

FCC Appendix RF Test Data for BLE

FCC ID : 2BURB-D100D300D200

Company : Zhongshan SunTop Audio Factory

EUT : Power amplifier board

Model Number : D100D300D200-II

Report No. : CTA26052000901

Reviewed By : Eric Wang

Appendix A: DTS Bandwidth

Test Result

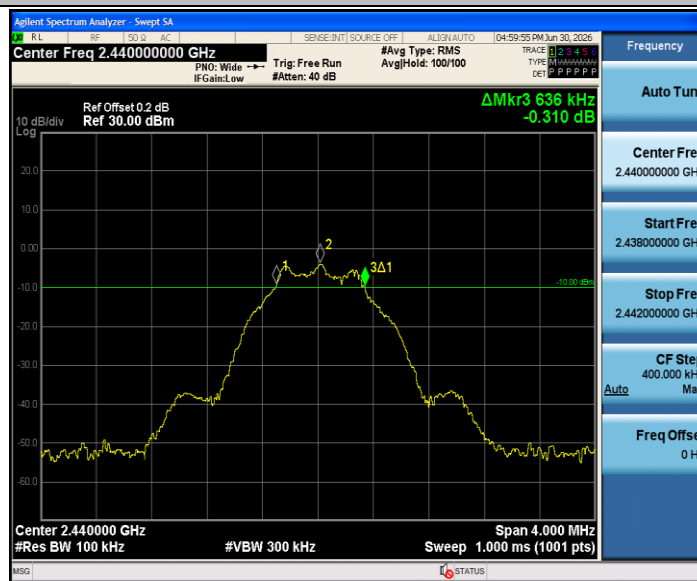
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.648	2401.688	2402.336	0.5	PASS
		2440	0.636	2439.700	2440.336	0.5	PASS
		2480	0.636	2479.696	2480.332	0.5	PASS

