



Appendix A

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

Product Name: Automatic Pet feeder

Test Model: PP007

Environmental Conditions

Temperature:	23.7°C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan



A.1 DTS Bandwidth

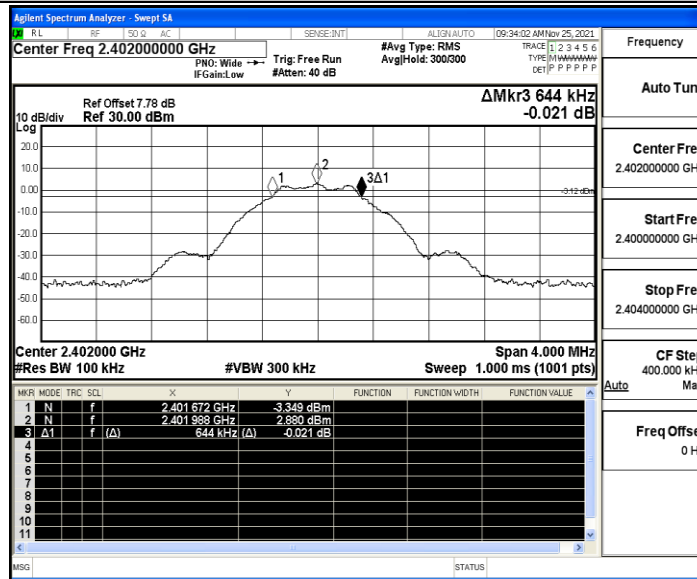
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.644	2401.672	2402.316	≥ 0.5	PASS
		2440	0.644	2439.668	2440.312	≥ 0.5	PASS
		2480	0.664	2479.652	2480.316	≥ 0.5	PASS

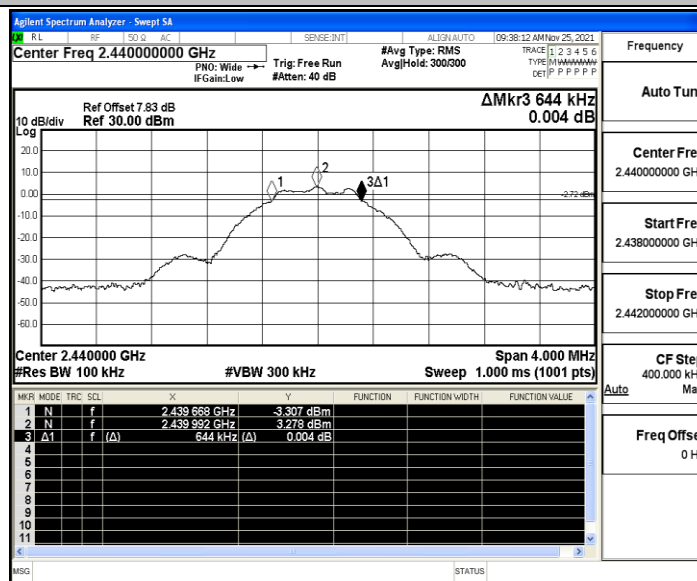


Test Graphs

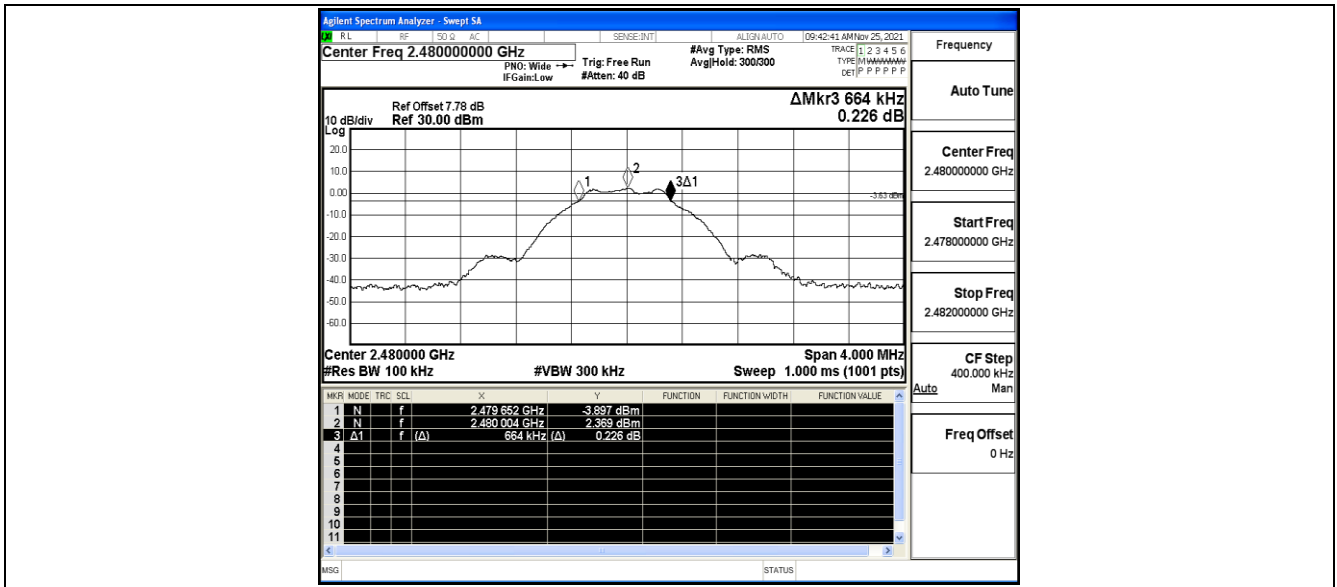
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.2 Maximum peak conducted output power

