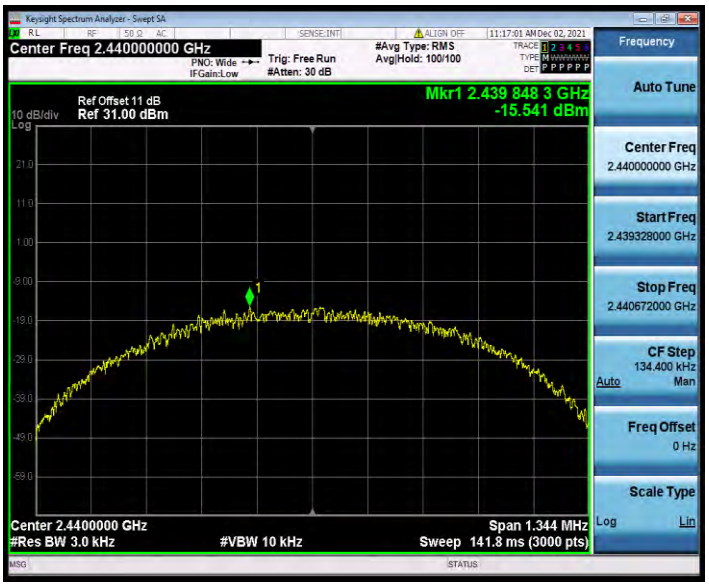


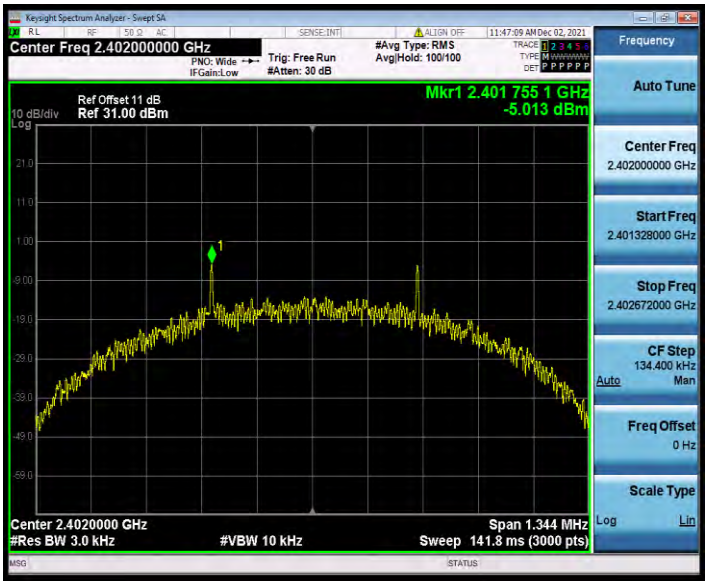
BLE_1M_Ant1_2480

BLE_2M_Ant1_2402

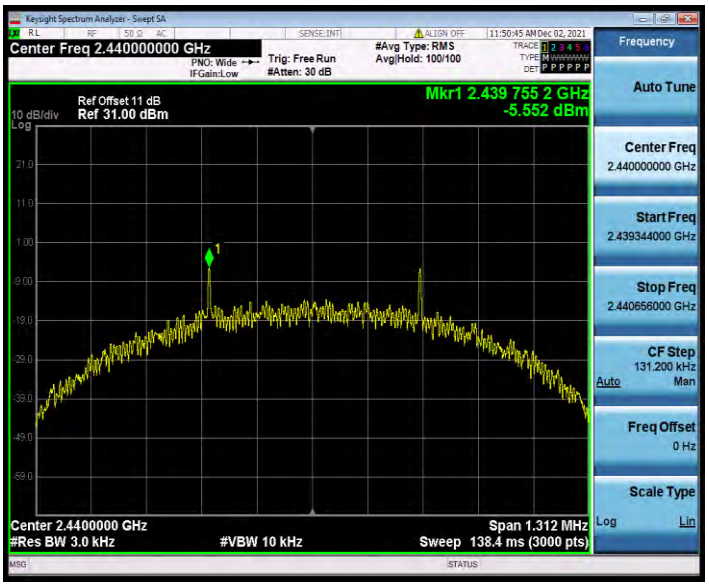
BLE_2M_Ant1_2440

BLE_2M_Ant1_2480

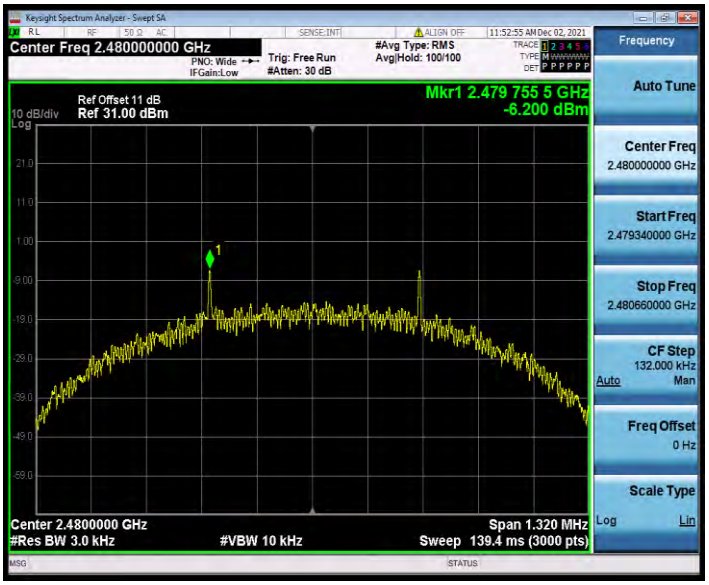
BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



BLE_500K_Ant1_2480



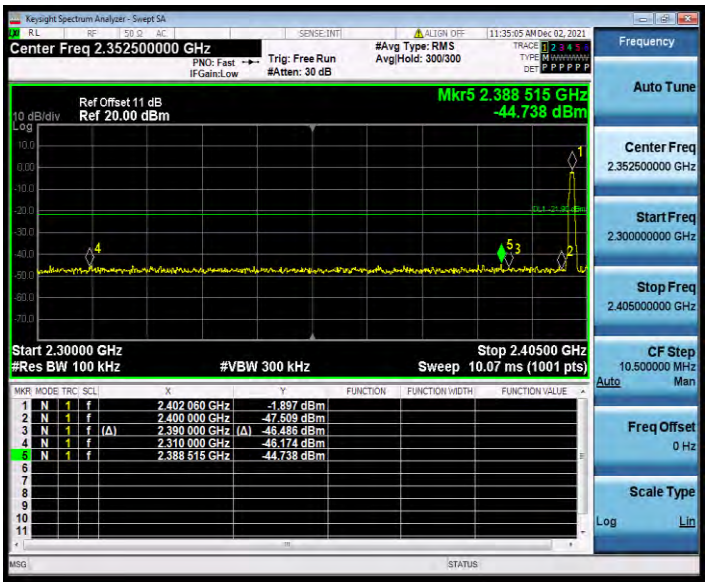
BAND EDGE MEASUREMENTS

TEST RESULT

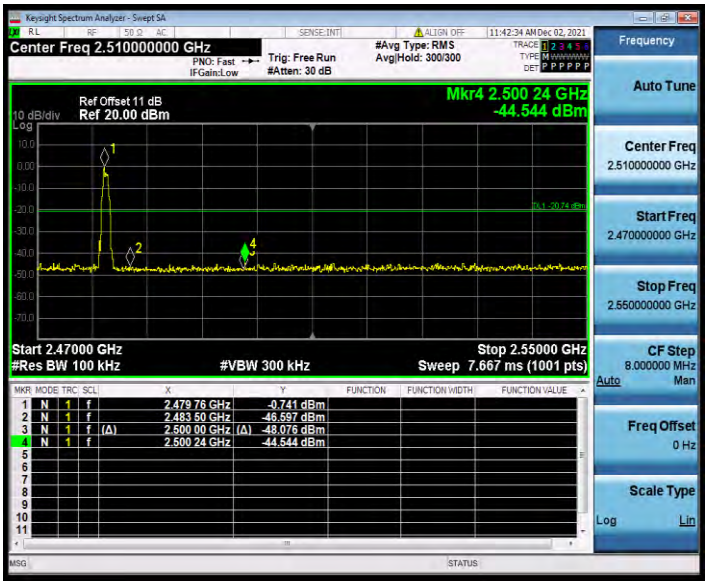
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_125K	Ant1	Low	2402	-1.90	-44.74	≤-21.9	PASS
		High	2480	-0.74	-44.54	≤-20.74	PASS
BLE_1M	Ant1	Low	2402	1.19	-44.93	≤-18.81	PASS
		High	2480	0.06	-44.6	≤-19.94	PASS
BLE_2M	Ant1	Low	2402	0.99	-43.45	≤-19.02	PASS
		High	2480	0.10	-44.92	≤-19.9	PASS
BLE_500K	Ant1	Low	2402	1.24	-44.5	≤-18.76	PASS
		High	2480	0.05	-44.6	≤-19.95	PASS