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



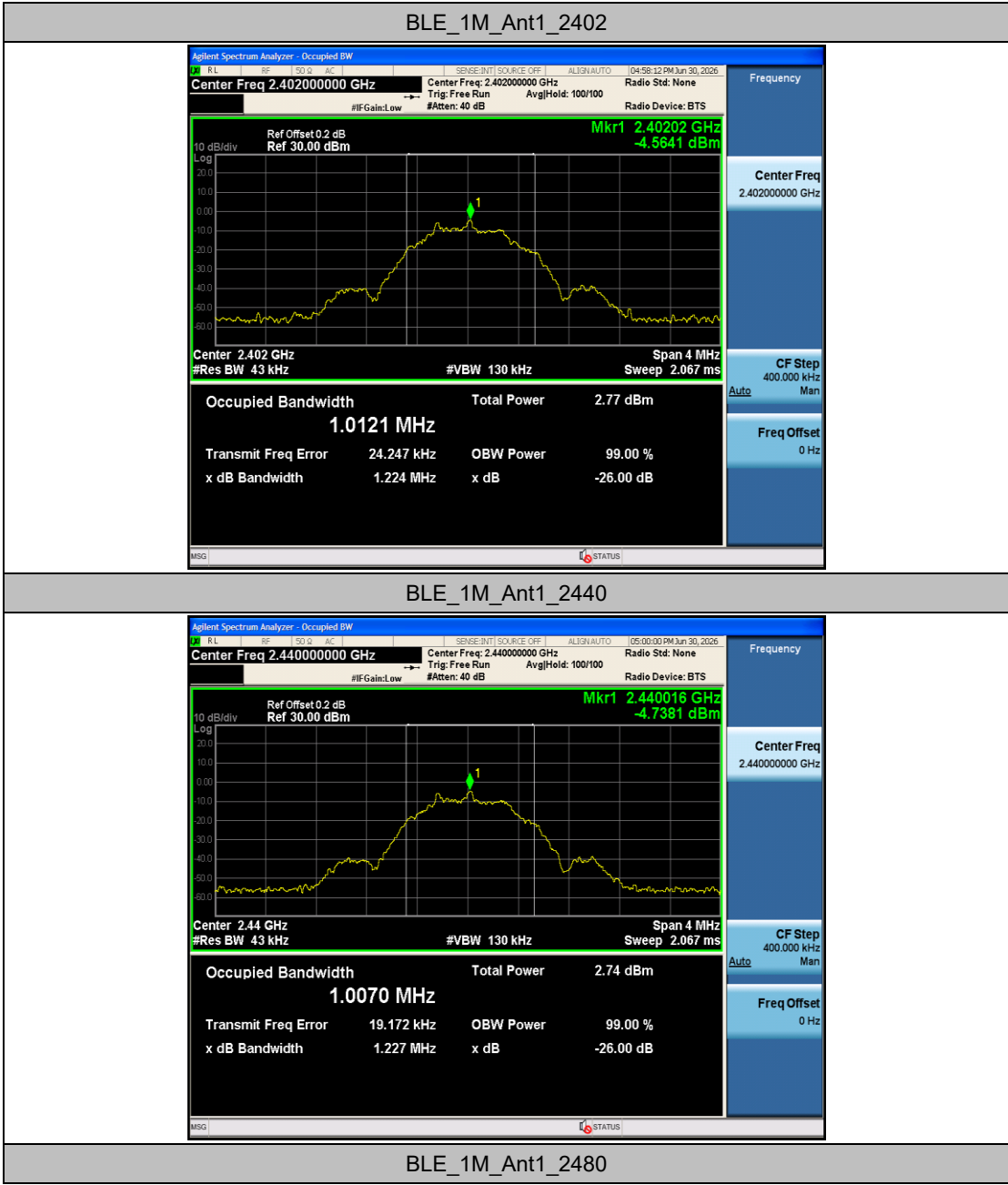
BLE_1M_Ant1_2480

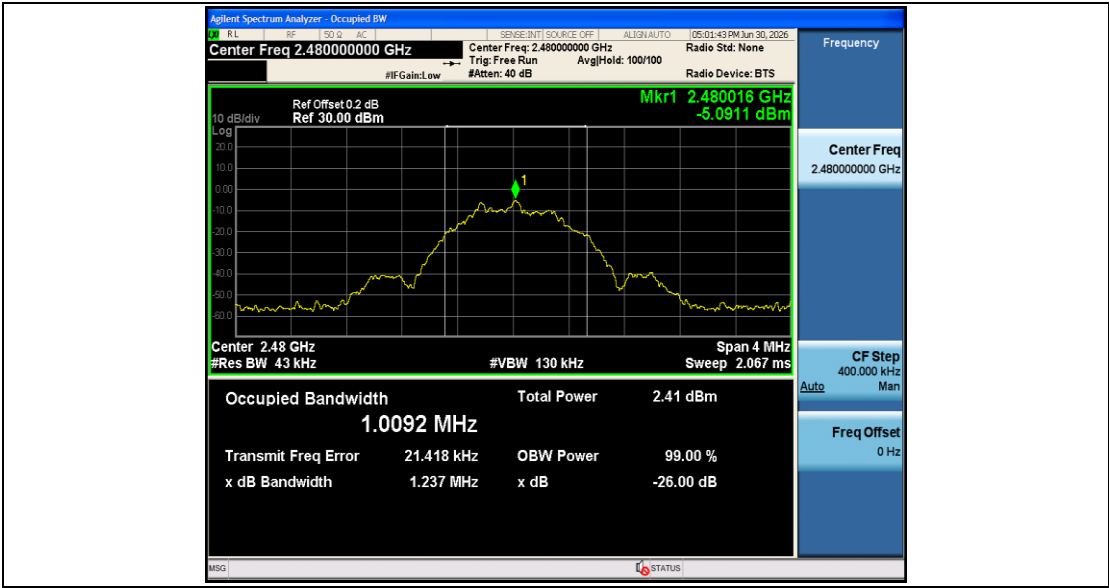
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0121	2401.5182	2402.5303	---	---
		2440	1.0070	2439.5157	2440.5227	---	---
		2480	1.0092	2479.5168	2480.5260	---	---

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	-3.73	≤30	PASS
		2440	-3.86	≤30	PASS
		2480	-4.25	≤30	PASS

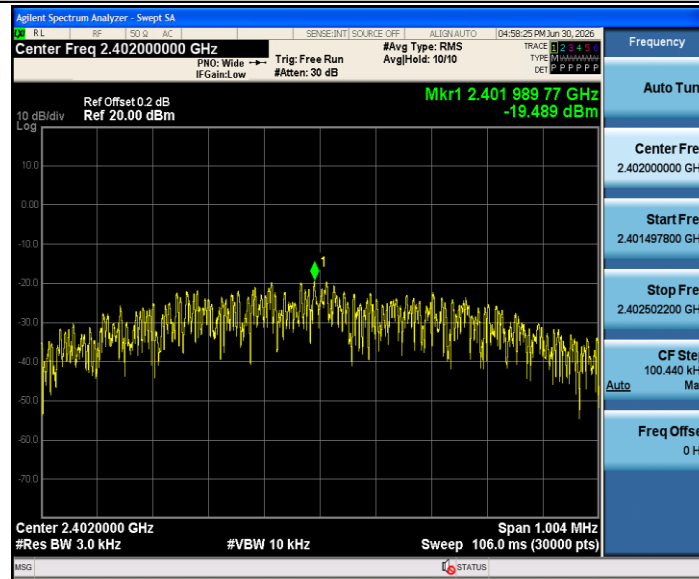
Appendix D: Maximum power spectral density

