

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

Product Name: Smartphone

Trade Mark: Vortex

Test Model: V20

FCC ID: 2A2EB-V20

Environmental Conditions

Temperature:	25.5°C
Relative Humidity:	55.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

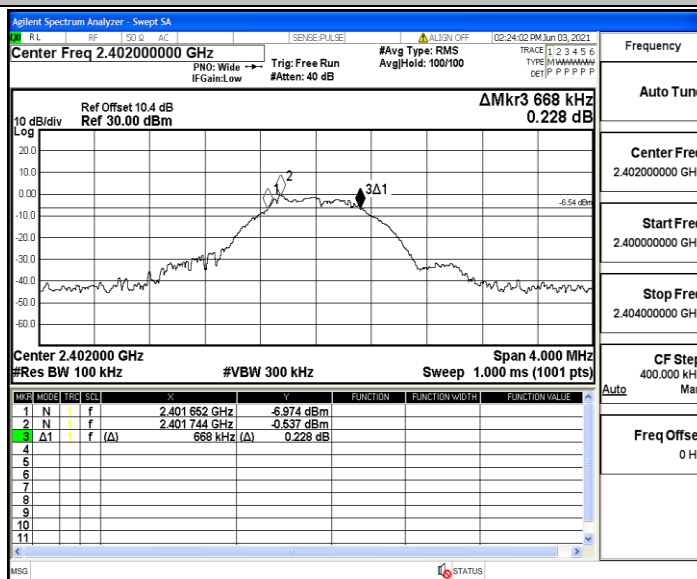
Appendix A: DTS Bandwidth

Test Result

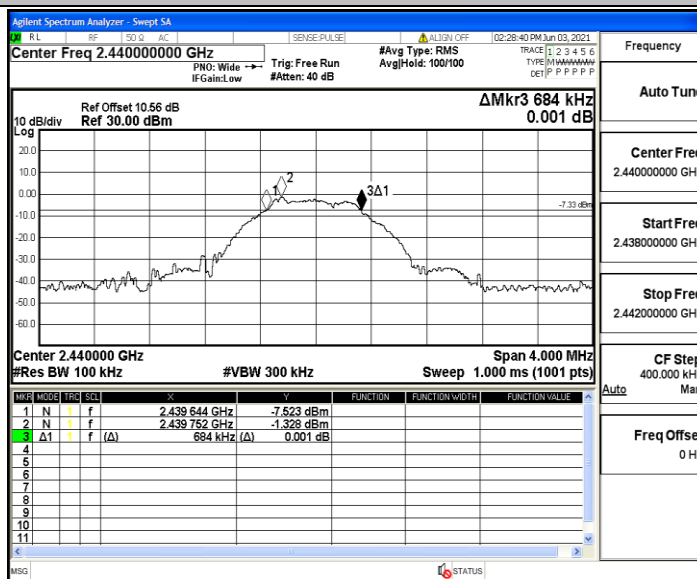
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.668	2401.652	2402.320	0.5	PASS
		2440	0.684	2439.644	2440.328	0.5	PASS
		2480	0.672	2479.648	2480.320	0.5	PASS

Test Graphs

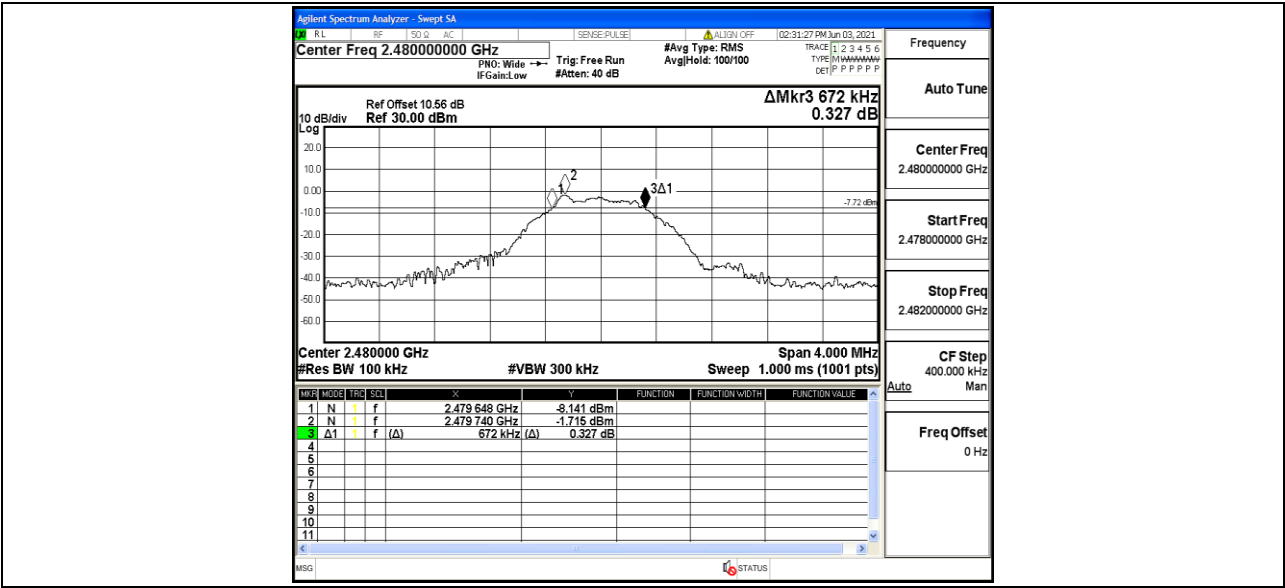
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

