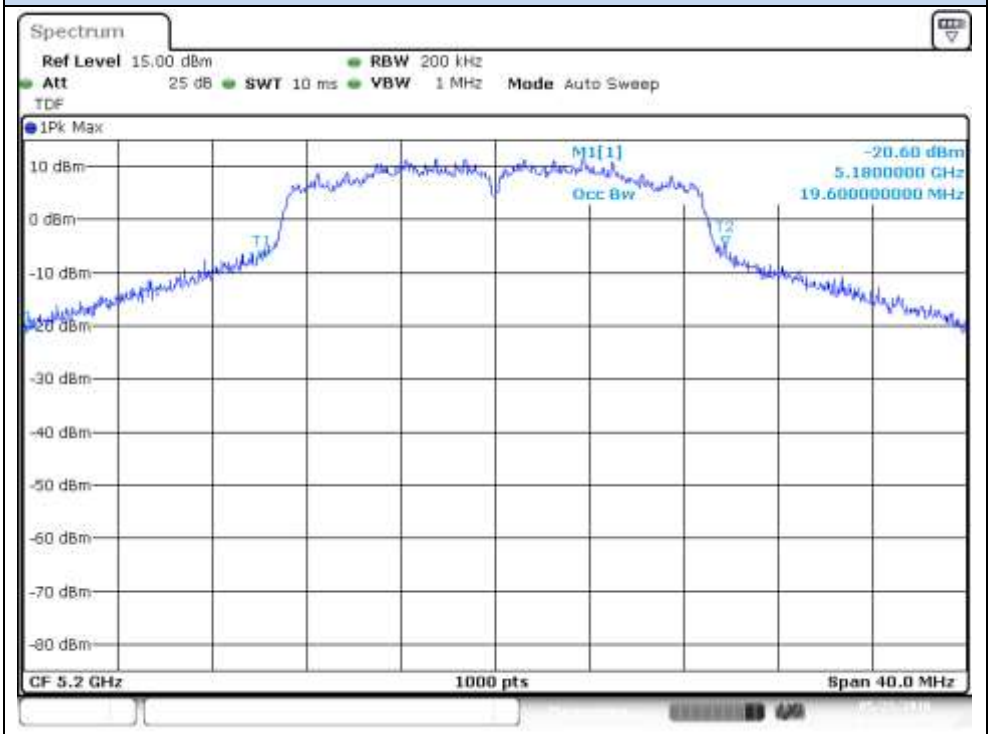


Printed copies are not controlled documents

26dB BW – CH40



99% BW – CH40

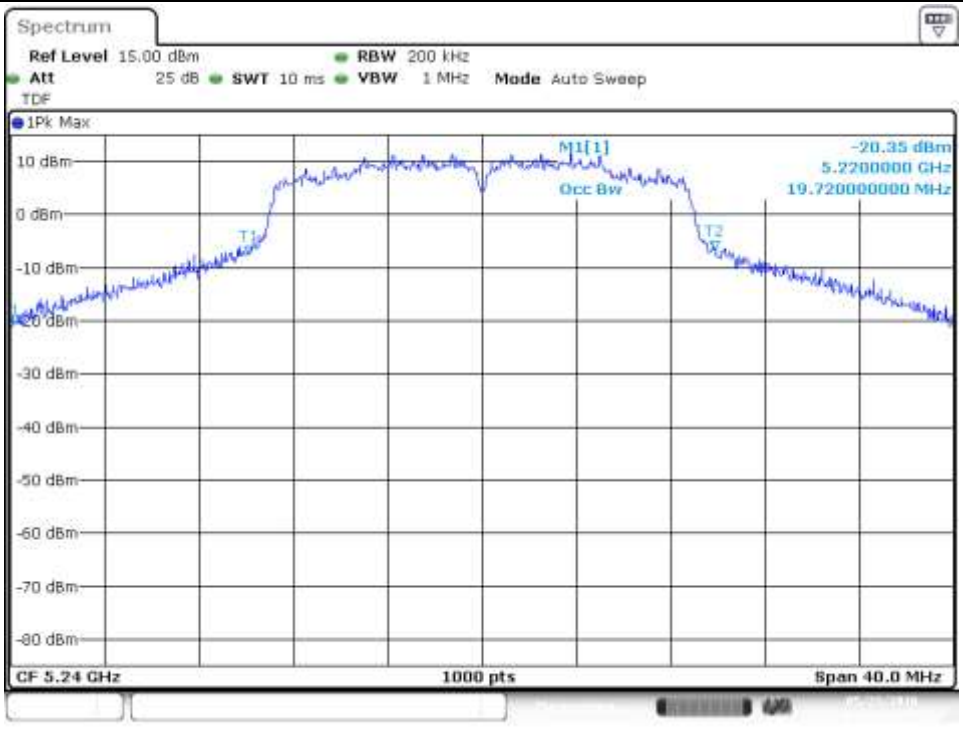


Printed copies are not controlled documents

26dB BW – CH48

Date: 23.MAY.2016 15:54:00

99% BW – CH48

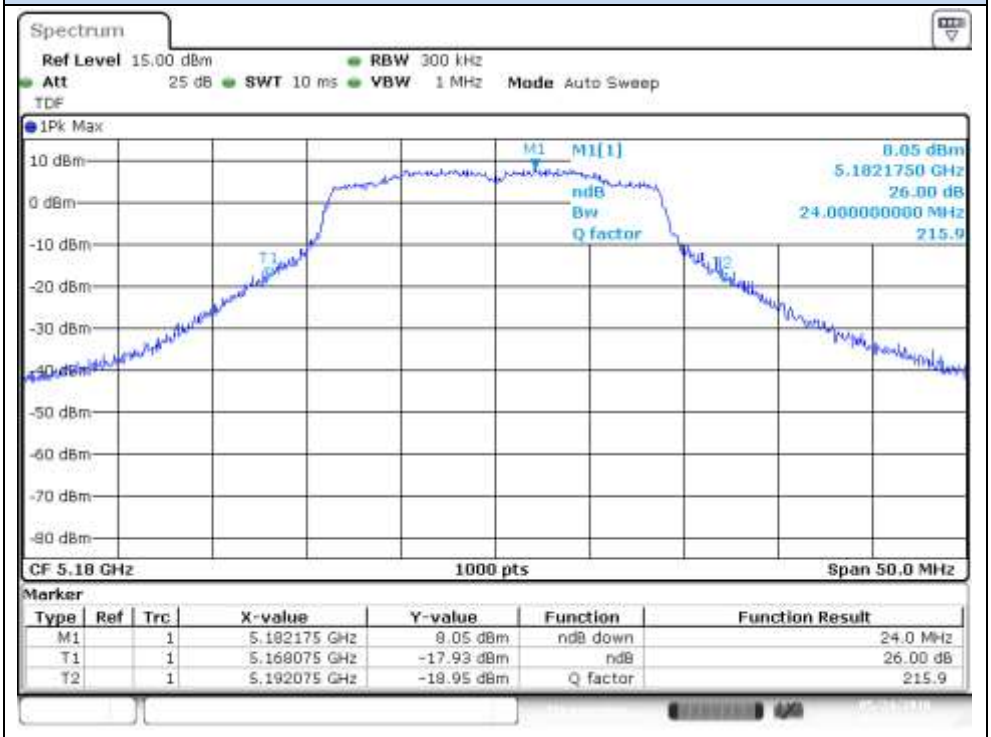


Date: 23.MAY.2016 15:54:22

Printed copies are not controlled documents

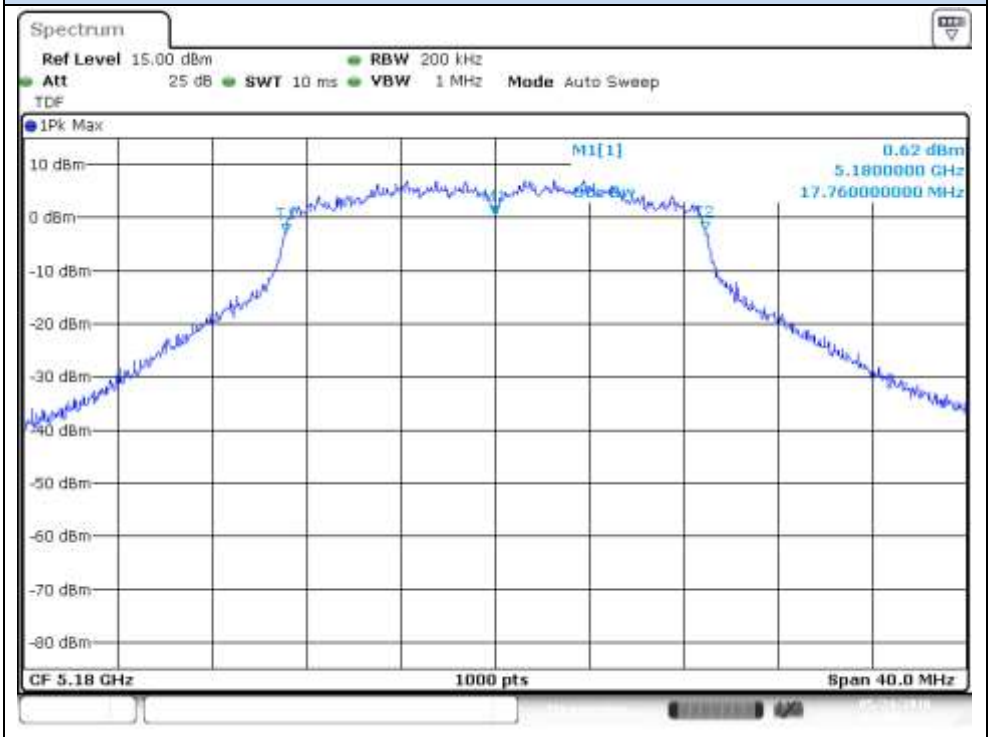
802.11n20, HT0 – MIMO - Chain A

26dB BW – CH36



Date: 24.MAY.2016 10:12:48

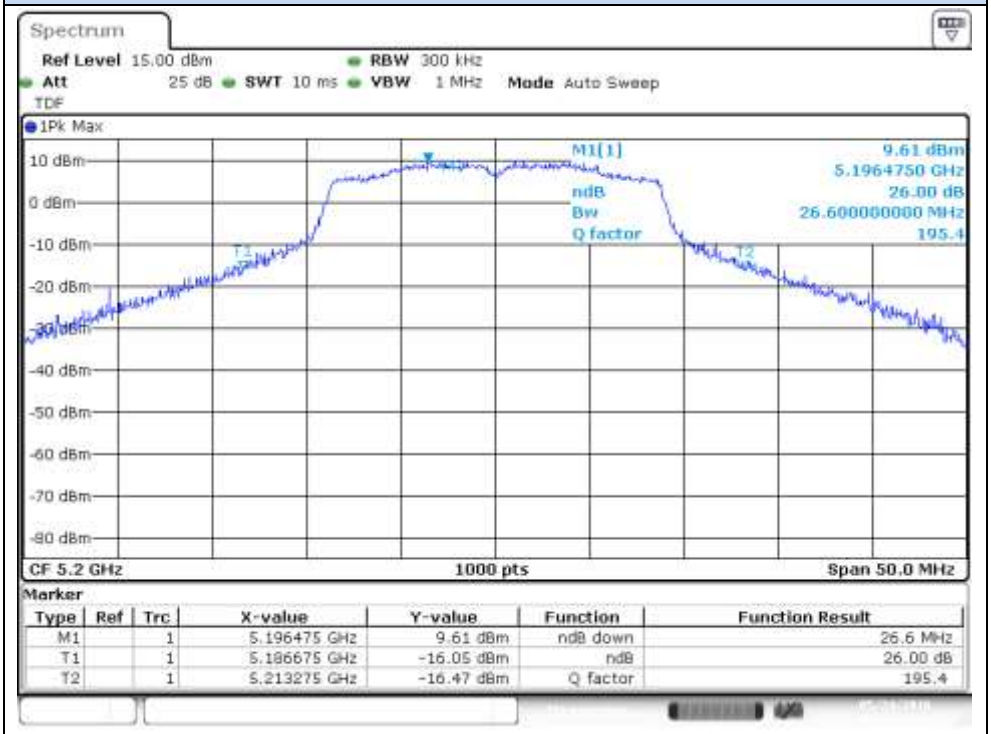
99% BW – CH36



Date: 24.MAY.2016 10:13:07

Printed copies are not controlled documents

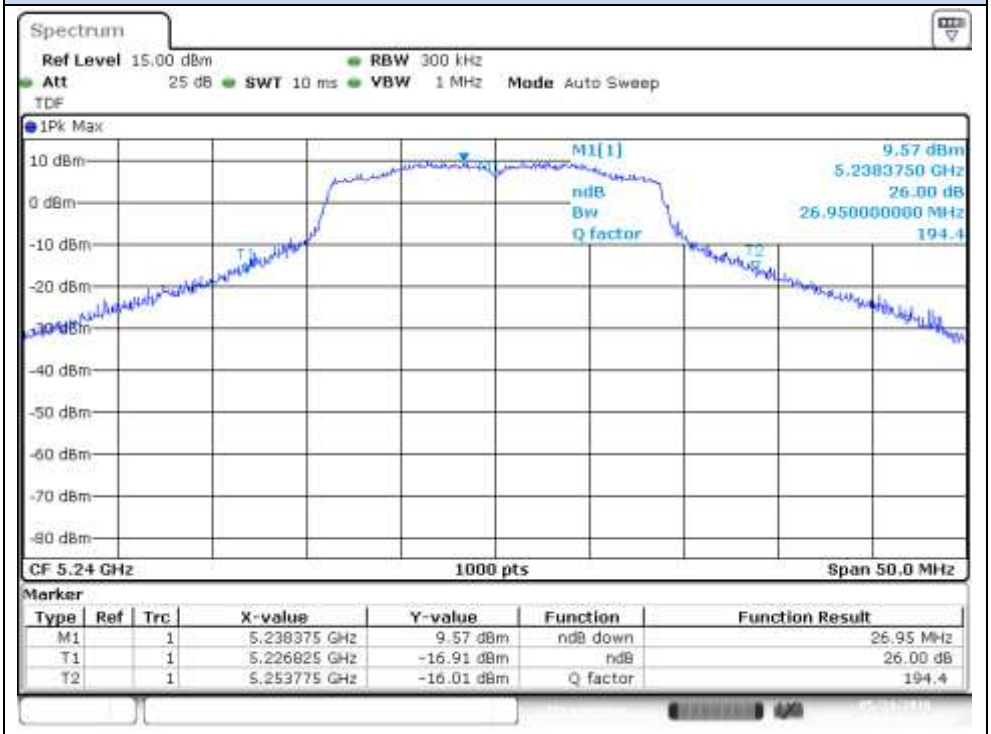
26dB BW – CH40



99% BW – CH40

Printed copies are not controlled documents

26dB BW – CH48



Date: 24.MAY.2016 10:18:42

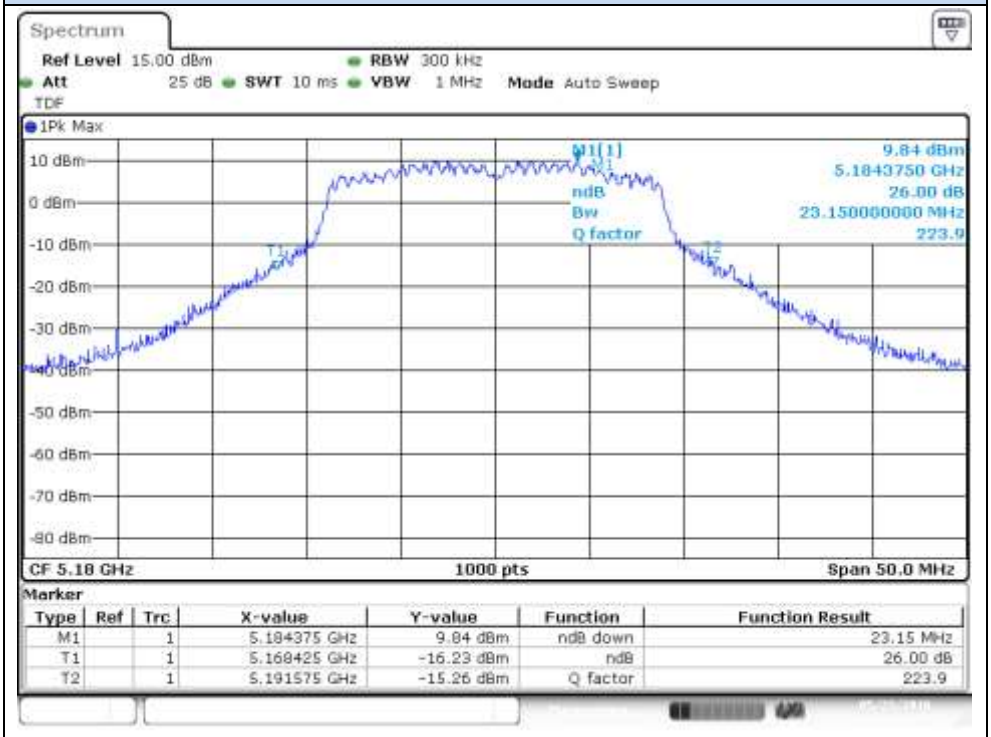
99% BW – CH48

Date: 24.MAY.2016 10:18:59

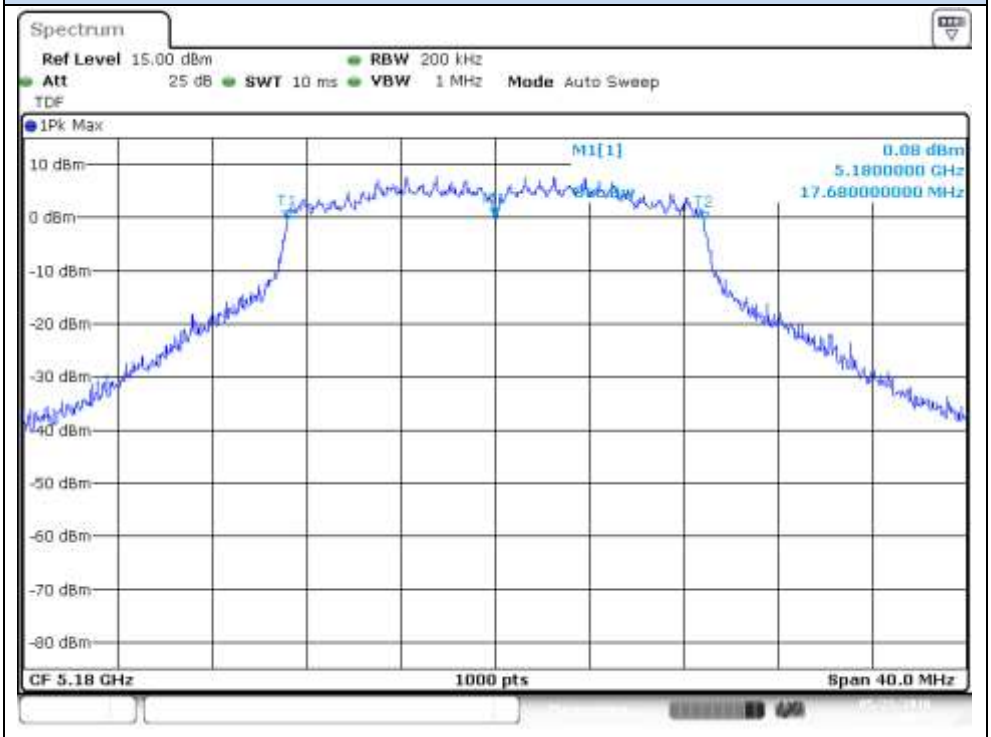
Printed copies are not controlled documents

802.11n20, HT0 – MIMO - Chain B

26dB BW – CH36

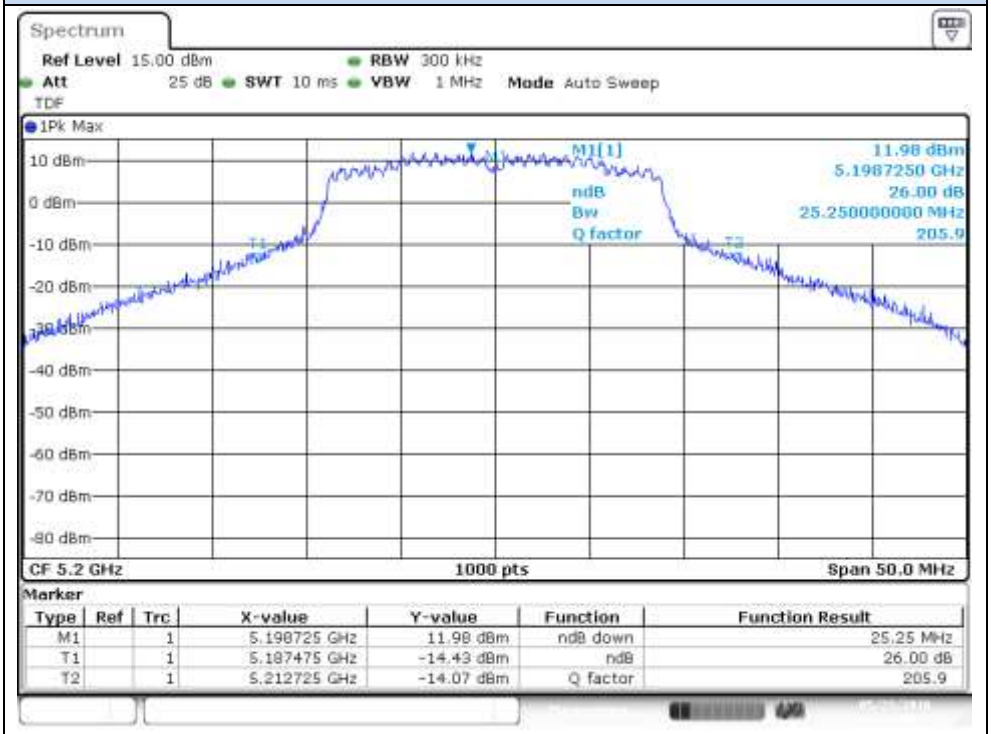


99% BW – CH36



Printed copies are not controlled documents

26dB BW – CH40



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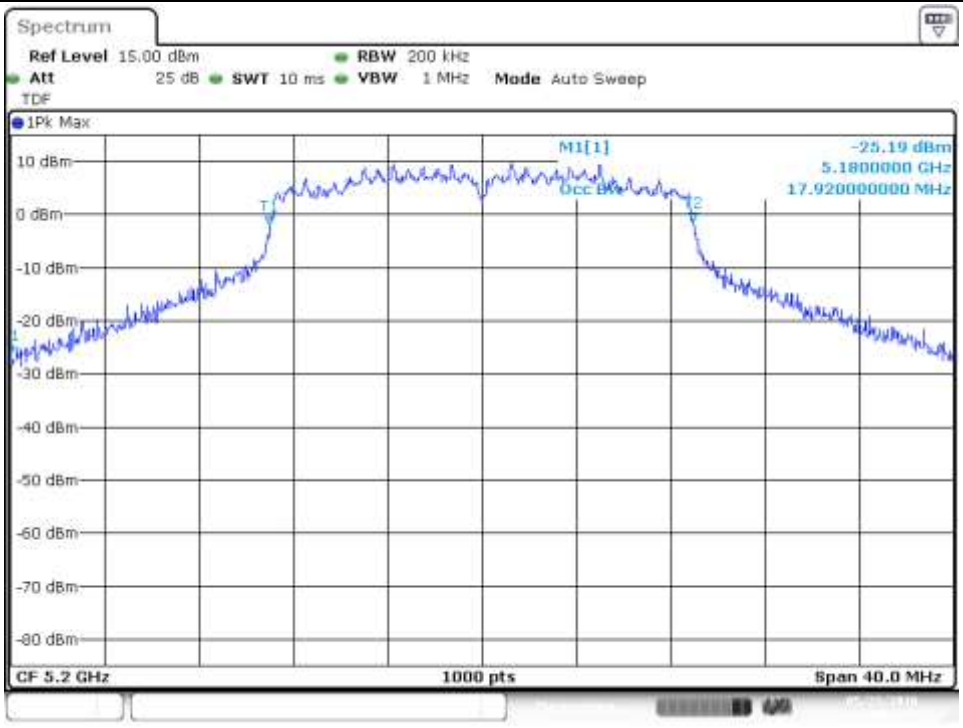

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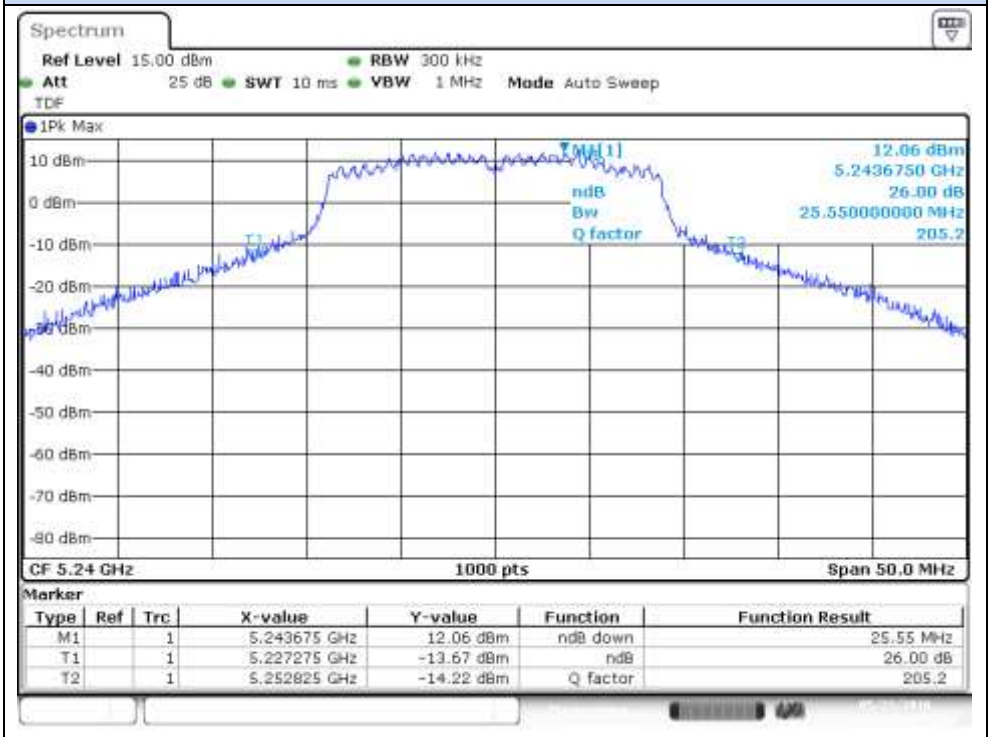
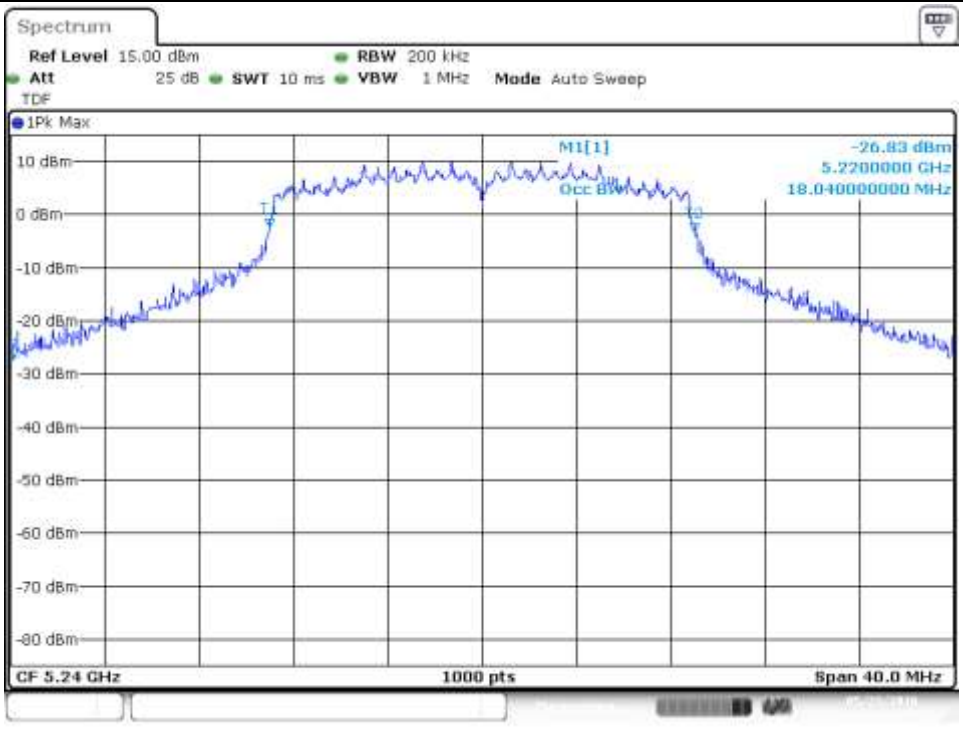
Printed copies are not controlled documents

26dB BW – CH48



Date: 23.MAY.2016 17:44:09

99% BW – CH48

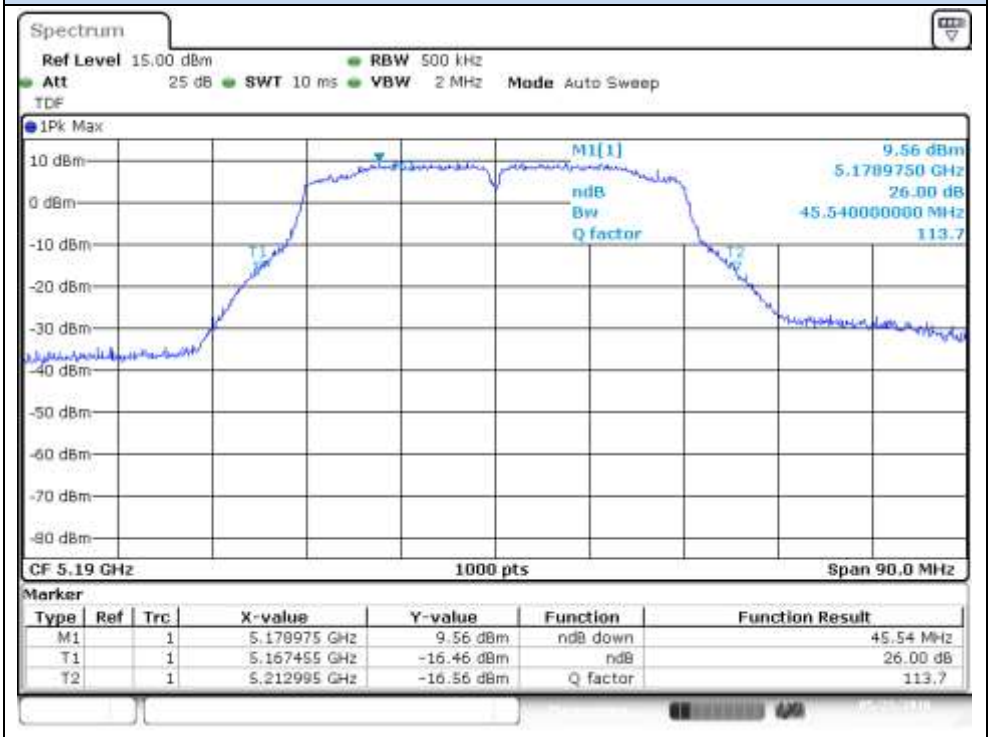


Date: 23.MAY.2016 17:44:53

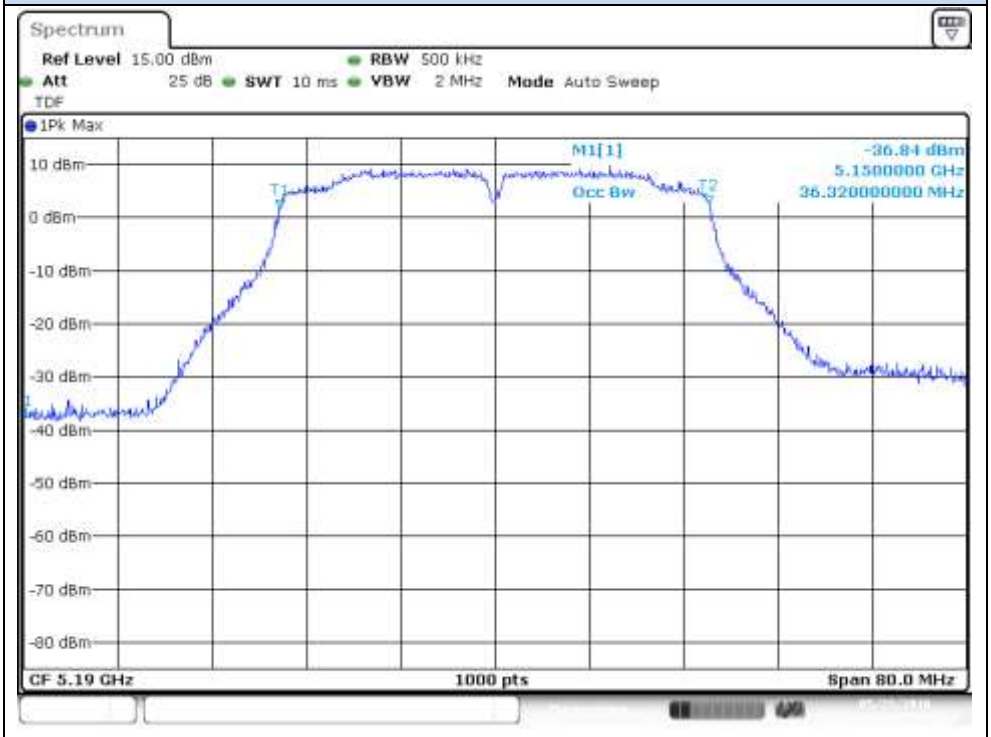
Printed copies are not controlled documents

802.11n40, HT0 – SISO - Chain A

26dB BW – CH38F

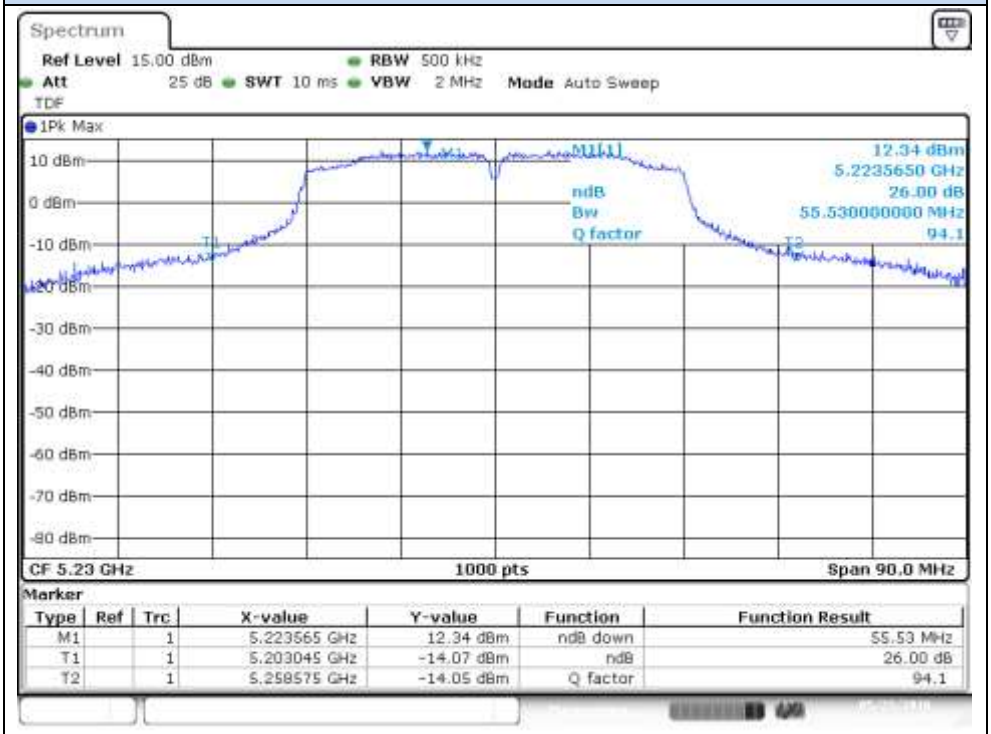


99% BW – CH38F

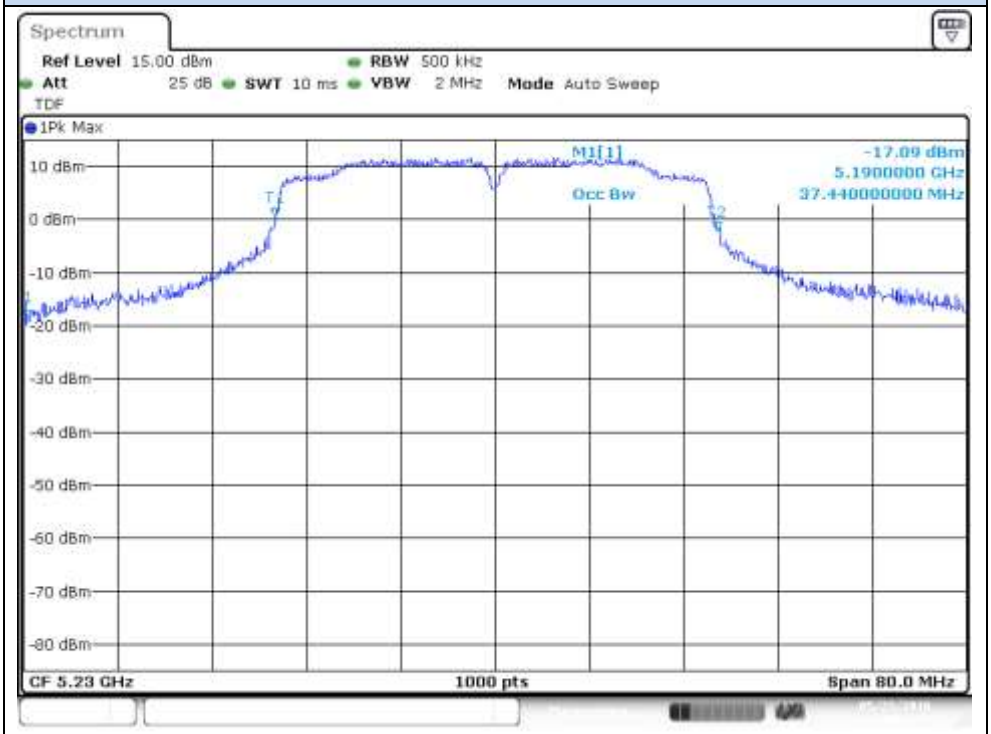


Printed copies are not controlled documents

26dB BW – CH46F



99% BW – CH46F



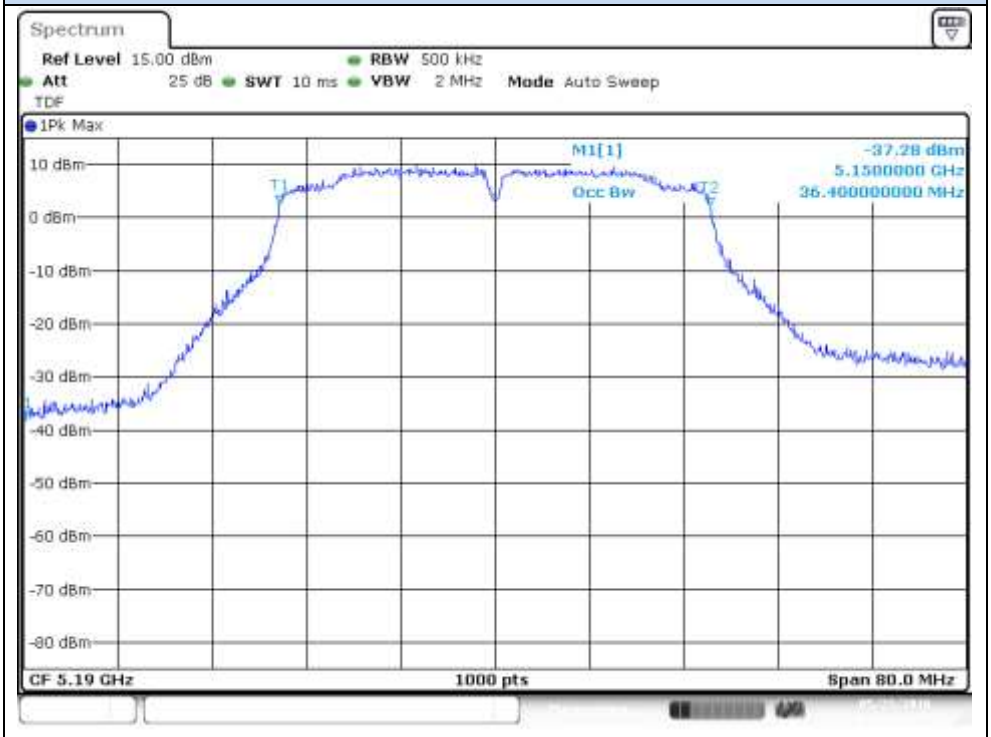
Printed copies are not controlled documents

802.11n40, HT0 – SISO - Chain B

26dB BW – CH38F

Date: 23.MAY.2016 15:59:02

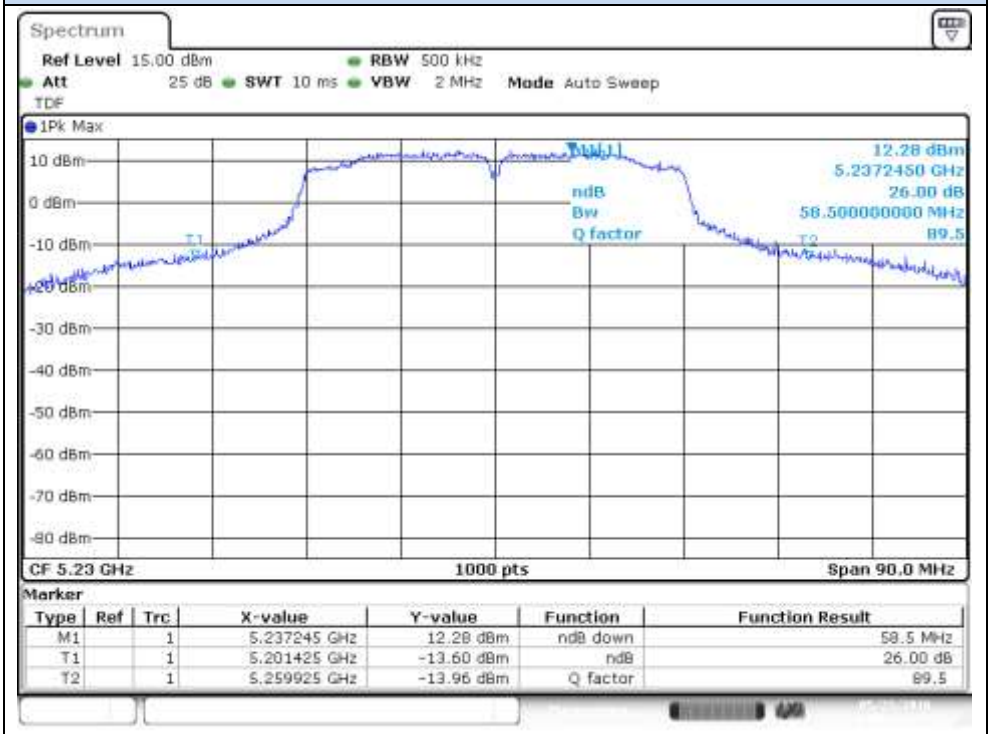
99% BW – CH38F



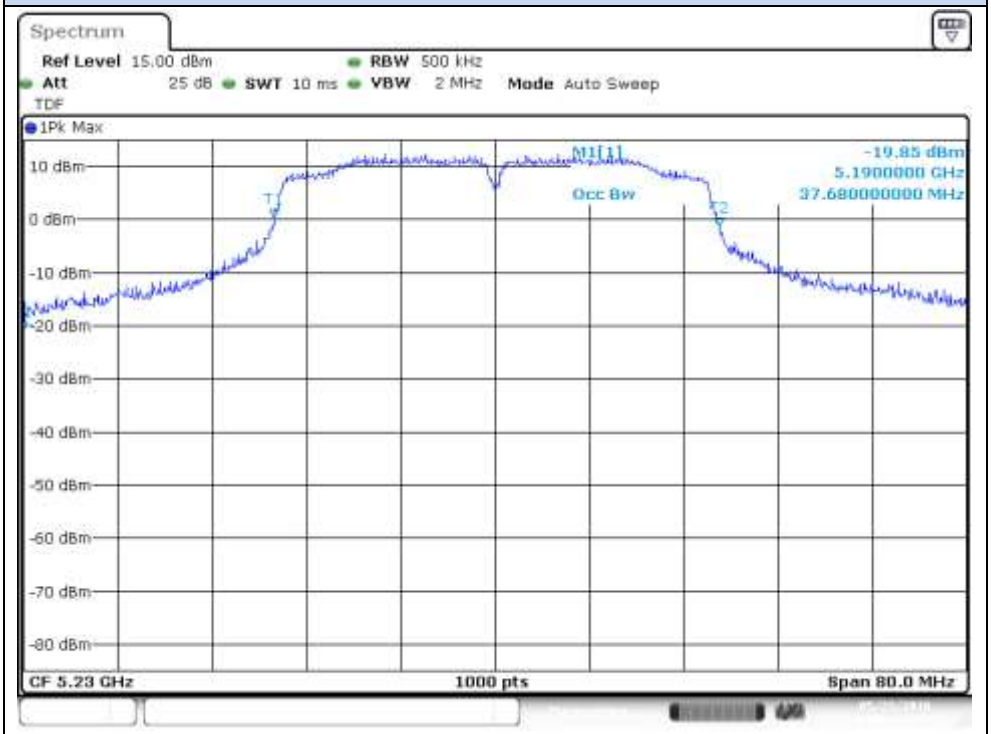
Date: 23.MAY.2016 15:59:24

Printed copies are not controlled documents

26dB BW – CH46F



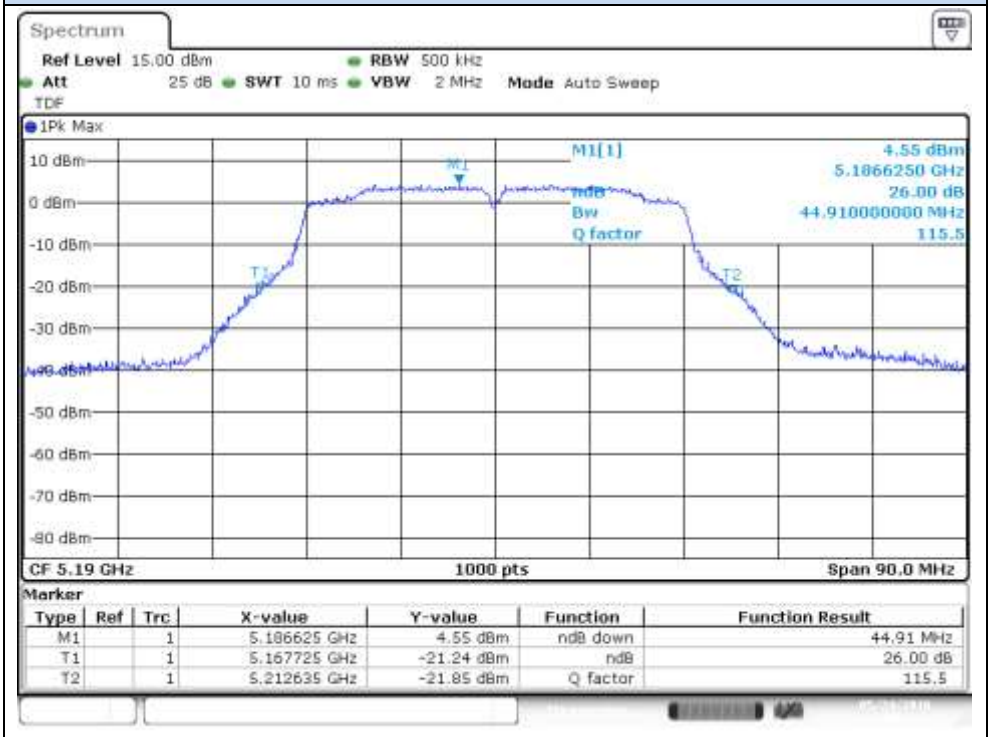
99% BW – CH46F



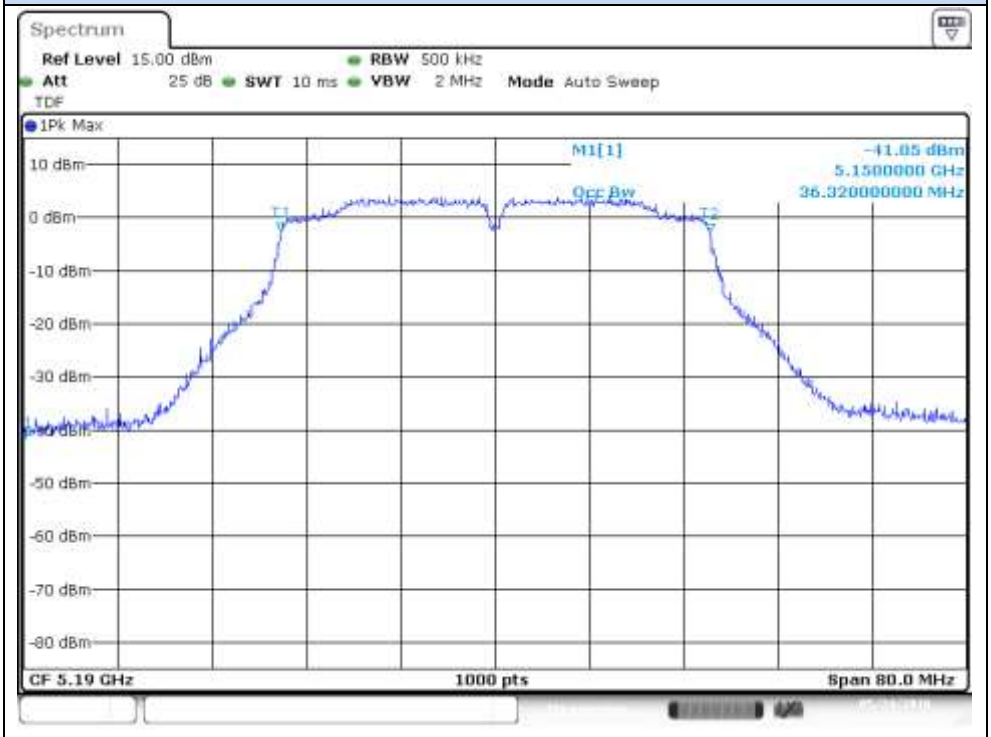
Printed copies are not controlled documents

