

Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: GPS 4G TRACKER TUBE

Test Model: GPS 4G TRACKER TUBE (cat1)

Environmental Conditions

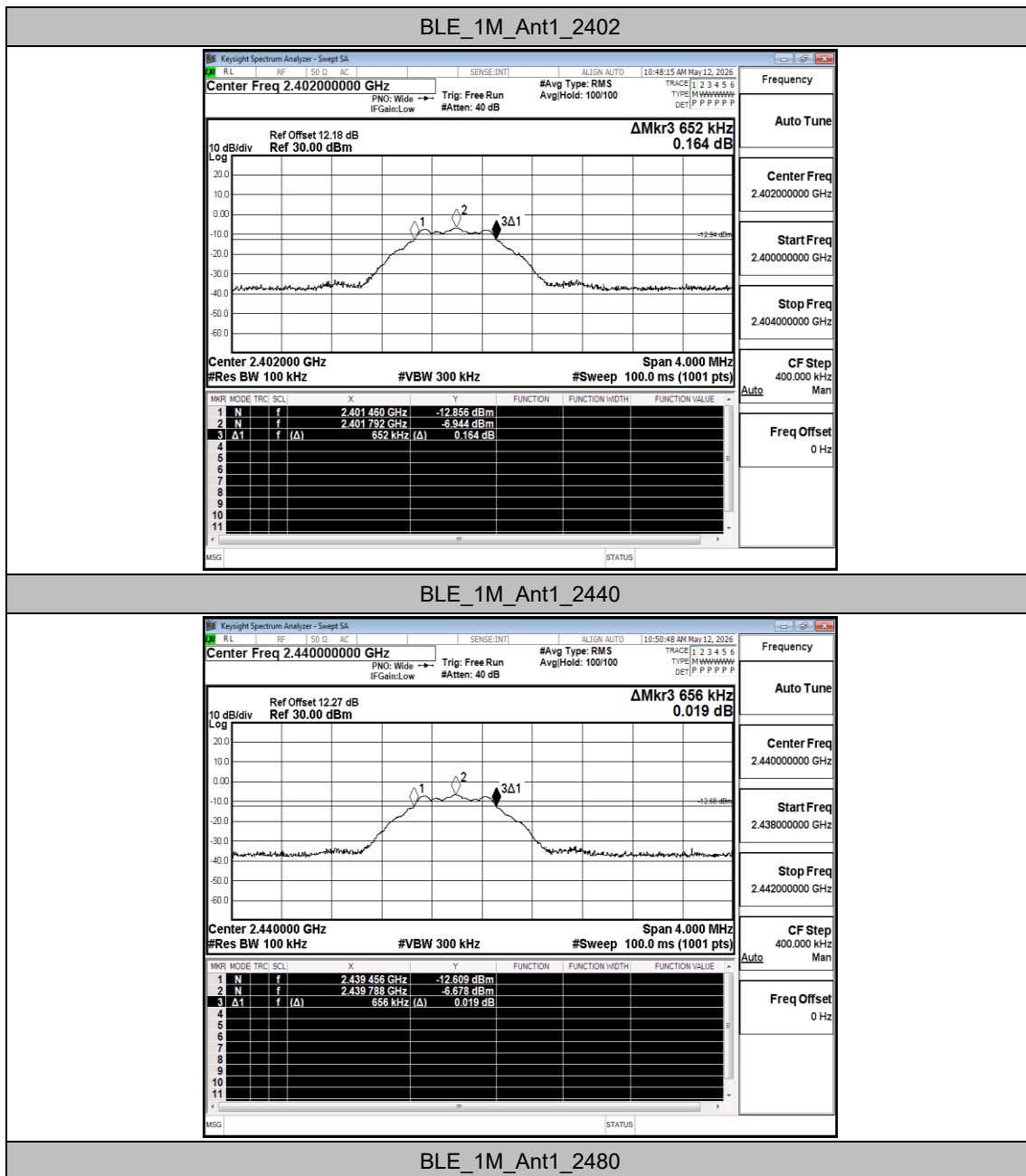
Temperature:	24.5°C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	zhao xing hai
Supervised by:	Fengliu Tang

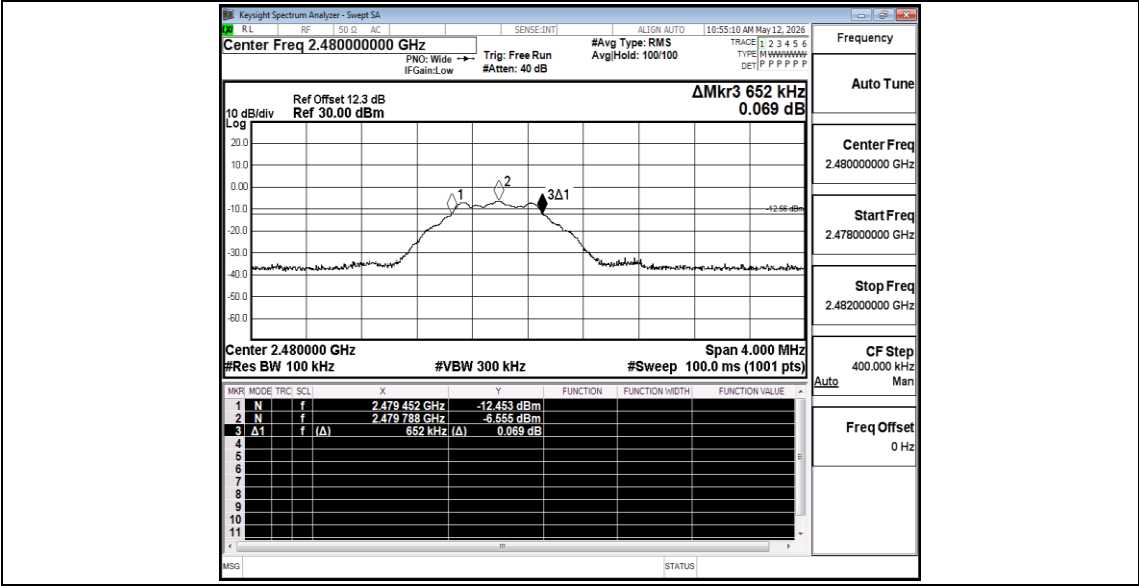
A.1 DTS Bandwidth

Test Result

TestMode	Antenna	Freq (MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	0.652	2401.460	2402.112	0.5	PASS
		2440	0.656	2439.456	2440.112	0.5	PASS
		2480	0.652	2479.452	2480.104	0.5	PASS

