

## Appendix Test Data for BLE (Conducted Measurement)

Product Name: Wireless Mechanical Keyboard

Trade Mark: Keychron

Test Model: Q3 MAX

FCC ID: 2ASF4-Q3MAX

### Environmental Conditions

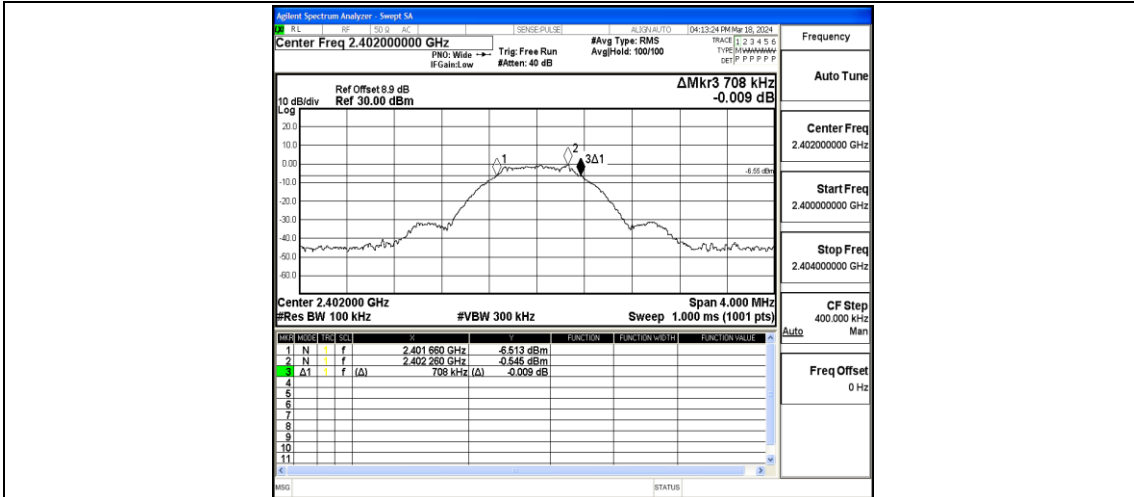
Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

## Appendix A: DTS Bandwidth

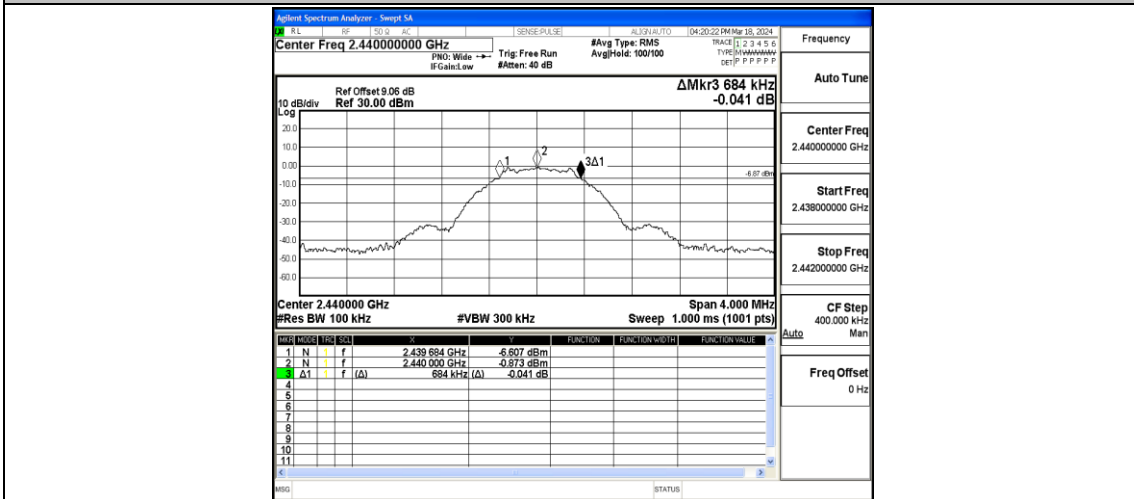
### Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.708	2401.660	2402.368	0.5	PASS
BLE_1M	Ant1	2440	0.684	2439.684	2440.368	0.5	PASS
BLE_1M	Ant1	2480	0.684	2479.668	2480.352	0.5	PASS

