Appendix Test Data

Report No.:	18220WC20171501	Test Sample No.:	1-2-2
Start Test Date:	2022.7.30	Finish Test Date:	2022.8.18
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	27.3℃	Relative Humidity:	46 %
Pressure:	1012 hPa		

Appendix A: DTS Bandwidth

Test Result

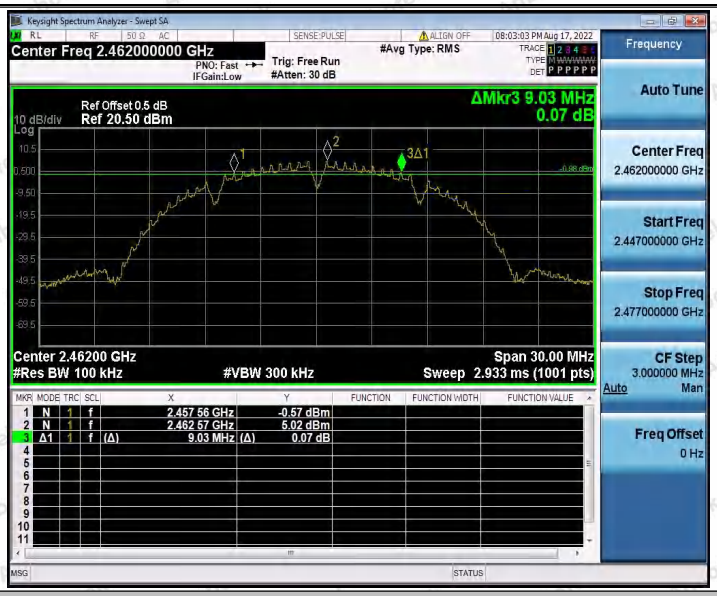
Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11b	Ant1	2412	9.030	2407.560	2416.590	≥0.5	PASS
		2437	9.060	2432.530	2441.590	≥0.5	PASS
		2462	9.030	2457.560	2466.590	≥0.5	PASS
11g	Ant1	2412	16.350	2403.900	2420.250	≥0.5	PASS
		2437	16.320	2428.900	2445.220	≥0.5	PASS
		2462	16.320	2453.900	2470.220	≥0.5	PASS
11n20	Ant1	2412	17.550	2403.300	2420.850	≥0.5	PASS
		2437	17.580	2428.270	2445.850	≥0.5	PASS
		2462	17.550	2453.300	2470.850	≥0.5	PASS

