

TEST REPORT

FCC Applicant: Legrand/Pass & Seymour
Address: 50 Boyd Ave, Syracuse, New York 13029, United States
IC Applicant: Pass & Seymour, Inc d/b/a Legrand
Address: 50 Boyd Ave Syracuse NY 13209 United States Of America
Manufacturer/ Factory: COMPUTIME ELECTRONICS (SHENZHEN) CO., LTD.
Address: Computime Technology Pk, Dan Zhu Tou Cun Buji, Longgang Region Shenzhen China

Equipment Under Test (EUT)

Product Name: Thermostat
Model No.: WZ3TSTATH
Trade Mark: Legrand
FCC ID: 2AU5DWZ3TSTAT
IC: 25764-WZ3TSTAT
Applicable standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407
RSS-Gen Issue 5
RSS-247 Issue 2
Date of sample receipt: June 23, 2020
Date of Test: June 24, 2020-January 27, 2021
Date of report issued: January 27, 2021
Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

A circular blue ink stamp from GTS Global United Technology Services Co., Ltd. is visible. The stamp contains the text "GTS", "GLOBAL UNITED TECHNOLOGY SERVICES CO., LTD.", and "798019". A handwritten signature in blue ink is written over the stamp.

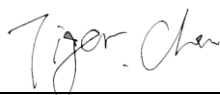
Robinson Lo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Version

Version No.	Date	Description
00	January 27, 2021	Original

Prepared By:

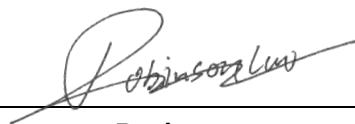


Date:

January 27, 2021

Project Engineer

Check By:



Date:

January 27, 2021

Reviewer

TABLE OF CONTENTS

1	TEST LABORATORY	6
1.1	Test facility	6
1.2	Test Location	6
2	GENERAL DESCRIPTION	7
2.1	General Description Of EUT	7
2.2	Modification of EUT	8
2.3	Applicable Standards	8
3	TEST CONFIGURATION OF EQUIPMENT UNDER TEST	9
3.1	Carrier Frequency and Channel	9
3.2	Test Mode	10
3.3	Test Setup	13
3.4	Measurement Results Explanation Example	15
4	TEST RESULT	16
4.1	26dB and 99% Occupied Bandwidth Measurement	16
4.2	Maximum Conducted Output Power Measurement	17
4.3	Power Spectral Density Measurement	19
4.4	Unwanted Emissions Measurement	20
4.5	AC Conducted Emission Measurement	263
4.6	Frequency Stability Measurement	266
4.7	Automatically Discontinue Transmission	267
4.8	Antenna Requirements	268
5	LIST OF MEASURING EQUIPMENT	269
6	UNCERTAINTY OF EVALUATION	271
	APPENDIX A1: EMISSION BANDWIDTH	272
	APPENDIX A2: OCCUPIED CHANNEL BANDWIDTH	335
	APPENDIX A3: MIN EMISSION BANDWIDTH	398
	APPENDIX B: MAXIMUM CONDUCTED OUTPUT POWER	427
	APPENDIX C: MAXIMUM POWER SPECTRAL DENSITY	432
	APPENDIX D: FREQUENCY STABILITY	496

Summary of Test Result

FCC Rule	Description	Limit	Result	Remark
2.1049 15.407	26dB & 99% Bandwidth	-	Pass	U-NII-1 U-NII-2A U-NII-2C
	-6dB Bandwidth	>500kHz	Pass	U-NII-3
15.407(a)	Maximum Conducted Output Power	≤24dBm	Pass	U-NII-1 U-NII-2A U-NII-2C
		≤30dBm	Pass	U-NII-3
15.407(a)	Power Spectral Density	≤11dBm/MHz	Pass	U-NII-1 U-NII-2A U-NII-2C
		≤30dBm/500kHz	Pass	U-NII-3
15.407(b)	Unwanted Emissions	15.407(b) 15.209(a)	Pass	-
15.207	AC Conducted Emission	15.207(a)	Pass	-
15.407(g)	Frequency Stability	Within Operation Band	Pass	-
15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

Summary of Test Result

IC Rule	Description	Limit	Result	Remark
RSS-247 Section 6	26dB & 99% Bandwidth	-	Pass	U-NII-1 U-NII-2A U-NII-2C
	-6dB Bandwidth	>500kHz	Pass	U-NII-3
RSS-247 Section 6	Maximum Conducted Output Power	≤24dBm	Pass	U-NII-1 U-NII-2A U-NII-2C
		≤30dBm	Pass	U-NII-3
RSS-247 Section 6	Power Spectral Density	≤10dBm/MHz	Pass	U-NII-1 U-NII-2A U-NII-2C
		≤11dBm/MHz		
		≤11dBm/MHz		
		≤30dBm/500kHz	Pass	U-NII-3
RSS-247 Section 6	Unwanted Emissions	RSS-247(6.2) RSS-GEN(8.9 Table 4, Table 5 and Table 6	Pass	-
RSS-Gen 8.8	AC Conducted Emission	RSS-Gen(8.8 Table 3)	Pass	-
RSS-Gen 6.11	Frequency Stability	Within Operation Band	Pass	-
RSS-247 6.4(a)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
RSS-Gen 6.7 RSS-Gen 8.3	Antenna Requirement	N/A	Pass	-

1 Test Laboratory

1.1 Test facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

- **IC —Registration No.: 9079A**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A.

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

1.2 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

2 General Description

2.1 General Description Of EUT

Product	Thermostat
Model No.	WZ3TSATH
Serial No.:	N/A
Test sample(s) ID:	GTS202006000241-1
Sample(s) Status	Engineer sample
HW Version	1.0
SW Version	1.0
Power Supply	24Vac
Modulation Technology	256QAM,64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Type	802.11a/n/ac : OFDM
Operating Frequency	U-NII-1:5150~5250MHz U-NII-2A:5250~5350MHz U-NII-2C:5470~5725MHz U-NII-3:5725~5850MHz
Max. Output Power	802.11a : 12.79 dBm (0.0190 W) 802.11n HT20 MIMO: 15.74 dBm (0.0375 W) 802.11n HT40 MIMO: 15.59 dBm (0.0362 W) 802.11ac VHT20 MIMO : 15.61 dBm (0.0364 W) 802.11ac VHT40 MIMO: 15.19 dBm (0.0330 W) 802.11ac VHT80 MIMO: 14.87 dBm (0.0307 W)
Antenna Type	PCB Antenna type
Antenna Gain (dBi)	0 dBi
I/O Ports	Refer to user's manual
Cable Supplied	Refer to user's manual

NOTE:

1. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

2.2 Modification of EUT

No modifications are made to the EUT during all test items.

2.3 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart E §15.407
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ IC RSS-247 Issue 2
- ♦ IC RSS-Gen Issue 5

3 Test Configuration of Equipment Under Test

3.1 Carrier Frequency and Channel

U-NII-1

Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz
38	5190 MHz	46	5230 MHz
40	5200 MHz	48	5240 MHz
42	5210 MHz		

U-NII-2A

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
54	5270 MHz	62	5310 MHz
56	5280 MHz	64	5320 MHz
58	5290 MHz		

U-NII-2C

Channel	Frequency	Channel	Frequency
100	5500 MHz	112	5560 MHz
102	5510 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
106	5530 MHz	134	5670 MHz
108	5540 MHz	136	5680 MHz
110	5550 MHz	140	5700 MHz

TDWR

Channel	Frequency	Channel	Frequency
118	5590 MHz	124	5620 MHz
120	5600 MHz	126	5630 MHz
122	5610 MHz	128	5640 MHz

U-NII-3

Channel	Frequency	Channel	Frequency
149	5745 MHz	157	5785 MHz
151	5755 MHz	159	5795 MHz
153	5765 MHz	161	5805 MHz
155	5775 MHz	165	5825 MHz

3.2 Test Mode

Based on the baseline scan, the worst - case data rates were:

802.11a mode: 6 Mbps

802.11n HT20 mode: MCS0

802.11n HT40 mode: MCS0

802.11n VHT20 mode: MCS0

802.11n VHT40 mode: MCS0

802.11n VHT80 mode: MCS0

3.2.1 Antenna Port Conducted Measurement

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-1	Mode 1: CH36	Mode 1: CH36	Mode 1: CH38	Mode 1: CH42
	Mode 2: CH40	Mode 2: CH40	Mode 2: CH46	Mode 2: -
	Mode 3: CH48	Mode 3: CH48	Mode 3: -	Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-2A	Mode 1: CH52	Mode 1: CH52	Mode 1: CH54	Mode 1: CH58
	Mode 2: CH56	Mode 2: CH56	Mode 2: CH62	Mode 2: -
	Mode 3: CH64	Mode 3: CH64	Mode 3: -	Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-2C	Mode 1: CH100	Mode 1: CH100	Mode 1: CH102	Mode 1: CH106
	Mode 2: CH116	Mode 2: CH116	Mode 2: CH110	Mode 2: -
	Mode 3: CH140	Mode 3: CH140	Mode 3: CH134	Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-3	Mode 1: CH149	Mode 1: CH149	Mode 1: CH151	Mode 1: CH155
	Mode 2: CH157	Mode 2: CH157	Mode 2: CH159	Mode 2: -
	Mode 3: CH165	Mode 3: CH165		Mode 3: -

3.2.2 Radiated Emission Test (Below 1GHz)

1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type. It was determined that Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation.
2. Following channel(s) was (were) selected for the final test as listed above

3.2.3 Radiated Bandedge and Radiated Emission Test (Above 1GHz)

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20 MIMO	802.11n HT40/ 802.11ac VHT40 MIMO	802.11ac VHT80 MIMO
U-NII-1	Mode 1: CH36	Mode 1: CH36	Mode 1: CH38	Mode 1: CH42
	Mode 2: CH40	Mode 2: CH40	Mode 2: CH46	Mode 2: -
	Mode 3: CH48	Mode 3: CH48	Mode 3: -	Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-2A	Mode 1: CH52	Mode 1: CH52	Mode 1: CH54	Mode 1: CH58
	Mode 2: CH60	Mode 2: CH60	Mode 2: CH62	Mode 2: -
	Mode 3: CH64	Mode 3: CH64	Mode 3: -	Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-2C	Mode 1: CH100	Mode 1: CH100	Mode 1: CH102	Mode 1: CH106
	Mode 2: CH116	Mode 2: CH116	Mode 2: CH110	Mode 2: CH122
	Mode 3: CH140	Mode 3: CH140	Mode 3: CH134	Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-3	Mode 1: CH149	Mode 1: CH149	Mode 1: CH151	Mode 1: CH155
	Mode 2: CH157	Mode 2: CH157	Mode 2: CH159	Mode 2: -
	Mode 3: CH165	Mode 3: CH165		Mode 3: -

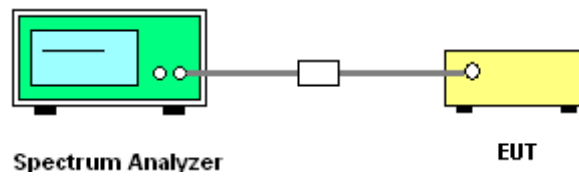
- Note :
1. The power under MIMO is greater than the power under MIMO, so the radiated spurious test under MIMO
 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type. It was determined that Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation.
 3. Following channel(s) was (were) selected for the final test as listed above
 4. For frequency above 18GHz, the measured value is much lower than the limit, therefore, it is not reflected in the report.

3.3 Test Setup

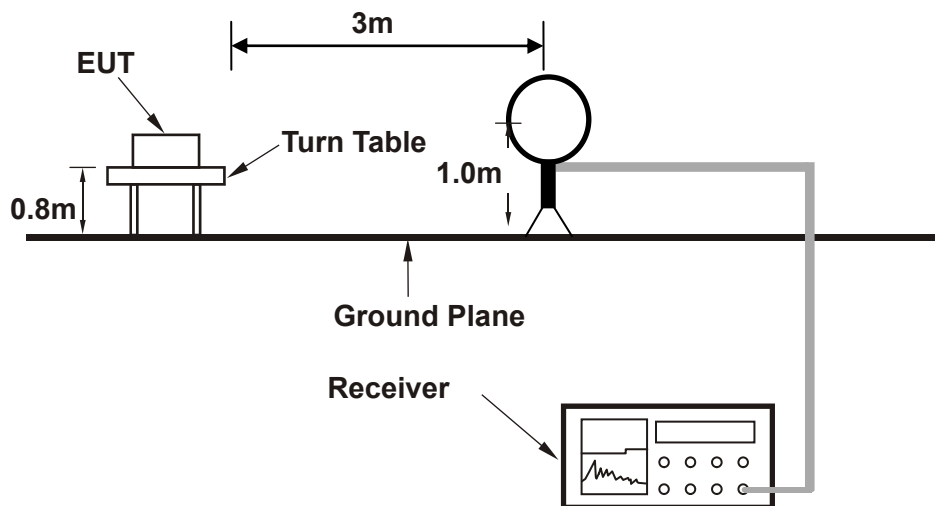
The EUT is continuously communicating to the Bluetooth tester during the tests.

EUT was set in the Hidden menu mode to enable BT communications.

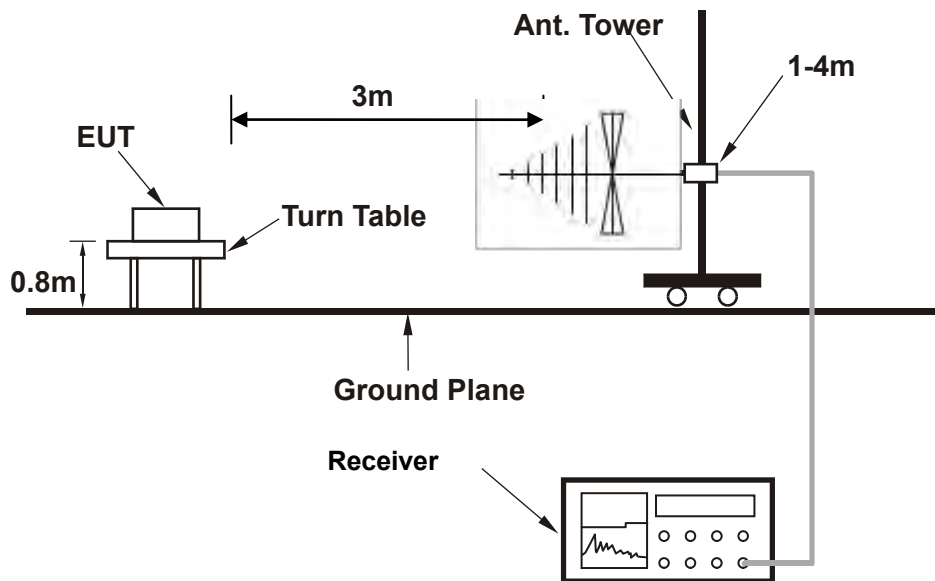
Setup diagram for Conducted Test



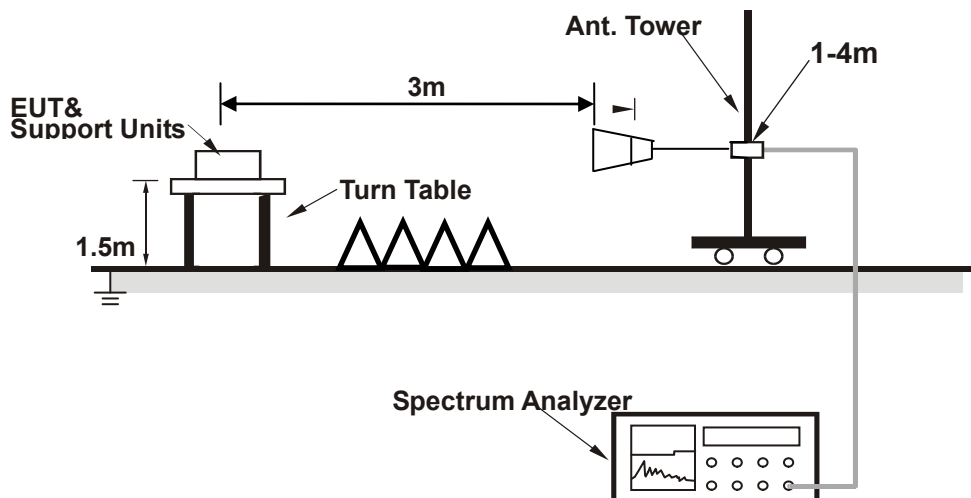
Setup diagram for Raidation(9KHz~30MHz) Test



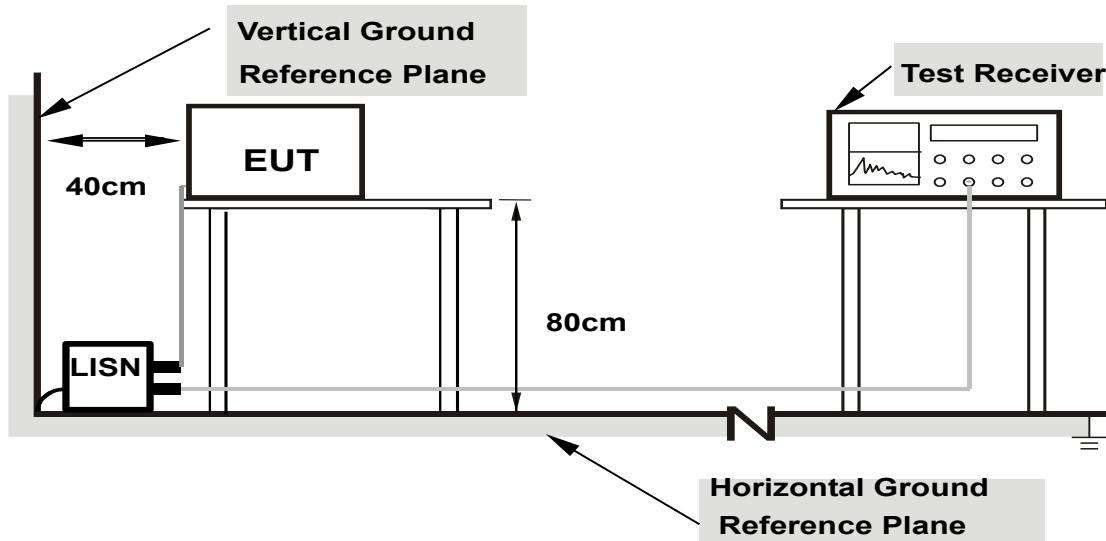
Setup diagram for Raidation(Below 1G) Test



Setup diagram for Raidation(Above1G) Test



Setup diagram for AC Conducted Emission Test



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 5 + 10 = 15 \text{ (dB)} \end{aligned}$$

4 Test Result

4.1 26dB and 99% Occupied Bandwidth Measurement

4.1.1 Limit of 6dB and 99% Bandwidth

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

The minimum 6 dB bandwidth shall be at least 500 kHz for U-NII-3.

4.1.2 Test Procedures

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the Antenna port to the spectrum analyzer.
4. 26dB Band width Measurement: Set the spectrum analyzer as 1% of emission BW Sweep=auto, Detector = Peak, Trace Mode = Max Hold, Manually readjust RBW until the RBW/EBW ratio is 1% based on EBW as observed on the result of pre-sequence measurement.
5. Mark the peak frequency and -26dB (upper and lower) frequency.
6. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement.
7. Repeat the procedures as list above until all test default channels (low, middle, and high) are completed.
8. Measure and record the results in the test report.

4.1.3 Test Result of 26dB Bandwidth

Refer to Appendix A1 of this test report.

4.1.4 Test Result of 99% Bandwidth

Refer to Appendix A2 of this test report.

4.1.5 Test Result of 6dB Bandwidth

Refer to Appendix A3 of this test report.

4.2 Maximum Conducted Output Power Measurement

4.2.1 Limit of Peak Output Power

FCC

Operation Band	EUT Category	Limit
U-NII-1	Access Point(Mater Device)	1 Watt(30dBm)
	Fixed point-to-point Access Ponit	1 Watt(30dBm)
	√ Mobile and portable clinet device	250mW(23.98dBm)
U-NII-2A	√	250mW(23.98dBm) or 11dBm+10 log B
U-NII-2C	√	250mW(23.98dBm) or 11dBm+10 log B
U-NII-3	√	1 W(30dBm)

IC

Operation Frequency Band	Limit
5150~5250 MHz	EIRP shall not exceed 200 mW or 10 + 10 logB, dBm
5250~5350 MHz	Conducted output power shall not exceed 250 mW or 11 +10 logB EIRP shall not exceed 1.0 W or 17 + 10 logB, dBm
5470~5600 MHz and 5650~5725 MHz	Conducted output power shall not exceed 250 mW or 11 +10 logB EIRP shall not exceed 1.0 W or 17 + 10 logB, dBm
5725~5850 MHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the direction-al gain of the antenna exceeds 6 dBi.

4.2.2 Test Procedures

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Spectrum Analyzer.
4. Spectrum Analyzer is used as the auxiliary test equipment to conduct the output power measurement.
5. Set span to encompass the entire emission bandwidth (EBW) of the signal. Set sweep trigger to "free run.", RBW = 1 MHz, Set VBW $\geq 1/T$, where T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation, Sweep time = auto, Detector = peak..
6. Video filtering shall be applied to power signal (rms), it shall be set to operate on a linear voltage signal.
7. Trace mode = max hold. Allow max hold to run for at least 60 seconds
8. Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.

4.2.3 Test Result of Output Power

Refer to Appendix B of this test report.

4.3 Power Spectral Density Measurement

4.3.1 Limits of Power Spectral Density

FCC

Operztion Band	EUT Category		Limit
U-NII-1		Access Point(Mater Device)	17dBm/MHz
		Fixed point-to-point Access Ponit	
	√	Mobile and portable clinet device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30 dBm/500kHz

IC

Operztion Frequency Band	Limit
5150~5250 MHz	EIRP spectral density 10 dBm / MHz
5250~5350 MHz	11dBm / MHz
5470~5600 MHz and 5650~5725 MHz	11dBm / MHz
5725~5850 MHz	30 dBm/500kHz

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.3.2 Test Procedure

9. Place the EUT on the table and set it in transmitting mode.
10. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
11. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
12. Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging(SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
13. User the cursor on spectrum to peak search the highest level of trace.
14. Record the max. reading and add $10 \log(1/\text{duty cycle})$.
15. Repeat above procedures until all default test channel (low, middle, and high) was complete.

4.3.3 Test Result of Power Spectral Density

Refer to Appendix C of this test report.

4.4 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part 15.205.

4.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz .

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350MHz band shall not exceed an EIRP of -27 dBm/MHz . Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz .

- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.2
-27	68.2

4.4.2 Test Procedures

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect it to measurement instrument.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for f < 1 GHz, RBW=1MHz for f>1GHz ; VBW=3*RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak
 - (3) For average measurement:
VBW = 10 Hz, when duty cycle is no less than 98 percent.
VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
5. Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP.
6. Convert the resultant EIRP to an equivalent electric field strength using the following relationship:

$$E = \text{EIRP} - 20 \log d + 104.8$$

Where:

E is the electric field strength in dBμV/m

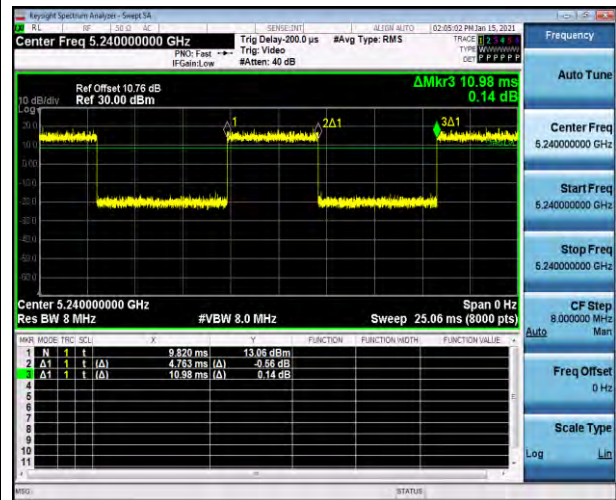
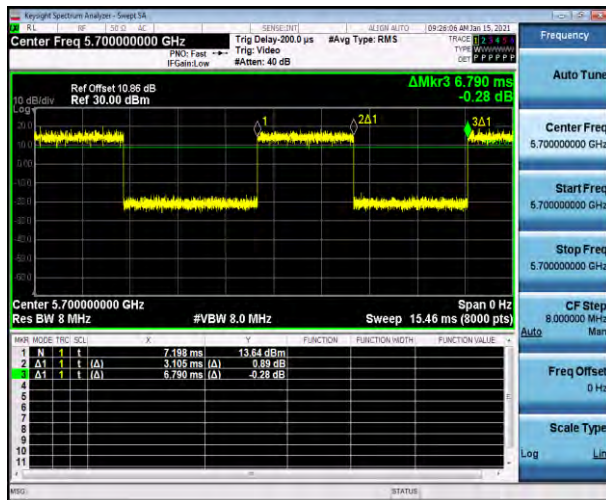
EIRP is the equivalent isotropically radiated power in dBm

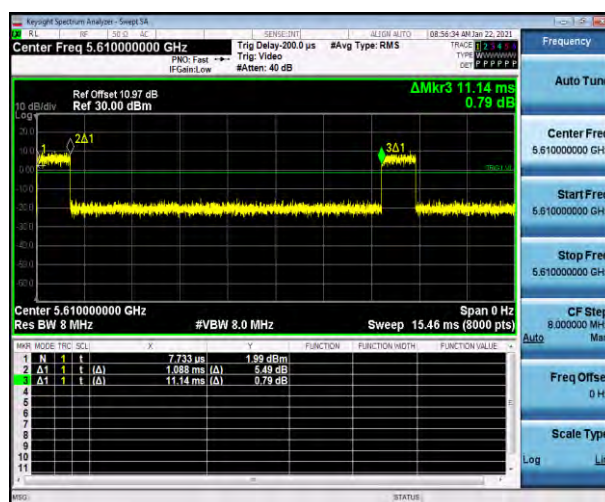
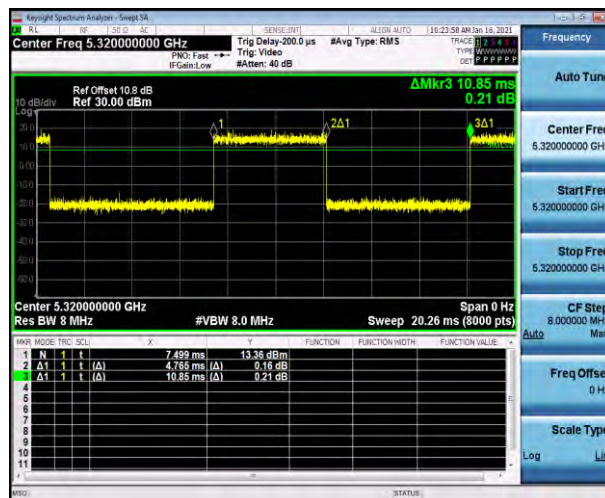
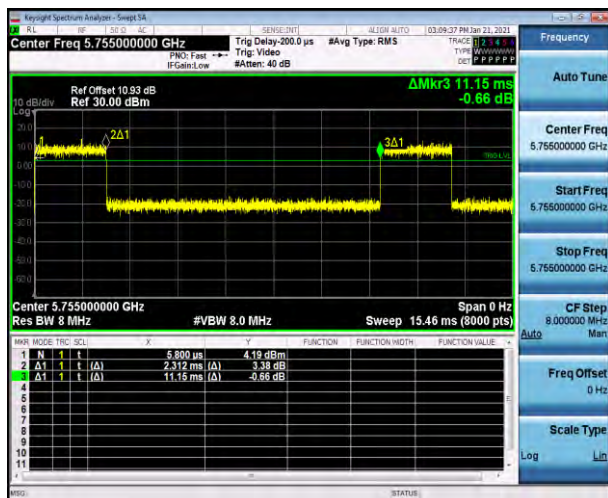
d is the specified measurement distance in m

$$E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2, \text{ for } d = 3 \text{ m.}$$

7. Compare the resultant electric field strength level with the applicable regulatory limit.

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	45.66	3.10	0.32	390Hz
802.11n HT20	43.35	4.76	0.21	300Hz
802.11n HT40	20.72	2.31	0.43	510Hz
802.11ac HT20	43.96	4.77	0.21	300Hz
802.11ac HT40	21.25	2.32	0.43	510Hz
802.11ac HT80	9.78	1.09	0.32	390Hz





8. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

4.4.3 Test Results of Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

4.4.4 Test Result of Spurious at Band Edges

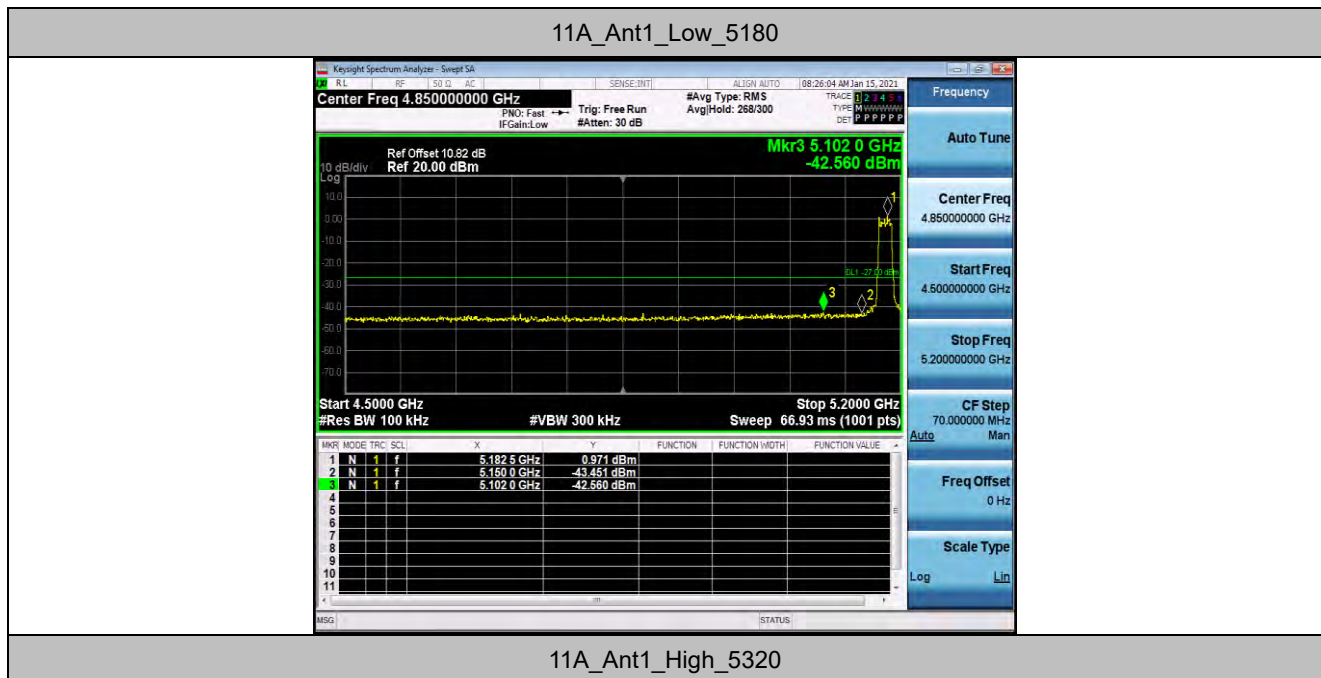
Test Result

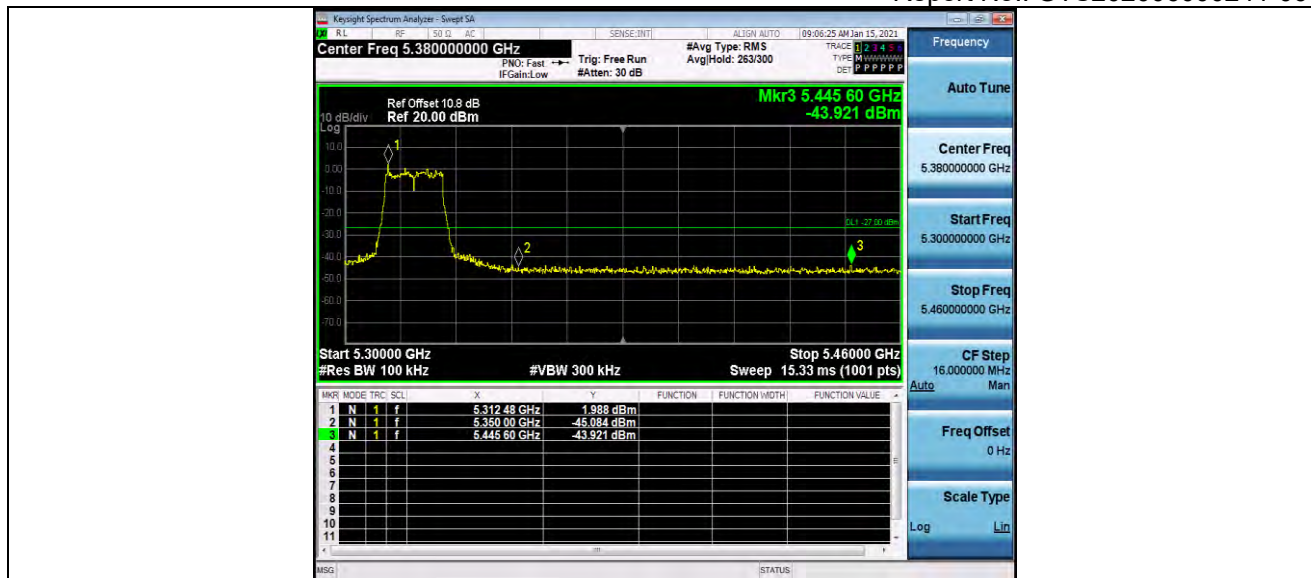
TestMode	Antenna	ChName	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-42.56	<=-27	PASS
		High	5320	-43.92	<=-27	PASS
		Low	5500	-44.19	<=-27	PASS
		High	5700	-43.5	<=-27	PASS
11N20MIMO	Ant1	Low	5180	-42.14	<=-27	PASS
		High	5320	-44.03	<=-27	PASS
		Low	5500	-43.63	<=-27	PASS
		High	5700	-43.76	<=-27	PASS
11N40MIMO	Ant1	Low	5190	-42.58	<=-27	PASS
		High	5310	-44.15	<=-27	PASS
		Low	5510	-44.6	<=-27	PASS
		High	5670	-44.21	<=-27	PASS
11AC20MIMO	Ant1	Low	5180	-42.42	<=-27	PASS
		High	5320	-43.53	<=-27	PASS
		Low	5500	-44.66	<=-27	PASS
		High	5700	-43.91	<=-27	PASS
11AC40MIMO	Ant1	Low	5190	-42.31	<=-27	PASS
		High	5310	-43.77	<=-27	PASS
		Low	5510	-42.56	<=-27	PASS
		High	5670	-43.18	<=-27	PASS
11AC80MIMO	Ant1	Low	5210	-41.76	<=-27	PASS
		High	5290	-41.84	<=-27	PASS
		Low	5530	-43.7	<=-27	PASS
		High	5610	-42.48	<=-27	PASS

TestMode	Antenna	ChName	Channel	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5650~5700	-43.88	<=5.55	PASS
				5700~5720	-43.4	<=15.14	PASS
				5720~5725	-43.82	<=22.11	PASS
				5760~5650	-44.97	<=-27	PASS
		High	5825	5850~5855	-45.11	<=19.49	PASS
				5855~5875	-44.16	<=15.05	PASS
				5875~5925	-43.58	<=-15.67	PASS
				5925~5935	-43.18	<=-27	PASS
11N20MIM O	Ant1	Low	5745	5650~5700	-43.68	<=-2.87	PASS
				5700~5720	-43.14	<=14.60	PASS
				5720~5725	-44.18	<=26.04	PASS
				5760~5650	-43.19	<=-27	PASS
		High	5825	5850~5855	-44.4	<=26.26	PASS
				5855~5875	-44.61	<=11.27	PASS
				5875~5925	-43.02	<=-26.36	PASS
				5925~5935	-44.07	<=-27	PASS
11N40MIM O	Ant1	Low	5755	5650~5700	-44.06	<=-17.21	PASS
				5700~5720	-43.97	<=12.63	PASS
				5720~5725	-43.51	<=17.58	PASS
				5780~5650	-44.32	<=-27	PASS
		High	5795	5850~5855	-44.96	<=24.31	PASS
				5855~5875	-44.57	<=13.83	PASS
				5875~5925	-43.44	<=8.12	PASS
				5925~5935	-44.14	<=-27	PASS
11AC20MI MO	Ant1	Low	5745	5650~5700	-42.97	<=-13.68	PASS
				5700~5720	-44.39	<=11.86	PASS
				5720~5725	-44.32	<=24.99	PASS
				5760~5650	-43.83	<=-27	PASS
		High	5825	5850~5855	-44.08	<=17.95	PASS
				5855~5875	-44.48	<=13.50	PASS
				5875~5925	-43.87	<=-0.18	PASS
				5925~5935	-44.11	<=-27	PASS
11AC40MI	Ant1	Low	5755	5650~5700	-43.61	<=-3.73	PASS

MO				5700~5720	-43.76	<=15.09	PASS
				5720~5725	-42.39	<=20.66	PASS
				5780~5650	-42.79	<=-27	PASS
		High	5795	5850~5855	-45.18	<=21.68	PASS
				5855~5875	-44.34	<=15.54	PASS
				5875~5925	-43.14	<=-19.72	PASS
				5925~5935	-43.76	<=-27	PASS
11AC80MI MO	Ant1	Low	5775	5650~5700	-43.2	<=-14.30	PASS
				5700~5720	-43.02	<=11.74	PASS
				5720~5725	-44.69	<=26.60	PASS
				5800~5650	-44.28	<=-27	PASS
		High	5775	5850~5855	-44.87	<=18.75	PASS
				5855~5875	-44.04	<=13.80	PASS
				5875~5925	-41.36	<=-17.24	PASS
				5925~5935	-43.93	<=-27	PASS

