



TEST REPORT

Report Number: 14523778-E4V2

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

Model : A2847 (Parent Model)
A3093, A3094, A3096 (Variant Model)

FCC ID : BCG-E8431A (Parent Model)
BCG-E8432A, BCG-E8433A, BCG-E8434A
(Variant Model)

IC : 579C-E8431A (Parent Model)
579C-E8432A, 579C-E8433A, 579C-E8434A
(Variant Model)

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
August 11, 2022

Prepared by:
UL VERIFICATIONS SERVICES INC.
47173 Benicia Street
Fremont, CA 94538 U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888



REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	8/10/2023	Initial Issue	Chris Xiong
V2	8/11/2023	Addressed TCB Questions section 8, 9	Chris Xiong

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: SMARTPHONE

MODEL: A2847 (Parent Model)
A3093, A3094, A3096 (Variant Model)

BRAND: APPLE

SERIAL NUMBER: HVGGRN0006G00004CP (Conducted),
KVYV2YTD62, R409717T71 (Radiated)

SAMPLE RECEIPT DATE: MARCH 15, 2023

DATE TESTED: MARCH 15, 2023 – AUGUST 11, 2023

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

UL Verification Services Inc. 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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. 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 Verification Services Inc. By:

Prepared By:



Chin Pang
Senior Lab Engineer
Consumer Technology Division
UL Verification Services Inc.

Chris Xiong
Senior Test Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST RESULTS SUMMARY

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6.
-	RSS-GEN 6.7	99% OBW	Reporting purposes only	ANSI C63.10 Section 6.9.3.
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW	Complies	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power (Average)	Complies	Per ANSI C63.10, Section 11.9.2.3.2..
15.247 (e)	RSS-247 5.2 (b)	PSD	Complies	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Complies	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Complies	None.
15.207	RSS-Gen 8.8	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 558074 D01 v05r02 15.247 Meas Guidance
- ANSI C63.10-2013
- RSS-GEN Issue 5 + A1 + A2
- KDB 414788 D01 Radiated Test Site v01r01-247 Issue 2

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. 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			
<input checked="" type="checkbox"/>	Building 3: 843 Auburn Court, Fremont, CA 94538 USA			
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538 USA			
<input checked="" type="checkbox"/>	Building 5: 47670 Kato Rd, Fremont, CA 94538 USA			

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}
Conducted Antenna Port Emission Measurement	1.94 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 dB
RF Power Measurement Direct Method Using Power Meter	0.450 dB(Peak), 1.3 dB (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.2%
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, 802.15.4ab-NB and MSS technologies. 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 and by ISED-Canada.

The Model and FCC/IC ID covered by this report includes:

Parent Model: A2847; FCC ID: BCG-E8431A, IC ID: 579C-E8431A

Variant Model: A3093; FCC ID: BCG-E8432A, IC ID: 579C-E8432A
 A3094; FCC ID: BCG-E8433A, IC ID: 579C-E8433A
 A3096; FCC ID: BCG-E8434A, IC ID: 579C-E8434A

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
1Tx 2412 - 2472	802.11b	21.40	138.04
	802.11g	Covered by 802.11n HT20 1TX	
	802.11n HT20	21.24	133.05
	802.11ax HE20	21.36	136.77
2Tx 2412 - 2472	802.11n HT20 CDD	24.25	266.07
	802.11g SDM/STBC	Covered by 802.11n HT20 2TX CDD	
	802.11ax HE20 OFDMA	24.41	276.06

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain, as provided by the manufacturer' are as follows:

Frequency Range (GHz)	ANT 4 (dBi)	ANT 3 (dBi)
2.4	-1.70	-1.00

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was Wi-Fi FW Version: 20_97_1_4.

6.5. WORST-CASE CONFIGURATION AND MODE

EUT was investigated in three orthogonal orientations X (Flatbed), Y (Landscape) and Z (Portrait) on ANT 4, ANT 3, and 2TX. It was determined that Y (Landscape) was worst case orientation for ANT 4, ANT 3 and 2TX.

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

Radiated band edge, harmonic, and spurious emissions from 1GHz to 18GHz were performed with the EUT set to transmit at highest power on Low/Middle/High channels.

Radiated emissions below 1GHz, 18-26GHz and power line conducted emissions were performed with the EUT transmits at the channel with the highest output power as worst-case scenario. There were no emissions found below 30MHz within 20dB of the limit.

For radiated harmonics spurious below 1GHz, 1-18GHz L/M/H channels, 18-26GHz, and power line conducted emissions were performed with the EUT set at the 2TX CDD mode among the CDD/SDM modes and 2TX HE mode with power setting equal or higher than SISO modes as worst-case scenario. G mode covered by HT20 mode since it has the same power as HT20.

Below 1GHz tests were performed with EUT connected to AC power adapter as the worst case; and for above 1GHz tests, the worst-case configuration reported was with EUT only. For AC line conducted emission, test was investigated with AC power adapter and with laptop.

The output power and psd for the 802.11 ax mode were investigated between all different tones, and we found that SU mode had the highest output power and the lowest tone had the highest PSD readings. And after investigation, 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.

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 bandedge, following are the worst-case data rates set for test:

802.11b mode: 1 Mbps
802.11n HT20mode: MCS7
802.11ax HE20mode: MCS9
802.11ax HE20 RU26 and SU, MCS9

Note: In the Radiated Plots and emissions data, ANT0=ANT4 and ANT1=ANT 3.

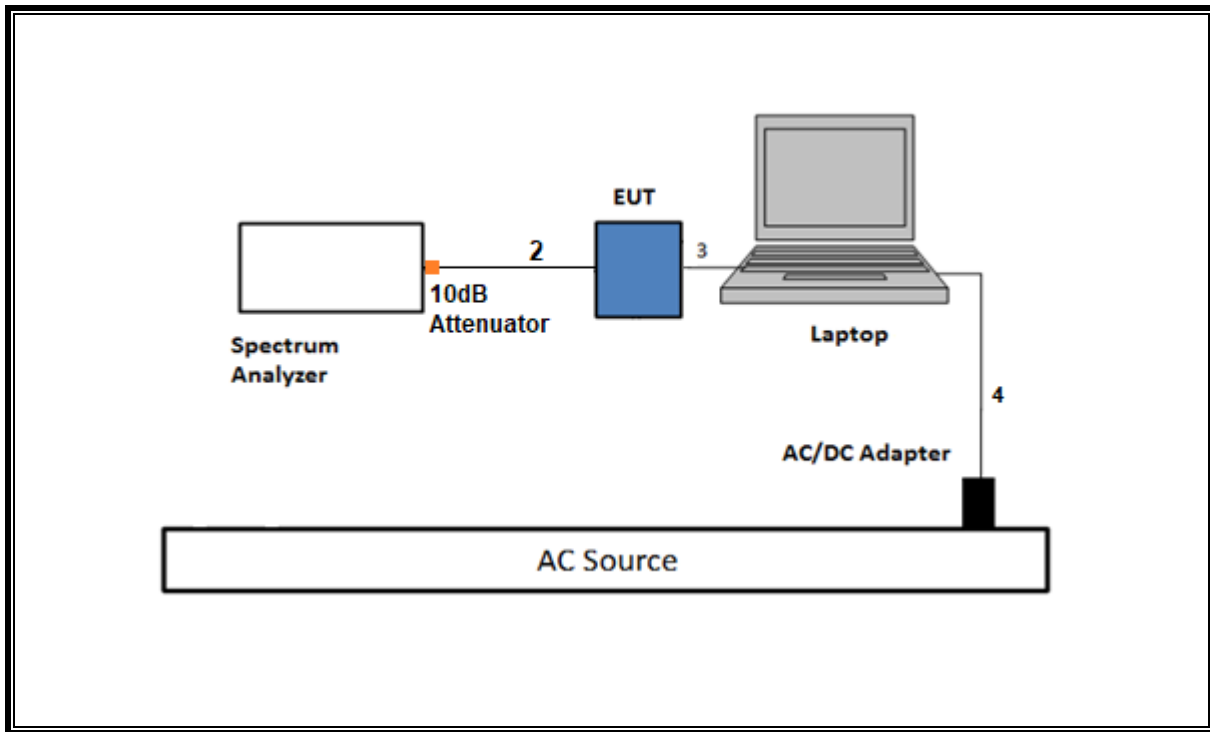
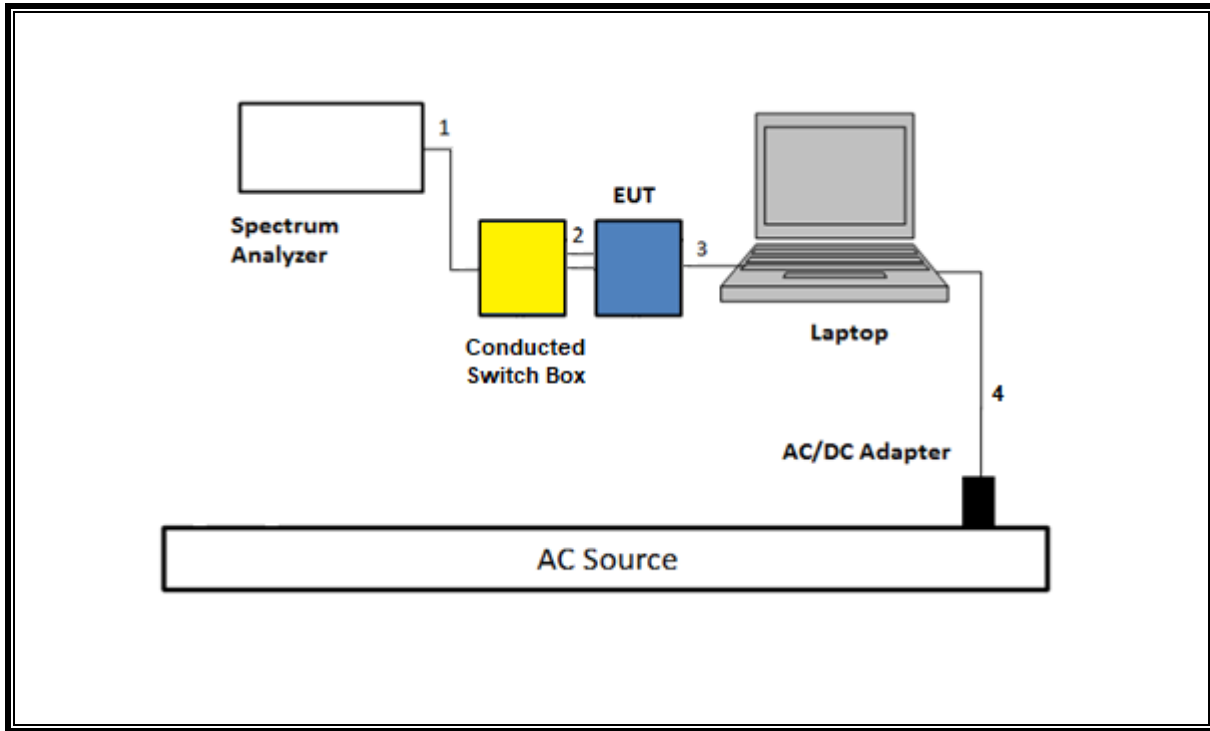
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC		
Laptop	Apple	Macbook Pro	C02VD7SAHV22	BCGA1708		
Laptop AC/DC adapter	Liteon Technology	A1424	NSW25679	DoC		
EUT AC/DC adapter	Apple	A1720	C3D8417A7R93KVPA8	DoC		
Conducted Switch Box	UL	n/a	208281	N/A		
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236358	N/A		
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	SMA	1	SMA	Shielded	0.75	To spectrum Analyzer
2	Antenna	2	SMA	Un-shielded	0.2	To Conducted Switch Box
3	USB-C	1	USB-C	Shielded	1.0	N/A
4	AC	1	AC	Un-shielded	2	N/A
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

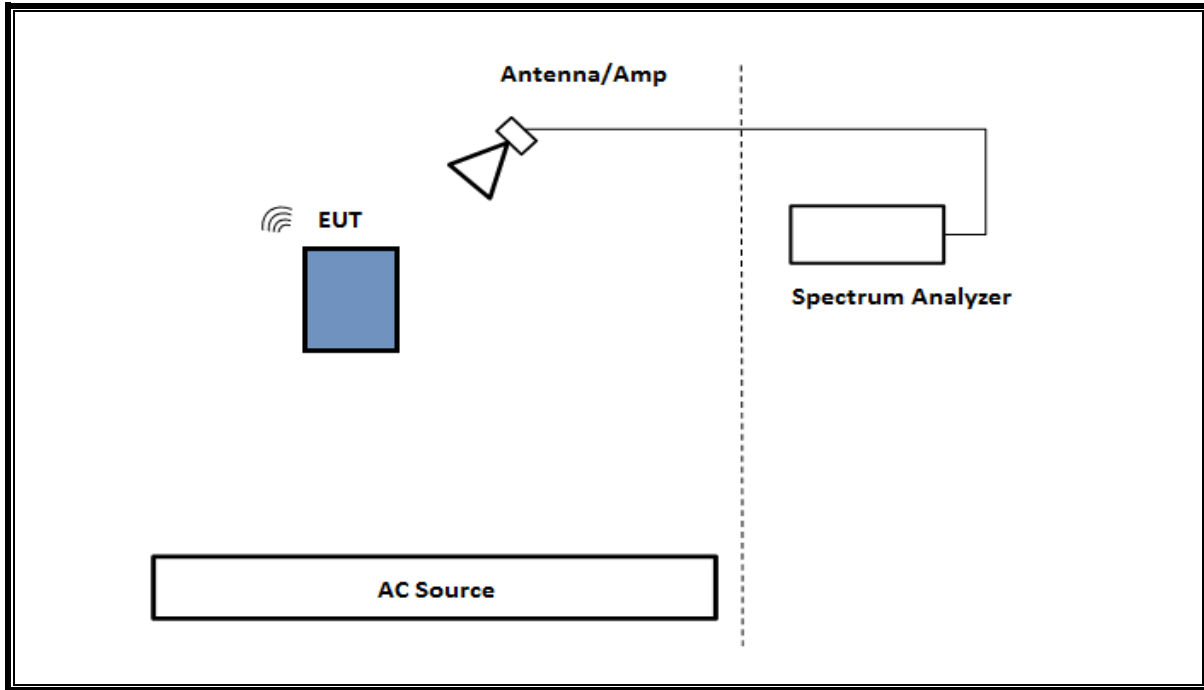
TEST SETUP

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

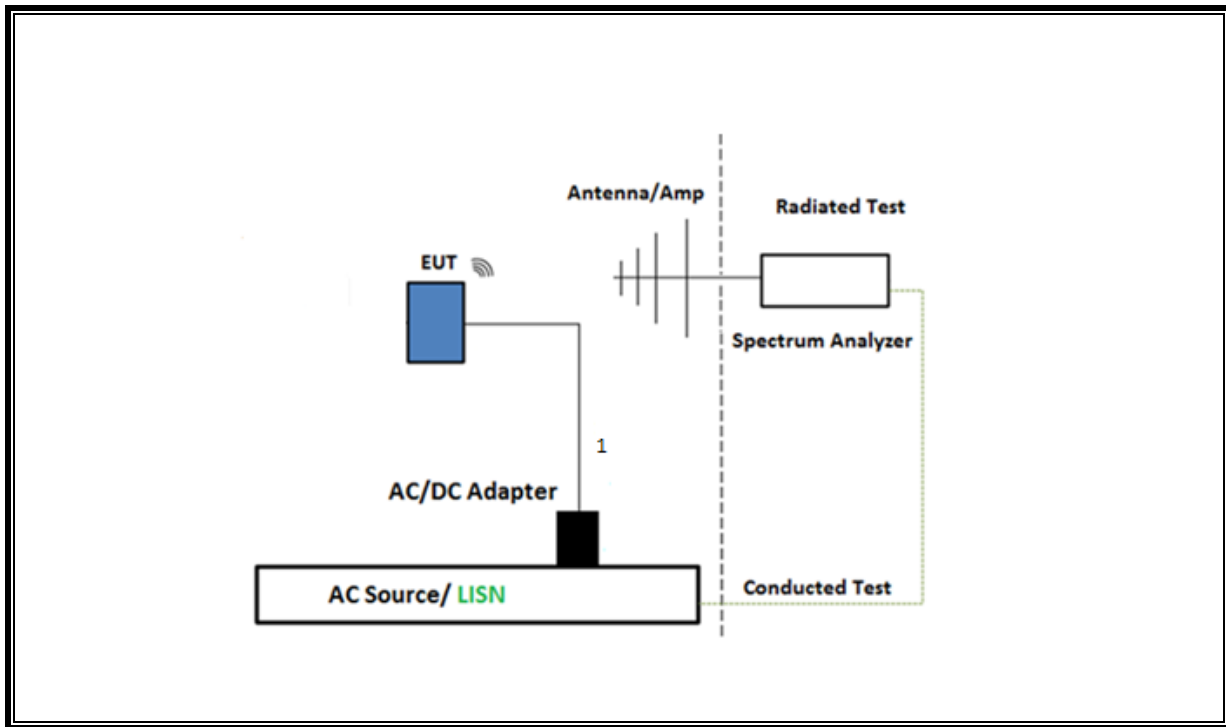
SETUP DIAGRAM FOR CONDUCTED TESTS



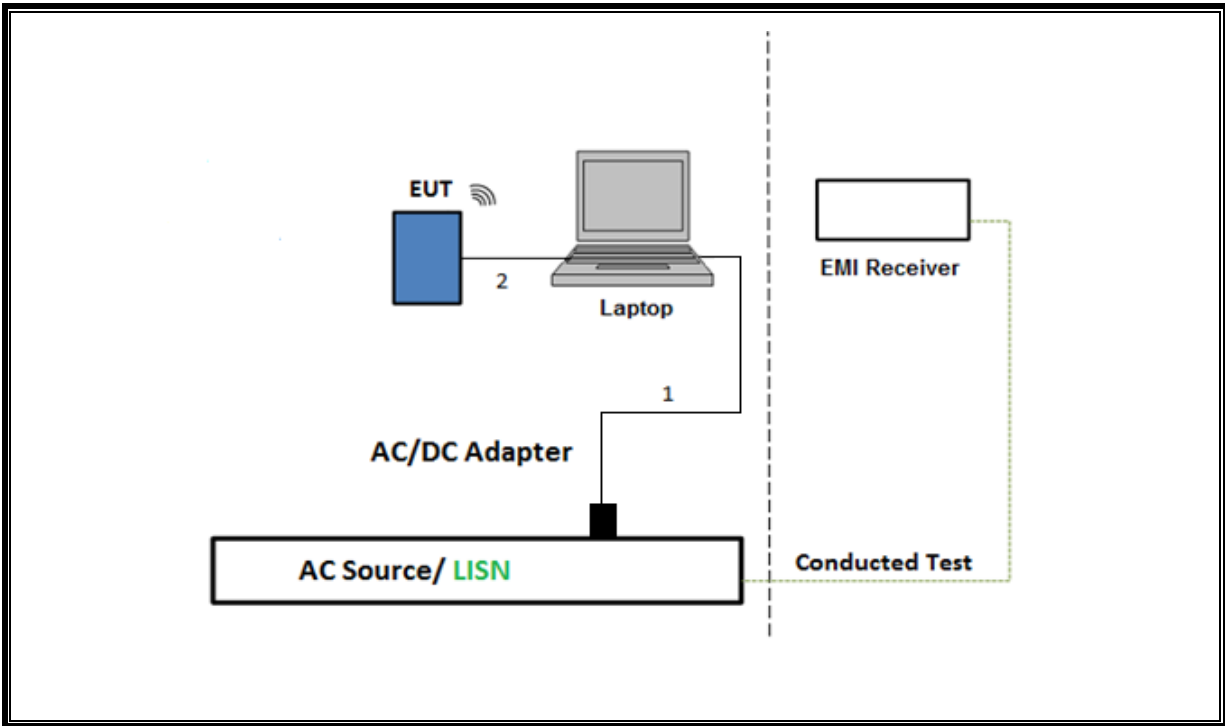
SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz



SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST



TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION



7. MEASUREMENT METHOD

Test Item	Test Method
6 dB BW	ANSI C63.10: 2013 Subclause 11.8.1 (Option 1)
99% BW	ANSI C63.10: 2013 Subclause 6.9.3
Output Power	ANSI C63.10: 2013 Subclause 11.9.2.3.2 (Method AVGPM-G: Measurement using a gated RF average power meter)
PSD	ANSI C63.10: 2013 Subclause 11.10.3 (Method AVGPSD-1) Subclause 11.10.5 (Method AVGPSD-2)
Conducted emissions in restricted frequency bands	ANSI C63.10: 2013 Subclause 11.12.2 (Antenna-port measurements)
Radiated emissions non-restricted frequency bands	ANSI C63.10: 2013 Subclause 11.11 & Clause 13
Radiated emissions restricted frequency bands	ANSI C63.10: 2013 Subclause 11.12.1 & Clause 13
Radiated Band-Edge	ANSI C63.10: 2013 <ul style="list-style-type: none"> • Subclause 11.13.3.2 Peak Detection • Subclause 11.13.3.3 Trace averaging with continuous EUT transmission at full power • Subclause 11.13.3.4 Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
Radiated Spurious Emissions Below 30MHz	ANSI C63.10: 2013 Subclause 6.4 & Clause 13
AC Power Line Conducted Emissions	ANSI C63.10: 2013 Subclause 6.2

8. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	80397	02/29/2024	02/29/2023
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236355	Characterized/Verified before use	
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	87738	02/29/2024	
10dB Fixed Attenuator,	Pasternack Enterprises	PE7005-10	236359	Characterized/Verified before use	
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	191428	02/29/2024	02/29/2023
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	206807	02/28/2024	02/28/2023
RF Filter Box, 1-18GHz, 12 Port.	UL-FR1	Frankenstein	230878	02/29/2024	02/29/2023
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	170063	02/29/2024	02/29/2023
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	230300	01/12/2024	01/12/2023
*RF Filter Box, 1-18GHz, 12 Port.	UL-FR1	Frankenstein	231875	04/14/2023	04/14/2022
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	230548	02/29/2024	02/29/2023
*Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	80404	08/08/2023	08/08/2022
RF Filter Box, 1-18GHz, 12 Port	UL-FR1	Frankenstein	216812	09/17/2023	09/17/2022
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169936	02/29/2024	02/29/2023
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	222740	08/31/2023	08/31/2022
RF Filter Box, 1-18GHz, 12 Port	UL-FR1	Frankenstein	217255	08/23/2023	08/23/2022
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201499	02/29/2024	02/29/2023
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	41112	10/07/2023	10/07/2022
RF Filter Box, 1-18GHz, 12 Port	UL-FR1	Frankenstein	231249	02/29/2024	02/29/2023
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201502	02/29/2024	02/29/2023
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	81887	03/31/2024	03/31/2023
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	225474	03/31/2024	03/27/2023
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	223461	02/29/2024	02/29/2023
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	80402	07/05/2023	07/05/2022
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	225575	03/31/2024	03/31/2023
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	90391	01/31/2024	01/31/2023
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90718	01/31/2024	01/31/2023
Antenna Horn, 18 to 26.5GHz	ARA	MWH-1826/B	172363	01/31/2024	01/31/2023
*Amplifier Assembly, 18-26.5GHz, 60dB Gain	AMPLICAL	AMP18G26.5-60	171580	06/10/2023	06/10/202
*Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	170013	07/28/2023	07/28/2022
*Antenna, Passive Loop 100KHz to 30MHz	ETS-Lindgren	EM-6872	170015	07/28/2023	07/28/2022

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI TEST RECEIVER, with B8 option	Rohde & Schwarz	ESW44	169937	02/29/2024	02/29/2023
*Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	85151	03/31/2023	03/21/2022
*Amplifier, 10KHz to 1GHz, 32dB	Sonoma Instrument Co.	310N	89831	08/10/2023	08/10/2022
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	200897	03/31/2024	03/31/2023
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169935	02/29/2024	02/29/2023
RF Filter Box 1-18GHz	UL-FR1	SAC 12 port rf box	217521	10/09/2023	10/09/2022

AC Line Conducted					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	93091	02/29/2024	02/29/2023
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175764	01/31/2024	01/31/2023
*Transient Limiter	TE	TBFL1	207996	07/15/2023	07/15/2022
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, May 1, 2023		
Conducted Software	UL	UL EMC	2020.8.16		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, Mar 3, 2023		

*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

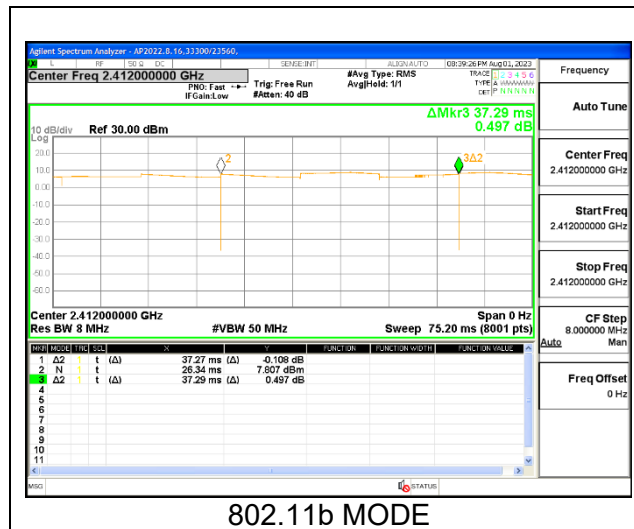
KDB 558074 Zero-Span Spectrum Analyzer Method.

Test Engineer:	33000
Test Date:	08/01/2023

ON TIME AND DUTY CYCLE RESULTS

Duty cycle for 2TX is the same as 1TX.

DUTY CYCLE PLOTS



9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

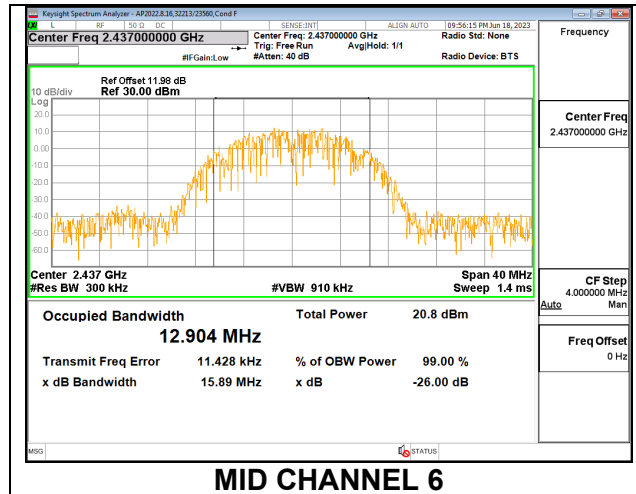
RESULTS

Only Mid channel plot is reported to show analyzer settings.

9.2.1. 802.11b MODE 1TX

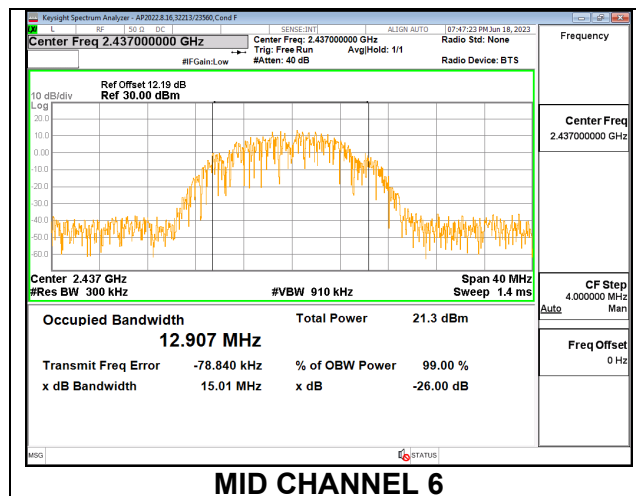
ANT 4 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	12.791
Mid 6	2437	12.904
High 11	2462	12.949
High 12	2467	12.625
High 13	2472	12.529



ANT 3 MODE

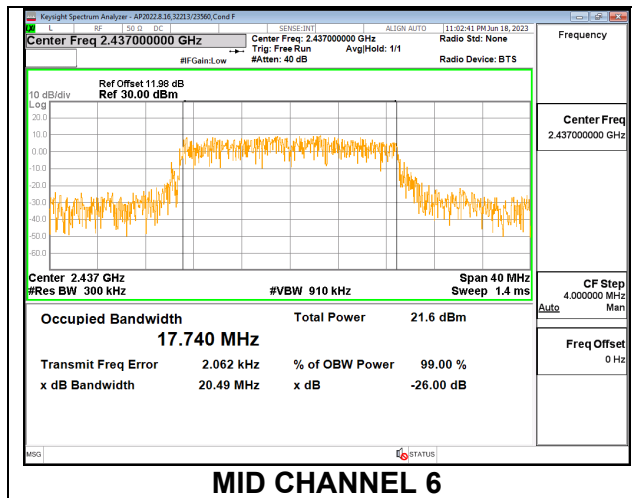
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	12.9191
Mid 6	2437	12.907
High 11	2462	12.7173
High 12	2467	12.7483
High 13	2472	12.8230



9.2.2. 802.11n HT20 MODE 1TX

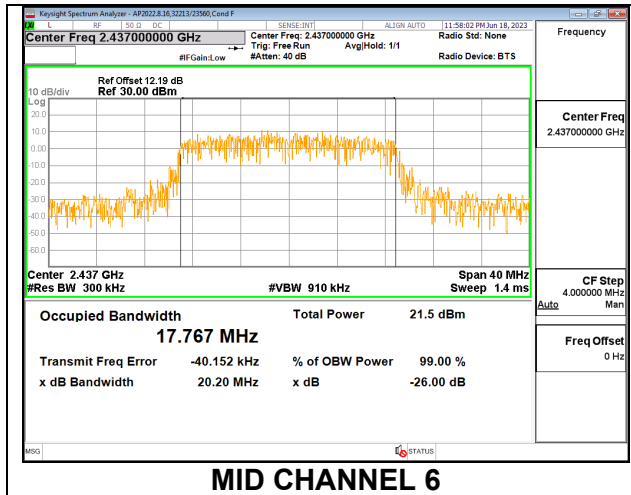
ANT 4 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	17.781
Low 2	2417	17.741
Mid 6	2437	17.740
High 10	2457	17.655
High 11	2462	17.592
High 12	2467	17.670
High 13	2472	17.660



ANT 3 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	17.740
Low 2	2417	17.765
Mid 6	2437	17.767
High 10	2457	17.681
High 11	2462	17.692
High 12	2467	17.811
High 13	2472	17.683

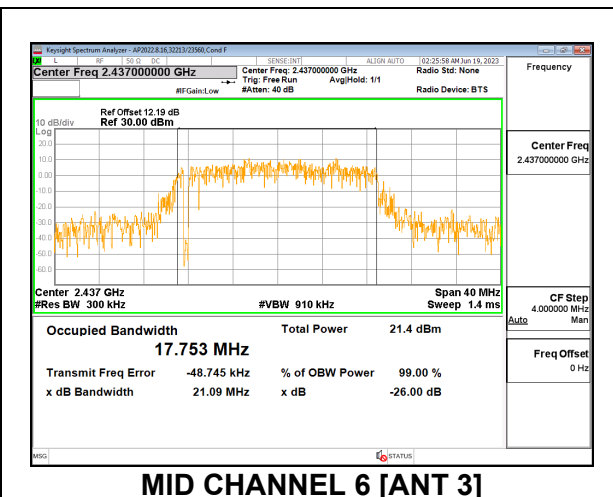
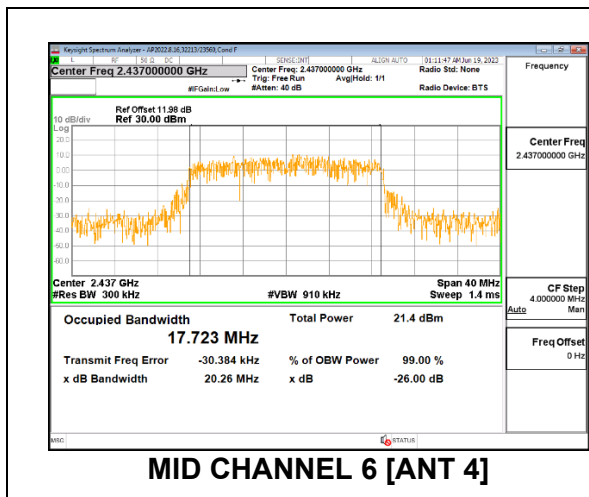


MID CHANNEL 6

9.2.3. 802.11n HT20 CDD MODE 2TX

ANT 4 + ANT 3 MODE

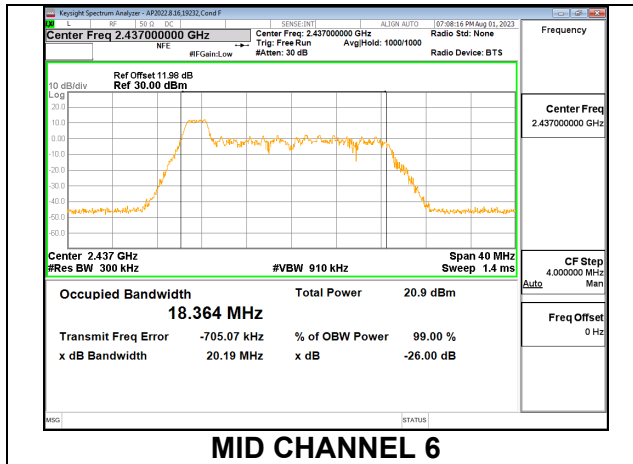
Channel	Frequency (MHz)	99% Bandwidth (MHz) ANT 4	99% Bandwidth (MHz) ANT 3
Low 1	2412	17.740	17.679
Low 2	2417	17.737	17.758
Low 3	2422	17.648	17.601
Mid 6	2437	17.723	17.753
High 9	2452	17.719	17.761
High 10	2457	17.748	17.667
High 11	2462	17.638	17.701
High 12	2467	17.703	17.657
High 13	2472	17.657	17.669



9.2.4. 802.11ax HE20 MODE 1TX

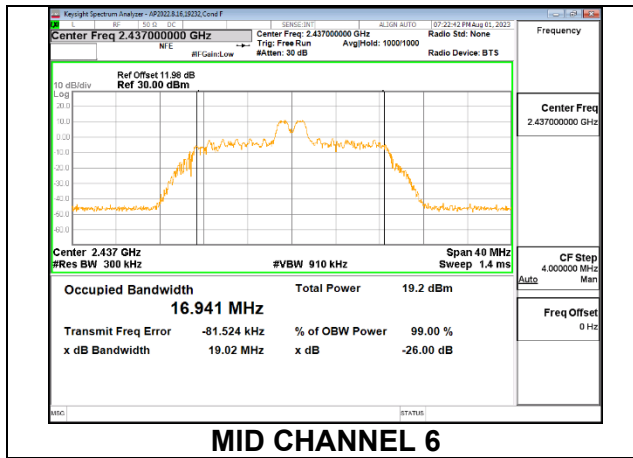
ANT 4 MODE: 26-Tones, RU index 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	18.396
Mid 6	2437	18.364
High 11	2462	18.344
High 12	2467	18.450
High 13	2472	18.362



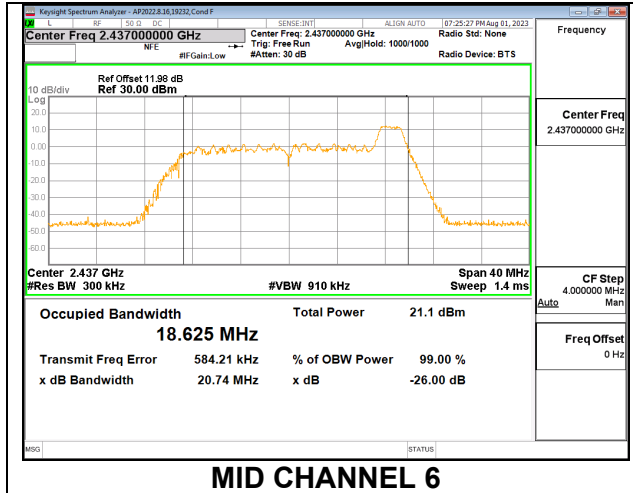
ANT 4 MODE: 26-Tones, RU Index 4

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	16.779
Mid 6	2437	16.941
High 11	2462	17.101
High 12	2467	17.352
High 13	2472	16.983



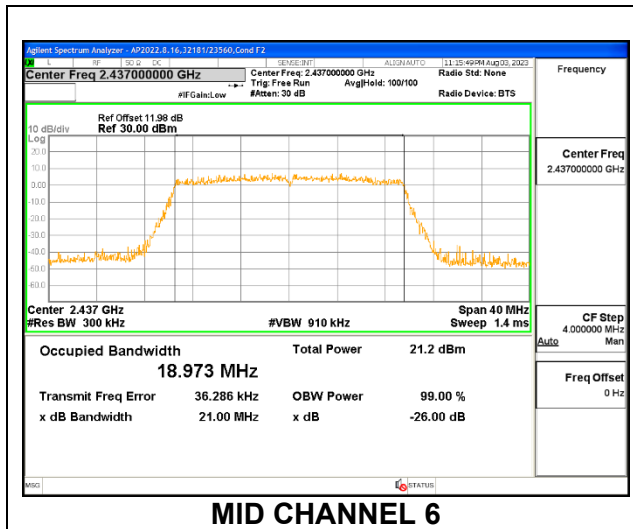
ANT 4 MODE: 26-Tones, RU Index 8

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	18.677
Mid 6	2437	18.625
High 11	2462	18.885
High 12	2467	18.693
High 13	2472	18.689



