

FCC Appendix RF Test Data for BLE

FCC ID : 2BM7C-GD-88

Company : Xiamen Deyin Technology Co.,Ltd

EUT : Thermal printer

Model Number : GD-88

Report No. : CTA25091802401

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	0.660	2401.684	2402.344	0.5	PASS
		2440	0.636	2439.688	2440.324	0.5	PASS
		2480	0.640	2479.692	2480.332	0.5	PASS

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.402000000 GHz

Ref Offset 0.3 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 660 kHz
0.018 dB

Log

10 dB/div

0.00

-10.00

-20.00

-30.00

-40.00

-50.00

-60.00

-70.00

Center Freq 2.402000000 GHz

Start Freq 2.400000000 GHz

Stop Freq 2.404000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401684 GHz	-6.694 dBm			
2	N	1	f	2.401758 GHz	-0.895 dBm			
3	Δ1	1	f (Δ)	660 kHz (Δ)	0.018 dB			

BLE_1M_Ant1_2402

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.440000000 GHz

Ref Offset 0.3 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 636 kHz
0.376 dB

Log

10 dB/div

0.00

-10.00

-20.00

-30.00

-40.00

-50.00

-60.00

-70.00

Center Freq 2.440000000 GHz

Start Freq 2.438000000 GHz

Stop Freq 2.442000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439688 GHz	-6.464 dBm			
2	N	1	f	2.440016 GHz	-0.639 dBm			
3	Δ1	1	f (Δ)	636 kHz (Δ)	0.376 dB			

BLE_1M_Ant1_2440

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.440000000 GHz

Ref Offset 0.3 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 636 kHz
0.376 dB

Log

10 dB/div

0.00

-10.00

-20.00

-30.00

-40.00

-50.00

-60.00

-70.00

Center Freq 2.440000000 GHz

Start Freq 2.438000000 GHz

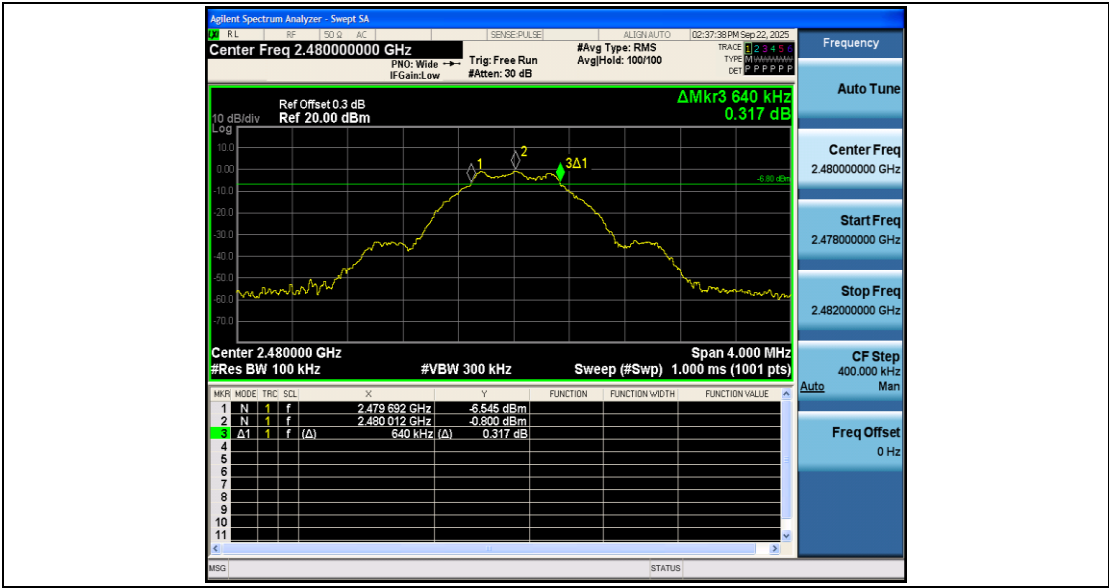
Stop Freq 2.442000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439688 GHz	-6.464 dBm			
2	N	1	f	2.440016 GHz	-0.639 dBm			
3	Δ1	1	f (Δ)	636 kHz (Δ)	0.376 dB			

