

Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Bluetooth headset

Test Model: aiBuds

Environmental Conditions

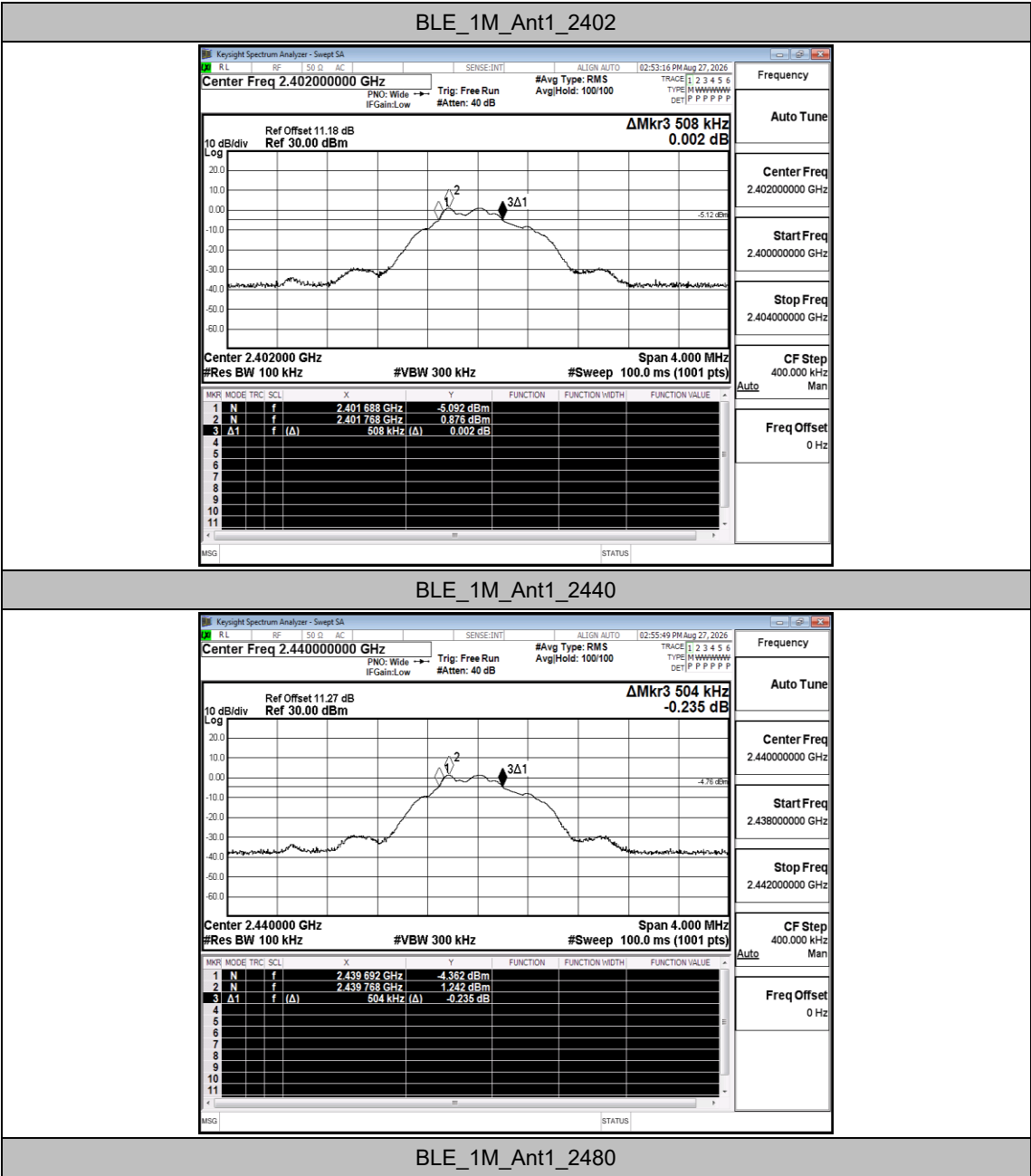
Temperature:	24.5°C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

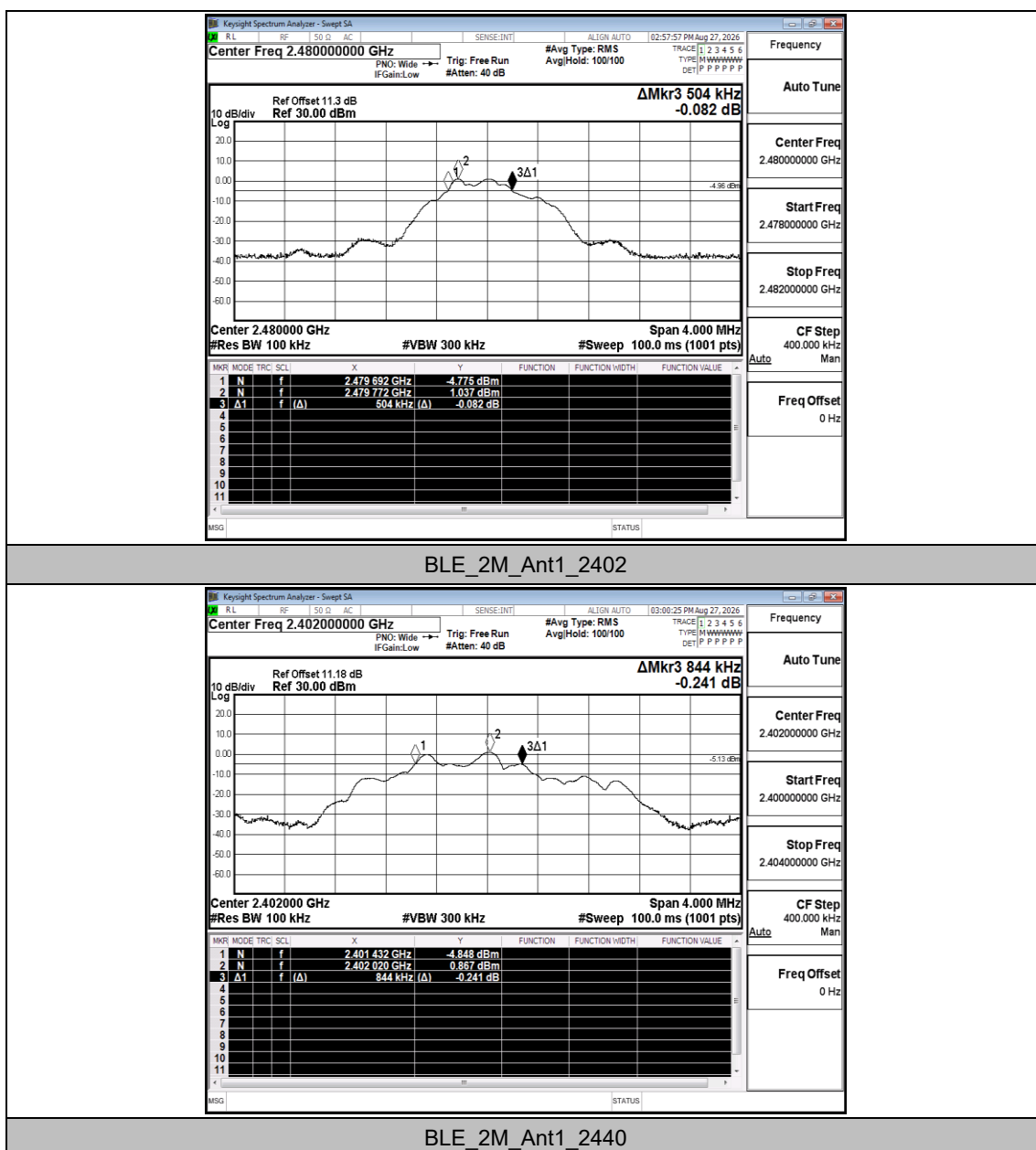
B.1 DTS Bandwidth

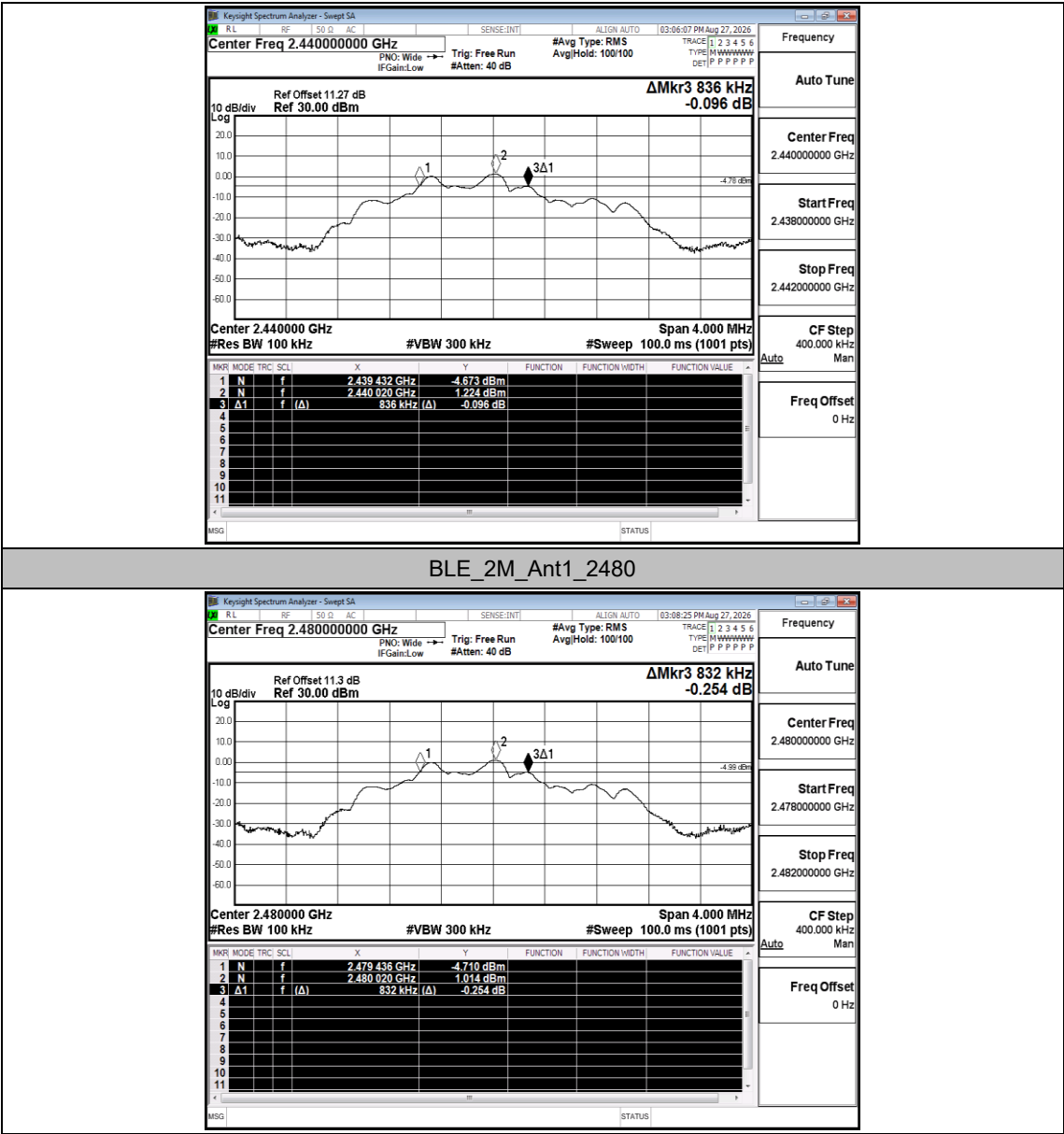
Test Result

TestMode	Antenna	Freq (MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	0.508	2401.688	2402.196	0.5	PASS
		2440	0.504	2439.692	2440.196	0.5	PASS
		2480	0.504	2479.692	2480.196	0.5	PASS
BLE_2M	Ant1	2402	0.844	2401.432	2402.276	0.5	PASS
		2440	0.836	2439.432	2440.268	0.5	PASS
		2480	0.832	2479.436	2480.268	0.5	PASS