Test Graphs

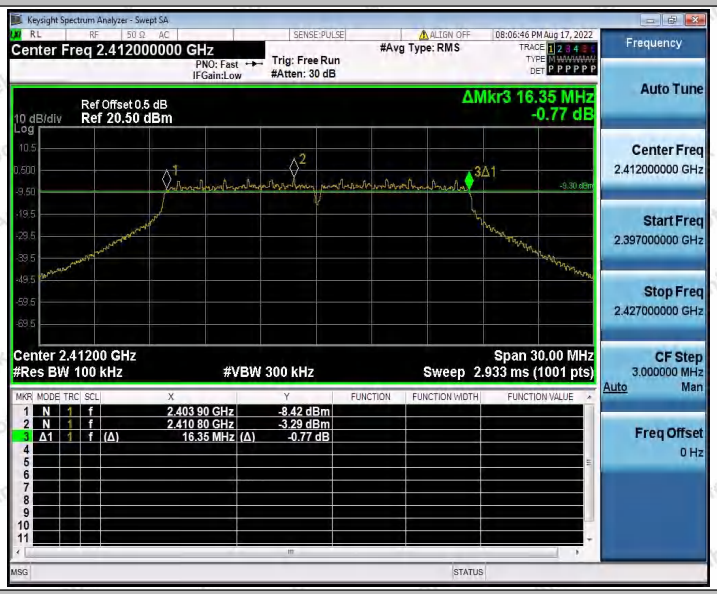
11b_Ant1_2412

11b_Ant1_2437

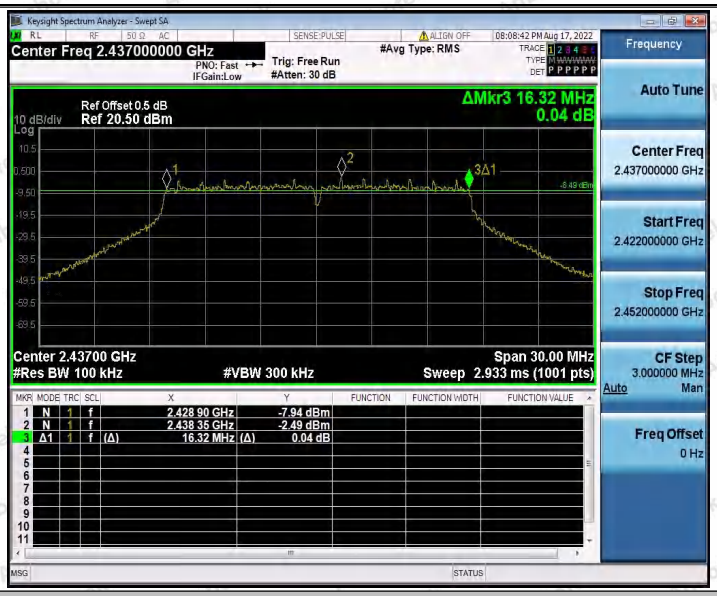
11b_Ant1_2462



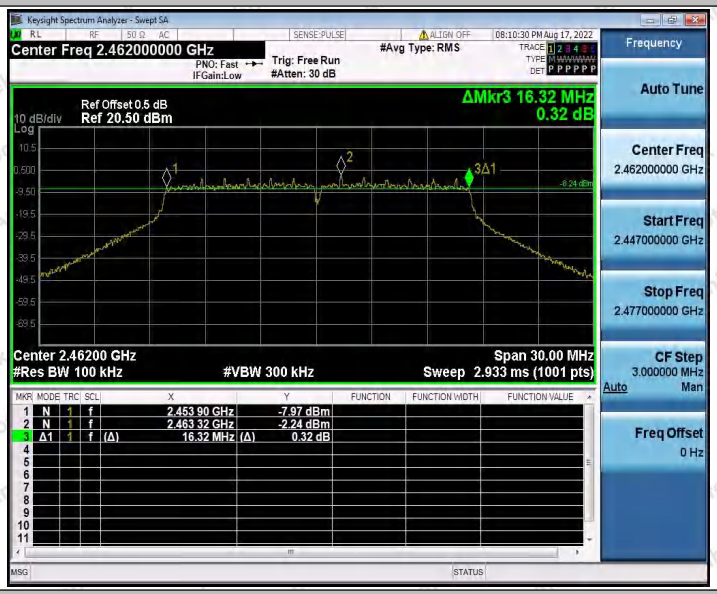
11g_Ant1_2412



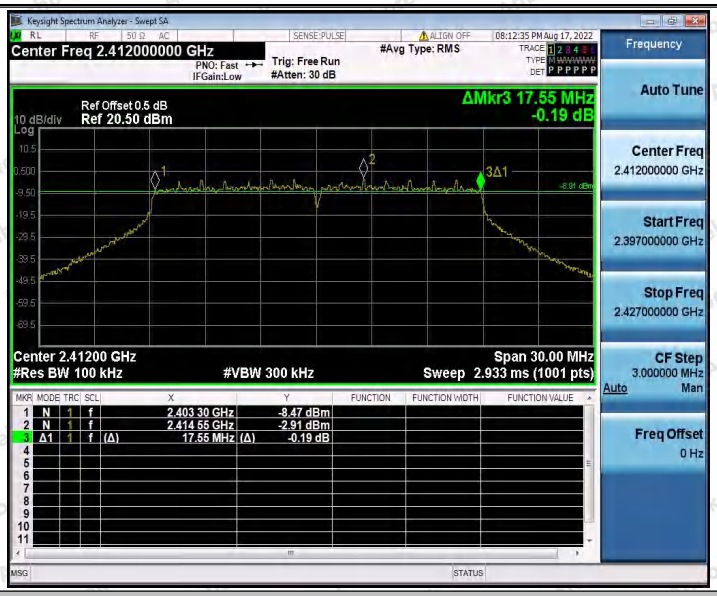
11g_Ant1_2437



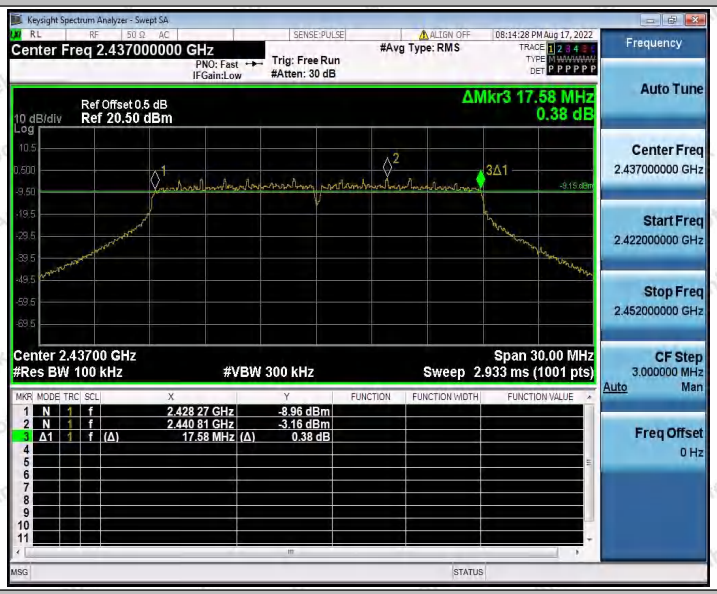
11g_Ant1_2462



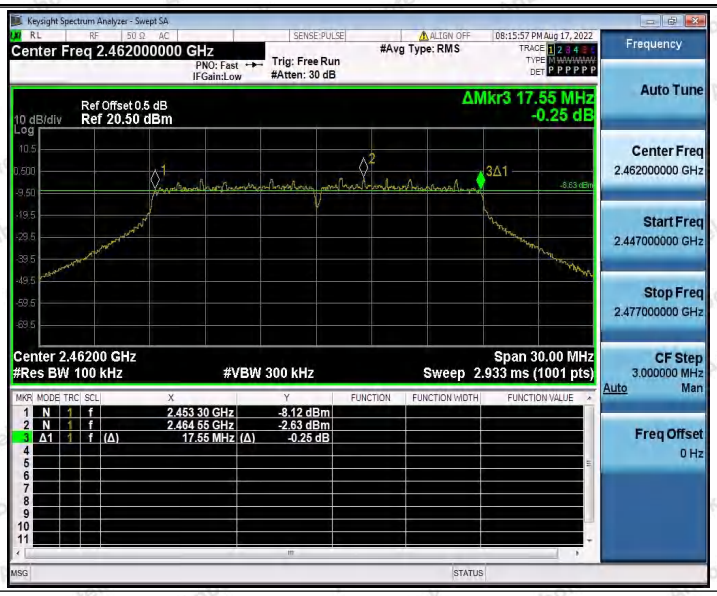
11n20_Ant1_2412



11n20_Ant1_2437



11n20_Ant1_2462


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
08:15:57 PM Aug 17, 2022
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
ΔMkr3 17.55 MHz
-0.25 dB
Center 2.46200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 30.00 MHz
Sweep 2.933 ms (1001 pts)
1 N 1 f 2.453 30 GHz -8.12 dBm
2 N 1 f 2.464 55 GHz -2.63 dBm
3 Δ1 1 f (Δ) 17.55 MHz (Δ) -0.25 dB
Frequency
Auto Tune
Center Freq
2.462000000 GHz
Start Freq
2.447000000 GHz
Stop Freq
2.477000000 GHz
CF Step
3.000000 MHz
Auto Man
Freq Offset
0 Hz

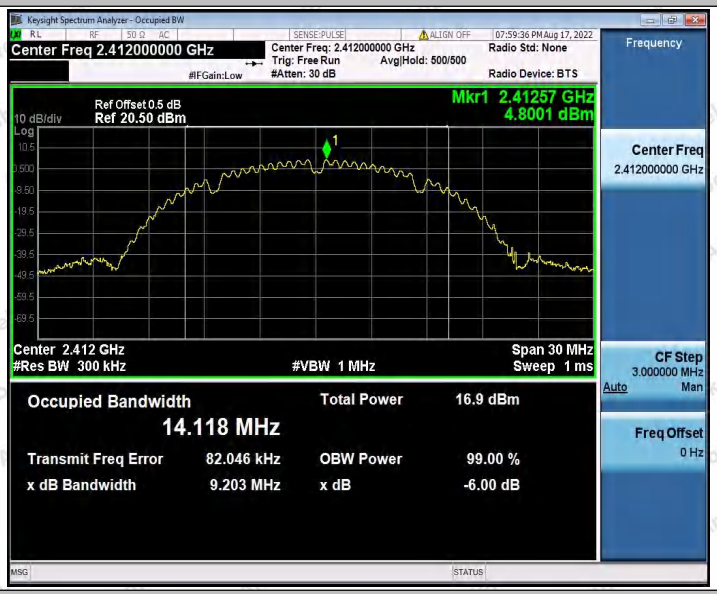
Appendix B: Occupied Channel Bandwidth

Test Result

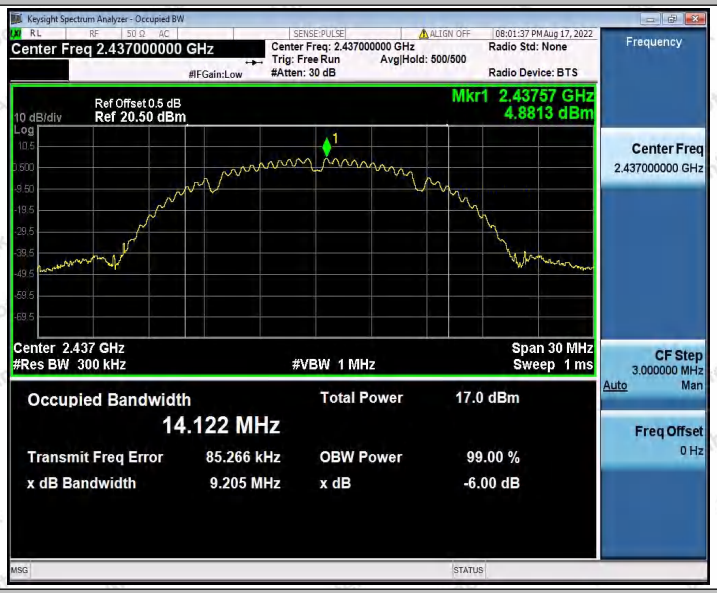
Test Mode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11b	Ant1	2412	14.118	2405.0231	2419.1411	---	PASS
		2437	14.122	2430.0243	2444.1463	---	PASS
		2462	14.114	2455.0264	2469.1404	---	PASS
11g	Ant1	2412	17.050	2403.4760	2420.5260	---	PASS
		2437	16.974	2428.6306	2445.6046	---	PASS
		2462	16.874	2453.6248	2470.4988	---	PASS
11n20	Ant1	2412	18.063	2403.0804	2421.1434	---	PASS
		2437	17.991	2428.0752	2446.0662	---	PASS
		2462	18.101	2453.0870	2471.1880	---	PASS

Test Graphs

11b_Ant1_2412



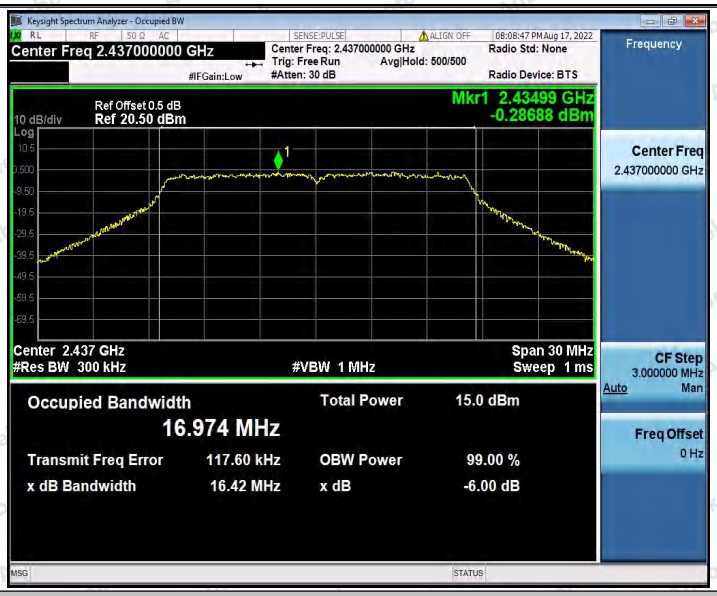
11b_Ant1_2437



11b_Ant1_2462

11g_Ant1_2412

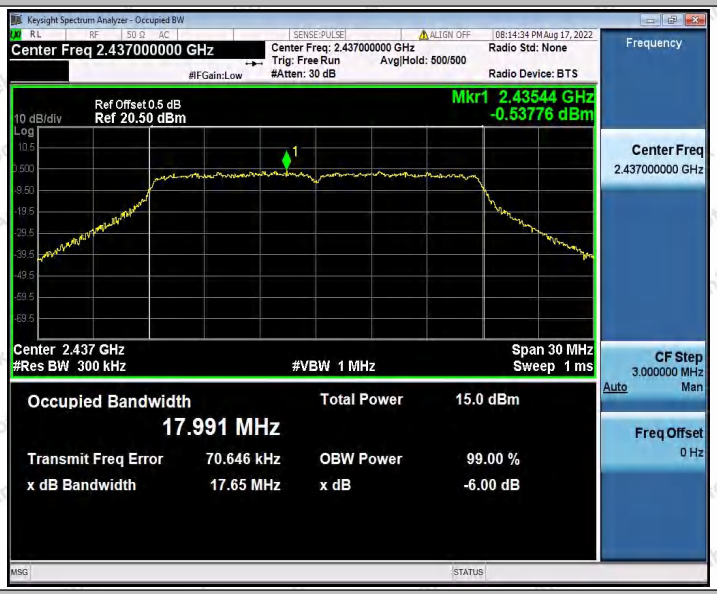
11g_Ant1_2437



11g_Ant1_2462

11n20_Ant1_2412

11n20_Ant1_2437



11n20_Ant1_2462

Keysight Spectrum Analyzer - Occupied BW
Center Freq 2.462000000 GHz
Center Freq: 2.462000000 GHz
Trig: Free Run
Avg|Hold: 500/500
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
08:16:03 PM Aug 17, 2022
Frequency
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.46605 GHz
-0.13193 dBm
Center Freq
2.462000000 GHz
Center 2.462 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 30 MHz
Sweep 1 ms
CF Step
3.000000 MHz
Auto
Man
Occupied Bandwidth
18.101 MHz
Total Power
15.2 dBm
Transmit Freq Error
137.52 kHz
OBW Power
99.00 %
x dB Bandwidth
17.63 MHz
x dB
-6.00 dB
Freq Offset
0 Hz
MSG
STATUS

Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11b	Ant1	2412	16.13	≤30	PASS
		2437	16.24	≤30	PASS
		2462	16.42	≤30	PASS
11g	Ant1	2412	15.89	≤30	PASS
		2437	16.00	≤30	PASS
		2462	16.21	≤30	PASS
11n20	Ant1	2412	15.88	≤30	PASS
		2437	15.93	≤30	PASS
		2462	16.19	≤30	PASS

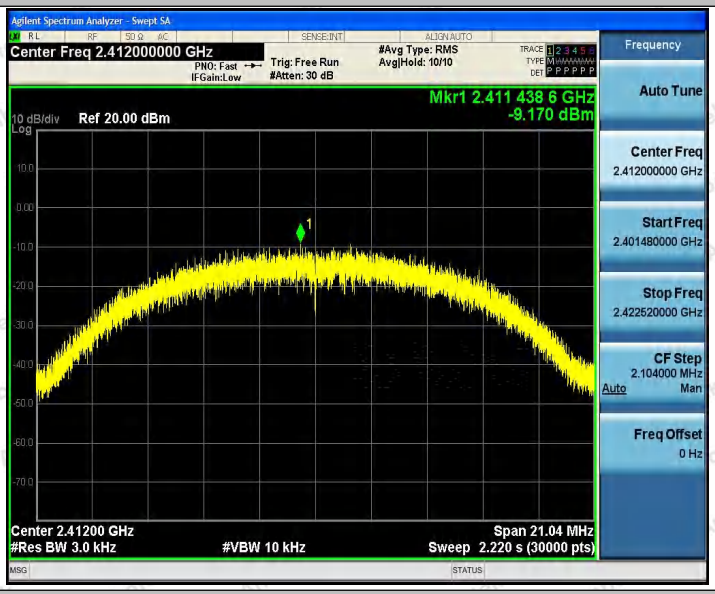
Appendix D: Maximum power spectral density

Test Result

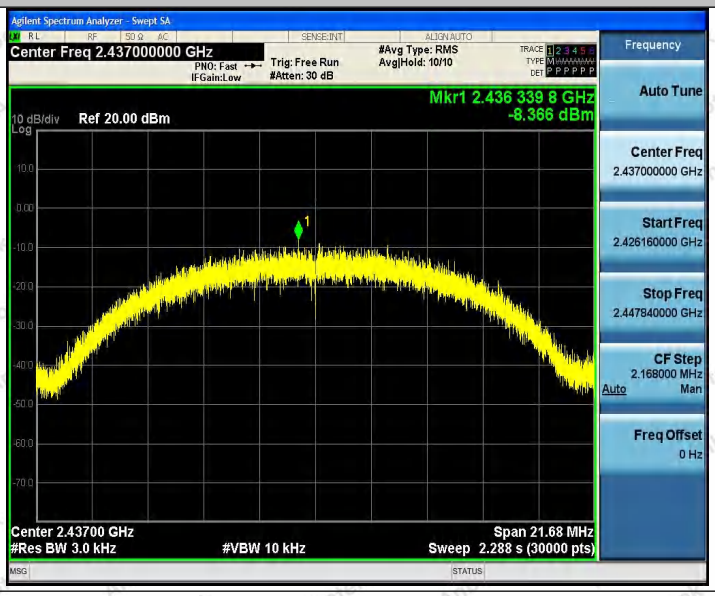
Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11b	Ant1	2412	-9.17	≤8	PASS
		2437	-8.37	≤8	PASS
		2462	-8.88	≤8	PASS
11g	Ant1	2412	-14.35	≤8	PASS
		2437	-14.38	≤8	PASS
		2462	-13.62	≤8	PASS
11n20	Ant1	2412	-14.87	≤8	PASS
		2437	-14.44	≤8	PASS
		2462	-13.29	≤8	PASS

