



Appendix A

RF Test Data for 2.4G BLE (Conducted Measurement)

Product Name: Massage chair

Test Model: N-0003H

Environmental Conditions

Temperature:	21.1 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Huan Li

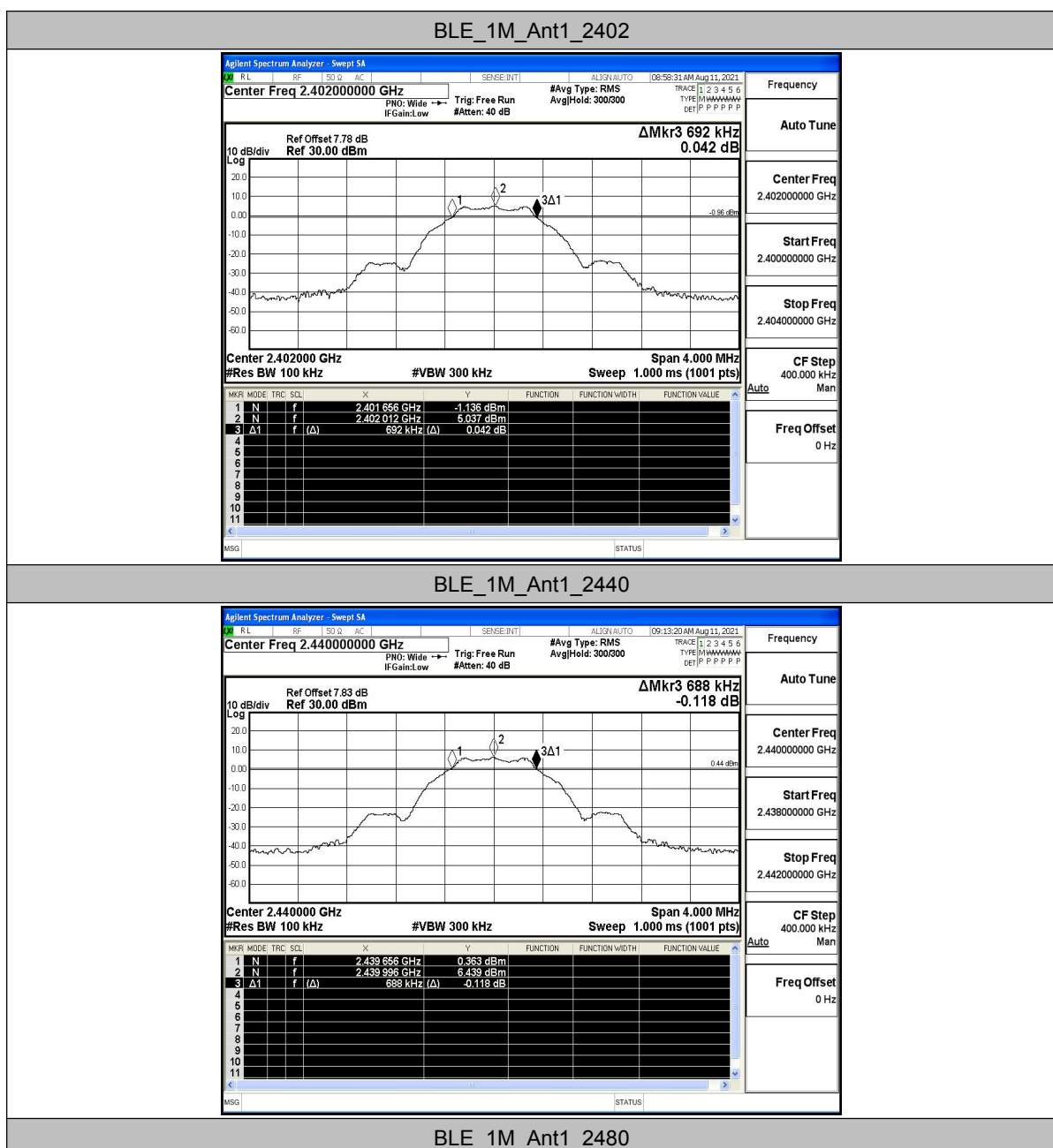


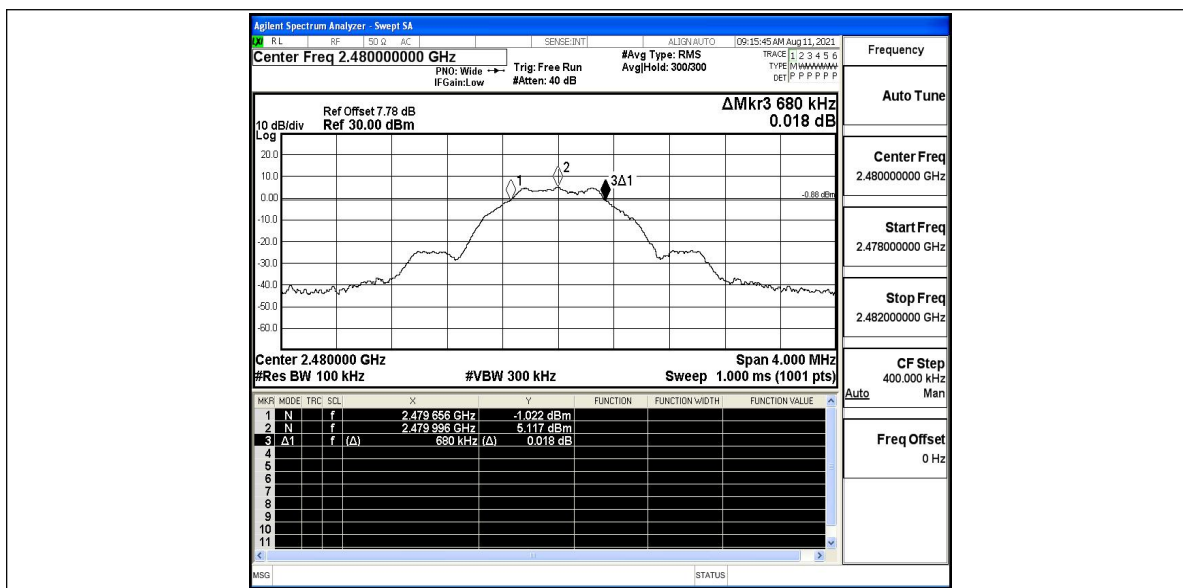
A.1 DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.692	2401.656	2402.348	≥0.5	PASS
		2440	0.688	2439.656	2440.344	≥0.5	PASS
		2480	0.680	2479.656	2480.336	≥0.5	PASS

