Appendix Test Data

Report No.:	18220WC20117001	Test Sample No.:	1-2-2
Start Test Date:	2022.6.1	Finish Test Date:	2022.6.8
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	24.3℃	Relative Humidity:	56.3 %
Pressure:	1012 hPa		

Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.945	2401.526	2402.471	---	PASS
		2441	0.939	2440.526	2441.465	---	PASS
		2480	0.930	2479.529	2480.459	---	PASS
2DH5	Ant1	2402	1.284	2401.355	2402.639	---	PASS
		2441	1.284	2440.331	2441.615	---	PASS
		2480	1.353	2479.313	2480.666	---	PASS

Test Graphs

DH5_Ant1_2402

DH5_Ant1_2441

DH5_Ant1_2480

2DH5_Ant1_2402

2DH5_Ant1_2441

2DH5_Ant1_2480

Appendix B: Occupied Channel Bandwidth

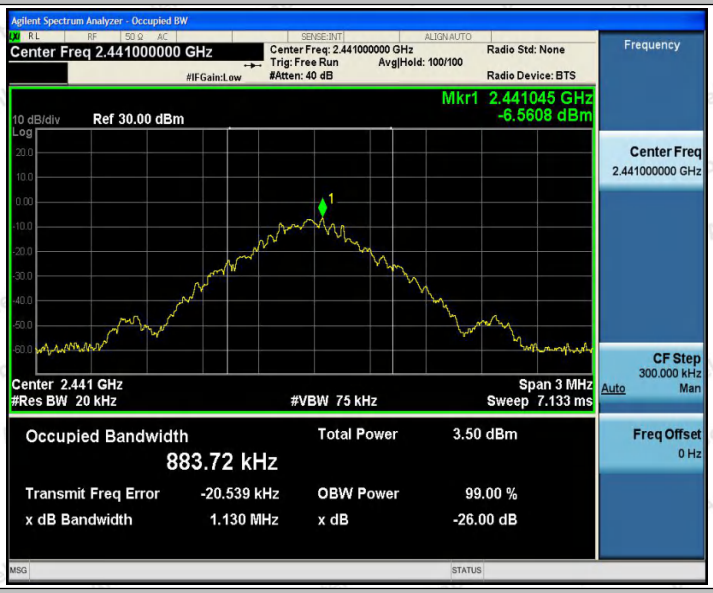
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.89520	2401.536	2402.431	---	PASS
		2441	0.88372	2440.538	2441.421	---	PASS
		2480	0.88682	2479.540	2480.426	---	PASS
2DH5	Ant1	2402	1.1927	2401.390	2402.582	---	PASS
		2441	1.1881	2440.392	2441.580	---	PASS
		2480	1.1981	2479.387	2480.585	---	PASS

Test Graphs

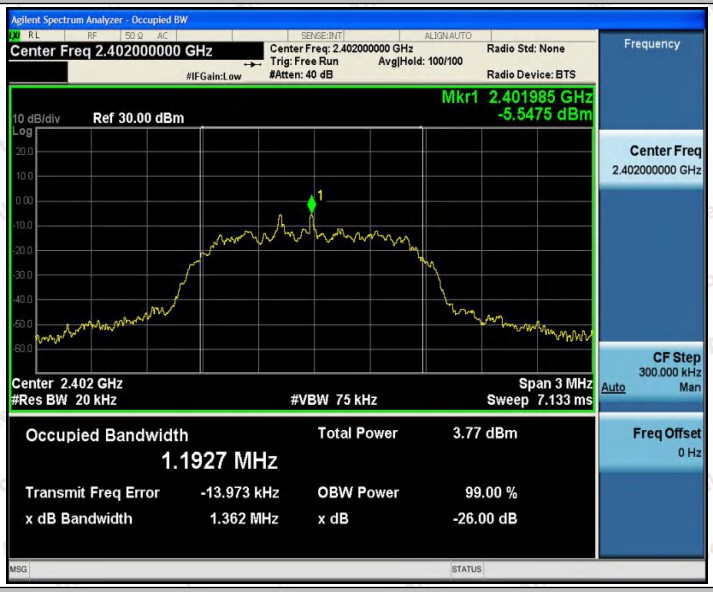
DH5_Ant1_2402

DH5_Ant1_2441

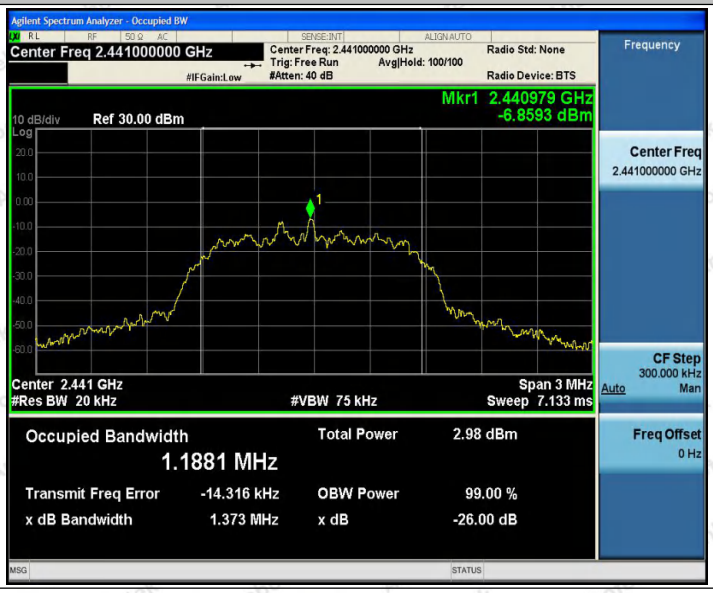


DH5_Ant1_2480

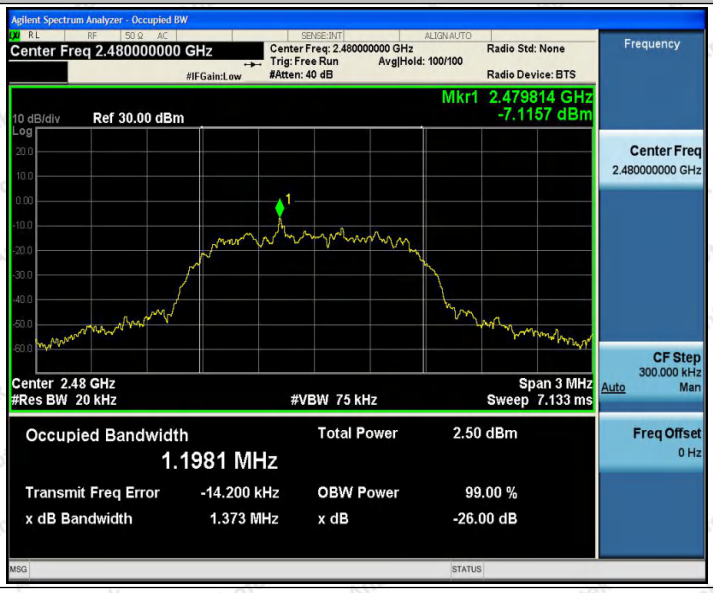
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



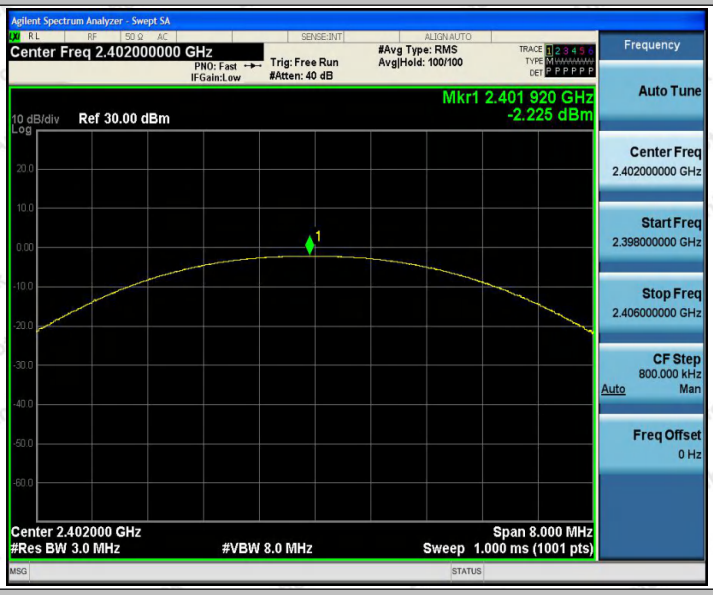
Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-2.23	≤20.97	PASS
		2441	-3.15	≤20.97	PASS
		2480	-2.9	≤20.97	PASS
2DH5	Ant1	2402	-1.32	≤20.97	PASS
		2441	-2.29	≤20.97	PASS
		2480	-1.95	≤20.97	PASS

