



Appendix A

RF Test Data for 2.4G BLE (Conducted Measurement)

Product Name: White Noise Machine with Lamp

Test Model: S22

Environmental Conditions

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

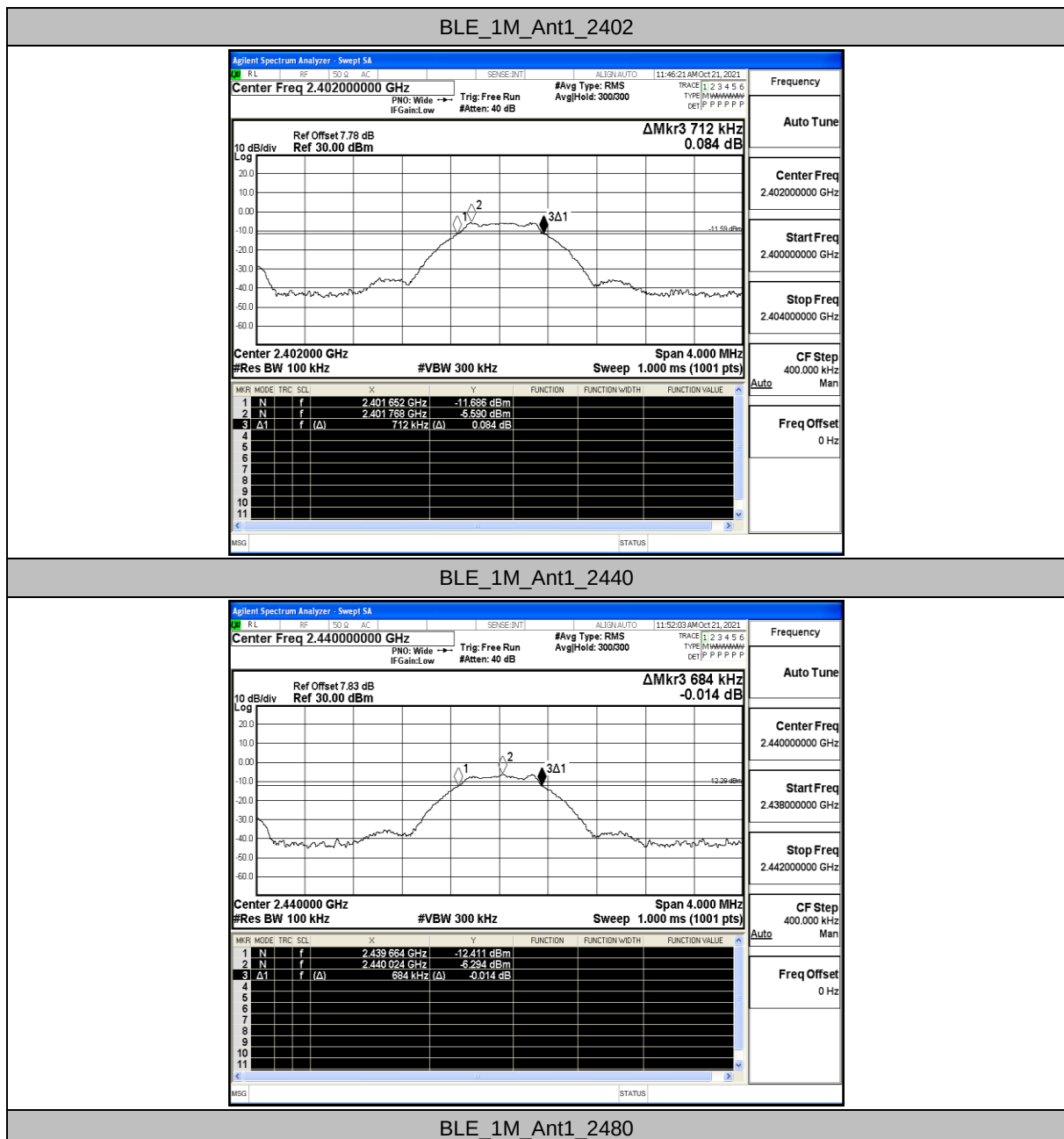


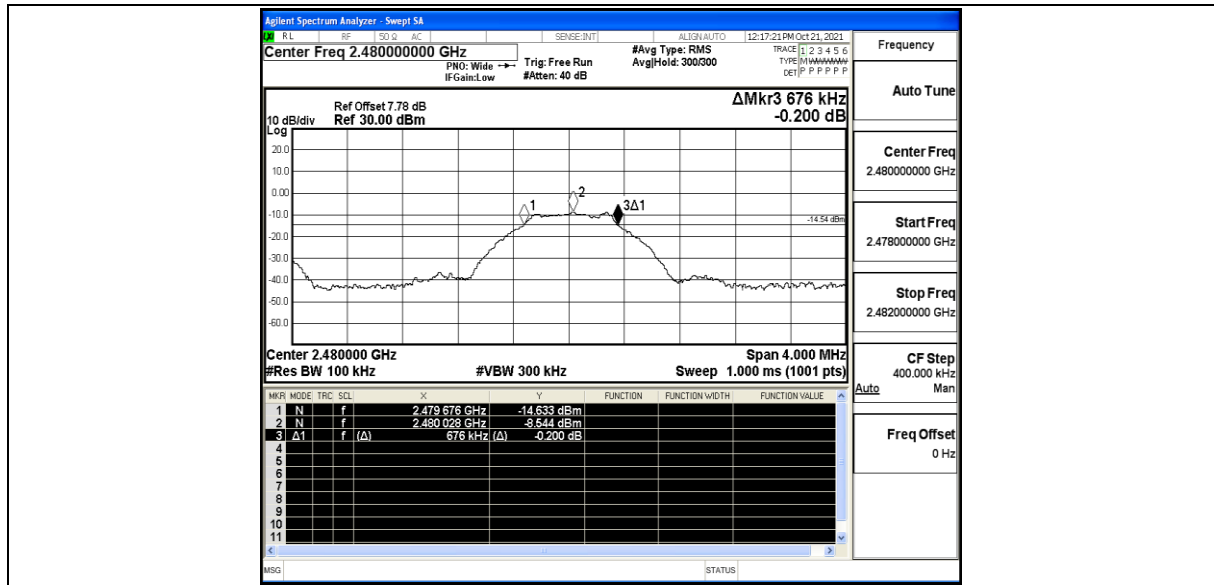
A.1 6dB Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	≥0.5	PASS
		2440	0.684	≥0.5	PASS
		2480	0.676	≥0.5	PASS

