



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: LED Strip
Test Model: XDD005Y7D7001

Environmental Conditions

Temperature:	24.3° C
Relative Humidity:	51.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan

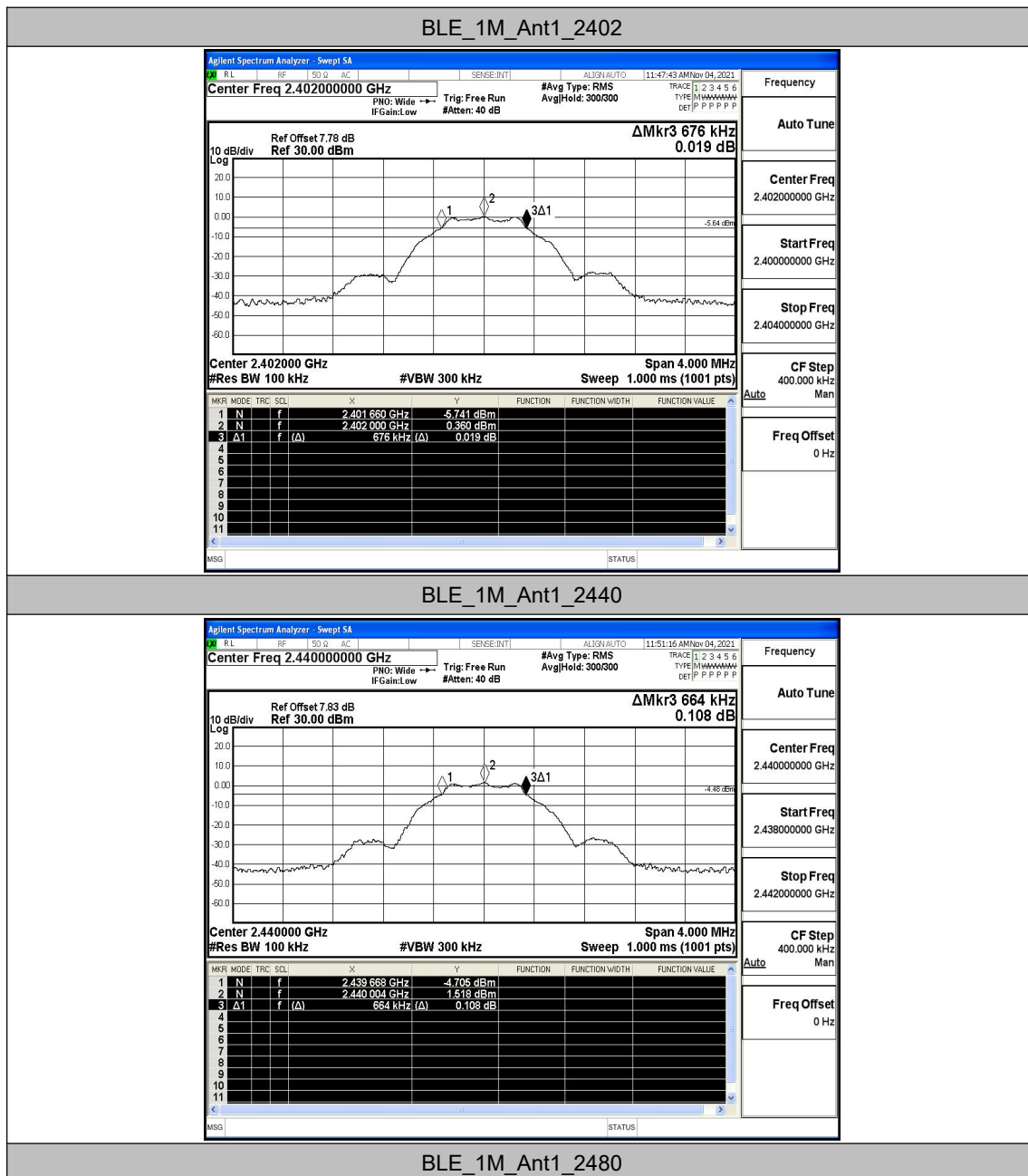


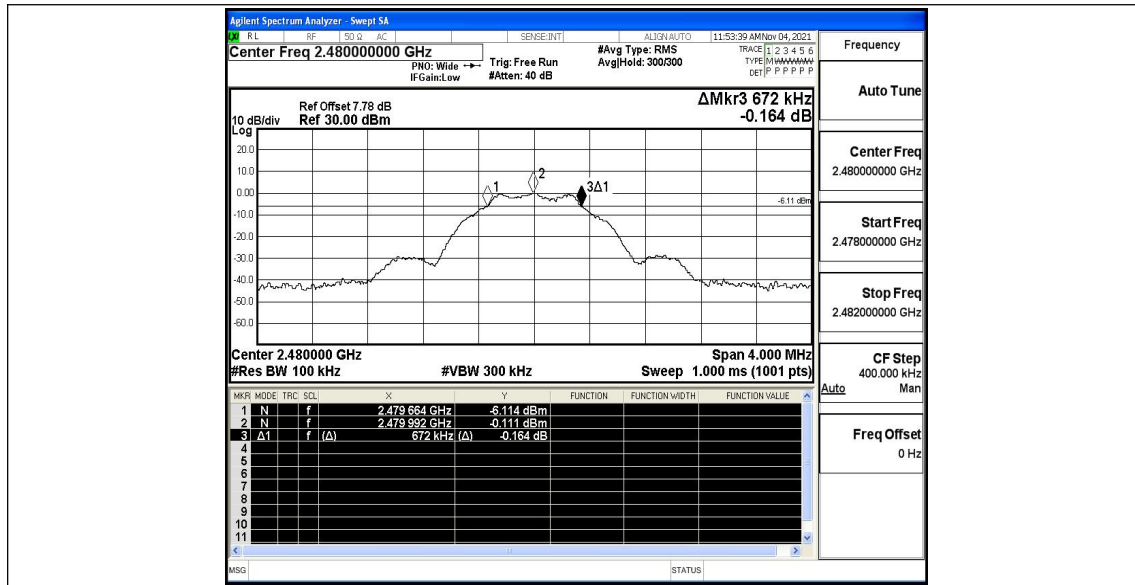
A.1 6dB Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.660	2402.336	≥ 0.5	PASS
		2440	0.664	2439.668	2440.332	≥ 0.5	PASS
		2480	0.672	2479.664	2480.336	≥ 0.5	PASS

