Appendix Test Data

Report No.:	18220WC10161101	Test Date:	2021.7.22
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	24.3℃	Relative Humidity:	57 %
Pressure:	1012 hPa		

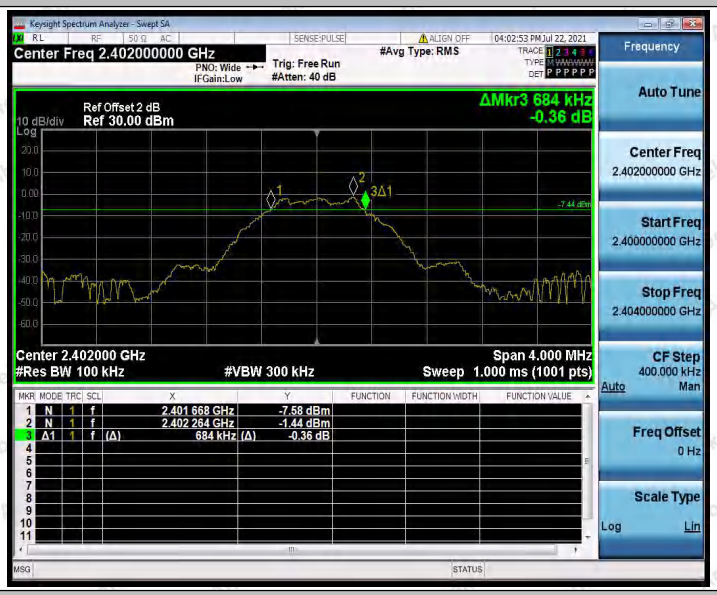
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.684	2401.668	2402.352	>=0.5	PASS
		2440	0.712	2439.660	2440.372	>=0.5	PASS
		2480	0.704	2479.652	2480.356	>=0.5	PASS
BLE_2M	Ant1	2402	1.192	2401.416	2402.608	>=0.5	PASS
		2440	1.156	2439.416	2440.572	>=0.5	PASS
		2480	1.180	2479.432	2480.612	>=0.5	PASS

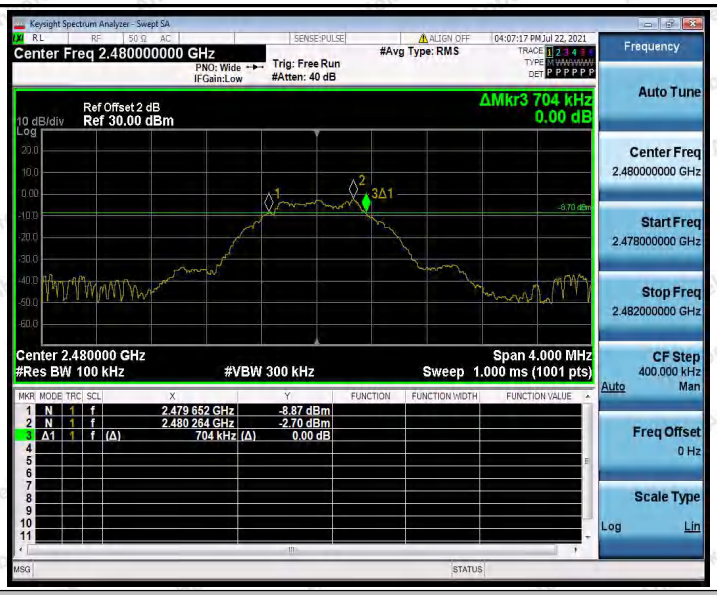
Test Graphs

BLE_1M_Ant1_2402

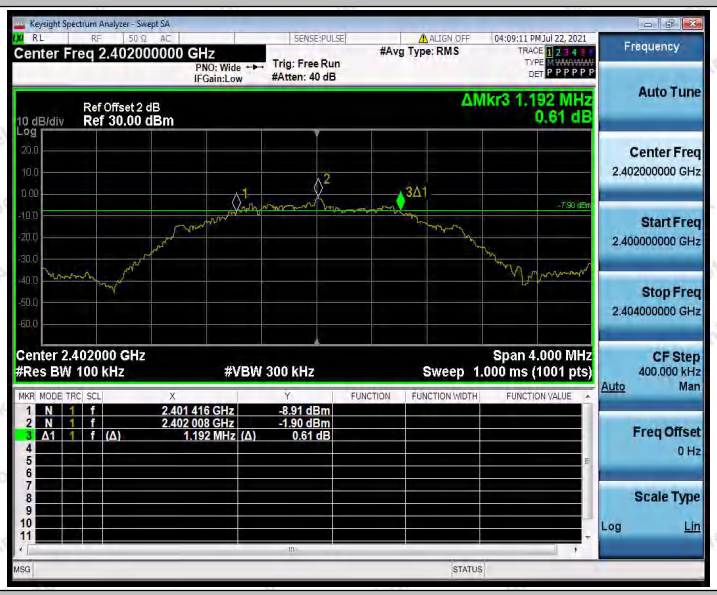


BLE_1M_Ant1_2440

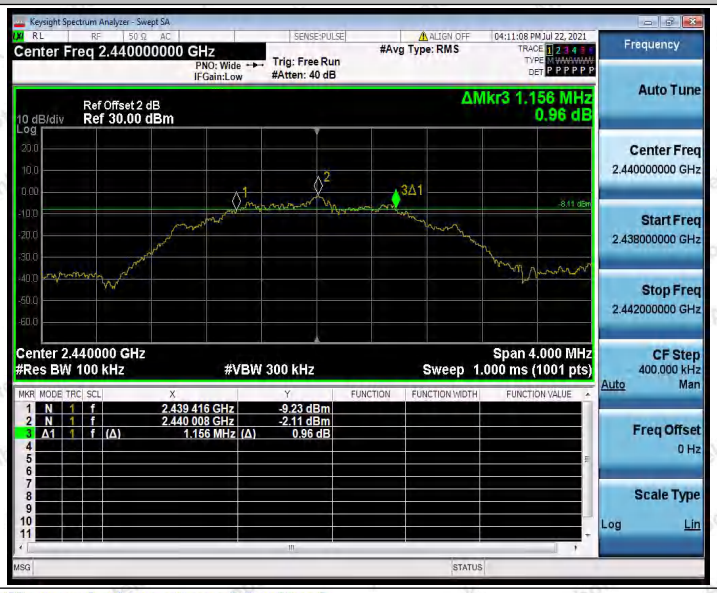
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0494	2401.488	2402.537	---	PASS
		2440	1.0433	2439.494	2440.537	---	PASS
		2480	1.0543	2479.489	2480.543	---	PASS
BLE_2M	Ant1	2402	2.0616	2400.994	2403.056	---	PASS
		2440	2.0605	2438.992	2441.052	---	PASS
		2480	2.0790	2478.981	2481.060	---	PASS

