



Appendix B

RF Test Data for BT LE V4.2(DTS) (Conducted Measurement)

Product Name: Car Audio

Trade Mark: NAKAMICHI

Test Model: NQ822B

Environmental Conditions

Temperature:	21.1℃
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan



B.1 DTS Bandwidth

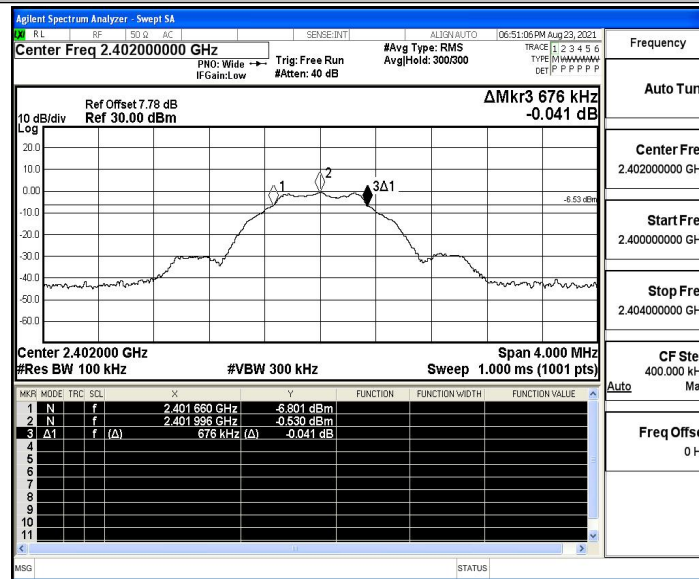
Test Result

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	0.680	2439.660	2440.340	≥ 0.5	PASS
		2480	0.680	2479.660	2480.340	≥ 0.5	PASS

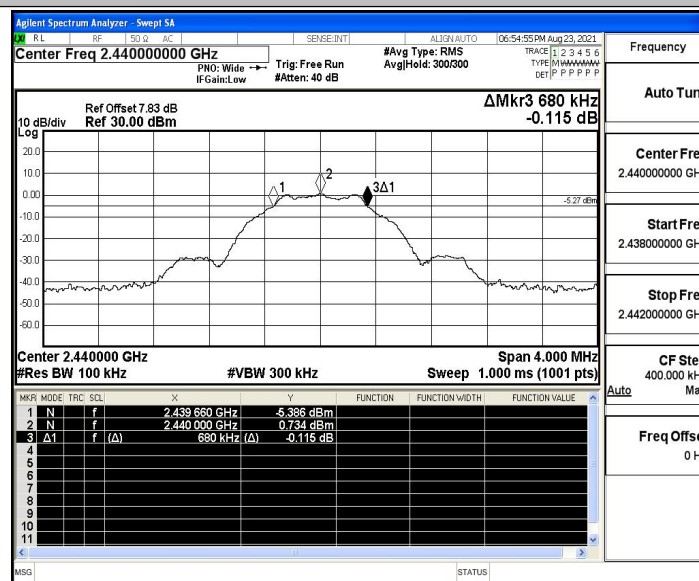


Test Graphs

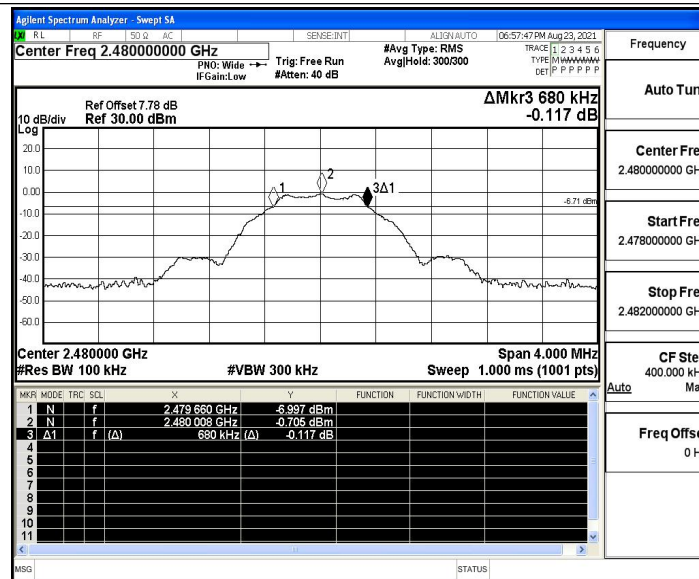
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.2 Maximum peak conducted output power