Test Result

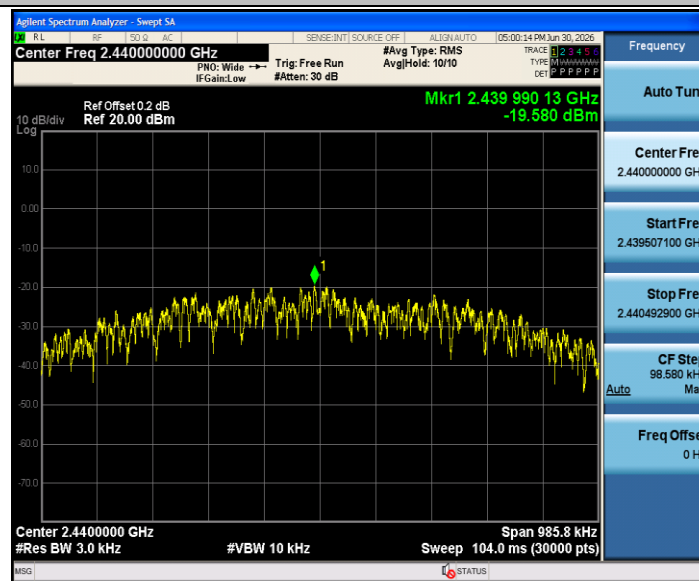
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.49	≤8.00	PASS
		2440	-19.58	≤8.00	PASS
		2480	-20.22	≤8.00	PASS

Test Graphs

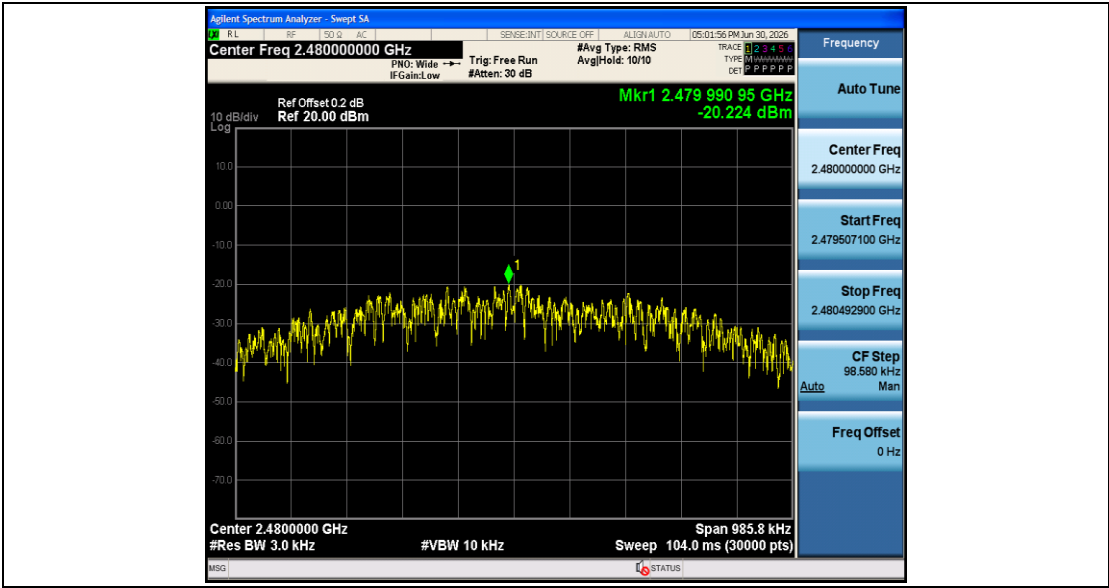
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

