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

Report No.: CTK-2023-00950

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 / WCC940M

6. Date of Test : 2023-03-21 to 2023-04-27

7. Test Standard(method) used : FCC 47 CFR part 15 subpart C 15.247

8. Testing Environment: Temp.: (23 ± 1) ℃, Humidity: (28 ± 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.

2023-05-10

CTK Co., Ltd.

REPORT REVISION HISTORY

Date	Revision	Page No
2023-05-10	Issued (CTK-2023-00950)	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	A3LWCC940M
Product Description	Wi-Fi/BT Transceiver
Model name	WCC940M
Variant Model name	-
Operating Frequency	2 412 MHz – 2 472 MHz (20 MHz_BW) 2 422 MHz – 2 462 MHz (40 MHz_BW)
RF Output Power	802.11b : 22.44 dBm (175.39 mW) 802.11g : 16.76 dBm (47.42 mW) 802.11n_HT20 : 19.27 dBm (84.53 mW) 802.11n_HT40 : 18.18 dBm (65.77 mW) 802.11ax_HE20 : 20.03 dBm (100.69 mW) 802.11ax_HE40 : 19.75 dBm (94.41 mW)
Antenna Specification	Antenna type : Chip Antenna Peak Gain : -0.63 dBi (ANT0), 0.67 dBi (ANT1)
Antenna Configurations	802.11b : SISO(ANT0, ANT1) 802.11g : SISO(ANT0, ANT1) 802.11n : SISO(ANT0, ANT1), MIMO(ANT0+ANT1) 802.11ax : SISO(ANT0, ANT1), MIMO(ANT0+ANT1)
Number of channels	13 (802.11b/g/n_HT20/ax_HE20) 9 (802.11n_HT40/ax_HE40)
Type of Modulation	802.11b : DSSS 802.11g/n : OFDM 802.11ax : OFDMA
Data Rate	802.11b : 11 / 5.5 / 2 / 1 Mbps 802.11g : 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps 802.11n: up to 300 Mbps 802.11ax: up to 573 Mbps
Power Source	DC 5 V
Hardware Rev	V1.0
Software Rev	FC 3

RF Power setting in Test SW

Mode		Frequency	Power Setting Value
802.11b		2 412 MHz – 2 442 MHz	20.0
		2 467 MHz	17.5
		2 472 MHz	11.0
802.11g		2 412 MHz – 2 472 MHz	15.0
802.11n_HT20		2 412 MHz – 2 472 MHz	15.0
802.11n_HT40		2 422 MHz – 2 462 MHz	15.0
802.11ax_HE20	26T	2 412 MHz – 2 462 MHz	10.5
		2 472 MHz	4.0
	52T	2 412 MHz – 2 462 MHz	14.0
		2 472 MHz	7.0
	106T	2 412 MHz – 2 462 MHz	13.5
		2 472 MHz	7.0
	242T	2 412 MHz – 2 472 MHz	10.5
802.11ax_HE40	26T	2 422 MHz – 2 457 MHz	15.0
		2 462 MHz	4.0
	52T	2 422 MHz – 2 457 MHz	15.0
		2 462 MHz	5.0
	106T	2 422 MHz – 2 457 MHz	14.0
		2 462 MHz	7.0
	242T	2 422 MHz – 2 457 MHz	14.0
		2 462 MHz	12.0
	484T	2 422 MHz – 2 457 MHz	15.0
		2 462 MHz	13.0

1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Note Computer	HP	15-bs563TU	CND7253QPR
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)	Status (Note 1)	Test Condition
15.247(a)	6 dB Bandwidth	C	Conducted
15.247(b)	Maximum Output Power	C	
15.247(d)	Conducted Spurious emission	C	
15.247(d)	Unwanted Emission(Conducted)	C	
15.247(e)	Transmitter Power Spectral Density	C	
15.209	Radiated Emissions	C	Radiated
15.207	AC Conducted Emissions	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 15.247			
Note 4: The tests were performed according to the method of measurements prescribed in KDB No.558074, ANSI C63.10-2013			

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. 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

802.11b

Bandwidth	Lowest channel 1	Lowest channel 2	Middle channel	Highest channel 1	Highest channel 2
20 MHz	2 412 MHz	2 417 MHz	2 442 MHz	2 467 MHz	2 472 MHz

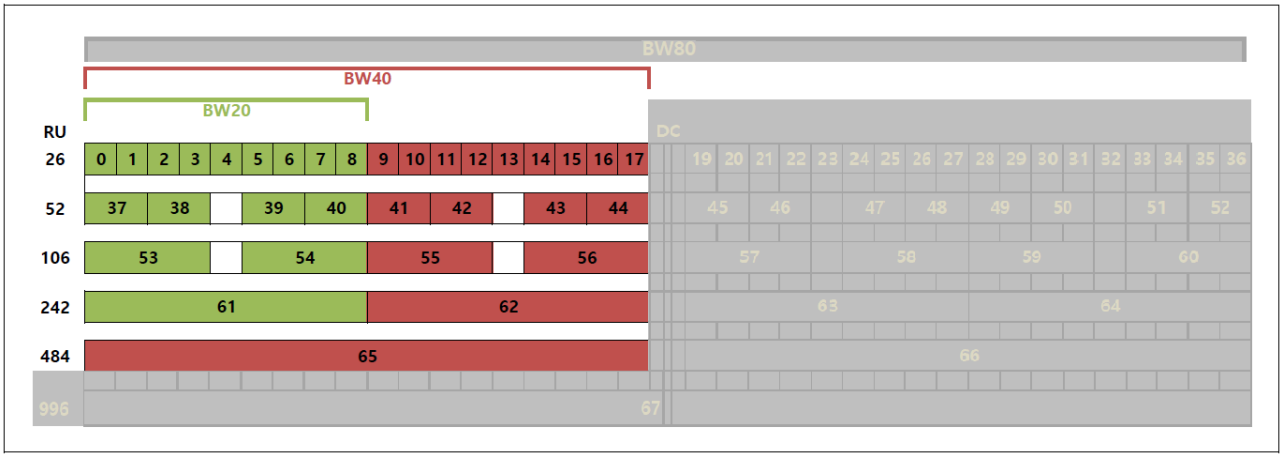
The other

Bandwidth	Lowest channel	Middle channel	Highest channel
20 MHz	2 412 MHz	2 442 MHz	2 472 MHz
40 MHz	2 422 MHz	2 442 MHz	2 462 MHz

Test mode & Worst case

Test mode	Modulation	Data rate (Worst case)	Duty Cycle	Duty Cycle Factor
802.11b	DSSS	1 Mbps	99.6 %	0.00 dB
802.11g	OFDM	6 Mbps	97.2 %	0.12 dB
802.11n_HT20	OFDM	MCS 0	97.0 %	0.13 dB
802.11n_HT40		MCS 0	94.1 %	0.27 dB
802.11ax_HE20_26T	OFDMA	MCS 0	95.3 %	0.21 dB
802.11ax_HE20_52T			95.1 %	0.22 dB
802.11ax_HE20_106T			94.8 %	0.23 dB
802.11ax_HE20_242T			94.3 %	0.25 dB
802.11ax_HE40_26T		MCS 0	95.4 %	0.20 dB
802.11ax_HE40_52T			95.2 %	0.21 dB
802.11ax_HE40_106T			94.8 %	0.23 dB
802.11ax_HE40_242T			94.2 %	0.26 dB
802.11ax_HE40_484T			94.0 %	0.27 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	65

Full RU(Resource Unit) and SU(Single Unit) mode have no difference in physical waveform.
This Report has been reported the Full RU(Resource Unit) 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	1.94 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 558074 - Section 8.2
ANSI C63.10-2013 - Section 11.8.2

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 Procedures

ANSI C63.10-2013 - Section 6.9

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 = 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	>	500kHz

Test Data :

ANT0

Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)							
	802.11b		802.11g		802.11n_HT20		802.11ax_HE20_242T	
Frequency	6 dB	99 %	6 dB	99 %	6 dB	99 %	6 dB	99 %
2 412 MHz	8.07	12.41	15.16	16.32	15.16	17.51	18.09	18.75
2 417 MHz	8.12	12.65	-	-	-	-	-	-
2 442 MHz	8.11	12.75	15.70	16.59	15.32	17.77	18.80	18.98
2 467 MHz	8.09	12.32	-	-	-	-	-	-
2 472 MHz	8.08	12.25	15.16	16.35	15.16	17.49	17.88	18.74

Mode		6 dB Bandwidth and 99 % Bandwidth (MHz)	
		802.11ax_HE20_26T	
Frequency	RU Index	6 dB	99 %
2 412 MHz	Low	2.13	17.94
	Mid	2.72	16.94
	High	2.14	18.01
2 442 MHz	Low	2.18	18.72
	Mid	2.73	17.05
	High	2.15	18.45
2 472 MHz	Low	2.15	17.89
	Mid	2.68	16.80
	High	2.13	18.10

Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)			
	802.11n_HT40		802.11ax_HE40_484T	
Frequency	6 dB	99 %	6 dB	99 %
2 422 MHz	35.15	35.77	37.46	37.50
2 442 MHz	35.16	35.81	37.62	37.52
2 462 MHz	35.15	35.78	36.33	37.49

Mode		6 dB Bandwidth and 99 % Bandwidth (MHz)	
		802.11ax_HE40_26T	
Frequency	RU Index	6 dB	99 %
2 422 MHz	Low	2.17	17.56
	Mid	2.16	18.92
	High	2.15	17.64
2 442 MHz	Low	2.15	17.52
	Mid	2.13	18.86
	High	2.15	17.57
2 462 MHz	Low	2.13	17.58
	Mid	2.15	18.94
	High	2.14	17.68

ANT1

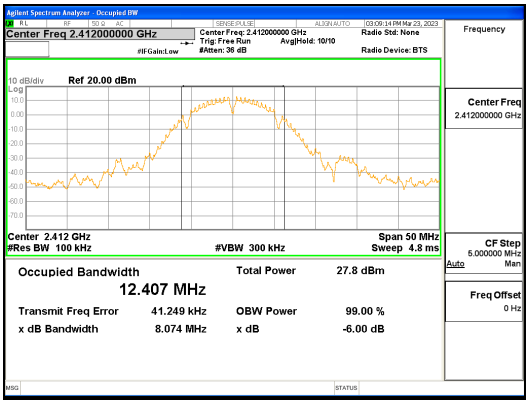
Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)							
	802.11b		802.11g		802.11n_HT20		802.11ax_HE20_242T	
Frequency	6 dB	99 %	6 dB	99 %	6 dB	99 %	6 dB	99 %
2 412 MHz	8.61	14.11	15.16	16.35	15.73	17.53	18.58	18.75
2 417 MHz	9.09	14.57	-	-	-	-	-	-
2 442 MHz	9.11	14.78	15.50	16.56	16.35	17.72	18.15	18.91
2 467 MHz	9.56	16.74	-	-	-	-	-	-
2 472 MHz	8.10	12.41	15.16	16.35	15.75	17.54	18.15	18.76

Mode		6 dB Bandwidth and 99 % Bandwidth (MHz)	
		802.11ax_HE20_26T	
Frequency	RU Index	6 dB	99 %
2 412 MHz	Low	10.78	18.07
	Mid	2.69	16.87
	High	2.15	18.01
2 442 MHz	Low	2.18	18.43
	Mid	2.70	17.10
	High	2.18	18.51
2 472 MHz	Low	2.17	18.03
	Mid	2.71	16.83
	High	2.18	17.99

Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)			
	802.11n_HT40		802.11ax_HE40_484T	
Frequency	6 dB	99 %	6 dB	99 %
2 422 MHz	35.15	35.83	37.57	37.55
2 442 MHz	35.13	35.77	37.07	37.46
2 462 MHz	35.15	35.81	37.89	37.54

Mode		6 dB Bandwidth and 99 % Bandwidth (MHz)	
		802.11ax_HE40_26T	
Frequency	RU Index	6 dB	99 %
2 422 MHz	Low	2.14	17.53
	Mid	2.14	18.98
	High	2.16	17.60
2 442 MHz	Low	2.13	17.55
	Mid	2.15	18.92
	High	2.01	18.14
2 462 MHz	Low	2.04	17.80
	Mid	7.25	18.86
	High	1.98	17.01

See next pages for actual measured spectrum plots.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Center Freq 2.412000000 GHz
Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 36 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.412000000 GHz
Center 2.412 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
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Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
12.407 MHz
Total Power
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Transmit Freq Error
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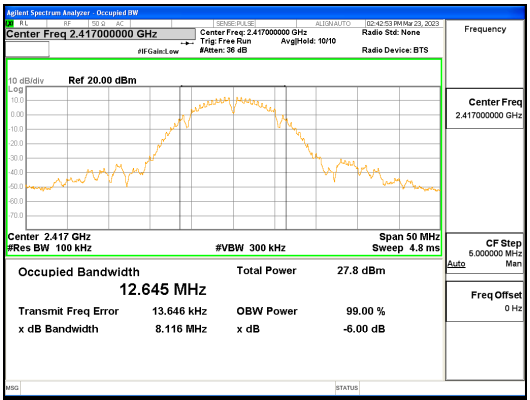
OBW Power
99.00 %
x dB Bandwidth
8.074 MHz
x dB
-6.00 dB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Center Freq: 2.417000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 36 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.417000000 GHz
Center 2.417 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
12.645 MHz
Total Power
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Transmit Freq Error
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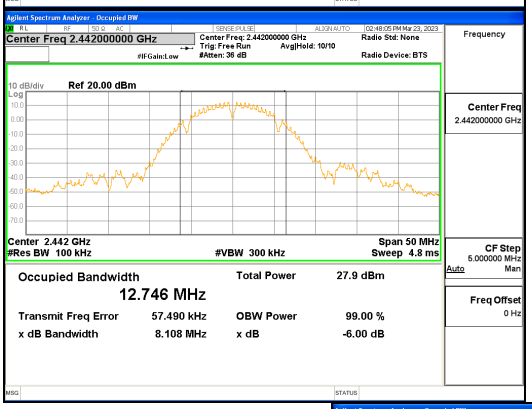
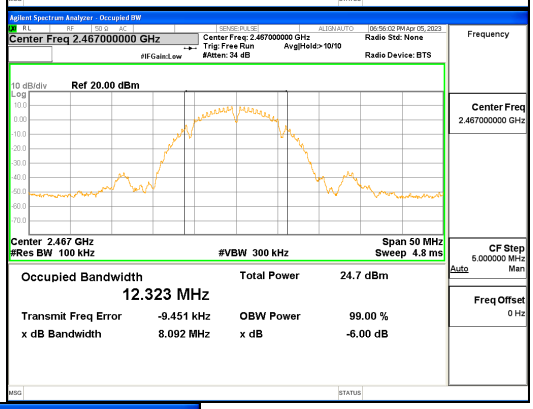
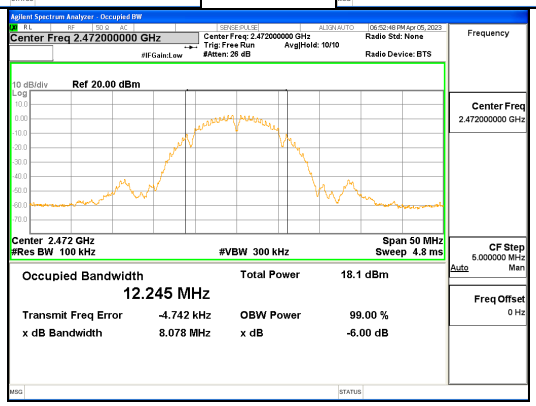
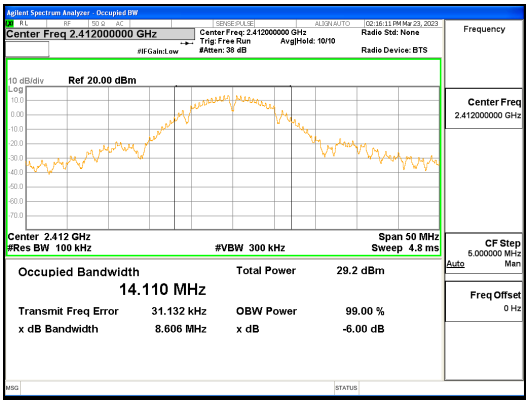
OBW Power
99.00 %
x dB Bandwidth
8.116 MHz
x dB
-6.00 dB

