TEST REPORT

CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
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Report No.: CTK-2022-03104

1. Applicant

◦ Name : KAONMEDIA Co., Ltd.

◦ Address : KAONMEDIA Building, 884-3 Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea

◦ Date of Receipt : 2022-08-24

2. Manufacturer

◦ Name : KAONMEDIA Co., Ltd.

◦ Address : KAONMEDIA Building, 884-3 Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea

3. Use of Report : For FCC Conformance

4. Test Sample / Model: IP Set-top-box(OTT STB) / KSTB6200

5. Date of Test : 2022-09-26 to 2022-11-16

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

7. Testing Environment: Temp.: (23 ± 1) ℃, Humidity: (48 ± 3) % R.H.

8. Test Results : Compliance

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

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

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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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.

2022-12-01

CTK Co., Ltd.

REPORT REVISION HISTORY

Date	Revision	Page No
2022-12-01	Issued (CTK-2022-03104)	all

CONTENTS

1. General Product Description

1.1 Applicant Information

Company	KAONMEDIA Co., Ltd.
Contact Point	KAONMEDIA Building, 884-3 Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea
Contact Person	Name : Intae Kim E-mail : intae.kim@kaonmedia.com Tel : +82-31-724-8683 Fax : -

1.2 Product Information

FCC ID	WQTKSTB6200
ISED	24567-KSTB6200
Product Description	IP Set-top-box(OTT STB)
Model name	KSTB6200
Variant Model name	-
Operating Frequency	2 412 MHz – 2 462 MHz (20MHz_BW)
RF Output Power	802.11b : 20.56 dBm (113.76 mW) 802.11g : 15.66 dBm (36.81 mW) 802.11n_HT20 : 17.66 dBm (58.34 mW) 802.11ax_HE20 : 15.92 dBm (39.08 mW)
Antenna Specification	Antenna type : PCB Antenna Peak Gain : 0.95 dBi (ANT1), 0.85 dBi (ANT2)
Antenna Configurations	802.11b : SISO(ANT1, ANT2) 802.11g : SISO(ANT1, ANT2) 802.11n : MIMO(ANT1+ANT2) 802.11ax : MIMO(ANT1+ANT2)
Number of channels	11 (802.11b/g/n_HT20/ax_HE20)
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 144 Mbps 802.11ax: up to 286 Mbps
Power Source	DC 12 V
Hardware Rev	V1.0
Software Rev	V1.9.8

1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Note Computer	HP	15-bs563TU	CND7253QPR
AC/DC Adapter	HP	HSTNN-LA40	-
AC/DC Adapter	SHENZHEN FRECOM ELECTRONICS CO.,LTD.	F12L33-120100SPAU	-

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 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.

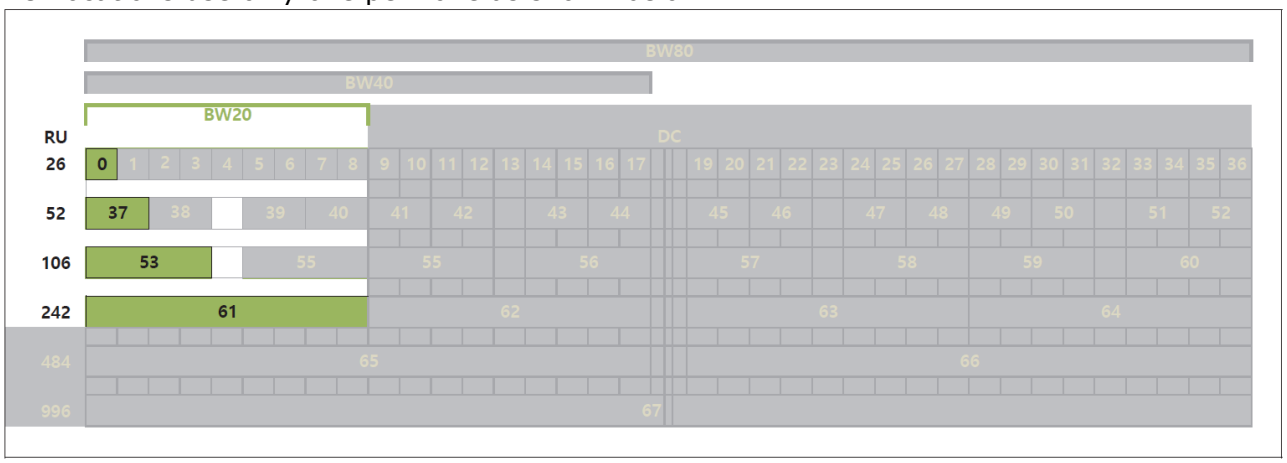
Test Frequency & Bandwidth

Bandwidth	Lowest channel	Middle channel	Highest channel
20 MHz	2 412 MHz	2 437 MHz	2 462 MHz

Test mode & Worst case

Test mode	Modulation	Data rate (Worst case)	Duty Cycle	Duty Cycle Factor
802.11b	DSSS	11 Mbps	100 %	0.00 dB
802.11g	OFDM	6 Mbps	95.4 %	0.21 dB
802.11n_HT20	OFDM	MCS 0	95.3 %	0.21 dB
802.11ax_HE20_26T	OFDMA	MCS 0	99.8 %	0.00 dB
802.11ax_HE20_52T			99.4 %	0.00 dB
802.11ax_HE20_106T			98.2 %	0.00 dB
802.11ax_HE20_242T			96.2 %	0.17 dB

802.11ax RU Locations in BW 20 MHz
RU Locations use only one per Tone as shown below.



Test RU Index for Tones

Mode	Tones	RU Index	
802.11ax_HE20	26T	Low	0
	52T	Low	37
	106T	Low	53
	242T	61	61

Full RU(Resource Unit) 242T mode and SU(Single Unit) mode have no difference in physical waveform. This Report has been reported the Full RU 242T 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)	4.62 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
RSS-Gen – Section 6.7

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	>	500 kHz

Test Data :

ANT1

Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)					
	802.11b		802.11g		802.11n_HT20	
Frequency	6 dB	99 %	6 dB	99 %	6 dB	99 %
2 412 MHz	7.57	11.00	16.42	16.50	17.64	17.71
2 437 MHz	7.13	11.04	16.39	16.51	17.64	17.68
2 462 MHz	7.55	11.09	1643	16.50	17.64	17.69

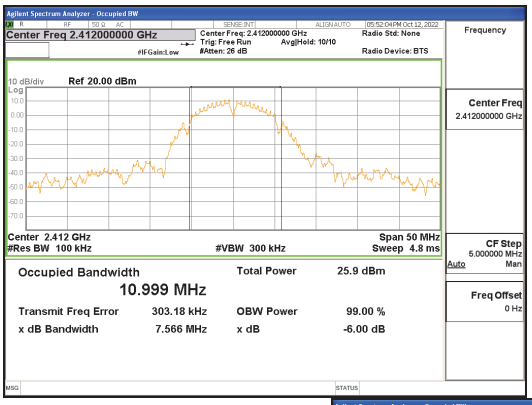
Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)			
	802.11ax_HE20_26T		802.11ax_HE20_242T	
Frequency	6 dB	99 %	6 dB	99 %
2 412 MHz	2.10	18.25	19.19	19.04
2 437 MHz	2.04	18.22	19.12	18.99
2 462 MHz	2.11	18.32	19.14	19.00

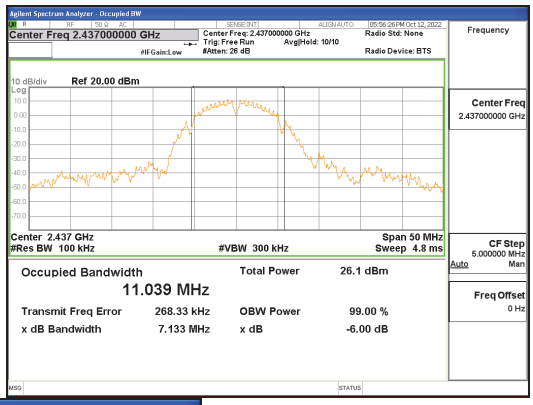
ANT2

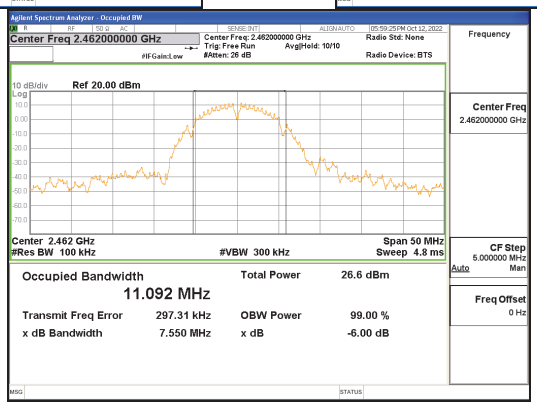
Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)					
	802.11b		802.11g		802.11n_HT20	
Frequency	6 dB	99 %	6 dB	99 %	6 dB	99 %
2 412 MHz	7.60	11.15	16.39	16.51	17.67	17.65
2 437 MHz	7.58	11.07	16.40	16.52	17.67	17.65
2 462 MHz	8.03	11.10	16.40	16.50	17.63	17.66

Mode	6 dB Bandwidth and 99 % Bandwidth (MHz)			
	802.11ax_HE20_26T		802.11ax_HE20_242T	
Frequency	6 dB	99 %	6 dB	99 %
2 412 MHz	2.11	18.20	19.16	19.01
2 437 MHz	2.17	18.26	19.06	18.95
2 462 MHz	2.14	18.21	19.08	18.95

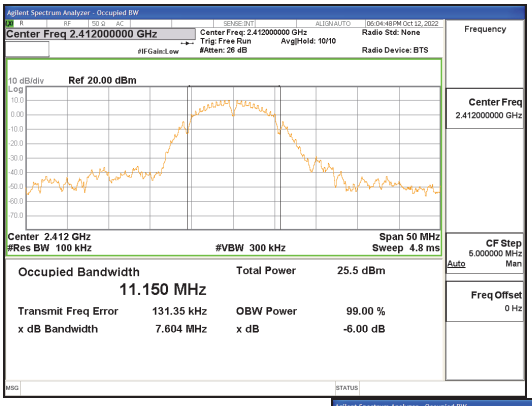
See next pages for actual measured spectrum plots.

