



TEST REPORT

Report Number: 14040683-E5V4

Applicant : APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

Model : A2650 (Parent Model, Full Test)
A2889, A2890, A2891, A2892 (Variant Models)

FCC ID : BCG-E8140A (Parent Model)
BCG-E8150A, BCG-E8151A, BCG-E8152A (Variant Models)

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART E

Date of Issue:
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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	6/20/2022	Initial Issue	Chin Pang
V2	6/29/2022	Revised sections 6, 99%, PSD conducted tests	Chin Pang
V3	7/1/2022	Revise section 6, 9, and PSD	Chin Pang
V4	7/10/2022	Update section 9.4 on combine antenna gain calculation	Chin Pang

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS.....	5
2. TEST RESULT SUMMARY.....	7
3. TEST METHODOLOGY	7
4. FACILITIES AND ACCREDITATION.....	7
5. DECISION RULES AND MEASUREMENT UNCERTAINTY.....	8
5.1. <i>METROLOGICAL TRACEABILITY</i>	<i>8</i>
5.2. <i>DECISION RULES</i>	<i>8</i>
5.3. <i>MEASUREMENT UNCERTAINTY</i>	<i>8</i>
5.4. <i>SAMPLE CALCULATION.....</i>	<i>8</i>
6. EQUIPMENT UNDER TEST	9
6.1. <i>EUT DESCRIPTION.....</i>	<i>9</i>
6.2. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i>	<i>9</i>
6.3. <i>SOFTWARE AND FIRMWARE</i>	<i>9</i>
6.4. <i>MAXIMUM OUTPUT POWER.....</i>	<i>10</i>
6.5. <i>WORST-CASE CONFIGURATION AND MODE.....</i>	<i>14</i>
6.6. <i>DESCRIPTION OF TEST SETUP</i>	<i>15</i>
7. MEASUREMENT METHOD	20
8. TEST AND MEASUREMENT EQUIPMENT	21
9. ANTENNA PORT TEST RESULTS	23
9.1. <i>ON TIME AND DUTY CYCLE</i>	<i>23</i>
9.2. <i>26 dB and 99% BANDWIDTH</i>	<i>29</i>
9.2.1. <i>802.11n HT20 MODE IN THE 5.2 GHz BAND</i>	<i>30</i>
9.2.2. <i>802.11n HT40 MODE IN THE 5.2 GHz BAND</i>	<i>32</i>
9.2.3. <i>802.11ac VHT80 MODE IN THE 5.2 GHz BAND.....</i>	<i>34</i>
9.2.4. <i>802.11ax HE20 MODE IN THE 5.2 GHz BAND</i>	<i>36</i>
9.2.5. <i>802.11ax HE40 MODE IN THE 5.2 GHz BAND</i>	<i>44</i>
9.2.6. <i>802.11ax HE80 MODE IN THE 5.2 GHz BAND</i>	<i>52</i>
9.2.7. <i>802.11n HT20 MODE IN THE 5.3 GHz BAND</i>	<i>60</i>
9.2.8. <i>802.11n HT40 MODE IN THE 5.3 GHz BAND</i>	<i>62</i>
9.2.9. <i>802.11ac VHT80 MODE IN THE 5.3 GHz BAND.....</i>	<i>64</i>
9.2.10. <i>802.11ax HE20 MODE IN THE 5.3 GHz BAND</i>	<i>66</i>
9.2.11. <i>802.11ax HE40 MODE IN THE 5.3 GHz BAND</i>	<i>72</i>
9.2.12. <i>802.11ax HE80 MODE IN THE 5.3 GHz BAND</i>	<i>78</i>
9.2.13. <i>802.11n HT20 MODE IN THE 5.6 GHz BAND</i>	<i>84</i>
9.2.14. <i>802.11n HT40 MODE IN THE 5.6 GHz BAND</i>	<i>87</i>
9.2.15. <i>802.11ac VHT80 MODE IN THE 5.6 GHz BAND.....</i>	<i>89</i>
9.2.16. <i>802.11ax HE20 MODE IN THE 5.6 GHz BAND.....</i>	<i>91</i>

9.2.17. 802.11ax HE40 MODE IN THE 5.6 GHz BAND 97

9.2.18. 802.11ax HE80 MODE IN THE 5.6 GHz BAND 103

9.2.19. 802.11n HT20 MODE IN THE 5.8 GHz BAND 109

9.2.20. 802.11n HT40 MODE IN THE 5.8 GHz BAND 111

9.2.21. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND 113

9.2.22. 802.11ax HE20 MODE IN THE 5.8 GHz BAND 115

9.2.23. 802.11ax HE40 MODE IN THE 5.8 GHz BAND 121

9.2.24. 802.11ax HE80 MODE IN THE 5.8 GHz BAND 127

9.3. 6 dB BANDWIDTH 133

9.3.1. 802.11n HT20 MODE IN THE 5.8 GHz BAND 134

9.3.2. 802.11n HT40 MODE IN THE 5.8 GHz BAND 137

9.3.3. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND 139

9.3.4. 802.11ax HE20 MODE IN THE 5.8 GHz BAND 141

9.3.5. 802.11ax HE40 MODE IN THE 5.8 GHz BAND 147

9.3.6. 802.11ax HE80 MODE IN THE 5.8 GHz BAND 153

9.4. OUTPUT POWER AND PSD 159

9.4.1. 802.11n HT20 MODE IN THE 5.2 GHz BAND 161

9.4.2. 802.11n HT40 MODE IN THE 5.2 GHz BAND 164

9.4.3. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND 167

9.4.4. 802.11ax HE20 MODE IN THE 5.2 GHz BAND 170

9.4.5. 802.11ax HE40 MODE IN THE 5.2 GHz BAND 182

9.4.6. 802.11ax HE80 MODE IN THE 5.2 GHz BAND 194

9.4.7. 802.11n HT20 MODE IN THE 5.3 GHz BAND 206

9.4.8. 802.11n HT40 MODE IN THE 5.3 GHz BAND 209

9.4.9. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND 212

9.4.10. 802.11ax HE20 MODE IN THE 5.3 GHz BAND 215

9.4.11. 802.11ax HE40 MODE IN THE 5.3 GHz BAND 227

9.4.12. 802.11ax HE80 MODE IN THE 5.3 GHz BAND 239

9.4.13. 802.11n HT20 MODE IN THE 5.6 GHz BAND 251

9.4.14. 802.11n HT40 MODE IN THE 5.6 GHz BAND 254

9.4.15. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND 257

9.4.16. 802.11ax HE20 MODE IN THE 5.6 GHz BAND 260

9.4.17. 802.11ax HE40 MODE IN THE 5.6 GHz BAND 272

9.4.18. 802.11ax HE80 MODE IN THE 5.6 GHz BAND 284

9.4.19. 802.11n HT20 MODE IN THE 5.8 GHz BAND 296

9.4.20. 802.11n HT40 MODE IN THE 5.8 GHz BAND 299

9.4.21. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND 302

9.4.22. 802.11ax HE20 MODE IN THE 5.8 GHz BAND 305

9.4.23. 802.11ax HE40 MODE IN THE 5.8 GHz BAND 317

9.4.24. 802.11ax HE80 MODE IN THE 5.8 GHz BAND 329

10. SETUP PHOTOS.....341

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION: SMARTPHONE

MODEL: A2650 (Parent Model)
A2889, A2890, A2891, A2892 (Variant Models)

BRAND: APPLE

FCC ID: BCG-E8140A (Parent Model)
BCG-E8150A, BCG-E8151A, BCG-E8152A (Variant Models)

SERIAL NUMBER: R9VD6JPQTY

SAMPLE RECEIPT DATE: FEBRUARY 23, 2022

DATE TESTED: FEBRUARY 25 –JUNE 29, 2022

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Complies

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For
UL LLC By:



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2. TEST RESULT SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

FCC Clause	Requirement	Result	Comment
See Comment	Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 12.2.
See Comment	26dB BW 99% OBW	Reporting purposes only	Per ANSI C63.10 Sections 6.9.2 and 6.9.3
15.407 (e)	6 dB BW	Complies	None.
15.407 (a) (1-4), (h) (1)	Output Power	Complies	None.
15.407 (a) (1-3, 5)	PSD	Complies	None.
15.209, 15.205, 15.407 (b)	Radiated Emissions	Complies	None.
15.207	AC Mains Conducted Emissions	Complies	None.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with:

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- FCC KDB 662911 D01 v02r01
- FCC KDB 789033 D02 v02r01
- ANSI C63.10-2013
- KDB 414788 D01 Radiated Test Site v01r01

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
<input checked="" type="checkbox"/>	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA	US0104	22541	550739
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA	US0104	2324B	550739

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{Lab}
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.

$$36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, NFC and MSS. All models except reference model support at least one UICC based SIM. The second SIM is either an UICC based p-SIM (physical SIM) or e-SIM (electronic SIM). The device supports a built-in inductive charging transmitter and receiver. The rechargeable battery is not user accessible.

Testing was performed on the parent model and is used to support the application for the parent and variants identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC.

The Model and FCC IDs covered by this report includes:

Parent Model: A2650, FCC ID: BCG-E8140A

Variant Models: A2889, FCC ID: BCG-E8150A
 A2890; FCC ID: BCG-E8151A
 A2891 & A2892, FCC ID: BCG-E8152A

6.2. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna Type is IFA.

The antennas' gains, as provided by the manufacturer, are as follows:

Frequency Range (GHz)	Antenna 6 (dBi)	Antenna 5 (dBi)
5150-5250	-2.9	-2.0
5250-5350	-2.2	-1.0
5500-5700	-0.9	-1.3
5725-5825	-0.5	-1.2

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 20_94_1_15.

6.4. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

5.2 GHz BAND (FCC)

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.2 GHz band, 1TX			
5180-5240	802.11a	Covered by 802.11n HT20 1TX	
5180-5240	802.11n HT20	19.96	99.08
5180-5240	802.11ac VHT20	Covered by 802.11n HT20 1TX	
5190-5230	802.11n HT40	20.45	110.92
5190-5230	802.11ac VHT40	Covered by 802.11n HT40 1TX	
5210	802.11ac VHT80	17.48	55.98
5180-5240	802.11ax HE20	19.96	99.08
5190-5230	802.11ax HE40	20.45	110.92
5210	802.11ax HE80	16.88	48.75
5.2 GHz band, 2TX			
5180-5240	802.11n HT20 CDD	19.93	98.40
5180-5240	802.11n HT20 SDM	Covered by 802.11n HT20 2TX CDD	
5190-5230	802.11n HT40 CDD	22.41	174.18
5190-5230	802.11n HT40 SDM	Covered by 802.11n HT40 2TX CDD	
5180-5240	802.11ac VHT20 SDM/CDD	Covered by 802.11n HT20 2TX CDD	
5190-5230	802.11ac VHT40 SDM/CDD	Covered by 802.11n HT40 2TX CDD	
5210	802.11ac VHT80 CDD	19.36	86.30
5210	802.11ac VHT80 SDM	Covered by 802.11ac VHT80 2TX CDD	
5180-5240	802.11ax HE20 OFDMA	19.96	99.08
5190-5230	802.11ax HE40 OFDMA	22.45	175.79
5210	802.11ax HE80 OFDMA	18.94	78.34

5.3 GHz BAND (FCC)

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.3 GHz band, 1TX			
5260 - 5320	802.11a	Covered by 802.11n HT20 1TX	
5260 - 5320	802.11n HT20	19.98	99.54
5260 - 5320	802.11ac VHT20	Covered by 802.11n HT20 1TX	
5270 - 5310	802.11n HT40	20.46	111.17
5270 - 5310	802.11ac VHT40	Covered by 802.11n HT40 1TX	
5290	802.11ac VHT80	16.98	49.89
5260 - 5320	802.11ax HE20	19.98	99.54
5270 - 5310	802.11ax HE40	20.46	111.17
5290	802.11ax HE80	16.40	43.65
5.3 GHz band, 2TX			
5260 - 5320	802.11n HT20 CDD	19.97	99.31
5260 - 5320	802.11n HT20 SDM	Covered by 802.11n HT20 2TX CDD	
5270 - 5310	802.11n HT40 CDD	22.44	175.39
5270 - 5310	802.11n HT40 SDM	Covered by 802.11n HT40 2TX CDD	
5260 - 5320	802.11ac VHT20 SDM/CDD	Covered by 802.11n HT20 2TX CDD	
5270 - 5310	802.11ac VHT40 SDM/CDD	Covered by 802.11n HT40 2TX CDD	
5290	802.11ac VHT80 CDD	18.41	69.34
5290	802.11ac VHT80 SDM	Covered by 802.11ac VHT80 2TX CDD	
5260 - 5320	802.11ax HE20 OFDMA	19.99	99.77
5270 - 5310	802.11ax HE40 OFDMA	22.45	175.79
5290	802.11ax HE80 OFDMA	18.46	70.15

5.6 GHz BAND (FCC)

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.6 GHz band, 1TX			
5500-5720	802.11a	Covered by 802.11n HT20 1TX	
5500-5720	802.11n HT20	19.97	99.31
5500-5720	802.11ac VHT20	Covered by 802.11n HT20 1TX	
5510-5710	802.11n HT40	20.44	110.66
5510-5710	802.11ac VHT40	Covered by 802.11n HT40 1TX	
5530-5690	802.11ac VHT80	20.45	110.92
5500-5720	802.11ax HE20	19.97	99.31
5510-5710	802.11ax HE40	20.48	111.69
5530-5690	802.11ax HE80	20.44	110.66
5.6 GHz band, 2TX			
5500-5720	802.11n HT20 CDD	19.93	98.40
5500-5720	802.11n HT20 SDM	Covered by 802.11n HT20 2TX CDD	
5510-5710	802.11n HT40 CDD	22.40	173.78
5510-5710	802.11n HT40 SDM	Covered by 802.11n HT40 2TX CDD	
5500-5720	802.11ac VHT20 SDM/CDD	Covered by 802.11n HT20 2TX CDD	
5510-5710	802.11ac VHT40 SDM/CDD	Covered by 802.11n HT40 2TX CDD	
5530-5690	802.11ac VHT80 CDD	22.98	198.61
5530-5690	802.11ac VHT80 SDM	Covered by 802.11ac VHT80 2TX CDD	
5500-5720	802.11ax HE20 OFDMA	19.99	99.77
5510-5710	802.11ax HE40 OFDMA	22.44	175.39
5530-5690	802.11ax HE80 OFDMA	22.95	197.24

5.8 GHz BAND (FCC)

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.8 GHz band, 1TX			
5745-5825	802.11a	Covered by 802.11n HT20 1TX	
5745-5825	802.11n HT20	21.46	139.96
5745-5825	802.11ac VHT20	Covered by 802.11n HT20 1TX	
5755-5795	802.11n HT40	20.49	111.94
5755-5795	802.11 ac VHT40	Covered by 802.11n HT40 1TX	
5775	802.11ac VHT80	20.43	110.41
5745-5825	802.11ax HE20	21.48	140.60
5755-5795	802.11ax HE40	20.44	110.66
5775	802.11ax HE80	20.48	111.69
5.8 GHz band, 2TX			
5745-5825	802.11n HT20 CDD	24.47	279.90
5745-5825	802.11n HT20 SDM	Covered by 802.11n HT20 2TX CDD	
5755-5795	802.11n HT40 CDD	22.92	195.88
5755-5795	802.11n HT40 SDM	Covered by 802.11n HT40 2TX CDD	
5745-5825	802.11ac VHT20 SDM/CDD	Covered by 802.11n HT20 2TX CDD	
5755-5795	802.11ac VHT40 SDM/CDD	Covered by 802.11n HT40 2TX CDD	
5775	802.11ac VHT80 CDD	23.46	221.82
5775	802.11ac VHT80 SDM	Covered by 802.11ac VHT80 2TX CDD	
5745-5825	802.11ax HE20 OFDMA	24.48	280.54
5755-5795	802.11ax HE40 OFDMA	22.97	198.15
5775	802.11ax HE80 OFDMA	23.38	217.77

6.5. WORST-CASE CONFIGURATION AND MODE

The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z on ANT 6, ANT 5 and 2TX. It was determined that Y (Landscape) orientation was the worst-case orientation for ANT 6, ANT 5, and 2TX.

802.11n 2TX and 802.11ax 2TX modes were used to perform on radiated harmonic spurious final test to cover all SISO modes. Max power was tuned to maximum based on among all the modes. For testing purposes, radiated harmonics spurious below 1GHz, 1-18GHz L/M/H channels, 18-40GHz, and power line conducted emissions were performed with the EUT set at the 2TX CDD mode among the CDD/SDM modes with power setting equal or higher than FCC conducted SISO modes as worst-case scenario.

For Radiated band edge test all test modes have been investigated with power setting equal or higher than FCC conducted SISO modes as worst-case scenario.

Below 1GHz tests were performed with EUT connected to AC power adapter as the worst case; and for above 1GHz, the worst-case configuration reported was tested with EUT only. For AC line conducted emission, test was investigated with AC power adapter and with laptop. There were no emissions found below 30MHz within 20dB of the limit.

Simultaneous transmission with the bluetooth was investigated, and no noticeable emission was found.

The output power and psd for the IEEE 802.11 ax mode were investigated between all different tones, and baseline investigation SU mode had the highest output power and the lowest tone had the highest PSD readings. Therefore, antenna port conducted tests were performed on both SU and lowest tones; radiated spurious emission and radiated band edge tests were performed on SU and lowest tones.

With same power on Full RU and SU higher data rate, investigation were performed on both band edge to determine the worst case, and SU mode was determined to be the worst case.

Low data rate was used to test on antenna port conducted tests and radiated spurious emissions since it has the highest maximum power. For radiated band edge, the following are the worst-case data rates set for test:

802.11n HT20 mode: MCS7

802.11n HT40 mode: MCS7

802.11ac VHT80 mode: MCS9

802.11ax HE20/HE40/HE80 RU 26 Tones and SU mode: MCS11.

There are three vendors of the Wi-Fi/Bluetooth radio modules: variant 1, 2 and 3. The WiFi/BT radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances.

Baseline testing was performed on the three variants to determine the worst case on all conducted power and radiated emissions.

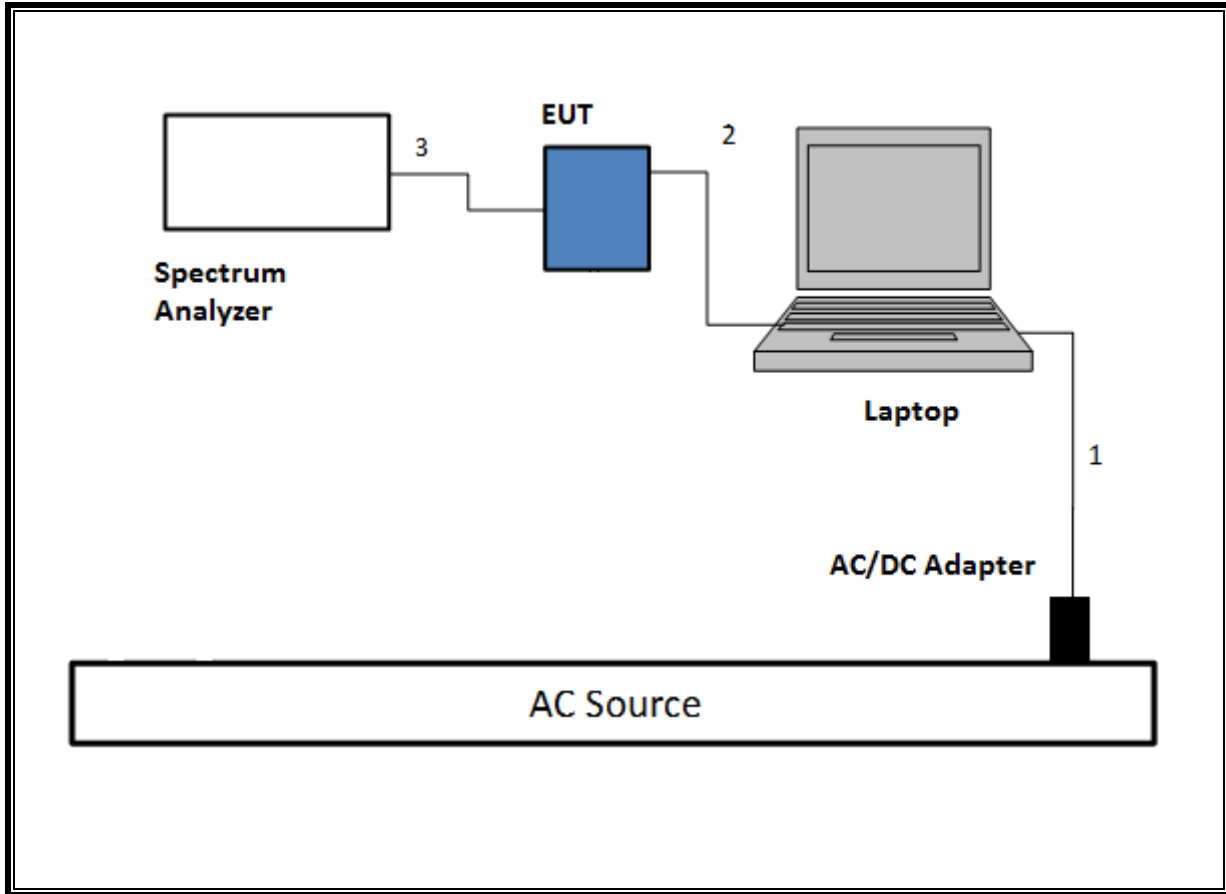
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC		
Laptop	Apple	Macbook Pro	C02YL3ZMJHC8	BCGA1989		
Laptop AC/DC adapter	Liteon Technology	A1424	NSW25679	DoC		
EUT AC/DC adapter	Apple	A1720	C3D8417A7R93KVPA8	DoC		
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-shielded	2	N/A
2	USB	1	USB	Shielded	1.0	N/A
3	Antenna	1	SMA	Un-shielded	0.2	To spectrum Analyzer
I/O CABLES (RF RADIATED AND AC LINE CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-shielded	2	N/A
2	USB	1	USB	shielded	1	N/A

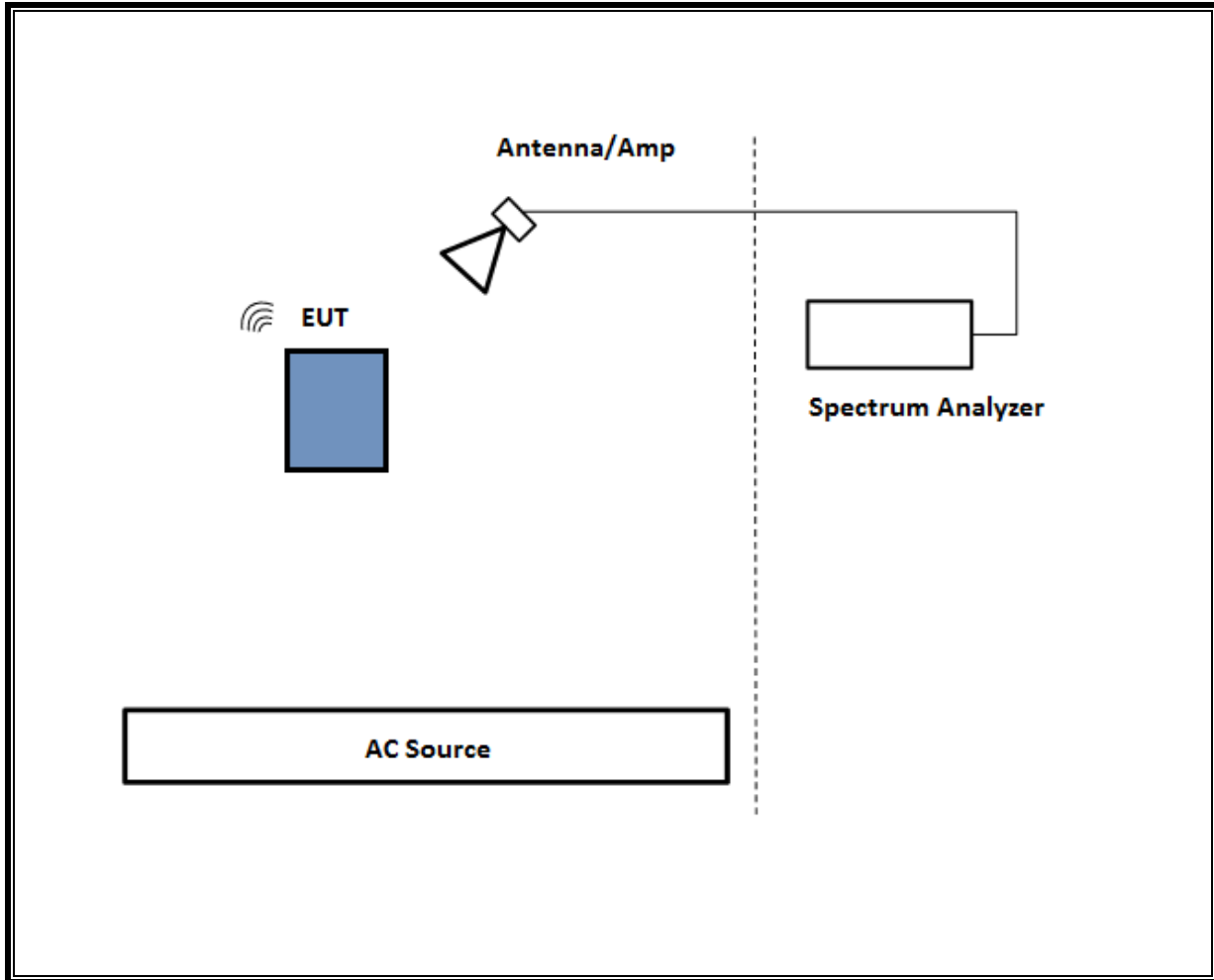
TEST SETUP

The EUT setup is shown as below. Test software exercised the radio card.

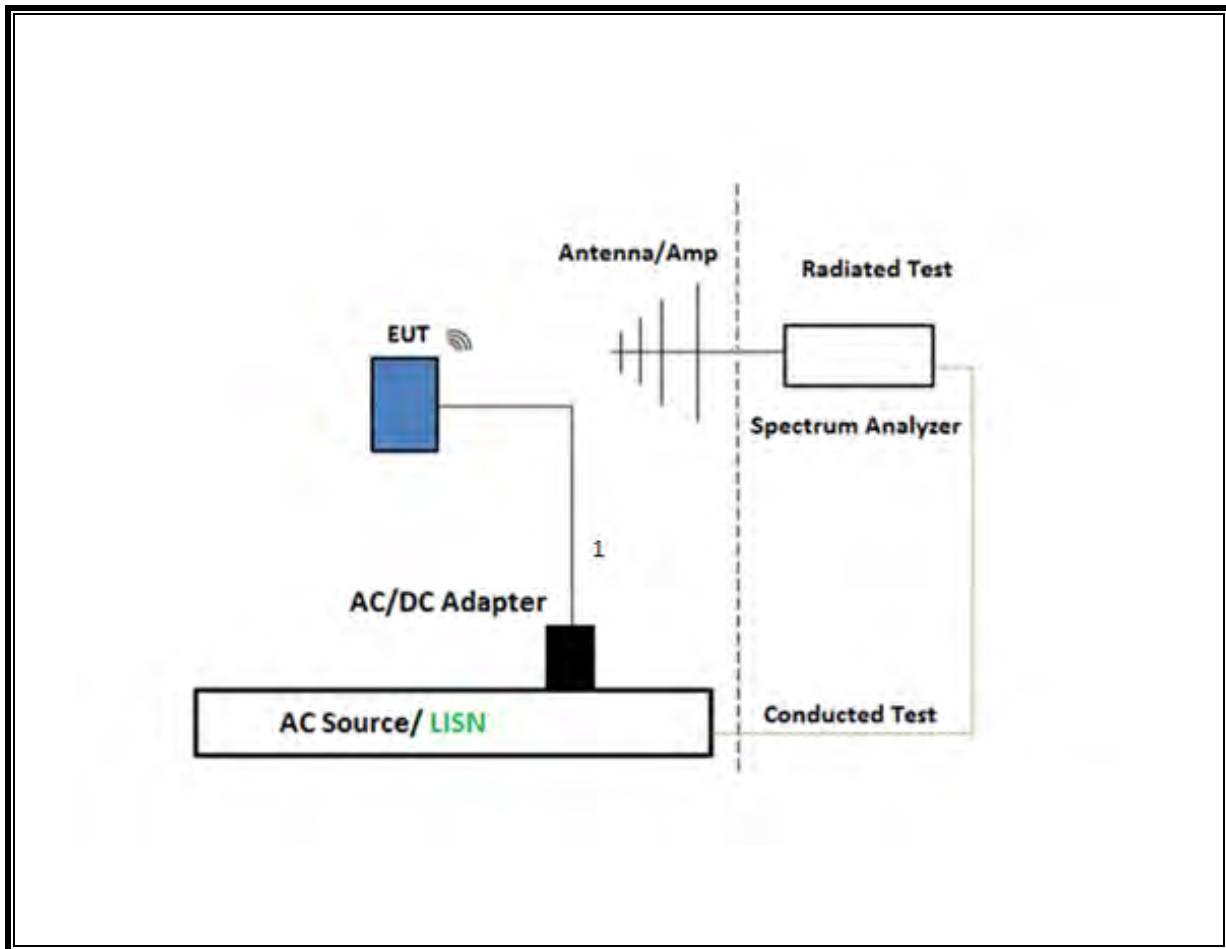
SETUP DIAGRAM FOR CONDUCTED TESTS



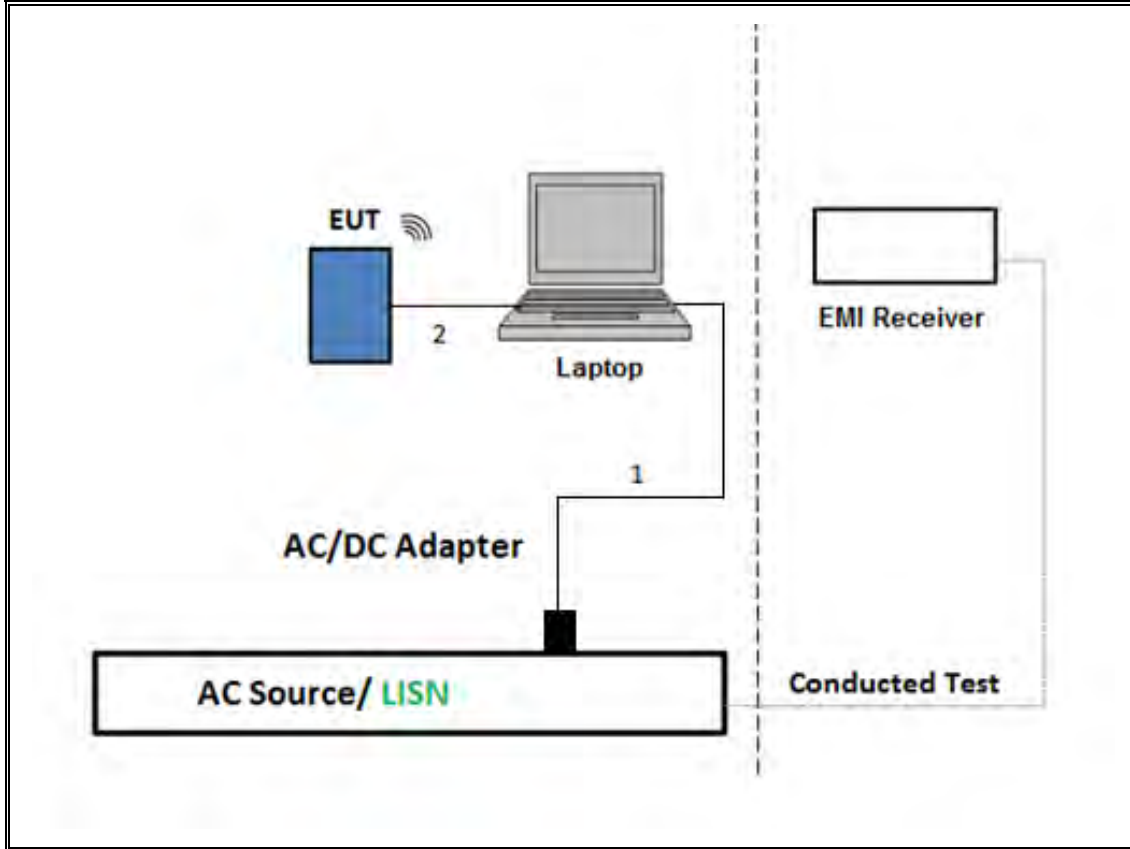
SETUP DIAGRAM FOR RADIATED TESTS ABOVE 1GHz



SETUP DIAGRAM FOR BELOW 1GHz and AC LINE CONDUCTED TEST



TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION



7. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 789033 D02 v02r01, Section B.

6 dB Emission BW: KDB 789033 D02 v02r01, Section C.2

26 dB Emission BW: KDB 789033 D02 v02r01, Section C.1

99% Occupied BW: KDB 789033 D02 v02r01, Section D.

Conducted Output Power: KDB 789033 D02 v02r01, Section E.3.b (Method PM-G)

Power Spectral Density: KDB 789033 D02 v02r01, Section F

Unwanted emissions in restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, and G.5.

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4

8. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment were utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI Receiver	Rohde & Schwarz	ESW44	201498	02/20/2023	02/20/2022
RF Filter 1-18GHz	UL-FR1	SAC 6 port rf box	203957	02/12/2023	02/12/2022
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	200895	10/13/2022	10/13/2021
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	T712	03/22/2022	03/22/2021
RF Filter Box	UL-FR1	NA	173233	10/23/2022	10/23/2021
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	T120	04/07/2022	04/07/2021
RF Filter Box	UL-FR1	NA	173233	10/23/2022	10/23/2021
EMI Test Receiver	Rohde & Schwarz	ESW44	191429	02/20/2023	02/20/2022
Antenna, Horn 1-18GHz	ETS Lindgren	3117	200786	02/24/2023	02/24/2022
RF Filter Box 1-18GHz	UL-FR1	NA	PRE0183530	11/17/2022	11/17/2021
EMI Test Receiver	Rohde & Schwarz	ESW44	191428	02/20/2023	02/20/2022
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	41112	09/21/2022	09/21/2021
RF Filter 1-18GHz	UL-FR1	SAC 6 port rf box	203957	02/12/2023	02/12/2022
EMI Receiver	Rohde & Schwarz	ESW44	201498	02/20/2023	02/20/2022
Antenna, Horn 1-18GHz	ETS Lindgren	3117	206805	06/22/2022	06/22/2021
Antenna, Horn 1-18GHz	ETS Lindgren	3117	200897	02/24/2023	02/24/2022
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	200785	10/13/2022	10/13/2021
RF Filter Box, 1-18GHz	UL-FR1	NA	207182	02/11/2023	02/11/2022
RF Filter Box 1-18GHz	UL-FR	NA	171389	11/01/2022	11/01/2021
EMI Test Receiver	Rohde & Schwarz	ESW44	201497	02/18/2023	02/18/2022
Antenna	ETS-Lindgren	3117	206806	09/22/2022	09/22/2021
RF Filter Box, 1-18GHz	UL-FR1	N/A	171875	01/15/2023	01/15/2022
EMI Test Receiver	Rohde & Schwarz	ESW44	201501	02/19/2023	02/19/2022
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	174373	12/14/2022	03/03/2021
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	202992	12/29/2022	12/29/2021
Spectrum Analyzer, PSA, 3Hz to 44GHz	Agilent (Keysight) Technologies	E4446A	81450	02/02/2023	02/02/2022
*Antenna Horn 18 to 26.5GHz	ARA	MWH-1826/B	81140	04/22/2022	04/22/2021
Amplifier 18-26.5GHz	AMPLICAL	AMP18G26.5-60	215705	02/26/2023	02/26/2022
Amplifier 26-40GHz	AMPLICAL	AMP26G40-65	172345	02/26/2023	02/26/2022
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	90238	01/30/2023	01/30/2022
Power Meter, P-series single channel	Keysight	N1921A	T413	01/24/2023	01/24/2022
Antenna, Active Loop 9KHz to 30MHz	EMCO	6502	T35	10/05/2022	10/05/2021
Power sensor	Keysight	N1921A	90389	02/03/2023	02/03/2022
*Amplifier, 26GHz to 40GHz	Miteq	TTA2640-35-HG	T1864	04/19/2022	04/19/2021
Antenna, Horn 26.5 to 40GHz	ARA	MWH-2640/B	81104	10/14/2022	10/14/2021

AC Line Conducted					
EMI Test Receiver	Rohde & Schwarz	ESR	T1436	02/21/2023	02/21/2022
Power Cable, Line Conducted Emissions	UL	PR1	T861	10/27/2022	10/27/2021
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	01/26/2023	01/26/2022
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, April 14, 2021		
Conducted Software	UL	UL EMC	21.4.21		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, July 07, 2020		

Note: *Testing is completed before equipment expiration date.