802.11n40, HT0 – MIMO - Chain A

26dB BW – CH38F

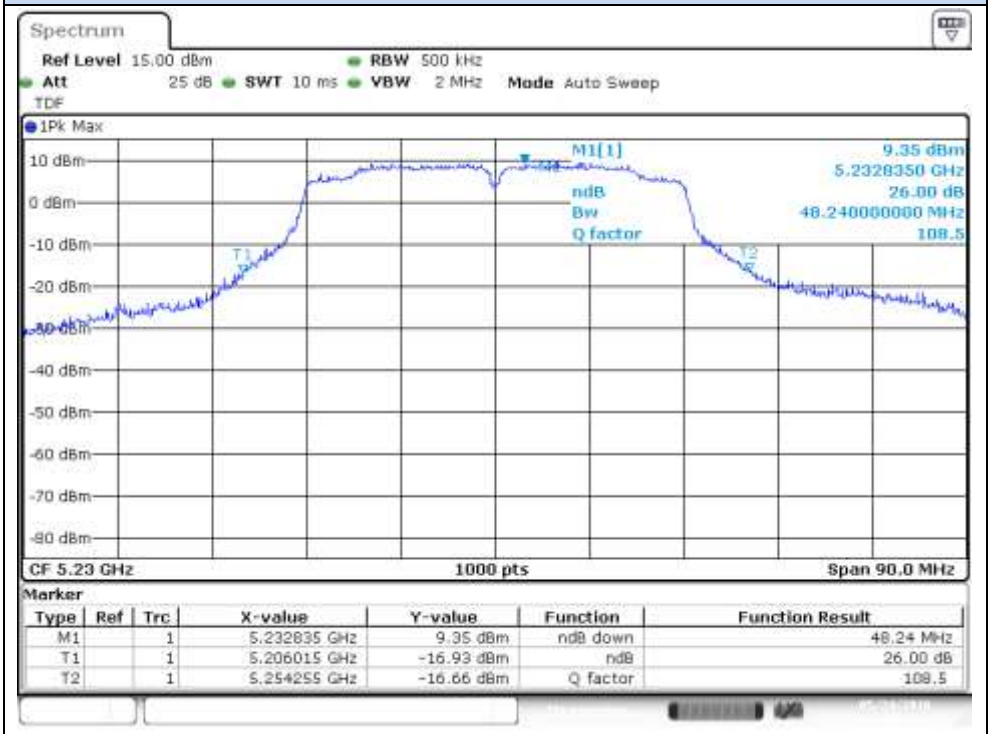


99% BW – CH38F



Printed copies are not controlled documents

26dB BW – CH46F

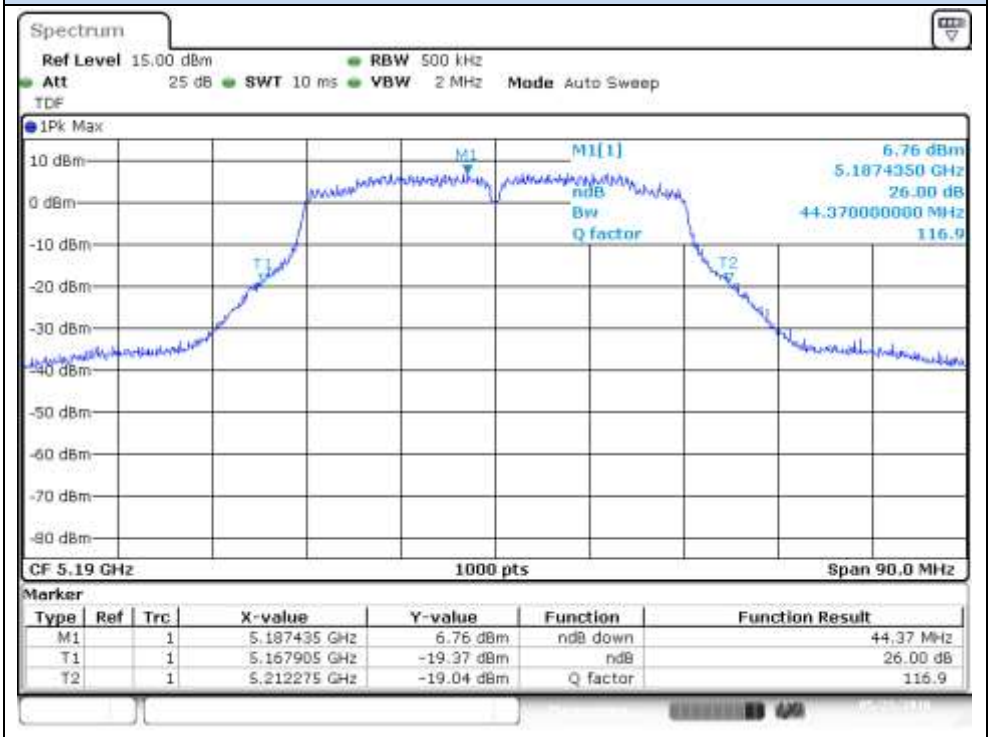


99% BW – CH46F

Printed copies are not controlled documents

802.11n40, HT0 – MIMO - Chain B

26dB BW – CH38F



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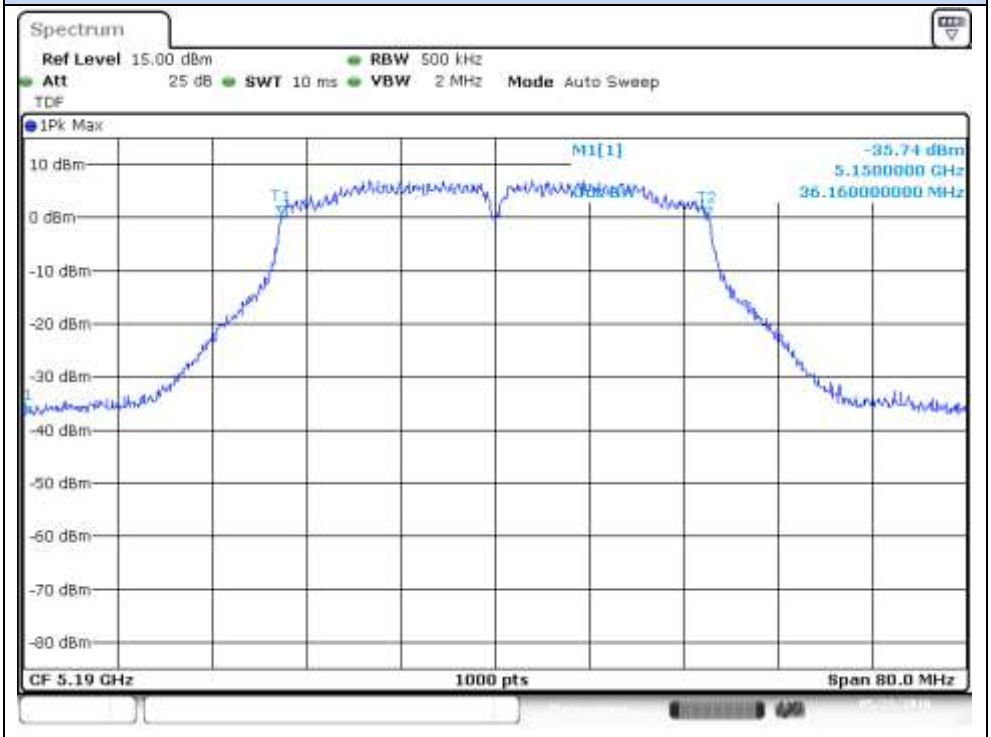
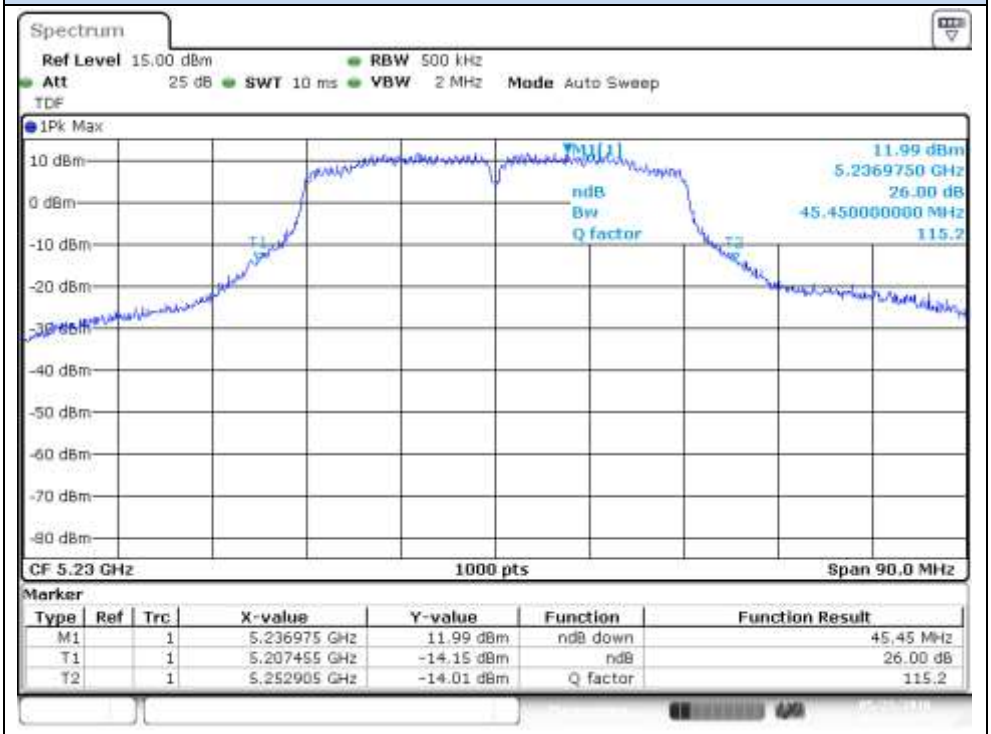
99% BW – CH38F



Date: 23.MAY.2016 17:53:51

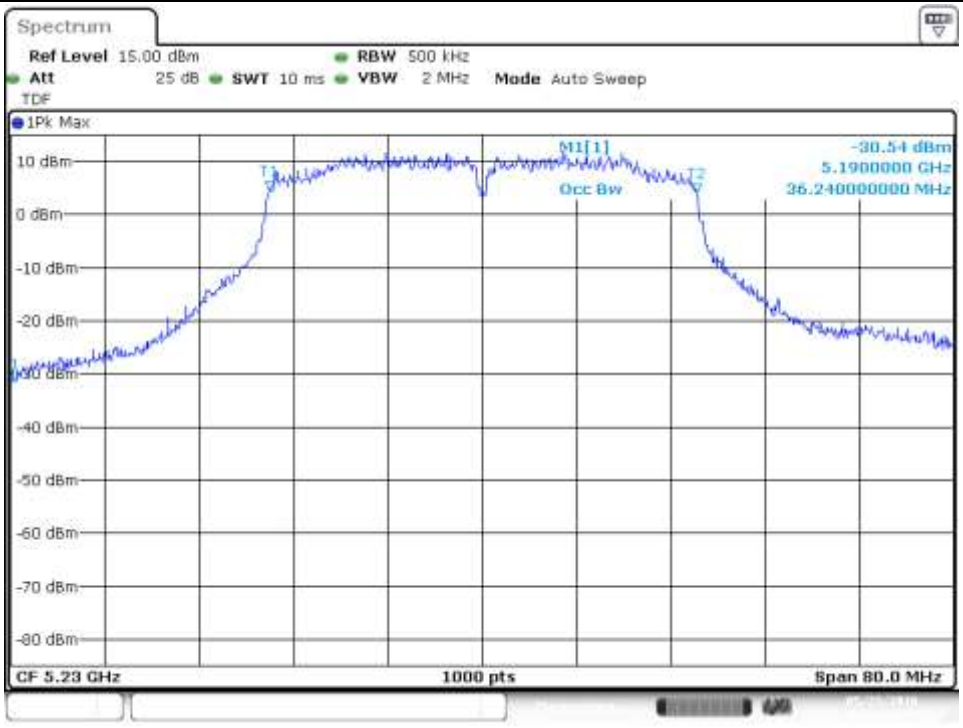
Printed copies are not controlled documents

26dB BW – CH46F



Date: 23.MAY.2016 18:03:25

99% BW – CH46F



Date: 23.MAY.2016 18:02:43

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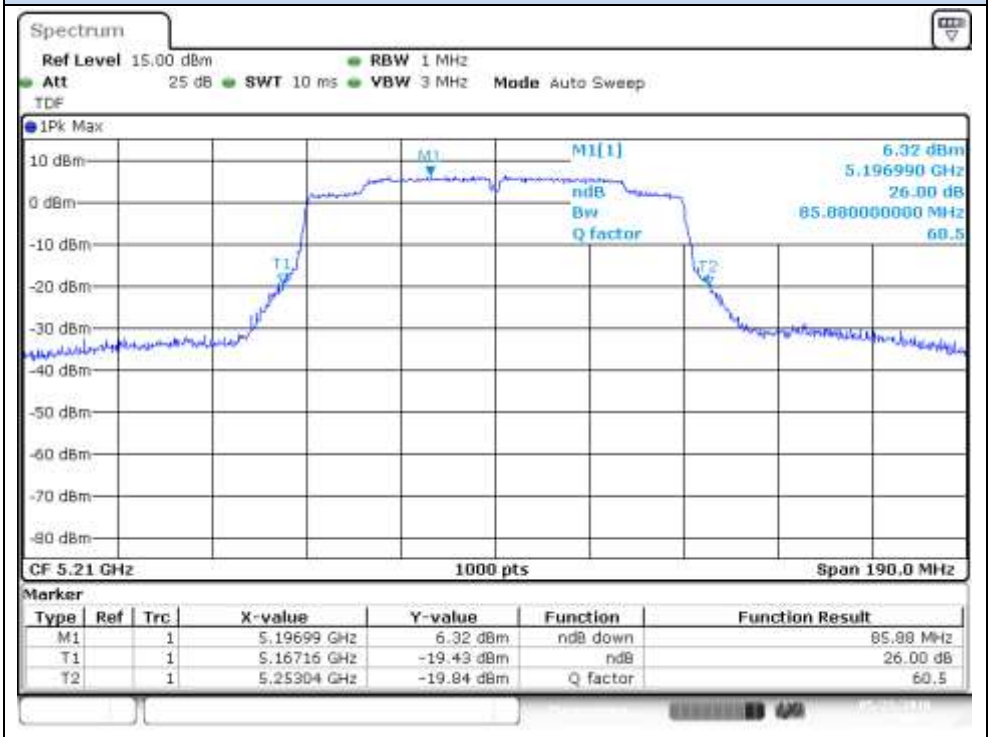
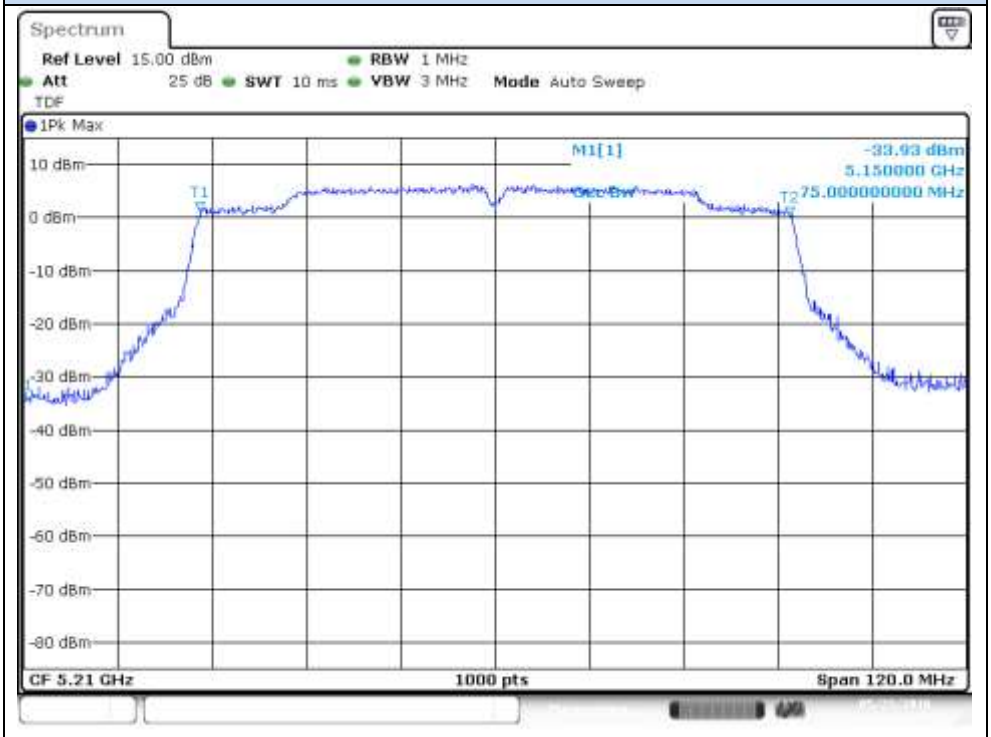
802.11ac80, VHT0 – SISO - Chain A

26dB BW – CH42ac80



99% BW – CH42ac80



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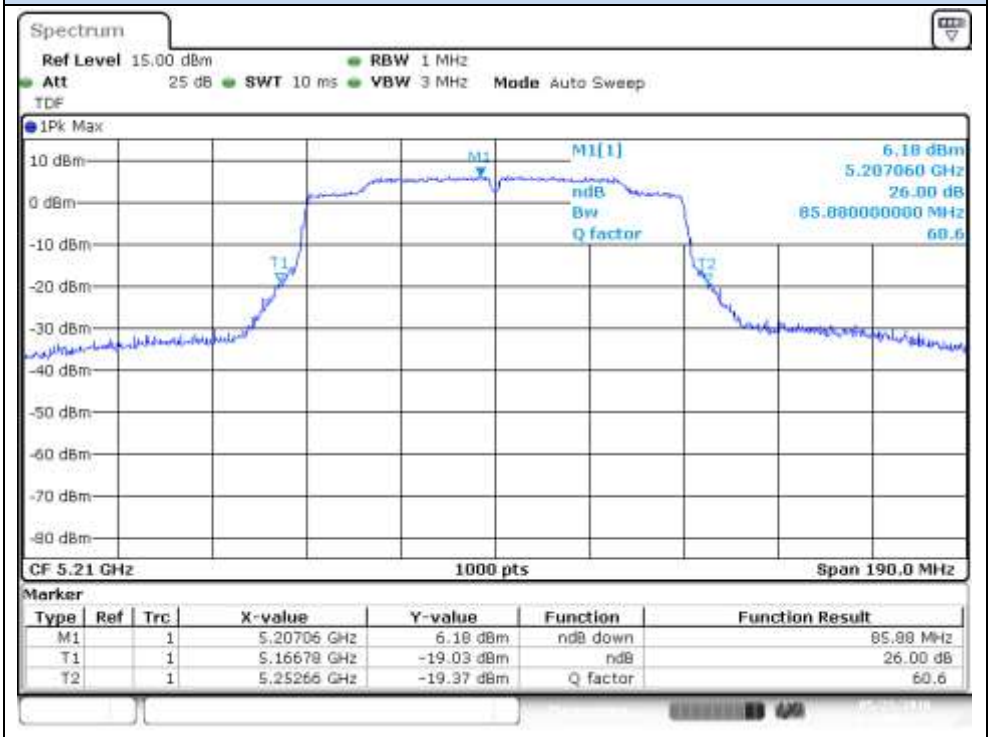
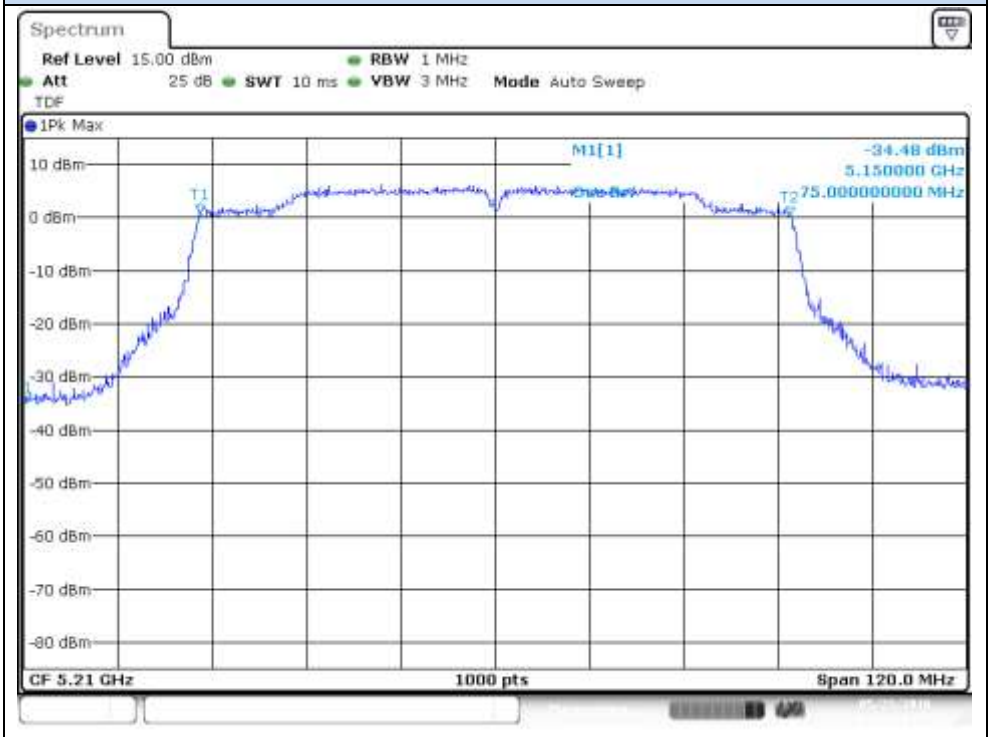
802.11ac80, VHT0 – SISO - Chain B

26dB BW – CH42ac80



Date: 23.MAY.2016 16:20:02

99% BW – CH42ac80



Date: 23.MAY.2016 16:20:16

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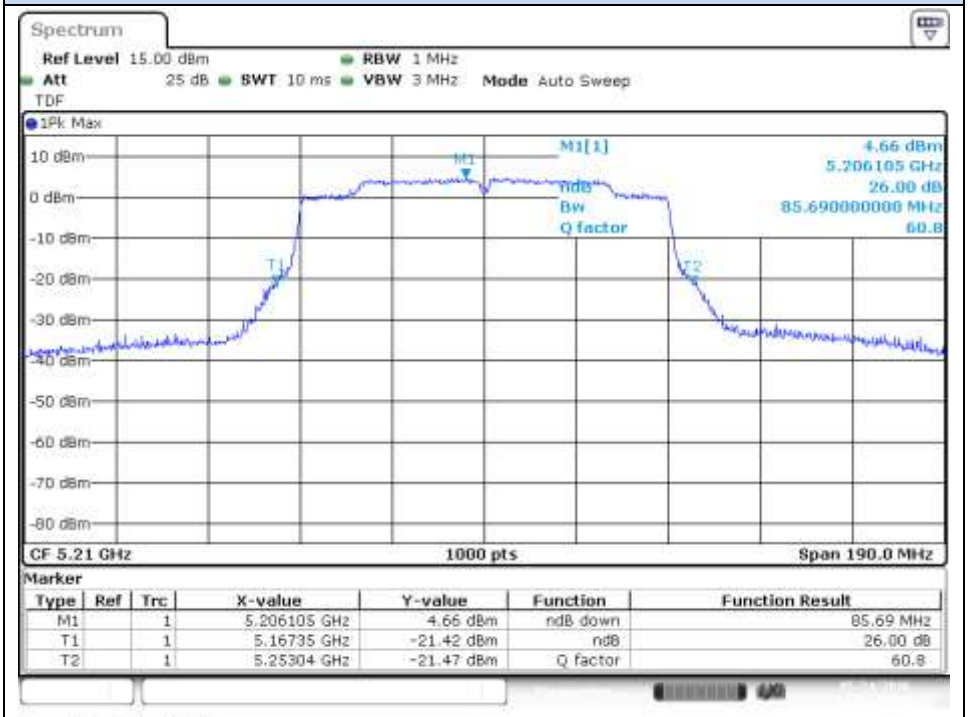
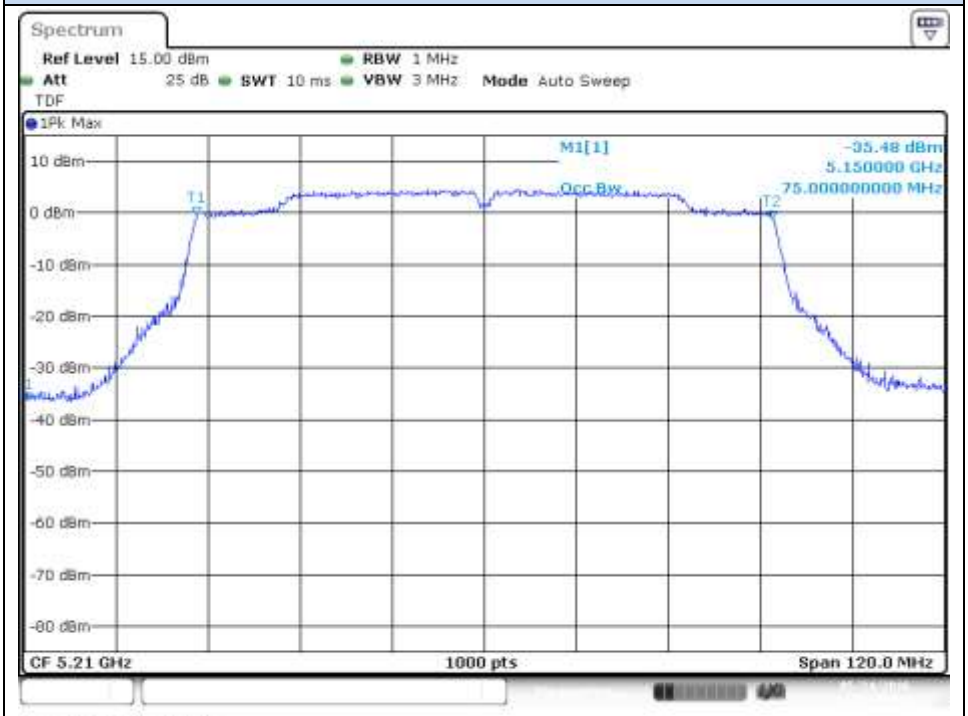
802.11ac80, VHT0 – MIMO - Chain A

26dB BW – CH42ac80



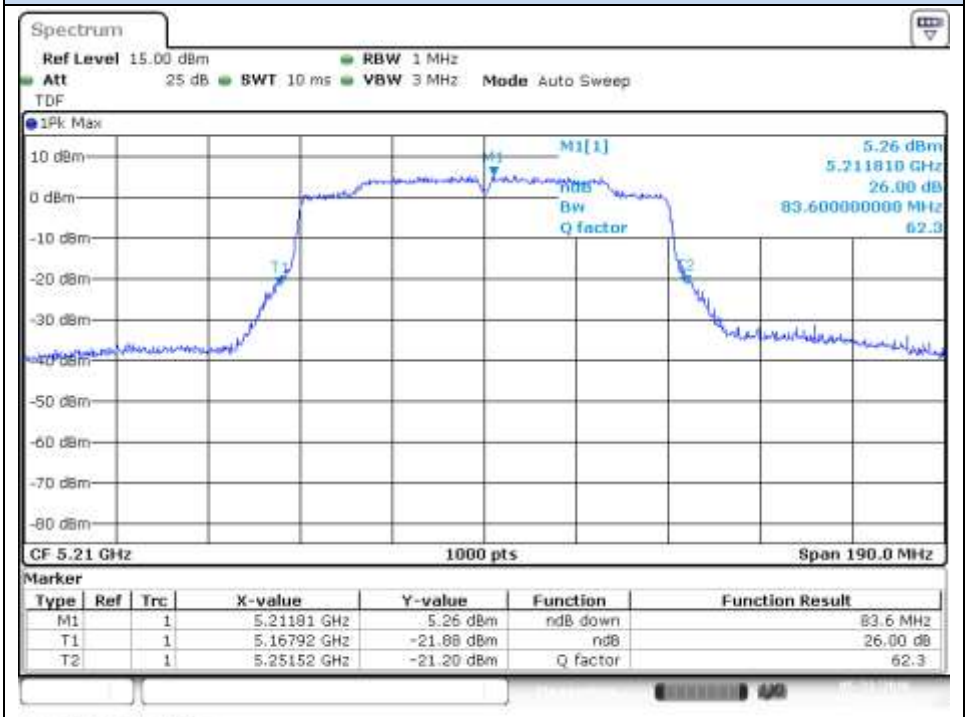
99% BW – CH42ac80



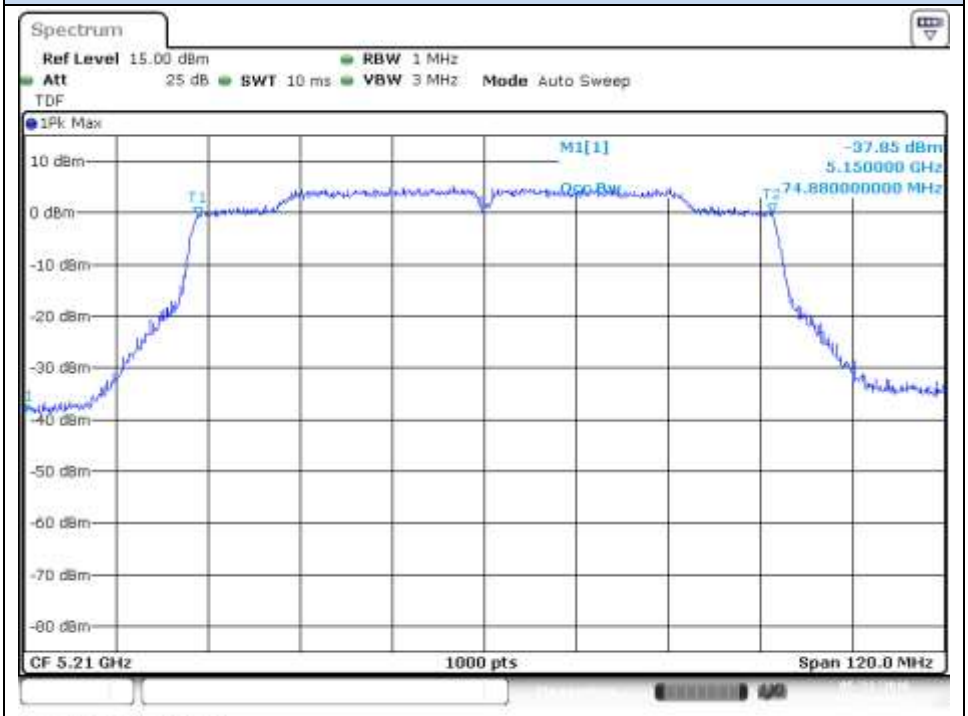
Printed copies are not controlled documents

802.11ac80, VHT0 – MIMO - Chain B

26dB BW – CH42ac80



99% BW – CH42ac80



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B.2 Power Limits. Maximum Output power & Maximum power spectral density

Test limits

FCC part	Limits
15.407 (a) (1) (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.

Test procedure

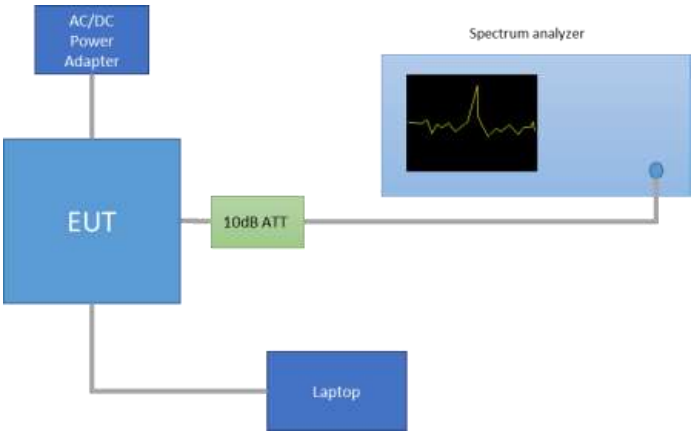
The Maximum Conducted Output Power was measured using the channel integration method according to point E) 2) e) (Method SA-2 Alternative) of KDB 789033 D02.
The maximum power spectral density (PSD) was measured using the method according to point F) (Method SA-2 Alternative) of KDB 789033 D02.

In the measure-and-sum approach for MIMO mode, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically in linear power units to determine the total emission level from the device.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

The setup below was used to measure the maximum conducted output power and power spectral density. The antenna terminal of the EUT is connected to the spectrum analyser through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

The declared maximum antenna gain is 5dBi.



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Results tables

Duty cycle

Mode	Rate	Antenna	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
802.11a	6Mbps	SISO-A	1.45	1.48	98.2
		SISO-B	1.45	1.48	98.2
802.11n20	HT0	SISO-A	1.47	1.50	97.6
		SISO-B	1.47	1.50	97.6
	HT8	MIMO-A	1.47	1.51	97.5
		MIMO-B	1.47	1.51	97.5
802.11n40	HT0	SISO-A	1.46	1.49	98.1
		SISO-B	1.46	1.49	98.1
	HT8	MIMO-A	1.48	1.52	97.3
		MIMO-B	1.48	1.52	97.3
802.11ac80	VHT0	SISO-A	1.46	1.49	98.1
		SISO-B	1.46	1.49	98.1
		MIMO-A	1.48	1.52	97.2
		MIMO-B	1.48	1.52	97.2

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Maximum output power

Mode	Rate	Channel	Freq. [MHz]	Antenna	Average Conducted Output Power [dBm]	Maximum* Conducted Output Power [dBm]	Maximum* Conducted Output Power [mW]	Max of EIRP [dBm]
802.11a	6Mbps	36	5180	SISO CHAIN A	17.87	17.95	**62.35**	22.95
				SISO CHAIN B	18.65	18.73	74.62	23.73
		40	5200	SISO CHAIN A	21.23	21.31	**135.16**	26.31
				SISO CHAIN B	20.65	20.73	118.27	25.73
		48	5240	SISO CHAIN A	20.98	21.06	127.60	26.06
				SISO CHAIN B	21.07	21.15	130.27	26.15
802.11n20	HT0	36	5180	SISO CHAIN A	17.68	17.78	60.04	22.78
				SISO CHAIN B	17.45	17.55	**56.94**	22.55
		40	5200	SISO CHAIN A	20.47	20.57	114.13	25.57
				SISO CHAIN B	20.38	20.48	111.79	25.48
		48	5240	SISO CHAIN A	20.42	20.52	112.83	25.52
				SISO CHAIN B	20.45	20.55	113.61	25.55
	HT8	36	5180	MIMO CHAIN A	16.07	16.18	41.49	21.18
				MIMO CHAIN B	16.95	17.06	50.80	22.06
				Combined A+B	19.54	19.65	92.29	24.65
		40	5200	MIMO CHAIN A	18.21	18.32	67.90	23.32
				MIMO CHAIN B	18.80	18.91	77.79	23.91
				Combined A+B	21.53	21.63	**145.69**	26.63
		48	5240	MIMO CHAIN A	18.02	18.13	65.00	23.13
				MIMO CHAIN B	18.23	18.34	68.22	23.34
				Combined A+B	21.14	21.25	133.22	26.25
802.11n40	HT0	38F	5190	SISO CHAIN A	18.15	18.23	66.57	23.23
				SISO CHAIN B	18.39	18.47	70.35	23.47
		46F	5230	SISO CHAIN A	20.82	20.90	123.10	25.90
				SISO CHAIN B	20.86	20.94	124.24	25.94
	HT8	38F	5190	MIMO CHAIN A	12.94	13.06	20.22	18.06
				MIMO CHAIN B	14.03	14.15	25.99	19.15
				Combined A+B	16.53	16.65	**46.21**	21.65
		46F	5230	MIMO CHAIN A	18.12	18.24	66.65	23.24
				MIMO CHAIN B	18.65	18.77	75.30	23.77
				Combined A+B	21.40	21.52	**141.95**	26.52
802.11ac80	VHT0	42ac80	5210	SISO CHAIN A	14.03	14.11	25.78	19.11
				SISO CHAIN B	13.90	13.98	**25.02**	18.98
				MIMO CHAIN A	12.32	12.44	17.56	17.44
				MIMO CHAIN B	12.47	12.59	18.18	17.59
				Combined A+B	15.42	15.55	**35.86**	20.55

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max Value

Min Value

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Maximum Power Spectral Density (PSD)

Mode	Rate	Channel	Freq. [MHz]	Antenna	Average conducted PSD [dBm/MHz]	Maximum* conducted PSD [dBm/MHz]	Maximum* EIRP PSD [dBm/MHz]
802.11a	6Mbps	36	5180	SISO CHAIN A	7.00	7.08	12.08
				SISO CHAIN B	7.78	7.86	12.86
		40	5200	SISO CHAIN A	10.26	10.34	15.34
				SISO CHAIN B	9.71	9.79	14.79
		48	5240	SISO CHAIN A	10.02	10.10	15.10
				SISO CHAIN B	10.14	10.22	15.22
802.11n20	HT0	36	5180	SISO CHAIN A	6.62	6.72	11.72
				SISO CHAIN B	6.41	6.51	11.51
		40	5200	SISO CHAIN A	9.33	9.43	14.43
				SISO CHAIN B	9.25	9.35	14.35
		48	5240	SISO CHAIN A	9.30	9.40	14.40
				SISO CHAIN B	9.33	9.43	14.43
	HT8	36	5180	MIMO CHAIN A	5.03	5.14	10.14
				MIMO CHAIN B	5.91	6.02	11.02
				Combined A+B	8.50	8.61	13.61
		40	5200	MIMO CHAIN A	7.13	7.24	12.24
				MIMO CHAIN B	7.72	7.83	12.83
				Combined A+B	10.22	10.33	15.33
		48	5240	MIMO CHAIN A	6.93	7.04	12.04
				MIMO CHAIN B	7.16	7.27	12.27
				Combined A+B	10.06	10.17	15.17
802.11n40	HT0	38F	5190	SISO CHAIN A	3.73	3.81	8.81
				SISO CHAIN B	3.95	4.03	9.03
		46F	5230	SISO CHAIN A	6.39	6.47	11.47
				SISO CHAIN B	6.40	6.48	11.48
	HT8	38F	5190	MIMO CHAIN A	-1.45	-1.33	3.67
				MIMO CHAIN B	-0.35	-0.23	4.77
				Combined A+B	2.15	2.26	7.26
		46F	5230	MIMO CHAIN A	3.68	3.80	8.80
				MIMO CHAIN B	3.66	3.78	8.78
				Combined A+B	6.68	6.80	11.80
802.11ac80	VHT0	42ac80	5210	SISO CHAIN A	-3.22	-3.14	1.86
				SISO CHAIN B	-3.43	-3.35	1.65
				MIMO CHAIN A	-4.96	-4.84	0.16
				MIMO CHAIN B	-4.78	-4.66	0.34
				Combined A+B	-1.86	-1.73	3.27

* Maximum values are the duty cycle compensated values calculated from the measured average values

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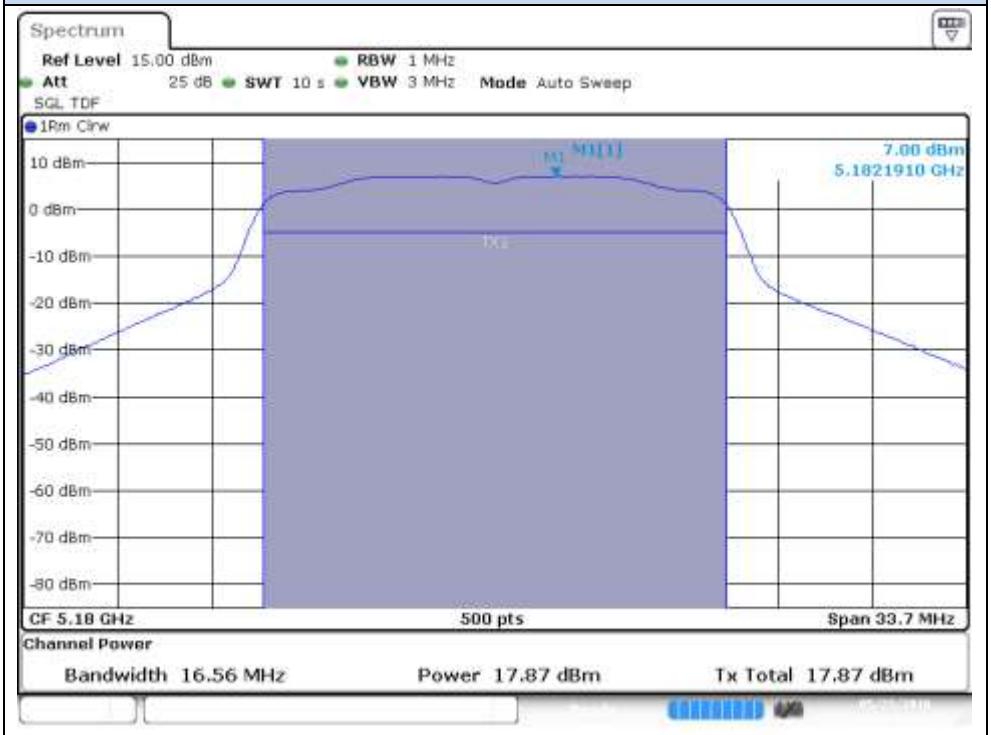
Results screenshot

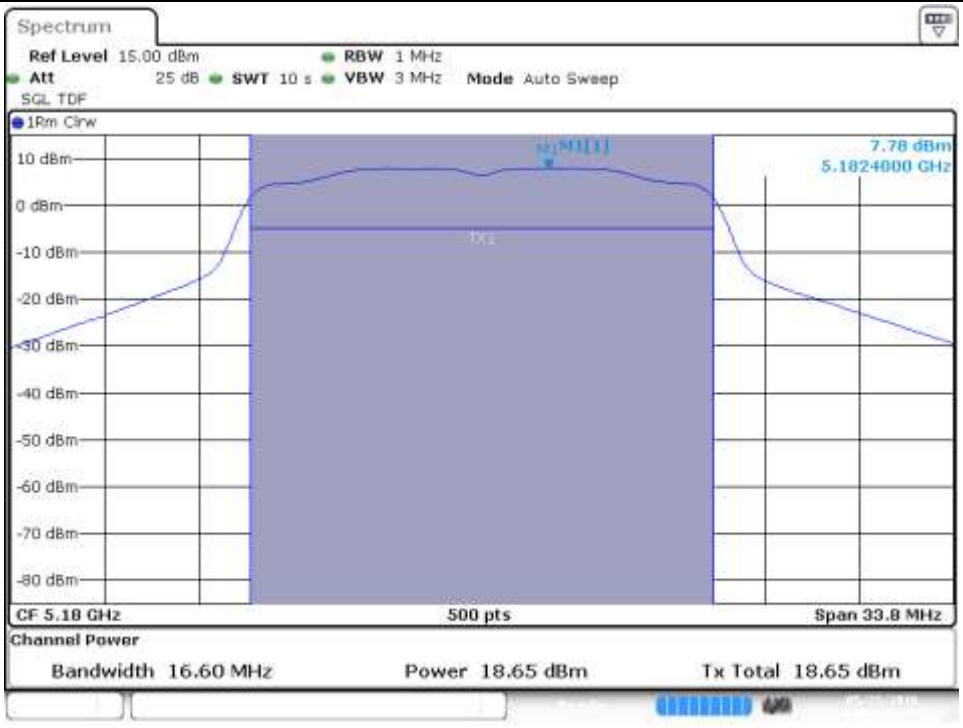
802.11a, 6Mbps

Max Power & PSD, Chain A – CH36



Date: 23.MAY.2016 11:58:19

Max Power & PSD, Chain B – CH36



Date: 23.MAY.2016 15:08:16

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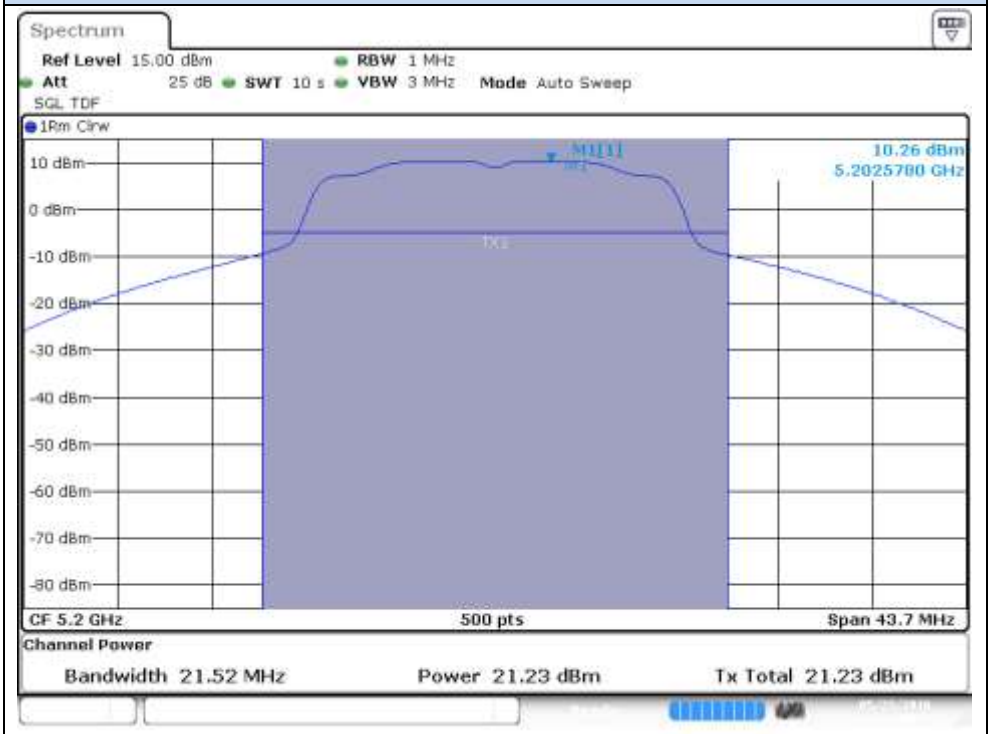
Max Power & PSD, Chain A – CH40



