

RF Test Data for BT(BLE) (Conducted Measurement)

Product Name: WIRELESS CONTROLLER

Trade Mark: N/A

Test Model: Q300

FCC ID: 2A4UG-Q300

Environmental Conditions

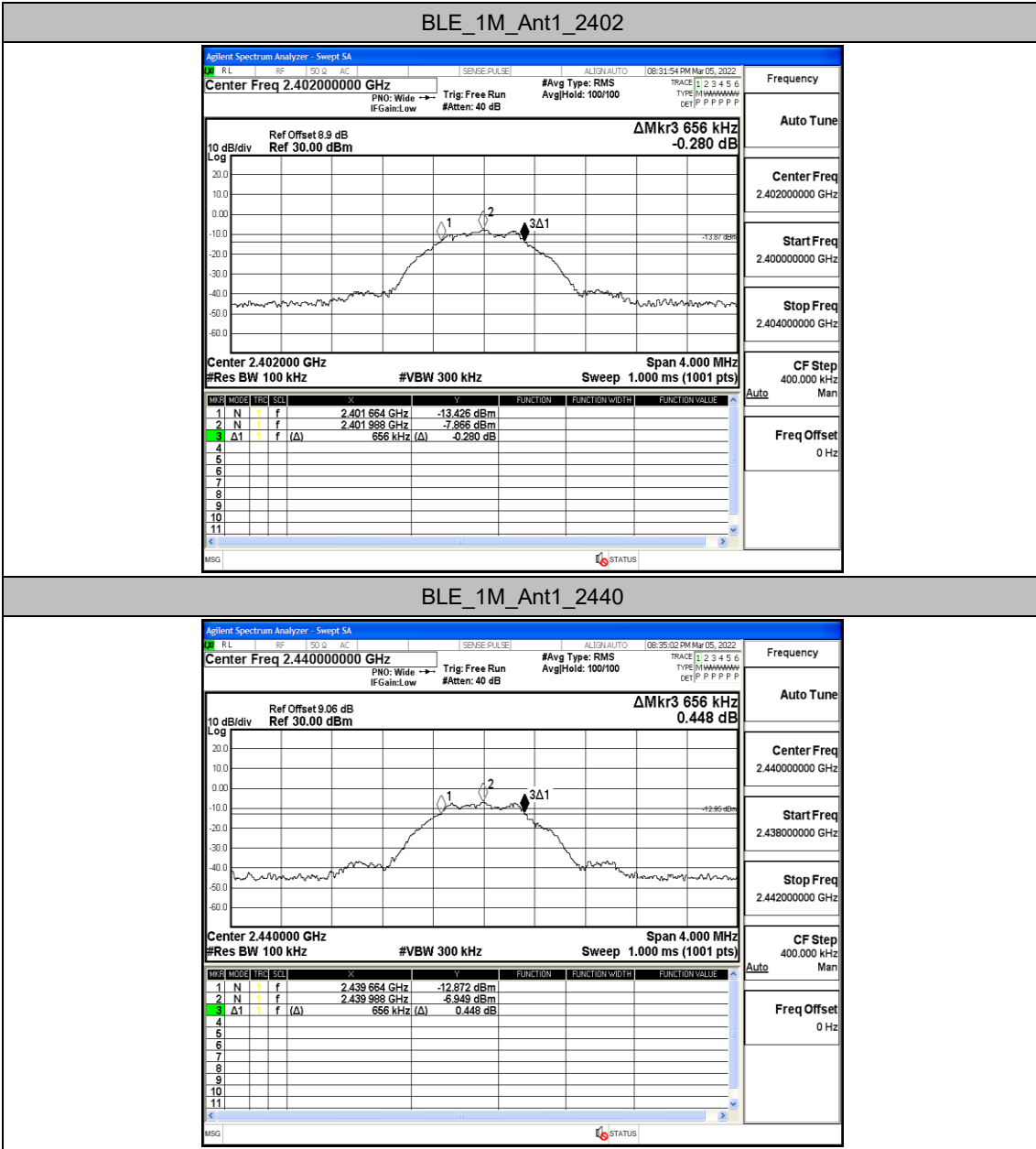
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: DTS Bandwidth

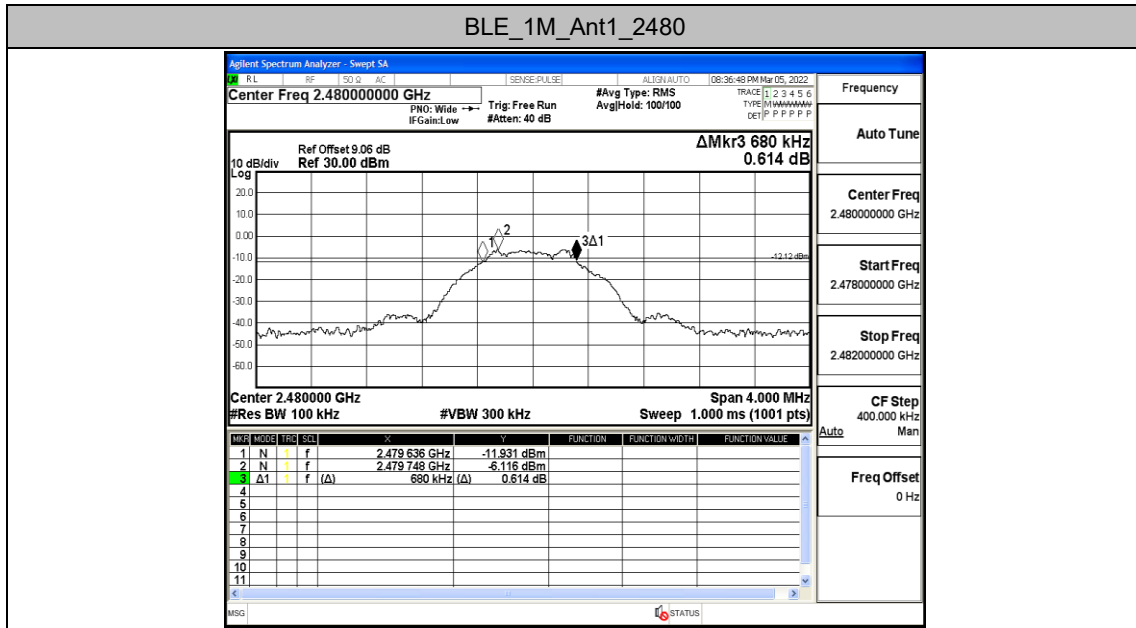
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.656	2401.664	2402.320	0.5	PASS
		2440	0.656	2439.664	2440.320	0.5	PASS
		2480	0.680	2479.636	2480.316	0.5	PASS