Test Graphs

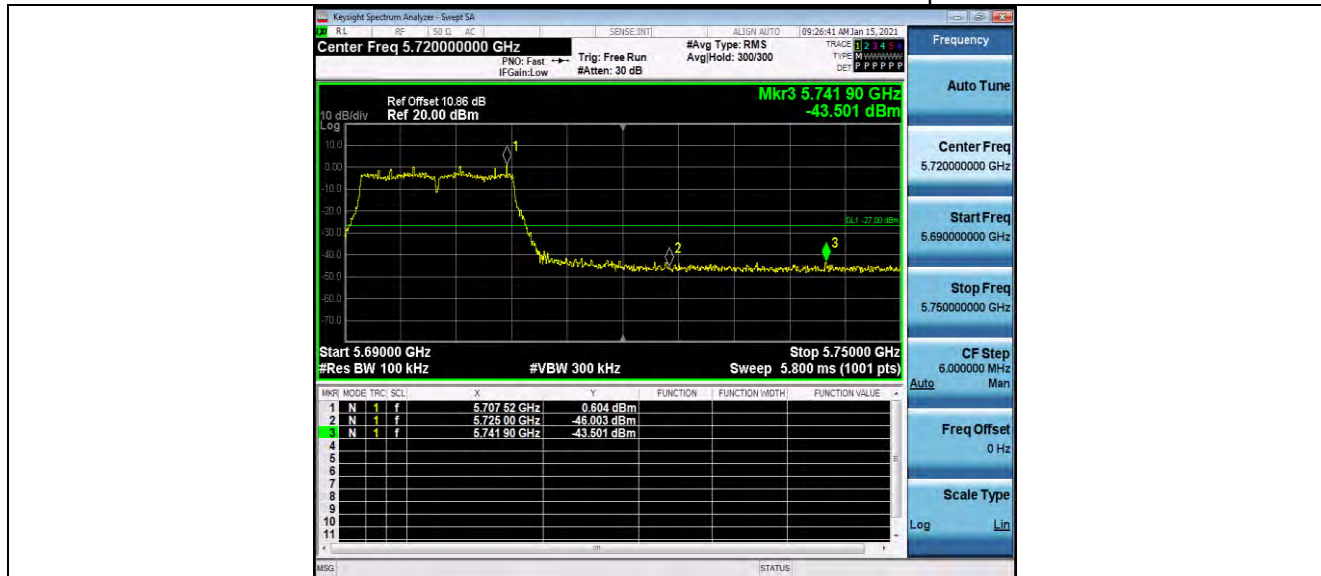




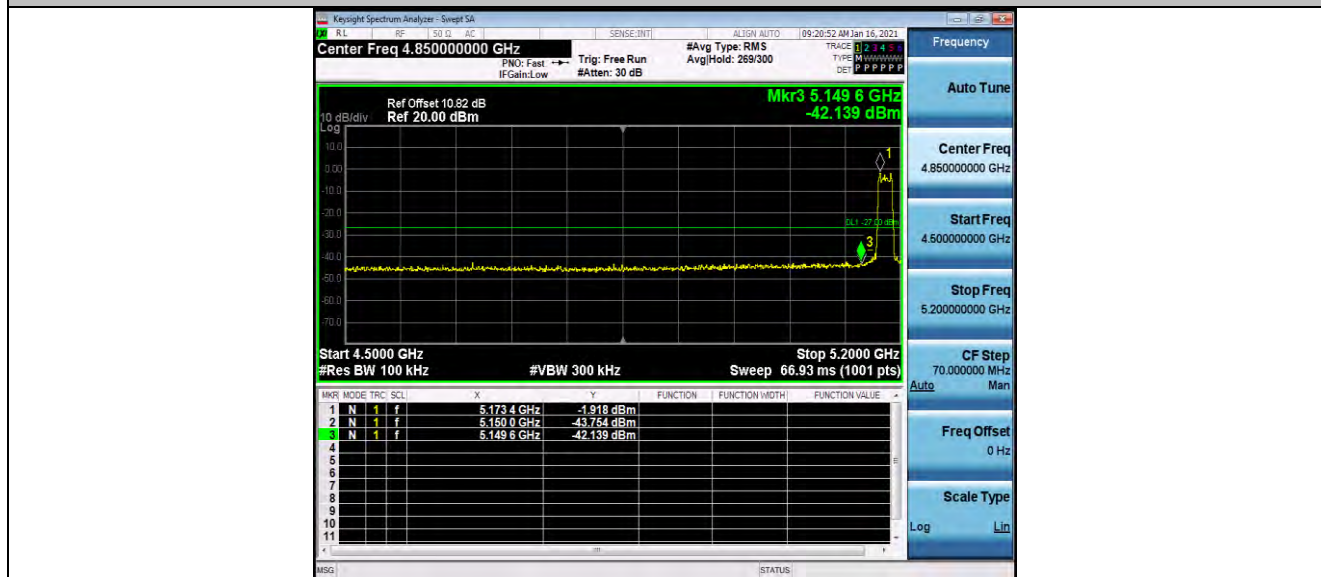
11A_Ant1_Low_5500



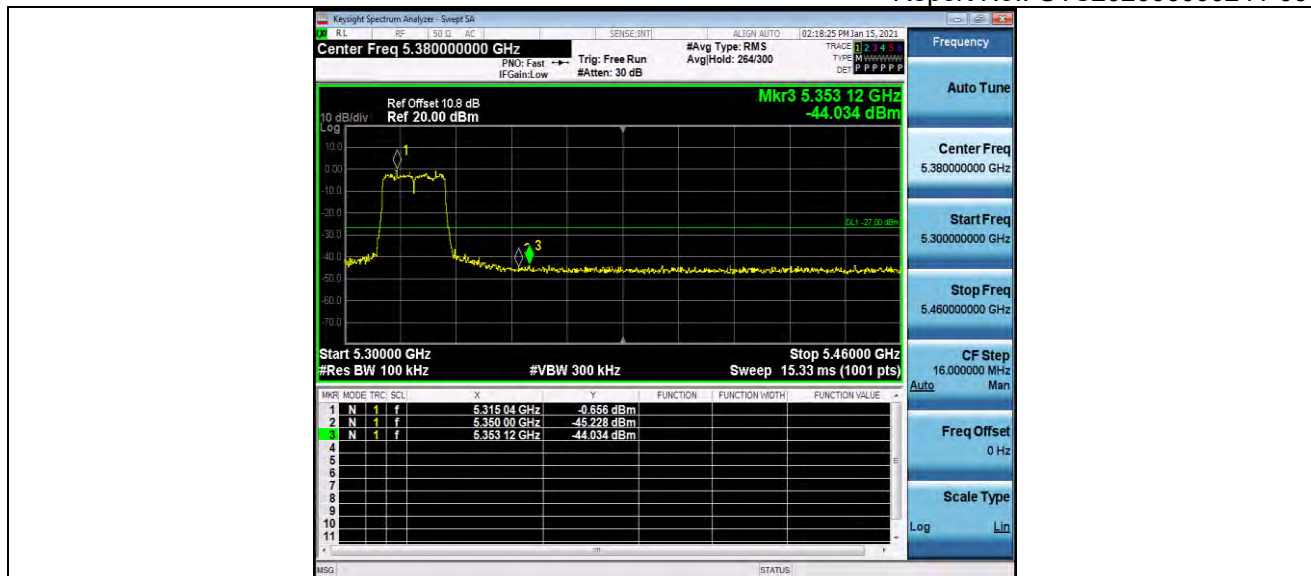
11A_Ant1_High_5700



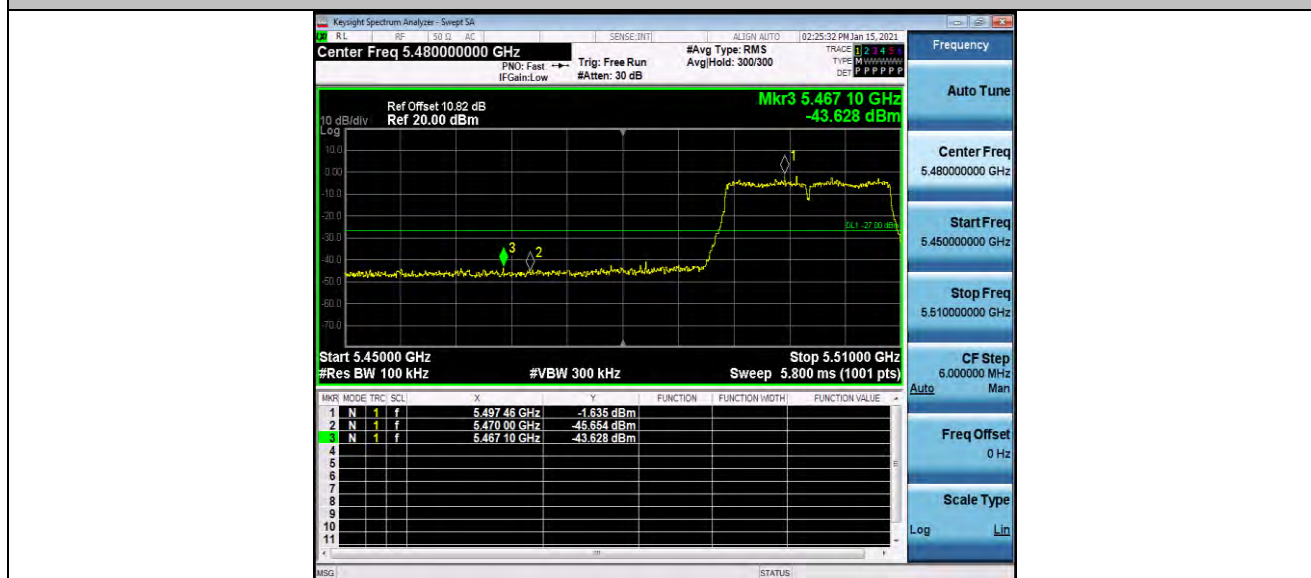
11N20MIMO_Ant1_Low_5180



11N20MIMO_Ant1_High_5320



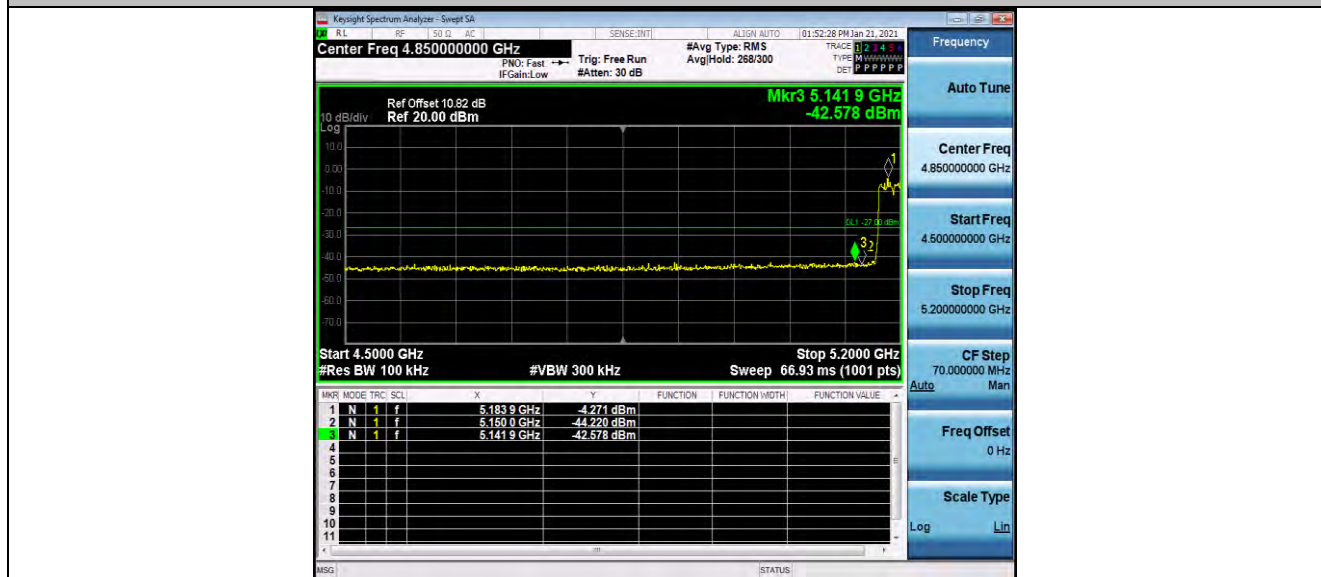
11N20MIMO_Ant1_Low_5500



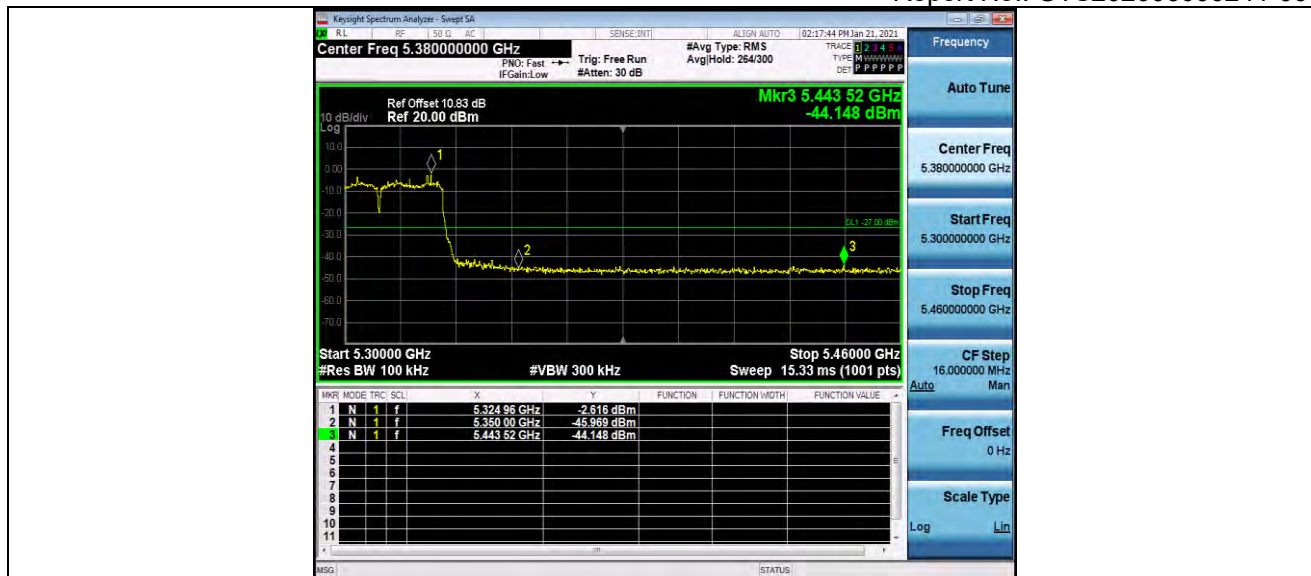
11N20MIMO_Ant1_High_5700



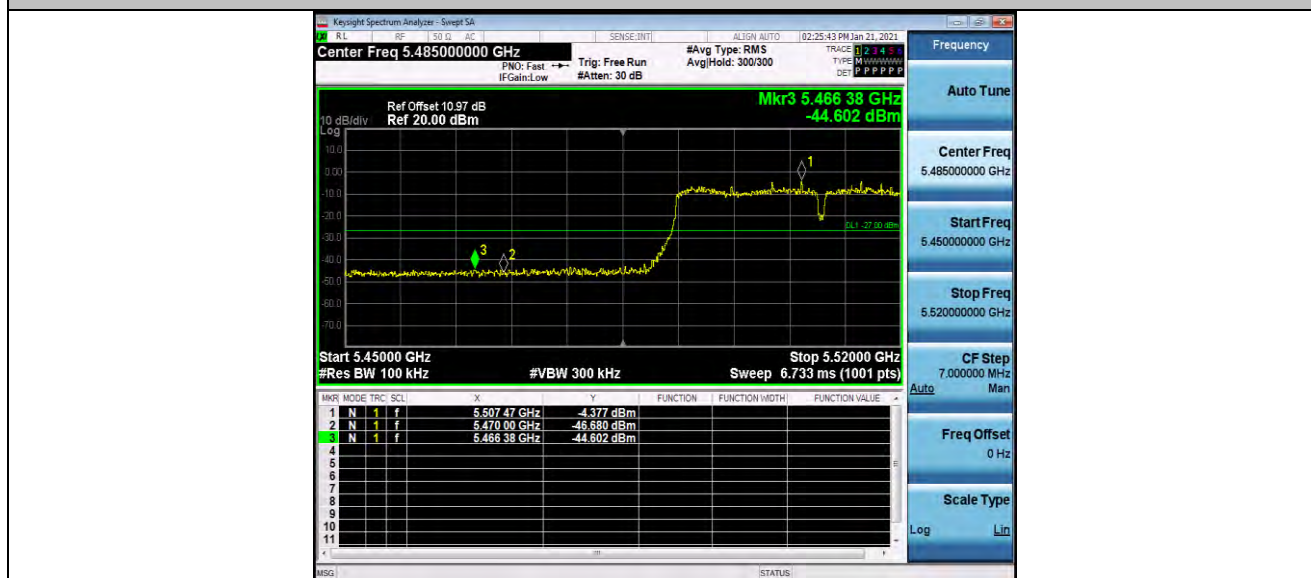
11N40MIMO_Ant1_Low_5190



11N40MIMO_Ant1_High_5310



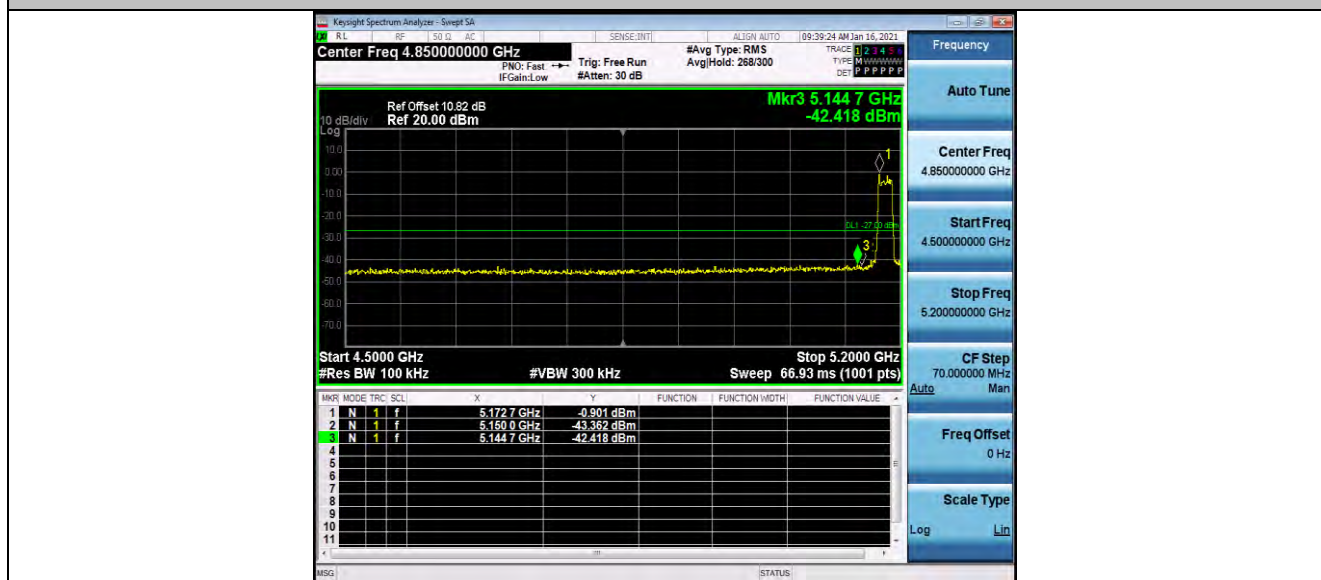
11N40MIMO_Ant1_Low_5510



11N40MIMO_Ant1_High_5670



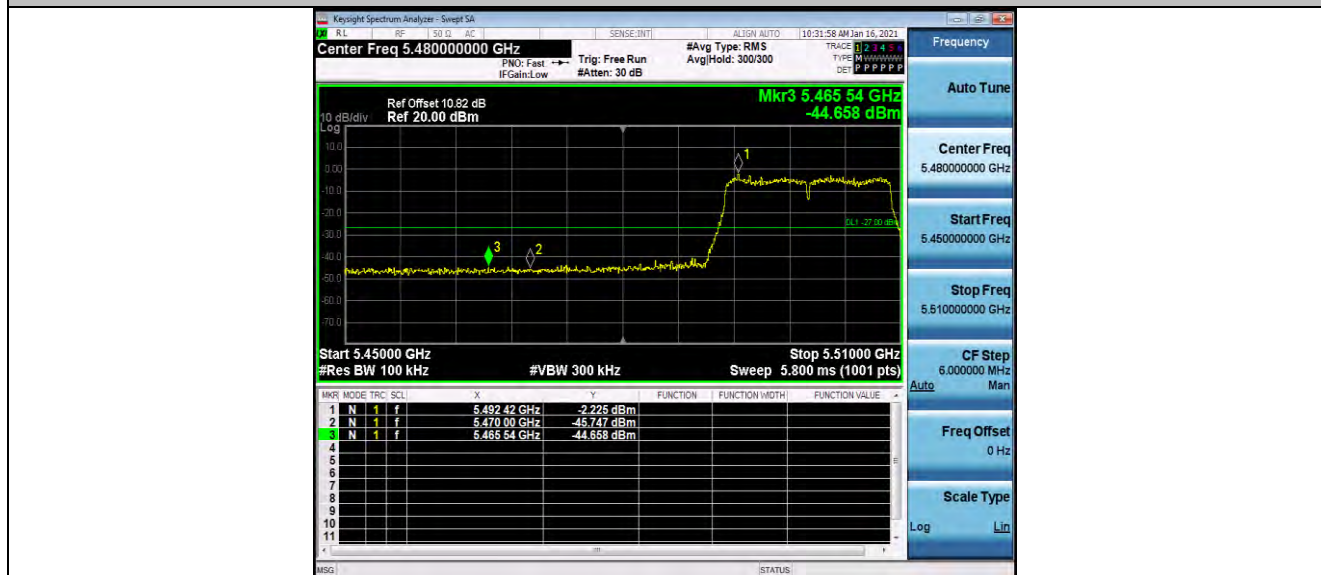
11AC20MIMO_Ant1_Low_5180



11AC20MIMO_Ant1_High_5320



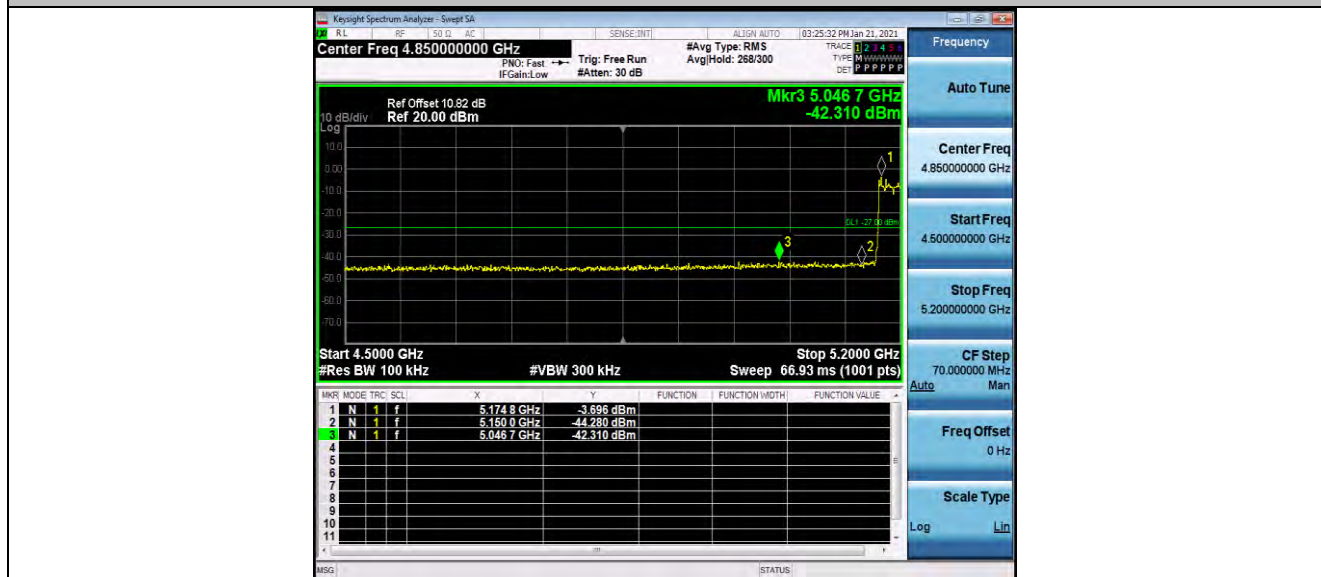
11AC20MIMO_Ant1_Low_5500



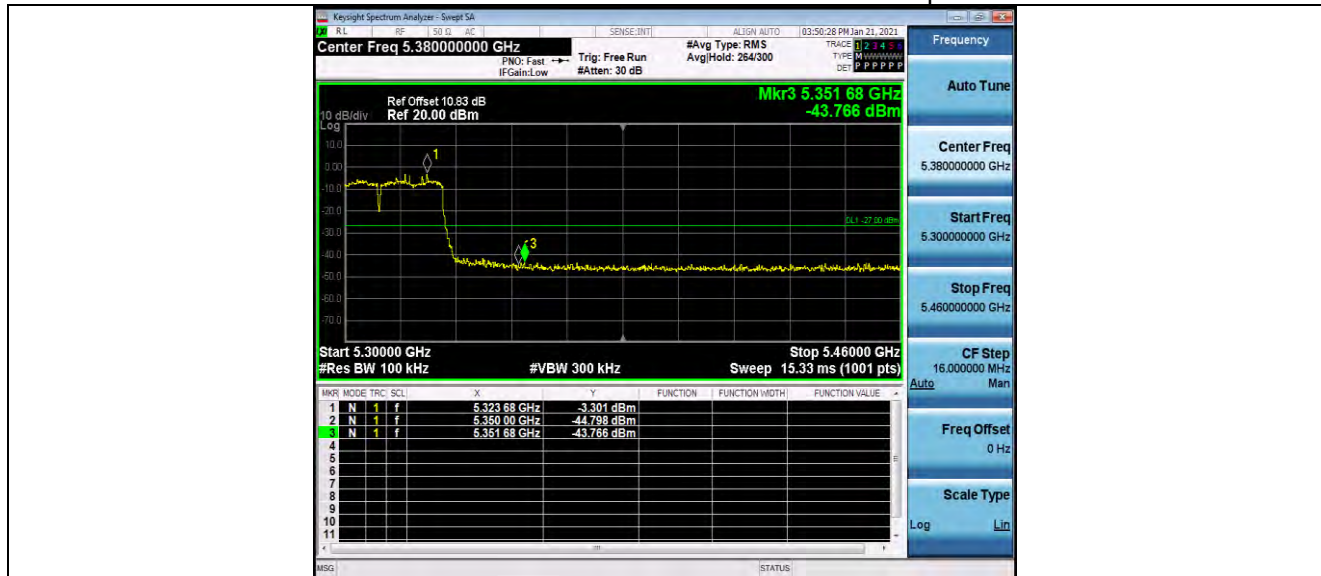
11AC20MIMO_Ant1_High_5700



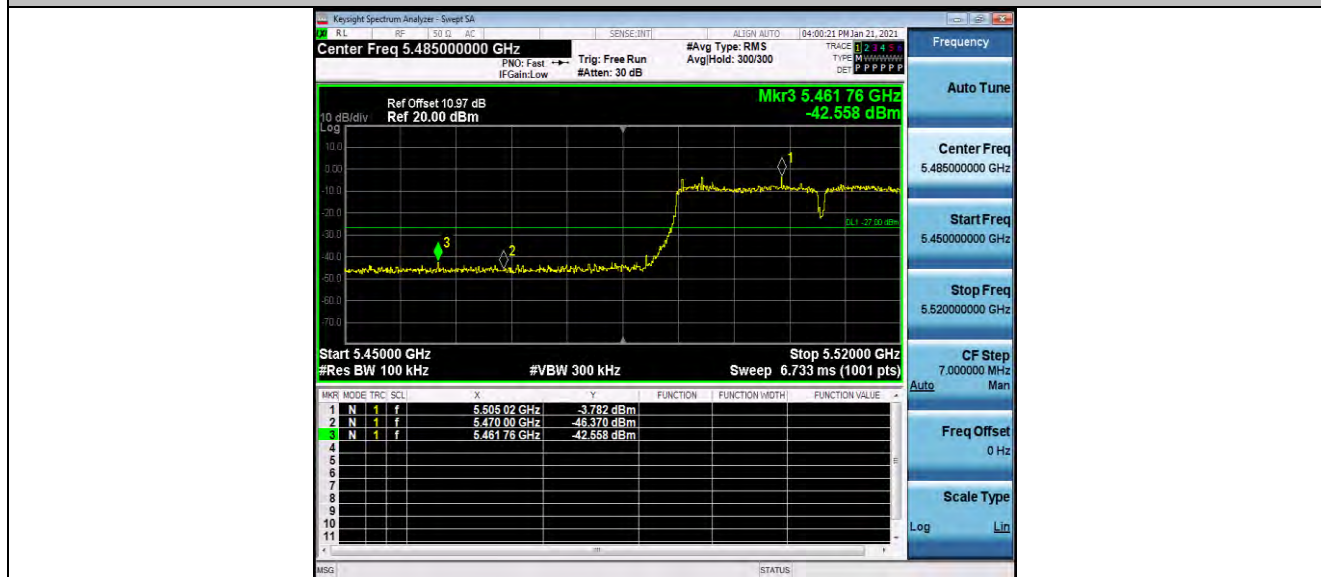
11AC40MIMO_Ant1_Low_5190



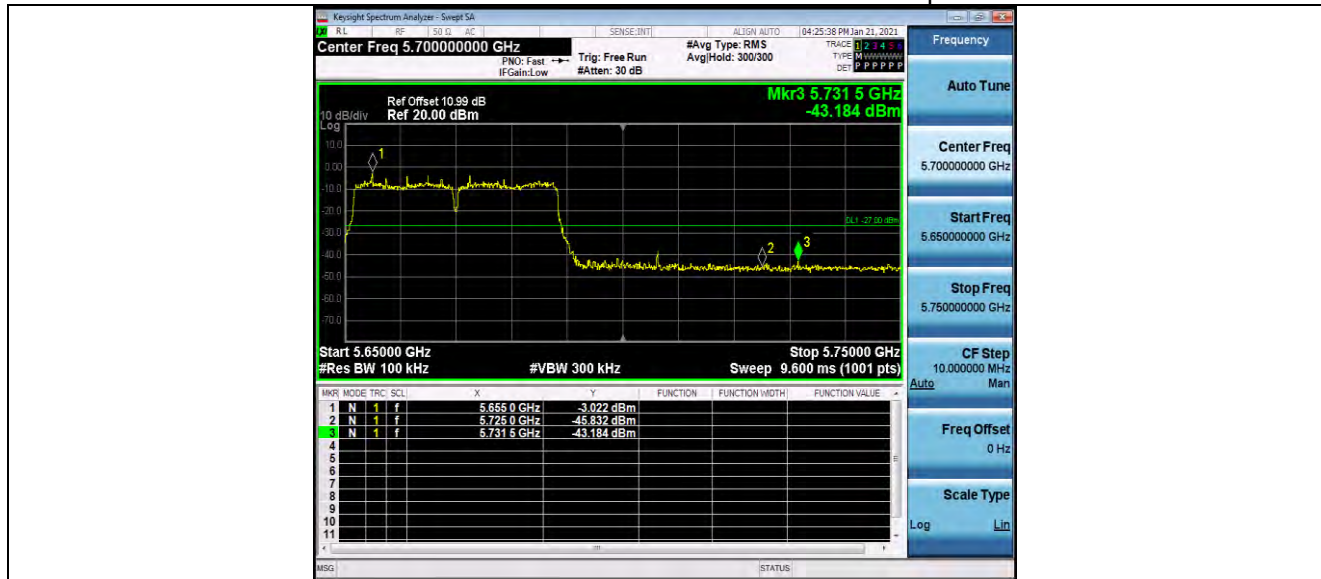
11AC40MIMO_Ant1_High_5310



11AC40MIMO_Ant1_Low_5510



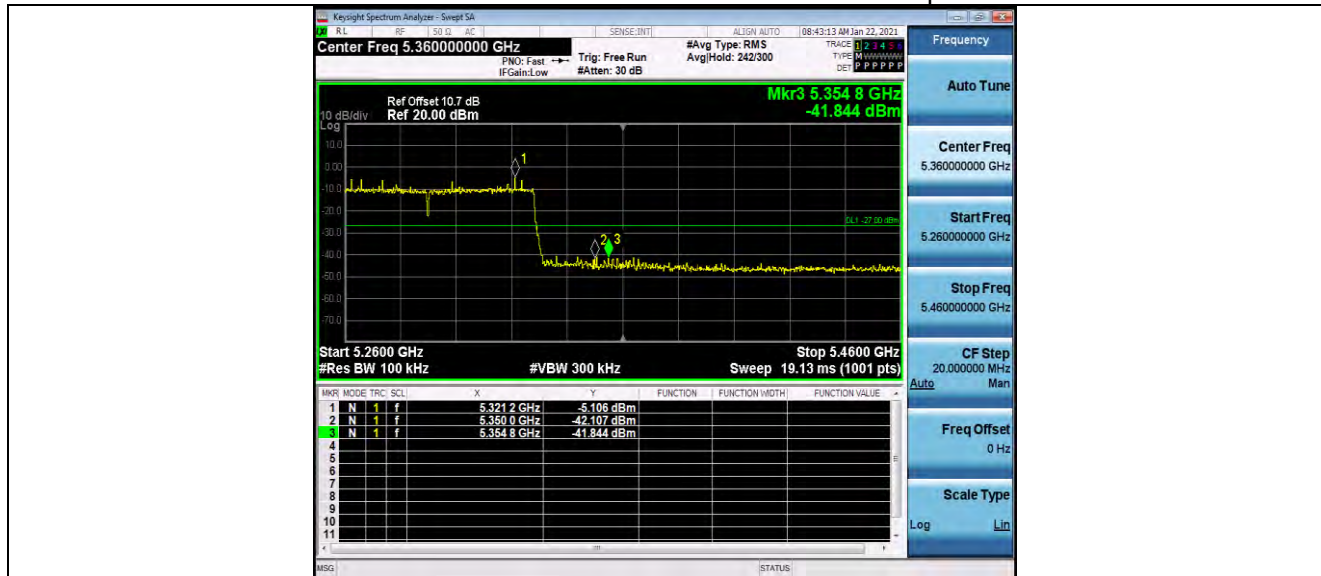
11AC40MIMO_Ant1_High_5670



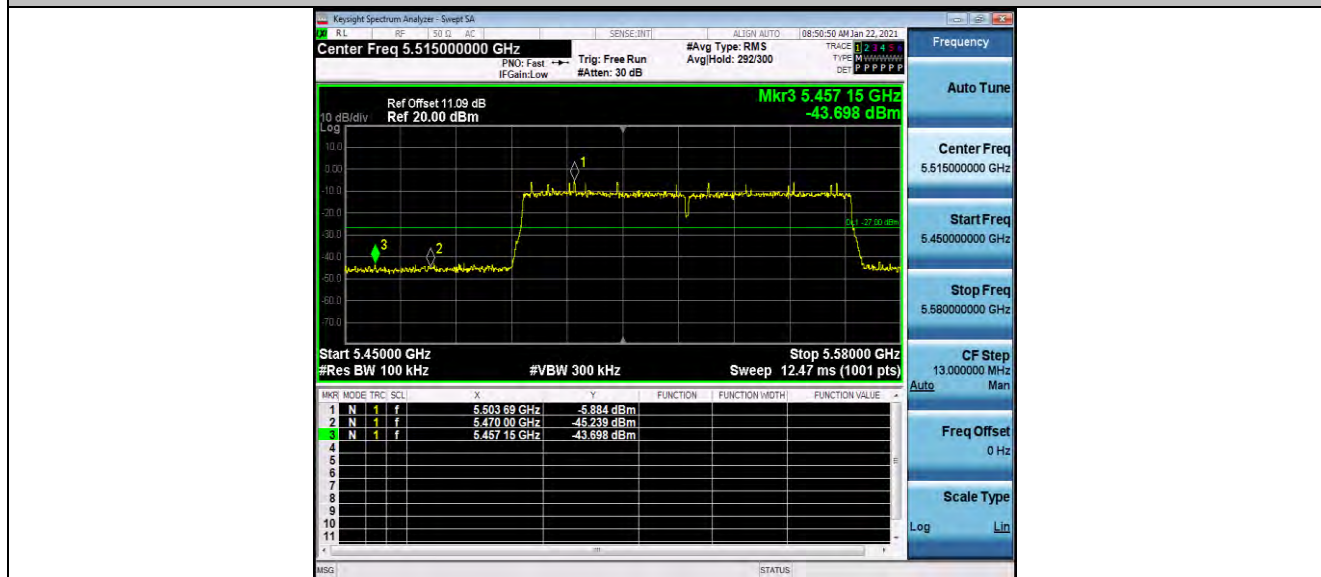
11AC80MIMO_Ant1_Low_5210



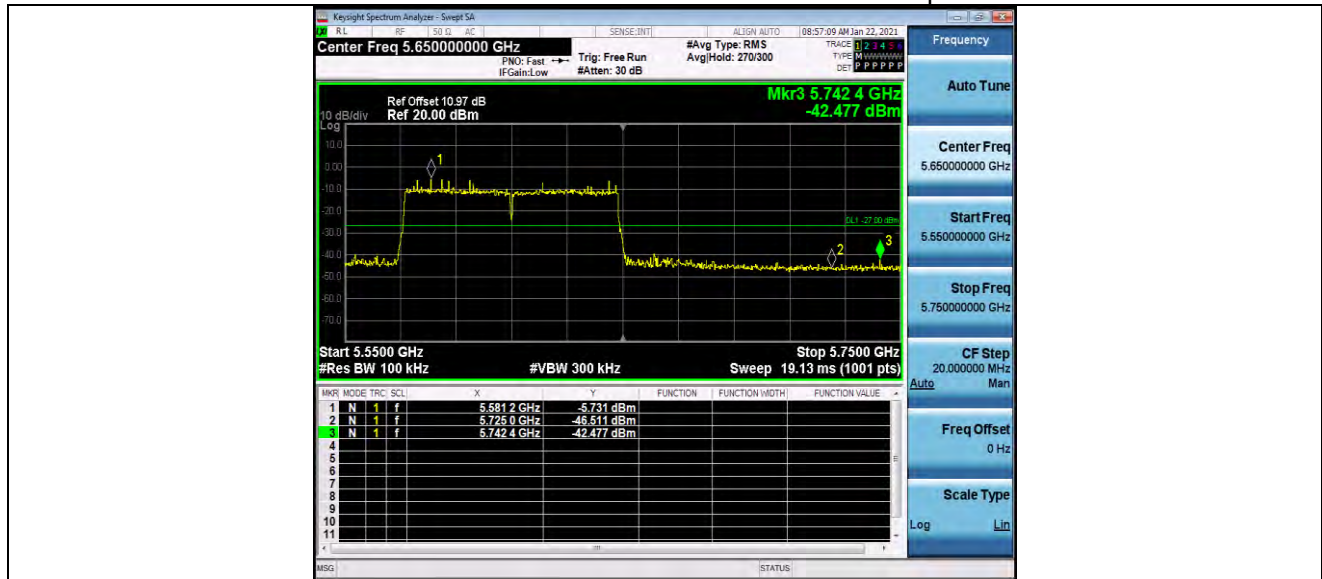
11AC80MIMO_Ant1_High_5290



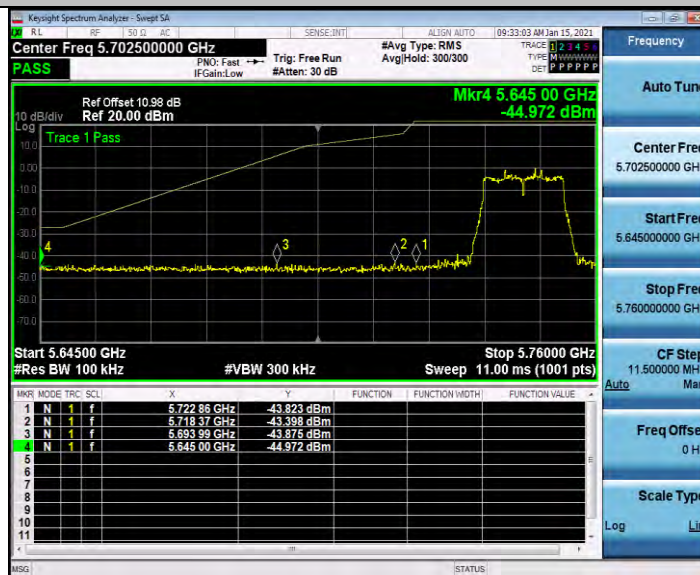
11AC80MIMO_Ant1_Low_5530



11AC80MIMO_Ant1_High_5610



11A_Ant1_Low_5745



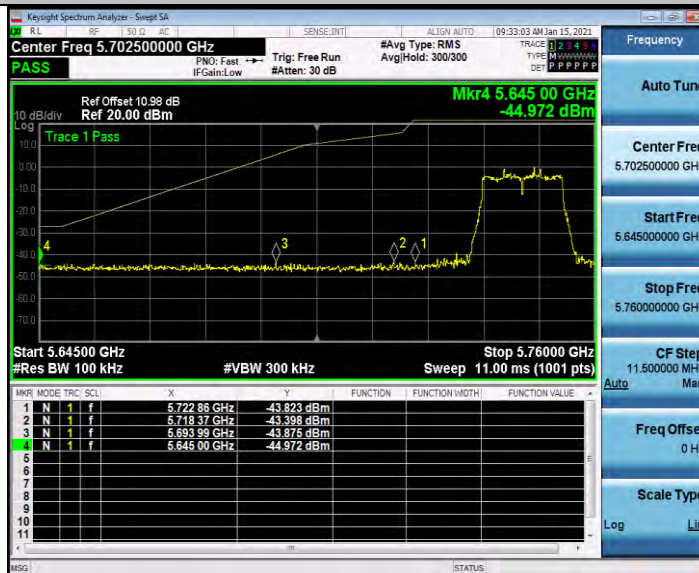
11A_Ant1_Low_5745



11A_Ant1_Low_5745



11A_Ant1_Low_5745



11A_Ant1_High_5825



11A_Ant1_High_5825



11A_Ant1_High_5825



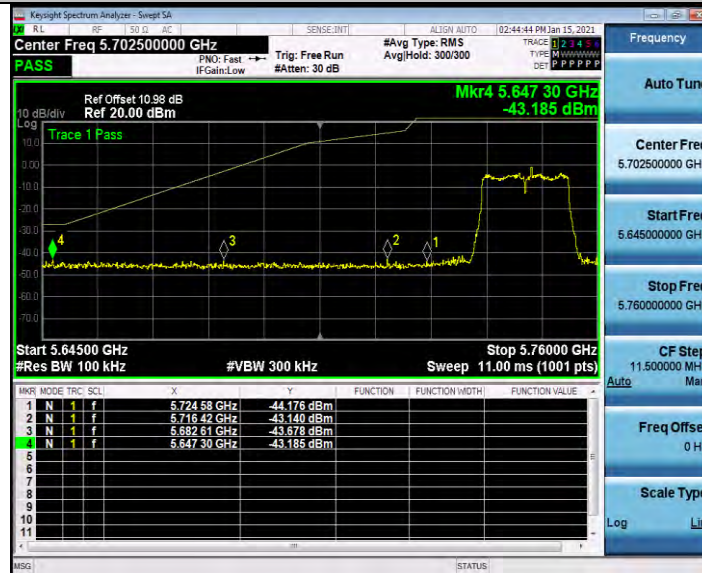
11A_Ant1_High_5825



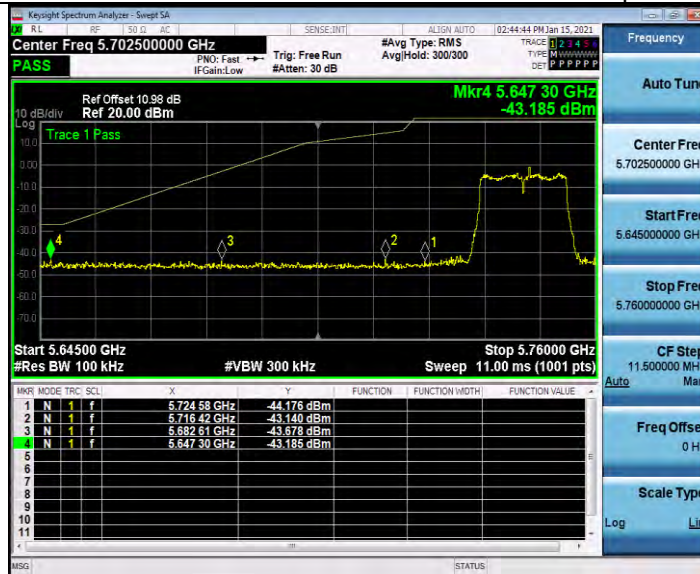
11N20MIMO_Ant1_Low_5745



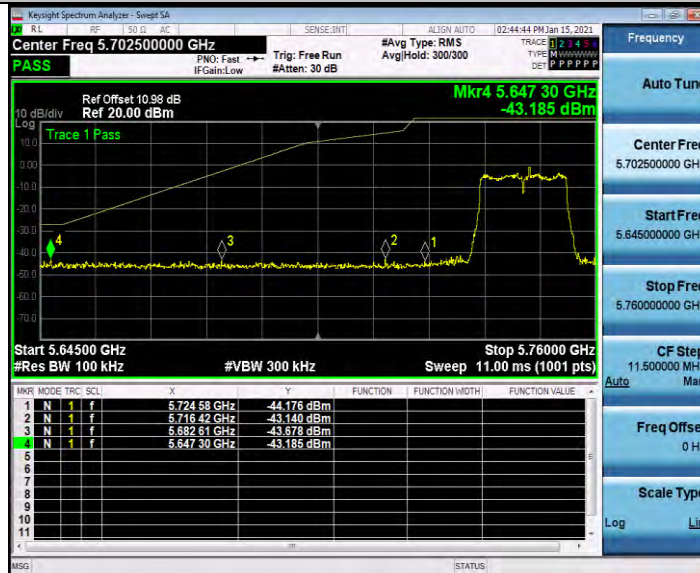
11N20MIMO_Ant1_Low_5745



11N20MIMO_Ant1_Low_5745



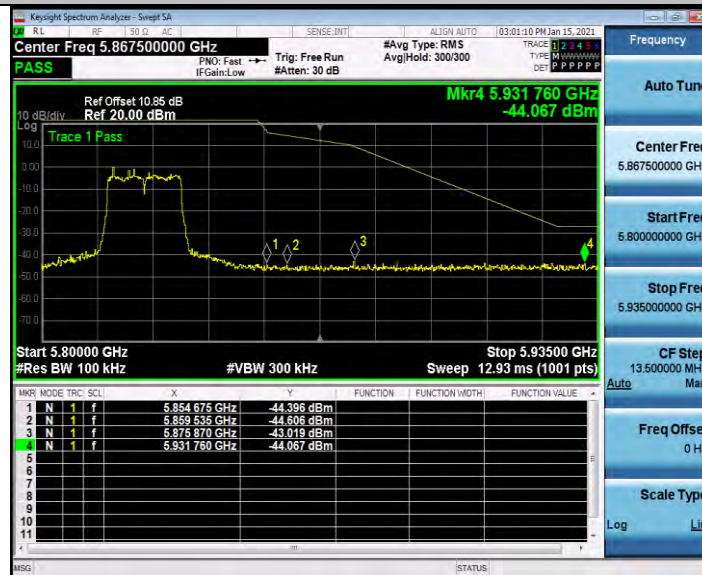
11N20MIMO_Ant1_Low_5745



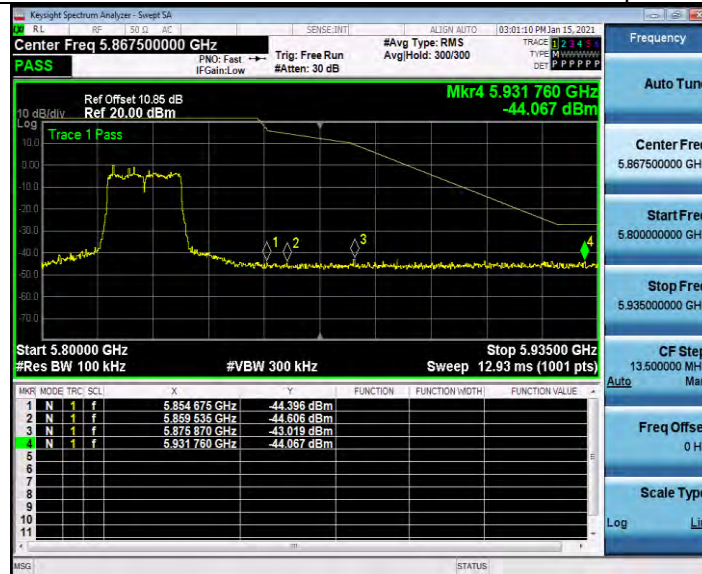
11N20MIMO_Ant1_High_5825



11N20MIMO_Ant1_High_5825



11N20MIMO_Ant1_High_5825



11N20MIMO_Ant1_High_5825



11N40MIMO_Ant1_Low_5755



11N40MIMO_Ant1_Low_5755



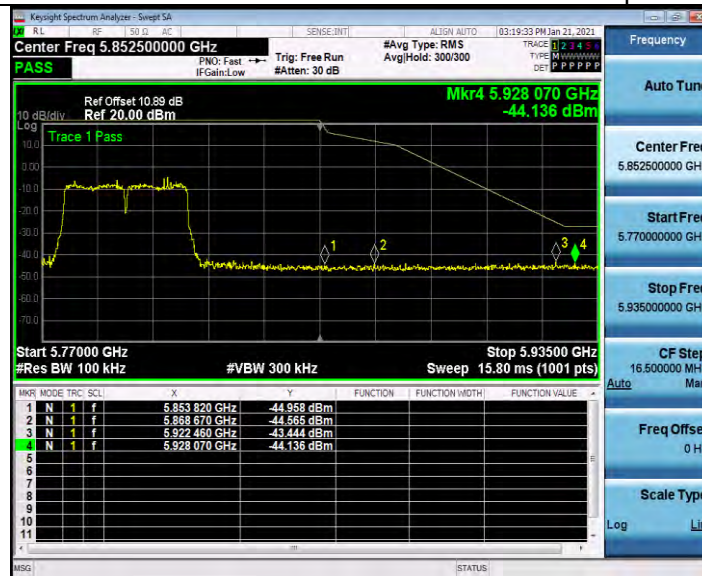
11N40MIMO_Ant1_Low_5755



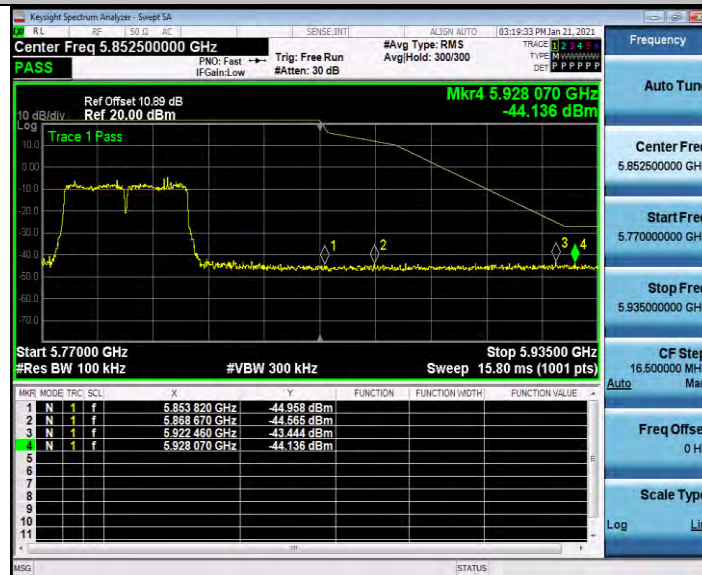
11N40MIMO_Ant1_Low_5755



