

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

Product Name: Smart Gateway

Trade Mark: Dusun

Test Model: DSGW-093

FCC ID: 2AUXBDSGW-093

Environmental Conditions

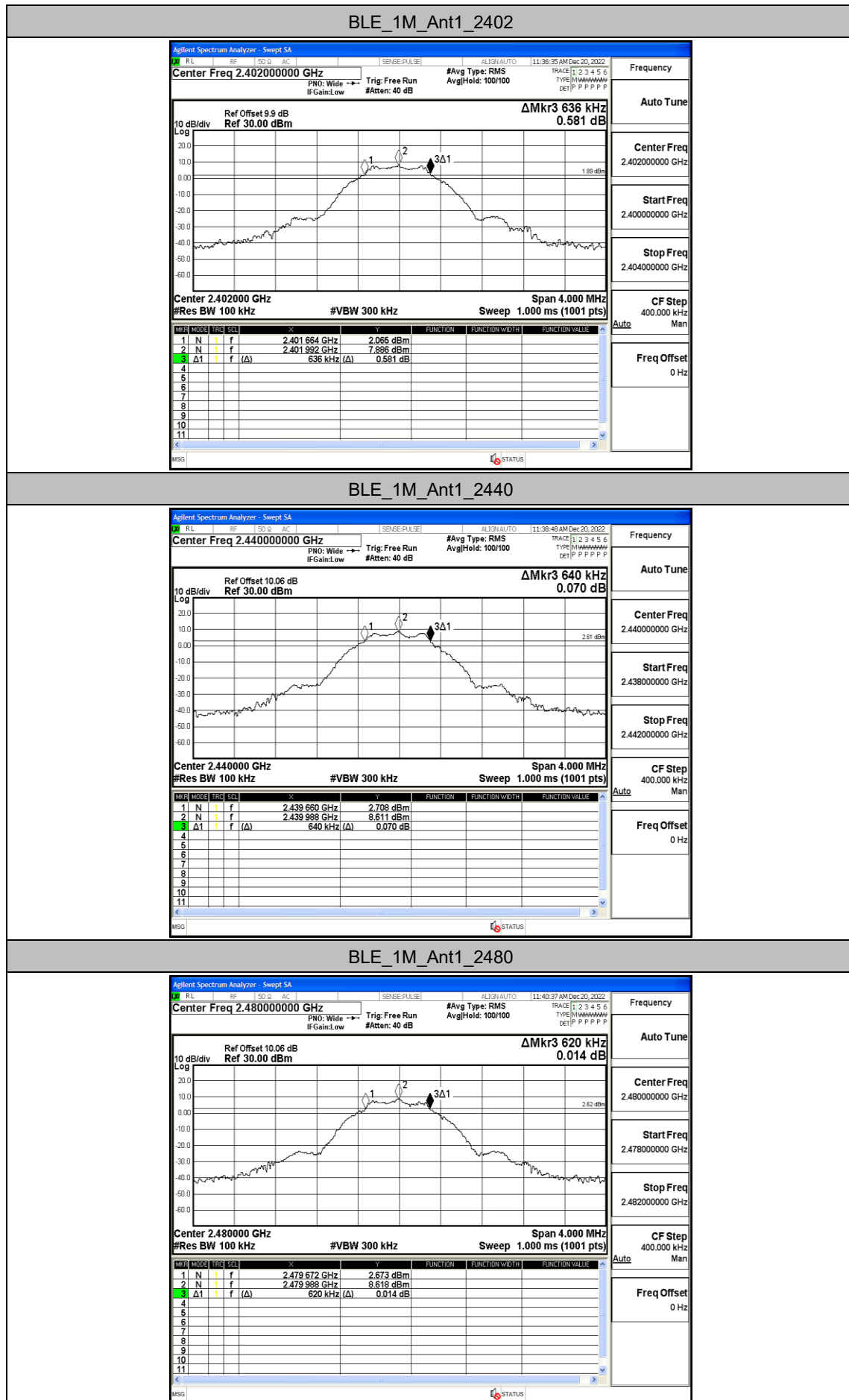
Temperature:	22.7℃
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.636	2401.664	2402.300	0.5	PASS
		2440	0.640	2439.660	2440.300	0.5	PASS
		2480	0.620	2479.672	2480.292	0.5	PASS