Test Graphs





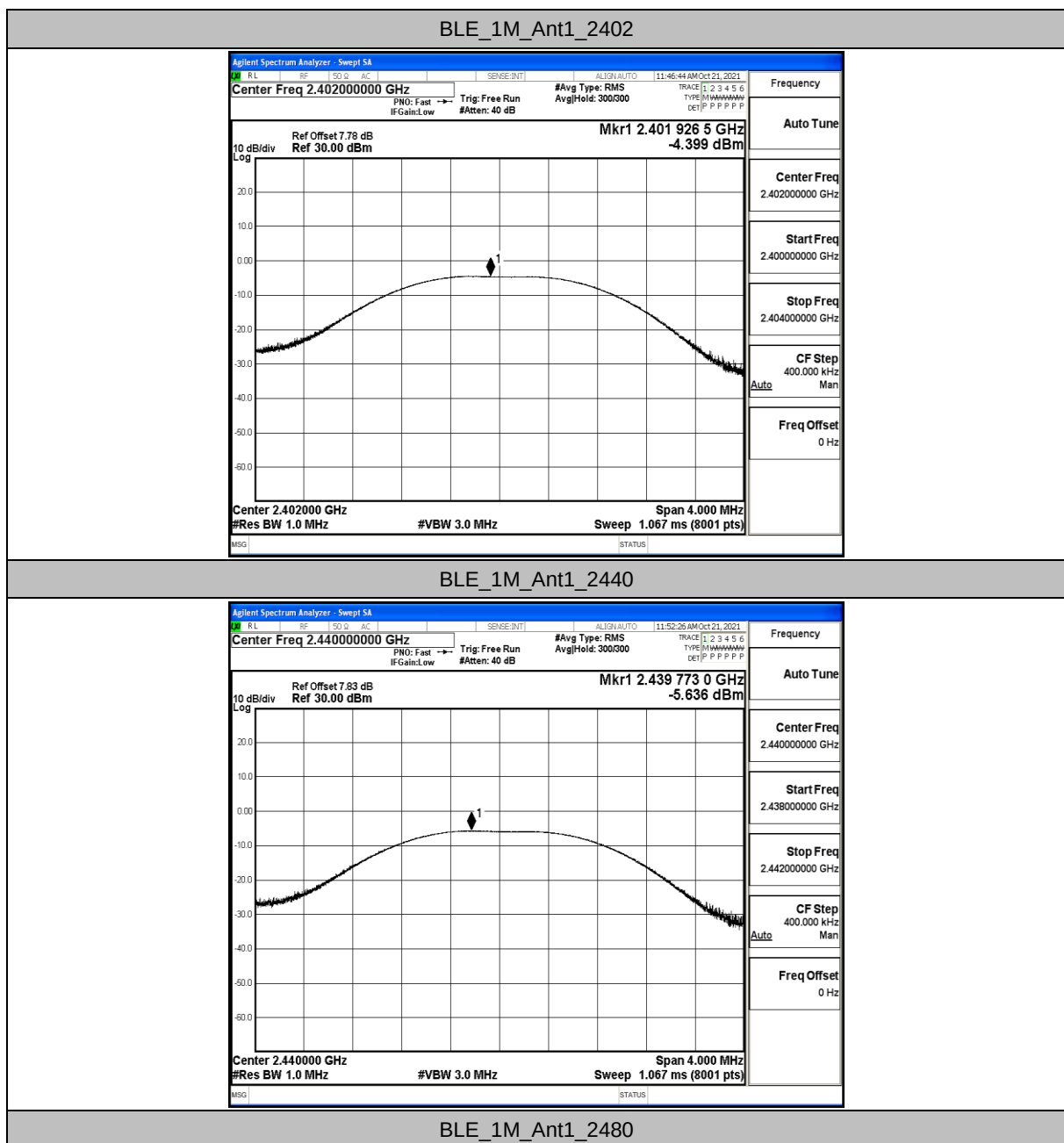


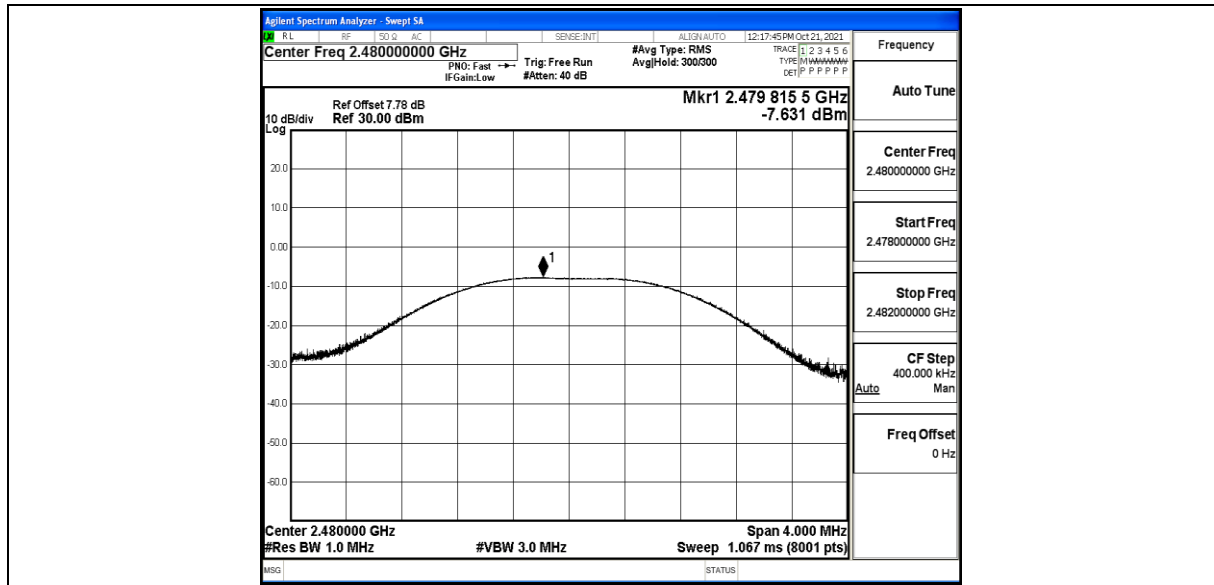
A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-4.4	≤30	PASS
		2440	-5.64	≤30	PASS
		2480	-7.63	≤30	PASS

