

Appendix A

RF Test Data for BT(BLE) (Conducted Measurement)

Product Name: Real-time data logger

Trade Mark: DeltaTrak

Test Model: FlashLink RTL 22372

FCC ID: 2ATXY-2237X

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	51%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

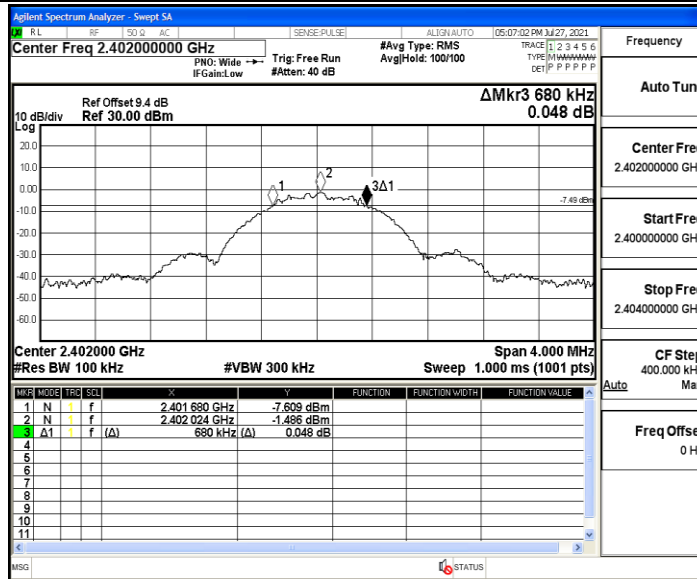
A.1: DTS Bandwidth

Test Result

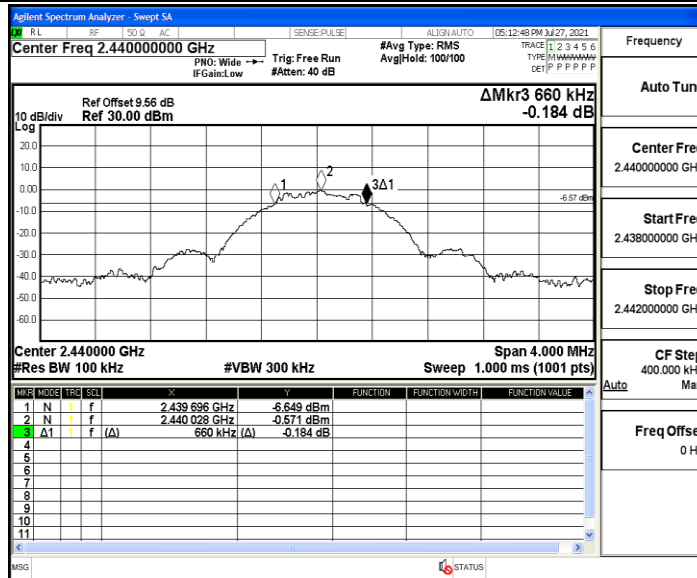
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.680	2401.680	2402.360	0.5	PASS
		2440	0.660	2439.696	2440.356	0.5	PASS
		2480	0.712	2479.684	2480.396	0.5	PASS

Test Graphs

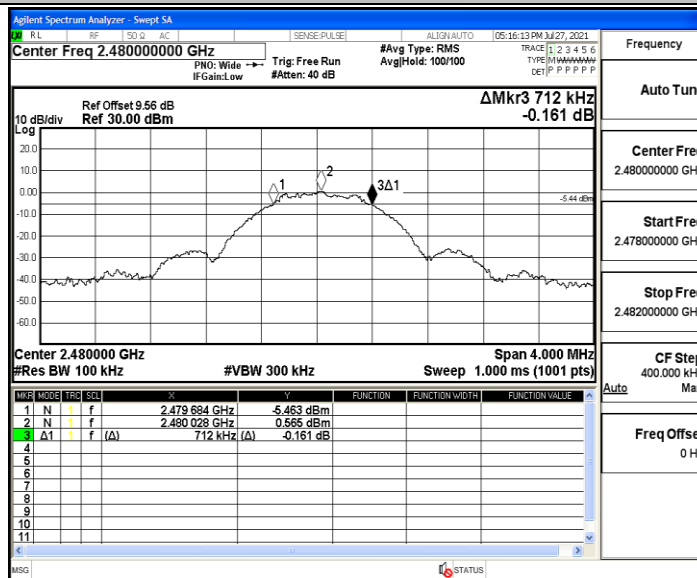
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