Test Graphs





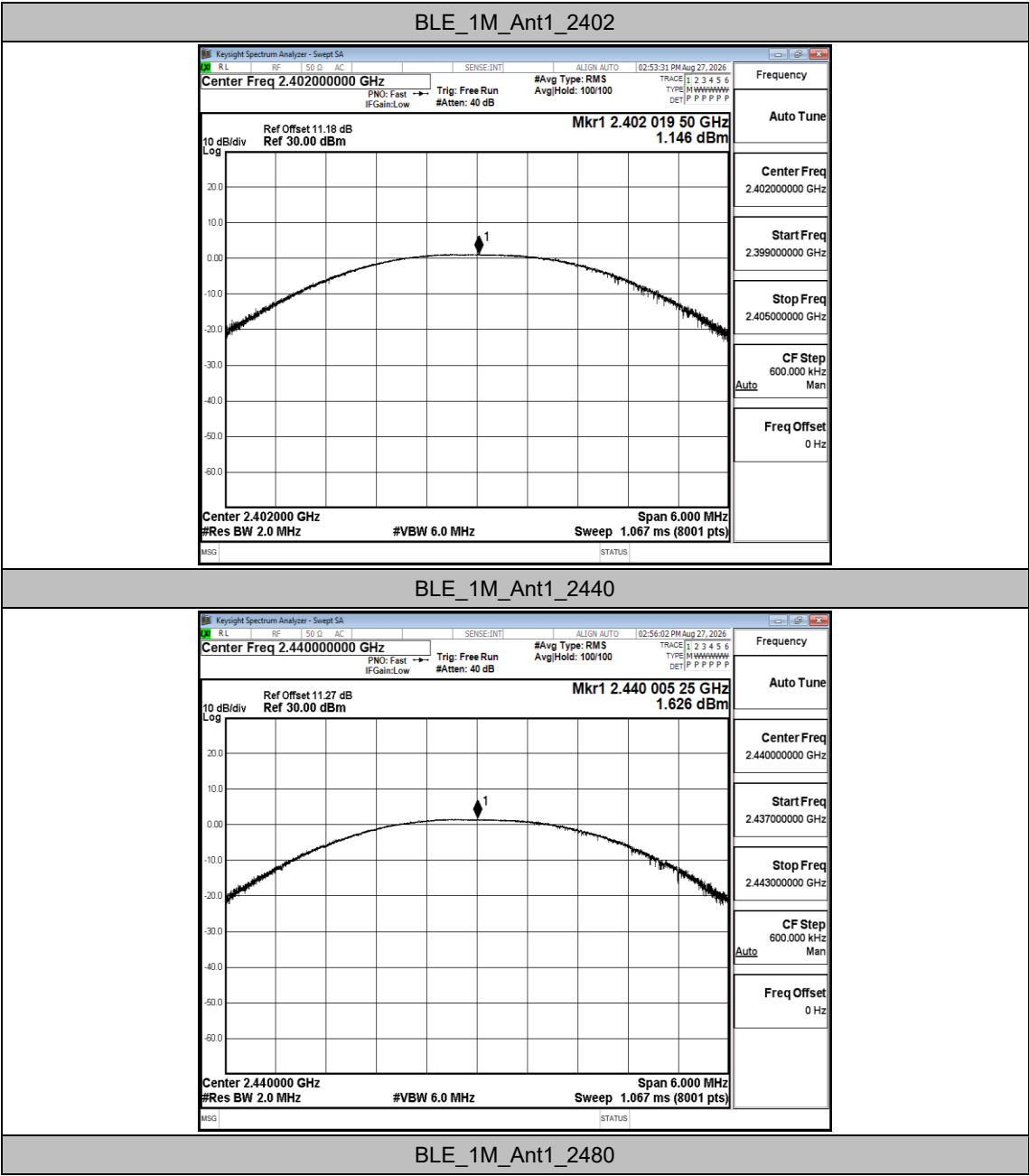


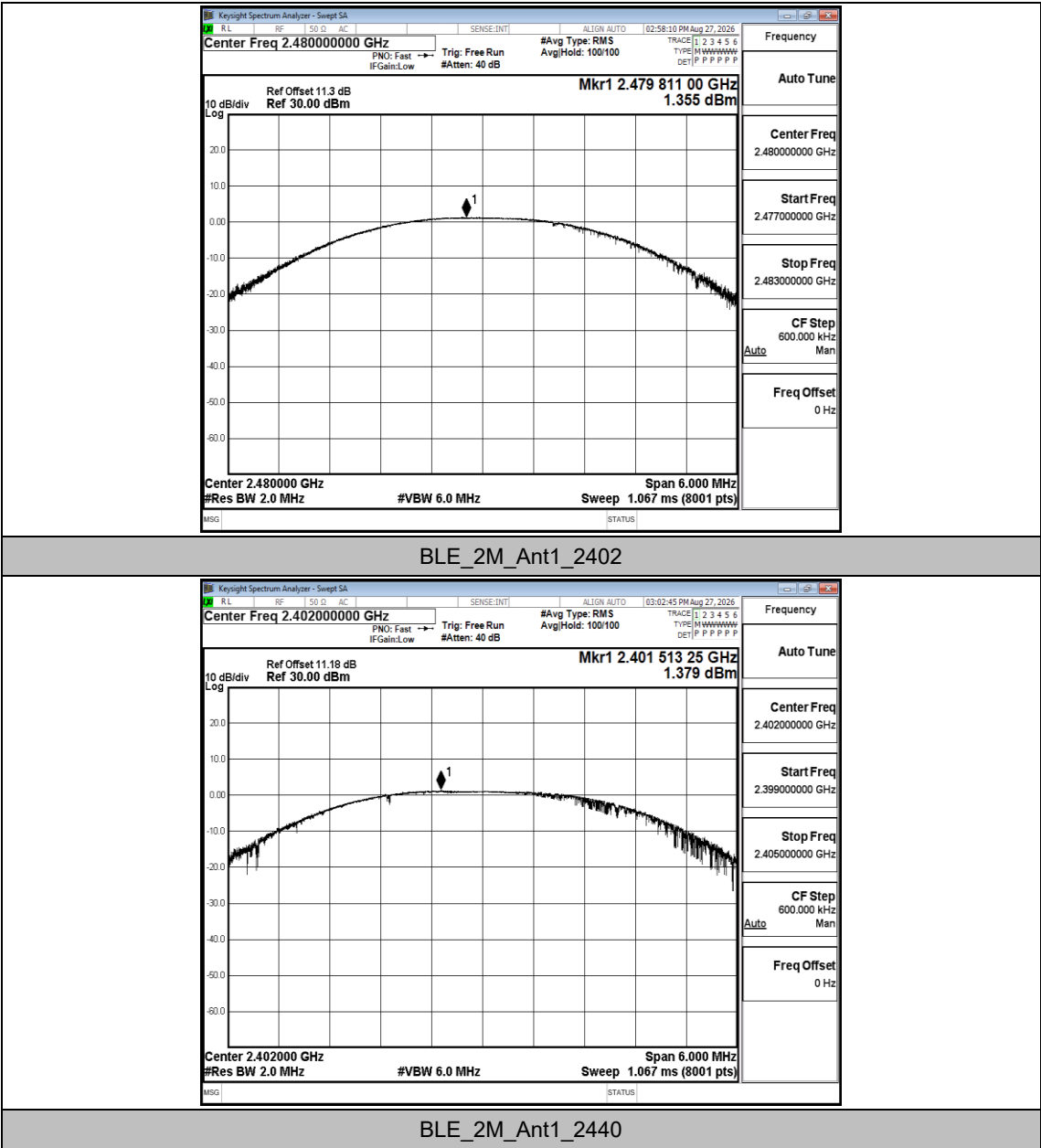
B.2 Maximum Peak conducted output power

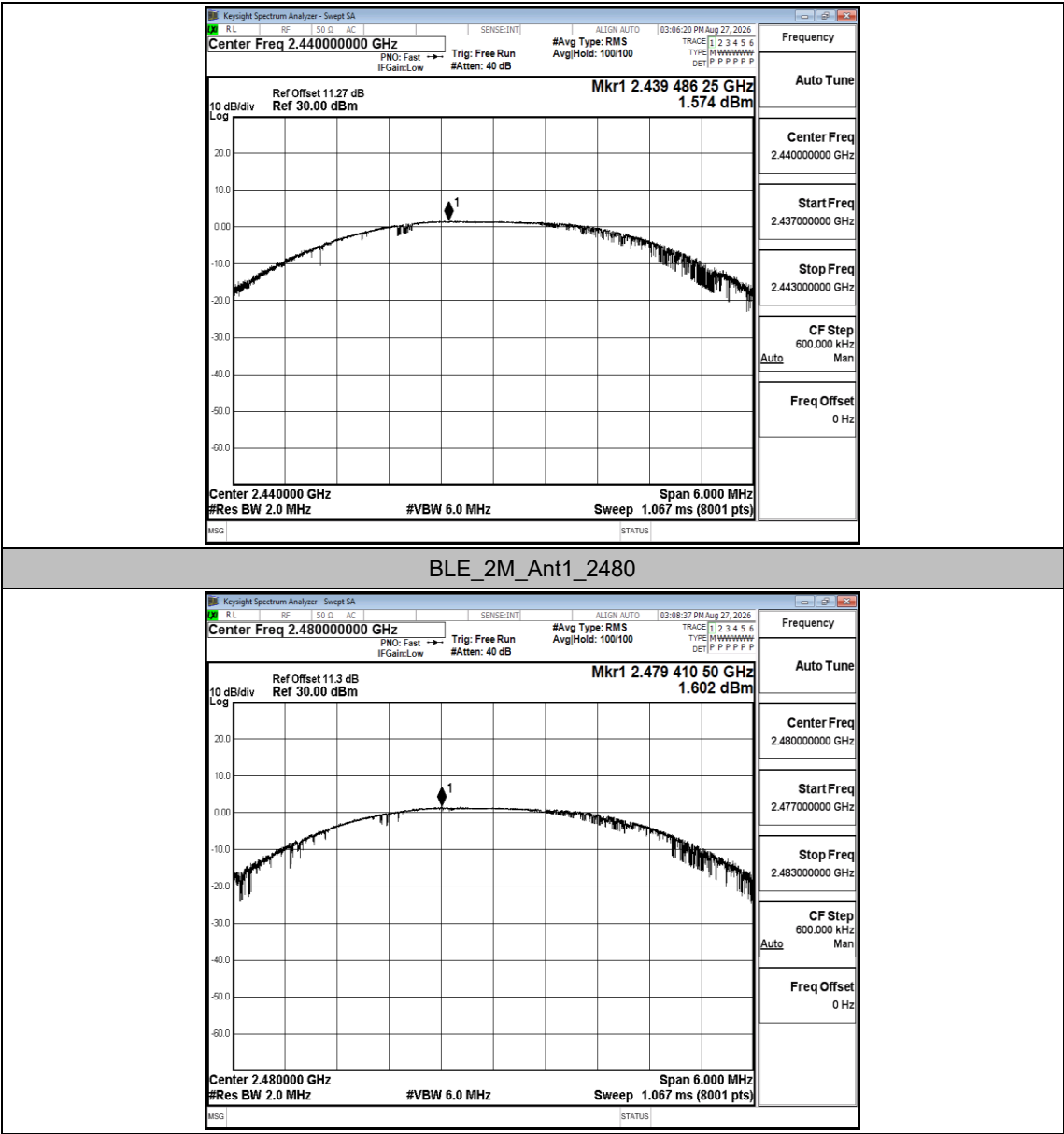
Test Result Peak

TestMode	Antenna	Freq (MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.15	≤30	PASS
		2440	1.63	≤30	PASS
		2480	1.36	≤30	PASS
BLE_2M	Ant1	2402	1.38	≤30	PASS
		2440	1.57	≤30	PASS
		2480	1.60	≤30	PASS

