Appendix Test Data

Report No.:	18220WC20066902	Test Sample No.:	1-2-2
Start Test Date:	2022.4.1	Finish Test Date:	2022.4.7
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	24.3℃	Relative Humidity:	55.7 %
Pressure:	1012 hPa		

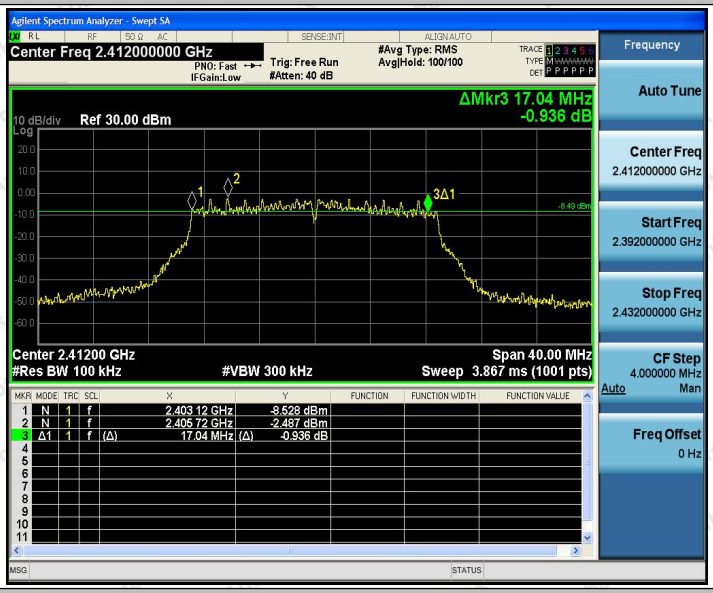
Appendix A: DTS Bandwidth

Test Result

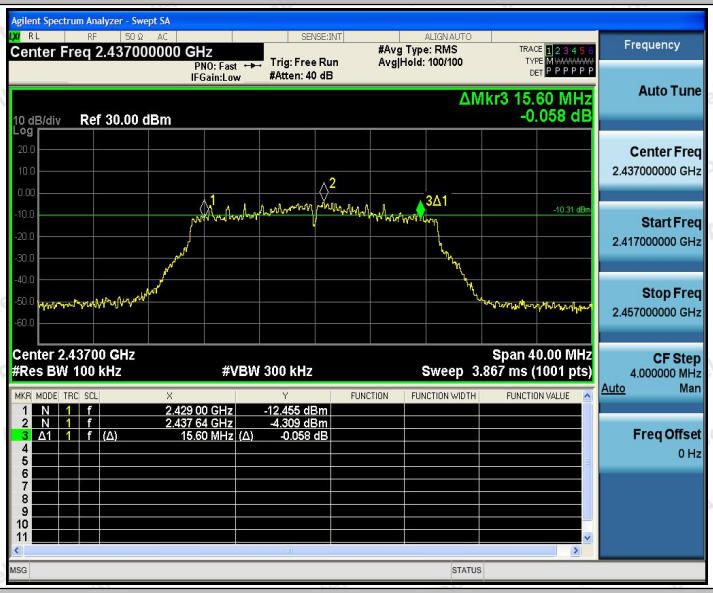
Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11N20	Ant1	2412	17.040	2403.120	2420.160	≥0.5	PASS
		2437	15.600	2429.000	2444.600	≥0.5	PASS
		2462	16.400	2454.360	2470.760	≥0.5	PASS

Test Graphs

11N20_Ant1_2412



11N20_Ant1_2437



11N20_Ant1_2462

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
ΔMkr3 16.40 MHz
0.577 dB
10 dB/div
Ref 30.00 dBm
Center 2.46200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 40.00 MHz
Sweep 3.867 ms (1001 pts)
1 N 1 f 2.454 36 GHz -9.766 dBm
2 N 1 f 2.463 20 GHz -3.113 dBm
3 Δ1 1 f (Δ) 16.40 MHz (Δ) 0.577 dB
Frequency
Auto Tune
Center Freq
2.462000000 GHz
Start Freq
2.442000000 GHz
Stop Freq
2.482000000 GHz
CF Step
4.000000 MHz
Auto Man
Freq Offset
0 Hz

