Appendix

Test Data

for BTEK240919001AE

Start date	2024/9/24	Finish date	2024/9/25
Temperature	23.6℃	Humidity	59%
RF specifications	2.4G_WIFI	Test Engineer	Zora

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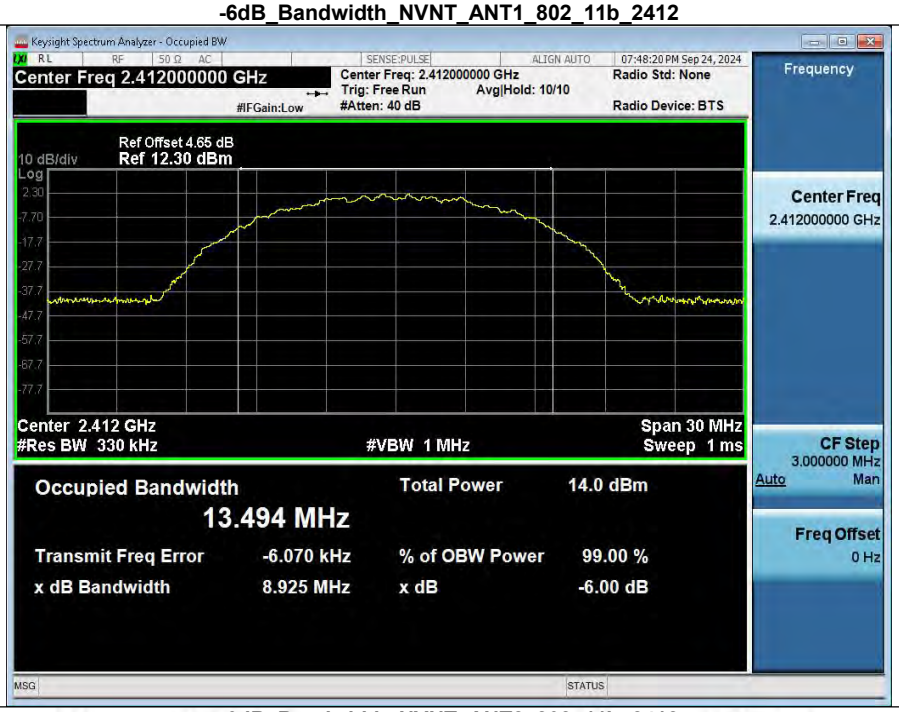
1. -6dB Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	-6dB BW(MHz)	limit(kHz)	Result
NVNT	ANT1	802.11b	2412.00	8.93	500	Pass
NVNT	ANT2	802.11b	2412.00	8.67	500	Pass
NVNT	ANT1	802.11b	2437.00	8.89	500	Pass
NVNT	ANT2	802.11b	2437.00	8.70	500	Pass
NVNT	ANT1	802.11b	2462.00	8.71	500	Pass
NVNT	ANT2	802.11b	2462.00	8.74	500	Pass
NVNT	ANT1	802.11g	2412.00	16.68	500	Pass
NVNT	ANT2	802.11g	2412.00	16.44	500	Pass
NVNT	ANT1	802.11g	2437.00	16.59	500	Pass
NVNT	ANT2	802.11g	2437.00	16.49	500	Pass
NVNT	ANT1	802.11g	2462.00	16.67	500	Pass
NVNT	ANT2	802.11g	2462.00	16.52	500	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	17.66	500	Pass
NVNT	ANT2	802.11n(HT20)	2412.00	17.59	500	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	17.62	500	Pass
NVNT	ANT2	802.11n(HT20)	2437.00	17.61	500	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	17.66	500	Pass
NVNT	ANT2	802.11n(HT20)	2462.00	17.63	500	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	36.70	500	Pass
NVNT	ANT2	802.11n(HT40)	2422.00	36.44	500	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	36.59	500	Pass
NVNT	ANT2	802.11n(HT40)	2437.00	36.46	500	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	36.82	500	Pass
NVNT	ANT2	802.11n(HT40)	2452.00	36.42	500	Pass