Test Graphs

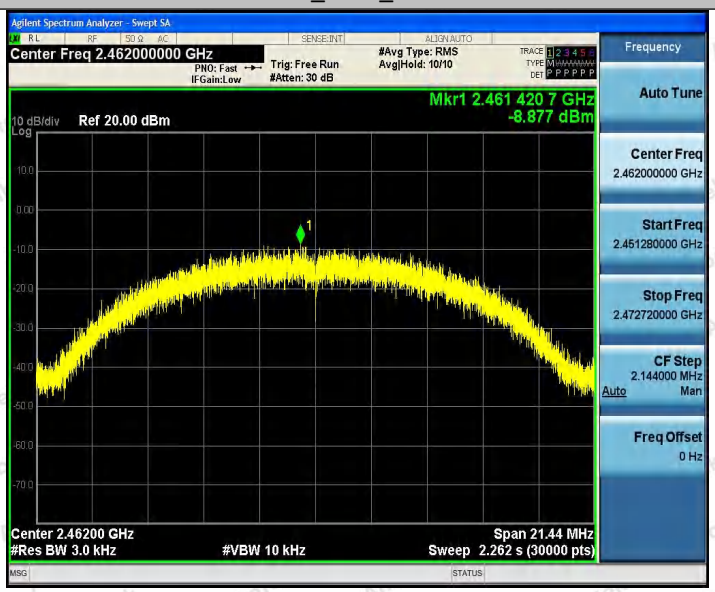
11B_Ant1_2412



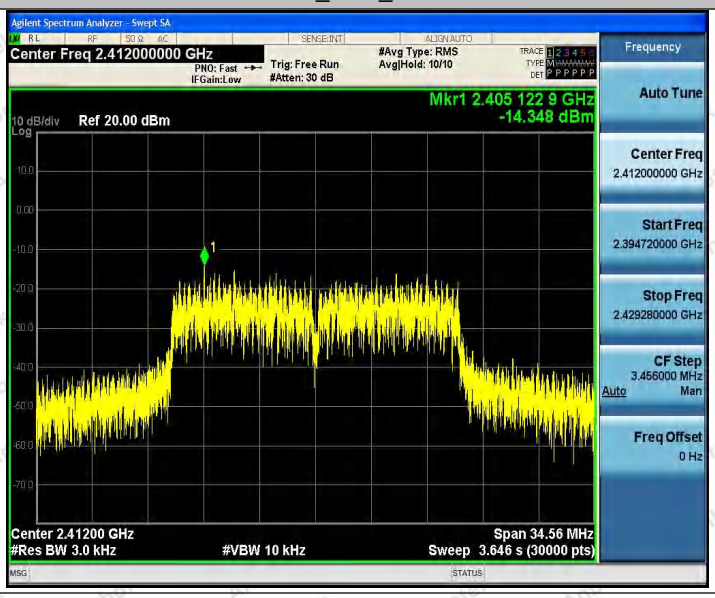
11B_Ant1_2437



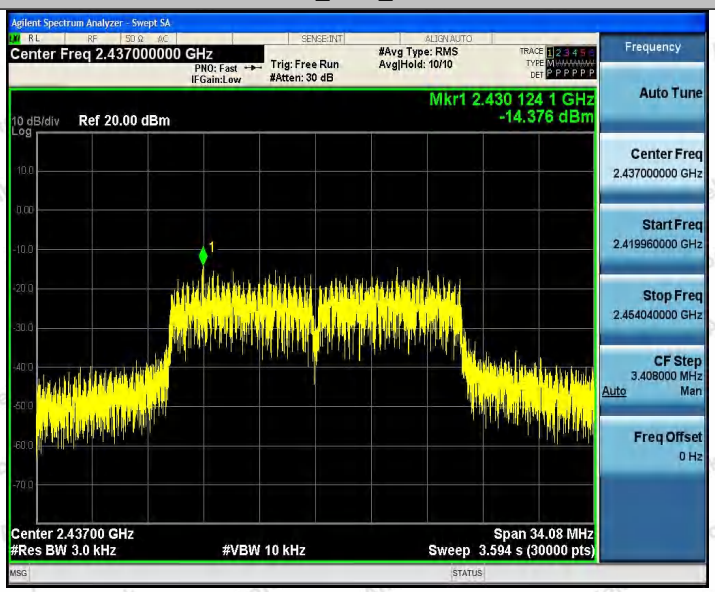
11B_Ant1_2462



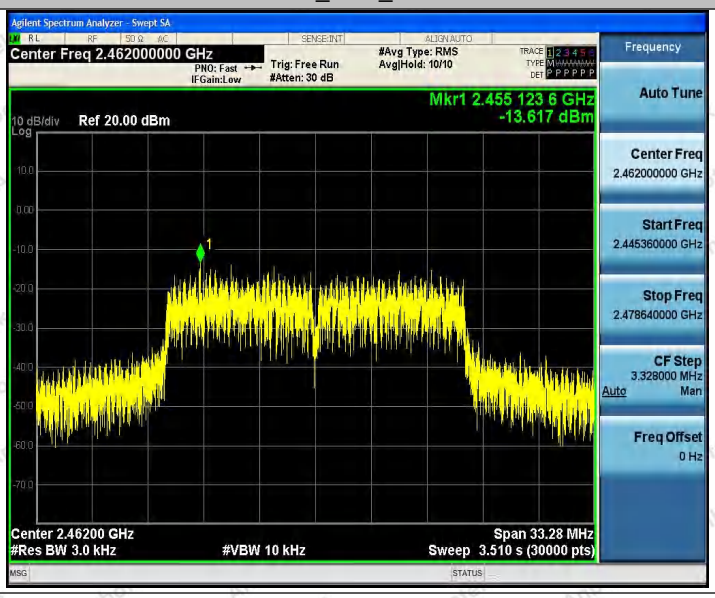
11G_Ant1_2412



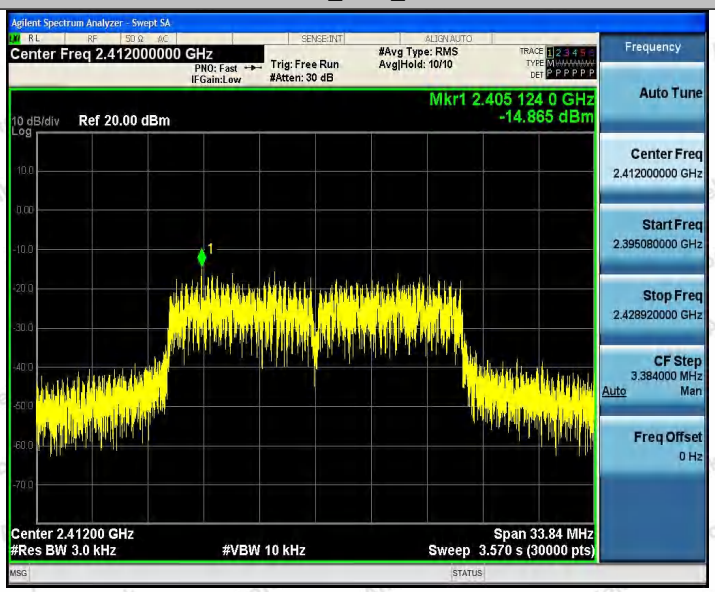
11G_Ant1_2437



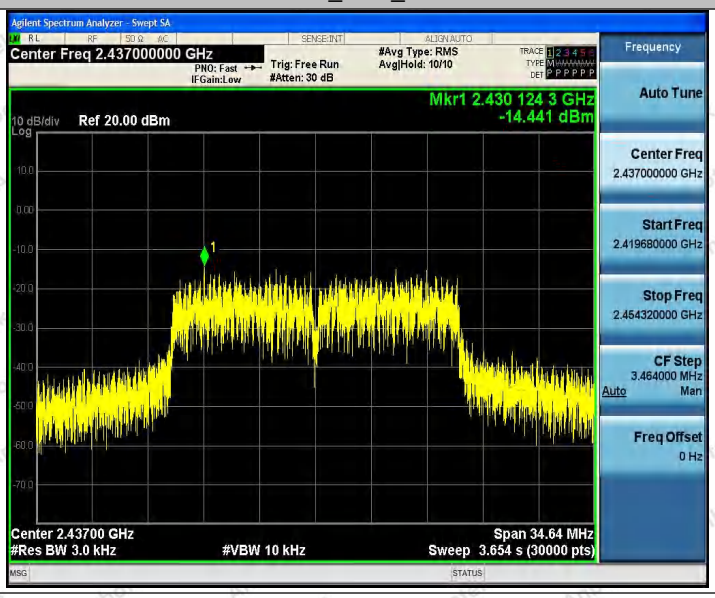
11G_Ant1_2462



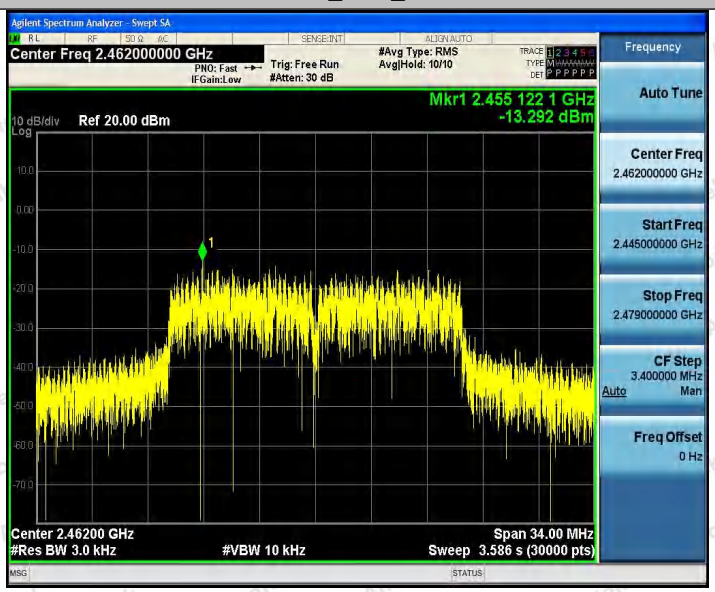
11N20_Ant1_2412



11N20_Ant1_2437



11N20_Ant1_2462



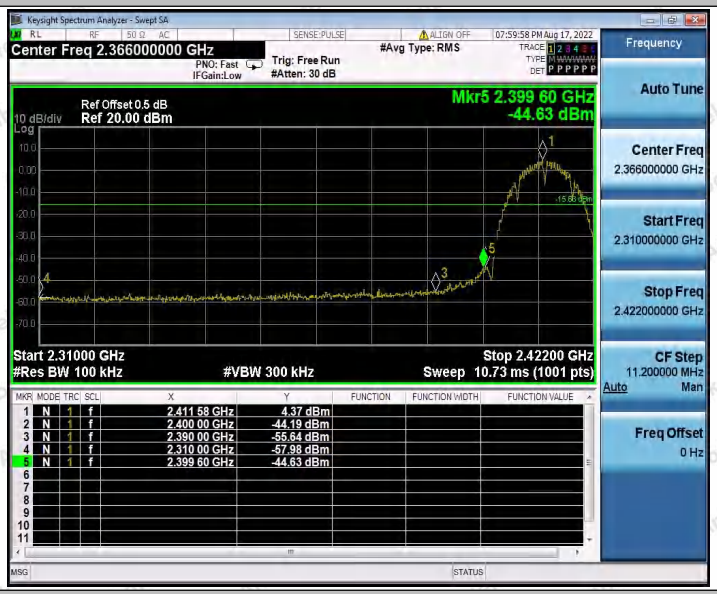
Appendix E: Band edge measurements

Test Result

Test Mode	Antenna	Ch Name	Frequency[MHz]	Ref Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
11b	Ant1	Low	2412	4.37	-44.63	≤-15.63	PASS
		High	2462	4.90	-53.74	≤-15.1	PASS
11g	Ant1	Low	2412	-3.43	-38.04	≤-23.43	PASS
		High	2462	-2.95	-54.34	≤-22.95	PASS
11n20	Ant1	Low	2412	-3.24	-36.33	≤-23.24	PASS
		High	2462	-2.66	-54.86	≤-22.66	PASS