Test Graphs





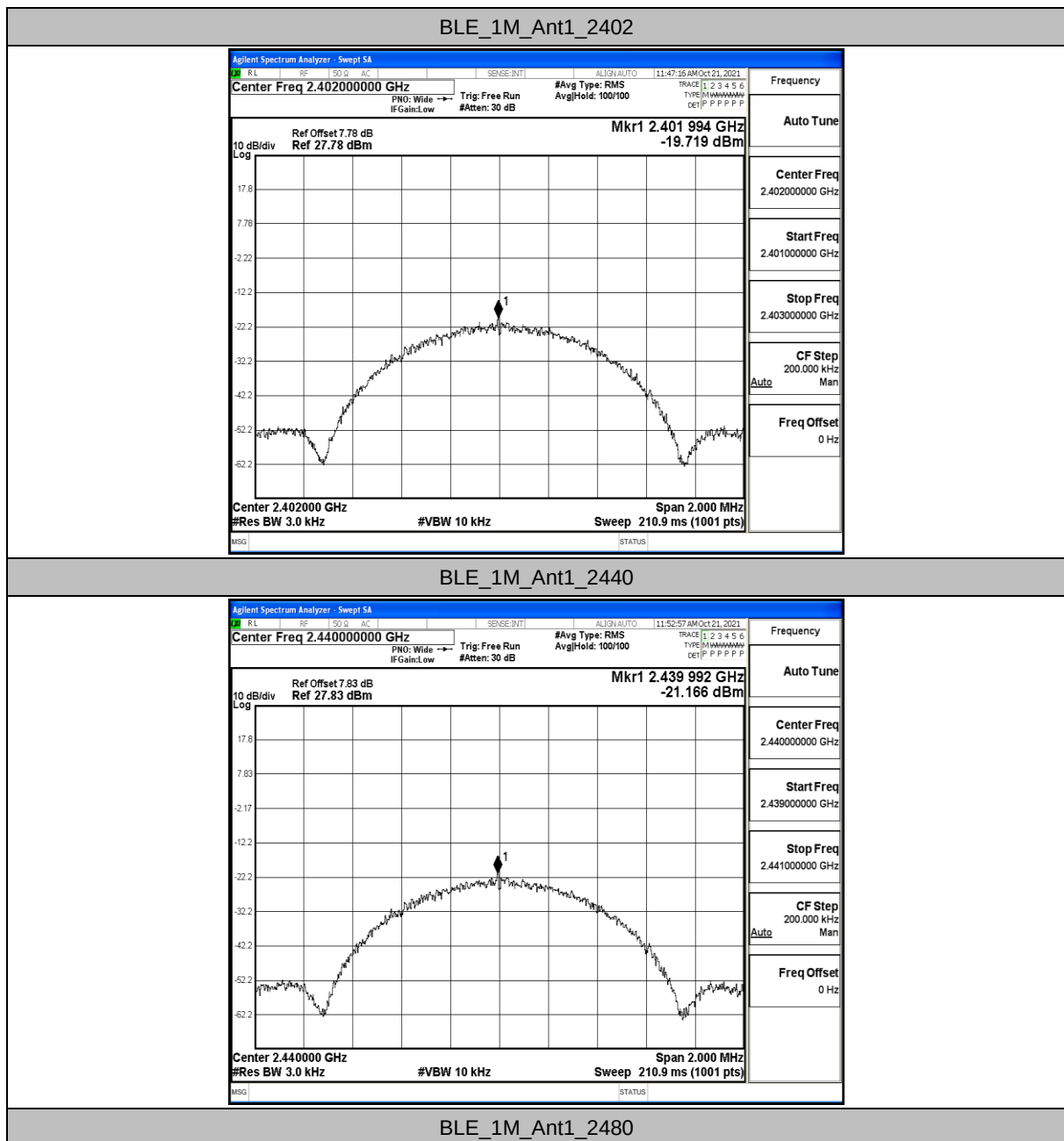


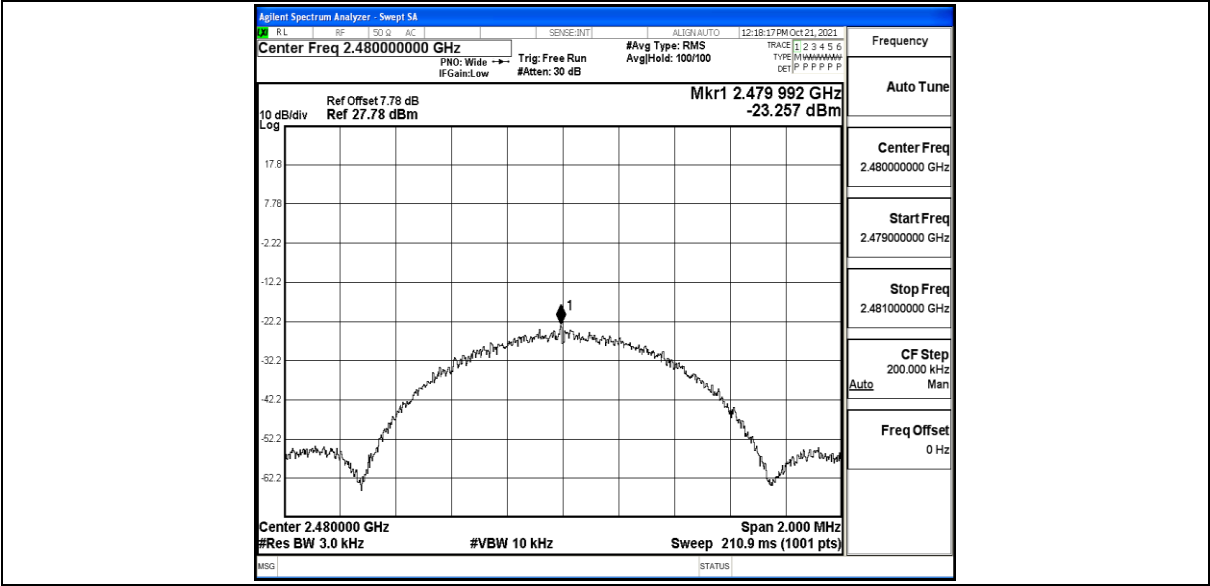
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.72	≤8	PASS
		2440	-21.17	≤8	PASS
		2480	-23.26	≤8	PASS