BLE_1M_Ant1_2480

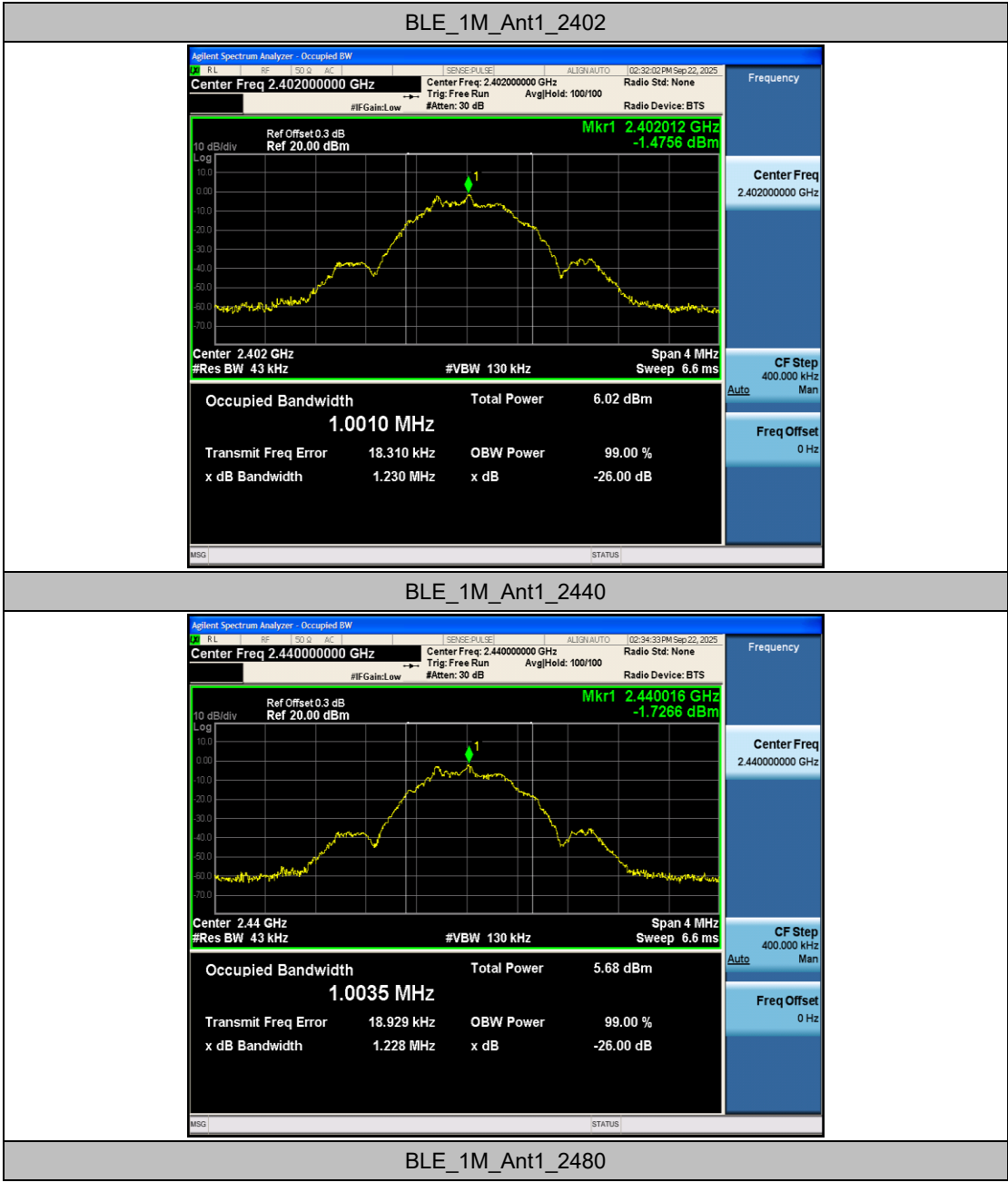


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0010	2401.5178	2402.5188	---	---
		2440	1.0035	2439.5172	2440.5207	---	---
		2480	1.0062	2479.5155	2480.5217	---	---

