

## Appendix Test Data for BT(BLE) (Conducted Measurement)

Product Name: OTT+speaker

Trade Mark: /

Test Model: SK410D

FCC ID: 2A0VU-SK410D

### Environmental Conditions

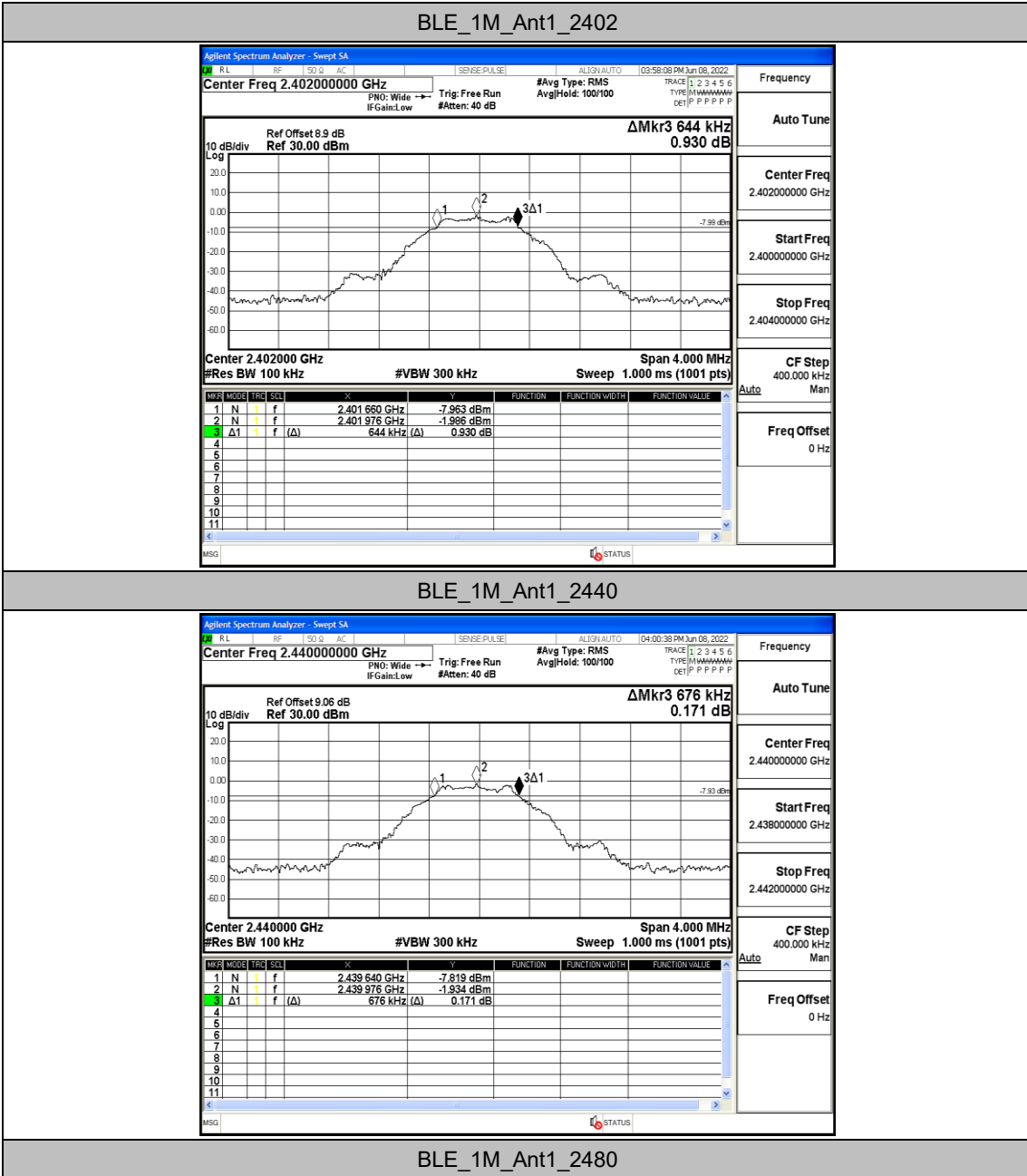
Temperature:	24.2℃
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

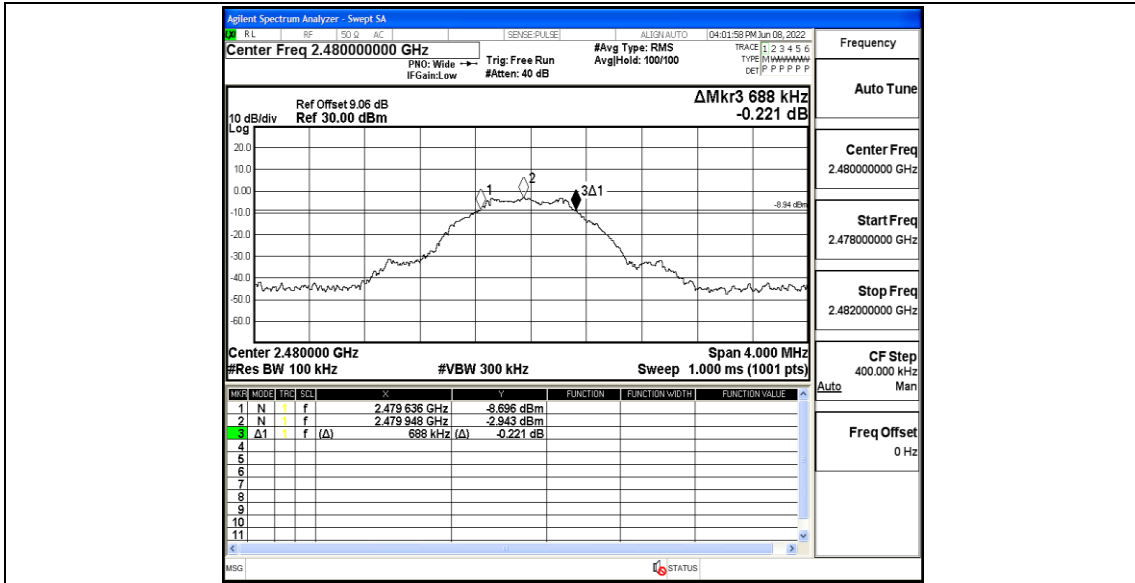
## Appendix A: DTS Bandwidth

### Test Result

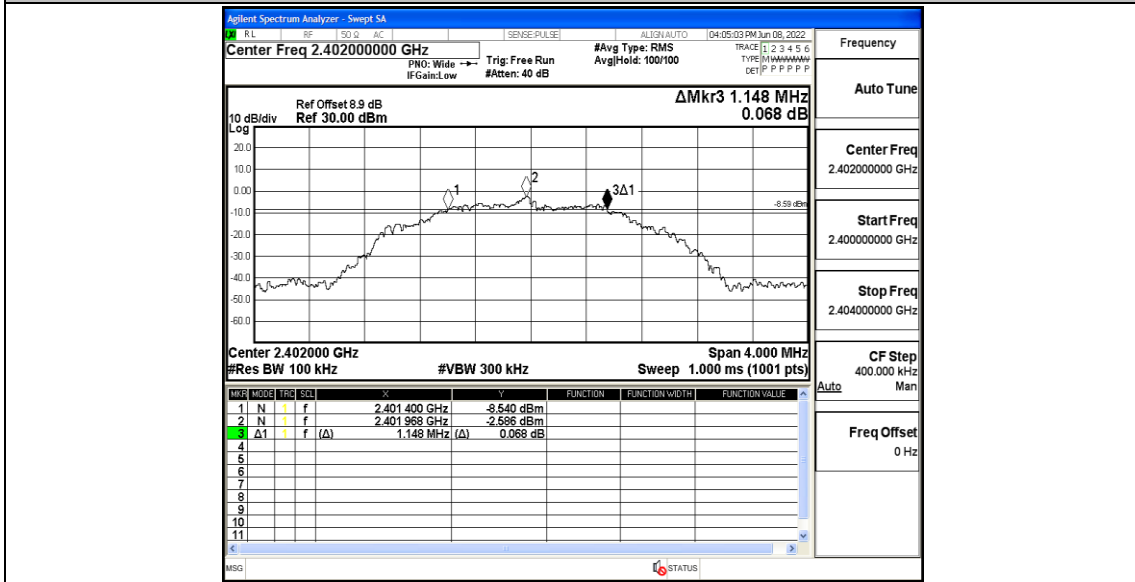
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.644	2401.660	2402.304	0.5	PASS
		2440	0.676	2439.640	2440.316	0.5	PASS
		2480	0.688	2479.636	2480.324	0.5	PASS
BLE_2M	Ant1	2402	1.148	2401.400	2402.548	0.5	PASS
		2440	1.132	2439.436	2440.568	0.5	PASS
		2480	1.156	2479.376	2480.532	0.5	PASS

Test Graphs

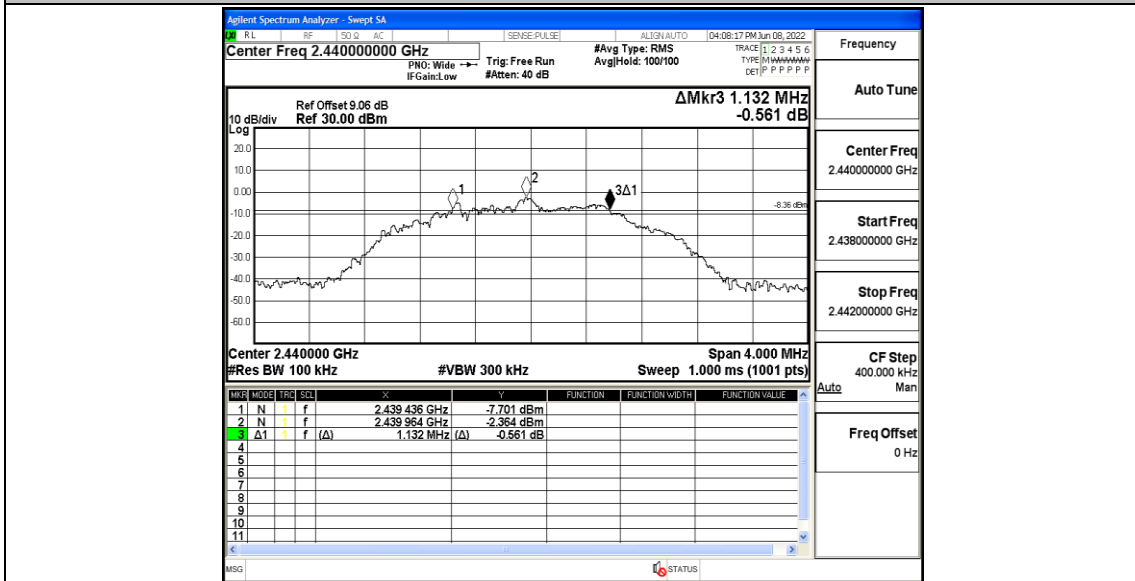




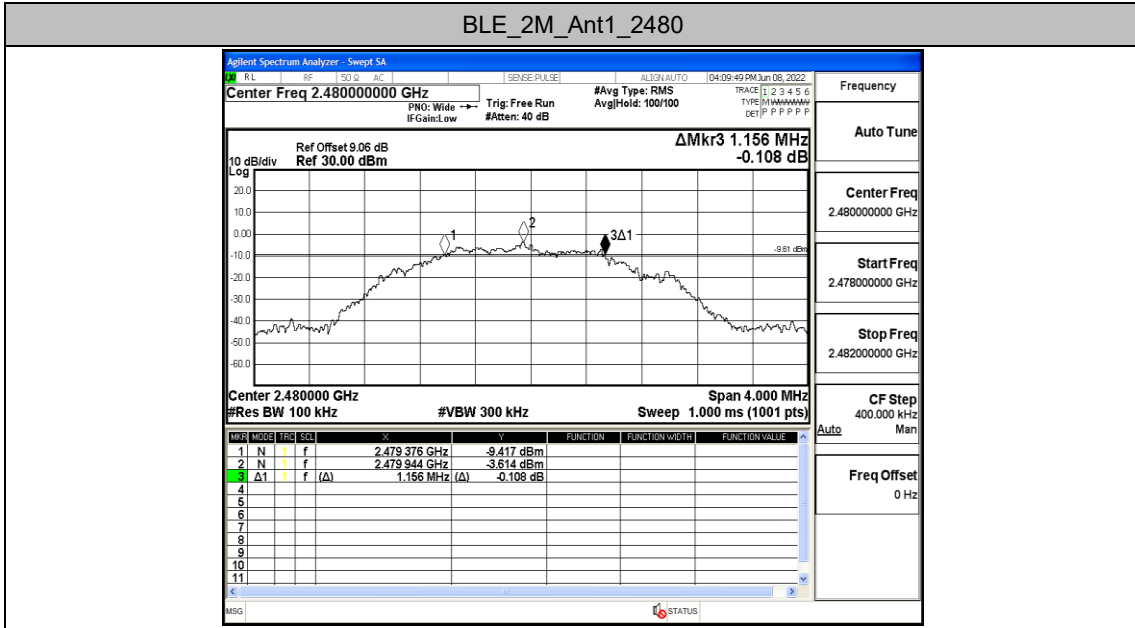
BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440