Test Graphs



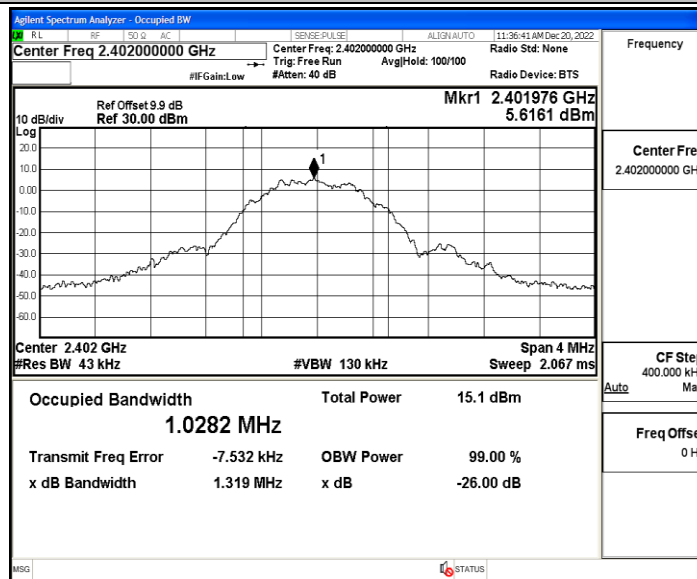
Appendix B: Occupied Channel Bandwidth

Test Result

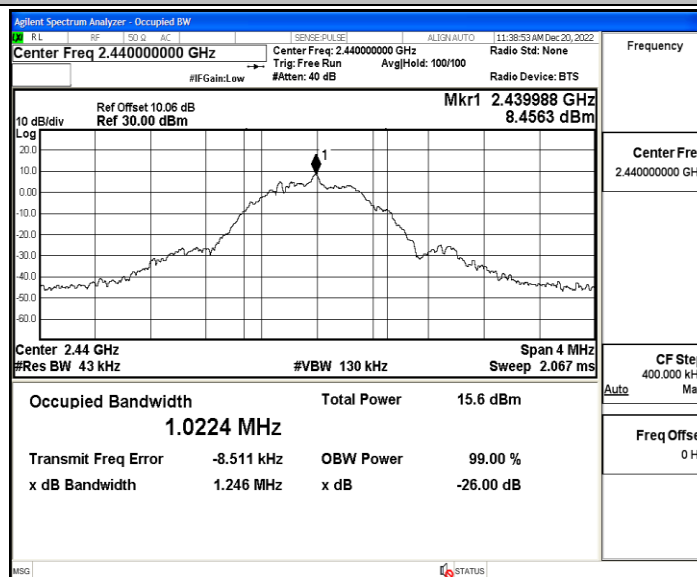
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0282	2401.4784	2402.5066	---	---
		2440	1.0224	2439.4803	2440.5027	---	---
		2480	1.0217	2479.4801	2480.5018	---	---

Test Graphs

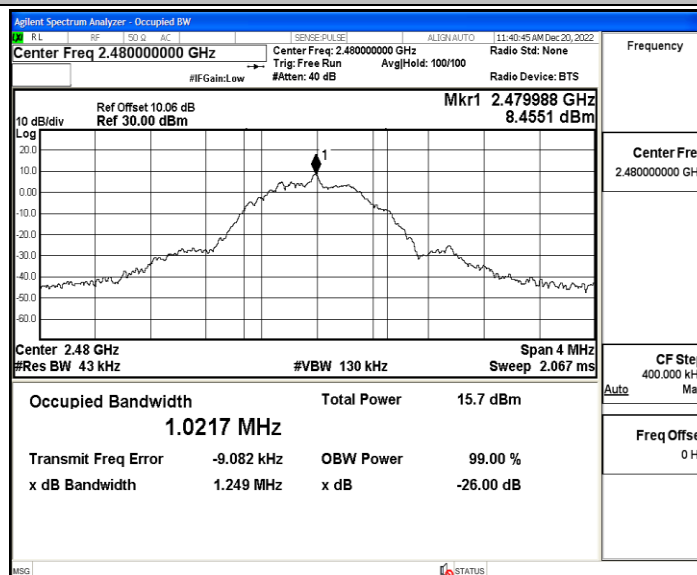
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