Test Graphs



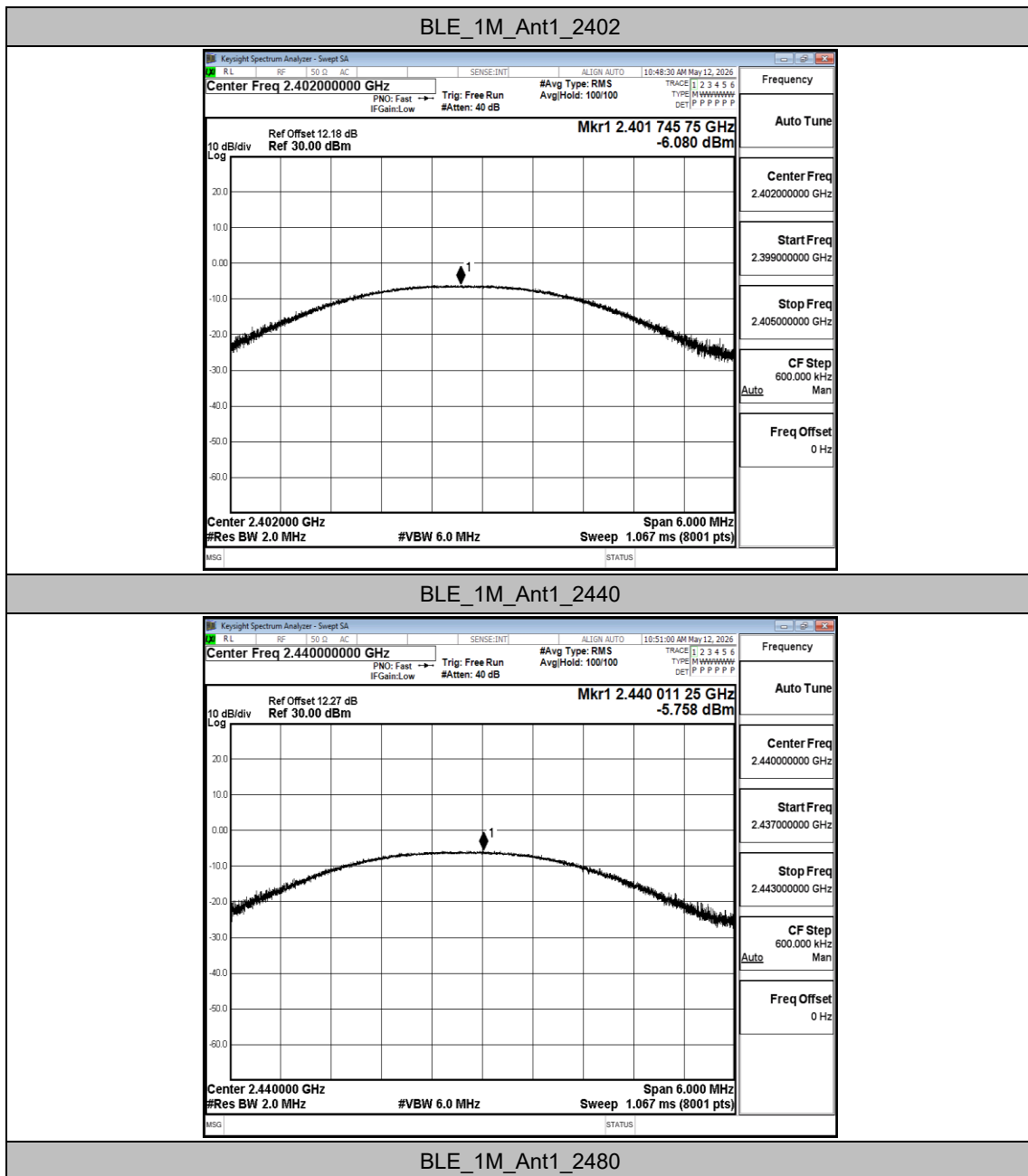


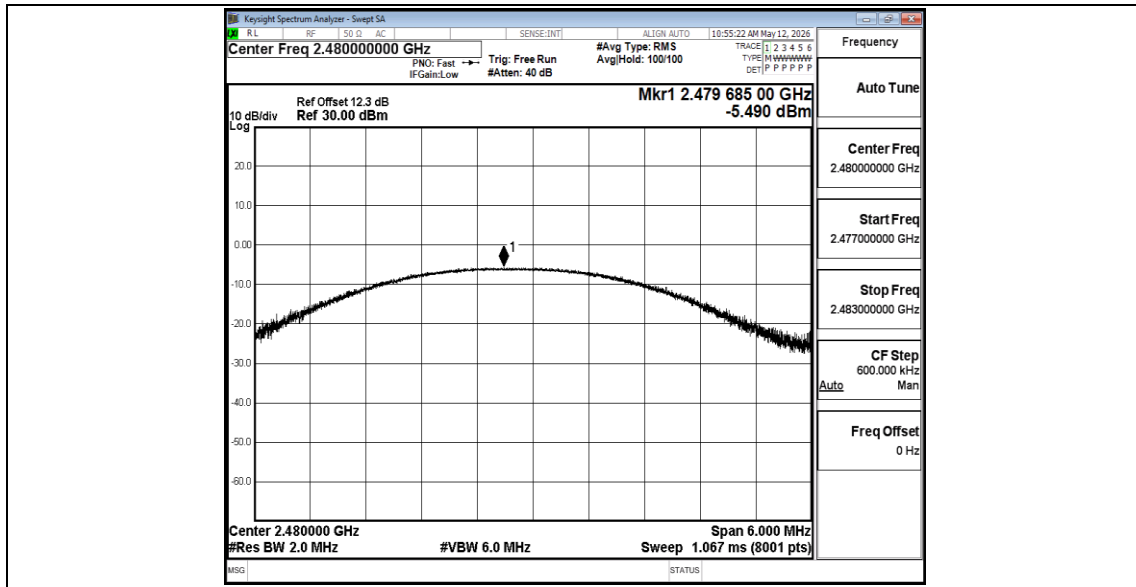
A.2 Maximum Peak conducted output power

Test Result Peak

TestMode	Antenna	Freq (MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-6.08	≤30	PASS
		2440	-5.76	≤30	PASS
		2480	-5.49	≤30	PASS