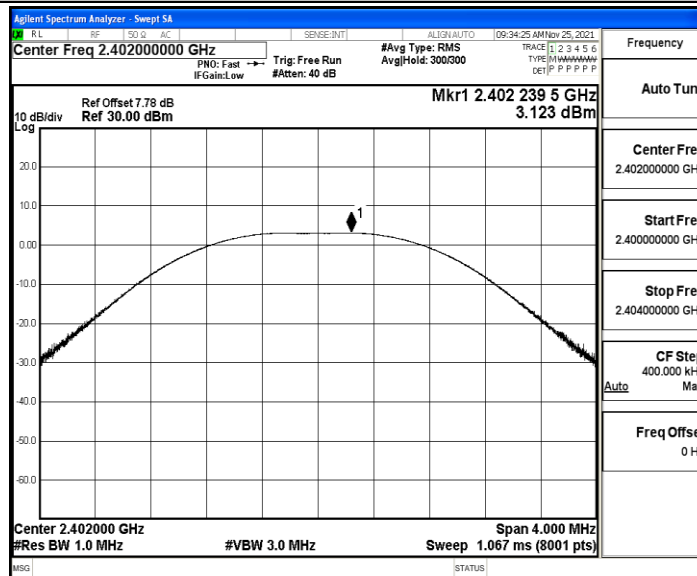
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	3.12	≤ 30	PASS
		2440	3.42	≤ 30	PASS
		2480	2.84	≤ 30	PASS

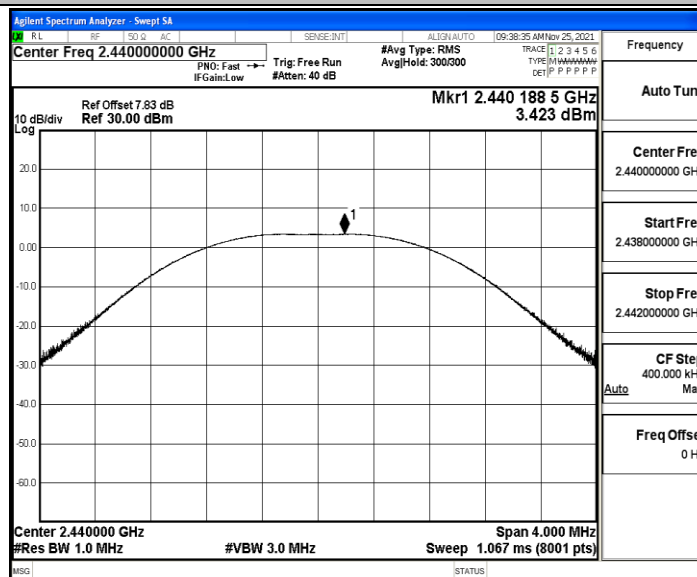


Test Graphs

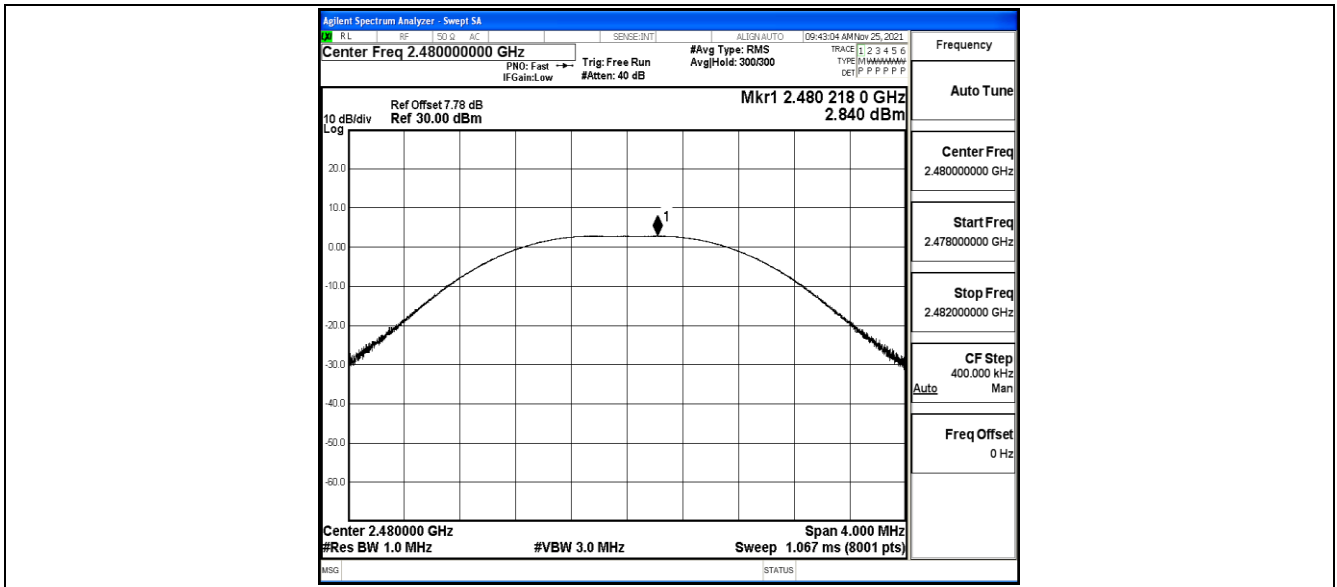
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.3 Maximum power spectral density