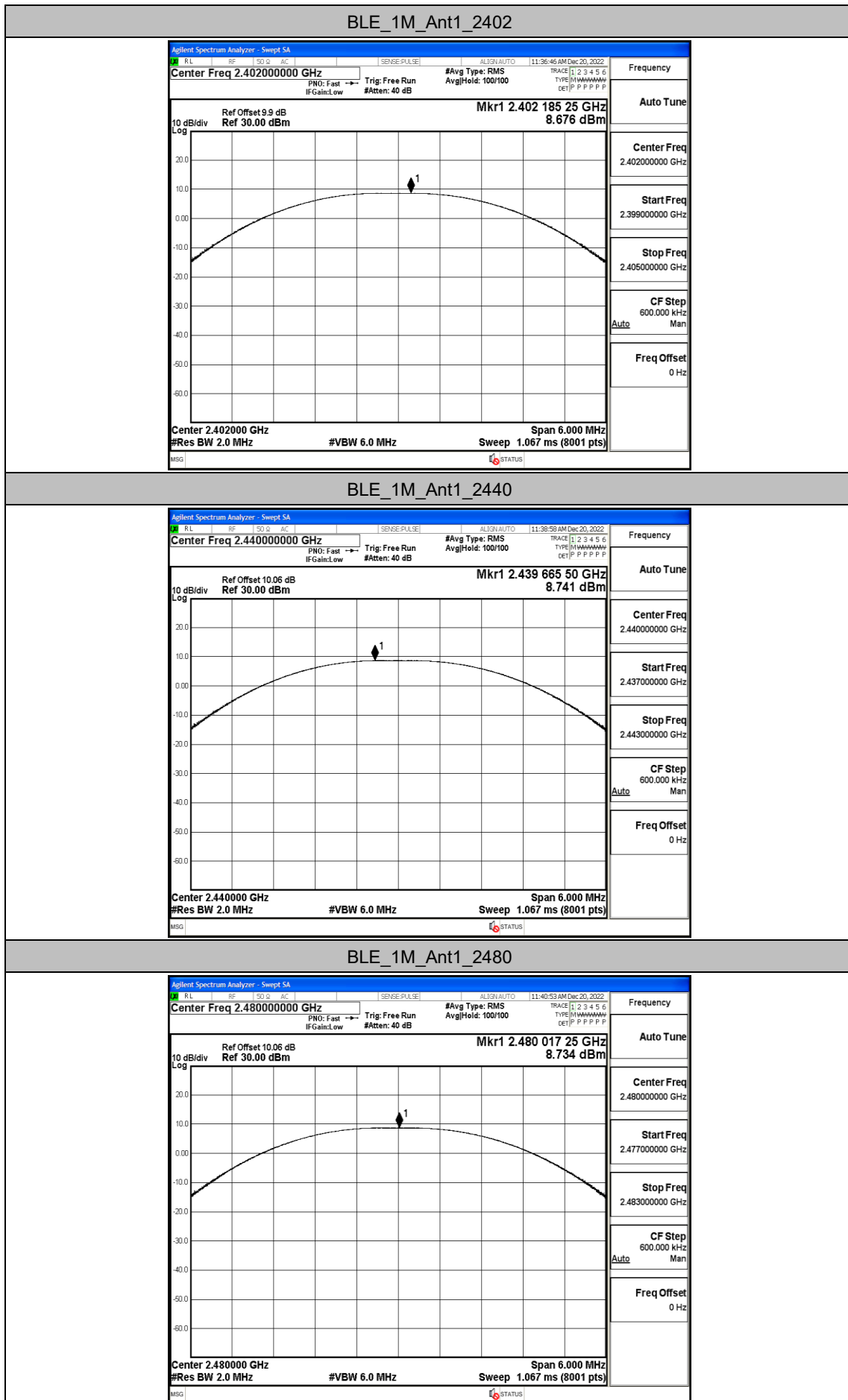


Appendix C: Maximum Peak conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	8.68	≤30	PASS
		2440	8.74	≤30	PASS
		2480	8.73	≤30	PASS

Test Graphs



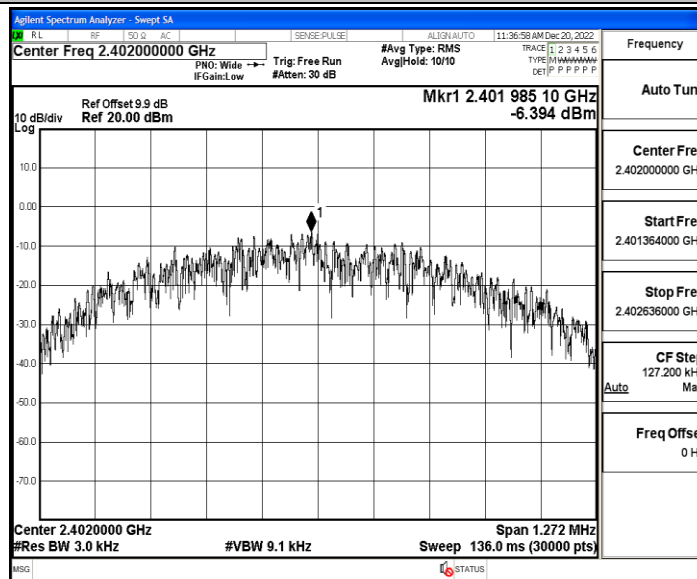
Appendix D: Maximum power spectral density

