

Appendix Test Data for BLE (Conducted Measurement)

Product Name: Wireless Mechanical Keyboard

Trade Mark: Keychron

Test Model: Q5 MAX

FCC ID: 2ASF4-Q5MAX

Environmental Conditions

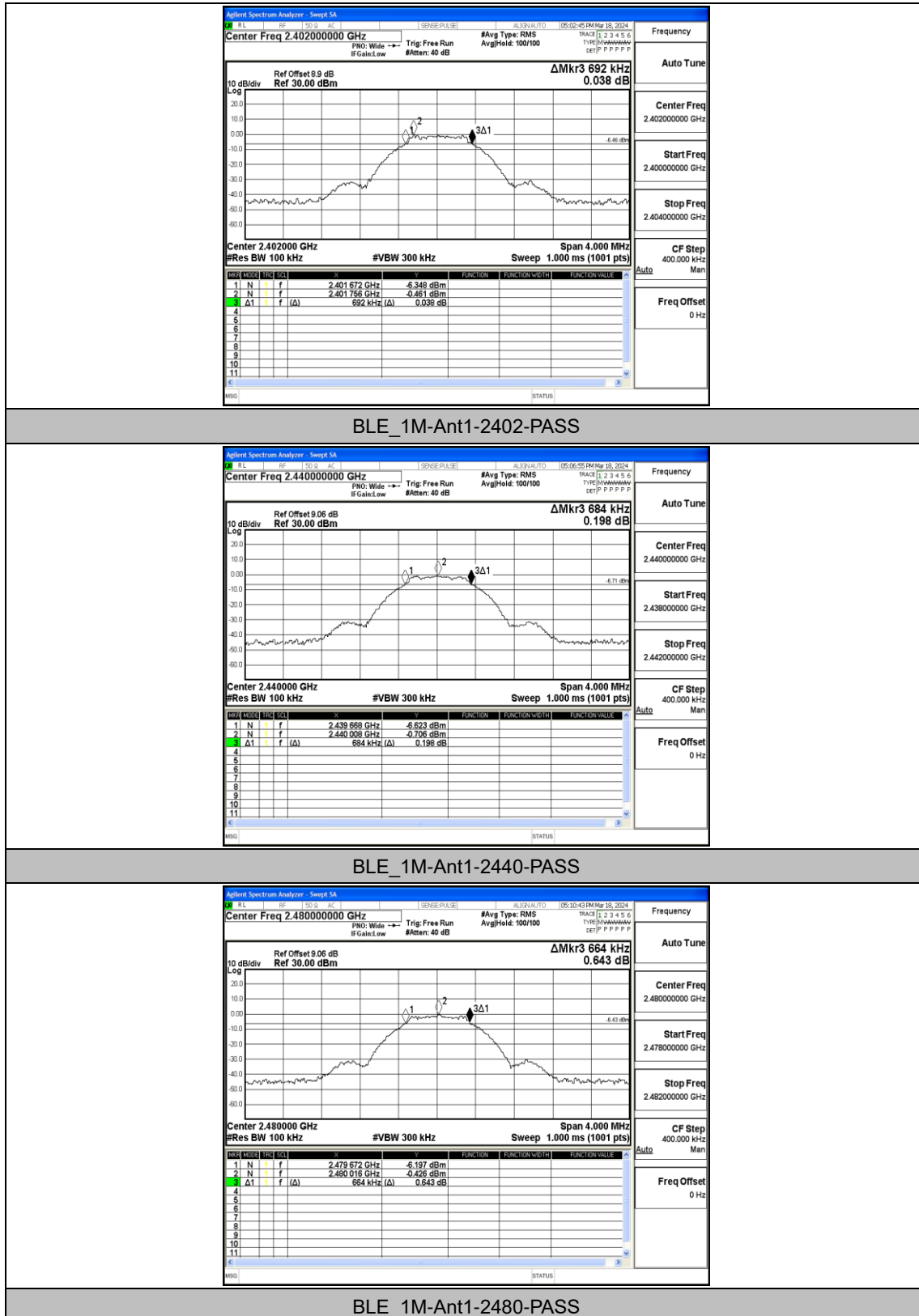
Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.692	2401.672	2402.364	0.5	PASS
BLE_1M	Ant1	2440	0.684	2439.668	2440.352	0.5	PASS
BLE_1M	Ant1	2480	0.664	2479.672	2480.336	0.5	PASS