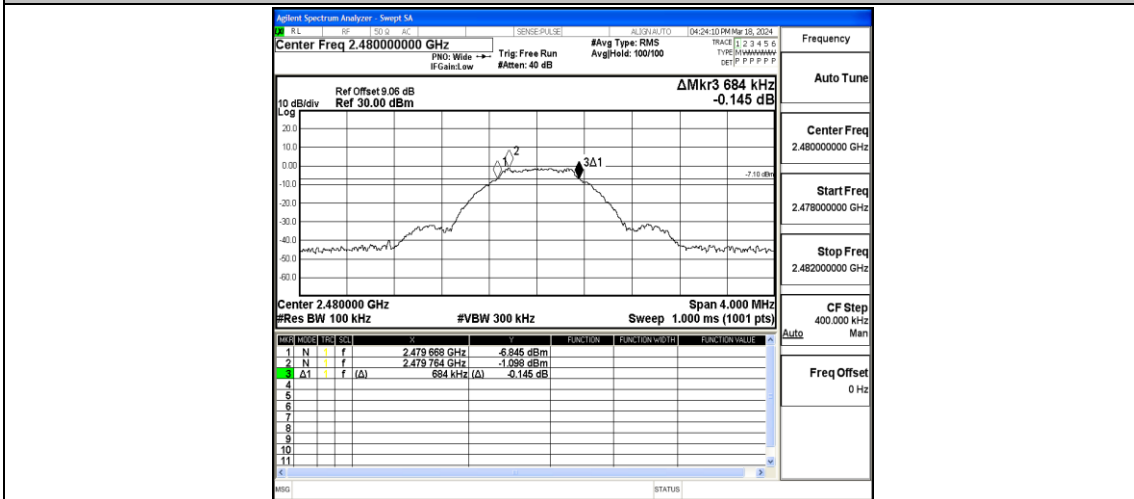
### Test Graphs



BLE\_1M-Ant1-240-PASS



BLE\_1M-Ant1-240-PASS



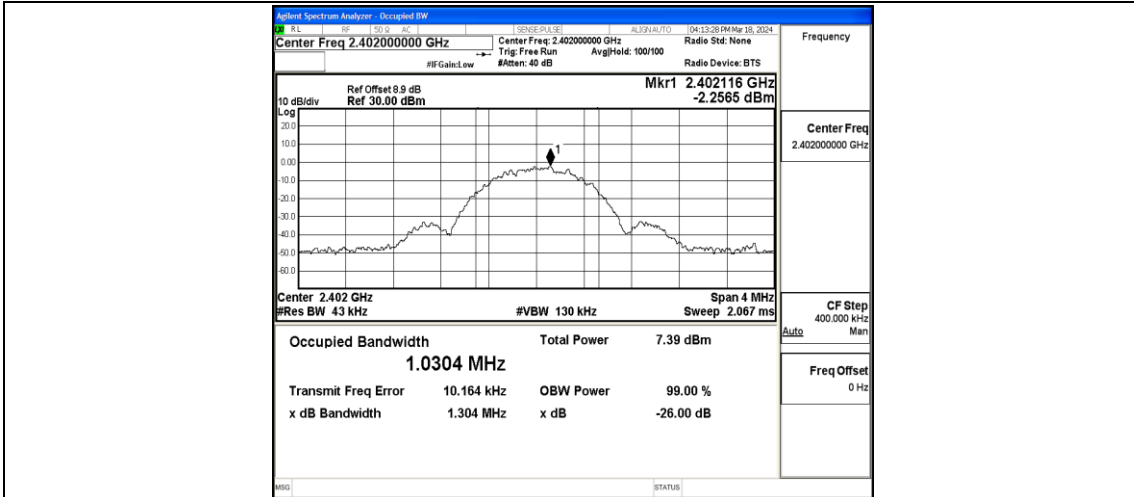
BLE\_1M-Ant1-2480-PASS

## Appendix B: Occupied Channel Bandwidth

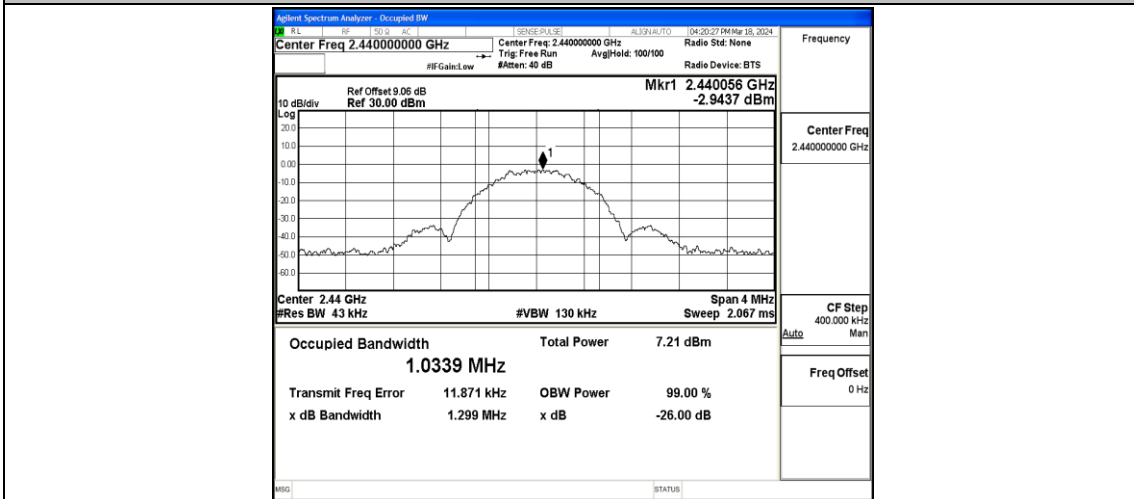
### Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0304	2401.4950	2402.5254	---	---
BLE_1M	Ant1	2440	1.0339	2439.4949	2440.5288	---	---
BLE_1M	Ant1	2480	1.0239	2479.5034	2480.5273	---	---