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

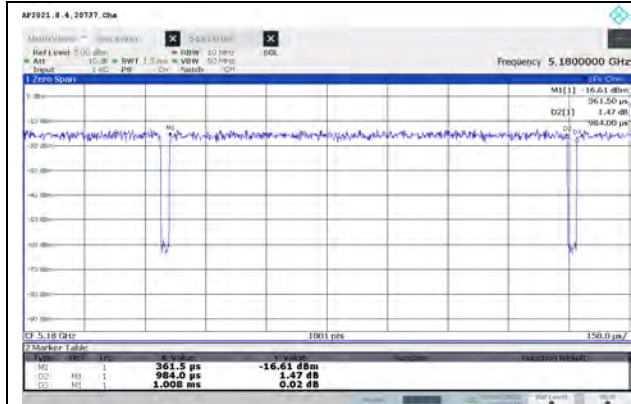
ID:	19172	Date:	5/25/2022
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ON TIME AND DUTY CYCLE RESULTS

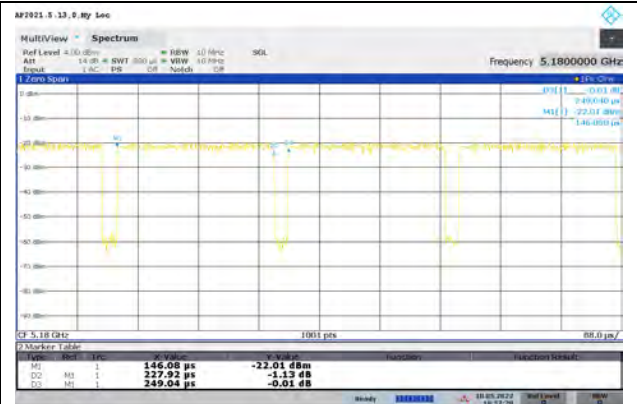
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
5GHz Band						
802.11n HT20 MCS0	0.984	1.008	0.976	97.62%	0.10	1.016
802.11n HT20 MCS7	0.228	0.249	0.915	91.52%	0.38	4.388
802.11n HT40 MCS0	0.496	0.519	0.956	95.57%	0.20	2.016
802.11n HT40 MCS7	0.127	0.150	0.849	84.89%	0.71	7.847
802.11ac VHT80 MCS0	0.461	0.483	0.954	95.43%	0.20	2.171
802.11ac VHT80 MCS9	0.072	0.092	0.779	77.85%	1.09	13.947
802.11ax HE20 RU26, MCS0	3.995	4.030	0.991	99.13%	0.00	0.010
802.11ax HE20 RU26, MCS11	0.450	0.484	0.930	92.98%	0.32	2.222
802.11ax HE40 RU26, MCS0	3.966	4.030	0.984	98.41%	0.00	0.010
802.11ax HE40 RU26, MCS11	3.944	4.030	0.979	97.86%	0.09	0.254
802.11ax HE80 RU26, MCS0	3.995	4.039	0.989	98.91%	0.00	0.010
802.11ax HE80 RU26, MCS11	0.290	0.326	0.889	88.85%	0.51	3.450

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
5GHz Band						
802.11ax HE20, SU MCS0	1.488	1.513	0.984	98.36%	0.00	0.010
802.11ax HE20, SU MCS11	0.146	0.168	0.866	86.61%	0.62	6.873
802.11ax HE40 SU, MCS0	0.767	0.795	0.966	96.56%	0.15	1.303
802.11ax HE40 SU, MCS11	0.101	0.121	0.834	83.38%	0.79	9.873
802.11ax HE80 SU, MCS0	0.400	0.424	0.942	94.22%	0.26	2.501
802.11ax HE80 SU, MCS11	0.082	0.103	0.797	79.72%	0.98	12.123
802.11n HT20 SDM MCS0	0.993	1.014	0.979	97.93%	0.09	1.007
802.11n HT40 SDM MCS0	0.500	0.522	0.958	95.79%	0.19	2.000
802.11ac VHT80 SDM MCS0	0.256	0.278	0.921	92.09%	0.36	3.906
802.11ax HE20 RU26 SDM MCS0	0.399	0.403	0.990	99.01%	0.00	0.010
802.11ax HE40 RU26 SDM MCS0	0.400	0.403	0.993	99.26%	0.00	0.010
802.11ax HE80 RU26 SDM MCS0	0.401	0.404	0.993	99.26%	0.00	0.010
802.11ax HE20 SU SDM MCS0	0.780	0.804	0.970	97.01%	0.13	1.282
802.11ax HE40 SU SDM MCS0	0.422	0.443	0.952	95.17%	0.21	2.371
802.11ax HE80 SU SDM MCS0	0.239	0.263	0.909	90.87%	0.42	4.184

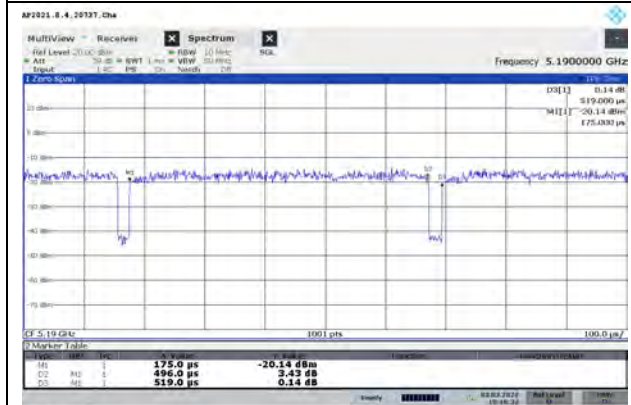
DUTY CYCLE PLOTS



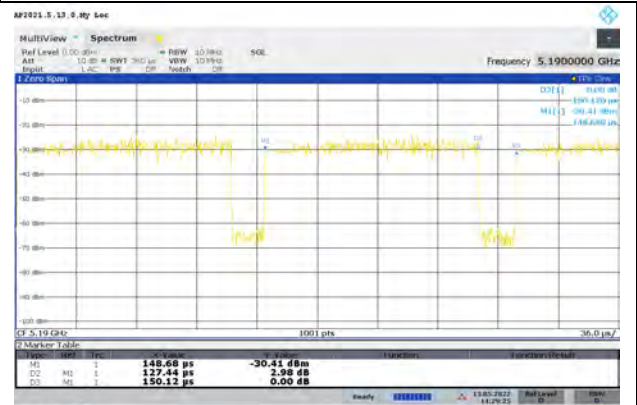
802.11n HT20 MODE MCS0



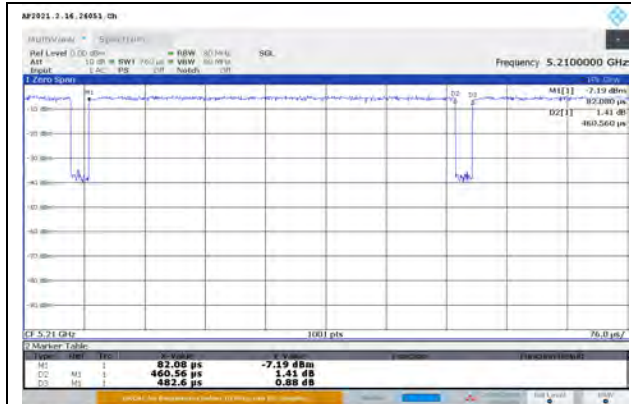
802.11n HT20 MODE MCS7



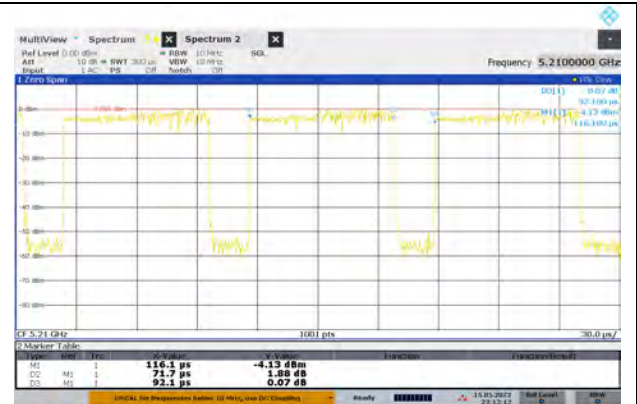
02.11n HT40 MODE MCS0



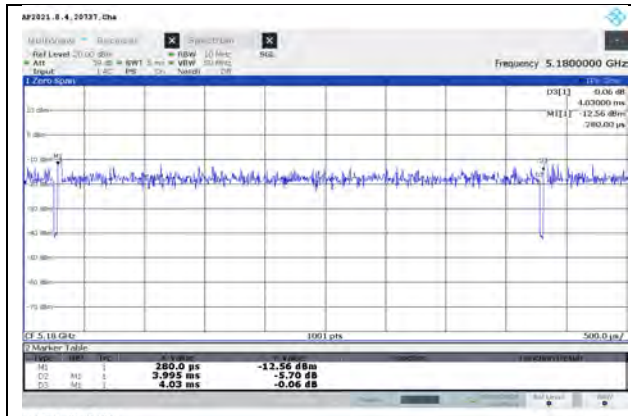
802.11n HT40 MODE MCS7



802.11ac VHT80 MODE MCS0



802.11ac VHT80 MODE MCS9



802.11ax HE20 RU26, MCS0



802.11ax HE20 RU26, MCS11



802.11ax HE40 RU26, MCS0



802.11ax HE40 RU26, MCS11



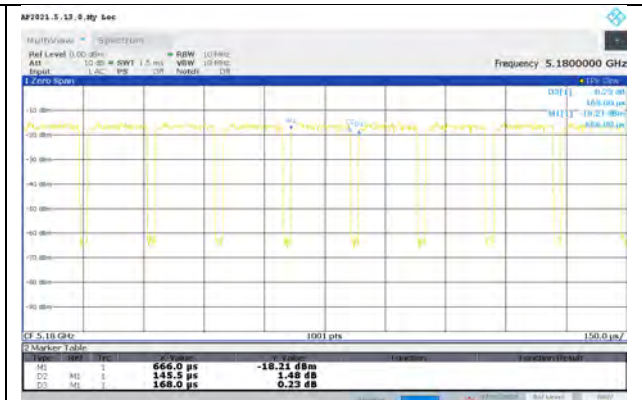
802.11ax HE80 RU26, MCS0



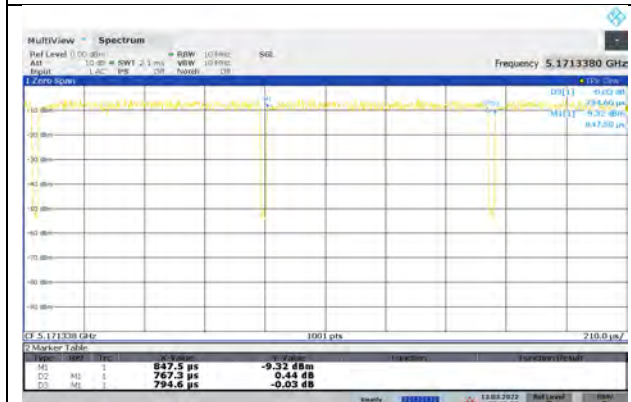
802.11ax HE80 RU26, MCS11



802.11ax HE20 SU, MCS0



802.11ax HE20 SU, MCS11



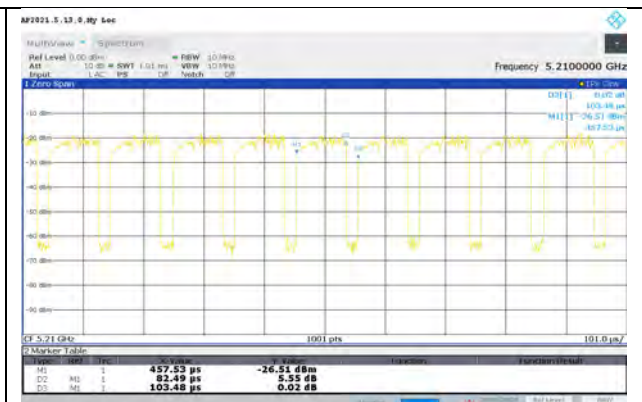
802.11ax HE40 SU, MCS0



802.11ax HE40 SU, MCS11



802.11ax HE80 SU, MCS0



802.11ax HE80 SU, MCS11



802.11n HT20 SDM, MCS0



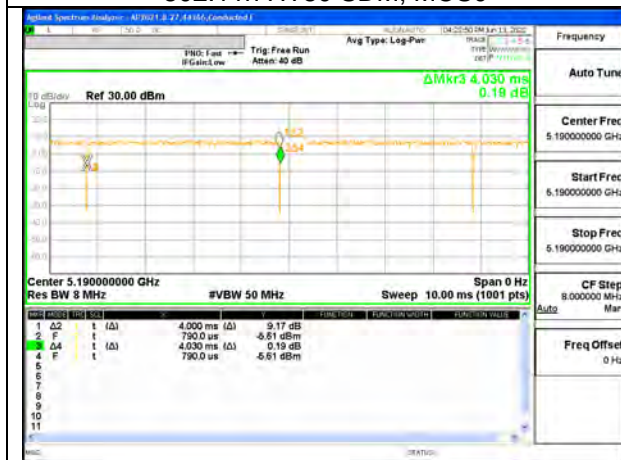
802.11n HT40 SDM, MCS0



802.11n HT80 SDM, MCS0



802.11ax HE20 RU26 SDM, MCS0



802.11ax HE40 RU26 SDM, MCS0



802.11ax HE80 RU26 SDM, MCS0



802.11ax HE20 SU SDM, MCS0



802.11ax HE40 SU SDM, MCS0



802.11ax HE80 SU SDM, MCS0

Note: There are same duty cycle factor on 1TX and 2TX

9.2. 26 dB and 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

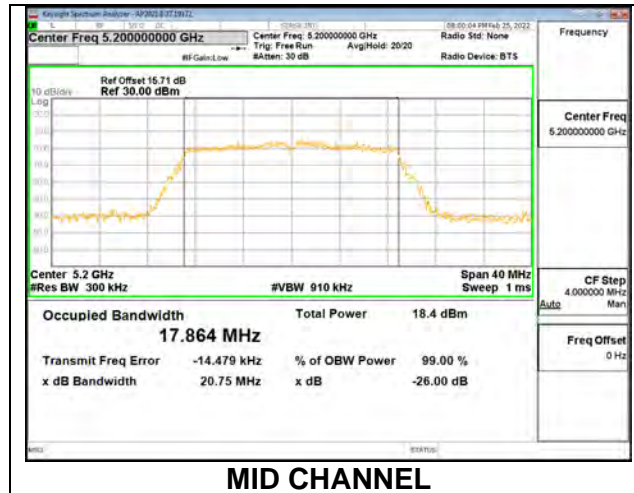
RESULTS

ID:	19172	Date:	2/25/2022
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9.2.1. 802.11n HT20 MODE IN THE 5.2 GHz BAND

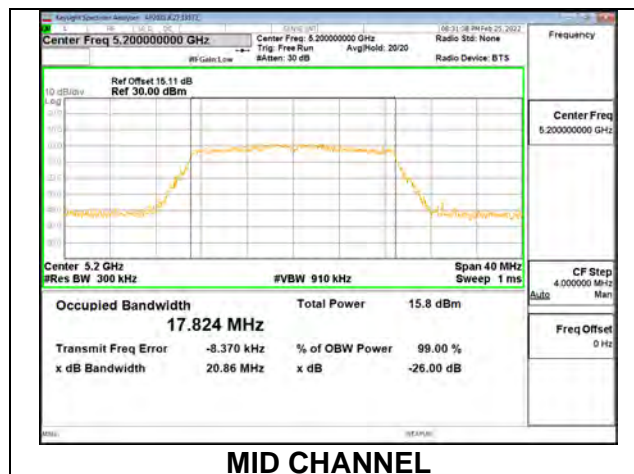
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	21.17	17.926
Mid	5200	20.75	17.864
High	5240	21.11	17.813



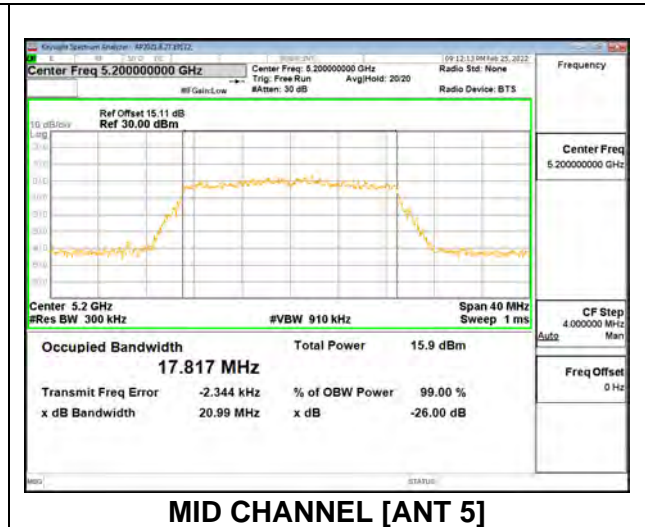
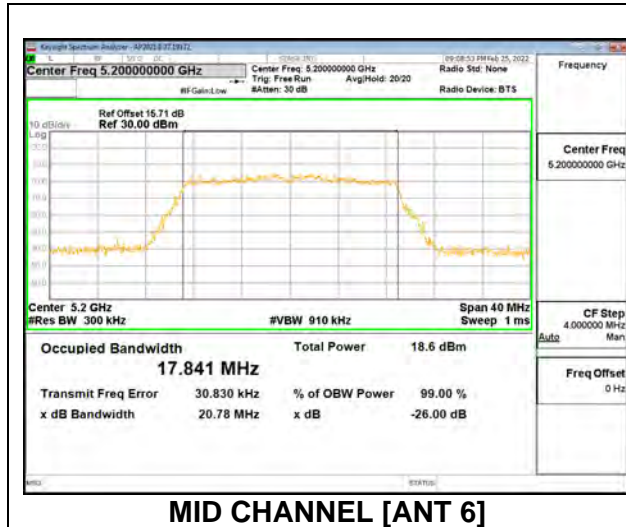
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	21.36	17.861
Mid	5200	20.86	17.824
High	5240	21.28	17.841



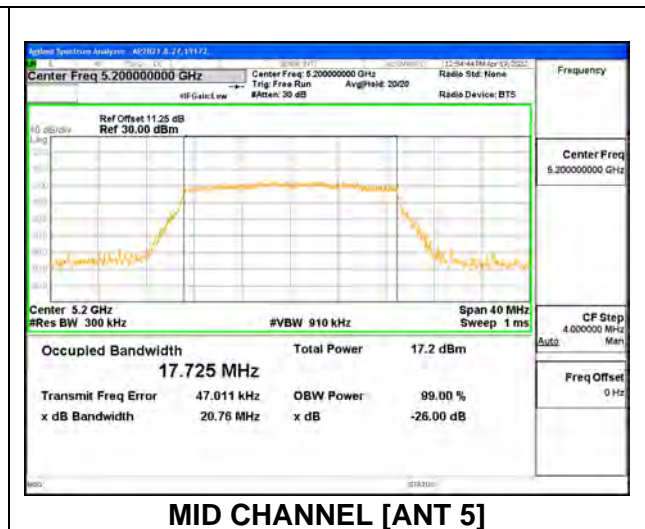
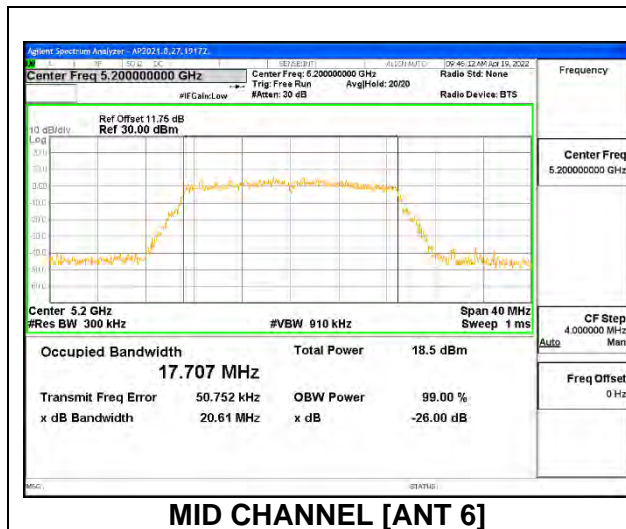
2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	21.13	20.87	17.819	17.868
Mid	5200	20.78	20.99	17.841	17.817
High	5240	21.39	20.80	17.810	17.823



2TX Antenna 6 + Antenna 5 SDM MODE

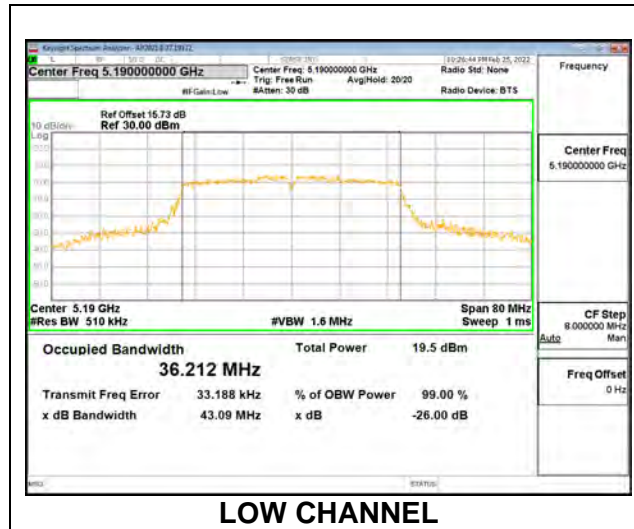
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	20.78	20.96	17.815	17.785
Mid	5200	20.61	20.76	17.707	17.725
High	5240	20.96	20.77	17.665	17.737



9.2.2. 802.11n HT40 MODE IN THE 5.2 GHz BAND

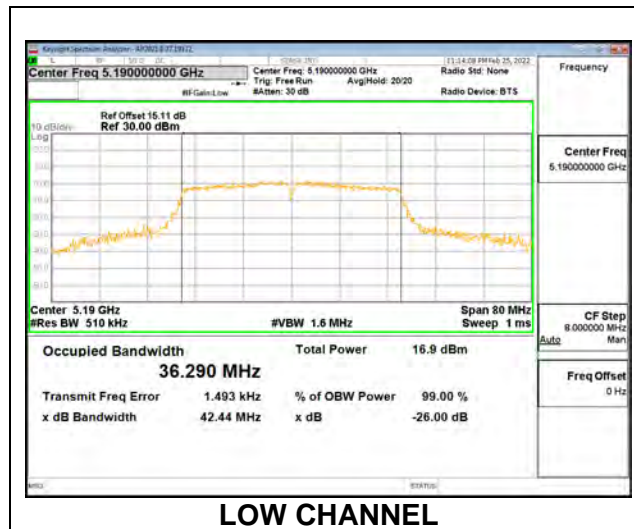
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	43.09	36.212
High	5230	41.01	36.285



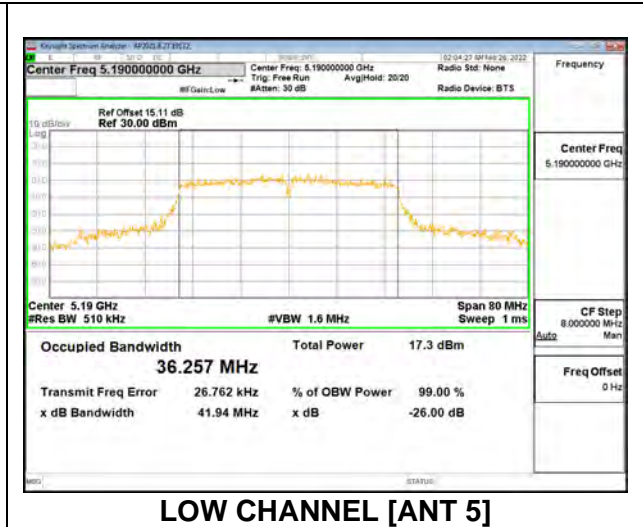
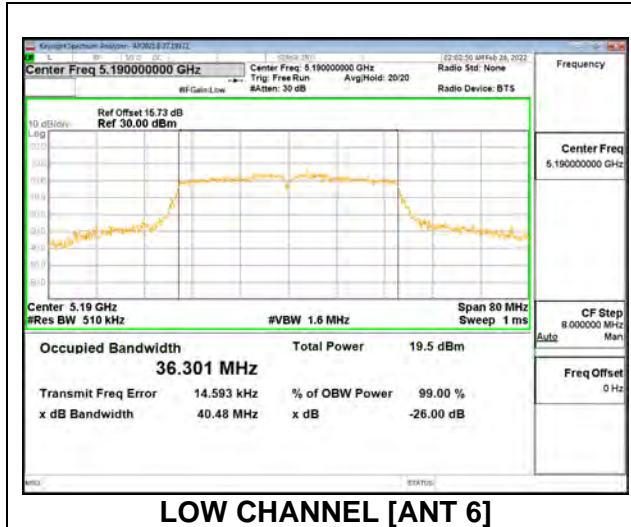
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	42.44	36.290
High	5230	40.65	36.332



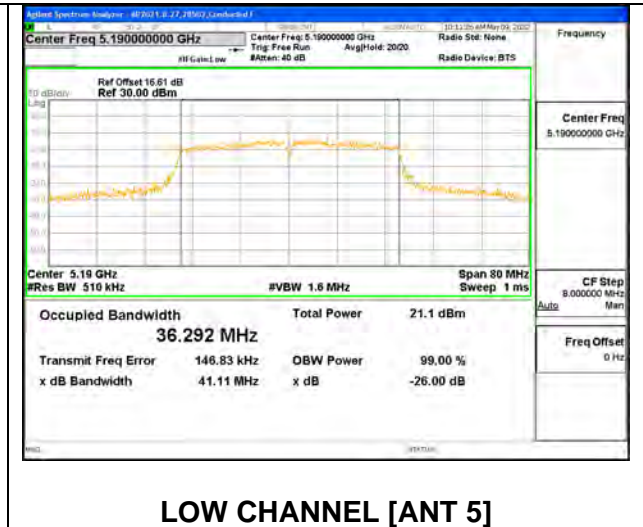
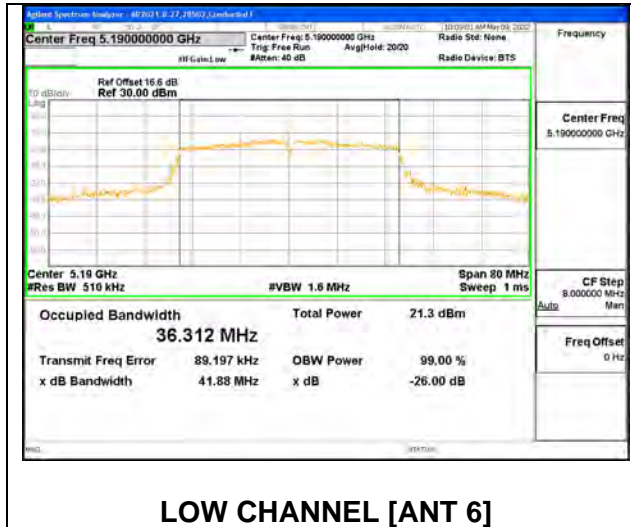
2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	40.48	41.94	36.301	36.257
High	5230	41.13	40.61	36.154	36.125



2TX Antenna 6 + Antenna 5 SDM MODE

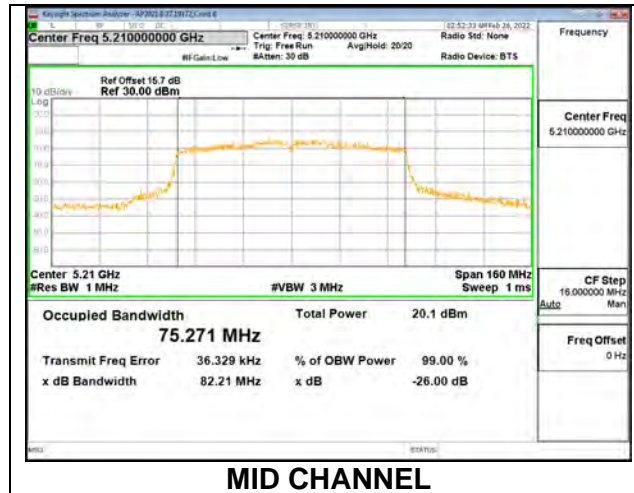
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	41.88	41.11	36.312	36.292
High	5230	40.86	40.52	36.383	36.201



9.2.3. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

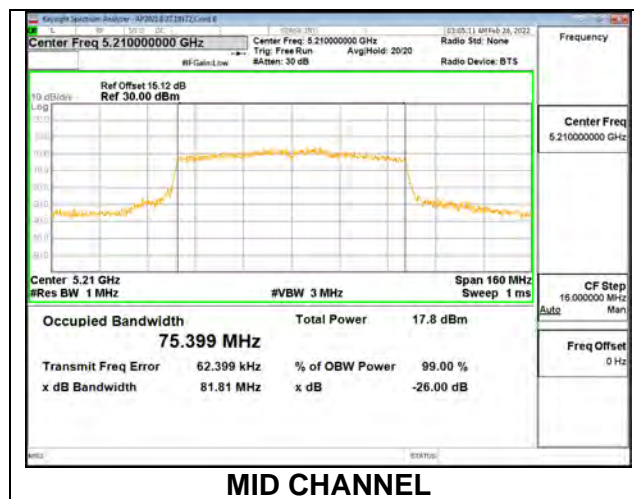
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	82.21	75.271



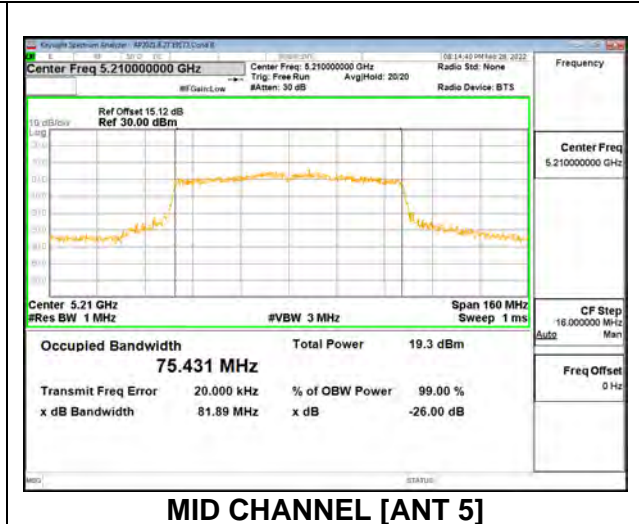
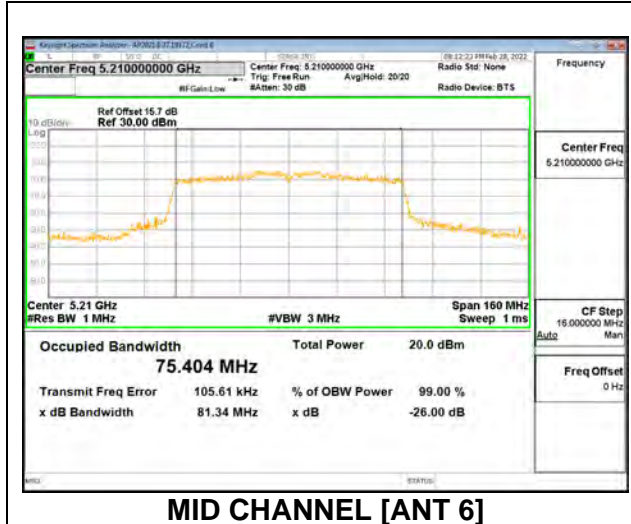
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	81.81	75.399



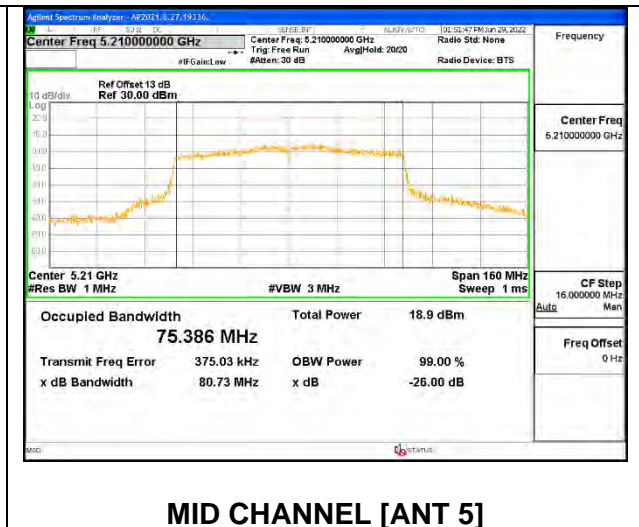
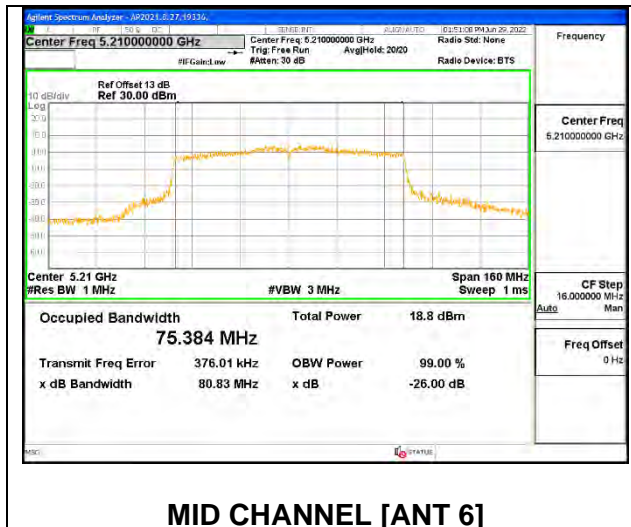
2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	81.34	81.89	75.404	75.431



2TX Antenna 6 + Antenna 5 SDM MODE

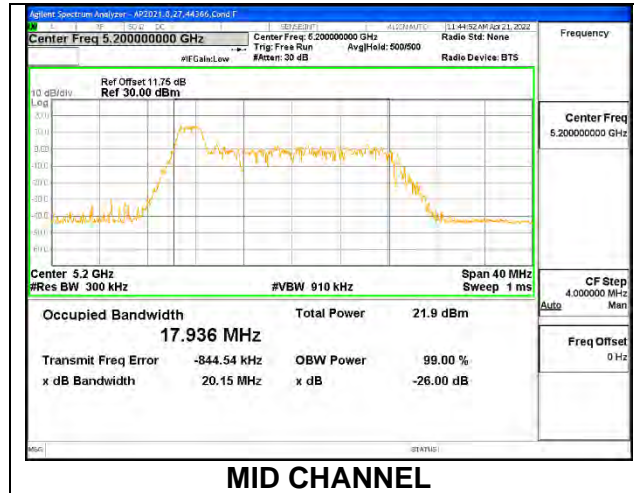
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	80.83	80.73	75.384	75.386



9.2.4. 802.11ax HE20 MODE IN THE 5.2 GHz BAND

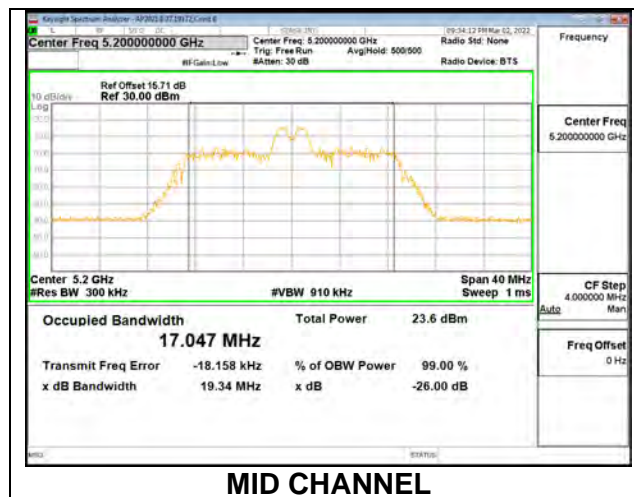
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	19.93	18.371
Mid	5200	20.15	17.936
High	5240	19.90	18.319



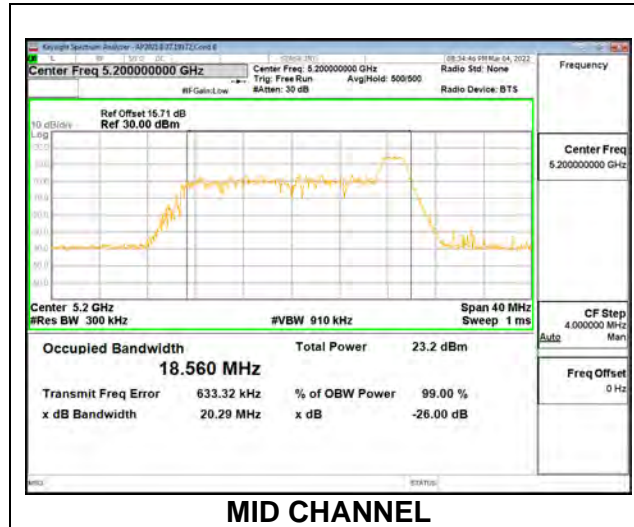
1TX Antenna 6 MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	18.70	17.042
Mid	5200	19.34	17.047
High	5240	18.61	17.115