-6dB_Bandwidth_NVNT_ANT1_802_11b_2412



-6dB_Bandwidth_NVNT_ANT2_802_11b_2412

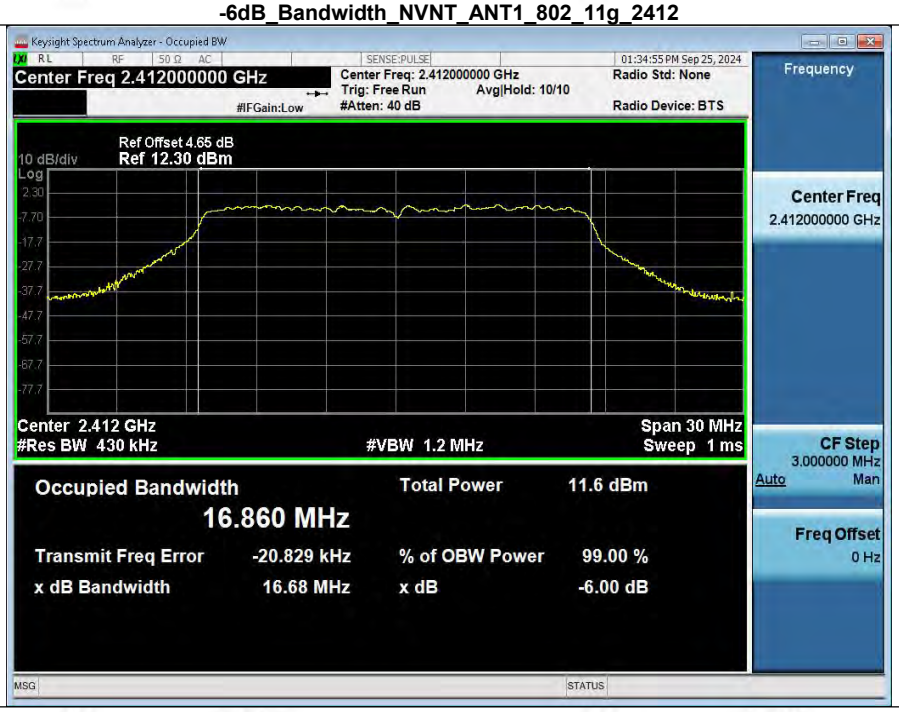
-6dB_Bandwidth_NVNT_ANT1_802_11b_2437

-6dB_Bandwidth_NVNT_ANT2_802_11b_2437

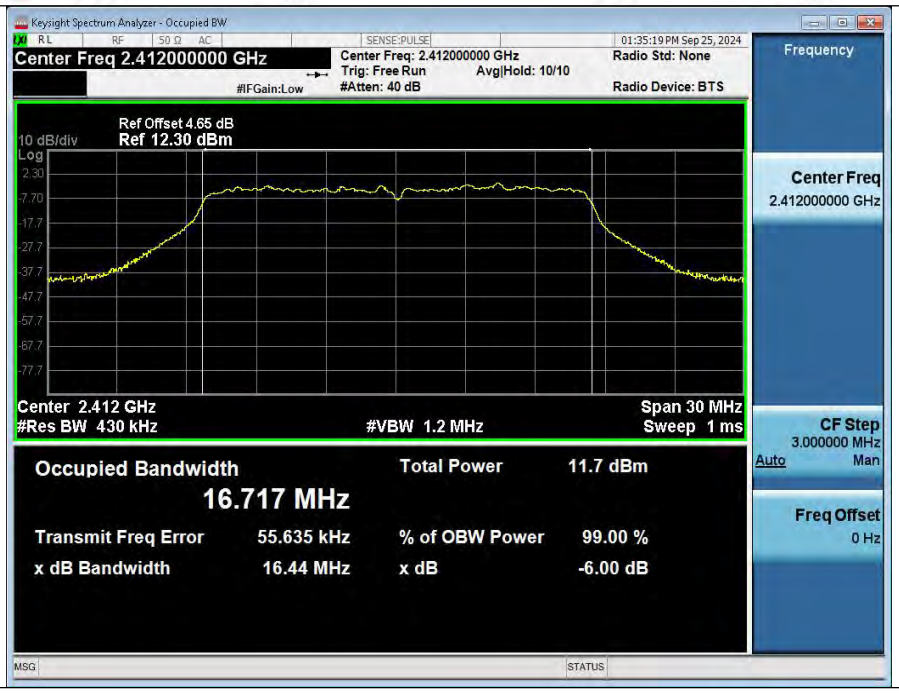
-6dB_Bandwidth_NVNT_ANT1_802_11b_2462

-6dB_Bandwidth_NVNT_ANT2_802_11b_2462

-6dB_Bandwidth_NVNT_ANT1_802_11g_2412

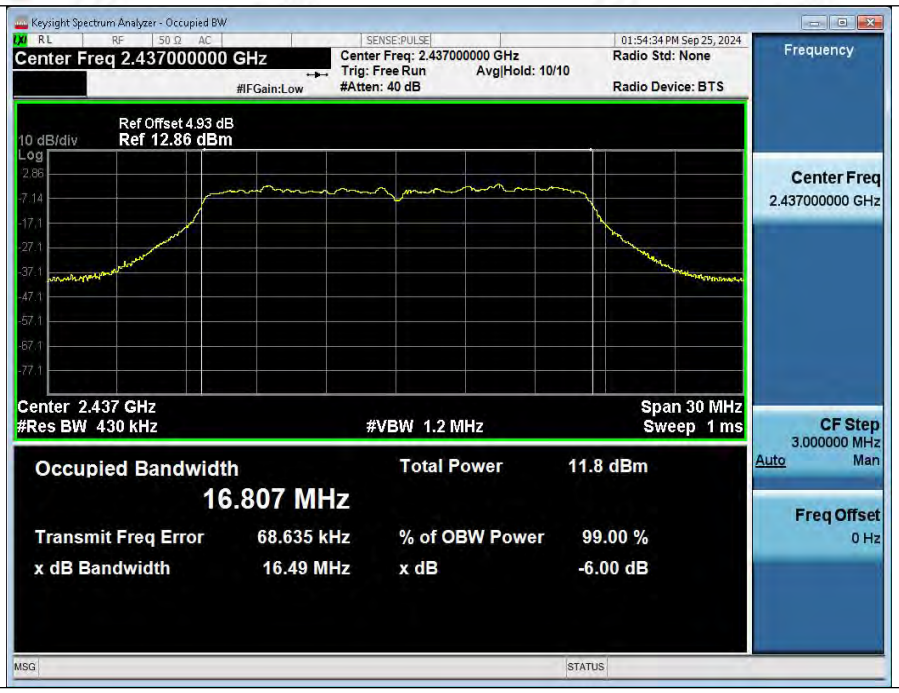


-6dB_Bandwidth_NVNT_ANT2_802_11g_2412

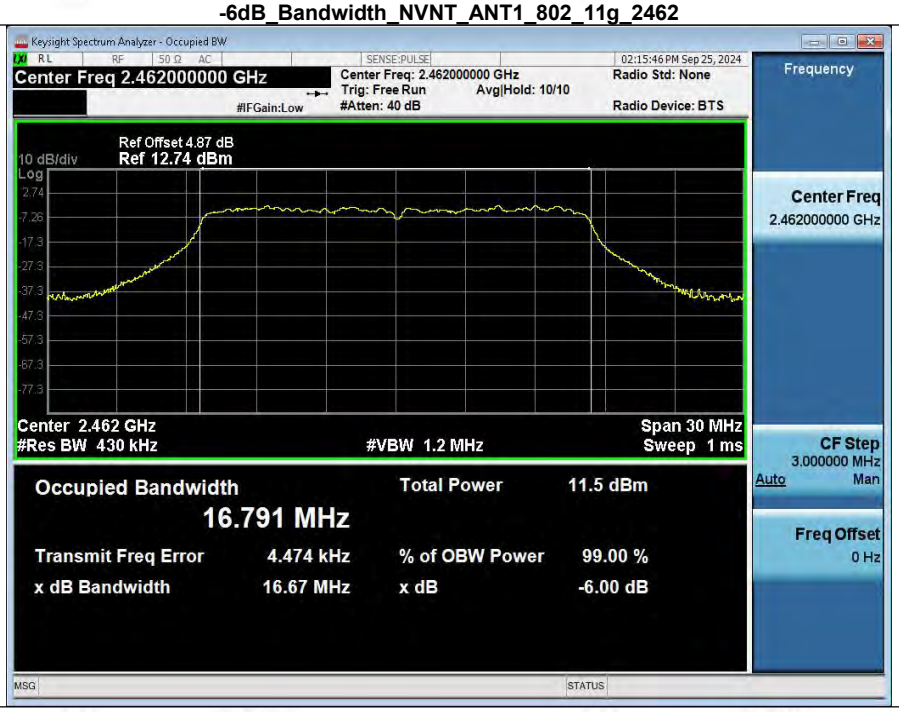


-6dB_Bandwidth_NVNT_ANT1_802_11g_2437

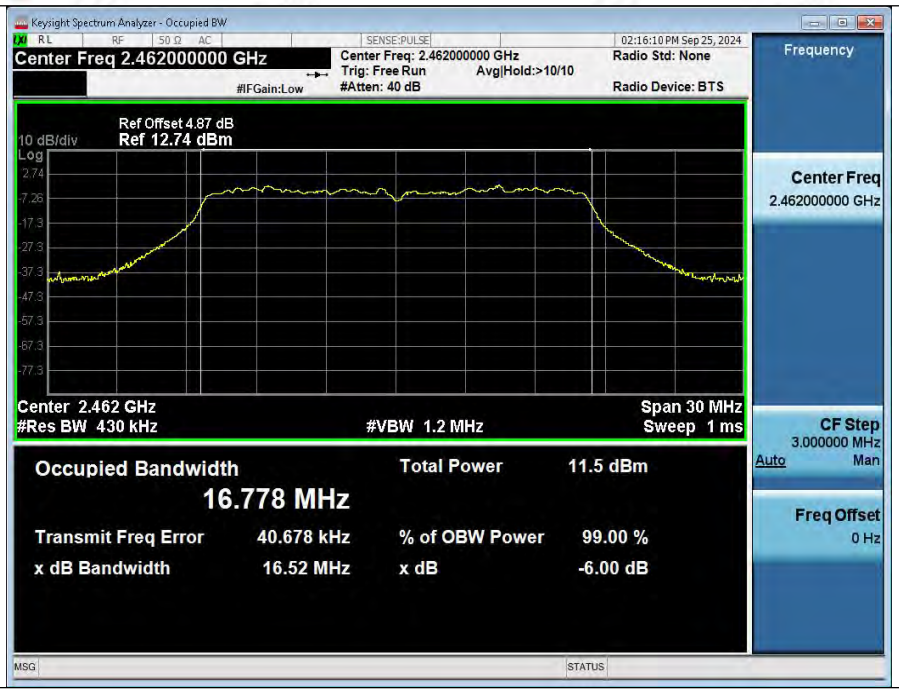
-6dB_Bandwidth_NVNT_ANT2_802_11g_2437



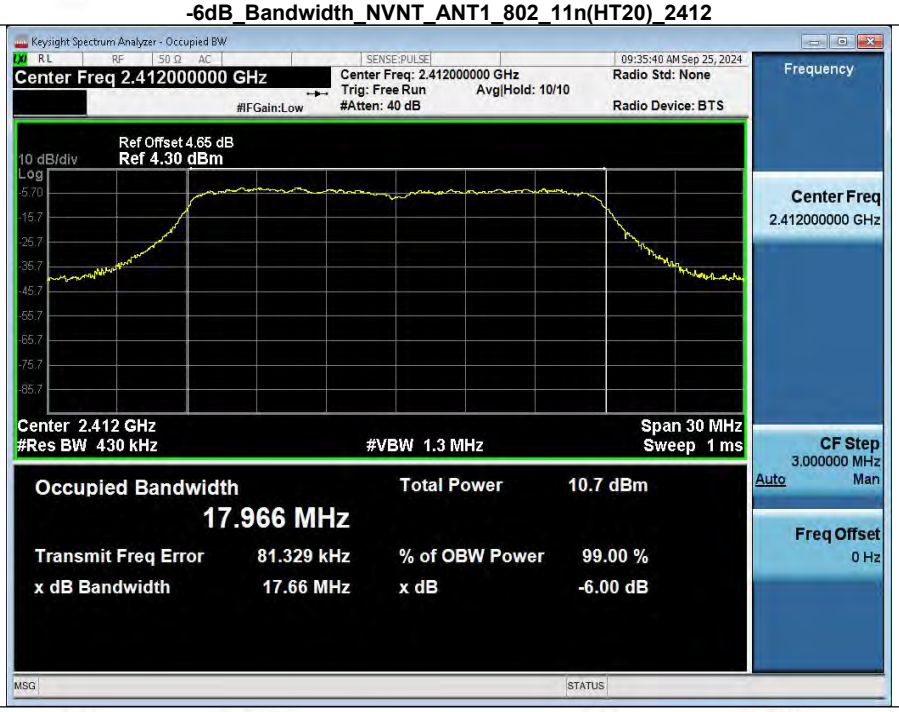
-6dB_Bandwidth_NVNT_ANT1_802_11g_2462



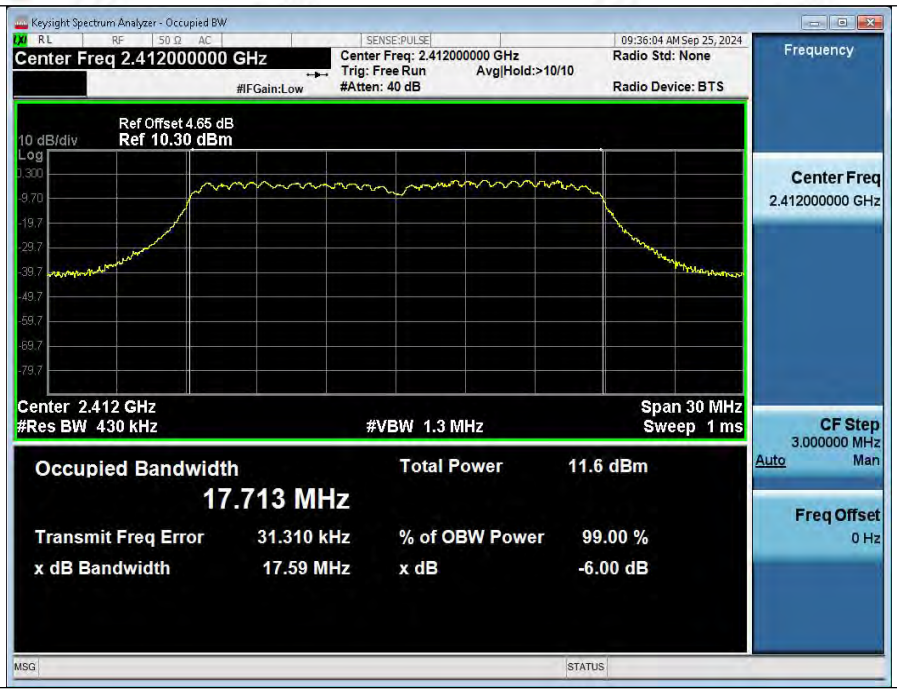
-6dB_Bandwidth_NVNT_ANT2_802_11g_2462



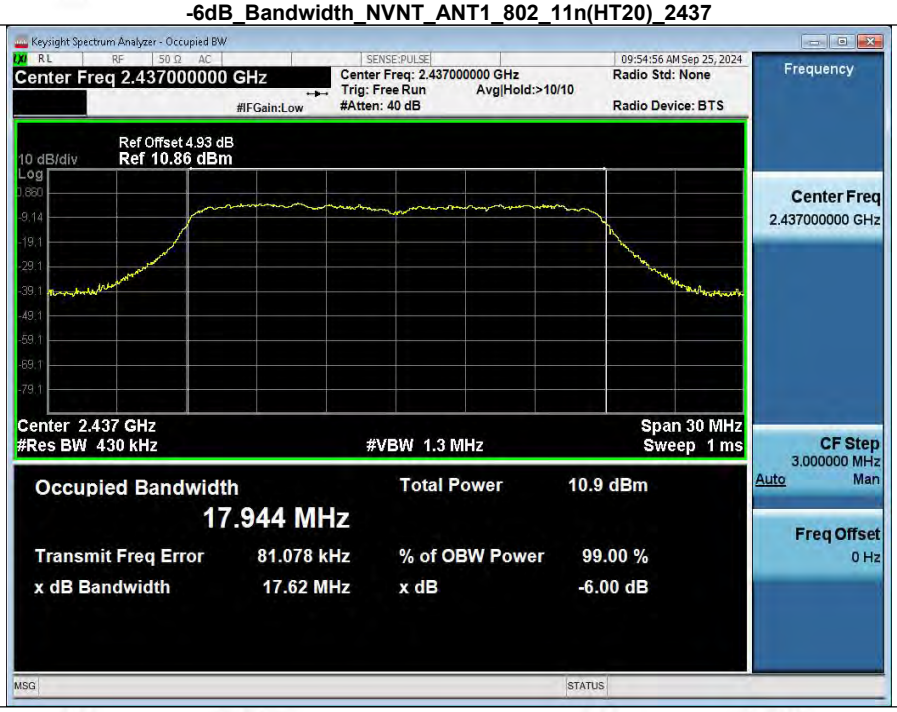
-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2412



-6dB_Bandwidth_NVNT_ANT2_802_11n(HT20)_2412

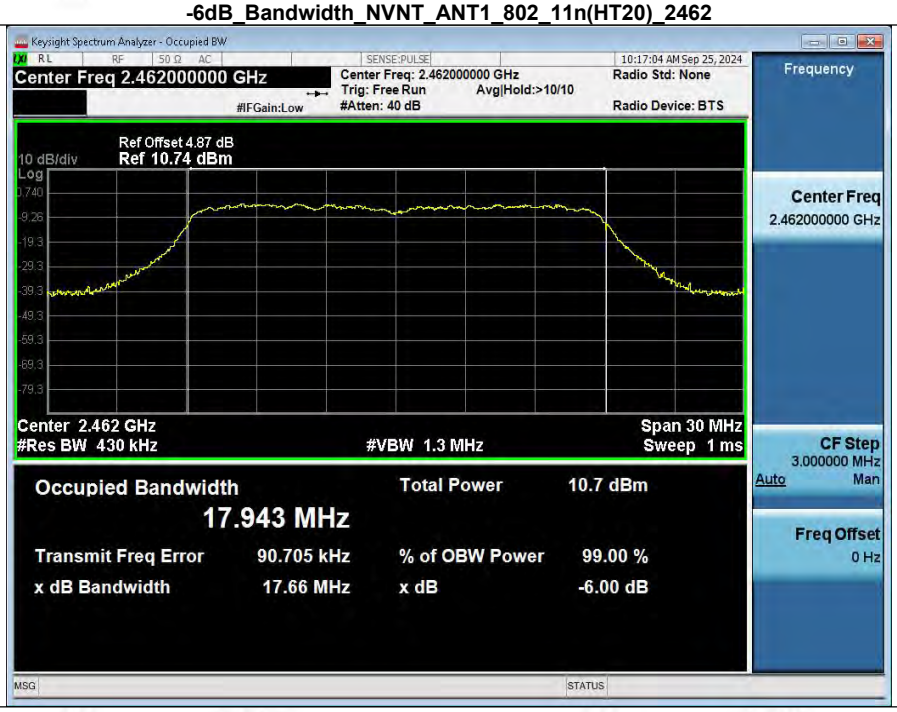


-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2437

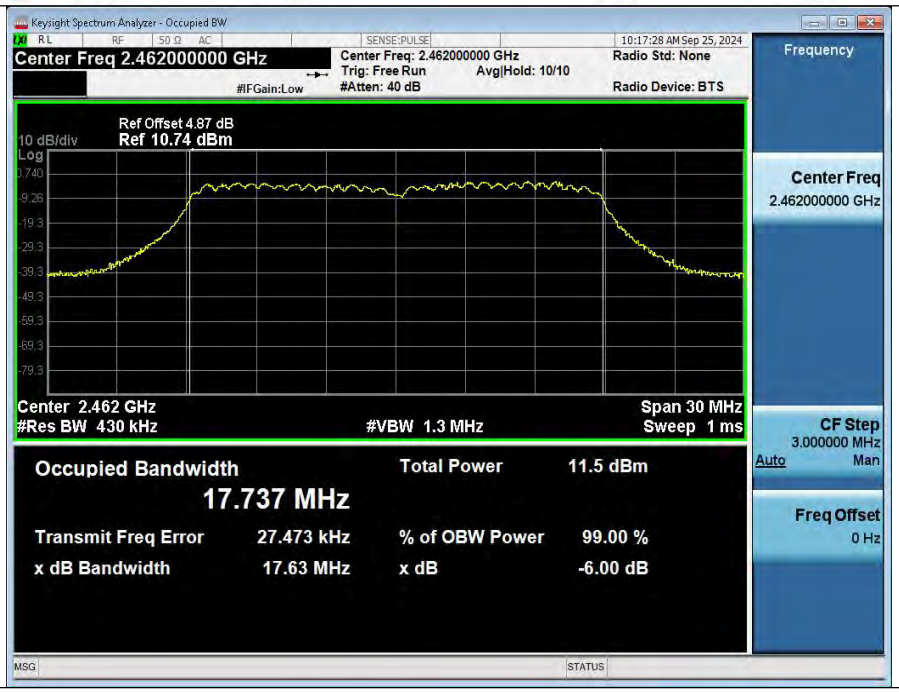


-6dB_Bandwidth_NVNT_ANT2_802_11n(HT20)_2437

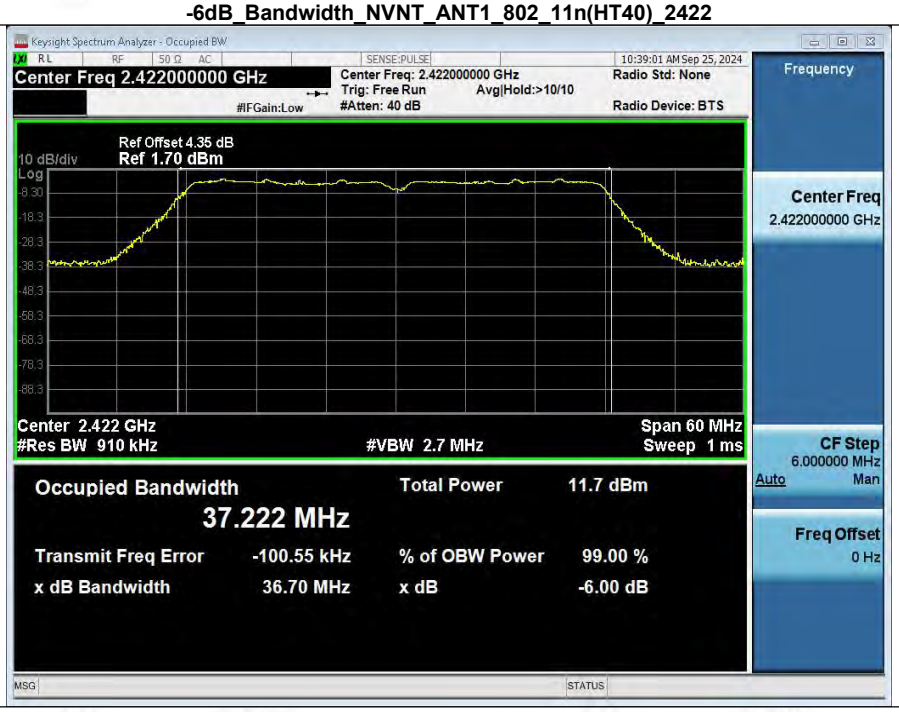
-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2462