Test Graphs





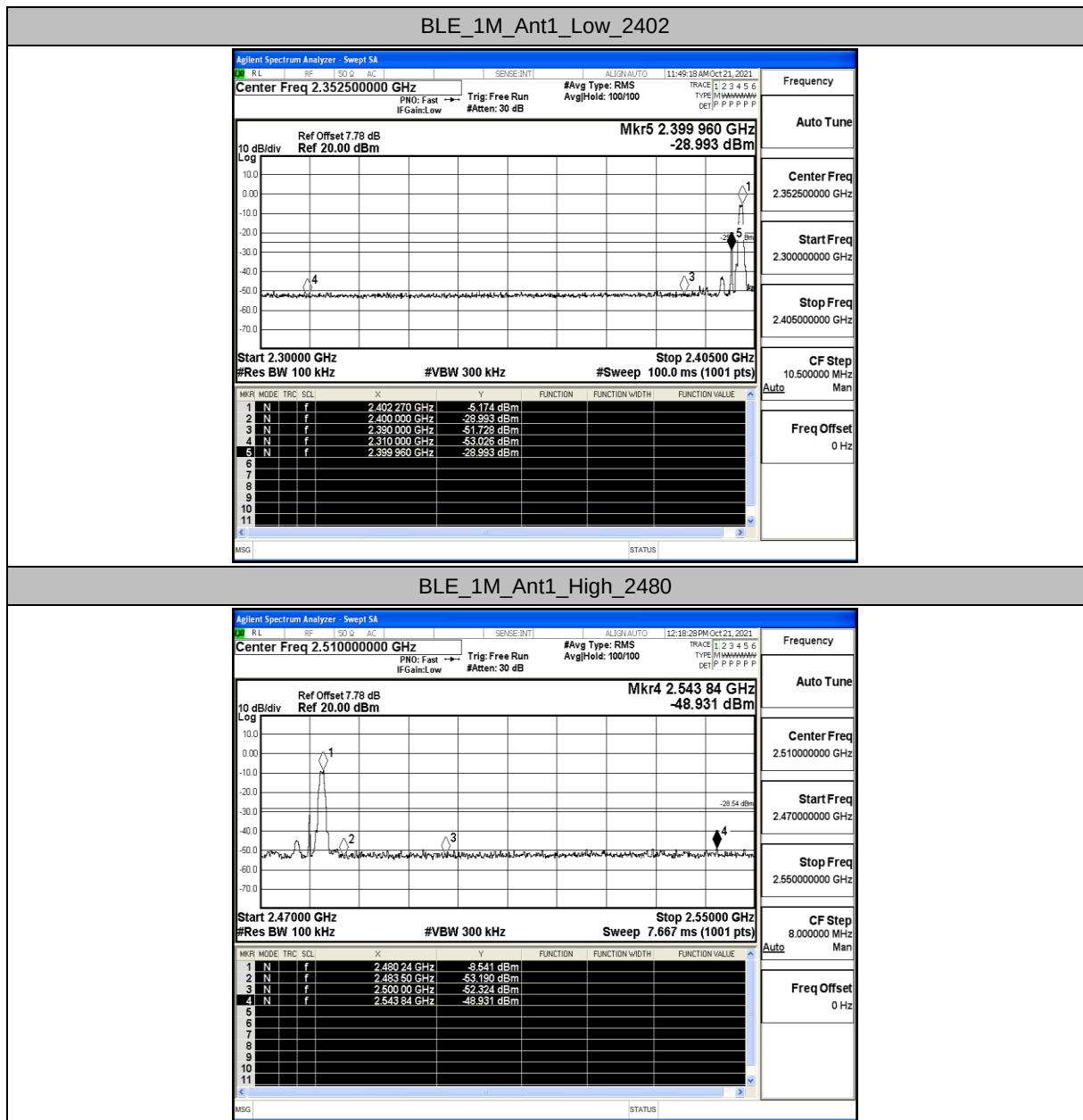


A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-5.17	-28.99	≤-25.17	PASS
		High	2480	-8.54	-48.93	≤-28.54	PASS