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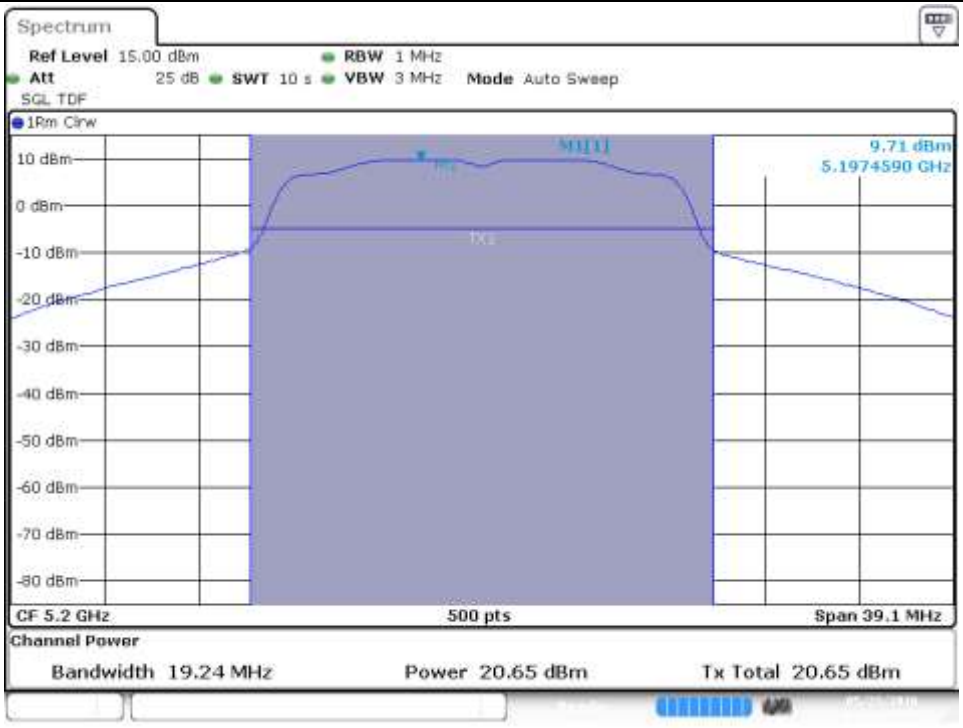
Max Power & PSD, Chain B – CH40



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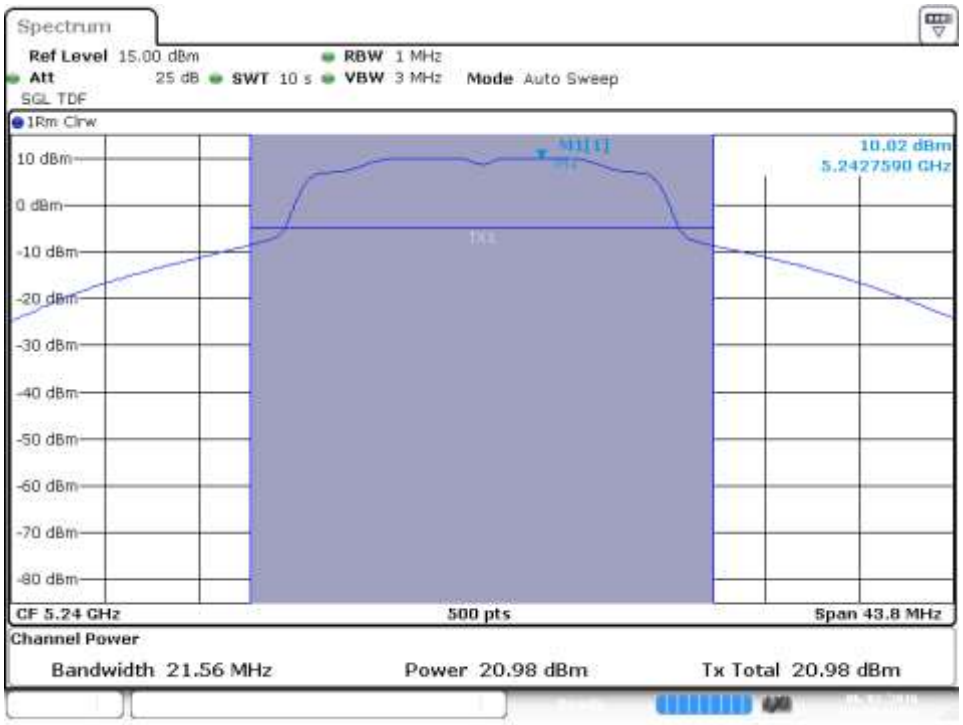
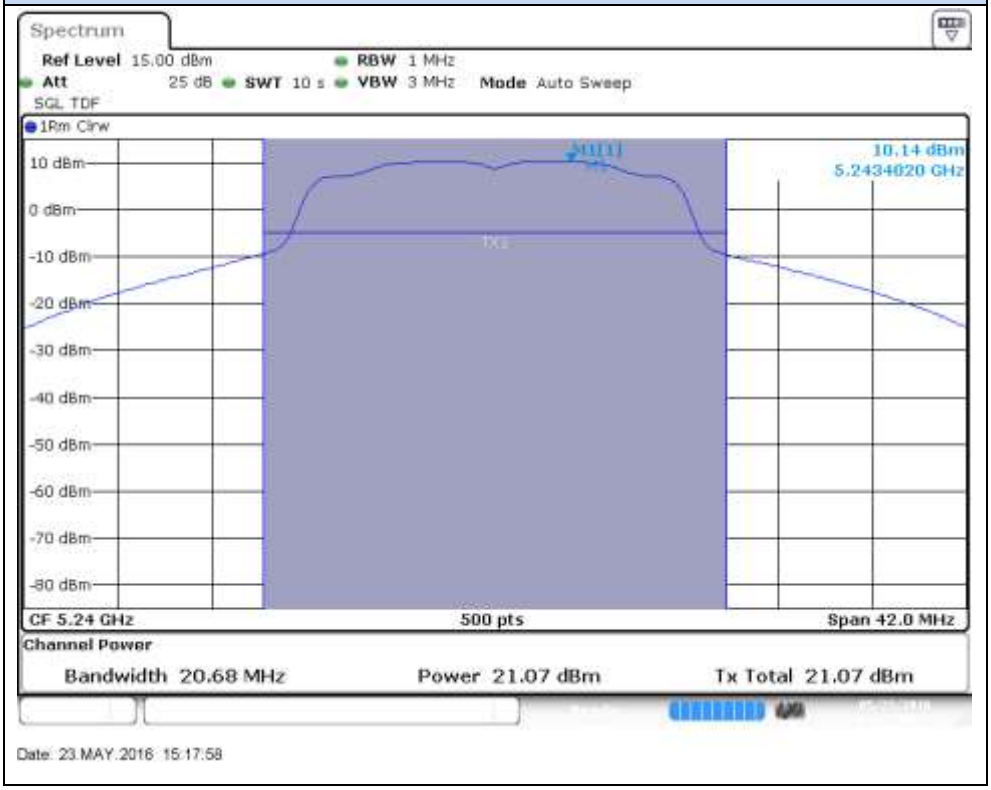
Max Power & PSD, Chain A – CH48



Max Power & PSD, Chain B – CH48



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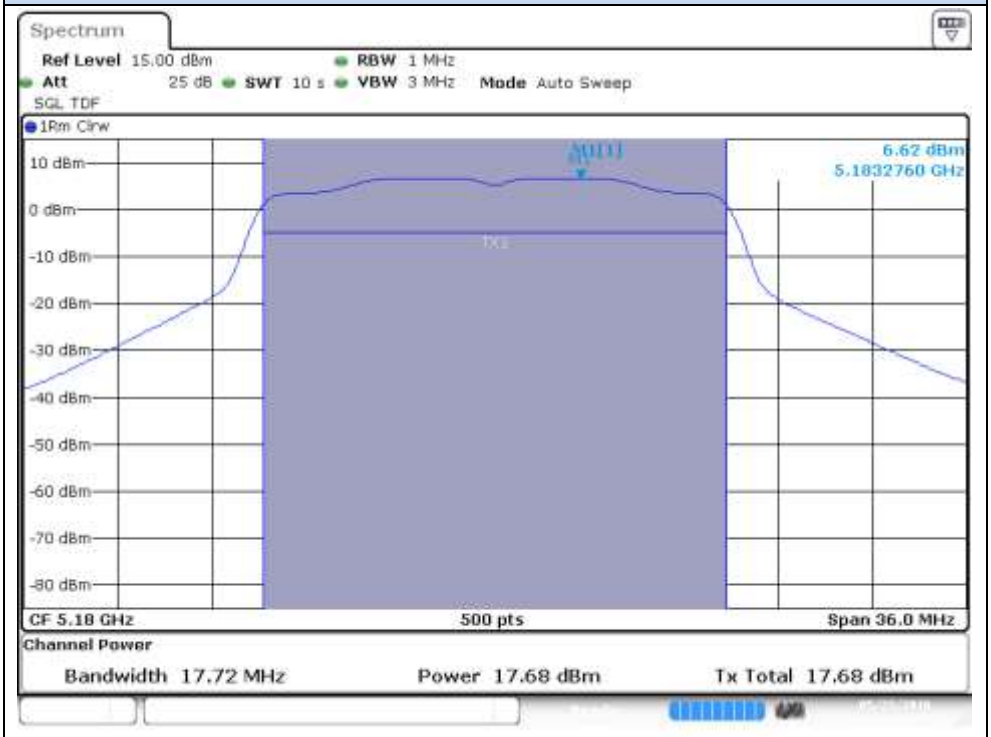
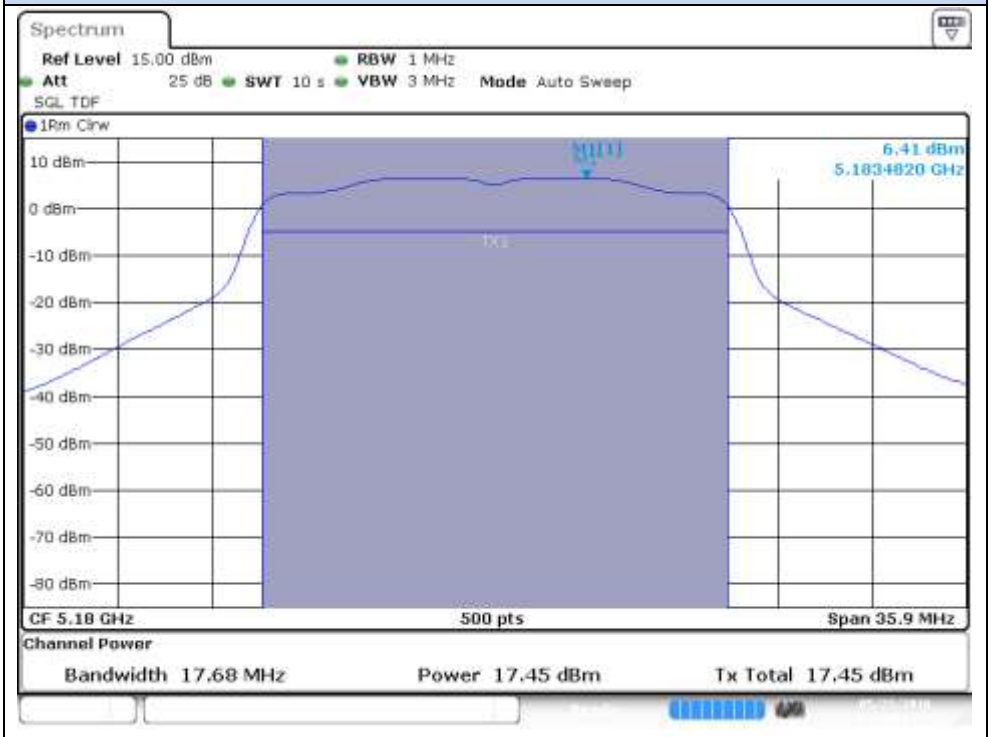
802.11n20, HT0 (SISO)

Max Power & PSD, Chain A – CH36



Max Power & PSD, Chain B – CH36



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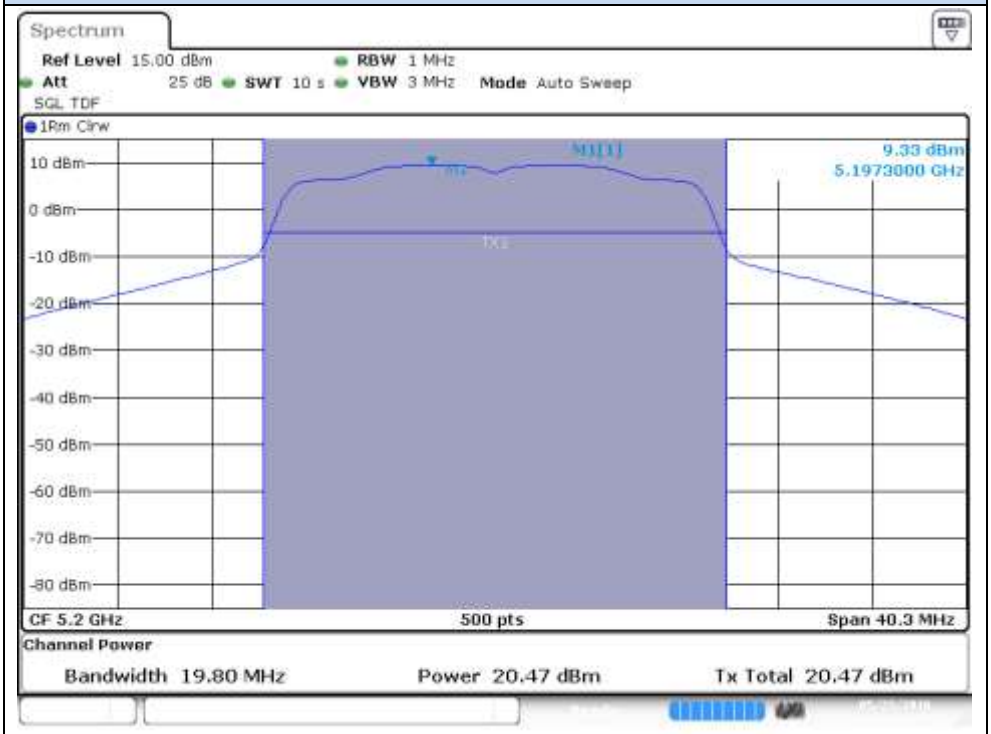
Max Power & PSD, Chain A – CH40



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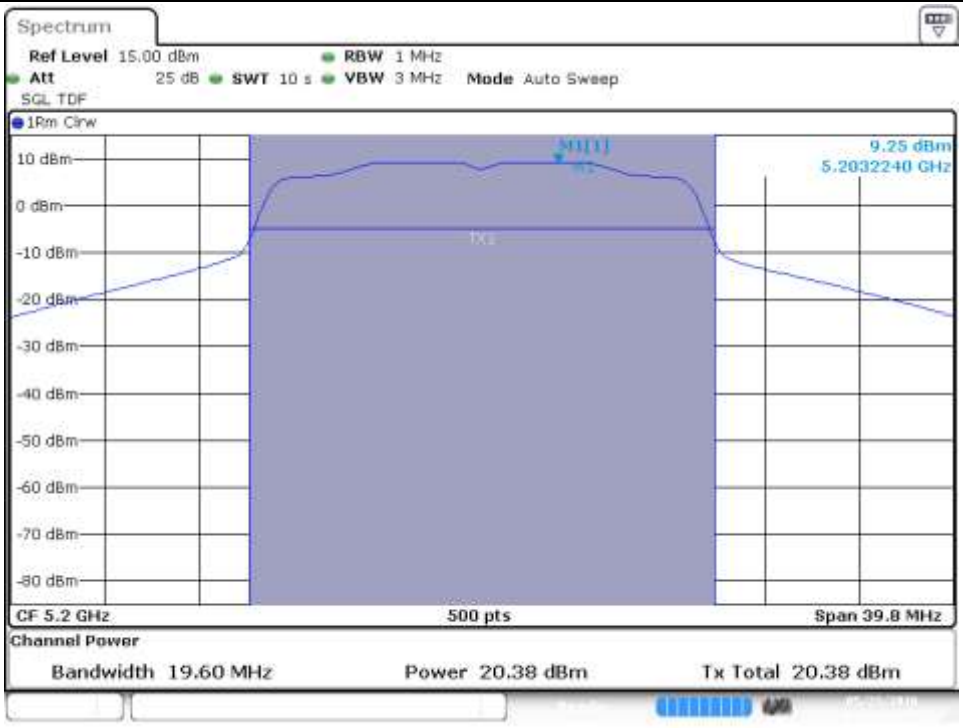

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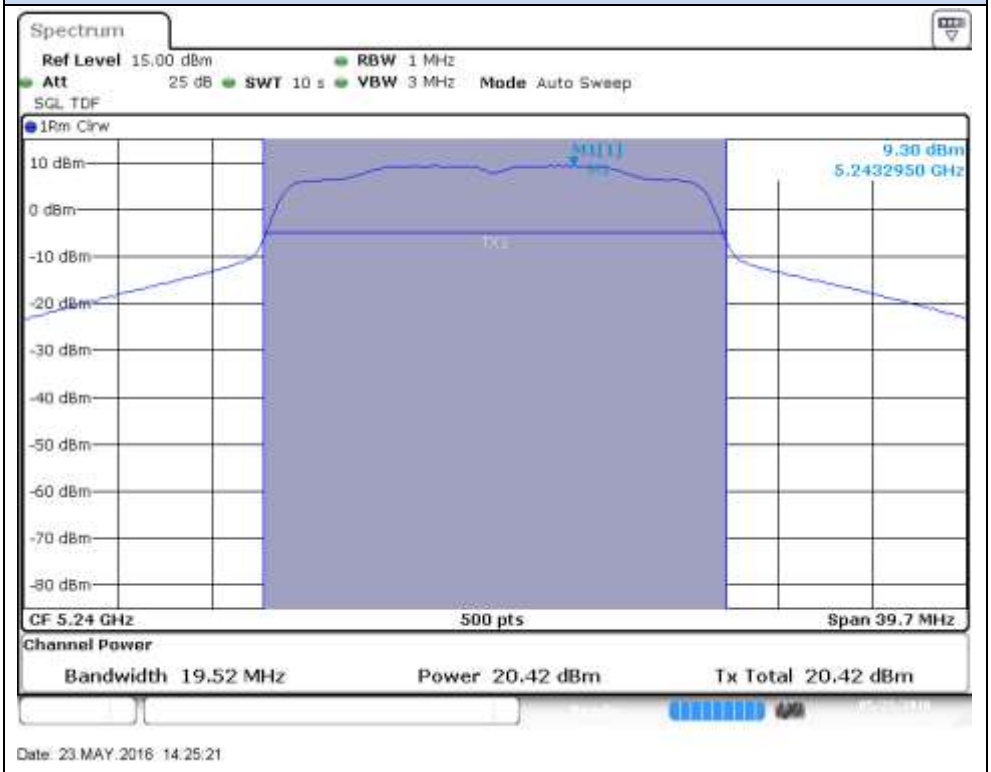
Max Power & PSD, Chain A – CH48



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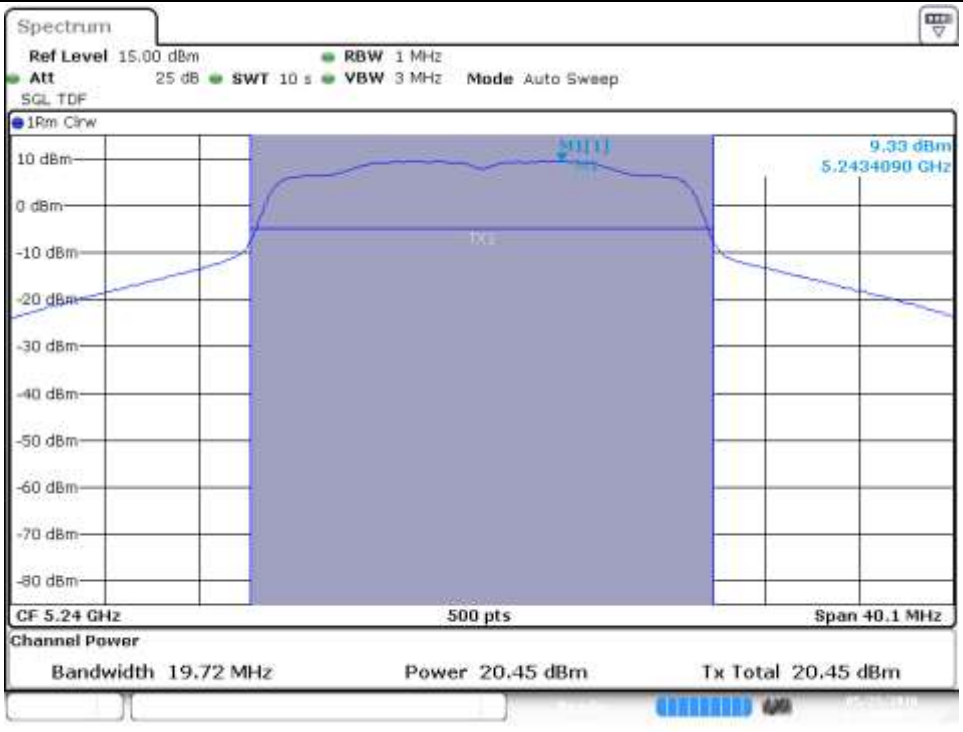

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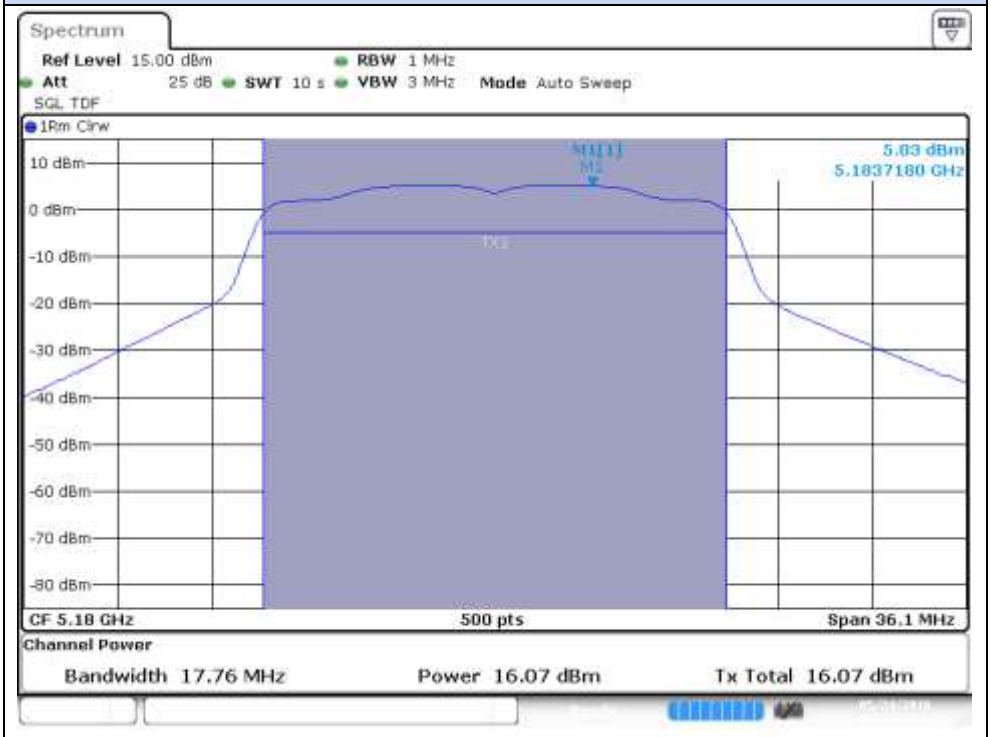
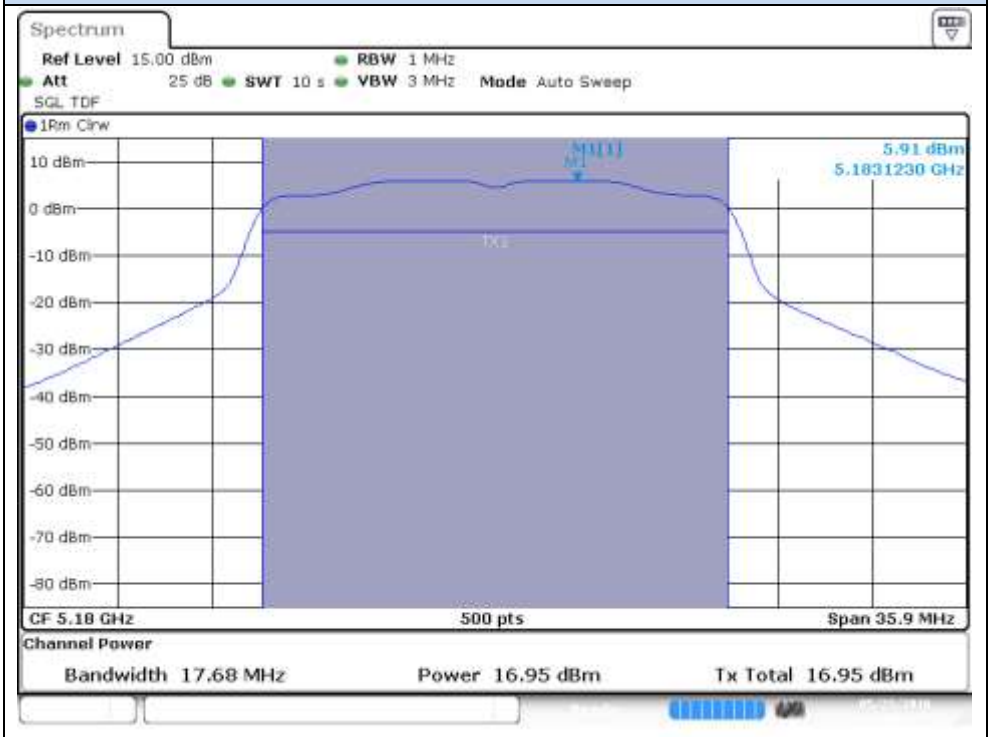
802.11n20, HT8 (MIMO)

Max Power & PSD, Chain A – CH36



Max Power & PSD, Chain B – CH36



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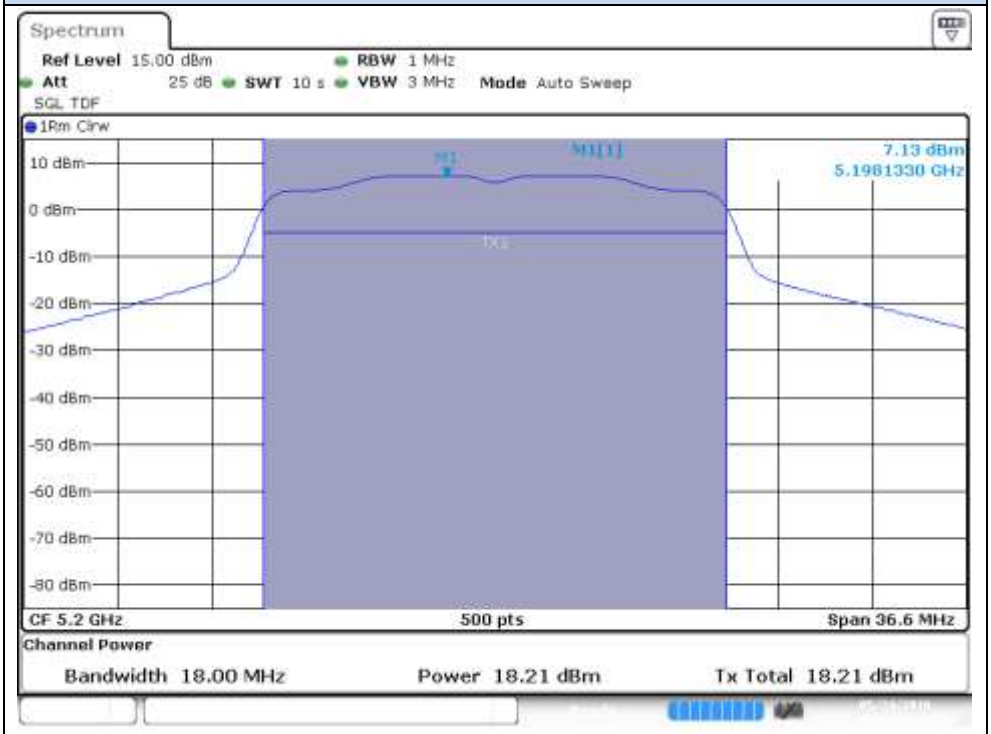
Max Power & PSD, Chain A – CH40



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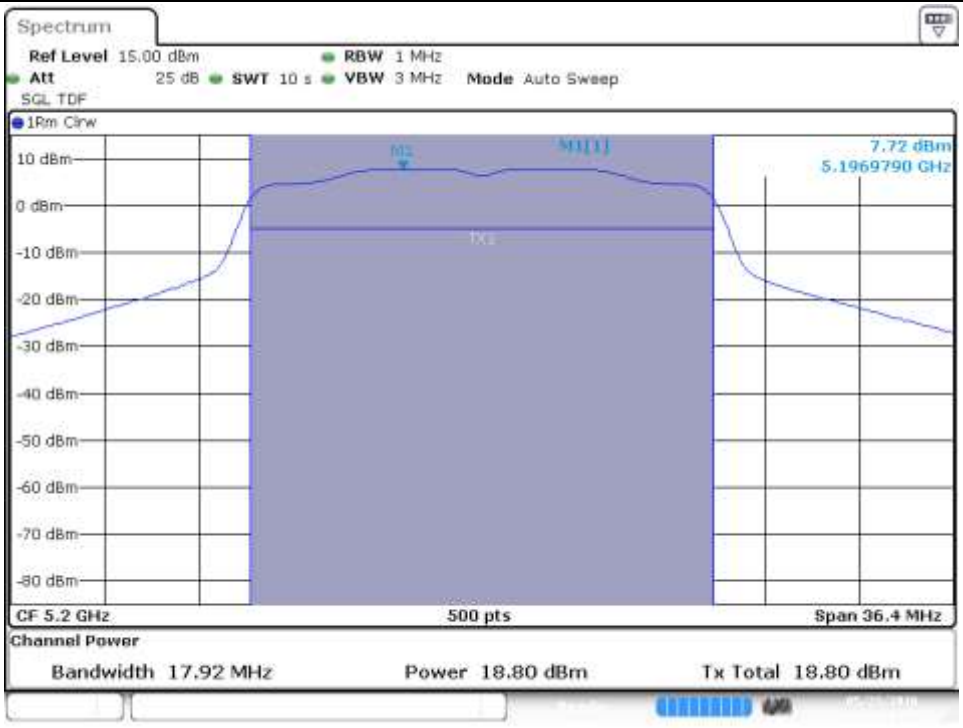

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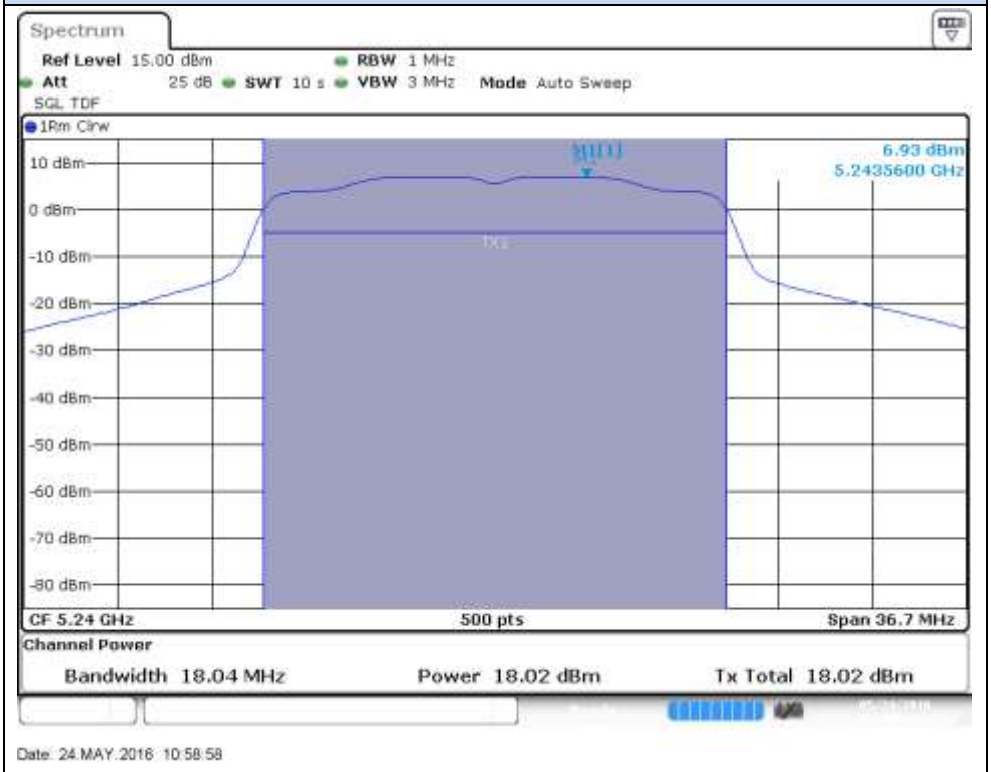
Max Power & PSD, Chain A – CH48



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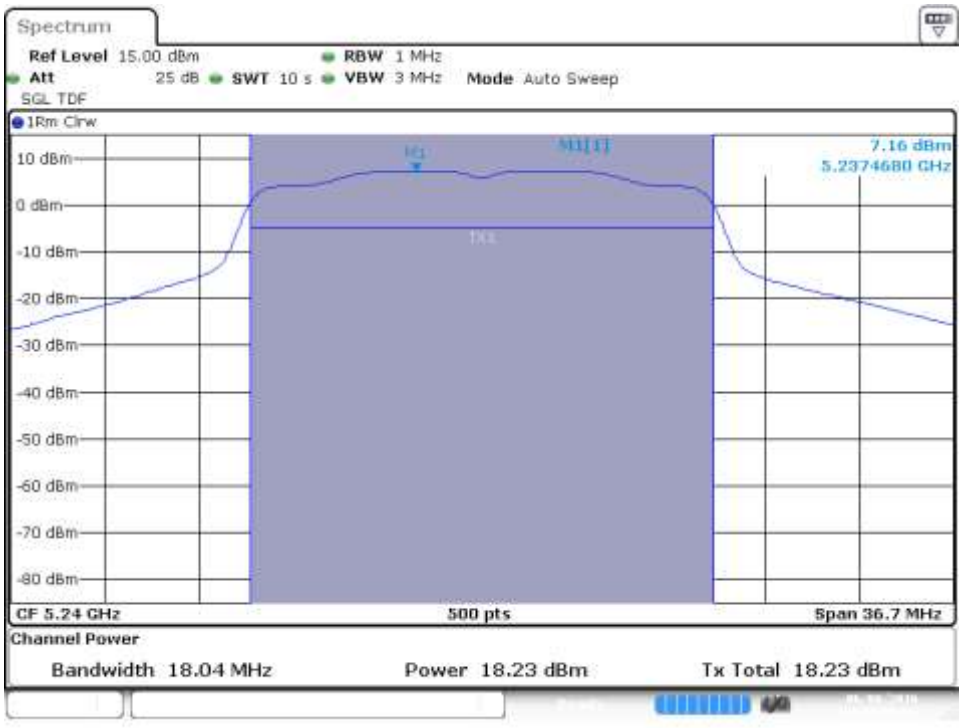
Max Power & PSD, Chain B – CH48



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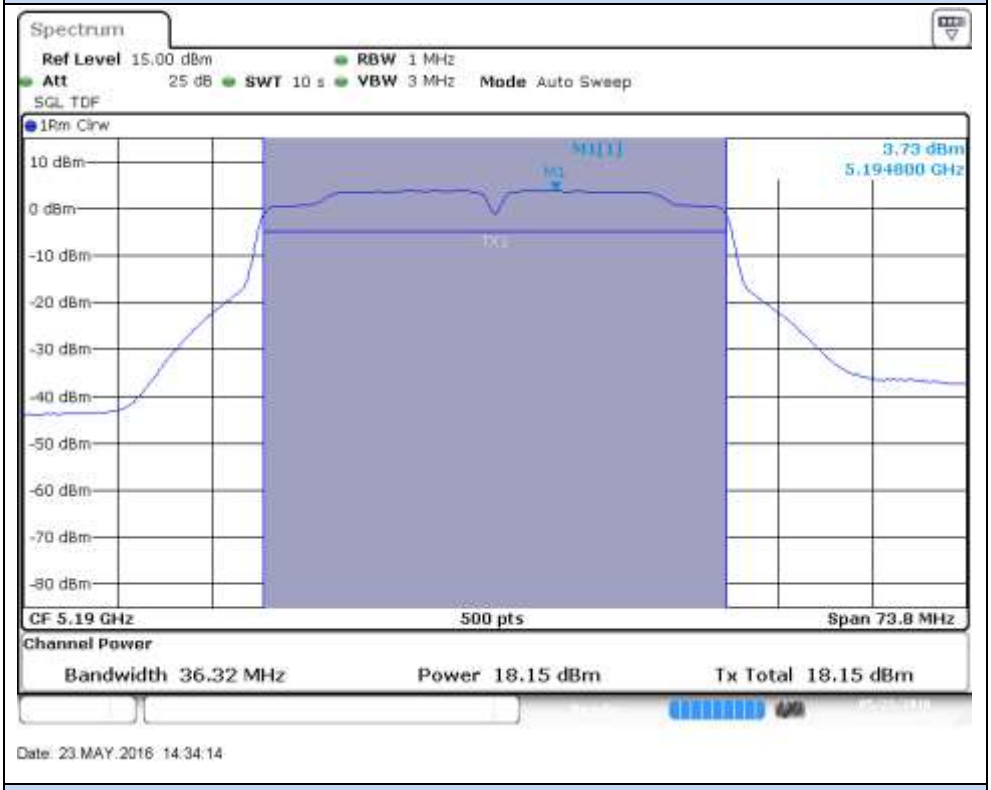
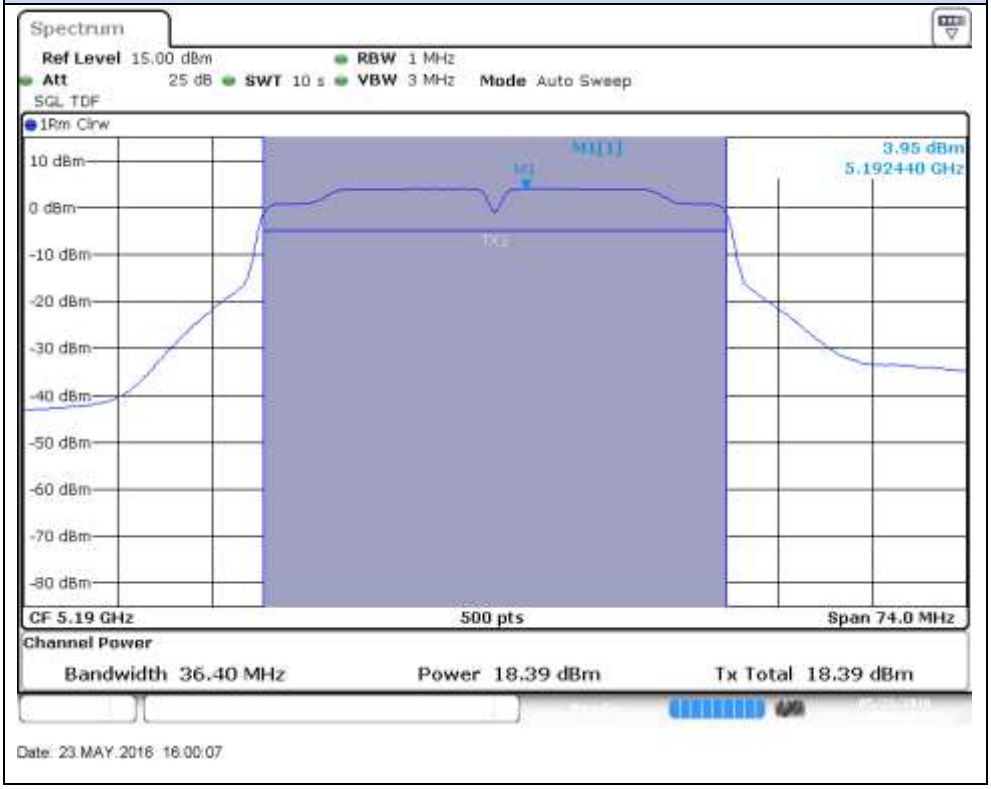
802.11n40, HT0 (SISO)

Max Power & PSD, Chain A – CH38F



Max Power & PSD, Chain B – CH38F



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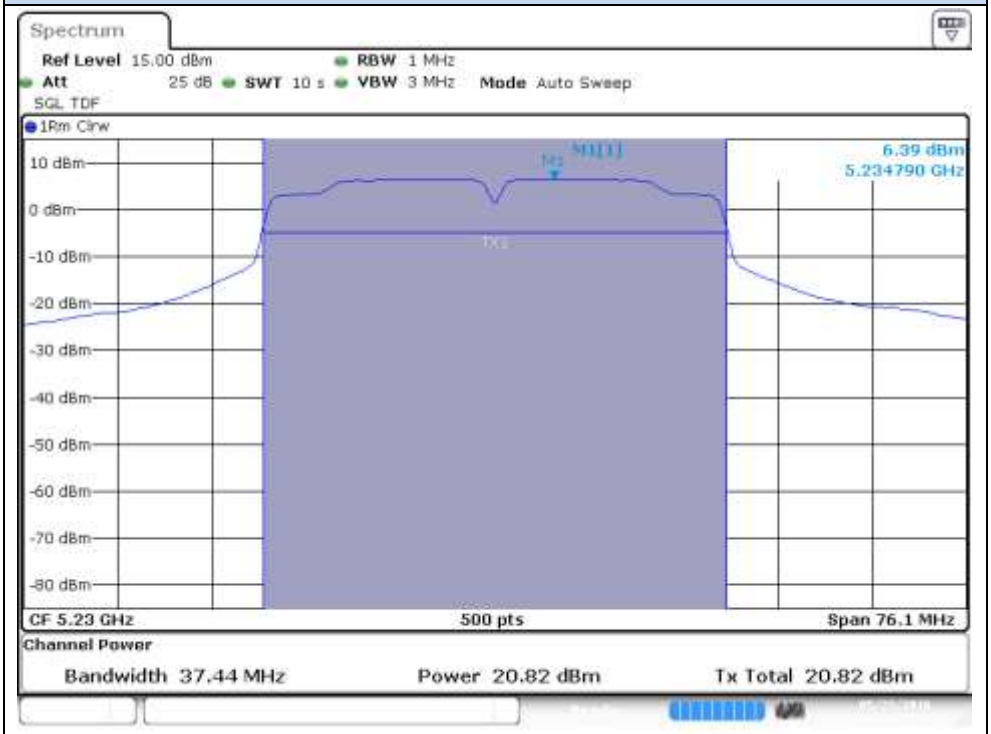
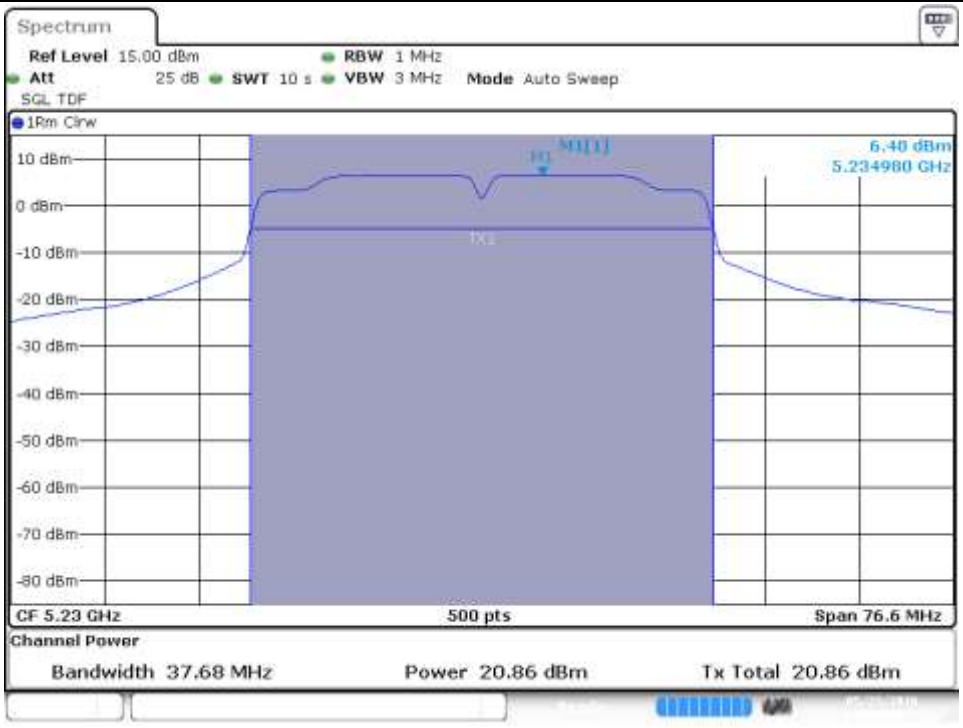
Max Power & PSD, Chain A – CH46F



Max Power & PSD, Chain B – CH46F



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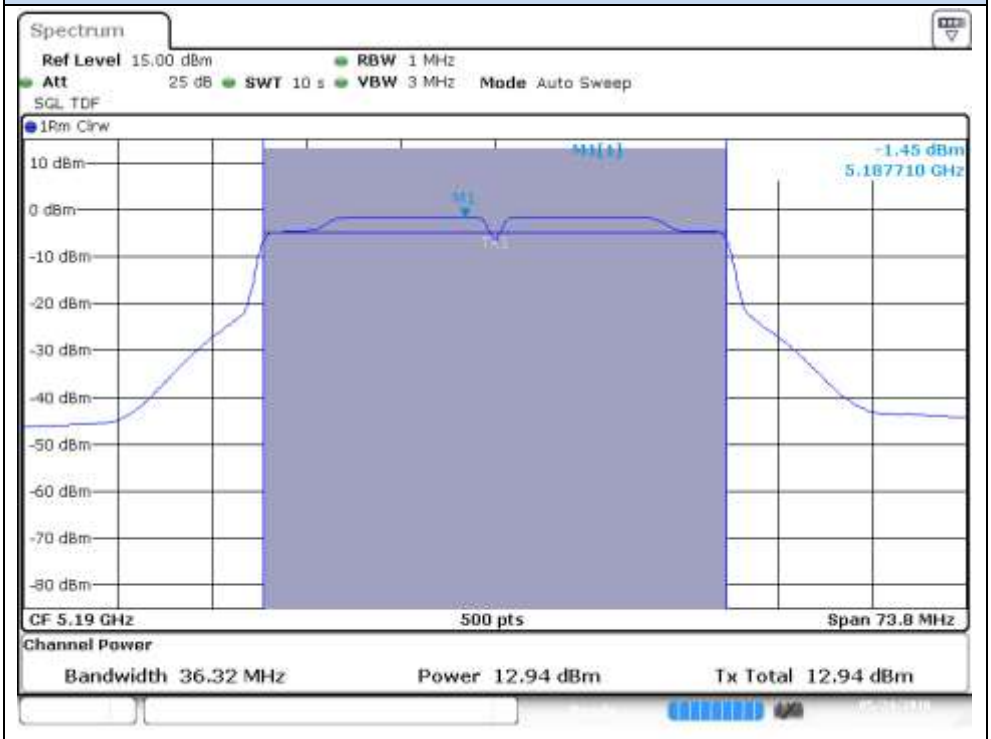
802.11n40, HT8 (MIMO)

Max Power & PSD, Chain A – CH38F



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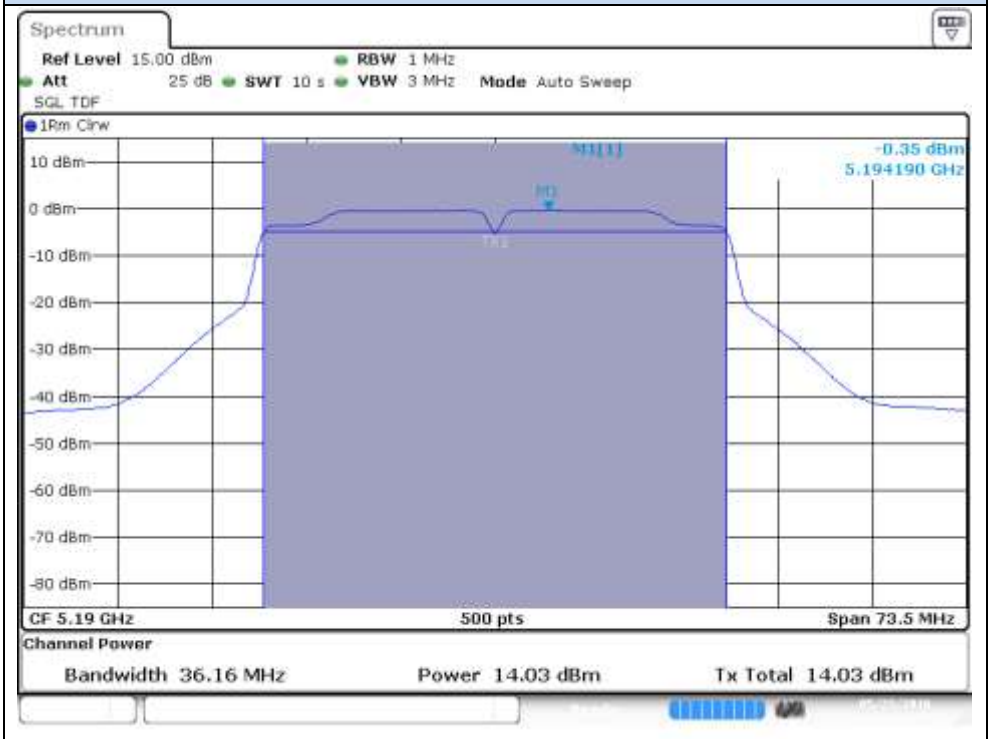

