Table of Contents

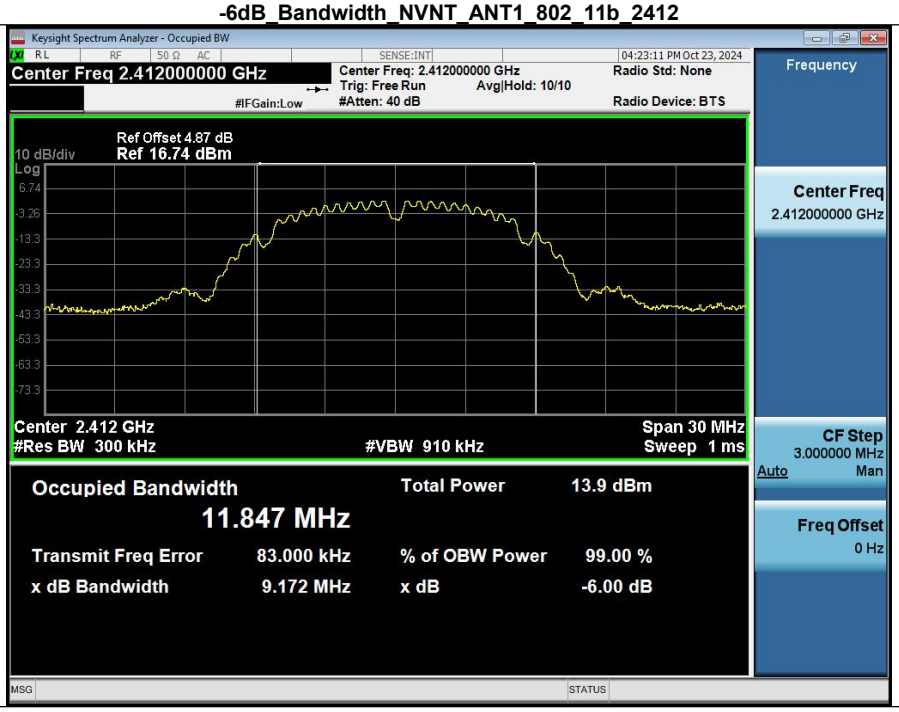
1. -6dB Bandwidth 2
2. 99% Occupied Bandwidth 9
3. Duty Cycle 16
4. MAX. Output Power 23
5. Power Spectral Density 24
6. Bandedge 31
7. Spurious Emission 39

FCC ID WIFI2.4-1
FCC_2.4G_WIFI (Part15.247) Test Data

1. -6dB Bandwidth

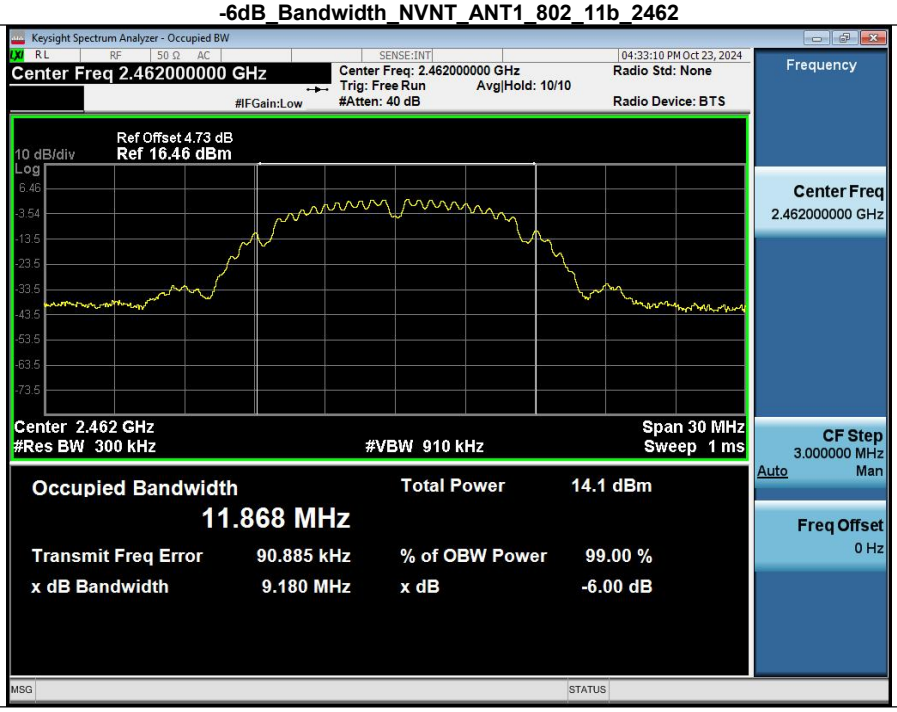
Condition	Antenna	Modulation	Frequency (MHz)	-6dB BW(MHz)	limit(kHz)	Result
NVNT	ANT1	802.11b	2412.00	9.17	500	Pass
NVNT	ANT1	802.11b	2437.00	9.20	500	Pass
NVNT	ANT1	802.11b	2462.00	9.18	500	Pass
NVNT	ANT1	802.11g	2412.00	16.48	500	Pass
NVNT	ANT1	802.11g	2437.00	16.52	500	Pass
NVNT	ANT1	802.11g	2462.00	16.43	500	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	17.44	500	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	17.46	500	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	17.52	500	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	36.01	500	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	35.75	500	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	36.05	500	Pass

