

Appendix RF Test Data for BLE

FCC ID : 2BRLY-K94

Company : Guangzhou Jiezhixin Electronic Technology Co., Ltd.

EUT : Wired Keyboard

Model Number : K94

Report No. : CTA25062600601

Reviewed By : Eric Wang

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.648	2401.688	2402.336	0.5	PASS
		2440	0.644	2439.692	2440.336	0.5	PASS
		2480	0.636	2479.692	2480.328	0.5	PASS

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.40200000 GHz

Ref Offset 0.5 dB
Ref 20.00 dBm

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
Avg/Hold: 100/100

Span 4.000 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep (#Swp) 1.000 ms (1001 pts)

ΔMkr3 648 kHz
-0.096 dB

Frequency

Auto Tune

Center Freq
2.40200000 GHz

Start Freq
2.40000000 GHz

Stop Freq
2.40400000 GHz

CF Step
400.000 kHz
Auto Man

Freq Offset
0 Hz

MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 688 GHz	-9.161 dBm			
2	N	1	f	2.402 018 GHz	-3.571 dBm			
3	Δ1	1	f (Δ)	648 kHz (Δ)	-0.096 dB			

BLE_1M_Ant1_2402

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.44000000 GHz

Ref Offset 0.5 dB
Ref 20.00 dBm

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
Avg/Hold: 100/100

Span 4.000 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep (#Swp) 1.000 ms (1001 pts)

ΔMkr3 644 kHz
0.021 dB

Frequency

Auto Tune

Center Freq
2.44000000 GHz

Start Freq
2.43800000 GHz

Stop Freq
2.44200000 GHz

CF Step
400.000 kHz
Auto Man

Freq Offset
0 Hz

MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 692 GHz	-9.762 dBm			
2	N	1	f	2.440 016 GHz	-3.806 dBm			
3	Δ1	1	f (Δ)	644 kHz (Δ)	0.021 dB			

BLE_1M_Ant1_2440

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.44000000 GHz

Ref Offset 0.5 dB
Ref 20.00 dBm

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
Avg/Hold: 100/100

Span 4.000 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep (#Swp) 1.000 ms (1001 pts)

