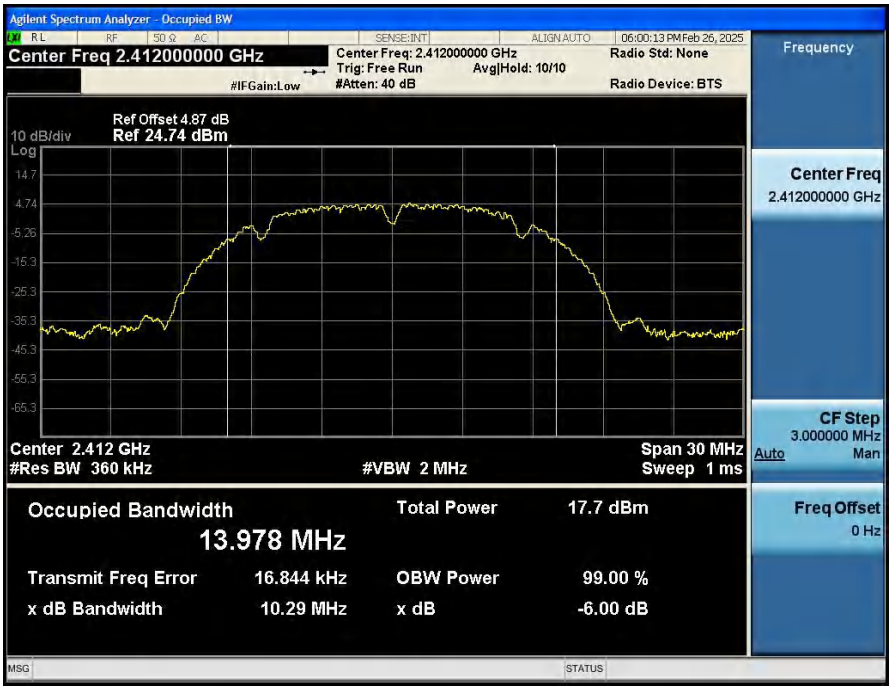
Appendix Test Data

Report No.:	1812C50055112501	Test Sample No.:	1-2-2
Start Test Date:	2025.2.25	Finish Test Date:	2025.2.26
Test Engineer:	Qiangfei Yang	Auditor:	Justin Feng
Temperature:	23.2℃	Relative Humidity:	46.2%
Pressure:	101kPa		

Appendix A: -6dB Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	-6dB BW(MHz)	limit(kHz)	Result
NVNT	ANT1	802.11b	2412.00	10.29	500	Pass
NVNT	ANT1	802.11b	2437.00	10.30	500	Pass
NVNT	ANT1	802.11b	2462.00	10.28	500	Pass
NVNT	ANT1	802.11g	2412.00	15.21	500	Pass
NVNT	ANT1	802.11g	2437.00	14.90	500	Pass
NVNT	ANT1	802.11g	2462.00	14.94	500	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	16.07	500	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	16.03	500	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	15.98	500	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	35.44	500	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	33.61	500	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	35.35	500	Pass