Test Graphs





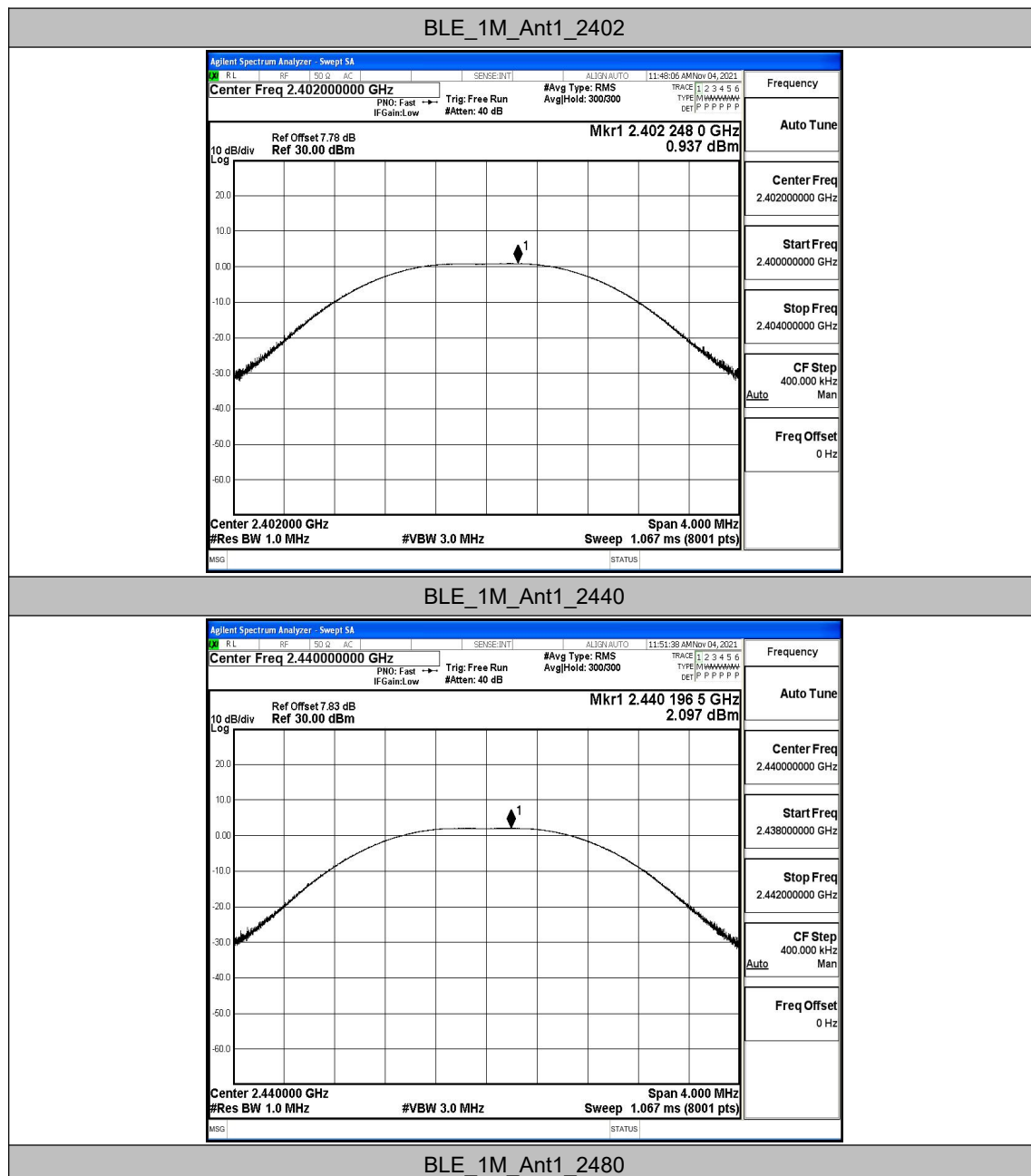


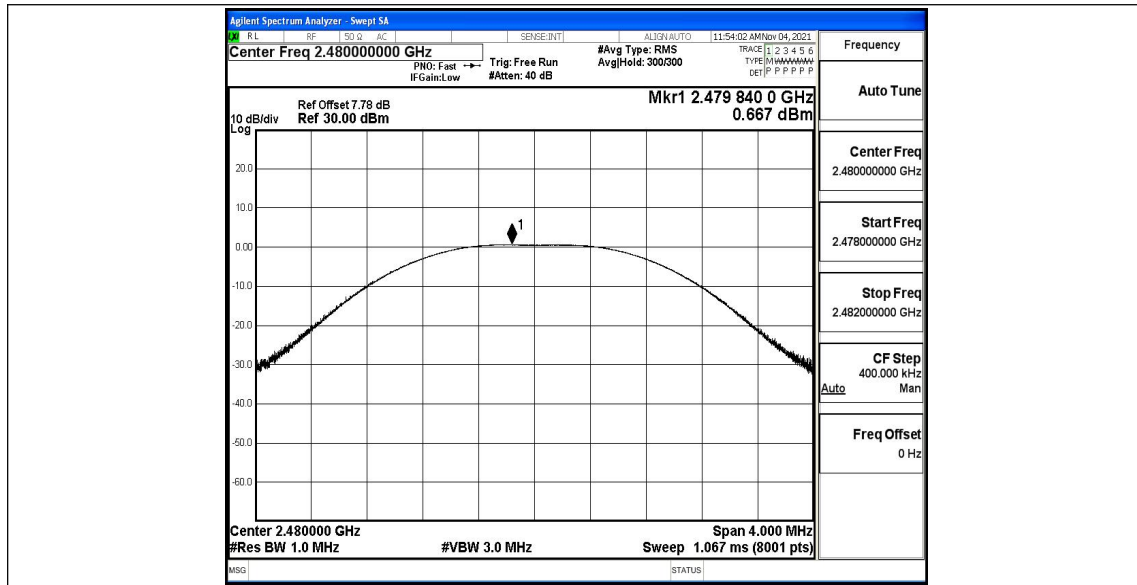
A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.94	≤30	PASS
		2440	2.1	≤30	PASS
		2480	0.67	≤30	PASS