Test Graphs

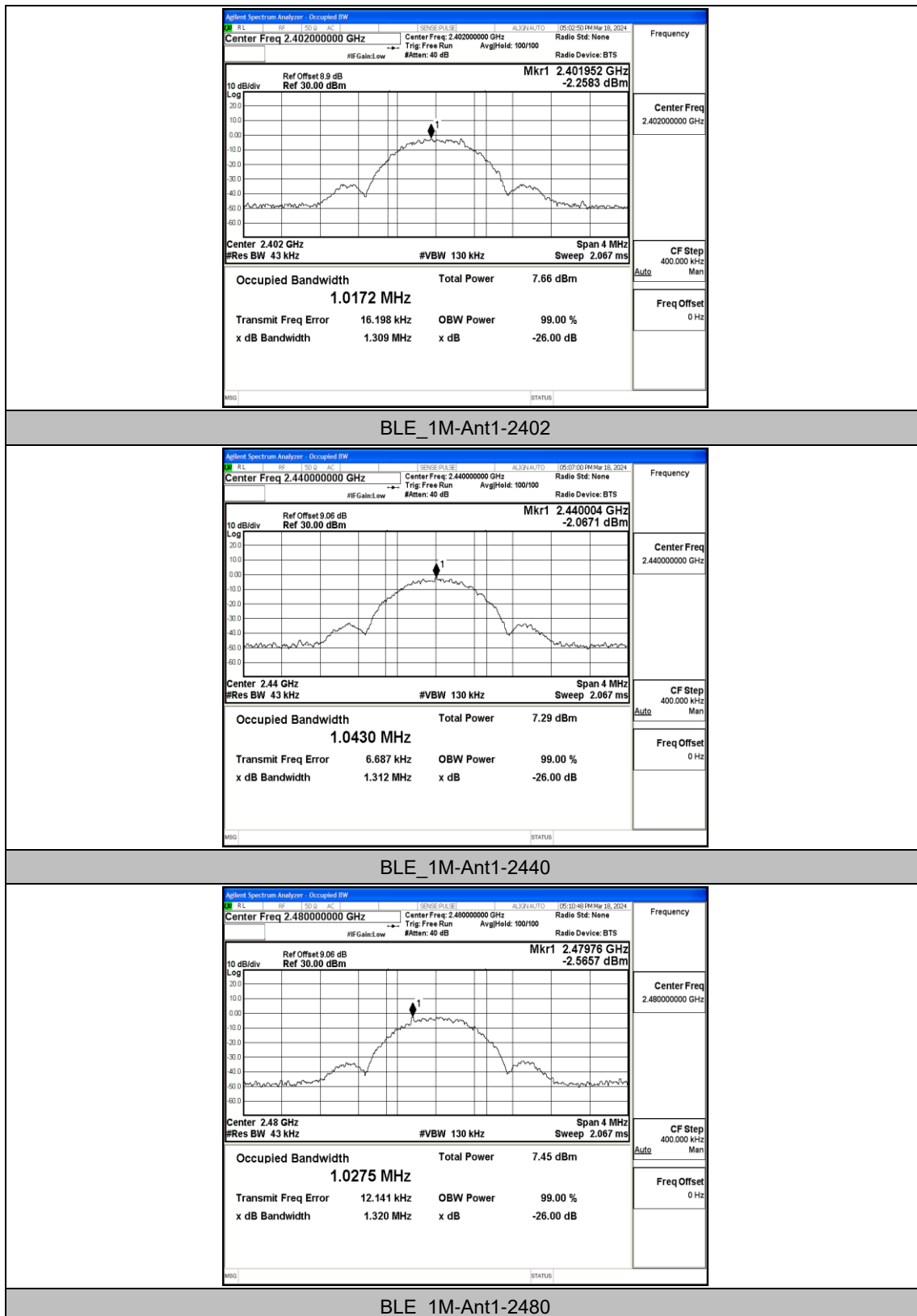


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0172	2401.5076	2402.5248	---	---
BLE_1M	Ant1	2440	1.0430	2439.4852	2440.5282	---	---
BLE_1M	Ant1	2480	1.0275	2479.4984	2480.5259	---	---

