

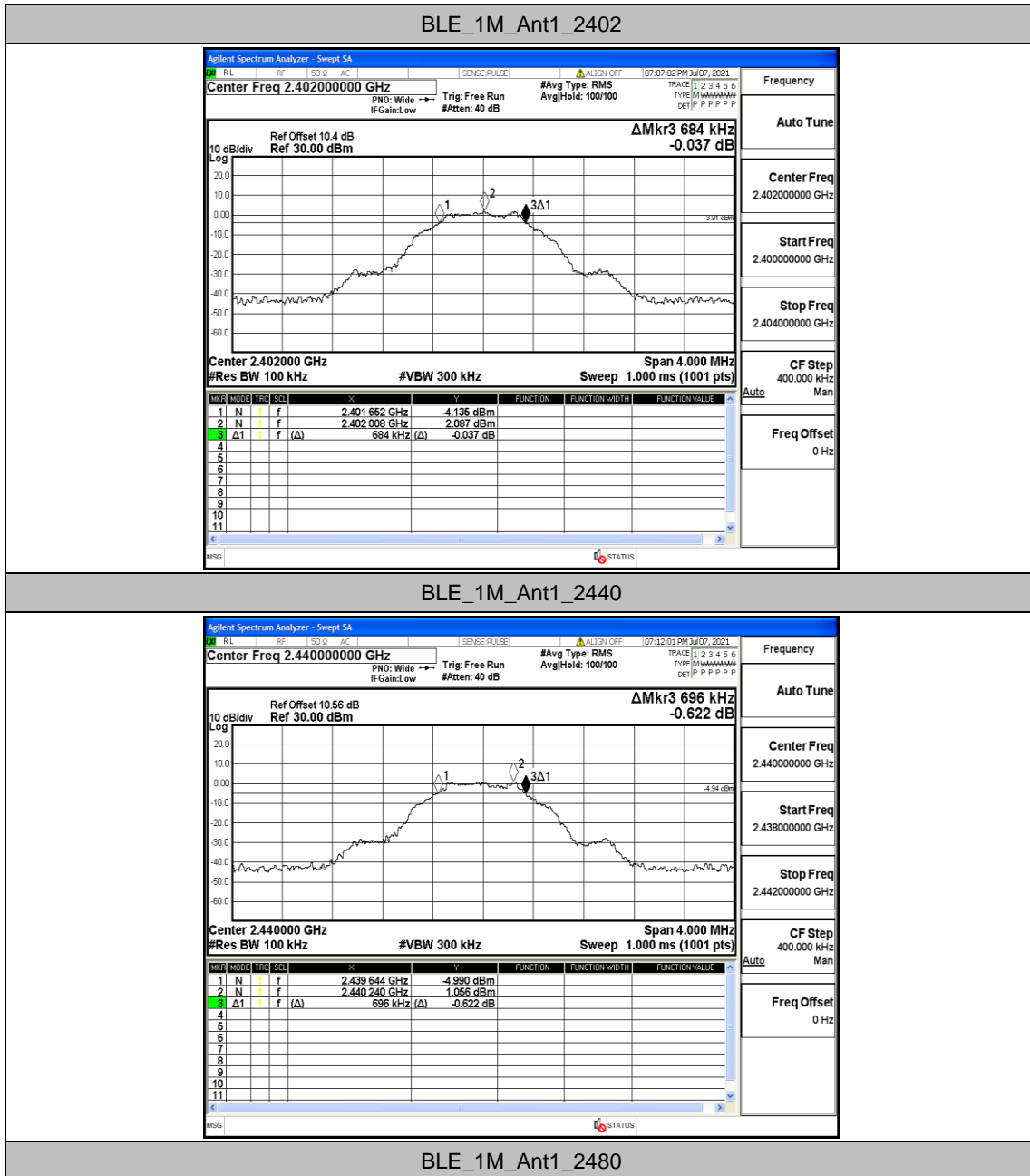
**RF Test Data for BT(BLE) (Conducted Measurement)****Product Name: 4K Set Top Box****Trade Mark: Force1****Test Model: IPA2114HDW****FCC ID: 2AOVU-IPA2114HDW****IC: 25669-IPA2114HDW****Environmental Conditions**

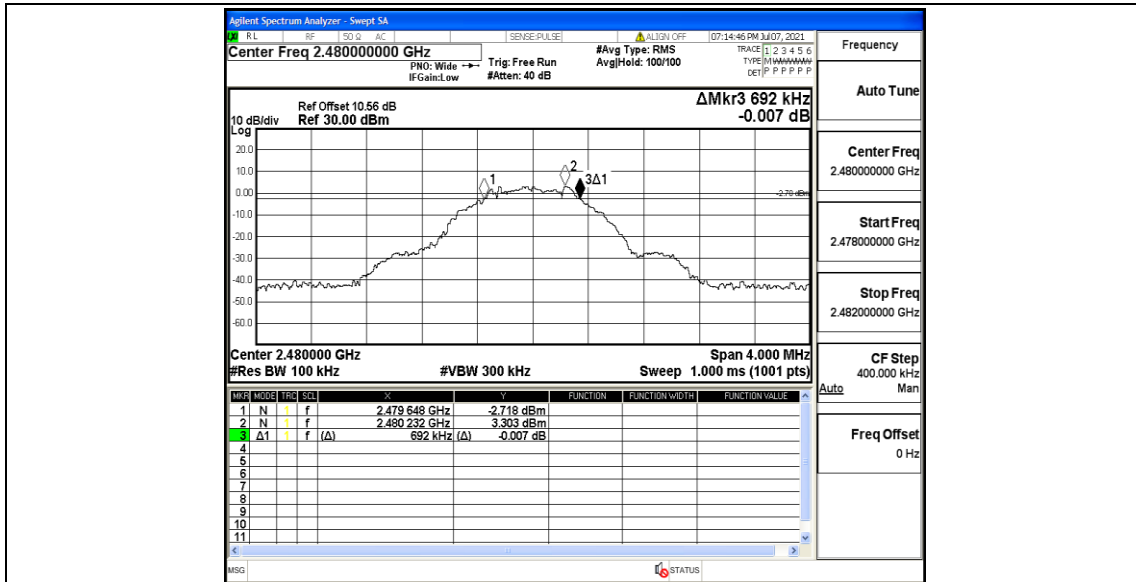
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

**Appendix A: DTS Bandwidth****Test Result**

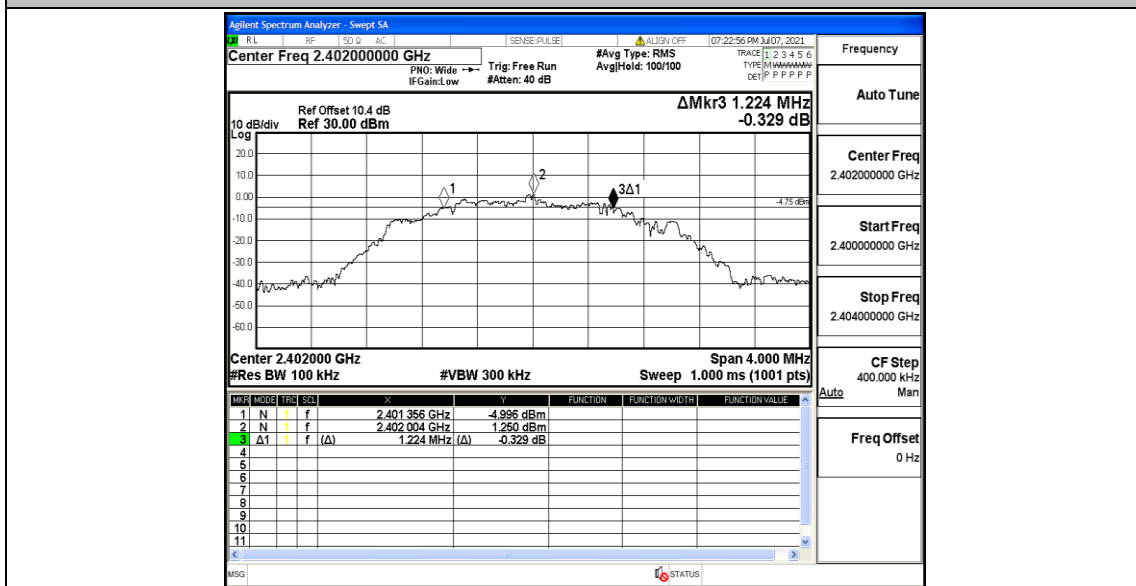
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.684	2401.652	2402.336	0.5	PASS
		2440	0.696	2439.644	2440.340	0.5	PASS
		2480	0.692	2479.648	2480.340	0.5	PASS
BLE_2M	Ant1	2402	1.224	2401.356	2402.580	0.5	PASS
		2440	1.396	2439.300	2440.696	0.5	PASS
		2480	1.240	2479.348	2480.588	0.5	PASS

Test Graphs

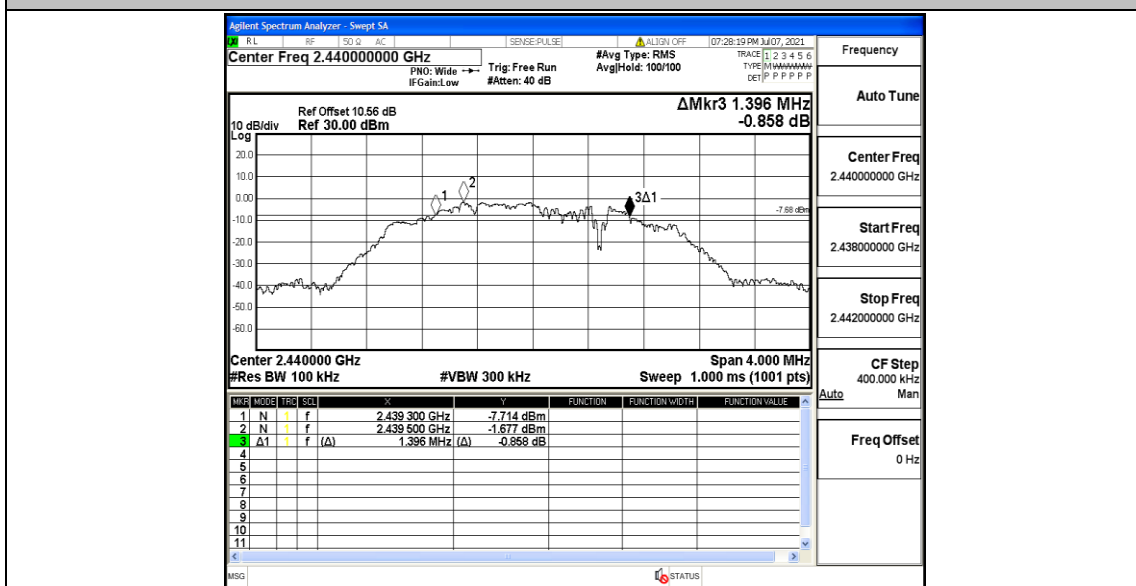




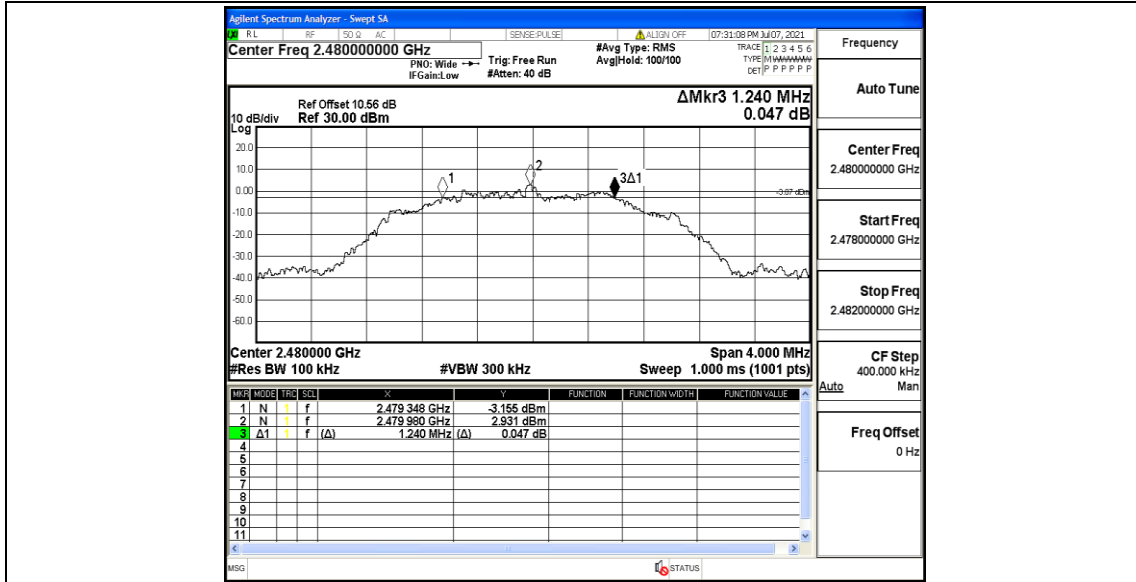
BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440