-6dB_Bandwidth_NVNT_ANT2_802_11n(HT20)_2462

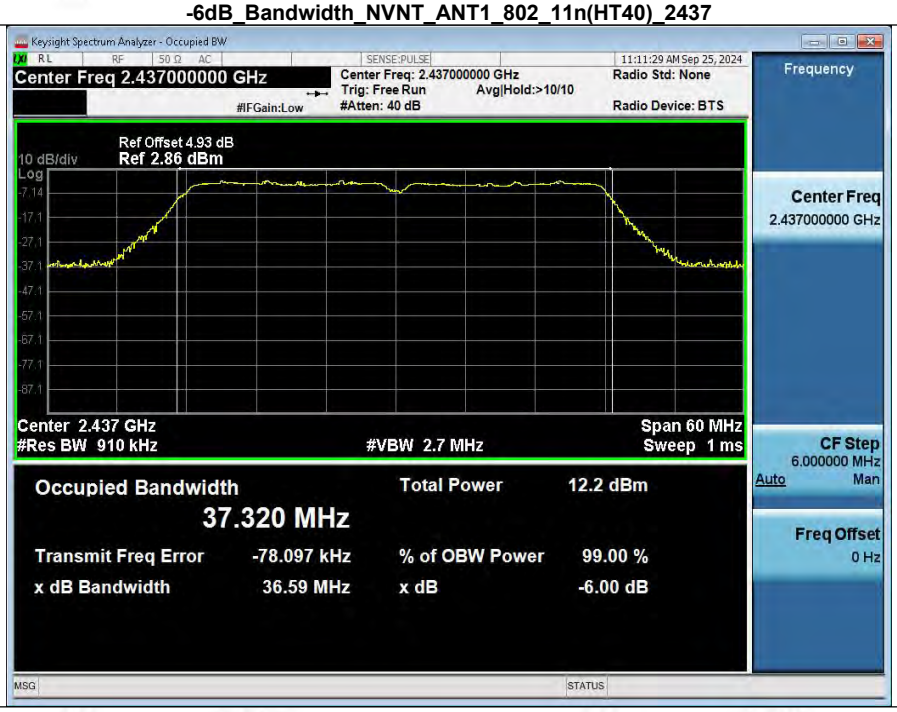


-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2422



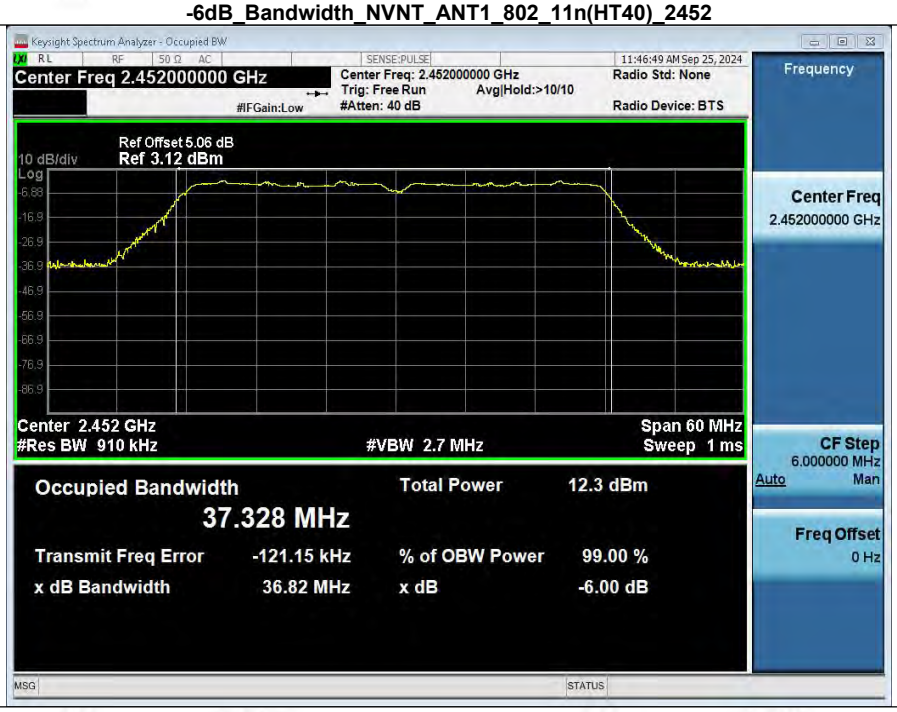
-6dB_Bandwidth_NVNT_ANT2_802_11n(HT40)_2422

-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2437



-6dB_Bandwidth_NVNT_ANT2_802_11n(HT40)_2437

-6dB_Bandwidth_NVNT_ANT1_802_11n(HT40)_2452



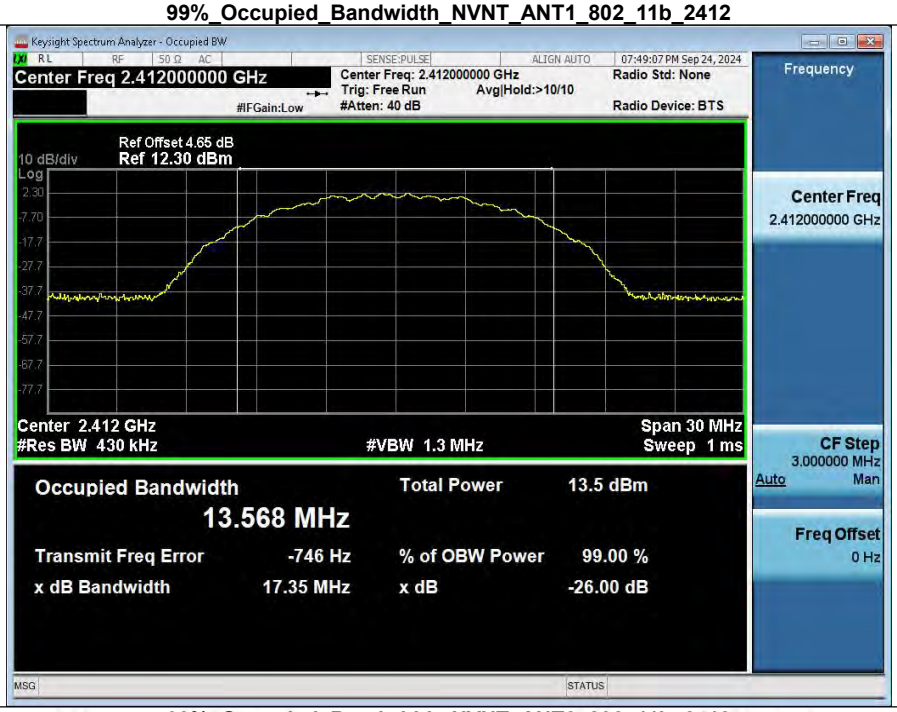
-6dB_Bandwidth_NVNT_ANT2_802_11n(HT40)_2452

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
11:47:14 AM Sep 25, 2024
Frequency
Ref Offset 5.06 dB
10 dB/div
Ref 9.12 dBm
Center Freq
2.452000000 GHz
Center 2.452 GHz
#Res BW 910 kHz
#VBW 2.7 MHz
Span 60 MHz
Sweep 1 ms
CF Step
6.000000 MHz
Auto
Man
Occupied Bandwidth
36.647 MHz
Total Power
12.7 dBm
Transmit Freq Error
44.235 kHz
% of OBW Power
99.00 %
x dB Bandwidth
36.42 MHz
x dB
-6.00 dB
Freq Offset
0 Hz
MSG
STATUS

2. 99% Occupied Bandwidth

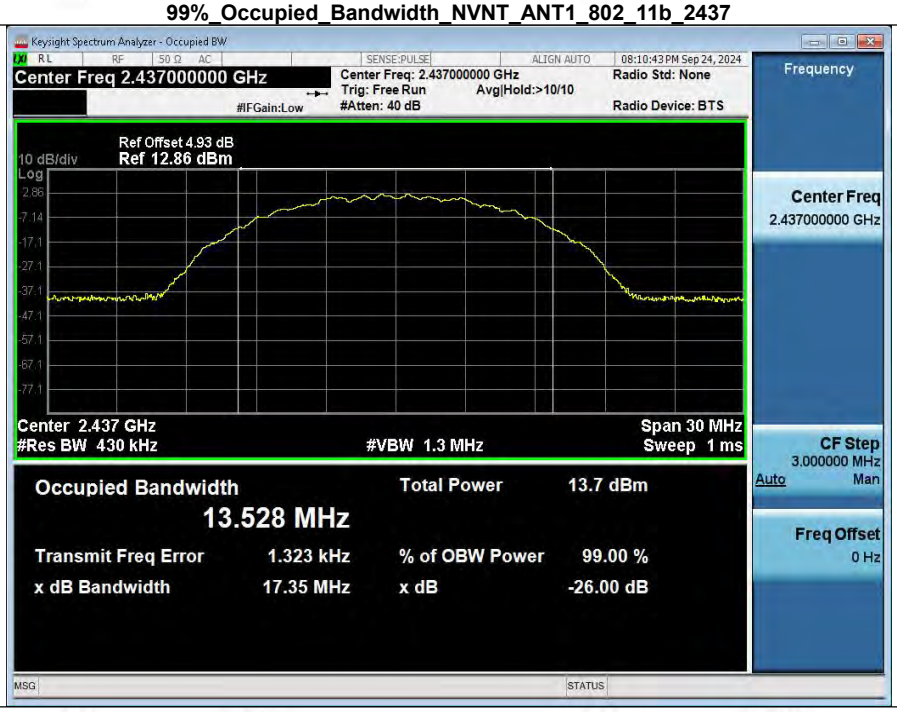
Condition	Antenna	Modulation	Frequency (MHz)	99%%BW(MHz)
NVNT	ANT1	802.11b	2412.00	13.568
NVNT	ANT2	802.11b	2412.00	13.461
NVNT	ANT1	802.11b	2437.00	13.528
NVNT	ANT2	802.11b	2437.00	13.500
NVNT	ANT1	802.11b	2462.00	13.501
NVNT	ANT2	802.11b	2462.00	13.534
NVNT	ANT1	802.11g	2412.00	16.935
NVNT	ANT2	802.11g	2412.00	16.778
NVNT	ANT1	802.11g	2437.00	16.917
NVNT	ANT2	802.11g	2437.00	16.863
NVNT	ANT1	802.11g	2462.00	16.865
NVNT	ANT2	802.11g	2462.00	16.845
NVNT	ANT1	802.11n(HT20)	2412.00	18.106
NVNT	ANT2	802.11n(HT20)	2412.00	17.790
NVNT	ANT1	802.11n(HT20)	2437.00	18.091
NVNT	ANT2	802.11n(HT20)	2437.00	17.801
NVNT	ANT1	802.11n(HT20)	2462.00	18.066
NVNT	ANT2	802.11n(HT20)	2462.00	17.813
NVNT	ANT1	802.11n(HT40)	2422.00	37.290
NVNT	ANT2	802.11n(HT40)	2422.00	36.774
NVNT	ANT1	802.11n(HT40)	2437.00	37.290
NVNT	ANT2	802.11n(HT40)	2437.00	36.835
NVNT	ANT1	802.11n(HT40)	2452.00	37.394
NVNT	ANT2	802.11n(HT40)	2452.00	36.718