Test Graphs

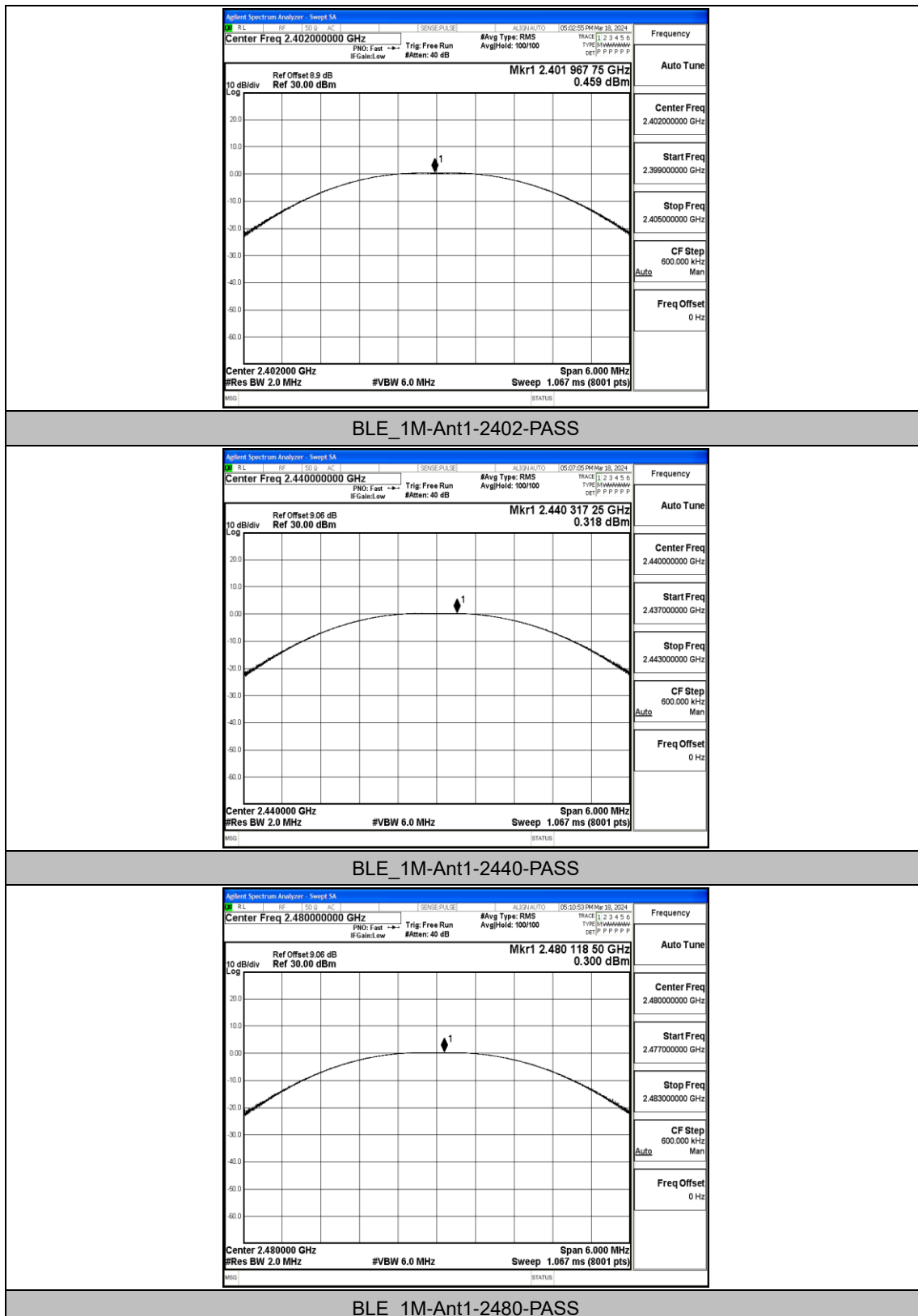


Appendix C: Maximum peak conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.46	≤30	PASS
BLE_1M	Ant1	2440	0.32	≤30	PASS
BLE_1M	Ant1	2480	0.30	≤30	PASS

