Appendix Test Data

Report No.:	18220WC10283101	Test Sample No.:	1-2-2
Start Test Date:	2022.1.6	Finish Test Date:	2022.3.25
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	24.3℃	Relative Humidity:	57.1 %
Pressure:	1012 hPa		

Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
2.4	Ant1	2405	1.227	2404.298	2405.525	---	PASS
		2441	1.128	2440.367	2441.495	---	PASS
		2479	1.077	2478.403	2479.480	---	PASS

Test Graphs

2.4_Ant1_2405

2.4_Ant1_2441

2.4_Ant1_2479

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.479000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
ΔMkr3 1.077 MHz
0.970 dB
10 dB/div
Ref 30.00 dBm
Center 2.479000 GHz
#Res BW 20 kHz
#VBW 62 kHz
Span 3.000 MHz
Sweep 7.200 ms (1001 pts)
1 N 1 f 2.478 403 GHz -6.508 dBm
2 N 1 f 2.479 225 GHz 14.613 dBm
3 Δ1 1 f (Δ) 1.077 MHz (Δ) 0.970 dB
Frequency
Auto Tune
Center Freq
2.479000000 GHz
Start Freq
2.477500000 GHz
Stop Freq
2.480500000 GHz
CF Step
300.000 kHz
Auto Man
Freq Offset
0 Hz

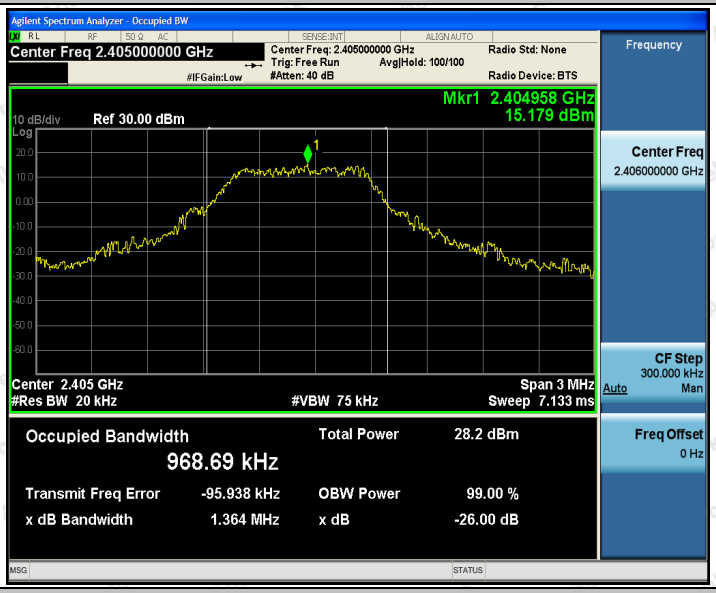
Appendix B: Occupied Channel Bandwidth

Test Result

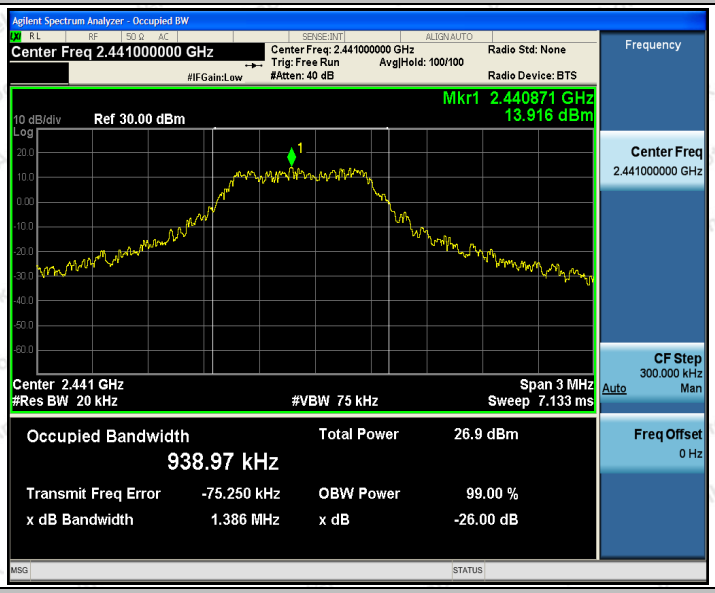
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
2.4	Ant1	2405	0.96869	2404.420	2405.388	---	PASS
		2441	0.93897	2440.455	2441.394	---	PASS
		2479	0.95014	2478.450	2479.400	---	PASS

