



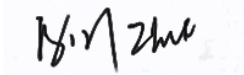
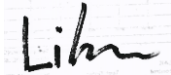
Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: Smart String Light (Bluetooth)

Test Model: HY-S14-20045-B01

Environmental Conditions

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

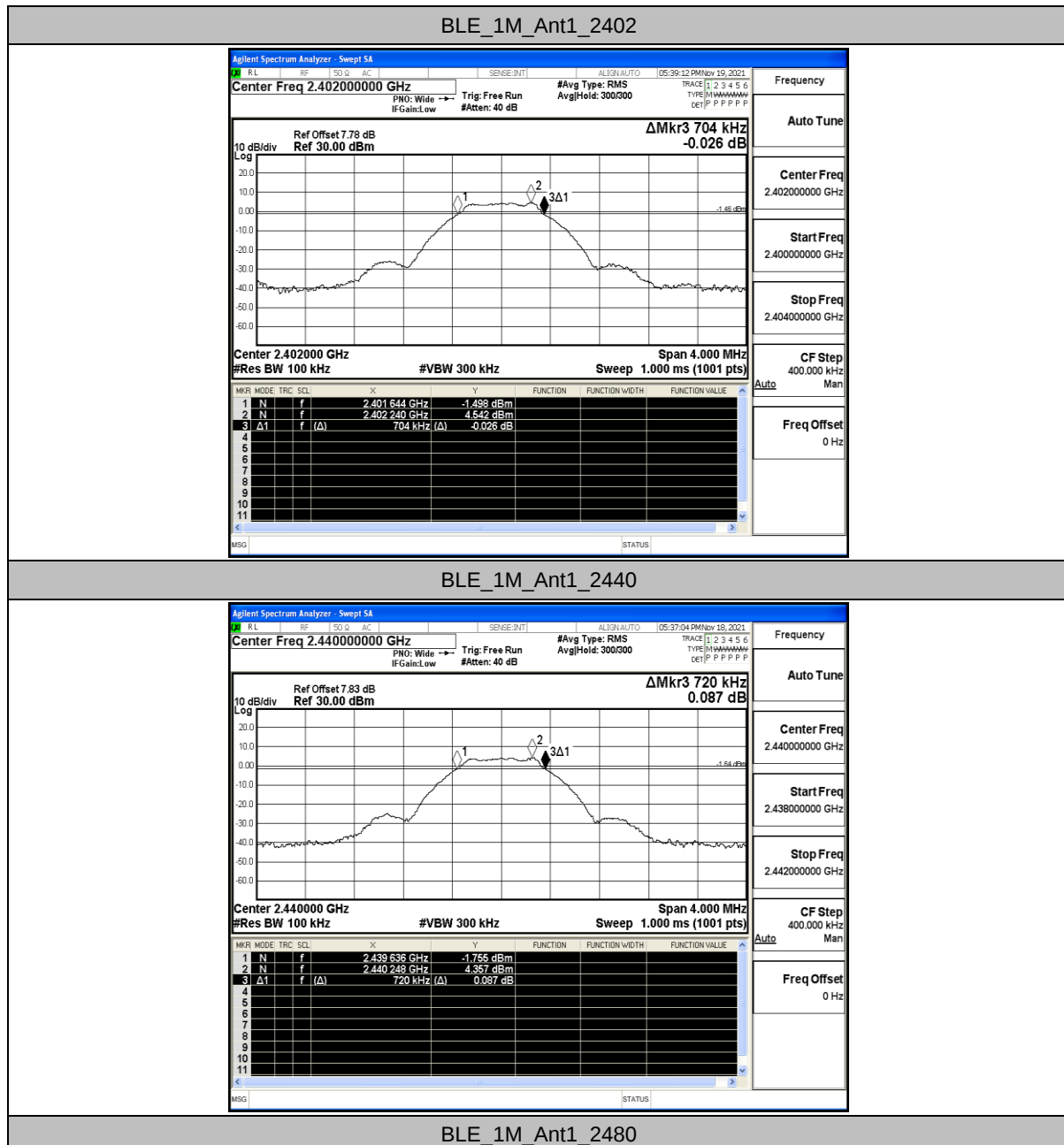


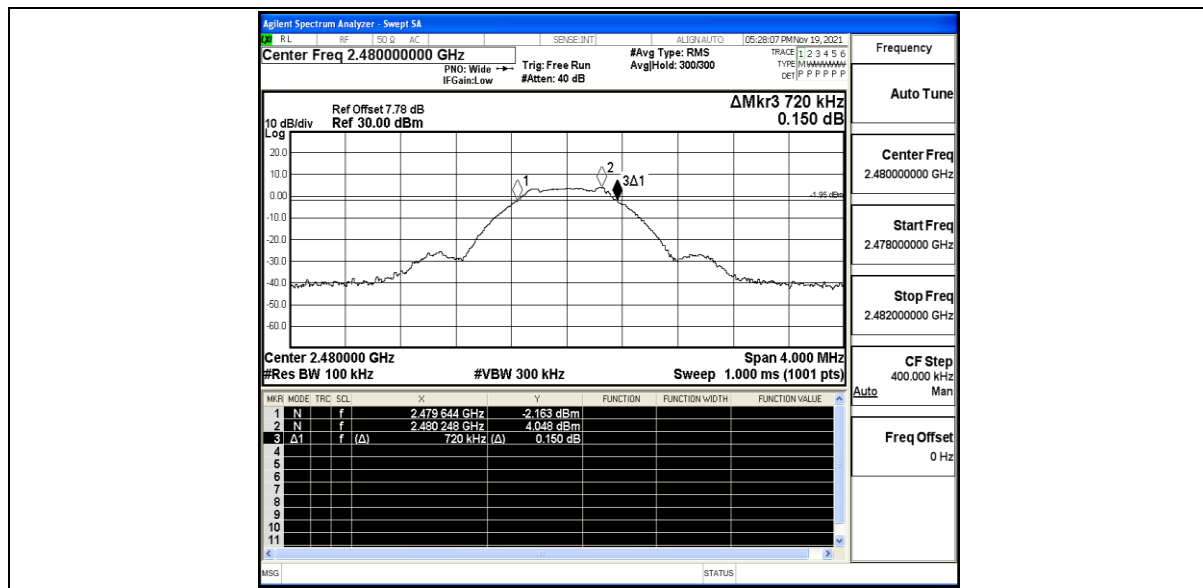
A.1 DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.704	2401.644	2402.348	≥0.5	PASS
		2440	0.720	2439.636	2440.356	≥0.5	PASS
		2480	0.720	2479.644	2480.364	≥0.5	PASS