BLE\_2M\_Ant1\_2480

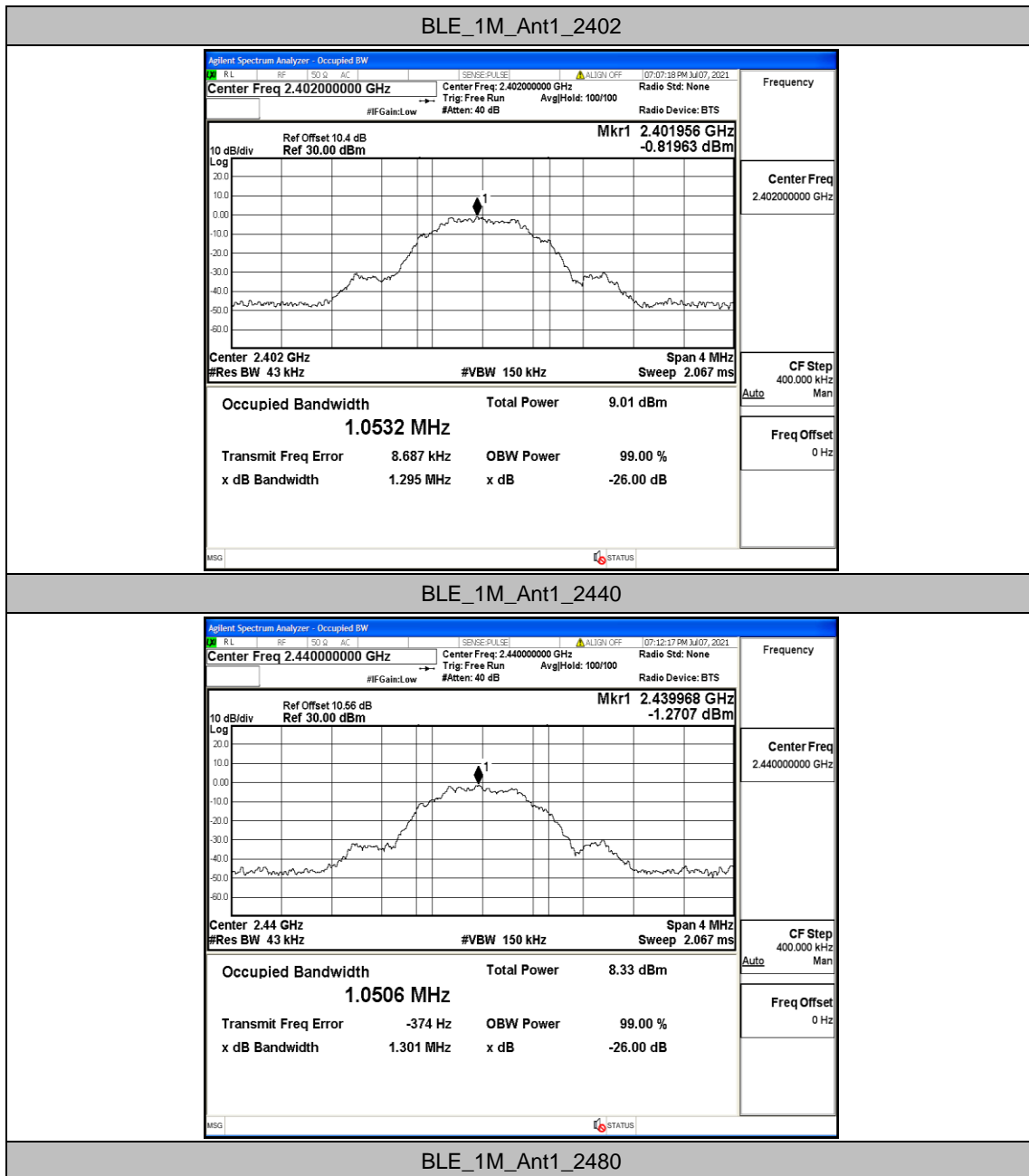


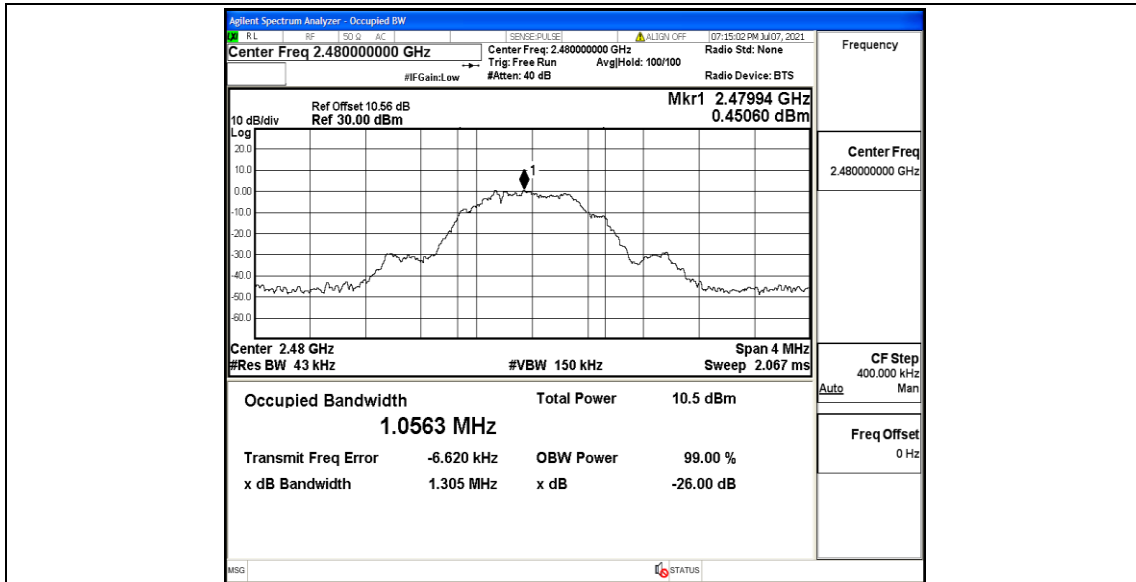
## Appendix B: Occupied Channel Bandwidth

### Test Result

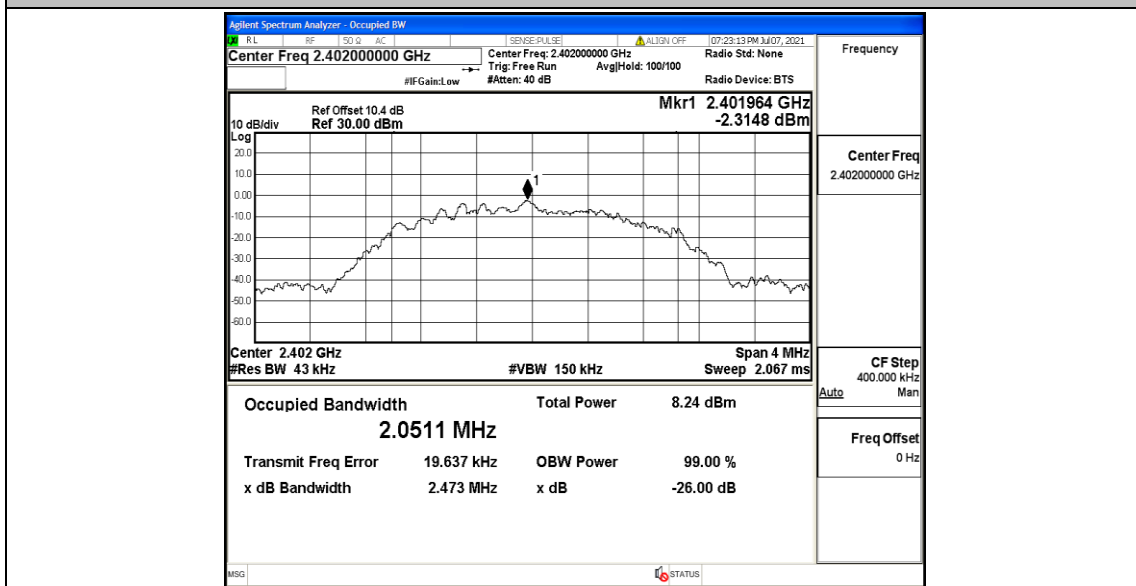
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0532	2401.482	2402.535	---	PASS
		2440	1.0506	2439.474	2440.525	---	PASS
		2480	1.0563	2479.465	2480.522	---	PASS
BLE_2M	Ant1	2402	2.0511	2400.994	2403.045	---	PASS
		2440	2.0592	2438.983	2441.043	---	PASS
		2480	2.0494	2478.977	2481.027	---	PASS

Test Graphs

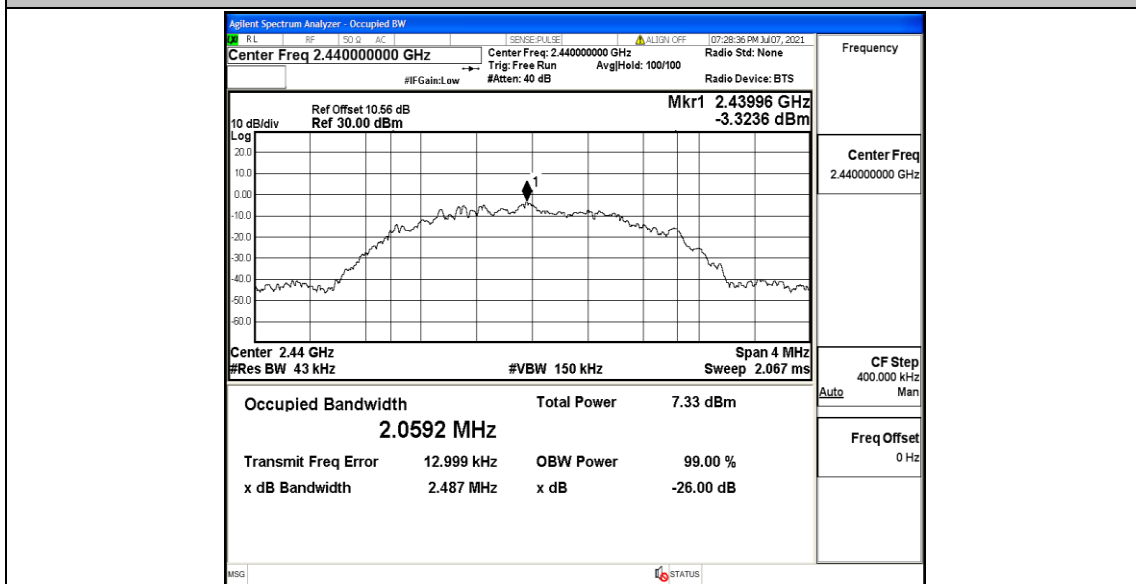




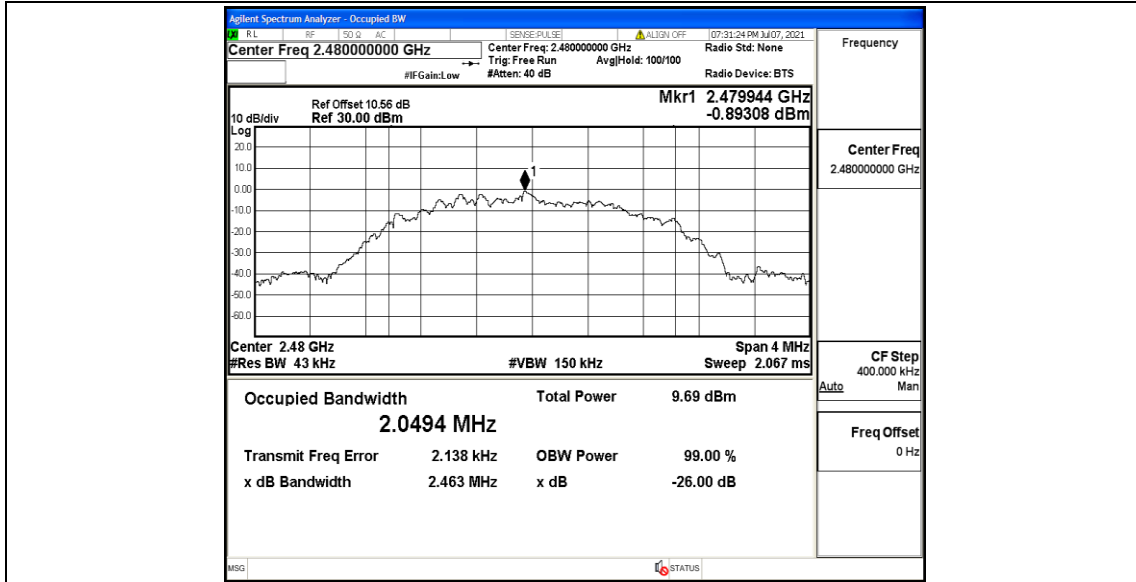
BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440



BLE\_2M\_Ant1\_2480



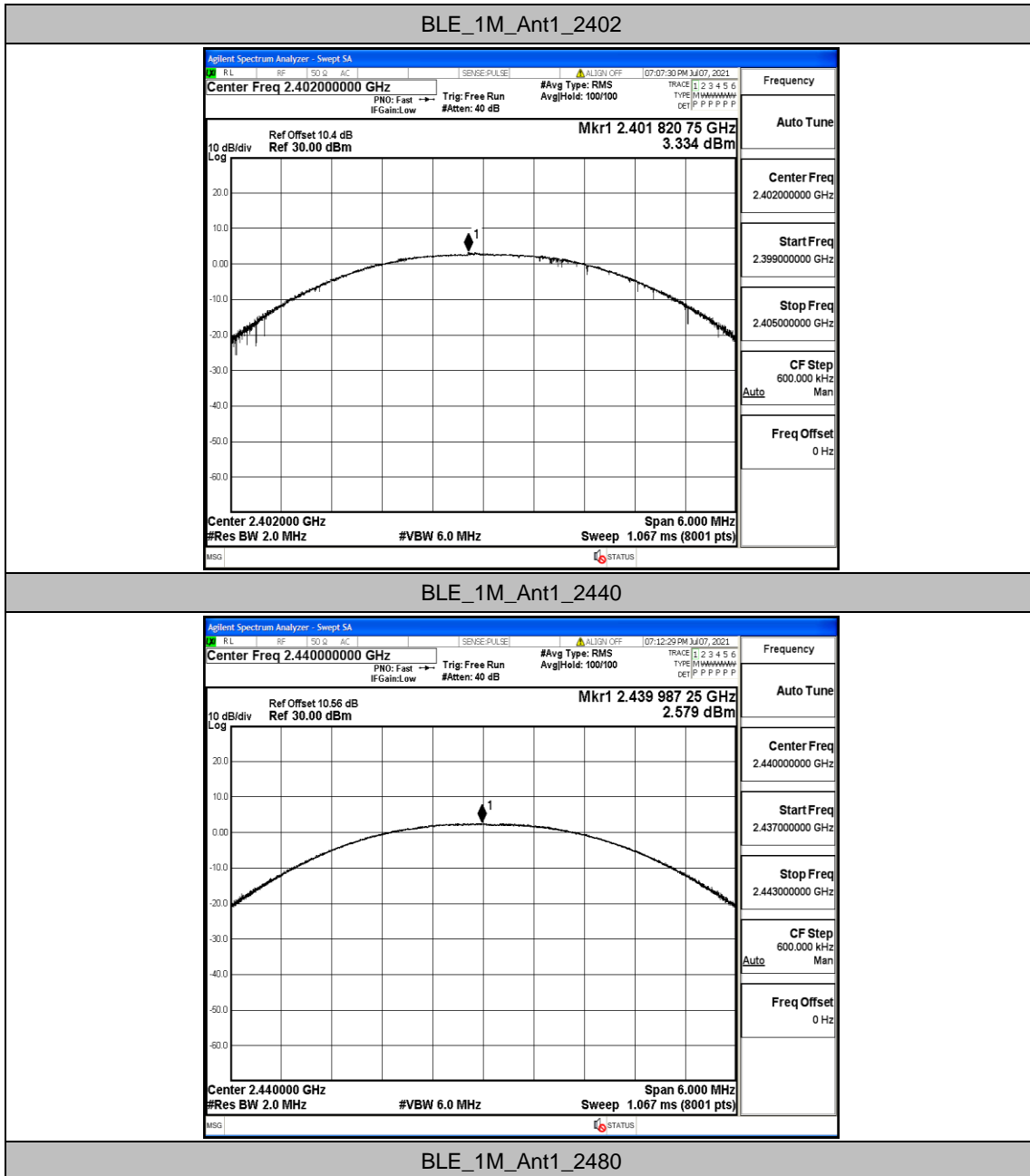
## Appendix C: Maximum conducted output power

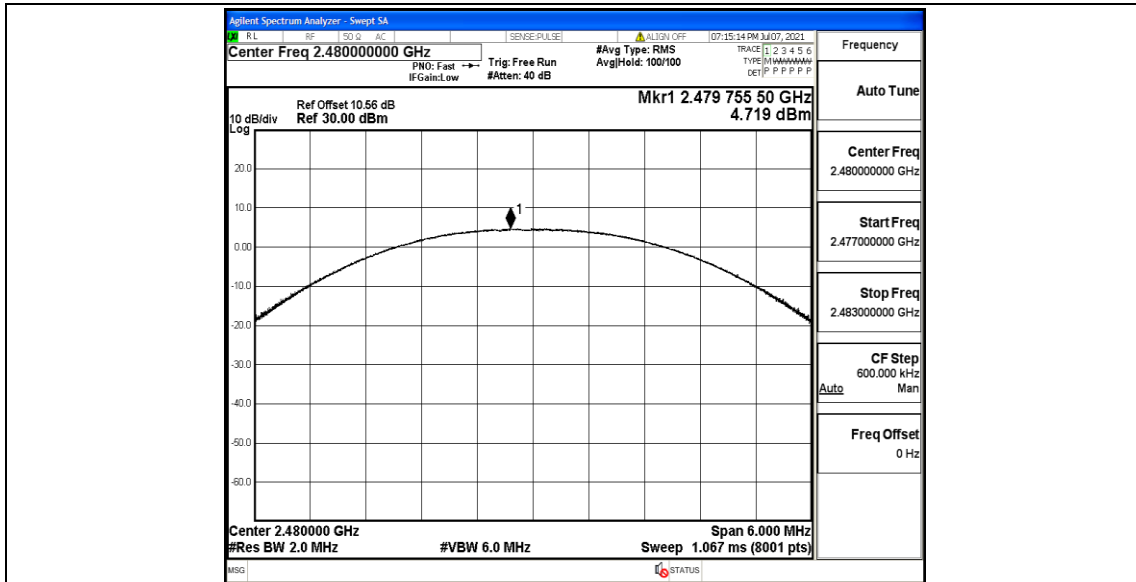
### Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	3.33	<=30	PASS
		2440	2.58	<=30	PASS
		2480	4.72	<=30	PASS
BLE_2M	Ant1	2402	3.41	<=30	PASS
		2440	2.72	<=30	PASS
		2480	4.78	<=30	PASS