Test Graphs

BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

BLE_1M_Ant1_2480

BLE_2M_Ant1_2402

BLE_2M_Ant1_2440

BLE_2M_Ant1_2480

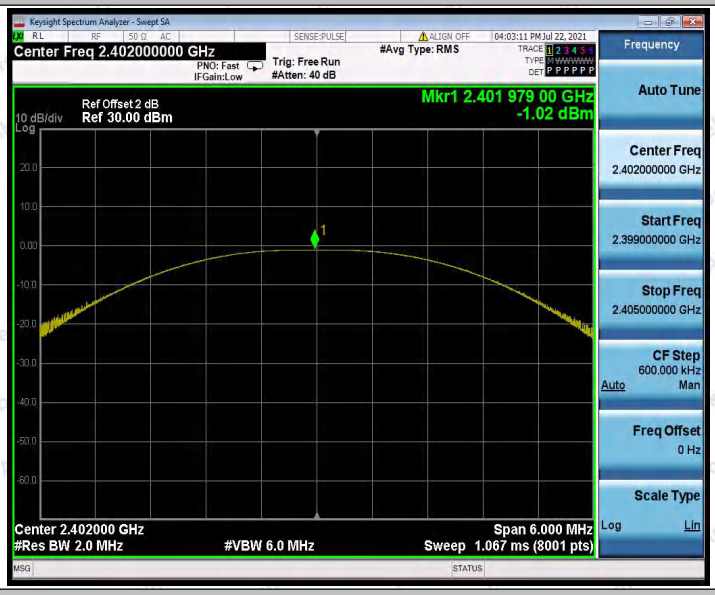
Appendix C: Maximum conducted output power

Test Result

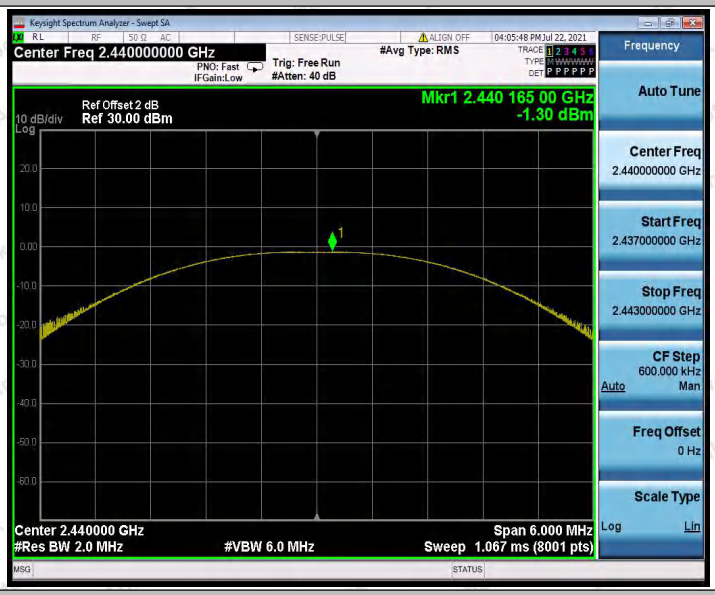
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.02	<=30	PASS
		2440	-1.3	<=30	PASS
		2480	-2.24	<=30	PASS
BLE_2M	Ant1	2402	-1.04	<=30	PASS
		2440	-1.33	<=30	PASS
		2480	-2.29	<=30	PASS

