Appendix Test Data

Report No.:	18220WC20106801	Test Sample No.:	1-2-2
Start Test Date:	2022.5.17	Finish Test Date:	2022.5.25
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	24.3℃	Relative Humidity:	57.2%
Pressure:	1012 hPa		

Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
2.4G	Ant1	2408	1.320	2407.405	2408.725	---	PASS
		2440	1.670	2439.005	2440.675	---	PASS
		2474	1.265	2473.410	2474.675	---	PASS

Test Graphs

2.4_Ant1_2408

2.4_Ant1_2440

2.4_Ant1_2474

Agilent Spectrum Analyzer - Swept SA
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
ΔMkr3 1.265 MHz
-4.183 dB
10 dB/div Ref 30.00 dBm
Log
-19.32 dBm
Center 2.474000 GHz
#Res BW 20 kHz
#VBW 62 kHz
Span 5.000 MHz
Sweep 11.93 ms (1001 pts)
1 N 1 f 2.473 410 GHz -20.961 dBm
2 N 1 f 2.474 505 GHz 0.681 dBm
3 Δ1 1 f (Δ) 1.265 MHz (Δ) -4.183 dB
Span
Span
5.00000000 MHz
Full Span
Zero Span
Last Span
Signal Track
(Span Zoom)
On Off
MSG
STATUS

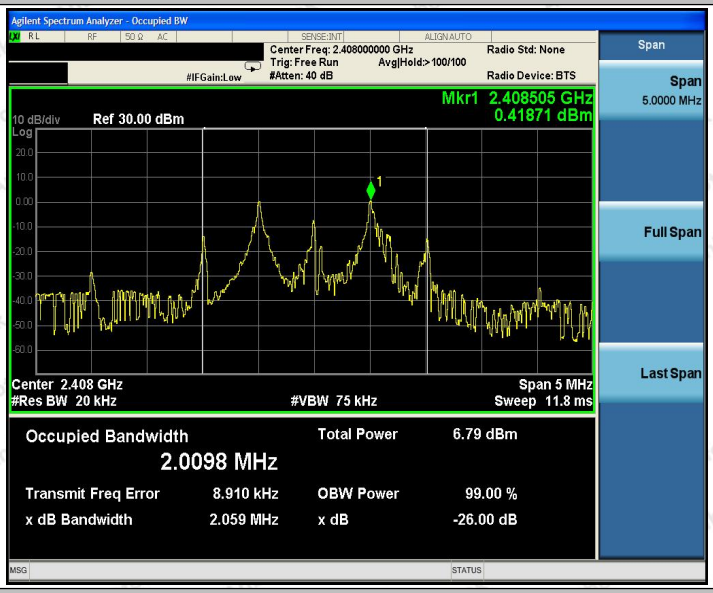
Appendix B: Occupied Channel Bandwidth

Test Result

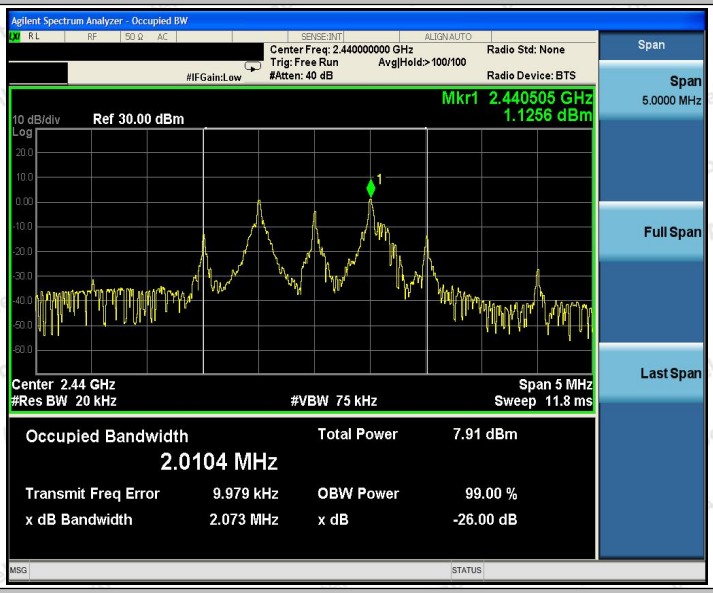
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
2.4G	Ant1	2408	2.0098	2407.004	2409.014	---	PASS
		2440	2.0104	2439.012	2441.022	---	PASS
		2474	1.9889	2473.025	2475.014	---	PASS