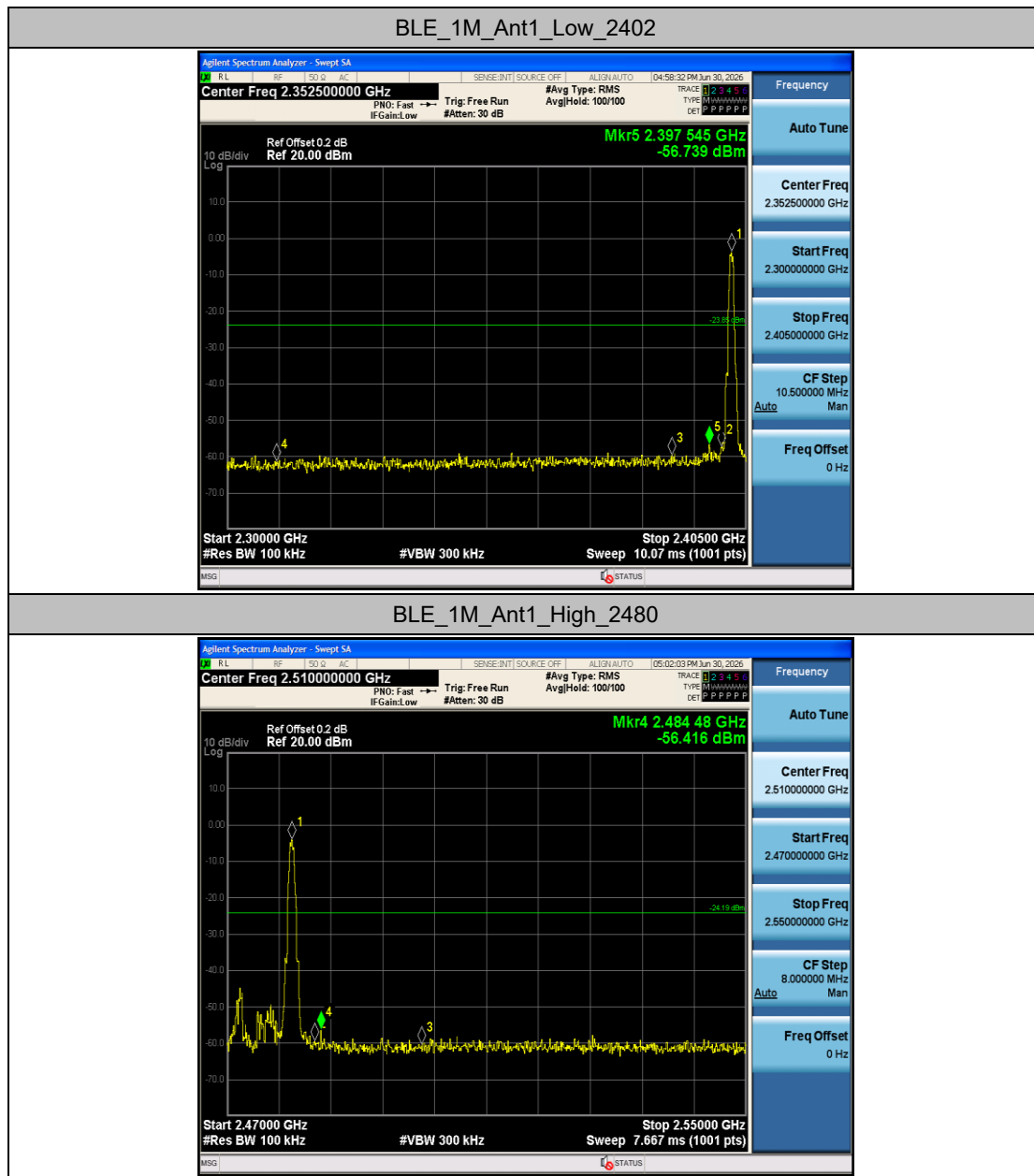


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	Channel	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-3.85	-56.74	≤-23.85	PASS
		High	2480	-4.19	-56.42	≤-24.19	PASS

