

TEST REPORT

EUT Description	WLAN and BT, 1x1 PCIe M.2 2230 adapter card
Brand Name	Intel® Wireless-AC 9462
Model Name	9462NGW
FCC ID	PD99462NG
ISED ID	1000M-9462NG
Date of Test Start/End	2017-10-17 / 2017-11-02
Features	802.11ac, Dual Band, 1x1 Wi-Fi + Bluetooth® 5, Diversity Antenna (see section 5)

Applicant	Intel Mobile Communications
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Reference Standards	FCC CFR Title 47 Part 15 E RSS-247 issue 2, RSS-Gen issue 4 (see section 1)
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Test Report identification	170919-02.TR02
Revision Control	Rev. 00 This test report revision replaces any previous test report revision (see section 8)

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

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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 U-NII Test Procedures New Rules v01r04 – Guidelines for compliance testing of Unlicensed National Information Infrastructure (U-NII) Devices (Part 15, Subpart E)
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.
6. RSS-247 Issue 2 - Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices.
7. RSS-Gen Issue 4 - General Requirements for Compliance of Radio Apparatus.

2. General conditions, competences and guarantees

- ✓ Intel Mobile Communications France SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2005 testing laboratory accredited by the American Association for Laboratory Accreditation (A2LA) with the certificate number 3478.01.
- ✓ Intel Mobile Communications France SAS Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm recognized by the FCC, with Designation Number FR0011.
- ✓ Intel Mobile Communications France SAS Wireless RF Lab (Intel WRF Lab) is a Registered Test Site listed by ISED, with ISED Assigned Code 1000Y.
- ✓ Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
- ✓ Intel WRF Lab is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.
- ✓ 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.

3. Environmental Conditions

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

Temperature	23 °C ±1 °C
Humidity	55 % ± 5 %

4. Test samples

Sample	Control #	Description	Model	Serial #	Date of receipt	Note
#01	170919-02.S19	Module	9462NGW	WFM 3413E87013EF	2017-10-04	Used for conducted tests
	170524-02.S15	Extender Board	PCB00609_01	6092416-442	2017-05-30	
	170000-01.S01	Laptop	Latitude E5470	DPBLMC2	2017-03-28	
#02	170919-02.S13	Module	9462NGW	WFM:3413E870143F	2017-10-04	Used for radiated tests
	170220-02.S03	Extender Board	PCB00609_01	6092416-446	2017-02-20	
	170000-01.S13	Laptop	Latitude E5470	FT6LMC2	2017-05-30	
#03	170919-02.S20	Module	9462NGW	WFM:3413E87013E0	2017-10-04	
	170220-02.S04	Extender Board	PCB00609_01	6092416-493	2017-02-20	
	170801-01.S10	Laptop	Latitude E7470	7KNOXF2	2017-09-13	

5. EUT Features

Brand Name	Intel® Wireless-AC 9462		
Model Name	9462NGW		
FCC ID	PD99462NG		
ISED ID	1000M-9462NG		
Software Version	10.1739.0-06012		
Driver Version	99.0.28.6		
Prototype / Production	Production		
Supported Radios	802.11b/g/n	2.4GHz (2400.0 – 2483.5 MHz)	
	802.11a/n/ac	5.2GHz (5150.0 – 5350.0 MHz)	
		5.6GHz (5470.0 – 5725.0 MHz)	
		5.8GHz (5725.0 – 5850.0 MHz)	
	Bluetooth 5	2.4GHz (2400.0 – 2483.5 MHz)	
Antenna Information	CHAIN A Div1: PIFA antenna. WiFi 2.4GHz & 5GHz and BT CHAIN A Div2: PIFA antenna. WiFi 2.4GHz & 5GHz and BT		
Additional Information			

6. Remarks and comments

N/A

7. Test Verdicts summary

7.1. 802.11 a/n/ac – U-NII-2C

FCC part	RSS part	Test name	Verdict
15.407 (a) (2)	RSS-247 Clause 6.2.3.1	Power Limits. Maximum output power	P
15.407 (a) (2)	RSS-247 Clause 6.2.3.1	Peak power spectral density	P
15.407 (b) (3) 15.209 (a)	RSS-247 Clause 6.2.3.2 RSS-GEN Clause 8.9	Undesirable emissions limits: Band Edge (conducted)	P
15.407 (b) (3) 15.209 (a)	RSS-247 Clause 6.2.3.2 RSS-GEN Clause 8.9	Undesirable emissions limits (radiated)	P

P: Pass

F: Fail

NM: Not Measured

NA: Not Applicable

8. Document Revision History

Revision #	Date	Modified by	Revision Details
Rev.00	2017-11-17	A.Sayoud	First Issue

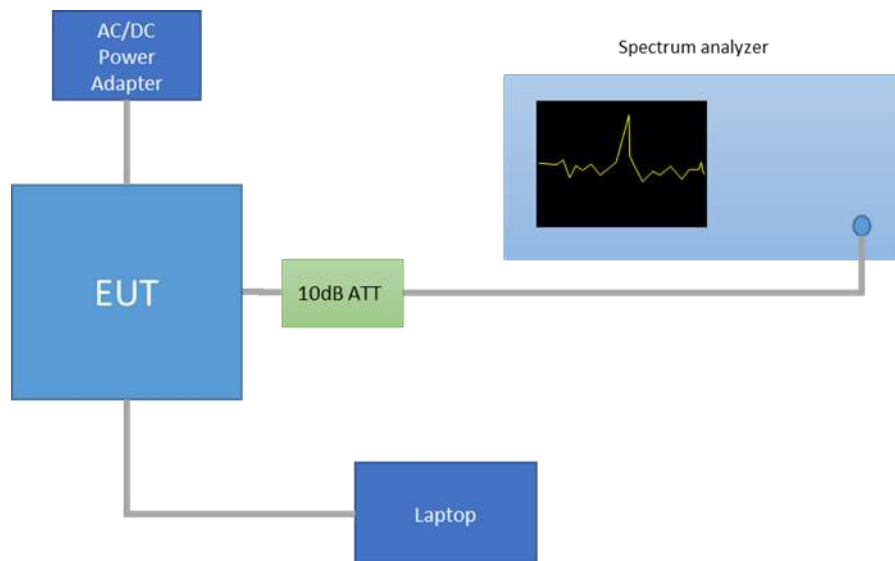
Annex A. Test & System Description

A.1 Measurement System

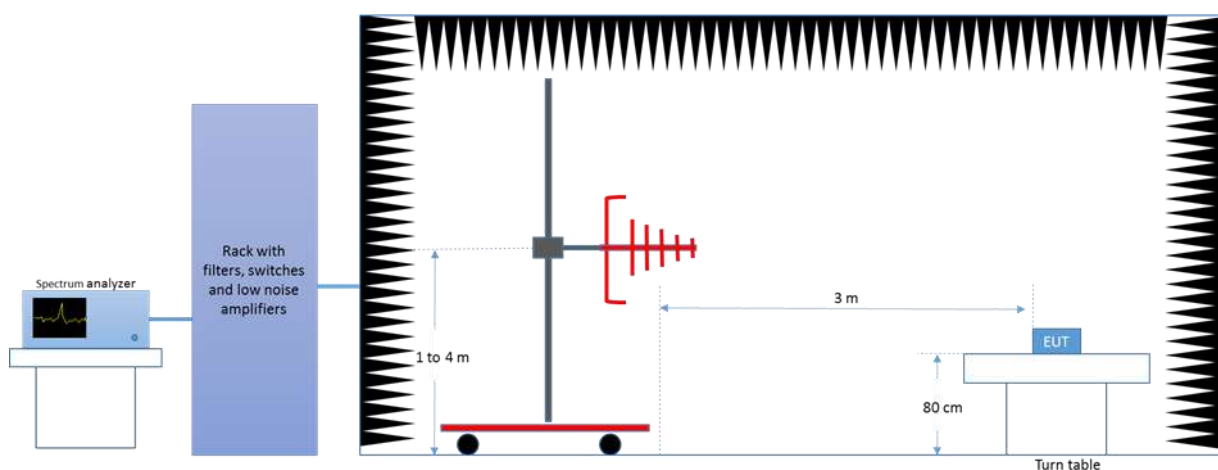
Measurements were performed using the following setups, made in accordance to the general provisions of FCC KDB 789033 D02 General UNII Test Procedures.

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.

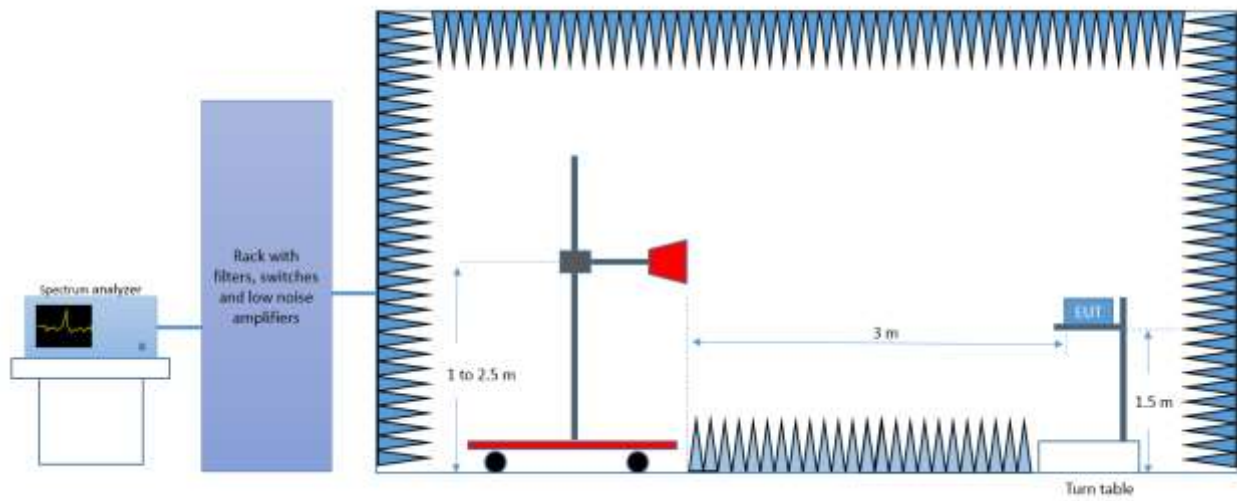
Conducted Setup



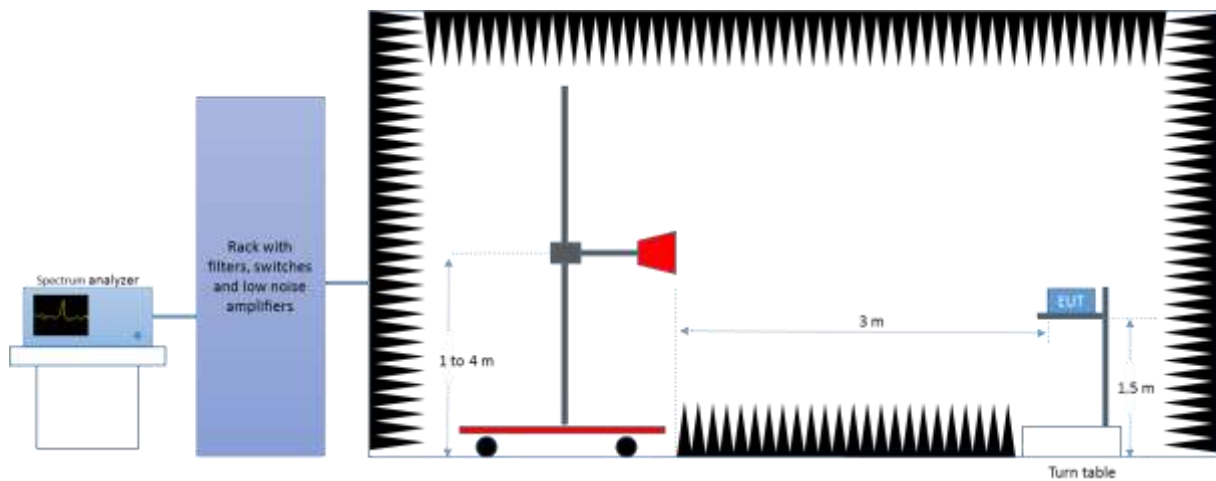
Radiated Setup < 1GHz



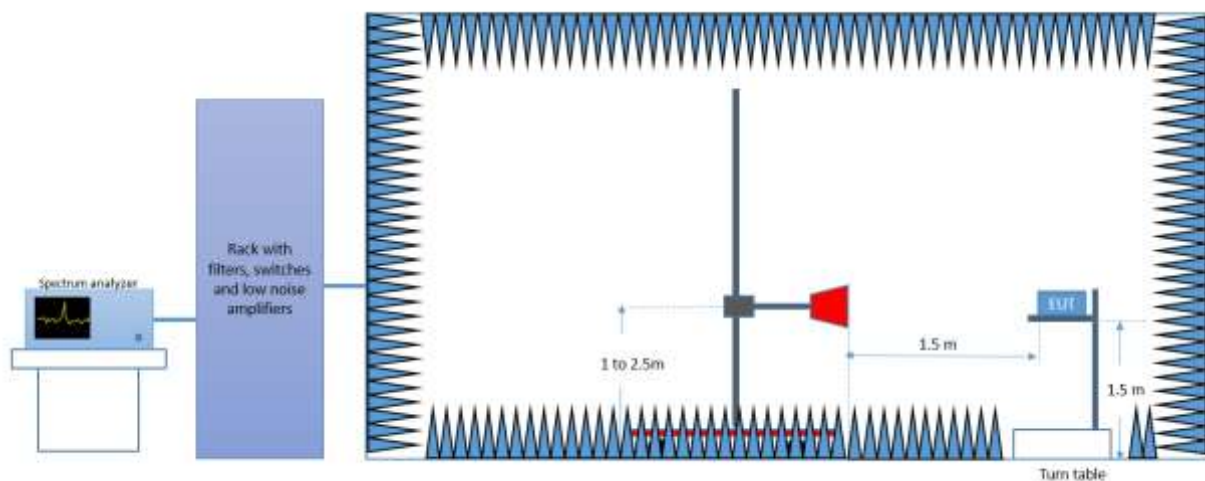
Radiated Setup 1 GHz - 6.4 GHz



Radiated Setup 6.4 GHz - 18 GHz



Radiated Setup > 18 GHz



A.2 Test Equipment List

Conducted Setup

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
0316	Spectrum analyzer	FSV30	103309	Rohde & Schwarz	2017-09-22	2019-09-22

Radiated Setup-1

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
0133	Spectrum analyzer	FSV40	101358	Rohde & Schwarz	2016-04-15	2018-04-15
0137	Log antenna 30 MHz – 1 GHz	3142E	00156946	ETS Lindgren	2015-12-11	2017-12-11
0141	Double Ridge Horn Antenna 1 GHz – 18 GHz	3117	00157736	ETS Lindgren	2016-04-13	2018-04-13
0343	PreAmplifier	3117-PA	00201875	ETS Lindgren	N/A	N/A
0135	Semi Anechoic chamber	FACT 3	5720	ETS Lindgren	2016-04-28	2018-04-28
0530	Measurement Software	EMC32	100623	Rohde & Schwarz	N/A	N/A
0296	Power Supply	6673A	MY41000318	Agilent	N/A	N/A
0346	Multimeter	34401A	US36054685	HP	2016-02-04	2018-02-04

N/A: Not Applicable

Radiated Setup-2

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
0420	Spectrum analyzer	FSV40	101556	Rohde & Schwarz	2016-04-15	2018-04-15
0138	Horn antenna 1 GHz – 18 GHz	3117	00152266	ETS Lindgren	2016-03-14	2018-03-14
0334	Double Ridged Horn Antenna 18 GHz – 40 GHz	3116C-PA	00196308	ETS Lindgren	2017-08-22	2019-08-22
0337	Full Anechoic chamber	RFD_FA_100	5996	ETS Lindgren	2016-04-28	2018-04-28
0329	Measurement Software	EMC32	100401	Rohde & Schwarz	N/A	N/A

N/A: Not Applicable

Radiated Setup - shared equipments

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
0617	Power Sensor 50MHz-18GHz (Peak and average)	NRP-Z81	104386	Rohde & Schwarz	2017-05-24	2019-05-24
0618	Power Sensor 50MHz-18GHz (Peak and average)	NRP-Z81	104382	Rohde & Schwarz	2017-05-24	2019-05-24

A.3 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the below table:

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

Annex B. Test Results U-NII-2C

B.1 Test Conditions

For 802.11a, 802.11n20 (20 MHz channel bandwidth), 802.11n40 (40MHz channel bandwidth), 802.11ac80 (80MHz channel bandwidth) modes the EUT can transmit at both CHAIN A Div1 and CHAIN A Div2 RF outputs individually, but not simultaneously.

The conducted RF output power at Chain A Div1 and Chain A Div2 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 analyser 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 +/- 0.25 dB from the declared Target values.