-6dB_Bandwidth_NVNT_ANT1_802_11b_2412

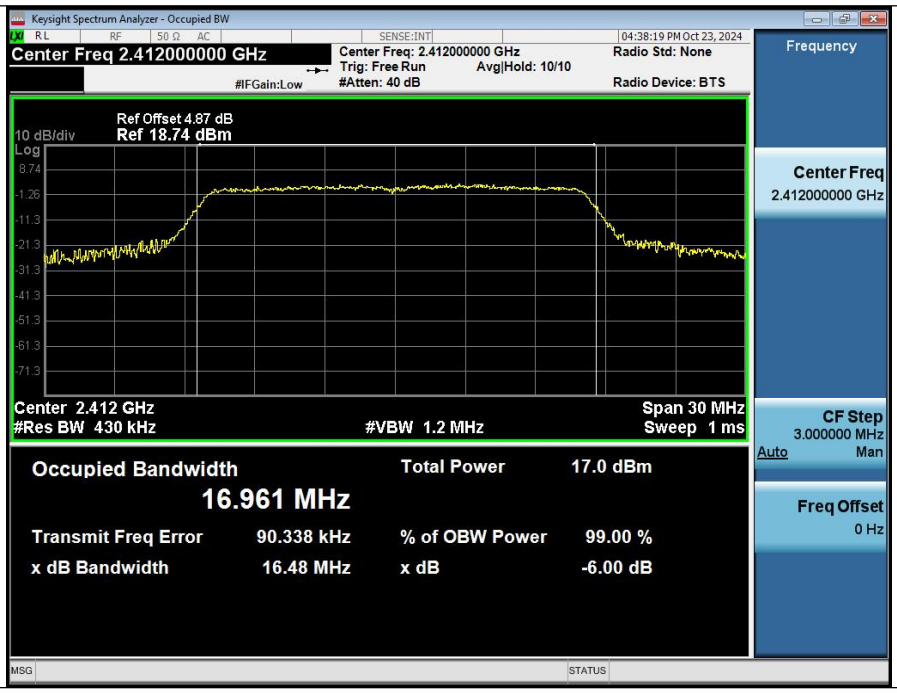


-6dB_Bandwidth_NVNT_ANT1_802_11b_2437

-6dB_Bandwidth_NVNT_ANT1_802_11b_2462

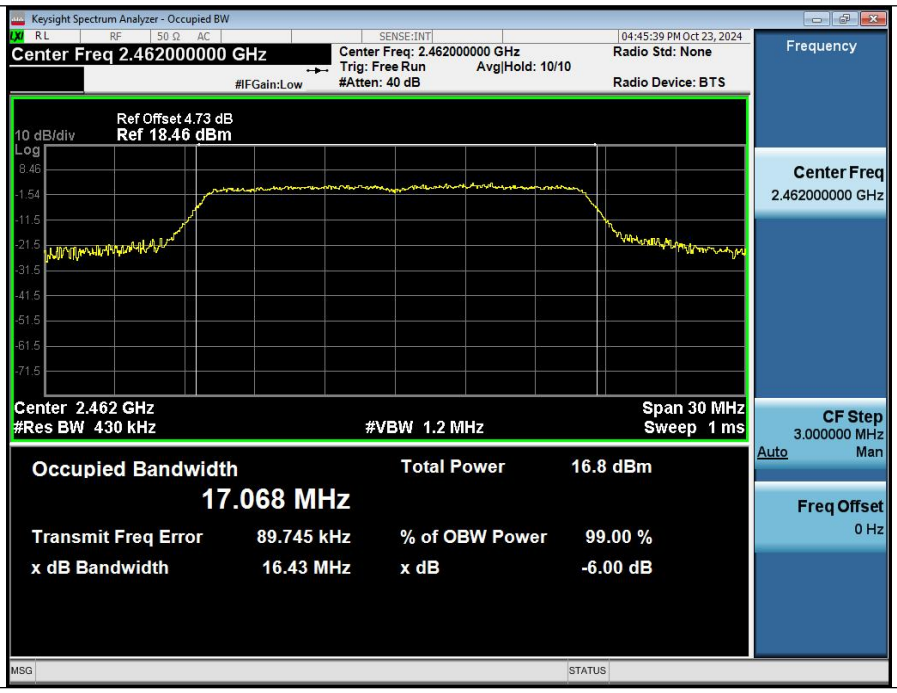


-6dB_Bandwidth_NVNT_ANT1_802_11g_2412

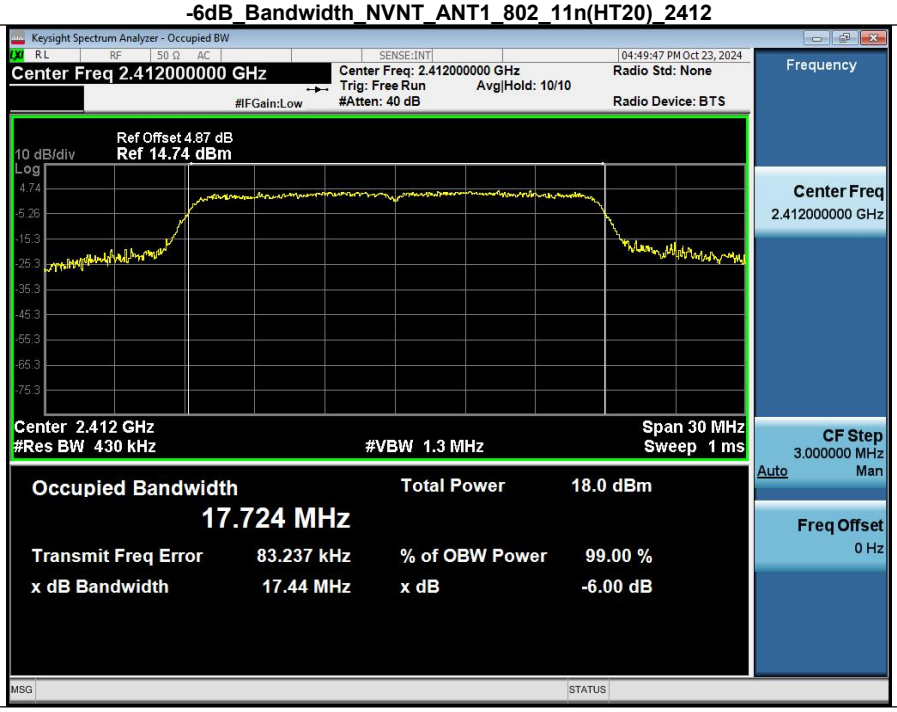


-6dB_Bandwidth_NVNT_ANT1_802_11g_2437

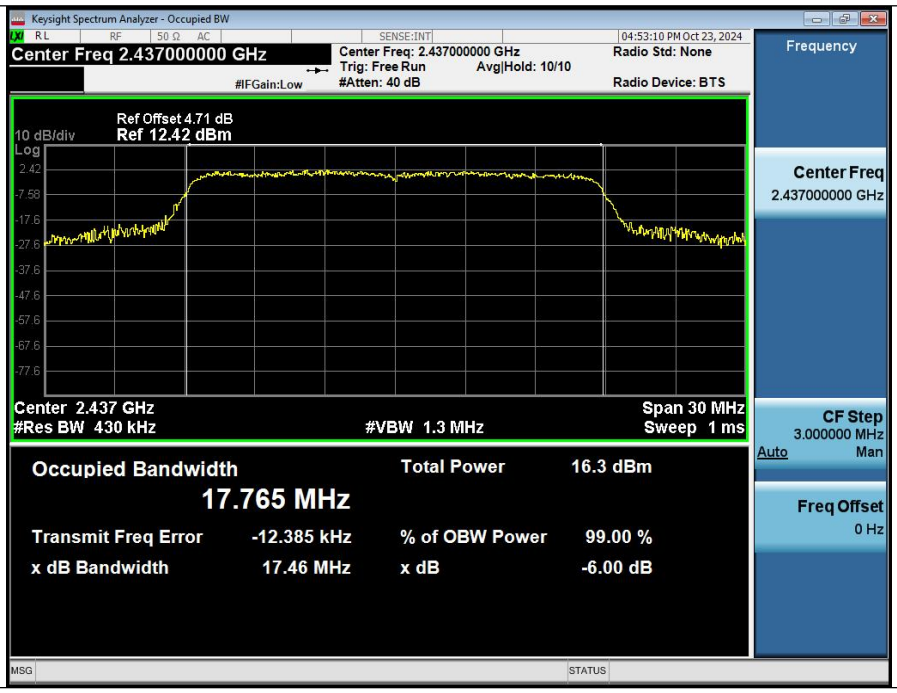
-6dB_Bandwidth_NVNT_ANT1_802_11g_2462



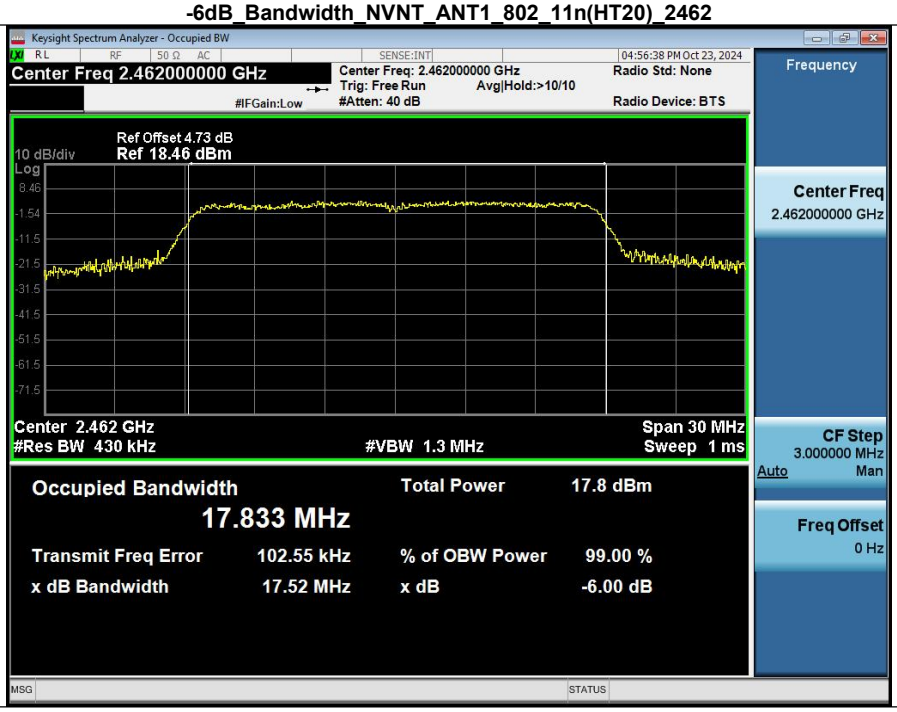
-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2412



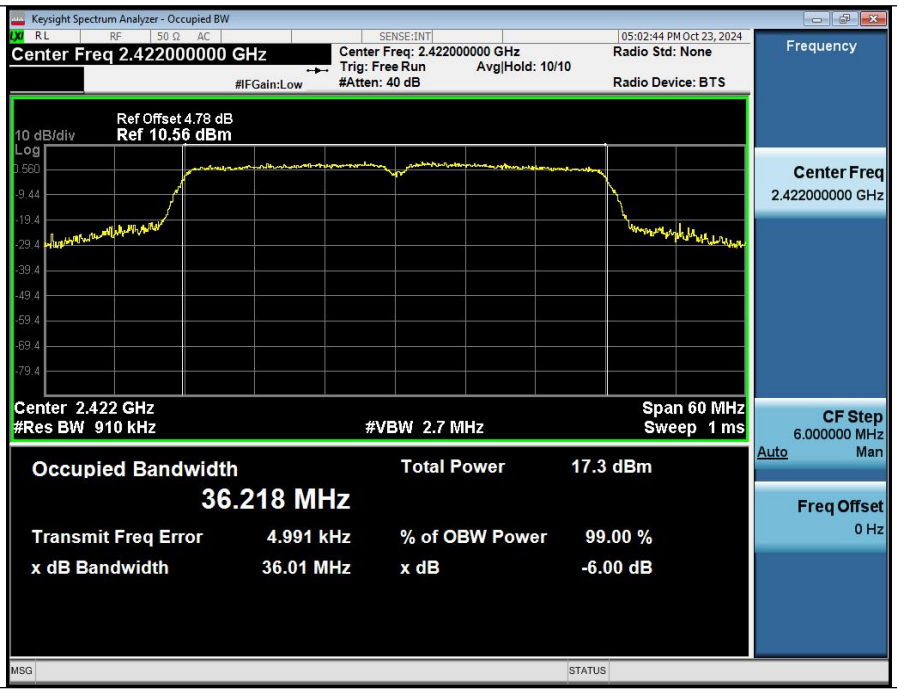
-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2437



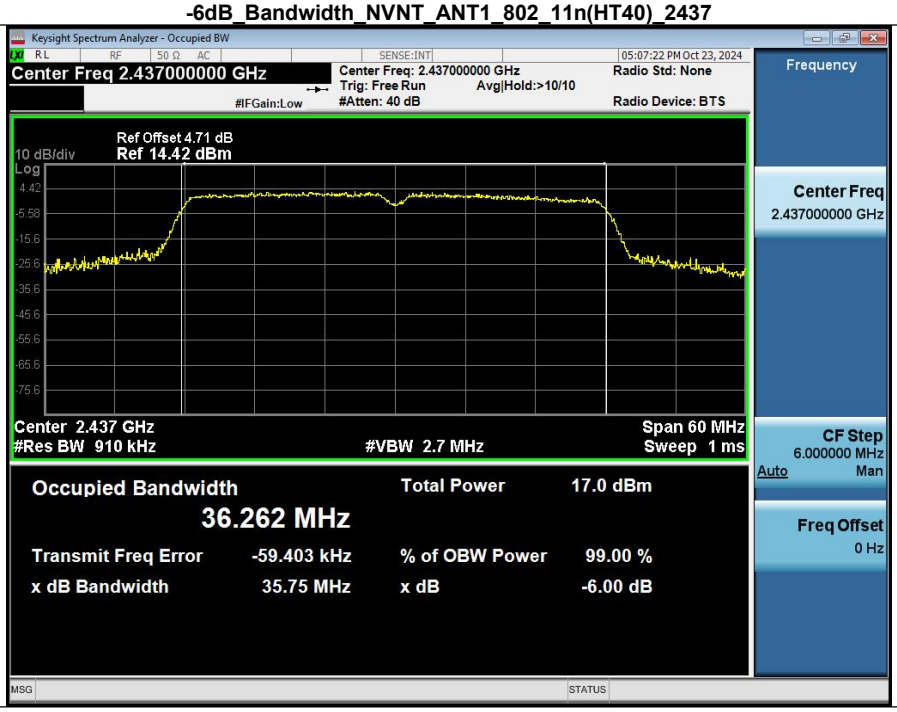
-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2462