Test Graphs

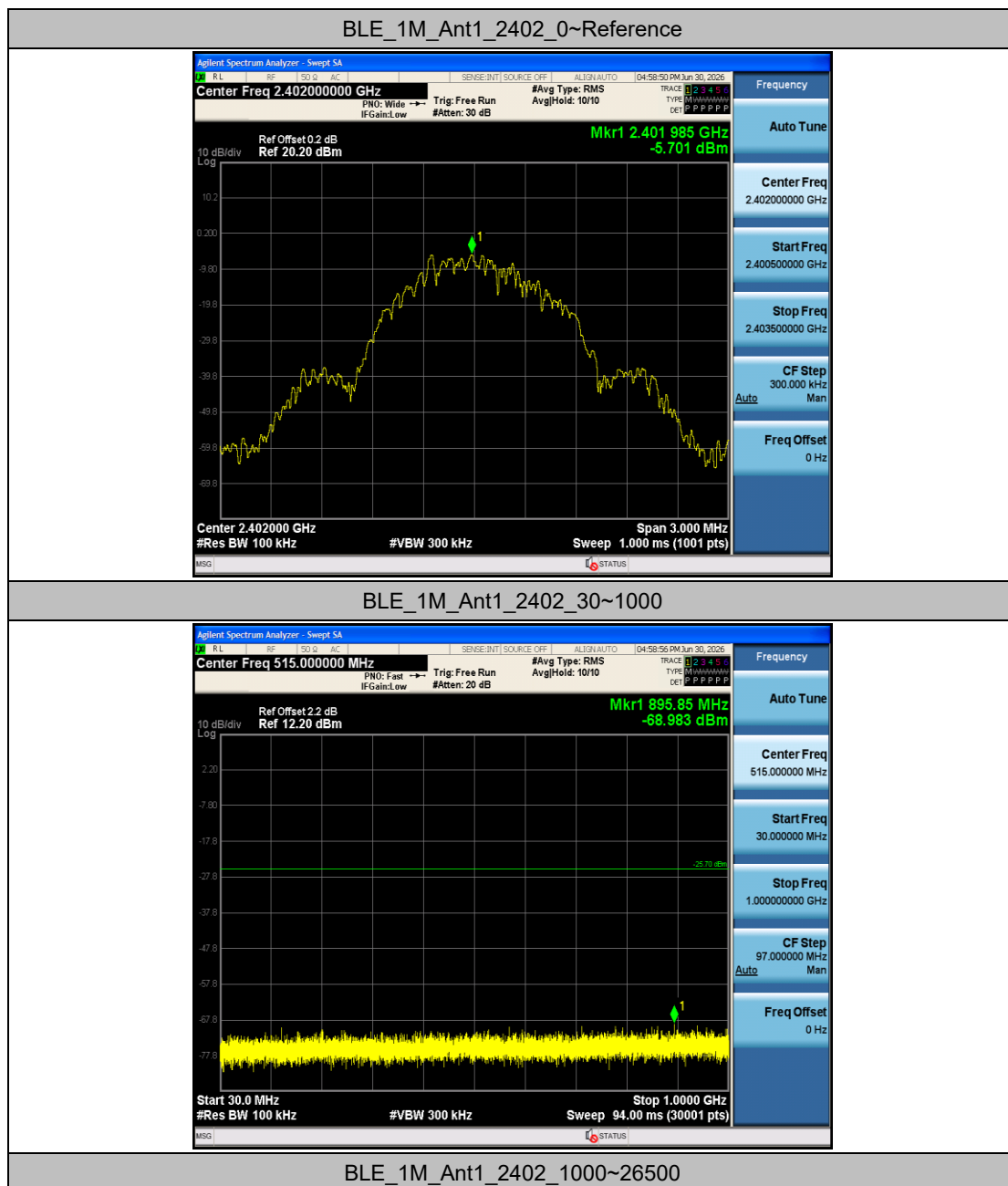


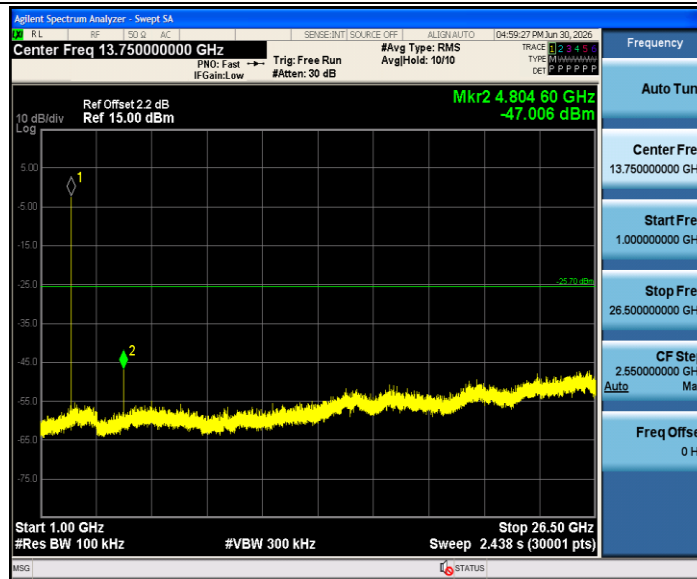
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-5.70	-5.70	---	PASS
			30~1000	-5.70	-68.98	≤-25.7	PASS
			1000~26500	-5.70	-47.01	≤-25.7	PASS
		2440	Reference	-4.76	-4.76	---	PASS
			30~1000	-4.76	-69.73	≤-24.76	PASS
			1000~26500	-4.76	-46.22	≤-24.76	PASS
		2480	Reference	-5.83	-5.83	---	PASS
			30~1000	-5.83	-68.82	≤-25.83	PASS
			1000~26500	-5.83	-46.11	≤-25.83	PASS