BLE\_2M\_Ant1\_2480

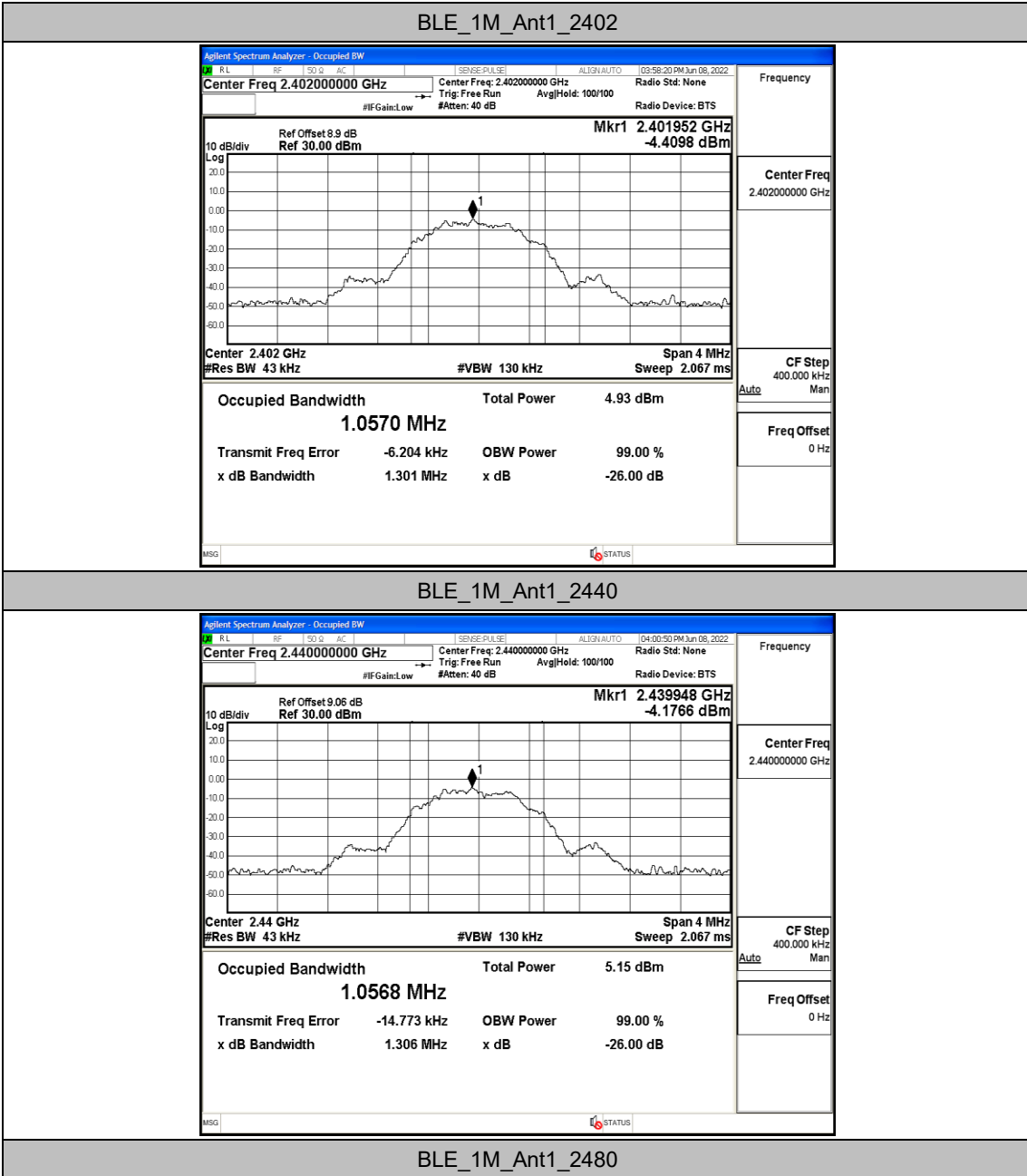


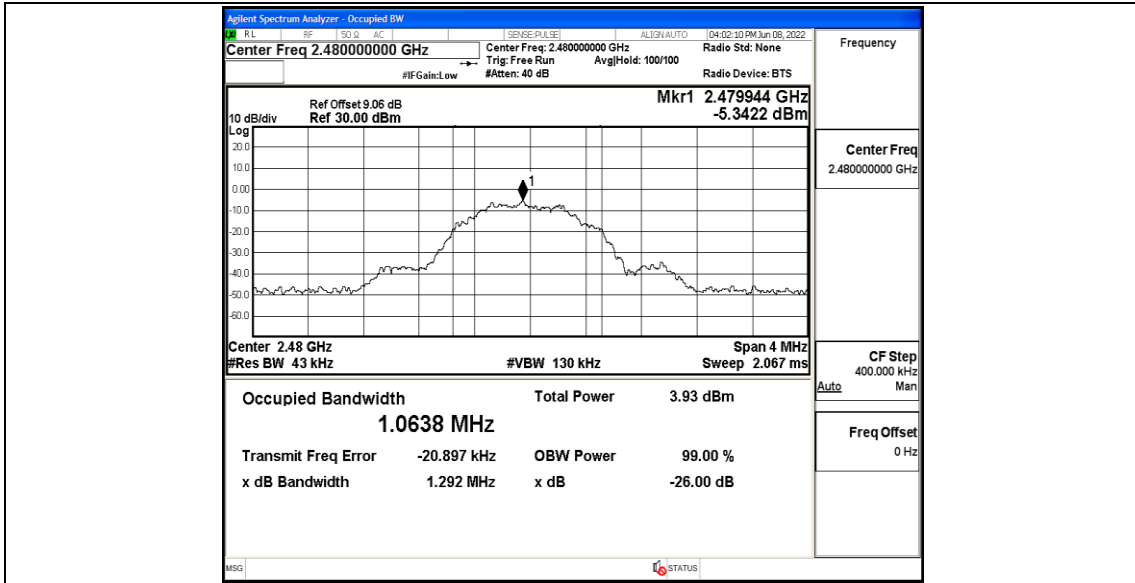
## Appendix B: Occupied Channel Bandwidth

### Test Result

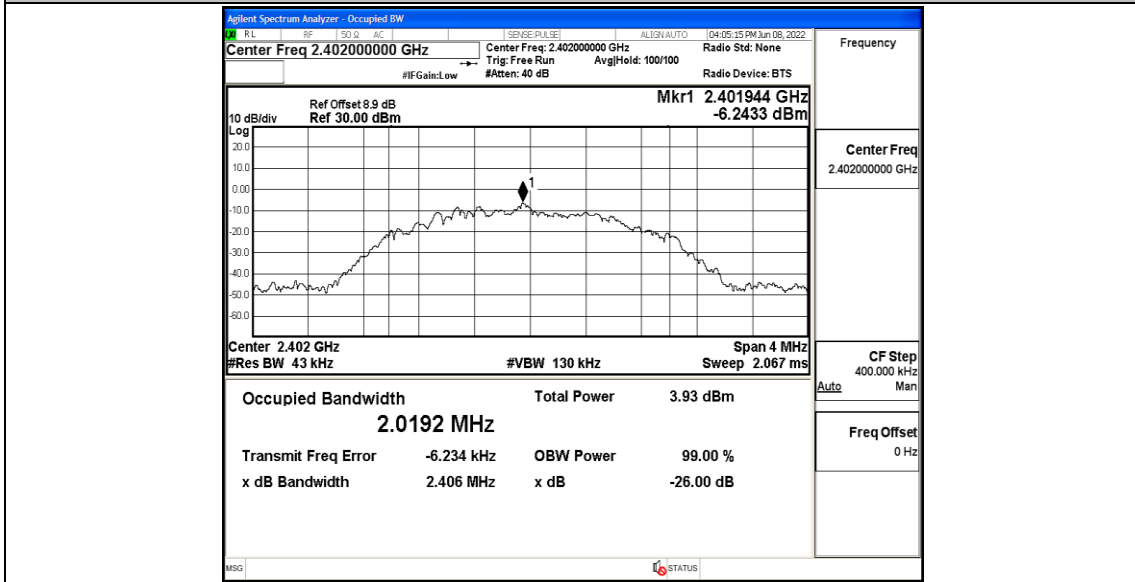
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0570	2401.465	2402.522	---	---
		2440	1.0568	2439.457	2440.514	---	---
		2480	1.0638	2479.447	2480.511	---	---
BLE_2M	Ant1	2402	2.0192	2400.984	2403.003	---	---
		2440	2.0333	2438.974	2441.007	---	---
		2480	2.0390	2478.968	2481.007	---	---

Test Graphs

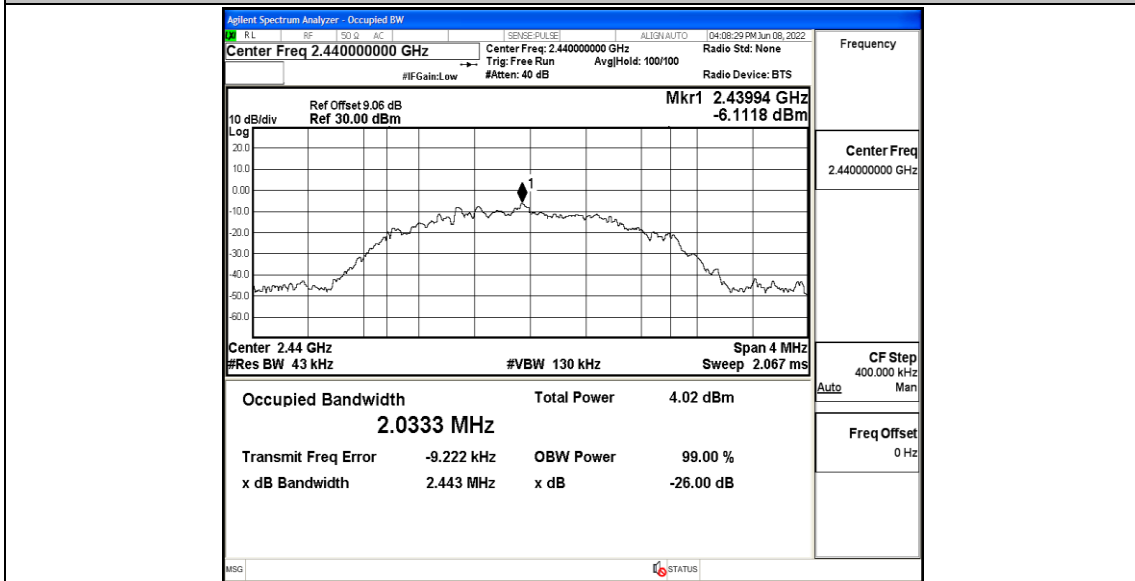


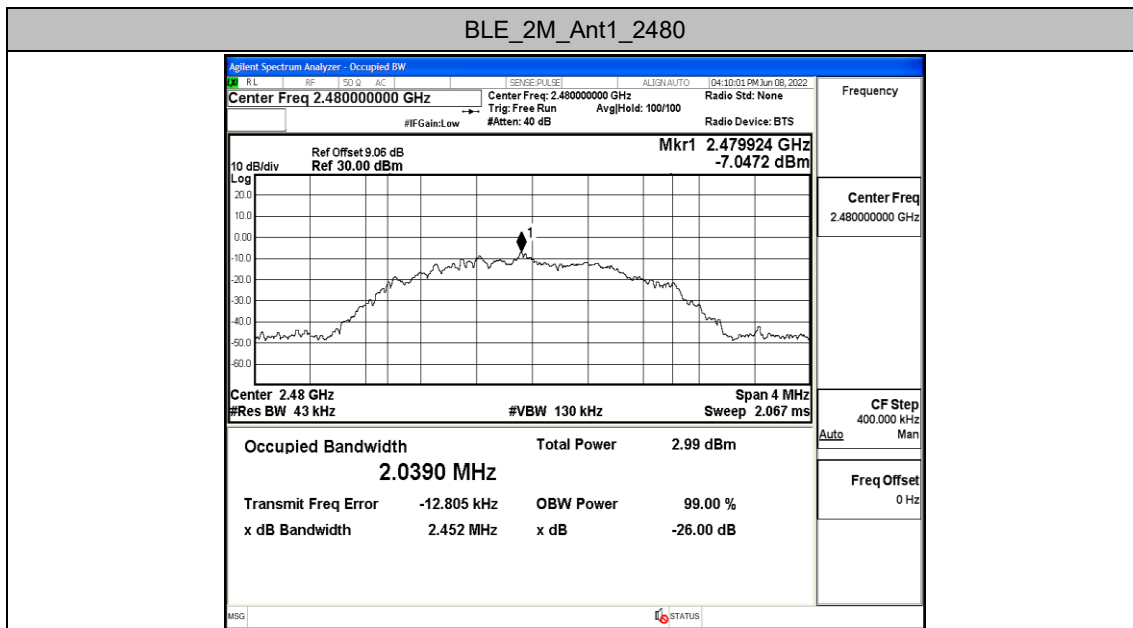


BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440





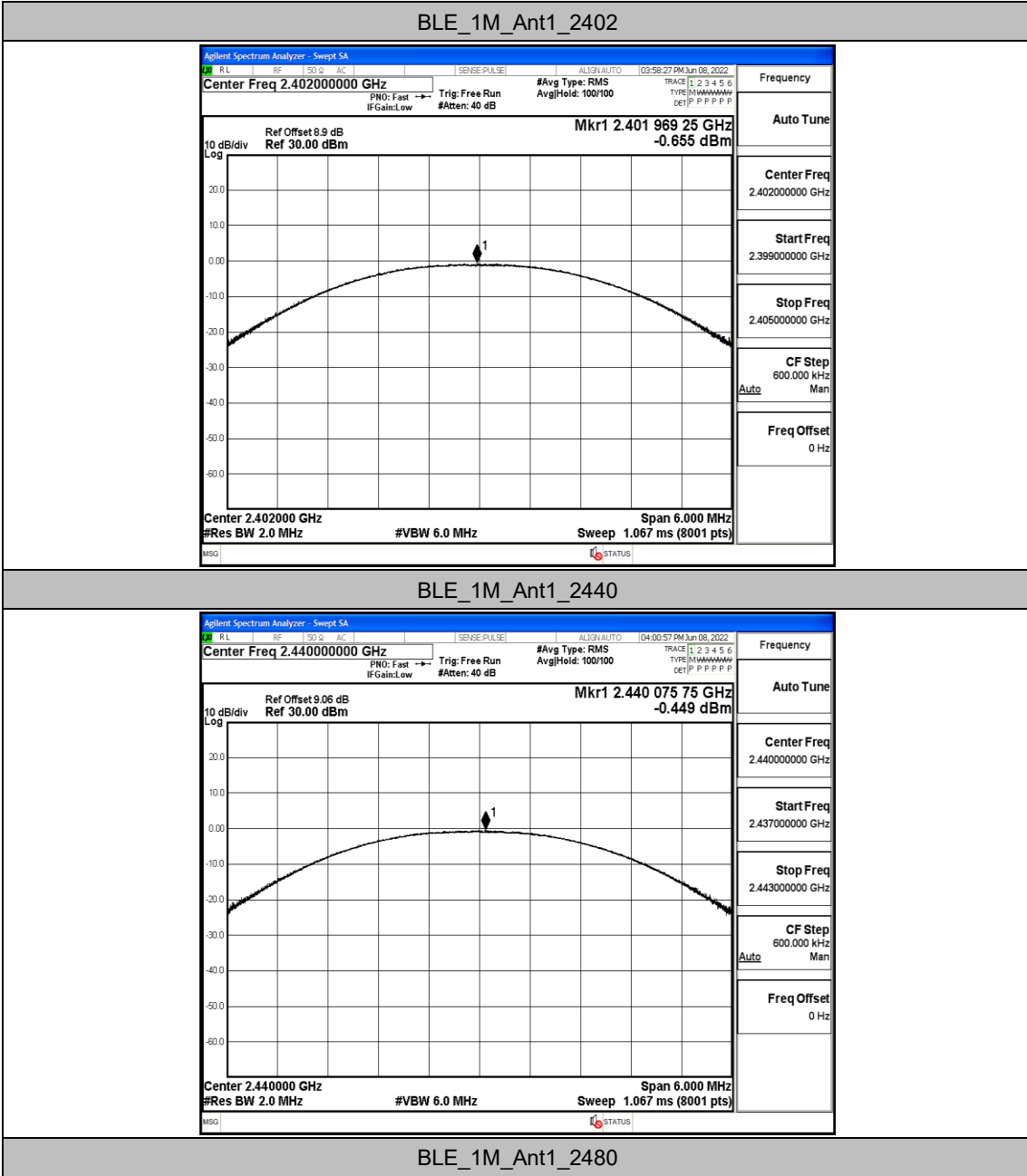


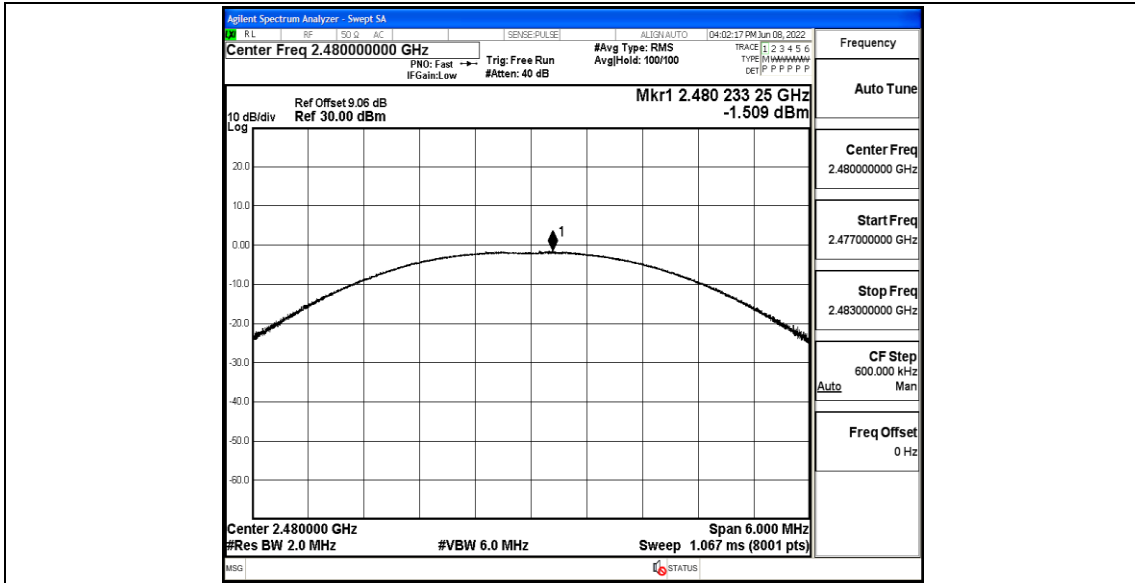
## Appendix C: Maximum Peak conducted output power