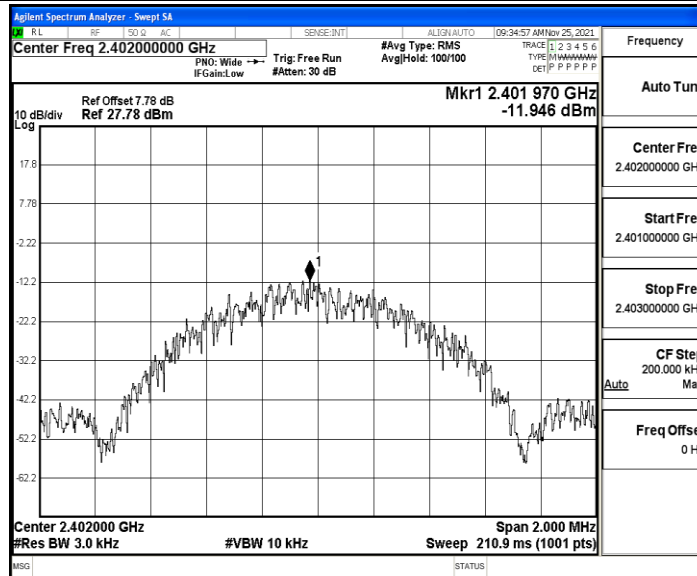
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-11.95	≤ 8	PASS
		2440	-11.57	≤ 8	PASS
		2480	-12.05	≤ 8	PASS

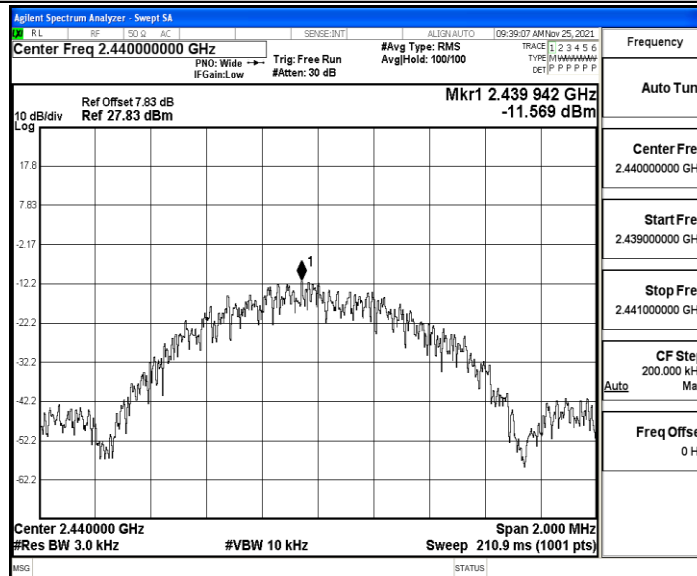


Test Graphs

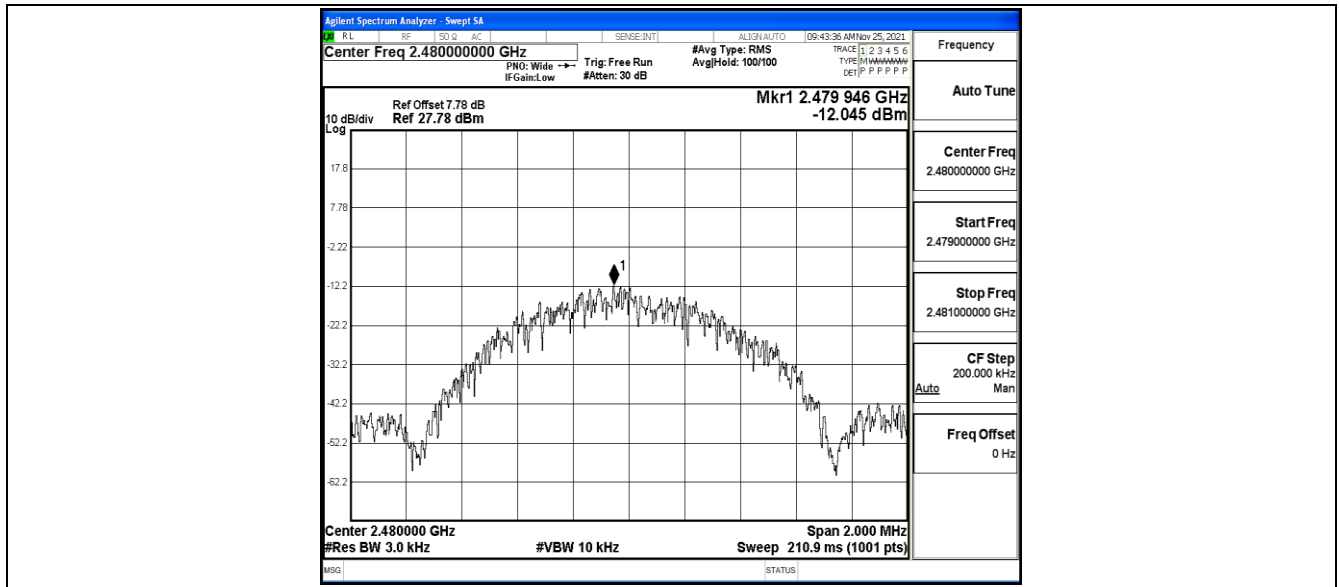
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.4 Band edge measurements

