

FCC Appendix RF Test Data

FCC ID : 2BPVW-RGB

Company: : Changzhou Changyuan Lighting Technology Co., LTD.

EUT : Changyuan brand APP button type RGB light strip

Model Number : RGB5050/60D/60R

Report No. : CTA25052202401

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	0.636	2439.696	2440.332	0.5	PASS
		2480	0.640	2479.696	2480.336	0.5	PASS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.402000000 GHz

Ref Offset 0.8 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
-0.269 dB

1 2 3Δ1

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	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 688 GHz	-8.899 dBm			
2	N	1	f	2.402 020 GHz	-3.215 dBm			
3	Δ1	1	f (Δ)	648 kHz (Δ)	-0.269 dB			

BLE_1M_Ant1_2402

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.440000000 GHz

Ref Offset 0.8 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
-0.183 dB

1 2 3Δ1

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	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 696 GHz	-8.944 dBm			
2	N	1	f	2.440 020 GHz	-3.513 dBm			
3	Δ1	1	f (Δ)	636 kHz (Δ)	-0.183 dB			

BLE_1M_Ant1_2440

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.440000000 GHz

Ref Offset 0.8 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
-0.183 dB

1 2 3Δ1

Center Freq 2.440000000 GHz

Start Freq 2.438000000 GHz

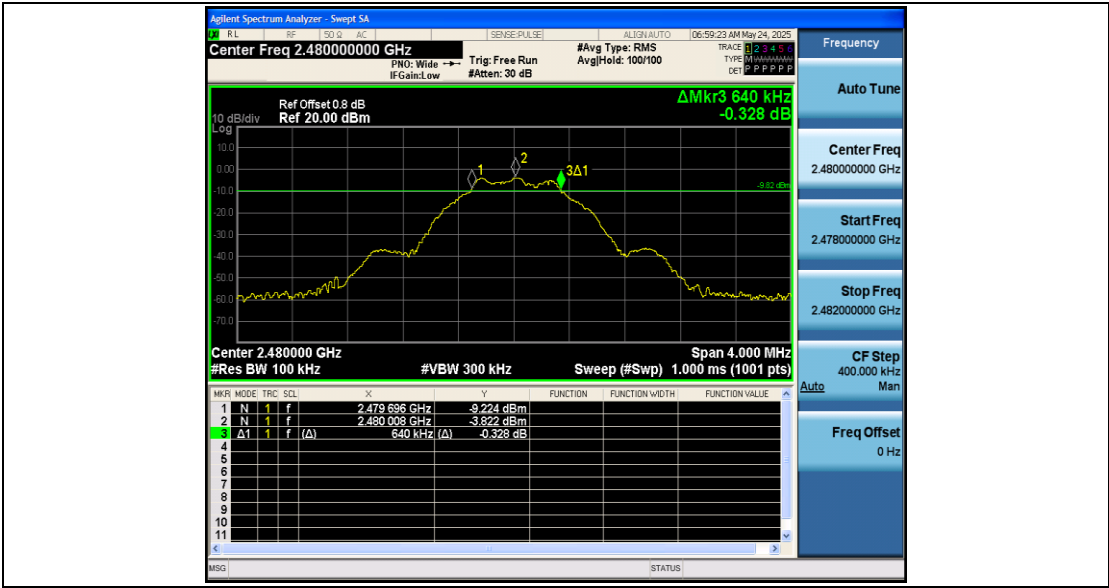
Stop Freq 2.442000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 696 GHz	-8.944 dBm			
2	N	1	f	2.440 020 GHz	-3.513 dBm			
3	Δ1	1	f (Δ)	636 kHz (Δ)	-0.183 dB			