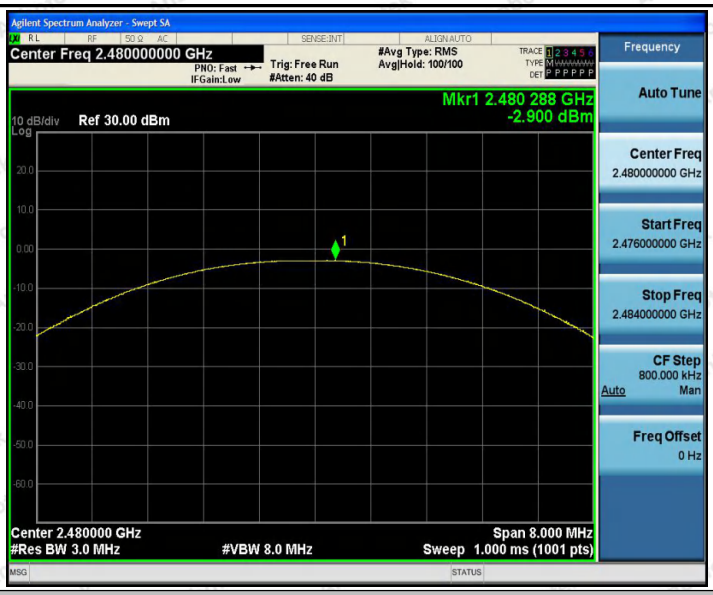
Test Graphs

DH5_Ant1_2402

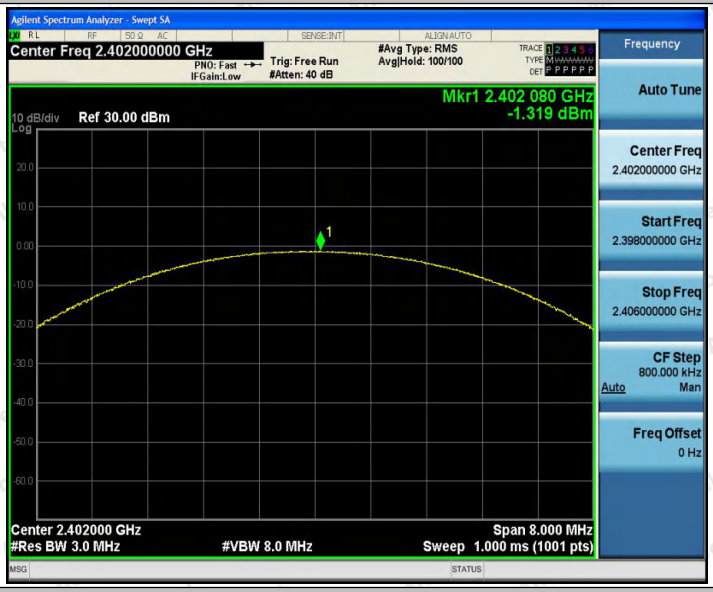


DH5_Ant1_2441

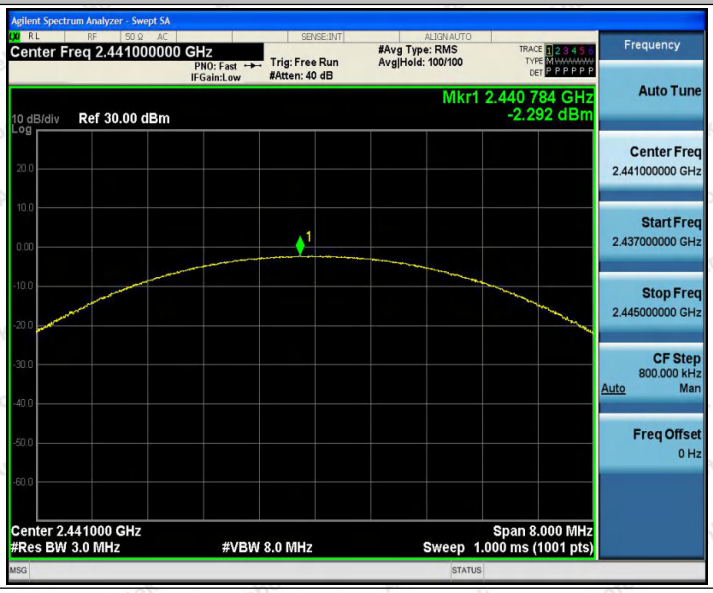
DH5_Ant1_2480



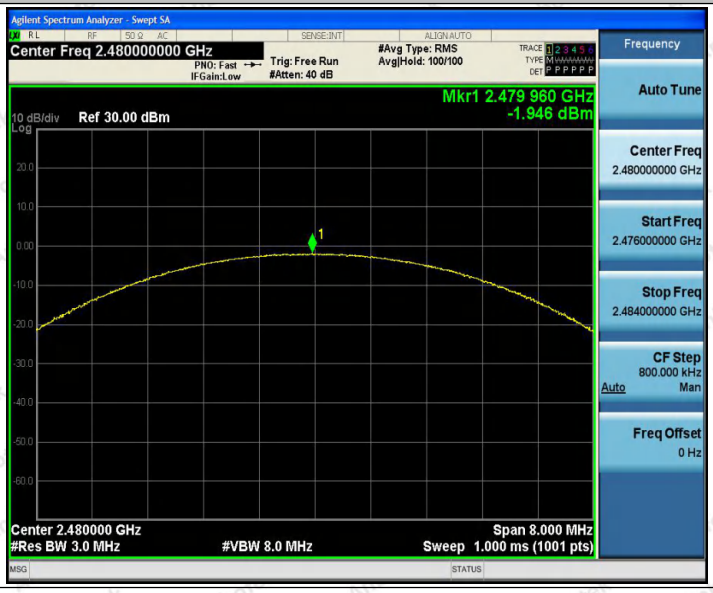
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.986	≥0.945	PASS
2DH5	Ant1	Hop	0.994	≥0.902	PASS

Test Graphs

DH5_Ant1_Hop

2DH5_Ant1_Hop

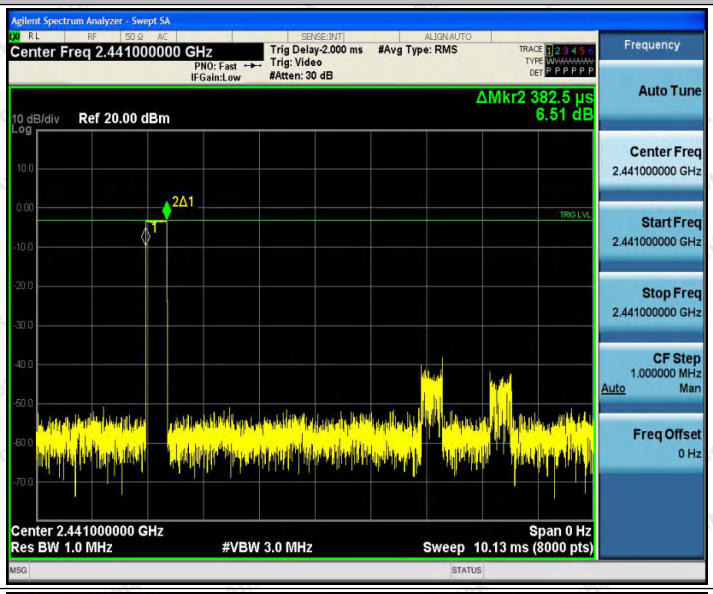
Appendix E: Time of occupancy

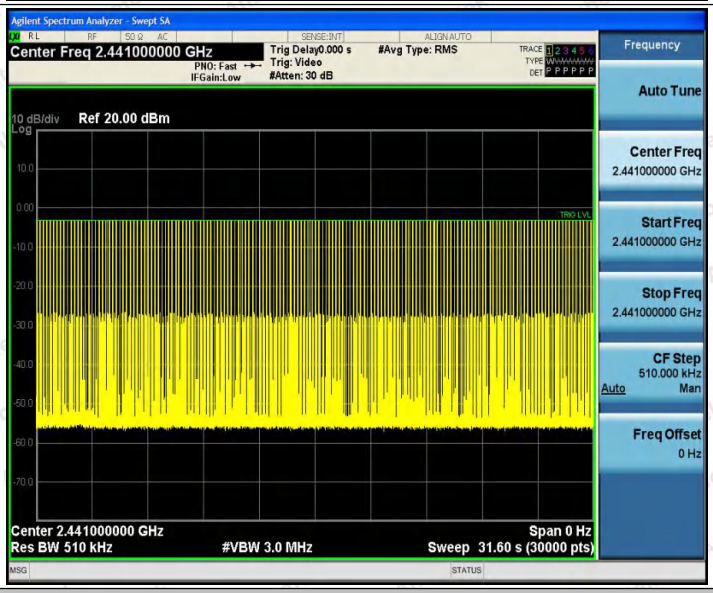
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.38	318	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.64	158	0.259	≤0.4	PASS
DH5	Ant1	Hop	2.89	95	0.274	≤0.4	PASS
2DH1	Ant1	Hop	0.39	316	0.123	≤0.4	PASS
2DH3	Ant1	Hop	1.64	156	0.256	≤0.4	PASS
2DH5	Ant1	Hop	2.89	97	0.28	≤0.4	PASS