Test Graphs





Appendix C: Maximum conducted output power

Test Result Peak

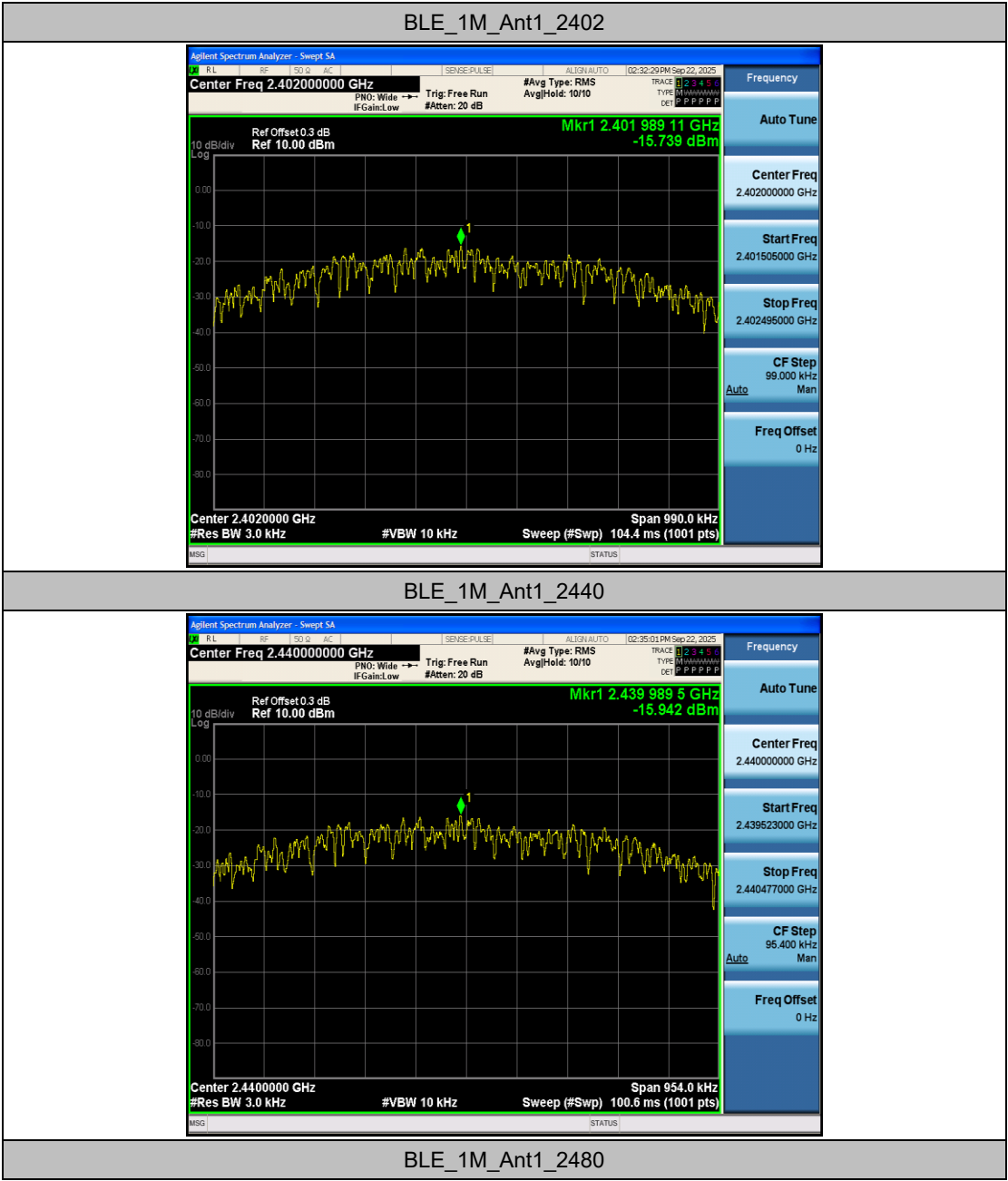
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.13	≤30	PASS
		2440	-0.52	≤30	PASS
		2480	-0.59	≤30	PASS

