



Appendix B

RF Test Data for BLE (Conducted Measurement)

Product Name: MEGAPHONE

Test Model: ER-66BTUC

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan



B.1 6dB Bandwidth

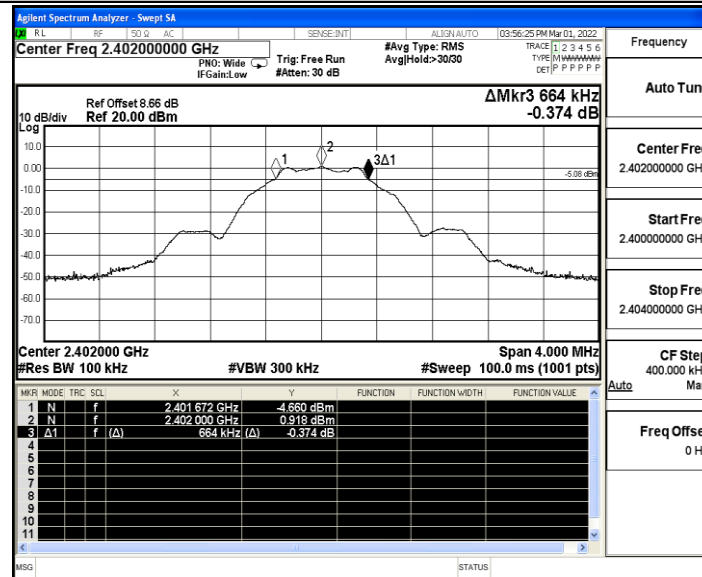
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.672	2402.336	0.5	PASS
		2440	0.668	2439.668	2440.336	0.5	PASS
		2480	0.664	2479.668	2480.332	0.5	PASS

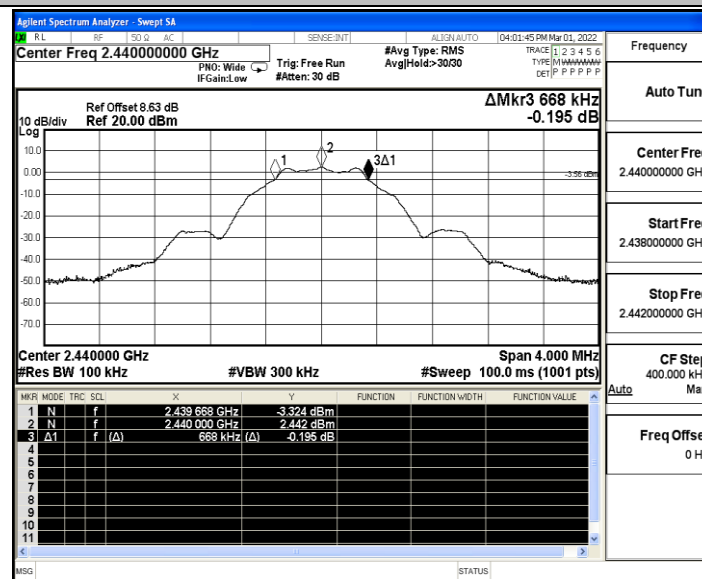


Test Graphs

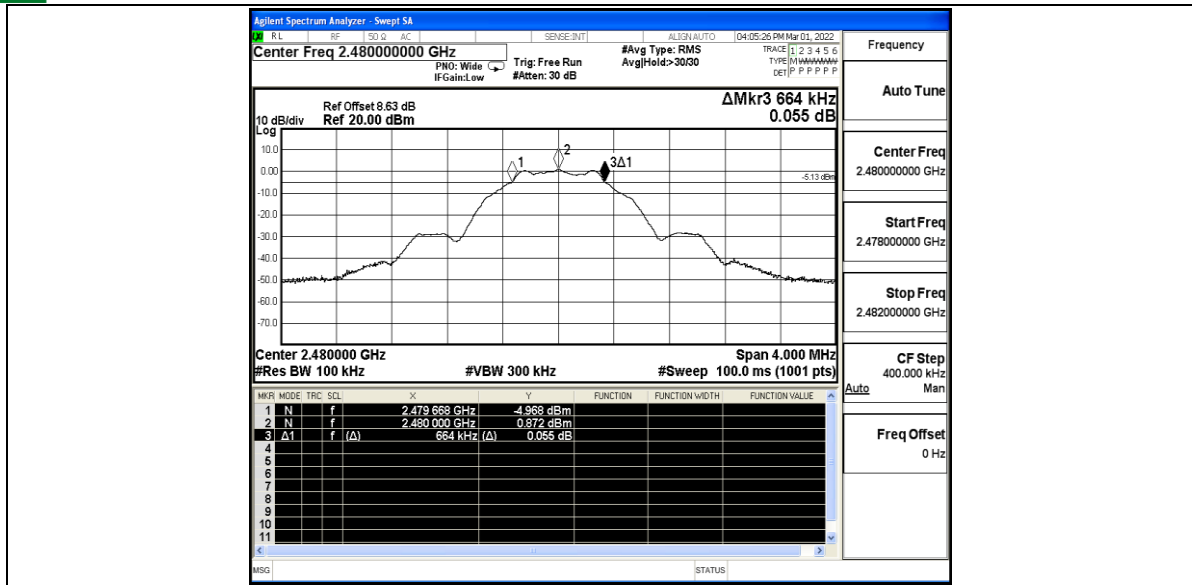
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