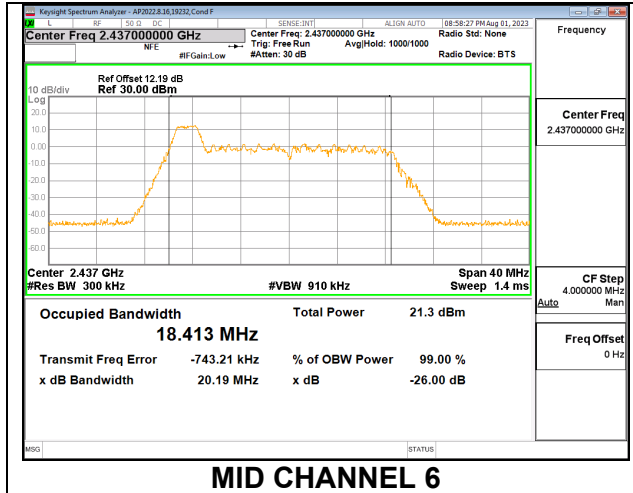
ANT 4 MODE: SU Mode

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	19.012
Low 2	2417	18.967
Low 3	2422	18.923
Mid 6	2437	18.973
High 9	2452	19.089
High 10	2457	19.023
High 11	2462	18.923
High 12	2467	18.981
High 13	2472	18.925



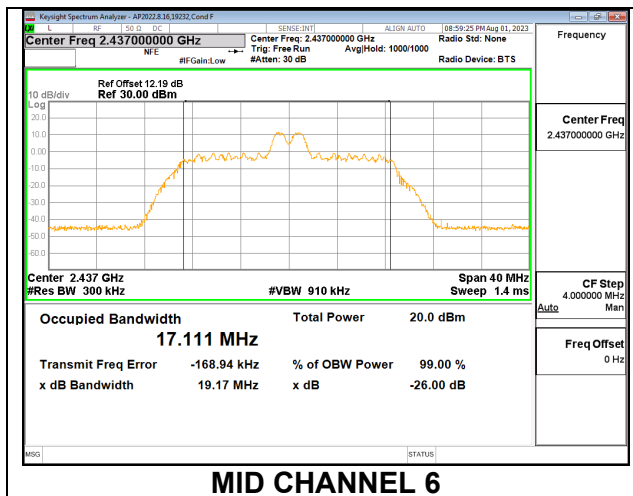
ANT 3 MODE: 26-Tones, RU Index 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	18.365
Mid 6	2437	18.413
High 11	2462	18.273
High 12	2467	18.256
High 13	2472	18.296



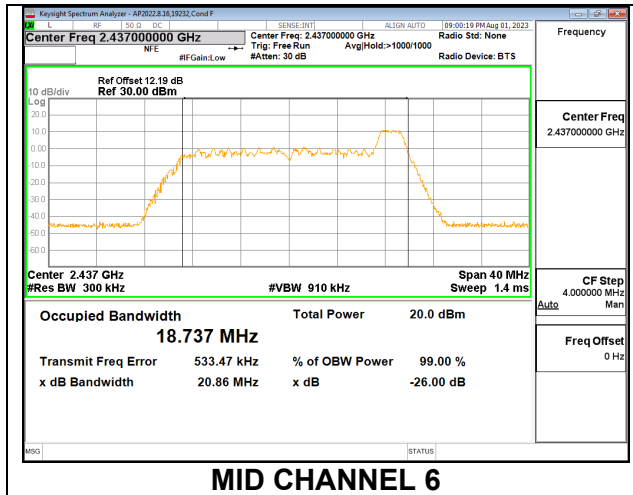
ANT 3 MODE: 26-Tones, RU Index 4

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	17.214
Mid 6	2437	17.111
High 11	2462	17.009
High 12	2467	17.206
High 13	2472	17.325



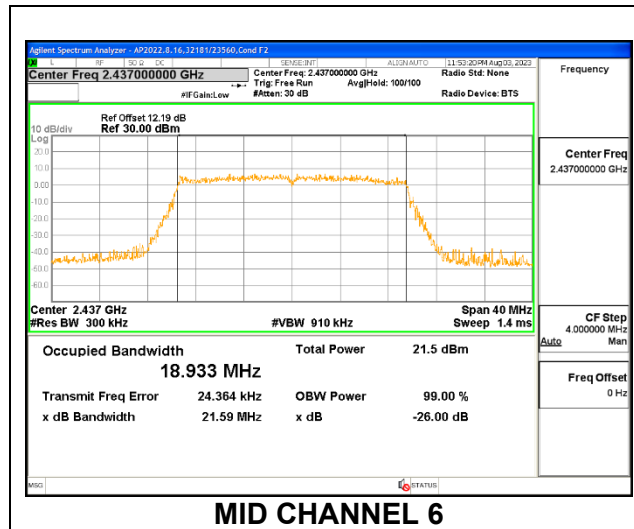
ANT 3 MODE: 26-Tones, RU Index 8

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	18.719
Mid 6	2437	18.737
High 11	2462	18.775
High 12	2467	18.914
High 13	2472	18.845



ANT 3 MODE: SU Mode

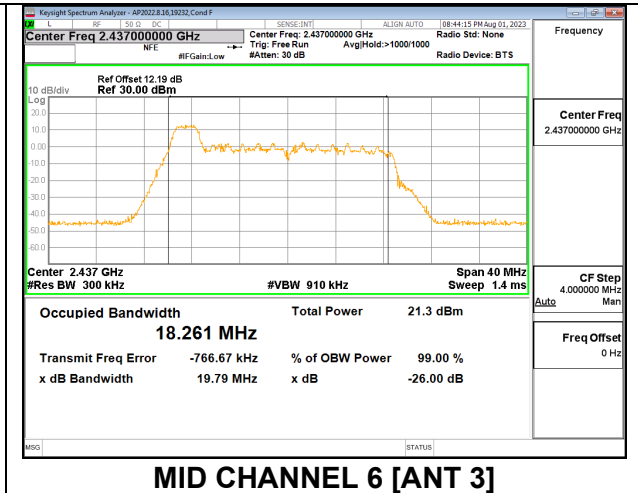
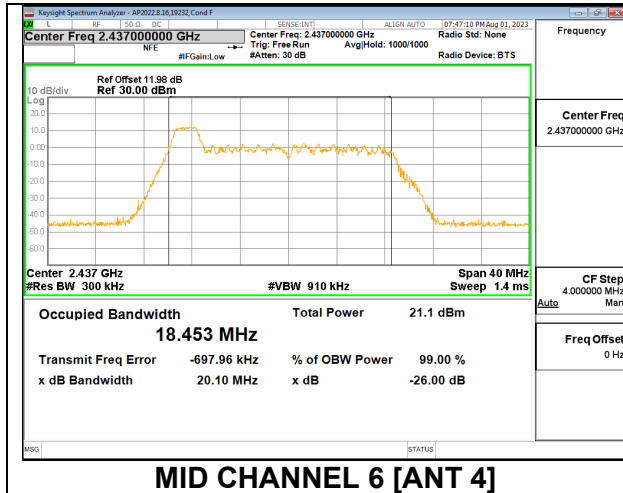
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	19.036
Low 2	2417	18.913
Low 3	2422	18.928
Mid 6	2437	18.933
High 9	2452	18.861
High 10	2457	19.095
High 11	2462	18.895
High 12	2467	18.843
High 13	2472	18.861



9.2.5. 802.11ax HE20 OFDMA MODE 2TX

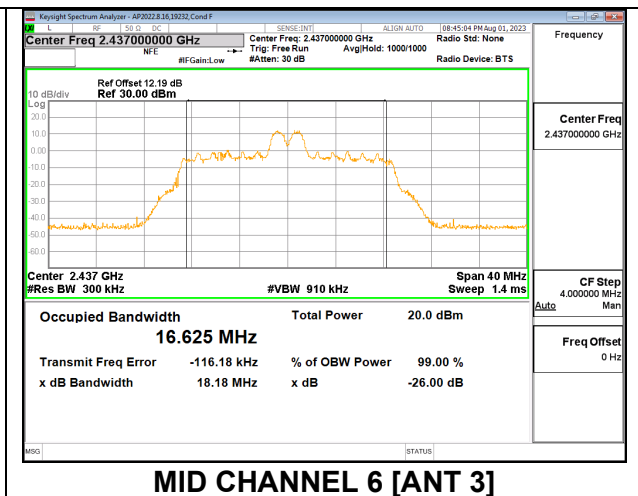
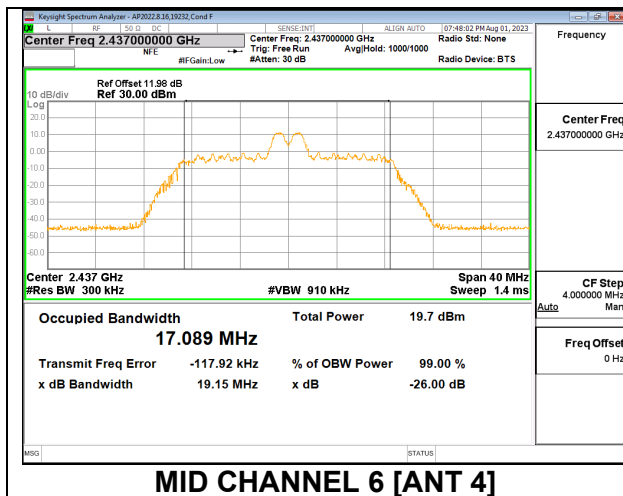
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 0

Channel	Frequency (MHz)	99% Bandwidth (MHz) ANT 4	99% Bandwidth (MHz) ANT 3
Low 1	2412	18.407	18.365
Mid 6	2437	18.453	18.261
High 11	2462	18.320	18.134
High 12	2467	18.437	18.049
High 13	2472	18.368	18.192



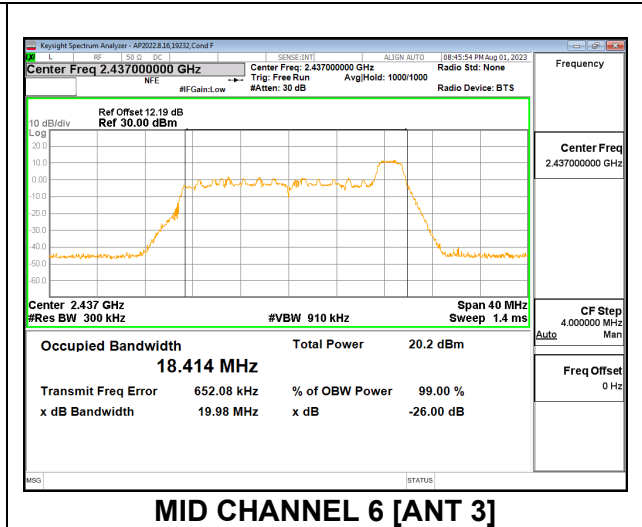
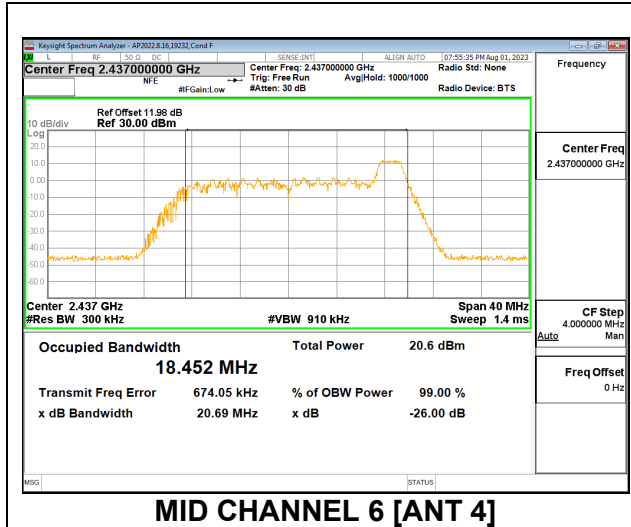
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 4

Channel	Frequency (MHz)	99% Bandwidth (MHz) ANT 4	99% Bandwidth (MHz) ANT 3
Low 1	2412	17.062	16.757
Mid 6	2437	17.089	16.625
High 11	2462	17.219	16.490
High 12	2467	17.249	16.783
High 13	2472	16.996	16.891



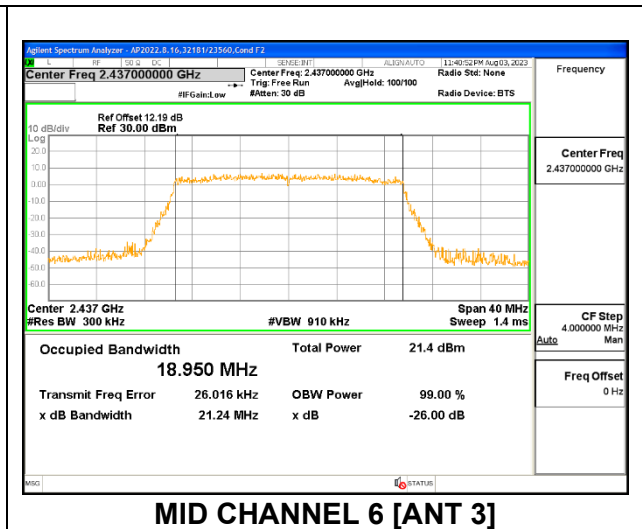
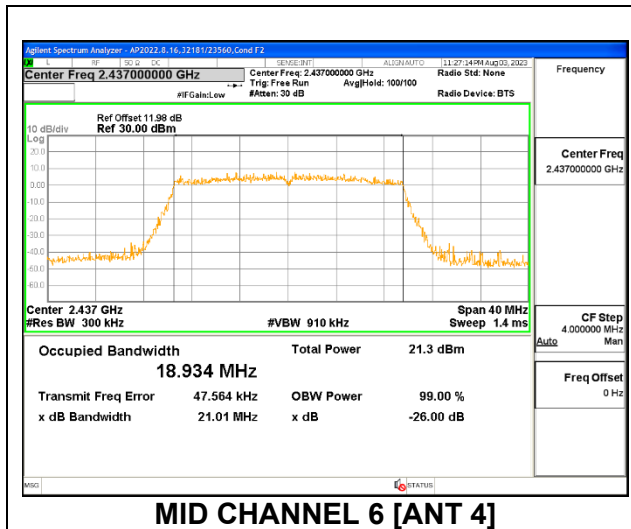
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 8

Channel	Frequency (MHz)	99% Bandwidth (MHz) ANT 4	99% Bandwidth (MHz) ANT 3
Low 1	2412	18.617	18.374
Mid 6	2437	18.452	18.414
High 11	2462	18.883	18.441
High 12	2467	18.771	18.581
High 13	2472	18.647	18.525



ANT 4 + ANT 3 MODE: SU Mode

Channel	Frequency (MHz)	99% Bandwidth (MHz) ANT 4	99% Bandwidth (MHz) ANT 3
Low 1	2412	18.886	18.973
Low 2	2417	18.793	18.906
Low 3	2422	18.797	18.890
Mid 6	2437	18.934	18.950
High 8	2447	18.939	18.941
High 9	2452	18.815	18.182
High 10	2457	18.909	18.935
High 11	2462	18.928	18.900
High 12	2467	19.024	18.929
High 13	2472	18.887	18.837



9.3. 6dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

RSS-247 5.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

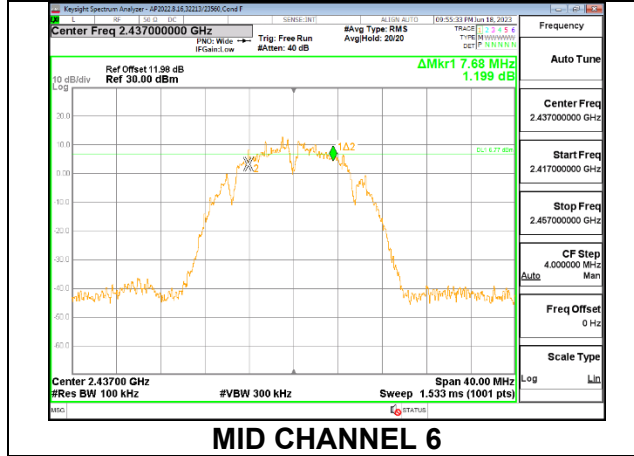
The 6dB bandwidth was measured for the narrowest bandwidth mode, b Mode and ax HE20 Mode 26-Tone as worst case to demonstrate compliance with the minimum required bandwidth of 500 kHz to cover all OFDMA modes.

Only Mid channel plot is reported to show analyzer setting.