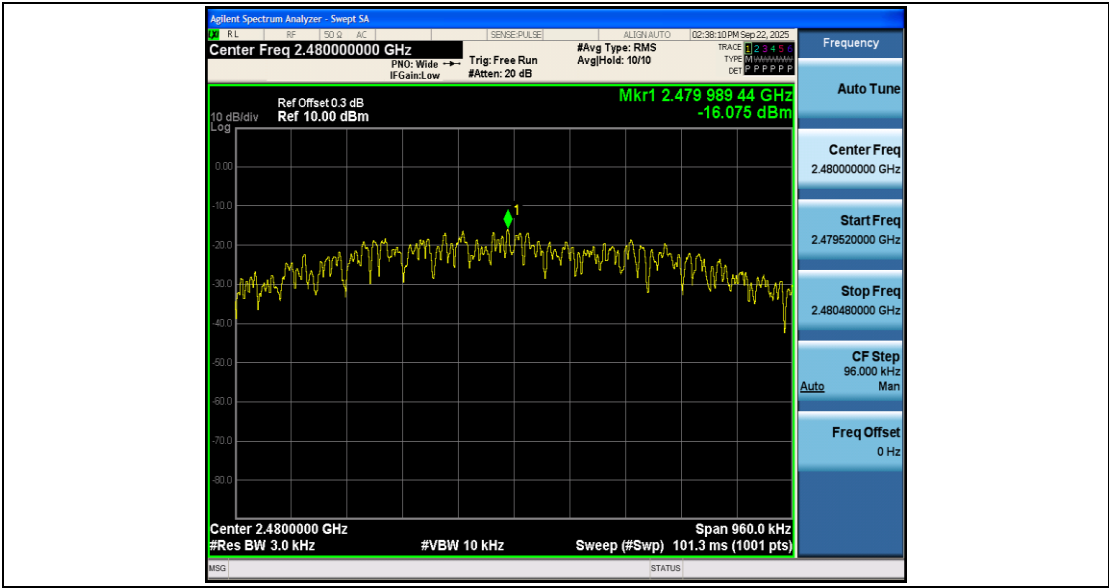
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.74	≤8.00	PASS
		2440	-15.94	≤8.00	PASS
		2480	-16.08	≤8.00	PASS