Test Graphs

2.4_Ant1_2408



2.4_Ant1_2440



2.4_Ant1_2474

Agilent Spectrum Analyzer - Occupied BW
Center Freq: 2.474000000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.474505 GHz
0.81799 dBm
10 dB/div
Ref 30.00 dBm
Center 2.474 GHz
#Res BW 20 kHz
#VBW 75 kHz
Span 5 MHz
Sweep 11.8 ms
Occupied Bandwidth
1.9889 MHz
Total Power 7.35 dBm
Transmit Freq Error 18.645 kHz
OBW Power 99.00 %
x dB Bandwidth 2.069 MHz
x dB -26.00 dB
Span
Span 5.0000 MHz
Full Span
Last Span

Appendix C: Maximum conducted output power

Test Result

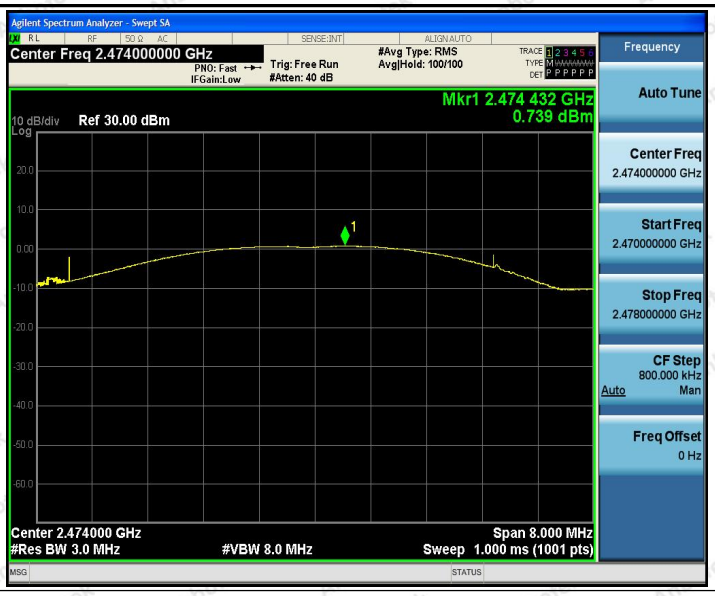
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
2.4G	Ant1	2408	0.43	≤20.97	PASS
		2440	1.12	≤20.97	PASS
		2474	0.74	≤20.97	PASS

Test Graphs

2.4_Ant1_2408

2.4_Ant1_2440

2.4_Ant1_2474


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.474000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
Mkr1 2.474 432 GHz
0.739 dBm
10 dB/div
Log
Ref 30.00 dBm
Center 2.474000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 8.000 MHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.474000000 GHz
Start Freq
2.470000000 GHz
Stop Freq
2.478000000 GHz
CF Step
800.000 kHz
Auto
Man
Freq Offset
0 Hz