99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2412

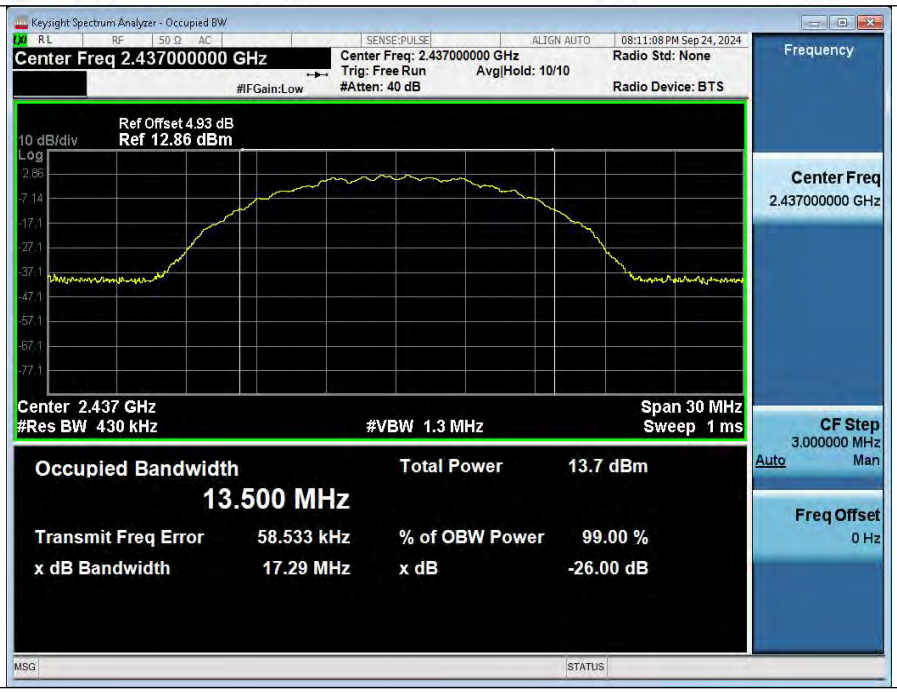


99%_Occupied_Bandwidth_NVNT_ANT2_802_11b_2412

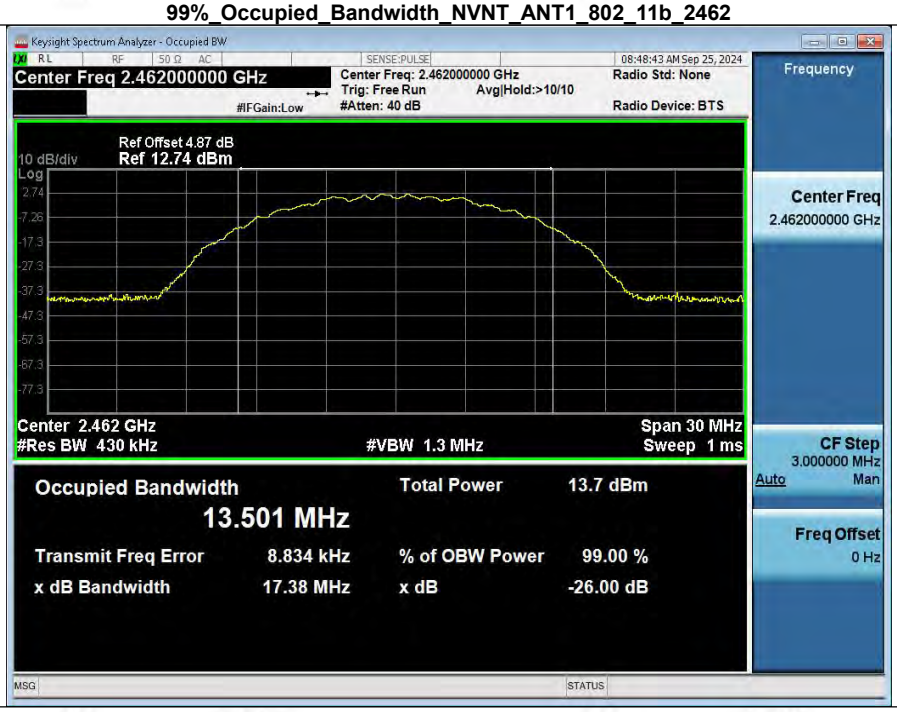
99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2437



99%_Occupied_Bandwidth_NVNT_ANT2_802_11b_2437

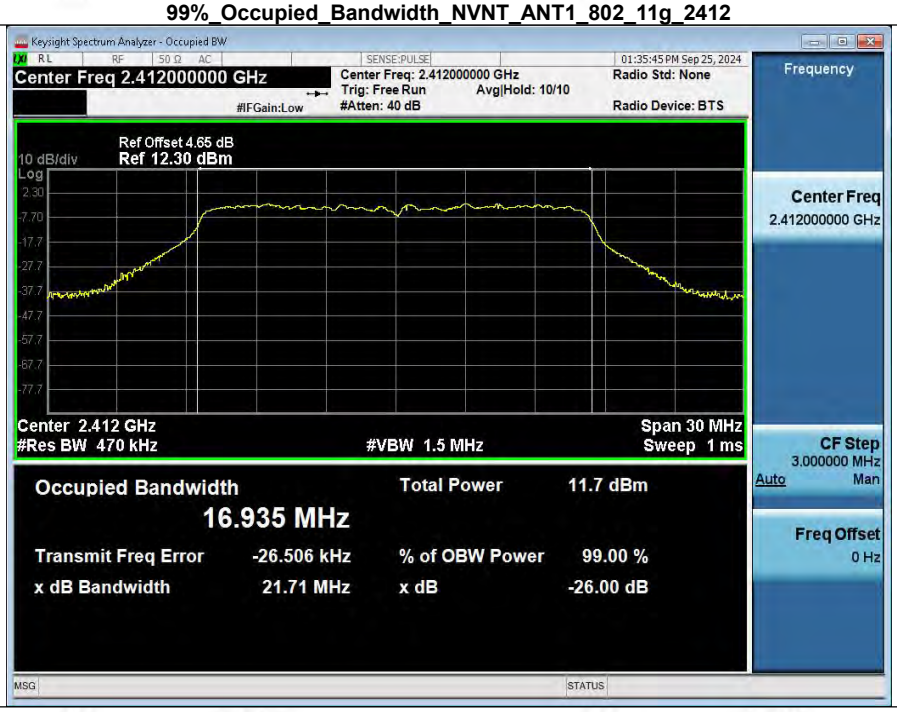


99%_Occupied_Bandwidth_NVNT_ANT1_802_11b_2462

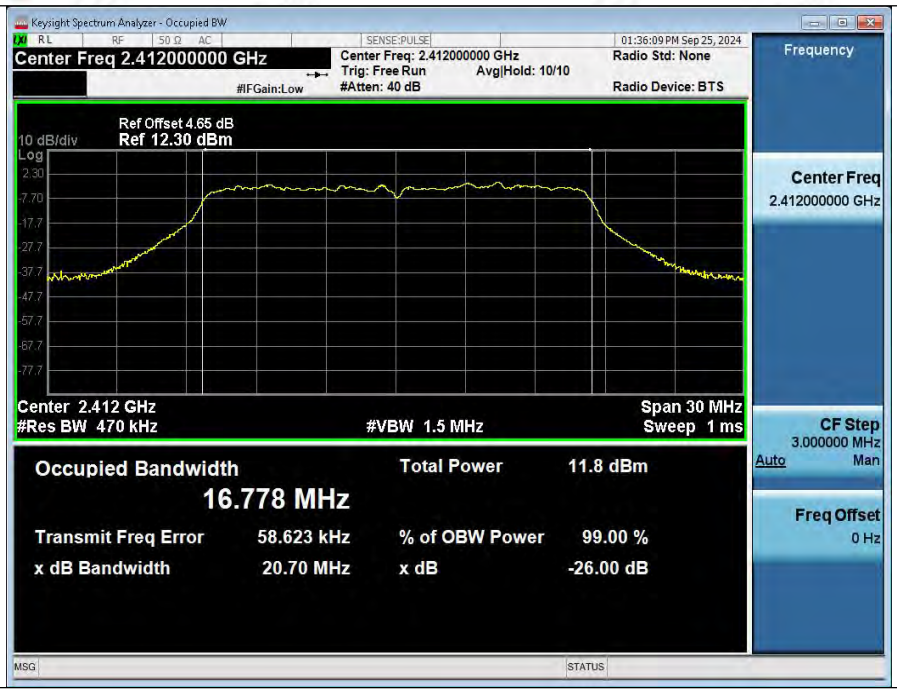


99%_Occupied_Bandwidth_NVNT_ANT2_802_11b_2462

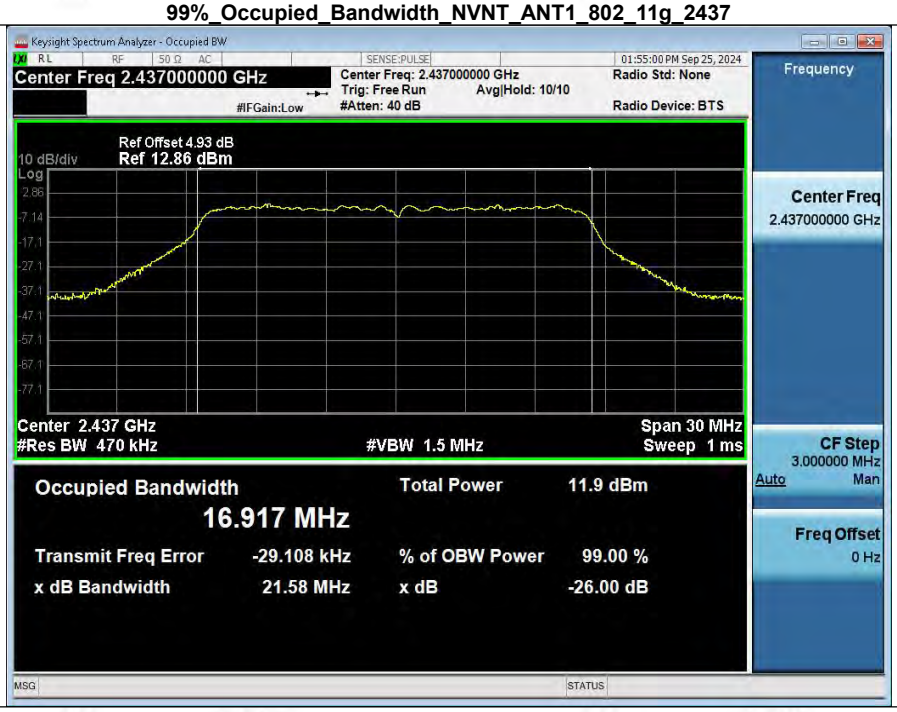
99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2412



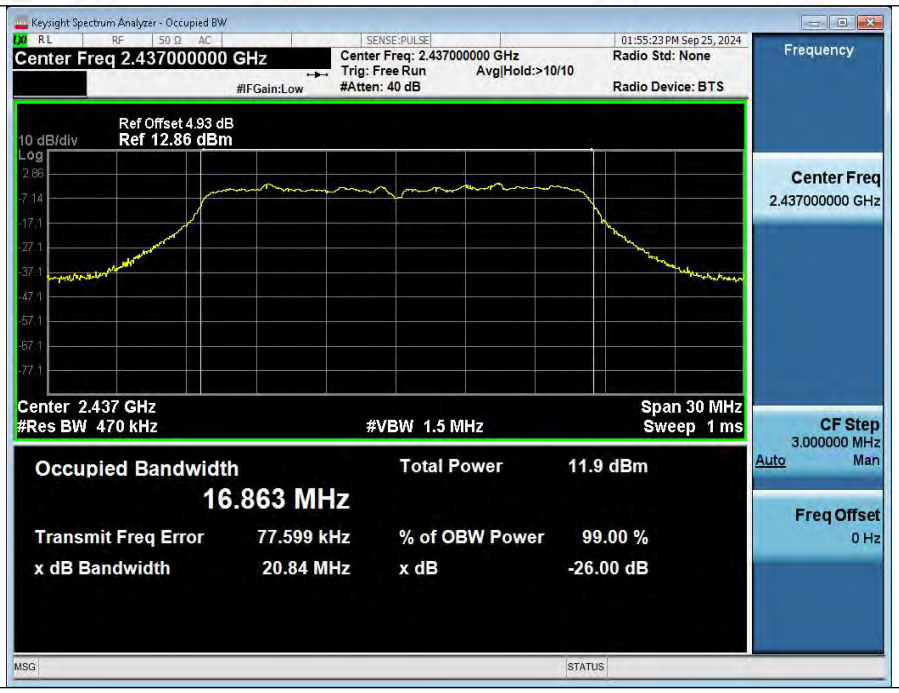
99%_Occupied_Bandwidth_NVNT_ANT2_802_11g_2412