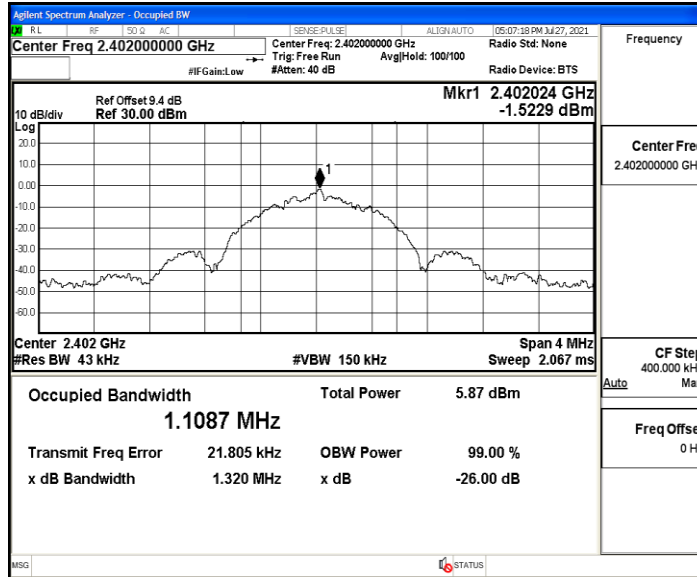
A.2: Occupied Channel Bandwidth

Test Result

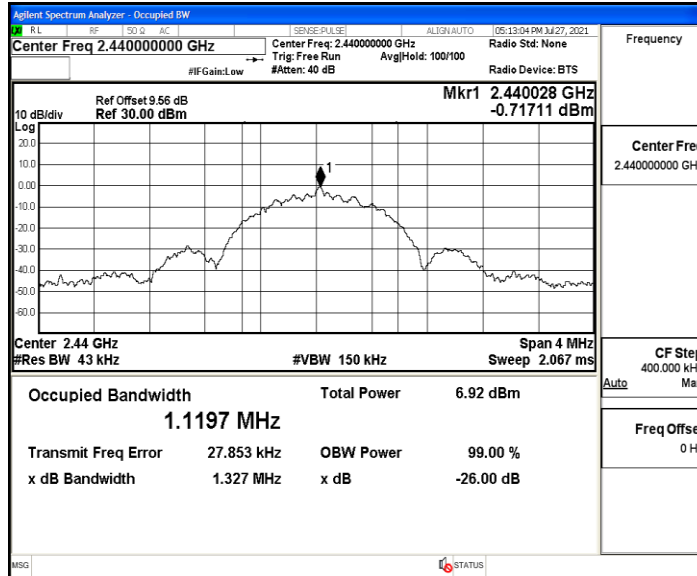
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.1087	2401.467	2402.576	---	PASS
		2440	1.1197	2439.468	2440.588	---	PASS
		2480	1.1092	2479.473	2480.582	---	PASS

Test Graphs

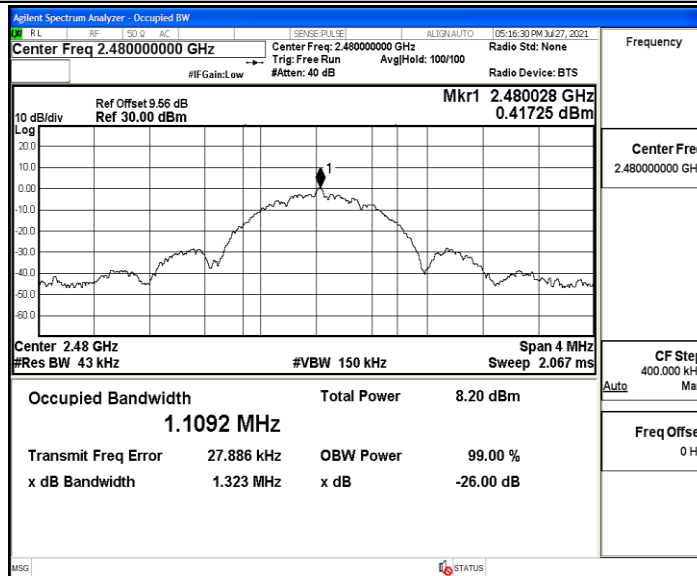
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