Test Graphs



BLE_1M_Ant1_2480

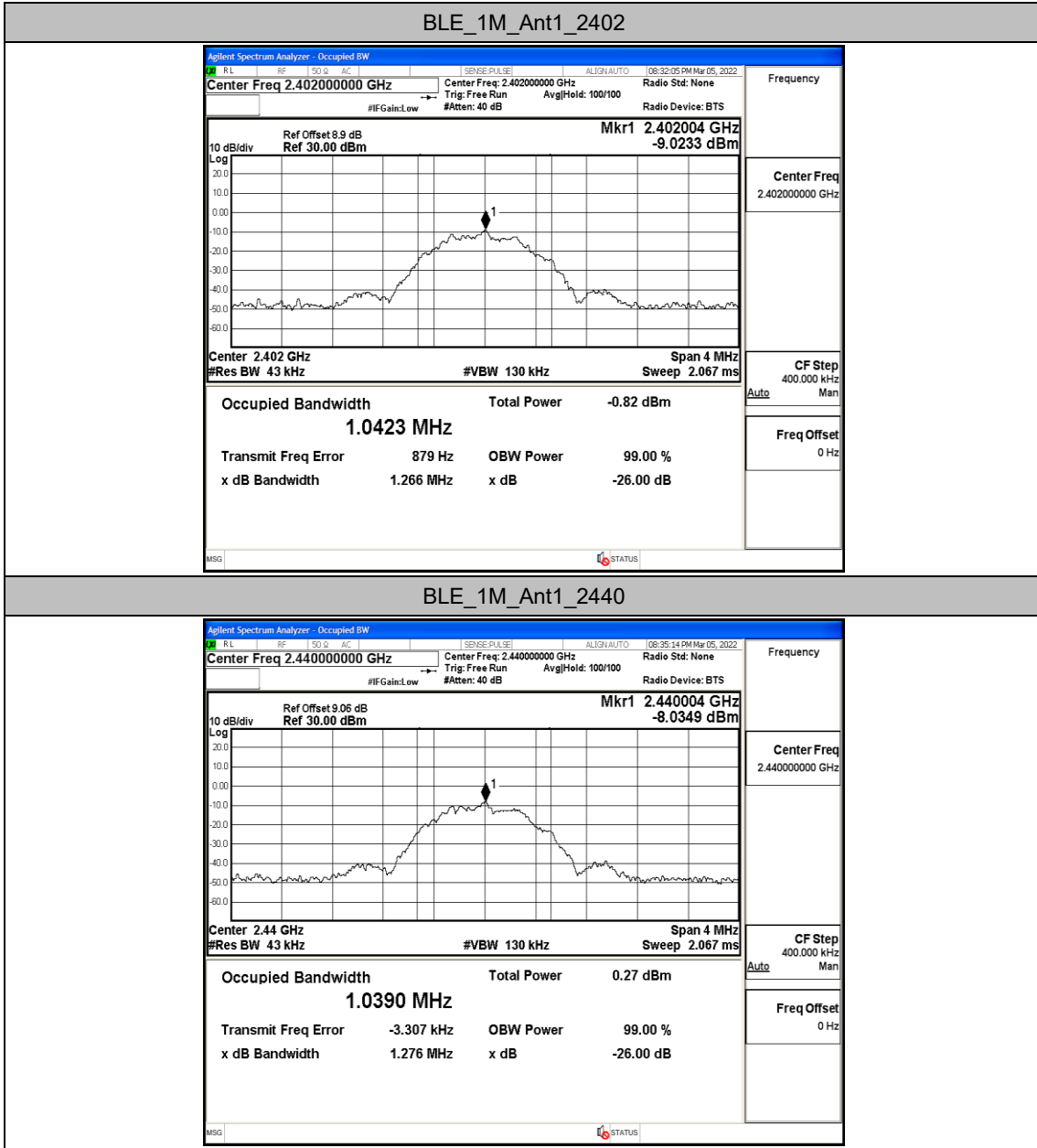


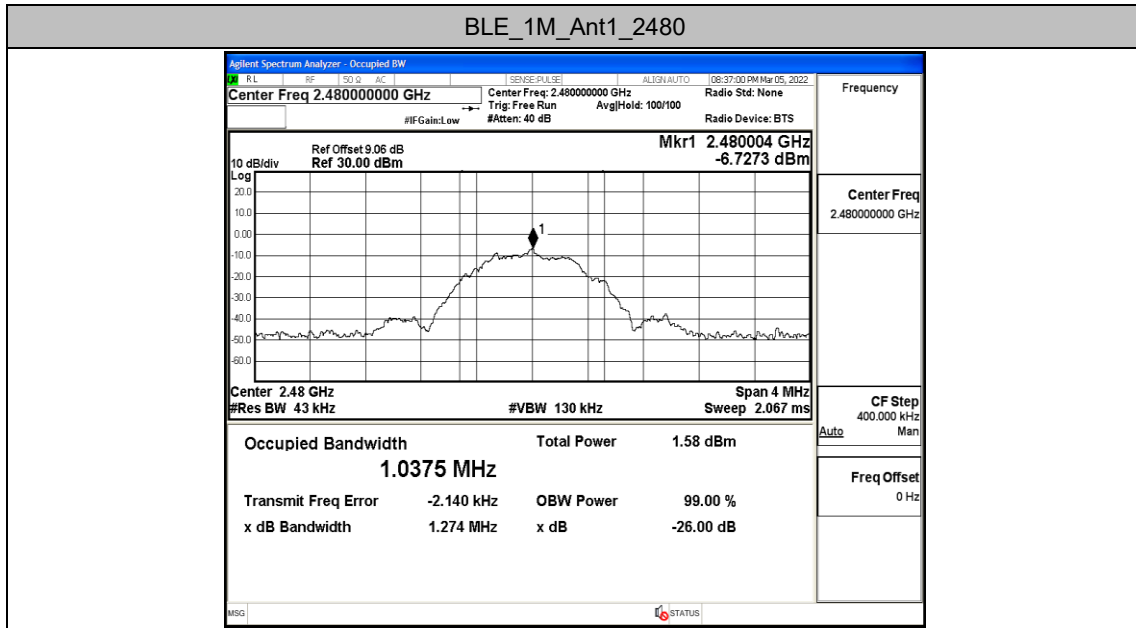
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0423	2401.480	2402.522	---	---
		2440	1.0390	2439.477	2440.516	---	---
		2480	1.0375	2479.479	2480.517	---	---