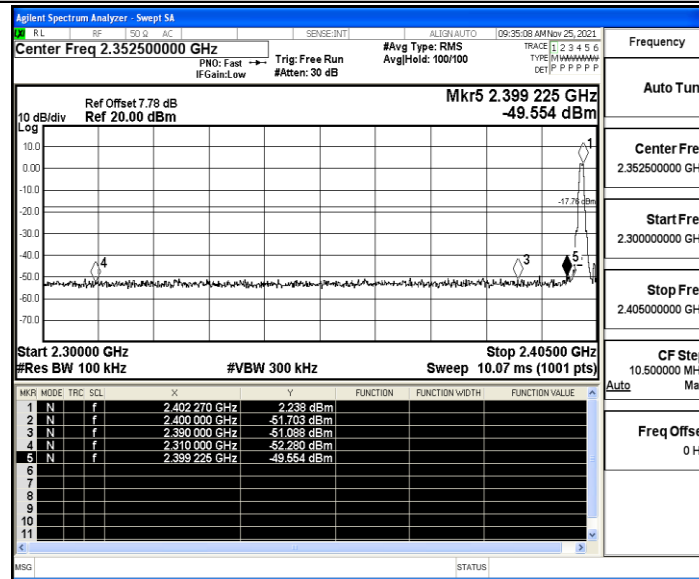
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.24	-49.55	≤ -17.76	PASS
		High	2480	2.69	-43.96	≤ -17.31	PASS

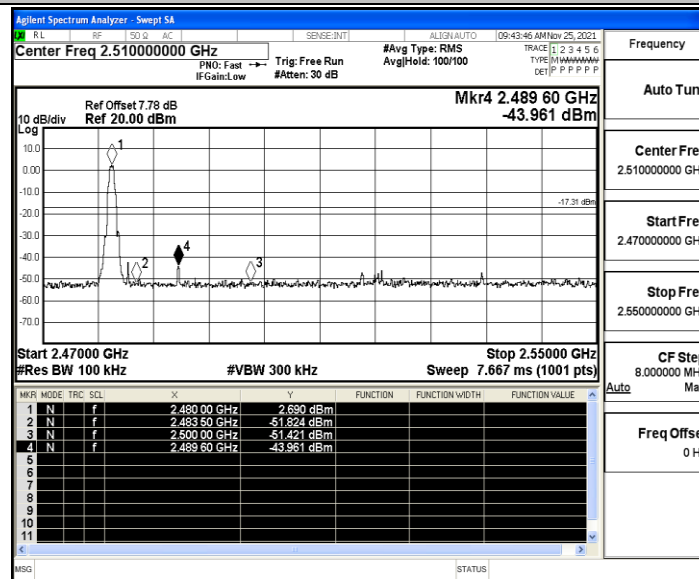


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





A.5 Conducted Spurious Emission

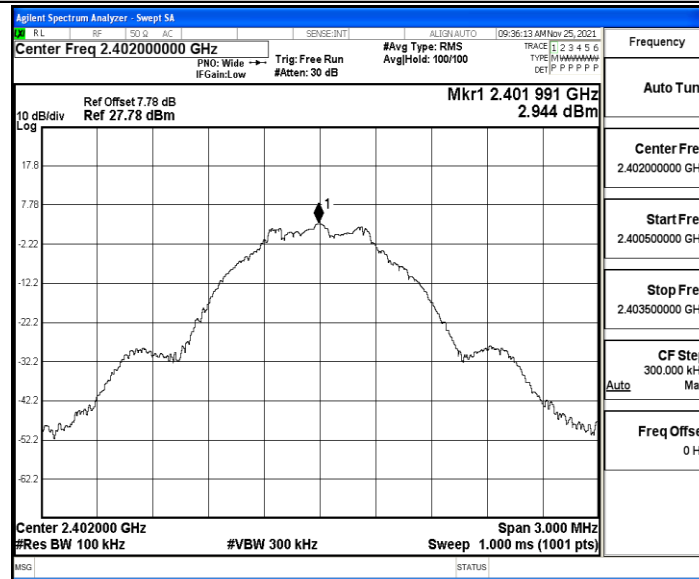
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	2.94	2.94	---	PASS
			30~1000	2.94	-61.61	≤ -17.06	PASS
			1000~26500	2.94	-46.64	≤ -17.06	PASS
		2440	Reference	2.34	2.34	---	PASS
			30~1000	2.34	-61.63	≤ -17.66	PASS
			1000~26500	2.34	-47	≤ -17.66	PASS
		2480	Reference	2.59	2.59	---	PASS
			30~1000	2.59	-61.79	≤ -17.42	PASS
			1000~26500	2.59	-46.89	≤ -17.42	PASS