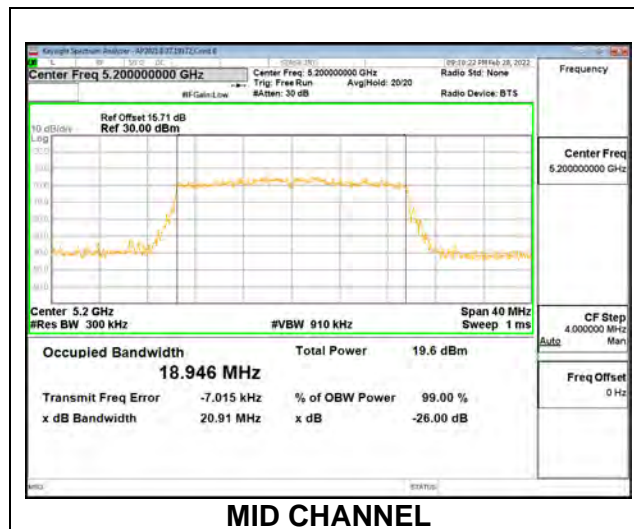
1TX Antenna 6 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	20.38	18.537
Mid	5200	20.29	18.560
High	5240	20.14	18.473



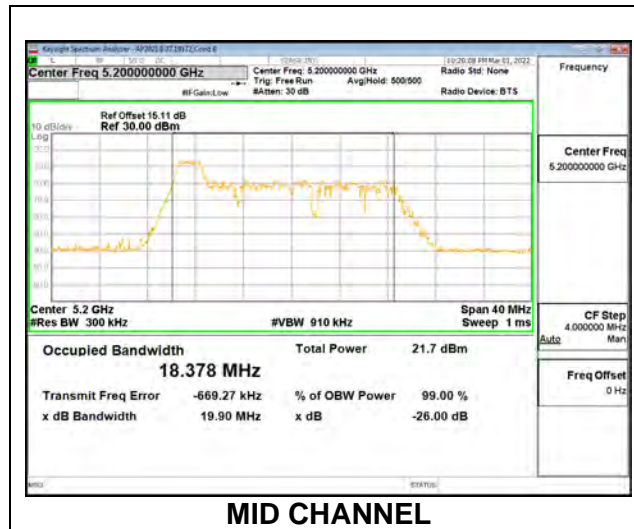
1TX Antenna 6 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	21.16	18.898
Mid	5200	20.91	18.946
High	5240	20.77	18.881



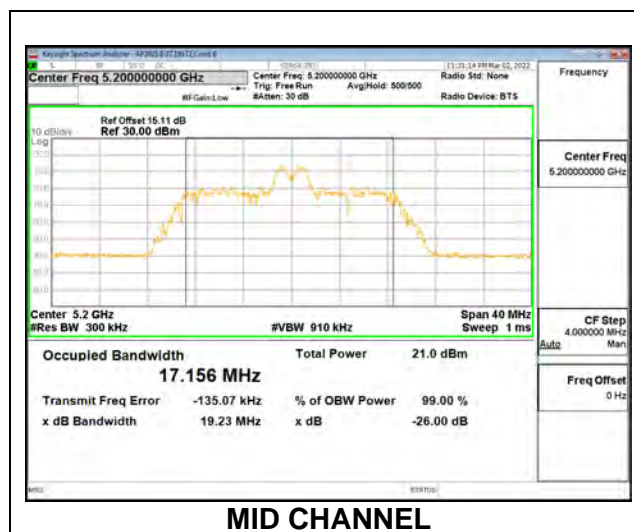
1TX Antenna 5 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	19.61	18.368
Mid	5200	19.90	18.378
High	5240	19.71	18.324



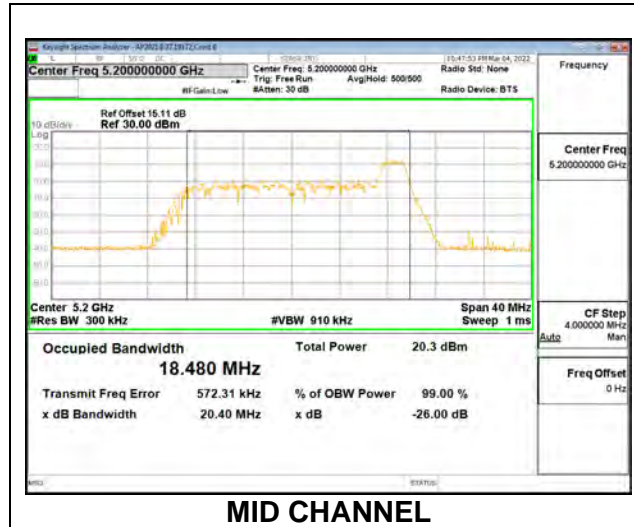
1TX Antenna 5 MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	19.38	17.198
Mid	5200	19.23	17.156
High	5240	19.10	17.148



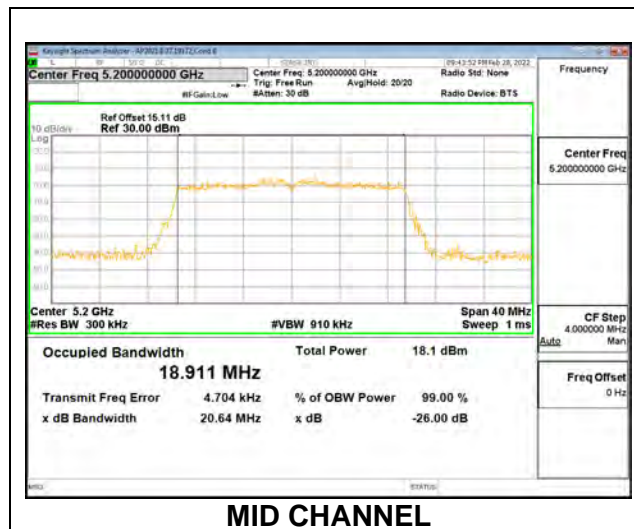
1TX Antenna 5 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	20.60	18.458
Mid	5200	20.40	18.480
High	5240	20.48	18.499



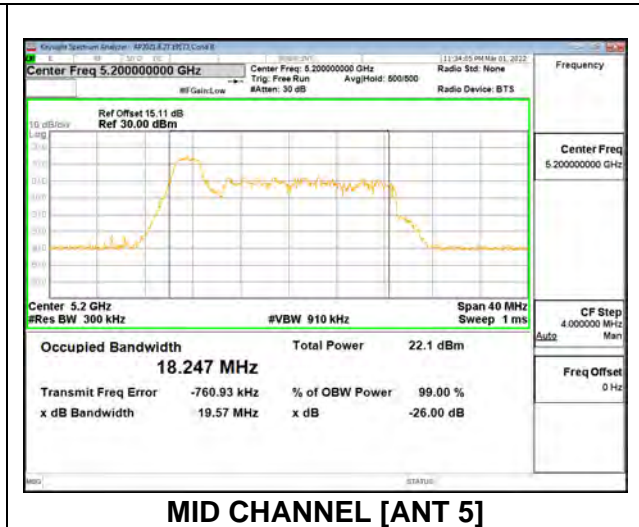
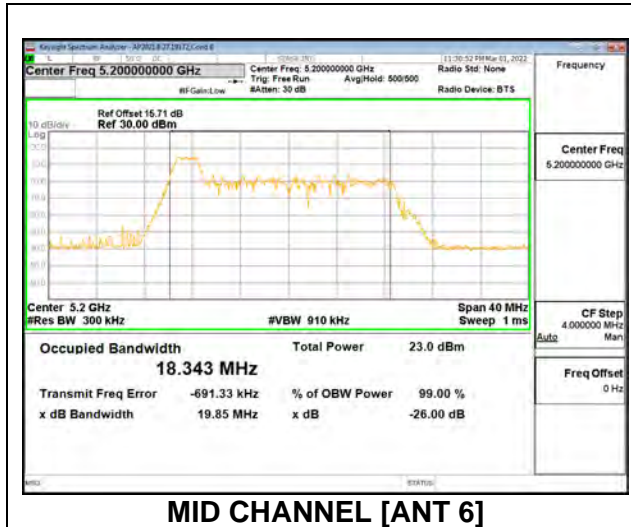
1TX Antenna 5 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	20.99	18.906
Mid	5200	20.64	18.911
High	5240	21.13	18.902



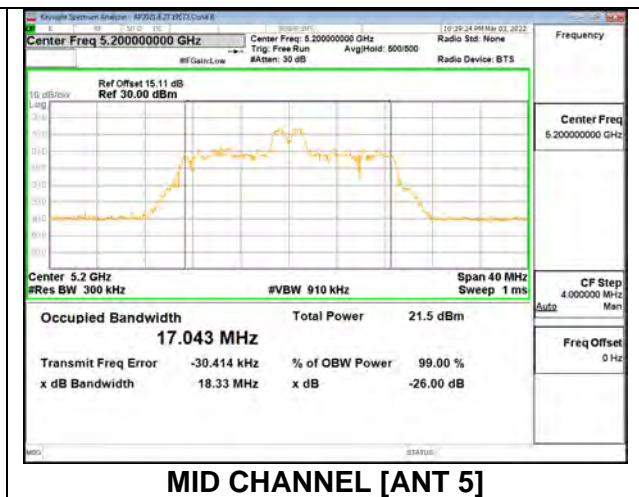
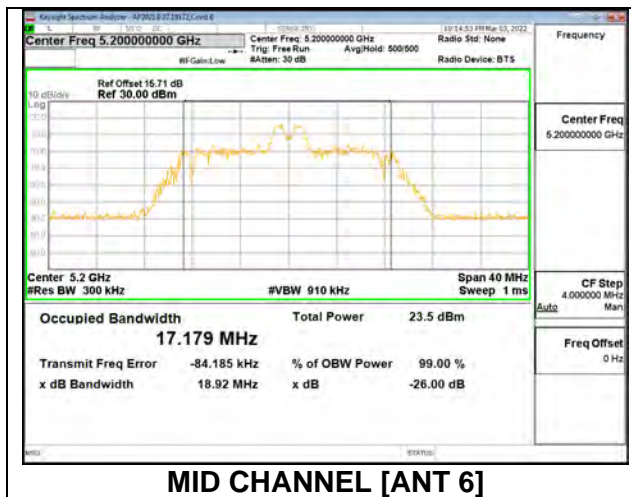
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	20.21	19.69	18.399	18.253
Mid	5200	19.85	19.57	18.343	18.247
High	5240	20.07	19.56	18.236	18.277



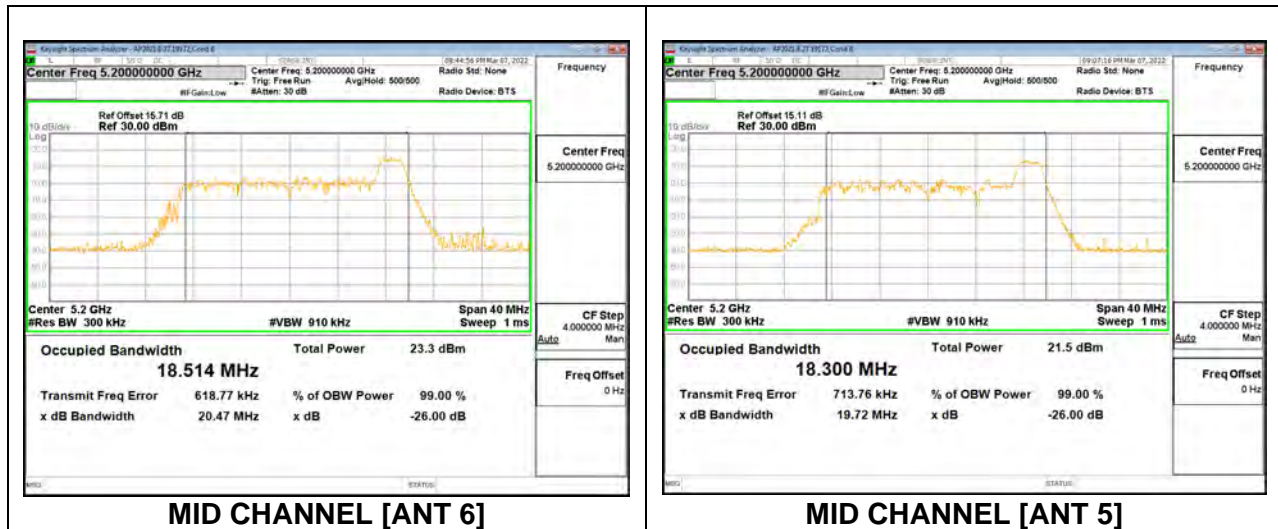
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	18.76	18.34	17.131	17.031
Mid	5200	18.92	18.33	17.179	17.043
High	5240	18.99	18.08	16.857	16.955



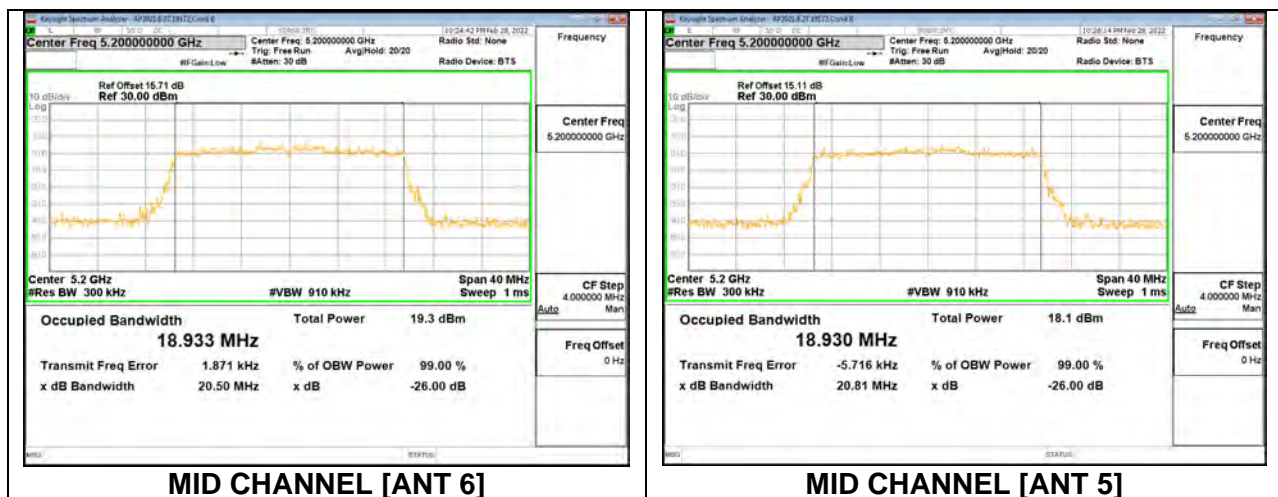
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	20.36	19.85	18.326	18.371
Mid	5200	20.47	19.72	18.514	18.300
High	5240	20.20	19.80	18.534	18.280



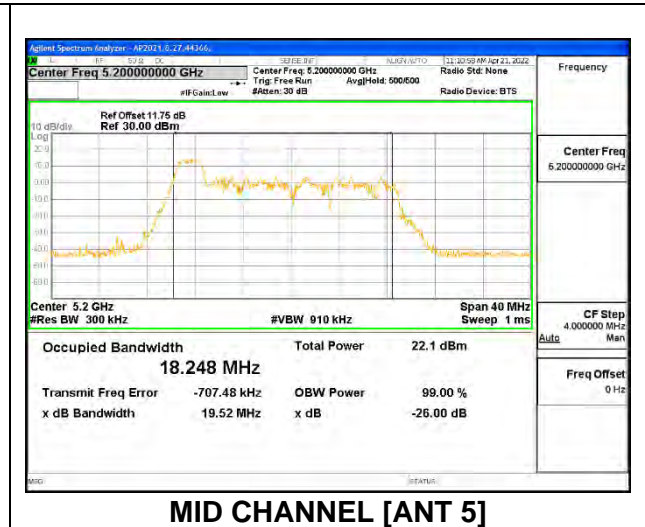
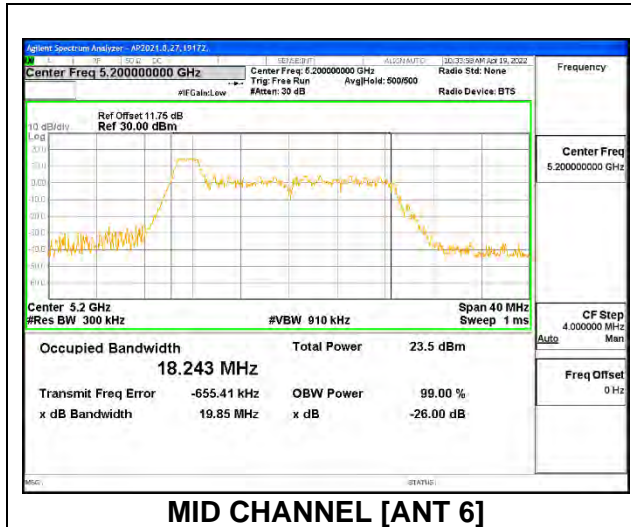
2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	21.30	21.66	18.943	18.949
Mid	5200	20.50	20.81	18.933	18.930
High	5240	20.86	20.80	18.921	18.935



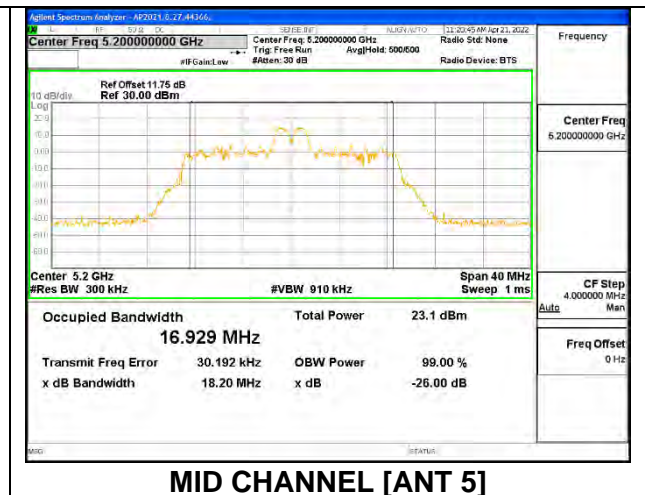
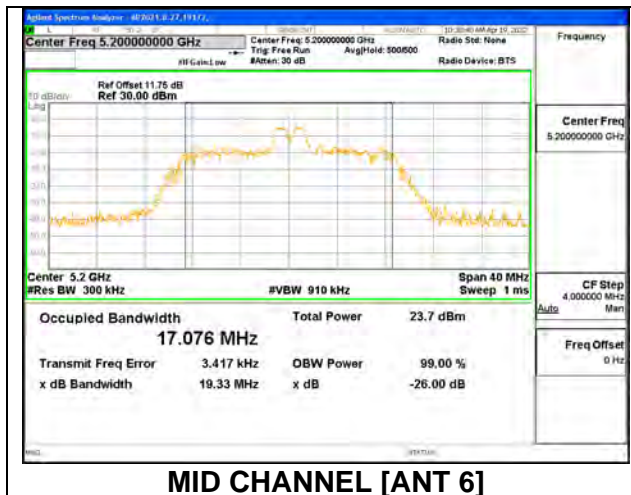
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	19.62	19.71	18.122	18.324
Mid	5200	19.85	19.52	18.243	18.248
High	5240	19.99	19.55	18.372	18.285



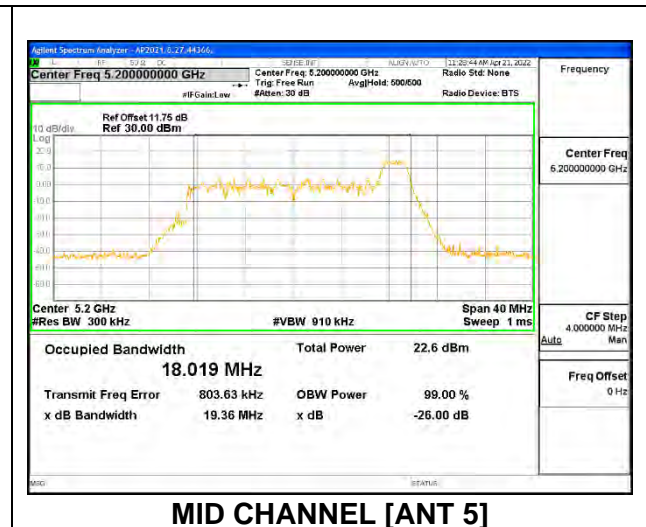
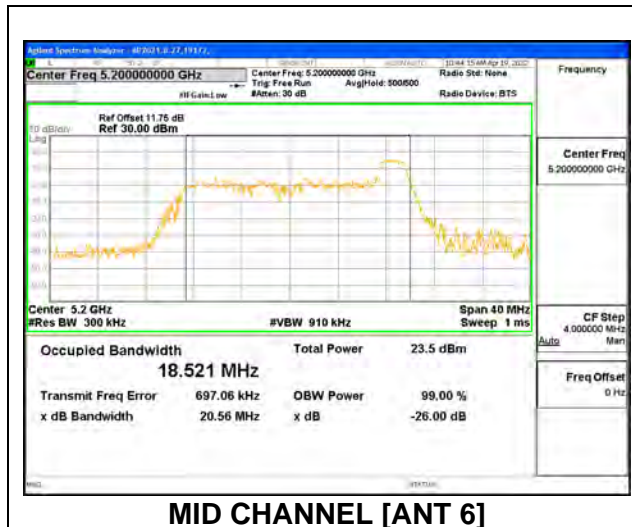
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	19.19	18.10	17.056	16.787
Mid	5200	19.33	18.20	17.076	16.929
High	5240	19.38	18.01	17.116	16.845



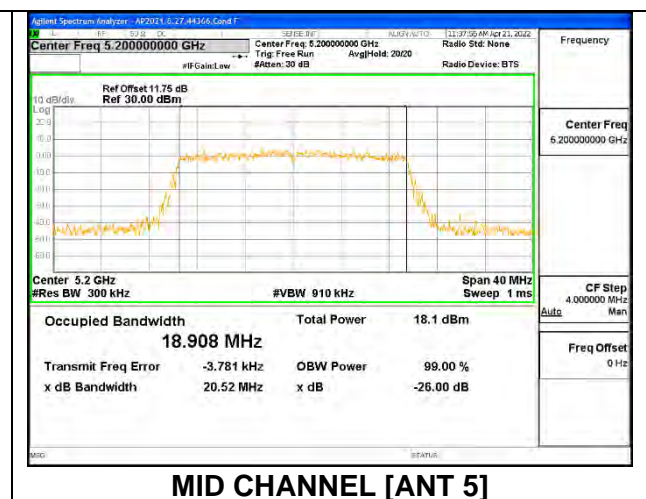
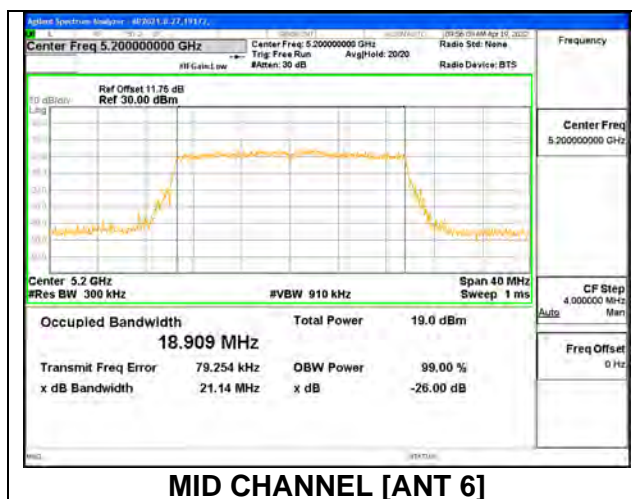
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	20.66	19.64	18.516	18.068
Mid	5200	20.56	19.36	18.521	18.019
High	5240	20.46	19.75	18.490	18.437



2TX Antenna 6 + Antenna 5 SDM MODE: SU Mode

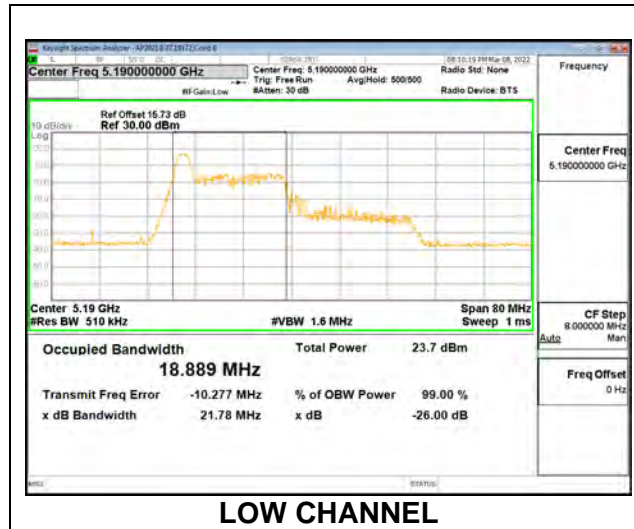
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5180	20.76	21.61	18.990	19.002
Mid	5200	21.14	20.52	18.909	18.908
High	5240	20.56	20.48	18.915	18.924



9.2.5. 802.11ax HE40 MODE IN THE 5.2 GHz BAND

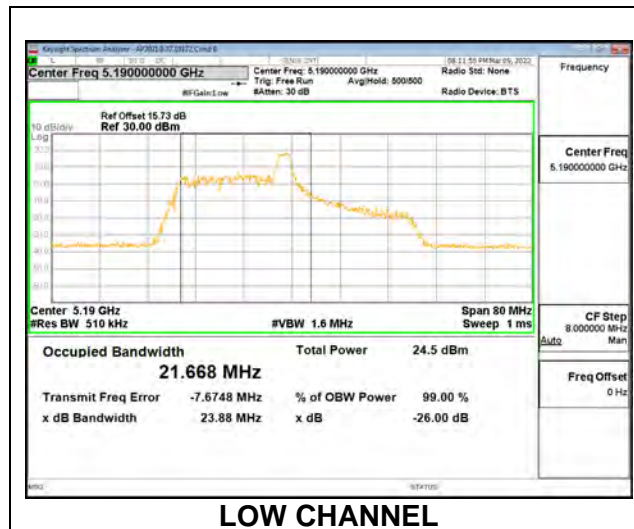
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	21.78	18.889
High	5230	20.44	18.826



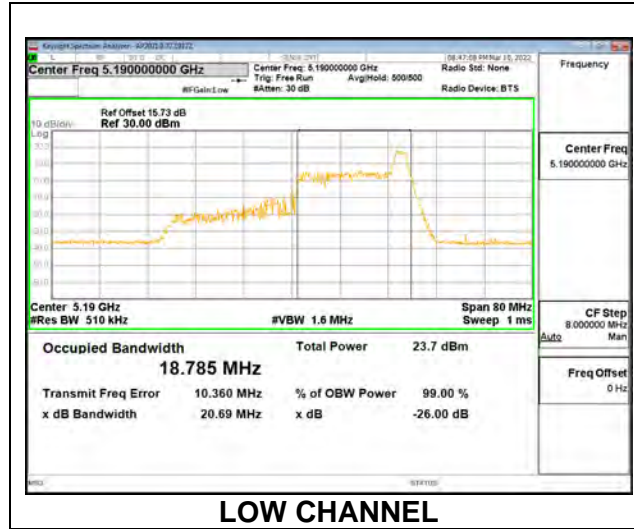
1TX Antenna 6 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	23.88	21.668
High	5230	23.62	21.286



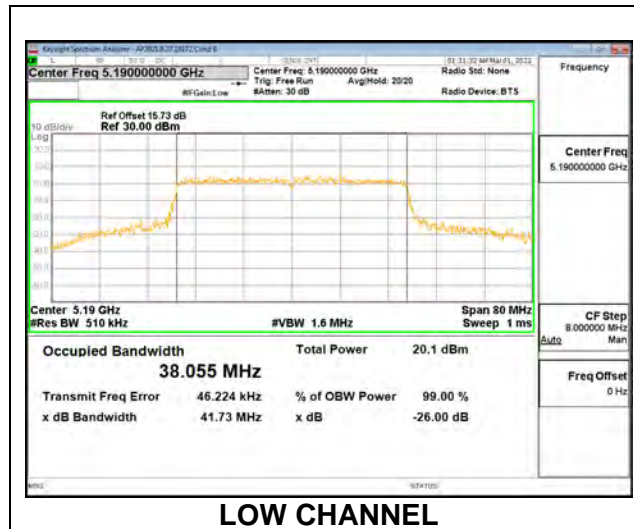
1TX Antenna 6 MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	20.69	18.785
High	5230	21.28	18.914



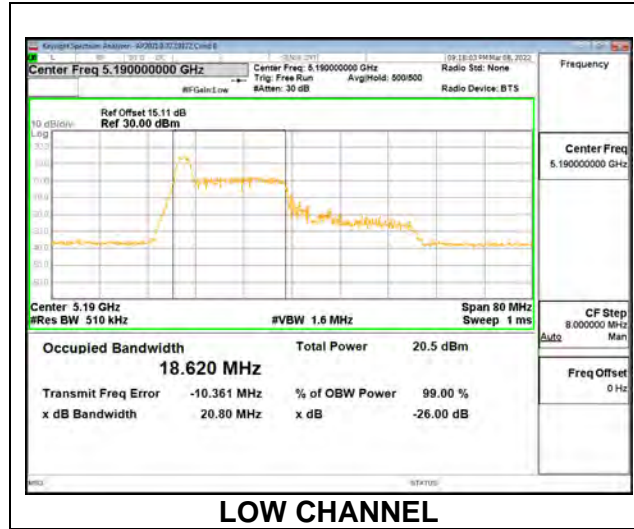
1TX Antenna 6 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	41.73	38.055
High	5230	41.10	38.006



1TX Antenna 5 MODE: 26 Tones, RU Index 0

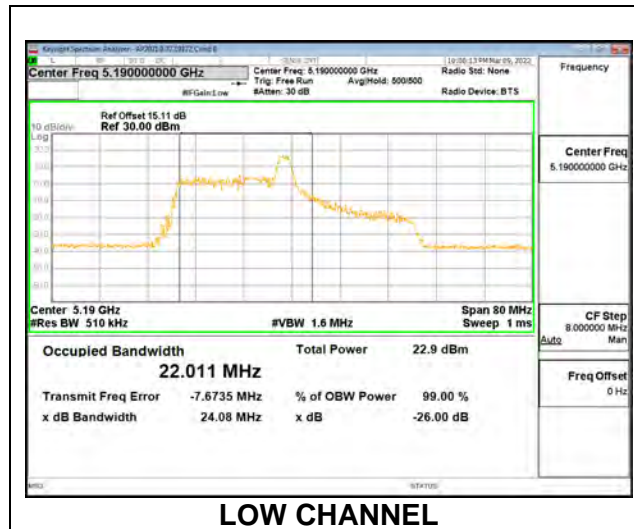
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	20.80	18.620
High	5230	19.87	18.716



LOW CHANNEL

1TX Antenna 5 MODE: 26 Tones, RU Index 8

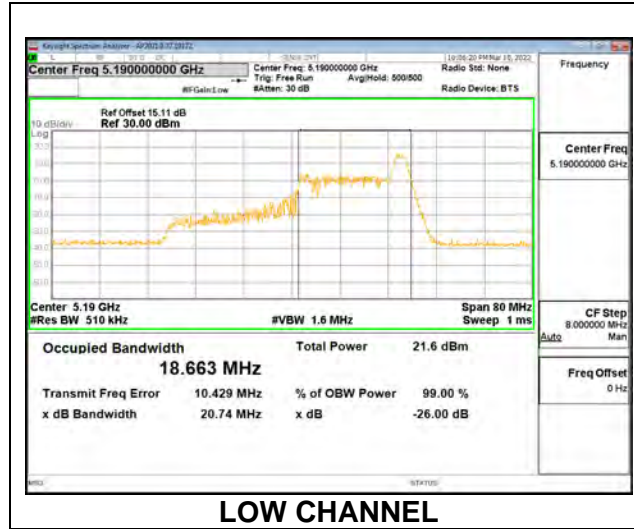
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	24.08	22.011
High	5230	23.76	21.921



LOW CHANNEL

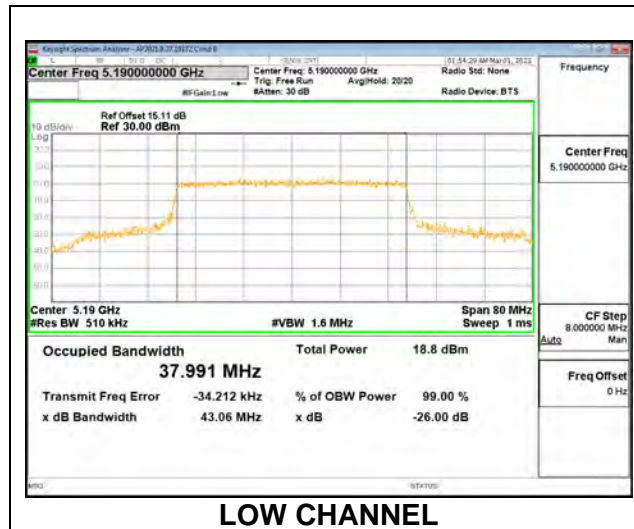
1TX Antenna 5 MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	20.74	18.663
High	5230	21.28	18.943



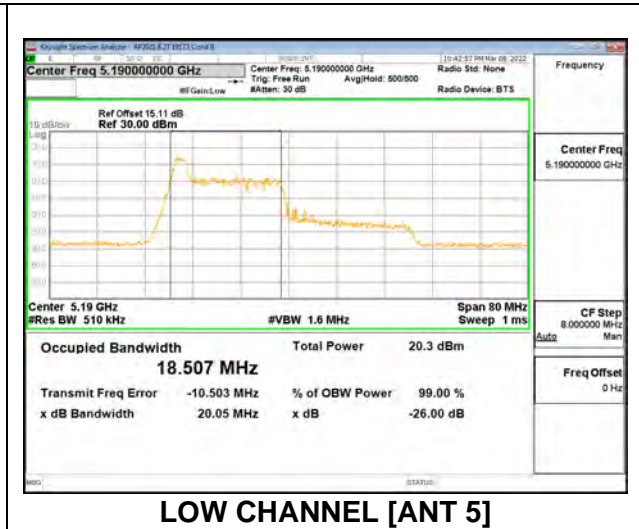
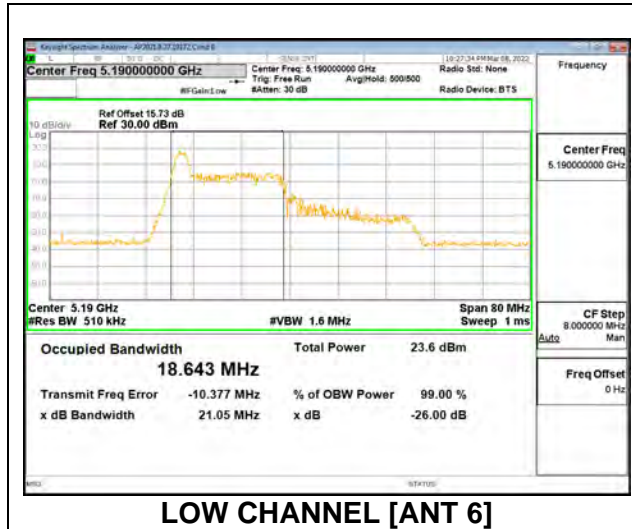
1TX Antenna 5 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	43.06	37.991
High	5230	41.55	37.952



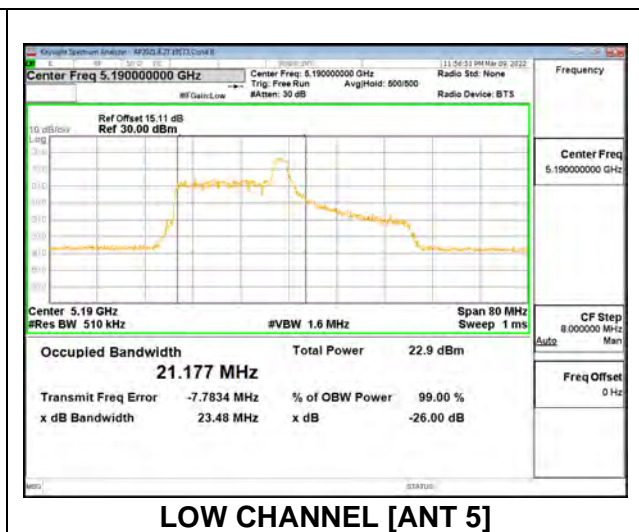
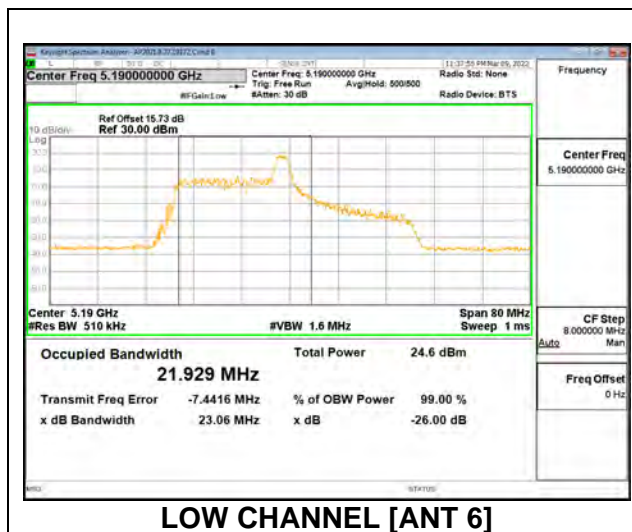
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	21.05	20.05	18.643	18.507
High	5230	20.86	19.80	18.393	18.341