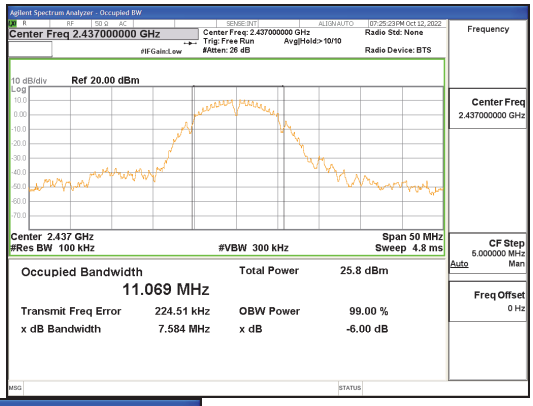


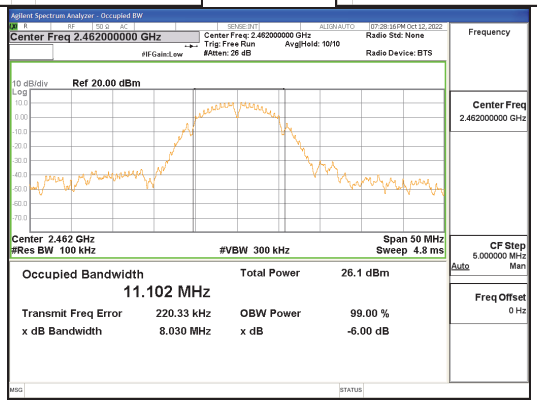




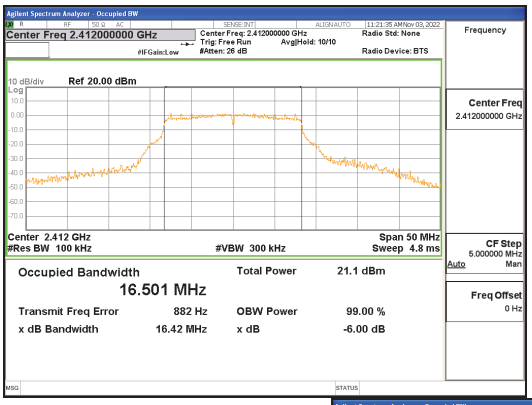
ANT1, 802.11b

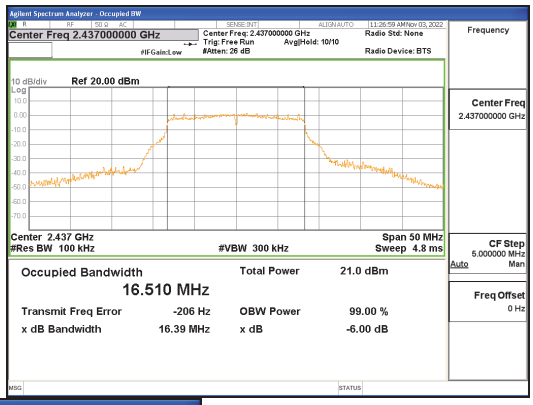


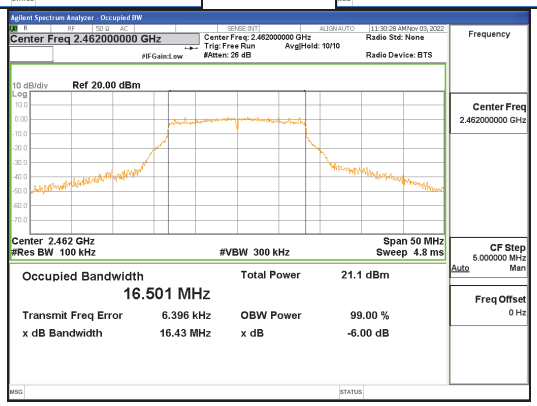




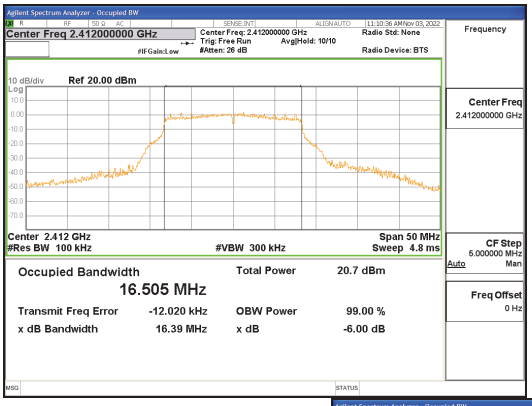
ANT2, 802.11b

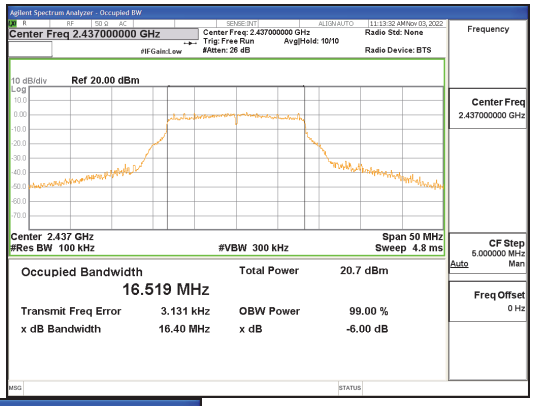


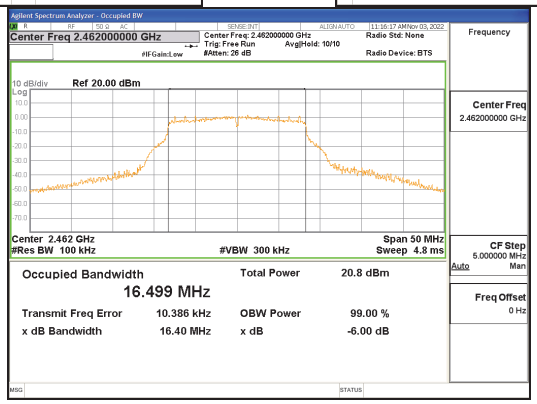




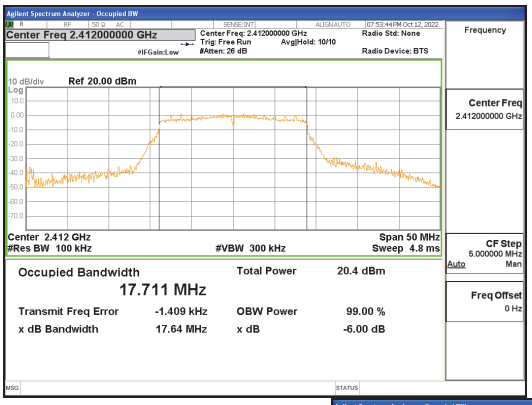
ANT1, 802.11g

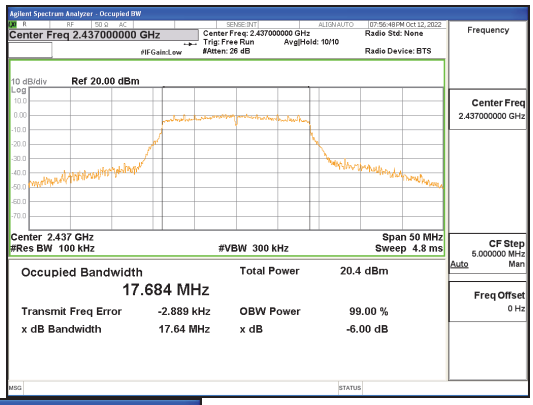


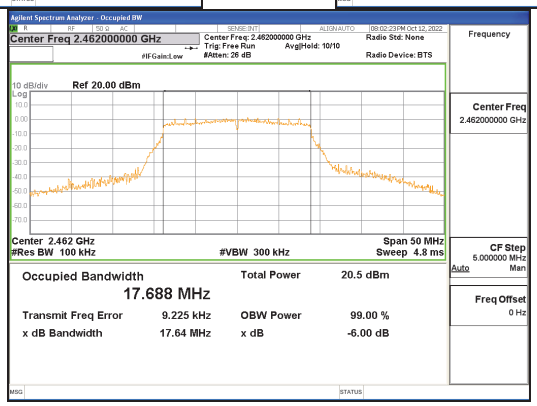




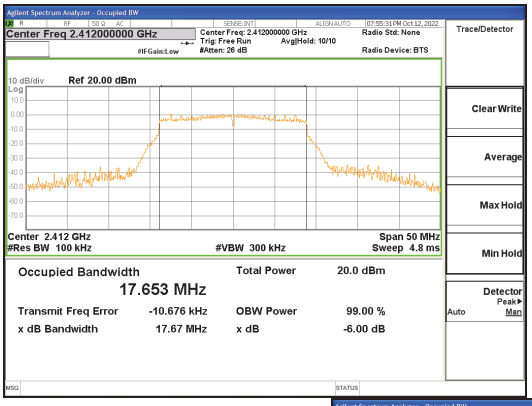
ANT2, 802.11g

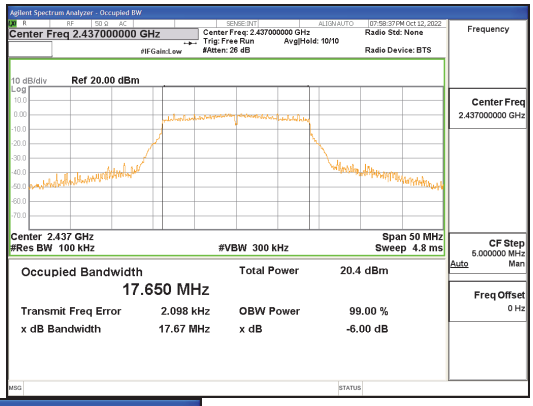


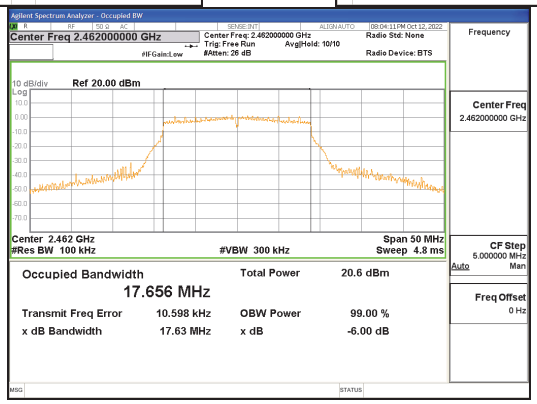




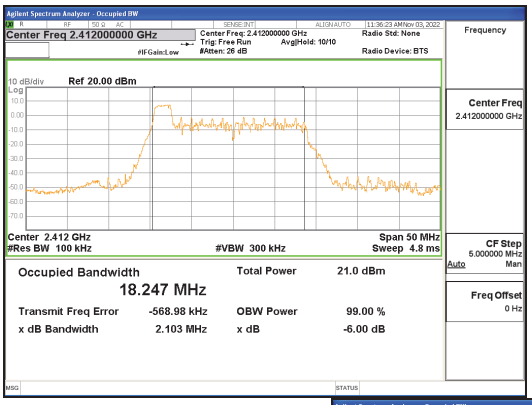
ANT1, 802.11n_HT20

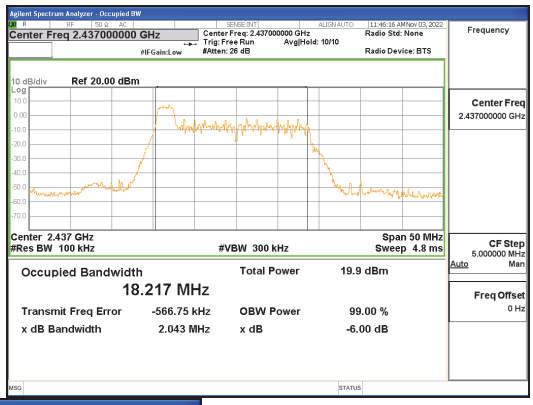


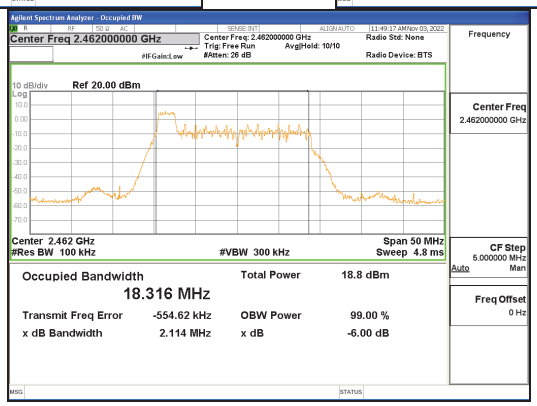




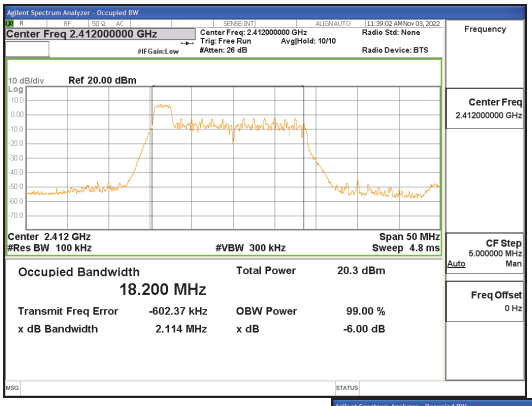
ANT2, 802.11n_HT20

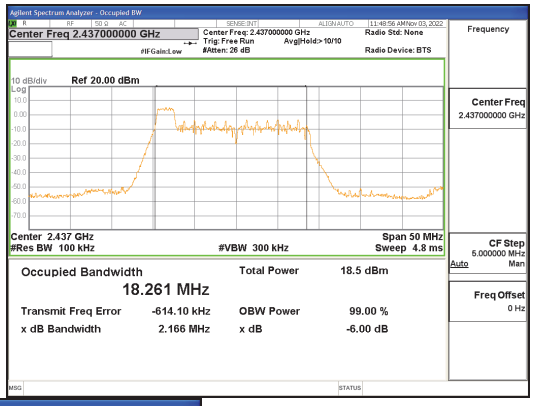


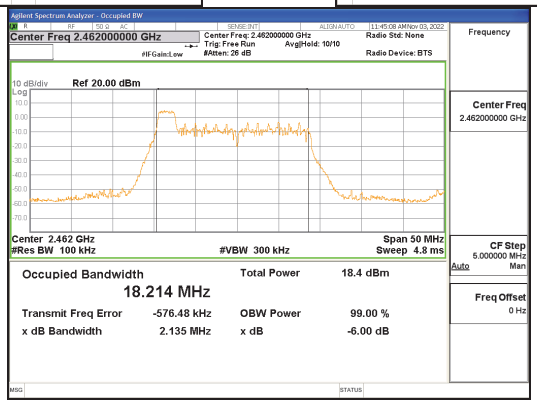




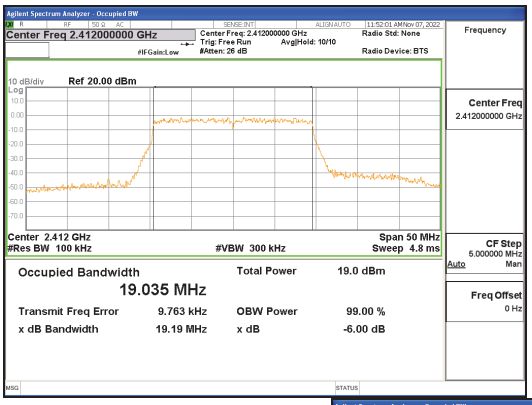
ANT1, 802.11ax_HE20_26T

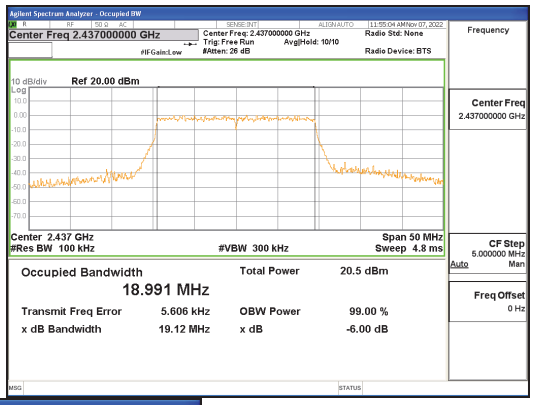


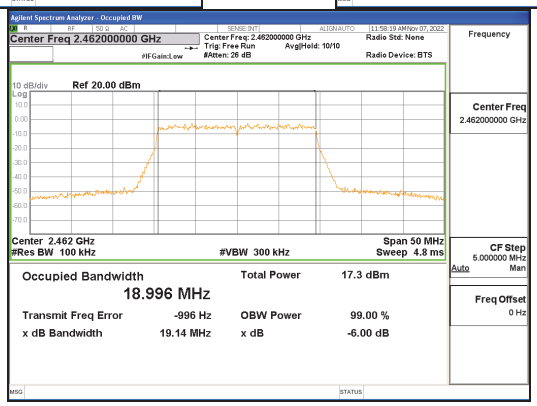




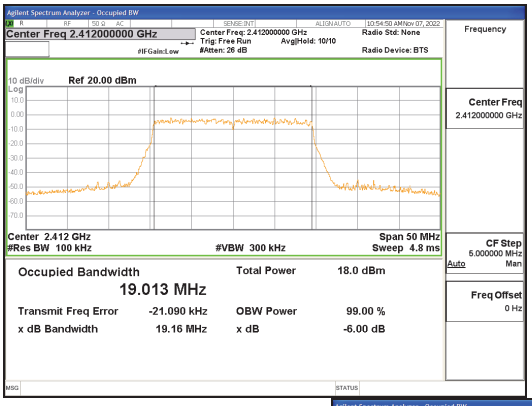
ANT2, 802.11ax_HE20_26T

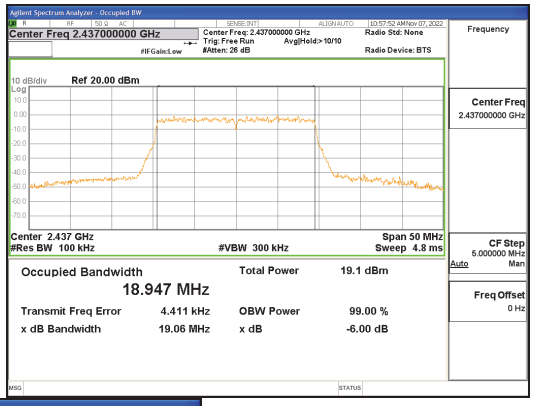


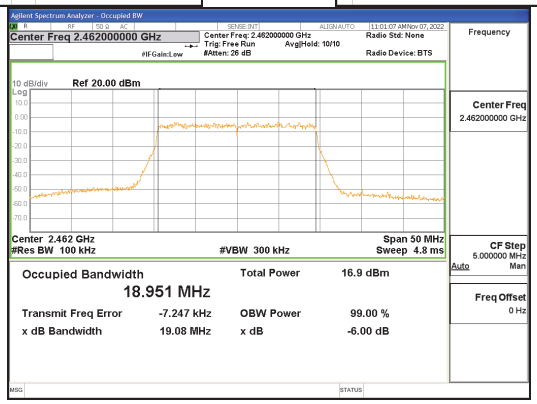




ANT1, 802.11ax_HE20_242T







ANT2, 802.11ax_HE20_242T

4.2 OUTPUT POWER

Test Procedures

<802.11b/g/n_HT20 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

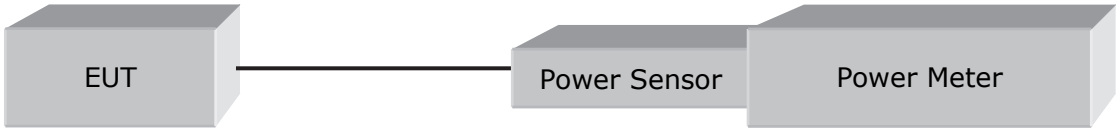
g) Duty cycle factor = 10log(1/x)

Test mode	Duty Cycle Factor
802.11b	0.00 dB
802.11g	0.21 dB
802.11n_HT20	0.21 dB

< 802.11ax_HE20 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	0.00 dB
802.11ax_HE20_52T	0.00 dB