Test Result

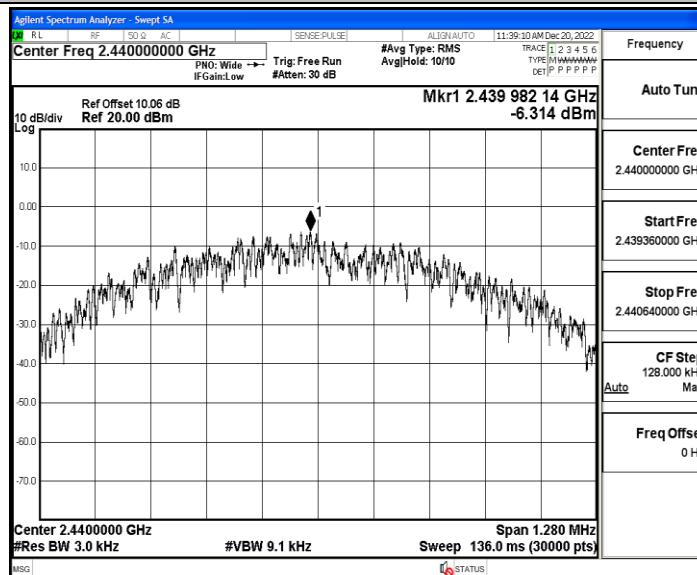
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-6.39	≤8.00	PASS
		2440	-6.31	≤8.00	PASS
		2480	-6.2	≤8.00	PASS

Test Graphs

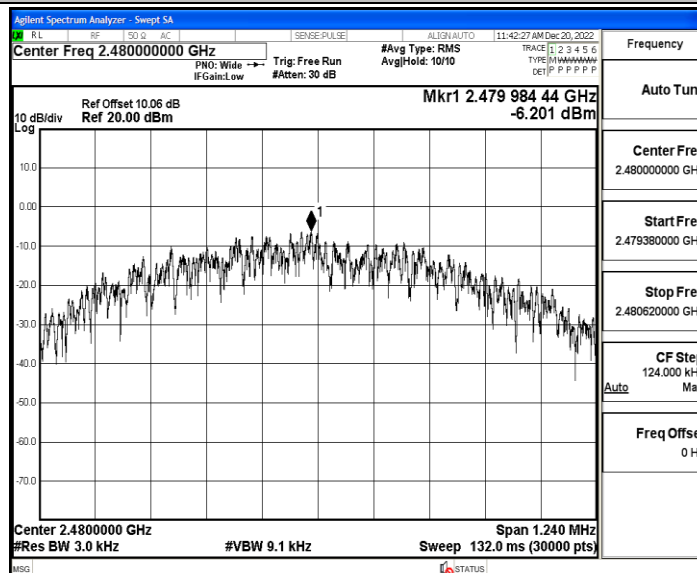
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