Test Graphs





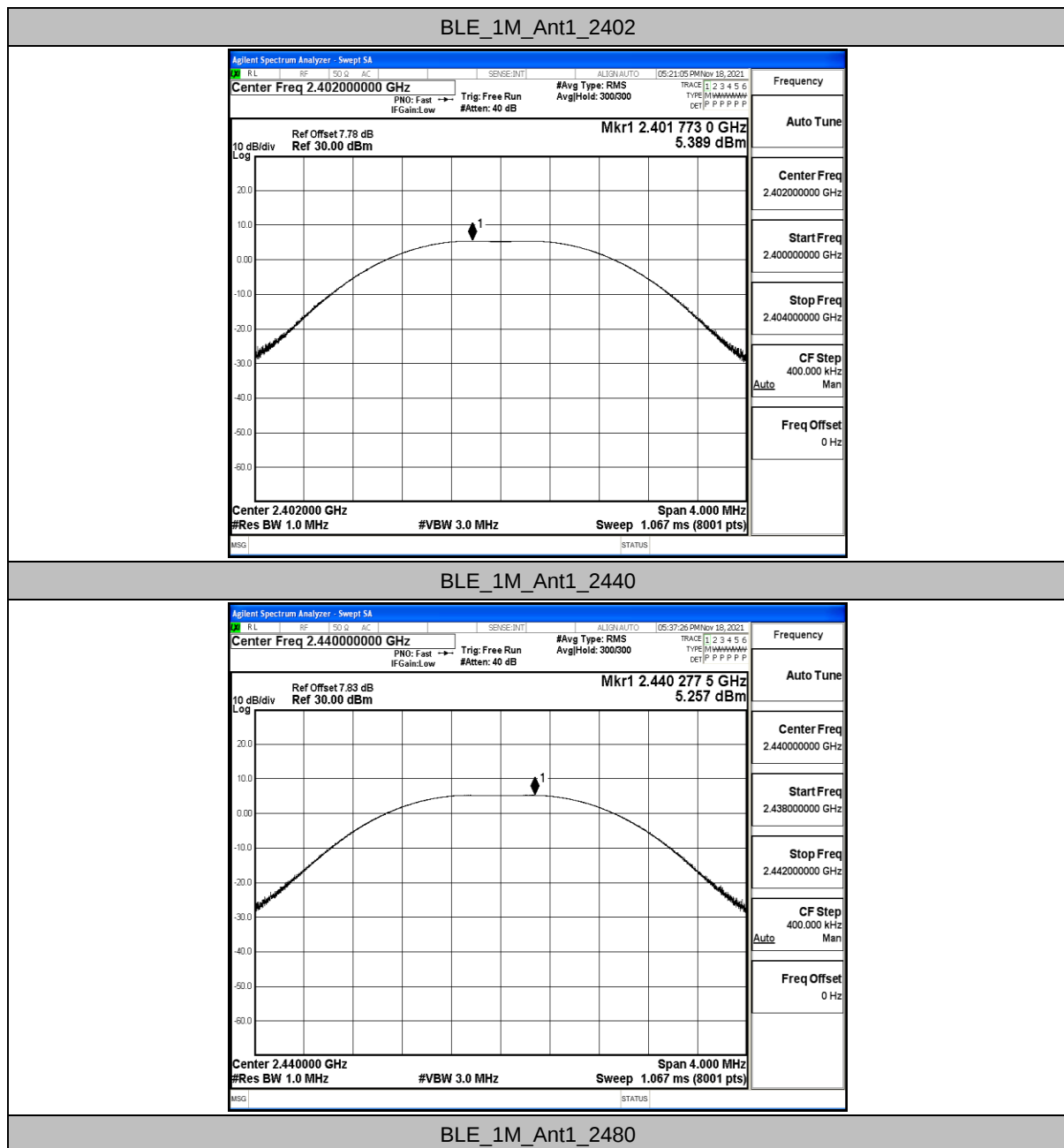


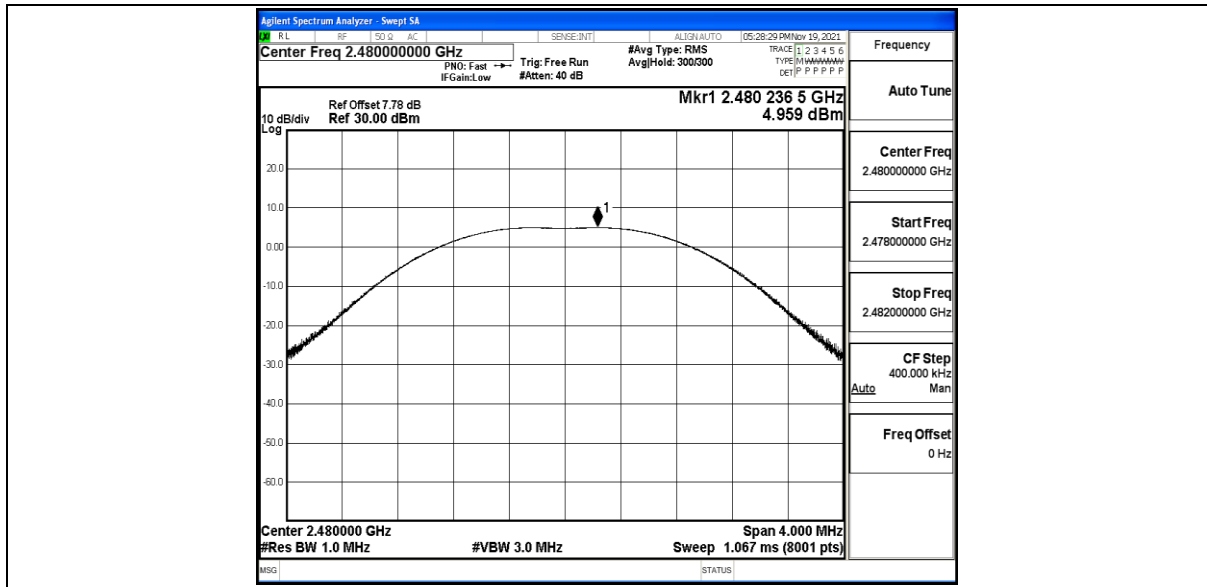
A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.39	≤30	PASS
		2440	5.26	≤30	PASS
		2480	4.96	≤30	PASS