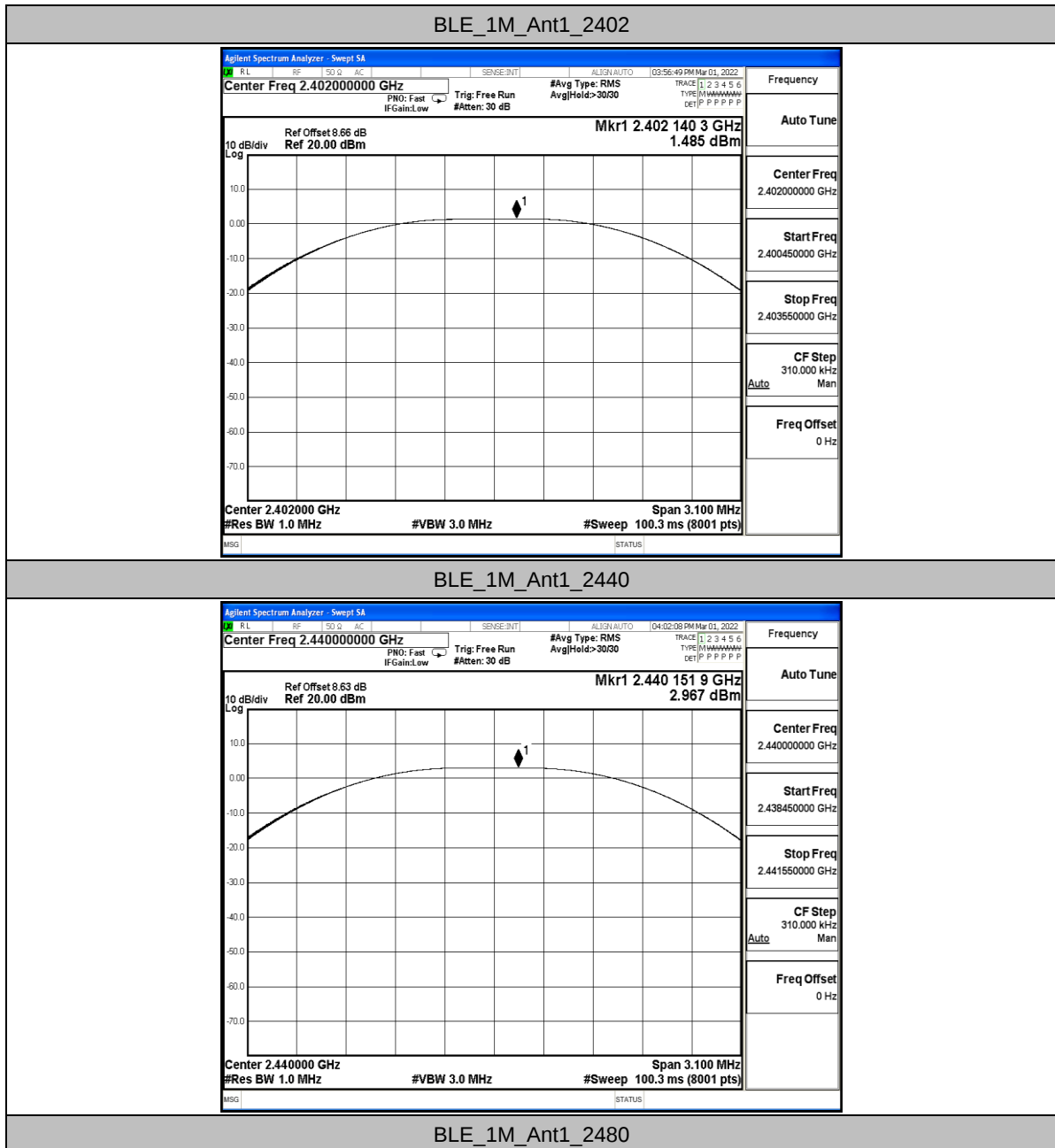
B.2 Maximum conducted output power

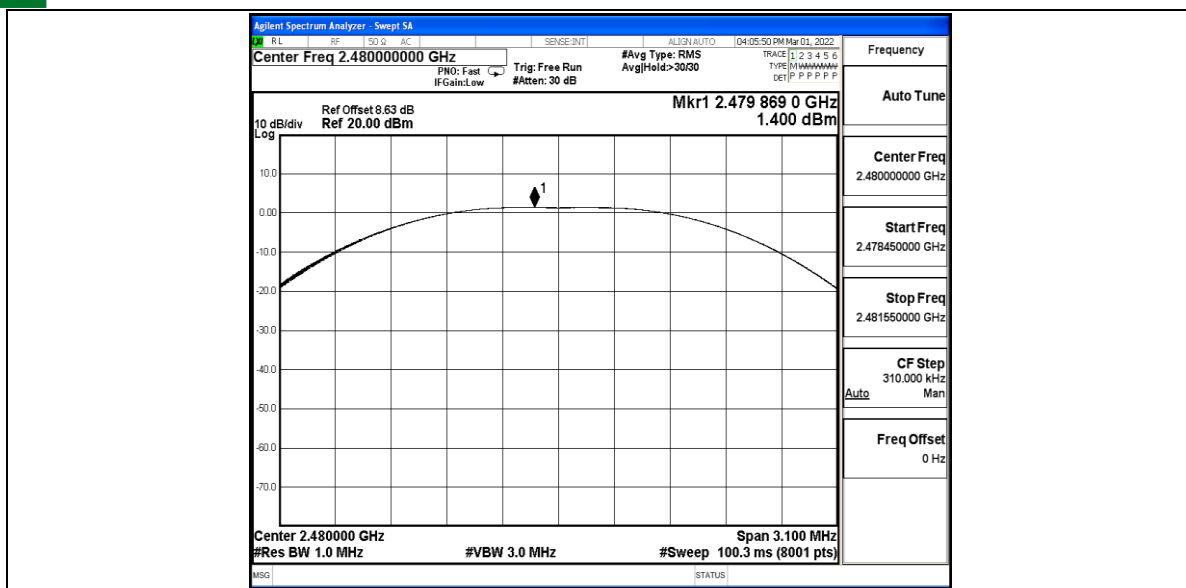
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.49	≤30	PASS
		2440	2.97	≤30	PASS
		2480	1.4	≤30	PASS