TEST GRAPHS

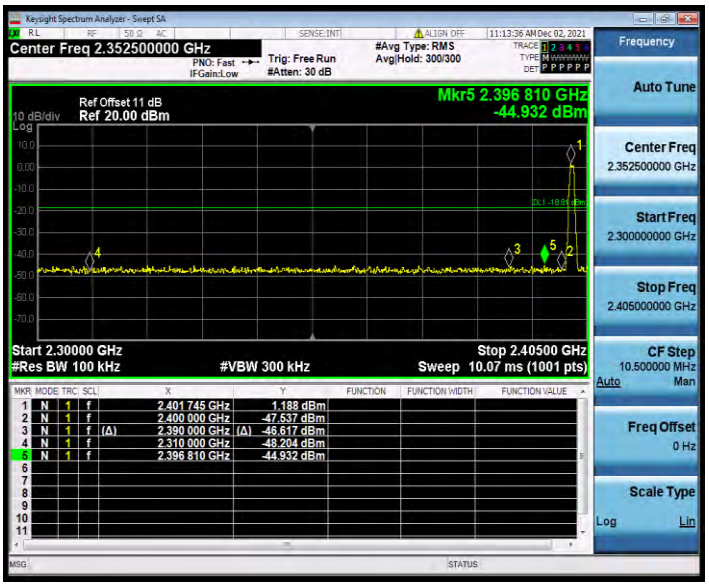
BLE_125K_Ant1_Low_2402



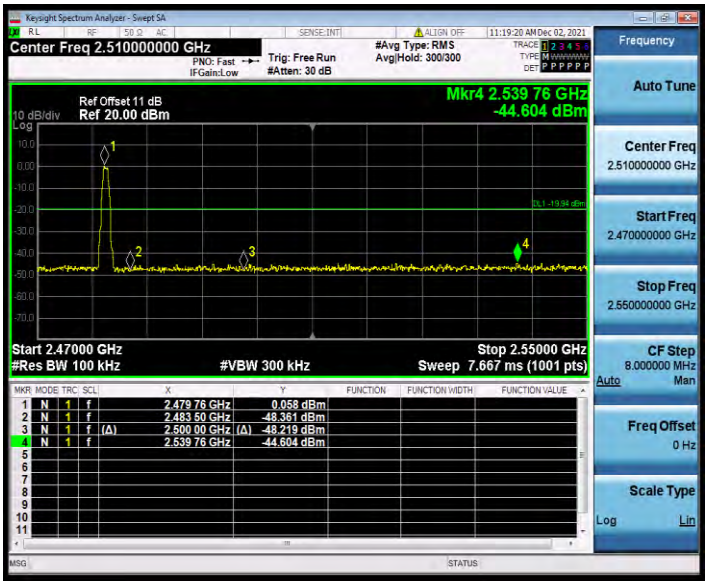
BLE_125K_Ant1_High_2480



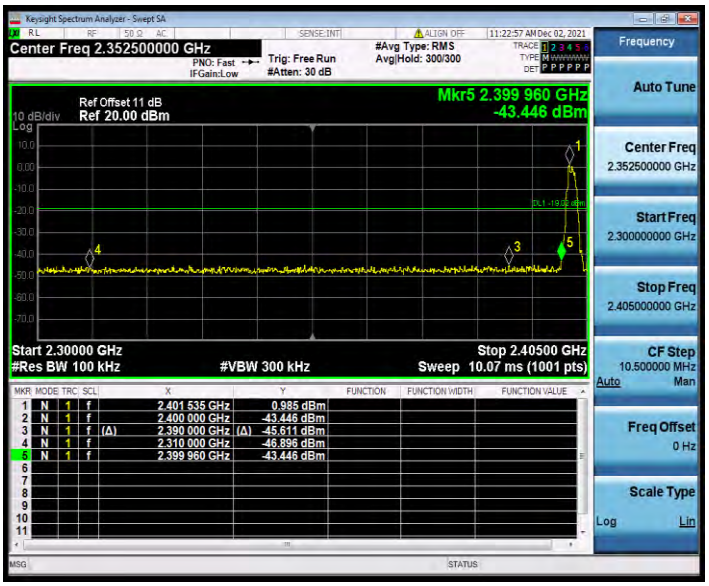
BLE_1M_Ant1_Low_2402



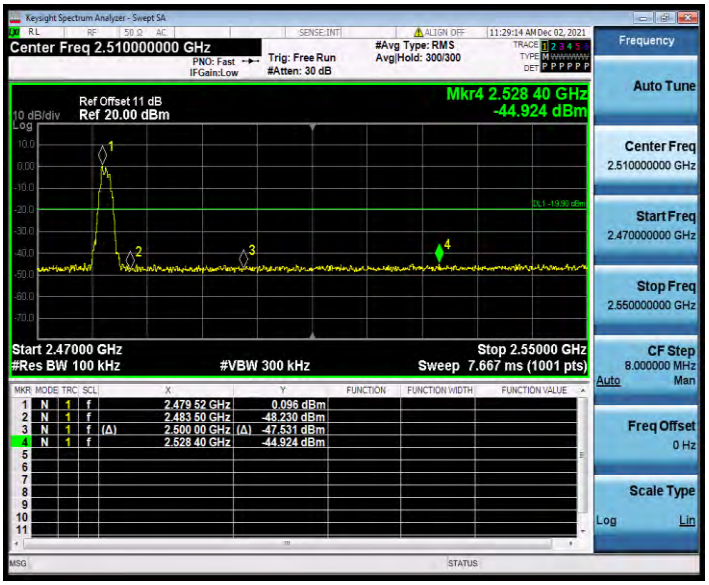
BLE_1M_Ant1_High_2480



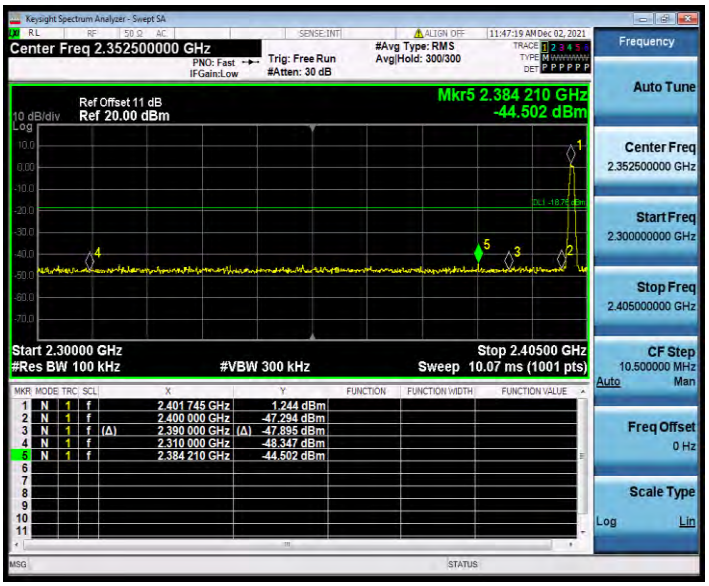
BLE_2M_Ant1_Low_2402



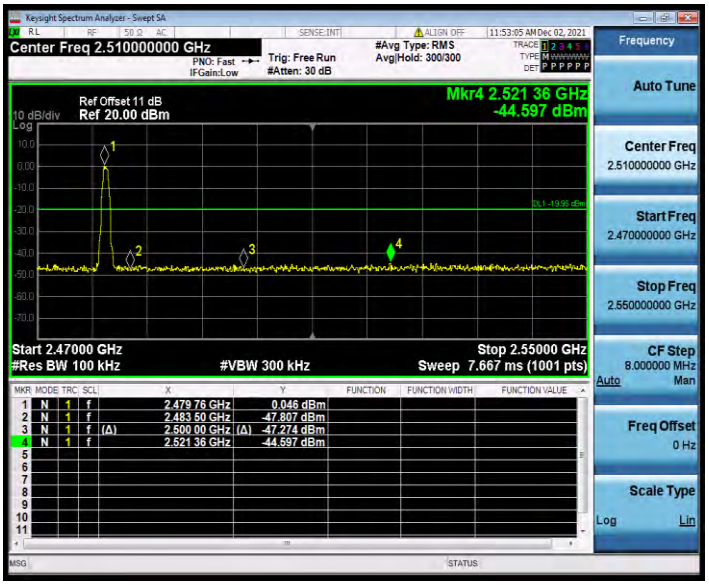
BLE_2M_Ant1_High_2480



BLE_500K_Ant1_Low_2402



BLE_500K_Ant1_High_2480



CONDUCTED SPURIOUS EMISSION

TEST RESULT

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_125K	Ant1	2402	Reference	-1.96	-1.96	---	PASS
			30~1000	-1.96	-54.39	≤-21.96	PASS
			1000~26500	-1.96	-38.29	≤-21.96	PASS
		2440	Reference	-2.51	-2.51	---	PASS
			30~1000	-2.51	-54.43	≤-22.51	PASS
			1000~26500	-2.51	-38.55	≤-22.51	PASS
		2480	Reference	-3.15	-3.15	---	PASS
			30~1000	-3.15	-54.52	≤-23.15	PASS
			1000~26500	-3.15	-37.69	≤-23.15	PASS
BLE_1M	Ant1	2402	Reference	0.52	0.52	---	PASS
			30~1000	0.52	-54.51	≤-19.48	PASS
			1000~26500	0.52	-38.14	≤-19.48	PASS
		2440	Reference	0.55	0.55	---	PASS
			30~1000	0.55	-54.73	≤-19.45	PASS
			1000~26500	0.55	-38.15	≤-19.45	PASS
		2480	Reference	-0.30	-0.30	---	PASS
			30~1000	-0.30	-54.41	≤-20.3	PASS
			1000~26500	-0.30	-38.73	≤-20.3	PASS
BLE_2M	Ant1	2402	Reference	-0.15	-0.15	---	PASS
			30~1000	-0.15	-53.8	≤-20.15	PASS
			1000~26500	-0.15	-38	≤-20.15	PASS
		2440	Reference	-1.93	-1.93	---	PASS
			30~1000	-1.93	-54.25	≤-21.93	PASS
			1000~26500	-1.93	-38.48	≤-21.93	PASS
		2480	Reference	-0.70	-0.70	---	PASS
			30~1000	-0.70	-54.32	≤-20.7	PASS
			1000~26500	-0.70	-38.2	≤-20.7	PASS
BLE_500K	Ant1	2402	Reference	-0.05	-0.05	---	PASS
			30~1000	-0.05	-53.89	≤-20.05	PASS

			1000~26500	-0.05	-38.75	≤-20.05	PASS
		2440	Reference	-0.50	-0.50	---	PASS
			30~1000	-0.50	-54.51	≤-20.5	PASS
			1000~26500	-0.50	-38.81	≤-20.5	PASS
		2480	Reference	-1.89	-1.89	---	PASS
			30~1000	-1.89	-53.94	≤-21.89	PASS
			1000~26500	-1.89	-38.09	≤-21.89	PASS

