



Appendix B

RF Test Data for BT LE V5.2(DTS) (Conducted Measurement)

Product Name: Bluetooth Earphones

Trade Mark: SABBAT

Test Model: SABBAT X12pro

Environmental Conditions

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



B.1 DTS Bandwidth

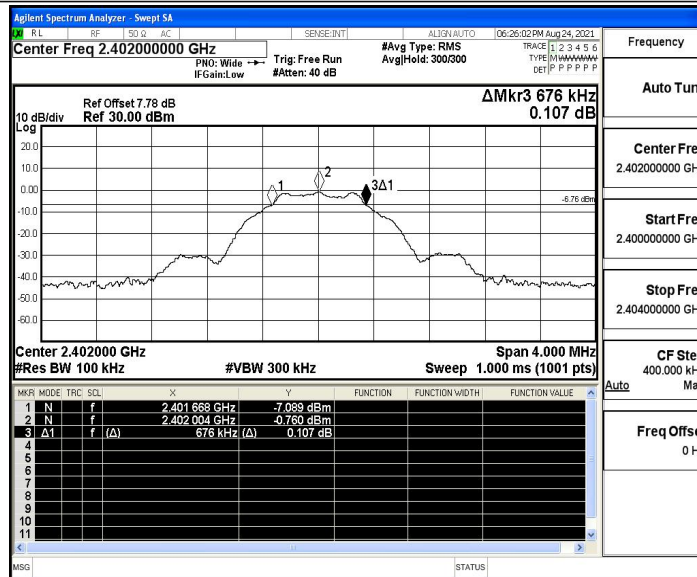
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.668	2402.344	≥ 0.5	PASS
		2440	0.676	2439.664	2440.340	≥ 0.5	PASS
		2480	0.692	2479.656	2480.348	≥ 0.5	PASS

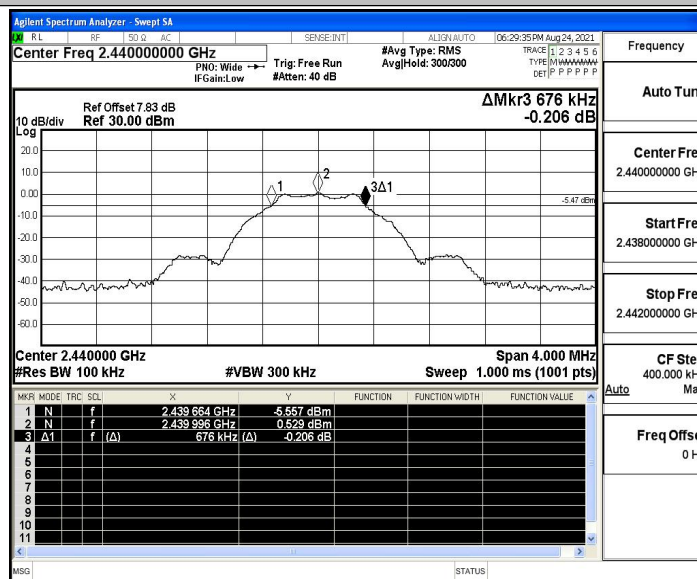


Test Graphs

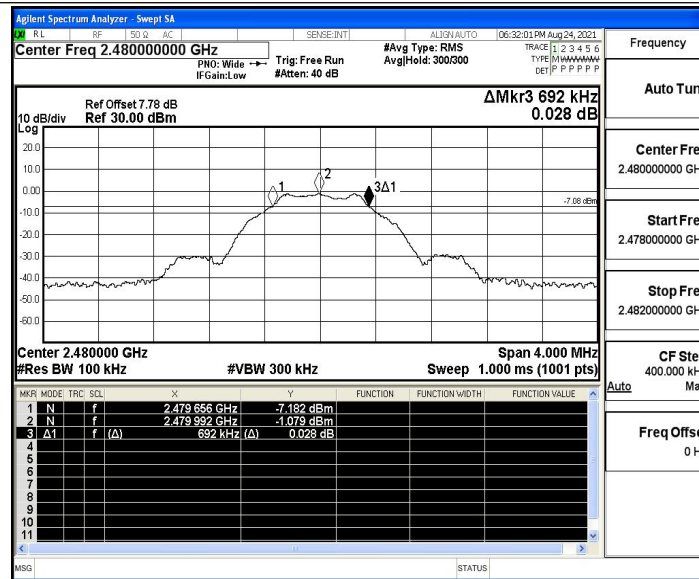
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.2 Maximum peak conducted output power

