TEST REPORT

CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

1. Applicant

◦ Name : Samsung Electronics Co Ltd

◦ Address : 19 Chapin Rd, Building D. Pine Brook, New Jersey, United States

◦ Date of Receipt : 2023-03-20

2. Manufacturer

◦ Name : Samsung Electronics Co., Ltd.

◦ Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea

3. Factory

◦ Name #1: CHEMTRONICS CO.,LTD.

◦ Address #1: 35, Buk-ri, Namsa-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea

◦ Name #2: Chengdu Xuguang Technology Co., Ltd.

◦ Address #2: No.86 2nd Section, Park Road, Longquanyi District, Chengdu City, Sichuan Province, P.R.China

◦ Name #3: CHEMTROVINA COMPANY LIMITED

◦ Address #3: Nhon Trach 2 - Loc Khang IZ, Hiep Phuoc Town, Nhon Trach District, Dong Nai Province, Vietnam

4. Use of Report : For FCC Conformance

5. Test Sample / Model: Wi-Fi/BT Transceiver / WCC941M

6. Date of Test : 2023-04-10 to 2023-06-08

7. Test Standard(method) used : FCC 47 CFR part 15 subpart E 15.407

8. Testing Environment: Temp.: (23 ± 1) ℃, Humidity: (36 ± 3) % R.H.

9. Test Results : Compliance

10. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing

(Address : (Unhak-Dong) 5, Dongbu-ro 221beon-gil, Cheoin-gu, Yong-in-si, Gyeonggi-do, Korea)

Approval	Tested by Ji-Hye, Kim: (Signature)	Technical Manager Won-Jae, Hwang: (Signature)

Remark. This report is not related to KOLAS accreditation and relevant regulation.

2023-06-29

CTK Co., Ltd.

REPORT REVISION HISTORY

Date	Revision	Page No
2023-06-29	Issued (CTK-2023-01431)	all

CONTENTS

1. General Product Description

1.1 Applicant Information

Company	Samsung Electronics Co., Ltd.
Contact Point	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea
Contact Person	Name : Minhyung Cho E-mail : mh719.cho@samsung.com Tel : +82-31-277-2688 Fax : -

1.2 Product Information

FCC ID	A3LWCC941M	
Product Description	Wi-Fi/BT Transceiver	
Model name	WCC941M	
Variant Model name	-	
Operating Frequency	UNII 4	20 MHz_BW : 5 845 MHz – 5 885 MHz 40 MHz_BW : 5 835 MHz – 5 875 MHz 80 MHz_BW : 5 855 MHz
RF Output Power	802.11a : 17.01 dBm(50.23 mW) (EIRP) 802.11n_HT20 : 22.39 dBm(173.38 mW) (EIRP) 802.11n_HT40 : 23.24 dBm(210.86 mW) (EIRP) 802.11ac_VHT20 : 21.39 dBm(137.72 mW) (EIRP) 802.11ac_VHT40 : 23.24 dBm(210.86 mW) (EIRP) 802.11ac_VHT80 : 24.97 dBm(314.05 mW) (EIRP) 802.11ax_HE20 : 23.28 dBm(212.81 mW) (EIRP) 802.11ax_HE40 : 24.23 dBm(264.85 mW) (EIRP) 802.11ax_HE80 : 23.81 dBm(240.44 mW) (EIRP)	
Antenna Specification	Antenna type : Metal Antenna	
	UNII 4	Peak Gain : 0.92 dBi (ANT L), 1.49 dBi (ANT R)
Antenna Configurations	802.11a : SISO(ANT L, ANT R) 802.11n : SISO(ANT L, ANT R), MIMO(ANT L+ANT R) 802.11ac : SISO(ANT L, ANT R), MIMO(ANT L+ANT R) 802.11ax : SISO(ANT L, ANT R), MIMO(ANT L+ANT R)	
Type of Modulation	802.11a/n/ac : OFDM 802.11ax : OFDMA	
Data Rate	802.11a : 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps 802.11n : up to 300 Mbps 802.11ac : up to 867 Mbps 802.11ax : up to 1 200 Mbps	
Power Source	DC 5 V	
Hardware Rev	V2.1	
Software Rev	FC 3	
Dynamic Frequency Selection	Slave without radar detection	

RF Power setting in Test SW

Mode		Frequency Band	Power Setting Value
802.11a		UNII 4	12.0
802.11n_HT20		UNII 4	12.0
802.11n_HT40		UNII 4	14.0
802.11ac_VHT20		UNII 4	11.0
802.11ac_VHT40		UNII 4	14.0
802.11ac_VHT80		UNII 4	16.0
802.11ax _HE20	26T	UNII 4	5.0
	52T	UNII 4	6.5
	106T	UNII 4	10.0
	242T	UNII 4	12.5
802.11ax _HE40	26T	UNII 4	5.5
	52T	UNII 4	8.0
	106T	UNII 4	11.0
	242T	UNII 4	13.0
	484T	UNII 4	14.5
802.11ax _HE80	26T	UNII 4	4.5
	52T	UNII 4	7.0
	106T	UNII 4	10.0
	242T	UNII 4	11.0
	484T	UNII 4	13.5
	996T	UNII 4	14.0

1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Note Computer	HP	15-bs563TU	CND7253R6N
AC/DC Adapter	HP	HSTNN-LA40	-
Note Computer	Samsung Electronics Co., Ltd.	NT-RC530-WS55	HPFG91EC300116B
AC/DC Adapter	Samsung Electronics Co., Ltd.	PA-1600-66	-

1.4 Model Differences

Not applicable

2. Accreditations

2.1 Laboratory Accreditations and Listings

Country	Agency	Registration Number
USA	FCC	805871
CANADA	ISED	8737A
KOREA	NRRA	KR0025

2.2 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

3. Test Specifications

3.1 Standards

FCC Part Section(s)	Requirement(s)	Limit	Status (Note 1)	Test Condition
15.407 (e)	6 dB Bandwidth	> 500 kHz (5 850 – 5 895 MHz)	C	Conducted
15.407 (a)	26 dB Bandwidth and 99% Bandwidth	NA	C	
15.407 (a)(3)	Conducted Output Power	< 30 dBm EIRP (5 850 – 5 895 MHz)	C	
15.407 (a)(3)	Power Spectral Density	< 14 dBm/MHz EIRP (5 850 – 5 895 MHz)	C	
15.407 (g)	Frequency Stability	NA	C	
15.407 (b)	Undesirable emission	< -27 dBm/MHz EIRP < 10 dBm/MHz EIRP < 15.6 dBm/MHz EIRP < 27 dBm/MHz EIRP < -27 dBm/MHz EIRP < -5 dBm/MHz EIRP (5 850 – 5 895 MHz)	C	Radiated
15.205, 15.407 (b)(9),(10)	Radiated Spurious Emission	15.209(a)	C	
15.407 (b)(9)	AC Conducted Emissions	15.207(a)	C	Line Conducted
Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable				
Note 2: The data in this test report are traceable to the national or international standards.				
Note 3: The sample was tested according to the following specification: FCC Part 15.407, ANSI C63.10-2013				
Note 4: The tests were performed according to the method of measurements prescribed in KDB No.789033, KDB No.987594				

3.2 Mode of operation during the test

The EUT is operated in a manner representative of the typical of the equipments.
During at testing, system components were manipulated within the confines of typical usage to maximize each emission.
For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit.
All modulation modes were tests. The results are only attached worst cases.

The Output power and Power Spectral Density for the 802.11 ax mode were investigated between all different tones, and we found that the highest tone had the highest output power and lowest tone had the highest PSD readings. Therefore, full testing was performed on both the highest and lowest tones.

Test Frequency & Bandwidth

- 802.11a, 802.11n_HT20, 802.11ac_VHT20, 802.11ax_HE20

	Lowest channel	Middle channel	Highest channel
UNII 4	5 845 MHz	5 865 MHz	5 885 MHz

- 802.11n_HT40, 802.11ac_VHT40, 802.11ax_HE40

	Lowest channel	Middle channel	Highest channel
UNII 4	5 835 MHz	-	5 875 MHz

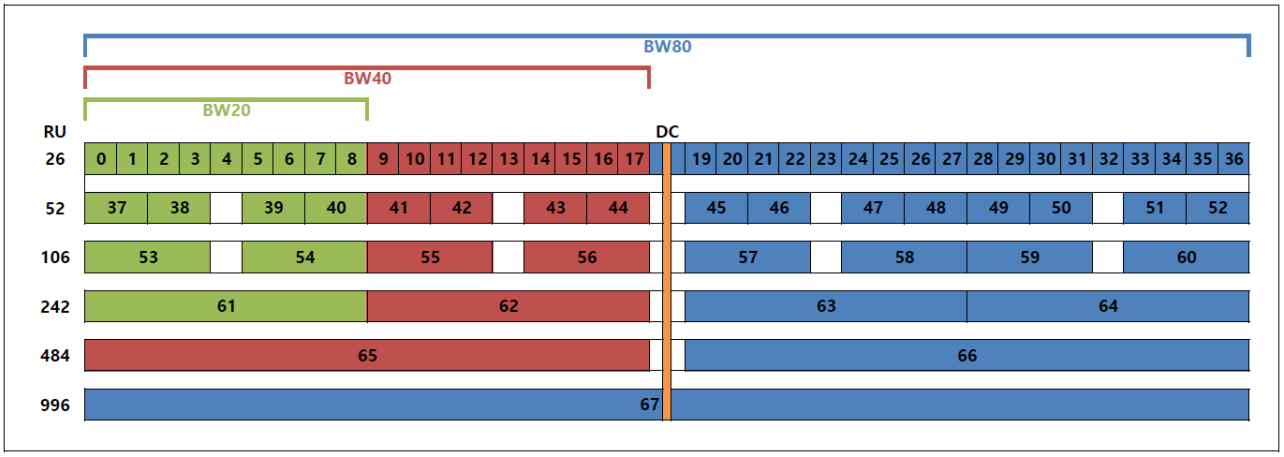
- 802.11ac_VHT80, 802.11ax_HE80

	Lowest channel	Middle channel	Highest channel
UNII 4	5 855 MHz		

Test mode & Worst case

Test mode	Modulation	Data rate	Duty Cycle	Duty Cycle Factor
802.11a	OFDM	6 Mbps	97.1 %	0.13 dB
802.11n_HT20	OFDM	MCS 0	96.9 %	0.13 dB
802.11n_HT40		MCS 0	93.8 %	0.28 dB
802.11ac_VHT20		MNSS 0	94.2 %	0.26 dB
802.11ac_VHT40		MNSS 0	89.1 %	0.50 dB
802.11ac_VHT80		MNSS 0	81.5 %	0.89 dB
802.11ax_HE20_26T	OFDMA	MCS 0	95.3 %	0.21 dB
802.11ax_HE20_52T			95.2 %	0.21 dB
802.11ax_HE20_106T			94.8 %	0.23 dB
802.11ax_HE20_242T			94.2 %	0.26 dB
802.11ax_HE40_26T			95.2 %	0.21 dB
802.11ax_HE40_52T			95.0 %	0.22 dB
802.11ax_HE40_106T			94.6 %	0.24 dB
802.11ax_HE40_242T			94.0 %	0.27 dB
802.11ax HE40 484T			93.8 %	0.28 dB
802.11ax HE80 26T			95.3 %	0.21 dB
802.11ax HE80 52T			95.1 %	0.22 dB
802.11ax HE80 106T			94.8 %	0.23 dB
802.11ax HE80 242T			94.0 %	0.27 dB
802.11ax HE80 484T			94.0 %	0.27 dB
802.11ax HE80 996T			93.6 %	0.29 dB

802.11ax RU Locations



Test RU Index for Tones

Mode	Tones	RU Index	
802.11ax_HE20	26T	Low	0
		Mid	4
		High	8
	52T	Low	37
		Mid	39
		High	40
	106T	Low	53
		Mid	-
		High	54
	242T / SU	61 / NA	61 / NA
802.11ax_HE40	26T	Low	0
		Mid	9
		High	17
	52T	Low	37
		Mid	41
		High	44
	106T	Low	53
		Mid	55
		High	56
	242T	Low	61
		Mid	-
		High	62
	484T / SU	65 / NA	65 / NA
802.11ax_HE80	26T	Low	0
		Mid	18
		High	36
	52T	Low	37
		Mid	45
		High	52
	106T	Low	53
		Mid	57
		High	60
	242T	Low	61
		Mid	63
		High	64
	484T	Low	65
		Mid	-
		High	66
	996T / SU	67 / NA	67 / NA

Full RU(Resource Unit) mode and SU(Single Unit) mode have no difference in physical waveform. This Report has been reported the Full RU(Resource Unit) mode with worst output power.

3.3 Device Modifications

The following modifications were necessary for compliance:

Not applicable

3.4 Maximum Measurement Uncertainty

The value of the measurement uncertainty for the measurement of each parameter.
Coverage factor k = 2, Confidence levels of 95 %

Description	Uncertainty
Conducted RF Output Power	1.5 dB (C.L.: Approx. 95 %, k = 2)
Power Spectral Density	1.5 dB (C.L.: Approx. 95 %, k = 2)
Occupied Bandwidth	0.1 MHz (C.L.: Approx. 95 %, k = 2)
Unwanted Emission(conducted)	3.0 dB (C.L.: Approx. 95 %, k = 2)
Radiated Emissions (f ≤ 1 GHz)	3.88 dB (C.L.: Approx. 95 %, k = 2)
Radiated Emissions (f > 1 GHz)	4.50 dB (C.L.: Approx. 95 %, k = 2)
Line Conducted Emission	2.08 dB (C.L.: Approx. 95 %, k = 2)

3.5 Test Software

Conducted Test	Ics Pro Ver. 6.0.3
Radiated Test	EP5RE Ver. 6.0.1.0, ES10 Ver. 10.001
Line Conducted Test	EMC32 Ver. 10.50.00

4. Technical Characteristic Test

4.1 6dB Bandwidth

Test Procedures

KDB 789033 – Section C.2
ANSI C63.10-2013 - Section 6.9.2

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Settings :

Center frequency = the highest, middle and the lowest channels

a) RBW = 100 kHz
b) VBW ≥ 3 x RBW
c) Detector = peak
d) Trace mode = Max hold
e) Sweep = auto couple
f) Allow trace to fully stabilize
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Minimum Standard:

6 dB Bandwidth	>	500 kHz

Test Data:

ANT L

	6 dB Bandwidth (MHz)			
Mode / Frequency	802.11a	802.11n_HT20	802.11ac_VHT20	802.11ax_HE20_242T
5 845 MHz	16.34	17.53	17.52	18.83
5 865 MHz	16.33	16.08	17.54	18.80
5 885 MHz	15.51	17.56	17.56	18.85
Measurement uncertainty	± 0.1 MHz			

	6 dB Bandwidth (MHz)		
Mode	802.11ax_HE20_26T		
Frequency	Low	Mid	High
5 845 MHz	2.09	2.69	2.06
5 865 MHz	2.13	2.67	2.09
5 885 MHz	2.10	2.66	2.10
Measurement uncertainty	± 0.1 MHz		

	6 dB Bandwidth (MHz)		
Mode / Frequency	802.11n_HT40	802.11ac_VHT40	802.11ax_HE40_484T
5 835 MHz	35.12	33.78	35.03
5 875 MHz	34.97	33.80	35.58
Measurement uncertainty	± 0.1 MHz		

	6 dB Bandwidth (MHz)		
Mode	802.11ax_HE40_26T		
Frequency	Low	Mid	High
5 835 MHz	16.52	2.08	2.09
5 875 MHz	2.08	2.13	2.09
Measurement uncertainty	± 0.1 MHz		

	6 dB Bandwidth (MHz)	
Mode	802.11ac_VHT80	802.11ax_HE80_996T
Frequency		
5 855 MHz	75.13	75.16
Measurement uncertainty	± 0.1 MHz	

	6 dB Bandwidth (MHz)		
Mode	802.11ax_HE80_26T		
Frequency	Low	Mid	High
5 855 MHz	2.18	2.16	2.12
Measurement uncertainty	± 0.1 MHz		

ANT R

	6 dB Bandwidth (MHz)			
Mode / Frequency	802.11a	802.11n_HT20	802.11ac_VHT20	802.11ax_HE20_242T
5 845 MHz	16.30	17.62	17.60	18.53
5 865 MHz	16.31	17.54	17.56	18.14
5 885 MHz	16.37	17.19	17.61	18.76
Measurement uncertainty	± 0.1 MHz			

	6 dB Bandwidth (MHz)		
Mode	802.11ax_HE20_26T		
Frequency	Low	Mid	High
5 845 MHz	2.05	2.64	2.07
5 865 MHz	2.06	2.66	2.10
5 885 MHz	2.11	2.67	2.11
Measurement uncertainty	± 0.1 MHz		

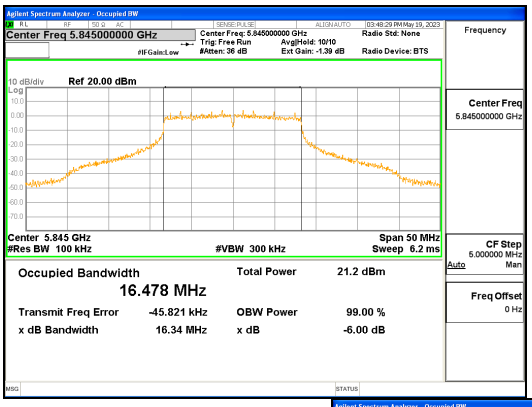
	6 dB Bandwidth (MHz)		
Mode / Frequency	802.11n_HT40	802.11ac_VHT40	802.11ax_HE40_484T
5 835 MHz	34.99	33.79	35.00
5 875 MHz	33.79	35.00	34.51
Measurement uncertainty	± 0.1 MHz		

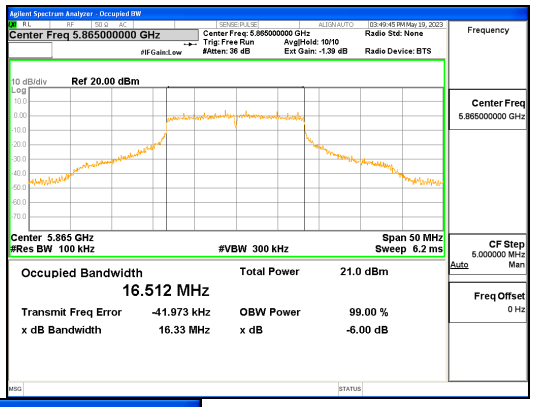
	6 dB Bandwidth (MHz)		
Mode	802.11ax_HE40_26T		
Frequency	Low	Mid	High
5 835 MHz	2.10	2.12	2.07
5 875 MHz	2.11	2.09	2.06
Measurement uncertainty	± 0.1 MHz		

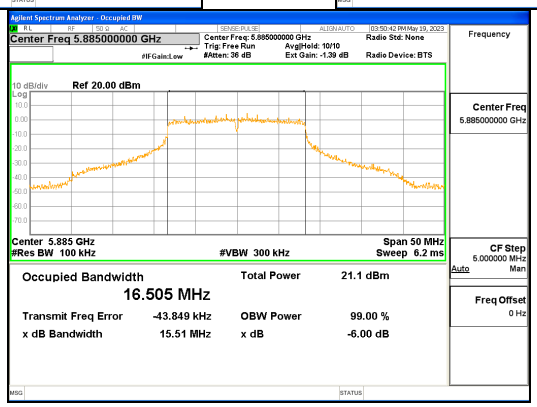
	6 dB Bandwidth (MHz)	
Mode / Frequency	802.11ac_VHT80	802.11ax_HE80_996T
5 855 MHz	75.14	72.70
Measurement uncertainty	± 0.1 MHz	

	6 dB Bandwidth (MHz)		
Mode	802.11ax_HE80_26T		
Frequency	Low	Mid	High
5 855 MHz	2.17	2.12	2.12
Measurement uncertainty	± 0.1 MHz		

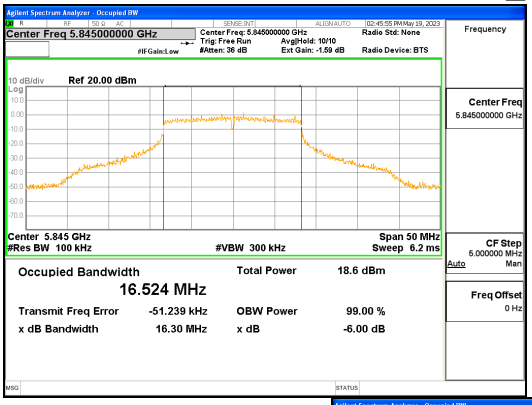
See next pages for actual measured spectrum plots.