BLE_1M_Ant1_2480

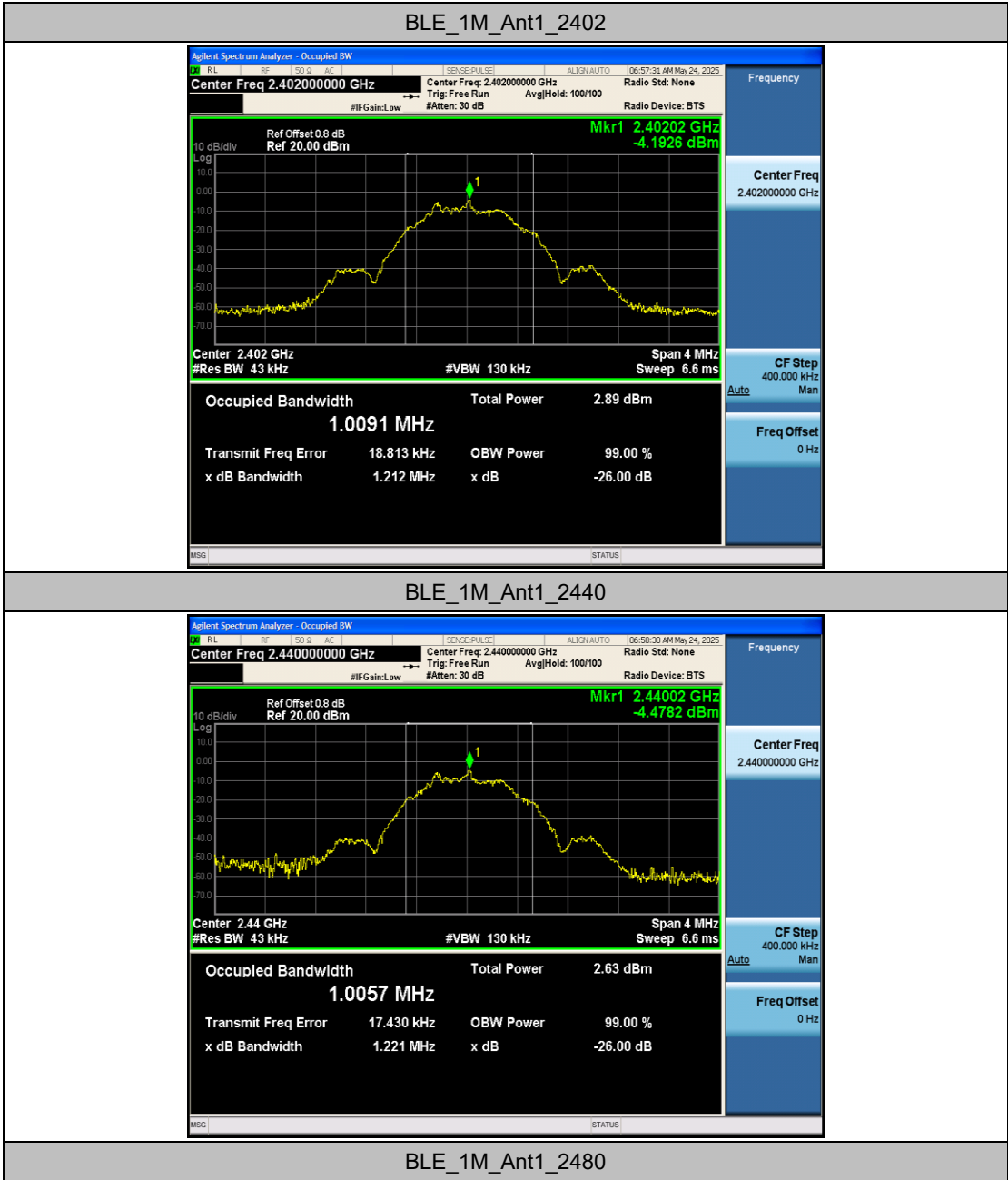


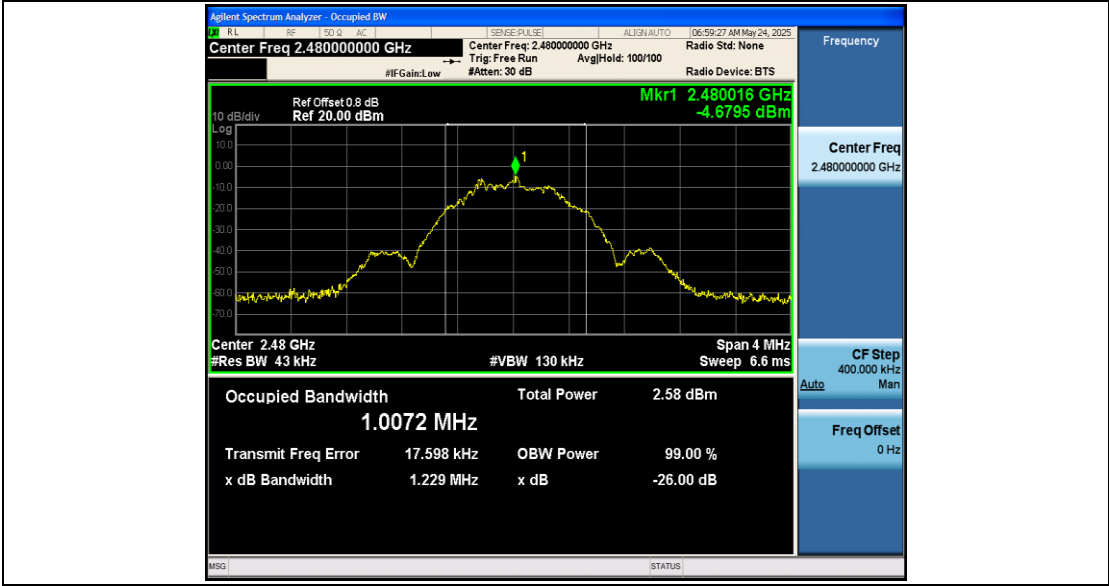
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0091	2401.5143	2402.5234	---	---
		2440	1.0057	2439.5146	2440.5203	---	---
		2480	1.0072	2479.5140	2480.5212	---	---