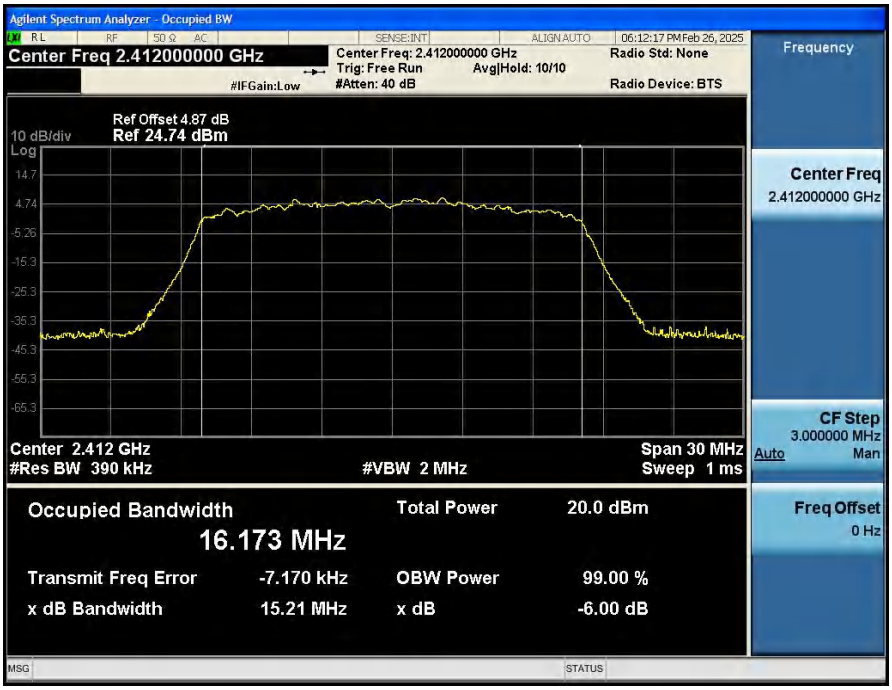
-6dB_Bandwidth_NVNT_ANT1_802_11b_2412



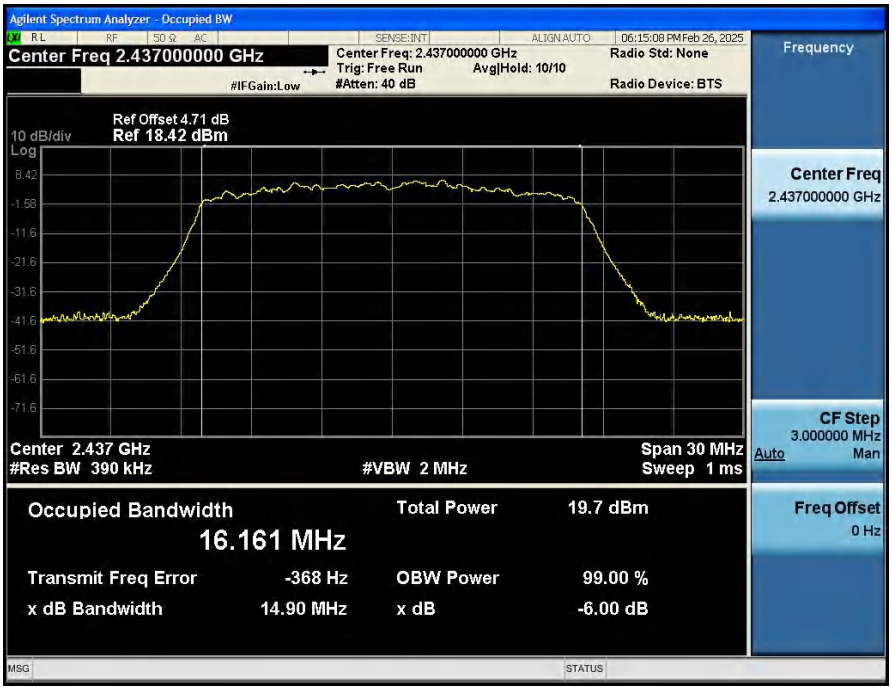
-6dB_Bandwidth_NVNT_ANT1_802_11b_2437

-6dB_Bandwidth_NVNT_ANT1_802_11b_2462

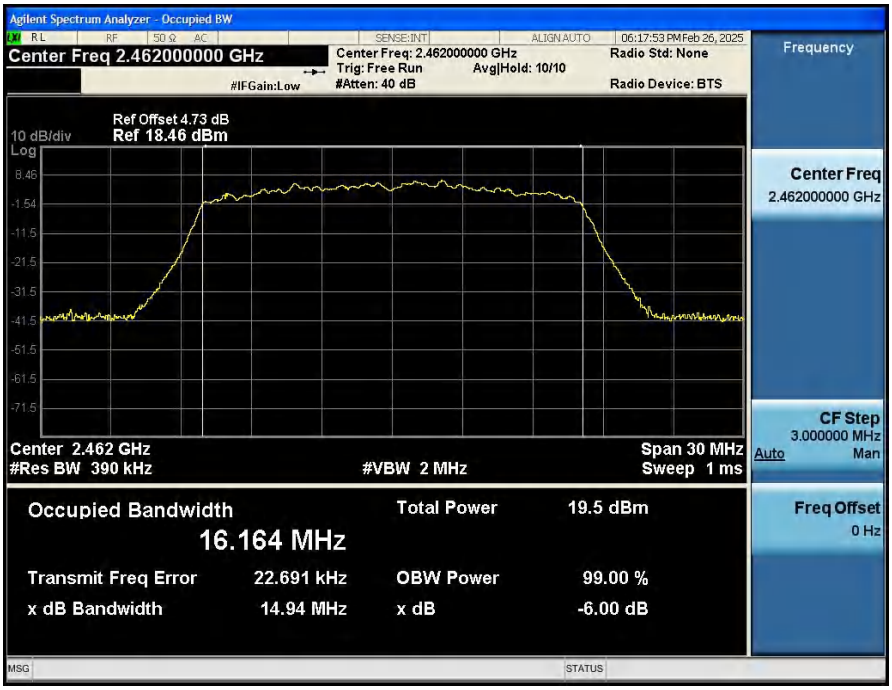
-6dB_Bandwidth_NVNT_ANT1_802_11g_2412



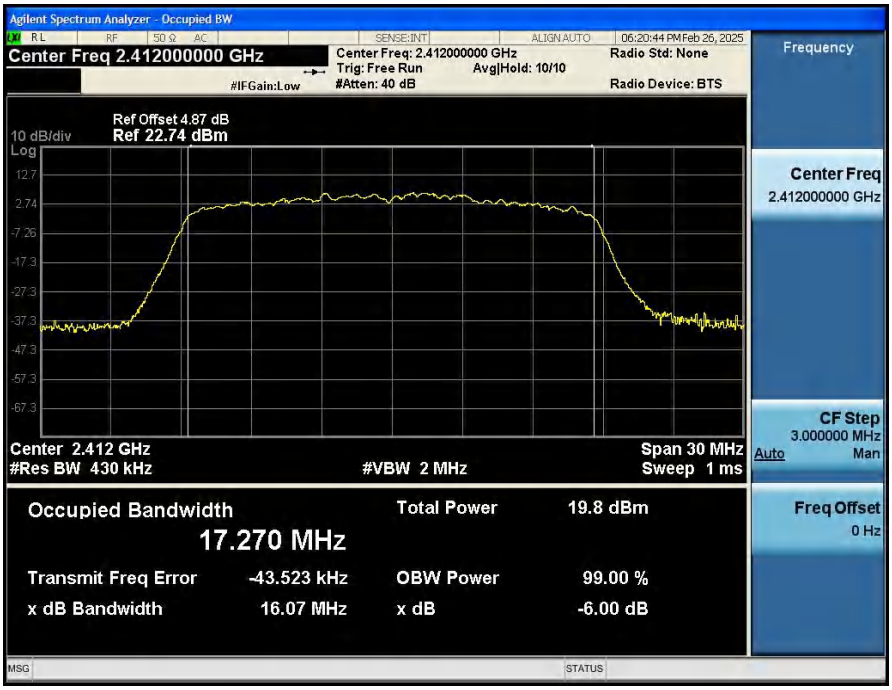
-6dB_Bandwidth_NVNT_ANT1_802_11g_2437



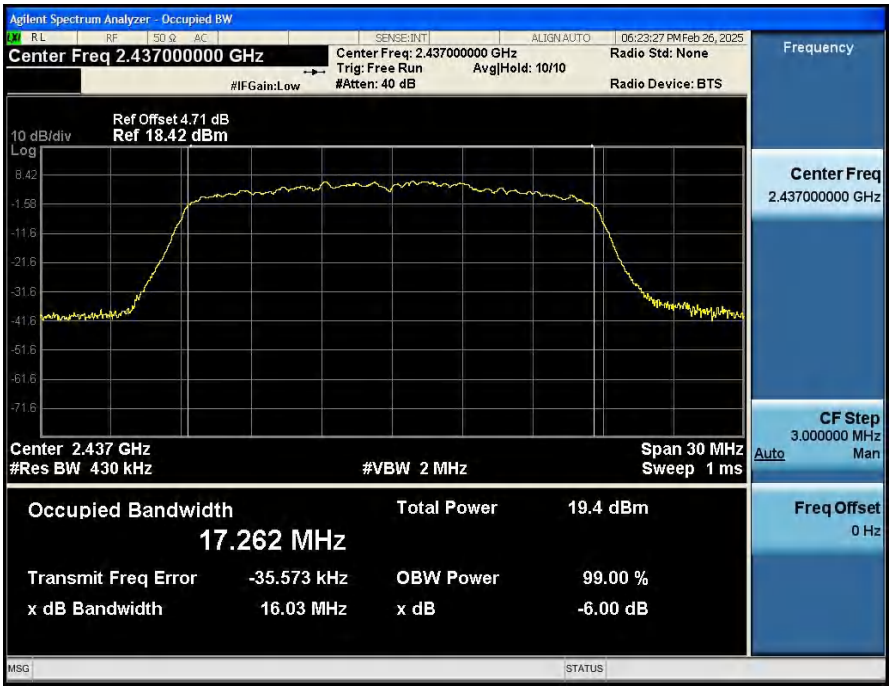
-6dB_Bandwidth_NVNT_ANT1_802_11g_2462



-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2412



-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2437

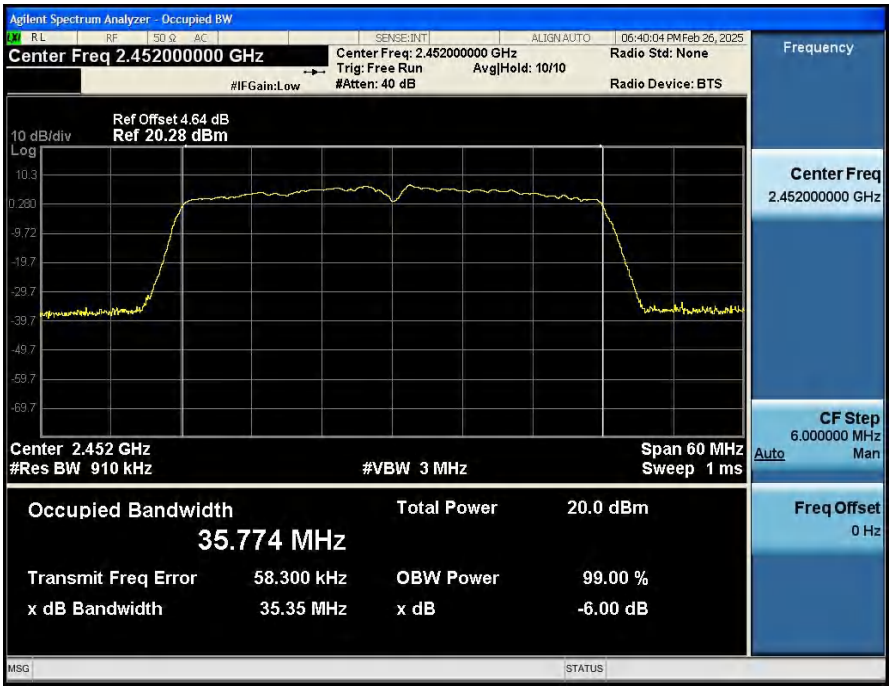


-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2462

-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2422

-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2437

-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2452

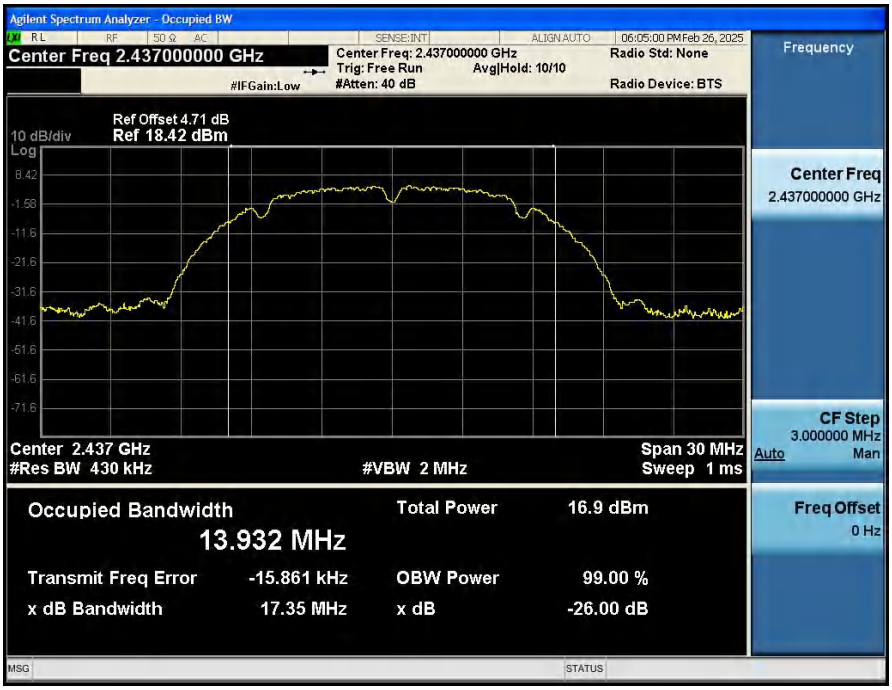


Appendix B: 99% Occupied Bandwidth

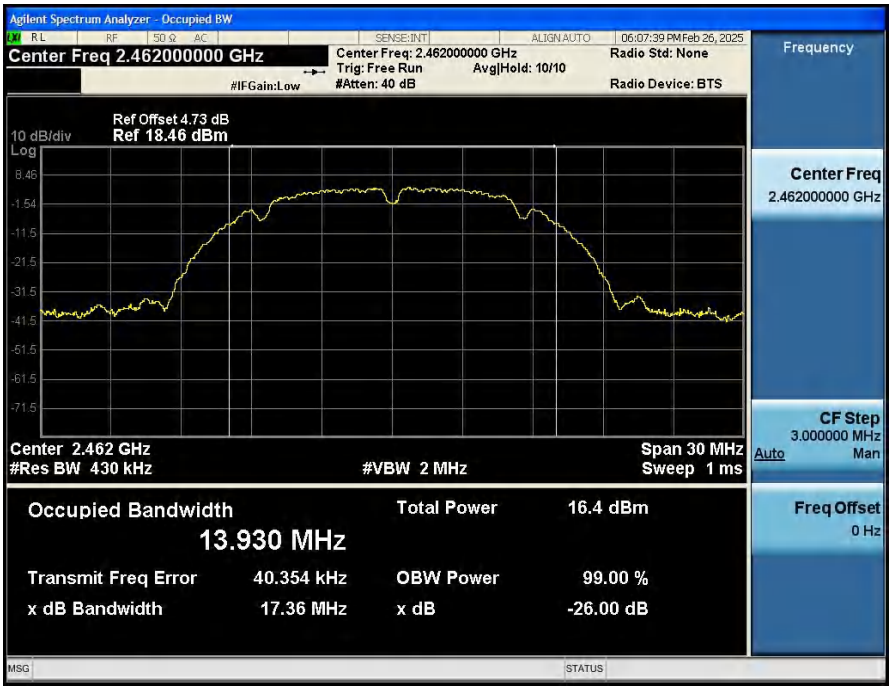
Condition	Antenna	Modulation	Frequency (MHz)	99%BW(MHz)
NVNT	ANT1	802.11b	2412.00	13.967
NVNT	ANT1	802.11b	2437.00	13.932
NVNT	ANT1	802.11b	2462.00	13.930
NVNT	ANT1	802.11g	2412.00	16.194
NVNT	ANT1	802.11g	2437.00	16.190
NVNT	ANT1	802.11g	2462.00	16.189
NVNT	ANT1	802.11n(HT20)	2412.00	17.284
NVNT	ANT1	802.11n(HT20)	2437.00	17.278
NVNT	ANT1	802.11n(HT20)	2462.00	17.273
NVNT	ANT1	802.11n(HT40)	2422.00	35.861
NVNT	ANT1	802.11n(HT40)	2437.00	35.766
NVNT	ANT1	802.11n(HT40)	2452.00	35.773

99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2412

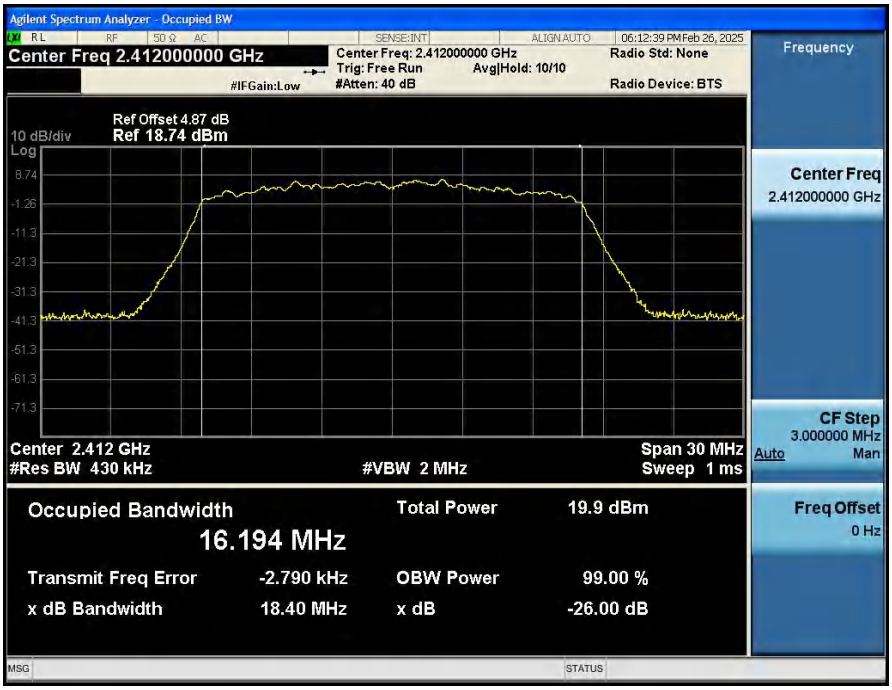
99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2437



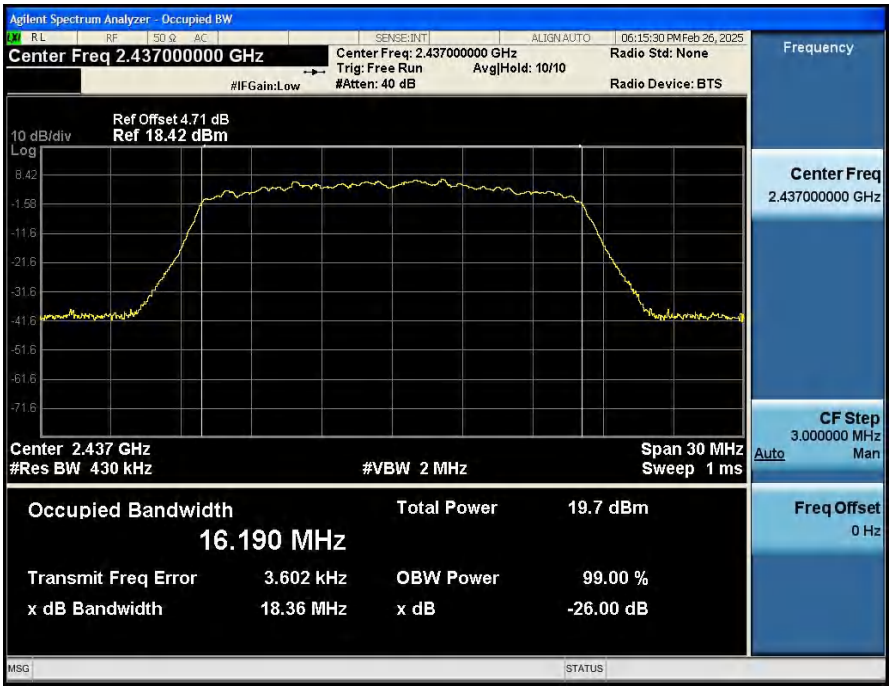
99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2462



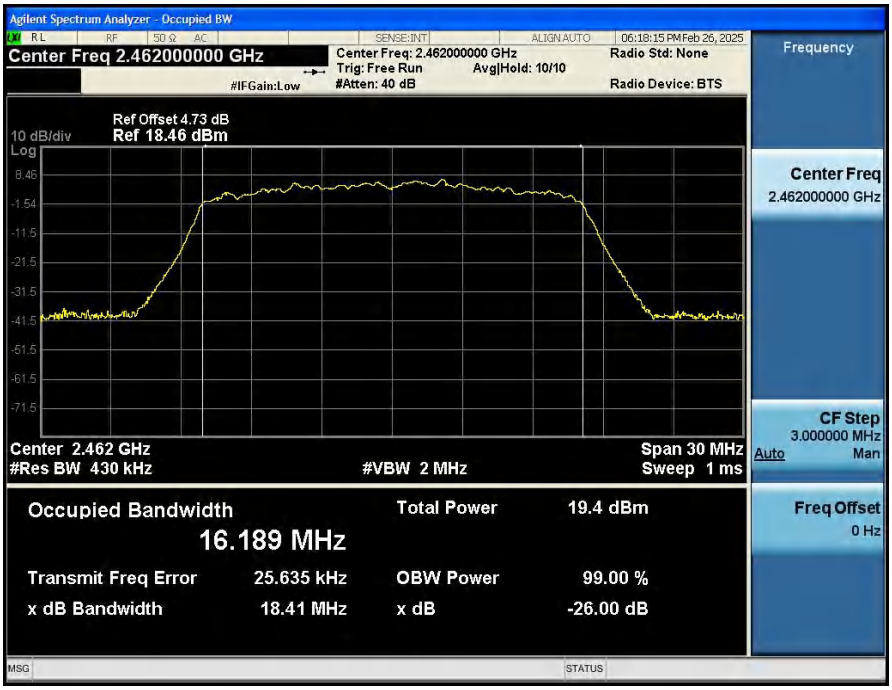
99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2412



99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2437

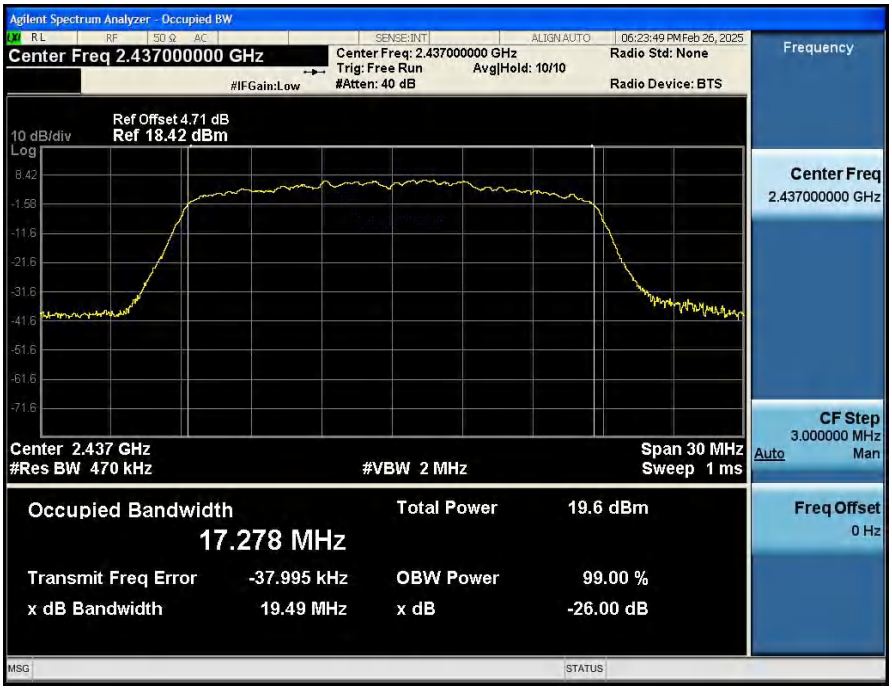


99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2462

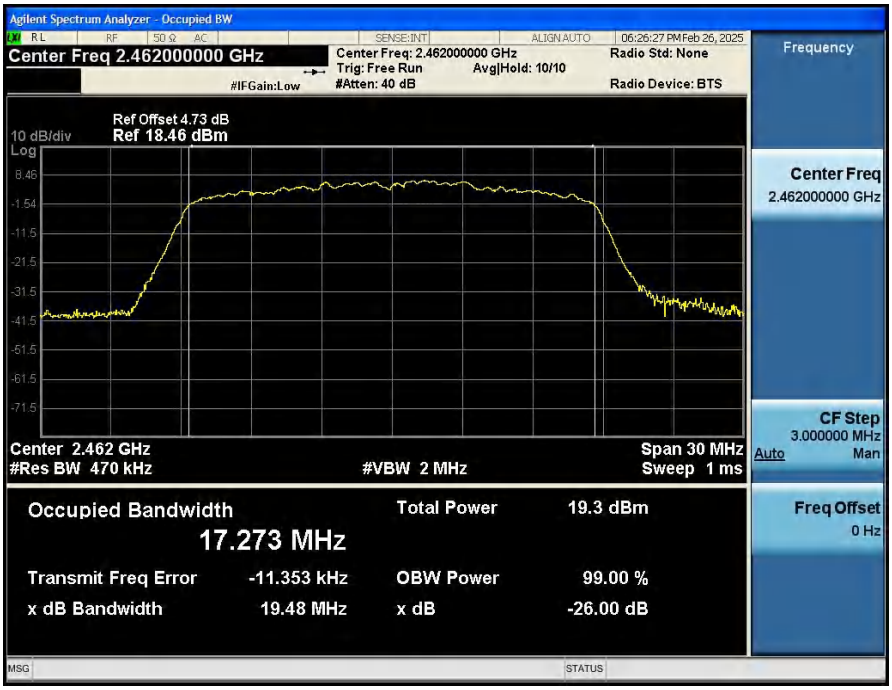


99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2412

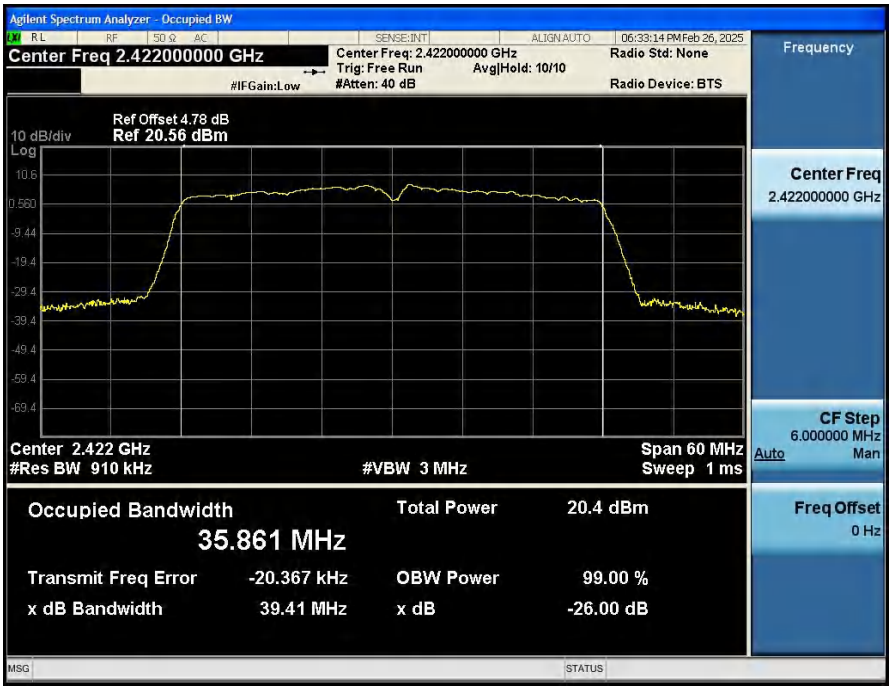
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2437