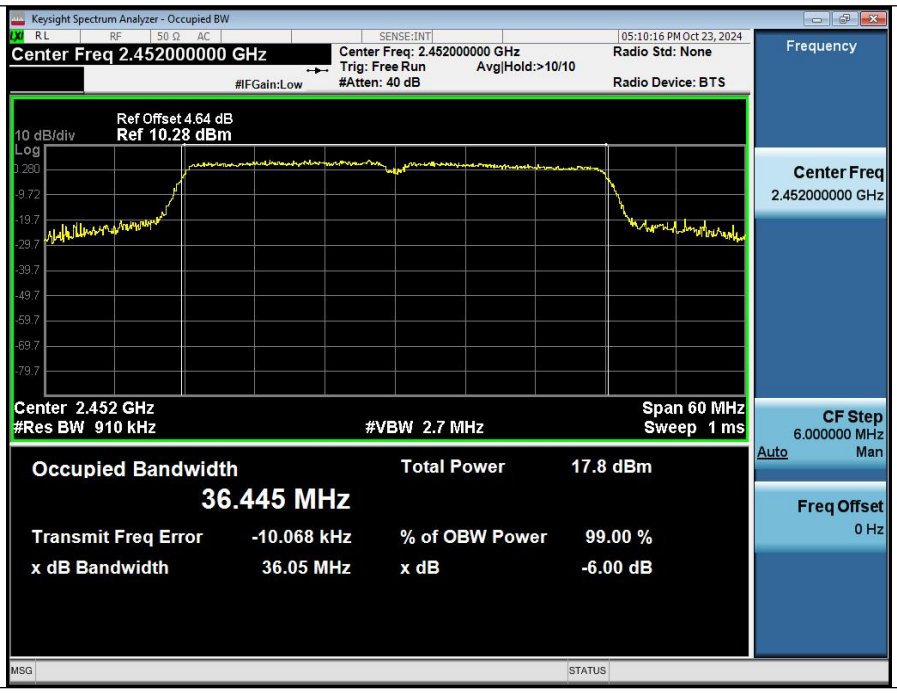
-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2422



-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2437



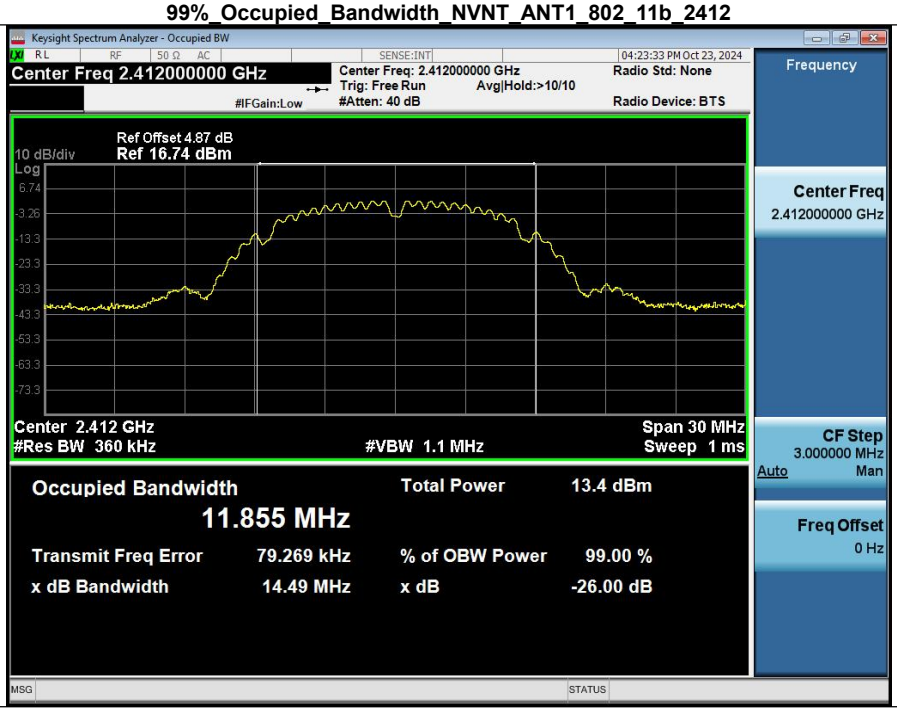
-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2452


Keysight Spectrum Analyzer - Occupied BW
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
05:10:16 PM Oct 23, 2024
#IFGain:Low
Ref Offset 4.64 dB
10 dB/div
Ref 10.28 dBm
Log
Center 2.452 GHz
#Res BW 910 kHz
#VBW 2.7 MHz
Span 60 MHz
Sweep 1 ms
Occupied Bandwidth
36.445 MHz
Total Power 17.8 dBm
Transmit Freq Error -10.068 kHz
% of OBW Power 99.00 %
x dB Bandwidth 36.05 MHz
x dB -6.00 dB
Frequency
Center Freq
2.452000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS

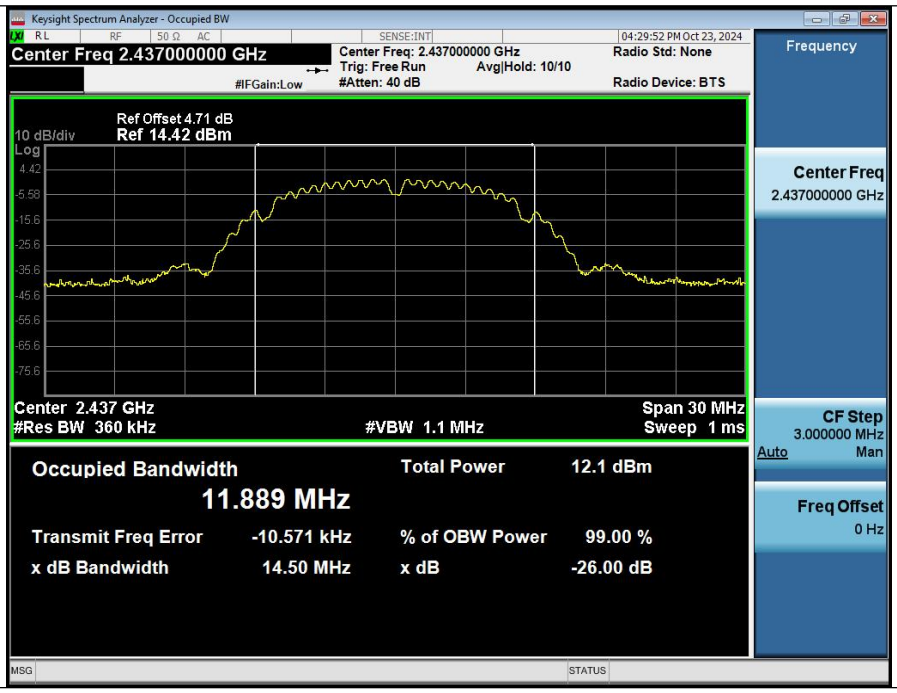
2. 99% Occupied Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	99%%BW(MHz)
NVNT	ANT1	802.11b	2412.00	11.855
NVNT	ANT1	802.11b	2437.00	11.889
NVNT	ANT1	802.11b	2462.00	11.879
NVNT	ANT1	802.11g	2412.00	17.078
NVNT	ANT1	802.11g	2437.00	17.125
NVNT	ANT1	802.11g	2462.00	17.287
NVNT	ANT1	802.11n(HT20)	2412.00	17.810
NVNT	ANT1	802.11n(HT20)	2437.00	17.802
NVNT	ANT1	802.11n(HT20)	2462.00	17.912
NVNT	ANT1	802.11n(HT40)	2422.00	36.297
NVNT	ANT1	802.11n(HT40)	2437.00	36.305
NVNT	ANT1	802.11n(HT40)	2452.00	36.507

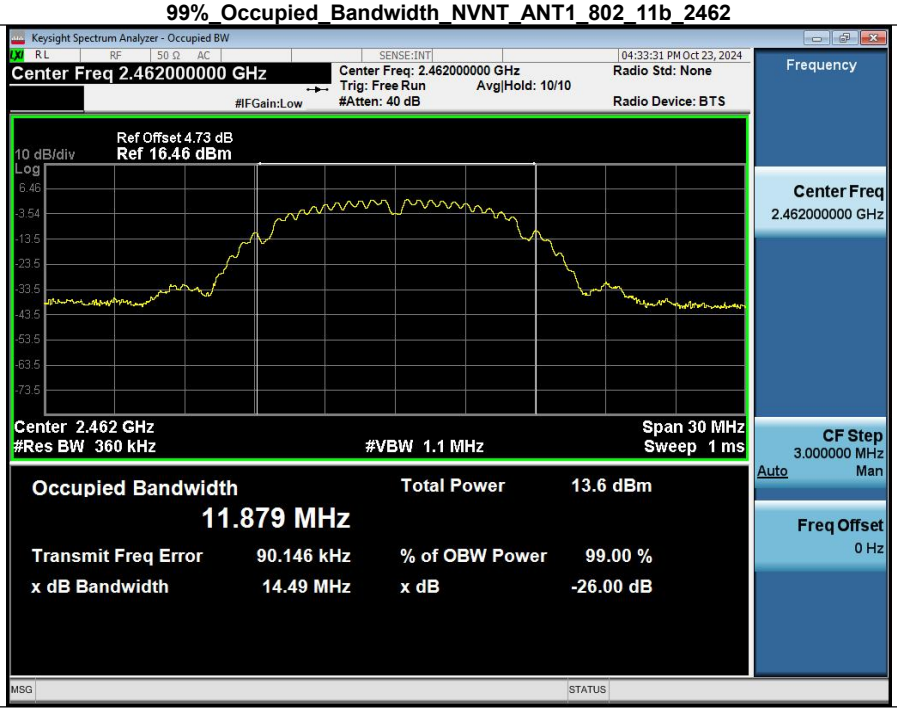
99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2412