Test Graphs







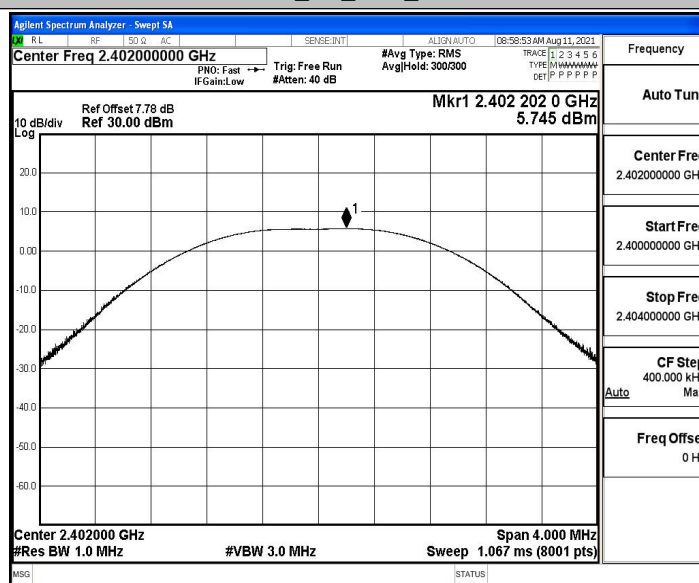
A.2 Maximum conducted output power

Test Result

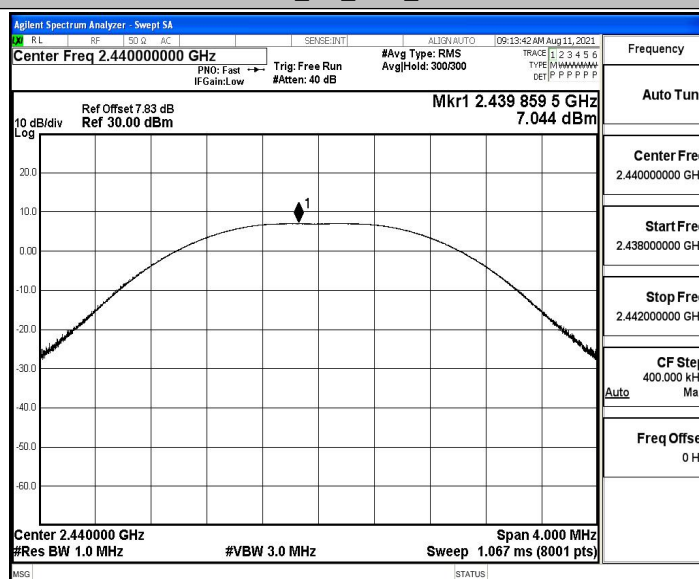
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.75	≤30	PASS
		2440	7.04	≤30	PASS
		2480	5.65	≤30	PASS

Test Graphs

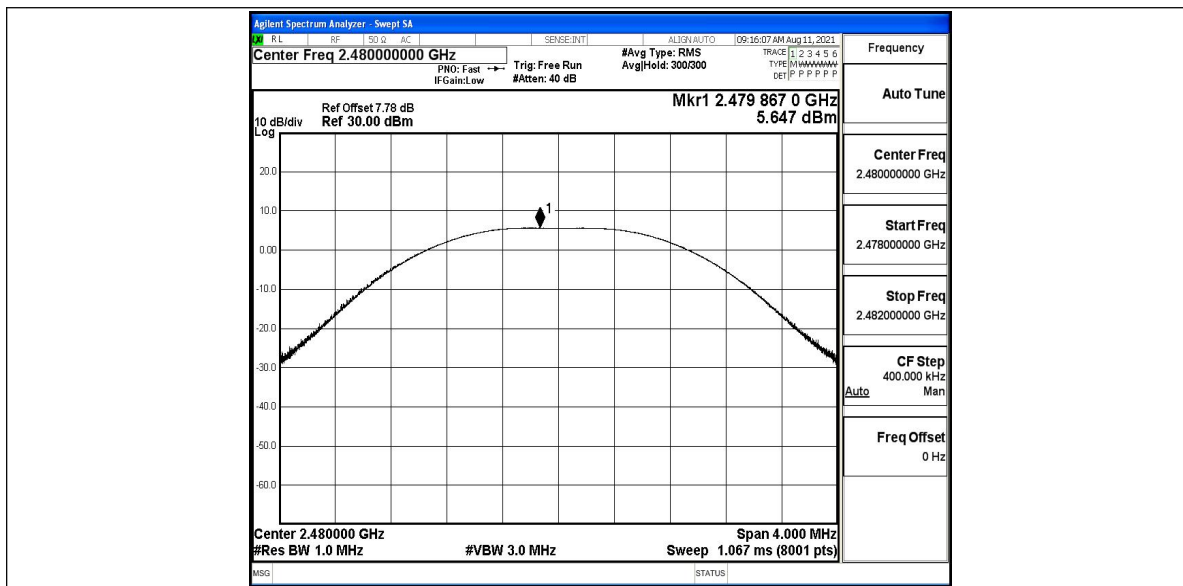
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