Test Graphs



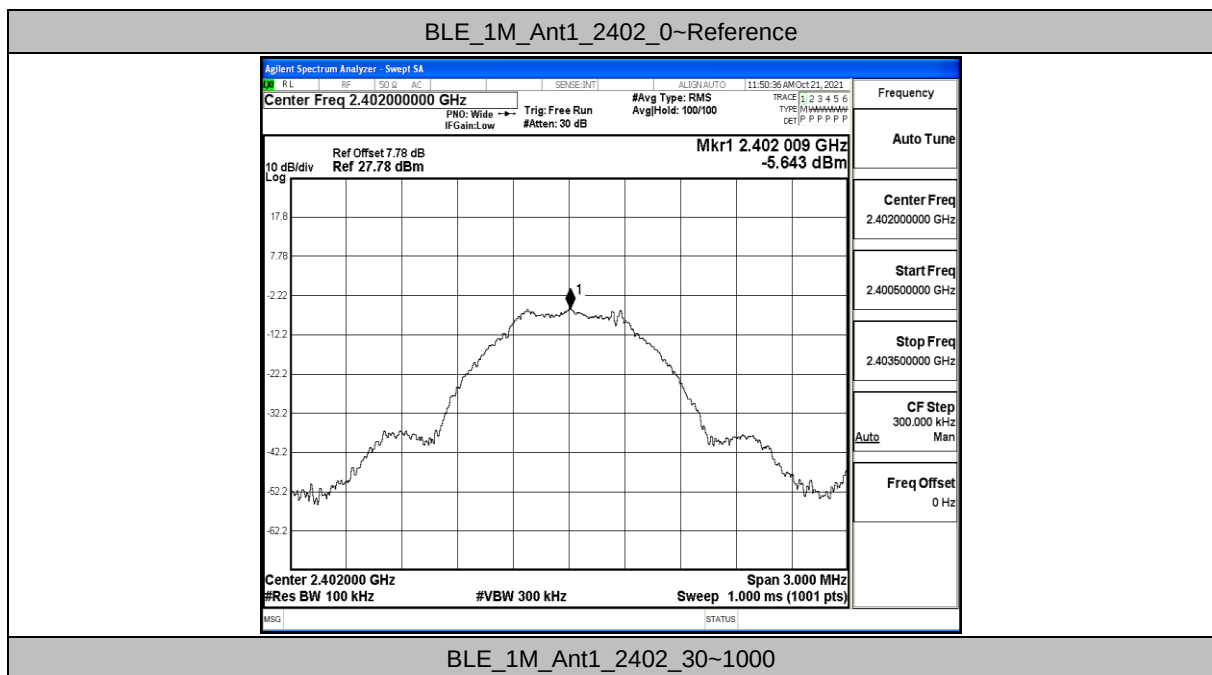


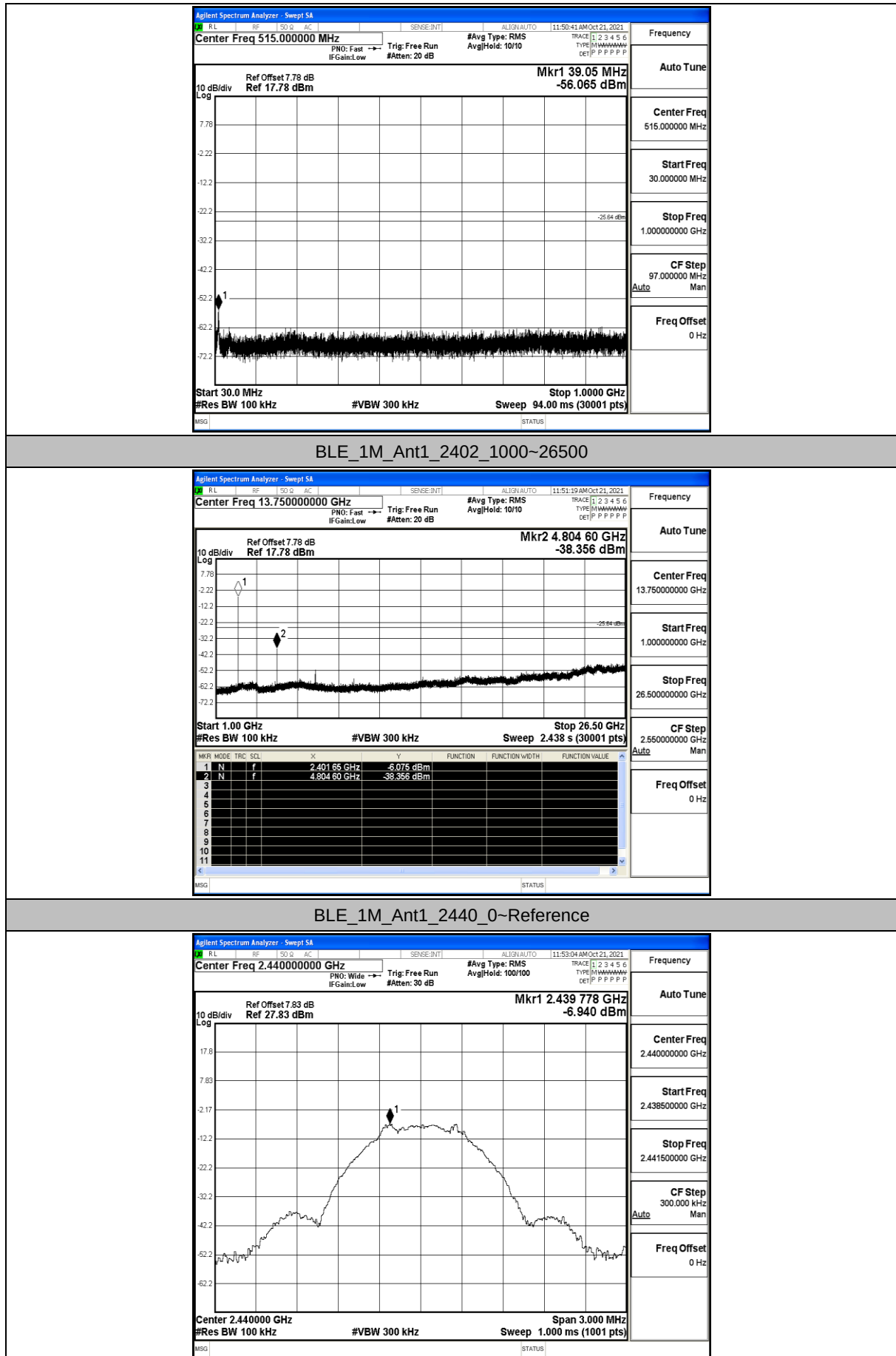
A.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-5.64	-5.64	---	PASS
			30~1000	-5.64	-56.07	≤-25.64	PASS
			1000~26500	-5.64	-38.36	≤-25.64	PASS
		2440	Reference	-6.94	-6.94	---	PASS
			30~1000	-6.94	-55.01	≤-26.94	PASS
			1000~26500	-6.94	-38.19	≤-26.94	PASS
		2480	Reference	-9.20	-9.20	---	PASS
			30~1000	-9.20	-41.84	≤-29.2	PASS
			1000~26500	-9.20	-39.12	≤-29.2	PASS