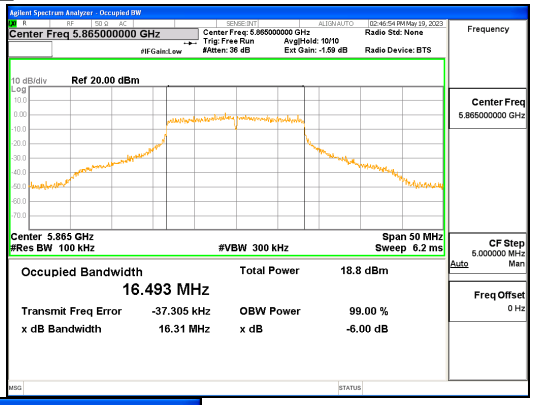


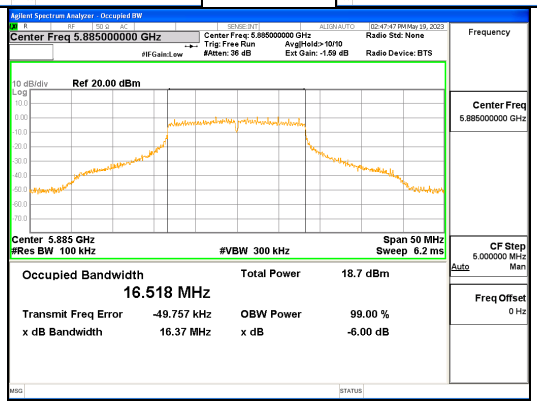




ANT L_802.11a_UNII 4







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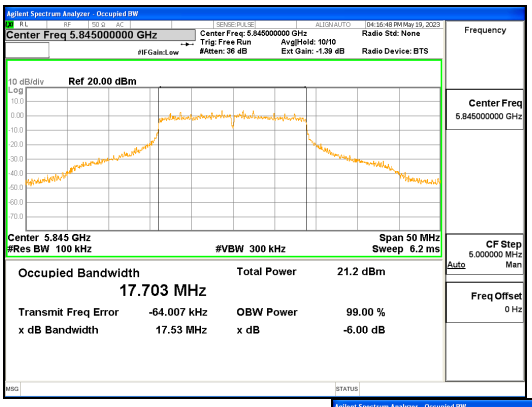

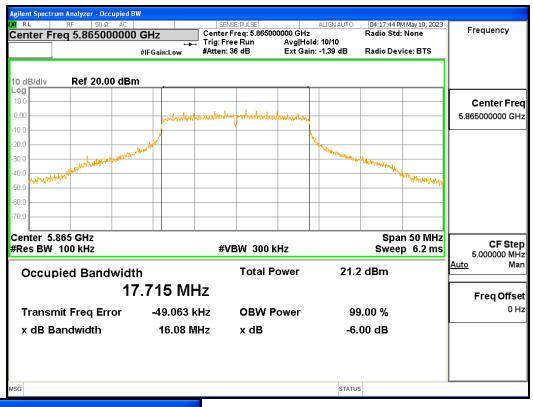

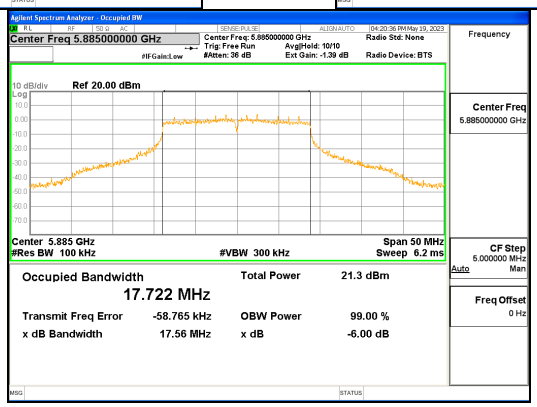

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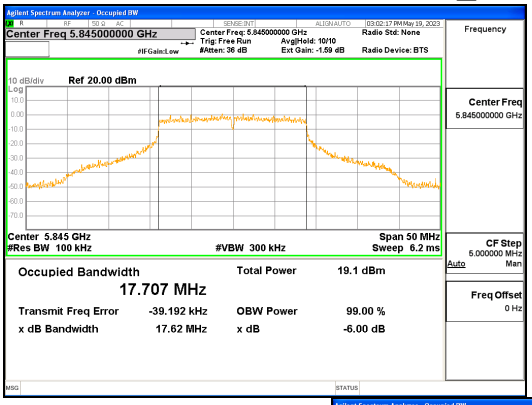

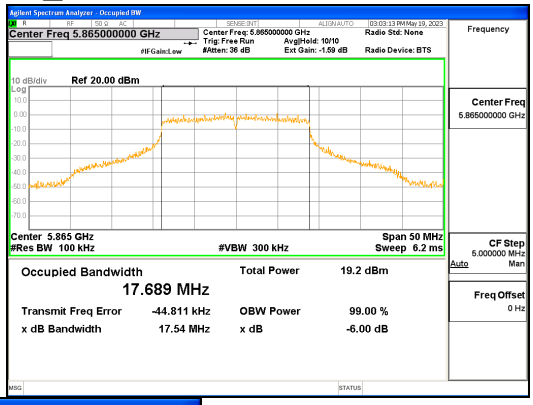

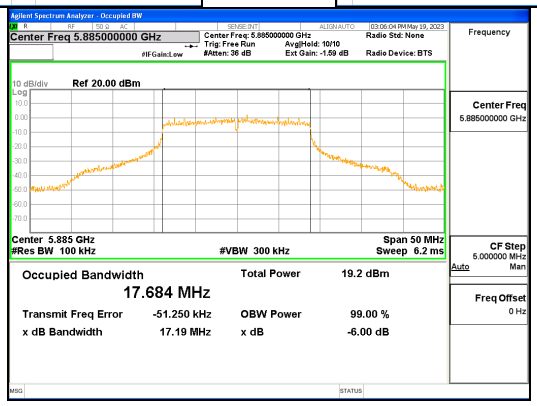

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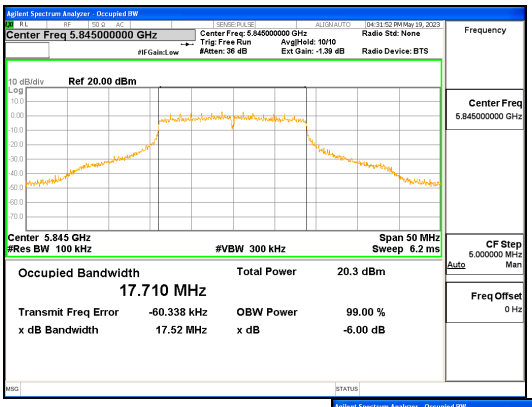

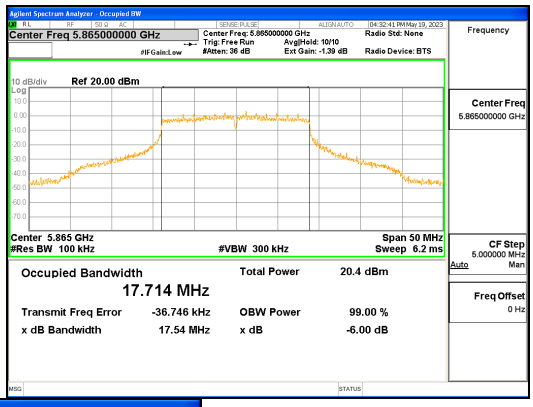

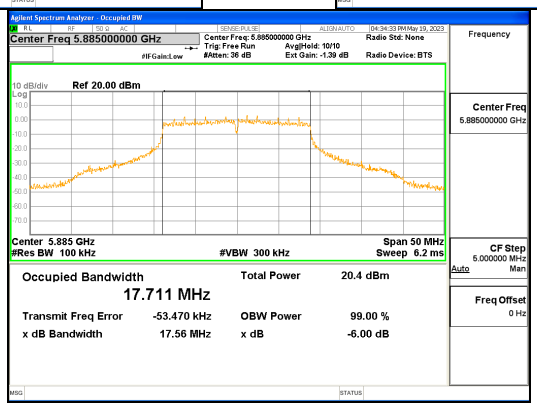

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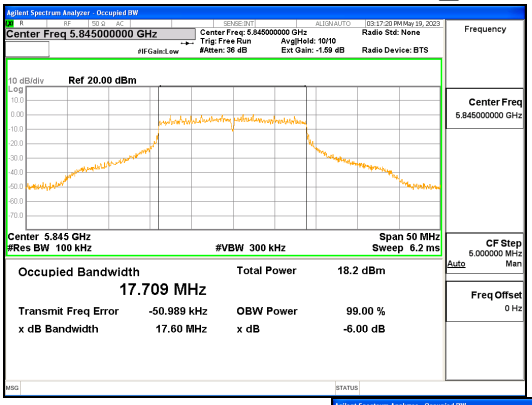

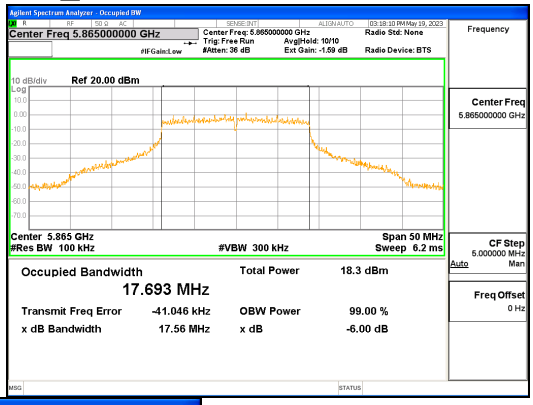

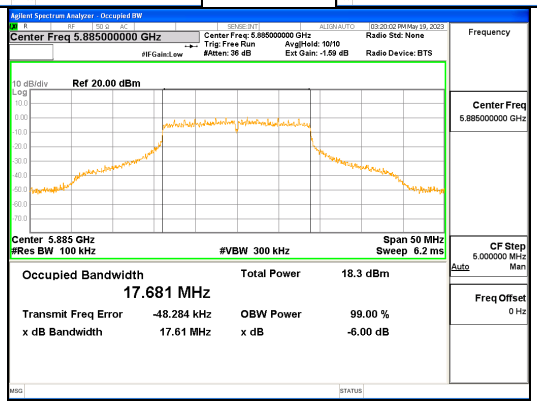

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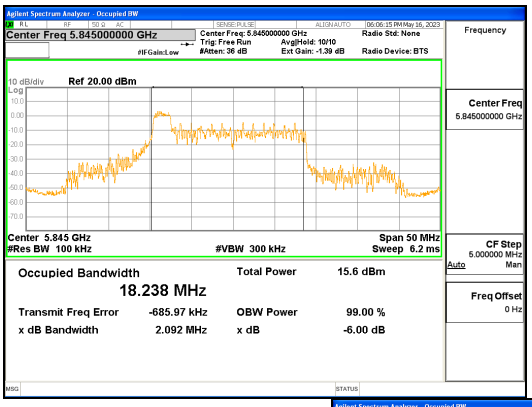

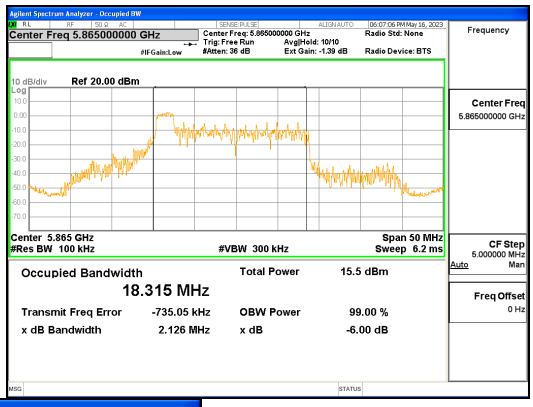

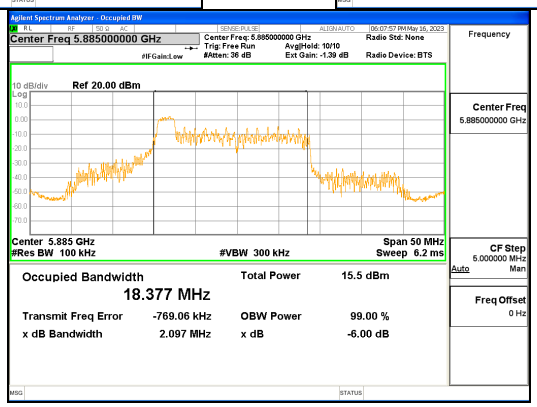

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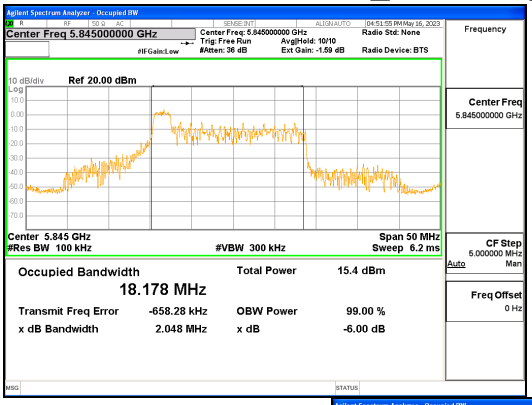
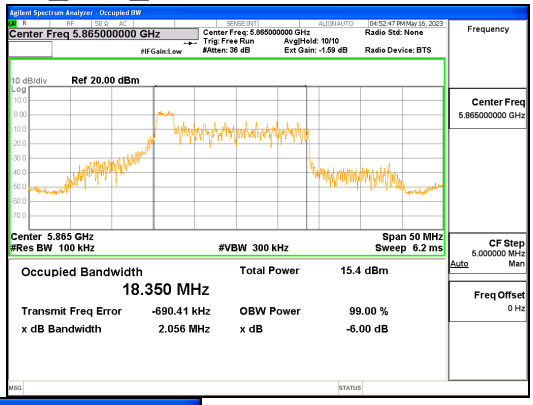
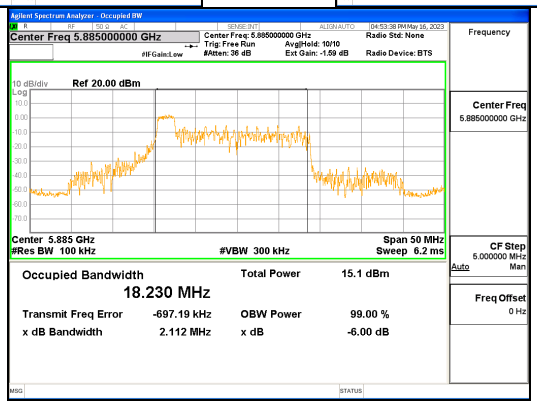
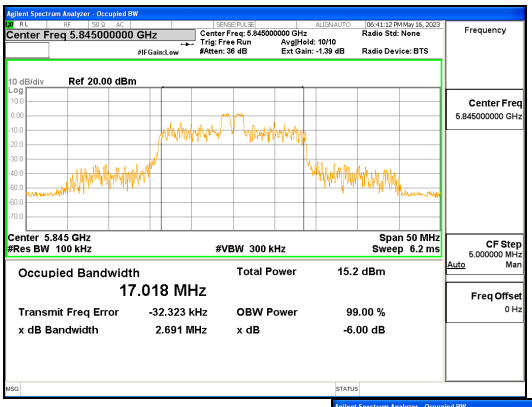
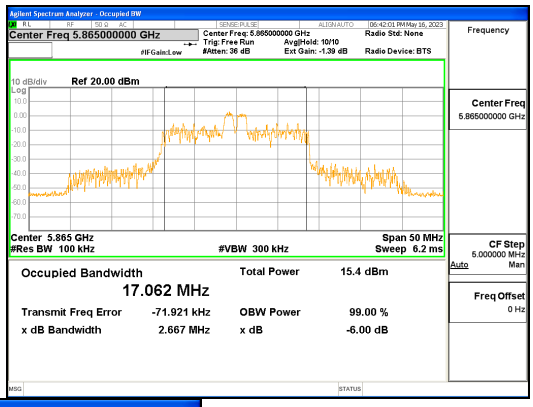