99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2462



99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2422



99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2437

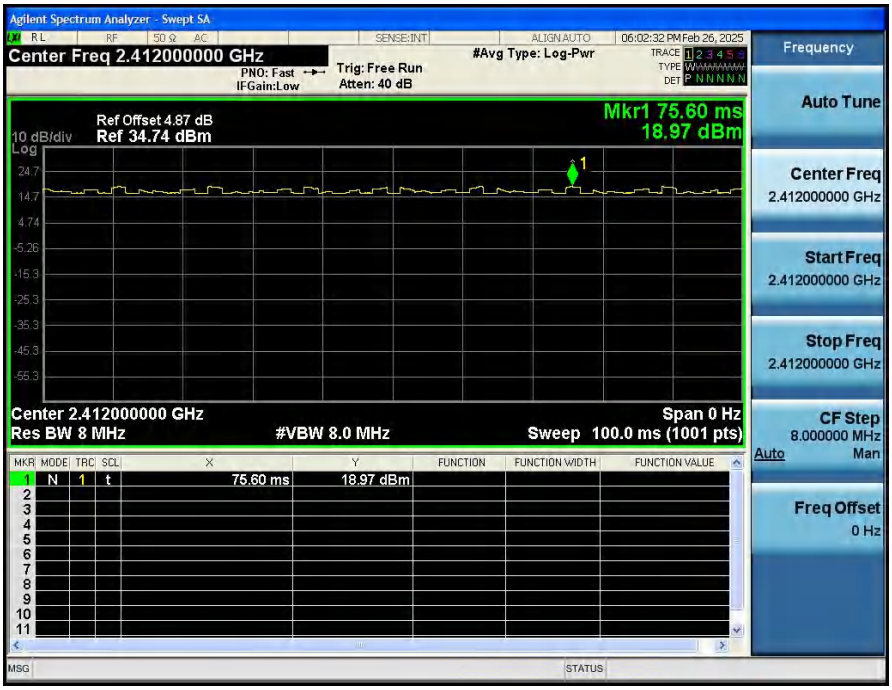
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2452

Agilent Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
06:40:27 PM Feb 26, 2025
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#IFGain:Low
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 4.64 dB
10 dB/div
Ref 20.28 dBm
Log
10.3
0.280
-9.72
-19.7
-29.7
-39.7
-49.7
-59.7
-69.7
Center Freq
2.452000000 GHz
Center 2.452 GHz
#Res BW 910 kHz
#VBW 3 MHz
Span 60 MHz
Sweep 1 ms
CF Step
6.000000 MHz
Auto
Man
Occupied Bandwidth
35.773 MHz
Total Power
20.0 dBm
Transmit Freq Error
58.832 kHz
OBW Power
99.00 %
x dB Bandwidth
39.38 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

Appendix C: Duty Cycle

Condition	Antenna	Modulation	Frequency (MHz)	Duty cycle(%)	Duty factor(dB)
NVNT	ANT1	802.11b	2412.00	100	0.00
NVNT	ANT1	802.11b	2437.00	100	0.00
NVNT	ANT1	802.11b	2462.00	100	0.00
NVNT	ANT1	802.11g	2412.00	100	0.00
NVNT	ANT1	802.11g	2437.00	100	0.00
NVNT	ANT1	802.11g	2462.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2412.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2437.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2462.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2422.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2437.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2452.00	100	0.00