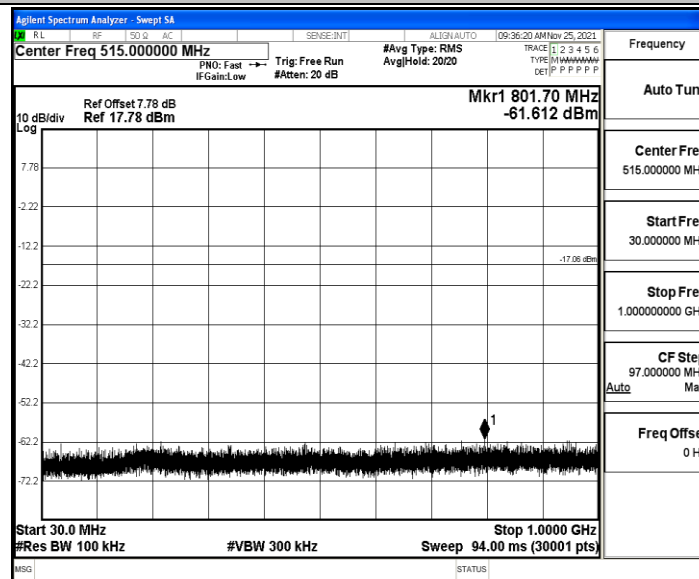


Test Graphs

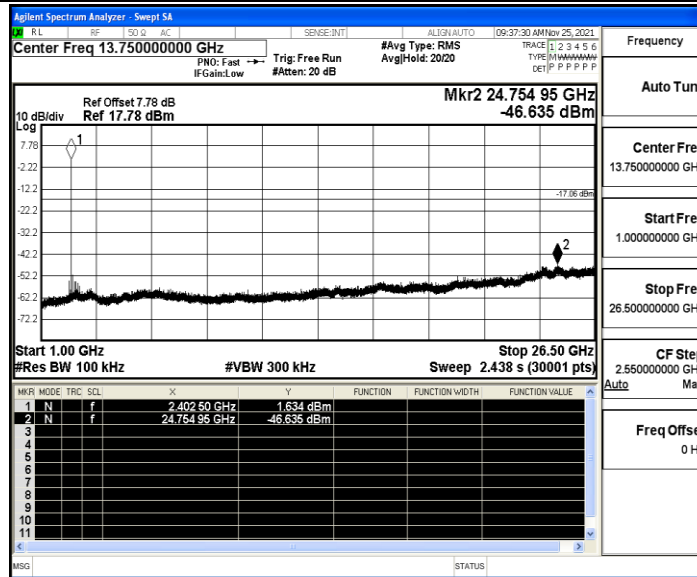
BLE_1M_Ant1_2402_0~Reference



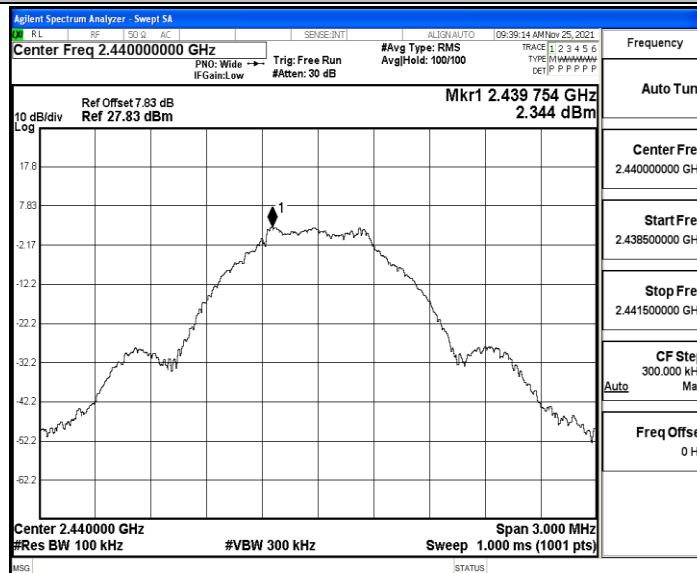
BLE_1M_Ant1_2402_30~1000



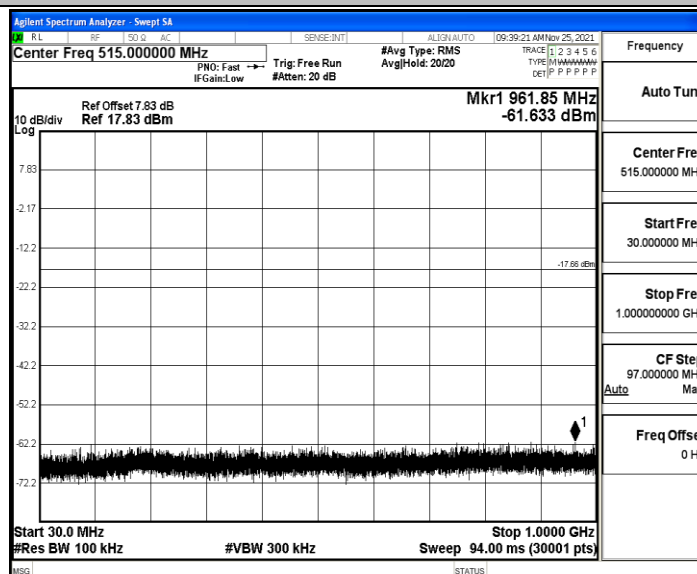
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

