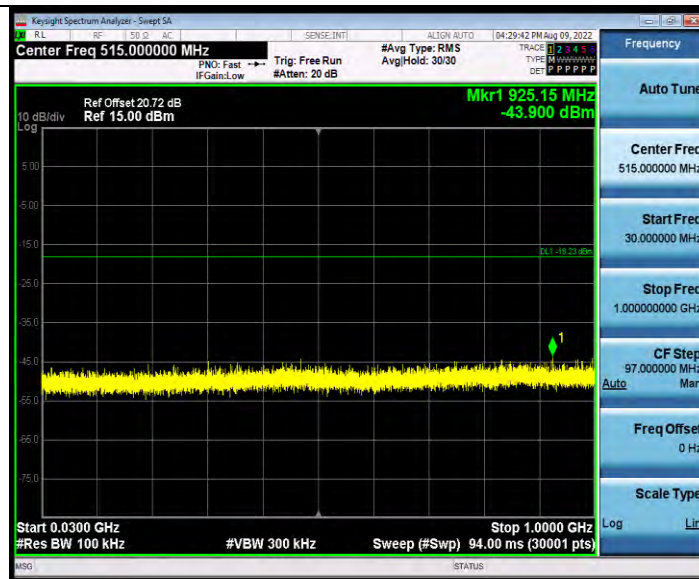




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Test Report No.: W7L-P22070039RF02



11N40SISO_Ant1_2452_1000~26500





DUTY CYCLE TEST RESULT

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11B	Ant1	2412	8.37	8.58	97.55
		2437	8.40	8.61	97.56
		2462	8.37	8.55	97.89
11G	Ant1	2412	1.40	1.59	88.05
		2437	1.39	1.56	89.10
		2462	1.39	1.57	88.54
11N20SISO	Ant1	2412	1.17	1.35	86.67
		2437	1.17	1.41	82.98
		2462	1.17	1.35	86.67
11N40SISO	Ant1	2422	0.59	0.83	71.08
		2437	0.58	0.78	74.36
		2452	0.59	0.83	71.08

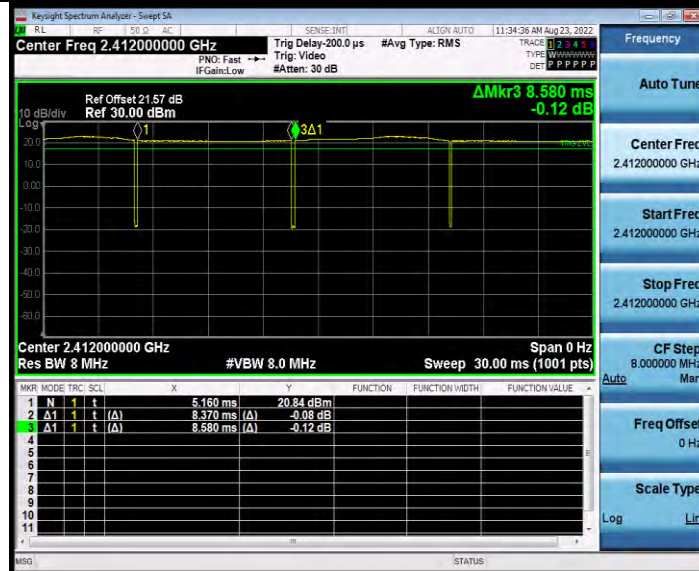


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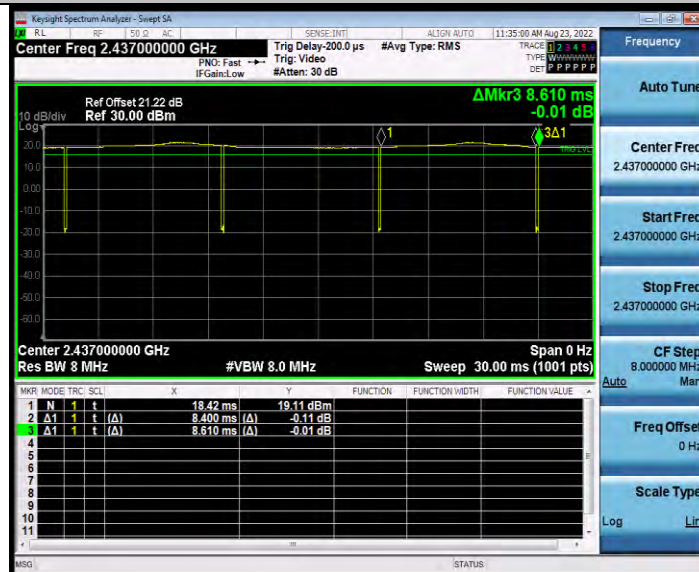
Test Report No.: W7L-P22070039RF02

