

FCC Appendix RF Test Data for BLE

FCC ID : 2BDAL-RC-48

Company : Huizhou Wanzhisheng New Energy Technology CO., LTD

EUT : Bluetooth voice remote control

Model Number : RC-48

Report No. : CTA25121903501

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	0.644	2401.688	2402.332	0.5	PASS
		2440	0.644	2439.696	2440.340	0.5	PASS
		2480	0.636	2479.696	2480.332	0.5	PASS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.402000000 GHz

Ref Offset 0.5 dB
Ref 20.00 dBm

Trig: Free Run
#Ave Type: RMS
#Ave Hold: 100/100

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

ΔMkr3 644 kHz
0.544 dB

Frequency

Auto Tune

Center Freq
2.402000000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.404000000 GHz

CF Step
400.000 kHz
Man

Freq Offset
0 Hz

MSO

STATUS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.440000000 GHz

Ref Offset 0.5 dB
Ref 20.00 dBm

Trig: Free Run
#Ave Type: RMS
#Ave Hold: 100/100

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

ΔMkr3 644 kHz
-0.370 dB

Frequency

Auto Tune

Center Freq
2.440000000 GHz

Start Freq
2.438000000 GHz

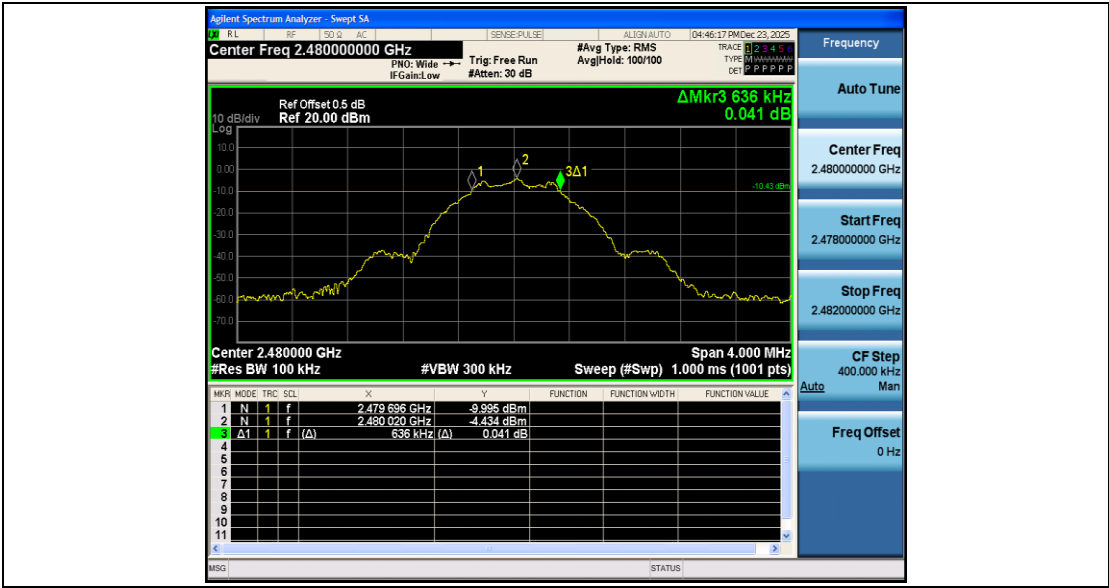
Stop Freq
2.442000000 GHz

CF Step
400.000 kHz
Man

Freq Offset
0 Hz

MSO

STATUS



Appendix B: Occupied Channel Bandwidth

Test Result

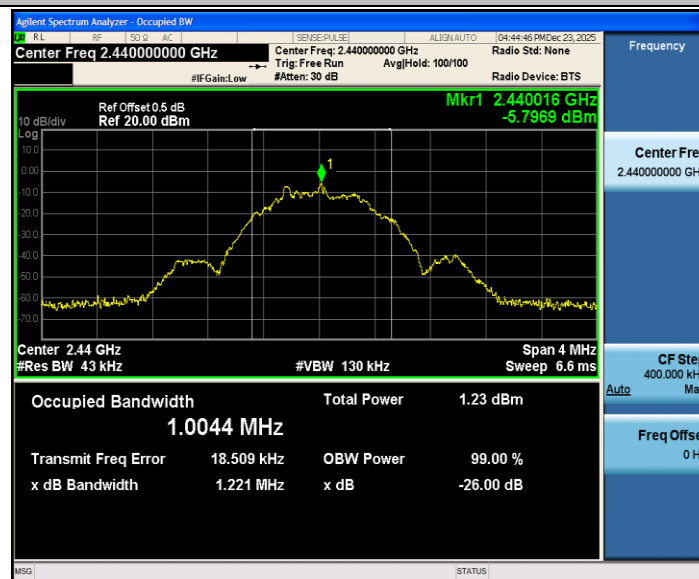
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0046	2401.5166	2402.5212	---	---
		2440	1.0044	2439.5163	2440.5207	---	---
		2480	1.0092	2479.5156	2480.5248	---	---