9.3.1. 802.11b MODE 1TX

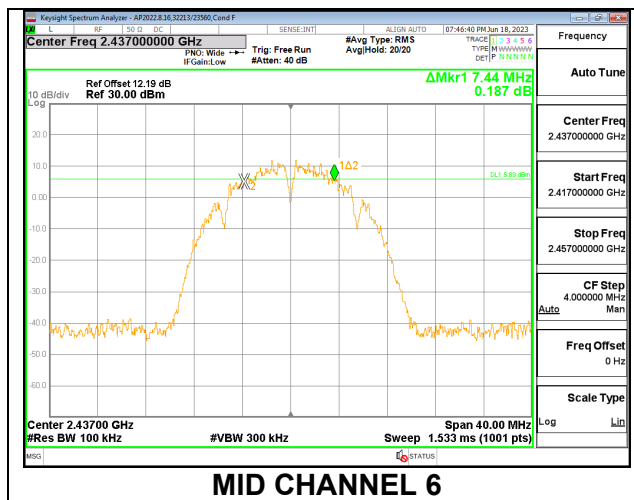
ANT 4 MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	8.16	0.5
Mid 6	2437	7.68	0.5
High 11	2462	8.16	0.5
High 12	2467	7.36	0.5
High 13	2472	8.36	0.5



ANT 3 MODE

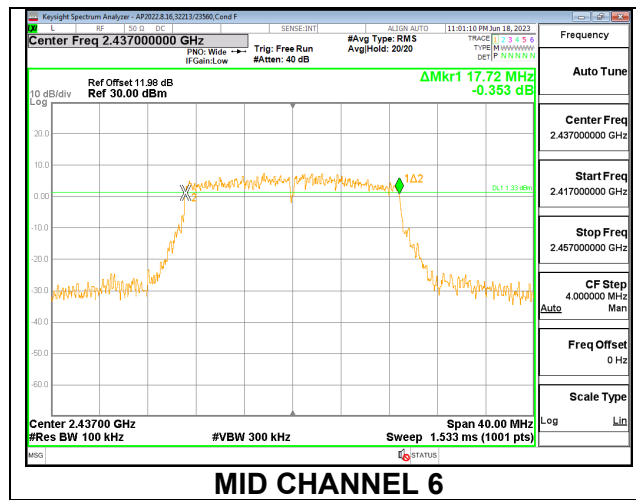
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	8.16	0.5
Mid 6	2437	7.44	0.5
High 11	2462	7.32	0.5
High 12	2467	8.12	0.5
High 13	2472	7.68	0.5



9.3.2. 802.11n HT20 MODE 1TX

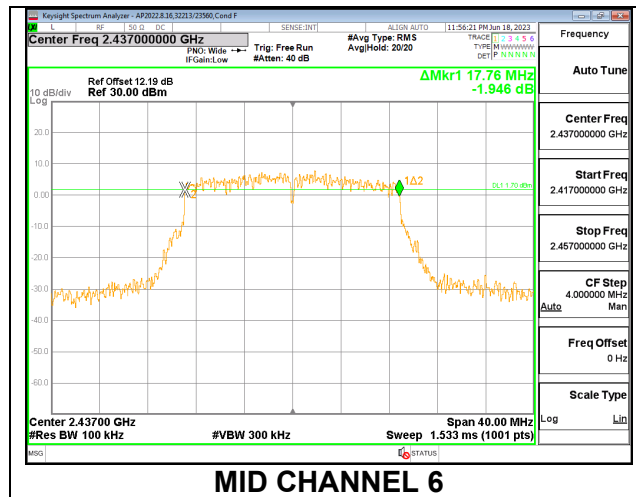
ANT 4 MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	17.76	0.5
Low 2	2417	17.68	0.5
Mid 6	2437	17.72	0.5
High 10	2457	17.72	0.5
High 11	2462	17.76	0.5
High 12	2467	17.76	0.5
High 13	2472	17.68	0.5



ANT 3 MODE

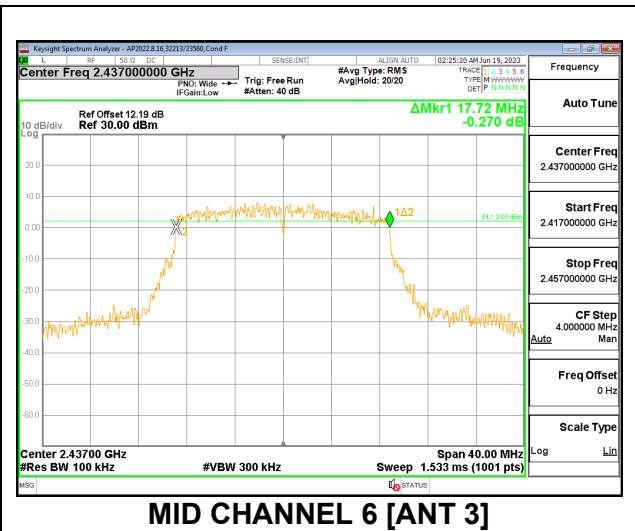
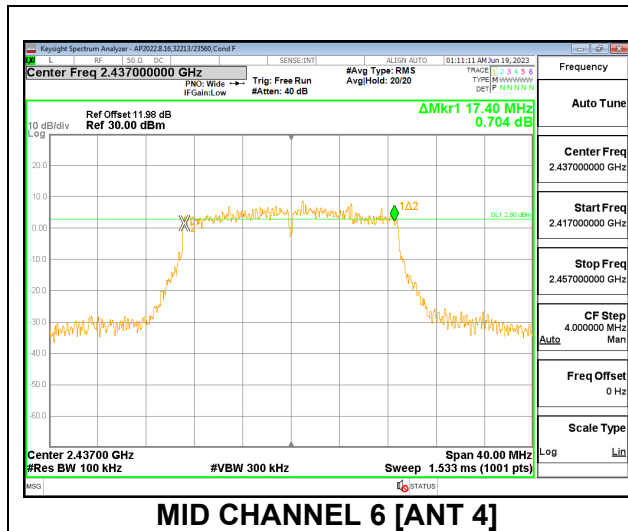
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	17.80	0.5
Low 2	2417	17.76	0.5
Mid 6	2437	17.76	0.5
High 10	2457	17.56	0.5
High 11	2462	17.68	0.5
High 12	2467	17.72	0.5
High 13	2472	17.68	0.5



9.3.3. 802.11n HT20 CDD MODE 2TX

ANT 4 + ANT 3

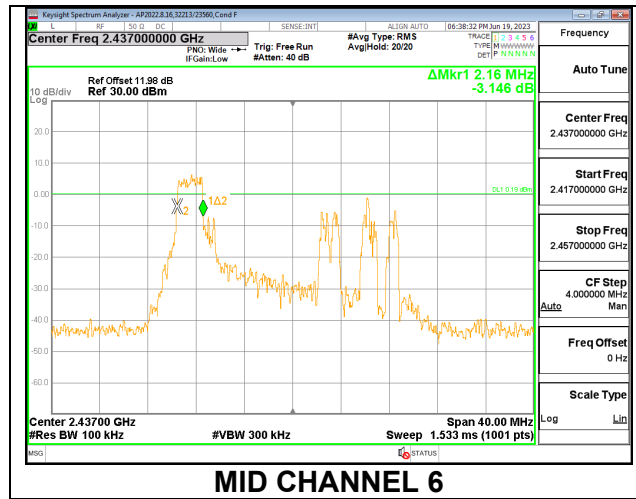
Channel	Frequency (MHz)	6dB Bandwidth (MHz) ANT 4	6dB Bandwidth (MHz) ANT 3	Minimum Limit (MHz)
Low 1	2412	17.48	17.72	0.5
Low 2	2417	17.68	17.72	0.5
Low 3	2422	17.76	17.72	0.5
Mid 6	2437	17.40	17.72	0.5
High 9	2452	17.80	17.64	0.5
High 10	2457	17.72	17.40	0.5
High 11	2462	17.64	17.04	0.5
High 12	2467	17.68	17.72	0.5
High 13	2472	17.64	17.72	0.5



9.3.4. 802.11ax HE20 MODE 1TX

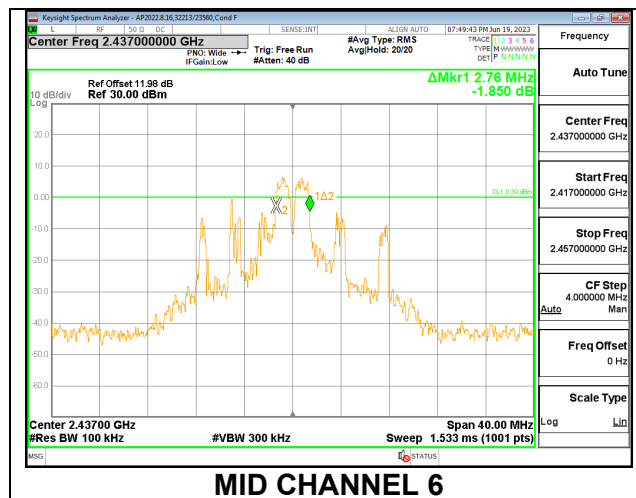
ANT 4 MODE: 26-Tones, RU index 0

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	2.08	0.5
Mid 6	2437	2.16	0.5
High 11	2462	2.16	0.5
High 12	2467	2.16	0.5
High 13	2472	2.08	0.5



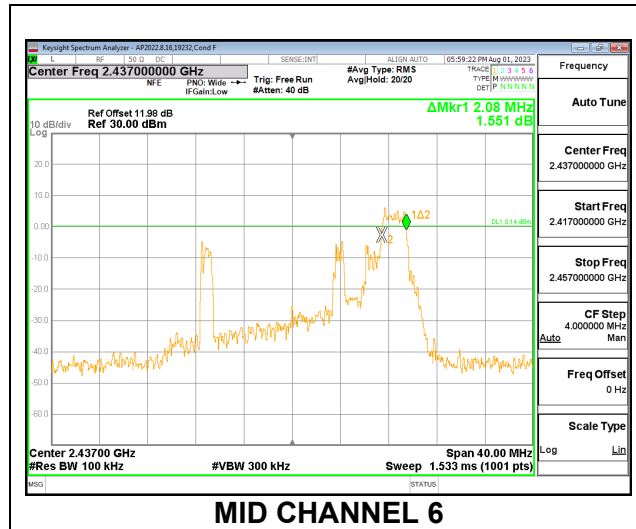
ANT 4 MODE: 26-Tones, RU Index 4

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	2.76	0.5
Mid 6	2437	2.76	0.5
High 11	2462	2.68	0.5
High 12	2467	2.64	0.5
High 13	2472	2.72	0.5



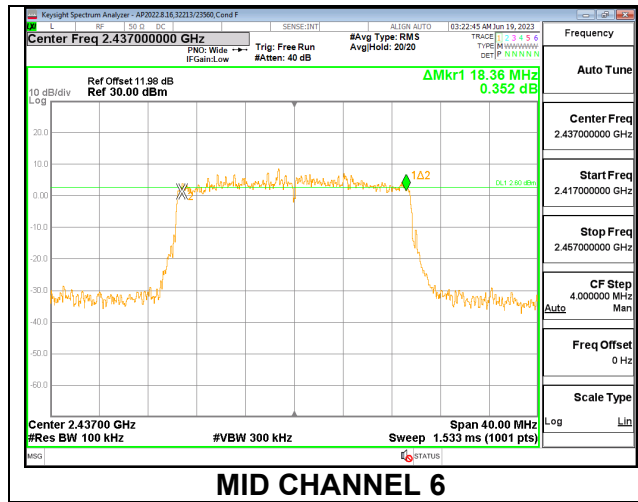
ANT 4 MODE: 26-Tones, RU Index 8

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	2.16	0.5
Mid 6	2437	2.08	0.5
High 11	2462	2.12	0.5
High 12	2467	2.08	0.5
High 13	2472	2.08	0.5



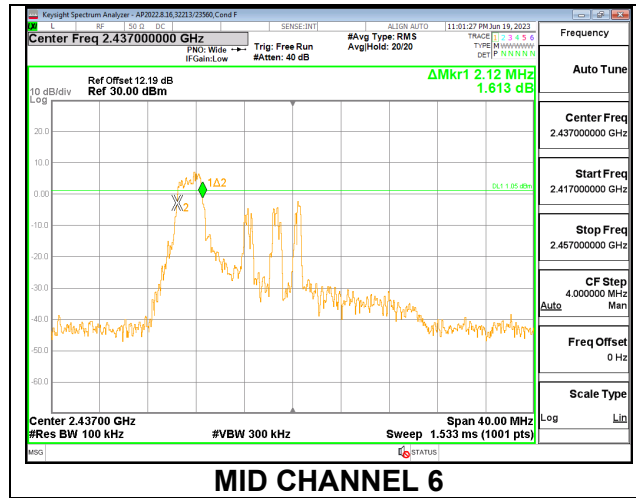
ANT 4 MODE: SU Mode

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	19.12	0.5
Low 2	2417	18.52	0.5
Low 3	2422	18.36	0.5
Mid 6	2437	18.36	0.5
High 9	2452	18.40	0.5
High 10	2457	18.36	0.5
High 11	2462	18.80	0.5
High 12	2467	18.56	0.5
High 13	2472	19.12	0.5



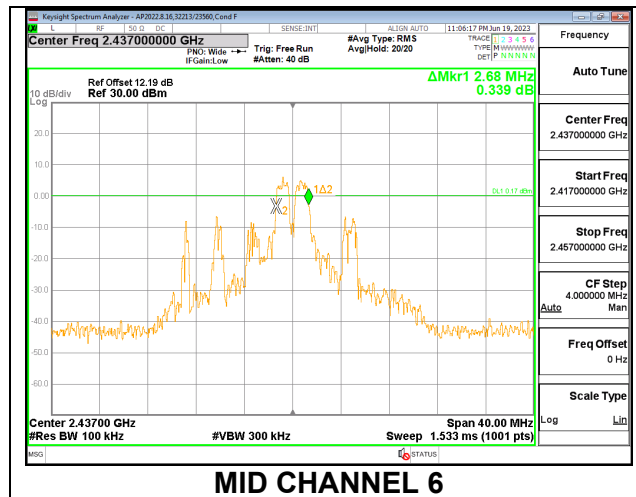
ANT 3 MODE: 26-Tones, RU Index 0

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	2.04	0.5
Mid 6	2437	2.12	0.5
High 11	2462	2.12	0.5
High 12	2467	2.12	0.5
High 13	2472	2.12	0.5



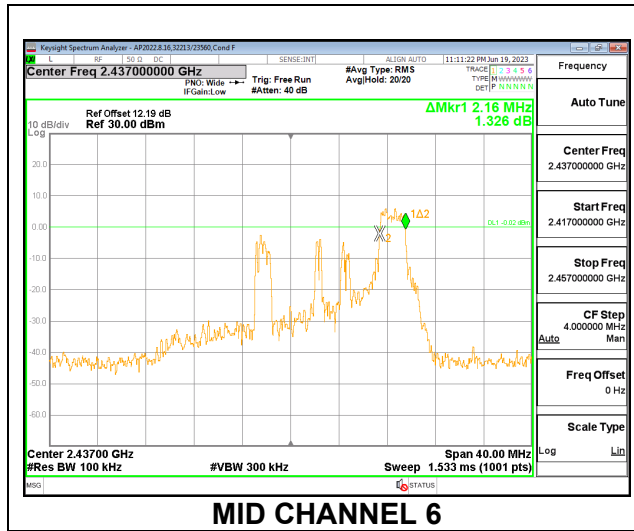
ANT 3 MODE: 26-Tones, RU Index 4

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	2.68	0.5
Mid 6	2437	2.68	0.5
High 11	2462	2.68	0.5
High 12	2467	2.68	0.5
High 13	2472	2.72	0.5



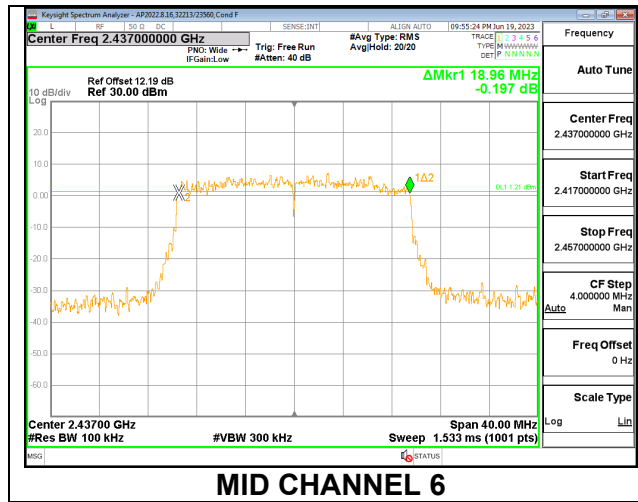
ANT 3 MODE: 26-Tones, RU Index 8

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	2.16	0.5
Mid 6	2437	2.16	0.5
High 11	2462	2.20	0.5
High 12	2467	2.12	0.5
High 13	2472	2.16	0.5



ANT 3 MODE: SU Mode

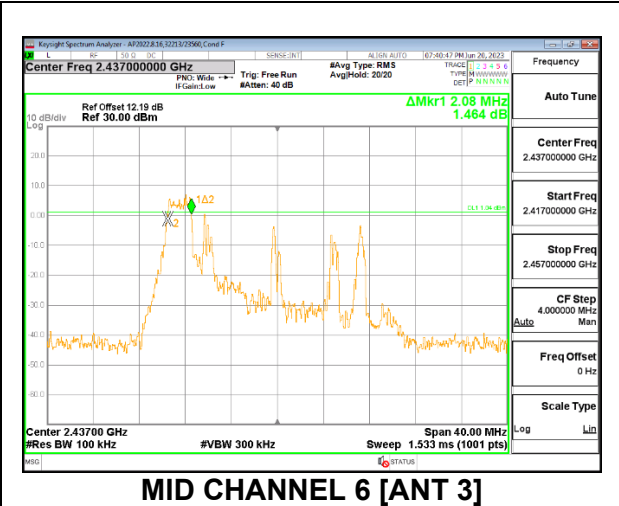
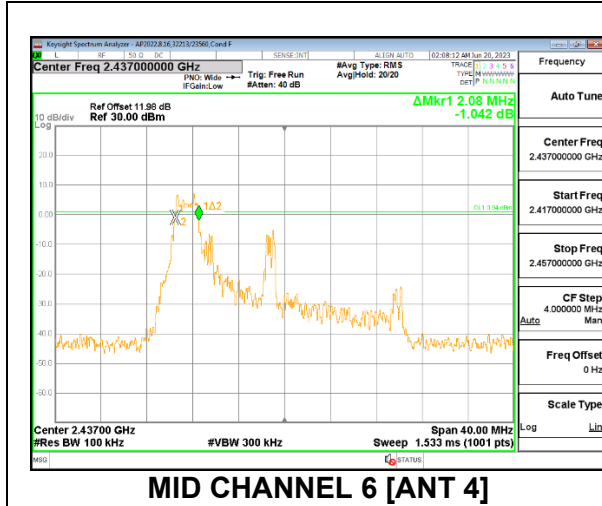
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	18.96	0.5
Low 2	2417	18.44	0.5
Low 3	2422	18.24	0.5
Mid 6	2437	18.96	0.5
High 9	2452	18.12	0.5
High 10	2457	17.16	0.5
High 11	2462	18.64	0.5
High 12	2467	18.80	0.5
High 13	2472	18.84	0.5



9.3.5. 802.11ax HE20 OFDMA MODE 2TX

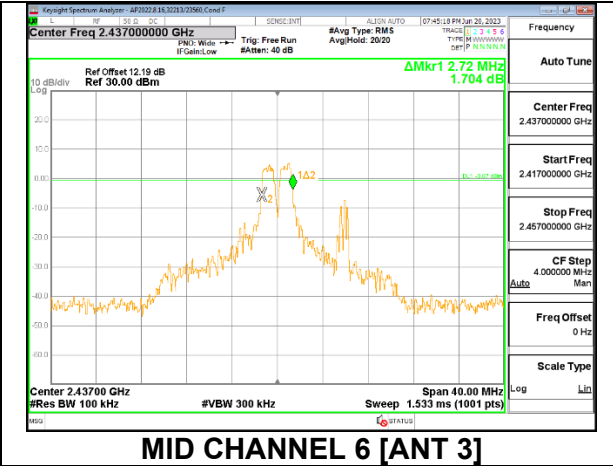
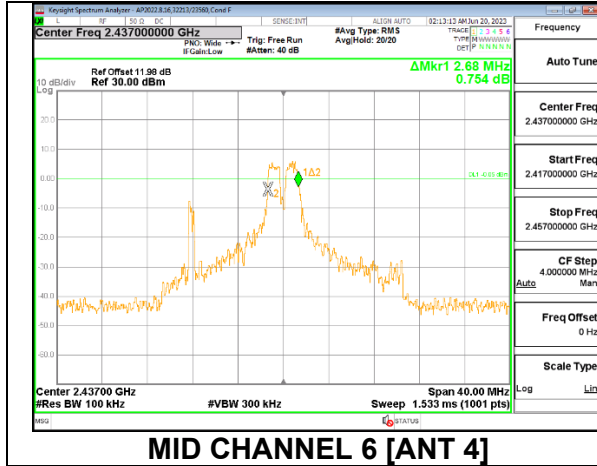
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 0