Test Graphs Peak

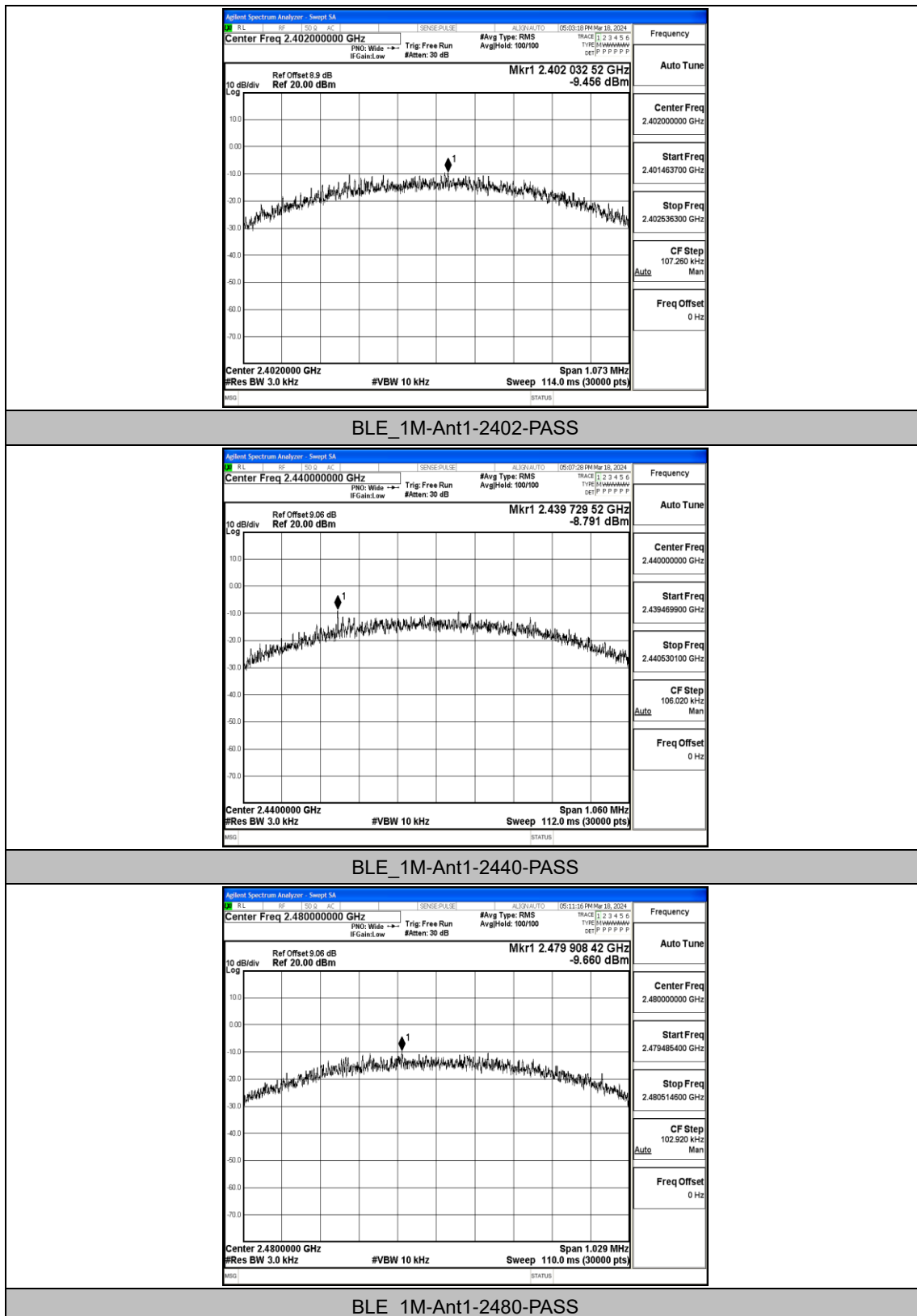


Appendix D: Maximum peak power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.46	≤8.00	PASS
BLE_1M	Ant1	2440	-8.79	≤8.00	PASS
BLE_1M	Ant1	2480	-9.66	≤8.00	PASS