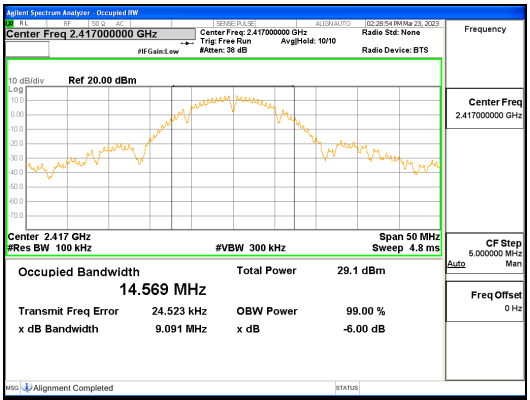

Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.442000000 GHz
Center Freq: 2.442000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 36 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.442000000 GHz
Center 2.442 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
12.746 MHz
Total Power
27.9 dBm
Transmit Freq Error
57.490 kHz
OBW Power
99.00 %
x dB Bandwidth
8.108 MHz
x dB
-6.00 dB

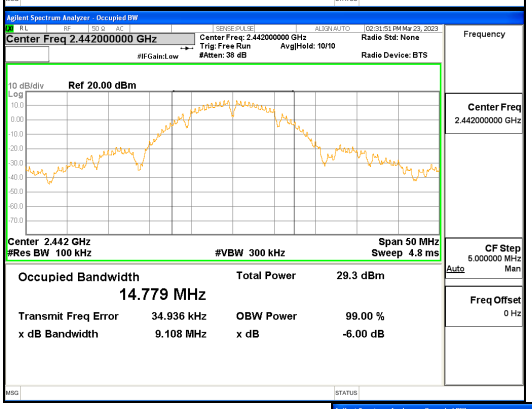

Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.467000000 GHz
Center Freq: 2.467000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 34 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.467000000 GHz
Center 2.467 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
12.323 MHz
Total Power
24.7 dBm
Transmit Freq Error
-9.451 kHz
OBW Power
99.00 %
x dB Bandwidth
8.092 MHz
x dB
-6.00 dB

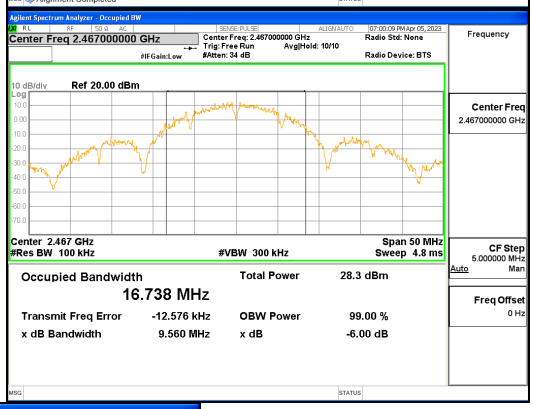

Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.472000000 GHz
Center Freq: 2.472000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 26 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.472000000 GHz
Center 2.472 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
12.245 MHz
Total Power
18.1 dBm
Transmit Freq Error
-4.742 kHz
OBW Power
99.00 %
x dB Bandwidth
8.078 MHz
x dB
-6.00 dB

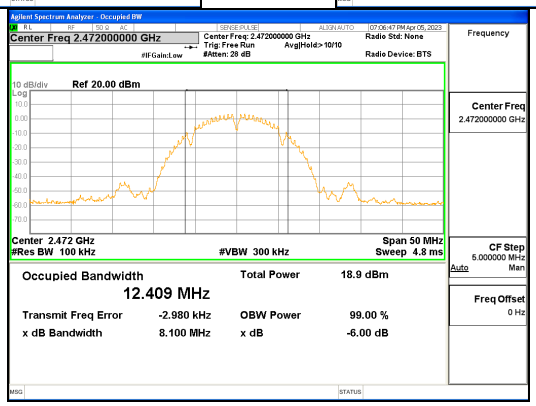
ANT0, 802.11b


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.412000000 GHz
Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 36 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.412000000 GHz
Center 2.412 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
14.110 MHz
Total Power
29.2 dBm
Transmit Freq Error
31.132 kHz
OBW Power
99.00 %
x dB Bandwidth
8.606 MHz
x dB
-6.00 dB

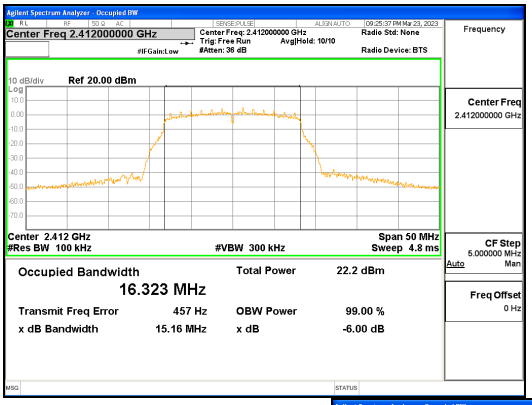

Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.417000000 GHz
Center Freq: 2.417000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 36 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.417000000 GHz
Center 2.417 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
14.569 MHz
Total Power
29.1 dBm
Transmit Freq Error
24.523 kHz
OBW Power
99.00 %
x dB Bandwidth
9.091 MHz
x dB
-6.00 dB
Alignment Completed

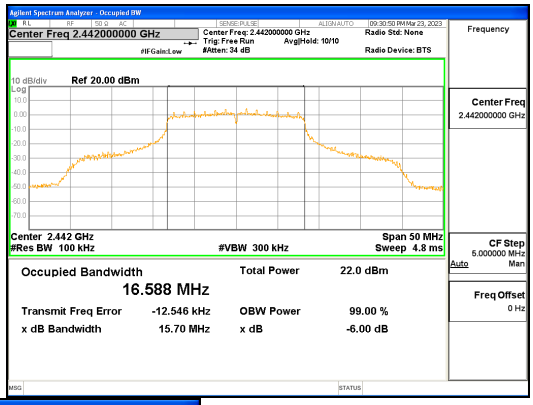

Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.442000000 GHz
Center Freq: 2.442000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 36 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.442000000 GHz
Center 2.442 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
14.779 MHz
Total Power
29.3 dBm
Transmit Freq Error
34.936 kHz
OBW Power
99.00 %
x dB Bandwidth
9.108 MHz
x dB
-6.00 dB

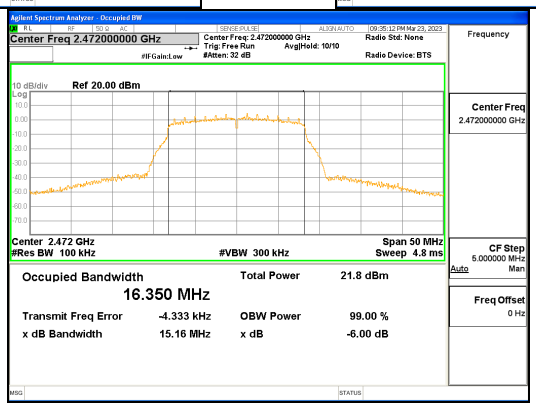

Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.467000000 GHz
Center Freq: 2.467000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 34 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.467000000 GHz
Center 2.467 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
16.738 MHz
Total Power
28.3 dBm
Transmit Freq Error
-12.576 kHz
OBW Power
99.00 %
x dB Bandwidth
9.560 MHz
x dB
-6.00 dB


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.472000000 GHz
Center Freq: 2.472000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 28 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.472000000 GHz
Center 2.472 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50 MHz
Sweep 4.8 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
12.409 MHz
Total Power
18.9 dBm
Transmit Freq Error
-2.980 kHz
OBW Power
99.00 %
x dB Bandwidth
8.100 MHz
x dB
-6.00 dB