Test Graphs Peak





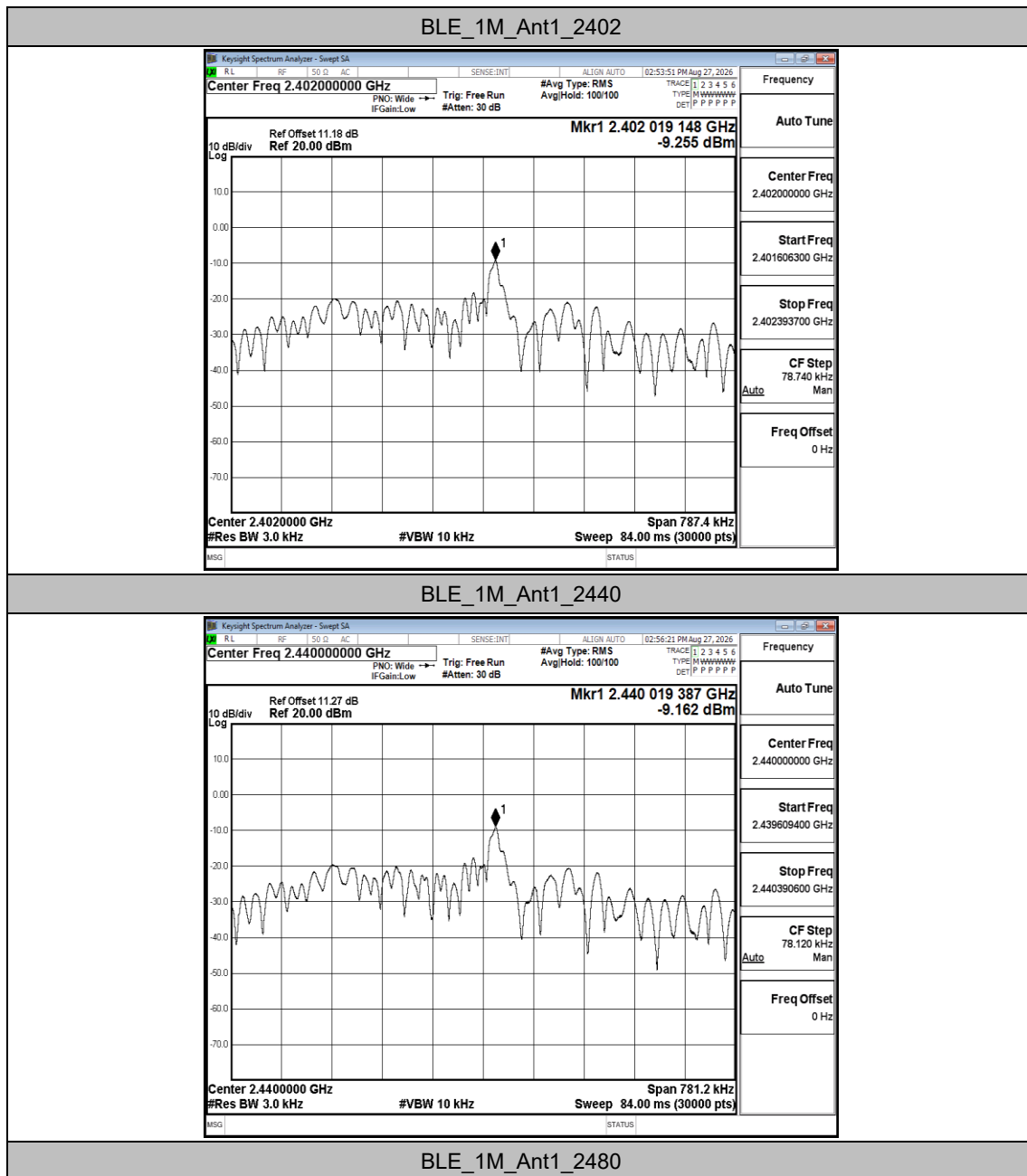


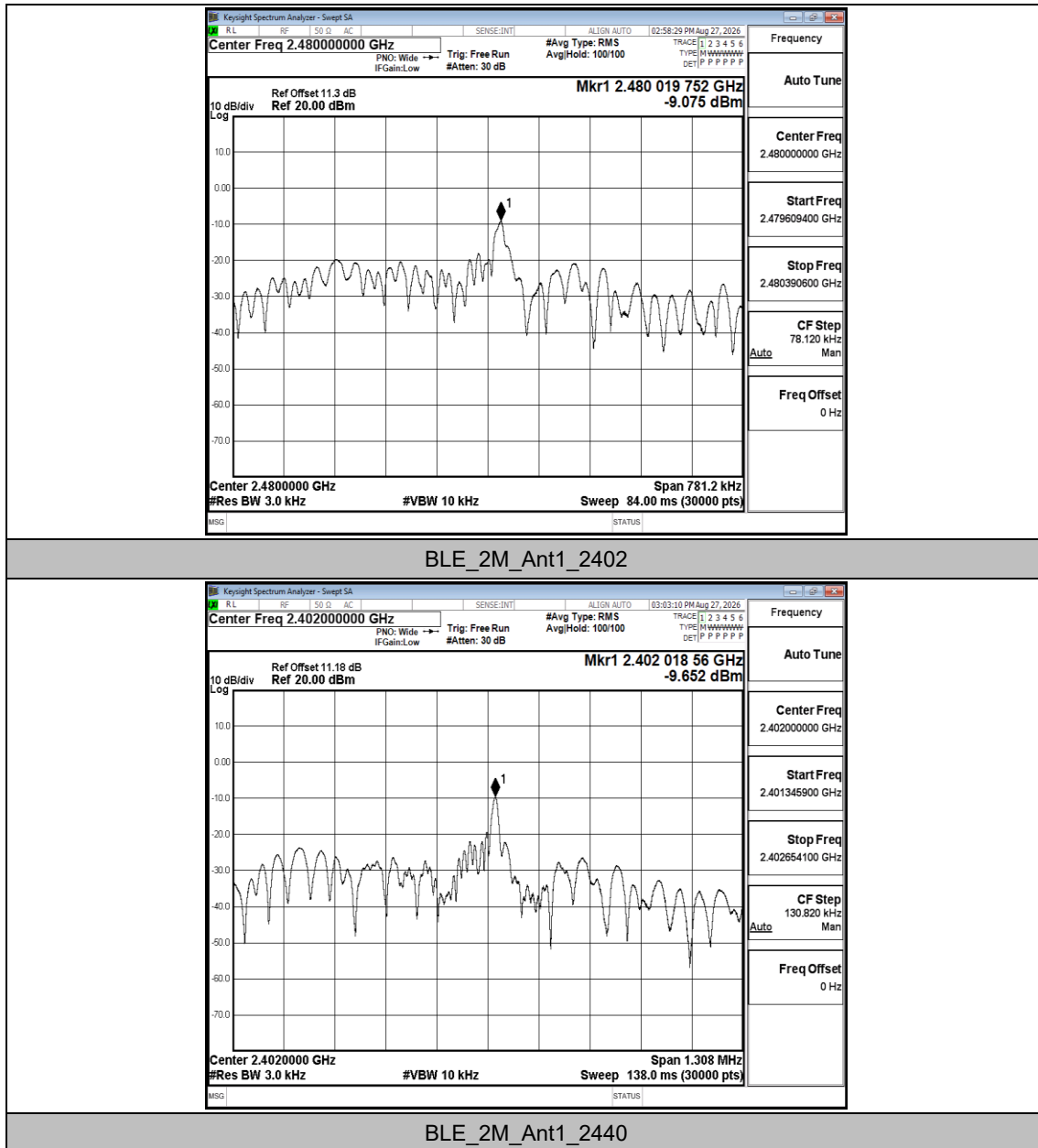
B.3 Maximum power spectral density

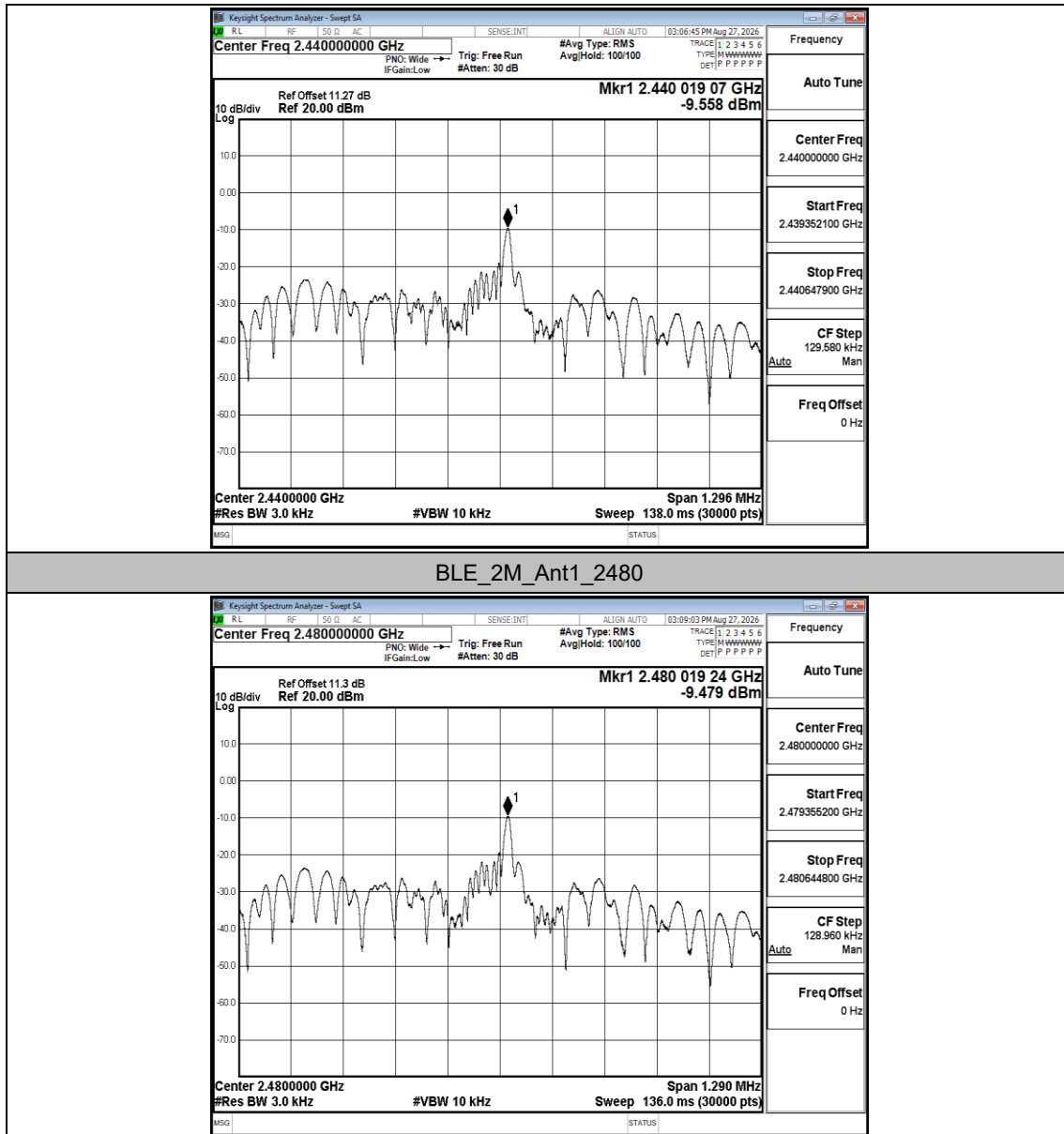
Test Result

TestMode	Antenna	Freq (MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.26	≤8.00	PASS
		2440	-9.16	≤8.00	PASS
		2480	-9.08	≤8.00	PASS
BLE_2M	Ant1	2402	-9.65	≤8.00	PASS
		2440	-9.56	≤8.00	PASS
		2480	-9.48	≤8.00	PASS