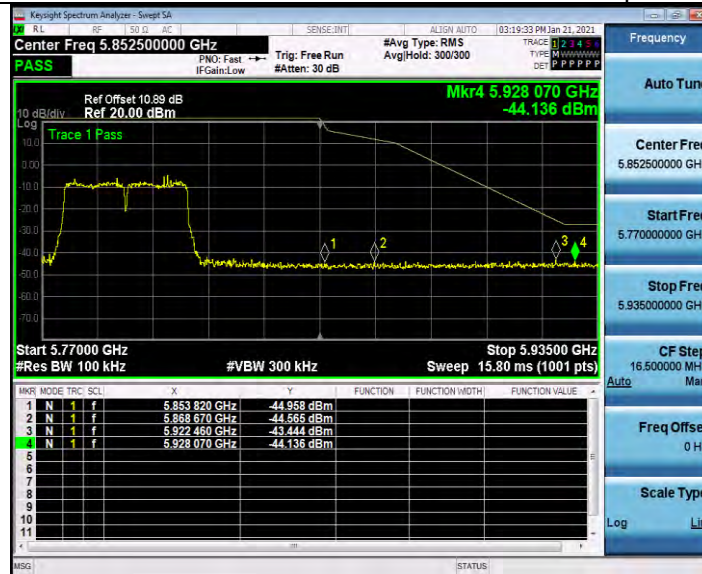
11N40MIMO_Ant1_High_5795



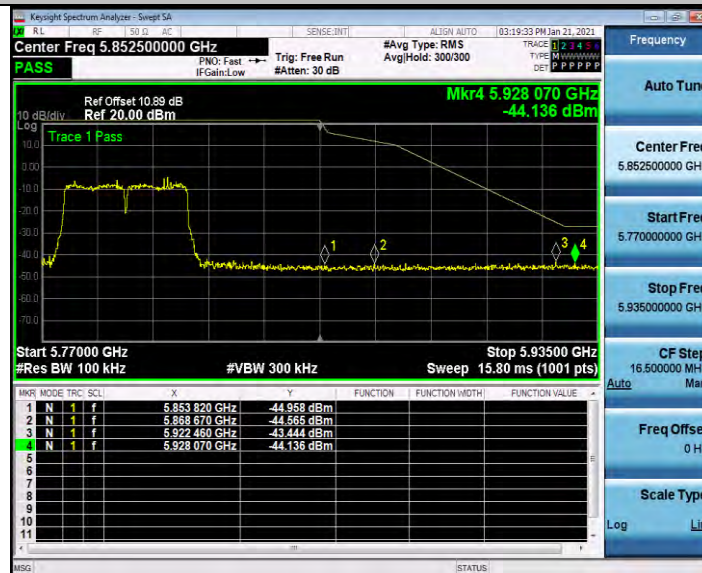
11N40MIMO_Ant1_High_5795



11N40MIMO_Ant1_High_5795



11N40MIMO_Ant1_High_5795



11AC20MIMO_Ant1_Low_5745



11AC20MIMO_Ant1_Low_5745



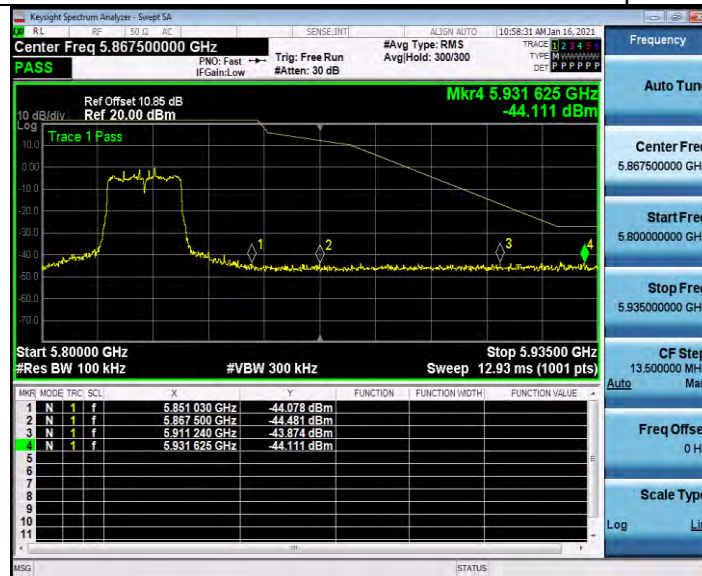
11AC20MIMO_Ant1_Low_5745



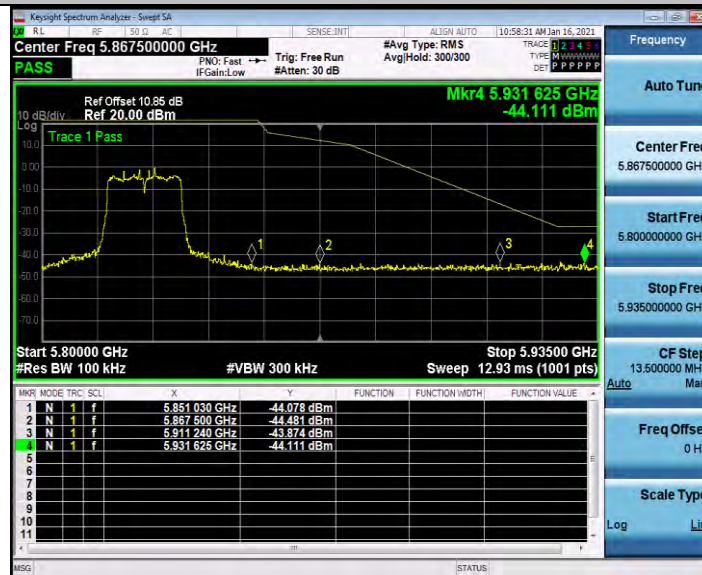
11AC20MIMO_Ant1_Low_5745



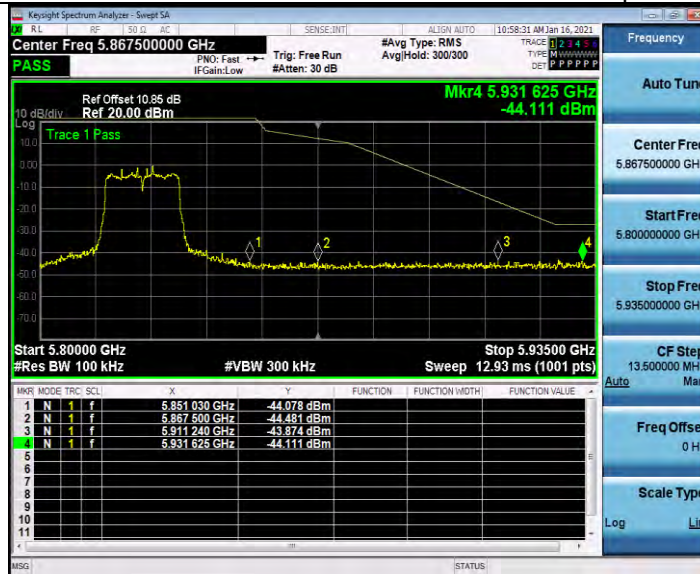
11AC20MIMO_Ant1_High_5825



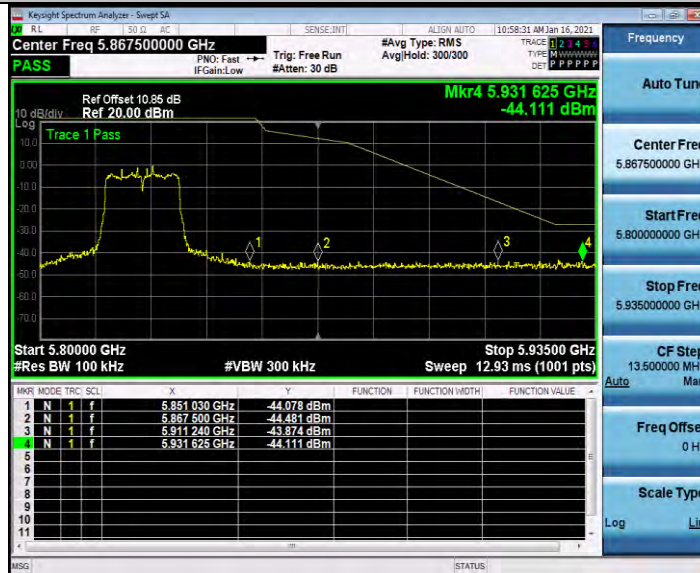
11AC20MIMO_Ant1_High_5825



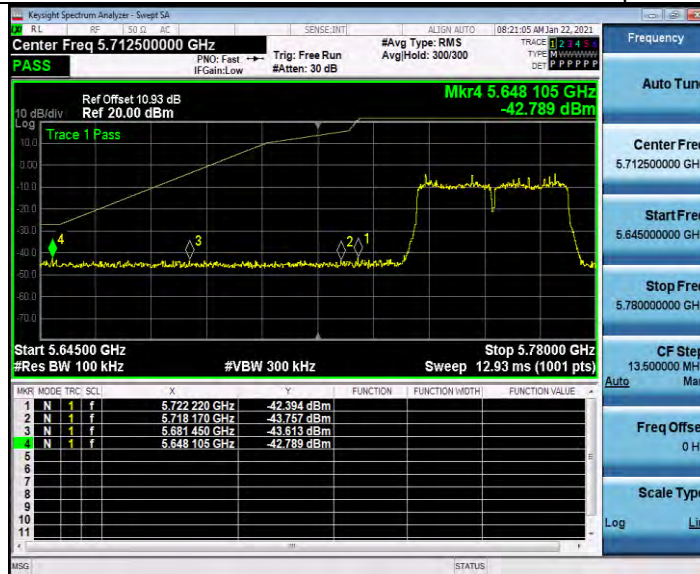
11AC20MIMO_Ant1_High_5825



11AC20MIMO_Ant1_High_5825



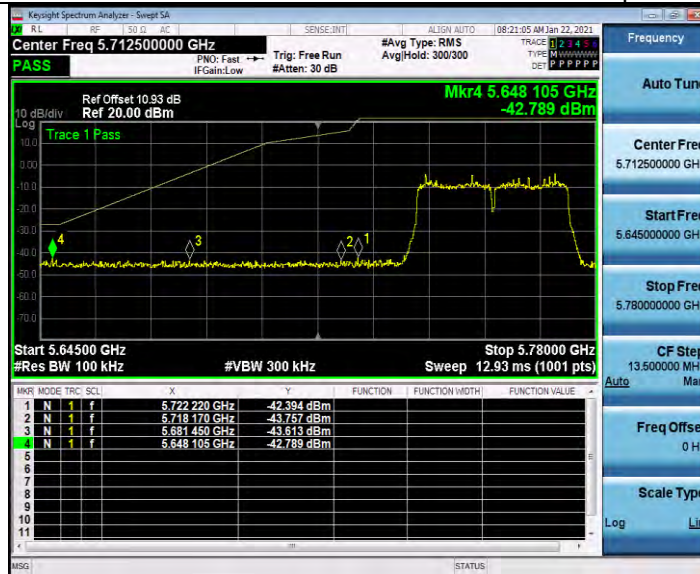
11AC40MIMO_Ant1_Low_5755



11AC40MIMO_Ant1_Low_5755



11AC40MIMO_Ant1_Low_5755



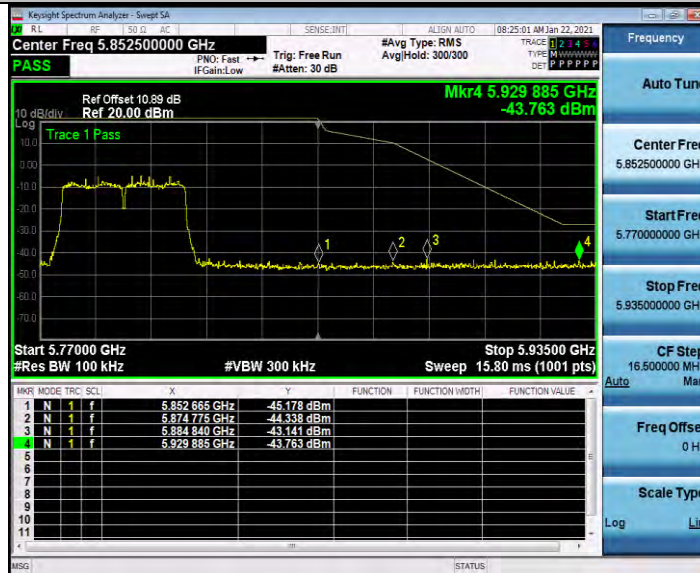
11AC40MIMO_Ant1_Low_5755



11AC40MIMO_Ant1_High_5795



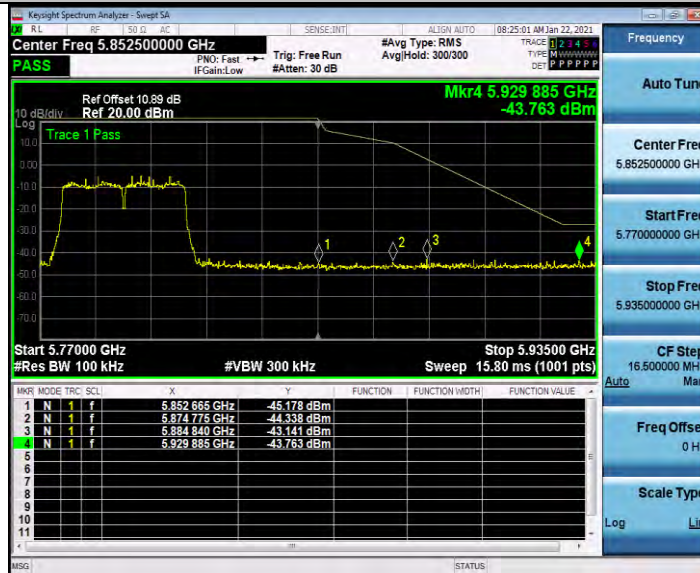
11AC40MIMO_Ant1_High_5795



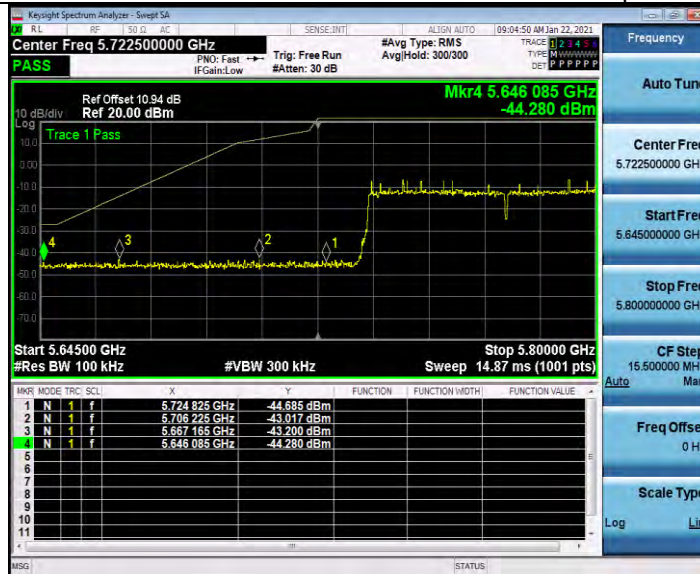
11AC40MIMO_Ant1_High_5795



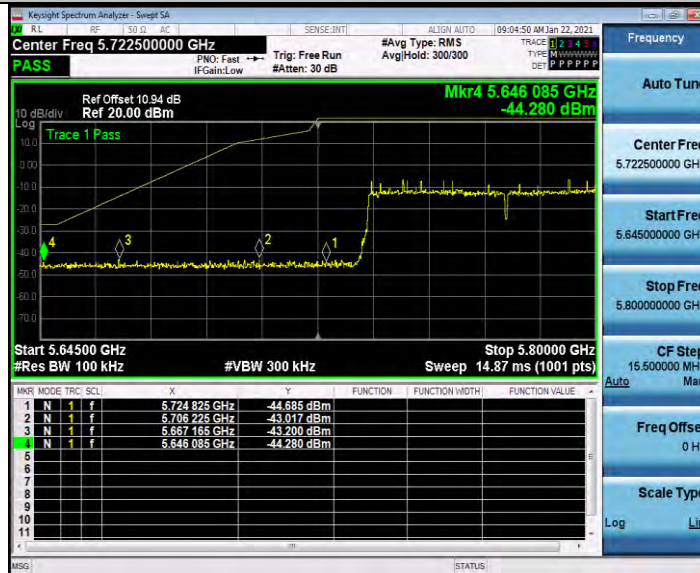
11AC40MIMO_Ant1_High_5795



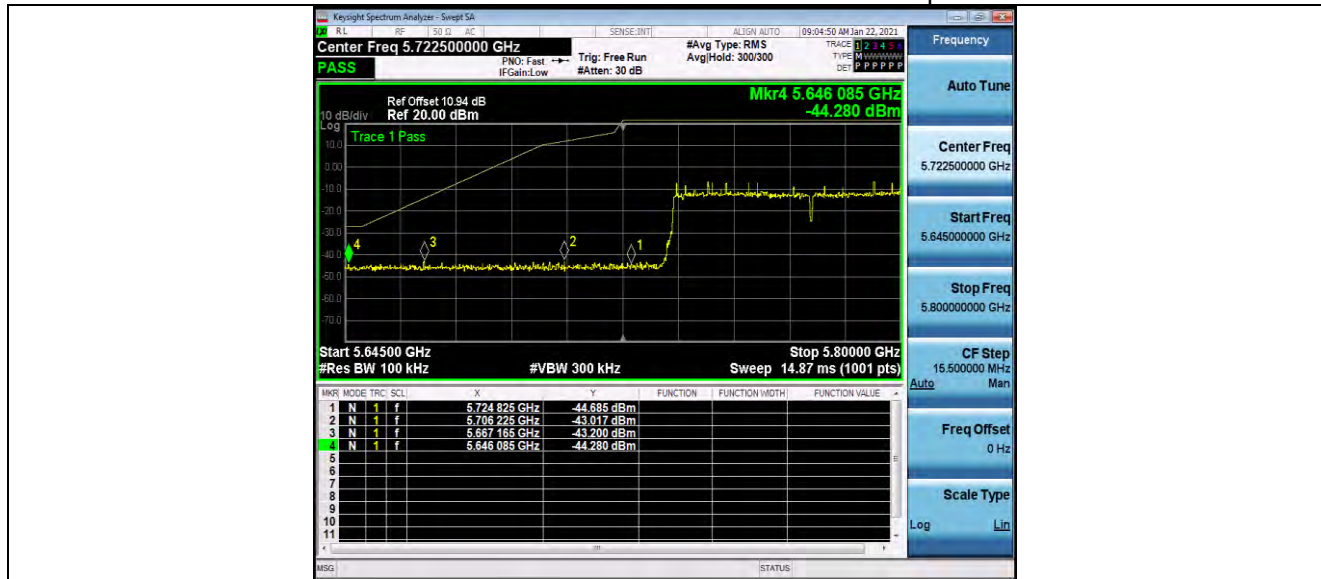
11AC80MIMO_Ant1_Low_5775



11AC80MIMO_Ant1_Low_5775



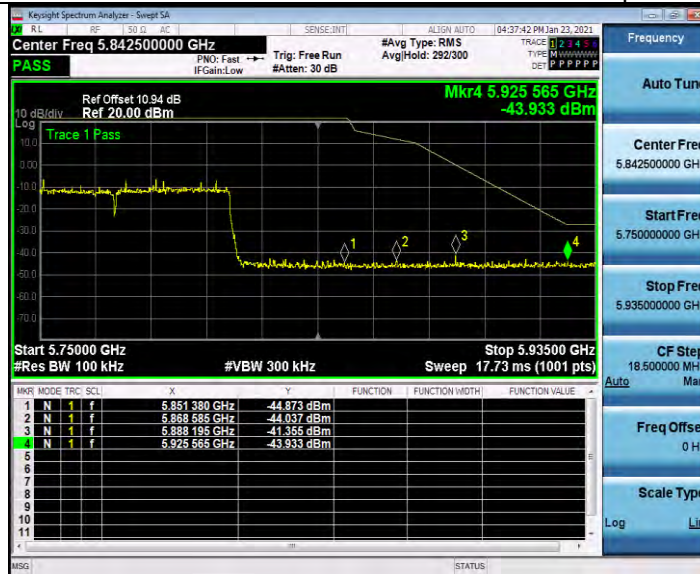
11AC80MIMO_Ant1_Low_5775



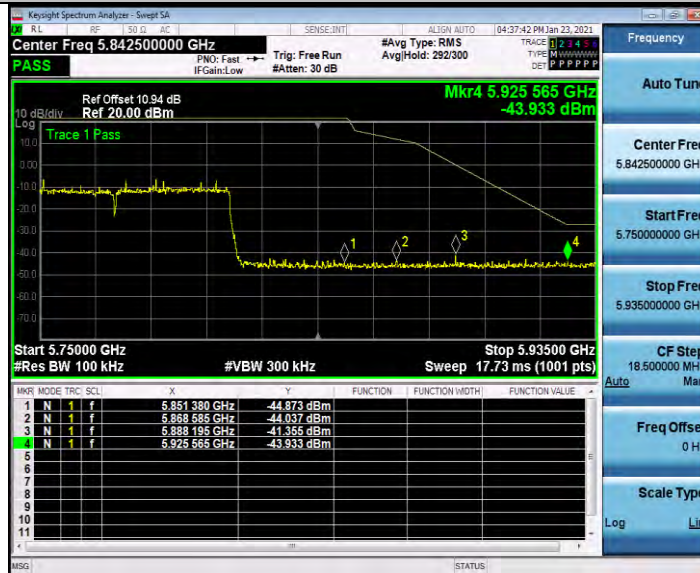
11AC80MIMO_Ant1_Low_5775



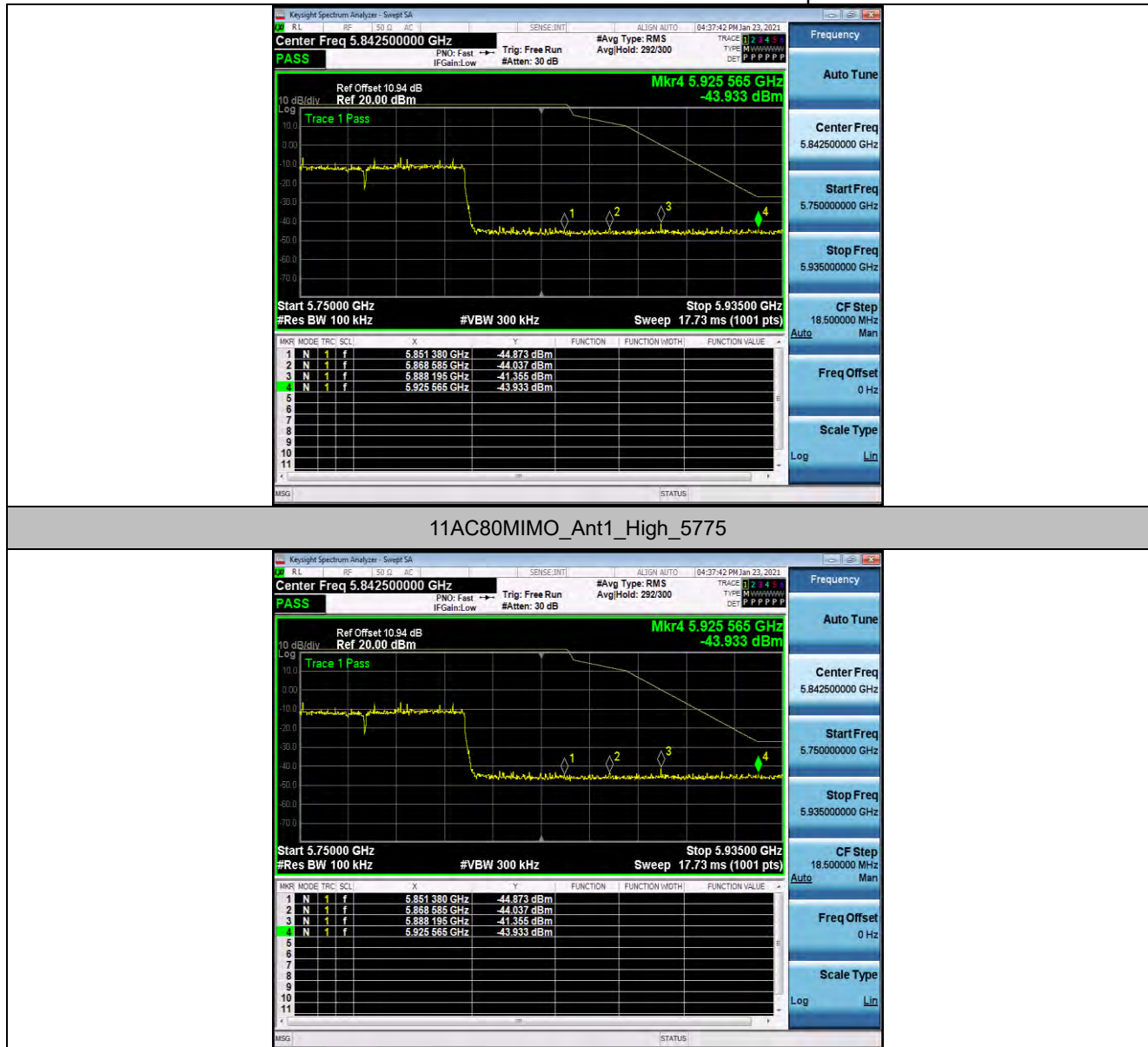
11AC80MIMO_Ant1_High_5775



11AC80MIMO_Ant1_High_5775



11AC80MIMO_Ant1_High_5775



4.4.5 Test Result of Radiated Spurious Emission (1GHz ~ 10th Harmonic)

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq [MHz]	EIRP [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5180	AV	4500.000	-53.11	<=-41.20	PASS
				AV	5150.000	-47.53	<=-41.20	PASS
				Peak	4500.000	-45.04	<=-21.20	PASS
				Peak	5150.000	-41.53	<=-21.20	PASS
		High	5320	AV	5350.000	-42.09	<=-41.20	PASS
				AV	5460.000	-42.95	<=-41.20	PASS
				Peak	5350.000	-36.18	<=-21.20	PASS
				Peak	5460.000	-35.79	<=-21.20	PASS
		Low	5500	AV	5460.000	-42.7	<=-41.20	PASS
				AV	5470.000	-42.42	<=-41.20	PASS
				Peak	5460.000	-35.63	<=-21.20	PASS
				Peak	5470.000	-35.7	<=-21.20	PASS
		High	5700	AV	5725.000	-42.18	<=-41.20	PASS
