Appendix Test Data

Report No.:	18220WC20055701	Test Sample No.:	1-2-2
Start Test Date:	2022.3.24	Finish Test Date:	2022.3.29
Test Engineer:	*Tony.He*	Auditor:	*Edward.Pan*
Temperature:	24.3℃	Relative Humidity:	56 %
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	2408	2.050	2406.995	2409.045	---	PASS
		2440	2.050	2438.995	2441.045	---	PASS
		2474	2.050	2472.995	2475.045	---	PASS

Test Graphs

2.4_Ant1_2408

2.4_Ant1_2440

2.4_Ant1_2474

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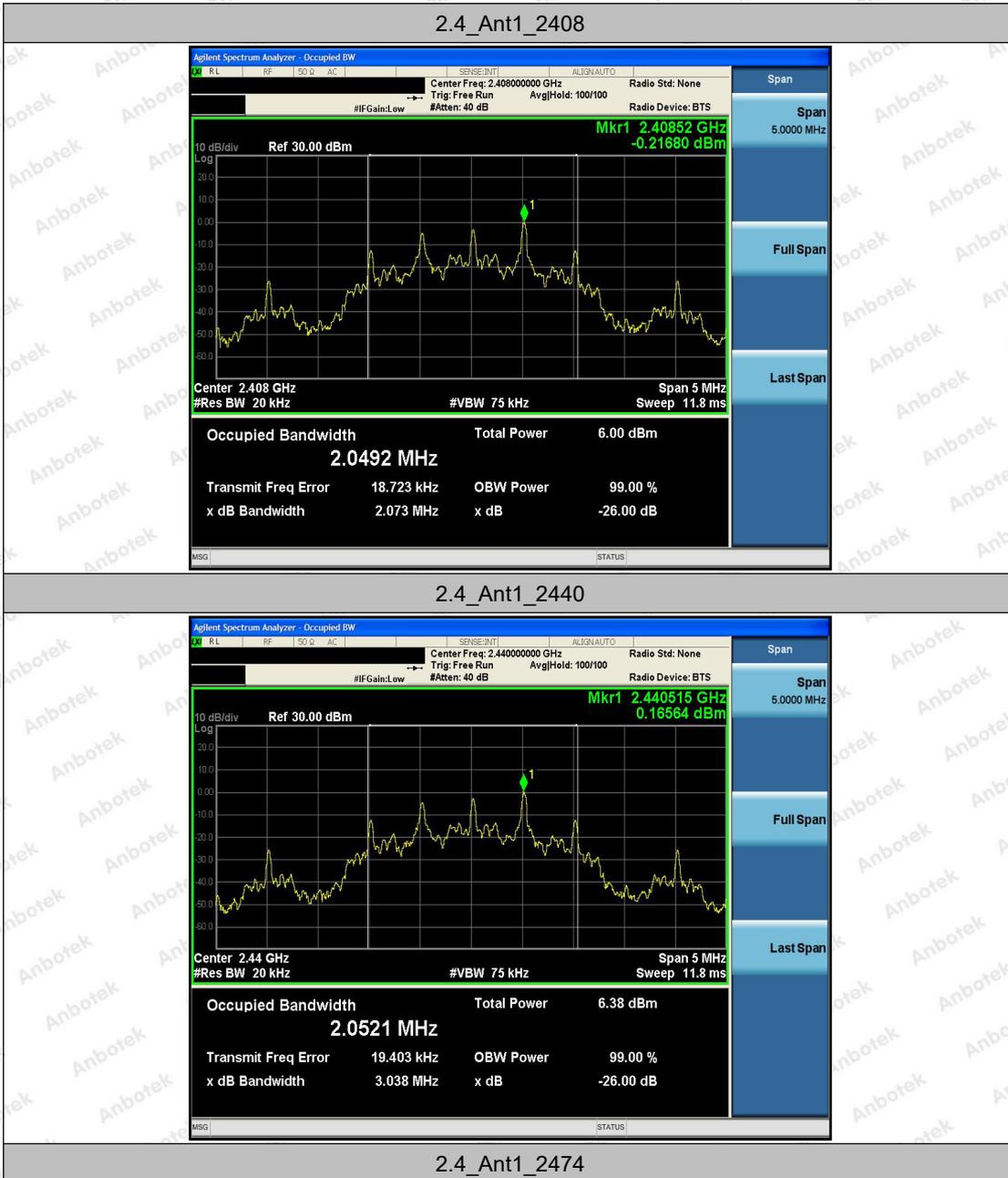
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Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
2.4	Ant1	2408	2.0492	2406.994	2409.043	---	PASS
		2440	2.0521	2438.993	2441.045	---	PASS
		2474	2.0535	2472.994	2475.047	---	PASS

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Test Graphs

2.4_Ant1_2408

Agilent Spectrum Analyzer - Occupied BW

Center Freq: 2.408000000 GHz Radio Std: None
Trig: Free Run Avg|Hold: 100/100
#IFGain:Low #Atten: 40 dB Radio Device: BTS