Test Graphs





Appendix C: Maximum conducted output power

Test Result Peak

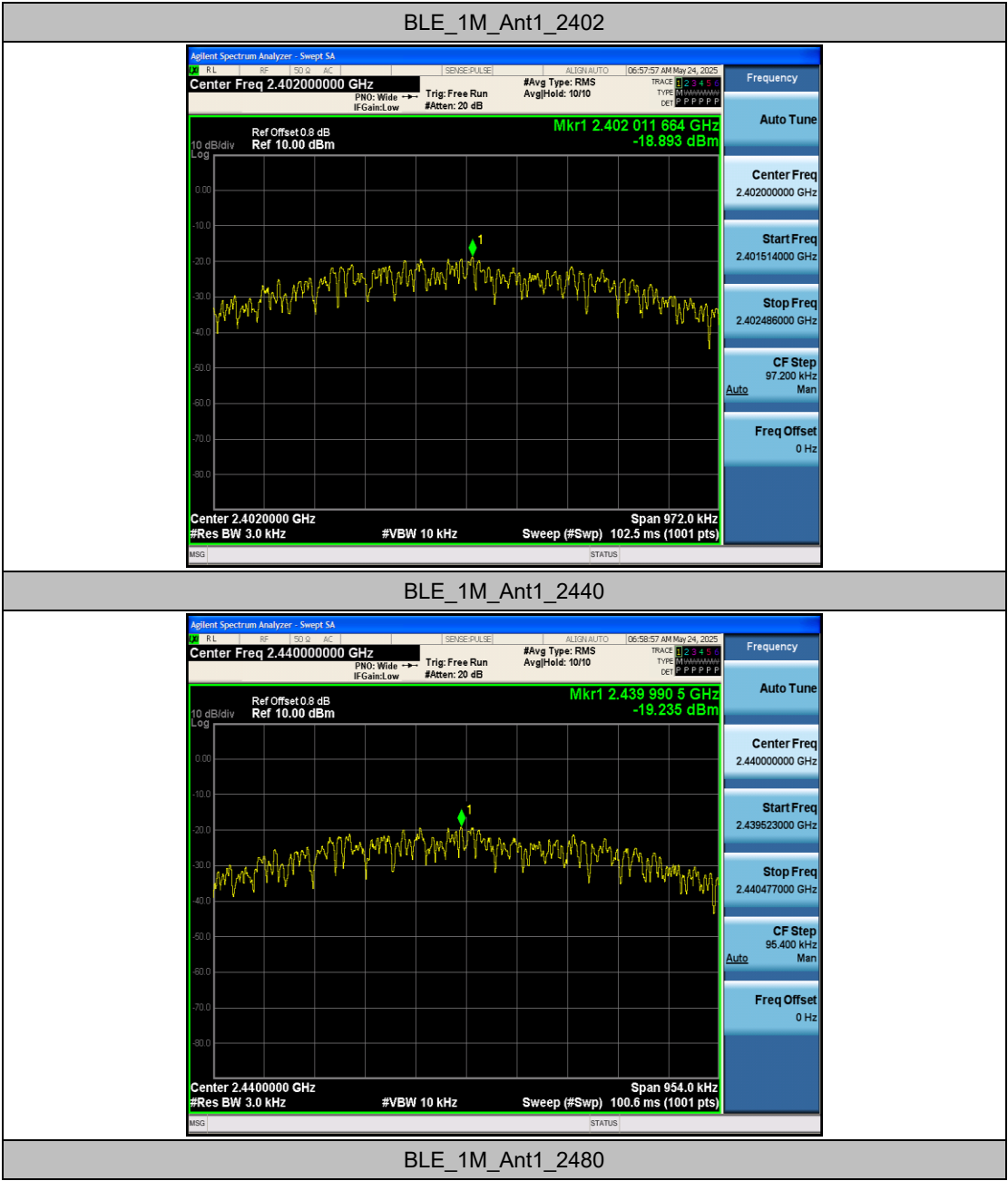
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.14	≤30	PASS