ΔMkr3 644 kHz
0.021 dB

Frequency

Auto Tune

Center Freq
2.44000000 GHz

Start Freq
2.43800000 GHz

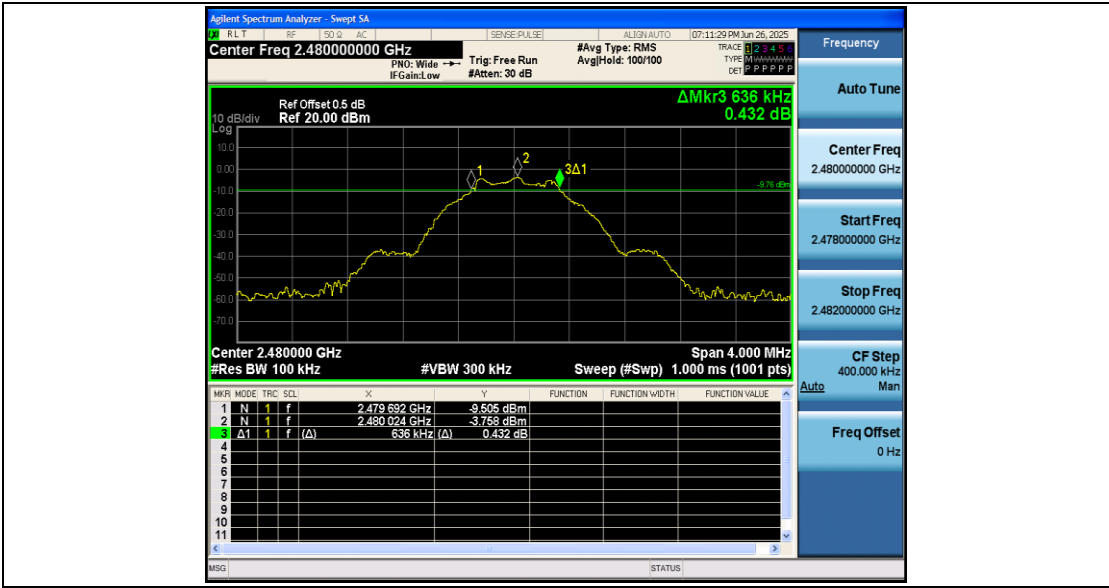
Stop Freq
2.44200000 GHz

CF Step
400.000 kHz
Auto Man

Freq Offset
0 Hz

MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 692 GHz	-9.762 dBm			
2	N	1	f	2.440 016 GHz	-3.806 dBm			
3	Δ1	1	f (Δ)	644 kHz (Δ)	0.021 dB			