Test Graphs





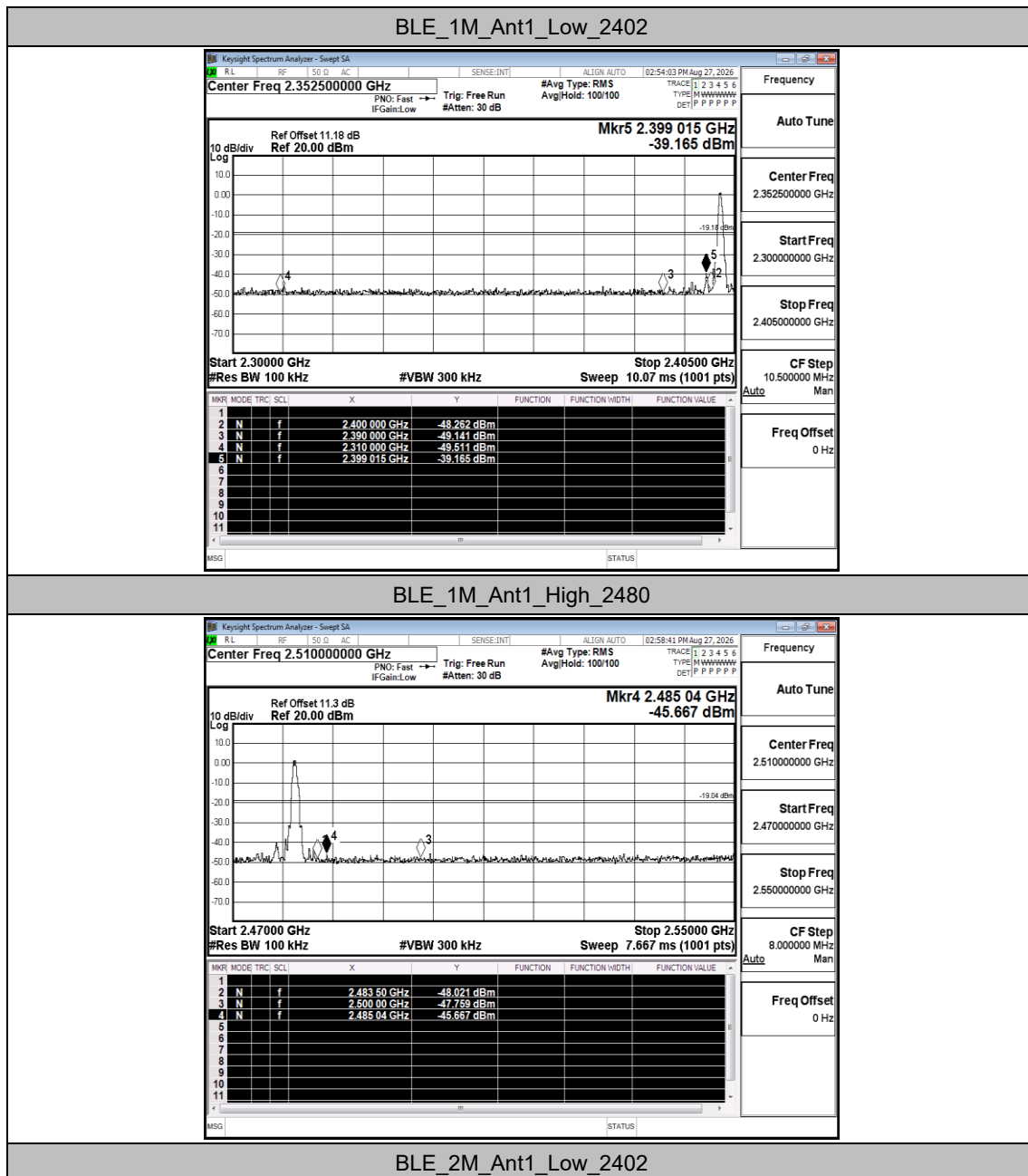


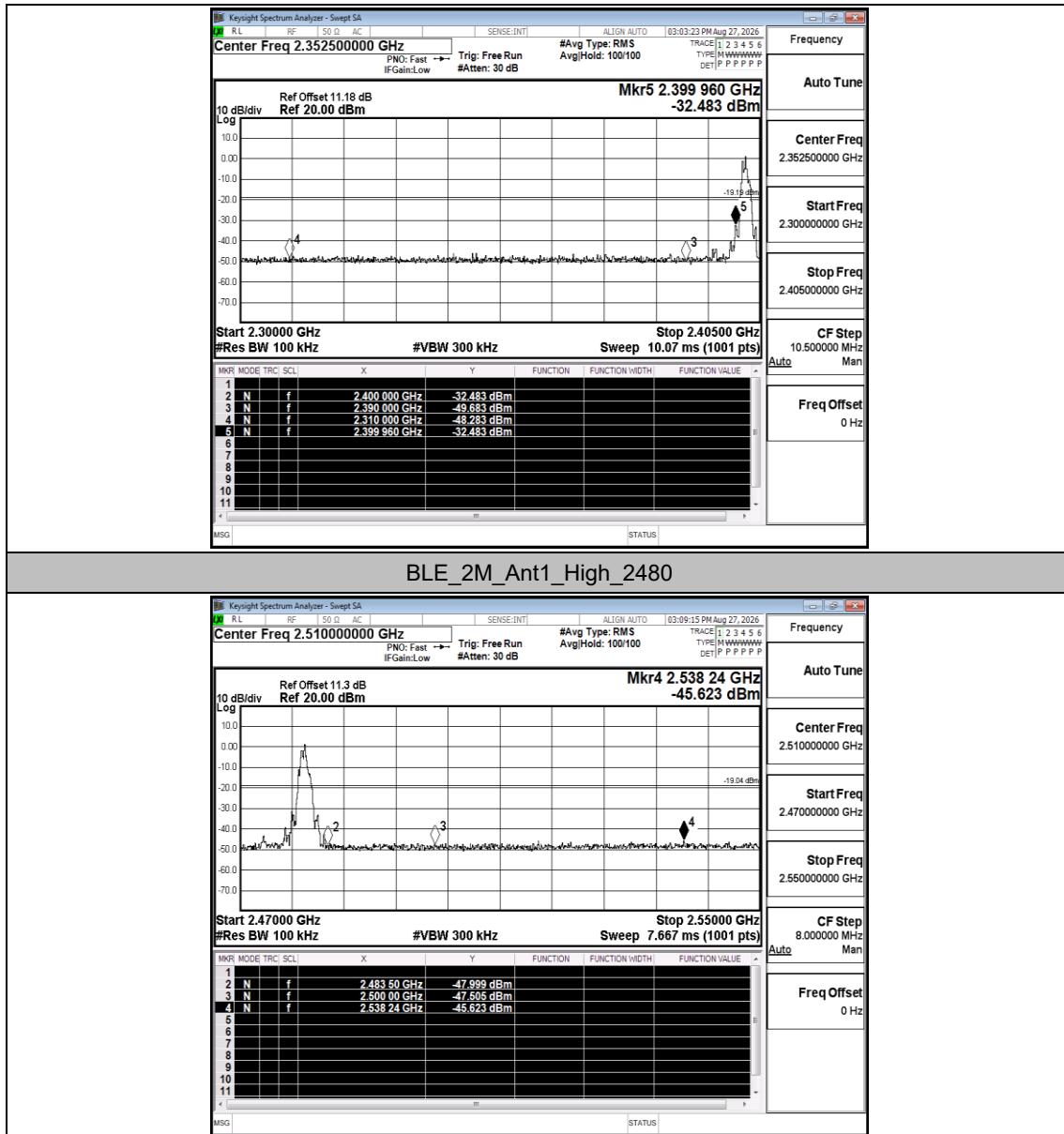
B.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Freq (MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.82	-39.17	≤-19.18	PASS
		High	2480	0.96	-45.67	≤-19.04	PASS
BLE_2M	Ant1	Low	2402	0.81	-32.48	≤-19.19	PASS
		High	2480	0.96	-45.62	≤-19.04	PASS