		2440	-3.29	≤30	PASS
		2480	-3.45	≤30	PASS

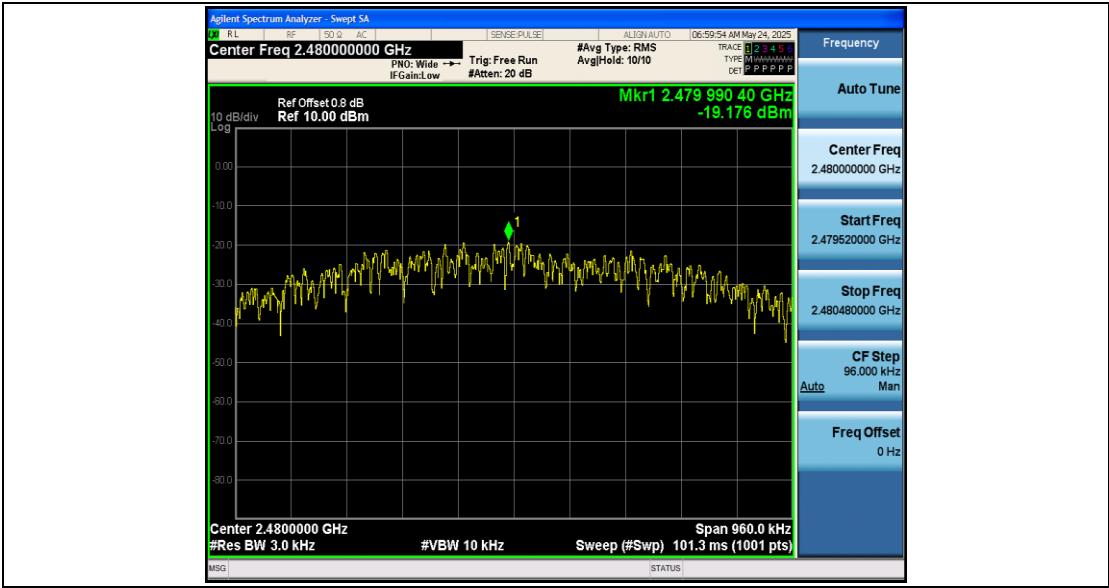
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-18.89	≤8.00	PASS
		2440	-19.24	≤8.00	PASS
		2480	-19.18	≤8.00	PASS