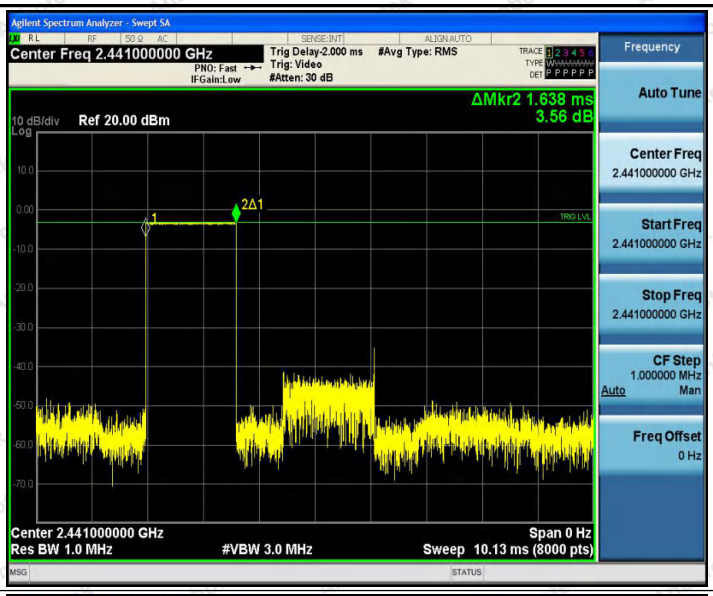
Test Graphs

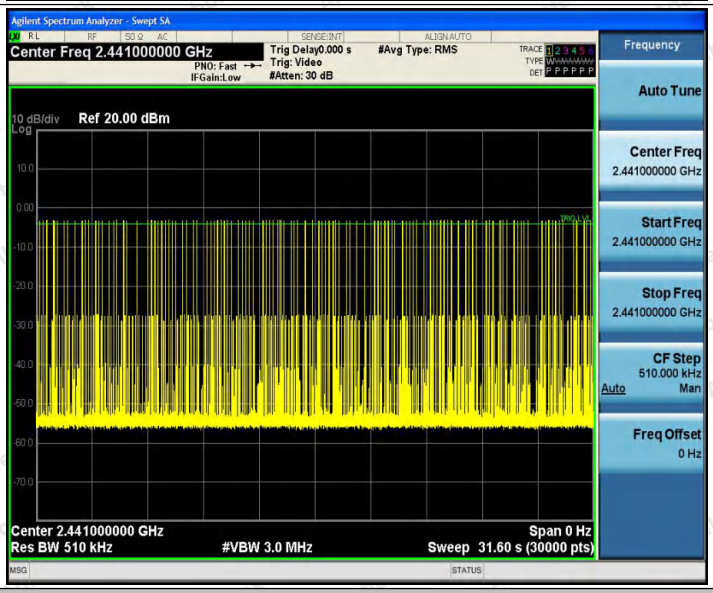
DH1_Ant1_Hop



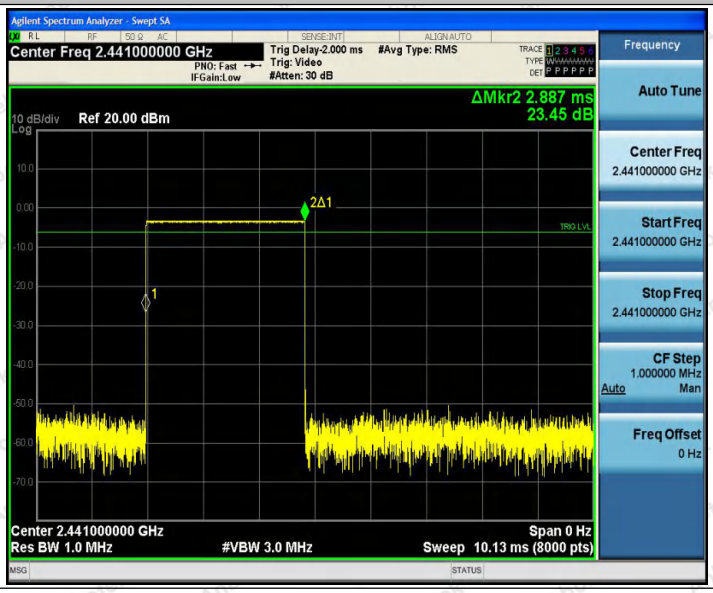


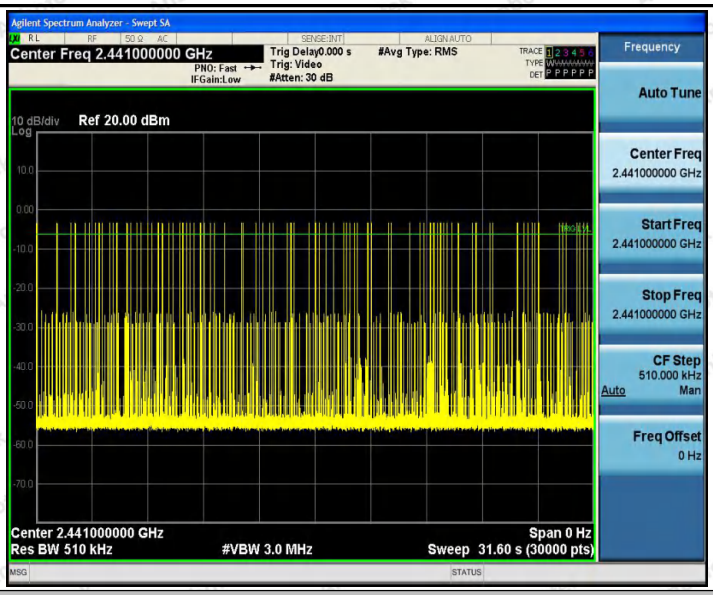
DH3_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-2.000 ms
Trig: Video
#Atten: 30 dB
#Avg Type: RMS
ΔMkr2 1.638 ms
3.56 dB
10 dB/div
Ref 20.00 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 10.13 ms (8000 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

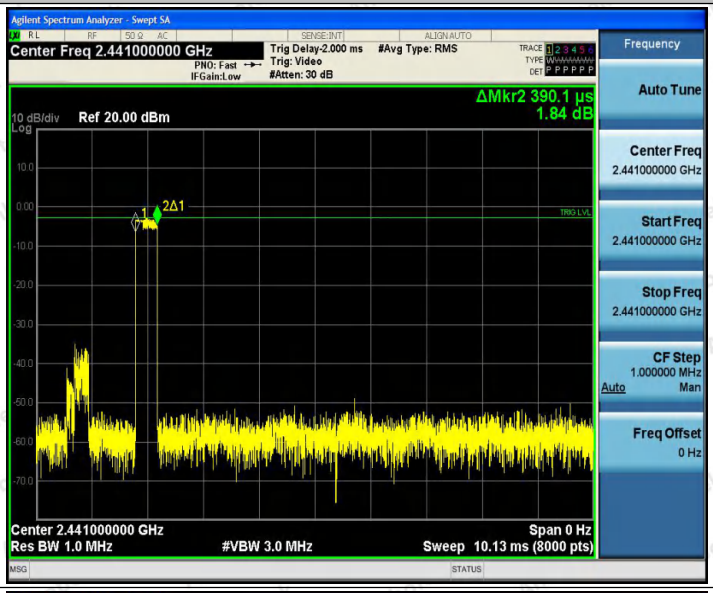

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay0.000 s
Trig: Video
#Atten: 30 dB
#Avg Type: RMS
10 dB/div
Ref 20.00 dBm
Center 2.441000000 GHz
Res BW 510 kHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 31.60 s (30000 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz

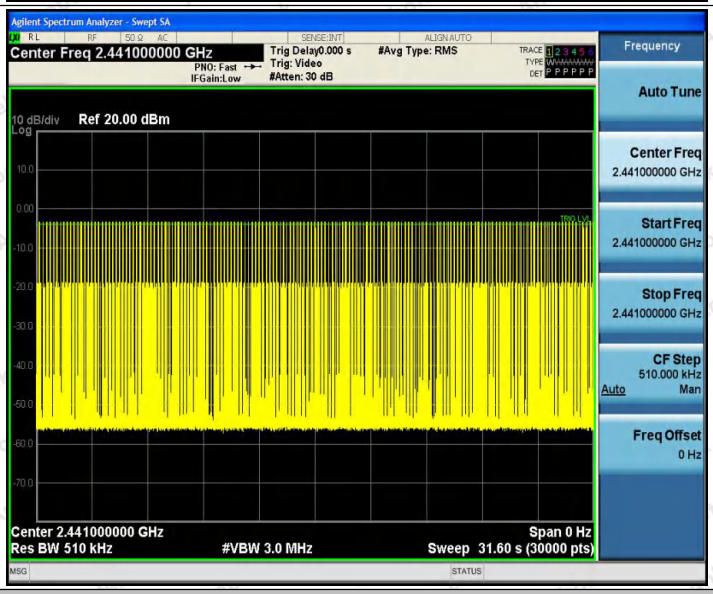
DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-2.000 ms
Trig: Video
#Atten: 30 dB
#Avg Type: RMS
ΔMkr2 2.887 ms
23.45 dB
10 dB/div
Ref 20.00 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 10.13 ms (8000 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