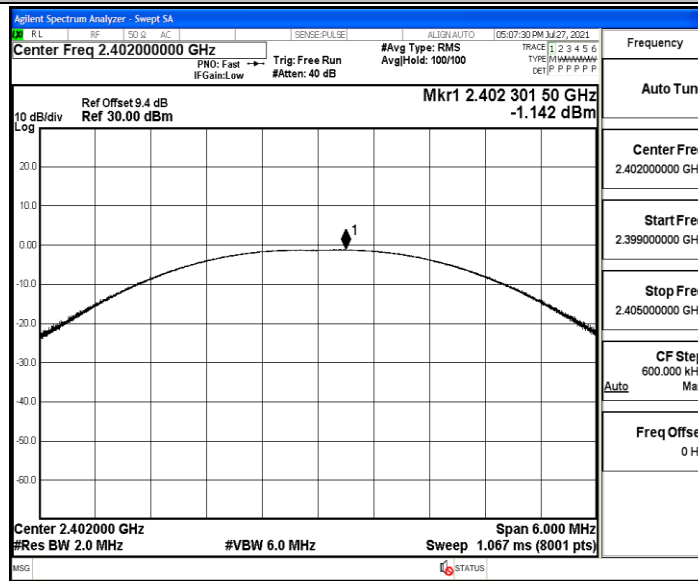
A.3: Maximum conducted output power

Test Result

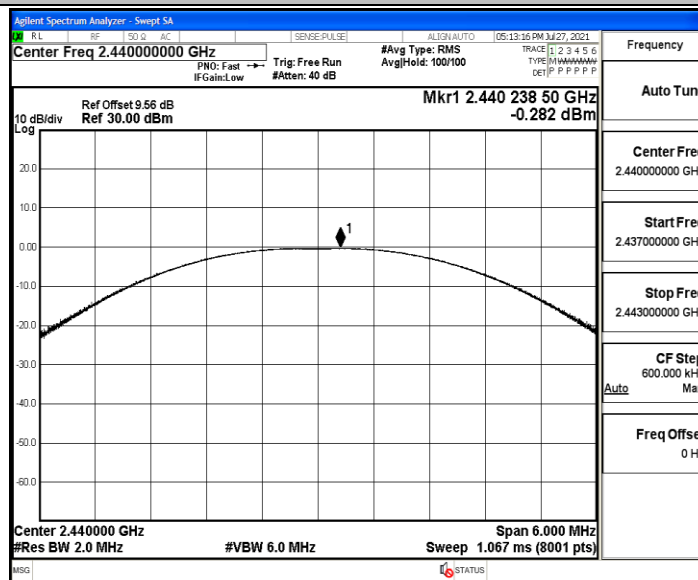
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.14	≤30	PASS
		2440	-0.28	≤30	PASS
		2480	0.81	≤30	PASS

Test Graphs

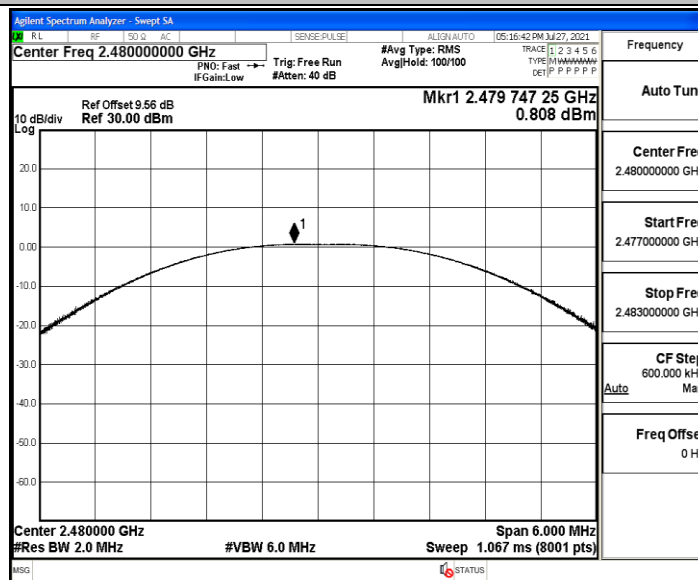
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



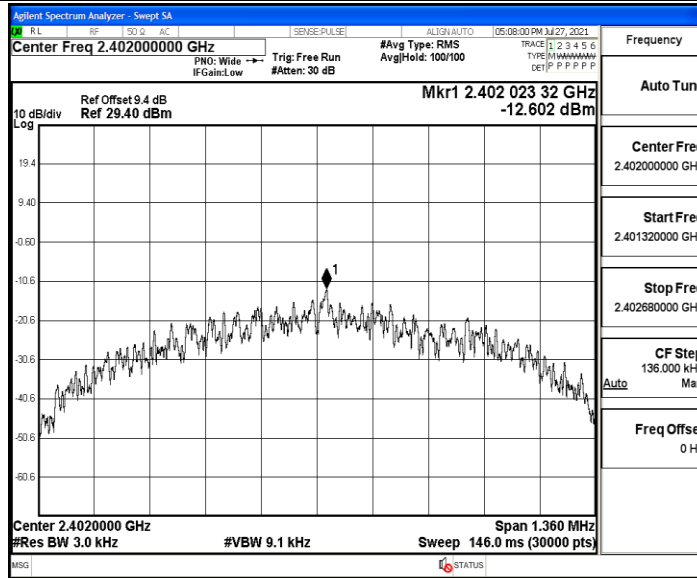
A.4: Maximum power spectral density

Test Result

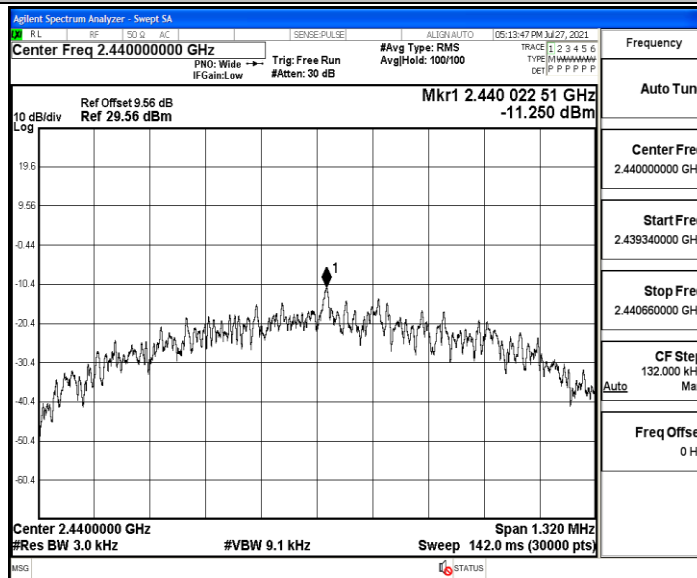
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-12.6	≤8	PASS
		2440	-11.25	≤8	PASS
		2480	-10.76	≤8	PASS