Test Graphs

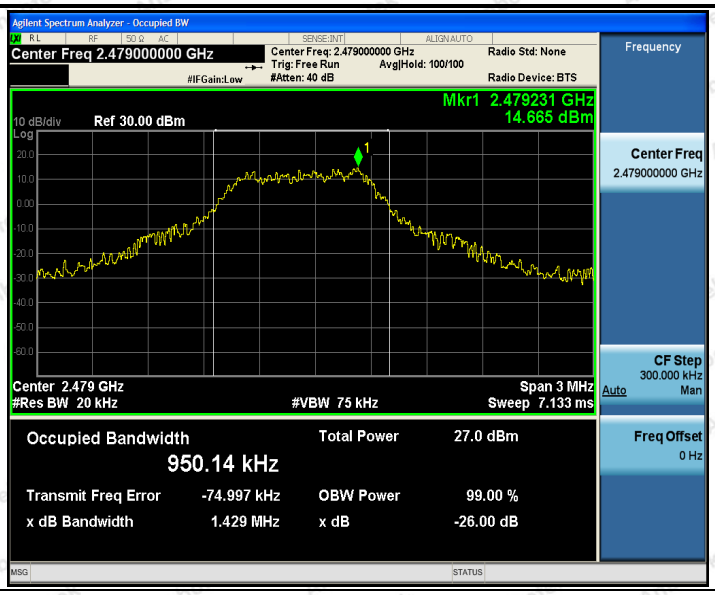
2.4_Ant1_2405



2.4_Ant1_2441



2.4_Ant1_2479


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.479000000 GHz
Center Freq: 2.479000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.479231 GHz
14.665 dBm
10 dB/div
Ref 30.00 dBm
Center 2.479 GHz
#Res BW 20 kHz
#VBW 75 kHz
Span 3 MHz
Sweep 7.133 ms
Occupied Bandwidth
950.14 kHz
Total Power 27.0 dBm
Transmit Freq Error -74.997 kHz
OBW Power 99.00 %
x dB Bandwidth 1.429 MHz
x dB -26.00 dB
Frequency
Center Freq
2.479000000 GHz
CF Step
300.000 kHz
Auto Man
Freq Offset
0 Hz

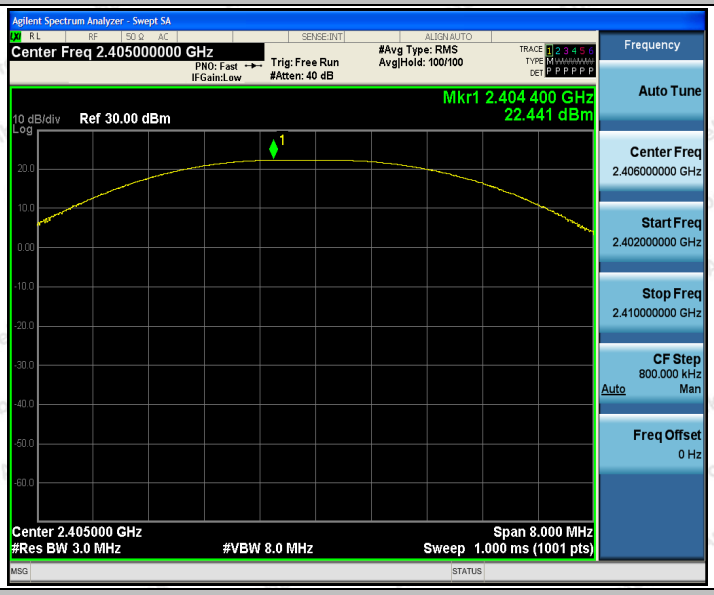
Appendix C: Maximum conducted output power