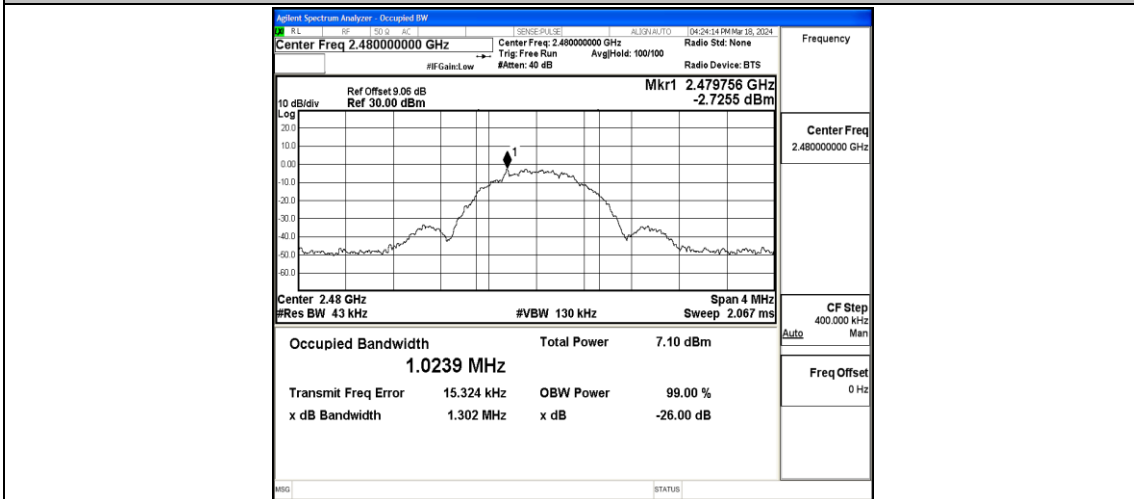
### Test Graphs



BLE\_1M-Ant1-2402



BLE\_1M-Ant1-2440



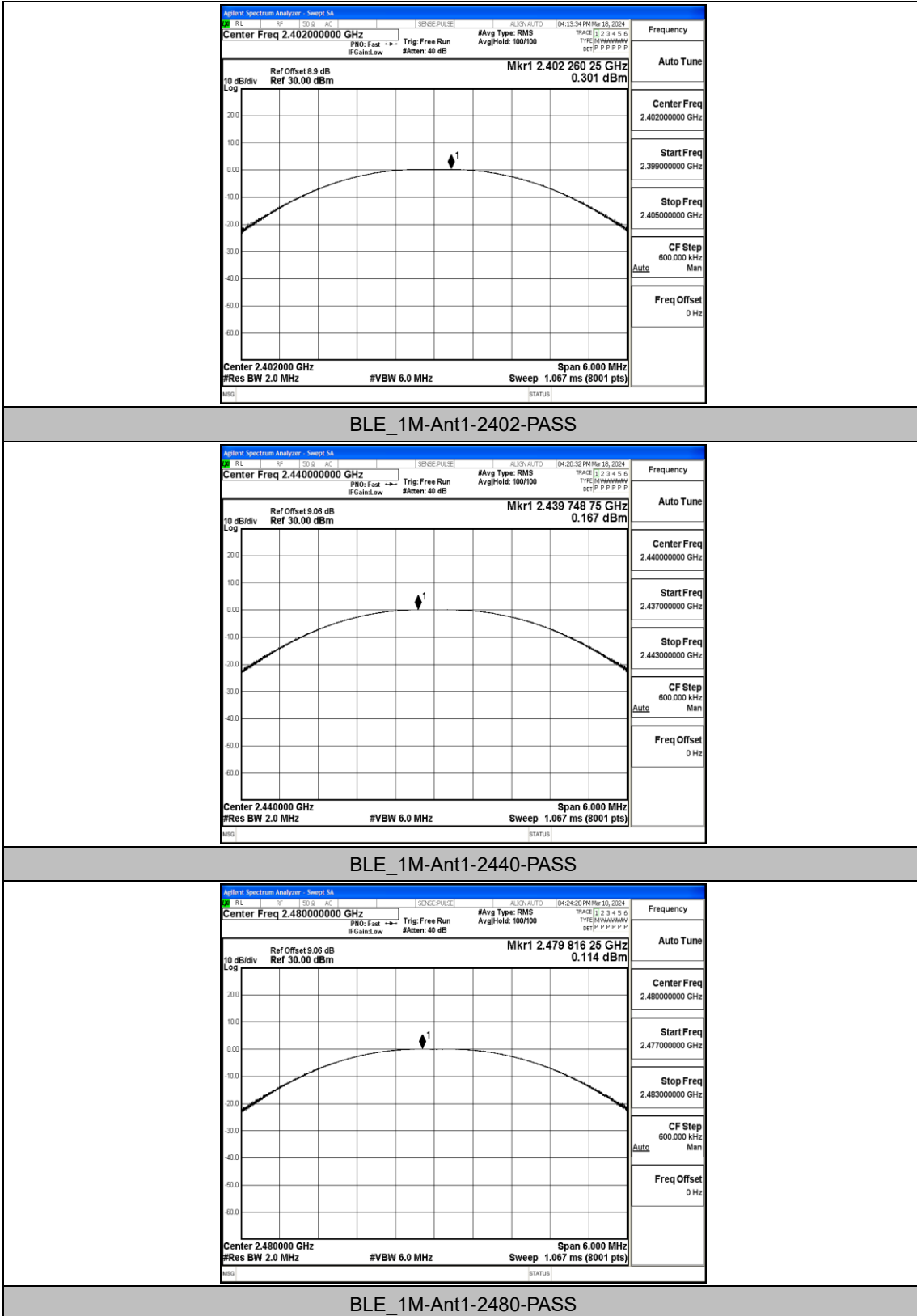
BLE\_1M-Ant1-2480

## 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	0.30	≤30	PASS
BLE_1M	Ant1	2440	0.17	≤30	PASS
BLE_1M	Ant1	2480	0.11	≤30	PASS

### Test Graphs Peak

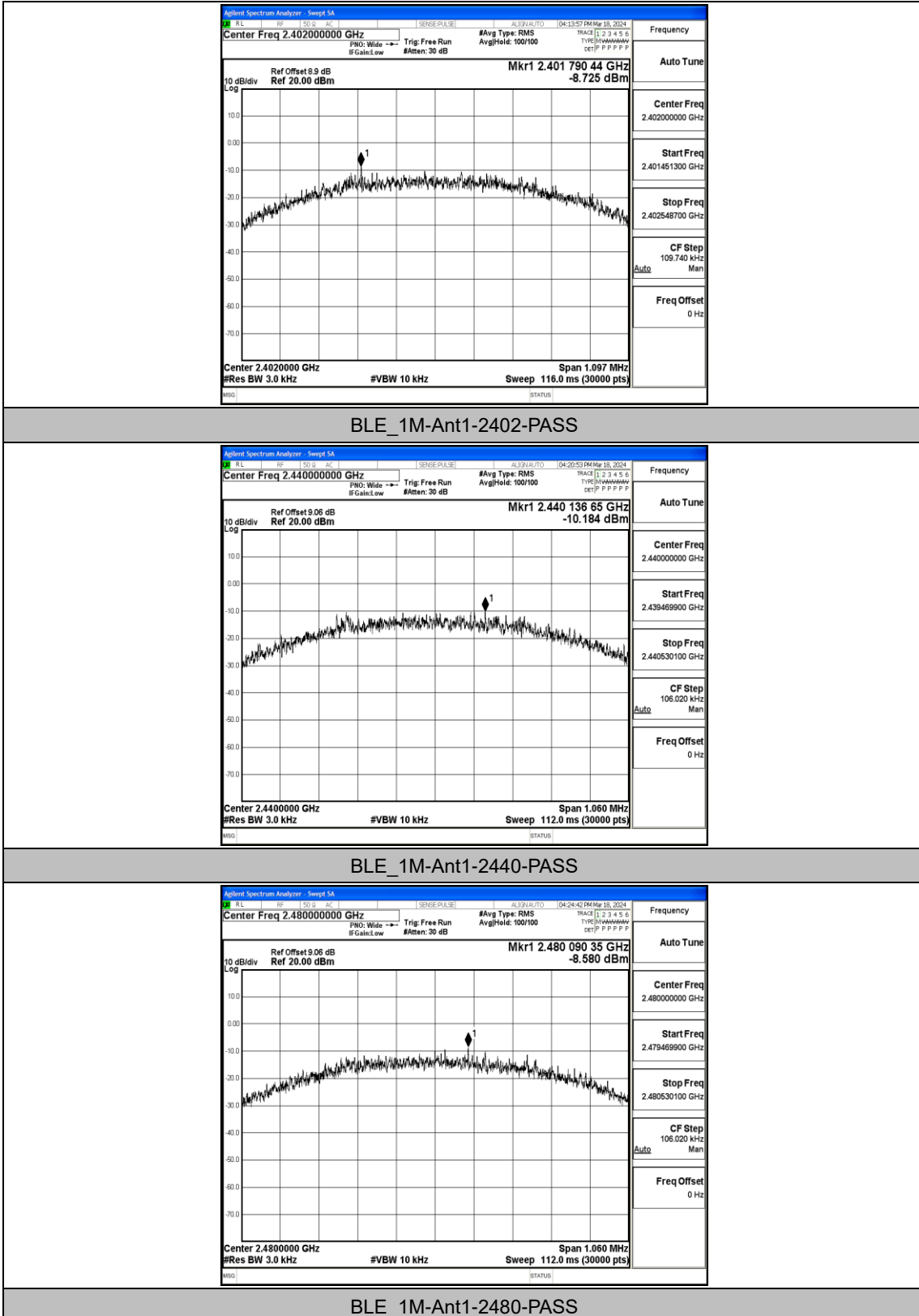


## Appendix D: Maximum peak power spectral density

### Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-8.73	≤8.00	PASS
BLE_1M	Ant1	2440	-10.18	≤8.00	PASS
BLE_1M	Ant1	2480	-8.58	≤8.00	PASS