TEST GRAPHS

11B_Ant1_2412



11B_Ant1_2437

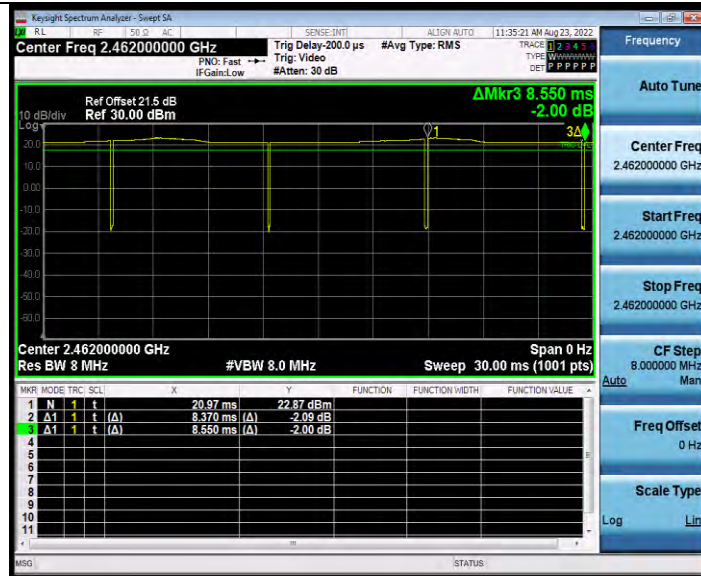


11B_Ant1_2462

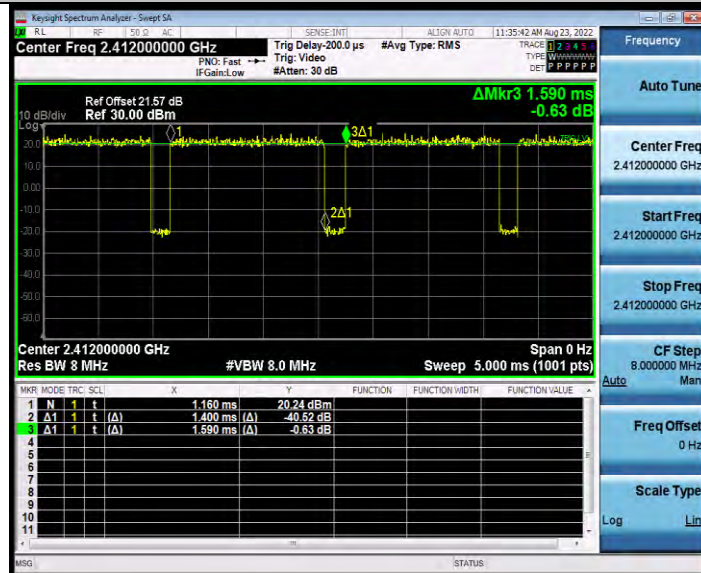


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Test Report No.: W7L-P22070039RF02