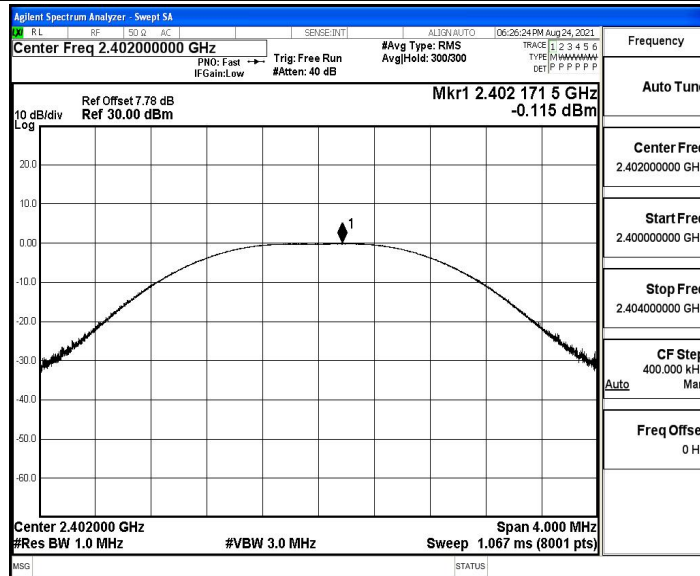
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.12	≤30	PASS
		2440	1.2	≤30	PASS
		2480	-0.15	≤30	PASS

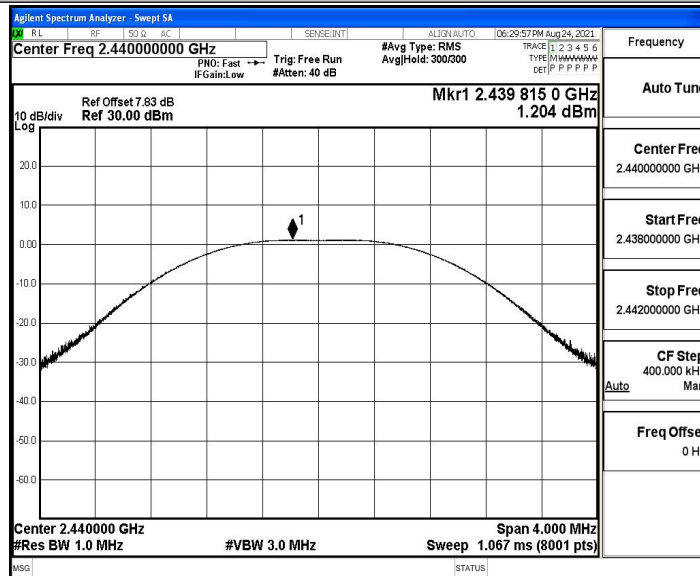


Test Graphs

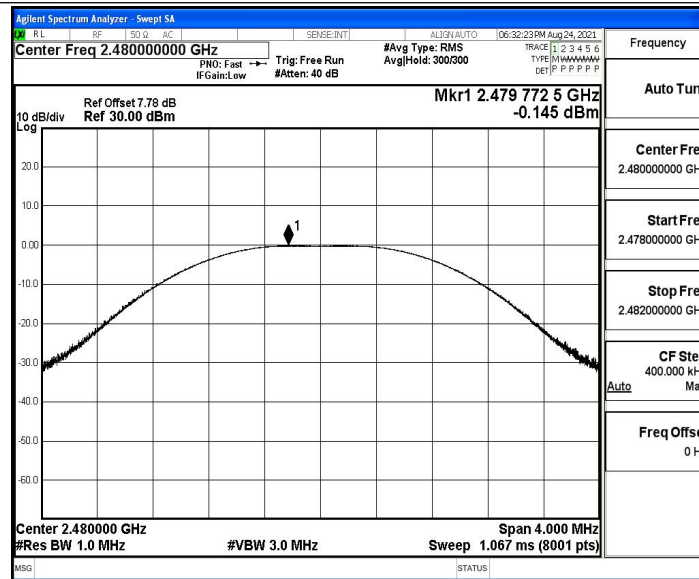
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.3 Maximum power spectral density

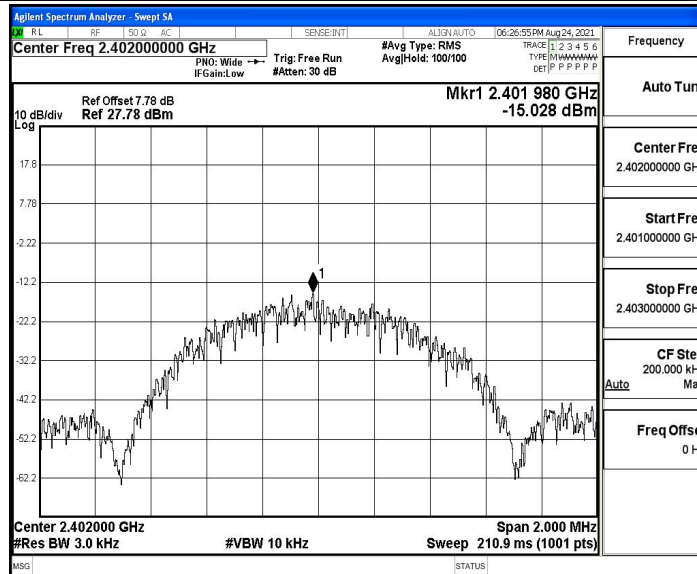
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.03	≤8	PASS
		2440	-13.72	≤8	PASS
		2480	-14.99	≤8	PASS