U-NII-2C					Conducted Power, Target Value (dBm)	
Mode	BW (MHz)	Data Rate	CH #	Freq. (MHz)	Chain A Div1	Chain A Div2
802.11a	20	6Mbps	100	5500	18.5	17.0
			120	5600	21.0	20.5
			140	5700	18.5	20.0
802.11n	20	HT0	100	5500	18.5	17.0
			120	5600	21.0	20.5
			140	5700	18.0	18.5
	40	HT0	102F	5510	17.0	16.5
			118F	5590	21.0	21.5
			134F	5670	18.5	19.0
802.11ac	80	VHT0	106ac80	5530	16.0	15.5
			122ac80	5610	19.0	18.5

Overlapped channels between UNII-2C and UNII-3					Conducted Power, Target Value (dBm)	
Mode	BW (MHz)	Data Rate	CH #	Freq. (MHz)	Chain A Div1	Chain A Div2
802.11n	20	HT0	144	5720	20.0	20.5
	40	HT0	142F	5710	20.5	20.5
802.11ac	80	VHT0	138ac80	5690	20.0	20.0

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

802.11ac80 (SISO) → VHT0

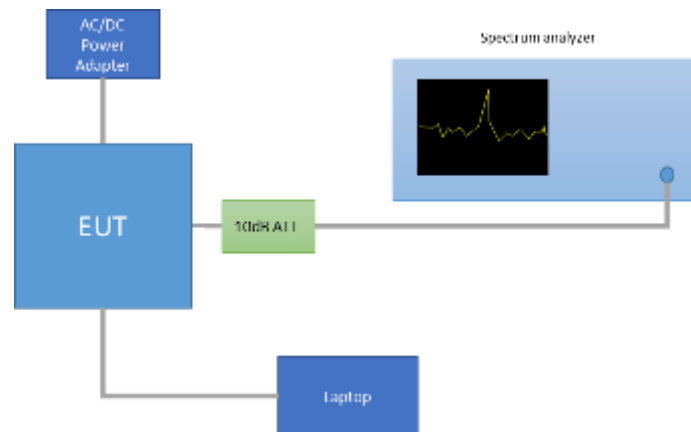
Alternative channels to the lowest and highest channels per band have been also tested for Band Edge compliance.

B.2 Test Results Tables

B.2.1 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.



For the overlapped channels between U-NII-2C and U-NII-3 bands, and according to FCC KDB 644545 D03, the boundary frequency between the bands is used as one edge for defining the portion of the 26dB bandwidth that falls within a particular U-NII band. This rule is only applicable for the 26dB bandwidth and for those channels marked as overlapped.

Results tables

U-NII-2C channels

Mode	Rate	Antenna	Channel	Freq. [MHz]	26dB BW [MHz]	99% BW [MHz]
802.11a	6Mbps	CHAIN A DIV1	100	5500	23.97	16.84
			120	5600	32.33	18.60
			140	5700	24.32	16.80
		CHAIN A DIV2	100	5500	24.32	16.84
			120	5600	31.23	18.40
			140	5700	26.43	17.16
802.11n20	HT0	CHAIN A DIV1	100	5500	24.72	17.92
			120	5600	35.84	19.24
			140	5700	25.28	17.92
		CHAIN A DIV2	100	5500	24.62	17.92
			120	5600	34.48	18.96
			140	5700	25.23	17.88
802.11n40	HT0	CHAIN A DIV1	102F	5510	44.68	36.56
			118F	5590	86.94	39.12
			134F	5670	45.77	36.72
		CHAIN A DIV2	102F	5510	44.96	36.64
			118F	5590	88.56	41.60
			134F	5670	46.58	36.72
802.11ac80	VHT0	CHAIN A DIV1	106ac80	5530	86.16	75.12
			122ac80	5610	88.06	75.24
		CHAIN A DIV2	106ac80	5530	85.59	75.24
			122ac80	5610	86.92	75.24

Max Value

Overlapped channels between U-NII-2C and U-NII-3

Mode	Rate	Antenna	Channel	Freq. [MHz]	26dB BW UNII-2C [MHz]
802.11n20	HT0	CHAIN A DIV1	144	5720	19.17
		CHAIN A DIV2			19.57
802.11n40	HT0	CHAIN A DIV1	142F	5710	40.24
		CHAIN A DIV2			44.65
802.11ac80	VHT0	CHAIN A DIV1	138ac80	5690	80.31
		CHAIN A DIV2			85.25

Max Value

See Section B.3.1 and Section B.3.2 for the screenshot results.

B.2.2 Power Limits. Maximum Output power & Maximum power spectral Density

Test limits

Part	Limits
FCC 15.407 (a) (2)	For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band.
RSS-247 Clause 6.2.3 (1)	<p>The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.</p> <p>The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.</p>

Test procedure

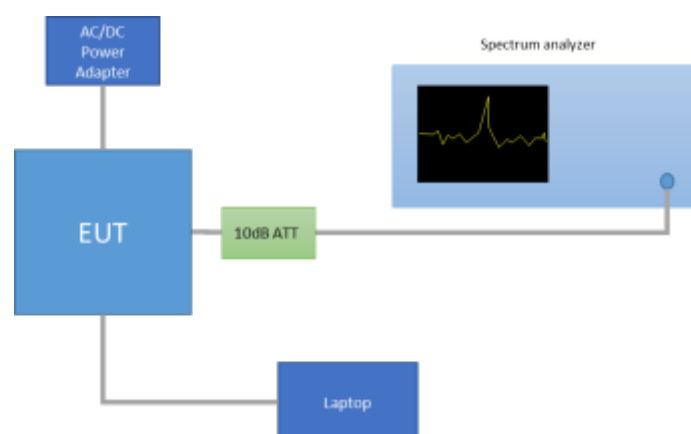
The Maximum Conducted Output Power was measured using the channel integration method according to point E) 2) e) (Method SA-2 Alternative) of KDB 789033 D02.

The maximum power spectral density (PSD) was measured using the method according to point F) (Method SA-2 Alternative) of KDB 789033 D02.

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.



For the overlapped channels between U-NII-2C and U-NII-3, and according to FCC KDB 644545 D03, the power is computed based on the portion of the emission bandwidth contained within that band. This rule is only applicable for those channels marked as overlapped

Results tables

Duty cycle

Mode	Rate	Antenna	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
802.11a	6Mbps	CHAIN A DIV1	2.04	2.07	98.36%
		CHAIN A DIV2	2.04	2.07	98.36%
802.11n20	HT0	CHAIN A DIV1	1.89	1.93	98.15%
		CHAIN A DIV2	1.89	1.93	98.15%
802.11n40	HT0	CHAIN A DIV1	0.93	0.96	96.47%
		CHAIN A DIV2	0.93	0.96	96.47%
802.11ac80	VHT0	CHAIN A DIV1	0.46	0.49	93.17%
		CHAIN A DIV2	0.46	0.49	93.17%

Maximum output power – U-NII-2C Channels

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	100	5500	CHAIN A DIV1	18.29	18.29	67.45	23.29
				CHAIN A DIV2	17.01	17.01	50.23	22.01
		120	5600	CHAIN A DIV1	20.96	20.96	124.74	25.96
				CHAIN A DIV2	20.70	20.70	117.49	25.70
		140	5700	CHAIN A DIV1	18.35	18.35	68.39	23.35
				CHAIN A DIV2	19.85	19.85	96.61	24.85
802.11n20	HT0	100	5500	CHAIN A DIV1	18.25	18.25	66.83	23.25
				CHAIN A DIV2	16.91	16.91	49.09	21.91
		120	5600	CHAIN A DIV1	20.88	20.88	122.46	25.88
				CHAIN A DIV2	20.69	20.69	117.22	25.69
		140	5700	CHAIN A DIV1	18.22	18.22	66.37	23.22
				CHAIN A DIV2	18.40	18.40	69.18	23.40
802.11n40	HT0	102F	5510	CHAIN A DIV1	16.78	16.94	49.39	21.94
				CHAIN A DIV2	16.41	16.57	45.35	21.57
		118F	5590	CHAIN A DIV1	21.04	21.20	131.71	26.20
				CHAIN A DIV2	21.27	21.33	135.71	26.33
		134F	5670	CHAIN A DIV1	18.35	18.51	70.89	23.51
				CHAIN A DIV2	18.65	18.81	75.96	23.81
802.11ac80	VHT0	106ac80	5530	CHAIN A DIV1	15.64	15.95	39.33	20.95
				CHAIN A DIV2	15.43	15.74	37.47	20.74
		122ac80	5610	CHAIN A DIV1	18.51	18.82	76.16	23.82
				CHAIN A DIV2	18.10	18.41	69.30	23.41

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

Max Value

Min Value

Maximum output power – Overlapped channels between U-NII-2C and U-NII-3

Mode	Rate	Channel	Freq. [MHz]	Antenna	Average Cond. Output Power - UNII- 2C [dBm]	Max.* Cond. Output Power - UNII-2C [dBm]	Max.* Cond. Output Power - UNII-2C [mW]	Max.* EIRP UNII2C [dBm]
802.11n20	HT0	144	5720	CHAIN A DIV1	18.97	19.05	80.37	24.05
				CHAIN A DIV2	19.25	19.33	85.72	24.33
802.11n40	HT0	142F	5710	CHAIN A DIV1	19.71	19.87	96.96	24.87
				CHAIN A DIV2	19.95	20.11	102.47	25.11
802.11ac80	VHT0	138ac80	5690	CHAIN A DIV1	19.66	19.97	99.24	24.97
				CHAIN A DIV2	19.81	20.12	102.73	25.12

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

Max Value

Min Value

Maximum Power Spectral Density (PSD) – U-NII-2C channels

Mode	Rate	Channel	Freq. [MHz]	Antenna	Average conducted PSD [dBm/MHz]	Maximum* conducted PSD [dBm/MHz]
802.11a	6Mbps	100	5500	CHAIN A DIV1	6.57	6.57
				CHAIN A DIV2	5.30	5.30
		120	5600	CHAIN A DIV1	9.24	9.24
				CHAIN A DIV2	8.97	8.97
		140	5700	CHAIN A DIV1	6.70	6.70
				CHAIN A DIV2	8.17	8.17
802.11n20	HT0	100	5500	CHAIN A DIV1	6.25	6.25
				CHAIN A DIV2	4.91	4.91
		120	5600	CHAIN A DIV1	8.83	8.83
				CHAIN A DIV2	8.63	8.63
		140	5700	CHAIN A DIV1	6.28	6.28
				CHAIN A DIV2	6.47	6.47
802.11n40	HT0	102F	5510	CHAIN A DIV1	1.76	1.92
				CHAIN A DIV2	1.40	1.56
		118F	5590	CHAIN A DIV1	5.96	6.12
				CHAIN A DIV2	6.19	6.35
		134F	5670	CHAIN A DIV1	3.31	3.47
				CHAIN A DIV2	3.61	3.77
802.11ac80	VHT0	106ac80	5530	CHAIN A DIV1	-1.76	-1.45
				CHAIN A DIV2	-1.97	-1.66
		122ac80	5610	CHAIN A DIV1	1.14	1.45
				CHAIN A DIV2	0.70	1.01

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

Maximum Power Spectral Density (PSD) – Overlapped channels between U-NII-2C and U-NII-3

Mode	Rate	Channel	Freq. [MHz]	Antenna	Average conducted PSD UNII-2C [dBm/MHz]	Maximum* conducted PSD UNII-2C [dBm/MHz]
802.11n20	HT0	144	5720	CHAIN A DIV1	7.96	8.04
				CHAIN A DIV2	8.30	8.38
802.11n40	HT0	142F	5710	CHAIN A DIV1	5.07	5.23
				CHAIN A DIV2	5.18	5.34
802.11ac80	VHT0	138ac80	5690	CHAIN A DIV1	2.36	2.67
				CHAIN A DIV2	2.51	2.82

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

See Section B.3.3 for the screenshot results.

B.2.3 Undesirable emission limits : Band Edge (Conducted)

Test limits

FCC part	RSS part	Limits																				
15.407 (b) (3)	RSS-247 Clause 6.2.3 (2)	For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.																				
15.209	RSS-GEN, Clause 8.9	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>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>	Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)	30-88	100	40	3	88-216	150	43.5	3	216-960	200	46	3	Above 960	500	54	3
		Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)																	
		30-88	100	40	3																	
		88-216	150	43.5	3																	
		216-960	200	46	3																	
Above 960	500	54	3																			
The emission limits shown in the table above 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.																						

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.

For Band Edge measurements in average mode on the low frequency section, one of the two methods is used according to section G) 6) (KDB 789033 D02):

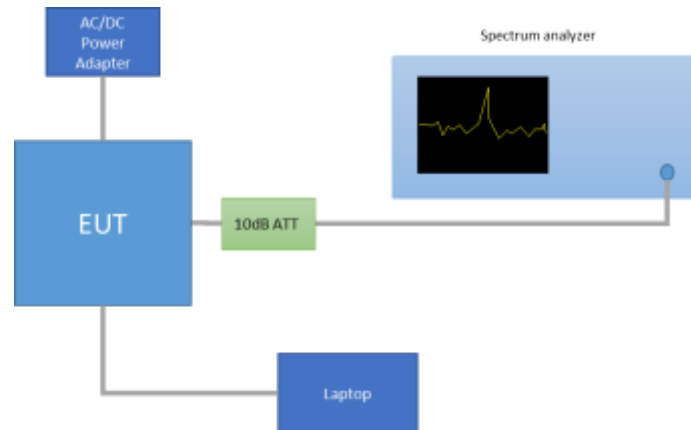
- 1) Method AD (Average Detection) as per paragraph II.G.6.c.

Method VB (Averaging using reduced video bandwidth) as per paragraph II.G.6.d.

For the BE High, we use the integration method as defined in the band edge measurements section (paragraph II.G.3.d) of KDB 789033 D02.

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.



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	53.98	-41.25

See Section B.3.4 for the screenshot results.

B.2.4 Radiated spurious emission

Standard references

FCC part	RSS part	Limits																				
15.407 (b) (3)	RSS-247 Clause 6.2.3.2	For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.																				
15.209	RSS-GEN, Clause 8.9	<p>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):</p> <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>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> <p>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.</p> <p>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.</p>	Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)	30-88	100	40	3	88-216	150	43.5	3	216-960	200	46	3	Above 960	500	54	3
Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)																			
30-88	100	40	3																			
88-216	150	43.5	3																			
216-960	200	46	3																			
Above 960	500	54	3																			

Test procedure

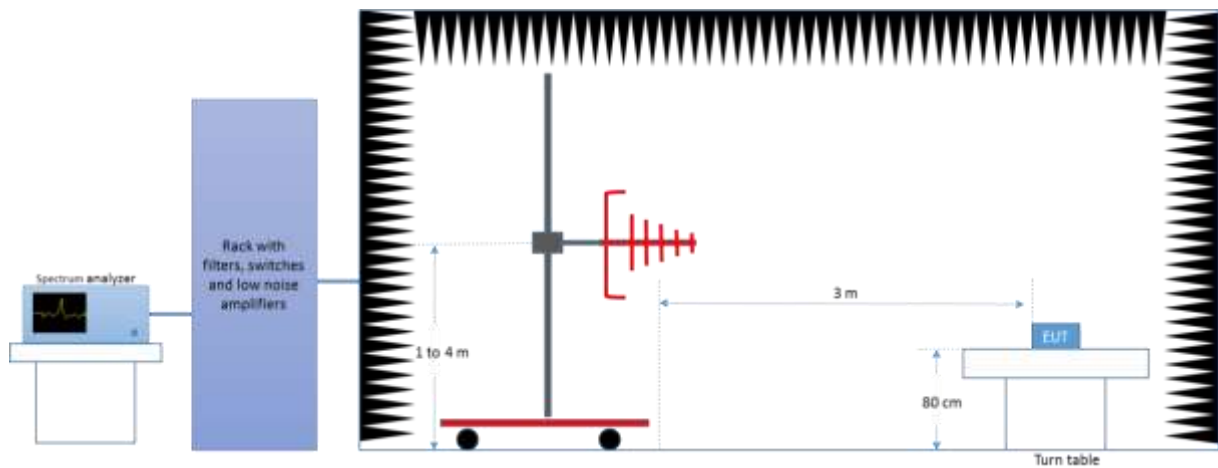
The setup below was used to measure the radiated spurious emissions.

Depending of the frequency range and bands being tested, different antennas and filters were used.

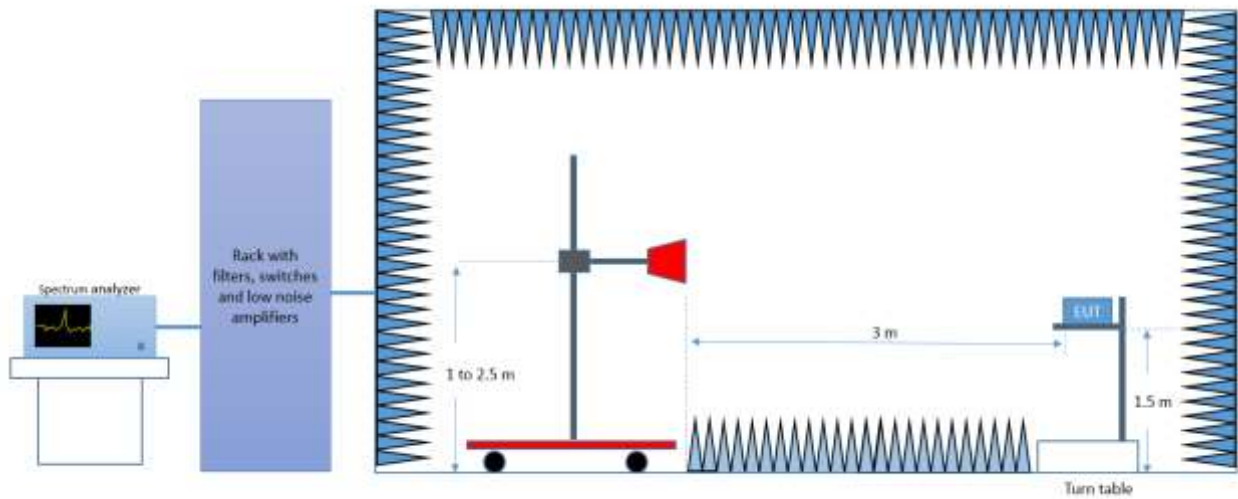
The final measurement is done by varying the antenna height, the EUT azimuth over 360° and for both Vertical and Horizontal polarizations.