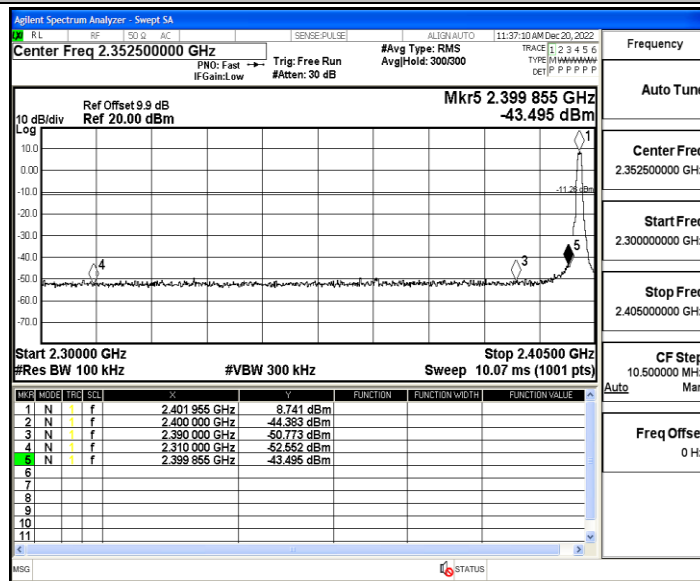
Appendix E: Band edge measurements

Test Result

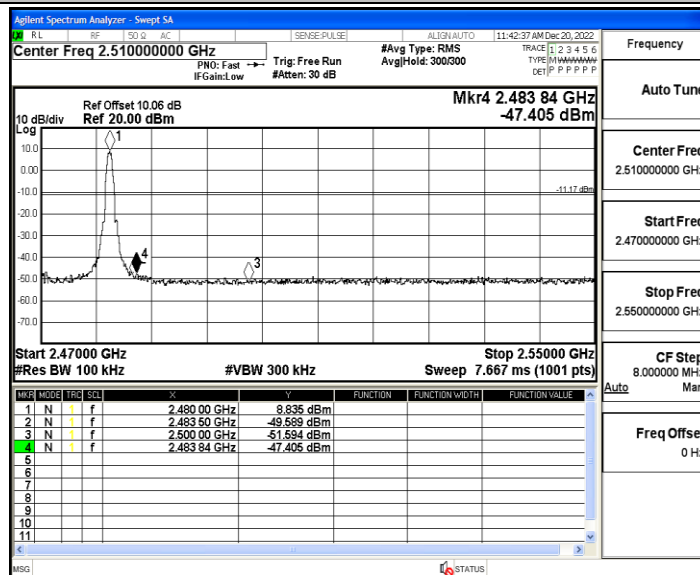
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	8.74	-43.5	≤-11.26	PASS
		High	2480	8.84	-47.41	≤-11.17	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



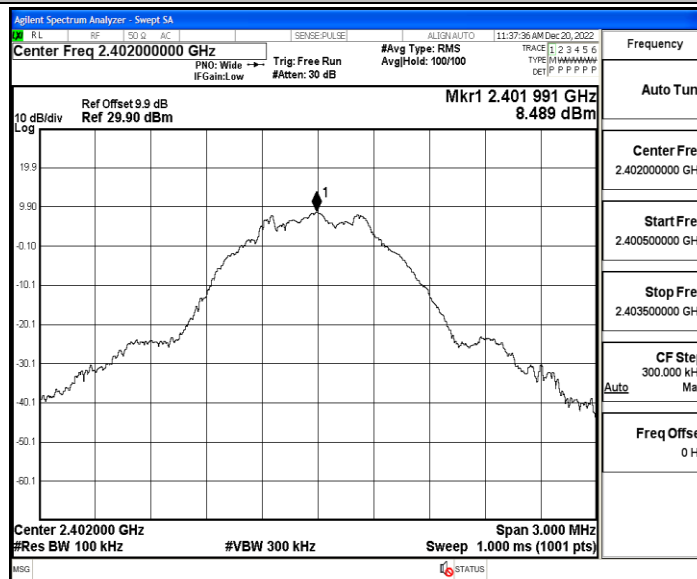
Appendix F: Conducted Spurious Emission

Test Result

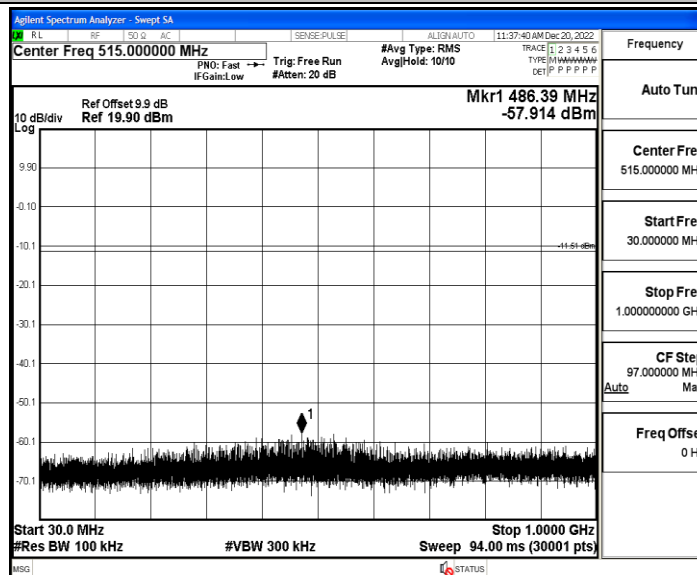
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	8.49	8.49	---	PASS
			30~1000	8.49	-57.91	≤-11.51	PASS
			1000~26500	8.49	-50.82	≤-11.51	PASS
		2440	Reference	8.61	8.61	---	PASS
			30~1000	8.61	-57.98	≤-11.39	PASS
			1000~26500	8.61	-50.26	≤-11.39	PASS
		2480	Reference	8.04	8.04	---	PASS
			30~1000	8.04	-57.78	≤-11.96	PASS
			1000~26500	8.04	-50.84	≤-11.96	PASS