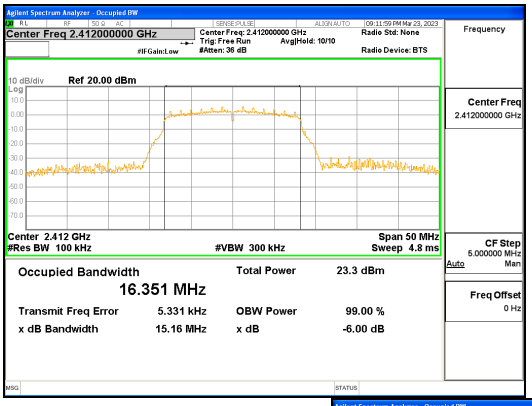
ANT1, 802.11b

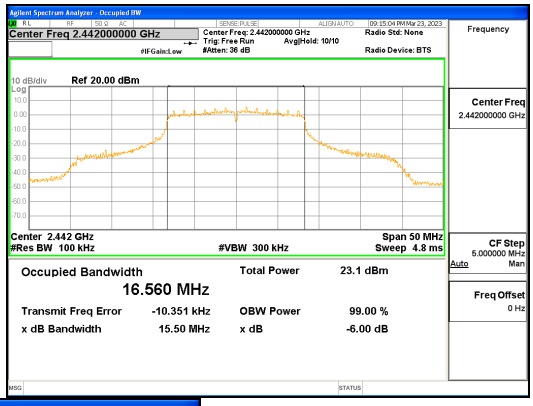


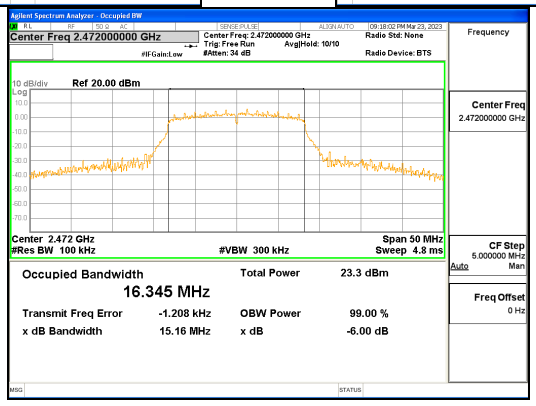




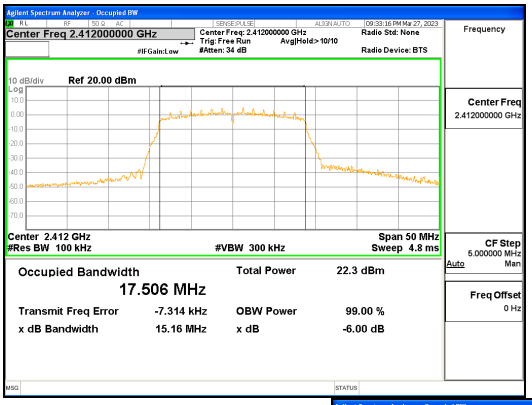
ANT0, 802.11g

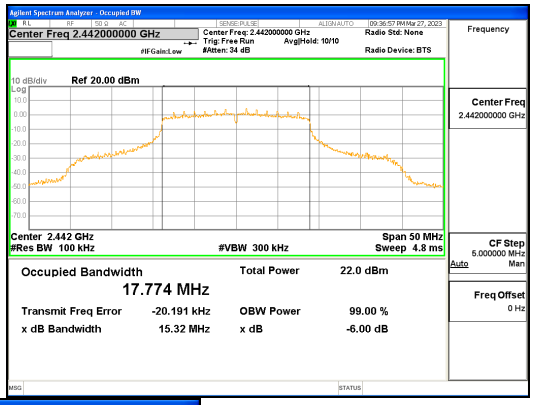


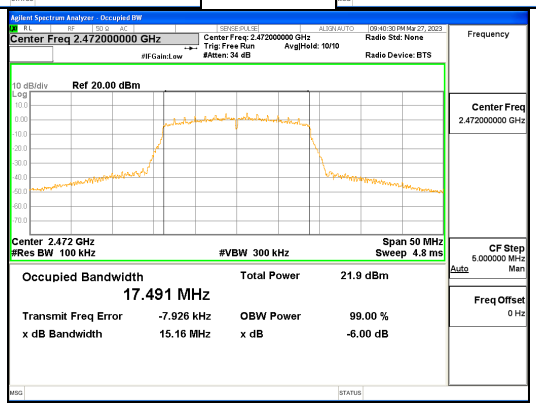




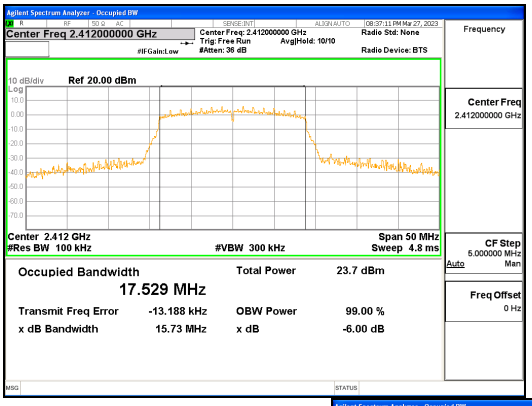
ANT1, 802.11g

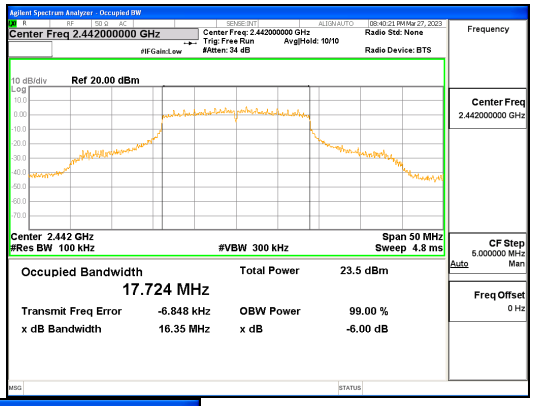


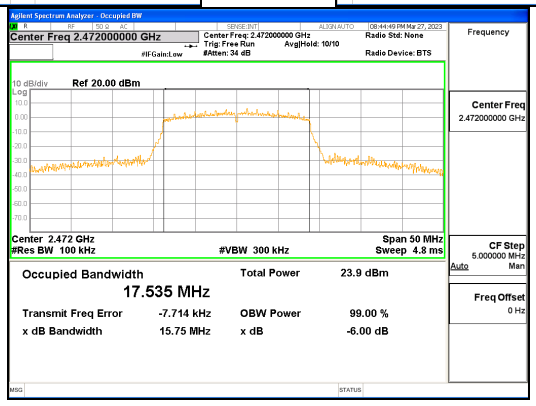




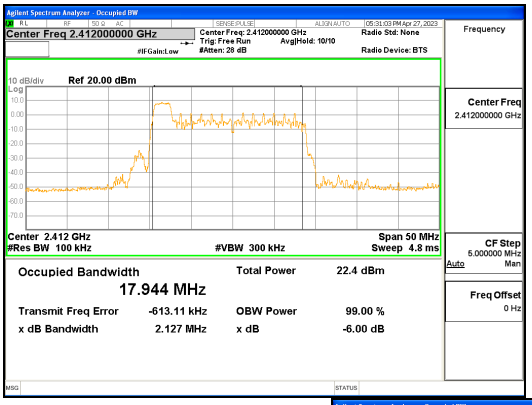
ANT0, 802.11n_HT20

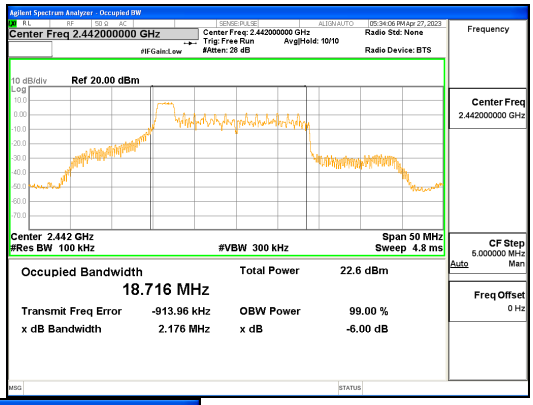




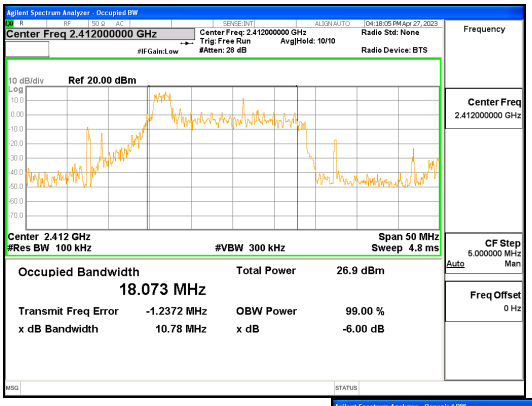


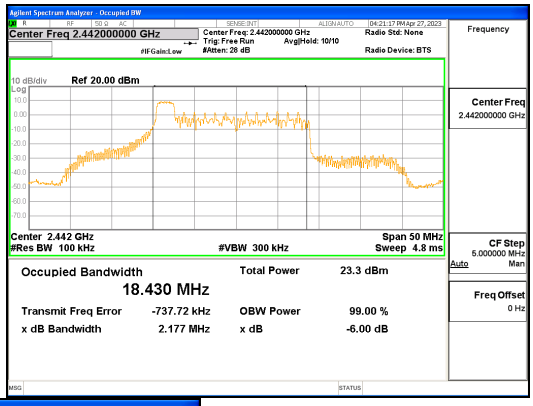
ANT1, 802.11n_HT20

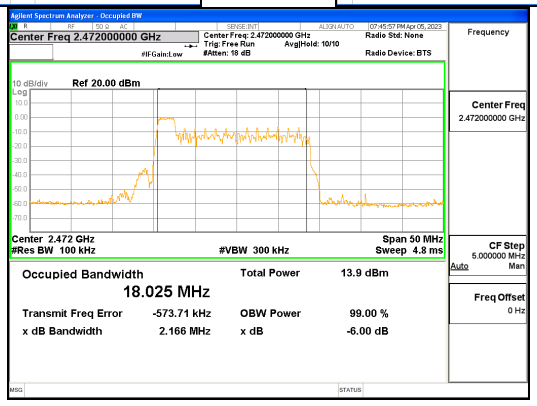




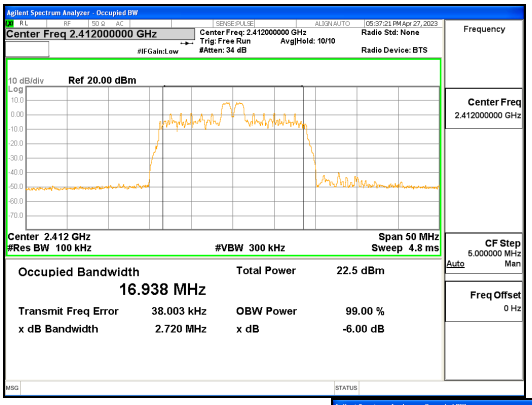
ANT0, 802.11ax_HE20_26T_Low

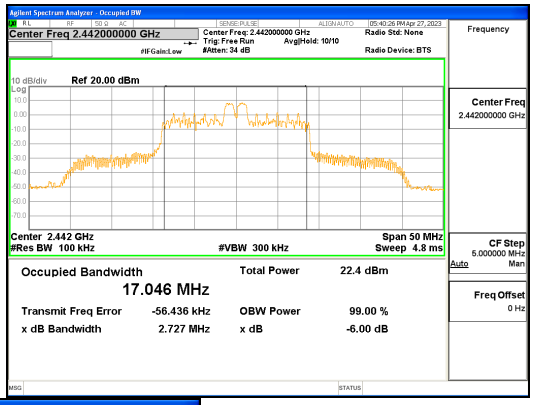


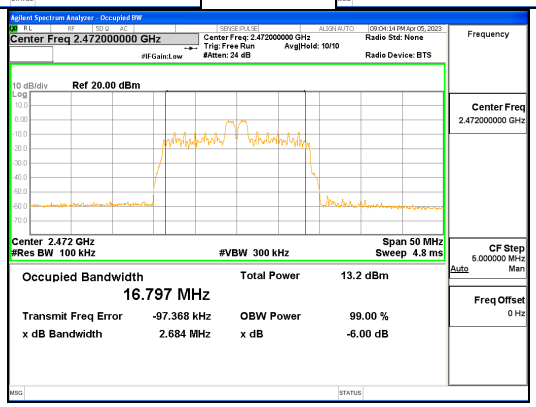




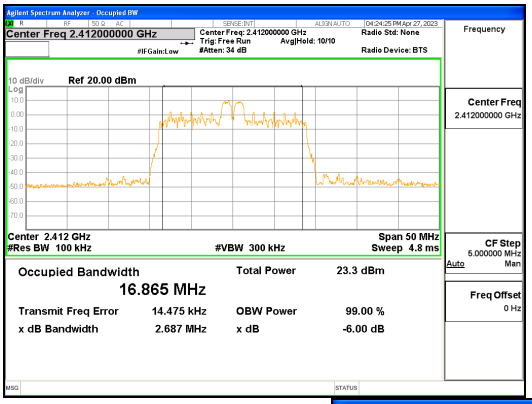
ANT1, 802.11ax_HE20_26T_Low

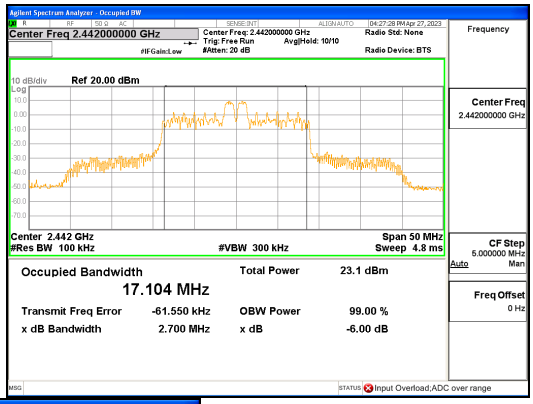


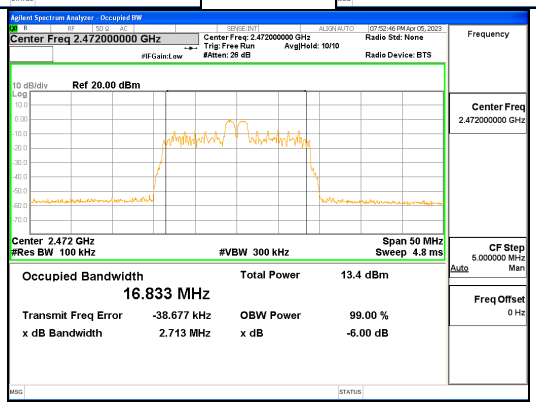




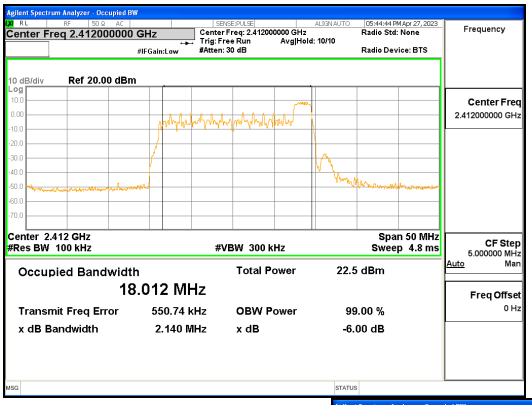
ANT0, 802.11ax_HE20_26T_Mid

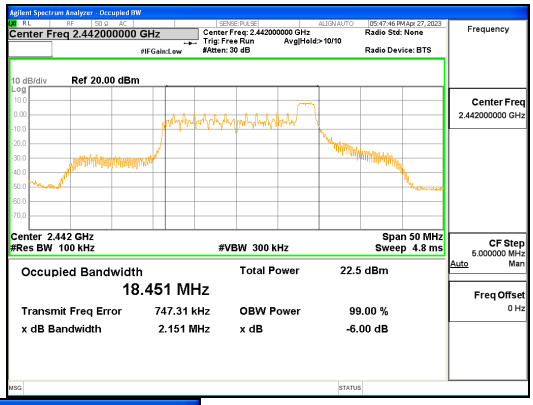


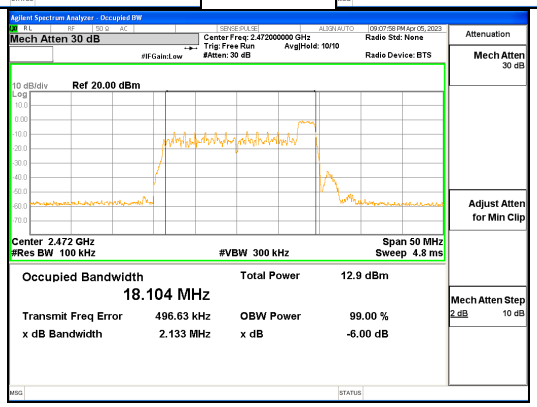




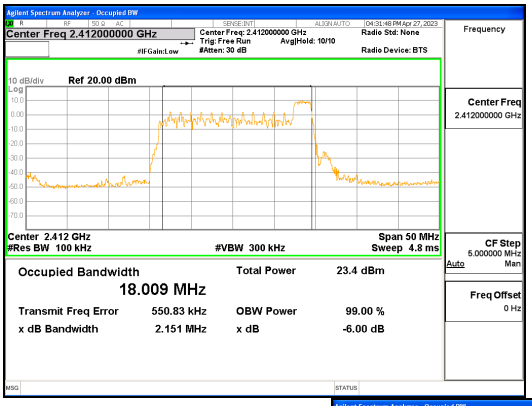
ANT1, 802.11ax_HE20_26T_Mid

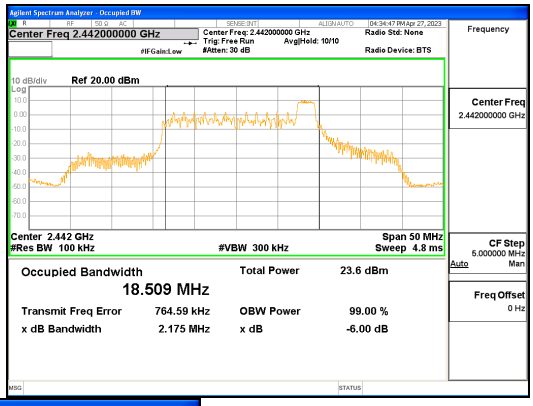


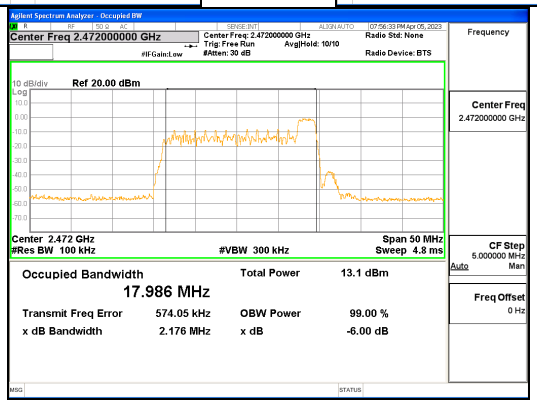




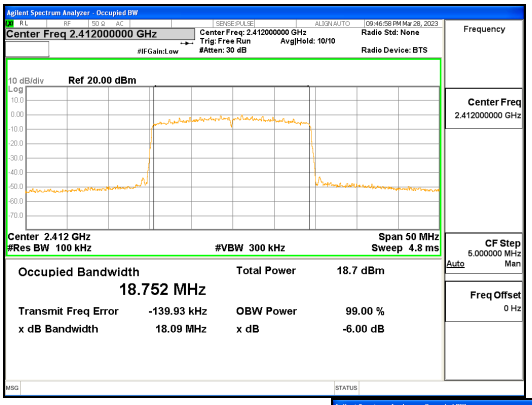
ANT0, 802.11ax_HE20_26T_High

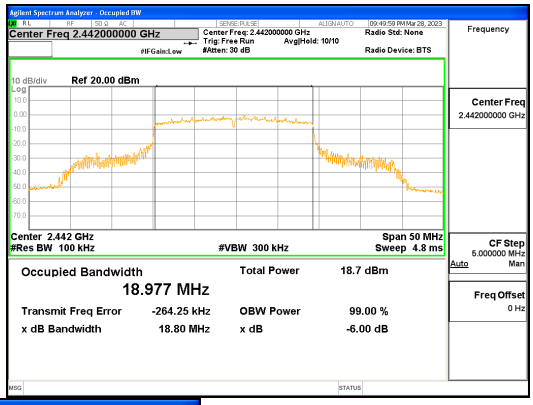


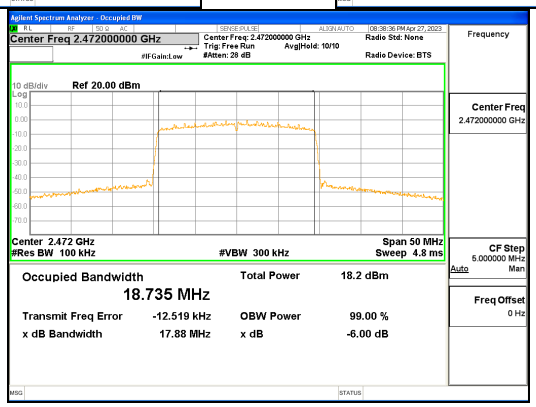




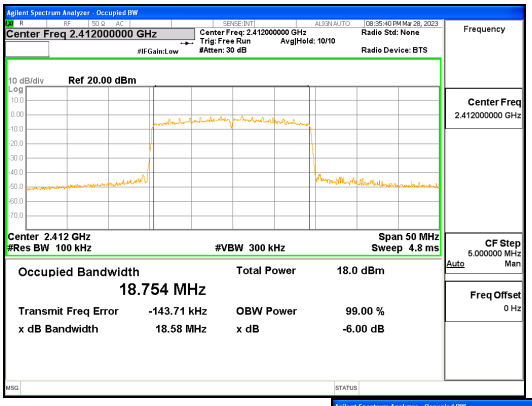
ANT1, 802.11ax_HE20_26T_High

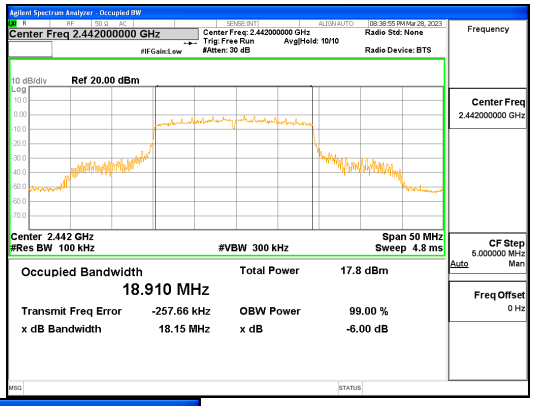


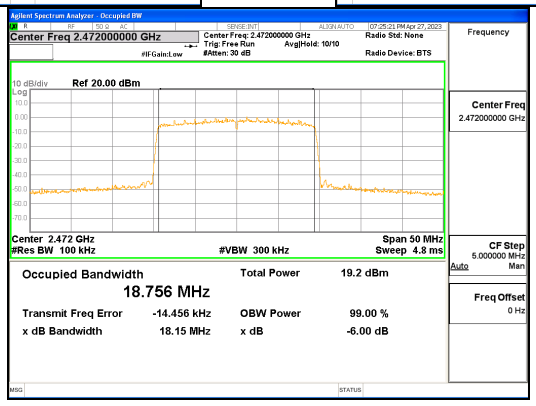




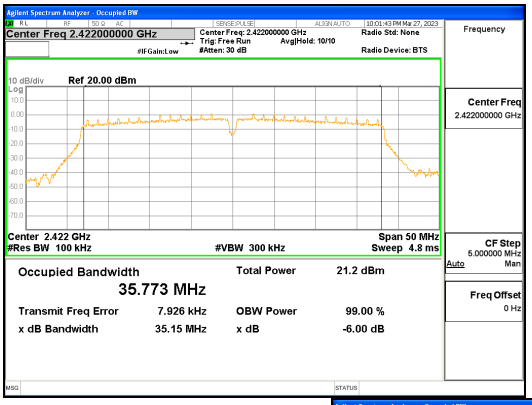
ANT0, 802.11ax_HE20_242T

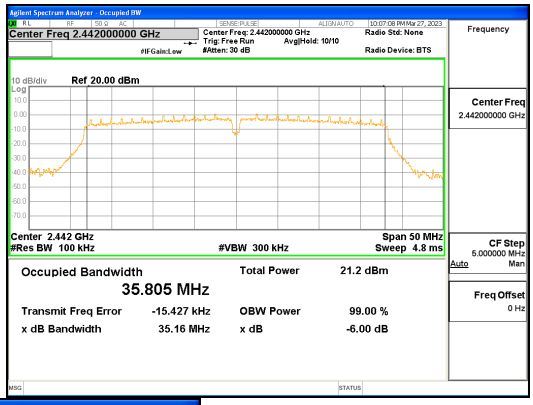


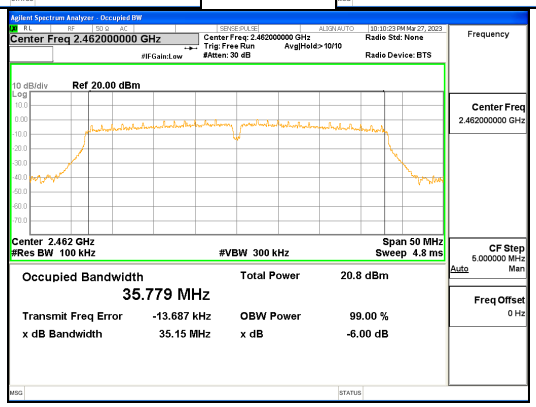




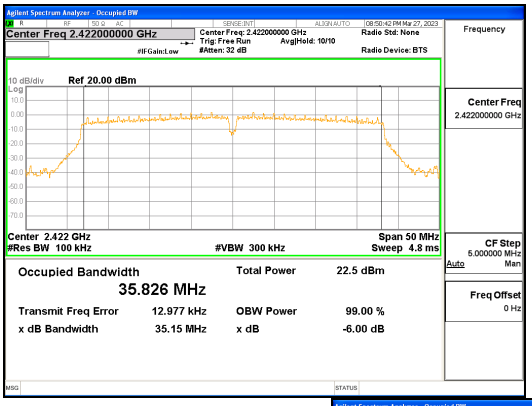
ANT1, 802.11ax_HE20_242T

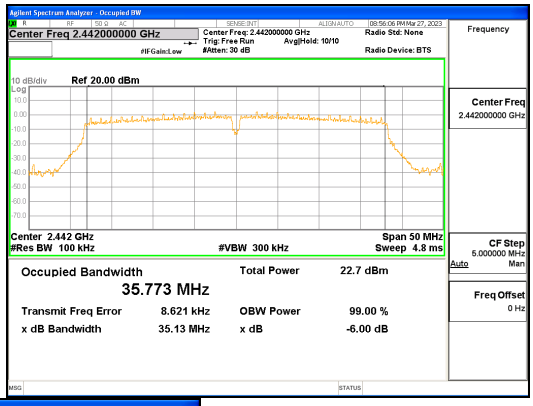


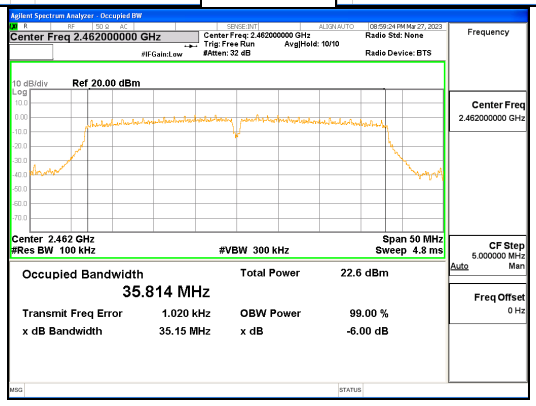




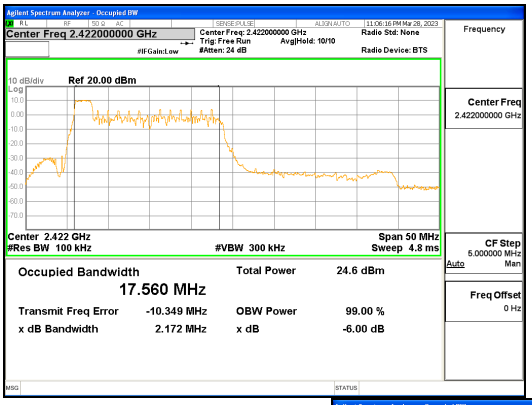
ANT0, 802.11n_HT40

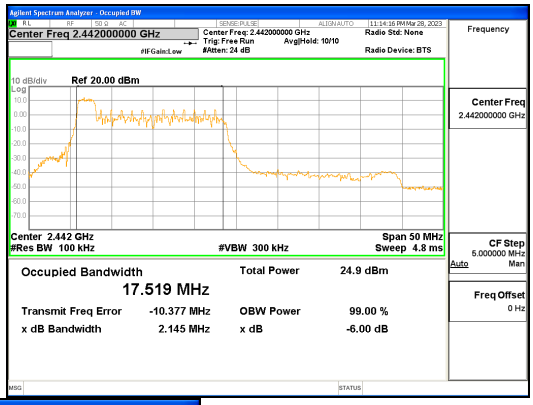


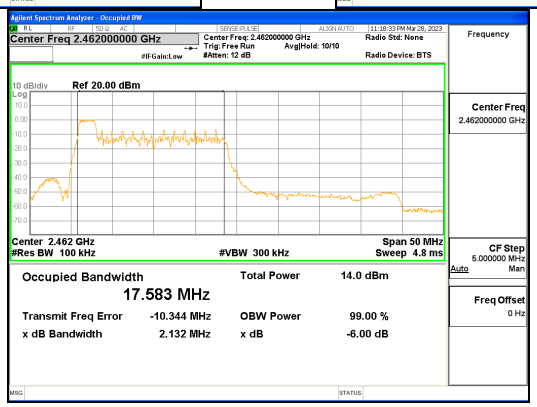




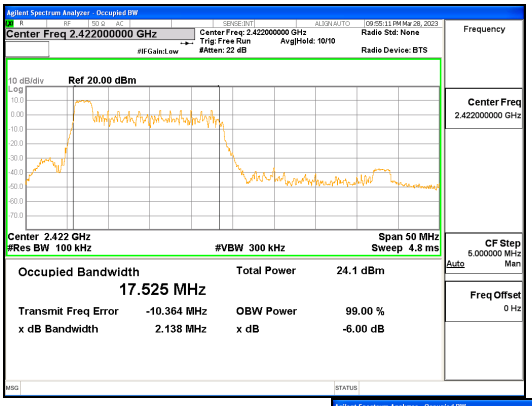
ANT1, 802.11n_HT40

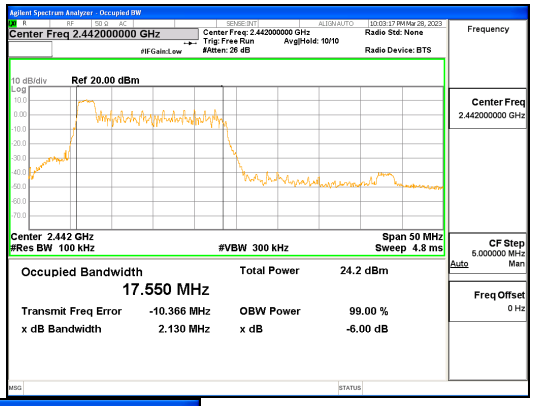


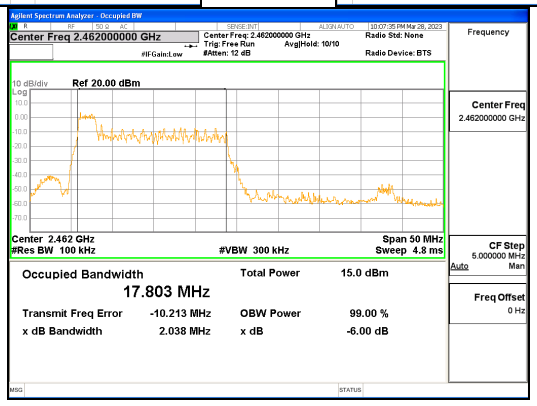




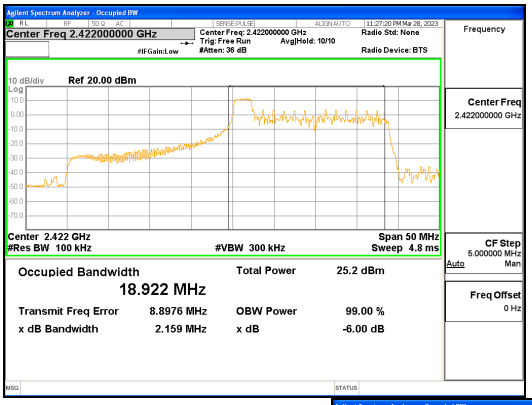
ANT0, 802.11ax_HE40_26T_Low

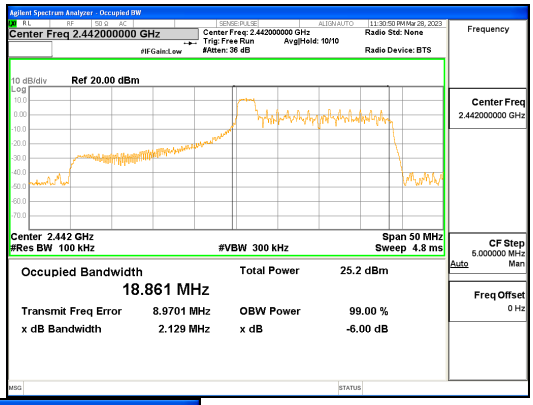


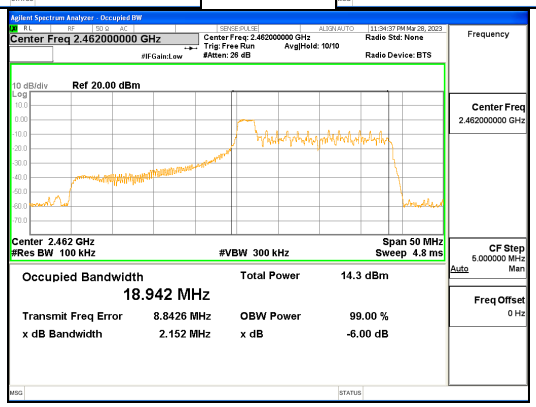




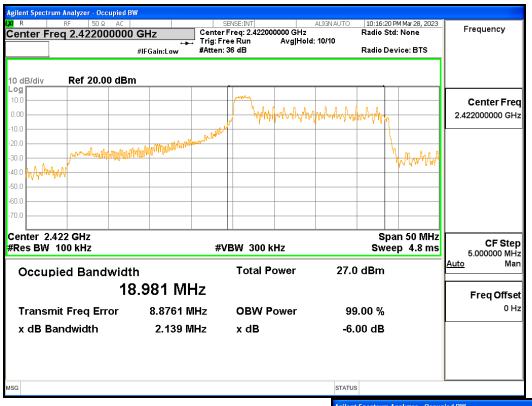
ANT1, 802.11ax_HE40_26T_Low

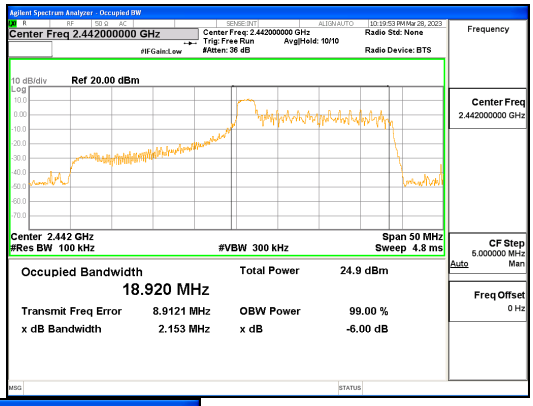


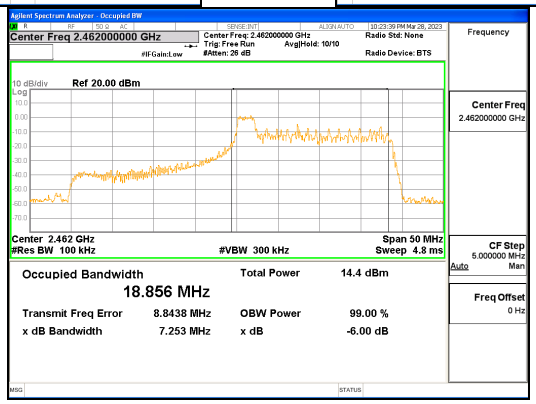




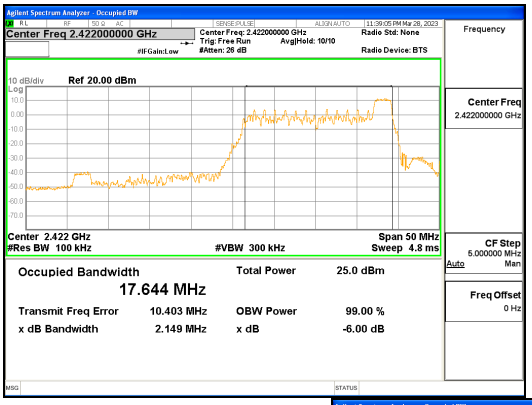
ANT0, 802.11ax_HE40_26T_Mid

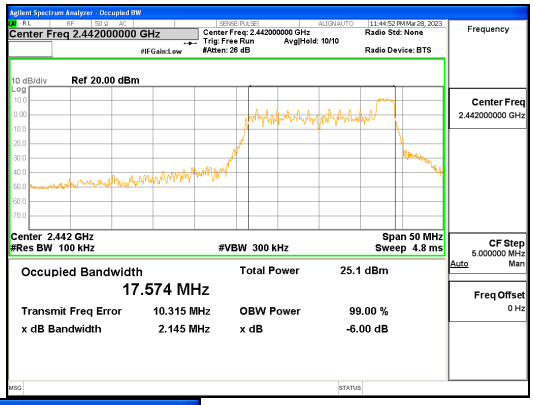


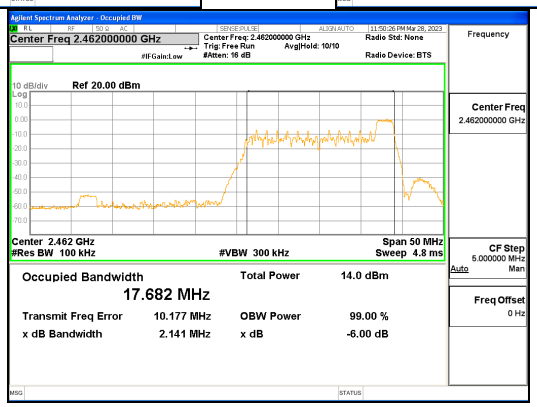




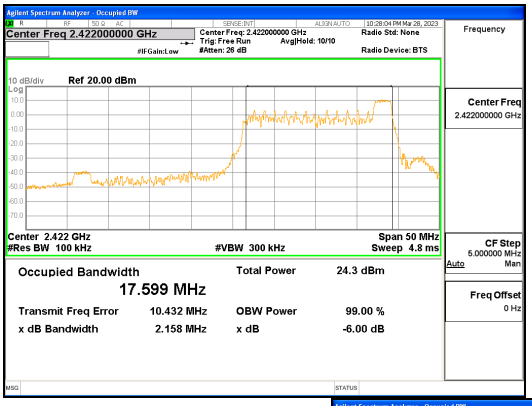
ANT1, 802.11ax_HE40_26T_Mid

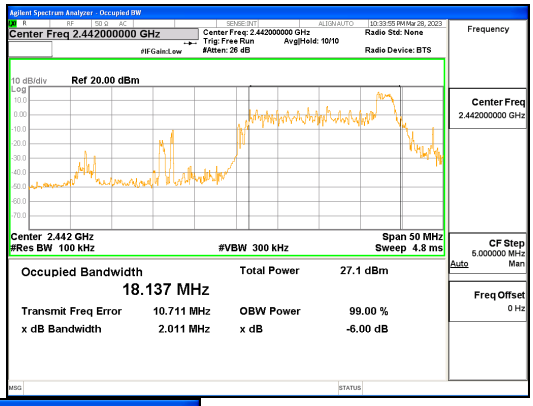


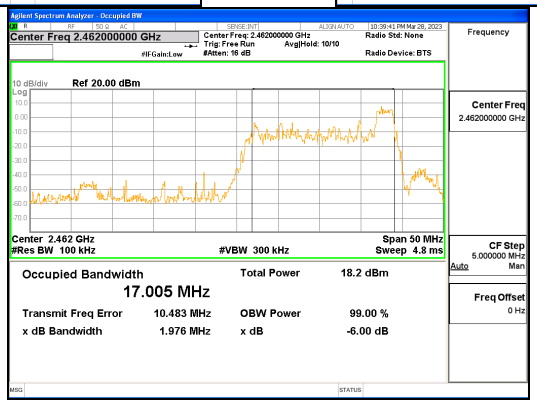