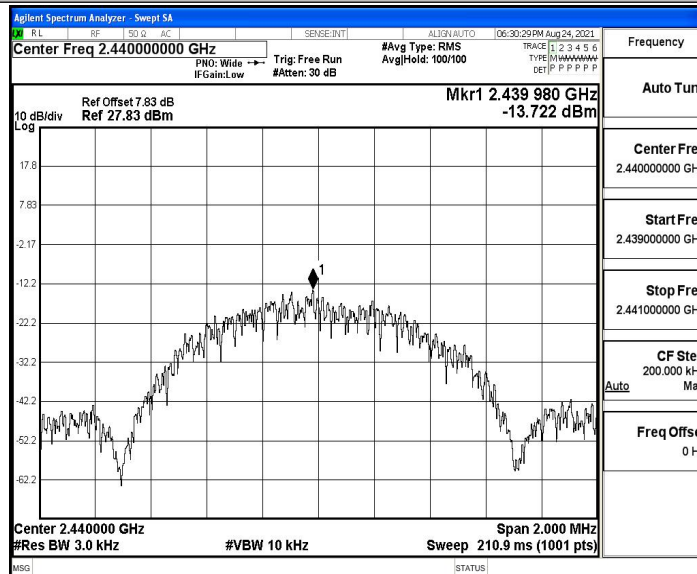


Test Graphs

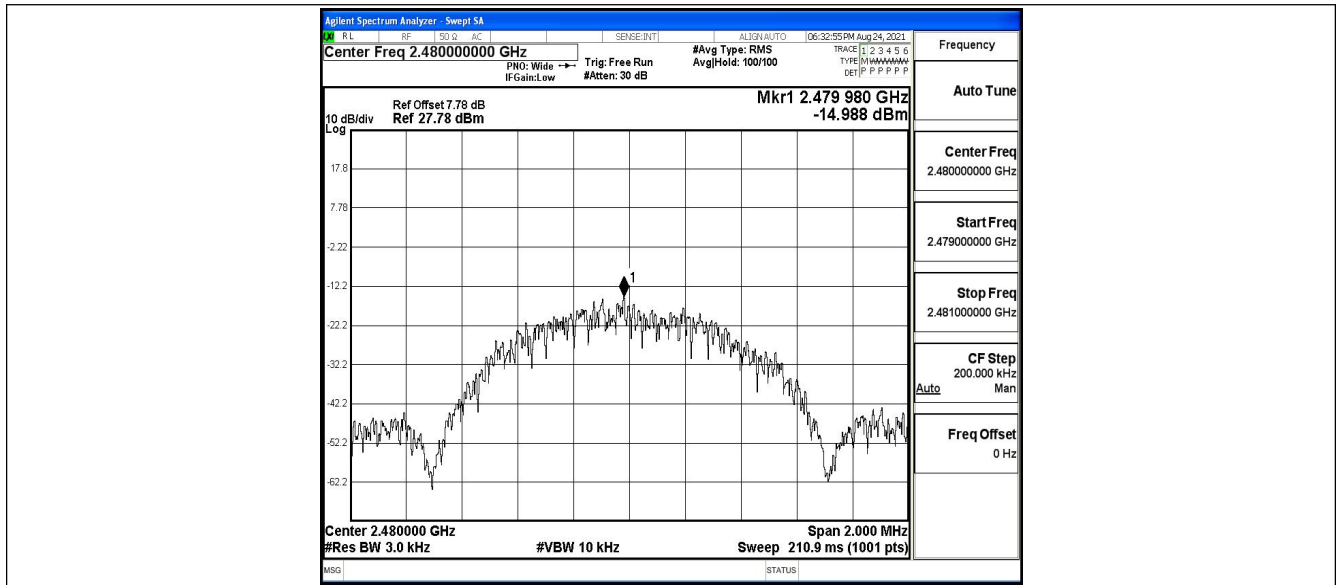
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.4 Band edge measurements

