



Appendix A

RF Test Data for BT V5.0(Conducted Measurement)

Product Name: LED Controller

Trade Mark: SPERLL

Test Model: TrimlightV2

Environmental Conditions

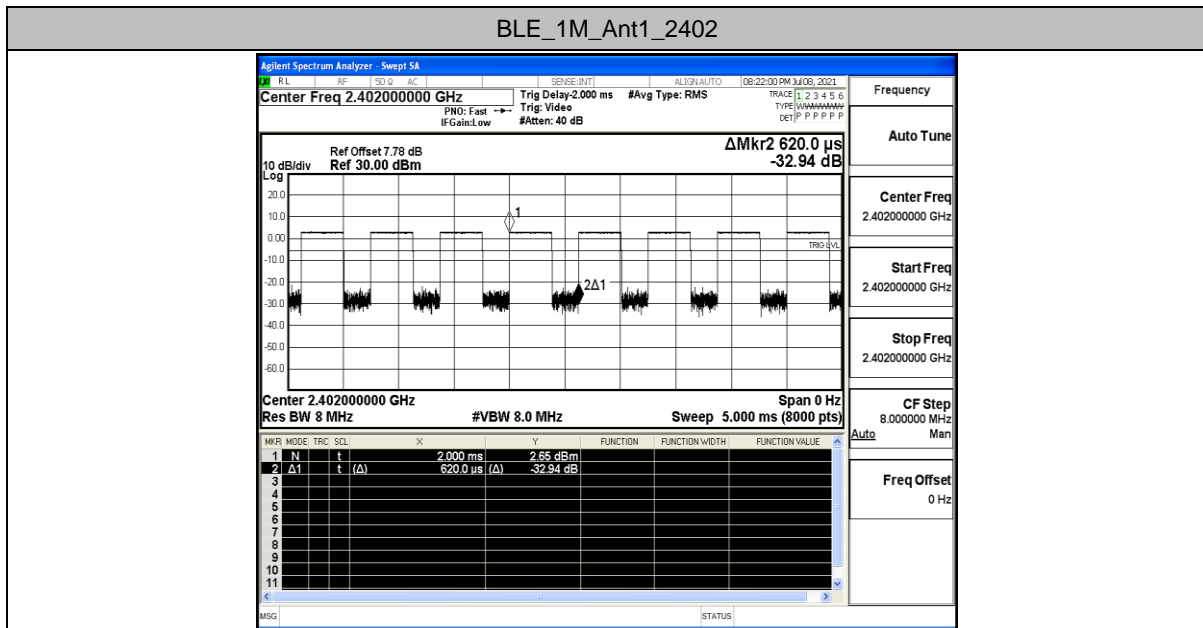
Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

A.1 DutyCycle

Test Result

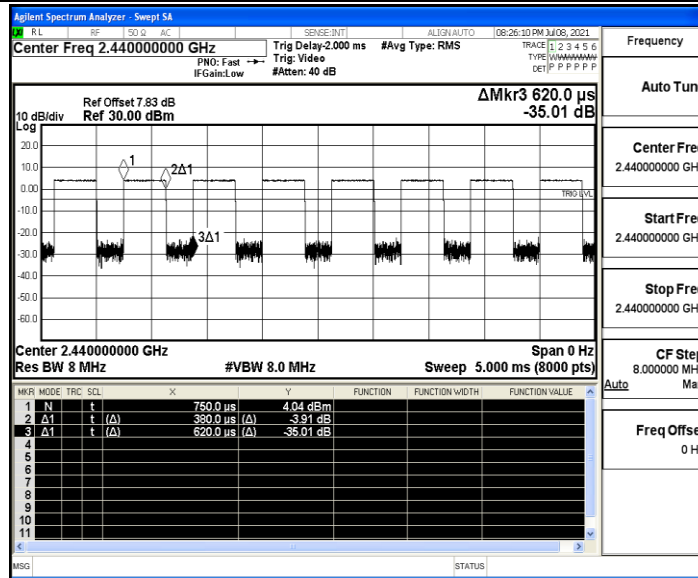
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2440	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2480	0.38	0.62	0.6129	61.29	2.13	---	PASS