TEST GRAPHS

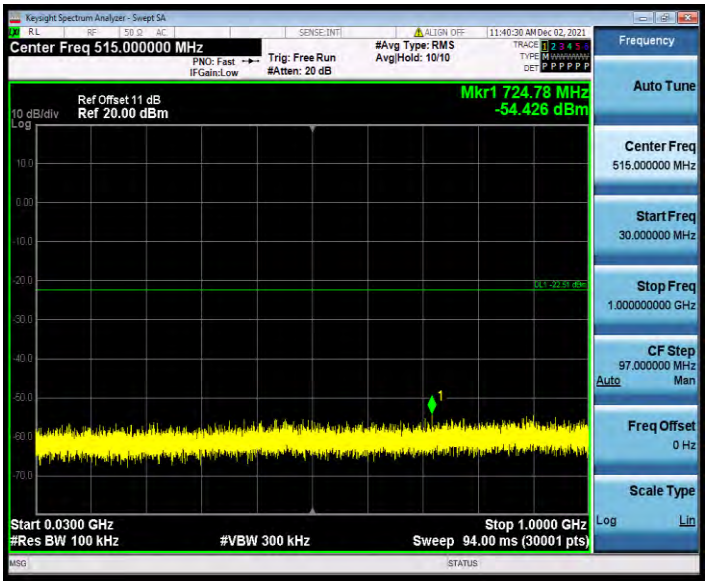
BLE_125K_Ant1_2402_0~Reference

BLE_125K_Ant1_2402_30~1000

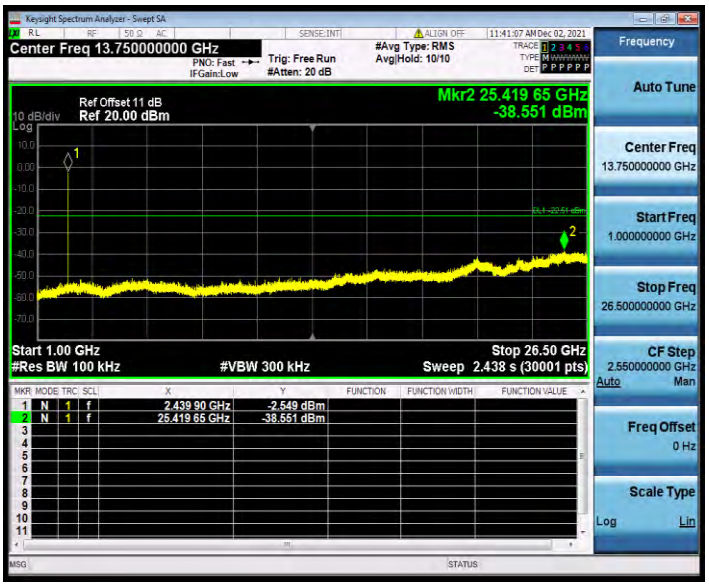
BLE_125K_Ant1_2402_1000~26500

BLE_125K_Ant1_2440_0~Reference

BLE_125K_Ant1_2440_30~1000

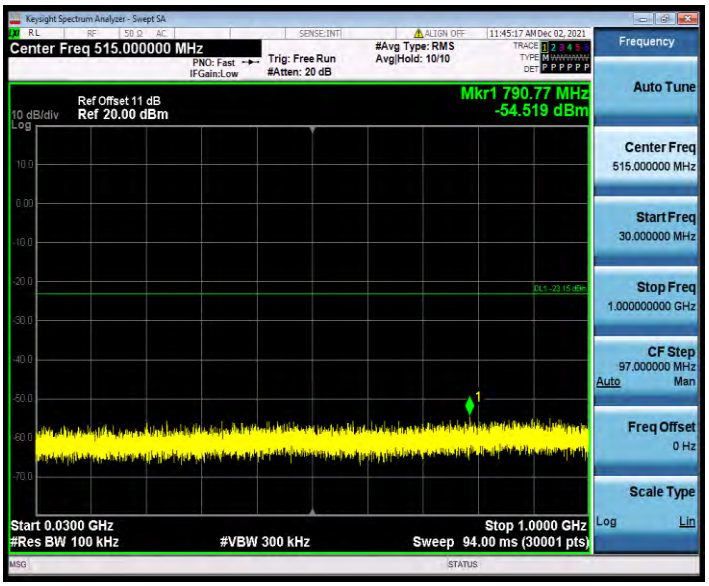


BLE_125K_Ant1_2440_1000~26500

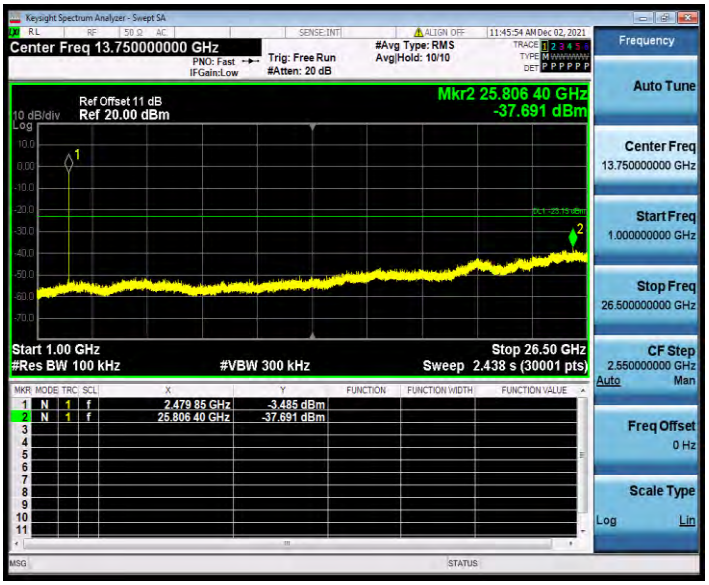


BLE_125K_Ant1_2480_0~Reference

BLE_125K_Ant1_2480_30~1000

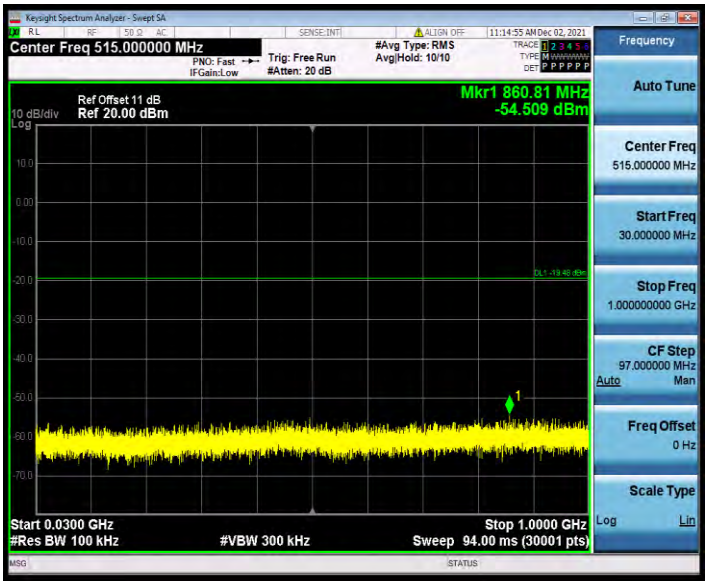


BLE_125K_Ant1_2480_1000~26500



BLE_1M_Ant1_2402_0~Reference

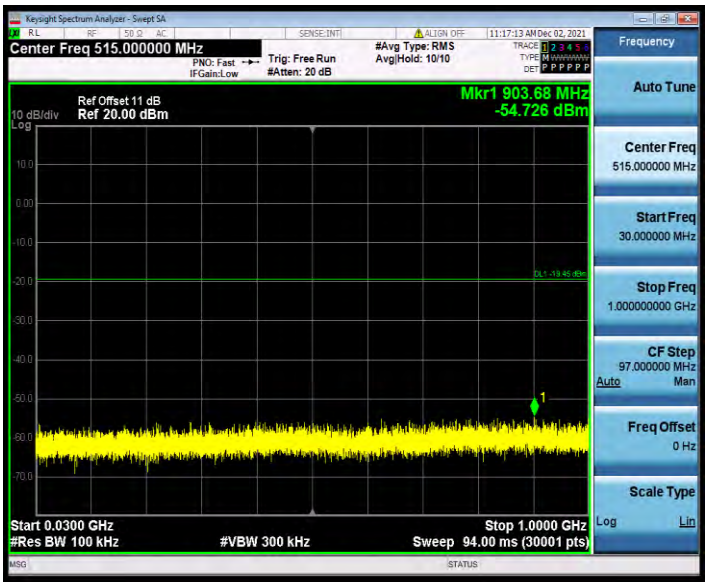
BLE_1M_Ant1_2402_30~1000



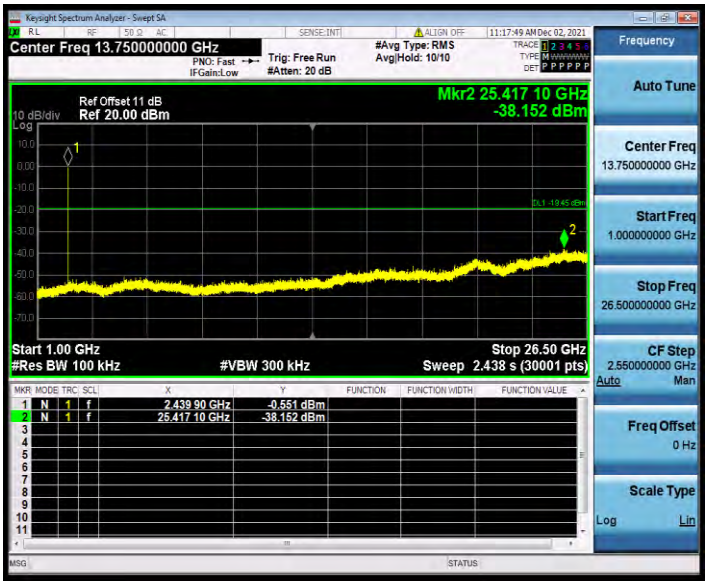
BLE_1M_Ant1_2402_1000~26500

BLE_1M_Ant1_2440_0~Reference

BLE_1M_Ant1_2440_30~1000

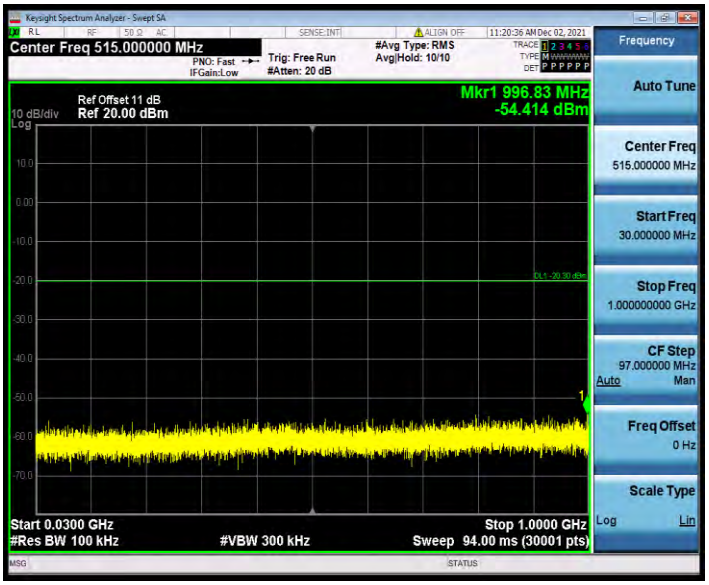


BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference

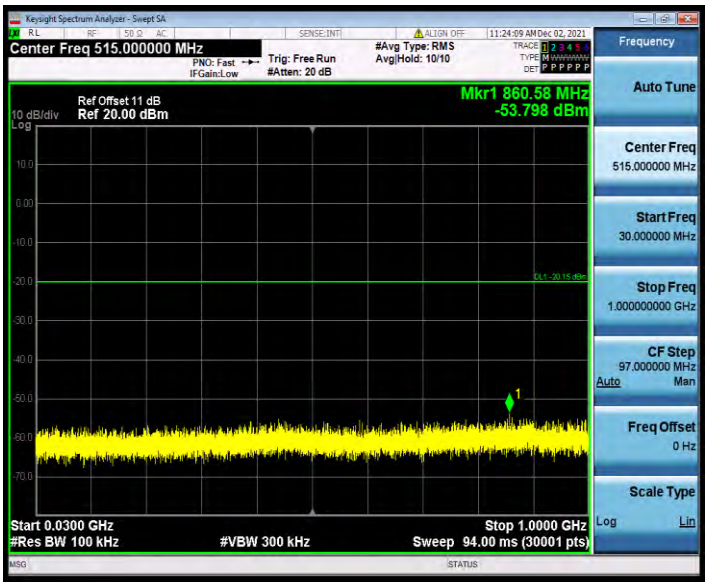
BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