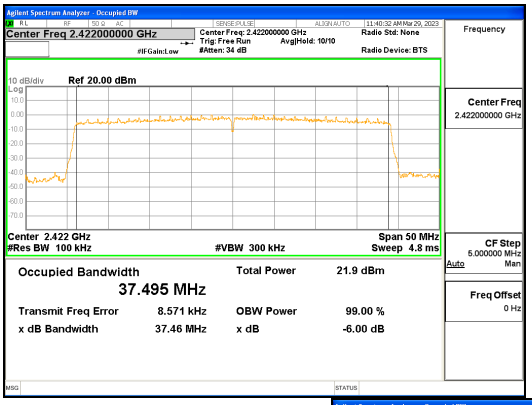
ANT0, 802.11ax_HE40_26T_High

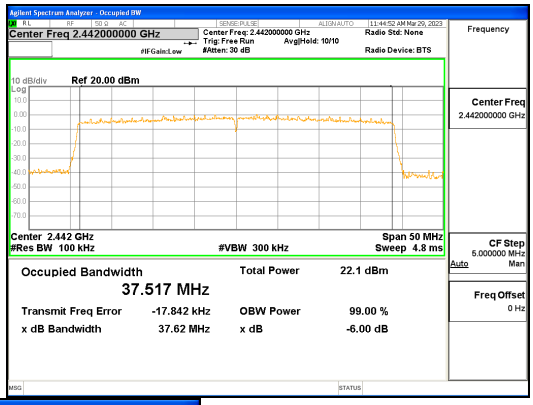


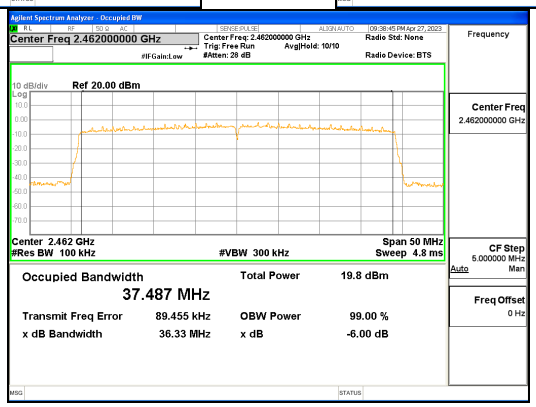




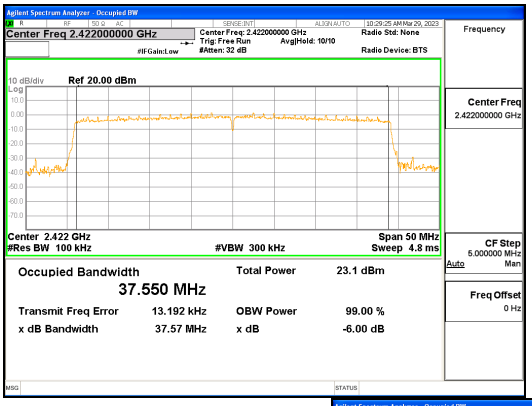
ANT1, 802.11ax_HE40_26T_High

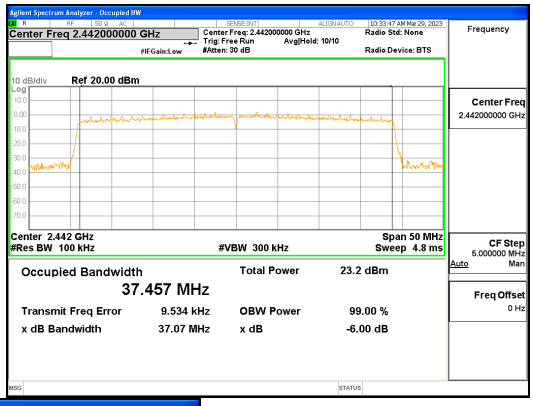


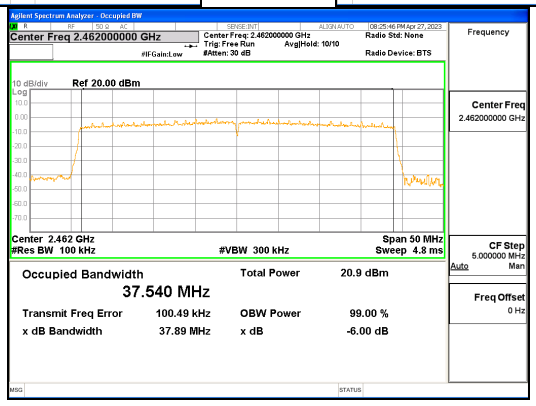




ANT0, 802.11ax_HE40_484T







ANT1, 802.11ax_HE40_484T

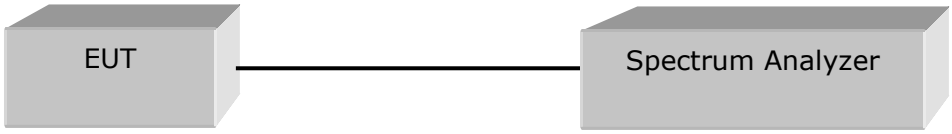
4.2 OUTPUT POWER

Test Procedures

<802.11b/g/n mode>

KDB 558074 - Section 8.3.2.2 (Average Power)
ANSI C63.10-2013 - Section 11.9.2.2
KDB 662911 D01, D02 (Multiple Transmitter Output)

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

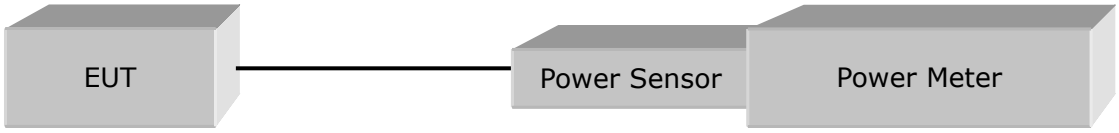
a) span ≥ 1.5 x OBW
b) RBW = 1 MHz
c) VBW ≥ 3 x RBW
d) Sweep time = auto
e) Detector = RMS
f) average at least 100
g) Duty cycle factor = 10log(1/x)

Test mode	Duty Cycle Factor
802.11b	0.00 dB
802.11g	0.12 dB
802.11n_HT20	0.13 dB
802.11n_HT40	0.27 dB

< 802.11ax mode>

KDB 558074 - Section 8.3.2.3
ANSI C63.10-2013 - Section 11.9.2.3
KDB 662911 D01, D02 (Multiple Transmitter Output)

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
802.11ax_HE20_26T	0.21 dB
802.11ax_HE20_52T	0.22 dB
802.11ax_HE20_106T	0.23 dB
802.11ax_HE20_242T	0.25 dB
802.11ax_HE40_26T	0.20 dB
802.11ax_HE40_52T	0.21 dB
802.11ax_HE40_106T	0.23 dB
802.11ax_HE40_242T	0.26 dB
802.11ax_HE40_484T	0.27 dB

Limit

Operating Mode	Mode	ANT Configuration	ANT Gain (dBi)	Limit (dBm)
SISO	802.11b/g/n/ax	ANT0	-0.63	30.00
SISO	802.11b/g/n/ax	ANT1	0.67	30.00
MIMO (2Tx)	802.11n/ax	ANT0 + ANT1	3.05	30.00

Test Data :

ANT0

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11b	2 412	20.93	0.00	20.93	30.00	9.07
	2 417	20.95	0.00	20.95	30.00	9.05
	2 442	21.00	0.00	21.00	30.00	9.00
	2 467	17.86	0.00	17.86	30.00	12.14
	2 472	11.19	0.00	11.19	30.00	18.81
802.11g	2 412	15.47	0.12	15.59	30.00	14.41
	2 442	15.18	0.12	15.30	30.00	14.70
	2 472	15.11	0.12	15.23	30.00	14.77
802.11n _HT20	2 412	15.48	0.13	15.61	30.00	14.39
	2 442	15.16	0.13	15.29	30.00	14.71
	2 472	15.06	0.13	15.19	30.00	14.81
802.11n _HT40	2 422	14.19	0.27	14.46	30.00	15.54
	2 442	14.24	0.27	14.51	30.00	15.49
	2 462	13.77	0.27	14.04	30.00	15.96

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	2 412	Low	13.60	0.21	13.81	30.00	16.19
		Mid	13.52	0.21	13.73	30.00	16.27
		High	13.51	0.21	13.72	30.00	16.28
	2 442	Low	13.44	0.21	13.65	30.00	16.35
		Mid	13.67	0.21	13.88	30.00	16.12
		High	13.39	0.21	13.60	30.00	16.40
	2 472	Low	4.88	0.21	5.09	30.00	24.91
		Mid	4.78	0.21	4.99	30.00	25.01
		High	4.75	0.21	4.96	30.00	25.04

802.11ax _HE20 _52T	2 412	Low	14.15	0.22	14.37	30.00	15.63
		Mid	14.17	0.22	14.39	30.00	15.61
		High	14.60	0.22	14.82	30.00	15.18
	2 442	Low	14.63	0.22	14.85	30.00	15.15
		Mid	14.78	0.22	15.00	30.00	15.00
		High	14.66	0.22	14.88	30.00	15.12
	2 472	Low	7.54	0.22	7.76	30.00	22.24
		Mid	7.19	0.22	7.41	30.00	22.59
		High	7.20	0.22	7.42	30.00	22.58