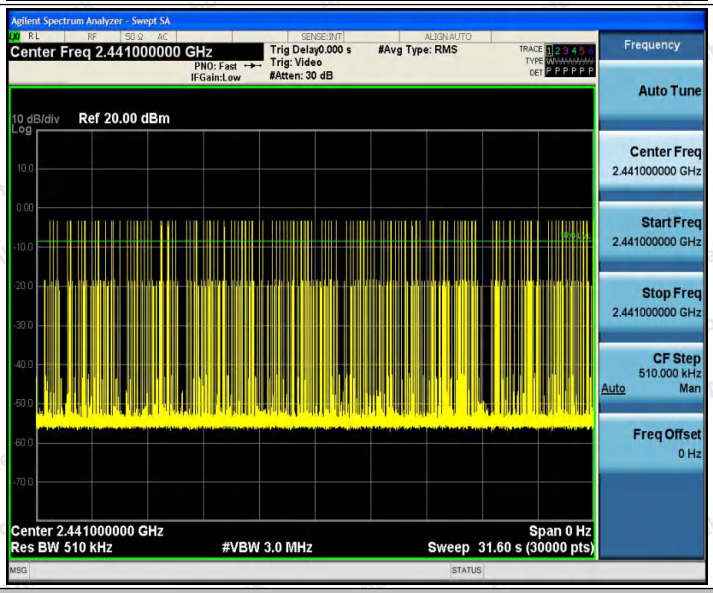


2DH1_Ant1_Hop

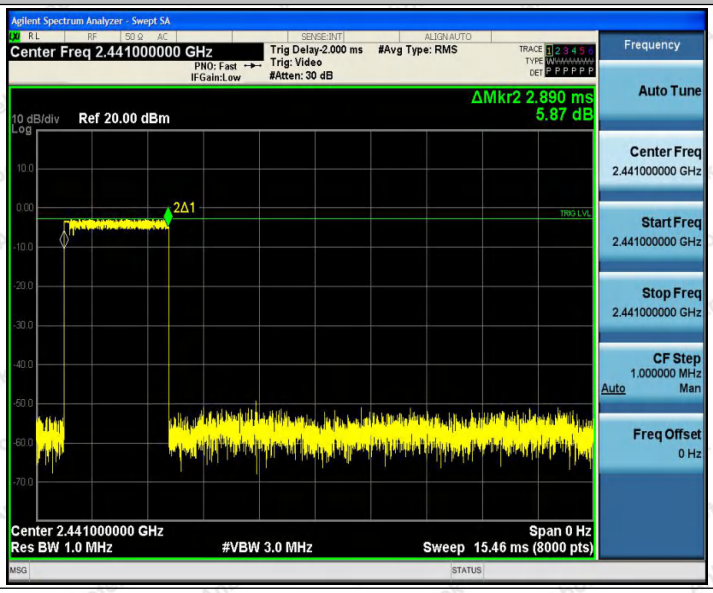


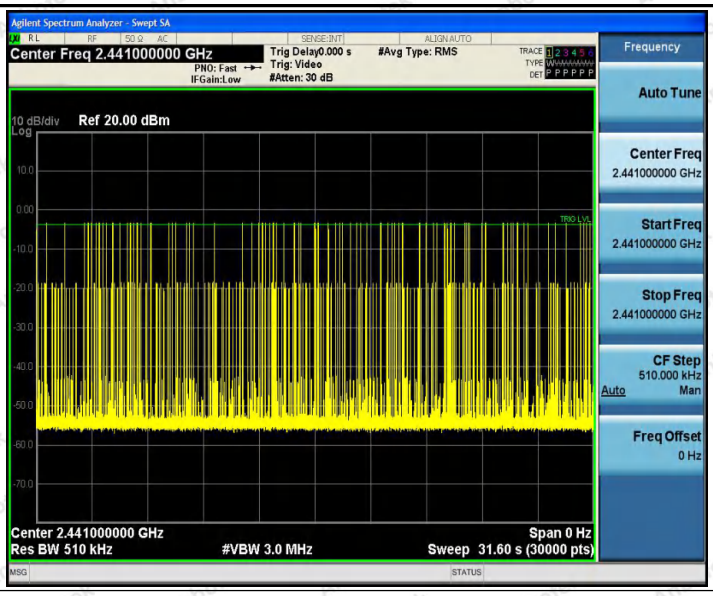


2DH3_Ant1_Hop



2DH5_Ant1_Hop




Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay0.000 s
Trig: Video
#Atten: 30 dB
#Avg Type: RMS
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz
10 dB/div
Log
Ref 20.00 dBm
Center 2.441000000 GHz
Res BW 510 kHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 31.60 s (30000 pts)

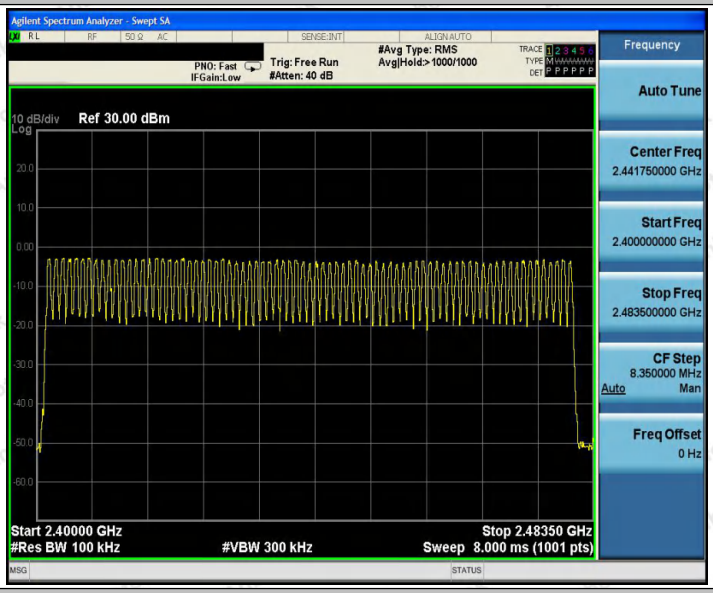
Appendix F: Number of hopping channels

Test Result

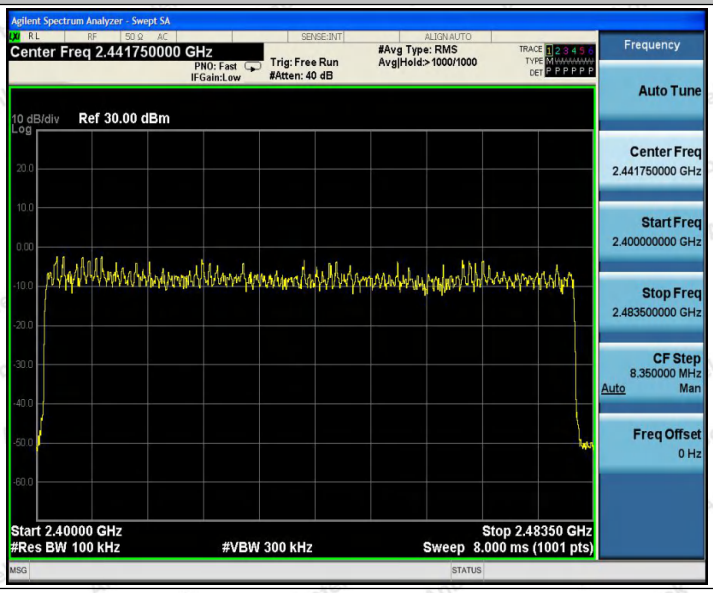
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