				AV	5735.000	-42.47	<=-41.20	PASS
				Peak	5725.000	-36.07	<=-21.20	PASS
				Peak	5735.000	-36.59	<=-21.20	PASS
		Low	5745	Peak	5650.000	-35.185	<=-27.00	PASS
				Peak	5700.000	-32.25	<=10.00	PASS
				Peak	5720.000	-35.26	<=15.60	PASS
				Peak	5725.000	-34.56	<=27.00	PASS
		High	5825	Peak	5850.000	-34.586	<=15.60	PASS
				Peak	5855.000	-35.8	<=27.00	PASS
				Peak	5875.000	-34.88	<=15.60	PASS
				Peak	5925.000	-36.43	<=10.00	PASS
11N20MIMO	Ant1	Low	5180	AV	4500.000	-53.15	<=-41.20	PASS
				AV	5150.000	-44.23	<=-41.20	PASS
				Peak	4500.000	-44.29	<=-21.20	PASS
				Peak	5150.000	-41.58	<=-21.20	PASS
		High	5320	AV	5350.000	-42.05	<=-41.20	PASS
				AV	5460.000	-42.78	<=-41.20	PASS

				Peak	5350.000	-32.76	<=-21.20	PASS
				Peak	5460.000	-36.13	<=-21.20	PASS
		Low	5500	AV	5460.000	-42.7	<=-41.20	PASS
				AV	5470.000	-42.31	<=-41.20	PASS
				Peak	5460.000	-34.96	<=-21.20	PASS
				Peak	5470.000	-35.41	<=-21.20	PASS
		High	5700	AV	5725.000	-42.05	<=-41.20	PASS
				AV	5735.000	-42.48	<=-41.20	PASS
				Peak	5725.000	-35.45	<=-21.20	PASS
				Peak	5735.000	-34.69	<=-21.20	PASS
		Low	5745	Peak	5650.000	-34.618	<=-27.00	PASS
				Peak	5700.000	-35.57	<=10.00	PASS
				Peak	5720.000	-34.58	<=15.60	PASS
				Peak	5725.000	-33.77	<=27.00	PASS
		High	5825	Peak	5850.000	-34.939	<=15.60	PASS
				Peak	5855.000	-34.8	<=27.00	PASS
				Peak	5875.000	-35.55	<=15.60	PASS
				Peak	5925.000	-34.89	<=10.00	PASS
11N40MIMO	Ant1	Low	5190	AV	4500.000	-52.82	<=-41.20	PASS
				AV	5150.000	-46.43	<=-41.20	PASS
				Peak	4500.000	-43.36	<=-21.20	PASS
				Peak	5150.000	-39.17	<=-21.20	PASS
		High	5310	AV	5350.000	-45.15	<=-41.20	PASS
				AV	5460.000	-51.47	<=-41.20	PASS
				Peak	5350.000	-32.33	<=-21.20	PASS
				Peak	5460.000	-45.72	<=-21.20	PASS
		Low	5510	AV	5460.000	-46.58	<=-41.20	PASS
				AV	5470.000	-46.83	<=-41.20	PASS
				Peak	5460.000	-42.43	<=-21.20	PASS
				Peak	5470.000	-39.14	<=-21.20	PASS
		High	5670	AV	5725.000	-49.66	<=-41.20	PASS
				AV	5735.000	-49.93	<=-41.20	PASS
				Peak	5725.000	-43.4	<=-21.20	PASS
				Peak	5735.000	-44.25	<=-21.20	PASS
		Low	5755	Peak	5650.000	-44.441	<=-27.00	PASS
				Peak	5700.000	-43.02	<=10.00	PASS