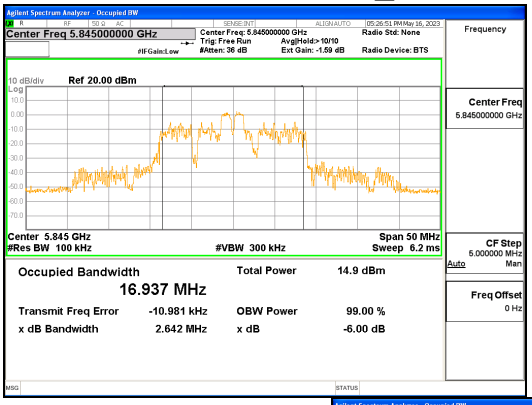


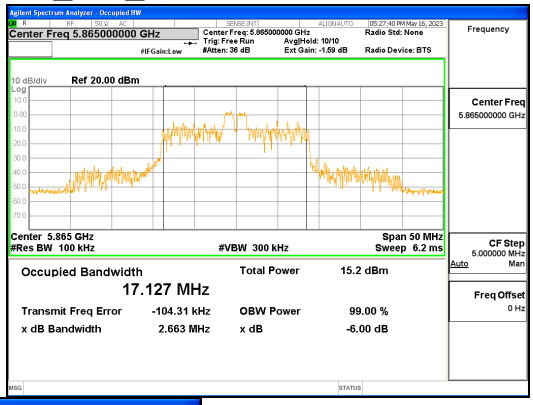
ANT R_802.11ax_HE20_26T_Low_UNII 4

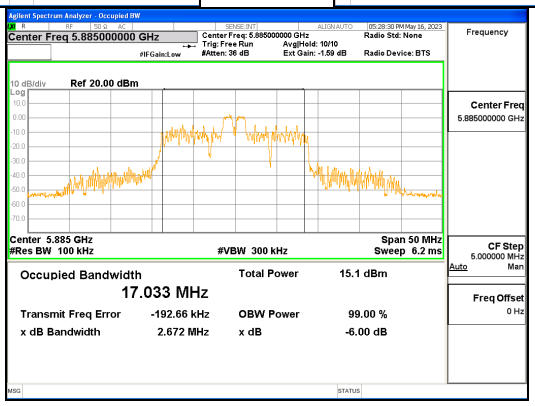




ANT L_802.11ax_HE20_26T_Mid_UNII 4







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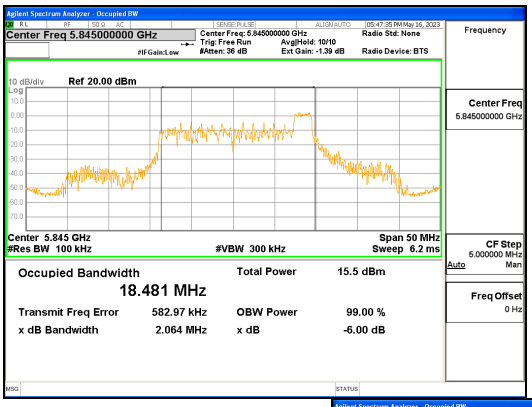
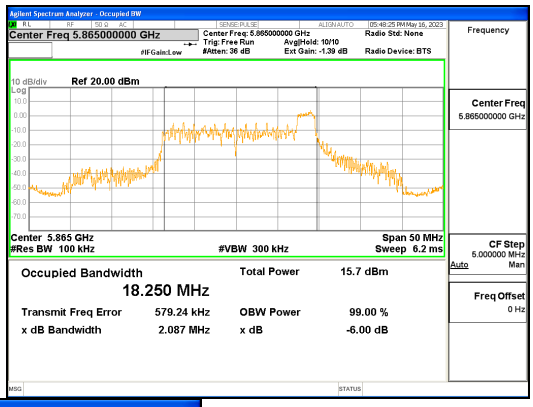
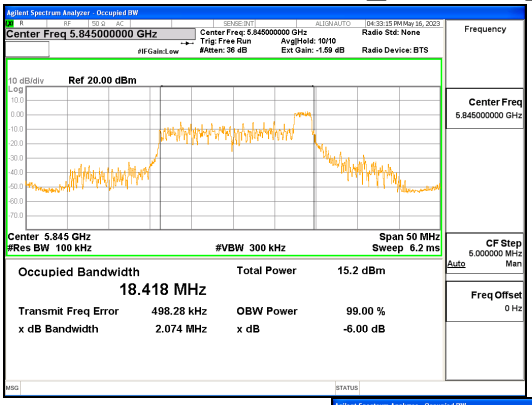
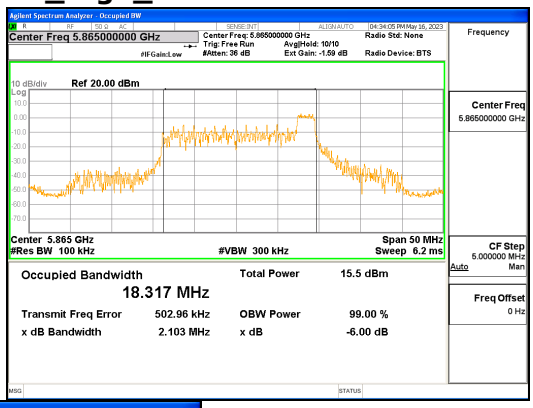
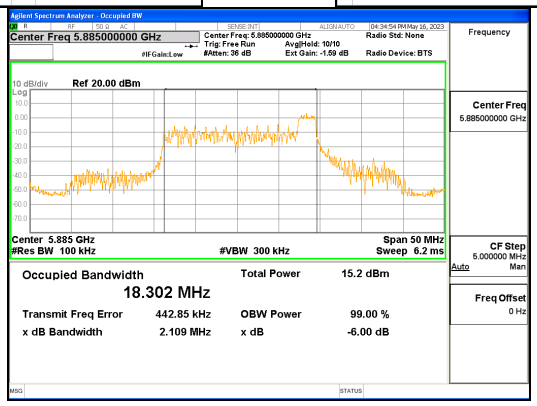




ANT L_802.11ax_HE20_26T_High_UNII 4







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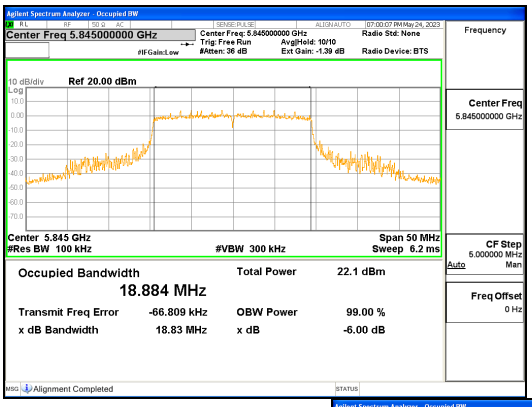
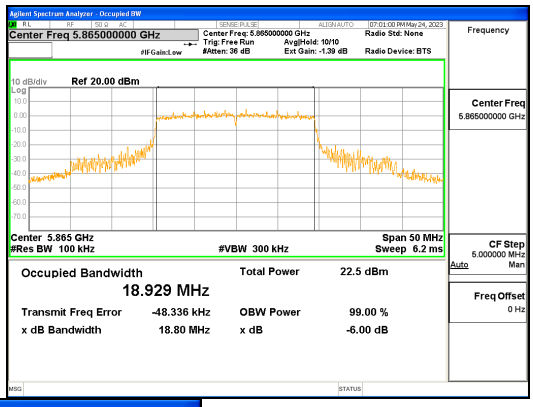
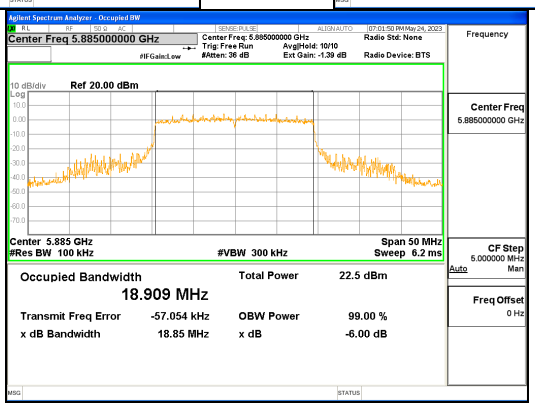
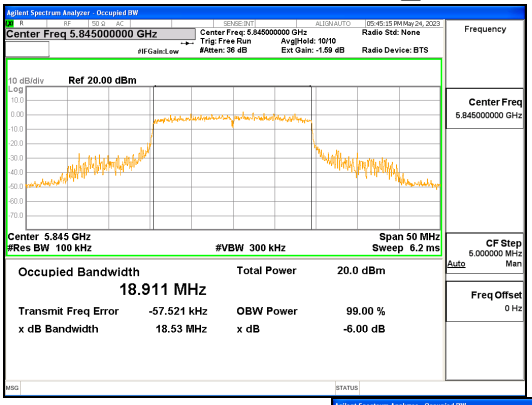
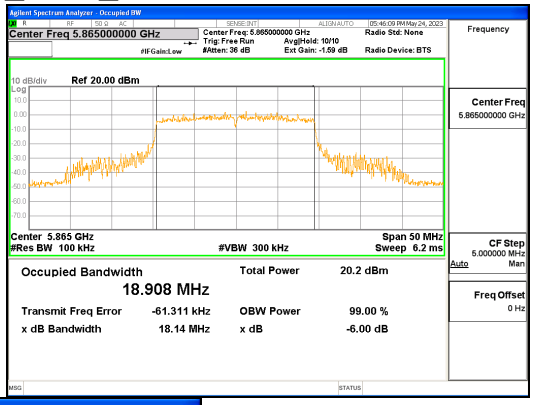


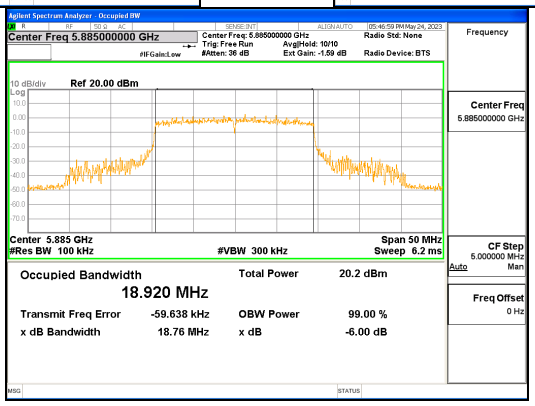




ANT L_802.11ax_HE20_242T_UNII 4







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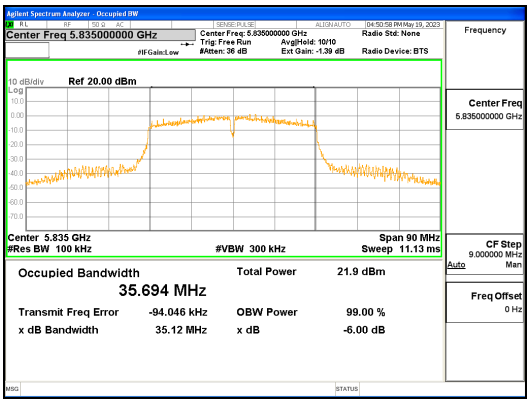
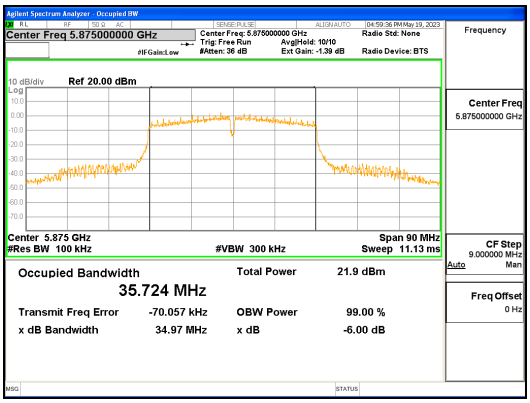
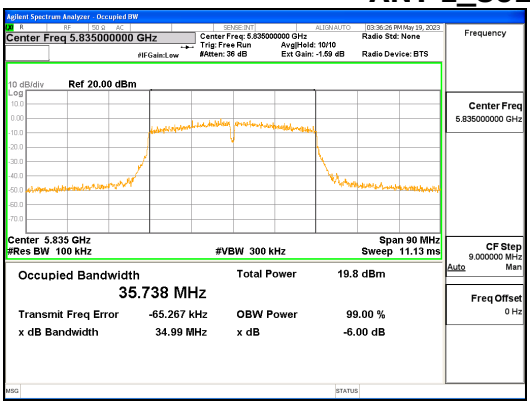
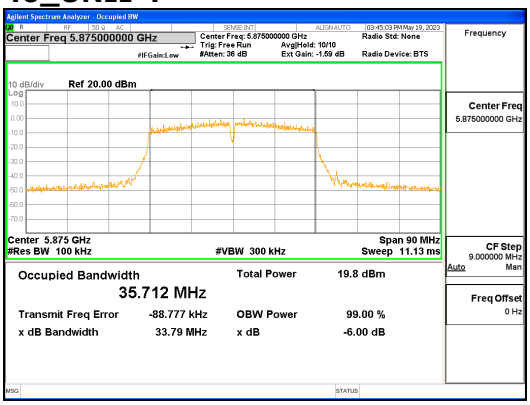




ANT L_802.11n_HT40_UNII 4





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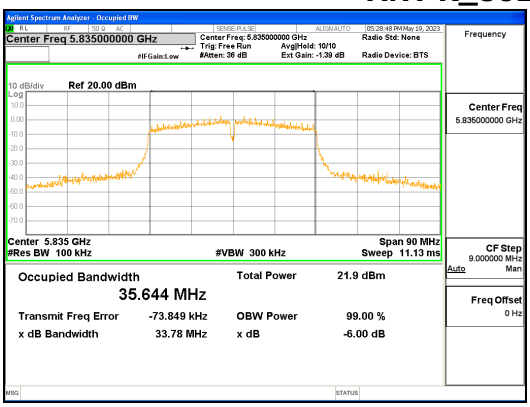
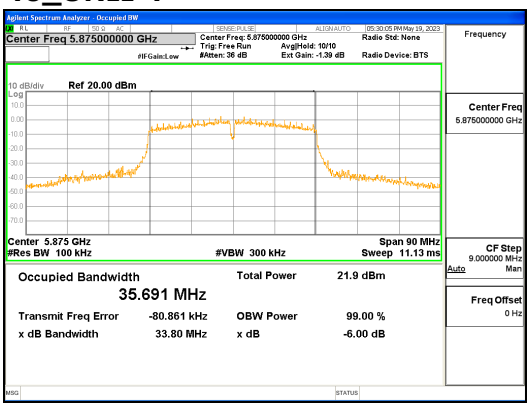
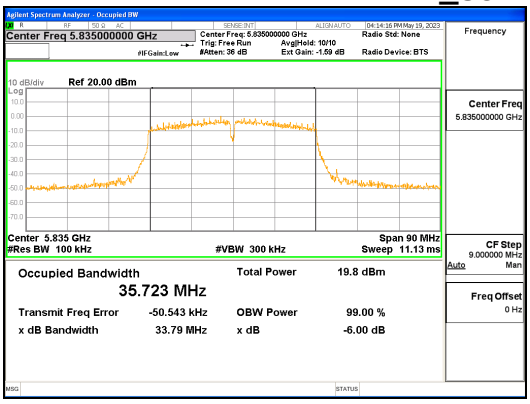
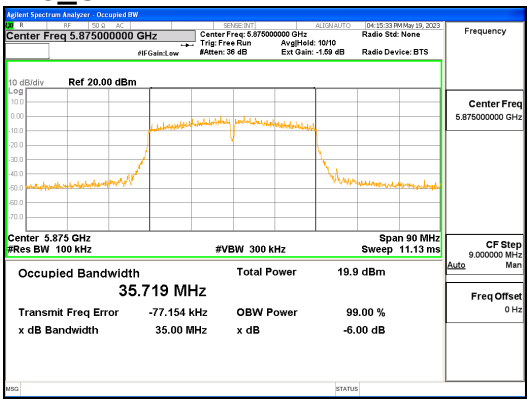




ANT L_802.11ac_VHT40_UNII 4





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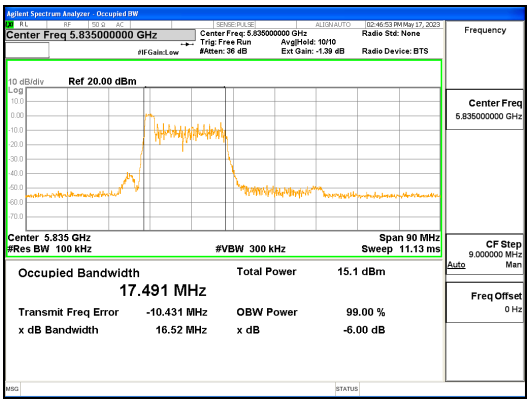
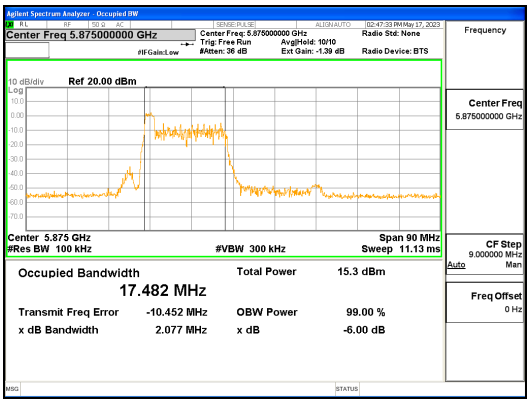
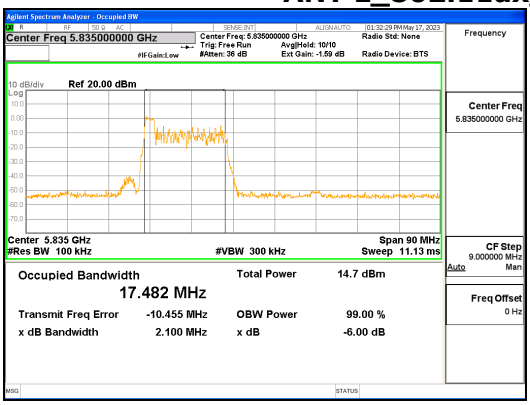
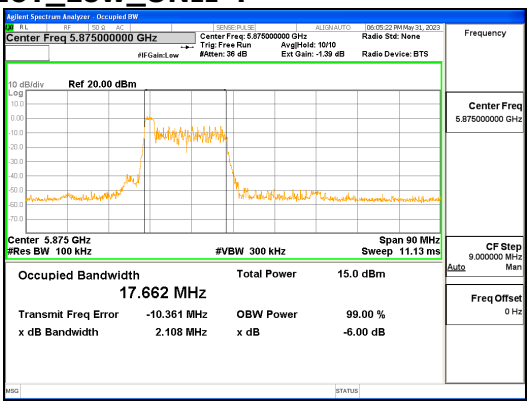




ANT L_802.11ax_HE40_26T_Low_UNII 4





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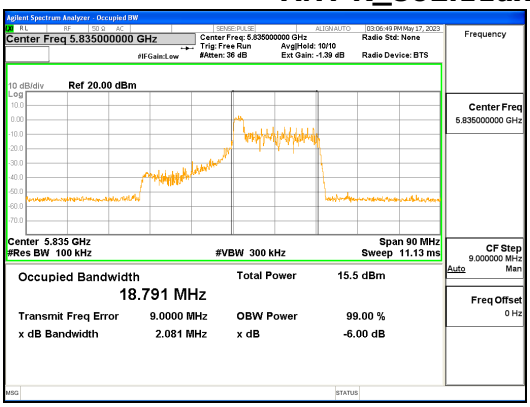
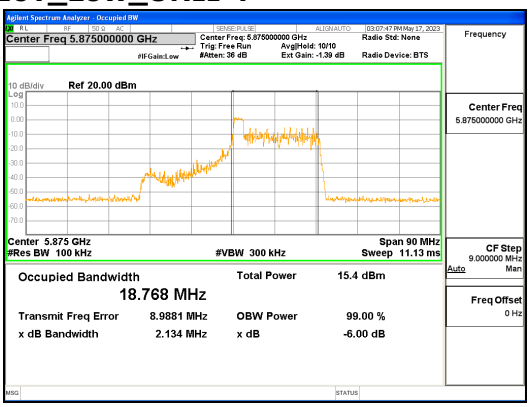
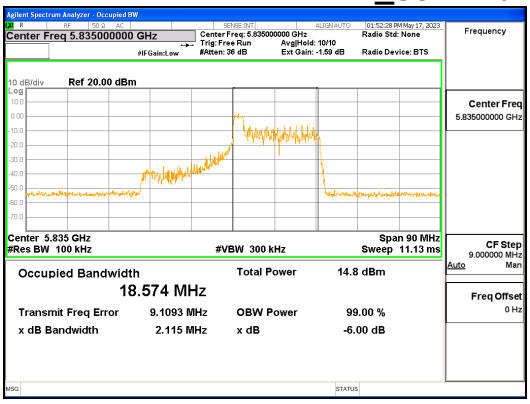
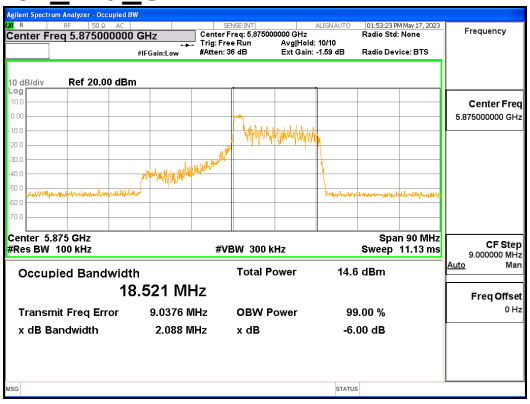