Test Graphs



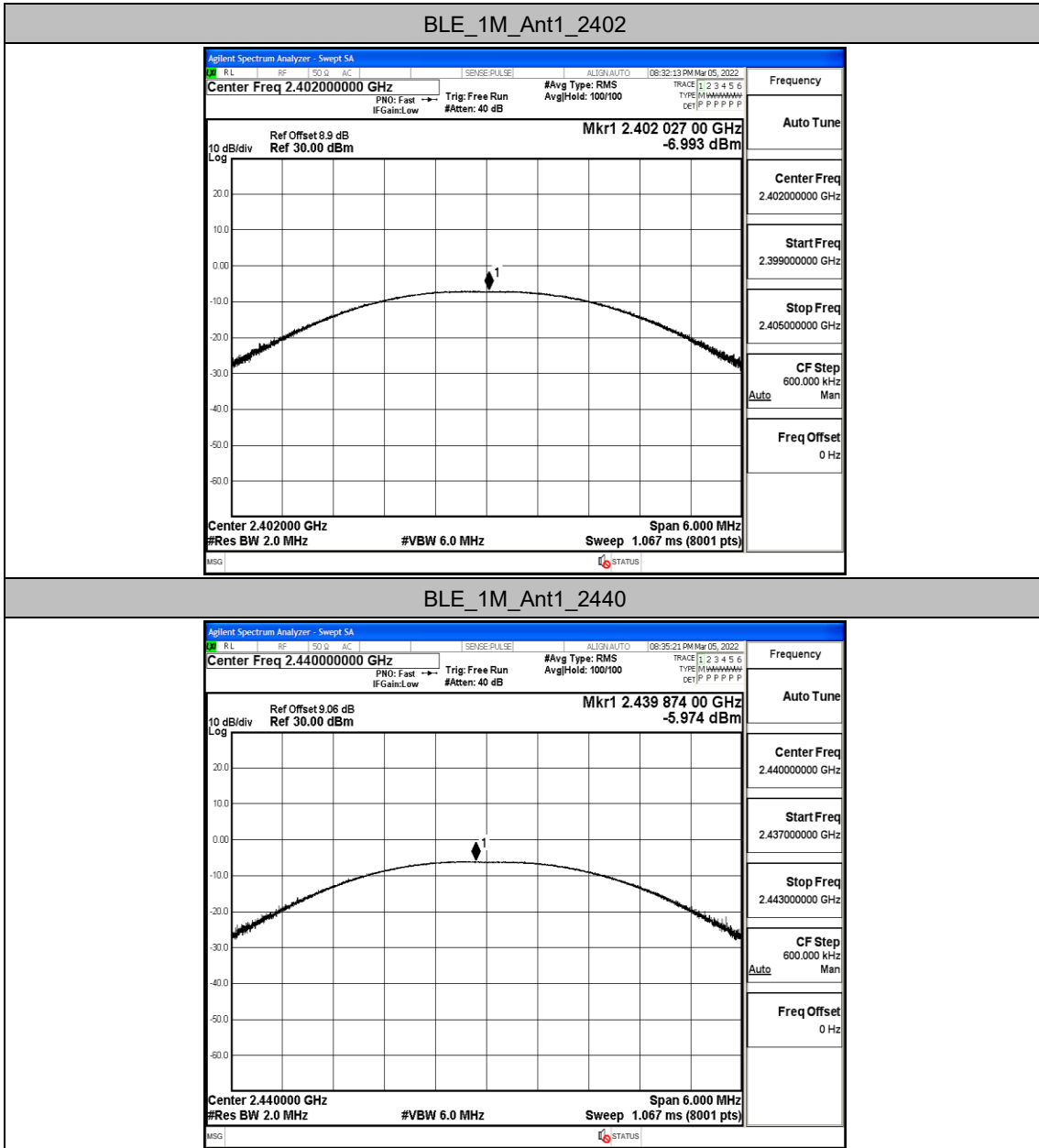


Appendix C: Maximum conducted output power

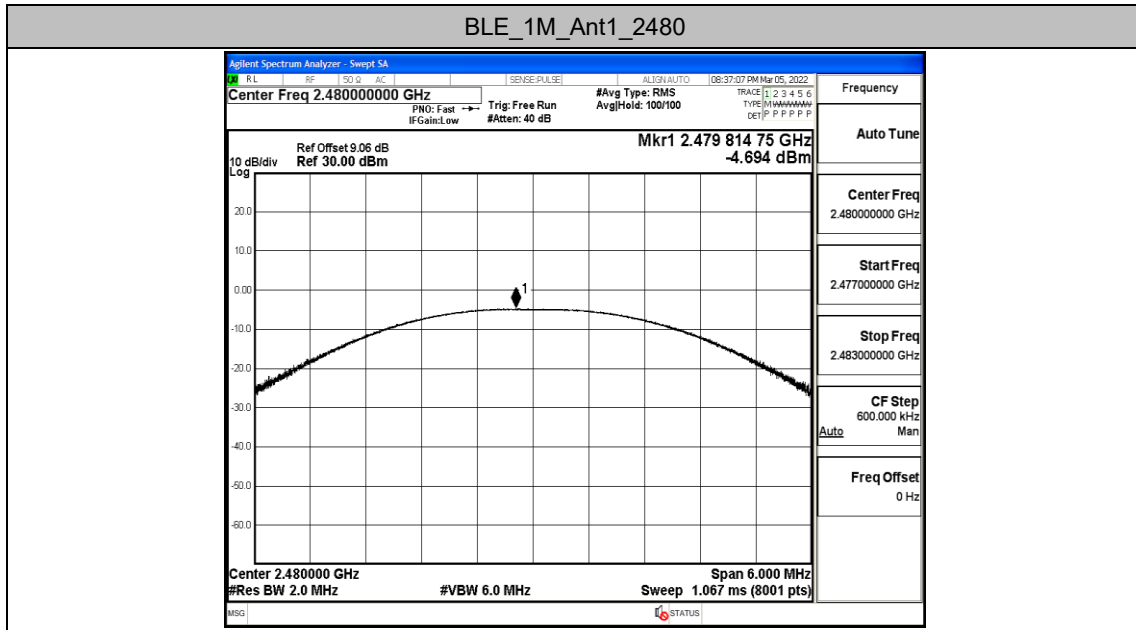
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-6.99	≤30	PASS
		2440	-5.97	≤30	PASS
		2480	-4.69	≤30	PASS