BLE_1M_Ant1_2480

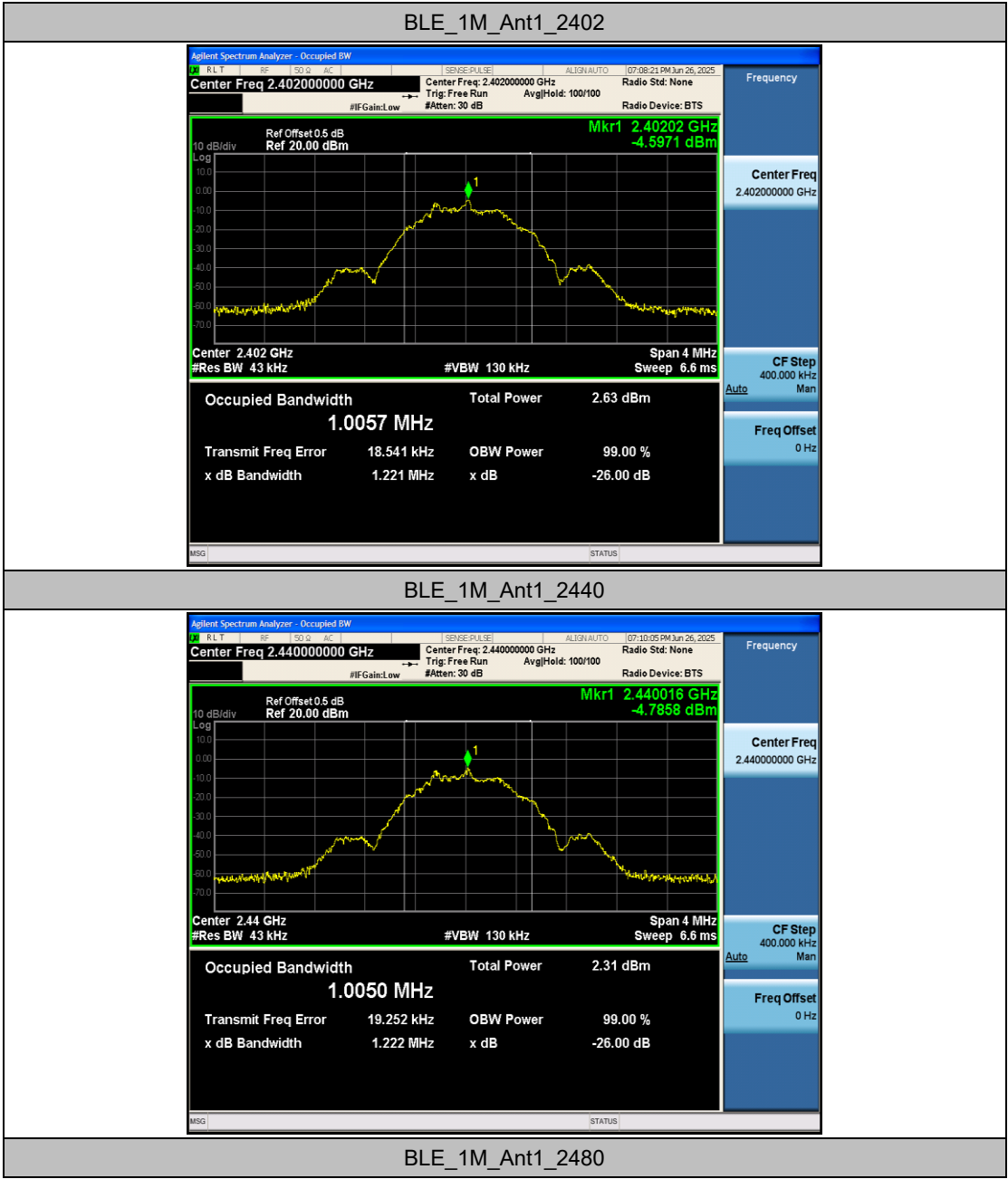


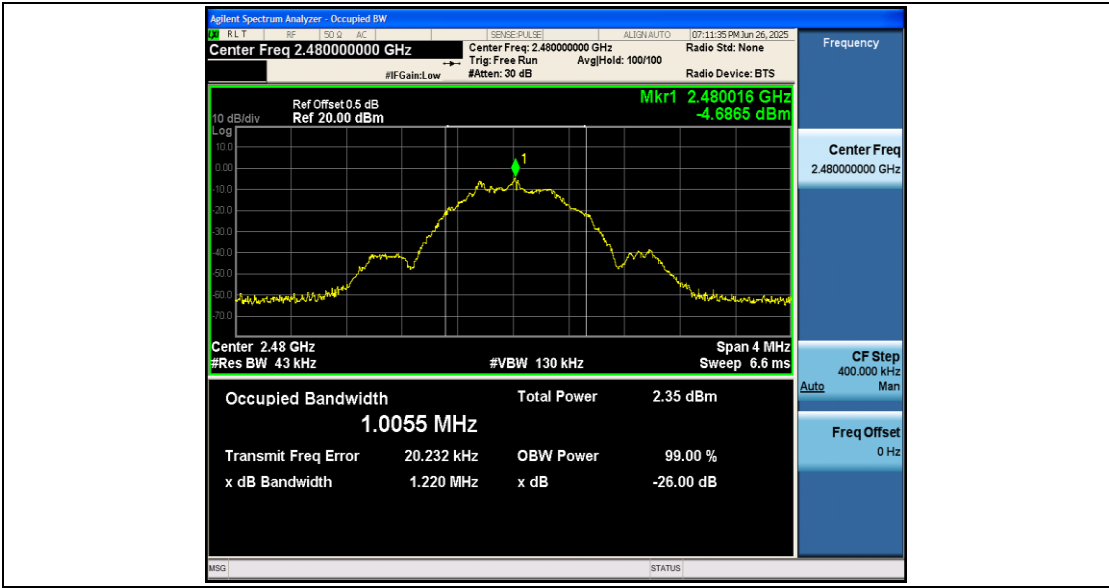
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0057	2401.5157	2402.5214	---	---
		2440	1.0050	2439.5168	2440.5218	---	---
		2480	1.0055	2479.5175	2480.5230	---	---