802.11ax _HE20 _106T	2 412	Low	13.62	0.23	13.85	30.00	16.15
		Mid	-	-	-	-	-
		High	13.50	0.23	13.73	30.00	16.27
	2 442	Low	13.80	0.23	14.03	30.00	15.97
		Mid	-	-	-	-	-
		High	13.60	0.23	13.83	30.00	16.17
	2 472	Low	7.43	0.23	7.66	30.00	22.34
		Mid	-	-	-	-	-
		High	7.86	0.23	8.09	30.00	21.91
802.11ax _HE20 _242T	2 412	-	11.24	0.25	11.49	30.00	18.51
	2 442	-	11.31	0.25	11.56	30.00	18.44
	2 472	-	10.77	0.25	11.02	30.00	18.98
802.11ax _HE40 _26T	2 422	Low	15.89	0.20	16.09	30.00	13.91
		Mid	16.22	0.20	16.42	30.00	13.58
		High	16.81	0.20	17.01	30.00	12.99
	2 442	Low	16.05	0.20	16.25	30.00	13.75
		Mid	15.91	0.20	16.11	30.00	13.89
		High	16.07	0.20	16.27	30.00	13.73
	2 462	Low	5.21	0.20	5.41	30.00	24.59
		Mid	3.05	0.20	3.25	30.00	26.75
		High	5.26	0.20	5.46	30.00	24.54

802.11ax _HE40 _52T	2 422	Low	16.01	0.21	16.22	30.00	13.78
		Mid	16.60	0.21	16.81	30.00	13.19
		High	16.42	0.21	16.63	30.00	13.37
	2 442	Low	16.24	0.21	16.45	30.00	13.55
		Mid	16.37	0.21	16.58	30.00	13.42
		High	16.03	0.21	16.24	30.00	13.76
	2 462	Low	6.04	0.21	6.25	30.00	23.75
		Mid	6.43	0.21	6.64	30.00	23.36
		High	6.14	0.21	6.35	30.00	23.65
802.11ax _HE40 _106T	2 422	Low	16.82	0.23	17.05	30.00	12.95
		Mid	16.64	0.23	16.87	30.00	13.13
		High	17.11	0.23	17.34	30.00	12.66
	2 442	Low	16.48	0.23	16.71	30.00	13.29
		Mid	16.53	0.23	16.76	30.00	13.24
		High	16.12	0.23	16.35	30.00	13.65
	2 462	Low	7.97	0.23	8.20	30.00	21.80
		Mid	8.15	0.23	8.38	30.00	21.62
		High	7.96	0.23	8.19	30.00	21.81
802.11ax _HE40 _242T	2 422	Low	16.21	0.26	16.47	30.00	13.53
		Mid	-	-	-	-	-
		High	17.08	0.26	17.34	30.00	12.66
	2 442	Low	16.43	0.26	16.69	30.00	13.31
		Mid	-	-	-	-	-
		High	16.27	0.26	16.53	30.00	13.47
	2 462	Low	12.53	0.26	12.79	30.00	17.21
		Mid	-	-	-	-	-
		High	12.64	0.26	12.90	30.00	17.10
802.11ax _HE40 _484T	2 422	-	14.81	0.27	15.08	30.00	14.92
	2 442	-	14.75	0.27	15.02	30.00	14.98
	2 462	-	12.11	0.27	12.38	30.00	17.62

ANT1

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11b	2 412	22.33	0.00	22.33	30.00	7.67
	2 417	22.40	0.00	22.40	30.00	7.60
	2 442	22.44	0.00	22.44	30.00	7.56
	2 467	19.37	0.00	19.37	30.00	10.63
	2 472	11.93	0.00	11.93	30.00	18.07
802.11g	2 412	16.64	0.12	16.76	30.00	13.24
	2 442	16.35	0.12	16.47	30.00	13.53
	2 472	16.38	0.12	16.50	30.00	13.50
802.11n _HT20	2 412	16.69	0.13	16.82	30.00	13.18
	2 442	16.62	0.13	16.75	30.00	13.25
	2 472	16.82	0.13	16.95	30.00	13.05
802.11n _HT40	2 422	15.33	0.27	15.60	30.00	14.40
	2 442	15.48	0.27	15.75	30.00	14.25
	2 462	15.38	0.27	15.65	30.00	14.35

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	2 412	Low	14.52	0.21	14.73	30.00	15.27
		Mid	14.63	0.21	14.84	30.00	15.16
		High	14.57	0.21	14.78	30.00	15.22
	2 442	Low	13.72	0.21	13.93	30.00	16.07
		Mid	14.60	0.21	14.81	30.00	15.19
		High	14.44	0.21	14.65	30.00	15.35
	2 472	Low	6.05	0.21	6.26	30.00	23.74
		Mid	4.55	0.21	4.76	30.00	25.24
		High	4.30	0.21	4.51	30.00	25.49