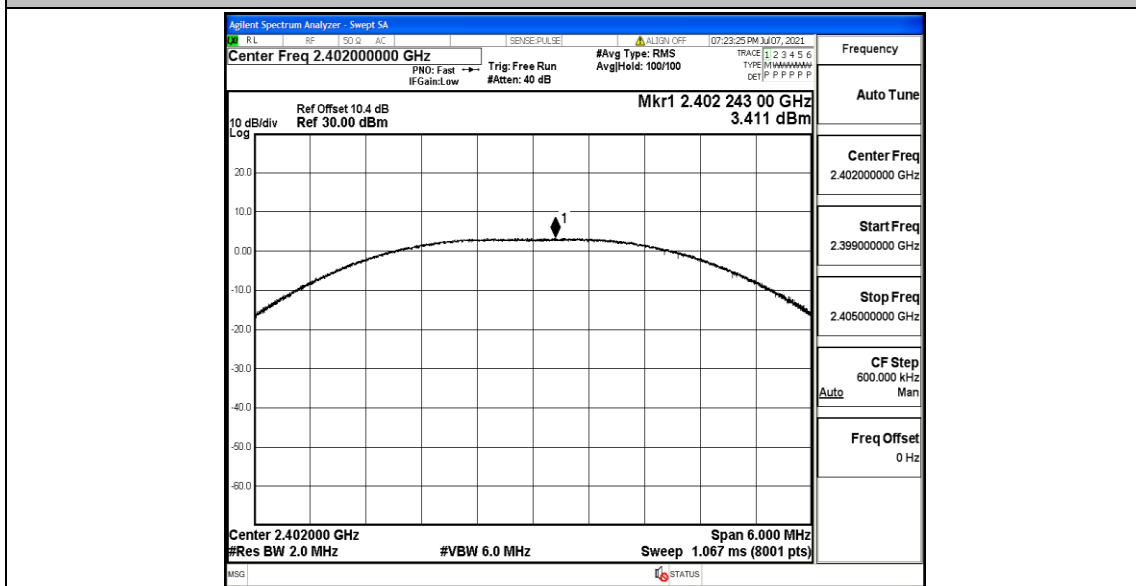


Test Graphs

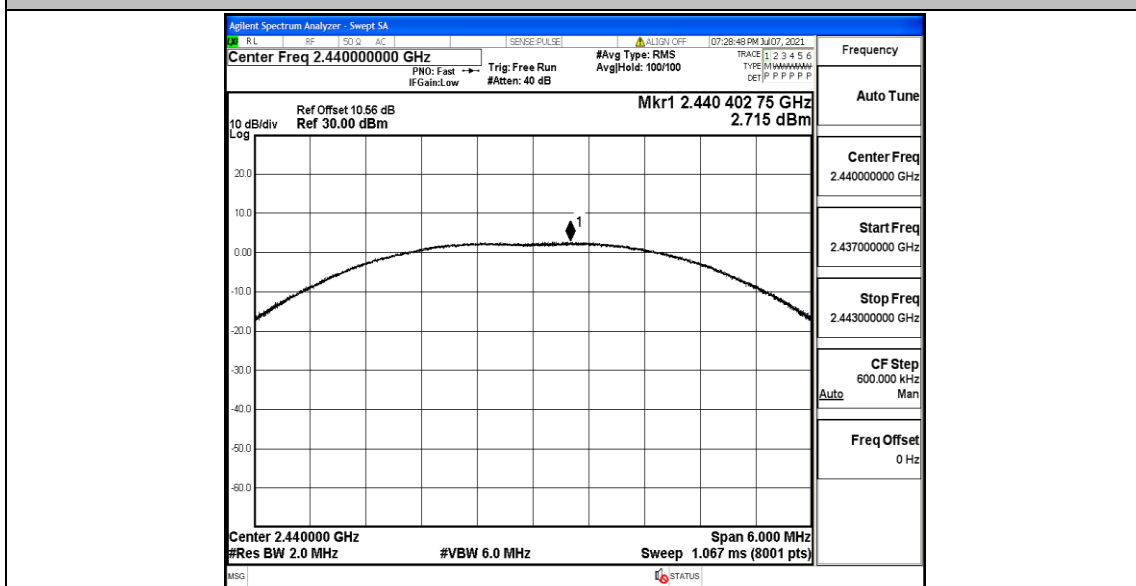




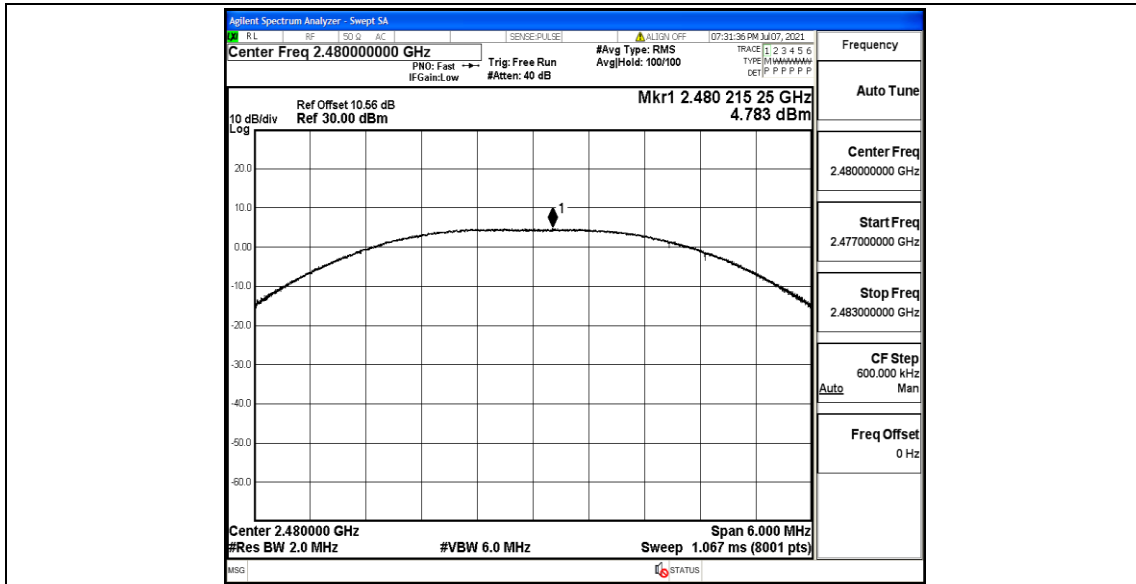
BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440



BLE\_2M\_Ant1\_2480

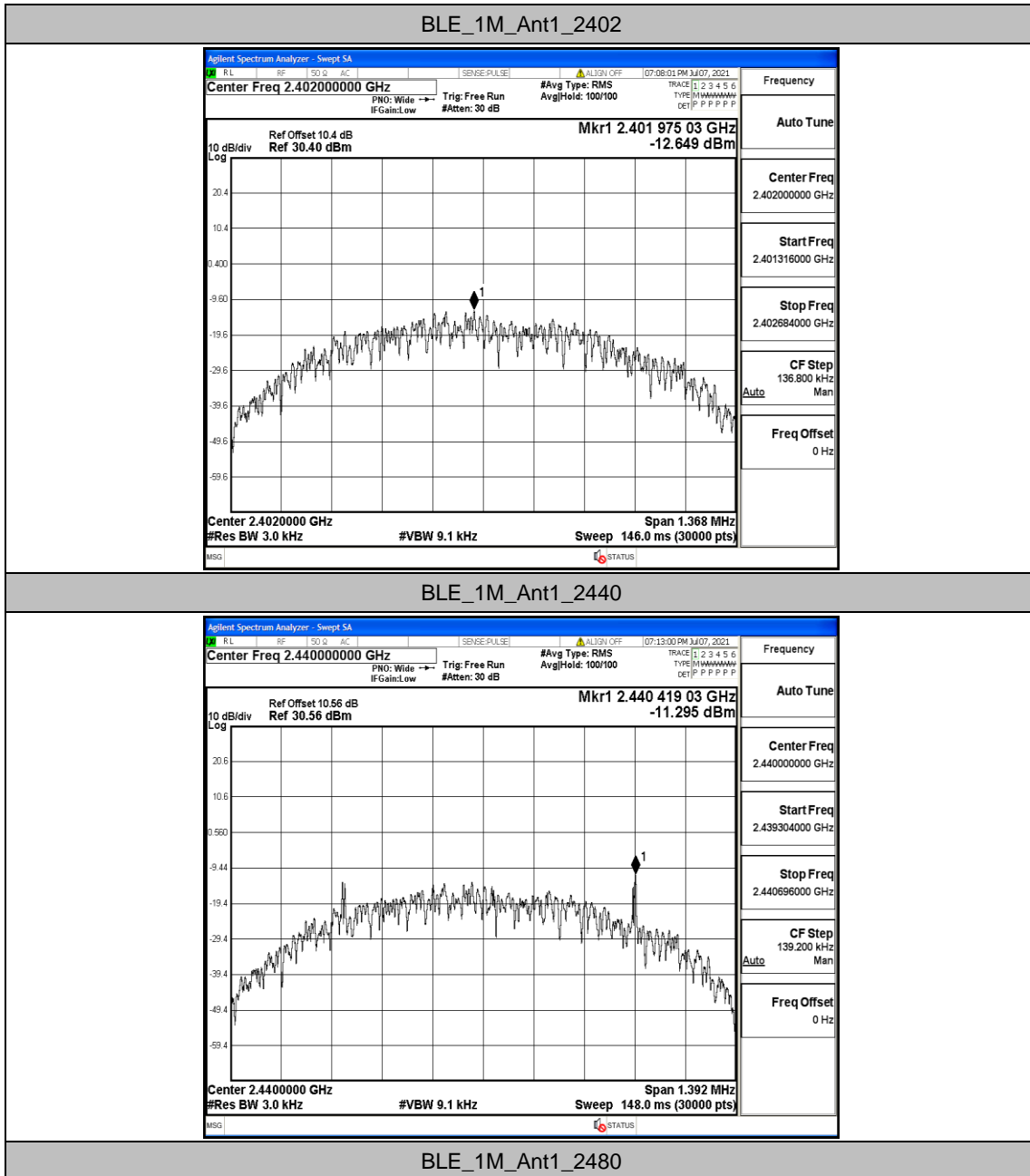


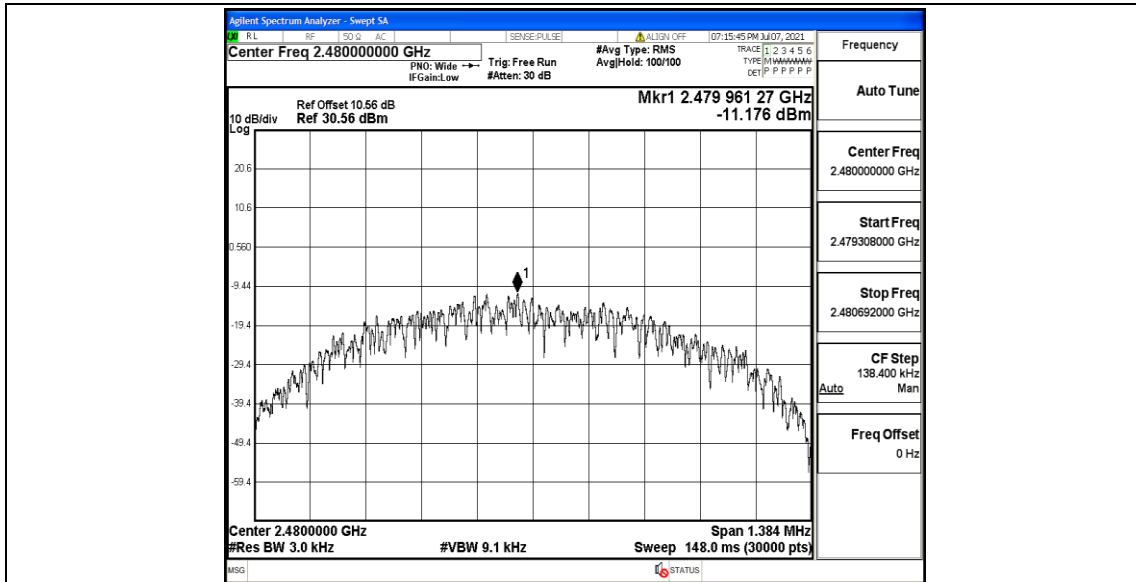
## Appendix D: Maximum power spectral density

### Test Result

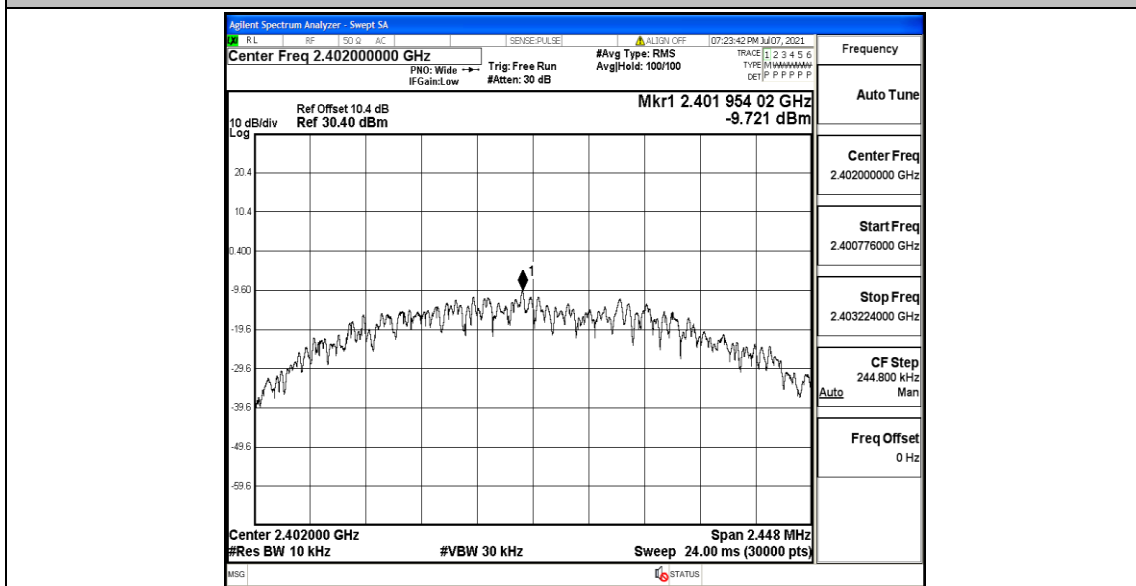
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-12.65	<=8	PASS
		2440	-11.3	<=8	PASS
		2480	-11.18	<=8	PASS
BLE_2M	Ant1	2402	-9.72	<=8	PASS
		2440	-10.54	<=8	PASS
		2480	-8.13	<=8	PASS