BLE_2M_Ant1_2402_0~Reference

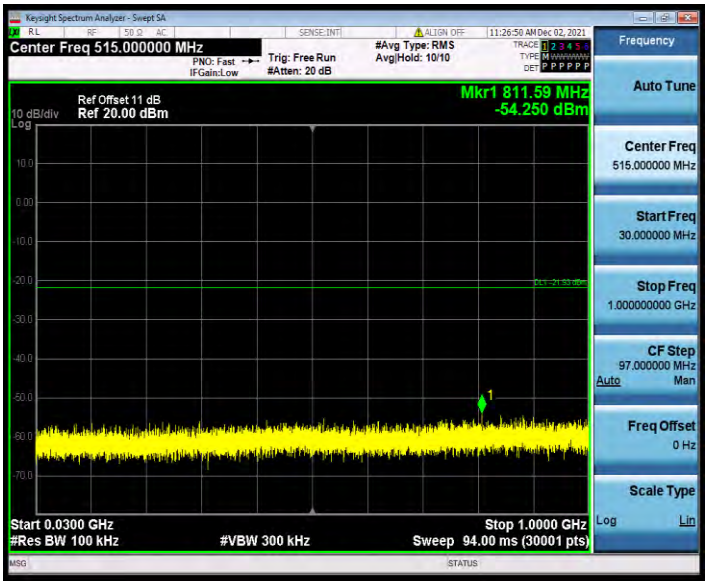
BLE_2M_Ant1_2402_30~1000



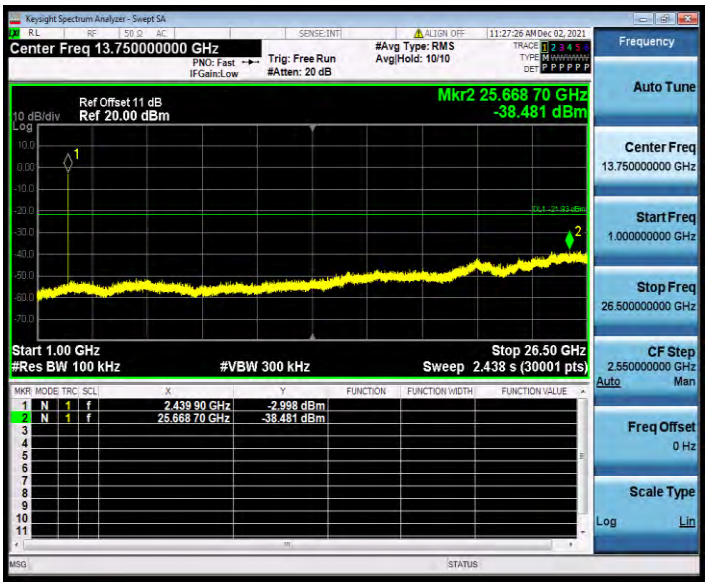
BLE_2M_Ant1_2402_1000~26500

BLE_2M_Ant1_2440_0~Reference

BLE_2M_Ant1_2440_30~1000

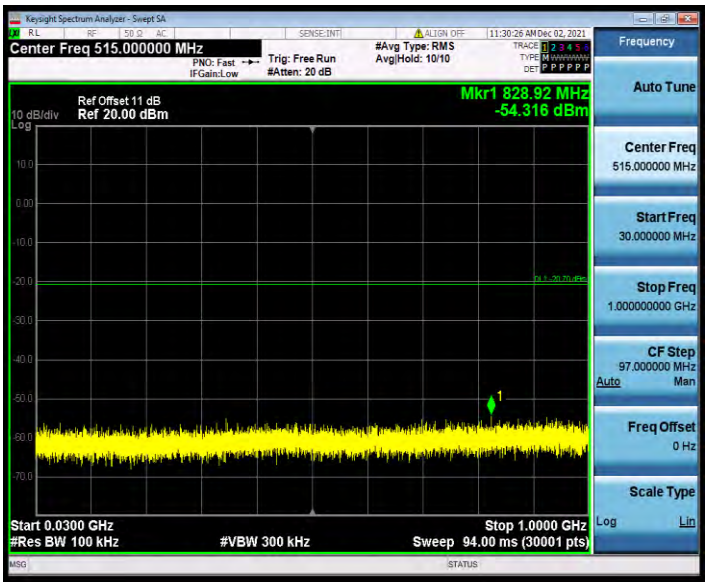


BLE_2M_Ant1_2440_1000~26500

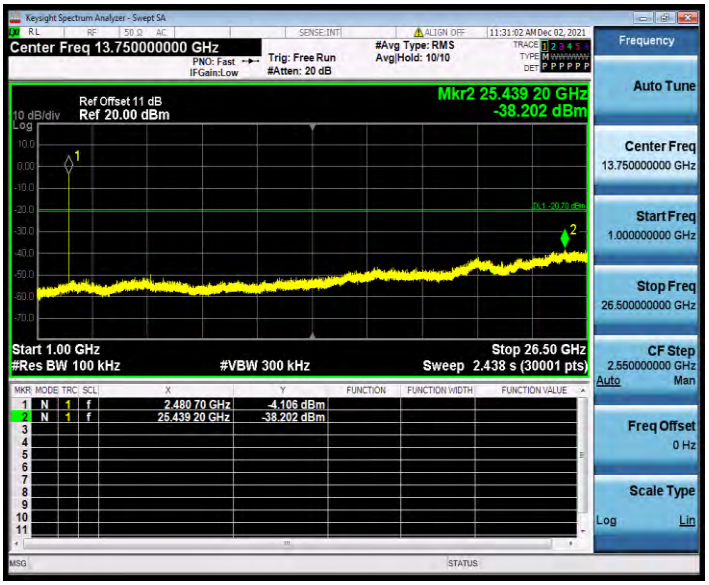


BLE_2M_Ant1_2480_0~Reference

BLE_2M_Ant1_2480_30~1000

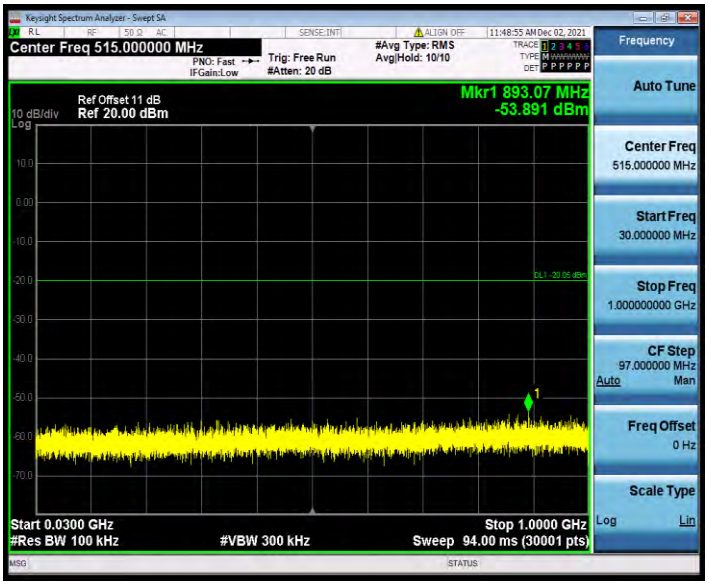


BLE_2M_Ant1_2480_1000~26500

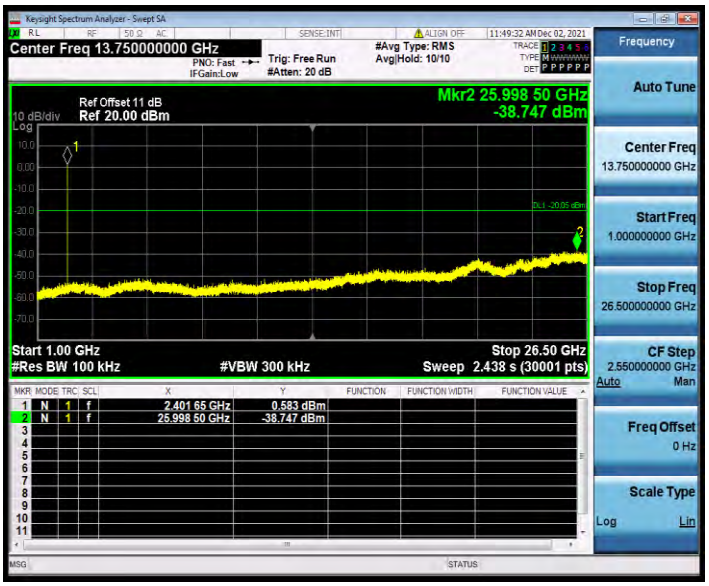


BLE_500K_Ant1_2402_0~Reference

BLE_500K_Ant1_2402_30~1000

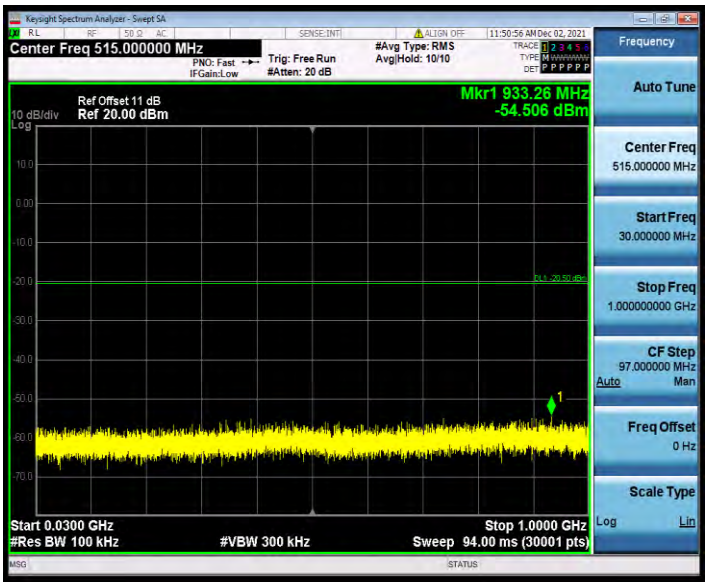


BLE_500K_Ant1_2402_1000~26500

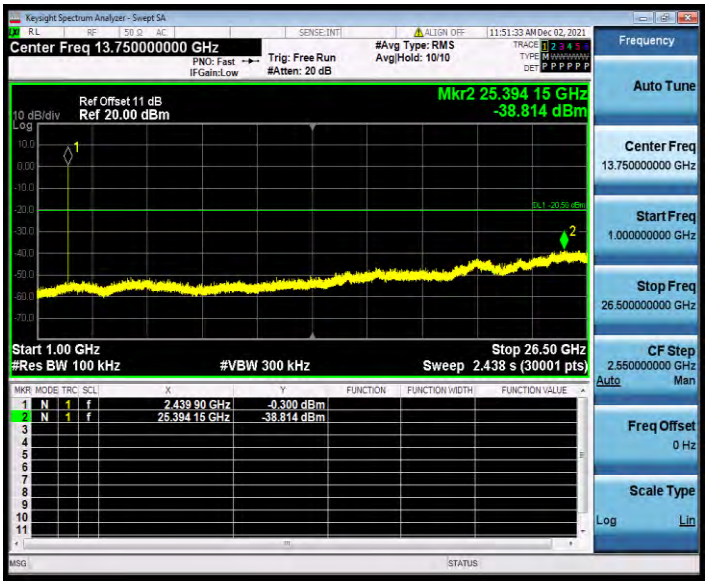


BLE_500K_Ant1_2440_0~Reference

BLE_500K_Ant1_2440_30~1000

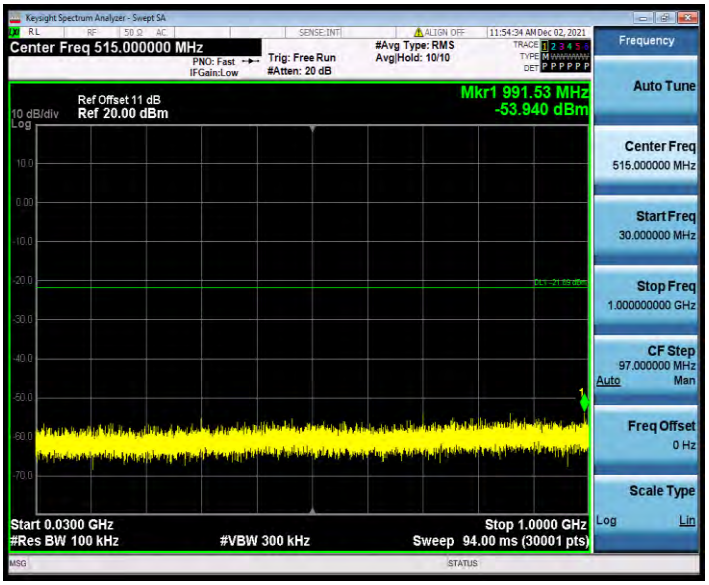


BLE_500K_Ant1_2440_1000~26500



BLE_500K_Ant1_2480_0~Reference

BLE_500K_Ant1_2480_30~1000



BLE_500K_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
Avg|Hold: 10/10