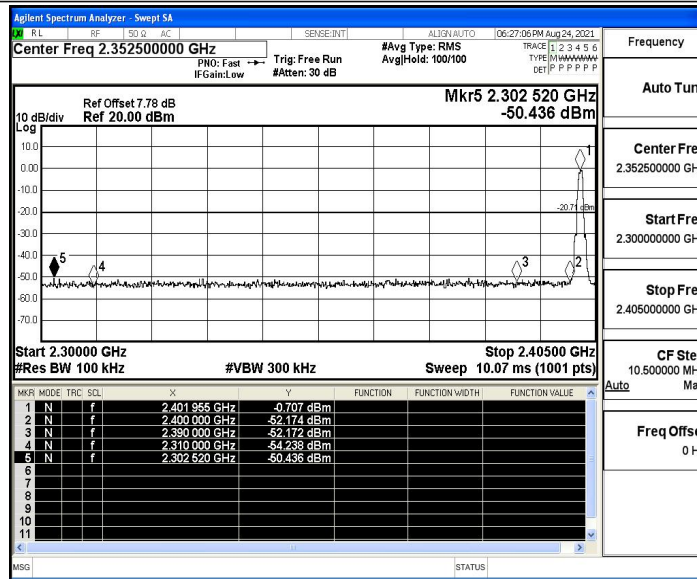
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.71	-50.44	≤ -20.71	PASS
		High	2480	-0.97	-49.08	≤ -20.97	PASS

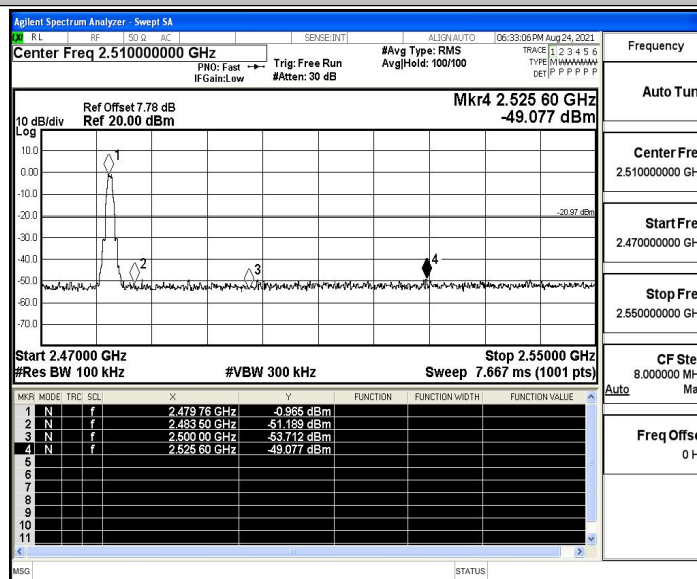


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





B.5 Conducted Spurious Emission

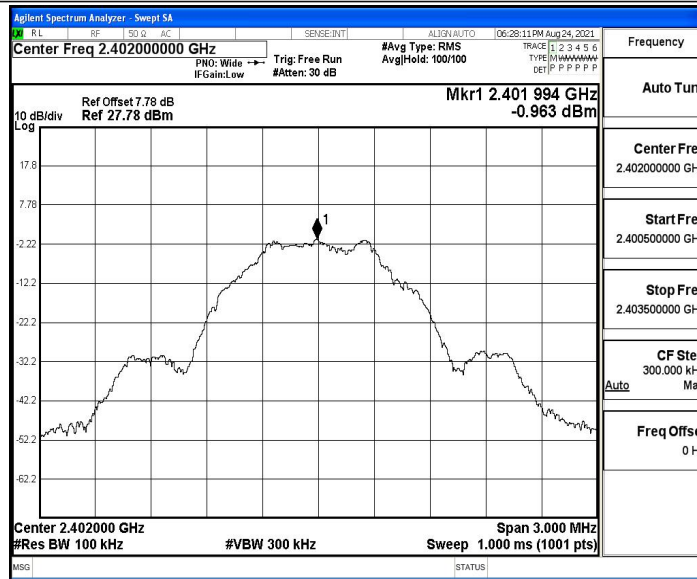
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.96	-0.96	---	PASS
			30~1000	-0.96	-61.33	≤ -20.96	PASS
			1000~26500	-0.96	-48	≤ -20.96	PASS
		2440	Reference	0.47	0.47	---	PASS
			30~1000	0.47	-61.8	≤ -19.53	PASS
			1000~26500	0.47	-46.99	≤ -19.53	PASS
		2480	Reference	-0.80	-0.80	---	PASS
			30~1000	-0.80	-60.25	≤ -20.8	PASS
			1000~26500	-0.80	-47.35	≤ -20.8	PASS