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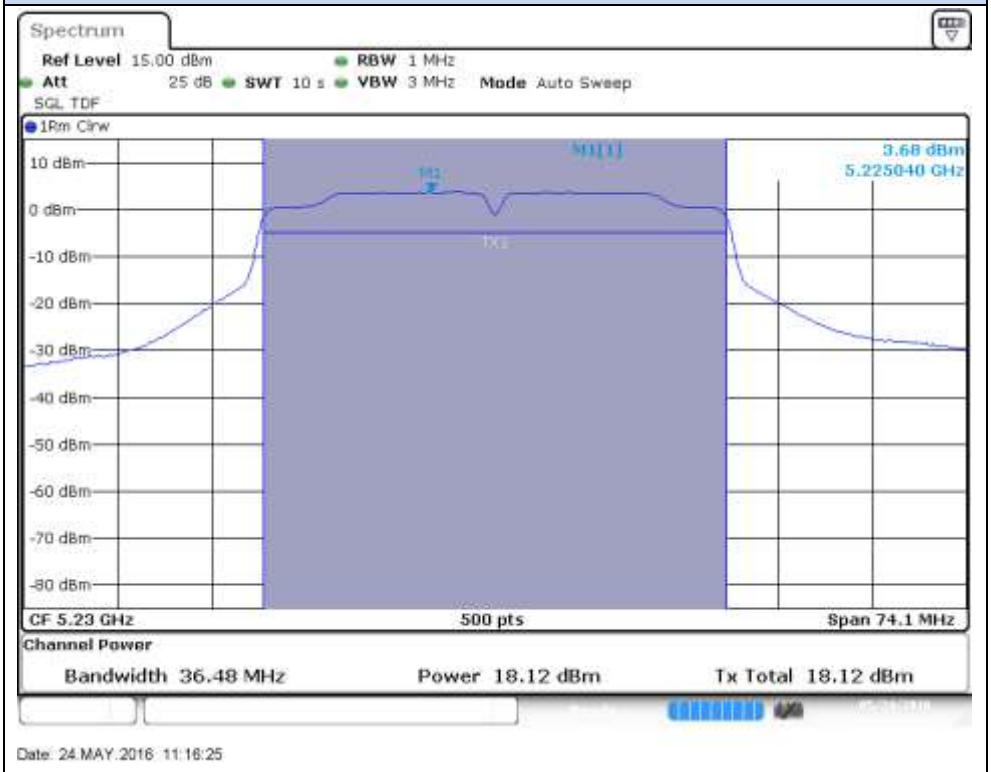

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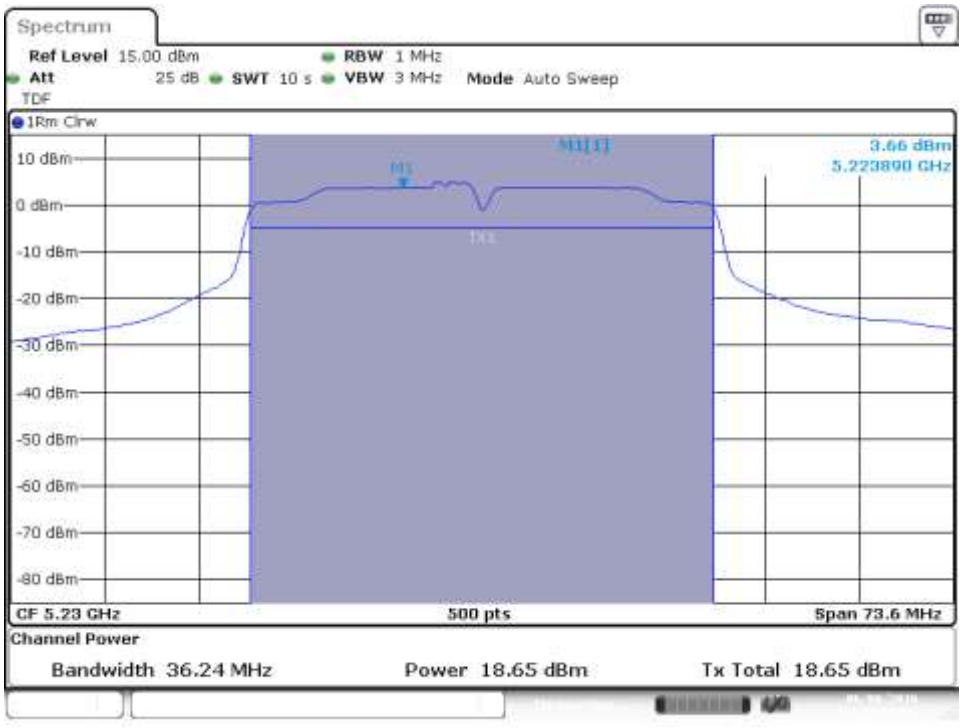

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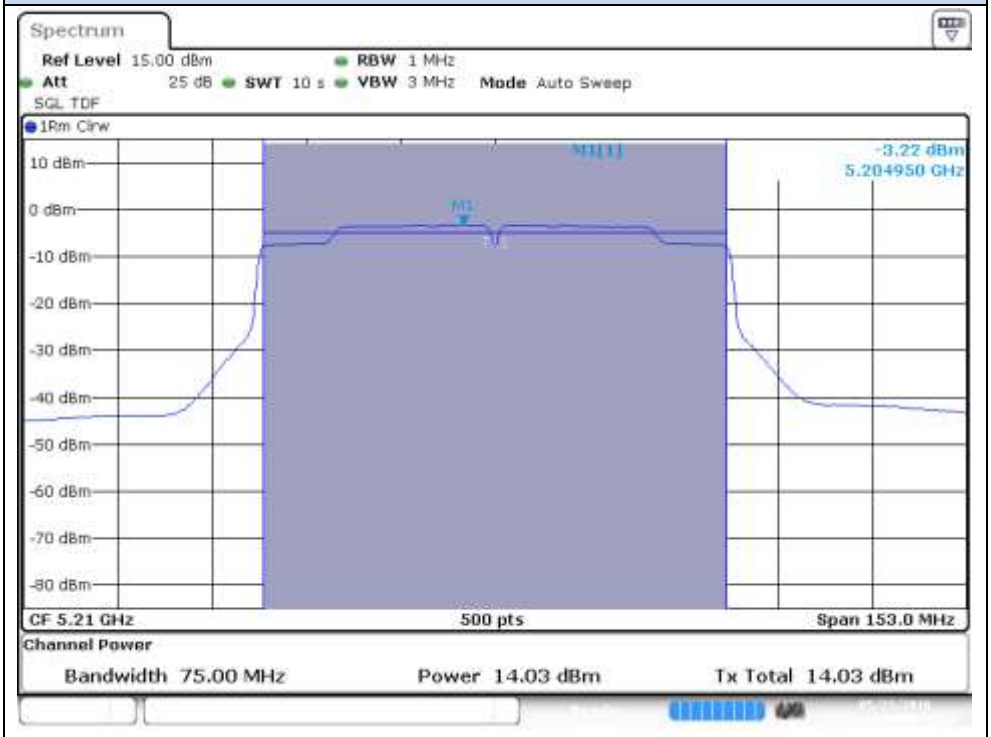
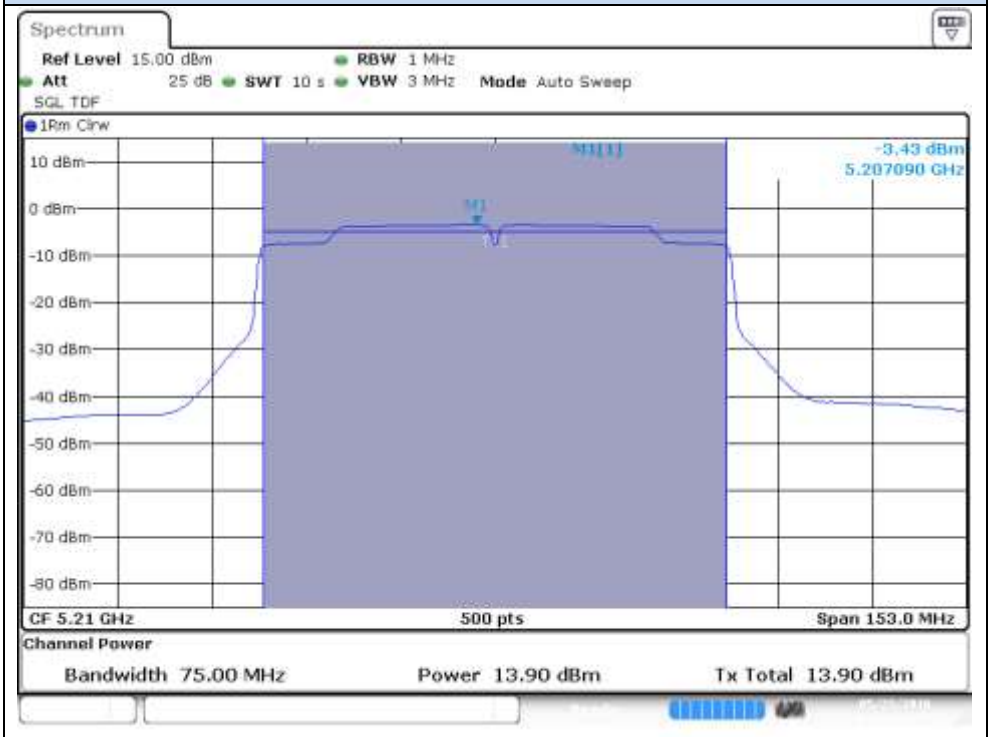
802.11ac80, VHT0 (SISO)

Max Power & PSD, Chain A – CH42ac80



Max Power & PSD, Chain B – CH42ac80



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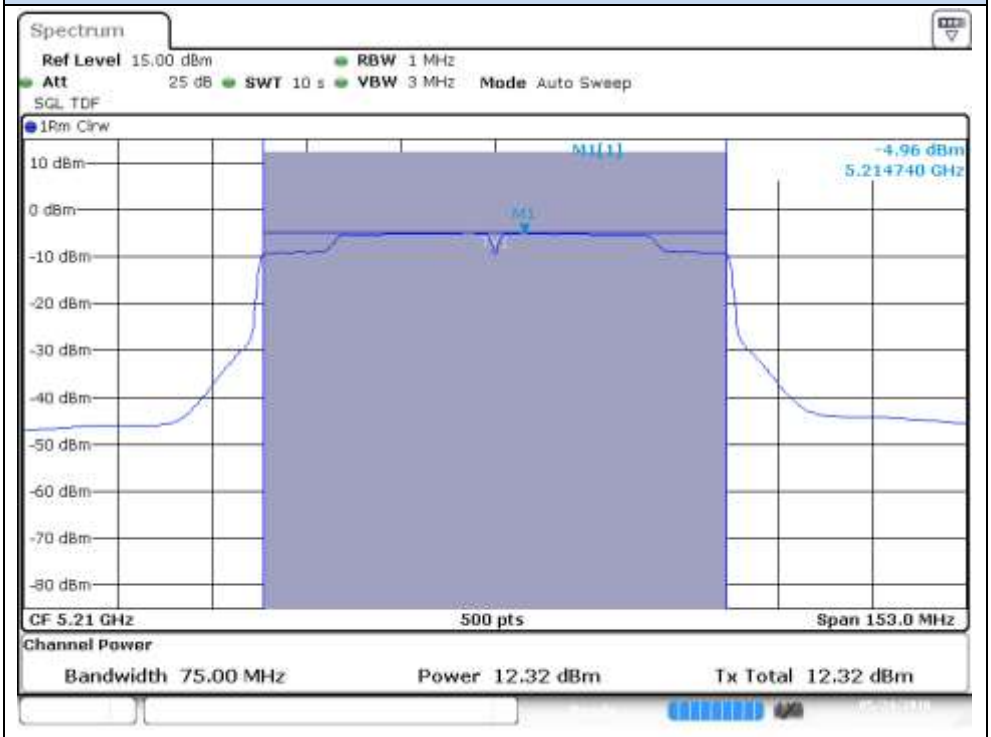
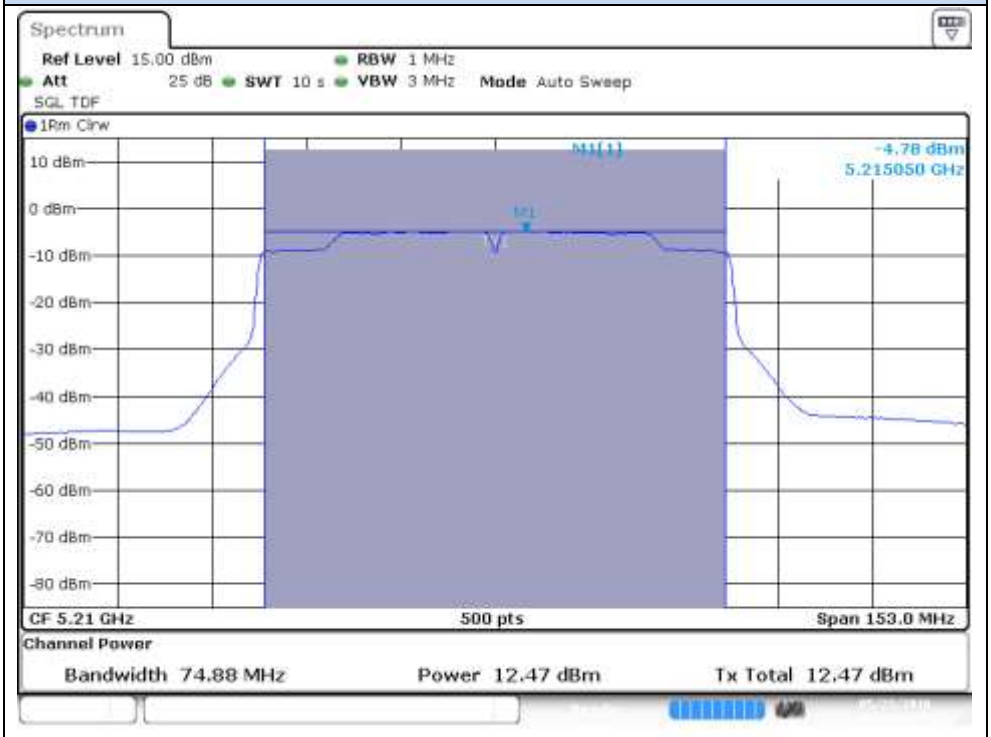
802.11ac80, VHT0 (MIMO)

Max Power & PSD, Chain A – CH42ac80



Max Power & PSD, Chain B – CH42ac80



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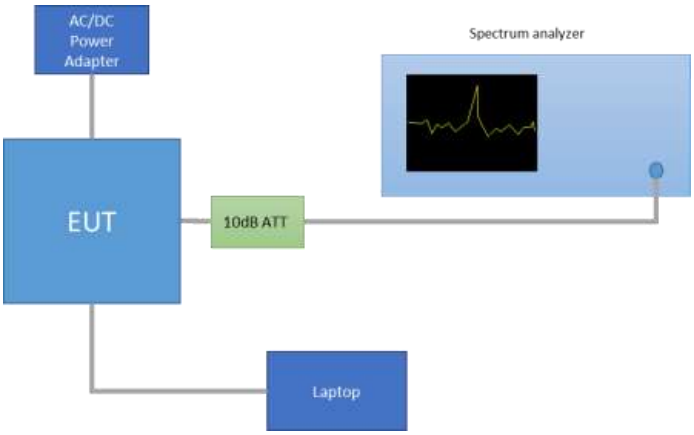
B.3 Undesirable emissions limits: Band Edge (conducted)

Test limits

<table>
<tr><th>FCC part</th><th>Limits</th></tr>
<tr><td>15.407 (b) (1)</td><td>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.</td></tr>
<tr><td>15.209</td><td>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):
<table>
<tr><th>Freq Range (MHz)</th><th>Field Strength (µV/m)</th><th>Field Strength (dBµV/m)</th><th>Meas. Distance (m)</th></tr>
<tr><td>0.009-0.490</td><td>2400/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>-</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr>
</table>
The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</td></tr>
</table>

Test procedure

The setup below was used to measure undesirable emissions on the Band Edge domain. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss and the declared Antenna Gain.



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For Band Edge measurements in average mode on the low frequency section, the Video Bandwidth Method was used according to section G) 6) (KDB 789033 D02), with the following parameters:

- When the duty cycle is > 98 %, VBW = 10Hz
- When the duty cycle is < 98 %, VBW > 1/T, where T is defined in section II.B.1.a

In case of Band Edge measurements falling in restricted bands, the declared Antenna Gain is also compensated in the graph. The declared maximum antenna gain is 5dBi.

For Band Edge measurements falling in restricted bands, the following limits in dBm were applied for the average detector after the conversion from the limits detailed above in dBµV/m, according to FCC 47 CFR part 15 - Subpart C – §15.209(a). The limits in dBm for peak detector are 20dB above the indicated values in the table.

§15.209(a)			Converted values	
Freq Range (MHz)	Distance (m)	Field strength (microvolts/meter)	Field strength (dB microvolts/meter)	Power (dBm)
Above 960	3	500	54.0	-41.2

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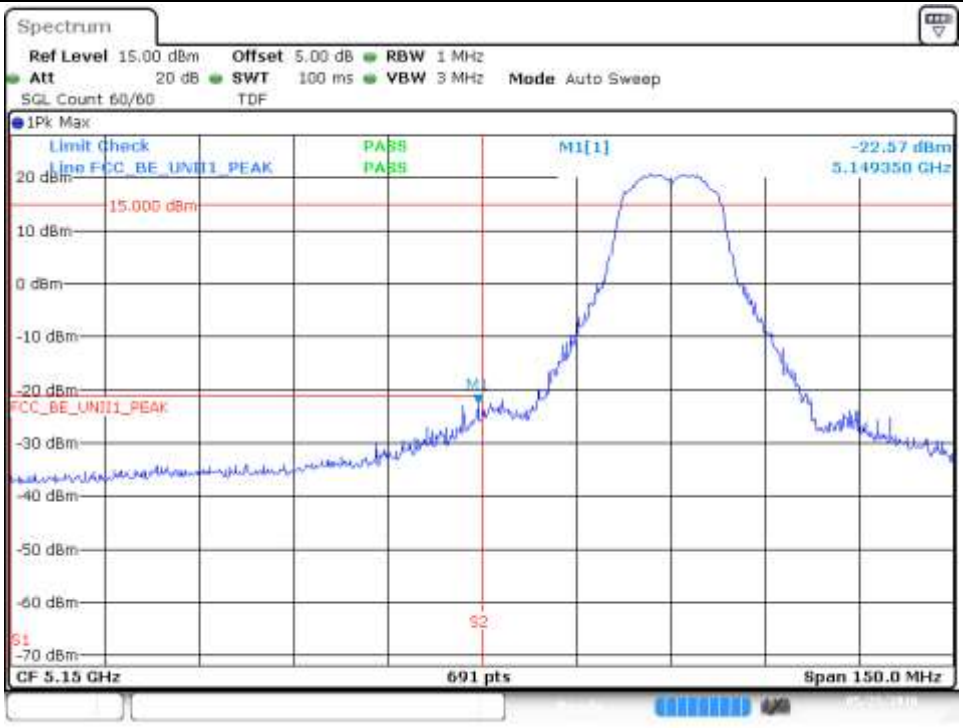
Results Screenshot

802.11a, 6Mbps – Chain A

BE Low Freq Section, Peak – CH36



BE Low Freq Section, RMS – CH36

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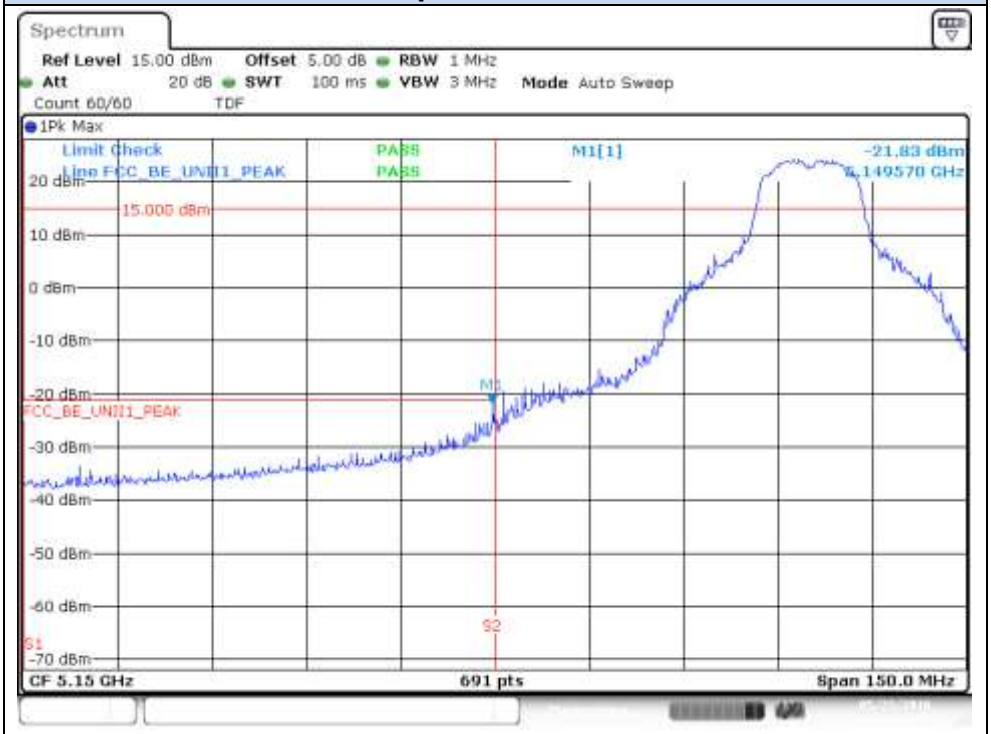
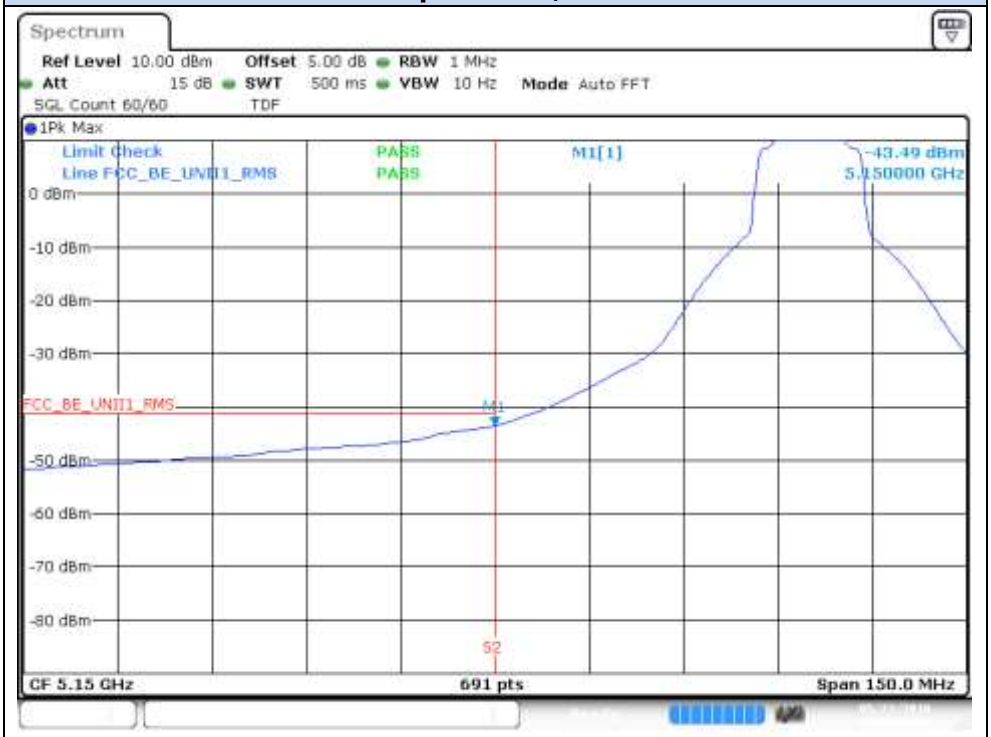
BE Low Freq Section, Peak – CH40



Date: 23.MAY.2016 12:17:15

BE Low Freq Section, RMS – CH40



Date: 23.MAY.2016 12:16:38

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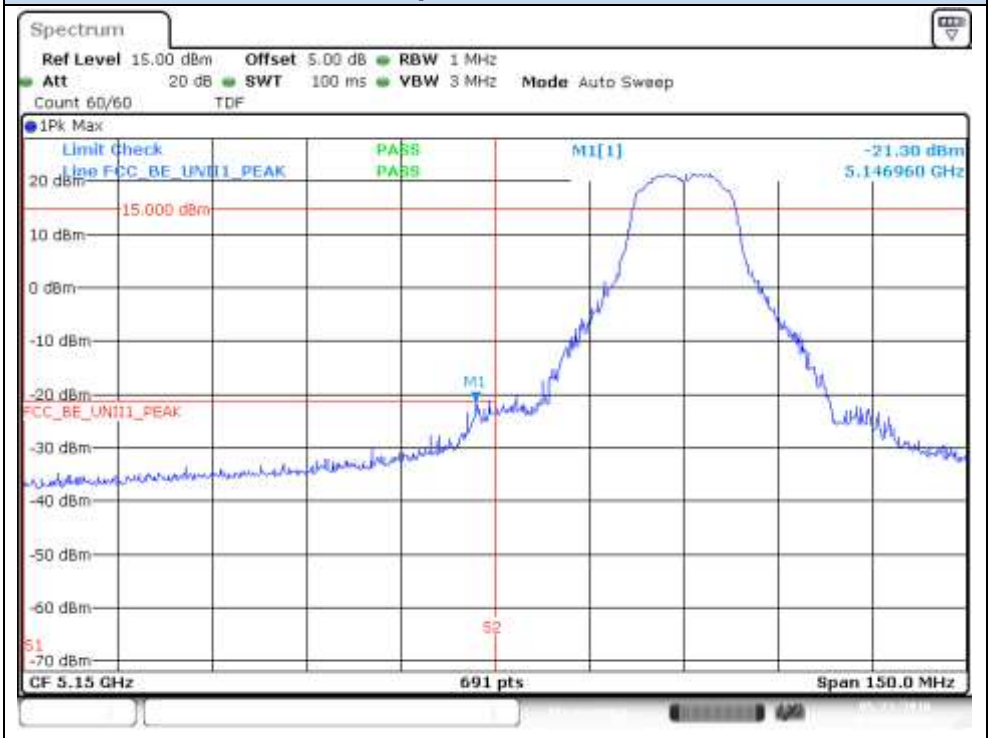
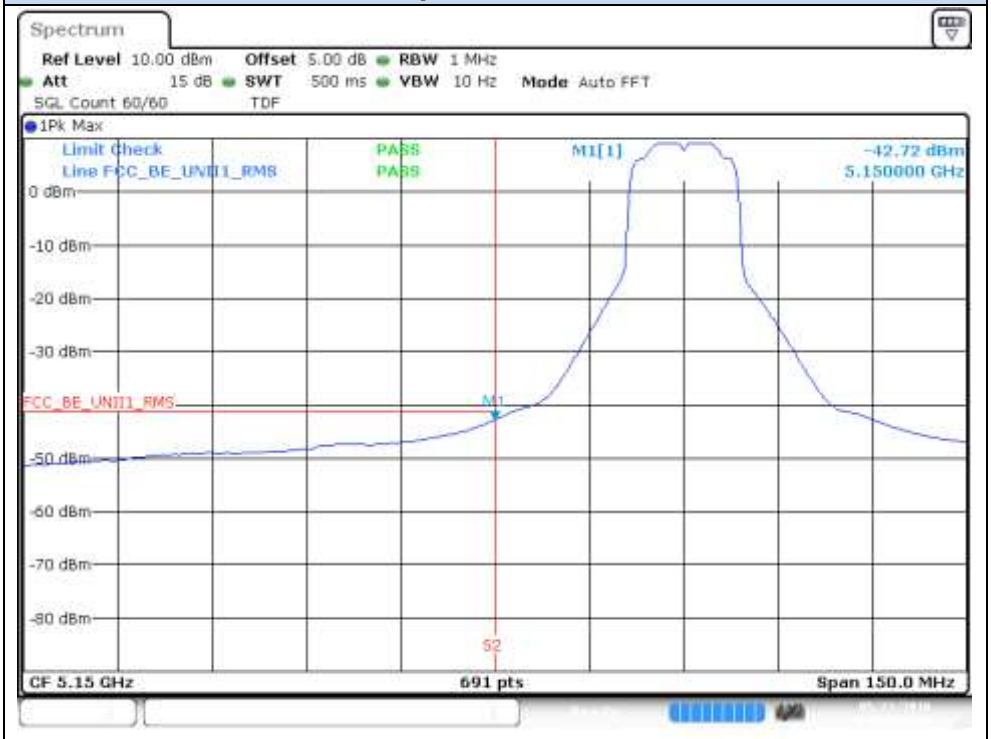
802.11a, 6Mbps – Chain B

BE Low Freq Section, Peak – CH36



Date: 23.MAY.2016 15:06:36

BE Low Freq Section, RMS – CH36



Date: 23.MAY.2016 15:02:08

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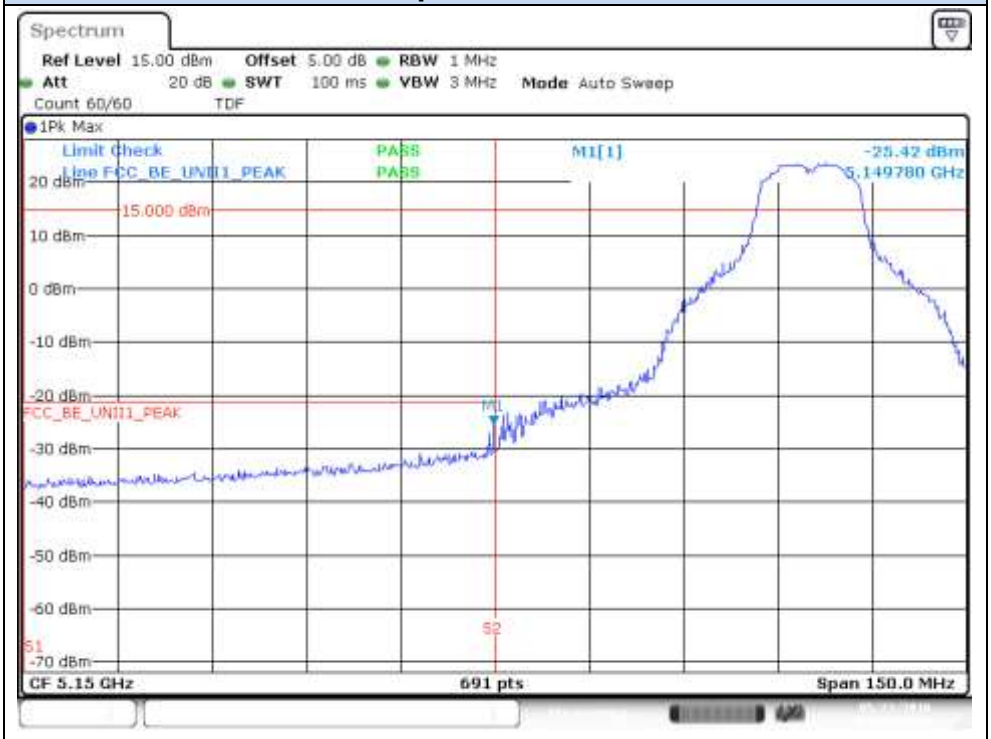
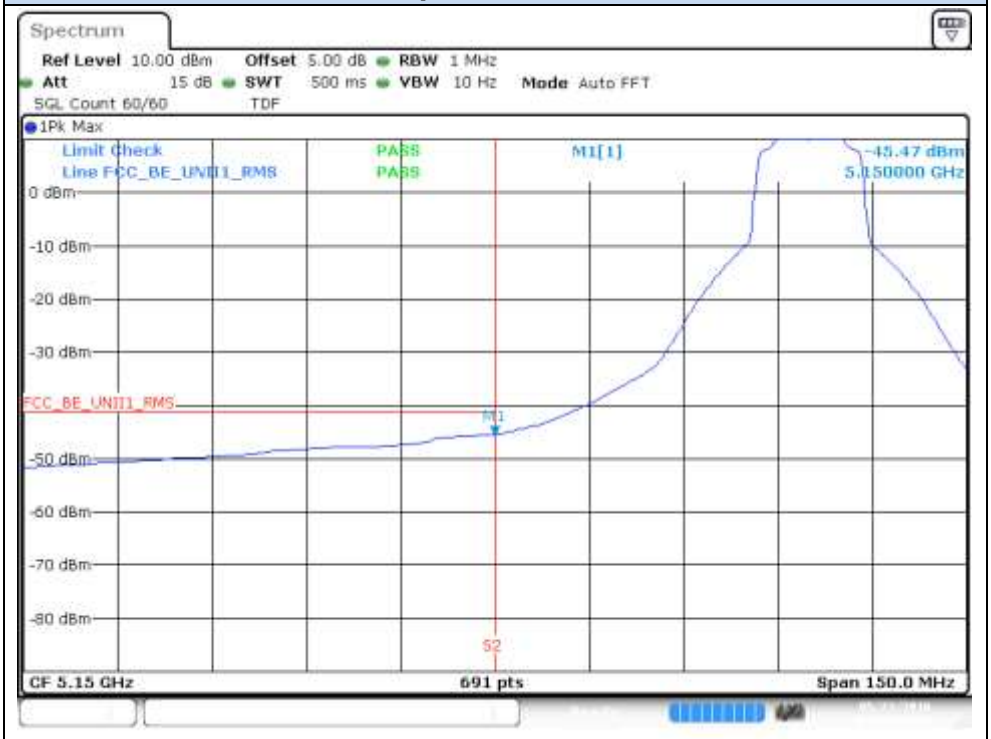
BE Low Freq Section, Peak – CH40



BE Low Freq Section, RMS – CH40



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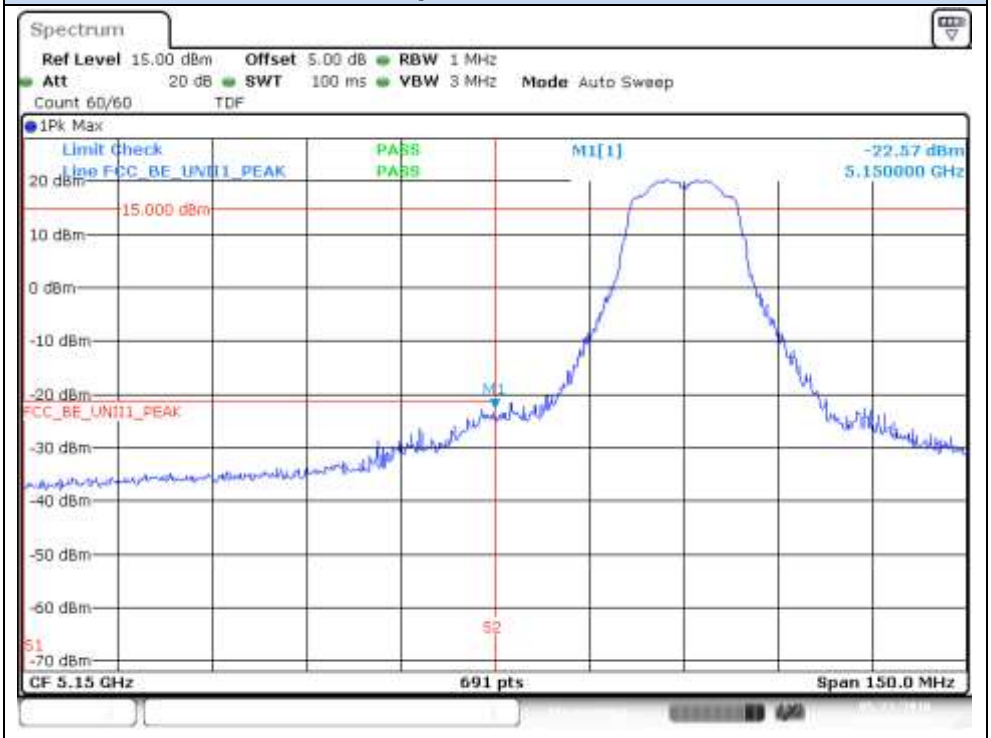
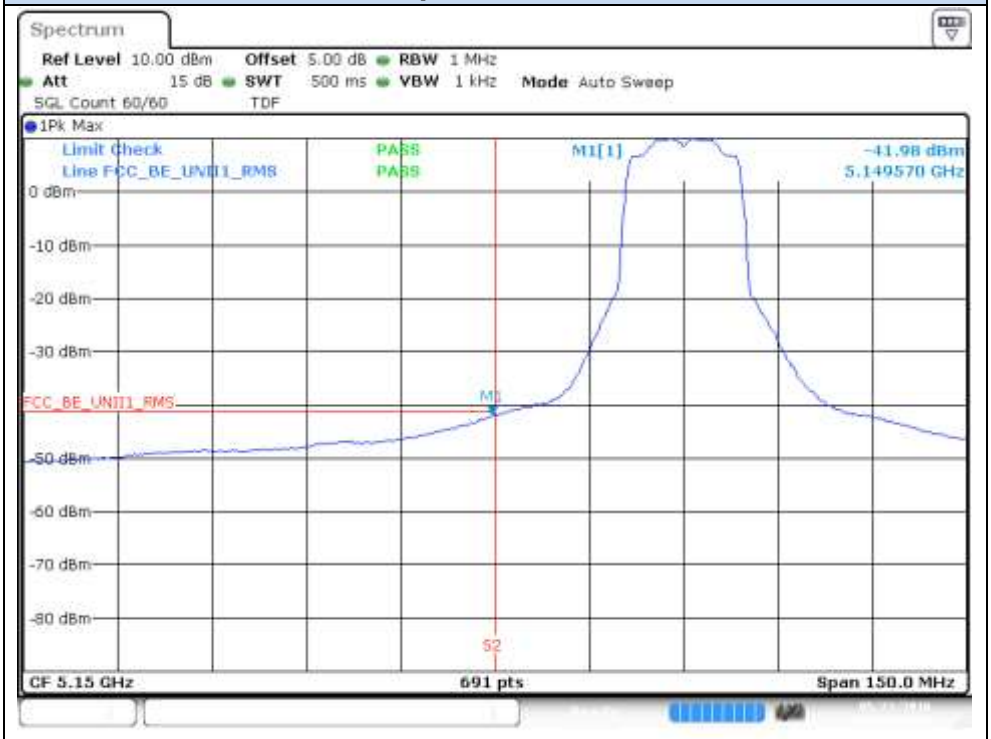
802.11n20, HT0 (SISO) – Chain A

BE Low Freq Section, Peak – CH36



Date: 23.MAY.2016 14:14:39

BE Low Freq Section, RMS – CH36



Date: 23.MAY.2016 14:14:19

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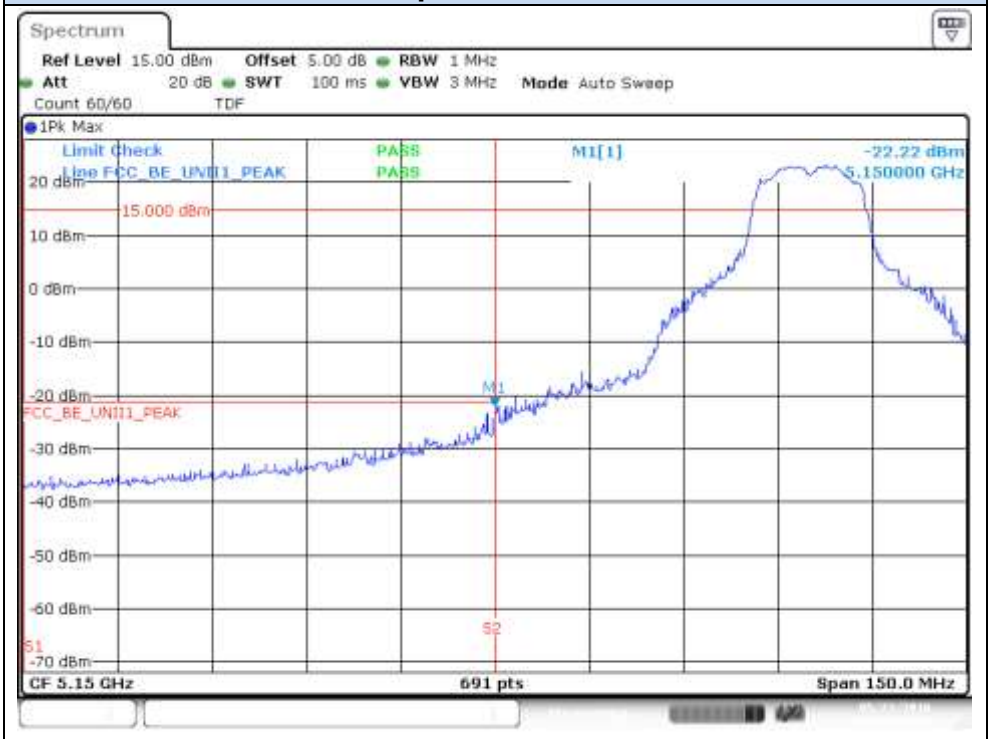
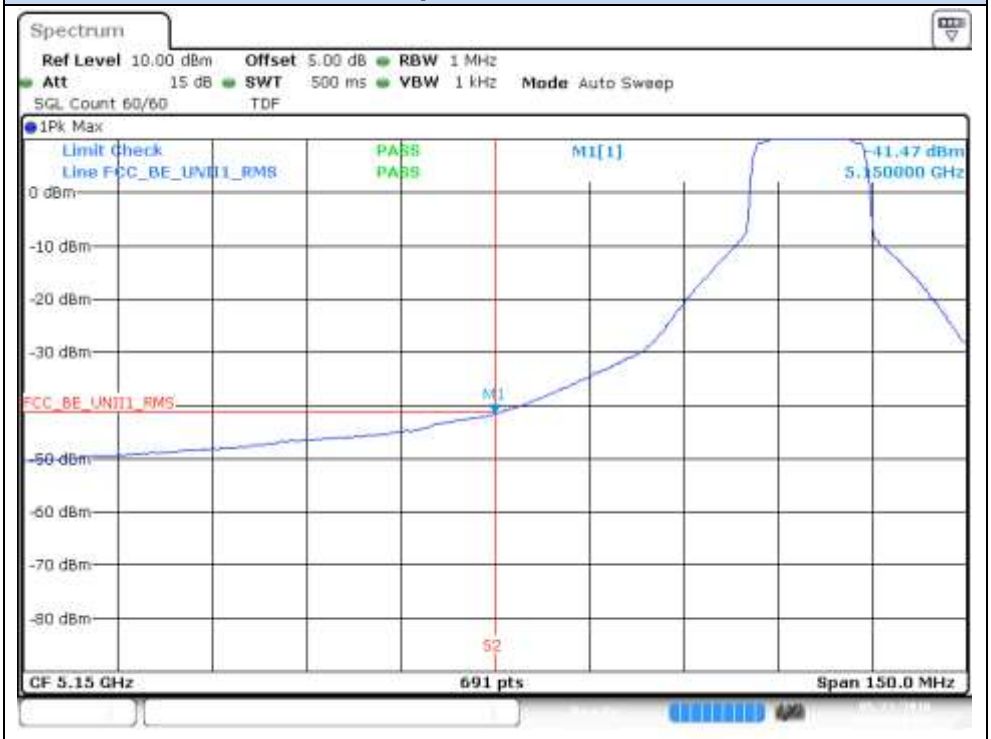
BE Low Freq Section, Peak – CH40



BE Low Freq Section, RMS – CH40



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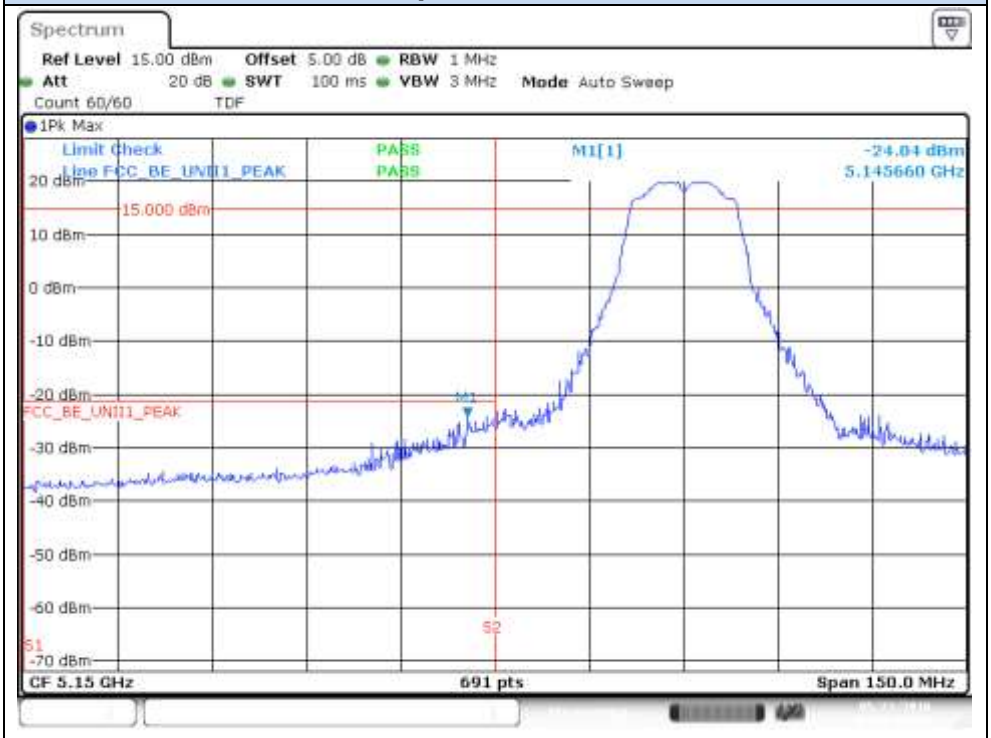
802.11n20, HT0 (SISO) – Chain B

BE Low Freq Section, Peak – CH36



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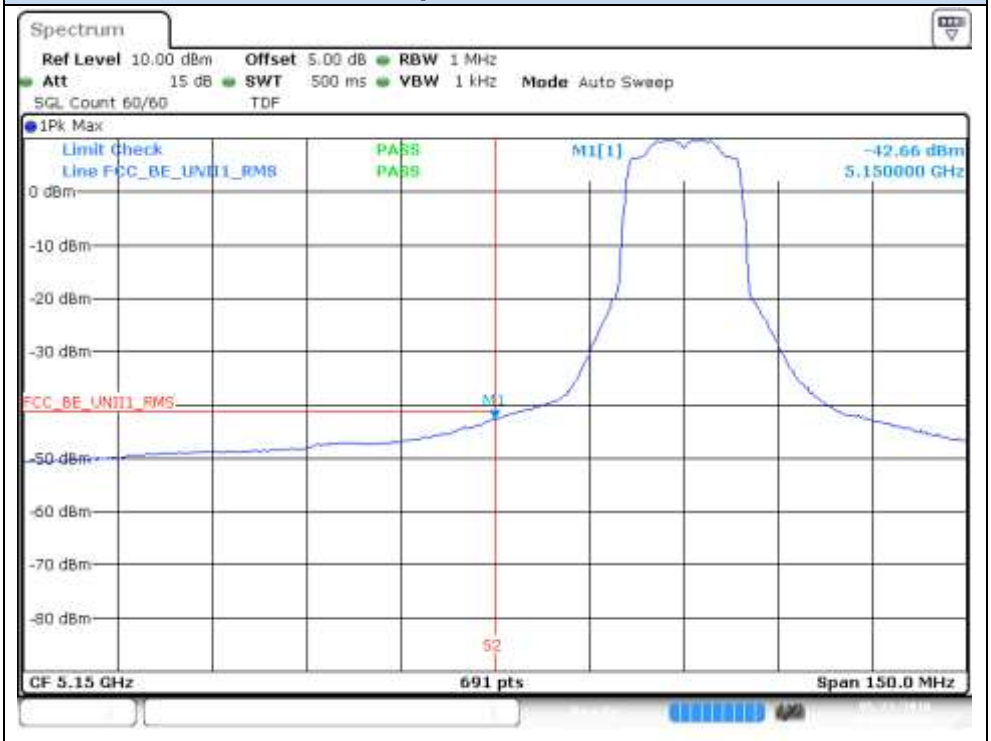
BE Low Freq Section, RMS – CH36