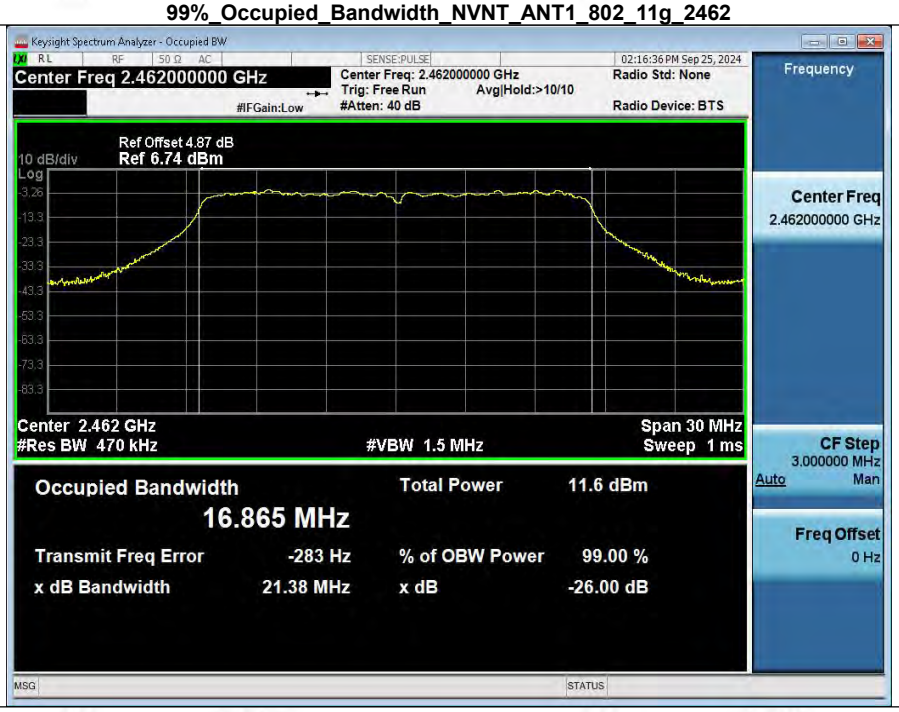
99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2437



99%_Occupied_Bandwidth_NVNT_ANT2_802_11g_2437

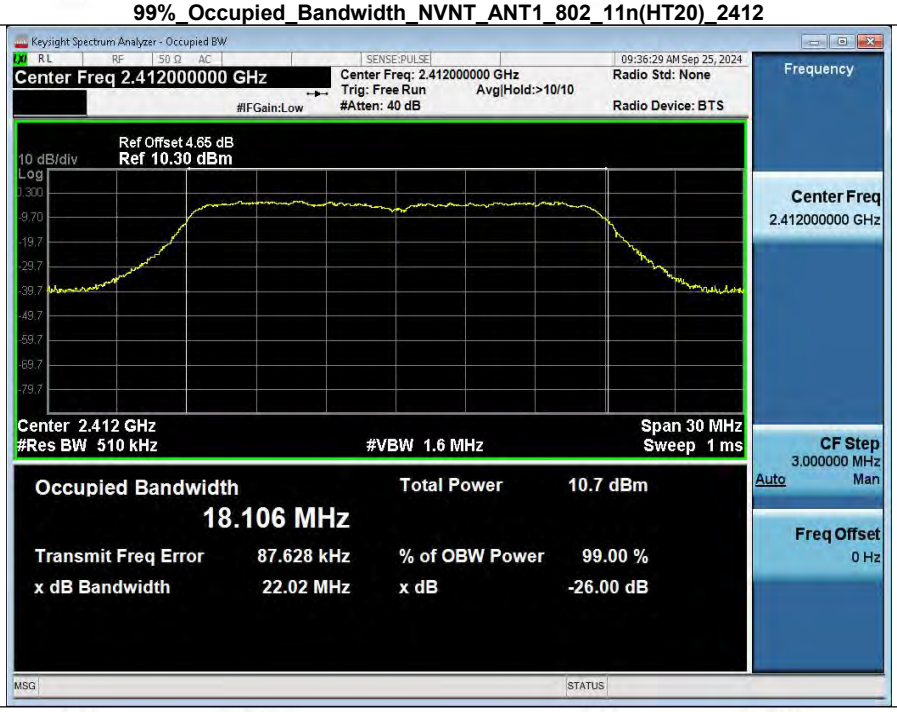


99%_Occupied_Bandwidth_NVNT_ANT1_802_11g_2462



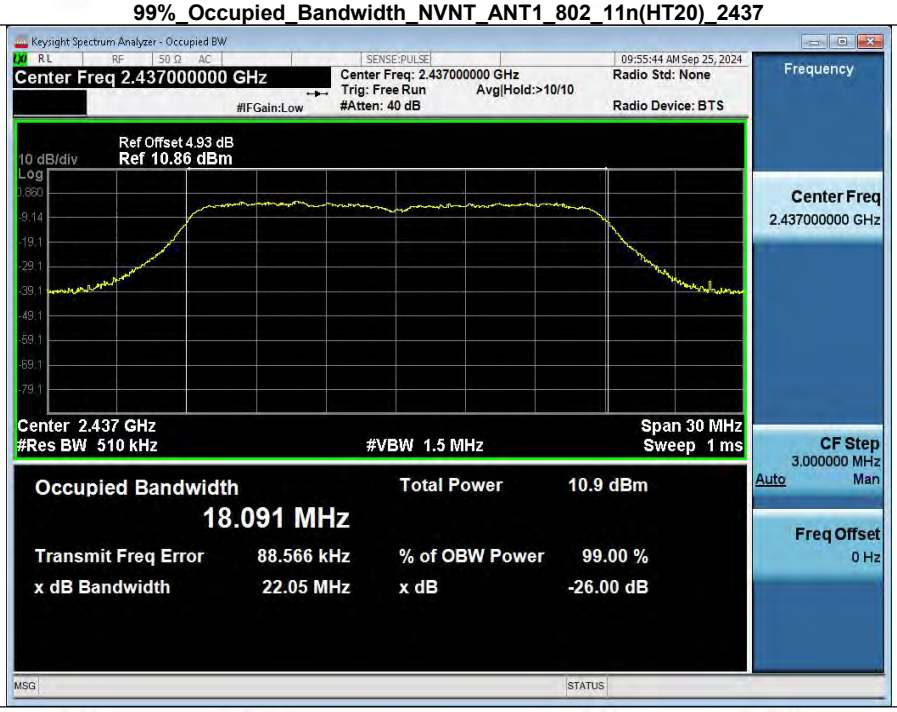
99%_Occupied_Bandwidth_NVNT_ANT2_802_11g_2462

99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2412



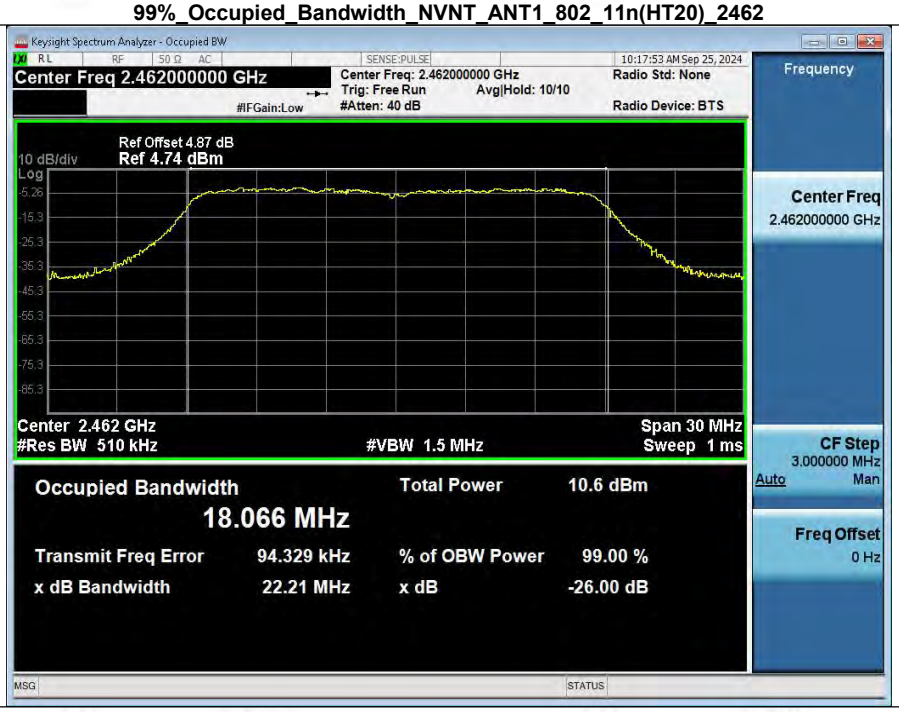
99%_Occupied_Bandwidth_NVNT_ANT2_802_11n(HT20)_2412

99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2437



99%_Occupied_Bandwidth_NVNT_ANT2_802_11n(HT20)_2437

99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT20)_2462

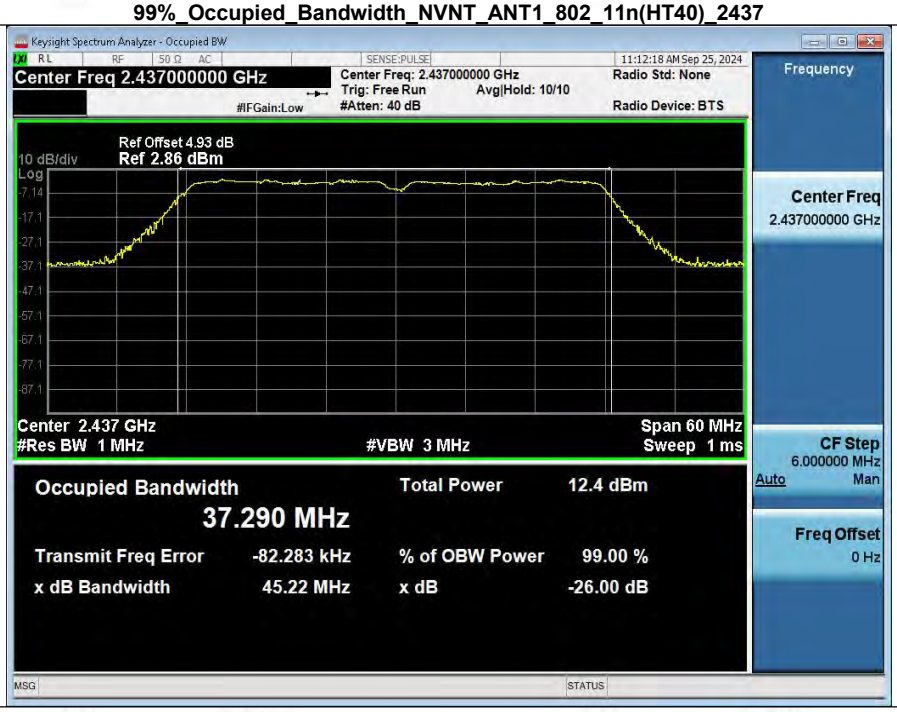


99%_Occupied_Bandwidth_NVNT_ANT2_802_11n(HT20)_2462

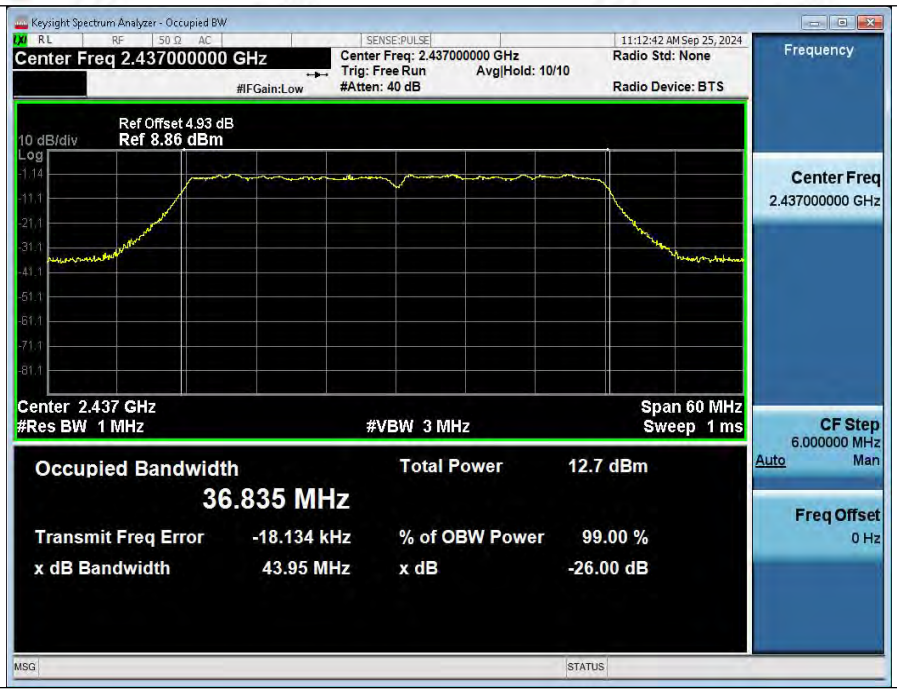
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2422