Test Graphs





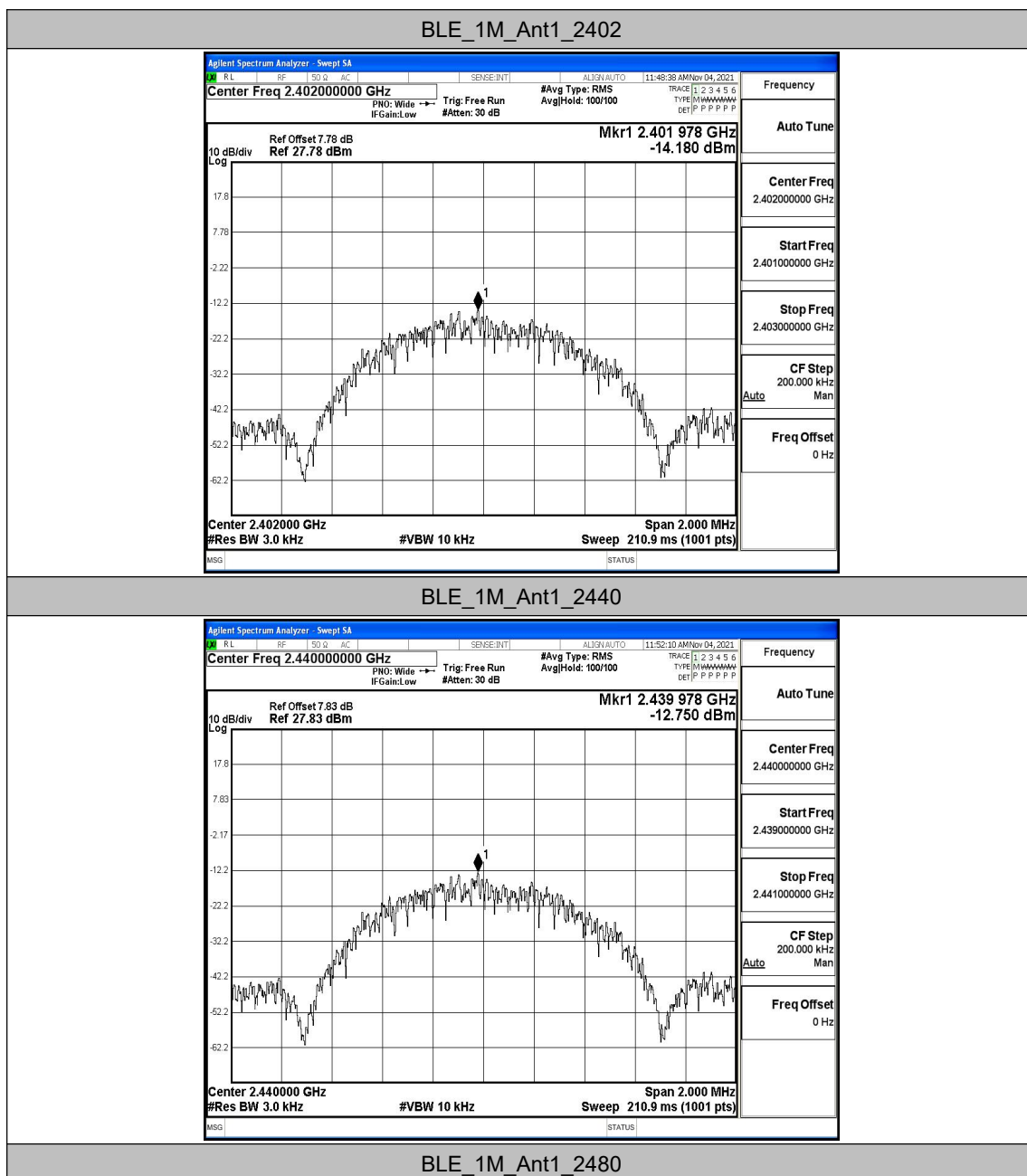


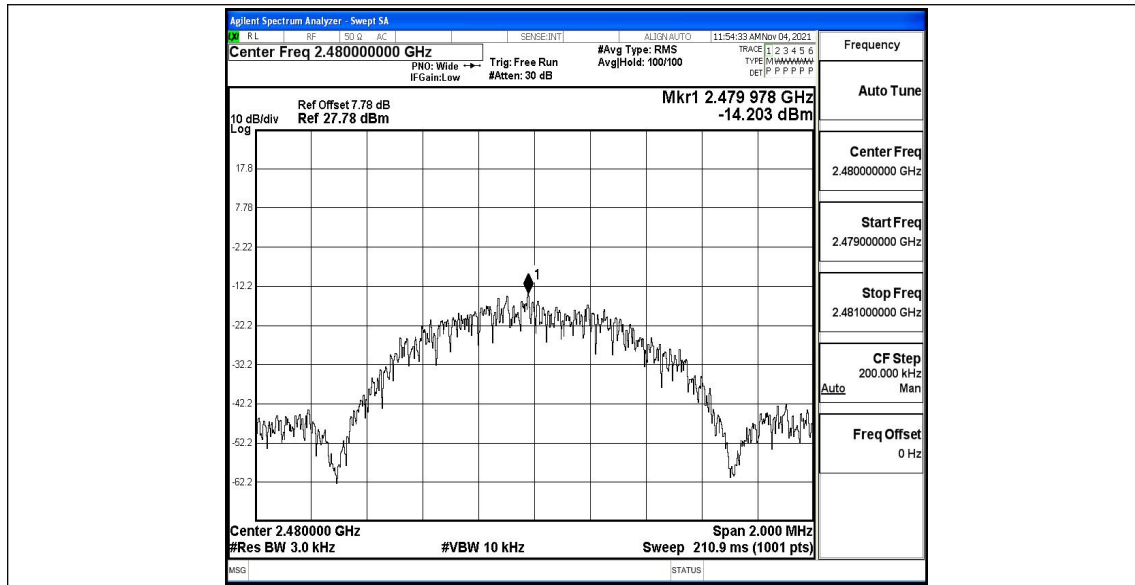
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.18	≤8	PASS
		2440	-12.75	≤8	PASS
		2480	-14.2	≤8	PASS