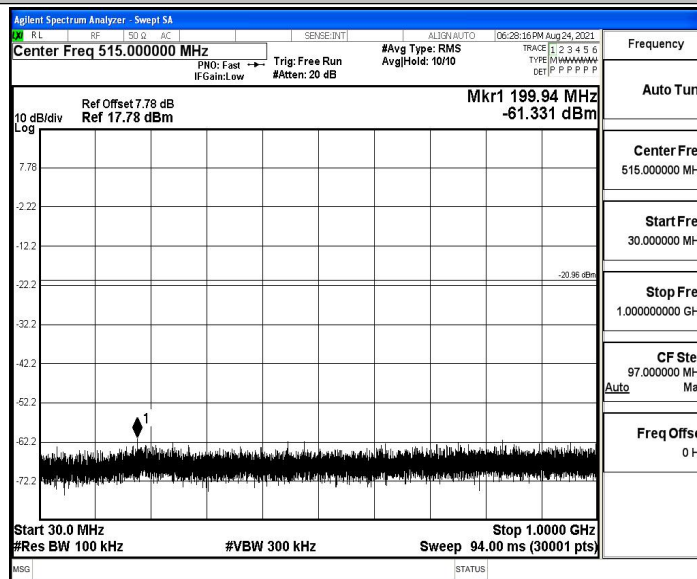


Test Graphs

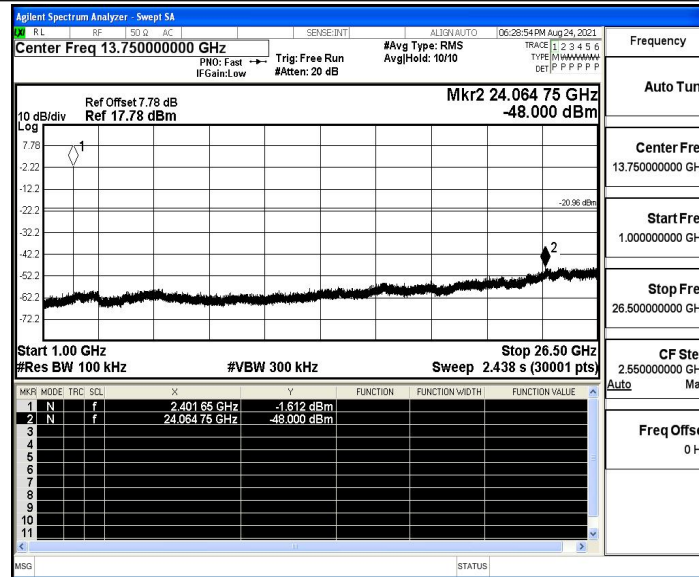
BLE_1M_Ant1_2402_0~Reference



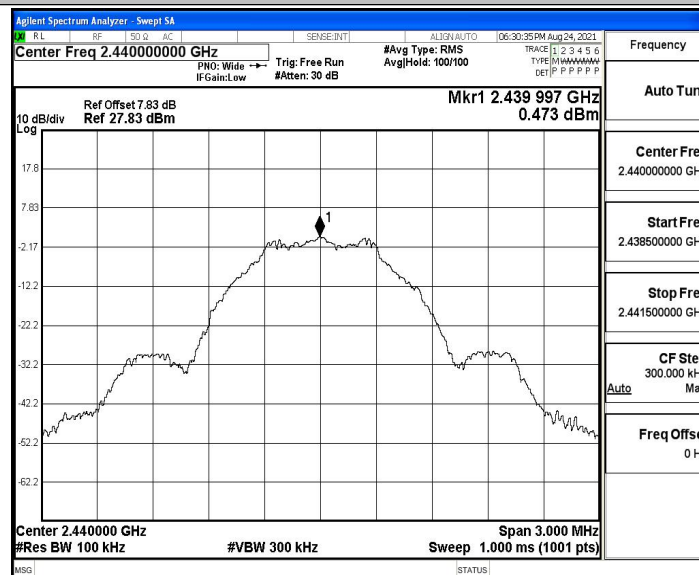
BLE_1M_Ant1_2402_30~1000



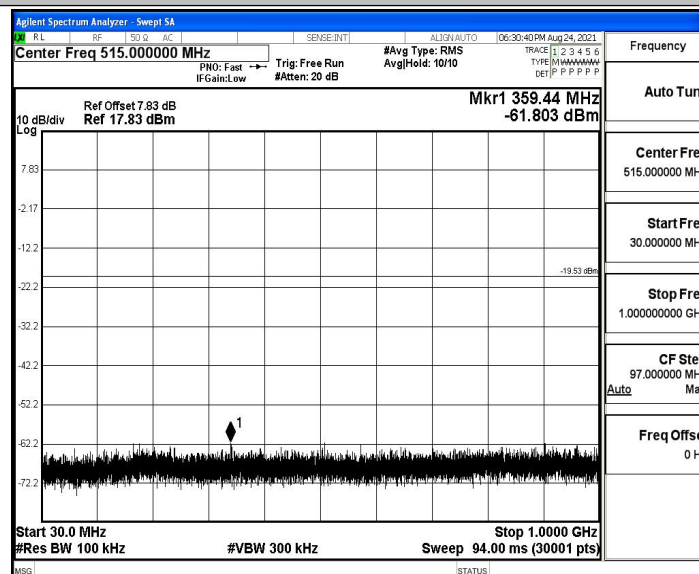
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