The radiated spurious emission was measured on the worst case configuration selected from the chapter B.2.2 and using the low, middle and high channel.

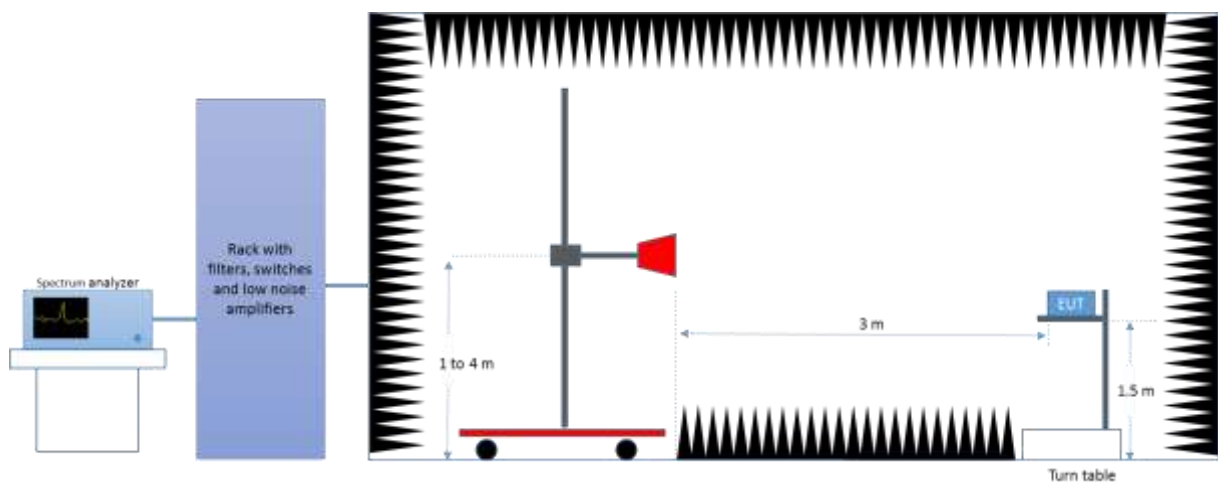
Radiated Setup < 1GHz



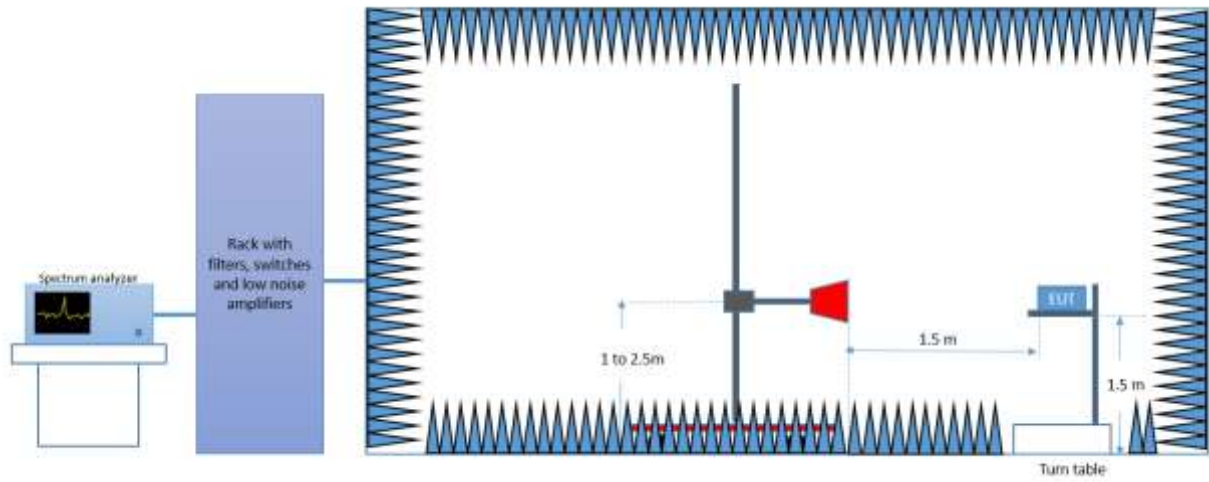
Radiated Setup 1 GHz - 6.4 GHz



Radiated Setup 6.4 GHz - 18 GHz



Radiated Setup > 18GHz



Test Results

30 MHz – 40 GHz, 802.11a, 6Mbps, Chain A Div1

Radiated Spurious – CH100

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
95.9	22.3	---	43.6	21.3
120.0	23.2	---	43.5	20.3
216.0	29.8	---	43.5	13.7
240.0	29.6	---	46.0	16.4
264.0	31.4	---	46.0	14.6
312.0	32.9	---	46.0	13.1
2127.1	50.4	---	74.0	23.6
2434.4	---	39.4	54.0	14.6
6033.5	---	49.5	54.0	4.5
6048.5	61.5	---	74.0	12.5
7025.0	---	39.8	54.0	14.2
7030.3	50.5	---	74.0	23.5
17894.2	---	46.7	54.0	7.3
17913.5	58.4	---	74.0	15.6
22000.0	---	38.7	54.0	15.3
25980.8	49.5	---	74.0	24.5
39652.8	60.0	---	74.0	14.0
39878.5	---	49.3	54.0	4.7

Radiated Spurious – CH120

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
120.0	22.4	---	43.5	21.1
144.0	23.3	---	43.5	20.2
168.0	27.0	---	43.5	16.5
216.0	30.4	---	43.5	13.1
264.0	33.2	---	46.0	12.8
312.0	33.0	---	46.0	13.0
2190.0	49.7	---	74.0	24.3
2199.3	---	37.1	54.0	16.9
6038.9	---	49.6	54.0	4.4
6078.7	60.8	---	74.0	13.2
7022.1	---	40.2	54.0	13.8
7061.2	51.1	---	74.0	23.0
17842.4	---	46.9	54.0	7.1
17847.8	58.9	---	74.0	15.1
22399.9	---	41.2	54.0	12.8
25609.3	49.3	---	74.0	24.7
39470.5	60.0	---	74.0	14.1
39657.0	---	49.2	54.0	4.8

Radiated Spurious – CH140

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
95.9	27.0	---	43.5	16.5
144.0	22.8	---	43.5	20.7
168.0	28.5	---	43.5	15.0
216.0	29.6	---	43.5	13.9
288.0	33.6	---	46.0	12.4
312.0	32.2	---	46.0	13.9
2124.4	52.9	---	74.0	21.1
2434.9	---	39.3	54.0	14.7
6056.4	61.0	---	74.0	13.0
6060.8	---	49.3	54.0	4.7
11399.1	49.4	---	74.0	24.6
11399.1	---	40.1	54.0	13.9
17100.5	---	44.7	54.0	9.3
17109.2	54.1	---	74.0	19.9
25837.9	48.9	---	74.0	25.1
25987.0	---	38.7	54.0	15.4
39472.2	---	49.0	54.0	5.0
39698.4	59.6	---	74.0	14.4

30 MHz – 40 GHz, 802.11a, 6Mbps, Chain A Div2

Radiated Spurious – CH100

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
120.0	23.3	---	43.5	20.2
168.0	29.9	---	43.5	13.6
216.0	30.6	---	43.5	12.9
264.0	32.4	---	46.0	13.6
312.0	35.3	---	46.0	10.7
456.0	32.0	---	46.0	14.0
1952.9	---	42.1	54.0	11.9
1953.1	51.0	---	74.0	23.0
6050.5	---	49.3	54.0	4.8
6064.2	61.6	---	74.0	12.4
7014.3	---	39.7	54.0	14.3
7045.3	51.6	---	74.0	22.4
10995.1	49.3	---	74.0	24.7
11003.3	---	40.3	54.0	13.7
25931.0	49.1	---	74.0	24.9
25995.7	---	38.6	54.0	15.4
39652.4	---	49.0	54.0	5.0
39875.1	59.2	---	74.0	14.9

Radiated Spurious – CH120

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
96.0	24.0	---	43.5	19.5
120.0	21.5	---	43.5	22.0
168.0	26.8	---	43.5	16.7
216.0	29.8	---	43.5	13.7
239.9	29.5	---	46.0	16.5
312.0	32.4	---	46.0	13.6
2123.9	55.0	---	74.0	19.0
2435.7	---	39.5	54.0	14.5
6063.7	61.5	---	74.0	12.5
6064.5	---	49.5	54.0	4.5
7046.2	---	39.6	54.0	14.4
7052.0	50.5	---	74.0	23.5
17989.9	---	46.5	54.0	7.5
17990.3	58.1	---	74.0	15.9
22399.9	---	43.6	54.0	10.4
26020.5	49.2	---	74.0	24.8
39478.6	---	48.8	54.0	5.2
39660.4	60.0	---	74.0	14.0

Radiated Spurious – CH140

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
79.7	26.0	---	40.0	14.0
96.0	21.9	---	43.5	21.6
168.0	28.1	---	43.5	15.4
216.0	29.1	---	43.5	14.4
311.9	32.7	---	46.0	13.3
418.1	33.5	---	46.0	12.5
2129.3	55.0	---	74.0	19.0
2560.1	---	39.9	54.0	14.1
6036.5	---	49.4	54.0	4.7
6087.8	60.9	---	74.0	13.1
7027.9	50.7	---	74.0	23.3
7029.3	---	39.7	54.0	14.3
17090.4	56.2	---	74.0	17.8
17107.8	---	47.6	54.0	6.4
18561.4	49.5	---	74.0	24.5
25983.9	---	38.8	54.0	15.2
39473.9	---	49.4	54.0	4.6
39679.0	59.6	---	74.0	14.4

30 MHz – 40 GHz, 802.11n20, HT0, Chain A Div1

Radiated Spurious – CH100

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
96.0	22.1	---	43.5	21.4
120.0	21.3	---	43.5	22.2
168.0	26.7	---	43.5	16.8
216.0	29.4	---	43.5	16.6
264.0	30.5	---	46.0	14.1
312.0	31.0	---	46.0	15.0
2131.1	51.9	---	74.0	22.1
2435.4	---	38.6	54.0	15.4
6053.4	61.6	---	74.0	12.4
6057.8	---	49.5	54.0	4.5
6983.4	50.8	---	74.0	23.2
6994.0	---	39.1	54.0	14.9
17845.8	58.2	---	74.0	15.8
17849.2	---	46.7	54.0	7.3
23910.5	49.3	---	74.0	24.7
26015.7	---	39.1	54.0	14.9
39624.1	59.2	---	74.0	14.8
39851.1	---	49.0	54.0	5.0

Radiated Spurious – CH120

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
79.0	25.7	---	40.0	14.3
120.0	22.6	---	43.5	20.9
144.0	23.3	---	43.5	20.2
216.0	30.3	---	43.5	13.2
307.8	30.1	---	46.0	15.9
312.0	30.4	---	46.0	15.6
2130.1	52.7	---	74.0	21.3
2559.9	---	39.0	54.0	15.0
6060.0	---	49.2	54.0	4.8
6062.7	61.2	---	74.0	12.8
7114.9	---	38.6	54.0	15.5
7130.3	50.2	---	74.0	23.8
11202.9	52.1	---	74.0	21.9
11203.4	---	40.1	54.0	13.9
22399.9	---	40.3	54.0	13.7
25960.8	49.3	---	74.0	24.7
39414.4	59.6	---	74.0	14.4
39683.6	---	48.9	54.0	5.1

Radiated Spurious – CH140

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
65.0	34.2	---	40.0	5.8
96.0	23.0	---	43.5	20.5
120.0	22.0	---	43.5	21.5
161.2	26.0	---	43.5	17.5
216.0	29.3	---	43.2	13.9
312.0	32.2	---	46.0	13.8
2007.6	48.5	---	74.0	25.6
2560.1	---	39.7	54.0	14.3
6055.9	61.3	---	74.0	12.7
6068.9	---	49.3	54.0	4.7
7018.7	---	39.3	54.0	14.7
7020.1	50.3	---	74.0	23.7
11399.6	---	40.4	54.0	13.6
11402.5	50.5	---	74.0	23.5
25987.3	---	38.8	54.0	15.2
26002.5	49.4	---	74.0	24.6
39441.9	60.1	---	74.0	13.9
39832.9	---	49.0	54.0	5.0

30 MHz – 40 GHz, 802.11n20, HT0, Chain A Div2

Radiated Spurious – CH100

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
96.0	22.1	---	43.6	21.4
120.0	21.4	---	43.5	22.1
144.0	22.8	---	43.5	20.7
168.0	27.6	---	43.5	15.9
216.0	29.5	---	43.5	14.0
312.0	32.7	---	46.0	13.3
2131.5	55.9	---	74.0	18.1
2435.4	---	38.6	54.0	15.4
6039.7	---	49.3	54.0	4.7
6041.1	61.4	---	74.0	12.6
10988.3	50.9	---	74.0	23.1
10999.4	---	40.3	54.0	13.7
15210.7	---	41.1	54.0	12.9
15223.3	52.0	---	74.0	22.0
22000.0	---	43.2	54.0	10.8
25980.5	48.9	---	74.0	25.1
39651.1	---	49.1	54.0	4.9
39681.9	59.4	---	74.0	14.6

Radiated Spurious – CH120

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
120.0	22.1	---	43.5	21.4
144.0	23.0	---	43.5	20.5
168.8	26.4	---	43.5	17.1
216.0	30.7	---	43.5	12.8
288.0	31.2	---	46.0	14.8
312.0	32.9	---	46.0	13.1
2127.4	51.8	---	74.0	22.2
2559.9	---	39.8	54.0	14.2
6232.6	---	49.3	54.0	4.7
6264.3	61.1	---	74.0	12.9
7036.1	---	39.6	54.0	14.4
7049.6	50.5	---	74.0	23.5
17911.6	57.6	---	74.0	16.4
17926.1	---	46.5	54.0	7.5
23933.6	48.9	---	74.0	25.1
25963.9	---	38.7	54.0	15.3
39499.7	59.7	---	74.0	14.3
39631.7	---	49.0	54.0	5.0

Radiated Spurious – CH140

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
64.7	30.1	---	40.0	9.9
72.0	28.4	---	40.0	11.6
96.0	22.6	---	43.5	20.9
216.0	30.1	---	43.5	13.4
312.0	31.8	---	46.0	14.2
826.9	40.8	---	46.0	5.2
2130.8	49.9	---	74.0	24.1
2342.9	---	37.8	54.0	16.2
6056.4	60.7	---	74.0	13.3
6063.2	---	49.5	54.0	4.5
7024.5	---	39.4	54.0	14.6
7024.5	50.4	---	74.0	23.6
17102.5	---	47.1	54.0	6.9
17110.7	61.1	---	74.0	12.9
22799.9	---	39.4	54.0	14.6
34183.6	55.4	---	74.0	18.7
34205.5	---	45.8	54.0	8.2
39439.3	59.8	---	74.0	14.2

30 MHz – 40 GHz, 802.11n40, HT0, Chain A Div1

Radiated Spurious – CH102F

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
45.8	33.0	---	40.0	7.0
58.3	31.3	---	40.0	8.7
103.8	26.8	---	43.5	16.7
199.2	28.6	---	43.5	14.9
216.0	30.8	---	43.5	12.7
714.8	40.3	---	46.0	5.7
2132.5	53.4	---	74.0	20.6
2560.1	---	40.2	54.0	13.8
6066.9	61.7	---	74.0	12.3
6074.0	---	49.0	54.0	5.0
7033.2	50.3	---	74.0	23.7
7033.7	---	39.6	54.0	14.4
17913.5	58.4	---	74.0	15.6
17937.7	---	46.6	54.0	7.4
22039.7	46.4	---	74.0	27.6
22039.9	---	37.9	54.0	16.1
39673.0	---	48.8	54.0	5.2
39849.4	59.6	---	74.0	14.4

Radiated Spurious – CH118F

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
64.6	28.0	---	40.0	12.0
72.5	26.2	---	40.0	13.8
95.9	21.5	---	43.5	22.0
187.5	24.7	---	43.5	18.8
216.0	29.6	---	43.5	13.9
533.7	34.1	---	46.0	11.9
2130.6	53.5	---	74.0	20.6
2435.2	---	38.4	54.0	15.6
6058.6	---	49.3	54.0	4.8
6083.6	61.4	---	74.0	12.6
7025.0	50.5	---	74.0	23.5
7027.9	---	39.7	54.0	14.3
17906.7	---	46.5	54.0	7.5
17907.7	57.5	---	74.0	16.5
22360.0	48.6	---	74.0	25.4
22360.3	---	43.1	54.0	10.9
39677.7	---	48.8	54.0	5.2
39865.8	59.0	---	74.0	15.0