Test Graphs







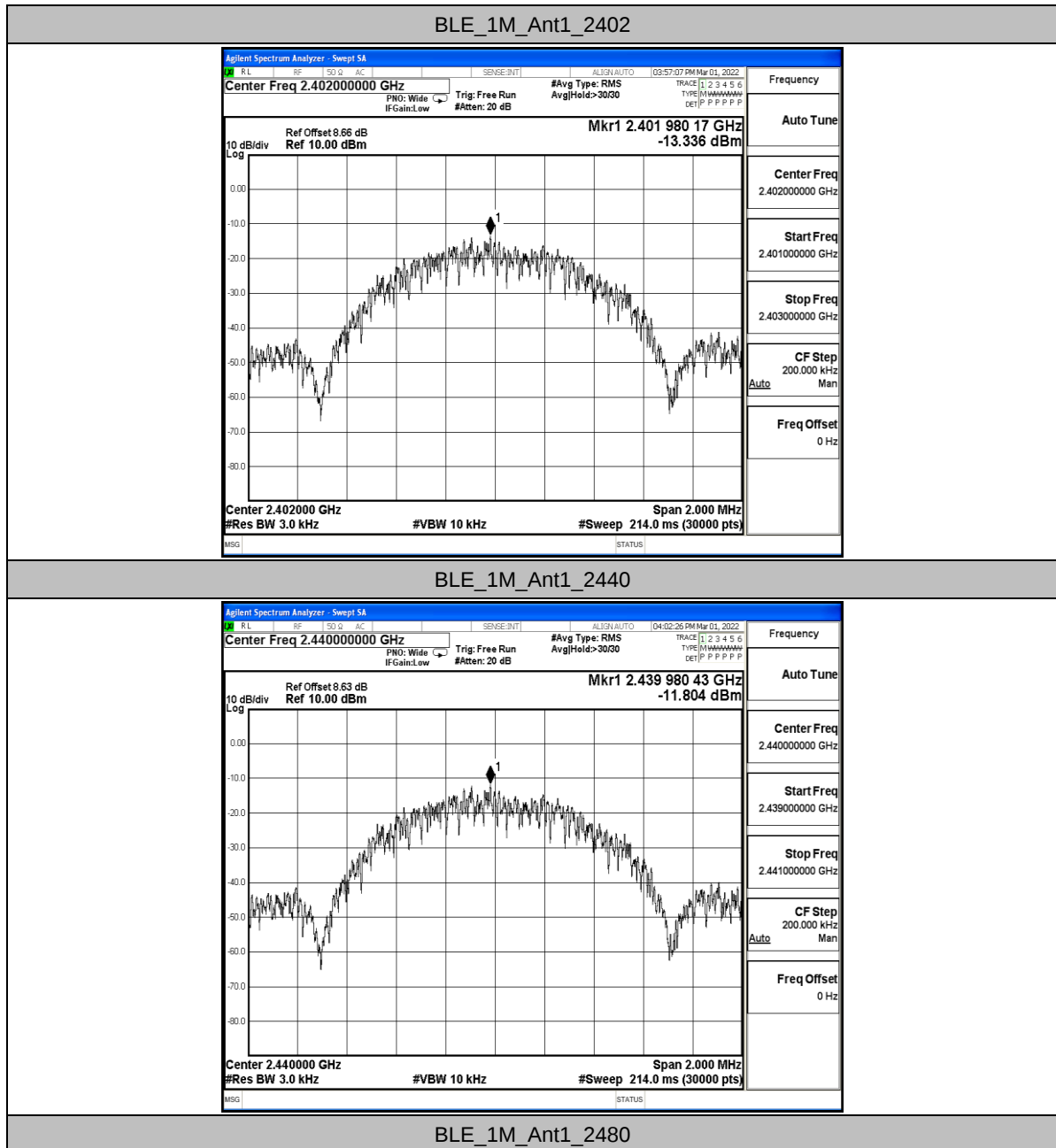
B.3 Maximum power spectral density

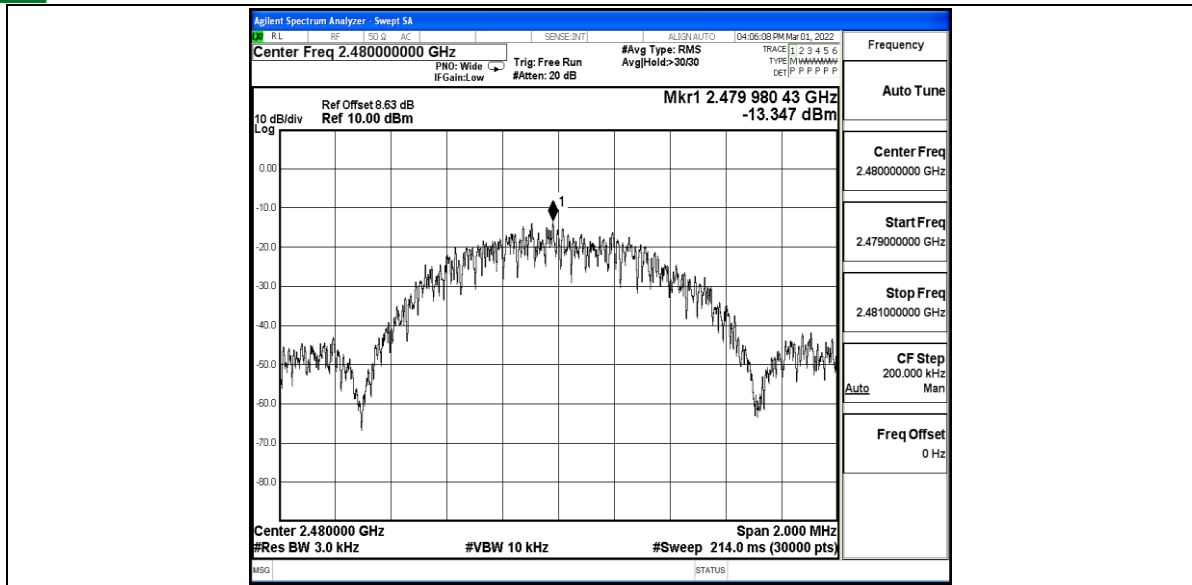
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-13.34	≤8.00	PASS
		2440	-11.8	≤8.00	PASS