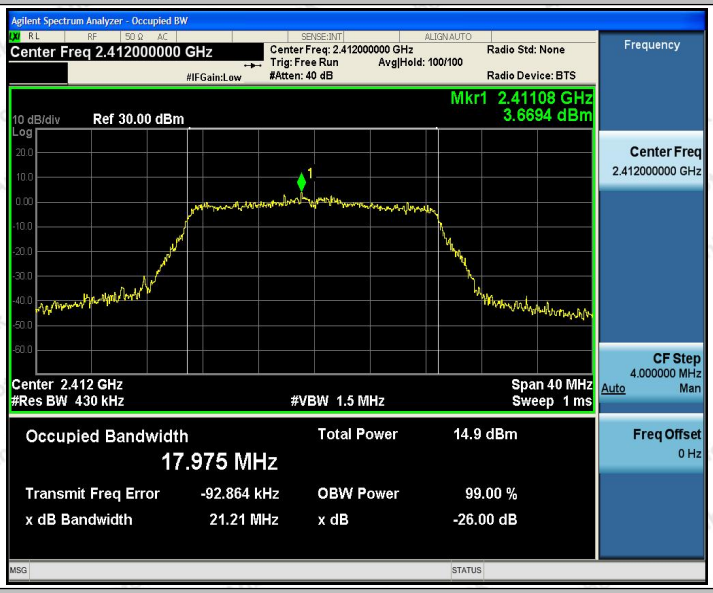
Appendix B: Occupied Channel Bandwidth

Test Result

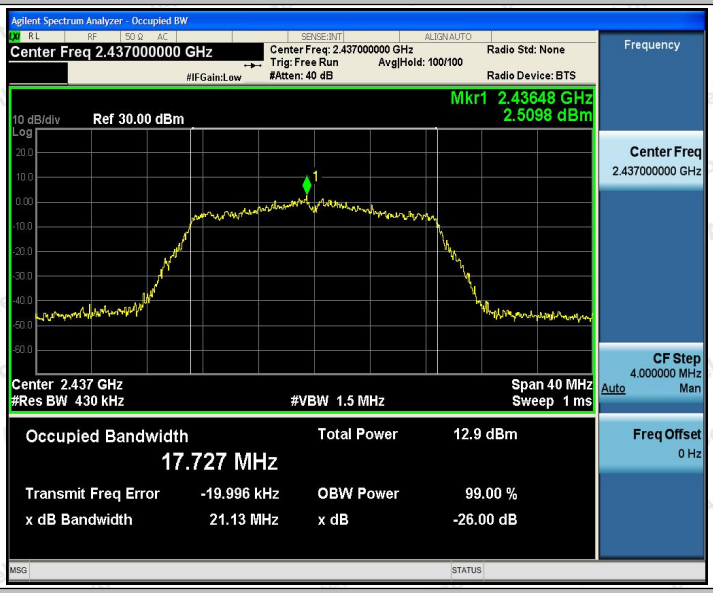
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11N20	Ant1	2412	17.975	2402.920	2420.895	---	PASS
		2437	17.727	2428.117	2445.844	---	PASS
		2462	17.949	2453.084	2471.033	---	PASS