Test Graphs



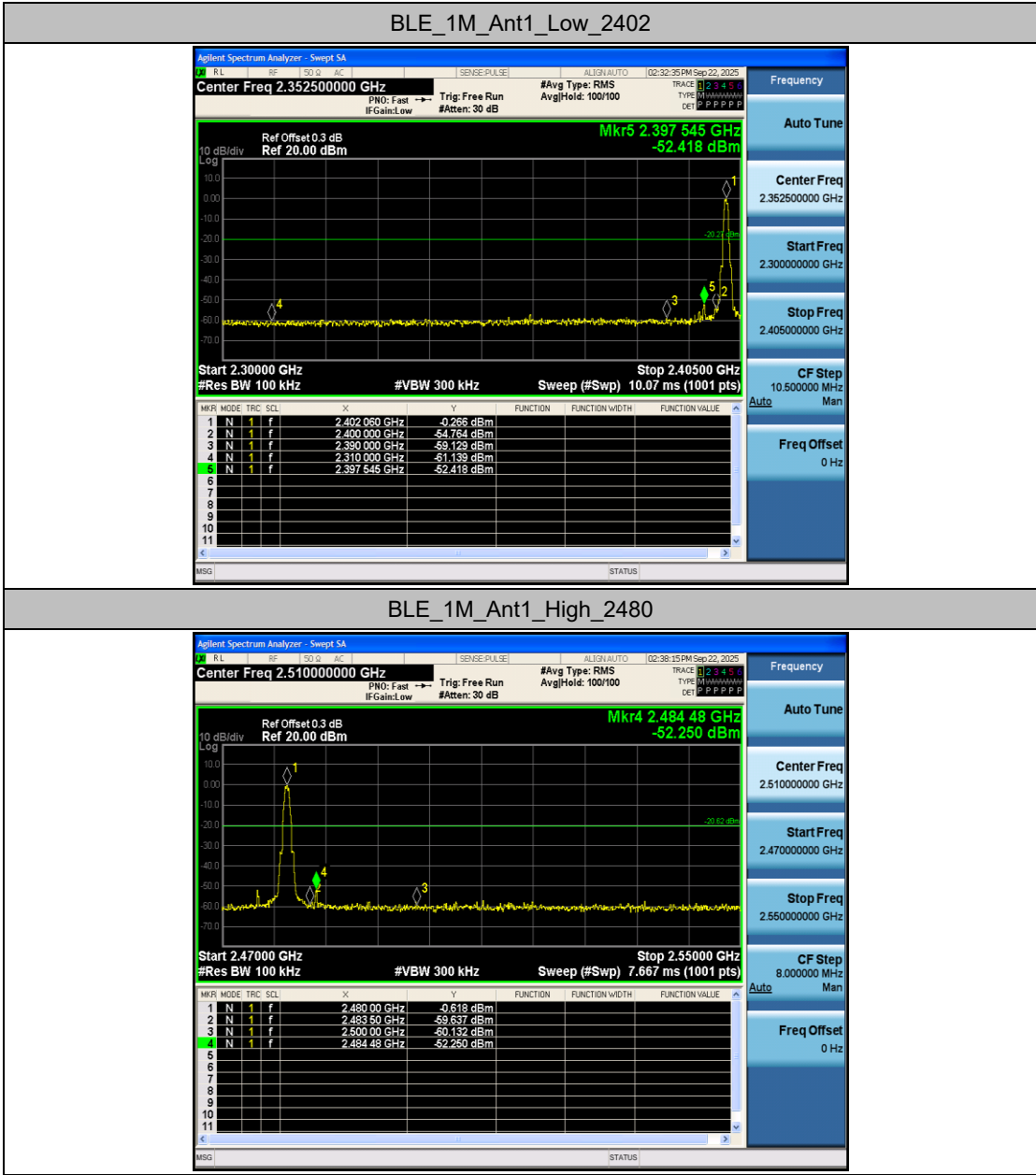


Appendix E: Band edge measurements

Test Result

TestMod e	Antenn a	ChNam e	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdic t
BLE_1M	Ant1	Low	2402	-0.27	-52.42	≤-20.27	PASS
		High	2480	-0.62	-52.25	≤-20.62	PASS