Test Graphs

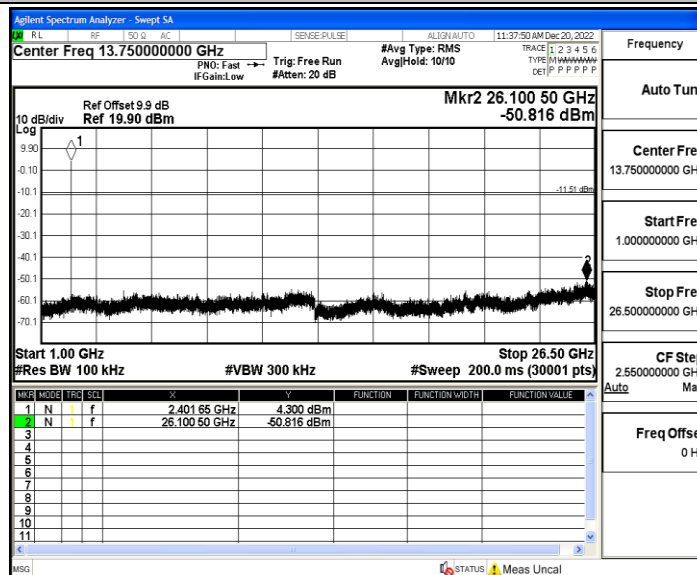
BLE_1M_Ant1_2402_0~Reference



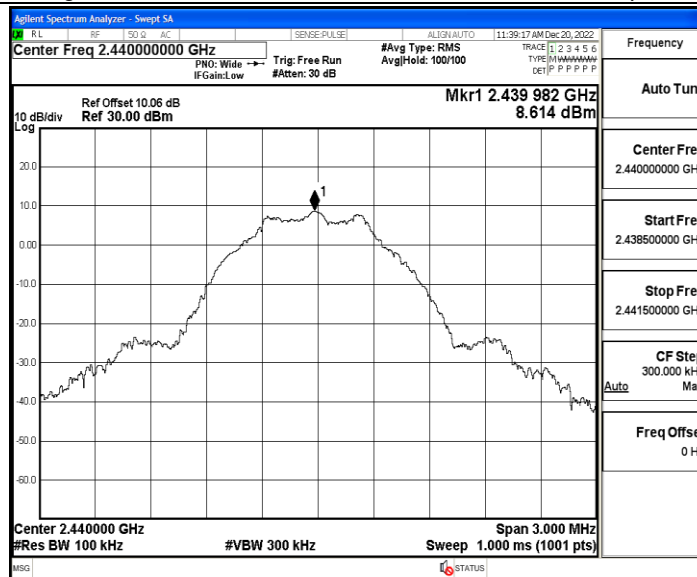
BLE_1M_Ant1_2402_30~1000



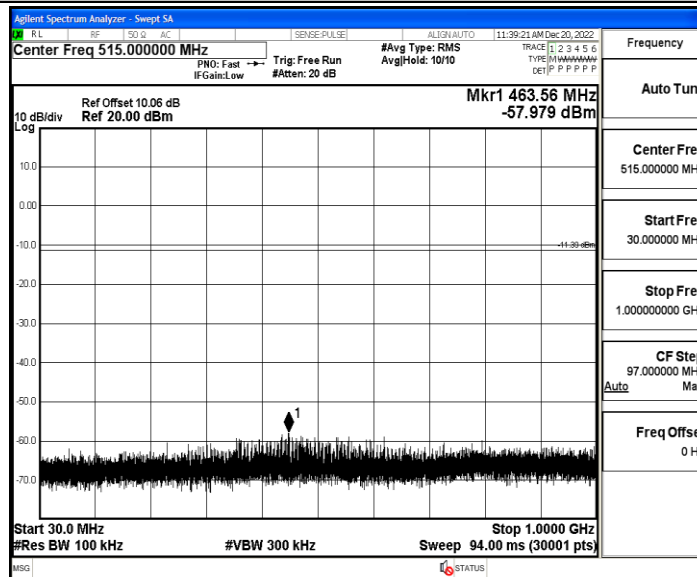
BLE_1M_Ant1_2402_1000~26500



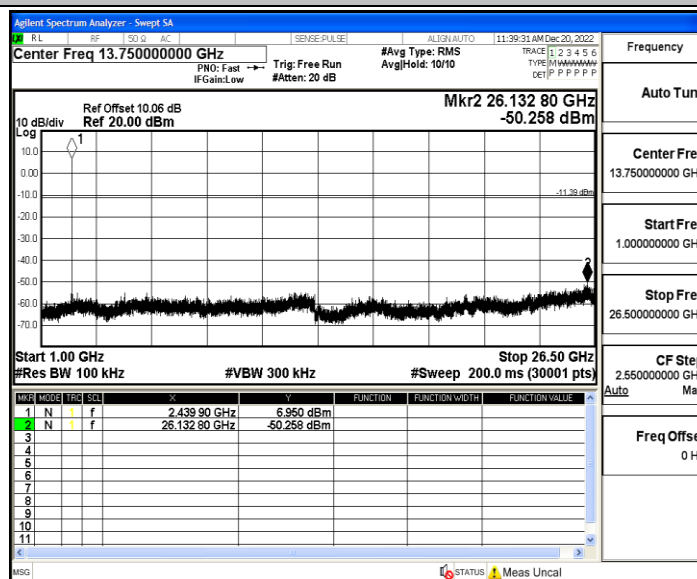