Test Graphs Peak





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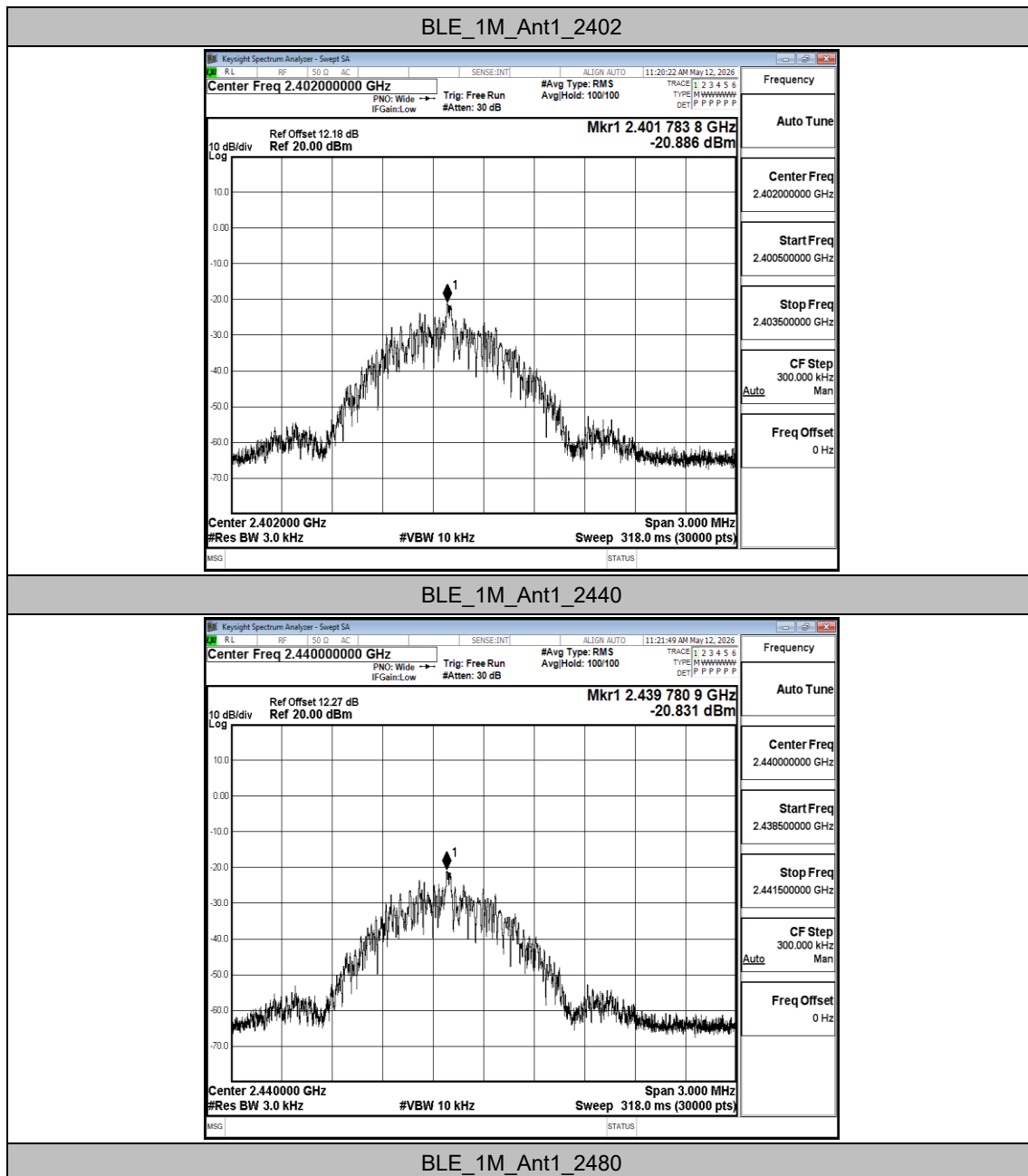
Tel: +(86) 020-39166689 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

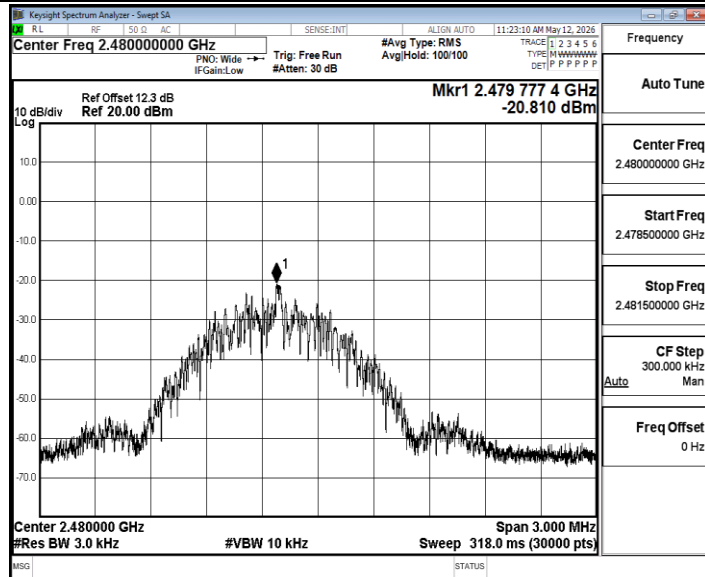
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Freq (MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-20.89	≤8.00	PASS
		2440	-20.83	≤8.00	PASS
		2480	-20.81	≤8.00	PASS