Test Graphs





Appendix C: Maximum conducted output power

Test Result Peak

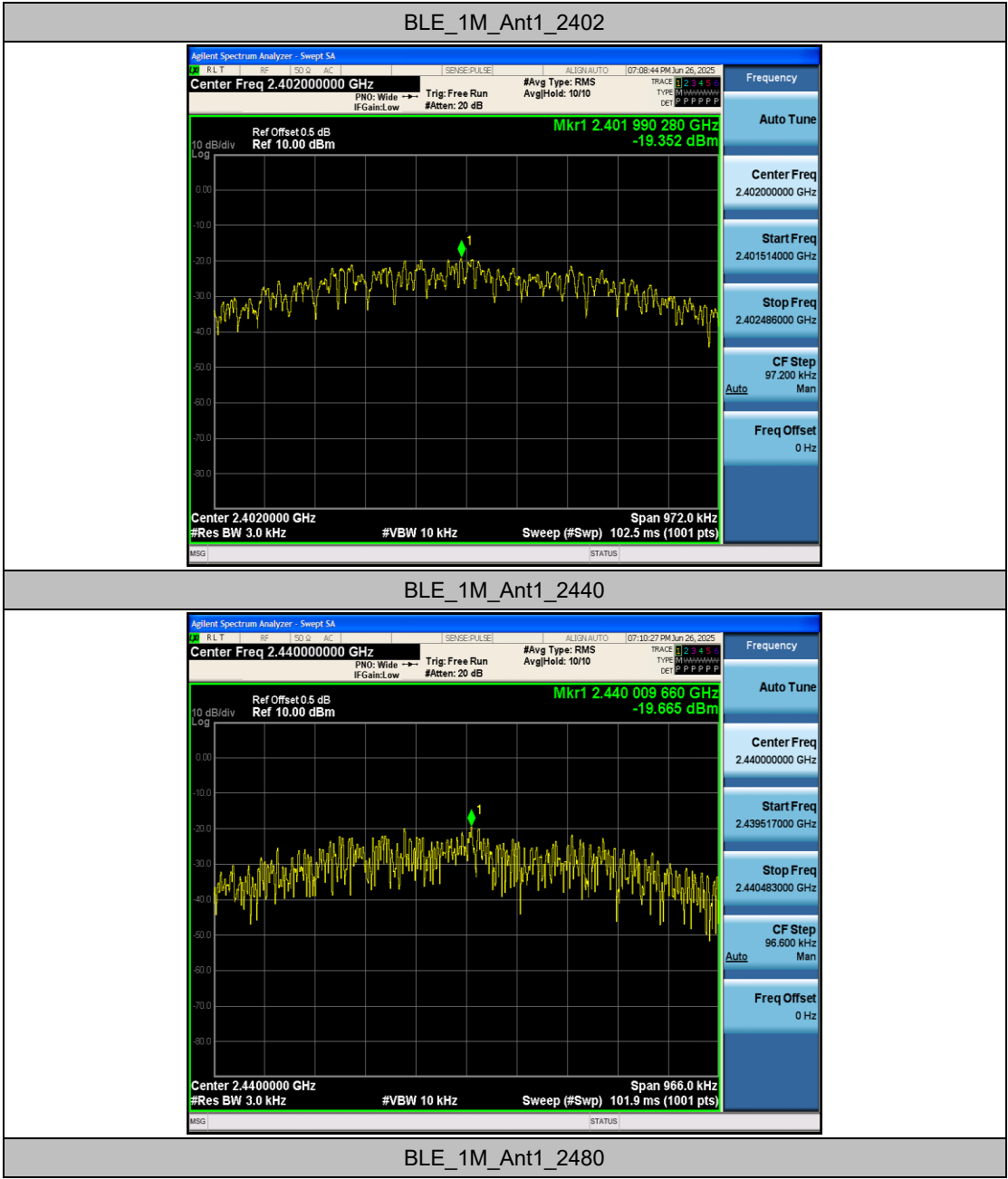
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.46	≤30	PASS
		2440	-3.72	≤30	PASS
		2480	-3.63	≤30	PASS