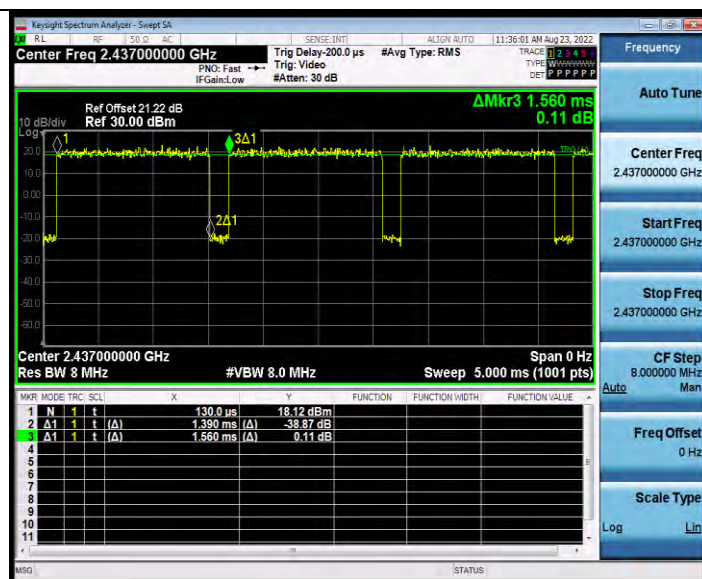
11G_Ant1_2412



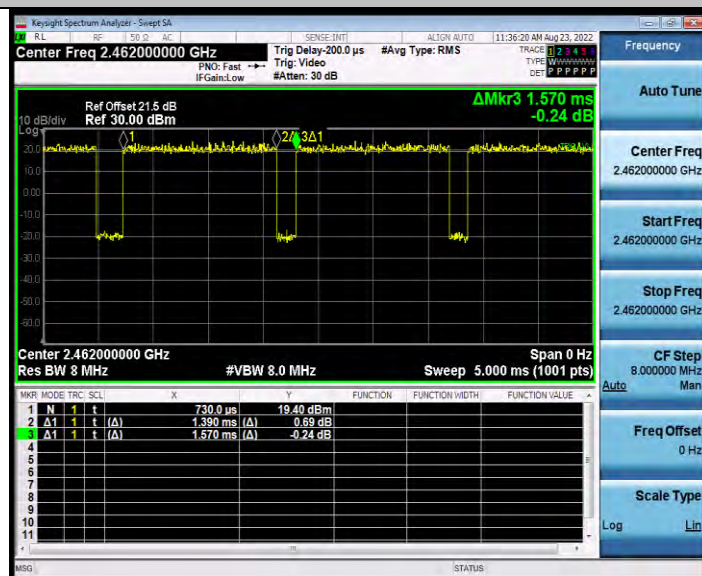
11G_Ant1_2437



Test Report No.: W7L-P22070039RF02



11G Ant1 2462

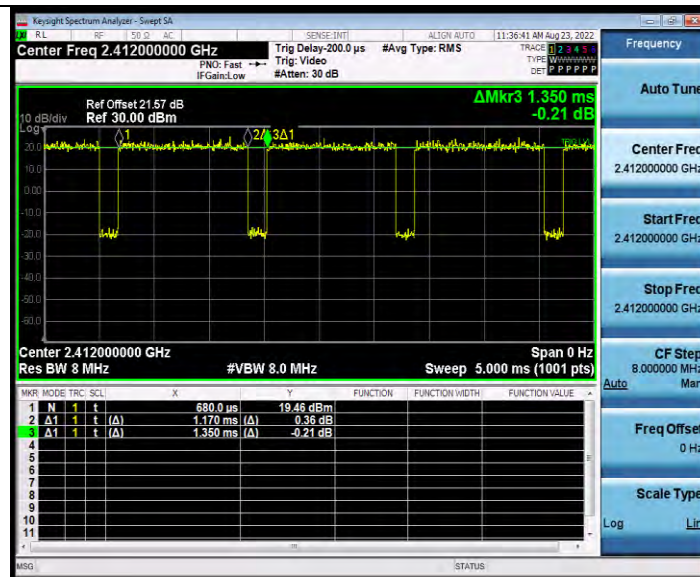


11N20SISO Ant1 2412

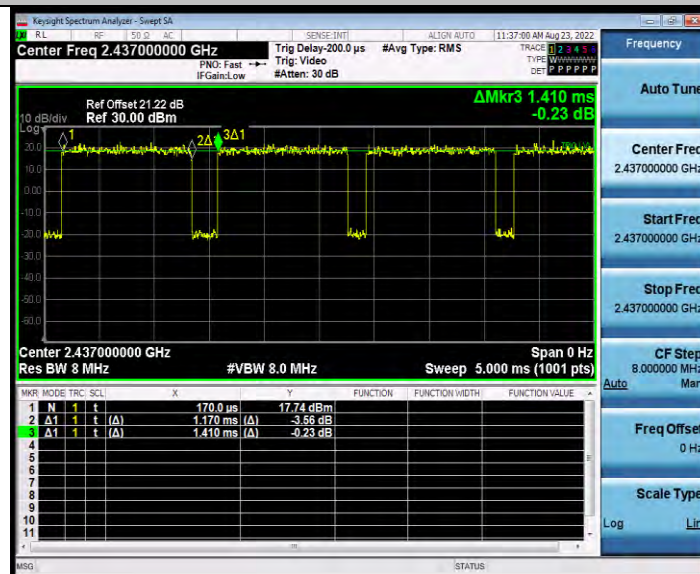


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Test Report No.: W7L-P22070039RF02



11N20SISO_Ant1_2437

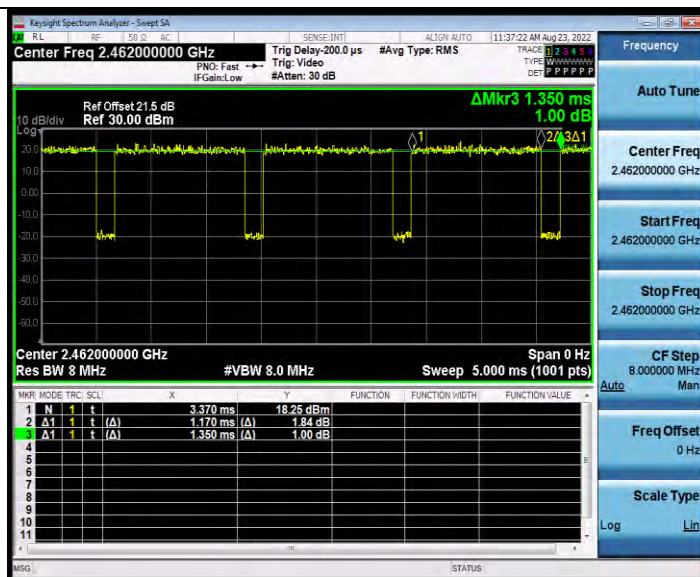


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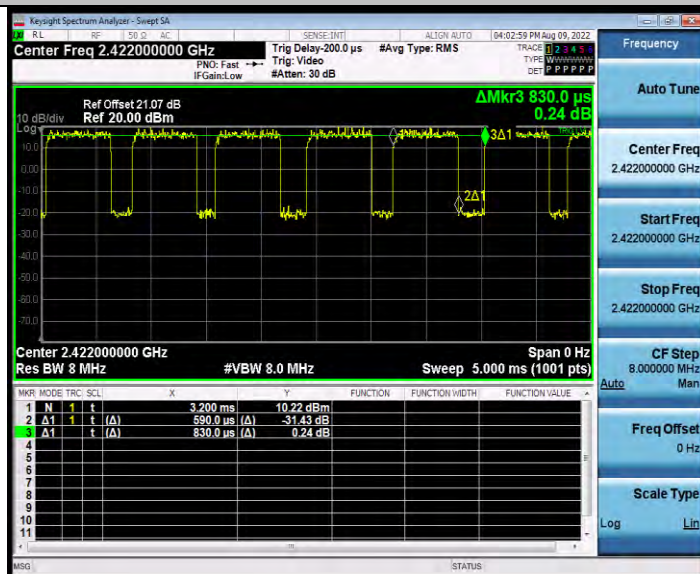


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Test Report No.: W7L-P22070039RF02



11N40SISO_Ant1_2422

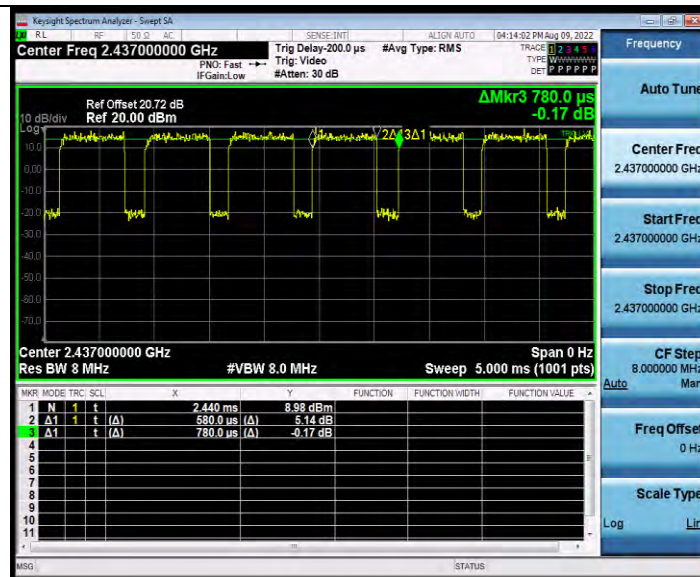


11N40SISO_Ant1_2437

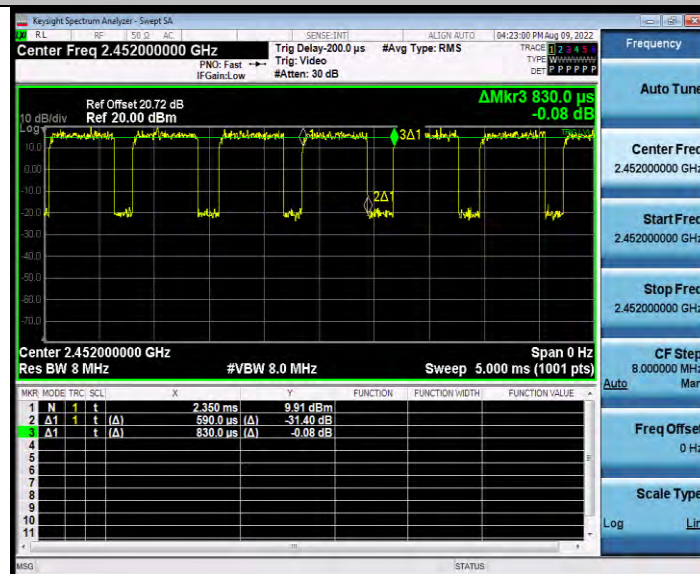


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Test Report No.: W7L-P22070039RF02