Test Graphs

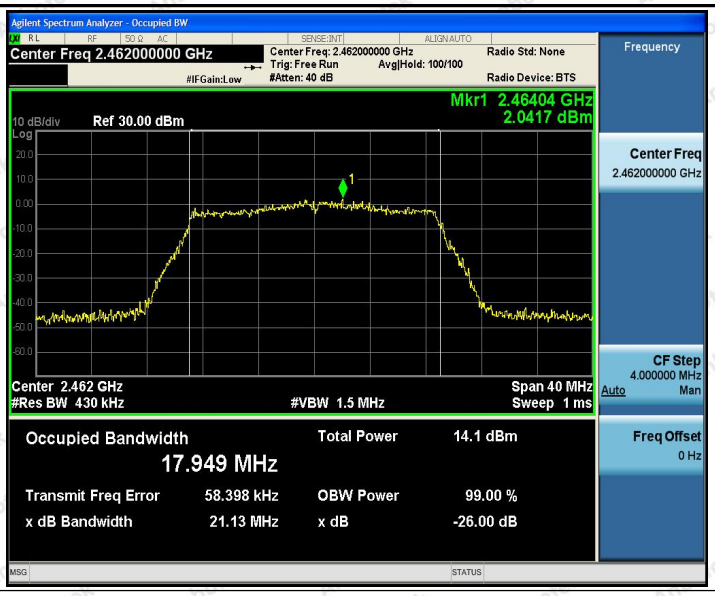
11N20_Ant1_2412



11N20_Ant1_2437



11N20_Ant1_2462


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.462000000 GHz
Center Freq: 2.462000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.46404 GHz
2.0417 dBm
10 dB/div
Ref 30.00 dBm
Center 2.462 GHz
#Res BW 430 kHz
#VBW 1.5 MHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
17.949 MHz
Total Power 14.1 dBm
Transmit Freq Error 58.398 kHz
OBW Power 99.00 %
x dB Bandwidth 21.13 MHz
x dB -26.00 dB
Frequency
Center Freq
2.462000000 GHz
CF Step
4.000000 MHz
Auto Man
Freq Offset
0 Hz

Appendix C: Maximum conducted output power

Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11N20	Ant1	2412	15.58	≤28.45	PASS
		2437	13.54	≤28.45	PASS
		2462	15.00	≤28.45	PASS

Note:Limit[dBm]=30dBm-(7.55dBi-6dB)=28.45dBm

Appendix D: Maximum power spectral density

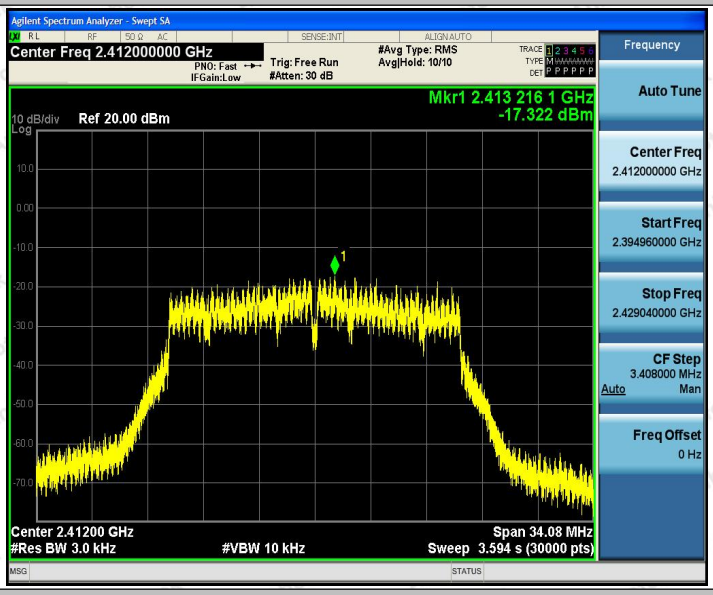
Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11N20	Ant1	2412	-17.32	≤6.45	PASS
		2437	-16.44	≤6.45	PASS
		2462	-17.05	≤6.45	PASS