Test Graphs

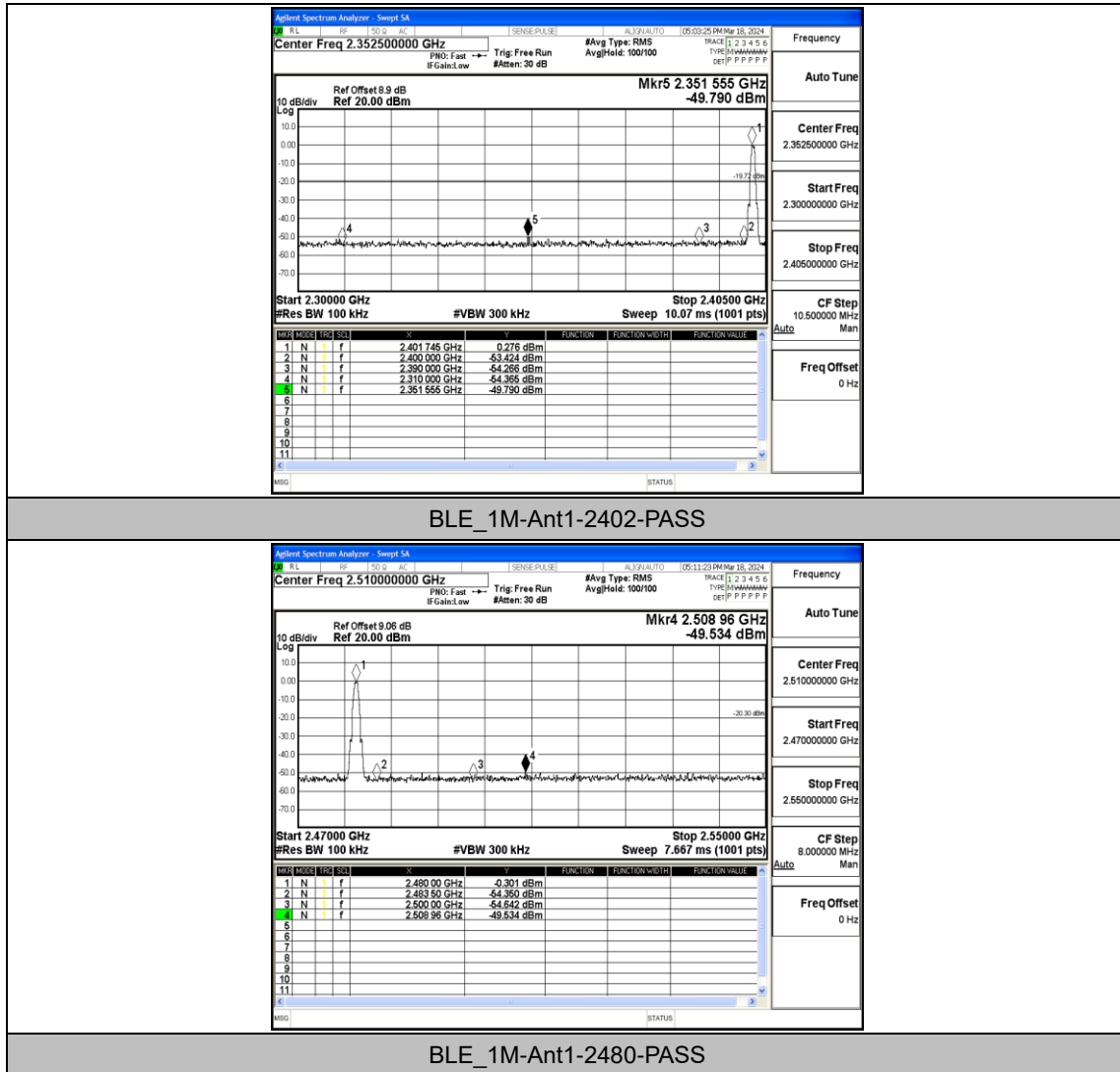


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	Channel	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.28	-49.79	≤-19.72	PASS
BLE_1M	Ant1	High	2480	-0.30	-49.53	≤-20.3	PASS