Test Graphs

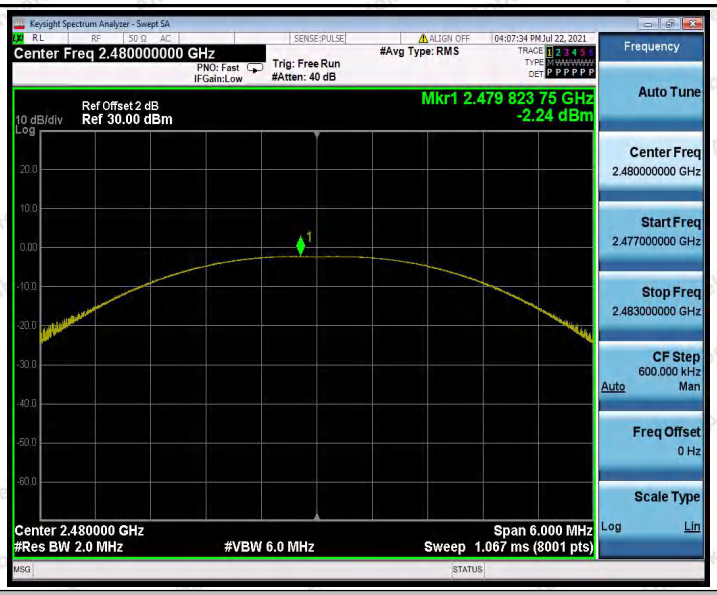
BLE_1M_Ant1_2402



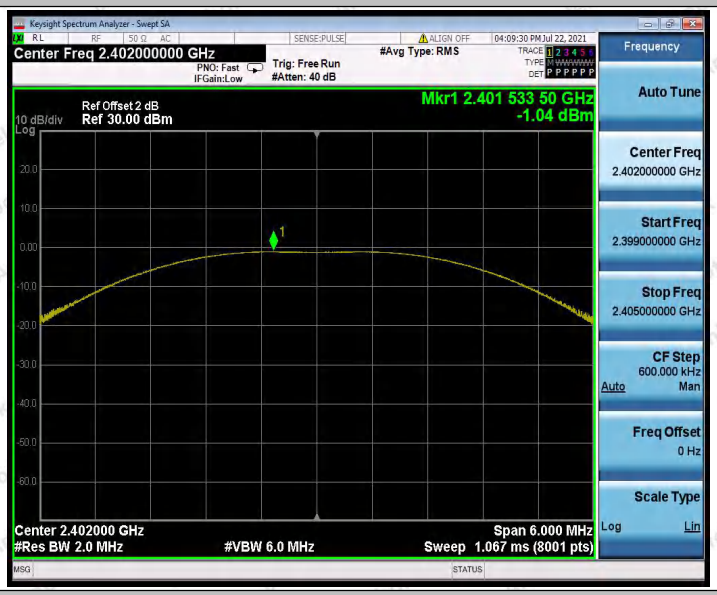
BLE_1M_Ant1_2440



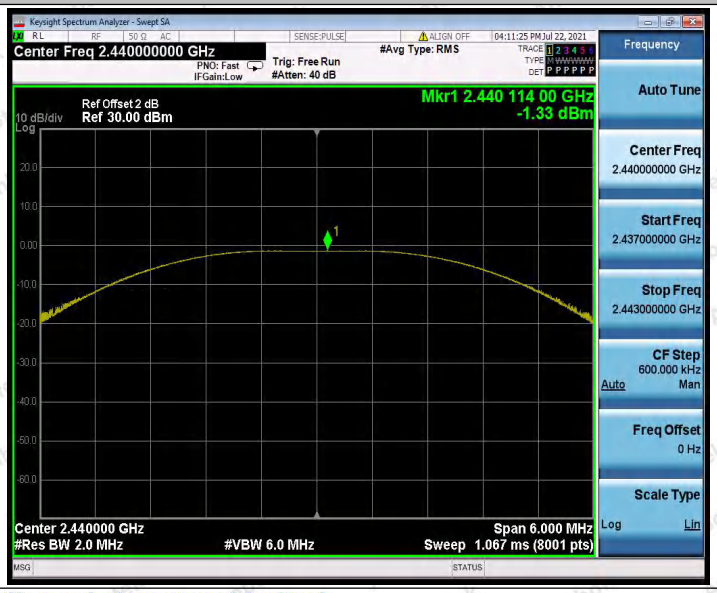
BLE_1M_Ant1_2480



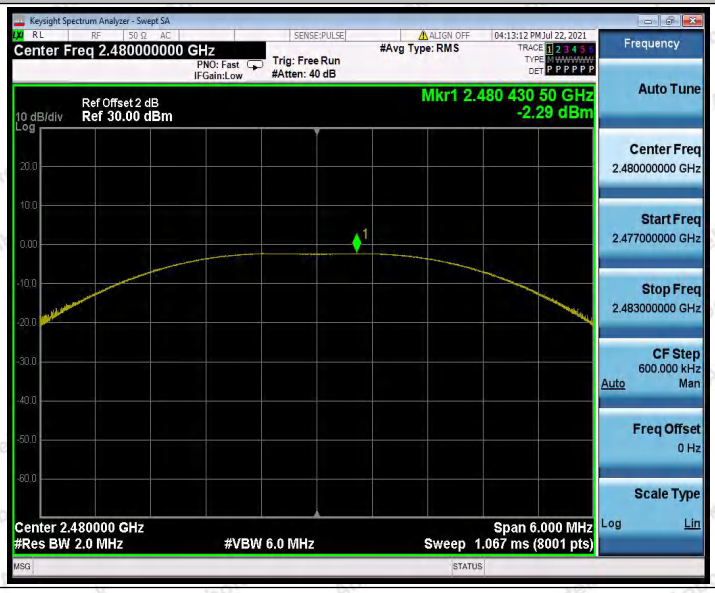
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/10kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.37	<=8	PASS
		2440	-10.61	<=8	PASS
		2480	-11.60	<=8	PASS
BLE_2M	Ant1	2402	-13.34	<=8	PASS
		2440	-13.86	<=8	PASS
		2480	-14.35	<=8	PASS

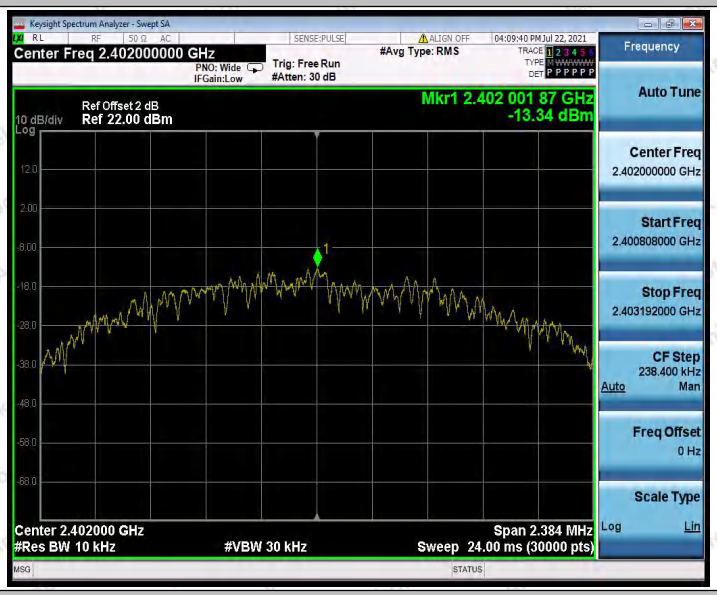
Test Graphs

BLE_1M_Ant1_2402

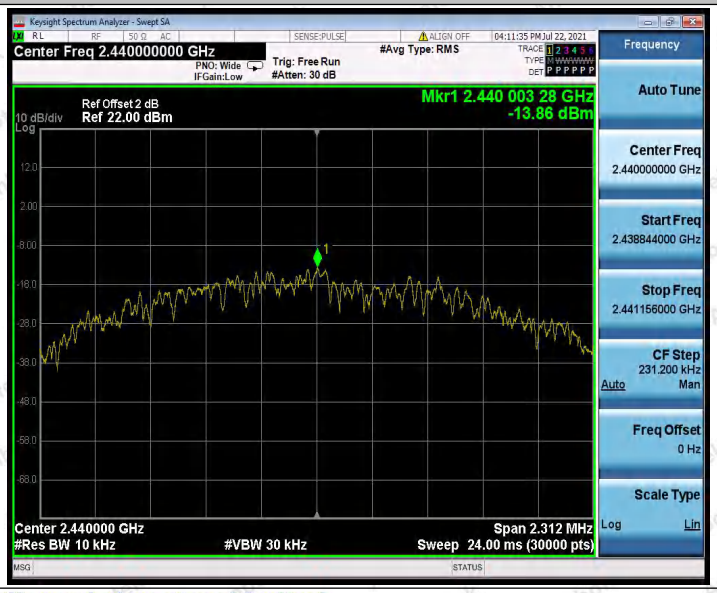
BLE_1M_Ant1_2440

BLE_1M_Ant1_2480

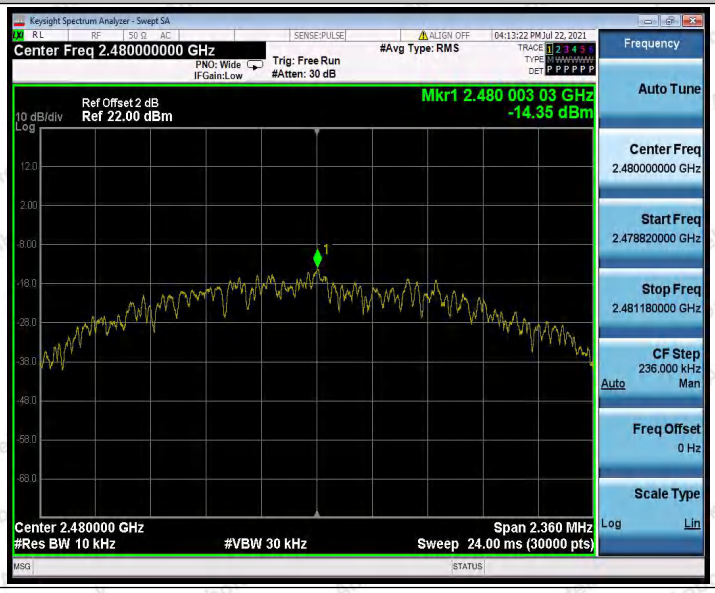
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