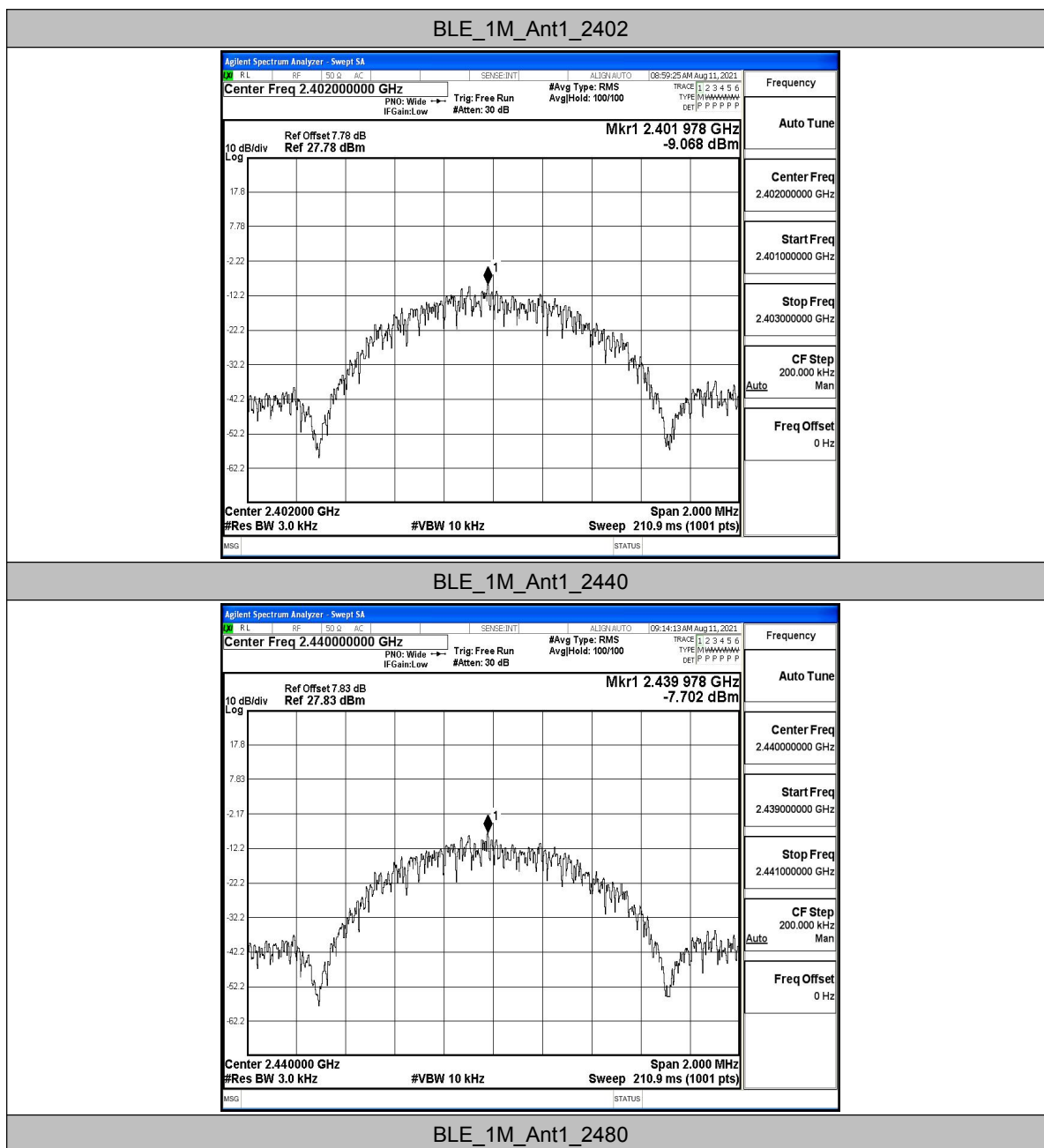


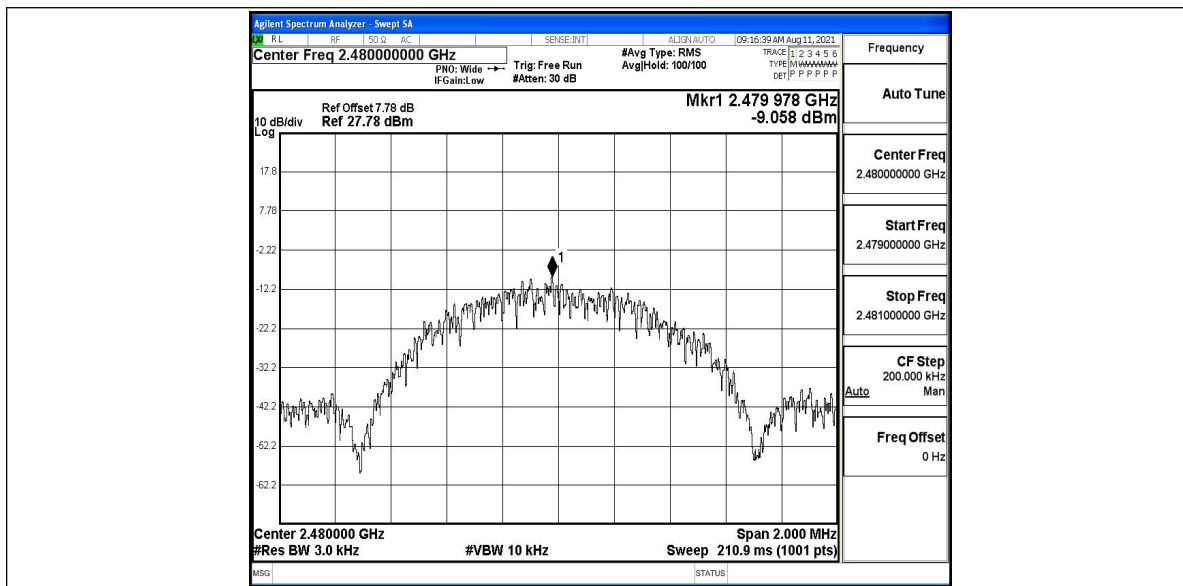
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.07	≤8	PASS
		2440	-7.7	≤8	PASS
		2480	-9.06	≤8	PASS