11N40SISO_Ant1_2452





7 Appendix 2 BLE

DTS BANDWIDTH

TEST RESULT

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_125K	Ant1	2402	0.676	2401.656	2402.332	0.5	PASS
		2440	0.620	2439.684	2440.304	0.5	PASS
		2480	0.676	2479.652	2480.328	0.5	PASS
BLE_1M	Ant1	2402	0.668	2401.656	2402.324	0.5	PASS
		2440	0.660	2439.660	2440.320	0.5	PASS
		2480	0.676	2479.652	2480.328	0.5	PASS
BLE_2M	Ant1	2402	1.160	2401.416	2402.576	0.5	PASS
		2440	1.144	2439.416	2440.560	0.5	PASS
		2480	1.124	2479.416	2480.540	0.5	PASS
BLE_500K	Ant1	2402	0.644	2401.668	2402.312	0.5	PASS
		2440	0.684	2439.660	2440.344	0.5	PASS
		2480	0.652	2479.672	2480.324	0.5	PASS



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Test Report No.: W7L-P22070039RF02

TEST GRAPHS

BLE_125K_Ant1_2402



BLE_125K_Ant1_2440



BLE_125K_Ant1_2480



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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



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Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



BUREAU
VERITAS

Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2480



**OCCUPIED CHANNEL BANDWIDTH****TEST RESULT**

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_125K	Ant1	2402	1.0392	2401.472	2402.511	---	---
		2440	1.0404	2439.472	2440.512	---	---
		2480	1.0389	2479.471	2480.510	---	---
BLE_1M	Ant1	2402	1.0133	2401.495	2402.508	---	---
		2440	1.0175	2439.489	2440.506	---	---
		2480	1.0211	2479.487	2480.508	---	---
BLE_2M	Ant1	2402	2.0333	2400.993	2403.026	---	---
		2440	2.0385	2438.993	2441.032	---	---
		2480	2.0383	2478.990	2481.028	---	---
BLE_500K	Ant1	2402	1.0103	2401.486	2402.496	---	---
		2440	1.0034	2439.491	2440.495	---	---
		2480	1.0056	2479.488	2480.494	---	---

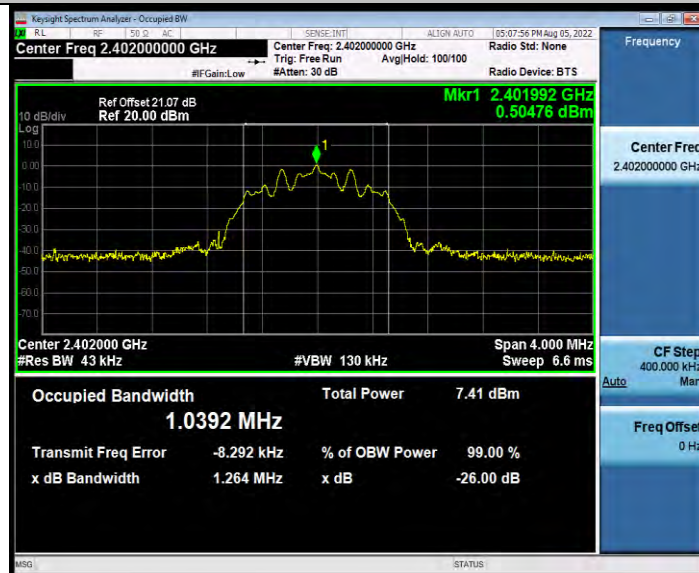


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VERITAS

Test Report No.: W7L-P22070039RF02

TEST GRAPHS

BLE_125K_Ant1_2402



BLE_125K_Ant1_2440



BLE_125K_Ant1_2480

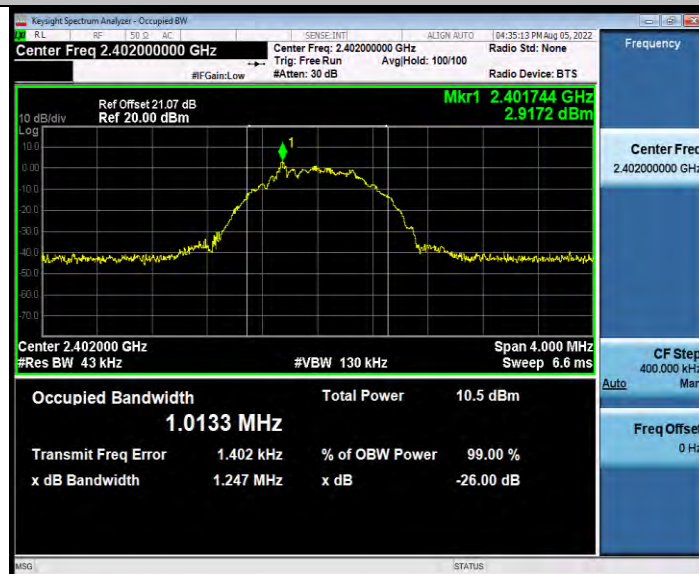


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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2402