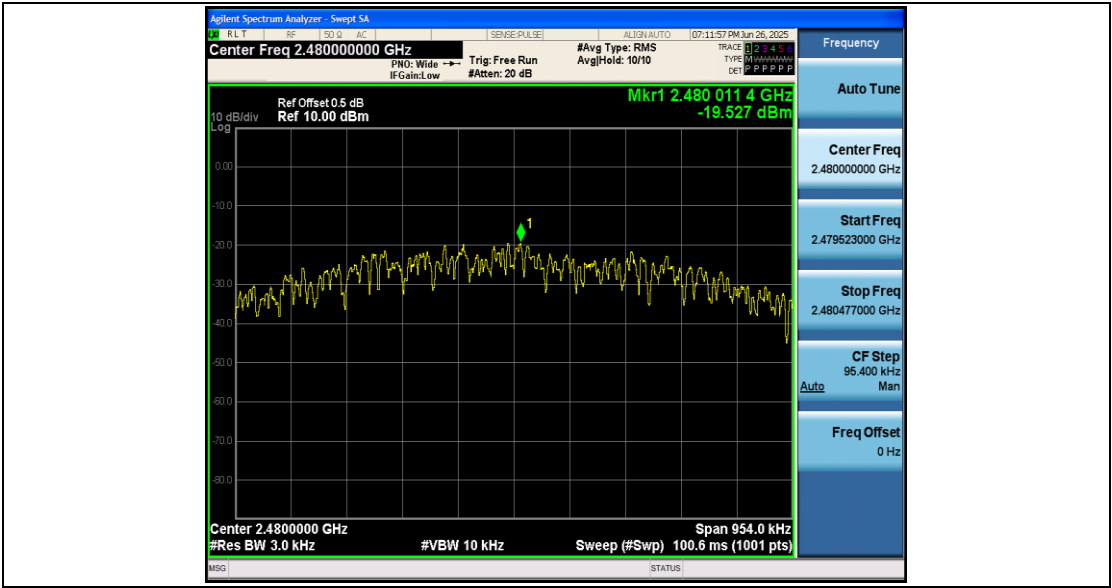
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.35	≤8.00	PASS
		2440	-19.67	≤8.00	PASS
		2480	-19.53	≤8.00	PASS

Test Graphs





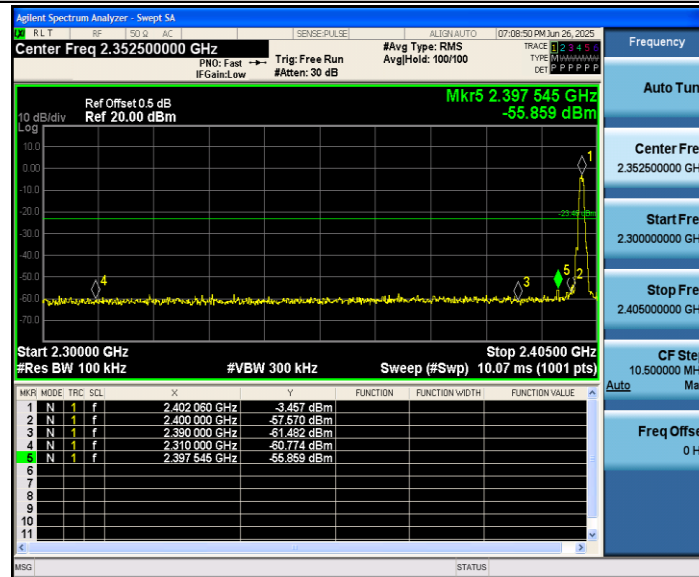
Appendix E: Band edge measurements

Test Result

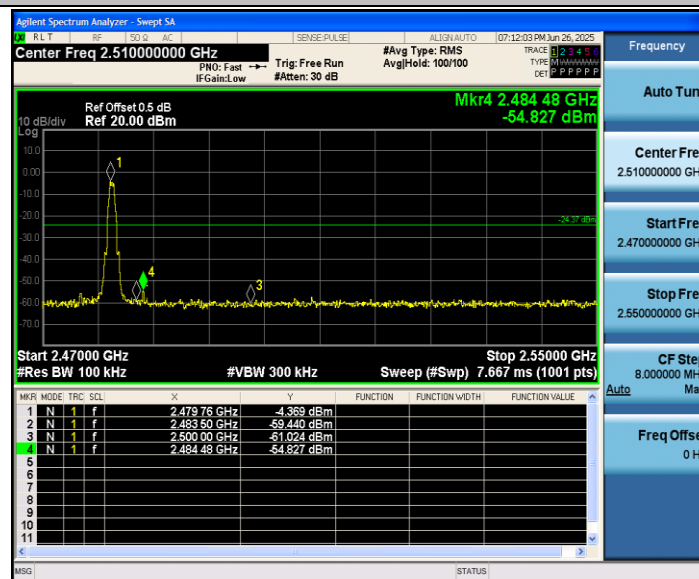
TestMod e	Antenn a	ChNam e	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdic t
BLE_1M	Ant1	Low	2402	-3.46	-55.86	≤-23.46	PASS
		High	2480	-4.37	-54.83	≤-24.37	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480