Test Graphs

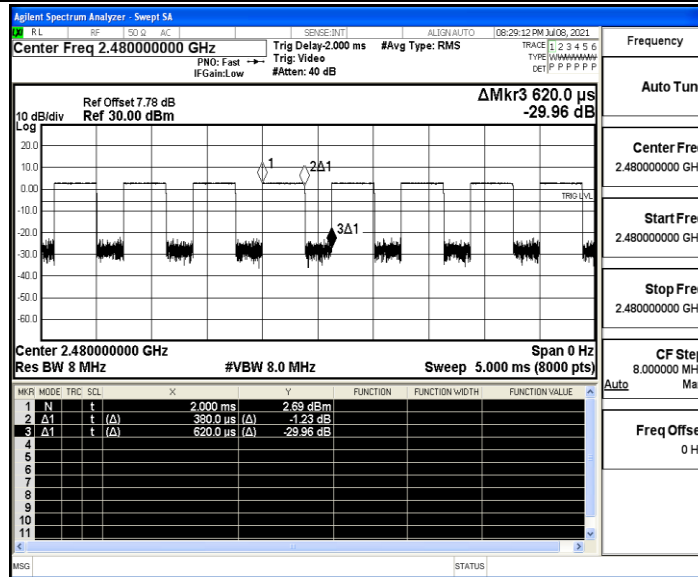




BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

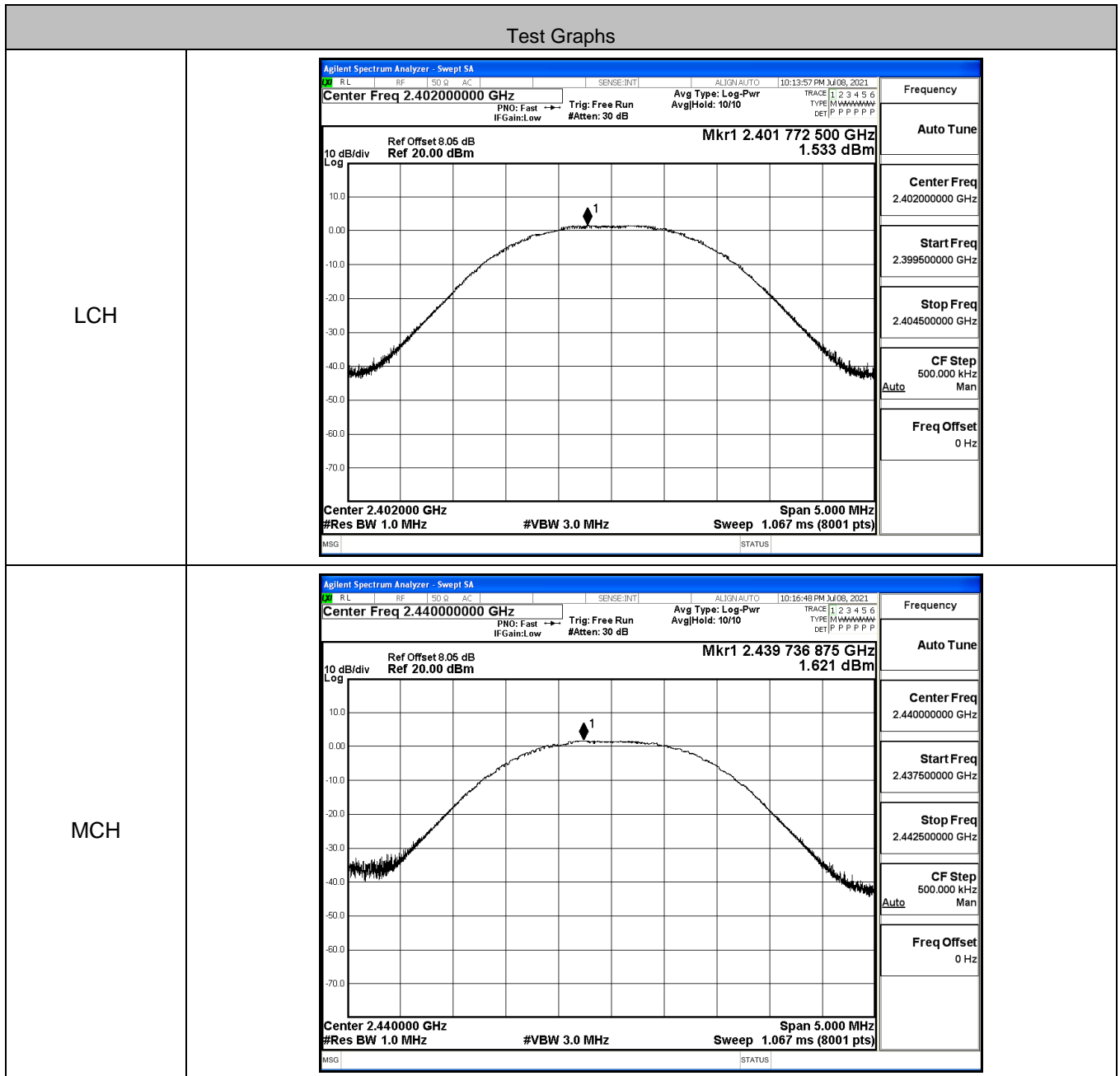


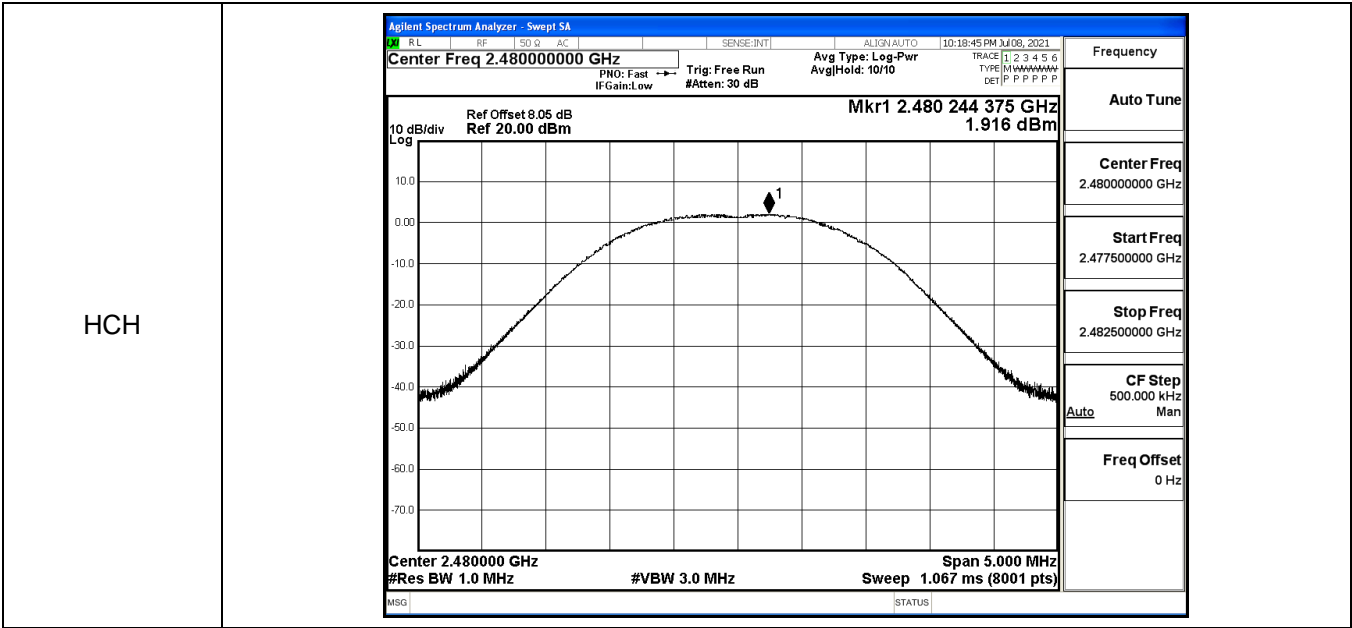


A.2 Maximum Peak Conducted Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.533	30	PASS
BT LE	MCH	1.621	30	PASS
BT LE	HCH	1.916	30	PASS