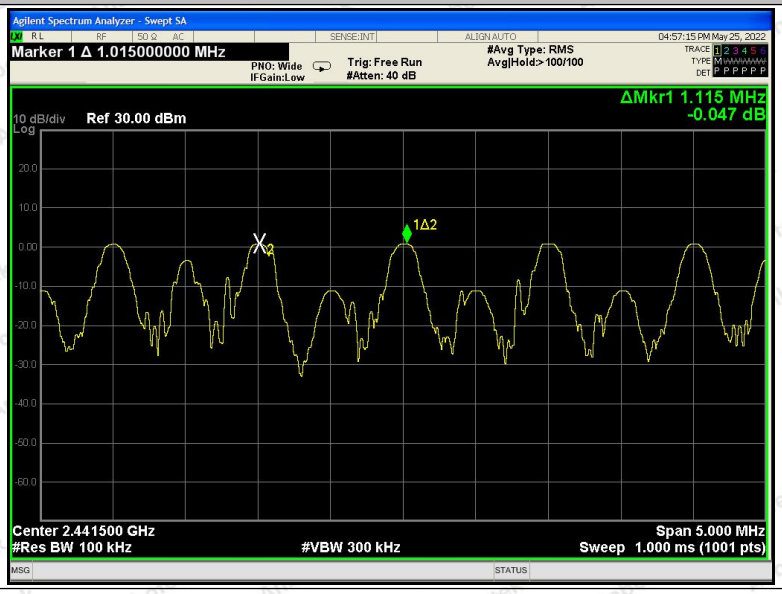
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
2.4G	Ant1	Hop	1.115	≥1.113	PASS

Test Graphs

2.4_Ant1_Hop

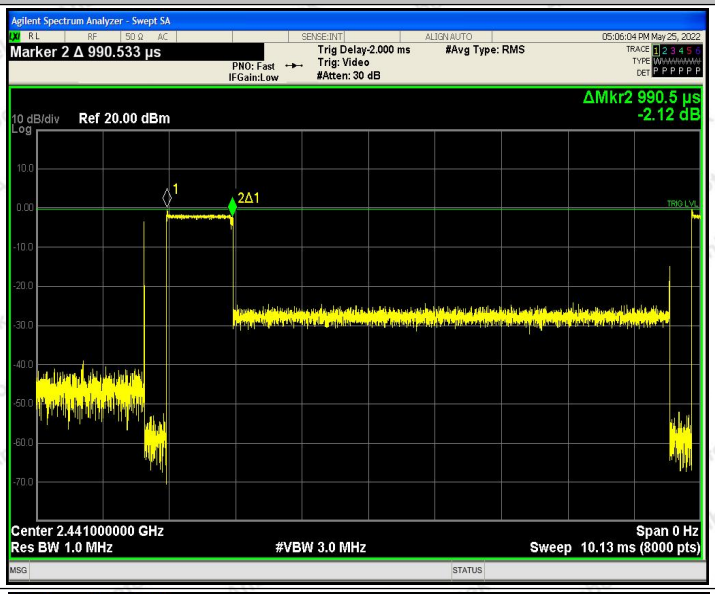
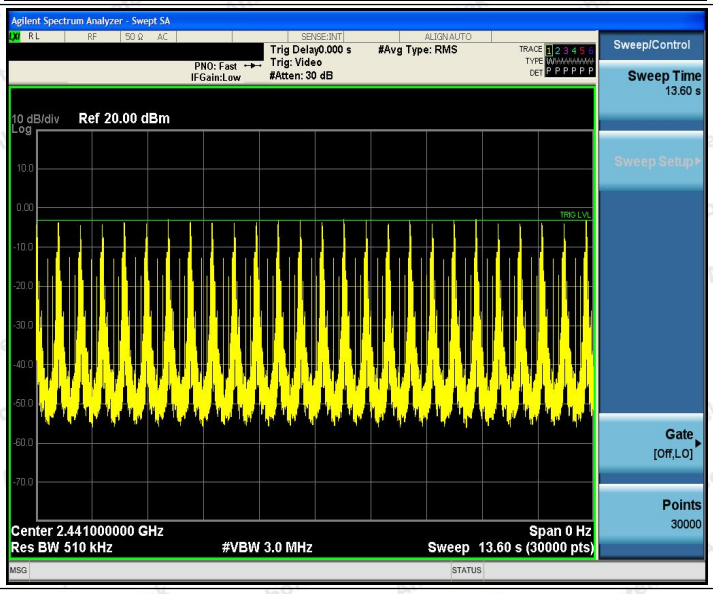