Test Graphs





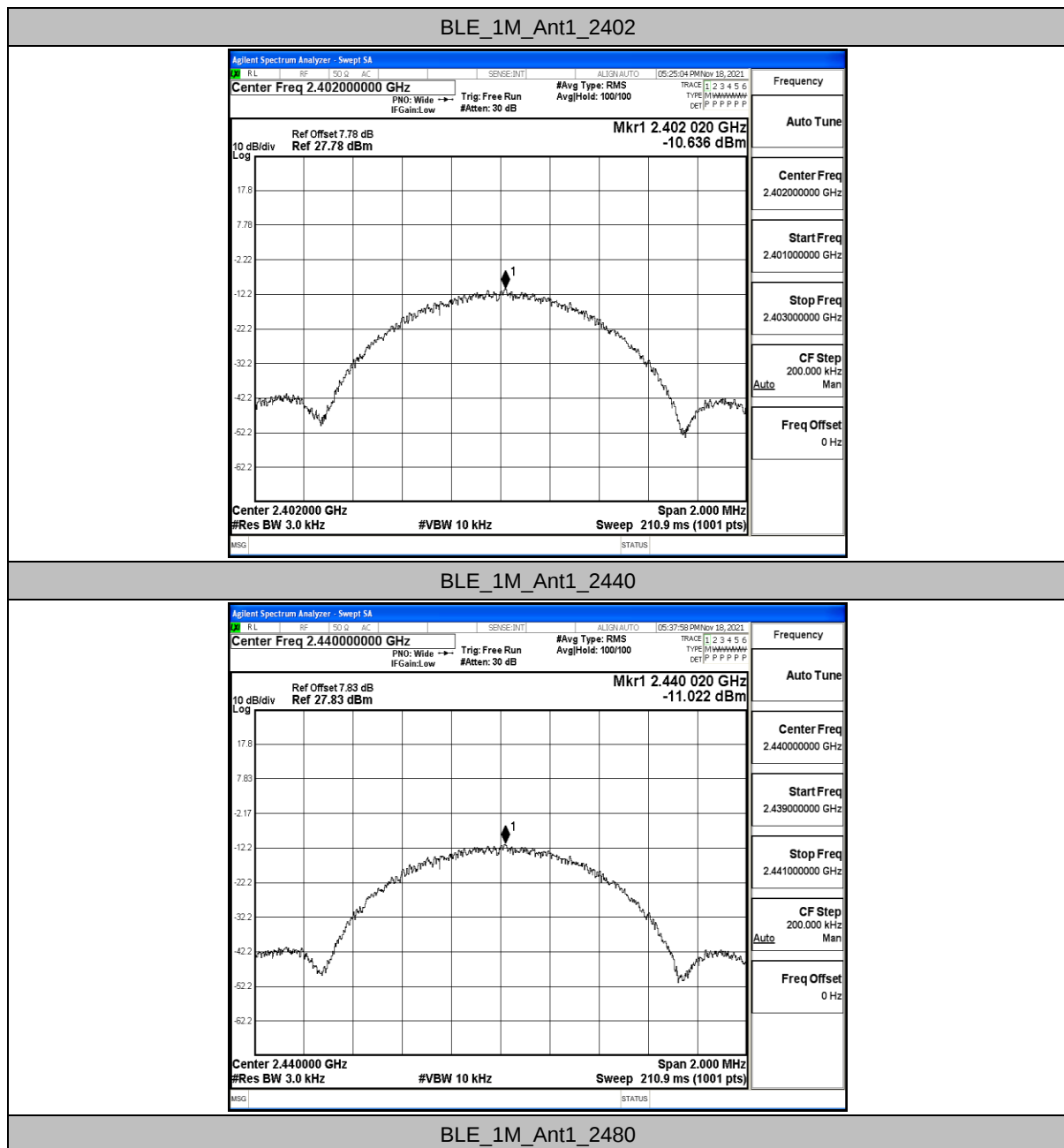


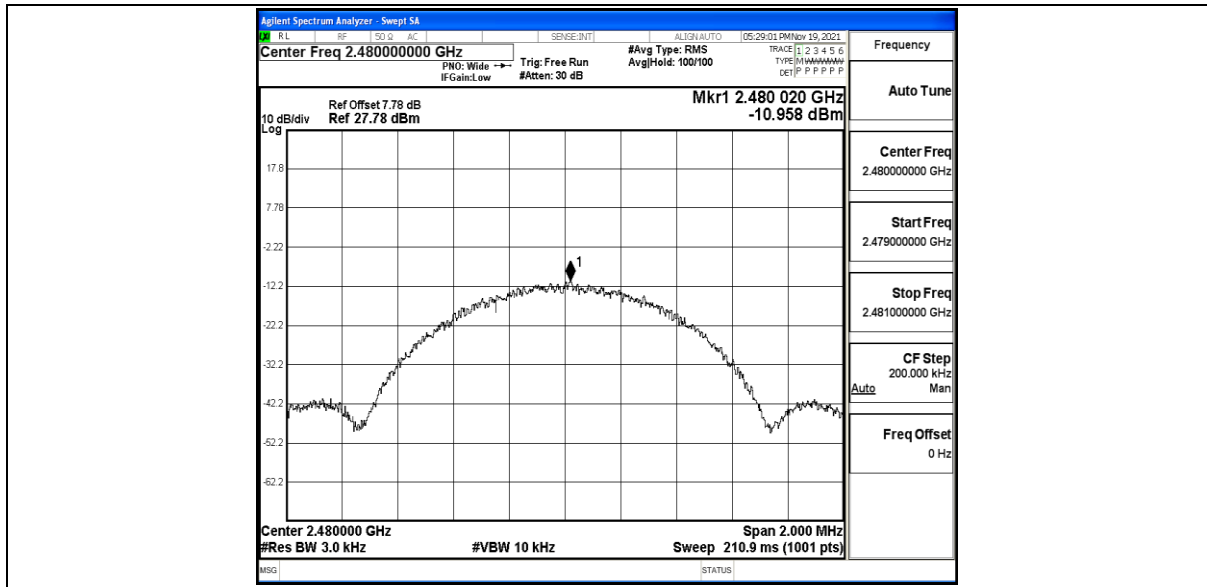
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.64	≤8	PASS
		2440	-11.02	≤8	PASS
		2480	-10.96	≤8	PASS