Test Graphs

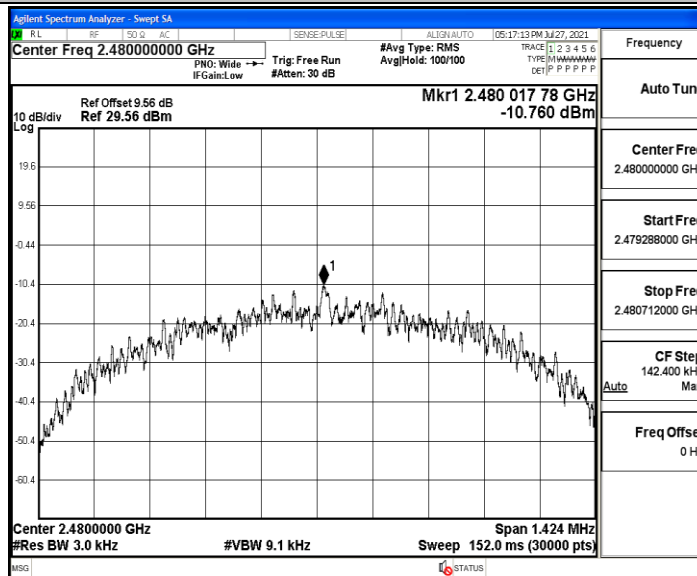
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



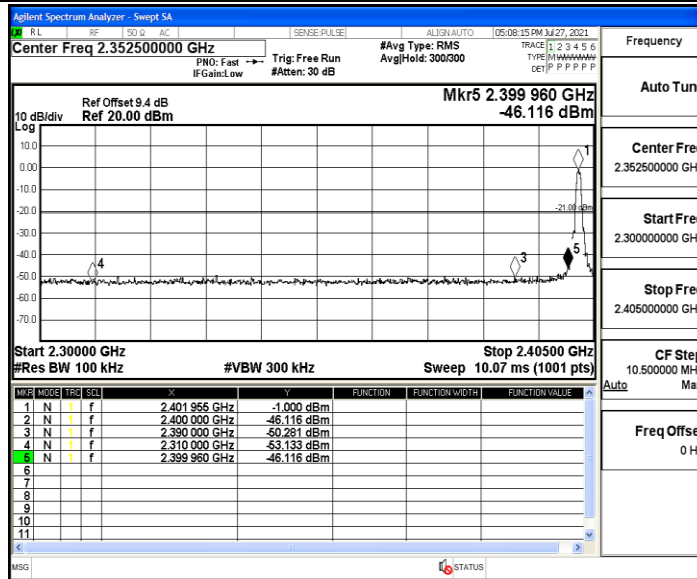
A.5: Band edge measurements

Test Result

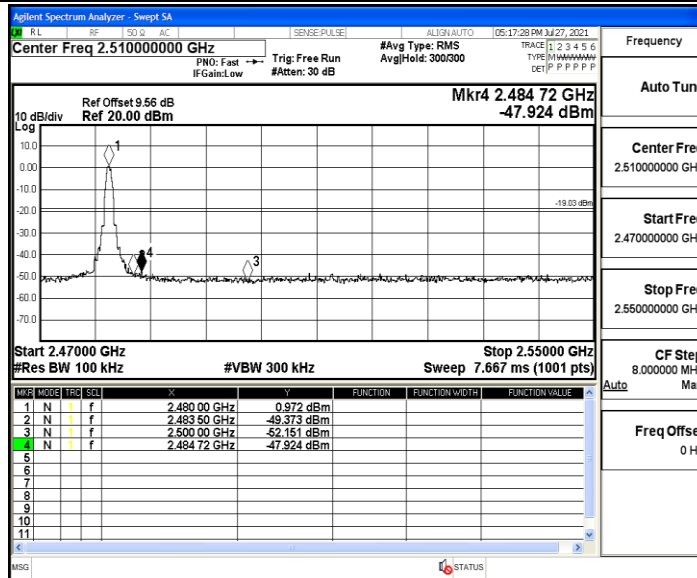
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.00	-46.12	≤-21	PASS
		High	2480	0.97	-47.92	≤-19.03	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