Test Graphs



BLE_1M_Ant1_2480

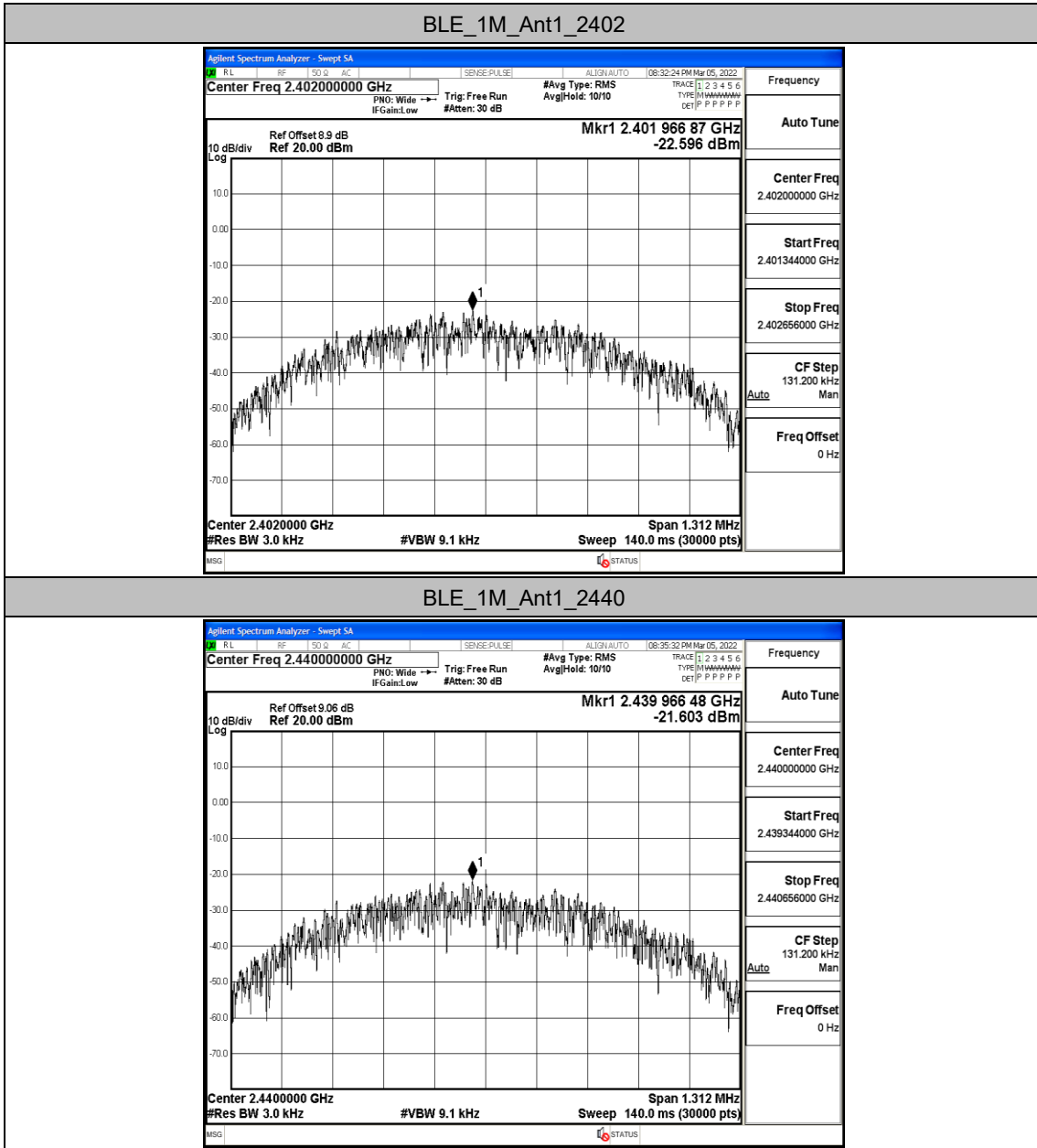


Appendix D: Maximum power spectral density

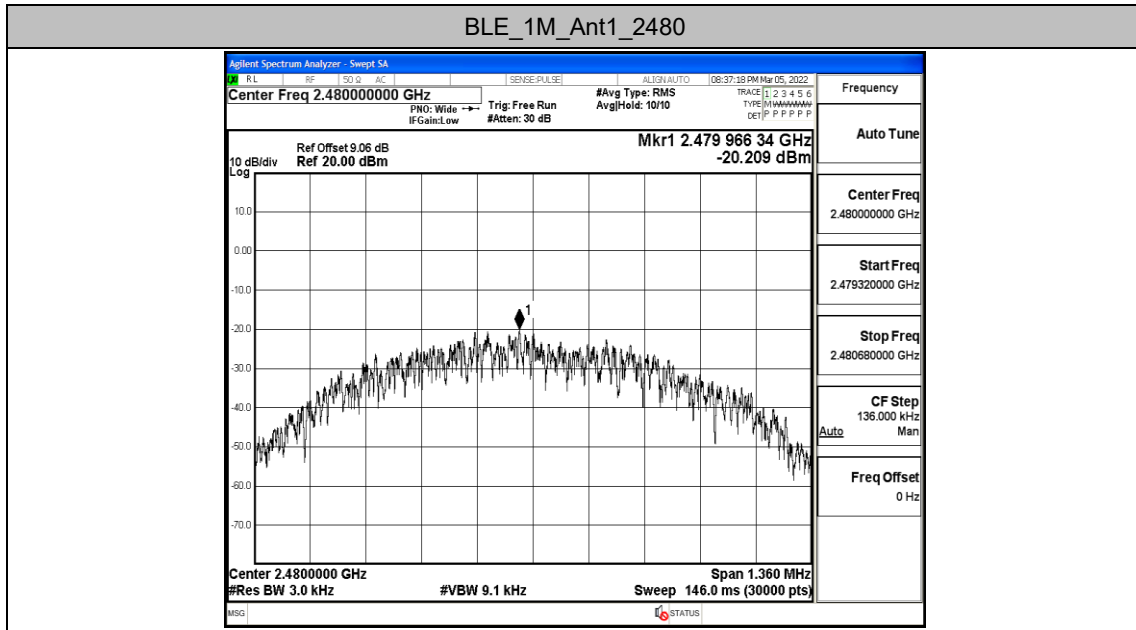
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-22.6	≤8.00	PASS
		2440	-21.6	≤8.00	PASS
		2480	-20.21	≤8.00	PASS