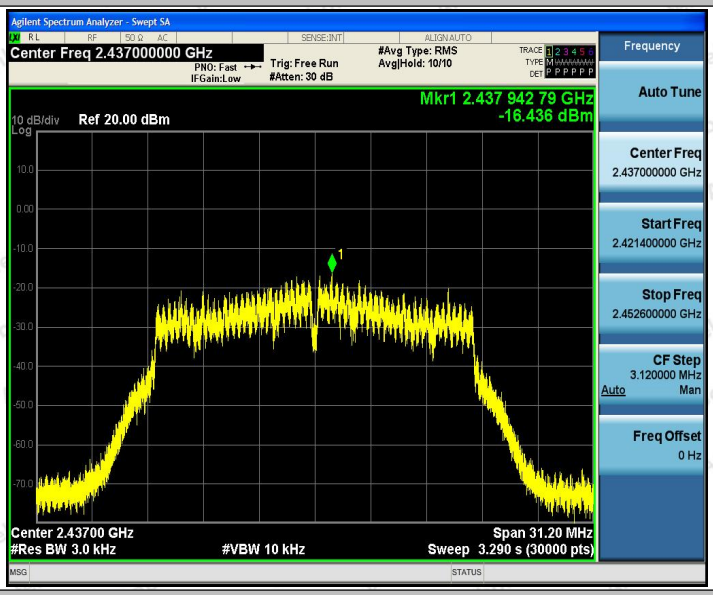
Note:Limit[dBm/3KHz]=8[dBm/3KHz]-(Gain7.55dBi-6dB)=8-1.55=6.45[dBm/3KHz]

Test Graphs

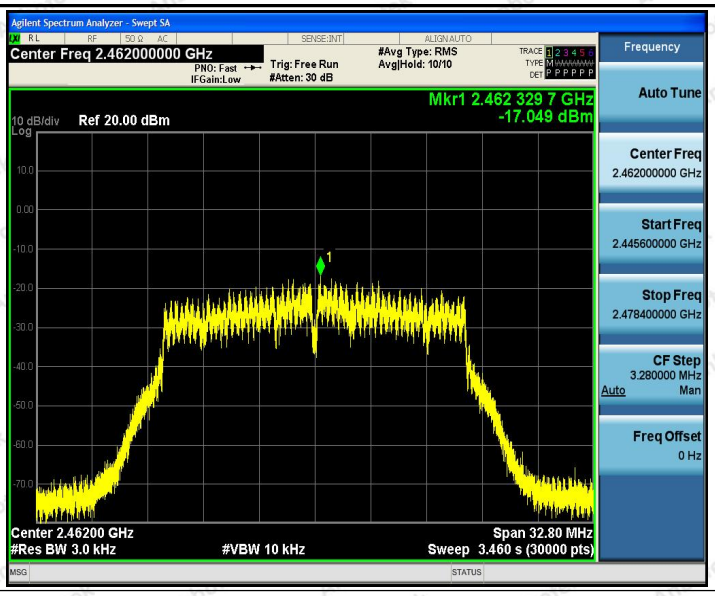
11N20_Ant1_2412



11N20_Ant1_2437



11N20_Ant1_2462


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
Mkr1 2.462 329 7 GHz
-17.049 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 2.46200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 32.80 MHz
Sweep 3.460 s (30000 pts)
Frequency
Auto Tune
Center Freq
2.462000000 GHz
Start Freq
2.445600000 GHz
Stop Freq
2.478400000 GHz
CF Step
3.280000 MHz
Auto
Man
Freq Offset
0 Hz

Appendix E: Band edge measurements

Test Result

Test Mode	Antenna	Ch Name	Channel	Ref Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
11N20	Ant1	Low	2412	-2.78	-39.24	≤-22.78	PASS
		High	2462	-3.15	-53.22	≤-23.15	PASS