Test Graphs





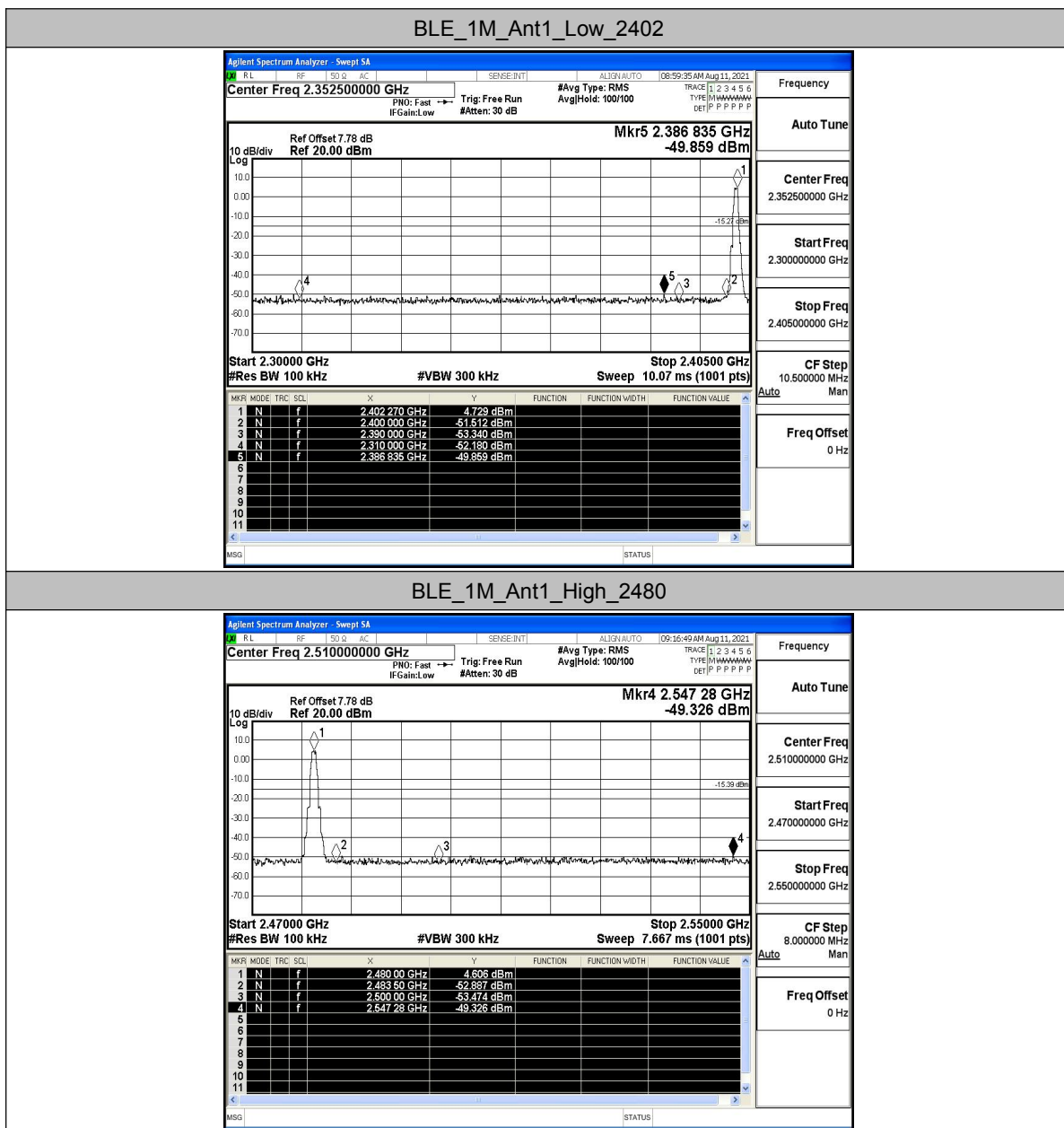


A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.73	-49.86	≤-15.27	PASS
		High	2480	4.61	-49.33	≤-15.39	PASS