		High	5795	Peak	5720.000	-38.39	<=15.60	PASS
				Peak	5725.000	-38.61	<=27.00	PASS
				Peak	5850.000	-43.019	<=15.60	PASS
				Peak	5855.000	-43.4	<=27.00	PASS
				Peak	5875.000	-45.16	<=15.60	PASS
				Peak	5925.000	-44.25	<=10.00	PASS
11AC20MIMO	Ant1	Low	5180	AV	4500.000	-53.18	<=-41.20	PASS
				AV	5150.000	-47.84	<=-41.20	PASS
				Peak	4500.000	-45.56	<=-21.20	PASS
				Peak	5150.000	-41.44	<=-21.20	PASS
		High	5320	AV	5350.000	-48.13	<=-41.20	PASS
				AV	5460.000	-52	<=-41.20	PASS
				Peak	5350.000	-41.13	<=-21.20	PASS
				Peak	5460.000	-44.84	<=-21.20	PASS
		Low	5500	AV	5460.000	-50.99	<=-41.20	PASS
				AV	5470.000	-49.22	<=-41.20	PASS
				Peak	5460.000	-42.55	<=-21.20	PASS
				Peak	5470.000	-40.84	<=-21.20	PASS
		High	5700	AV	5725.000	-47.62	<=-41.20	PASS
				AV	5735.000	-49.8	<=-41.20	PASS
				Peak	5725.000	-41.16	<=-21.20	PASS
				Peak	5735.000	-42.03	<=-21.20	PASS
		Low	5745	Peak	5650.000	-46.321	<=-27.00	PASS
				Peak	5700.000	-44.27	<=10.00	PASS
				Peak	5720.000	-41.03	<=15.60	PASS
				Peak	5725.000	-38.71	<=27.00	PASS
		High	5825	Peak	5850.000	-39.976	<=15.60	PASS
				Peak	5855.000	-43.26	<=27.00	PASS
				Peak	5875.000	-44.16	<=15.60	PASS
				Peak	5925.000	-43.62	<=10.00	PASS
11AC40MIMO	Ant1	Low	5190	AV	4500.000	-52.87	<=-41.20	PASS
				AV	5150.000	-46.31	<=-41.20	PASS
				Peak	4500.000	-44.91	<=-21.20	PASS
				Peak	5150.000	-39	<=-21.20	PASS
		High	5310	AV	5350.000	-44.98	<=-41.20	PASS
				AV	5460.000	-51.43	<=-41.20	PASS

				Peak	5350.000	-37.59	<=-21.20	PASS
				Peak	5460.000	-44.17	<=-21.20	PASS
		Low	5510	AV	5460.000	-48.81	<=-41.20	PASS
				AV	5470.000	-46.85	<=-41.20	PASS
				Peak	5460.000	-39.66	<=-21.20	PASS
				Peak	5470.000	-39.86	<=-21.20	PASS
		High	5670	AV	5725.000	-46.66	<=-41.20	PASS
				AV	5735.000	-49.95	<=-41.20	PASS
				Peak	5725.000	-42.61	<=-21.20	PASS
				Peak	5735.000	-42.71	<=-21.20	PASS
		Low	5755	Peak	5650.000	-44.841	<=-27.00	PASS
				Peak	5700.000	-44	<=10.00	PASS
				Peak	5720.000	-38.52	<=15.60	PASS
				Peak	5725.000	-39.78	<=27.00	PASS
		High	5795	Peak	5850.000	-44.822	<=15.60	PASS
				Peak	5855.000	-43.17	<=27.00	PASS
				Peak	5875.000	-43.69	<=15.60	PASS
				Peak	5925.000	-43.12	<=10.00	PASS
11AC80MIMO	Ant1	Low	5210	AV	4500.000	-44.46	<=-41.20	PASS
				AV	5150.000	-44.19	<=-41.20	PASS
				Peak	4500.000	-45.24	<=-21.20	PASS
				Peak	5150.000	-36.9	<=-21.20	PASS
		High	5290	AV	5350.000	-42.8	<=-41.20	PASS
				AV	5460.000	-50.79	<=-41.20	PASS
				Peak	5350.000	-36.94	<=-21.20	PASS
				Peak	5460.000	-44.27	<=-21.20	PASS
		Low	5530	AV	5460.000	-46.16	<=-41.20	PASS
				AV	5470.000	-45.54	<=-41.20	PASS
				Peak	5460.000	-40.07	<=-21.20	PASS
				Peak	5470.000	-38.52	<=-21.20	PASS
		High	5610	AV	5725.000	-49.53	<=-41.20	PASS
				AV	5735.000	-47.65	<=-41.20	PASS
				Peak	5725.000	-43.13	<=-21.20	PASS
				Peak	5735.000	-41.8	<=-21.20	PASS
		Low	5775	Peak	5650.000	-43.795	<=-27.00	PASS
				Peak	5700.000	-37.18	<=10.00	PASS

		High	5775	Peak	5720.000	-37.11	<=15.60	PASS
				Peak	5725.000	-37.88	<=27.00	PASS
				Peak	5850.000	-40.616	<=15.60	PASS
				Peak	5855.000	-39.7	<=27.00	PASS
				Peak	5875.000	-43.07	<=15.60	PASS
				Peak	5925.000	-43.19	<=10.00	PASS

Note :

1. The Antenna Gain is compensated in the graph.

For transmitters operating in 5150-5350 GHz band and 5470-5725 GHz band: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

TestMode	Antenna	Channel	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~1000	30~1000	-63.493	<=-41.2	PASS
			1000~6000	1000~6000	-45.813	<=-41.2	PASS
			6000~10000	6000~10000	-58.832	<=-41.2	PASS
			10000~20000	10000~20000	-56.081	<=-41.2	PASS
			20000~26000	20000~26000	-57.576	<=-41.2	PASS
		5200	30~1000	30~1000	-63.75	<=-41.2	PASS
			1000~6000	1000~6000	-54.91	<=-41.2	PASS
			6000~10000	6000~10000	-58.821	<=-41.2	PASS
			10000~20000	10000~20000	-52.921	<=-41.2	PASS
			20000~26000	20000~26000	-57.763	<=-41.2	PASS
		5240	30~1000	30~1000	-51.871	<=-41.2	PASS
			1000~6000	1000~6000	-46.415	<=-41.2	PASS
			6000~10000	6000~10000	-59.046	<=-41.2	PASS
			10000~20000	10000~20000	-54.593	<=-41.2	PASS
			20000~26000	20000~26000	-57.753	<=-41.2	PASS
		5260	30~1000	30~1000	-63.673	<=-41.2	PASS
			1000~6000	1000~6000	-54.837	<=-41.2	PASS
			6000~10000	6000~10000	-58.293	<=-41.2	PASS
			10000~20000	10000~20000	-56.8	<=-41.2	PASS
			20000~26000	20000~26000	-57.763	<=-41.2	PASS
		5280	30~1000	30~1000	-63.48	<=-41.2	PASS

			1000~6000	1000~6000	-55.042	<=-41.2	PASS
			6000~10000	6000~10000	-57.644	<=-41.2	PASS
			10000~20000	10000~20000	-58.494	<=-41.2	PASS
			20000~26000	20000~26000	-57.779	<=-41.2	PASS
		5320	30~1000	30~1000	-63.659	<=-41.2	PASS
			1000~6000	1000~6000	-51.216	<=-41.2	PASS
			6000~10000	6000~10000	-48.165	<=-41.2	PASS
			10000~20000	10000~20000	-62.298	<=-41.2	PASS
			20000~26000	20000~26000	-57.758	<=-41.2	PASS
		5500	30~1000	30~1000	-63.437	<=-41.2	PASS
			1000~6000	1000~6000	-48.097	<=-41.2	PASS
			6000~10000	6000~10000	-57.201	<=-41.2	PASS
			10000~20000	10000~20000	-54.947	<=-41.2	PASS
			20000~26000	20000~26000	-57.652	<=-41.2	PASS
		5580	30~1000	30~1000	-63.419	<=-41.2	PASS
			1000~6000	1000~6000	-48.707	<=-41.2	PASS
			6000~10000	6000~10000	-57.973	<=-41.2	PASS
			10000~20000	10000~20000	-64.143	<=-41.2	PASS
			20000~26000	20000~26000	-57.409	<=-41.2	PASS
		5700	30~1000	30~1000	-63.576	<=-41.2	PASS
			1000~6000	1000~6000	-52.548	<=-41.2	PASS
			6000~10000	6000~10000	-57.651	<=-41.2	PASS
			10000~20000	10000~20000	-63.931	<=-41.2	PASS
			20000~26000	20000~26000	-57.542	<=-41.2	PASS
		5745	30~5650	30~5650	-48.363	<=-27	PASS
			5925~40000	5925~40000	-37.119	<=-27	PASS
		5785	30~5650	30~5650	-48.458	<=-27	PASS
			5925~40000	5925~40000	-36.846	<=-27	PASS
		5825	30~5650	30~5650	-49.766	<=-27	PASS
			5925~40000	5925~40000	-37.45	<=-27	PASS
11N20MIMO	Ant1	5180	30~1000	30~1000	-63.332	<=-41.2	PASS
			1000~6000	1000~6000	-55.92	<=-41.2	PASS
			6000~10000	6000~10000	-59.569	<=-41.2	PASS
			10000~20000	10000~20000	-59.402	<=-41.2	PASS
			20000~26000	20000~26000	-57.638	<=-41.2	PASS
		5200	30~1000	30~1000	-63.55	<=-41.2	PASS

			1000~6000	1000~6000	-49.134	<=-41.2	PASS
			6000~10000	6000~10000	-59.48	<=-41.2	PASS
			10000~20000	10000~20000	-56.514	<=-41.2	PASS
			20000~26000	20000~26000	-57.921	<=-41.2	PASS
		5240	30~1000	30~1000	-63.414	<=-41.2	PASS
			1000~6000	1000~6000	-54.493	<=-41.2	PASS
			6000~10000	6000~10000	-58.792	<=-41.2	PASS
			10000~20000	10000~20000	-54.526	<=-41.2	PASS
			20000~26000	20000~26000	-57.346	<=-41.2	PASS
		5260	30~1000	30~1000	-63.493	<=-41.2	PASS
			1000~6000	1000~6000	-55.371	<=-41.2	PASS
			6000~10000	6000~10000	-59.121	<=-41.2	PASS
			10000~20000	10000~20000	-58.111	<=-41.2	PASS
			20000~26000	20000~26000	-57.399	<=-41.2	PASS
		5280	30~1000	30~1000	-63.475	<=-41.2	PASS
			1000~6000	1000~6000	-55.728	<=-41.2	PASS
			6000~10000	6000~10000	-55.552	<=-41.2	PASS
			10000~20000	10000~20000	-60.132	<=-41.2	PASS
			20000~26000	20000~26000	-57.199	<=-41.2	PASS
		5320	30~1000	30~1000	-63.547	<=-41.2	PASS
			1000~6000	1000~6000	-55.455	<=-41.2	PASS
			6000~10000	6000~10000	-58.017	<=-41.2	PASS
			10000~20000	10000~20000	-63.78	<=-41.2	PASS
			20000~26000	20000~26000	-57.391	<=-41.2	PASS
		5500	30~1000	30~1000	-63.413	<=-41.2	PASS
			1000~6000	1000~6000	-56.576	<=-41.2	PASS
			6000~10000	6000~10000	-58.653	<=-41.2	PASS
			10000~20000	10000~20000	-56.669	<=-41.2	PASS
			20000~26000	20000~26000	-57.09	<=-41.2	PASS
		5580	30~1000	30~1000	-63.26	<=-41.2	PASS
			1000~6000	1000~6000	-55.949	<=-41.2	PASS
			6000~10000	6000~10000	-51.442	<=-41.2	PASS
			10000~20000	10000~20000	-65.476	<=-41.2	PASS
			20000~26000	20000~26000	-56.896	<=-41.2	PASS
		5700	30~1000	30~1000	-63.361	<=-41.2	PASS
			1000~6000	1000~6000	-55.517	<=-41.2	PASS

			6000~10000	6000~10000	-58.17	<=-41.2	PASS
			10000~20000	10000~20000	-65.429	<=-41.2	PASS
			20000~26000	20000~26000	-57.332	<=-41.2	PASS
		5745	30~5650	30~5650	-49.567	<=-27	PASS
			5925~40000	5925~40000	-36.873	<=-27	PASS
		5785	30~5650	30~5650	-49.692	<=-27	PASS
			5925~40000	5925~40000	-37.05	<=-27	PASS
		5825	30~5650	30~5650	-49.377	<=-27	PASS
			5925~40000	5925~40000	-36.79	<=-27	PASS
11N40MIMO	Ant1	5190	30~1000	30~1000	-63.103	<=-41.2	PASS
			1000~6000	1000~6000	-55.253	<=-41.2	PASS
			6000~10000	6000~10000	-59.089	<=-41.2	PASS
			10000~20000	10000~20000	-61.05	<=-41.2	PASS
			20000~26000	20000~26000	-57.566	<=-41.2	PASS
		5230	30~1000	30~1000	-63.528	<=-41.2	PASS
			1000~6000	1000~6000	-55.014	<=-41.2	PASS
			6000~10000	6000~10000	-59.128	<=-41.2	PASS
			10000~20000	10000~20000	-58.241	<=-41.2	PASS
			20000~26000	20000~26000	-57.71	<=-41.2	PASS
		5270	30~1000	30~1000	-63.814	<=-41.2	PASS
			1000~6000	1000~6000	-44.785	<=-41.2	PASS
			6000~10000	6000~10000	-59.551	<=-41.2	PASS
			10000~20000	10000~20000	-62	<=-41.2	PASS
			20000~26000	20000~26000	-57.597	<=-41.2	PASS
		5310	30~1000	30~1000	-63.335	<=-41.2	PASS
			1000~6000	1000~6000	-56.077	<=-41.2	PASS
			6000~10000	6000~10000	-59.119	<=-41.2	PASS
			10000~20000	10000~20000	-64.928	<=-41.2	PASS
			20000~26000	20000~26000	-57.368	<=-41.2	PASS
		5510	30~1000	30~1000	-63.309	<=-41.2	PASS
			1000~6000	1000~6000	-54.377	<=-41.2	PASS
			6000~10000	6000~10000	-58.71	<=-41.2	PASS
			10000~20000	10000~20000	-61.2	<=-41.2	PASS
			20000~26000	20000~26000	-57.326	<=-41.2	PASS
		5550	30~1000	30~1000	-63.187	<=-41.2	PASS
			1000~6000	1000~6000	-57.413	<=-41.2	PASS

			6000~10000	6000~10000	-58.397	<=-41.2	PASS
			10000~20000	10000~20000	-65.003	<=-41.2	PASS
			20000~26000	20000~26000	-56.846	<=-41.2	PASS
		5670	30~1000	30~1000	-63.351	<=-41.2	PASS
			1000~6000	1000~6000	-48.459	<=-41.2	PASS
			6000~10000	6000~10000	-52.186	<=-41.2	PASS
			10000~20000	10000~20000	-65.997	<=-41.2	PASS
			20000~26000	20000~26000	-57.249	<=-41.2	PASS
		5755	30~5650	30~5650	-49.518	<=-27	PASS
			5925~40000	5925~40000	-36.241	<=-27	PASS
		5795	30~5650	30~5650	-48.792	<=-27	PASS
			5925~40000	5925~40000	-36.939	<=-27	PASS
11AC20MIMO	Ant1	5180	30~1000	30~1000	-63.461	<=-41.2	PASS
			1000~6000	1000~6000	-44.828	<=-41.2	PASS
			6000~10000	6000~10000	-59.457	<=-41.2	PASS
			10000~20000	10000~20000	-59.294	<=-41.2	PASS
			20000~26000	20000~26000	-57.671	<=-41.2	PASS
		5200	30~1000	30~1000	-63.629	<=-41.2	PASS
			1000~6000	1000~6000	-56.261	<=-41.2	PASS
			6000~10000	6000~10000	-59.307	<=-41.2	PASS
			10000~20000	10000~20000	-56.332	<=-41.2	PASS
			20000~26000	20000~26000	-57.987	<=-41.2	PASS
		5240	30~1000	30~1000	-63.582	<=-41.2	PASS
			1000~6000	1000~6000	-55.621	<=-41.2	PASS
			6000~10000	6000~10000	-59.437	<=-41.2	PASS
			10000~20000	10000~20000	-56.182	<=-41.2	PASS
			20000~26000	20000~26000	-57.68	<=-41.2	PASS
		5260	30~1000	30~1000	-63.747	<=-41.2	PASS
			1000~6000	1000~6000	-55.93	<=-41.2	PASS
			6000~10000	6000~10000	-59.344	<=-41.2	PASS
			10000~20000	10000~20000	-59.24	<=-41.2	PASS
			20000~26000	20000~26000	-57.748	<=-41.2	PASS
		5280	30~1000	30~1000	-63.607	<=-41.2	PASS
			1000~6000	1000~6000	-51.281	<=-41.2	PASS
			6000~10000	6000~10000	-58.564	<=-41.2	PASS
			10000~20000	10000~20000	-59.883	<=-41.2	PASS

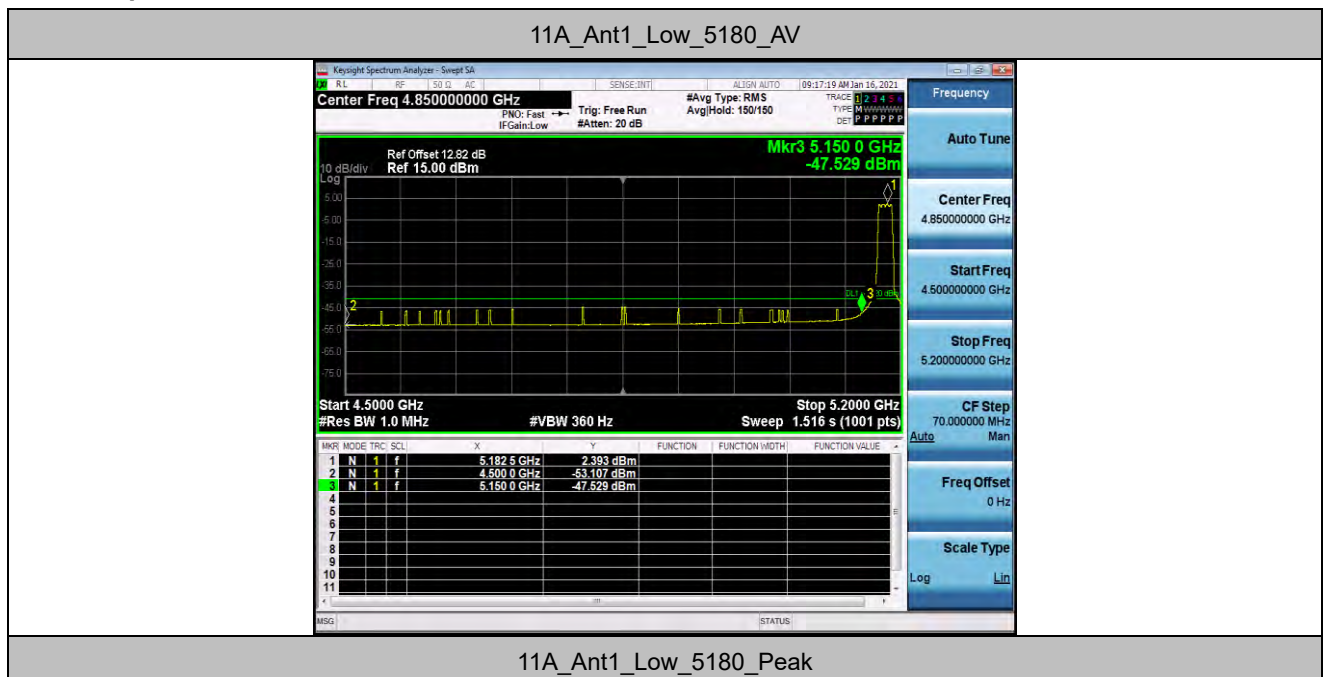
			20000~26000	20000~26000	-57.743	<=-41.2	PASS
		5320	30~1000	30~1000	-63.461	<=-41.2	PASS
			1000~6000	1000~6000	-55.772	<=-41.2	PASS
			6000~10000	6000~10000	-58.288	<=-41.2	PASS
			10000~20000	10000~20000	-63.125	<=-41.2	PASS
			20000~26000	20000~26000	-57.649	<=-41.2	PASS
		5500	30~1000	30~1000	-63.517	<=-41.2	PASS
			1000~6000	1000~6000	-56.233	<=-41.2	PASS
			6000~10000	6000~10000	-58.946	<=-41.2	PASS
			10000~20000	10000~20000	-56.284	<=-41.2	PASS
			20000~26000	20000~26000	-57.354	<=-41.2	PASS
		5580	30~1000	30~1000	-63.503	<=-41.2	PASS
			1000~6000	1000~6000	-56.024	<=-41.2	PASS
			6000~10000	6000~10000	-48.642	<=-41.2	PASS
			10000~20000	10000~20000	-65.305	<=-41.2	PASS
			20000~26000	20000~26000	-57.634	<=-41.2	PASS
		5700	30~1000	30~1000	-63.555	<=-41.2	PASS
			1000~6000	1000~6000	-56.19	<=-41.2	PASS
			6000~10000	6000~10000	-58.248	<=-41.2	PASS
			10000~20000	10000~20000	-65.053	<=-41.2	PASS
			20000~26000	20000~26000	-57.576	<=-41.2	PASS
		5745	30~5650	30~5650	-48.417	<=-27	PASS
			5925~40000	5925~40000	-37.084	<=-27	PASS
		5785	30~5650	30~5650	-49.448	<=-27	PASS
			5925~40000	5925~40000	-36.744	<=-27	PASS
		5825	30~5650	30~5650	-49.545	<=-27	PASS
			5925~40000	5925~40000	-36.755	<=-27	PASS
11AC40MIMO	Ant1	5190	30~1000	30~1000	-64.443	<=-41.2	PASS
			1000~6000	1000~6000	-56.672	<=-41.2	PASS
			6000~10000	6000~10000	-59.22	<=-41.2	PASS
			10000~20000	10000~20000	-61.227	<=-41.2	PASS
			20000~26000	20000~26000	-57.509	<=-41.2	PASS
		5230	30~1000	30~1000	-64.53	<=-41.2	PASS
			1000~6000	1000~6000	-46.35	<=-41.2	PASS
			6000~10000	6000~10000	-59.095	<=-41.2	PASS
			10000~20000	10000~20000	-59.147	<=-41.2	PASS

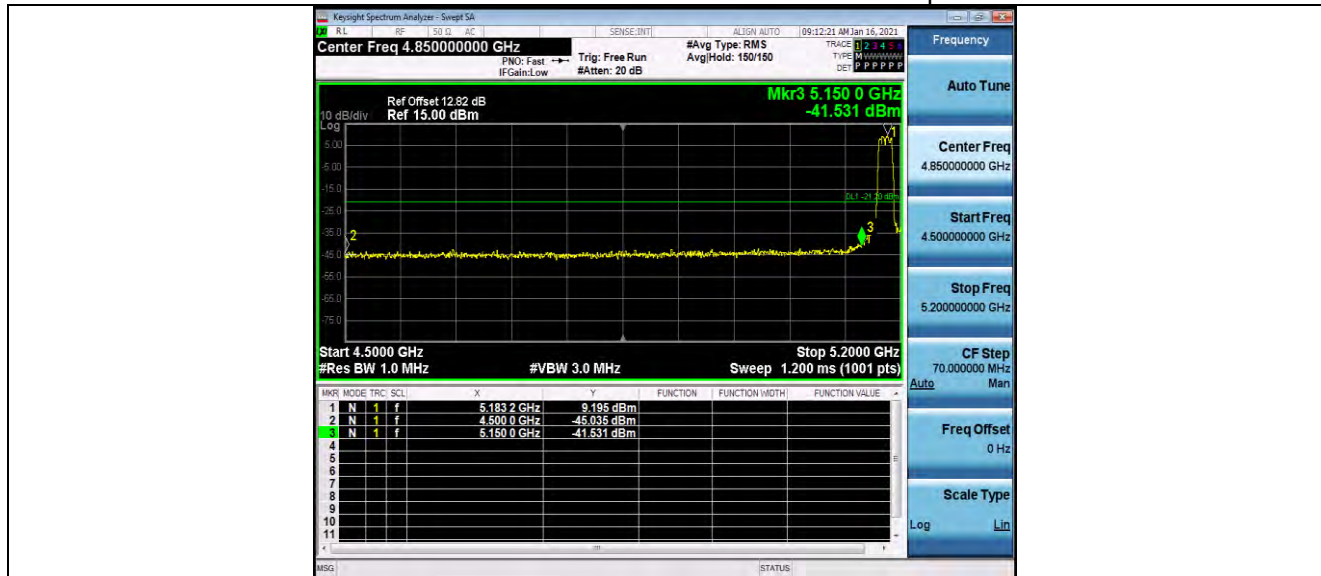
			20000~26000	20000~26000	-57.451	<=-41.2	PASS
		5270	30~1000	30~1000	-64.722	<=-41.2	PASS
			1000~6000	1000~6000	-56.174	<=-41.2	PASS
			6000~10000	6000~10000	-59.438	<=-41.2	PASS
			10000~20000	10000~20000	-62.434	<=-41.2	PASS
			20000~26000	20000~26000	-57.674	<=-41.2	PASS
		5310	30~1000	30~1000	-64.331	<=-41.2	PASS
			1000~6000	1000~6000	-56.169	<=-41.2	PASS
			6000~10000	6000~10000	-59.139	<=-41.2	PASS
			10000~20000	10000~20000	-64.833	<=-41.2	PASS
			20000~26000	20000~26000	-57.273	<=-41.2	PASS
		5510	30~1000	30~1000	-64.282	<=-41.2	PASS
			1000~6000	1000~6000	-57.424	<=-41.2	PASS
			6000~10000	6000~10000	-58.424	<=-41.2	PASS
			10000~20000	10000~20000	-60.221	<=-41.2	PASS
			20000~26000	20000~26000	-57.154	<=-41.2	PASS
		5550	30~1000	30~1000	-64.287	<=-41.2	PASS
			1000~6000	1000~6000	-56.513	<=-41.2	PASS
			6000~10000	6000~10000	-58.546	<=-41.2	PASS
			10000~20000	10000~20000	-65.819	<=-41.2	PASS
			20000~26000	20000~26000	-57.084	<=-41.2	PASS
		5670	30~1000	30~1000	-63.368	<=-41.2	PASS
			1000~6000	1000~6000	-55.797	<=-41.2	PASS
			6000~10000	6000~10000	-57.491	<=-41.2	PASS
			10000~20000	10000~20000	-66.059	<=-41.2	PASS
			20000~26000	20000~26000	-57.279	<=-41.2	PASS
		5755	30~5650	30~5650	-47.666	<=-27	PASS
			5925~40000	5925~40000	-37.337	<=-27	PASS
		5795	30~5650	30~5650	-49.233	<=-27	PASS
			5925~40000	5925~40000	-37.572	<=-27	PASS
11AC80MIMO	Ant1	5210	30~1000	30~1000	-60.952	<=-41.2	PASS
			1000~6000	1000~6000	-41.92	<=-41.2	PASS
			6000~10000	6000~10000	-58.611	<=-41.2	PASS
			10000~20000	10000~20000	-62.103	<=-41.2	PASS
			20000~26000	20000~26000	-57.837	<=-41.2	PASS
		5290	30~1000	30~1000	-63.829	<=-41.2	PASS