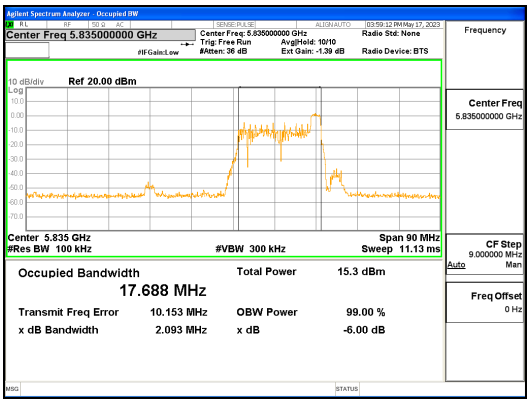


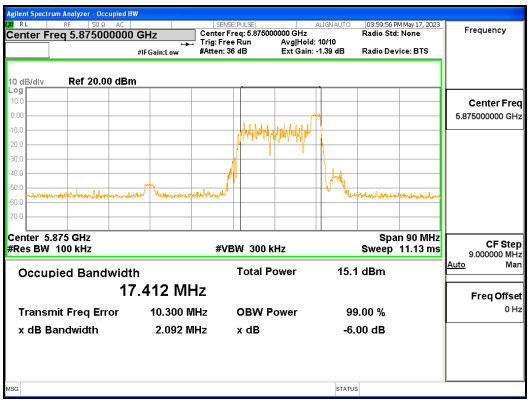
ANT L_802.11ax_HE40_26T_Mid_UNII 4



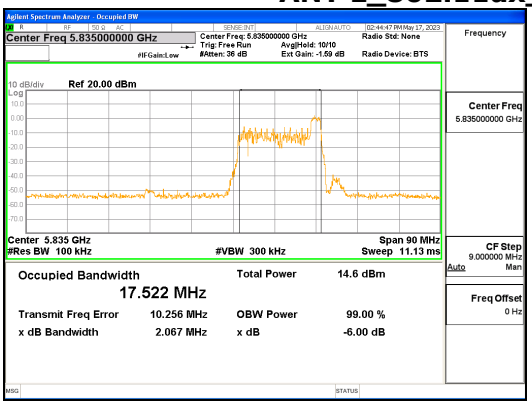


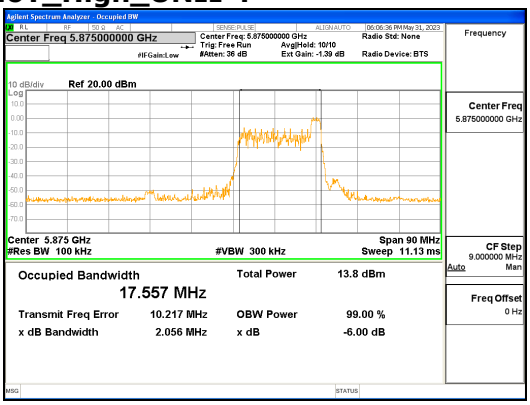
ANT R_802.11ax_HE40_26T_Mid_UNII 4



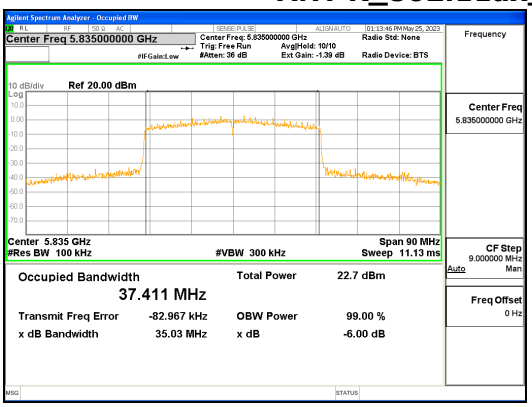


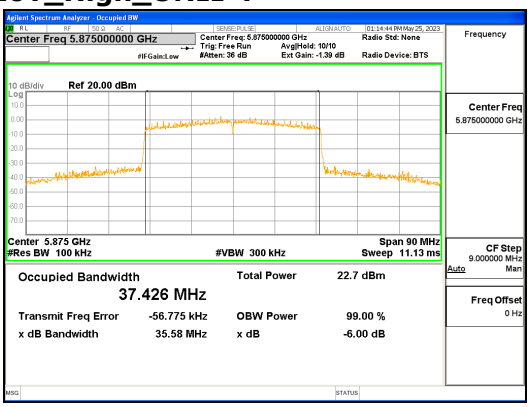
ANT L_802.11ax_HE40_26T_High_UNII 4



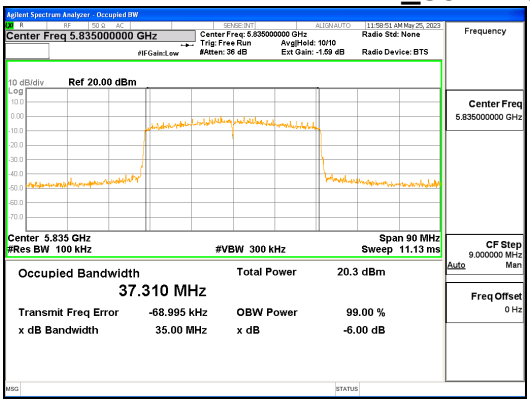


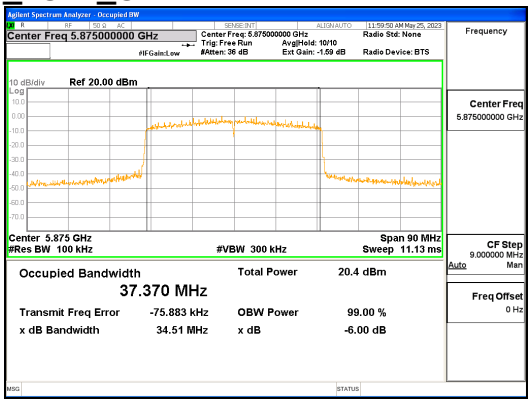
ANT R_802.11ax_HE40_26T_High_UNII 4





ANT L_802.11ax_HE40_484T_UNII 4





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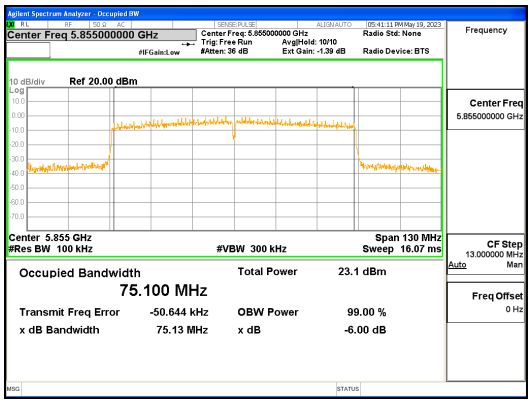
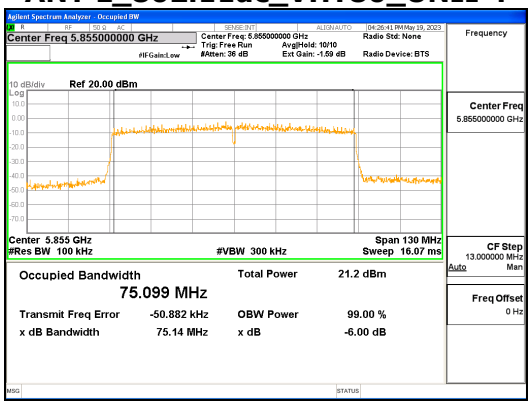
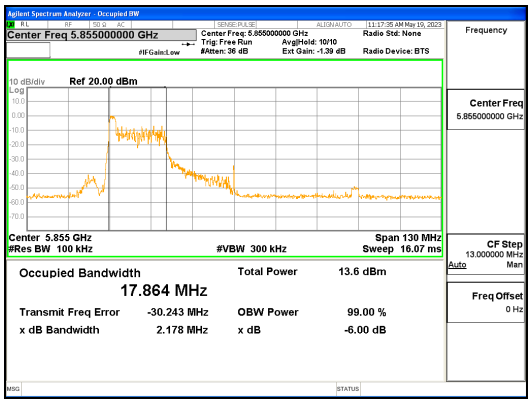


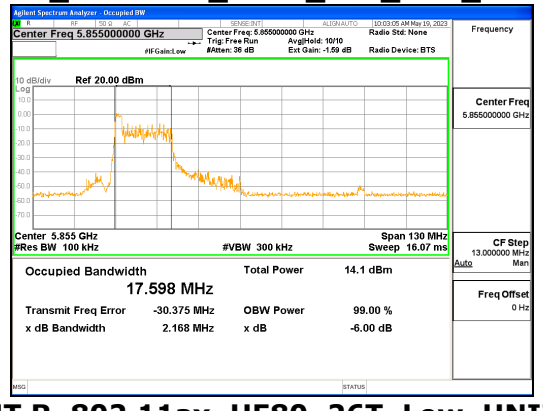
ANT L_802.11ac_VHT80_UNII 4



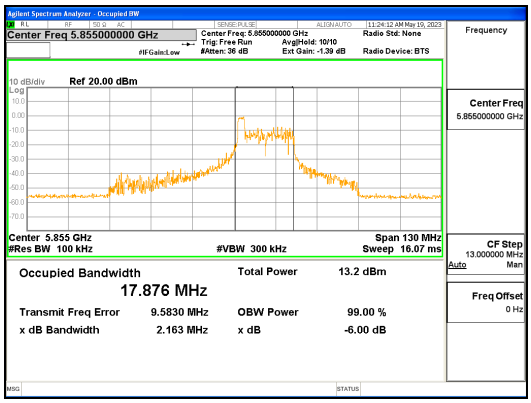
ANT R_802.11ac_VHT80_UNII 4



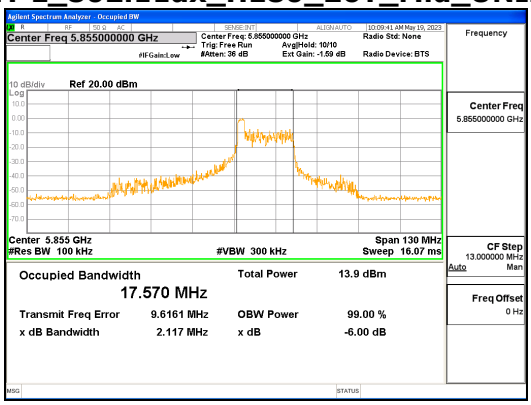
ANT L_802.11ax_HE80_26T_Low_UNII 4



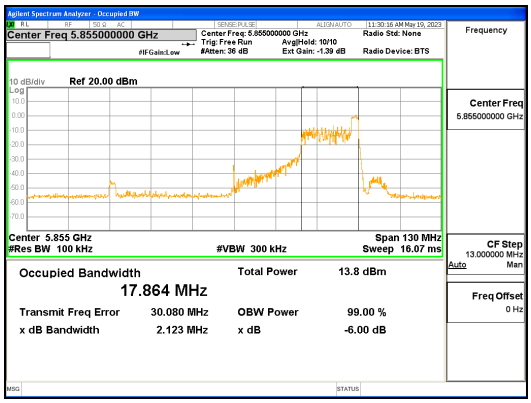
ANT R_802.11ax_HE80_26T_Low_UNII 4



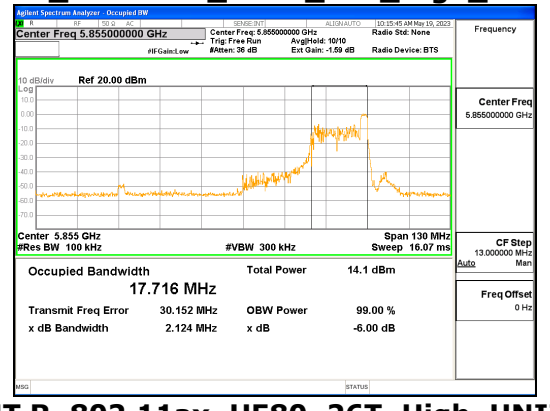
ANT L_802.11ax_HE80_26T_Mid_UNII 4



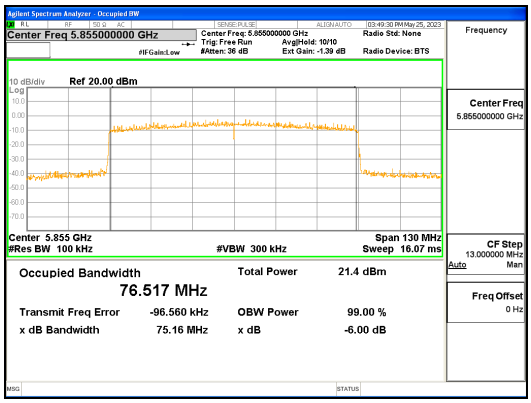
ANT R_802.11ax_HE80_26T_Mid_UNII 4



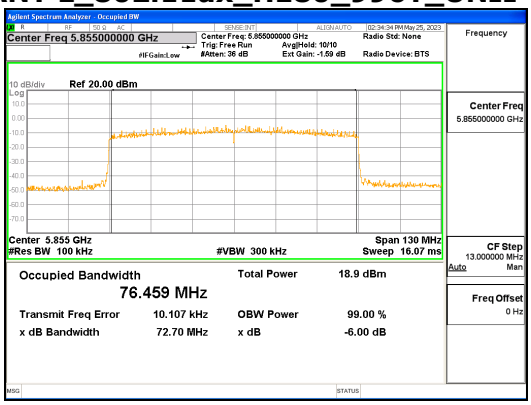
ANT L_802.11ax_HE80_26T_High_UNII 4



ANT R_802.11ax_HE80_26T_High_UNII 4



ANT L_802.11ax_HE80_996T_UNII 4



ANT R_802.11ax_HE80_996T_UNII 4

4.2 26 dB Bandwidth and 99% Bandwidth

Test Procedures

KDB 789033 – Section C.1
ANSI C63.10-2013 - Section 6.9.2

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

Test Procedures

KDB 789033 – Section C.1
ANSI C63.10-2013 - Section 6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
Use the 99% power bandwidth function of the instrument and report the measured bandwidth.

Test Settings :

Center frequency = the highest, middle and the lowest channels

a) RBW = approximately 1 % of the emission bandwidth

b) VBW ≥ RBW

c) Detector = peak

d) Trace mode = Max hold

e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Minimum Standard:

NA

Test Data:

ANT L

	26 dB Bandwidth and 99 % Bandwidth (MHz)							
Mode	802.11a		802.11n_HT20		802.11ac_VHT20		802.11ax_HE20_242T	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 845 MHz	23.52	16.74	24.44	17.93	24.58	17.88	24.42	19.04
5 865 MHz	23.67	16.76	24.67	17.90	23.88	17.91	24.53	19.00
5 885 MHz	23.59	16.74	24.62	17.91	24.43	17.89	24.80	19.04
Measurement uncertainty	± 0.1 MHz							

	26 dB Bandwidth and 99 % Bandwidth (MHz)					
Mode	802.11ax_HE20_26T					
RU Index	Low		Mid		High	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 845 MHz	20.74	18.47	18.13	17.03	20.13	18.51
5 865 MHz	21.19	18.57	18.08	17.03	20.62	18.53
5 885 MHz	20.50	18.50	18.07	17.01	20.24	18.59
Measurement uncertainty	± 0.1 MHz					

	26 dB Bandwidth and 99% Bandwidth (MHz)					
Mode	802.11n_HT40		802.11ac_VHT40		802.11ax_HE40_484T	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 835 MHz	39.72	35.86	40.05	35.84	39.43	37.49
5 875 MHz	40.09	35.89	39.80	35.81	39.41	37.50
Measurement uncertainty	± 0.1 MHz					

	26 dB Bandwidth and 99% Bandwidth (MHz)					
Mode	802.11ax_HE40_26T					
RU Index	Low		Mid		High	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 835 MHz	19.13	17.88	22.70	20.26	19.33	17.94
5 875 MHz	19.29	17.92	23.11	20.26	19.08	17.90
Measurement uncertainty	± 0.1 MHz					

	26 dB Bandwidth and 99% Bandwidth (MHz)			
Mode	802.11ac_VHT80		802.11ax_HE80_996T	
Frequency	26 dB	99 %	26 dB	99 %
5 855 MHz	79.72	75.33	79.96	76.59
Measurement uncertainty	± 0.1 MHz			

	26 dB Bandwidth and 99% Bandwidth (MHz)					
Mode	802.11ax_HE80_26T					
RU Index	Low		Mid		High	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 855 MHz	20.77	18.85	22.51	20.80	20.46	18.78
Measurement uncertainty	± 0.1 MHz					

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	26 dB Bandwidth and 99 % Bandwidth (MHz)							
Mode	802.11a		802.11n_HT20		802.11ac_VHT20		802.11ax_HE20_242T	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 845 MHz	23.48	16.74	23.55	17.83	22.91	17.82	22.94	18.99
5 865 MHz	23.85	16.77	23.43	17.83	22.41	17.84	23.45	18.99
5 885 MHz	22.64	16.79	23.64	17.82	23.66	17.82	23.62	18.98
Measurement uncertainty	± 0.1 MHz							

	26 dB Bandwidth and 99 % Bandwidth (MHz)					
Mode	802.11ax_HE20_26T					
RU Index	Low		Mid		High	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 845 MHz	20.04	18.42	18.10	17.12	20.87	18.67
5 865 MHz	20.23	18.45	18.08	17.03	20.51	18.50
5 885 MHz	19.95	18.45	18.03	17.06	20.14	18.47
Measurement uncertainty	± 0.1 MHz					

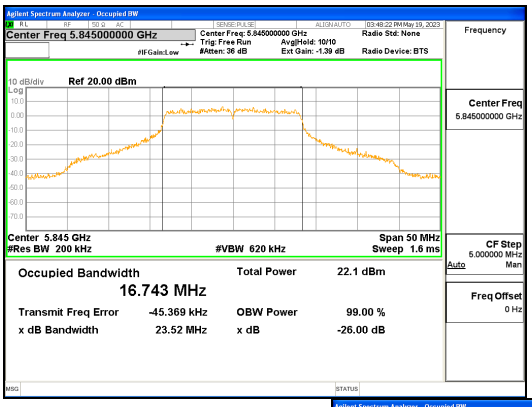
	26 dB Bandwidth and 99% Bandwidth (MHz)					
Mode	802.11n_HT40		802.11ac_VHT40		802.11ax_HE40_484T	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 835 MHz	39.75	35.83	39.42	35.74	39.36	37.51
5 875 MHz	39.50	35.79	39.54	35.75	39.41	37.49
Measurement uncertainty	± 0.1 MHz					

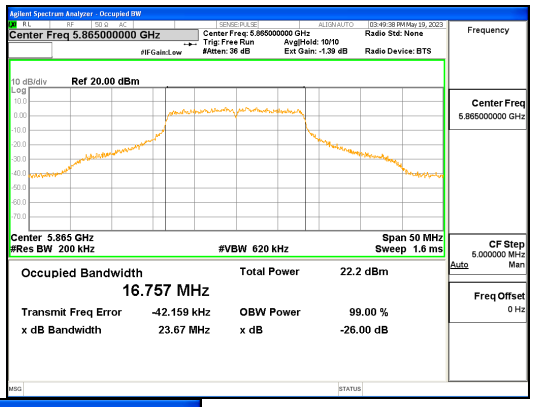
	26 dB Bandwidth and 99% Bandwidth (MHz)					
Mode	802.11ax_HE40_26T					
RU Index	Low		Mid		High	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 835 MHz	19.13	17.93	22.02	19.80	19.00	17.82
5 875 MHz	19.18	17.87	22.31	19.73	19.04	17.91
Measurement uncertainty	± 0.1 MHz					

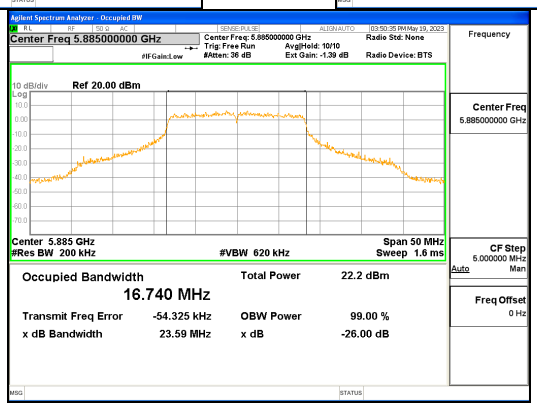
	26 dB Bandwidth and 99% Bandwidth (MHz)			
Mode	802.11ac_VHT80		802.11ax_HE80_996T	
Frequency	26 dB	99 %	26 dB	99 %
5 855 MHz	79.15	75.11	79.82	76.79
Measurement uncertainty	± 0.1 MHz			

	26 dB Bandwidth and 99% Bandwidth (MHz)					
Mode	802.11ax_HE80_26T					
RU Index	Low		Mid		High	
Frequency	26 dB	99 %	26 dB	99 %	26 dB	99 %
5 855 MHz	20.05	18.37	21.83	20.19	19.79	18.36
Measurement uncertainty	± 0.1 MHz					

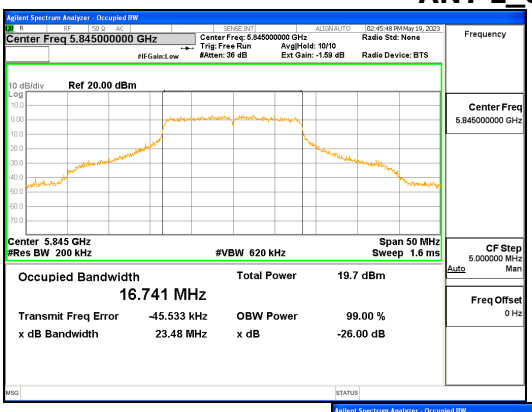
See next pages for actual measured spectrum plots.