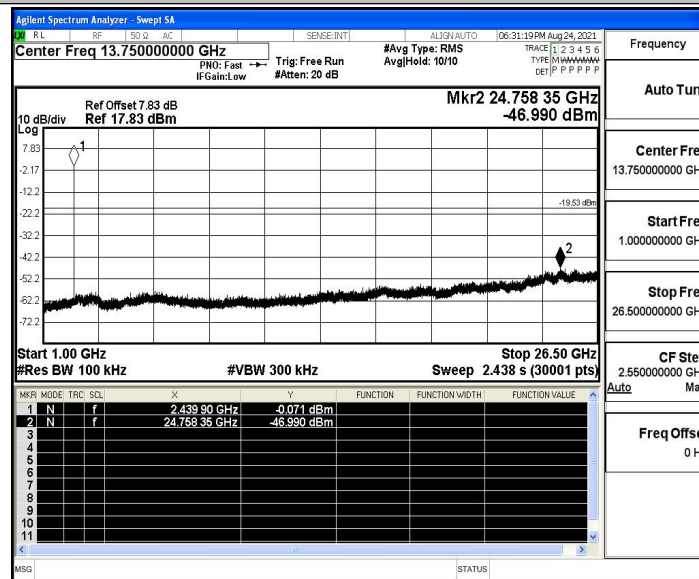


BLE_1M_Ant1_2440_30~1000

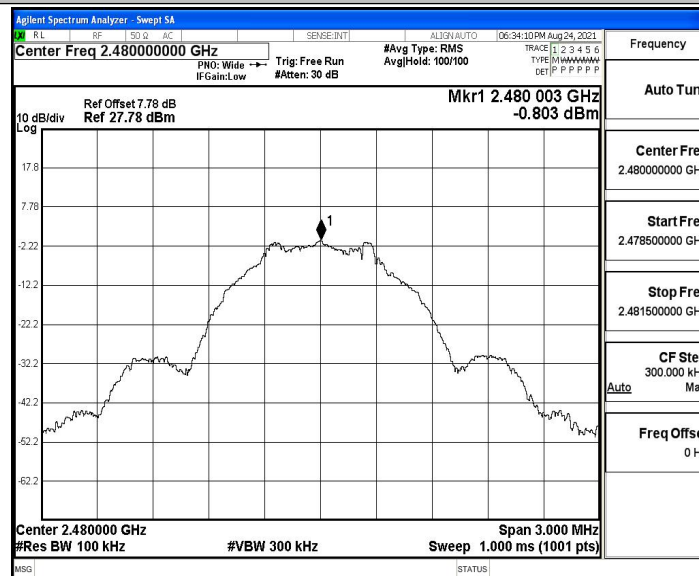




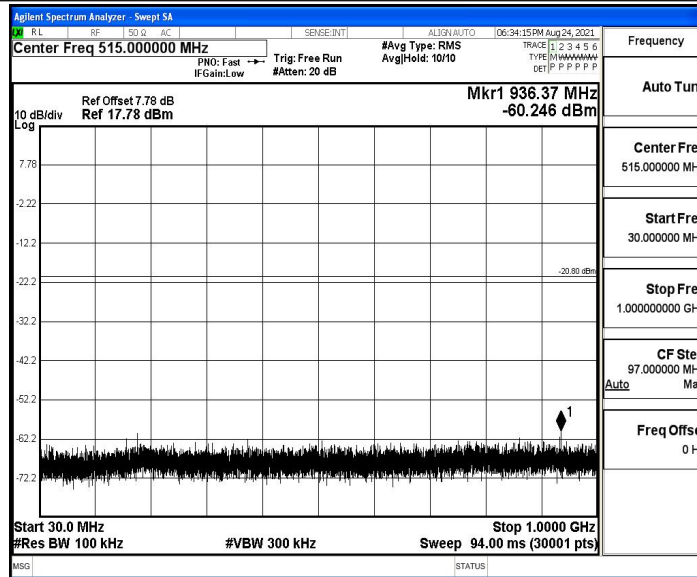
BLE_1M_Ant1_2440_1000~26500



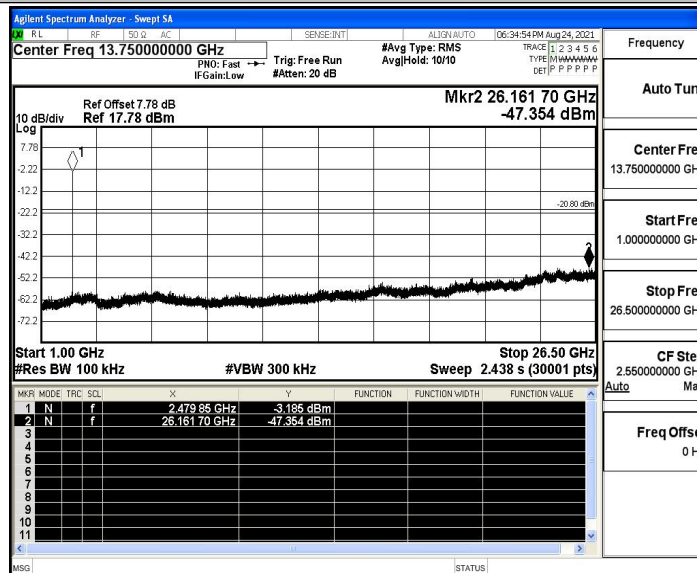
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





