

FCC Appendix RF Test Data for BLE

FCC ID : 2BTTF-R1012Y
Company : OPTIKA S.R.L
EUT : Tablet PC
Model Number : R1012Y
Report No. : CTA25112501401
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	0.636	2401.692	2402.328	0.5	PASS
		2440	0.644	2439.692	2440.336	0.5	PASS
		2480	0.648	2479.692	2480.340	0.5	PASS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.40200000 GHz

Ref Offset 0.4 dB
Ref 20.00 dBm

ΔMkr3 636 kHz
0.600 dB

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

MFR MODE TRIG SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE

MFR MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 692 GHz	-9.199 dBm		
2	N	1	f	2.402 016 GHz	-3.669 dBm		
3	Δ1	1	f (Δ)	636 kHz (Δ)	0.600 dB		

Frequency

Auto Tune

Center Freq
2.40200000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.404000000 GHz

CF Step
400.000 kHz
Man

Freq Offset
0 Hz

BLE_1M_Ant1_2402

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.44000000 GHz

Ref Offset 0.4 dB
Ref 20.00 dBm

ΔMkr3 644 kHz
0.192 dB

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

MFR MODE TRIG SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE

MFR MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 692 GHz	-9.764 dBm		
2	N	1	f	2.440 028 GHz	-3.979 dBm		
3	Δ1	1	f (Δ)	644 kHz (Δ)	0.192 dB		

Frequency

Auto Tune

Center Freq
2.44000000 GHz

Start Freq
2.438000000 GHz

Stop Freq
2.442000000 GHz

CF Step
400.000 kHz
Man

Freq Offset
0 Hz

BLE_1M_Ant1_2440

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.48000000 GHz

Ref Offset 0.4 dB
Ref 20.00 dBm

ΔMkr3 644 kHz
0.192 dB

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

MFR MODE TRIG SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE

MFR MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.479 692 GHz	-9.764 dBm		
2	N	1	f	2.480 028 GHz	-3.979 dBm		
3	Δ1	1	f (Δ)	644 kHz (Δ)	0.192 dB		