Test Graphs





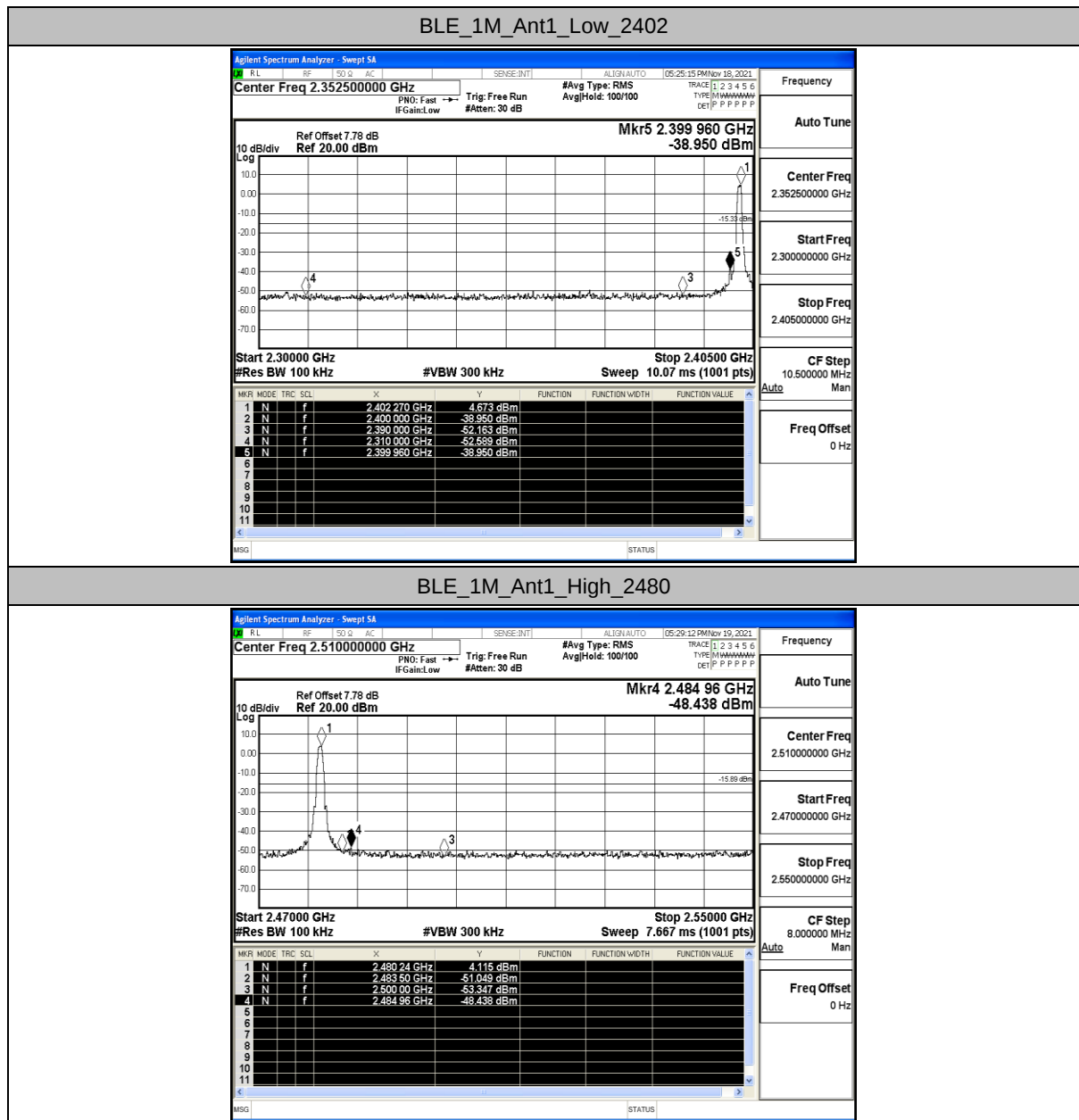


A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.67	-38.95	≤-15.33	PASS
		High	2480	4.12	-48.44	≤-15.89	PASS