802.11ax _HE20 _52T	2 412	Low	15.66	0.22	15.88	30.00	14.12
		Mid	15.52	0.22	15.74	30.00	14.26
		High	18.25	0.22	18.47	30.00	11.53
	2 442	Low	15.48	0.22	15.70	30.00	14.30
		Mid	14.58	0.22	14.80	30.00	15.20
		High	16.32	0.22	16.54	30.00	13.46
	2 472	Low	5.22	0.22	5.44	30.00	24.56
		Mid	8.86	0.22	9.08	30.00	20.92
		High	9.67	0.22	9.89	30.00	20.11
802.11ax _HE20 _106T	2 412	Low	15.94	0.23	16.17	30.00	13.83
		Mid	-	-	-	-	-
		High	15.61	0.23	15.84	30.00	14.16
	2 442	Low	15.63	0.23	15.86	30.00	14.14
		Mid	-	-	-	-	-
		High	16.59	0.23	16.82	30.00	13.18
	2 472	Low	9.38	0.23	9.61	30.00	20.39
		Mid	-	-	-	-	-
		High	8.87	0.23	9.10	30.00	20.90
802.11ax _HE20 _242T	2 412	-	12.69	0.25	12.94	30.00	17.06
	2 442	-	12.33	0.25	12.58	30.00	17.42
	2 472	-	11.50	0.25	11.75	30.00	18.25
802.11ax _HE40 _26T	2 422	Low	15.63	0.20	15.83	30.00	14.17
		Mid	15.71	0.20	15.91	30.00	14.09
		High	15.61	0.20	15.81	30.00	14.19
	2 442	Low	15.40	0.20	15.60	30.00	14.40
		Mid	15.57	0.20	15.77	30.00	14.23
		High	15.50	0.20	15.70	30.00	14.30
	2 462	Low	4.60	0.20	4.80	30.00	25.20
		Mid	5.28	0.20	5.48	30.00	24.52
		High	5.00	0.20	5.20	30.00	24.80

802.11ax_HE40_52T	2 422	Low	15.59	0.21	15.80	30.00	14.20
		Mid	15.95	0.21	16.16	30.00	13.84
		High	15.38	0.21	15.59	30.00	14.41
	2 442	Low	15.63	0.21	15.84	30.00	14.16
		Mid	15.59	0.21	15.80	30.00	14.20
		High	15.80	0.21	16.01	30.00	13.99
	2 462	Low	6.26	0.21	6.47	30.00	23.53
		Mid	6.92	0.21	7.13	30.00	22.87
		High	6.79	0.21	7.00	30.00	23.00
802.11ax_HE40_106T	2 422	Low	15.57	0.23	15.80	30.00	14.20
		Mid	16.17	0.23	16.40	30.00	13.60
		High	15.82	0.23	16.05	30.00	13.95
	2 442	Low	16.07	0.23	16.30	30.00	13.70
		Mid	16.11	0.23	16.34	30.00	13.66
		High	16.07	0.23	16.30	30.00	13.70
	2 462	Low	8.54	0.23	8.77	30.00	21.23
		Mid	9.15	0.23	9.38	30.00	20.62
		High	9.24	0.23	9.47	30.00	20.53
802.11ax_HE40_242T	2 422	Low	15.92	0.26	16.18	30.00	13.82
		Mid	-	-	-	-	-
		High	15.48	0.26	15.74	30.00	14.26
	2 442	Low	15.86	0.26	16.12	30.00	13.88
		Mid	-	-	-	-	-
		High	15.89	0.26	16.15	30.00	13.85
	2 462	Low	12.87	0.26	13.13	30.00	16.87
		Mid	-	-	-	-	-
		High	12.92	0.26	13.18	30.00	16.82
802.11ax_HE40_484T	2 422	-	16.16	0.27	16.43	30.00	13.57
	2 442	-	16.28	0.27	16.55	30.00	13.45
	2 462	-	12.87	0.27	13.14	30.00	16.86

ANT0 + ANT1 (MIMO)

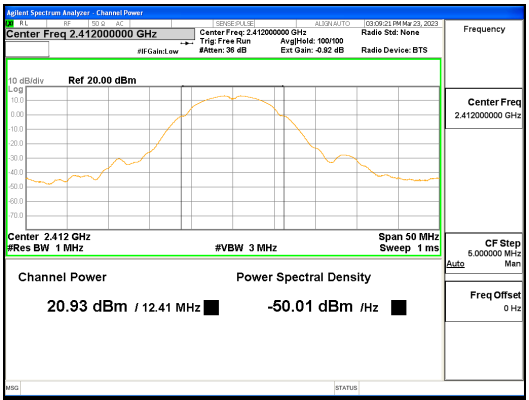
Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11n _HT20	2 412	19.14	0.13	19.27	30.00	10.73
	2 442	18.96	0.13	19.09	30.00	10.91
	2 472	19.04	0.13	19.17	30.00	10.83
802.11n _HT40	2 422	17.81	0.27	18.08	30.00	11.92
	2 442	17.91	0.27	18.18	30.00	11.82
	2 462	17.66	0.27	17.93	30.00	12.07

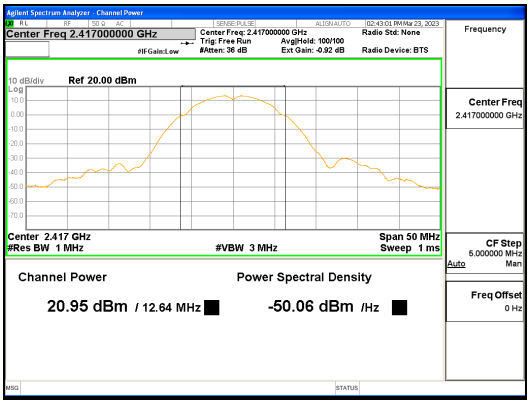
Test Mode	Frequency (MHz)	RU Index	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11ax _HE20 _26T	2 412	Low	17.09	0.21	17.30	30.00	12.70
		Mid	17.12	0.21	17.33	30.00	12.67
		High	17.08	0.21	17.29	30.00	12.71
	2 442	Low	16.59	0.21	16.80	30.00	13.20
		Mid	17.17	0.21	17.38	30.00	12.62
		High	16.96	0.21	17.17	30.00	12.83
	2 472	Low	8.51	0.21	8.72	30.00	21.28
		Mid	7.68	0.21	7.89	30.00	22.11
		High	7.54	0.21	7.75	30.00	22.25
802.11ax _HE20 _52T	2 412	Low	17.98	0.22	18.20	30.00	11.80
		Mid	17.91	0.22	18.13	30.00	11.87
		High	19.81	0.22	20.03	30.00	9.97
	2 442	Low	18.09	0.22	18.31	30.00	11.69
		Mid	17.69	0.22	17.91	30.00	12.09
		High	18.58	0.22	18.80	30.00	11.20
	2 472	Low	9.54	0.22	9.76	30.00	20.24
		Mid	11.12	0.22	11.34	30.00	18.66
		High	11.62	0.22	11.84	30.00	18.16

802.11ax _HE20 _106T	2 412	Low	17.94	0.23	18.17	30.00	11.83
		Mid	-	-	-	-	-
		High	17.69	0.23	17.92	30.00	12.08
	2 442	Low	17.82	0.23	18.05	30.00	11.95
		Mid	-	-	-	-	-
		High	18.36	0.23	18.59	30.00	11.41
	2 472	Low	11.52	0.23	11.75	30.00	18.25
		Mid	-	-	-	-	-
		High	11.40	0.23	11.63	30.00	18.37
802.11ax _HE20 _242T	2 412	-	15.04	0.25	15.29	30.00	14.71
	2 442	-	14.86	0.25	15.11	30.00	14.89
	2 472	-	14.16	0.25	14.41	30.00	15.59
802.11ax _HE40 _26T	2 422	Low	18.77	0.20	18.97	30.00	11.03
		Mid	18.98	0.20	19.18	30.00	10.82
		High	19.26	0.20	19.46	30.00	10.54
	2 442	Low	18.75	0.20	18.95	30.00	11.05
		Mid	18.75	0.20	18.95	30.00	11.05
		High	18.80	0.20	19.00	30.00	11.00
	2 462	Low	7.93	0.20	8.13	30.00	21.87
		Mid	7.32	0.20	7.52	30.00	22.48
		High	8.14	0.20	8.34	30.00	21.66
802.11ax _HE40 _52T	2 422	Low	18.82	0.21	19.03	30.00	10.97
		Mid	19.30	0.21	19.51	30.00	10.49
		High	18.94	0.21	19.15	30.00	10.85
	2 442	Low	18.96	0.21	19.17	30.00	10.83
		Mid	19.01	0.21	19.22	30.00	10.78
		High	18.93	0.21	19.14	30.00	10.86
	2 462	Low	9.16	0.21	9.37	30.00	20.63
		Mid	9.69	0.21	9.90	30.00	20.10
		High	9.49	0.21	9.70	30.00	20.30

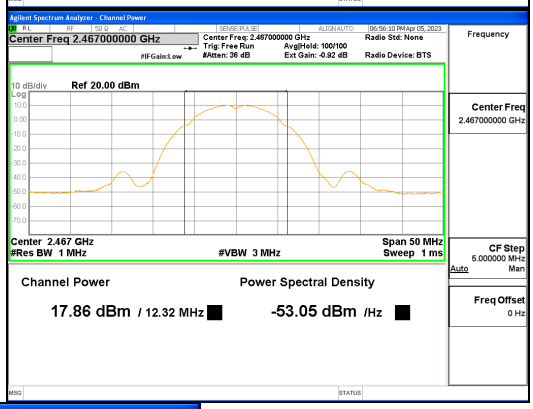
802.11ax _HE40 _106T	2 422	Low	19.25	0.23	19.48	30.00	10.52
		Mid	19.42	0.23	19.65	30.00	10.35
		High	19.52	0.23	19.75	30.00	10.25
	2 442	Low	19.29	0.23	19.52	30.00	10.48
		Mid	19.34	0.23	19.57	30.00	10.43
		High	19.11	0.23	19.34	30.00	10.66
	2 462	Low	11.27	0.23	11.50	30.00	18.50
		Mid	11.69	0.23	11.92	30.00	18.08
		High	11.66	0.23	11.89	30.00	18.11
802.11ax _HE40 _242T	2 422	Low	19.08	0.26	19.34	30.00	10.66
		Mid	-	-	-	-	-
		High	19.36	0.26	19.62	30.00	10.38
	2 442	Low	19.16	0.26	19.42	30.00	10.58
		Mid	-	-	-	-	-
		High	19.09	0.26	19.35	30.00	10.65
	2 462	Low	15.71	0.26	15.97	30.00	14.03
		Mid	-	-	-	-	-
		High	15.79	0.26	16.05	30.00	13.95
802.11ax _HE40 _484T	2 422	-	18.55	0.27	18.82	30.00	11.18
	2 442	-	18.59	0.27	18.86	30.00	11.14
	2 462	-	15.52	0.27	15.79	30.00	14.21

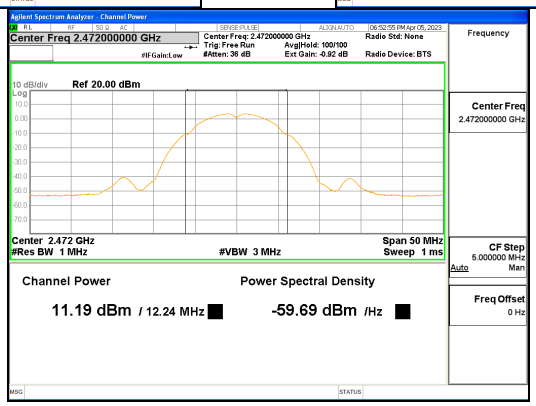
See next pages for actual measured spectrum plots.


Agilent Spectrum Analyzer - Channel Power
Center Freq 2.412000000 GHz
Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 36 dB
Ext Gain: -0.92 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.412000000 GHz
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Channel Power
Power Spectral Density
20.93 dBm / 12.41 MHz
-50.01 dBm /Hz

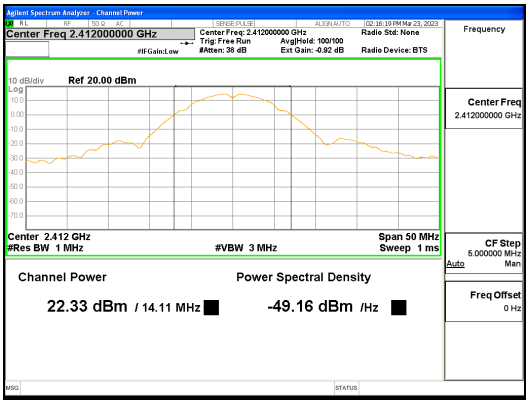

Agilent Spectrum Analyzer - Channel Power
Center Freq 2.417000000 GHz
Center Freq: 2.417000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 36 dB
Ext Gain: -0.92 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.417000000 GHz
Center 2.417 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Channel Power
Power Spectral Density
20.95 dBm / 12.64 MHz
-50.06 dBm /Hz

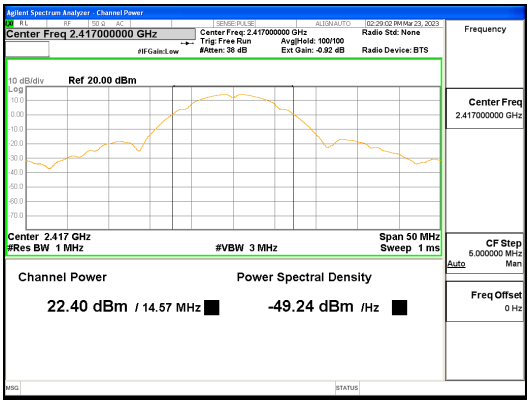

Agilent Spectrum Analyzer - Channel Power
Center Freq 2.442000000 GHz
Center Freq: 2.442000000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 36 dB
Ext Gain: -0.92 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.442000000 GHz
Center 2.442 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Channel Power
Power Spectral Density
21.00 dBm / 12.75 MHz
-50.05 dBm /Hz


Agilent Spectrum Analyzer - Channel Power
Center Freq 2.467000000 GHz
Center Freq: 2.467000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 36 dB
Ext Gain: -0.92 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.467000000 GHz
Center 2.467 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Channel Power
Power Spectral Density
17.86 dBm / 12.32 MHz
-53.05 dBm /Hz


Agilent Spectrum Analyzer - Channel Power
Center Freq 2.472000000 GHz
Center Freq: 2.472000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 36 dB
Ext Gain: -0.92 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low
Frequency
10 dB/div
Ref 20.00 dBm
Center Freq
2.472000000 GHz
Center 2.472 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
Channel Power
Power Spectral Density
11.19 dBm / 12.24 MHz
-59.69 dBm /Hz

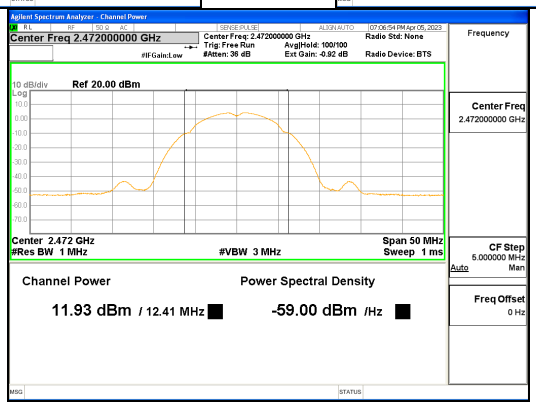
ANT0, 802.11b


Agilent Spectrum Analyzer - Channel Power
Center Freq 2.412000000 GHz
Ref 20.00 dBm
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
Channel Power
22.33 dBm / 14.11 MHz
Power Spectral Density
-49.16 dBm /Hz
Frequency
Center Freq
2.412000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