Test Graphs

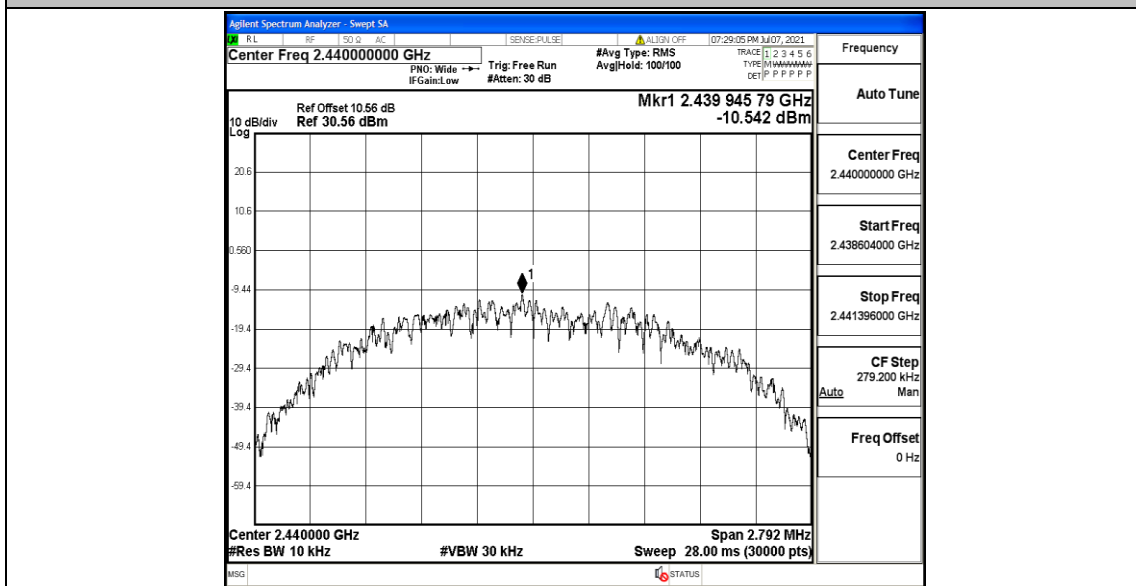




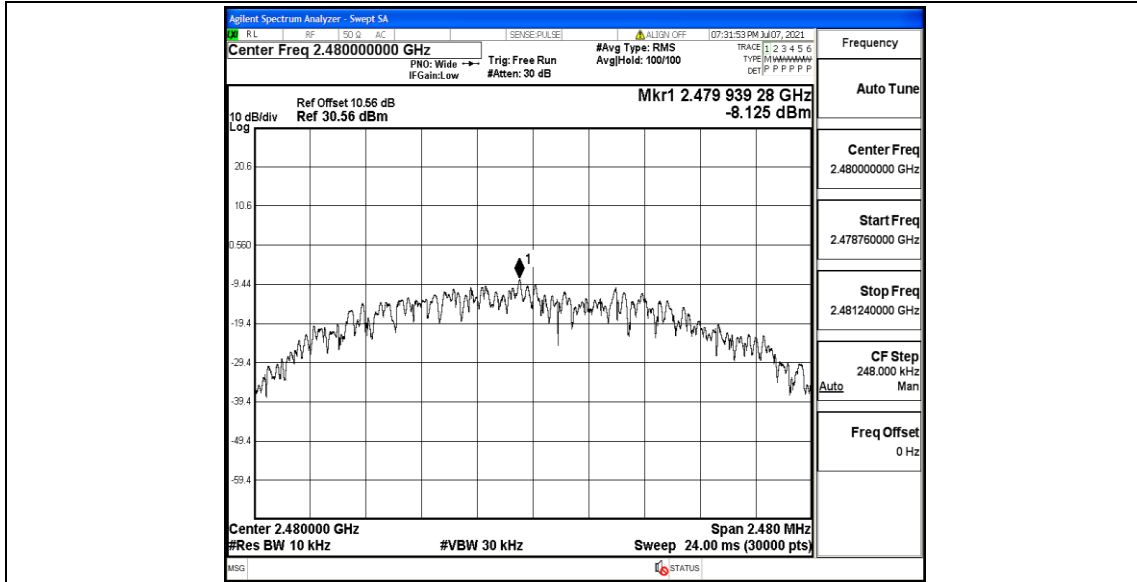
BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440



BLE\_2M\_Ant1\_2480



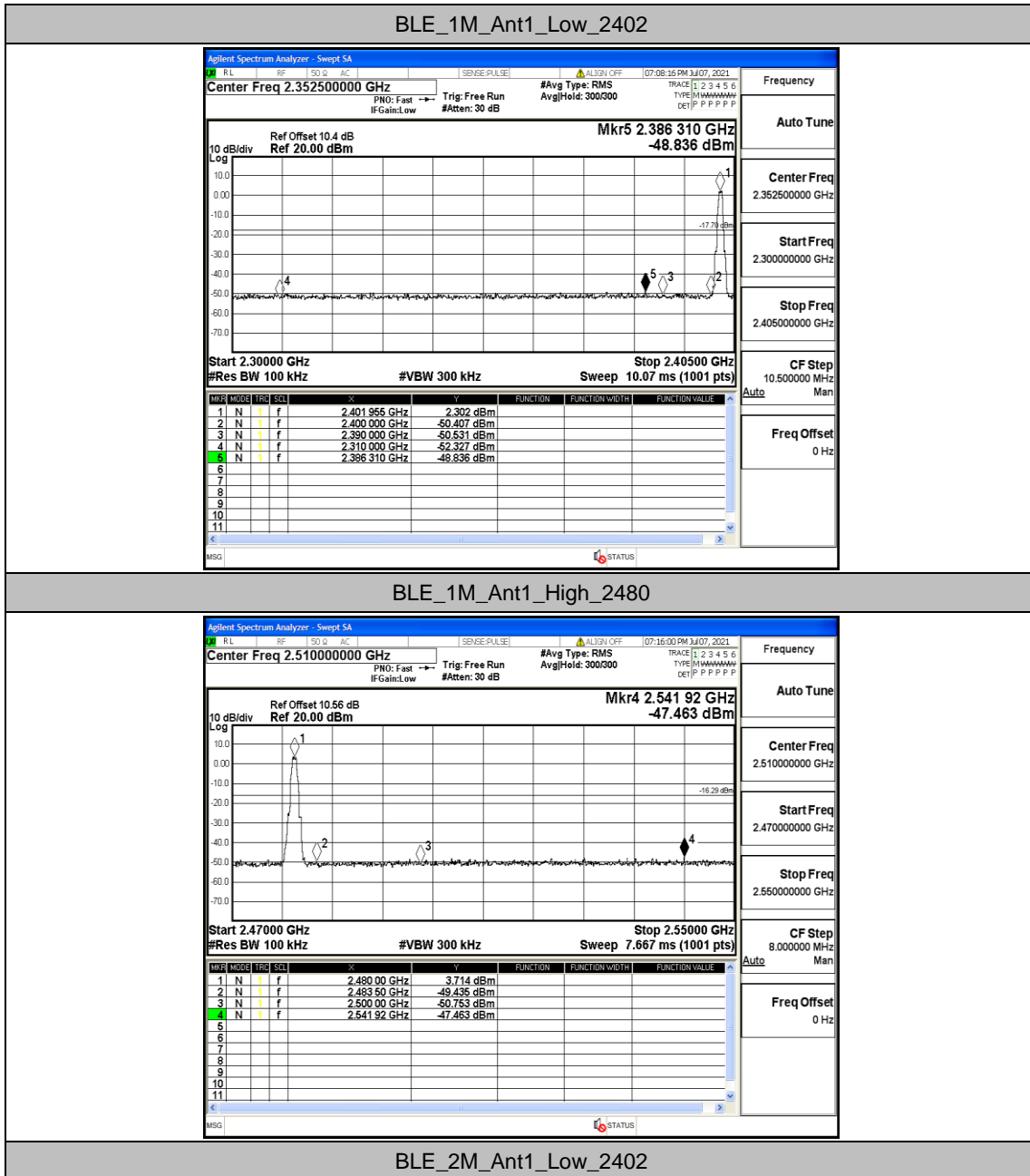
## Appendix E: Band edge measurements

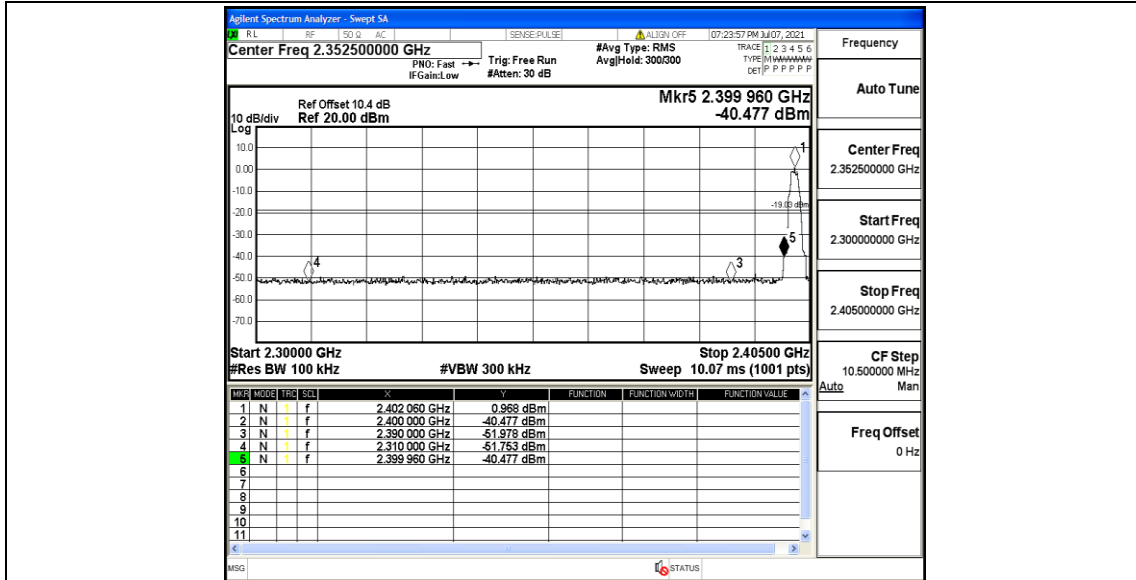
### Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.30	-48.84	<=-17.7	PASS
		High	2480	3.71	-47.46	<=-16.29	PASS
BLE_2M	Ant1	Low	2402	0.97	-40.48	<=-19.03	PASS
		High	2480	3.07	-48.16	<=-16.93	PASS