Appendix E: Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
2.4G	Ant1	Hop	0.99	28	0.03	≤0.4	PASS

Test Graphs

DH5_Ant1_Hop



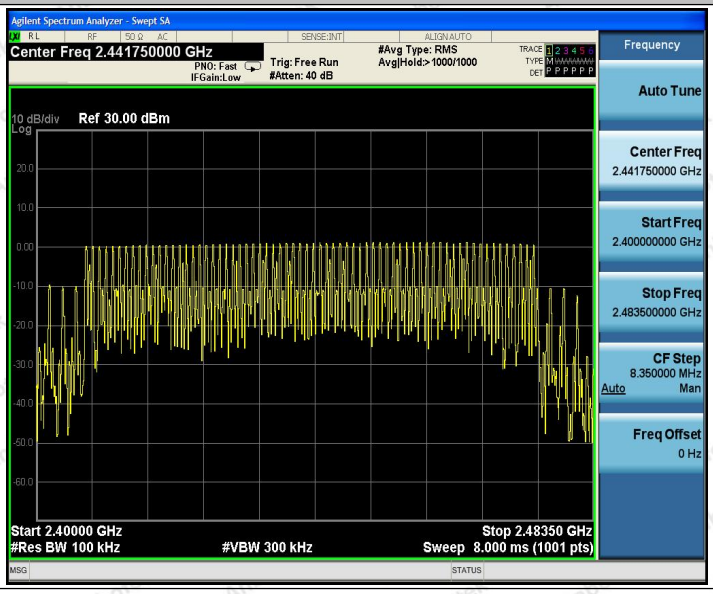
Appendix F: Number of hopping channels

Test Result

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
2.4G	Ant1	Hop	34	≥15	PASS

Test Graphs

2.4_Ant1_Hop



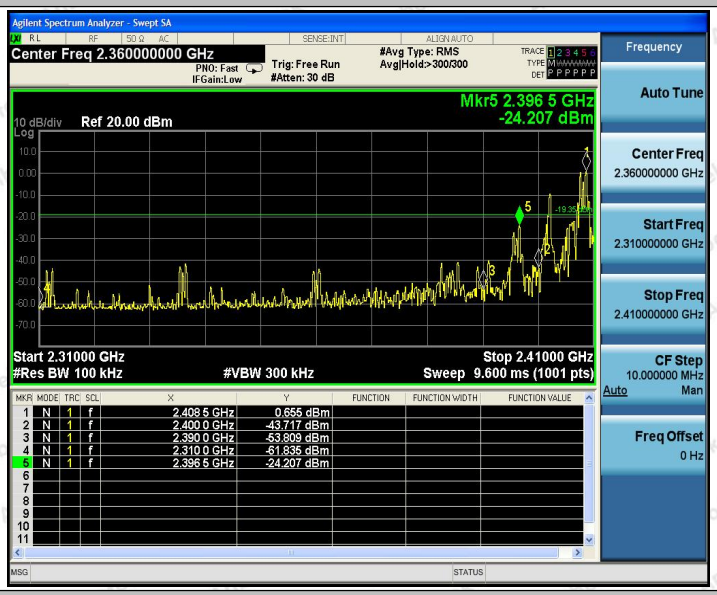
Appendix G: Band edge measurements

Test Result

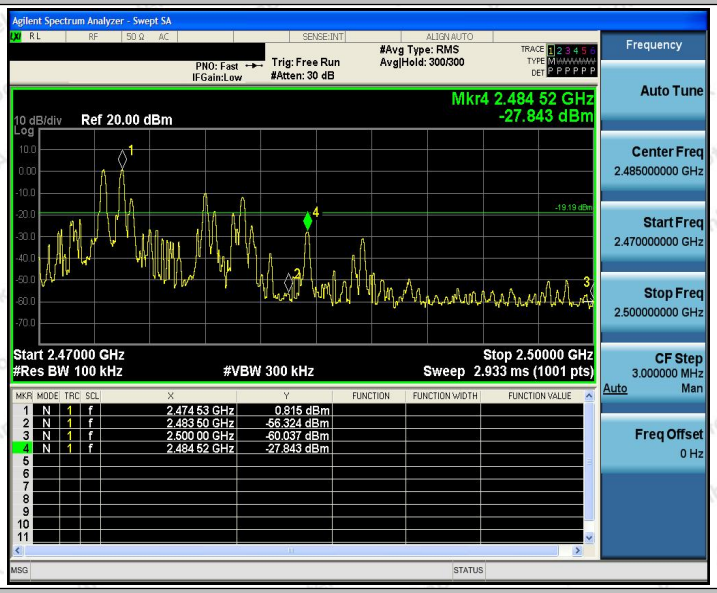
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
2.4G	Ant1	Low	2408	0.66	-24.21	≤-19.35	PASS
		High	2474	0.82	-27.84	≤-19.19	PASS
		Low	Hop	0.23	-40.33	≤-19.77	PASS
		High	Hop	0.69	-56.86	≤-19.31	PASS