### Test Graphs



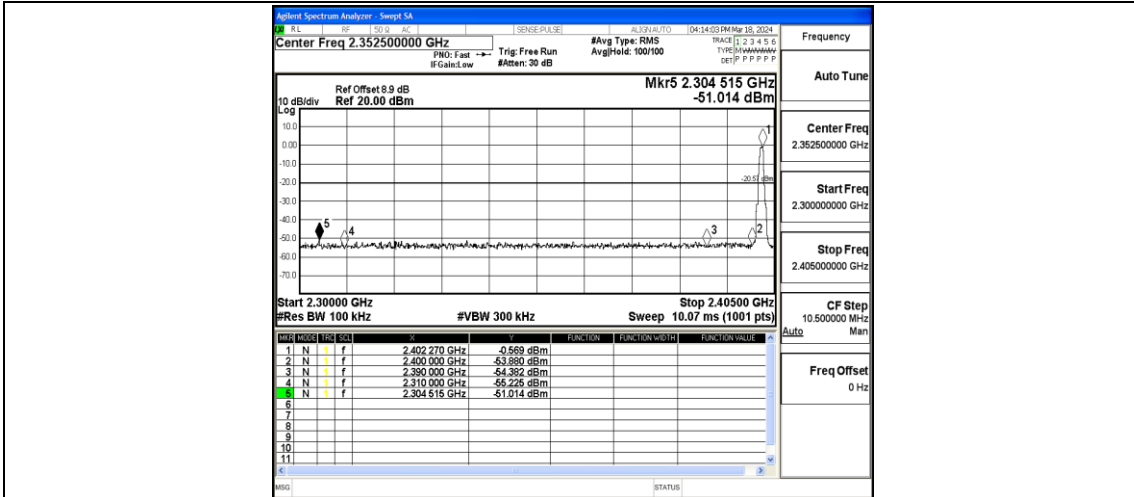


## Appendix E: Band edge measurements

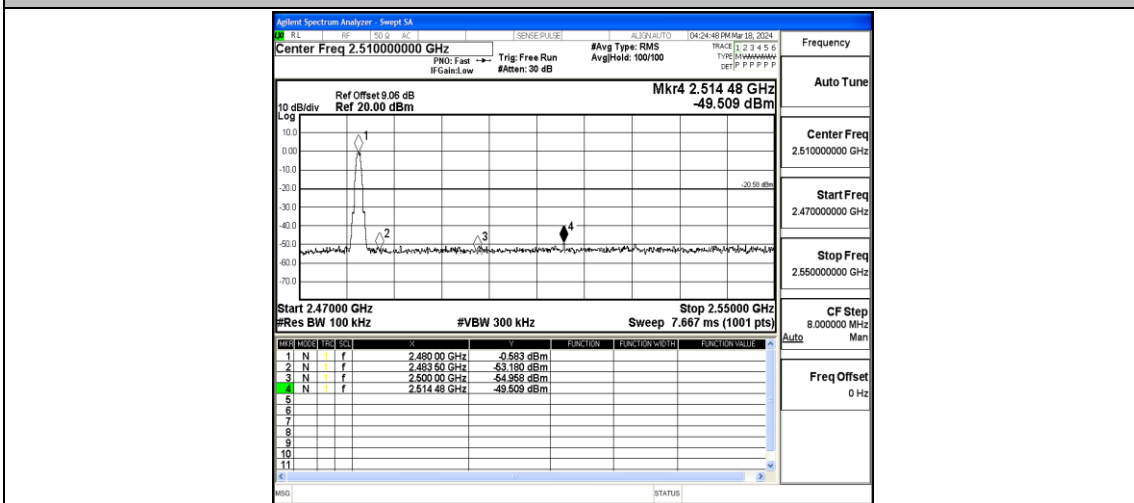
### Test Result

TestMode	Antenna	Channel	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.57	-51.01	≤-20.57	PASS
BLE_1M	Ant1	High	2480	-0.58	-49.51	≤-20.58	PASS