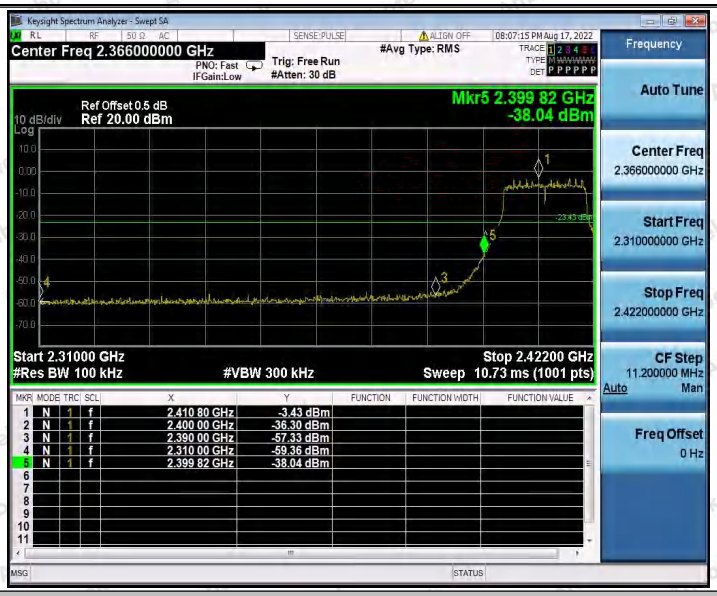
Test Graphs

11b_Ant1_Low_2412

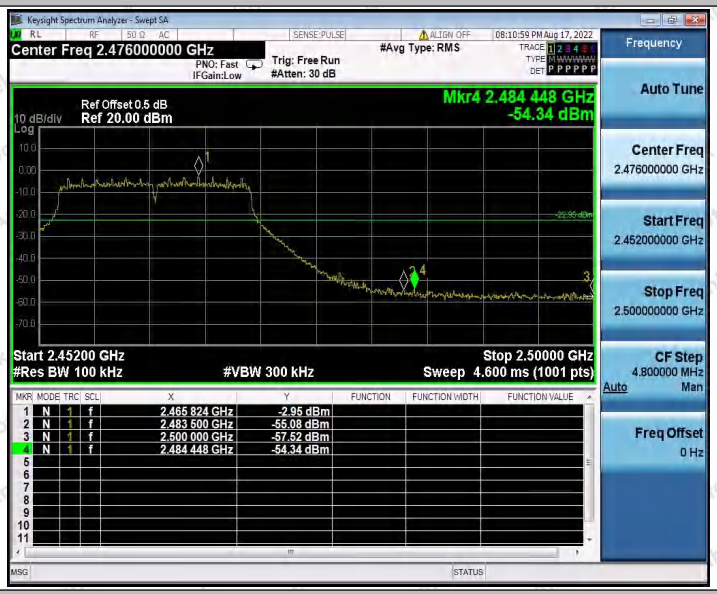


11b_Ant1_High_2462

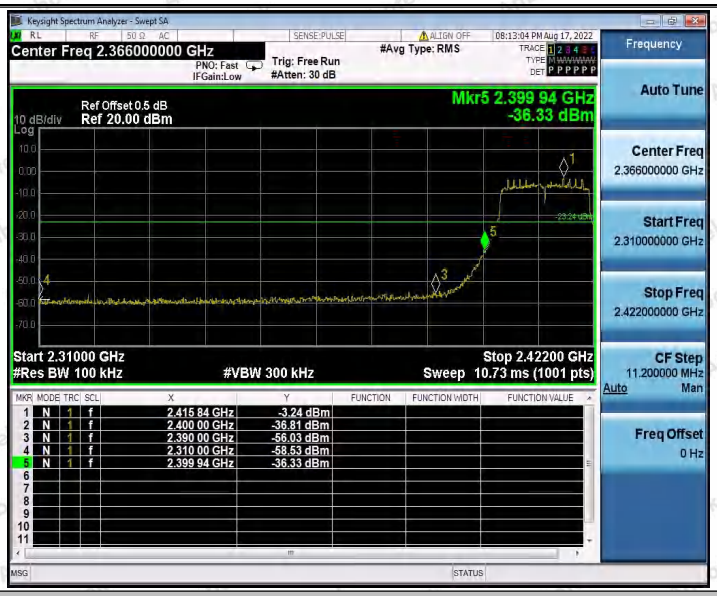
11g_Ant1_Low_2412



11g_Ant1_High_2462



11n20_Ant1_Low_2412



11n20_Ant1_High_2462

Appendix F: Conducted Spurious Emission

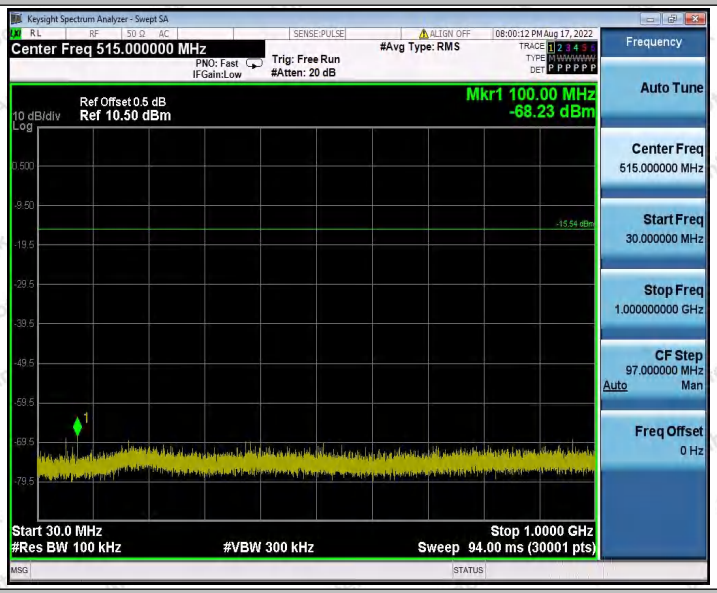
Test Result

Test Mode	Antenna	Frequency[MHz]	Freq Range [Mhz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11b	Ant1	2412	Reference	4.46	4.46	---	PASS
			30~1000	4.46	-68.23	≤-15.54	PASS
			1000~26500	4.46	-53.93	≤-15.54	PASS
		2437	Reference	4.71	4.71	---	PASS
			30~1000	4.71	-68.54	≤-15.29	PASS
			1000~26500	4.71	-54.12	≤-15.29	PASS
		2462	Reference	4.58	4.58	---	PASS
			30~1000	4.58	-67.94	≤-15.42	PASS
			1000~26500	4.58	-53.25	≤-15.42	PASS
11g	Ant1	2412	Reference	-2.65	-2.65	---	PASS
			30~1000	-2.65	-66.04	≤-22.65	PASS
			1000~26500	-2.65	-54.13	≤-22.65	PASS
		2437	Reference	-2.63	-2.63	---	PASS
			30~1000	-2.63	-66.45	≤-22.63	PASS
			1000~26500	-2.63	-53.53	≤-22.63	PASS
		2462	Reference	-2.34	-2.34	---	PASS
			30~1000	-2.34	-66.06	≤-22.34	PASS
			1000~26500	-2.34	-53.92	≤-22.34	PASS
11n20	Ant1	2412	Reference	-2.62	-2.62	---	PASS
			30~1000	-2.62	-66.17	≤-22.62	PASS
			1000~26500	-2.62	-54.14	≤-22.62	PASS
		2437	Reference	-2.96	-2.96	---	PASS
			30~1000	-2.96	-66.7	≤-22.96	PASS
			1000~26500	-2.96	-54.11	≤-22.96	PASS
		2462	Reference	-2.32	-2.32	---	PASS
			30~1000	-2.32	-65.2	≤-22.32	PASS
			1000~26500	-2.32	-53.68	≤-22.32	PASS