Test Graphs



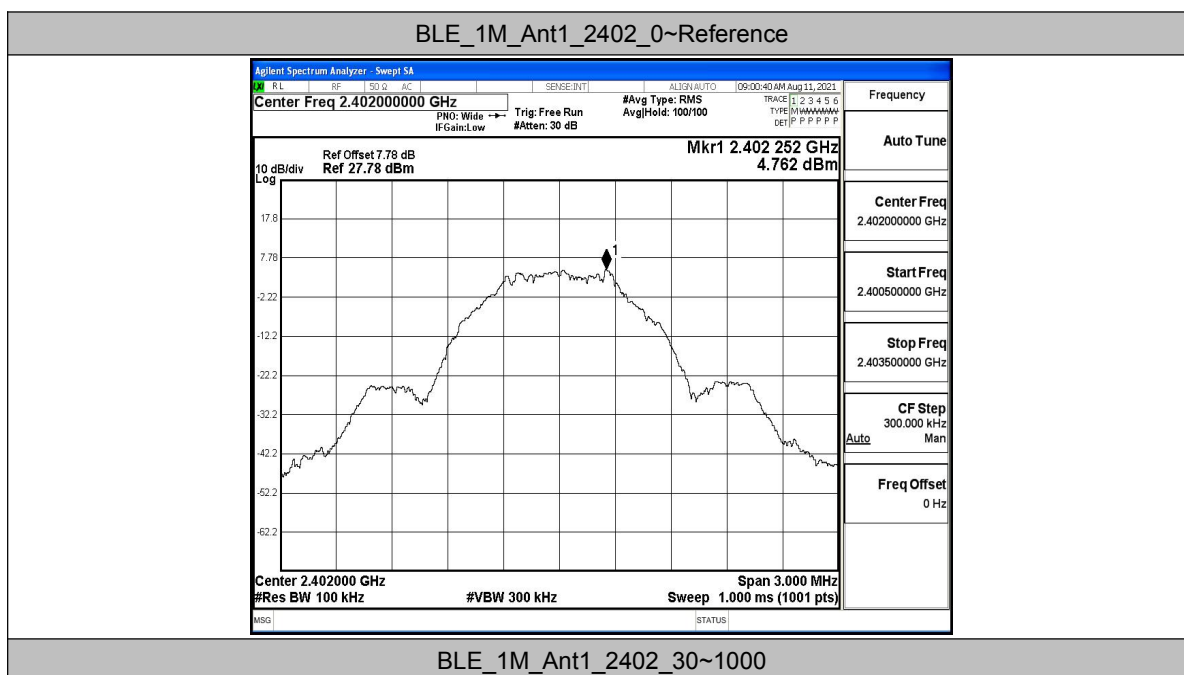


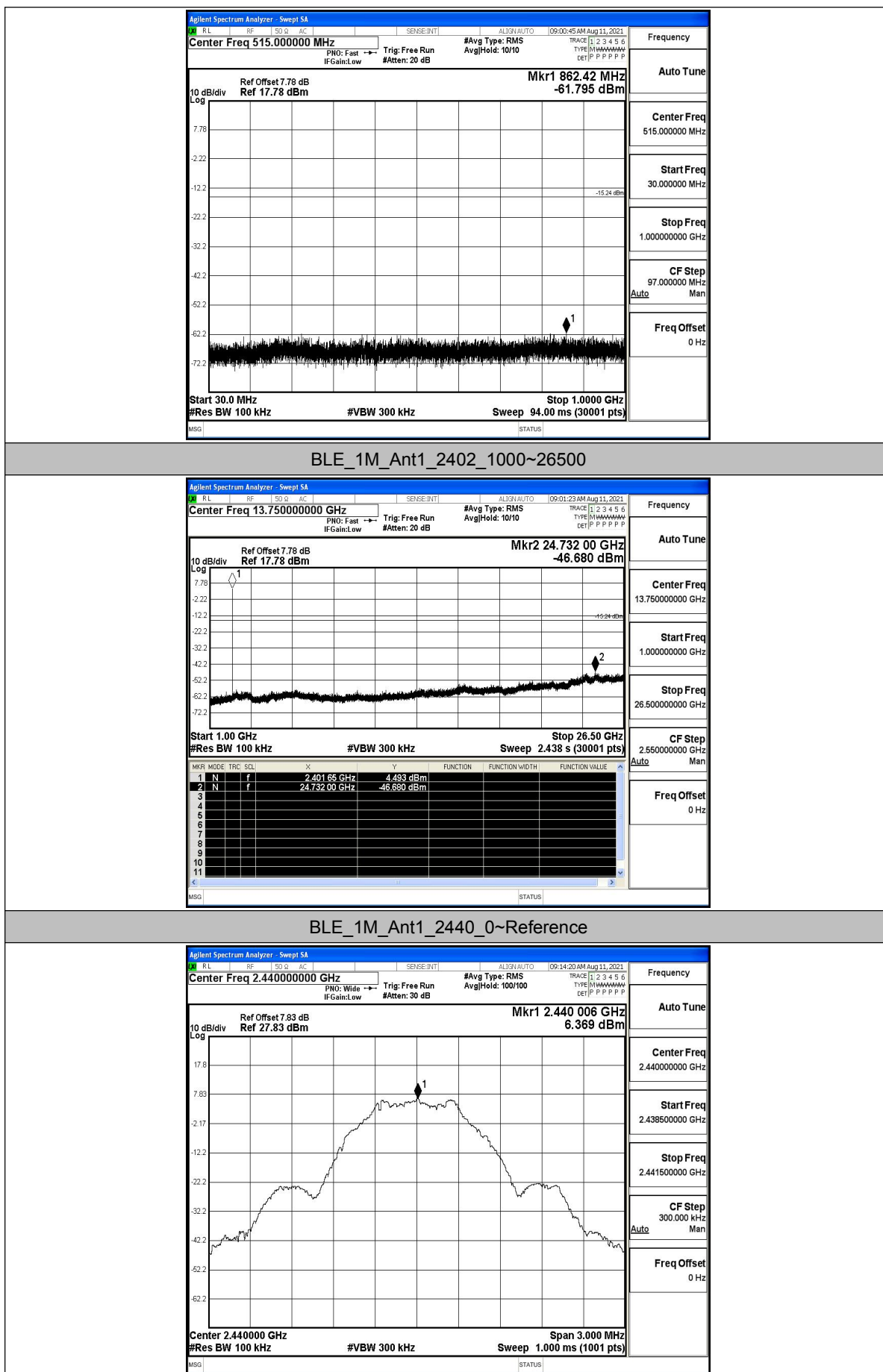
A.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	4.76	4.76	---	PASS
			30~1000	4.76	-61.8	≤ -15.24	PASS
			1000~26500	4.76	-46.68	≤ -15.24	PASS
		2440	Reference	6.37	6.37	---	PASS
			30~1000	6.37	-61.98	≤ -13.63	PASS
			1000~26500	6.37	-47.21	≤ -13.63	PASS
		2480	Reference	5.05	5.05	---	PASS
			30~1000	5.05	-62.29	≤ -14.96	PASS
			1000~26500	5.05	-46.79	≤ -14.96	PASS