Test Graphs





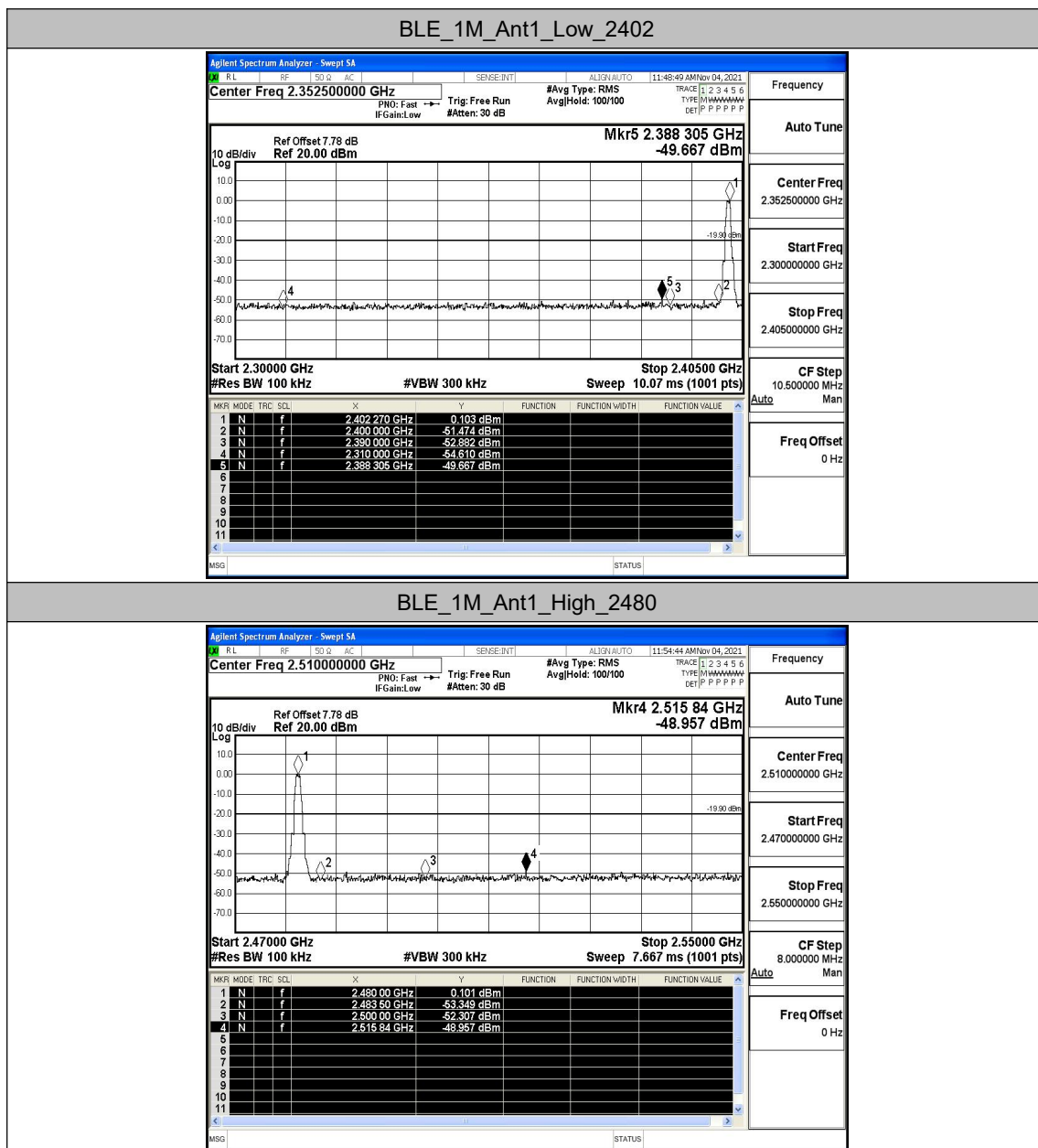


A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.10	-49.67	≤-19.9	PASS
		High	2480	0.10	-48.96	≤-19.9	PASS