BLE_1M_Ant1_2440_0~Reference



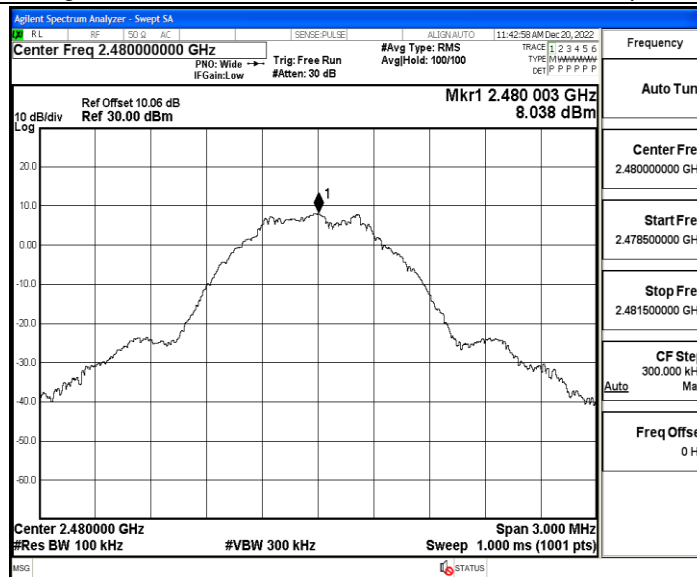
BLE_1M_Ant1_2440_30~1000



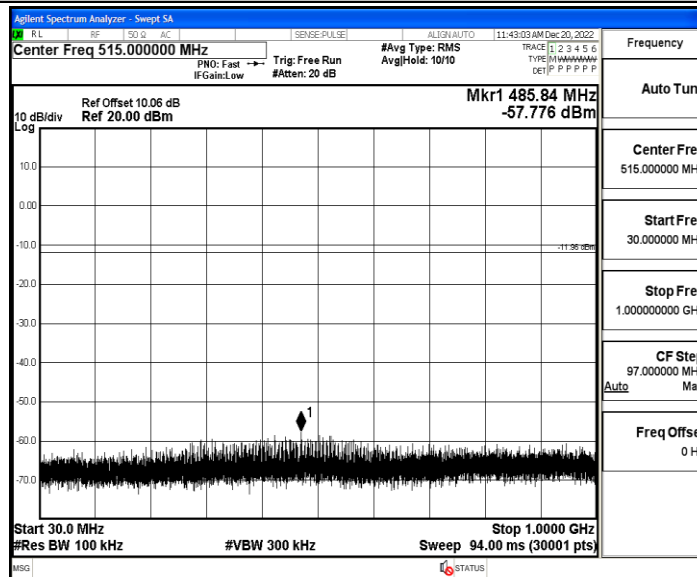
BLE_1M_Ant1_2440_1000~26500



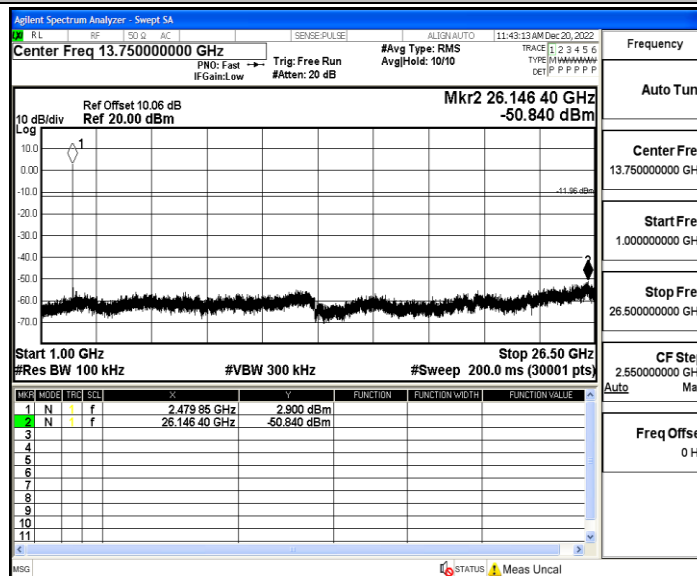
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