802.11ax_HE20_106T	0.00 dB
802.11ax_HE20_242T	0.17 dB

Limit

Operating Mode	Mode	ANT Configuration	ANT Gain (dBi)	Limit (dBm)
SISO	802.11b/g	ANT1	0.95	30.00
SISO	802.11b/g	ANT2	0.85	30.00
MIMO (2Tx)	802.11n/ax	ANT1 + ANT2	3.91	30.00

Test Data :

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	19.85	0.00	19.85	30.00	10.15
	2 437	19.92	0.00	19.92	30.00	10.08
	2 462	20.56	0.00	20.56	30.00	9.44
802.11g	2 412	15.45	0.21	15.66	30.00	14.34
	2 437	15.17	0.21	15.38	30.00	14.62
	2 462	15.29	0.21	15.50	30.00	14.50

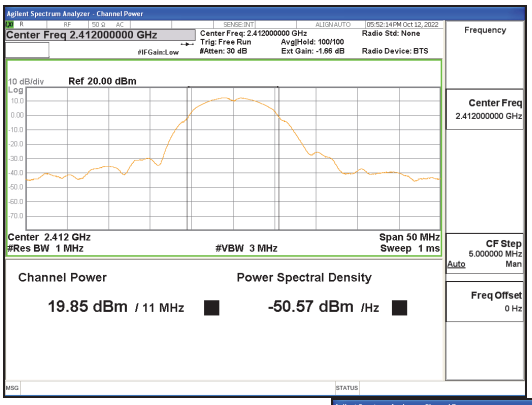
ANT2

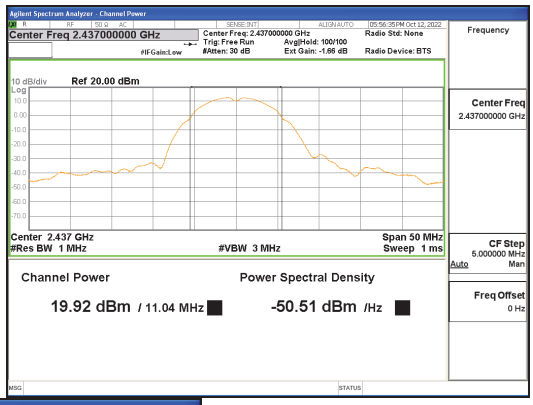
Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11b	2 412	19.42	0.00	19.42	30.00	10.58
	2 437	19.60	0.00	19.60	30.00	10.40
	2 462	19.98	0.00	19.98	30.00	10.02
802.11g	2 412	14.88	0.21	15.09	30.00	14.91
	2 437	14.75	0.21	14.96	30.00	15.04
	2 462	14.86	0.21	15.07	30.00	14.93

ANT1 + ANT2 (MIMO)

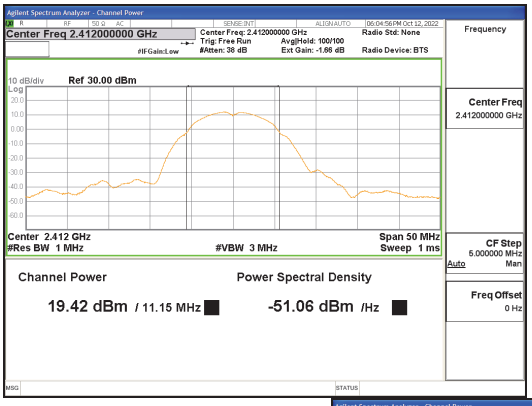
Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11n _HT20	2 412	17.25	0.21	17.46	30.00	12.54
	2 437	17.26	0.21	17.47	30.00	12.53
	2 462	17.45	0.21	17.66	30.00	12.34
802.11ax _HE20 _26T	2 412	15.72	0.00	15.72	30.00	14.28
	2 437	14.87	0.00	14.87	30.00	15.13
	2 462	14.09	0.00	14.09	30.00	15.91
802.11ax _HE20 _52T	2 412	15.92	0.00	15.92	30.00	14.08
	2 437	15.32	0.00	15.32	30.00	14.68
	2 462	14.64	0.00	14.64	30.00	15.36
802.11ax _HE20 _106T	2 412	15.90	0.00	15.90	30.00	14.10
	2 437	15.16	0.00	15.16	30.00	14.84
	2 462	14.49	0.00	14.49	30.00	15.51
802.11ax _HE20 _242T	2 412	15.75	0.17	15.92	30.00	14.08
	2 437	14.92	0.17	15.09	30.00	14.91
	2 462	14.24	0.17	14.41	30.00	15.59

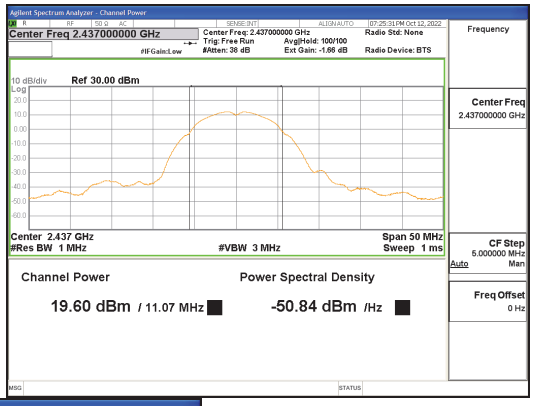
See next pages for actual measured spectrum plots.