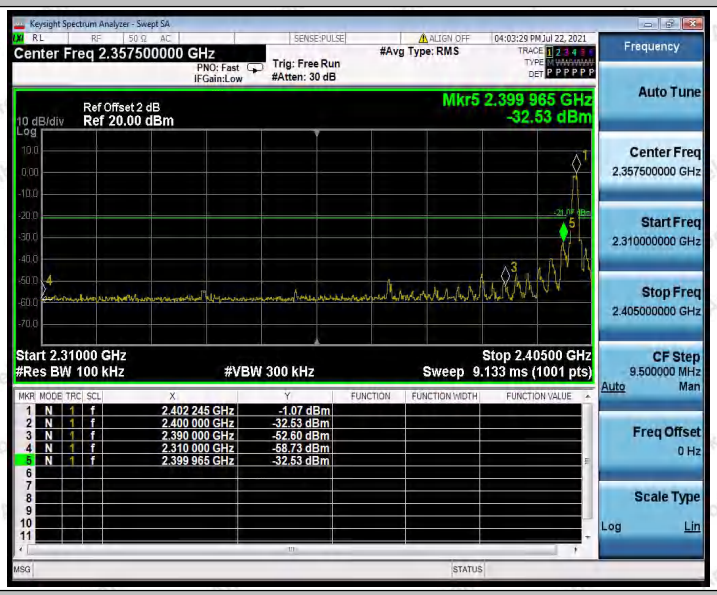
Appendix E: Band edge measurements

Test Result

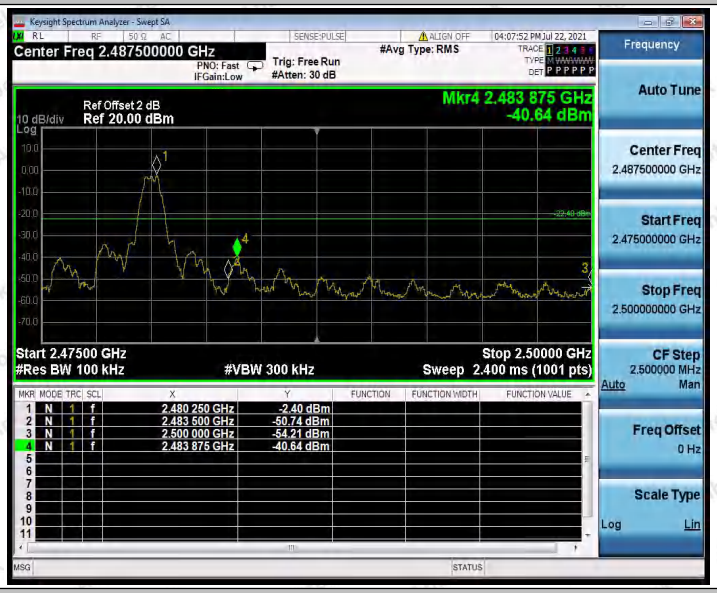
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.07	-32.53	<=-21.07	PASS
		High	2480	-2.40	-40.64	<=-22.4	PASS
BLE_2M	Ant1	Low	2402	-1.82	-32.69	<=-21.82	PASS
		High	2480	-2.88	-41.4	<=-22.88	PASS

Test Graphs

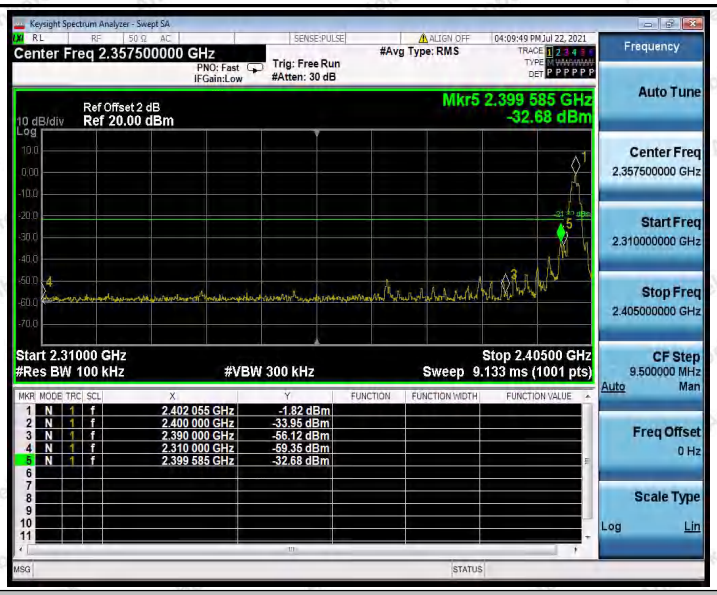
BLE_1M_Ant1_Low_2402



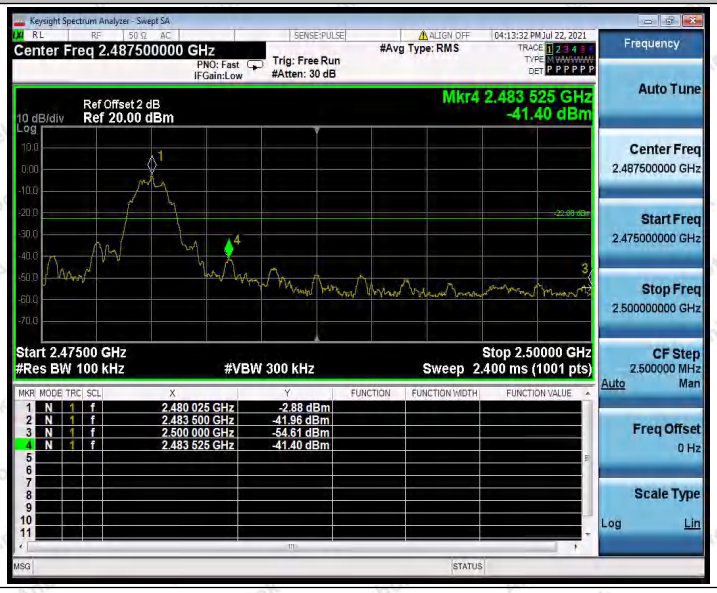
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