Frequency

Auto Tune

Center Freq
2.48000000 GHz

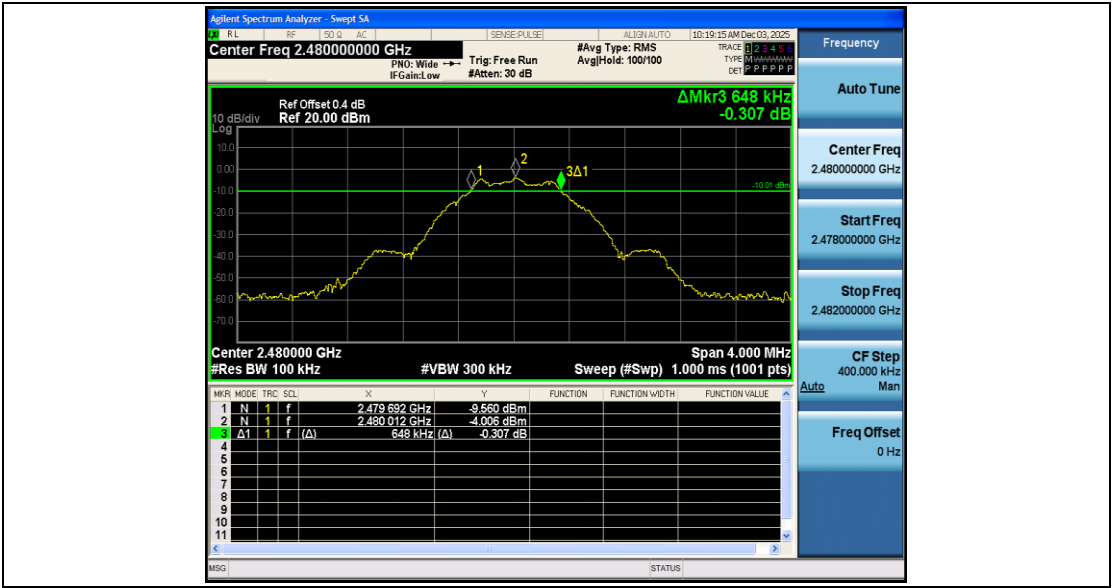
Start Freq
2.478000000 GHz

Stop Freq
2.482000000 GHz

CF Step
400.000 kHz
Man

Freq Offset
0 Hz

BLE_1M_Ant1_2480

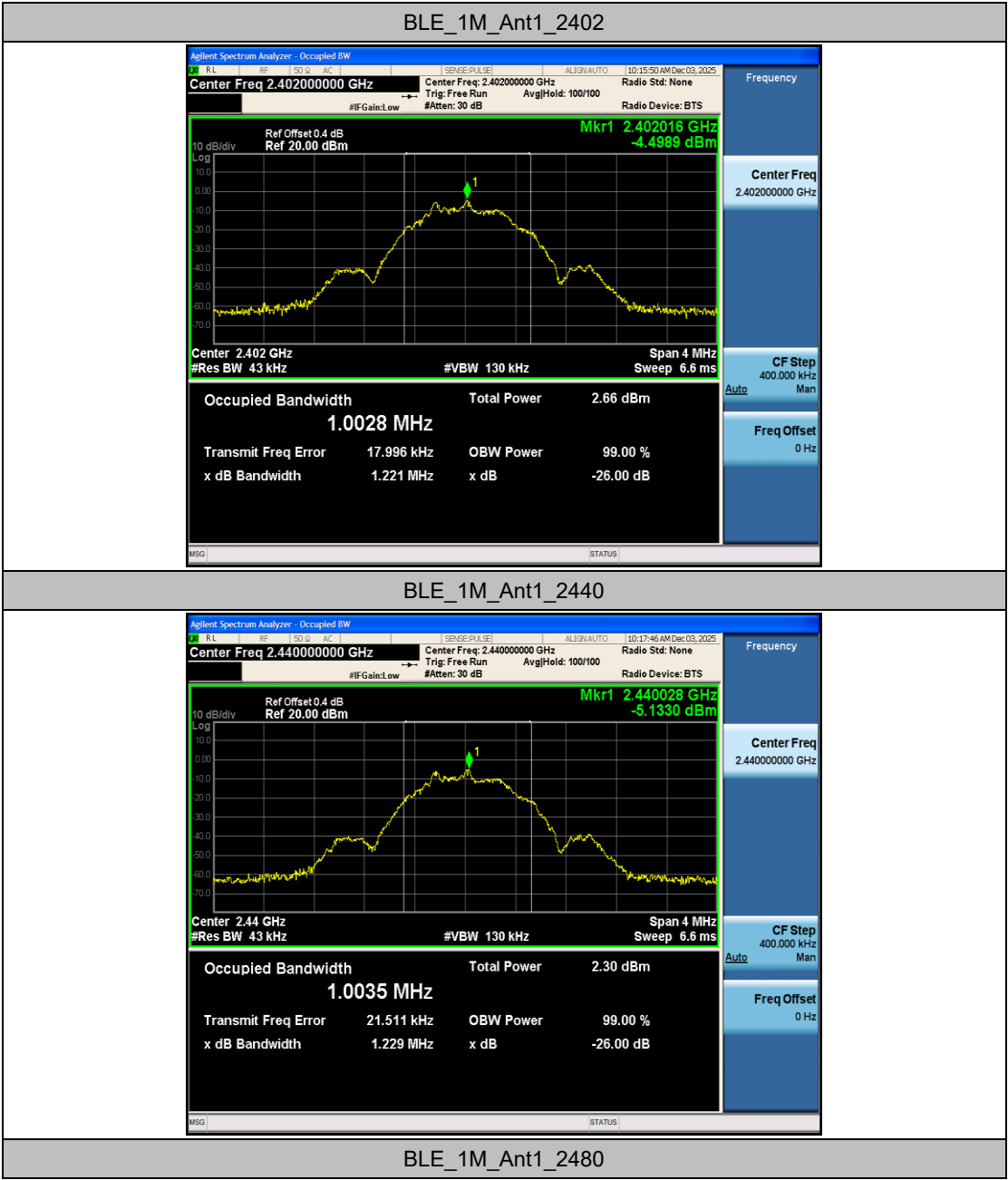