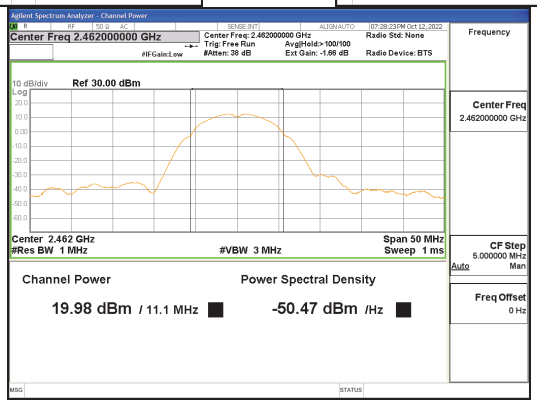




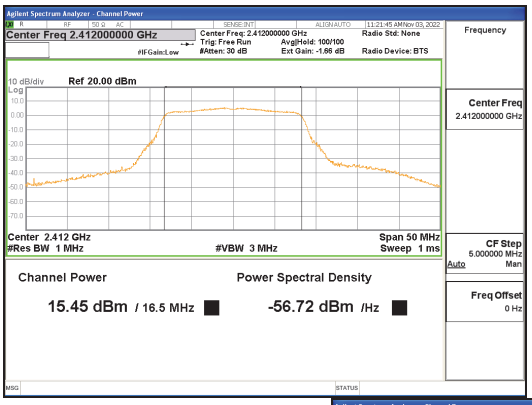
ANT1, 802.11b

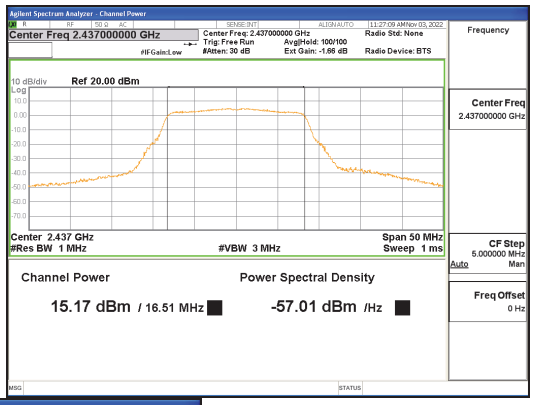




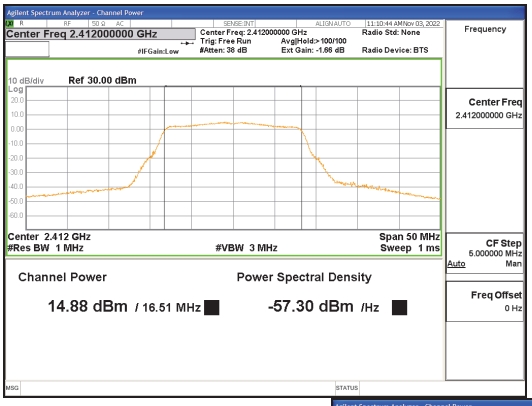


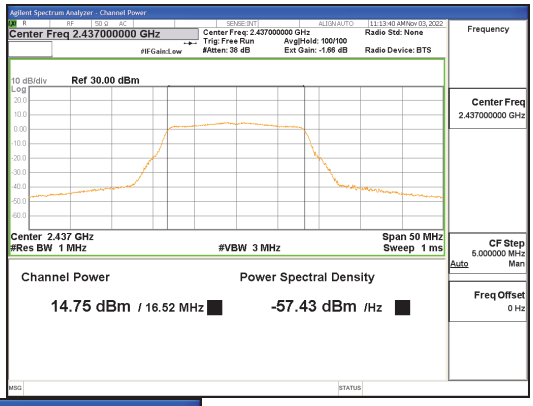
ANT2, 802.11b

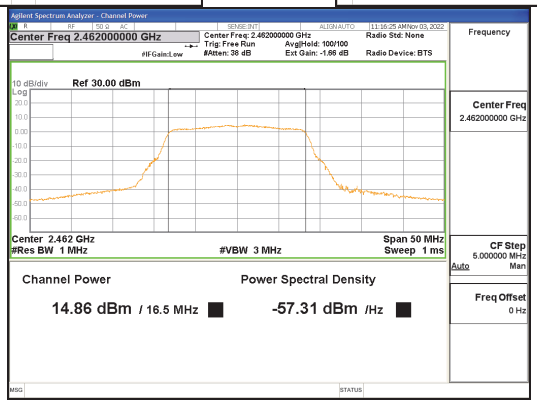




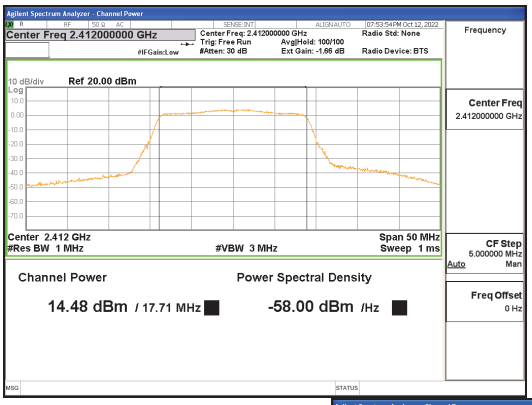
ANT1, 802.11g

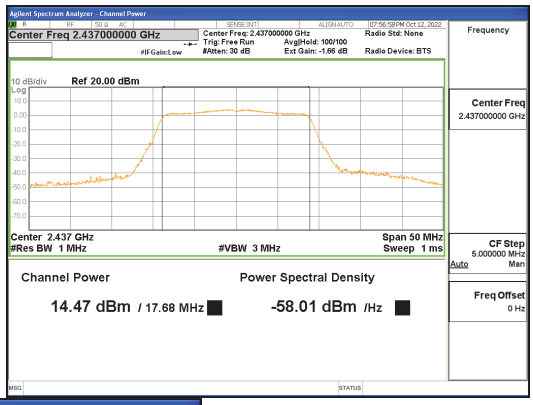




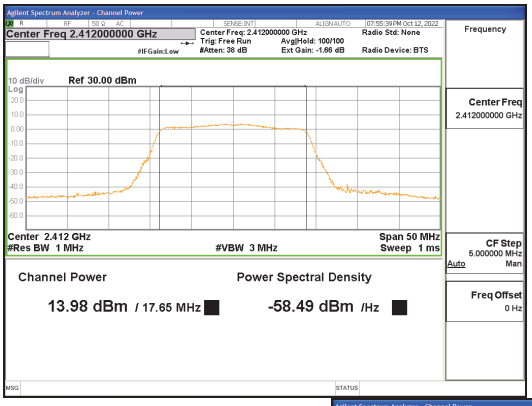


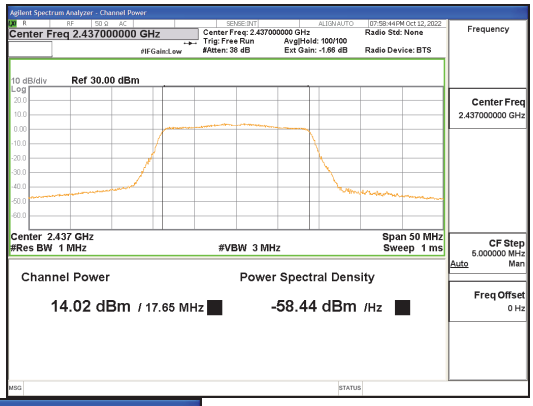
ANT2, 802.11g

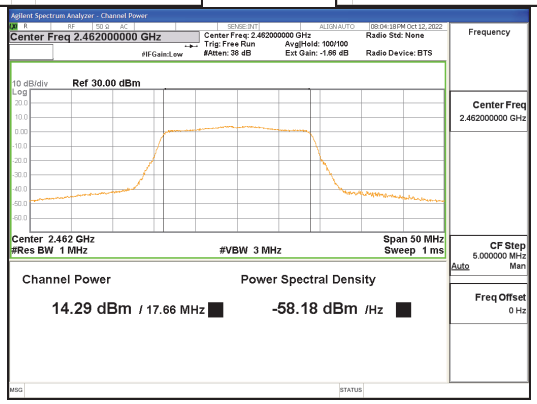




ANT1, 802.11n_HT20







ANT2, 802.11n_HT20

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	ANT1	0.95	8.00
SISO	802.11b/g	ANT2	0.85	8.00
MIMO (2Tx)	802.11n/ax	ANT1 + ANT2	3.91	8.00

Test Data

ANT1

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11b	2 412	-1.23	8.00	9.23
	2 437	0.39	8.00	7.61
	2 462	-0.91	8.00	8.91
802.11g	2 412	-8.70	8.00	16.70
	2 437	-7.92	8.00	15.92
	2 462	-8.44	8.00	16.44

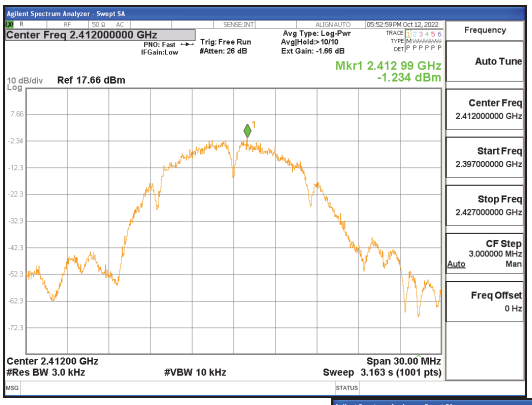
ANT2

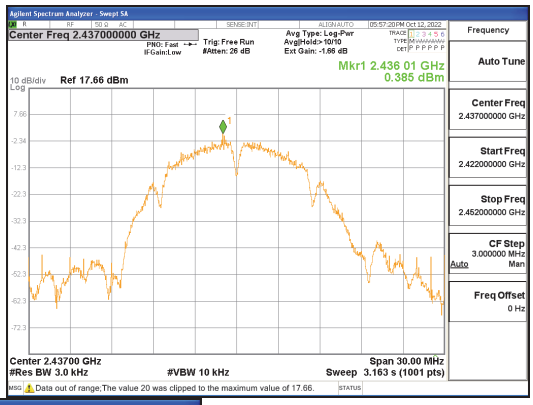
Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11b	2 412	-2.04	8.00	10.04
	2 437	-1.95	8.00	9.95
	2 462	-2.07	8.00	10.07
802.11g	2 412	-9.27	8.00	17.27
	2 437	-8.16	8.00	16.16
	2 462	-8.64	8.00	16.64