Appendix F: Conducted Spurious Emission

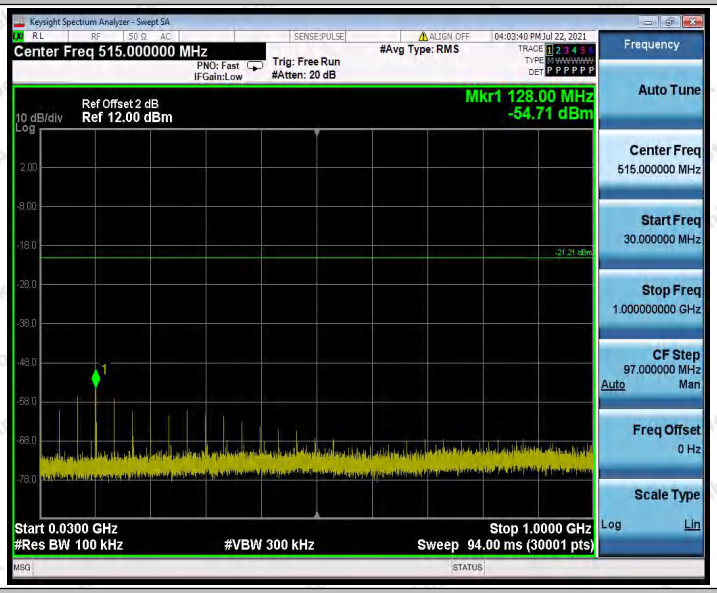
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.21	-1.21	---	PASS
			30~1000	-1.21	-54.71	<=-21.21	PASS
			1000~26500	-1.21	-52.58	<=-21.21	PASS
		2440	Reference	-1.47	-1.47	---	PASS
			30~1000	-1.47	-55.05	<=-21.47	PASS
			1000~26500	-1.47	-52.52	<=-21.47	PASS
		2480	Reference	-2.51	-2.51	---	PASS
			30~1000	-2.51	-54.98	<=-22.51	PASS
			1000~26500	-2.51	-47.37	<=-22.51	PASS
BLE_2M	Ant1	2402	Reference	-1.77	-1.77	---	PASS
			30~1000	-1.77	-54.69	<=-21.77	PASS
			1000~26500	-1.77	-47.84	<=-21.77	PASS
		2440	Reference	-2.02	-2.02	---	PASS
			30~1000	-2.02	-54.41	<=-22.02	PASS
			1000~26500	-2.02	-47.34	<=-22.02	PASS
		2480	Reference	-2.94	-2.94	---	PASS
			30~1000	-2.94	-54.89	<=-22.94	PASS
			1000~26500	-2.94	-47	<=-22.94	PASS