Test Graphs



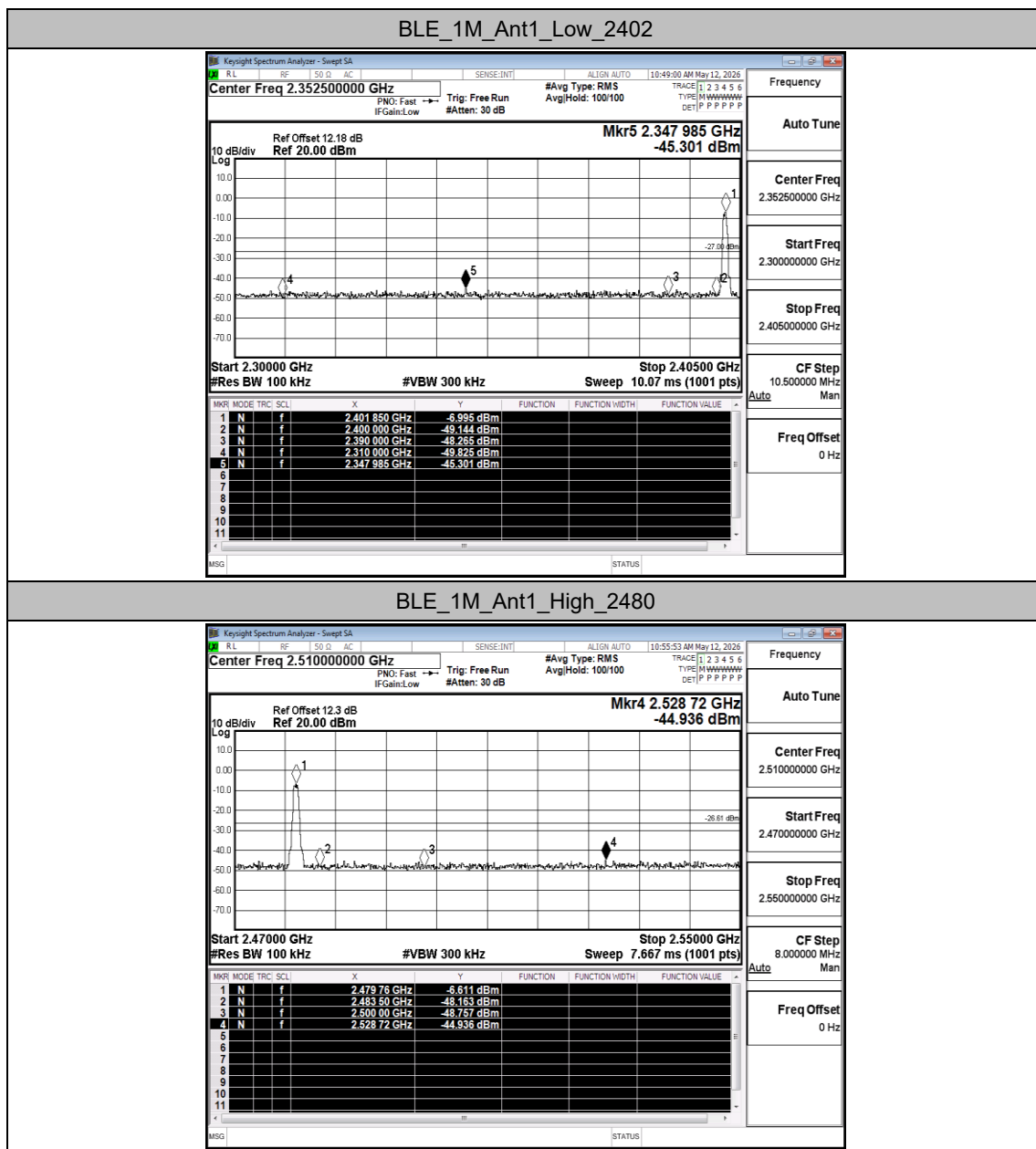


A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Freq (MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-7.00	-45.3	≤-27	PASS
		High	2480	-6.61	-44.94	≤-26.61	PASS