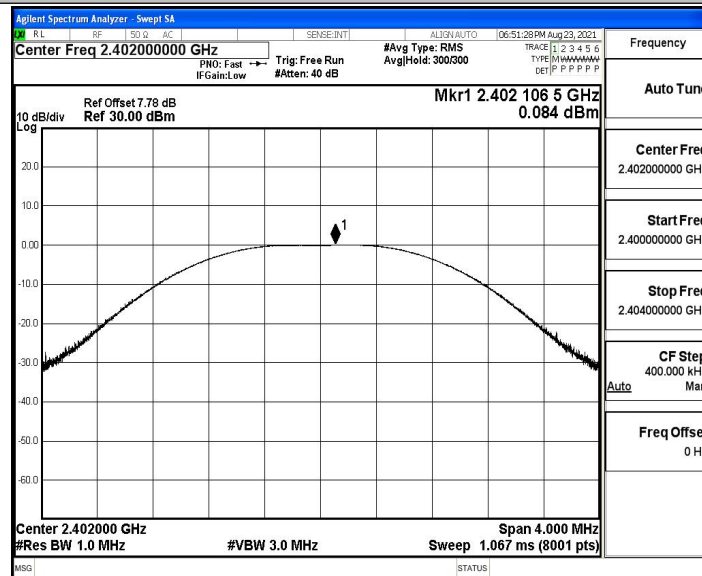
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.08	≤ 30	PASS
		2440	1.35	≤ 30	PASS
		2480	-0.03	≤ 30	PASS

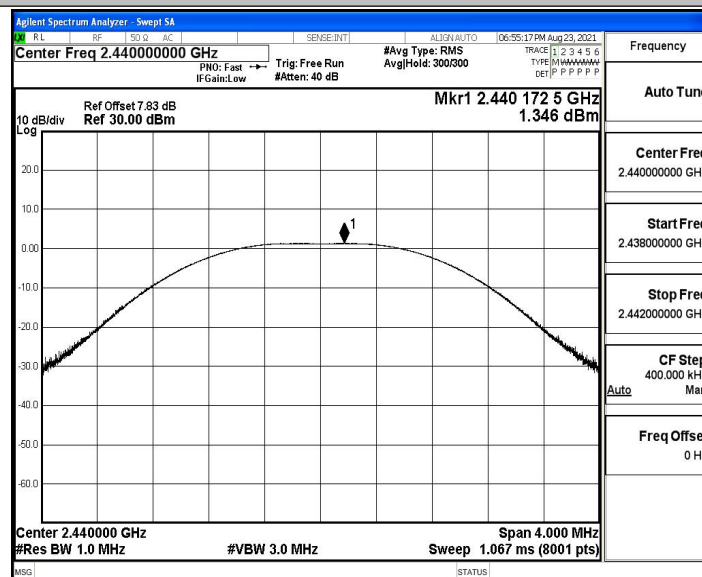


Test Graphs

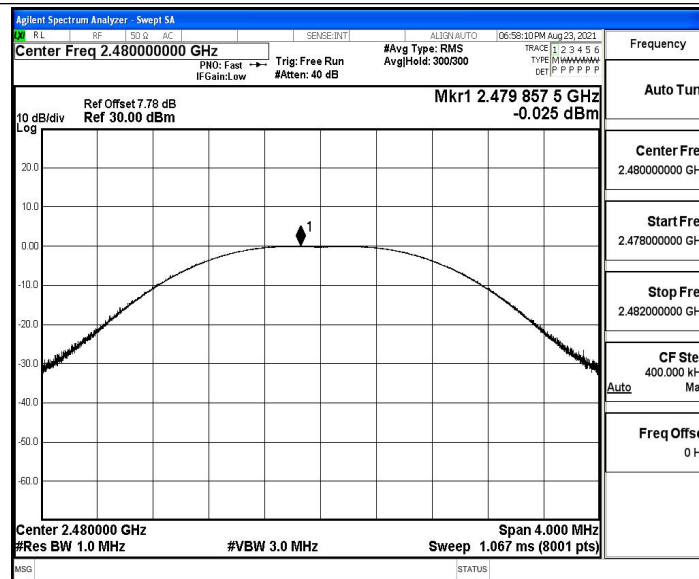
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.3 Maximum power spectral density