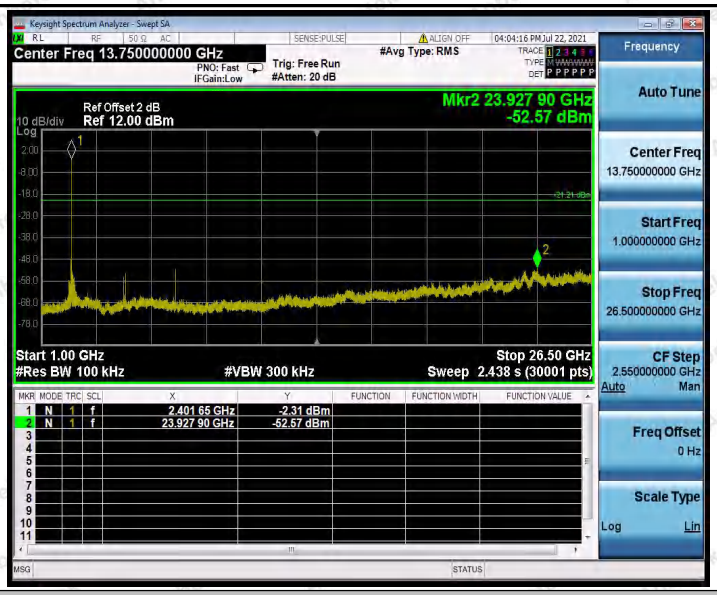
Test Graphs

BLE_1M_Ant1_2402_0~Reference

BLE_1M_Ant1_2402_30~1000

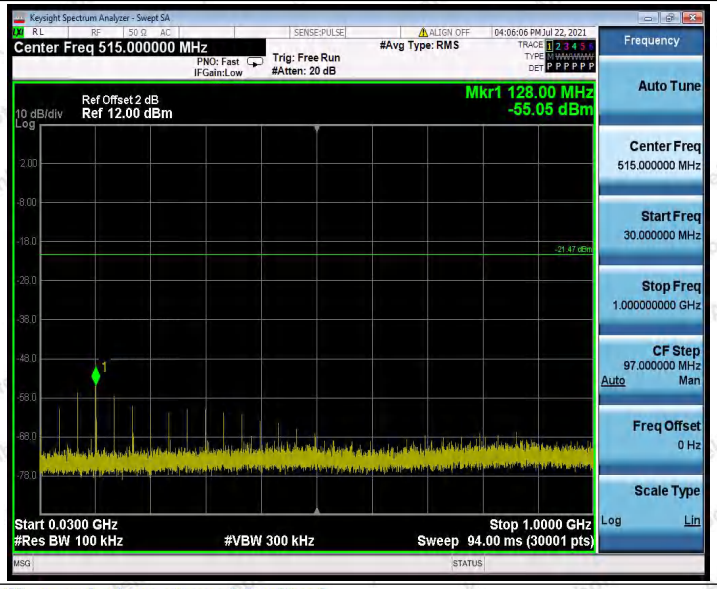


BLE_1M_Ant1_2402_1000~26500

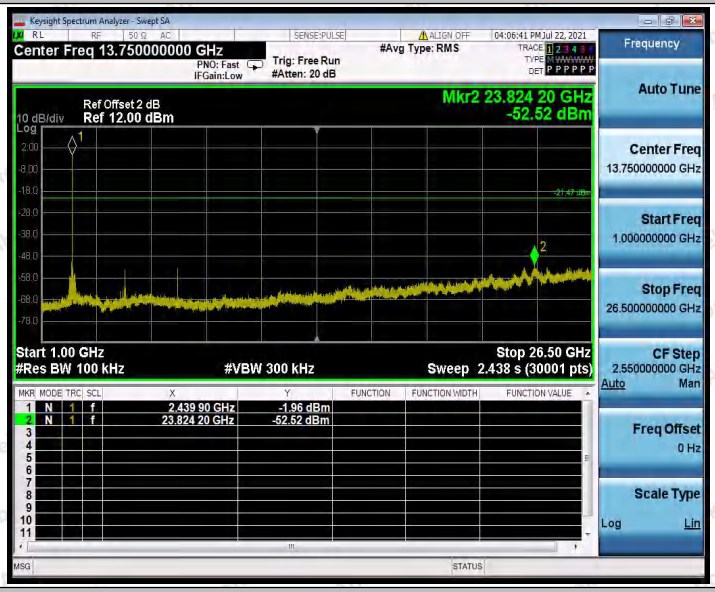


BLE_1M_Ant1_2440_0~Reference

BLE_1M_Ant1_2440_30~1000

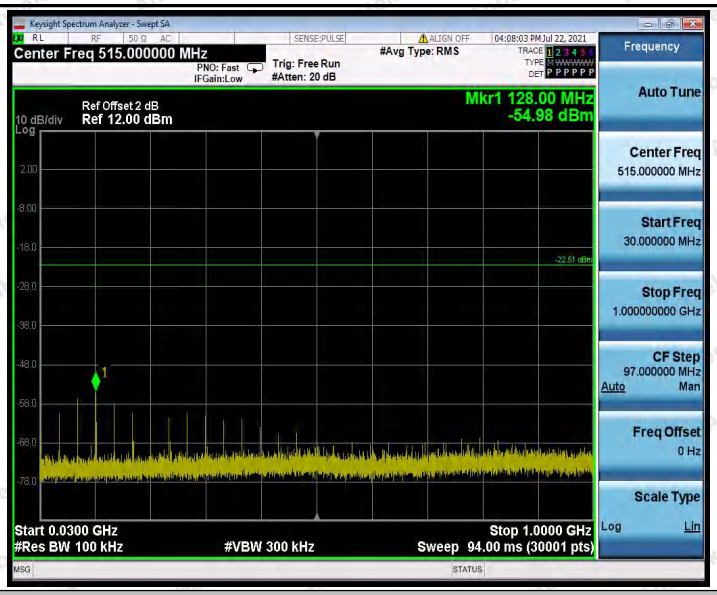


BLE_1M_Ant1_2440_1000~26500

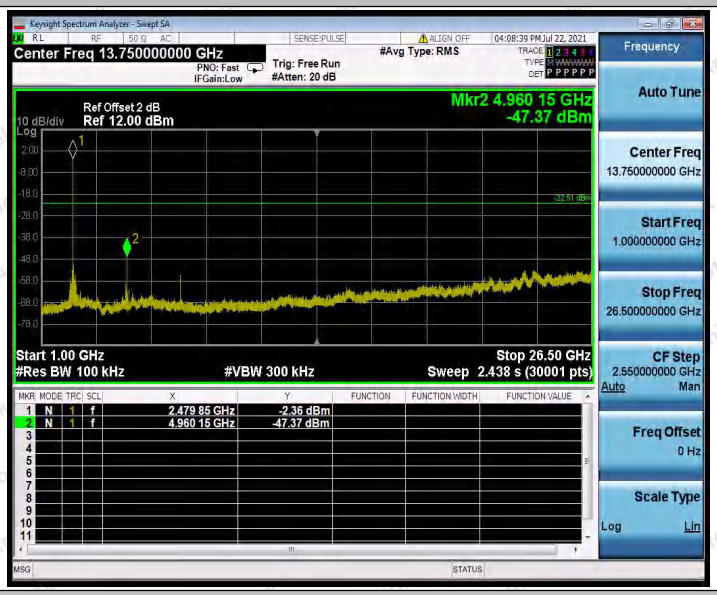


BLE_1M_Ant1_2480_0~Reference

BLE_1M_Ant1_2480_30~1000

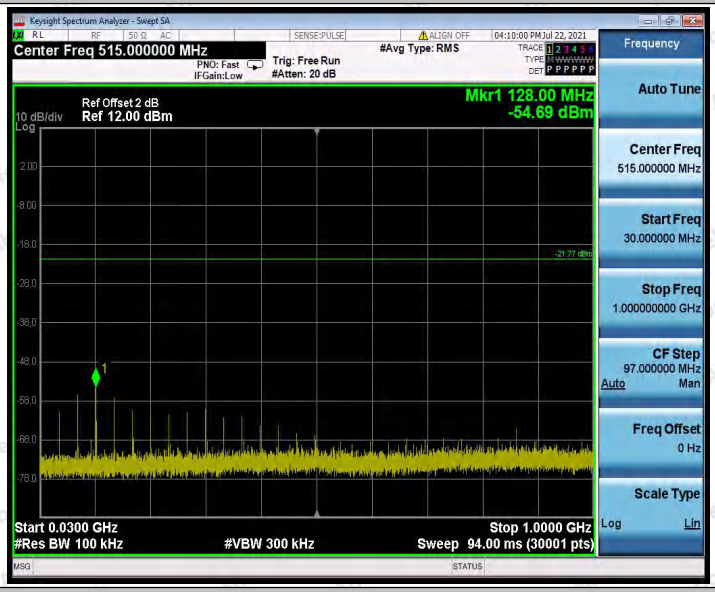


BLE_1M_Ant1_2480_1000~26500

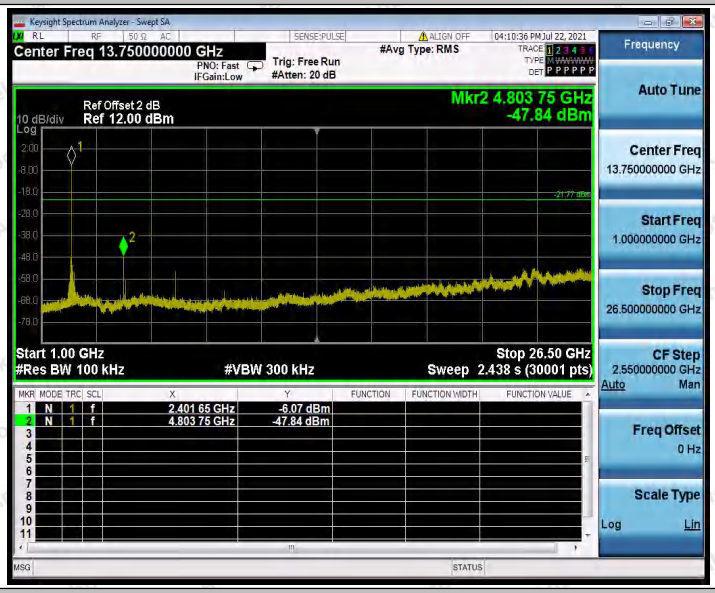


BLE_2M_Ant1_2402_0~Reference

BLE_2M_Ant1_2402_30~1000

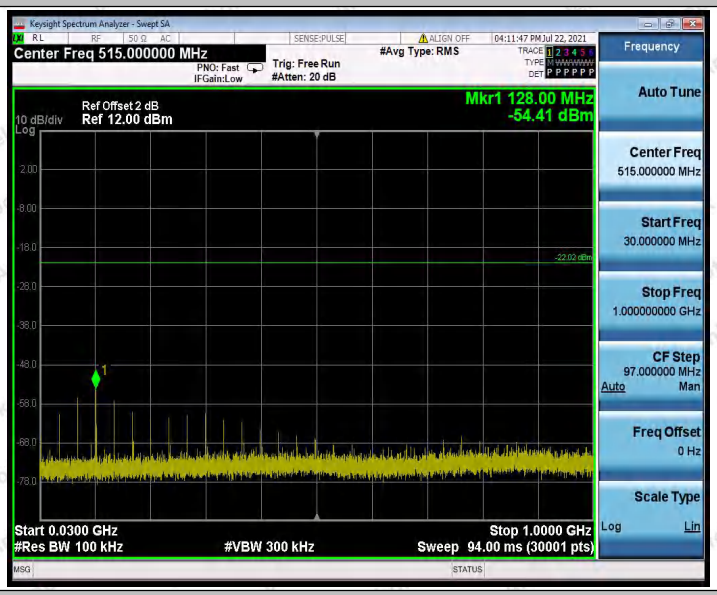


BLE_2M_Ant1_2402_1000~26500