Test Graphs

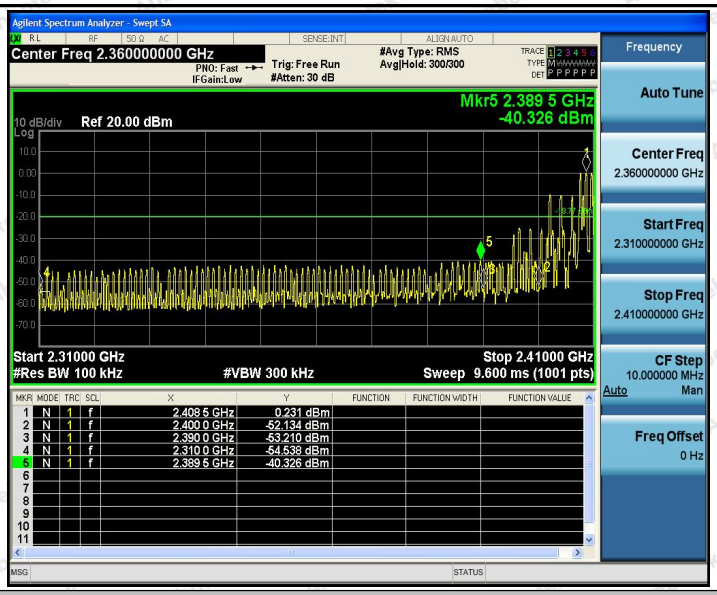
2.4_Ant1_Low_2408



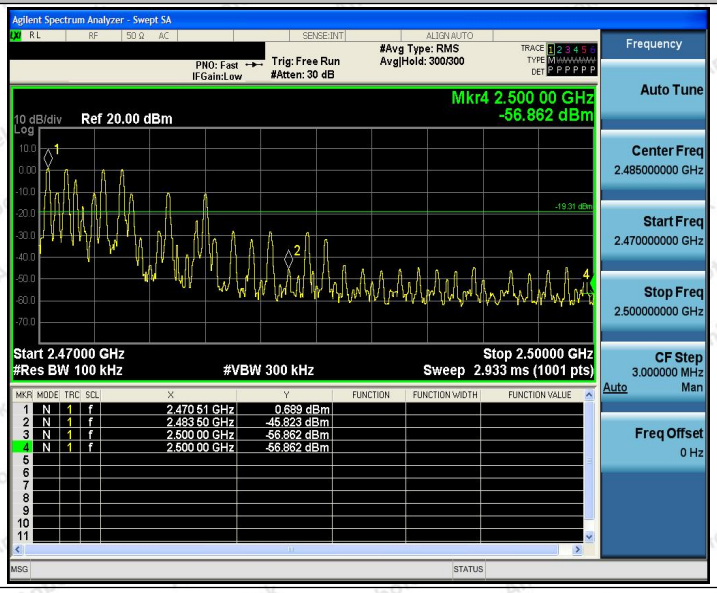
2.4_Ant1_High_2474



2.4_Ant1_Low_Hop



2.4_Ant1_High_Hop



Appendix H: Conducted Spurious Emission

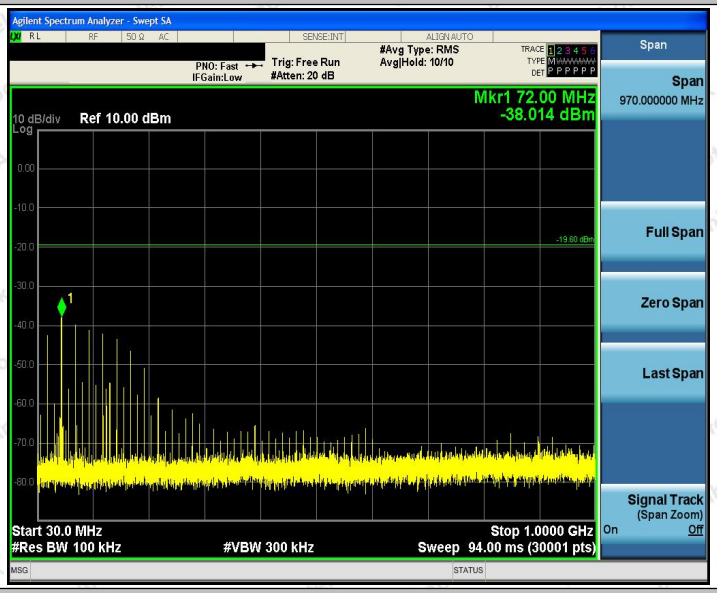
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
2.4G	Ant1	2408	Reference	0.40	0.40	---	PASS
			30~1000	0.40	-38.01	≤-19.6	PASS
			1000~26500	0.40	-36.84	≤-19.6	PASS
		2440	Reference	1.01	1.01	---	PASS
			30~1000	1.01	-38.67	≤-18.99	PASS
			1000~26500	1.01	-37.09	≤-18.99	PASS
		2474	Reference	0.73	0.73	---	PASS
			30~1000	0.73	-38.57	≤-19.27	PASS
			1000~26500	0.73	-38.35	≤-19.27	PASS