			1000~6000	1000~6000	-57.303	<=-41.2	PASS
			6000~10000	6000~10000	-43.923	<=-41.2	PASS
			10000~20000	10000~20000	-65.455	<=-41.2	PASS
			20000~26000	20000~26000	-57.455	<=-41.2	PASS
		5530	30~1000	30~1000	-63.153	<=-41.2	PASS
			1000~6000	1000~6000	-56.744	<=-41.2	PASS
			6000~10000	6000~10000	-52.131	<=-41.2	PASS
			10000~20000	10000~20000	-64.449	<=-41.2	PASS
			20000~26000	20000~26000	-57.259	<=-41.2	PASS
		5610	30~1000	30~1000	-63.172	<=-41.2	PASS
			1000~6000	1000~6000	-56.244	<=-41.2	PASS
			6000~10000	6000~10000	-44.534	<=-41.2	PASS
			10000~20000	10000~20000	-65.748	<=-41.2	PASS
			20000~26000	20000~26000	-57.334	<=-41.2	PASS
		5775	30~5650	30~5650	-48.691	<=-27	PASS
			5925~40000	5925~40000	-36.177	<=-27	PASS

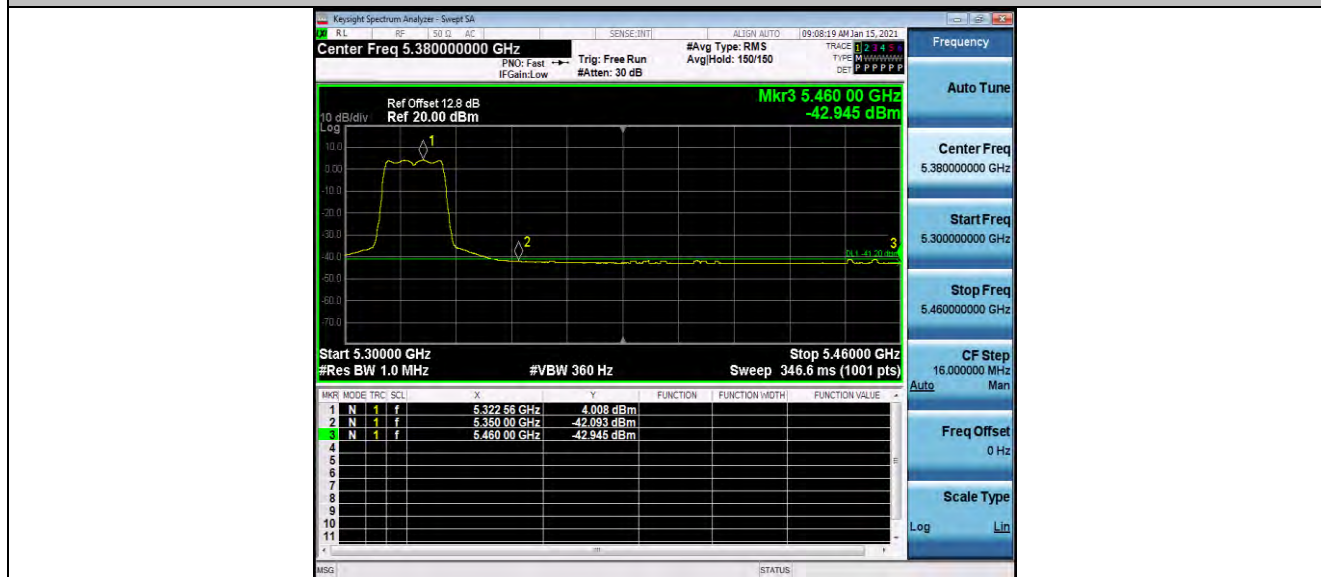
Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Graphs