Mkr1 2.40852 GHz
-0.21680 dBm

10 dB/div Ref 30.00 dBm

Center 2.408 GHz Span 5 MHz
#Res BW 20 kHz #VBW 75 kHz Sweep 11.8 ms

Occupied Bandwidth Total Power 6.00 dBm
2.0492 MHz
Transmit Freq Error 18.723 kHz OBW Power 99.00 %
x dB Bandwidth 2.073 MHz x dB -26.00 dB

2.4_Ant1_2440

Agilent Spectrum Analyzer - Occupied BW

Center Freq: 2.440000000 GHz Radio Std: None
Trig: Free Run Avg|Hold: 100/100
#IFGain:Low #Atten: 40 dB Radio Device: BTS

Mkr1 2.440515 GHz
0.16564 dBm

10 dB/div Ref 30.00 dBm

Center 2.44 GHz Span 5 MHz
#Res BW 20 kHz #VBW 75 kHz Sweep 11.8 ms

Occupied Bandwidth Total Power 6.38 dBm
2.0521 MHz
Transmit Freq Error 19.403 kHz OBW Power 99.00 %
x dB Bandwidth 3.038 MHz x dB -26.00 dB

2.4_Ant1_2474

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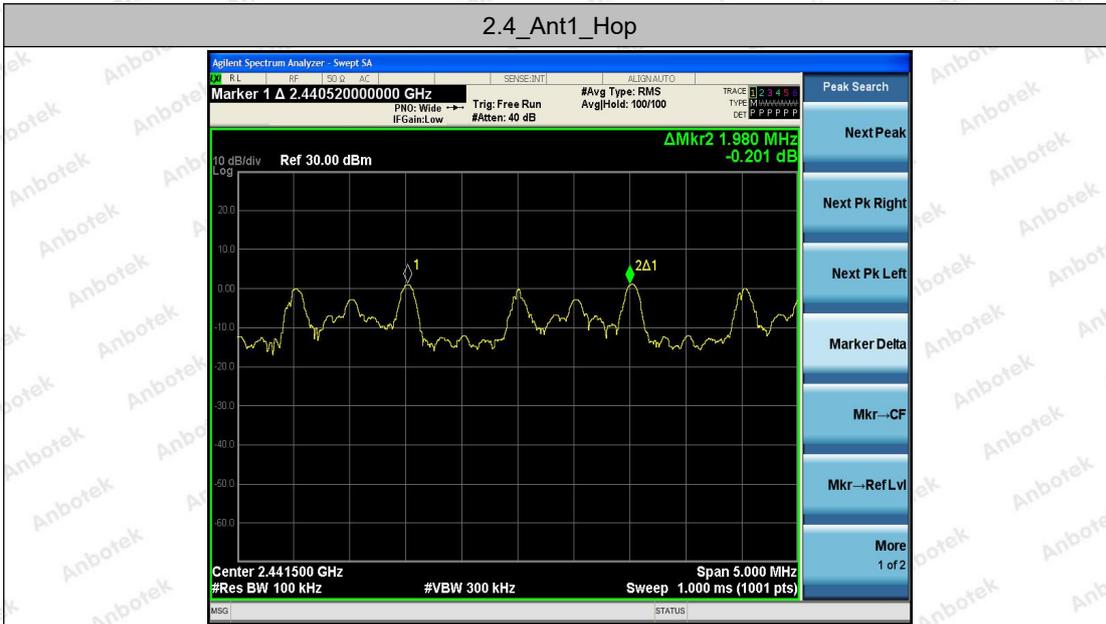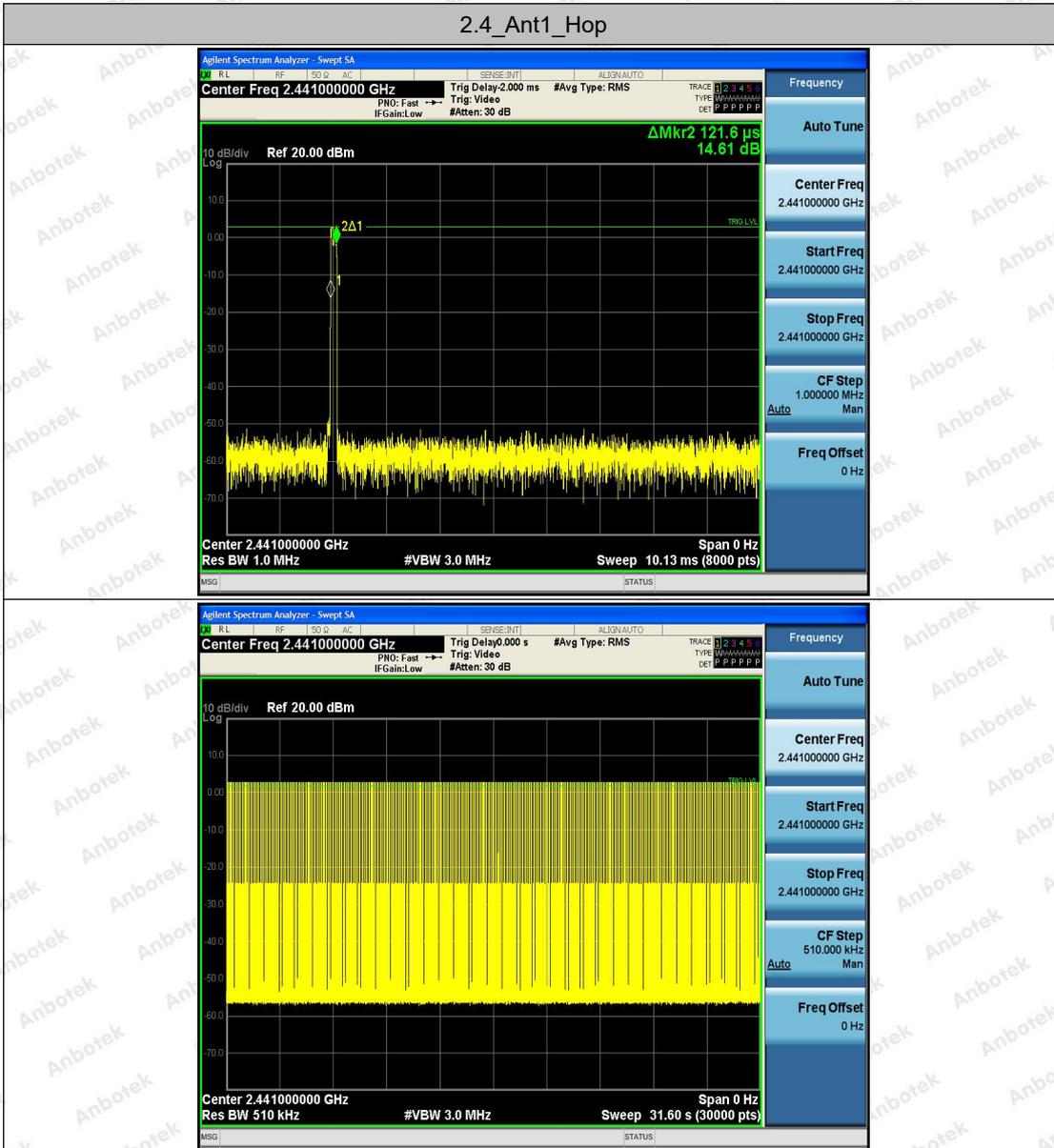Tel:(86) 755-26066440   Fax: (86) 755-26014772   Email: service@anbotek.com