Test Result

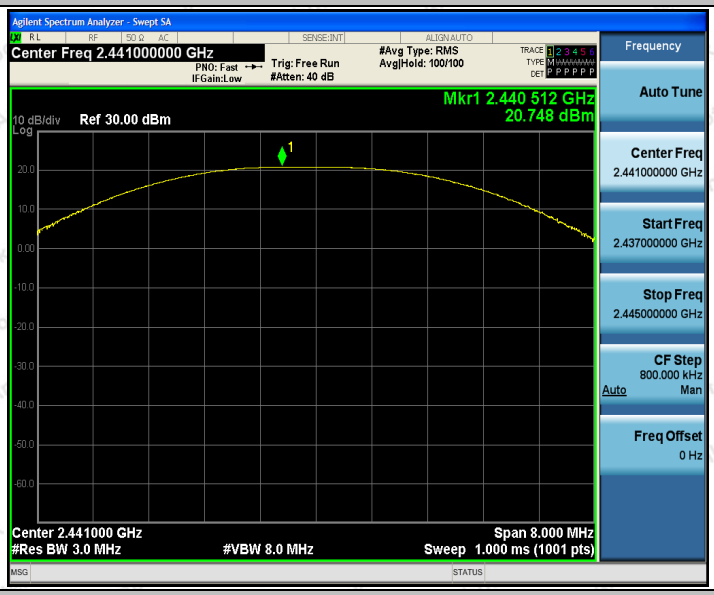
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
2.4	Ant1	2405	22.44	≤30	PASS
		2441	20.75	≤30	PASS
		2479	21.1	≤30	PASS

Test Graphs

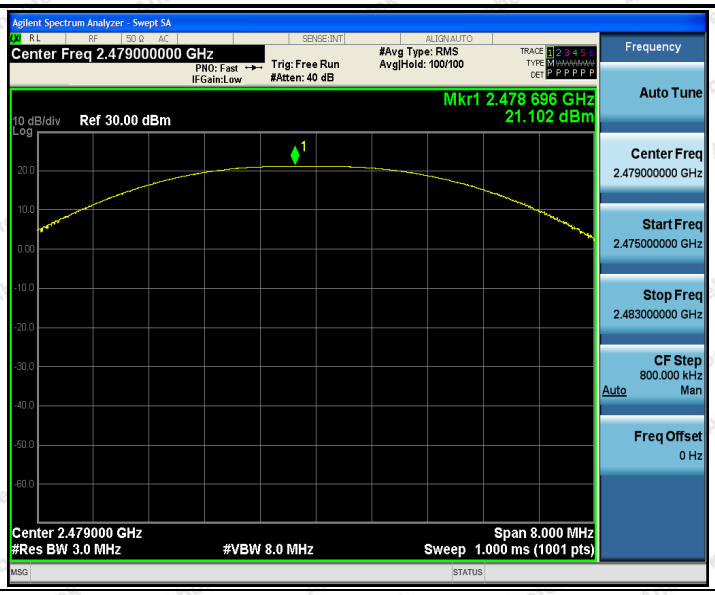
2.4_Ant1_2405



2.4_Ant1_2441



2.4_Ant1_2479


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.479000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
Mkr1 2.478 696 GHz
21.102 dBm
10 dB/div
Log
Ref 30.00 dBm
Center 2.479000 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
2.479000000 GHz
Start Freq
2.475000000 GHz
Stop Freq
2.483000000 GHz
CF Step
800.000 kHz
Auto
Man
Freq Offset
0 Hz