Test Graphs

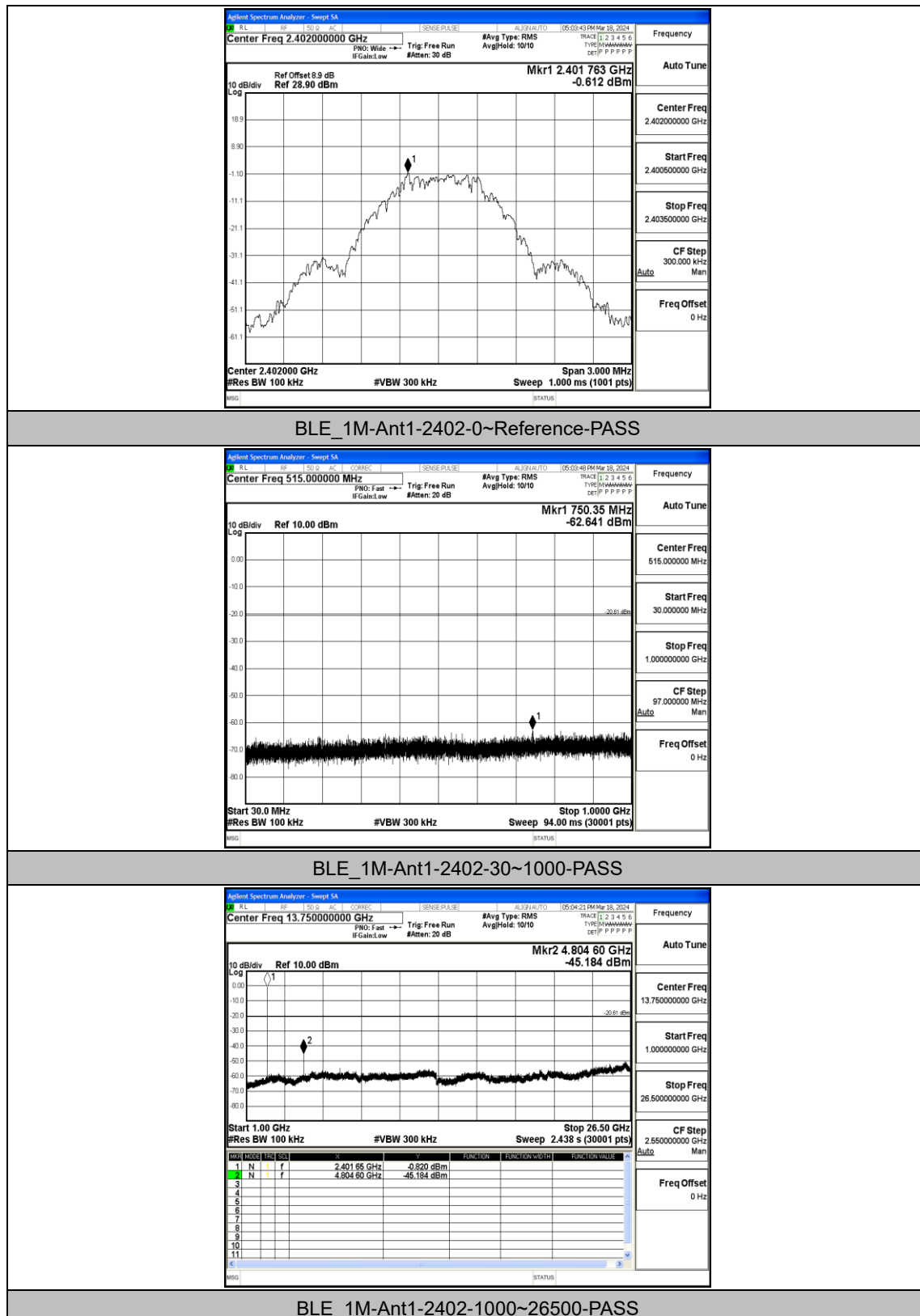


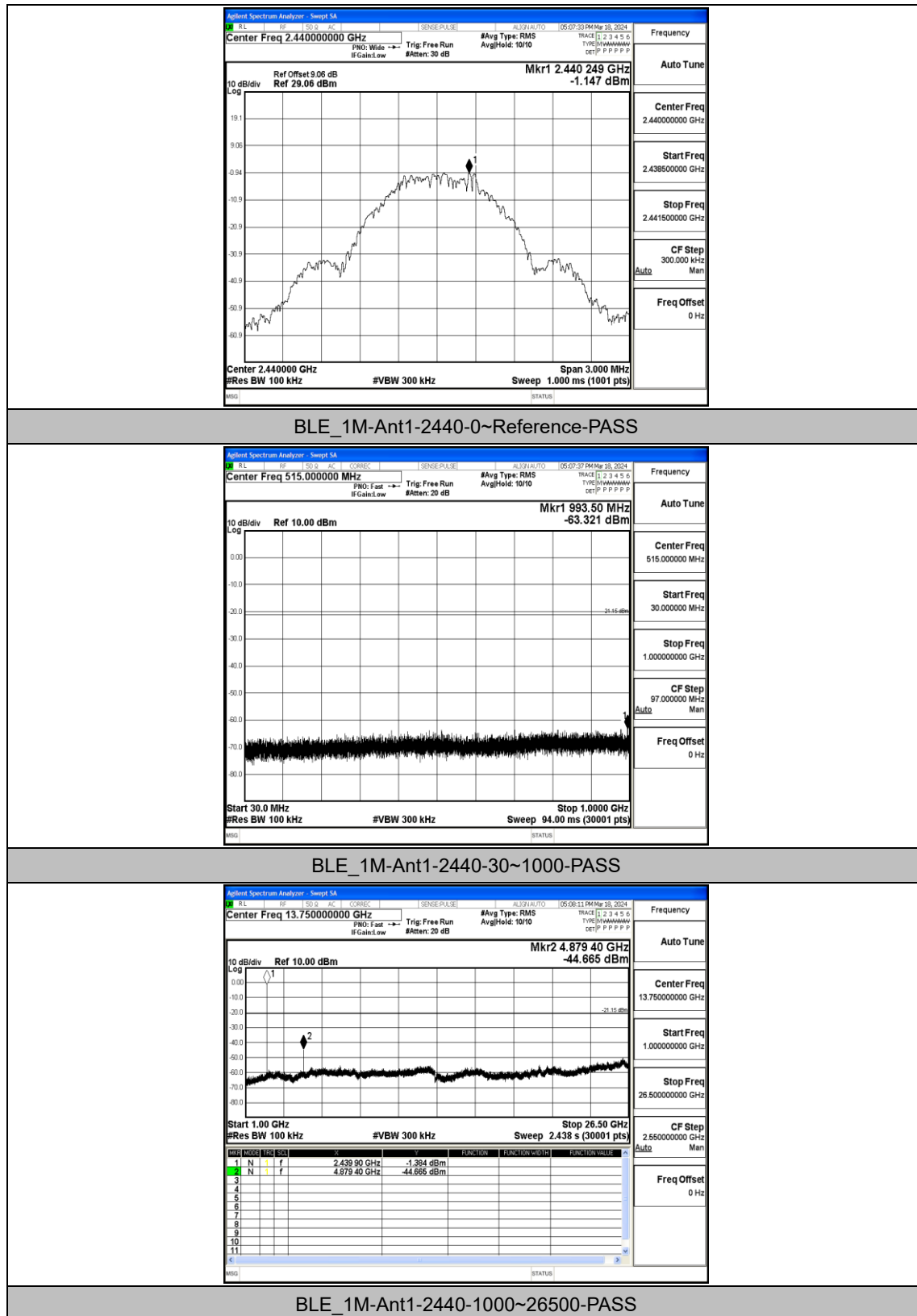
Appendix F: Conducted Spurious Emission

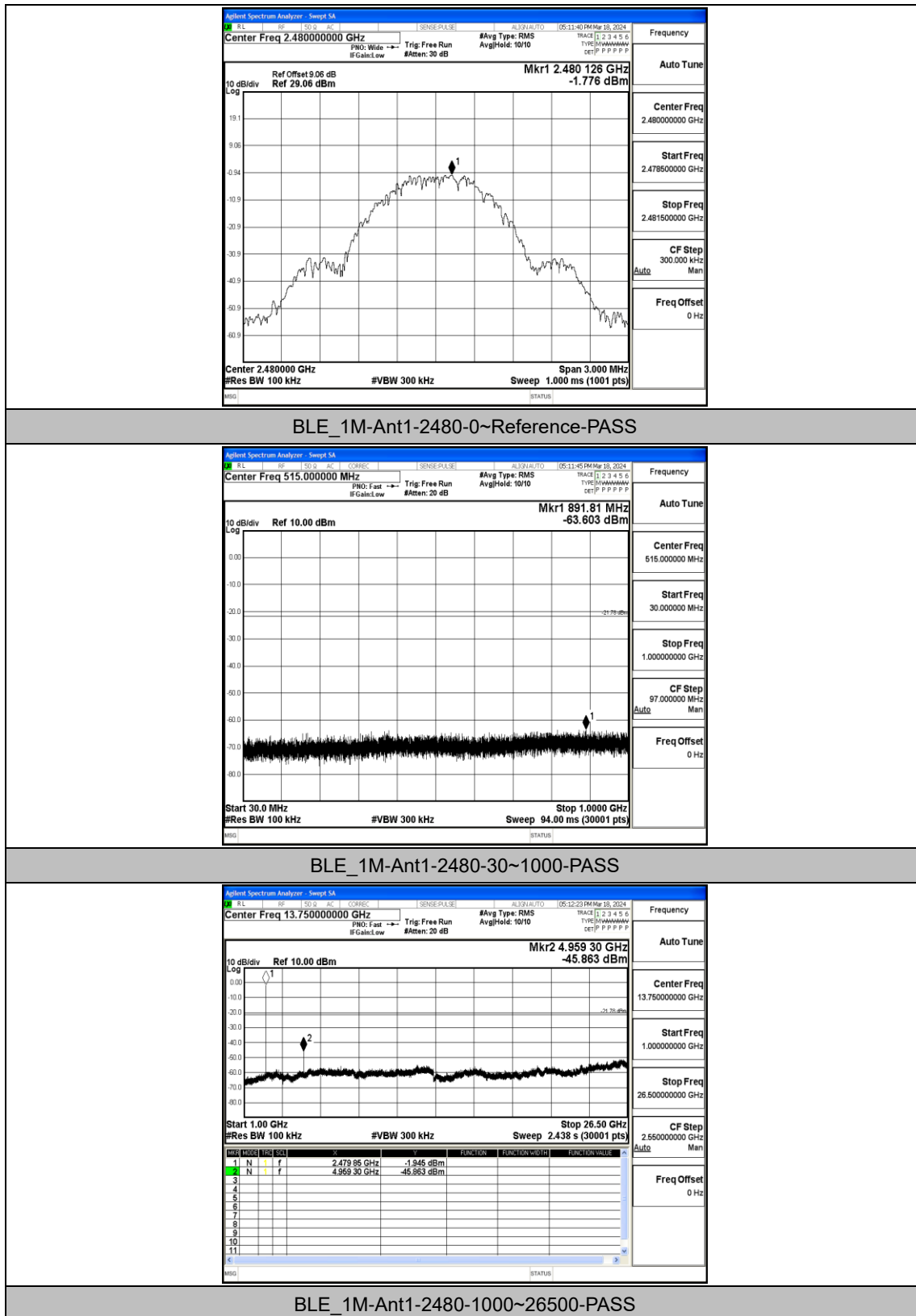
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-0.61	-0.61	---	PASS
BLE_1M	Ant1	2402	30~1000	-0.61	-62.64	≤-20.61	PASS
BLE_1M	Ant1	2402	1000~26500	-0.61	-45.18	≤-20.61	PASS
BLE_1M	Ant1	2440	0~Reference	-1.15	-1.15	---	PASS
BLE_1M	Ant1	2440	30~1000	-1.15	-63.32	≤-21.15	PASS
BLE_1M	Ant1	2440	1000~26500	-1.15	-44.67	≤-21.15	PASS
BLE_1M	Ant1	2480	0~Reference	-1.78	-1.78	---	PASS
BLE_1M	Ant1	2480	30~1000	-1.78	-63.6	≤-21.78	PASS
BLE_1M	Ant1	2480	1000~26500	-1.78	-45.86	≤-21.78	PASS