Test Graphs



BLE_1M_Ant1_2480

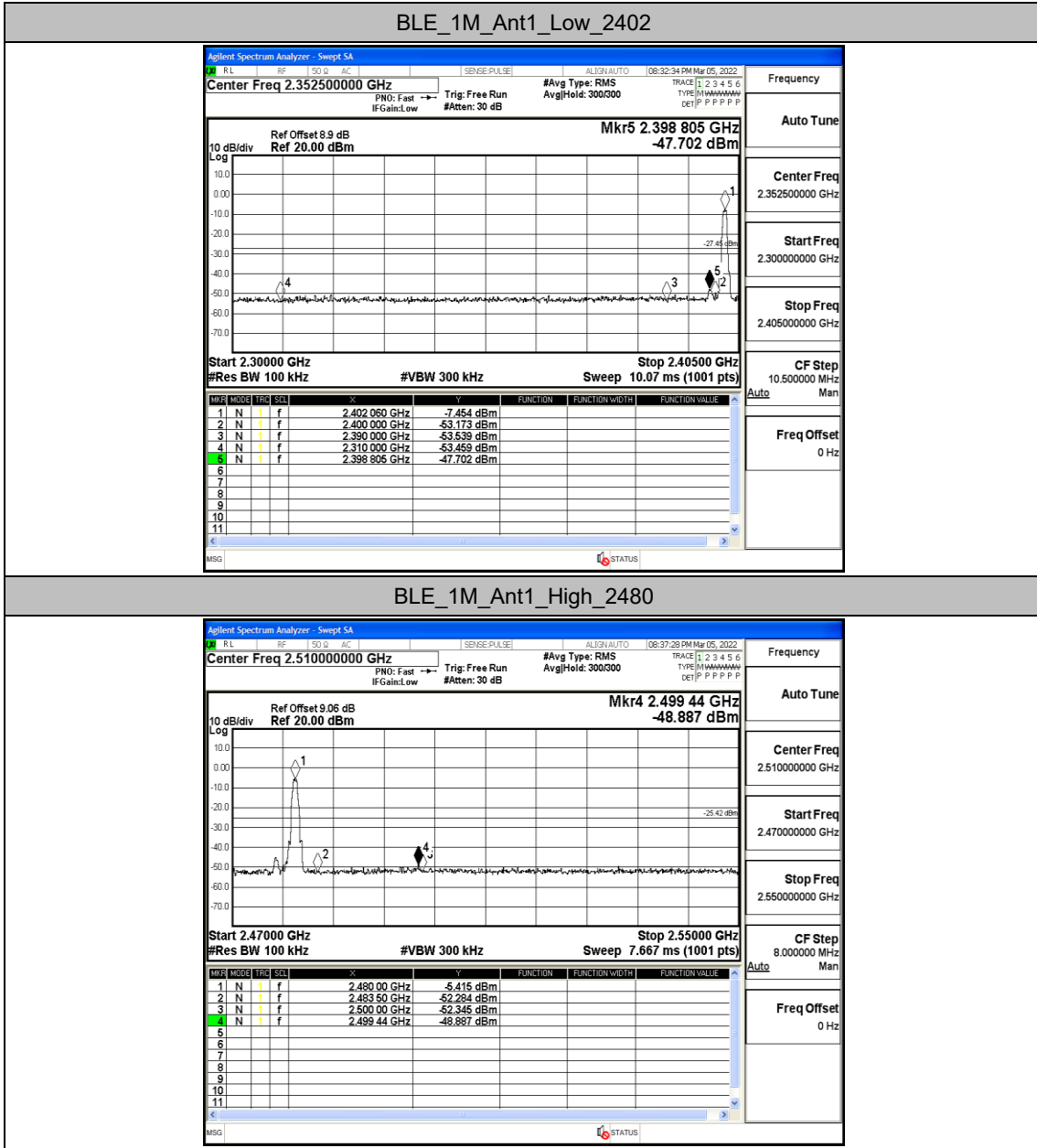


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-7.45	-47.7	≤-27.45	PASS
		High	2480	-5.42	-48.89	≤-25.42	PASS

Test Graphs

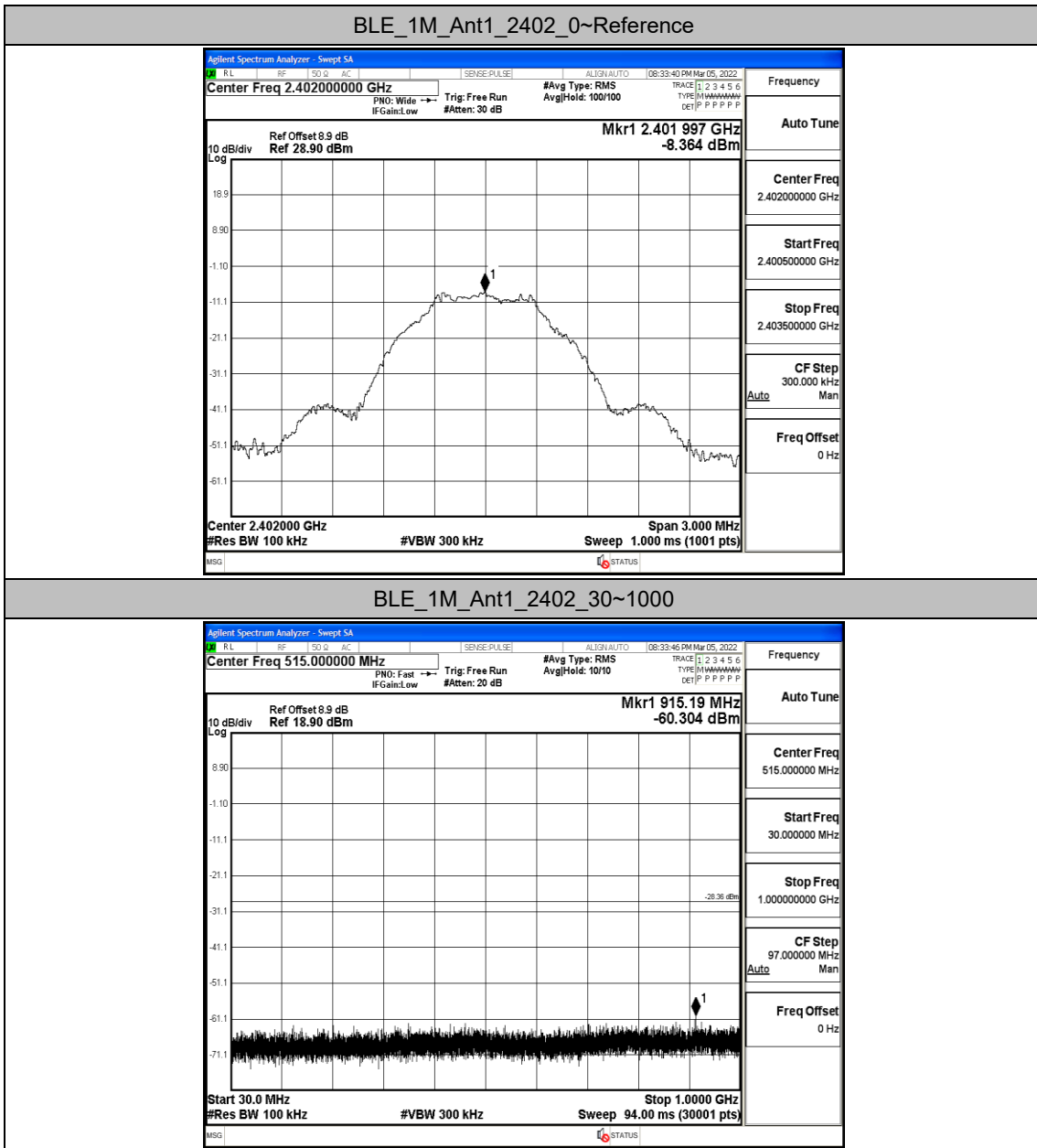


Appendix F: Conducted Spurious Emission

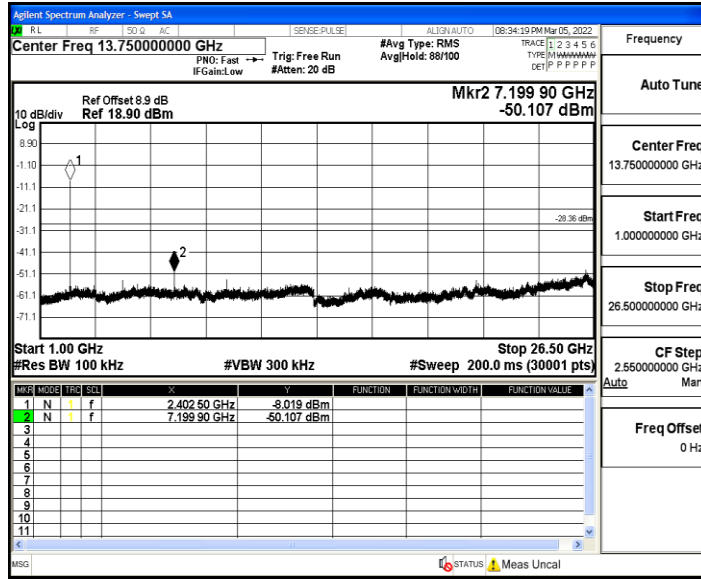
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-8.36	-8.36	---	PASS
			30~1000	-8.36	-60.3	≤-28.36	PASS
			1000~26500	-8.36	-50.11	≤-28.36	PASS
		2440	Reference	-6.71	-6.71	---	PASS
			30~1000	-6.71	-61.66	≤-26.71	PASS
			1000~26500	-6.71	-50.76	≤-26.71	PASS
		2480	Reference	-5.40	-5.40	---	PASS
			30~1000	-5.40	-61.47	≤-25.4	PASS
			1000~26500	-5.40	-49.9	≤-25.4	PASS