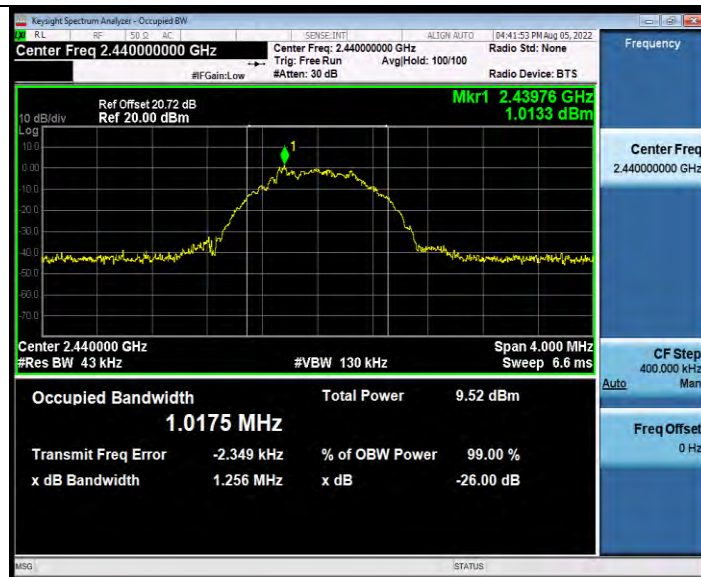


BLE_1M_Ant1_2440

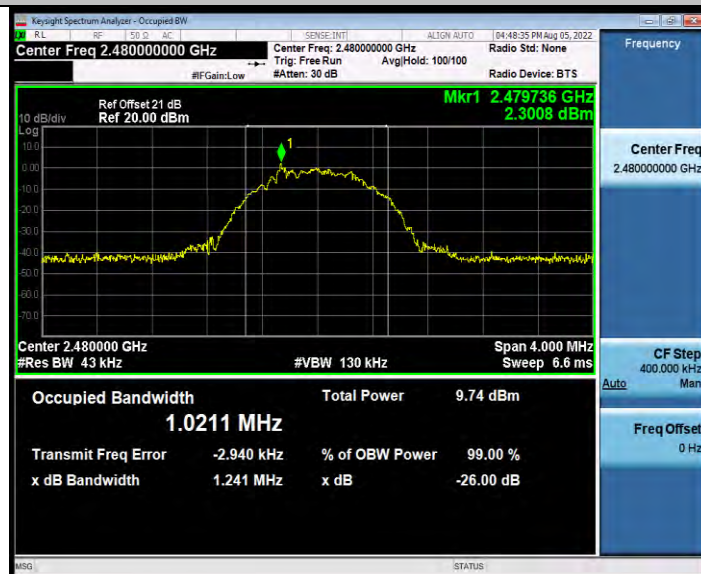


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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



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Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

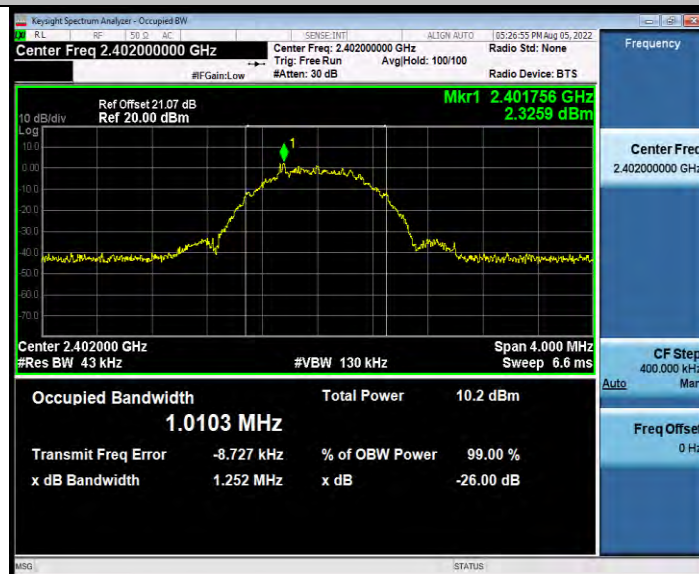


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Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2402

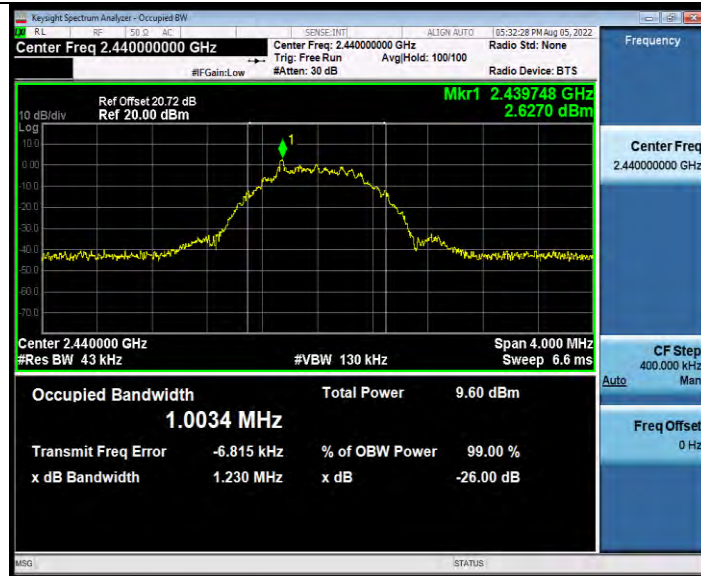


BLE_500K_Ant1_2440

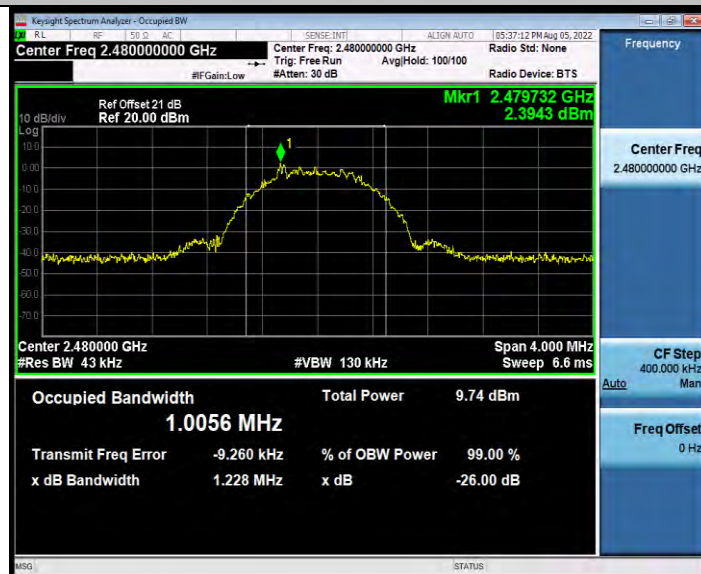


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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2480