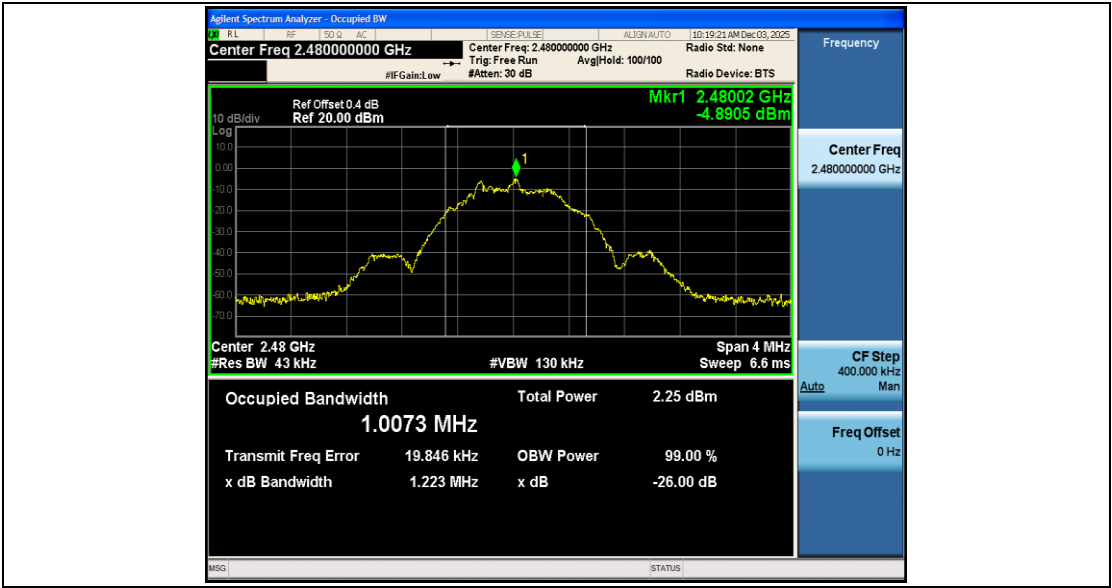
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0028	2401.5166	2402.5194	---	---
		2440	1.0035	2439.5198	2440.5233	---	---
		2480	1.0073	2479.5162	2480.5235	---	---