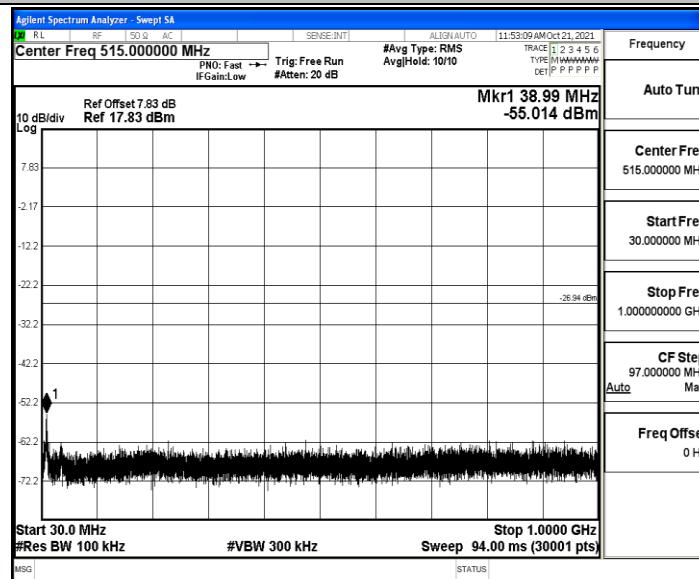
Test Graphs



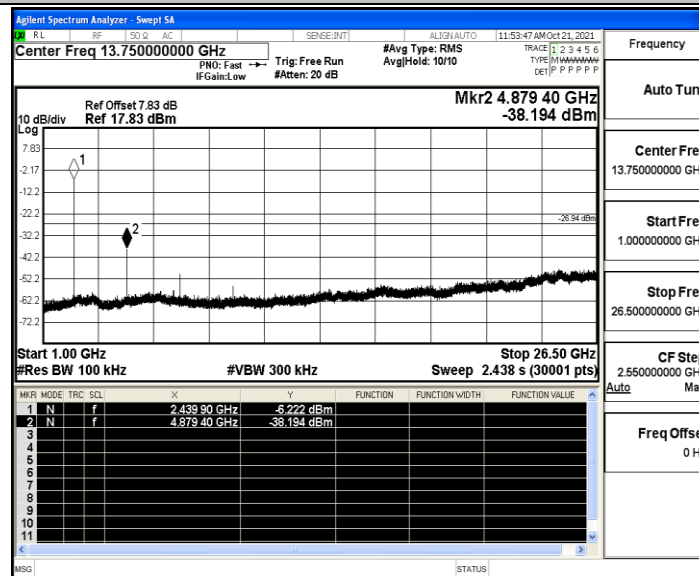




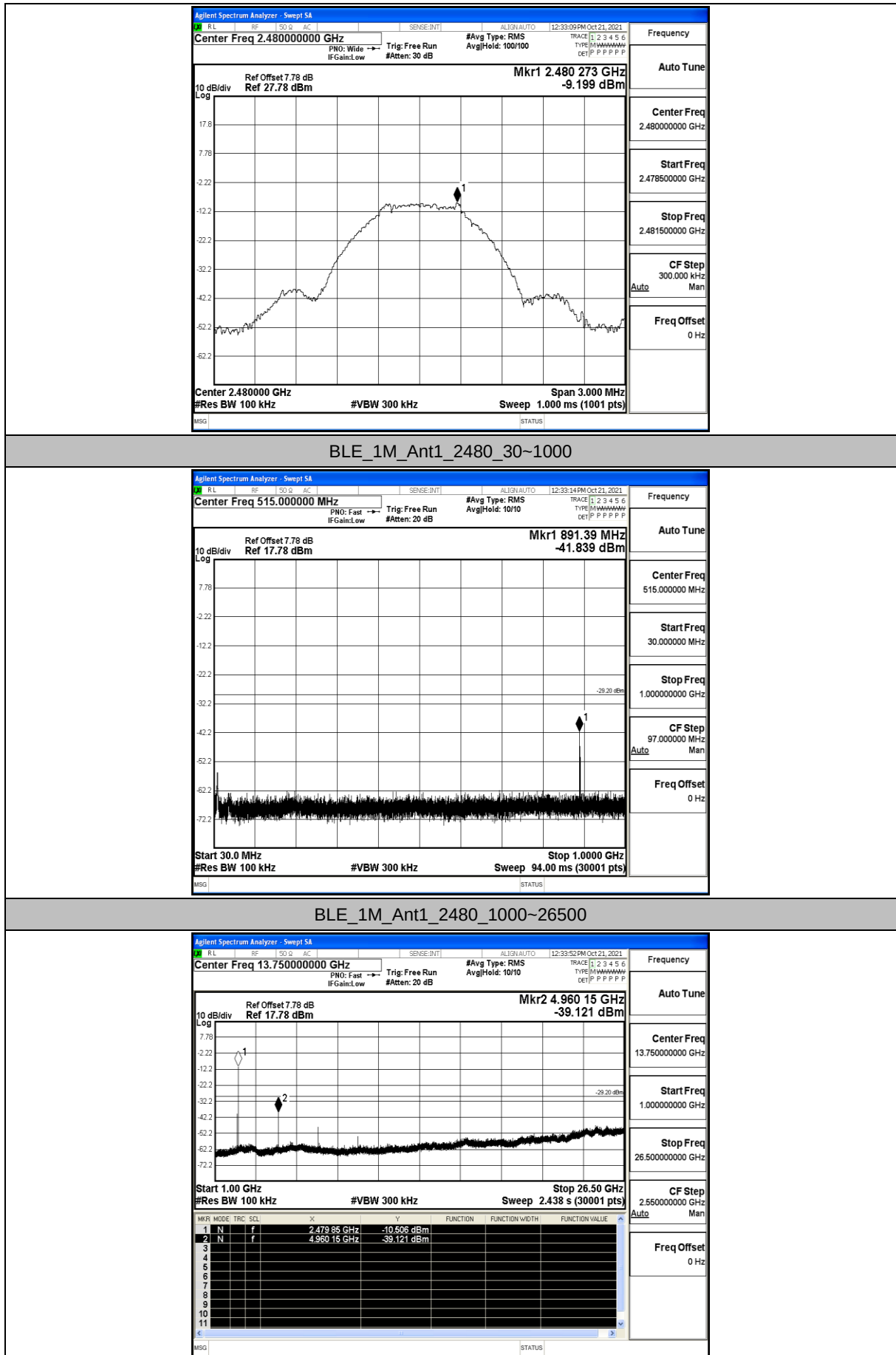
BLE_1M_Ant1_2440_30~1000



BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference





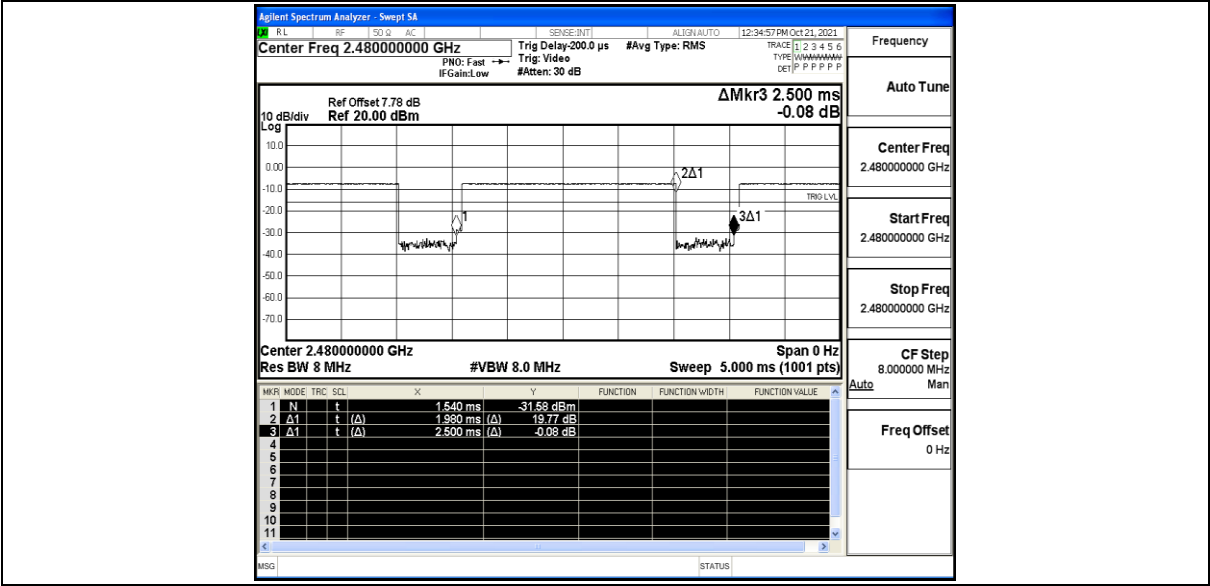
A.6 Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	1.98	2.50	0.7920	79.20	1.01	---	PASS
		2440	1.98	2.50	0.7920	79.20	1.01	---	PASS
		2480	1.98	2.50	0.7920	79.20	1.01	---	PASS