### Test Result

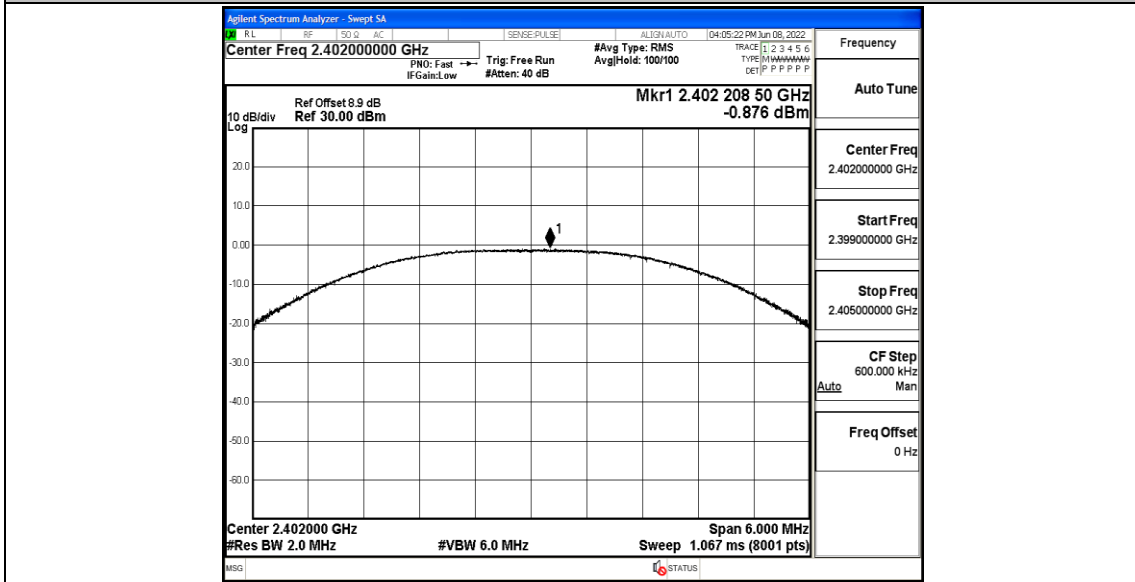
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.66	≤30	PASS
		2440	-0.45	≤30	PASS
		2480	-1.51	≤30	PASS
BLE_2M	Ant1	2402	-0.88	≤30	PASS
		2440	-0.69	≤30	PASS
		2480	-1.76	≤30	PASS

### Test Graphs

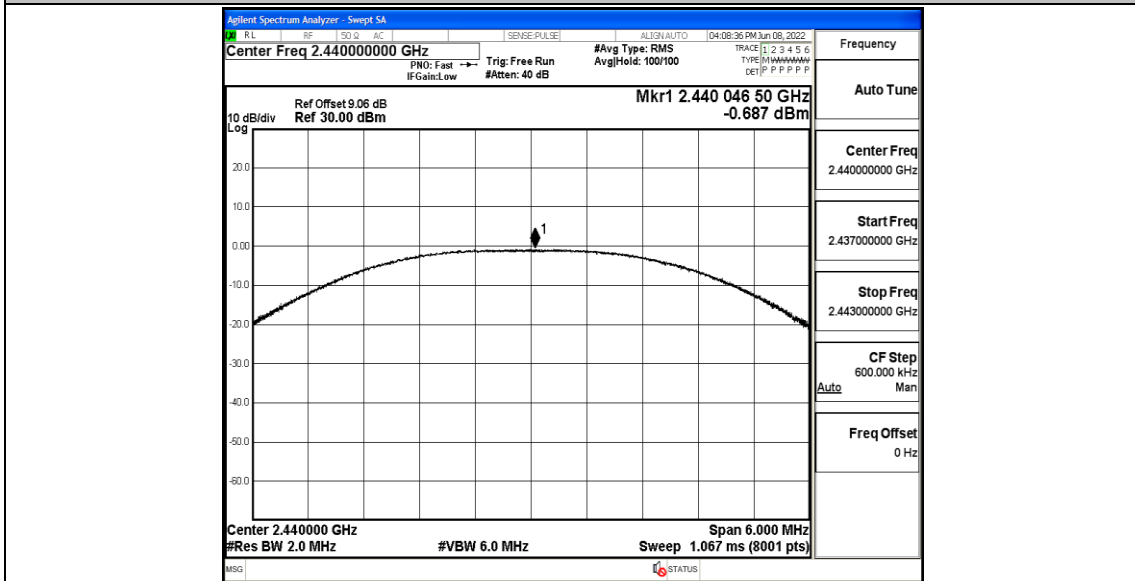




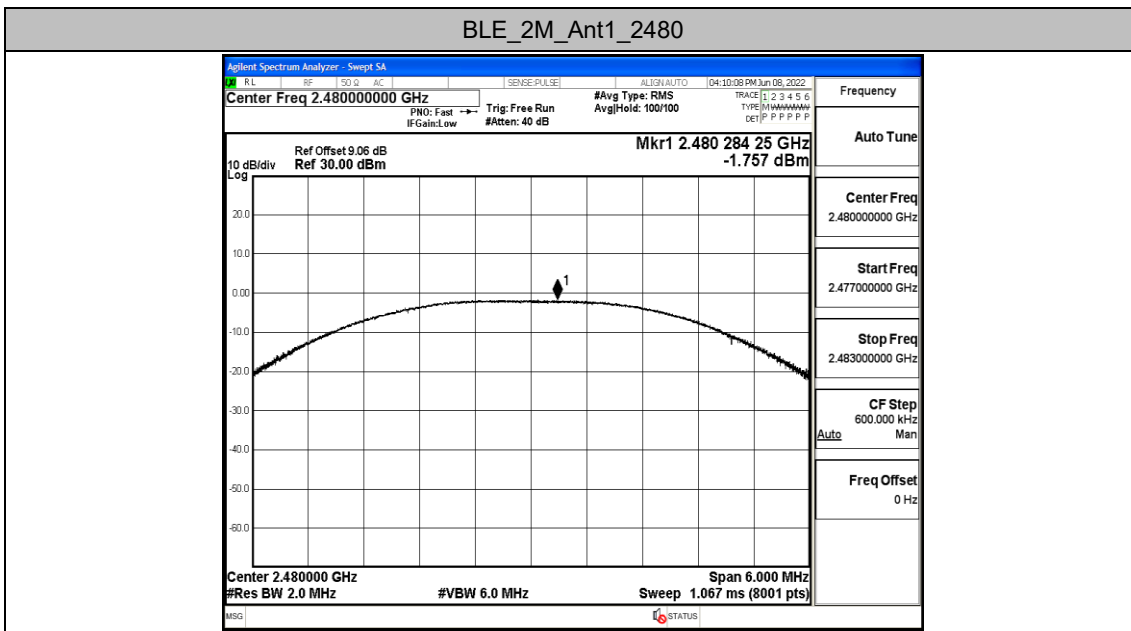
BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440



BLE\_2M\_Ant1\_2480

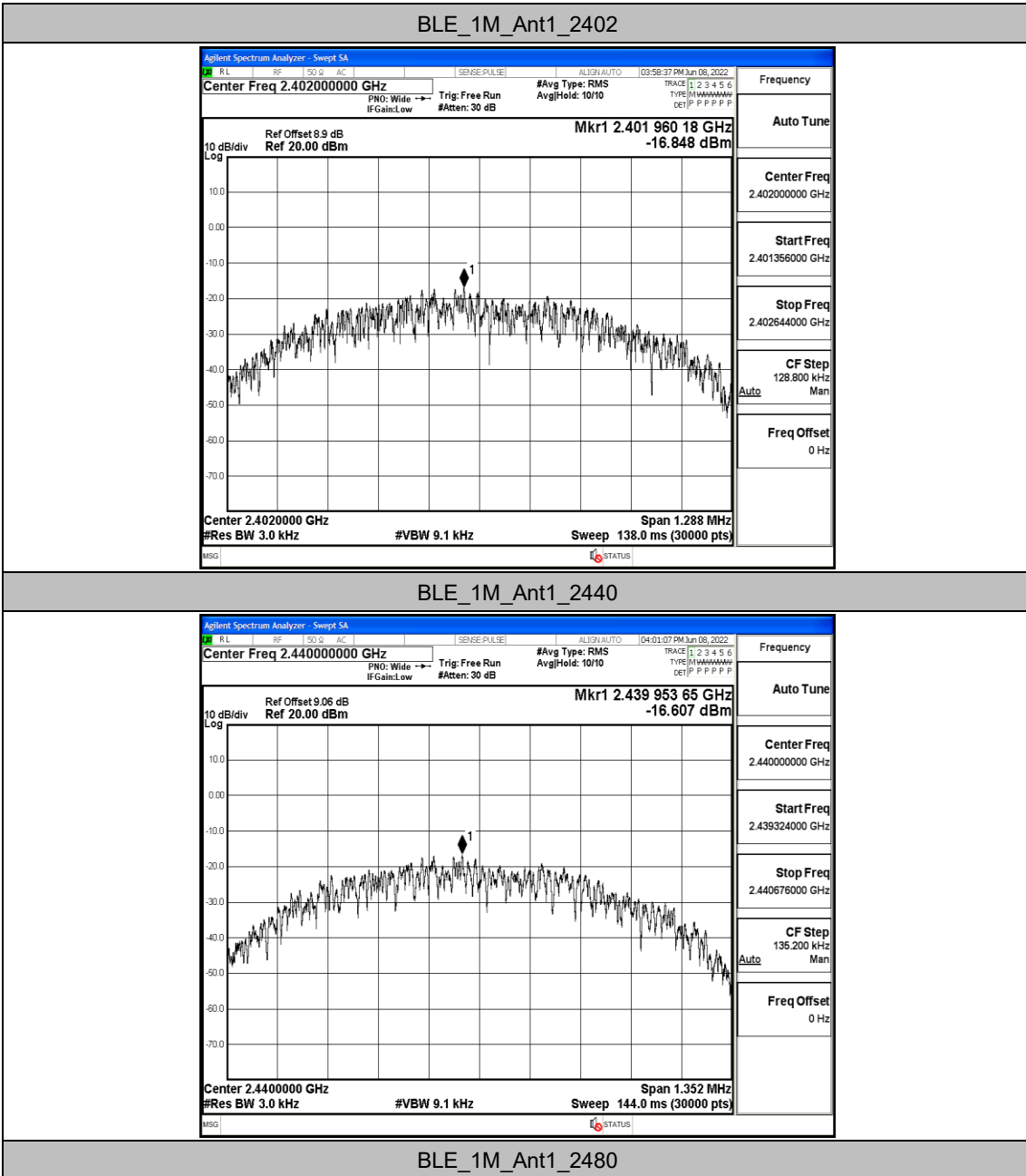


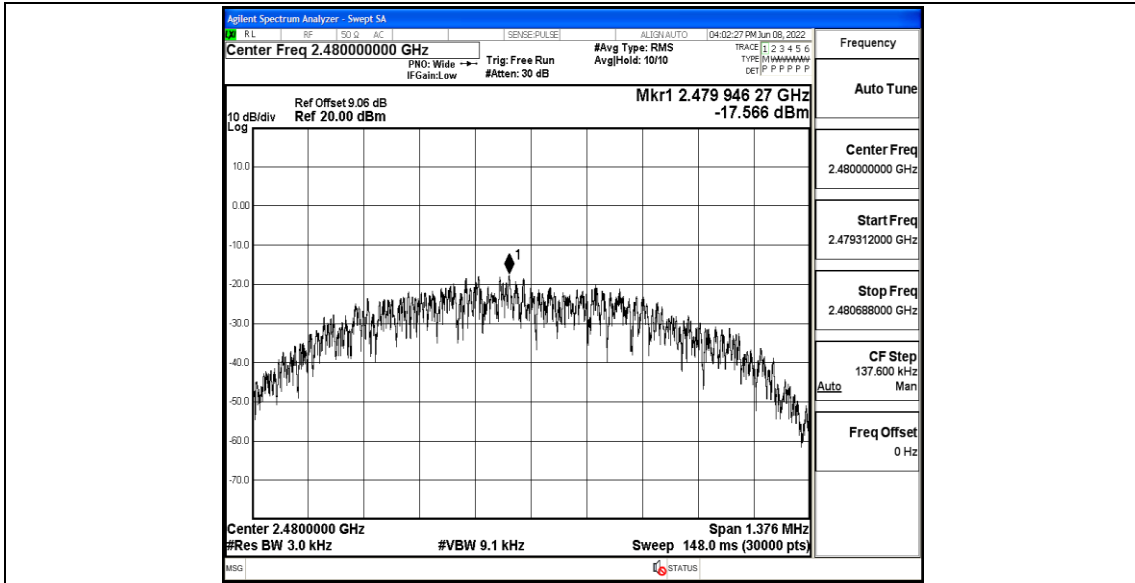
## Appendix D: Maximum power spectral density