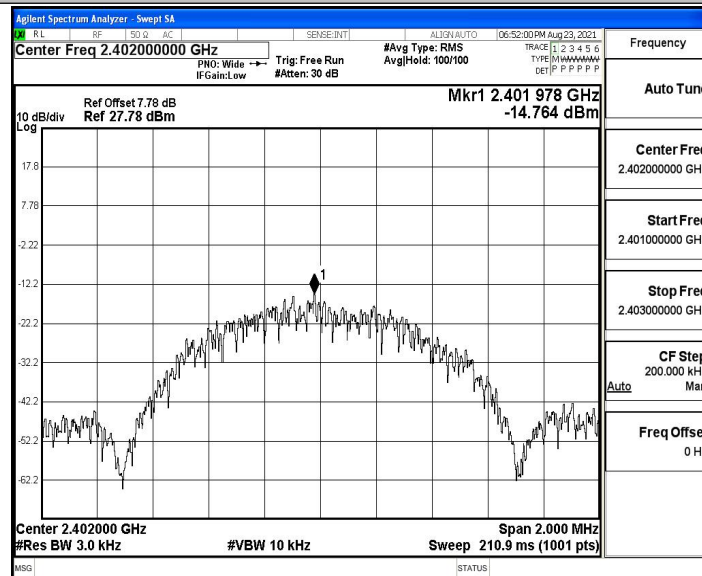
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.76	≤8	PASS
		2440	-13.63	≤8	PASS
		2480	-14.85	≤8	PASS

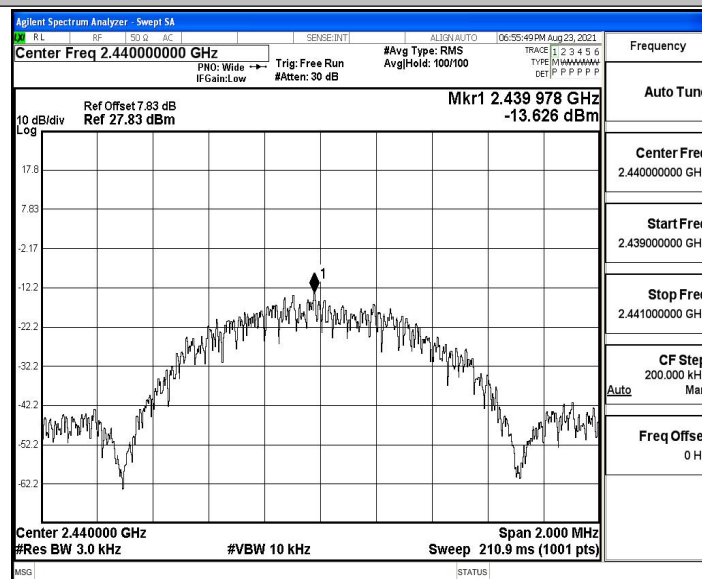


Test Graphs

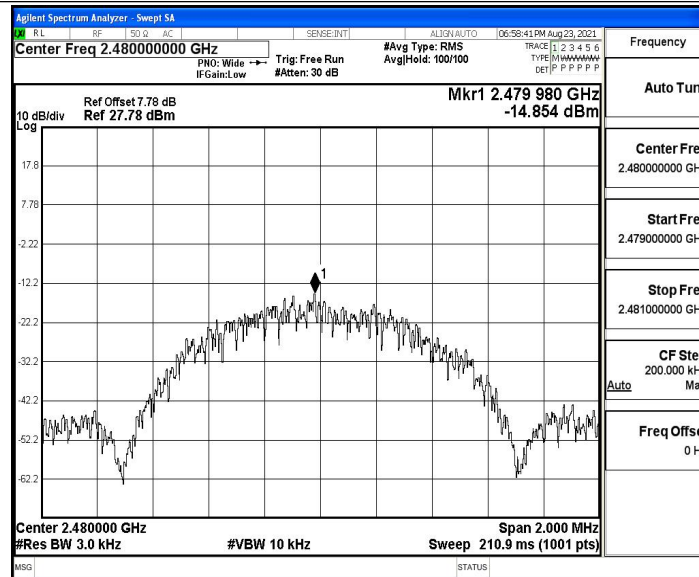
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.4 Band edge measurements

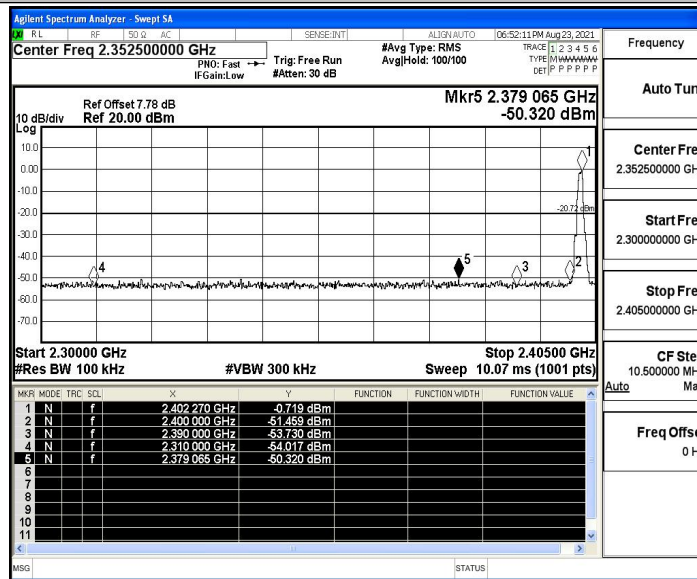
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.72	-50.32	≤-20.72	PASS
		High	2480	-0.94	-48.72	≤-20.94	PASS