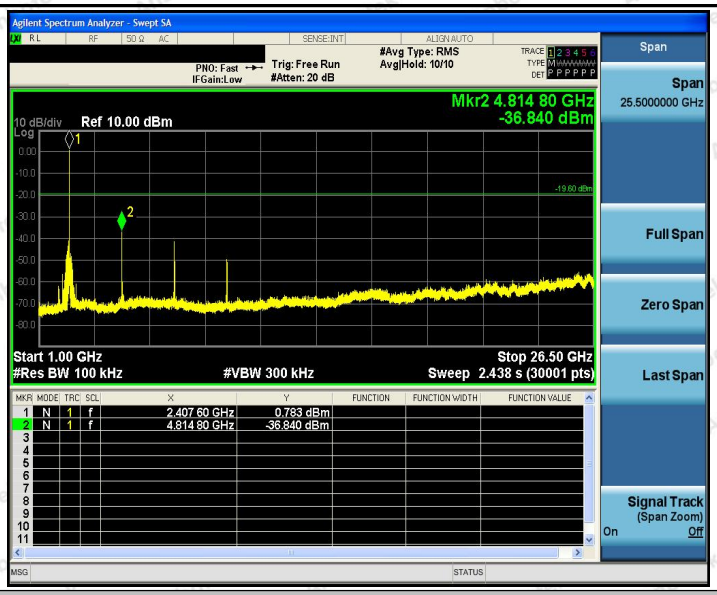
Test Graphs

2.4_Ant1_2408_0~Reference

2.4_Ant1_2408_30~1000

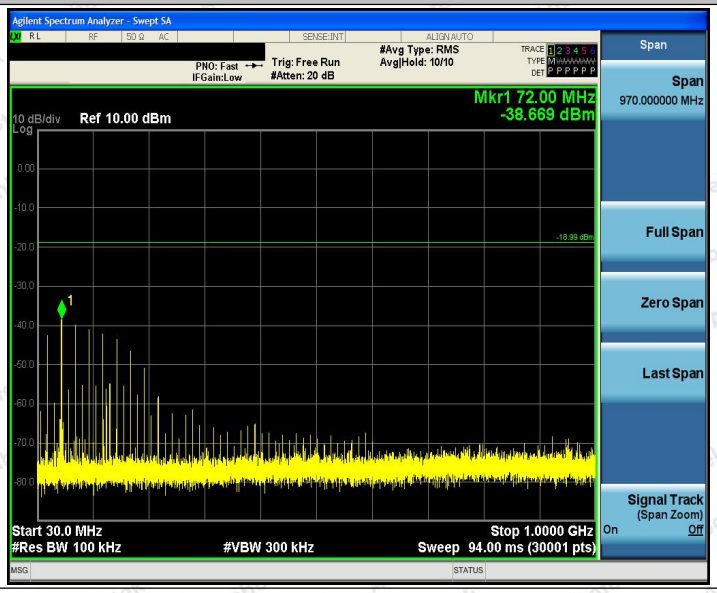


2.4_Ant1_2408_1000~26500

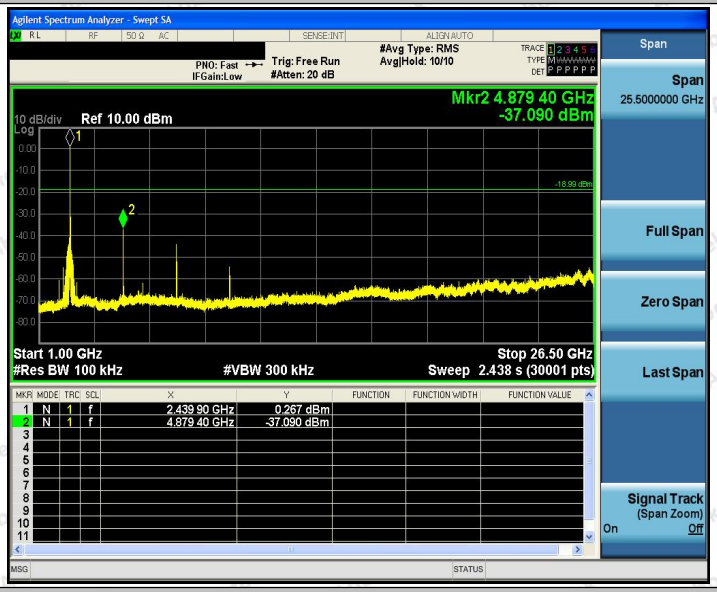