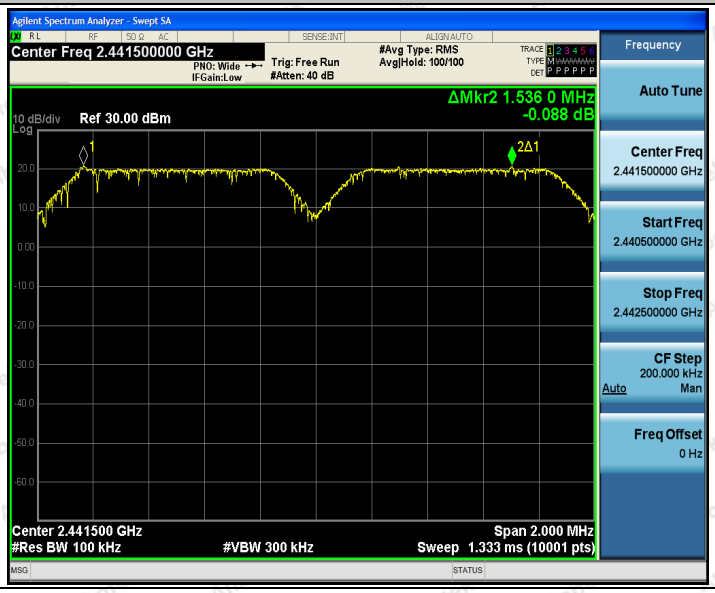
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
2.4	Ant1	Hop	1.536	≥0.818	PASS

Test Graphs

2.4_Ant1_Hop



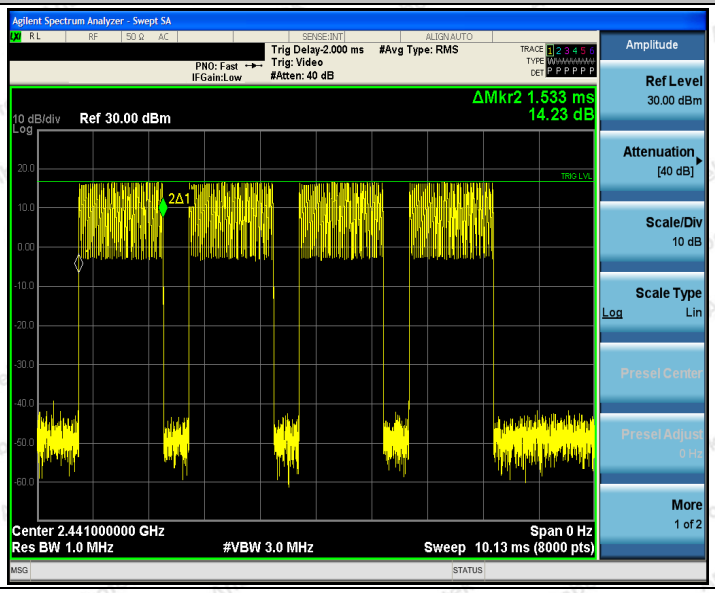
Appendix E: Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
2.4	Ant1	Hop	1.53	55	0.084	≤0.4	PASS