		2480	-13.35	≤8.00	PASS



Test Graphs







B.4 Band edge measurements

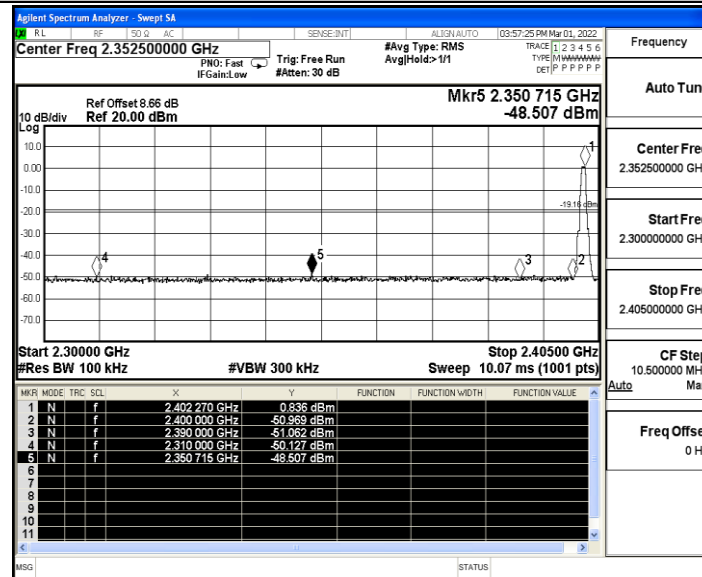
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.84	-48.51	≤ -19.16	PASS
		High	2480	0.99	-48.07	≤ -19.01	PASS