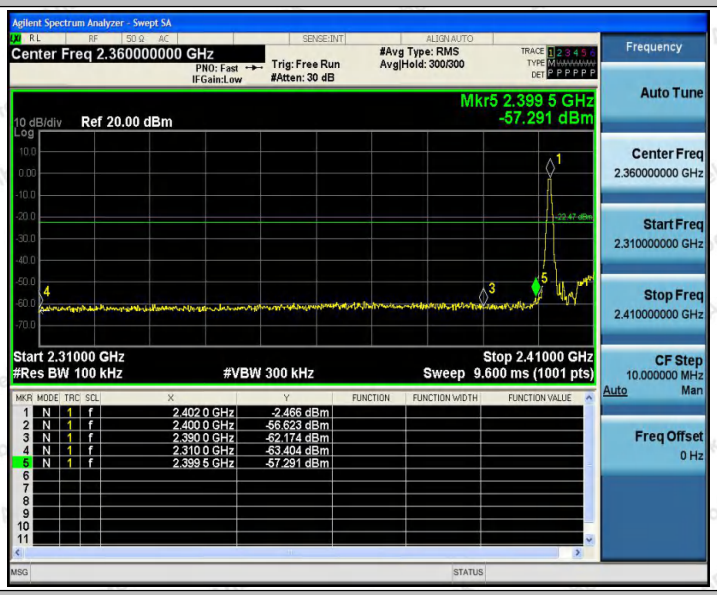
Appendix G: Band edge measurements

Test Result

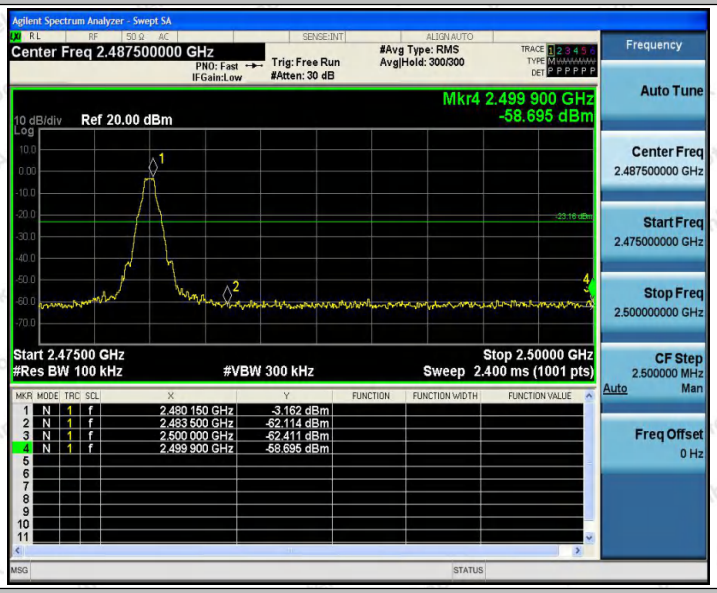
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-2.47	-57.29	≤-22.47	PASS
		High	2480	-3.16	-58.7	≤-23.16	PASS
		Low	Hop	-2.90	-56.92	≤-22.9	PASS
		High	Hop	-3.35	-58.91	≤-23.35	PASS
2DH5	Ant1	Low	2402	-2.61	-54.11	≤-22.61	PASS
		High	2480	-3.01	-59.09	≤-23.01	PASS
		Low	Hop	-2.49	-58.85	≤-22.49	PASS
		High	Hop	-7.07	-60.89	≤-27.07	PASS