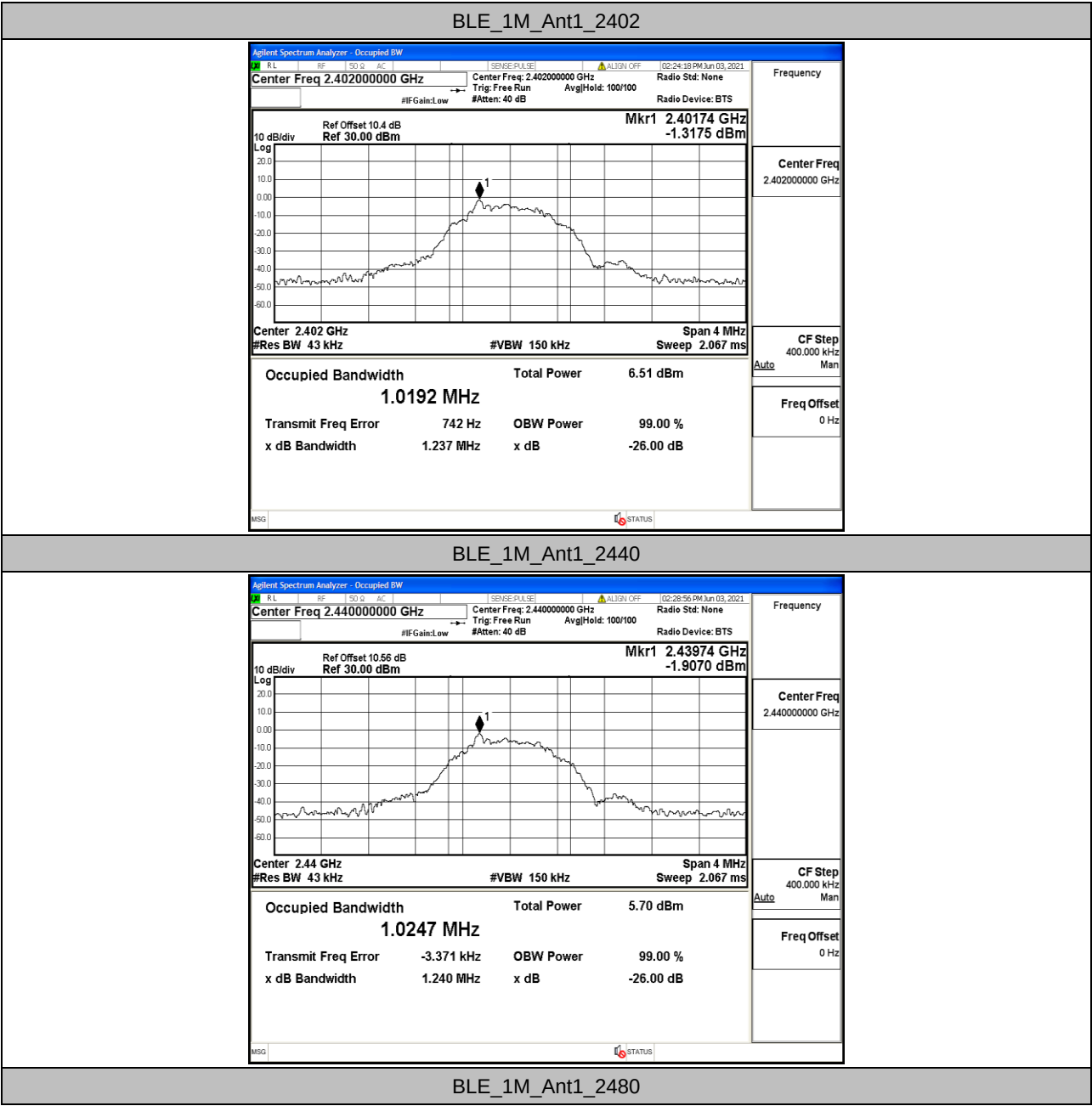


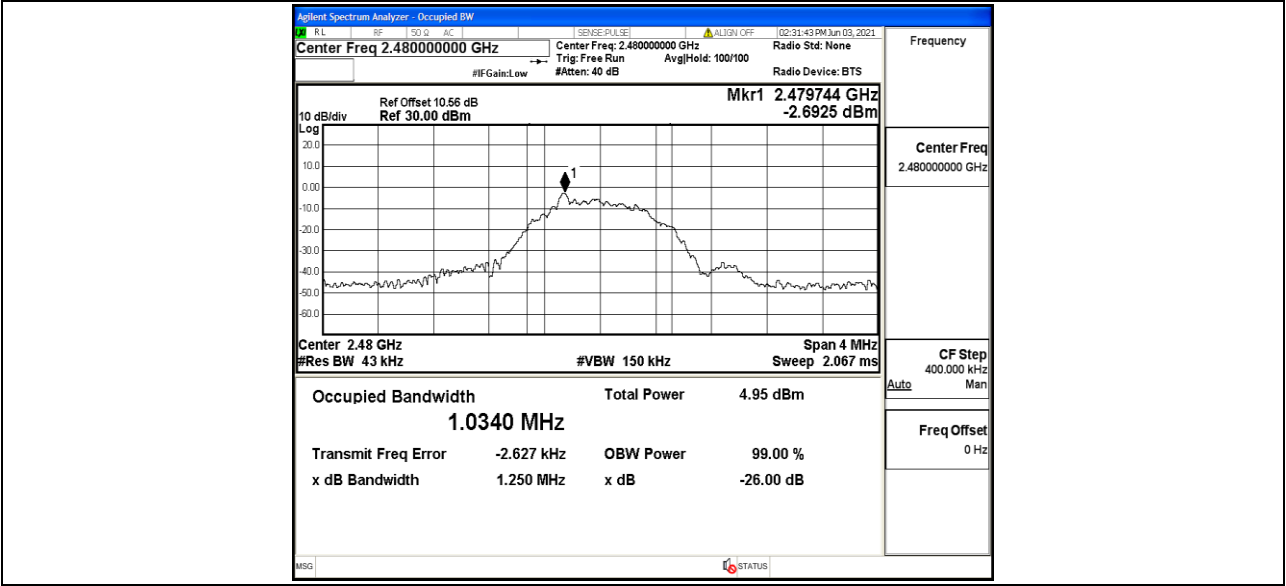
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0192	2401.491	2402.510	---	PASS
		2440	1.0247	2439.484	2440.509	---	PASS
		2480	1.0340	2479.480	2480.514	---	PASS