99%_Occupied_Bandwidth_NVNT_ANT2_802_11n(HT40)_2422

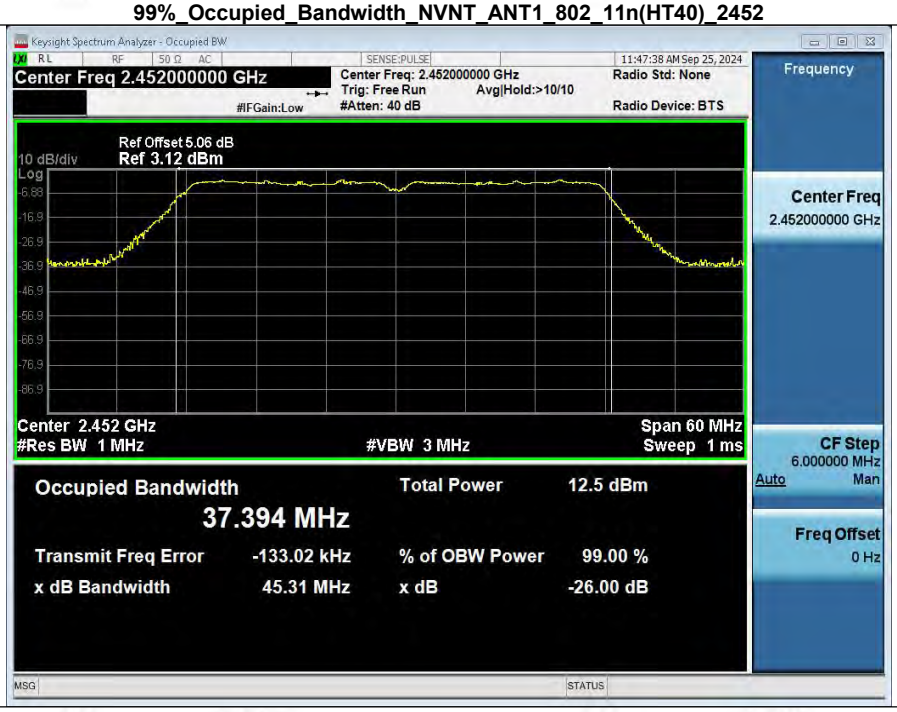
99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2437



99%_Occupied_Bandwidth_NVNT_ANT2_802_11n(HT40)_2437



99%_Occupied_Bandwidth_NVNT_ANT1_802_11n(HT40)_2452



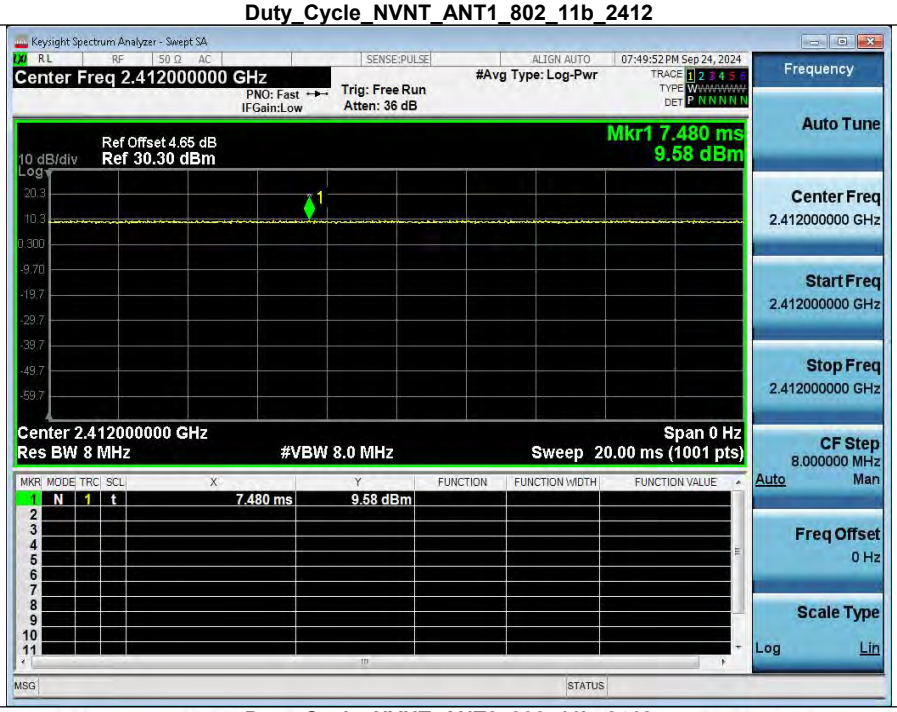
99%_Occupied_Bandwidth_NVNT_ANT2_802_11n(HT40)_2452

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
11:48:02 AM Sep 25, 2024
Frequency
Ref Offset 5.06 dB
10 dB/div
Ref 9.12 dBm
Center Freq
2.452000000 GHz
Center 2.452 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1 ms
CF Step
6.000000 MHz
Auto
Man
Occupied Bandwidth
36.718 MHz
Total Power
12.8 dBm
Transmit Freq Error
23.403 kHz
% of OBW Power
99.00 %
x dB Bandwidth
44.15 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

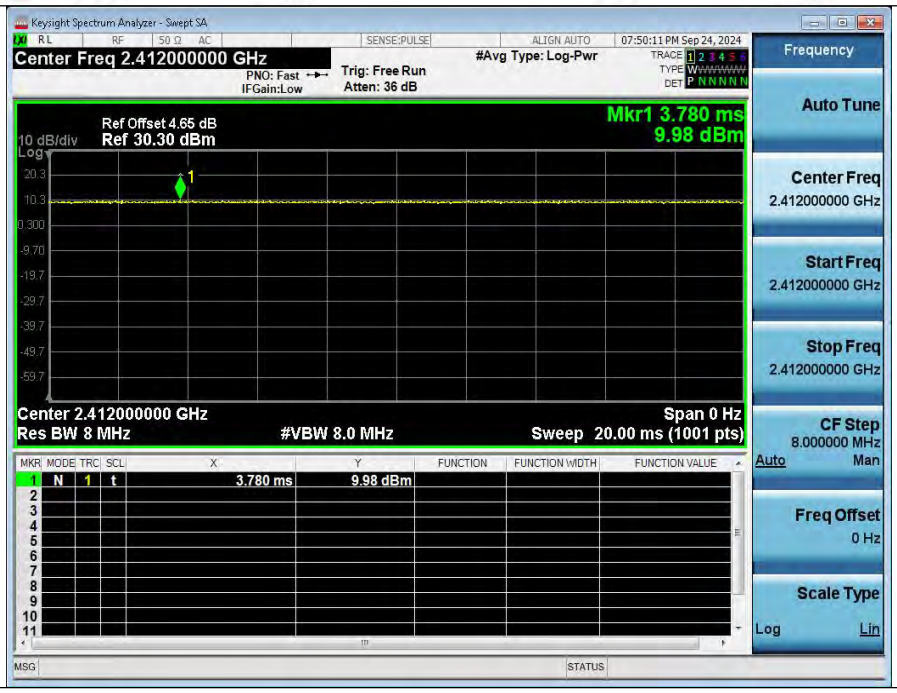
3. Duty Cycle

Condition	Antenna	Modulation	Frequency (MHz)	Duty cycle(%)	Duty factor(dB)
NVNT	ANT1	802.11b	2412.00	100	0.00
NVNT	ANT2	802.11b	2412.00	100	0.00
NVNT	ANT1	802.11b	2437.00	100	0.00
NVNT	ANT2	802.11b	2437.00	100	0.00
NVNT	ANT1	802.11b	2462.00	100	0.00
NVNT	ANT2	802.11b	2462.00	100	0.00
NVNT	ANT1	802.11g	2412.00	100	0.00
NVNT	ANT2	802.11g	2412.00	100	0.00
NVNT	ANT1	802.11g	2437.00	100	0.00
NVNT	ANT2	802.11g	2437.00	100	0.00
NVNT	ANT1	802.11g	2462.00	100	0.00
NVNT	ANT2	802.11g	2462.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2412.00	100	0.00
NVNT	ANT2	802.11n(HT20)	2412.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2437.00	100	0.00
NVNT	ANT2	802.11n(HT20)	2437.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2462.00	100	0.00
NVNT	ANT2	802.11n(HT20)	2462.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2422.00	100	0.00
NVNT	ANT2	802.11n(HT40)	2422.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2437.00	100	0.00
NVNT	ANT2	802.11n(HT40)	2437.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2452.00	100	0.00
NVNT	ANT2	802.11n(HT40)	2452.00	100	0.00

Duty_Cycle_NVNT_ANT1_802_11b_2412



Duty_Cycle_NVNT_ANT2_802_11b_2412



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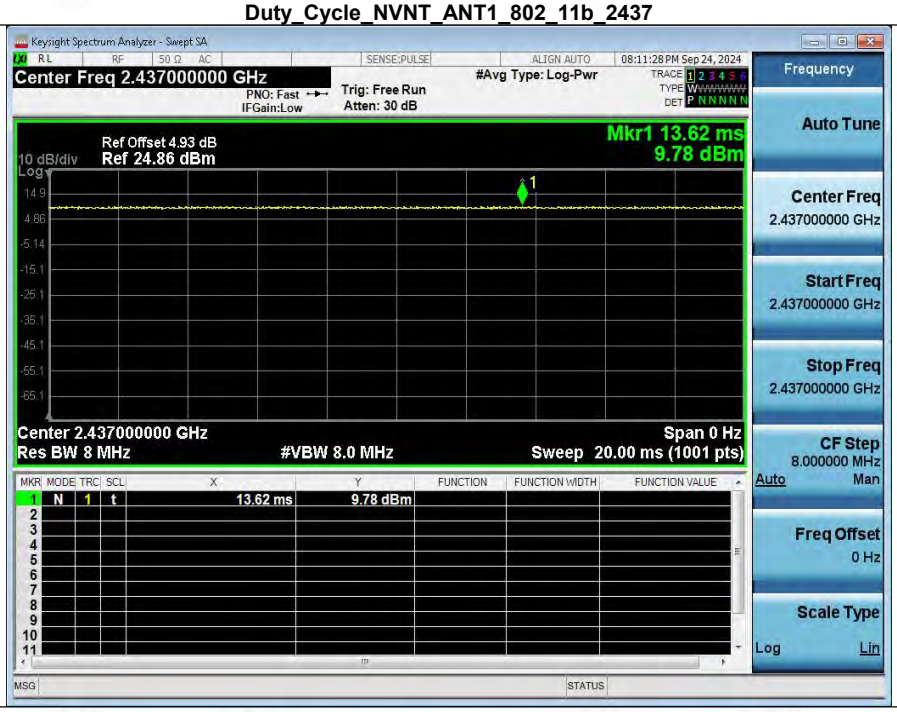

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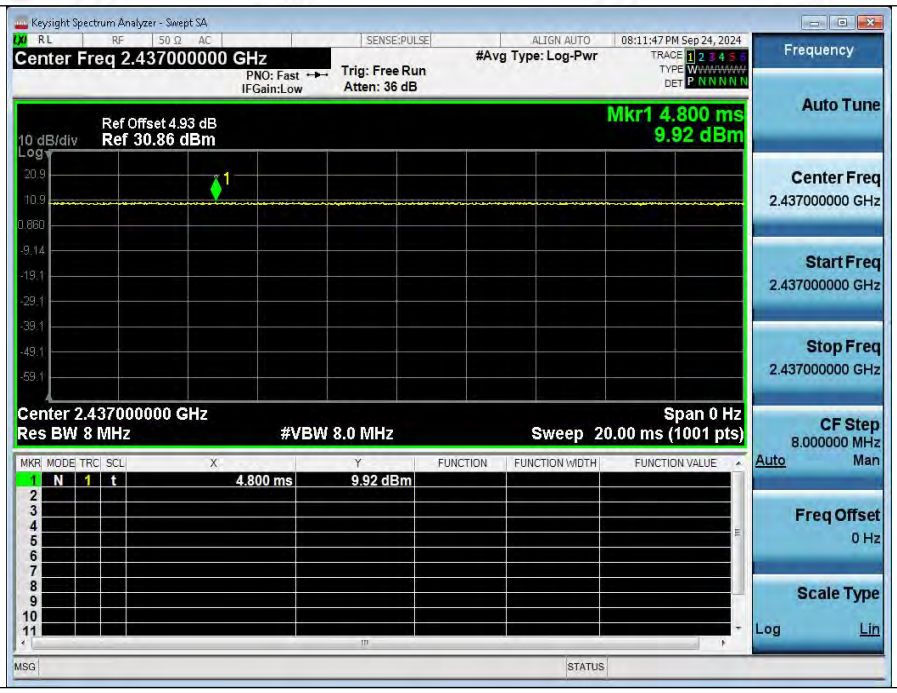