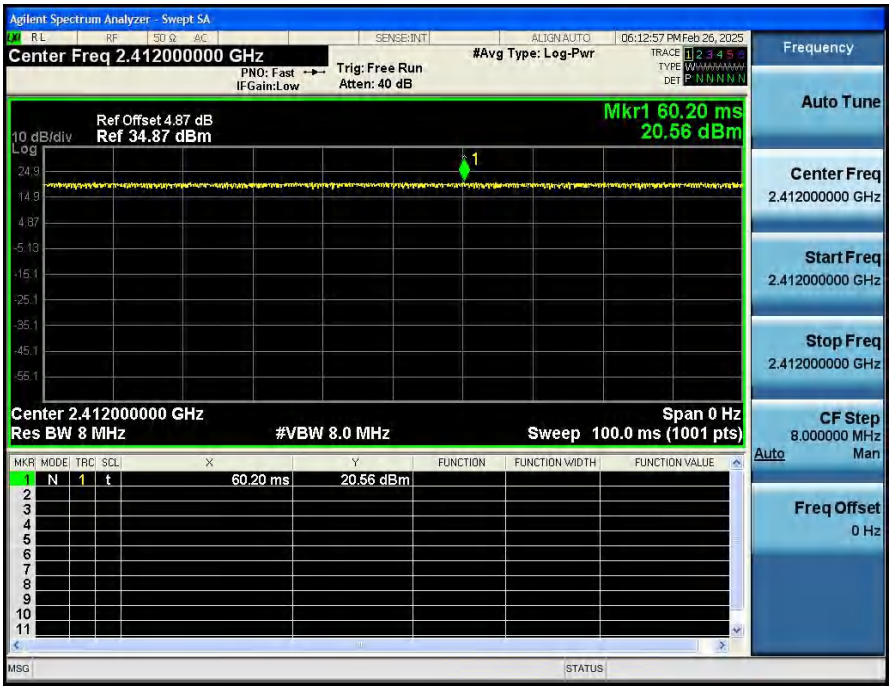
Duty_Cycle_NVNT_ANT1_802_11b_2412



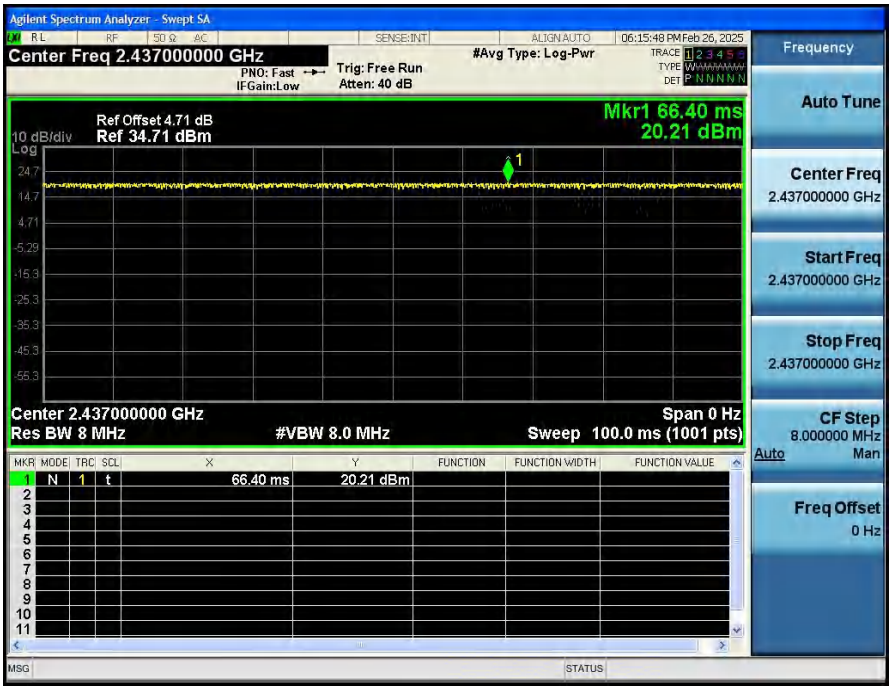
Duty_Cycle_NVNT_ANT1_802_11b_2437

Duty_Cycle_NVNT_ANT1_802_11b_2462

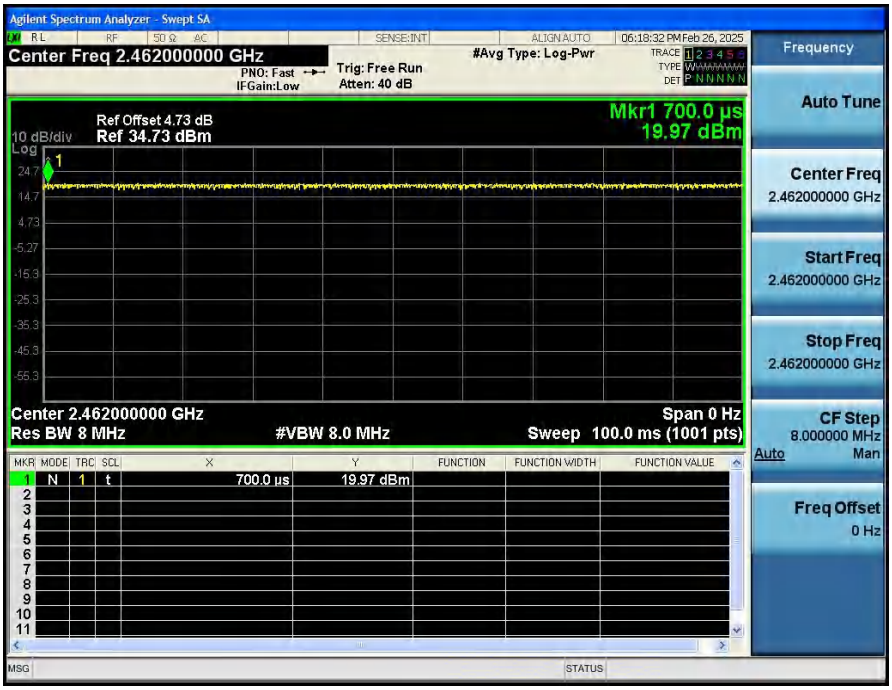
Duty_Cycle_NVNT_ANT1_802_11g_2412



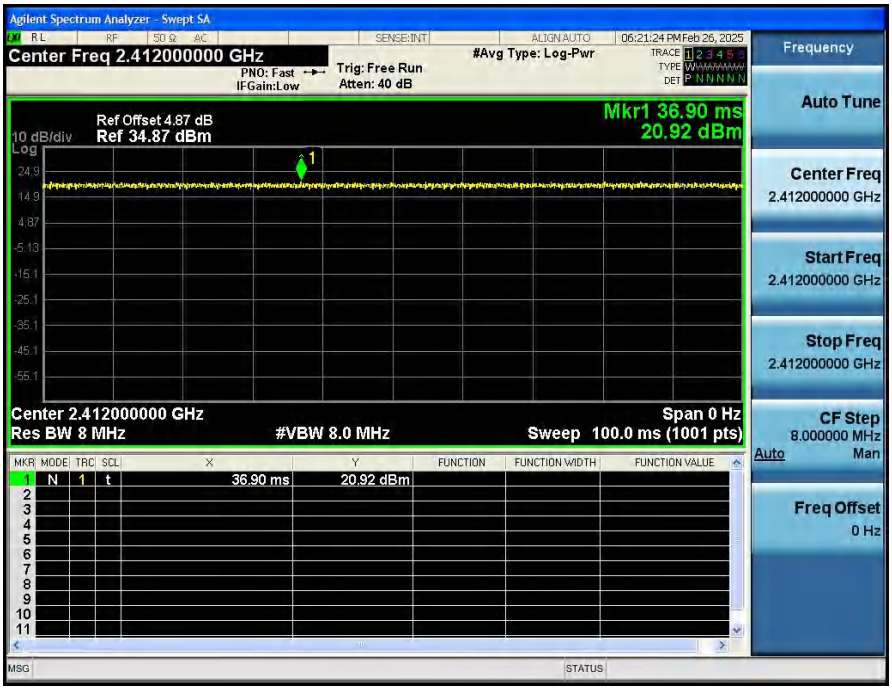
Duty_Cycle_NVNT_ANT1_802_11g_2437



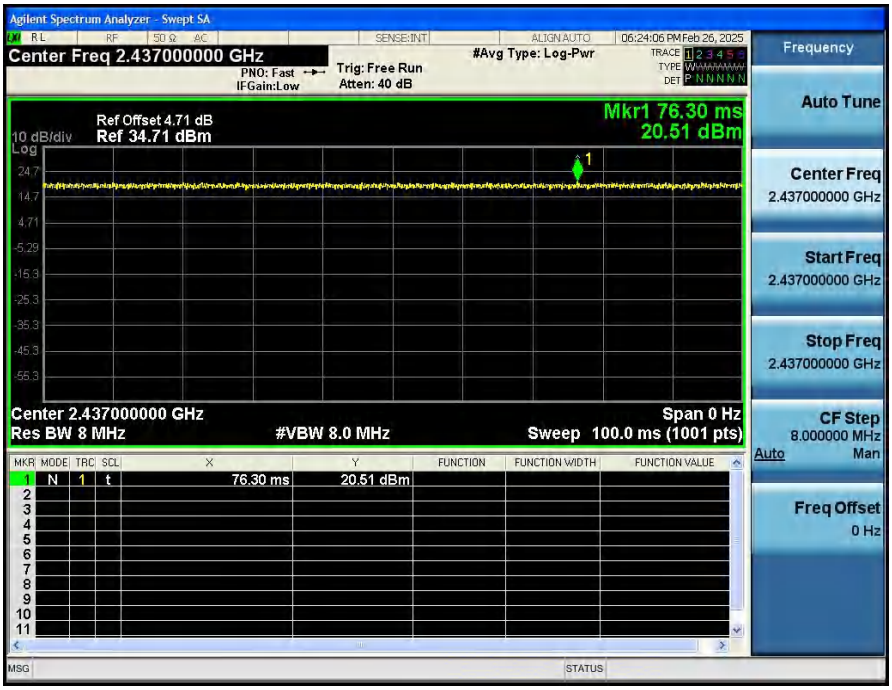
Duty_Cycle_NVNT_ANT1_802_11g_2462



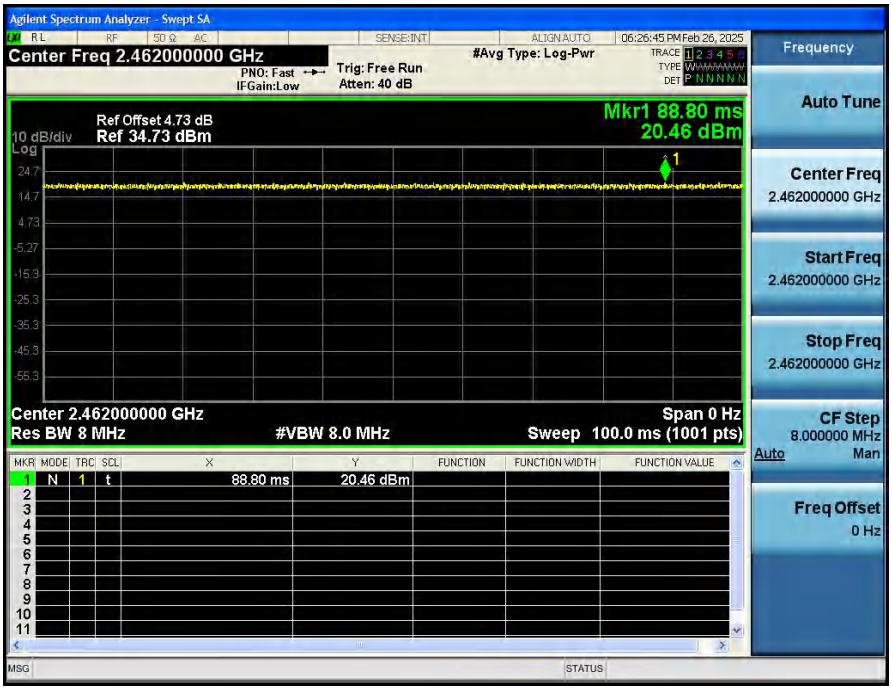
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2412



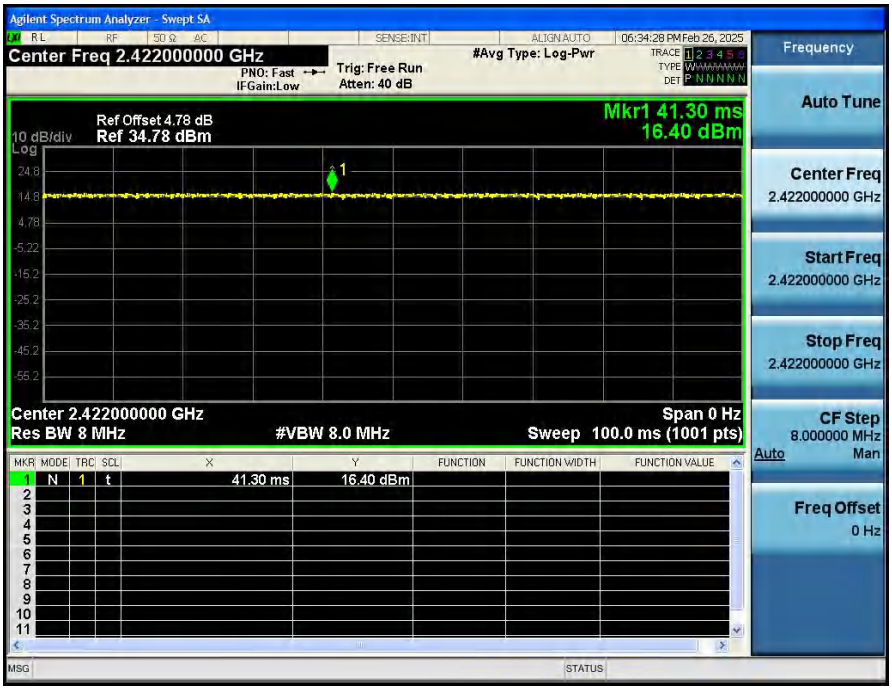
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2437



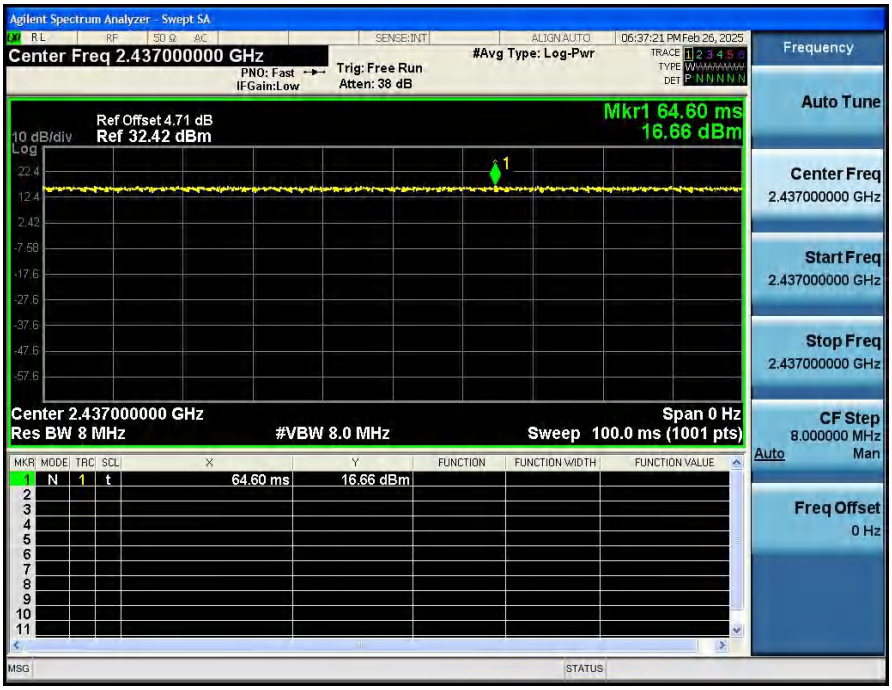
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2462



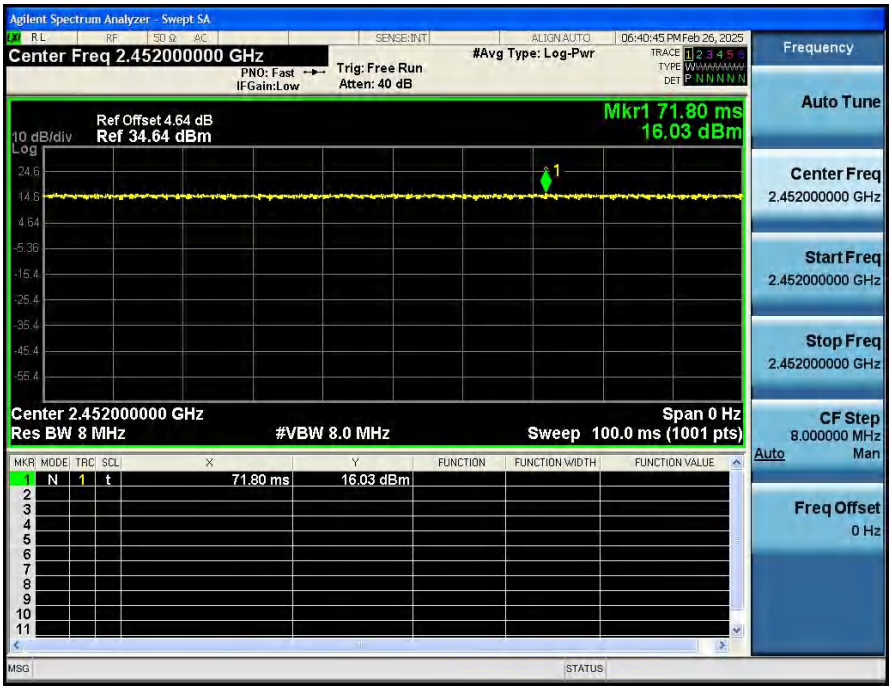
Duty_Cycle_NVNT_ANT1_802_11n(HT40)_2422



Duty_Cycle_NVNT_ANT1_802_11n(HT40)_2437



Duty_Cycle_NVNT_ANT1_802_11n(HT40)_2452

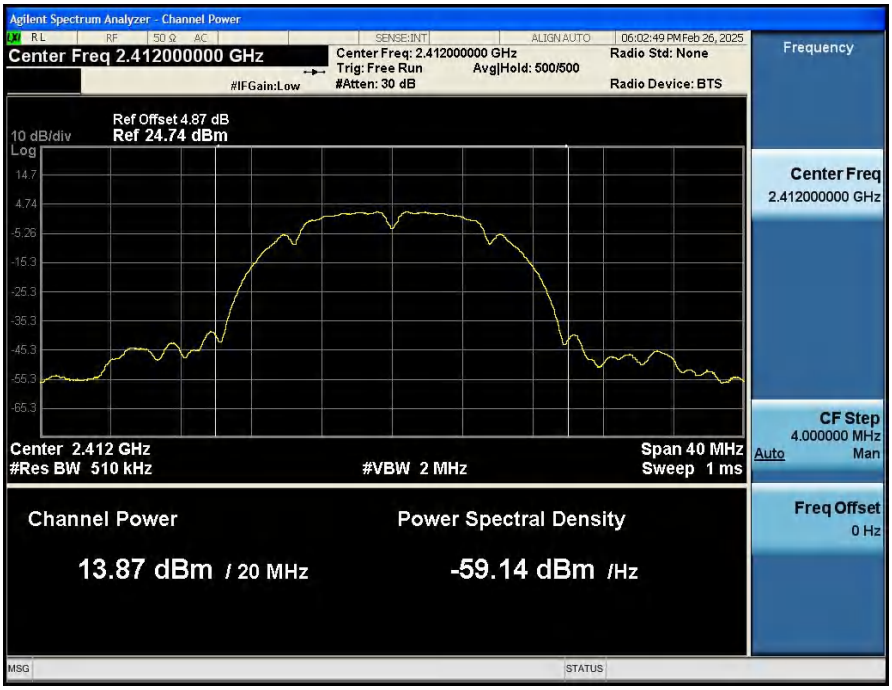

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.452000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 40 dB
#Avg Type: Log-Pwr
06:40:45 PM Feb 26, 2025
Ref Offset 4.64 dB
10 dB/div
Log
Ref 34.64 dBm
Mkr1 71.80 ms
16.03 dBm
Center 2.452000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 100.0 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 t 71.80 ms 16.03 dBm
Frequency
Auto Tune
Center Freq
2.452000000 GHz
Start Freq
2.452000000 GHz
Stop Freq
2.452000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix D: MAX. Output Power

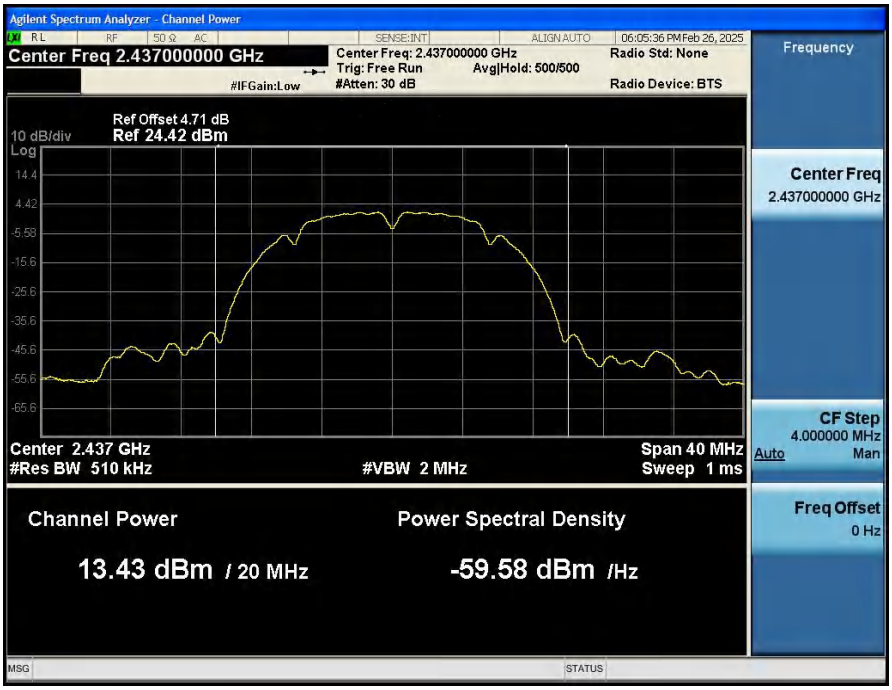
Condition	Antenna	Modulation	Frequency (MHz)	Detector	Conducted Power (dBm)	Duty factor (dB)	Total Power (dBm)	Limit (dBm)	Result
NVNT	ANT1	802.11b	2412.00	RMS	13.87	0.00	13.87	30	Pass
NVNT	ANT1	802.11b	2437.00	RMS	13.43	0.00	13.43	30	Pass
NVNT	ANT1	802.11b	2462.00	RMS	13.00	0.00	13.00	30	Pass
NVNT	ANT1	802.11g	2412.00	RMS	13.38	0.00	13.38	30	Pass
NVNT	ANT1	802.11g	2437.00	RMS	13.10	0.00	13.10	30	Pass
NVNT	ANT1	802.11g	2462.00	RMS	12.91	0.00	12.91	30	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	RMS	13.20	0.00	13.20	30	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	RMS	12.92	0.00	12.92	30	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	RMS	12.71	0.00	12.71	30	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	RMS	12.74	0.00	12.74	30	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	RMS	12.74	0.00	12.74	30	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	RMS	12.37	0.00	12.37	30	Pass

Note：1.The cable loss are compensated in the graph.