Test Graphs



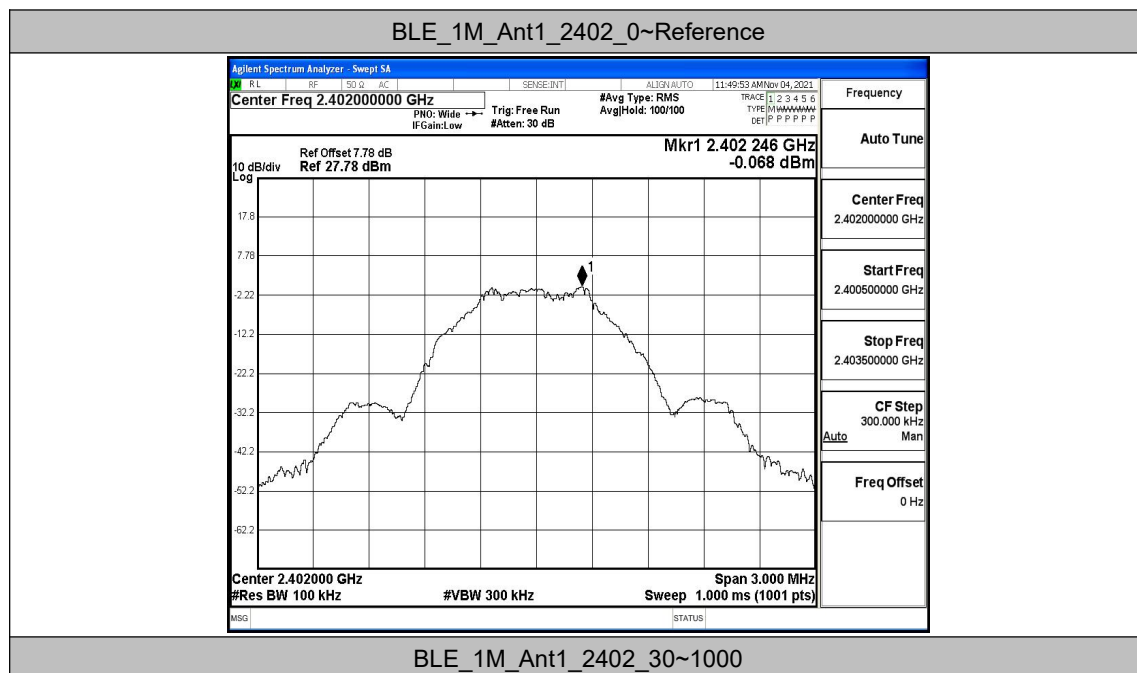


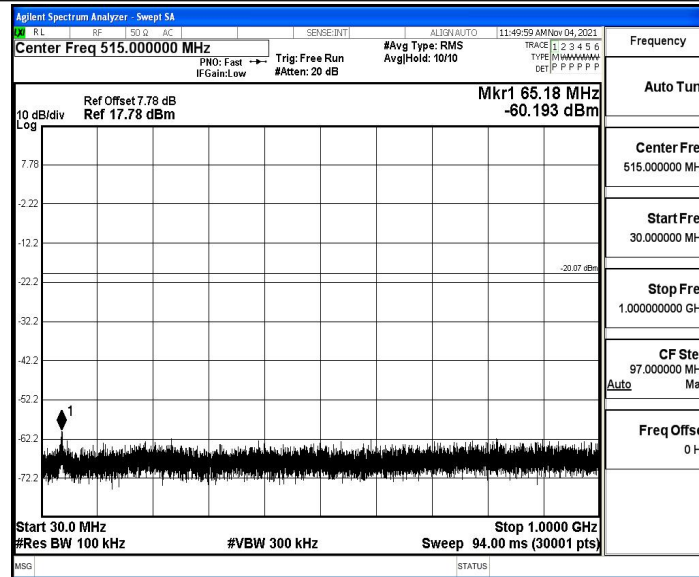
A.5 Conducted Spurious Emission

Test Result

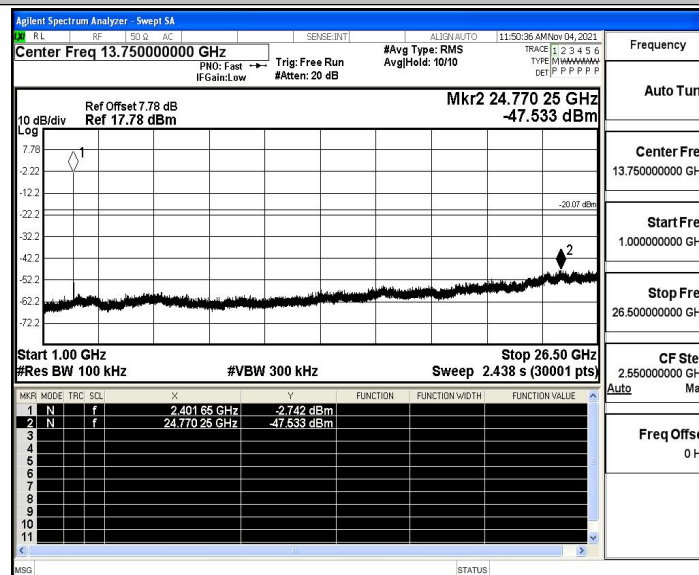
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.07	-0.07	---	PASS
			30~1000	-0.07	-60.19	≤-20.07	PASS
			1000~26500	-0.07	-47.53	≤-20.07	PASS
		2440	Reference	1.43	1.43	---	PASS
			30~1000	1.43	-60.16	≤-18.57	PASS
			1000~26500	1.43	-46.7	≤-18.57	PASS
		2480	Reference	-0.05	-0.05	---	PASS
			30~1000	-0.05	-60.99	≤-20.05	PASS
			1000~26500	-0.05	-47.48	≤-20.05	PASS