Test Graphs

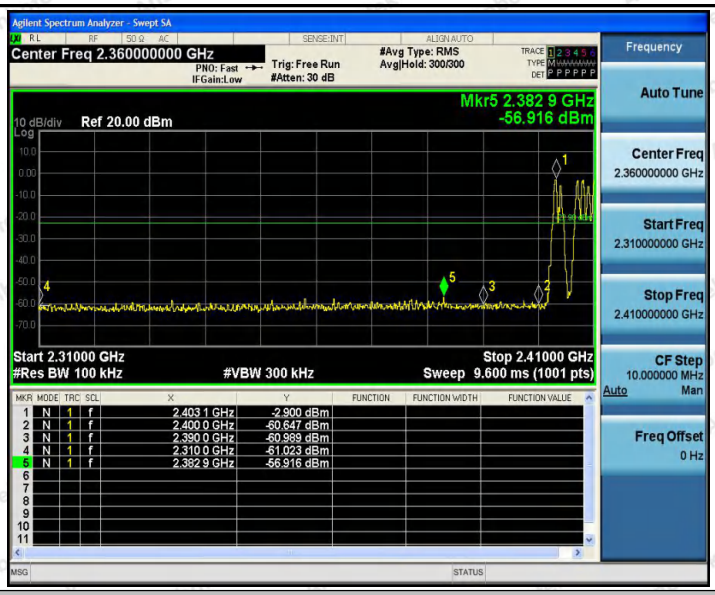
DH5_Ant1_Low_2402



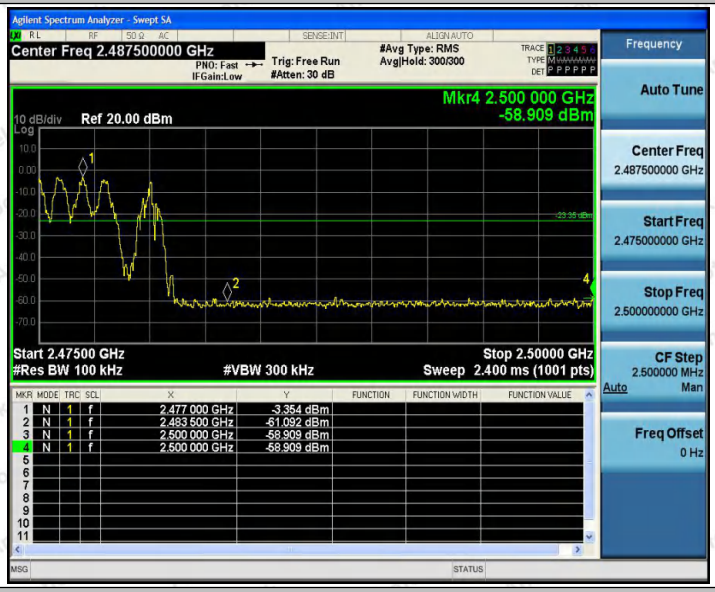
DH5_Ant1_High_2480



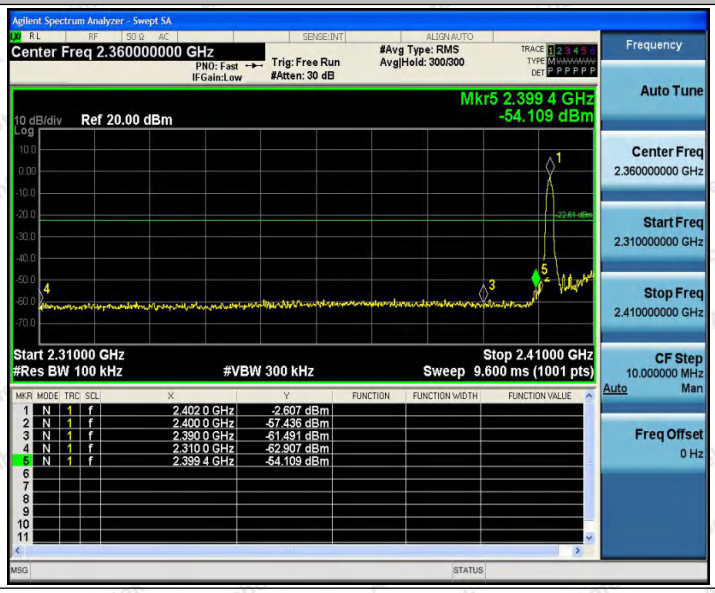
DH5_Ant1_Low_Hop



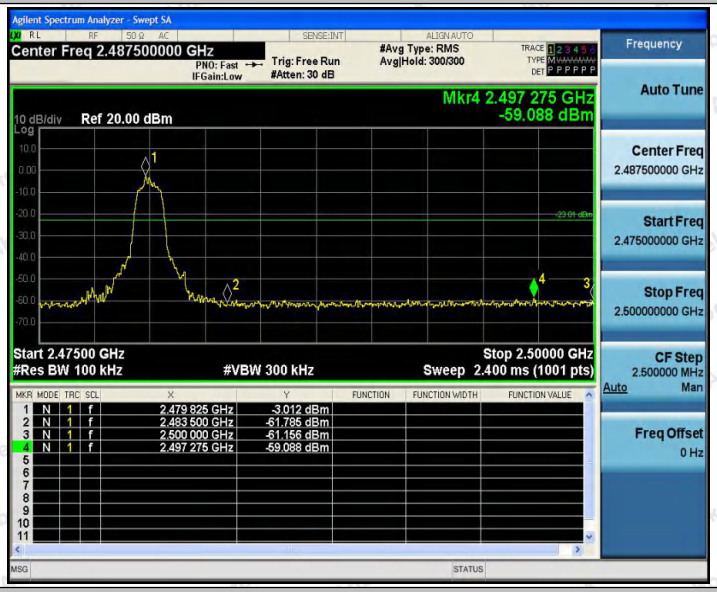
DH5_Ant1_High_Hop



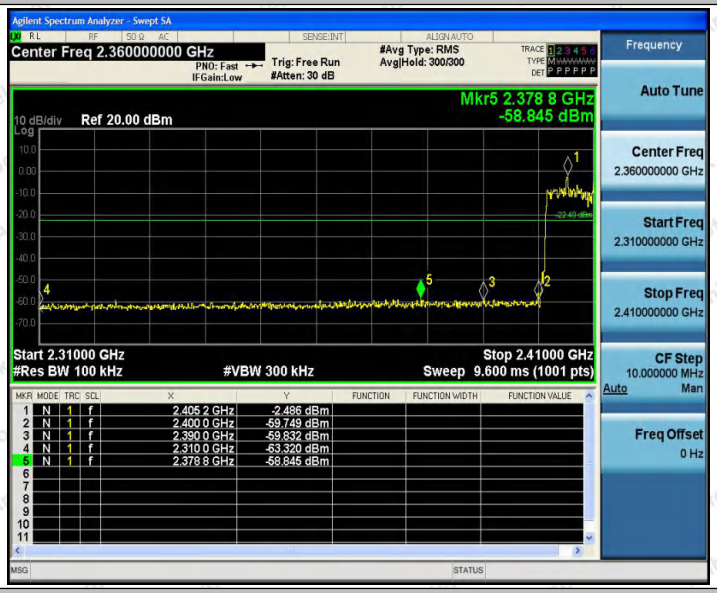
2DH5_Ant1_Low_2402



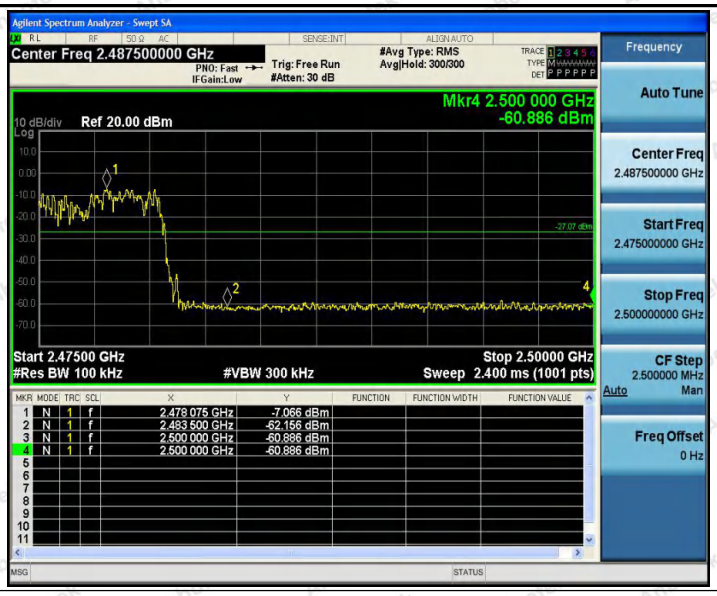
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop



2DH5_Ant1_High_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.487500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 300/300
Mkr4 2.500 000 GHz
-60.886 dBm
10 dB/div
Ref 20.00 dBm
Start 2.47500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 2.400 ms (1001 pts)
1 N 1 f 2.478 075 GHz -7.066 dBm
2 N 1 f 2.483 500 GHz -62.156 dBm
3 N 1 f 2.500 000 GHz -60.886 dBm
4 N 1 f 2.500 000 GHz -60.886 dBm
Frequency
Auto Tune
Center Freq
2.487500000 GHz
Start Freq
2.475000000 GHz
Stop Freq
2.500000000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz

Appendix H: Conducted Spurious Emission

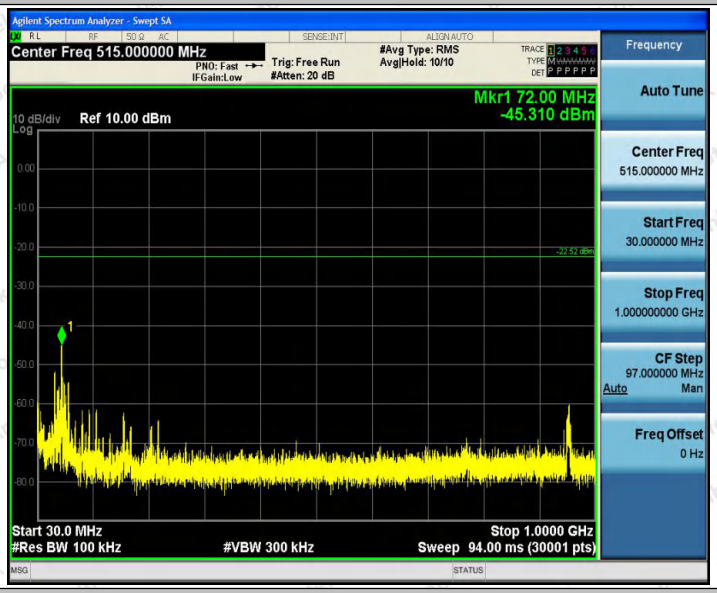
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-2.52	-2.52	---	PASS
			30~1000	-2.52	-45.31	≤-22.52	PASS
			1000~26500	-2.52	-45.2	≤-22.52	PASS
		2441	Reference	-3.45	-3.45	---	PASS
			30~1000	-3.45	-45.95	≤-23.45	PASS
			1000~26500	-3.45	-43.51	≤-23.45	PASS
		2480	Reference	-3.60	-3.60	---	PASS
			30~1000	-3.60	-45.98	≤-23.6	PASS
			1000~26500	-3.60	-44.18	≤-23.6	PASS
2DH5	Ant1	2402	Reference	-2.49	-2.49	---	PASS
			30~1000	-2.49	-44.75	≤-22.49	PASS
			1000~26500	-2.49	-44.15	≤-22.49	PASS
		2441	Reference	-3.48	-3.48	---	PASS
			30~1000	-3.48	-43.28	≤-23.48	PASS
			1000~26500	-3.48	-42.64	≤-23.48	PASS
		2480	Reference	-3.09	-3.09	---	PASS
			30~1000	-3.09	-45.36	≤-23.09	PASS
			1000~26500	-3.09	-43.74	≤-23.09	PASS