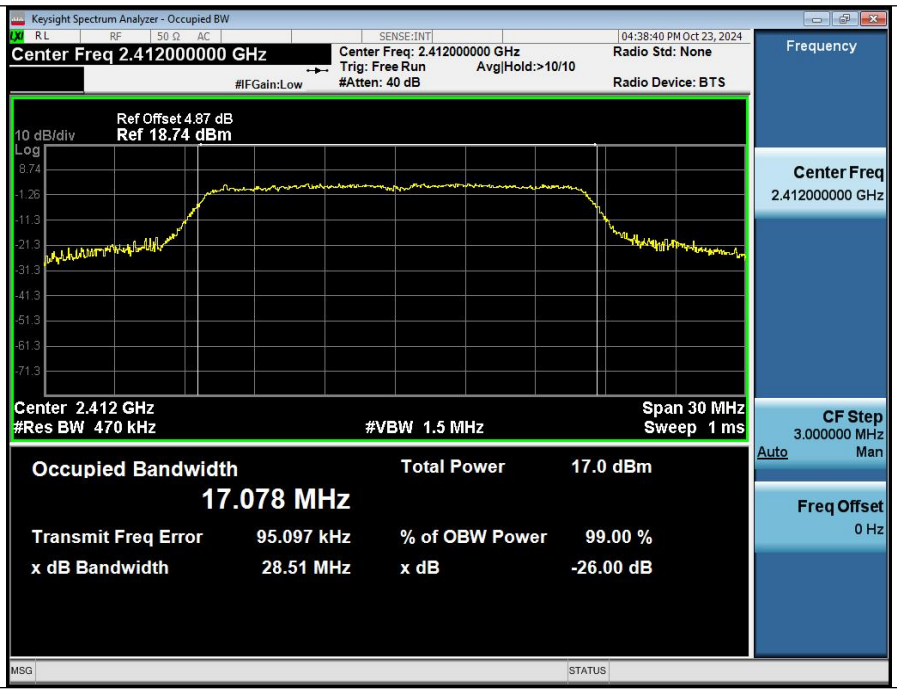
99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2437



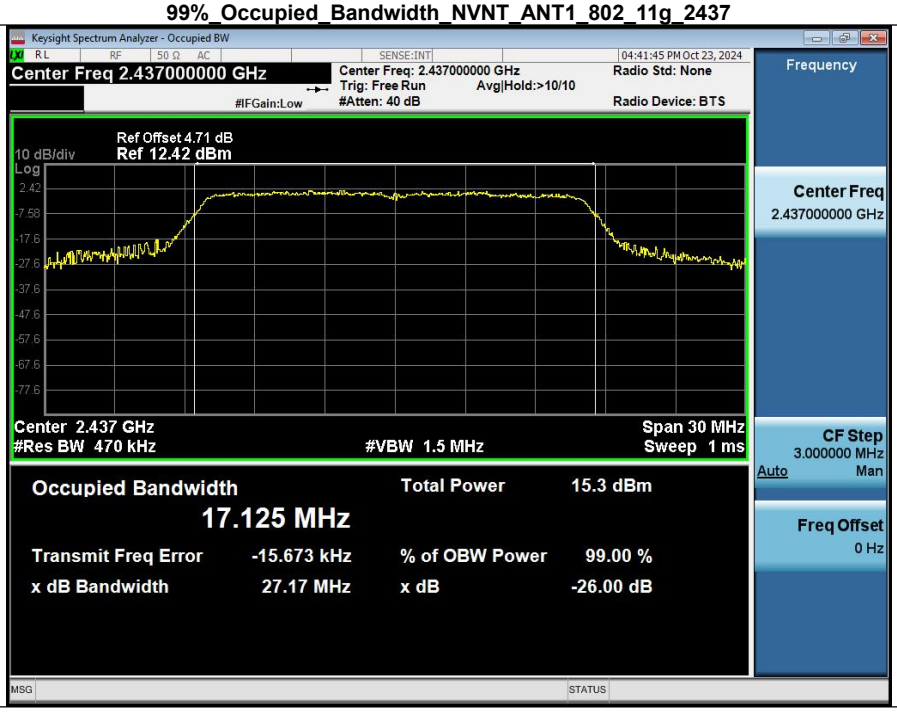
99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2462



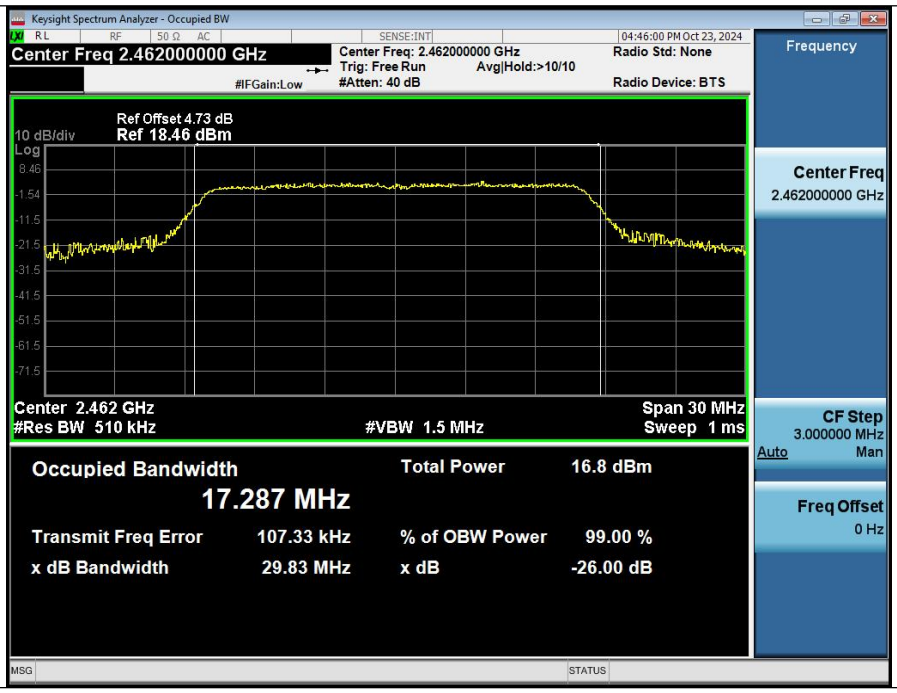
99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2412



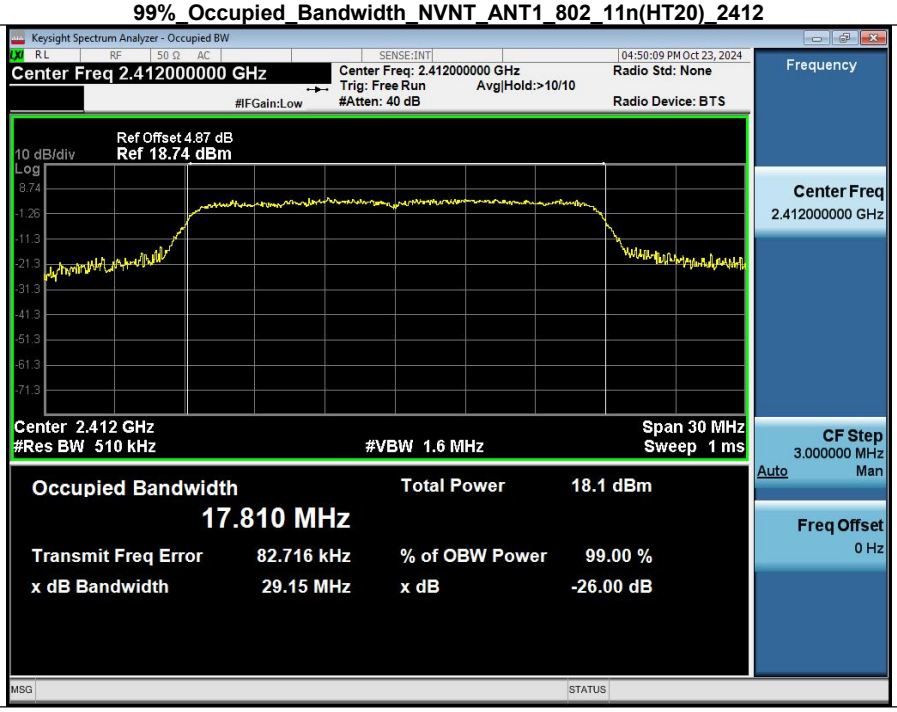
99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2437



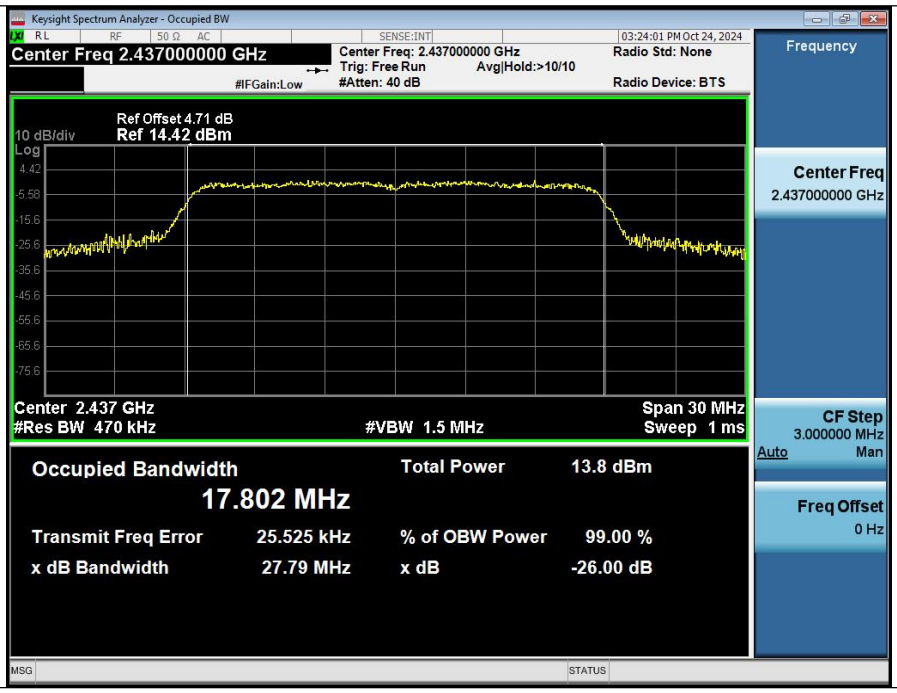
99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2462