Radiated Spurious – CH134F

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
59.1	28.5	---	40.0	11.5
64.5	30.7	---	40.0	9.3
96.0	21.9	---	43.5	21.6
216.0	31.0	---	43.5	12.5
288.0	32.4	---	46.0	13.6
360.0	30.4	---	46.0	15.6
2124.9	50.9	---	74.0	23.2
2559.9	---	39.7	54.0	14.3
6035.0	---	49.4	54.0	4.6
6057.8	60.7	---	74.0	13.3
7025.0	---	40.1	54.0	13.9
7050.6	50.7	---	74.0	23.3
17826.0	57.7	---	74.0	16.3
17855.5	---	46.7	54.0	7.3
22680.1	48.2	---	74.0	25.8
22680.1	---	42.2	54.0	11.8
39451.1	---	49.1	54.0	4.9
39673.9	59.9	---	74.0	14.1

30 MHz – 40 GHz, 802.11n40, HT0, Chain A Div2

Radiated Spurious – CH102F

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
65.1	32.2	---	40.0	7.8
72.0	25.8	---	40.0	14.2
216.0	30.1	---	43.5	13.4
291.9	33.4	---	46.0	12.6
311.9	33.1	---	46.0	12.9
390.4	41.7	---	46.0	4.3
2125.4	54.7	---	74.0	19.3
2525.5	---	38.0	54.0	16.0
6061.0	60.7	---	74.0	13.3
6065.4	---	49.3	54.0	4.7
7029.8	49.7	---	74.0	24.3
7041.9	---	39.8	54.0	14.2
17987.0	---	47.0	54.0	7.0
17994.2	57.2	---	74.0	16.8
22039.9	---	43.4	54.0	10.6
22040.2	48.4	---	74.0	25.6
39657.9	---	48.9	54.0	5.1
39982.7	59.6	---	74.0	14.4

Radiated Spurious – CH118F

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
65.3	23.4	---	40.0	16.6
71.9	26.1	---	40.0	14.0
96.0	20.7	---	43.5	22.8
216.0	31.0	---	43.5	12.5
288.0	31.4	---	46.0	14.6
820.1	40.2	---	46.0	5.9
2127.9	50.1	---	74.0	23.9
2436.2	---	39.3	54.0	14.7
6064.0	---	49.6	54.0	4.4
6071.3	61.4	---	74.0	12.6
7032.7	50.4	---	74.0	23.6
7033.7	---	39.4	54.0	14.6
17974.9	---	46.5	54.0	7.5
17976.3	57.2	---	74.0	16.8
25949.0	---	38.7	54.0	15.3
25974.6	48.9	---	74.0	25.1
39465.1	59.5	---	74.0	14.5
39877.2	---	48.7	54.0	5.3

Radiated Spurious – CH134F

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
58.8	29.3	---	40.0	10.7
72.0	24.6	---	40.0	15.4
216.0	30.7	---	43.5	12.8
288.0	32.3	---	46.0	13.7
312.0	33.3	---	46.0	12.7
665.5	37.3	---	46.0	8.7
2347.1	50.4	---	74.0	23.6
2435.7	---	38.7	54.0	15.3
6063.5	---	49.3	54.0	4.7
6080.7	61.0	---	74.0	13.0
7021.6	49.8	---	74.0	24.2
7026.4	---	39.7	54.0	14.3
17900.9	---	46.1	54.0	8.0
17900.9	57.7	---	74.0	16.3
25931.0	---	38.5	54.0	15.5
25977.7	49.1	---	74.0	24.9
39452.0	---	48.9	54.0	5.1
39682.8	59.4	---	74.0	14.6

30 MHz – 40 GHz, 802.11ac80, VHT0, Chain A

Radiated Spurious – CH106ac80

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
59.3	26.6	---	40.0	13.4
65.0	29.3	---	40.0	10.7
72.0	27.9	---	40.0	12.1
216.0	31.2	---	43.5	12.3
288.0	32.2	---	46.0	13.8
526.0	34.4	---	46.0	11.6
2167.4	48.8	---	74.0	25.2
2434.9	---	38.9	54.0	15.1
6056.4	60.9	---	74.0	13.1
6067.9	---	49.3	54.0	4.7
7017.2	50.0	---	74.0	24.0
7018.2	---	39.8	54.0	14.2
17850.7	---	46.7	54.0	7.3
17865.2	57.8	---	74.0	16.2
22119.8	---	40.3	54.0	13.7
22119.8	47.7	---	74.0	26.3
39719.5	59.8	---	74.0	14.2
39862.5	---	48.8	54.0	5.3

Radiated Spurious – CH122ac80

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
59.2	28.6	---	40.0	11.4
64.5	28.6	---	40.0	11.4
208.4	29.2	---	43.5	14.3
216.0	31.2	---	43.5	12.3
288.0	32.3	---	46.0	13.7
828.5	39.4	---	46.0	6.6
2124.2	54.4	---	74.0	19.6
2550.3	---	38.1	54.0	15.9
6065.7	---	49.3	54.0	4.7
6221.3	60.8	---	74.0	13.2
7028.8	---	40.2	54.0	13.8
7031.2	49.9	---	74.0	24.1
17926.1	57.0	---	74.0	17.0
17936.2	---	46.9	54.0	7.1
25038.9	48.7	---	74.0	25.3
25985.3	---	38.5	54.0	15.6
39437.6	59.3	---	74.0	14.7
39450.7	---	48.9	54.0	5.1

Radiated Spurious – CH138ac80

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
62.5	25.1	---	40.0	14.9
72.0	25.8	---	40.0	14.2
216.0	30.3	---	43.5	13.2
288.0	32.1	---	46.0	13.9
291.2	31.3	---	46.0	14.7
825.9	40.6	---	46.0	5.4
2132.5	50.1	---	74.0	23.9
2437.6	---	38.2	54.0	15.8
6194.3	61.3	---	74.0	12.7
6228.9	---	49.3	54.0	4.7
7024.0	50.3	---	74.0	23.7
7024.5	---	39.6	54.0	14.4
17854.0	---	47.4	54.0	6.6
17857.9	57.1	---	74.0	16.9
22759.9	---	39.0	54.0	15.0
22872.2	48.2	---	74.0	25.8
39654.1	60.8	---	74.0	13.2
39664.2	---	49.1	54.0	4.9

30 MHz – 40 GHz, 802.11ac80, VHT0, Chain A Div2

Radiated Spurious – CH106ac80

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
64.7	28.2	---	40.0	11.8
72.4	25.5	---	40.0	14.5
213.9	32.4	---	43.5	11.1
216.0	31.2	---	43.5	12.3
295.4	33.0	---	46.0	13.0
303.7	32.7	---	46.0	13.4
2126.4	51.7	---	74.0	22.3
2559.9	---	39.6	54.0	14.4
6059.3	60.9	---	74.0	13.1
6062.3	---	49.5	54.0	4.5
7036.1	51.1	---	74.0	22.9
7037.5	---	39.2	54.0	14.8
17836.2	---	46.4	54.0	7.6
17836.6	57.4	---	74.0	16.6
22120.1	---	43.3	54.0	10.7
22120.1	47.5	---	74.0	26.5
39475.2	---	48.8	54.0	5.2
39637.2	59.2	---	74.0	14.8

Radiated Spurious – CH122ac80

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
64.7	29.4	---	40.0	10.6
72.0	25.3	---	40.0	14.7
216.0	30.7	---	43.5	12.8
383.3	34.7	---	46.0	11.3
389.2	32.5	---	46.0	13.5
774.9	38.1	---	46.0	7.9
2132.8	50.6	---	74.0	23.4
2559.9	---	38.9	54.0	15.1
6008.7	61.0	---	74.0	13.0
6039.4	---	49.3	54.0	4.7
7049.1	51.2	---	74.0	22.8
7053.5	---	39.5	54.0	14.5
17909.1	57.4	---	74.0	16.6
17926.5	---	46.4	54.0	7.7
25969.3	---	38.6	54.0	15.4
26026.1	49.5	---	74.0	24.5
39633.8	59.1	---	74.0	14.9
39662.5	---	49.1	54.0	4.9

Radiated Spurious – CH138ac80

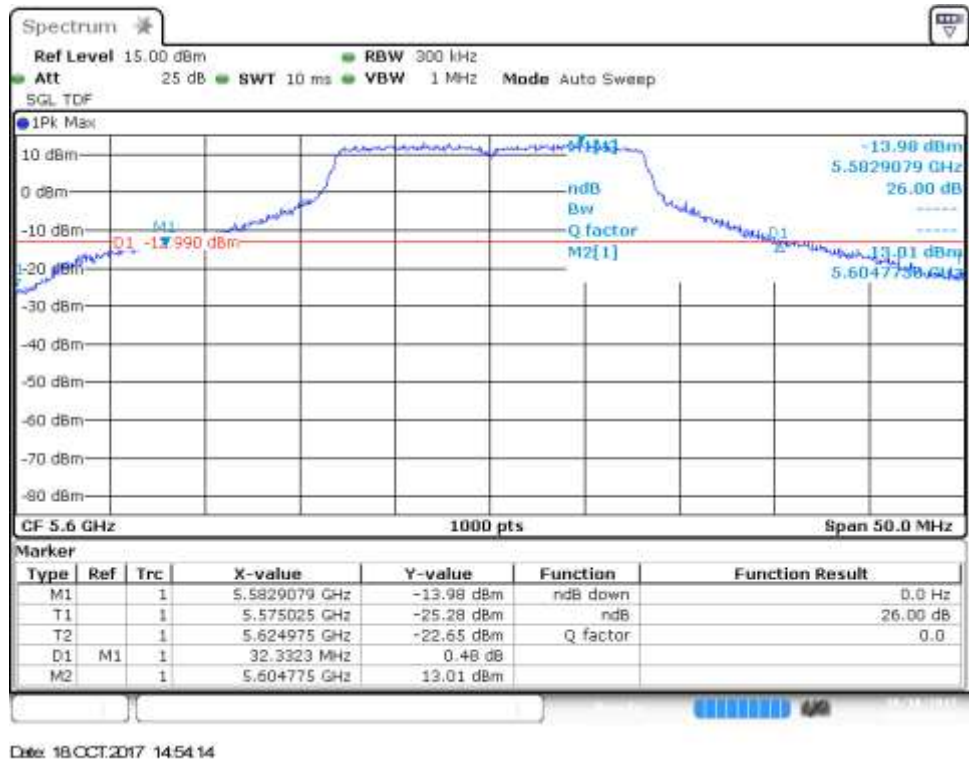
Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
72.0	25.5	---	40.0	14.5
216.0	31.0	---	43.5	12.5
220.0	33.5	---	46.0	12.5
303.7	33.1	---	46.0	12.9
312.0	32.6	---	46.0	13.4
823.8	39.2	---	46.0	6.8
2207.1	49.1	---	74.0	24.9
2377.0	---	37.8	54.0	16.2
6079.4	---	49.2	54.0	4.8
6090.7	61.3	---	74.0	12.7
7013.4	50.8	---	74.0	23.2
7014.3	---	39.4	54.0	14.6
17976.8	57.8	---	74.0	16.2
17978.7	---	46.6	54.0	7.4
22760.2	47.5	---	74.0	26.5
22760.2	---	41.5	54.0	12.5
39648.2	---	48.9	54.0	5.1
39699.2	59.8	---	74.0	14.3