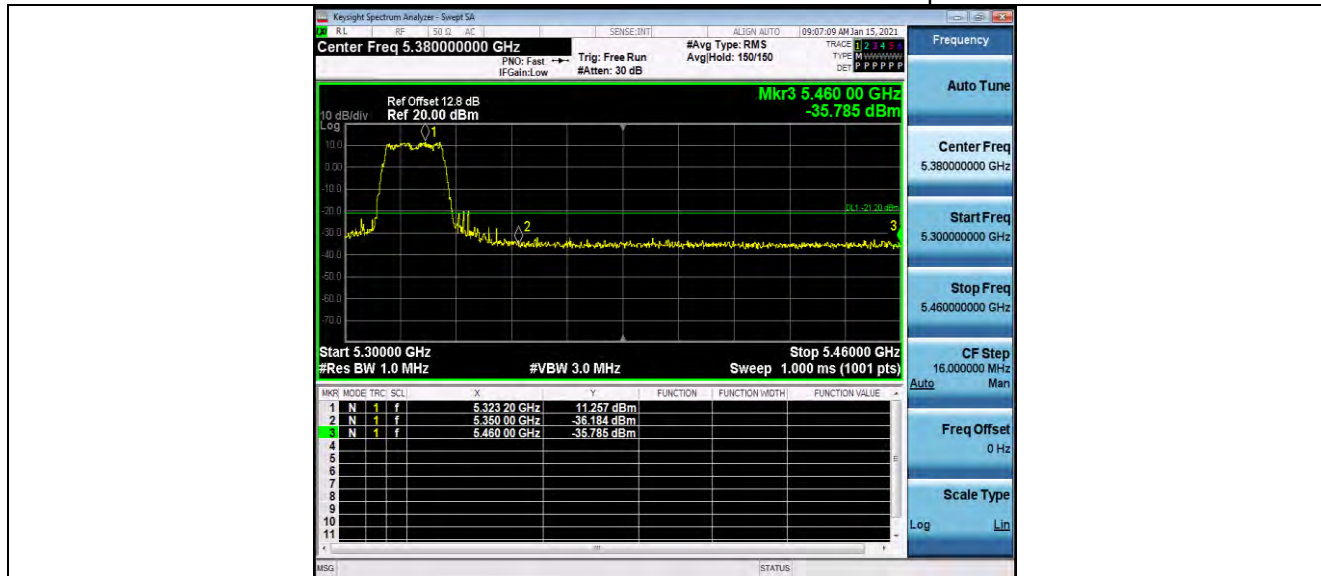




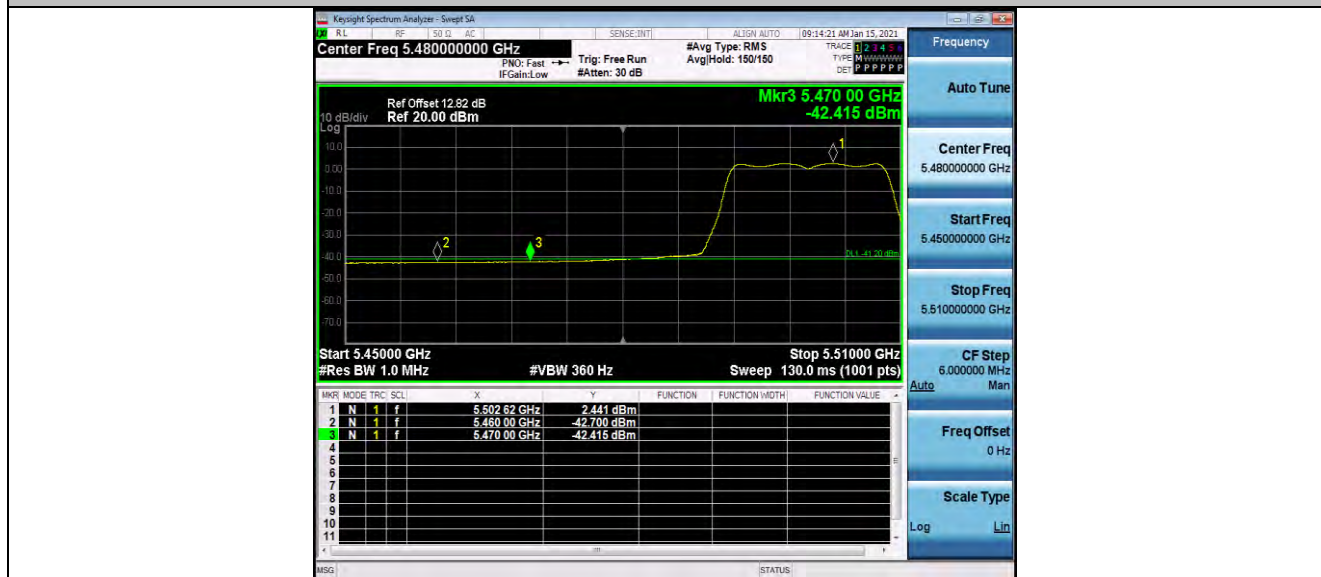
11A_Ant1_High_5320_AV



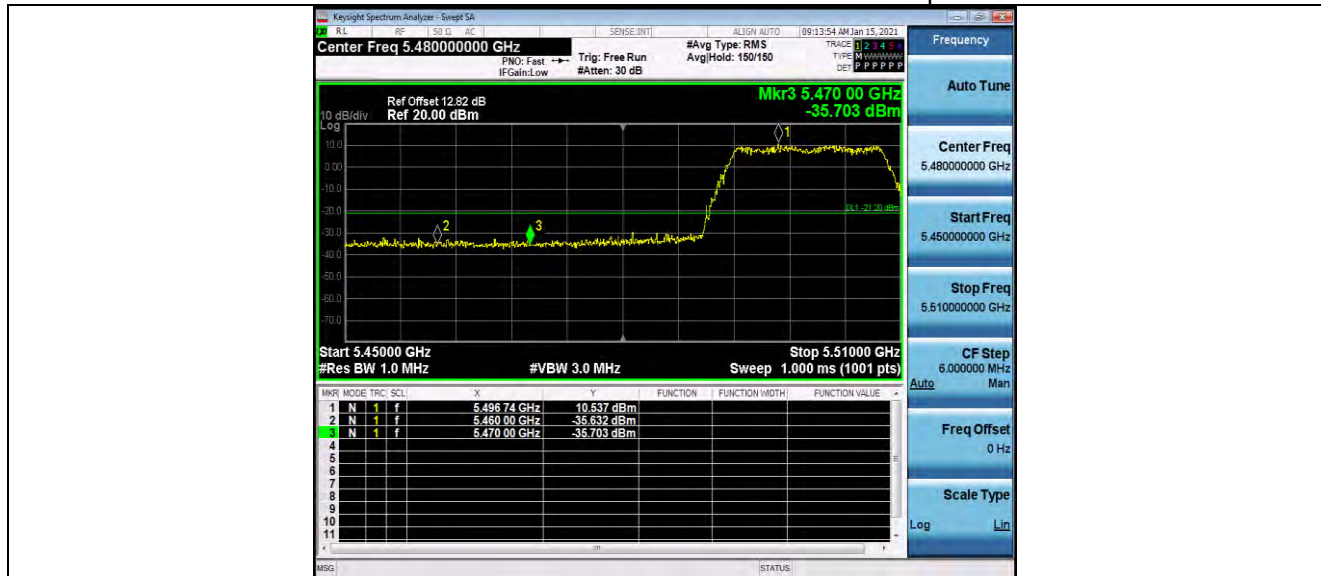
11A_Ant1_High_5320_Peak



11A_Ant1_Low_5500_AV



11A_Ant1_Low_5500_Peak



11A_Ant1_High_5700_AV



11A_Ant1_High_5700_Peak



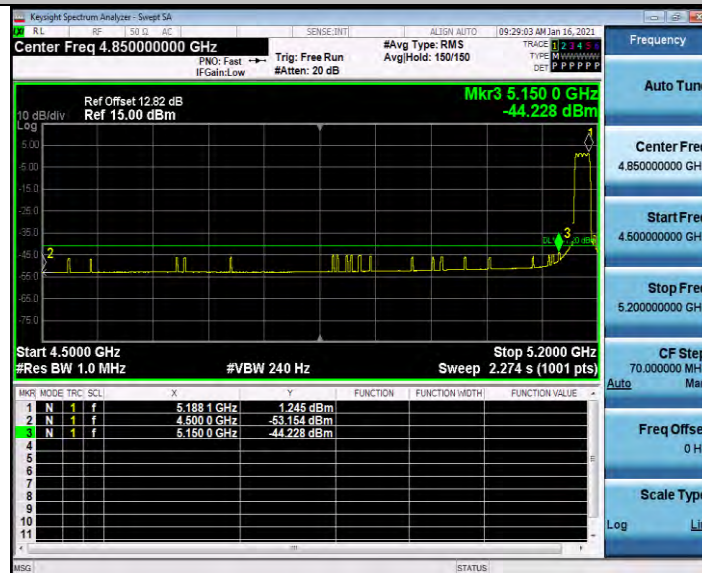
11A_Ant1_Low_5745_Peak



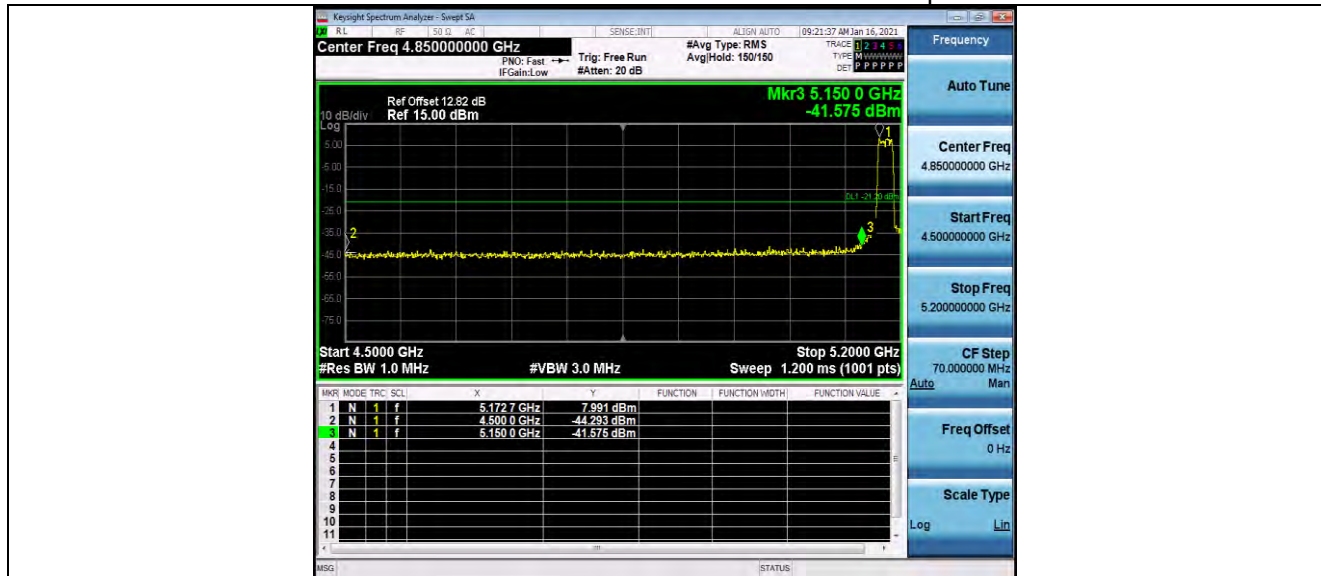
11A_Ant1_High_5825_Peak



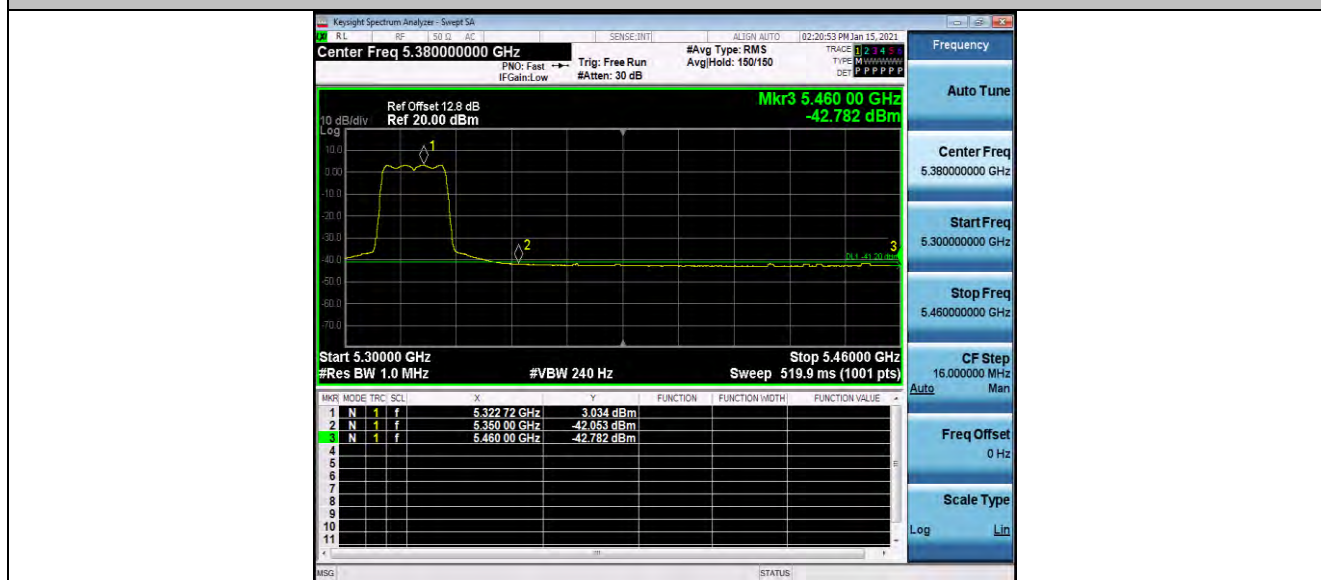
11N20MIMO_Ant1_Low_5180_AV



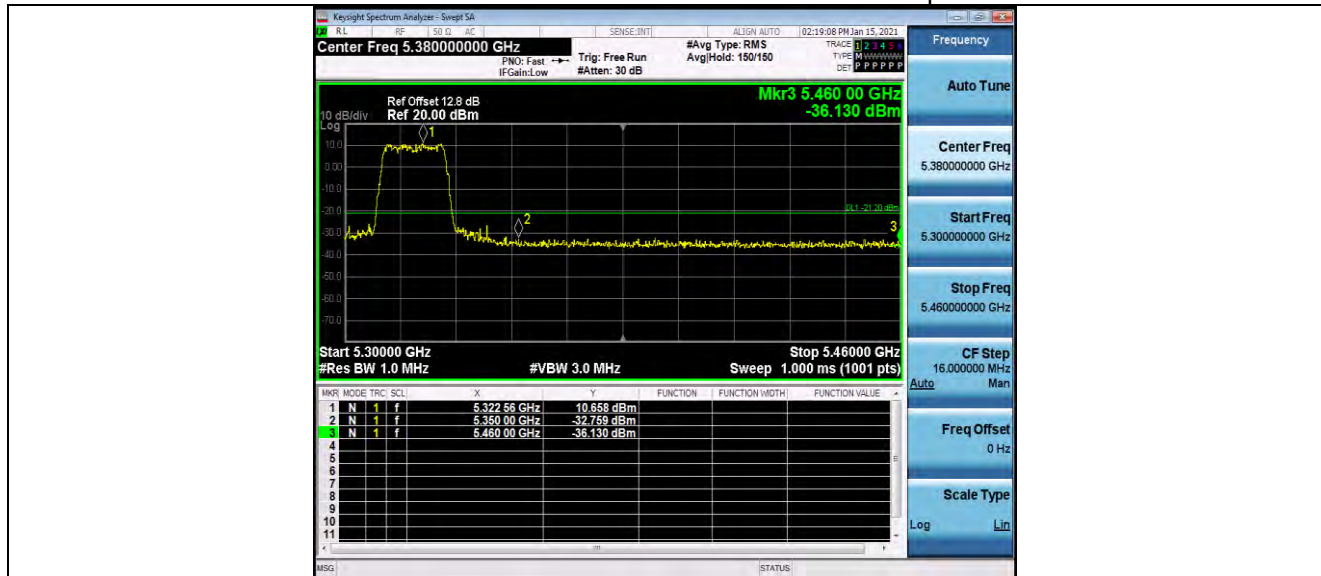
11N20MIMO_Ant1_Low_5180_Peak



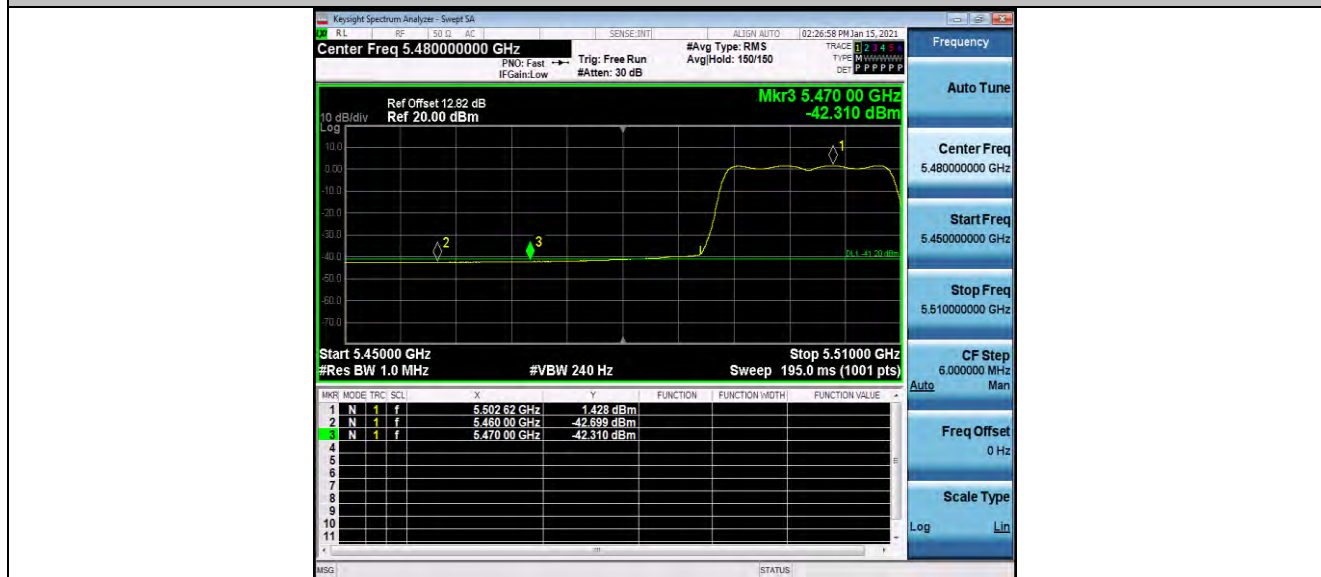
11N20MIMO_Ant1_High_5320_AV



11N20MIMO_Ant1_High_5320_Peak



11N20MIMO_Ant1_Low_5500_AV



11N20MIMO_Ant1_Low_5500_Peak



11N20MIMO_Ant1_High_5700_AV



11N20MIMO_Ant1_High_5700_Peak



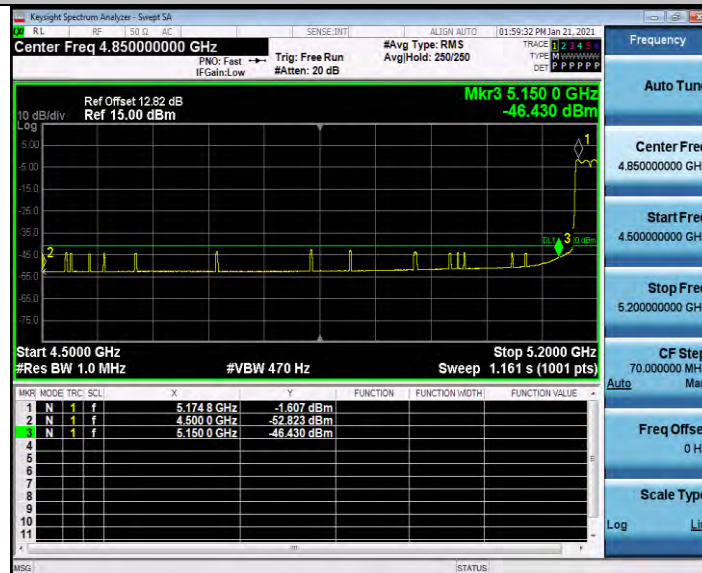
11N20MIMO_Ant1_Low_5745_Peak



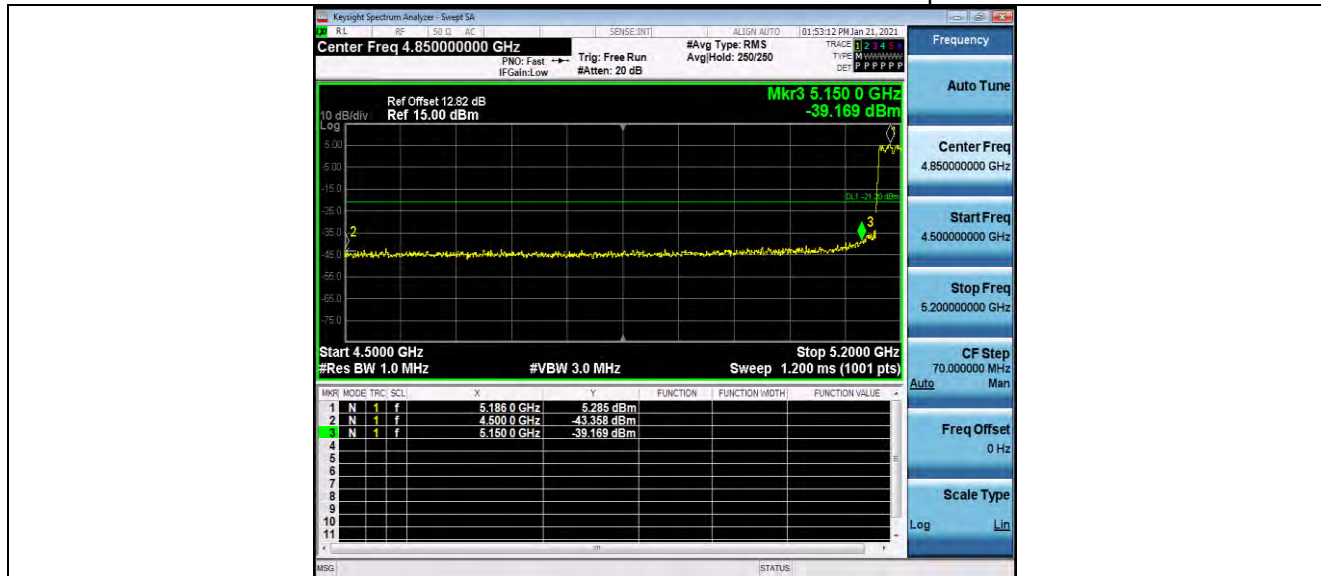
11N20MIMO_Ant1_High_5825_Peak



11N40MIMO_Ant1_Low_5190_AV



11N40MIMO_Ant1_Low_5190_Peak



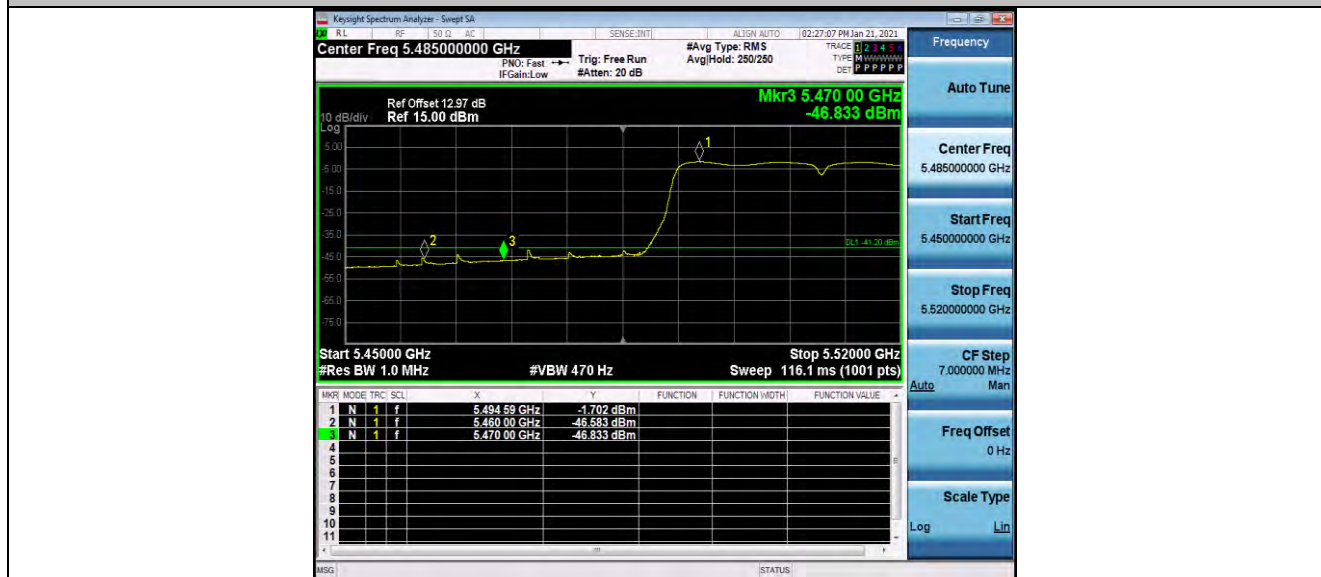
11N40MIMO_Ant1_High_5310_AV



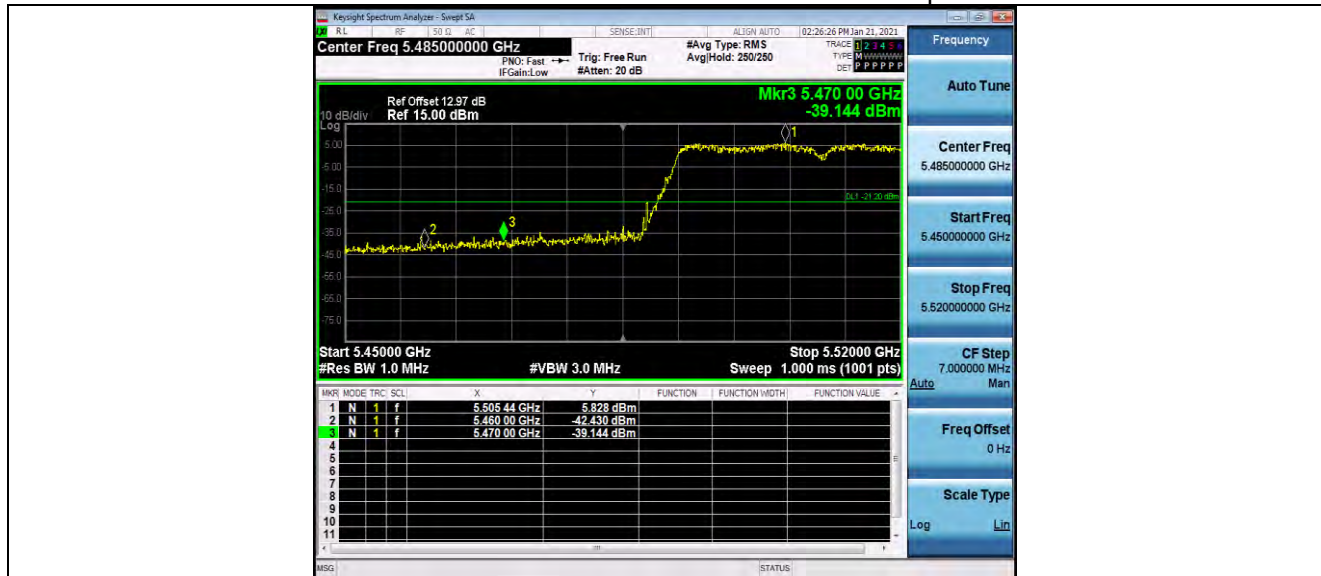
11N40MIMO_Ant1_High_5310_Peak



11N40MIMO_Ant1_Low_5510_AV



11N40MIMO_Ant1_Low_5510_Peak



11N40MIMO_Ant1_High_5670_AV



11N40MIMO_Ant1_High_5670_Peak



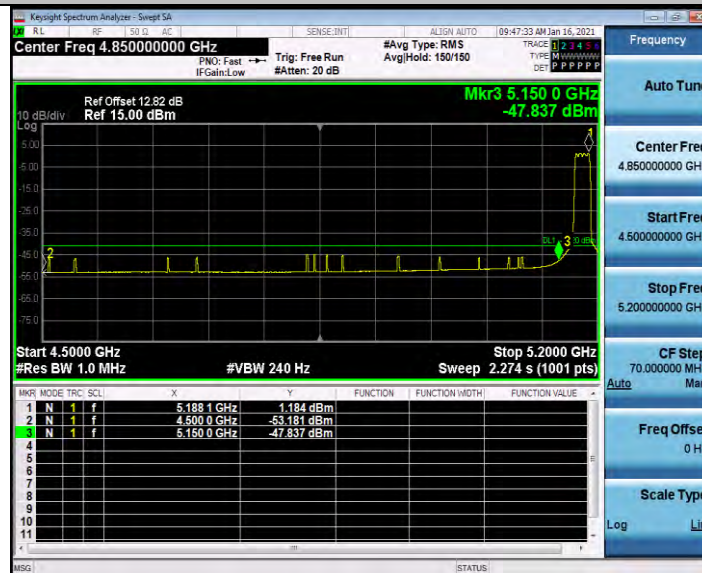
11N40MIMO_Ant1_Low_5755_Peak



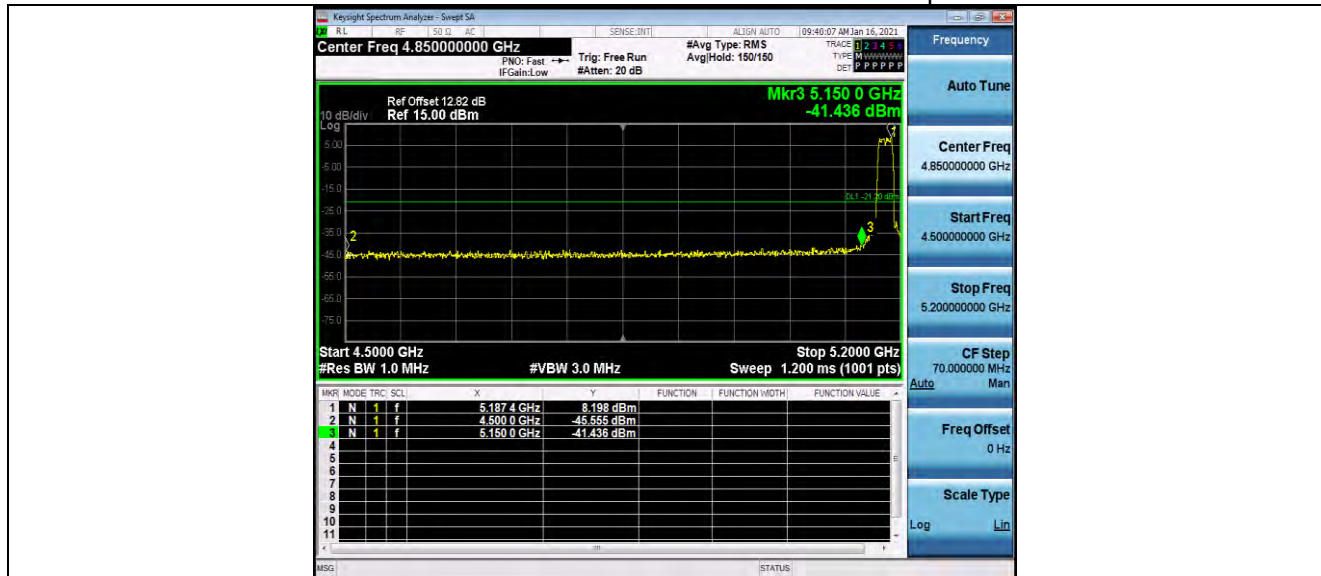
11N40MIMO_Ant1_High_5795_Peak



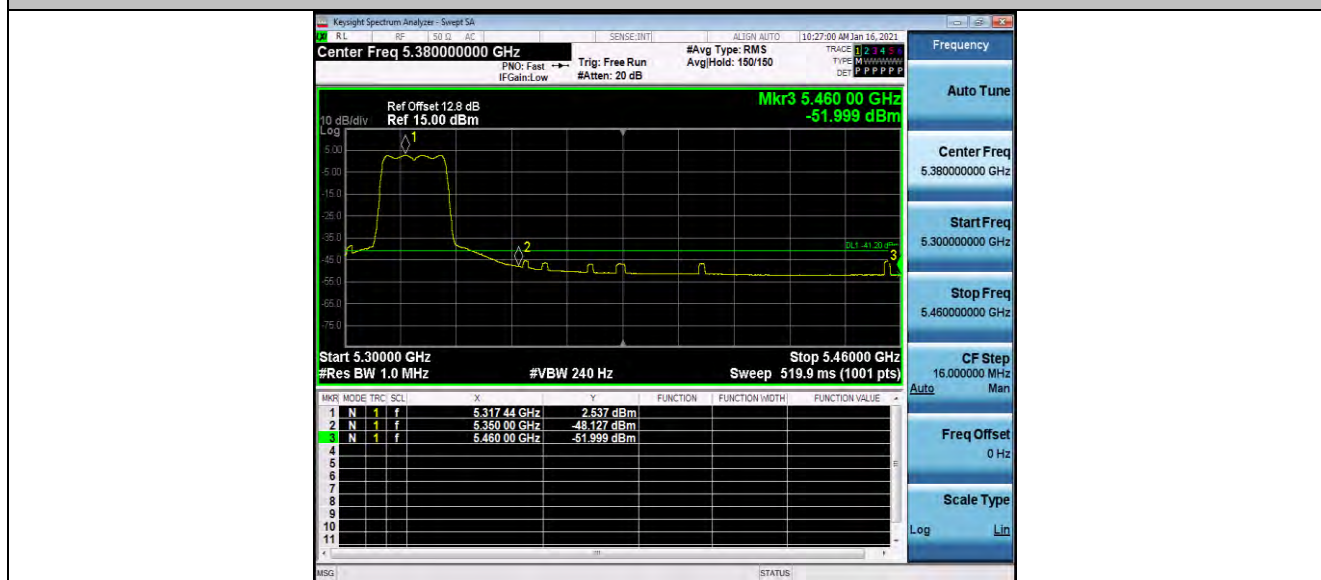
11AC20MIMO_Ant1_Low_5180_AV



11AC20MIMO_Ant1_Low_5180_Peak



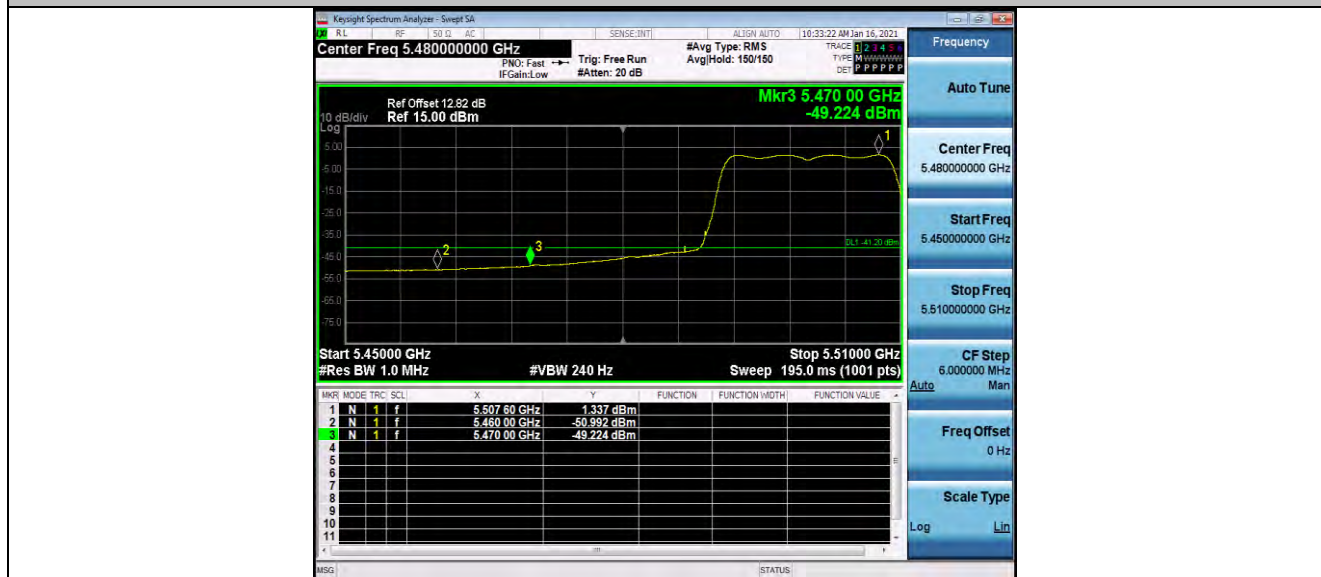
11AC20MIMO_Ant1_High_5320_AV



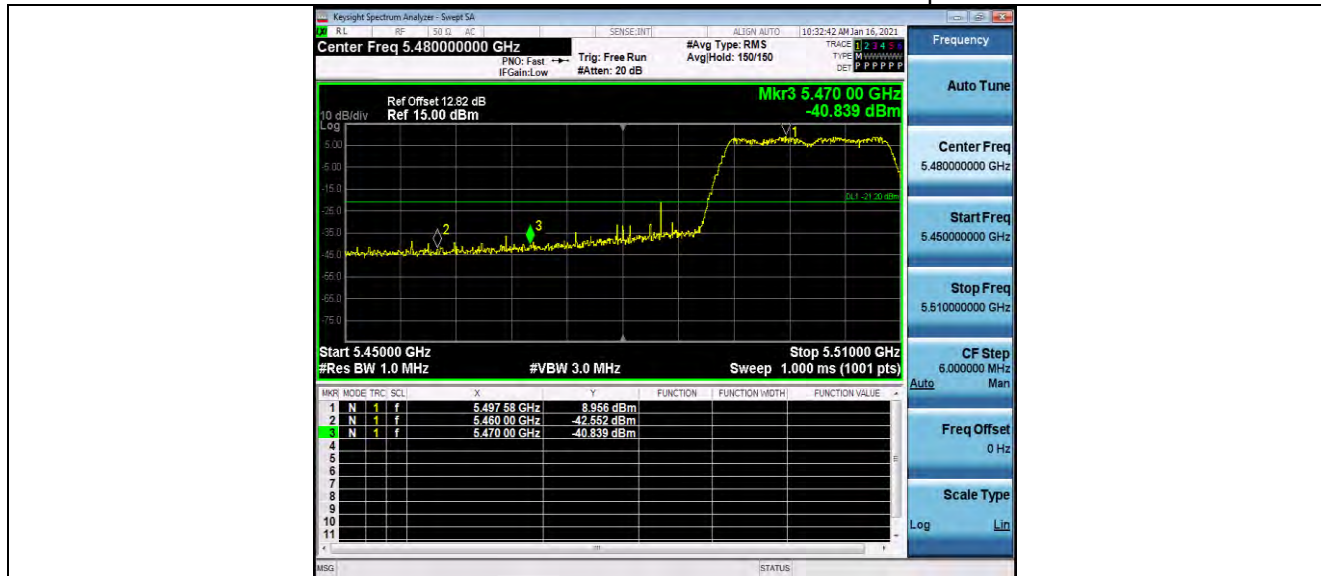
11AC20MIMO_Ant1_High_5320_Peak



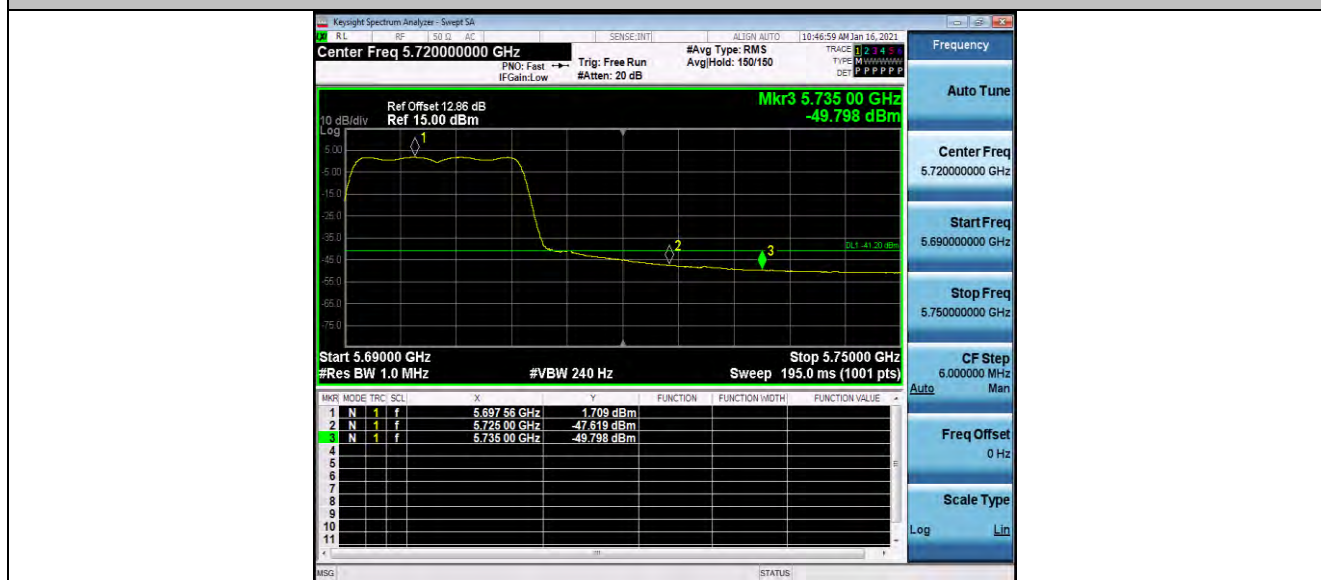
11AC20MIMO_Ant1_Low_5500_AV



11AC20MIMO_Ant1_Low_5500_Peak



11AC20MIMO_Ant1_High_5700_AV



11AC20MIMO_Ant1_High_5700_Peak