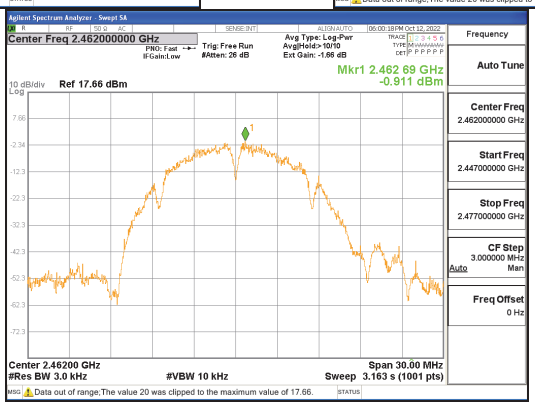
ANT1 + ANT2 (MIMO)

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Limit (dBm)	Margin(dB)
802.11n _HT20	2 412	-6.48	8.00	14.48
	2 437	-6.27	8.00	14.27
	2 462	-5.94	8.00	13.94
802.11ax _HE20 _26T	2 412	-0.66	8.00	8.66
	2 437	-2.96	8.00	10.96
	2 462	-3.35	8.00	11.35
802.11ax _HE20 _242T	2 412	-10.94	8.00	18.94
	2 437	-9.80	8.00	17.80
	2 462	-11.90	8.00	19.90

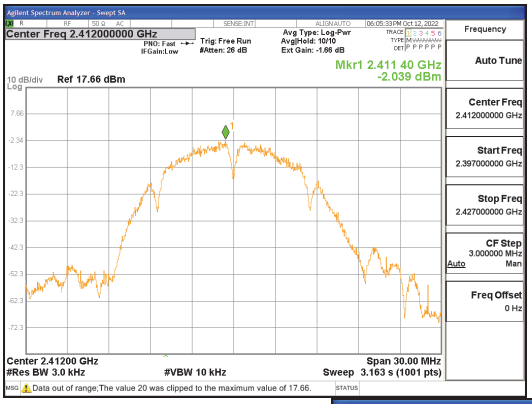
See next pages for actual measured spectrum plots.