### Test Graphs



BLE\_1M-Ant1-240-PASS



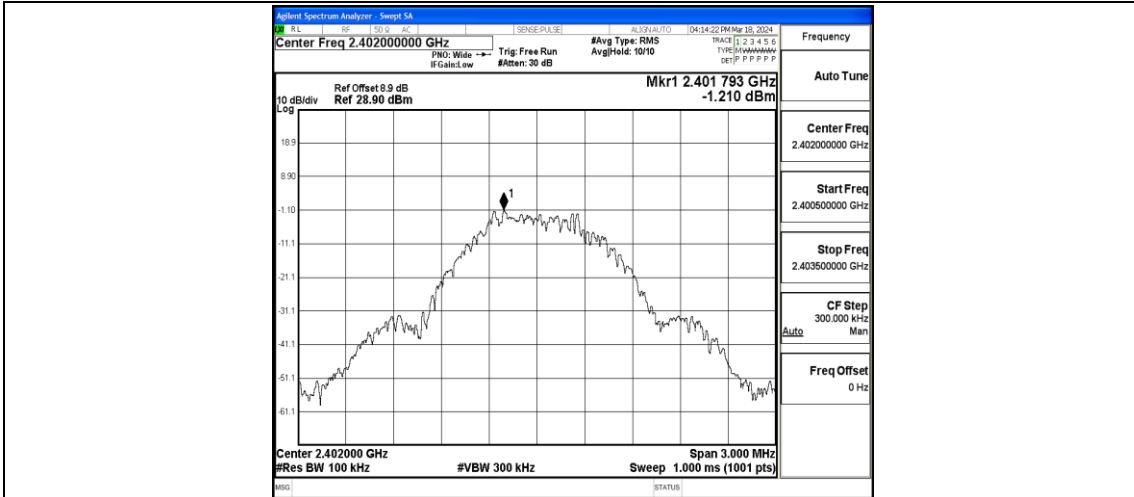
BLE\_1M-Ant1-2480-PASS

## Appendix F: Conducted Spurious Emission

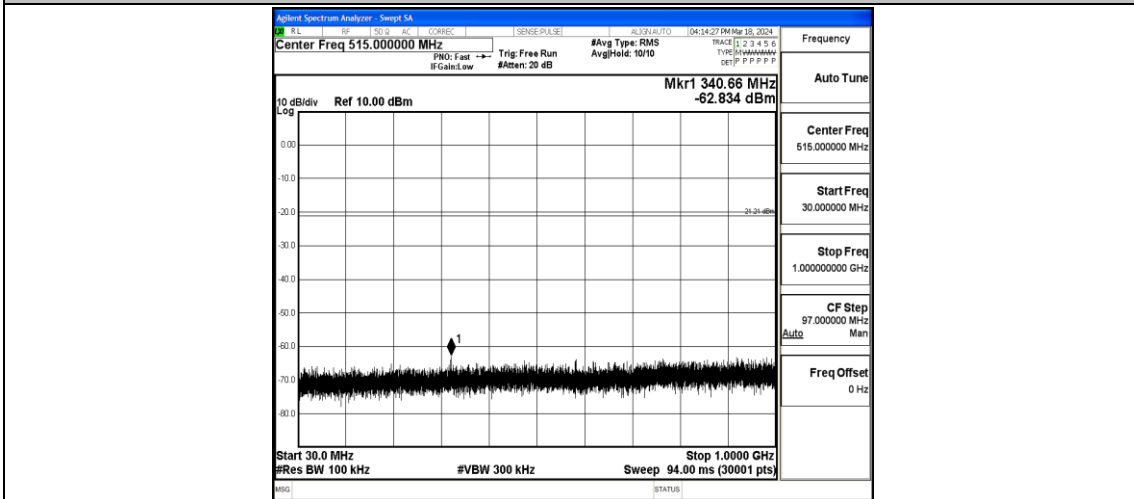
### Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-1.21	-1.21	---	PASS
BLE_1M	Ant1	2402	30~1000	-1.21	-62.83	≤-21.21	PASS
BLE_1M	Ant1	2402	1000~26500	-1.21	-46.98	≤-21.21	PASS
BLE_1M	Ant1	2440	0~Reference	-0.62	-0.62	---	PASS
BLE_1M	Ant1	2440	30~1000	-0.62	-62.79	≤-20.62	PASS
BLE_1M	Ant1	2440	1000~26500	-0.62	-47.31	≤-20.62	PASS
BLE_1M	Ant1	2480	0~Reference	-1.34	-1.34	---	PASS
BLE_1M	Ant1	2480	30~1000	-1.34	-63.06	≤-21.34	PASS
BLE_1M	Ant1	2480	1000~26500	-1.34	-45.97	≤-21.34	PASS