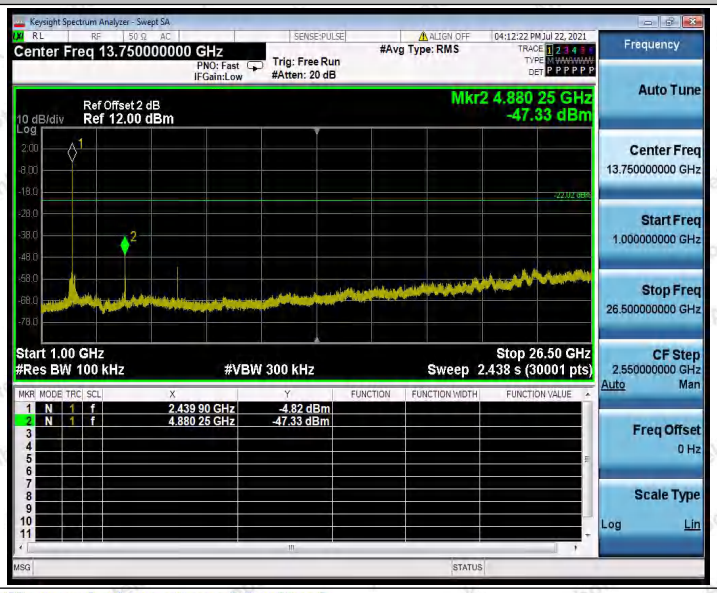


BLE_2M_Ant1_2440_0~Reference

BLE_2M_Ant1_2440_30~1000

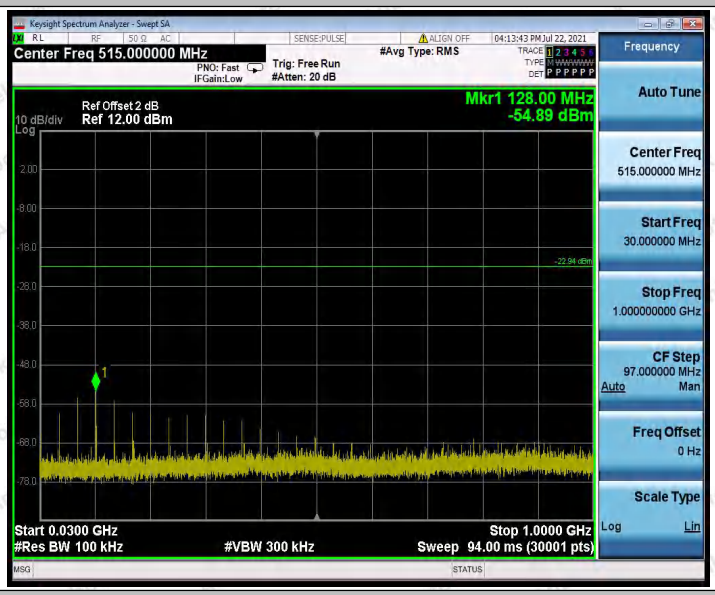


BLE_2M_Ant1_2440_1000~26500

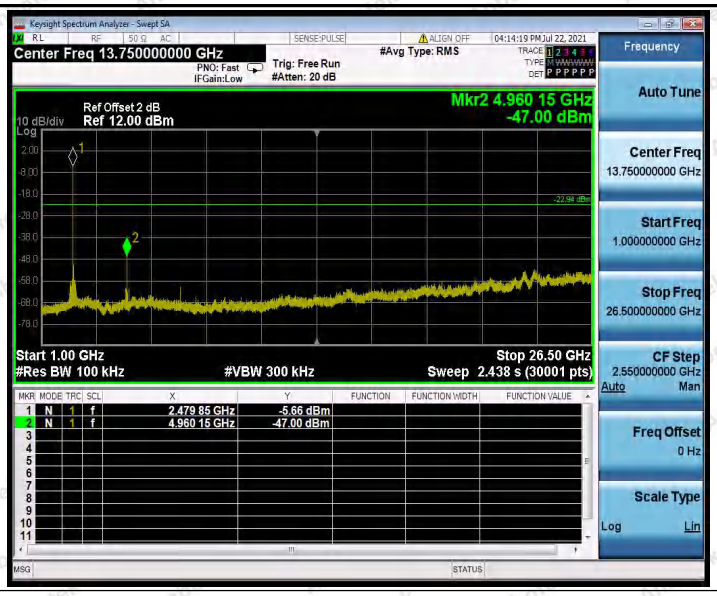


BLE_2M_Ant1_2480_0~Reference

BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500


Keysight Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
04:14:19 PM Jul 22, 2021
Ref Offset 2 dB
10 dB/div Ref 12.00 dBm
Log
Mkr2 4.960 15 GHz
-47.00 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N 1 f 2.479 85 GHz -5.66 dBm
2 N 1 f 4.960 15 GHz -47.00 dBm
Frequency
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto Man
Freq Offset
0 Hz
Scale Type
Log Lin