Test Graphs



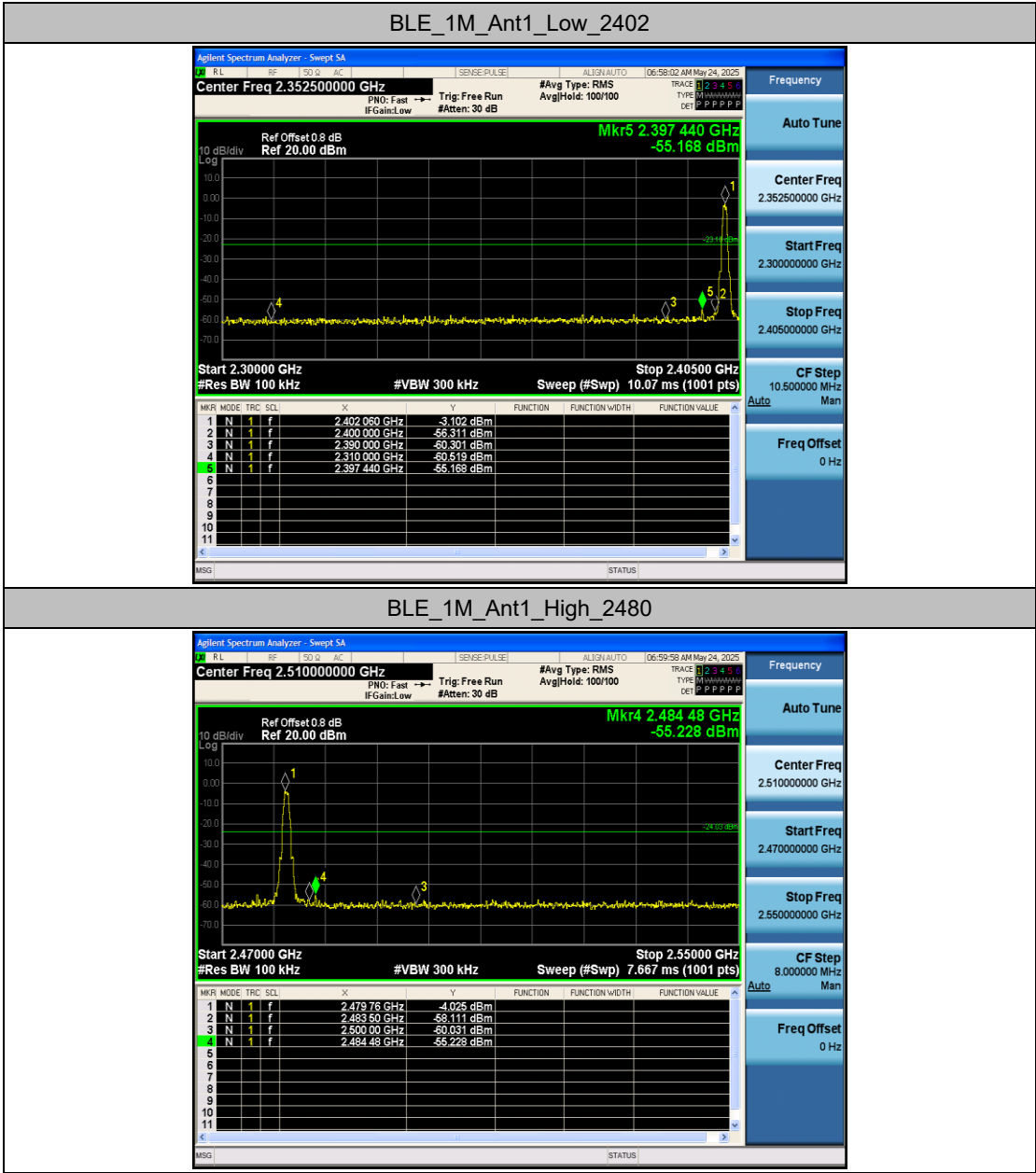


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	Channel	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-3.10	-55.17	≤-23.1	PASS
		High	2480	-4.03	-55.23	≤-24.03	PASS