### Test Result

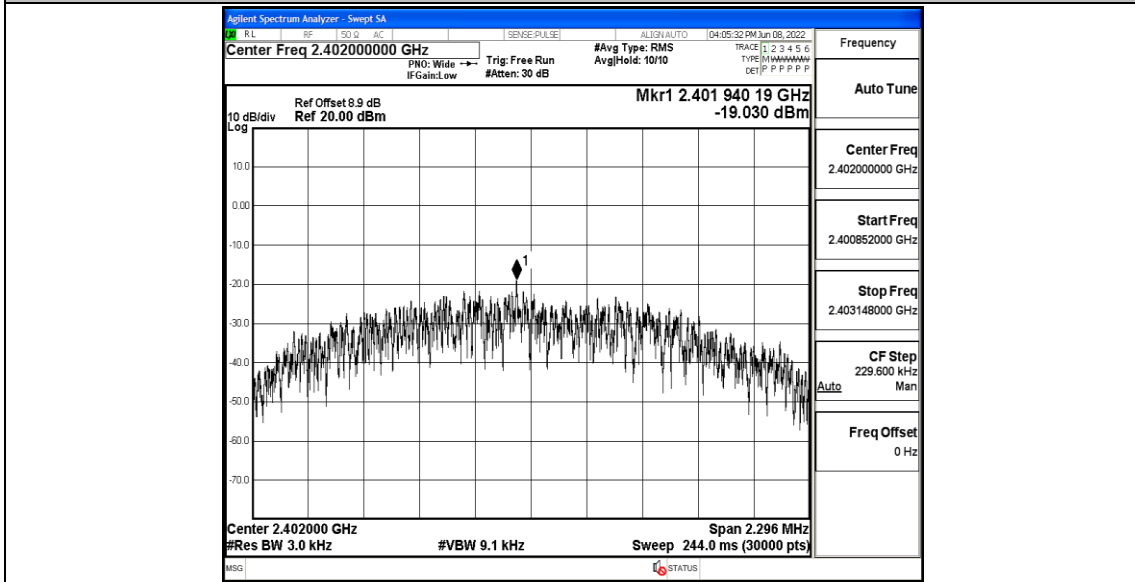
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.85	≤8.00	PASS
		2440	-16.61	≤8.00	PASS
		2480	-17.57	≤8.00	PASS
BLE_2M	Ant1	2402	-19.03	≤8.00	PASS
		2440	-19.37	≤8.00	PASS
		2480	-19.78	≤8.00	PASS

### Test Graphs

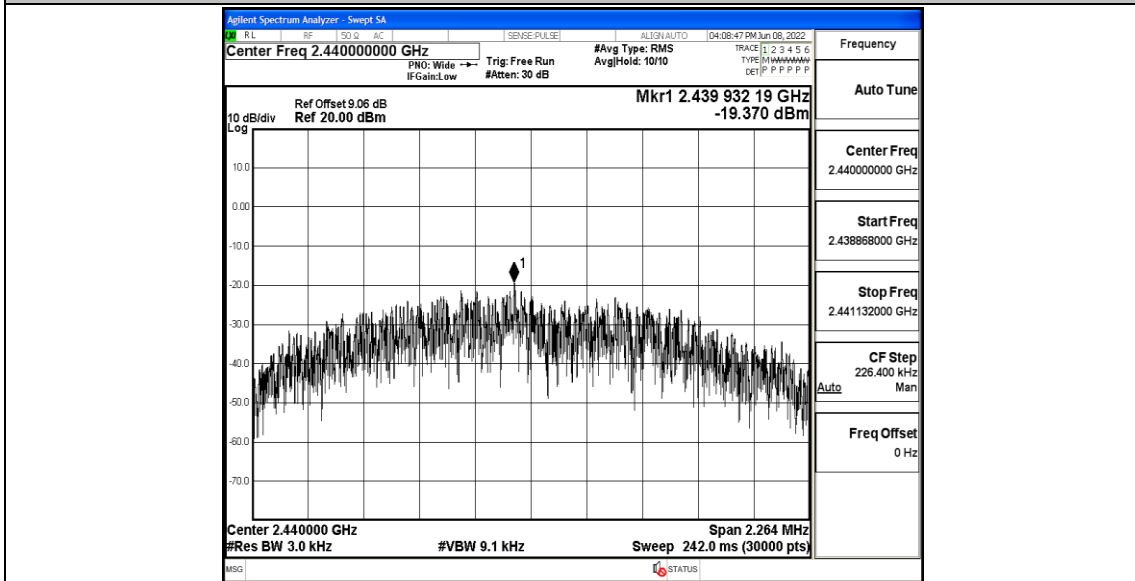


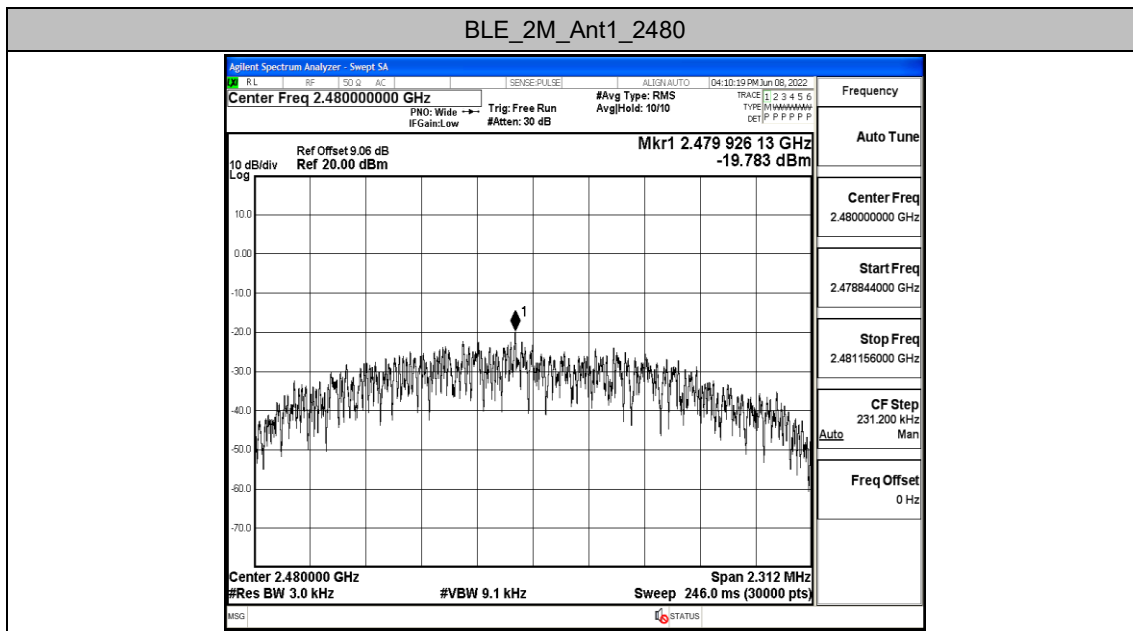


BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440





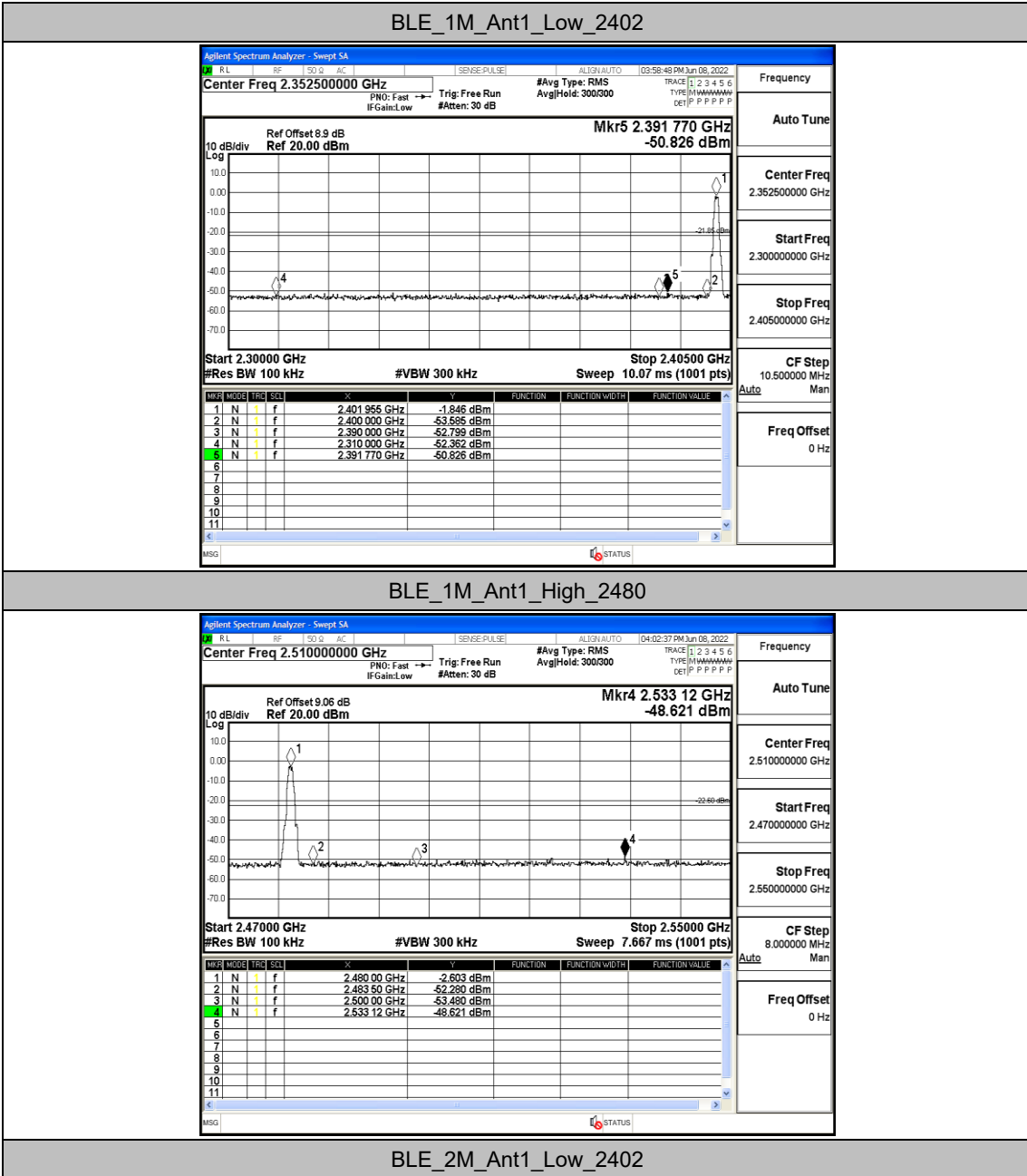


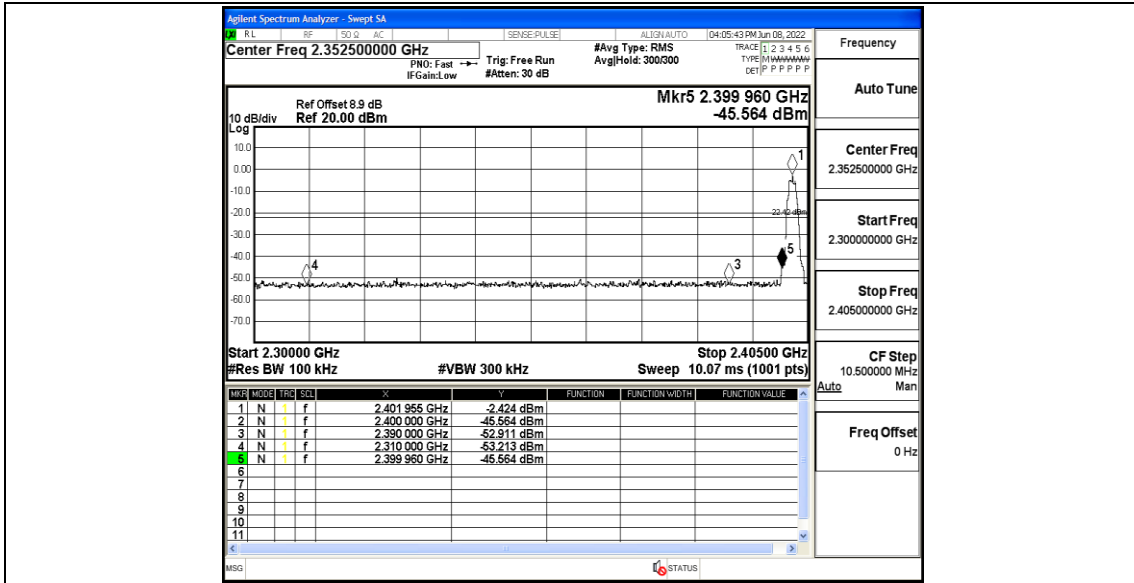
## Appendix E: Band edge measurements

### Test Result

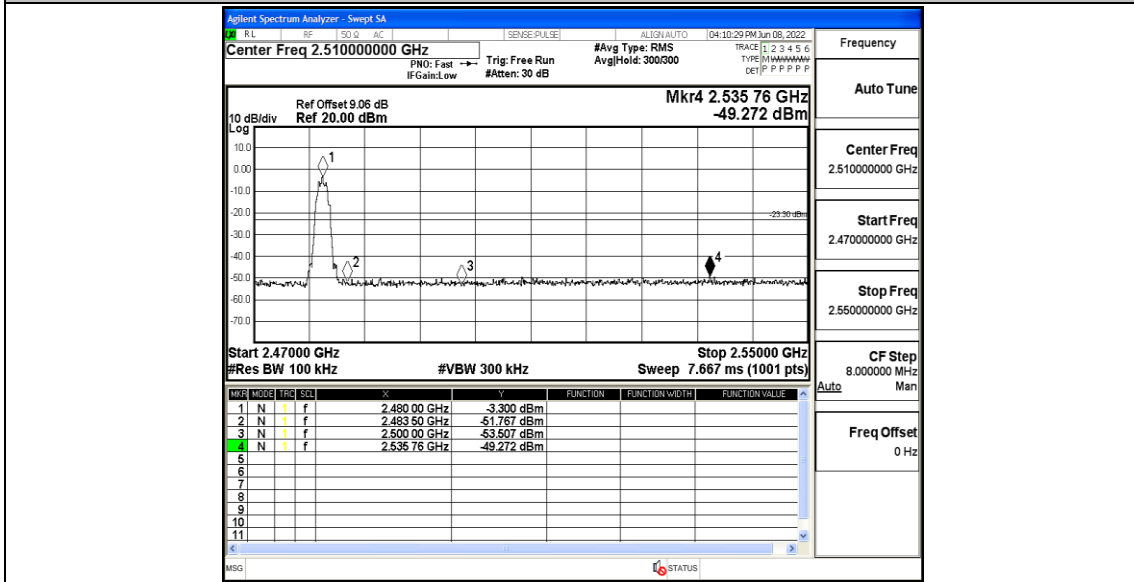
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.85	-50.83	≤-21.85	PASS
		High	2480	-2.60	-48.62	≤-22.6	PASS
BLE_2M	Ant1	Low	2402	-2.42	-45.56	≤-22.42	PASS
		High	2480	-3.30	-49.27	≤-23.3	PASS