Channel	Frequency (MHz)	6dB Bandwidth (MHz) ANT 4	6dB Bandwidth (MHz) ANT 3	Minimum Limit (MHz)
Low 1	2412	2.16	2.12	0.5
Mid 6	2437	2.08	2.08	0.5
High 11	2462	2.12	2.08	0.5
High 12	2467	2.12	2.12	0.5
High 13	2472	2.20	2.16	0.5



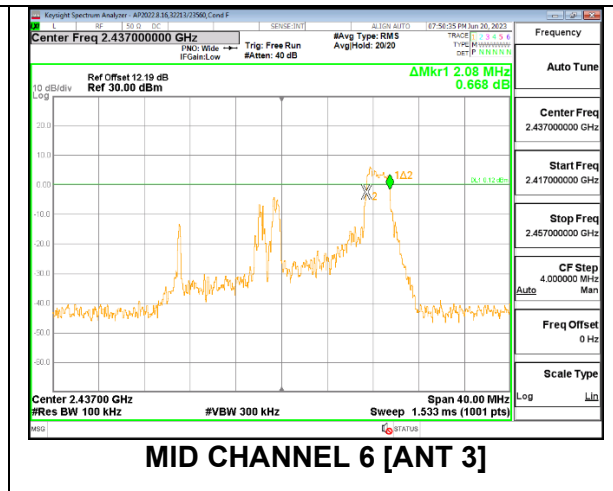
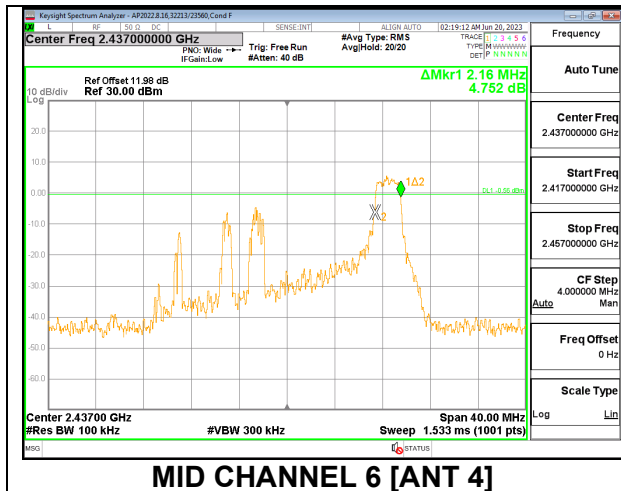
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 4

Channel	Frequency (MHz)	6dB Bandwidth (MHz) ANT 4	6dB Bandwidth (MHz) ANT 3	Minimum Limit (MHz)
Low 1	2412	2.76	2.72	0.5
Mid 6	2437	2.68	2.72	0.5
High 11	2462	2.68	2.68	0.5
High 12	2467	2.64	2.72	0.5
High 13	2472	2.68	2.76	0.5



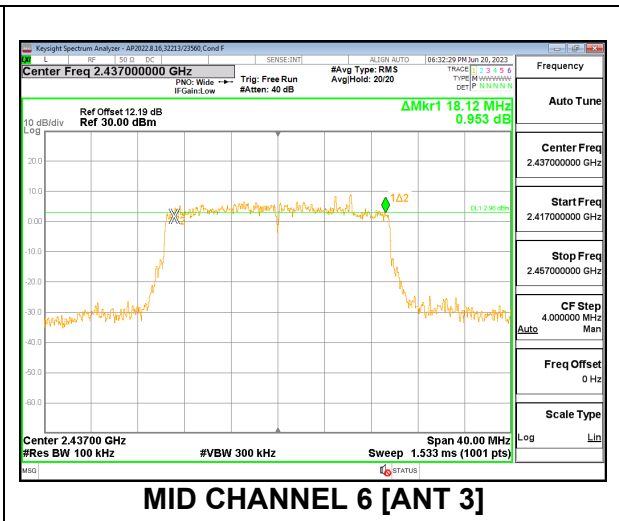
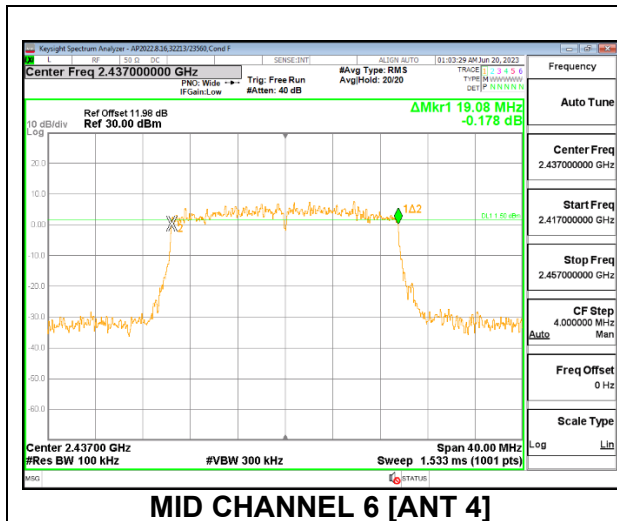
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 8

Channel	Frequency (MHz)	6dB Bandwidth (MHz) ANT 4	6dB Bandwidth (MHz) ANT 3	Minimum Limit (MHz)
Low 1	2412	2.16	2.08	0.5
Mid 6	2437	2.16	2.08	0.5
High 11	2462	2.04	2.12	0.5
High 12	2467	2.08	2.16	0.5
High 13	2472	2.04	2.08	0.5



ANT 4 + ANT 3 MODE: SU Mode

Channel	Frequency (MHz)	6dB Bandwidth (MHz) ANT 4	6dB Bandwidth (MHz) ANT 3	Minimum Limit (MHz)
Low 1	2412	18.24	18.04	0.5
Low 2	2417	19.12	18.76	0.5
Low 3	2422	18.52	18.88	0.5
Mid 6	2437	19.08	18.12	0.5
High 8	2447	18.20	18.28	0.5
High 9	2452	18.64	18.60	0.5
High 10	2457	18.80	18.96	0.5
High 11	2462	19.12	18.44	0.5
High 12	2467	18.32	19.08	0.5
High 13	2472	18.88	18.76	0.5



9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Measurements perform using a wideband RF power meter.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter. Gated average power was read directly from the power meter.

DIRECTIONAL ANTENNA GAIN

For 1 TX:

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

For 2 TX:

Tx chains are uncorrelated for power and correlated for PSD due to the device supporting CDD in all MIMO modes. The directional gains are as follows:

Band (GHz)	ANT 4 Gain (dBi)	ANT 3 Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.4	-1.7	-1.0	-1.34	1.67

DIRECTIONAL GAIN CALCULATION:

ANSI C63.10-2013 section 14.4.3

Uncorrelated directional gain = $10 \cdot \text{LOG}((10^{(\text{Ant1}/10)} + 10^{(\text{Ant2}/10)})/2)$

Correlated directional Gain = $10 \cdot \text{LOG}(((10^{(\text{Ant1}/20)} + 10^{(\text{Ant2}/20)})^2)/2)$

Sample Calculation:

Ant4=-1.7, Ant3=-1.0

Uncorrelated Antenna gain = $10 \log[(10^{(-1.7/10)} + 10^{(-1.0/10)})/2] = -1.34$

Correlated Antenna gain = $10 \log[(10^{(-1.7/20)} + 10^{(-1.0/20)})^2/2] = 1.67$

RESULTS**9.4.1. 802.11b MODE 1TX**

Test Engineer:	23560
Test Date:	7/20/23

ANT 4 MODE**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.70	30.00	30.00	36.00	30.00
Mid 6	2437	-1.70	30.00	30.00	36.00	30.00
High 11	2462	-1.70	30.00	30.00	36.00	30.00
High 12	2467	-1.70	30.00	30.00	36.00	30.00
High 13	2472	-1.70	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	21.38	21.38	30.00	-8.62
Mid 6	2437	21.26	21.26	30.00	-8.74
High 11	2462	21.24	21.24	30.00	-8.76
High 12	2467	21.25	21.25	30.00	-8.75
High 13	2472	21.40	21.40	30.00	-8.60

ANT 3 MODE**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.00	30.00	30.00	36.00	30.00
Mid 6	2437	-1.00	30.00	30.00	36.00	30.00
High 11	2462	-1.00	30.00	30.00	36.00	30.00
High 12	2467	-1.00	30.00	30.00	36.00	30.00
High 13	2472	-1.00	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	21.31	21.31	30.00	-8.69
Mid 6	2437	21.33	21.33	30.00	-8.67
High 11	2462	21.22	21.22	30.00	-8.78
High 12	2467	21.26	21.26	30.00	-8.74
High 13	2472	21.36	21.36	30.00	-8.64

9.4.2. 802.11n HT20 MODE 1TX

Test Engineer:	23560
Test Date:	7/20/23

ANT 4 MODE**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.70	30.00	30.00	36.00	30.00
Low 2	2417	-1.70	30.00	30.00	36.00	30.00
Mid 6	2437	-1.70	30.00	30.00	36.00	30.00
High 10	2457	-1.70	30.00	30.00	36.00	30.00
High 11	2462	-1.70	30.00	30.00	36.00	30.00
High 12	2467	-1.70	30.00	30.00	36.00	30.00
High 13	2472	-1.70	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	17.23	17.23	30.00	-12.77
Low 2	2417	20.19	20.19	30.00	-9.81
Mid 6	2437	21.24	21.24	30.00	-8.76
High 10	2457	20.40	20.40	30.00	-9.60
High 11	2462	18.18	18.18	30.00	-11.82
High 12	2467	16.23	16.23	30.00	-13.77
High 13	2472	14.69	14.69	30.00	-15.31

ANT 3 MODE**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.00	30.00	30.00	36.00	30.00
Low 2	2417	-1.00	30.00	30.00	36.00	30.00
Mid 6	2437	-1.00	30.00	30.00	36.00	30.00
High 10	2457	-1.00	30.00	30.00	36.00	30.00
High 11	2462	-1.00	30.00	30.00	36.00	30.00
High 12	2467	-1.00	30.00	30.00	36.00	30.00
High 13	2472	-1.00	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	17.20	17.20	30.00	-12.80
Low 2	2417	20.18	20.18	30.00	-9.82
Mid 6	2437	21.22	21.22	30.00	-8.78
High 10	2457	20.17	20.17	30.00	-9.83
High 11	2462	18.21	18.21	30.00	-11.79
High 12	2467	16.19	16.19	30.00	-13.81
High 13	2472	14.69	14.69	30.00	-15.31

9.4.3. 802.11n HT20 CDD MODE 2TX

Test Engineer:	23560
Test Date:	7/20/23

2TX ANT 4 + ANT 3 MODE**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.34	30.00	36	36	30.00
Low 2	2417	-1.34	30.00	36	36	30.00
Low 3	2422	-1.34	30.00	36	36	30.00
Mid 6	2437	-1.34	30.00	36	36	30.00
High 9	2452	-1.34	30.00	36	36	30.00
High 10	2457	-1.34	30.00	36	36	30.00
High 11	2462	-1.34	30.00	36	36	30.00
High 12	2467	-1.34	30.00	36	36	30.00
High 13	2472	-1.34	30.00	36	36	30.00

Results

Channel	Frequency (MHz)	ANT4 Meas Power (dBm)	ANT3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	16.72	16.69	19.72	30.00	-10.28
Low 2	2417	19.19	19.20	22.21	30.00	-7.79
Low 3	2422	20.70	20.68	23.70	30.00	-6.30
Mid 6	2437	21.22	21.25	24.25	30.00	-5.75
High 9	2452	20.16	20.21	23.20	30.00	-6.80
High 10	2457	19.18	19.20	22.20	30.00	-7.80
High 11	2462	17.23	17.22	20.24	30.00	-9.76
High 12	2467	14.68	14.65	17.68	30.00	-12.32
High 13	2472	14.24	14.25	17.26	30.00	-12.74

9.4.4. 802.11ax HE20 MODE 1TX

Test Engineer:	23560
Test Date:	7/20/23

ANT 4 MODE: 26-Tones, RU Index 0**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.70	30.00	30.00	36.00	30.00
Mid 6	2437	-1.70	30.00	30.00	36.00	30.00
High 11	2462	-1.70	30.00	30.00	36.00	30.00
High 12	2467	-1.70	30.00	30.00	36.00	30.00
High 13	2472	-1.70	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.62	11.62	30.00	-18.38
Mid 6	2437	11.85	11.85	30.00	-18.15
High 11	2462	11.86	11.86	30.00	-18.14
High 12	2467	11.52	11.52	30.00	-18.48
High 13	2472	0.69	0.69	30.00	-29.31

ANT 4 MODE: 26-Tones, RU Index 4**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.70	30.00	30.00	36.00	30.00
Mid 6	2437	-1.70	30.00	30.00	36.00	30.00
High 11	2462	-1.70	30.00	30.00	36.00	30.00
High 12	2467	-1.70	30.00	30.00	36.00	30.00
High 13	2472	-1.70	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.76	11.76	30.00	-18.24
Mid 6	2437	11.81	11.81	30.00	-18.19
High 11	2462	11.77	11.77	30.00	-18.23
High 12	2467	11.82	11.82	30.00	-18.18
High 13	2472	0.65	0.65	30.00	-29.35

ANT 4 MODE: 26-Tones, RU Index 8**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.70	30.00	30.00	36.00	30.00
Mid 6	2437	-1.70	30.00	30.00	36.00	30.00
High 11	2462	-1.70	30.00	30.00	36.00	30.00
High 12	2467	-1.70	30.00	30.00	36.00	30.00
High 13	2472	-1.70	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.68	11.68	30.00	-18.32
Mid 6	2437	11.58	11.58	30.00	-18.42
High 11	2462	11.46	11.46	30.00	-18.54
High 12	2467	11.89	11.89	30.00	-18.11
High 13	2472	0.65	0.65	30.00	-29.35

ANT 4 MODE: SU Mode**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.70	30.00	30.00	36.00	30.00
Low 2	2417	-1.70	30.00	30.00	36.00	30.00
Low 3	2422	-1.70	30.00	30.00	36.00	30.00
Mid 6	2437	-1.70	30.00	30.00	36.00	30.00
High 9	2452	-1.70	30.00	30.00	36.00	30.00
High 10	2457	-1.70	30.00	30.00	36.00	30.00
High 11	2462	-1.70	30.00	30.00	36.00	30.00
High 12	2467	-1.70	30.00	30.00	36.00	30.00
High 13	2472	-1.70	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	16.53	16.53	30.00	-13.47
Low 2	2417	18.81	18.81	30.00	-11.19
Low 3	2422	20.72	20.72	30.00	-9.28
Mid 6	2437	21.26	21.26	30.00	-8.74
High 9	2452	20.76	20.76	30.00	-9.24
High 10	2457	18.83	18.83	30.00	-11.17
High 11	2462	16.85	16.85	30.00	-13.15
High 12	2467	14.81	14.81	30.00	-15.19
High 13	2472	9.56	9.56	30.00	-20.44

ANT 3 MODE: 26-Tones, RU Index 0**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.00	30.00	30.00	36.00	30.00
Mid 6	2437	-1.00	30.00	30.00	36.00	30.00
High 11	2462	-1.00	30.00	30.00	36.00	30.00
High 12	2467	-1.00	30.00	30.00	36.00	30.00
High 13	2472	-1.00	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.89	11.89	30.00	-18.11
Mid 6	2437	11.58	11.58	30.00	-18.42
High 11	2462	11.56	11.56	30.00	-18.44
High 12	2467	11.88	11.88	30.00	-18.12
High 13	2472	0.85	0.85	30.00	-29.15

ANT 3 MODE: 26-Tones, RU Index 4**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.00	30.00	30.00	36.00	30.00
Mid 6	2437	-1.00	30.00	30.00	36.00	30.00
High 11	2462	-1.00	30.00	30.00	36.00	30.00
High 12	2467	-1.00	30.00	30.00	36.00	30.00
High 13	2472	-1.00	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.78	11.78	30.00	-18.22
Mid 6	2437	11.85	11.85	30.00	-18.15
High 11	2462	11.65	11.65	30.00	-18.35
High 12	2467	11.46	11.46	30.00	-18.54
High 13	2472	0.81	0.81	30.00	-29.19

ANT 3 MODE: 26-Tones, RU Index 8**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.00	30.00	30.00	36.00	30.00
Mid 6	2437	-1.00	30.00	30.00	36.00	30.00
High 11	2462	-1.00	30.00	30.00	36.00	30.00
High 12	2467	-1.00	30.00	30.00	36.00	30.00
High 13	2472	-1.00	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.53	11.53	30.00	-18.48
Mid 6	2437	11.76	11.76	30.00	-18.24
High 11	2462	11.56	11.56	30.00	-18.44
High 12	2467	11.85	11.85	30.00	-18.15
High 13	2472	0.85	0.85	30.00	-29.15

ANT 3 MODE: SU Mode**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.00	30.00	30.00	36.00	30.00
Low 2	2417	-1.00	30.00	30.00	36.00	30.00
Low 3	2422	-1.00	30.00	30.00	36.00	30.00
Mid 6	2437	-1.00	30.00	30.00	36.00	30.00
High 9	2452	-1.00	30.00	30.00	36.00	30.00
High 10	2457	-1.00	30.00	30.00	36.00	30.00
High 11	2462	-1.00	30.00	30.00	36.00	30.00
High 12	2467	-1.00	30.00	30.00	36.00	30.00
High 13	2472	-1.00	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	16.77	16.77	30.00	-13.23
Low 2	2417	18.82	18.82	30.00	-11.18
Low 3	2422	20.62	20.62	30.00	-9.38
Mid 6	2437	21.36	21.36	30.00	-8.64
High 9	2452	20.63	20.63	30.00	-9.37
High 10	2457	18.69	18.69	30.00	-11.31
High 11	2462	16.78	16.78	30.00	-13.22
High 12	2467	14.62	14.62	30.00	-15.38
High 13	2472	9.62	9.62	30.00	-20.38

9.4.5. 802.11ax HE20 OFDMA MODE 2TX

Test Engineer:	23560
Test Date:	7/20/23

ANT 4 + ANT 3 MODE: 26-Tones, RU Index 0**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.34	30.00	36.00	36.00	30.00
Mid 6	2437	-1.34	30.00	36.00	36.00	30.00
High 11	2462	-1.34	30.00	36.00	36.00	30.00
High 12	2467	-1.34	30.00	36.00	36.00	30.00
High 13	2472	-1.34	30.00	36.00	36.00	30.00

Results

Channel	Frequency (MHz)	ANT4 Meas Power (dBm)	ANT3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.75	11.71	14.74	30.00	-15.26
Mid 6	2437	11.70	11.72	14.72	30.00	-15.28
High 11	2462	11.74	11.72	14.74	30.00	-15.26
High 12	2467	11.70	11.73	14.72	30.00	-15.28
High 13	2472	-0.22	-0.23	2.79	30.00	-27.21