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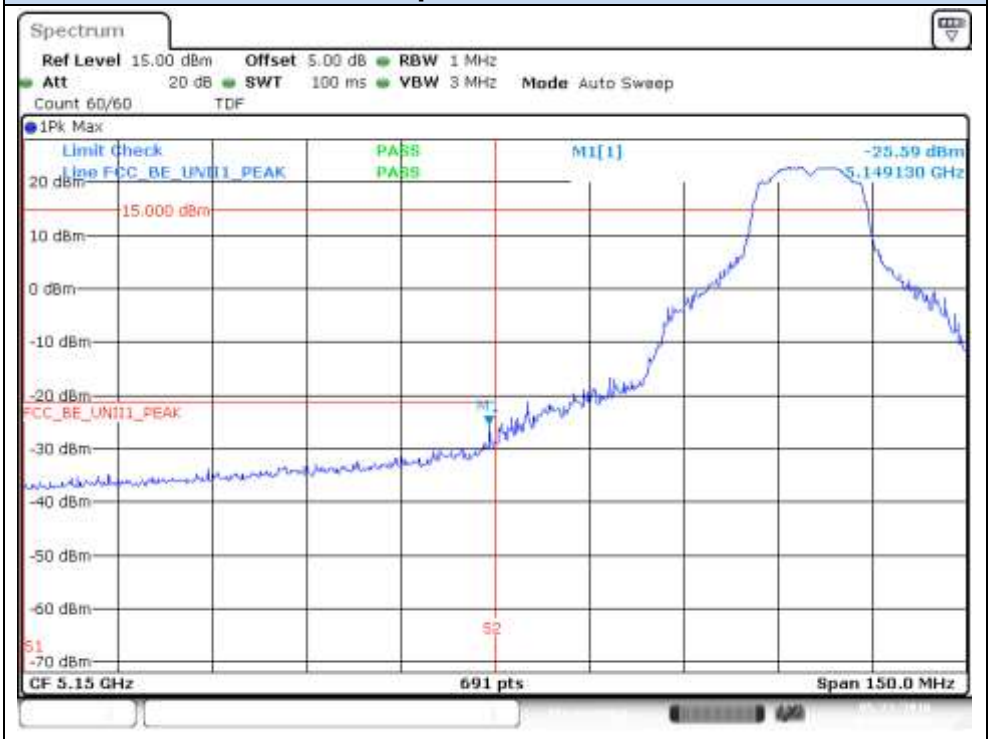
BE Low Freq Section, Peak – CH40



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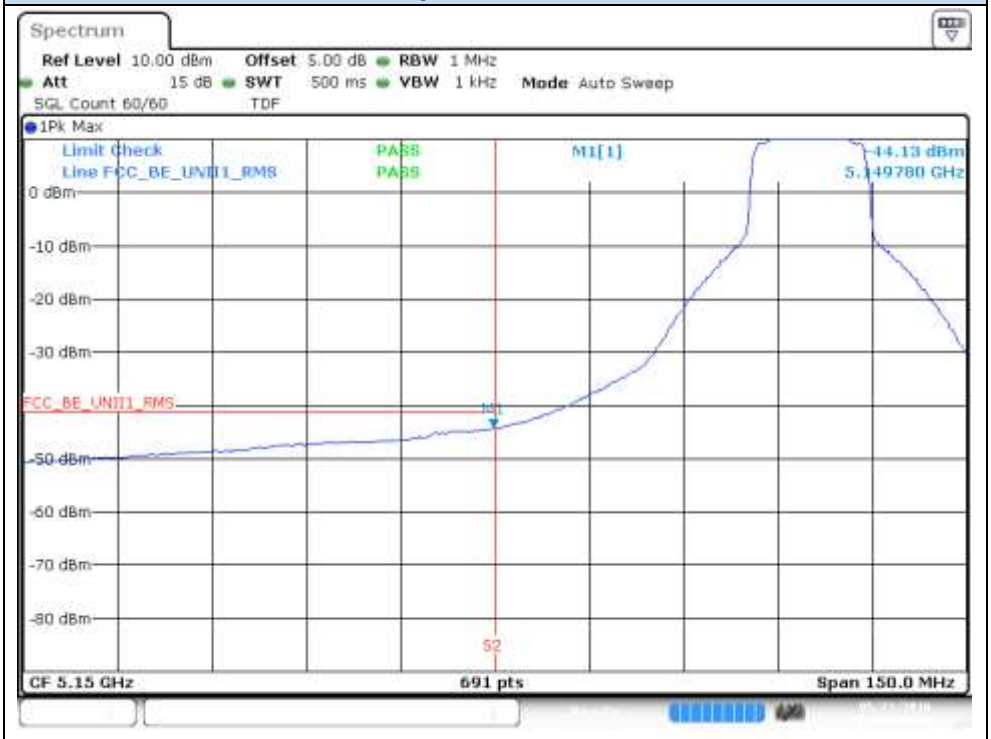

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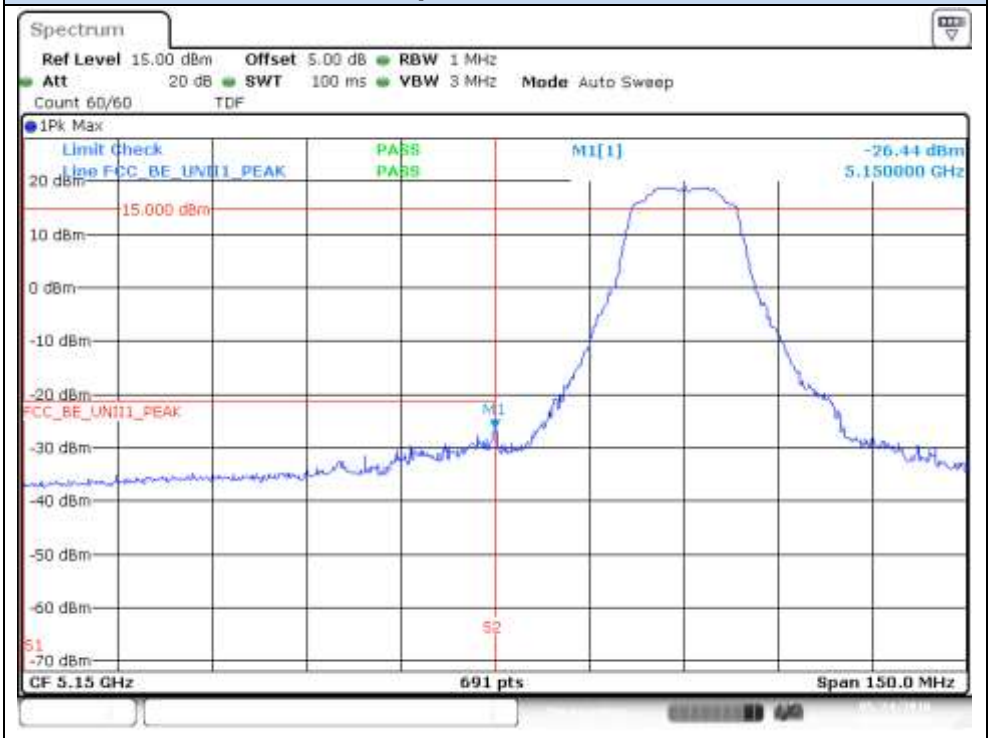
802.11n20, HT8 (MIMO) – Chain A

BE Low Freq Section, Peak – CH36



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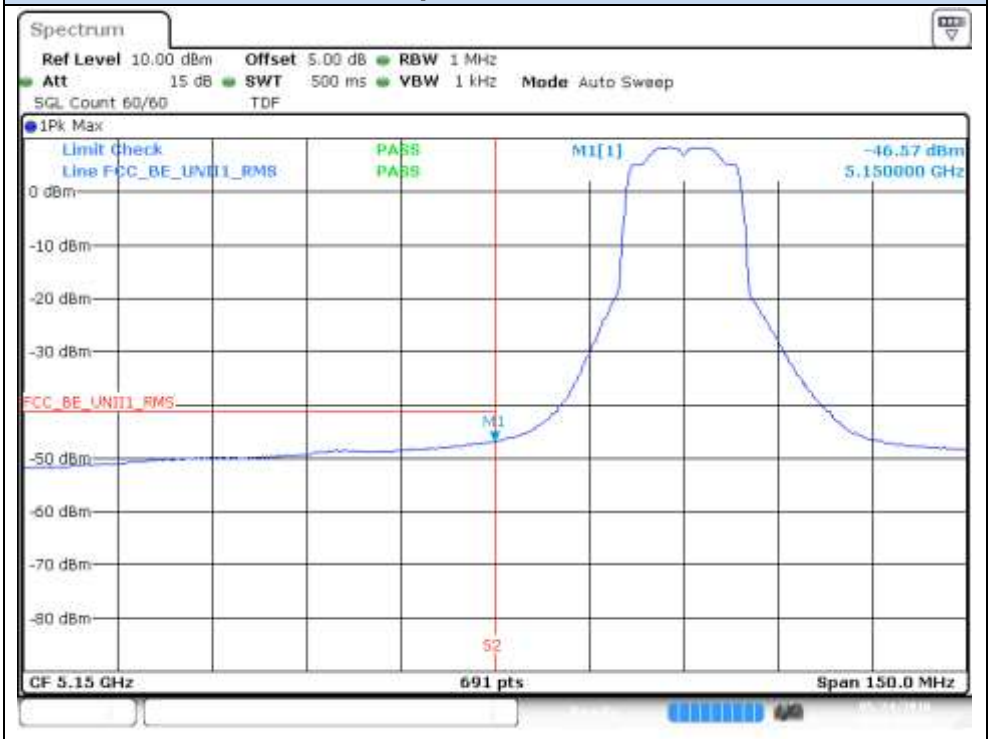

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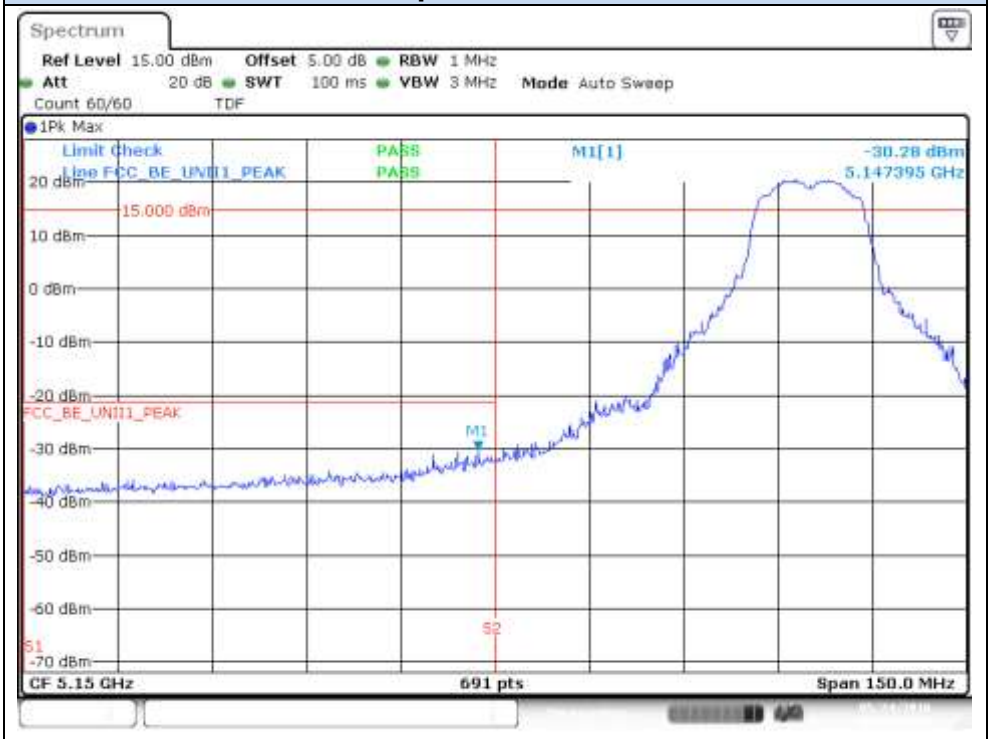

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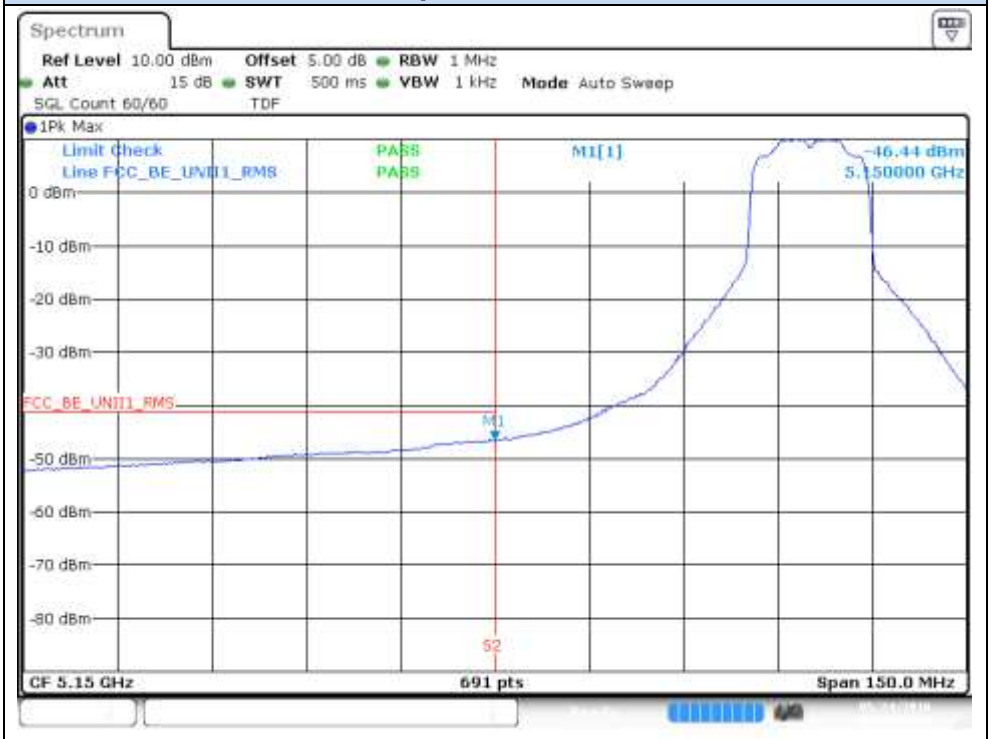

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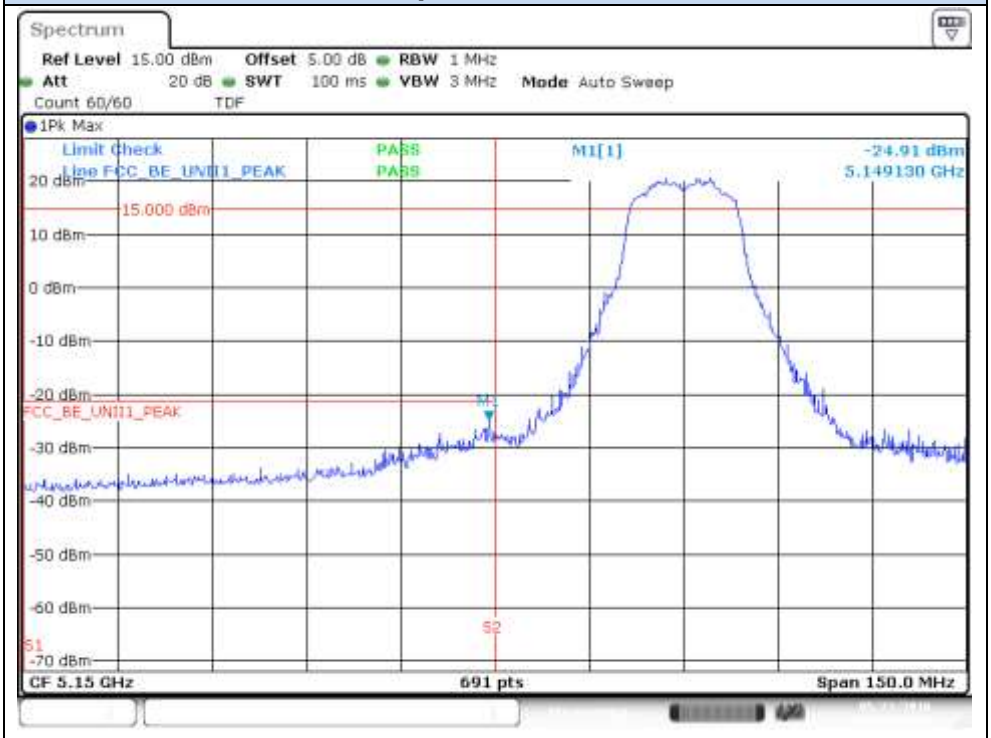
802.11n20, HT8 (MIMO) – Chain B

BE Low Freq Section, Peak – CH36



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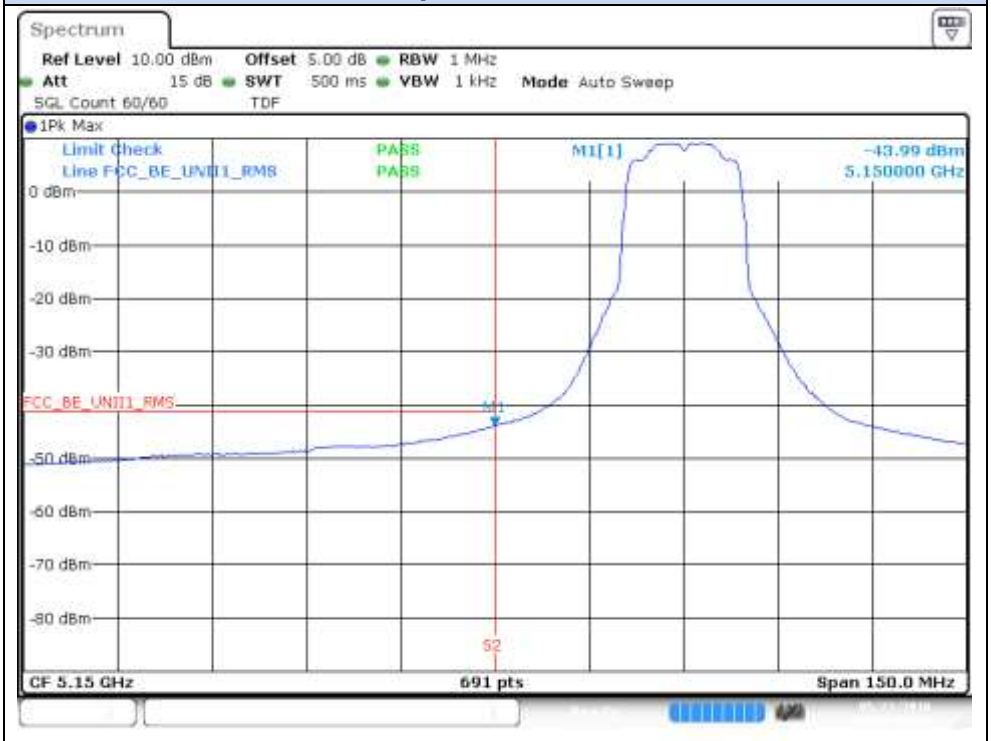

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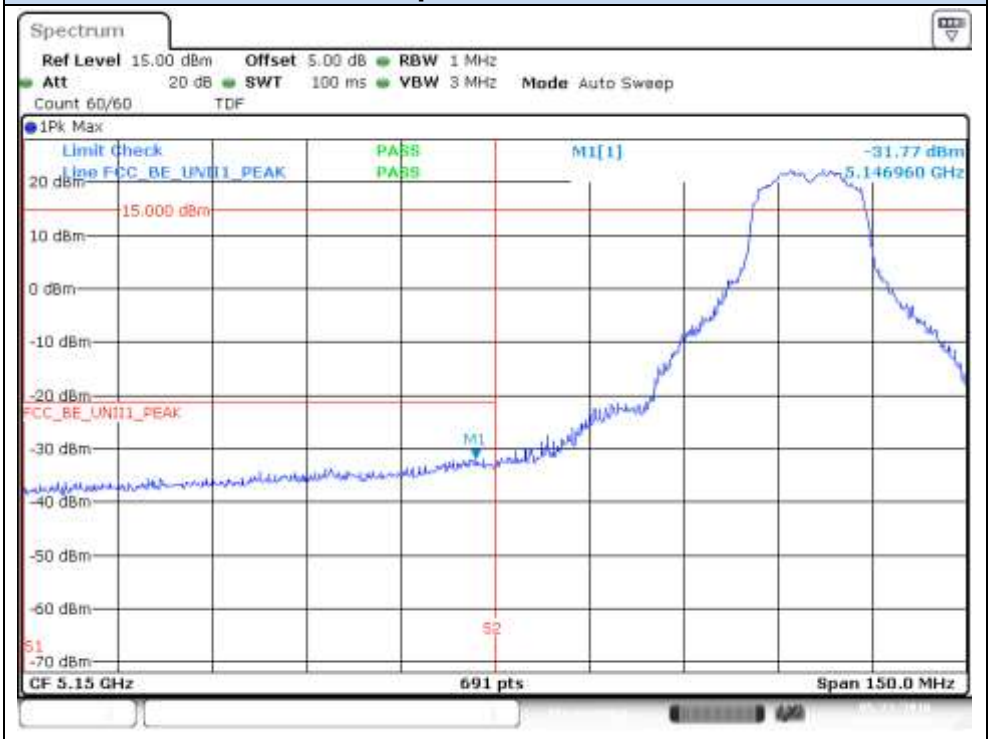

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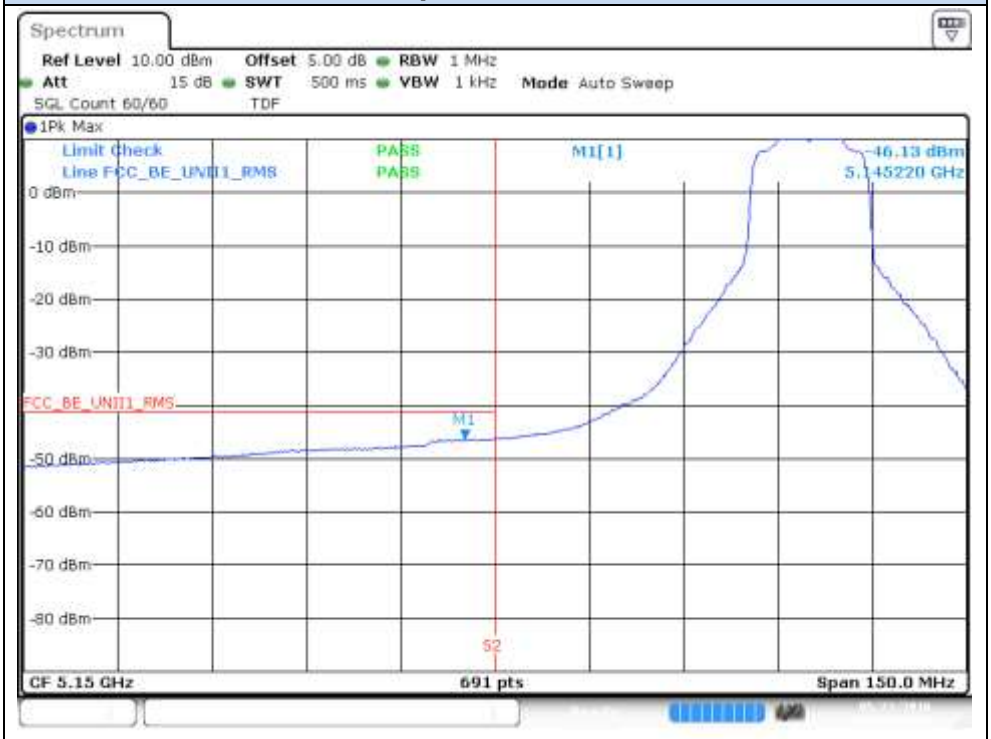

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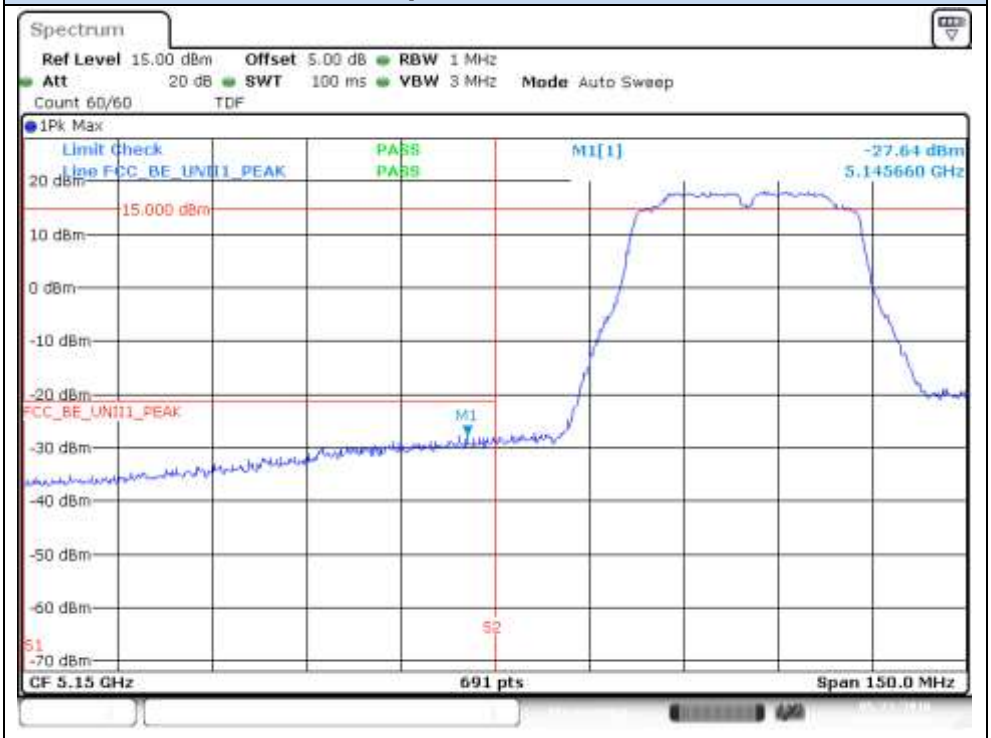
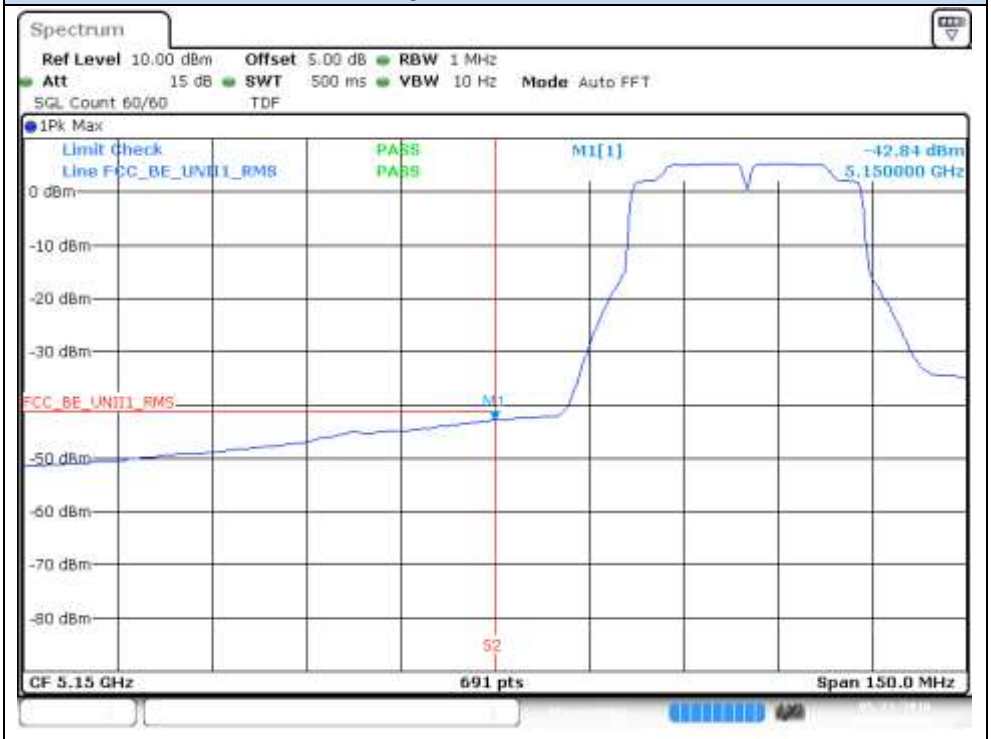
802.11n40, HT0 (SISO) – Chain A

BE Low Freq Section, Peak – CH38F



Date: 23.MAY.2016 14:32:35

BE Low Freq Section, RMS – CH38F



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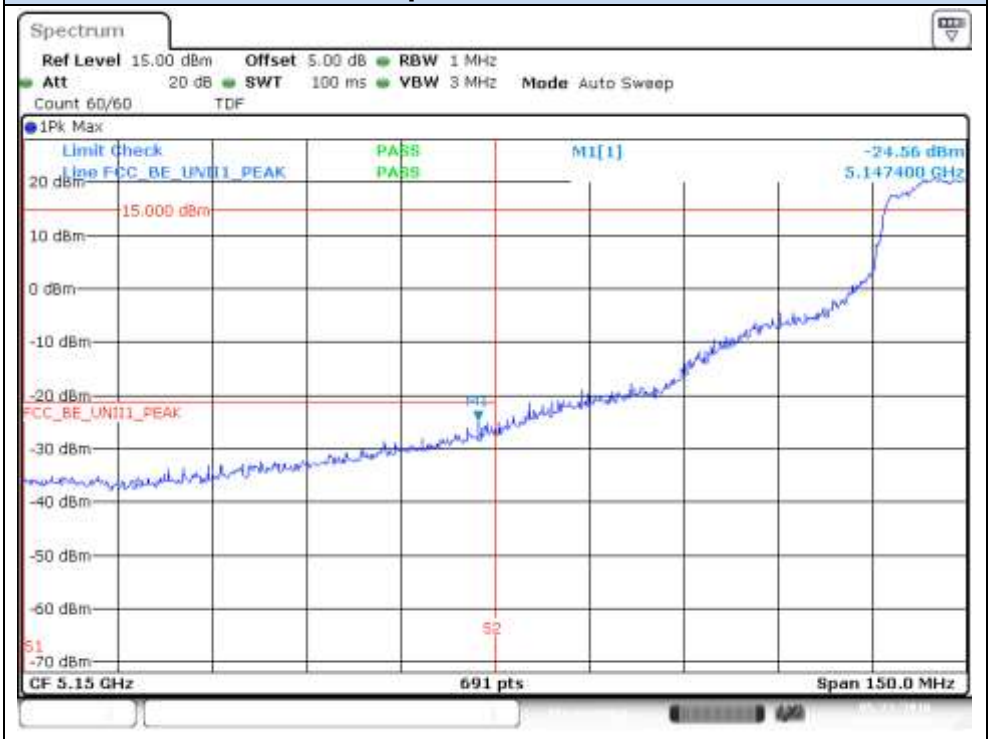
Printed copies are not controlled documents

BE Low Freq Section, Peak – CH46F



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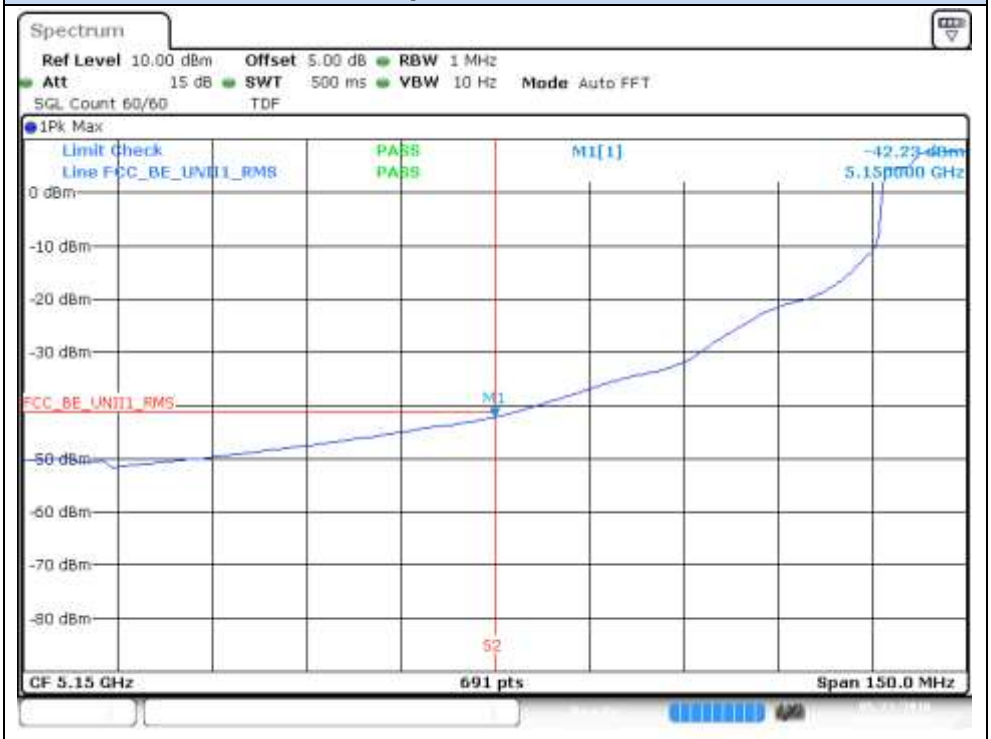
BE Low Freq Section, RMS – CH46F



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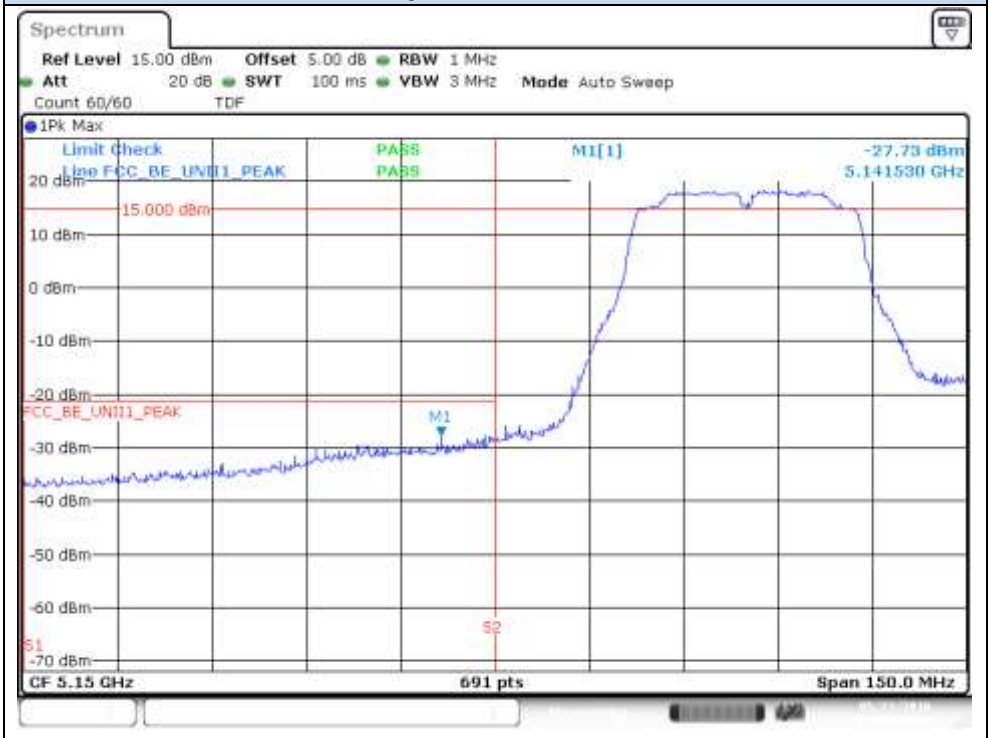
802.11n40, HT0 (SISO) – Chain B

BE Low Freq Section, Peak – CH38F



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BE Low Freq Section, RMS – CH38F

Date: 23.MAY.2016 15:58:09

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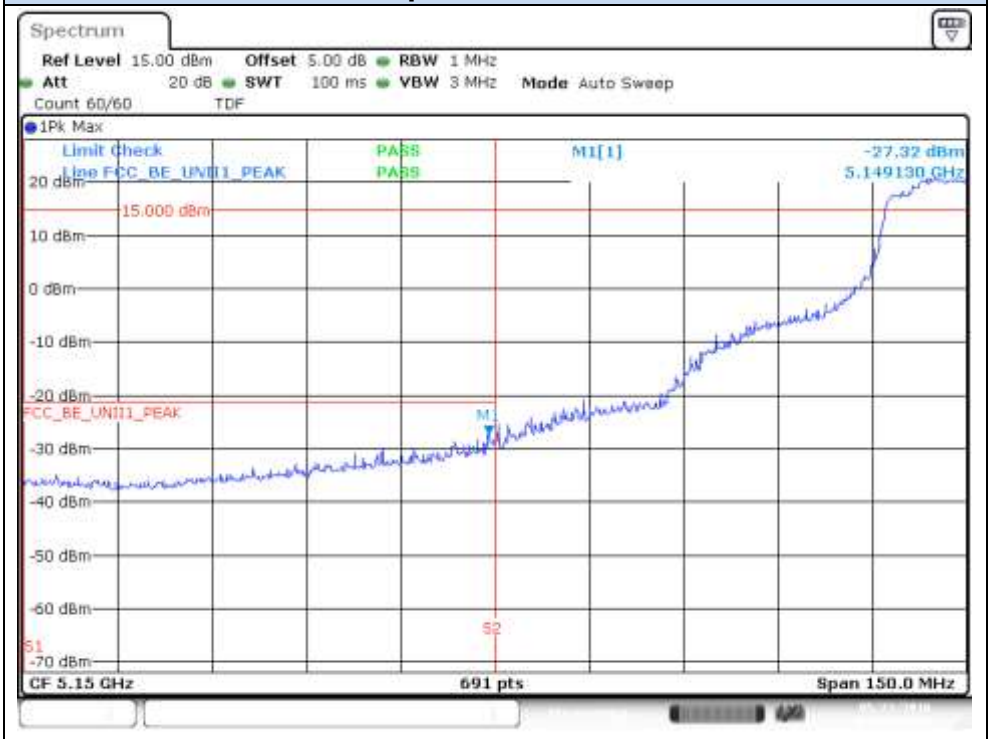
BE Low Freq Section, Peak – CH46F



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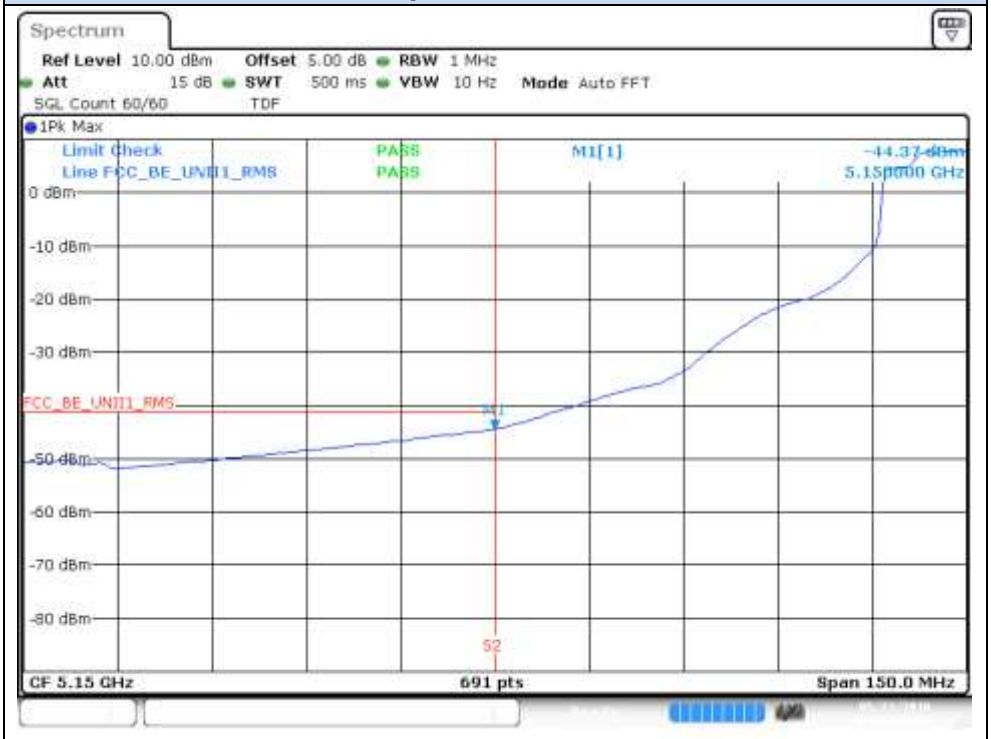

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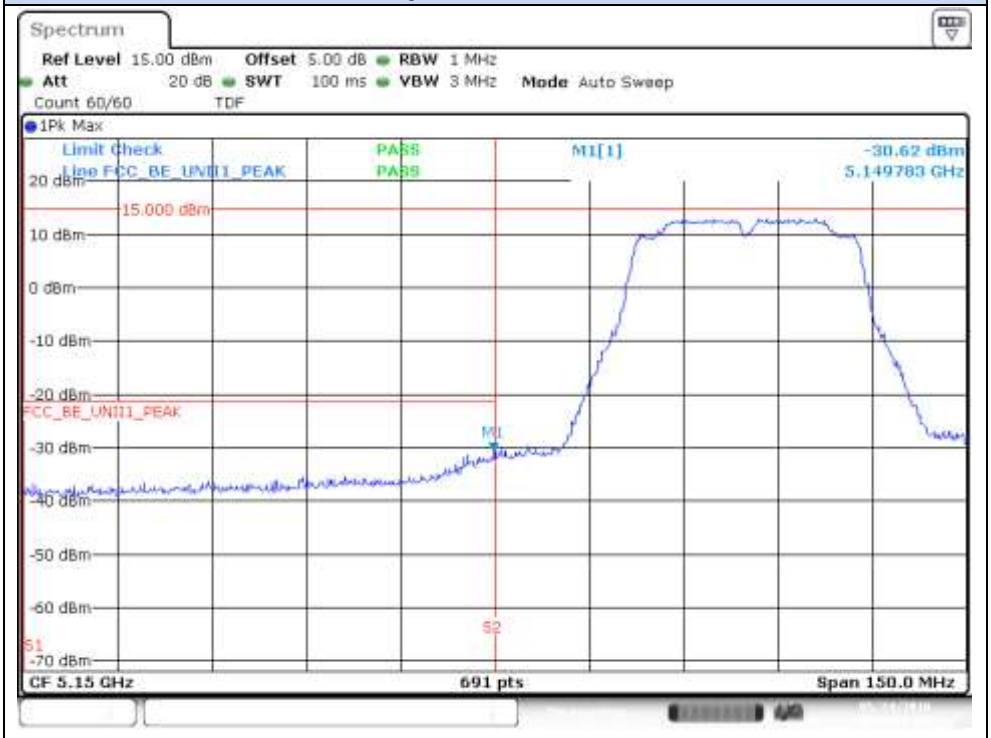
802.11n40, HT8 (MIMO) – Chain A

BE Low Freq Section, Peak – CH38F



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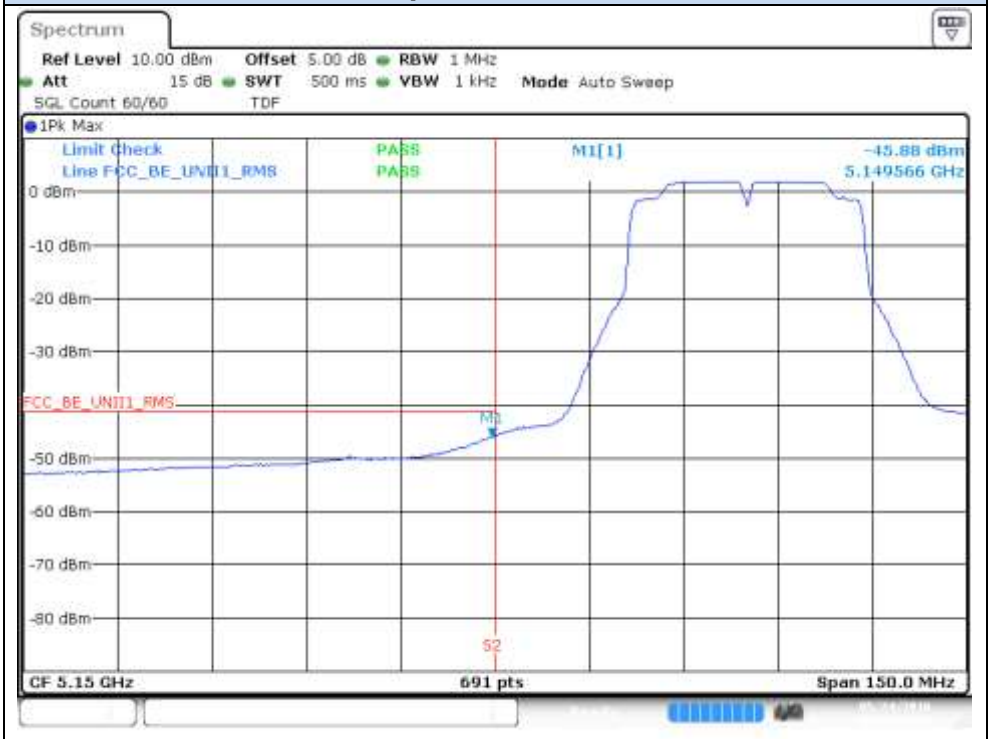

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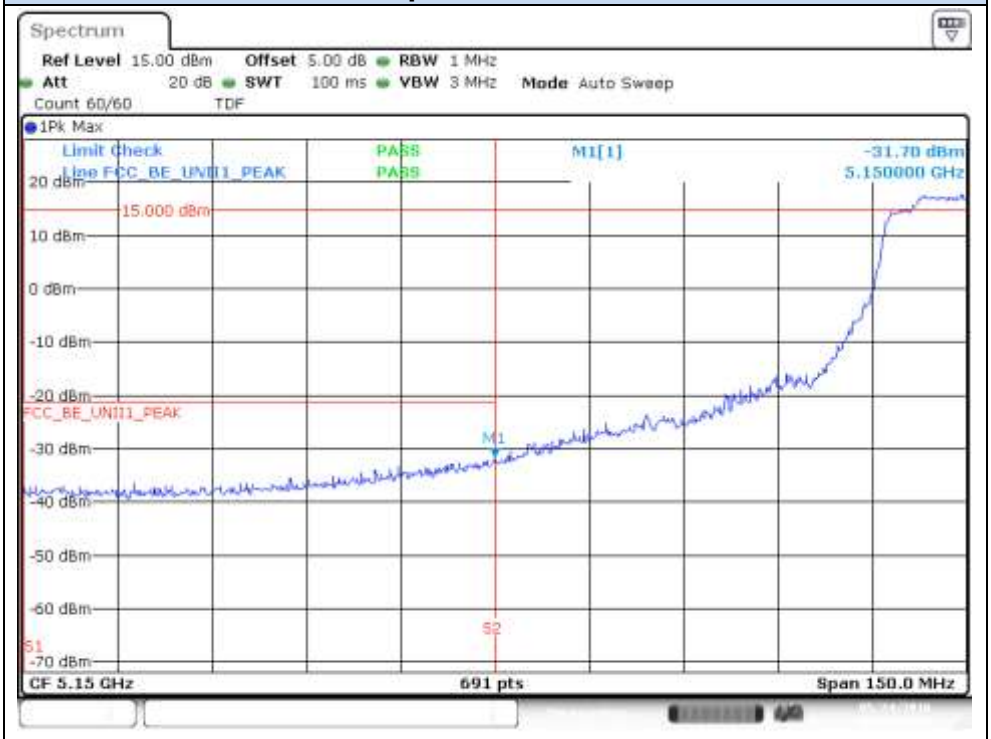
BE Low Freq Section, Peak – CH46F



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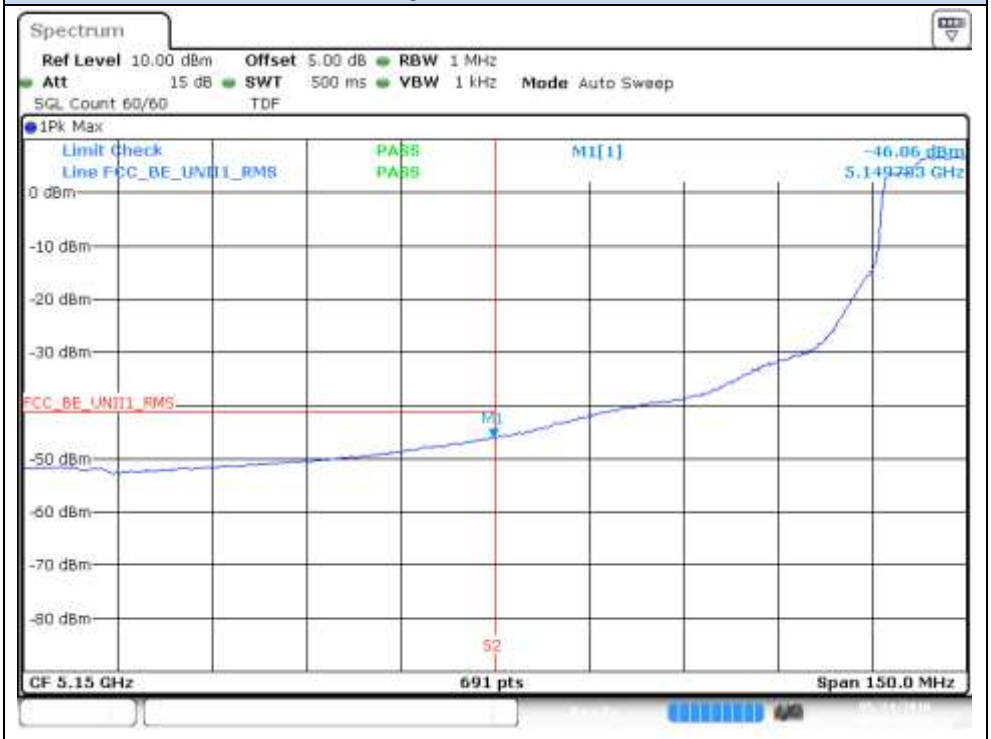