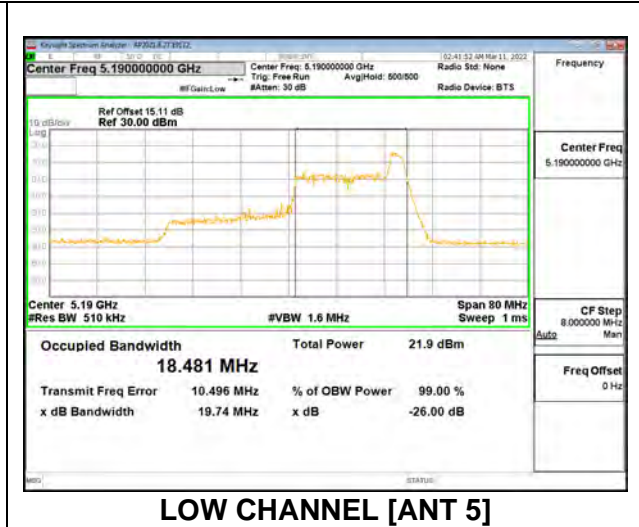
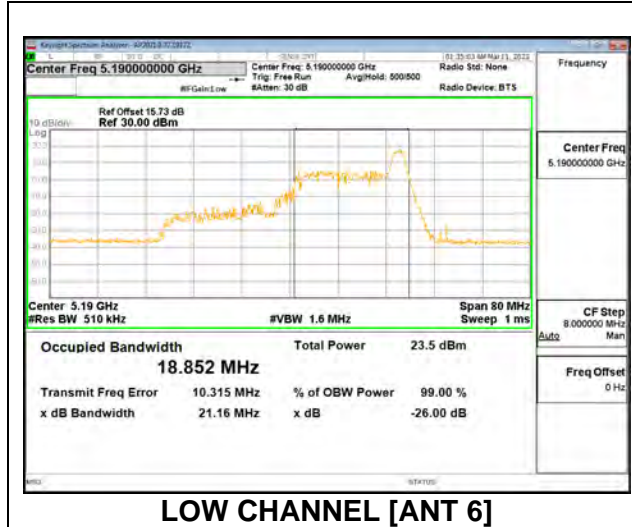
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	23.06	23.48	21.929	21.177
High	5230	22.61	23.52	21.752	21.562



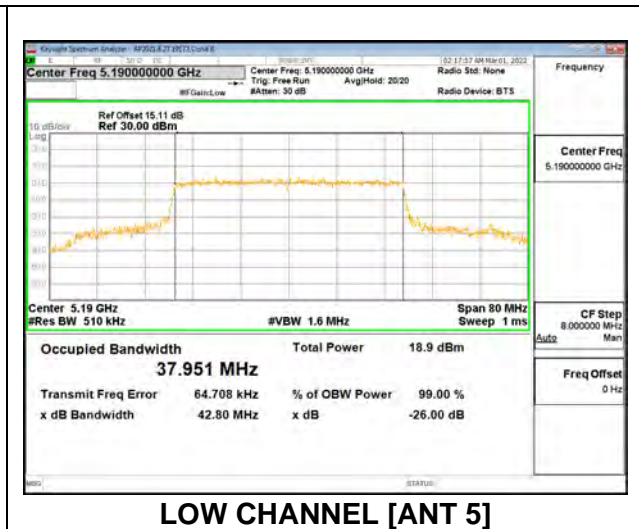
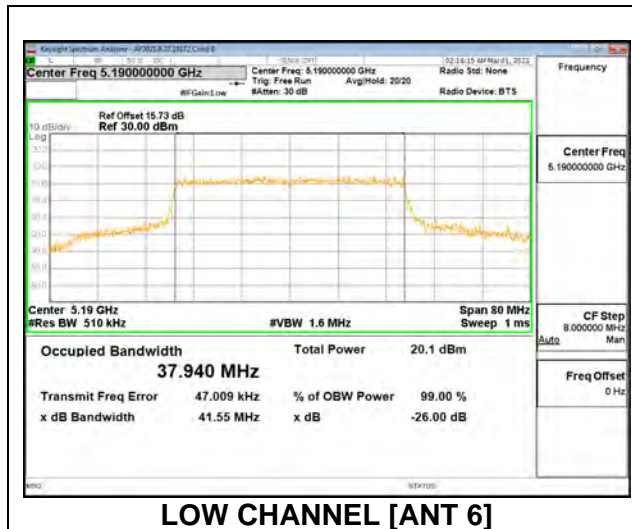
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	21.16	19.74	18.852	18.481
High	5230	21.29	19.86	18.796	18.416



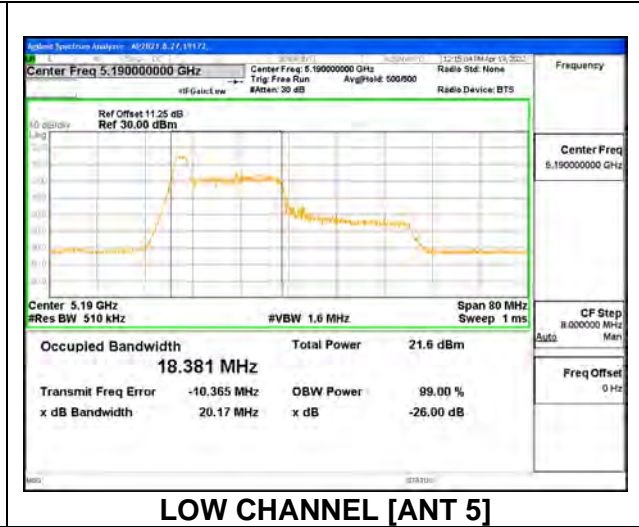
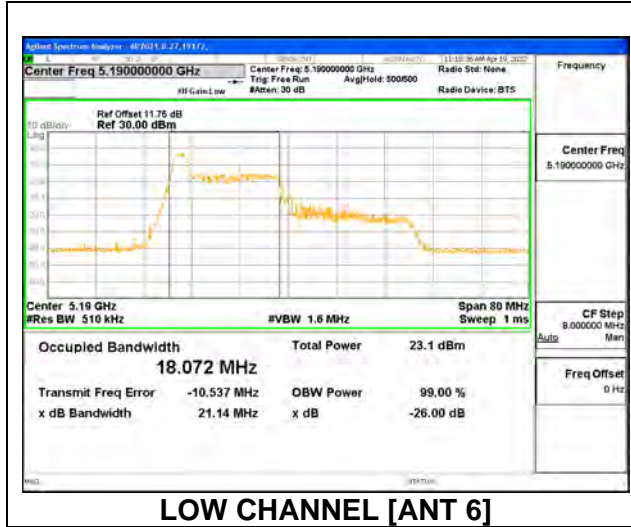
2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	41.55	42.80	37.940	37.951
High	5230	40.95	41.07	37.933	38.025



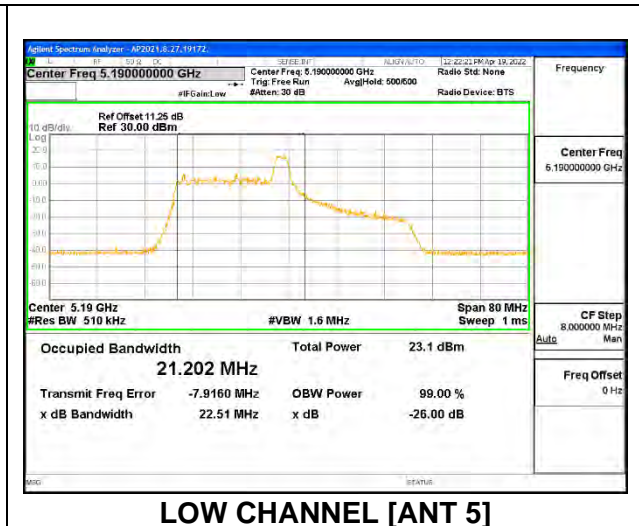
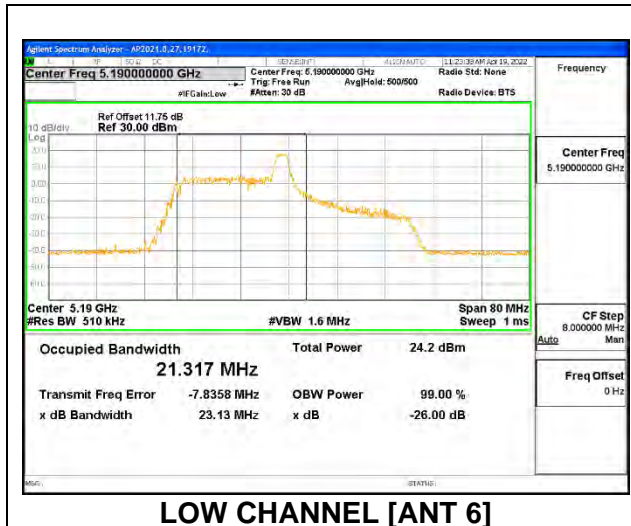
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	21.14	20.17	18.072	18.381
High	5230	20.08	20.00	18.365	18.287



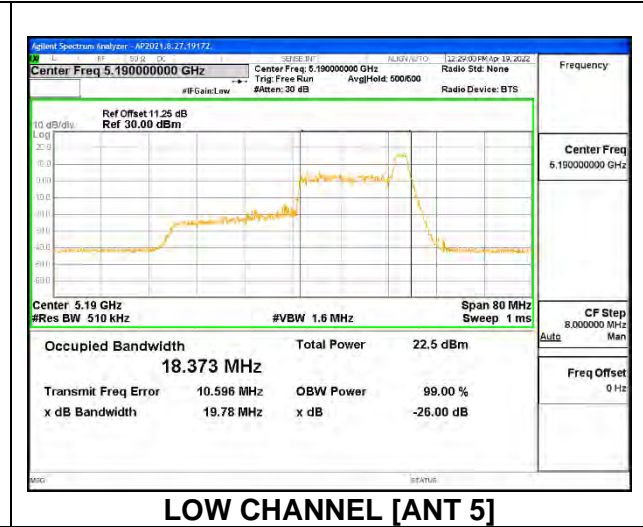
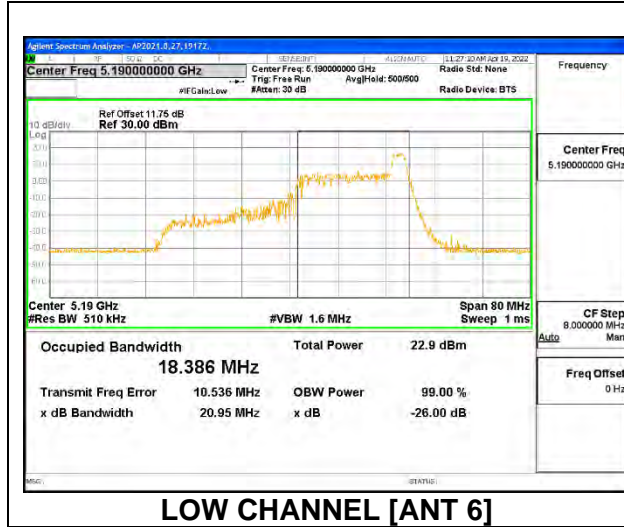
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	23.13	22.51	21.317	21.202
High	5230	23.69	22.92	21.622	21.249



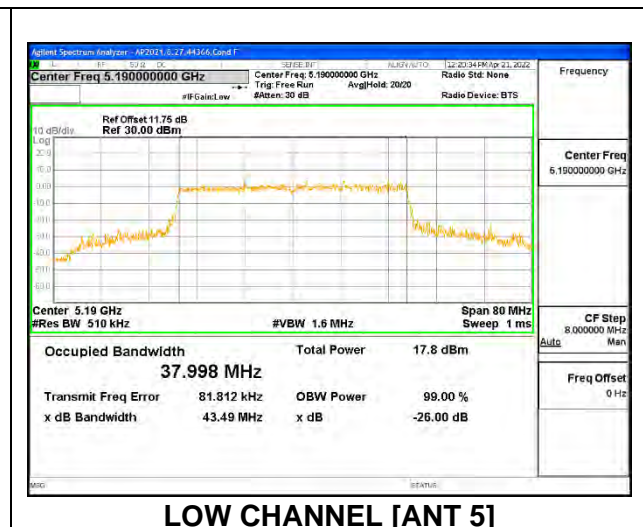
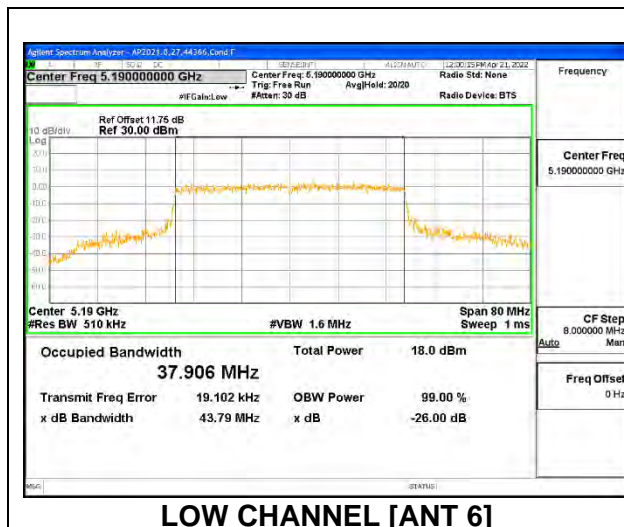
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	20.95	19.78	18.396	18.373
High	5230	21.06	19.72	18.669	18.225



2TX Antenna 6 + Antenna 5 SDM MODE: SU Mode

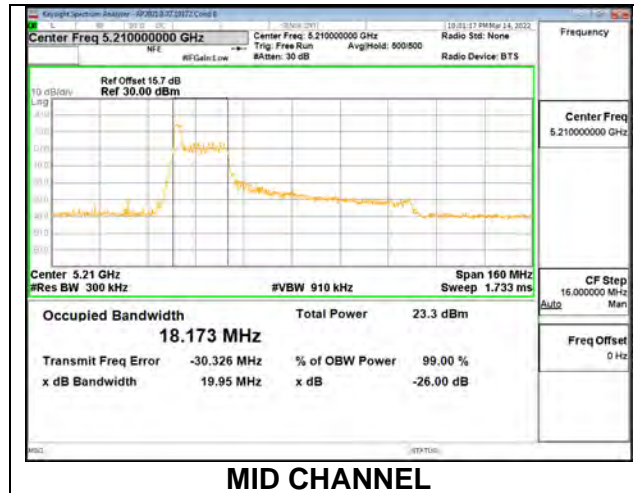
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5190	43.79	43.49	37.906	37.998
High	5230	41.02	40.92	37.904	37.867



9.2.6. 802.11ax HE80 MODE IN THE 5.2 GHz BAND

1TX Antenna 6 MODE: 26 Tones, RU Index 0

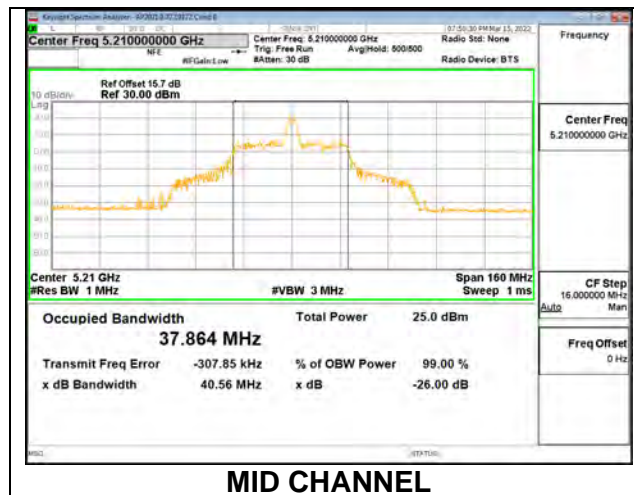
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	19.95	18.173



MID CHANNEL

1TX Antenna 6 MODE: 26 Tones, RU Index 18

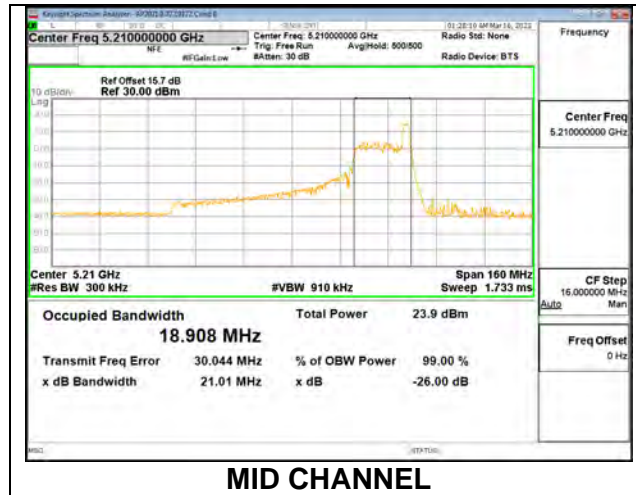
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	40.56	37.864



MID CHANNEL

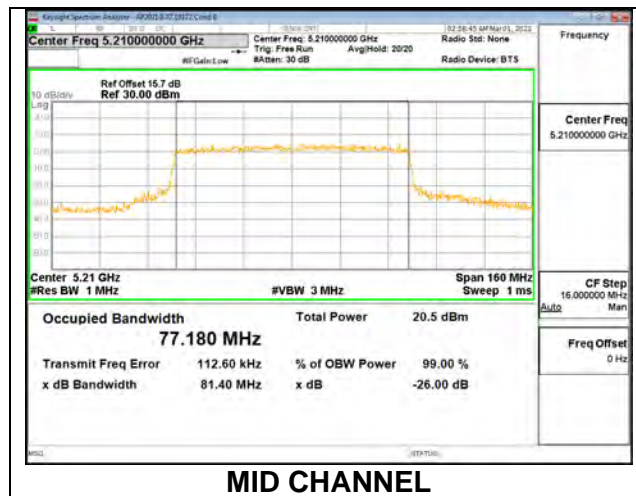
1TX Antenna 6 MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	21.01	18.908



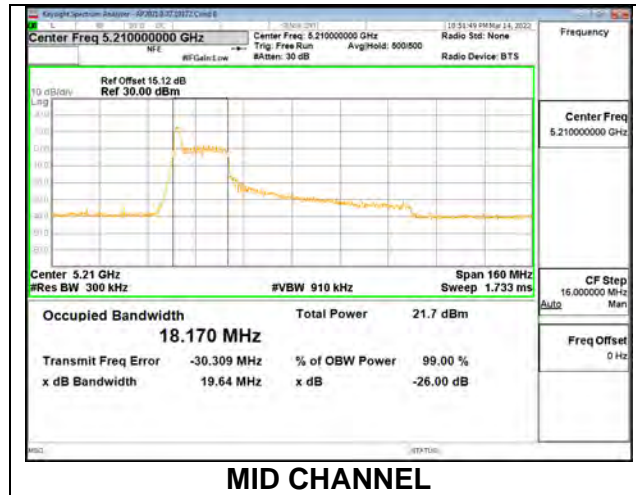
1TX Antenna 6 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	81.140	77.180



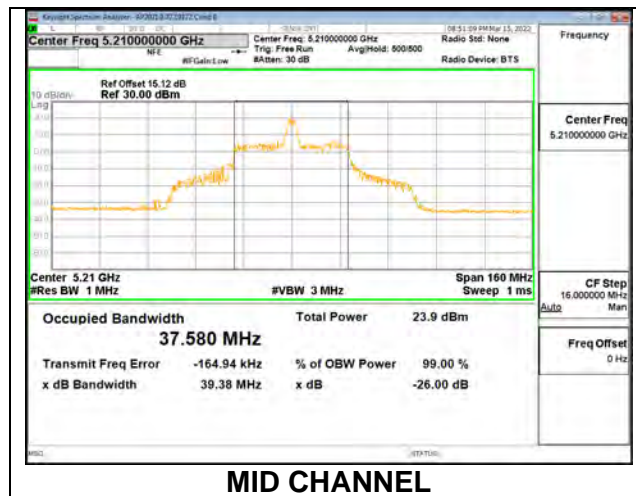
1TX Antenna 5 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	19.64	18.170



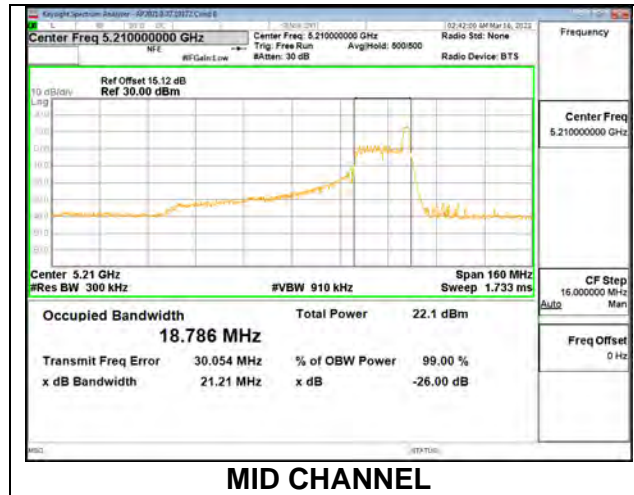
1TX Antenna 5 MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	39.38	37.580



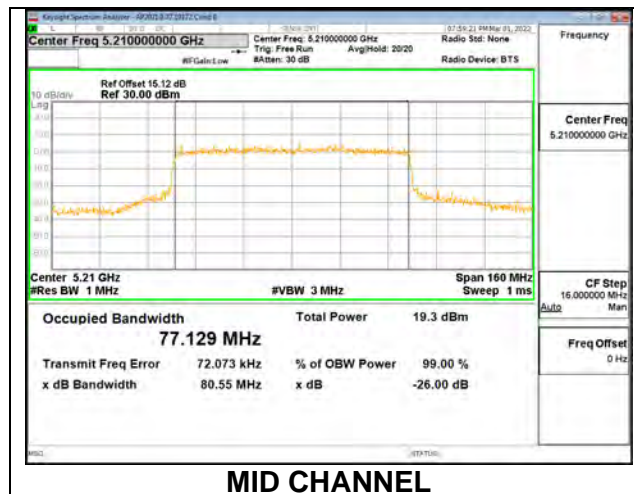
1TX Antenna 5 MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	21.21	18.786



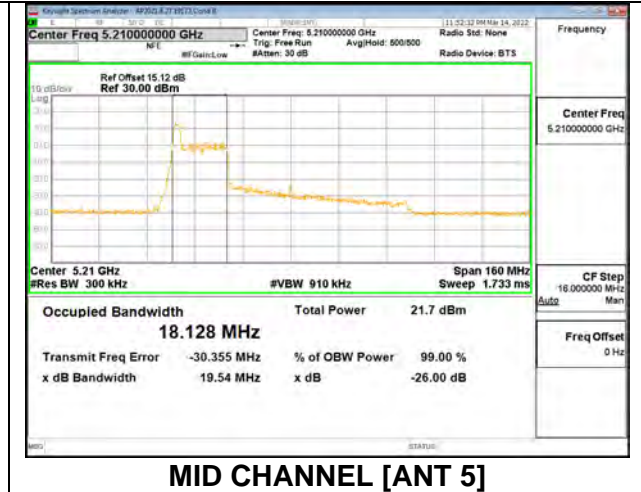
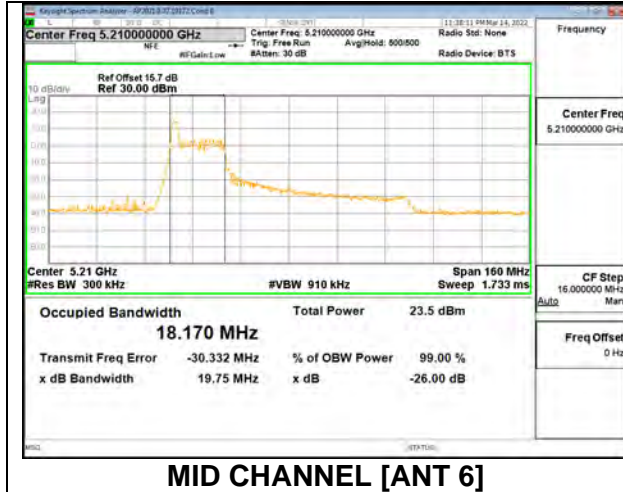
1TX Antenna 5 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5210	80.55	77.129



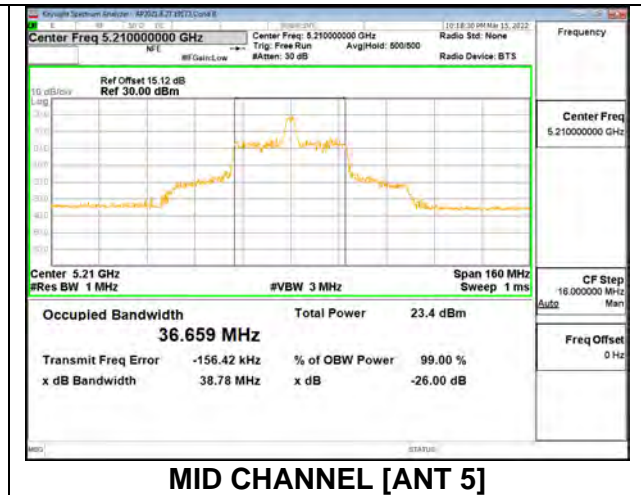
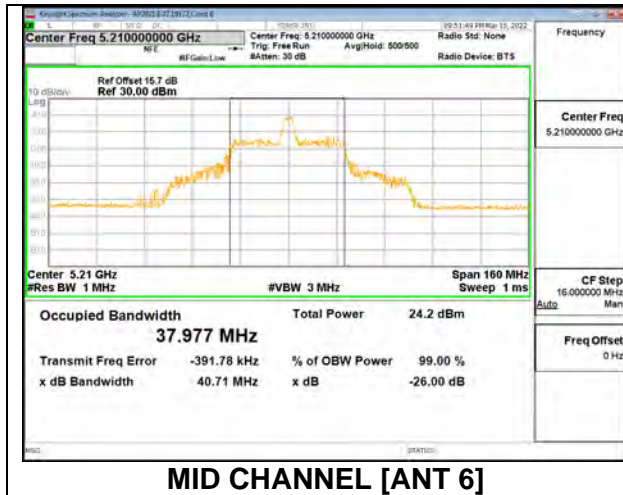
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	19.75	19.54	18.170	18.128



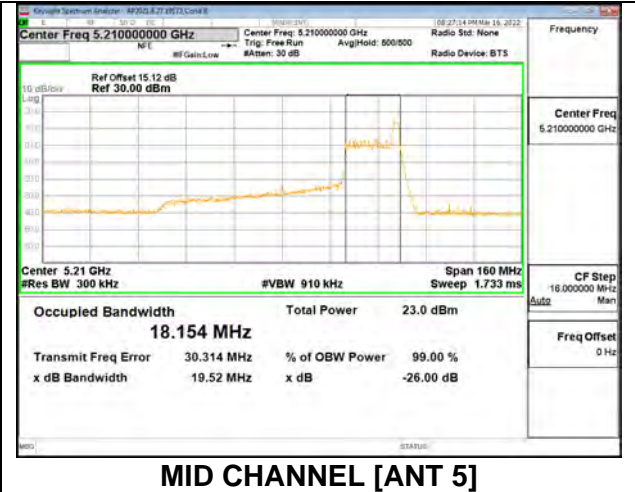
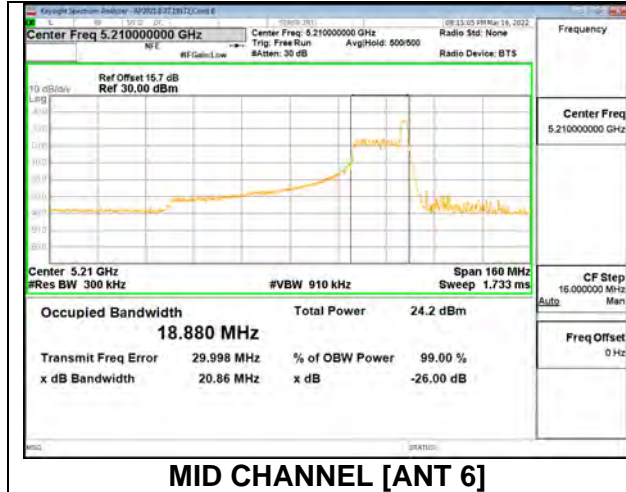
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	40.71	38.78	37.977	36.659



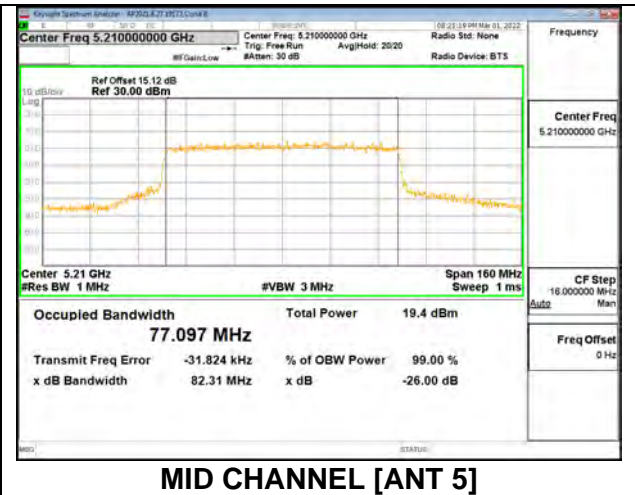
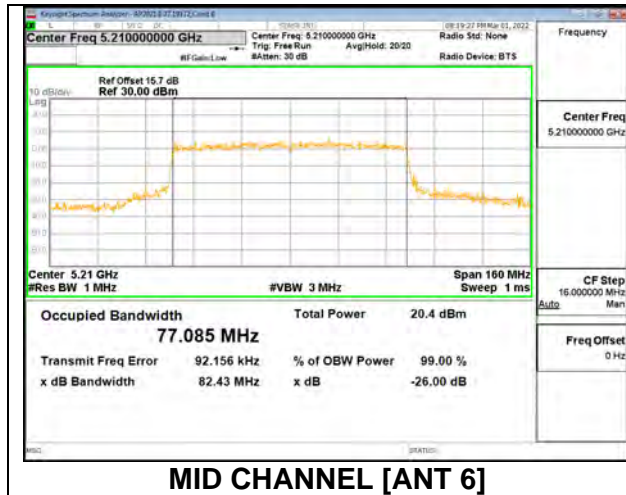
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	20.86	19.52	18.880	18.154



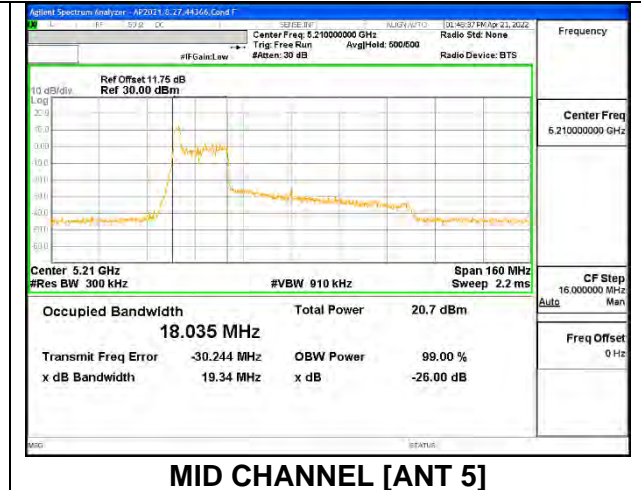
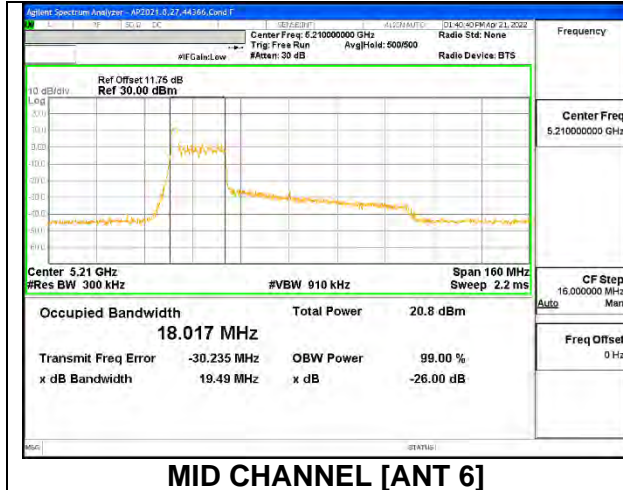
2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	82.43	82.31	77.085	77.097



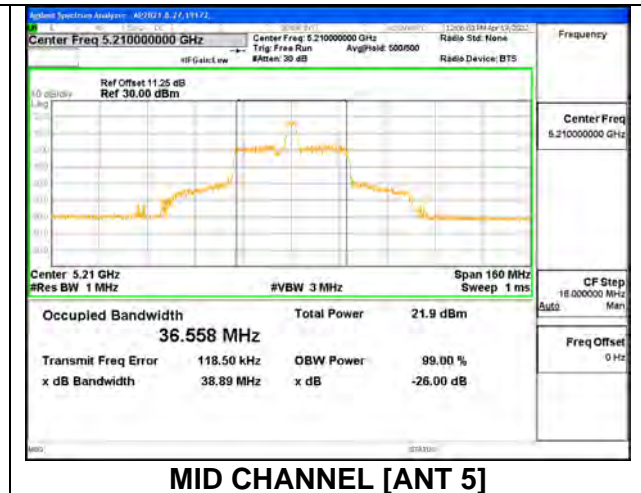
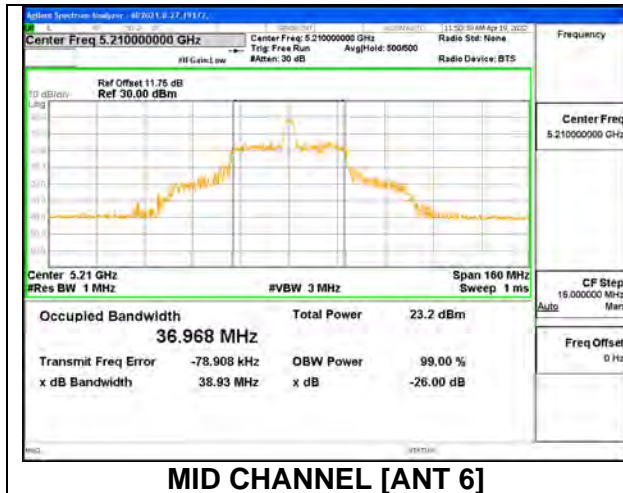
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	19.49	19.34	18.017	18.035



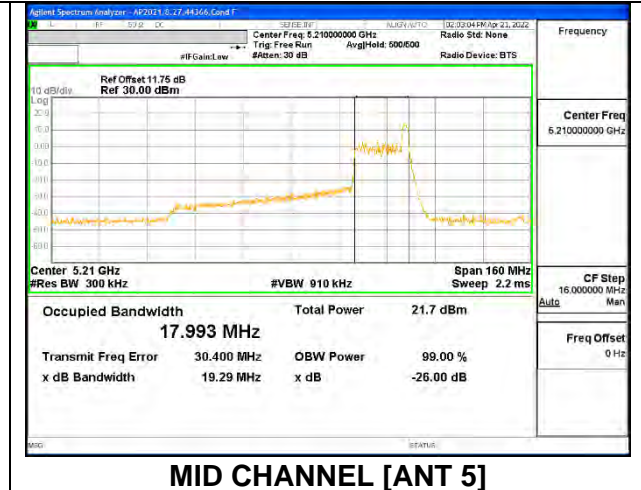
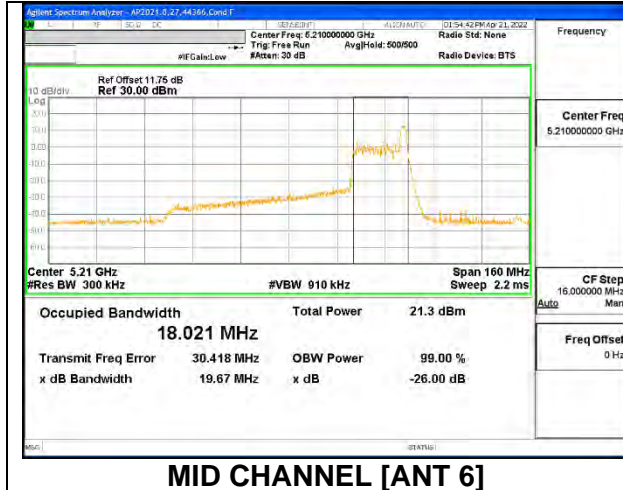
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	38.93	38.89	36.968	36.558