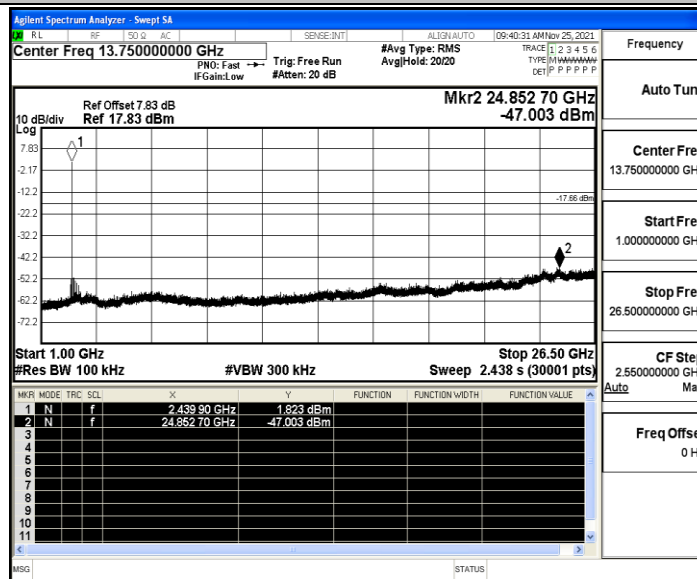


BLE_1M_Ant1_2440_30~1000

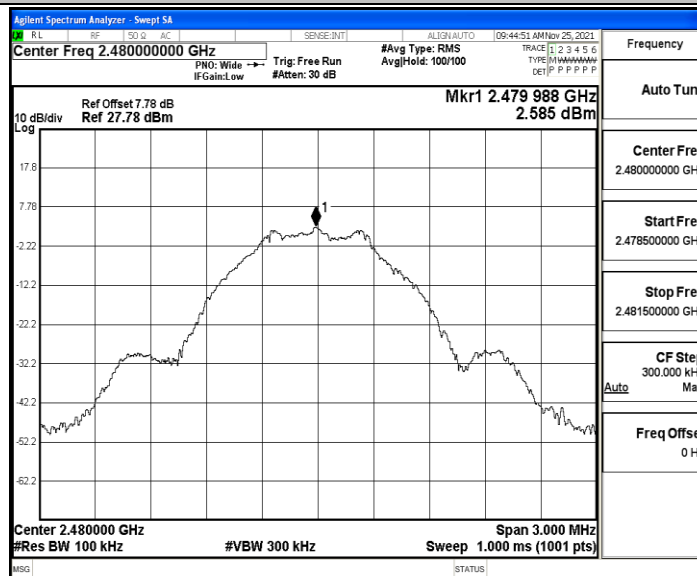




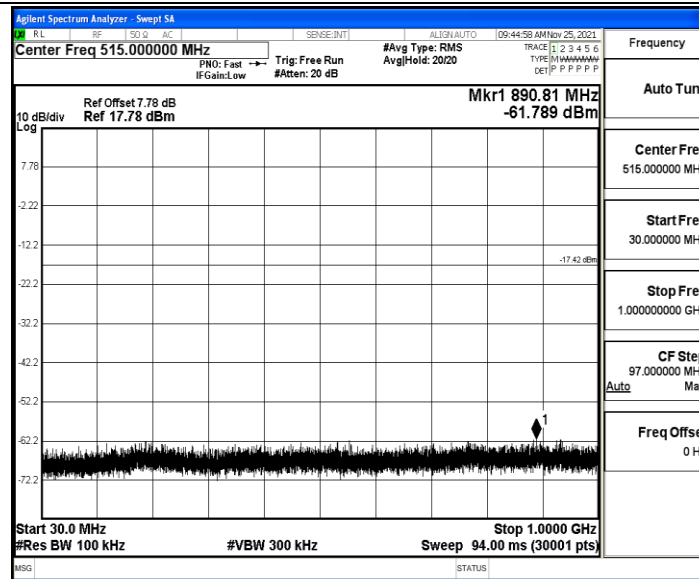
BLE_1M_Ant1_2440_1000~26500



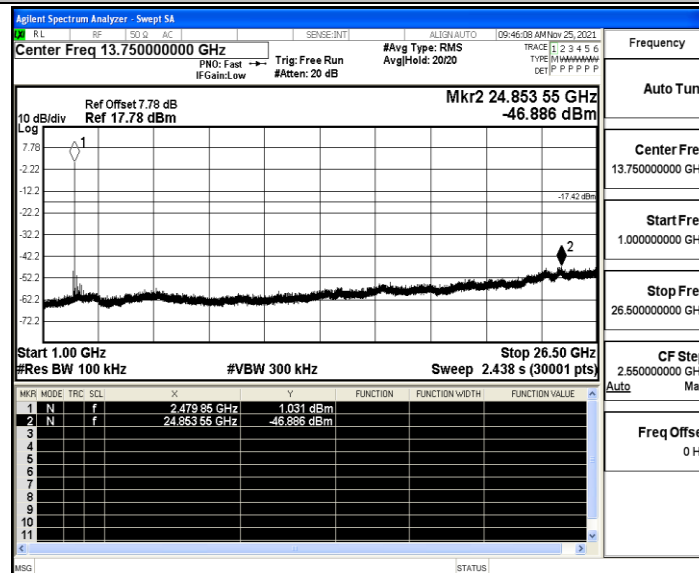
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