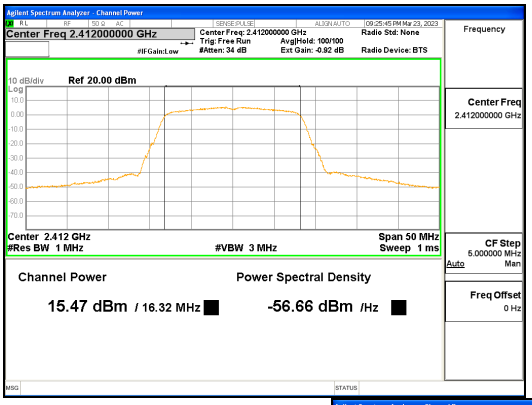

Agilent Spectrum Analyzer - Channel Power
Center Freq 2.417000000 GHz
Ref 20.00 dBm
Center 2.417 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
Channel Power
22.40 dBm / 14.57 MHz
Power Spectral Density
-49.24 dBm /Hz
Frequency
Center Freq
2.417000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

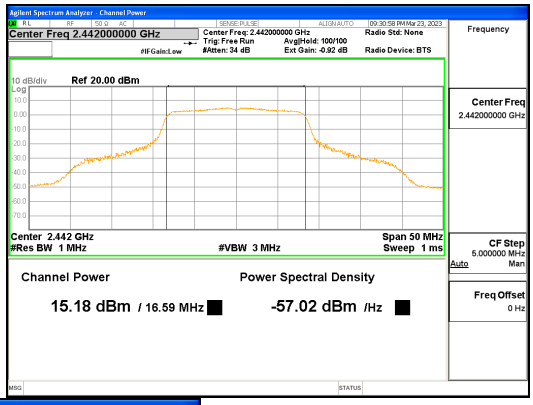

Agilent Spectrum Analyzer - Channel Power
Center Freq 2.442000000 GHz
Ref 20.00 dBm
Center 2.442 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
Channel Power
22.44 dBm / 14.78 MHz
Power Spectral Density
-49.25 dBm /Hz
Frequency
Center Freq
2.442000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Channel Power
Center Freq 2.467000000 GHz
Ref 20.00 dBm
Center 2.467 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
Channel Power
19.37 dBm / 16.74 MHz
Power Spectral Density
-52.87 dBm /Hz
Frequency
Center Freq
2.467000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

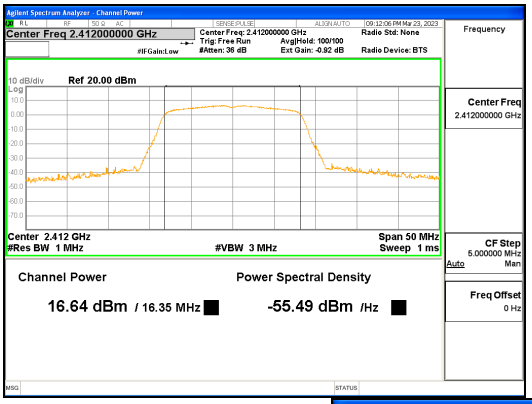

Agilent Spectrum Analyzer - Channel Power
Center Freq 2.472000000 GHz
Ref 20.00 dBm
Center 2.472 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
Channel Power
11.93 dBm / 12.41 MHz
Power Spectral Density
-59.00 dBm /Hz
Frequency
Center Freq
2.472000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

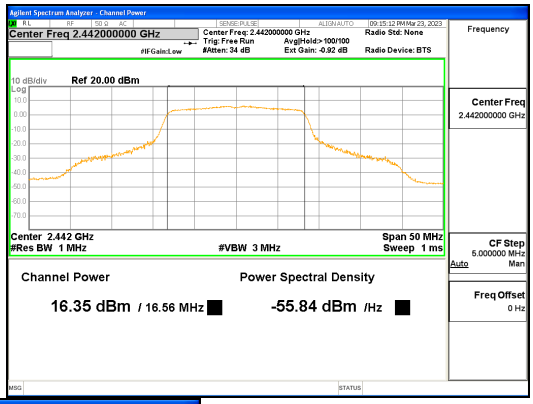
ANT1, 802.11b

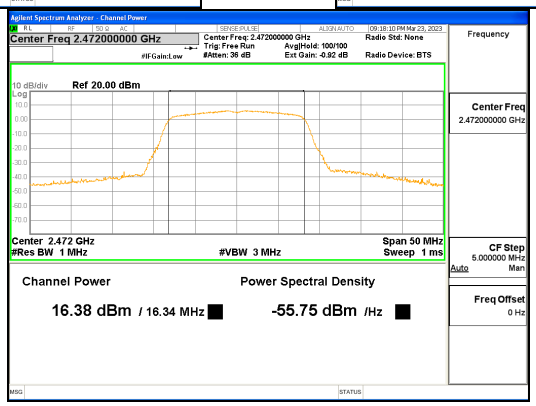




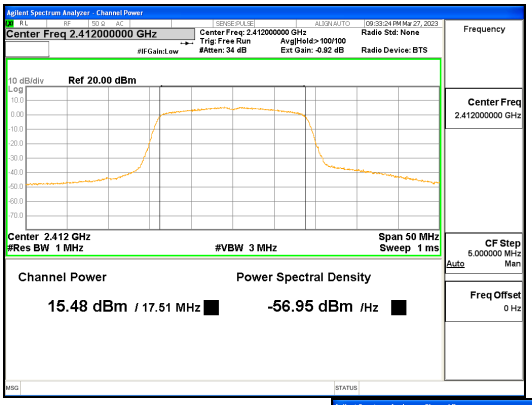
ANT0, 802.11g

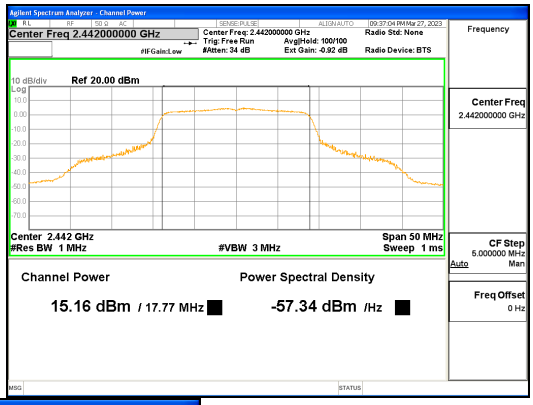


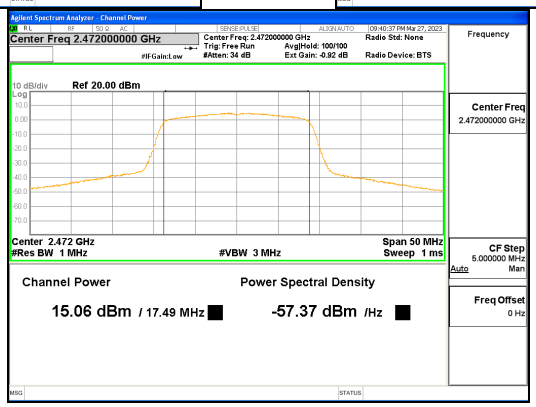




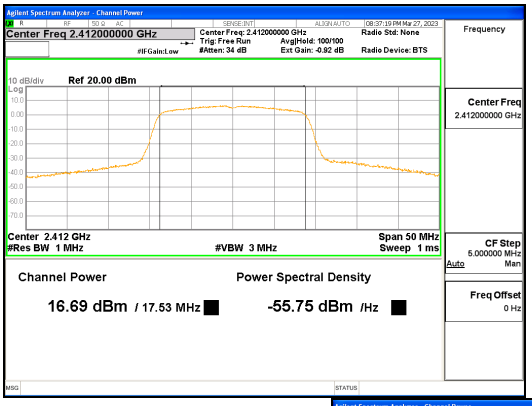
ANT1, 802.11g

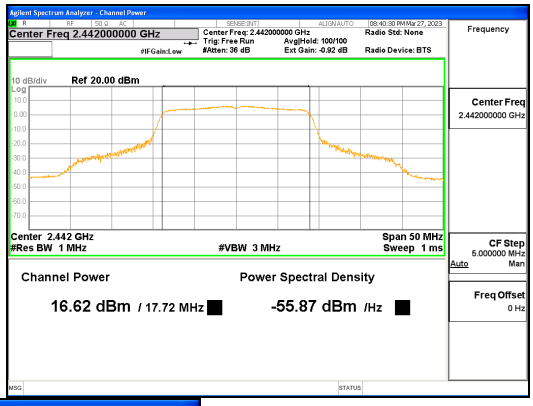


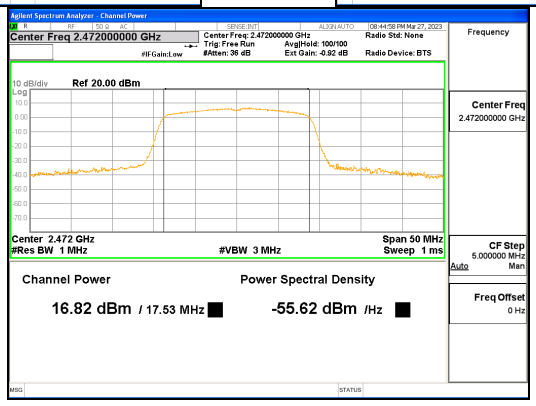




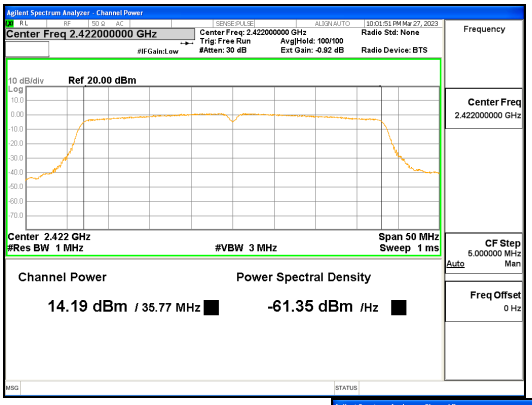
ANT0, 802.11n_HT20

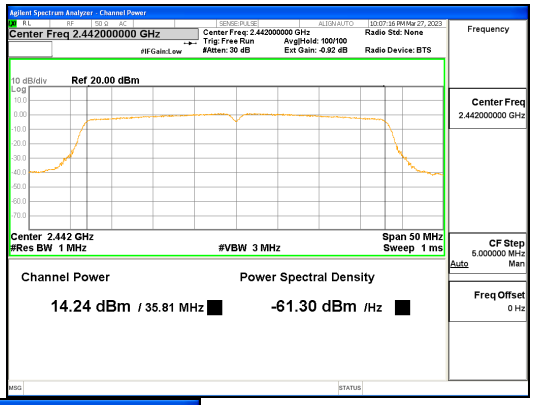


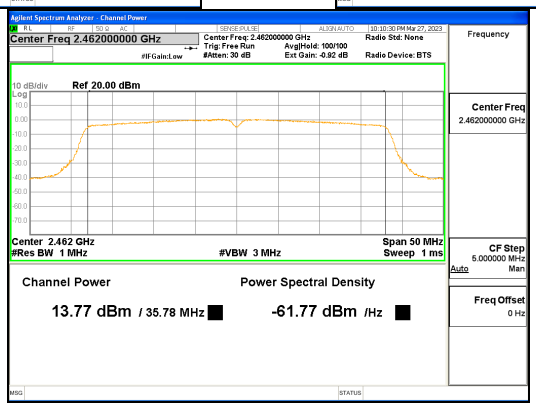




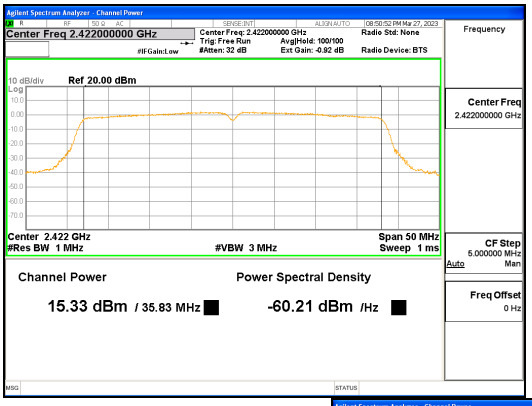
ANT1, 802.11n_HT20

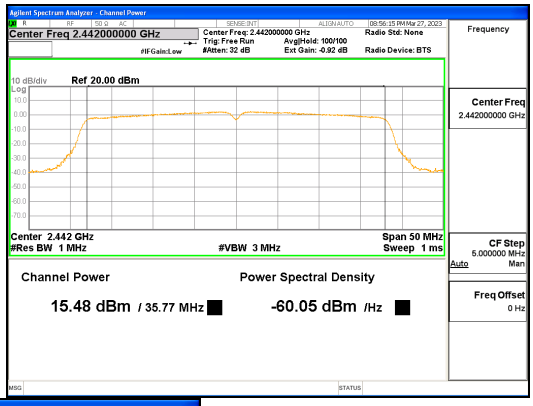


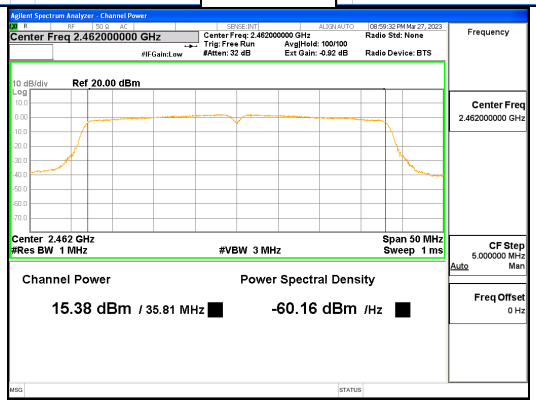




ANT0, 802.11n_HT40







ANT1, 802.11n_HT40

4.3 Transmitter Power Spectral Density

Test Procedures

KDB 558074 - Section 8.4
ANSI C63.10-2013 - Section 11.10.2
KDB 662911 D01, D02 (Multiple Transmitter Output)

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance.

Test Settings:

Center frequency = the highest, middle and the lowest channels

a) RBW : 3 kHz ≤ RBW ≤ 100 kHz

b) VBW ≥ 3 x RBW

c) span ≥ 1.5 x DTS bandwidth

d) Sweep time = auto couple

e) Detector = peak

f) Trace mode= max hold

g) Allow trace to fully stabilize

h) Use the peak marker function to determine the maximum amplitude level within the RBW.