Test Graphs

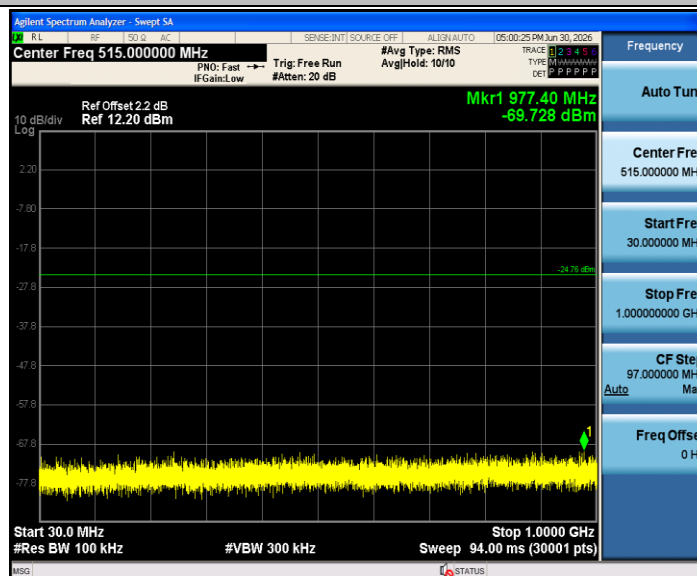




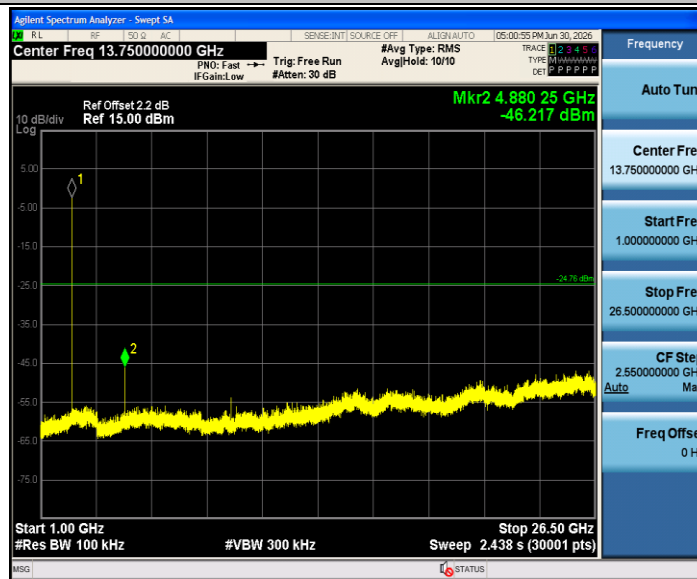
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



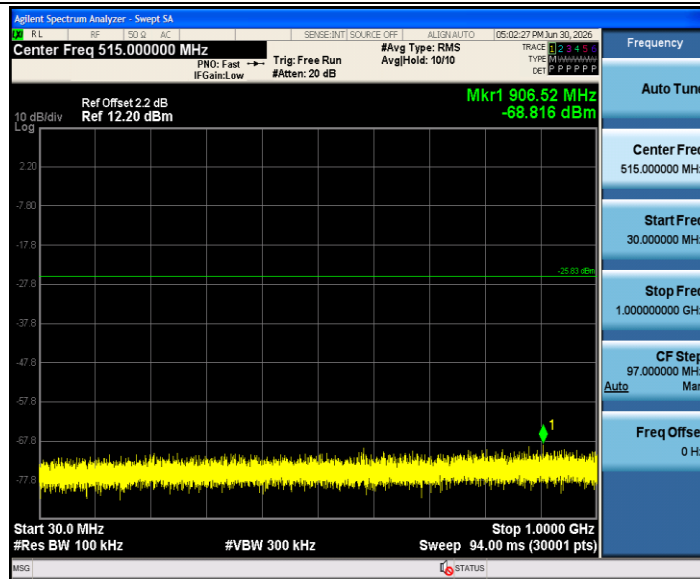
BLE_1M_Ant1_2440_1000~26500



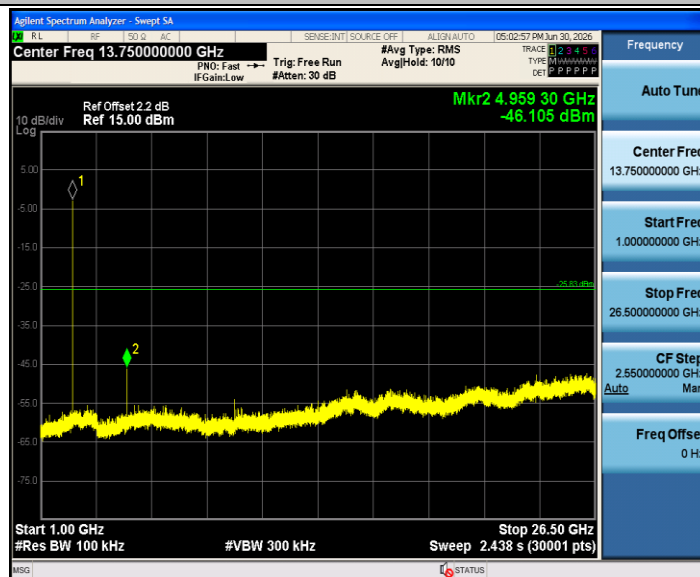
BLE_1M_Ant1_2480_0~Reference



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	---	---

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.402000000 GHz

Ref Offset 0.2 dB
Ref 20.20 dBm

Trig Delay: 2.000 ms
Trig: Video
#Atten: 30 dB

PRO: Fast
IF Gain: Low

ΔMkr3 620.0 μs
-31.46 dB

10 dB/div
Log

Center 2.402000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Sweep 1.000 ms (1001 pts)