ANT 4 + ANT 3 MODE: 26-Tones, RU Index 4**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.34	30.00	36.00	36.00	30.00
Mid 6	2437	-1.34	30.00	36.00	36.00	30.00
High 11	2462	-1.34	30.00	36.00	36.00	30.00
High 12	2467	-1.34	30.00	36.00	36.00	30.00
High 13	2472	-1.34	30.00	36.00	36.00	30.00

Results

Channel	Frequency (MHz)	ANT4 Meas Power (dBm)	ANT3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.71	11.72	14.73	30.00	-15.27
Mid 6	2437	11.69	11.74	14.73	30.00	-15.27
High 11	2462	11.72	11.73	14.74	30.00	-15.26
High 12	2467	11.74	11.75	14.76	30.00	-15.24
High 13	2472	-0.24	-0.22	2.78	30.00	-27.22

ANT 4 + ANT 3 MODE: 26-Tones, RU Index 8**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.34	30.00	36.00	36.00	30.00
Mid 6	2437	-1.34	30.00	36.00	36.00	30.00
High 11	2462	-1.34	30.00	36.00	36.00	30.00
High 12	2467	-1.34	30.00	36.00	36.00	30.00
High 13	2472	-1.34	30.00	36.00	36.00	30.00

Results

Channel	Frequency (MHz)	ANT4 Meas Power (dBm)	ANT3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	11.72	11.75	14.75	30.00	-15.25
Mid 6	2437	11.69	11.74	14.73	30.00	-15.27
High 11	2462	11.72	11.69	14.72	30.00	-15.28
High 12	2467	11.66	11.72	14.70	30.00	-15.30
High 13	2472	-0.27	-0.21	2.77	30.00	-27.23

ANT 4 + ANT 3 MODE: SU Mode**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-1.34	30.00	36.00	36.00	30.00
Low 2	2417	-1.34	30.00	36.00	36.00	30.00
Low 3	2422	-1.34	30.00	36.00	36.00	30.00
Mid 6	2437	-1.34	30.00	36.00	36.00	30.00
High 8	2447	-1.34	30.00	36.00	36.00	30.00
High 9	2452	-1.34	30.00	36.00	36.00	30.00
High 10	2457	-1.34	30.00	36.00	36.00	30.00
High 11	2462	-1.34	30.00	36.00	36.00	30.00
High 12	2467	-1.34	30.00	36.00	36.00	30.00
High 13	2472	-1.34	30.00	36.00	36.00	30.00

Results

Channel	Frequency (MHz)	ANT 4 Meas Power (dBm)	ANT3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	15.77	15.82	18.80	30.00	-11.20
Low 2	2417	17.61	17.62	20.63	30.00	-9.37
Low 3	2422	19.73	19.64	22.70	30.00	-7.30
Mid 6	2437	21.36	21.44	24.41	30.00	-5.59
High 8	2447	21.22	21.23	24.24	30.00	-5.76
High 9	2452	19.24	19.21	22.24	30.00	-7.76
High 10	2457	17.68	17.72	20.71	30.00	-9.29
High 11	2462	15.65	15.72	18.70	30.00	-11.30
High 12	2467	13.26	13.22	16.25	30.00	-13.75
High 13	2472	8.73	8.71	11.73	30.00	-18.27

9.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

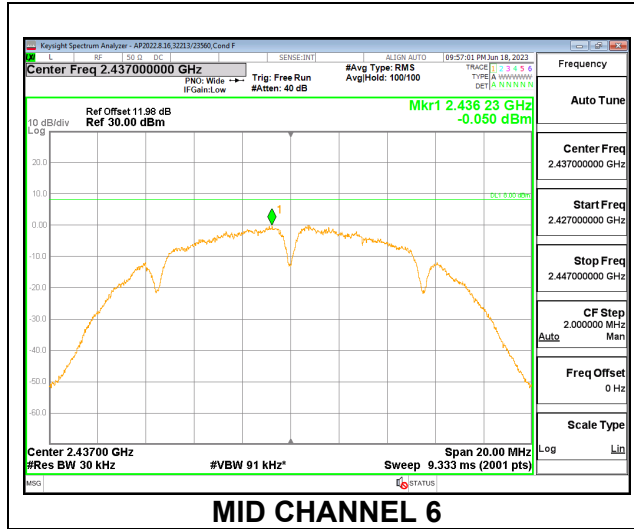
Only Mid channel plot is reported to show analyzer settings.

Note: RBW setting is used greater than 3KHz on PSD measurement

9.5.1. 802.11b MODE 1TX

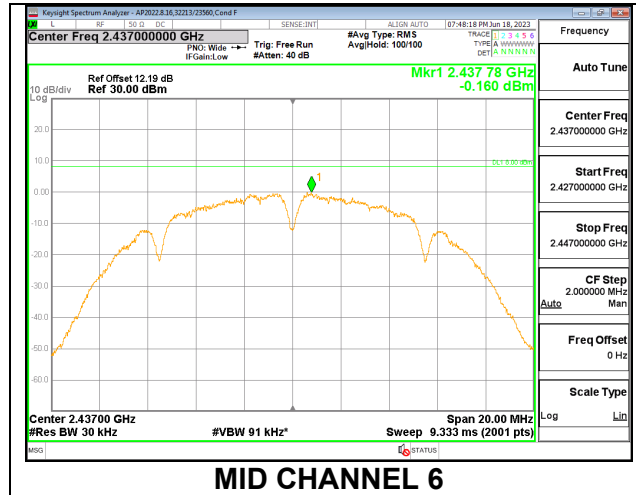
ANT 4 MODE

Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-0.125	-0.125	8.000	-8.125
Mid 6	2437	-0.050	-0.050	8.000	-8.050
High 11	2462	-0.147	-0.147	8.000	-8.147
High 12	2467	-0.027	-0.027	8.000	-8.027
High 13	2472	0.055	0.055	8.000	-7.945



ANT 3 MODE

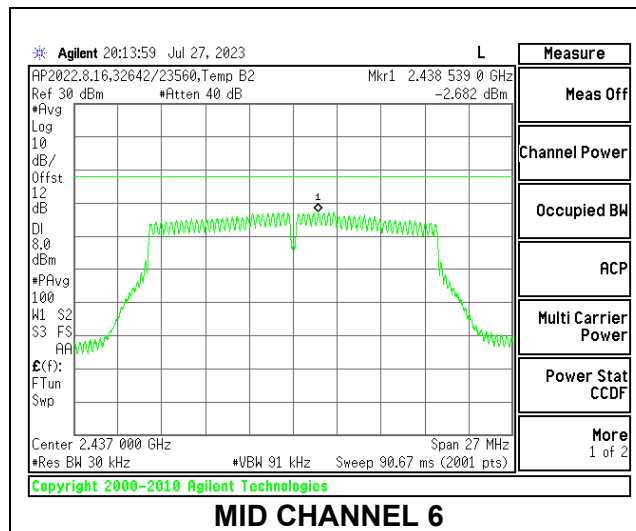
Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	0.118	0.118	8.000	-7.882
Mid 6	2437	-0.160	-0.160	8.000	-8.160
High 11	2462	-0.004	-0.004	8.000	-8.004
High 12	2467	-0.094	-0.094	8.000	-8.094
High 13	2472	-0.081	-0.081	8.000	-8.081



9.5.2. 802.11n HT20 MODE 1TX

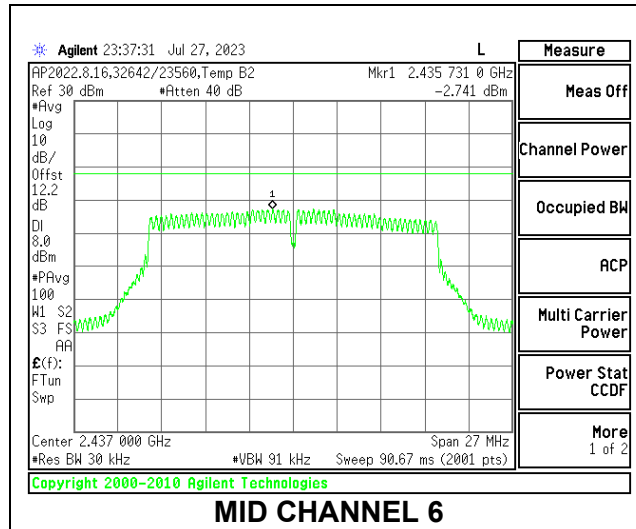
ANT 4 MODE

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD			
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-7.284	-7.284	8.000	-15.284
Low 2	2417	-3.866	-3.866	8.000	-11.866
Mid 6	2437	-2.682	-2.682	8.000	-10.682
High 10	2457	-3.361	-3.361	8.000	-11.361
High 11	2462	-5.890	-5.890	8.000	-13.890
High 12	2467	-8.029	-8.029	8.000	-16.029
High 13	2472	-8.043	-8.043	8.000	-16.043



ANT 3 MODE

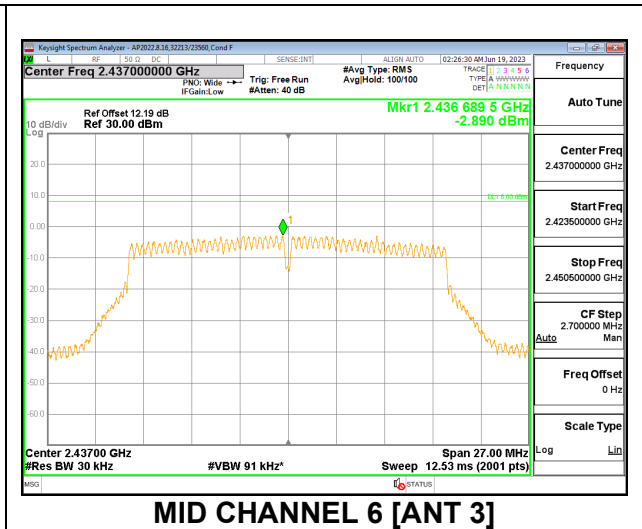
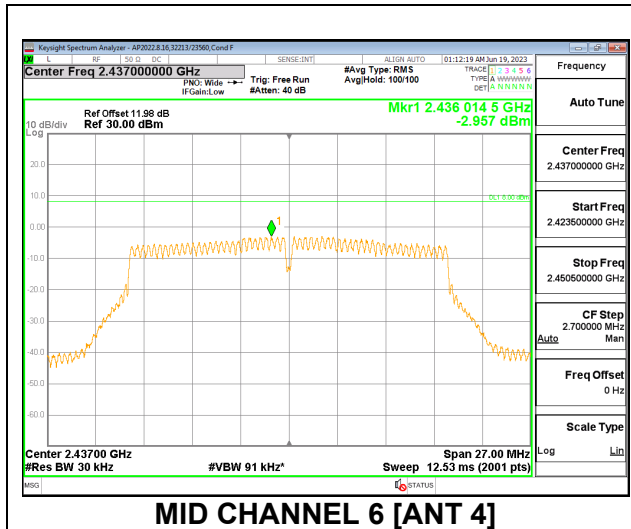
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD			
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-6.959	-6.959	8.000	-14.959
Low 2	2417	-3.646	-3.646	8.000	-11.646
Mid 6	2437	-2.741	-2.741	8.000	-10.741
High 10	2457	-3.605	-3.605	8.000	-11.605
High 11	2462	-5.603	-5.603	8.000	-13.603
High 12	2467	-7.335	-7.335	8.000	-15.335
High 13	2472	-8.414	-8.414	8.000	-16.414



9.5.3. 802.11n HT20 CDD MODE 2TX

ANT 4 + ANT 3 MODE

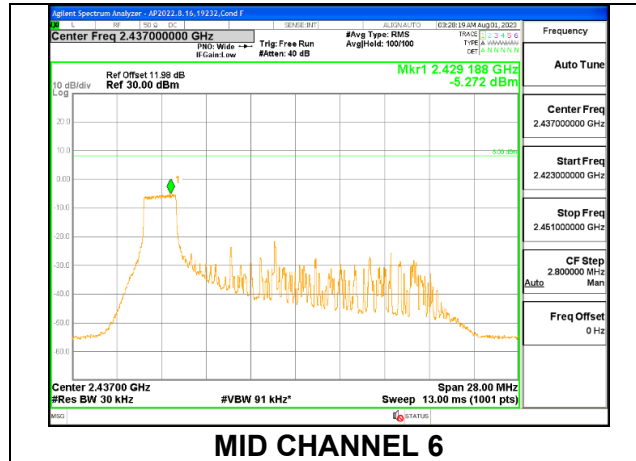
Duty Cycle CF (dB)		0.00		Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	ANT4 Meas (dBm/3kHz)	ANT3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-7.514	-7.697	-4.594	8.000	-12.594
Low 2	2417	-4.641	-4.832	-1.725	8.000	-9.725
Low 3	2422	-3.339	-3.046	-0.180	8.000	-8.180
Mid 6	2437	-2.957	-2.890	0.087	8.000	-7.913
High 9	2452	-3.514	-3.352	-0.422	8.000	-8.422
High 10	2457	-4.462	-4.788	-1.612	8.000	-9.612
High 11	2462	-6.932	-6.235	-3.559	8.000	-11.559
High 12	2467	-9.437	-9.000	-6.203	8.000	-14.203
High 13	2472	-8.589	-9.261	-5.902	8.000	-13.902



9.5.4. 802.11ax HE20 MODE 1TX

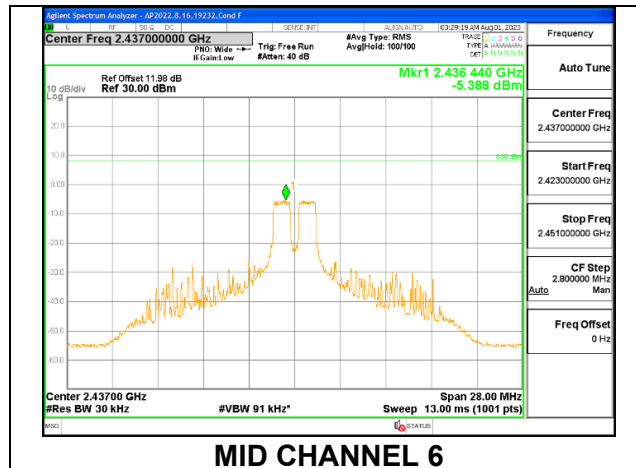
ANT 4 MODE , 26-Tone RU Index 0

Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-4.927	-4.927	8.000	-12.927
Mid 6	2437	-5.272	-5.272	8.000	-13.272
High 11	2462	-5.406	-5.406	8.000	-13.406
High 12	2467	-5.263	-5.263	8.000	-13.263
High 13	2472	-16.031	-16.031	8.000	-24.031



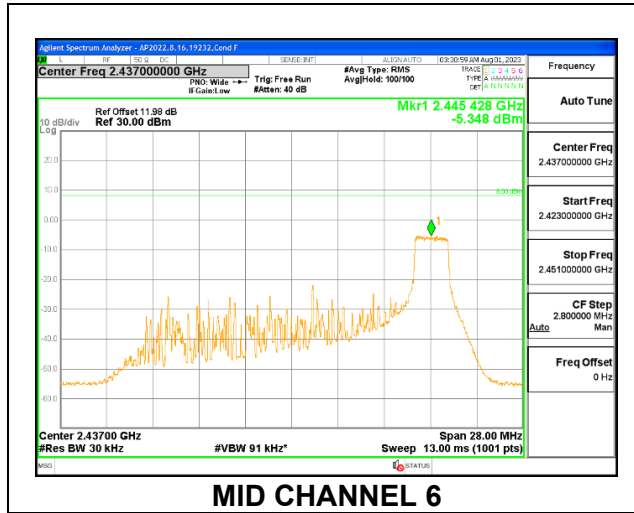
ANT 4 MODE , 26-Tone RU Index 4

Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-4.552	-4.552	8.000	-12.552
Mid 6	2437	-5.388	-5.388	8.000	-13.388
High 11	2462	-5.152	-5.152	8.000	-13.152
High 12	2467	-5.218	-5.218	8.000	-13.218
High 13	2472	-16.534	-16.534	8.000	-24.534



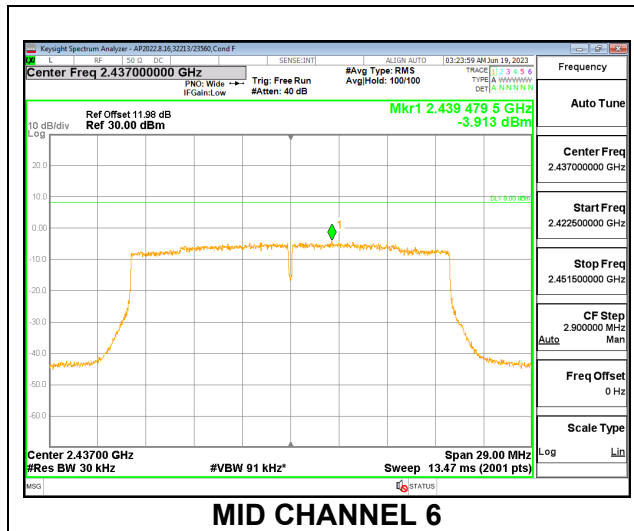
ANT 4 MODE , 26-Tone RU Index 8

Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-4.794	-4.794	8.000	-12.794
Mid 6	2437	-5.348	-5.348	8.000	-13.348
High 11	2462	-5.368	-5.368	8.000	-13.368
High 12	2467	-5.348	-5.348	8.000	-13.348
High 13	2472	-15.927	-15.927	8.000	-23.927



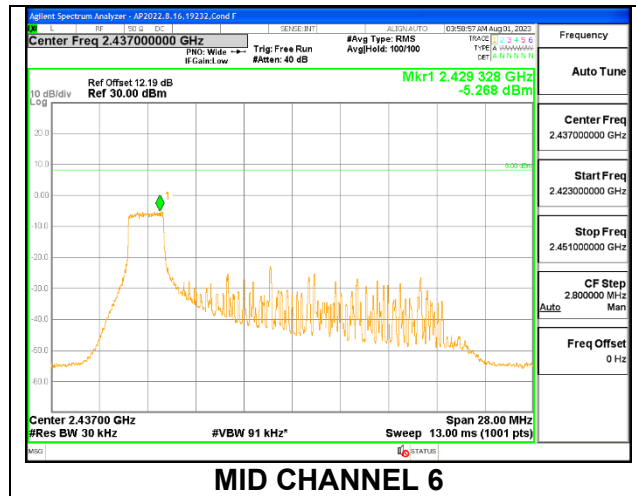
ANT 4 MODE , SU Mode

Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-8.971	-8.971	8.000	-16.971
Low 2	2417	-7.014	-7.014	8.000	-15.014
Low 3	2422	-4.979	-4.979	8.000	-12.979
Mid 6	2437	-3.913	-3.913	8.000	-11.913
High 9	2452	-4.509	-4.509	8.000	-12.509
High 10	2457	-6.218	-6.218	8.000	-14.218
High 11	2462	-8.738	-8.738	8.000	-16.738
High 12	2467	-10.883	-10.883	8.000	-18.883
High 13	2472	-15.920	-15.920	8.000	-23.920