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Agilent Spectrum Analyzer - Occupied BW

Center Freq: 2.474000000 GHz
Trig: Free Run
#IFGain:Low #Atten: 40 dB
Avg|Hold: 100/100
SENSE:INT ALIGN AUTO
Radio Std: None
Radio Device: BTS

Mkr1 2.47452 GHz
1.0649 dBm

10 dB/div Ref 30.00 dBm
Log

Center 2.474 GHz
#Res BW 20 kHz #VBW 75 kHz
Span 5 MHz
Sweep 11.8 ms

Span
Span
5.0000 MHz

Full Span

Last Span

Occupied Bandwidth	Total Power	7.18 dBm
2.0535 MHz		
Transmit Freq Error 20.390 kHz	OBW Power	99.00 %
x dB Bandwidth 3.041 MHz	x dB	-26.00 dB

MSG STATUS

Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
2.4	Ant1	2408	0.64	≤20.96	PASS
		2440	1.05	≤20.96	PASS
		2474	1.93	≤20.96	PASS

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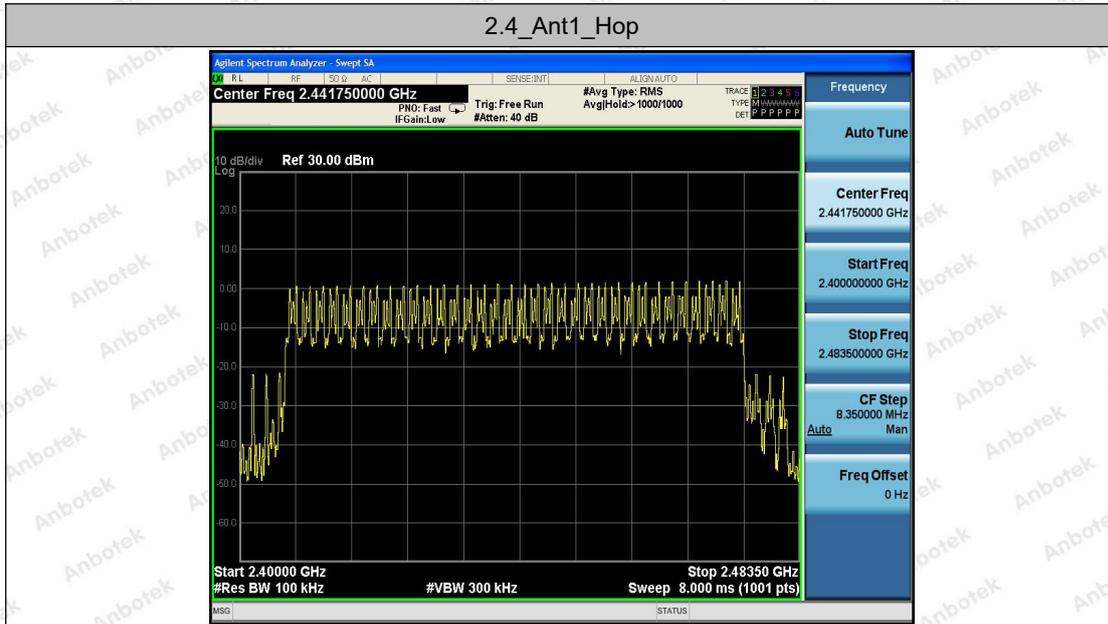Tel:(86) 755–26066440   Fax: (86) 755–26014772   Email: service@anbotek.com