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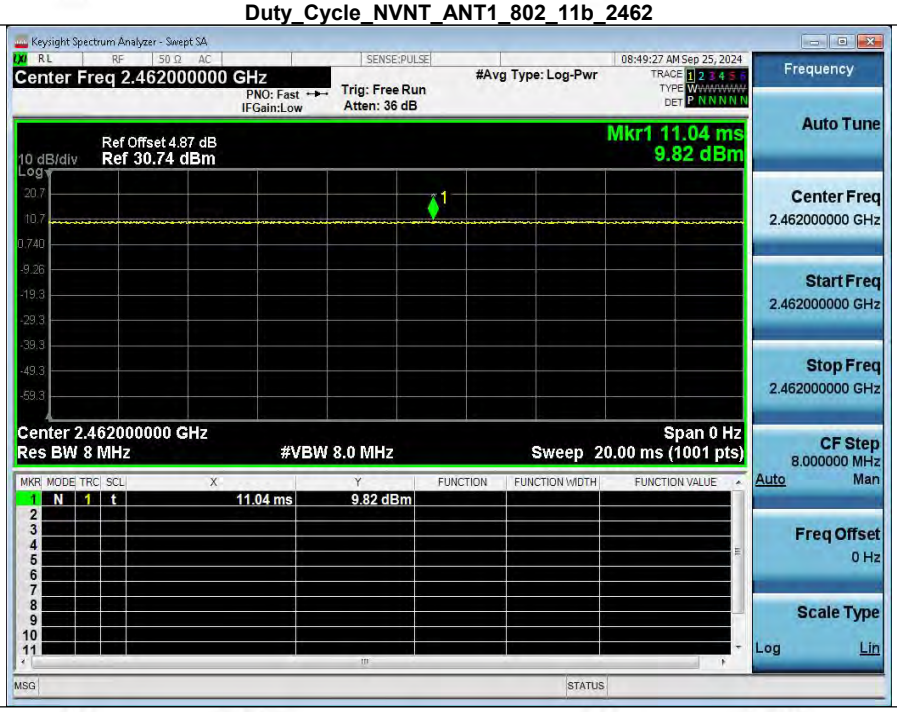

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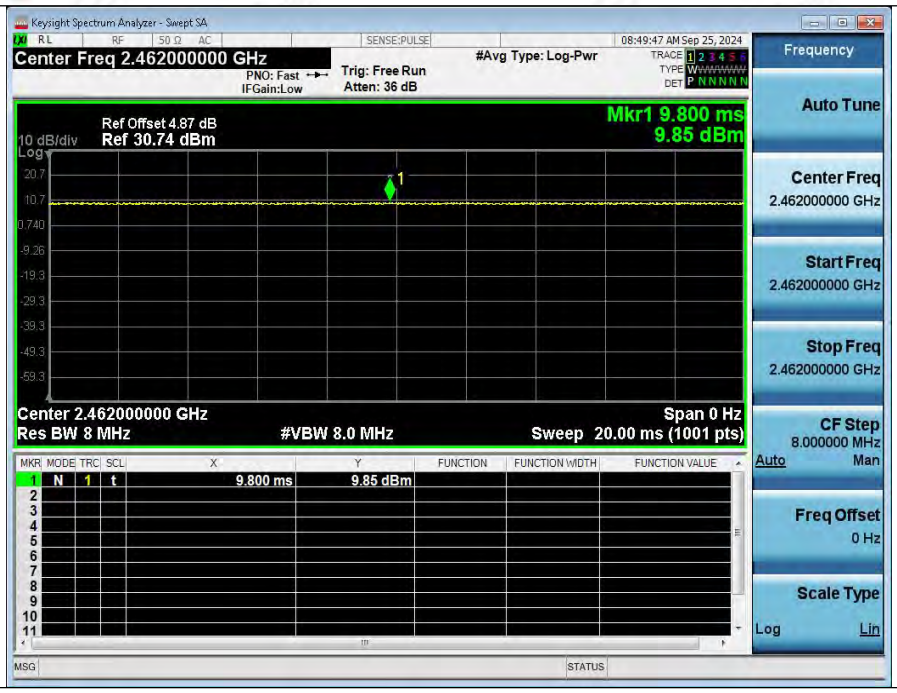

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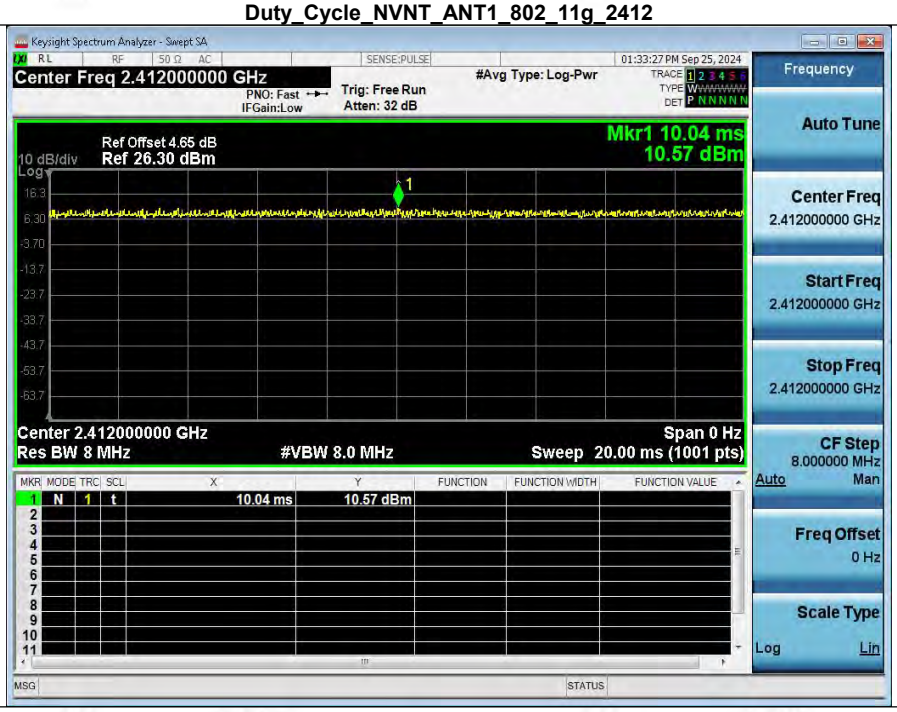

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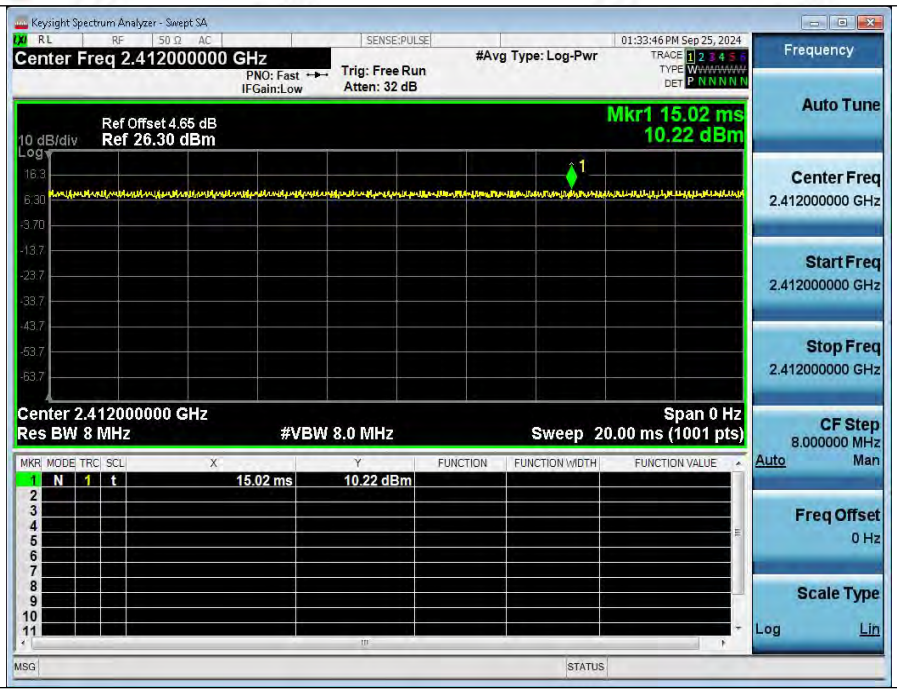

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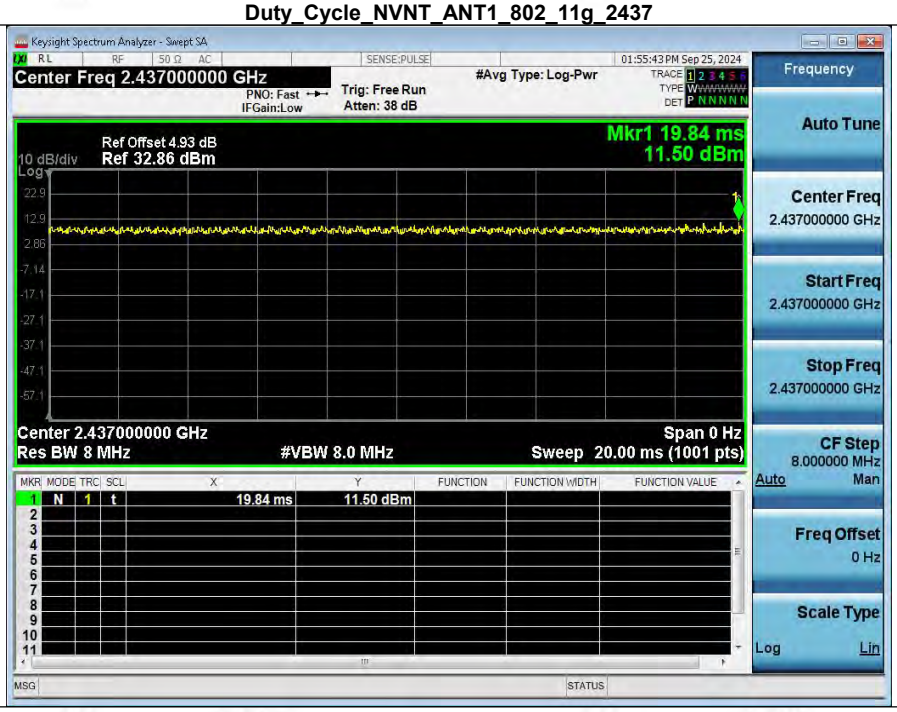

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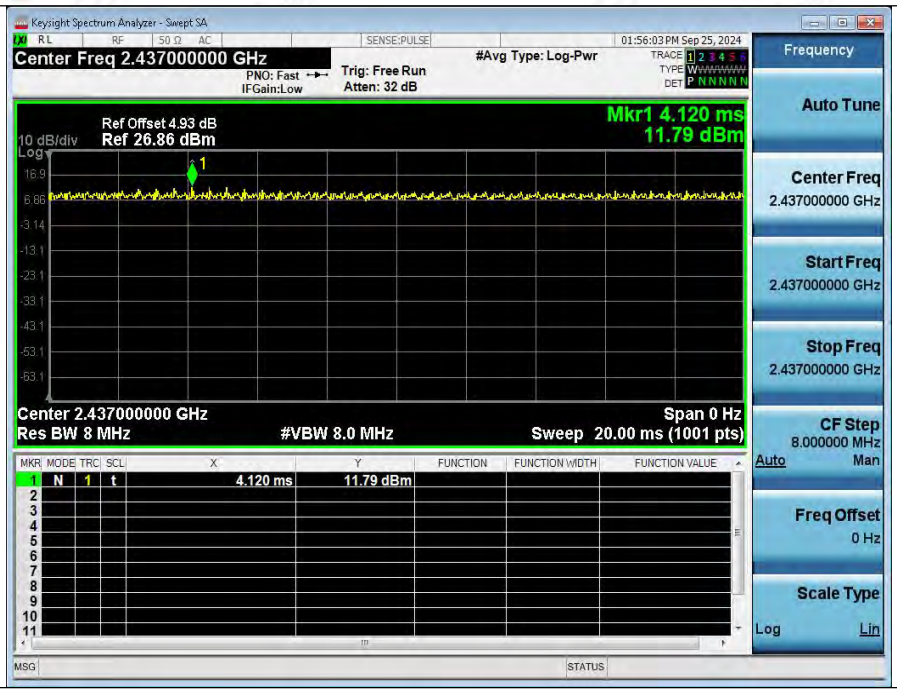

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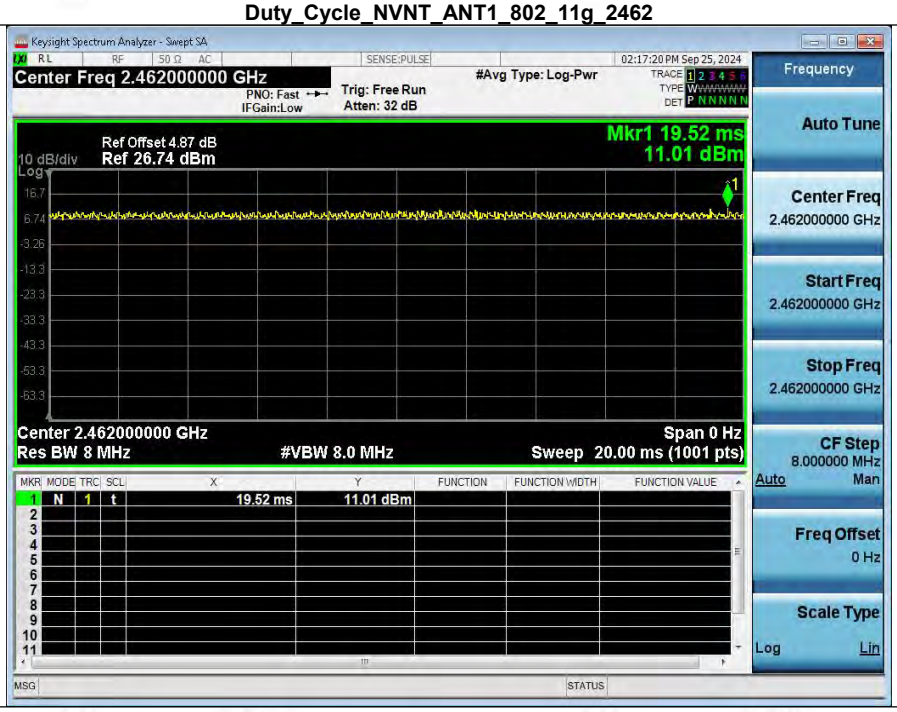