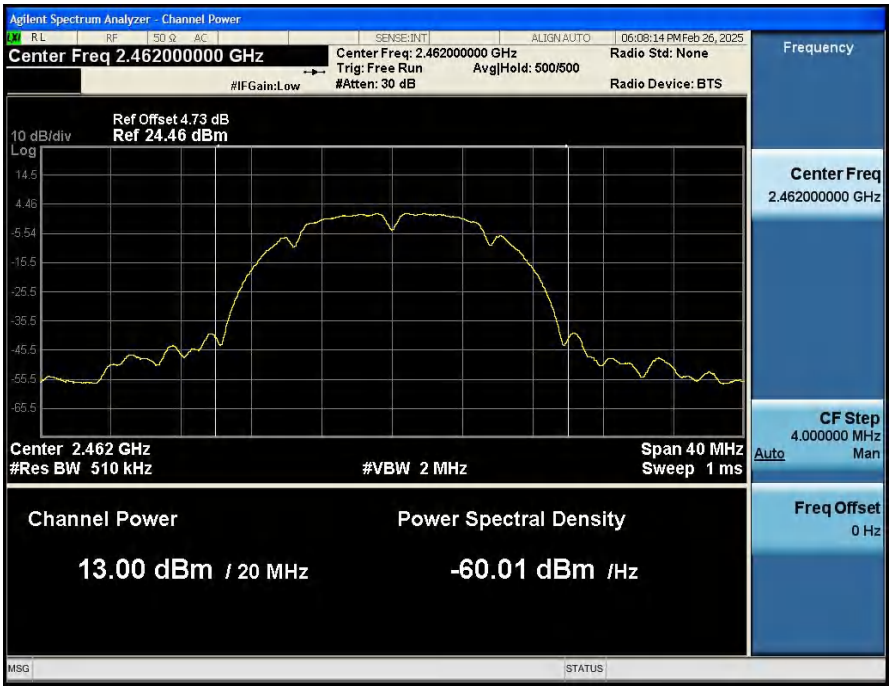
MAX__Output_Power_NVNT_ANT1_802_11b_2412



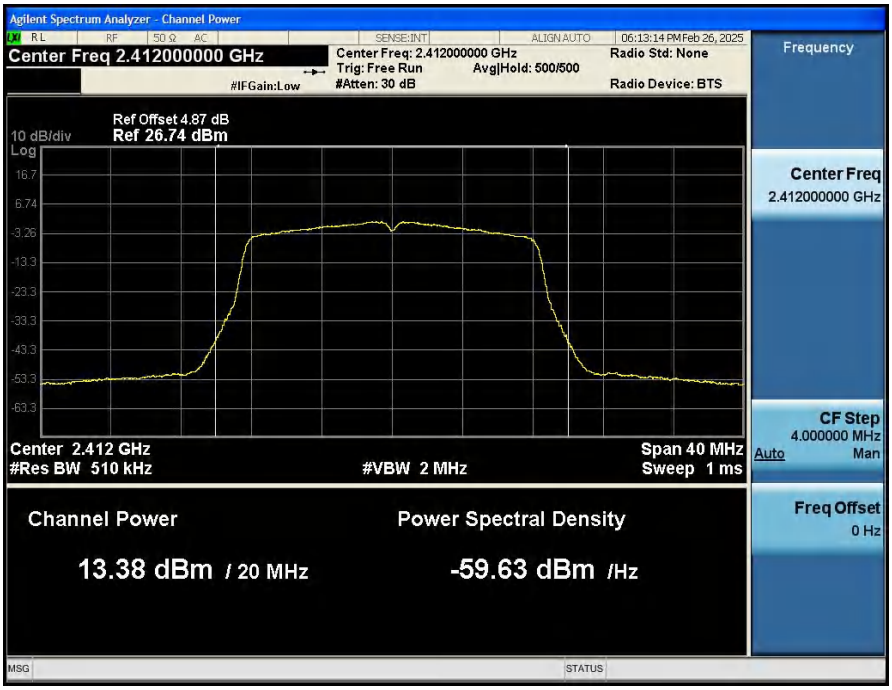
MAX__Output_Power_NVNT_ANT1_802_11b_2437



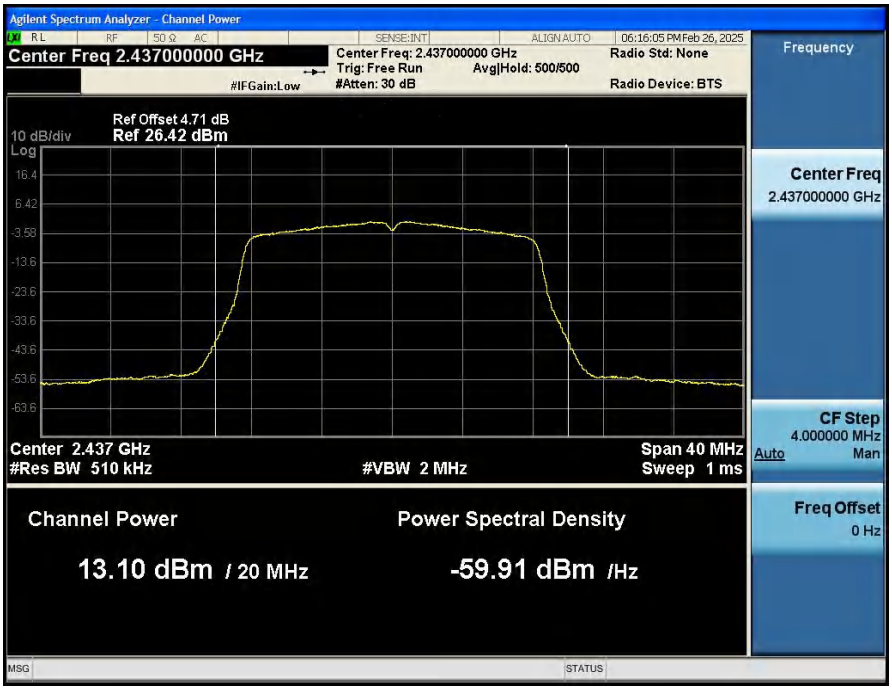
MAX__Output_Power_NVNT_ANT1_802_11b_2462



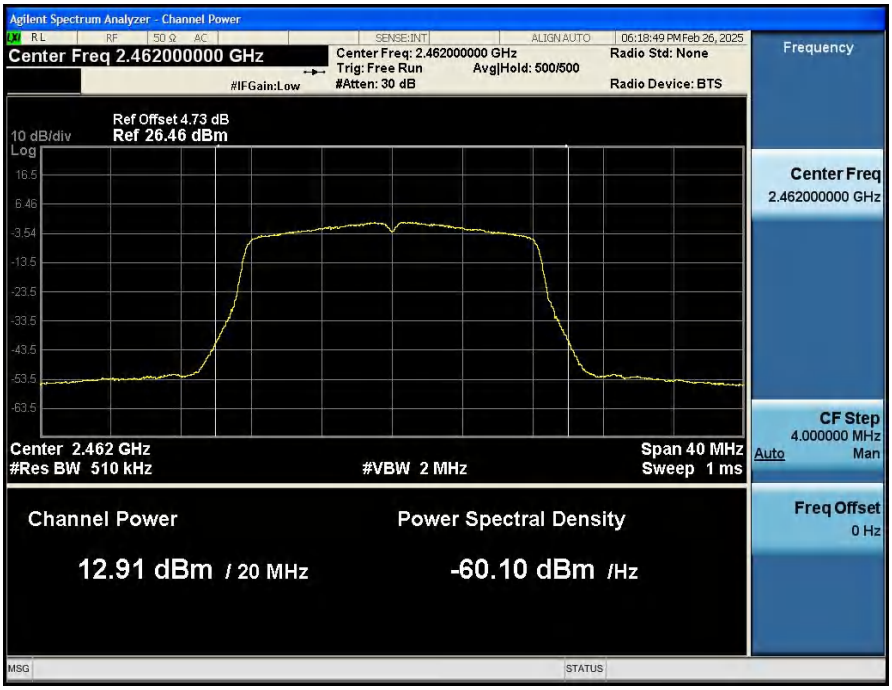
MAX__Output_Power_NVNT_ANT1_802_11g_2412



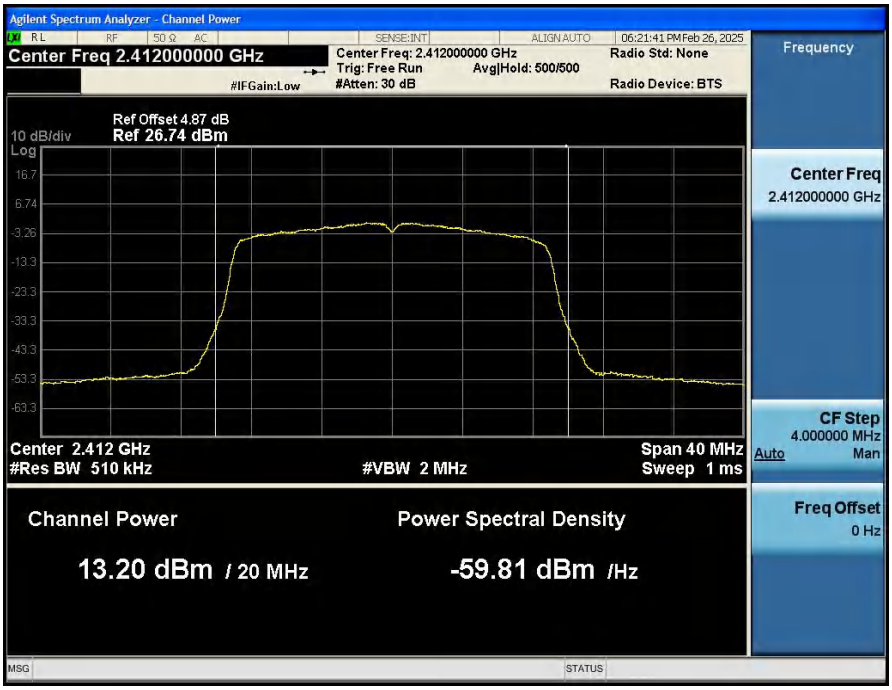
MAX__Output_Power_NVNT_ANT1_802_11g_2437



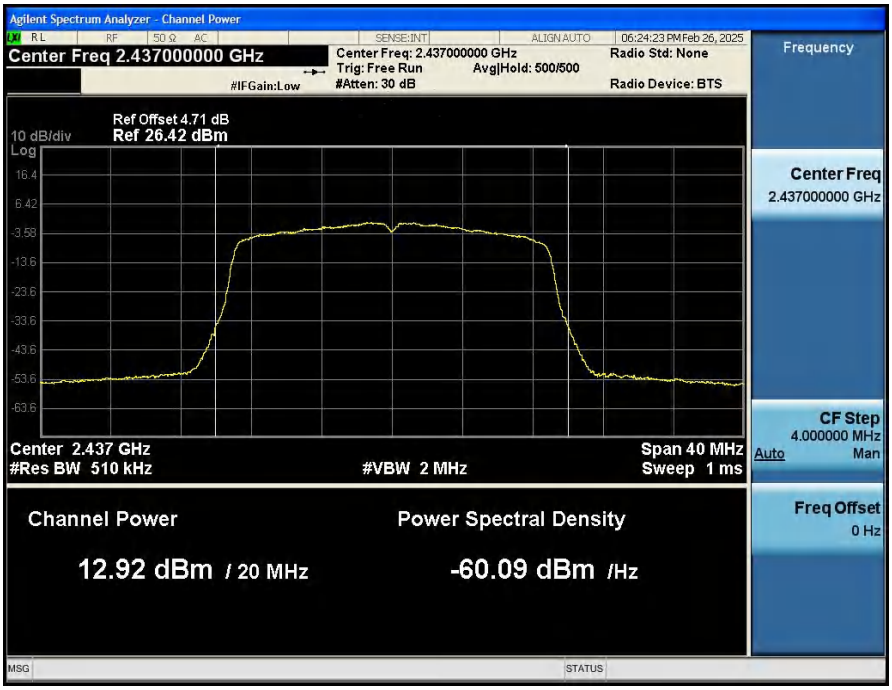
MAX__Output_Power_NVNT_ANT1_802_11g_2462



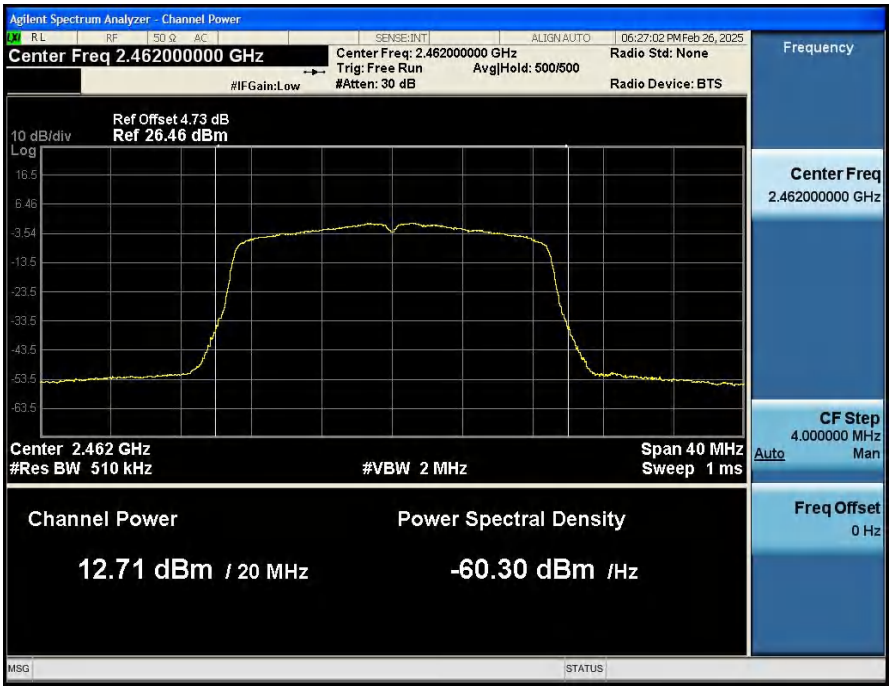
MAX__Output_Power_NVNT_ANT1_802_11n(HT20)_2412



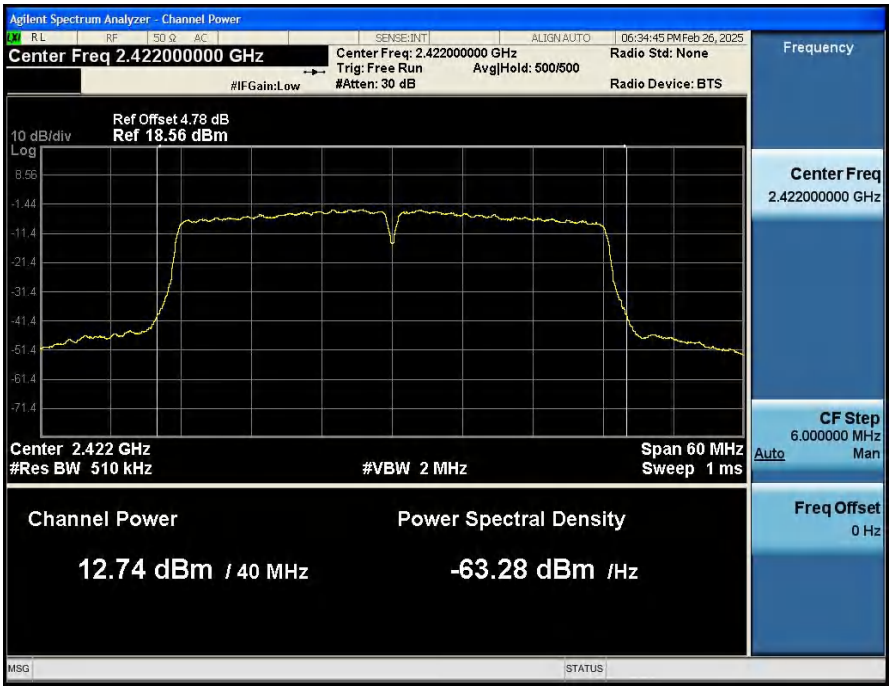
MAX__Output_Power_NVNT_ANT1_802_11n(HT20)_2437