A.6 Duty Cycle

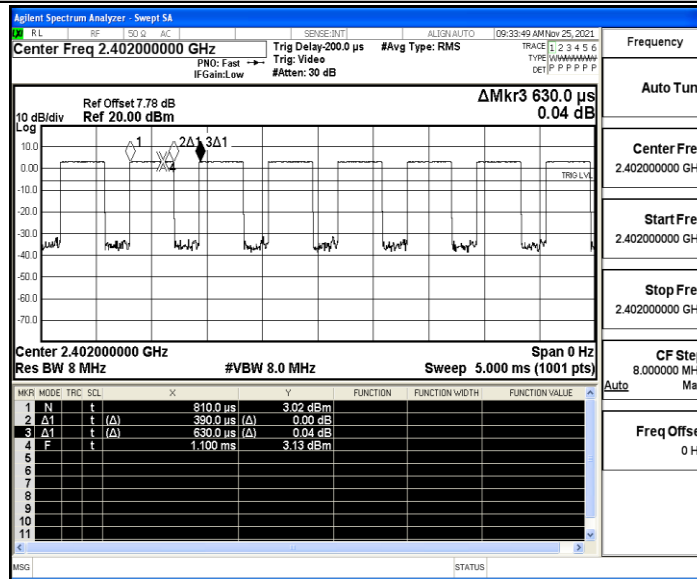
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.39	0.63	0.6190	61.90	2.08	---	PASS
		2440	0.39	0.62	0.6290	62.90	2.01	---	PASS
		2480	0.40	0.63	0.6349	63.49	1.97	---	PASS

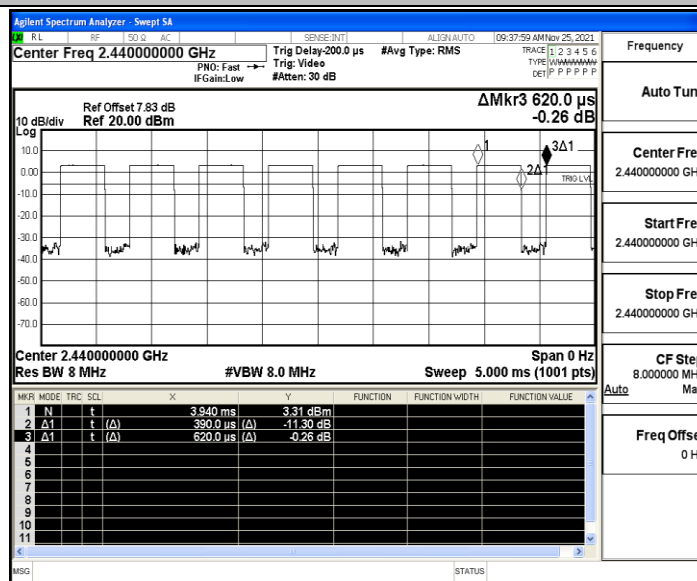


Test Graphs

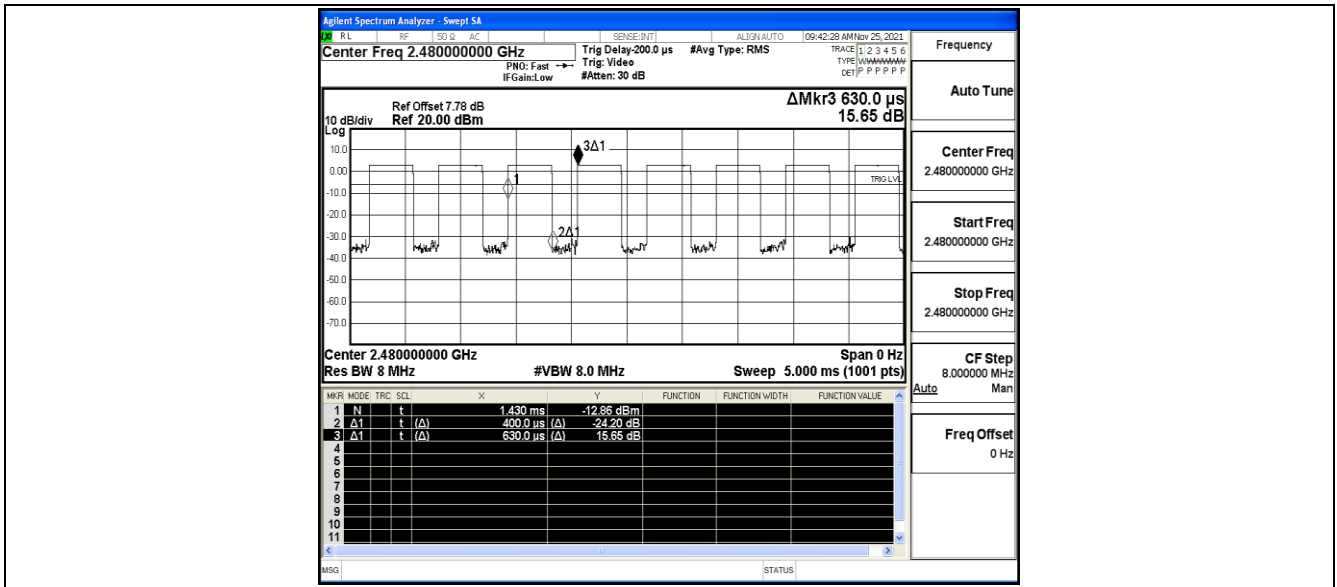
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





