

FCC Appendix RF Test Data for BLE

FCC ID : 2BSS8-S19

Company : Shenzhen Dream Technology Co., Ltd.

EUT : Smart watch

Model Number : S19

Report No. : CTA25112500201

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	2401.696	2402.332	0.5	PASS
		2440	0.656	2439.688	2440.344	0.5	PASS
		2480	0.640	2479.696	2480.336	0.5	PASS

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.402000000 GHz

Ref Offset 0.4 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
0.719 dB

10 dB/div
Log

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

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 696 GHz	-9.874 dBm			
2	N	1	f	2.401 768 GHz	-3.937 dBm			
3	Δ1	1	f (Δ)	636 kHz (Δ)	0.719 dB			

BLE_1M_Ant1_2402

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.440000000 GHz

Ref Offset 0.4 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 656 kHz
-0.011 dB

10 dB/div
Log

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

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 688 GHz	-10.290 dBm			
2	N	1	f	2.439 788 GHz	-4.324 dBm			
3	Δ1	1	f (Δ)	656 kHz (Δ)	-0.011 dB			

BLE_1M_Ant1_2440

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.440000000 GHz

Ref Offset 0.4 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)

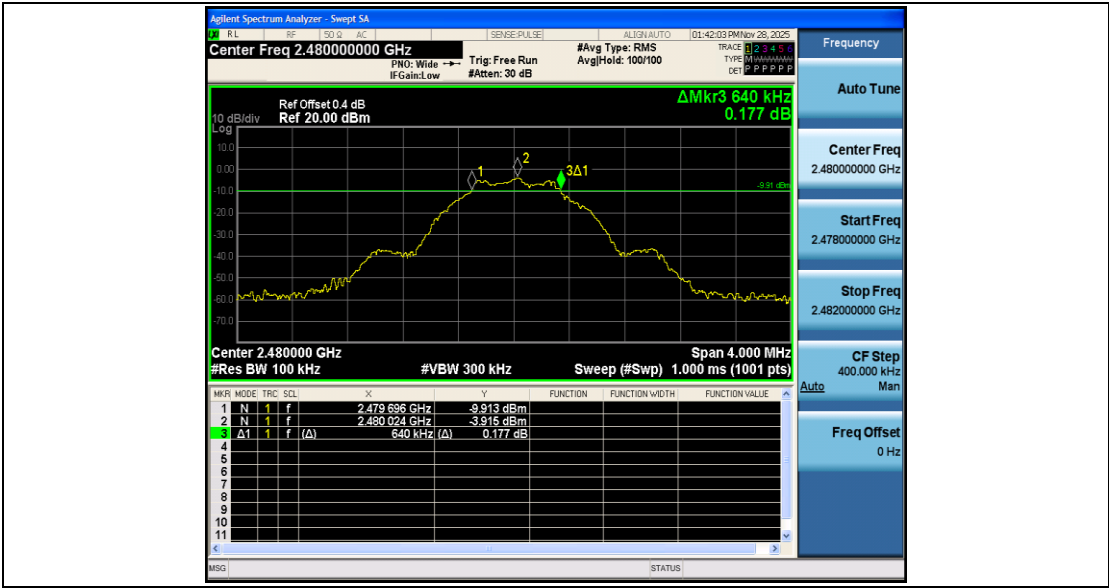
ΔMkr3 656 kHz
-0.011 dB

10 dB/div
Log

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

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 688 GHz	-10.290 dBm			
2	N	1	f	2.439 788 GHz	-4.324 dBm			
3	Δ1	1	f (Δ)	656 kHz (Δ)	-0.011 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	2401.5179	2402.5236	---	---
		2440	1.0056	2439.5158	2440.5214	---	---
		2480	1.0073	2479.5167	2480.5240	---	---