Test Graphs

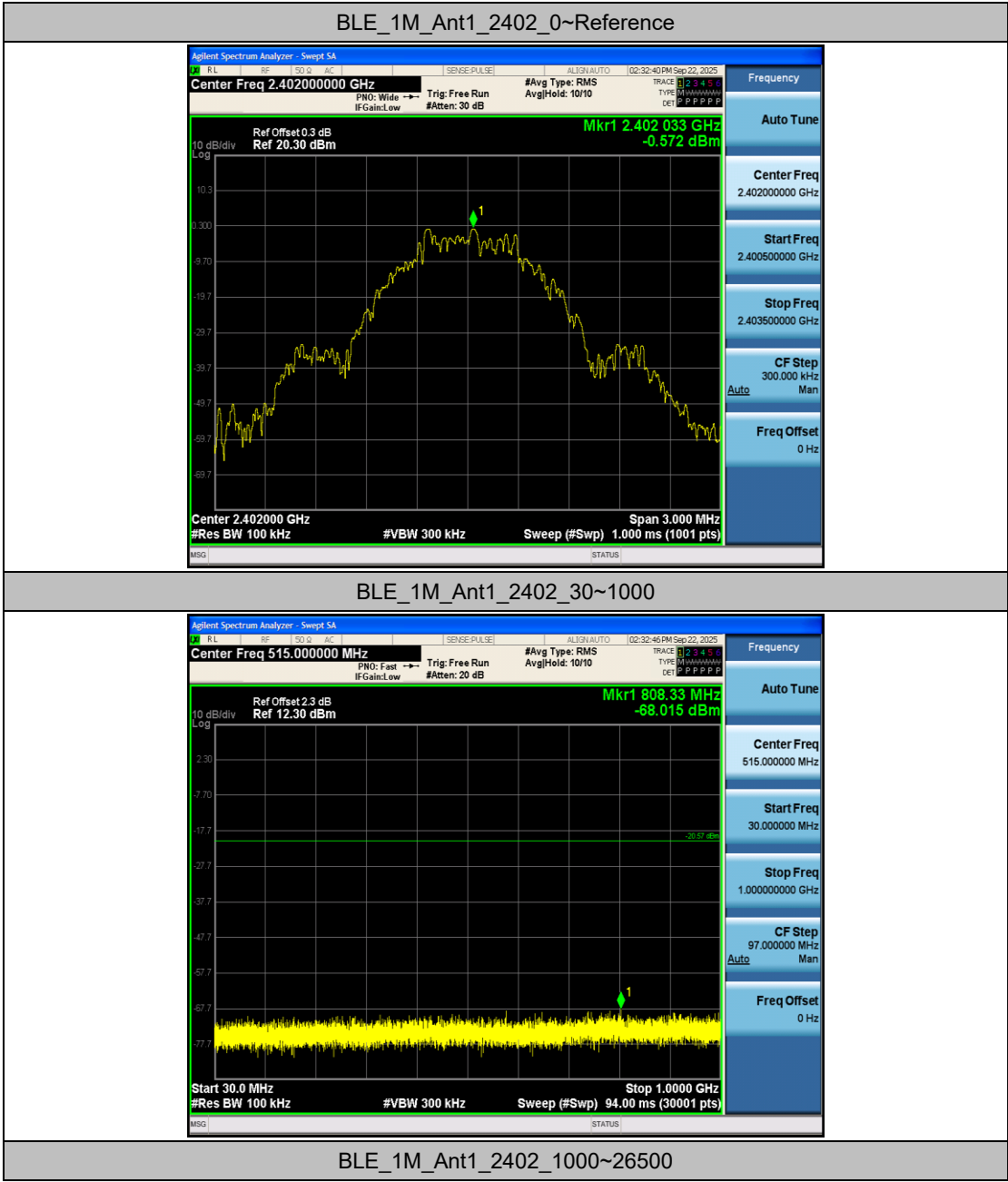


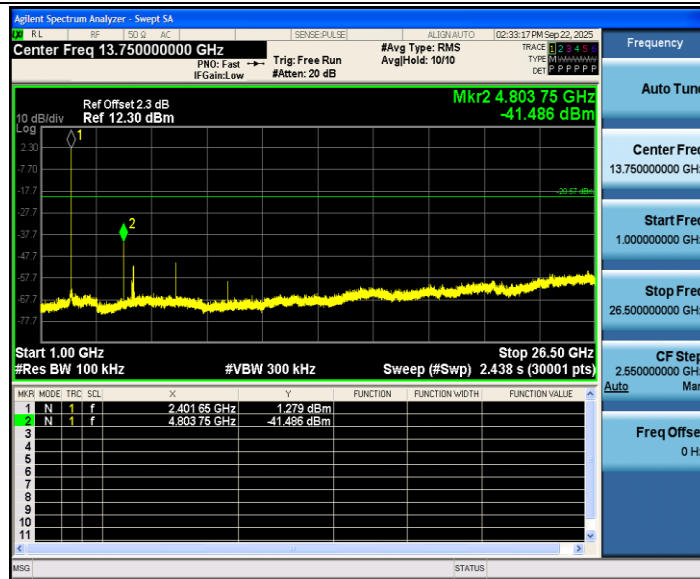
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.57	-0.57	---	PASS
			30~1000	-0.57	-68.02	≤-20.57	PASS
			1000~26500	-0.57	-41.49	≤-20.57	PASS
		2440	Reference	-2.28	-2.28	---	PASS
			30~1000	-2.28	-67.98	≤-22.28	PASS
			1000~26500	-2.28	-41.7	≤-22.28	PASS
		2480	Reference	-1.28	-1.28	---	PASS
			30~1000	-1.28	-67.93	≤-21.28	PASS
			1000~26500	-1.28	-44.55	≤-21.28	PASS