**MAXIMUM CONDUCTED OUTPUT POWER****TEST RESULT PEAK**

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Peak Power[mW]	Conducted Limit[dBm]	Verdict	Power setting
BLE_125K	Ant1	2402	3.58	2.28	≤30	PASS	Default
		2440	3.74	2.37	≤30	PASS	Default
		2480	3.50	2.24	≤30	PASS	Default
BLE_1M	Ant1	2402	4.44	2.78	≤30	PASS	Default
		2440	4.50	2.82	≤30	PASS	Default
		2480	4.24	2.65	≤30	PASS	Default
BLE_2M	Ant1	2402	3.90	2.45	≤30	PASS	Default
		2440	4.00	2.51	≤30	PASS	Default
		2480	3.75	2.37	≤30	PASS	Default
BLE_500K	Ant1	2402	3.85	2.43	≤30	PASS	Default
		2440	3.98	2.5	≤30	PASS	Default
		2480	3.70	2.34	≤30	PASS	Default

TEST RESULT AVERAGE

TestMode	Antenna	Frequency[MHz]	Average Power[dBm]	Average Power[mW]	Conducted Limit[dBm]	Power setting
BLE_125K	Ant1	2402	3.31	2.14	/	Default
		2440	3.40	2.19	/	Default
		2480	3.19	2.08	/	Default
BLE_1M	Ant1	2402	2.80	1.91	/	Default
		2440	2.98	1.99	/	Default
		2480	2.50	1.78	/	Default
BLE_2M	Ant1	2402	1.64	1.46	/	Default
		2440	1.66	1.47	/	Default
		2480	1.42	1.39	/	Default
BLE_500K	Ant1	2402	2.49	1.77	/	Default
		2440	2.59	1.82	/	Default
		2480	2.35	1.72	/	Default



Test Report No.: W7L-P22070039RF02



Test Report No.: W7L-P22070039RF02

MAXIMUM POWER SPECTRAL DENSITY

TEST RESULT

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_125K	Ant1	2402	-2.62	≤8.00	PASS
		2440	-3.38	≤8.00	PASS
		2480	-3.09	≤8.00	PASS
BLE_1M	Ant1	2402	-12.38	≤8.00	PASS
		2440	-13.11	≤8.00	PASS
		2480	-12.9	≤8.00	PASS
BLE_2M	Ant1	2402	-15.75	≤8.00	PASS
		2440	-16.42	≤8.00	PASS
		2480	-16.21	≤8.00	PASS
BLE_500K	Ant1	2402	-2.54	≤8.00	PASS
		2440	-3.3	≤8.00	PASS
		2480	-3.01	≤8.00	PASS



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VERITAS

Test Report No.: W7L-P22070039RF02

TEST GRAPHS

BLE_125K_Ant1_2402



BLE_125K_Ant1_2440



BLE_125K_Ant1_2480



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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



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Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



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Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



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Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2480





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Test Report No.: W7L-P22070039RF02

REFERENCE LEVEL MEASUREMENT

TEST RESULT

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_125K	Ant1	2402	2401.78	1.56
		2440	2439.76	2.32
		2480	2479.99	0.30
BLE_1M	Ant1	2402	2401.74	3.87
		2440	2439.74	3.01
		2480	2479.74	3.35
BLE_2M	Ant1	2402	2401.49	3.49
		2440	2439.50	2.65
		2480	2479.50	3.00
BLE_500K	Ant1	2402	2401.75	3.72
		2440	2439.74	3.05
		2480	2479.74	3.36



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Test Report No.: W7L-P22070039RF02

TEST GRAPHS

BLE_125K_Ant1_2402



BLE_125K_Ant1_2440



BLE_125K_Ant1_2480



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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



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Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



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Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



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Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2480





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Test Report No.: W7L-P22070039RF02

BAND EDGE MEASUREMENTS

TEST RESULT

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_125K	Ant1	Low	2402	1.56	-34.81	≤ -18.44	PASS
		High	2480	0.30	-34.65	≤ -19.7	PASS
BLE_1M	Ant1	Low	2402	3.87	-34.1	≤ -16.13	PASS
		High	2480	3.35	-34.91	≤ -16.65	PASS
BLE_2M	Ant1	Low	2402	3.49	-34.34	≤ -16.51	PASS
		High	2480	3.00	-34.03	≤ -17	PASS
BLE_500K	Ant1	Low	2402	3.72	-34.97	≤ -16.28	PASS
		High	2480	3.36	-34.76	≤ -16.64	PASS