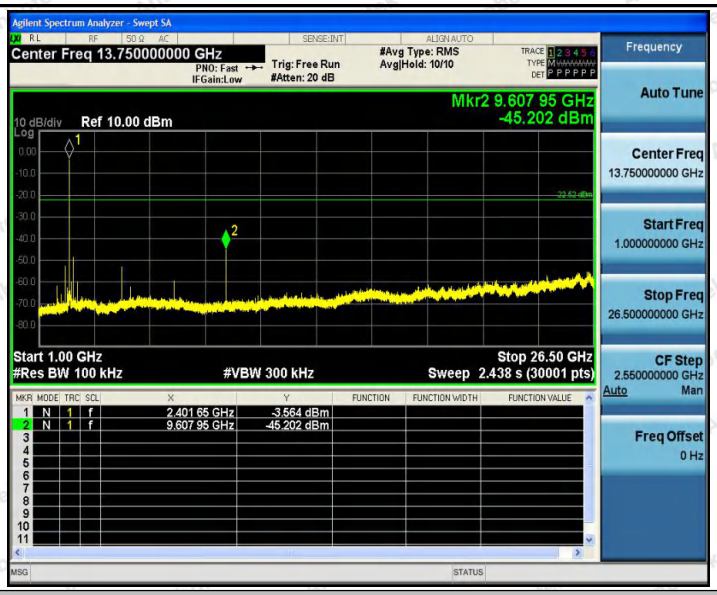
Test Graphs

DH5_Ant1_2402_0~Reference

DH5_Ant1_2402_30~1000

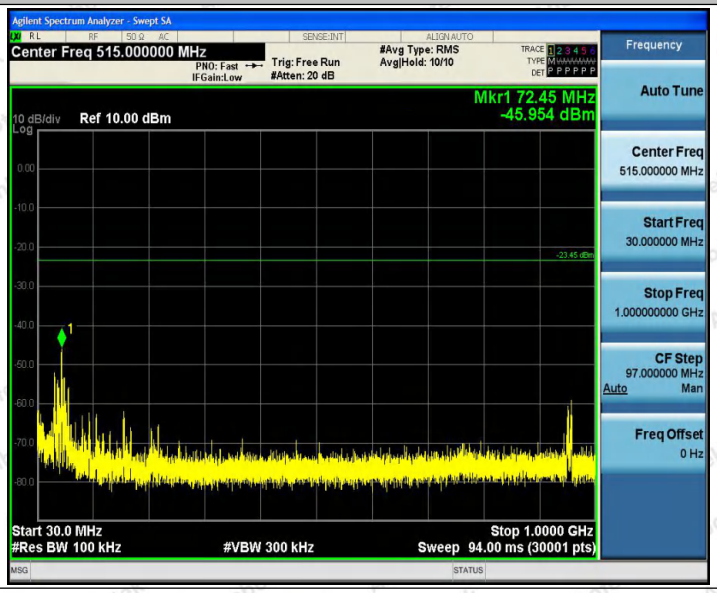


DH5_Ant1_2402_1000~26500

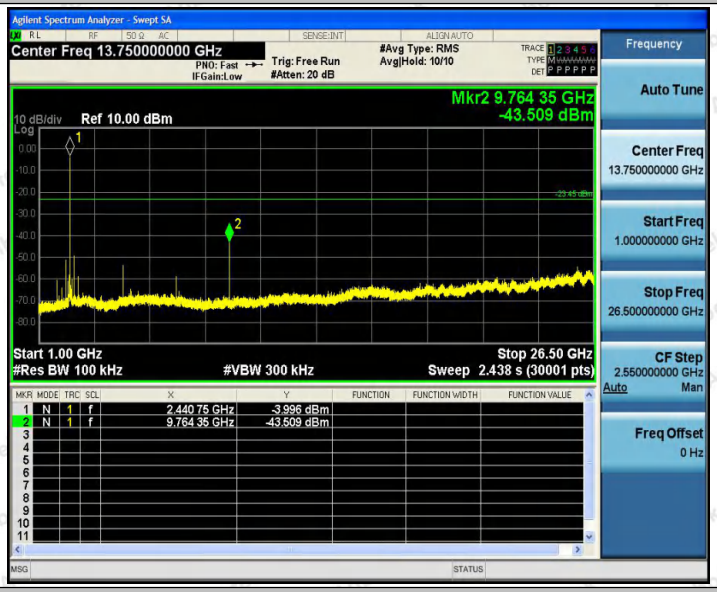


DH5_Ant1_2441_0~Reference

DH5_Ant1_2441_30~1000

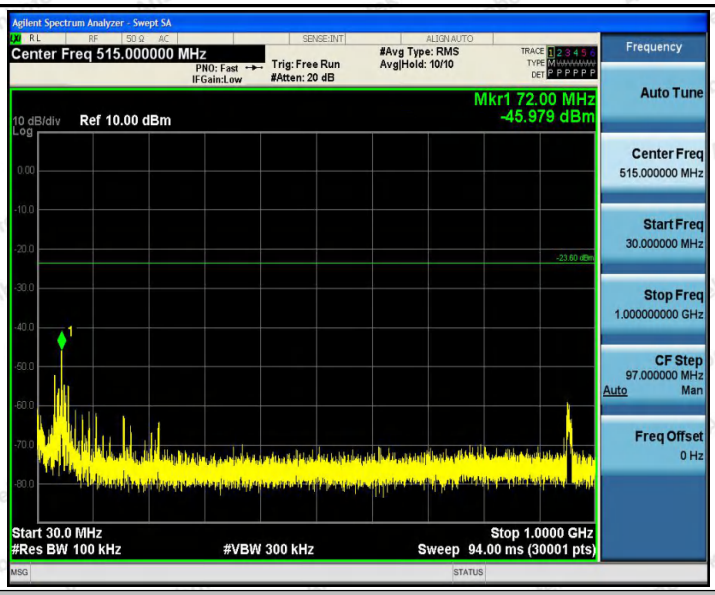


DH5_Ant1_2441_1000~26500

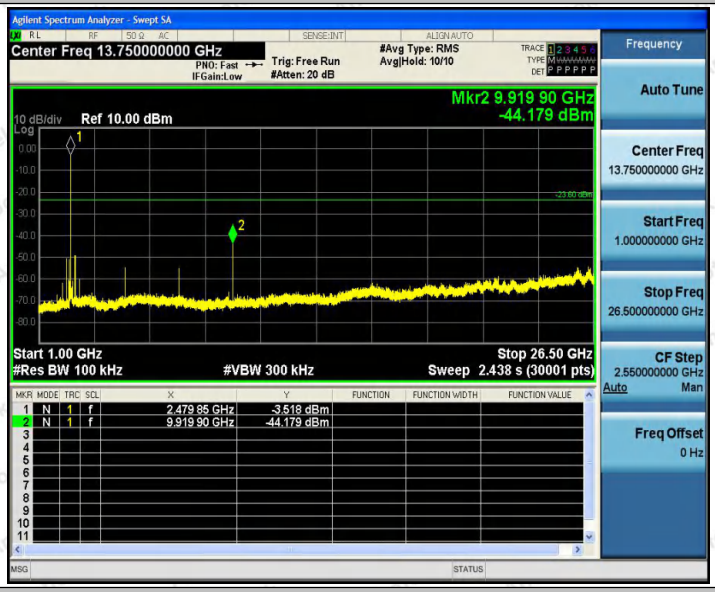


DH5_Ant1_2480_0~Reference

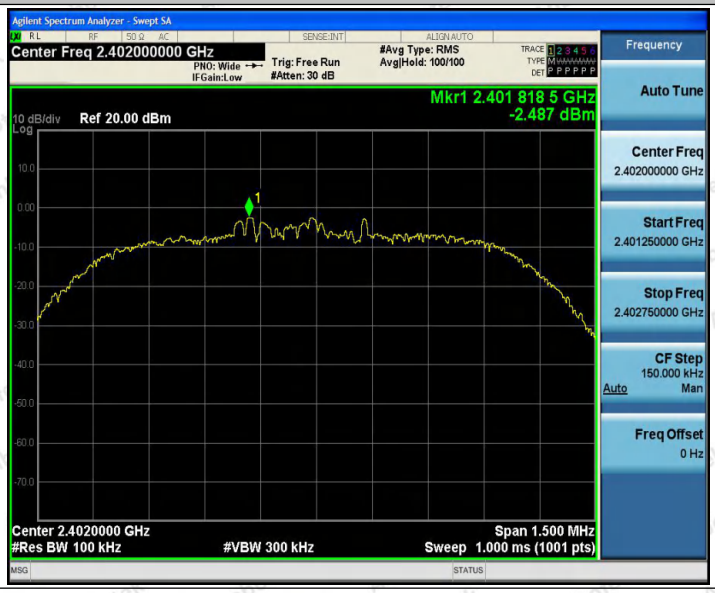
DH5_Ant1_2480_30~1000



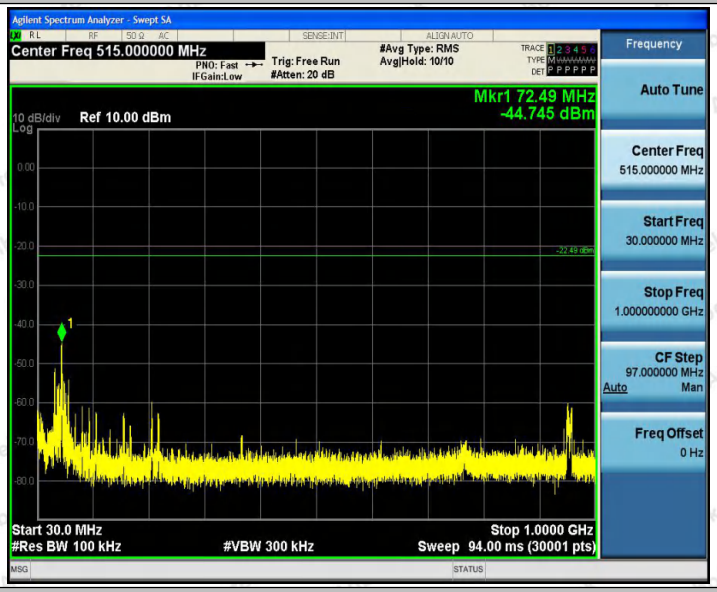
DH5_Ant1_2480_1000~26500



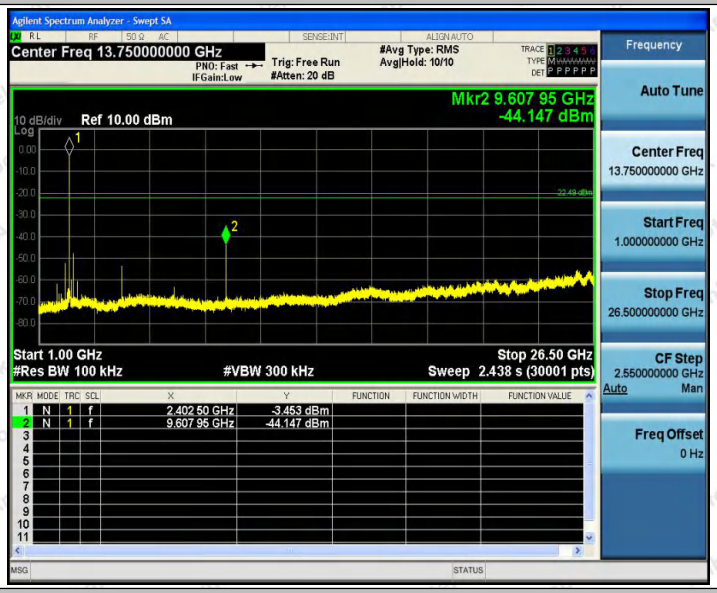
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000