Limit

Operating Mode	Mode	ANT Configuration	ANT Gain (dBi)	Limit (dBm)
SISO	802.11b/g/n/ax	ANT0	-0.63	8.00
SISO	802.11b/g/n/ax	ANT1	0.67	8.00
MIMO (2Tx)	802.11n/ax	ANT0 + ANT1	3.05	8.00

Test Data

ANT0

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11b	2 412	-0.78	8.00	8.78
	2 417	-1.72	8.00	9.72
	2 442	1.04	8.00	6.96
	2 467	-3.94	8.00	11.94
	2 472	-9.18	8.00	17.18
802.11g	2 412	-7.71	8.00	15.71
	2 442	-9.33	8.00	17.33
	2 472	-9.28	8.00	17.28
802.11n _HT20	2 412	-9.36	8.00	17.36
	2 442	-7.41	8.00	15.41
	2 472	-7.22	8.00	15.22
802.11n _HT40	2 422	-11.84	8.00	19.84
	2 442	-12.31	8.00	20.31
	2 462	-13.51	8.00	21.51

Test Mode	Frequency (MHz)	RU Index	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11ax_HE20 _26T	2 412	Low	-3.66	8.00	11.66
		Mid	-1.99	8.00	9.99
		High	-3.45	8.00	11.45
	2 442	Low	-3.72	8.00	11.72
		Mid	-3.40	8.00	11.40
		High	-3.82	8.00	11.82
	2 472	Low	-12.72	8.00	20.72
		Mid	-12.57	8.00	20.57
		High	-12.39	8.00	20.39
802.11ax_HE20 _52T	2 412	Low	-5.86	8.00	13.86
		Mid	-4.30	8.00	12.30
		High	-4.54	8.00	12.54
	2 442	Low	-5.05	8.00	13.05
		Mid	-4.18	8.00	12.18
		High	-5.29	8.00	13.29
	2 472	Low	-13.08	8.00	21.08
		Mid	-11.78	8.00	19.78

		High	-6.80	8.00	14.80
802.11ax_HE20_106T	2 412	Low	-7.00	8.00	15.00
		Mid	-	-	-
		High	-8.47	8.00	16.47
	2 442	Low	-8.02	8.00	16.02
		Mid	-	-	-
		High	-8.83	8.00	16.83
	2 472	Low	-14.33	8.00	22.33
		Mid	-	-	-
		High	-15.30	8.00	23.30
802.11ax_HE20_242T	2 412	-	-12.30	8.00	20.30
	2 442	-	-13.40	8.00	21.40
	2 472	-	-13.09	8.00	21.09

Test Mode	Frequency (MHz)	RU Index	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11ax_HE40_26T	2 422	Low	-1.22	8.00	9.22
		Mid	-0.67	8.00	8.67
		High	-0.54	8.00	8.54
	2 442	Low	-1.45	8.00	9.45
		Mid	-0.86	8.00	8.86
		High	-0.84	8.00	8.84
	2 462	Low	-12.07	8.00	20.07
		Mid	-12.15	8.00	20.15
		High	-11.75	8.00	19.75
802.11ax_HE40_52T	2 422	Low	-2.46	8.00	10.46
		Mid	-2.95	8.00	10.95
		High	-2.64	8.00	10.64
	2 442	Low	-3.25	8.00	11.25
		Mid	-2.62	8.00	10.62
		High	-3.48	8.00	11.48
	2 462	Low	-13.10	8.00	21.10
		Mid	-14.96	8.00	22.96
		High	-14.93	8.00	22.93
802.11ax_HE40_106T	2 422	Low	-5.70	8.00	13.70
		Mid	-5.53	8.00	13.53
		High	-6.78	8.00	14.78
	2 442	Low	-6.38	8.00	14.38
		Mid	-5.85	8.00	13.85
		High	-6.61	8.00	14.61

	2 462	Low	-14.06	8.00	22.06
		Mid	-13.88	8.00	21.88
		High	-13.90	8.00	21.90
802.11ax_HE40_242T	2 422	Low	-9.57	8.00	17.57
		Mid	-	-	-
		High	-10.04	8.00	18.04
	2 442	Low	-9.35	8.00	17.35
		Mid	-	-	-
		High	-9.88	8.00	17.88
	2 462	Low	-12.91	8.00	20.91
		Mid	-	-	-
		High	-11.94	8.00	19.94
802.11ax_HE40_484T	2 422	-	-11.74	8.00	19.74
	2 442	-	-12.86	8.00	20.86
	2 462	-	-15.58	8.00	23.58

ANT1

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11b	2 412	0.56	8.00	7.44
	2 417	0.97	8.00	7.03
	2 442	-0.33	8.00	8.33
	2 467	-1.06	8.00	9.06
	2 472	-10.06	8.00	18.06
802.11g	2 412	-7.37	8.00	15.37
	2 442	-7.73	8.00	15.73
	2 472	-8.12	8.00	16.12
802.11n _HT20	2 412	-6.49	8.00	14.49
	2 442	-7.40	8.00	15.40
	2 472	-5.25	8.00	13.25
802.11n _HT40	2 422	-11.61	8.00	19.61
	2 442	-11.36	8.00	19.36
	2 462	-11.37	8.00	19.37

Test Mode	Frequency (MHz)	RU Index	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11ax_HE20 _26T	2 412	Low	-2.08	8.00	10.08
		Mid	-2.57	8.00	10.57
		High	-2.49	8.00	10.49
	2 442	Low	-1.04	8.00	9.04
		Mid	-2.12	8.00	10.12
		High	-3.35	8.00	11.35
	2 472	Low	-10.73	8.00	18.73
		Mid	-12.26	8.00	20.26
		High	-12.44	8.00	20.44
802.11ax_HE20 _52T	2 412	Low	-4.33	8.00	12.33
		Mid	-3.54	8.00	11.54
		High	-3.43	8.00	11.43
	2 442	Low	-4.76	8.00	12.76
		Mid	-3.20	8.00	11.20
		High	-4.24	8.00	12.24
	2 472	Low	-5.11	8.00	13.11
		Mid	-4.80	8.00	12.80
		High	-4.32	8.00	12.32

802.11ax_HE20_106T	2 412	Low	-6.57	8.00	14.57
		Mid	-	-	-
		High	-6.93	8.00	14.93
	2 442	Low	-7.59	8.00	15.59
		Mid	-	-	-
		High	-7.12	8.00	15.12
	2 472	Low	-4.83	8.00	12.83
		Mid	-	-	-
		High	-10.10	8.00	18.10
802.11ax_HE20_242T	2 412	-	-13.51	8.00	21.51
	2 442	-	-13.47	8.00	21.47
	2 472	-	-8.88	8.00	16.88

Test Mode	Frequency (MHz)	RU Index	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11ax_HE40_26T	2 422	Low	-1.94	8.00	9.94
		Mid	0.31	8.00	7.69
		High	-1.71	8.00	9.71
	2 442	Low	-1.78	8.00	9.78
		Mid	-0.99	8.00	8.99
		High	-1.83	8.00	9.83
	2 462	Low	-11.51	8.00	19.51
		Mid	-9.85	8.00	17.85
		High	-6.43	8.00	14.43
802.11ax_HE40_52T	2 422	Low	-3.83	8.00	11.83
		Mid	-3.41	8.00	11.41
		High	-2.87	8.00	10.87
	2 442	Low	-3.50	8.00	11.50
		Mid	-3.19	8.00	11.19
		High	-3.95	8.00	11.95
	2 462	Low	-14.73	8.00	22.73
		Mid	-13.66	8.00	21.66
		High	-12.53	8.00	20.53
802.11ax_HE40_106T	2 422	Low	-6.65	8.00	14.65
		Mid	-5.95	8.00	13.95
		High	-6.75	8.00	14.75
	2 442	Low	-6.88	8.00	14.88
		Mid	-6.08	8.00	14.08
		High	-6.11	8.00	14.11
	2 462	Low	-15.36	8.00	23.36

		Mid	-15.00	8.00	23.00
		High	-14.94	8.00	22.94
802.11ax_HE40_242T	2 422	Low	-10.62	8.00	18.62
		Mid	-	-	-
		High	-9.35	8.00	17.35
	2 442	Low	-11.38	8.00	19.38
		Mid	-	-	-
		High	-10.75	8.00	18.75
	2 462	Low	-13.72	8.00	21.72
		Mid	-	-	-
		High	-13.54	8.00	21.54
802.11ax_HE40_484T	2 422	-	-10.86	8.00	18.86
	2 442	-	-11.46	8.00	19.46
	2 462	-	-13.33	8.00	21.33

ANT0 + ANT1 (MIMO)

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11n _HT20	2 412	-4.68	8.00	12.68
	2 437	-4.39	8.00	12.39
	2 462	-3.11	8.00	11.11
802.11n _HT40	2 422	-8.71	8.00	16.71
	2 437	-8.80	8.00	16.80
	2 452	-9.30	8.00	17.30

Test Mode	Frequency (MHz)	RU Index	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11ax_HE20 _26T	2 412	Low	0.21	8.00	7.79
		Mid	0.74	8.00	7.26
		High	0.07	8.00	7.93
	2 442	Low	0.83	8.00	7.17
		Mid	0.30	8.00	7.70
		High	-0.57	8.00	8.57
	2 472	Low	-8.60	8.00	16.60
		Mid	-9.40	8.00	17.40
		High	-9.40	8.00	17.40
802.11ax_HE20 _52T	2 412	Low	-2.02	8.00	10.02
		Mid	-0.89	8.00	8.89
		High	-0.94	8.00	8.94
	2 442	Low	-1.89	8.00	9.89
		Mid	-0.65	8.00	8.65
		High	-1.72	8.00	9.72
	2 472	Low	-4.47	8.00	12.47
		Mid	-4.01	8.00	12.01
		High	-2.38	8.00	10.38
802.11ax_HE20 _106T	2 412	Low	-3.77	8.00	11.77
		Mid	-	-	-
		High	-4.62	8.00	12.62
	2 442	Low	-4.79	8.00	12.79
		Mid	-	-	-
		High	-4.88	8.00	12.88
	2 472	Low	-4.37	8.00	12.37
		Mid	-	-	-
		High	-8.95	8.00	16.95

802.11ax_HE20_242T	2 412	-	-9.85	8.00	17.85
	2 442	-	-10.42	8.00	18.42
	2 472	-	-7.48	8.00	15.48

Test Mode	Frequency (MHz)	RU Index	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11ax_HE40_26T	2 422	Low	1.45	8.00	6.55
		Mid	2.86	8.00	5.14
		High	1.92	8.00	6.08
	2 442	Low	1.40	8.00	6.60
		Mid	2.09	8.00	5.91
		High	1.70	8.00	6.30
	2 462	Low	-8.77	8.00	16.77
		Mid	-7.84	8.00	15.84
		High	-5.31	8.00	13.31
802.11ax_HE40_52T	2 422	Low	-0.08	8.00	8.08
		Mid	-0.16	8.00	8.16
		High	0.26	8.00	7.74
	2 442	Low	-0.36	8.00	8.36
		Mid	0.11	8.00	7.89
		High	-0.70	8.00	8.70
	2 462	Low	-10.83	8.00	18.83
		Mid	-11.25	8.00	19.25
		High	-10.56	8.00	18.56
802.11ax_HE40_106T	2 422	Low	-3.14	8.00	11.14
		Mid	-2.72	8.00	10.72
		High	-3.75	8.00	11.75
	2 442	Low	-3.61	8.00	11.61
		Mid	-2.95	8.00	10.95
		High	-3.34	8.00	11.34
	2 462	Low	-11.65	8.00	19.65
		Mid	-11.39	8.00	19.39
		High	-11.38	8.00	19.38
802.11ax_HE40_242T	2 422	Low	-7.05	8.00	15.05
		Mid	-	-	-
		High	-6.67	8.00	14.67
	2 442	Low	-7.24	8.00	15.24
		Mid	-	-	-
		High	-7.28	8.00	15.28
	2 462	Low	-10.29	8.00	18.29

		Mid	-	-	-
		High	-9.66	8.00	17.66
802.11ax_HE40_484T	2 422	-	-8.27	8.00	16.27
	2 442	-	-9.09	8.00	17.09
	2 462	-	-11.30	8.00	19.30

See next pages for actual measured spectrum plots.


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.412000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.411 10 GHz
-0.778 dBm
10 dB/div
Ref 20.00 dBm
Center 2.41200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.412000000 GHz
Start Freq
2.397000000 GHz
Stop Freq
2.427000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

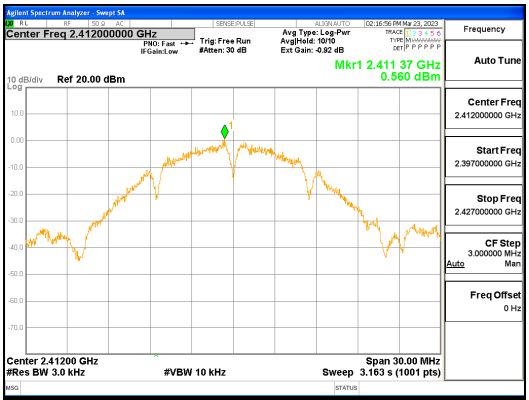

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.417000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.415 29 GHz
-1.716 dBm
10 dB/div
Ref 20.00 dBm
Center 2.41700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.417000000 GHz
Start Freq
2.402000000 GHz
Stop Freq
2.432000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

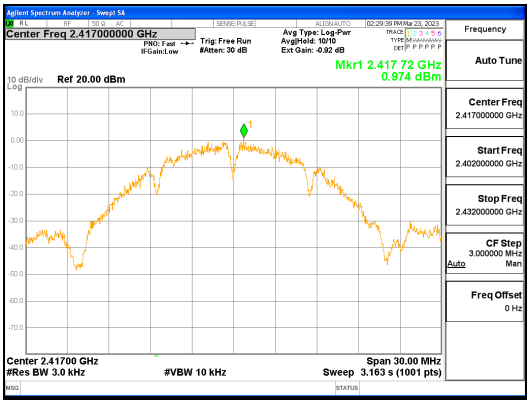

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.442 60 GHz
1.038 dBm
10 dB/div
Ref 20.00 dBm
Center 2.44200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.442000000 GHz
Start Freq
2.427000000 GHz
Stop Freq
2.457000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

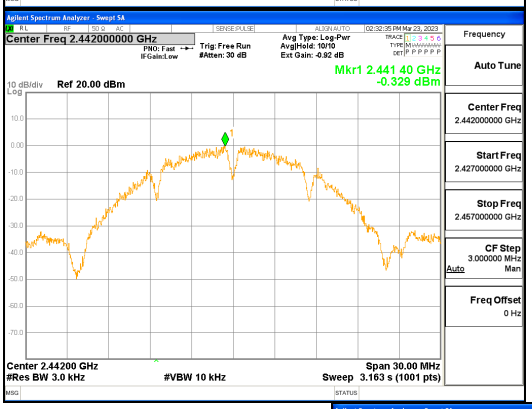

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.467000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.466 19 GHz
-3.937 dBm
10 dB/div
Ref 10.00 dBm
Center 2.46700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.467000000 GHz
Start Freq
2.452000000 GHz
Stop Freq
2.482000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

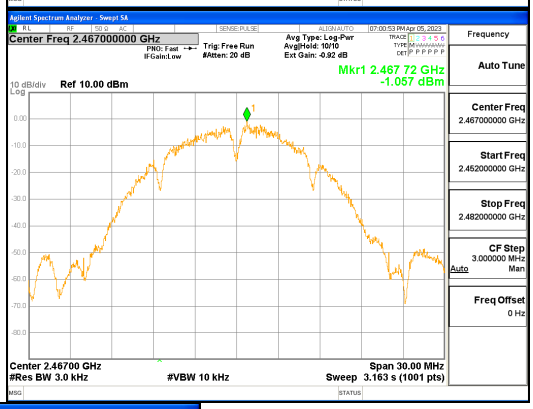

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.472000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.472 81 GHz
-9.176 dBm
10 dB/div
Ref 10.00 dBm
Center 2.47200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.472000000 GHz
Start Freq
2.457000000 GHz
Stop Freq
2.487000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

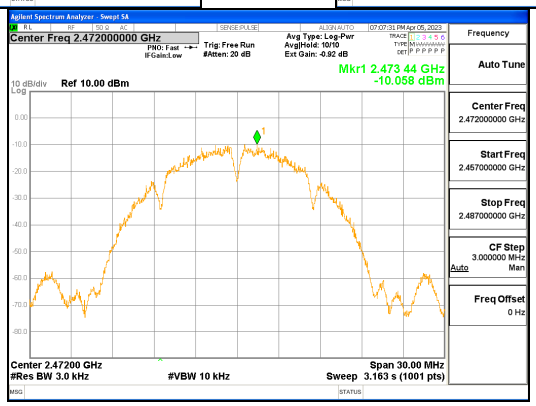
ANT0, 802.11b


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.412000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.411 37 GHz
0.560 dBm
10 dB/div
Ref 20.00 dBm
Center 2.41200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.412000000 GHz
Start Freq
2.397000000 GHz
Stop Freq
2.427000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.417000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.417 72 GHz
0.974 dBm
10 dB/div
Ref 20.00 dBm
Center 2.41700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.417000000 GHz
Start Freq
2.402000000 GHz
Stop Freq
2.432000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.441 40 GHz
-0.329 dBm
10 dB/div
Ref 20.00 dBm
Center 2.44200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.442000000 GHz
Start Freq
2.427000000 GHz
Stop Freq
2.457000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.467000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.467 72 GHz
-1.057 dBm
10 dB/div
Ref 10.00 dBm
Center 2.46700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.467000000 GHz
Start Freq
2.452000000 GHz
Stop Freq
2.482000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.472000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
Ext Gain: -0.92 dB
Mkr1 2.473 44 GHz
-10.058 dBm
10 dB/div
Ref 10.00 dBm
Center 2.47200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.472000000 GHz
Start Freq
2.457000000 GHz
Stop Freq
2.487000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

ANT1, 802.11b