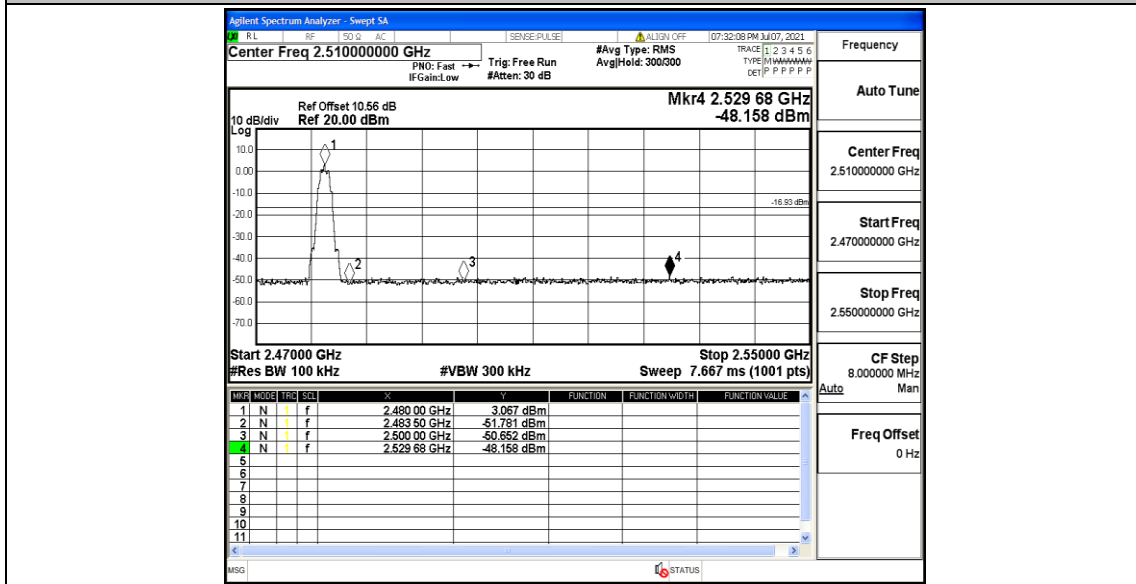


Test Graphs





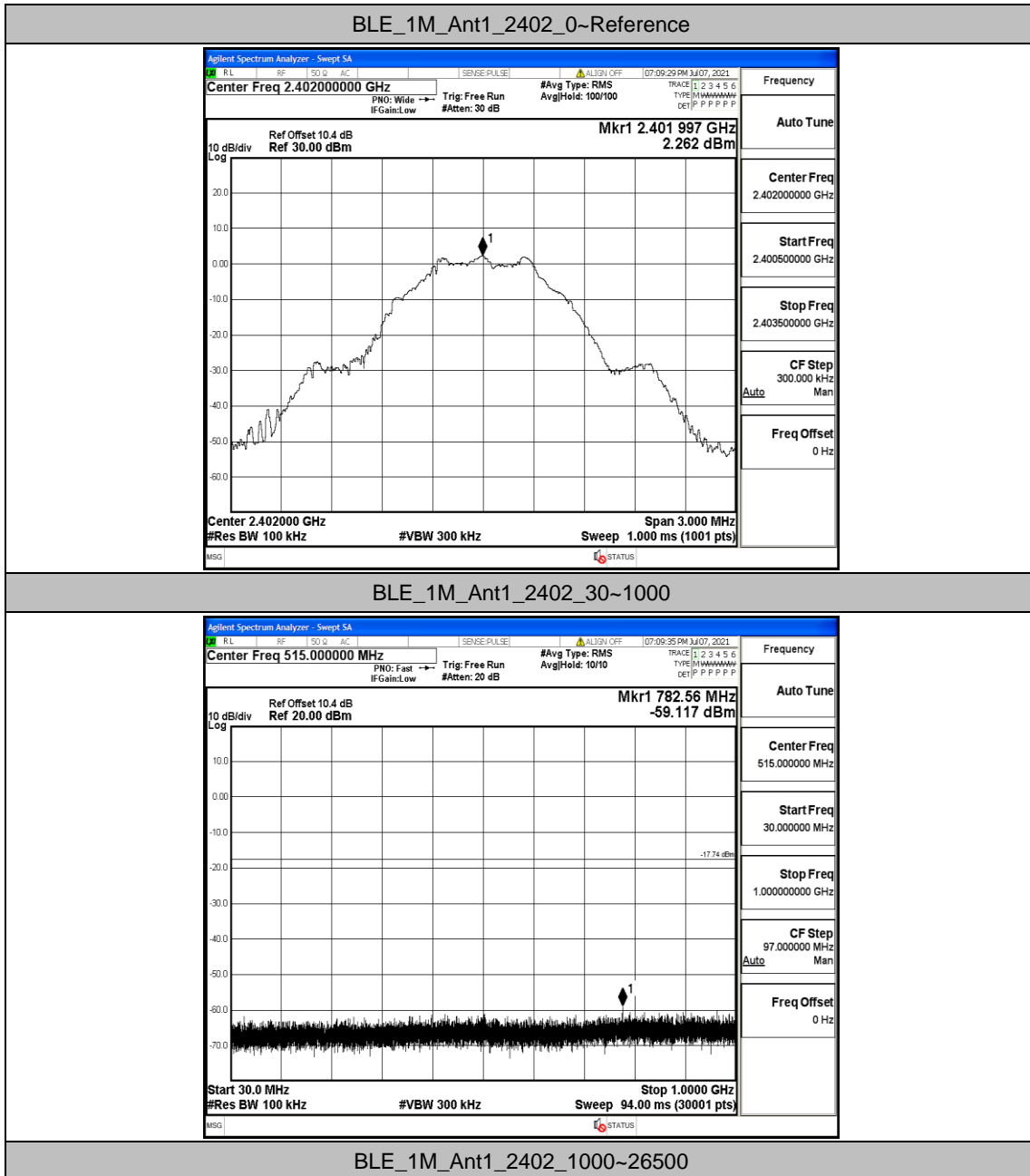
BLE\_2M\_Ant1\_High\_2480

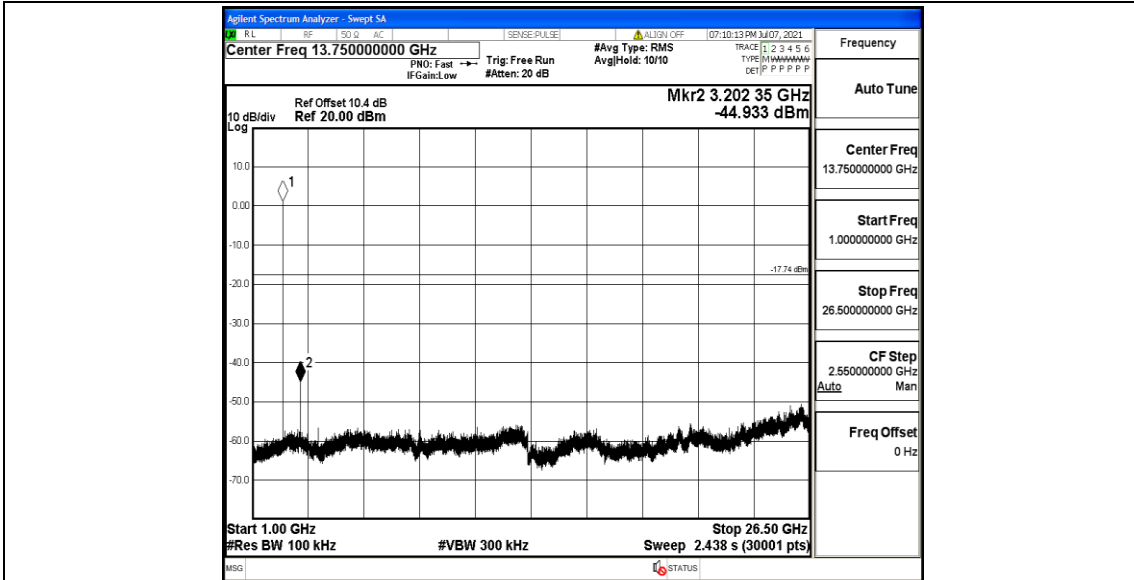


**Appendix F: Conducted Spurious Emission****Test Result**

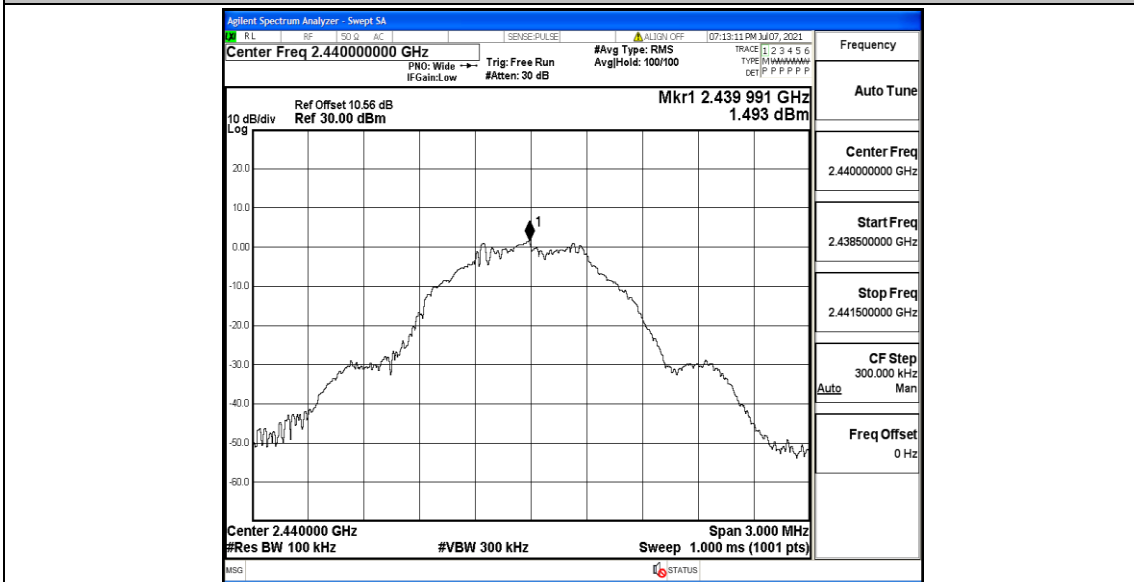
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	2.26	2.26	---	PASS
			30~1000	2.26	-59.12	<=-17.74	PASS
			1000~26500	2.26	-44.93	<=-17.74	PASS
		2440	Reference	1.49	1.49	---	PASS
			30~1000	1.49	-59.52	<=-18.51	PASS
			1000~26500	1.49	-34.39	<=-18.51	PASS
		2480	Reference	3.28	3.28	---	PASS
			30~1000	3.28	-59.5	<=-16.72	PASS
			1000~26500	3.28	-49.68	<=-16.72	PASS
BLE_2M	Ant1	2402	Reference	1.53	1.53	---	PASS
			30~1000	1.53	-60.55	<=-18.47	PASS
			1000~26500	1.53	-44.3	<=-18.47	PASS
		2440	Reference	0.65	0.65	---	PASS
			30~1000	0.65	-59.23	<=-19.35	PASS
			1000~26500	0.65	-47.43	<=-19.35	PASS
		2480	Reference	2.93	2.93	---	PASS
			30~1000	2.93	-60.3	<=-17.07	PASS
			1000~26500	2.93	-50.08	<=-17.07	PASS