Test Graphs

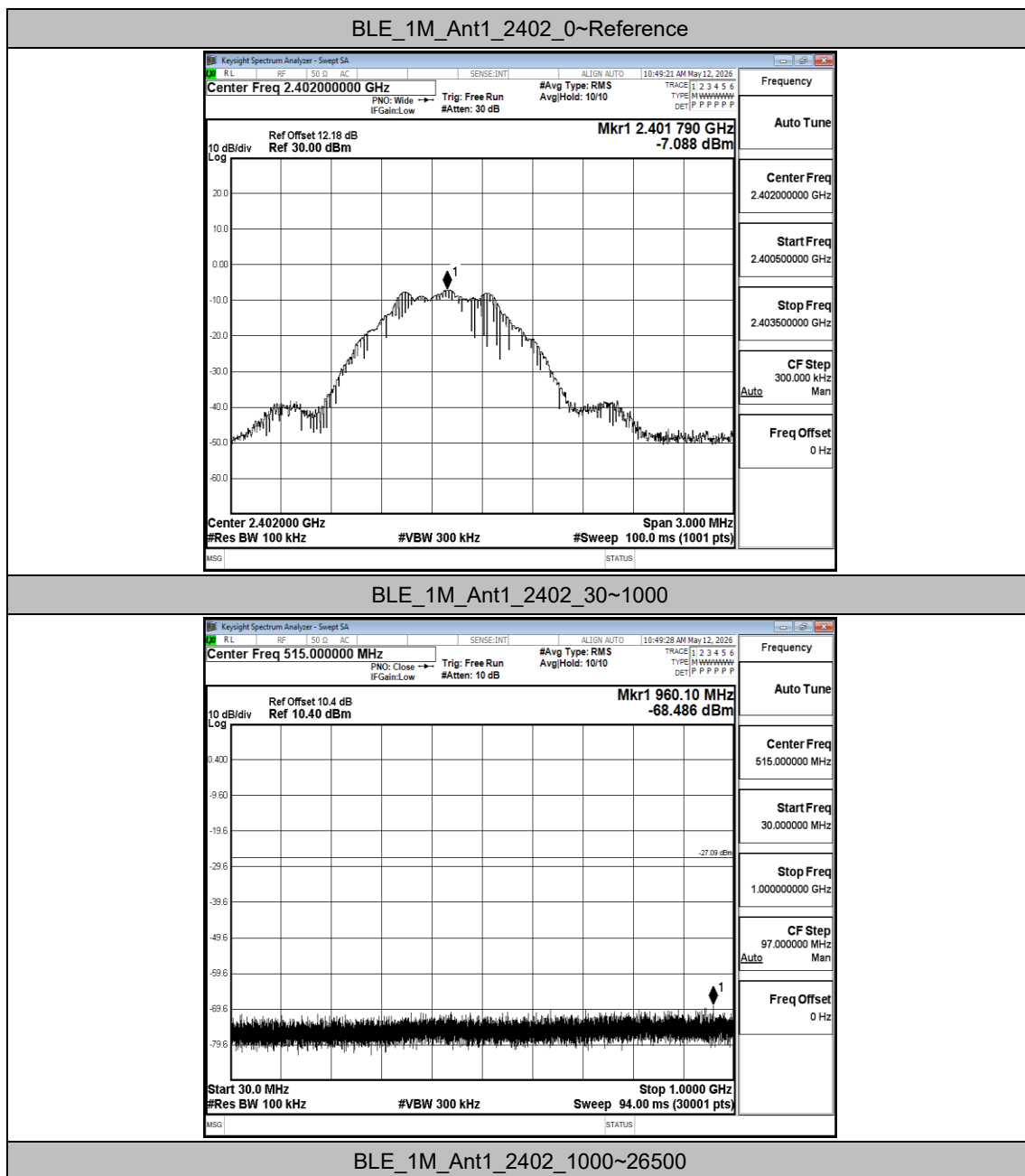


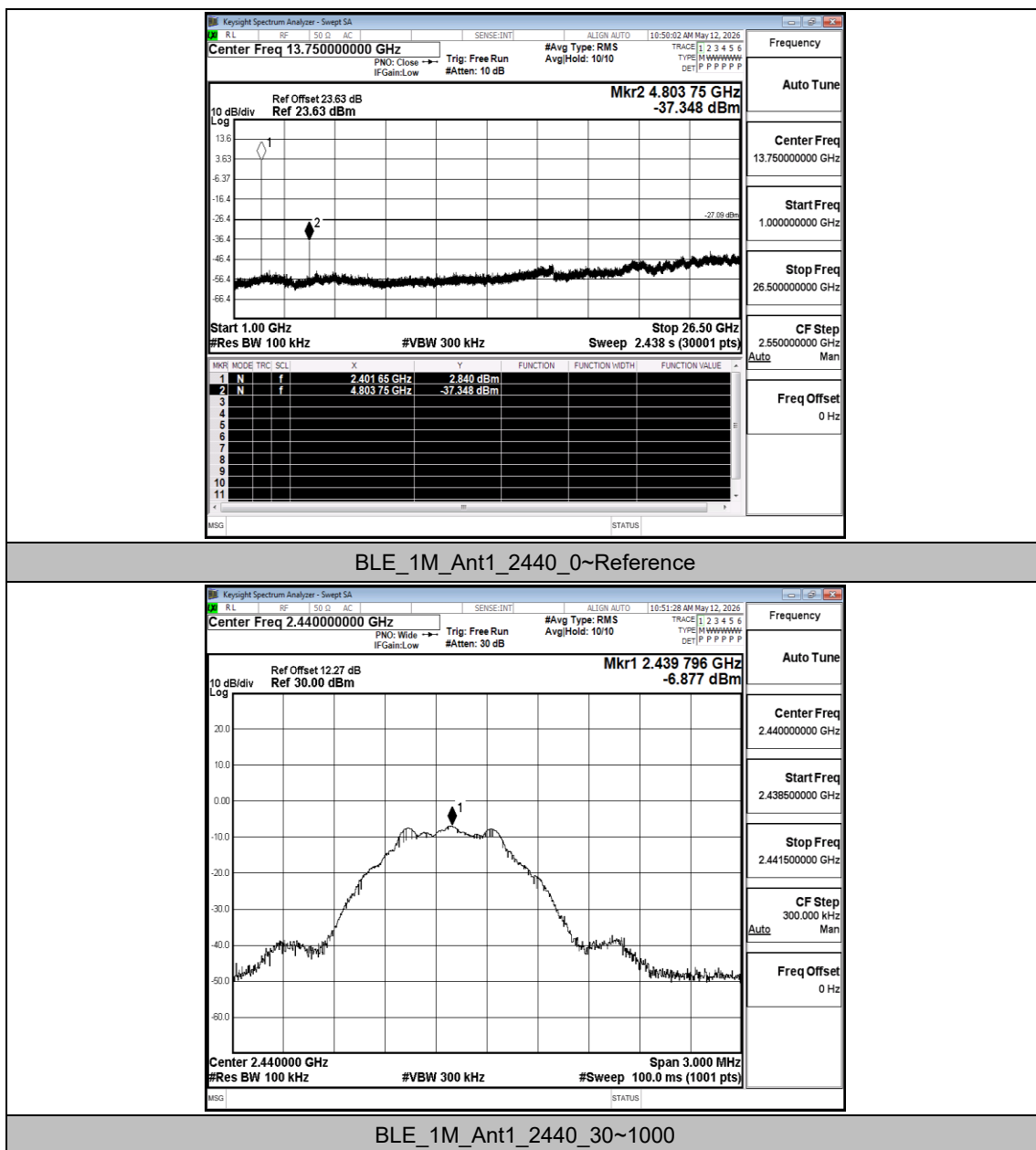
A.5 Conducted Spurious Emission

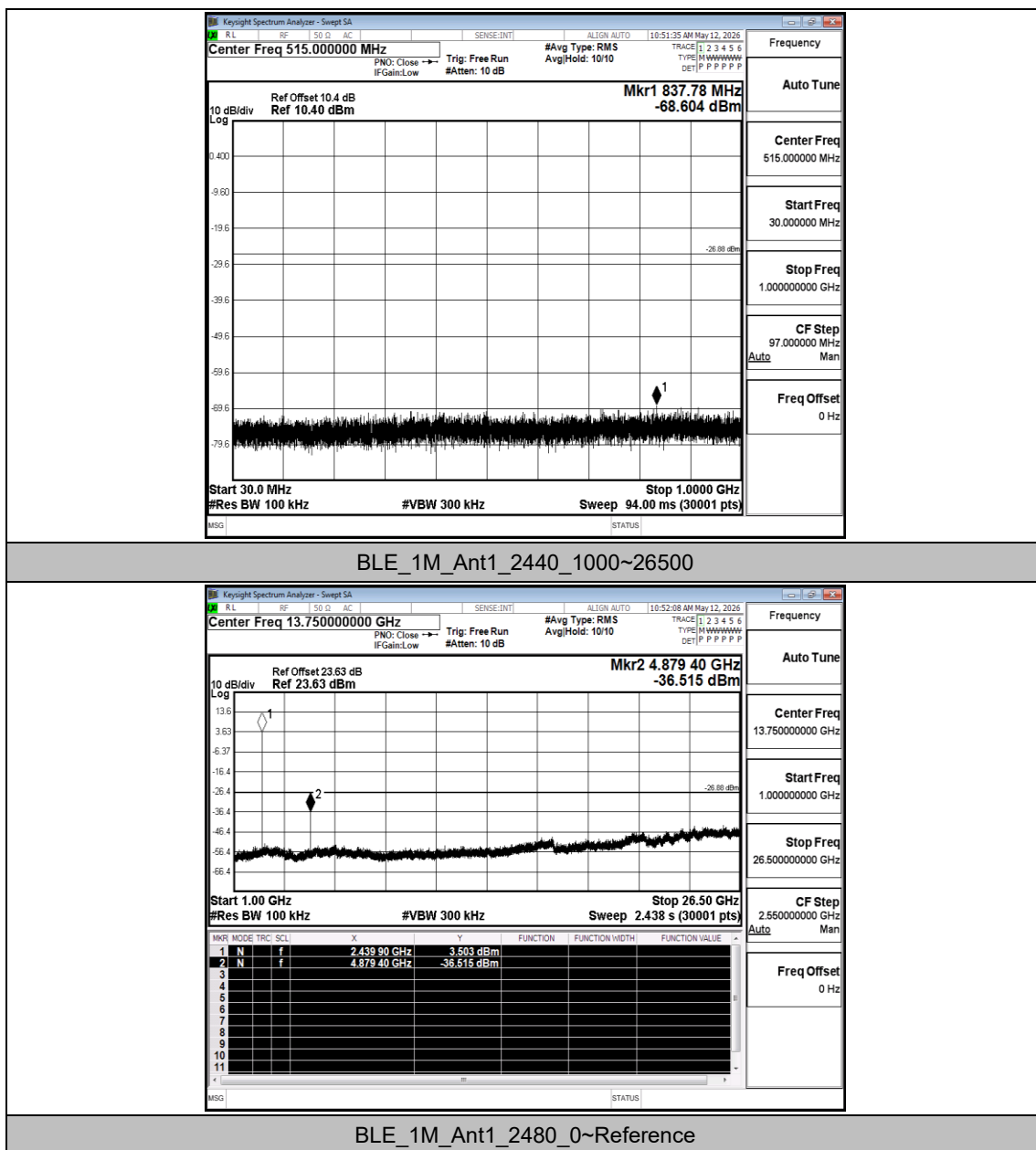
Test Result

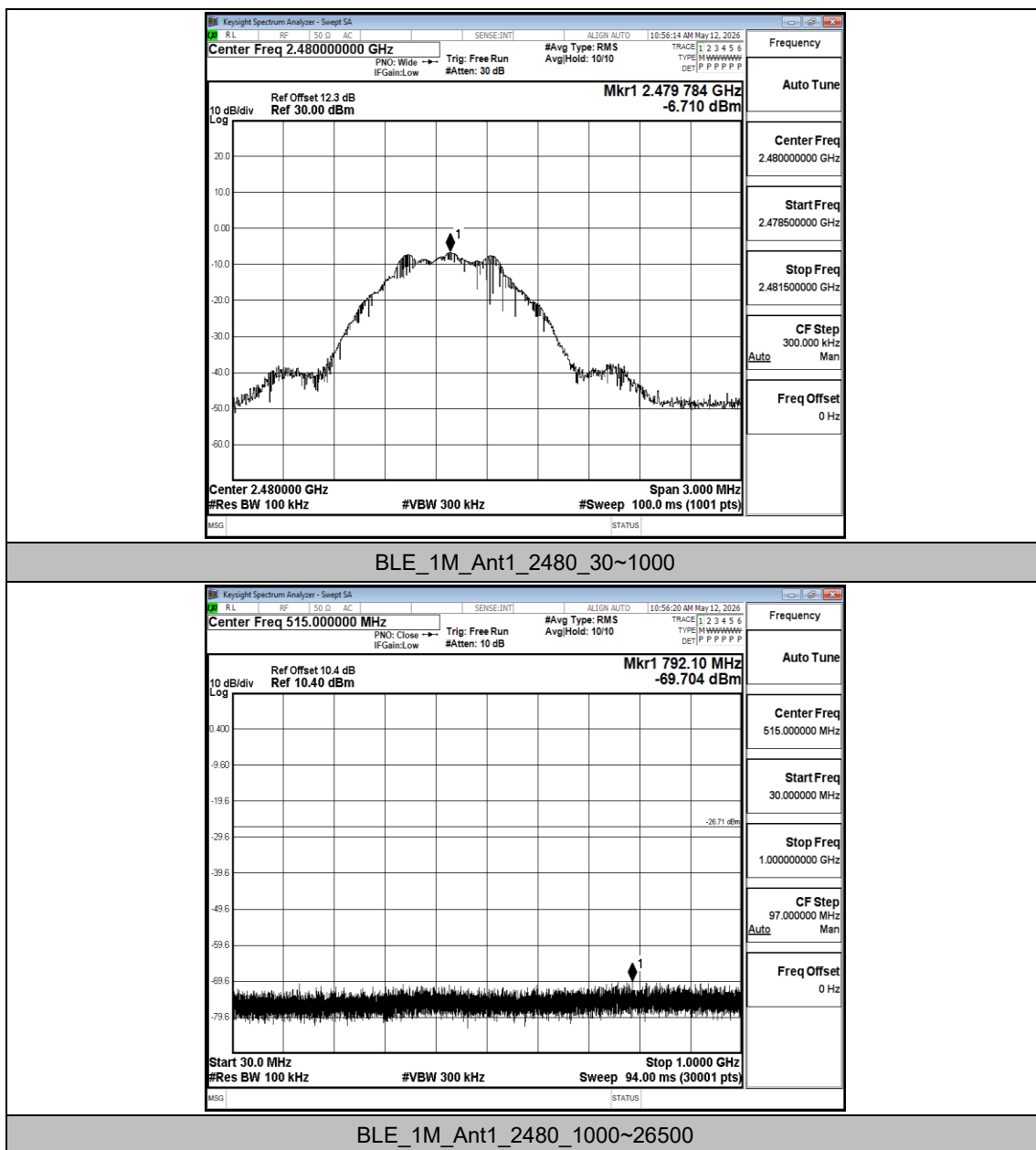
TestMode	Antenna	Freq (MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-7.09	-7.09	---	PASS
			30~1000	-7.09	-68.49	≤-27.09	PASS
			1000~26500	-7.09	-37.35	≤-27.09	PASS
		2440	Reference	-6.88	-6.88	---	PASS
			30~1000	-6.88	-68.6	≤-26.88	PASS
			1000~26500	-6.88	-36.52	≤-26.88	PASS
		2480	Reference	-6.71	-6.71	---	PASS
			30~1000	-6.71	-69.7	≤-26.71	PASS
			1000~26500	-6.71	-37.16	≤-26.71	PASS