Test Graphs



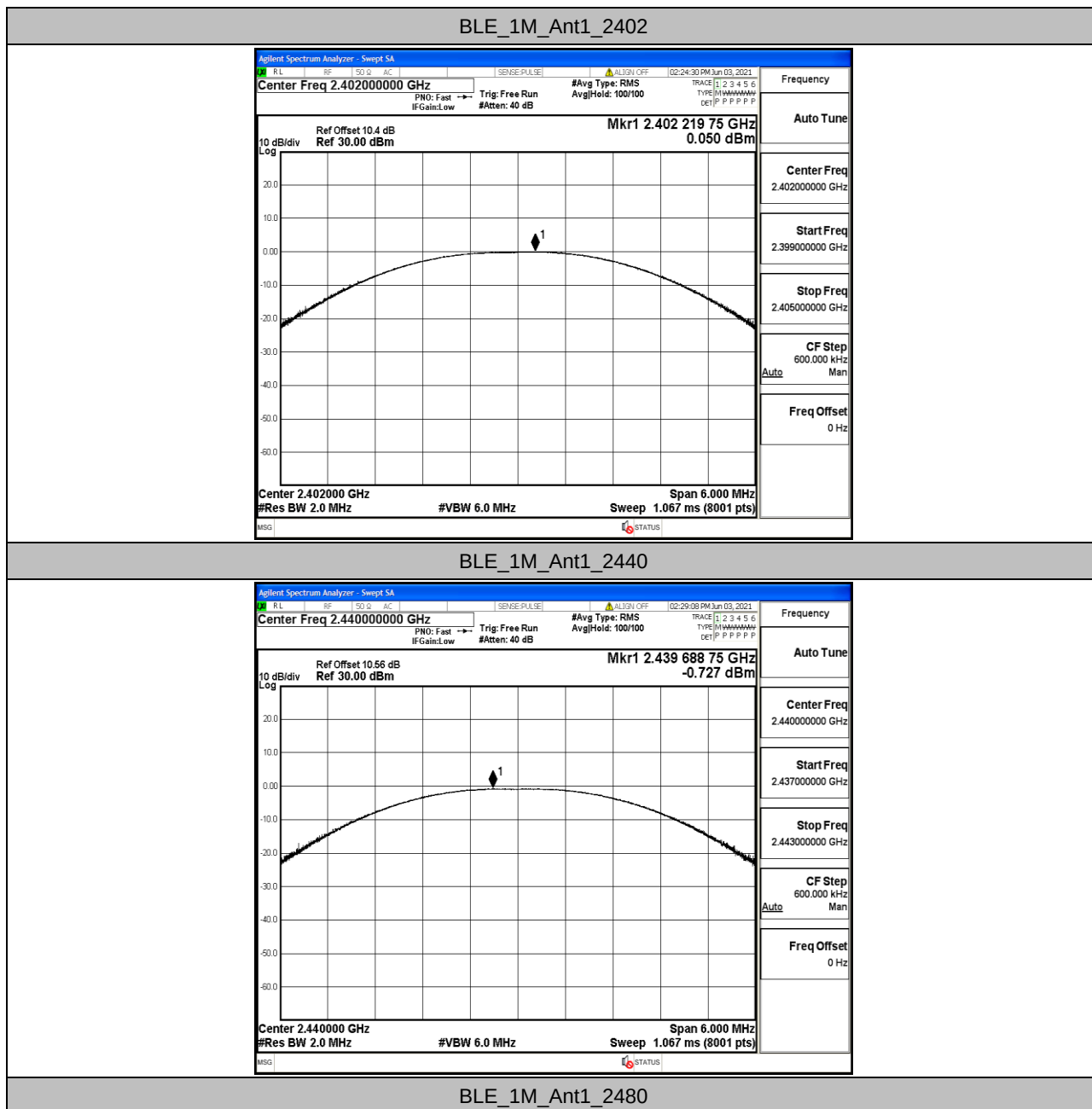


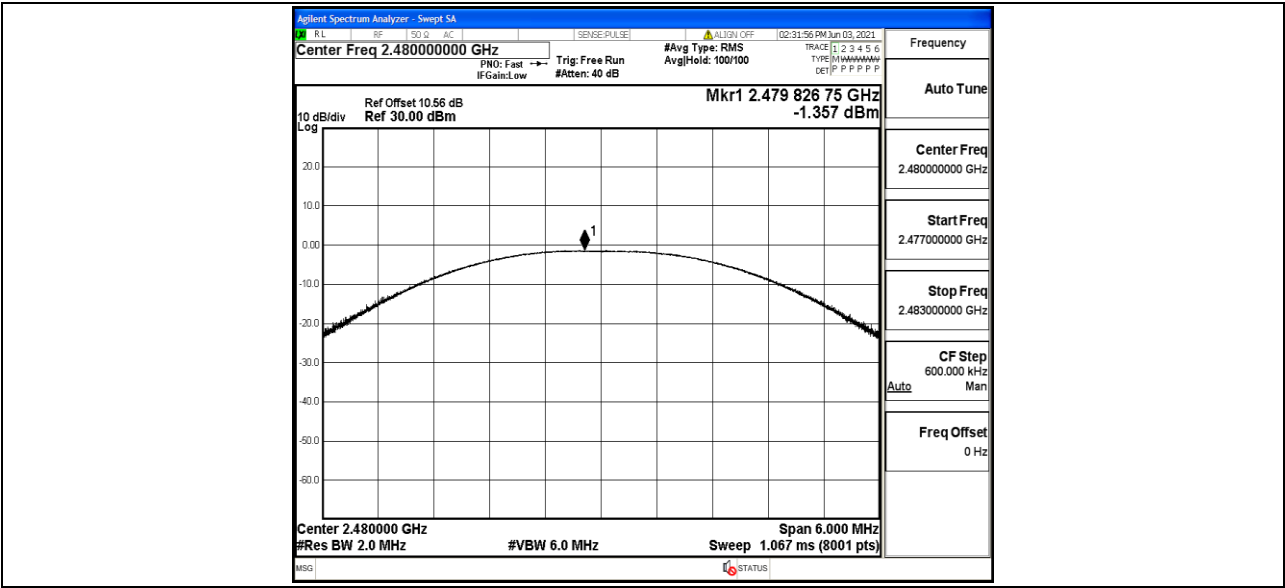
Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.05	<=30	PASS
		2440	-0.73	<=30	PASS
		2480	-1.36	<=30	PASS