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Test Graphs

2.4_Ant1_2408

2.4_Ant1_2440

2.4_Ant1_2474

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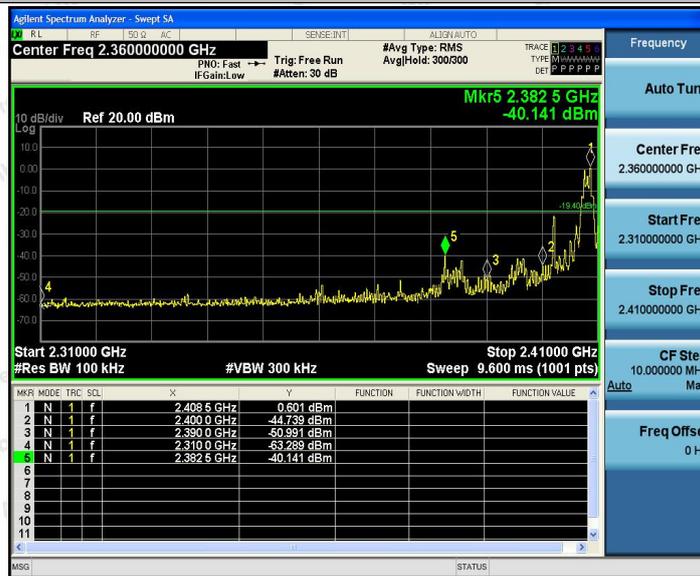
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Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
2.4	Ant1	Hop	1.98	≥1.367	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	0.12	498	0.061	≤0.4	PASS

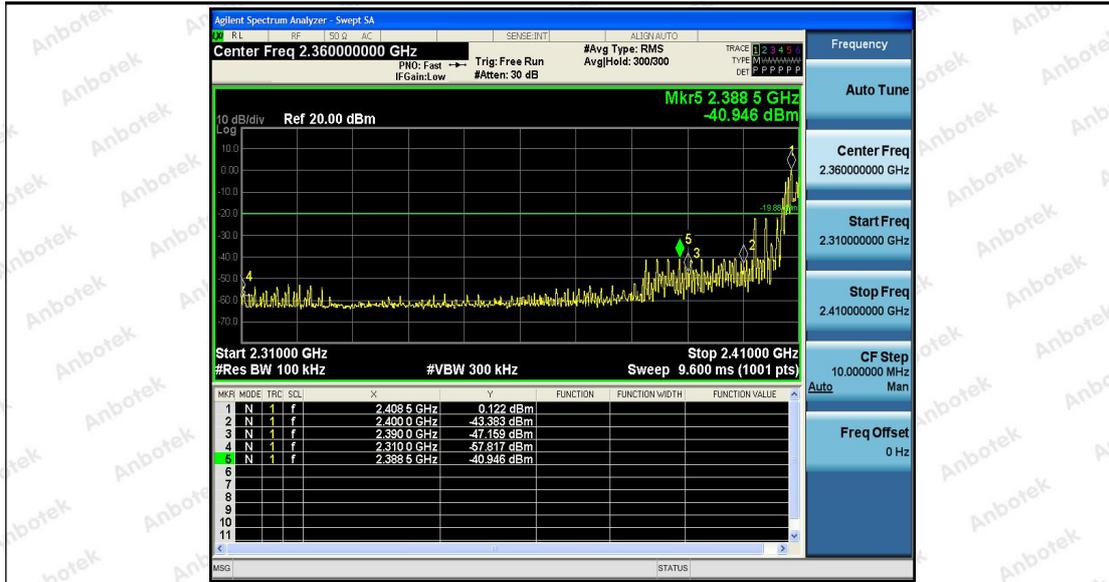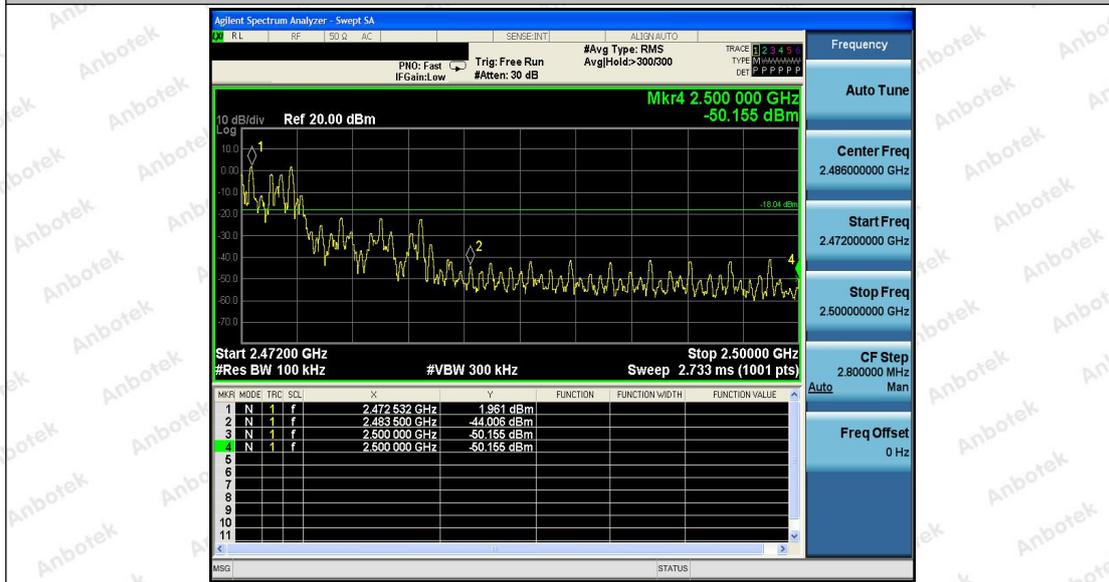**Shenzhen Anbotek Compliance Laboratory Limited**