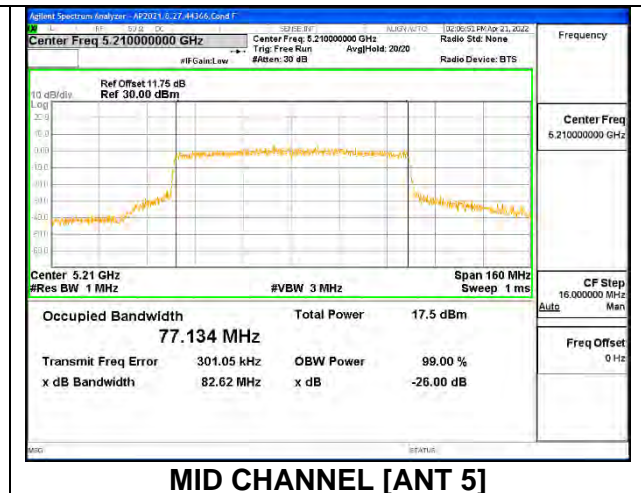
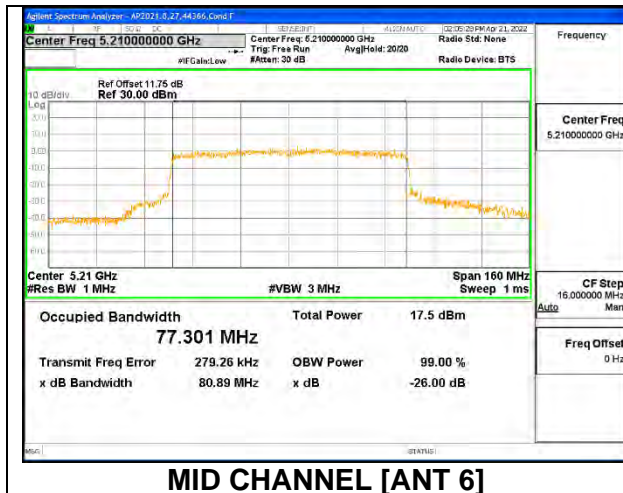
2TX Antenna 6 + Antenna 5 SDM MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	19.67	19.29	18.021	17.993



2TX Antenna 6 + Antenna 5 SDM MODE: SU

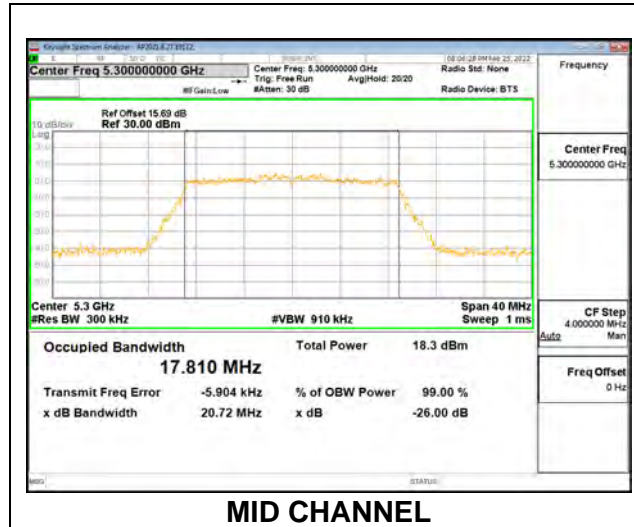
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5210	80.89	82.62	77.301	77.134



9.2.7. 802.11n HT20 MODE IN THE 5.3 GHz BAND

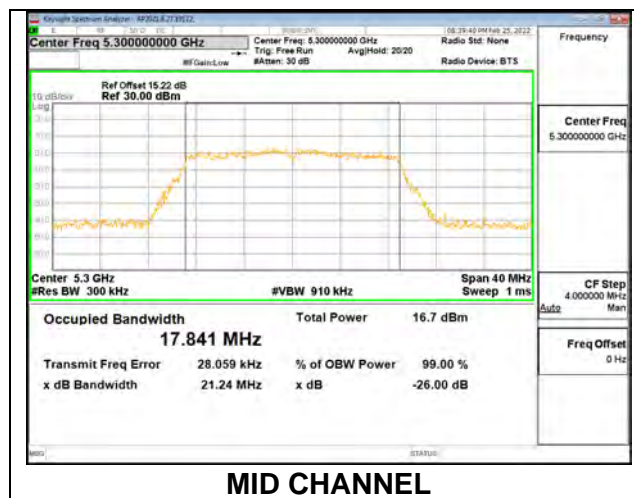
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	21.02	17.814
Mid	5300	20.72	17.810
High	5320	21.37	17.845



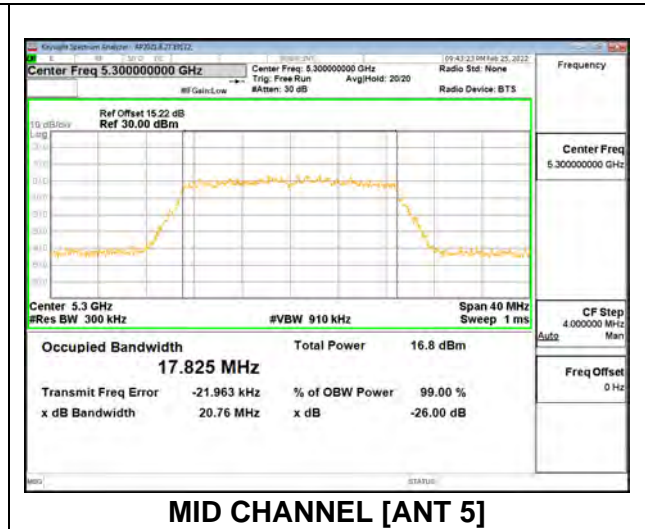
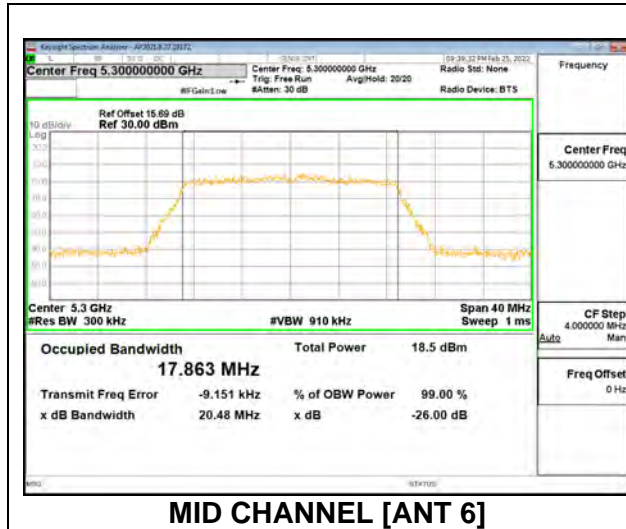
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	20.86	17.834
Mid	5300	21.24	17.841
High	5320	21.64	17.820



2TX Antenna 6 + Antenna 5 CDD MODE

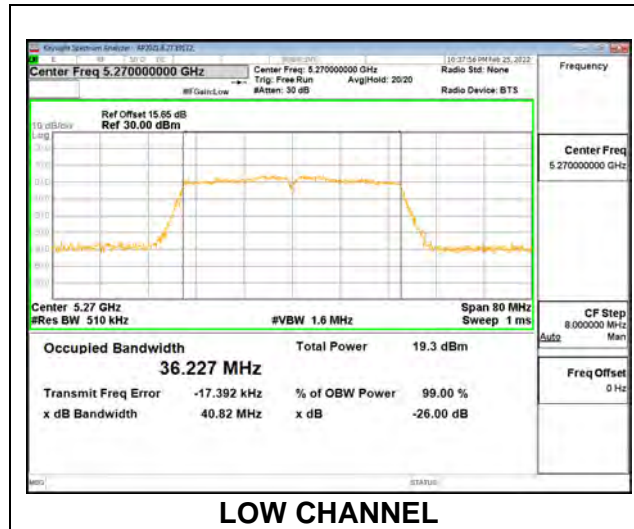
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5260	20.70	20.80	17.867	17.843
Mid	5300	20.48	20.76	17.863	17.825
High	5320	21.31	21.36	17.848	17.855



9.2.8. 802.11n HT40 MODE IN THE 5.3 GHz BAND

1TX Antenna 6 MODE

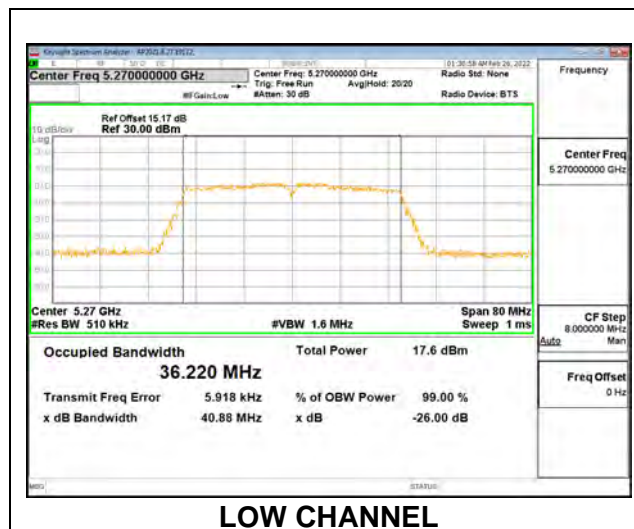
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	40.82	36.227
High	5310	42.11	36.363



LOW CHANNEL

1TX Antenna 5 MODE

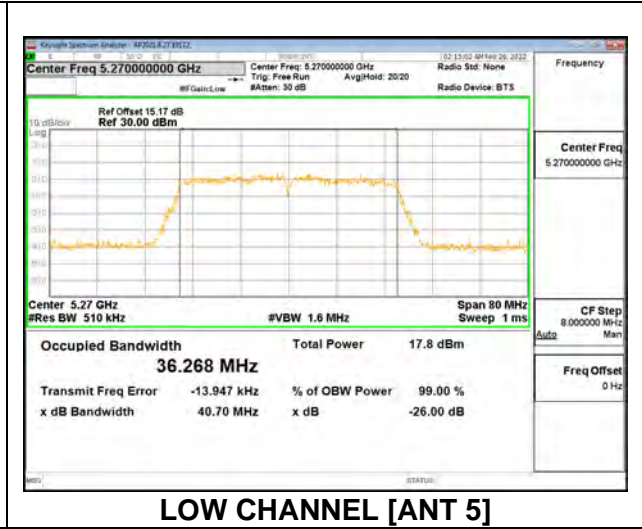
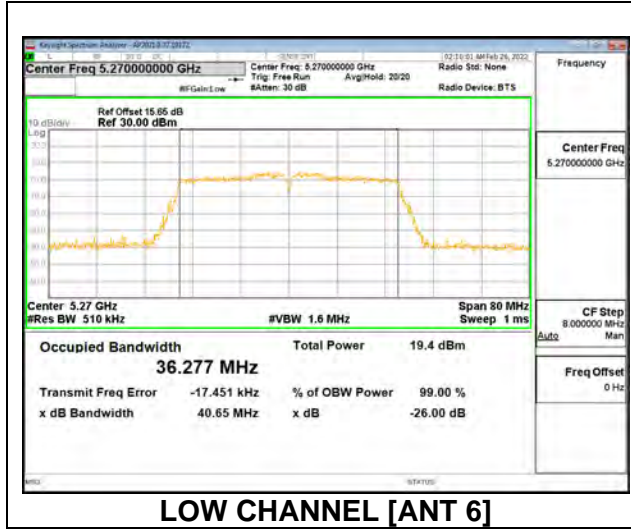
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	40.88	36.220
High	5310	42.61	36.365



LOW CHANNEL

2TX Antenna 6 + Antenna 5 CDD MODE

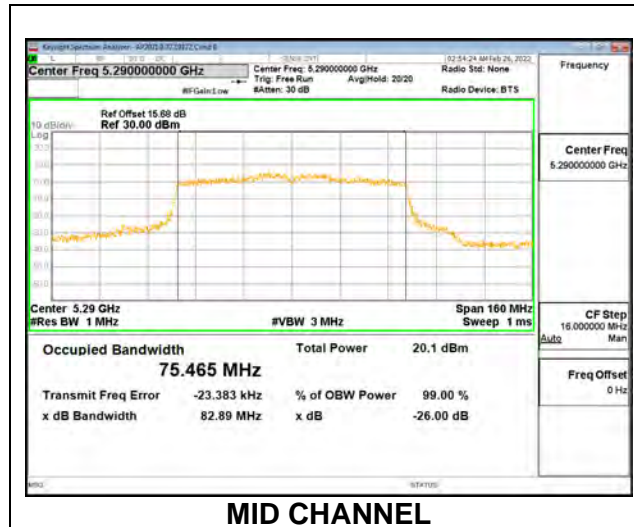
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5270	40.65	40.70	36.277	36.268
High	5310	47.64	41.90	36.233	36.190



9.2.9. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

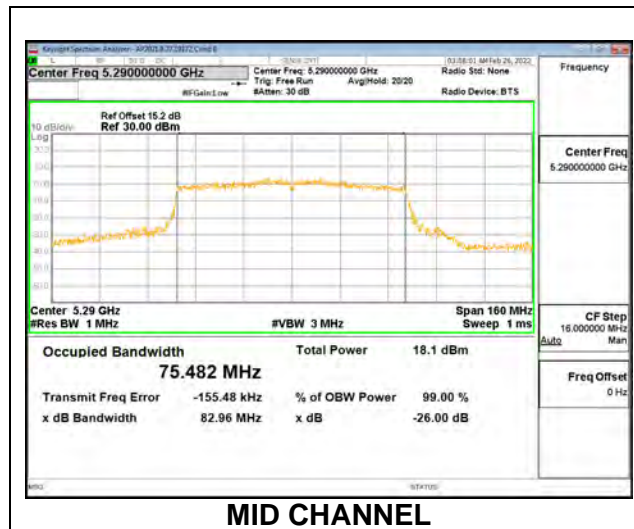
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	82.89	75.465



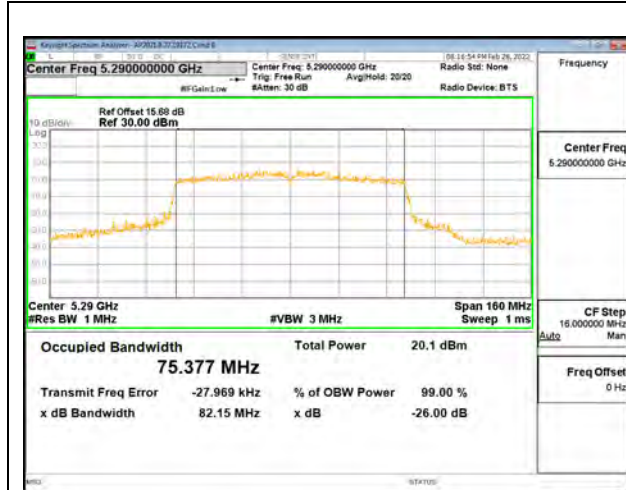
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	82.96	75.482

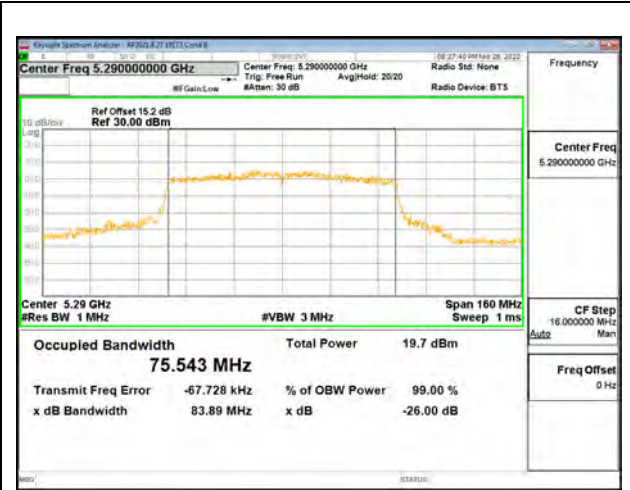


2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5290	82.15	83.89	75.377	75.543



MID CHANNEL [ANT 6]

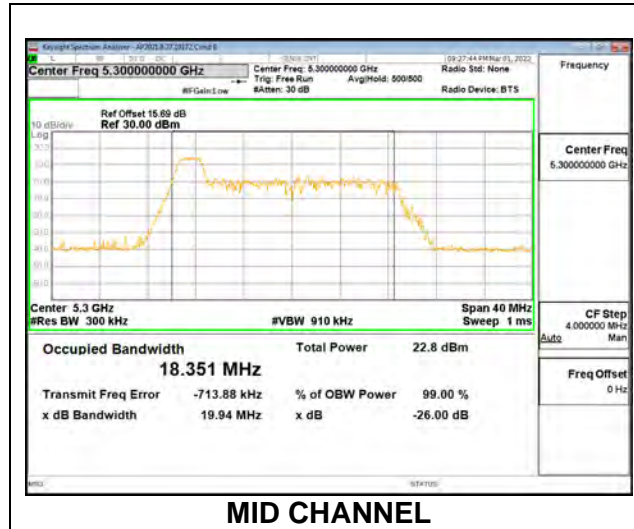


MID CHANNEL [ANT 5]

9.2.10. 802.11ax HE20 MODE IN THE 5.3 GHz BAND

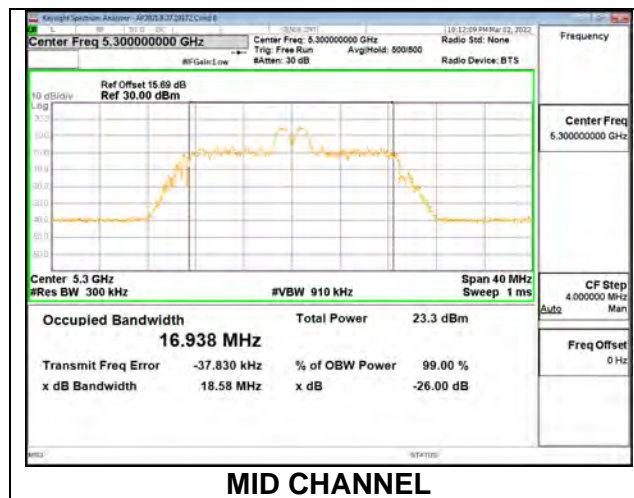
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.87	18.421
Mid	5300	19.94	18.351
High	5320	19.83	18.341



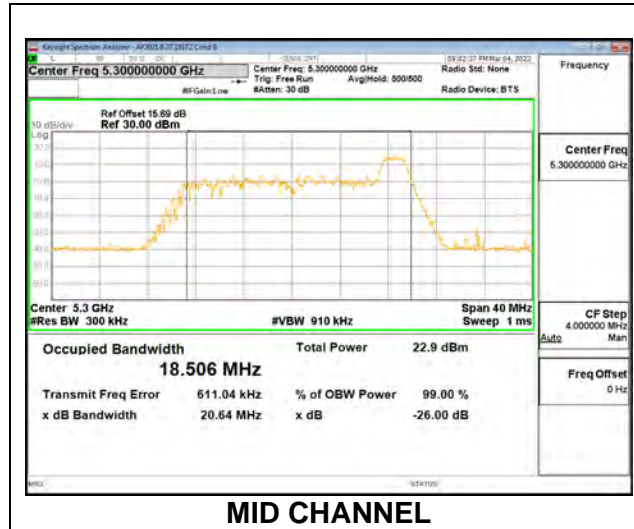
1TX Antenna 6 MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.09	17.154
Mid	5300	18.58	16.938
High	5320	19.23	17.217



1TX Antenna 6 MODE: 26 Tones, RU Index 8

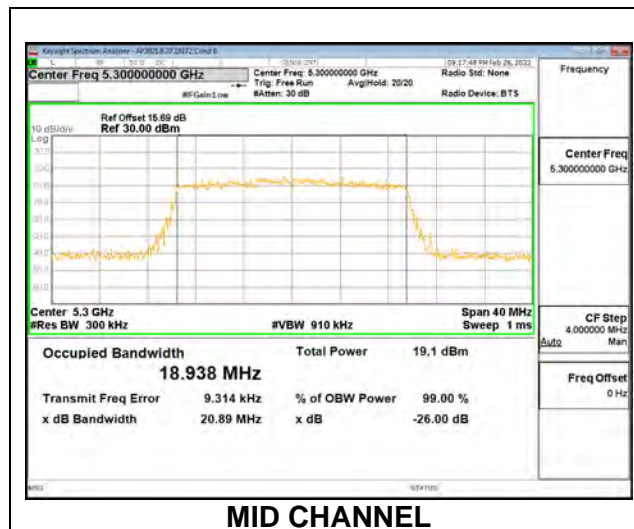
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	20.72	18.695
Mid	5300	20.64	18.506
High	5320	20.63	18.548



MID CHANNEL

1TX Antenna 6 MODE: SU Mode

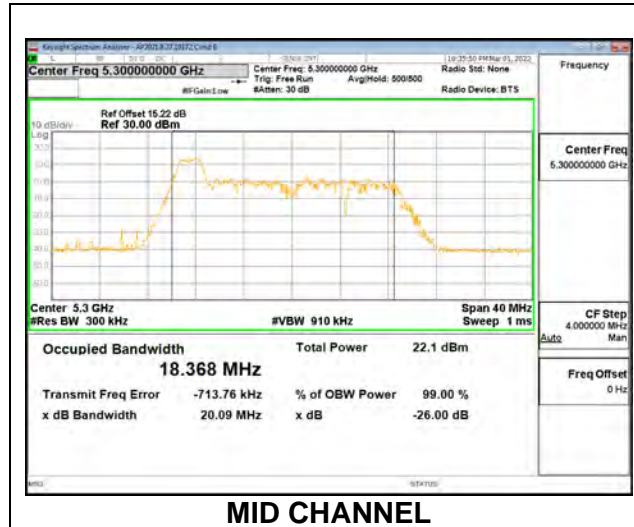
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	20.83	18.905
Mid	5300	20.89	18.938
High	5320	20.35	18.922



MID CHANNEL

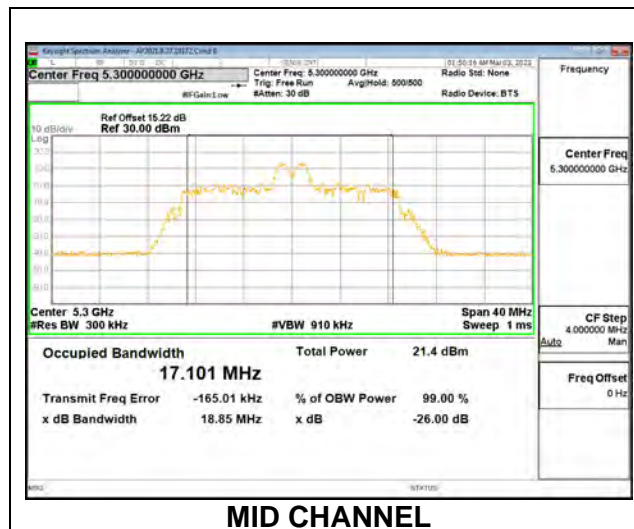
1TX Antenna 5 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	20.00	18.187
Mid	5300	20.09	18.368
High	5320	20.10	18.437



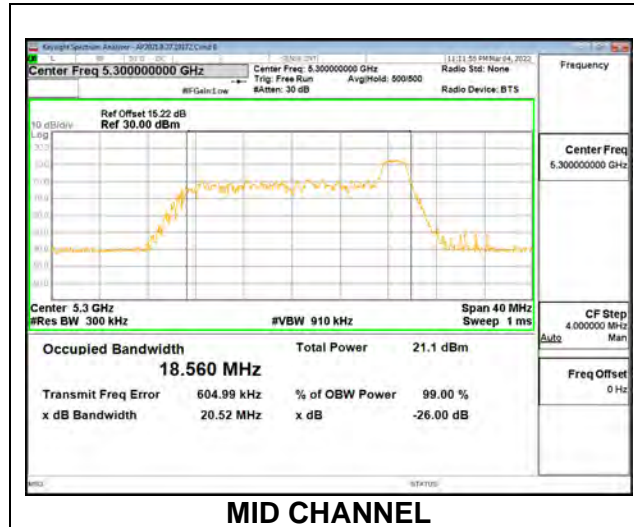
1TX Antenna 5 MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.41	17.146
Mid	5300	18.85	17.101
High	5320	18.92	17.128



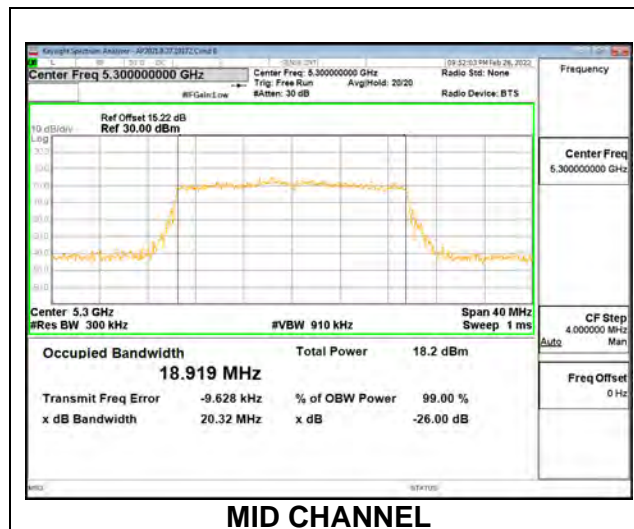
1TX Antenna 5 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	20.59	18.702
Mid	5300	20.52	18.560
High	5320	20.05	18.464



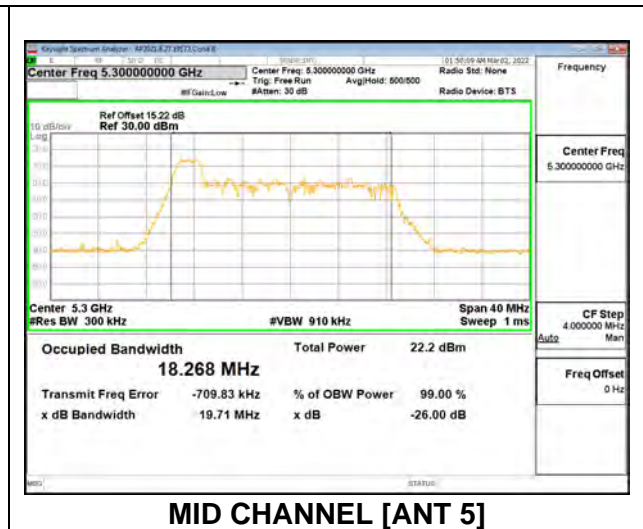
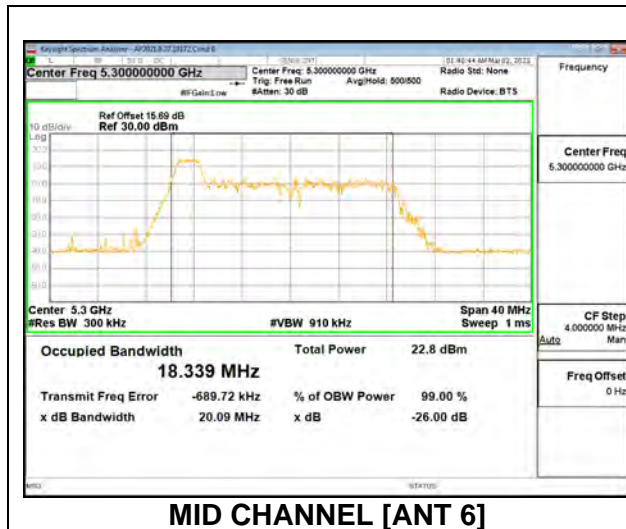
1TX Antenna 5 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	20.84	18.904
Mid	5300	20.32	18.919
High	5320	20.95	18.937



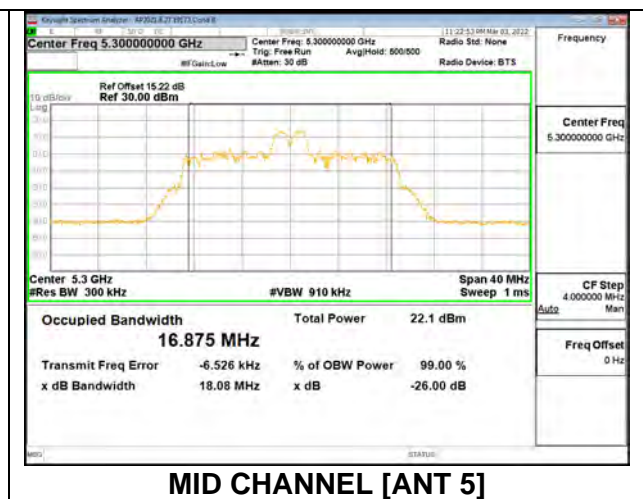
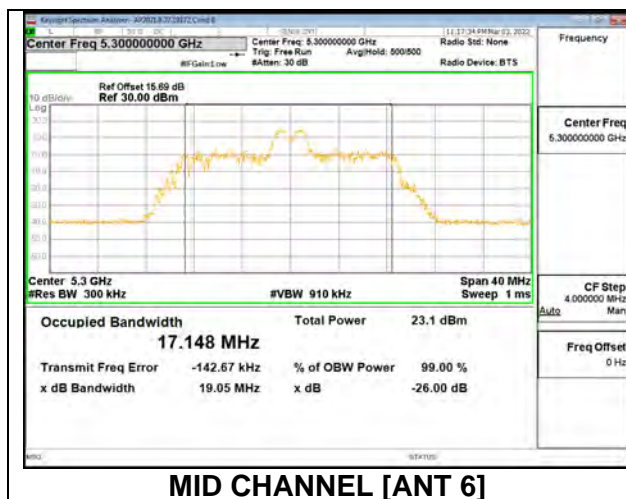
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5260	20.04	19.60	18.408	18.309
Mid	5300	20.09	19.71	18.339	18.268
High	5320	20.01	19.76	18.249	18.325



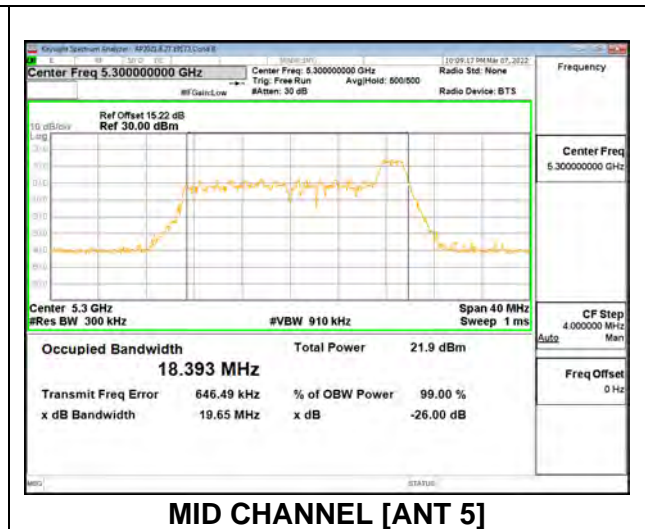
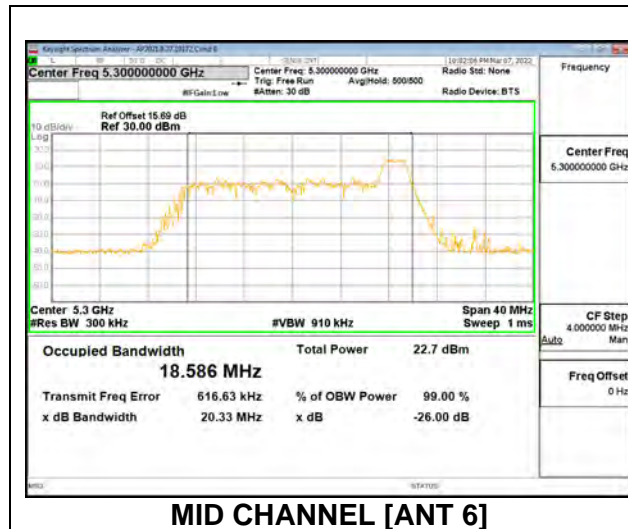
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5260	19.33	18.43	16.944	17.068
Mid	5300	19.05	18.08	17.148	16.875
High	5320	19.16	18.26	16.895	16.946



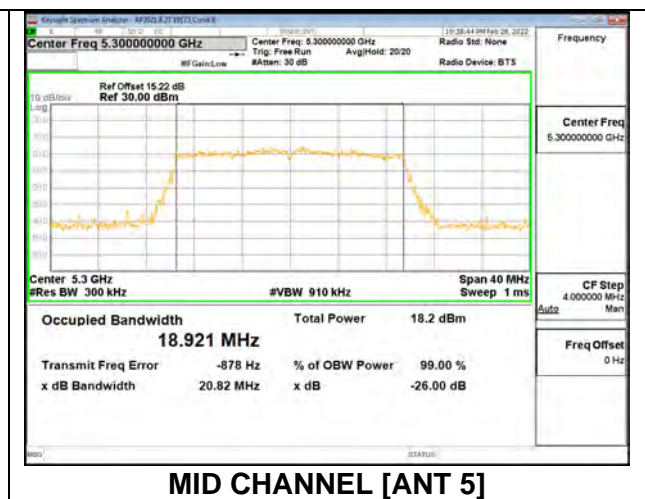
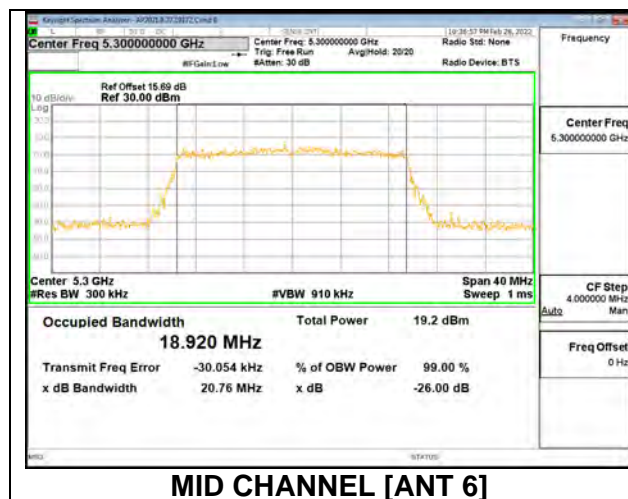
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5260	20.69	19.55	18.605	18.271
Mid	5300	20.33	19.65	18.586	18.393
High	5320	20.23	19.63	18.503	18.276



2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

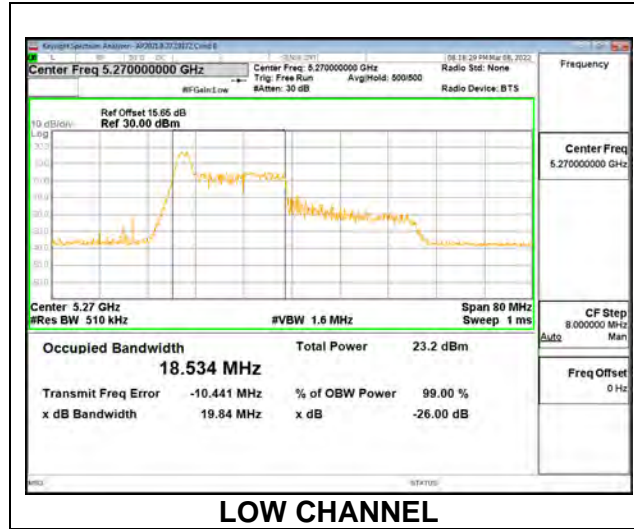
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5260	20.63	20.45	18.920	18.933
Mid	5300	20.76	20.82	18.920	18.921
High	5320	20.97	21.37	18.928	18.948



9.2.11. 802.11ax HE40 MODE IN THE 5.3 GHz BAND

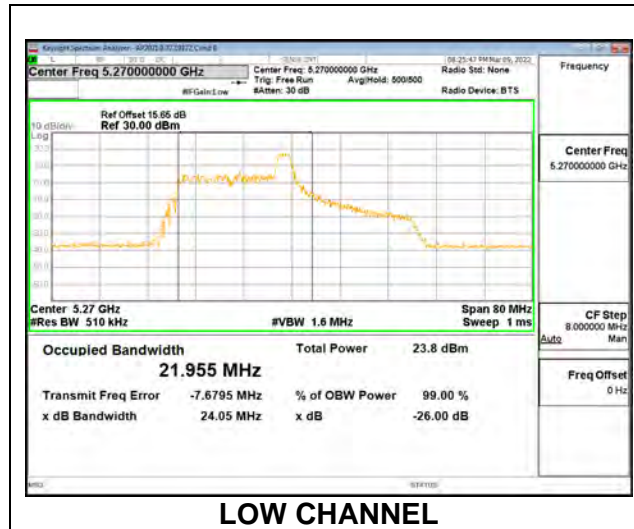
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	19.84	18.534
High	5310	21.49	18.335