Test Graphs





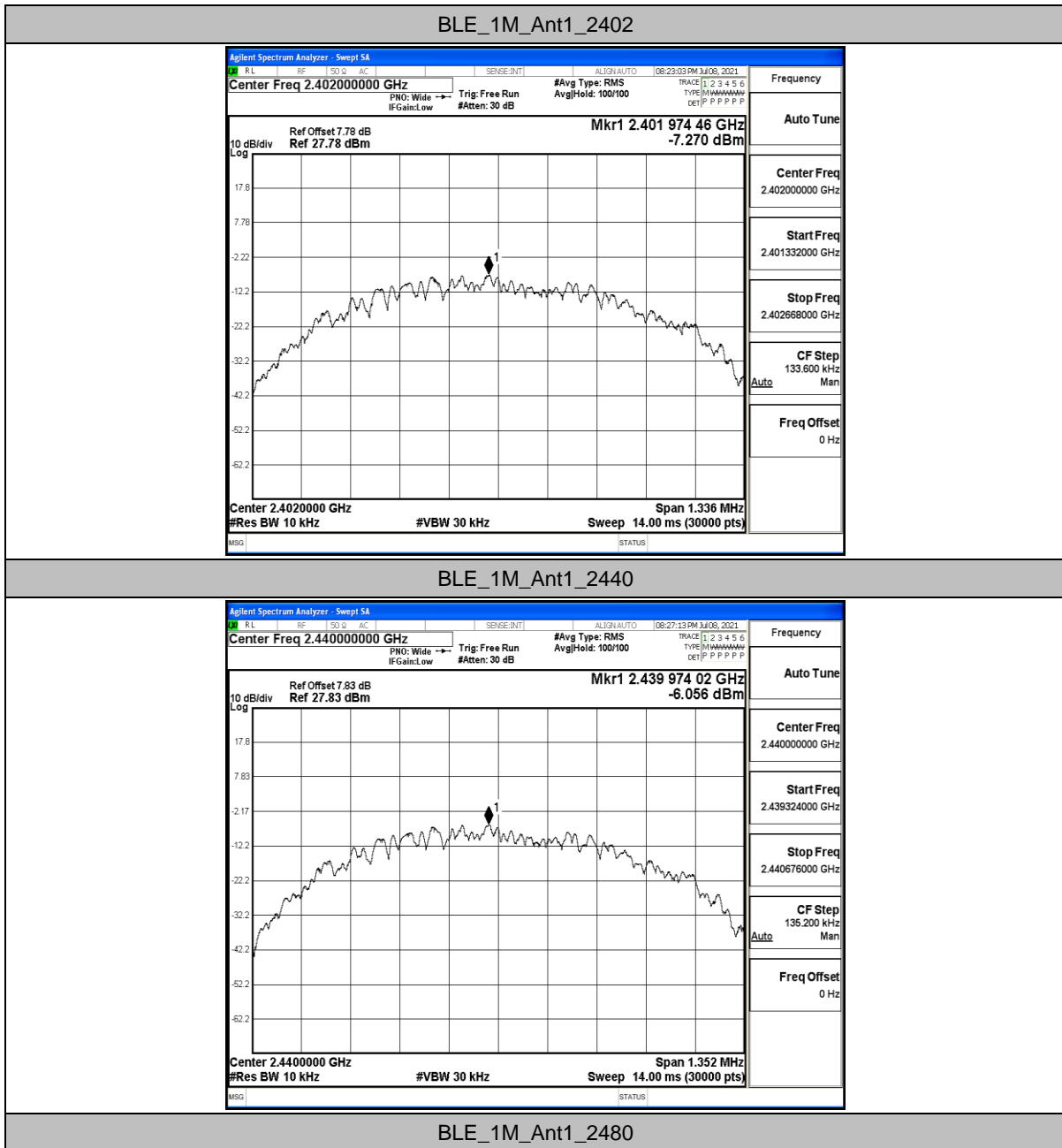


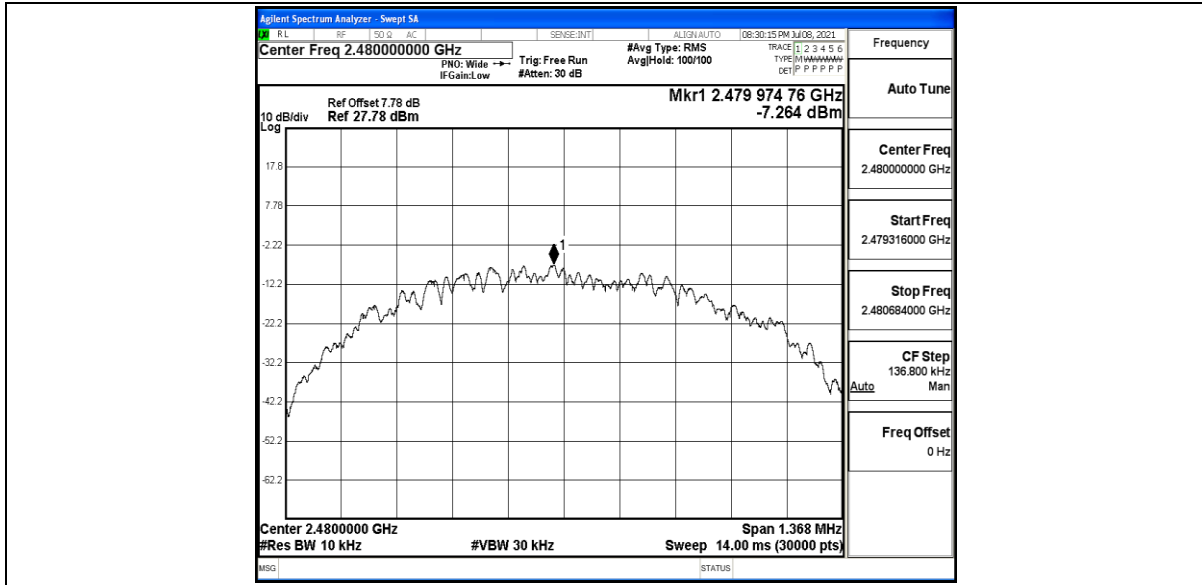
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.27	≤8	PASS
		2440	-6.06	≤8	PASS
		2480	-7.26	≤8	PASS