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

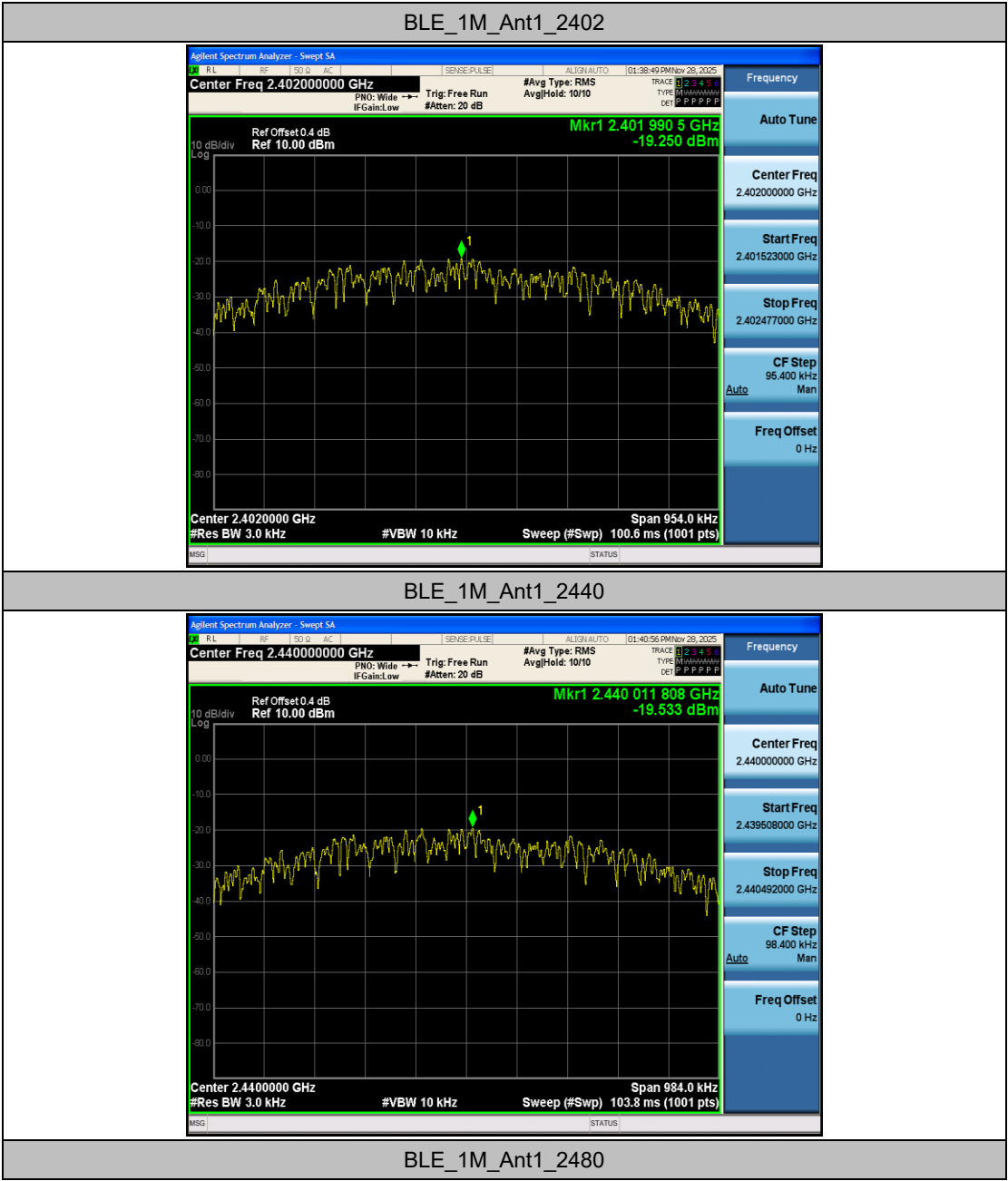
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.34	≤30	PASS
		2440	-3.72	≤30	PASS
		2480	-3.74	≤30	PASS