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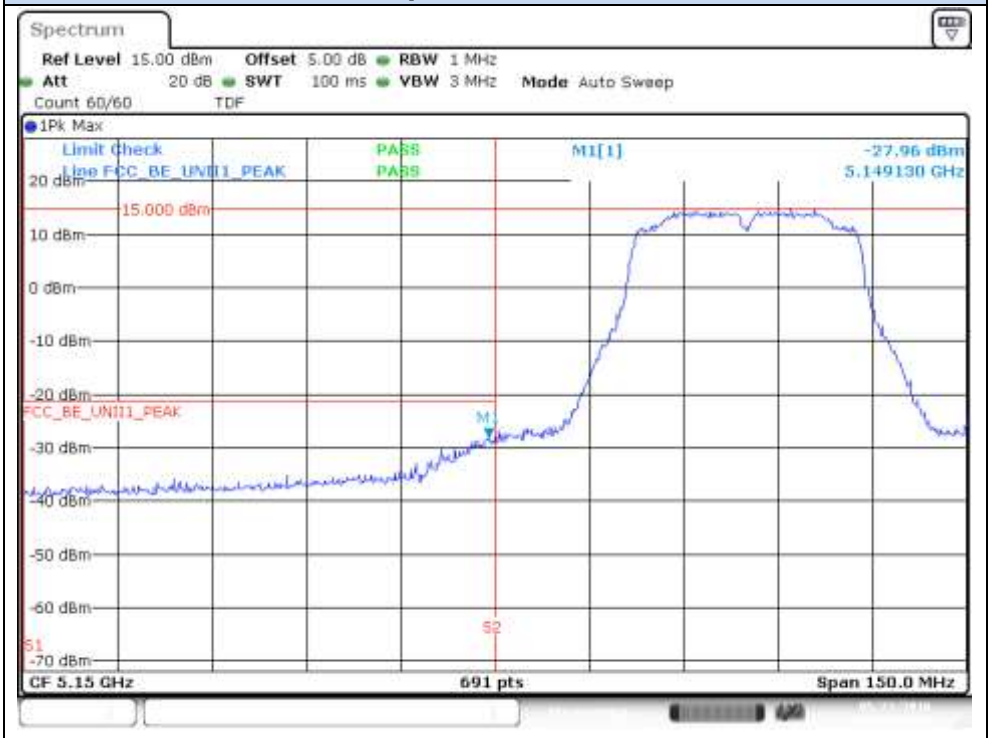
802.11n40, HT8 (MIMO) – Chain B

BE Low Freq Section, Peak – CH38F



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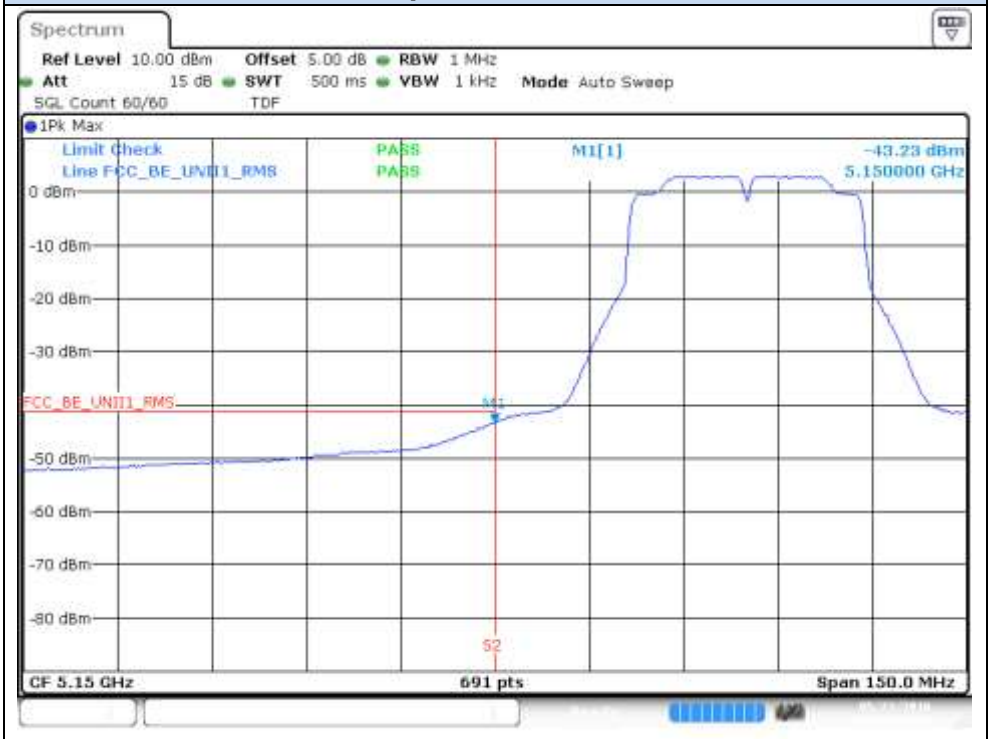

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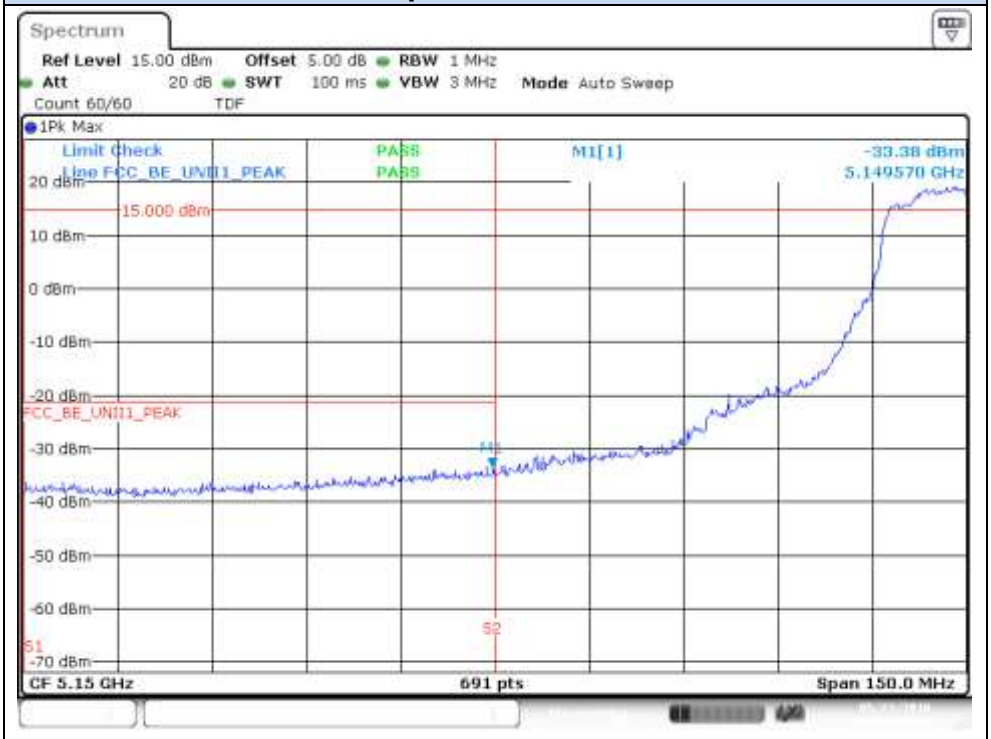
BE Low Freq Section, Peak – CH46F



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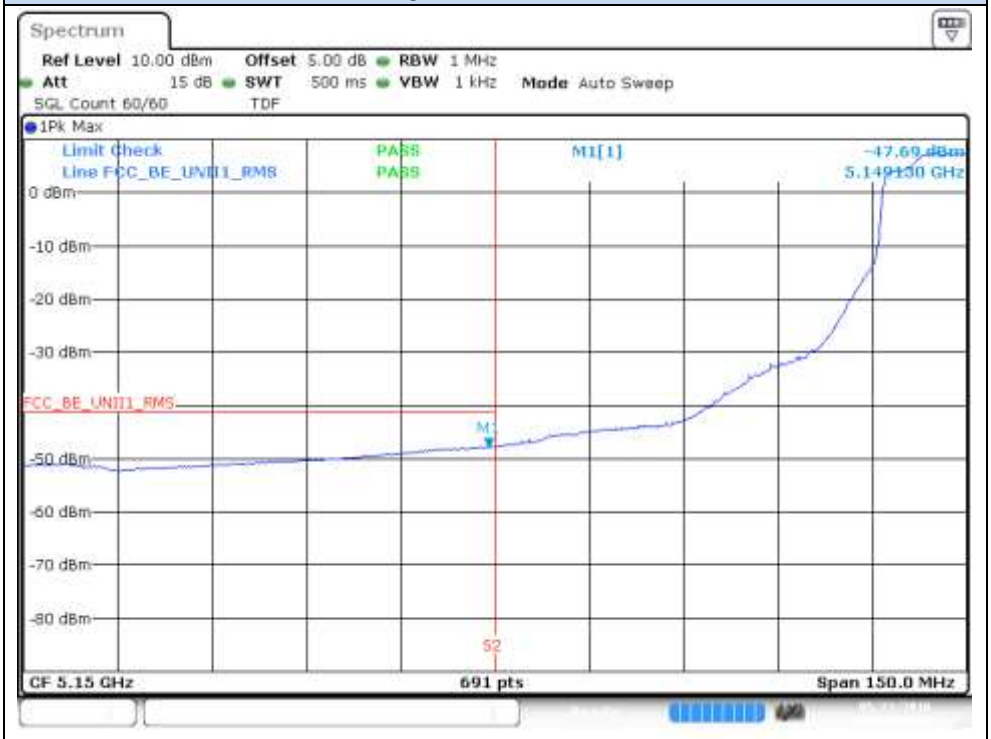

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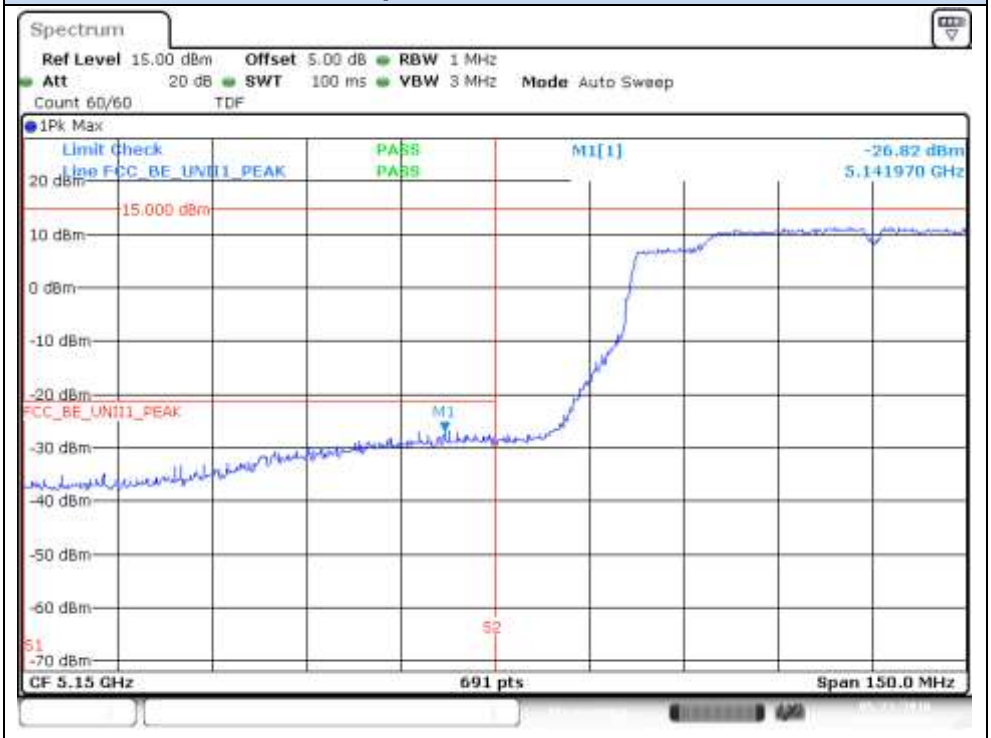
802.11ac80, VHT0 (SISO)- Chain A

BE Low Freq Section, Peak – CH42ac80



Date: 23.MAY.2016 14:47:31

BE Low Freq Section, RMS – CH42ac80

Date: 23.MAY.2016 14:46:58

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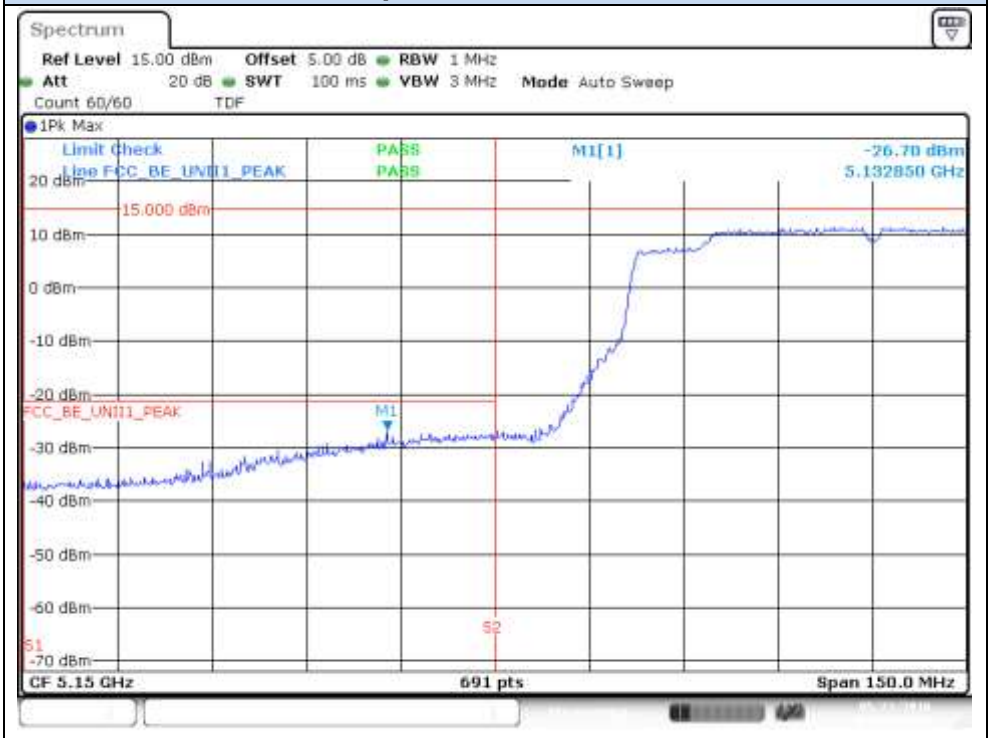
802.11ac80, VHT0 (SISO)- Chain B

BE Low Freq Section, Peak – CH42ac80



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BE Low Freq Section, RMS – CH42ac80

Date: 23.MAY.2016 16:19:03

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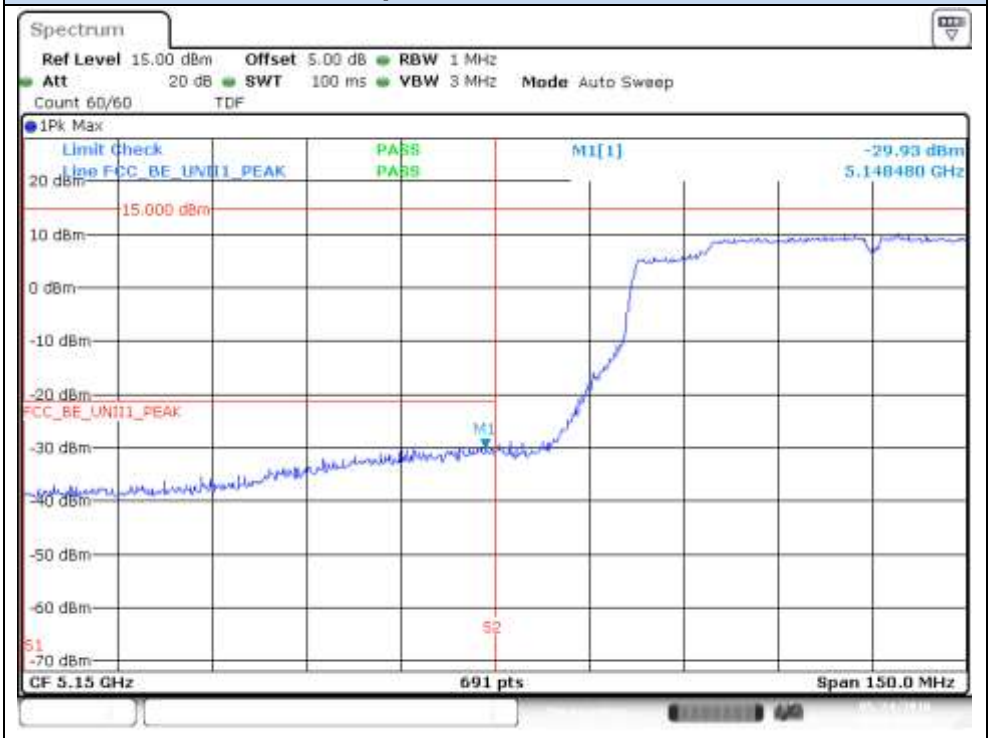
802.11ac80, VHT0 (MIMO)- Chain A

BE Low Freq Section, Peak – CH42ac80



Date: 24.MAY.2016 11:20:12

BE Low Freq Section, RMS – CH42ac80

Date: 24.MAY.2016 11:19:04

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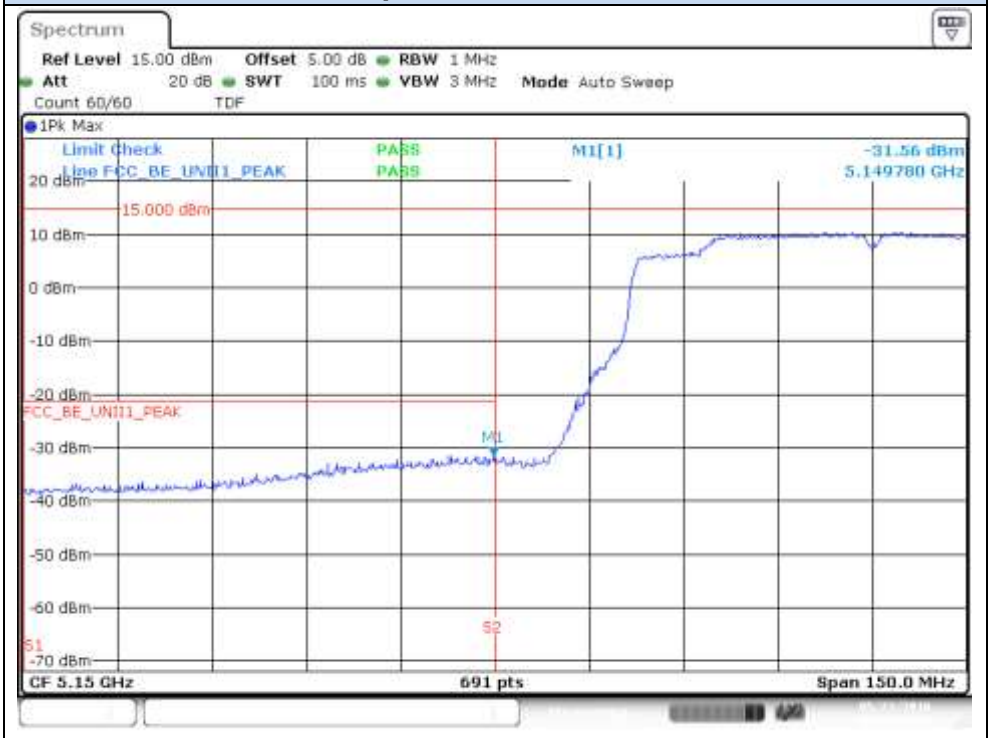
802.11ac80, VHT0 (MIMO)- Chain B

BE Low Freq Section, Peak – CH42ac80



Date: 23.MAY.2016 18:11:01

BE Low Freq Section, RMS – CH42ac80

Date: 23.MAY.2016 18:09:44

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B.4 Radiated spurious emission

Standard references

<table>
<tr><th>FCC part</th><th>Limits</th></tr>
<tr><td>15.407 (b) (1)</td><td>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.</td></tr>
<tr><td>15.209</td><td>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):
<table>
<tr><th>Freq Range (MHz)</th><th>Field Strength (µV/m)</th><th>Field Strength (dBµV/m)</th><th>Meas. Distance (m)</th></tr>
<tr><td>0.009-0.490</td><td>2400/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>-</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr>
</table>
The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</td></tr>
</table>

Test procedure

The setup below was used to measure the radiated spurious emissions.
Depending of the frequency range and bands being tested, different antennas and filters were used.
The final measurement is done by varying the antenna height, the EUT azimuth over 360º and for both Vertical and Horizontal polarizations.
The radiated spurious emission was measured on the worst case configuration selected from the chapter B.2 and using the low, middle and high channel.

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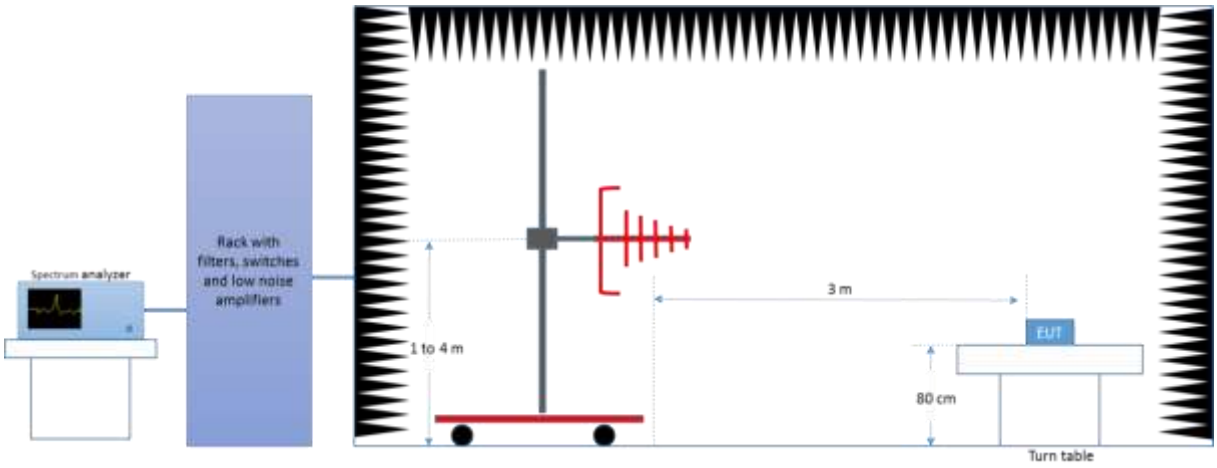
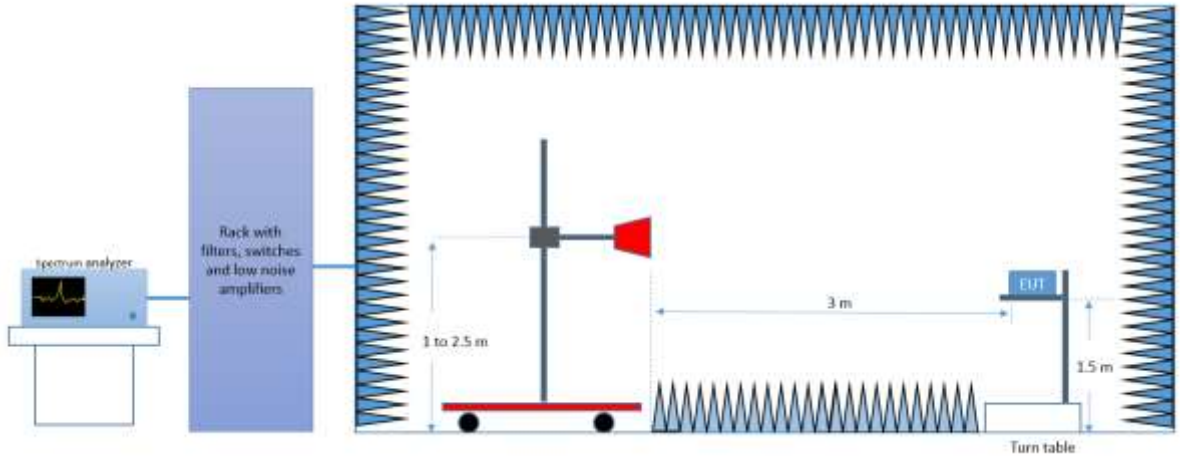
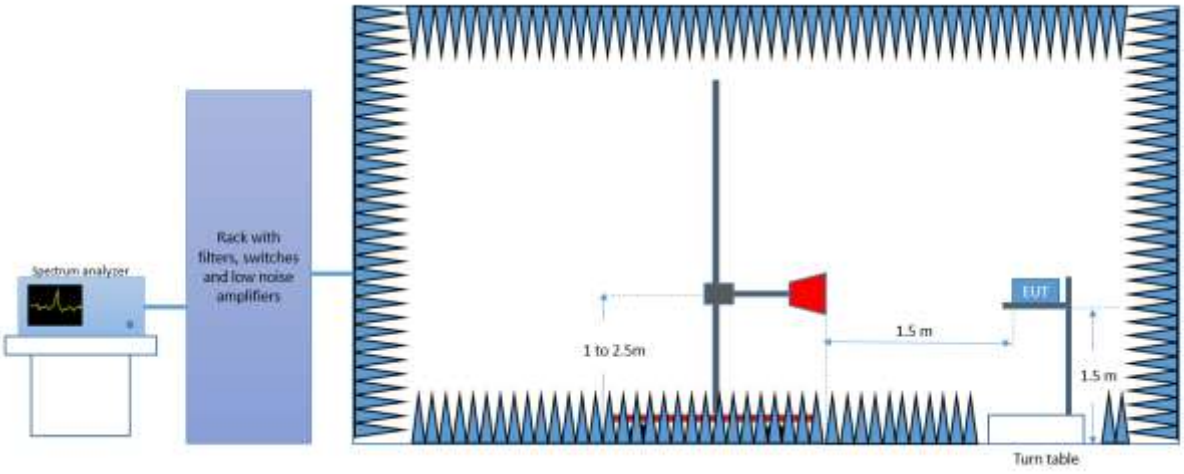
Radiated Setup < 1GHz



Radiated Setup 1 GHz - 18 GHz



Radiated Setup 18 GHz - 26.5 GHz



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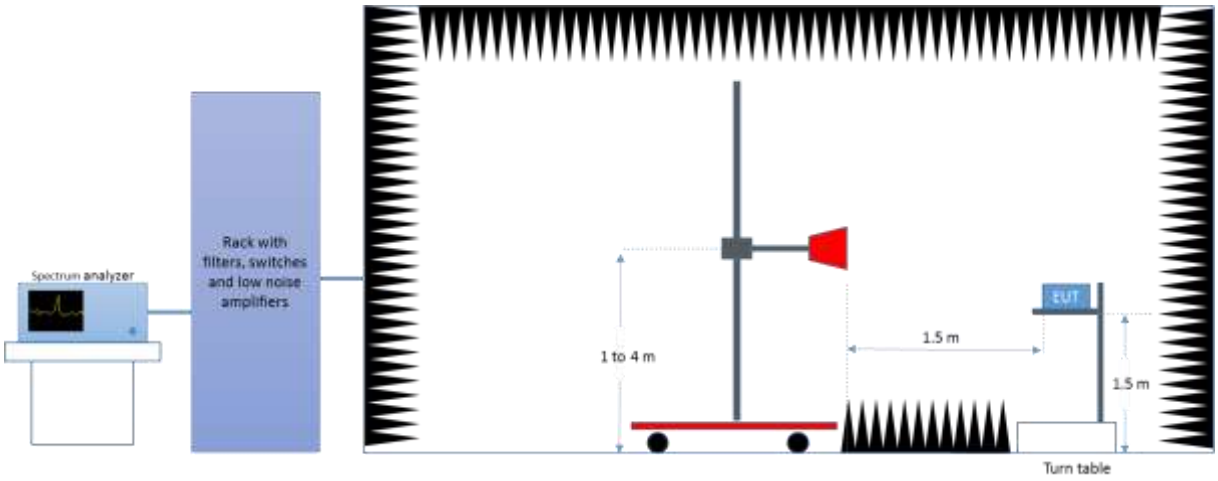
Radiated Setup > 26.5 GHz



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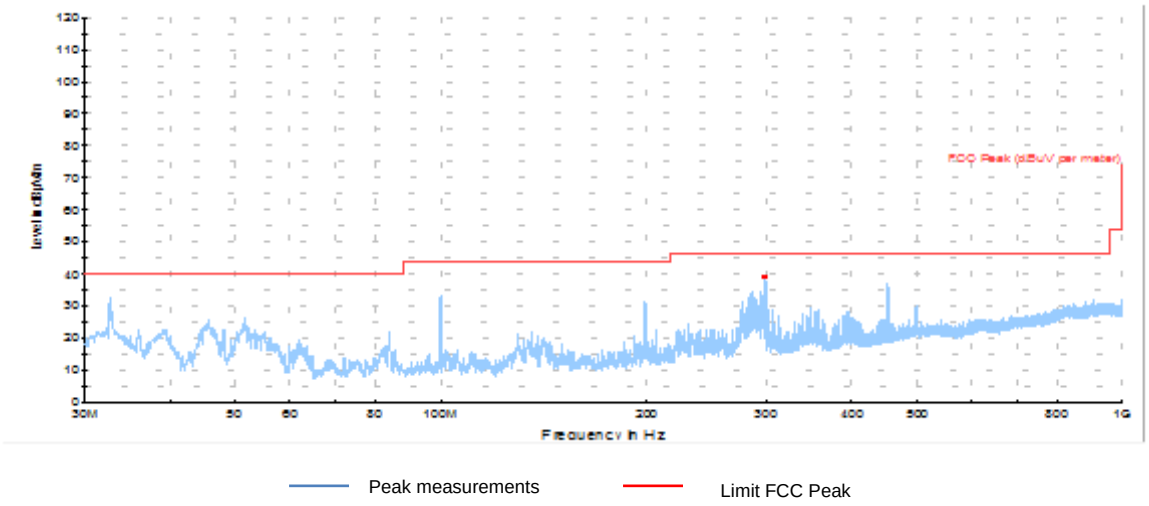
Test Results

30 MHz – 1 GHz

Radiated Spurious – All modes



Frequency	MaxPeak	Limit	Margin
MHz	dBuV/m	dBuV/m	dB
299	38.9	46	7.2

Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.

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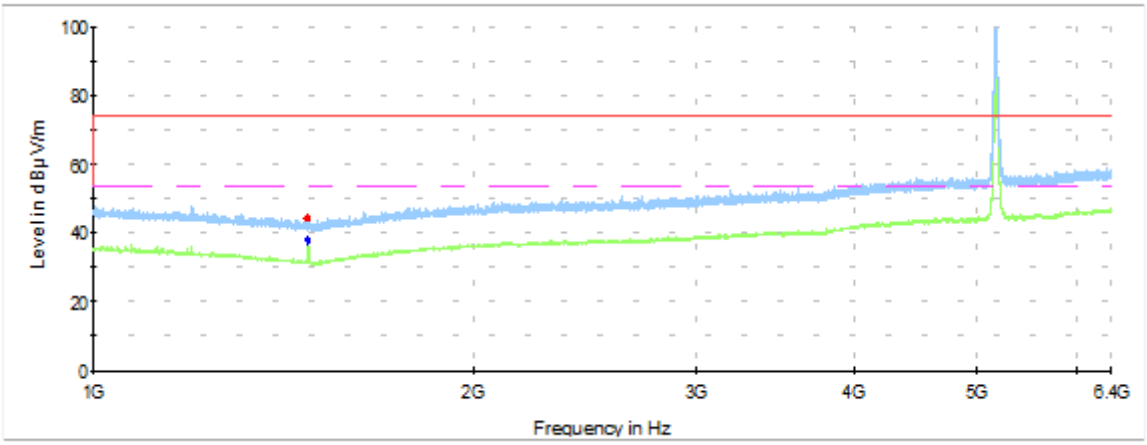
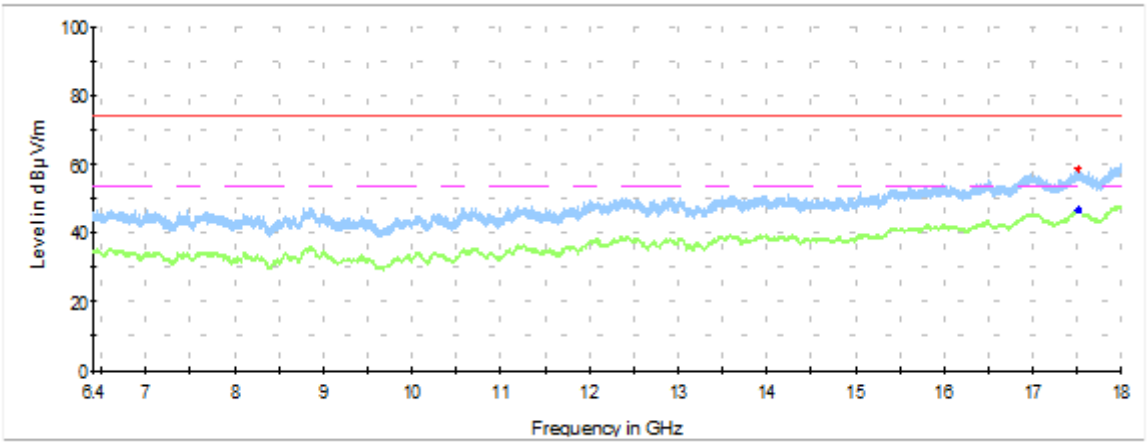
1 GHz – 18 GHz, 802.11a, 6Mbps, Chain A

Radiated Spurious – CH36





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1479	44.9	-	74	29.2
1479	-	38.6	54	15.5
17509	58.7	-	74	15.3
17509	-	46.6	54	7.4

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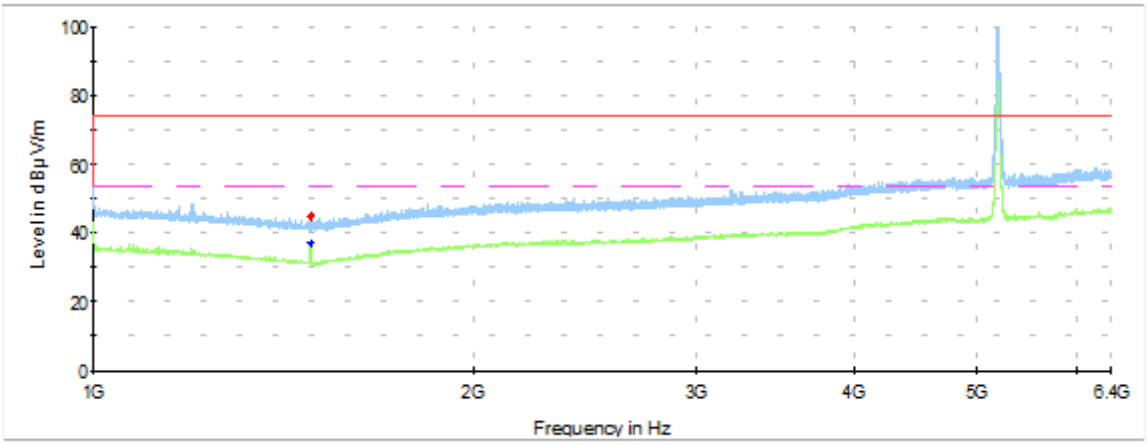
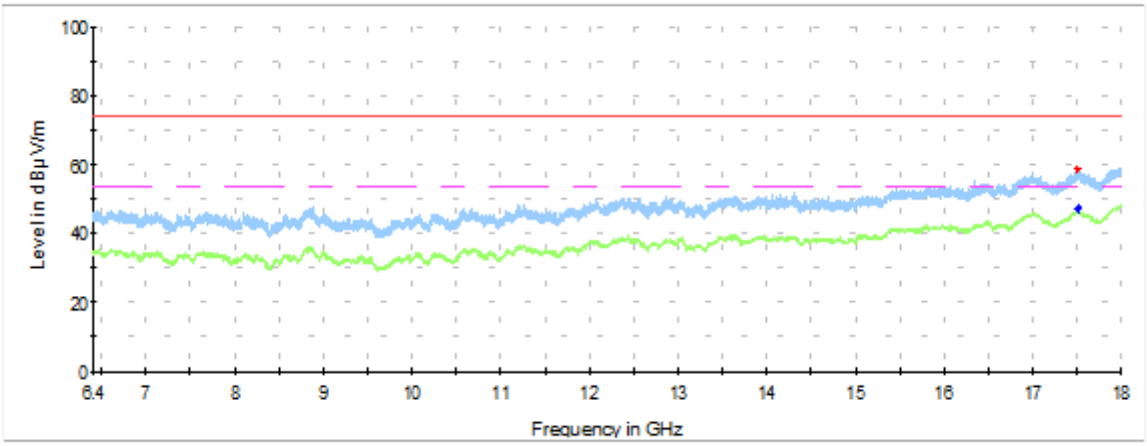
Radiated Spurious – CH40





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1485	45.2	-	74	17.2
1485	-	36.9	54	28.9
17502	58.5		74	15.5
17502		46.9	54	7.1

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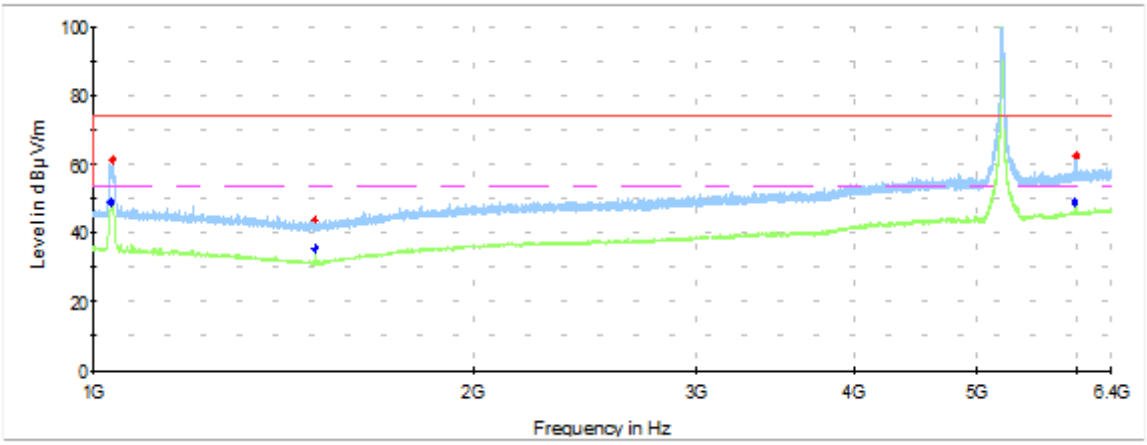
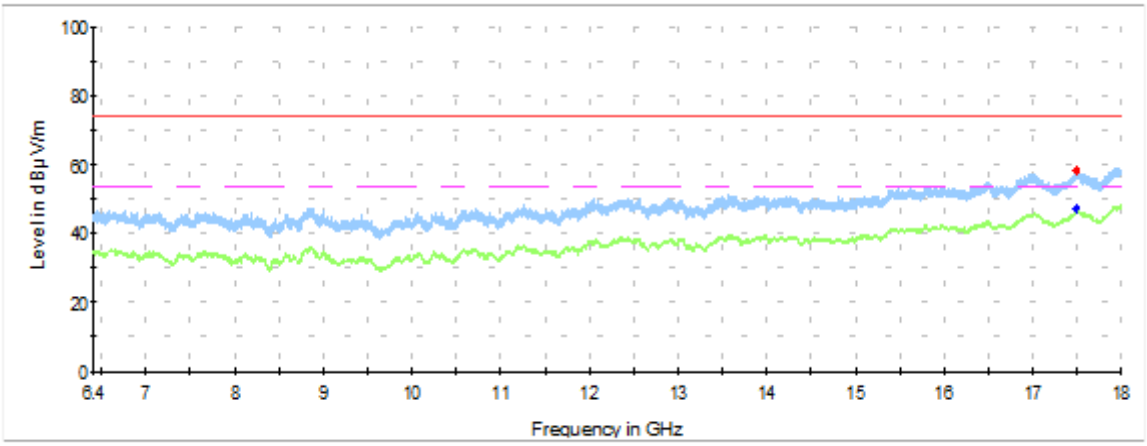
Radiated Spurious – CH48





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1034	61.7	-	74	12.4
1034	-	51.3	54	2.8
1497	45.1	-	74	28.9
1497	-	36.7	54	17.5
5994	57.4	-	74	16.7
5994	-	45.8	54	8.3
17496	58.4	-	74	15.6
17496	-	46.9	54	7.1

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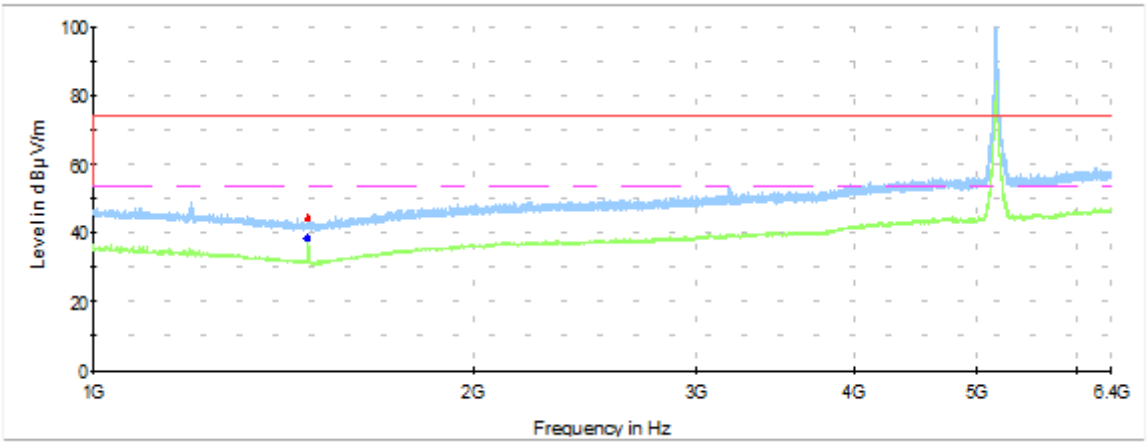
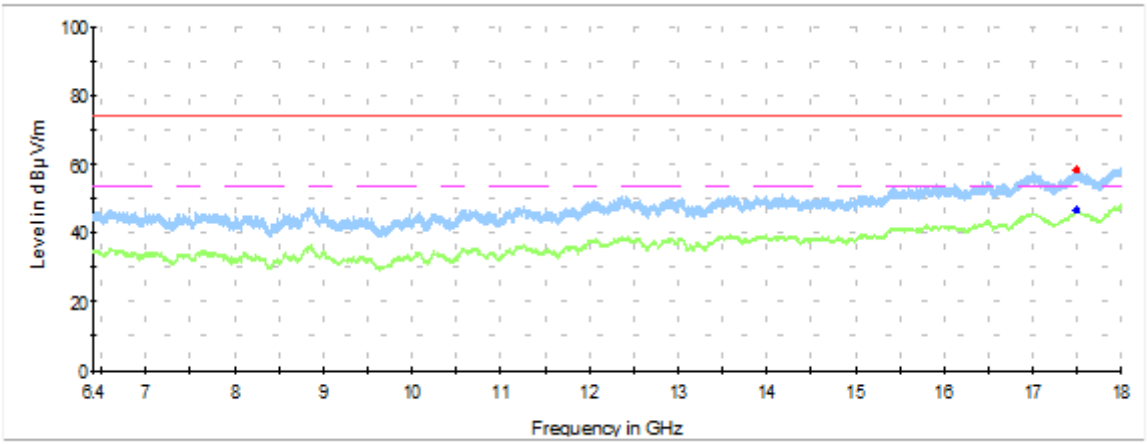
1 GHz – 18 GHz, 802.11a, 6Mbps, Chain B

Radiated Spurious – CH36





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1479	45.5	-	74	15.3
1479	-	38.7	54	28.6
17492	58.4	-	74	15.6
17492	-	46.9	54	7.1

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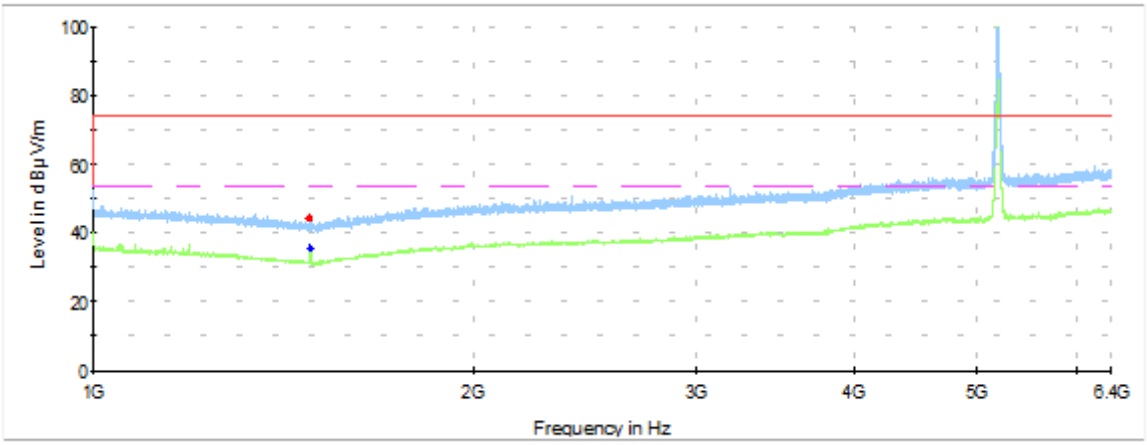
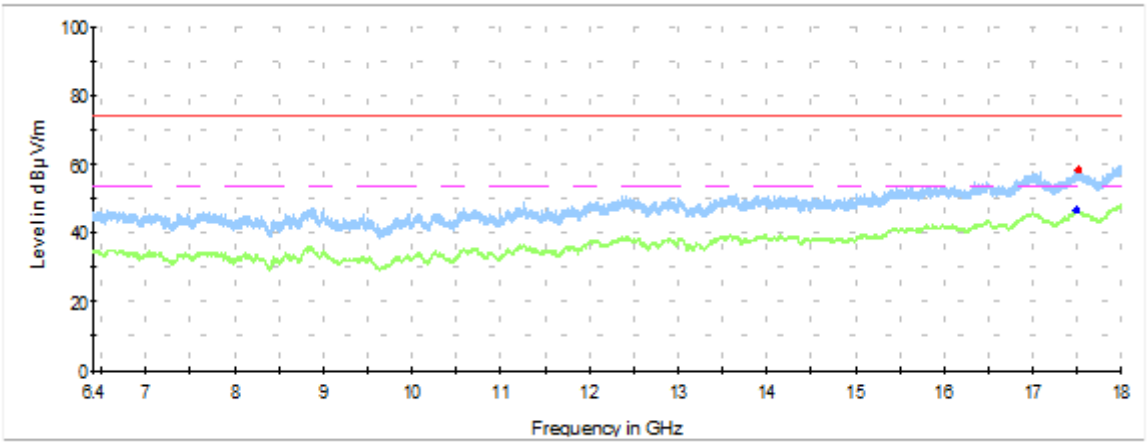
Radiated Spurious – CH40





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1485	44.4	-	74	29.6
1485	-	35.6	54	18.4
17505	58.4		74	15.6
17505		46.8	54	7.2