Test Graphs

2.4_Ant1_Hop



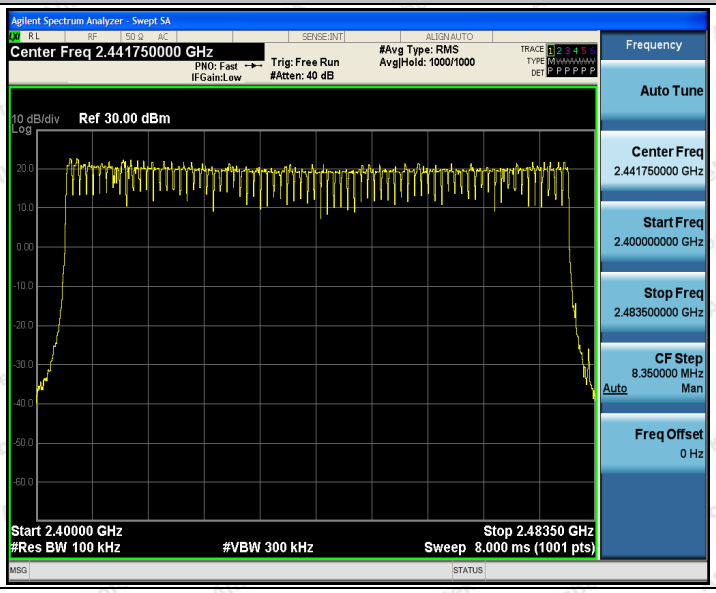
Appendix F: Number of hopping channels

Test Result

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
2.4	Ant1	Hop	75	≥15	PASS

Test Graphs

2.4_Ant1_Hop



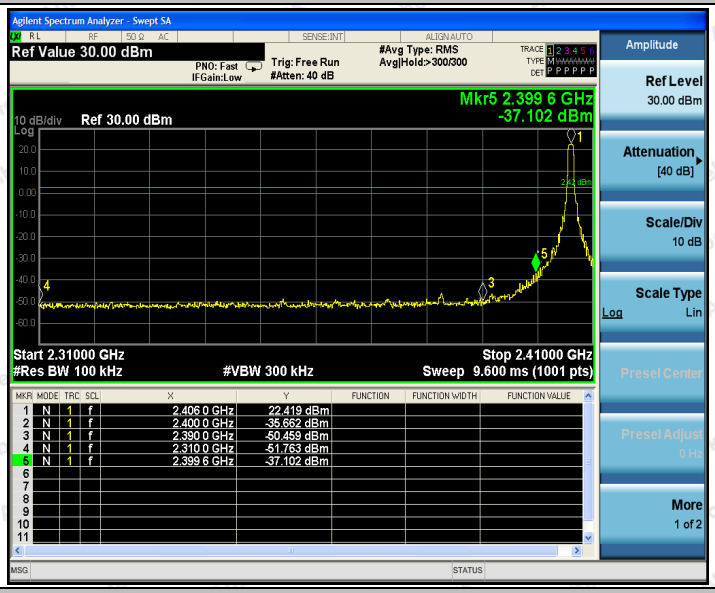
Appendix G: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
2.4	Ant1	Low	2405	22.42	-37.1	≤2.42	PASS
		High	2479	21.05	-32.71	≤1.05	PASS
		Low	Hop	22.27	-46.5	≤2.27	PASS
		High	Hop	21.43	-49.05	≤1.43	PASS