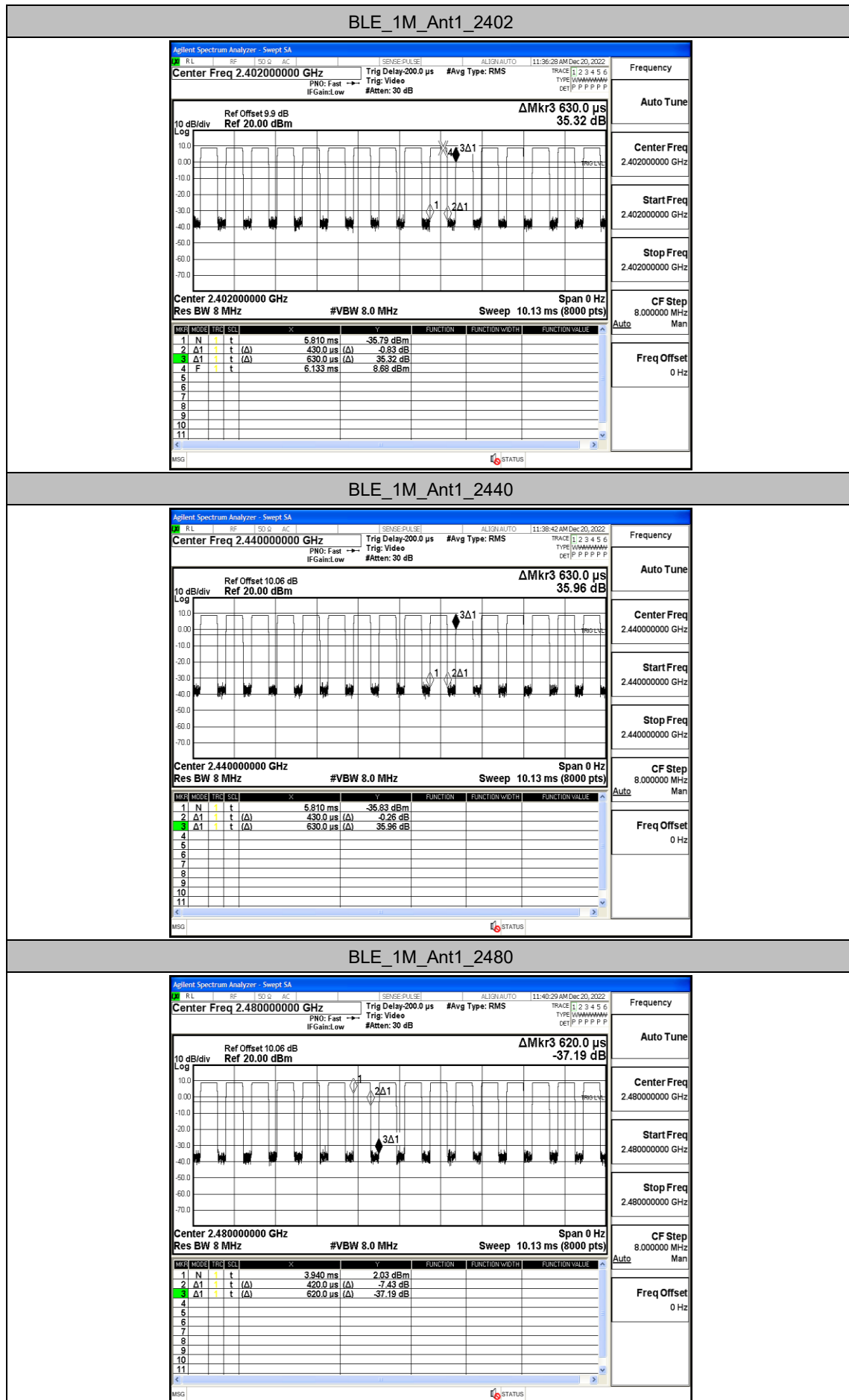


Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.43	0.63	68.25	2.33
		2440	0.43	0.63	68.25	2.33
		2480	0.42	0.62	67.74	2.38

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	-48.25	≤-41.20	PASS
				AV	2363.525	-46.68	≤-41.20	PASS
				AV	2390.000	-47.95	≤-41.20	PASS
				Peak	2310.000	-41.2	≤-21.20	PASS
				Peak	2371.925	-38.2	≤-21.20	PASS
				Peak	2390.000	-41.92	≤-21.20	PASS
		High	2480	AV	2483.500	-43.65	≤-41.20	PASS
				AV	2483.520	-43.65	≤-41.20	PASS
				AV	2500.000	-57.03	≤-41.20	PASS
				Peak	2483.500	-37.6	≤-21.20	PASS
				Peak	2483.520	-37.6	≤-21.20	PASS
				Peak	2500.000	-48.86	≤-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