Test Graphs

11N20_Ant1_Low_2412

11N20_Ant1_High_2462

Appendix F: Conducted Spurious Emission

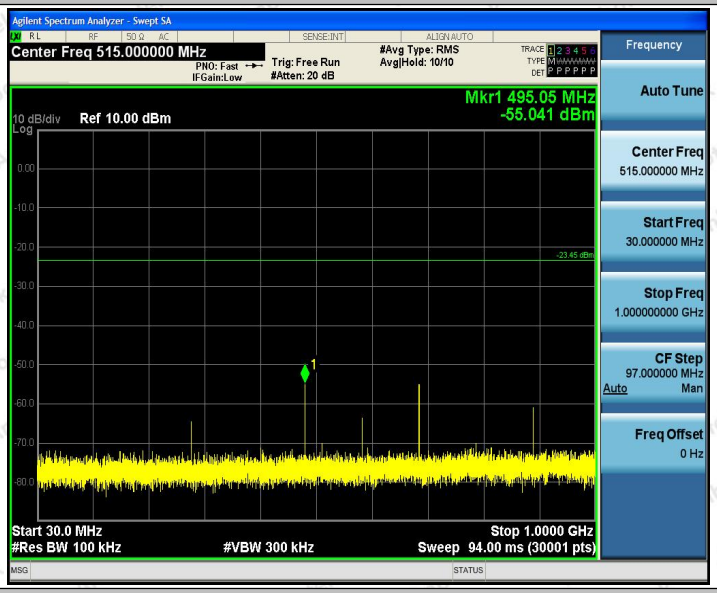
Test Result

Test Mode	Antenna	Channel	Freq Range [Mhz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11N20	Ant1	2412	Reference	-3.45	-3.45	---	PASS
			30~1000	-3.45	-55.04	≤-23.45	PASS
			1000~26500	-3.45	-54.63	≤-23.45	PASS
		2437	Reference	-2.89	-2.89	---	PASS
			30~1000	-2.89	-54.97	≤-22.89	PASS
			1000~26500	-2.89	-55.56	≤-22.89	PASS
		2462	Reference	-4.01	-4.01	---	PASS
			30~1000	-4.01	-54.84	≤-24.01	PASS
			1000~26500	-4.01	-54.19	≤-24.01	PASS