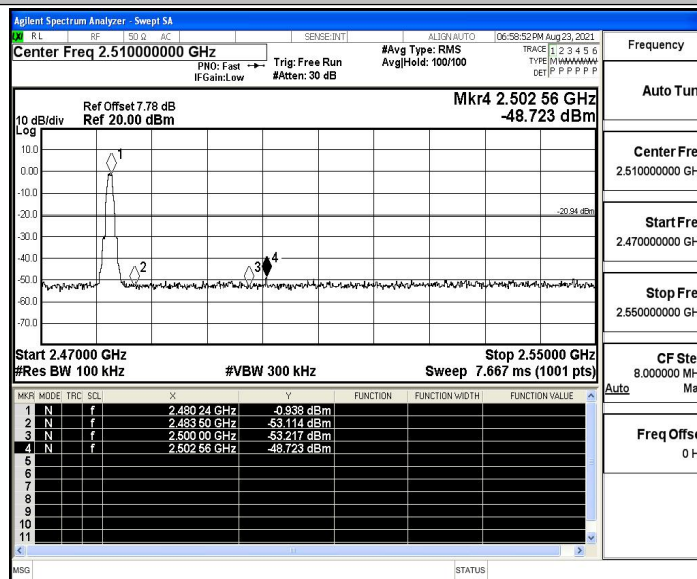


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





B.5 Conducted Spurious Emission

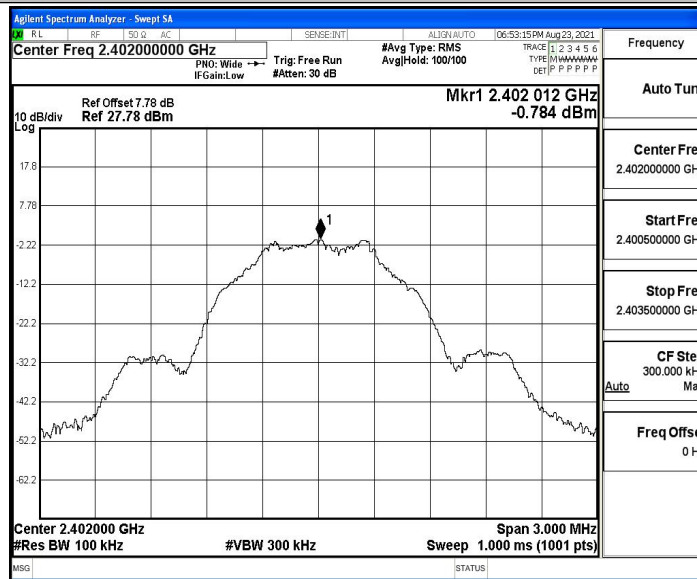
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.78	-0.78	---	PASS
			30~1000	-0.78	-61.6	≤ -20.78	PASS
			1000~26500	-0.78	-46.99	≤ -20.78	PASS
		2440	Reference	0.55	0.55	---	PASS
			30~1000	0.55	-61.83	≤ -19.45	PASS
			1000~26500	0.55	-47.22	≤ -19.45	PASS
		2480	Reference	-0.74	-0.74	---	PASS
			30~1000	-0.74	-62.02	≤ -20.74	PASS
			1000~26500	-0.74	-47.11	≤ -20.74	PASS