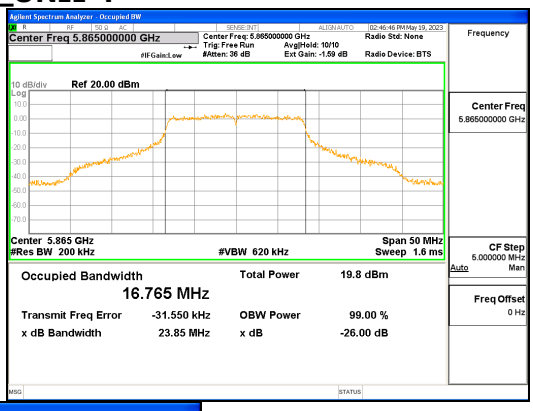


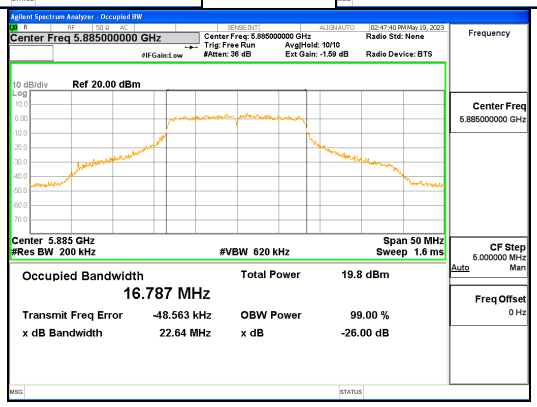




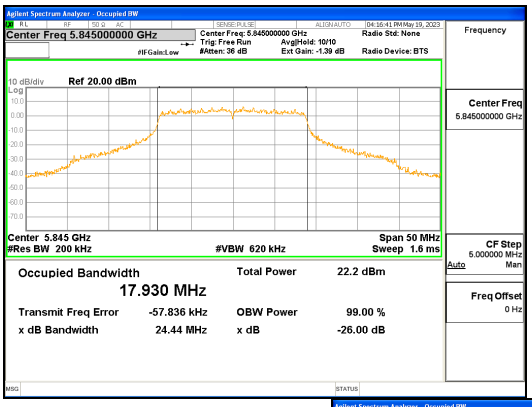
ANT L_802.11a_UNII 4

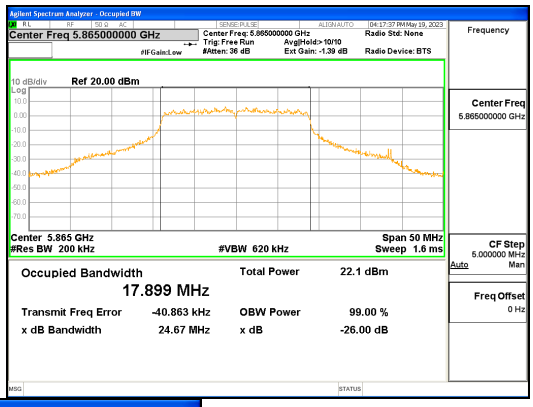


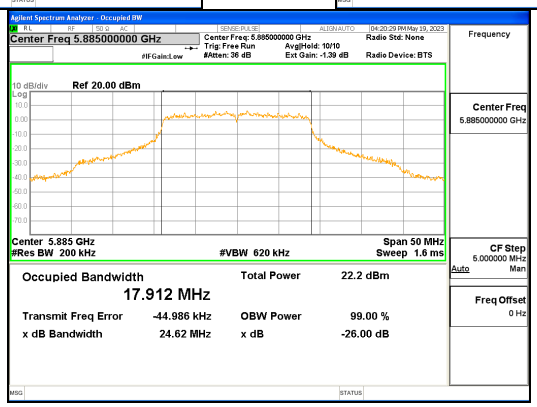




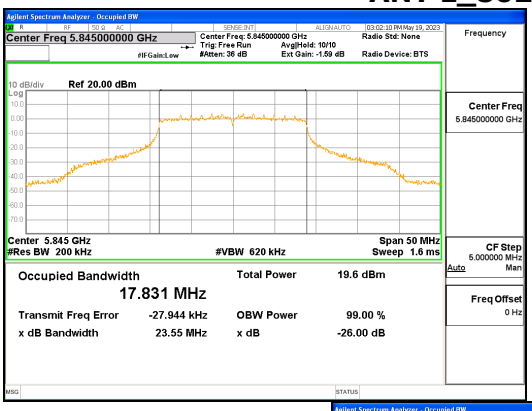
ANT R_802.11a_UNII 4

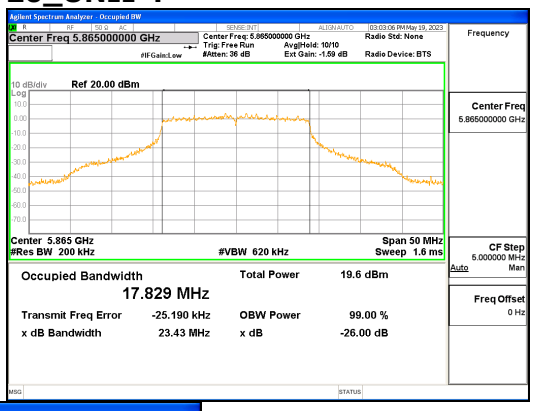


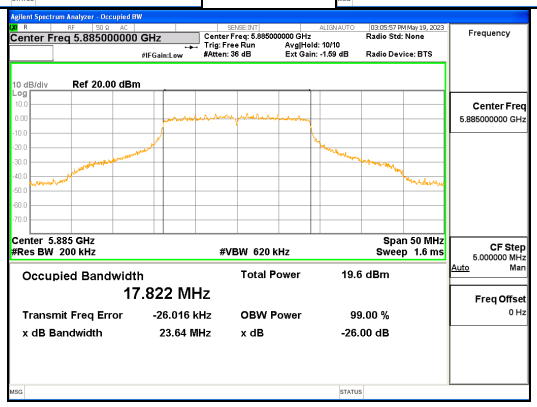




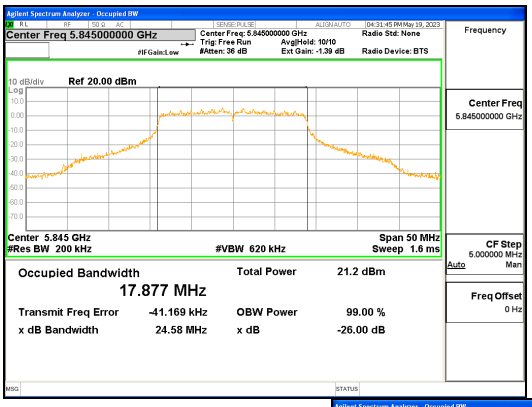
ANT L_802.11n_HT20_UNII 4

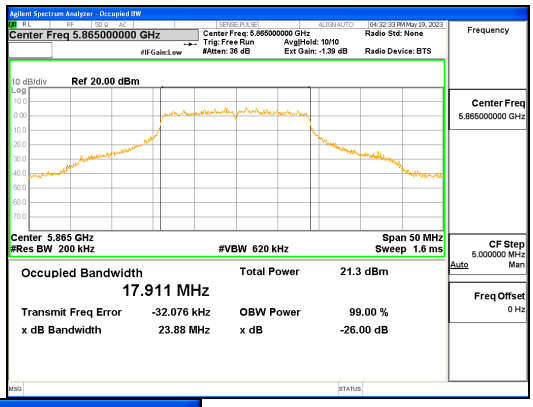


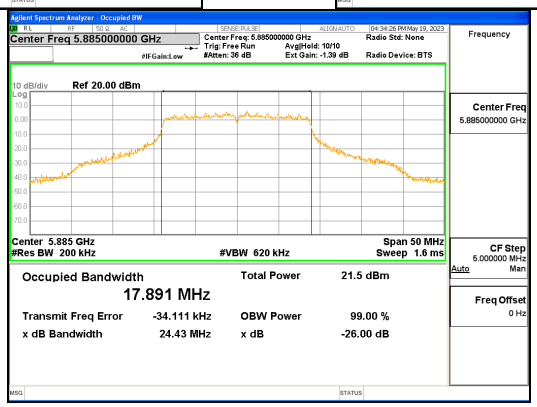




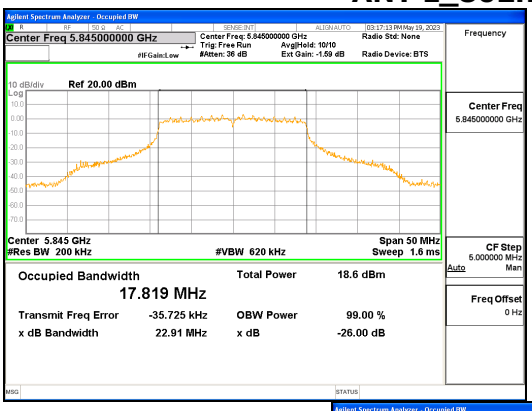
ANT R_802.11n_HT20_UNII 4

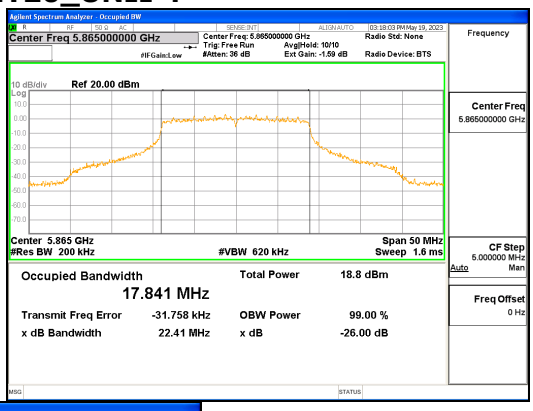


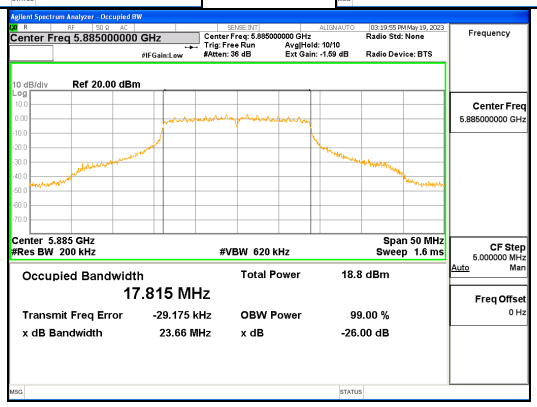




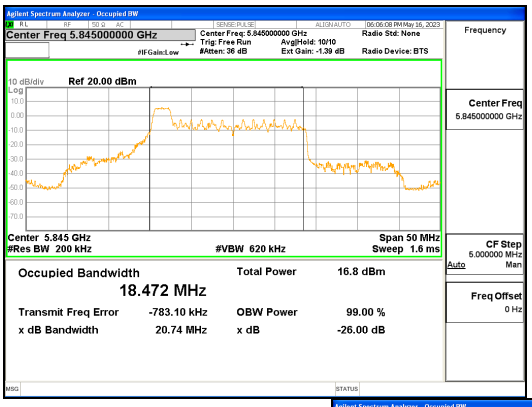
ANT L_802.11ac_VHT20_UNII 4

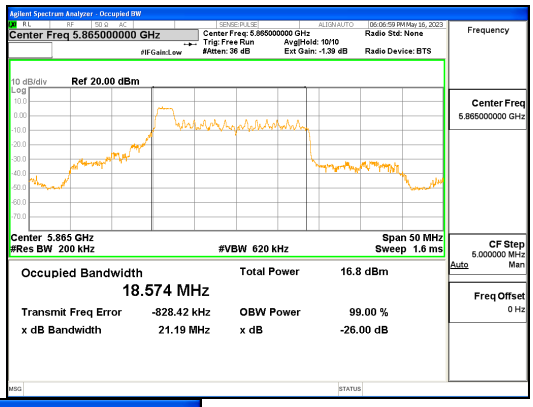


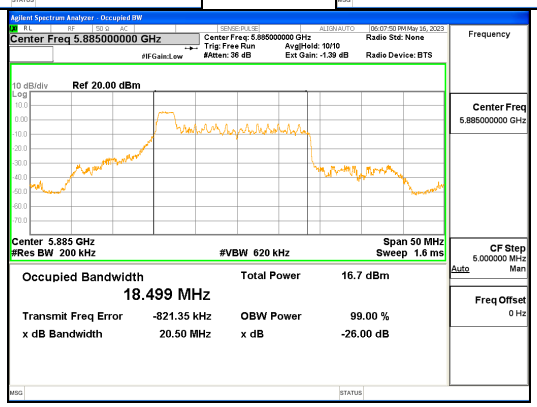




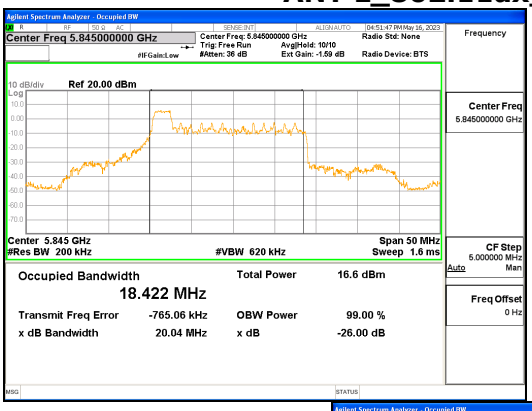
ANT R_802.11ac_VHT20_UNII 4

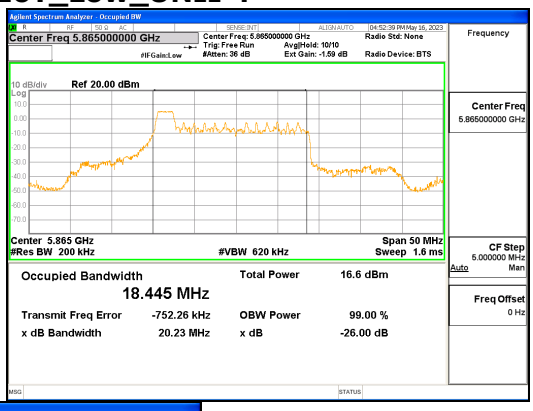


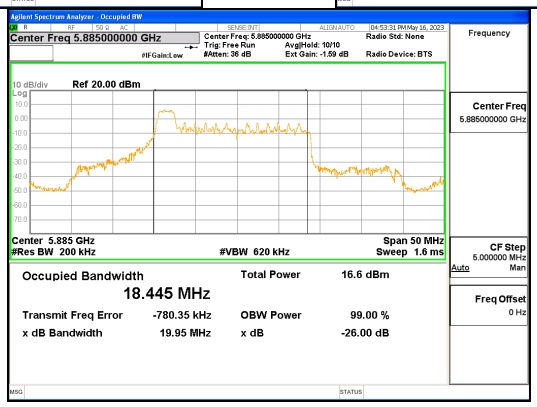




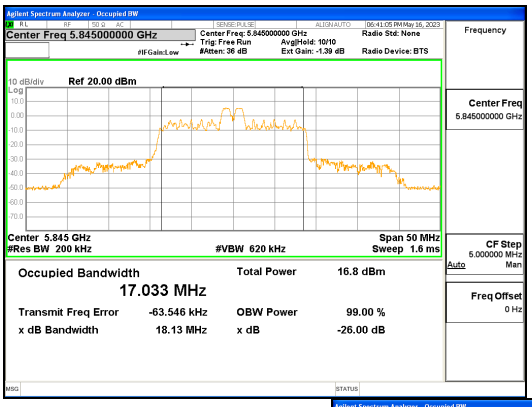
ANT L_802.11ax_HE20_26T_Low_UNII 4

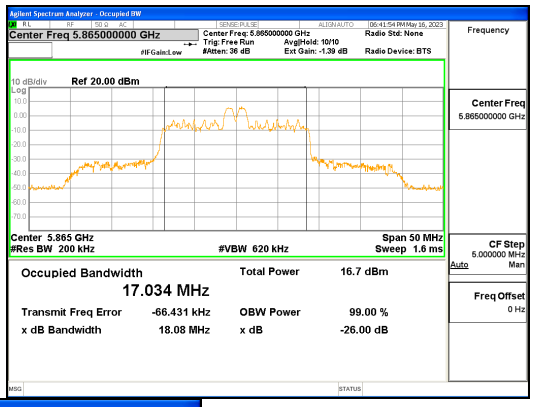