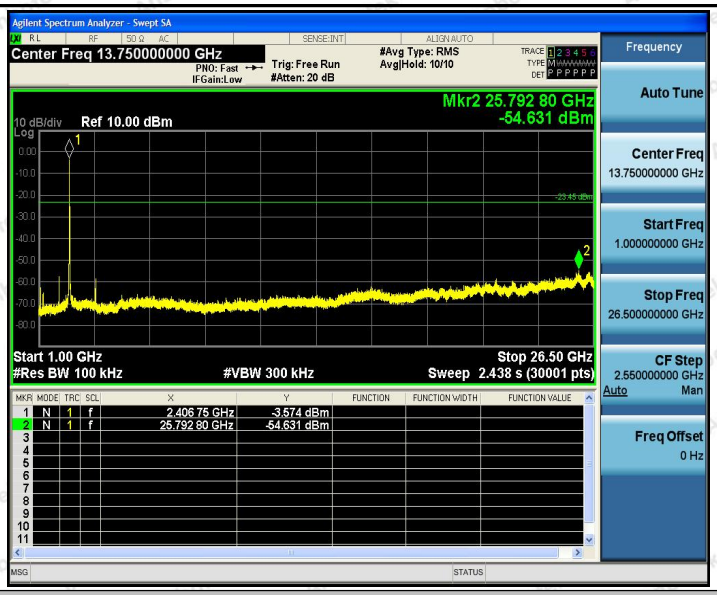
Test Graphs

11N20_Ant1_2412_0~Reference

11N20_Ant1_2412_30~1000

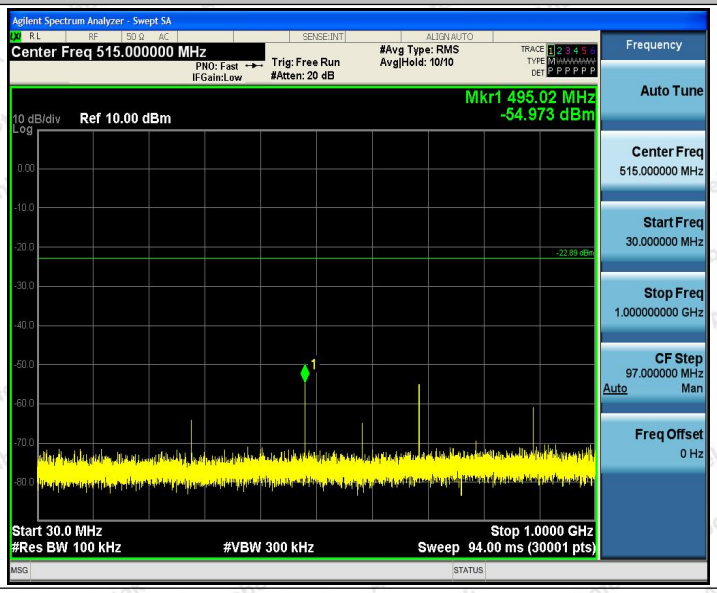


11N20_Ant1_2412_1000~26500

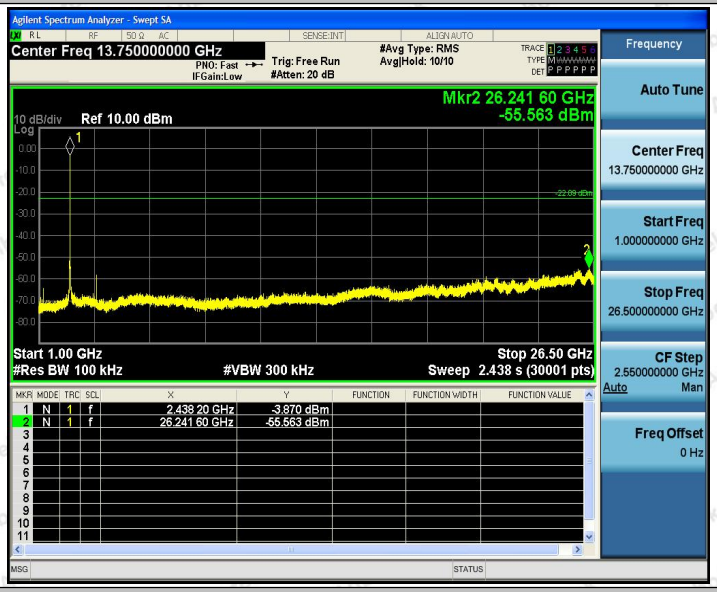


11N20_Ant1_2437_0~Reference

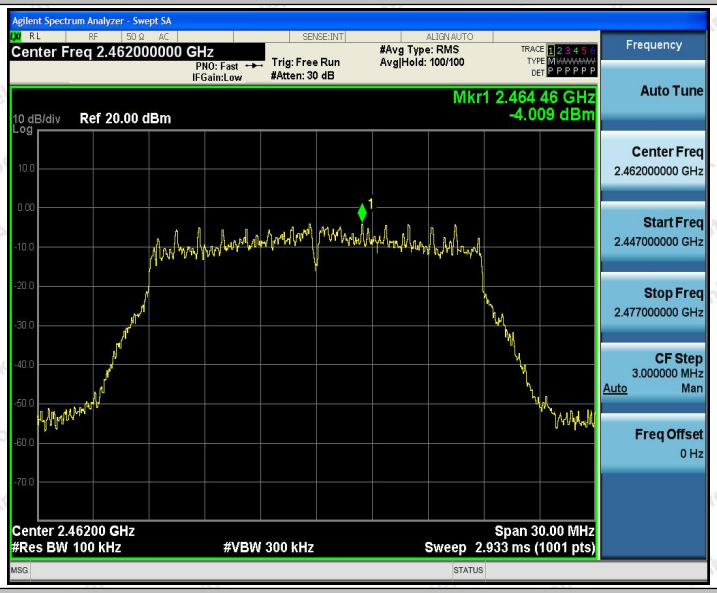
11N20_Ant1_2437_30~1000



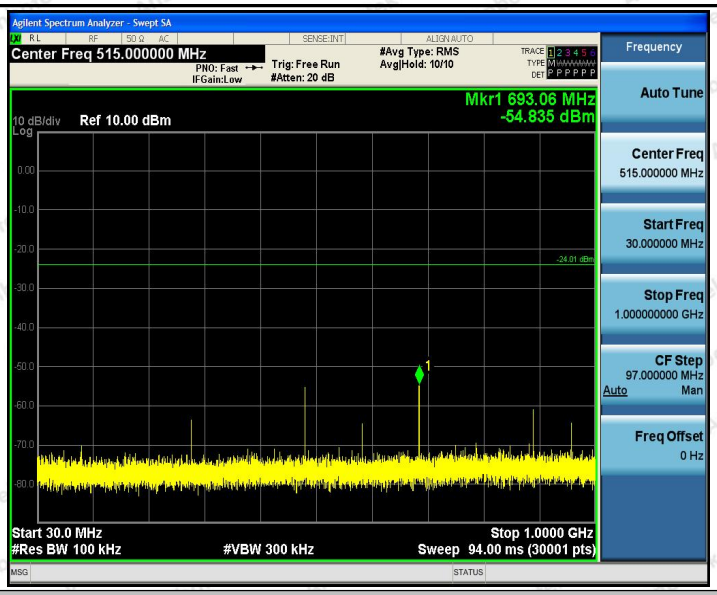
11N20_Ant1_2437_1000~26500



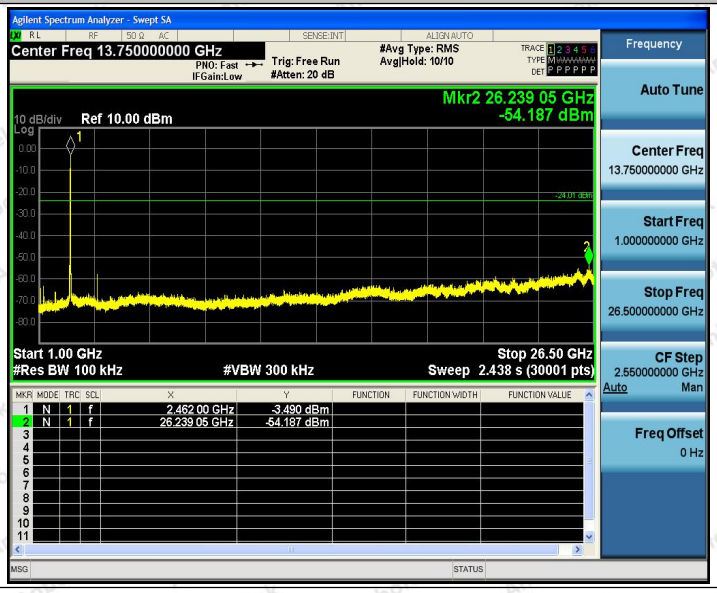
11N20_Ant1_2462_0~Reference