11:55:11 AM Dec 02, 2021
Ref Offset 11 dB
10 dB/div
Ref 20.00 dBm
Mkr2 26.145 55 GHz
-38.092 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 -1.586 dBm
2 N 1 f 26.145 55 GHz -38.092 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

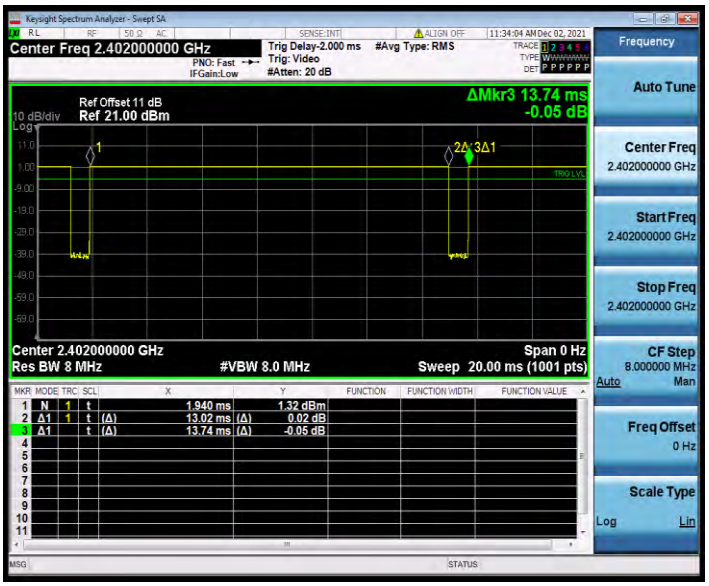
DUTY CYCLE

TEST RESULT

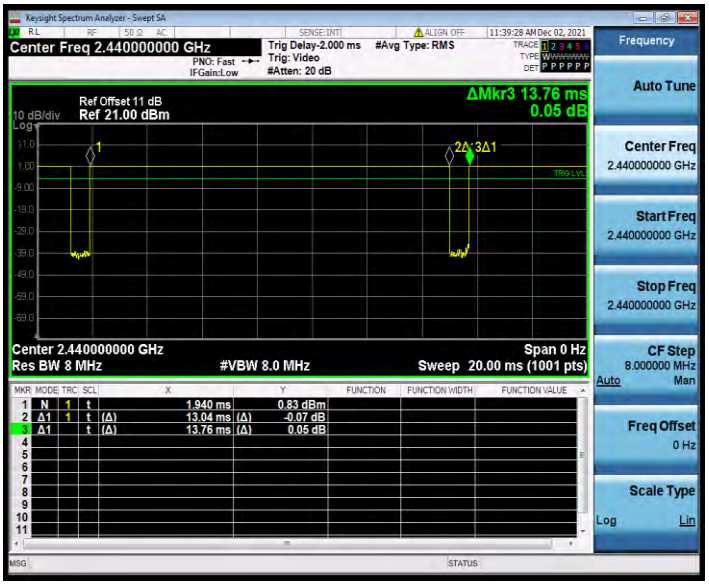
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_125K	Ant1	2402	13.02	13.74	0.9476	94.76	0.23	---	PASS
		2440	13.04	13.76	0.9477	94.77	0.23	---	PASS
		2480	13.04	13.74	0.9491	94.91	0.23	---	PASS
BLE_1M	Ant1	2402	1.64	1.88	0.8723	87.23	0.59	---	PASS
		2440	1.64	1.88	0.8723	87.23	0.59	---	PASS
		2480	1.64	1.88	0.8723	87.23	0.59	---	PASS
BLE_2M	Ant1	2402	0.82	1.25	0.6560	65.60	1.83	---	PASS
		2440	0.82	1.25	0.6560	65.60	1.83	---	PASS
		2480	0.83	1.25	0.6640	66.40	1.78	---	PASS
BLE_500K	Ant1	2402	3.56	4.38	0.8128	81.28	0.90	---	PASS
		2440	3.56	4.38	0.8128	81.28	0.90	---	PASS
		2480	3.56	4.38	0.8128	81.28	0.90	---	PASS