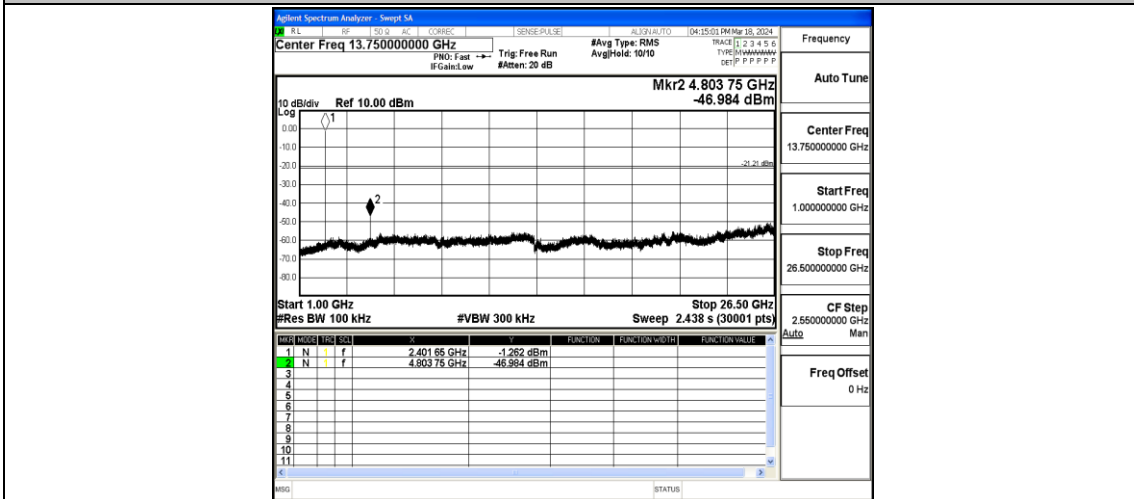
### Test Graphs



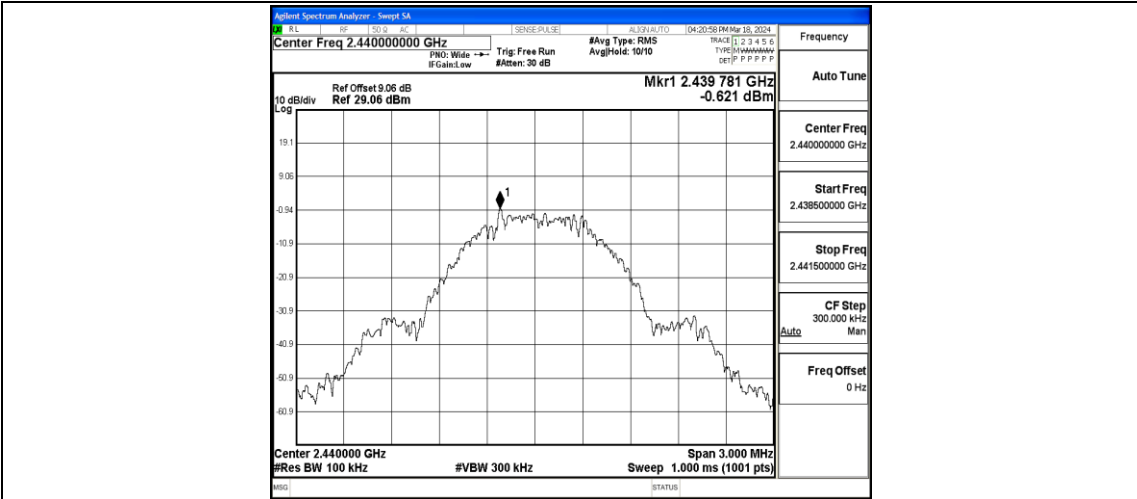
BLE\_1M-Ant1-2402-0~Reference-PASS



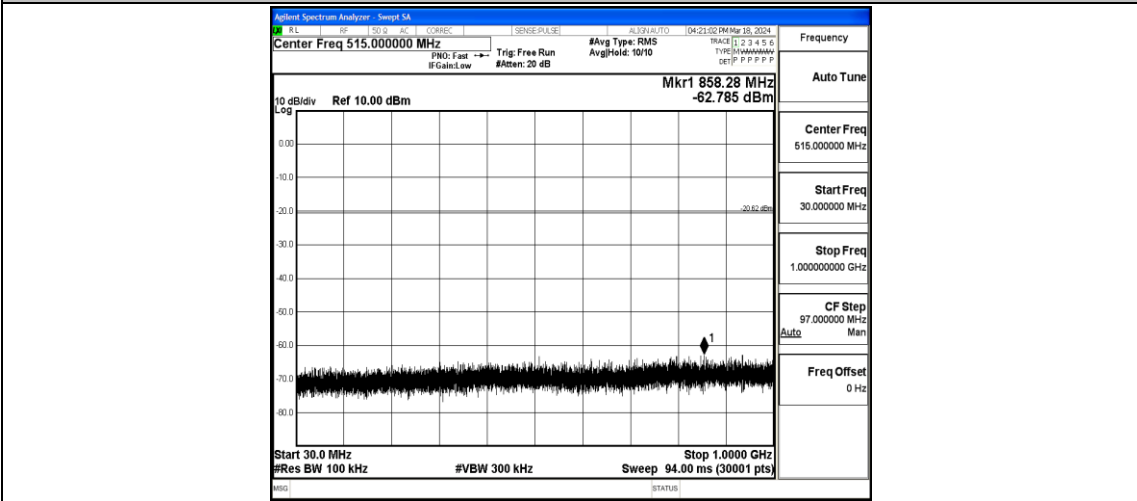
BLE\_1M-Ant1-2402-30~1000-PASS



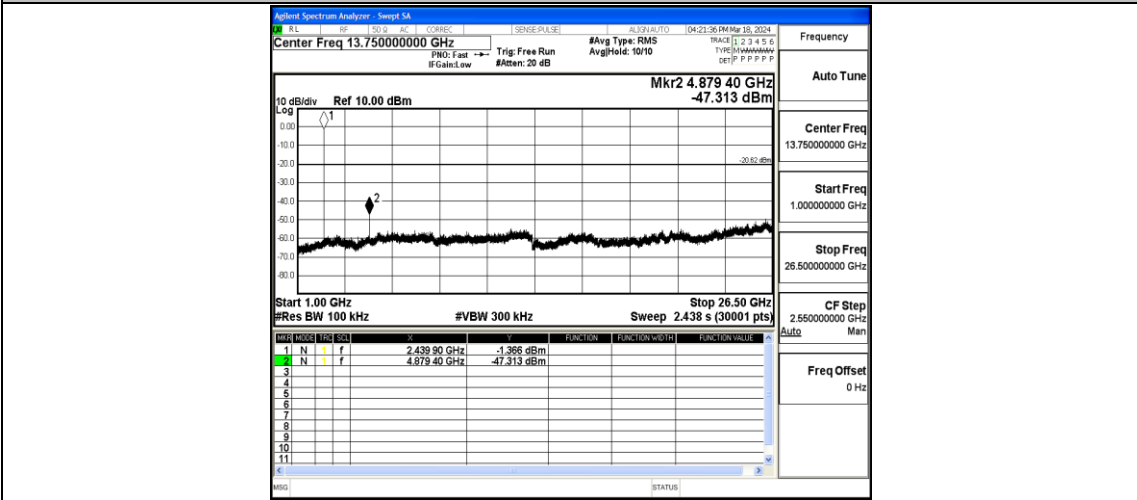
BLE\_1M-Ant1-2402-1000~26500-PASS



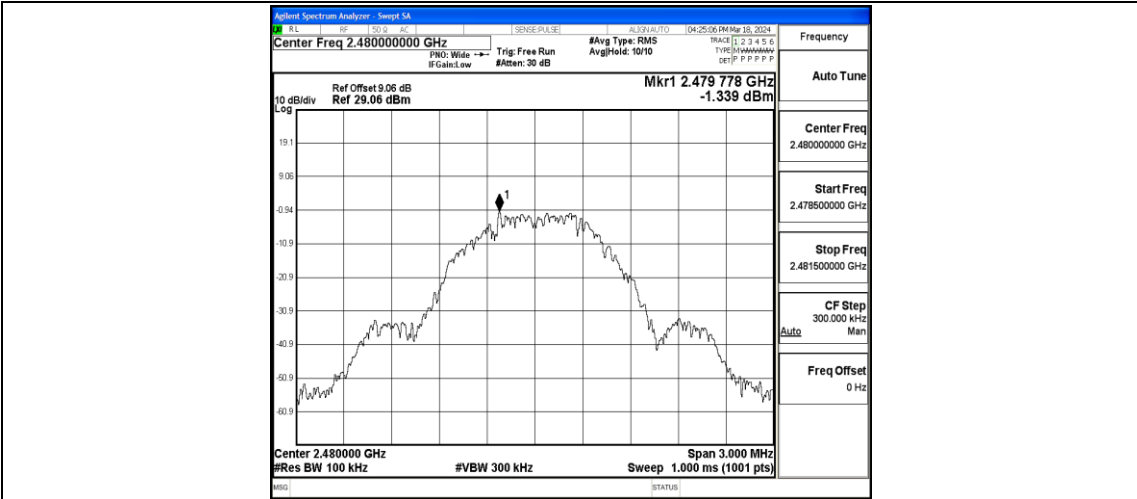
BLE\_1M-Ant1-2440-0~Reference-PASS