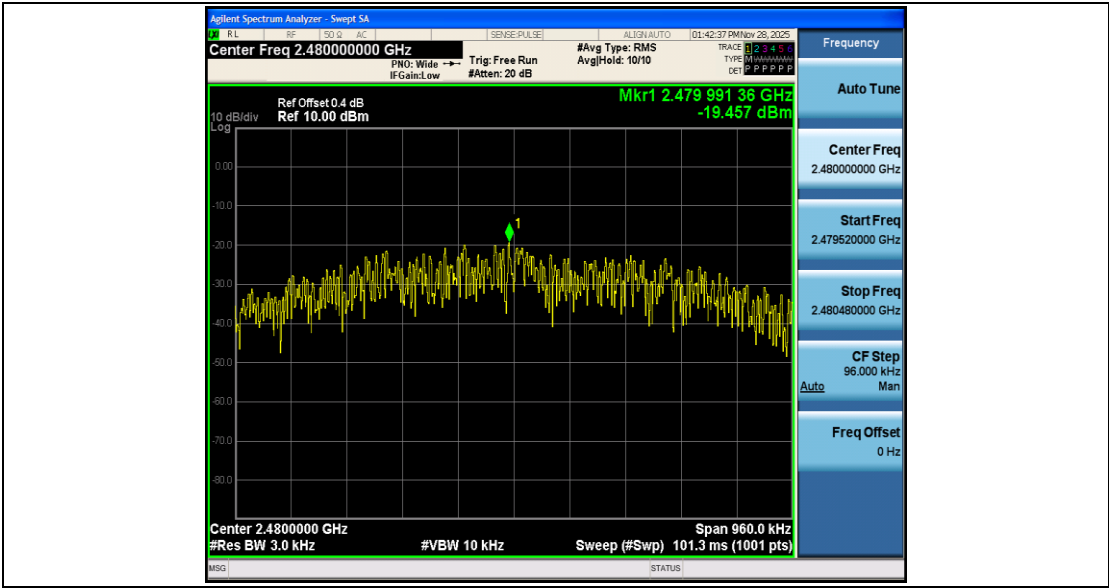
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.25	≤8.00	PASS
		2440	-19.53	≤8.00	PASS
		2480	-19.46	≤8.00	PASS