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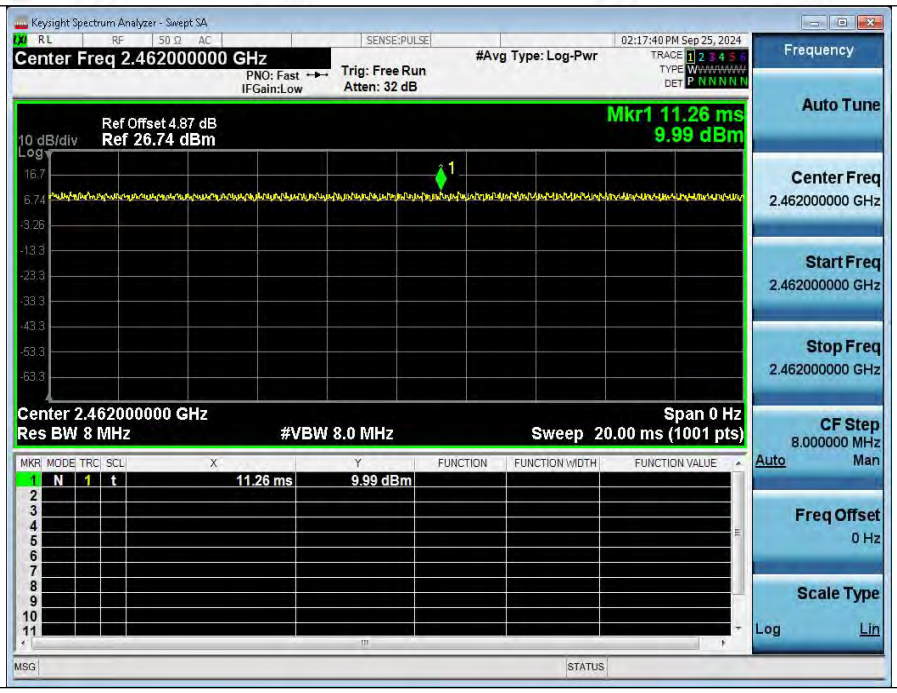
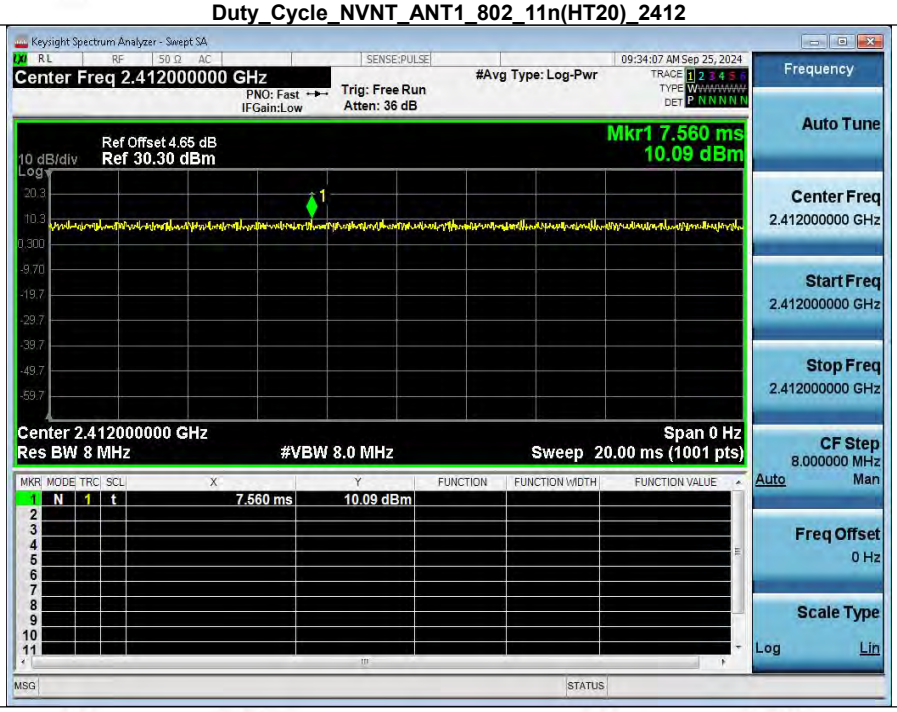


Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2412



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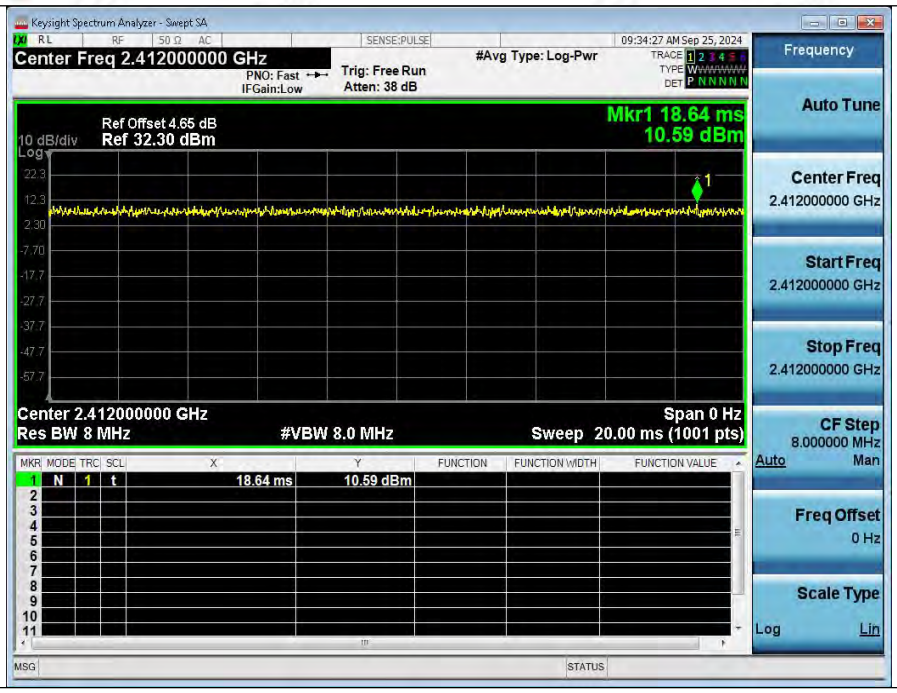

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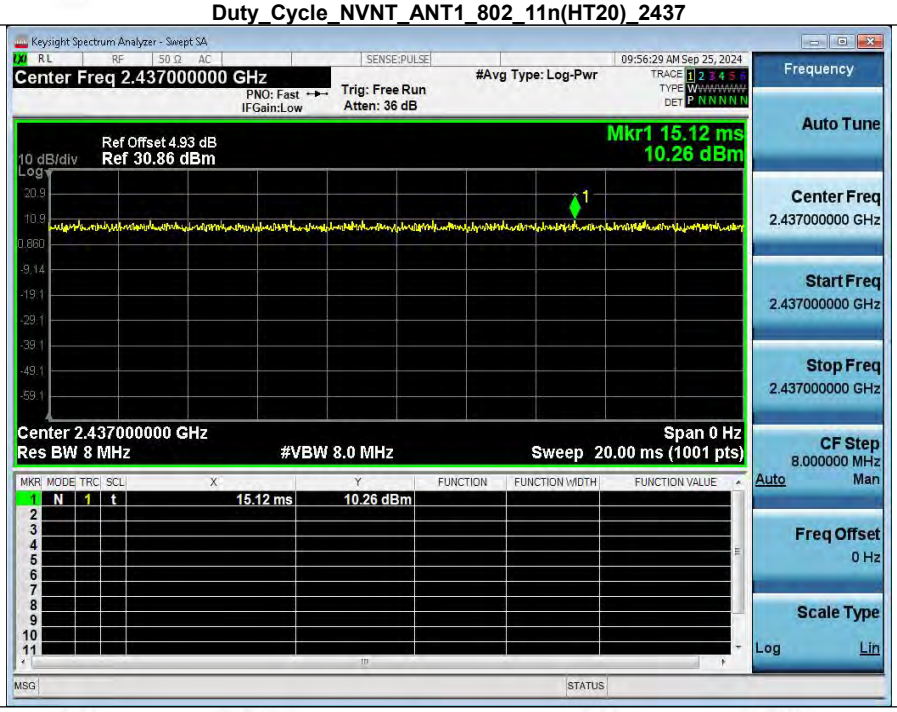

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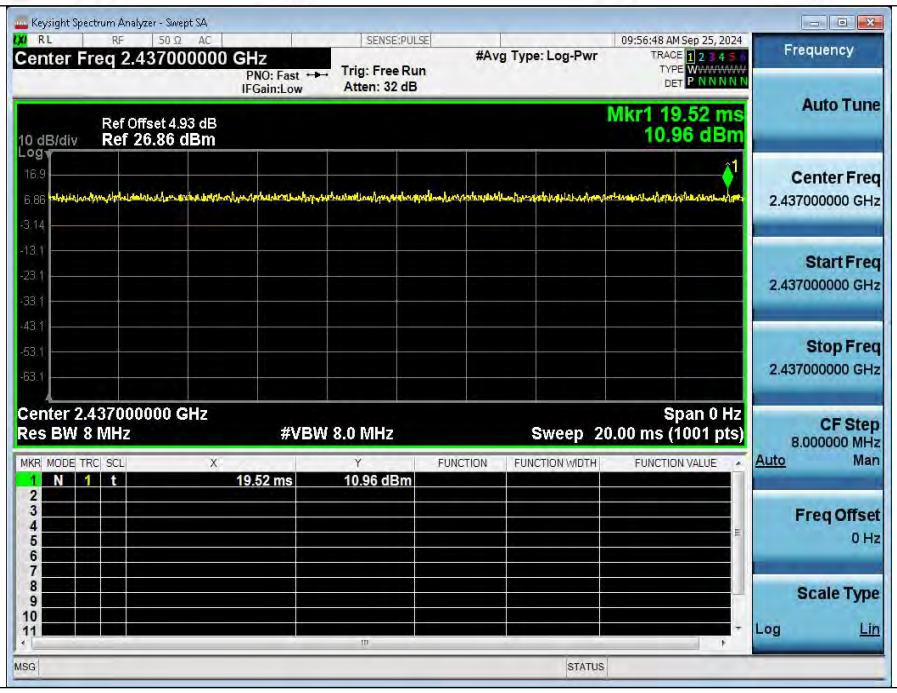
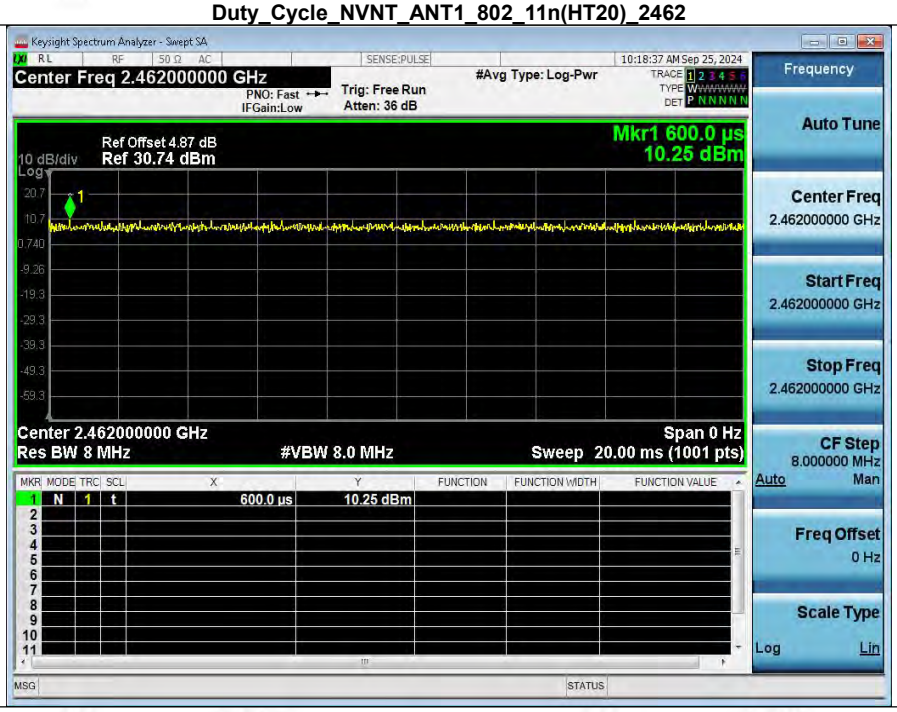


Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2462



Duty_Cycle_NVNT_ANT2_802_11n(HT20)_2462