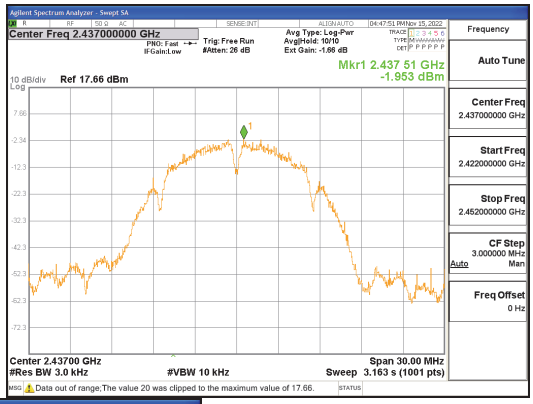


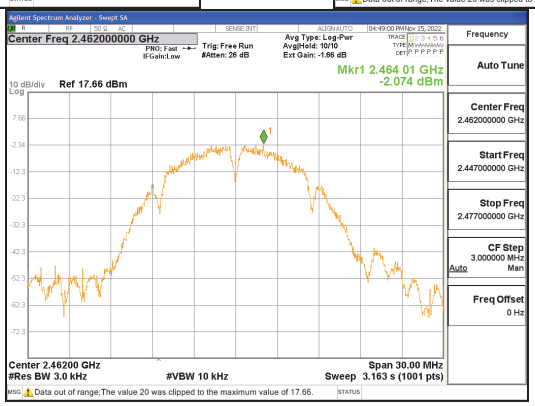




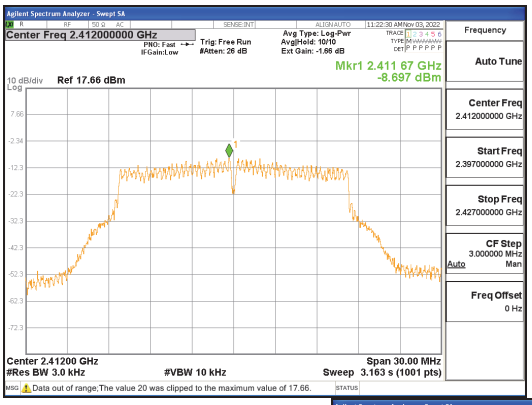
ANT1, 802.11b

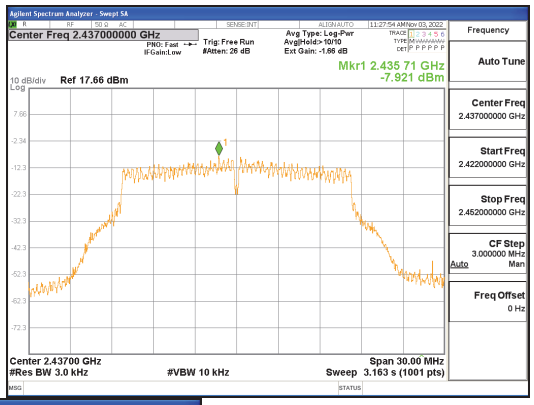


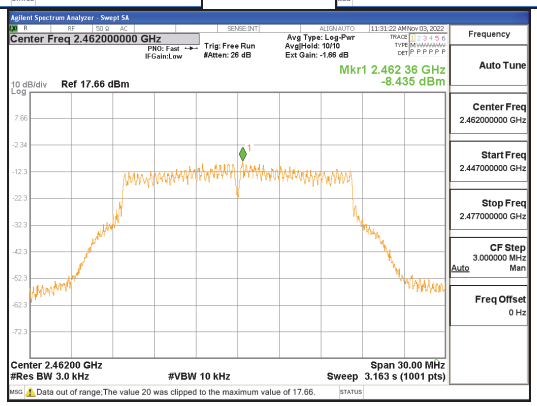




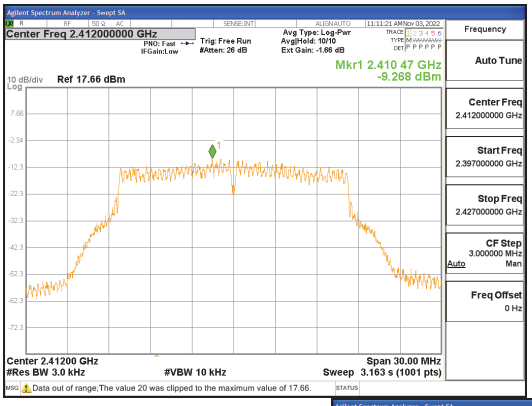
ANT2, 802.11b

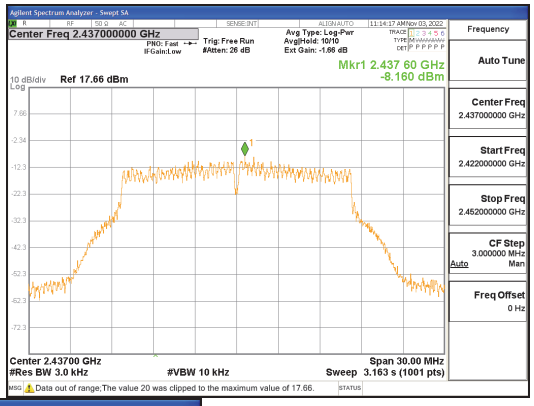


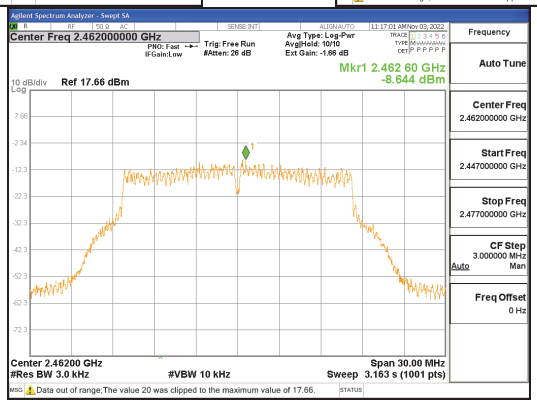




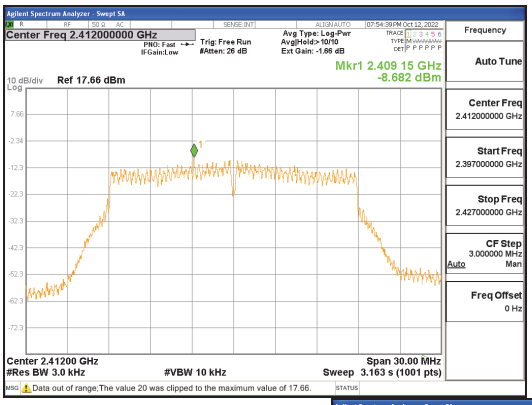
ANT1, 802.11g

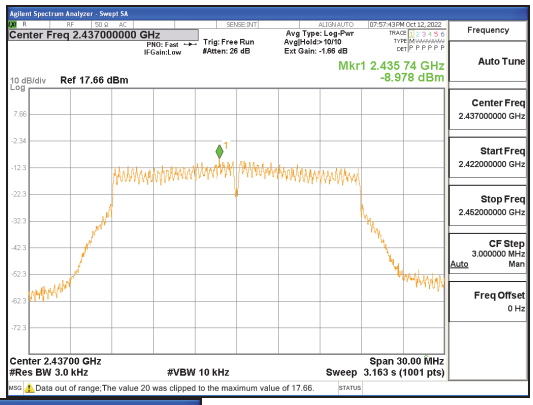


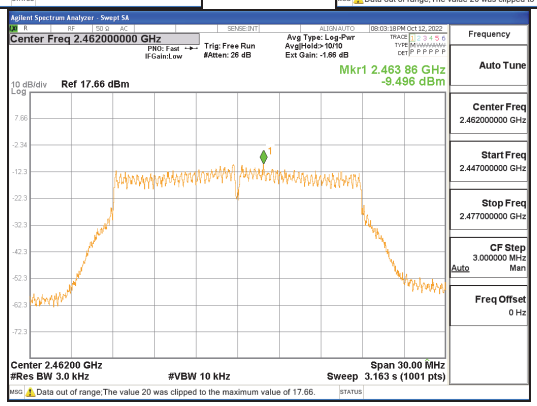




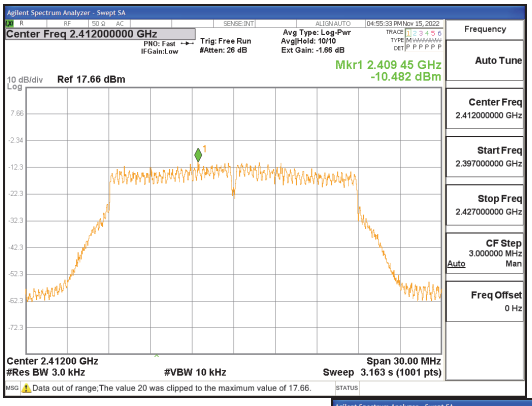
ANT2, 802.11g

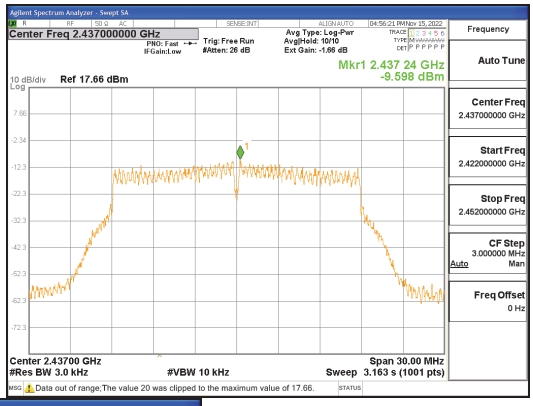


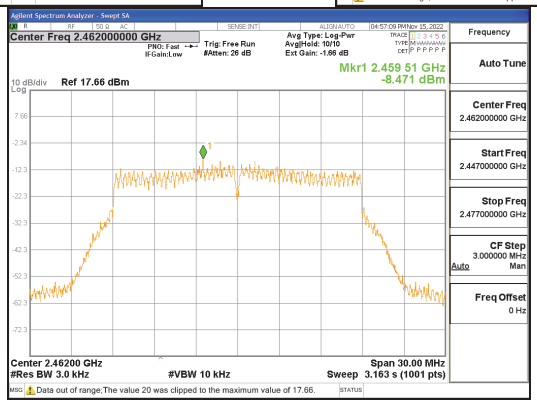




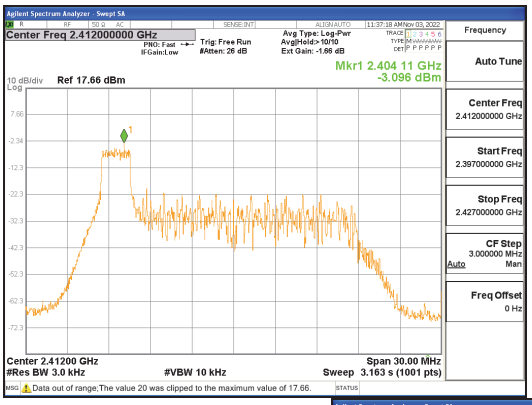
ANT1, 802.11n_HT20

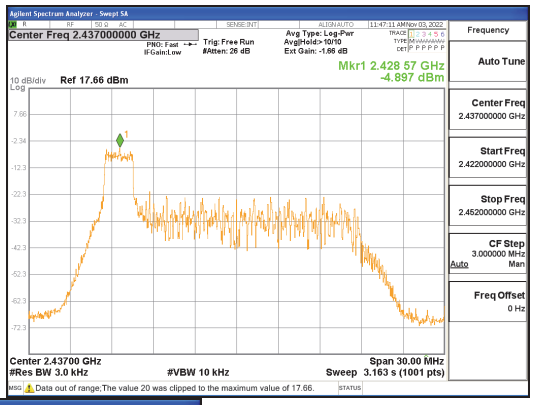


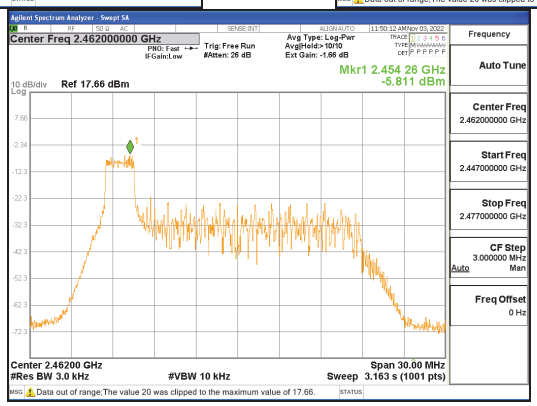




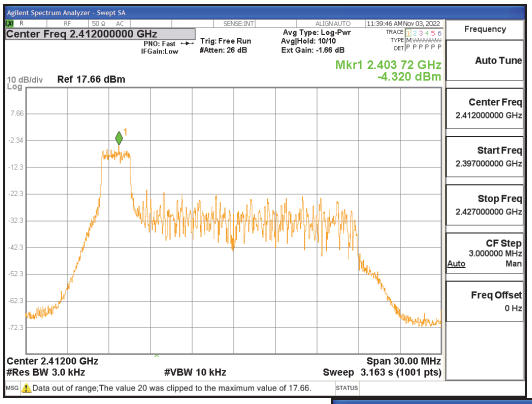
ANT2, 802.11n_HT20

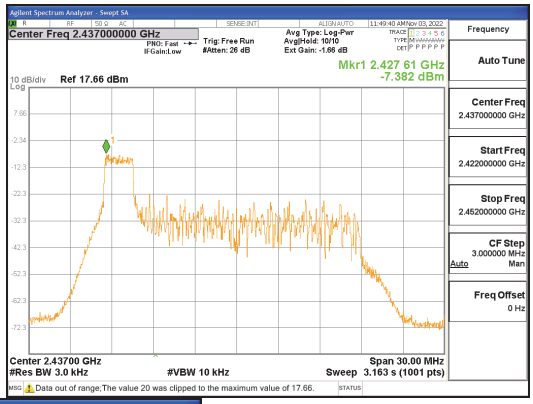


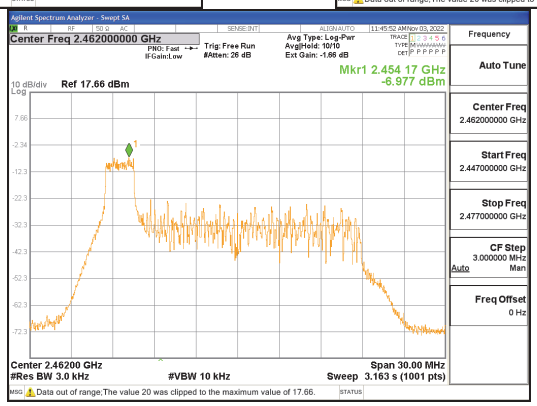




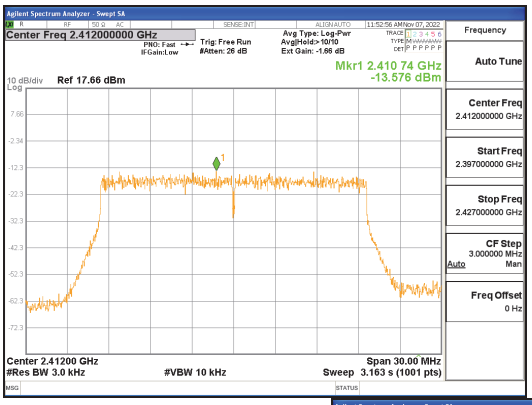
ANT1, 802.11ax_HE20_26T

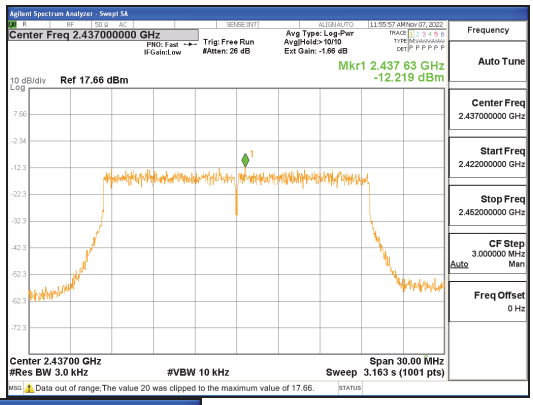


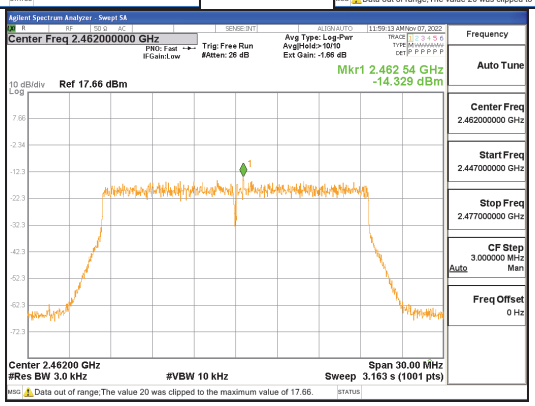




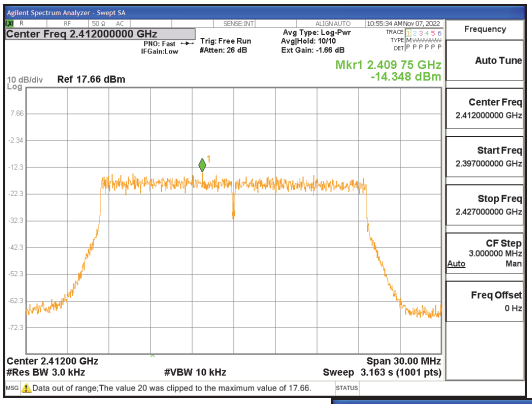
ANT2, 802.11ax_HE20_26T

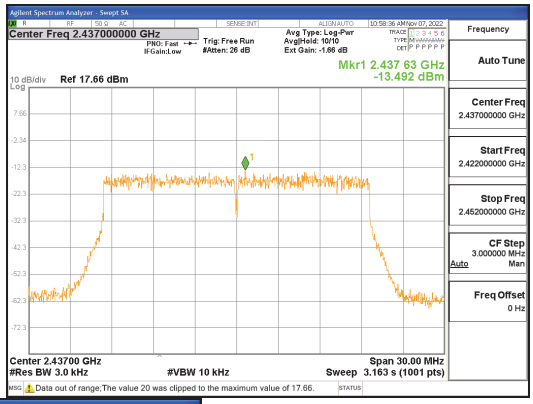


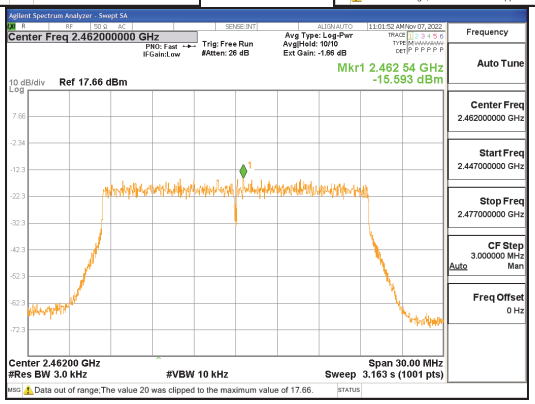




ANT1, 802.11ax_HE20_242T







ANT2, 802.11ax_HE20_242T

4.4 Conducted Spurious emission

Test Procedures

KDB 558074 - Section 8.5
ANSI C63.10-2013 - Section 11.11.3

The bandwidth at 20dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.
After the trace being stable, Use the marker-to-peak function to measure 20 dB down both sides of the intentional 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) Sweep time = auto couple
e) Trace mode= max hold
f) Allow trace to fully stabilize
g) Use the peak marker function to determine the maximum amplitude level.