Test Graphs





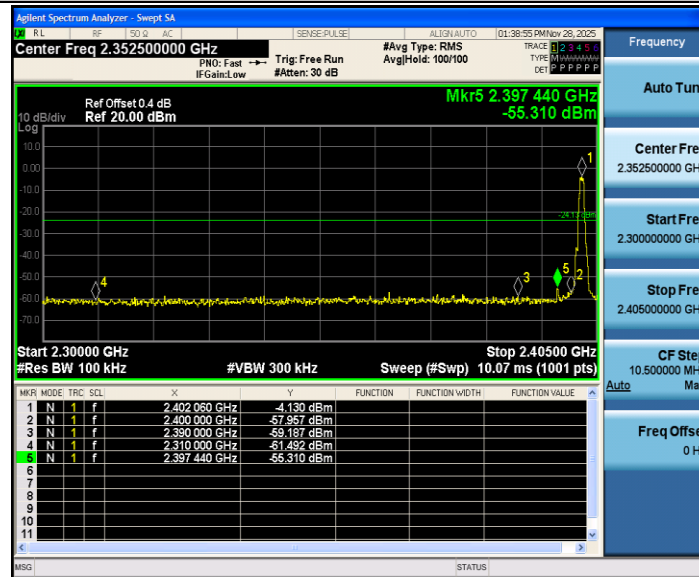
Appendix E: Band edge measurements

Test Result

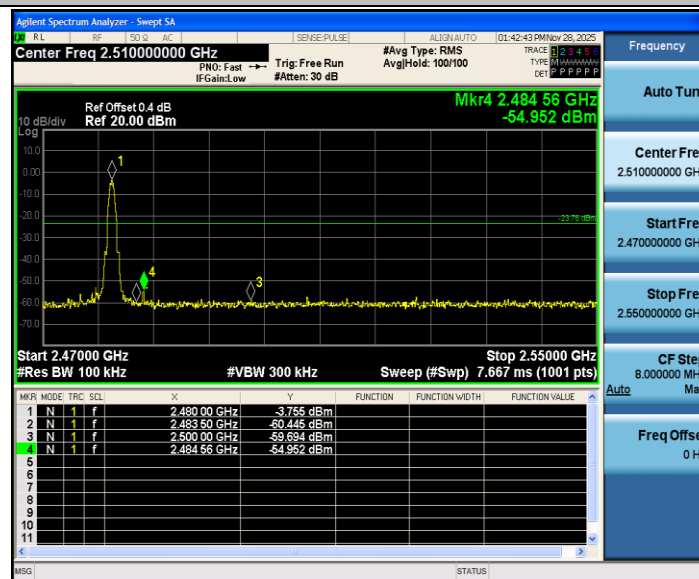
TestMod e	Antenn a	ChNam e	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdic t
BLE_1M	Ant1	Low	2402	-4.13	-55.31	≤-24.13	PASS
		High	2480	-3.76	-54.95	≤-23.76	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480