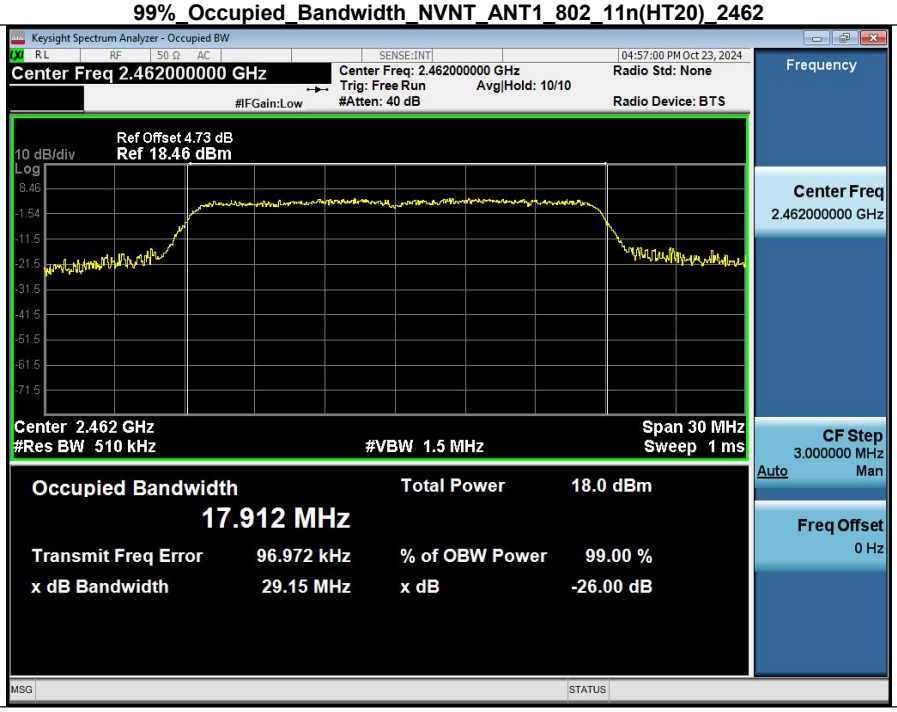
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2412



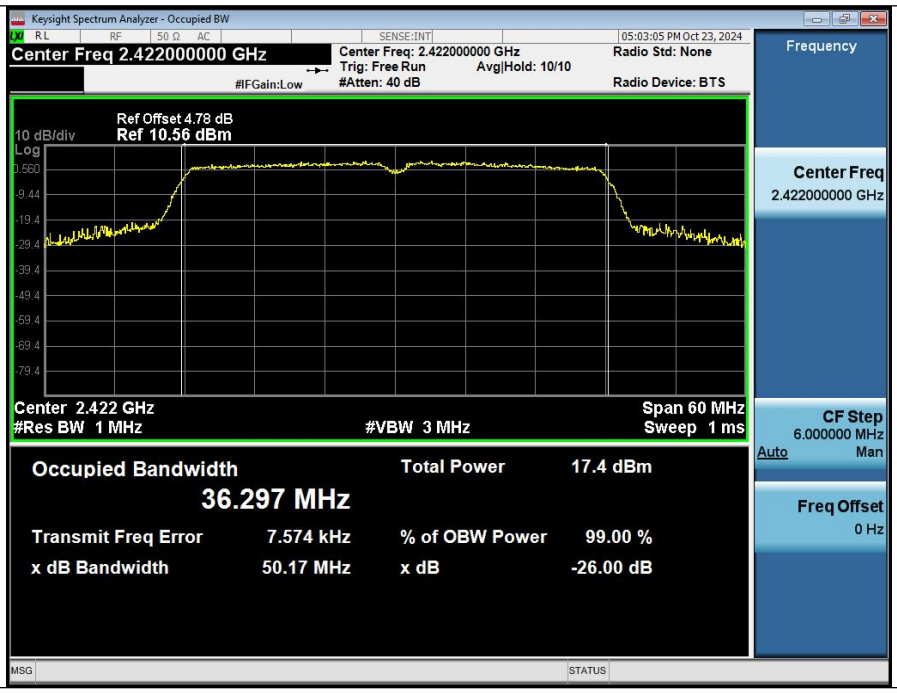
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2437



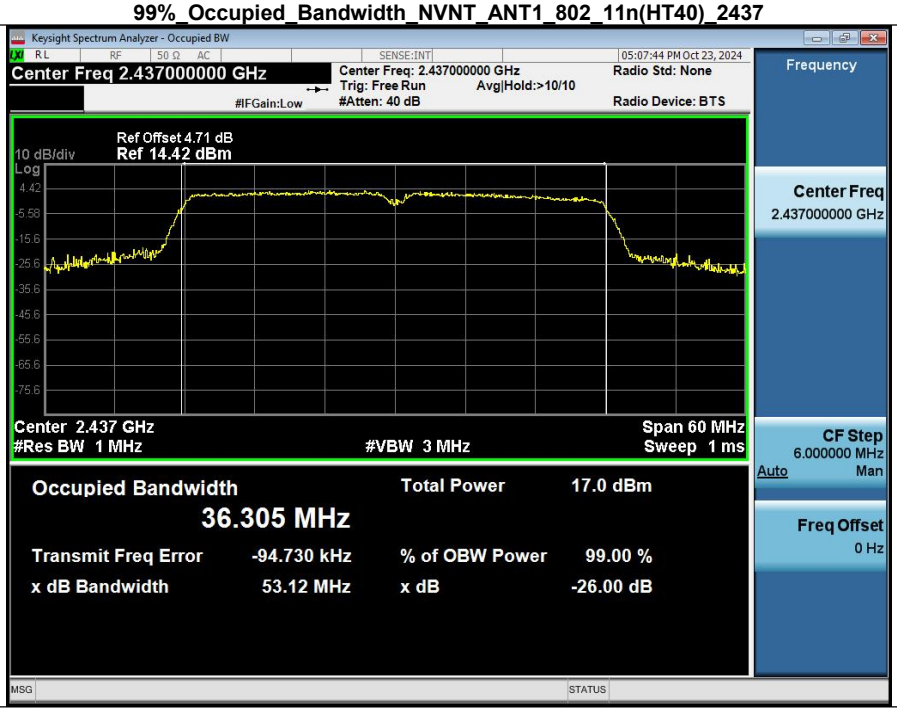
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2462



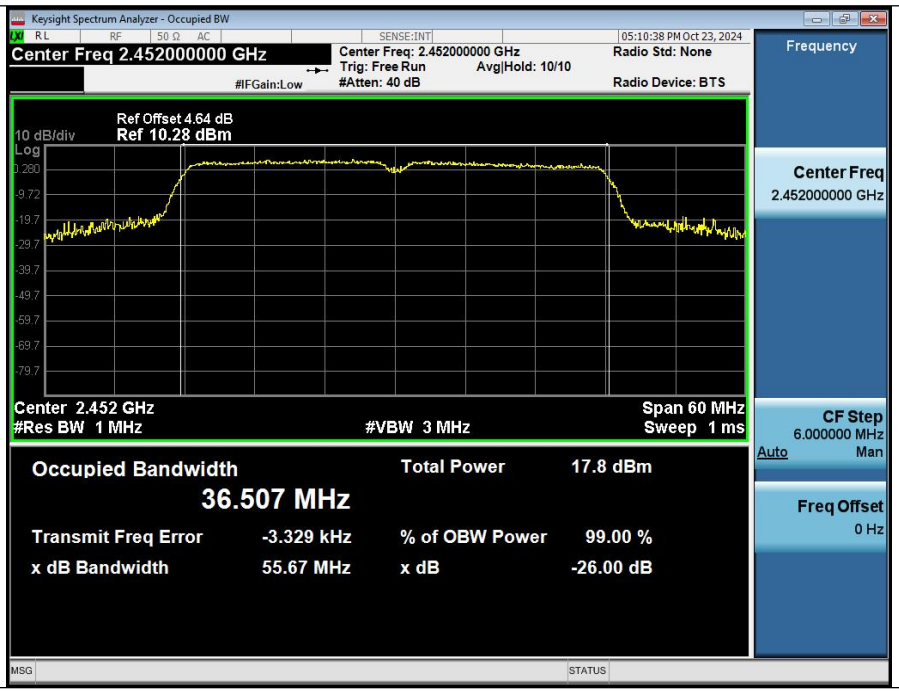
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2422



99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2437



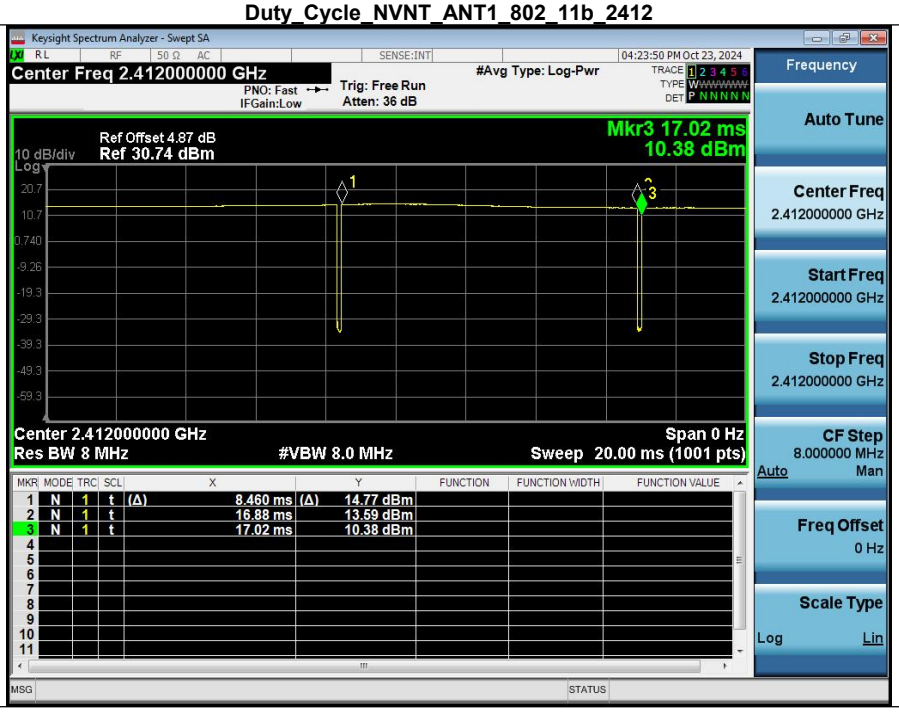
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2452


Keysight Spectrum Analyzer - Occupied BW
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
05:10:38 PM Oct 23, 2024
#IFGain:Low
Ref Offset 4.64 dB
10 dB/div
Ref 10.28 dBm
Log
Center 2.452 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1 ms
Occupied Bandwidth
36.507 MHz
Total Power 17.8 dBm
Transmit Freq Error -3.329 kHz
% of OBW Power 99.00 %
x dB Bandwidth 55.67 MHz
x dB -26.00 dB
Frequency
Center Freq
2.452000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS

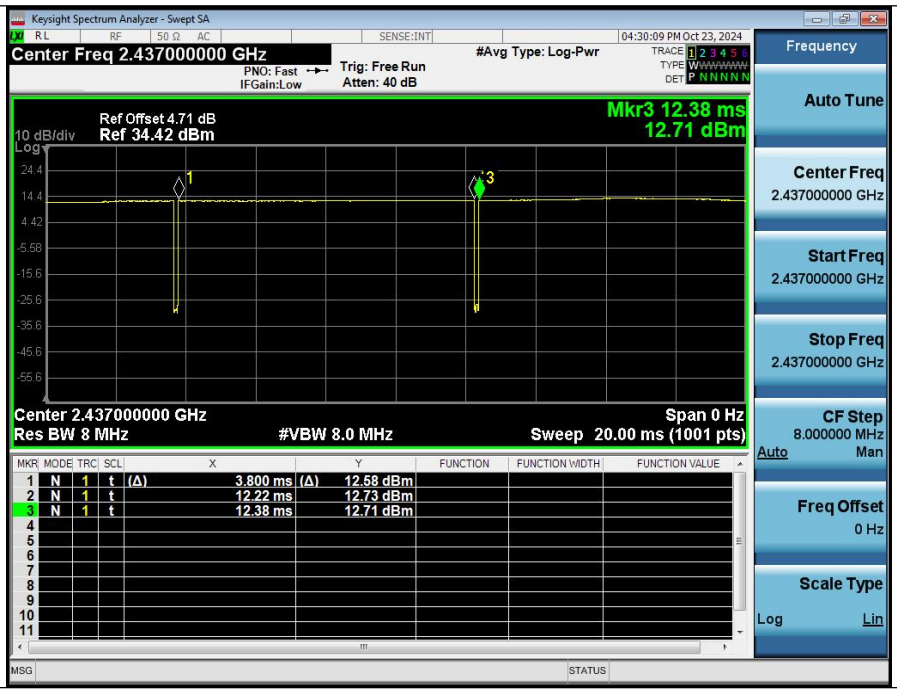
3. Duty Cycle

Condition	Antenna	Modulation	Frequency (MHz)	Duty cycle(%)	Duty factor(dB)
NVNT	ANT1	802.11b	2412.00	98.60	0.00
NVNT	ANT1	802.11b	2437.00	98.37	0.00
NVNT	ANT1	802.11b	2462.00	98.60	0.00
NVNT	ANT1	802.11g	2412.00	91.03	0.41
NVNT	ANT1	802.11g	2437.00	92.21	0.35
NVNT	ANT1	802.11g	2462.00	92.21	0.35
NVNT	ANT1	802.11n(HT20)	2412.00	89.55	0.48
NVNT	ANT1	802.11n(HT20)	2437.00	90.91	0.41
NVNT	ANT1	802.11n(HT20)	2462.00	88.06	0.55
NVNT	ANT1	802.11n(HT40)	2422.00	83.78	0.77
NVNT	ANT1	802.11n(HT40)	2437.00	81.08	0.91
NVNT	ANT1	802.11n(HT40)	2452.00	83.78	0.77