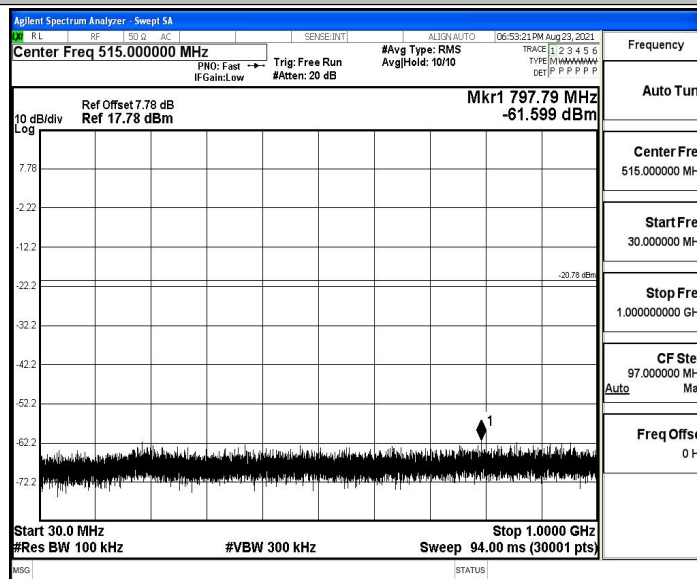


Test Graphs

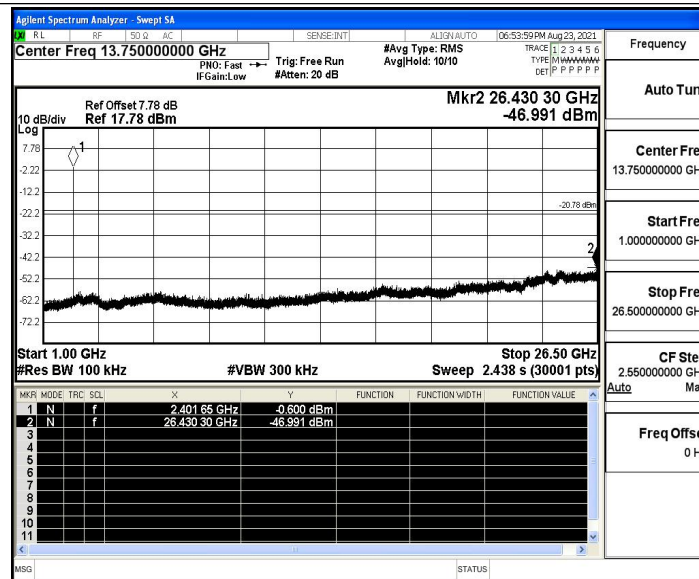
BLE_1M_Ant1_2402_0~Reference



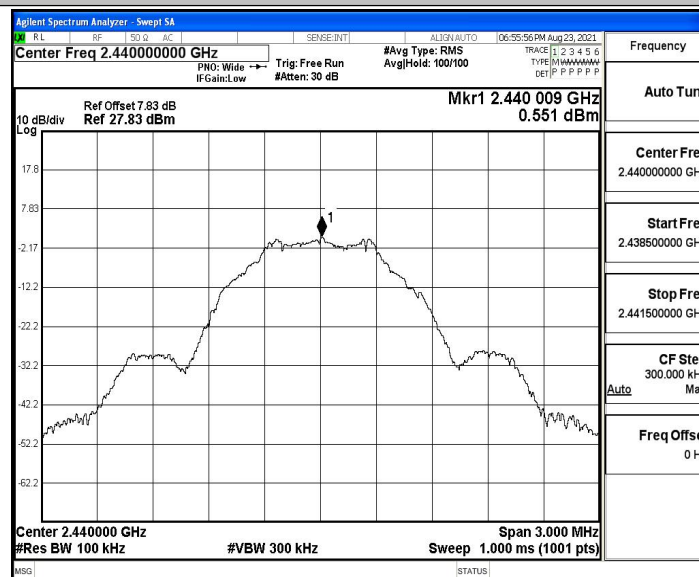
BLE_1M_Ant1_2402_30~1000



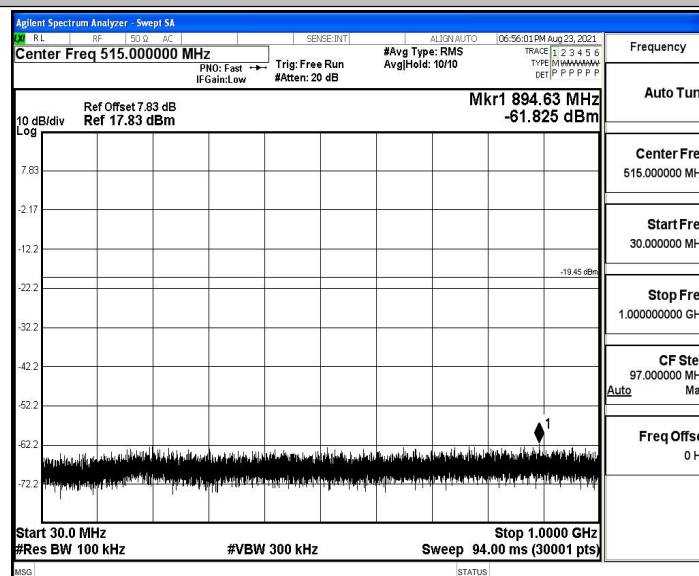
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