Test Graphs





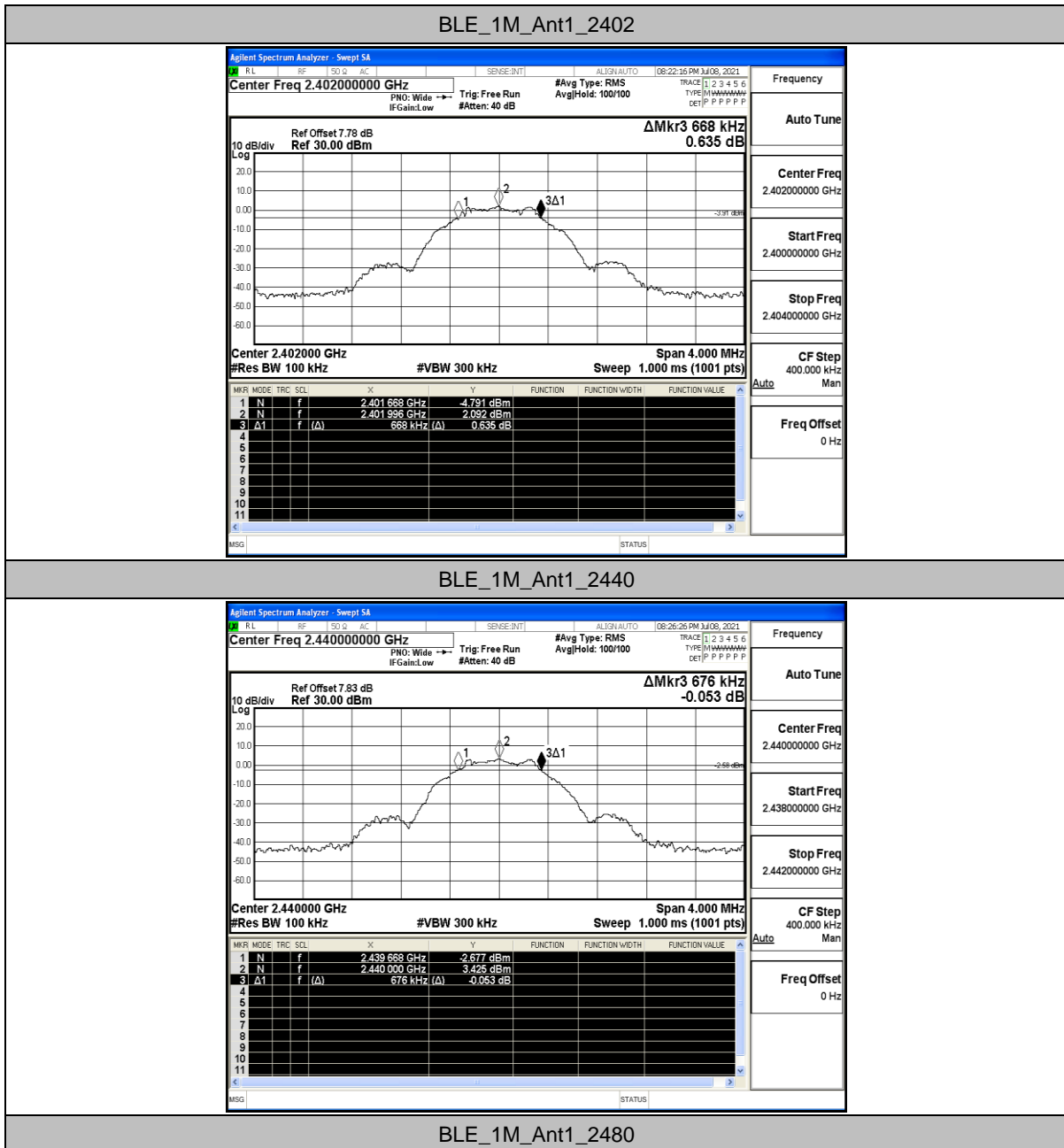


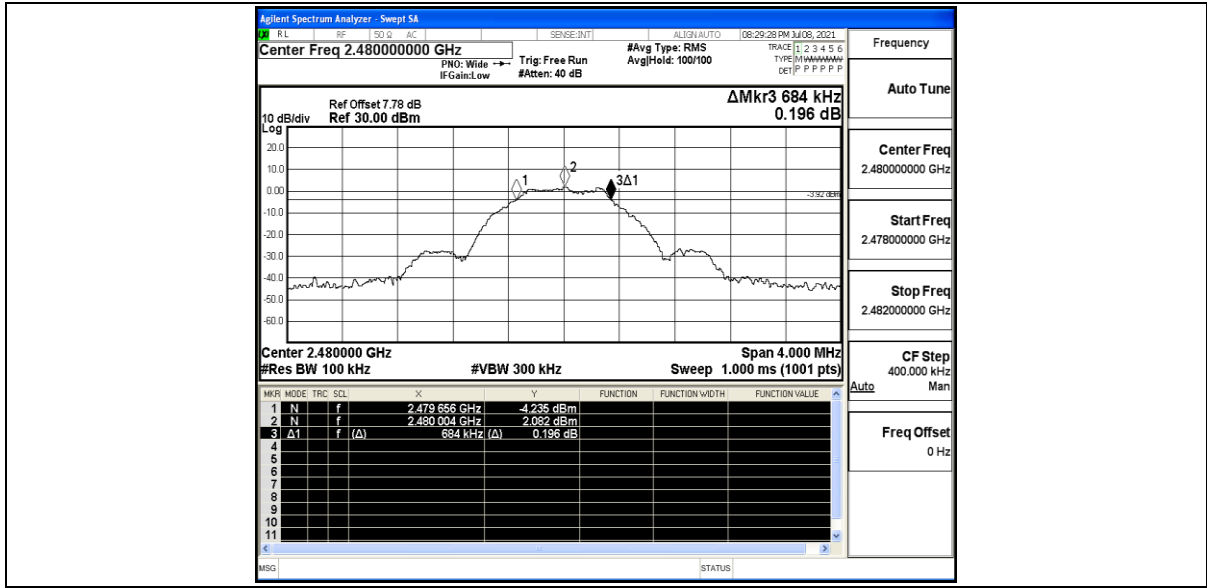
A.4 6dB Bandwidth

Test Result

TestMode	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	2402	0.668	2401.668	2402.336	0.5	PASS
	2440	0.676	2439.668	2440.344	0.5	PASS
	2480	0.684	2479.656	2480.340	0.5	PASS