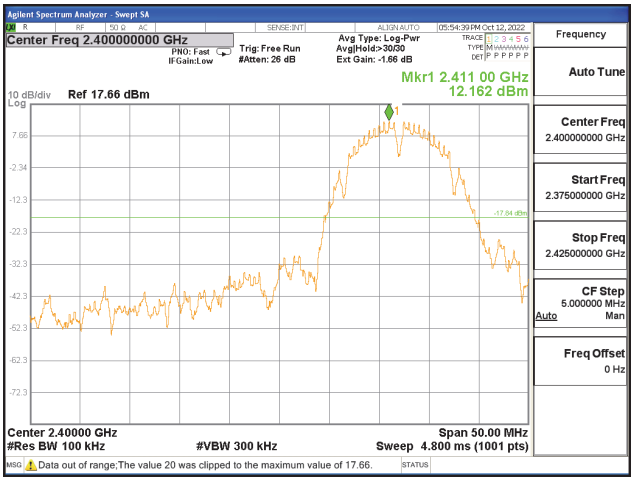
Limit :

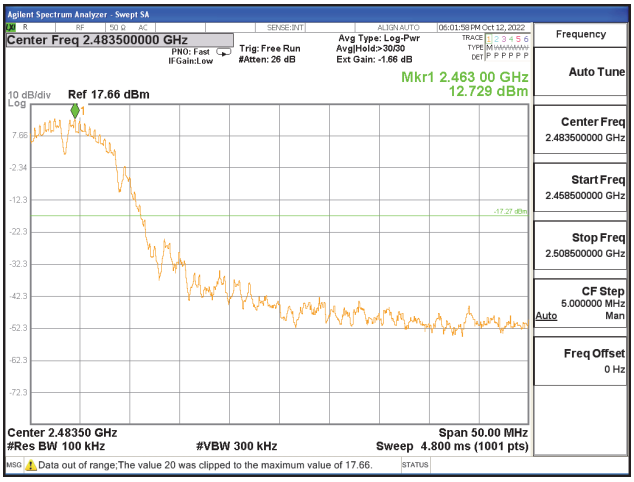
Emission level	<	30 dBc

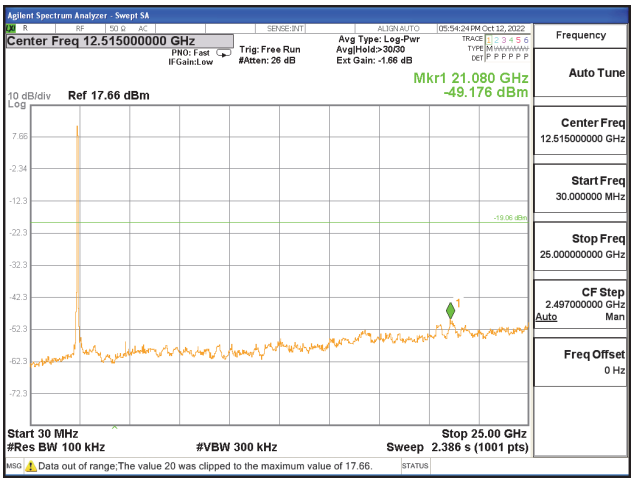
Test Data: Complies

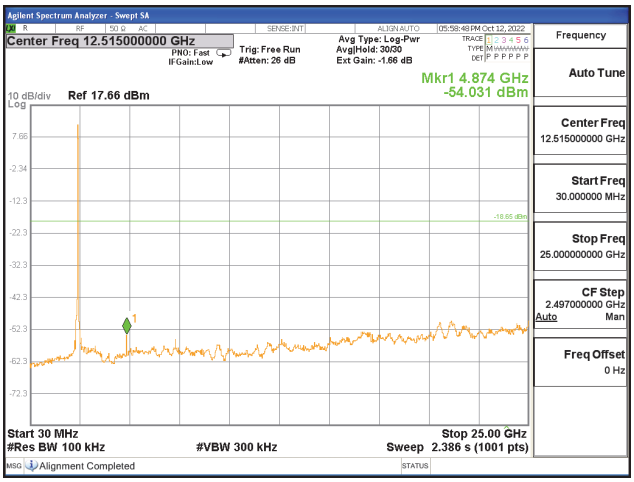
- All conducted emission in any 100 kHz bandwidth outside of the spread spectrum band was at least 30dB lower than the highest inband spectral density. Therefore the applying equipment meets the requirement.

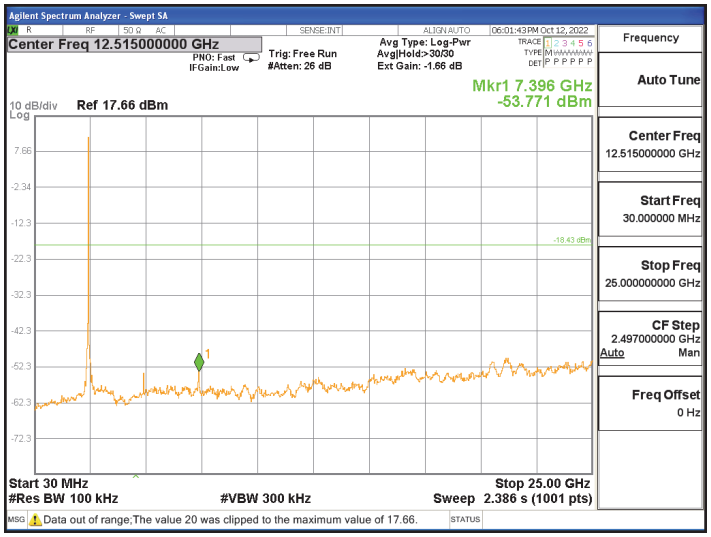
See next pages for actual measured spectrum plots.


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.400000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
05:54:39 PM Oct 12, 2022
Mkr1 2.411 00 GHz
12.162 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.375000000 GHz
Stop Freq
2.425000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

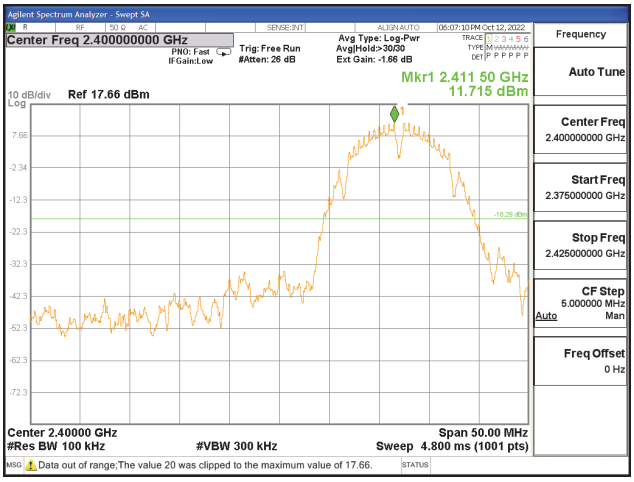

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.483500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
06:01:58 PM Oct 12, 2022
Mkr1 2.463 00 GHz
12.729 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.48350 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.458500000 GHz
Stop Freq
2.508500000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

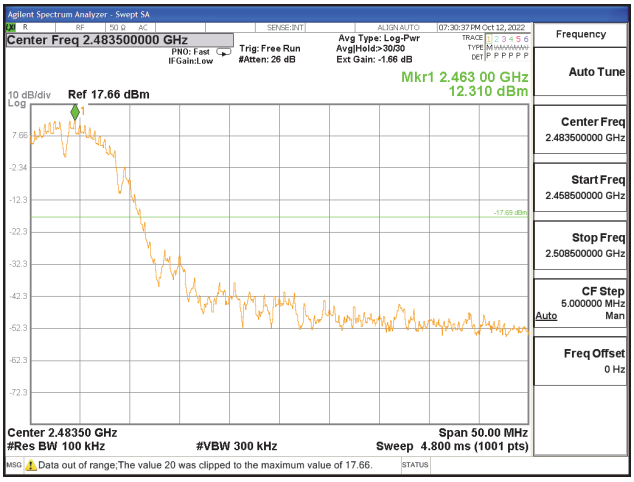

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
05:54:24 PM Oct 12, 2022
Mkr1 21.080 GHz
-49.176 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

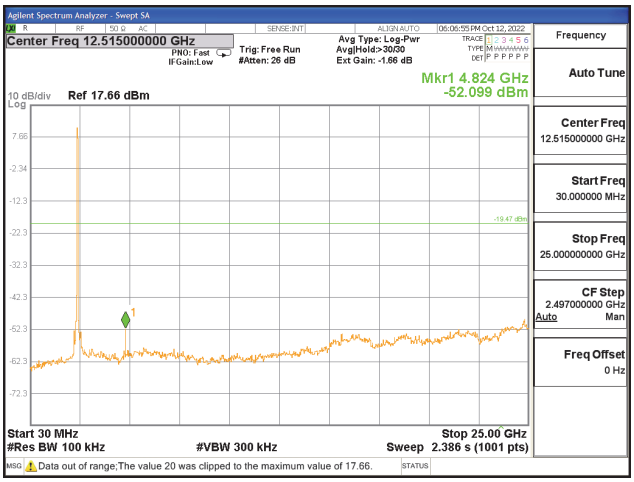

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold: 30/30
Ext Gain: -1.66 dB
05:58:48 PM Oct 12, 2022
Mkr1 4.874 GHz
-54.031 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
Alignment Completed
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

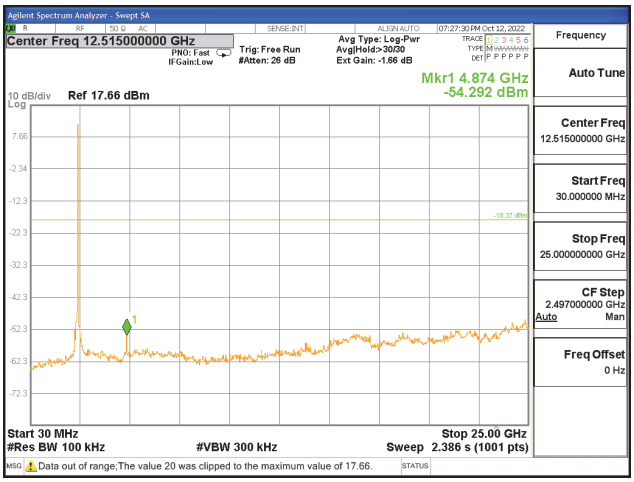

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
06:01:43 PM Oct 12, 2022
Mkr1 7.396 GHz
-53.771 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

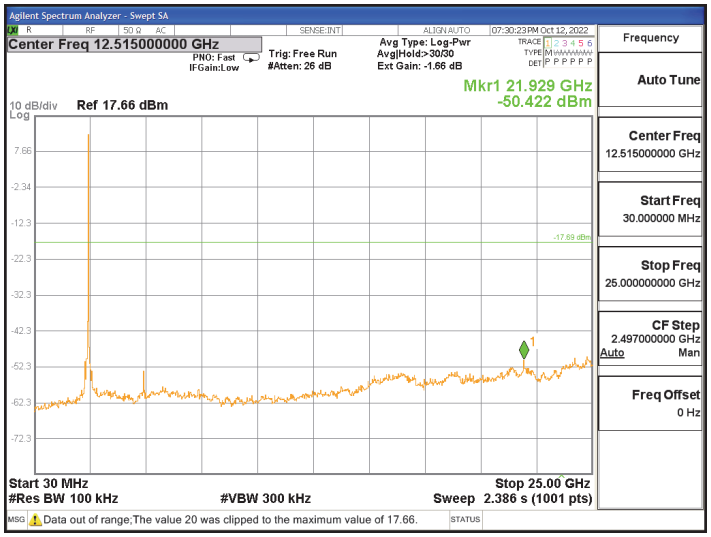
ANT1, 802.11b


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.400000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
Mkr1 2.411 50 GHz
11.715 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.375000000 GHz
Stop Freq
2.425000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

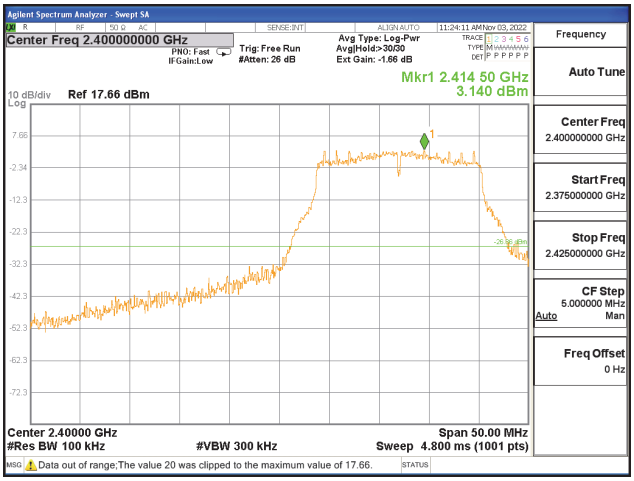

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.483500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
Mkr1 2.463 00 GHz
12.310 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.48350 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.458500000 GHz
Stop Freq
2.508500000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