Test Graphs


**BLE\_1M\_Ant1\_High\_2480**
**BLE\_2M\_Ant1\_Low\_2402**



BLE\_2M\_Ant1\_High\_2480

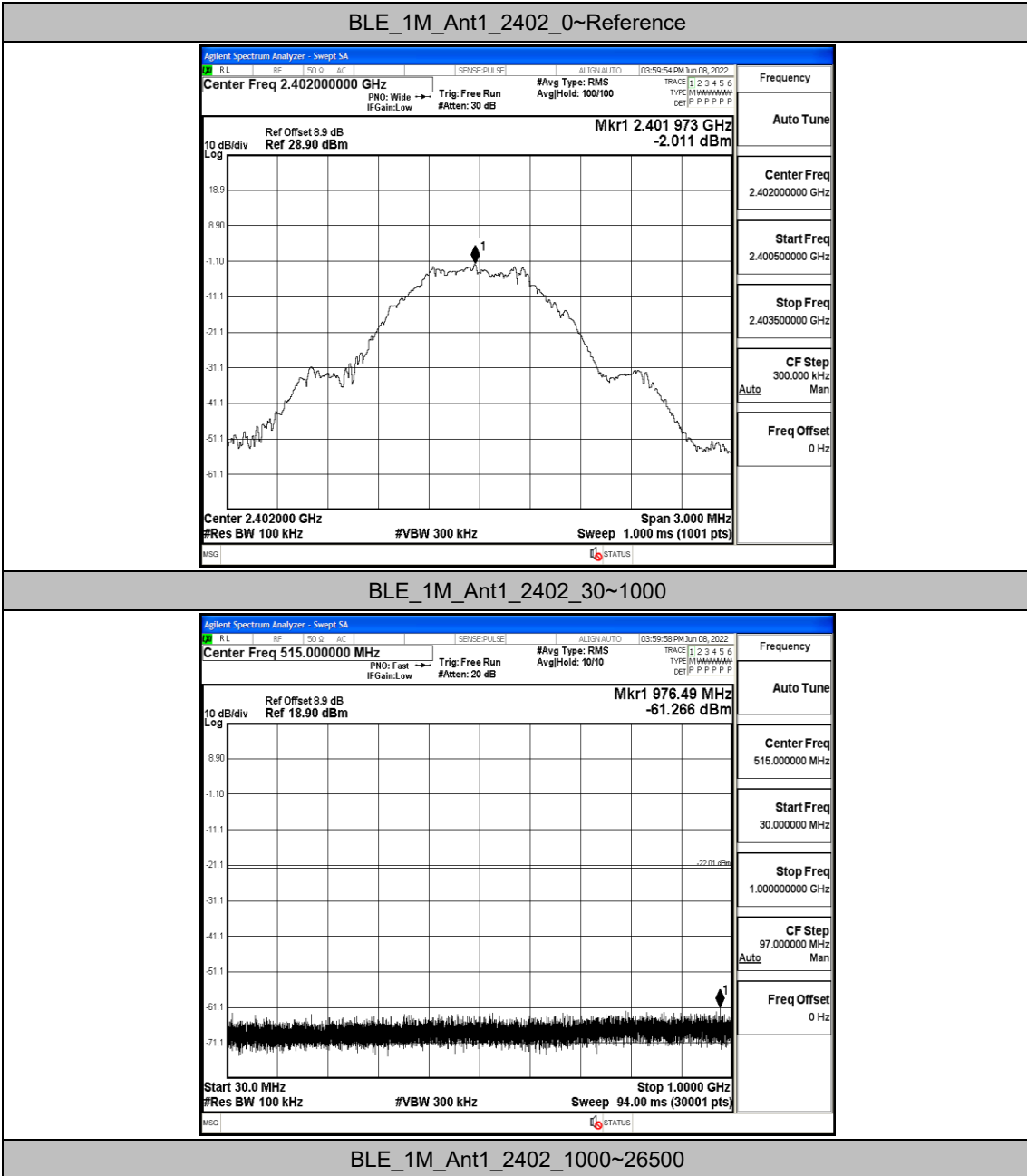


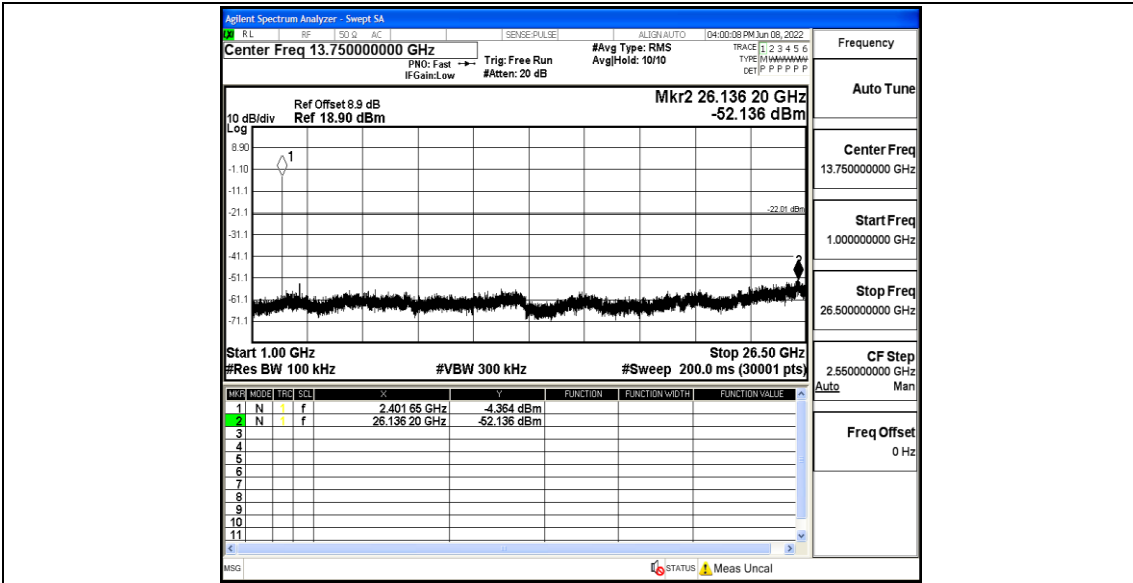
## Appendix F: Conducted Spurious Emission

### Test Result

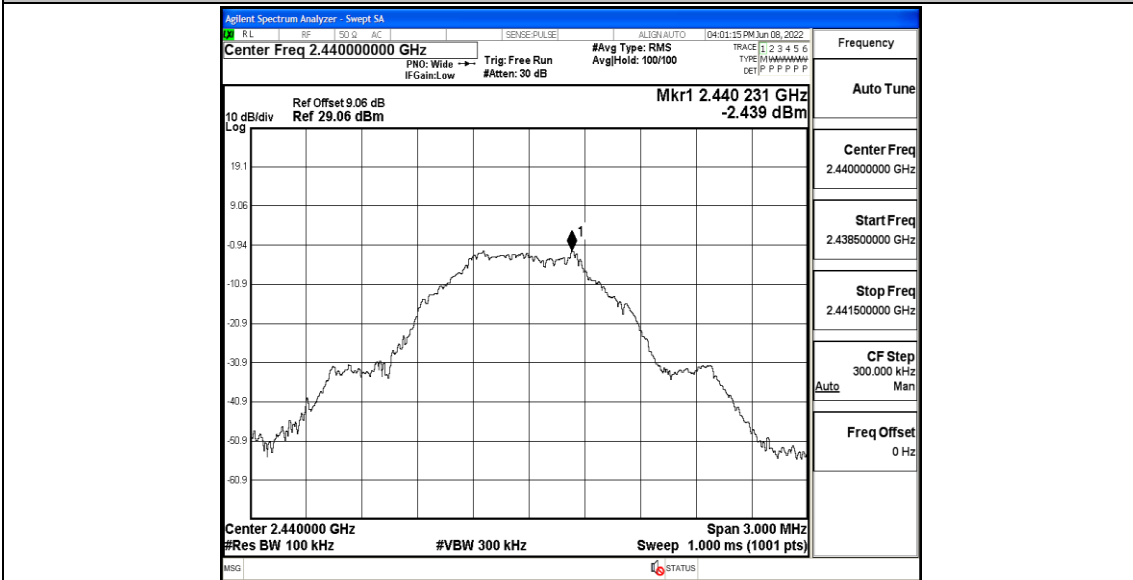
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-2.01	-2.01	---	PASS
			30~1000	-2.01	-61.27	≤-22.01	PASS
			1000~26500	-2.01	-52.14	≤-22.01	PASS
		2440	Reference	-2.44	-2.44	---	PASS
			30~1000	-2.44	-61.25	≤-22.44	PASS
			1000~26500	-2.44	-50.68	≤-22.44	PASS
		2480	Reference	-2.83	-2.83	---	PASS
			30~1000	-2.83	-60.75	≤-22.83	PASS
			1000~26500	-2.83	-51.79	≤-22.83	PASS
BLE_2M	Ant1	2402	Reference	-2.53	-2.53	---	PASS
			30~1000	-2.53	-61.78	≤-22.53	PASS
			1000~26500	-2.53	-44.61	≤-22.53	PASS
		2440	Reference	-2.33	-2.33	---	PASS
			30~1000	-2.33	-61.27	≤-22.33	PASS
			1000~26500	-2.33	-50.48	≤-22.33	PASS
		2480	Reference	-3.24	-3.24	---	PASS
			30~1000	-3.24	-61.09	≤-23.24	PASS
			1000~26500	-3.24	-51.19	≤-23.24	PASS