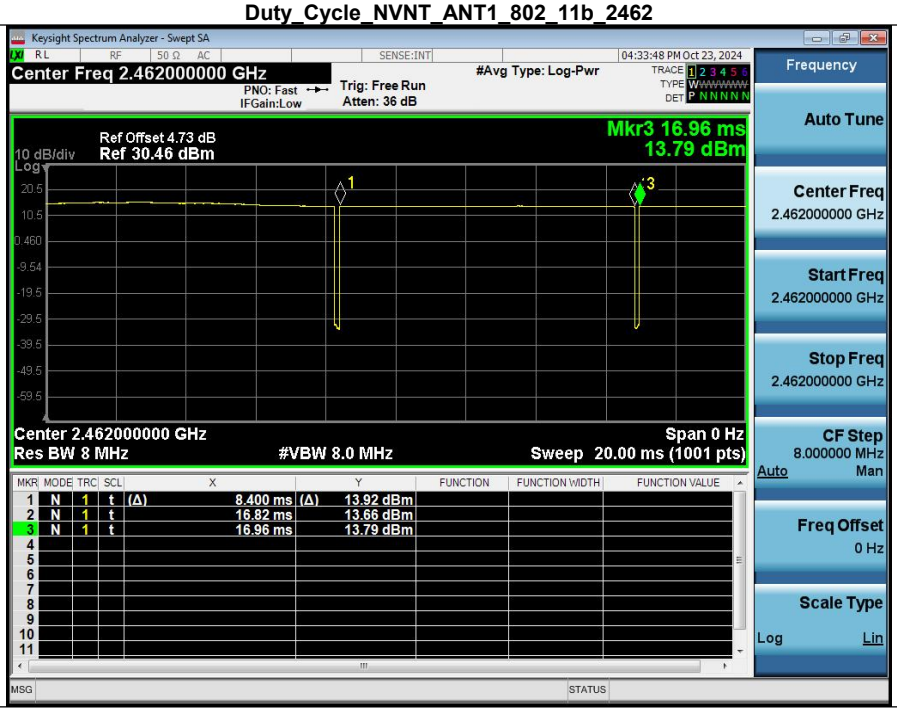
Duty_Cycle_NVNT_ANT1_802_11b_2412



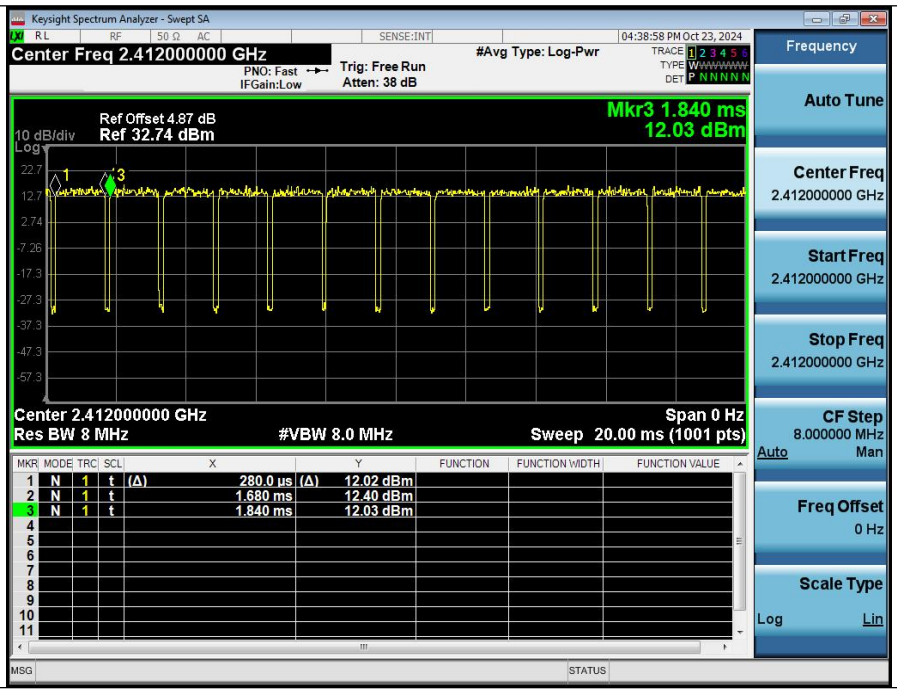
Duty_Cycle_NVNT_ANT1_802_11b_2437



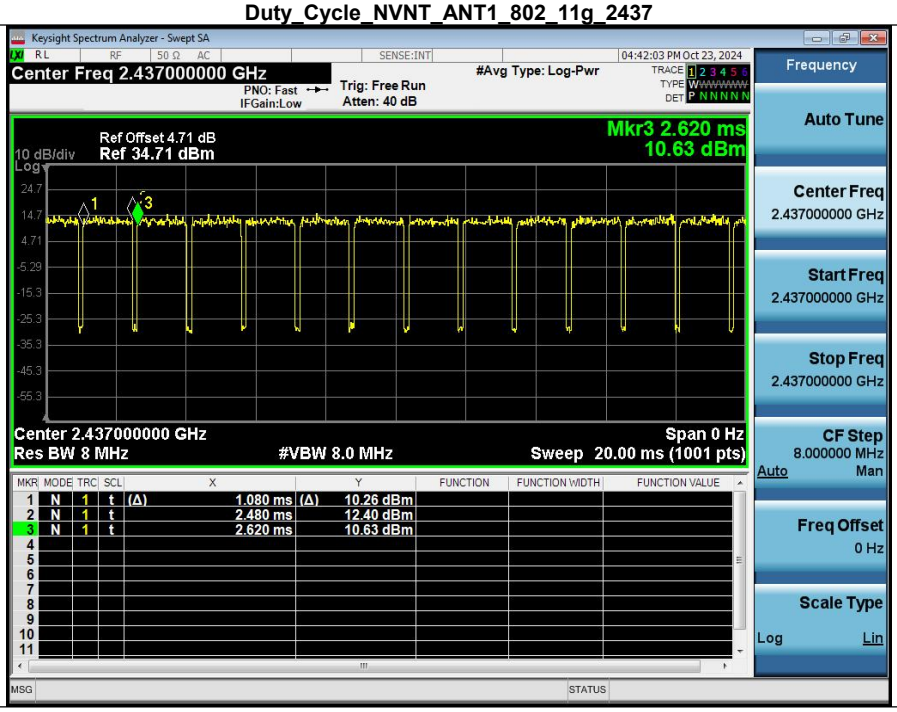
Duty_Cycle_NVNT_ANT1_802_11b_2462



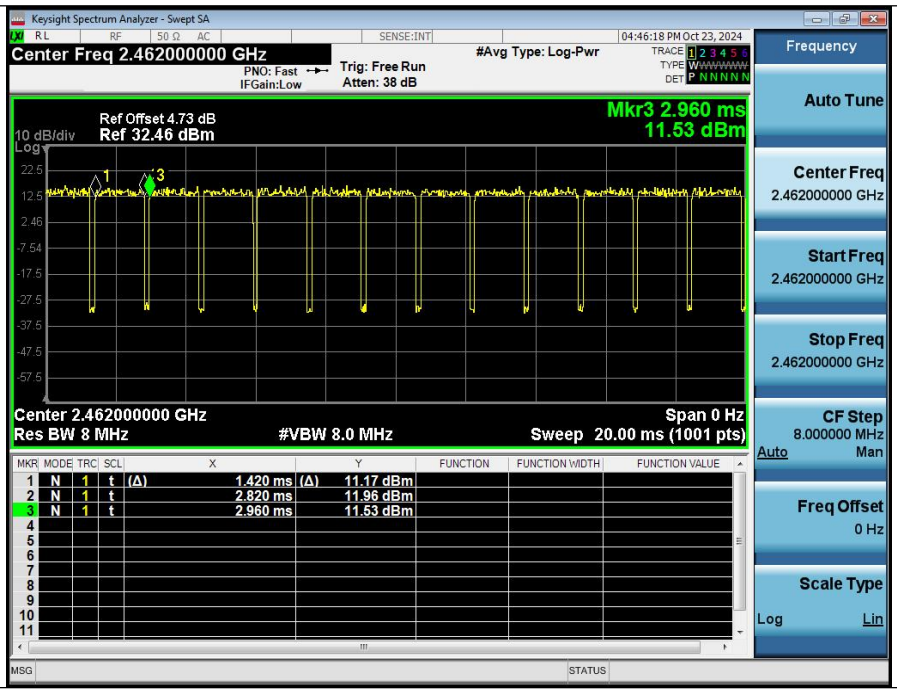
Duty_Cycle_NVNT_ANT1_802_11g_2412



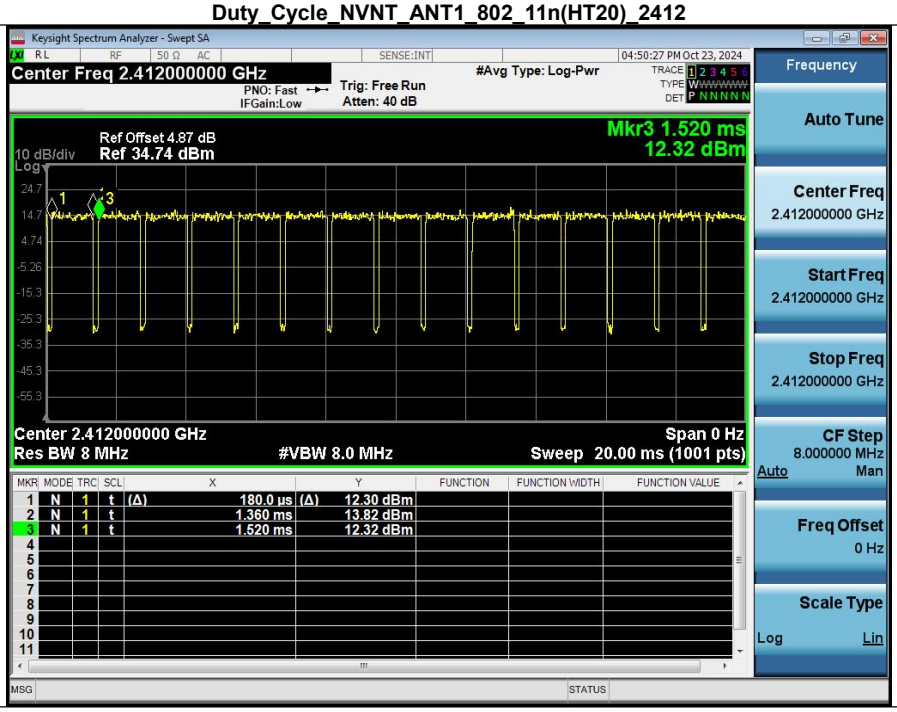
Duty_Cycle_NVNT_ANT1_802_11g_2437



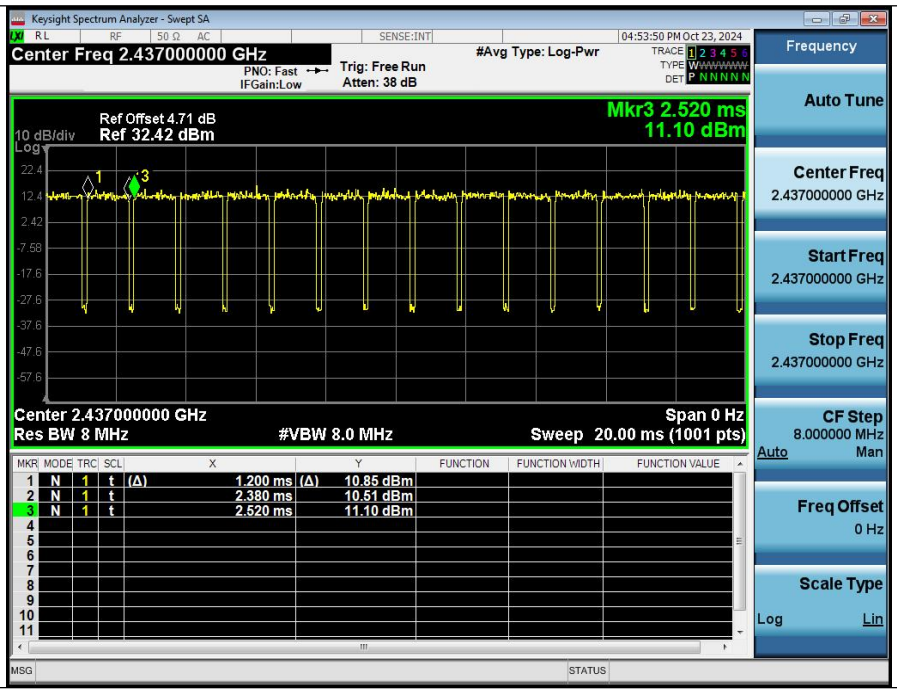
Duty_Cycle_NVNT_ANT1_802_11g_2462



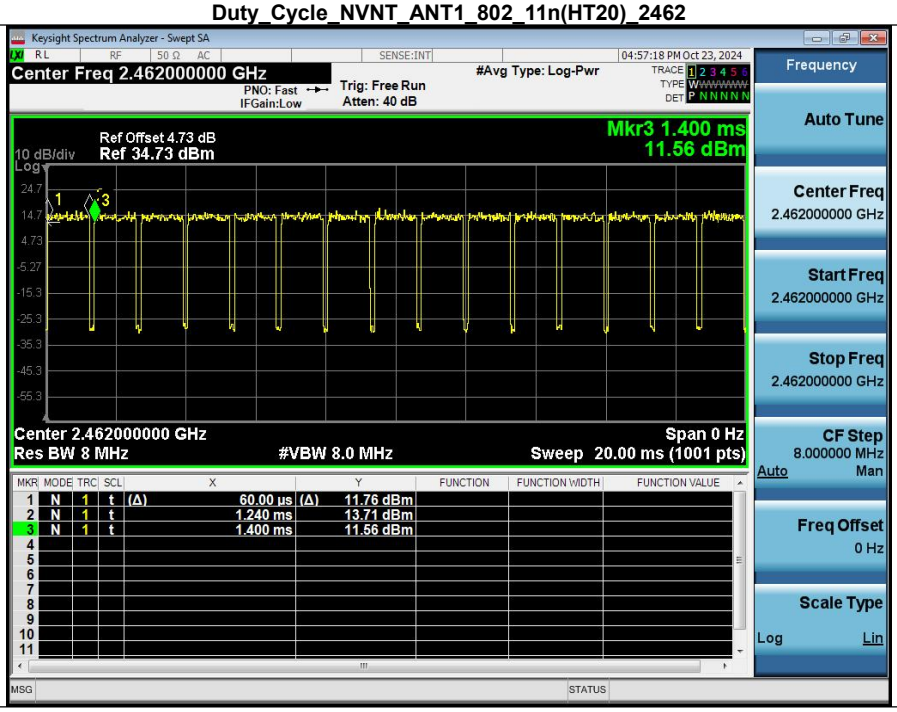
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2412



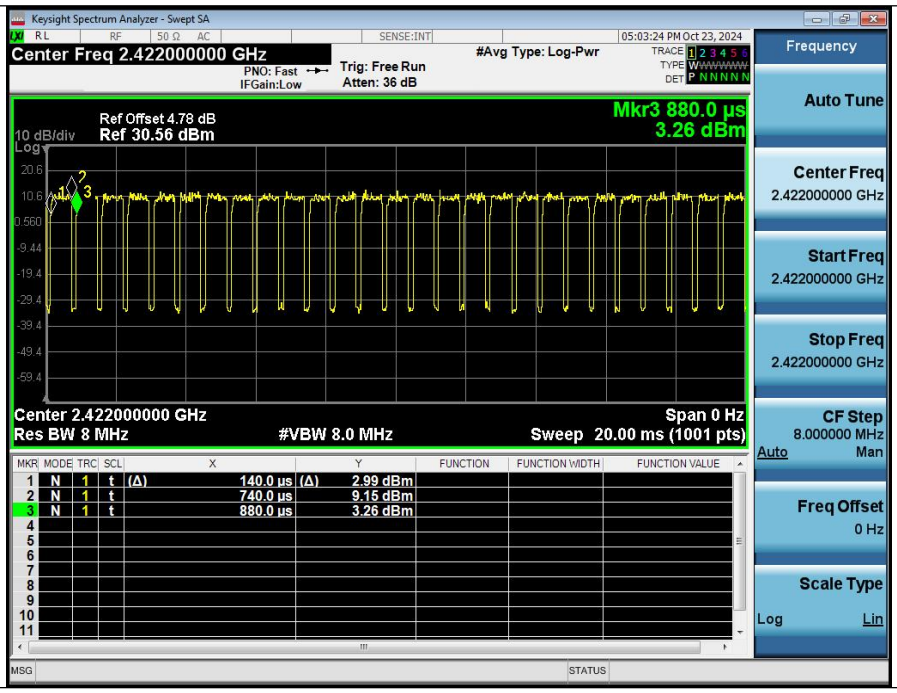
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2437