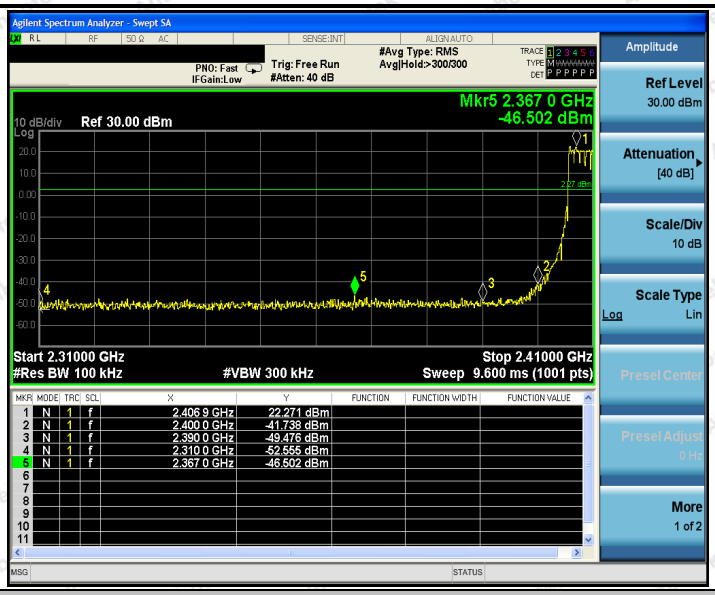
Test Graphs

2.4_Ant1_Low_2405

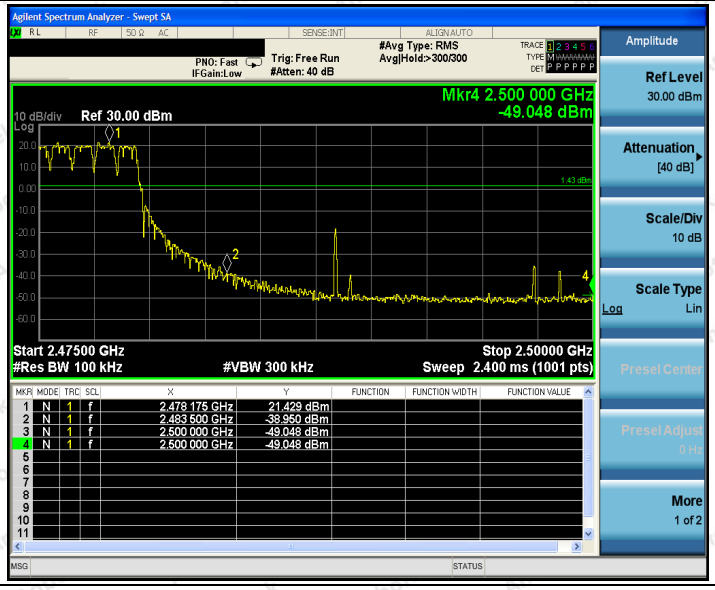


2.4_Ant1_High_2479

2.4_Ant1_Low_Hop



2.4_Ant1_High_Hop



Appendix H: Conducted Spurious Emission

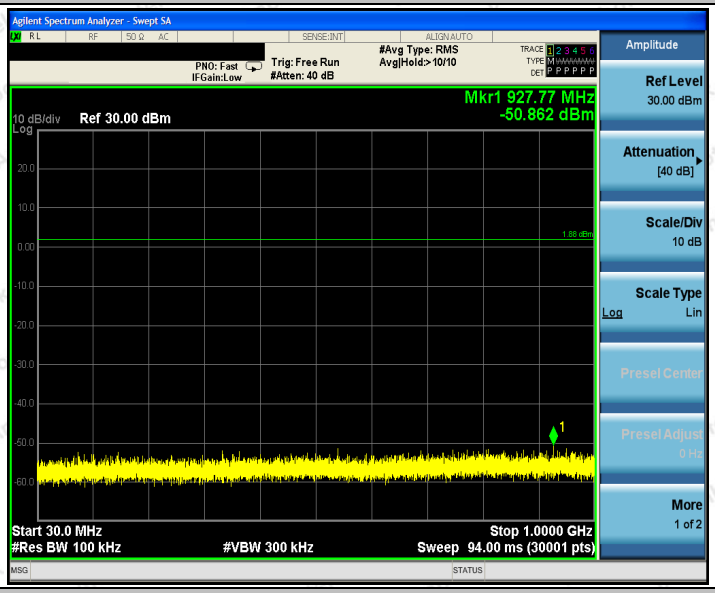
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
2.4	Ant1	2405	Reference	21.88	21.88	---	PASS
			30~1000	21.88	-50.86	≤1.88	PASS
			1000~26500	21.88	-31.67	≤1.88	PASS
		2441	Reference	20.49	20.49	---	PASS
			30~1000	20.49	-51.38	≤0.49	PASS
			1000~26500	20.49	-30.23	≤0.49	PASS
		2479	Reference	20.82	20.82	---	PASS
			30~1000	20.82	-50.83	≤0.82	PASS
			1000~26500	20.82	-32.55	≤0.82	PASS