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	-48.26	≤-41.20	46.94	≤54	PASS
				AV	2325.200	-47.16	≤-41.20	48.04	≤54	PASS
				AV	2390.000	-48.04	≤-41.20	47.16	≤54	PASS
				Peak	2310.000	-41.69	≤-21.20	53.51	≤74	PASS
				Peak	2371.820	-38.61	≤-21.20	56.59	≤74	PASS
				Peak	2390.000	-40.63	≤-21.20	54.57	≤74	PASS
		High	2480	AV	2483.500	-46.88	≤-41.20	48.32	≤54	PASS
				AV	2489.280	-44.8	≤-41.20	50.40	≤54	PASS
				AV	2500.000	-47.51	≤-41.20	47.69	≤54	PASS
				Peak	2483.500	-42.3	≤-21.20	52.90	≤74	PASS
				Peak	2499.200	-38.41	≤-21.20	56.79	≤74	PASS
				Peak	2500.000	-40.73	≤-21.20	54.47	≤74	PASS

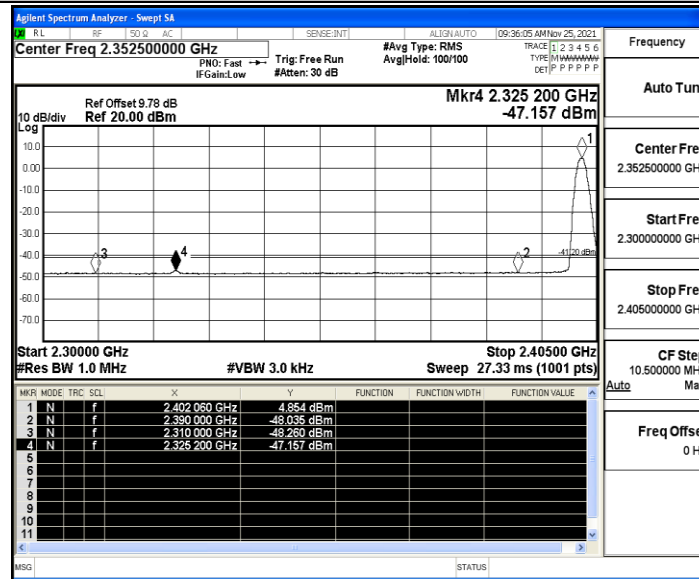
Note:

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.

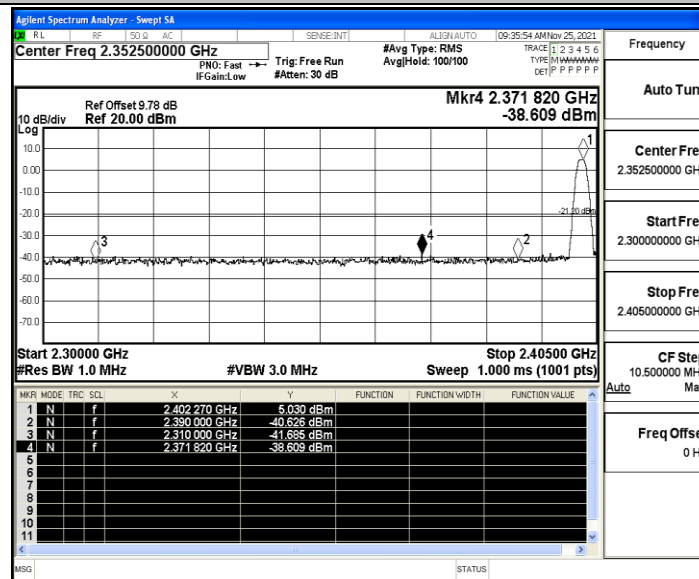


Test Graphs

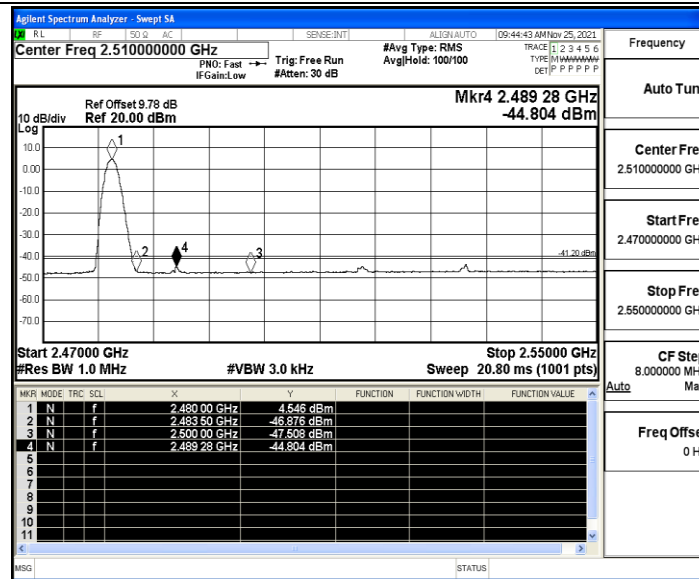
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