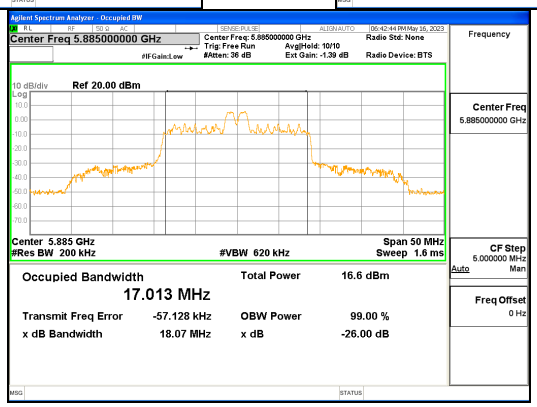




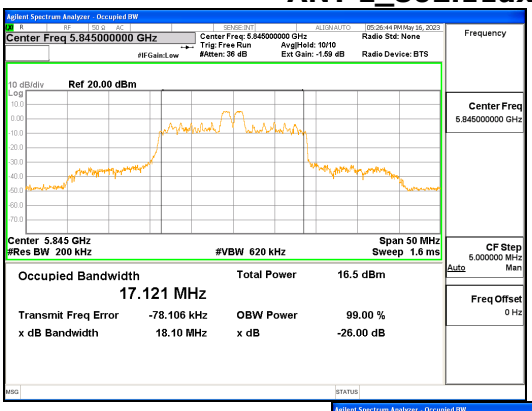
ANT R_802.11ax_HE20_26T_Low_UNII 4

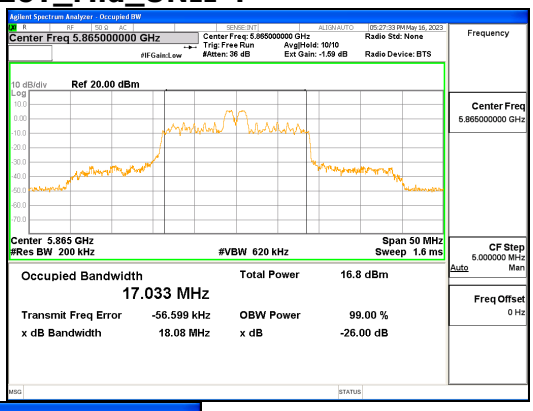


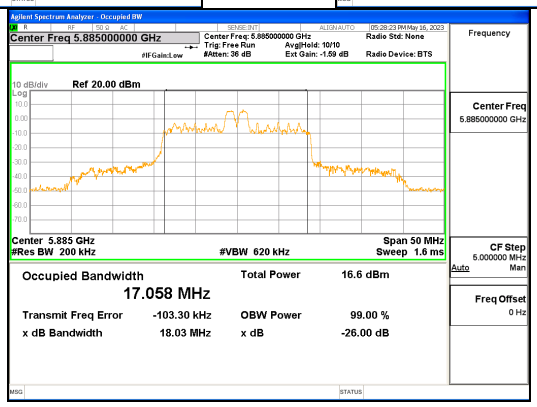




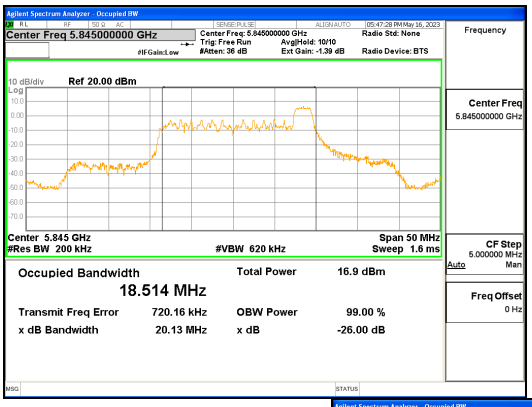
ANT L_802.11ax_HE20_26T_Mid_UNII 4

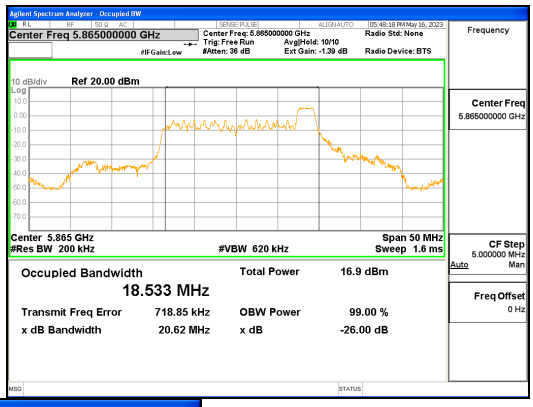


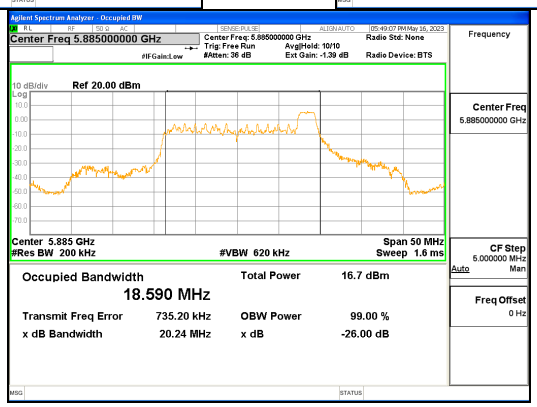




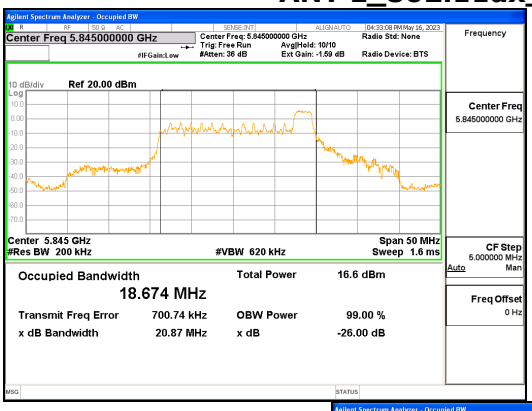
ANT R_802.11ax_HE20_26T_Mid_UNII 4

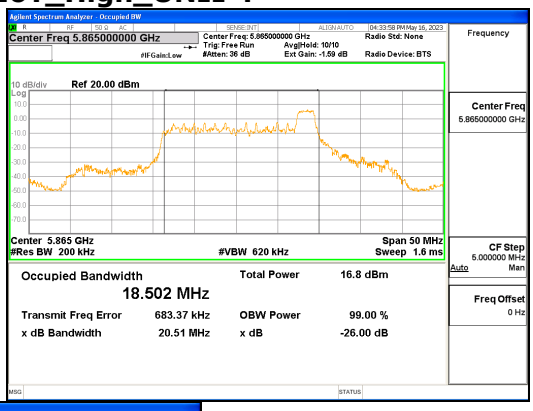


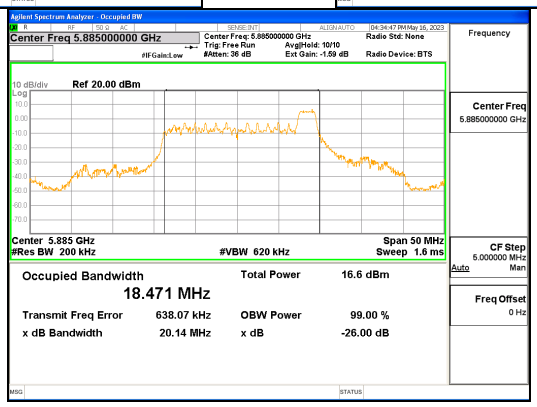




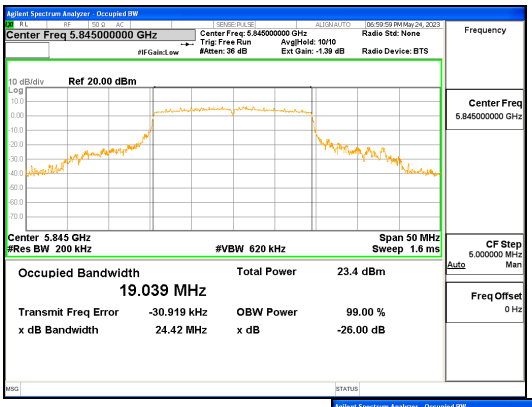
ANT L_802.11ax_HE20_26T_High_UNII 4

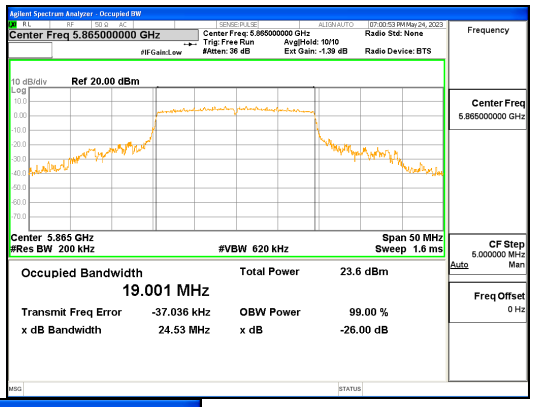


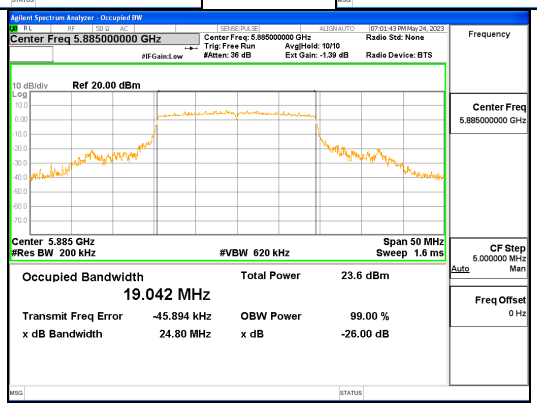




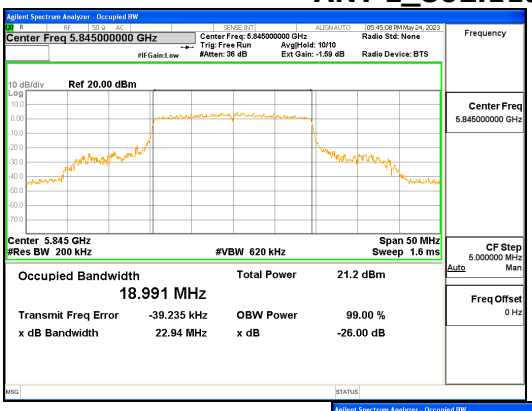
ANT R_802.11ax_HE20_26T_High_UNII 4

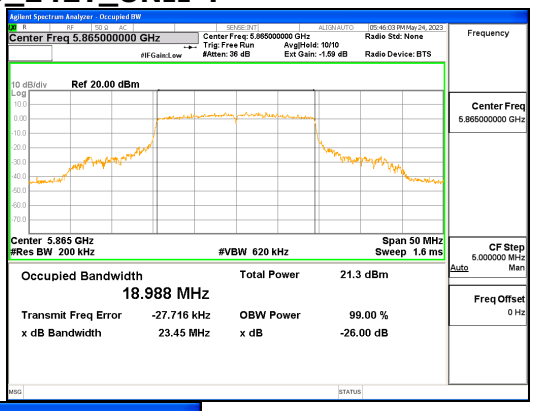


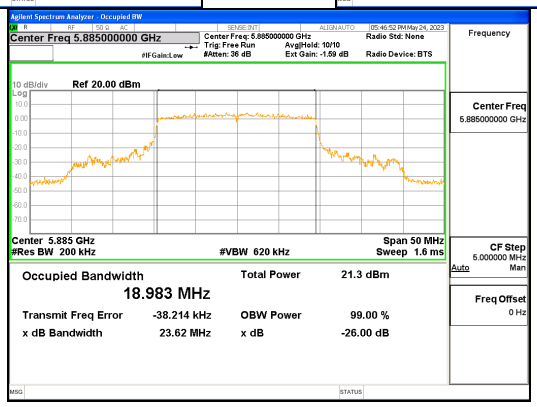




ANT L_802.11ax_HE20_242T_UNII 4







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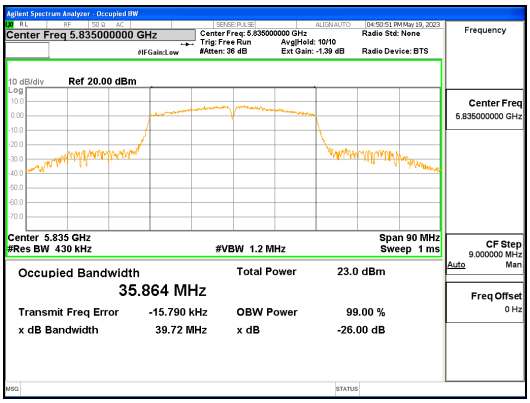
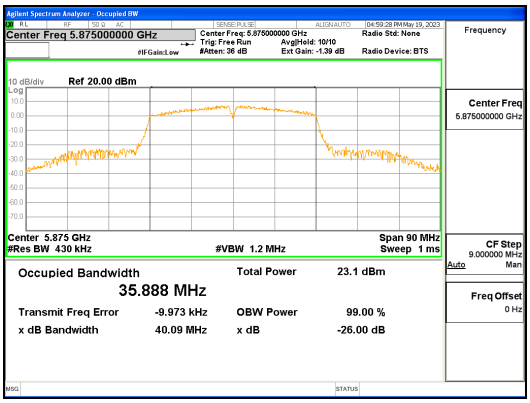
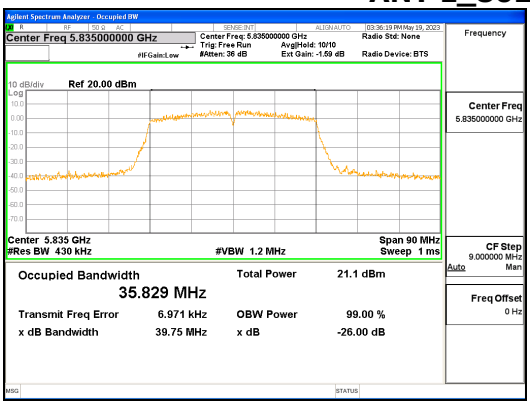
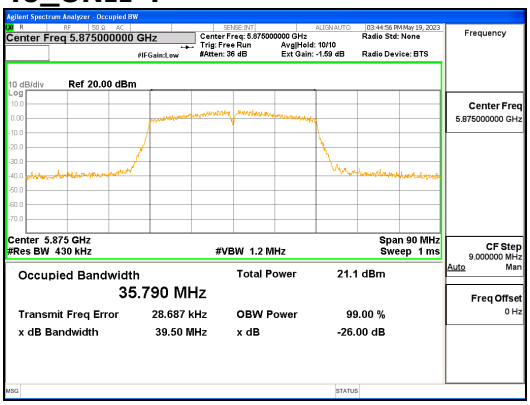