Test Graphs





Appendix C: Maximum conducted output power

Test Result Peak

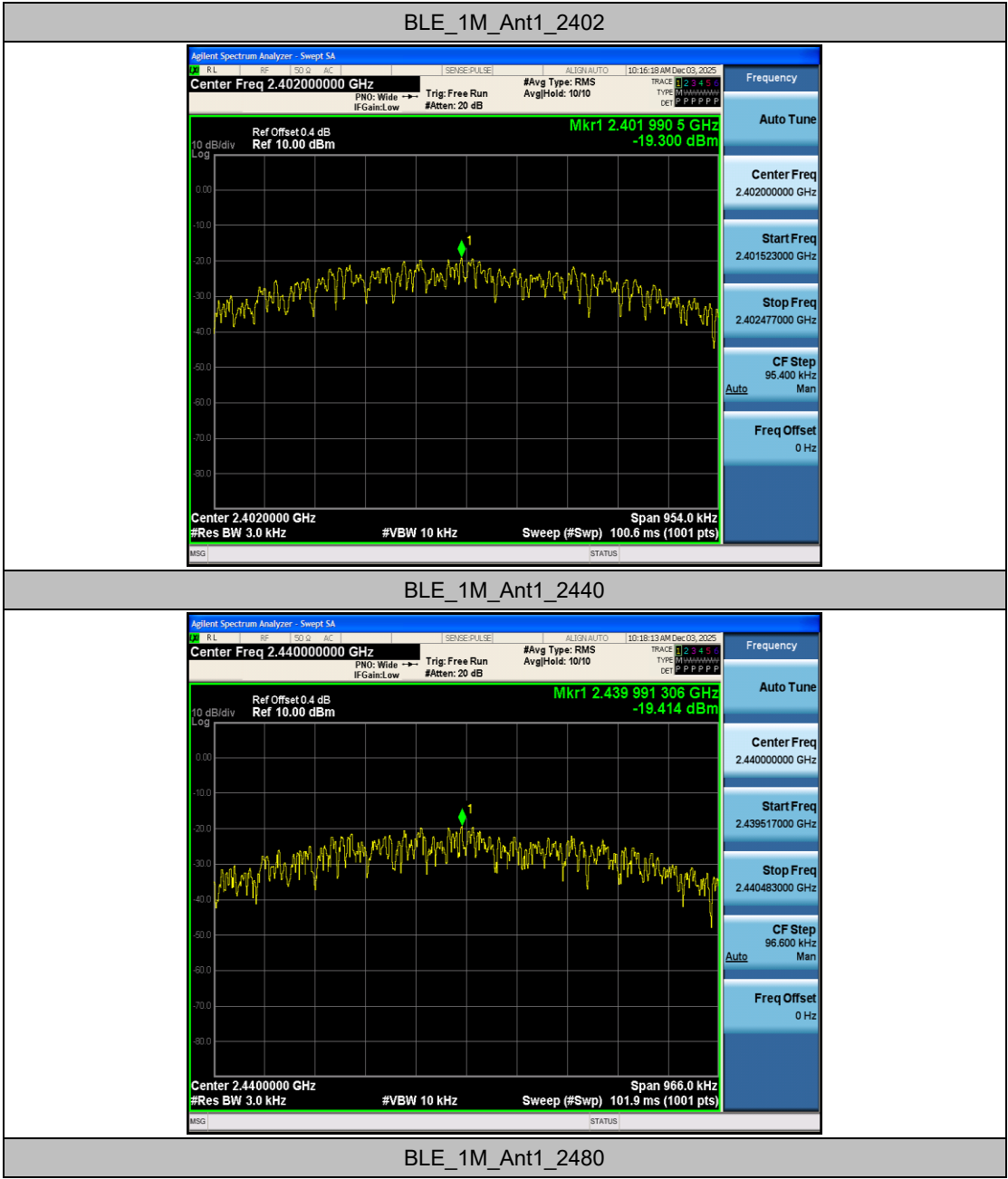
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.44	≤30	PASS