Test Graphs





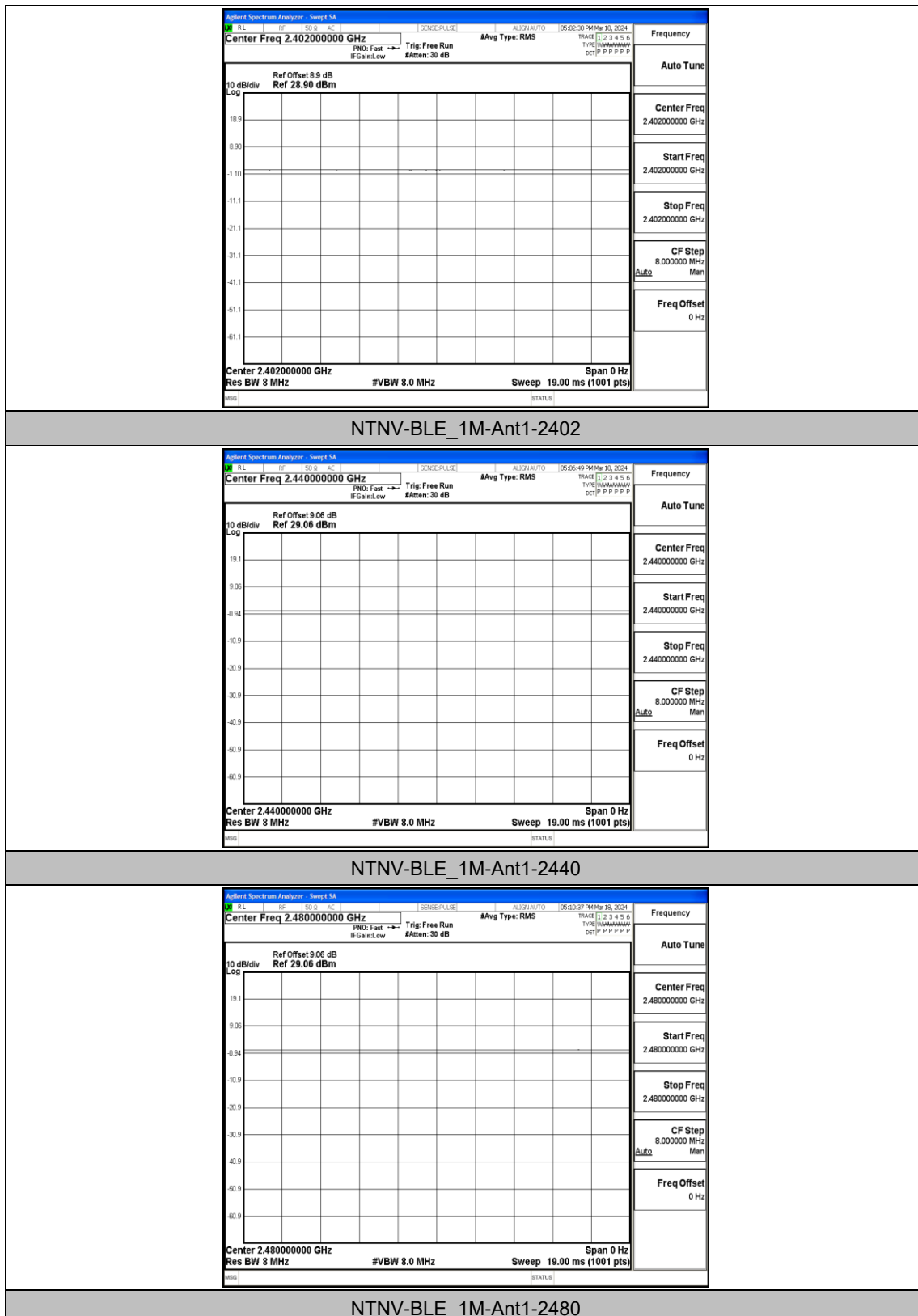


Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	19.00	19.00	100.00	0
BLE_1M	Ant1	2440	19.00	19.00	100.00	0
BLE_1M	Ant1	2480	19.00	19.00	100.00	0

Test Graphs



Appendix H: Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	Peak	2390.000	-45.67	≤-21.20	49.53	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2310.000	-44.8	≤-21.20	50.40	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2366.780	-39.52	≤-21.20	55.68	≤74	PASS
BLE_1M	Ant1	Low	2402	AV	2390.000	-50.27	≤-41.20	44.93	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2310.000	-50.9	≤-41.20	44.30	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2364.575	-49.58	≤-41.20	45.62	≤54	PASS
BLE_1M	Ant1	High	2480	Peak	2483.500	-42.48	≤-21.20	52.72	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2500.000	-44.69	≤-21.20	50.51	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2499.840	-40.08	≤-21.20	55.12	≤74	PASS
BLE_1M	Ant1	High	2480	AV	2483.500	-50.19	≤-41.20	45.01	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2500.000	-49.42	≤-41.20	45.78	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2488.160	-48.85	≤-41.20	46.35	≤54	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