Test Graphs



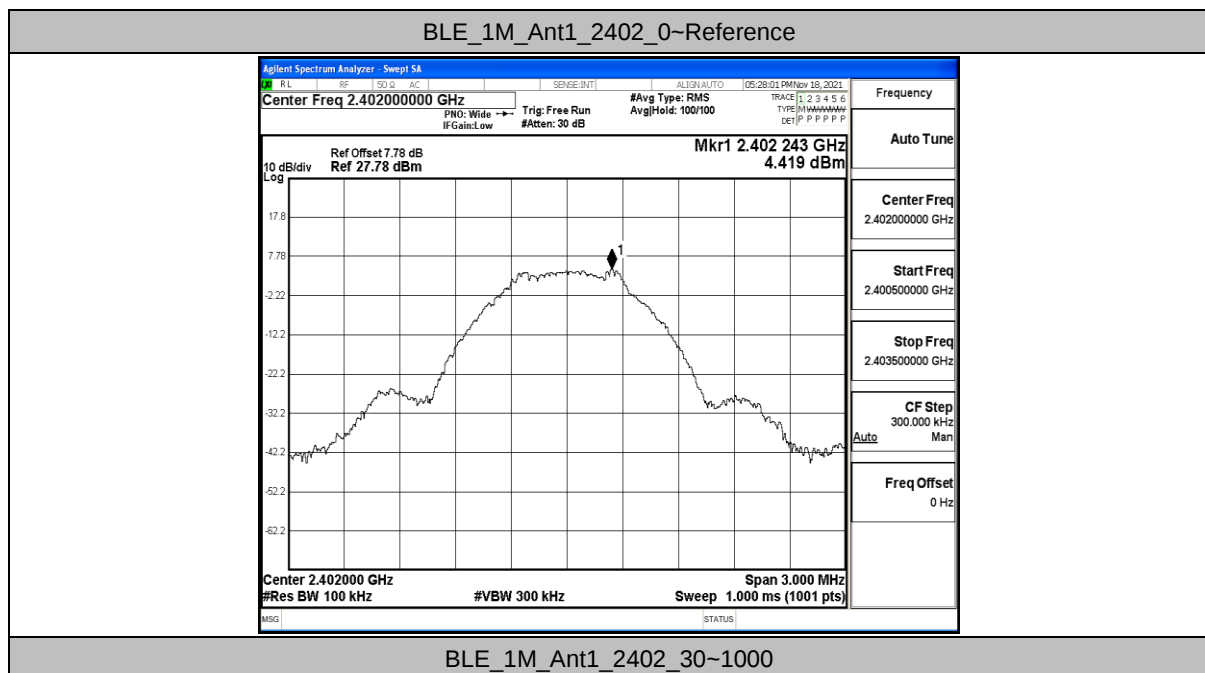


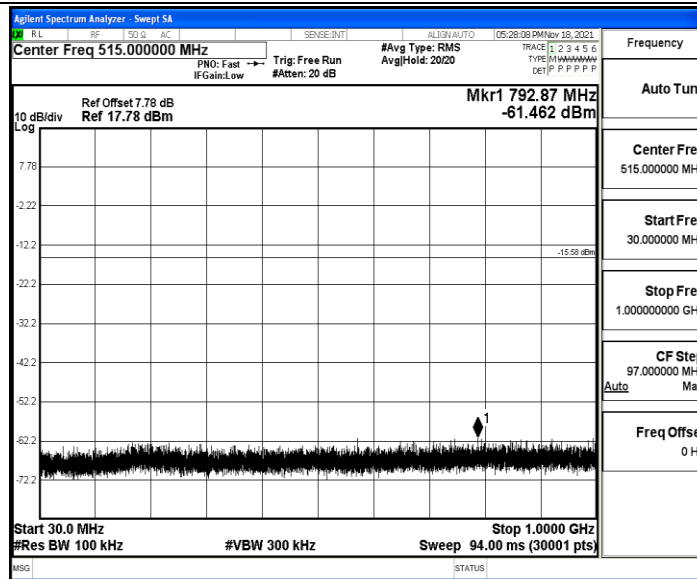
A.5 Conducted Spurious Emission

Test Result

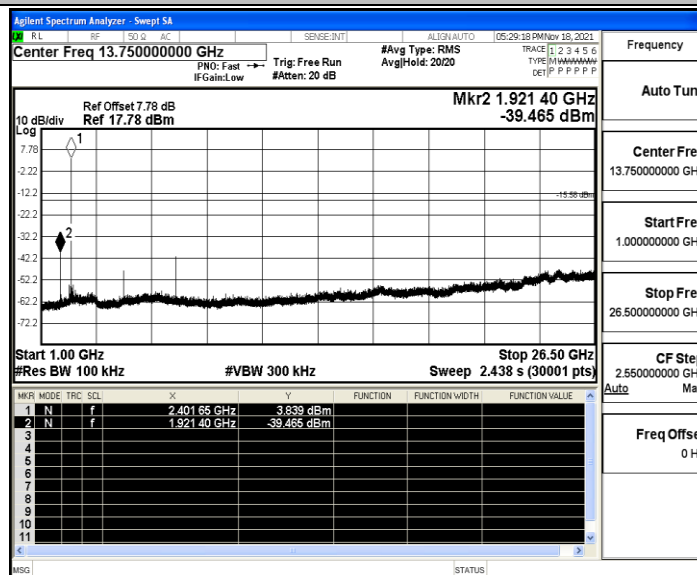
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	4.42	4.42	---	PASS
			30~1000	4.42	-61.46	≤-15.58	PASS
			1000~26500	4.42	-39.47	≤-15.58	PASS
		2440	Reference	4.20	4.20	---	PASS
			30~1000	4.20	-59.8	≤-15.8	PASS
			1000~26500	4.20	-37.02	≤-15.8	PASS
		2480	Reference	4.01	4.01	---	PASS
			30~1000	4.01	-61.68	≤-15.99	PASS
			1000~26500	4.01	-34.39	≤-15.99	PASS