Test Graphs







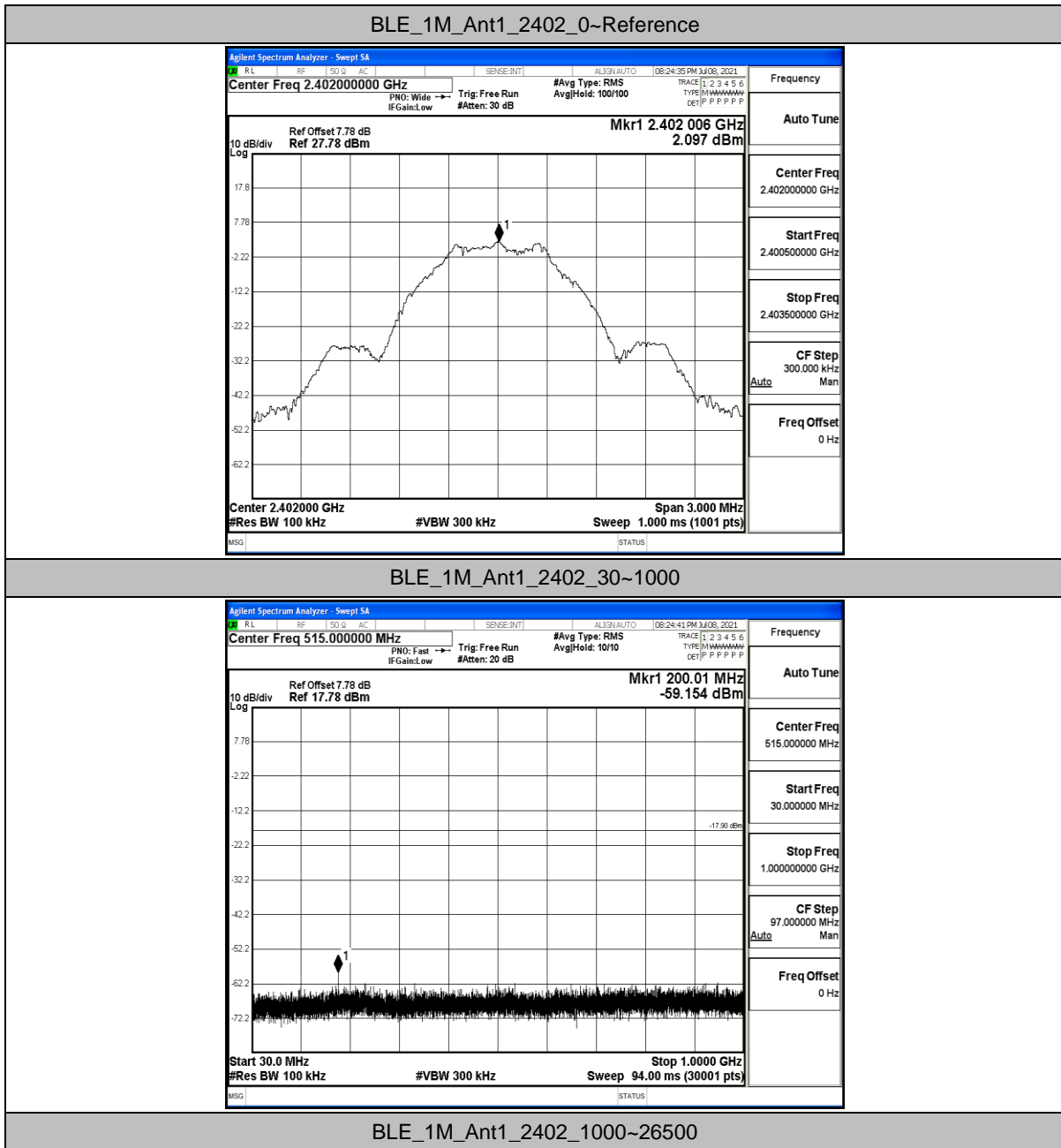
A.5 Conducted Spurious Emission

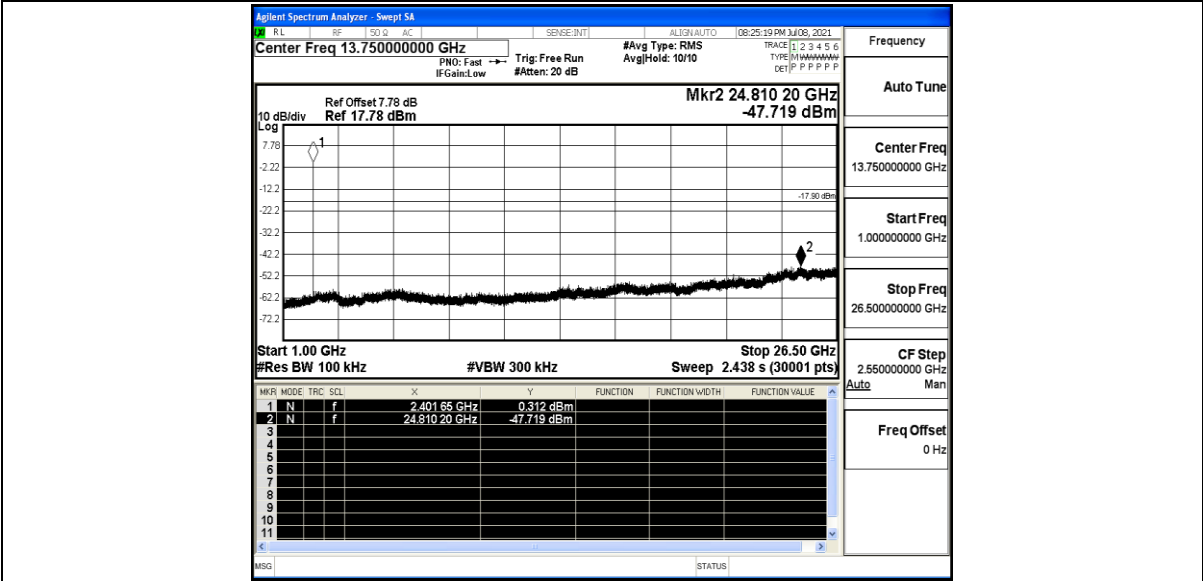
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	2.10	2.10	---	PASS
			30~1000	2.10	-59.15	≤ -17.9	PASS
			1000~26500	2.10	-47.72	≤ -17.9	PASS
		2440	Reference	2.82	2.82	---	PASS
			30~1000	2.82	-61.4	≤ -17.18	PASS
			1000~26500	2.82	-46.94	≤ -17.18	PASS
		2480	Reference	1.99	1.99	---	PASS
			30~1000	1.99	-61.07	≤ -18.01	PASS
			1000~26500	1.99	-46.91	≤ -18.01	PASS