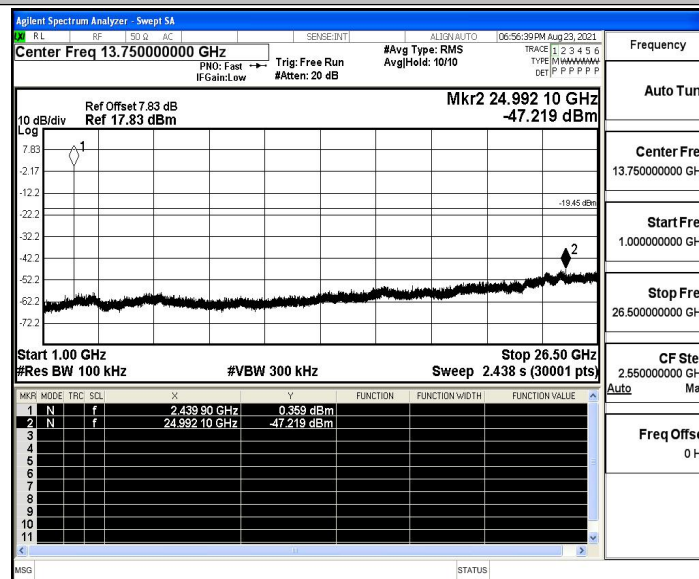


BLE_1M_Ant1_2440_30~1000

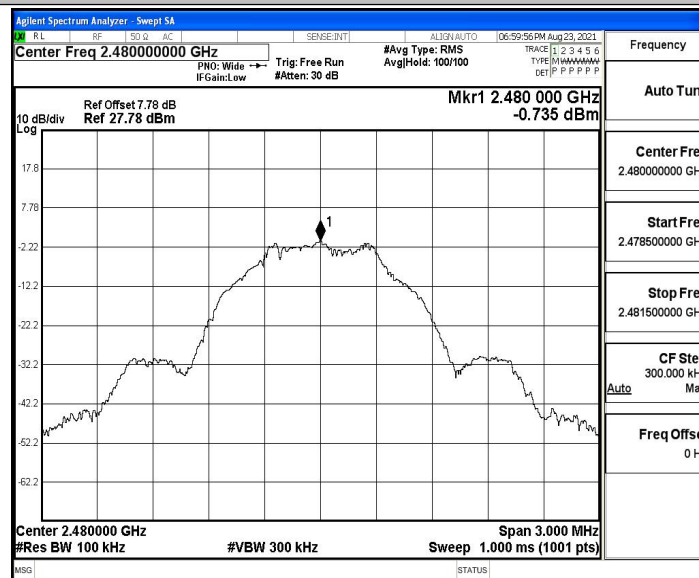




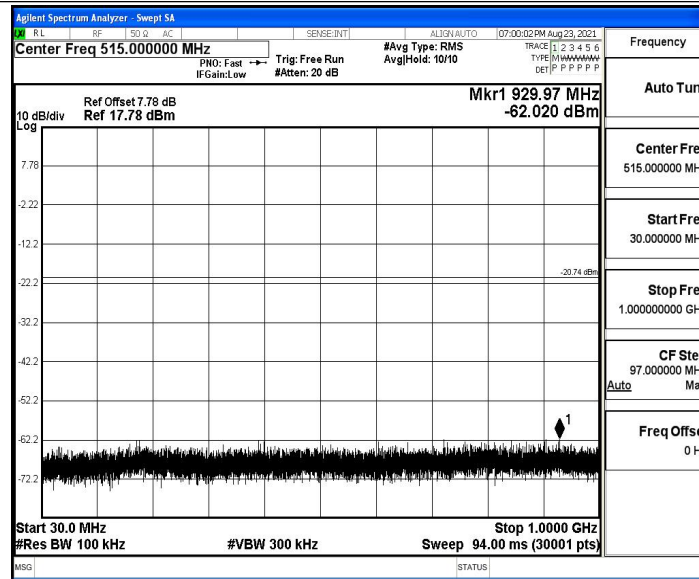
BLE_1M_Ant1_2440_1000~26500



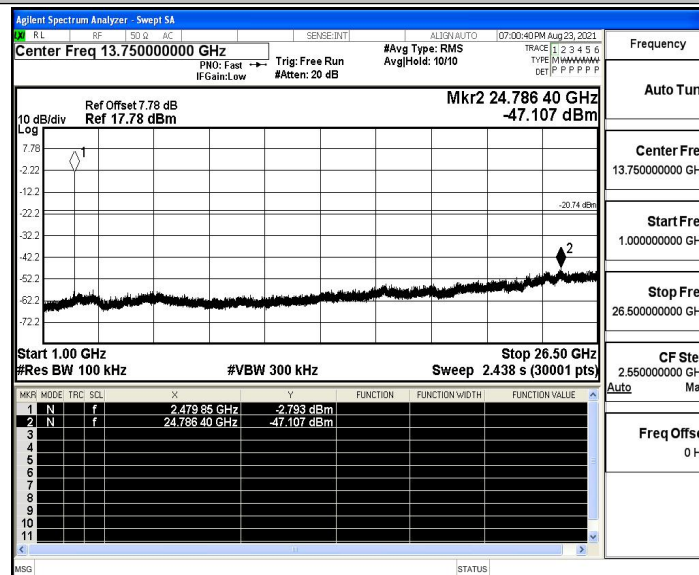
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