Test Graphs

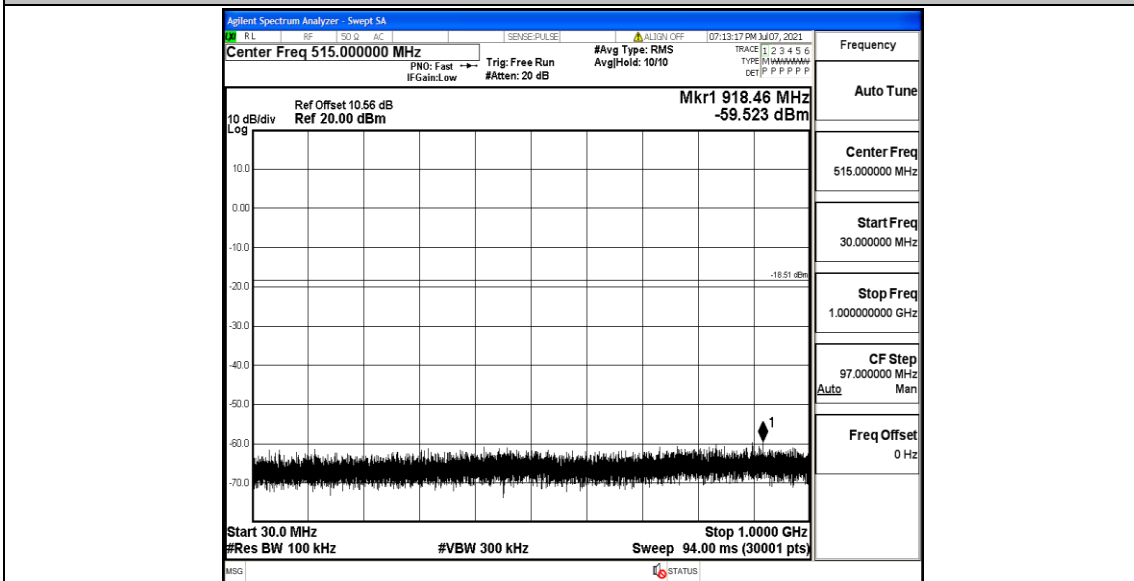




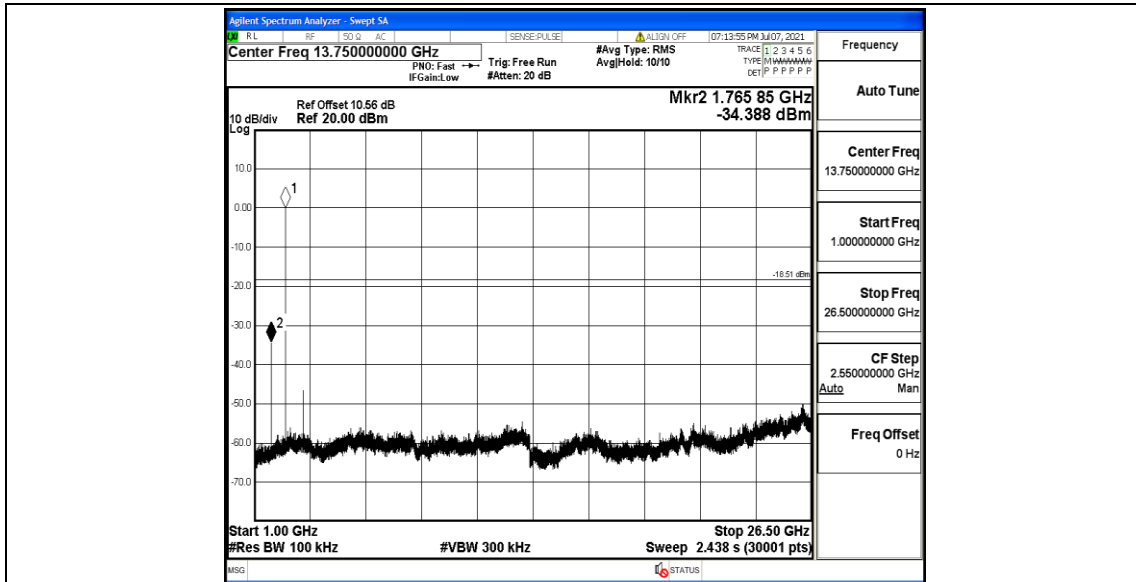
BLE\_1M\_Ant1\_2440\_0~Reference



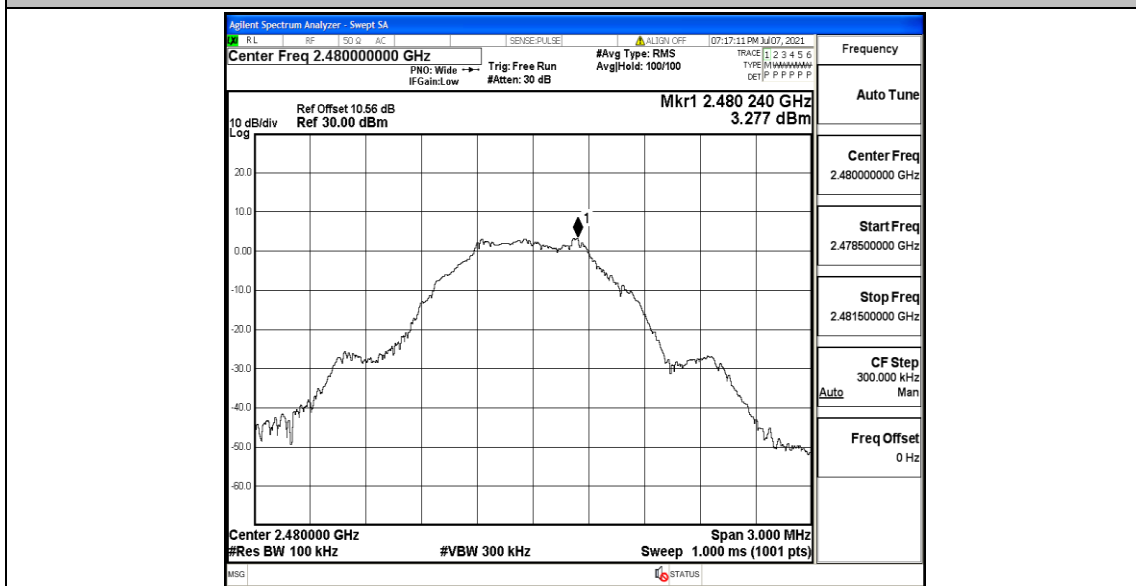
BLE\_1M\_Ant1\_2440\_30~100



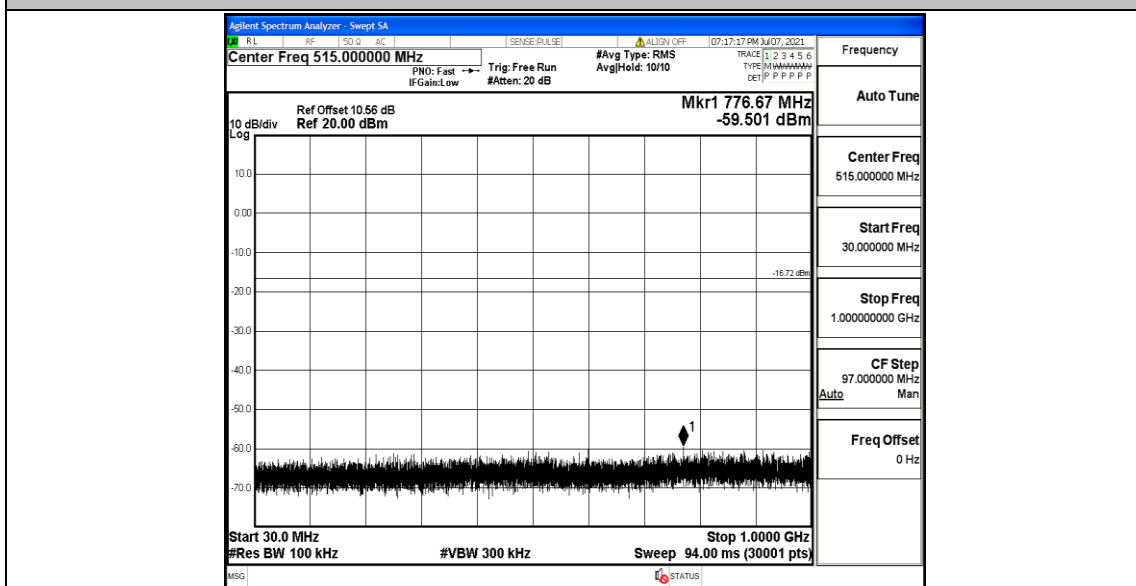
BLE\_1M\_Ant1\_2440\_1000~26500



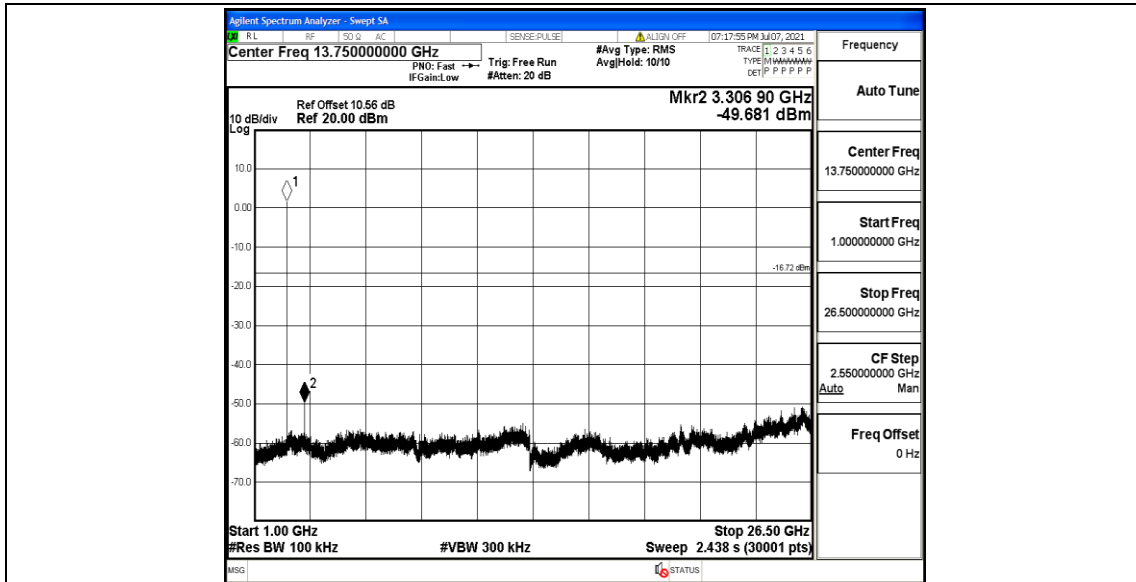
BLE\_1M\_Ant1\_2480\_0~Reference



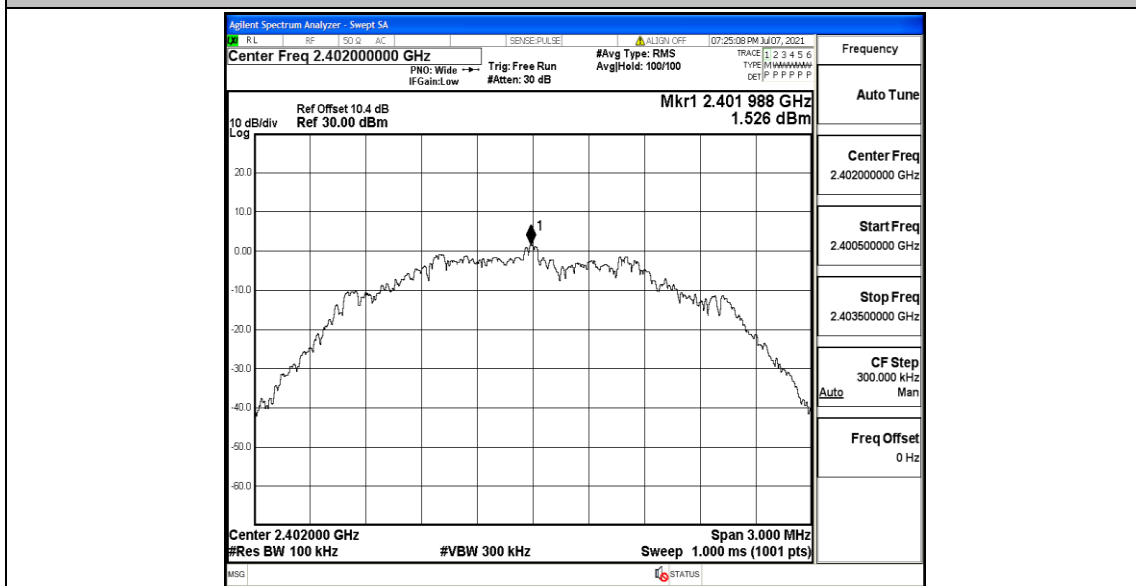
BLE\_1M\_Ant1\_2480\_30~1000



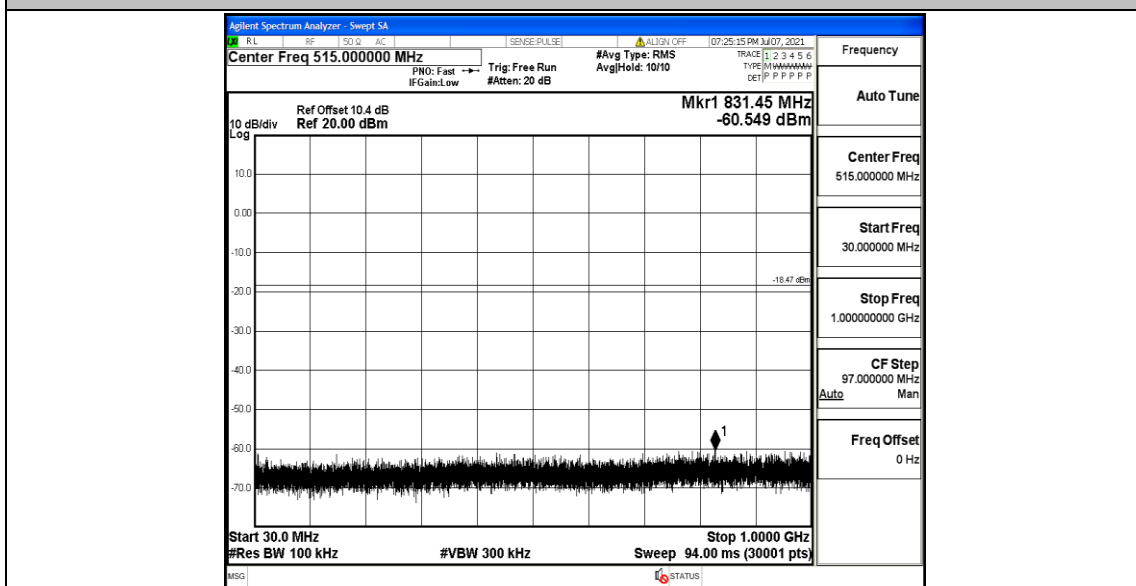
BLE\_1M\_Ant1\_2480\_1000~26500



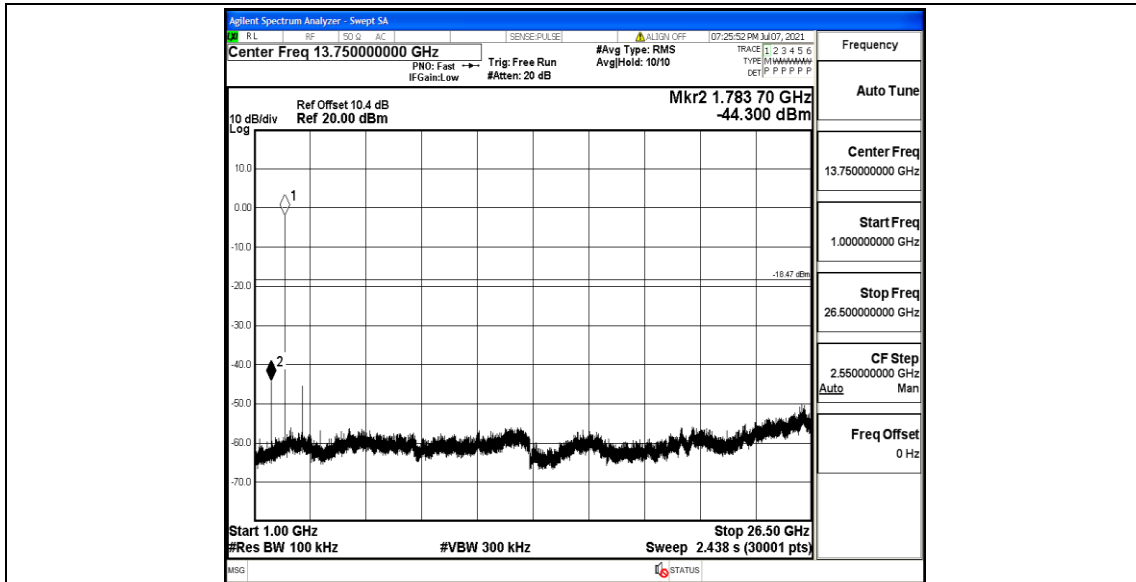
BLE\_2M\_Ant1\_2402\_0~Reference



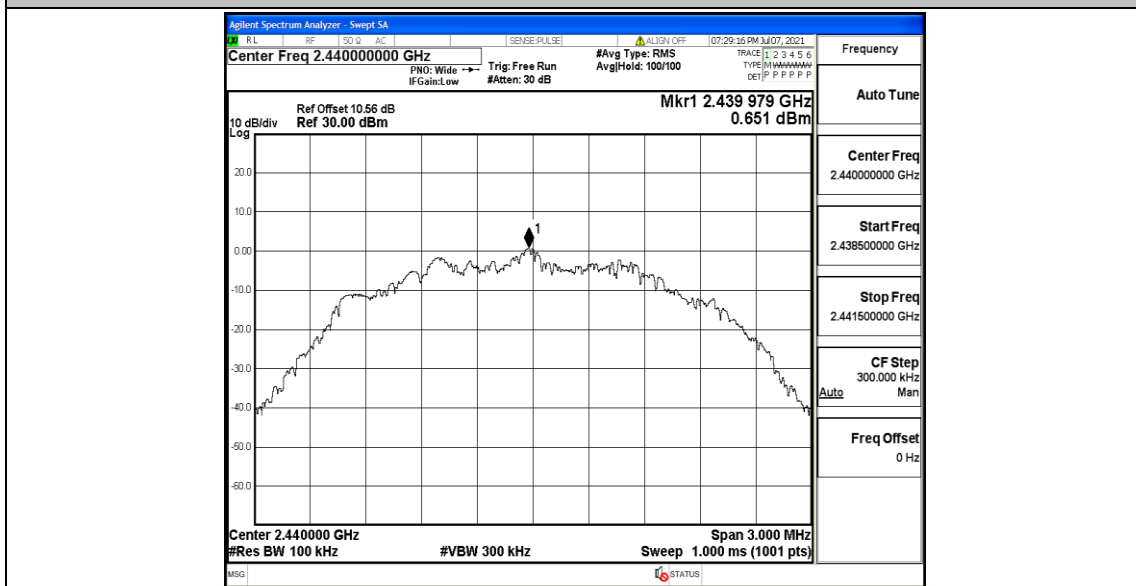
BLE\_2M\_Ant1\_2402\_30~100



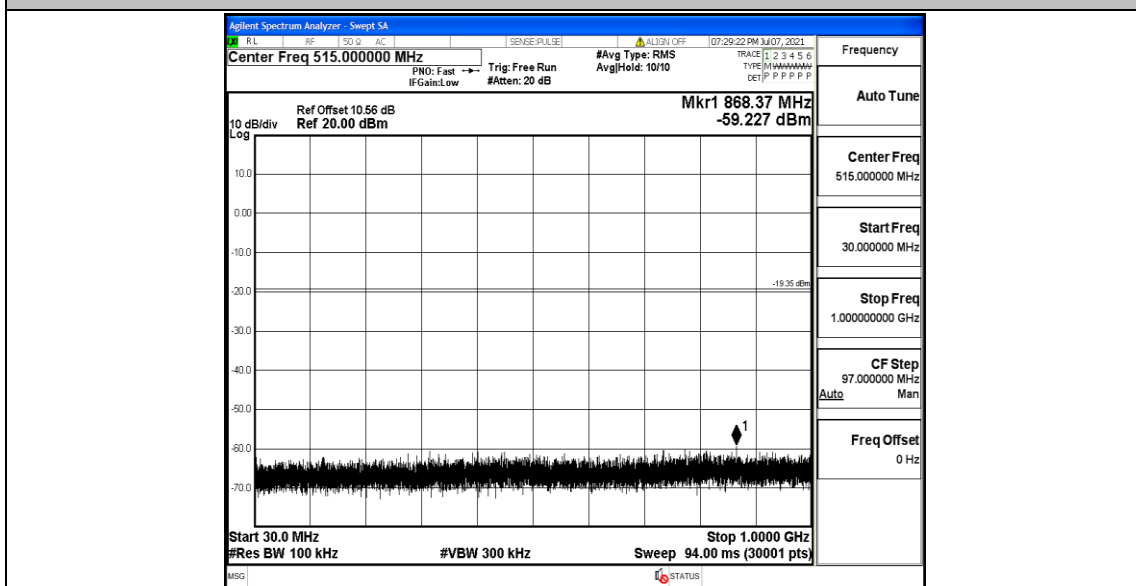
BLE\_2M\_Ant1\_2402\_1000~26500