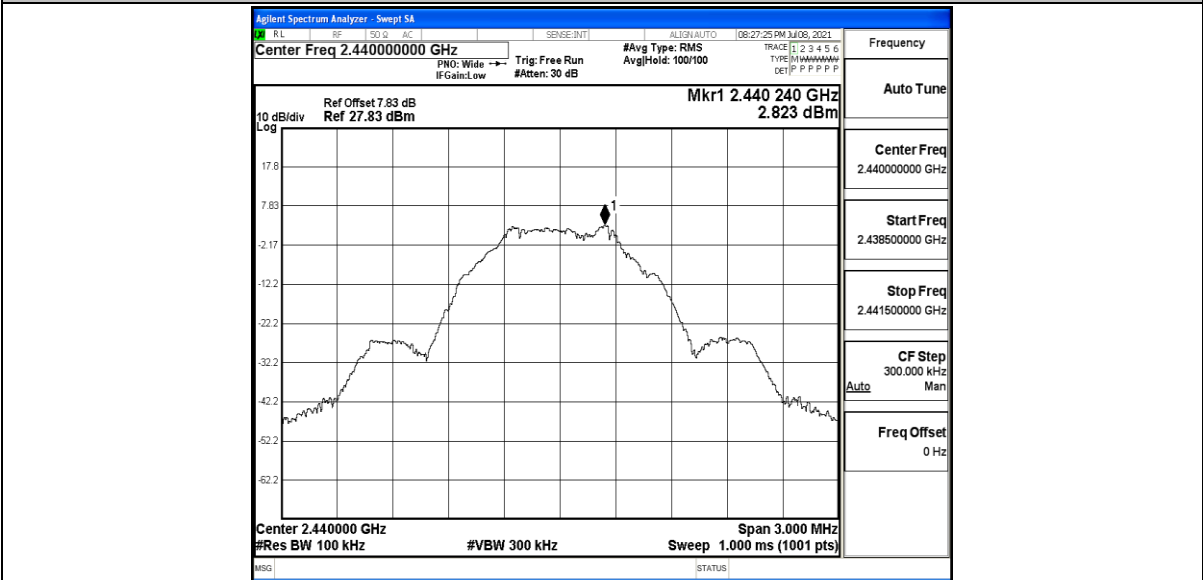


Test Graphs

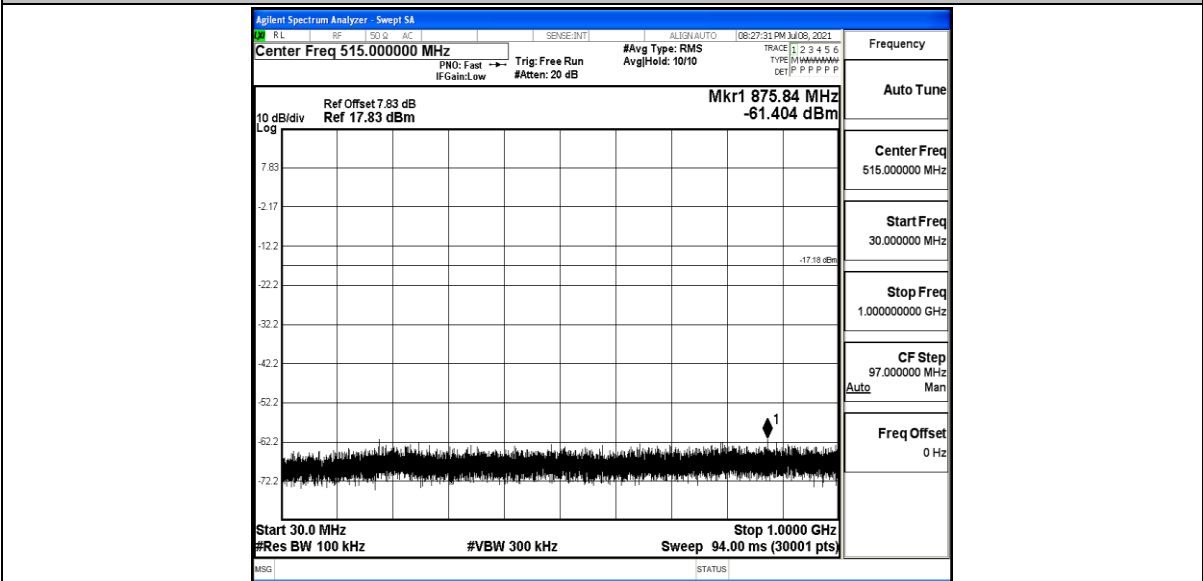




BLE_1M_Ant1_2440_0~Reference

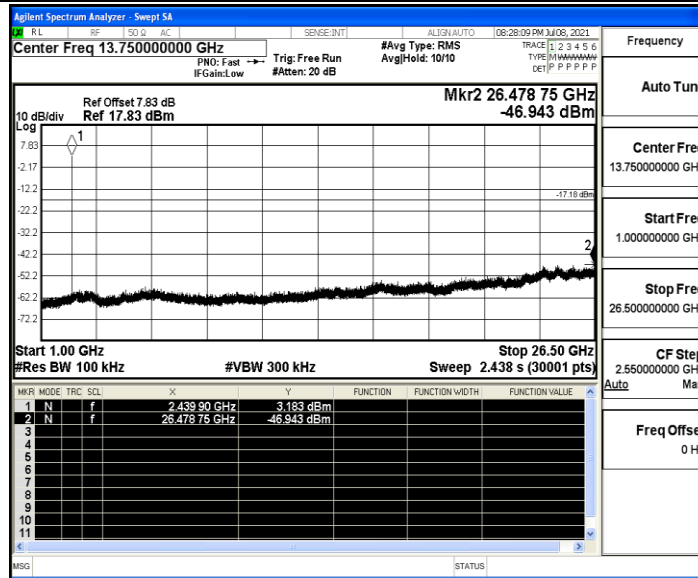


BLE_1M_Ant1_2440_30~1000

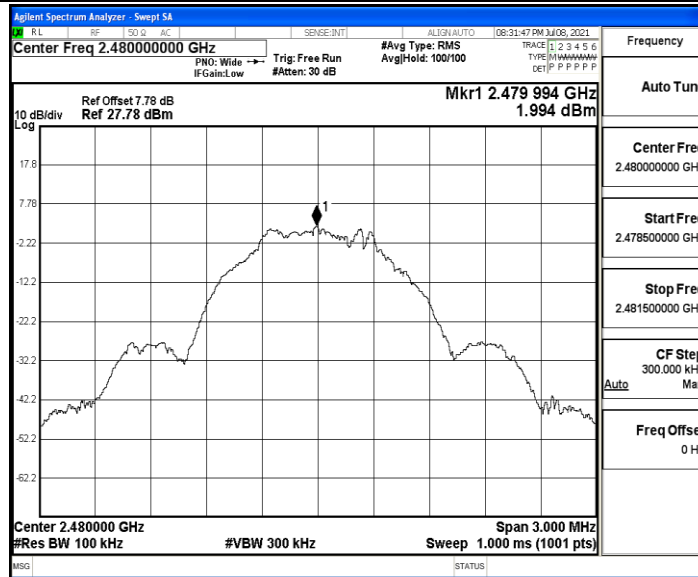




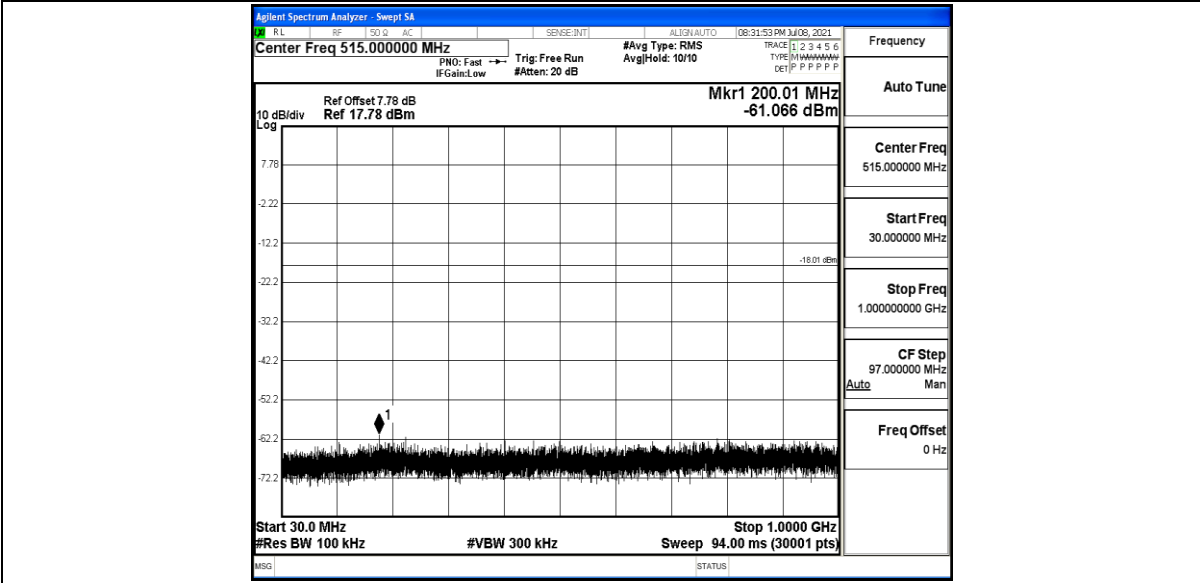
BLE_1M_Ant1_2440_1000~26500