Test Graphs



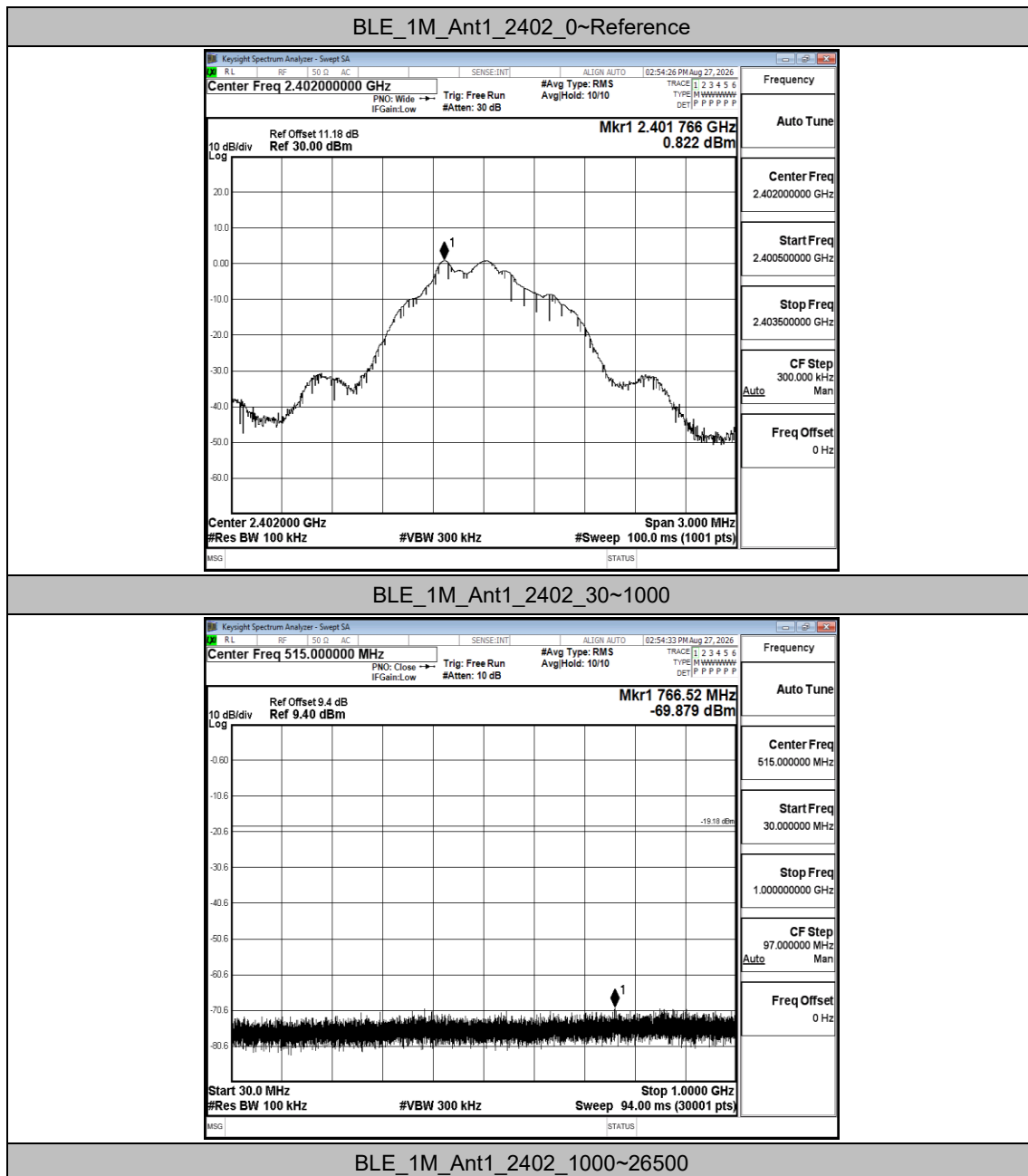


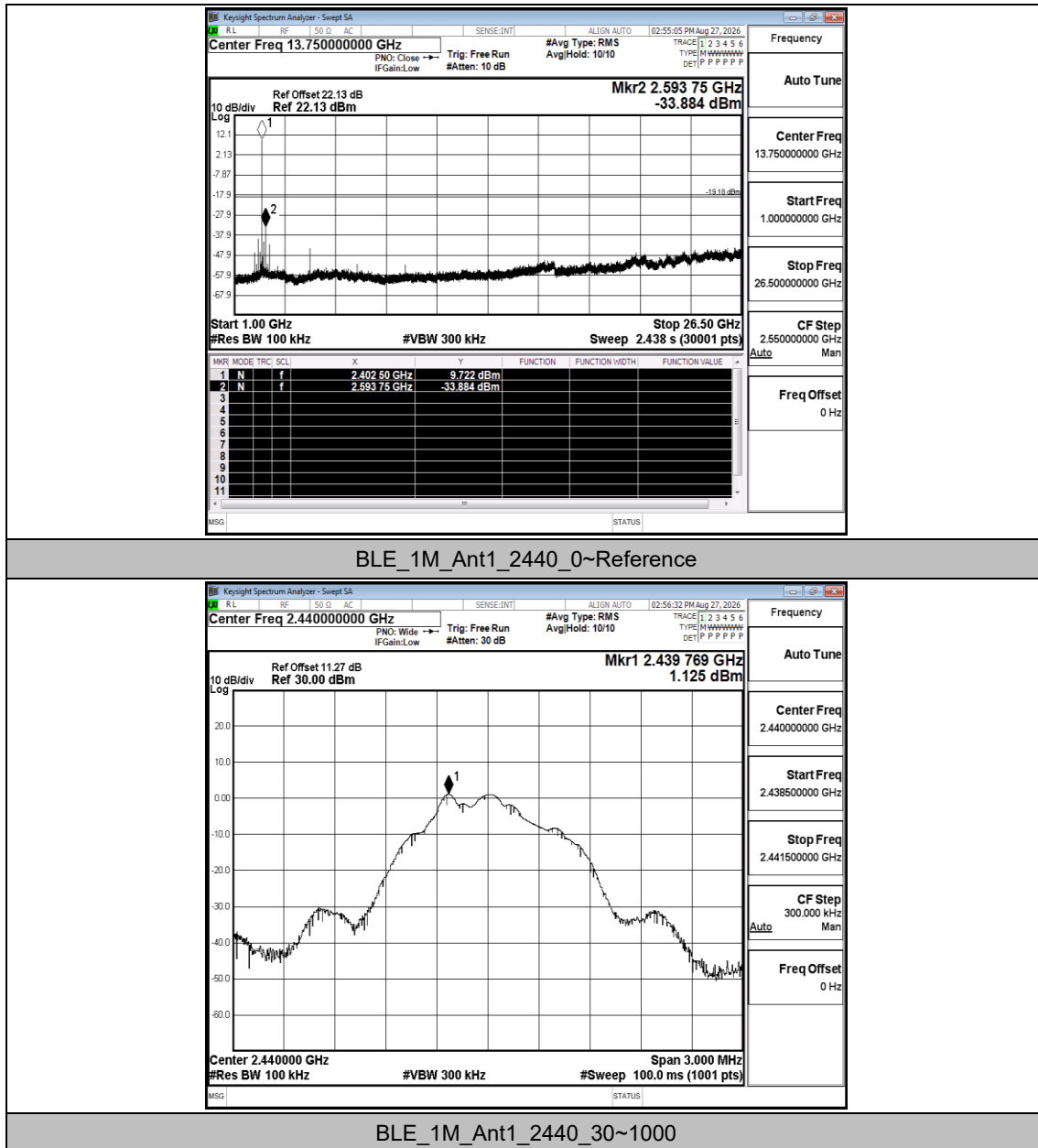
B.5 Conducted Spurious Emission

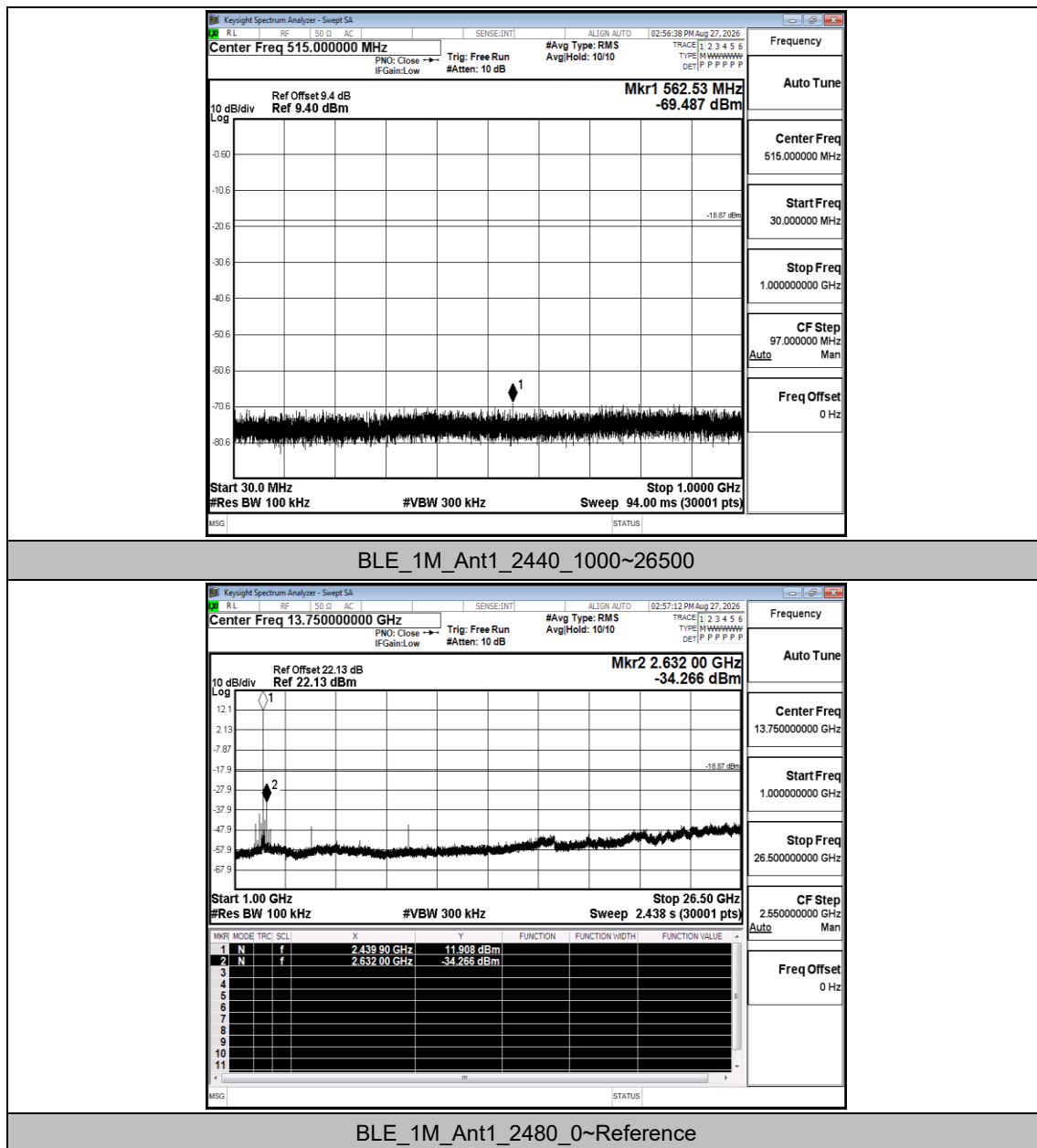
Test Result

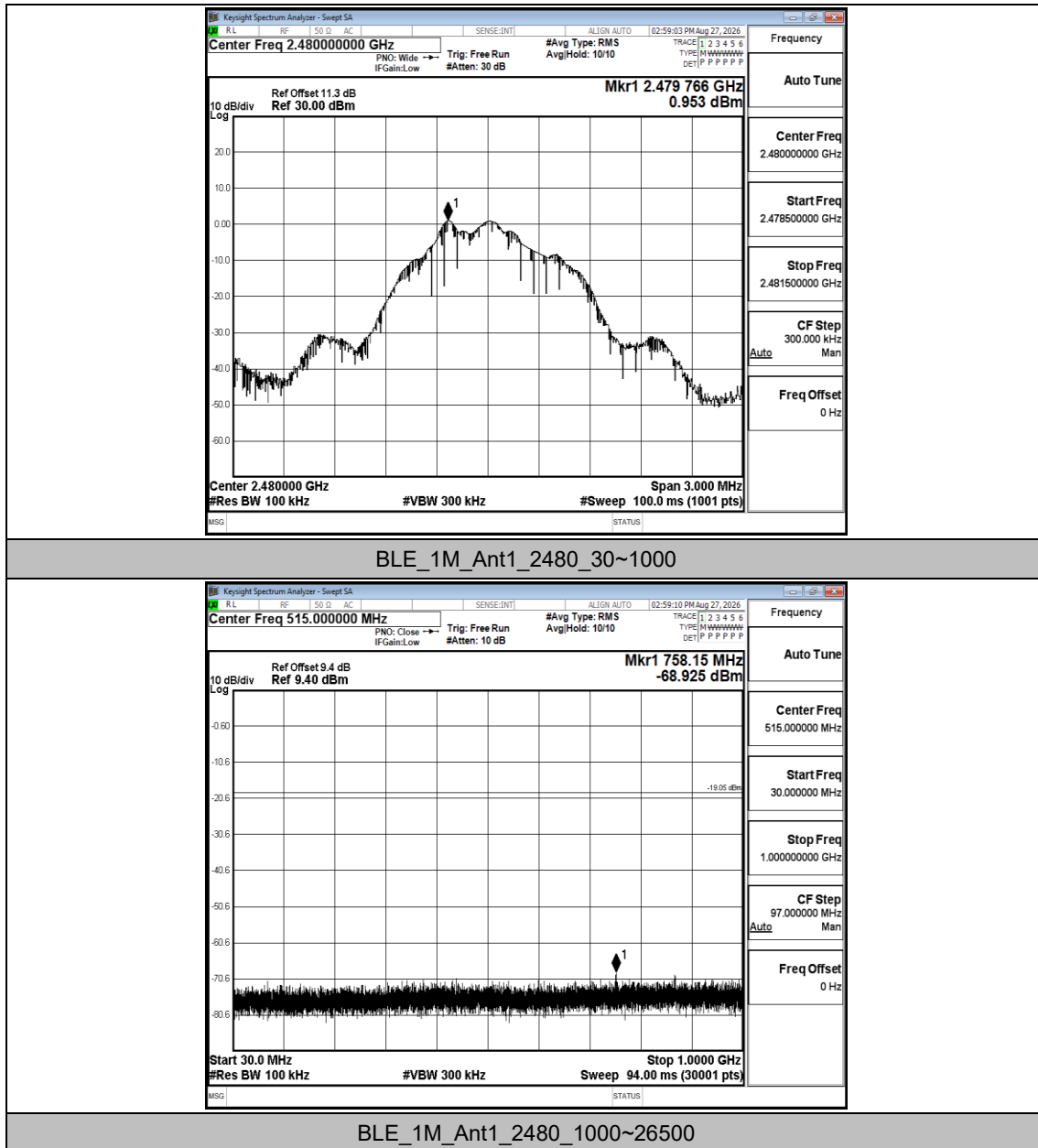
TestMode	Antenna	Freq (MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	0.82	0.82	---	PASS
			30~1000	0.82	-69.88	≤-19.18	PASS
			1000~26500	0.82	-33.88	≤-19.18	PASS
		2440	Reference	1.13	1.13	---	PASS
			30~1000	1.13	-69.49	≤-18.87	PASS
			1000~26500	1.13	-34.27	≤-18.87	PASS
		2480	Reference	0.95	0.95	---	PASS
			30~1000	0.95	-68.93	≤-19.05	PASS
			1000~26500	0.95	-35.16	≤-19.05	PASS
BLE_2M	Ant1	2402	Reference	0.81	0.81	---	PASS
			30~1000	0.81	-69.34	≤-19.19	PASS
			1000~26500	0.81	-34.24	≤-19.19	PASS
		2440	Reference	1.11	1.11	---	PASS
			30~1000	1.11	-69.79	≤-18.89	PASS
			1000~26500	1.11	-37.27	≤-18.89	PASS
		2480	Reference	0.96	0.96	---	PASS
			30~1000	0.96	-69.9	≤-19.04	PASS
			1000~26500	0.96	-34.58	≤-19.04	PASS