11N20_Ant1_2462_30~1000



11N20_Ant1_2462_1000~26500



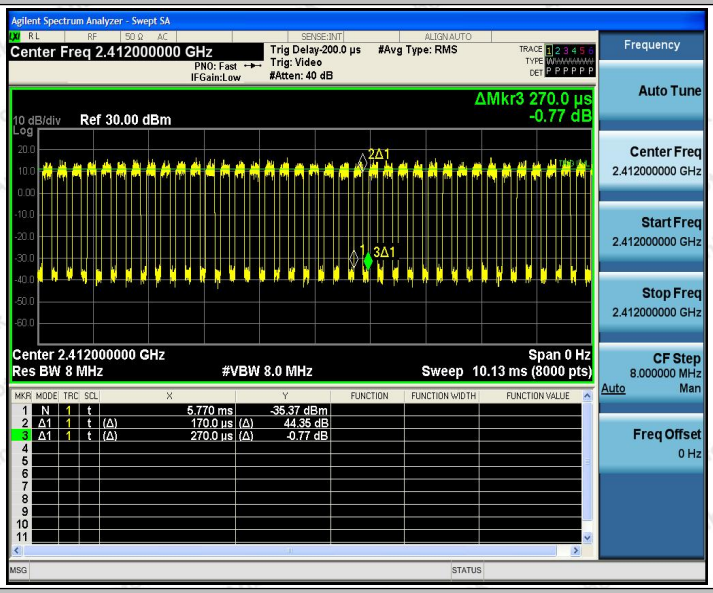
Appendix G: Duty Cycle

Test Result

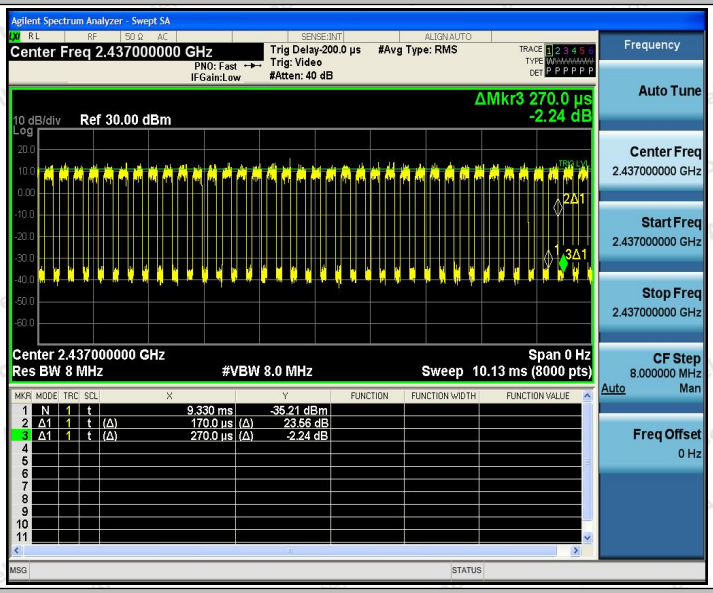
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11N20	Ant1	2412	0.17	0.27	62.96	---	PASS
		2437	0.17	0.27	62.96	---	PASS
		2462	0.17	0.28	60.71	---	PASS

Test Graphs

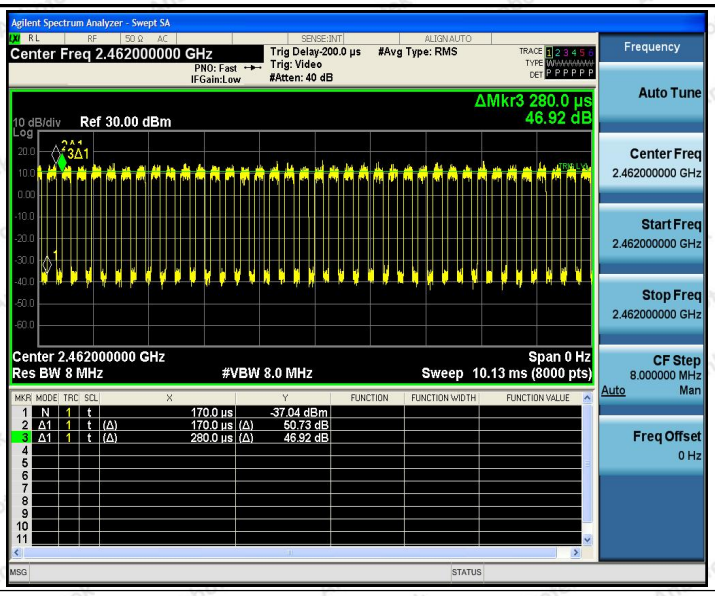
11N20_Ant1_2412



11N20_Ant1_2437



11N20_Ant1_2462


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-200.0 µs
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
ΔMkr3 280.0 µs
46.92 dB
10 dB/div
Ref 30.00 dBm
Center 2.462000000 GHz
Span 0 Hz
Res BW 8 MHz
#VBW 8.0 MHz
Sweep 10.13 ms (8000 pts)
1 N 1 t 170.0 µs -37.04 dBm
2 Δ1 1 t (Δ) 170.0 µs (Δ) 50.73 dB
3 Δ1 1 t (Δ) 280.0 µs (Δ) 46.92 dB
Frequency
Auto Tune
Center Freq
2.462000000 GHz
Start Freq
2.462000000 GHz
Stop Freq
2.462000000 GHz
CF Step
8.000000 MHz
Auto Man
Freq Offset
0 Hz

---End---