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



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	-5.04	≤30	PASS
		2440	-4.72	≤30	PASS
		2480	-4.37	≤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	-20.97	≤8.00	PASS
		2440	-20.59	≤8.00	PASS
		2480	-20.05	≤8.00	PASS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.40200000 GHz

Ref Offset 0.5 dB
Ref 10.00 dBm

Mkr1 2.401 990 340 GHz
-20.967 dBm

Span 966.0 kHz
Sweep (#Swp) 101.9 ms (1001 pts)

Frequency

Auto Tune

Center Freq
2.40200000 GHz

Start Freq
2.401517000 GHz

Stop Freq
2.402483000 GHz

CF Step
96.600 kHz
Man

Freq Offset
0 Hz

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.44000000 GHz

Ref Offset 0.5 dB
Ref 10.00 dBm

Mkr1 2.439 990 340 GHz
-20.589 dBm

Span 966.0 kHz
Sweep (#Swp) 101.9 ms (1001 pts)

Frequency

Auto Tune

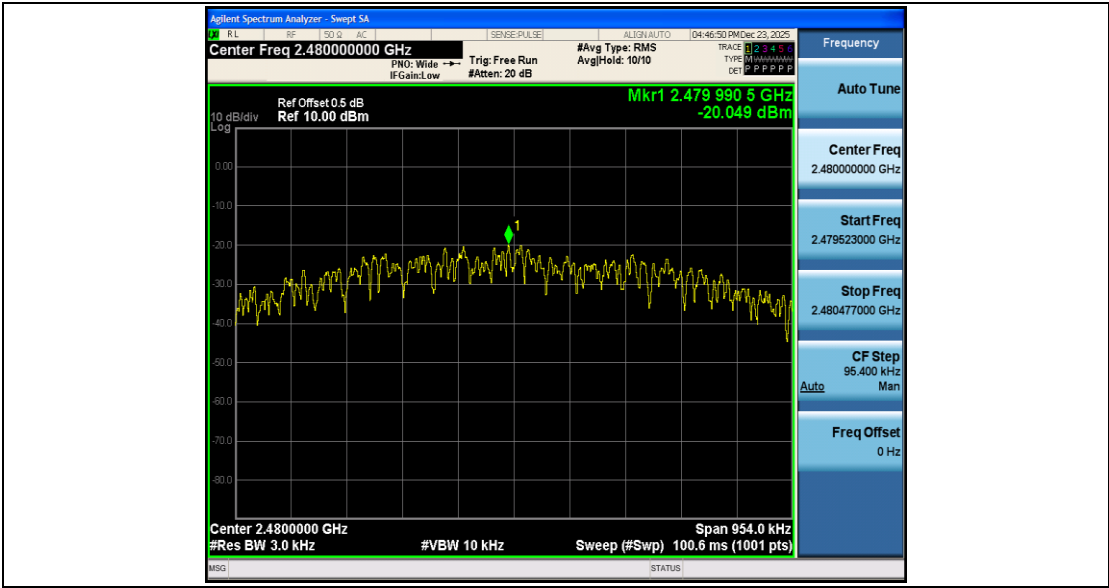
Center Freq
2.44000000 GHz

Start Freq
2.439517000 GHz

Stop Freq
2.440483000 GHz

CF Step
96.600 kHz
Man

Freq Offset
0 Hz

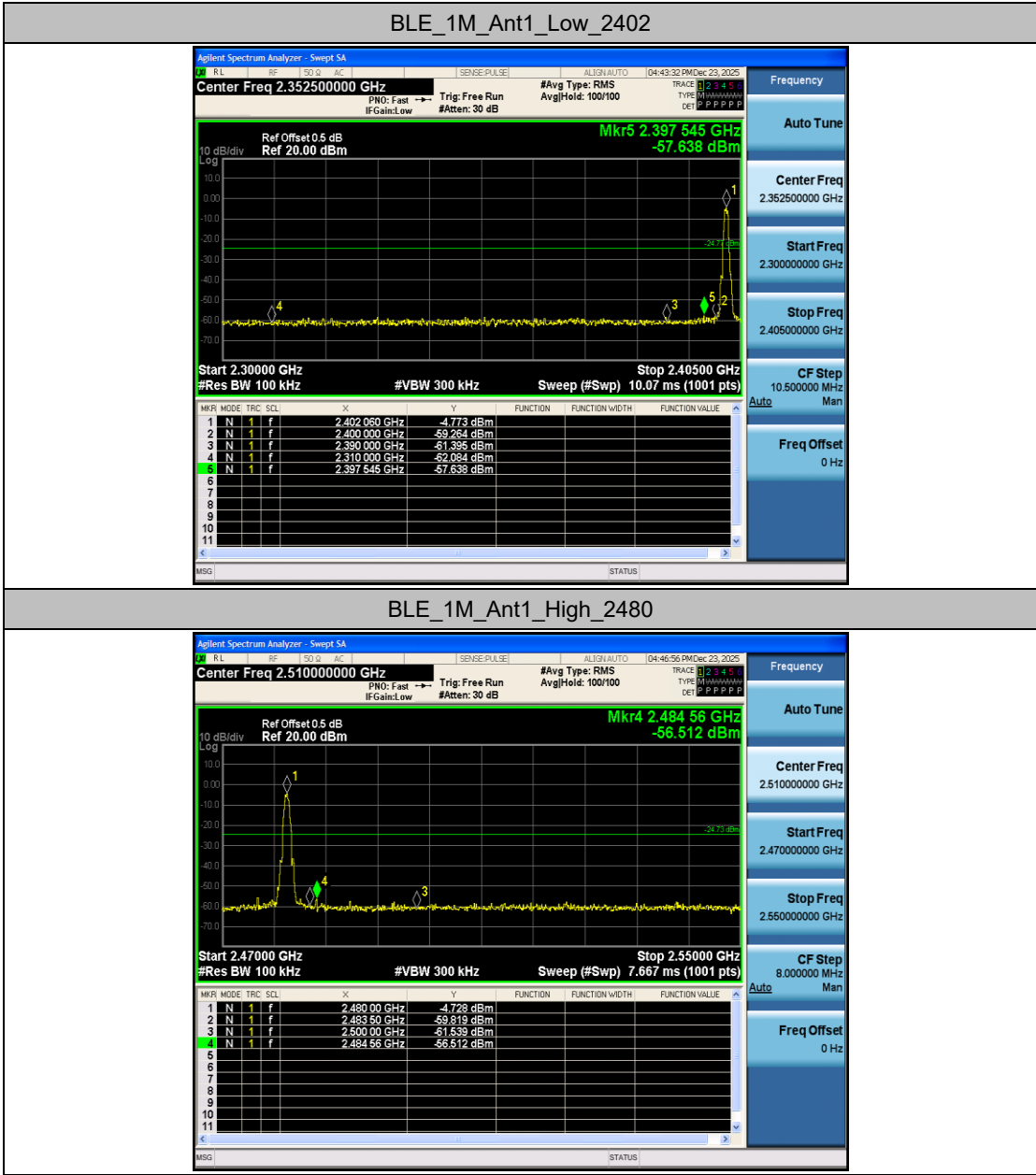


Appendix E: Band edge measurements

Test Result

TestMod e	Antenn a	ChNam e	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdic t
BLE_1M	Ant1	Low	2402	-4.77	-57.64	≤-24.77	PASS
		High	2480	-4.73	-56.51	≤-24.73	PASS