### Test Graphs

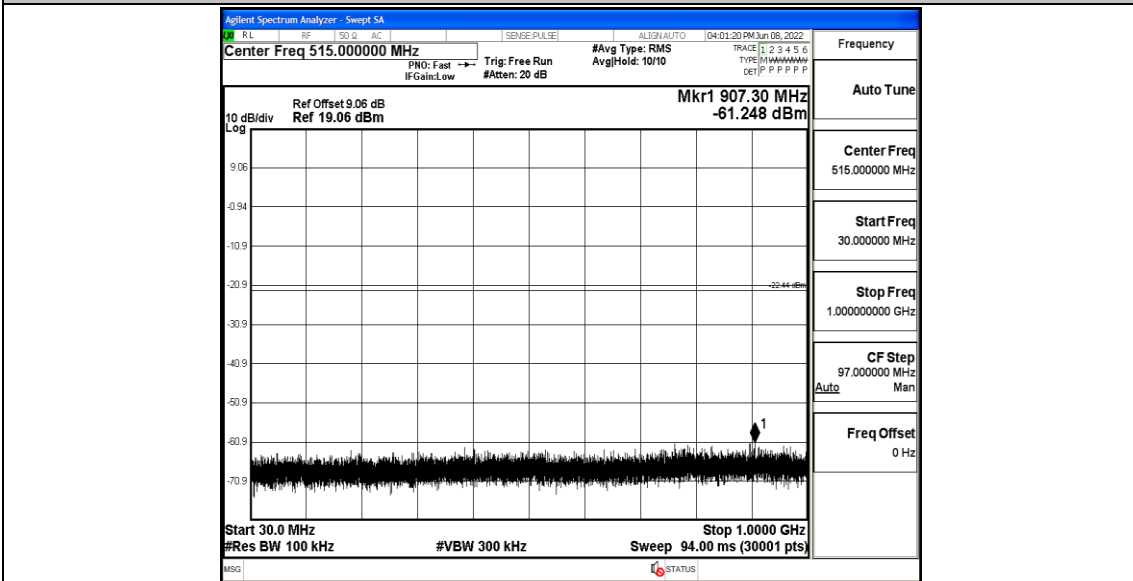




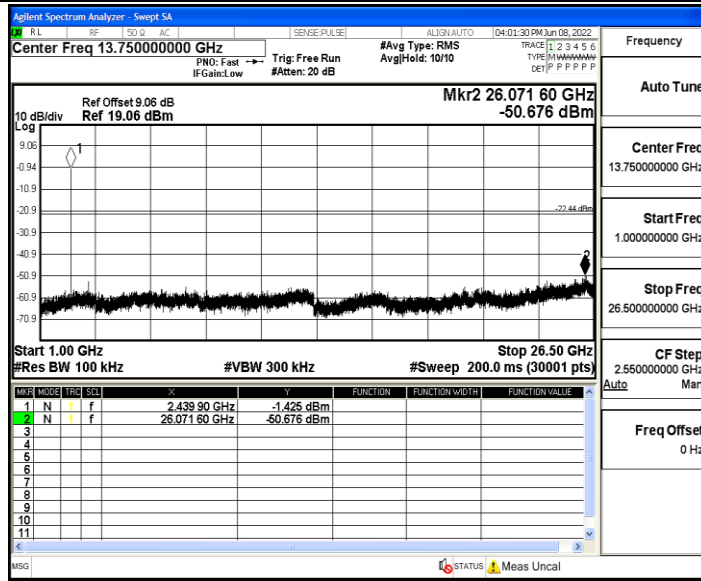
BLE\_1M\_Ant1\_2440\_0~Reference



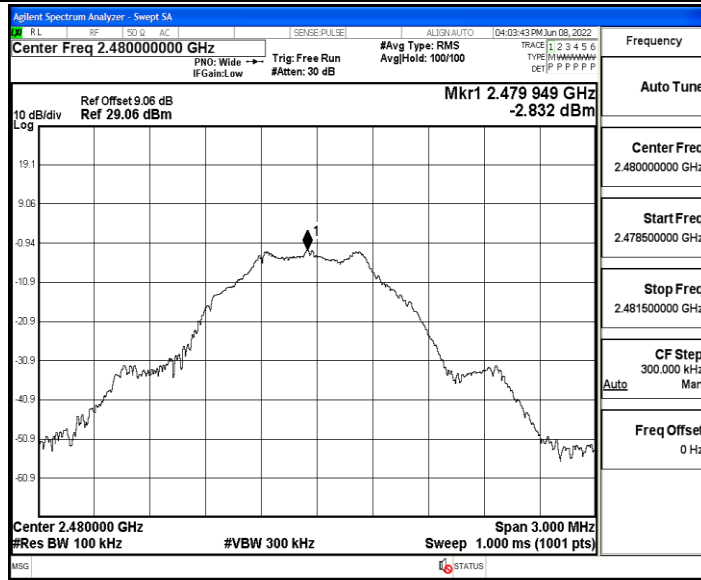
BLE\_1M\_Ant1\_2440\_30~1000



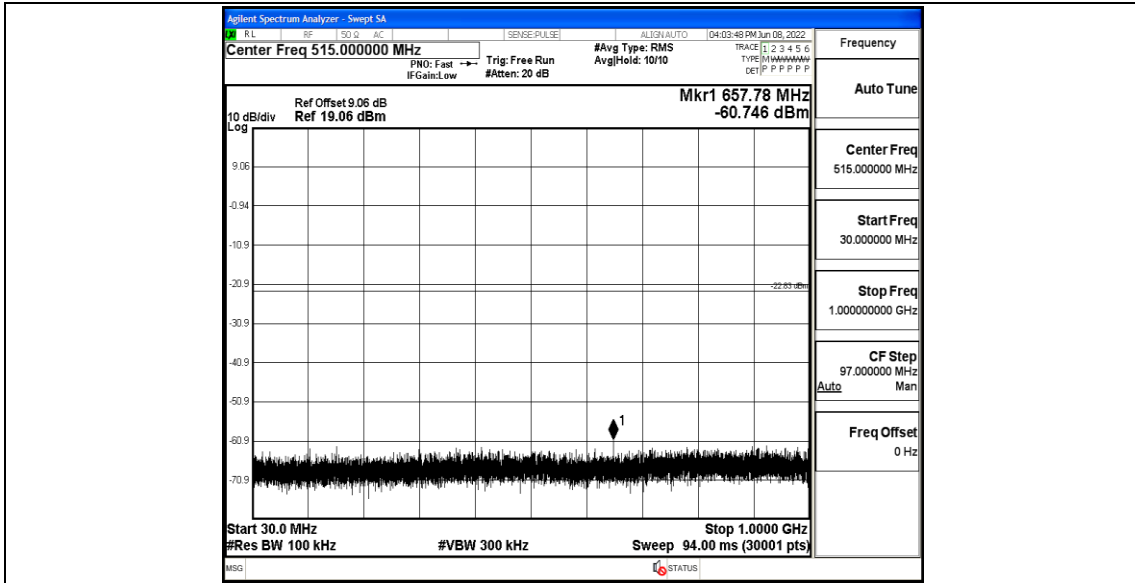
BLE\_1M\_Ant1\_2440\_1000~26500



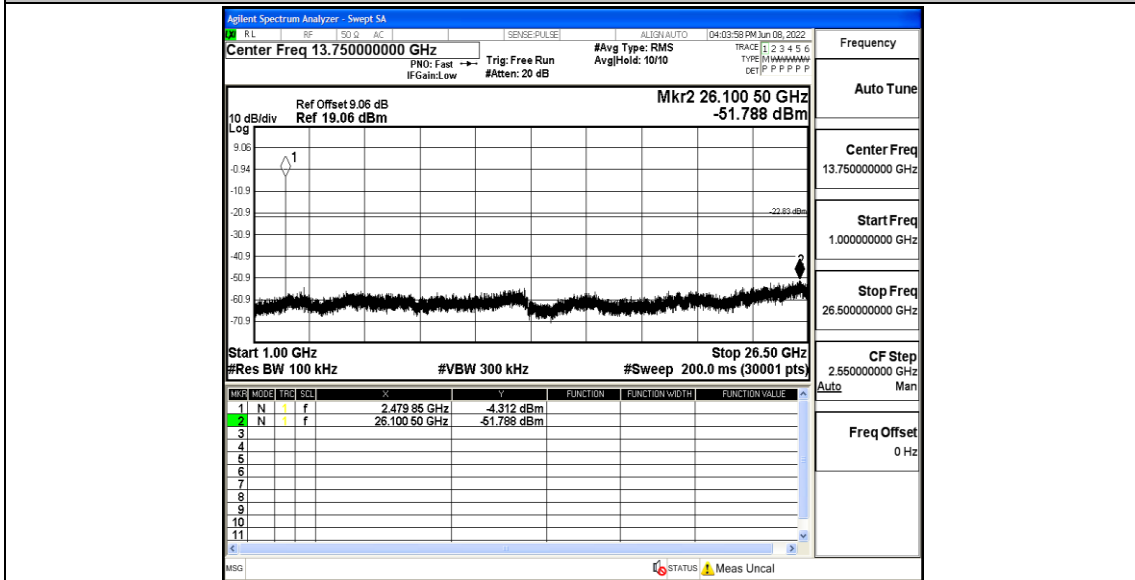
BLE\_1M\_Ant1\_2480\_0~Reference



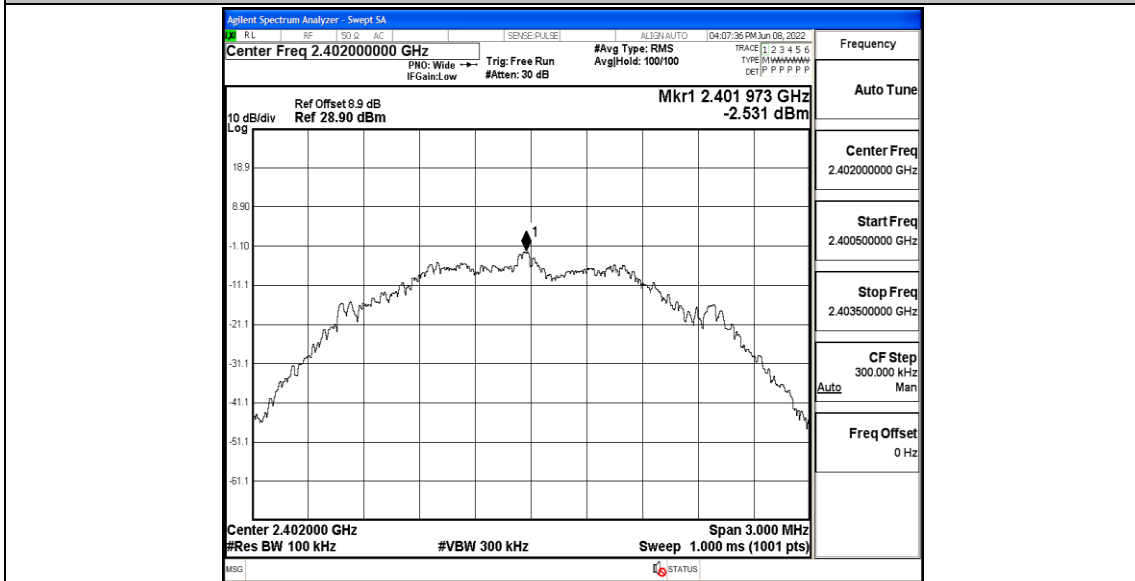
BLE\_1M\_Ant1\_2480\_30~1000



BLE\_1M\_Ant1\_2480\_1000~26500

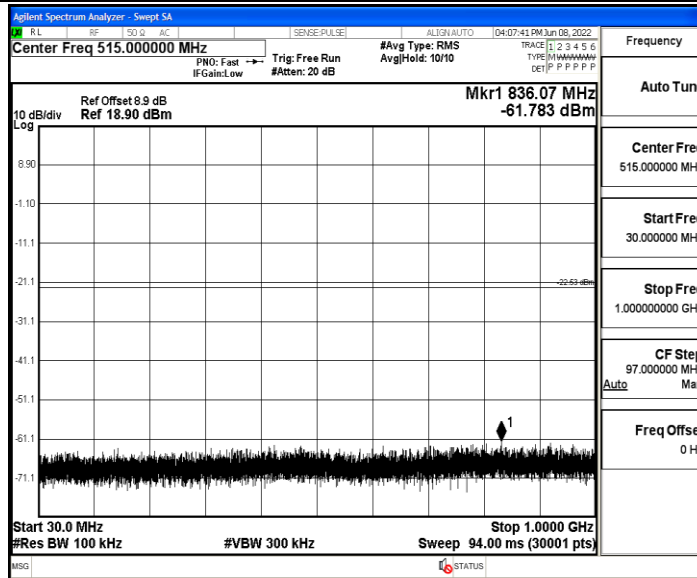


BLE\_2M\_Ant1\_2402\_0~Reference

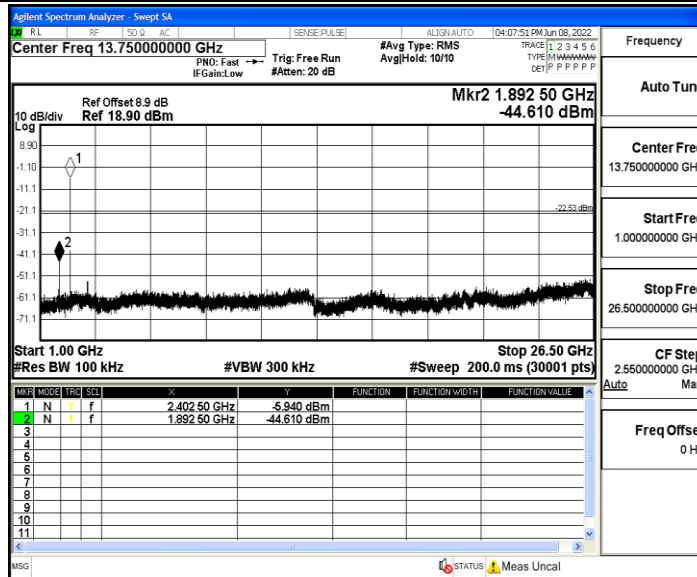




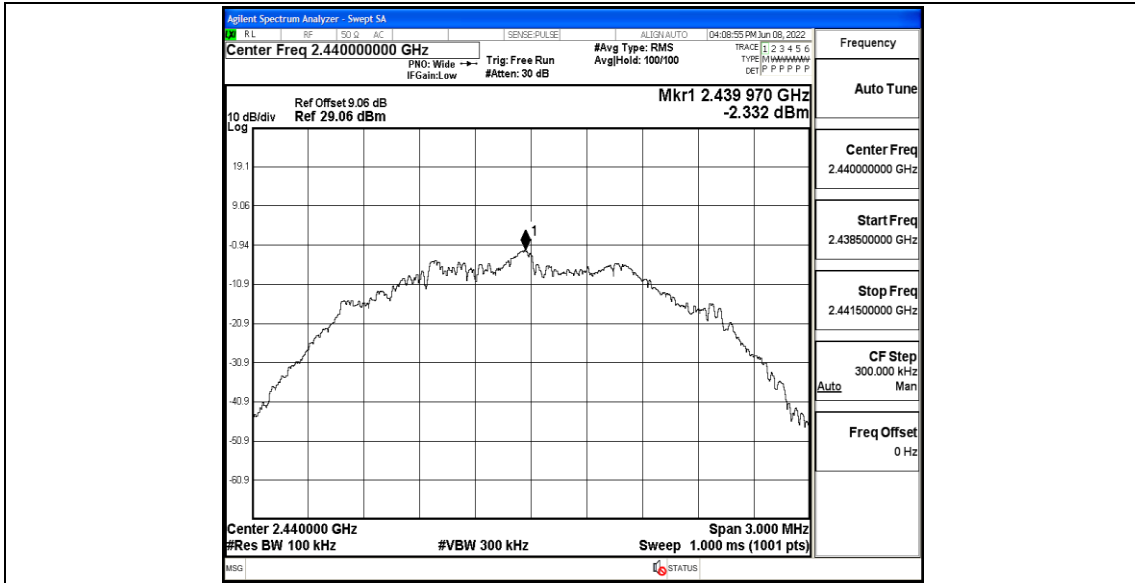
BLE\_2M\_Ant1\_2402\_30~1000



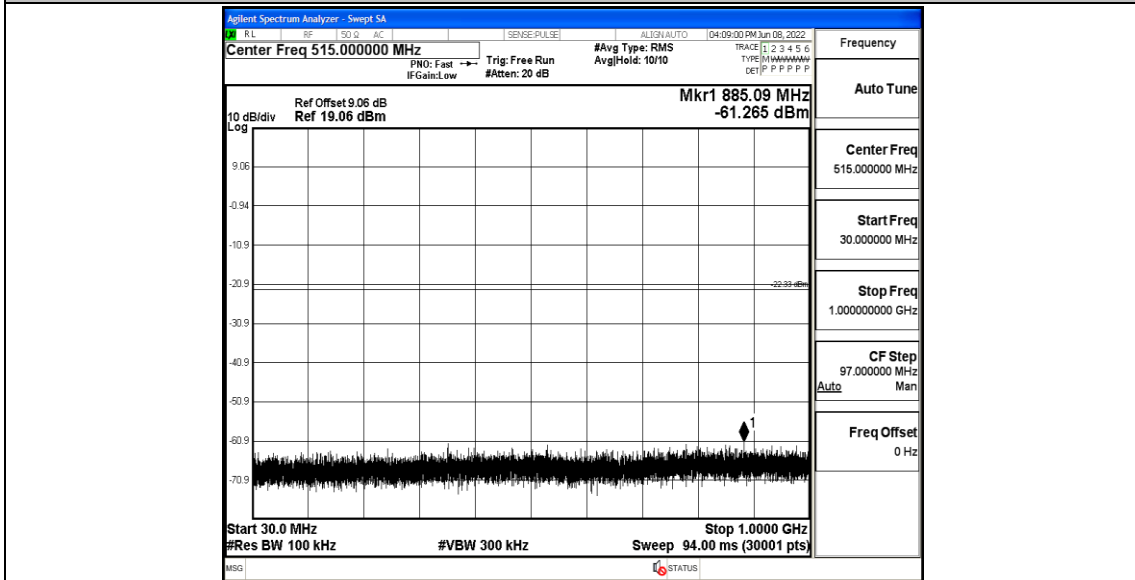
BLE\_2M\_Ant1\_2402\_1000~26500