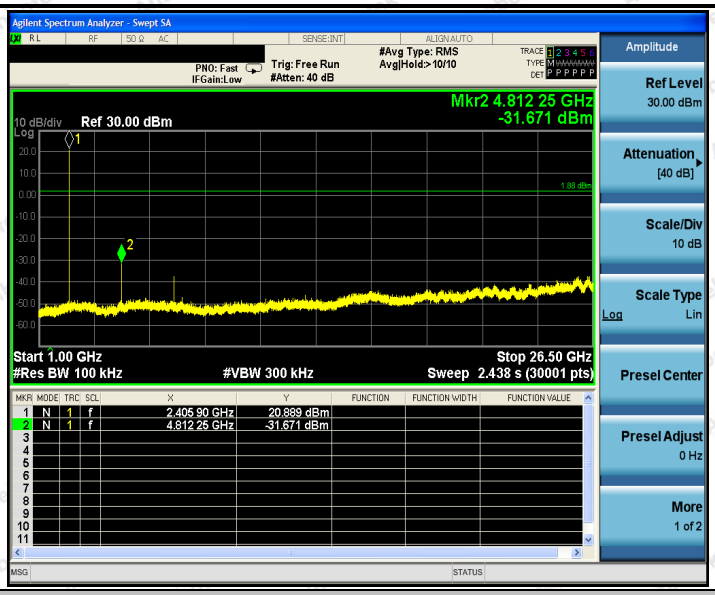
Test Graphs

2.4_Ant1_2405_0~Reference

2.4_Ant1_2405_30~1000

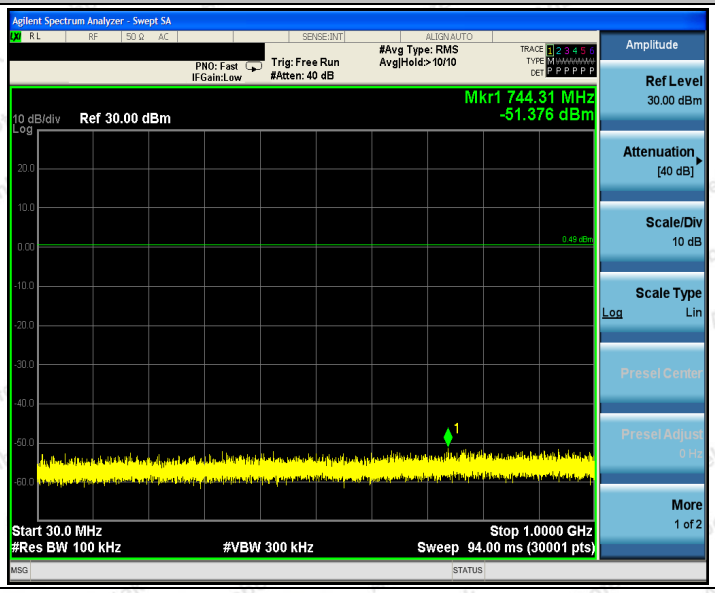


2.4_Ant1_2405_1000~26500

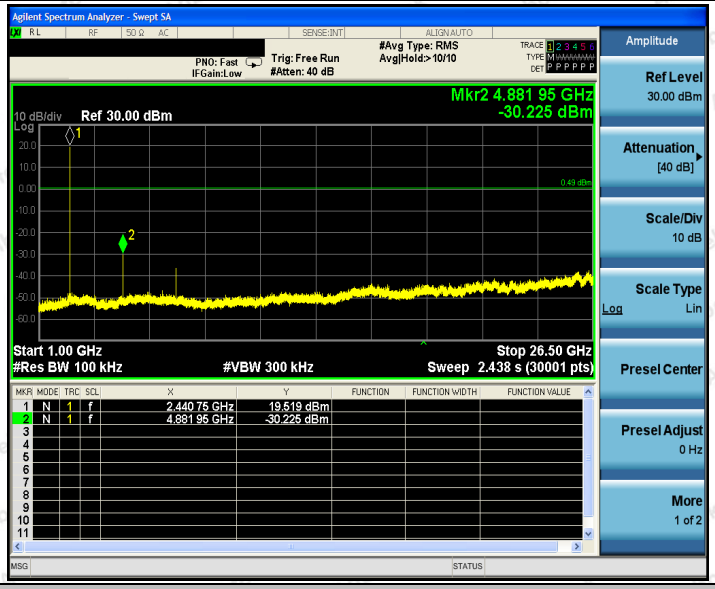


2.4_Ant1_2441_0~Reference

2.4_Ant1_2441_30~1000

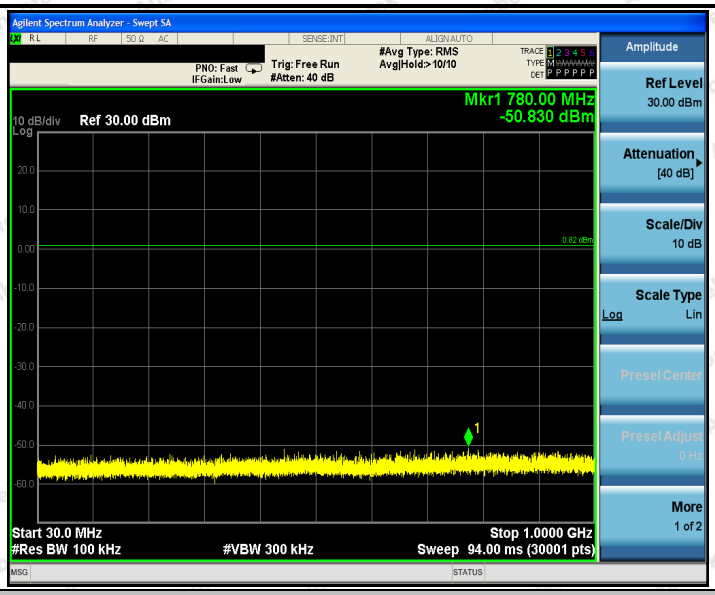


2.4_Ant1_2441_1000~26500