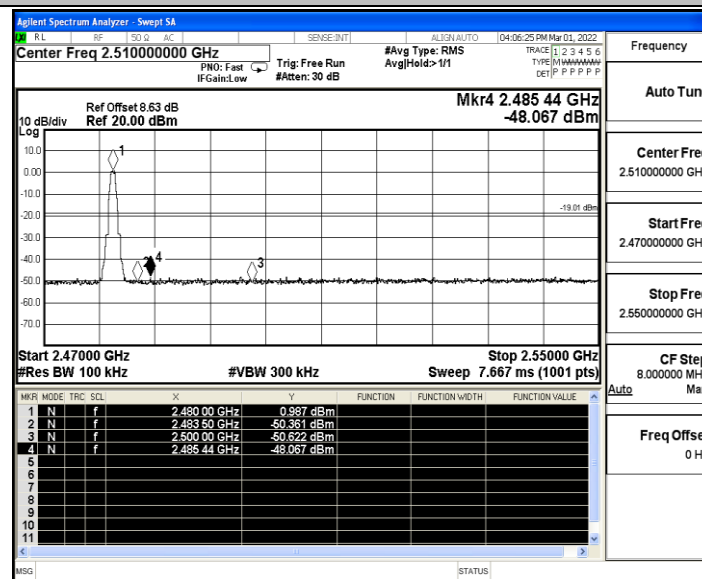


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





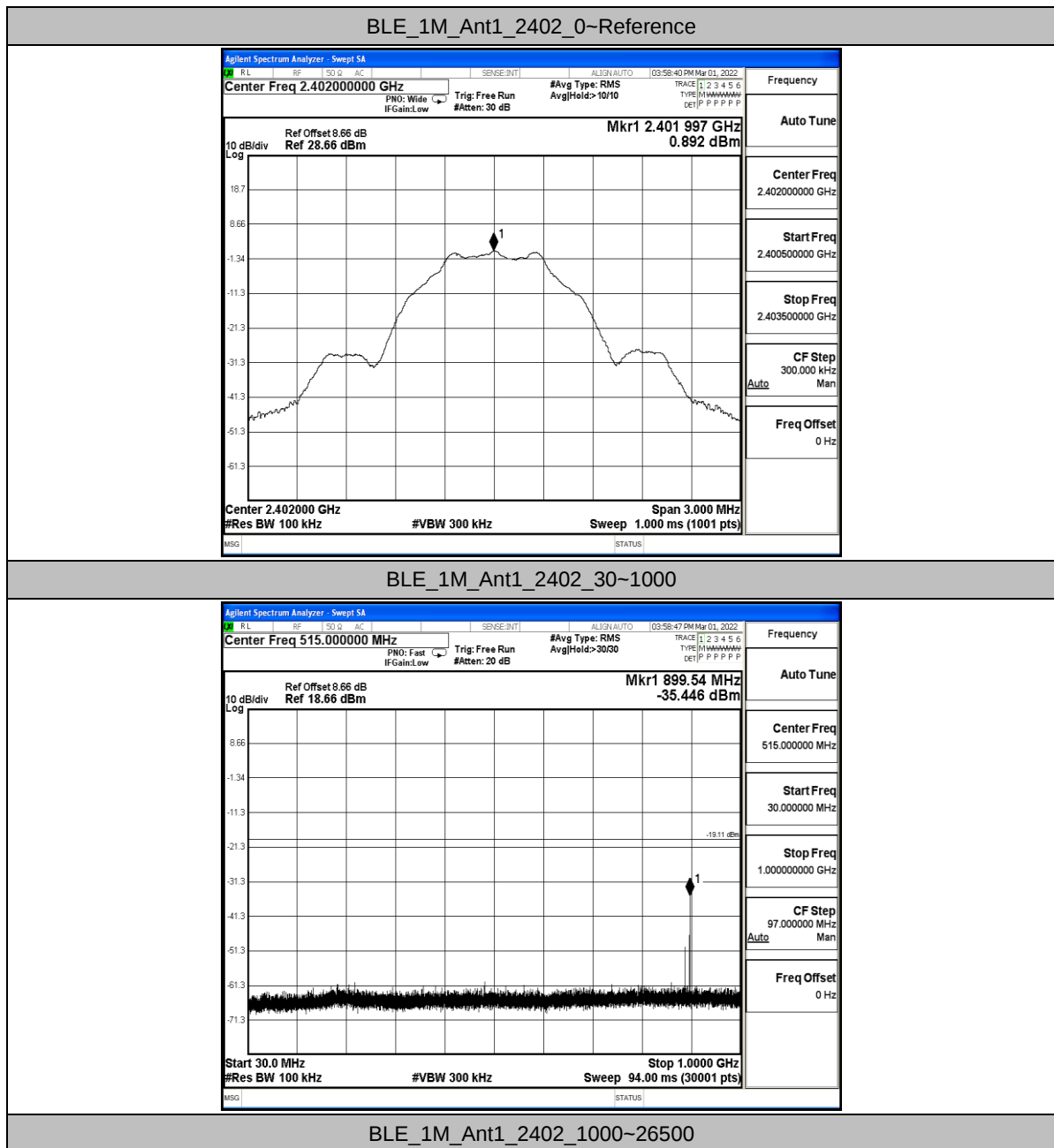
B.5 Conducted Spurious Emission

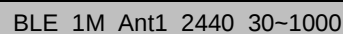
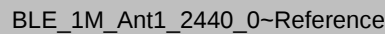
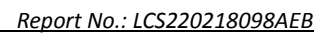
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	0.89	0.89	---	PASS
			30~1000	0.89	-35.45	≤-19.11	PASS
			1000~26500	0.89	-46.11	≤-19.11	PASS
		2440	Reference	2.47	2.47	---	PASS
			30~1000	2.47	-60.33	≤-17.53	PASS
			1000~26500	2.47	-46.25	≤-17.53	PASS
		2480	Reference	0.85	0.85	---	PASS
			30~1000	0.85	-60.61	≤-19.15	PASS
			1000~26500	0.85	-45.86	≤-19.15	PASS