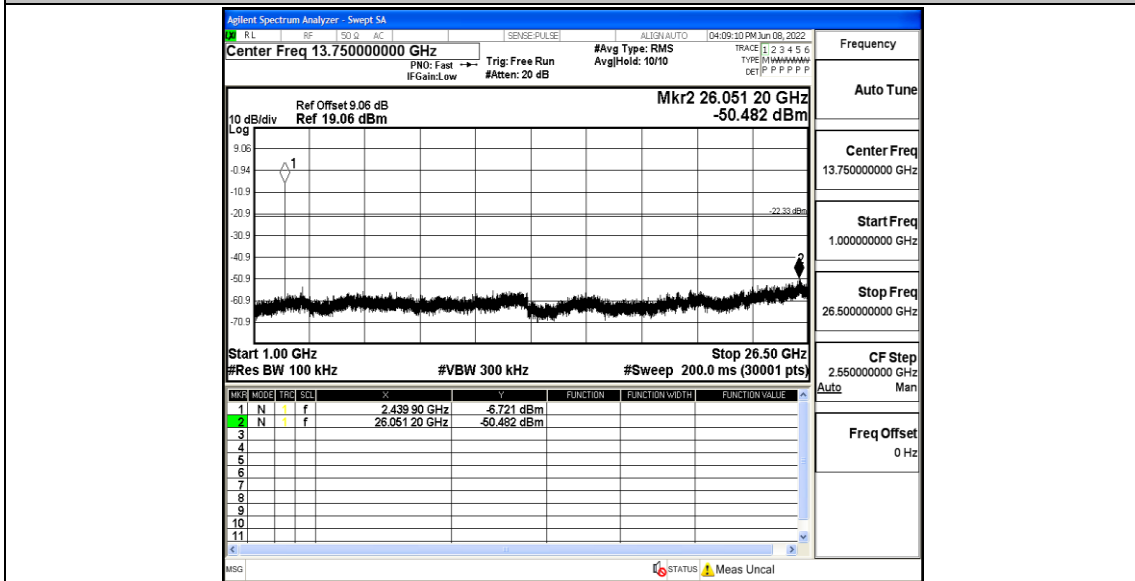
BLE\_2M\_Ant1\_2440\_0~Reference



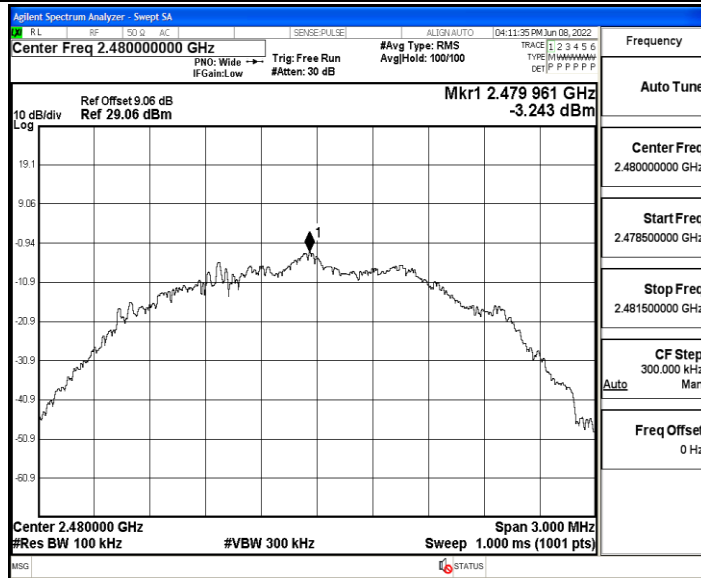
BLE\_2M\_Ant1\_2440\_30~1000



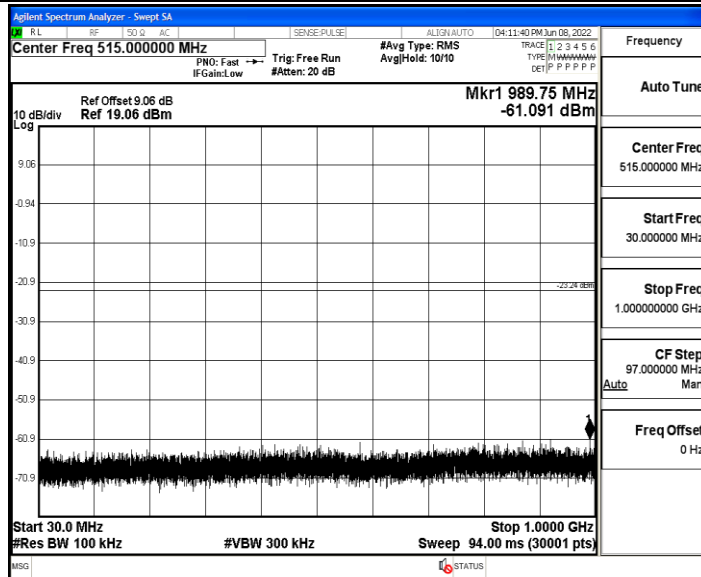
BLE\_2M\_Ant1\_2440\_1000~26500



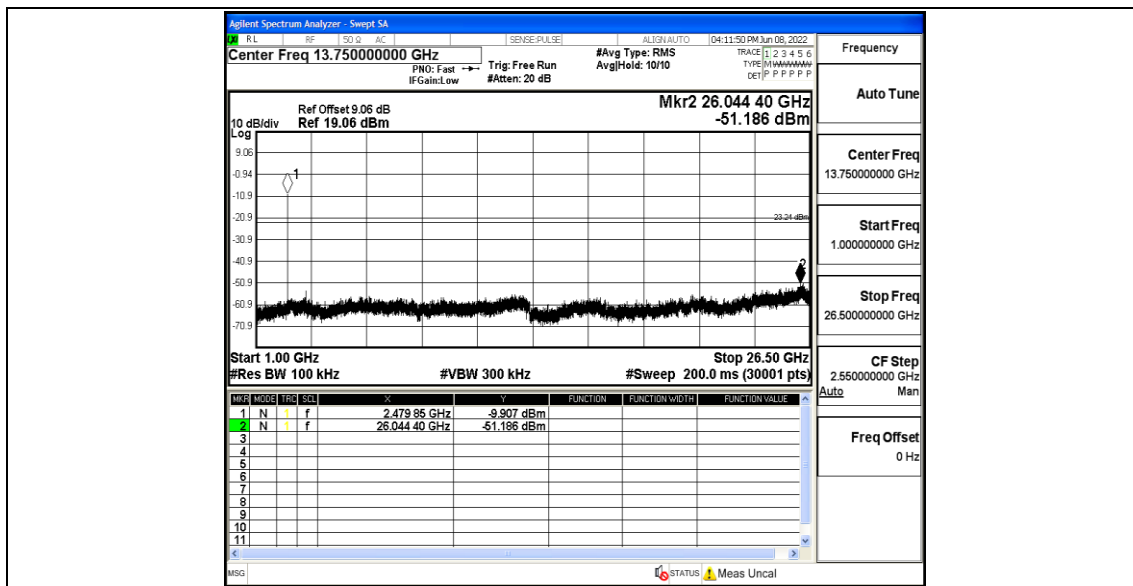
BLE\_2M\_Ant1\_2480\_0~Reference



BLE\_2M\_Ant1\_2480\_30~1000



BLE\_2M\_Ant1\_2480\_1000~26500

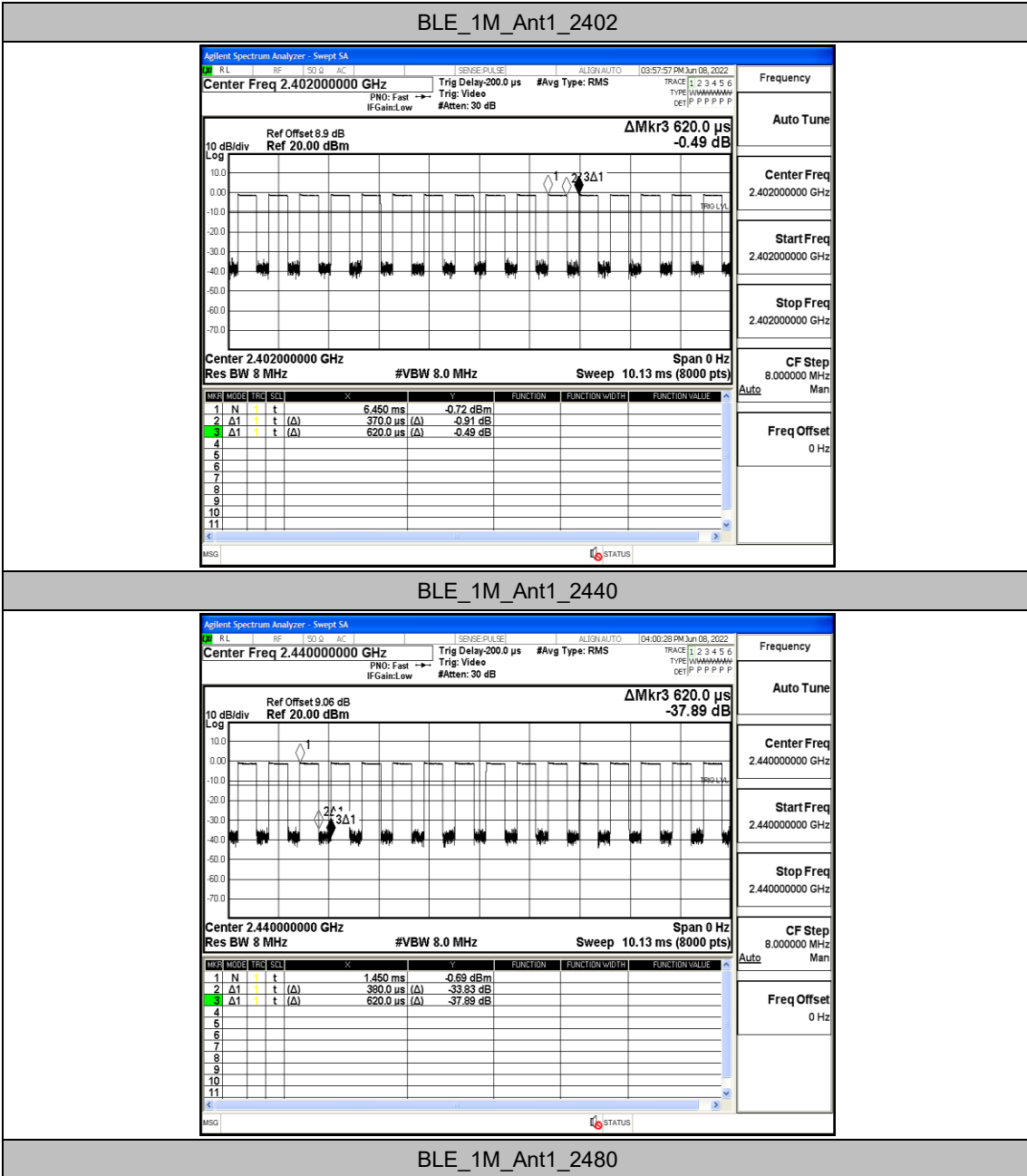


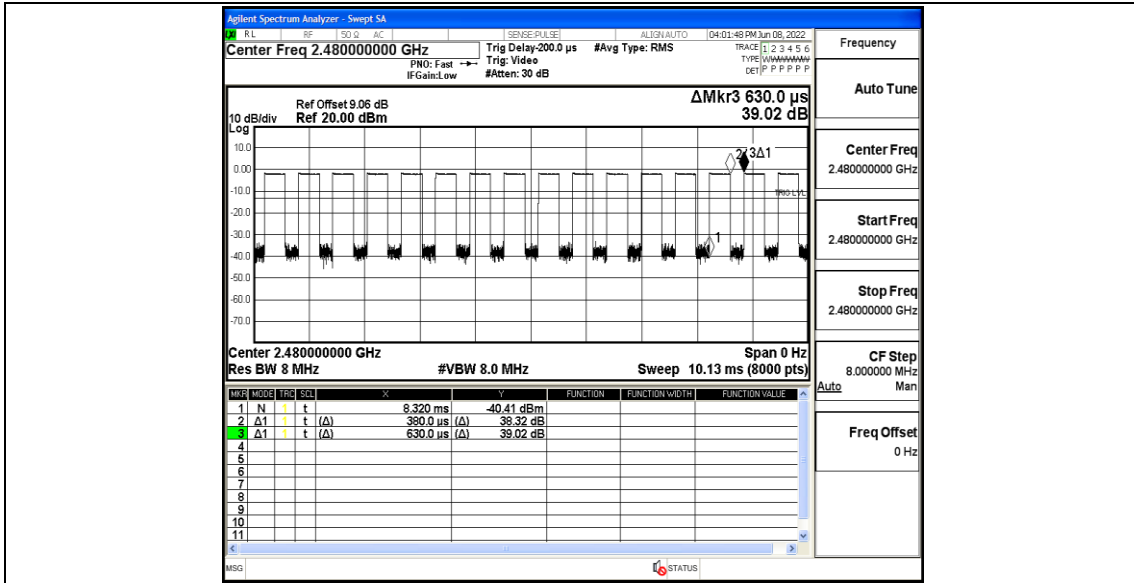
## Appendix G: Duty Cycle

### Test Result

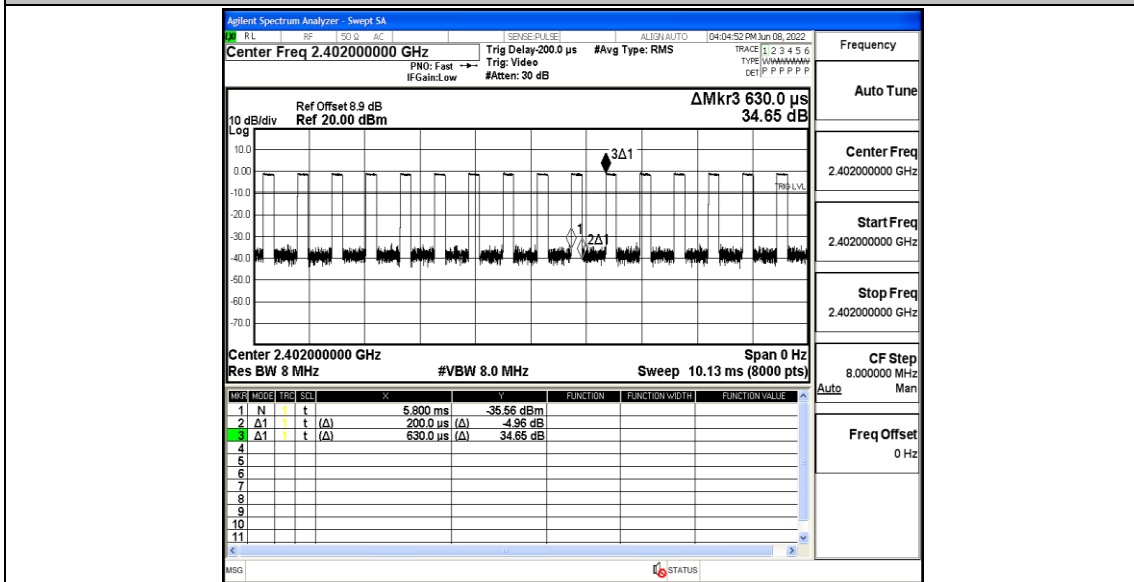
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.37	0.62	59.68	2.70
		2440	0.38	0.62	61.29	2.63
		2480	0.38	0.63	60.32	2.63
BLE_2M	Ant1	2402	0.20	0.63	31.75	5.00
		2440	0.19	0.62	30.65	5.26
		2480	0.19	0.62	30.65	5.26