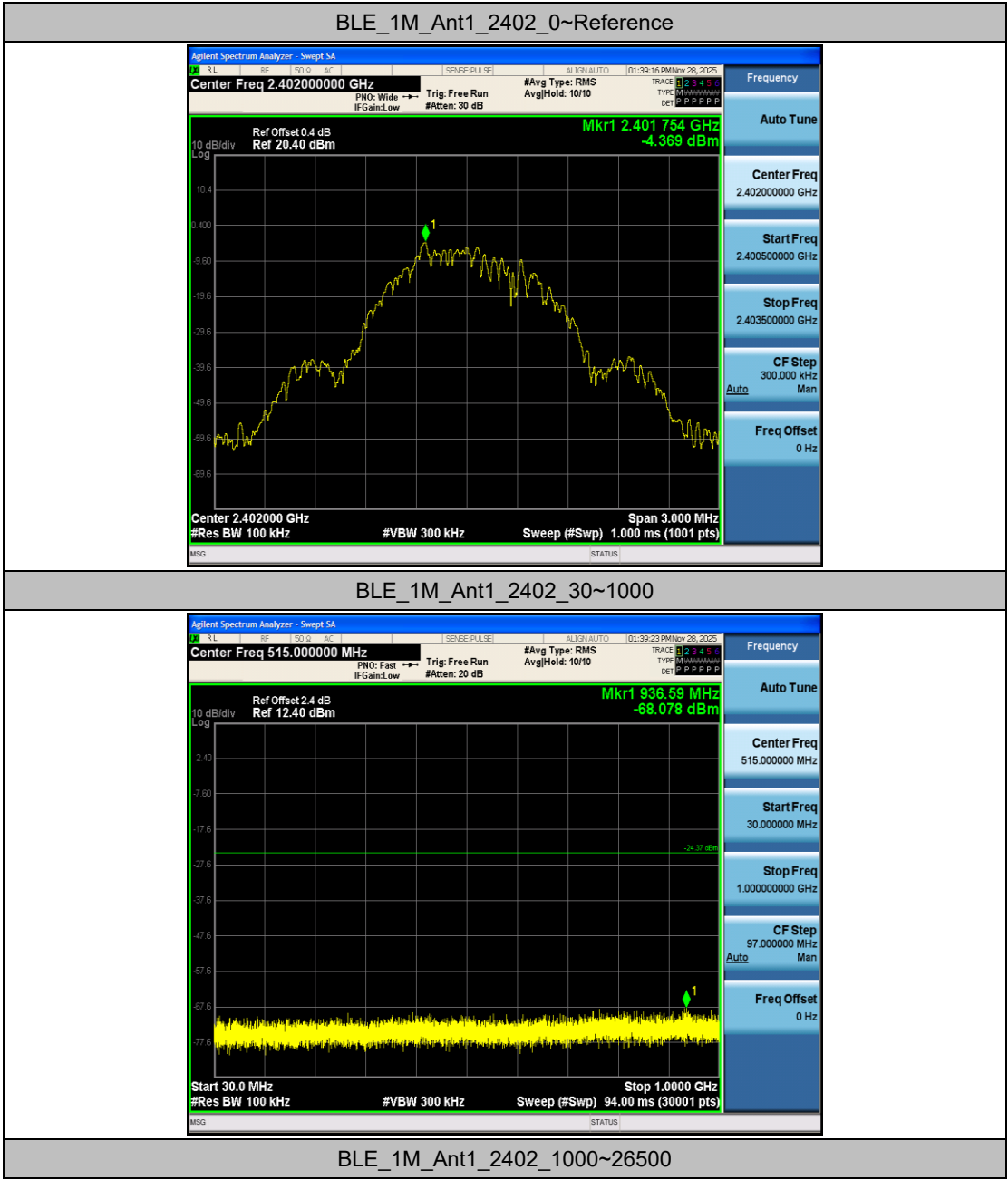


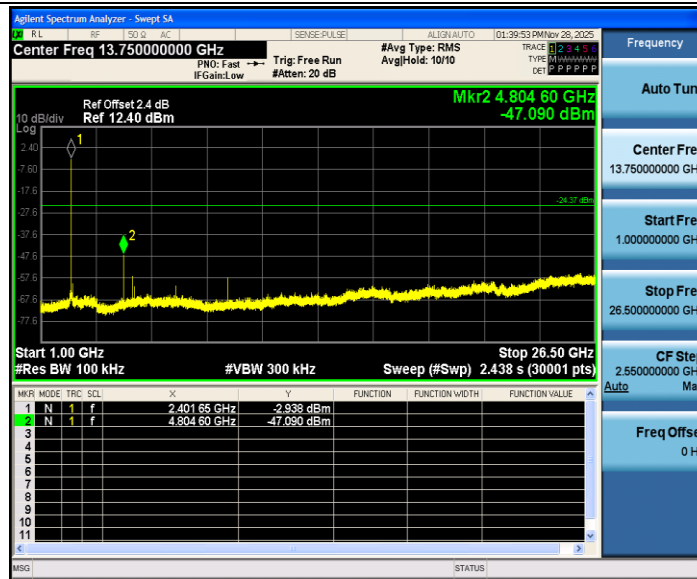
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-4.37	-4.37	---	PASS
			30~1000	-4.37	-68.08	≤-24.37	PASS
			1000~26500	-4.37	-47.09	≤-24.37	PASS
		2440	Reference	-4.71	-4.71	---	PASS
			30~1000	-4.71	-68.39	≤-24.71	PASS
			1000~26500	-4.71	-46.92	≤-24.71	PASS
		2480	Reference	-3.87	-3.87	---	PASS
			30~1000	-3.87	-68.11	≤-23.87	PASS
			1000~26500	-3.87	-49.14	≤-23.87	PASS