Frequency

Auto Tune

Center Freq
2.402000000 GHz

Start Freq
2.402000000 GHz

Stop Freq
2.402000000 GHz

CF Step
8.000000 MHz
Auto Man

Freq Offset
0 Hz

BLE_1M_Ant1_2402

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.440000000 GHz

Ref Offset 0.2 dB
Ref 20.20 dBm

Trig Delay: 2.000 ms
Trig: Video
#Atten: 30 dB

PRO: Fast
IF Gain: Low

ΔMkr3 620.0 μs
-15.93 dB

10 dB/div
Log

Center 2.440000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Sweep 1.000 ms (1001 pts)

Frequency

Auto Tune

Center Freq
2.440000000 GHz

Start Freq
2.440000000 GHz

Stop Freq
2.440000000 GHz

CF Step
8.000000 MHz
Auto Man

Freq Offset
0 Hz

BLE_1M_Ant1_2440

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.480000000 GHz

Ref Offset 0.2 dB
Ref 20.20 dBm

Trig Delay: 2.000 ms
Trig: Video
#Atten: 30 dB

PRO: Fast
IF Gain: Low

ΔMkr3 620.0 μs
-15.93 dB

10 dB/div
Log

Center 2.480000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Sweep 1.000 ms (1001 pts)

Frequency

Auto Tune

Center Freq
2.480000000 GHz