Test Graphs



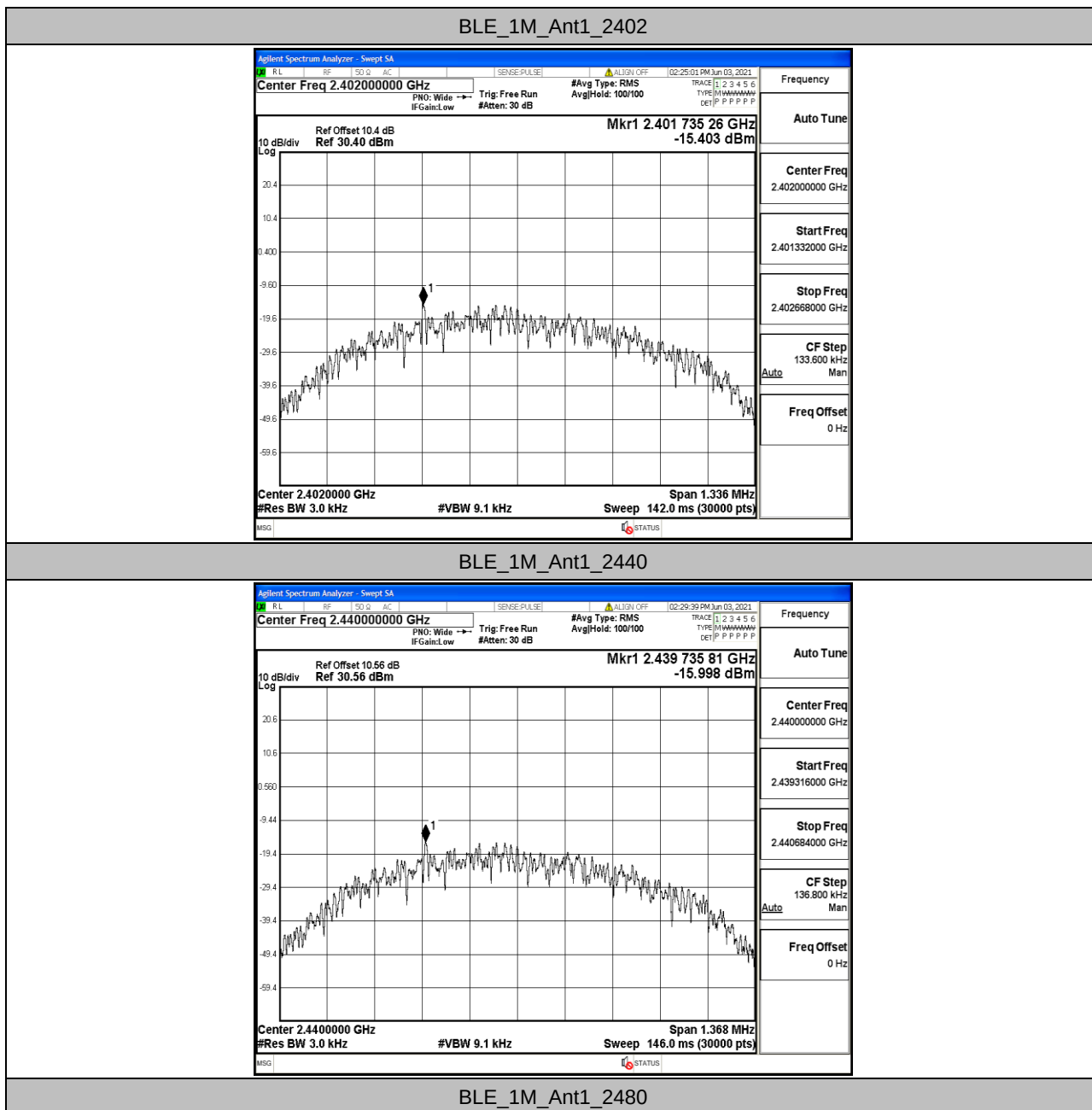


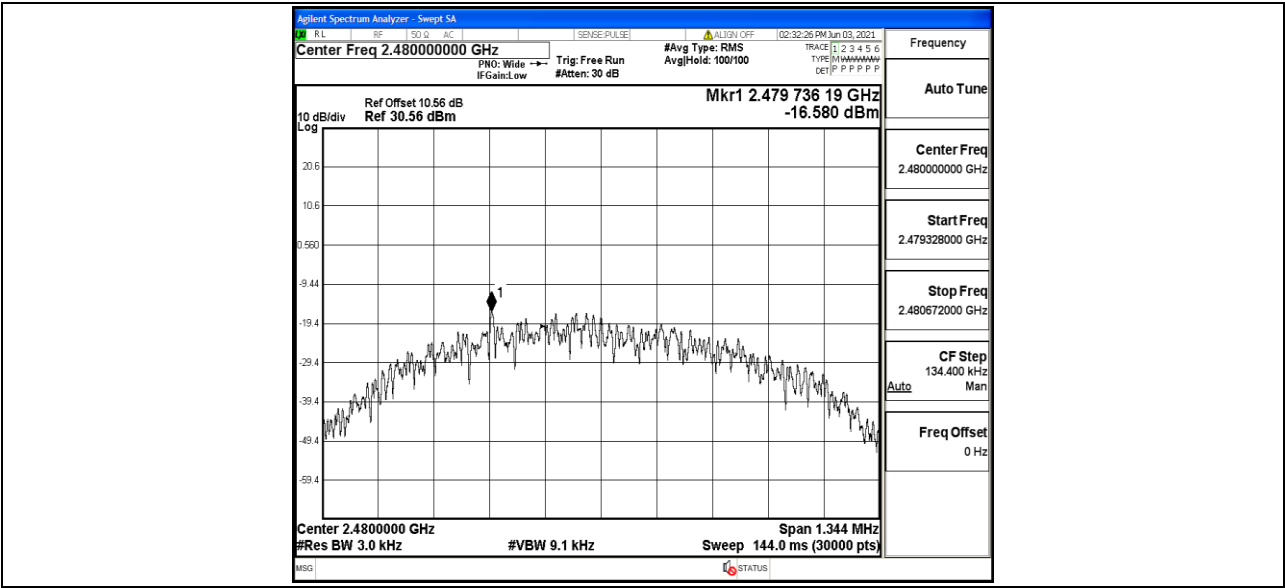
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.4	<=8	PASS
		2440	-16	<=8	PASS
		2480	-16.58	<=8	PASS