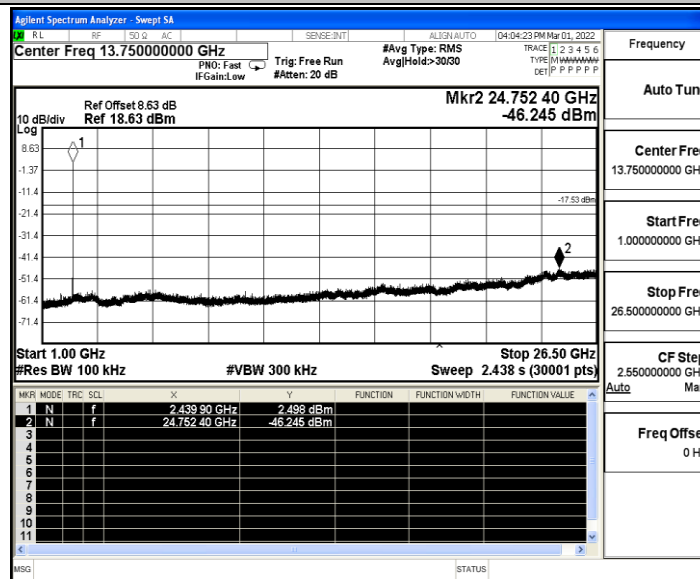
Test Graphs



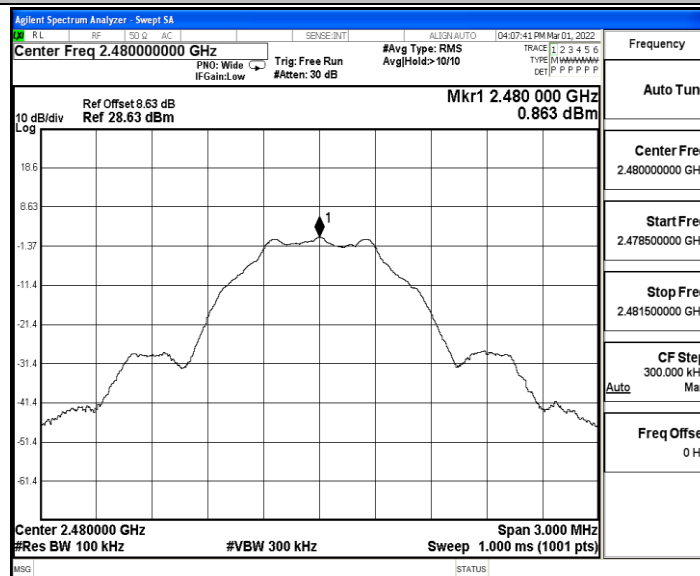




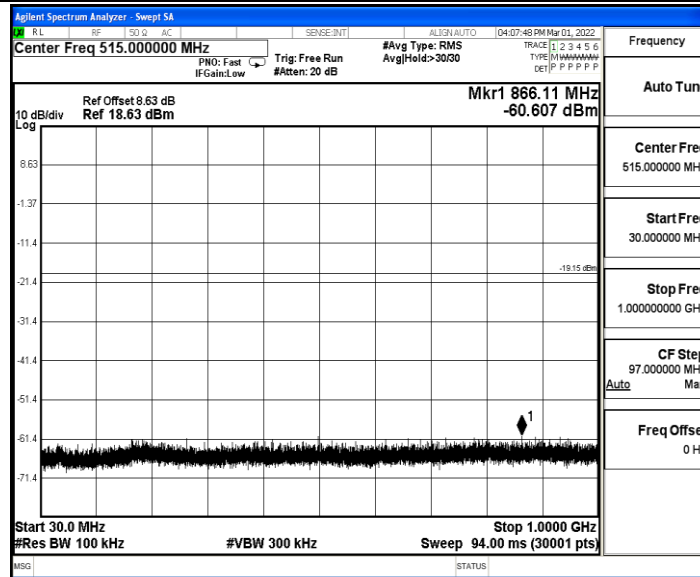
BLE_1M_Ant1_2440_1000~26500



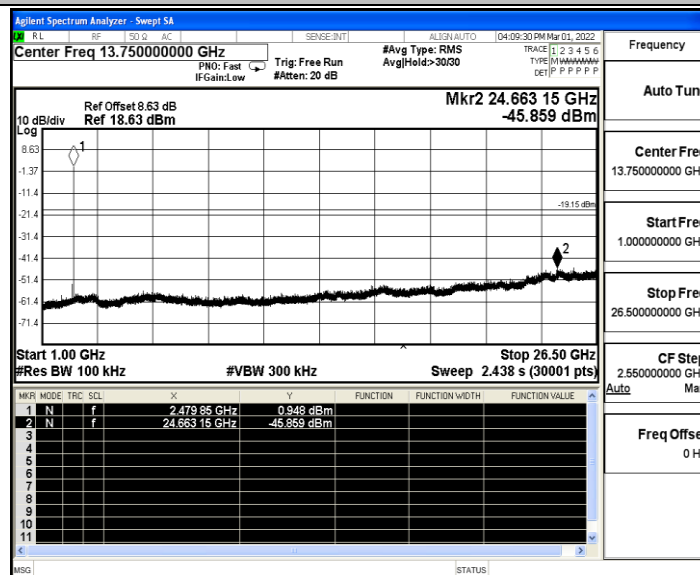
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





B.7 Duty Cycle

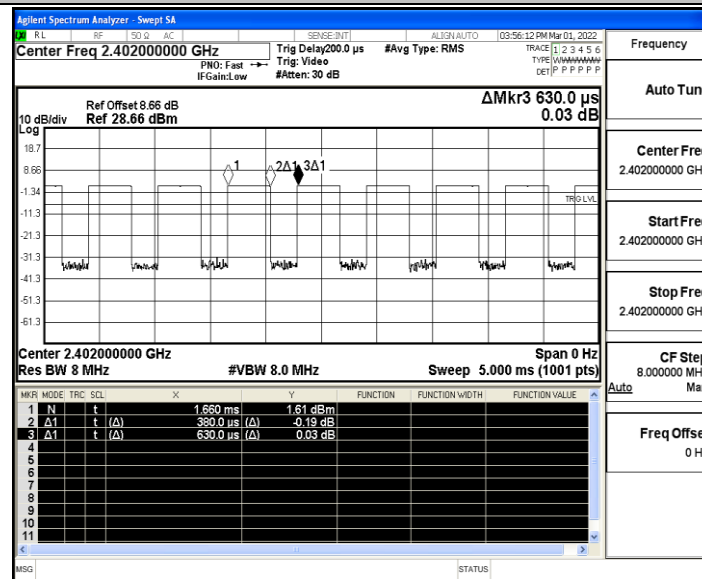
Test Result

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	---	---
		2440	0.39	0.63	0.6190	61.90	2.08	---	---
		2480	0.38	0.63	0.6032	60.32	2.20	---	---

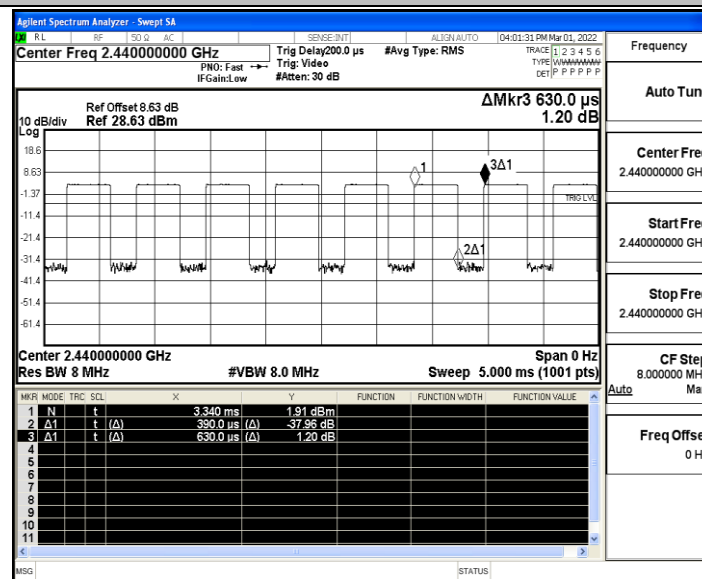


Test Graphs

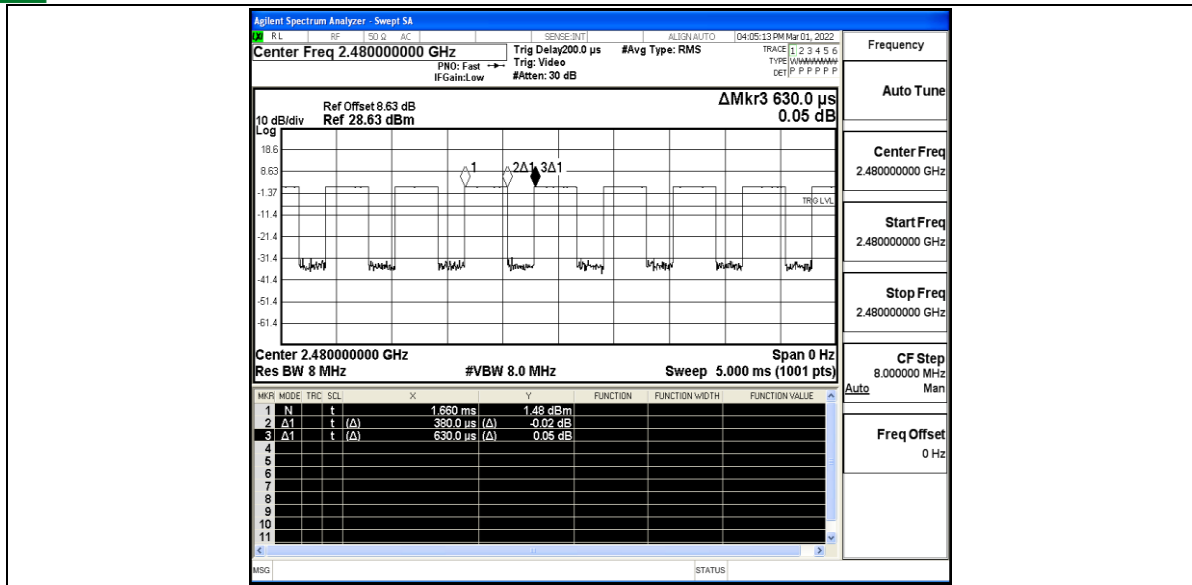
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.8 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	-47.63	≤-41.20	47.57	≤54	PASS
				AV	2364.365	-46.77	≤-41.20	48.43	≤54	PASS
				AV	2390.000	-47.26	≤-41.20	47.94	≤54	PASS
				Peak	2310.000	-38.51	≤-21.20	56.69	≤74	PASS
				Peak	2367.830	-36.68	≤-21.20	58.52	≤74	PASS
				Peak	2390.000	-38.76	≤-21.20	56.44	≤74	PASS
		High	2480	AV	2483.500	-46.26	≤-41.20	48.94	≤54	PASS
				AV	2483.520	-46.26	≤-41.20	48.94	≤54	PASS
				AV	2500.000	-46.67	≤-41.20	48.53	≤54	PASS
				Peak	2483.500	-38.2	≤-21.20	57.00	≤74	PASS
				Peak	2495.040	-36.56	≤-21.20	58.64	≤74	PASS
				Peak	2500.000	-37.49	≤-21.20	57.71	≤74	PASS