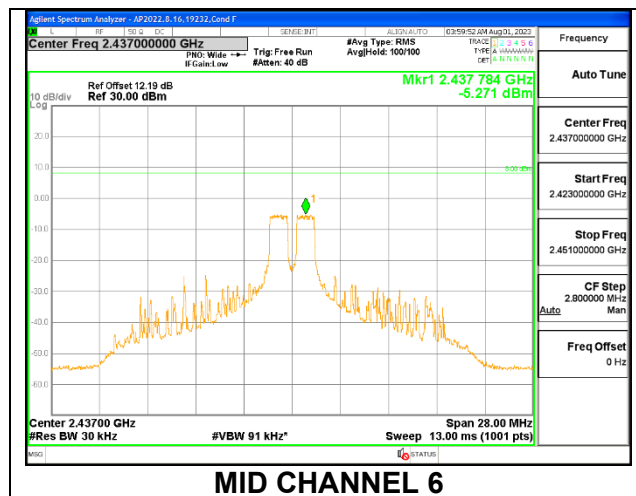
ANT 3 MODE , 26-Tone RU Index 0

Duty Cycle CF (dB)		Included in Calculations of Corr'd PSD			
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-4.740	-4.740	8.000	-12.740
Mid 6	2437	-5.268	-5.268	8.000	-13.268
High 11	2462	-5.071	-5.071	8.000	-13.071
High 12	2467	-5.068	-5.068	8.000	-13.068
High 13	2472	-16.287	-16.287	8.000	-24.287



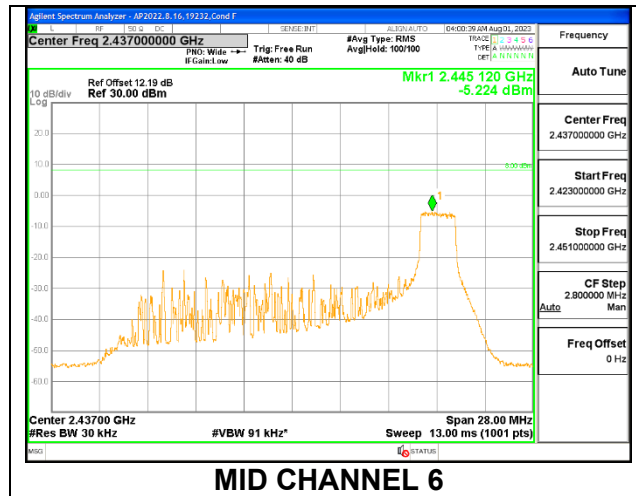
ANT 3 MODE , 26-Tone RU Index 4

Duty Cycle CF (dB)		Included in Calculations of Corr'd PSD			
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-5.067	-5.067	8.000	-13.067
Mid 6	2437	-5.271	-5.271	8.000	-13.271
High 11	2462	-5.144	-5.144	8.000	-13.144
High 12	2467	-5.190	-5.190	8.000	-13.190
High 13	2472	-16.322	-16.322	8.000	-24.322



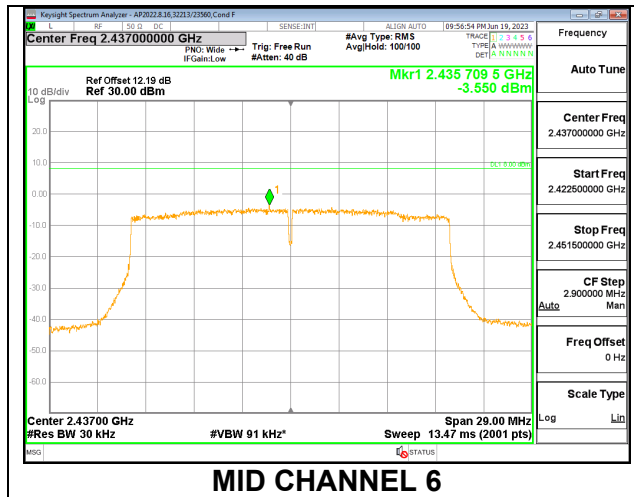
ANT 3 MODE , 26-Tone RU Index 8

Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-5.176	-5.176	8.000	-13.176
Mid 6	2437	-5.224	-5.224	8.000	-13.224
High 11	2462	-5.104	-5.104	8.000	-13.104
High 12	2467	-5.443	-5.443	8.000	-13.443
High 13	2472	-16.125	-16.125	8.000	-24.125



ANT 3 MODE , SU Mode

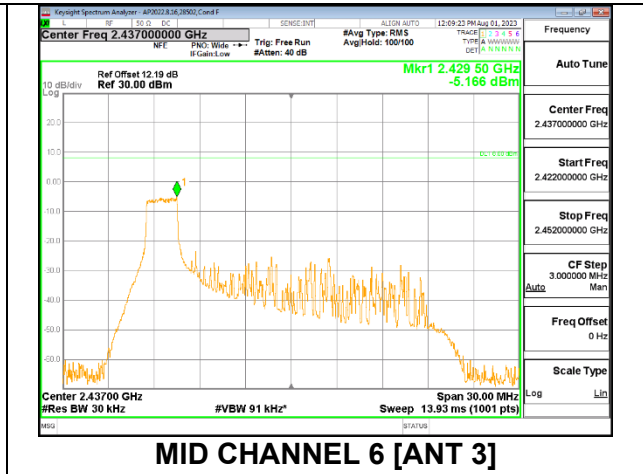
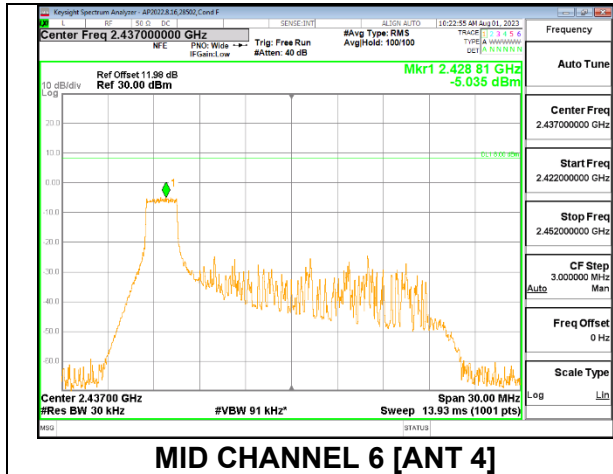
Duty Cycle CF (dB)		0.00	Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-8.550	-8.550	8.000	-16.550
Low 2	2417	-6.749	-6.749	8.000	-14.749
Low 3	2422	-3.681	-3.681	8.000	-11.681
Mid 6	2437	-3.550	-3.550	8.000	-11.550
High 9	2452	-4.685	-4.685	8.000	-12.685
High 10	2457	-6.723	-6.723	8.000	-14.723
High 11	2462	-8.447	-8.447	8.000	-16.447
High 12	2467	-10.244	-10.244	8.000	-18.244
High 13	2472	-16.339	-16.339	8.000	-24.339



9.5.5. 802.11ax HE20 OFDMA MODE 2TX

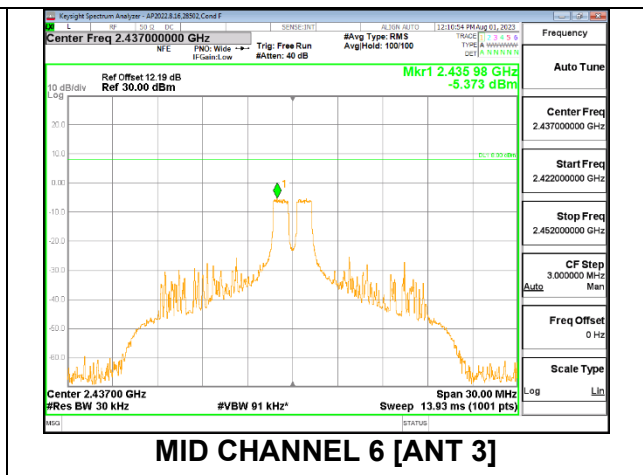
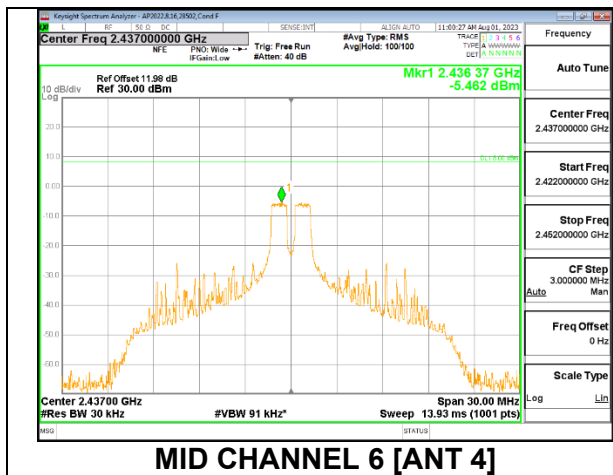
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 0

Duty Cycle CF (dB)		0.00		Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	ANT4 Meas (dBm/3kHz)	ANT3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-5.268	-5.330	-2.289	8.000	-10.289
Mid 6	2437	-5.035	-5.166	-2.090	8.000	-10.090
High 11	2462	-5.335	-5.328	-2.321	8.000	-10.321
High 12	2467	-5.340	-5.410	-2.365	8.000	-10.365
High 13	2472	-16.895	-16.634	-13.752	8.000	-21.752



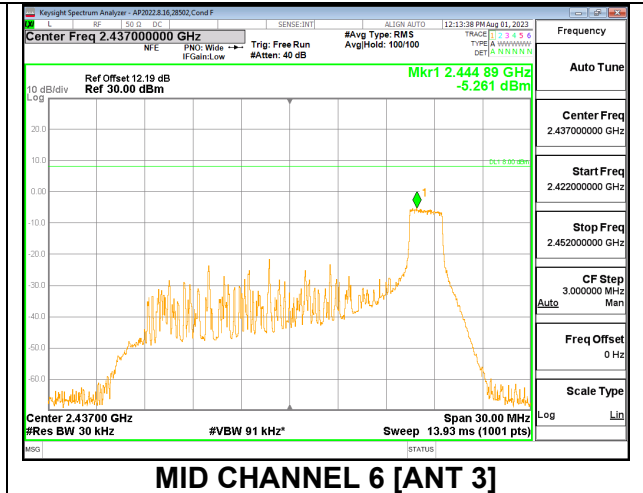
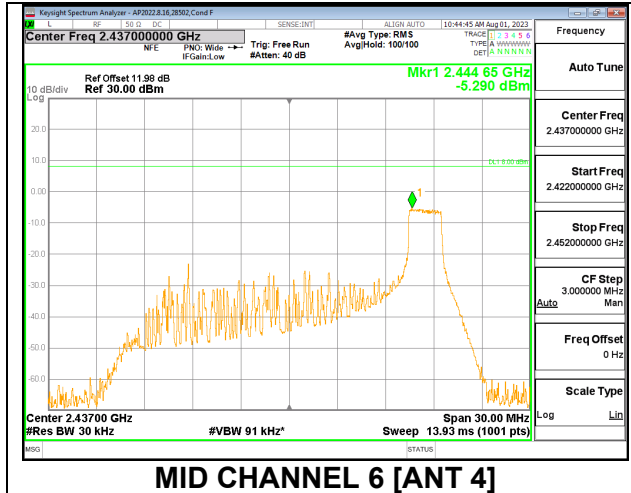
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 4

Duty Cycle CF (dB)		0.00		Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	ANT4 Meas (dBm/3kHz)	ANT3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-5.096	-5.554	-2.309	8.000	-10.309
Mid 6	2437	-5.462	-5.373	-2.407	8.000	-10.407
High 11	2462	-5.454	-5.368	-2.400	8.000	-10.400
High 12	2467	-5.402	-5.359	-2.370	8.000	-10.370
High 13	2472	-16.273	-16.911	-13.570	8.000	-21.570



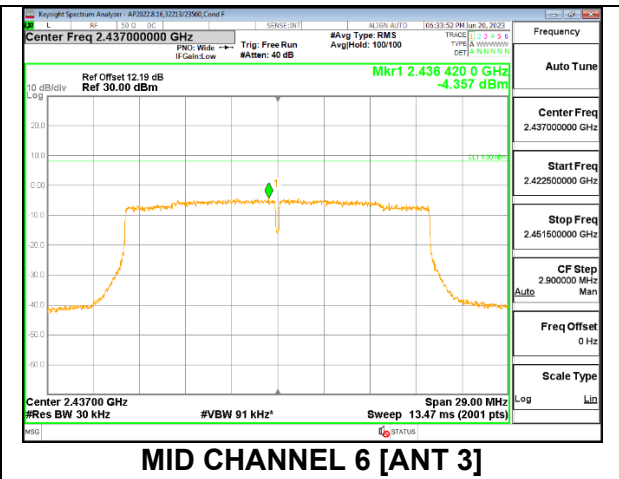
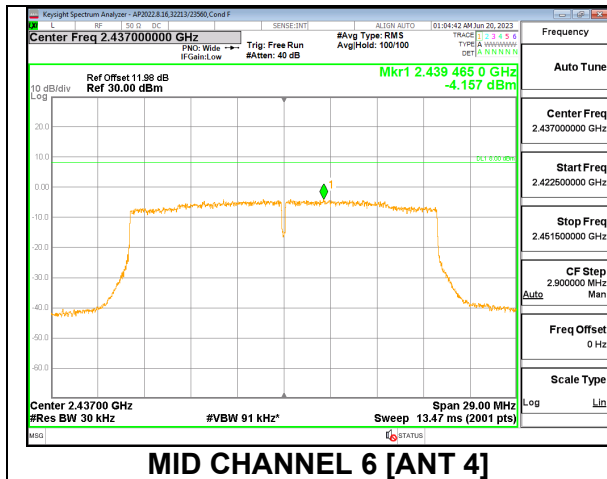
ANT 4 + ANT 3 MODE: 26-Tones, RU Index 8

Duty Cycle CF (dB)		0.00		Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	ANT4 Meas (dBm/3kHz)	ANT3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-5.033	-5.498	-2.249	8.000	-10.249
Mid 6	2437	-5.290	-5.261	-2.265	8.000	-10.265
High 11	2462	-5.309	-5.154	-2.221	8.000	-10.221
High 12	2467	-5.169	-5.232	-2.190	8.000	-10.190
High 13	2472	-16.803	-16.960	-13.870	8.000	-21.870



ANT 4 + ANT 3 MODE: SU Mode

Duty Cycle CF (dB)		0.00		Included in Calculations of Corr'd PSD		
Channel	Frequency (MHz)	ANT4 Meas (dBm/3kHz)	ANT3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-9.306	-9.841	-6.555	8.000	-14.555
Low 2	2417	-7.880	-7.710	-4.784	8.000	-12.784
Low 3	2422	-5.861	-5.720	-2.780	8.000	-10.780
Mid 6	2437	-4.157	-4.357	-1.246	8.000	-9.246
High 8	2447	-3.904	-4.305	-1.090	8.000	-9.090
High 9	2452	-5.427	-6.653	-2.987	8.000	-10.987
High 10	2457	-7.752	-7.935	-4.832	8.000	-12.832
High 11	2462	-10.255	-9.669	-6.942	8.000	-14.942
High 12	2467	-12.493	-12.141	-9.303	8.000	-17.303
High 13	2472	-16.771	-16.881	-13.815	8.000	-21.815



9.6. CONDUCTED SPURIOUS EMISSIONS

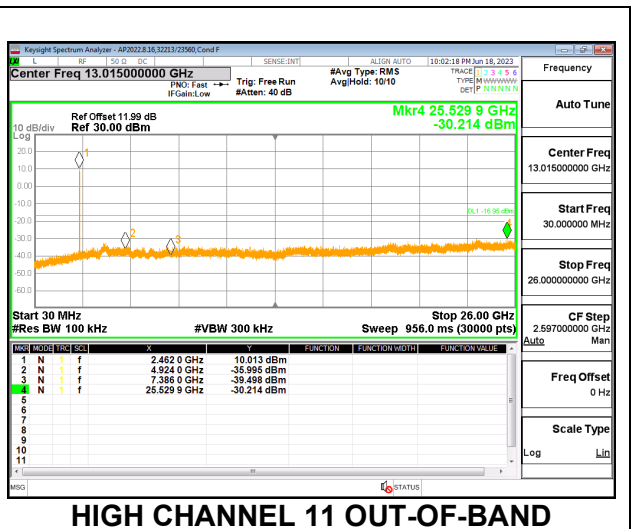
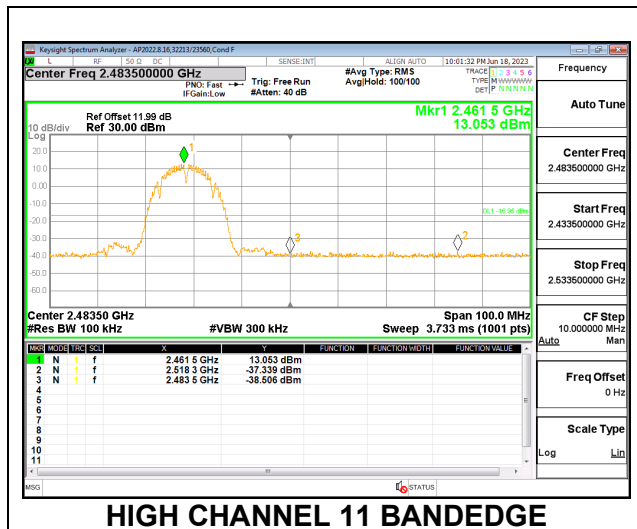
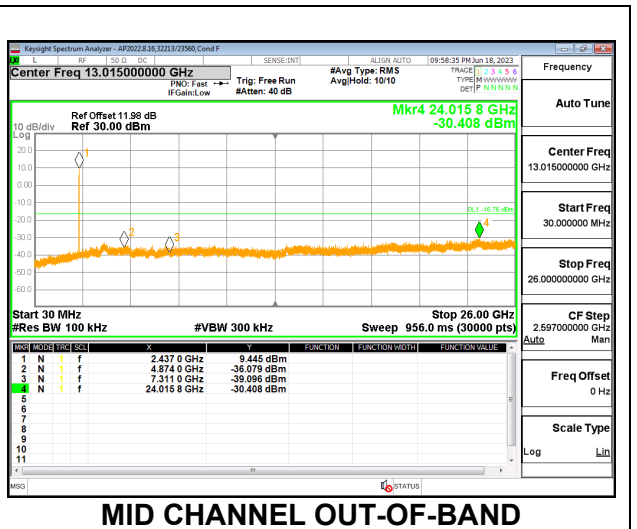
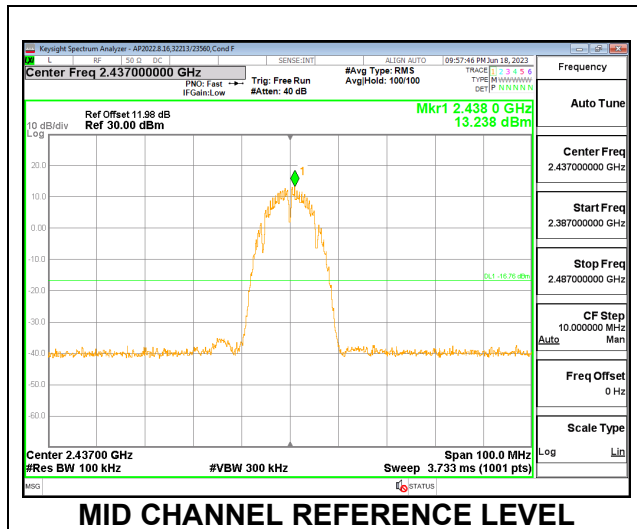
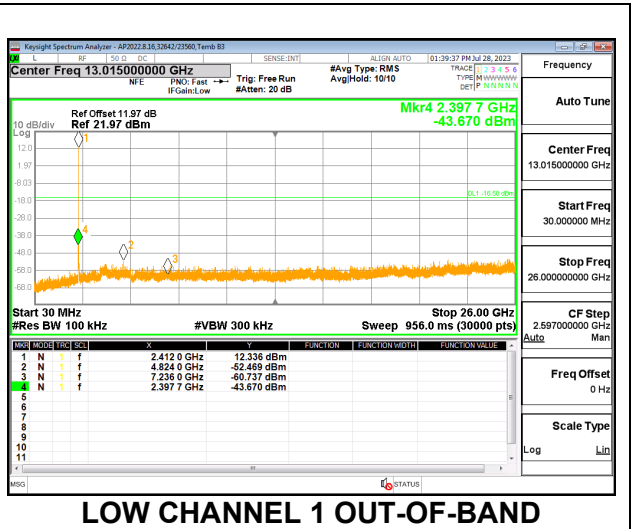
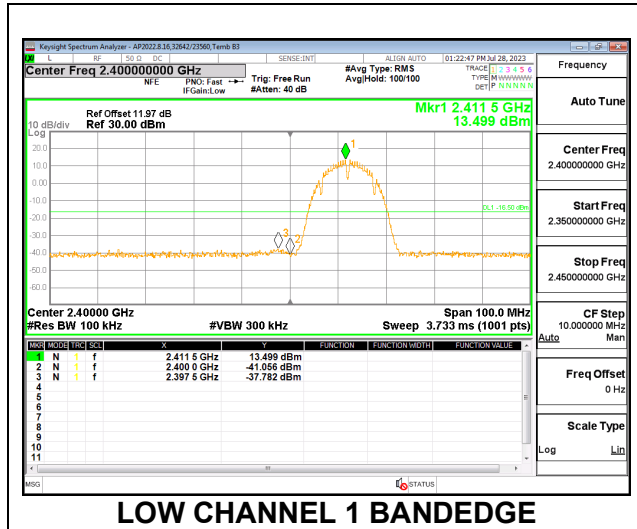
LIMITS