Test Graphs







A.7 Emissions in Restricted Bands

Test Result

TestMode	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	2402	AV	2310.000	-48.98	≤-41.20	46.22	≤54	PASS
		AV	2386.415	-48.43	≤-41.20	46.77	≤54	PASS
		AV	2390.000	-48.58	≤-41.20	46.62	≤54	PASS
		Peak	2310.000	-41.99	≤-21.20	53.21	≤74	PASS
		Peak	2371.085	-38.16	≤-21.20	57.04	≤74	PASS
		Peak	2390.000	-41.83	≤-21.20	53.37	≤74	PASS
	2480	AV	2483.500	-48.17	≤-41.20	47.03	≤54	PASS
		AV	2483.520	-48.16	≤-41.20	47.04	≤54	PASS
		AV	2500.000	-48.36	≤-41.20	46.84	≤54	PASS
		Peak	2483.500	-39.97	≤-21.20	55.23	≤74	PASS
		Peak	2483.680	-37.57	≤-21.20	57.63	≤74	PASS
		Peak	2500.000	-41.35	≤-21.20	53.85	≤74	PASS

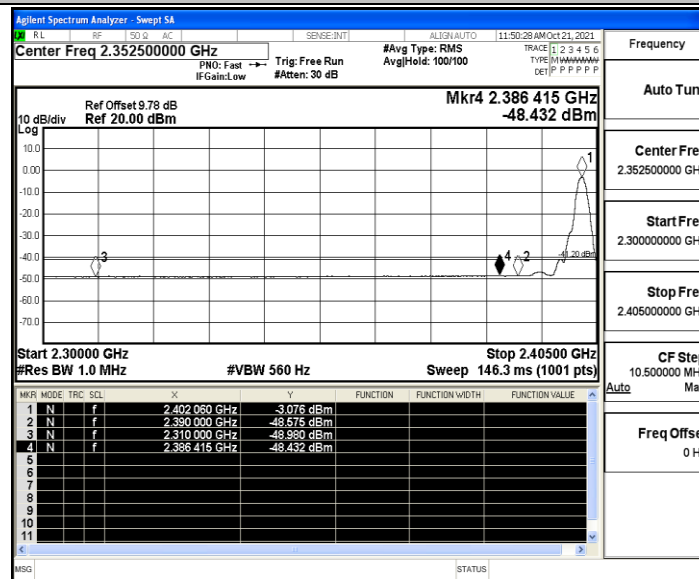
Note:

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.

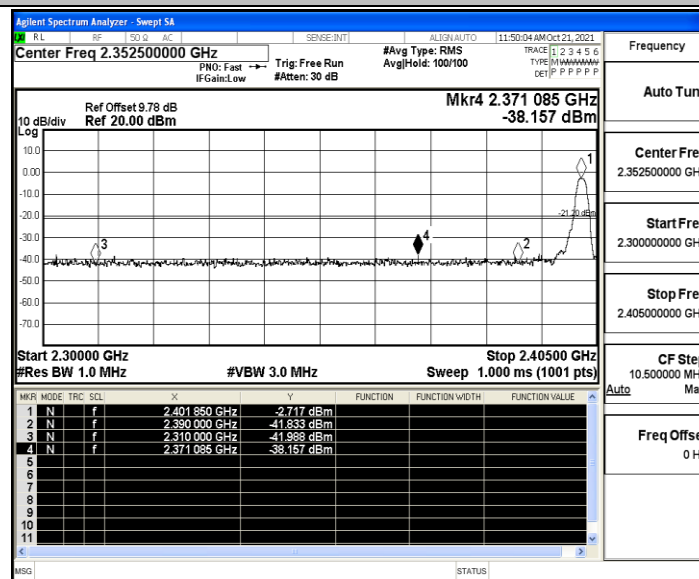


Test Graphs

BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV