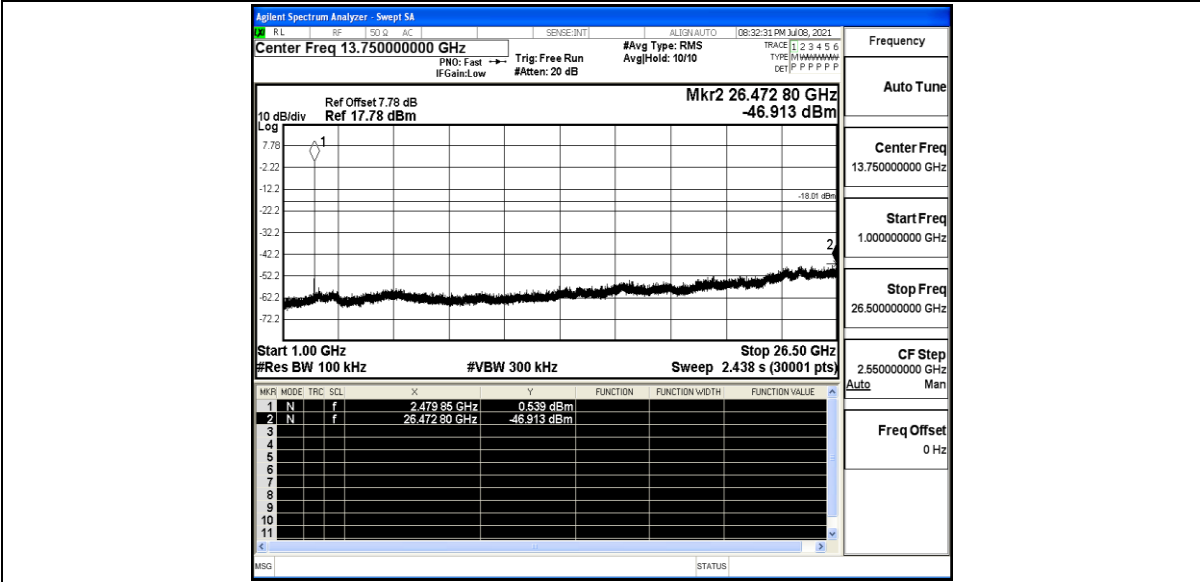
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



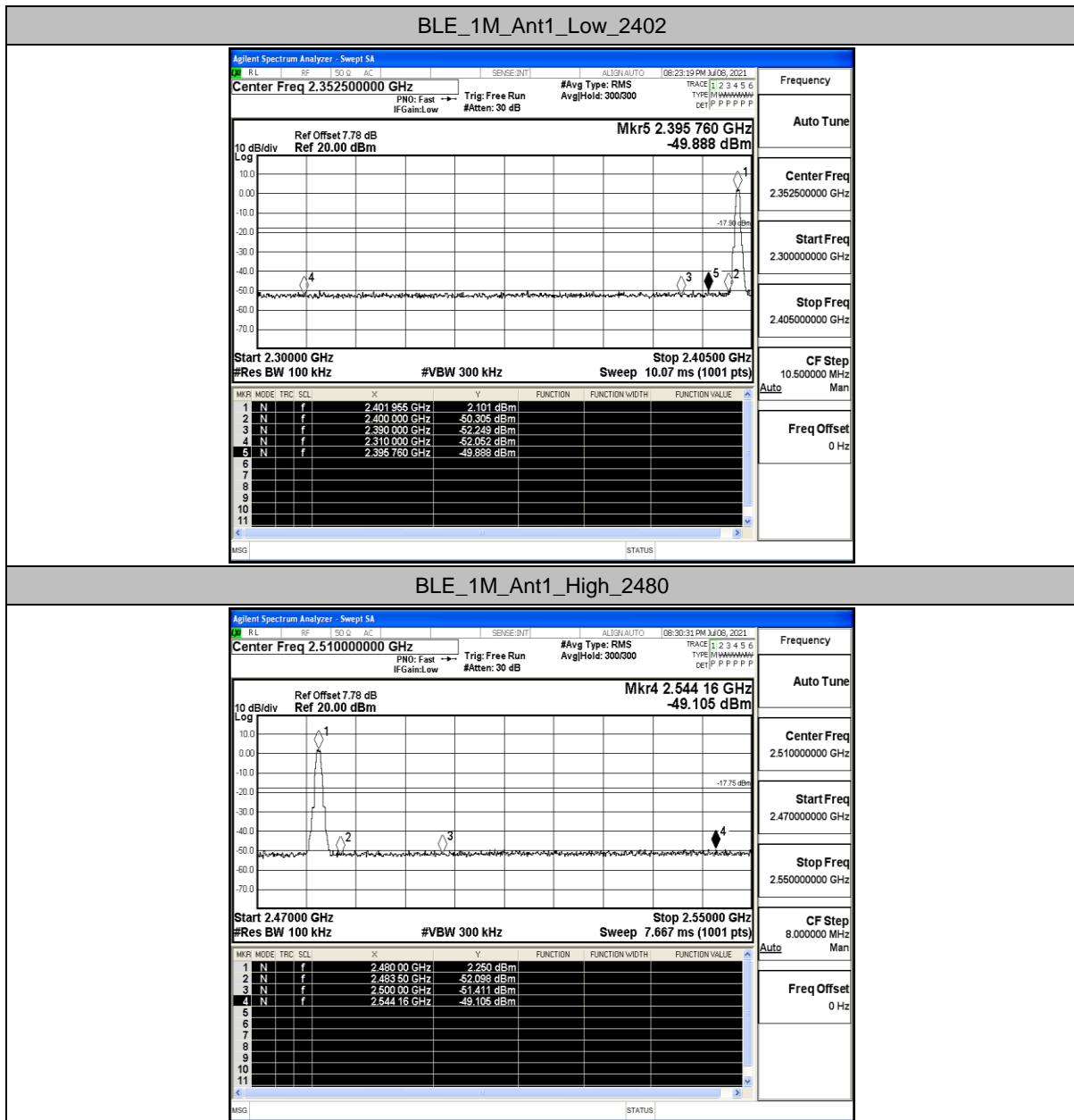


A.6 Band-edge for RF Conducted Emissions

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.10	-49.89	≤-17.9	PASS
		High	2480	2.25	-49.11	≤-17.75	PASS

Test Graphs





A.7 Emissions in Restricted Bands

Test Result

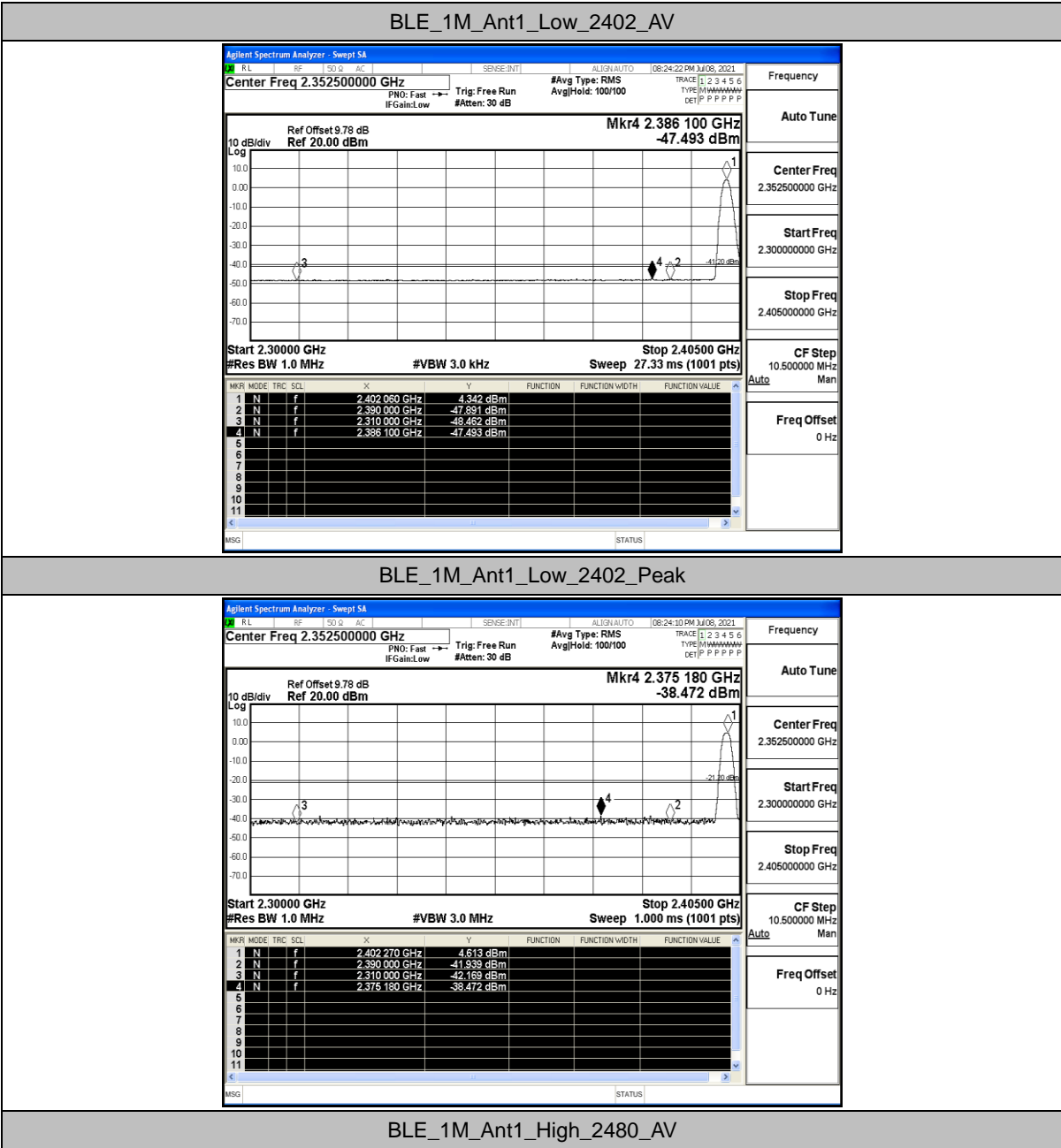
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.46	≤-41.20	PASS
				AV	2386.100	-47.49	≤-41.20	PASS
				AV	2390.000	-47.89	≤-41.20	PASS
				Peak	2310.000	-42.17	≤-21.20	PASS
				Peak	2375.180	-38.47	≤-21.20	PASS
				Peak	2390.000	-41.94	≤-21.20	PASS
		High	2480	AV	2483.500	-46.93	≤-41.20	PASS
				AV	2483.600	-46.87	≤-41.20	PASS
				AV	2500.000	-47.5	≤-41.20	PASS
				Peak	2483.500	-41.02	≤-21.20	PASS
				Peak	2497.520	-37.61	≤-21.20	PASS
				Peak	2500.000	-42.24	≤-21.20	PASS

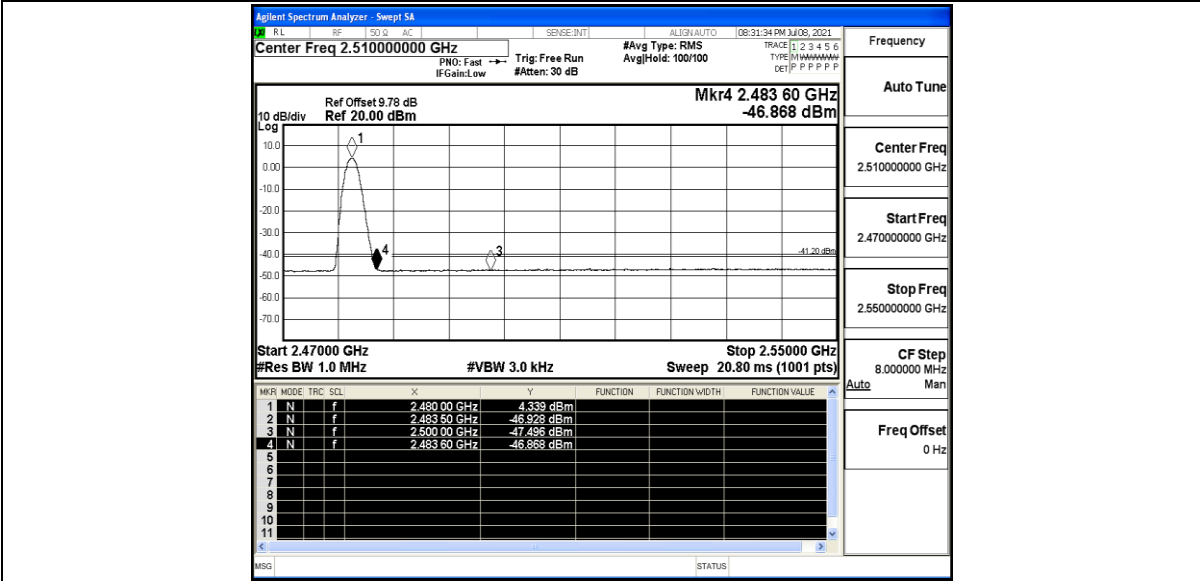
Note:

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_High_2480_Peak