2.4_Ant1_2440_0~Reference

2.4_Ant1_2440_30~1000

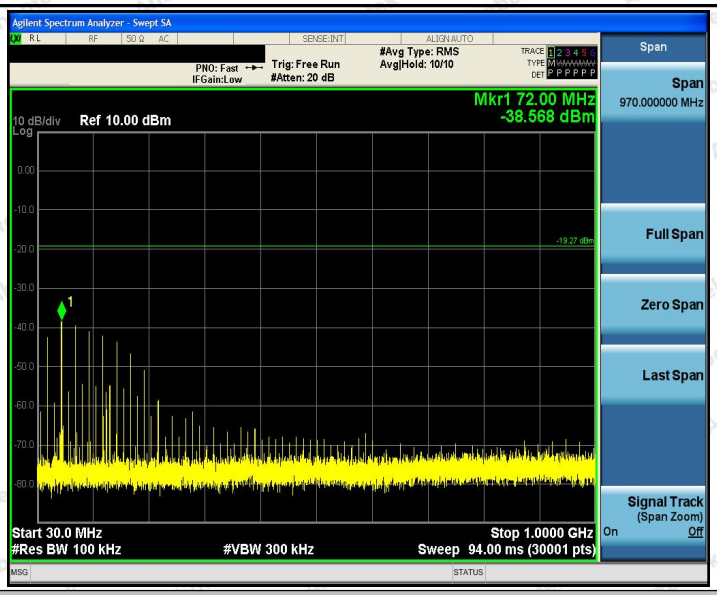


2.4_Ant1_2440_1000~26500

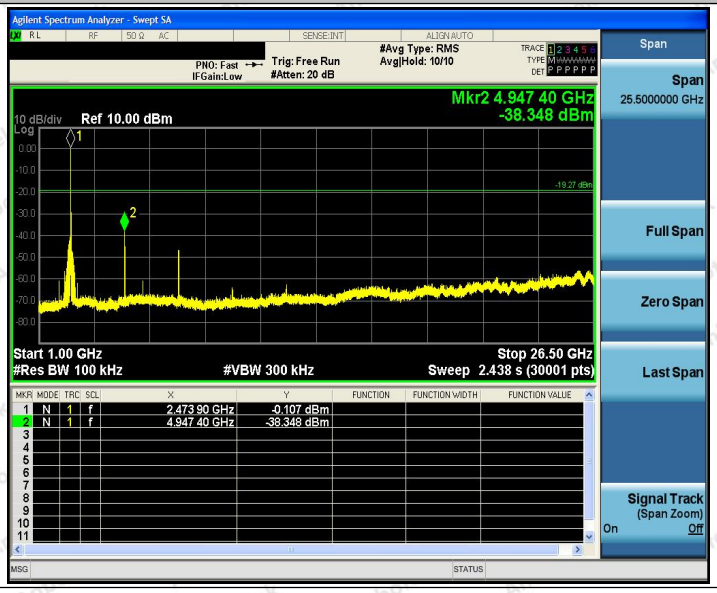


2.4_Ant1_2474_0~Reference

2.4_Ant1_2474_30~1000