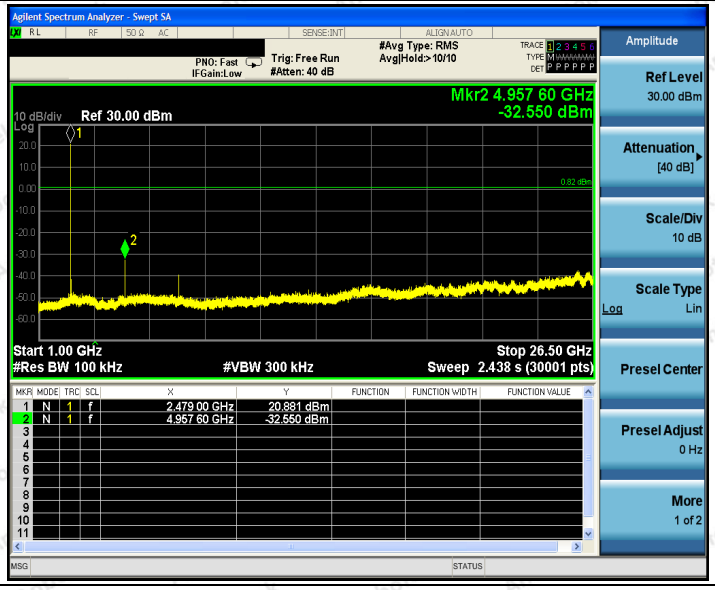


2.4_Ant1_2479_0~Reference

2.4_Ant1_2479_30~1000



2.4_Ant1_2479_1000~26500



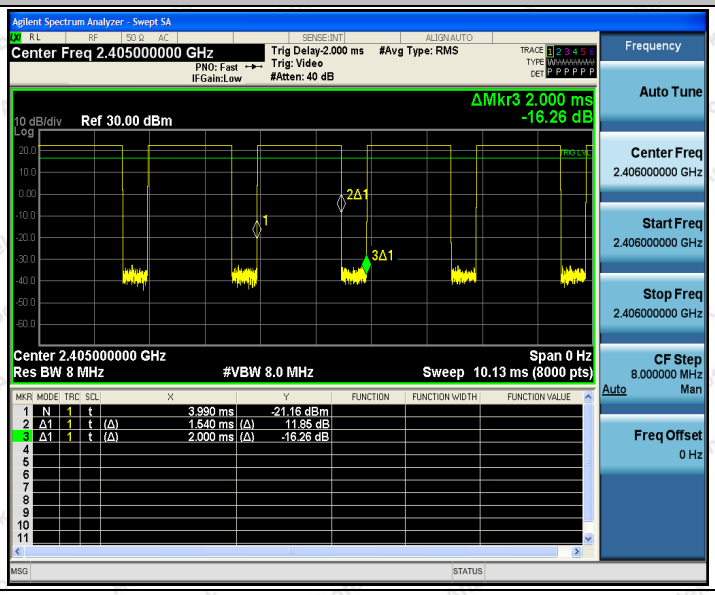
Appendix I: Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
2.4	Ant1	2405	1.54	2.00	0.7700	77.00	1.14	---	PASS

Test Graphs

2.4_Ant1_2405



---End---