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Test Graphs

2.4_Ant1_Hop

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Appendix F: Number of hopping channels

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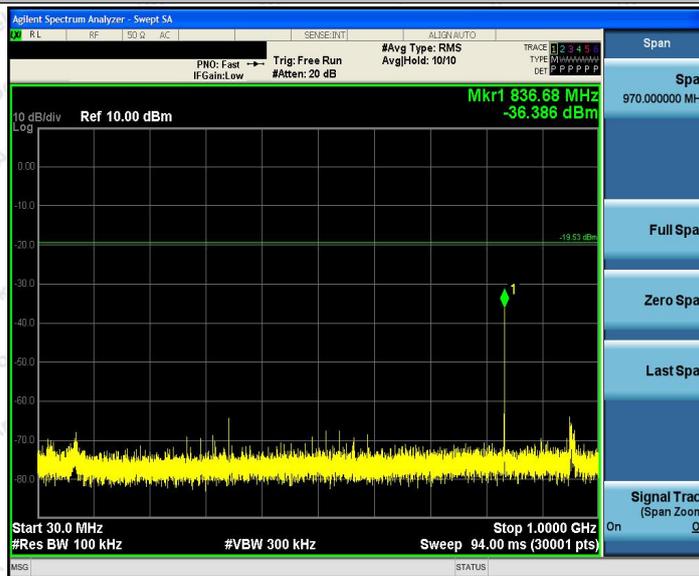
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
2.4	Ant1	Hop	34	≥15	PASS

Test Graphs

2.4_Ant1_Hop

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441750000 GHz

PNO: Fast
IFGain:Low

Trig: Free Run
#Atten: 40 dB

#Avg Type: RMS
Avg|Hold:> 1000/1000

SENSE:INT   ALIGN AUTO

10 dB/div   Ref 30.00 dBm
Log

Frequency

Auto Tune

Center Freq
2.441750000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Auto   Man

Freq Offset
0 Hz

Start 2.40000 GHz
#Res BW 100 kHz   #VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 ms (1001 pts)

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Appendix G: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
2.4	Ant1	Low	2408	0.60	-40.14	≤-19.4	PASS
		High	2474	2.02	-43.21	≤-17.98	PASS
		Low	Hop	0.12	-40.95	≤-19.88	PASS
		High	Hop	1.96	-50.16	≤-18.04	PASS