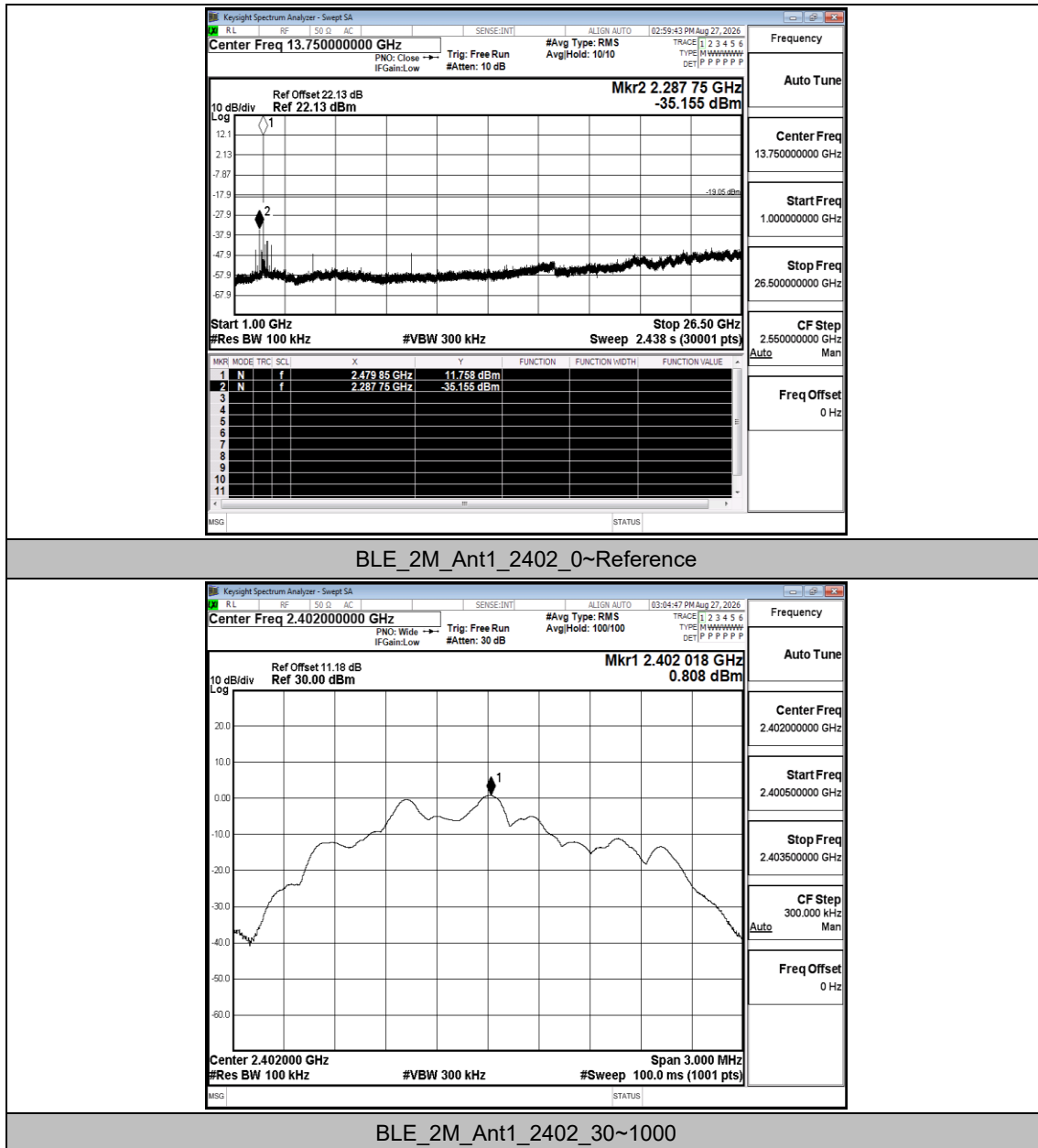
Test Graphs

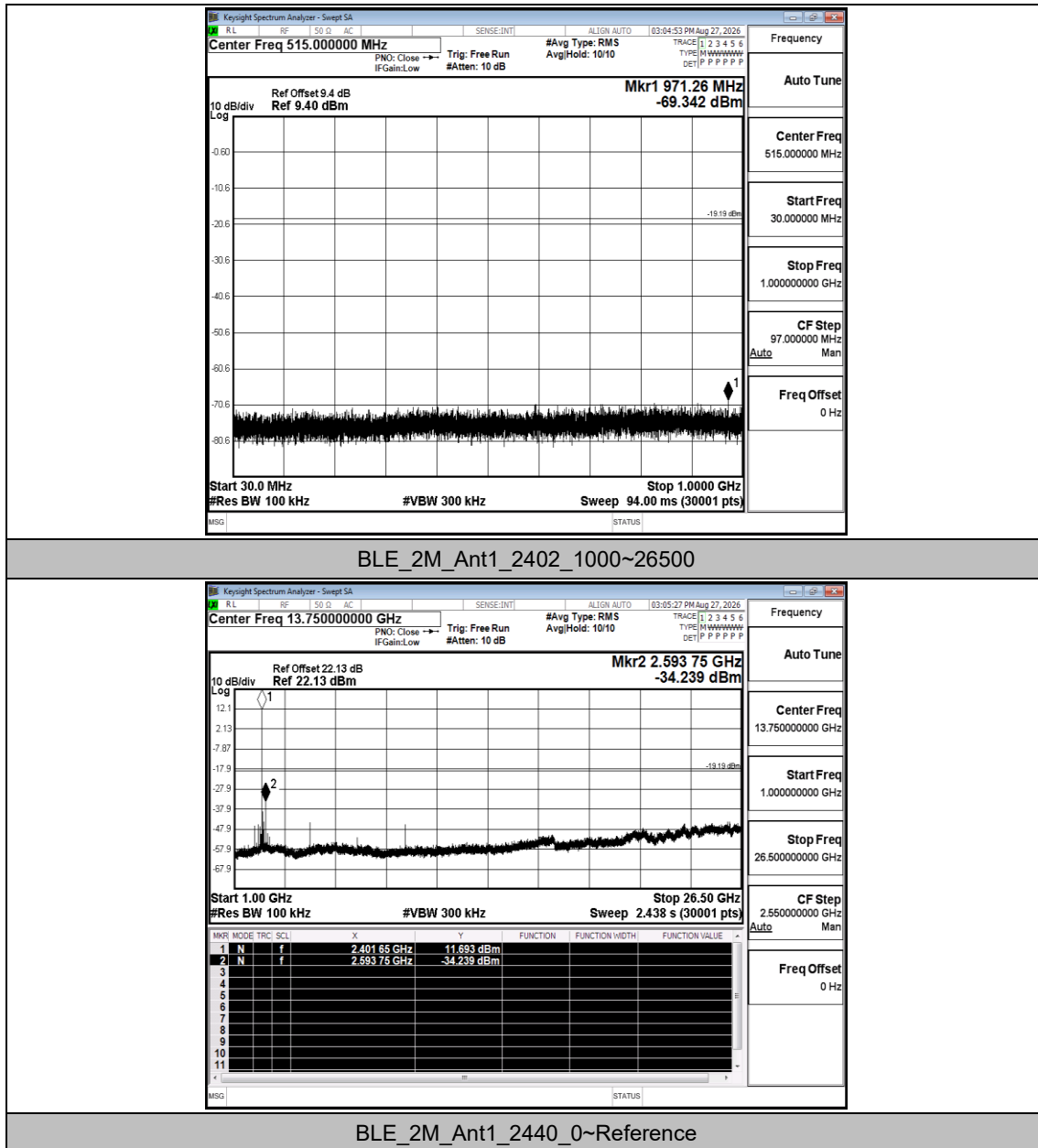


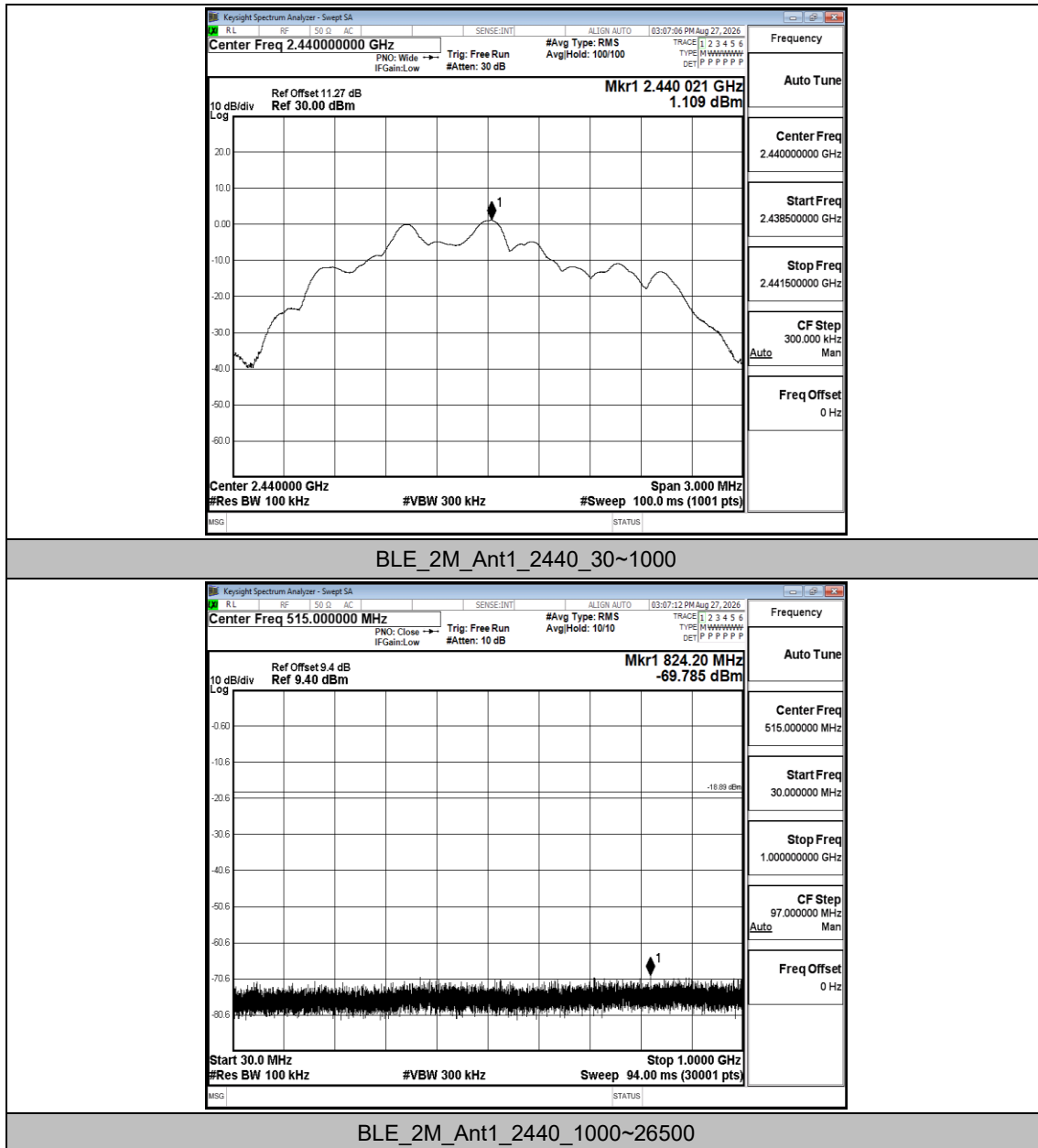


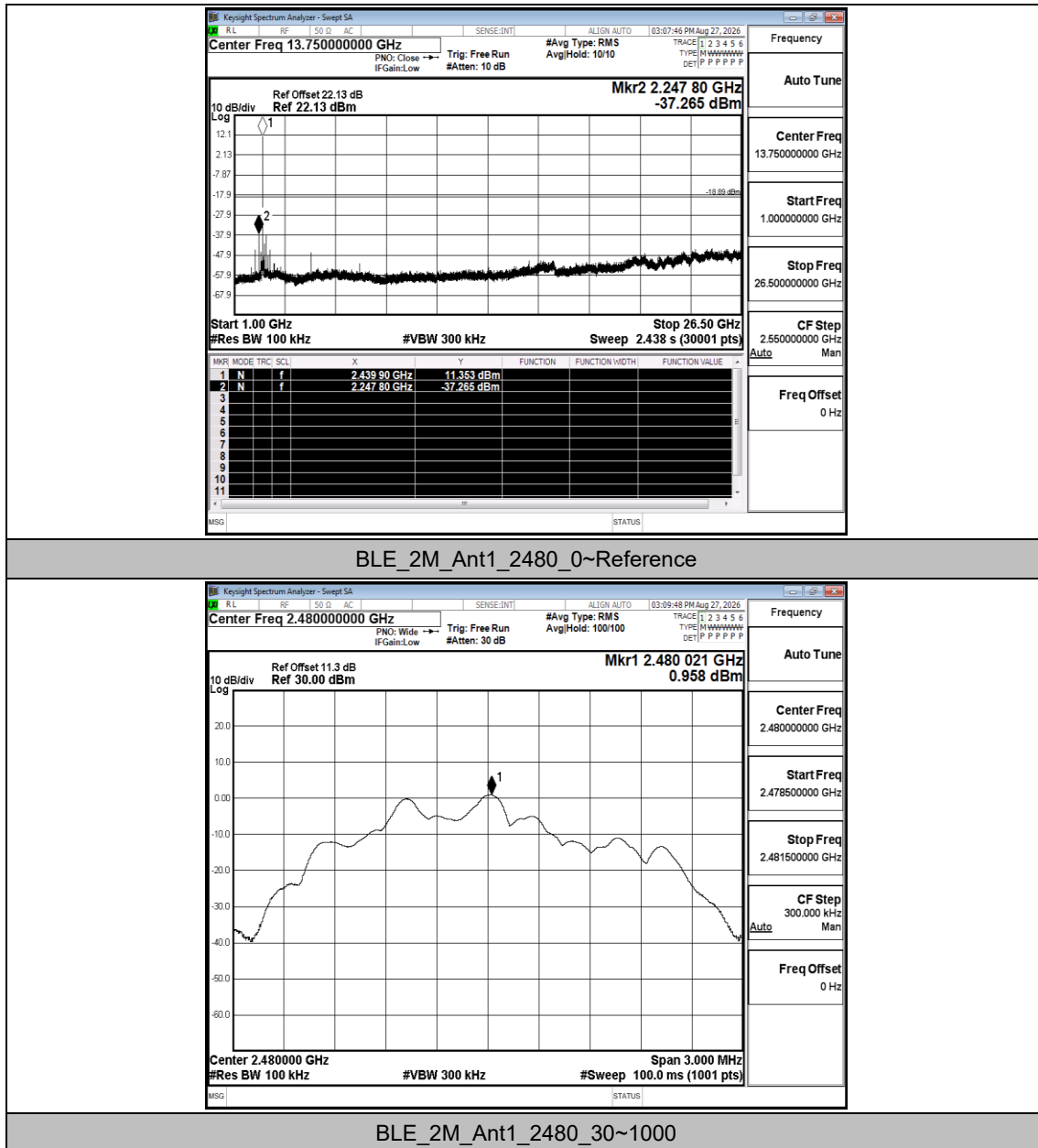


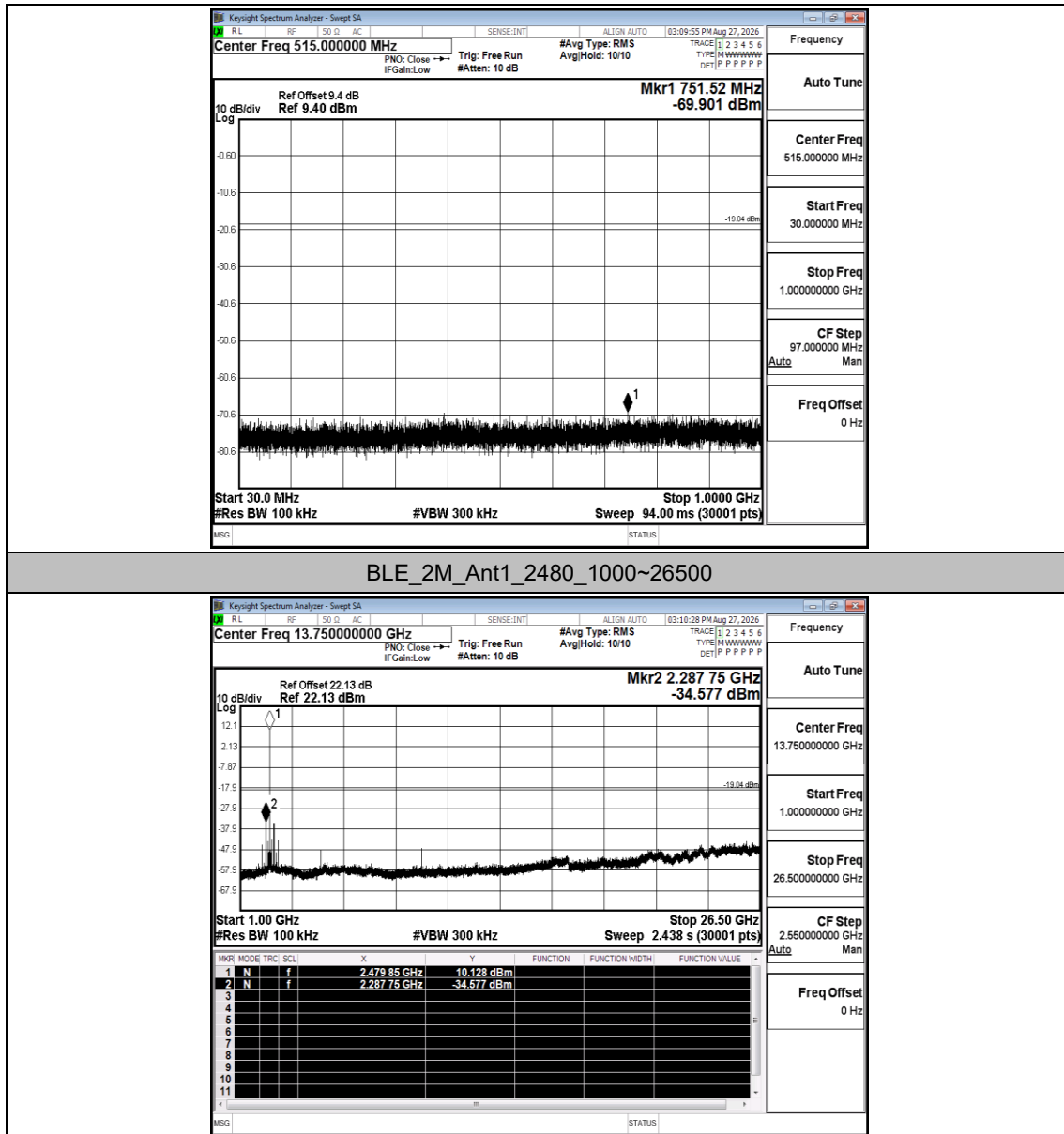










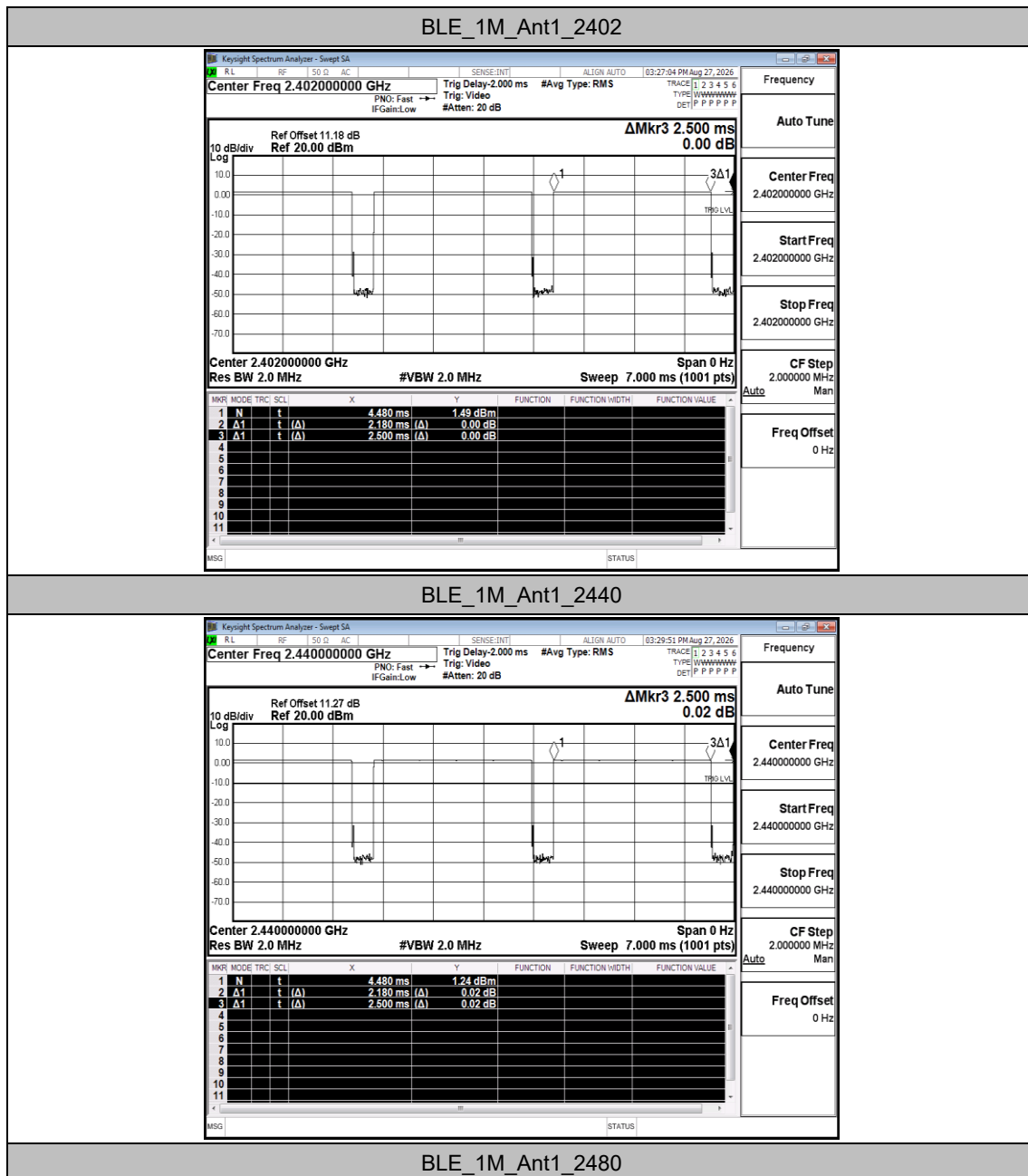


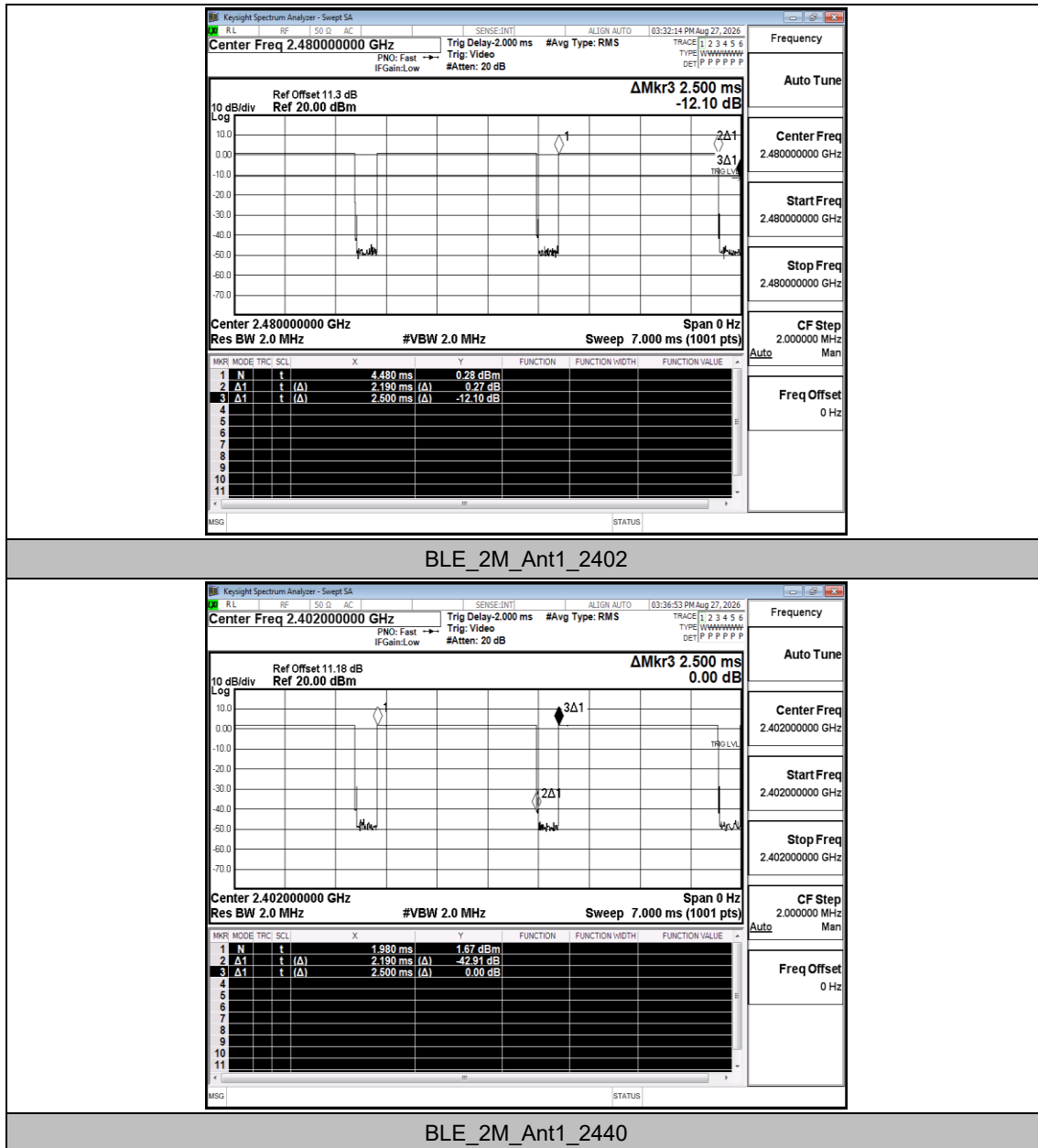
B.6 Duty Cycle

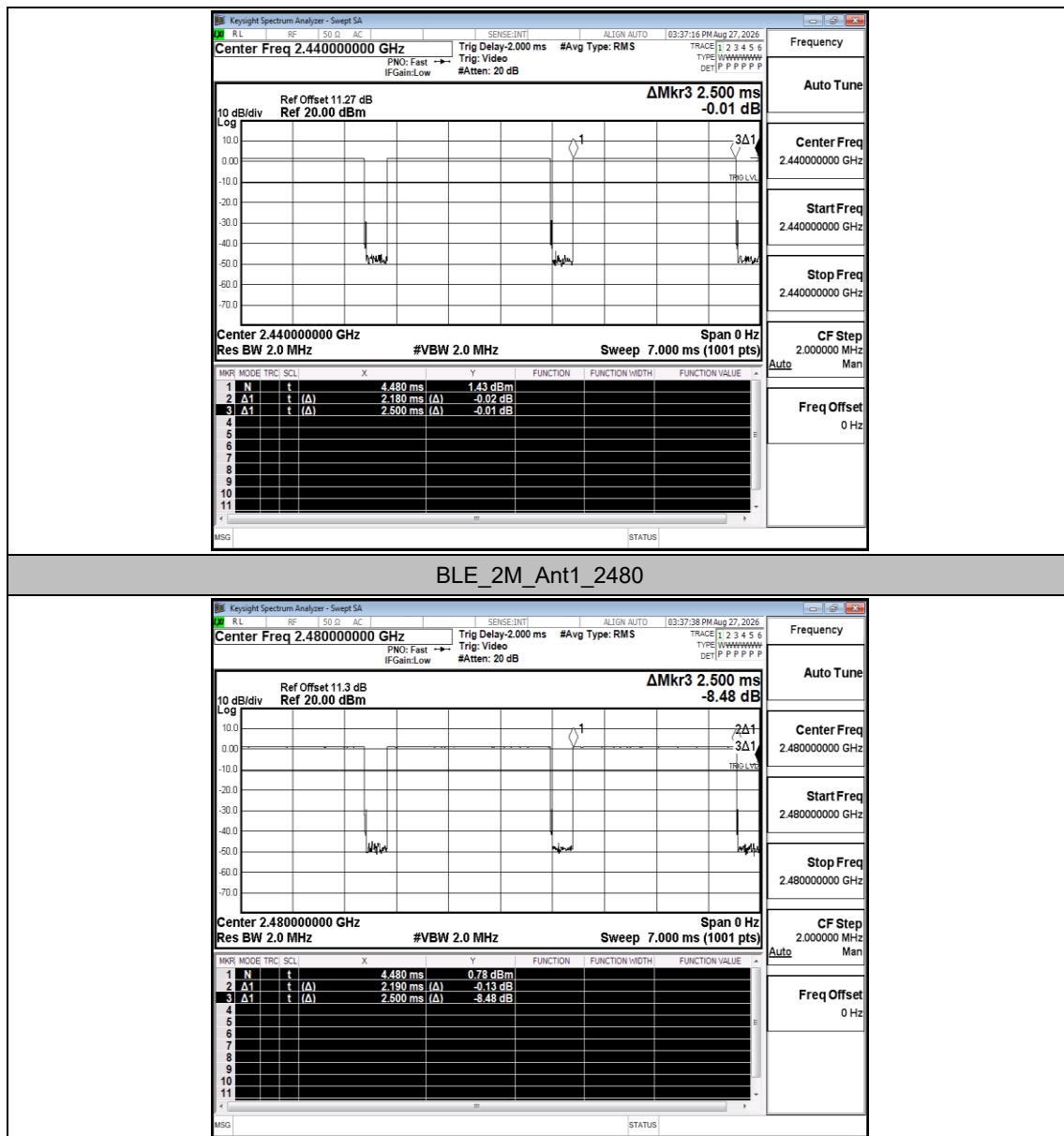
Test Result

TestMode	Antenna	Freq (MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	2.18	2.50	0.8720	87.20	0.59	---	---
		2440	2.18	2.50	0.8720	87.20	0.59	---	---
		2480	2.19	2.50	0.8760	87.60	0.57	---	---
BLE_2M	Ant1	2402	2.19	2.50	0.8760	87.60	0.57	---	---
		2440	2.18	2.50	0.8720	87.20	0.59	---	---
		2480	2.19	2.50	0.8760	87.60	0.57	---	---

Test Graphs