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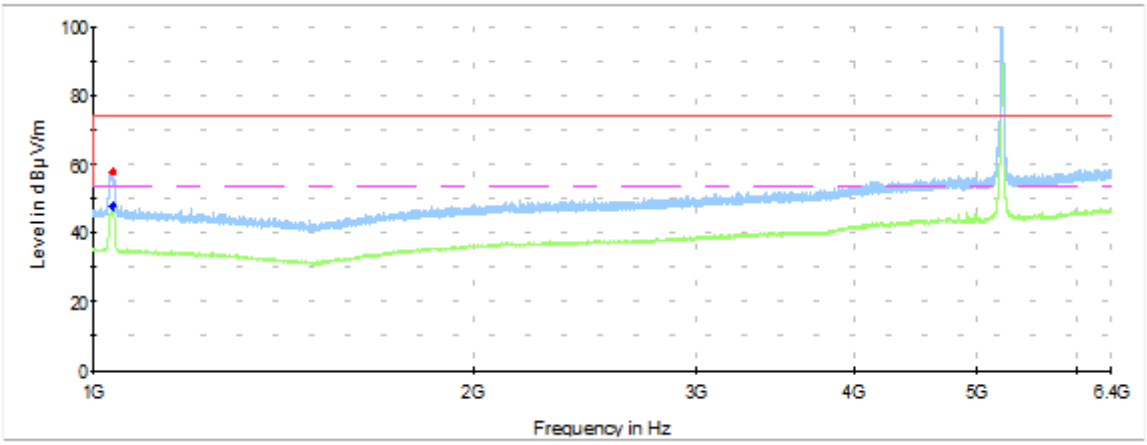
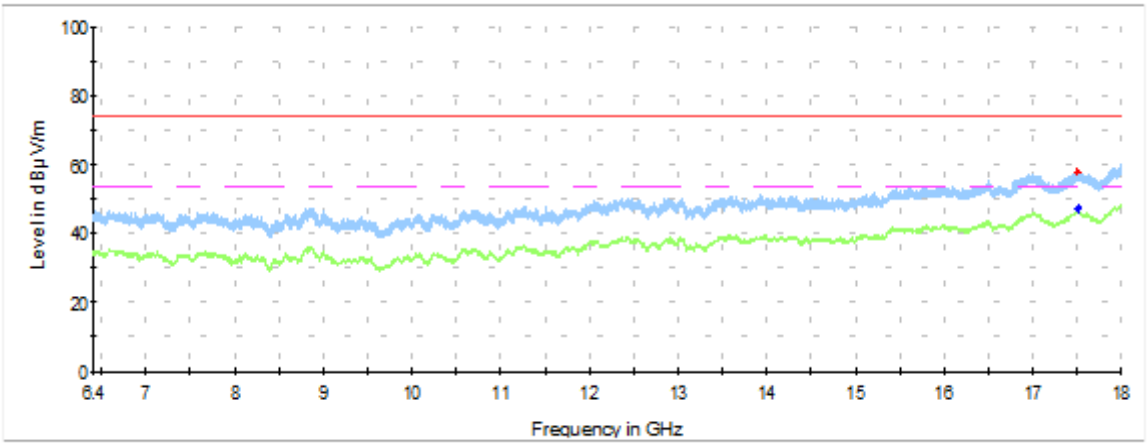
Radiated Spurious – CH48





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1035	60.8	-	74	13.2
1035	-	49.1	54	4.9
17500	58.1		74	15.9
17518		46.9	54	7.1

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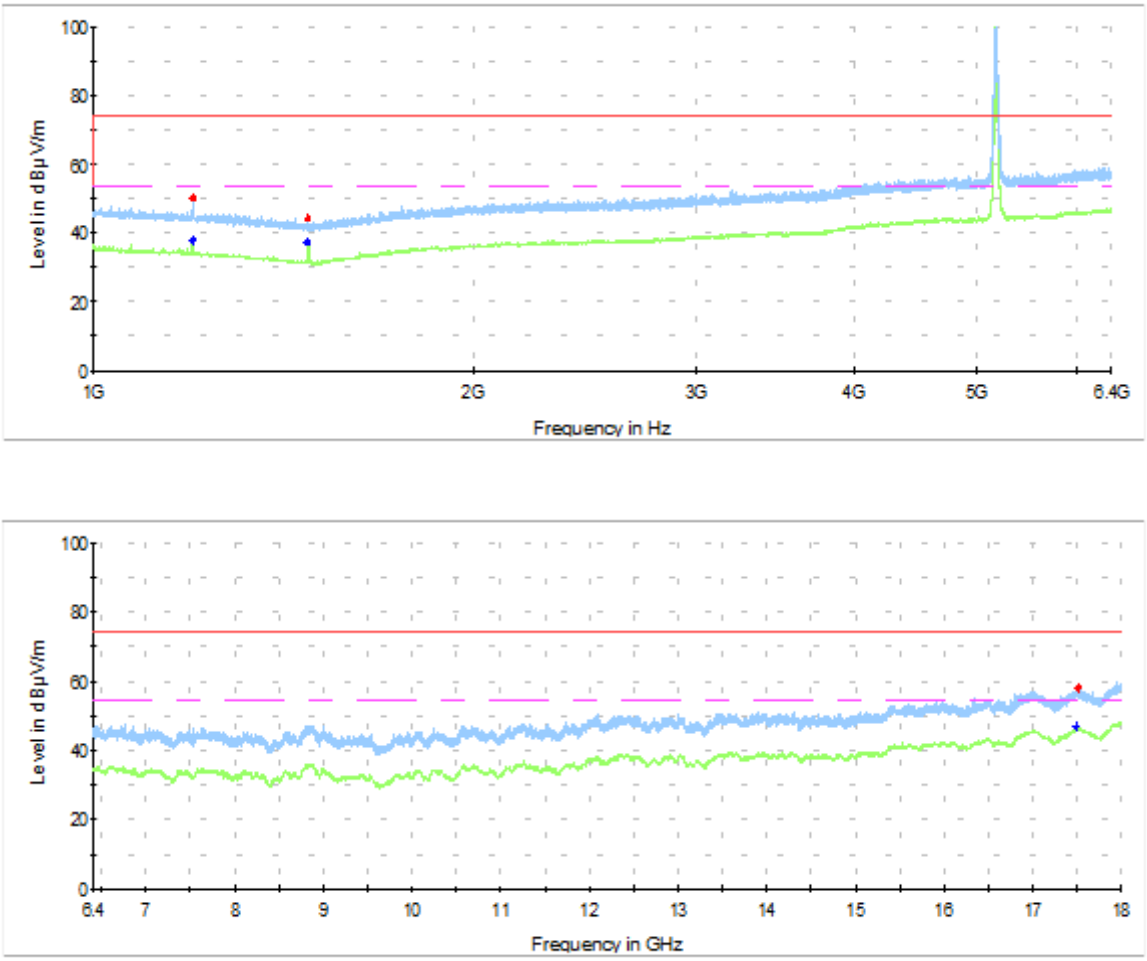
1 GHz – 18 GHz, 802.11n20, HT0, Chain A

Radiated Spurious – CH36



Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1199	53.4	-	74	20.6
1199	-	40.2	54	13.9
1480	44.8	-	74	29.2
1480	-	38.7	54	15.3
17493	57.9	-	74	16.1
17493	-	46.7	54	7.3

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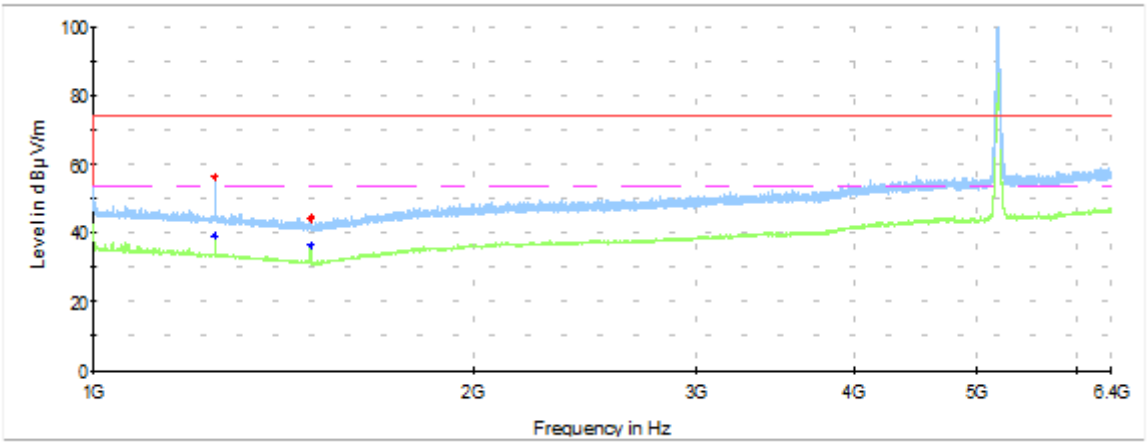
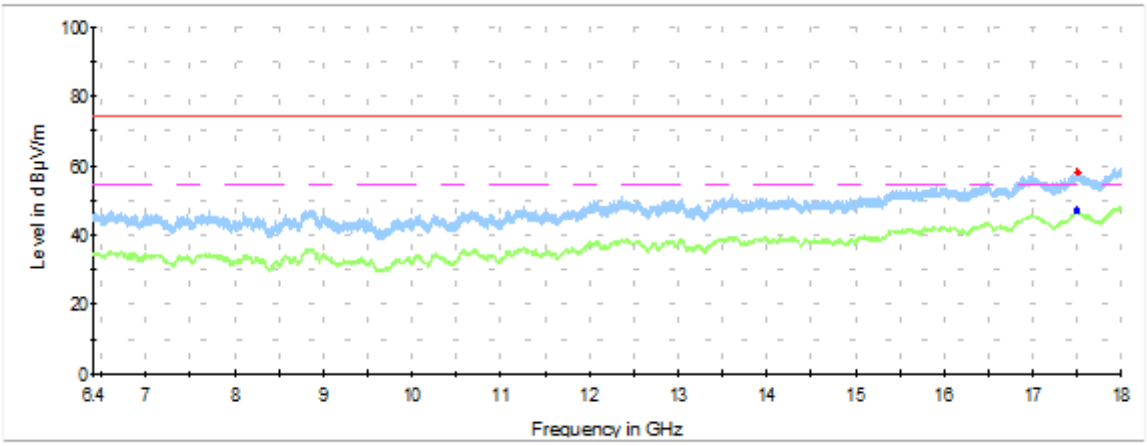
Radiated Spurious – CH40





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1248	45.3	-	74	28.7
1248	-	33.7	54	20.3
1485	45.1	-	74	28.9
1485	-	36.8	54	17.2
17500	58.2	-	74	15.8
17500	-	46.9	54	7.1

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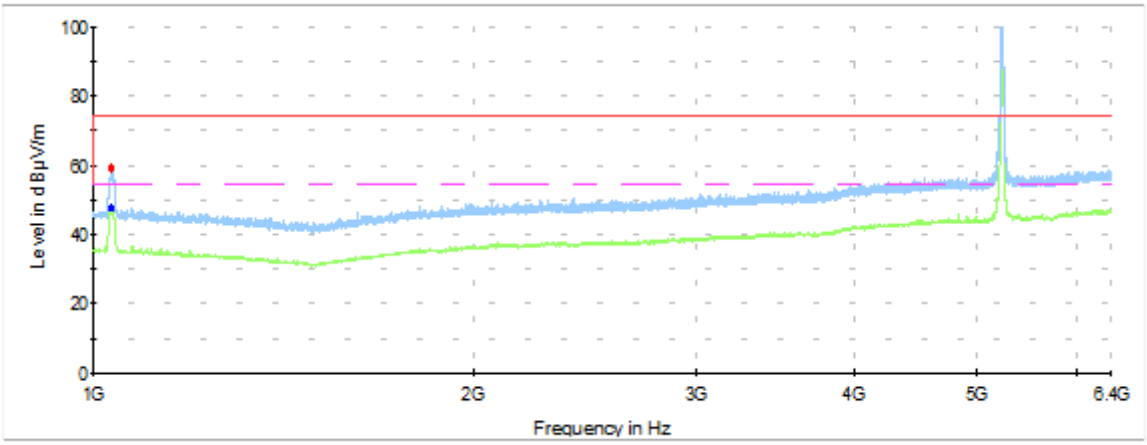
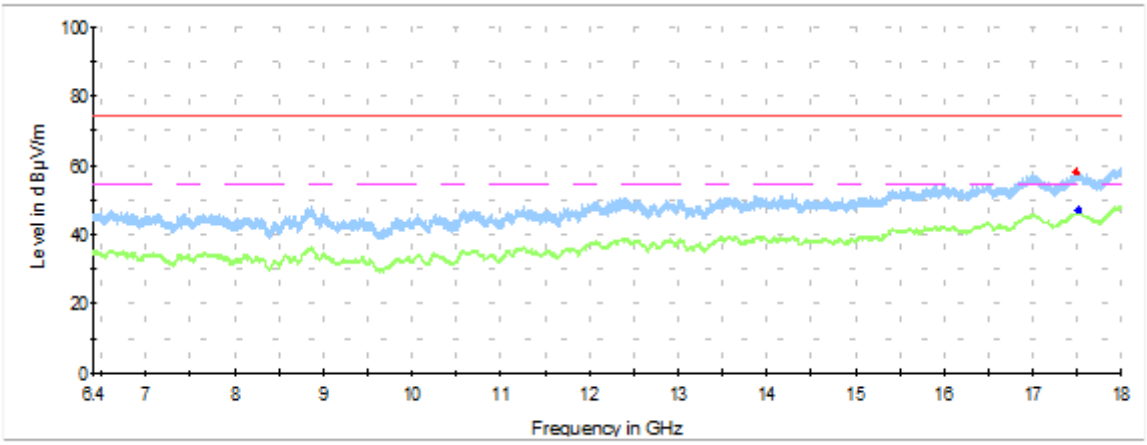
Radiated Spurious – CH48





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1034	60.7	-	74	13.3
1034	-	49.5	54	4.5
17495	58.1	-	74	15.9
17508	-	46.9	54	7.1

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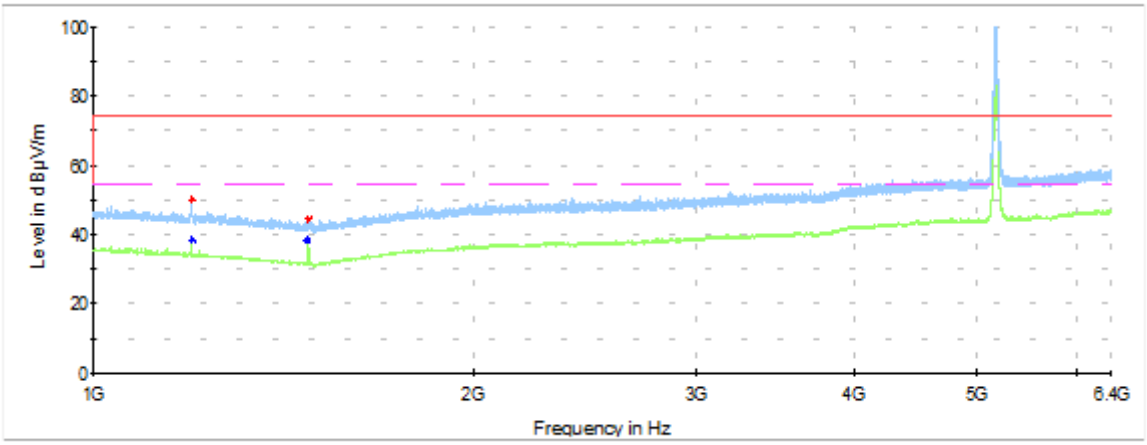
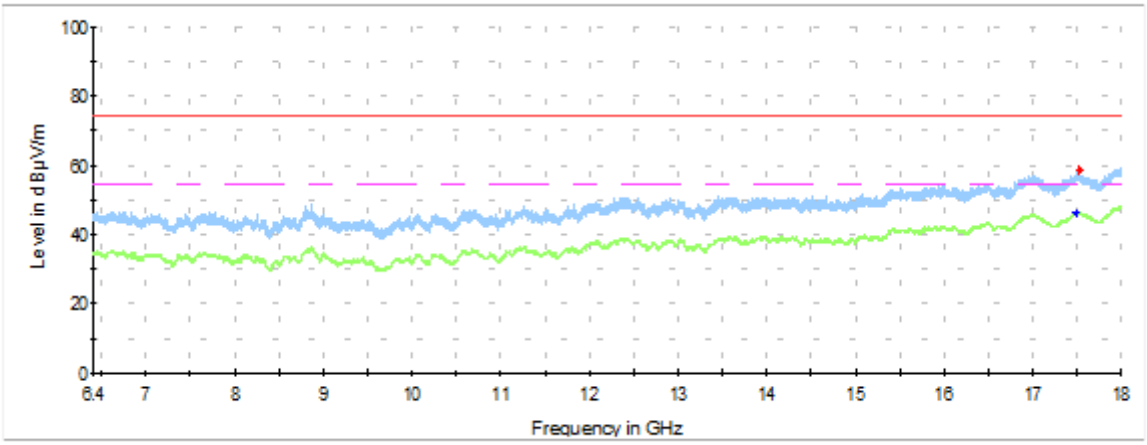
1 GHz – 18 GHz, 802.11n20, HT0, Chain B

Radiated Spurious – CH36





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1197	53.0	-	74	21.0
1197	-	40.2	54	13.8
1480	46.6	-	74	27.4
1480	-	38.8	54	15.2
17488	58.3	-	74	15.7
17523	-	46.1	54	7.9

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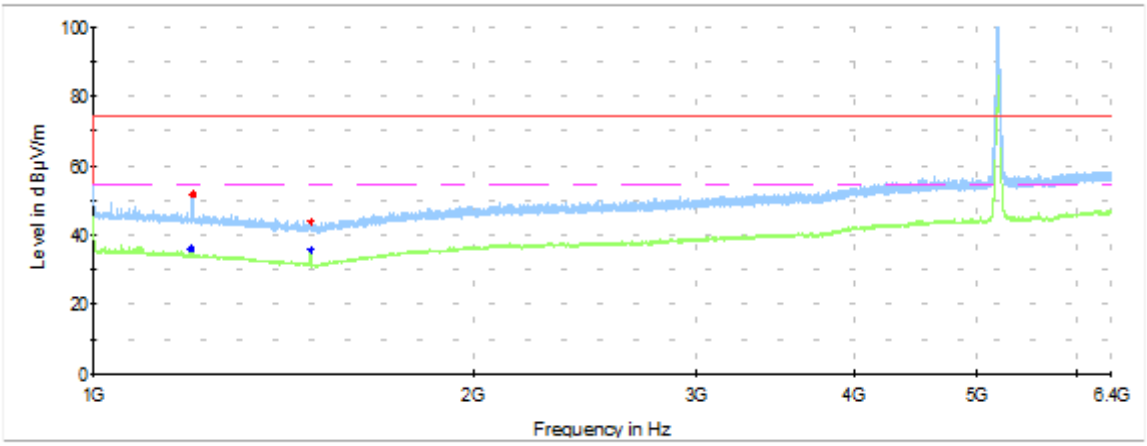
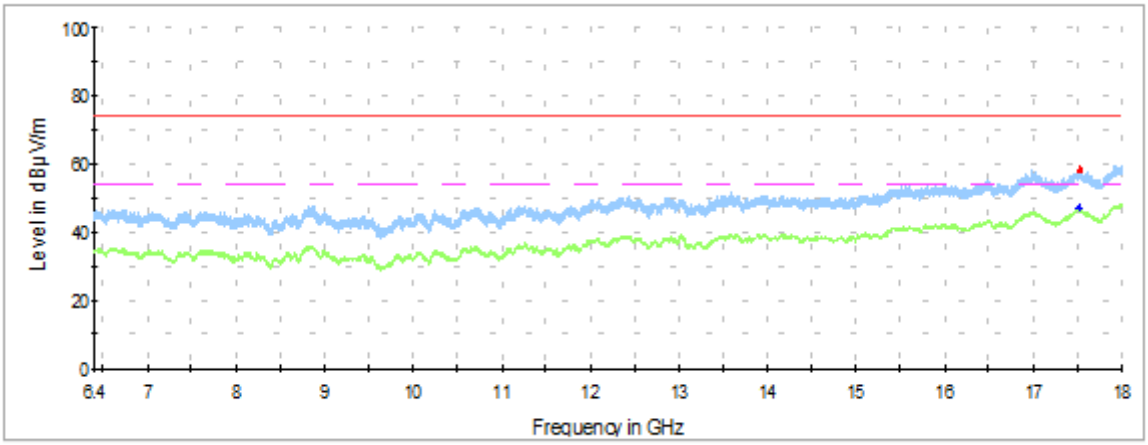
Radiated Spurious – CH40





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1196	53.3	-	74	20.7
1199	-	39.7	54	14.3
1485	44.3	-	74	29.7
1485	-	37.2	54	16.8
17529	58.3	-	74	15.7
17538	-	46.4	54	7.6

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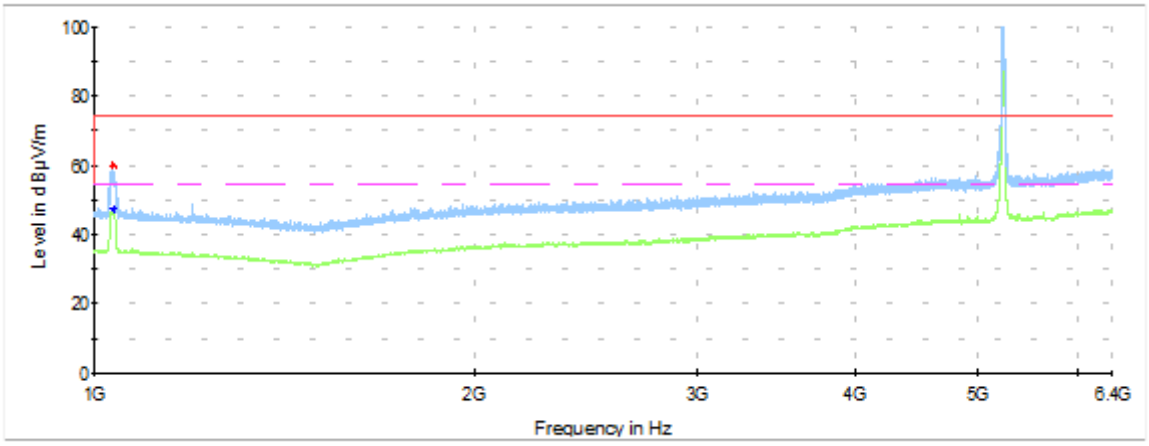
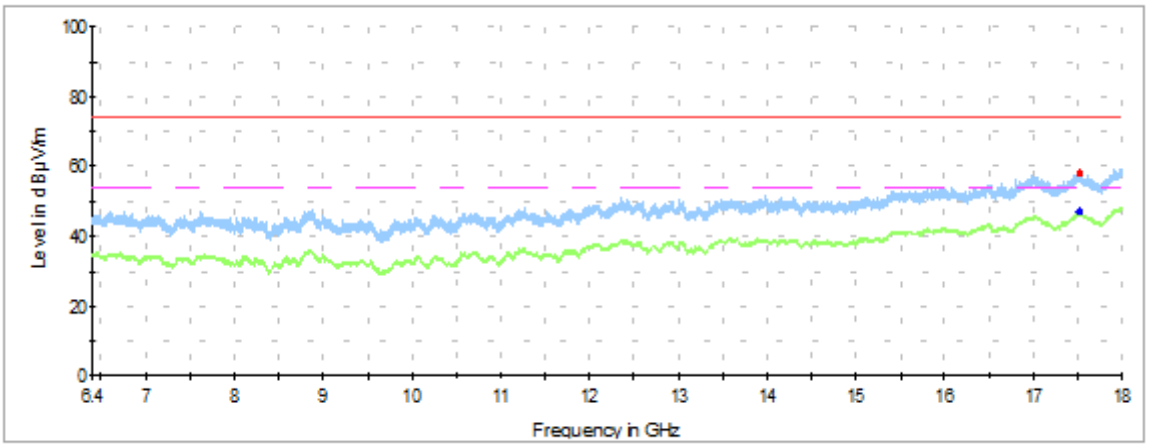
Radiated Spurious – CH48





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1033	63.8	-	74	10.2
1035	-	48.5	54	5.5
17511	58.1	-	74	15.9
17521	-	46.9	54	7.1

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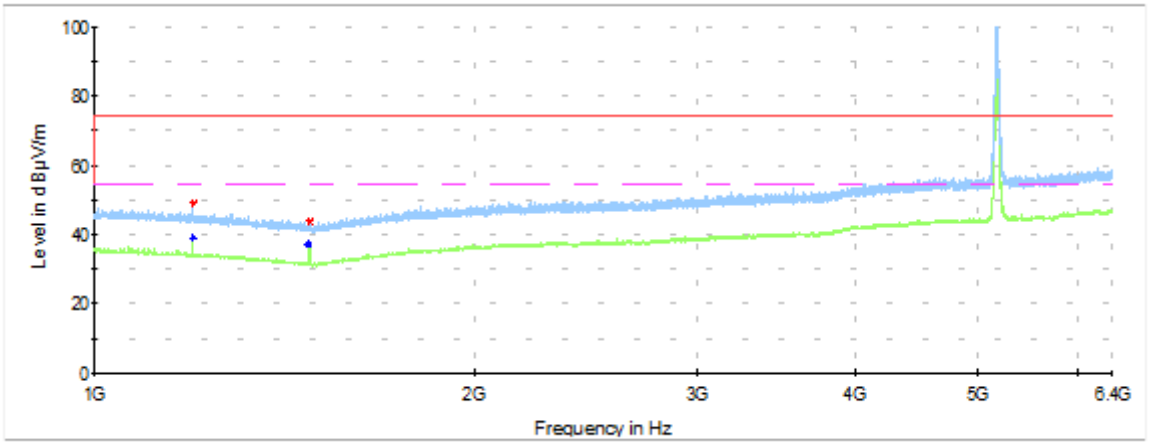
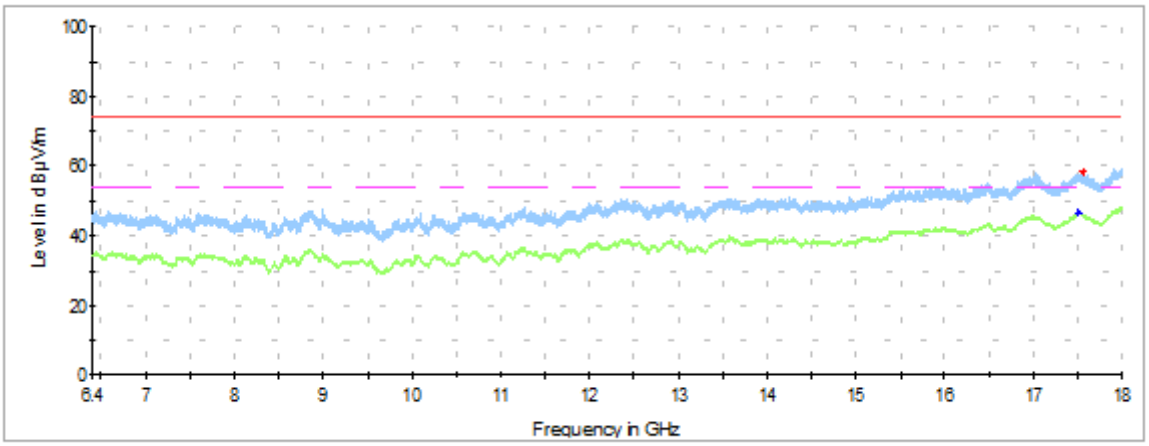
1 GHz – 18 GHz, 802.11n20, HT8, Chain A+B

Radiated Spurious – CH36





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1098	53.3	-	74	20.7
1098	-	39.0	54	15.0
1479	45.9	-	74	28.1
1479	-	37.4	54	16.6
17507	58.4	-	74	15.6
17553	-	46.8	54	7.2

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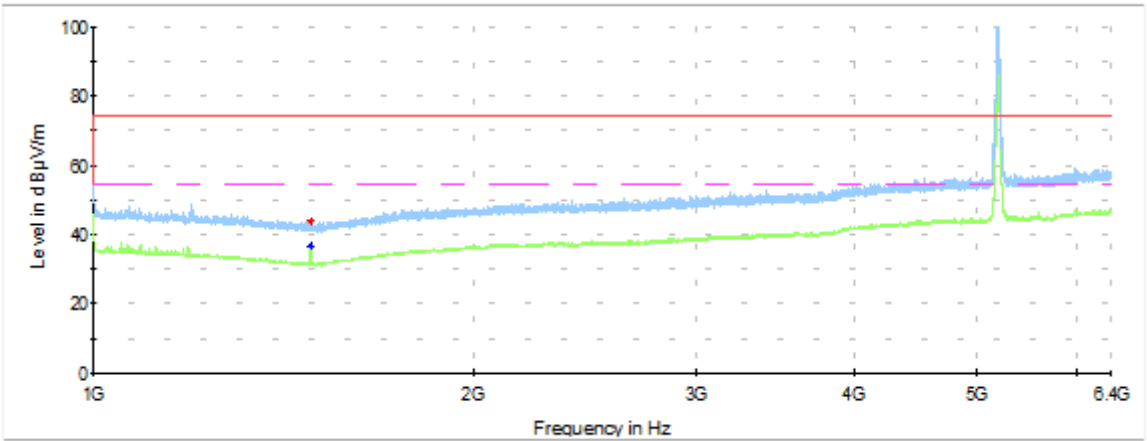
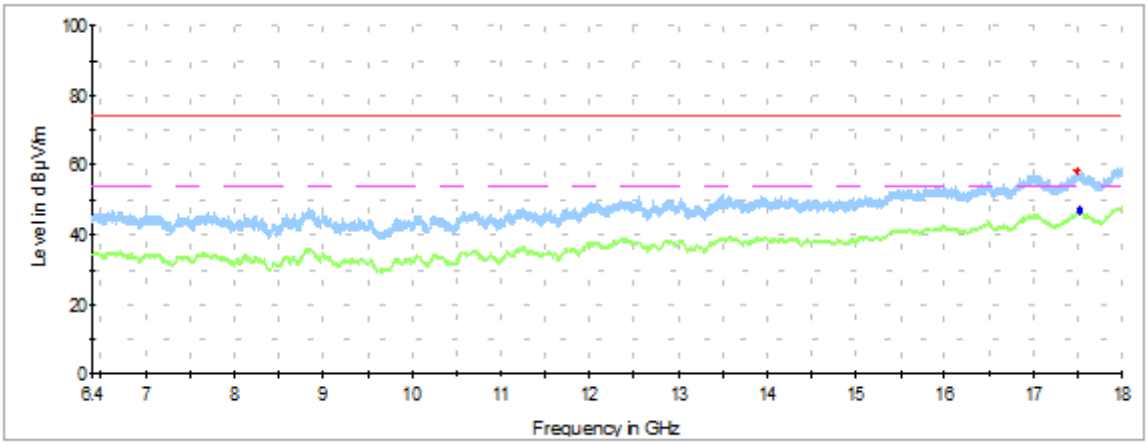
Radiated Spurious – CH40





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1485	44.5	-	74	29.5
1485	-	36.8	54	17.2
17490	58.2	-	74	15.8
17521	-	46.8	54	7.2

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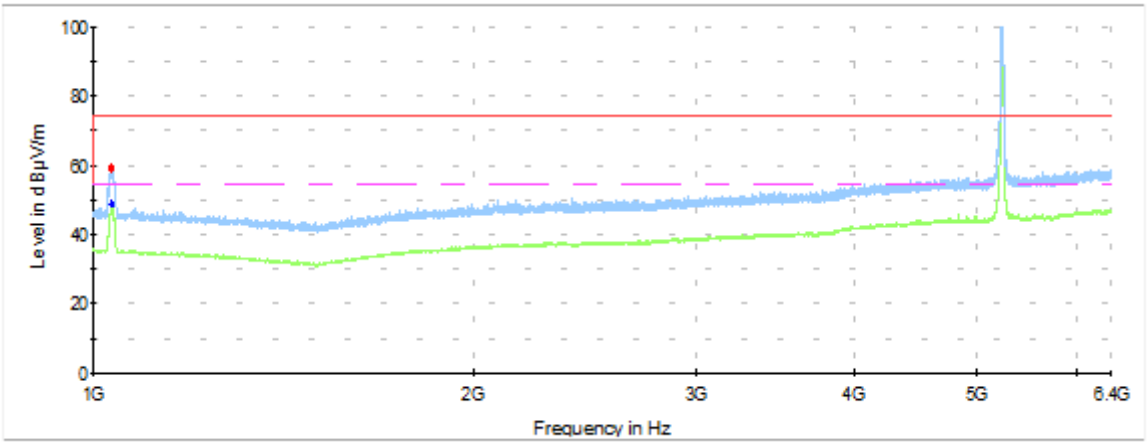
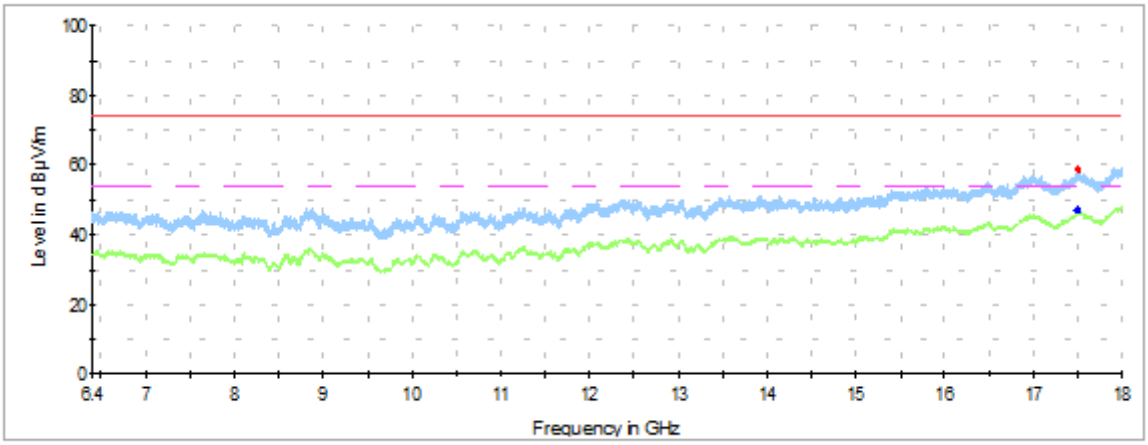
Radiated Spurious – CH48





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1033	59.5	-	74	14.5
1033	-	48.8	54	5.2
17492	58.8	-	74	15.2
17502	-	46.8	54	7.2

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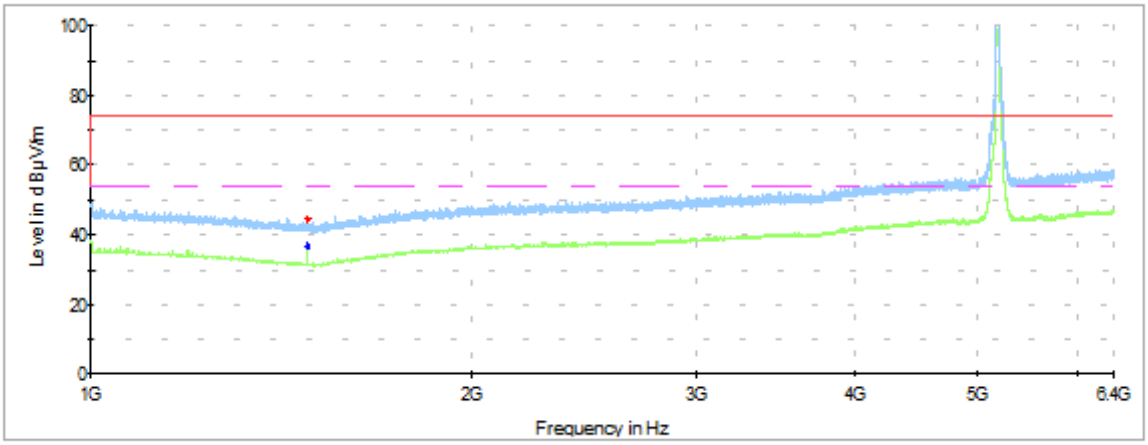
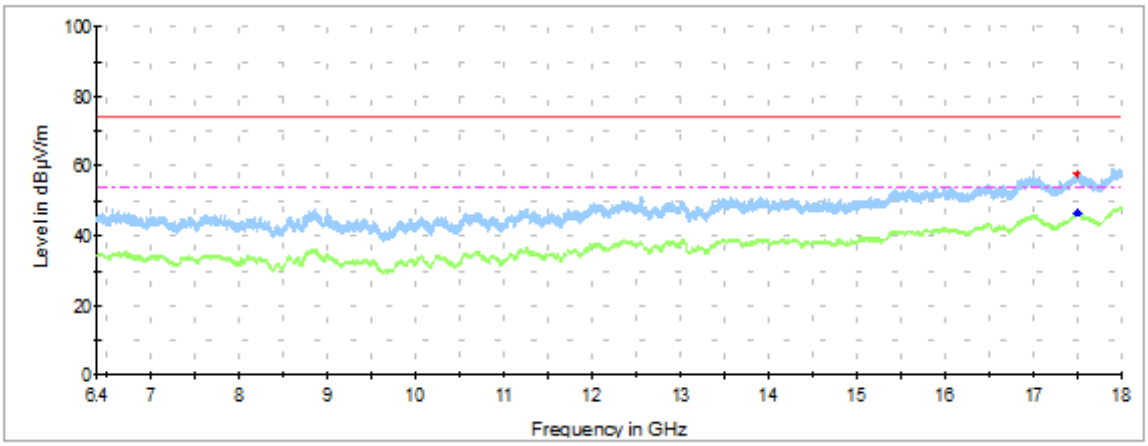
1 GHz – 18 GHz, 802.11n40, HT0, Chain A

Radiated Spurious – CH38F





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1482	45.3	-	74	28.7
1482	-	37.9	54	16.1
17498	57.7		74	16.3
17506		46.7	54	7.3

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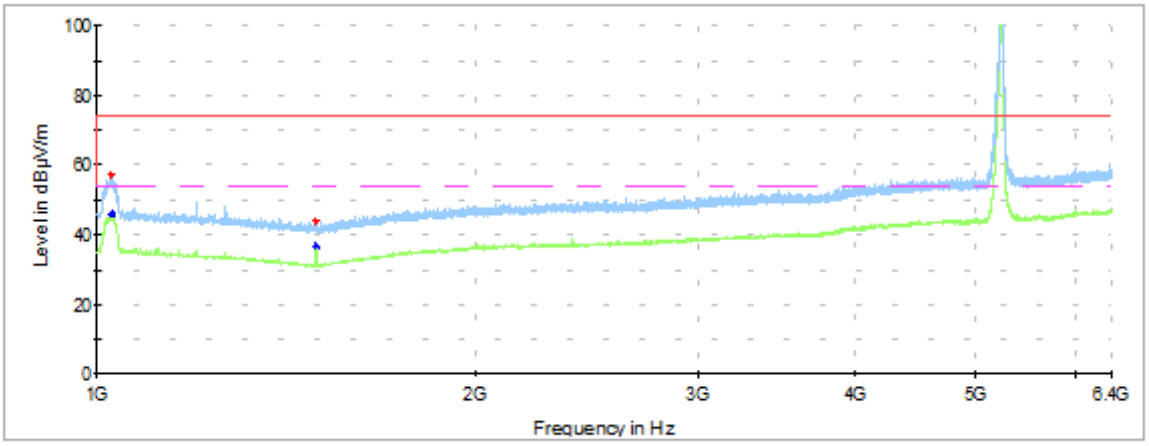
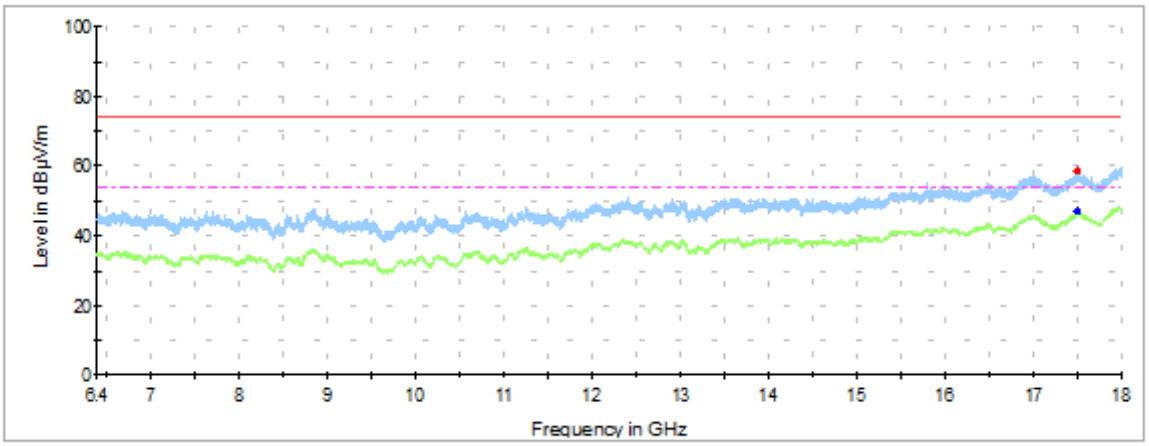
Radiated Spurious – CH46F





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1027	58.3	-	74	15.7
1027	-	46.9	54	7.1
1493	45.5	-	74	28.5
1493	-	37.0	54	17.0
17488	58.8	-	74	15.2
17508	-	46.3	54	7.7

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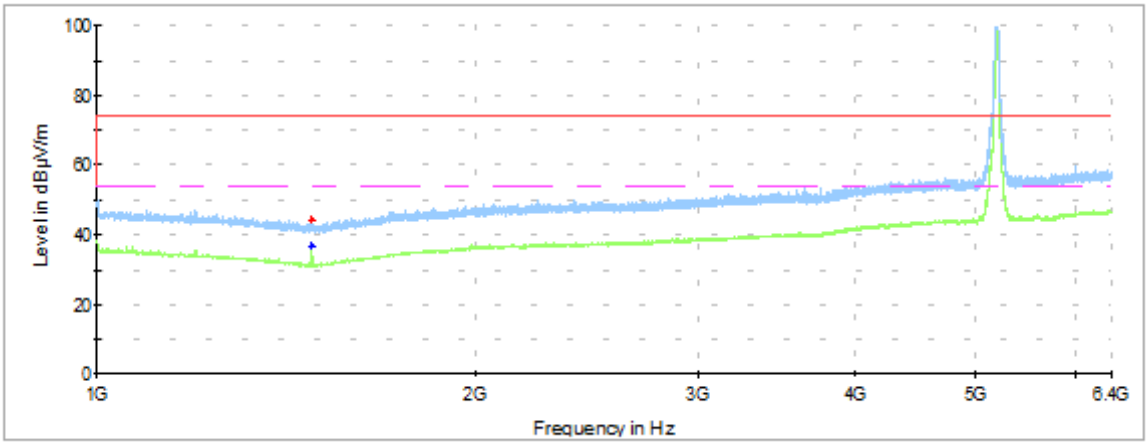
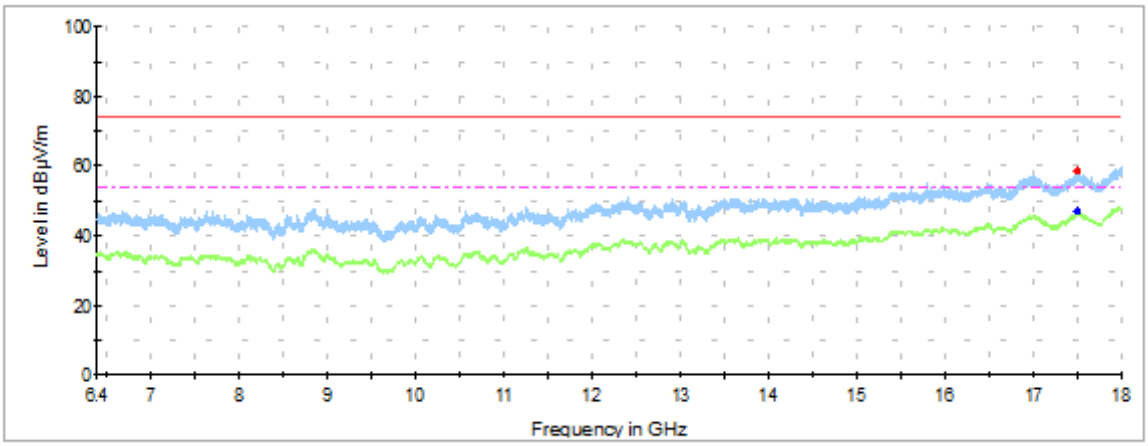
1 GHz – 18 GHz, 802.11n40, HT0, Chain B

Radiated Spurious – CH38F





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1482	43.2	-	74	30.8
1482	-	37.1	54	16.9
17506	58.8	-	74	15.2
17513	-	46.9	54	7.1

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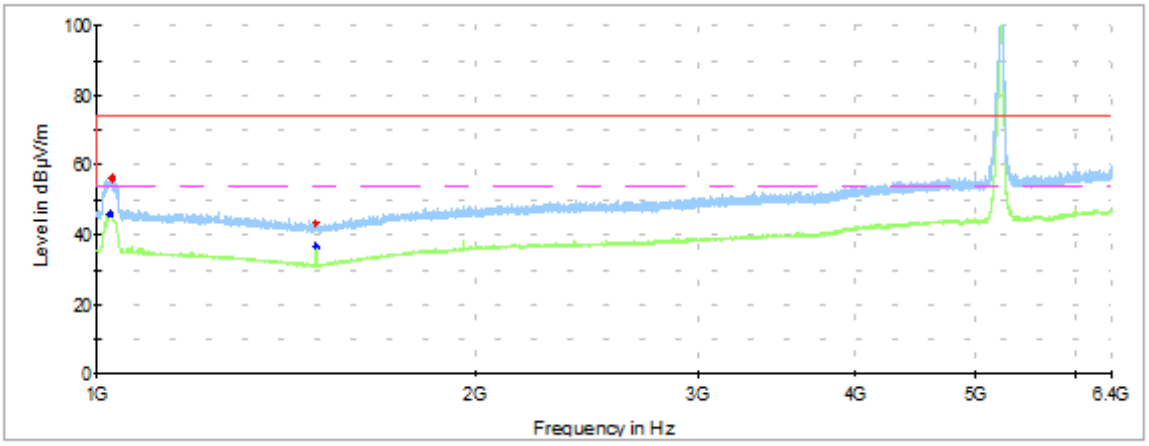
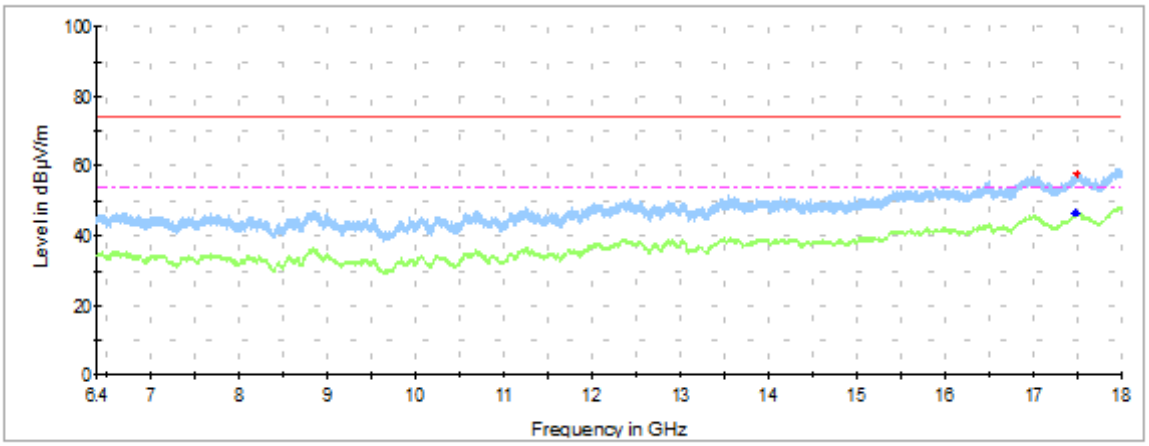
Radiated Spurious – CH46F





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1023	58.5	-	74	15.5
1028	-	47.8	54	6.2
1494	44.2	-	74	29.8
1494	-	36.6	54	17.4
17489	57.8		74	16.2
17500		46.7	54	7.3