Test Graphs

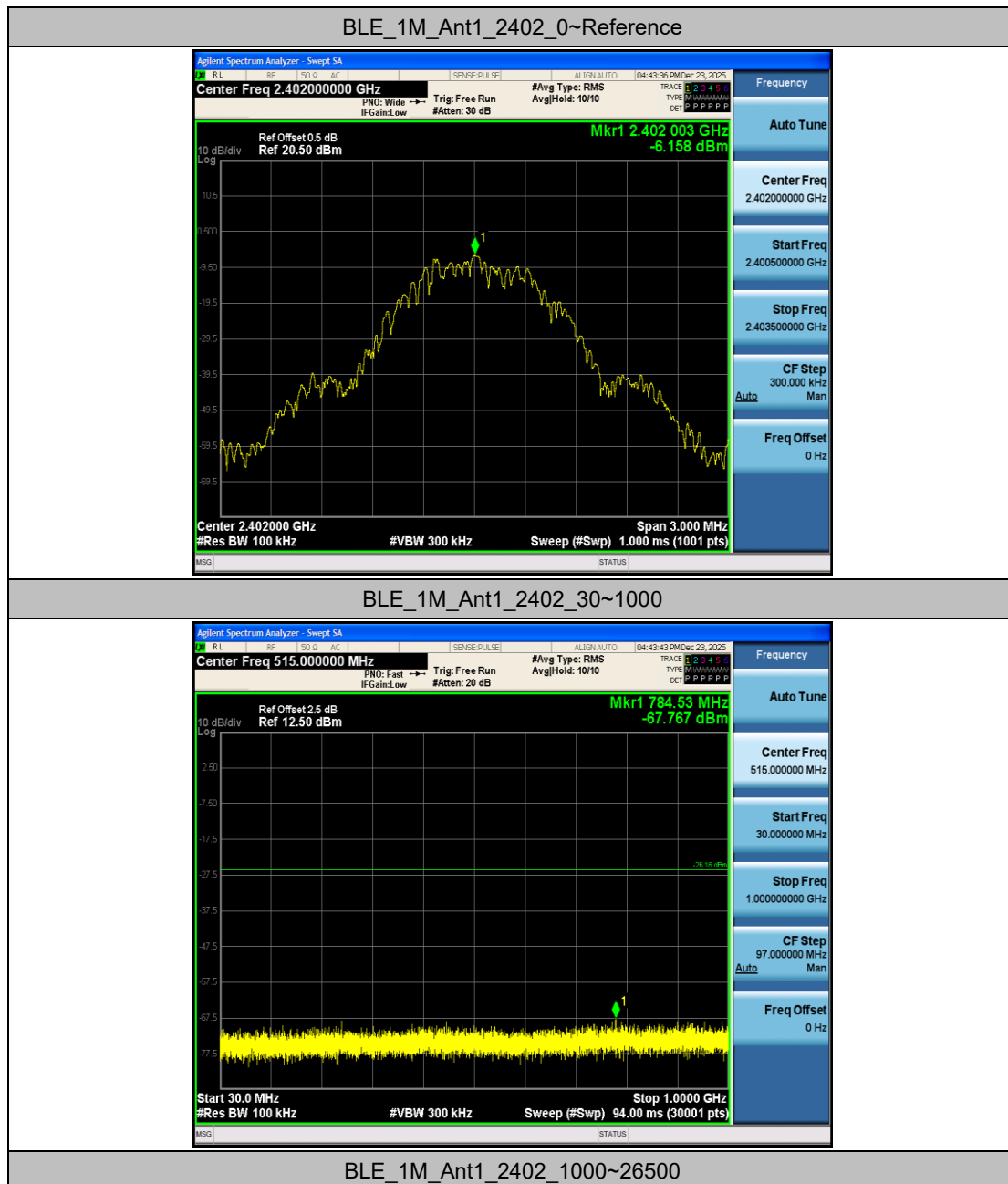


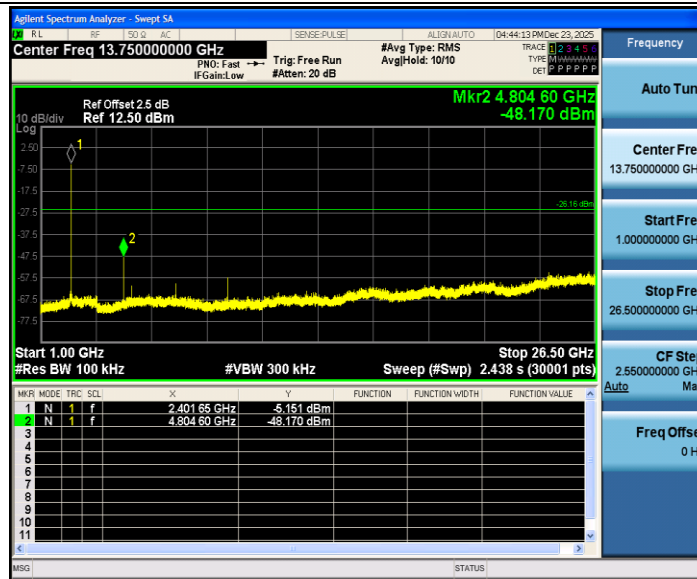
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-6.16	-6.16	---	PASS
			30~1000	-6.16	-67.77	≤-26.16	PASS
			1000~26500	-6.16	-48.17	≤-26.16	PASS
		2440	Reference	-6.15	-6.15	---	PASS
			30~1000	-6.15	-67.94	≤-26.15	PASS
			1000~26500	-6.15	-46.17	≤-26.15	PASS
		2480	Reference	-7.00	-7.00	---	PASS
			30~1000	-7.00	-67.09	≤-27	PASS
			1000~26500	-7.00	-46.6	≤-27	PASS