MAX__Output_Power_NVNT_ANT1_802_11n(HT20)_2462

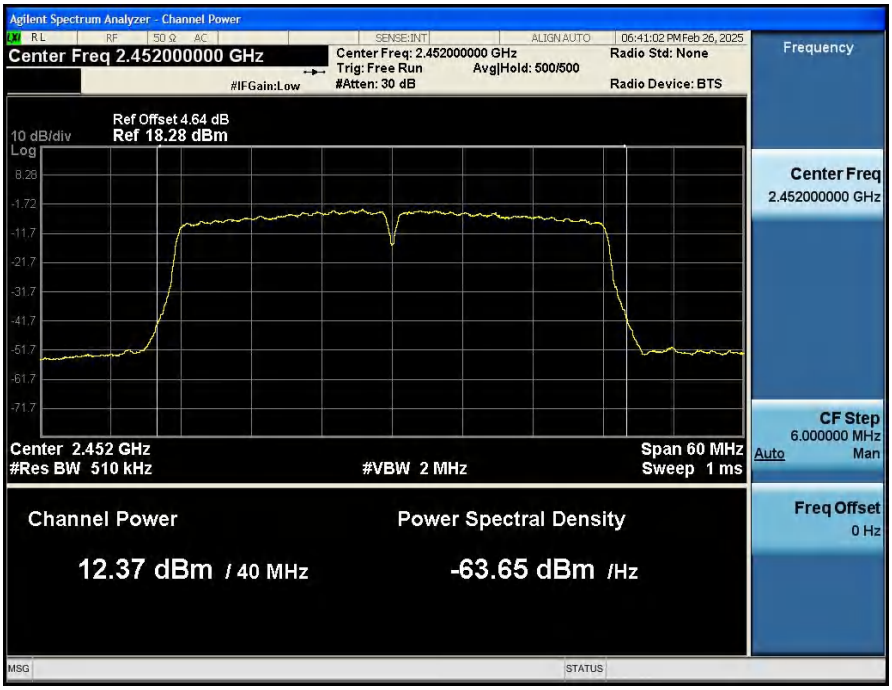


MAX__Output_Power_NVNT_ANT1_802_11n(HT40)_2422



MAX__Output_Power_NVNT_ANT1_802_11n(HT40)_2437

MAX__Output_Power_NVNT_ANT1_802_11n(HT40)_2452


Agilent Spectrum Analyzer - Channel Power
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
06:41:02 PM Feb 26, 2025
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold: 500/500
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 4.64 dB
10 dB/div
Ref 18.28 dBm
Log
8.28
-1.72
-11.7
-21.7
-31.7
-41.7
-51.7
-61.7
-71.7
Center Freq
2.452000000 GHz
Center 2.452 GHz
#Res BW 510 kHz
#VBW 2 MHz
Span 60 MHz
Sweep 1 ms
CF Step
6.000000 MHz
Auto
Man
Channel Power
12.37 dBm / 40 MHz
Power Spectral Density
-63.65 dBm /Hz
Freq Offset
0 Hz
MSG
STATUS

Appendix E: Power Spectral Density

Condition	Antenna	Modulation	Frequency (MHz)	SA_PSD (dBm/30kHz)	Duty factor (dB)	RB factor (dB)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
NVNT	ANT1	802.11b	2412.00	-0.41	0.00	-10.00	-10.41	8	Pass
NVNT	ANT1	802.11b	2437.00	-0.83	0.00	-10.00	-10.83	8	Pass
NVNT	ANT1	802.11b	2462.00	-1.19	0.00	-10.00	-11.19	8	Pass
NVNT	ANT1	802.11g	2412.00	-0.82	0.00	-10.00	-10.82	8	Pass
NVNT	ANT1	802.11g	2437.00	-1.19	0.00	-10.00	-11.19	8	Pass
NVNT	ANT1	802.11g	2462.00	-1.29	0.00	-10.00	-11.29	8	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	-1.42	0.00	-10.00	-11.42	8	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	-1.72	0.00	-10.00	-11.72	8	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	-1.76	0.00	-10.00	-11.77	8	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	-5.56	0.00	-10.00	-15.56	8	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	-5.72	0.00	-10.00	-15.72	8	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	-6.01	0.00	-10.00	-16.01	8	Pass

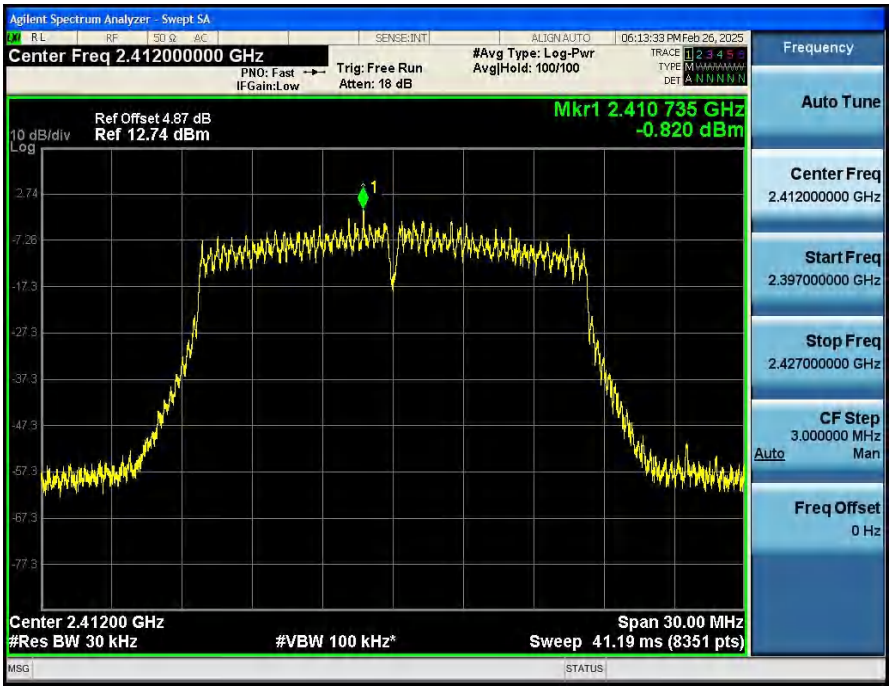
Note: 1.The cable loss are compensated in the graph.
2.PSD(dBm/3kHz)= PSD(dBm/30kHz)- (10*log(30/3)).

Power_Spectral_Density_NVNT_ANT1_802_11b_2412

Power_Spectral_Density_NVNT_ANT1_802_11b_2437

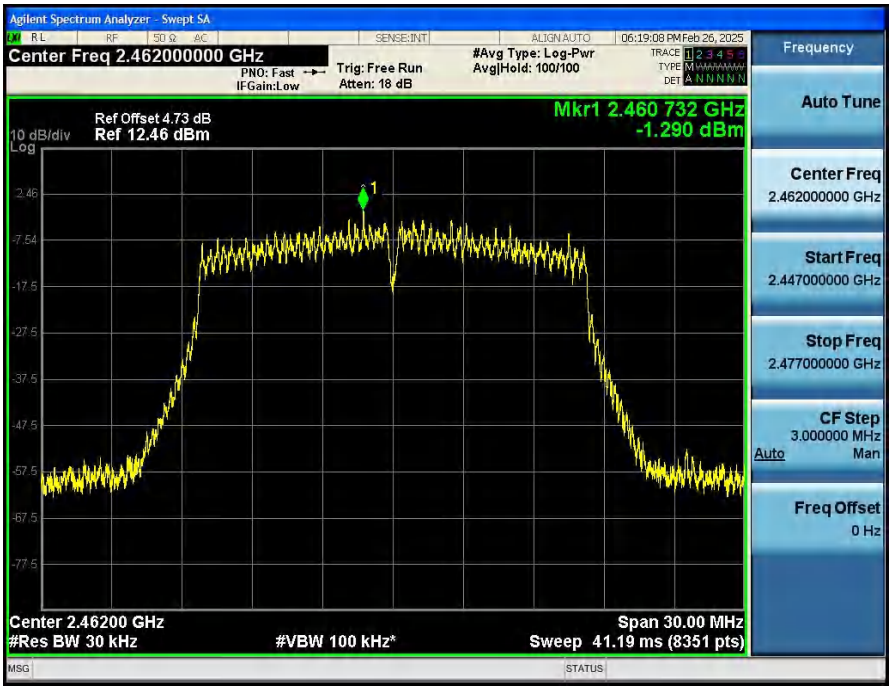
Power_Spectral_Density_NVNT_ANT1_802_11b_2462