BLE\_2M\_Ant1\_2440\_0~Reference

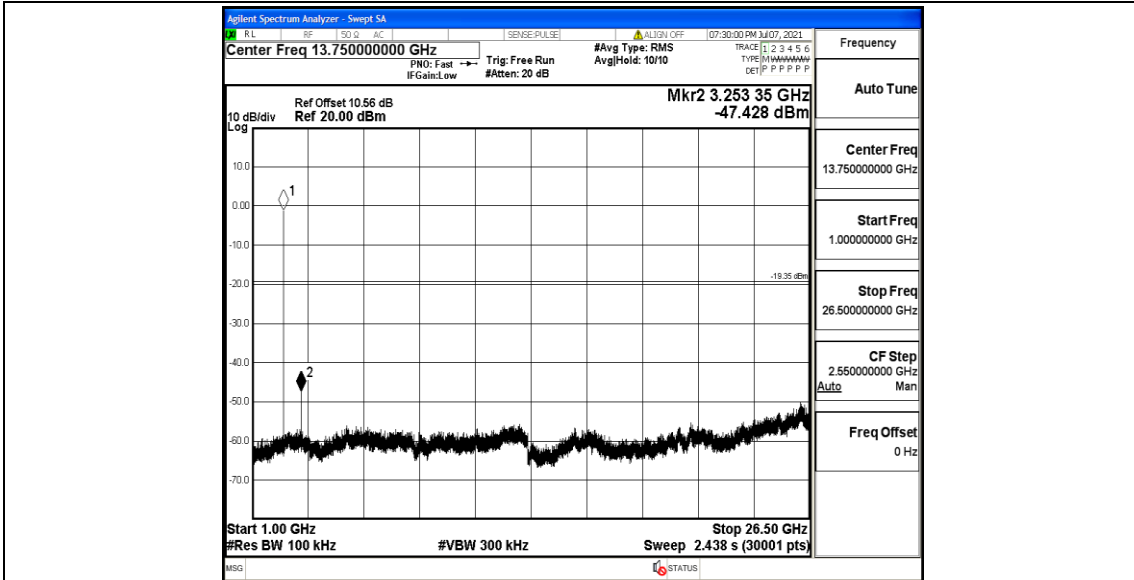


BLE\_2M\_Ant1\_2440\_30~100

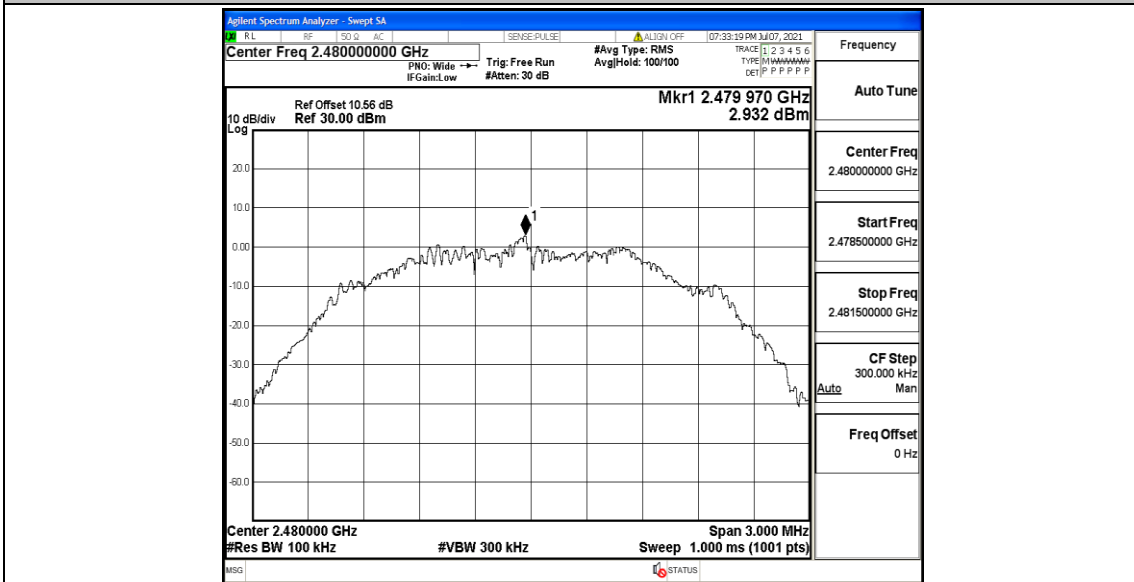


BLE\_2M\_Ant1\_2440\_1000~26500

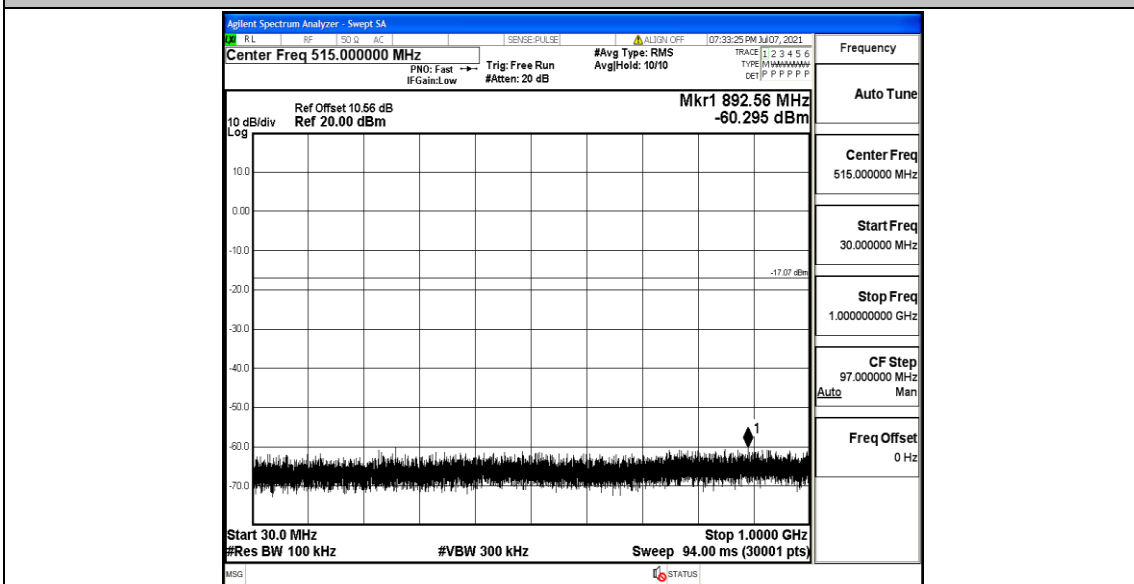




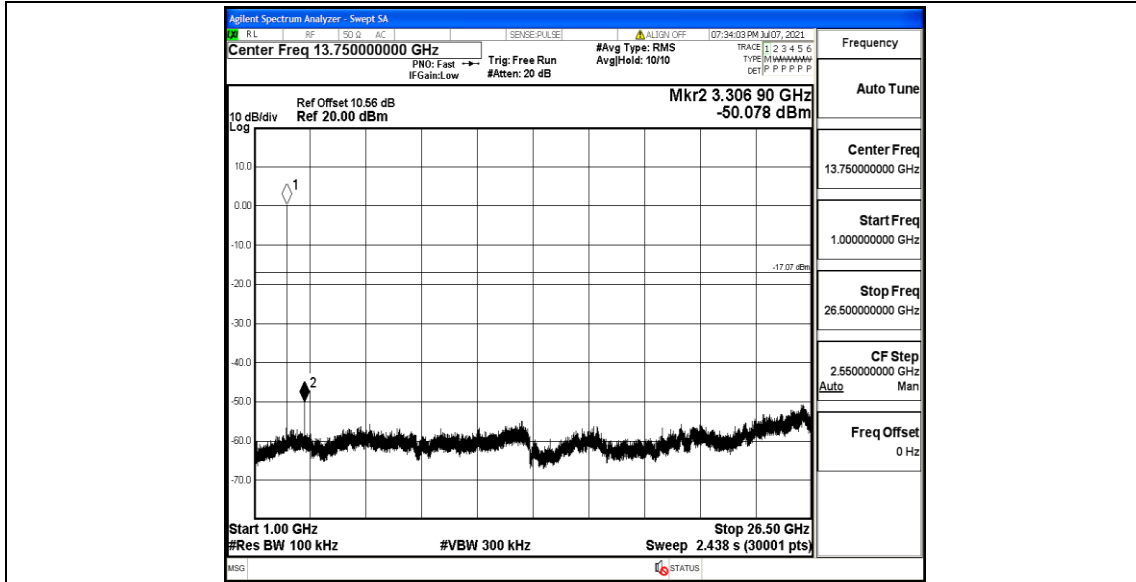
BLE\_2M\_Ant1\_2480\_0~Reference



BLE\_2M\_Ant1\_2480\_30~100



BLE\_2M\_Ant1\_2480\_1000~26500

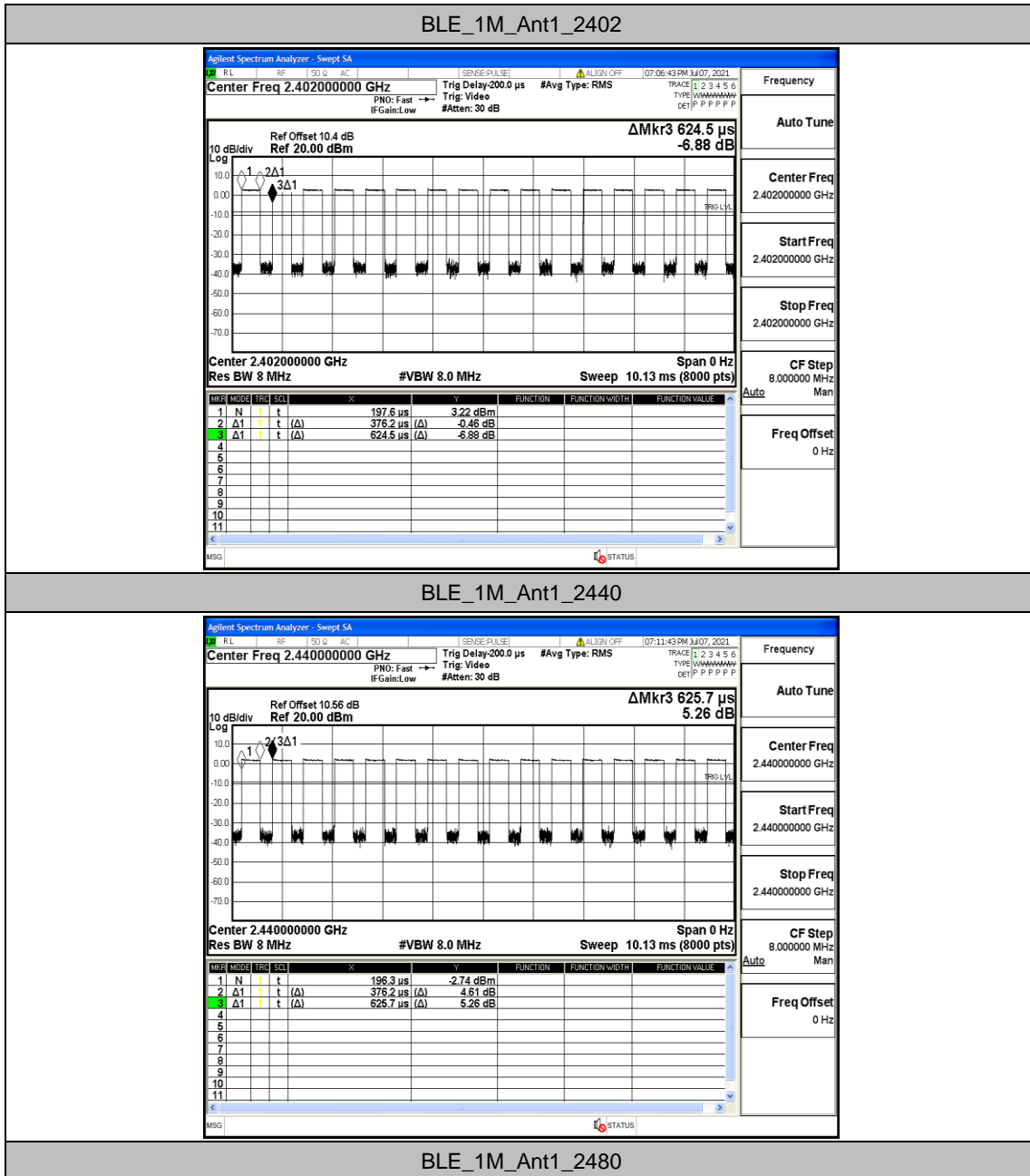


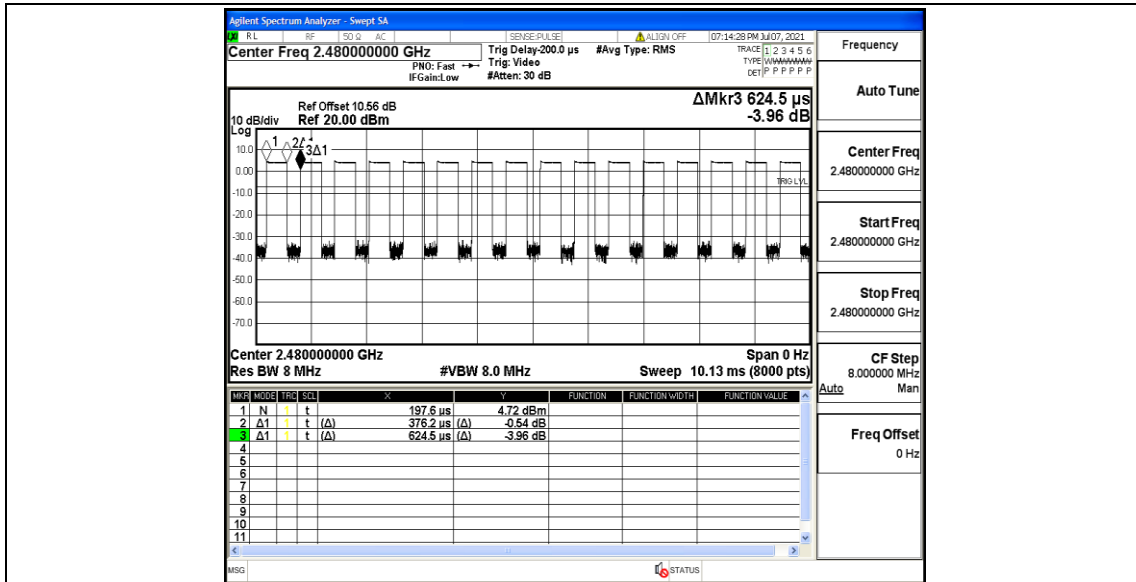
## Appendix G: Duty Cycle

### Test Result

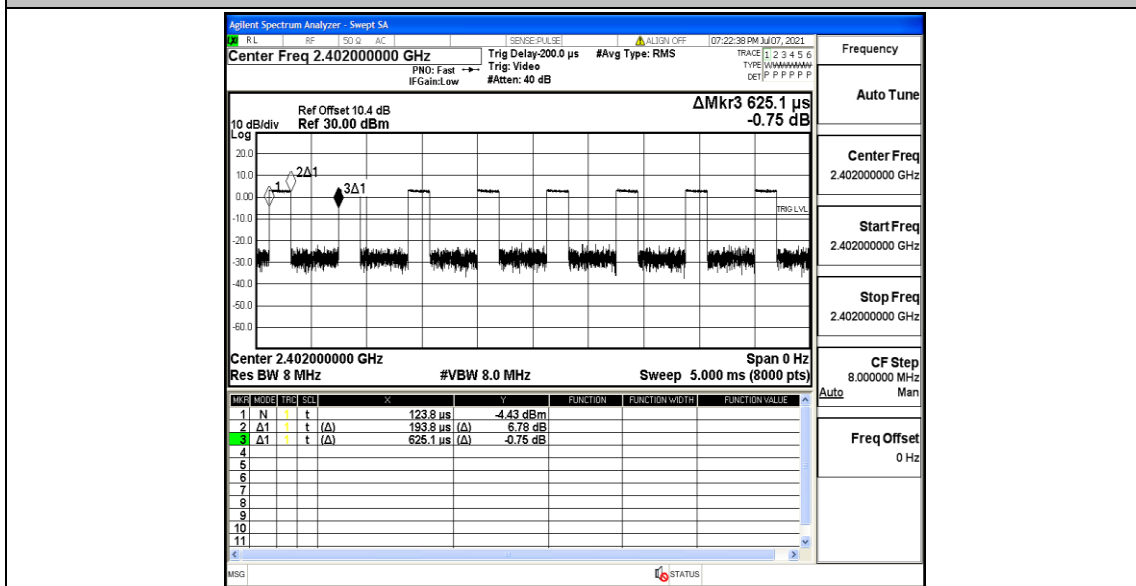
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_1M	Ant1	2402	0.38	0.62	61.29
		2440	0.38	0.63	60.32
		2480	0.38	0.62	61.29
BLE_2M	Ant1	2402	0.19	0.63	30.16
		2440	0.19	0.61	31.15
		2480	0.19	0.63	30.16