Test Graphs

2.4_Ant1_Low_2408

2.4_Ant1_High_2474

2.4_Ant1_Low_Hop

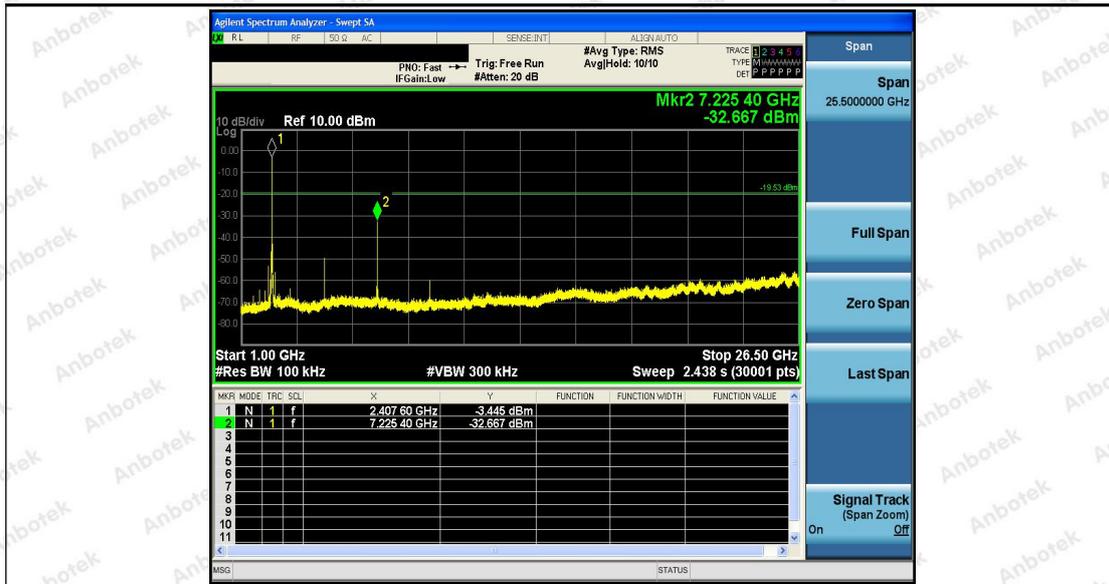**Shenzhen Anbotek Compliance Laboratory Limited**