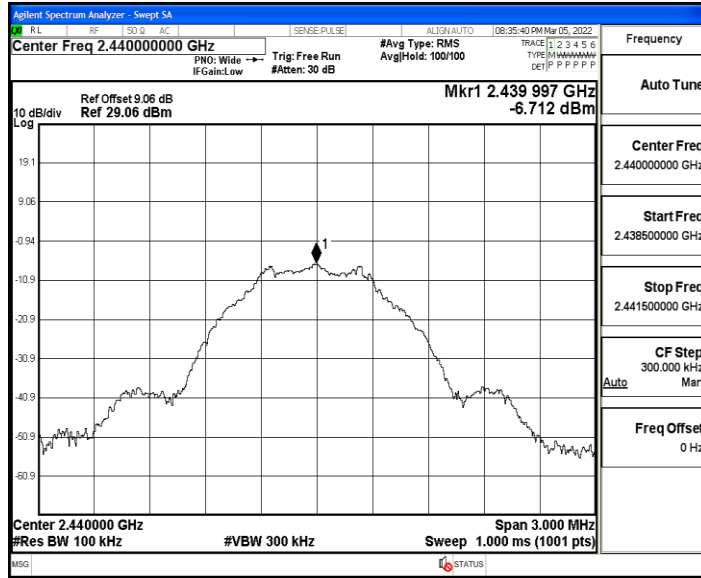
Test Graphs



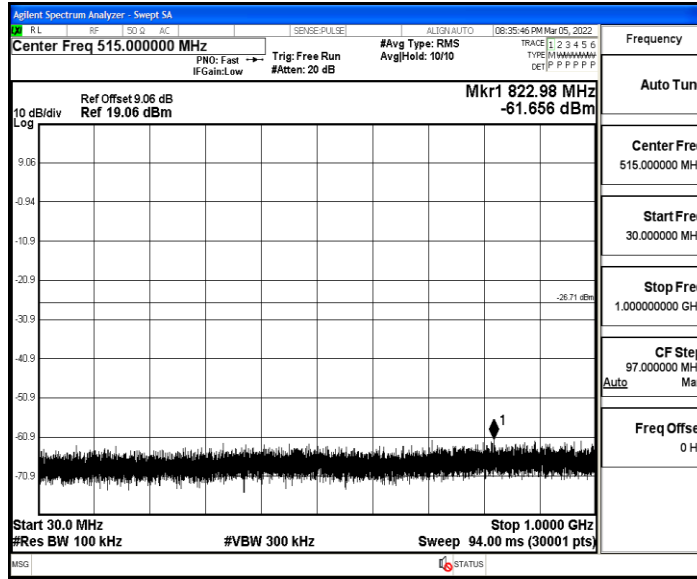
BLE_1M_Ant1_2402_1000~26500



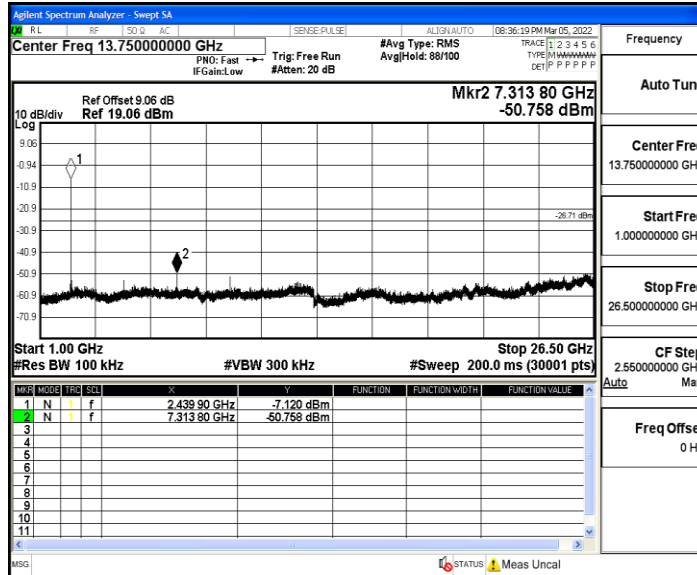
BLE_1M_Ant1_2440_0~Reference



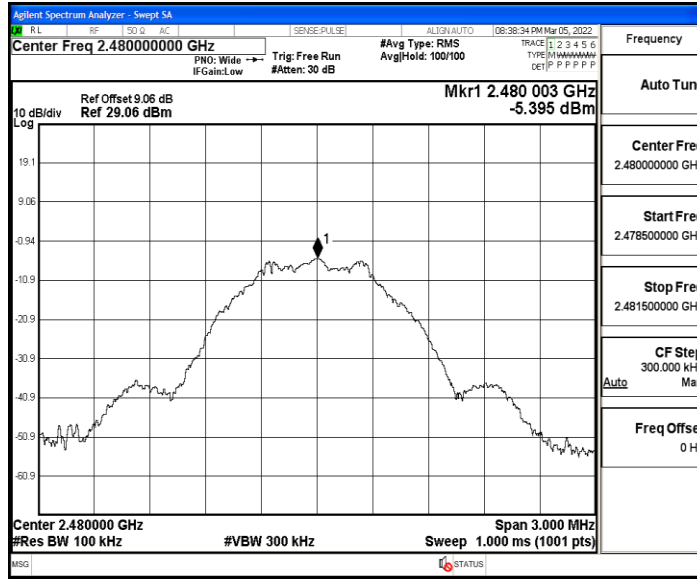
BLE_1M_Ant1_2440_30~1000



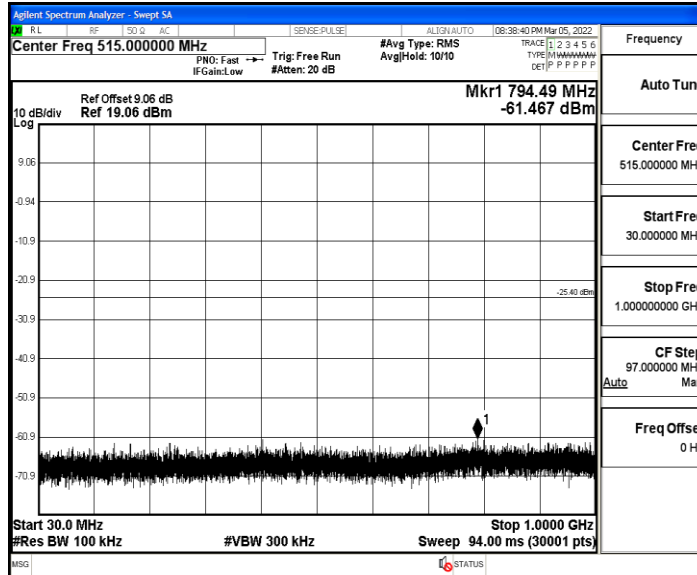
BLE_1M_Ant1_2440_1000~26500