B.6 Duty Cycle

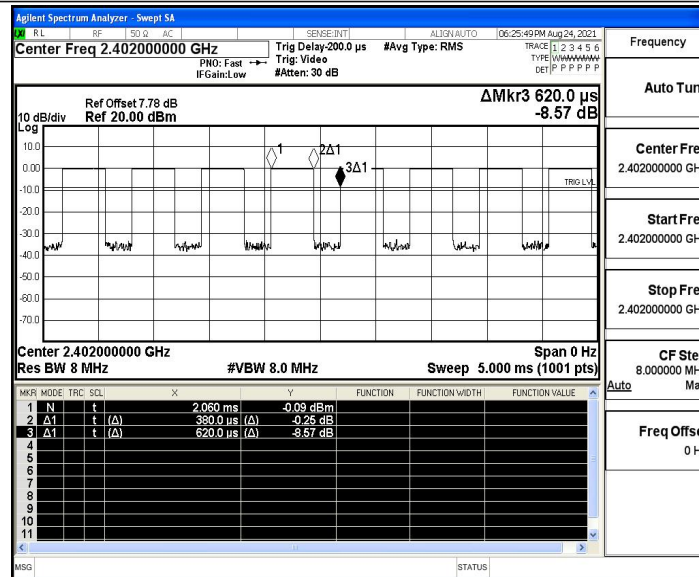
Test Result

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	0.39	0.63	0.6190	61.90	2.08	---	PASS
		2480	0.39	0.63	0.6190	61.90	2.08	---	PASS

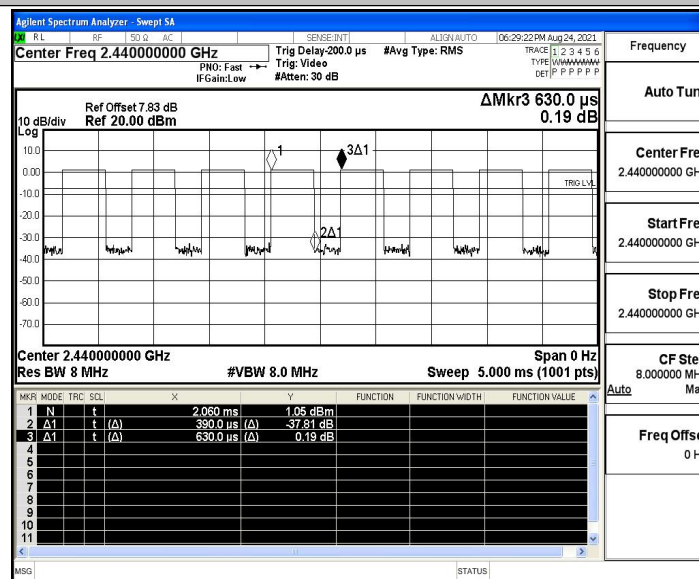


Test Graphs

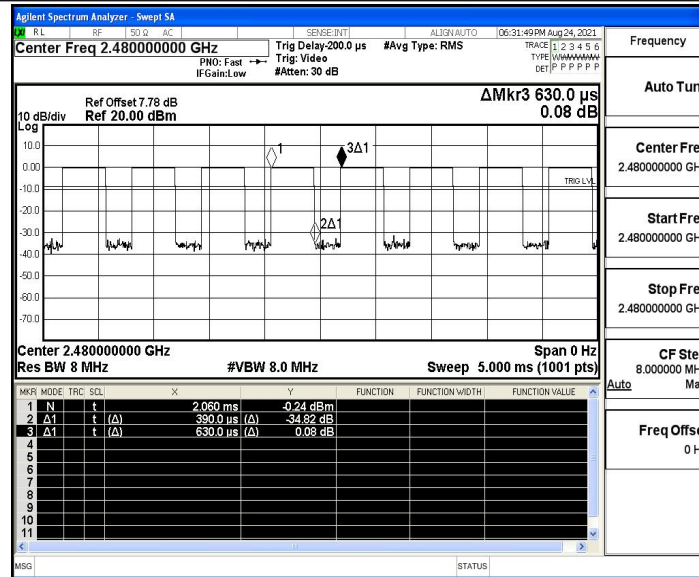
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