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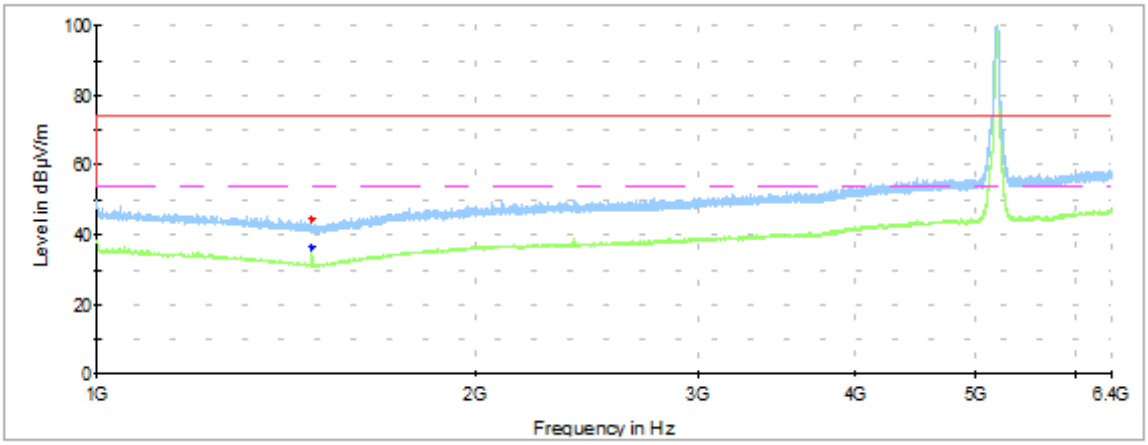
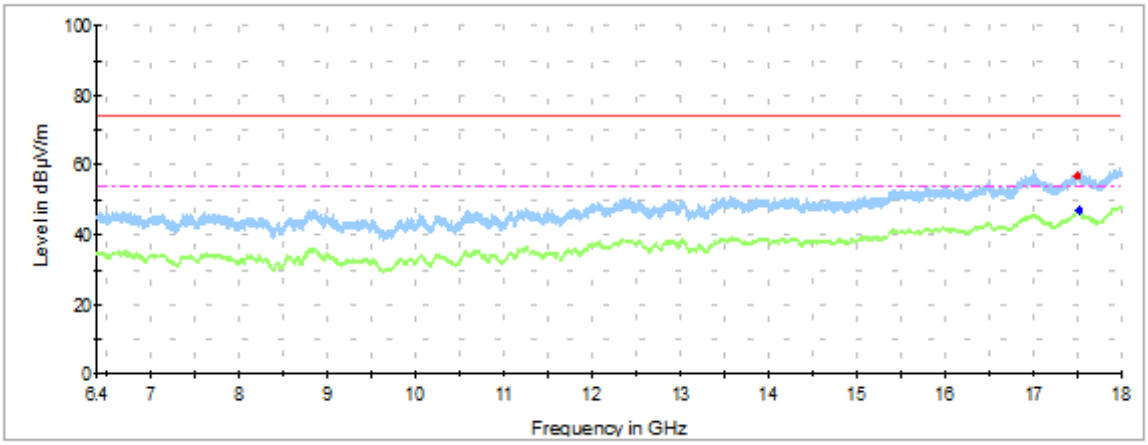
1 GHz – 18 GHz, 802.11n40, HT8, Chain A+B

Radiated Spurious – CH38F





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1482	44.3	-	74	29.7
1482	-	37.5	54	16.5
17513	57.0	-	74	17.0
17513	-	46.8	54	7.2

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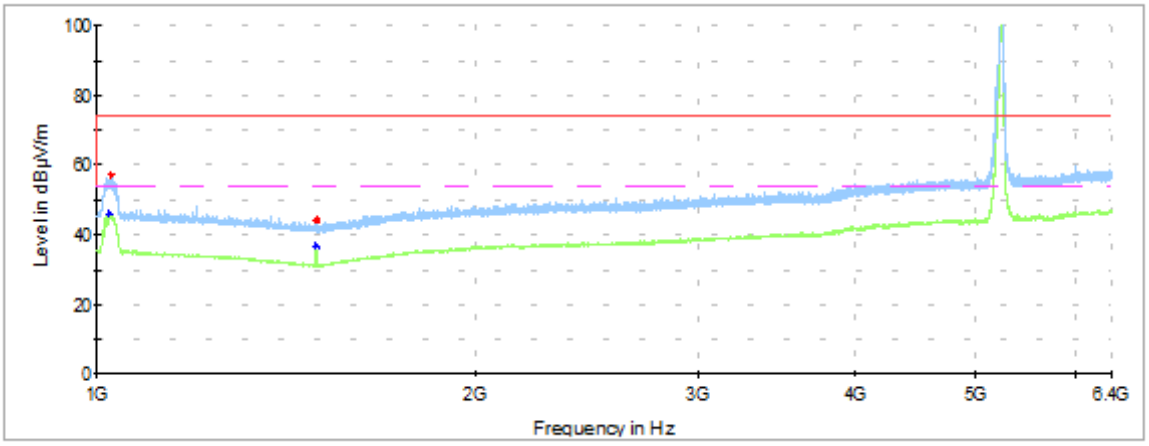
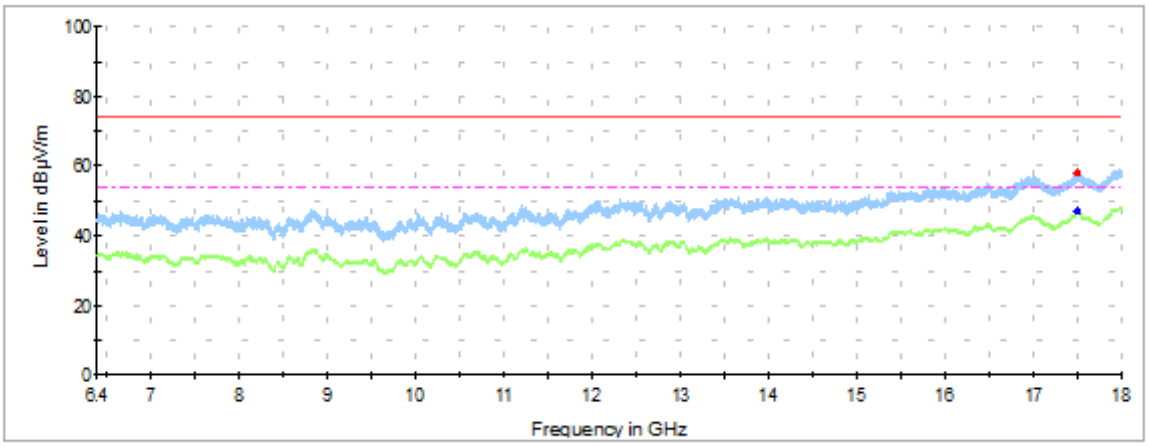
Radiated Spurious – CH46F





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1023	57.5	-	74	16.5
1025	-	47.4	54	6.6
1494	44.0	-	74	30.0
1494	-	37.0	54	17.0
17500	58.0	-	74	16.0
17500	-	47.0	54	7.0

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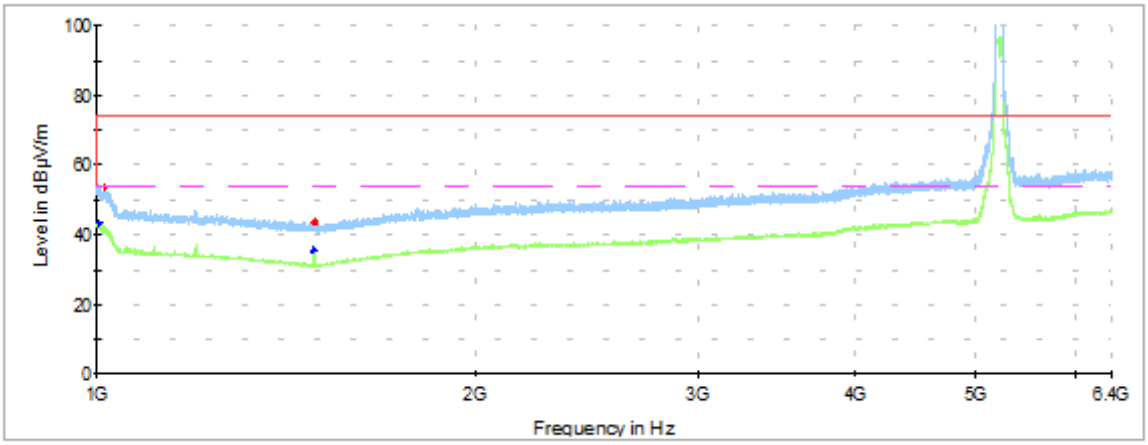
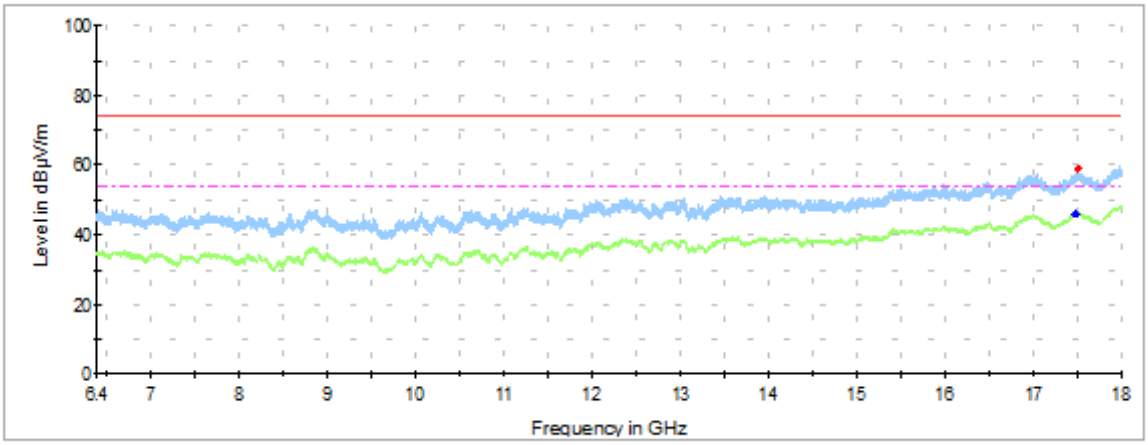
1 GHz – 18 GHz, 802.11ac80, HT0, Chain A

Radiated Spurious – CH42ac80





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1003	54.5	-	74	16.6
1014	-	44.1	54	9.9
1488	44.9	-	74	29.1
1488	-	35.7	54	18.3
17481	59.1	-	74	14.9
17506	-	45.9	54	8.1

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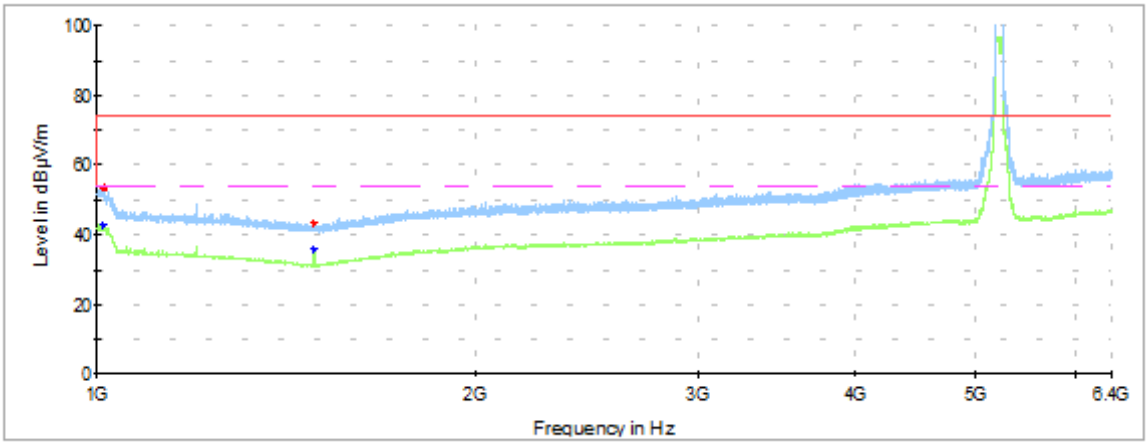
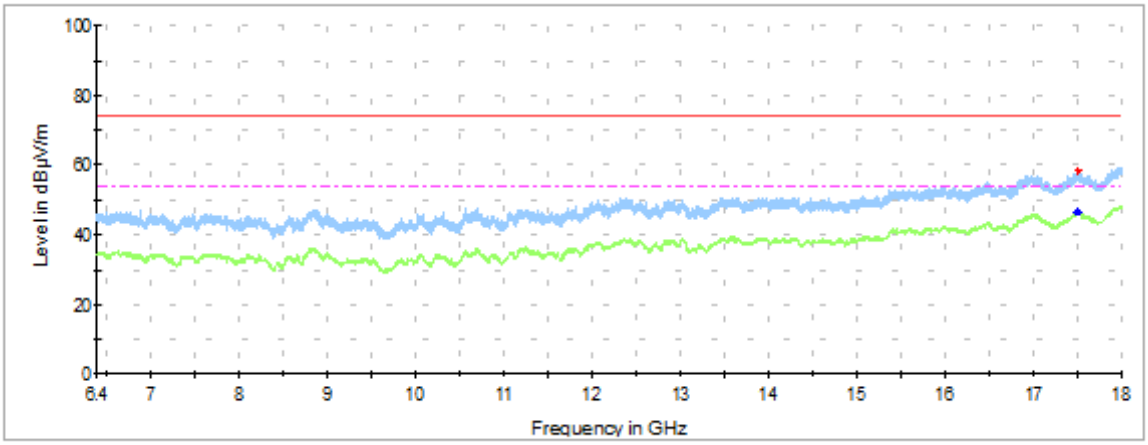
1 GHz – 18 GHz, 802.11ac80, HT0, Chain B

Radiated Spurious – CH42ac80





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1011	56.8	-	74	17.2
1011	-	41.0	54	13.0
1488	45.2	-	74	28.8
1488	-	37.1	54	16.9
17502	58.4	-	74	15.6
17502	-	46.5	54	7.5

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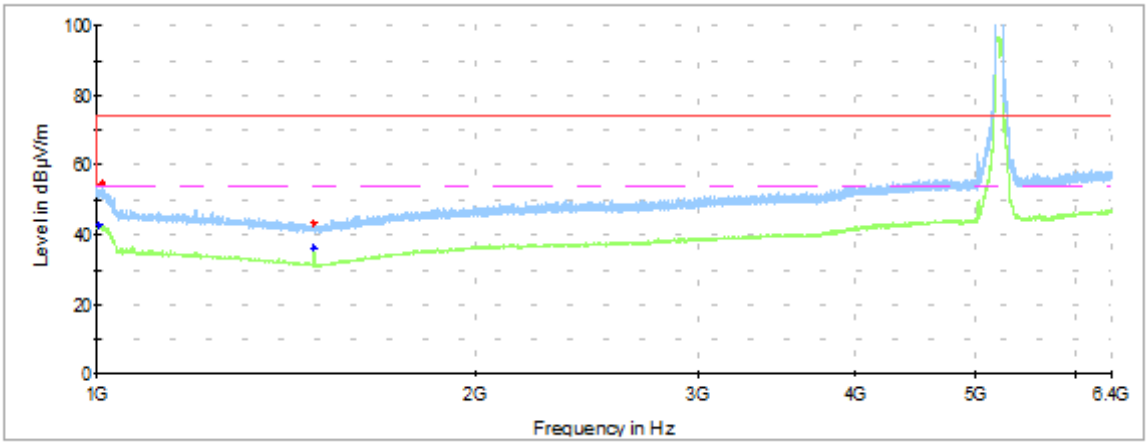
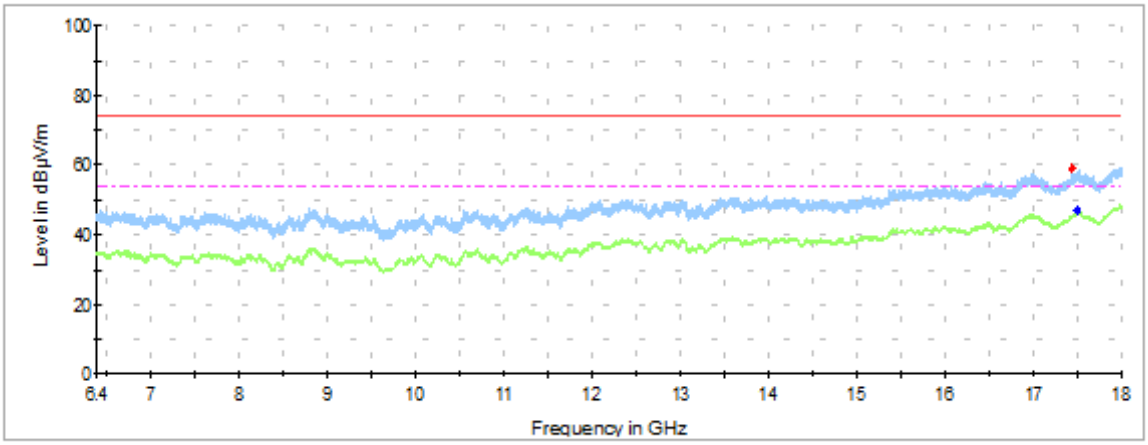
1 GHz – 18 GHz, 802.11ac80, HT8, Chain A+B

Radiated Spurious – CH42ac80





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
1004	55.0	-	74	19.0
1004	-	44.6	54	9.4
1488	45.6	-	74	28.5
1488	-	36.7	54	17.3
17441	58.8	-	74	15.2
17493	-	47.0	54	7.0

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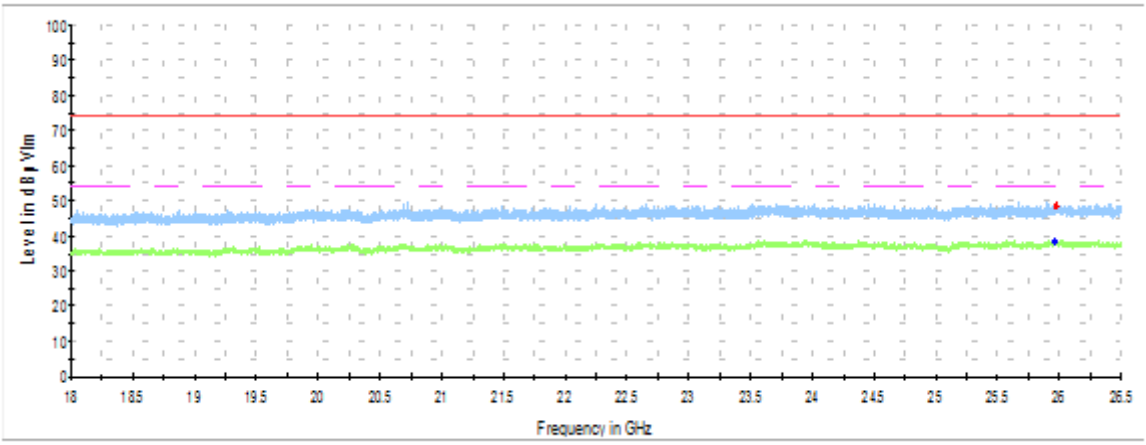
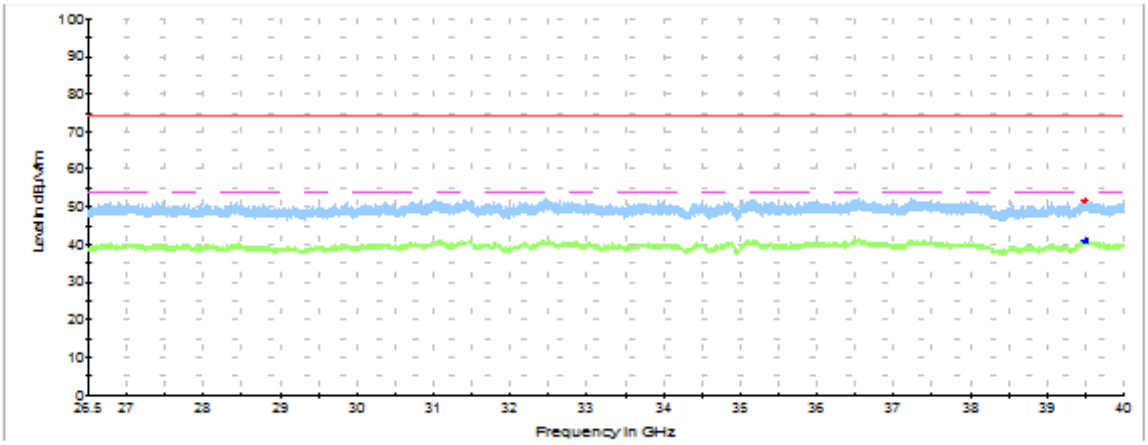
18GHz – 40GHz

Radiated Spurious – All modes





Peak measurements Avg measurements Limit FCC Peak Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
25966	48.5	-	74	25.5
25978	-	38.3	54	15.7
39505	51.6	-	74	22.4
39505	-	40.9	54	13.1

Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.

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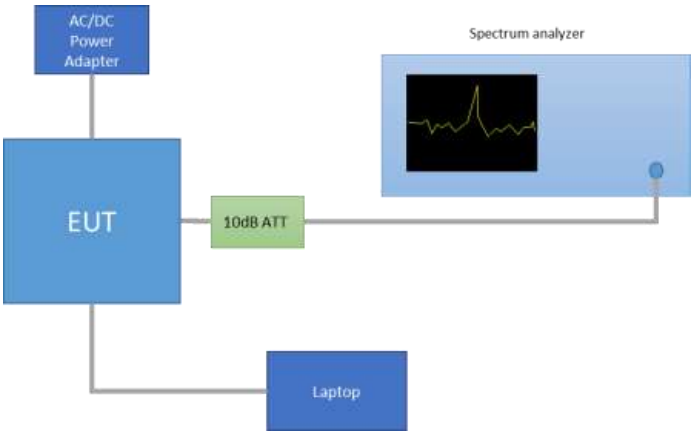
Annex C. Test Results U-NII-2A

C.1 26dB & 99% Bandwidth

Test procedure:

The setup below was used to measure the 26dB & 99% Bandwidth. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.



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Results tables:

Mode	Rate	Antenna	Channel	Frequency [MHz]	26dB BW [MHz]	99% BW [MHz]
802.11a	6Mbps	SISO CHAIN A	52	5260	34.65	22.88
			60	5300	34.85	23.08
			64	5320	24.30	16.60
		SISO CHAIN B	52	5260	**36.25**	**24.16**
			60	5300	36.00	23.76
			64	5320	22.85	16.56
802.11n20	HT0	SISO CHAIN A	52	5260	36.25	**25.76**
			60	5300	**38.40**	24.44
			64	5320	24.25	17.72
		SISO CHAIN B	52	5260	36.90	25.48
			60	5300	38.35	24.28
			64	5320	24.25	17.76
	HT8	MIMO CHAIN A	52	5260	35.50	20.44
			60	5300	31.65	18.96
			64	5320	24.70	17.72
		MIMO CHAIN B	52	5260	34.75	21.84
			60	5300	29.45	19.04
			64	5320	23.45	17.72
802.11n40	HT0	SISO CHAIN A	54F	5270	**74.34**	**40.24**
			62F	5310	45.63	36.32
		SISO CHAIN B	54F	5270	65.25	38.24
			62F	5310	45.36	36.32
	HT8	MIMO CHAIN A	54F	5270	56.70	37.60
			62F	5310	45.45	36.32
		MIMO CHAIN B	54F	5270	50.22	36.56
			62F	5310	44.10	36.16
802.11ac80	VHT0	SISO CHAIN A	58ac80	5290	**85.31**	**75.00**
		SISO CHAIN B	58ac80	5290	84.93	**75.00**
		MIMO CHAIN A	58ac80	5290	84.93	**75.00**
		MIMO CHAIN B	58ac80	5290	84.55	**75.00**

Max Value

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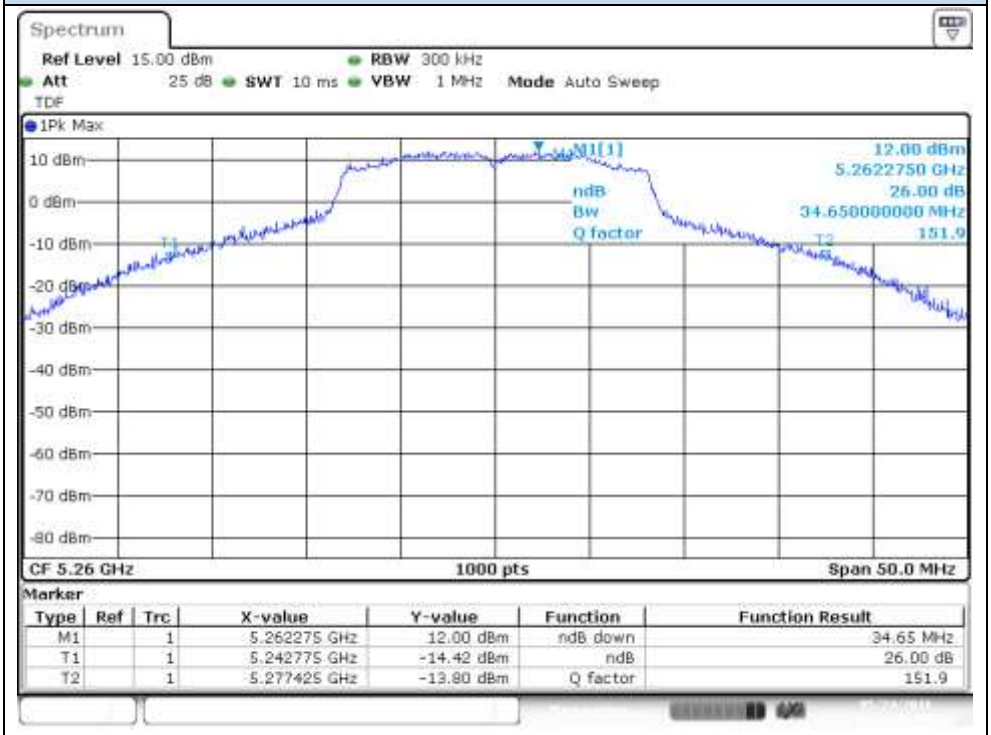
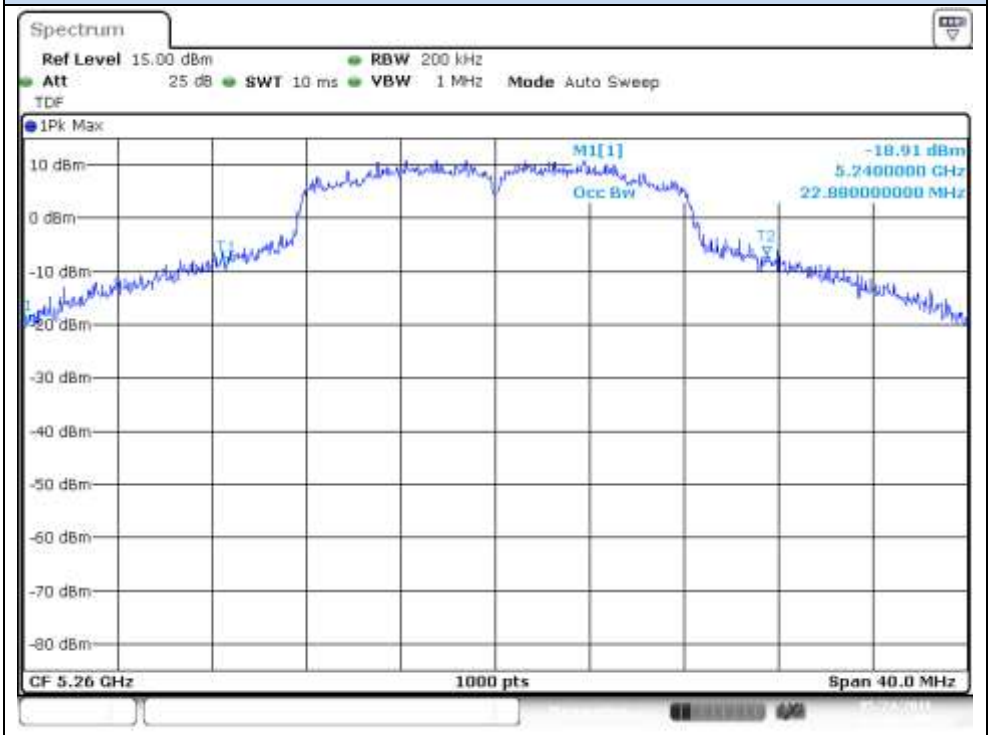
Results screenshot:

802.11a, 6Mbps – Chain A

26dB BW – CH52



99% BW – CH52



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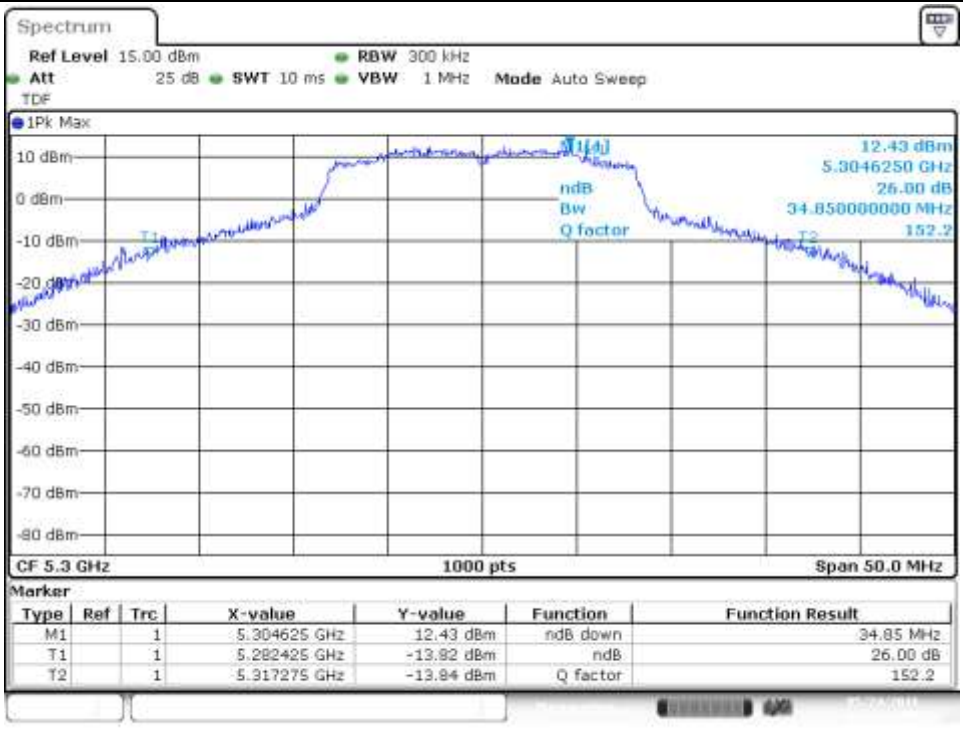
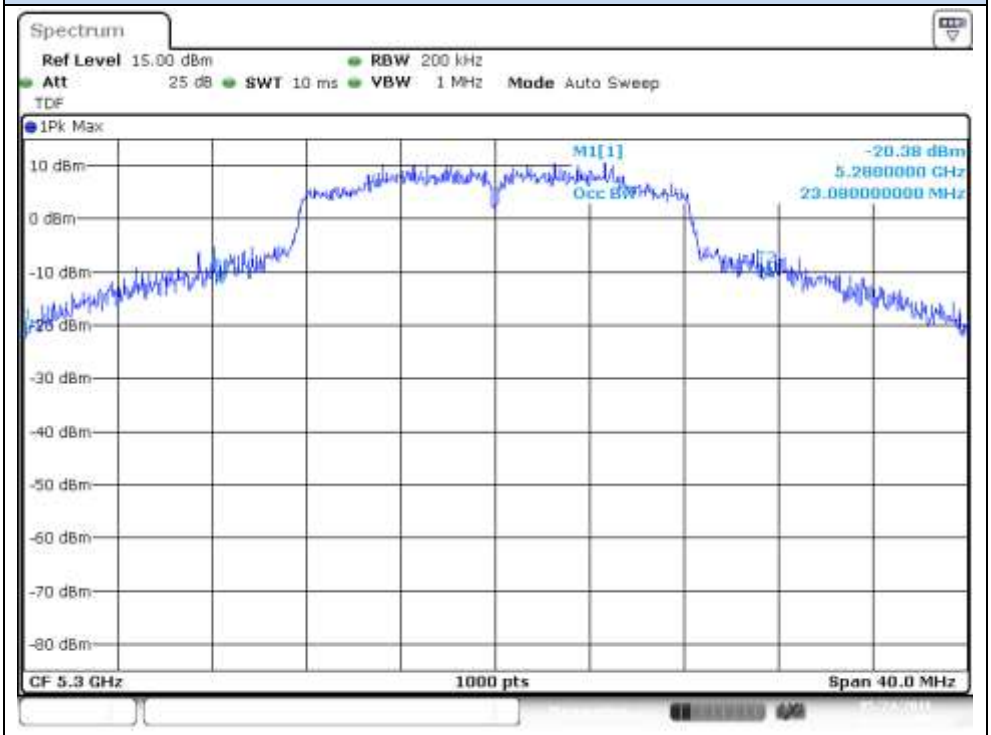
26dB BW – CH60



99% BW – CH60



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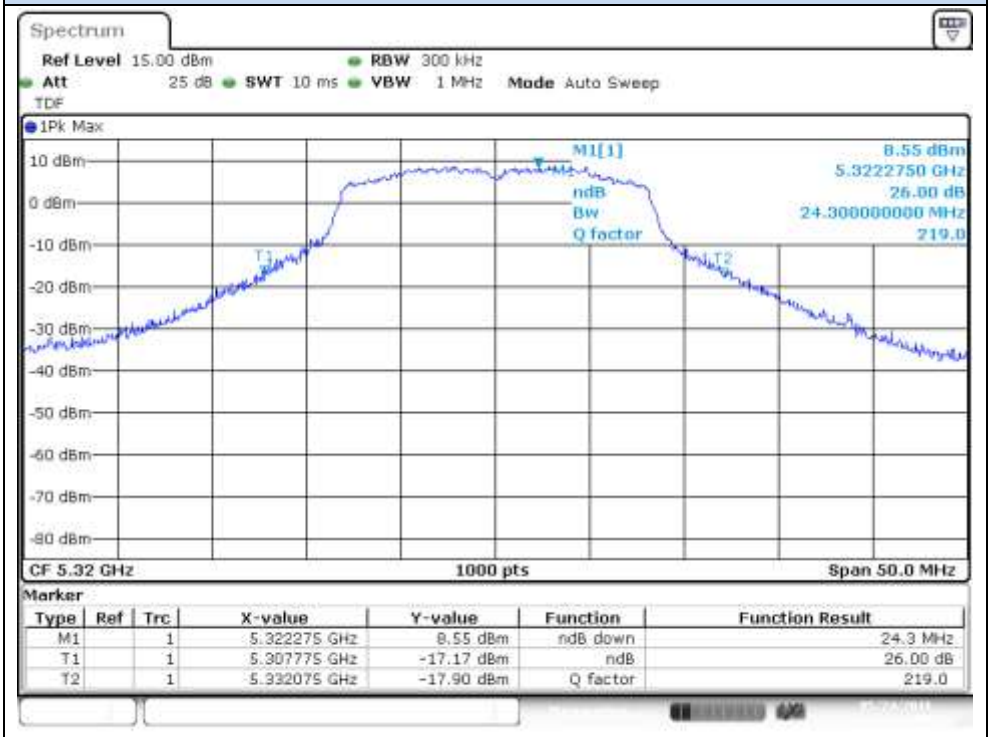
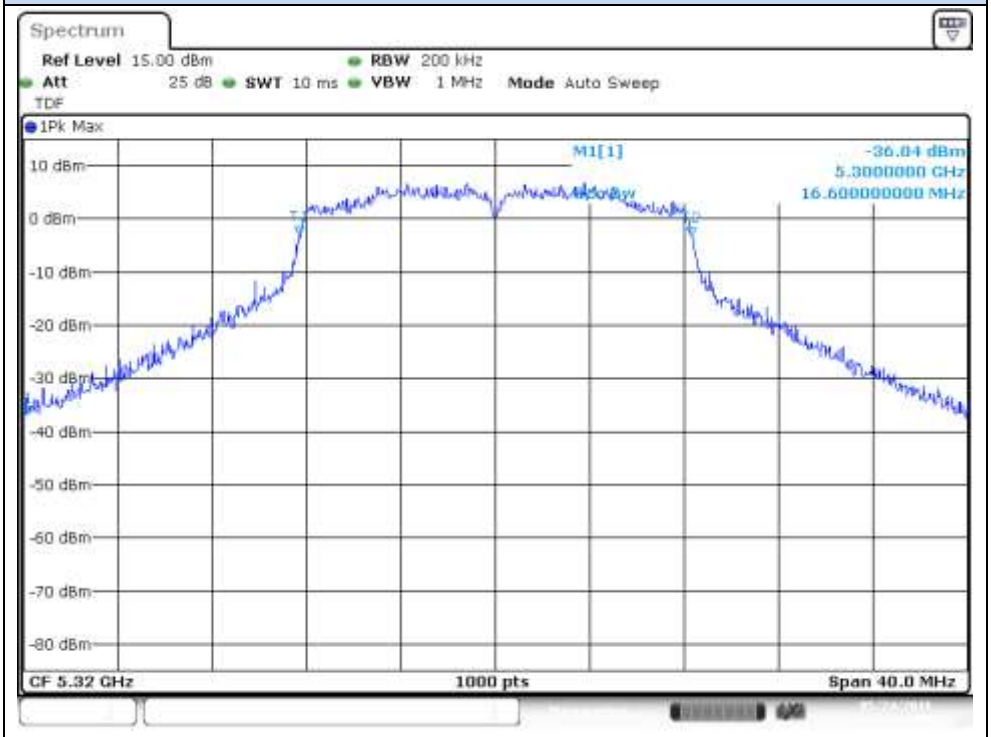
26dB BW – CH64



99% BW – CH64



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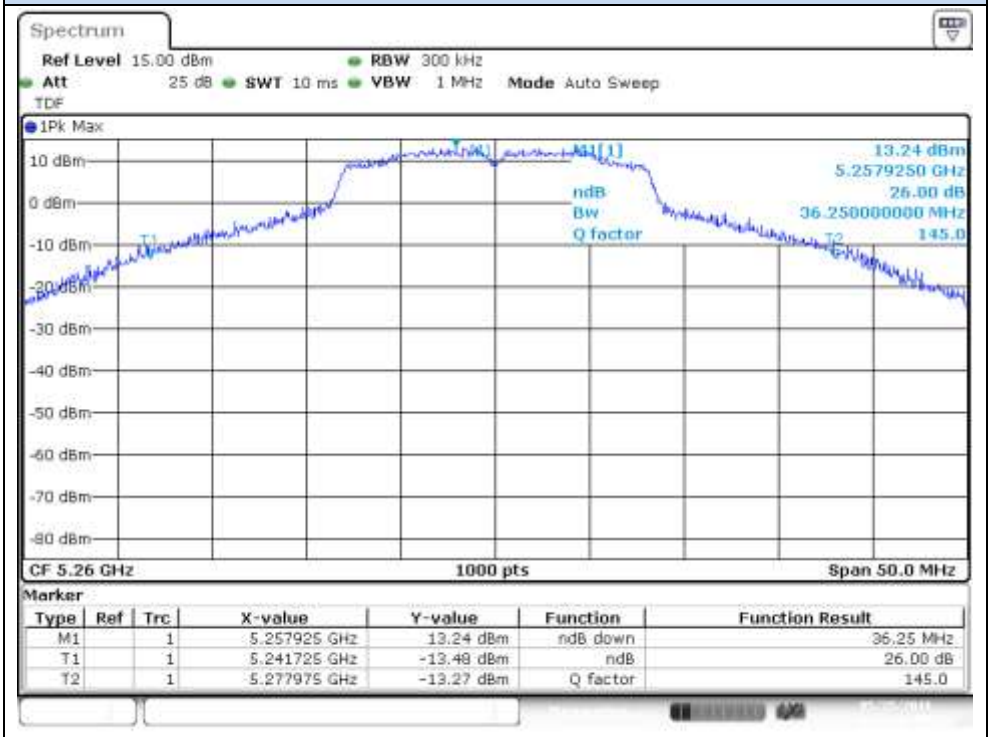
802.11a, 6Mbps – Chain B

26dB BW – CH52



99% BW – CH52

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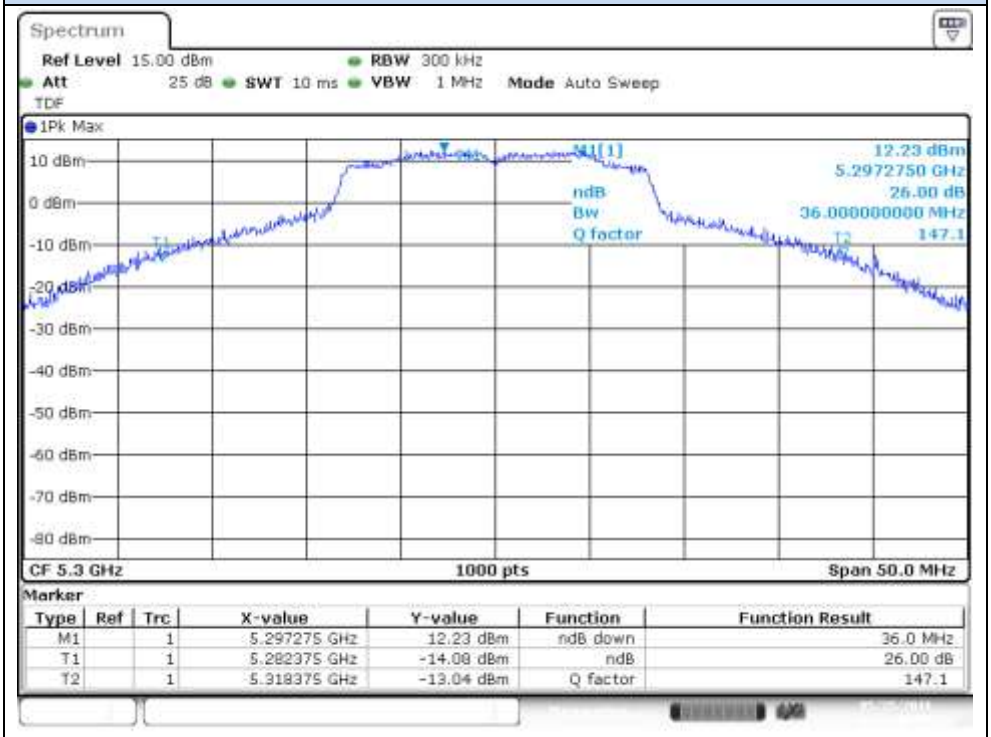
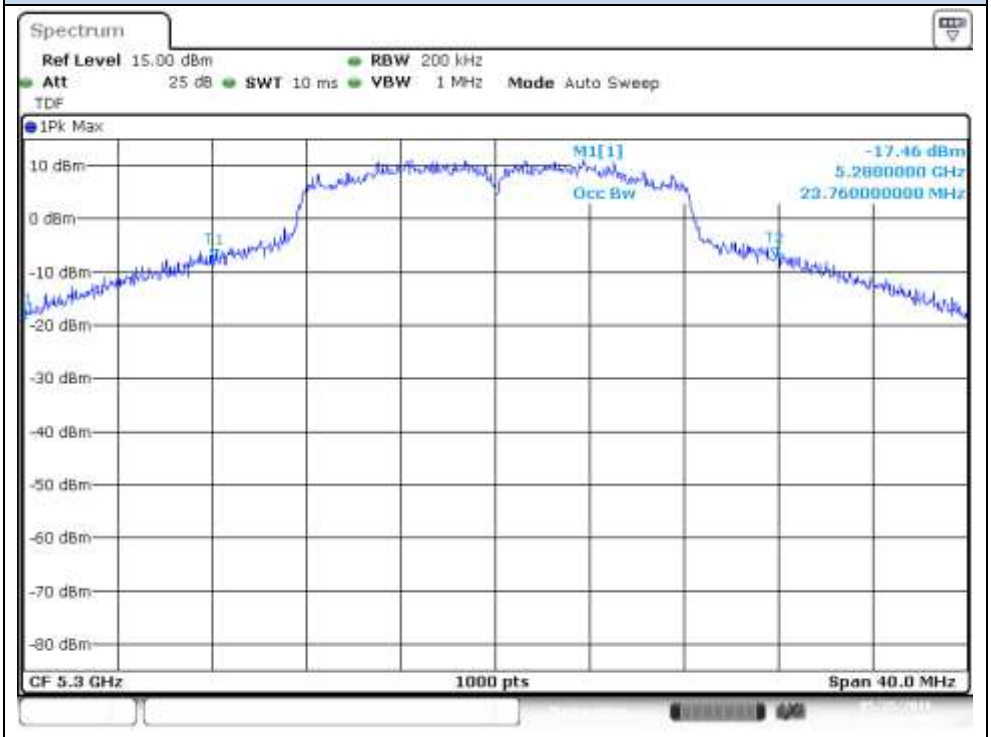
26dB BW – CH60



99% BW – CH60



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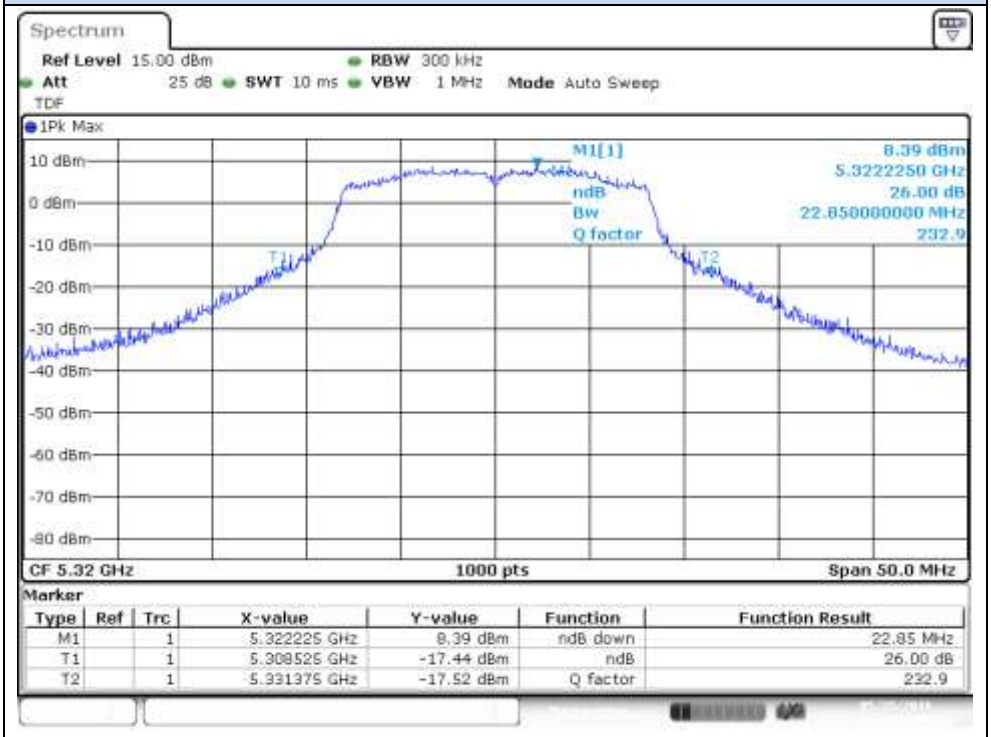
26dB BW – CH64



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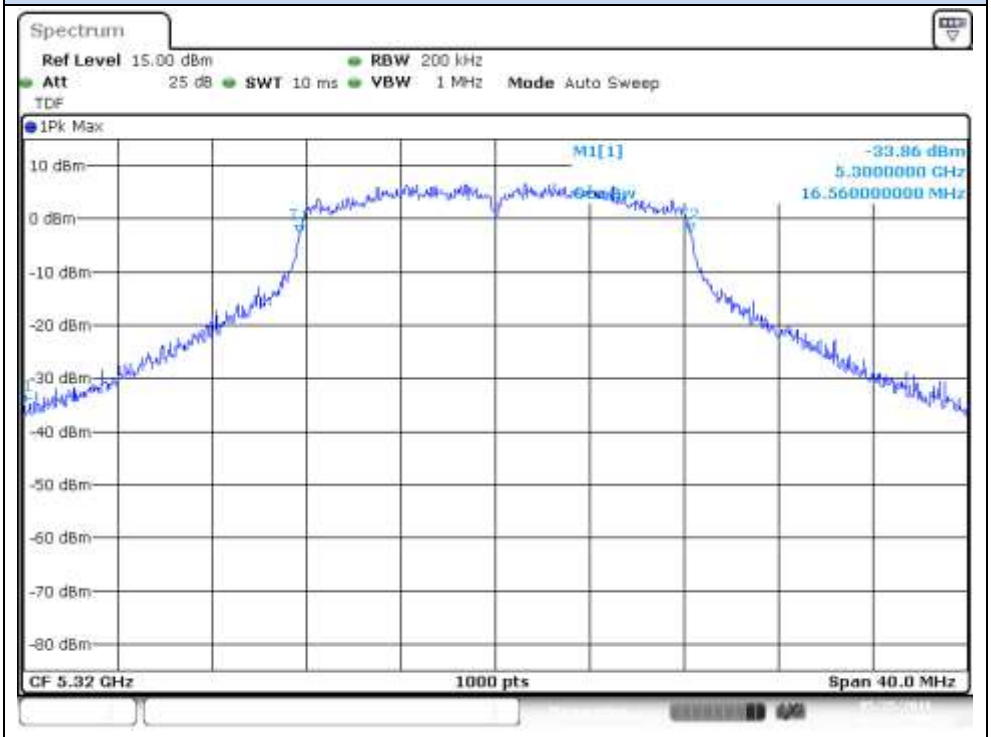
99% BW – CH64



Date: 25.MAY.2016 14:46:25

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