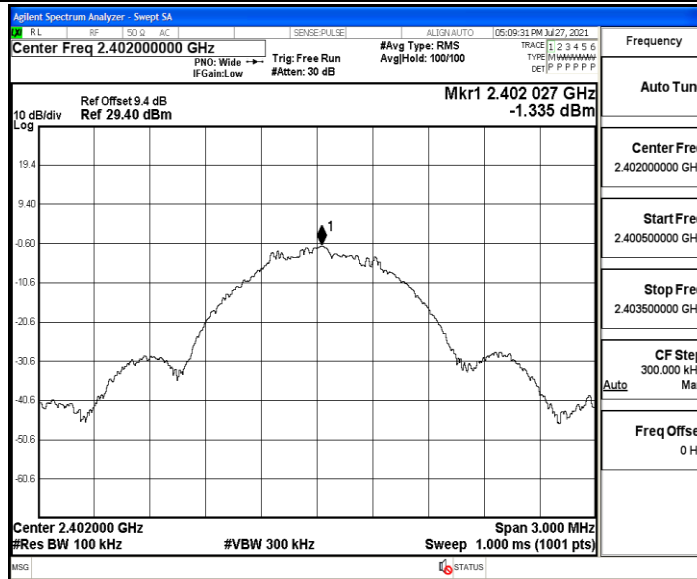
A.6: Conducted Spurious Emission

Test Result

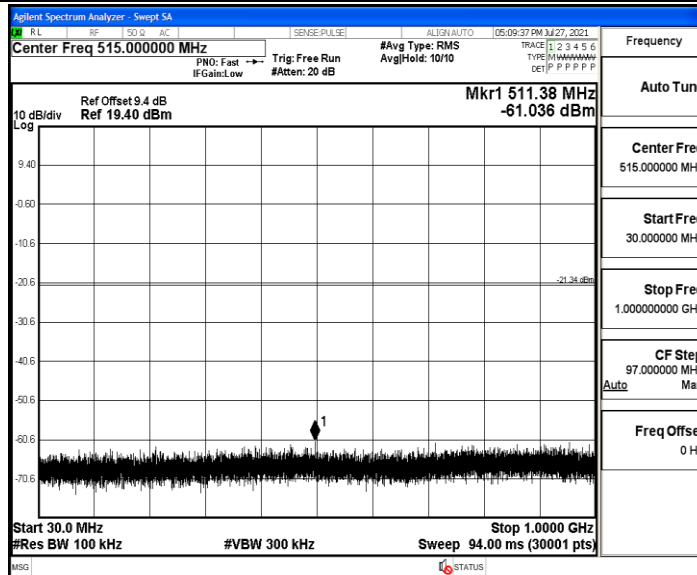
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.34	-1.34	---	PASS
			30~1000	-1.34	-61.04	≤-21.34	PASS
			1000~26500	-1.34	-26.06	≤-21.34	PASS
		2440	Reference	-0.46	-0.46	---	PASS
			30~1000	-0.46	-61.1	≤-20.46	PASS
			1000~26500	-0.46	-24.83	≤-20.46	PASS
		2480	Reference	0.65	0.65	---	PASS
			30~1000	0.65	-61.01	≤-19.35	PASS
			1000~26500	0.65	-24.49	≤-19.35	PASS