Test Graphs

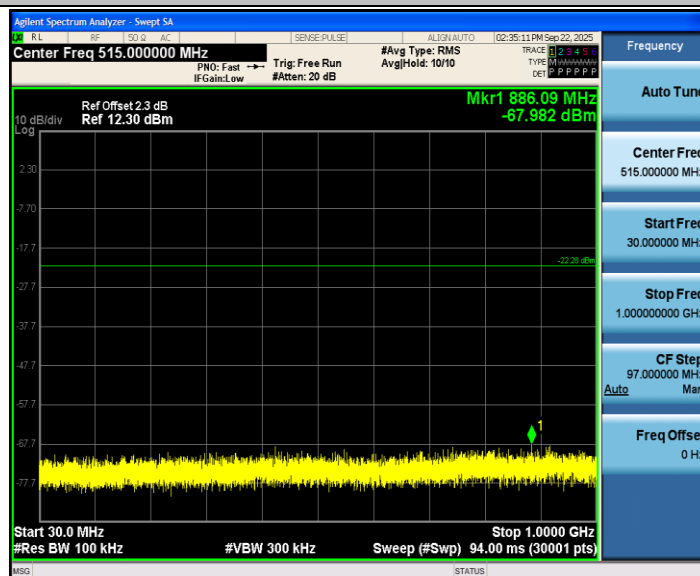




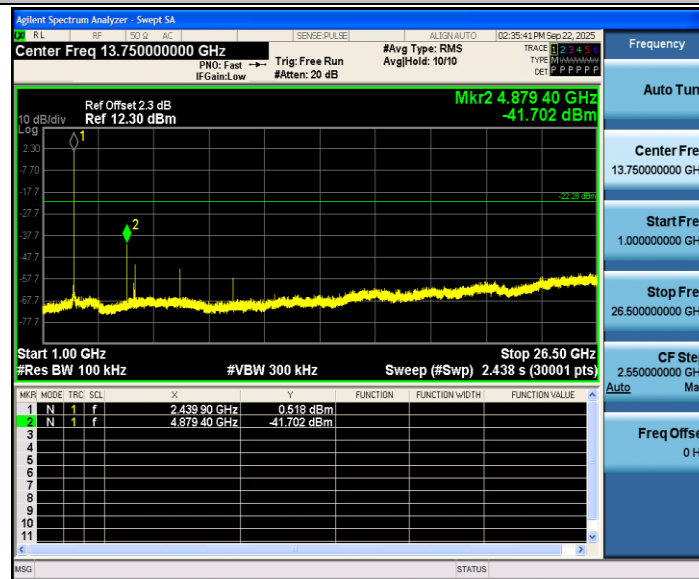
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