Test Graphs

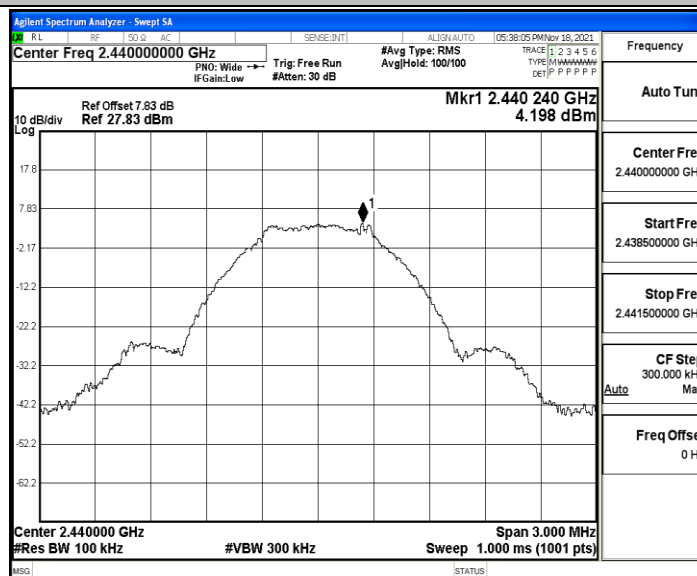




BLE_1M_Ant1_2402_1000~26500

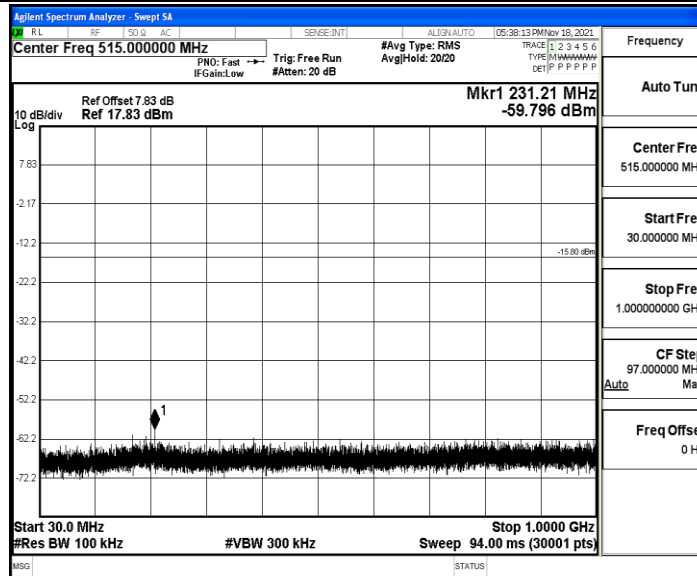


BLE_1M_Ant1_2440_0~Reference

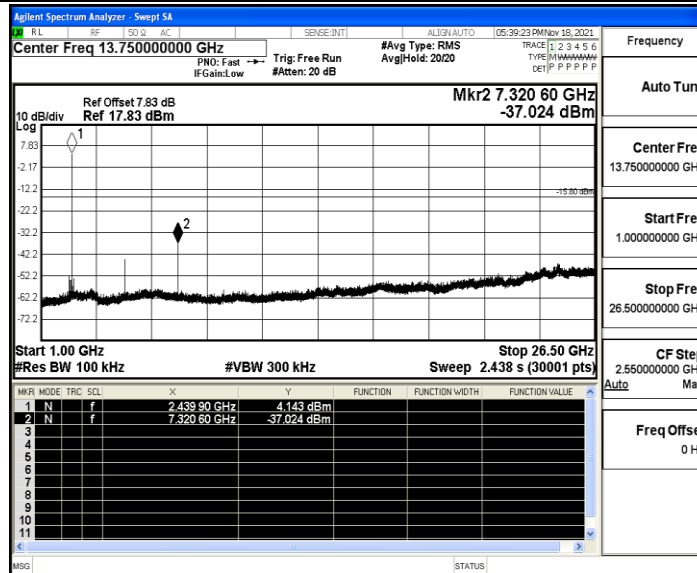




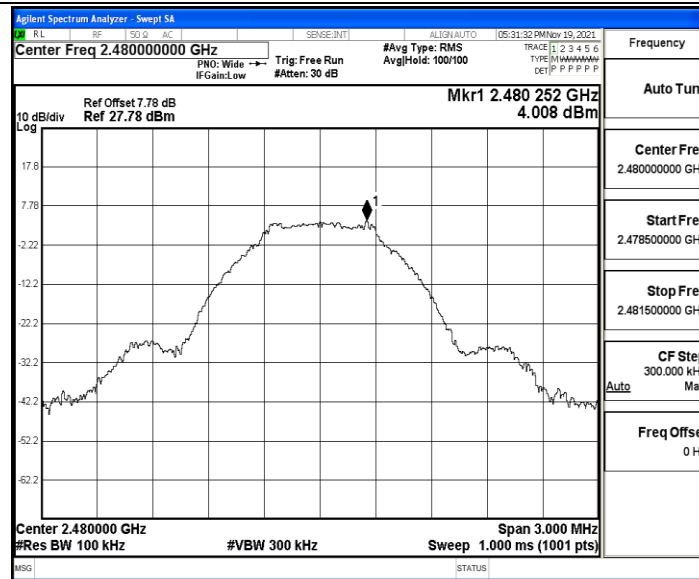
BLE_1M_Ant1_2440_30~1000



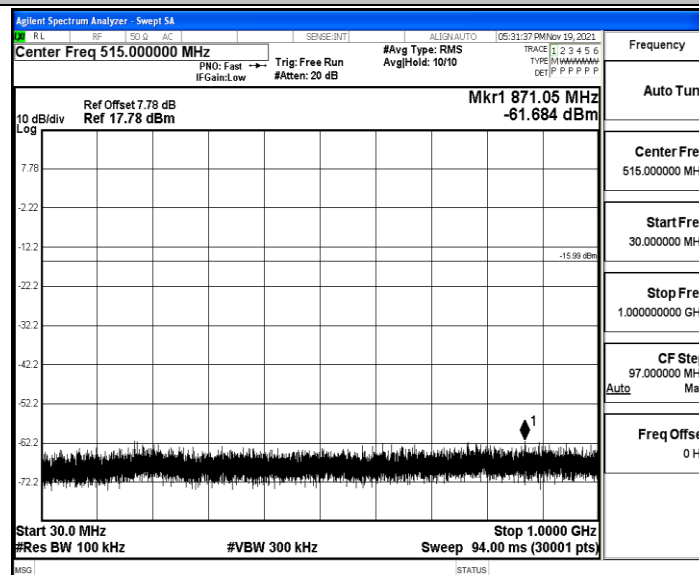
BLE_1M_Ant1_2440_1000~26500



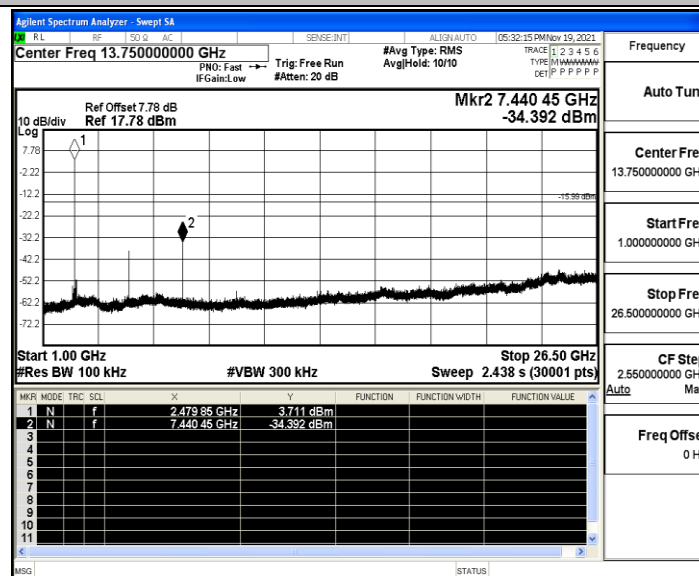
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