Test Graphs

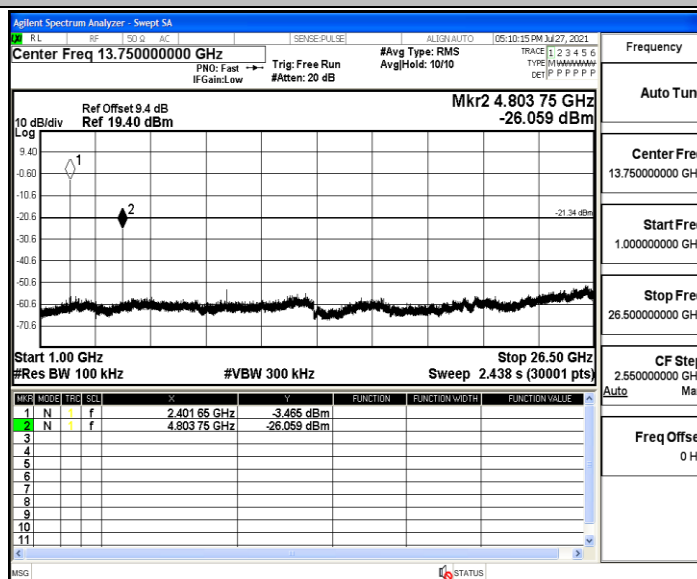
BLE_1M_Ant1_2402_0~Reference



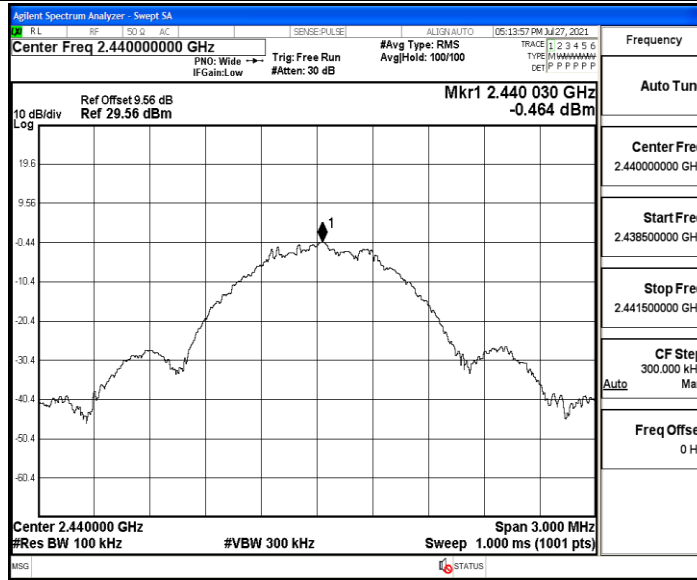
BLE_1M_Ant1_2402_30~1000



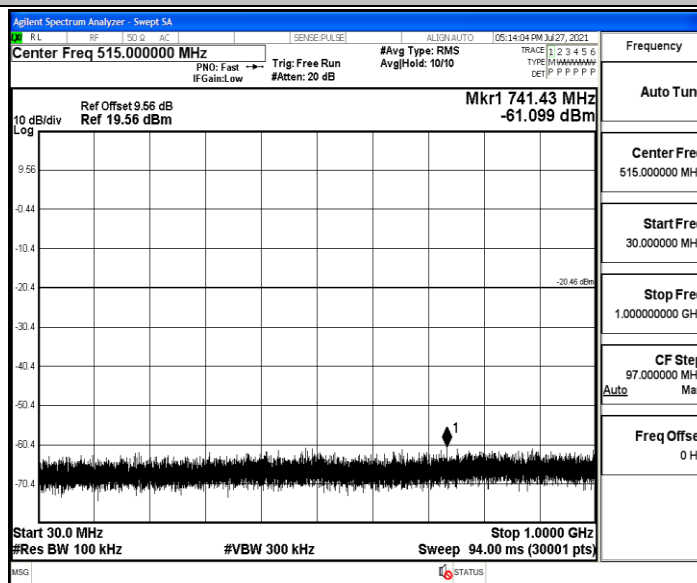
BLE_1M_Ant1_2402_1000~26500



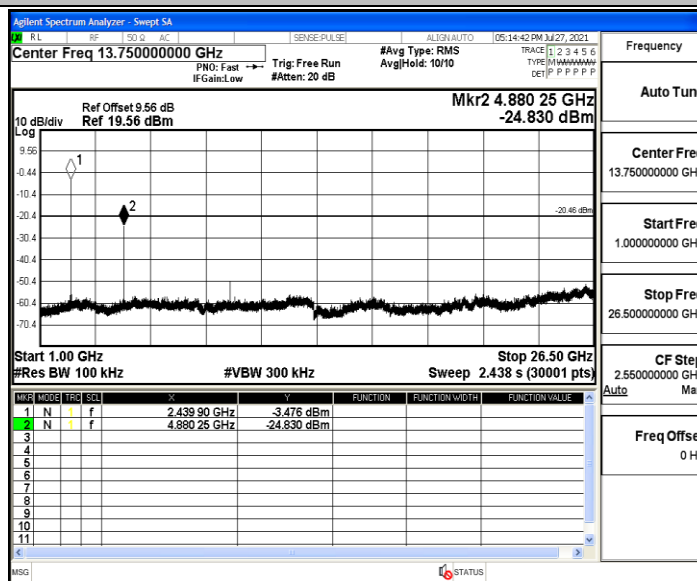
BLE_1M_Ant1_2440_0~Reference



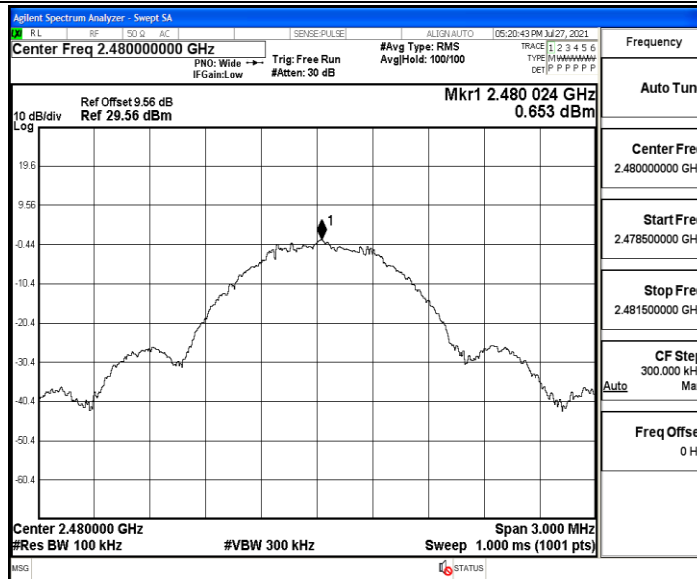
BLE_1M_Ant1_2440_30~1000



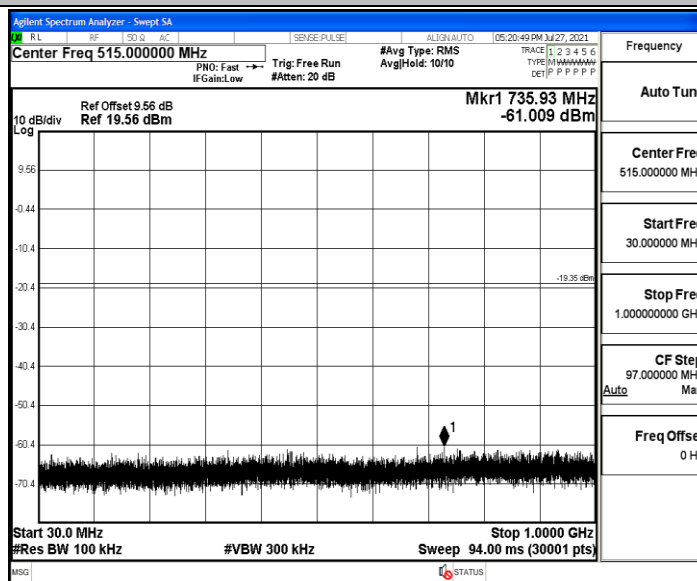
BLE_1M_Ant1_2440_1000~26500