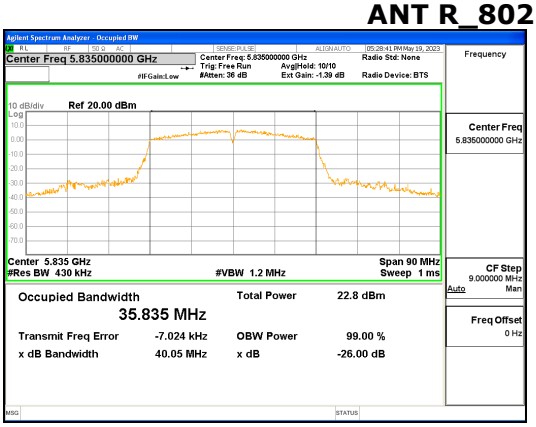


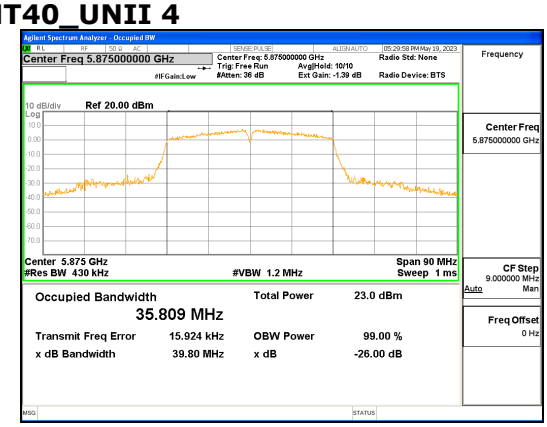
ANT L_802.11n_HT40_UNII 4



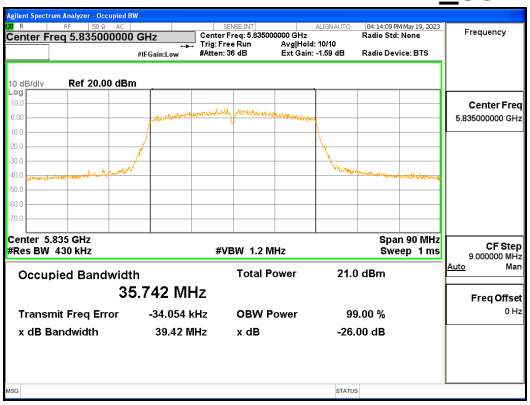


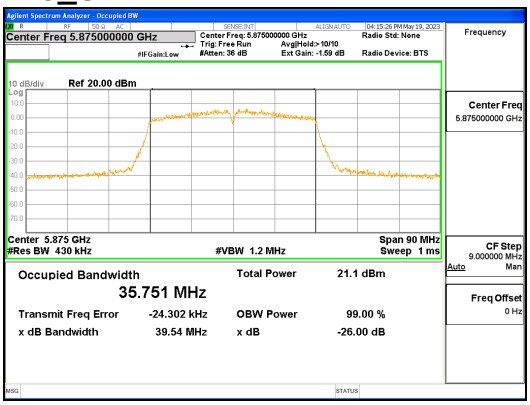
ANT R_802.11n_HT40_UNII 4



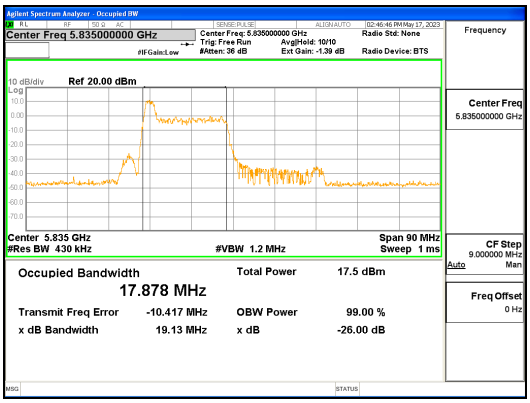


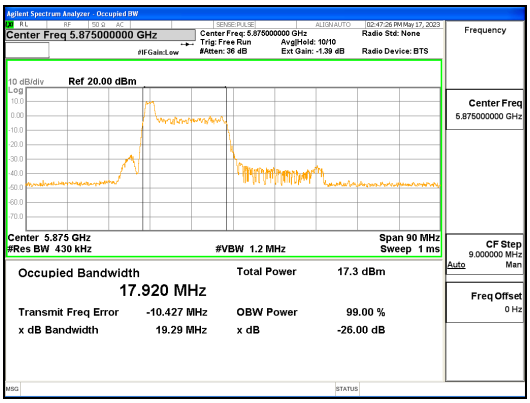
ANT L_802.11ac_VHT40_UNII 4



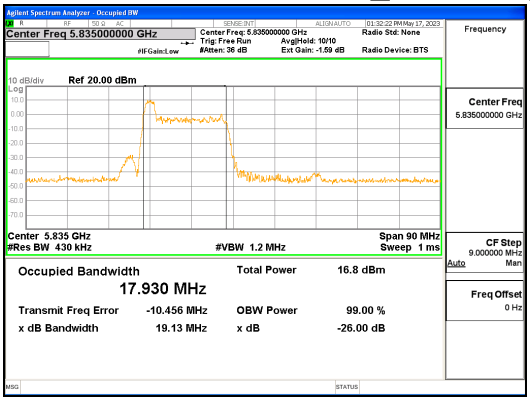


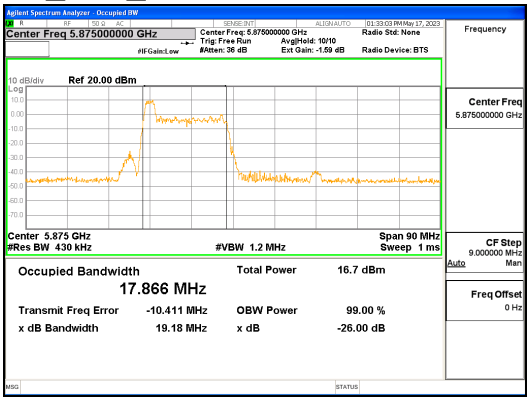
ANT R_802.11ac_VHT40_UNII 4



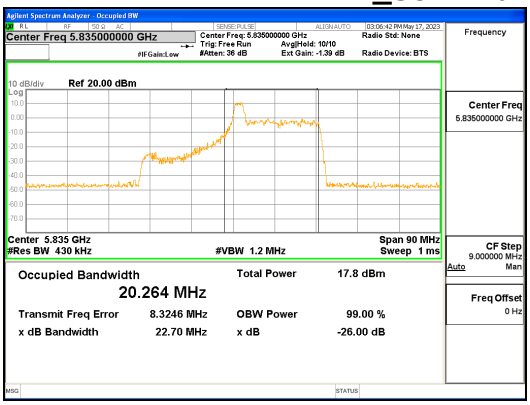


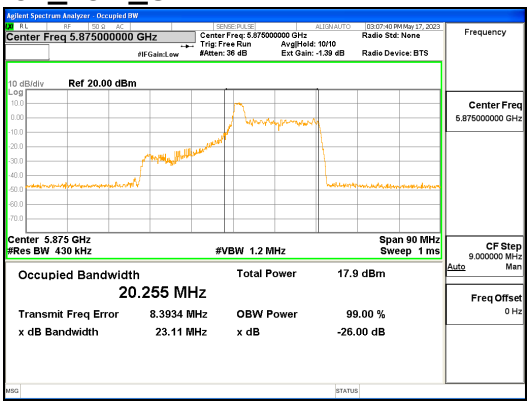
ANT L_802.11ax_HE40_26T_Low_UNII 4



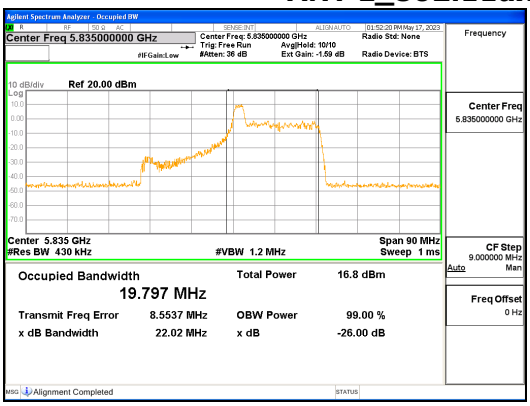


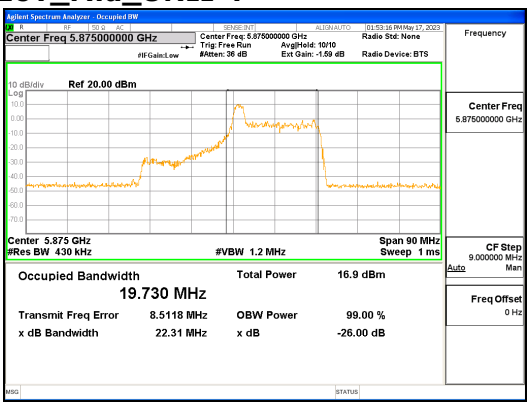
ANT R_802.11ax_HE40_26T_Low_UNII 4



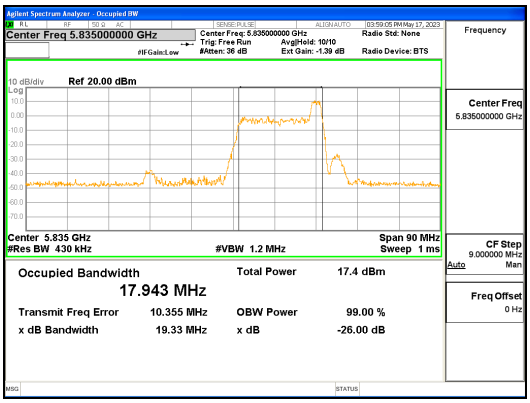


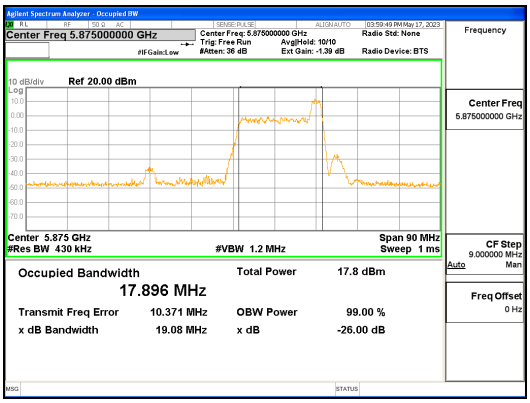
ANT L_802.11ax_HE40_26T_Mid_UNII 4



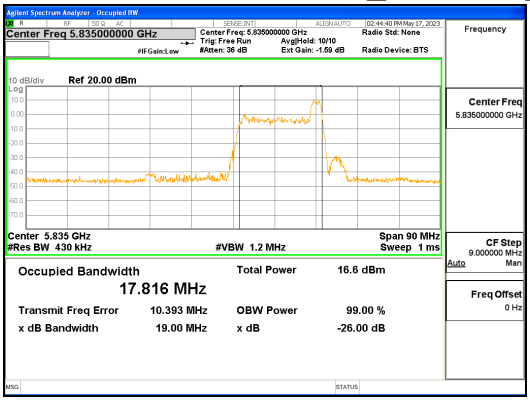


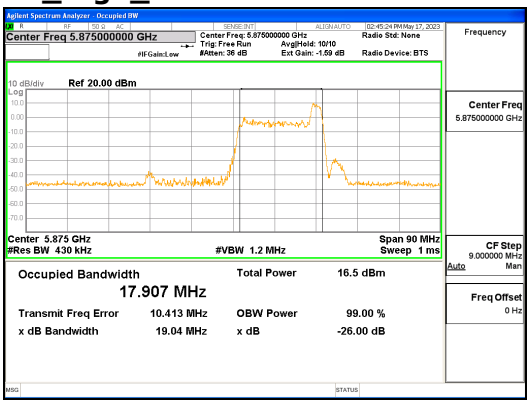
ANT R_802.11ax_HE40_26T_Mid_UNII 4



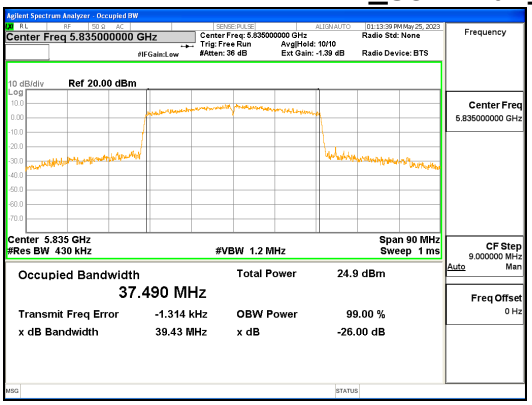


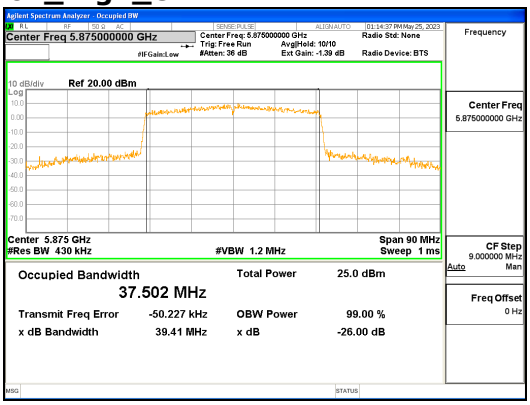
ANT L_802.11ax_HE40_26T_High_UNII 4



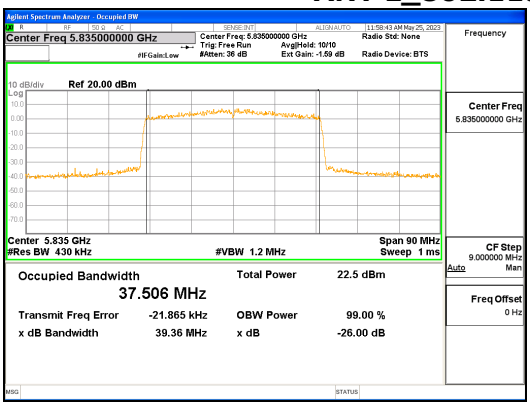


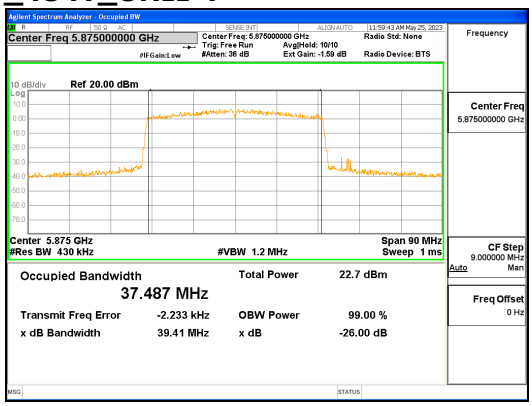
ANT R_802.11ax_HE40_26T_High_UNII 4



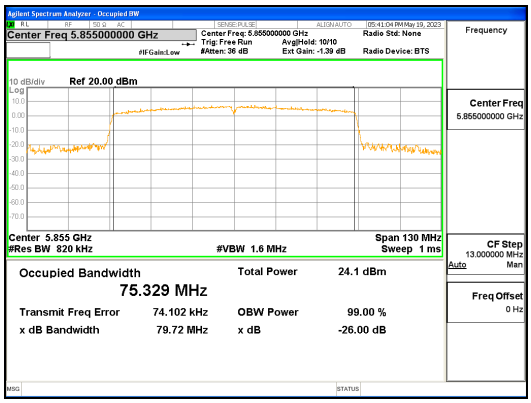


ANT L_802.11ax_HE40_484T_UNII 4

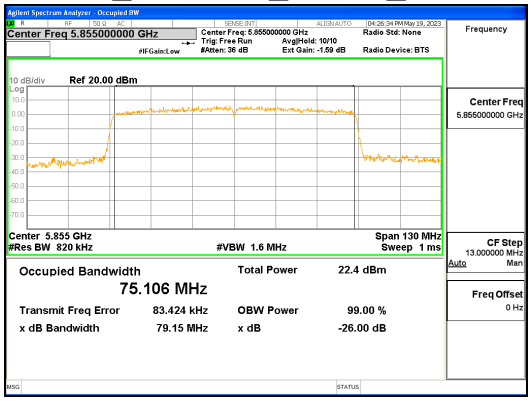




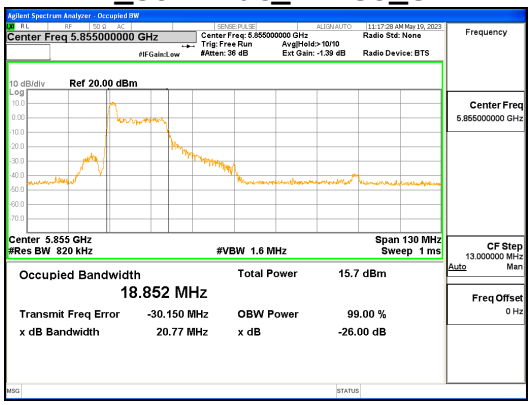
ANT R_802.11ax_HE40_484T_UNII 4



ANT L_802.11ac_VHT80_UNII 4



ANT R_802.11ac_VHT80_UNII 4



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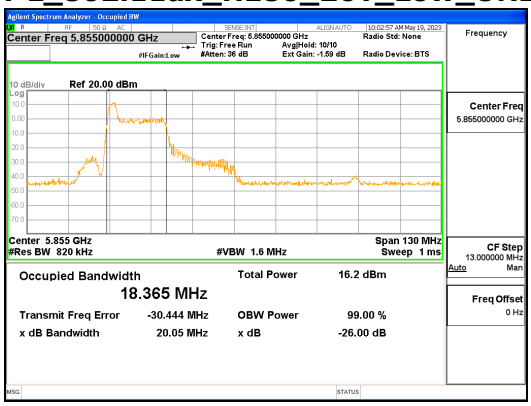

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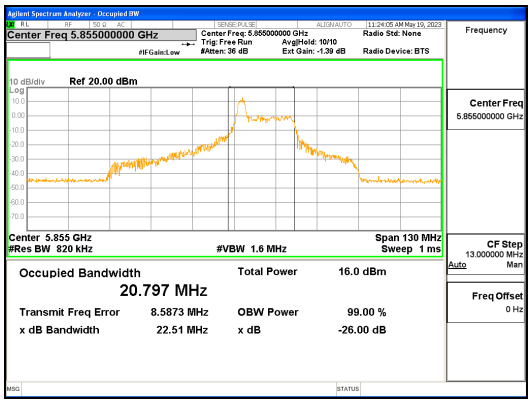
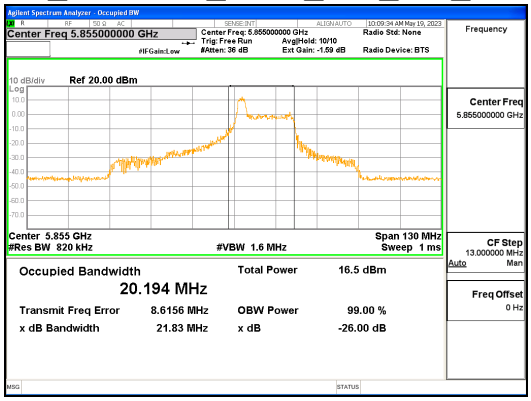
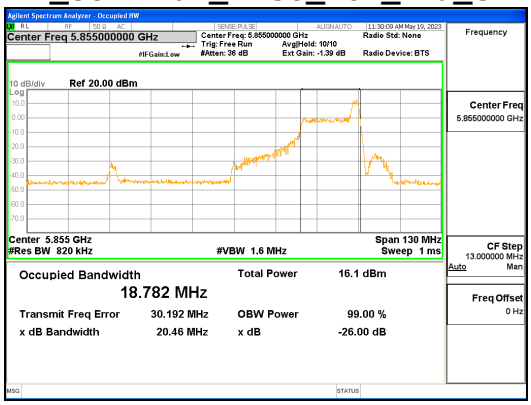


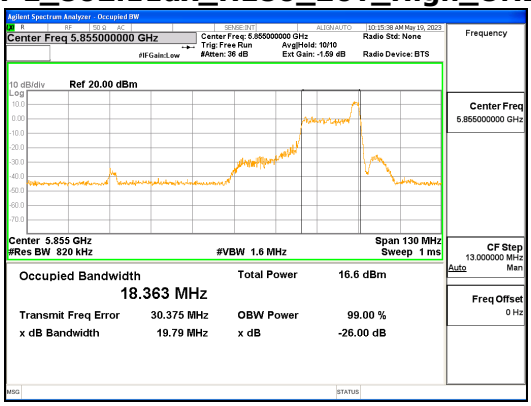
ANT L_802.11ax_HE80_26T_Mid_UNII 4



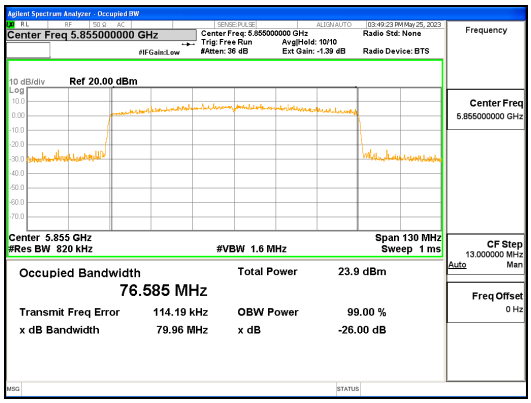
ANT R_802.11ax_HE80_26T_Mid_UNII 4



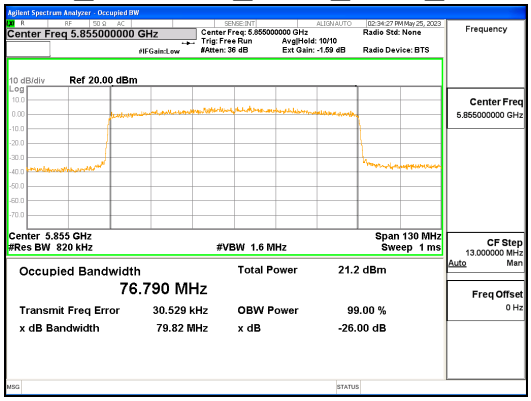
ANT L_802.11ax_HE80_26T_High_UNII 4



ANT R_802.11ax_HE80_26T_High_UNII 4



ANT L_802.11ax_HE80_996T_UNII 4



ANT R_802.11ax_HE80_996T_UNII 4

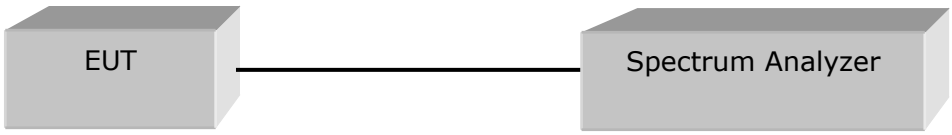
4.3 OUTPUT POWER

Test Procedures

<802.11a/n/ac>

KDB 789033 – Section E.2.d (Method SA-2, Maximum Conducted Output Power)
KDB 662911 D01, D02 (Multiple Transmitter Output)
ANSI C63.10-2013 – Section 12.3.2.4

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth.



Test Settings :

Center frequency = the highest, middle and the lowest channels

a) RBW = 1 MHz

b) VBW ≥ 3 x RBW

c) Sweep time = auto

d) Detector = power averaging (rms)

e) Trace mode = Average at least 100

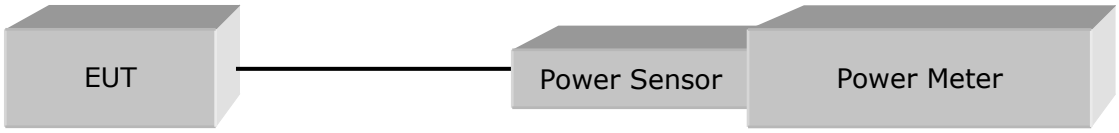
f) Duty cycle factor = 10log(1/x)

Test mode	Duty Cycle Factor (dB)
802.11a	0.13
802.11n_HT20	0.13
802.11n_HT40	0.28
802.11ac_VHT20	0.26
802.11ac_VHT40	0.50
802.11ac_VHT80	0.89

< 802.11ax mode>

KDB 789033 – Section E.3.a (Method PM, Maximum Conducted Output Power)
KDB 662911 D01, D02 (Multiple Transmitter Output)
ANSI C63.10-2013 – Section 12.3.3.1

The transmitter output is connected to a average power meter.