Test Graphs



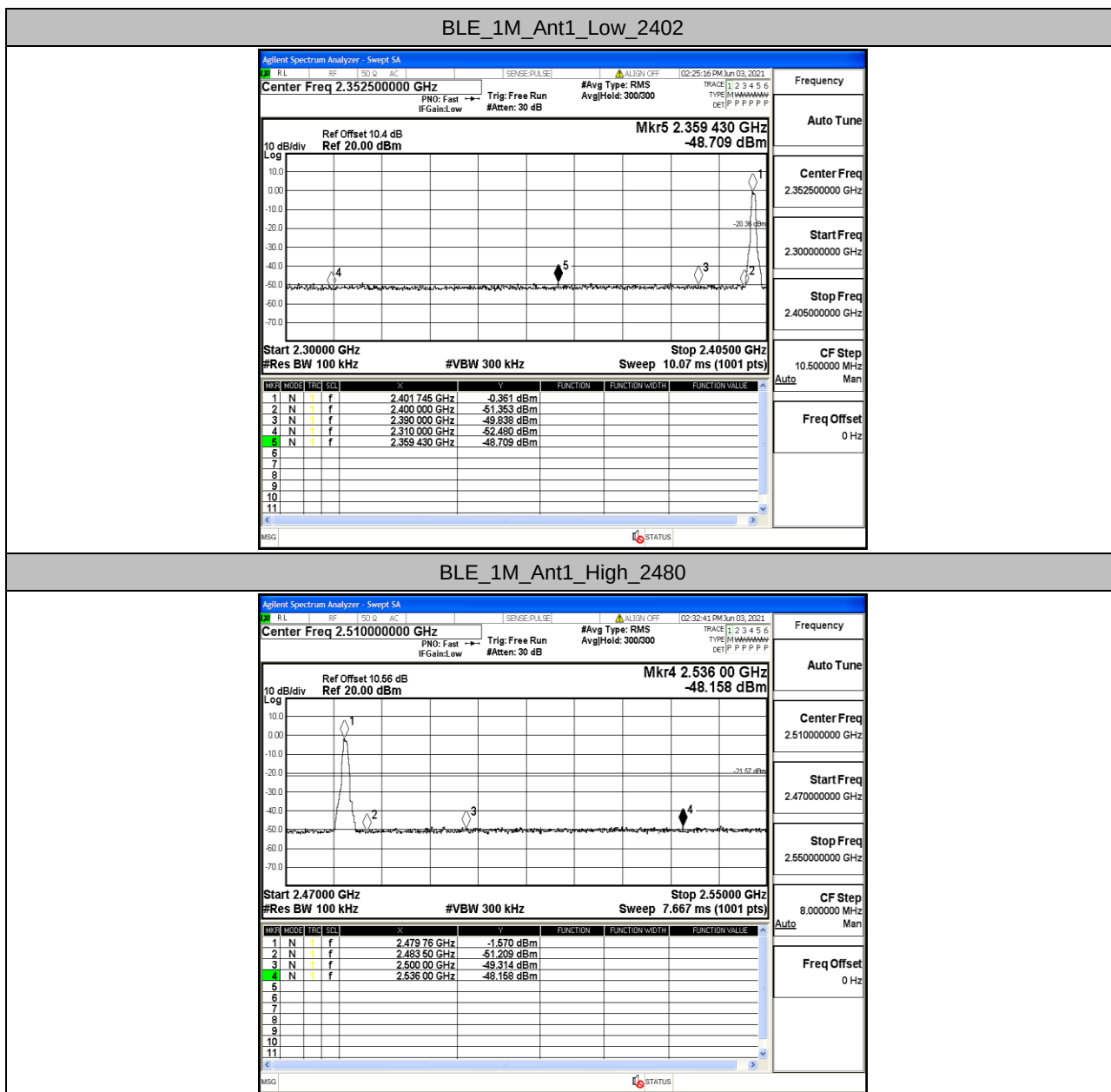


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.36	-48.71	<=-20.36	PASS
		High	2480	-1.57	-48.16	<=-21.57	PASS