Test Graphs

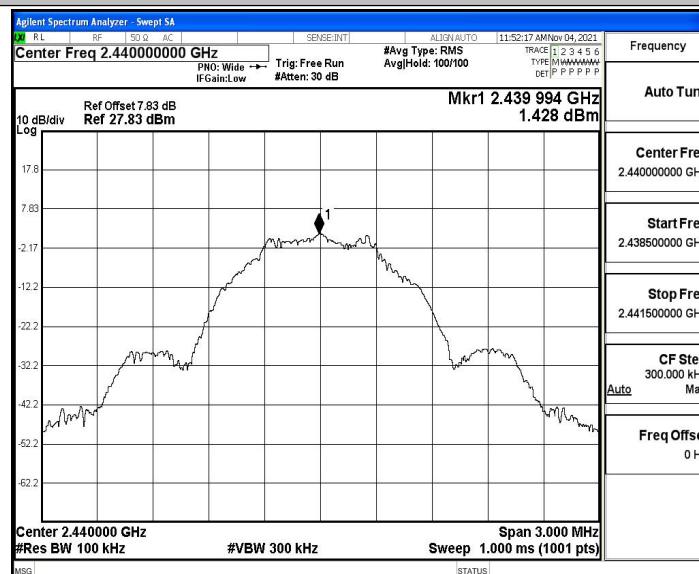




BLE_1M_Ant1_2402_1000~26500

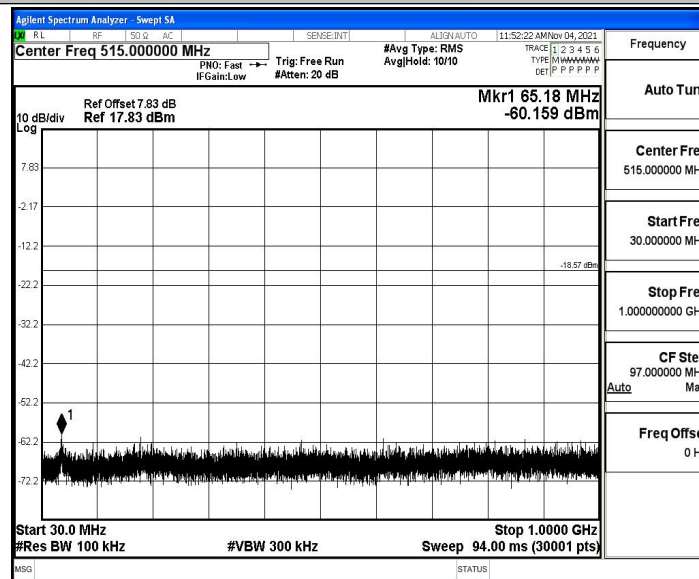


BLE_1M_Ant1_2440_0~Reference

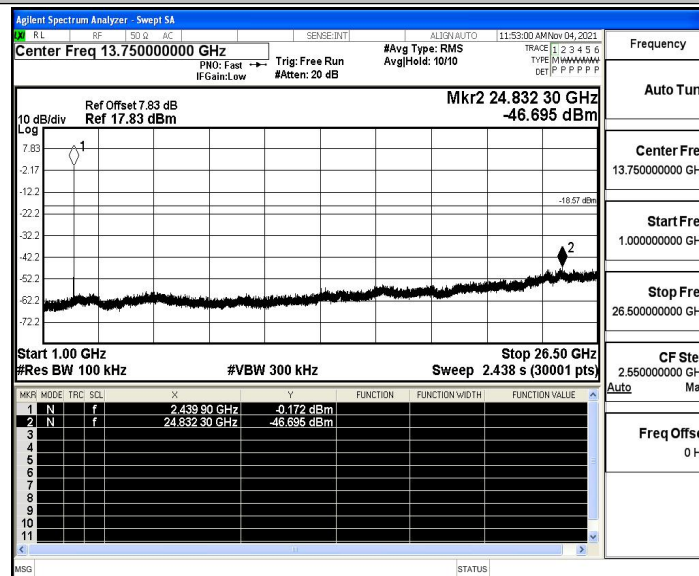




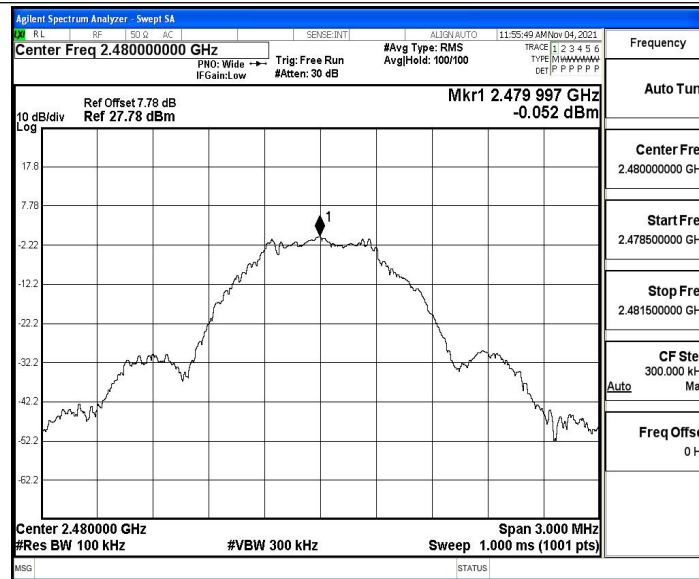
BLE_1M_Ant1_2440_30~1000



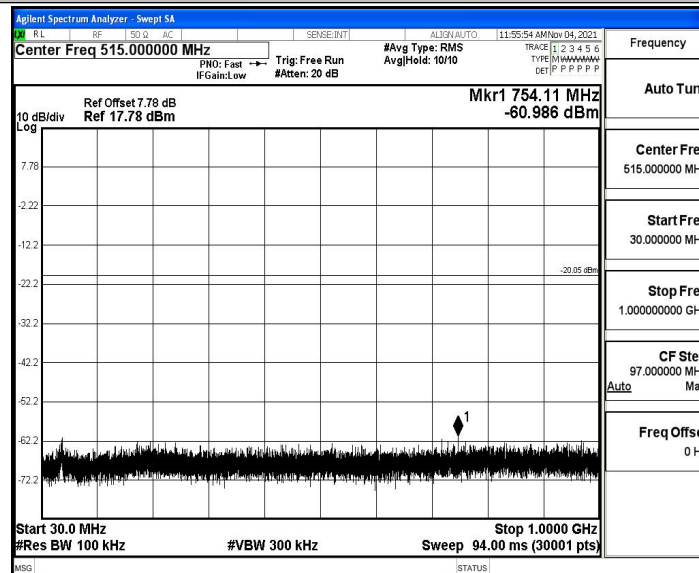
BLE_1M_Ant1_2440_1000~26500



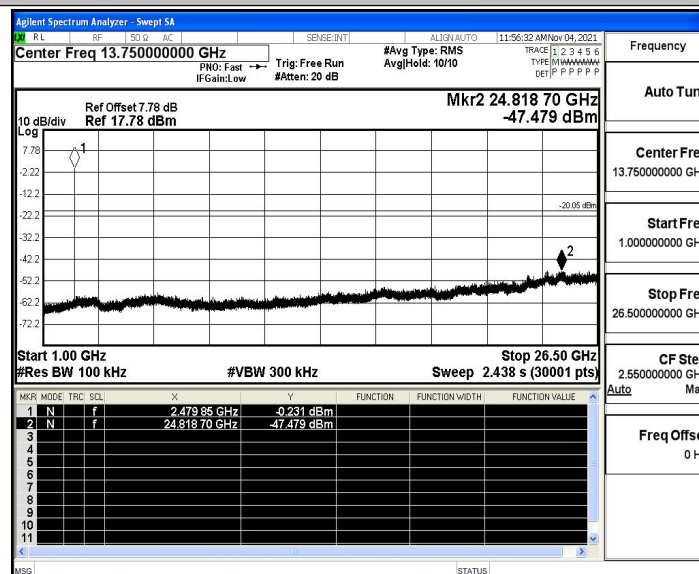
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