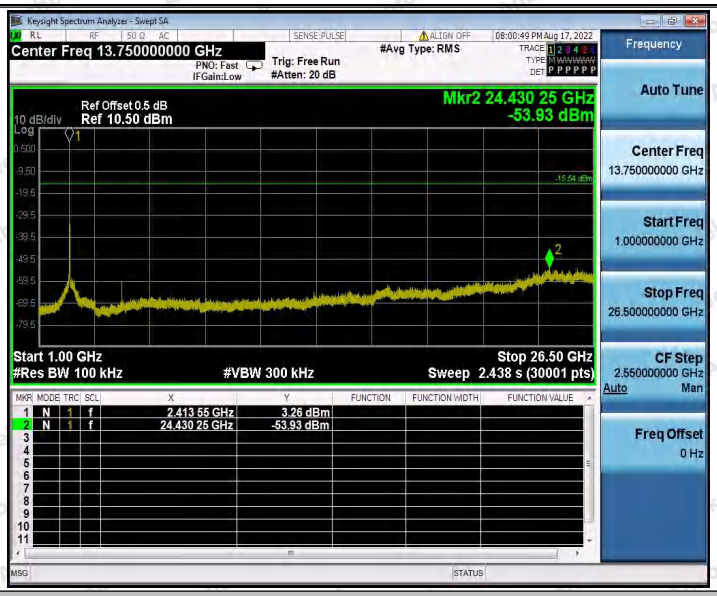
Test Graphs

11b_Ant1_2412_0~Reference

11b_Ant1_2412_30~1000

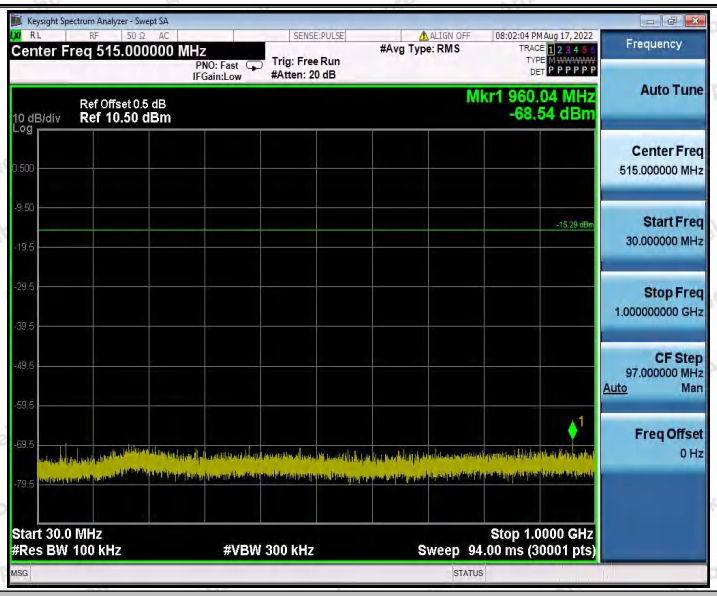


11b_Ant1_2412_1000~26500

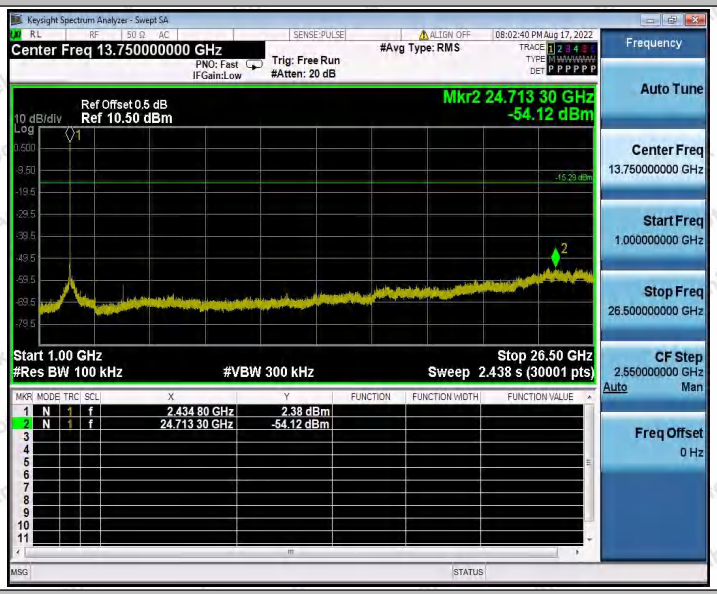


11b_Ant1_2437_0~Reference

11b_Ant1_2437_30~1000

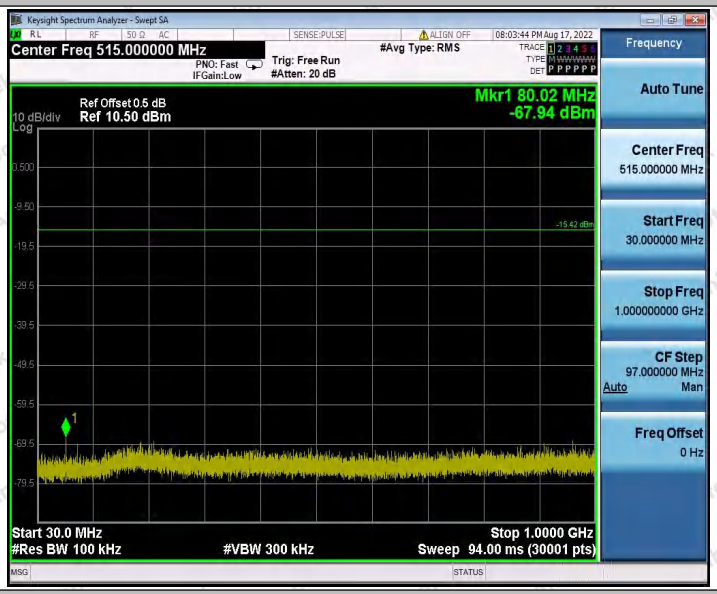


11b_Ant1_2437_1000~26500

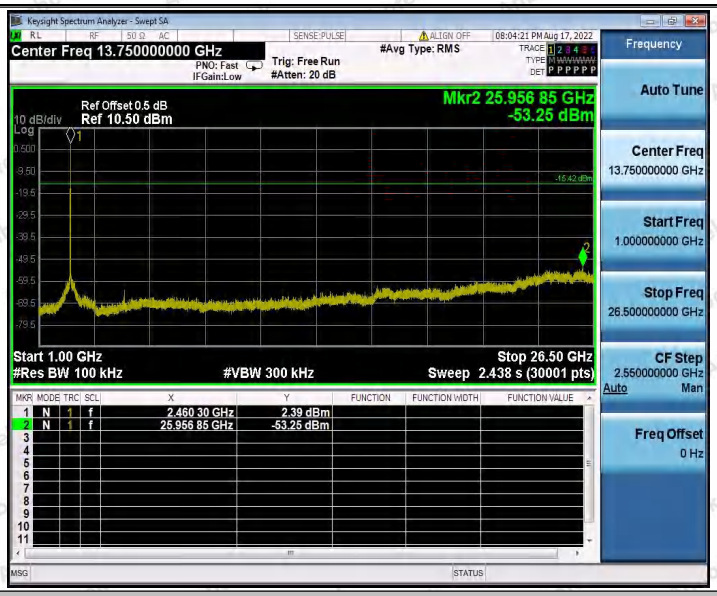


11b_Ant1_2462_0~Reference

11b_Ant1_2462_30~1000

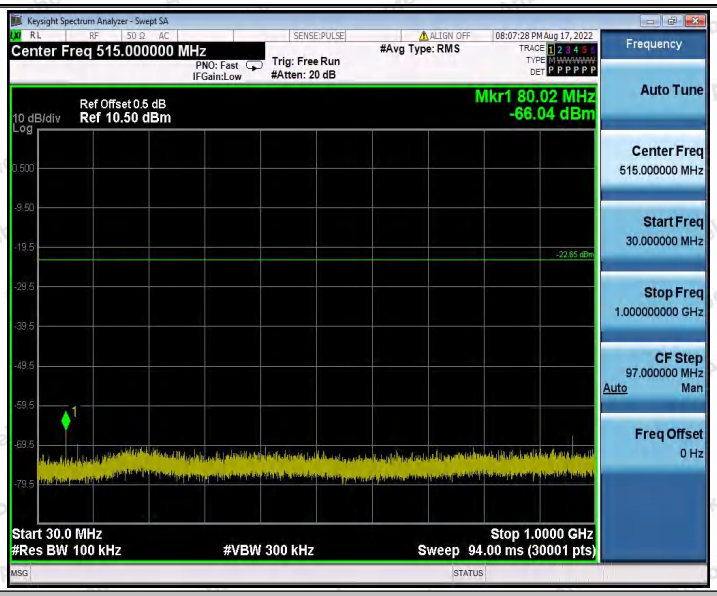


11b_Ant1_2462_1000~26500

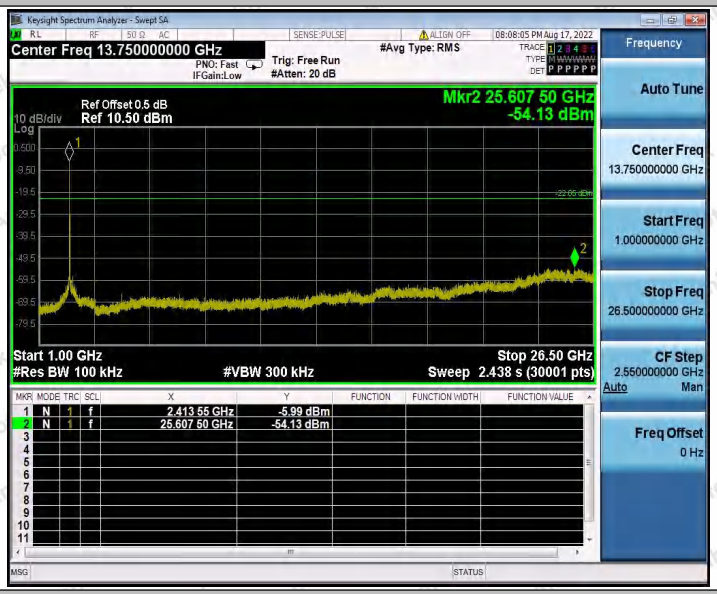


11g_Ant1_2412_0~Reference

11g_Ant1_2412_30~1000

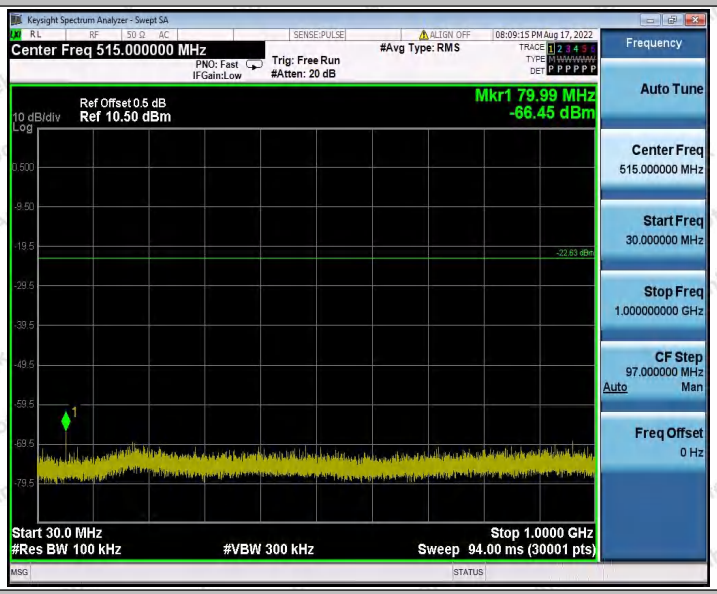


11g_Ant1_2412_1000~26500

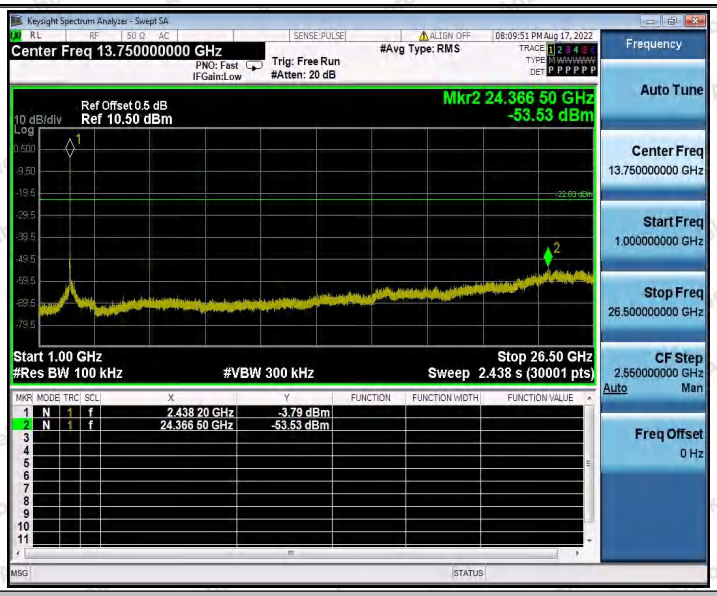


11g_Ant1_2437_0~Reference

11g_Ant1_2437_30~1000

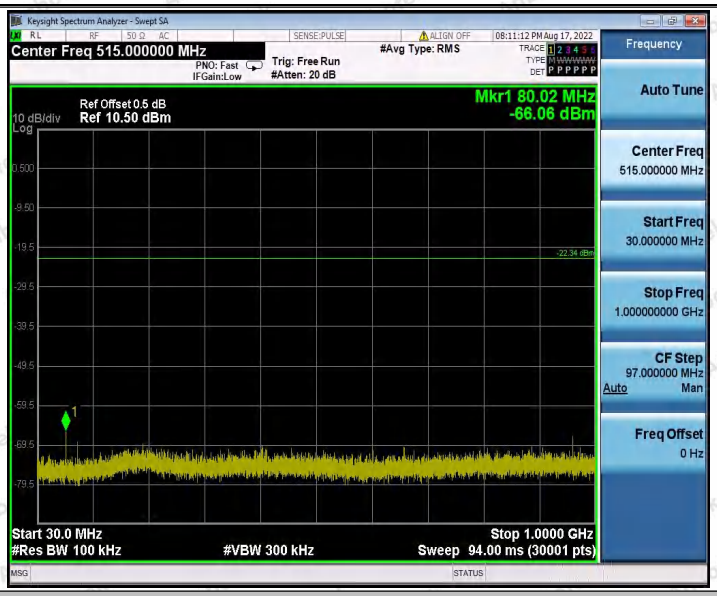


11g_Ant1_2437_1000~26500

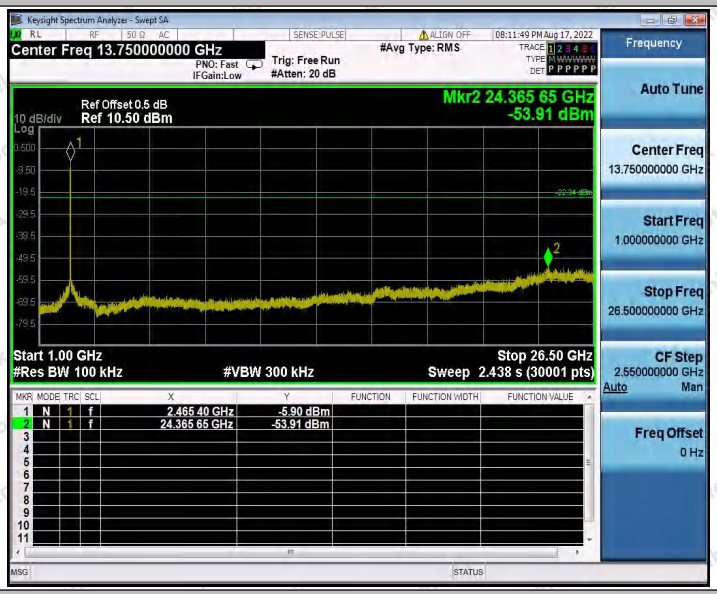


11g_Ant1_2462_0~Reference

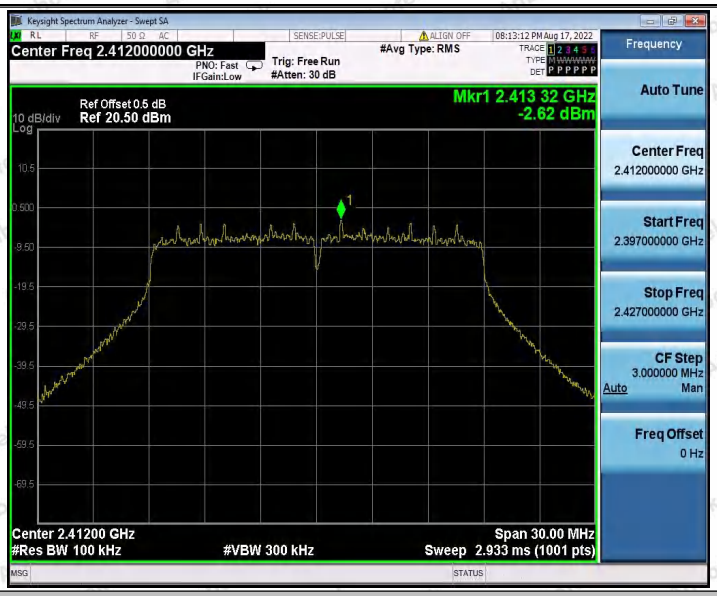