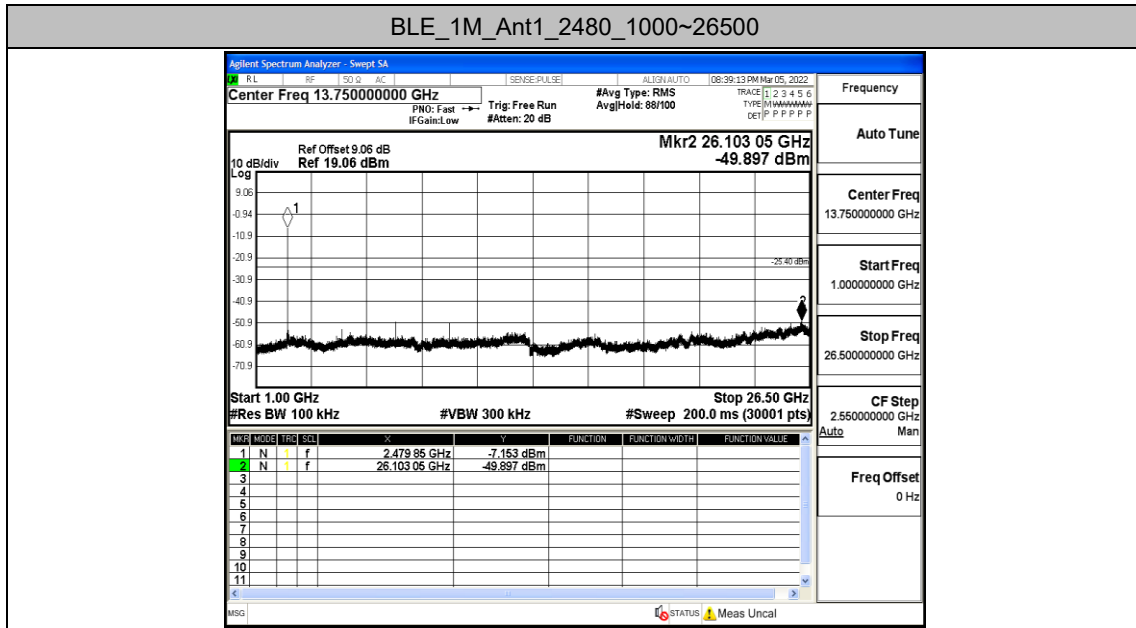


BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



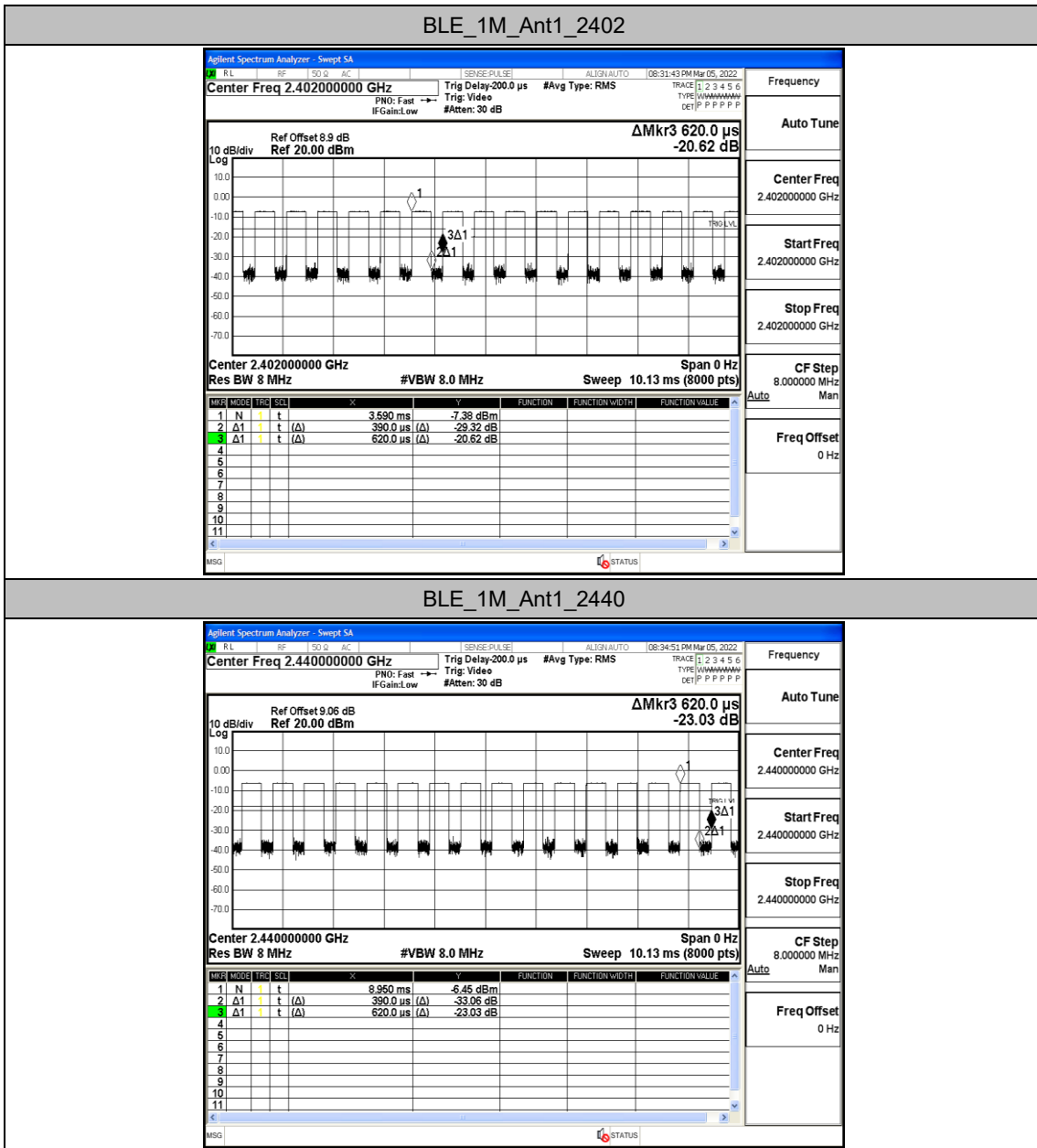


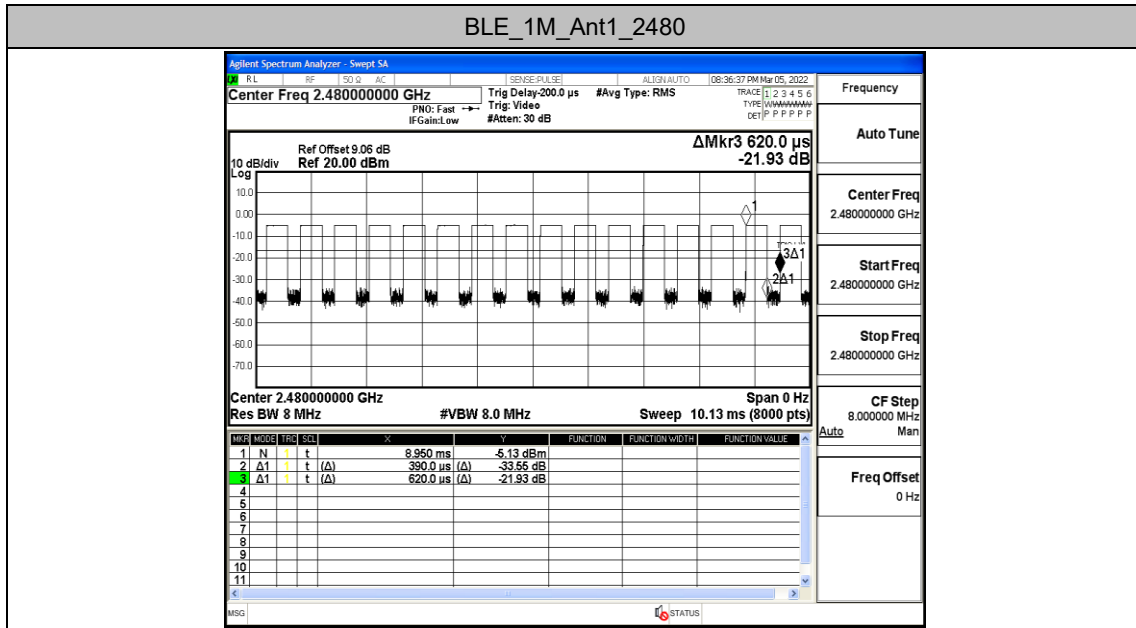
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T
BLE_1M	Ant1	2402	0.39	0.62	62.90	2.56
		2440	0.39	0.62	62.90	2.56
		2480	0.39	0.62	62.90	2.56