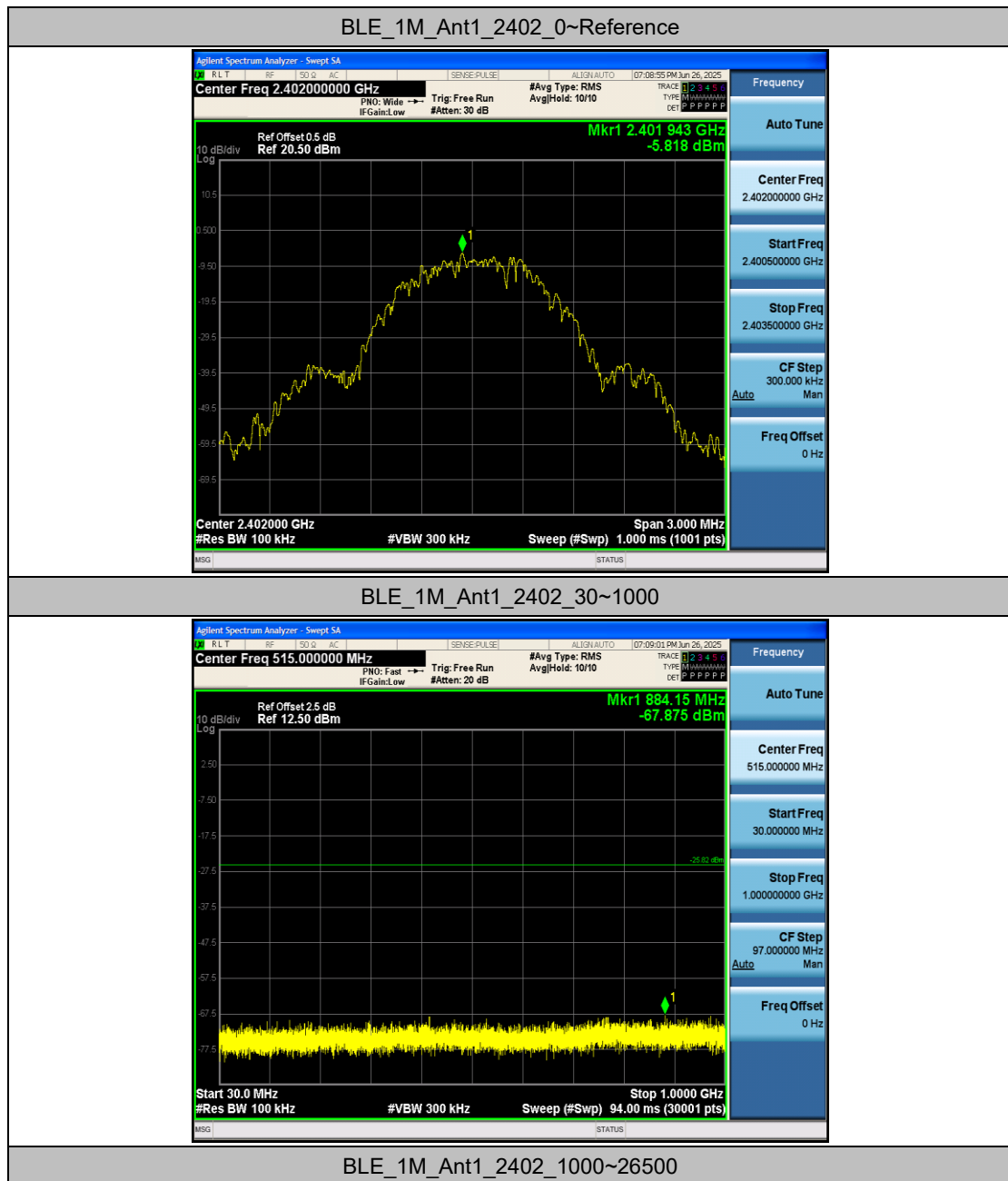


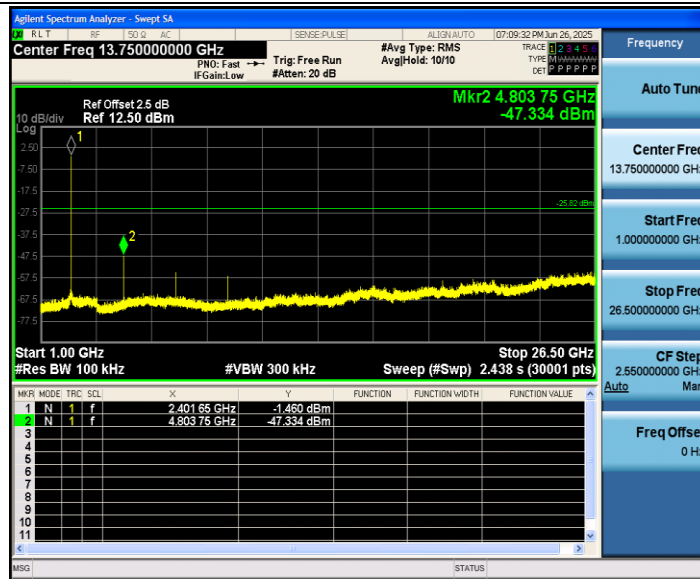
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-5.82	-5.82	---	PASS
			30~1000	-5.82	-67.88	≤-25.82	PASS
			1000~26500	-5.82	-47.33	≤-25.82	PASS
		2440	Reference	-4.06	-4.06	---	PASS
			30~1000	-4.06	-33.9	≤-24.06	PASS
			1000~26500	-4.06	-47.06	≤-24.06	PASS
		2480	Reference	-5.25	-5.25	---	PASS
			30~1000	-5.25	-67.99	≤-25.25	PASS
			1000~26500	-5.25	-50.81	≤-25.25	PASS