B.3 Test Results Screenshots

B.3.1 26dB Bandwidth

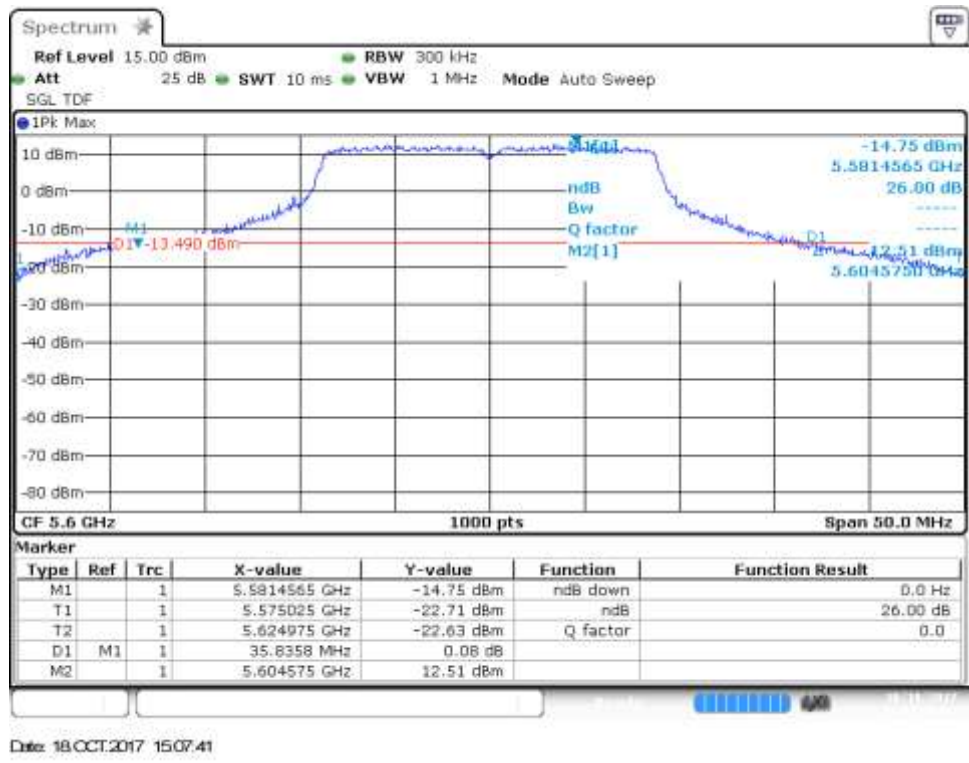
CHAIN A DIV1, 802.11a, 6Mbps

Channel 120



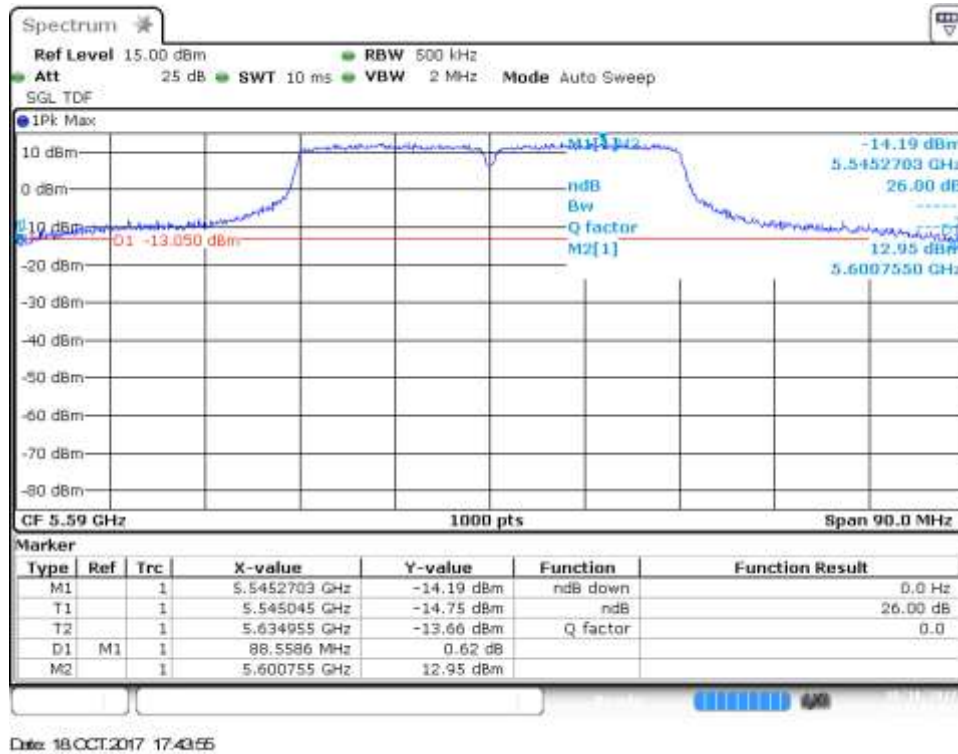
CHAIN A DIV1, 802.11n20, HT0

Channel 120



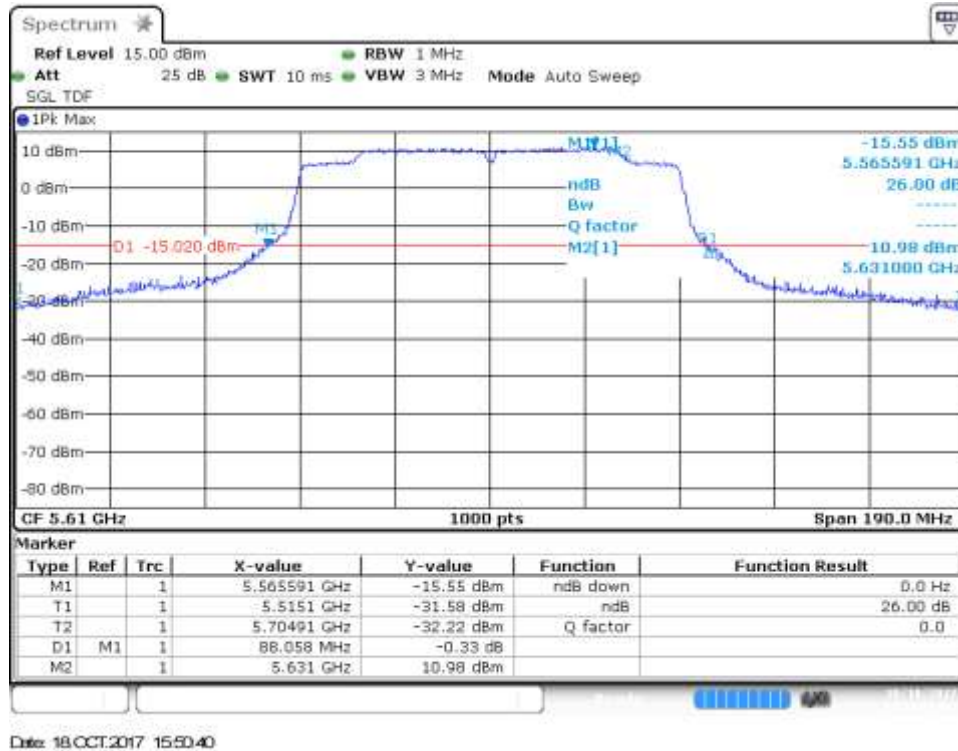
CHAIN A DIV2, 802.11n40, HT0

Channel 118F



CHAIN A DIV1, 802.11ac80, VHT0

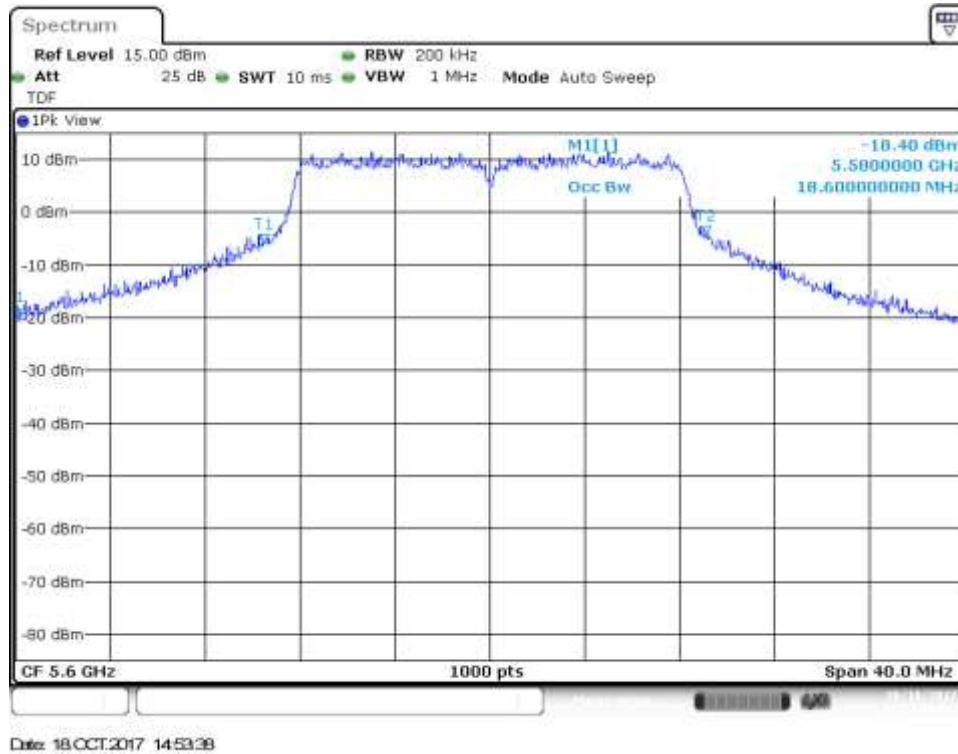
Channel 122ac80



B.3.2 99% Bandwidth

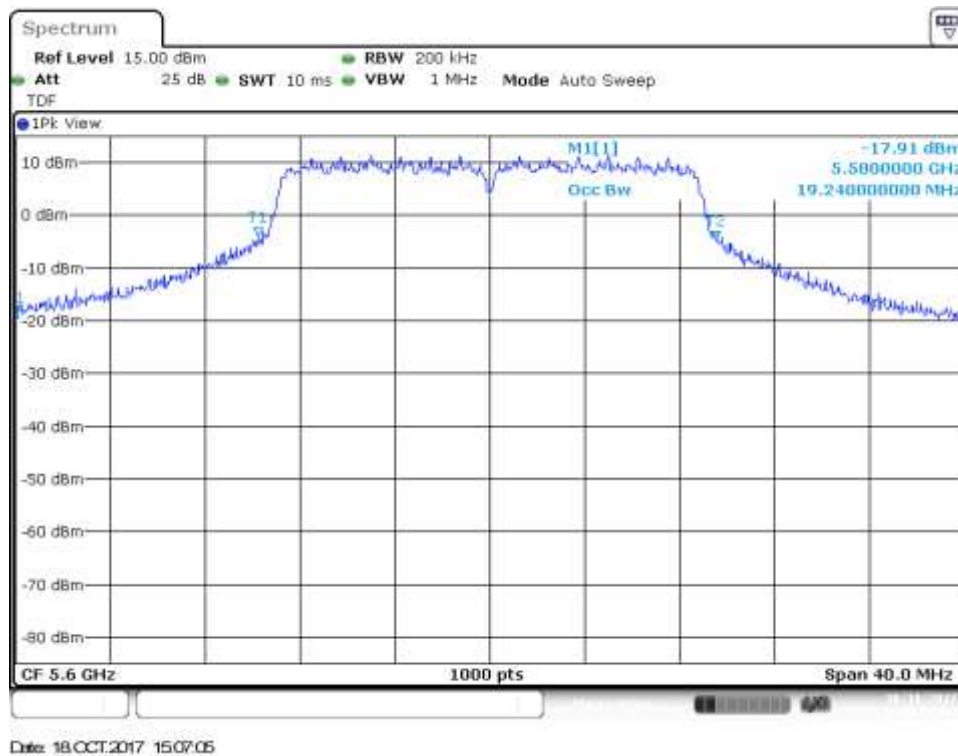
CHAIN A DIV1, 802.11a, 6Mbps

Channel 120



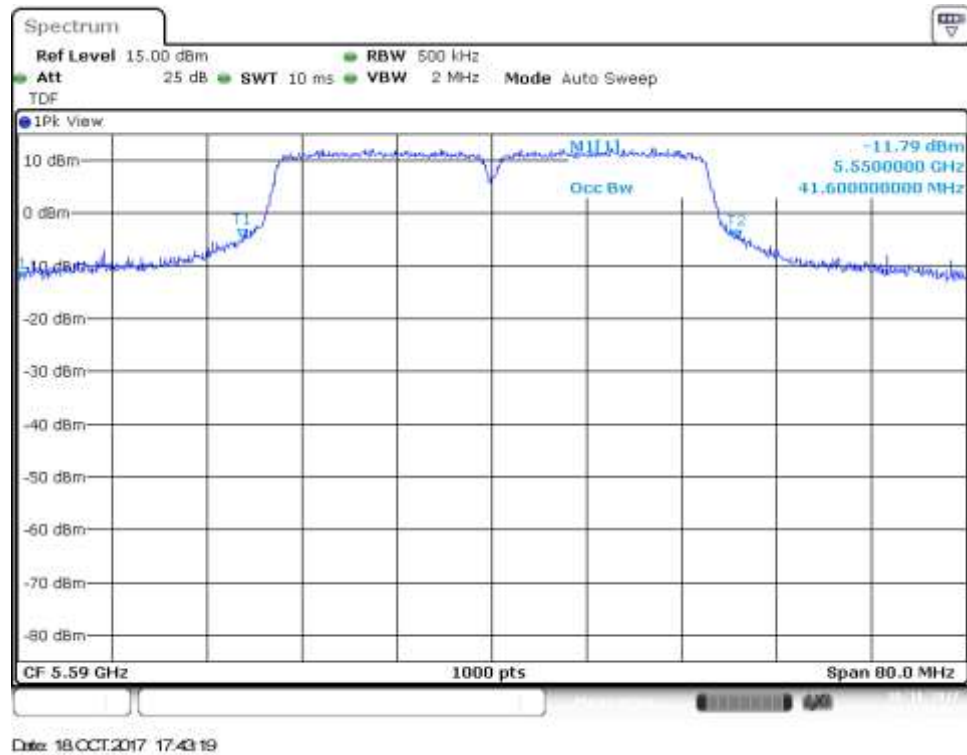
CHAIN A DIV1, 802.11n20, HT0

Channel 120



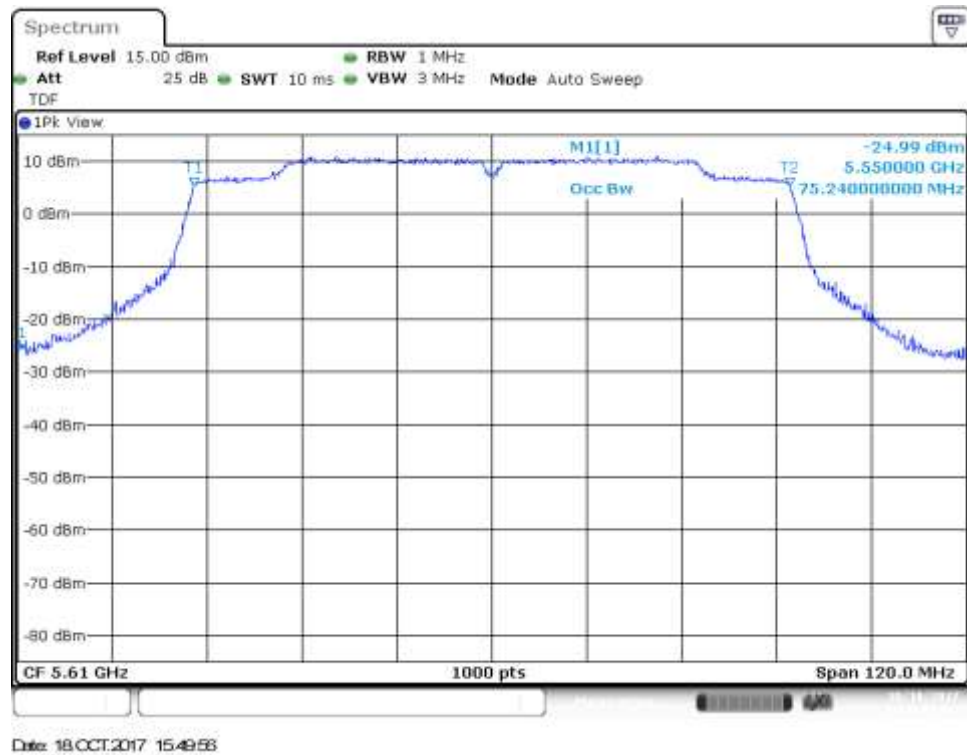
CHAIN A DIV2, 802.11n40, HT0

Channel 118F



CHAIN A DIV1, 802.11ac80, VHT0

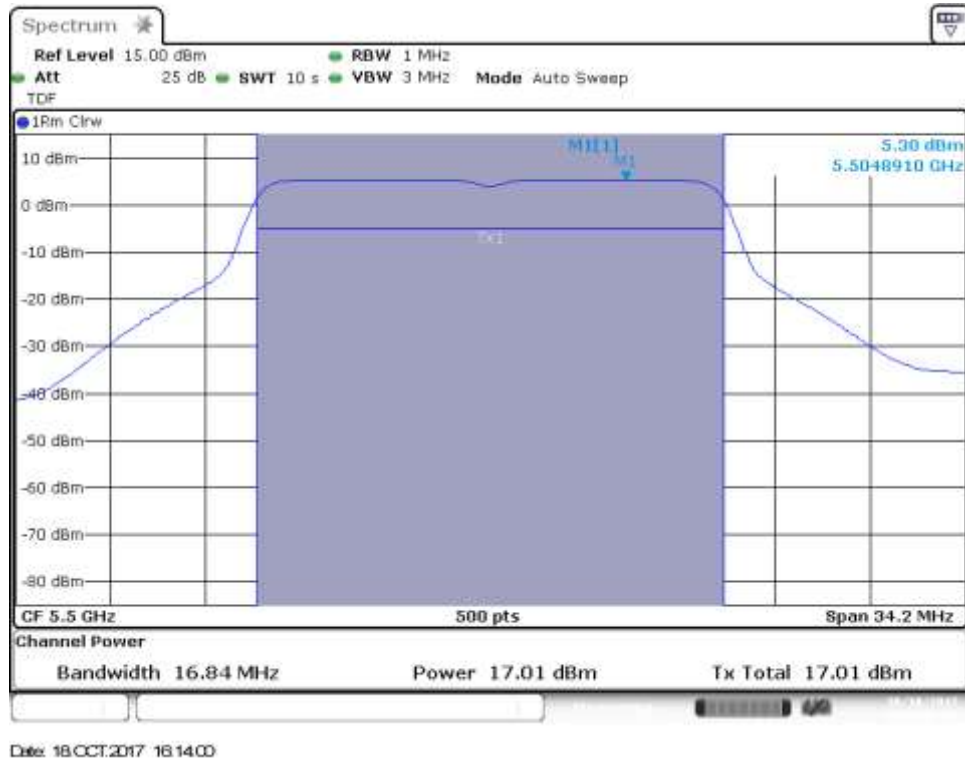
Channel 122ac80



B.3.3 Maximum Output Power & Maximum power spectral Density