2.4_Ant1_2474_1000~26500



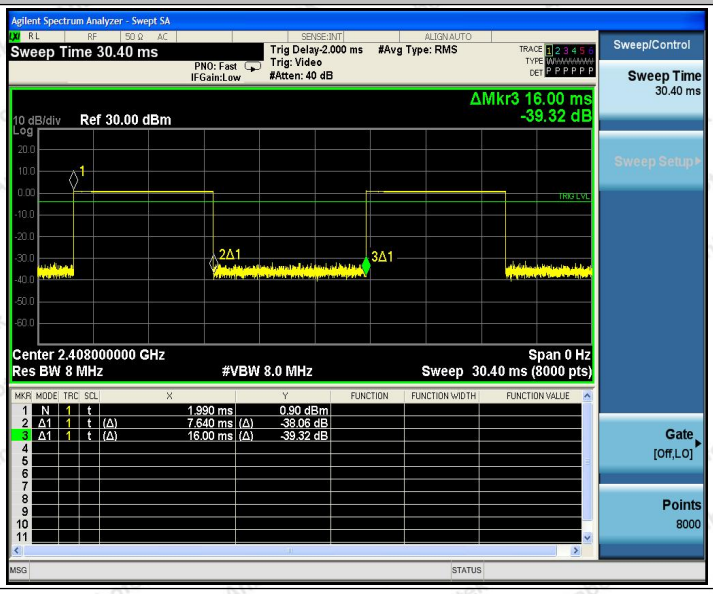
Appendix I: Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
2.4G	Ant1	2408	7.64	16.00	0.4775	47.75	3.21	---	PASS

Test Graphs

2.4_Ant1_2408



---End---