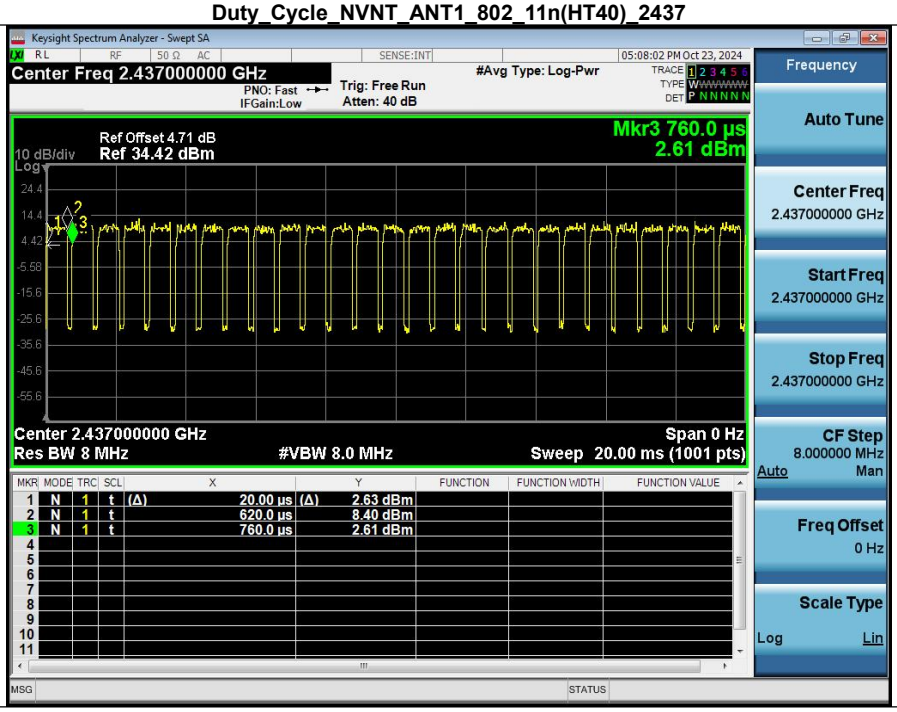
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2462



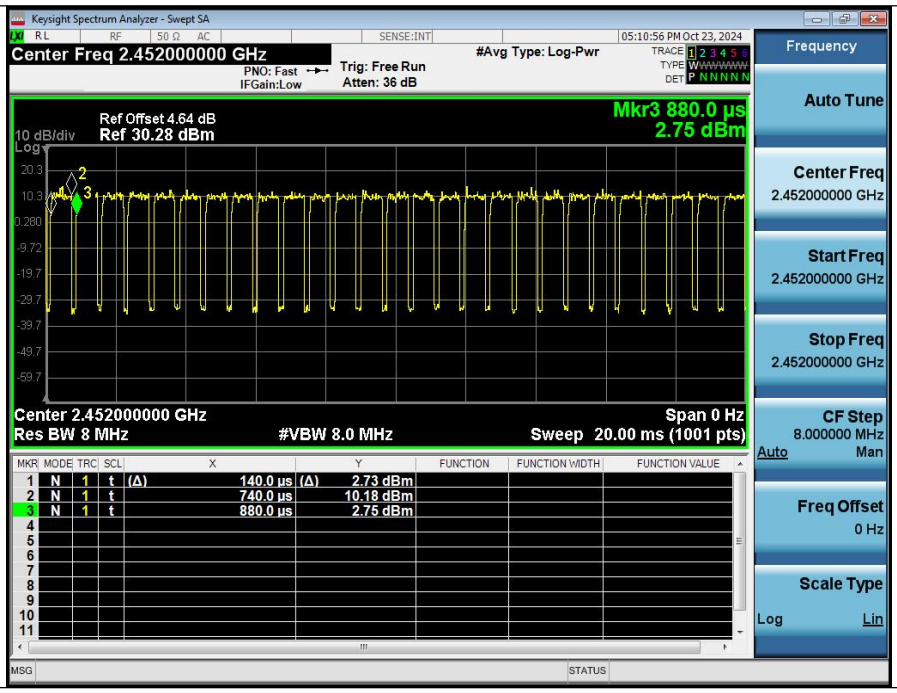
Duty_Cycle_NVNT_ANT1_802_11n(HT40)_2422



Duty_Cycle_NVNT_ANT1_802_11n(HT40)_2437



Duty_Cycle_NVNT_ANT1_802_11n(HT40)_2452


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.452000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 36 dB
#Avg Type: Log-Pwr
05:10:56 PM Oct 23, 2024
Ref Offset 4.64 dB
10 dB/div
Ref 30.28 dBm
Mkr3 880.0 µs
2.75 dBm
Center 2.452000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 20.00 ms (1001 pts)
1 N 1 t (Δ) 140.0 µs (Δ) 2.73 dBm
2 N 1 t 740.0 µs 10.18 dBm
3 N 1 t 880.0 µs 2.75 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
Scale Type
Log
Lin

4. MAX. Output Power

Condition	Antenna	Modulation	Frequency (MHz)	Detector	Conducted Power(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11b	2412.00	Peak	8.96	30	Pass
NVNT	ANT1	802.11b	2437.00	Peak	7.67	30	Pass
NVNT	ANT1	802.11b	2462.00	Peak	9.25	30	Pass
NVNT	ANT1	802.11g	2412.00	Peak	8.71	30	Pass
NVNT	ANT1	802.11g	2437.00	Peak	7.46	30	Pass
NVNT	ANT1	802.11g	2462.00	Peak	9.01	30	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	Peak	8.32	30	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	Peak	7.01	30	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	Peak	7.85	30	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	Peak	7.05	30	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	Peak	6.67	30	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	Peak	7.45	30	Pass

5. Power Spectral Density

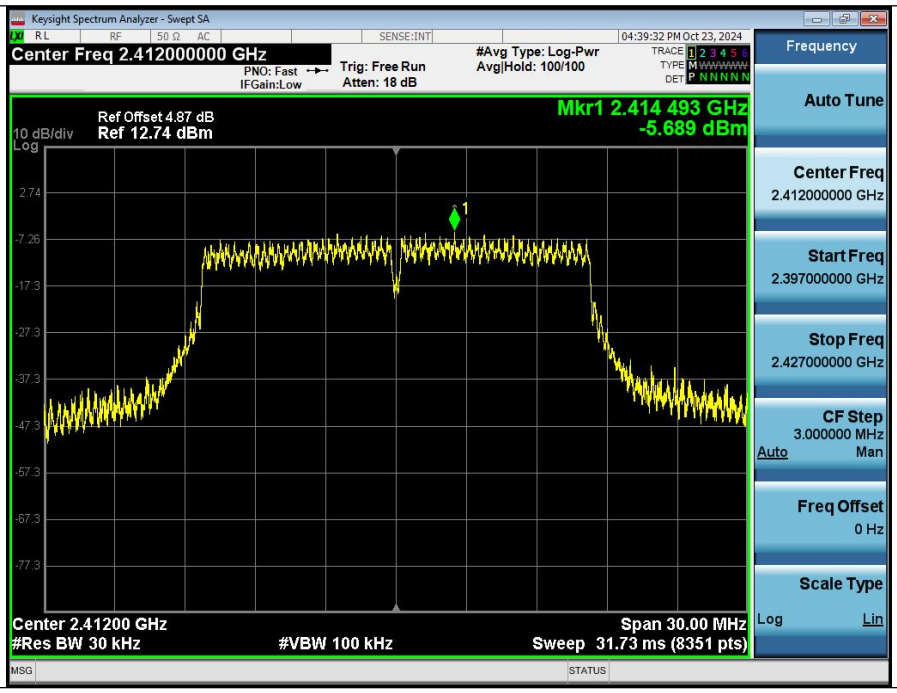
Condition	Antenna	Modulation	Frequency (MHz)	PSD(dBm/30kHz)	RB factor(dB)	PSD(dBm/3kHz)	limit(dBm/3kHz)	Result
NVNT	ANT1	802.11b	2412.00	-2.15	-10.00	-12.15	8	Pass
NVNT	ANT1	802.11b	2437.00	-3.44	-10.00	-13.44	8	Pass
NVNT	ANT1	802.11b	2462.00	-2.04	-10.00	-12.04	8	Pass
NVNT	ANT1	802.11g	2412.00	-5.69	-10.00	-15.69	8	Pass
NVNT	ANT1	802.11g	2437.00	-7.06	-10.00	-17.06	8	Pass
NVNT	ANT1	802.11g	2462.00	-6.07	-10.00	-16.07	8	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	-5.45	-10.00	-15.45	8	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	-7.78	-10.00	-17.78	8	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	-5.97	-10.00	-15.97	8	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	-10.08	-10.00	-20.08	8	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	-10.03	-10.00	-20.03	8	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	-9.61	-10.00	-19.61	8	Pass

Power_Spectral_Density_NVNT_ANT1_802_11b_2412

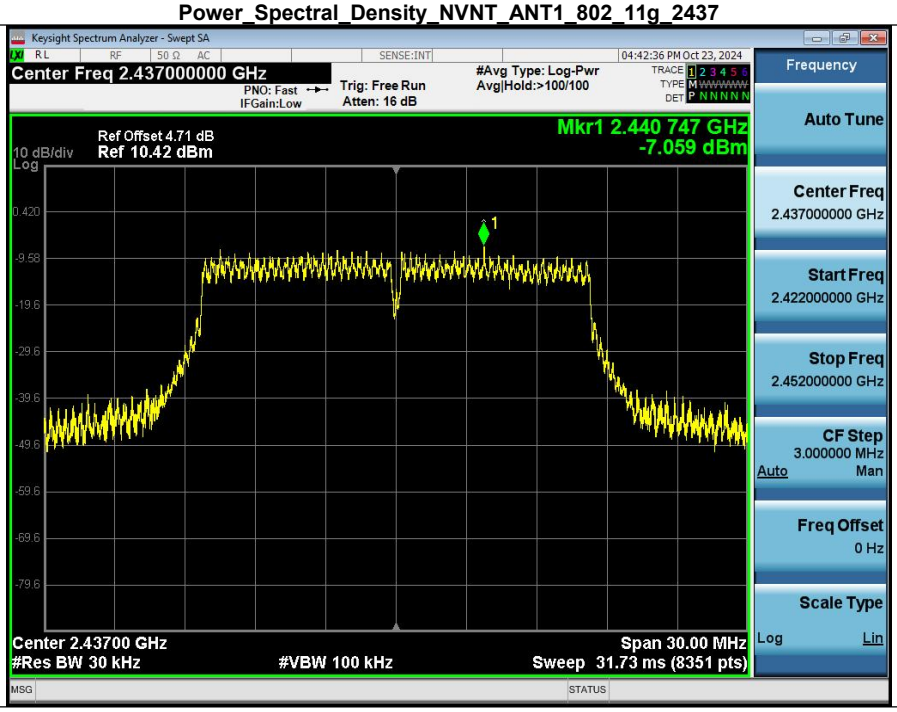
Power_Spectral_Density_NVNT_ANT1_802_11b_2437

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