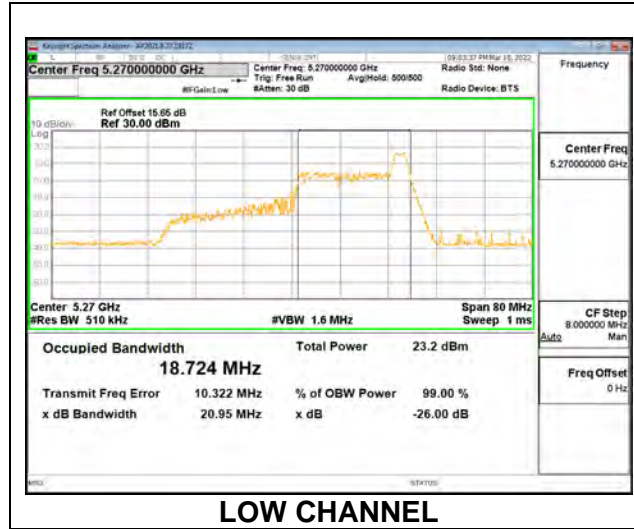
1TX Antenna 6 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	24.05	21.955
High	5310	23.75	21.987



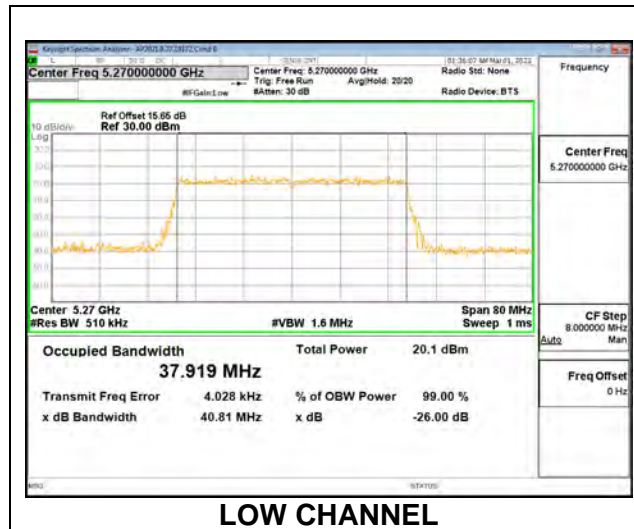
1TX Antenna 6 MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	20.95	18.724
High	5310	21.22	19.007



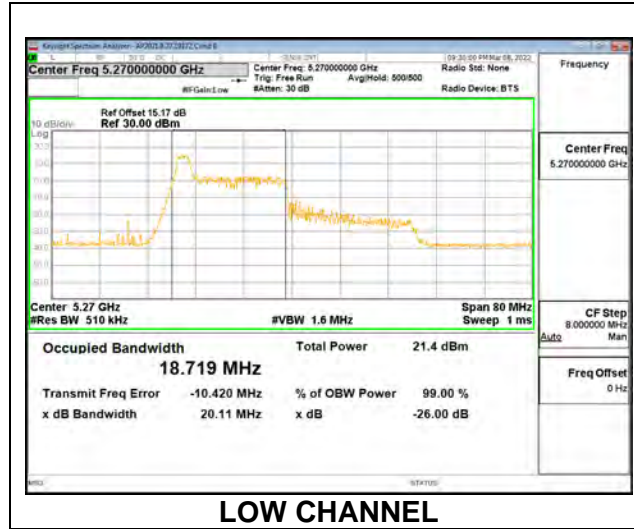
1TX Antenna 6 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	40.81	37.919
High	5310	44.17	37.989



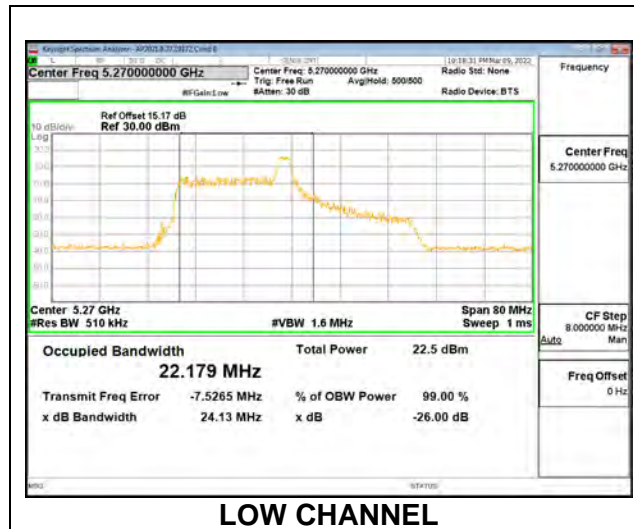
1TX Antenna 5 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	20.11	18.719
High	5310	21.10	18.767



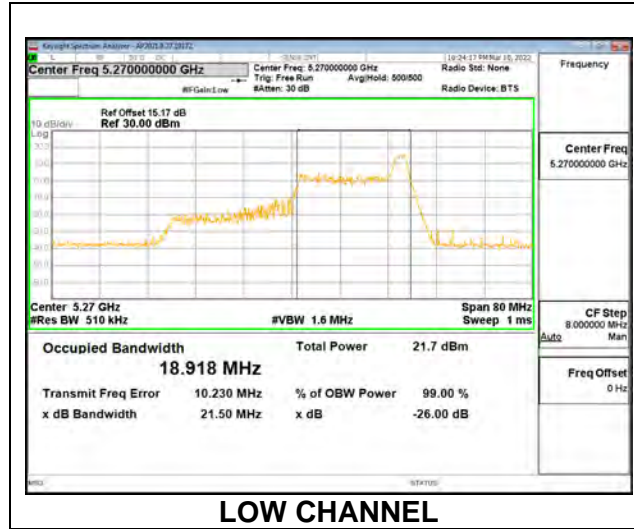
1TX Antenna 5 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	24.13	22.179
High	5310	23.05	21.342



1TX Antenna 5 MODE: 26 Tones, RU Index 17

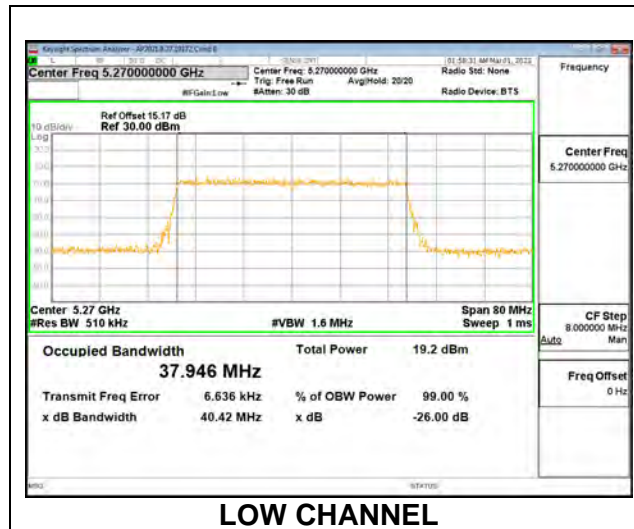
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	21.50	18.918
High	5310	21.27	18.786



LOW CHANNEL

1TX Antenna 5 MODE: SU Mode

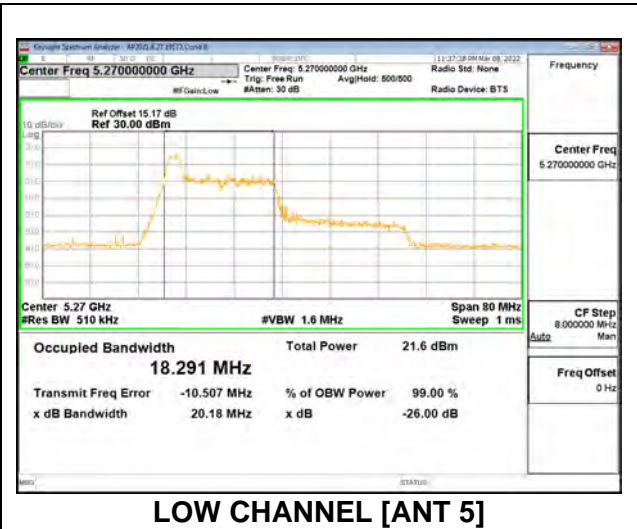
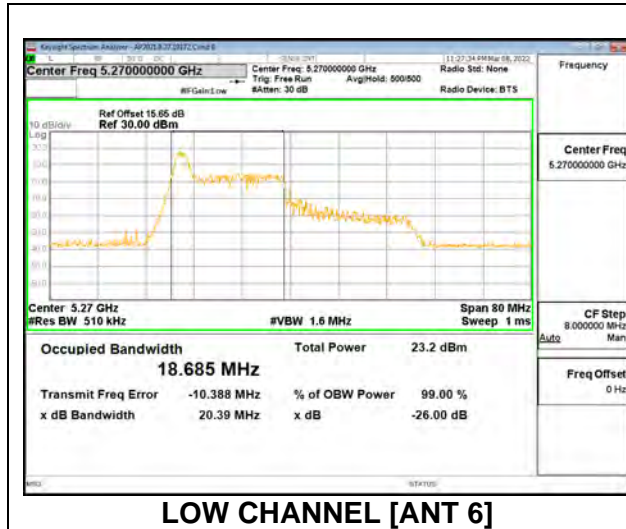
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	40.42	37.946
High	5310	41.14	38.007



LOW CHANNEL

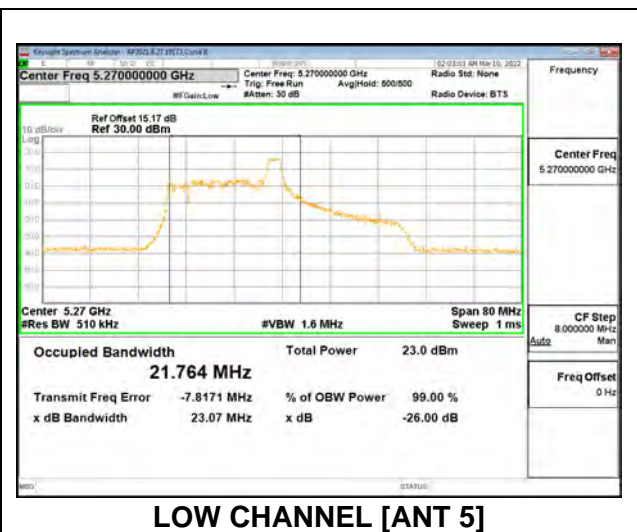
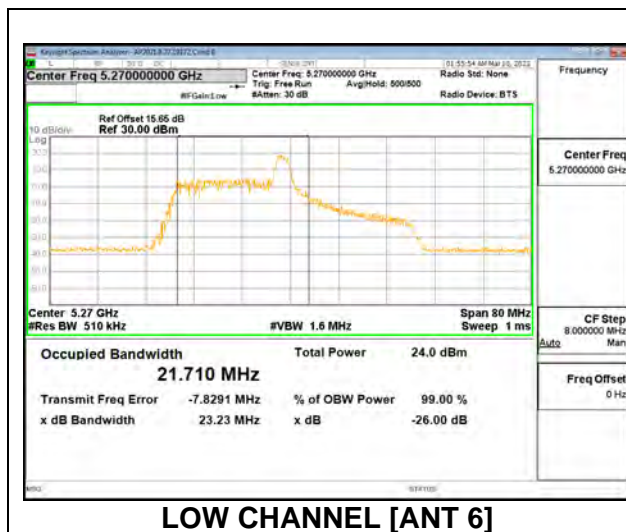
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5270	20.39	20.18	18.685	18.291
High	5310	20.34	19.74	18.573	18.334



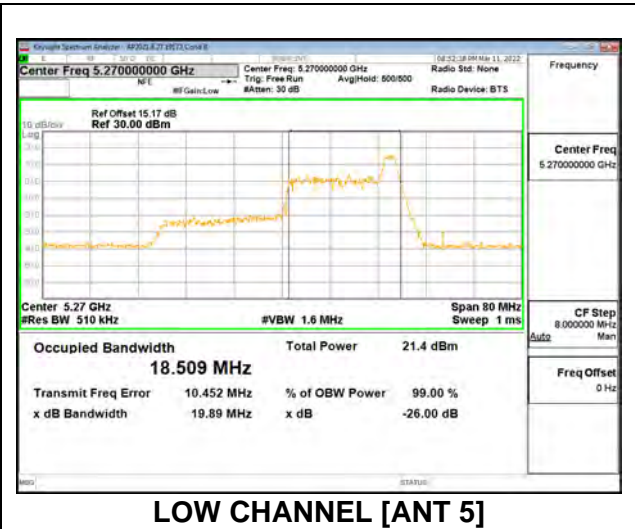
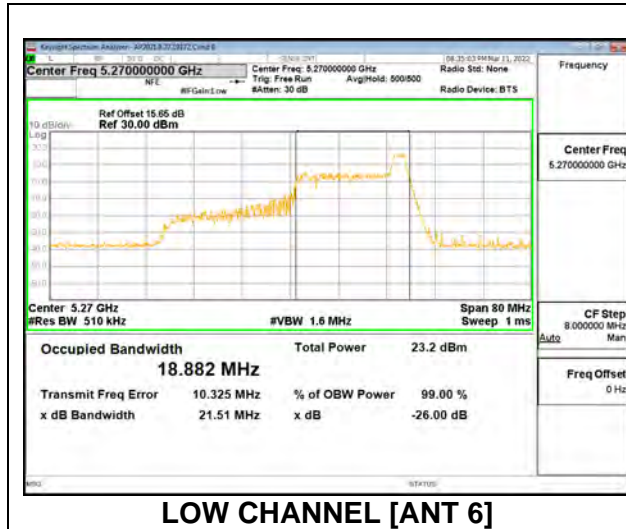
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5270	23.23	23.07	21.710	21.764
High	5310	22.97	23.21	21.587	21.604



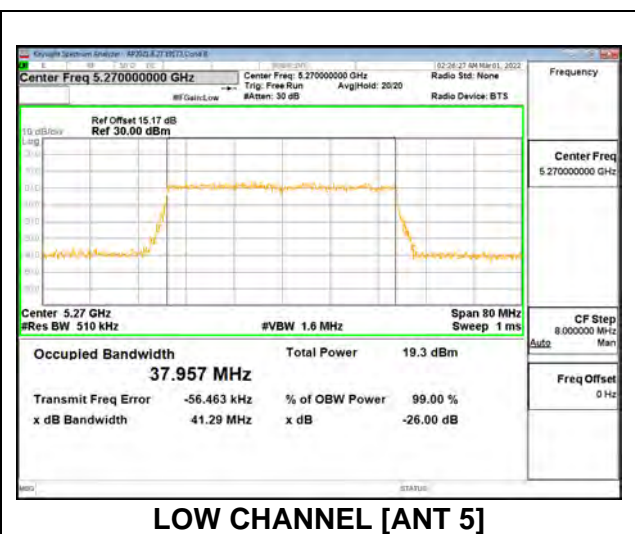
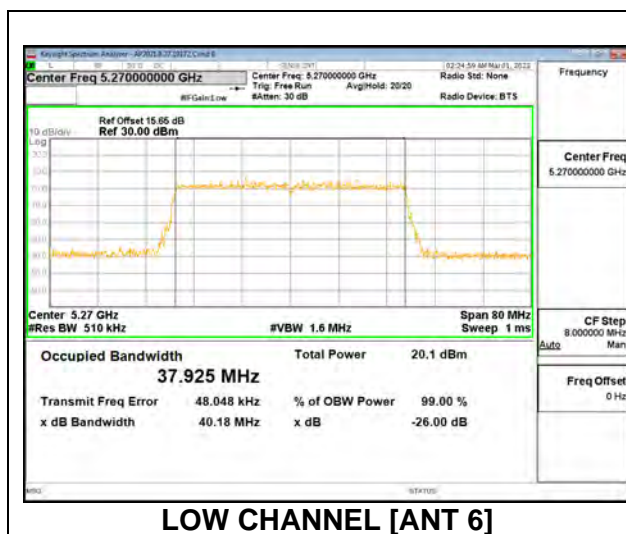
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5270	21.51	19.89	18.882	18.509
High	5310	20.97	19.93	18.946	18.329



2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

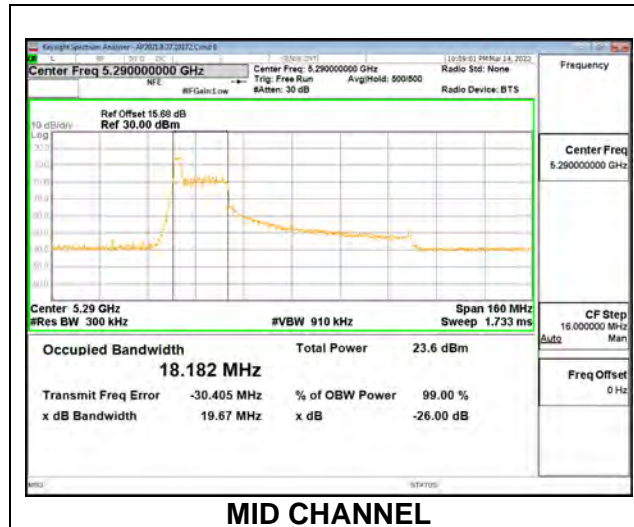
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5270	40.18	41.29	37.925	37.957
High	5310	41.28	41.81	37.966	37.940



9.2.12. 802.11ax HE80 MODE IN THE 5.3 GHz BAND

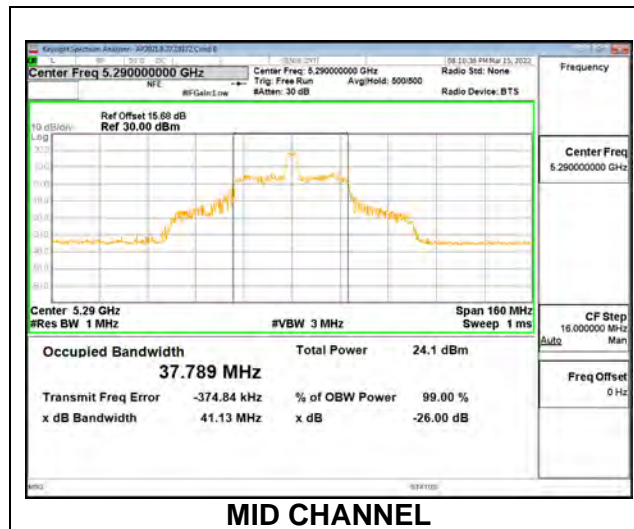
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	19.67	18.182



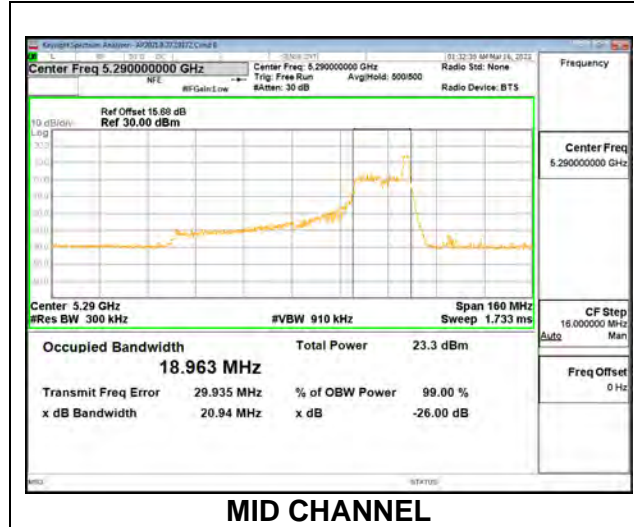
1TX Antenna 6 MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	41.13	37.789



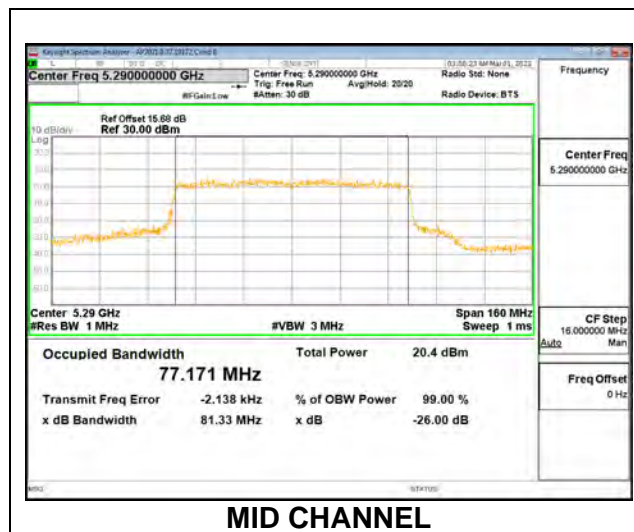
1TX Antenna 6 MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	20.94	18.963



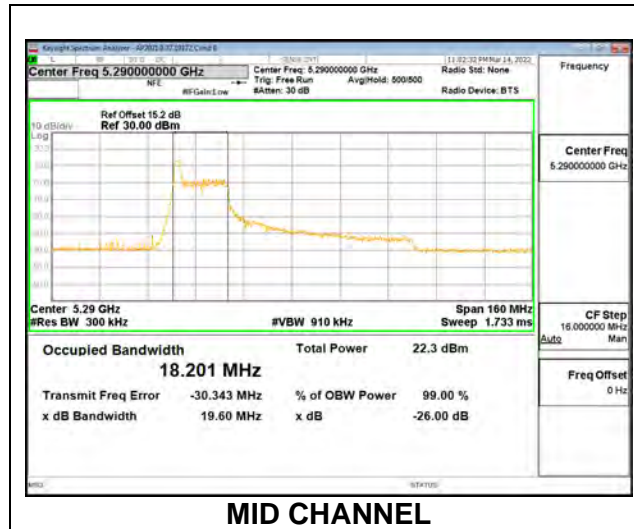
1TX Antenna 6 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	81.33	77.171



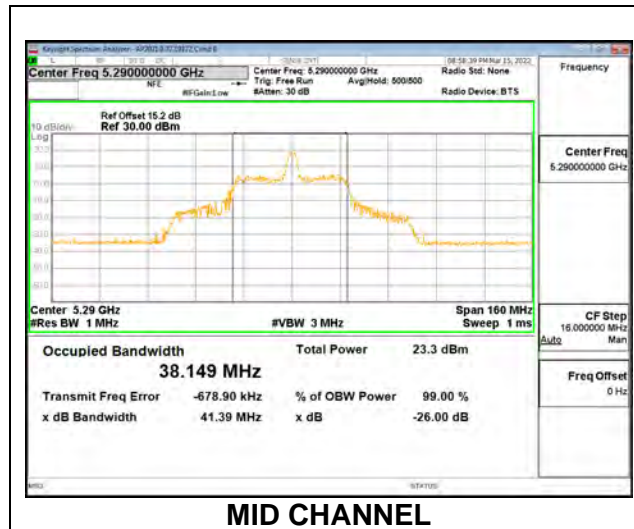
1TX Antenna 5 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	19.60	18.201



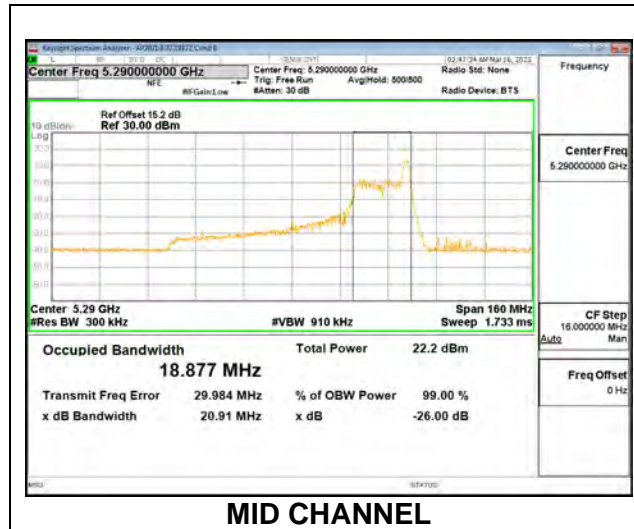
1TX Antenna 5 MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	41.39	38.149



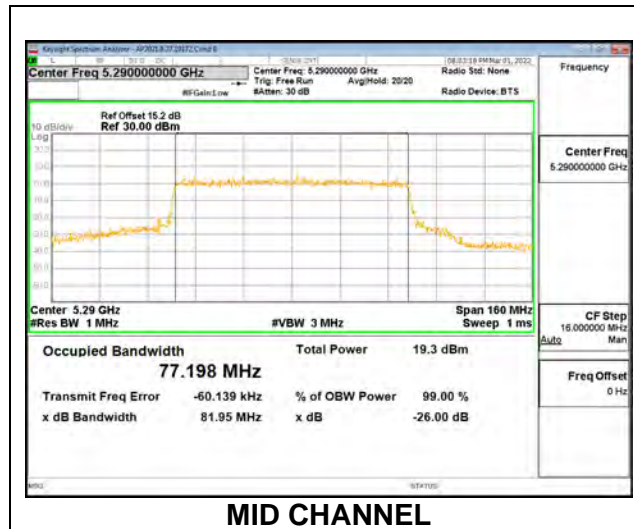
1TX Antenna 5 MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	20.91	18.877



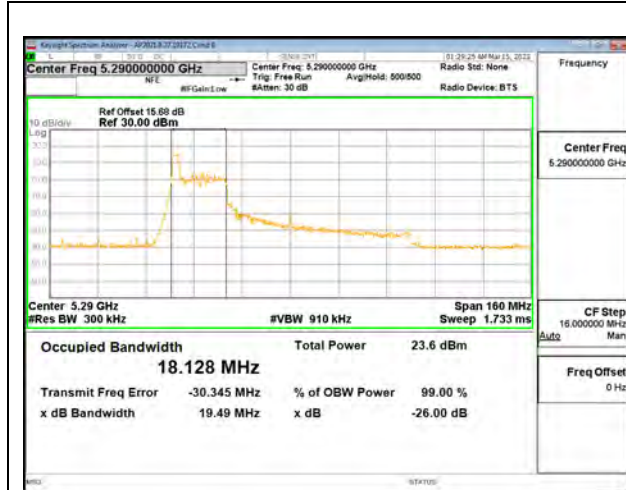
1TX Antenna 5 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5290	81.95	77.198



2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5290	19.49	19.52	18.128	18.035



MID CHANNEL [ANT 6]



MID CHANNEL [ANT 5]

2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5290	41.58	38.67	37.650	36.527



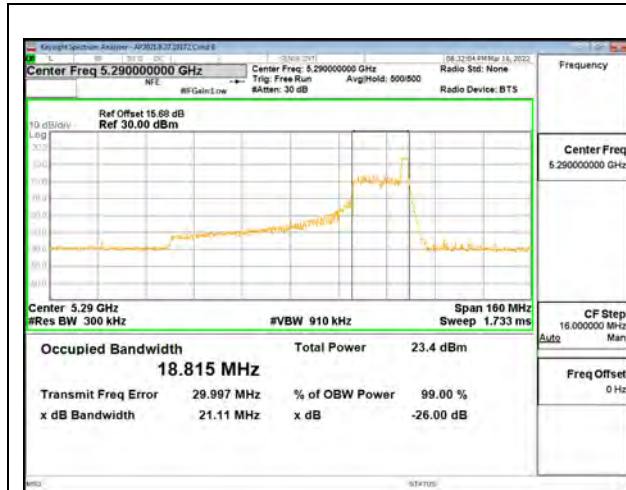
MID CHANNEL [ANT 6]



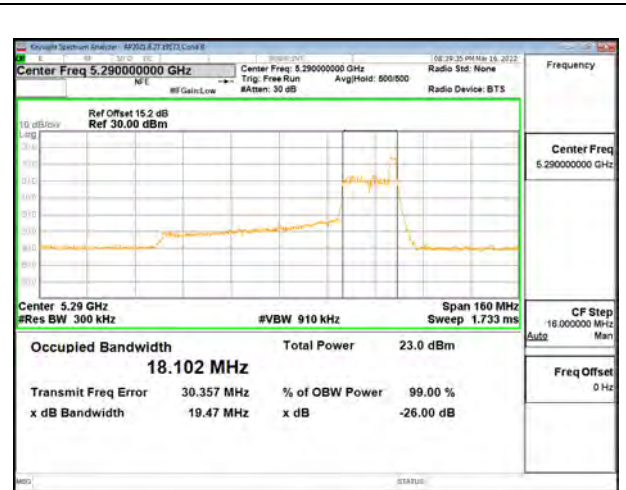
MID CHANNEL [ANT 5]

2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5290	21.11	19.47	18.815	18.102



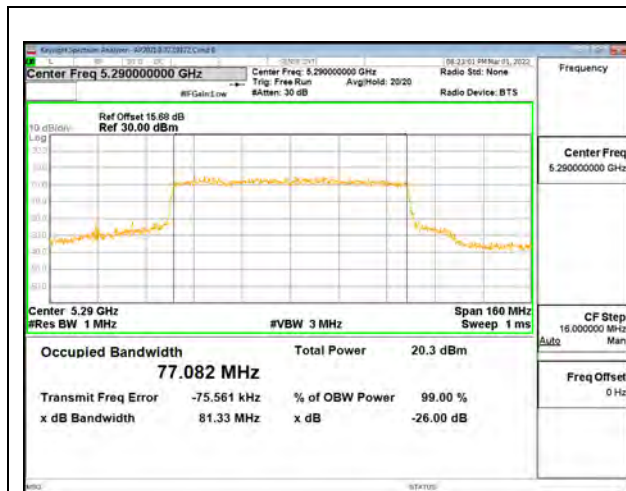
MID CHANNEL [ANT 6]



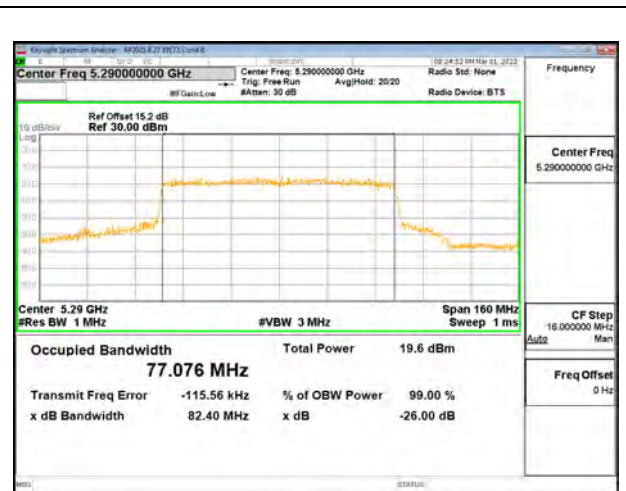
MID CHANNEL [ANT 5]

2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5290	81.33	82.40	77.082	77.076



MID CHANNEL [ANT 6]

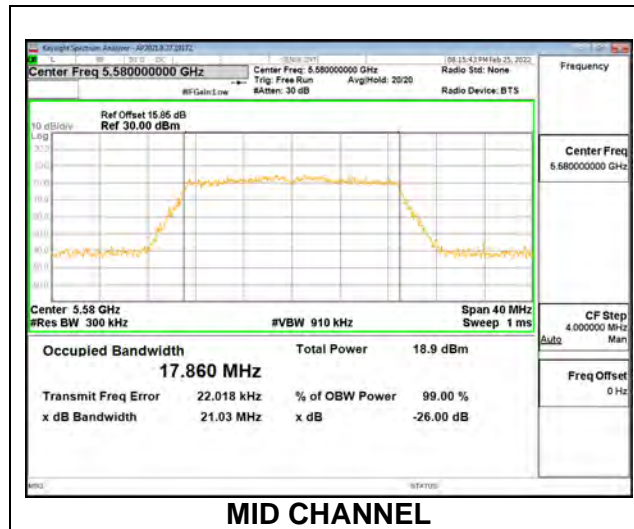


MID CHANNEL [ANT 5]

9.2.13. **802.11n HT20 MODE IN THE 5.6 GHz BAND**

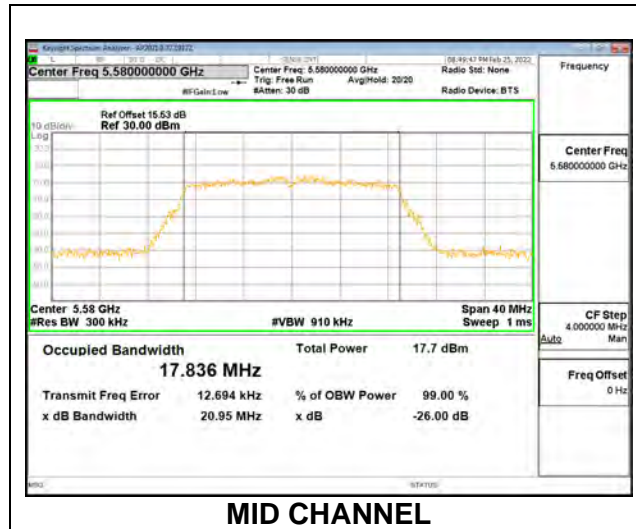
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	21.54	17.874
Mid	5580	21.03	17.860
High	5700	21.19	17.824
144	5720	20.91	17.850



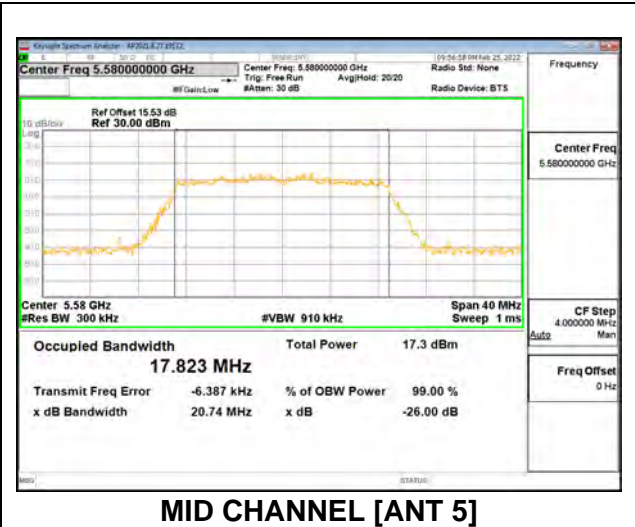
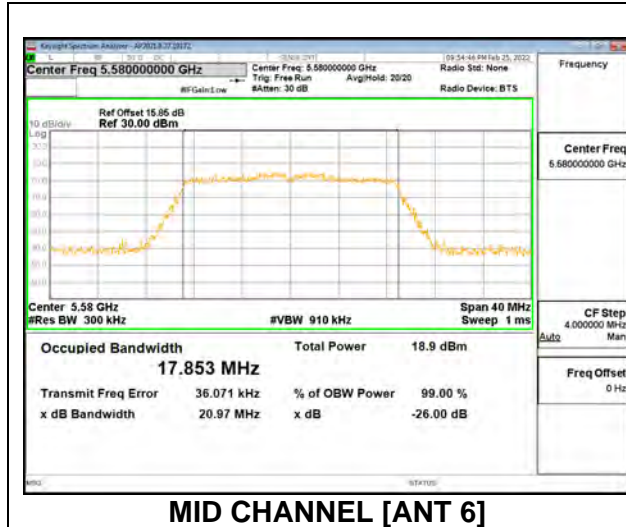
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	21.30	17.849
Mid	5580	20.95	17.836
High	5700	21.94	17.835
144	5720	20.86	17.826



2TX Antenna 6 + Antenna 5 CDD MODE

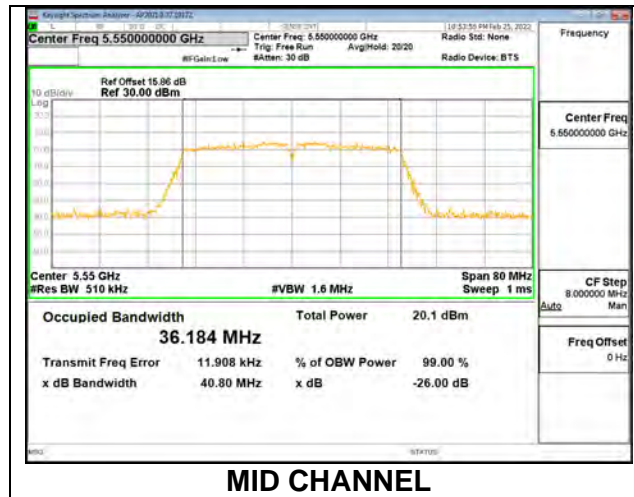
Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5500	21.39	20.63	17.834	17.858
Mid	5580	20.97	20.74	17.853	17.823
High	5700	21.24	21.22	17.860	17.837
144	5720	20.95	20.61	17.821	17.820



9.2.14. 802.11n HT40 MODE IN THE 5.6 GHz BAND

1TX Antenna 6 MODE

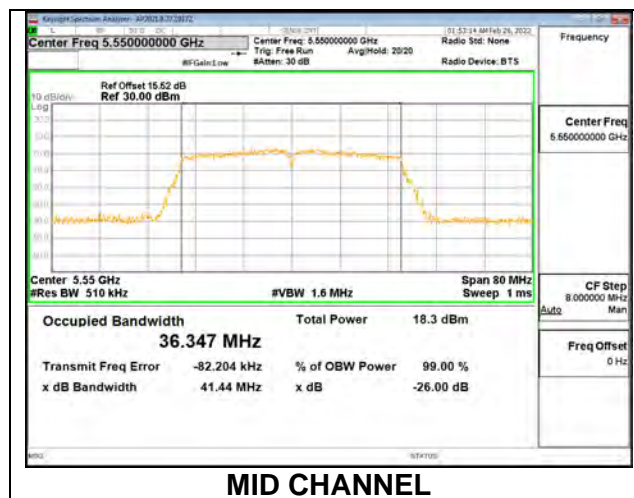
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	41.91	36.311
Mid	5550	40.80	36.184
High	5670	43.19	36.273
142	5710	41.24	36.281