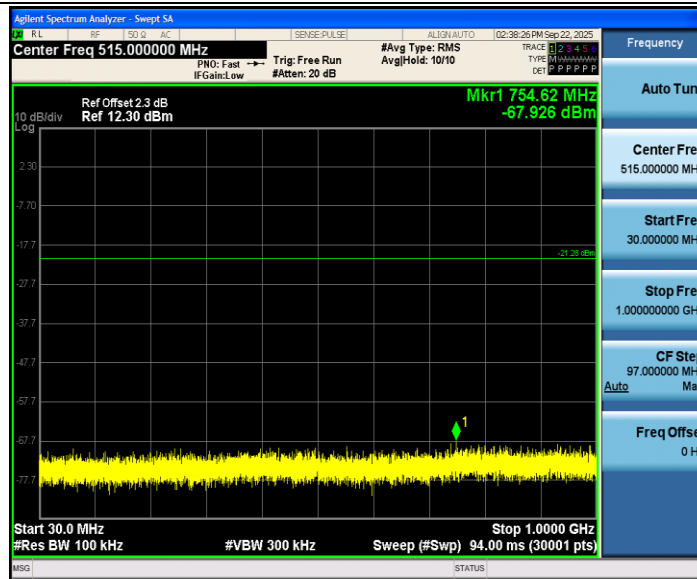
BLE_1M_Ant1_2440_1000~26500



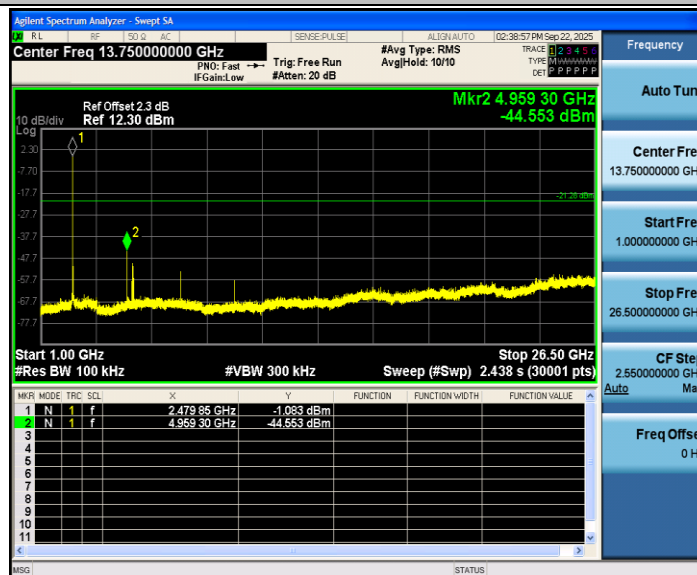
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



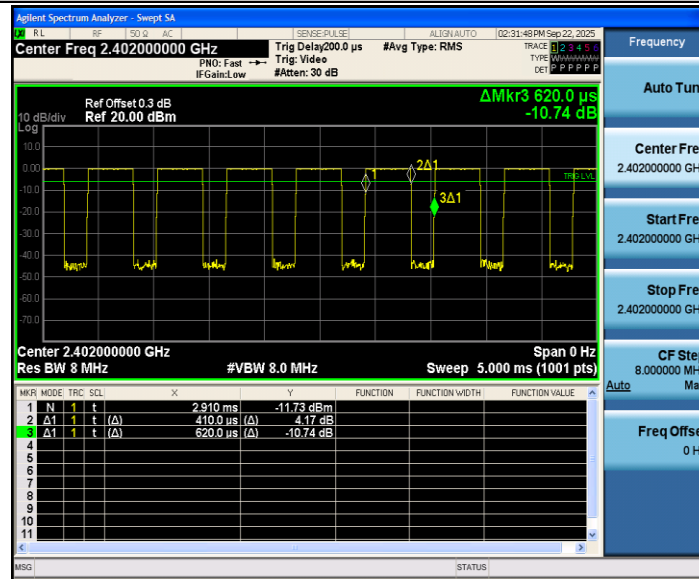
Appendix G: Duty Cycle

Test Result

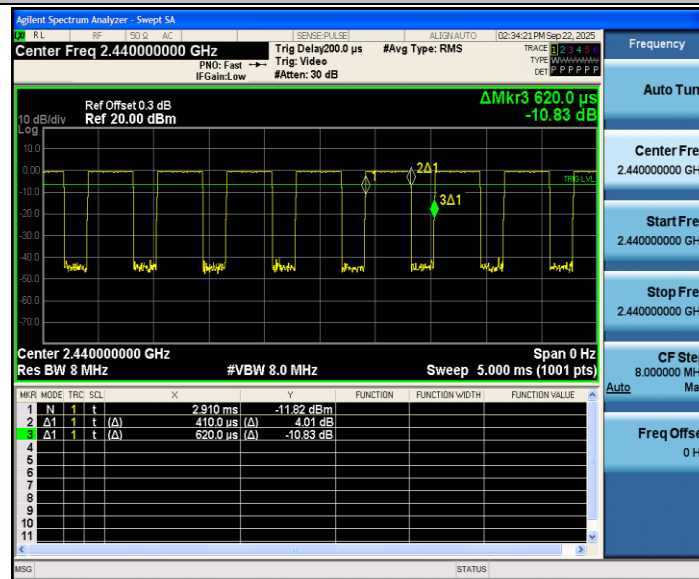
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.41	0.62	0.6613	66.13	1.80	---	---
		2440	0.41	0.62	0.6613	66.13	1.80	---	---
		2480	0.41	0.62	0.6613	66.13	1.80	---	---

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