B.7 Emissions in Restricted Bands

Test Result

TestMod e	Antenn a	ChNam e	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/ m]	Limit [dBuV/ m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.19	≤-41.20	47.01	≤54	PASS
				AV	2388.515	-47.71	≤-41.20	47.49	≤54	PASS
				AV	2390.000	-48.1	≤-41.20	47.10	≤54	PASS
				Peak	2310.000	-41.62	≤-21.20	53.58	≤74	PASS
				Peak	2314.595	-38.78	≤-21.20	56.42	≤74	PASS
				Peak	2390.000	-41	≤-21.20	54.20	≤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	-47.61	≤-41.20	47.59	≤54	PASS
				Peak	2483.500	-41.42	≤-21.20	53.78	≤74	PASS
				Peak	2486.000	-38.79	≤-21.20	56.41	≤74	PASS
				Peak	2500.000	-40.8	≤-21.20	54.40	≤74	PASS

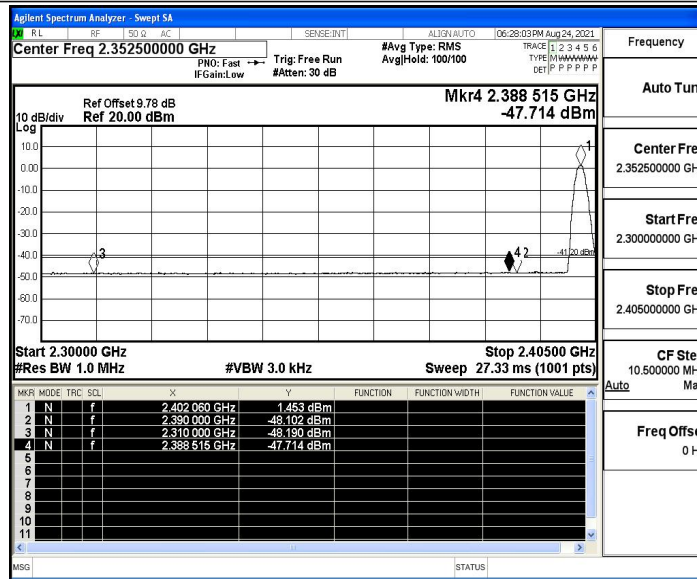
Note:

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.

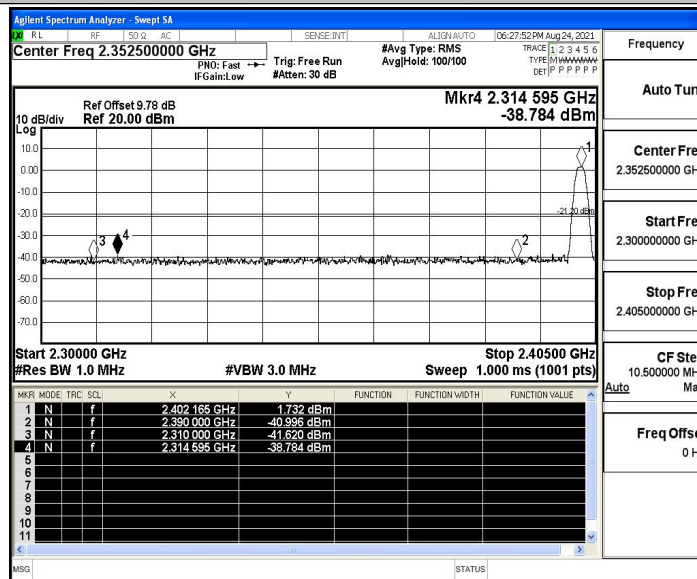


Test Graphs

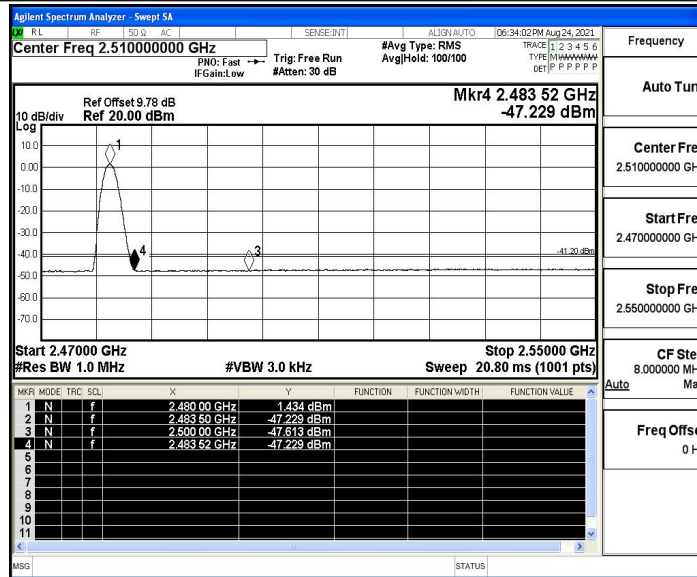
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