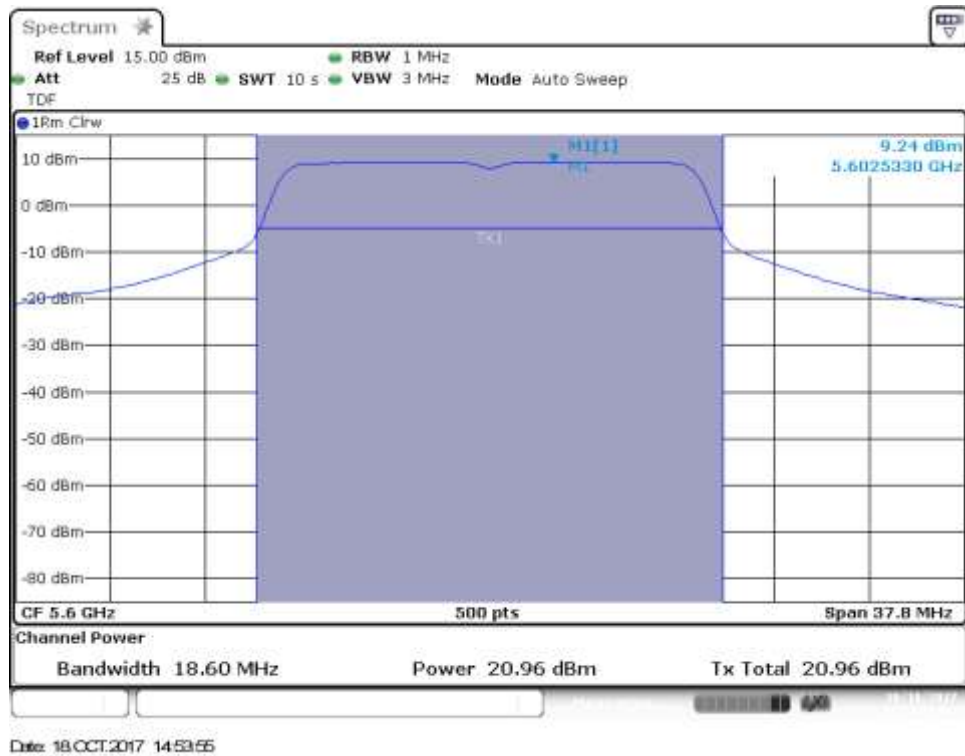
CHAIN A DIV2, 802.11a, 6Mbps

Channel 100



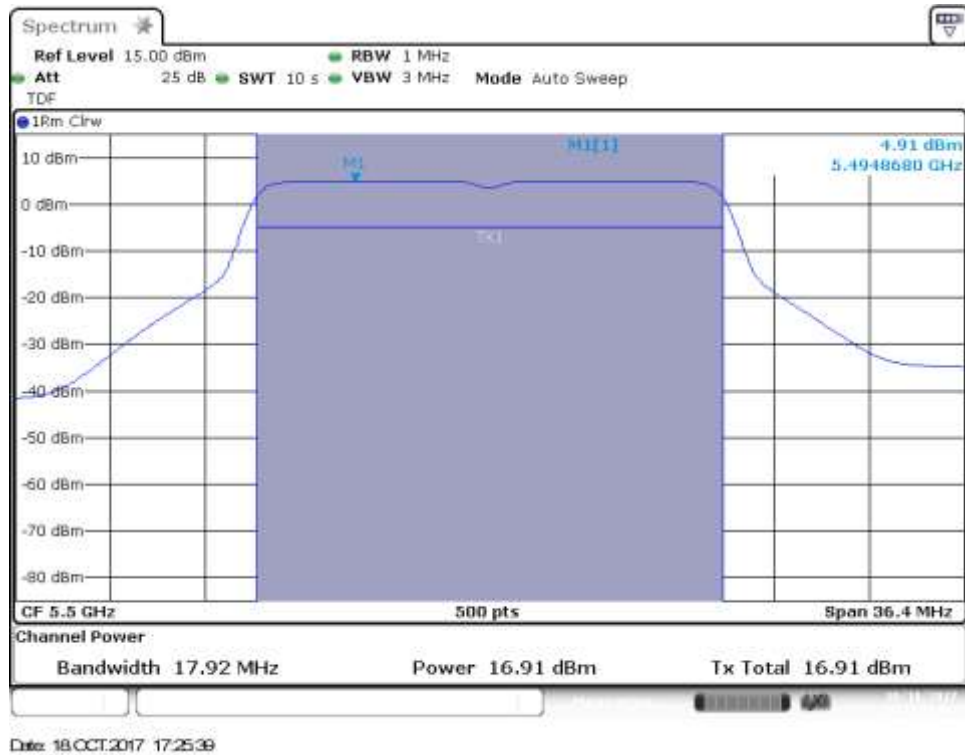
CHAIN A DIV1, 802.11a, 6Mbps

Channel 120



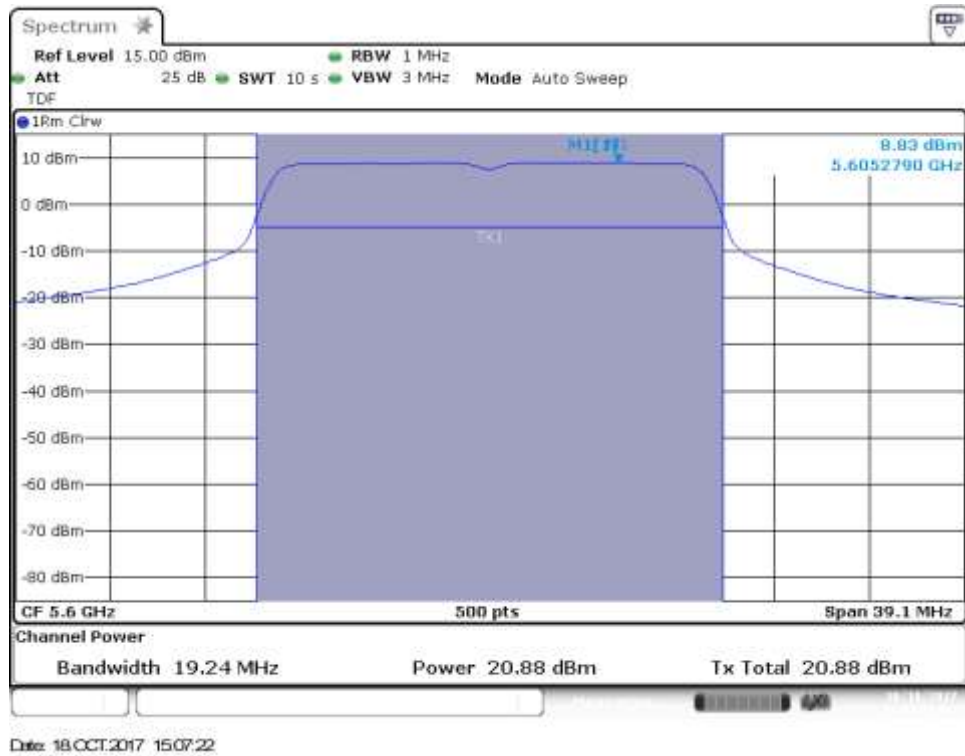
CHAIN A DIV2, 802.11n20, HT0

Channel 100



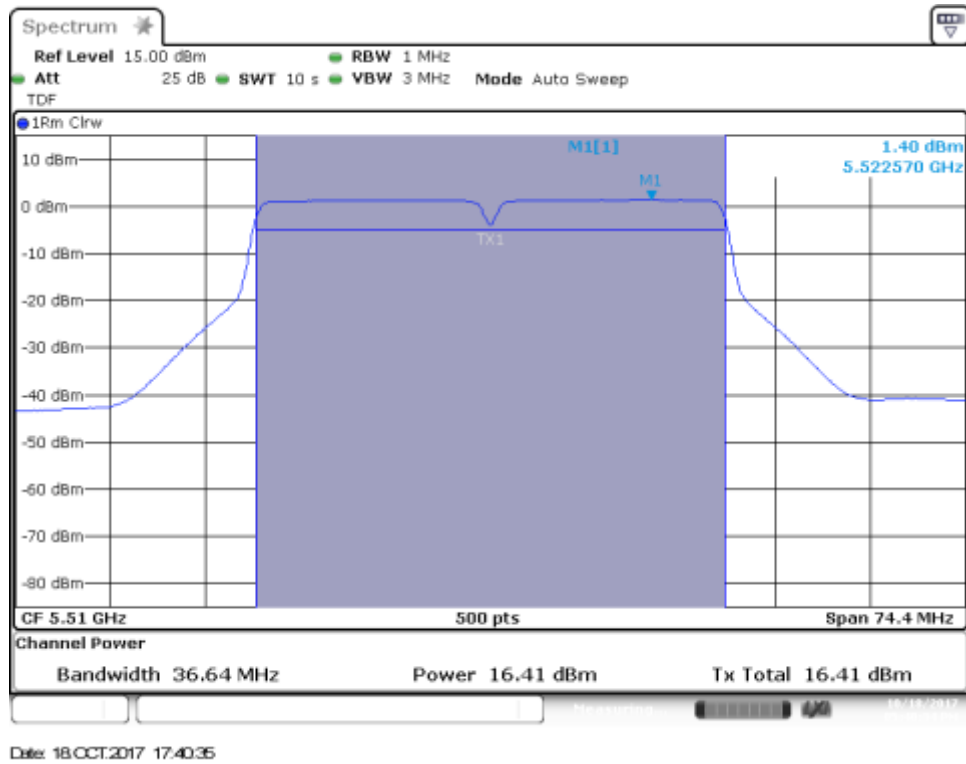
CHAIN A DIV1, 802.11n20, HT0

Channel 120



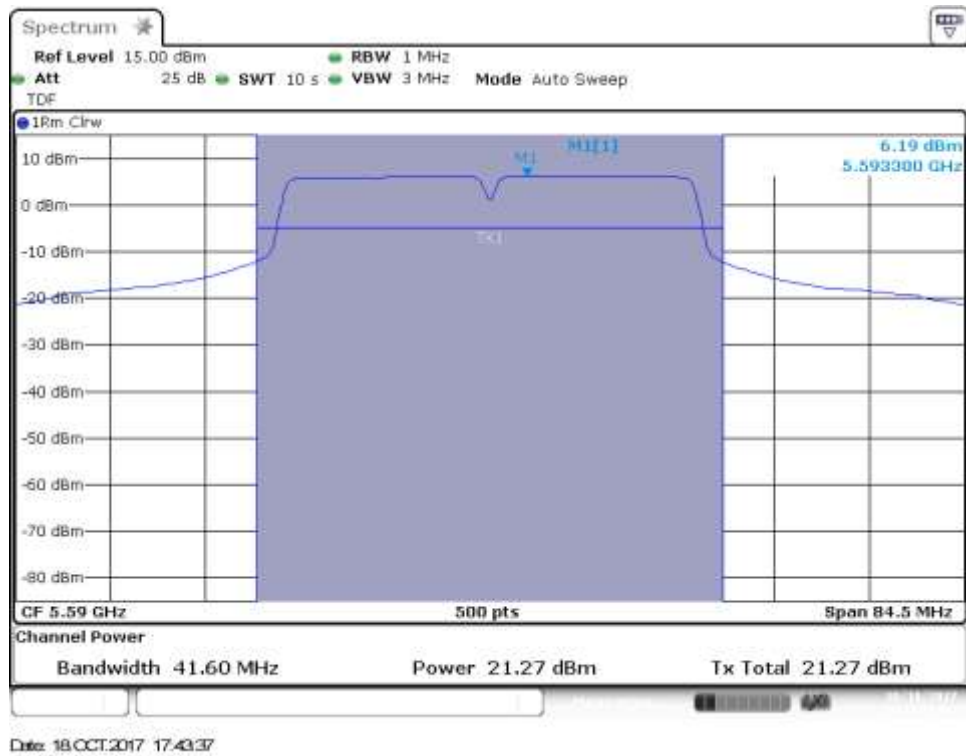
CHAIN A DIV2, 802.11n40, HT0

Channel 102F



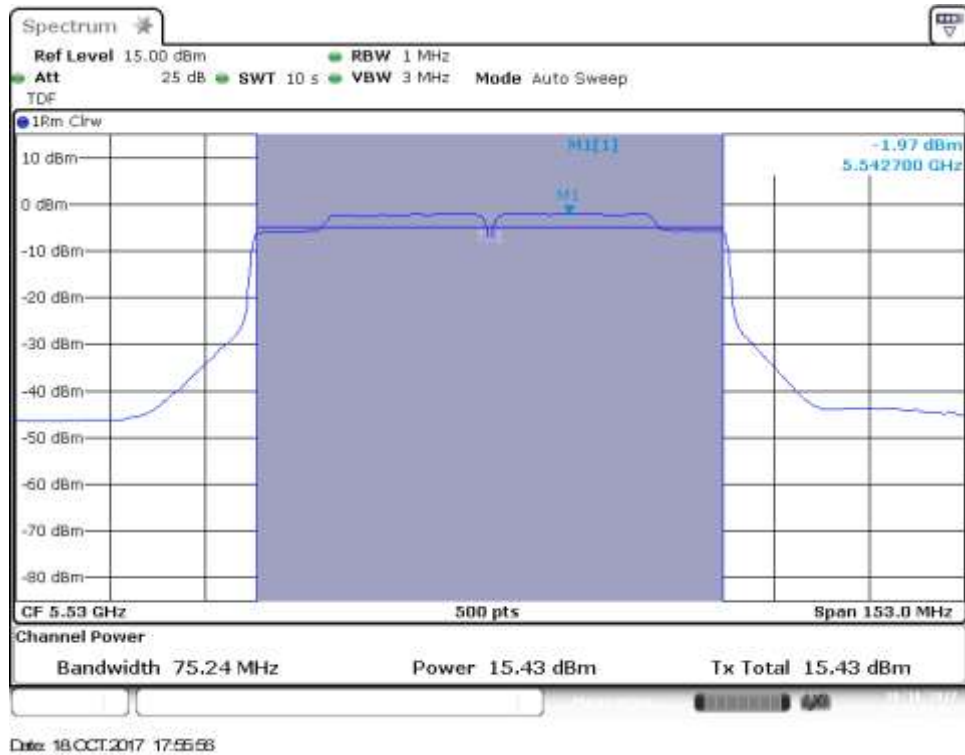
CHAIN A DIV2, 802.11n40, HT0

Channel 118F



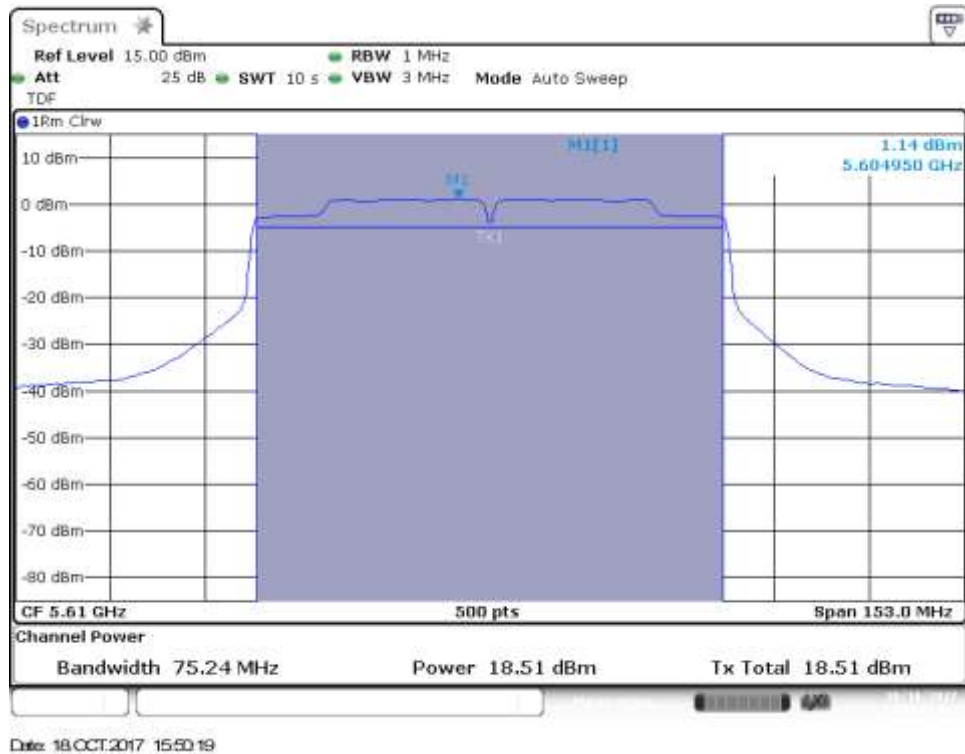
CHAIN A DIV2, 802.11ac80, VHT0

Channel 106ac80



CHAIN A DIV1, 802.11ac80, VHT0

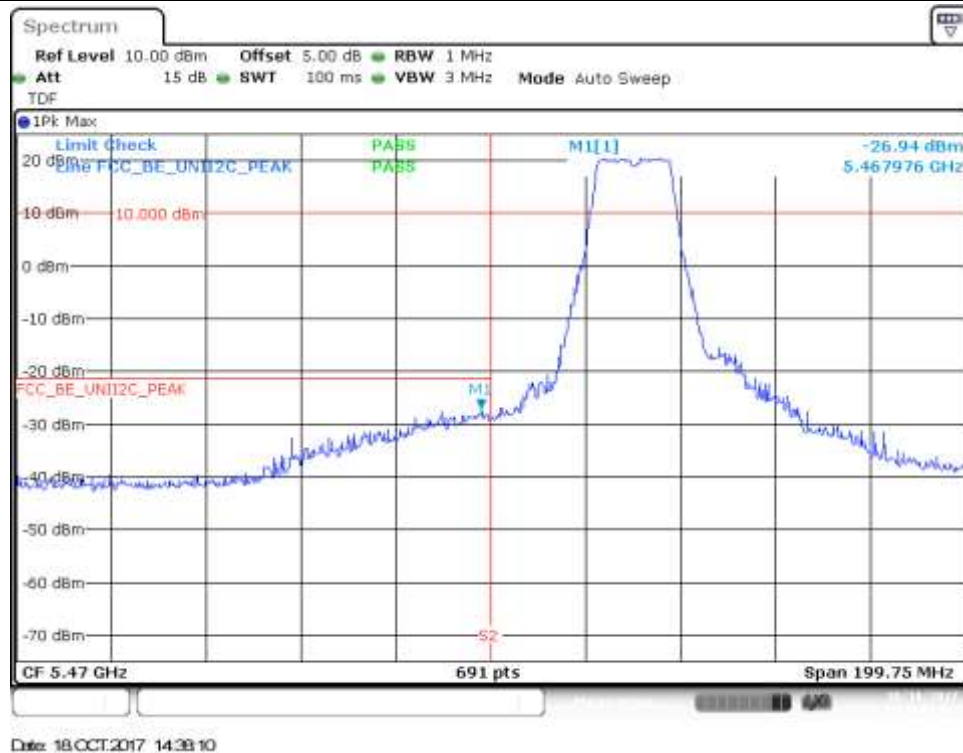
Channel 122ac80



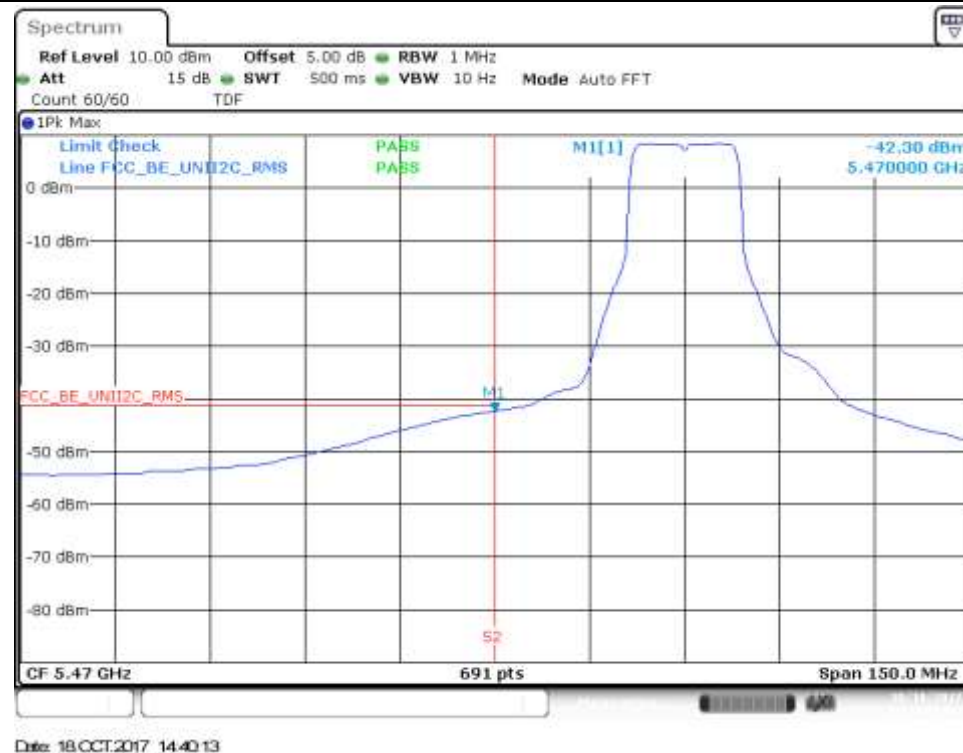
B.3.4 Undesirable emission limits : Band Edge (Conducted)