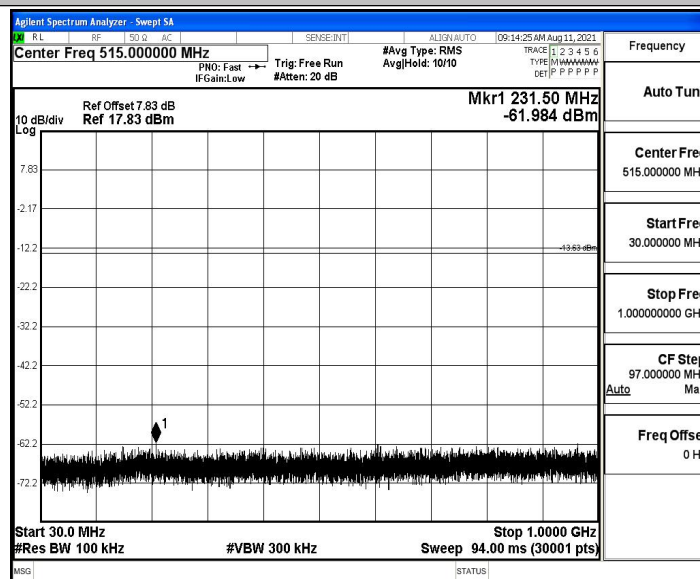
Test Graphs



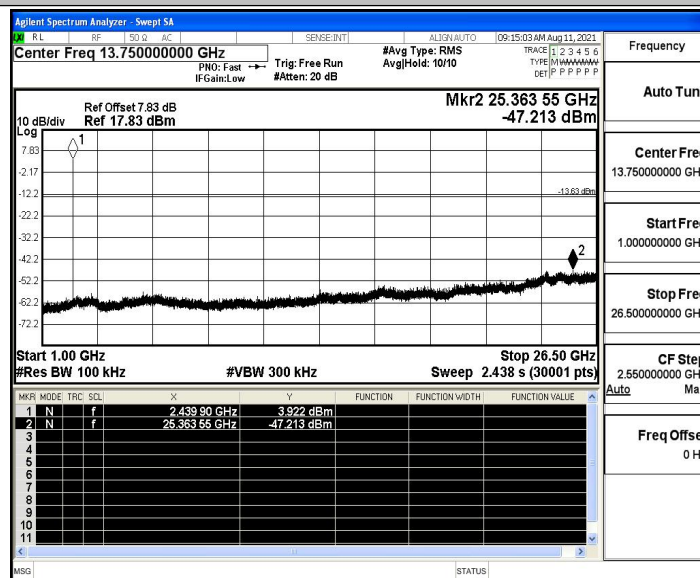




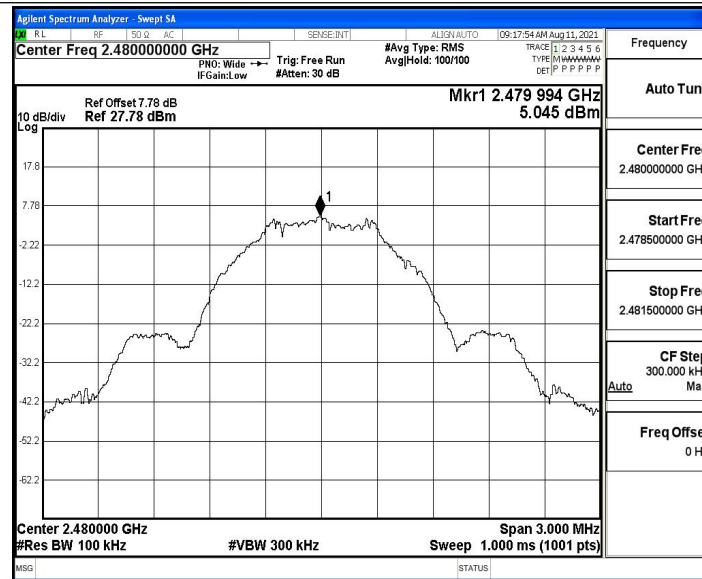
BLE_1M_Ant1_2440_30~1000



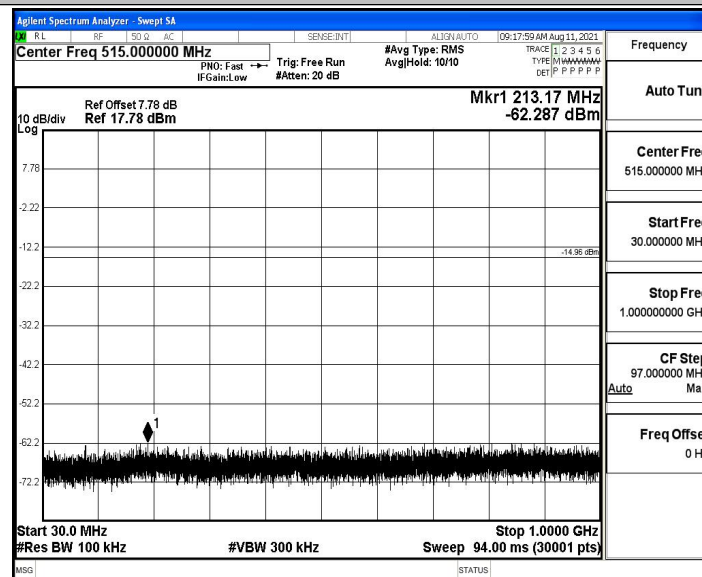
BLE_1M_Ant1_2440_1000~26500



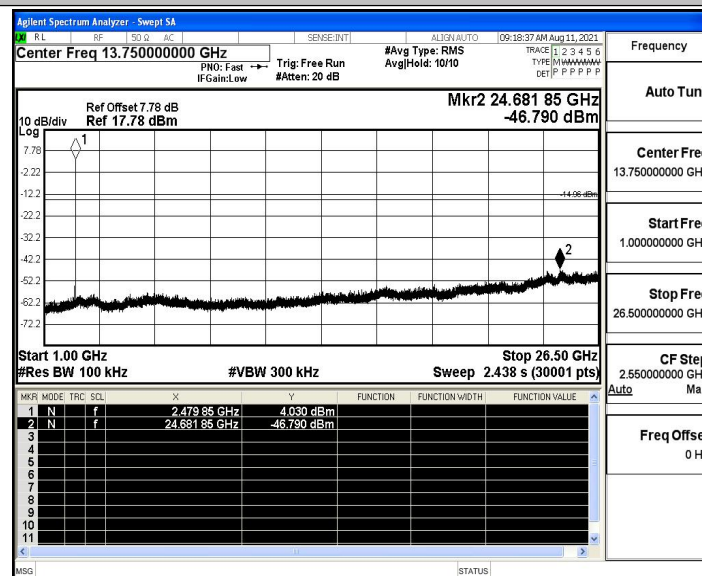
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