Test Graphs





Appendix H: Emissions in Restricted Bands

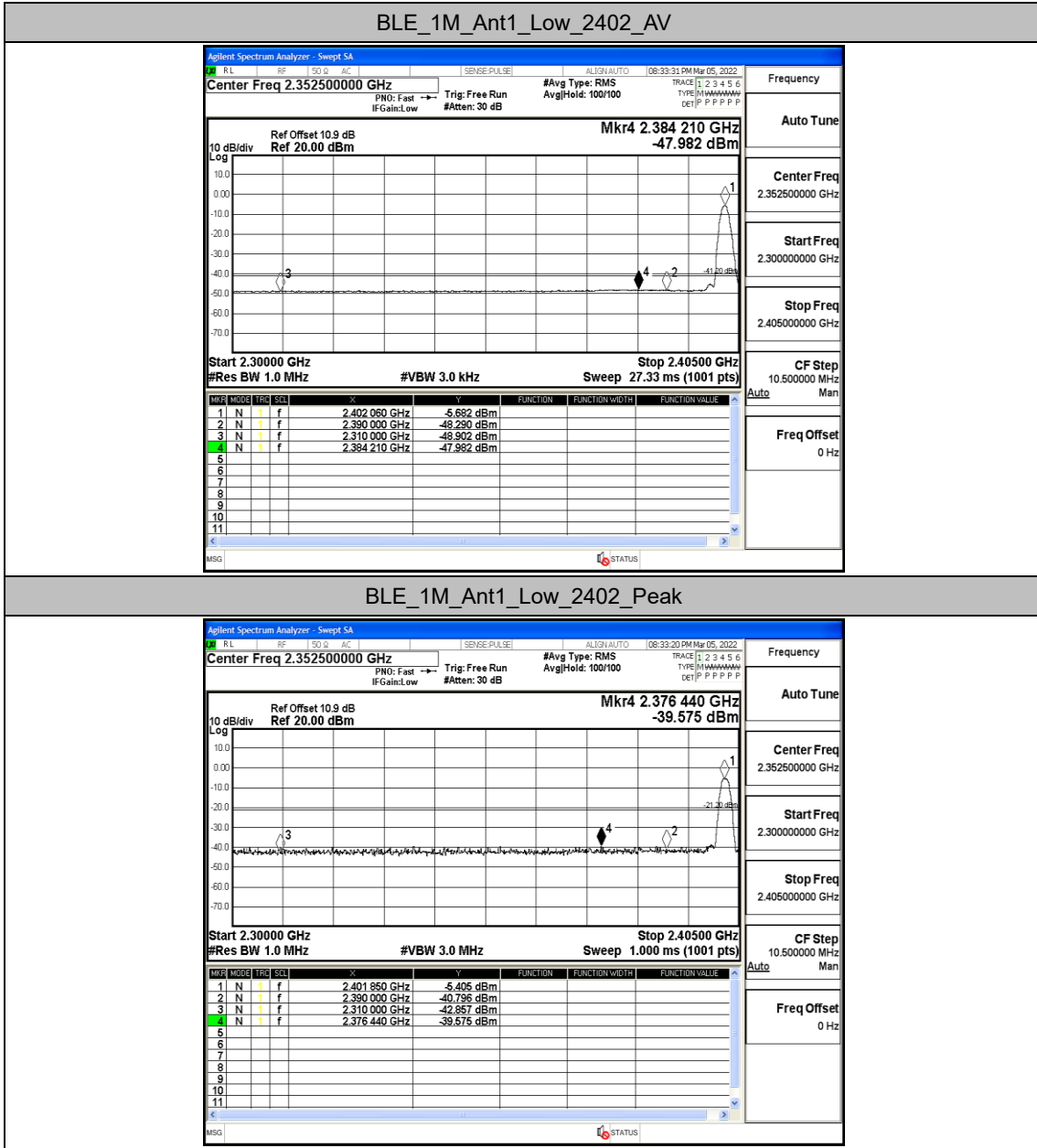
Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.9	≤-41.20	PASS
				AV	2384.210	-47.98	≤-41.20	PASS
				AV	2390.000	-48.29	≤-41.20	PASS
				Peak	2310.000	-42.86	≤-21.20	PASS
				Peak	2376.440	-39.57	≤-21.20	PASS
				Peak	2390.000	-40.8	≤-21.20	PASS
		High	2480	AV	2483.500	-47.55	≤-41.20	PASS
				AV	2495.920	-46.84	≤-41.20	PASS
				AV	2500.000	-47.3	≤-41.20	PASS
				Peak	2483.500	-42.49	≤-21.20	PASS
				Peak	2497.280	-37.58	≤-21.20	PASS
				Peak	2500.000	-40.79	≤-21.20	PASS

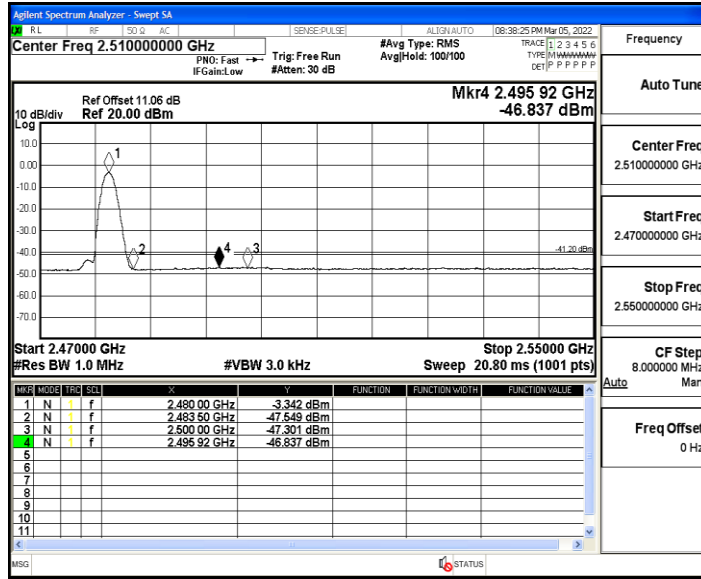
Note:

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_AV



BLE_1M_Ant1_High_2480_Peak