Power_Spectral_Density_NVNT_ANT1_802_11g_2412

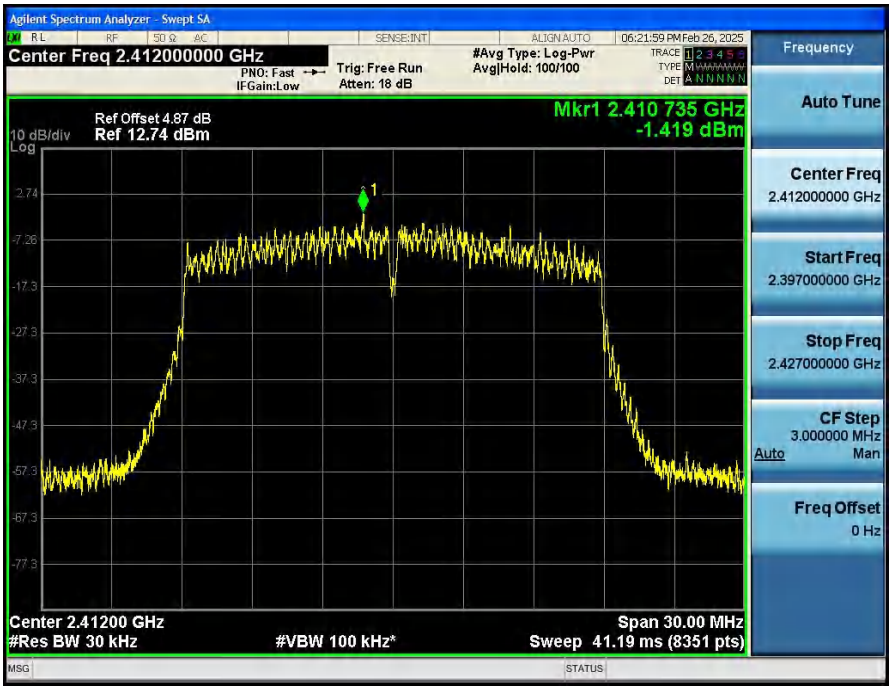


Power_Spectral_Density_NVNT_ANT1_802_11g_2437

Power_Spectral_Density_NVNT_ANT1_802_11g_2462

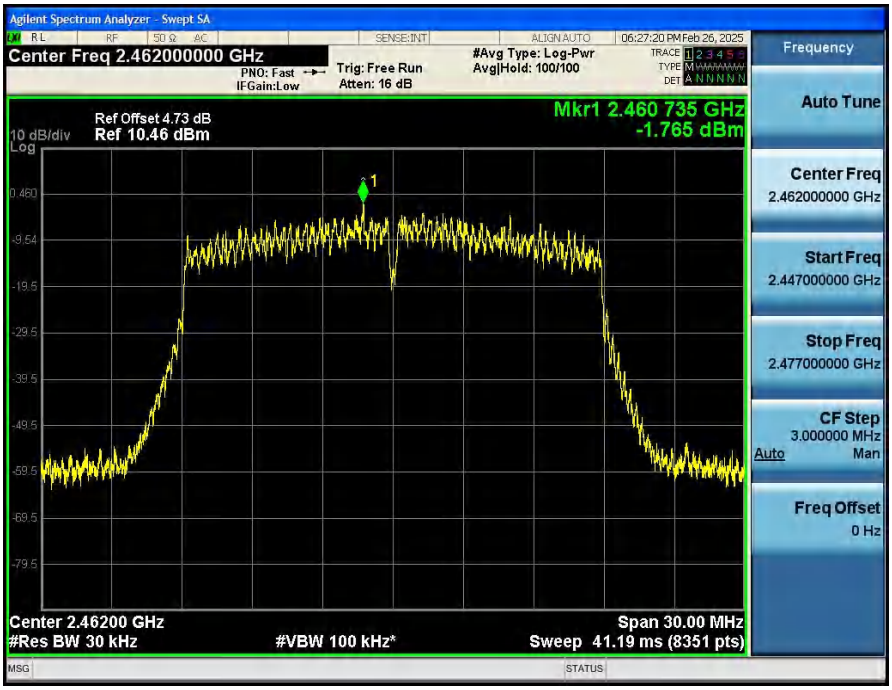


Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_2412

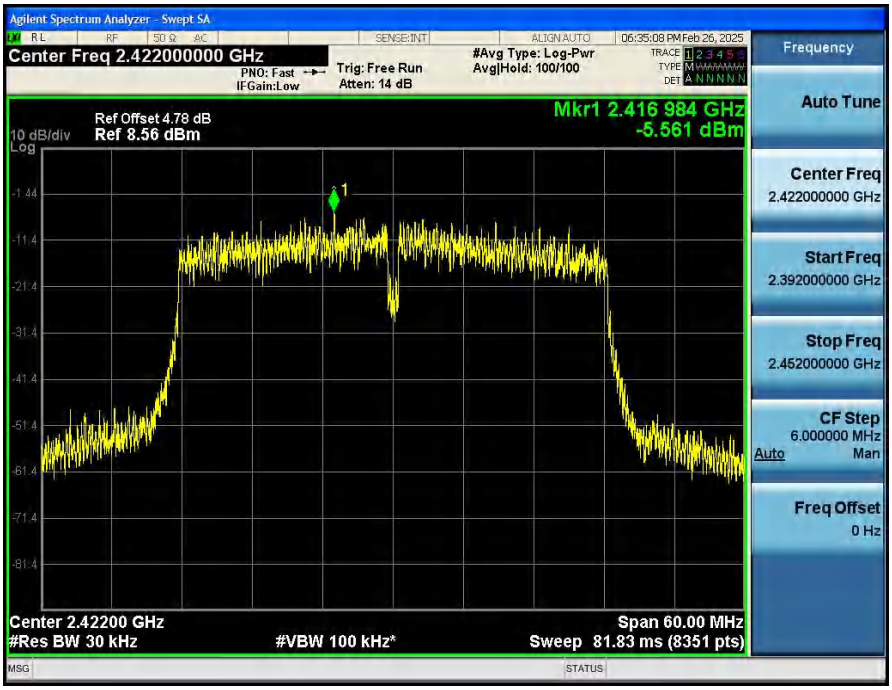


Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_2437

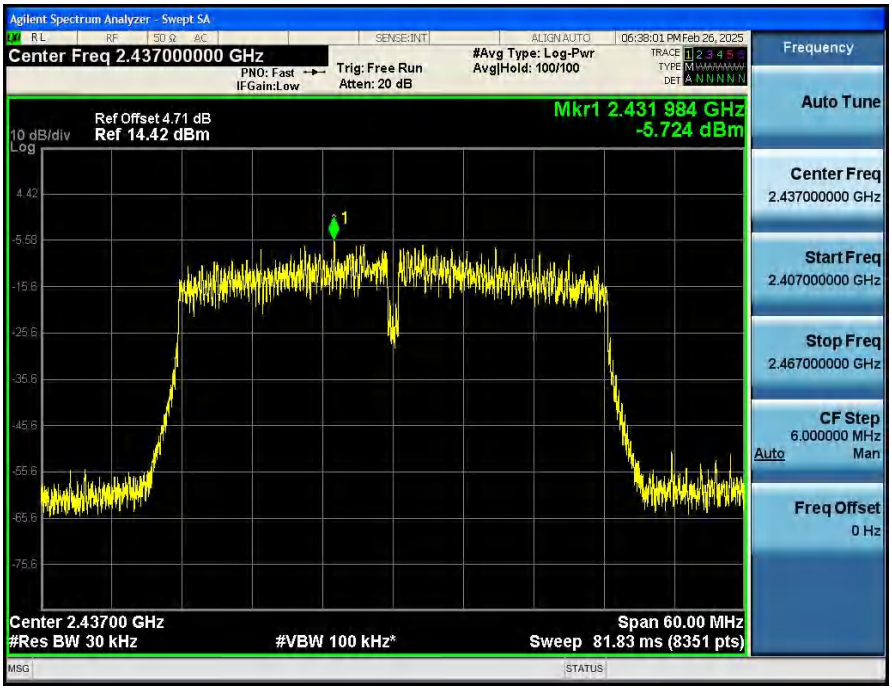
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_2462



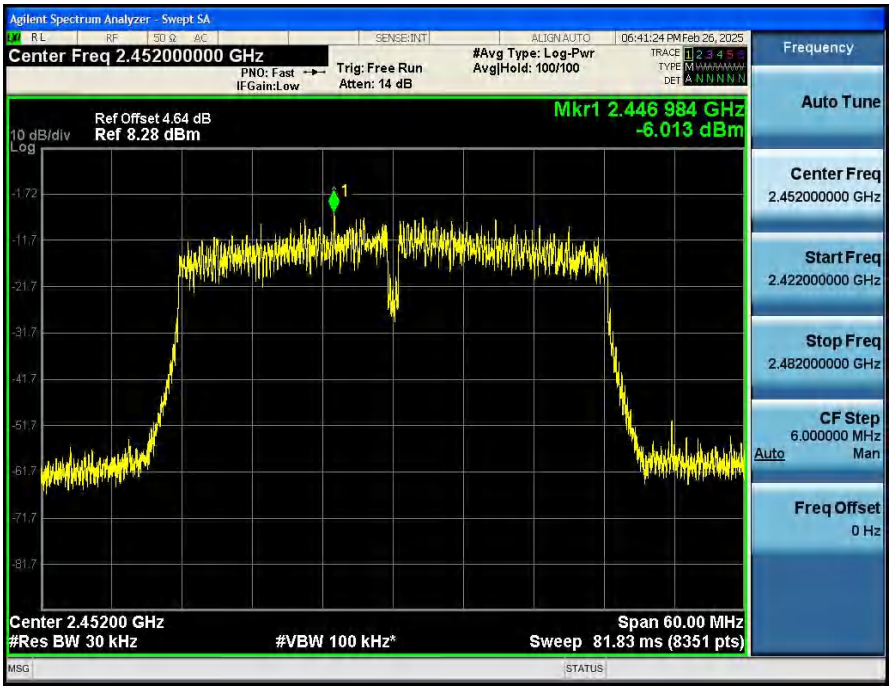
Power_Spectral_Density_NVNT_ANT1_802_11n(HT40)_2422



Power_Spectral_Density_NVNT_ANT1_802_11n(HT40)_2437



Power_Spectral_Density_NVNT_ANT1_802_11n(HT40)_2452


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.452000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 14 dB
#Avg Type: Log-Pwr
Avg|Hold: 100/100
06:41:24 PM Feb 26, 2025
Ref Offset 4.64 dB
10 dB/div
Log
Ref 8.28 dBm
Mkr1 2.446 984 GHz
-6.013 dBm
-1.72
-11.7
-21.7
-31.7
-41.7
-51.7
-61.7
-71.7
-81.7
Center 2.45200 GHz
#Res BW 30 kHz
#VBW 100 kHz*
Span 60.00 MHz
Sweep 81.83 ms (8351 pts)
Frequency
Auto Tune
Center Freq
2.452000000 GHz
Start Freq
2.422000000 GHz
Stop Freq
2.482000000 GHz
CF Step
6.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix F: Bandedge

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark_freq (MHz)	Ref_level (dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11b	2412.00	2399.488	4.013	-40.595	-25.987	Pass
NVNT	ANT1	802.11b	2462.00	2487.568	2.994	-51.169	-27.006	Pass
NVNT	ANT1	802.11g	2412.00	2399.936	3.868	-48.291	-26.132	Pass
NVNT	ANT1	802.11g	2462.00	2484.448	3.596	-52.749	-26.404	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	2395.792	3.325	-47.336	-26.675	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	2488.288	3.272	-49.720	-26.728	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	2395.800	0.062	-40.837	-29.938	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	2484.496	0.060	-48.395	-29.940	Pass

1_Reference_Level_NVNT_ANT1_802_11b_2412

2_Bandedge_NVNT_ANT1_802_11b_2412

1_Reference_Level_NVNT_ANT1_802_11b_2462

2_Bandedge_NVNT_ANT1_802_11b_2462

1_Reference_Level_NVNT_ANT1_802_11g_2412

2_Bandedge_NVNT_ANT1_802_11g_2412

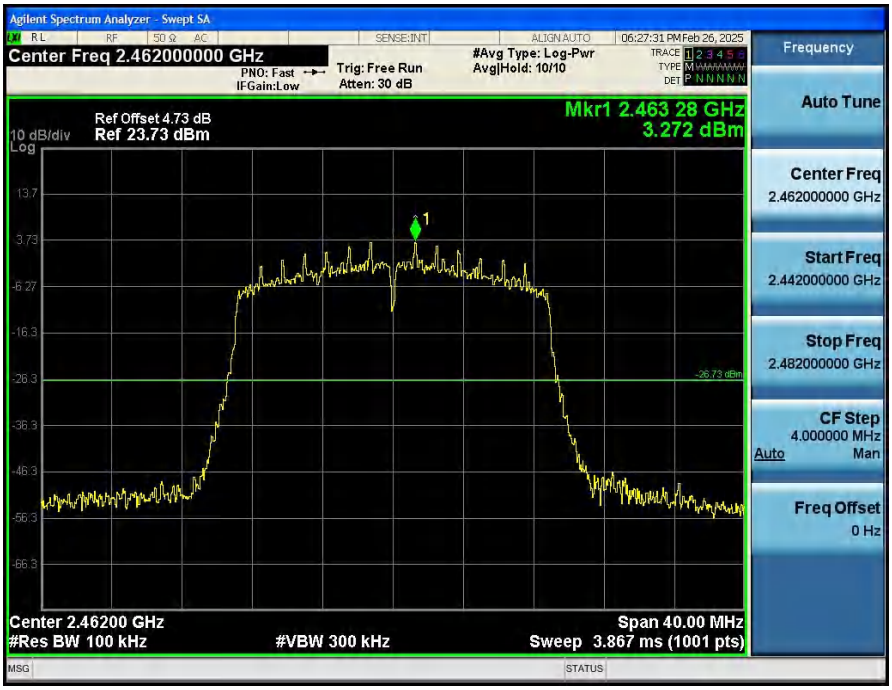
1_Reference_Level_NVNT_ANT1_802_11g_2462

2_Bandedge_NVNT_ANT1_802_11g_2462

1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2412

2_Bandedge_NVNT_ANT1_802_11n(HT20)_2412

1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2462



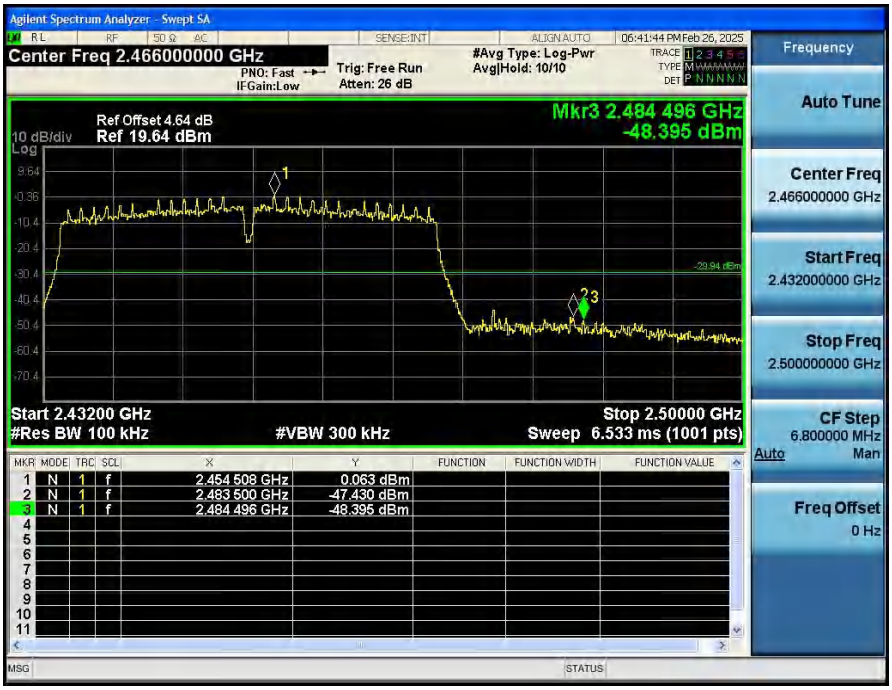
2_Bandedge_NVNT_ANT1_802_11n(HT20)_2462

1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2422

2_Bandedge_NVNT_ANT1_802_11n(HT40)_2422

1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2452

2_Bandedge_NVNT_ANT1_802_11n(HT40)_2452

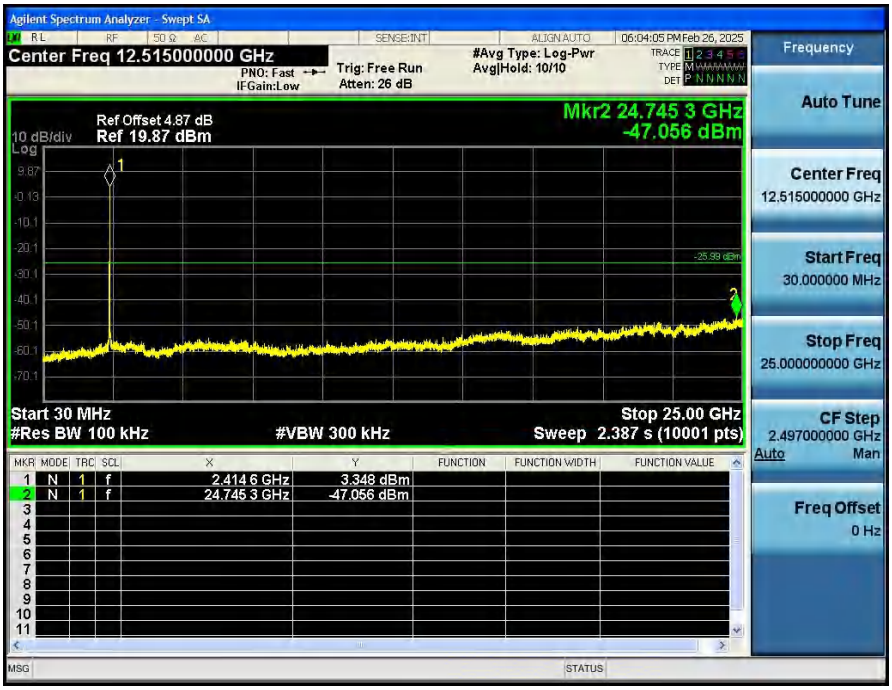

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.466000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 26 dB
#Avg Type: Log-Pwr
Avg|Hold: 10/10
06:41:44 PM Feb 26, 2025
Ref Offset 4.64 dB
10 dB/div
Log
Ref 19.64 dBm
Mkr3 2.484 496 GHz
-48.395 dBm
-29.94 dBm
Start 2.43200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 6.533 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.454 508 GHz 0.063 dBm
2 N 1 f 2.483 500 GHz -47.430 dBm
3 N 1 f 2.484 496 GHz -48.395 dBm
Frequency
Auto Tune
Center Freq
2.466000000 GHz
Start Freq
2.432000000 GHz
Stop Freq
2.500000000 GHz
CF Step
6.800000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix G: Spurious Emission

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark_freq (MHz)	Ref_level (dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11b	2412.00	24745.306	4.013	-47.056	-25.987	Pass
NVNT	ANT1	802.11b	2437.00	24862.665	3.565	-44.722	-26.435	Pass
NVNT	ANT1	802.11b	2462.00	24890.132	2.994	-44.211	-27.006	Pass
NVNT	ANT1	802.11g	2412.00	24353.277	3.868	-44.673	-26.132	Pass
NVNT	ANT1	802.11g	2437.00	24805.234	3.239	-44.919	-26.761	Pass
NVNT	ANT1	802.11g	2462.00	24977.527	3.596	-45.017	-26.404	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	24942.569	3.325	-44.615	-26.675	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	24178.487	3.588	-44.562	-26.412	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	24810.228	3.272	-44.759	-26.728	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	24800.240	0.062	-51.065	-29.938	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	24917.599	0.312	-50.836	-29.688	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	24815.222	0.060	-46.551	-29.940	Pass