802.11a, 6Mbps – CHAIN A Div1

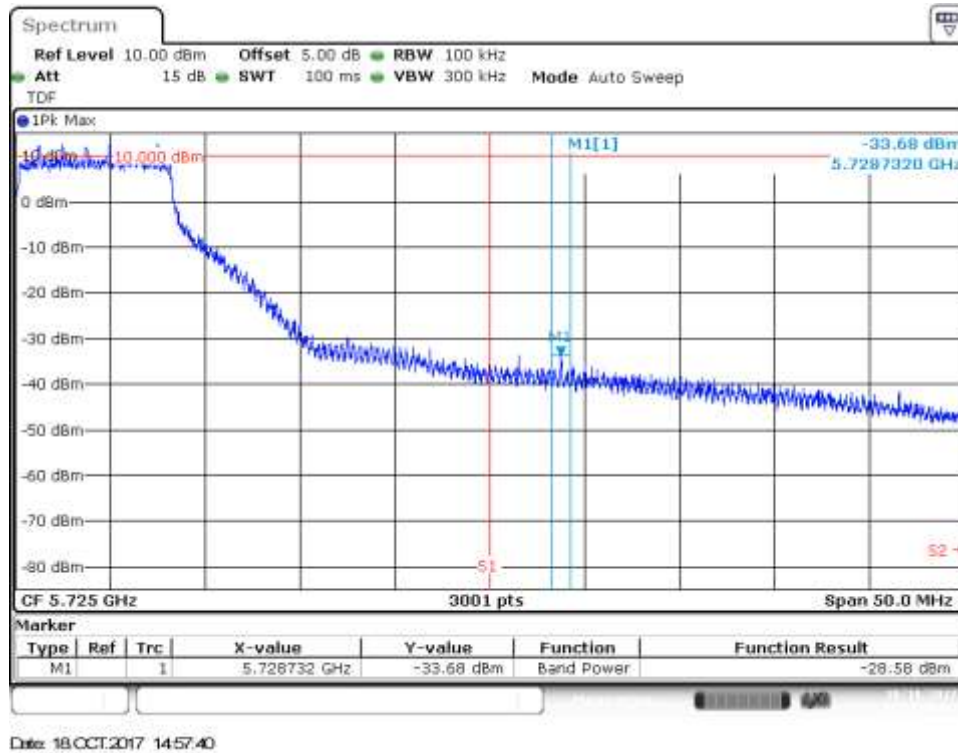
BE Low Freq Section, Peak – CH100

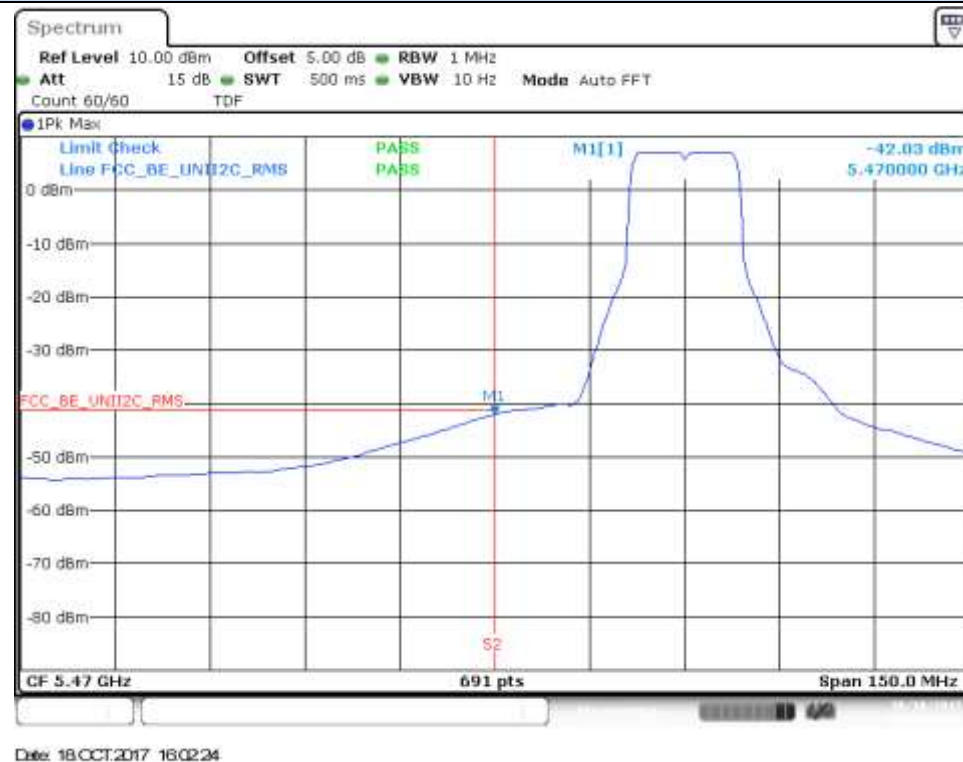
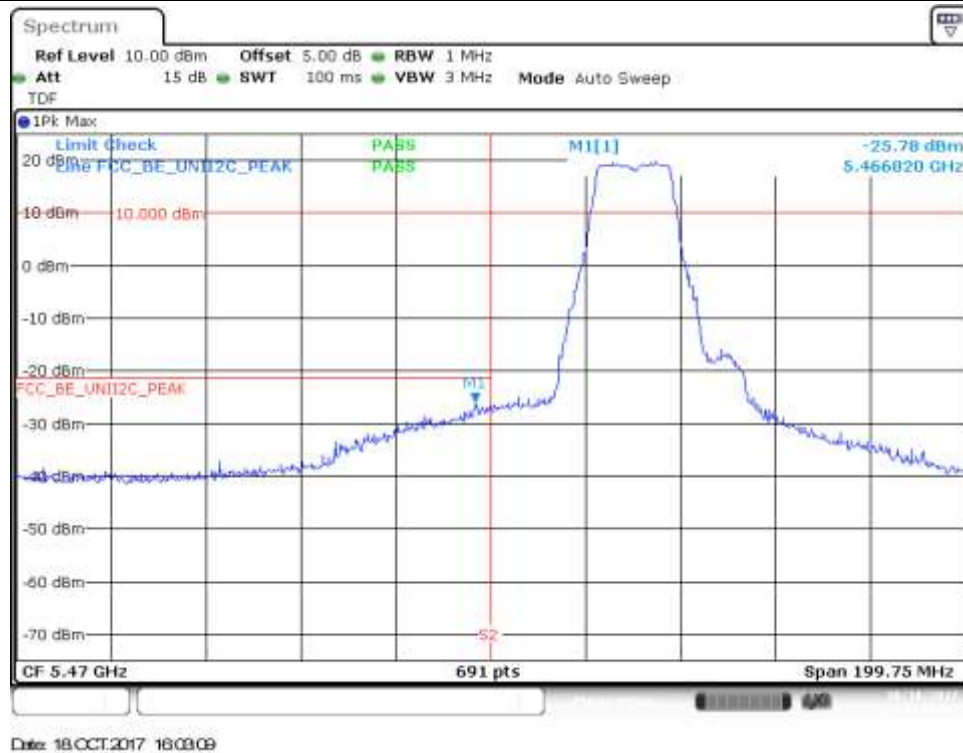