B.6 Duty Cycle

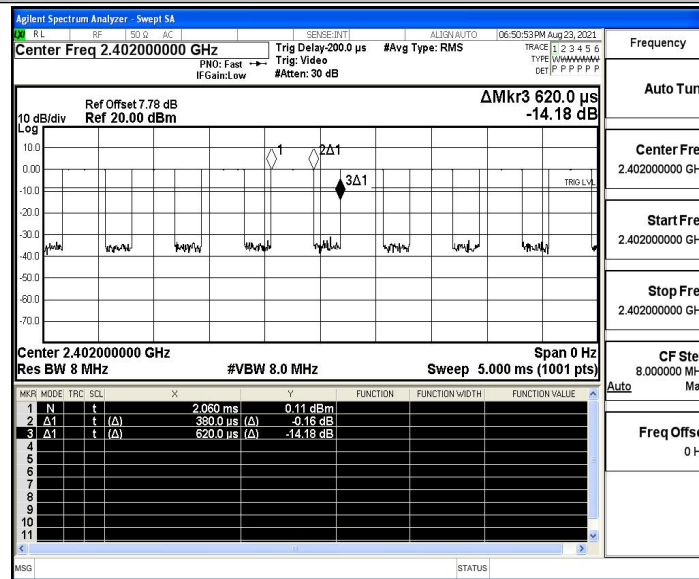
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2440	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2480	0.38	0.63	0.6032	60.32	2.20	---	PASS

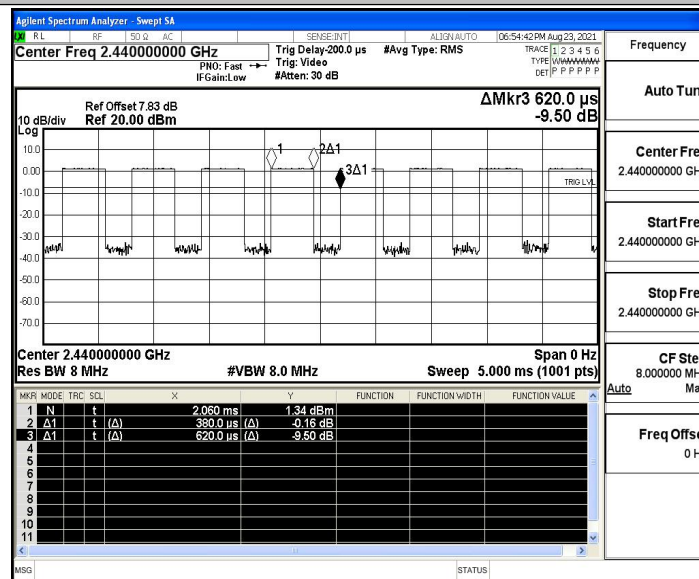


Test Graphs

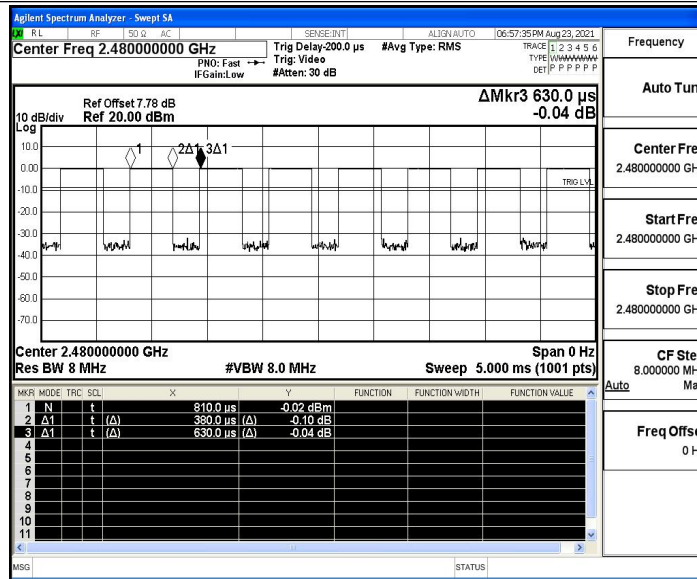
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	Channel Name	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.42	≤-41.20	46.78	≤54	PASS
				AV	2384.525	-47.78	≤-41.20	47.42	≤54	PASS
				AV	2390.000	-48.29	≤-41.20	46.91	≤54	PASS
				Peak	2310.000	-42	≤-21.20	53.20	≤74	PASS
				Peak	2374.550	-38.58	≤-21.20	56.62	≤74	PASS
				Peak	2390.000	-39.76	≤-21.20	55.44	≤74	PASS
		High	2480	AV	2483.500	-47.23	≤-41.20	47.97	≤54	PASS
				AV	2483.520	-47.23	≤-41.20	47.97	≤54	PASS
				AV	2500.000	-47.41	≤-41.20	47.79	≤54	PASS
				Peak	2483.500	-41.18	≤-21.20	54.02	≤74	PASS
				Peak	2494.480	-38.87	≤-21.20	56.33	≤74	PASS
				Peak	2500.000	-40.7	≤-21.20	54.50	≤74	PASS