MID CHANNEL

1TX Antenna 5 MODE

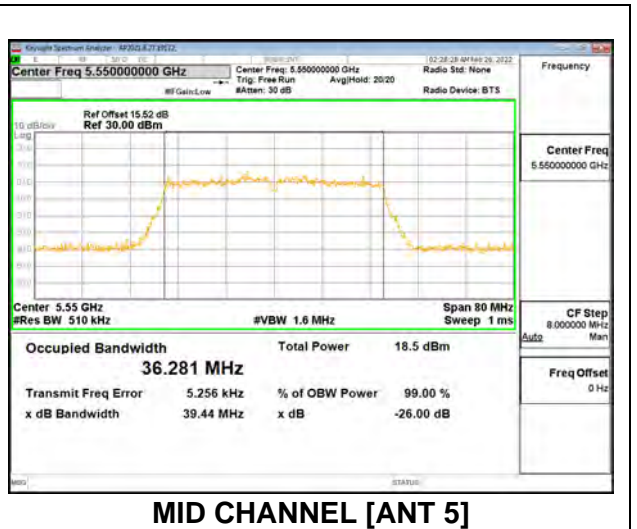
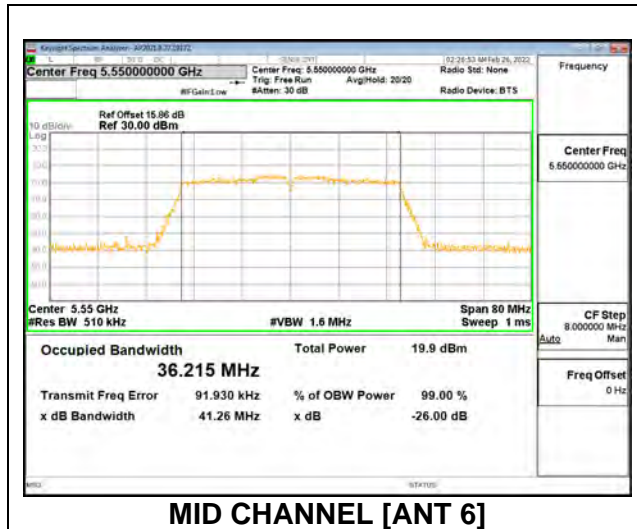
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	41.83	36.247
Mid	5550	41.44	36.347
High	5670	42.50	36.304
142	5710	40.83	36.238



MID CHANNEL

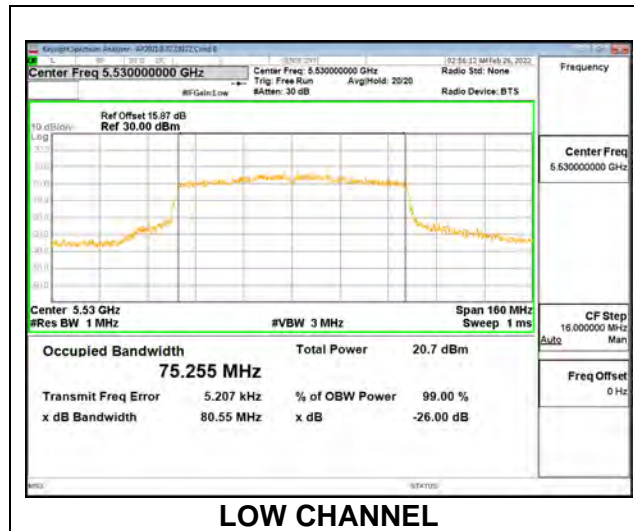
2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5510	41.52	41.00	36.240	36.341
Mid	5550	41.26	39.44	36.215	36.281
High	5670	41.64	40.61	36.382	36.181
144	5710	41.03	40.14	36.160	36.164



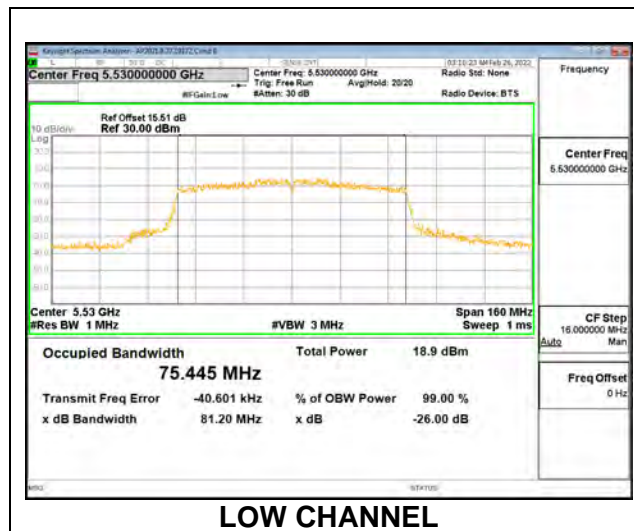
9.2.15. **802.11ac VHT80 MODE IN THE 5.6 GHz BAND**
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	80.55	75.255
High	5610	80.48	75.388
138	5690	80.80	75.418



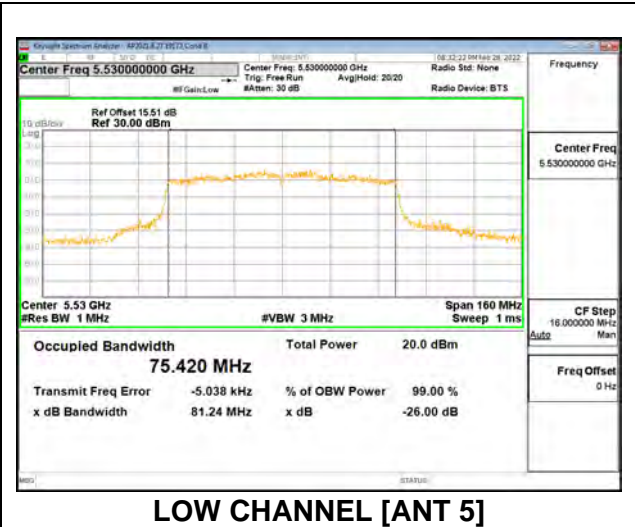
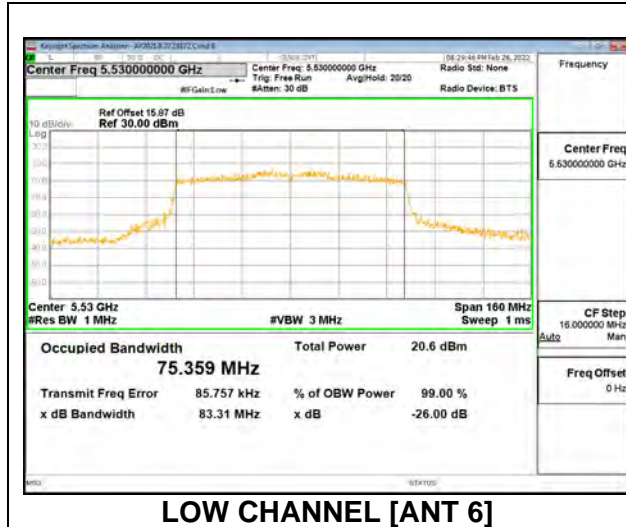
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	81.20	75.445
High	5610	84.66	75.398
138	5690	81.08	75.479



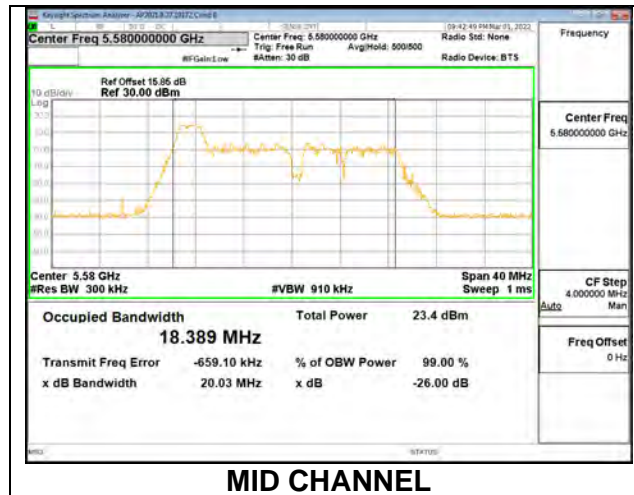
2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5530	83.31	81.24	75.359	75.420
High	5610	81.28	84.35	75.481	75.493
138	5690	81.14	80.77	75.477	75.527



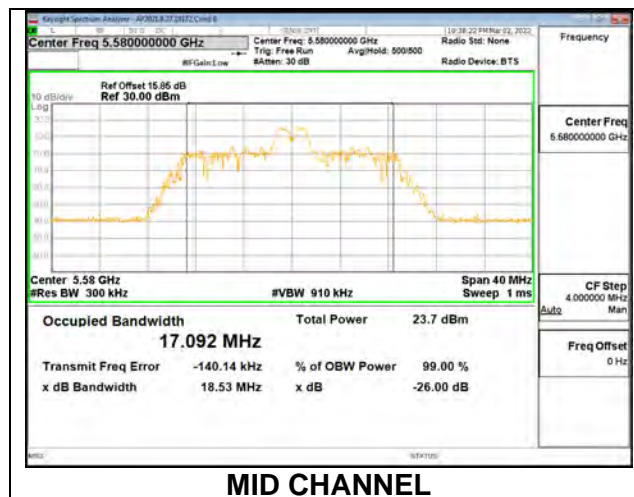
9.2.16. **802.11ax HE20 MODE IN THE 5.6 GHz BAND**
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	19.53	18.342
Mid	5580	20.03	18.389
High	5700	20.02	18.195
144	5720	20.08	18.355



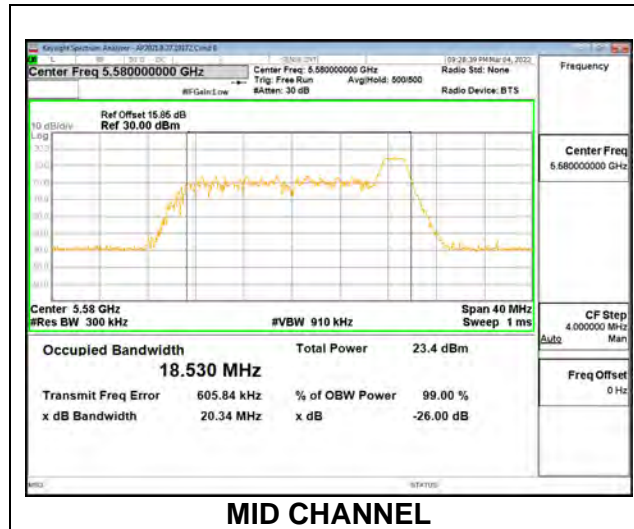
1TX Antenna 6 MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	19.04	17.131
Mid	5580	18.53	17.092
High	5700	18.38	17.133
144	5720	18.84	17.049



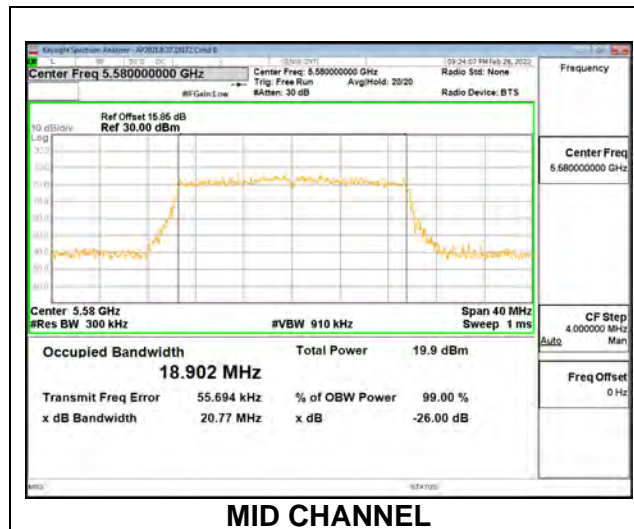
1TX Antenna 6 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	20.56	18.557
Mid	5580	20.34	18.530
High	5700	20.57	18.609
144	5720	20.48	18.600



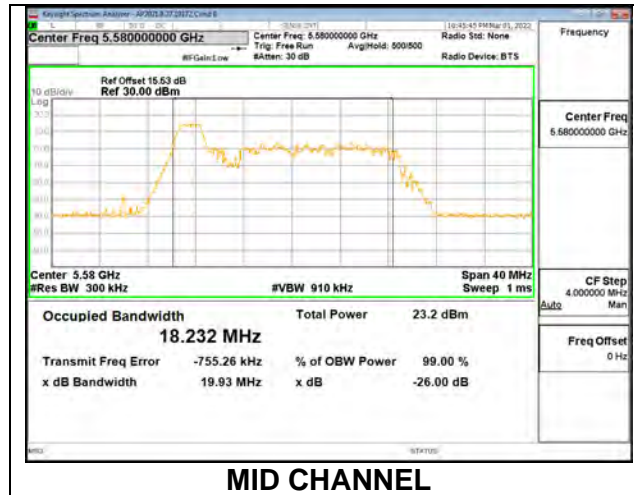
1TX Antenna 6 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	24.56	18.907
Mid	5580	20.77	18.902
High	5700	20.86	18.922
144	5720	20.68	18.924



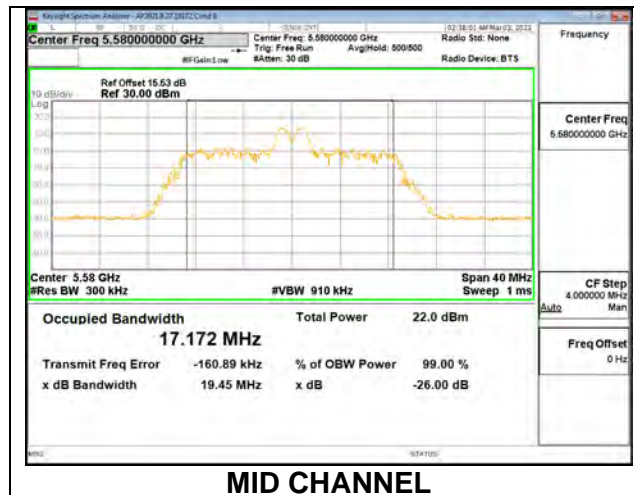
1TX Antenna 5 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	20.13	18.330
Mid	5580	19.93	18.232
High	5700	19.69	18.301
144	5720	20.05	18.319



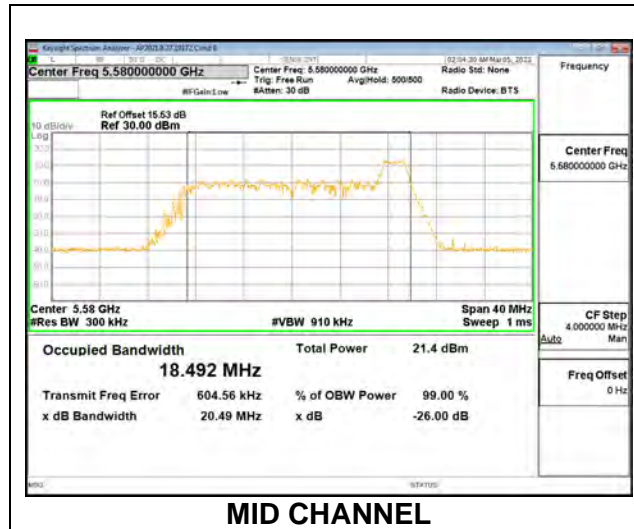
1TX Antenna 5 MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	18.94	17.178
Mid	5580	19.45	17.172
High	5700	19.28	17.177
144	5720	18.88	17.134



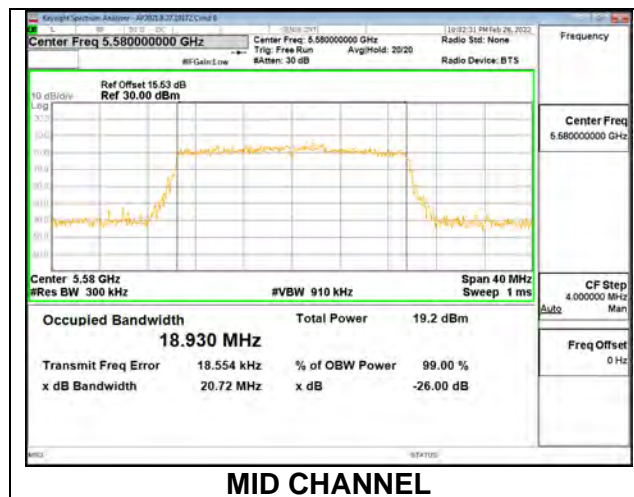
1TX Antenna 5 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	20.13	18.535
Mid	5580	20.49	18.492
High	5700	20.63	18.551
144	5720	20.48	18.452



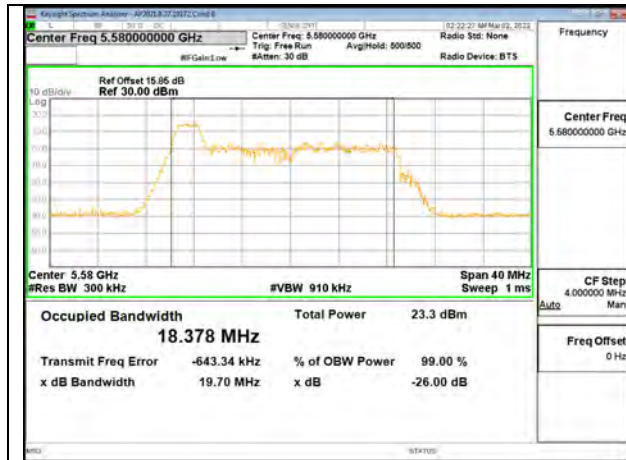
1TX Antenna 5 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	20.69	18.938
Mid	5580	20.72	18.930
High	5700	21.00	18.919
144	5720	20.75	18.918

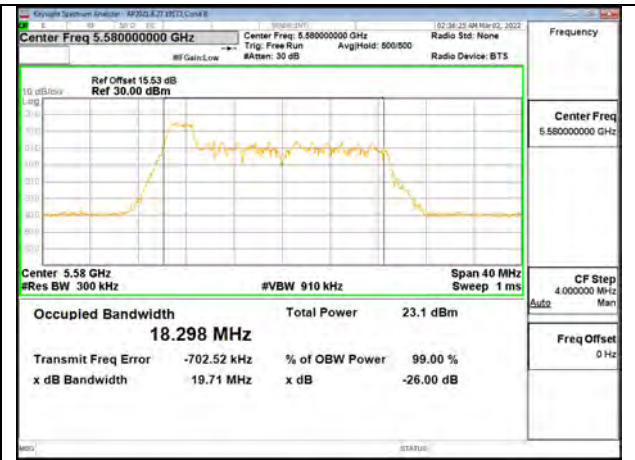


2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5500	20.14	19.79	18.410	18.380
Mid	5580	19.70	19.71	18.378	18.298
High	5700	20.04	19.64	18.401	18.211
144	5720	20.00	19.68	18.349	18.368



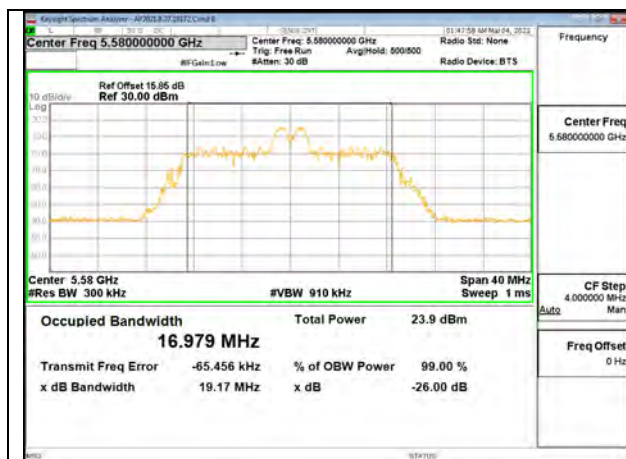
MID CHANNEL [ANT 6]



MID CHANNEL [ANT 5]

2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 4

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5500	19.14	18.26	17.074	16.837
Mid	5580	19.17	18.30	16.979	17.024
High	5700	19.18	18.25	17.025	16.817
144	5720	19.28	18.00	17.064	16.868



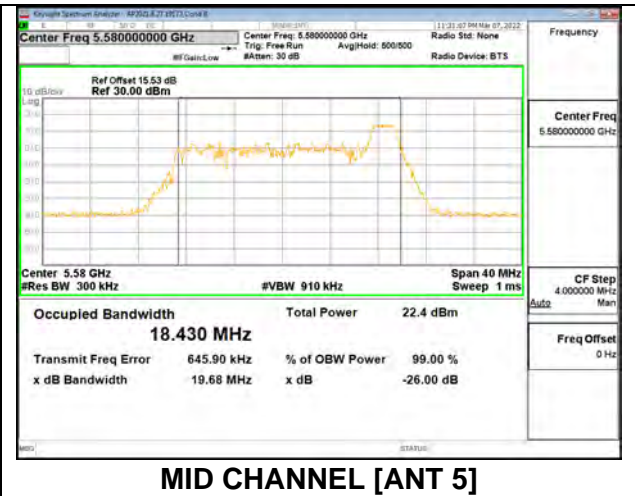
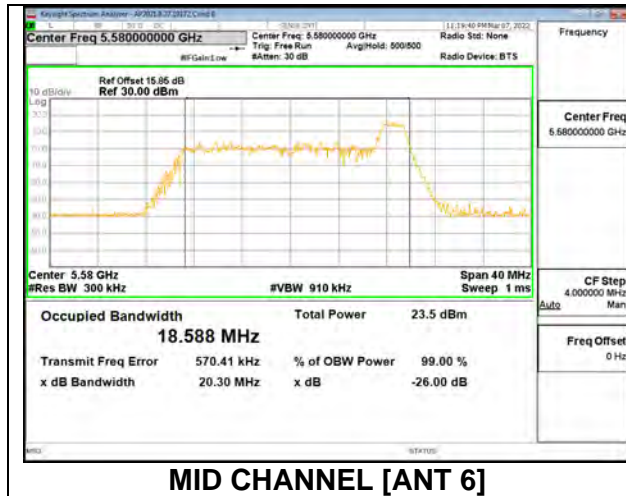
MID CHANNEL [ANT 6]



MID CHANNEL [ANT 5]

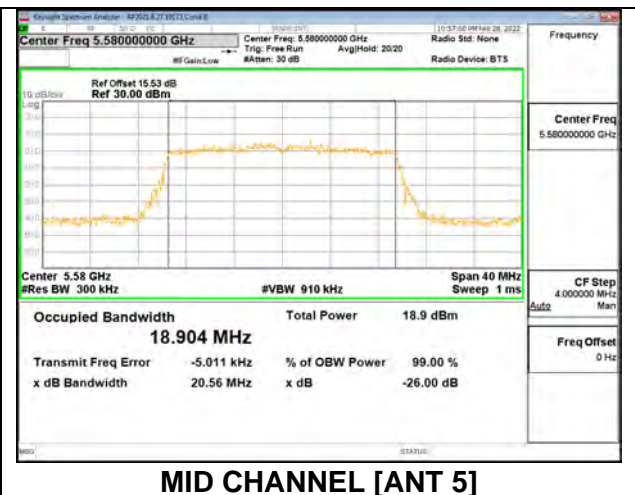
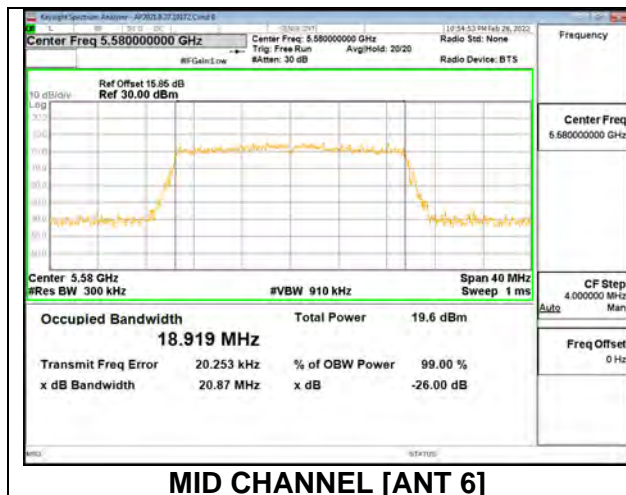
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5500	20.45	19.65	18.497	18.372
Mid	5580	20.30	19.68	18.588	18.430
High	5700	19.95	19.71	18.461	18.211
144	5720	20.56	19.57	18.612	18.132



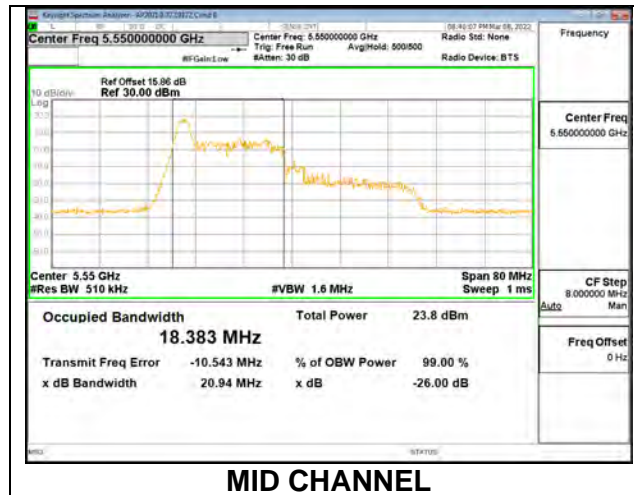
2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5500	21.01	21.31	18.915	18.943
Mid	5580	20.87	20.56	18.919	18.904
High	5700	21.26	21.03	18.946	18.916
144	5720	20.72	20.98	18.956	18.935



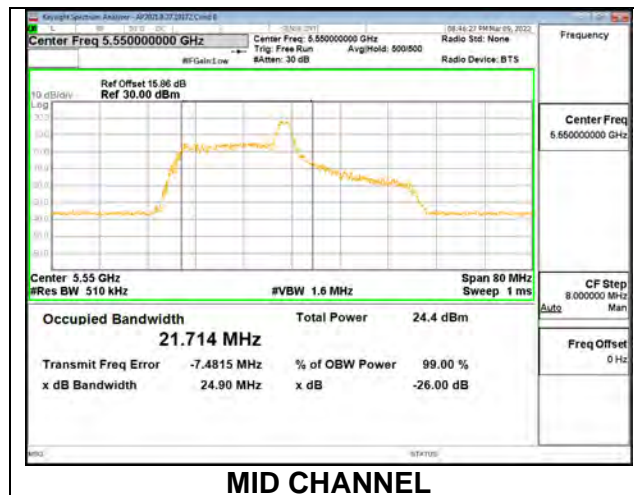
9.2.17. **802.11ax HE40 MODE IN THE 5.6 GHz BAND**
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	20.57	18.589
Mid	5550	20.94	18.383
High	5670	21.31	18.777
142	5710	20.38	18.794



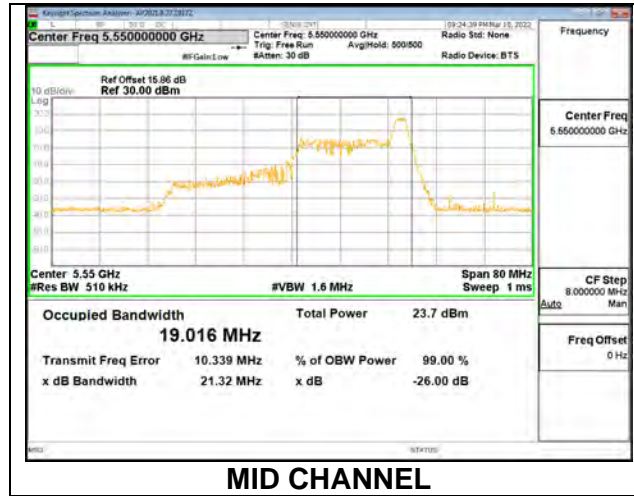
1TX Antenna 6 MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	23.32	21.836
Mid	5550	24.90	21.714
High	5670	24.59	21.913
142	5710	24.31	21.655



1TX Antenna 6 MODE: 26 Tones, RU Index 17

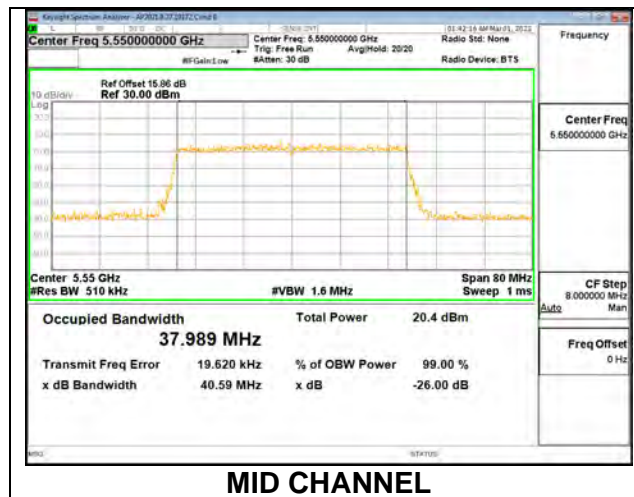
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	20.70	18.849
Mid	5550	21.32	19.016
High	5670	21.43	18.716
142	5710	20.94	18.886



MID CHANNEL

1TX Antenna 6 MODE: SU Mode

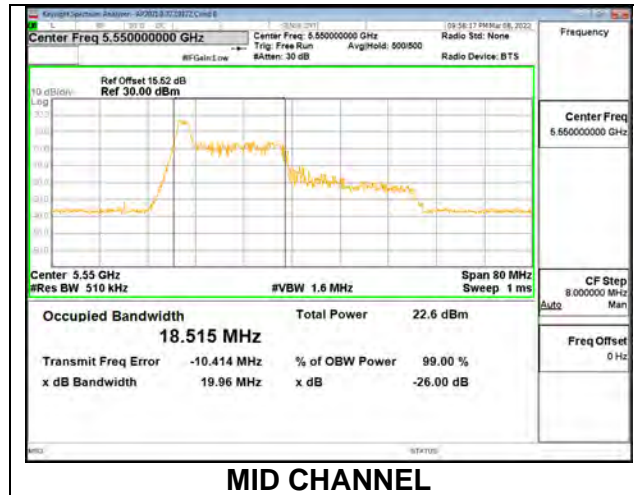
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	40.57	38.015
Mid	5550	40.59	37.989
High	5670	44.19	37.998
142	5710	40.62	37.971



MID CHANNEL

1TX Antenna 5 MODE: 26 Tones, RU Index 0

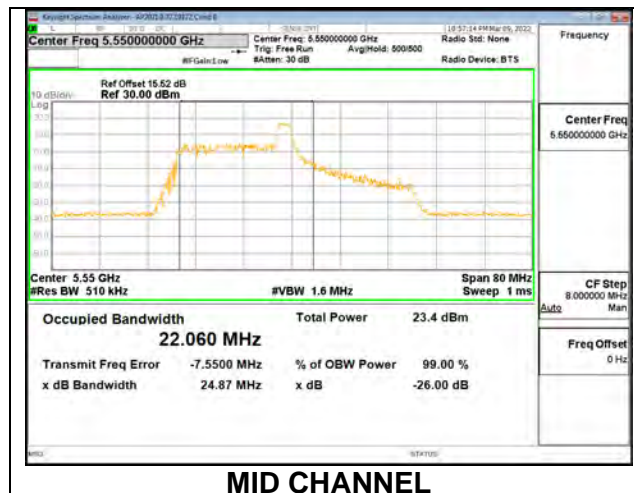
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	20.37	18.576
Mid	5550	19.96	18.515
High	5670	19.77	18.396
142	5710	21.06	18.818



MID CHANNEL

1TX Antenna 5 MODE: 26 Tones, RU Index 8

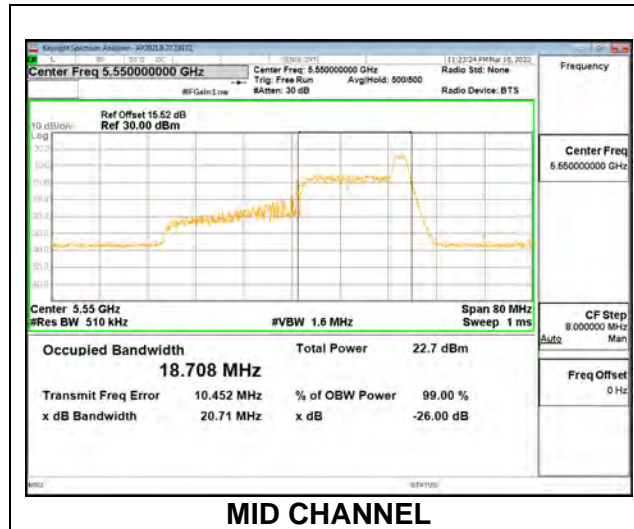
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	23.43	21.672
Mid	5550	24.87	22.060
High	5670	23.41	21.937
142	5710	23.49	21.840



MID CHANNEL

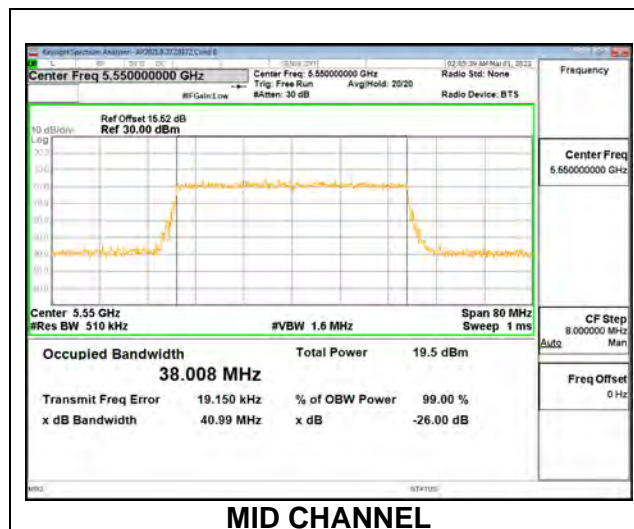
1TX Antenna 5 MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	20.97	18.768
Mid	5550	20.71	18.708
High	5670	21.43	18.696
142	5710	20.47	18.614



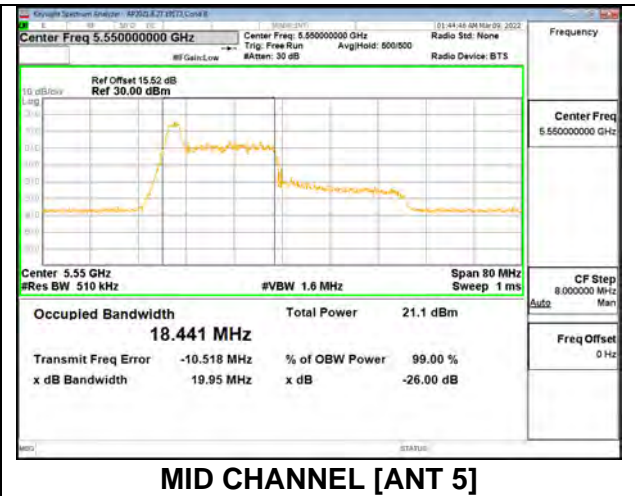
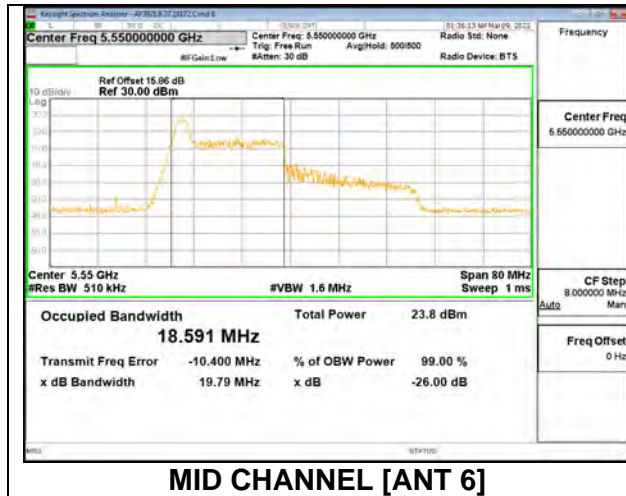
1TX Antenna 5 MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	43.36	37.992
Mid	5550	40.99	38.008
High	5670	41.17	37.958
142	5710	40.41	37.942