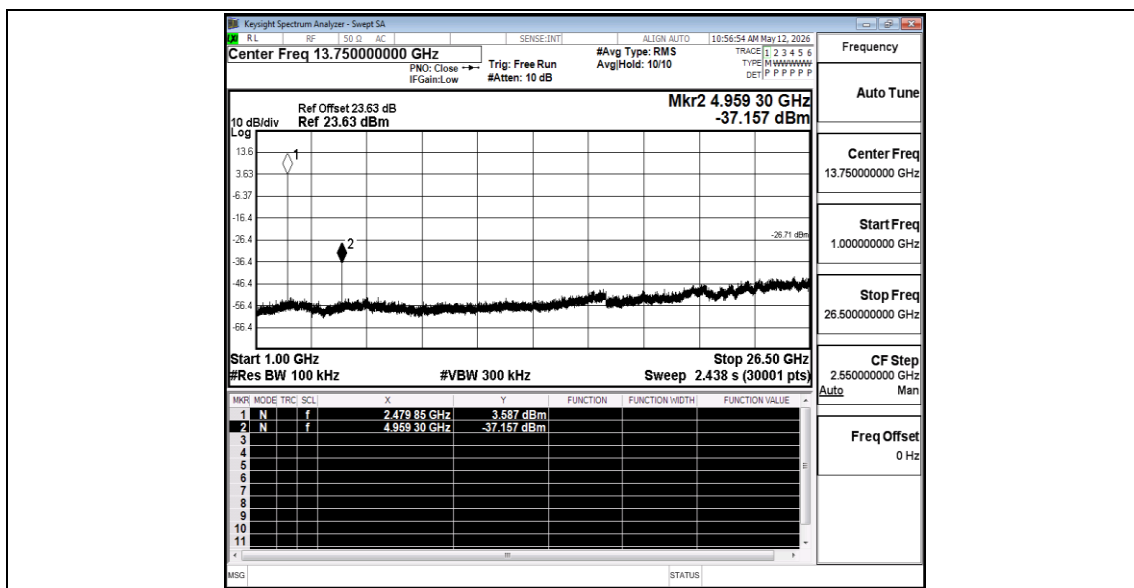
Test Graphs









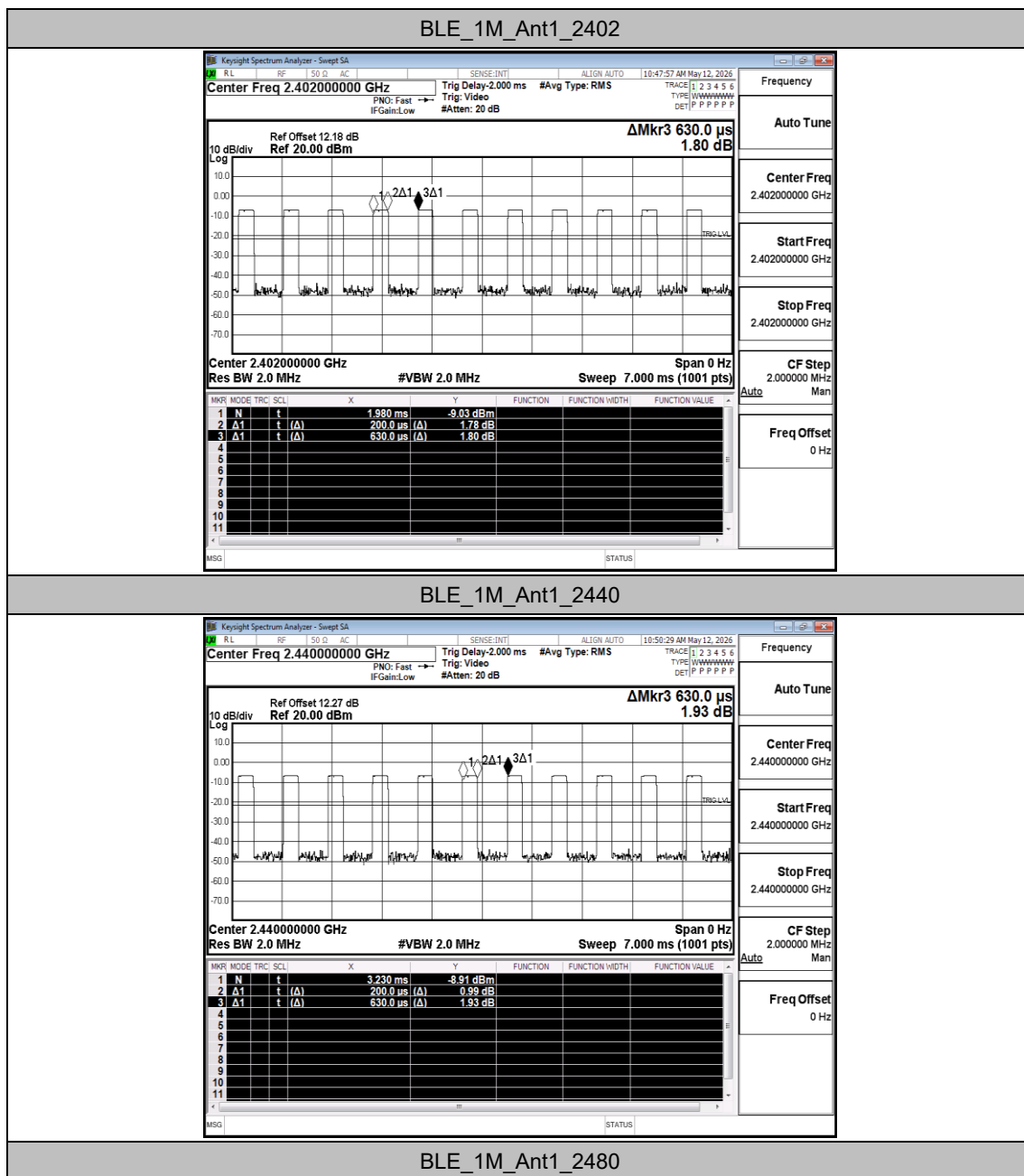


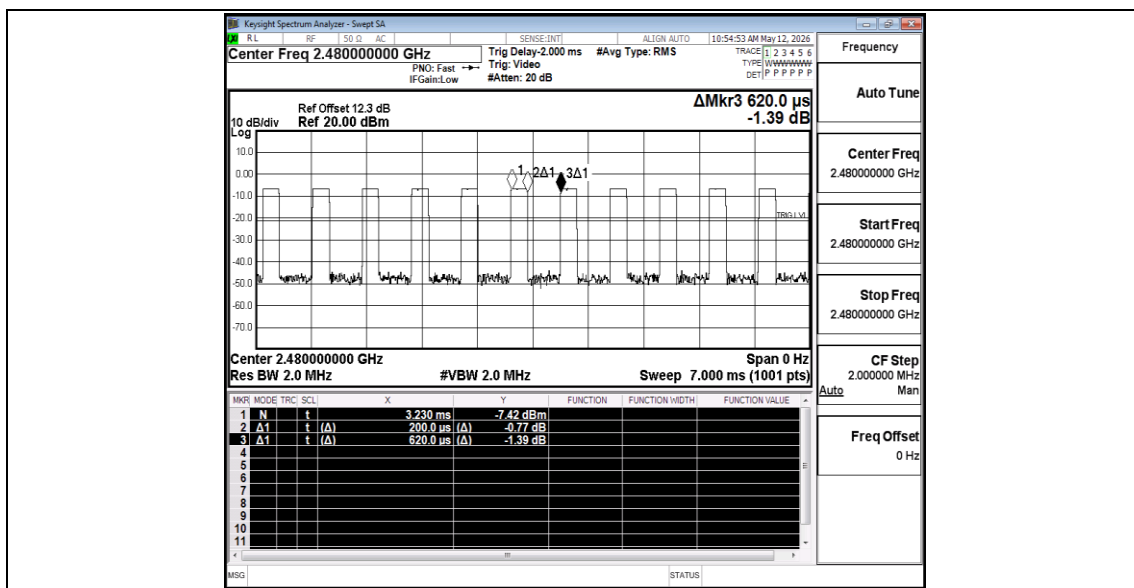
A.6 Duty Cycle

Test Result

TestMode	Antenna	Freq (MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.20	0.63	0.3175	31.75	4.98	---	---
		2440	0.20	0.63	0.3175	31.75	4.98	---	---
		2480	0.20	0.62	0.3226	32.26	4.91	---	---

Test Graphs





A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-56.59	≤-48.18	2.00	4.98	45.59	≤54	PASS
				AV	2388.935	-56.22	≤-48.18	2.00	4.98	45.96	≤54	PASS
				AV	2390.000	-56.93	≤-48.18	2.00	4.98	45.25	≤54	PASS
				Peak	2310.000	-50.13	≤-23.20	2.00	0.00	47.07	≤74	PASS
				Peak	2322.155	-46.15	≤-23.20	2.00	0.00	51.05	≤74	PASS
				Peak	2390.000	-48.97	≤-23.20	2.00	0.00	48.23	≤74	PASS
		High	2480	AV	2483.500	-56.6	≤-48.11	2.00	4.91	45.51	≤54	PASS
				AV	2484.880	-55.92	≤-48.11	2.00	4.91	46.19	≤54	PASS
				AV	2500.000	-56.88	≤-48.11	2.00	4.91	45.23	≤54	PASS
				Peak	2483.500	-48.37	≤-23.20	2.00	0.00	48.83	≤74	PASS
				Peak	2483.920	-45.2	≤-23.20	2.00	0.00	52.00	≤74	PASS
				Peak	2500.000	-49.4	≤-23.20	2.00	0.00	47.80	≤74	PASS

Note:

1. The Antenna Gain is compensated in the graph.
2. 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