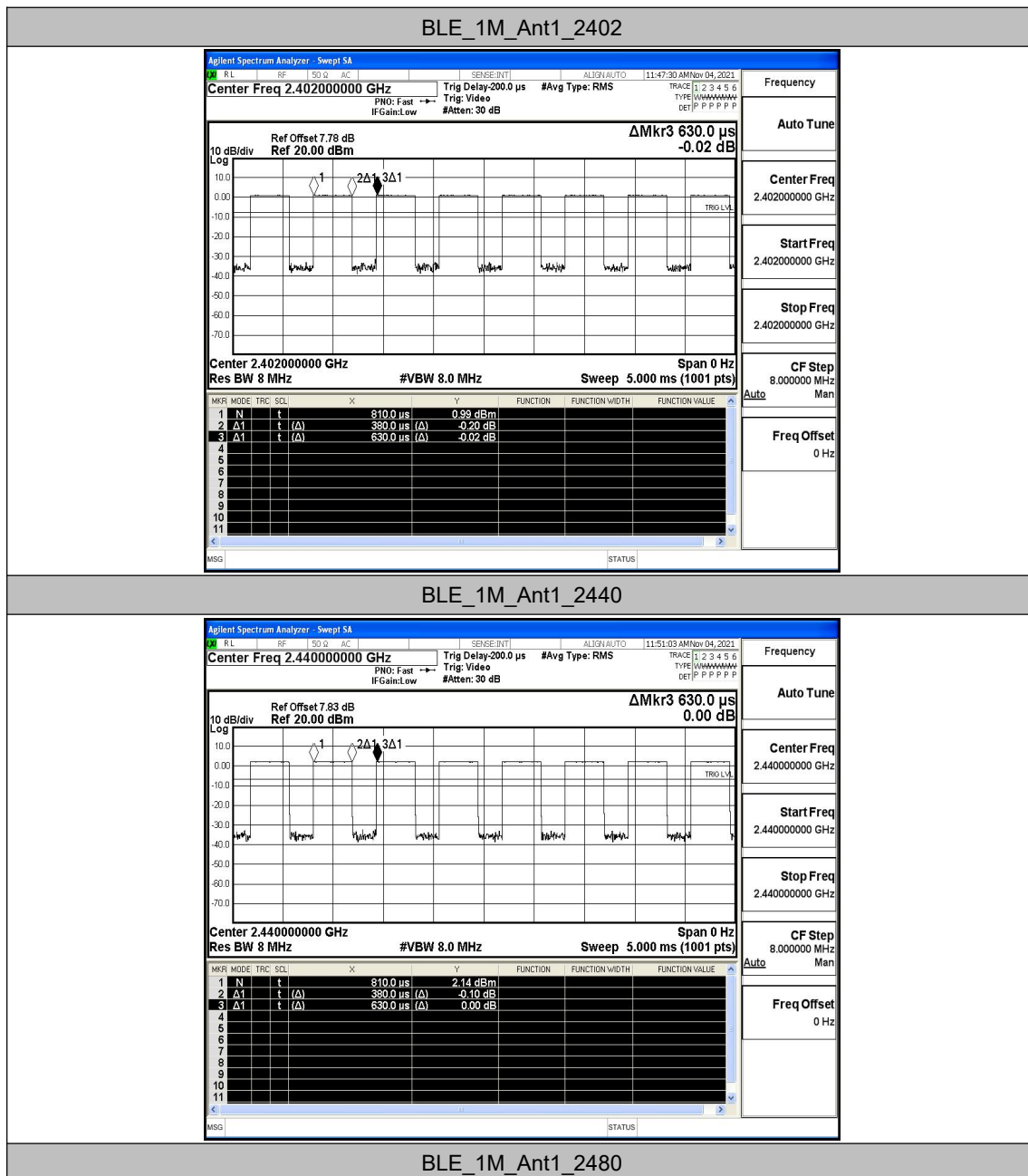


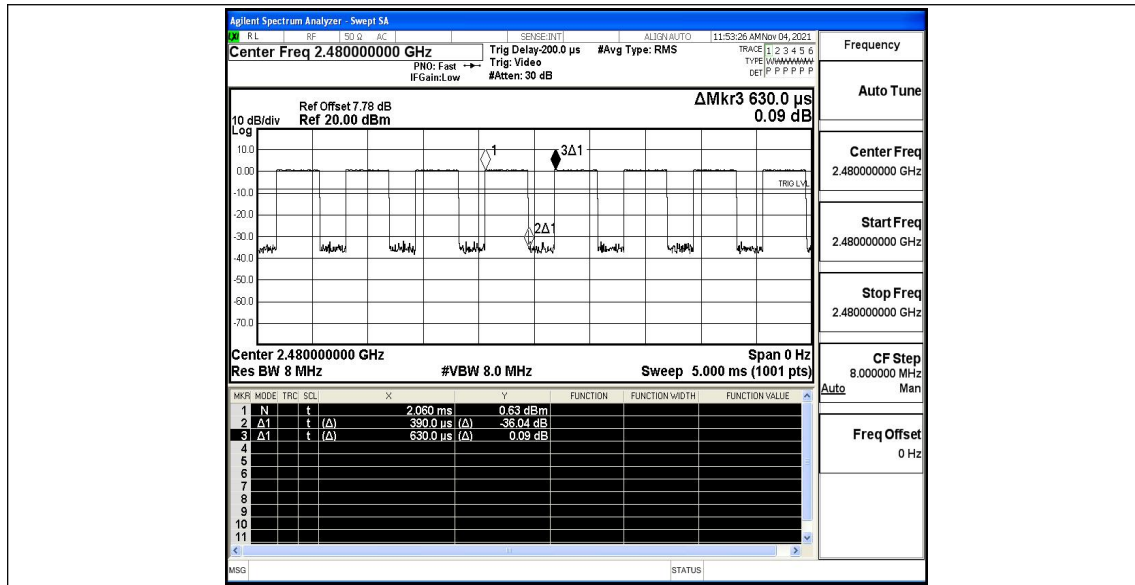
A.6 Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.63	0.6032	60.32	2.20	---	PASS
		2440	0.38	0.63	0.6032	60.32	2.20	---	PASS
		2480	0.39	0.63	0.6190	61.90	2.08	---	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	-48.18	≤-41.20	47.02	≤54	PASS
				AV	2375.285	-47.49	≤-41.20	47.71	≤54	PASS
				AV	2390.000	-47.99	≤-41.20	47.21	≤54	PASS
				Peak	2310.000	-42.3	≤-21.20	52.90	≤74	PASS
				Peak	2323.310	-38.39	≤-21.20	56.81	≤74	PASS
				Peak	2390.000	-41.94	≤-21.20	53.26	≤74	PASS