Test Graphs

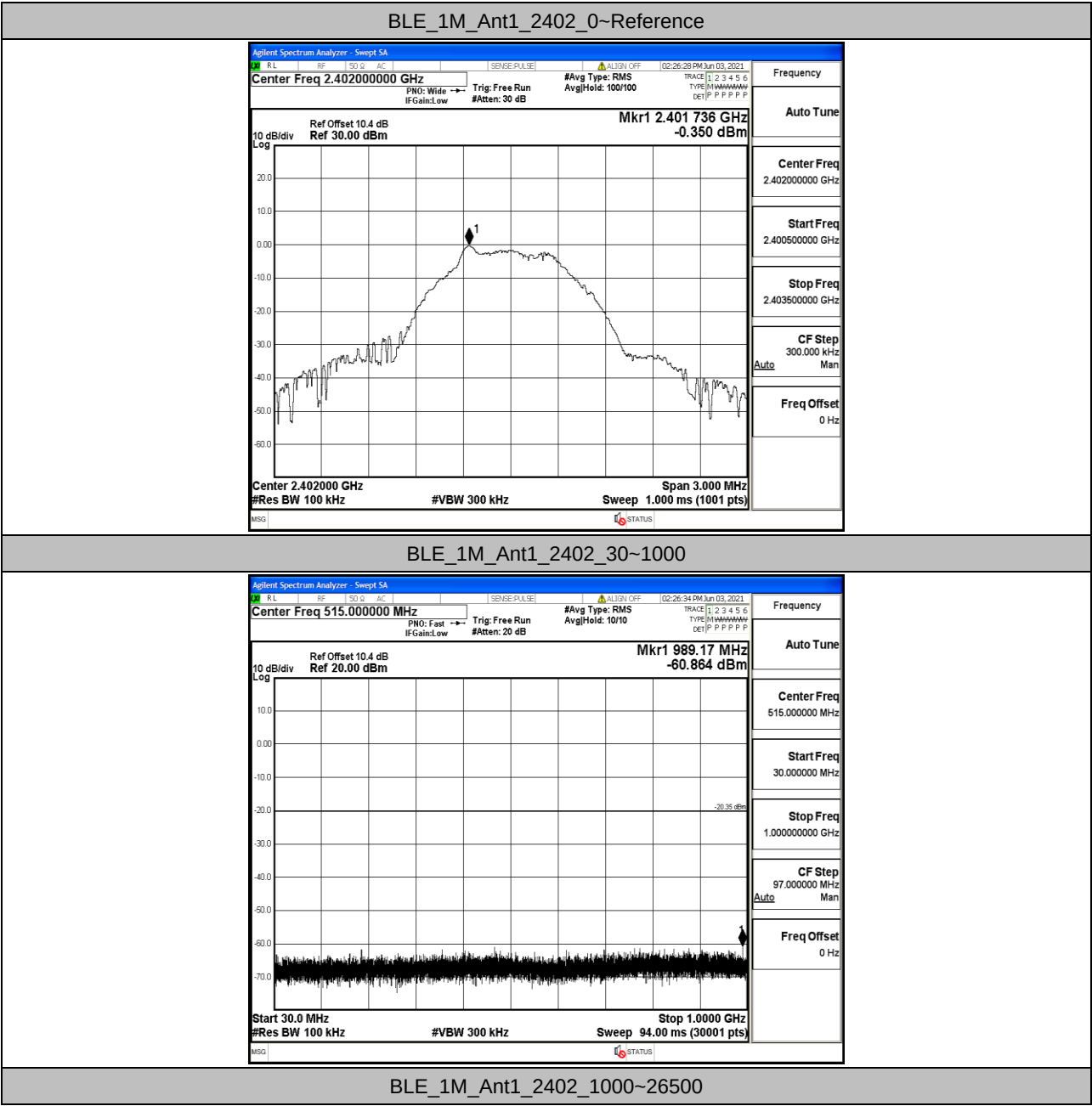


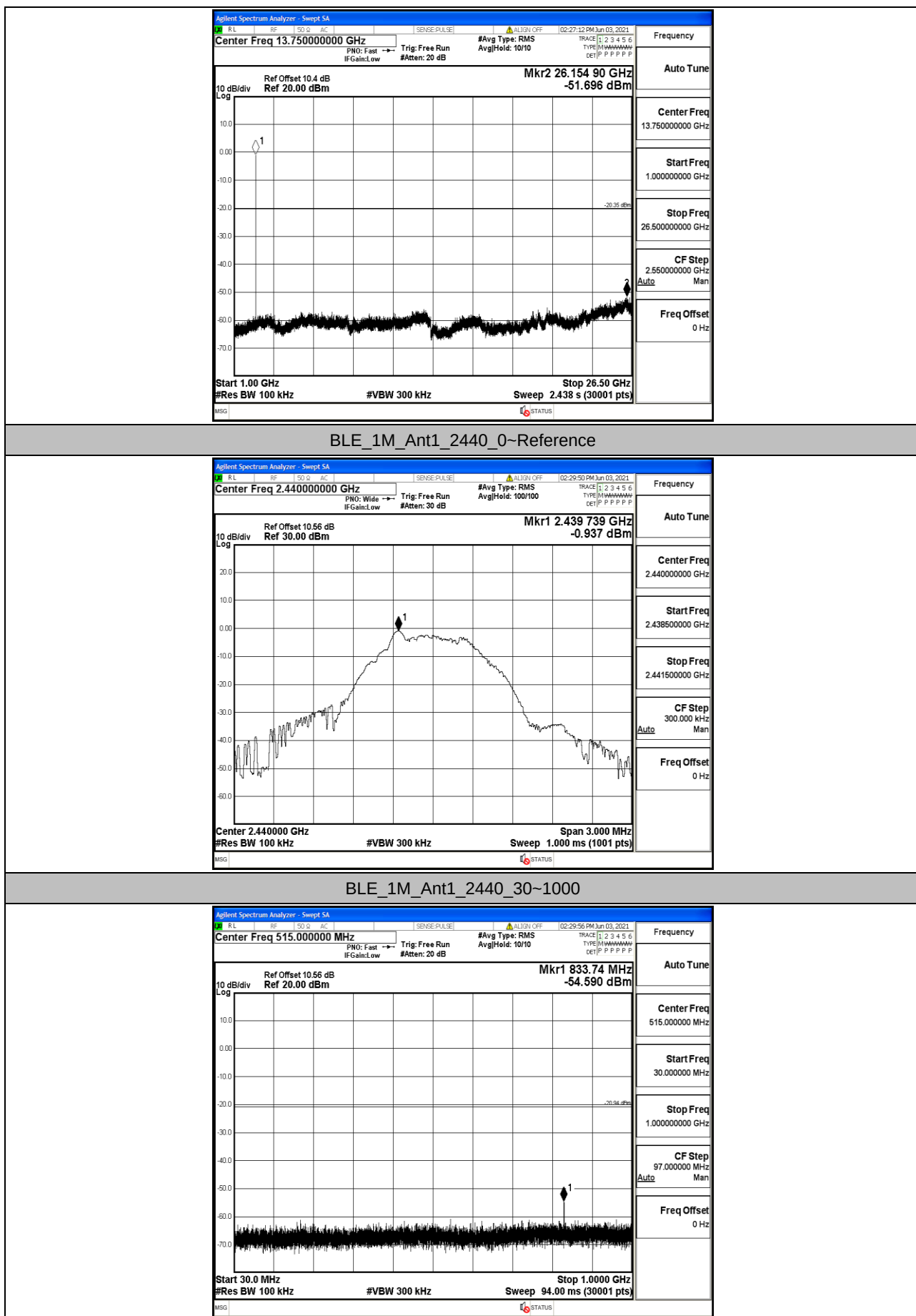
Appendix F: Conducted Spurious Emission

Test Result

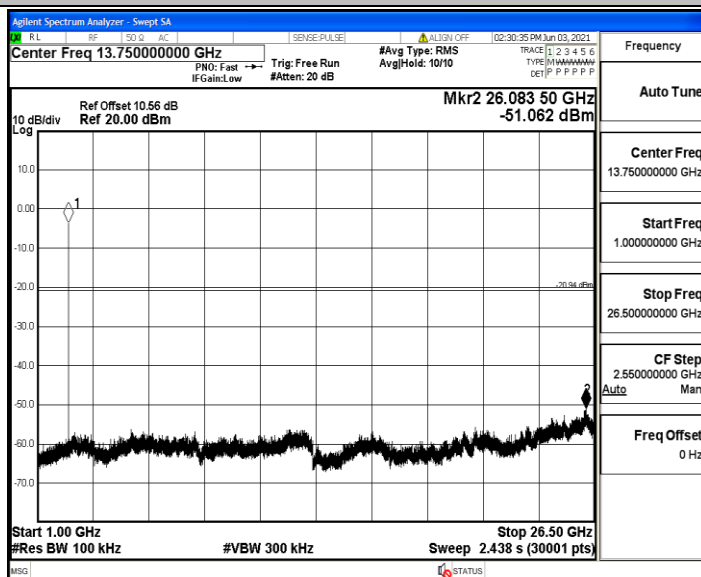
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.35	-0.35	---	PASS
			30~1000	-0.35	-60.86	<=-20.35	PASS
			1000~26500	-0.35	-51.7	<=-20.35	PASS
		2440	Reference	-0.94	-0.94	---	PASS
			30~1000	-0.94	-54.59	<=-20.94	PASS
			1000~26500	-0.94	-51.06	<=-20.94	PASS
		2480	Reference	-2.58	-2.58	---	PASS
			30~1000	-2.58	-57.86	<=-22.58	PASS
			1000~26500	-2.58	-50.81	<=-22.58	PASS