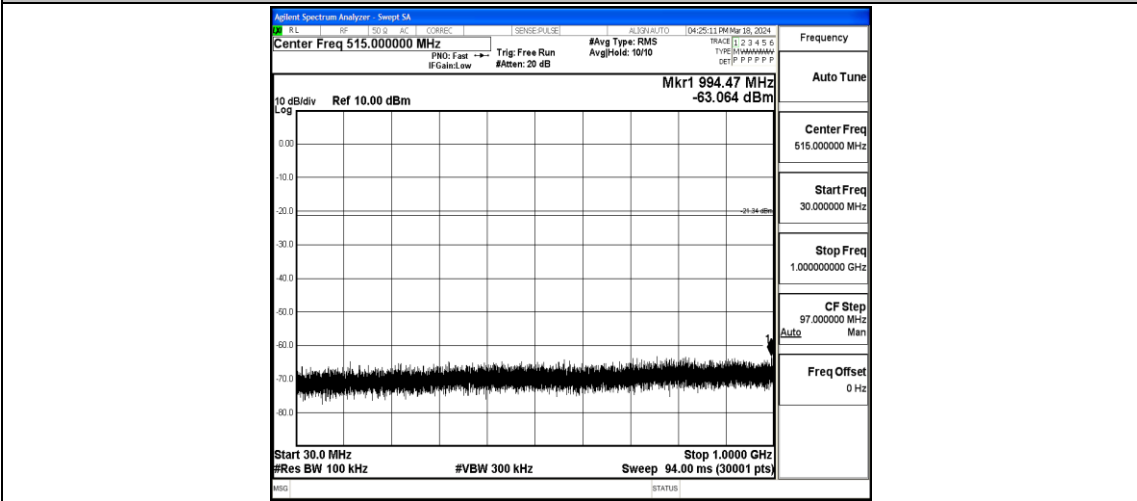
BLE\_1M-Ant1-2440-30~1000-PASS



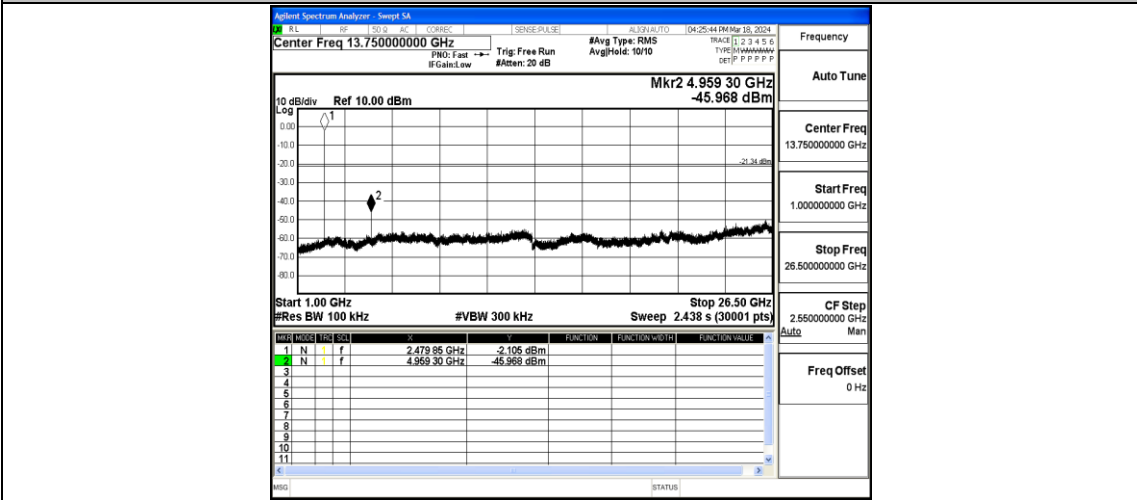
BLE\_1M-Ant1-2440-1000~26500-PASS



BLE\_1M-Ant1-2480-0~Reference-PASS



BLE\_1M-Ant1-2480-30~1000-PASS



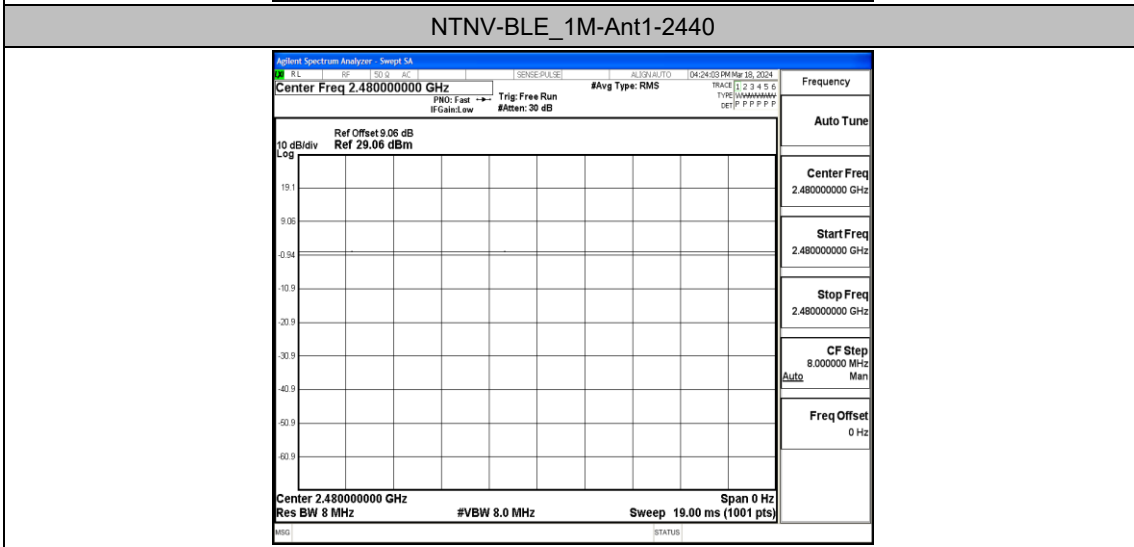
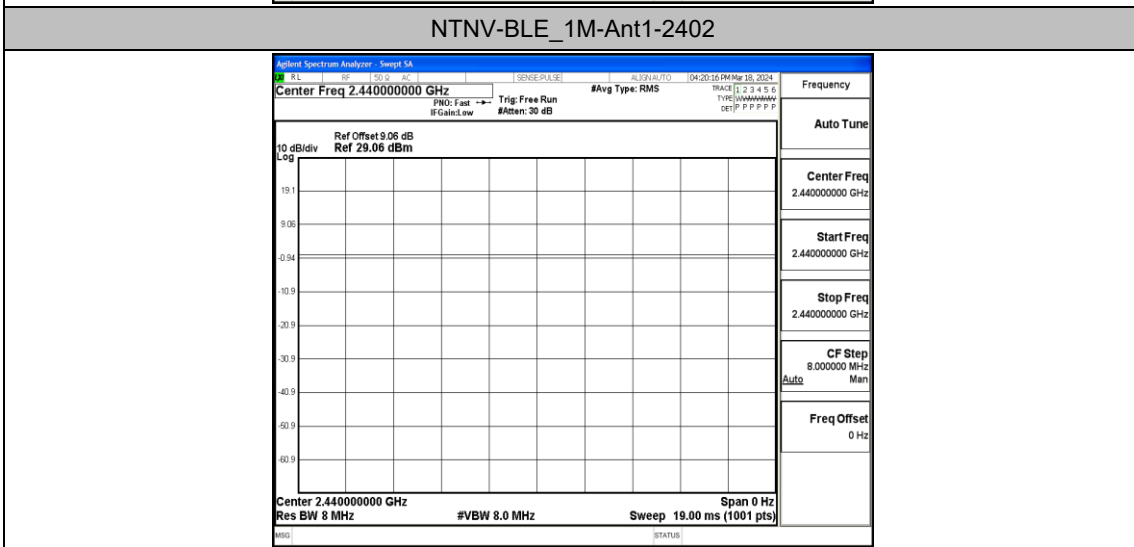
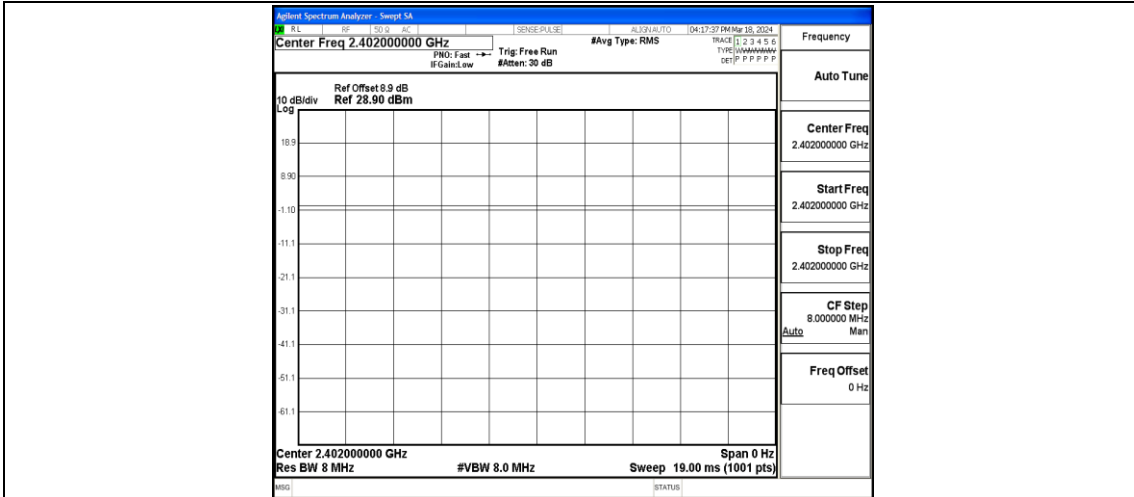
BLE\_1M-Ant1-2480-1000~26500-PASS