		2440	-3.76	≤30	PASS
		2480	-3.80	≤30	PASS

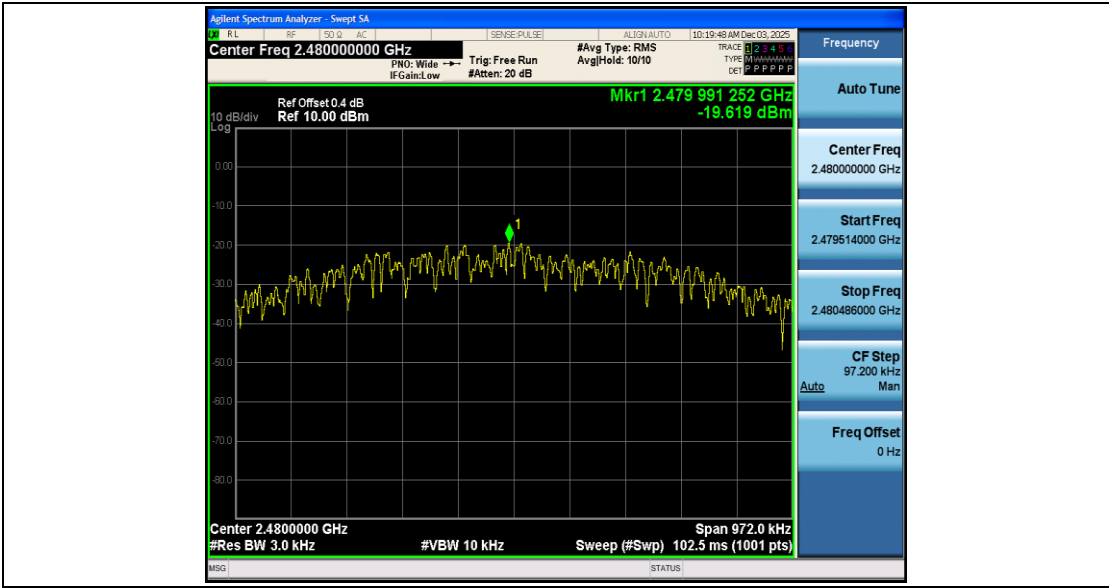
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.30	≤8.00	PASS
		2440	-19.41	≤8.00	PASS
		2480	-19.62	≤8.00	PASS

Test Graphs



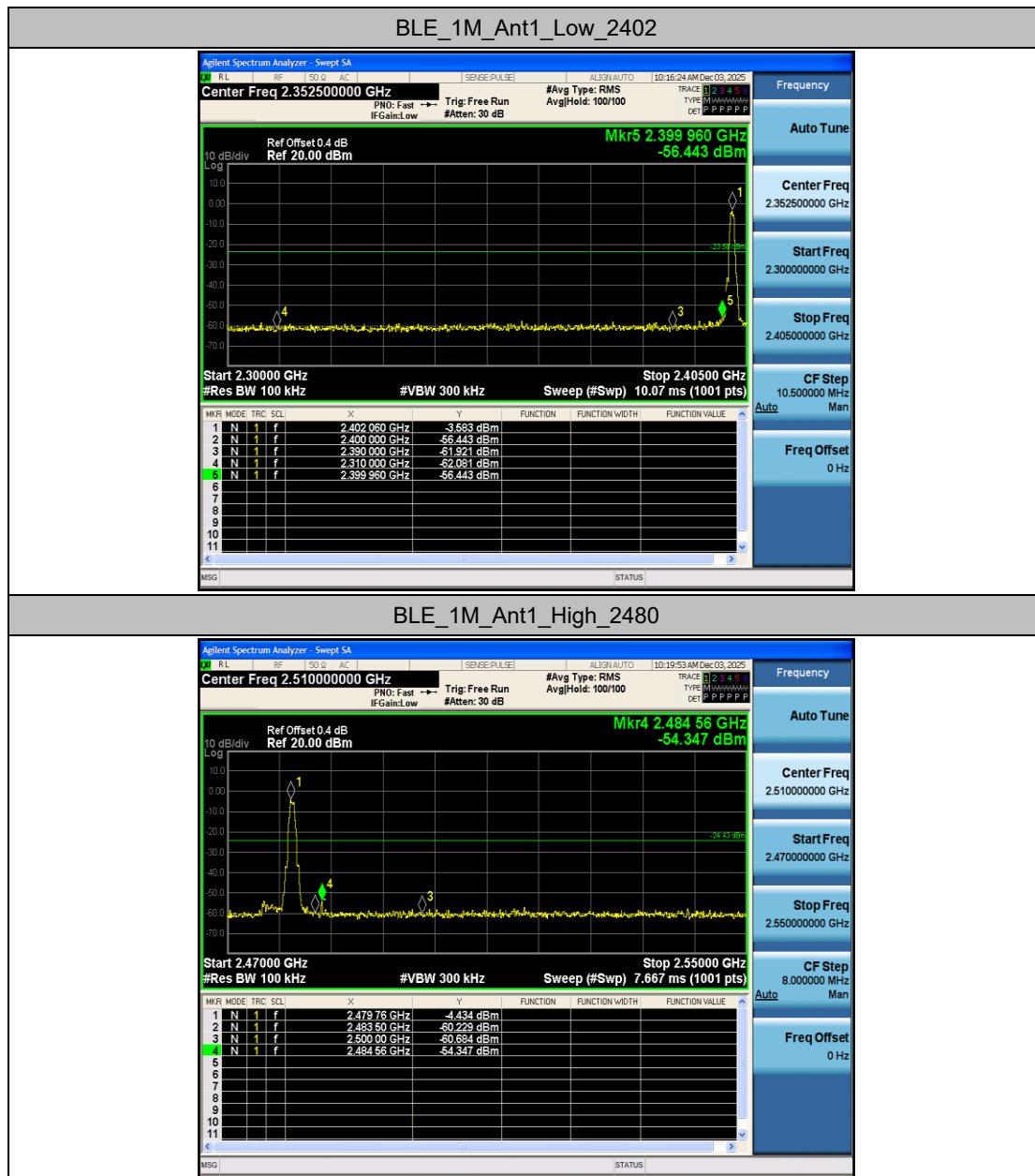


Appendix E: Band edge measurements

Test Result

TestMod e	Antenn a	ChNam e	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdic t
BLE_1M	Ant1	Low	2402	-3.58	-56.44	≤-23.58	PASS
		High	2480	-4.43	-54.35	≤-24.43	PASS

Test Graphs

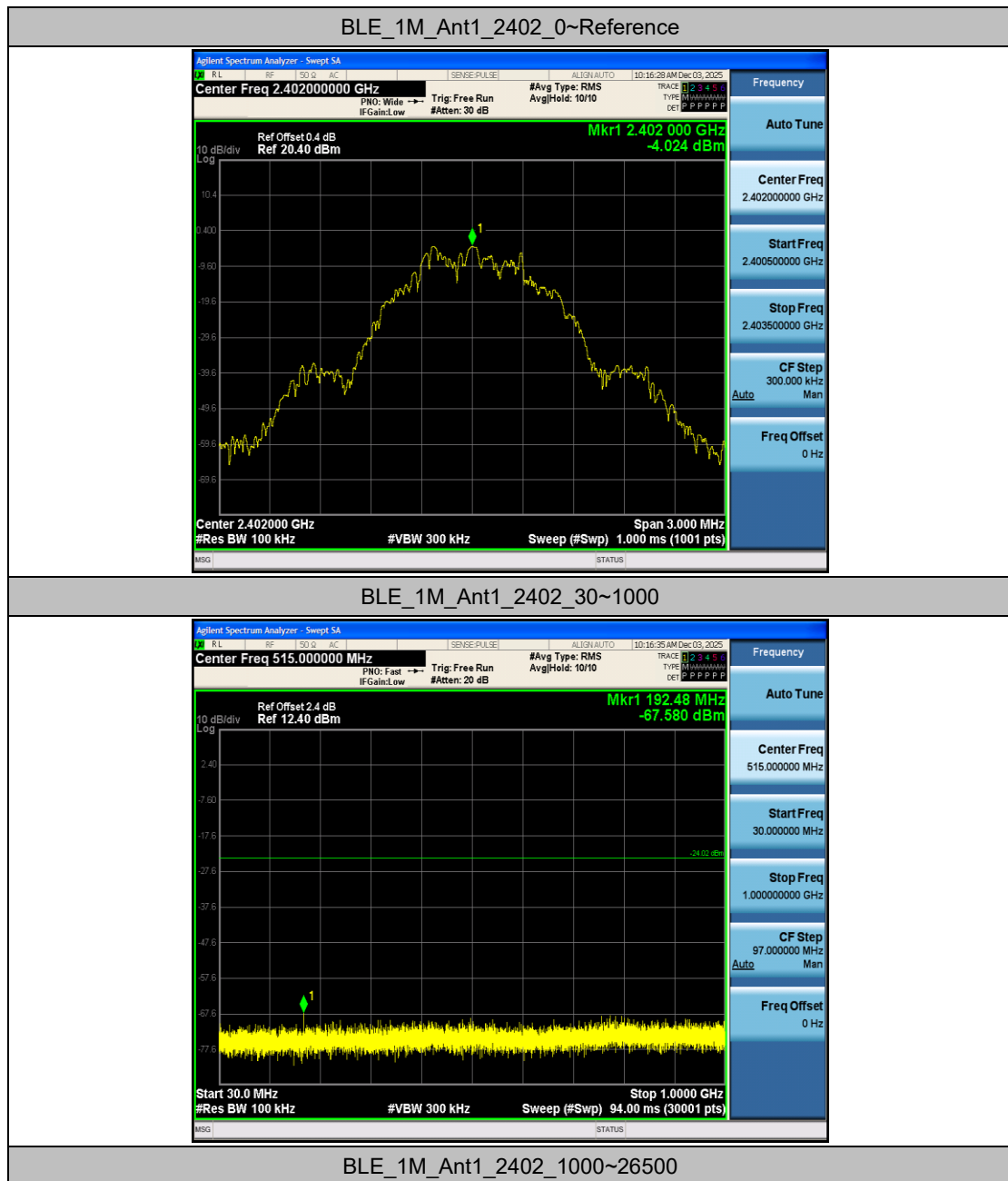


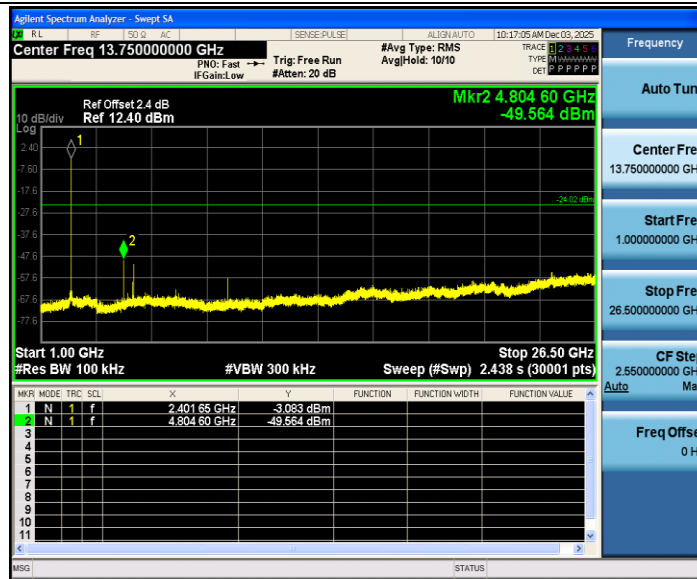
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-4.02	-4.02	---	PASS
			30~1000	-4.02	-67.58	≤-24.02	PASS
			1000~26500	-4.02	-49.56	≤-24.02	PASS
		2440	Reference	-5.19	-5.19	---	PASS
			30~1000	-5.19	-67.97	≤-25.19	PASS
			1000~26500	-5.19	-46.59	≤-25.19	PASS
		2480	Reference	-4.66	-4.66	---	PASS
			30~1000	-4.66	-67.47	≤-24.66	PASS
			1000~26500	-4.66	-46.79	≤-24.66	PASS

Test Graphs

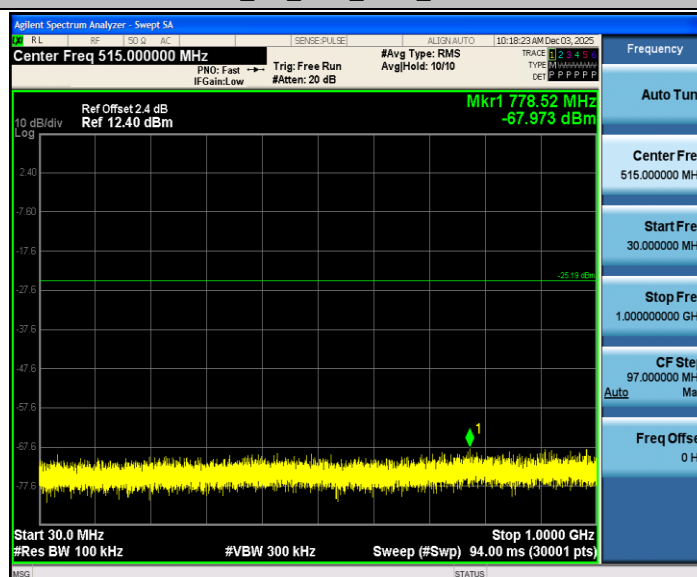




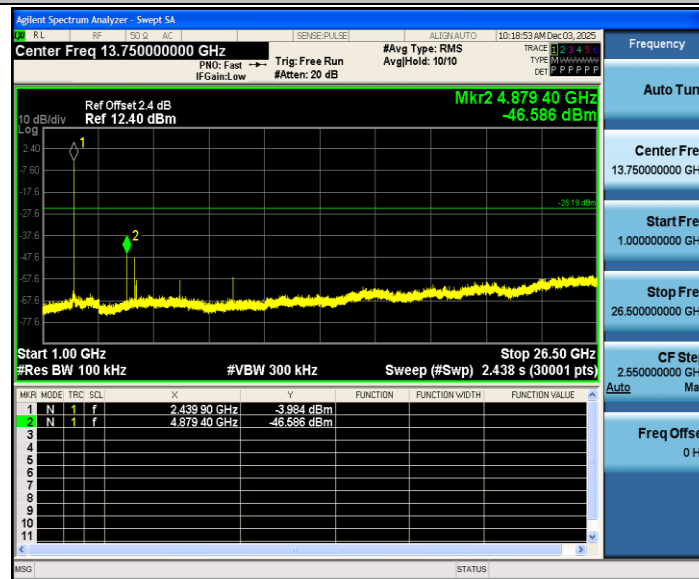
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



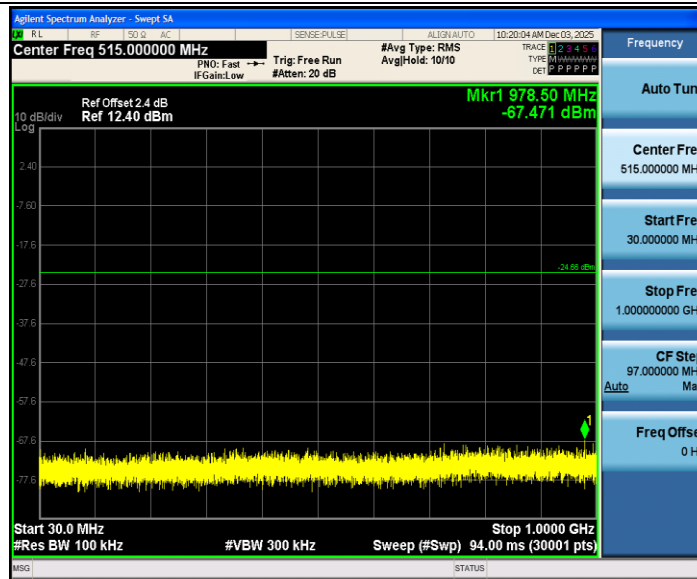
BLE_1M_Ant1_2440_1000~26500



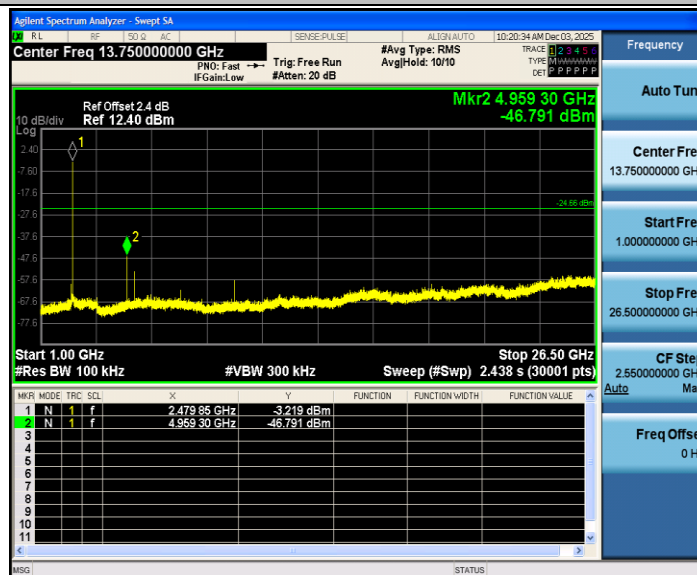
BLE_1M_Ant1_2480_0~Reference



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