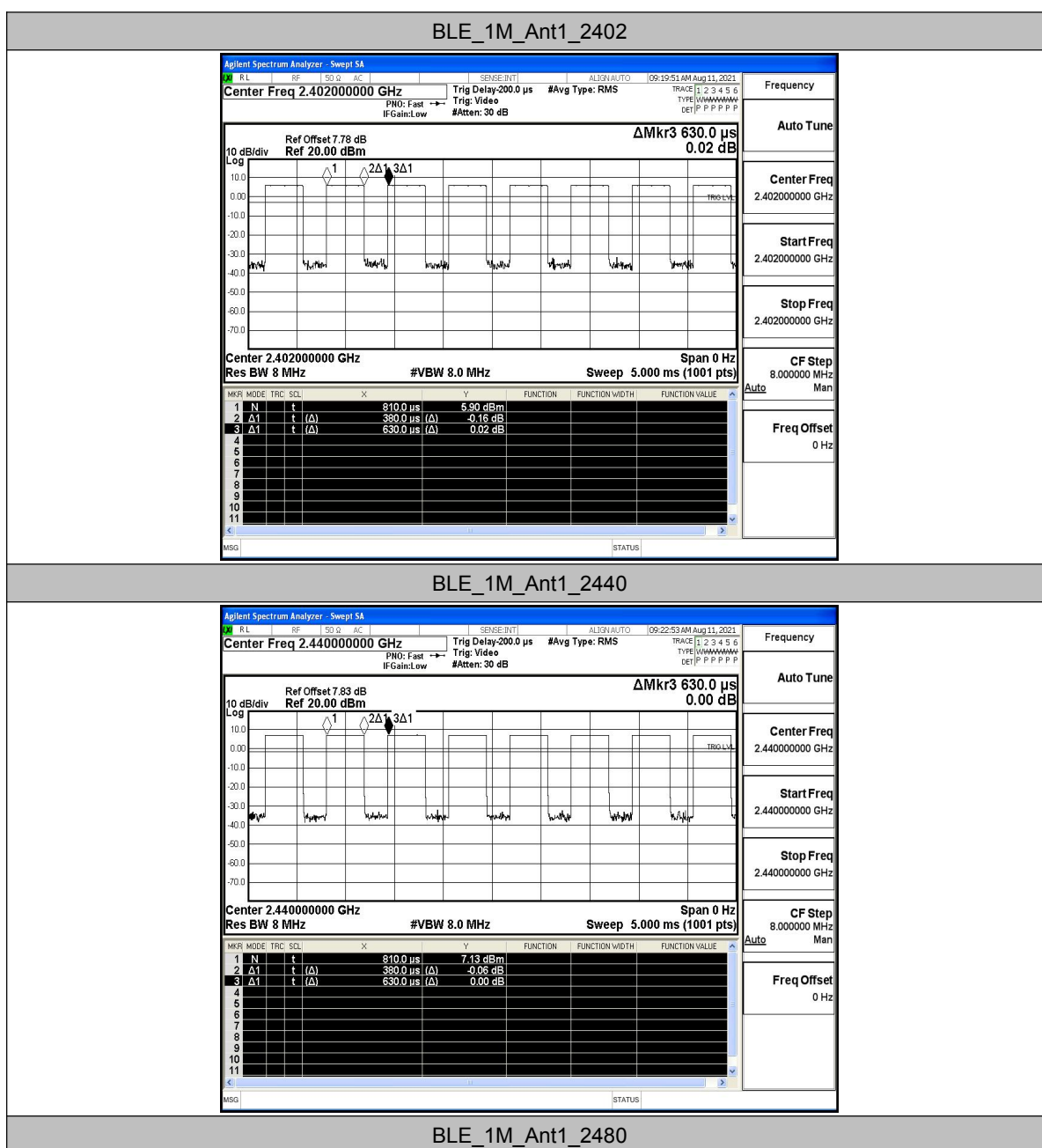


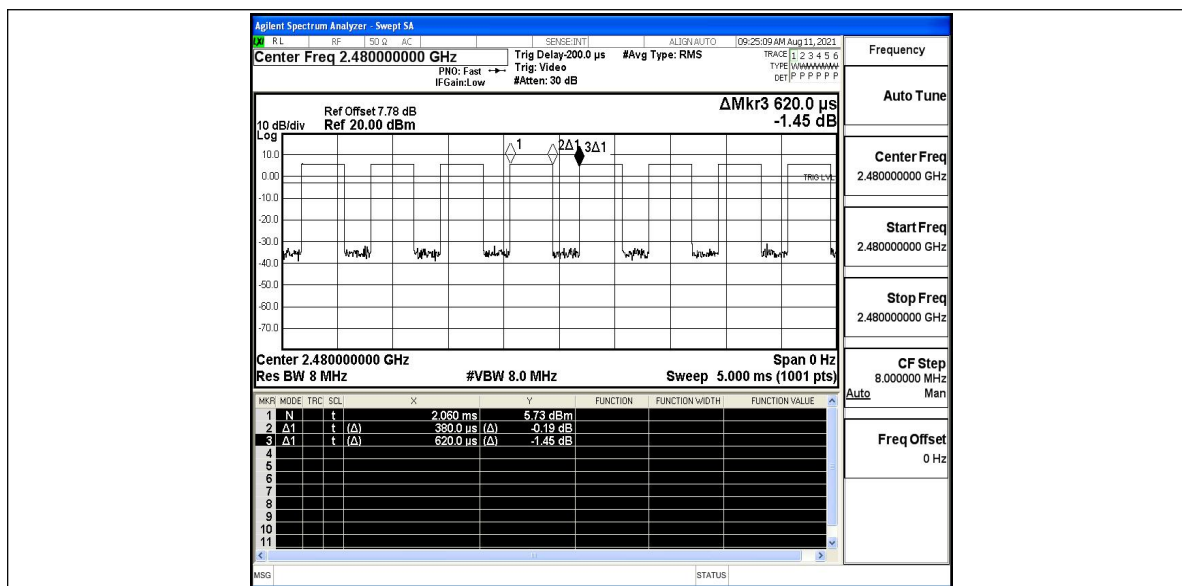
A.6 Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Minimum VBW(KHz)	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.63	0.6032	60.32	2.20	2.63	---	PASS
		2440	0.38	0.63	0.6032	60.32	2.20	2.63	---	PASS
		2480	0.38	0.62	0.6129	61.29	2.13	2.63	---	PASS