Test Graphs

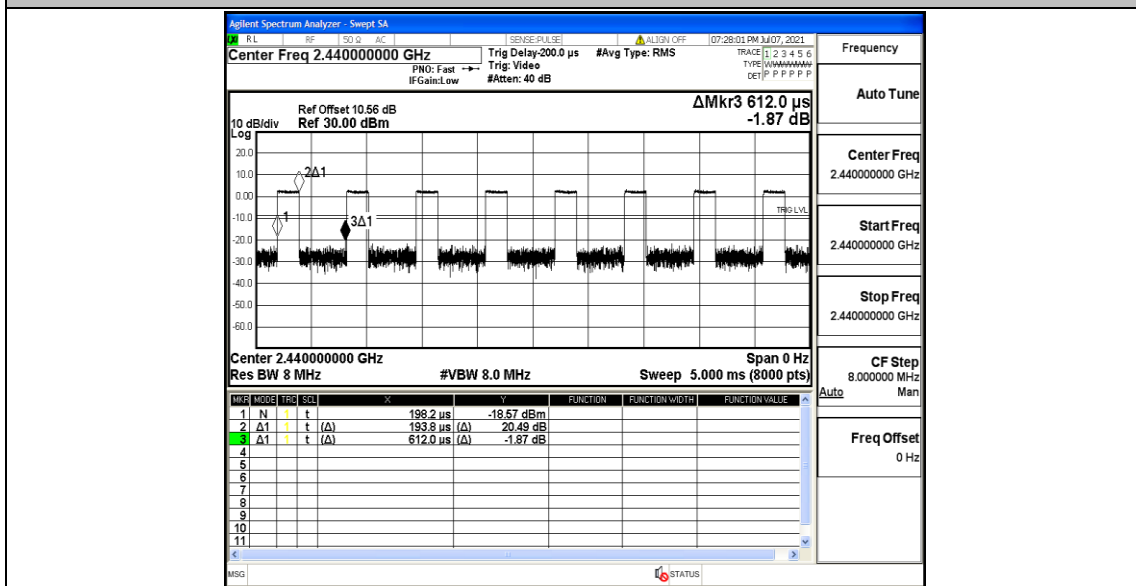




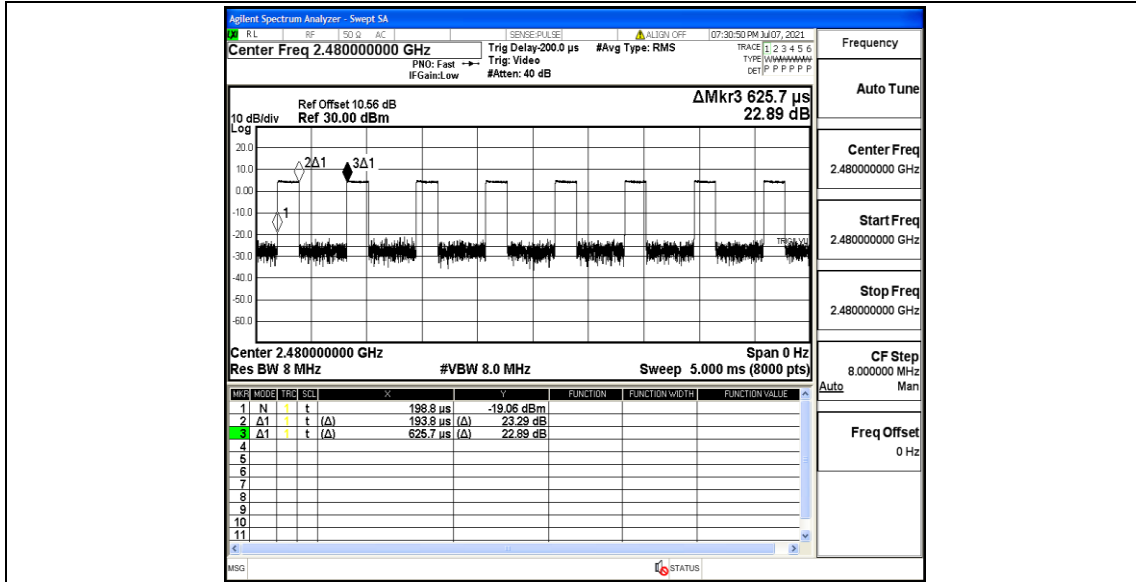
BLE\_2M\_Ant1\_2402



BLE\_2M\_Ant1\_2440



BLE\_2M\_Ant1\_2480



## Appendix H: Emissions in Restricted Bands

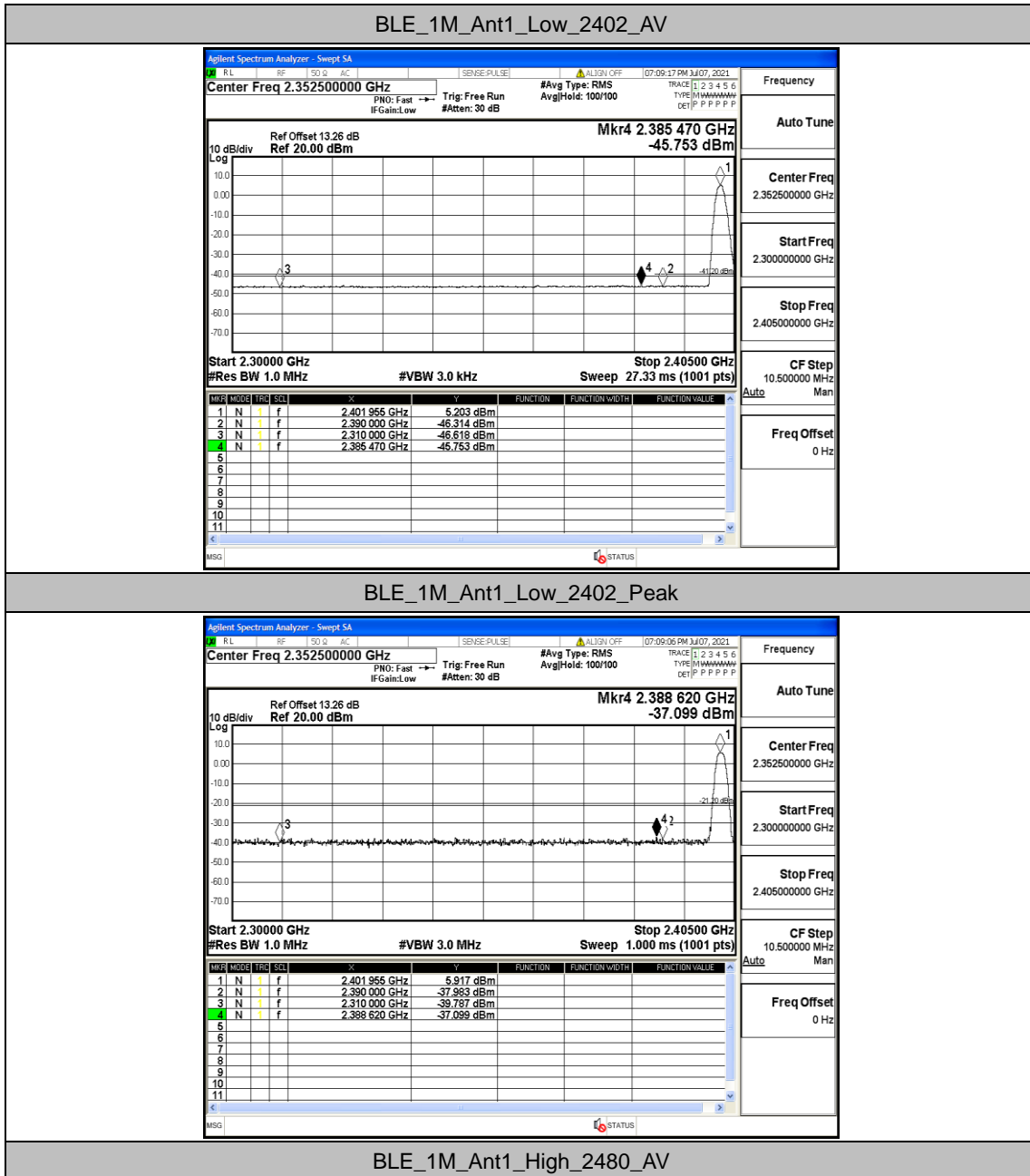
### Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-46.62	<=-41.20	PASS
				AV	2385.470	-45.75	<=-41.20	PASS
				AV	2390.000	-46.31	<=-41.20	PASS
				Peak	2310.000	-39.79	<=-21.20	PASS
				Peak	2388.620	-37.1	<=-21.20	PASS
				Peak	2390.000	-37.98	<=-21.20	PASS
		High	2480	AV	2483.500	-44.8	<=-41.20	PASS
				AV	2500.000	-45.4	<=-41.20	PASS
				Peak	2483.500	-40.07	<=-21.20	PASS
				Peak	2497.840	-36.61	<=-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-46.16	<=-41.20	PASS
				AV	2312.915	-44.71	<=-41.20	PASS
				AV	2390.000	-45.58	<=-41.20	PASS
				Peak	2310.000	-38.92	<=-21.20	PASS
				Peak	2327.825	-36.46	<=-21.20	PASS
				Peak	2390.000	-38.23	<=-21.20	PASS
		High	2480	AV	2483.500	-44.25	<=-41.20	PASS
				AV	2500.000	-44.88	<=-41.20	PASS
				Peak	2483.500	-38.79	<=-21.20	PASS
				Peak	2497.440	-36.52	<=-21.20	PASS
				Peak	2500.000	-38.79	<=-21.20	PASS

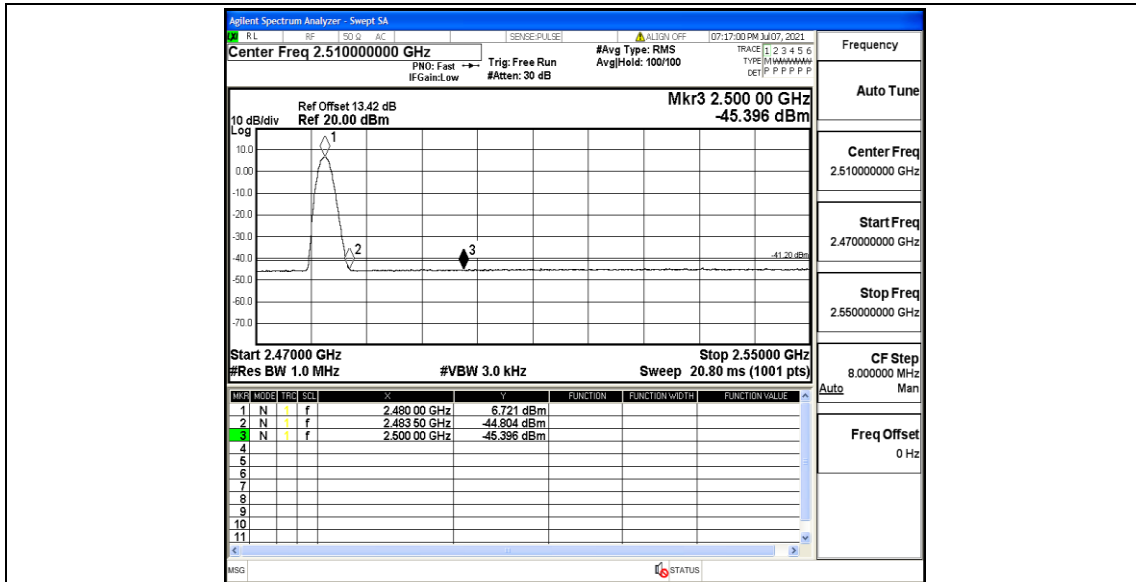
#### Note:

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.

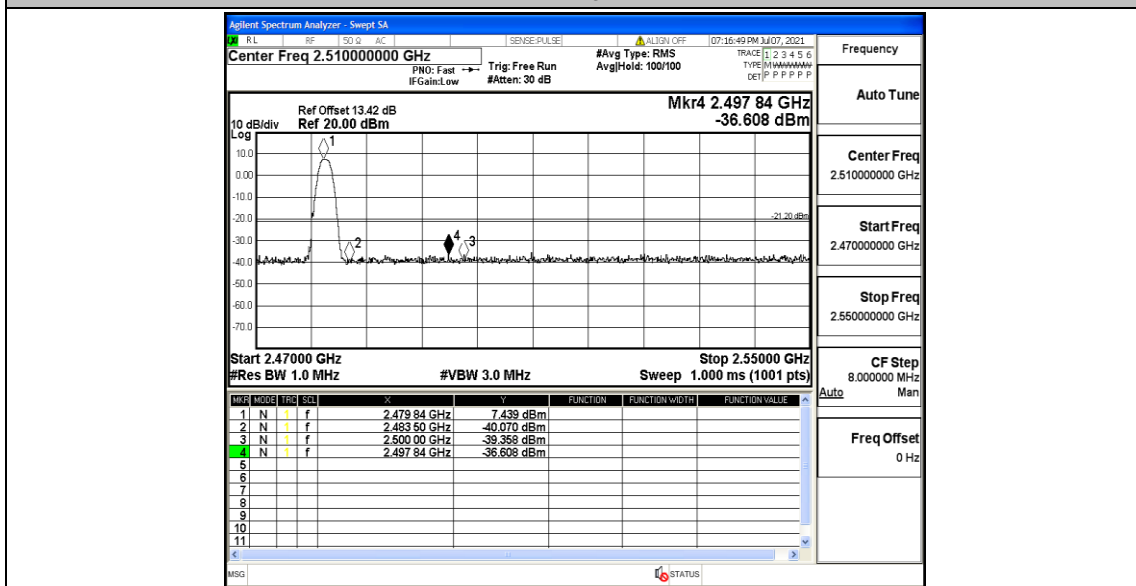
Test Graphs



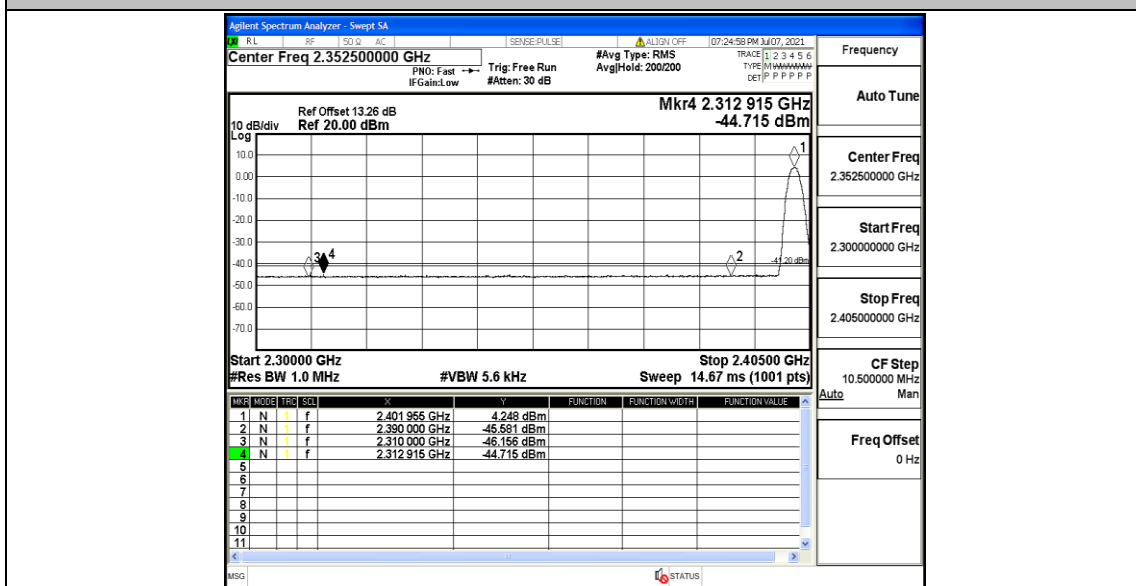




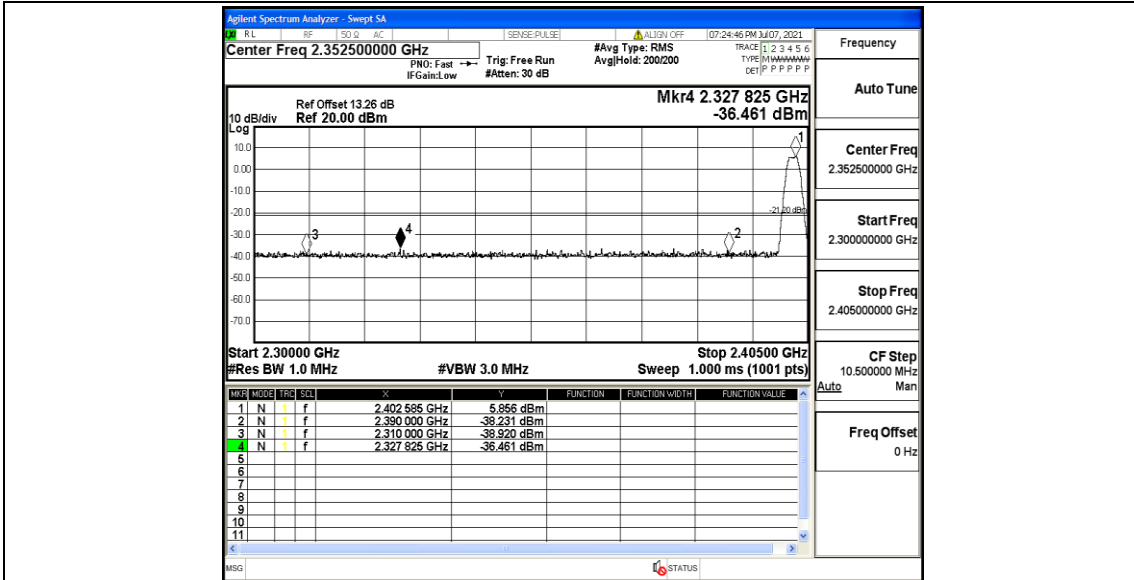
BLE\_1M\_Ant1\_High\_2480\_Peak



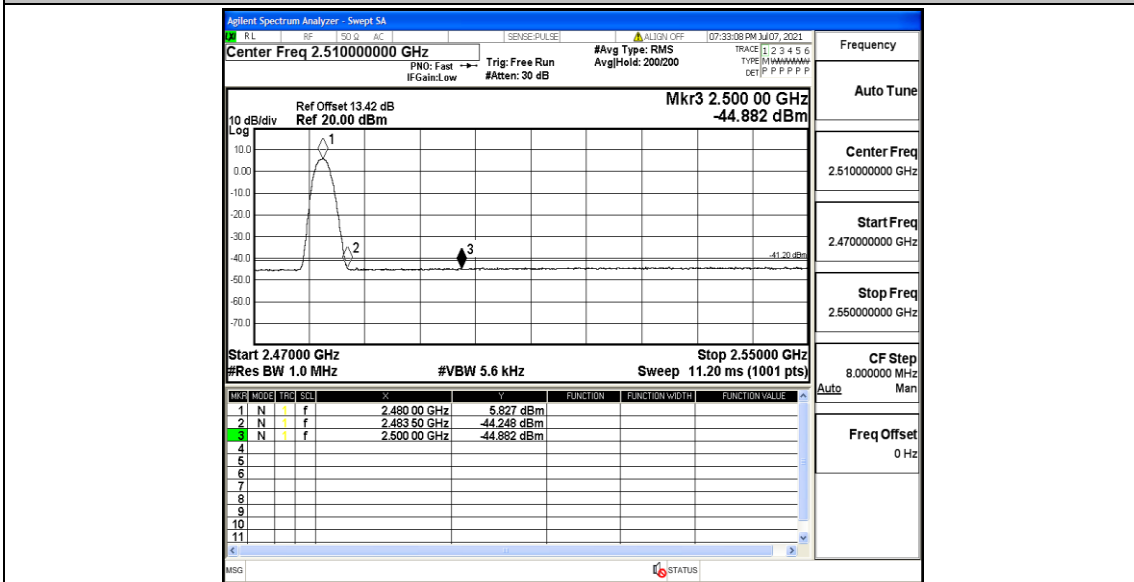
BLE\_2M\_Ant1\_Low\_2402\_AV



BLE\_2M\_Ant1\_Low\_2402\_Peak



BLE\_2M\_Ant1\_High\_2480\_AV



BLE\_2M\_Ant1\_High\_2480\_Peak