Test Graphs

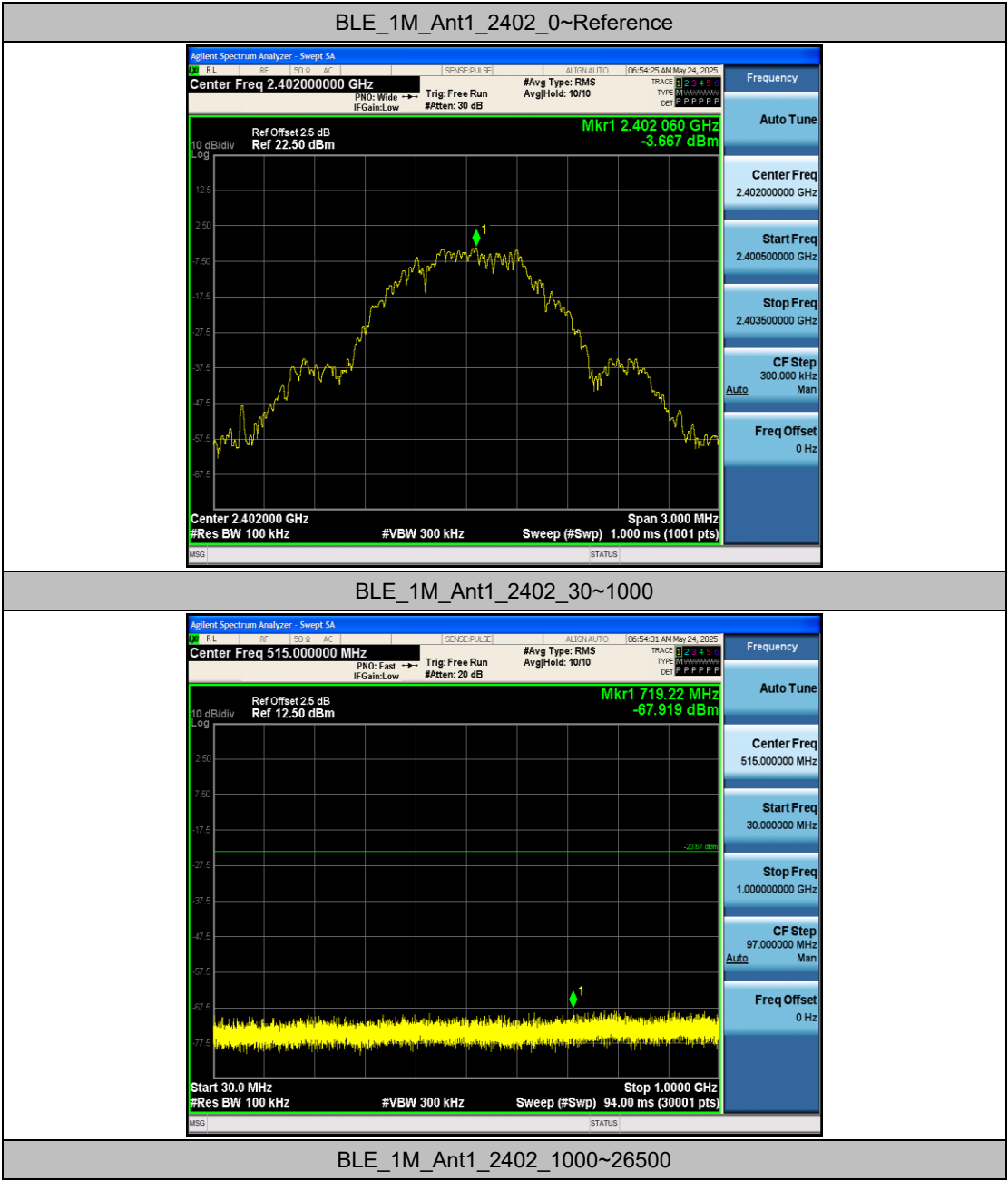


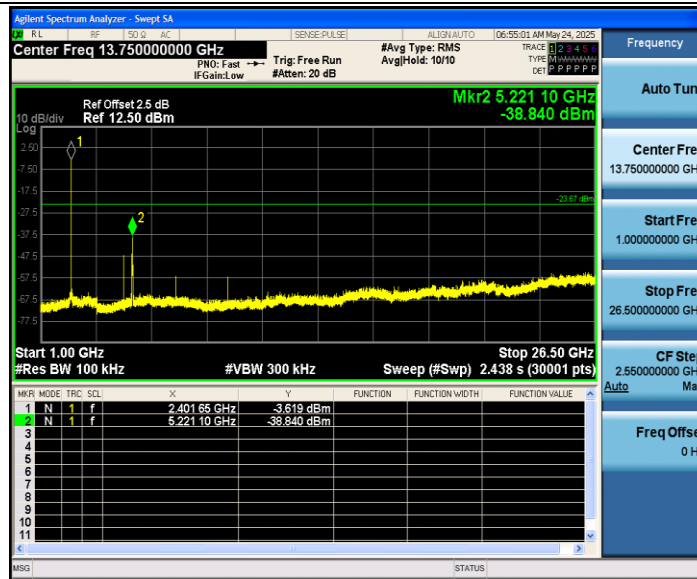
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-3.67	-3.67	---	PASS
			30~1000	-3.67	-67.92	≤-23.67	PASS
			1000~26500	-3.67	-38.84	≤-23.67	PASS
		2440	Reference	-2.45	-2.45	---	PASS
			30~1000	-2.45	-67.22	≤-22.45	PASS
			1000~26500	-2.45	-40.28	≤-22.45	PASS
		2480	Reference	-1.88	-1.88	---	PASS
			30~1000	-1.88	-67.82	≤-21.88	PASS
			1000~26500	-1.88	-47.81	≤-21.88	PASS