B.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	-57.3	≤-44.49	2.70	0.59	41.19	≤54	PASS
				AV	2359.955	-55.5	≤-44.49	2.70	0.59	42.99	≤54	PASS
				AV	2390.000	-56.63	≤-44.49	2.70	0.59	41.86	≤54	PASS
				Peak	2310.000	-48.87	≤-23.90	2.70	0.00	49.03	≤74	PASS
				Peak	2360.165	-45.36	≤-23.90	2.70	0.00	52.54	≤74	PASS
				Peak	2390.000	-48.2	≤-23.90	2.70	0.00	49.70	≤74	PASS
		High	2480	AV	2483.500	-50.36	≤-44.47	2.70	0.57	48.11	≤54	PASS
				AV	2483.600	-50.32	≤-44.47	2.70	0.57	48.15	≤54	PASS
				AV	2500.000	-56.03	≤-44.47	2.70	0.57	42.44	≤54	PASS
				Peak	2483.500	-44.45	≤-23.90	2.70	0.00	53.45	≤74	PASS
				Peak	2483.680	-43.12	≤-23.90	2.70	0.00	54.78	≤74	PASS
				Peak	2500.000	-47.97	≤-23.90	2.70	0.00	49.93	≤74	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-57.42	≤-44.47	2.70	0.57	41.05	≤54	PASS
				AV	2379.065	-56	≤-44.47	2.70	0.57	42.47	≤54	PASS
				AV	2390.000	-56.8	≤-44.47	2.70	0.57	41.67	≤54	PASS
				Peak	2310.000	-49.6	≤-23.90	2.70	0.00	48.30	≤74	PASS
				Peak	2389.985	-45.1	≤-23.90	2.70	0.00	52.80	≤74	PASS
				Peak	2390.000	-45.1	≤-23.90	2.70	0.00	52.80	≤74	PASS
		High	2480	AV	2483.500	-53.19	≤-44.47	2.70	0.57	45.28	≤54	PASS
				AV	2483.520	-53.19	≤-44.47	2.70	0.57	45.28	≤54	PASS
				AV	2500.000	-57.17	≤-44.47	2.70	0.57	41.30	≤54	PASS
				Peak	2483.500	-44.13	≤-23.90	2.70	0.00	53.77	≤74	PASS
				Peak	2484.560	-43.97	≤-23.90	2.70	0.00	53.93	≤74	PASS
				Peak	2500.000	-48.91	≤-23.90	2.70	0.00	48.99	≤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