Test Graphs

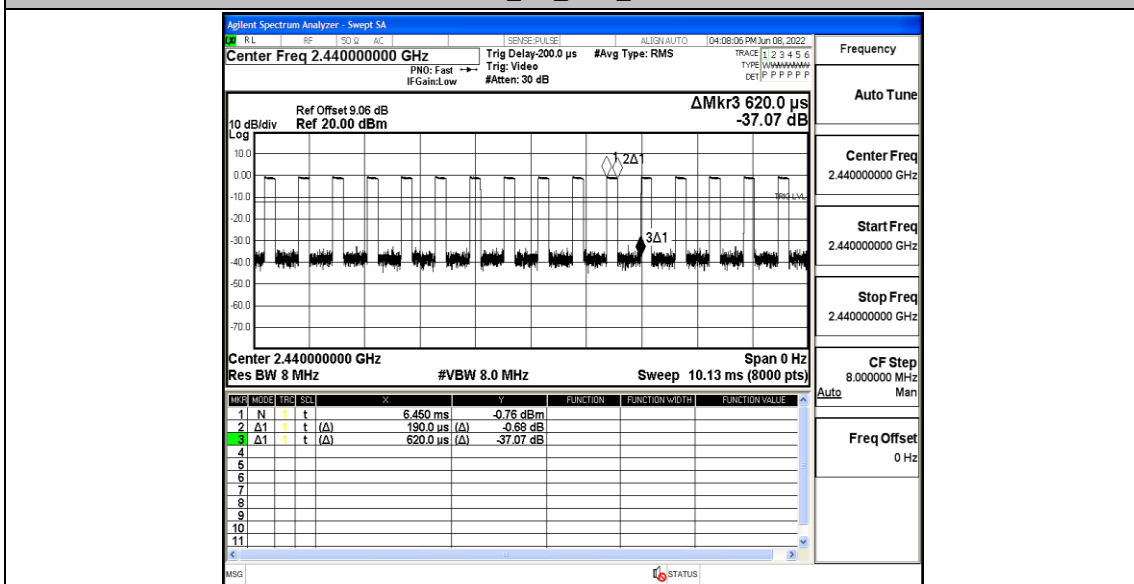


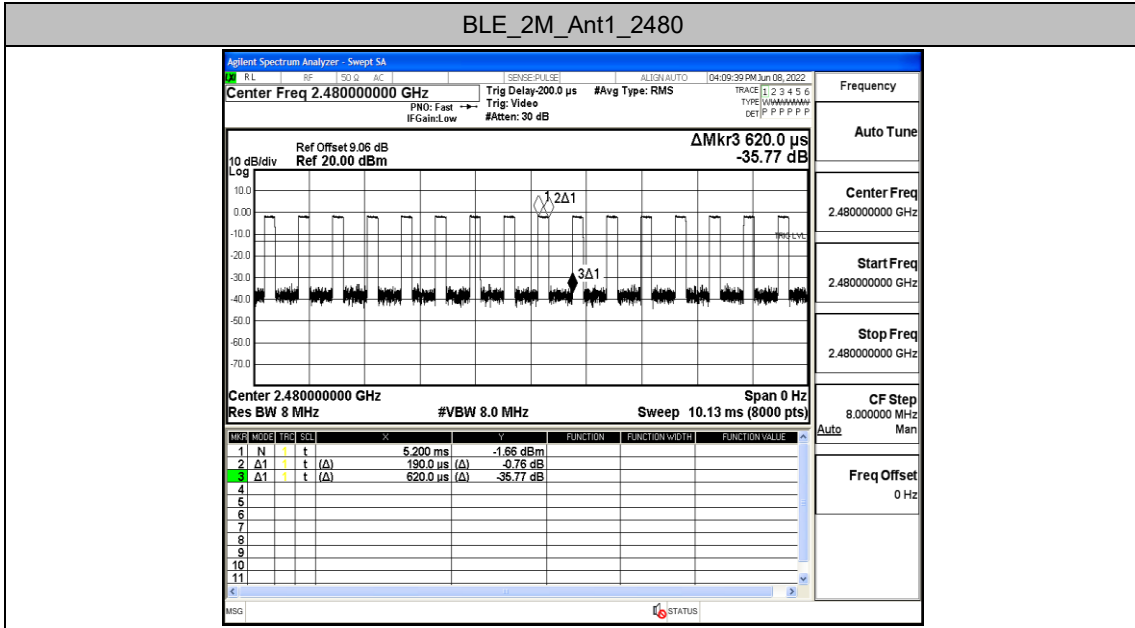


BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440







## Appendix H: Emissions in Restricted Bands

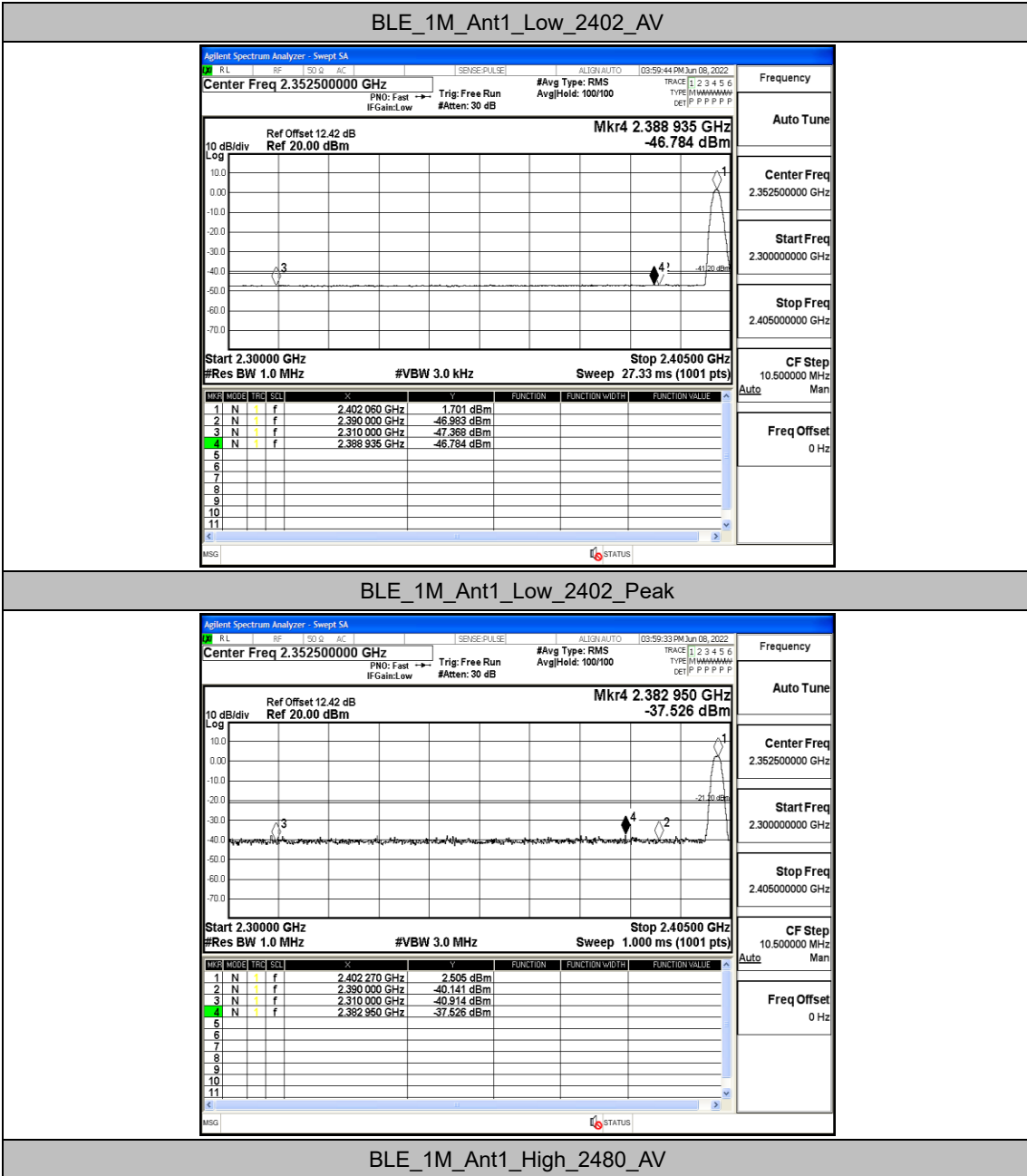
### Test Result

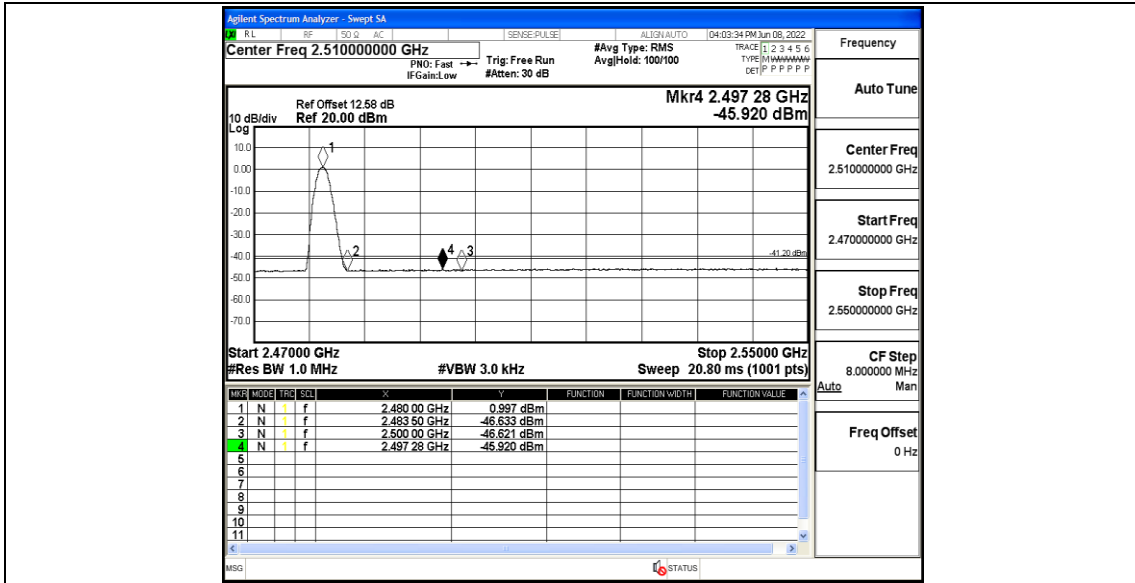
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.37	≤-41.20	PASS
				AV	2388.935	-46.78	≤-41.20	PASS
				AV	2390.000	-46.98	≤-41.20	PASS
				Peak	2310.000	-40.91	≤-21.20	PASS
				Peak	2382.950	-37.53	≤-21.20	PASS
				Peak	2390.000	-40.14	≤-21.20	PASS
		High	2480	AV	2483.500	-46.63	≤-41.20	PASS
				AV	2497.280	-45.92	≤-41.20	PASS
				AV	2500.000	-46.62	≤-41.20	PASS
				Peak	2483.500	-39.12	≤-21.20	PASS
				Peak	2486.320	-37.76	≤-21.20	PASS
				Peak	2500.000	-40.15	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-46.98	≤-41.20	PASS
				AV	2388.200	-45.93	≤-41.20	PASS
				AV	2390.000	-46.57	≤-41.20	PASS
				Peak	2310.000	-41.14	≤-21.20	PASS
				Peak	2373.395	-36.4	≤-21.20	PASS
				Peak	2390.000	-41.19	≤-21.20	PASS
		High	2480	AV	2483.500	-46.1	≤-41.20	PASS
				AV	2497.680	-45.23	≤-41.20	PASS
				AV	2500.000	-45.91	≤-41.20	PASS
				Peak	2483.500	-39.8	≤-21.20	PASS
				Peak	2488.640	-36.61	≤-21.20	PASS
				Peak	2500.000	-39.81	≤-21.20	PASS

Note:

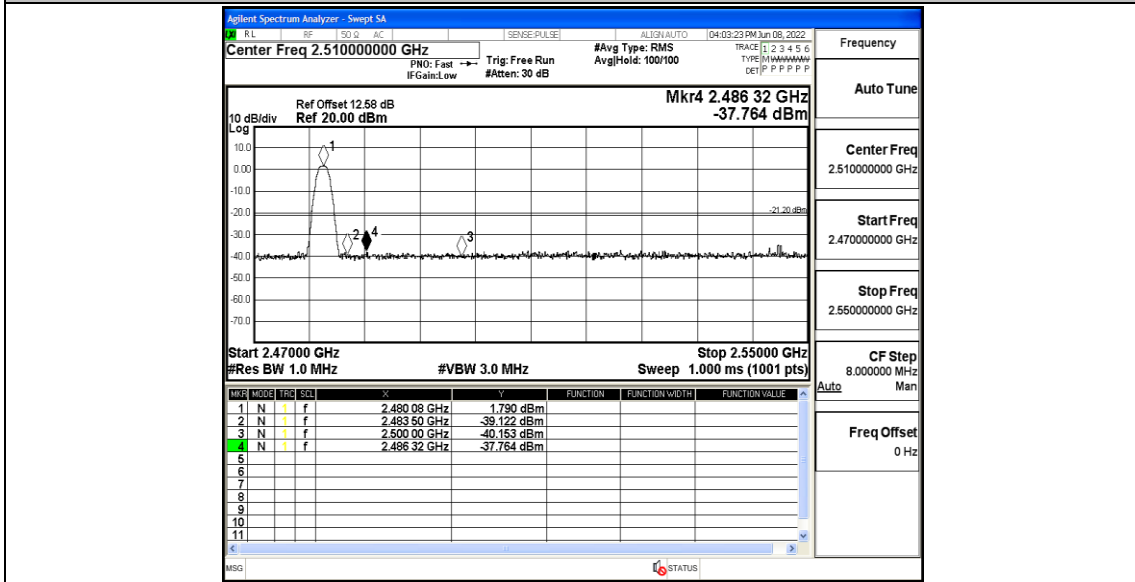
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

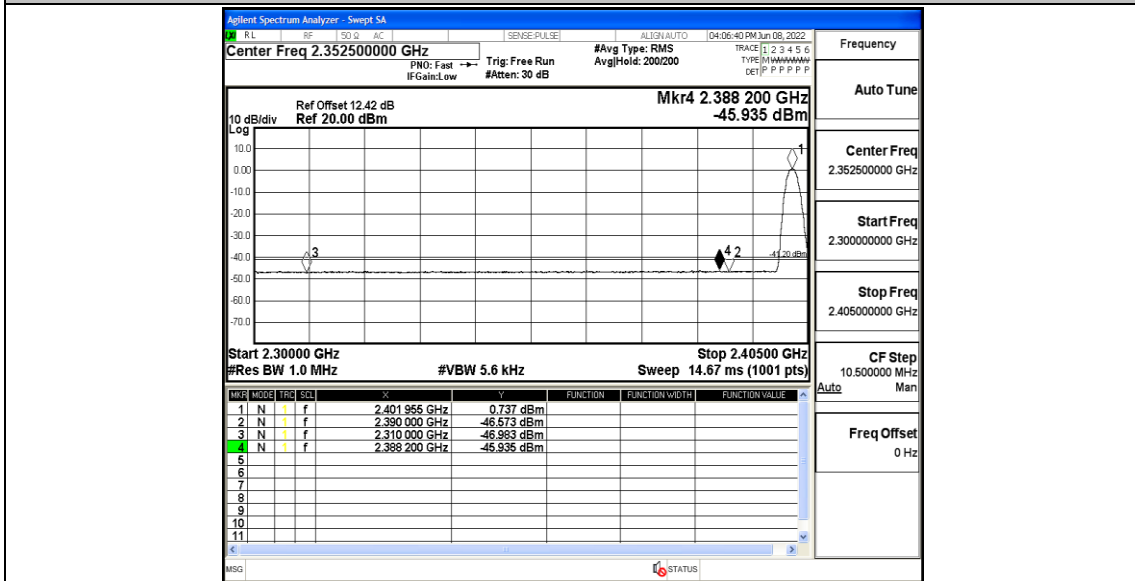




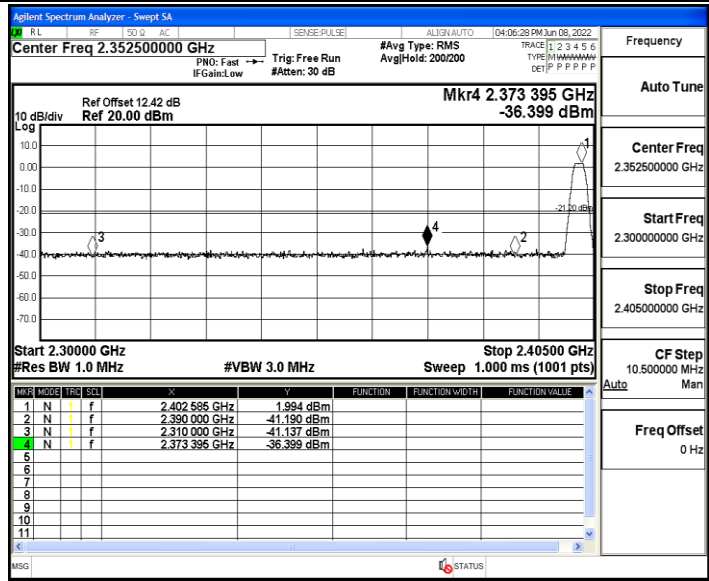
BLE\_1M\_Ant1\_High\_2480\_Peak



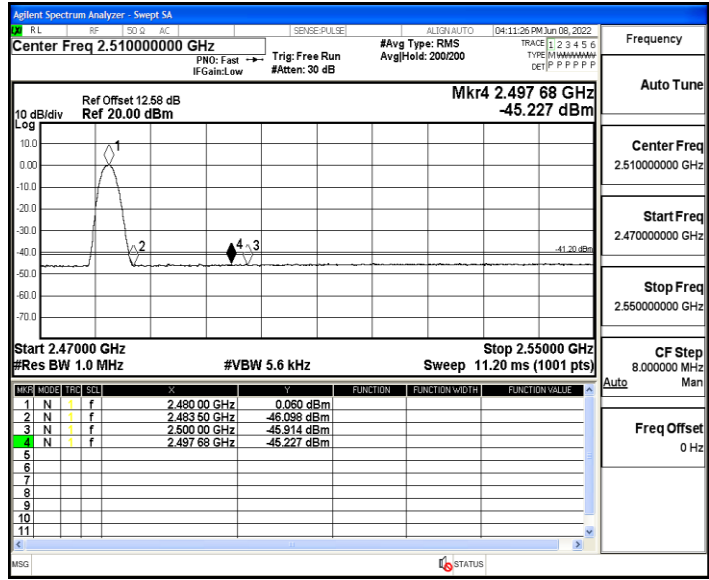
BLE\_2M\_Ant1\_Low\_2402\_AV



BLE\_2M\_Ant1\_Low\_2402\_Peak



BLE\_2M\_Ant1\_High\_2480\_AV



BLE\_2M\_Ant1\_High\_2480\_Peak