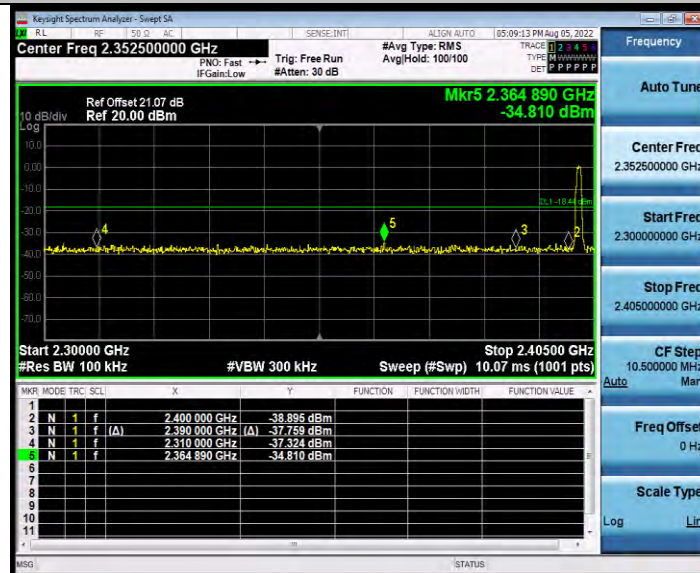


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VERITAS

Test Report No.: W7L-P22070039RF02

TEST GRAPHS

BLE_125K_Ant1_Low_2402



BLE_125K_Ant1_High_2480

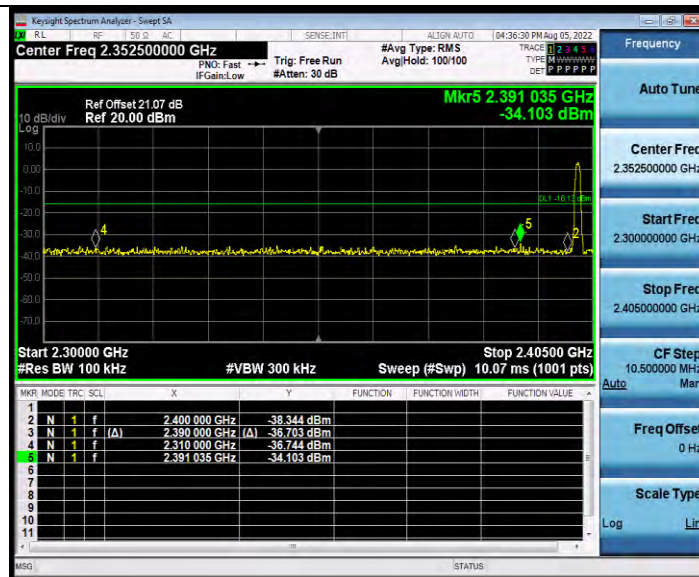


BLE_1M_Ant1_Low_2402

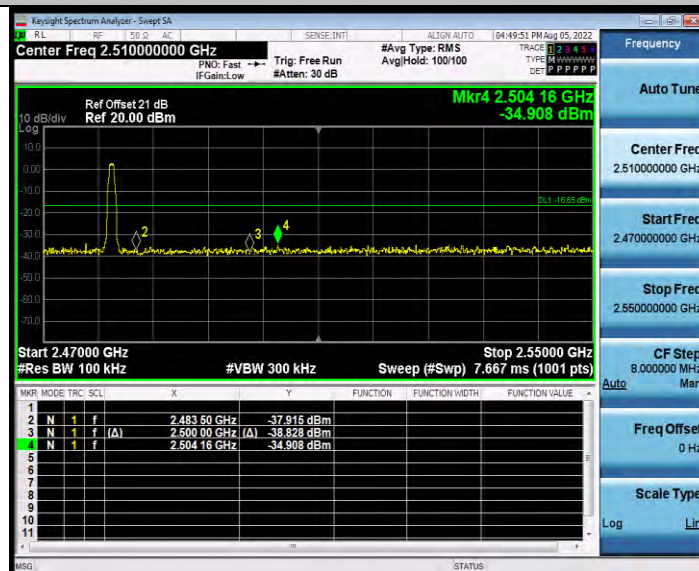


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Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_High_2480

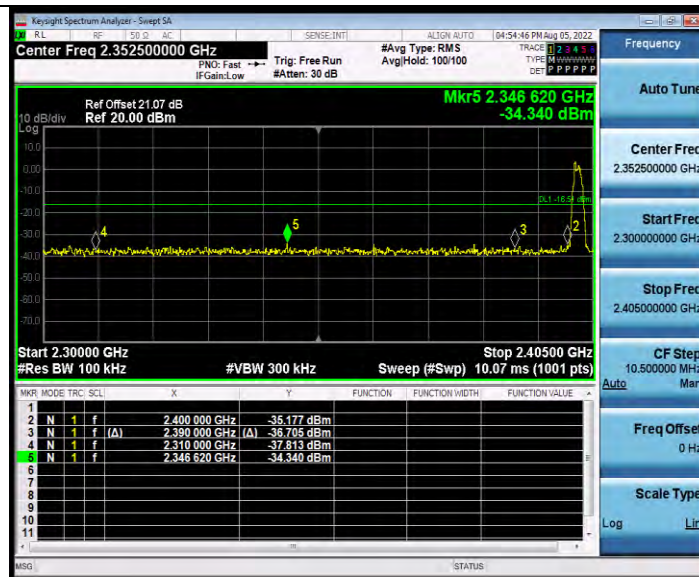


BLE_2M_Ant1_Low_2402

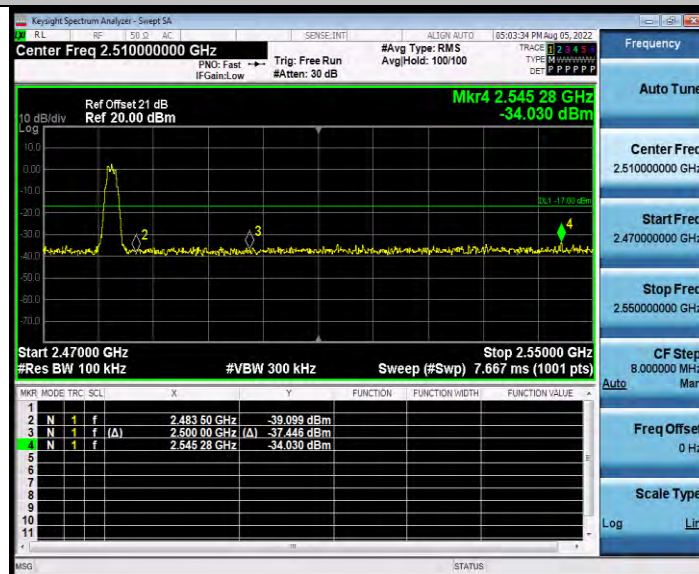


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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_High_2480