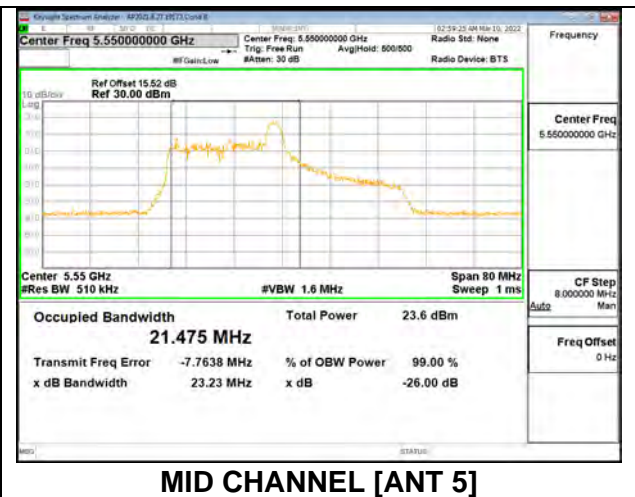
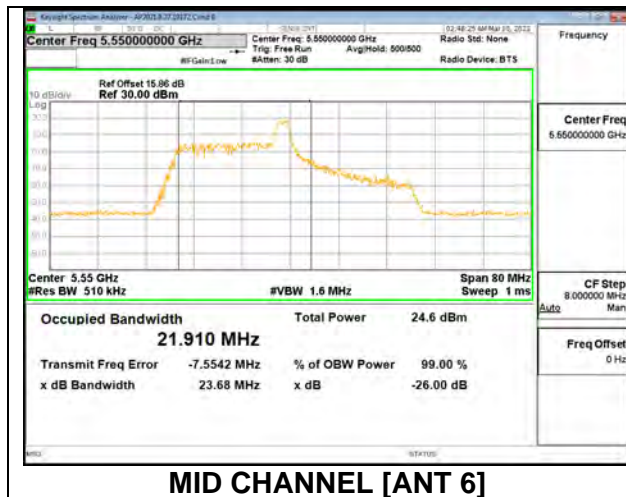
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5510	21.57	20.18	18.613	18.288
Mid	5550	19.79	19.95	18.591	18.441
High	5670	21.07	19.55	18.693	18.235
144	5710	21.52	20.18	18.458	18.475



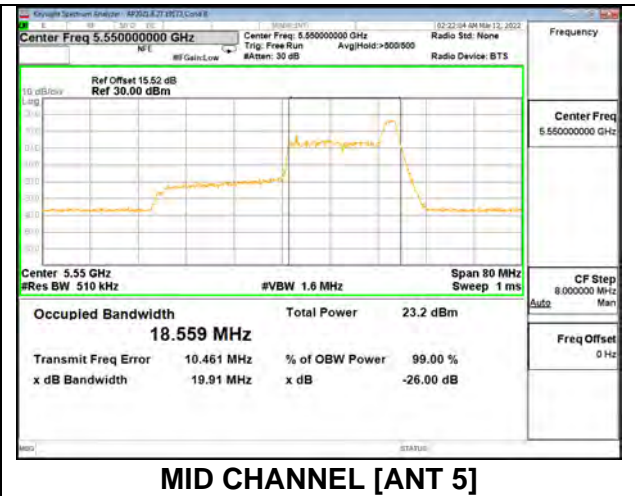
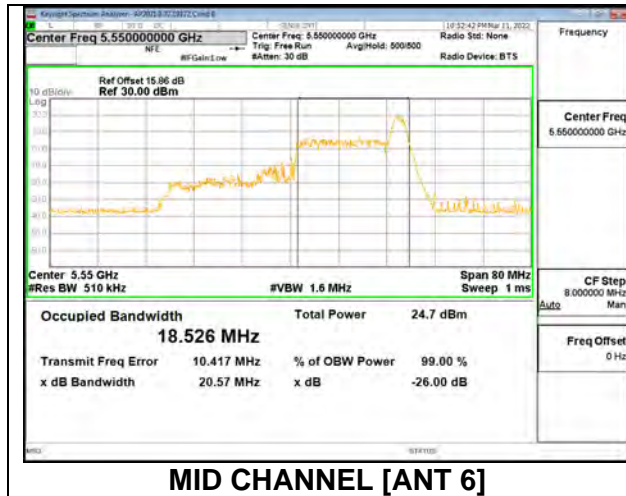
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 8

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5510	23.80	23.13	22.234	21.759
Mid	5550	23.68	23.23	21.910	21.475
High	5670	25.71	23.72	22.153	21.402
144	5710	20.18	23.95	21.888	22.039



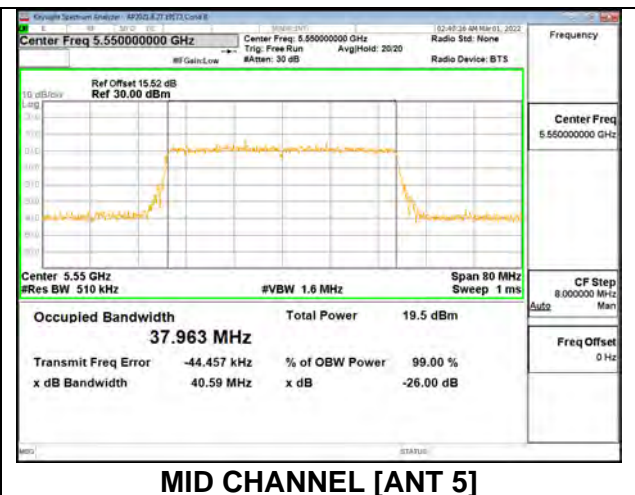
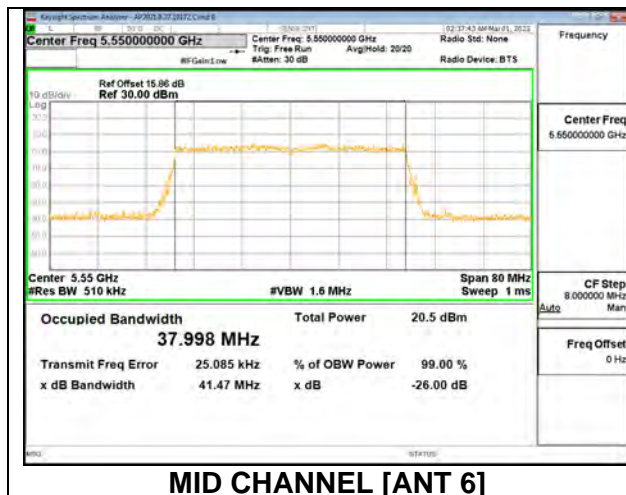
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 17

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5510	21.18	20.07	18.819	18.469
Mid	5550	20.57	19.91	18.526	18.559
High	5670	21.02	19.90	18.994	18.413
144	5710	21.05	19.81	18.805	18.395



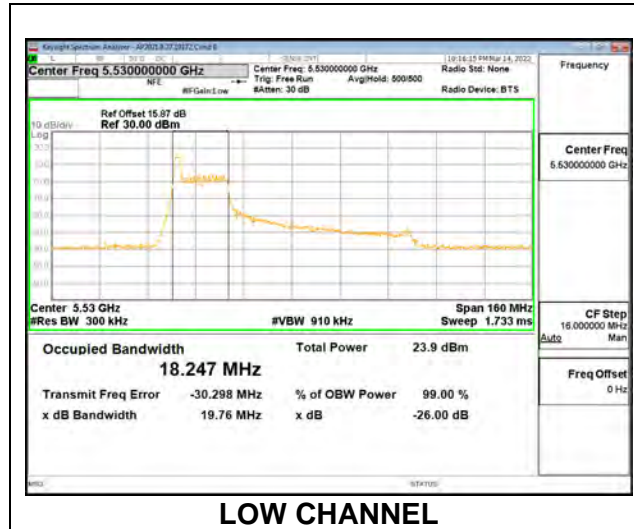
2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5510	43.29	41.45	38.080	37.961
Mid	5550	41.47	40.59	37.998	37.963
High	5670	41.32	41.60	37.932	37.939
144	5710	40.89	40.85	37.946	37.974



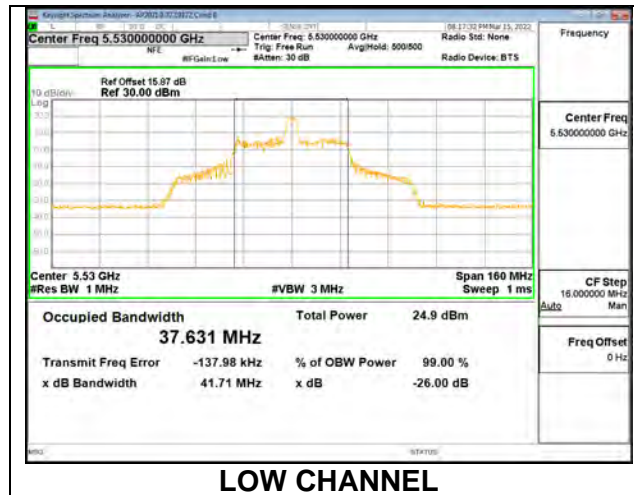
9.2.18. **802.11ax HE80 MODE IN THE 5.6 GHz BAND**
1TX Antenna 6 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	19.76	18.247
High	5610	19.73	18.236
138	5690	19.83	18.252



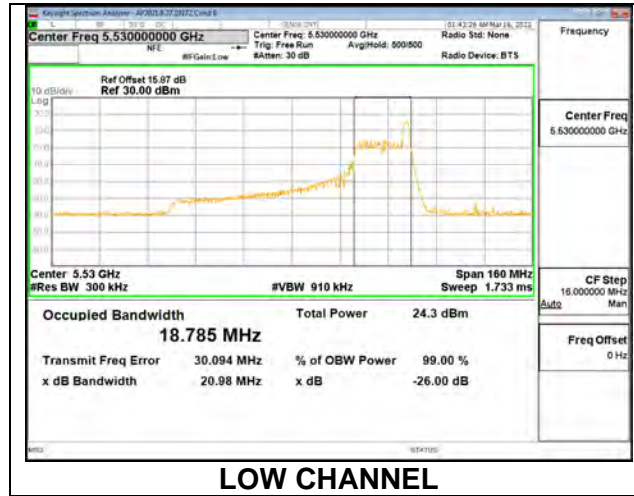
1TX Antenna 6 MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	41.71	37.631
High	5610	39.80	37.410
138	5690	40.56	37.936



1TX Antenna 6 MODE: 26 Tones, RU Index 36

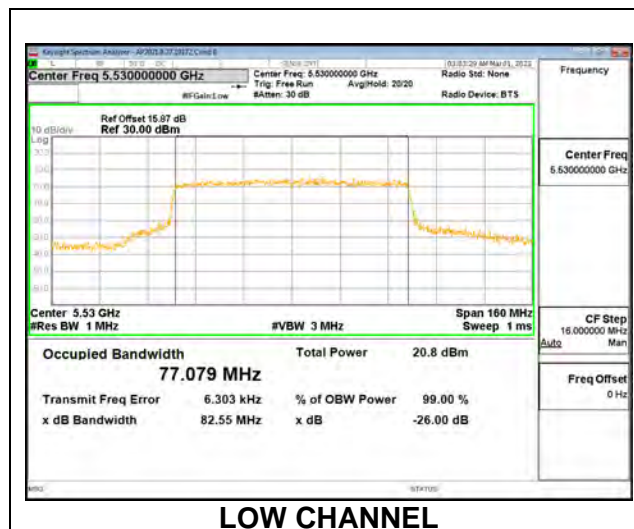
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	20.98	18.785
High	5610	20.80	18.857
138	5690	20.12	18.856



LOW CHANNEL

1TX Antenna 6 MODE: SU Mode

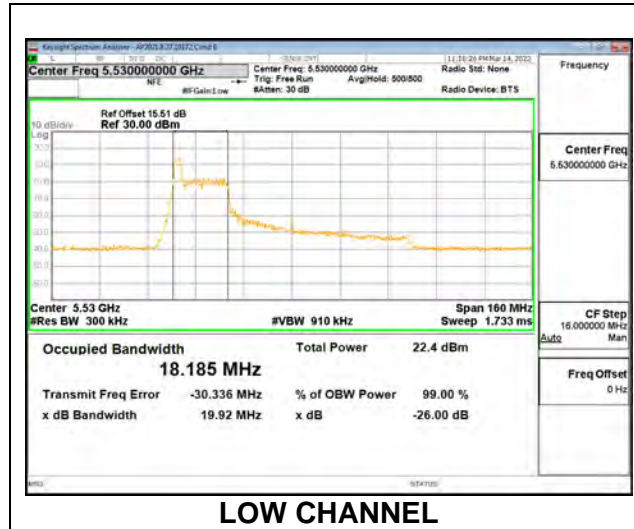
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	82.55	77.079
High	5610	82.89	77.194
138	5690	82.96	77.135



LOW CHANNEL

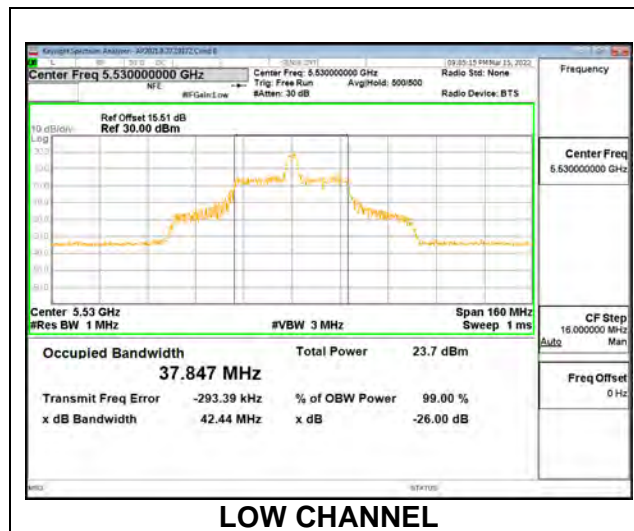
1TX Antenna 5 MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	19.92	18.185
High	5610	19.74	18.138
138	5690	19.99	18.261



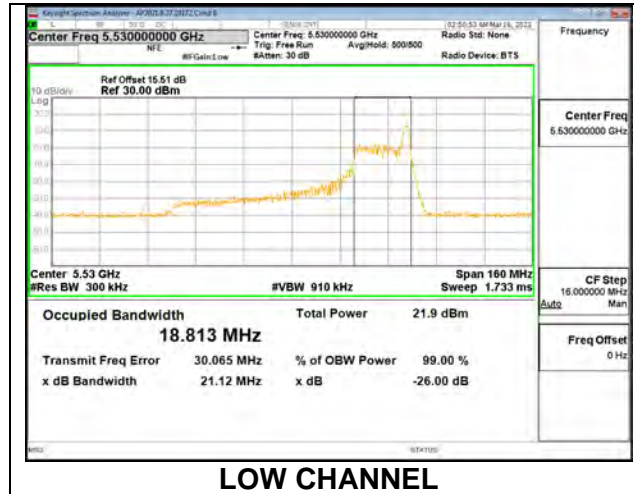
1TX Antenna 5 MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	42.44	37.847
High	5610	39.39	37.841
138	5690	41.84	37.691



1TX Antenna 5 MODE: 26 Tones, RU Index 36

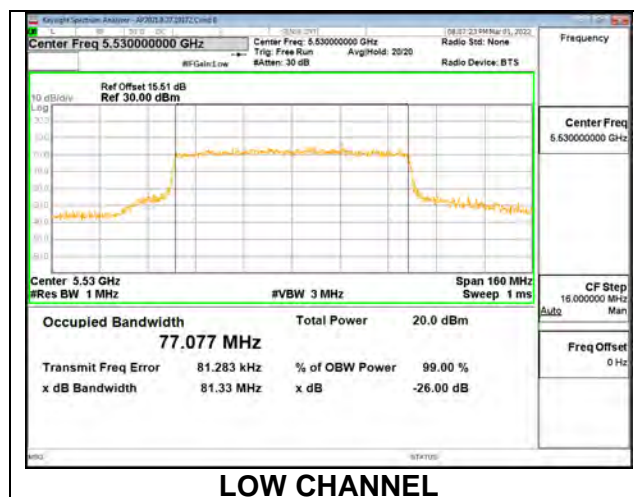
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	21.12	18.813
High	5610	20.98	18.727
138	5690	20.50	18.712



LOW CHANNEL

1TX Antenna 5 MODE: SU Mode

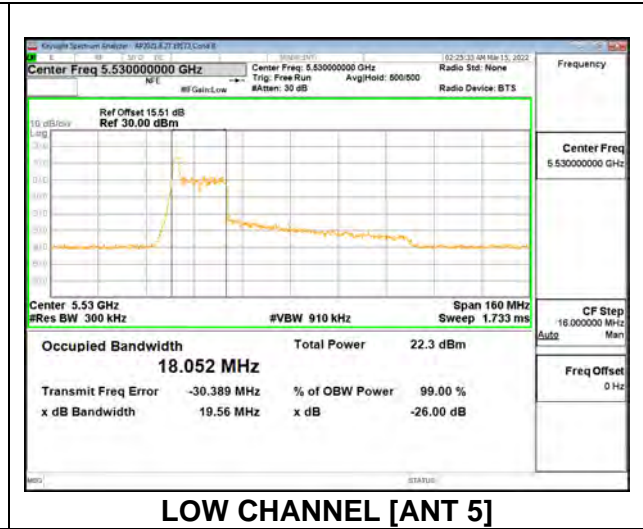
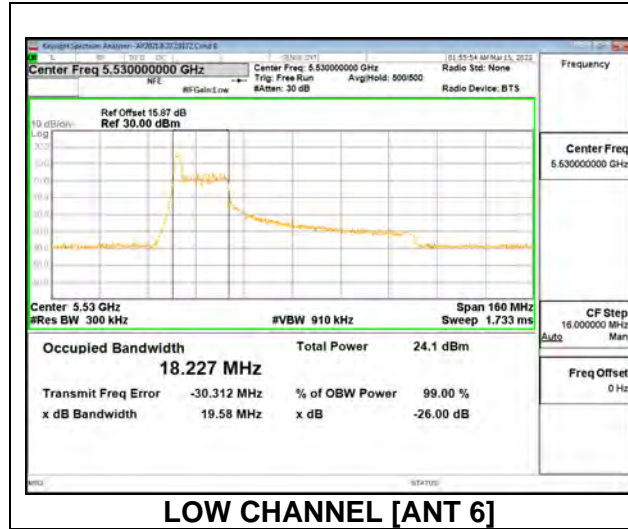
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	81.33	77.077
High	5610	81.72	77.185
138	5690	81.37	77.189



LOW CHANNEL

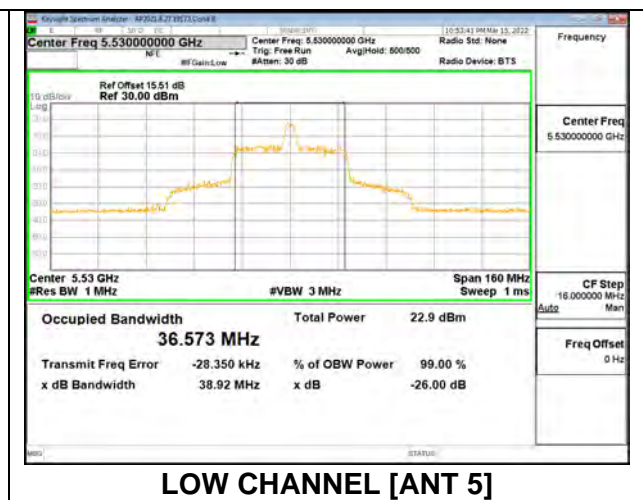
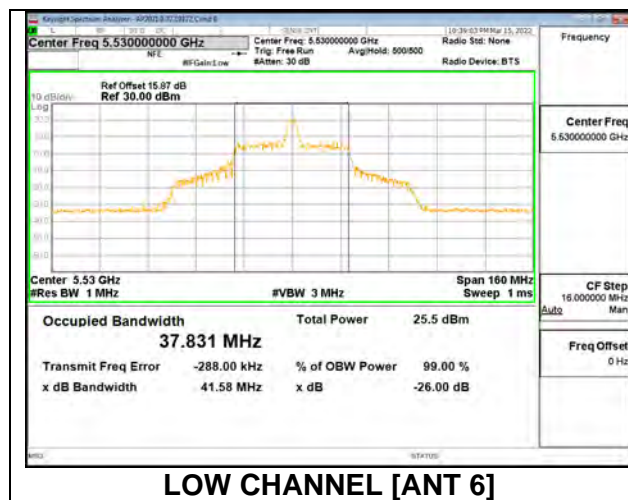
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 0

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5530	19.58	19.56	18.227	18.052
High	5610	19.70	19.65	18.180	18.031
138	5690	19.61	19.56	18.135	18.085



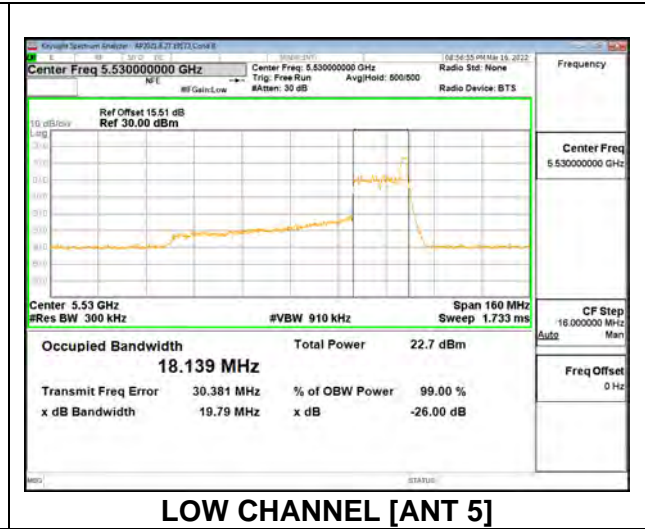
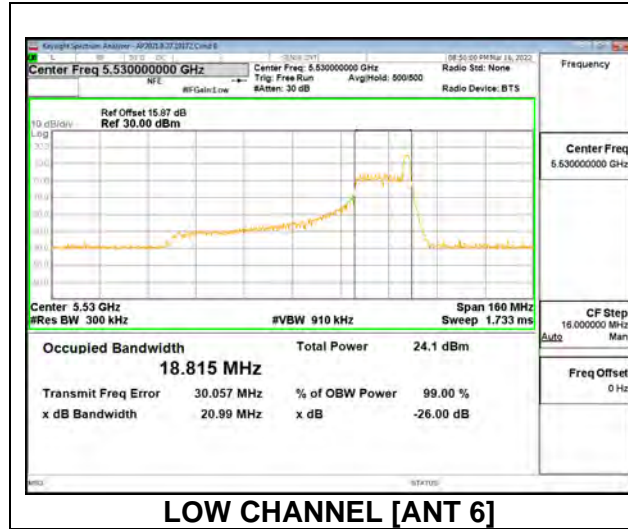
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 18

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5530	41.58	38.92	37.831	36.573
High	5610	42.12	38.57	37.892	36.582
138	5690	41.99	38.58	37.892	36.625



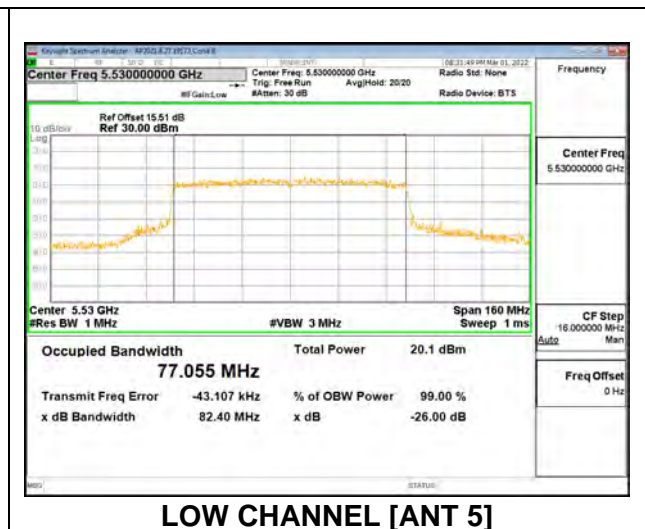
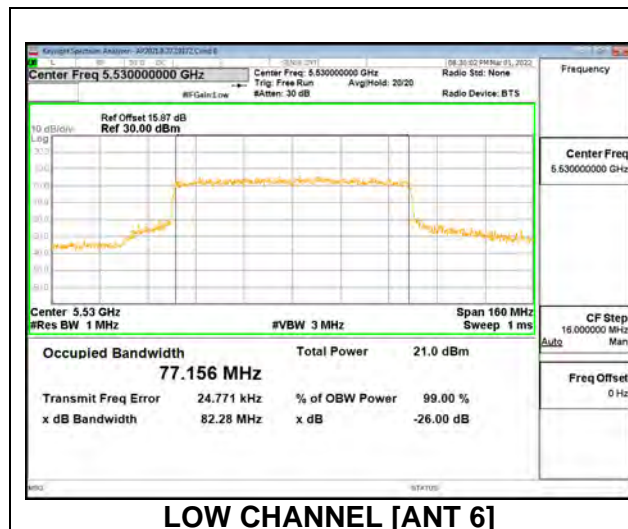
2TX Antenna 6 + Antenna 5 OFDMA MODE: 26 Tones, RU Index 36

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5530	20.99	19.79	18.815	18.139
High	5610	21.22	19.63	18.813	18.072
138	5690	20.67	19.66	18.817	18.070



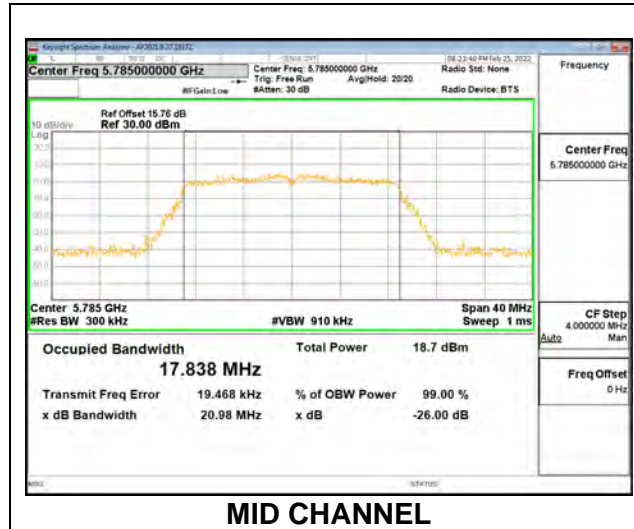
2TX Antenna 6 + Antenna 5 OFDMA MODE: SU Mode

Channel	Frequency (MHz)	26dB Bandwidth Antenna 6 (MHz)	26dB Bandwidth Antenna 5 (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5530	82.28	82.40	77.156	77.055
High	5610	82.81	86.77	77.081	77.174
138	5690	81.11	80.57	77.157	77.191



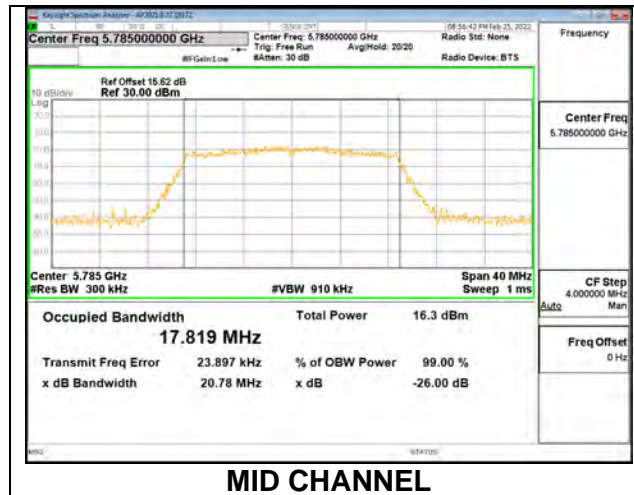
9.2.19. **802.11n HT20 MODE IN THE 5.8 GHz BAND**
1TX Antenna 6 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.819
Mid	5785	17.838
High	5825	17.816



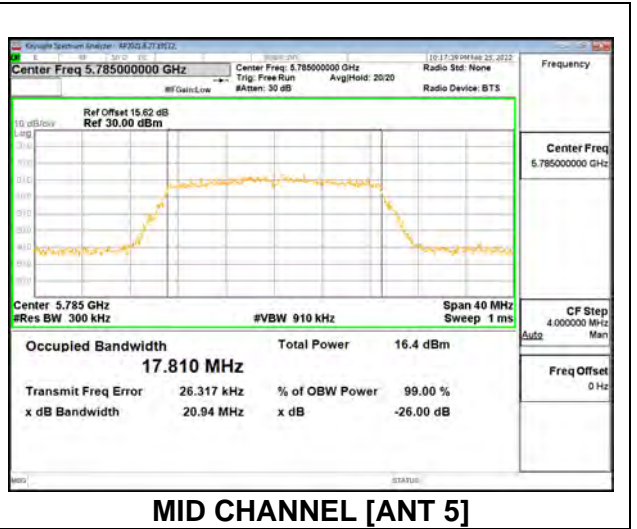
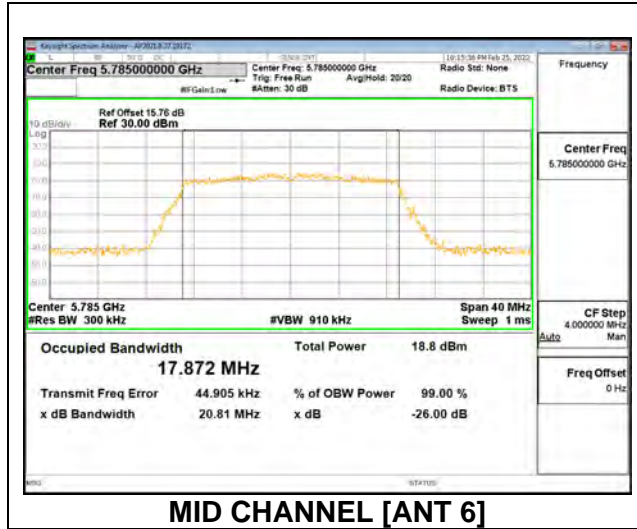
1TX Antenna 5 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.867
Mid	5785	17.819
High	5825	17.837



2TX Antenna 6 + Antenna 5 CDD MODE

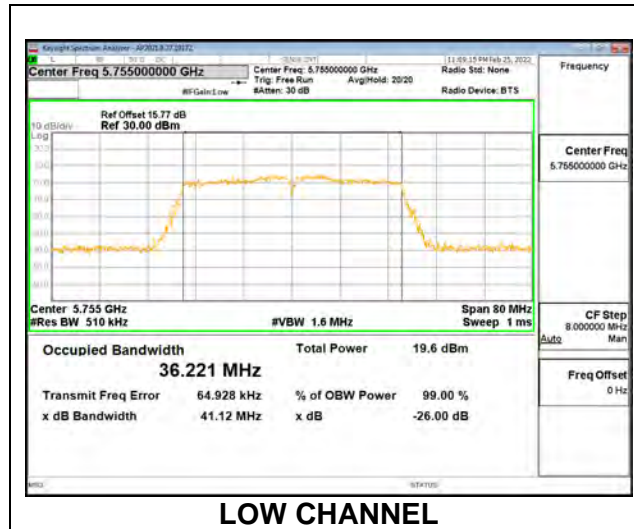
Channel	Frequency (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5745	17.846	17.816
Mid	5785	17.872	17.810
High	5825	17.833	17.840



9.2.20. 802.11n HT40 MODE IN THE 5.8 GHz BAND

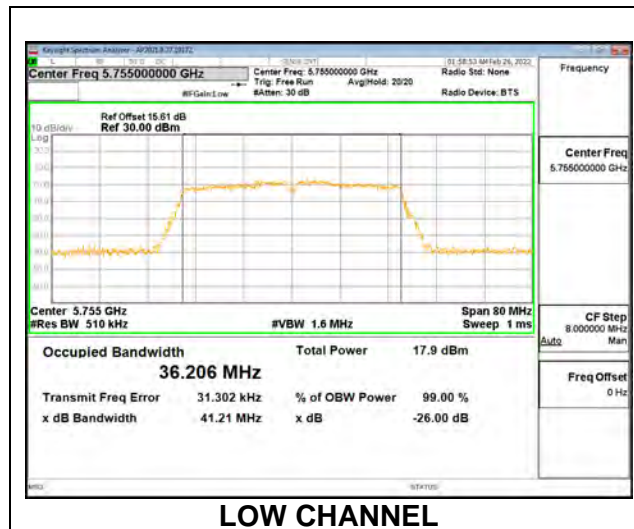
1TX Antenna 6 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.221
High	5795	36.283



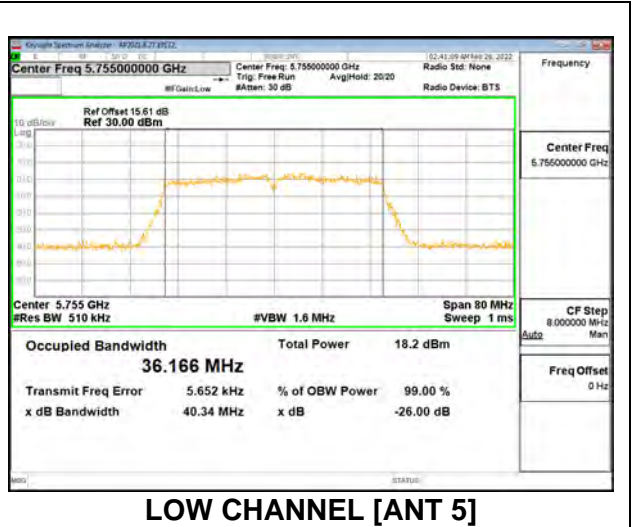
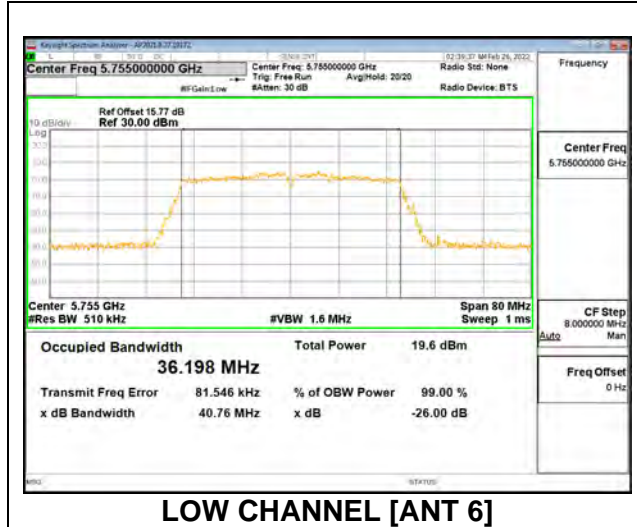
1TX Antenna 5 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.206
High	5795	36.233



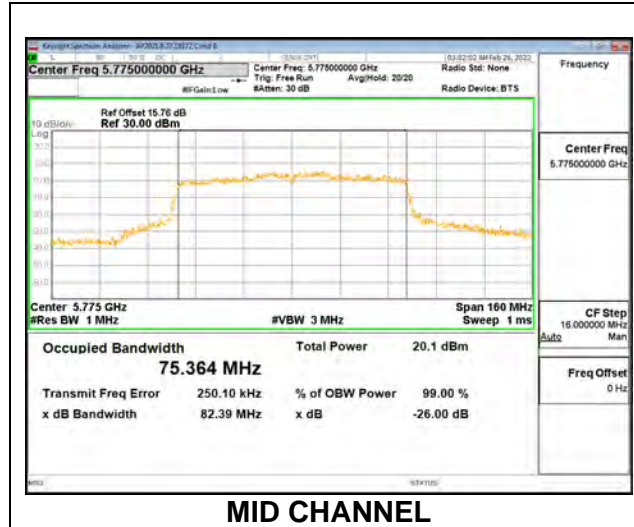
2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Low	5755	36.198	36.166
High	5795	41.01	36.239



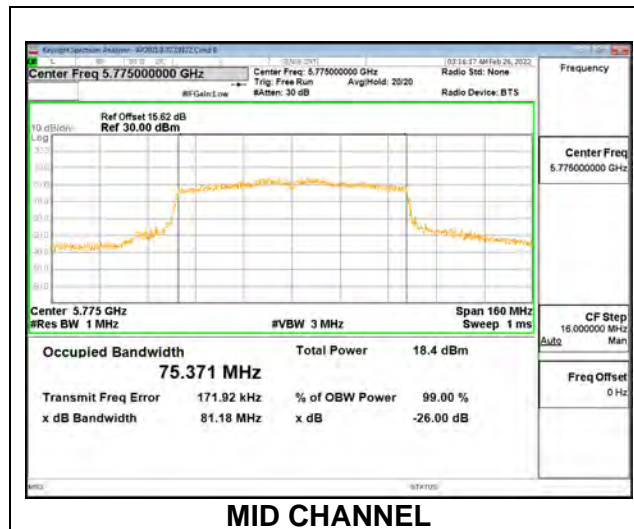
9.2.21. **802.11ac VHT80 MODE IN THE 5.8 GHz BAND**
1TX Antenna 6 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5775	75.364



1TX Antenna 5 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5775	75.371



2TX Antenna 6 + Antenna 5 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth Antenna 6 (MHz)	99% Bandwidth Antenna 5 (MHz)
Mid	5775	75.583	75.322