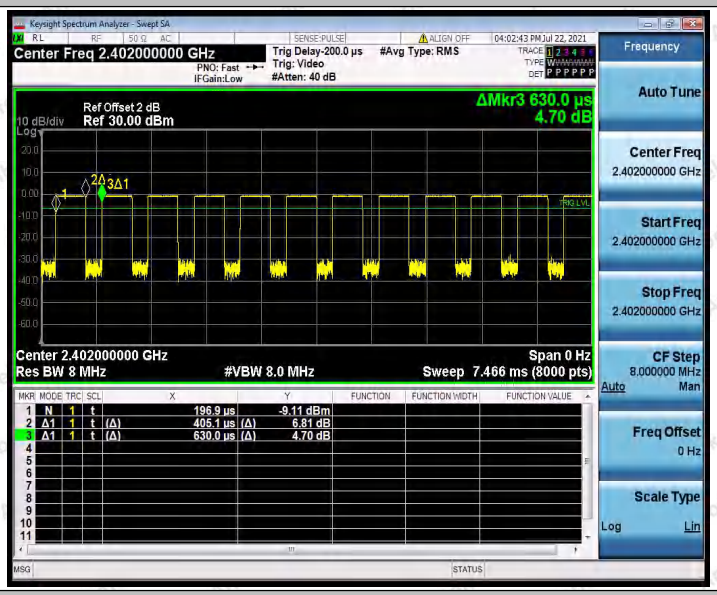
Appendix G: Duty Cycle

Test Result

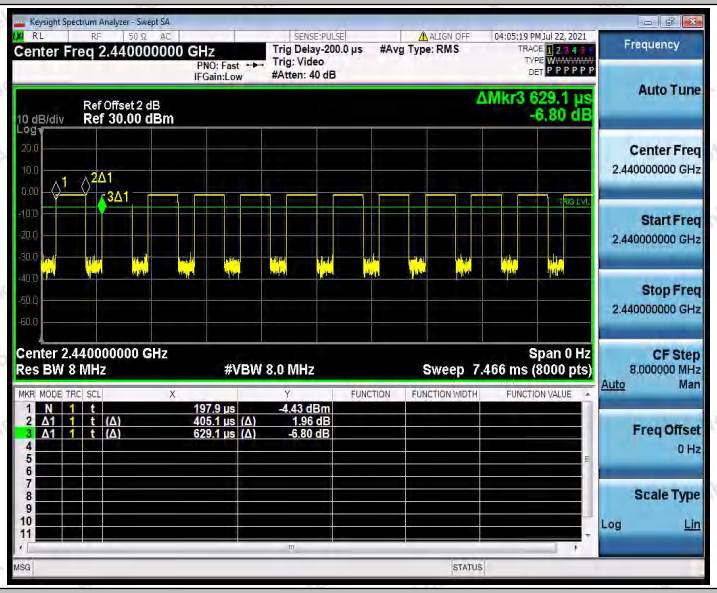
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.41	0.63	0.6508	65.08	1.87	---	PASS
		2440	0.41	0.63	0.6508	65.08	1.87	---	PASS
		2480	0.41	0.62	0.6613	66.13	1.80	---	PASS
BLE_2M	Ant1	2402	0.21	0.62	0.3387	33.87	4.70	---	PASS
		2440	0.21	0.63	0.3333	33.33	4.77	---	PASS
		2480	0.21	0.62	0.3387	33.87	4.70	---	PASS

Test Graphs

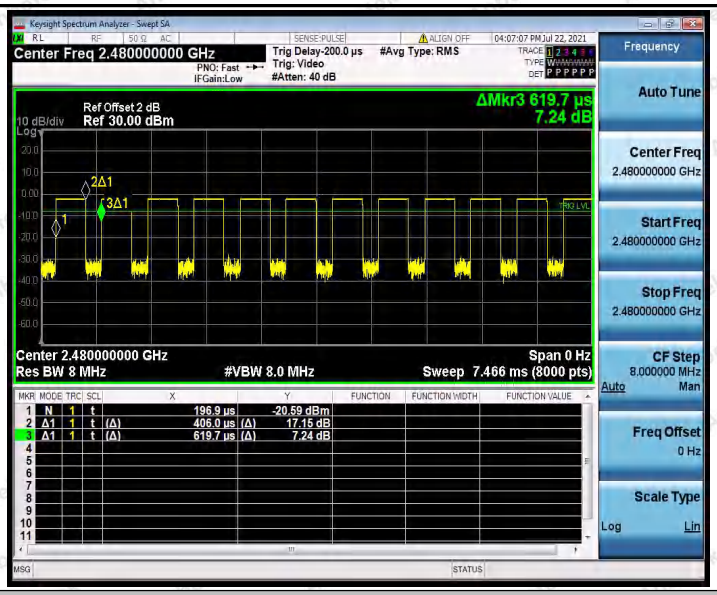
BLE_1M_Ant1_2402



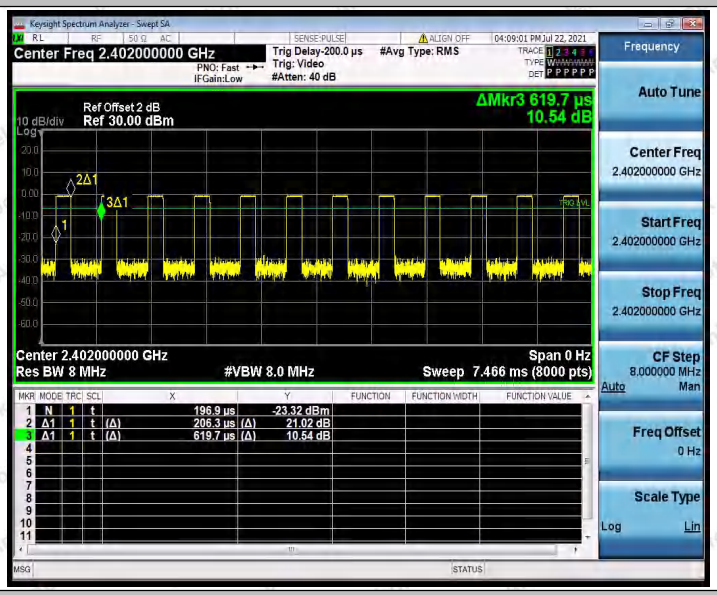
BLE_1M_Ant1_2440



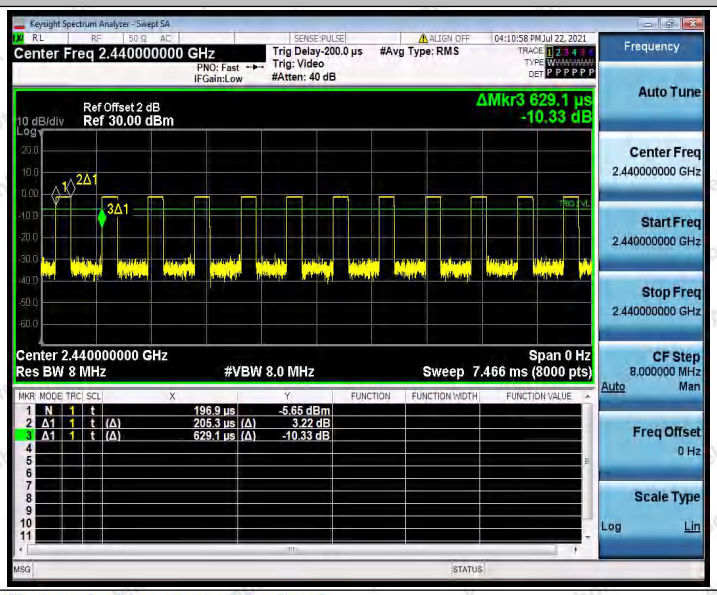
BLE_1M_Ant1_2480



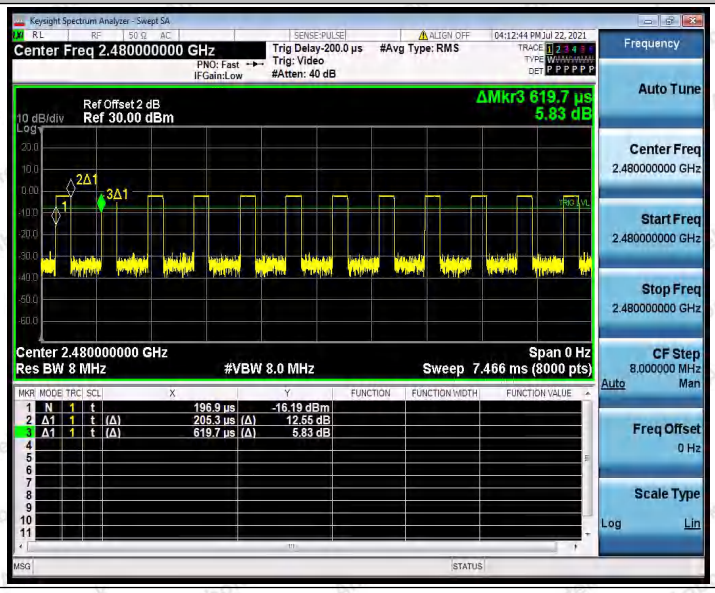
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



---End---