Test Graphs

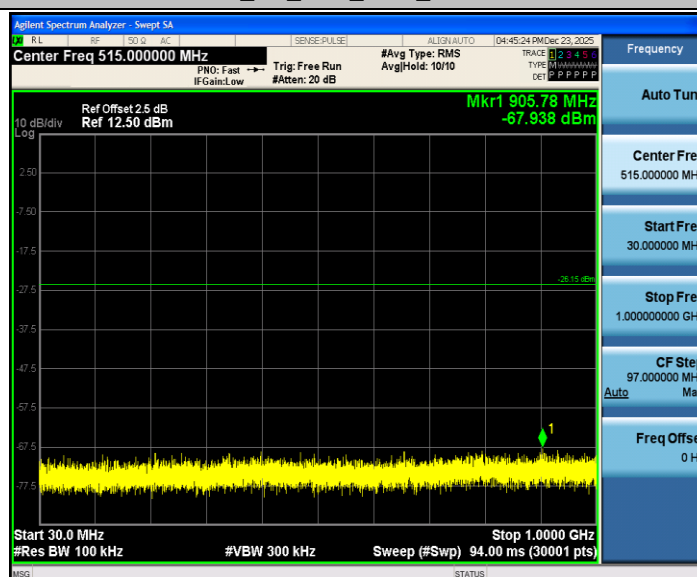




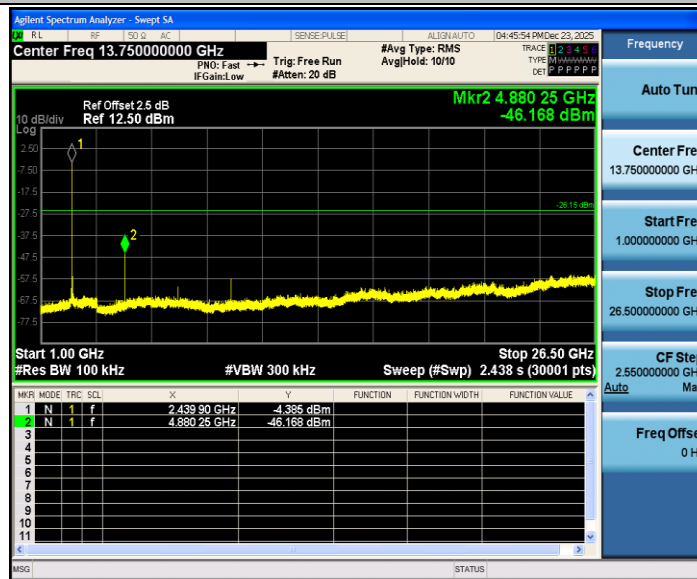
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