1_Reference_Level_NVNT_ANT1_802_11b_2412

2_Spurious_Emission_NVNT_ANT1_802_11b_2412



1_Reference_Level_NVNT_ANT1_802_11b_2437

2_Spurious_Emission_NVNT_ANT1_802_11b_2437

1_Reference_Level_NVNT_ANT1_802_11b_2462

2_Spurious_Emission_NVNT_ANT1_802_11b_2462

1_Reference_Level_NVNT_ANT1_802_11g_2412

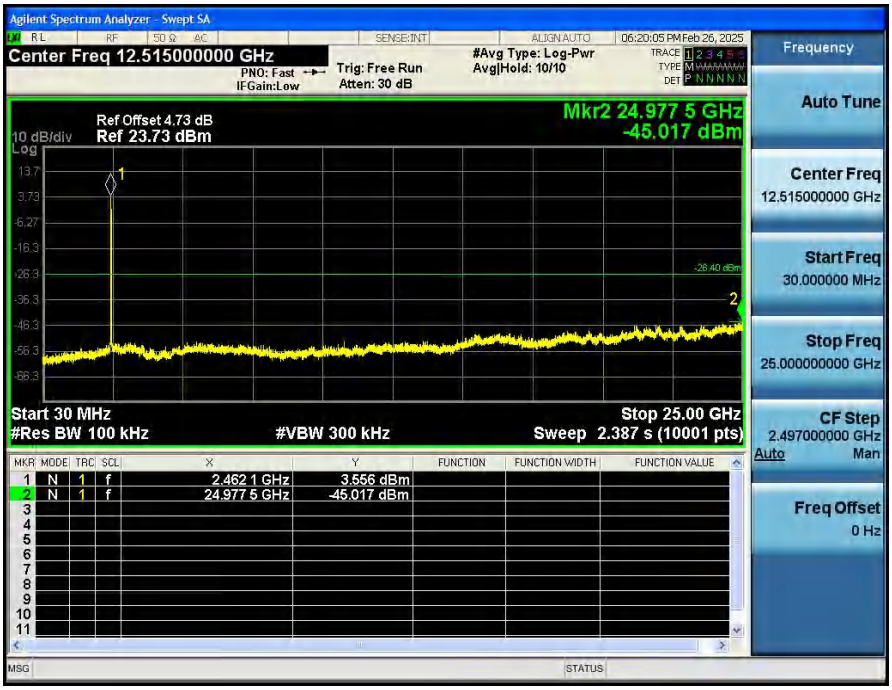
2_Spurious_Emission_NVNT_ANT1_802_11g_2412

1_Reference_Level_NVNT_ANT1_802_11g_2437

2_Spurious_Emission_NVNT_ANT1_802_11g_2437

1_Reference_Level_NVNT_ANT1_802_11g_2462

2_Spurious_Emission_NVNT_ANT1_802_11g_2462

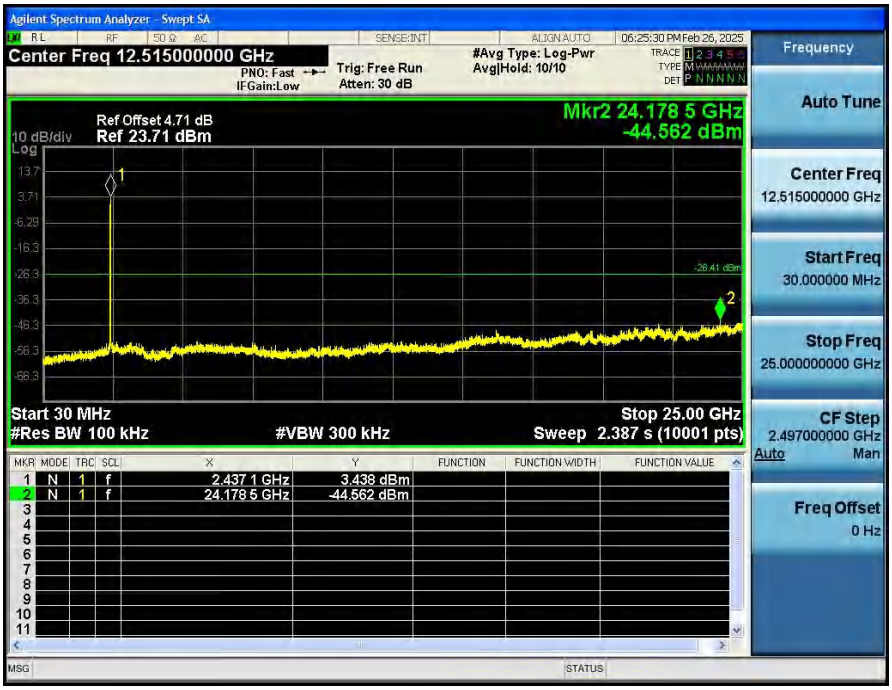


1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2412

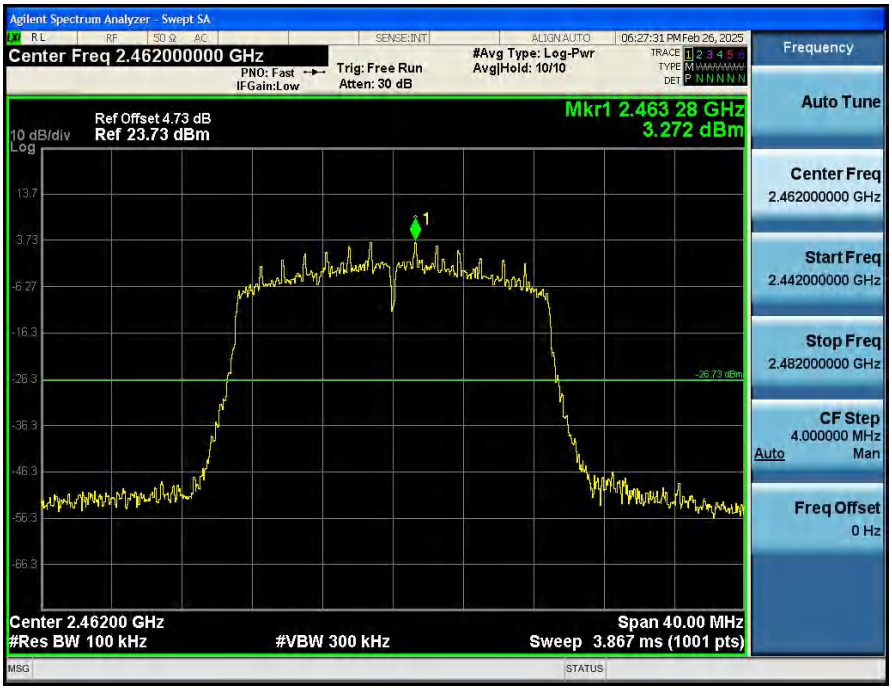
2_Spurious_Emission_NVNT_ANT1_802_11n(HT20)_2412

1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2437

2_Spurious_Emission_NVNT_ANT1_802_11n(HT20)_2437



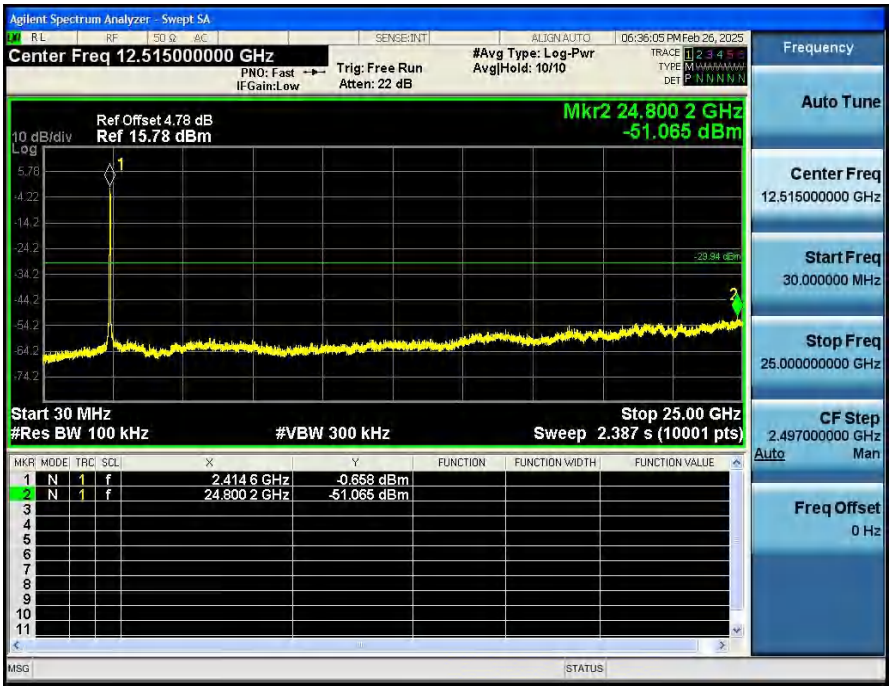
1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2462



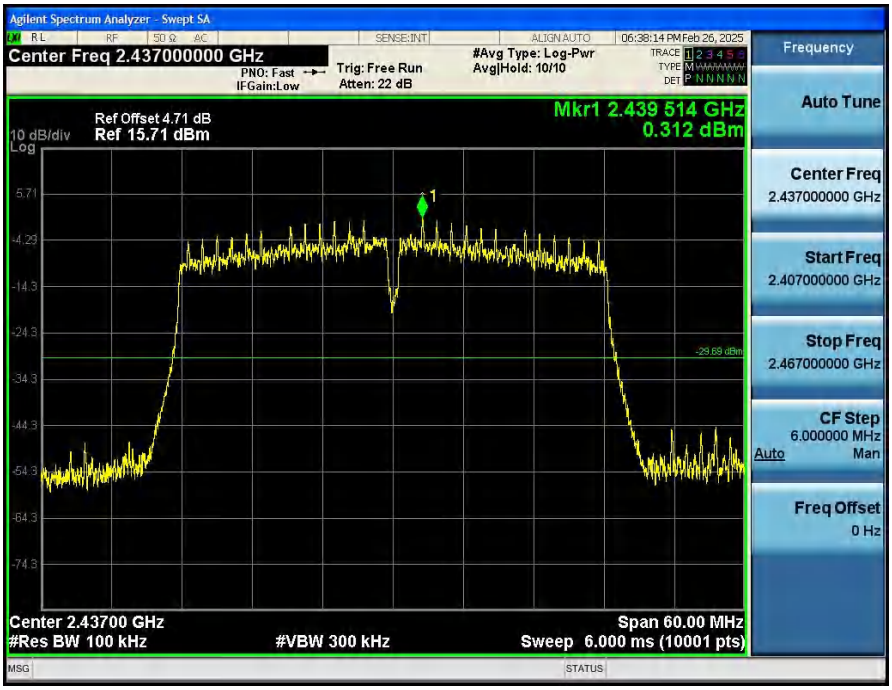
2_Spurious_Emission_NVNT_ANT1_802_11n(HT20)_2462

1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2422

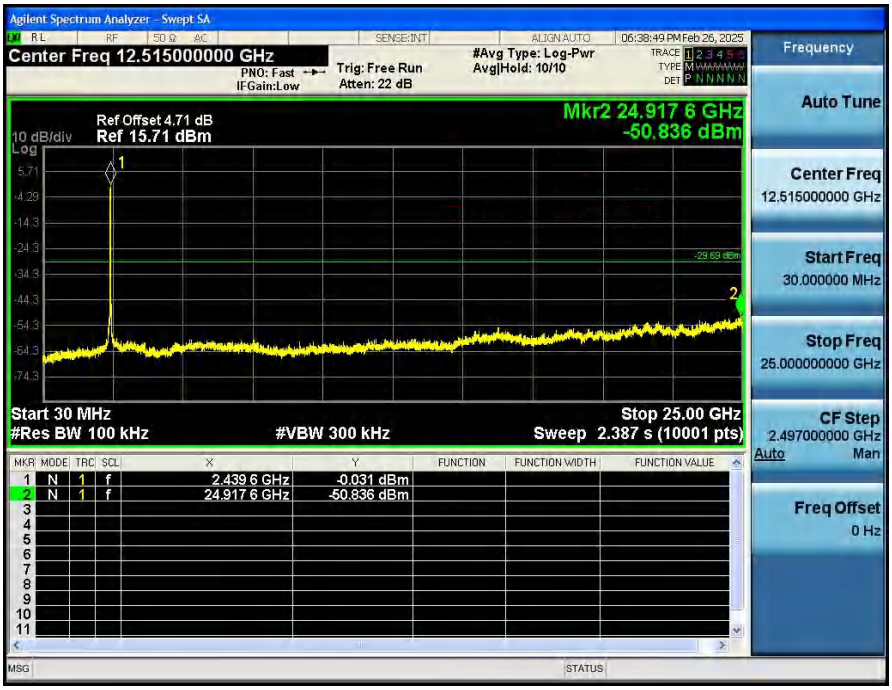
2_Spurious_Emission_NVNT_ANT1_802_11n(HT40)_2422



1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2437

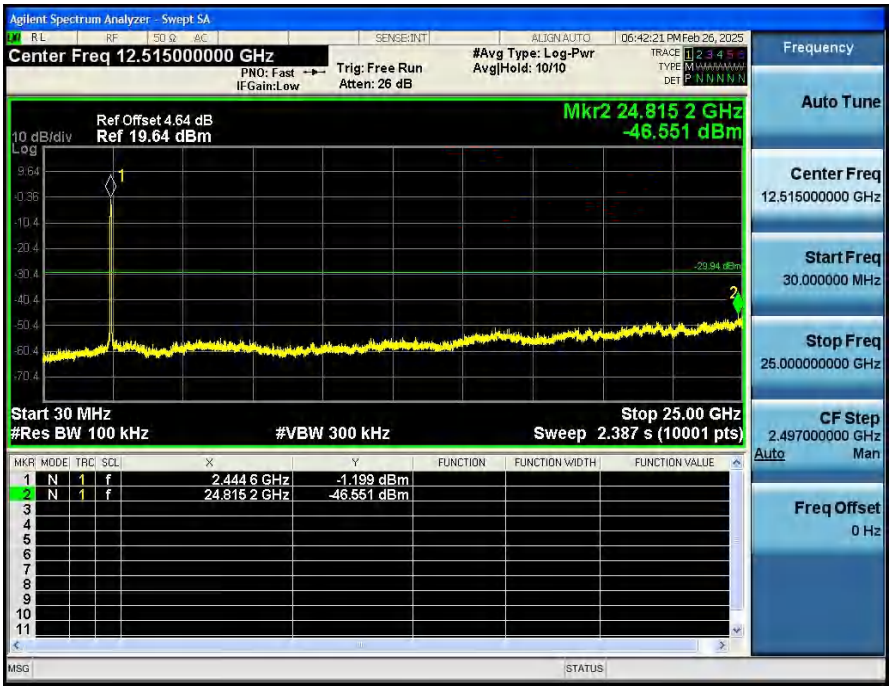


2_Spurious_Emission_NVNT_ANT1_802_11n(HT40)_2437



1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2452

2_Spurious_Emission_NVNT_ANT1_802_11n(HT40)_2452


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: 10/10
06:42:21 PM Feb 26, 2025
Ref Offset 4.64 dB
10 dB/div
Log
Ref 19.64 dBm
Mkr2 24.815 2 GHz
-46.551 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.387 s (10001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.444 6 GHz -1.199 dBm
2 N 1 f 24.815 2 GHz -46.551 dBm
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
MSG
STATUS

---END---