TEST GRAPHS

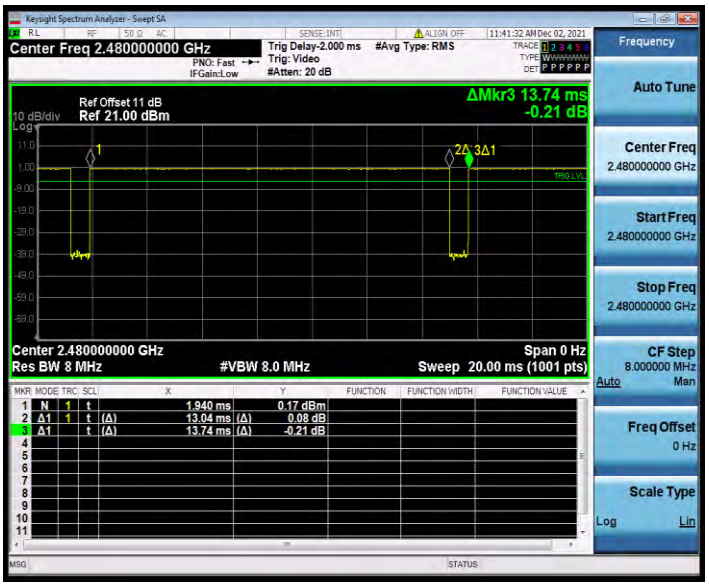
BLE_125K_Ant1_2402



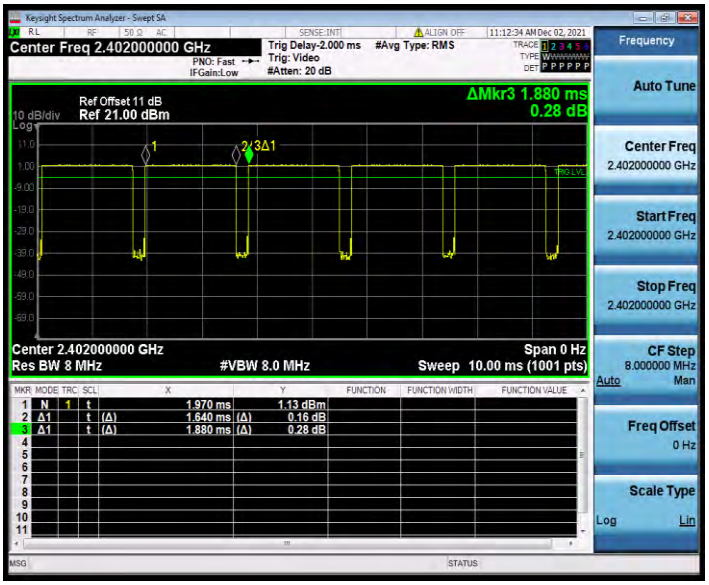
BLE_125K_Ant1_2440



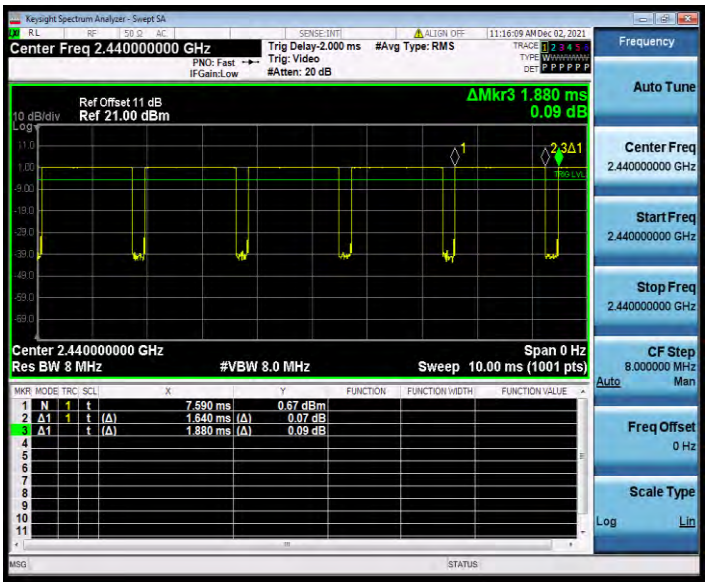
BLE_125K_Ant1_2480



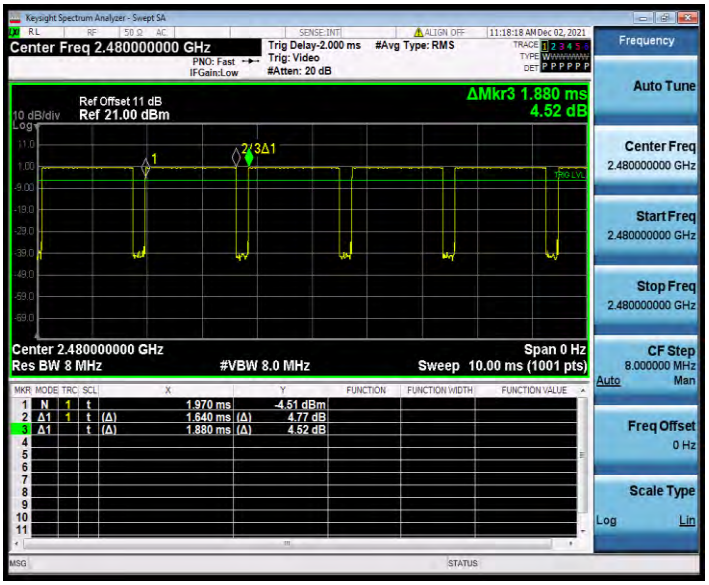
BLE_1M_Ant1_2402



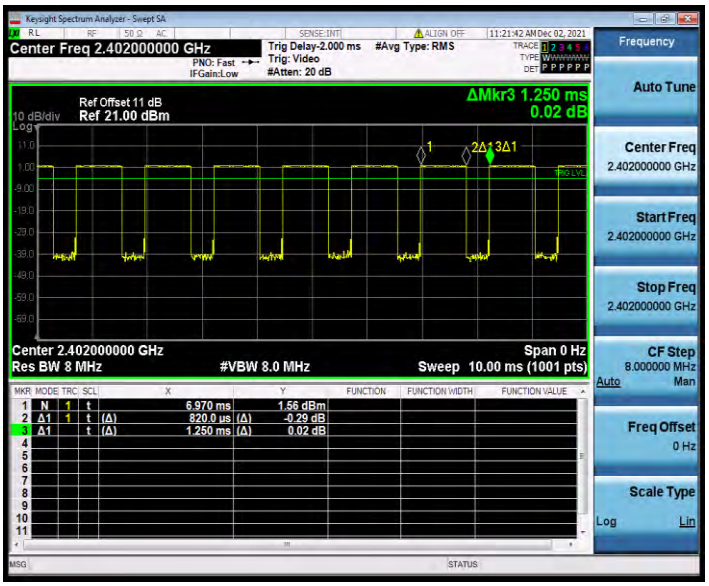
BLE_1M_Ant1_2440



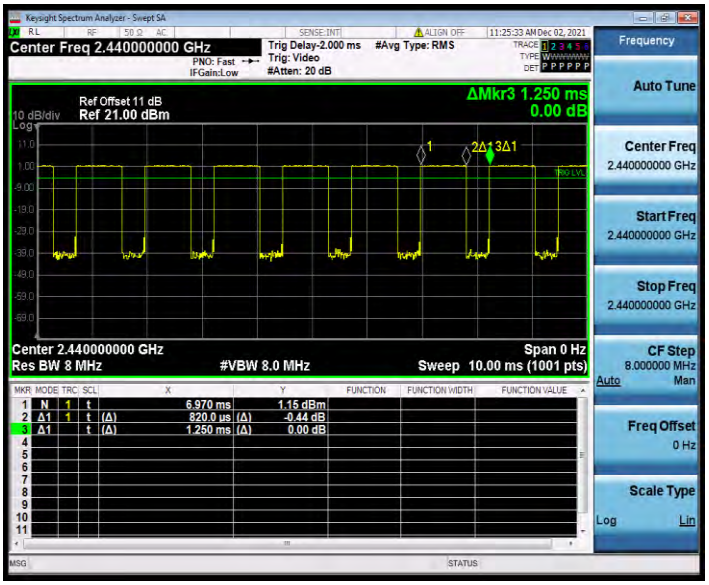
BLE_1M_Ant1_2480



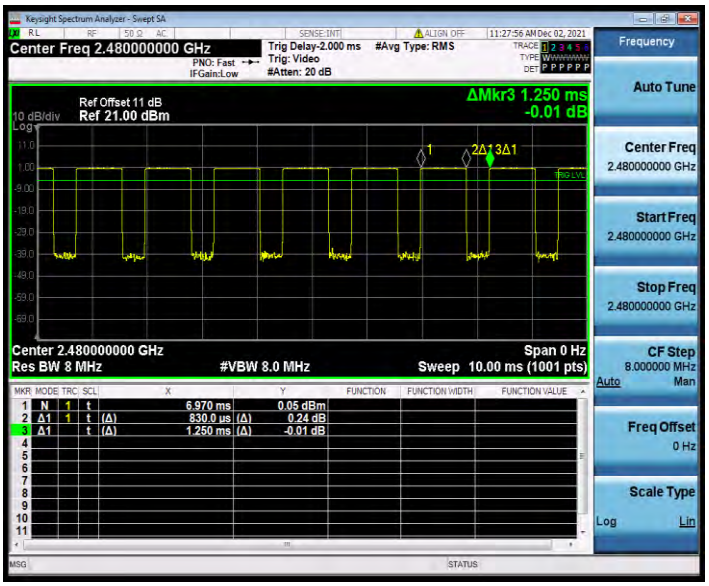
BLE_2M_Ant1_2402



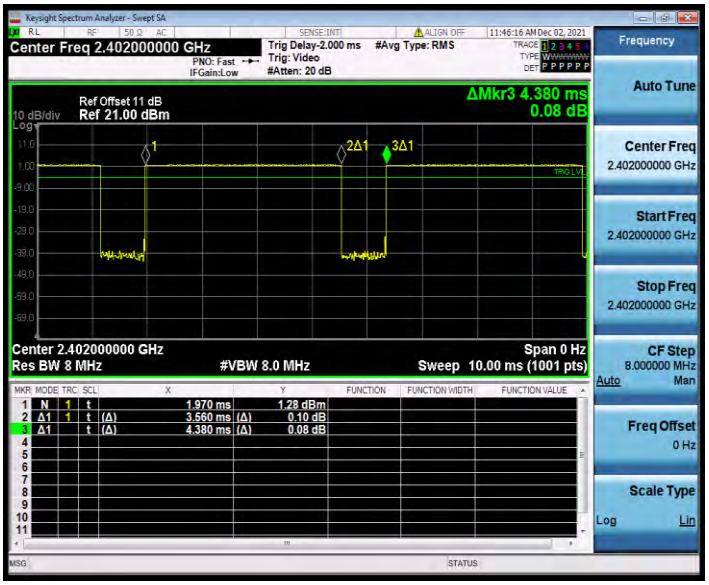
BLE_2M_Ant1_2440



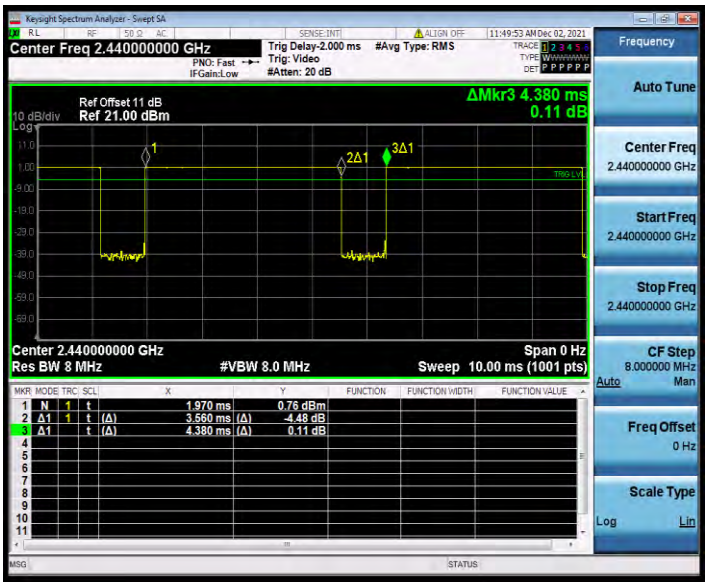
BLE_2M_Ant1_2480



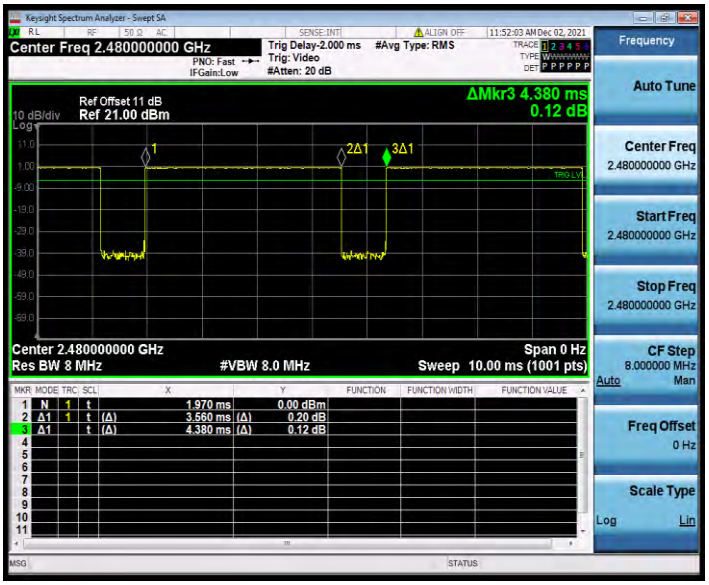
BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