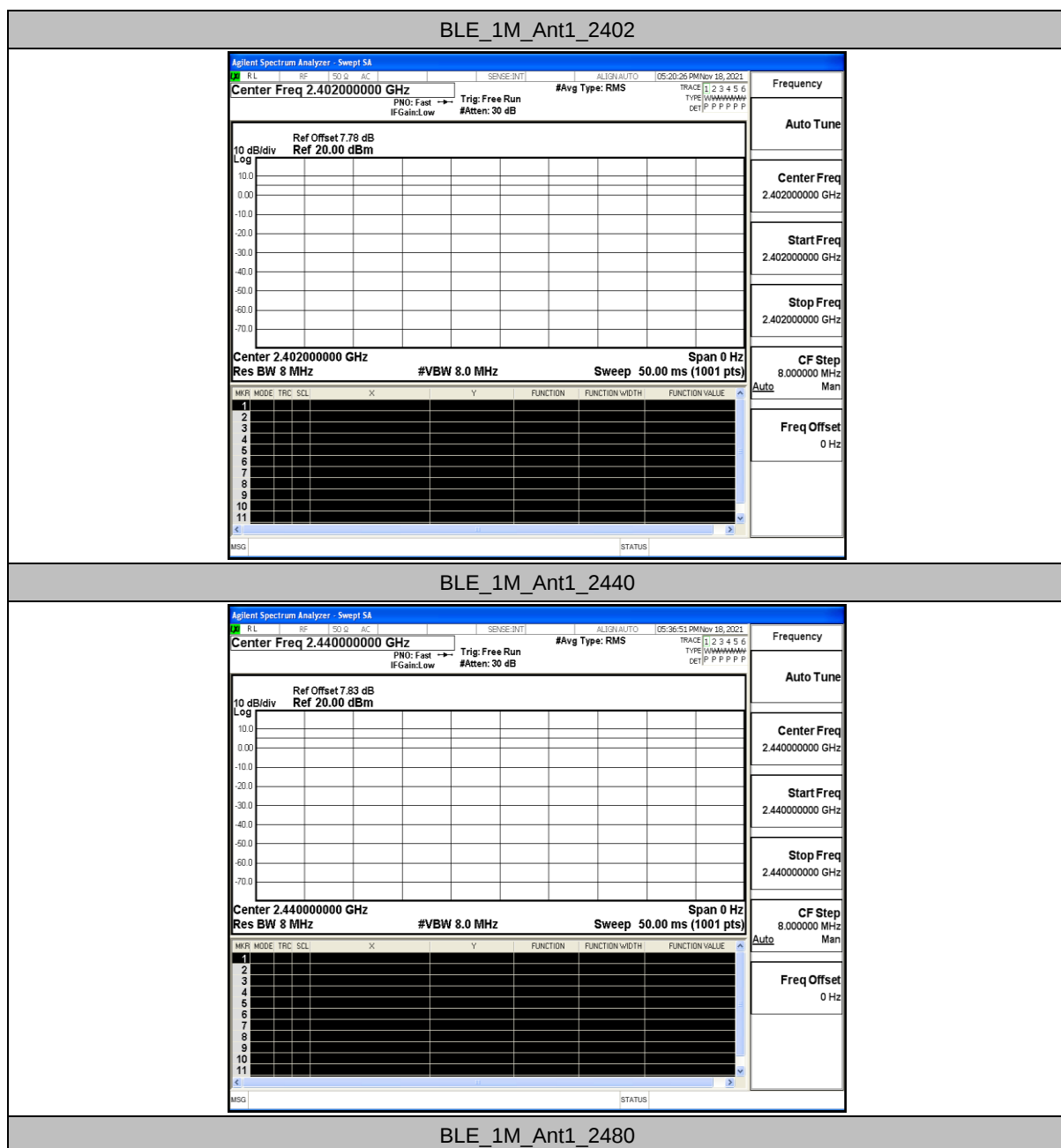


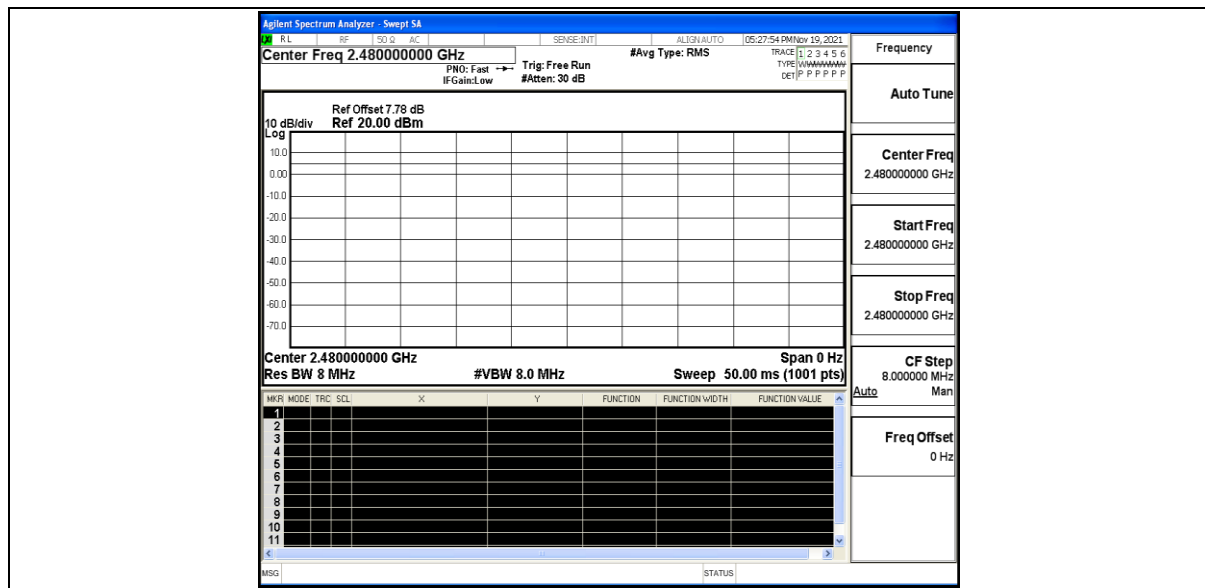
A.6 Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	50.00	50.00	1.0000	100.00	0.00	---	PASS
		2440	50.00	50.00	1.0000	100.00	0.00	---	PASS
		2480	50.00	50.00	1.0000	100.00	0.00	---	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	-49.35	≤-41.20	45.85	≤54	PASS
				AV	2370.035	-47.93	≤-41.20	47.27	≤54	PASS
				AV	2390.000	-48.42	≤-41.20	46.78	≤54	PASS
				Peak	2310.000	-42.5	≤-21.20	52.70	≤74	PASS
				Peak	2377.910	-39.3	≤-21.20	55.90	≤74	PASS
				Peak	2390.000	-42.94	≤-21.20	52.26	≤74	PASS