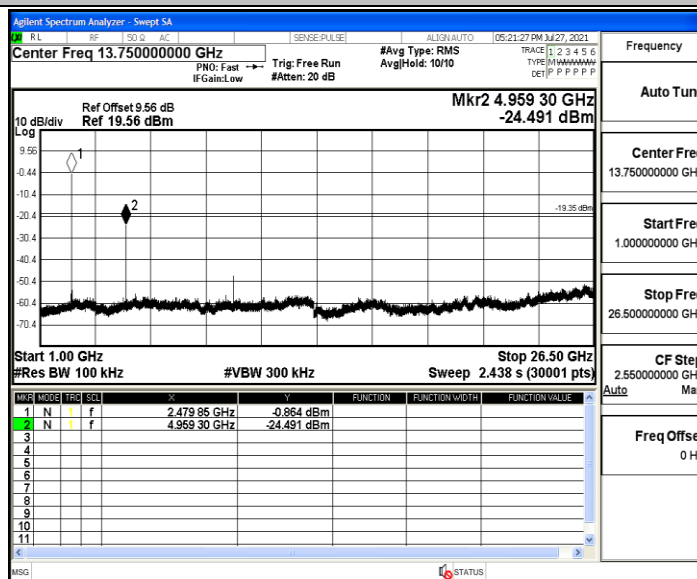
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



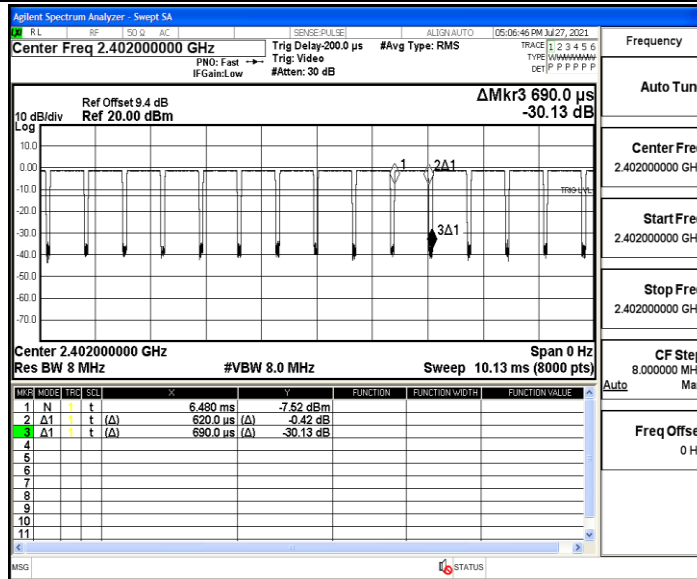
A.7: Duty Cycle

Test Result

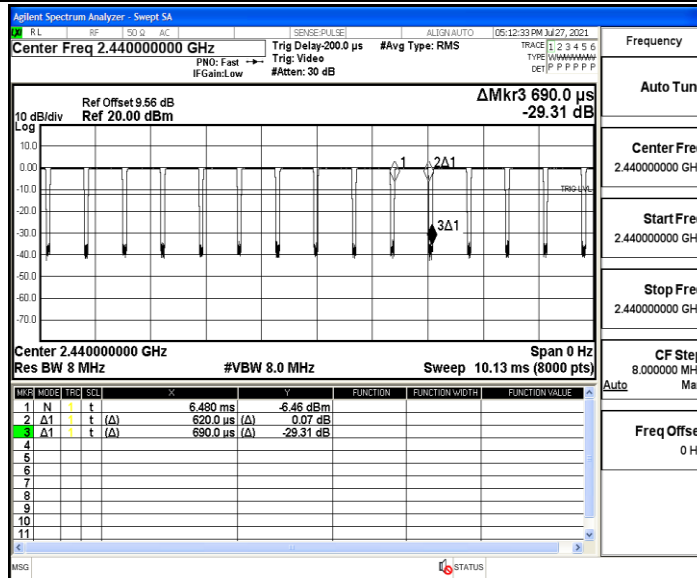
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_1M	Ant1	2402	0.62	0.69	89.86
		2440	0.62	0.69	89.86
		2480	0.63	0.70	90.00

Test Graphs

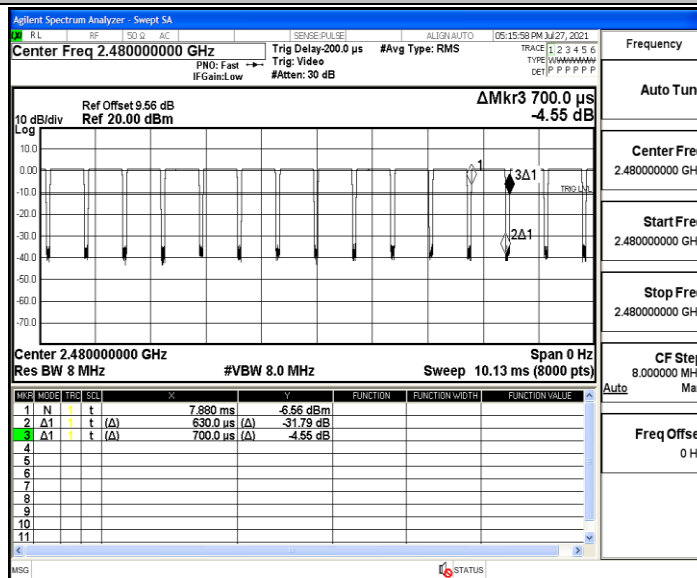
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



A.8: Emissions in Restricted Bands

Test Result

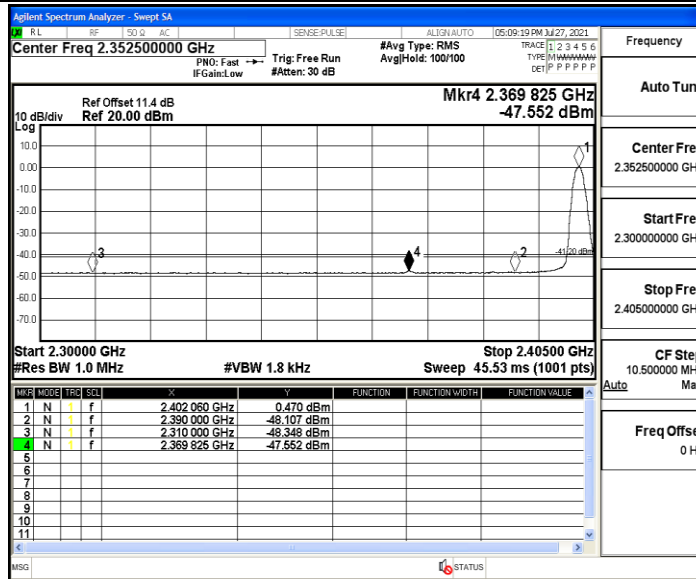
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.35	≤-41.20	PASS
				AV	2369.825	-47.55	≤-41.20	PASS
				AV	2390.000	-48.11	≤-41.20	PASS
				Peak	2310.000	-39.51	≤-21.20	PASS
				Peak	2370.035	-38.73	≤-21.20	PASS
				Peak	2390.000	-41.79	≤-21.20	PASS
		High	2480	AV	2483.500	-44.4	≤-41.20	PASS
				AV	2483.520	-44.4	≤-41.20	PASS
				AV	2500.000	-47.61	≤-41.20	PASS
				Peak	2483.500	-36.58	≤-21.20	PASS
				Peak	2483.520	-36.58	≤-21.20	PASS
				Peak	2500.000	-39.84	≤-21.20	PASS

Note:

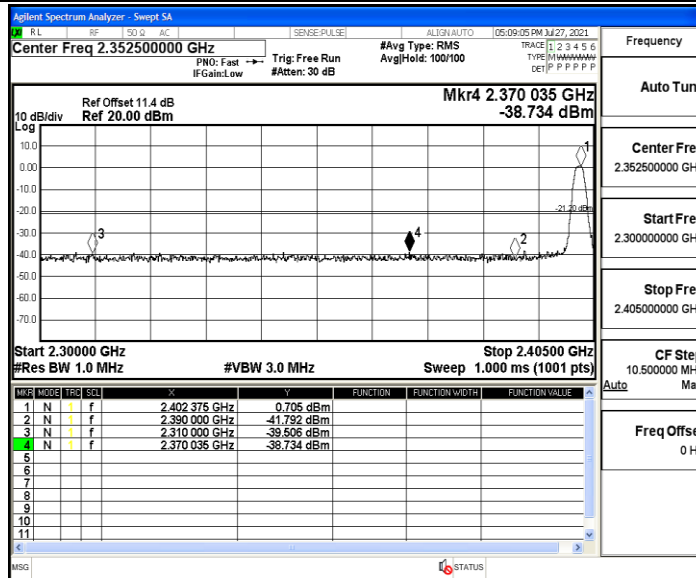
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

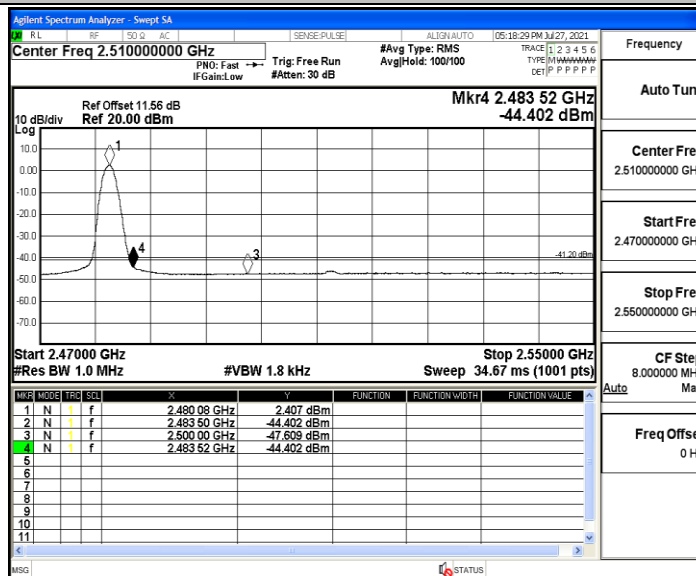
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