Test Graphs

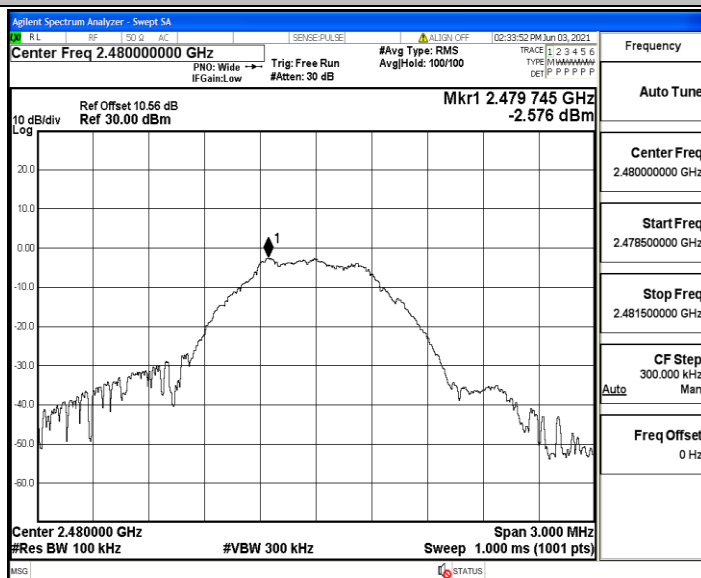




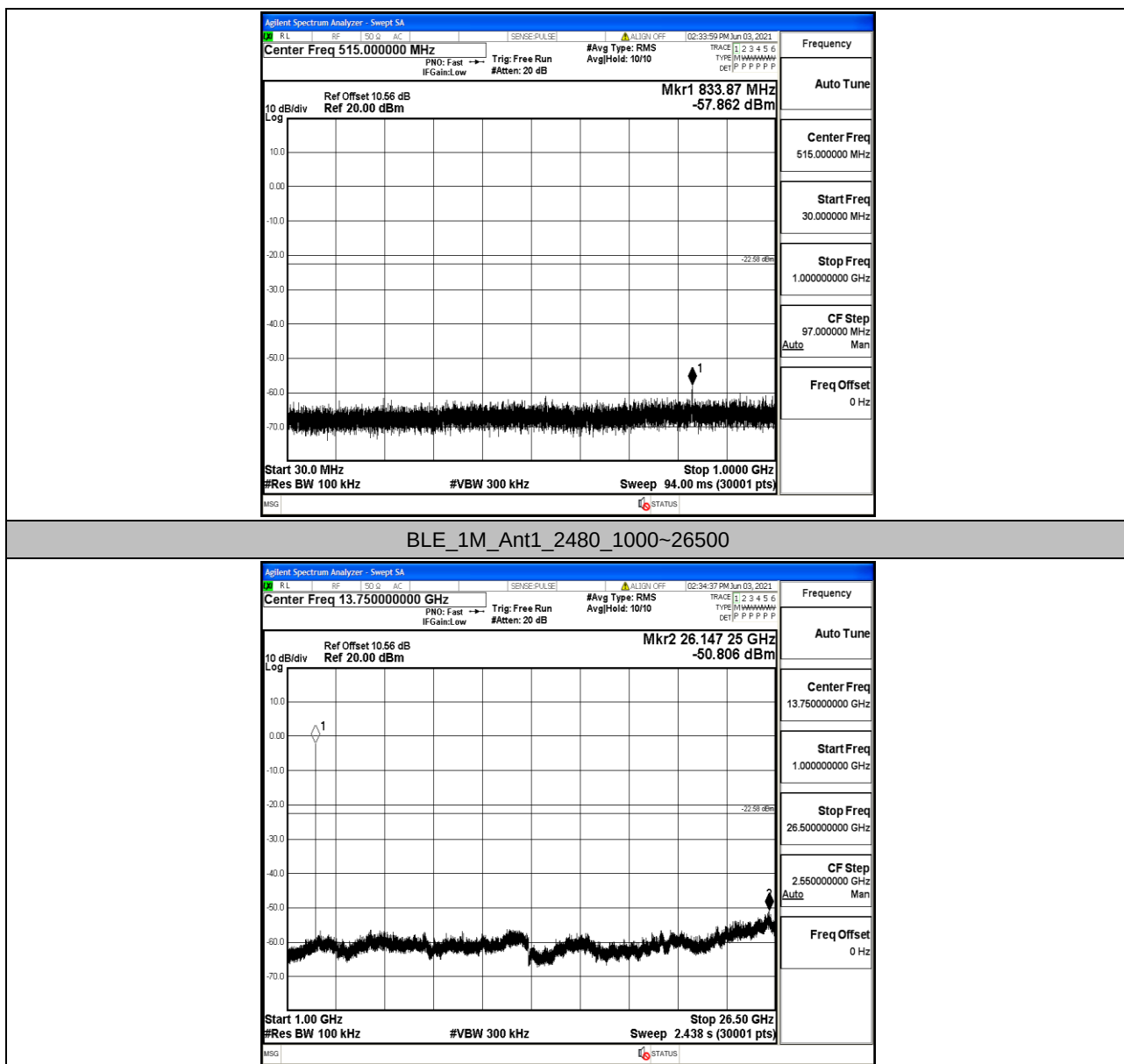
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



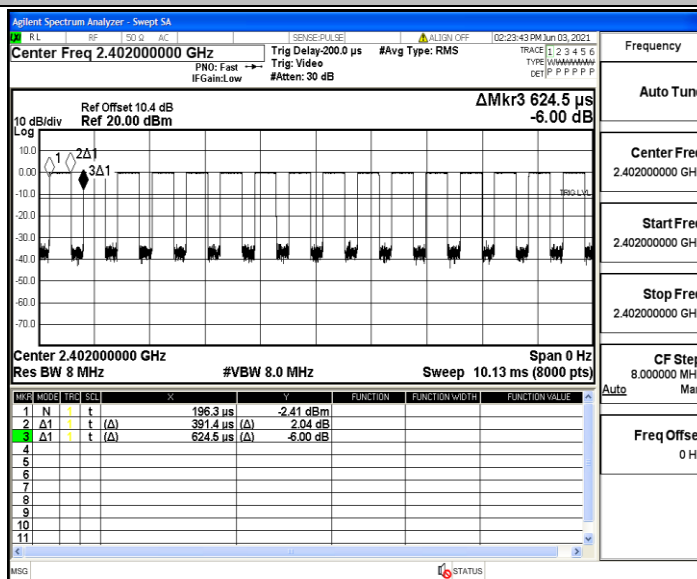
Appendix G: Duty Cycle

Test Result

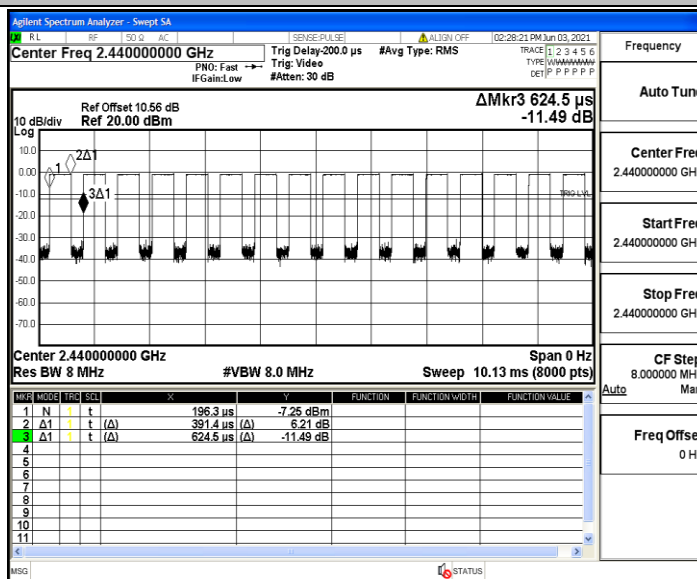
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_1M	Ant1	2402	0.39	0.62	62.90
		2440	0.39	0.62	62.90
		2480	0.39	0.62	62.90