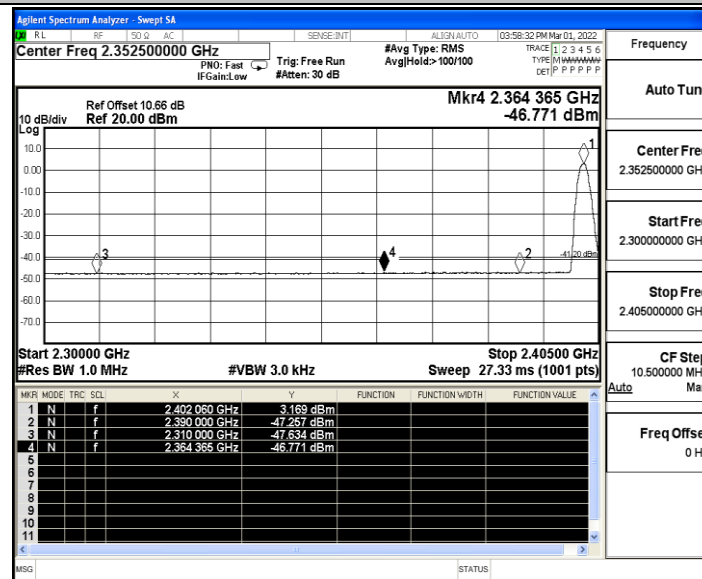
Note:

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.

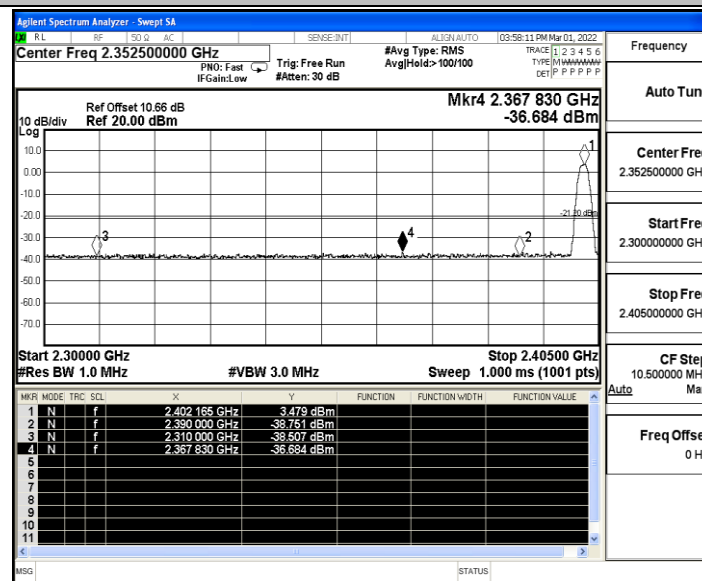


Test Graphs

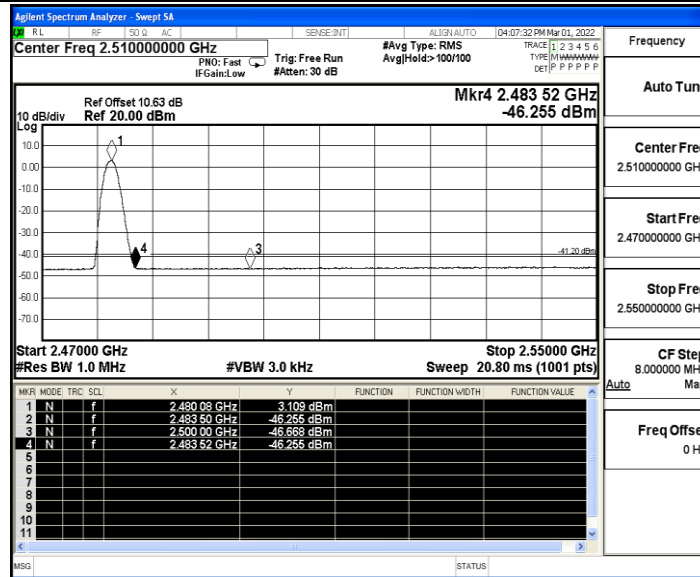
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