BE Low Freq Section, RMS – CH100

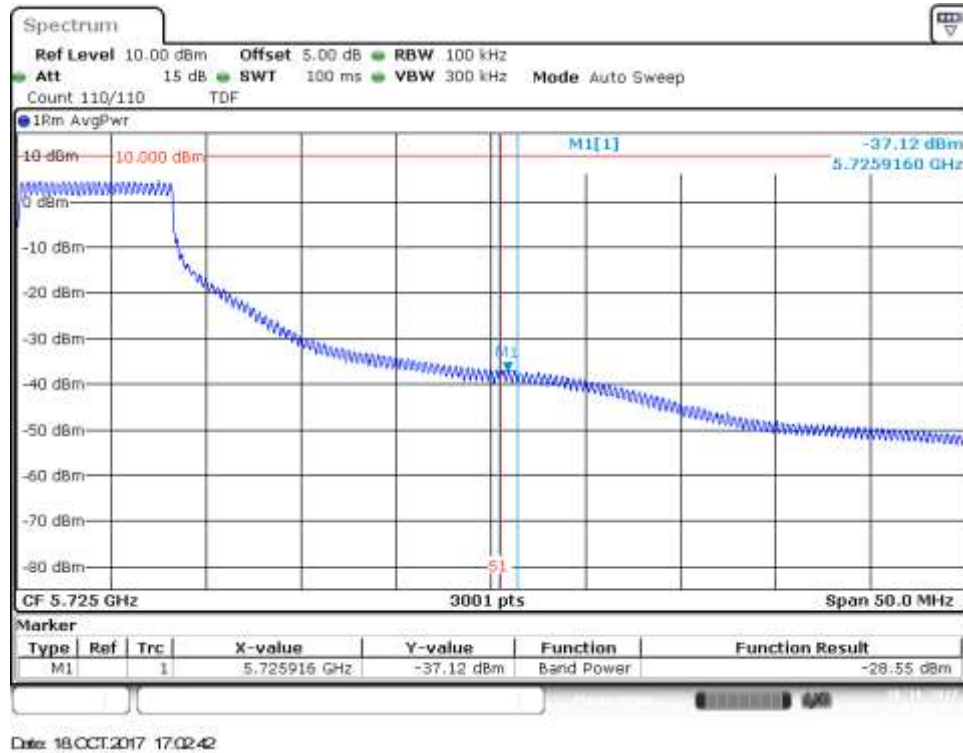


BE High Freq Section, Peak – CH140



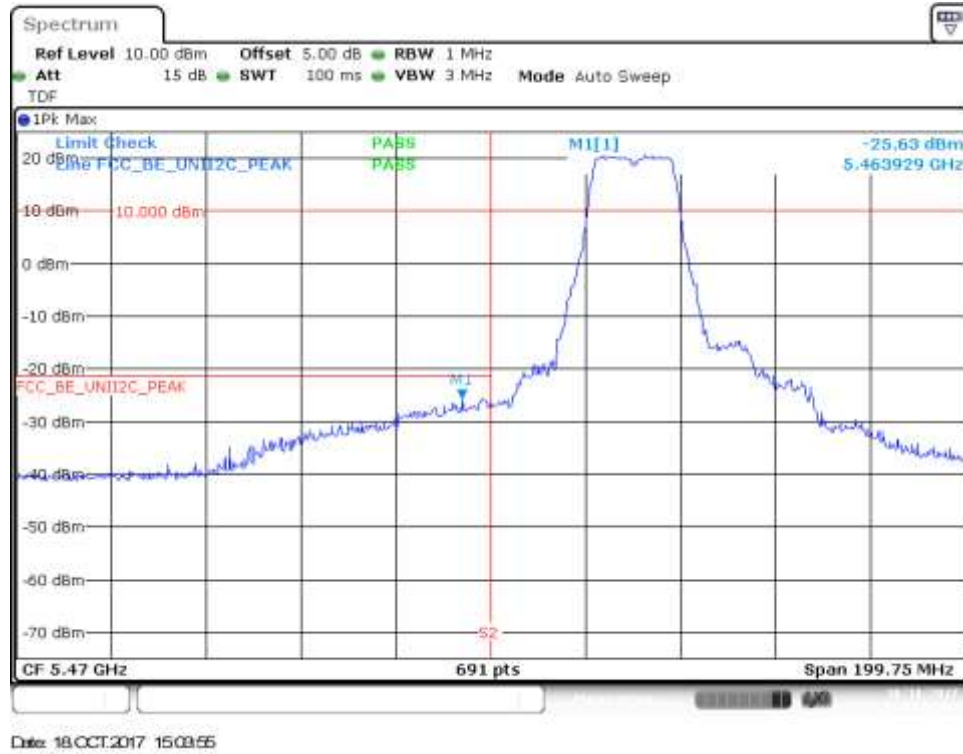


BE High Freq Section, Peak – CH140



802.11n20, HT0 (SISO) – CHAIN A Div1

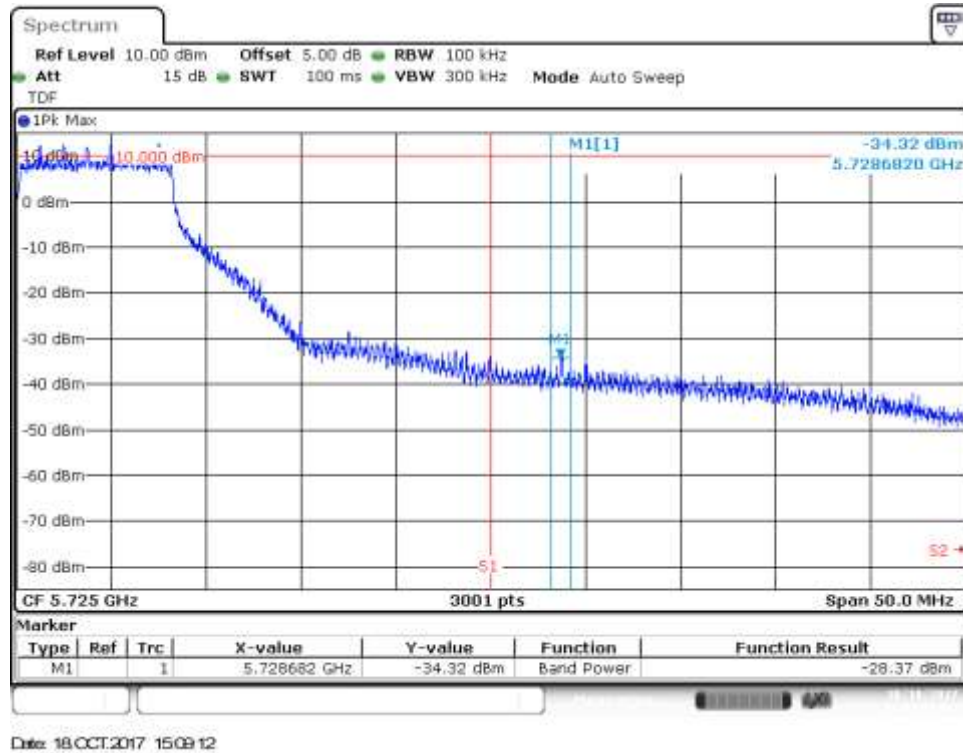
BE Low Freq Section, Peak – CH100



BE Low Freq Section, RMS – CH100



BE High Freq Section, Peak – CH140

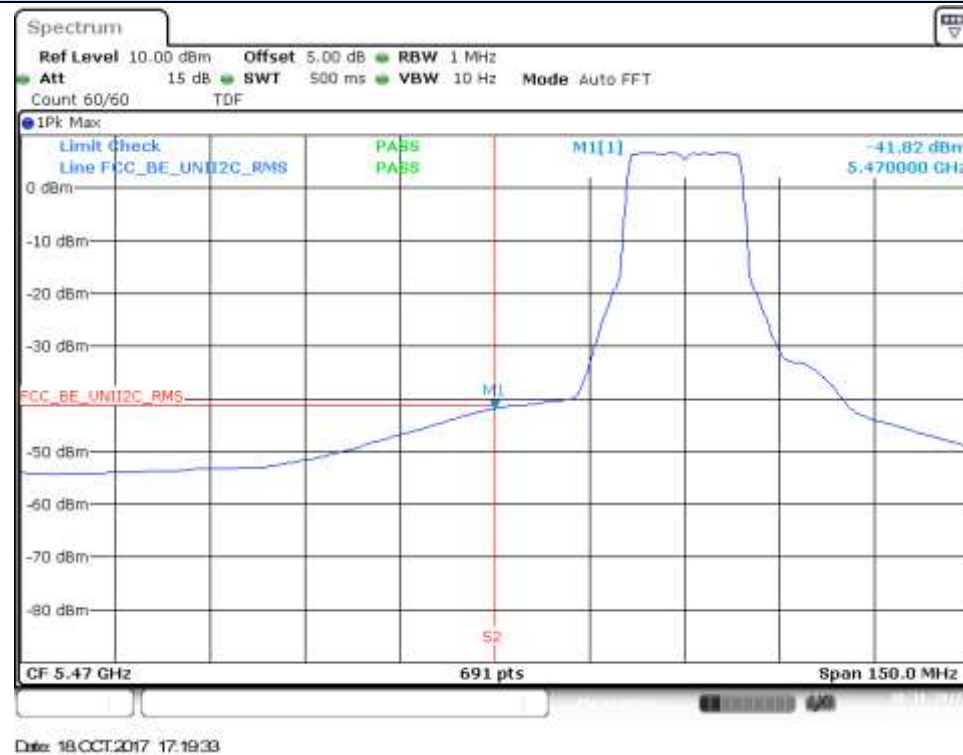


802.11n20, HT0 (SISO) – CHAIN A Div2

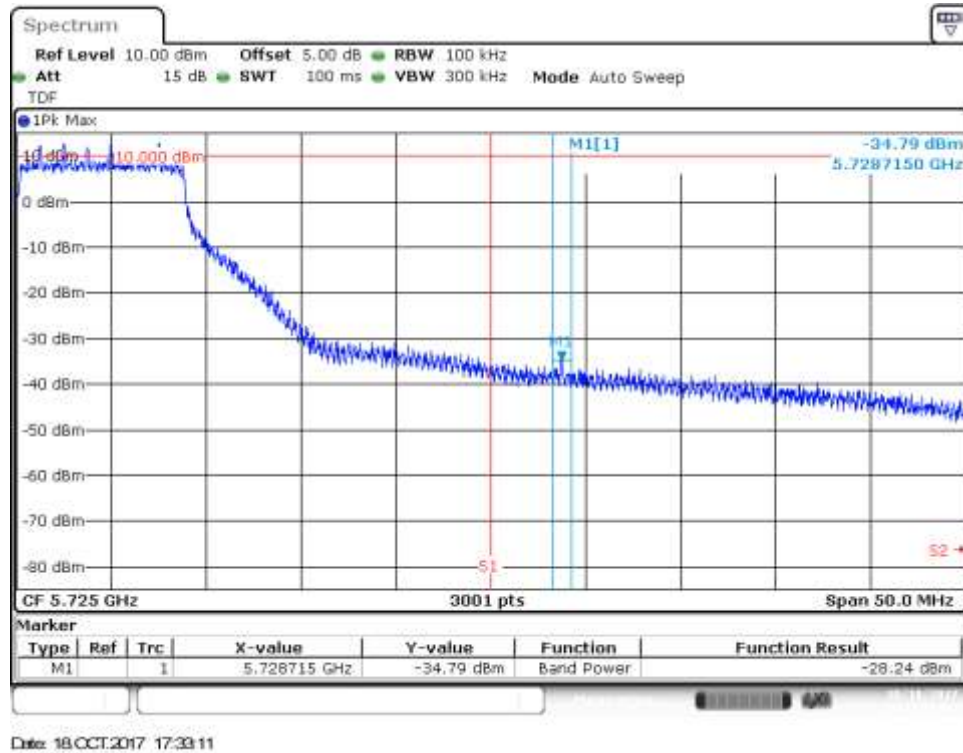
BE Low Freq Section, Peak – CH100



BE Low Freq Section, RMS – CH100

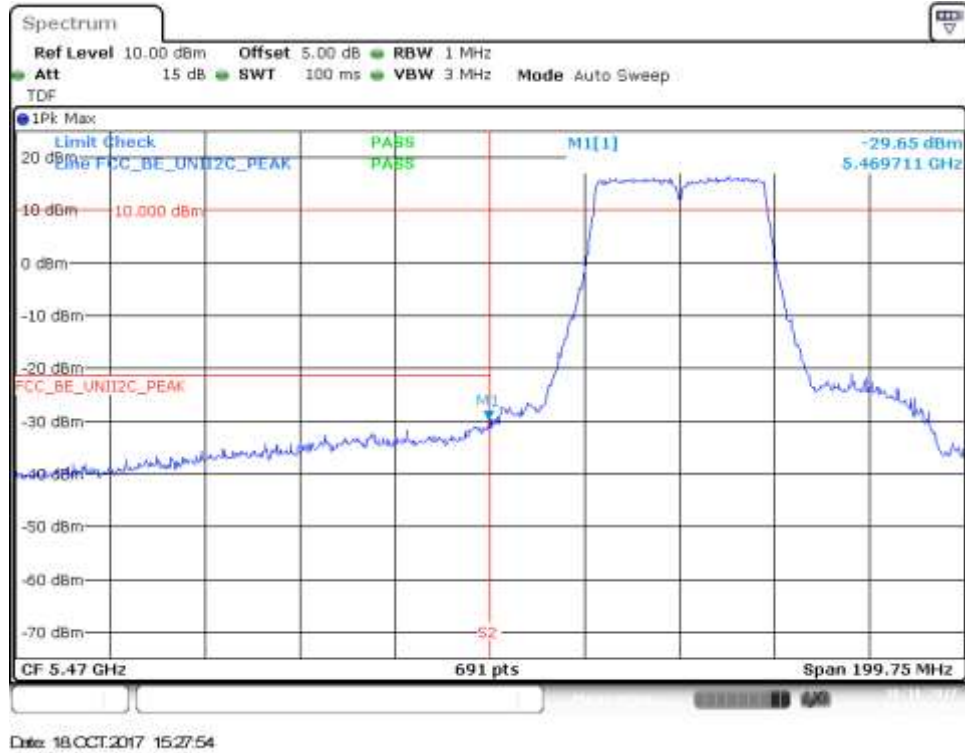


BE High Freq Section, Peak – CH140



802.11n40, HT0 (SISO) – CHAIN A Div1

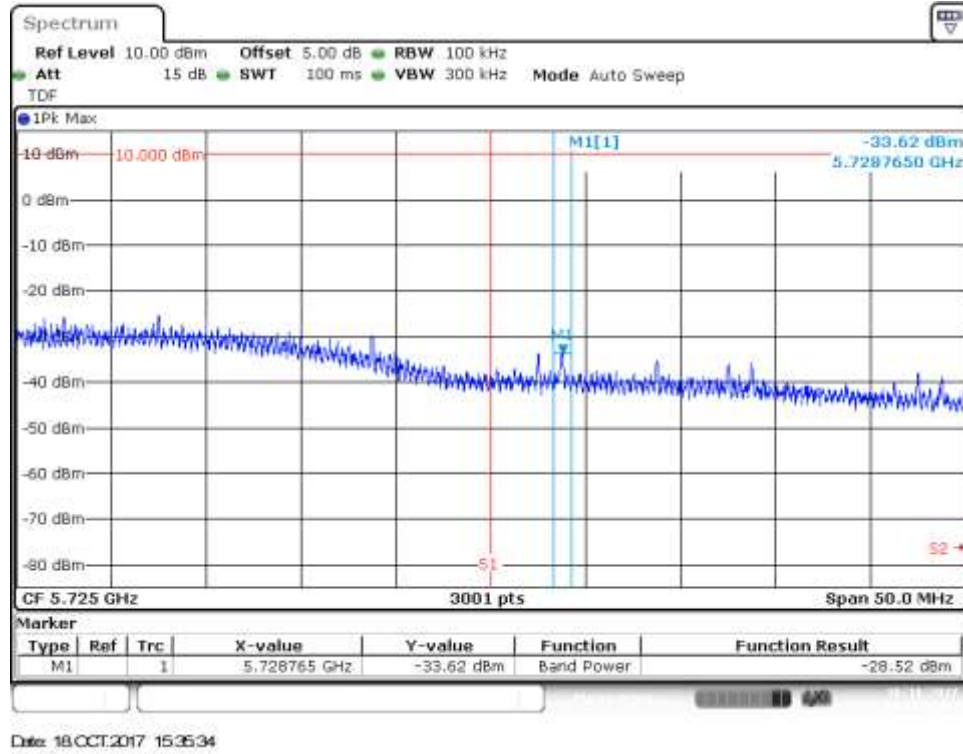
BE Low Freq Section, Peak – CH102F



BE Low Freq Section, RMS – CH102F

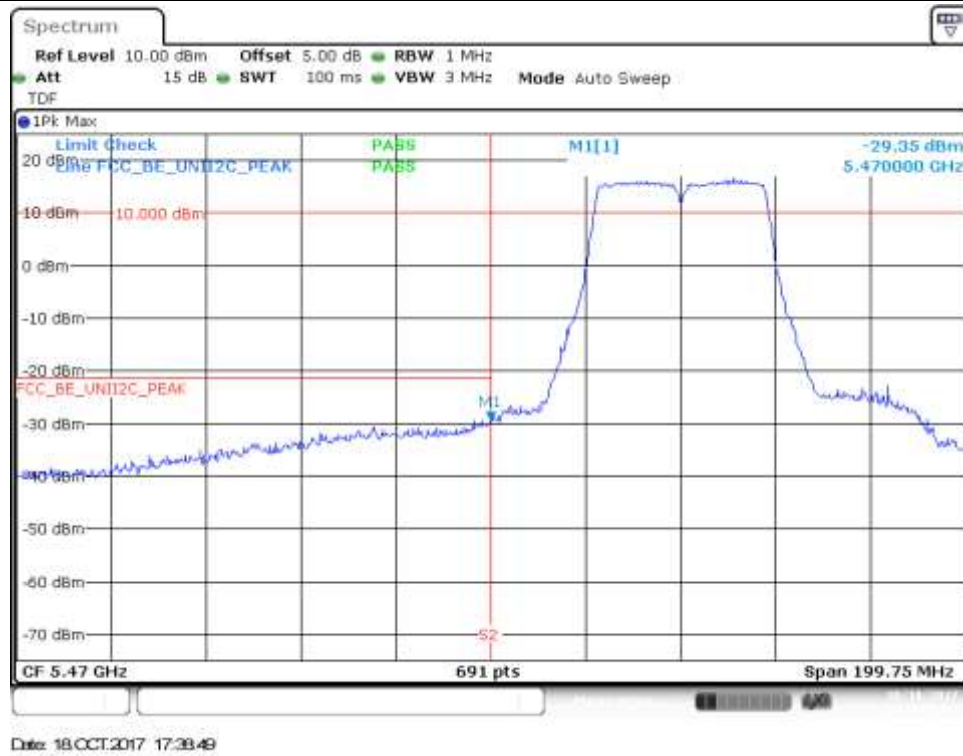


BE High Freq Section, Peak – CH134F



802.11n40, HT0 (SISO) – CHAIN A Div2

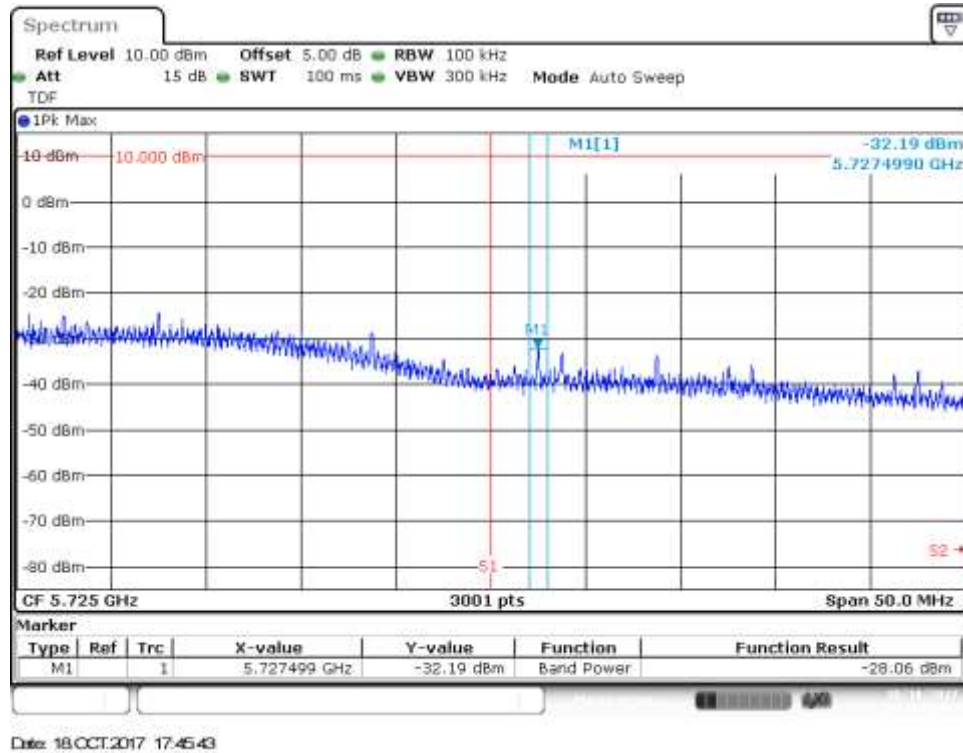
BE Low Freq Section, Peak – CH102F



BE Low Freq Section, RMS – CH102F

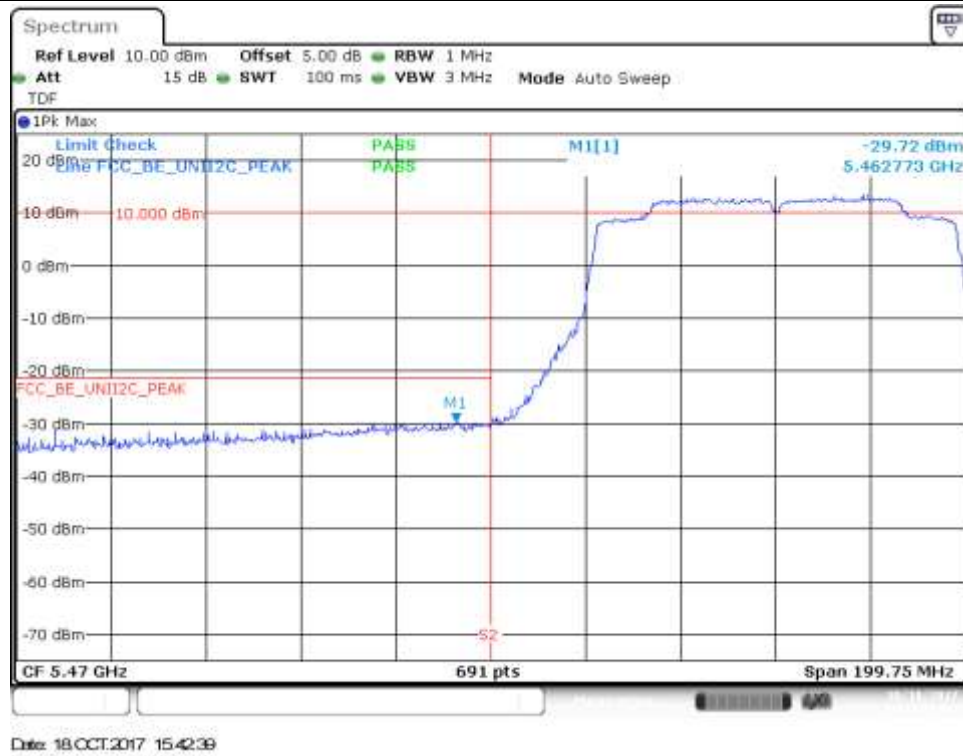


BE High Freq Section, Peak – CH134F



802.11ac80, VHT0 (SISO) – CHAIN A Div1

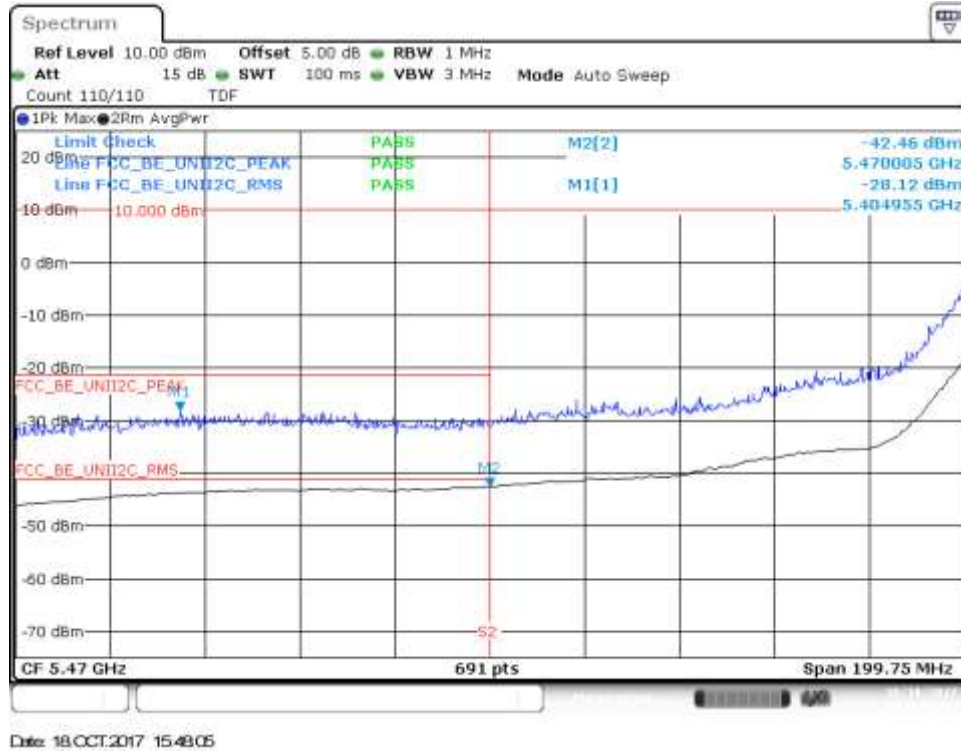
BE Low Freq Section, Peak – CH106ac80



BE Low Freq Section, RMS – CH106ac80



BE High Freq Section, Peak – CH122ac80



802.11ac80, VHT0 (SISO) – CHAIN A Div2

BE Low Freq Section, Peak – CH106ac80



BE Low Freq Section, RMS – CH106ac80



BE High Freq Section, Peak – CH122ac80