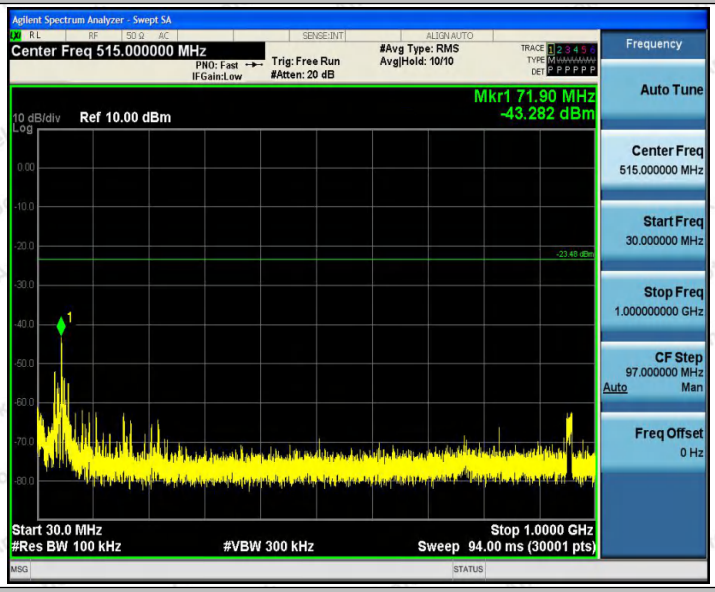


2DH5_Ant1_2402_1000~26500

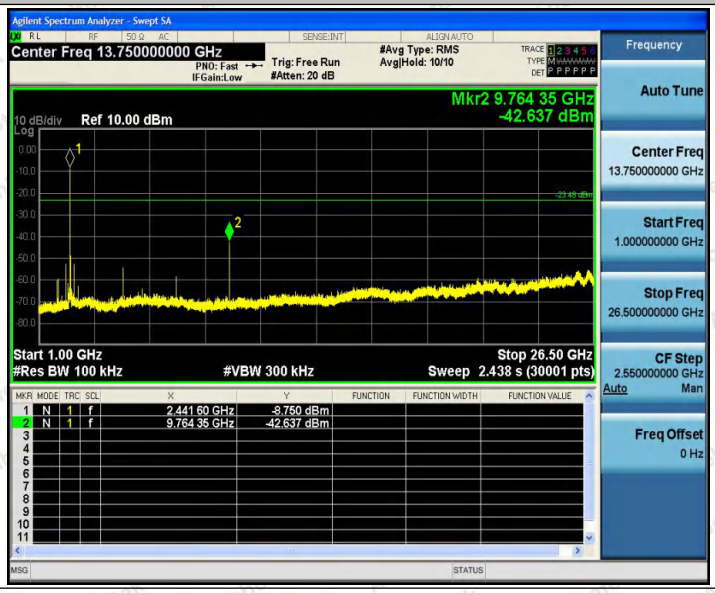


2DH5_Ant1_2441_0~Reference

2DH5_Ant1_2441_30~1000

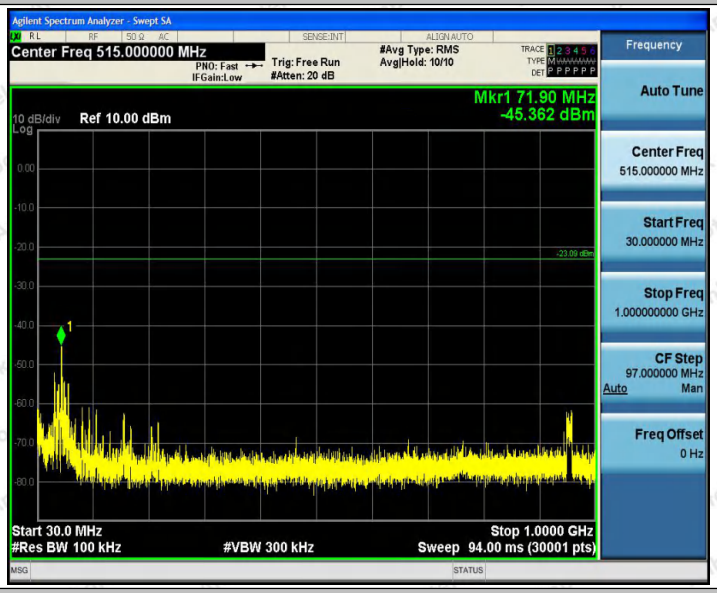


2DH5_Ant1_2441_1000~26500

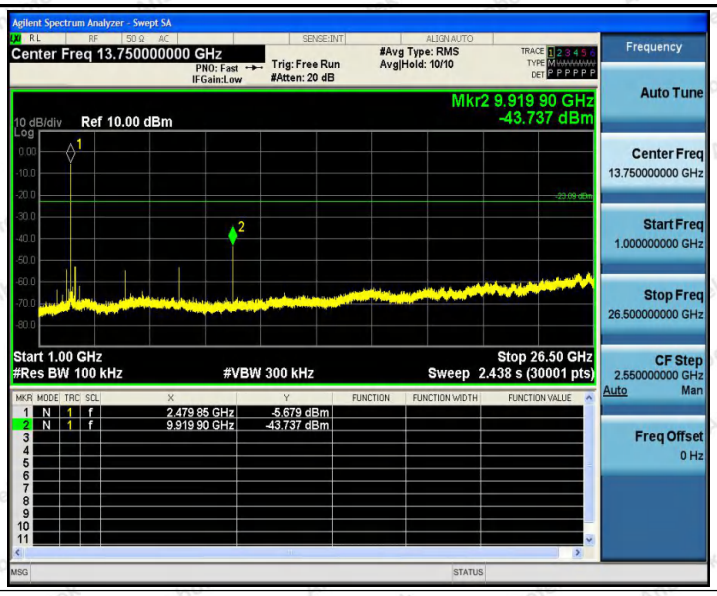


2DH5_Ant1_2480_0~Reference

2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 10/10
Frequency
Auto Tune
Mkr2 9.919 90 GHz
-43.737 dBm
10 dB/div
Ref 10.00 dBm
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
CF Step
2.550000000 GHz
Auto
Man
Freq Offset
0 Hz
1 N 1 f 2.479 85 GHz -5.679 dBm
2 N 1 f 9.919 90 GHz -43.737 dBm

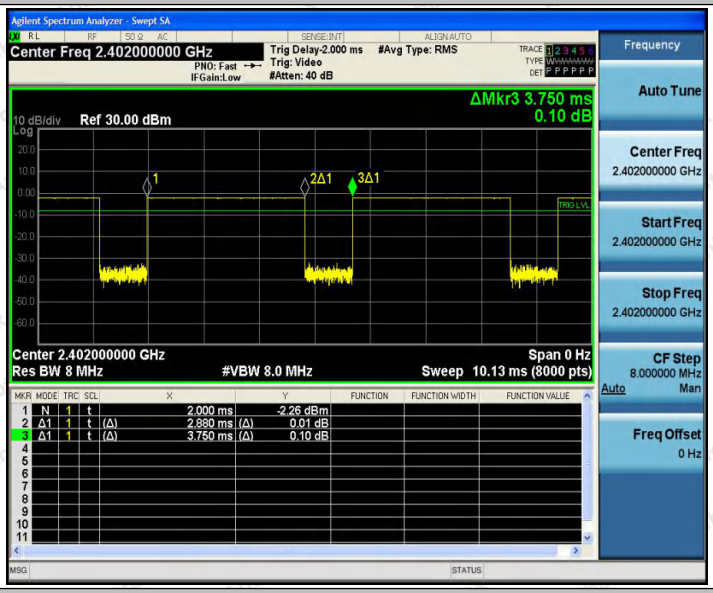
Appendix I: Duty Cycle

Test Result

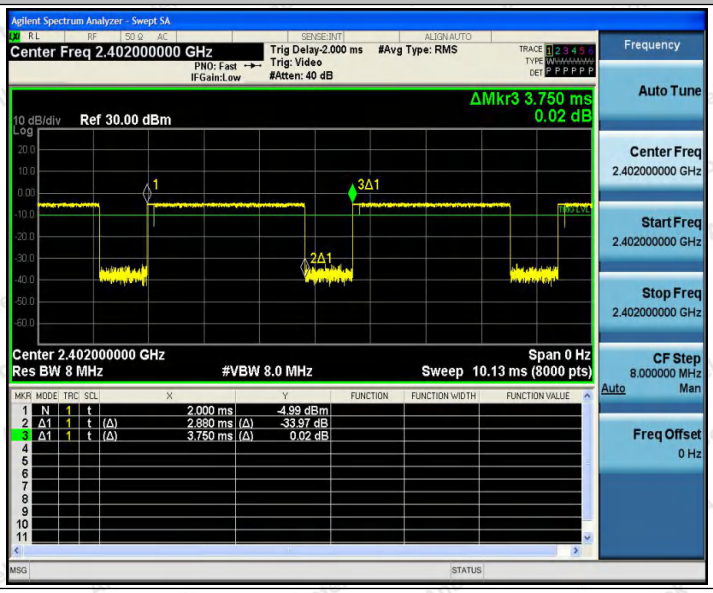
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.88	3.75	0.7680	76.80	1.15	---	PASS
2DH5	Ant1	2402	2.88	3.75	0.7680	76.80	1.15	---	PASS

Test Graphs

DH5_Ant1_2402



2DH5_Ant1_2402



---End---