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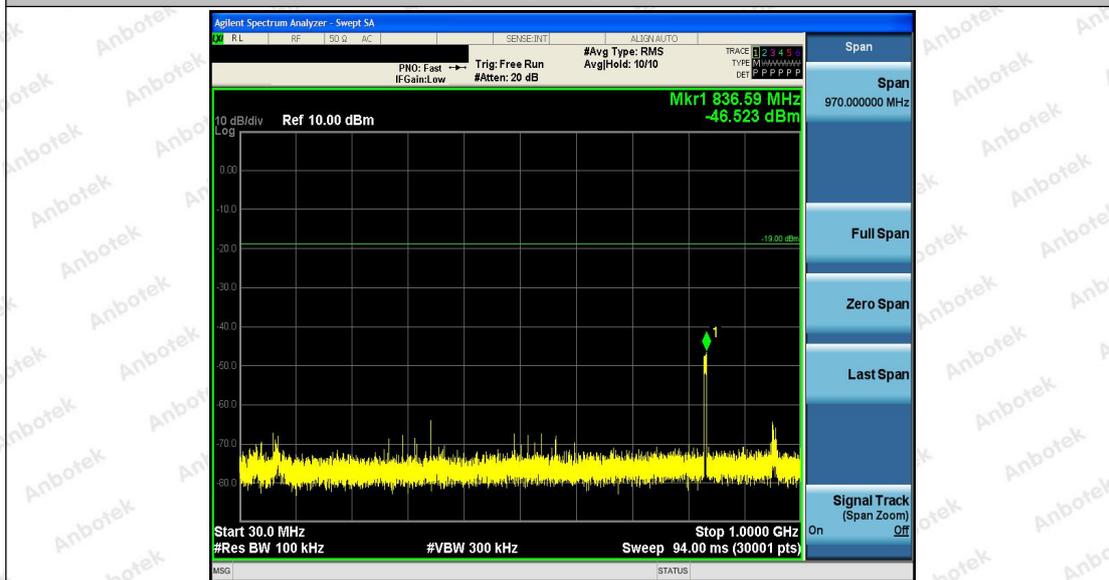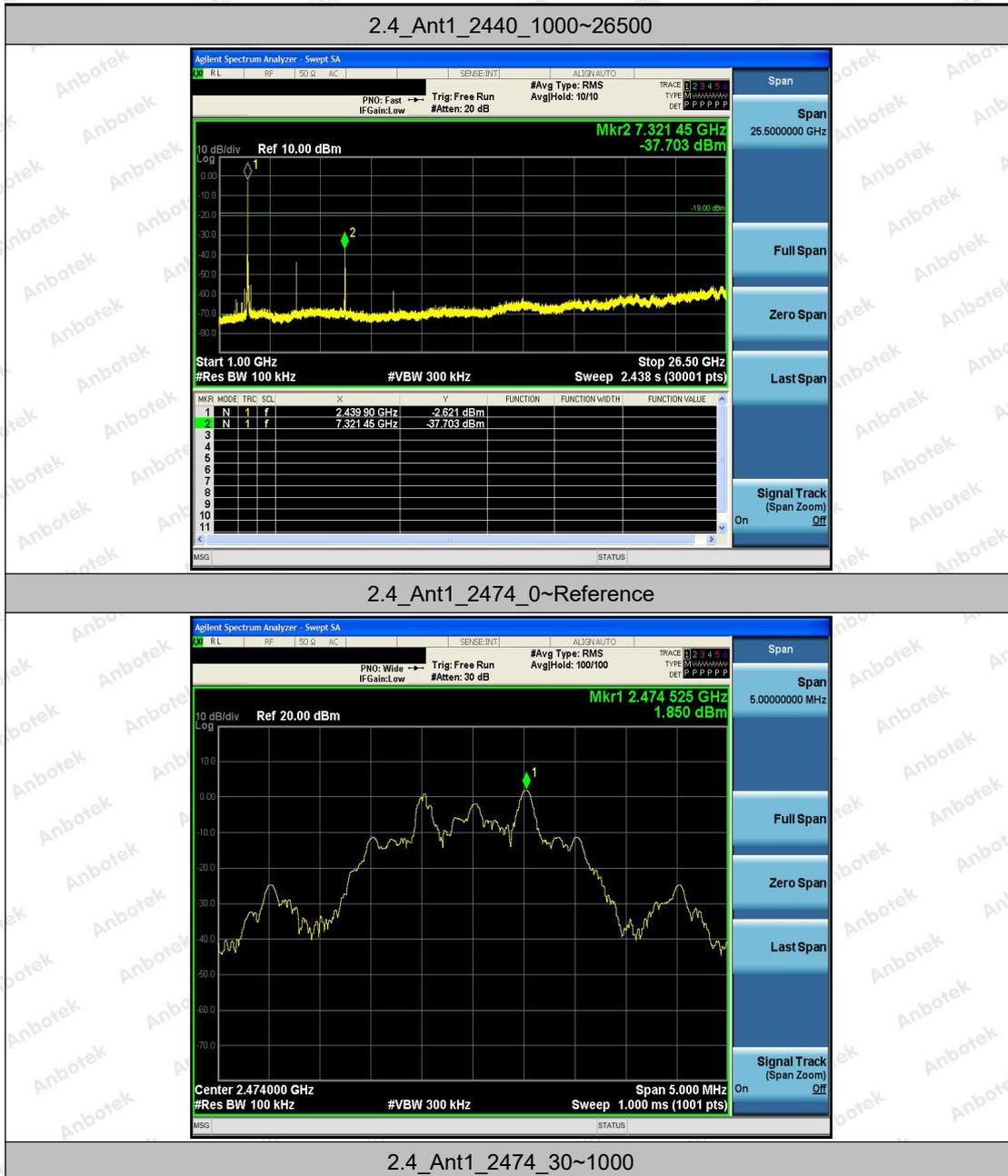Tel:(86) 755-26066440   Fax: (86) 755-26014772   Email: service@anbotek.com
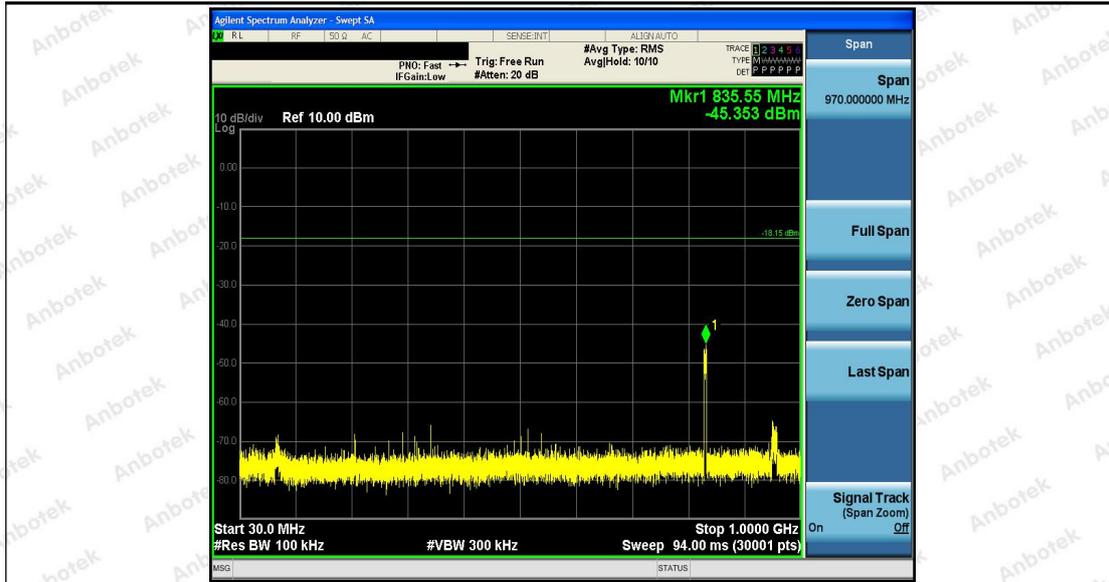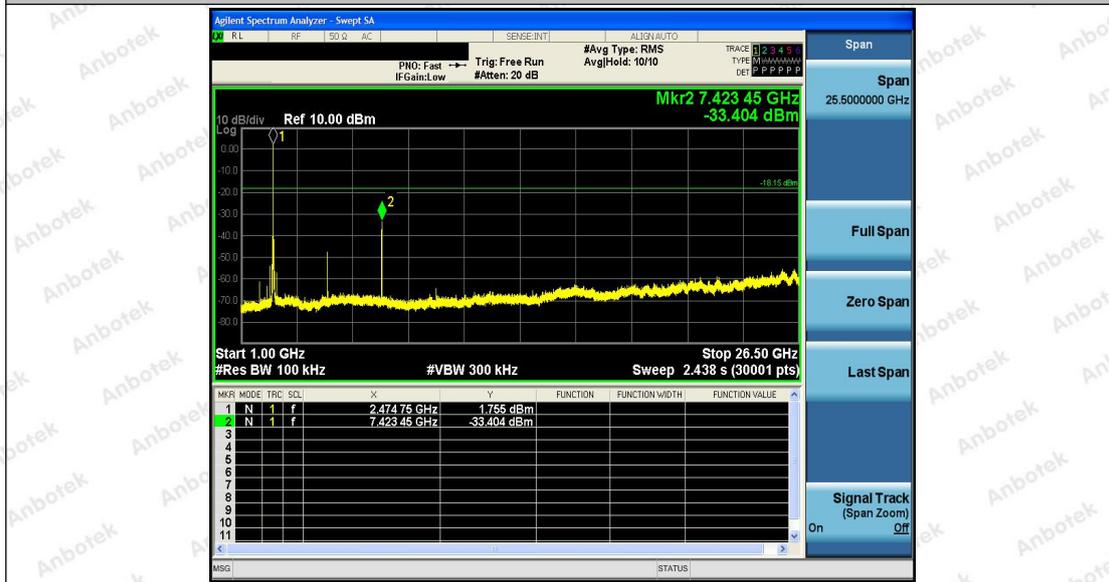
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2.4_Ant1_High_Hop

Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
2.4	Ant1	2408	Reference	0.47	0.47	---	PASS
			30~1000	0.47	-36.39	≤-19.53	PASS
			1000~26500	0.47	-32.67	≤-19.53	PASS
		2440	Reference	1.01	1.01	---	PASS
			30~1000	1.01	-46.52	≤-19	PASS
			1000~26500	1.01	-37.7	≤-19	PASS
		2474	Reference	1.85	1.85	---	PASS
			30~1000	1.85	-45.35	≤-18.15	PASS
			1000~26500	1.85	-33.4	≤-18.15	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

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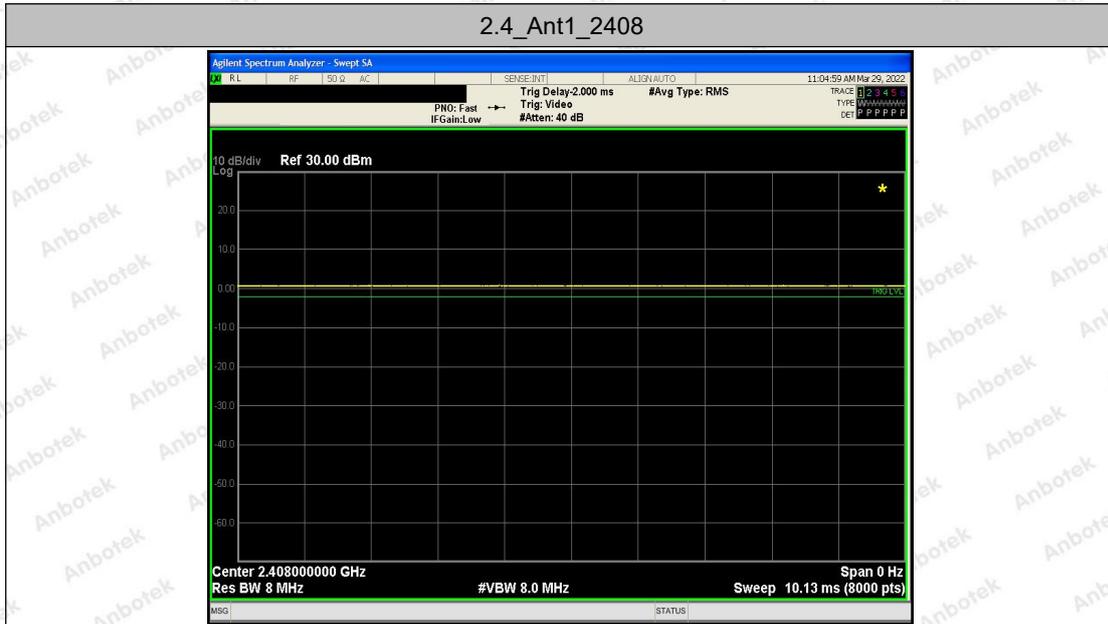Tel:(86) 755-26066440   Fax: (86) 755-26014772   Email: service@anbotek.com

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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
2.4	Ant1	2408	10.13	10.13	1	100%	0	---	PASS

Test Graphs

2.4_Ant1_2408

---End---