BLE_500K_Ant1_2480



7 Appendix 2 WLAN 2.4G

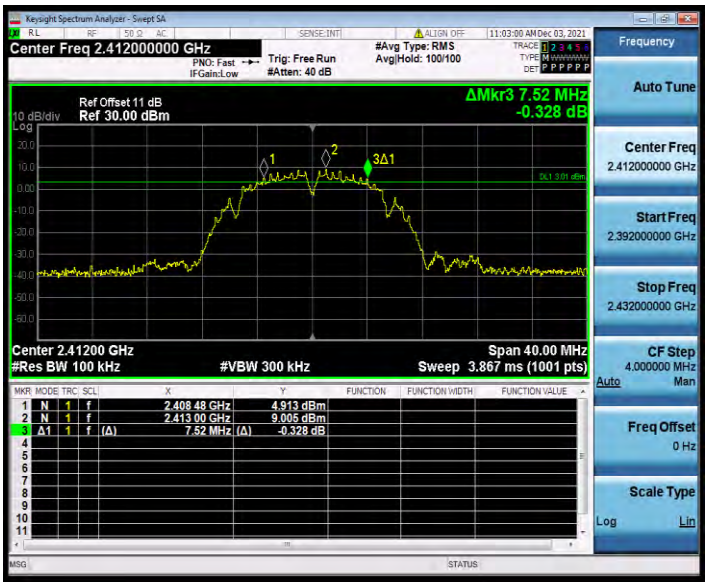
DTS BANDWIDTH

TEST RESULT

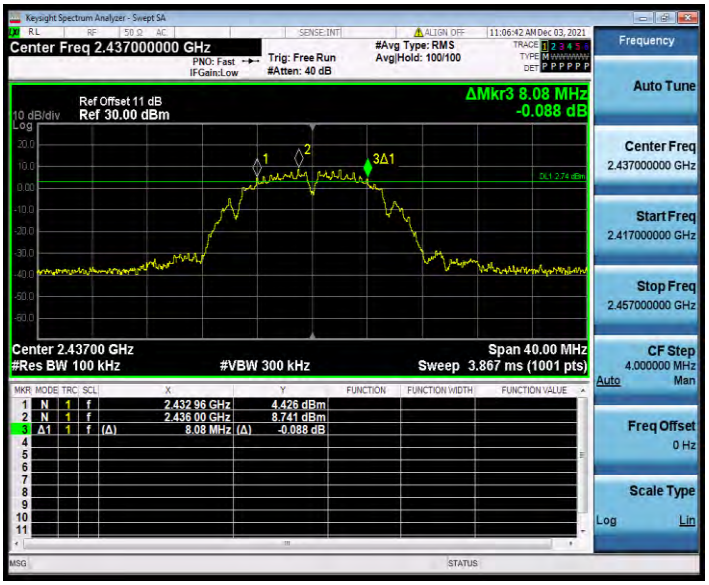
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.520	2408.480	2416.000	0.5	PASS
		2437	8.080	2432.960	2441.040	0.5	PASS
		2462	8.120	2457.960	2466.080	0.5	PASS
11G	Ant1	2412	16.040	2404.120	2420.160	0.5	PASS
		2437	15.400	2429.480	2444.880	0.5	PASS
		2462	15.680	2454.120	2469.800	0.5	PASS
11N20SISO	Ant1	2412	16.560	2403.800	2420.360	0.5	PASS
		2437	16.440	2428.640	2445.080	0.5	PASS
		2462	16.520	2453.800	2470.320	0.5	PASS
11N40SISO	Ant1	2422	35.520	2404.480	2440.000	0.5	PASS
		2437	34.960	2419.480	2454.440	0.5	PASS
		2452	35.840	2434.000	2469.840	0.5	PASS