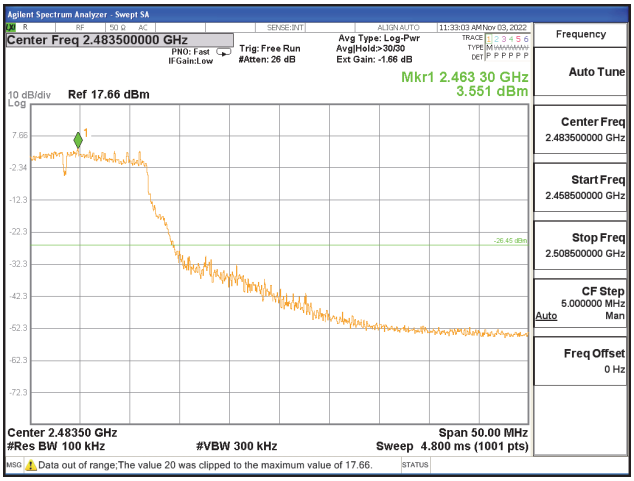

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
Mkr1 4.824 GHz
-52.099 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

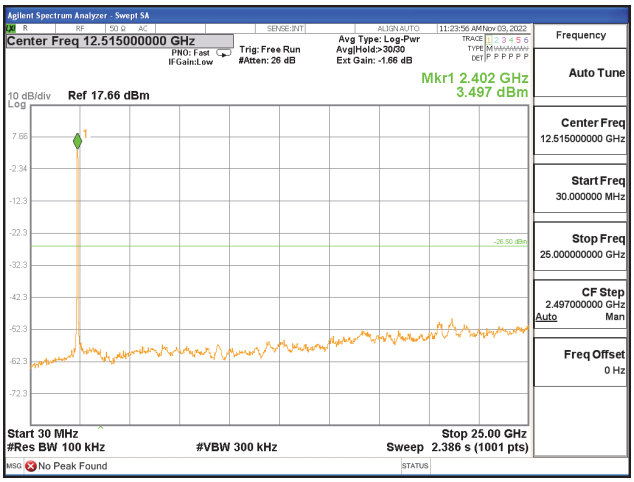

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
Mkr1 4.874 GHz
-54.292 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

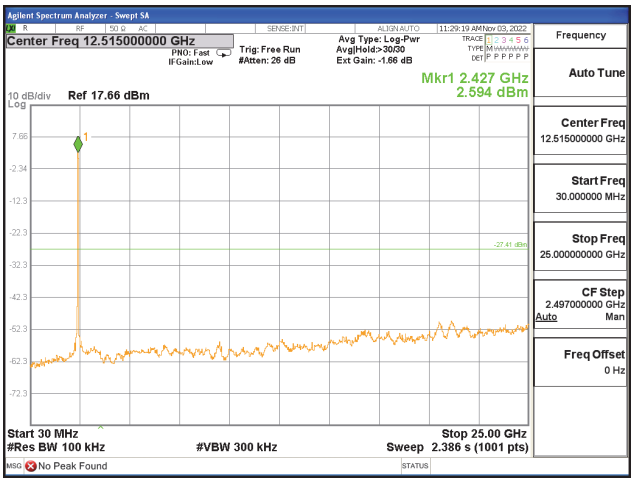

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
Mkr1 21.929 GHz
-50.422 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

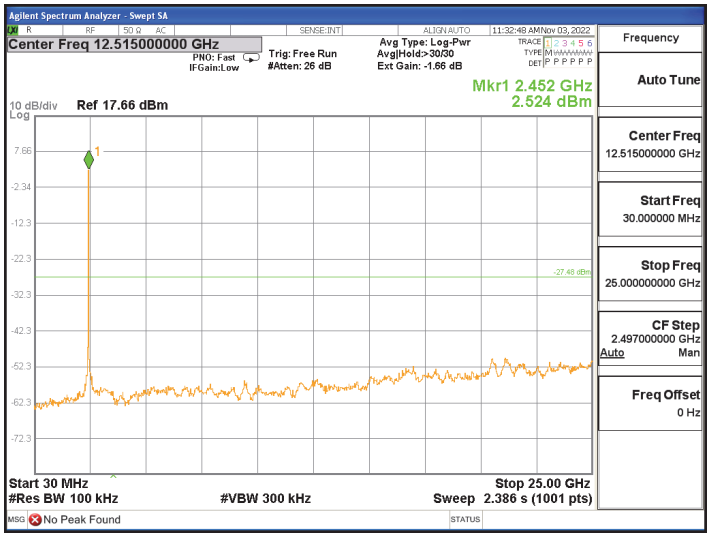
ANT2, 802.11b


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.400000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:24:11 AM Nov 03, 2022
Mkr1 2.414 50 GHz
3.140 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.375000000 GHz
Stop Freq
2.425000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

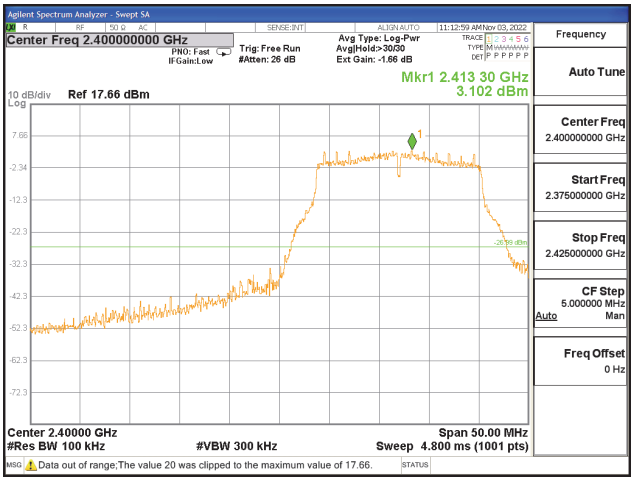

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.483500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:33:03 AM Nov 03, 2022
Mkr1 2.463 30 GHz
3.551 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.48350 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.458500000 GHz
Stop Freq
2.508500000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

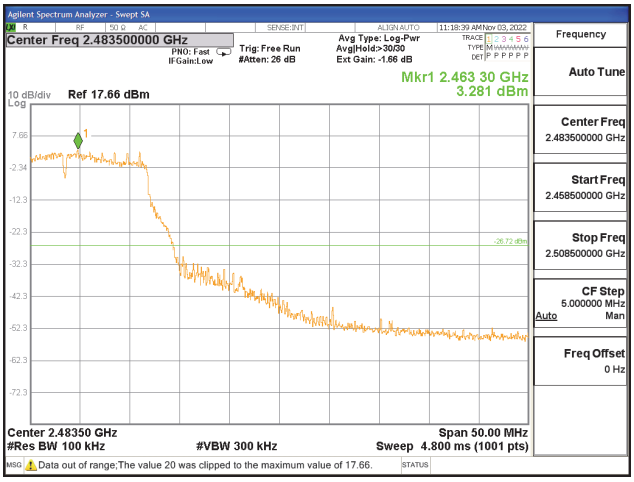

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:23:56 AM Nov 03, 2022
Mkr1 2.402 GHz
3.497 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
No Peak Found
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

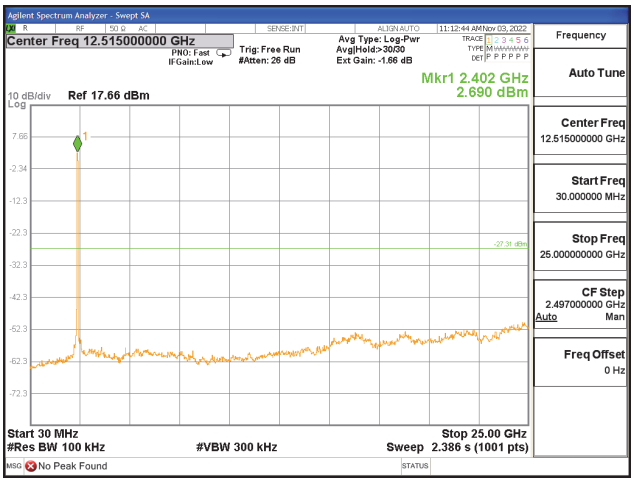

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:29:19 AM Nov 03, 2022
Mkr1 2.427 GHz
2.594 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
No Peak Found
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

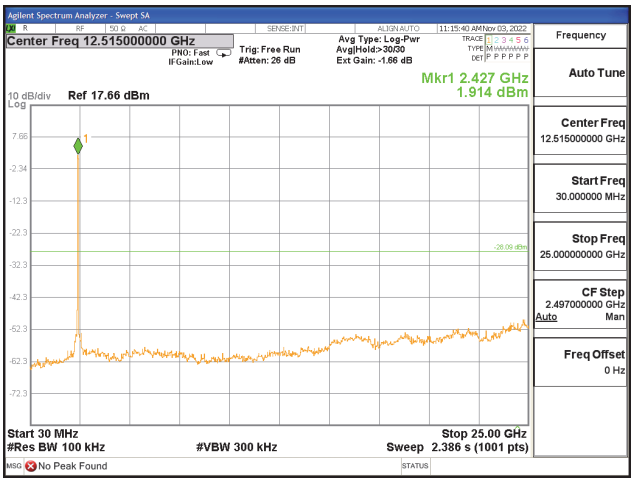

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:32:48 AM Nov 03, 2022
Mkr1 2.452 GHz
2.524 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
No Peak Found
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

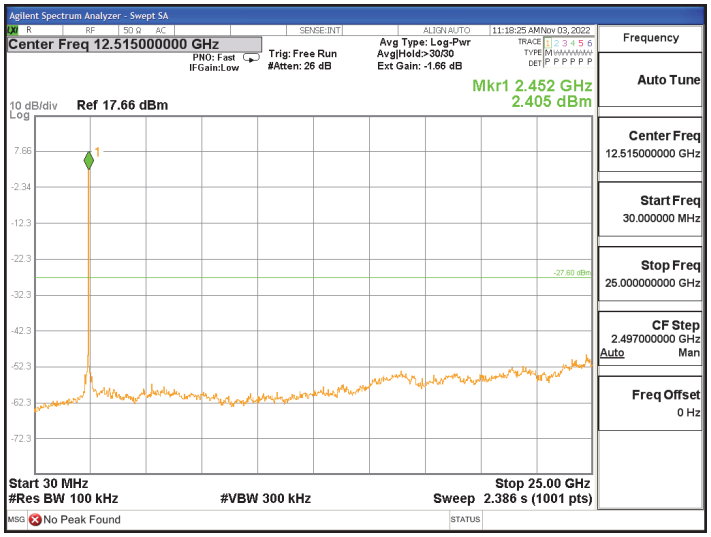
ANT1, 802.11g


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.400000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:12:59 AM Nov 03, 2022
Mkr1 2.413 30 GHz
3.102 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.375000000 GHz
Stop Freq
2.425000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.483500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:18:39 AM Nov 03, 2022
Mkr1 2.463 30 GHz
3.281 dBm
10 dB/div
Log
Ref 17.66 dBm
Center 2.48350 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 50.00 MHz
Sweep 4.800 ms (1001 pts)
Data out of range;The value 20 was clipped to the maximum value of 17.66.
Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.458500000 GHz
Stop Freq
2.508500000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:12:44 AM Nov 03, 2022
Mkr1 2.402 GHz
2.690 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
No Peak Found
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:15:40 AM Nov 03, 2022
Mkr1 2.427 GHz
1.914 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
No Peak Found
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>30/30
Ext Gain: -1.66 dB
11:18:25 AM Nov 03, 2022
Mkr1 2.452 GHz
2.405 dBm
10 dB/div
Log
Ref 17.66 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.386 s (1001 pts)
No Peak Found
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz

ANT2, 802.11g