11g_Ant1_2462_30~1000



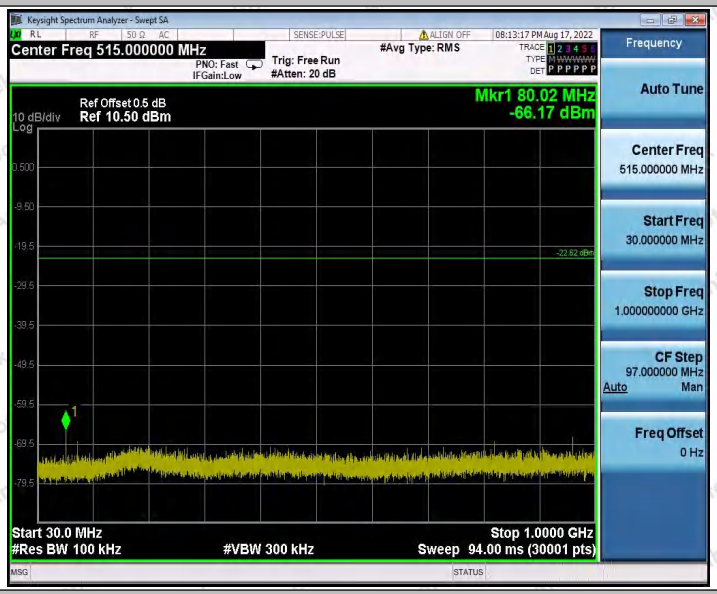
11g_Ant1_2462_1000~26500



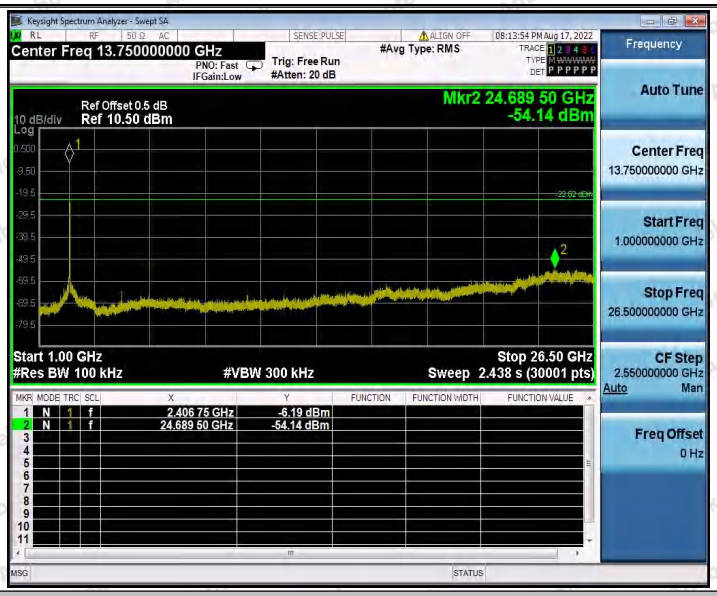
11n20_Ant1_2412_0~Reference



11n20_Ant1_2412_30~1000

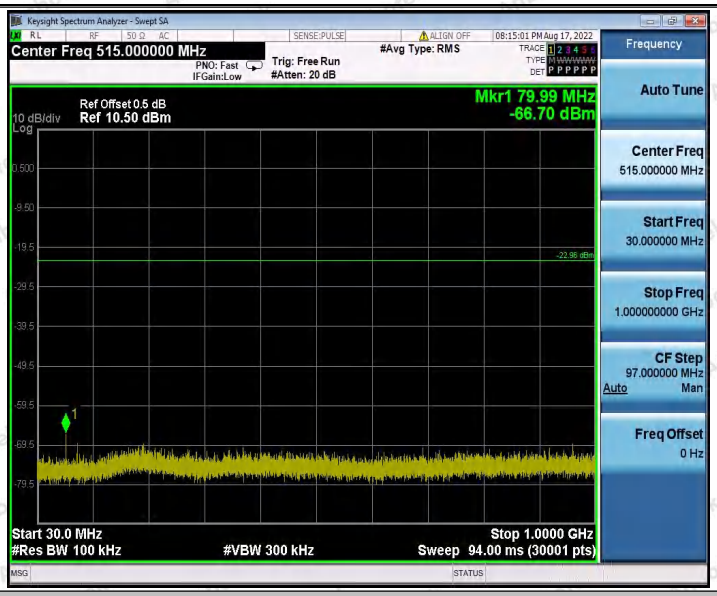


11n20_Ant1_2412_1000~26500

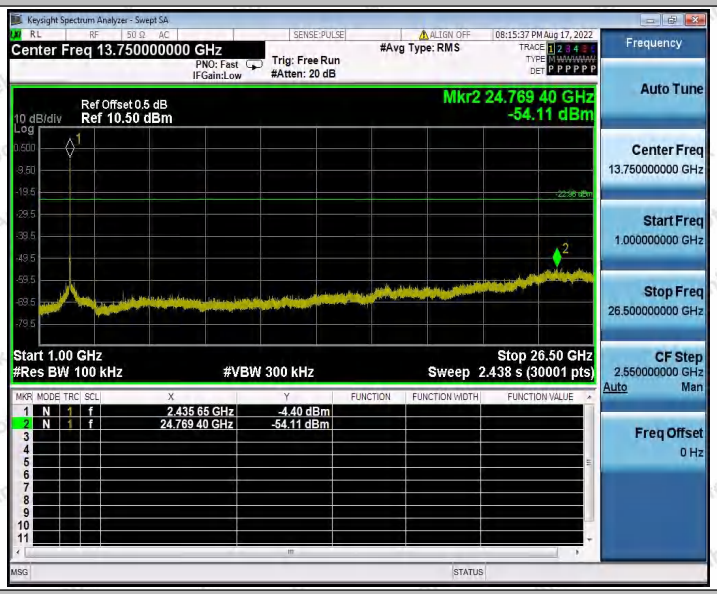


11n20_Ant1_2437_0~Reference

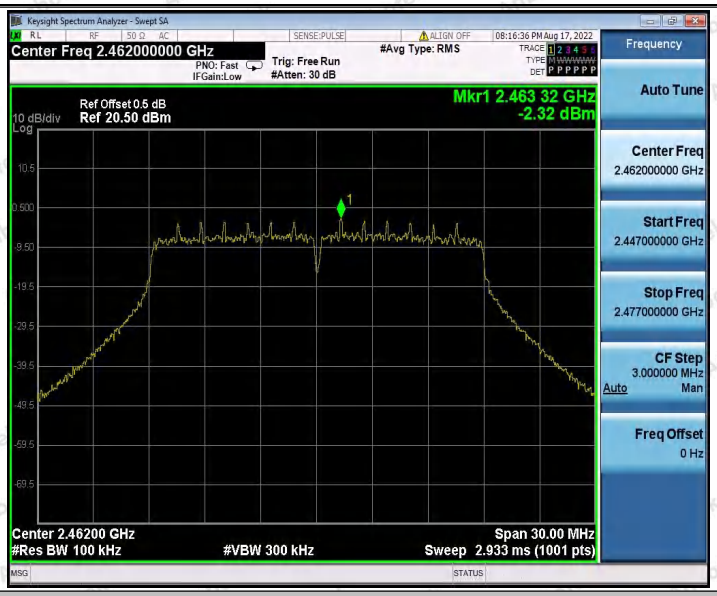
11n20_Ant1_2437_30~1000



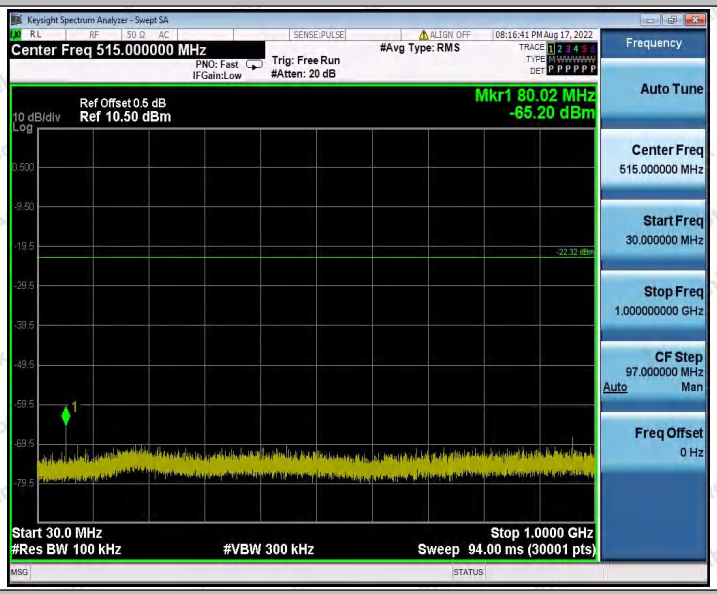
11n20_Ant1_2437_1000~26500



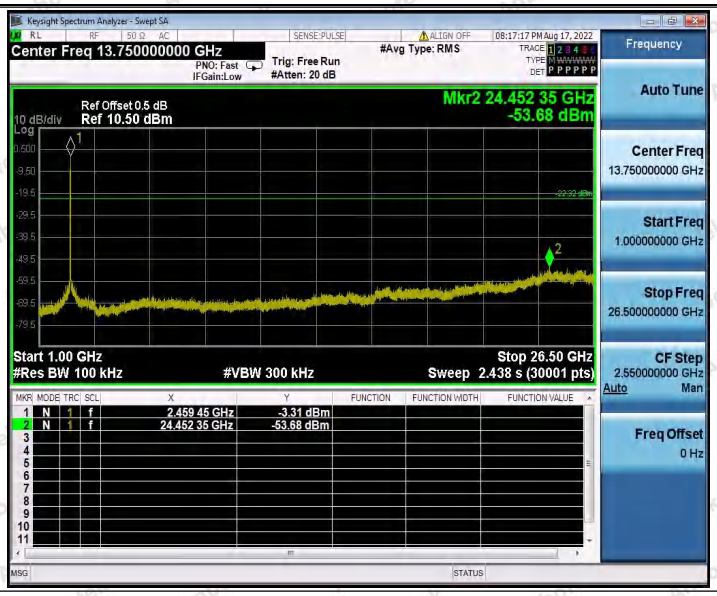
11n20_Ant1_2462_0~Reference



11n20_Ant1_2462_30~1000



11n20_Ant1_2462_1000~26500


Keysight Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
08:17:17 PM Aug 17, 2022
Ref Offset 0.5 dB
10 dB/div
Ref 10.50 dBm
Log
Mkr2 24.452 35 GHz
-53.68 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N 1 f 2.459 45 GHz -3.31 dBm
2 N 1 f 24.452 35 GHz -53.68 dBm
Frequency
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS

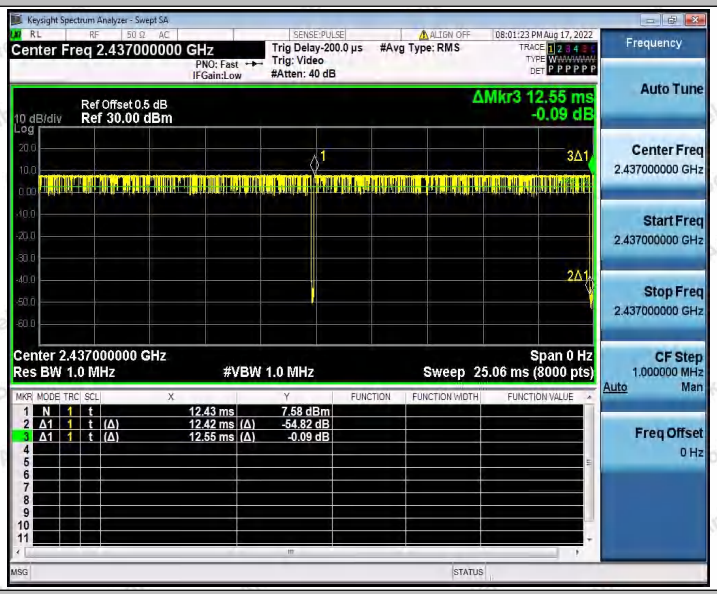
Appendix G: Duty Cycle

Test Result

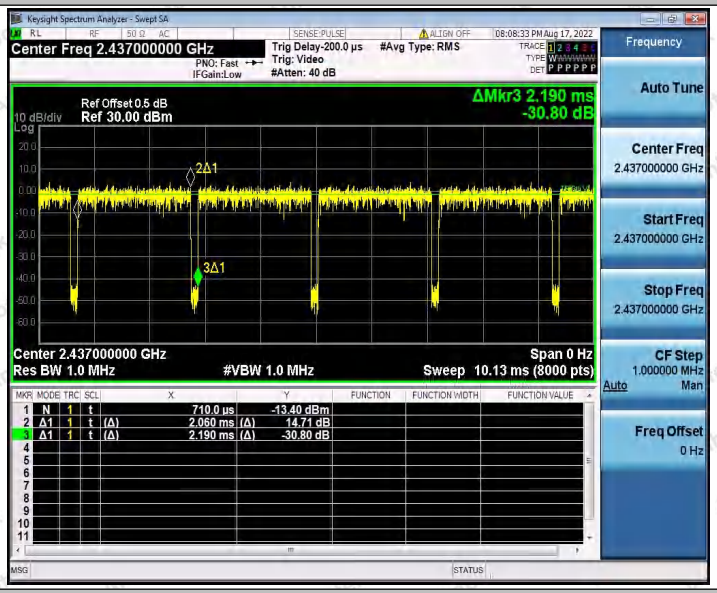
Test Mode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11b	Ant1	2437	12.42	12.55	98.96	0.05
11g	Ant1	2437	2.06	2.19	94.06	0.27
11n20	Ant1	2437	1.92	2.05	93.66	0.28

Test Graphs

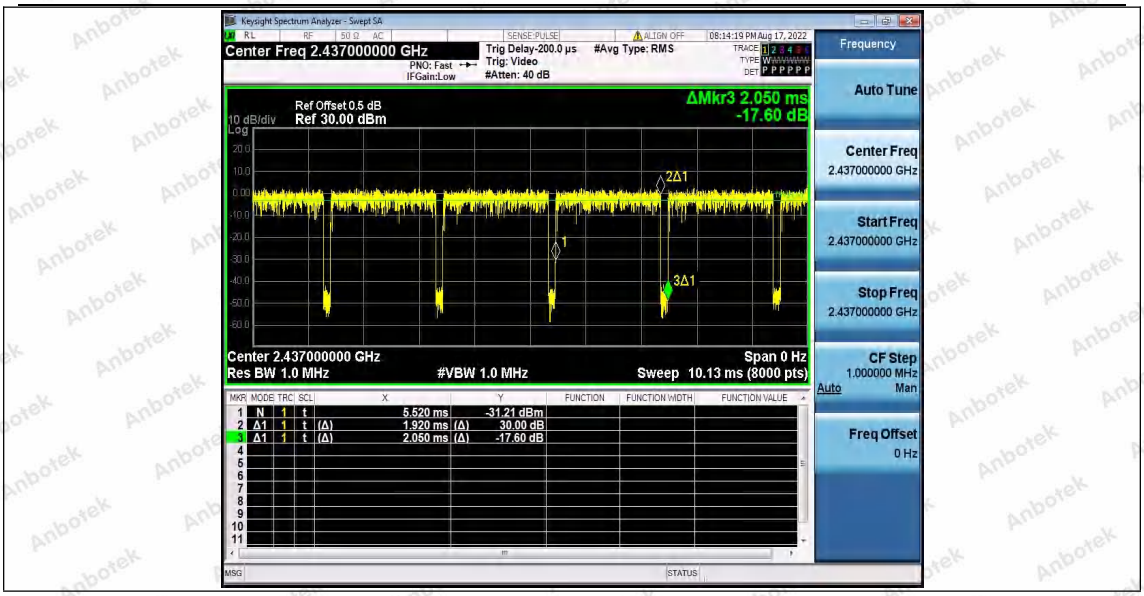
11b_Ant1_2437



11g_Ant1_2437



11n20_Ant1_2437


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.437000000 GHz
Trig Delay-200.0 µs
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
Ref Offset 0.5 dB
10 dB/div
Ref 30.00 dBm
ΔMkr3 2.050 ms
-17.60 dB
Center 2.437000000 GHz
Span 0 Hz
Res BW 1.0 MHz
#VBW 1.0 MHz
Sweep 10.13 ms (8000 pts)
1 N 1 t 5.520 ms -31.21 dBm
2 Δ1 1 t (Δ) 1.920 ms (Δ) 30.00 dB
3 Δ1 1 t (Δ) 2.050 ms (Δ) -17.60 dB
Frequency
Auto Tune
Center Freq
2.437000000 GHz
Start Freq
2.437000000 GHz
Stop Freq
2.437000000 GHz
CF Step
1.000000 MHz
Auto Man
Freq Offset
0 Hz

---End---