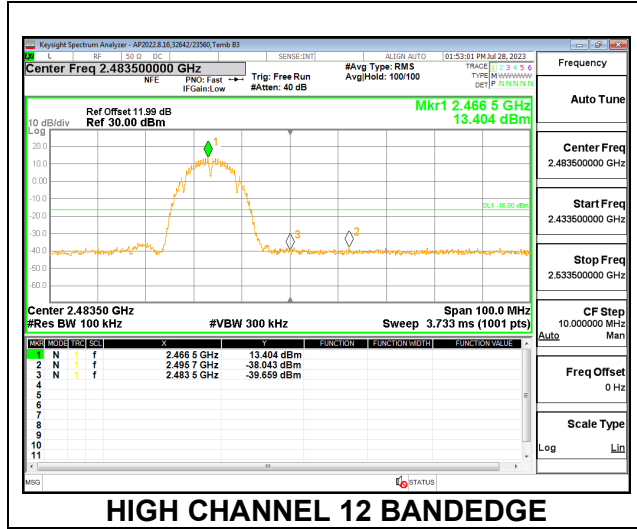
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

RESULTS

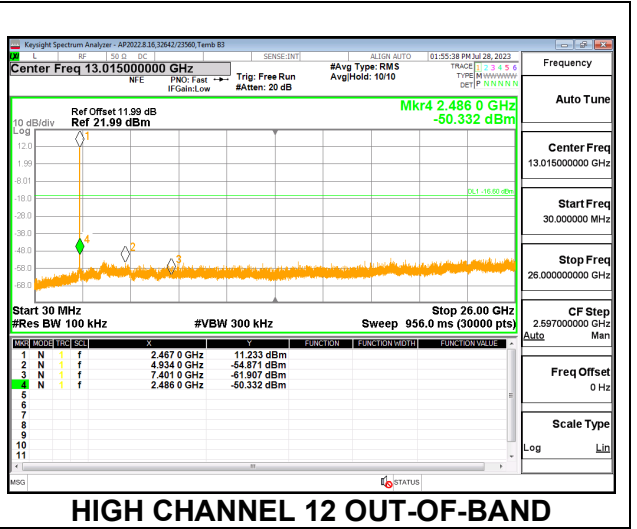
9.6.1. 802.11b MODE 1TX

ANT 4 MODE

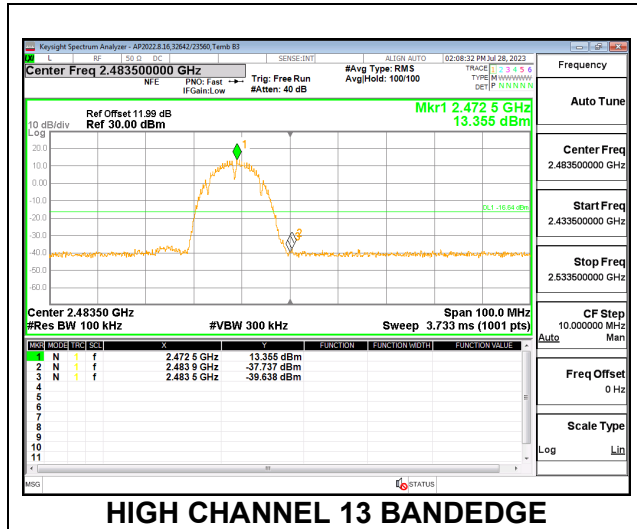




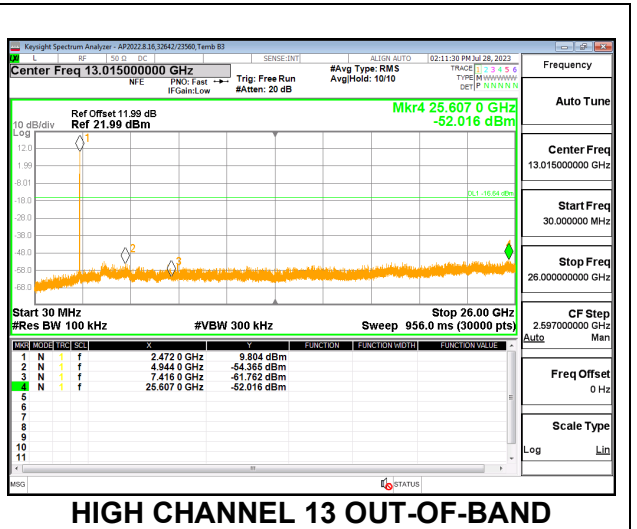
HIGH CHANNEL 12 BANDEDGE



HIGH CHANNEL 12 OUT-OF-BAND

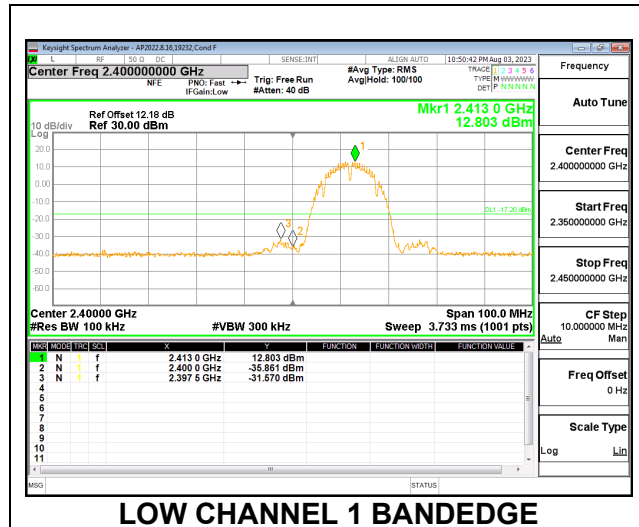


HIGH CHANNEL 13 BANDEDGE

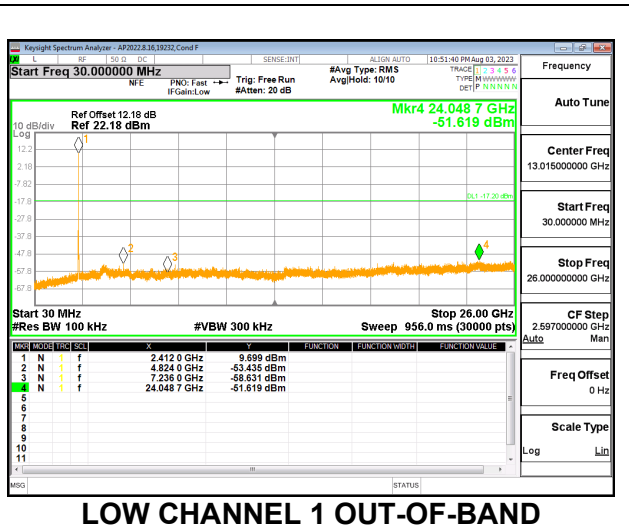


HIGH CHANNEL 13 OUT-OF-BAND

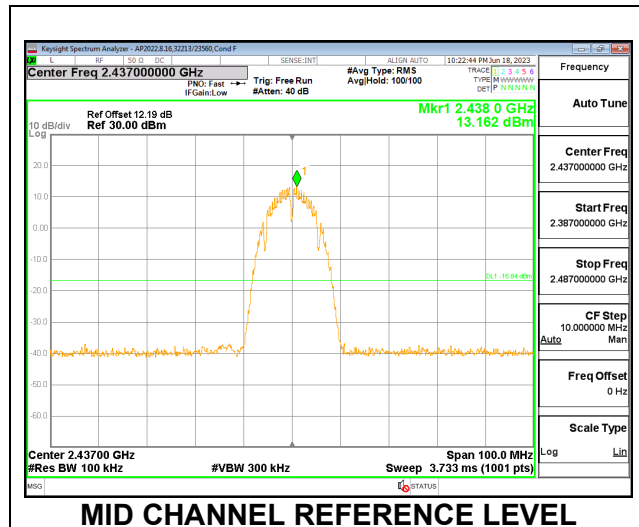
ANT 3 MODE



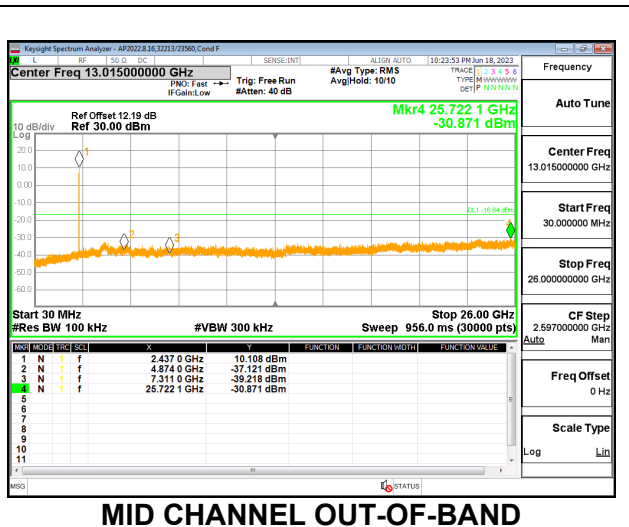
LOW CHANNEL 1 BANDEDGE



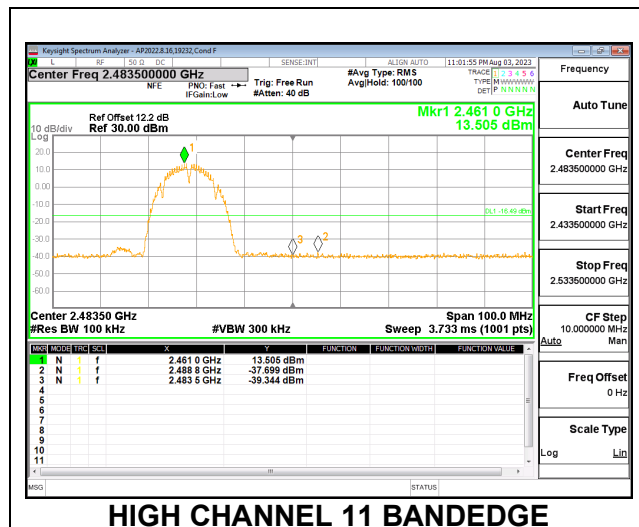
LOW CHANNEL 1 OUT-OF-BAND



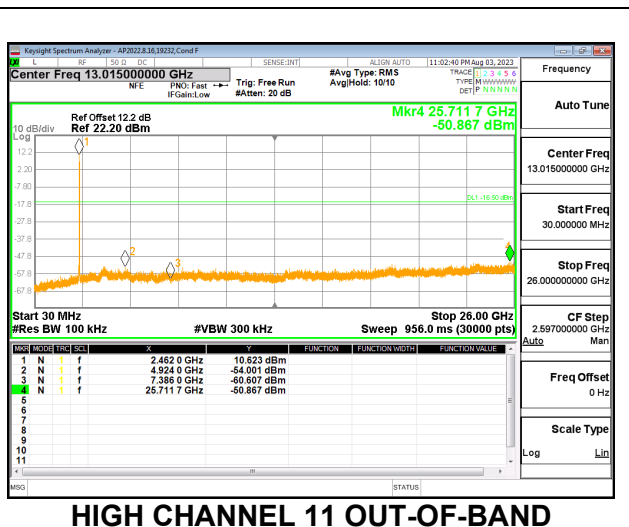
MID CHANNEL REFERENCE LEVEL



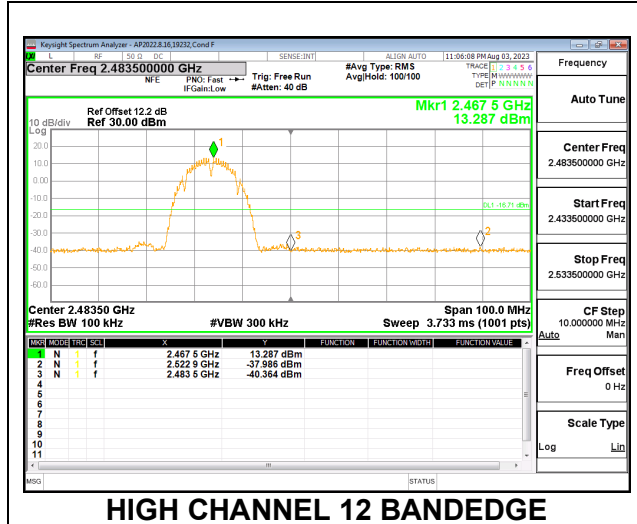
MID CHANNEL OUT-OF-BAND



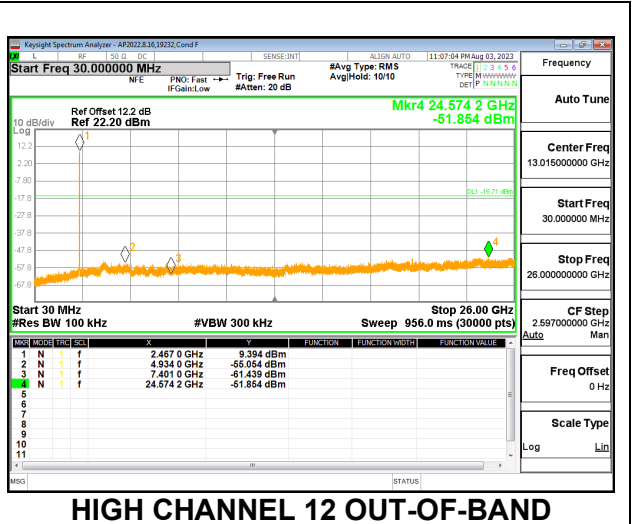
HIGH CHANNEL 11 BANDEDGE



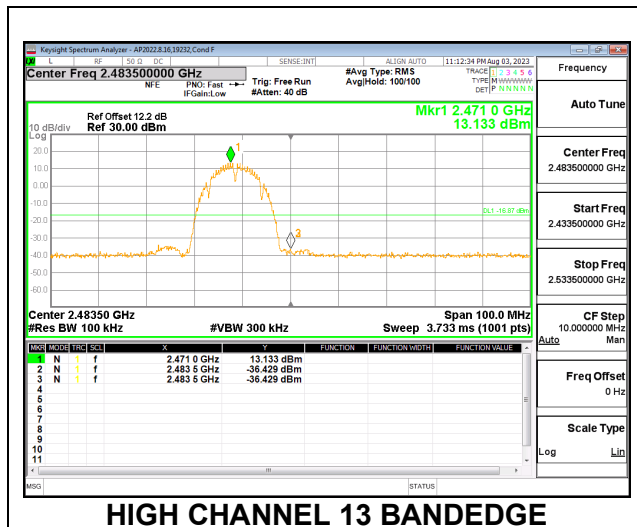
HIGH CHANNEL 11 OUT-OF-BAND



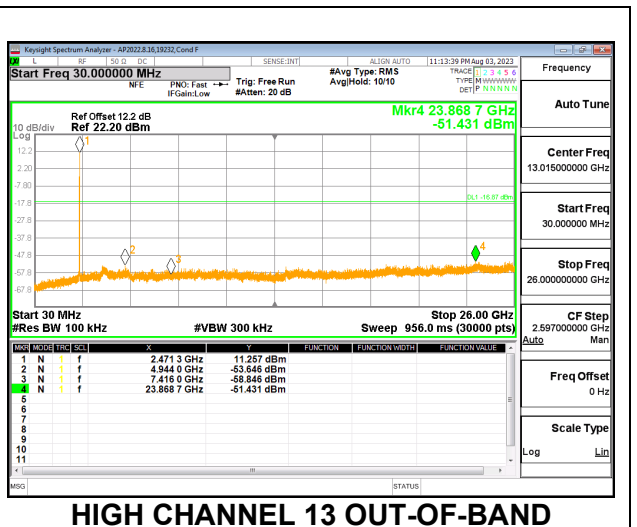
HIGH CHANNEL 12 BANDEDGE



HIGH CHANNEL 12 OUT-OF-BAND



HIGH CHANNEL 13 BANDEDGE



HIGH CHANNEL 13 OUT-OF-BAND

9.6.2. 802.11n HT20 MODE 1TX

ANT 4 MODE