		High	2480	AV	2483.500	-44.76	≤-41.20	50.44	≤54	PASS
				AV	2483.520	-44.76	≤-41.20	50.44	≤54	PASS
				AV	2500.000	-48.3	≤-41.20	46.90	≤54	PASS
				Peak	2483.500	-38.9	≤-21.20	56.30	≤74	PASS
				Peak	2483.840	-37.57	≤-21.20	57.63	≤74	PASS
				Peak	2500.000	-42.99	≤-21.20	52.21	≤74	PASS

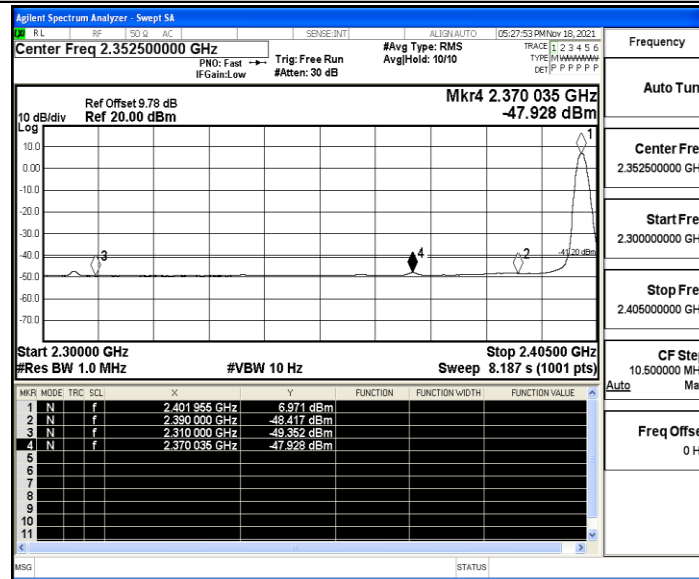
Note:

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.

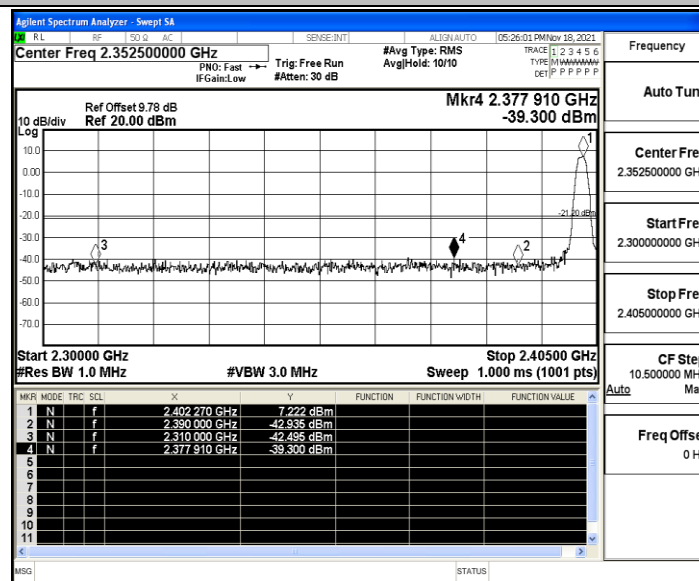


Test Graphs

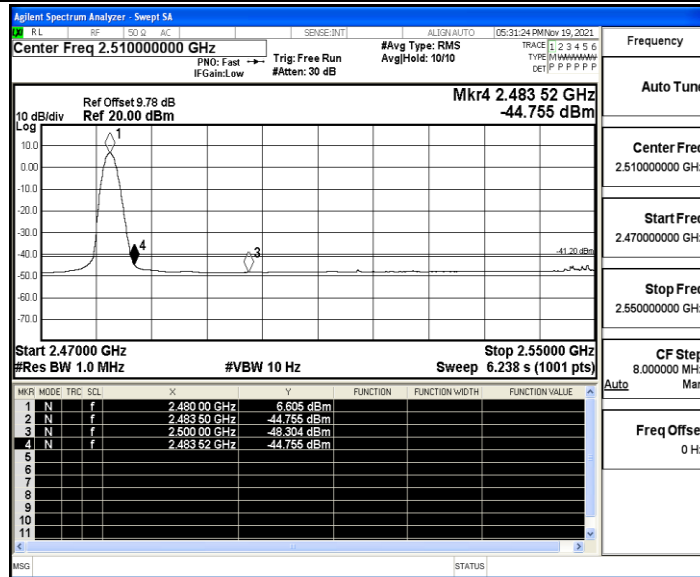
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