Test Graphs

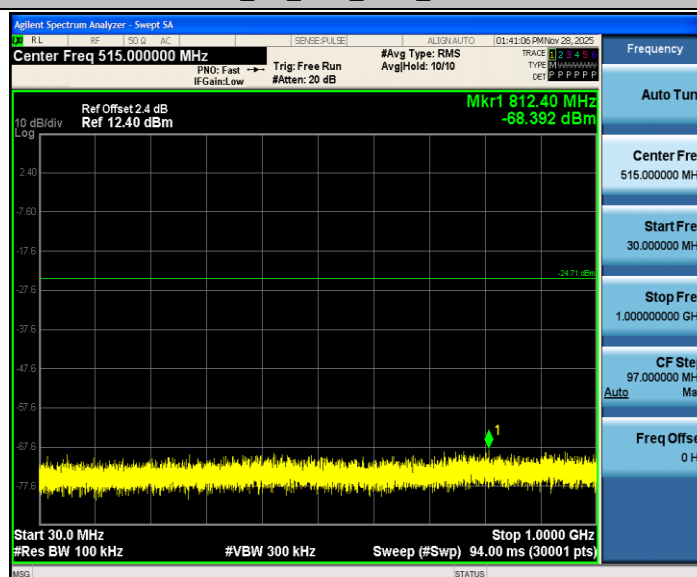




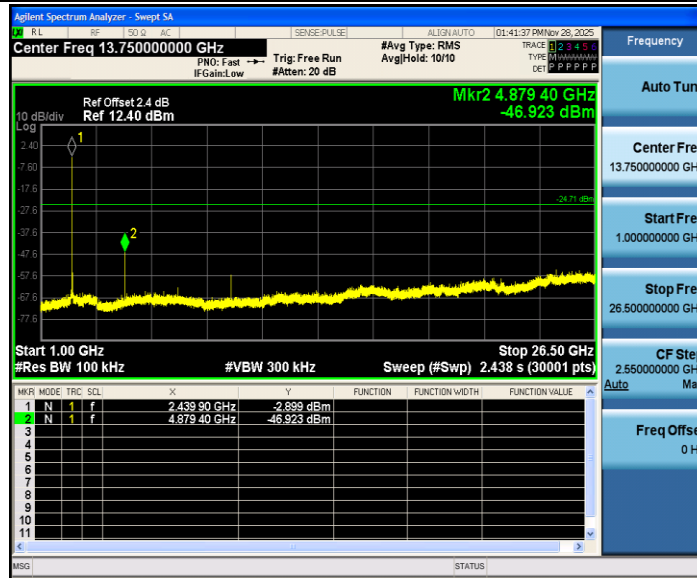
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



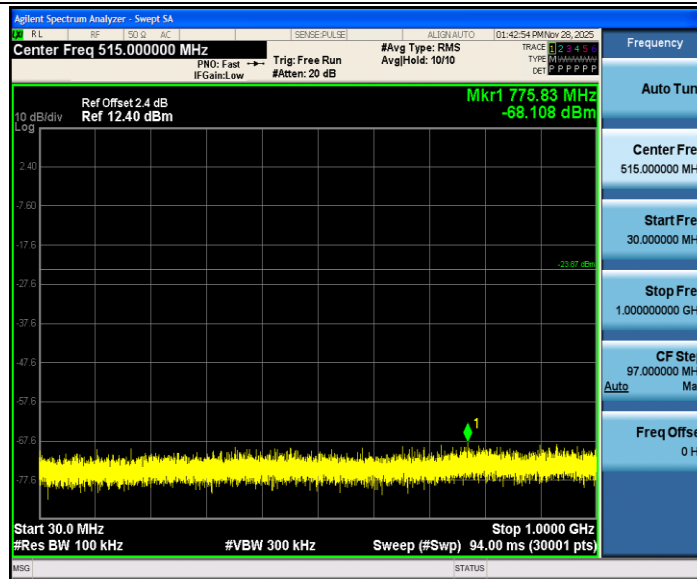
BLE_1M_Ant1_2440_1000~26500



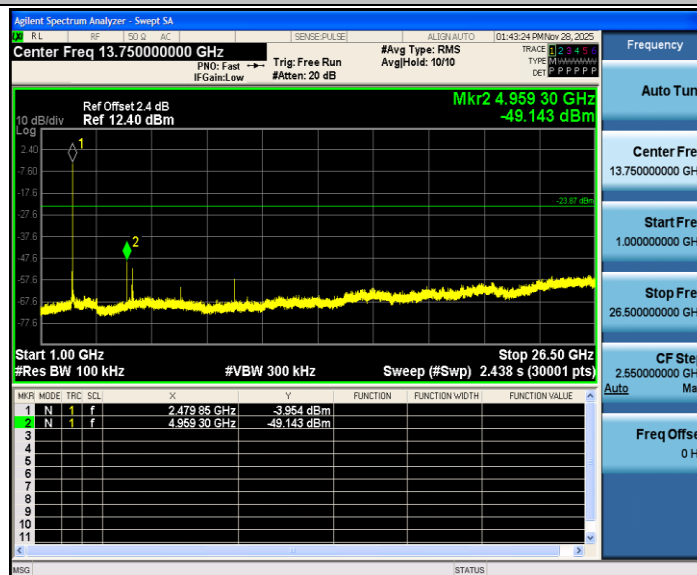
BLE_1M_Ant1_2480_0~Reference



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