		High	2480	AV	2483.500	-47.26	≤-41.20	47.94	≤54	PASS
				AV	2497.280	-46.74	≤-41.20	48.46	≤54	PASS
				AV	2500.000	-47.6	≤-41.20	47.60	≤54	PASS
				Peak	2483.500	-42.36	≤-21.20	52.84	≤74	PASS
				Peak	2495.920	-38.55	≤-21.20	56.65	≤74	PASS
				Peak	2500.000	-40	≤-21.20	55.20	≤74	PASS

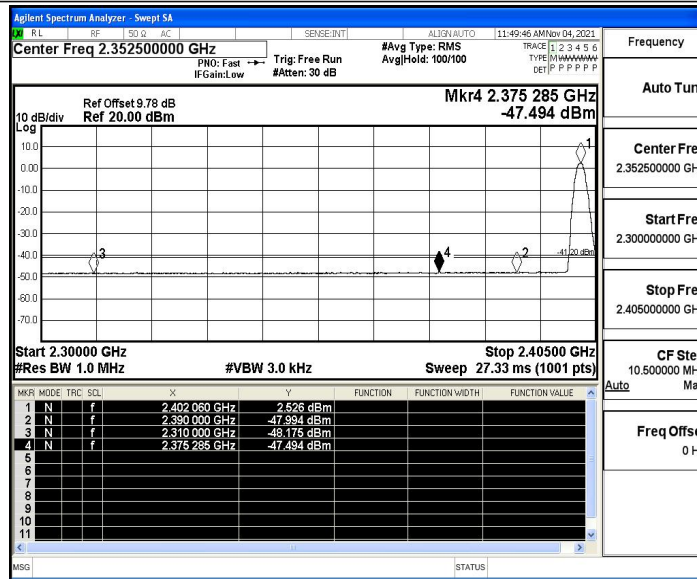
Note:

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.

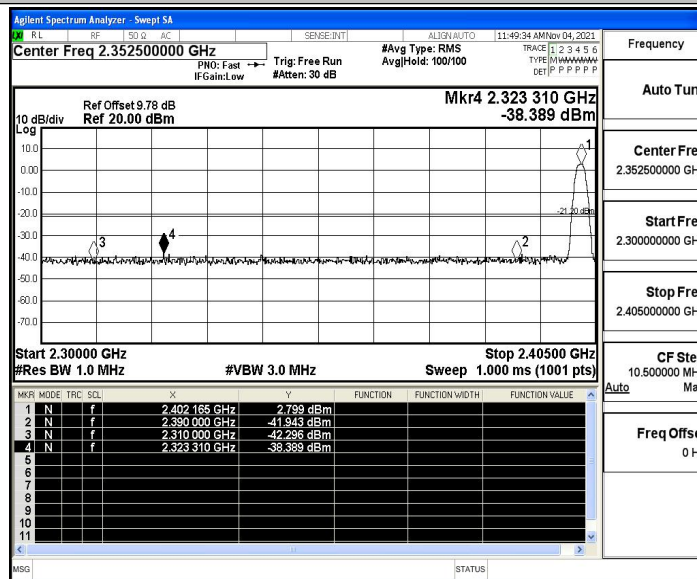


Test Graphs

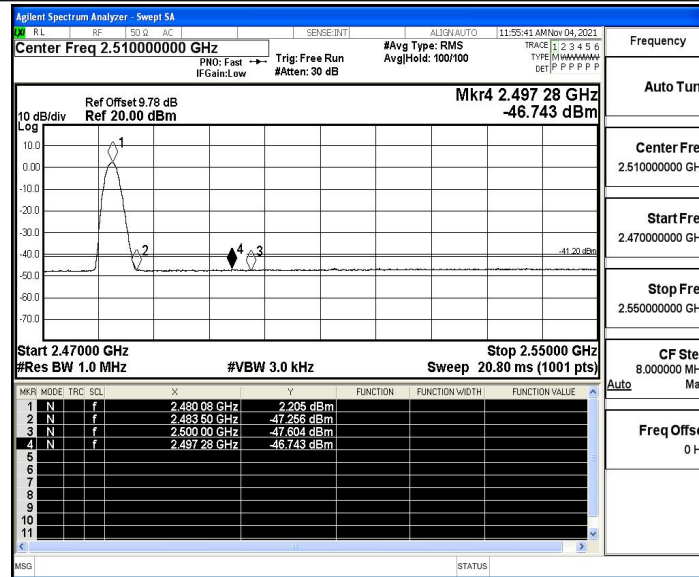
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