TEST GRAPHS

11B_Ant1_2412

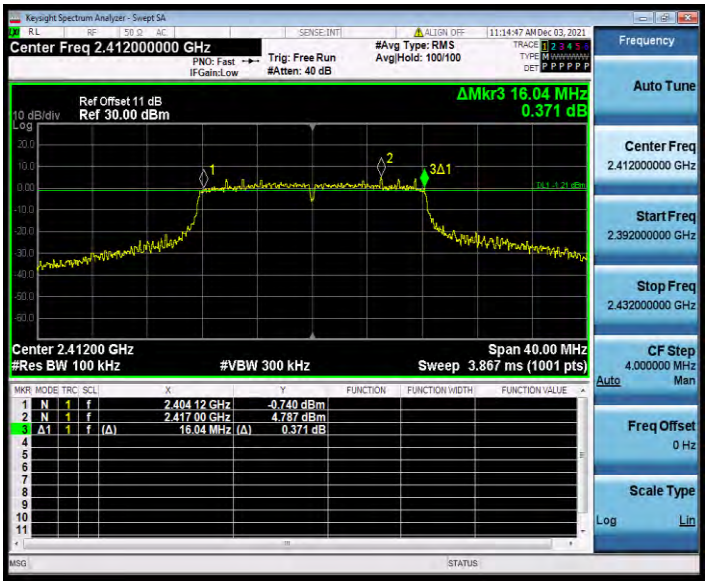


11B_Ant1_2437

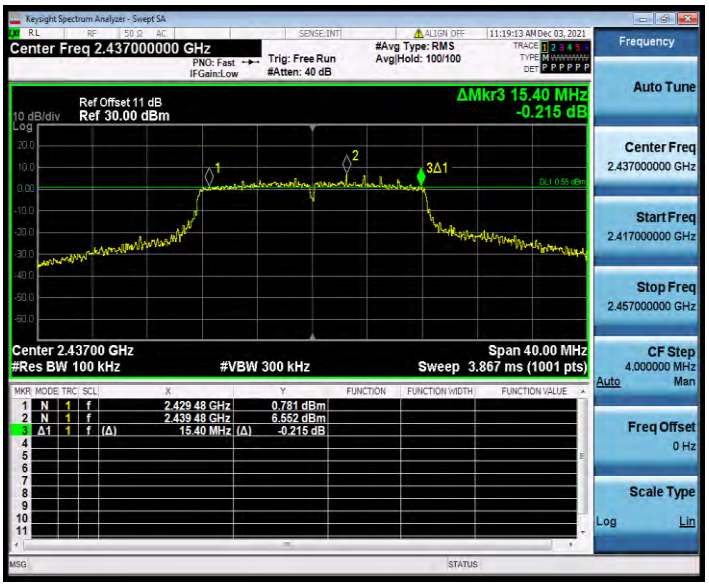


11B_Ant1_2462

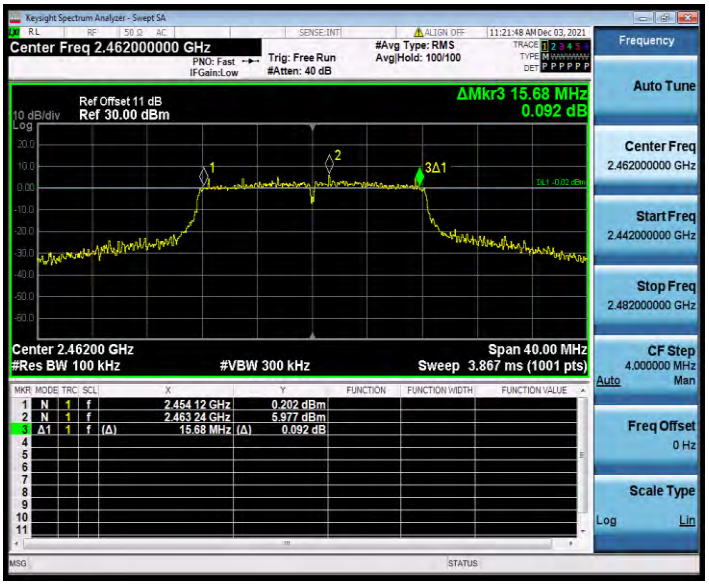
11G_Ant1_2412



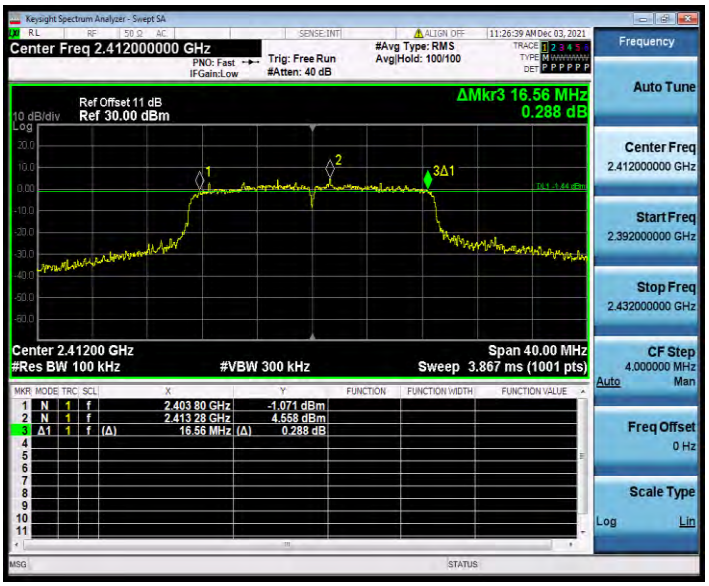
11G_Ant1_2437



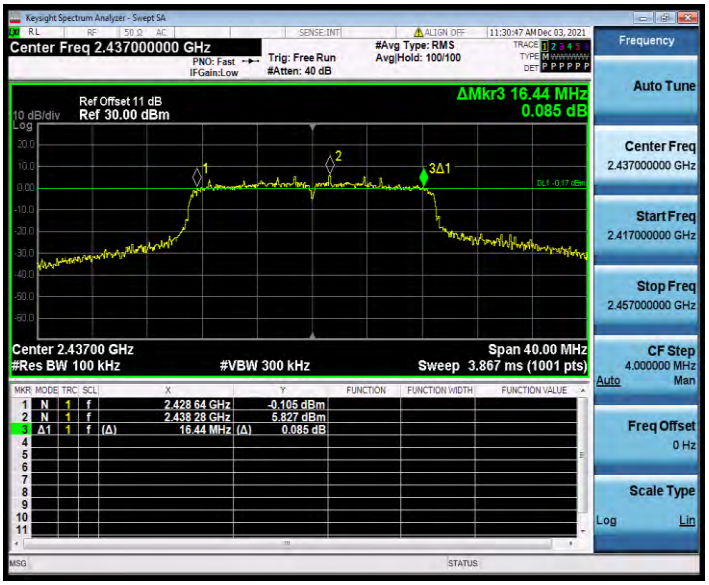
11G_Ant1_2462



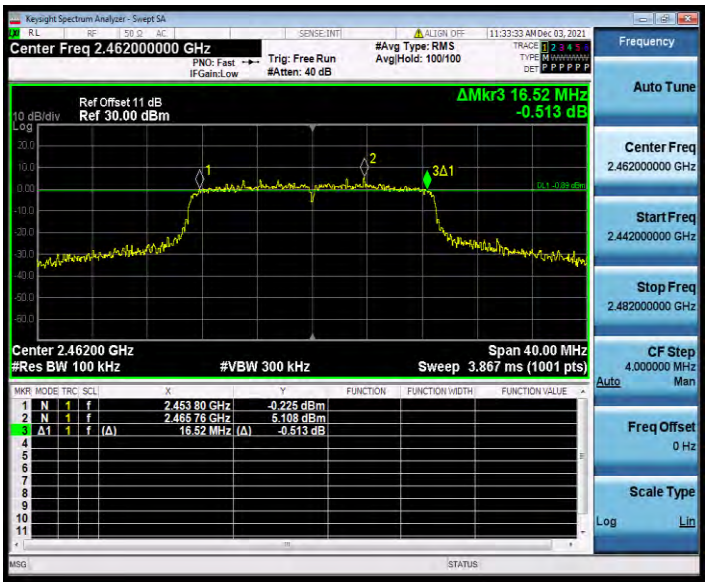
11N20SISO_Ant1_2412



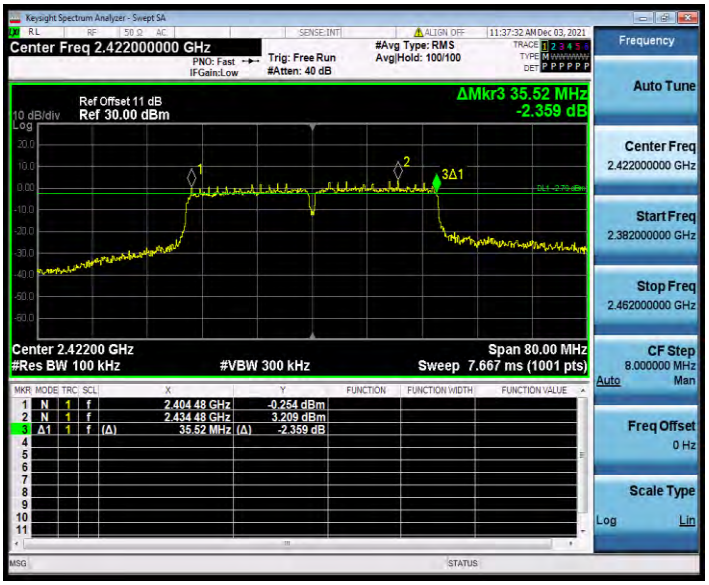
11N20SISO_Ant1_2437



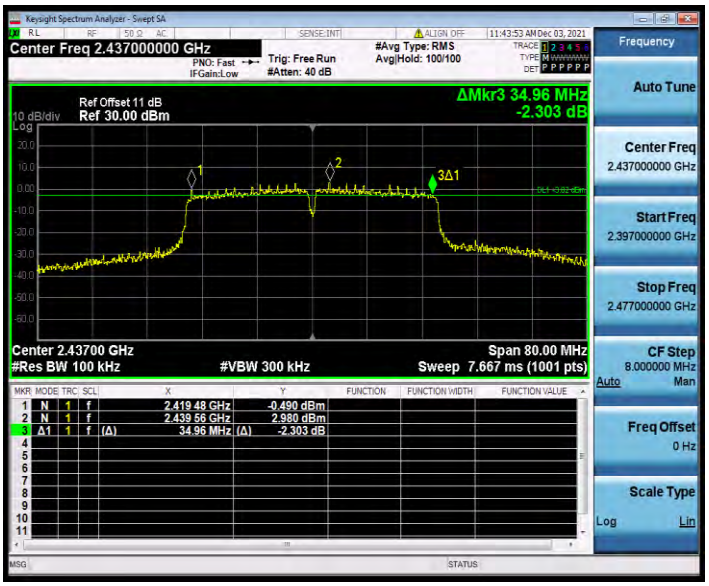
11N20SISO_Ant1_2462



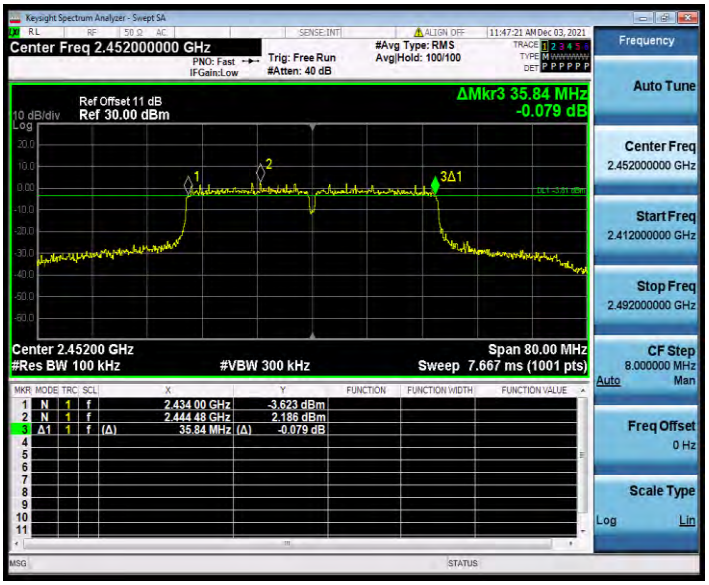
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



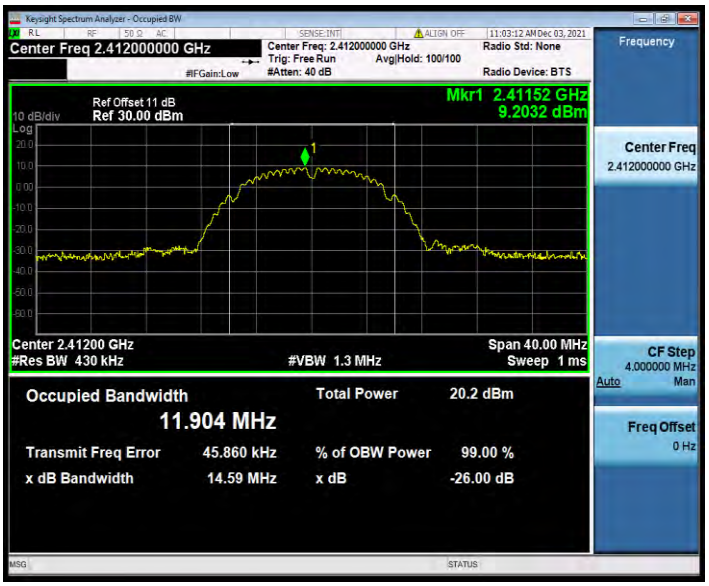
OCCUPIED CHANNEL BANDWIDTH

TEST RESULT

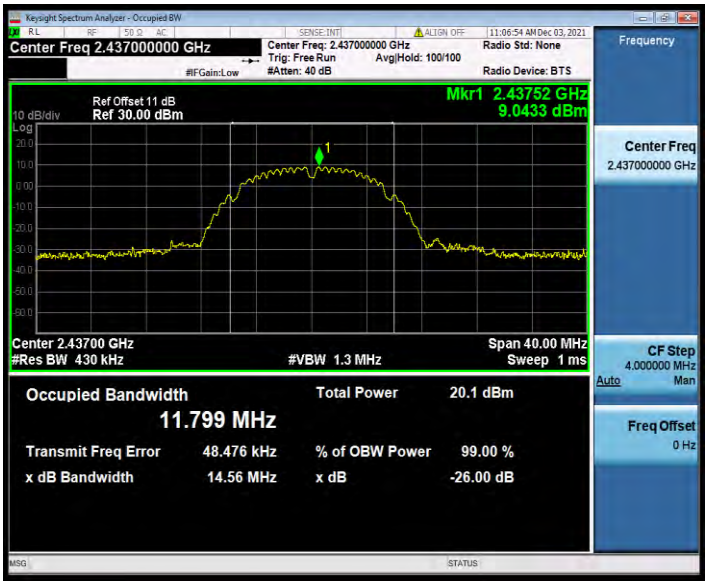
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.904	2406.094	2417.998	---	PASS
		2437	11.799	2431.149	2442.948	---	PASS
		2462	11.819	2456.153	2467.972	---	PASS
11G	Ant1	2412	16.814	2403.673	2420.487	---	PASS
		2437	16.986	2428.624	2445.610	---	PASS
		2462	16.865	2453.601	2470.466	---	PASS
11N20SISO	Ant1	2412	17.651	2403.262	2420.913	---	PASS
		2437	17.653	2428.232	2445.885	---	PASS
		2462	17.685	2453.193	2470.878	---	PASS
11N40SISO	Ant1	2422	36.414	2404.043	2440.457	---	PASS
		2437	36.128	2419.053	2455.181	---	PASS
		2452	36.328	2433.809	2470.137	---	PASS

TEST GRAPHS

11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462