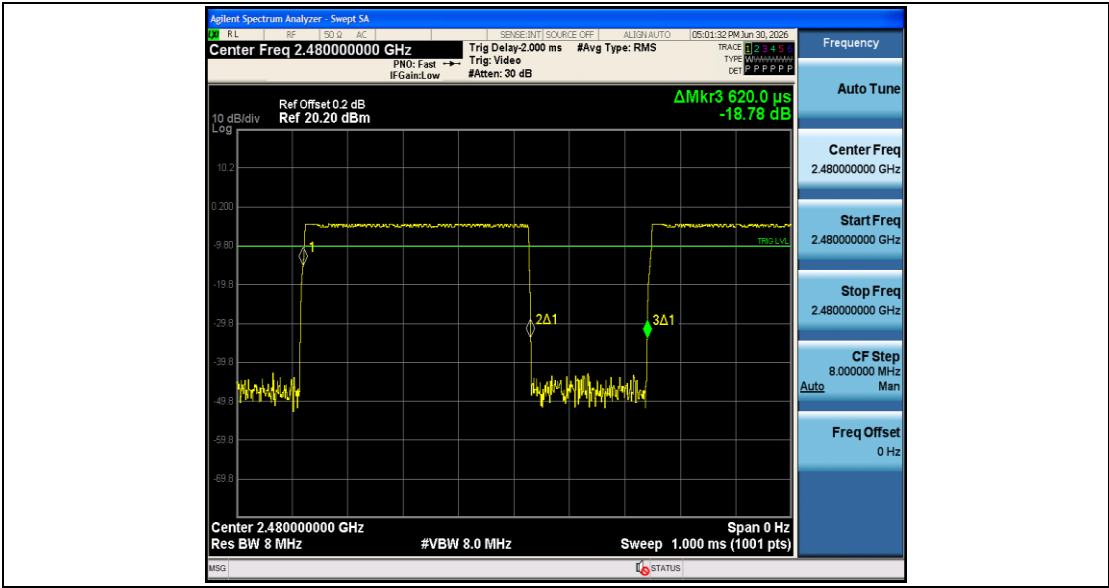
Start Freq
2.480000000 GHz

Stop Freq
2.480000000 GHz

CF Step
8.000000 MHz
Auto Man

Freq Offset
0 Hz

BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

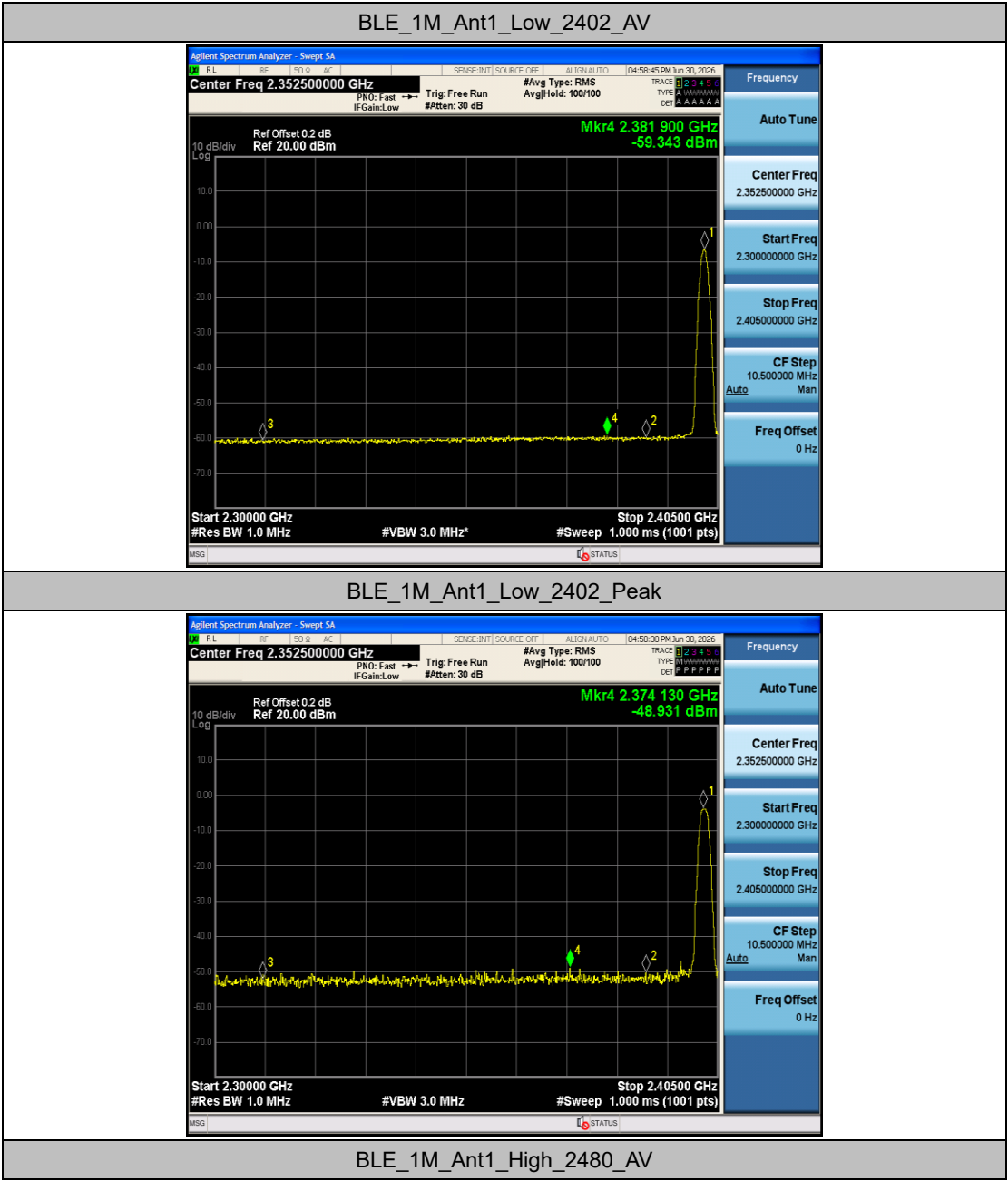
Test Result

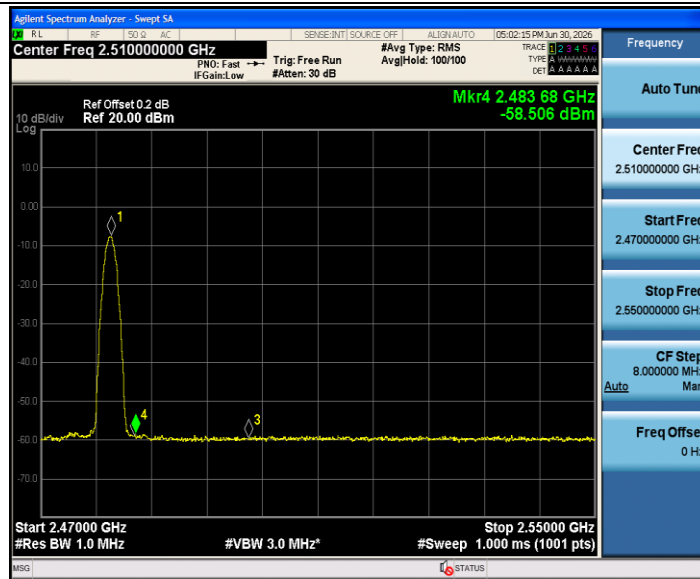
TestMode	Antenna	Channel Name	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-60.95	2.00	1.80	38.05	≤54	PASS
				AV	2381.900	-59.34	2.00	1.80	39.66	≤54	PASS
				AV	2390.000	-60.01	2.00	1.80	38.99	≤54	PASS
				Peak	2310.000	-52.44	2.00	0.00	44.76	≤74	PASS
				Peak	2374.130	-48.93	2.00	0.00	48.27	≤74	PASS
				Peak	2390.000	-50.38	2.00	0.00	46.82	≤74	PASS
		High	2480	AV	2483.500	-59.04	2.00	1.80	39.96	≤54	PASS
				AV	2483.680	-58.51	2.00	1.80	40.49	≤54	PASS
				AV	2500.000	-59.78	2.00	1.80	39.22	≤54	PASS
				Peak	2483.500	-48.96	2.00	0.00	48.24	≤74	PASS
				Peak	2483.840	-45.54	2.00	0.00	51.66	≤74	PASS
				Peak	2500.000	-52.21	2.00	0.00	44.99	≤74	PASS

Note:

- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs





BLE_1M_Ant1_High_2480_Peak