## 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

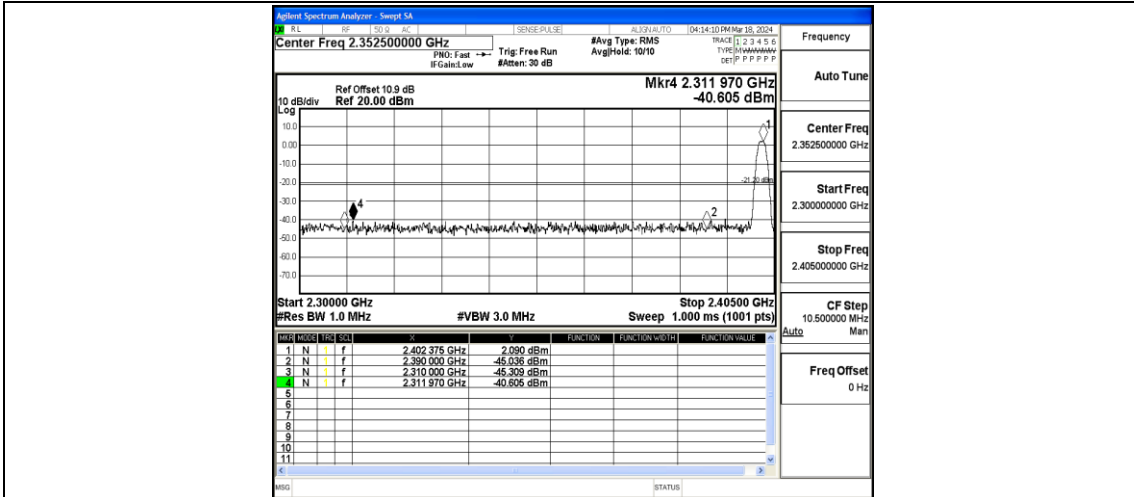
### Test Result

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	-45.04	≤-21.20	50.16	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2310.000	-45.31	≤-21.20	49.89	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2311.970	-40.61	≤-21.20	54.59	≤74	PASS
BLE_1M	Ant1	Low	2402	AV	2390.000	-50.79	≤-41.20	44.41	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2310.000	-50.57	≤-41.20	44.63	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2381.795	-49.49	≤-41.20	45.71	≤54	PASS
BLE_1M	Ant1	High	2480	Peak	2483.500	-41.68	≤-21.20	53.52	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2500.000	-45.3	≤-21.20	49.90	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2497.440	-39.3	≤-21.20	55.90	≤74	PASS
BLE_1M	Ant1	High	2480	AV	2483.500	-50.03	≤-41.20	45.17	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2500.000	-49.19	≤-41.20	46.01	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2496.640	-48.77	≤-41.20	46.43	≤54	PASS

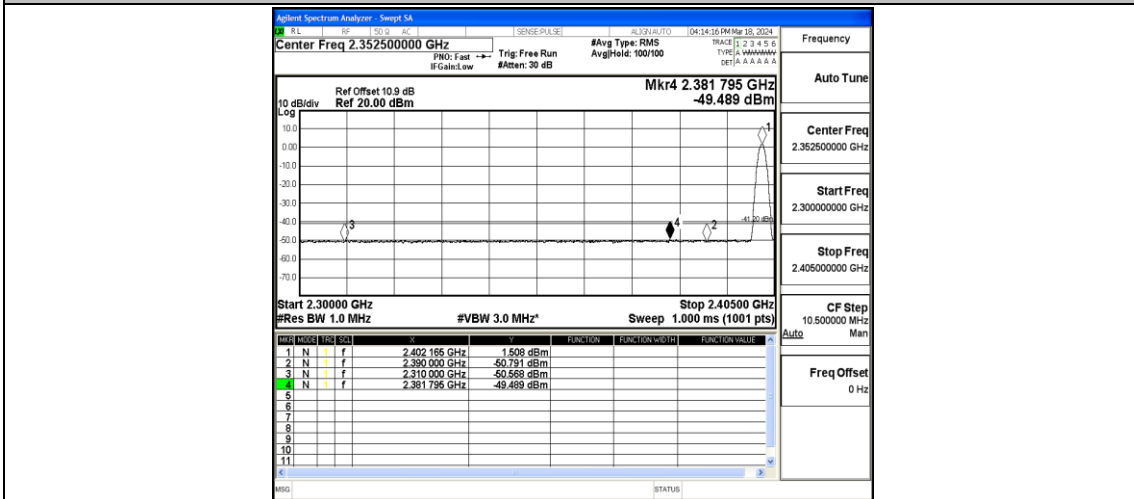
Note:

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.

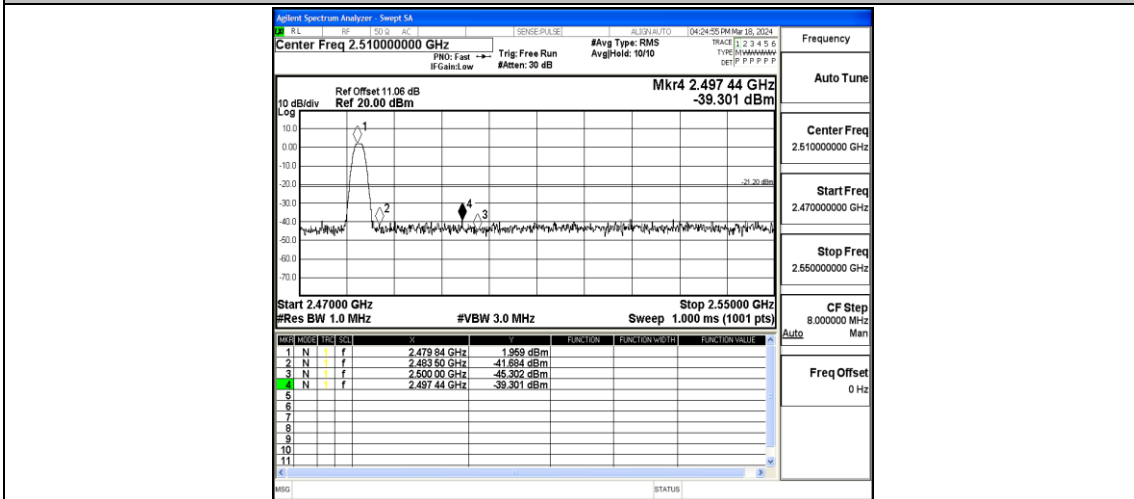
### Test Graphs



BLE\_1M-Ant1-240-PASS



BLE\_1M-Ant1-240-PASS



BLE\_1M-Ant1-2480-PASS