Test Graphs

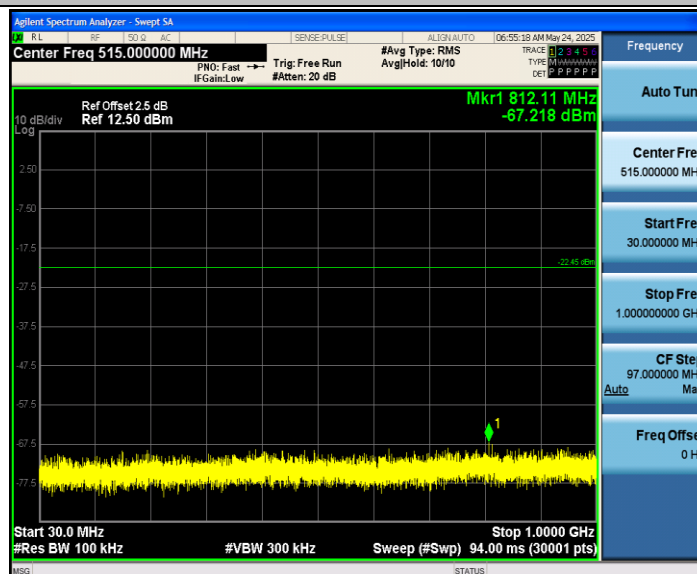




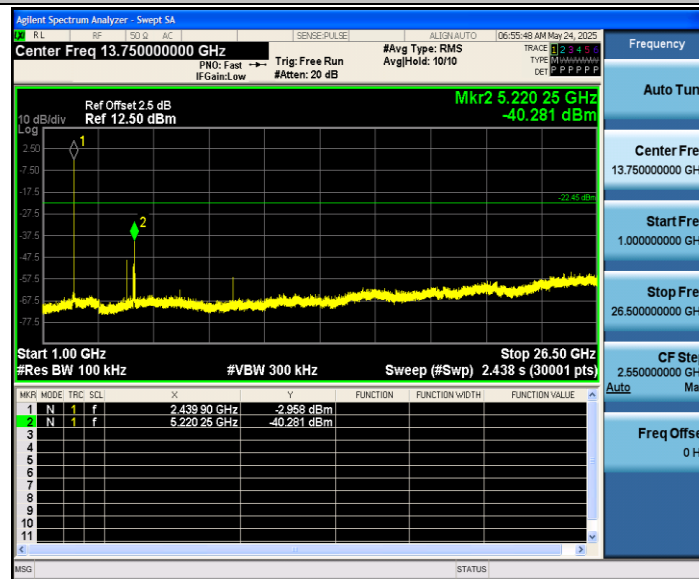
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



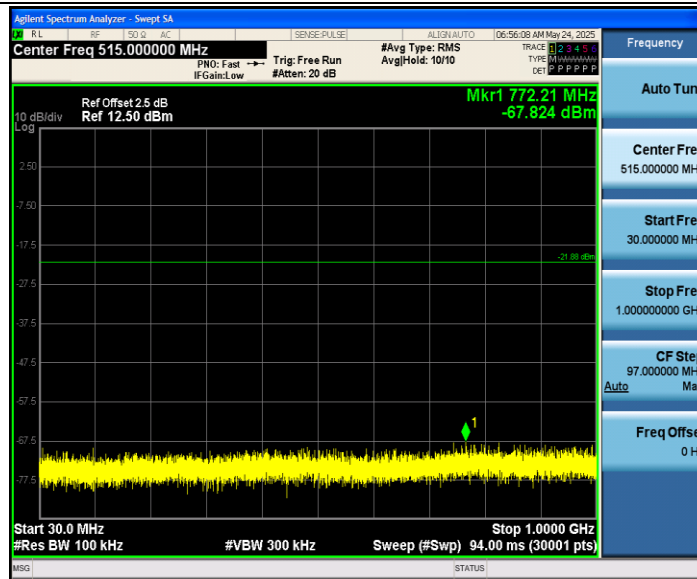
BLE_1M_Ant1_2440_1000~26500



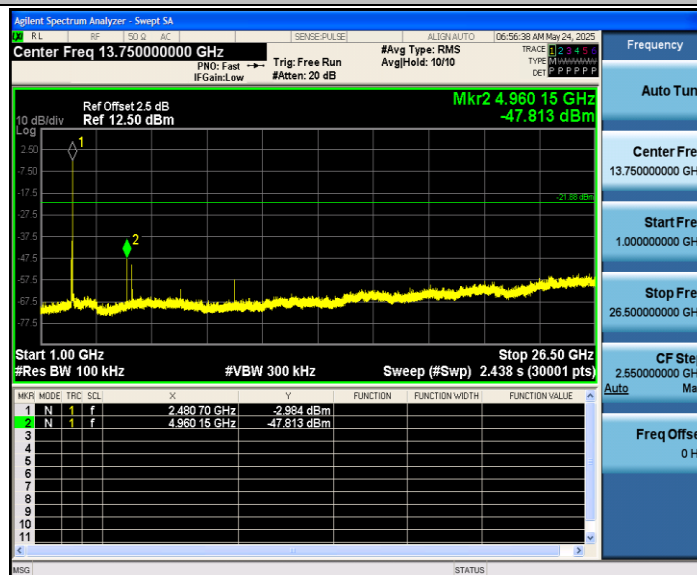
BLE_1M_Ant1_2480_0~Reference



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