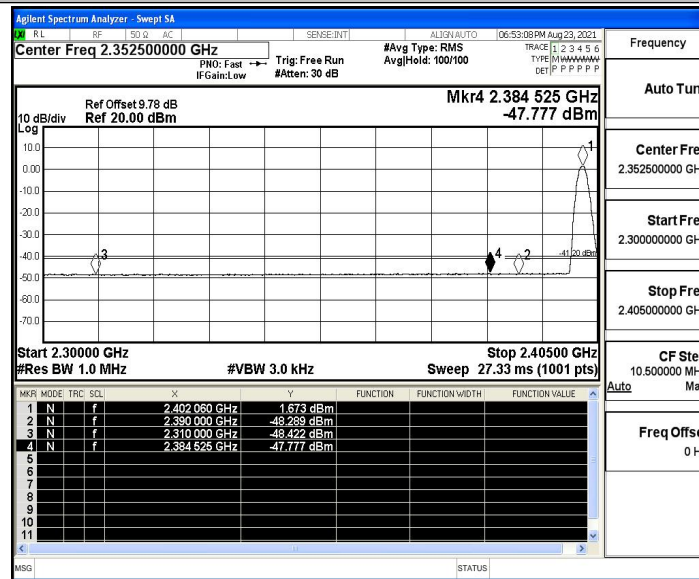
Note:

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.

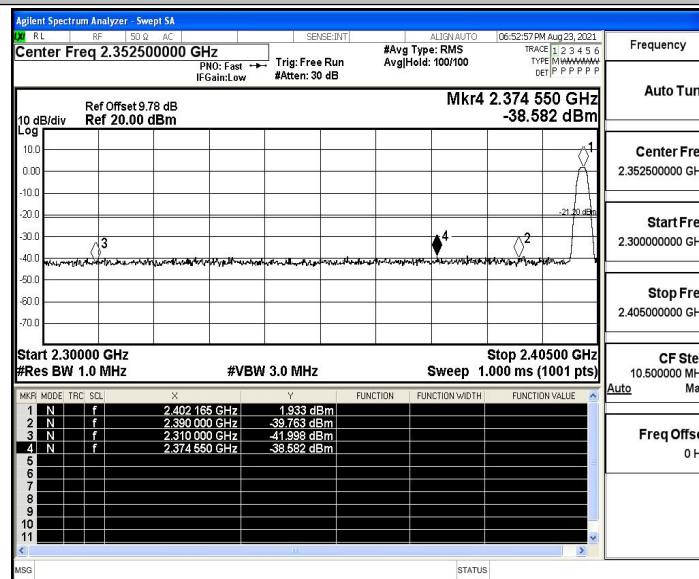


Test Graphs

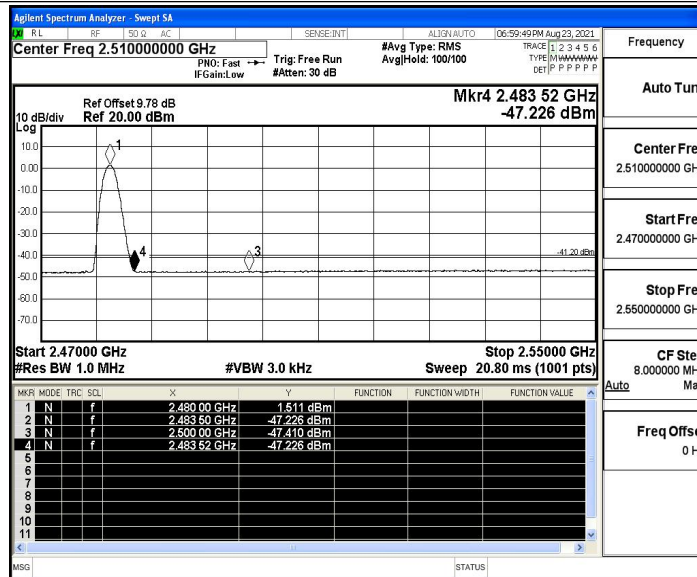
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