Test Graphs







A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.41	≤-41.20	46.79	≤54	PASS
				AV	2389.040	-47.67	≤-41.20	47.53	≤54	PASS
				AV	2390.000	-47.98	≤-41.20	47.22	≤54	PASS
				Peak	2310.000	-40.99	≤-21.20	54.21	≤74	PASS
				Peak	2373.920	-38.75	≤-21.20	56.45	≤74	PASS
				Peak	2390.000	-39.28	≤-21.20	55.92	≤74	PASS
		High	2480	AV	2483.500	-45.77	≤-41.20	49.43	≤54	PASS
				AV	2483.520	-45.77	≤-41.20	49.43	≤54	PASS
				AV	2500.000	-47.24	≤-41.20	47.96	≤54	PASS
				Peak	2483.500	-41.56	≤-21.20	53.64	≤74	PASS
				Peak	2499.840	-38.78	≤-21.20	56.42	≤74	PASS
				Peak	2500.000	-40.06	≤-21.20	55.14	≤74	PASS

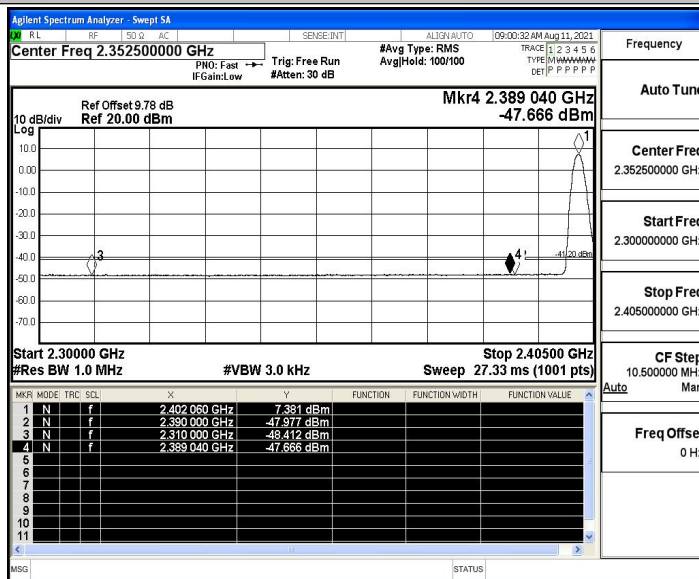
Note:

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.

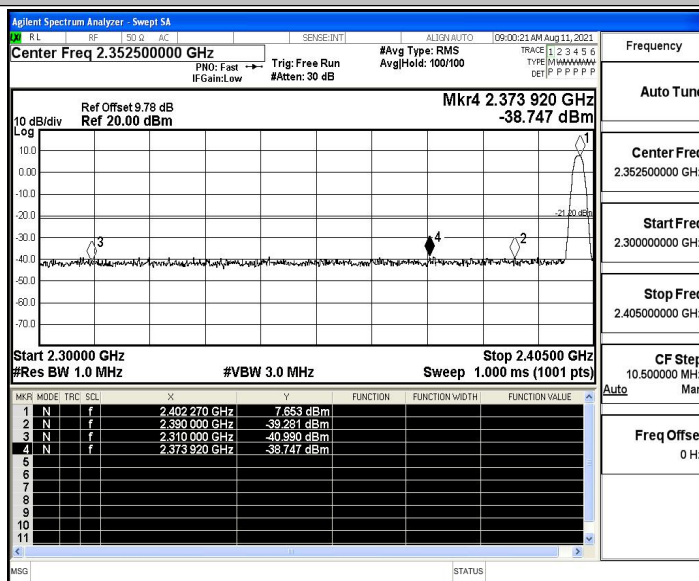


Test Graphs

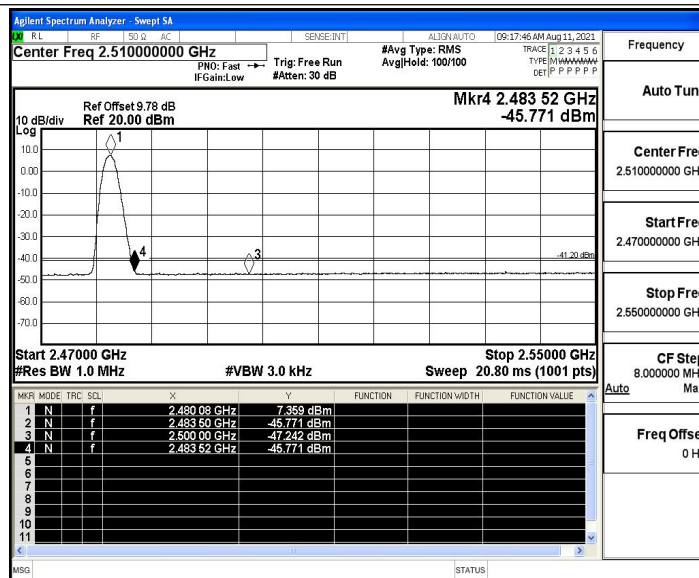
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