Test Graphs

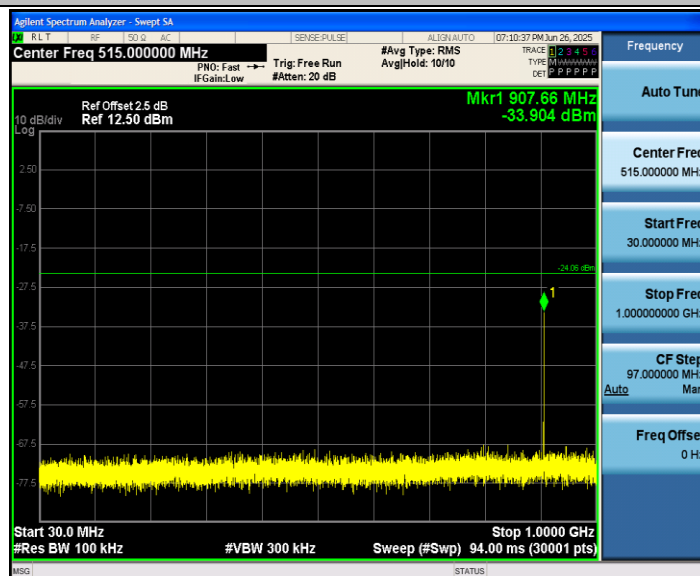




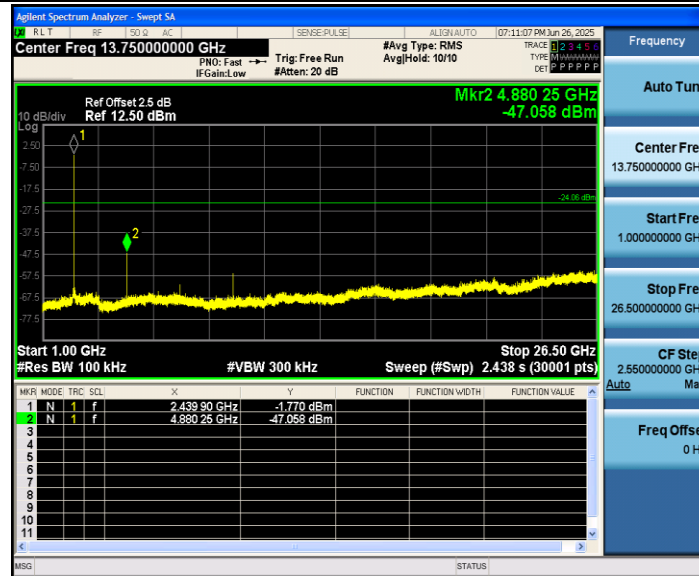
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



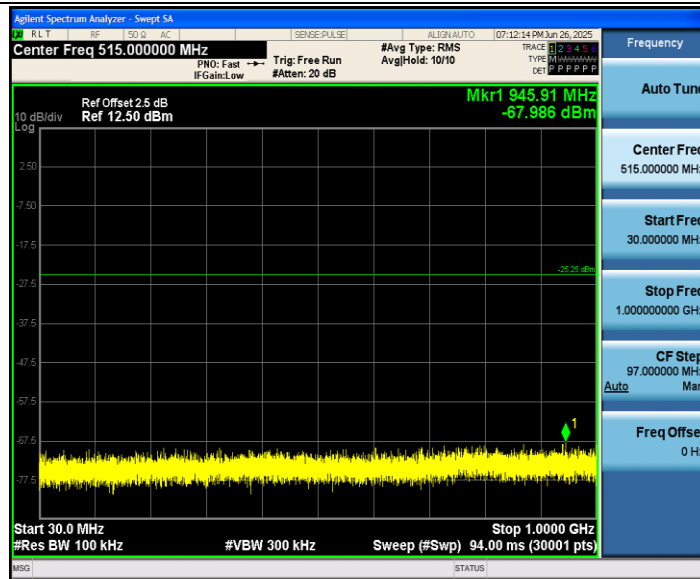
BLE_1M_Ant1_2440_1000~26500



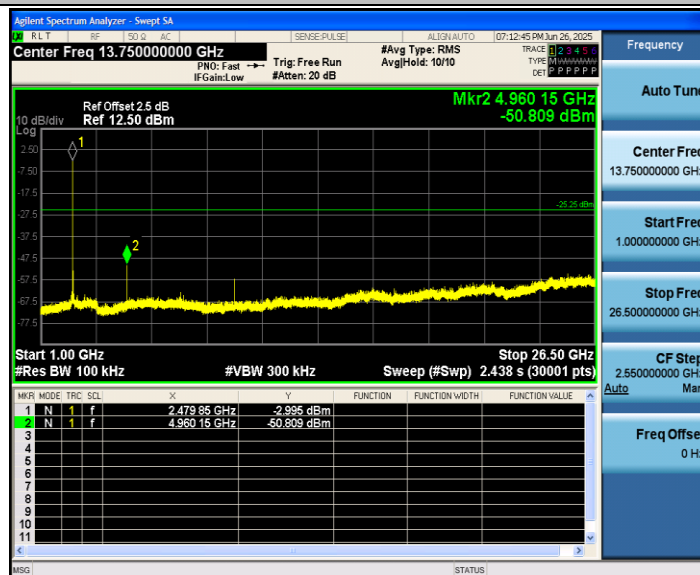
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.41	0.63	0.6508	65.08	1.87	---	---
		2440	0.41	0.63	0.6508	65.08	1.87	---	---
		2480	0.41	0.63	0.6508	65.08	1.87	---	---

Test Graphs