Test Settings :

Center frequency = the highest, middle and the lowest channels

a) Measure the average power of the transmitter.

b) Duty cycle factor = 10log(1/x)

Test mode	Duty Cycle Factor (dB)
802.11ax_HE20_26T	0.21
802.11ax_HE20_52T	0.21
802.11ax_HE20_106T	0.23
802.11ax_HE20_242T	0.26
802.11ax_HE40_26T	0.21
802.11ax_HE40_52T	0.22
802.11ax_HE40_106T	0.24
802.11ax_HE40_242T	0.27
802.11ax HE40 484T	0.28
802.11ax HE80 26T	0.21
802.11ax HE80 52T	0.22
802.11ax HE80 106T	0.23
802.11ax HE80 242T	0.27
802.11ax HE80 484T	0.27
802.11ax HE80 996T	0.29

Limit

Operating Mode	Mode	ANT Configuration	ANT Gain (dBi)	Band	Limit (dBm)
SISO	802.11a/n/ac/ax	ANT L, ANT R	0.92, 1.49	UNII 4	30.00 (EIRP)
MIMO (2Tx)	802.11n/ac/ax	ANT L + ANT R	4.22	UNII 4	30.00 (EIRP)

Note :
Per KDB 662911, the MIMO directional gain is calculated using the following formula, Where G_N is the gain of the nth antenna and N_{ANT}, the total number of antennas used.

$$\text{Directional gain} = 10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}] \text{ dBi}$$

Test Data

ANT L(SISO)

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 845	15.92	0.13	16.97 (EIRP)	30.00	13.03
	5 865	15.87	0.13	16.92 (EIRP)	30.00	13.08
	5 885	15.96	0.13	17.01 (EIRP)	30.00	12.99
802.11n _HT20	5 845	15.91	0.13	16.96 (EIRP)	30.00	13.04
	5 865	15.90	0.13	16.95 (EIRP)	30.00	13.05
	5 885	16.01	0.13	17.06 (EIRP)	30.00	12.94
802.11ac _VHT20	5 845	14.87	0.26	16.05 (EIRP)	30.00	13.95
	5 865	14.85	0.26	16.03 (EIRP)	30.00	13.97
	5 885	14.86	0.26	16.04 (EIRP)	30.00	13.96
802.11n _HT40	5 835	16.73	0.28	17.93 (EIRP)	30.00	12.07
	5 875	16.75	0.28	17.95 (EIRP)	30.00	12.05
802.11ac _VHT40	5 835	16.46	0.50	17.88 (EIRP)	30.00	12.12
	5 875	16.53	0.50	17.95 (EIRP)	30.00	12.05
802.11ac _VHT80	5 855	17.94	0.89	19.75 (EIRP)	30.00	10.25
Measurement uncertainty	± 1.5 dB					

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE20 _26T	5 845	Low	9.26	0.21	10.39 (EIRP)	30.00	19.61
		Mid	9.59	0.21	10.72 (EIRP)	30.00	19.28
		High	9.57	0.21	10.70 (EIRP)	30.00	19.30
	5 865	Low	9.29	0.21	10.42 (EIRP)	30.00	19.58
		Mid	9.44	0.21	10.57 (EIRP)	30.00	19.43
		High	9.60	0.21	10.73 (EIRP)	30.00	19.27
	5 885	Low	9.36	0.21	10.49 (EIRP)	30.00	19.51
		Mid	9.53	0.21	10.66 (EIRP)	30.00	19.34
		High	9.52	0.21	10.65 (EIRP)	30.00	19.35
802.11ax _HE20 _52T	5 845	Low	10.68	0.21	11.81 (EIRP)	30.00	18.19
		Mid	10.71	0.21	11.84 (EIRP)	30.00	18.16
		High	10.93	0.21	12.06 (EIRP)	30.00	17.94
	5 865	Low	10.77	0.21	11.90 (EIRP)	30.00	18.10
		Mid	10.83	0.21	11.96 (EIRP)	30.00	18.04
		High	10.82	0.21	11.95 (EIRP)	30.00	18.05
	5 885	Low	11.11	0.21	12.24 (EIRP)	30.00	17.76

		Mid	10.76	0.21	11.89 (EIRP)	30.00	18.11
		High	11.06	0.21	12.19 (EIRP)	30.00	17.81
802.11ax _HE20 _106T	5 845	Low	14.50	0.23	15.65 (EIRP)	30.00	14.35
		Mid	-				
		High	14.52	0.23	15.67 (EIRP)	30.00	14.33
	5 865	Low	14.58	0.23	15.73 (EIRP)	30.00	14.27
		Mid	-				
		High	14.74	0.23	15.89 (EIRP)	30.00	14.11
	5 885	Low	14.80	0.23	15.95 (EIRP)	30.00	14.05
		Mid	-				
		High	14.60	0.23	15.75 (EIRP)	30.00	14.25
802.11ax _HE20 _242T	5 845		16.60	0.26	17.78 (EIRP)	30.00	12.22
	5 865		16.84	0.26	18.02 (EIRP)	30.00	11.98
	5 885		16.90	0.26	18.08 (EIRP)	30.00	11.92
Measurement uncertainty			± 1.5 dB				

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE40 _26T	5 835	Low	8.84	0.21	9.97 (EIRP)	30.00	20.03
		Mid	9.22	0.21	10.35 (EIRP)	30.00	19.65
		High	8.86	0.21	9.99 (EIRP)	30.00	20.01
	5 875	Low	8.77	0.21	9.90 (EIRP)	30.00	20.10
		Mid	9.15	0.21	10.28 (EIRP)	30.00	19.72
		High	8.91	0.21	10.04 (EIRP)	30.00	19.96
802.11ax _HE40 _52T	5 835	Low	11.14	0.22	12.28 (EIRP)	30.00	17.72
		Mid	11.64	0.22	12.78 (EIRP)	30.00	17.22
		High	11.31	0.22	12.45 (EIRP)	30.00	17.55
	5 875	Low	11.40	0.22	12.54 (EIRP)	30.00	17.46
		Mid	11.73	0.22	12.87 (EIRP)	30.00	17.13
		High	11.63	0.22	12.77 (EIRP)	30.00	17.23
802.11ax _HE40 _106T	5 835	Low	14.60	0.24	15.76 (EIRP)	30.00	14.24
		Mid	14.79	0.24	15.95 (EIRP)	30.00	14.05
		High	14.60	0.24	15.76 (EIRP)	30.00	14.24
	5 875	Low	14.66	0.24	15.82 (EIRP)	30.00	14.18
		Mid	14.95	0.24	16.11 (EIRP)	30.00	13.89
		High	14.85	0.24	16.01 (EIRP)	30.00	13.99
802.11ax _HE40 _242T	5 835	Low	16.42	0.27	17.61 (EIRP)	30.00	12.39
		Mid	-				
		High	16.44	0.27	17.63 (EIRP)	30.00	12.37

	5 875	Low	16.74	0.27	17.93 (EIRP)	30.00	12.07
		Mid	-				
		High	16.73	0.27	17.92 (EIRP)	30.00	12.08
802.11ax _HE40 _484T	5 835		17.57	0.28	18.77 (EIRP)	30.00	11.23
	5 875		17.53	0.28	18.73 (EIRP)	30.00	11.27
Measurement uncertainty			± 1.5 dB				

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE80 _26T	5 855	Low	8.20	0.21	9.33 (EIRP)	30.00	20.67
		Mid	8.41	0.21	9.54 (EIRP)	30.00	20.46
		High	8.43	0.21	9.56 (EIRP)	30.00	20.44
802.11ax _HE80 _52T	5 855	Low	10.48	0.22	11.62 (EIRP)	30.00	18.38
		Mid	10.56	0.22	11.70 (EIRP)	30.00	18.30
		High	10.62	0.22	11.76 (EIRP)	30.00	18.24
802.11ax _HE80 _106T	5 855	Low	13.44	0.23	14.59 (EIRP)	30.00	15.41
		Mid	13.64	0.23	14.79 (EIRP)	30.00	15.21
		High	13.93	0.23	15.08 (EIRP)	30.00	14.92
802.11ax _HE80 _242T	5 855	Low	14.50	0.27	15.69 (EIRP)	30.00	14.31
		Mid	14.81	0.27	16.00 (EIRP)	30.00	14.00
		High	14.82	0.27	16.01 (EIRP)	30.00	13.99
802.11ax _HE80 _484T	5 855	Low	16.13	0.27	17.32 (EIRP)	30.00	12.68
		Mid	-				
		High	16.36	0.27	17.55 (EIRP)	30.00	12.45
802.11ax _HE80 _996T	5 855		16.94	0.29	18.15 (EIRP)	30.00	11.85
Measurement uncertainty			± 1.5 dB				

ANT R(SISO)

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 845	13.52	0.13	15.14 (EIRP)	30.00	14.86
	5 865	13.73	0.13	15.35 (EIRP)	30.00	14.65
	5 885	13.62	0.13	15.24 (EIRP)	30.00	14.76
802.11n _HT20	5 845	13.69	0.13	15.31 (EIRP)	30.00	14.69
	5 865	13.75	0.13	15.37 (EIRP)	30.00	14.63
	5 885	13.76	0.13	15.38 (EIRP)	30.00	14.62
802.11ac _VHT20	5 845	12.44	0.26	14.19 (EIRP)	30.00	15.81
	5 865	12.61	0.26	14.36 (EIRP)	30.00	15.64
	5 885	12.66	0.26	14.41 (EIRP)	30.00	15.59
802.11n _HT40	5 835	14.35	0.28	16.12 (EIRP)	30.00	13.88
	5 875	14.39	0.28	16.16 (EIRP)	30.00	13.84
802.11ac _VHT40	5 835	14.05	0.50	16.04 (EIRP)	30.00	13.96
	5 875	14.16	0.50	16.15 (EIRP)	30.00	13.85
802.11ac _VHT80	5 855	15.38	0.89	17.76 (EIRP)	30.00	12.24
Measurement uncertainty	± 1.5 dB					

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE20 _26T	5 845	Low	7.07	0.21	8.77 (EIRP)	30.00	21.23
		Mid	7.34	0.21	9.04 (EIRP)	30.00	20.96
		High	7.21	0.21	8.91 (EIRP)	30.00	21.09
	5 865	Low	7.07	0.21	8.77 (EIRP)	30.00	21.23
		Mid	7.49	0.21	9.19 (EIRP)	30.00	20.81
		High	7.25	0.21	8.95 (EIRP)	30.00	21.05
	5 885	Low	7.02	0.21	8.72 (EIRP)	30.00	21.28
		Mid	7.10	0.21	8.80 (EIRP)	30.00	21.20
		High	7.17	0.21	8.87 (EIRP)	30.00	21.13
802.11ax _HE20 _52T	5 845	Low	8.72	0.21	10.42 (EIRP)	30.00	19.58
		Mid	8.68	0.21	10.38 (EIRP)	30.00	19.62
		High	8.56	0.21	10.26 (EIRP)	30.00	19.74
	5 865	Low	8.61	0.21	10.31 (EIRP)	30.00	19.69
		Mid	9.02	0.21	10.72 (EIRP)	30.00	19.28
		High	8.88	0.21	10.58 (EIRP)	30.00	19.42
	5 885	Low	8.68	0.21	10.38 (EIRP)	30.00	19.62
		Mid	8.95	0.21	10.65 (EIRP)	30.00	19.35

		High	8.89	0.21	10.59 (EIRP)	30.00	19.41
802.11ax _HE20 _106T	5 845	Low	11.85	0.23	13.57 (EIRP)	30.00	16.43
		Mid	-				
		High	12.02	0.23	13.74 (EIRP)	30.00	16.26
	5 865	Low	11.82	0.23	13.54 (EIRP)	30.00	16.46
		Mid	-				
		High	12.16	0.23	13.88 (EIRP)	30.00	16.12
	5 885	Low	12.11	0.23	13.83 (EIRP)	30.00	16.17
		Mid	-				
		High	12.02	0.23	13.74 (EIRP)	30.00	16.26
802.11ax _HE20 _242T	5 845		14.42	0.26	16.17 (EIRP)	30.00	13.83
	5 865		14.29	0.26	16.04 (EIRP)	30.00	13.96
	5 885		14.29	0.26	16.04 (EIRP)	30.00	13.96
Measurement uncertainty			± 1.5 dB				

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE40 _26T	5 835	Low	9.10	0.21	10.80 (EIRP)	30.00	19.20
		Mid	9.70	0.21	11.40 (EIRP)	30.00	18.60
		High	9.26	0.21	10.96 (EIRP)	30.00	19.04
	5 875	Low	9.27	0.21	10.97 (EIRP)	30.00	19.03
		Mid	9.49	0.21	11.19 (EIRP)	30.00	18.81
		High	9.61	0.21	11.31 (EIRP)	30.00	18.69
802.11ax _HE40 _52T	5 835	Low	11.80	0.22	13.51 (EIRP)	30.00	16.49
		Mid	12.00	0.22	13.71 (EIRP)	30.00	16.29
		High	11.81	0.22	13.52 (EIRP)	30.00	16.48
	5 875	Low	11.81	0.22	13.52 (EIRP)	30.00	16.48
		Mid	11.98	0.22	13.69 (EIRP)	30.00	16.31
		High	11.83	0.22	13.54 (EIRP)	30.00	16.46
802.11ax _HE40 _106T	5 835	Low	14.70	0.24	16.43 (EIRP)	30.00	13.57
		Mid	14.67	0.24	16.40 (EIRP)	30.00	13.60
		High	14.45	0.24	16.18 (EIRP)	30.00	13.82
	5 875	Low	14.48	0.24	16.21 (EIRP)	30.00	13.79
		Mid	13.69	0.24	15.42 (EIRP)	30.00	14.58
		High	14.88	0.24	16.61 (EIRP)	30.00	13.39
802.11ax _HE40 _242T	5 835	Low	16.51	0.27	18.27 (EIRP)	30.00	11.73
		Mid	-				
		High	16.53	0.27	18.29 (EIRP)	30.00	11.71
	5 875	Low	16.71	0.27	18.47 (EIRP)	30.00	11.53

		Mid	-				
		High	16.65	0.27	18.41 (EIRP)	30.00	11.59
802.11ax _HE40 _484T	5 835		15.22	0.28	16.99 (EIRP)	30.00	13.01
	5 875		15.19	0.28	16.96 (EIRP)	30.00	13.04
Measurement uncertainty			± 1.5 dB				

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE80 _26T	5 855	Low	8.50	0.21	10.20 (EIRP)	30.00	19.80
		Mid	8.79	0.21	10.49 (EIRP)	30.00	19.51
		High	8.70	0.21	10.40 (EIRP)	30.00	19.60
802.11ax _HE80 _52T	5 855	Low	10.88	0.22	12.59 (EIRP)	30.00	17.41
		Mid	10.86	0.22	12.57 (EIRP)	30.00	17.43
		High	11.06	0.22	12.77 (EIRP)	30.00	17.23
802.11ax _HE80 _106T	5 855	Low	13.81	0.23	15.53 (EIRP)	30.00	14.47
		Mid	13.66	0.23	15.38 (EIRP)	30.00	14.62
		High	13.82	0.23	15.54 (EIRP)	30.00	14.46
802.11ax _HE80 _242T	5 855	Low	14.59	0.27	16.35 (EIRP)	30.00	13.65
		Mid	14.68	0.27	16.44 (EIRP)	30.00	13.56
		High	14.73	0.27	16.49 (EIRP)	30.00	13.51
802.11ax _HE80 _484T	5 855	Low	16.33	0.27	18.09 (EIRP)	30.00	11.91
		Mid	-				
		High	16.26	0.27	18.02 (EIRP)	30.00	11.98
802.11ax _HE80 _996T	5 855		14.53	0.29	16.31 (EIRP)	30.00	13.69
Measurement uncertainty			± 1.5 dB				

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Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11n _HT20	5 845	17.95	0.13	22.30 (EIRP)	30.00	7.70
	5 865	17.97	0.13	22.32 (EIRP)	30.00	7.68
	5 885	18.04	0.13	22.39 (EIRP)	30.00	7.61
802.11ac _VHT20	5 845	16.83	0.26	21.31 (EIRP)	30.00	8.69
	5 865	16.88	0.26	21.36 (EIRP)	30.00	8.64
	5 885	16.91	0.26	21.39 (EIRP)	30.00	8.61
802.11n _HT40	5 835	18.71	0.28	23.21 (EIRP)	30.00	6.79
	5 875	18.74	0.28	23.24 (EIRP)	30.00	6.76
802.11ac _VHT40	5 835	18.43	0.50	23.15 (EIRP)	30.00	6.85
	5 875	18.52	0.50	23.24 (EIRP)	30.00	6.76
802.11ac _VHT80	5 855	19.86	0.89	24.97 (EIRP)	30.00	5.03
Measurement uncertainty	± 1.5 dB					

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE20 _26T	5 845	Low	11.31	0.21	15.74 (EIRP)	30.00	14.26
		Mid	11.62	0.21	16.05 (EIRP)	30.00	13.95
		High	11.56	0.21	15.99 (EIRP)	30.00	14.01
	5 865	Low	11.33	0.21	15.76 (EIRP)	30.00	14.24
		Mid	11.58	0.21	16.01 (EIRP)	30.00	13.99
		High	11.59	0.21	16.02 (EIRP)	30.00	13.98
	5 885	Low	11.36	0.21	15.79 (EIRP)	30.00	14.21
		Mid	11.49	0.21	15.92 (EIRP)	30.00	14.08
		High	11.51	0.21	15.94 (EIRP)	30.00	14.06
802.11ax _HE20 _52T	5 845	Low	12.82	0.21	17.25 (EIRP)	30.00	12.75
		Mid	12.82	0.21	17.25 (EIRP)	30.00	12.75
		High	12.92	0.21	17.35 (EIRP)	30.00	12.65
	5 865	Low	12.83	0.21	17.26 (EIRP)	30.00	12.74
		Mid	13.03	0.21	17.46 (EIRP)	30.00	12.54
		High	12.97	0.21	17.40 (EIRP)	30.00	12.60
	5 885	Low	13.07	0.21	17.50 (EIRP)	30.00	12.50
		Mid	12.96	0.21	17.39 (EIRP)	30.00	12.61
		High	13.12	0.21	17.55 (EIRP)	30.00	12.45
802.11ax _HE20 _106T	5 845	Low	16.38	0.23	20.83 (EIRP)	30.00	9.17
		Mid	-				
		High	16.46	0.23	20.91 (EIRP)	30.00	9.09
	5 865	Low	16.43	0.23	20.88 (EIRP)	30.00	9.12
		Mid	-				
		High	16.65	0.23	21.10 (EIRP)	30.00	8.90
	5 885	Low	16.67	0.23	21.12 (EIRP)	30.00	8.88
		Mid	-				
		High	16.51	0.23	20.96 (EIRP)	30.00	9.04
802.11ax _HE20 _242T	5 845		18.66	0.26	23.14 (EIRP)	30.00	6.86
	5 865		18.76	0.26	23.24 (EIRP)	30.00	6.76
	5 885		18.80	0.26	23.28 (EIRP)	30.00	6.72
Measurement uncertainty			± 1.5 dB				

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE40 _26T	5 835	Low	11.98	0.21	16.41 (EIRP)	30.00	13.59
		Mid	12.48	0.21	16.91 (EIRP)	30.00	13.09
		High	12.07	0.21	16.50 (EIRP)	30.00	13.50
	5 875	Low	12.04	0.21	16.47 (EIRP)	30.00	13.53
		Mid	12.33	0.21	16.76 (EIRP)	30.00	13.24
		High	12.28	0.21	16.71 (EIRP)	30.00	13.29
802.11ax _HE40 _52T	5 835	Low	14.49	0.22	18.93 (EIRP)	30.00	11.07
		Mid	14.83	0.22	19.27 (EIRP)	30.00	10.73
		High	14.58	0.22	19.02 (EIRP)	30.00	10.98
	5 875	Low	14.62	0.22	19.06 (EIRP)	30.00	10.94
		Mid	14.87	0.22	19.31 (EIRP)	30.00	10.69
		High	14.74	0.22	19.18 (EIRP)	30.00	10.82
802.11ax _HE40 _106T	5 835	Low	17.66	0.24	22.12 (EIRP)	30.00	7.88
		Mid	17.74	0.24	22.20 (EIRP)	30.00	7.80
		High	17.54	0.24	22.00 (EIRP)	30.00	8.00
	5 875	Low	17.58	0.24	22.04 (EIRP)	30.00	7.96
		Mid	17.38	0.24	21.84 (EIRP)	30.00	8.16
		High	17.88	0.24	22.34 (EIRP)	30.00	7.66
802.11ax _HE40 _242T	5 835	Low	19.48	0.27	23.97 (EIRP)	30.00	6.03
		Mid	-				
		High	19.50	0.27	23.99 (EIRP)	30.00	6.01
	5 875	Low	19.74	0.27	24.23 (EIRP)	30.00	5.77
		Mid	-				
		High	19.70	0.27	24.19 (EIRP)	30.00	5.81
802.11ax _HE40 _484T	5 835		19.56	0.28	24.06 (EIRP)	30.00	5.94
	5 875		19.53	0.28	24.03 (EIRP)	30.00	5.97
Measurement uncertainty			± 1.5 dB				

Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE80 _26T	5 855	Low	11.36	0.21	15.79 (EIRP)	30.00	14.21
		Mid	11.61	0.21	16.04 (EIRP)	30.00	13.96
		High	11.58	0.21	16.01 (EIRP)	30.00	13.99
802.11ax _HE80 _52T	5 855	Low	13.69	0.22	18.13 (EIRP)	30.00	11.87
		Mid	13.72	0.22	18.16 (EIRP)	30.00	11.84
		High	13.86	0.22	18.30 (EIRP)	30.00	11.70
802.11ax _HE80 _106T	5 855	Low	16.64	0.23	21.09 (EIRP)	30.00	8.91
		Mid	16.66	0.23	21.11 (EIRP)	30.00	8.89
		High	16.89	0.23	21.34 (EIRP)	30.00	8.66
802.11ax _HE80 _242T	5 855	Low	17.56	0.27	22.05 (EIRP)	30.00	7.95
		Mid	17.76	0.27	22.25 (EIRP)	30.00	7.75
		High	17.79	0.27	22.28 (EIRP)	30.00	7.72
802.11ax _HE80 _484T	5 855	Low	19.24	0.27	23.73 (EIRP)	30.00	6.27
		Mid	-				
		High	19.32	0.27	23.81 (EIRP)	30.00	6.19
802.11ax _HE80 _996T	5 855		18.91	0.29	23.42 (EIRP)	30.00	6.58
Measurement uncertainty			± 1.5 dB				

See next pages for actual measured spectrum plots.