Test Graphs

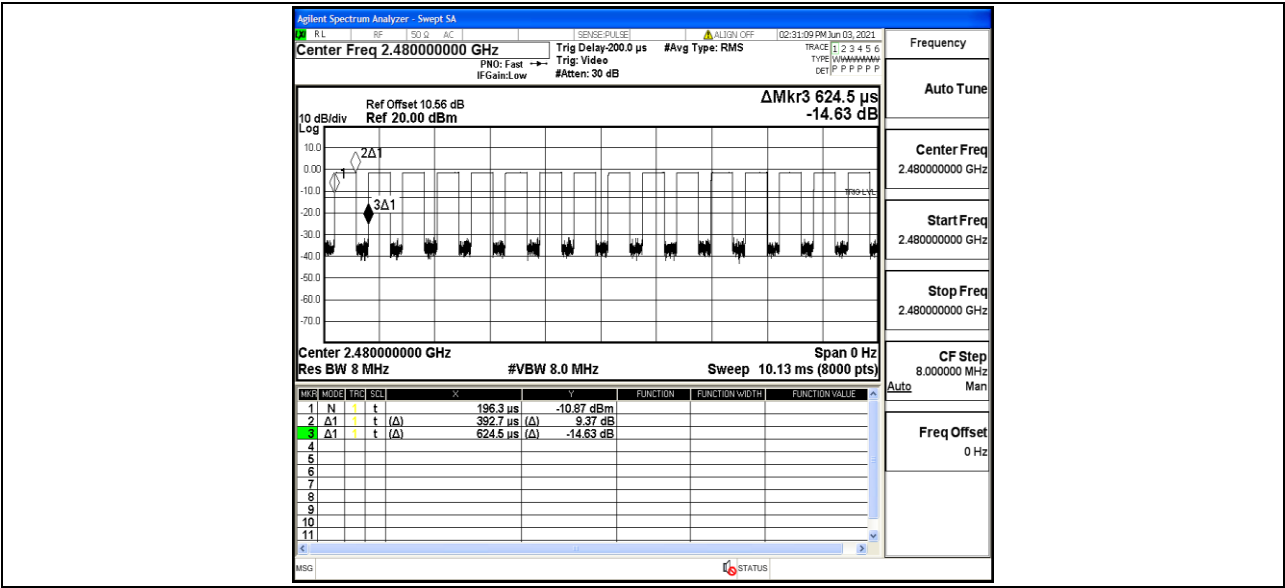
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

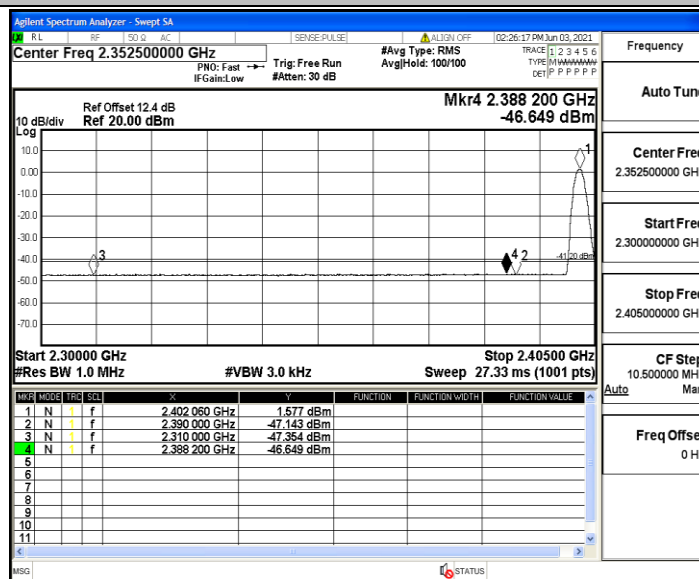
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.35	<=-41.20	PASS
				AV	2388.200	-46.65	<=-41.20	PASS
				AV	2390.000	-47.14	<=-41.20	PASS
				Peak	2310.000	-40.2	<=-21.20	PASS
				Peak	2376.230	-37.63	<=-21.20	PASS
				Peak	2390.000	-41.58	<=-21.20	PASS
		High	2480	AV	2483.500	-46.25	<=-41.20	PASS
				AV	2498.560	-45.99	<=-41.20	PASS
				AV	2500.000	-46.34	<=-41.20	PASS
				Peak	2483.500	-40.11	<=-21.20	PASS
				Peak	2484.240	-37.49	<=-21.20	PASS
				Peak	2500.000	-40.59	<=-21.20	PASS

Note:

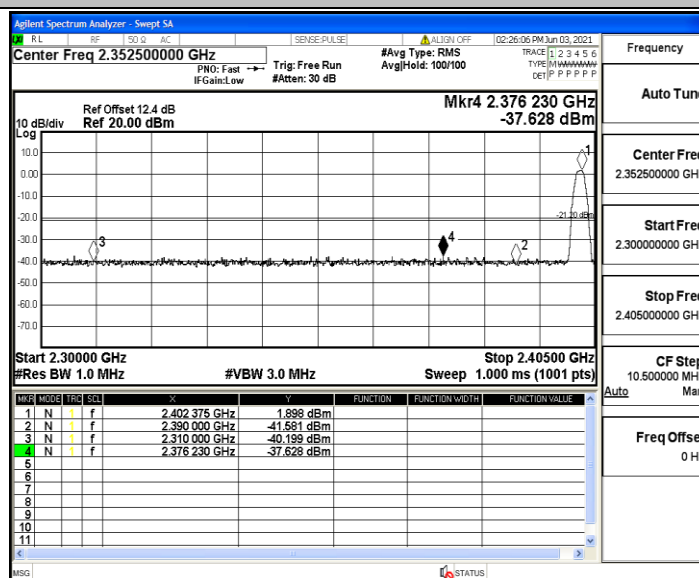
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV