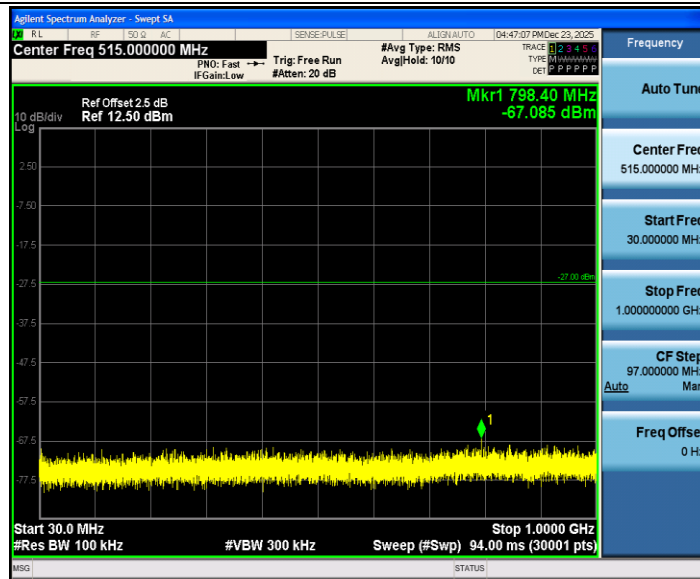
BLE_1M_Ant1_2440_1000~26500



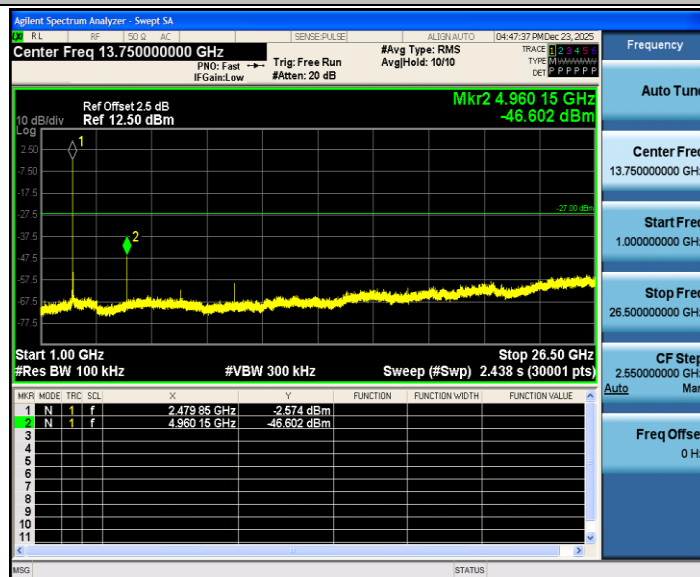
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



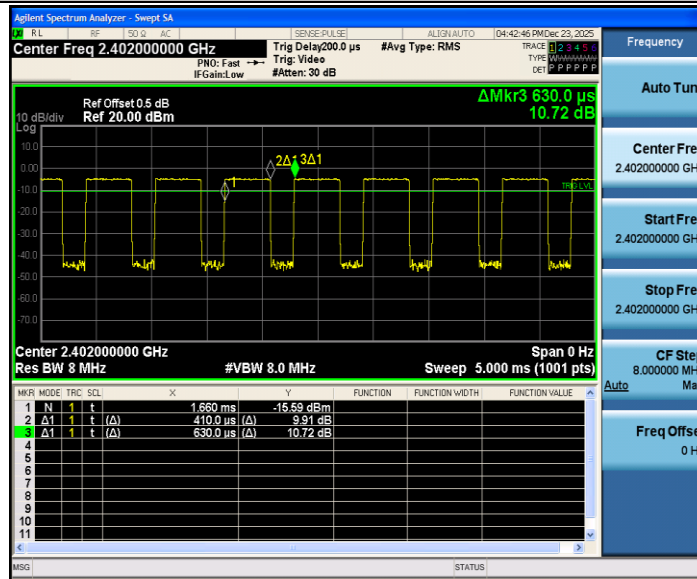
Appendix G: Duty Cycle

Test Result

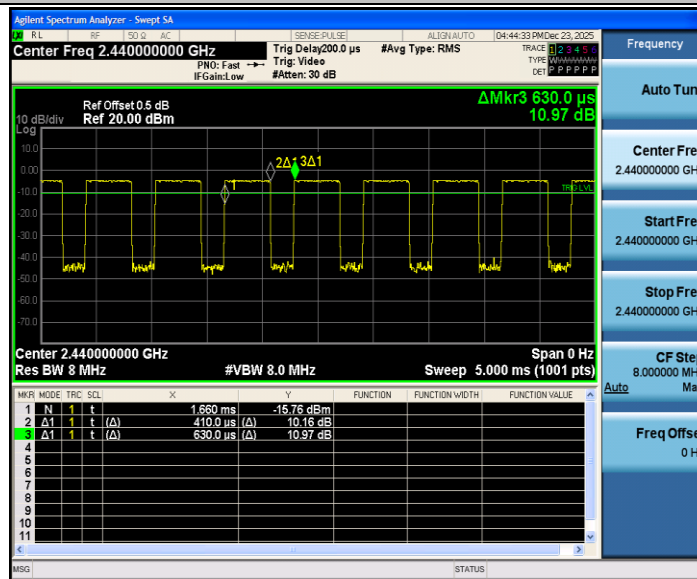
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.41	0.63	0.6508	65.08	1.87	---	---
		2440	0.41	0.63	0.6508	65.08	1.87	---	---
		2480	0.41	0.63	0.6508	65.08	1.87	---	---

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