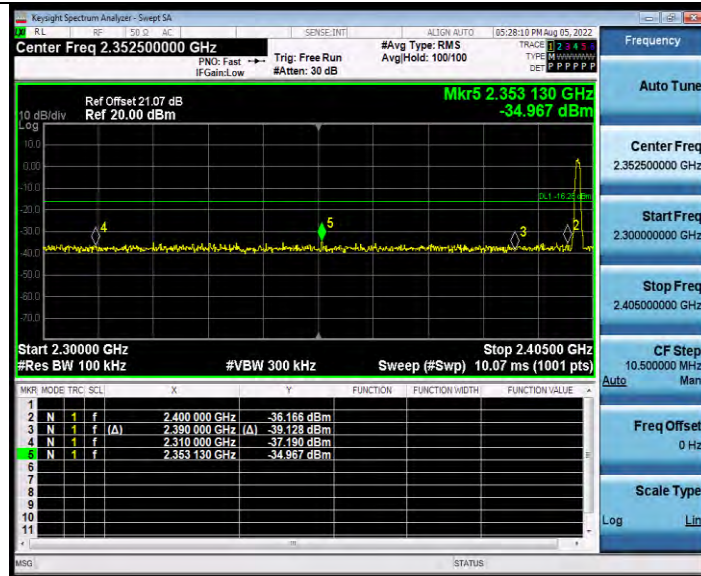


BLE_500K_Ant1_Low_2402

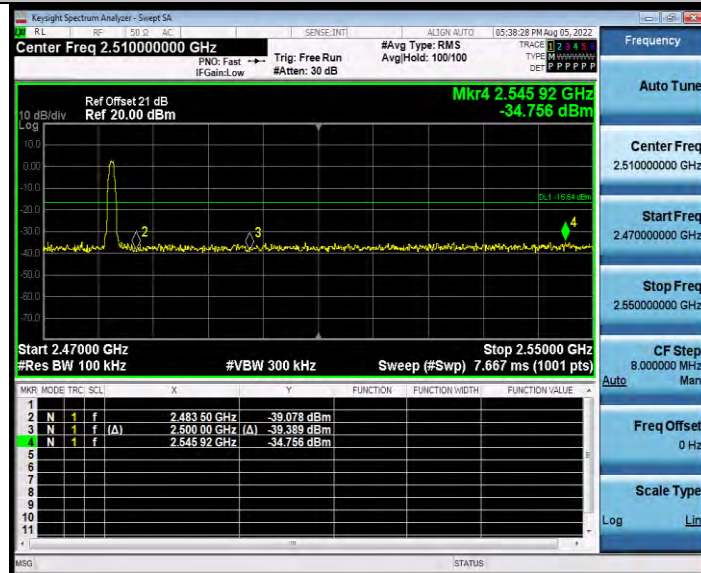


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Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_High_2480





**BUREAU
VERITAS**

Test Report No.: W7L-P22070039RF02

CONDUCTED SPURIOUS EMISSION

TEST RESULT

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_125K	Ant1	2402	30~1000	1.56	-42.83	≤-18.44	PASS
			1000~26500	1.56	-26.48	≤-18.44	PASS
		2440	30~1000	2.32	-44.25	≤-17.68	PASS
			1000~26500	2.32	-27.64	≤-17.68	PASS
		2480	30~1000	0.30	-43	≤-19.7	PASS
			1000~26500	0.30	-28.07	≤-19.7	PASS
BLE_1M	Ant1	2402	30~1000	3.87	-43.2	≤-16.13	PASS
			1000~26500	3.87	-28.03	≤-16.13	PASS
		2440	30~1000	3.01	-44.27	≤-16.99	PASS
			1000~26500	3.01	-28.27	≤-16.99	PASS
		2480	30~1000	3.35	-43.38	≤-16.65	PASS
			1000~26500	3.35	-28.04	≤-16.65	PASS
BLE_2M	Ant1	2402	30~1000	3.49	-44.23	≤-16.51	PASS
			1000~26500	3.49	-27.65	≤-16.51	PASS
		2440	30~1000	2.65	-44.54	≤-17.35	PASS
			1000~26500	2.65	-28.16	≤-17.35	PASS
		2480	30~1000	3.00	-43.77	≤-17	PASS
			1000~26500	3.00	-27.96	≤-17	PASS
BLE_500K	Ant1	2402	30~1000	3.72	-42.86	≤-16.28	PASS
			1000~26500	3.72	-27.64	≤-16.28	PASS
		2440	30~1000	3.05	-43.58	≤-16.95	PASS
			1000~26500	3.05	-28.22	≤-16.95	PASS
		2480	30~1000	3.36	-43.68	≤-16.64	PASS
			1000~26500	3.36	-28.44	≤-16.64	PASS



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Test Report No.: W7L-P22070039RF02

TEST GRAPHS

BLE_125K_Ant1_2402_30~1000



BLE_125K_Ant1_2402_1000~26500

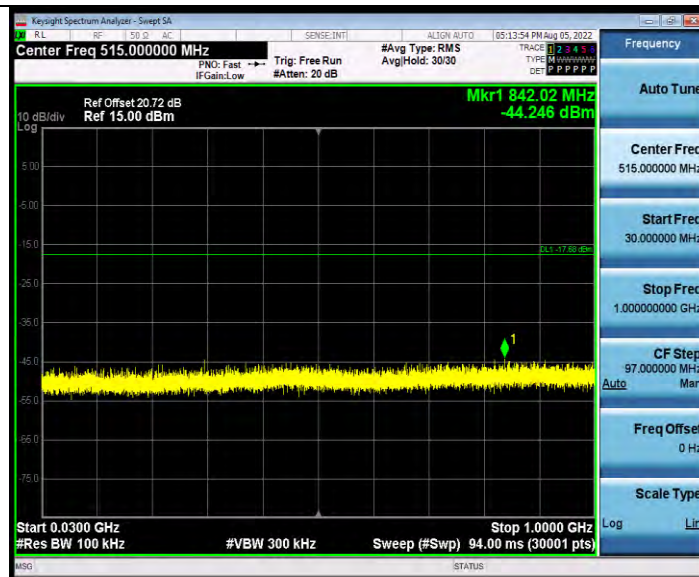


BLE_125K_Ant1_2440_30~1000



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Test Report No.: W7L-P22070039RF02



BLE_125K_Ant1_2440_1000~26500

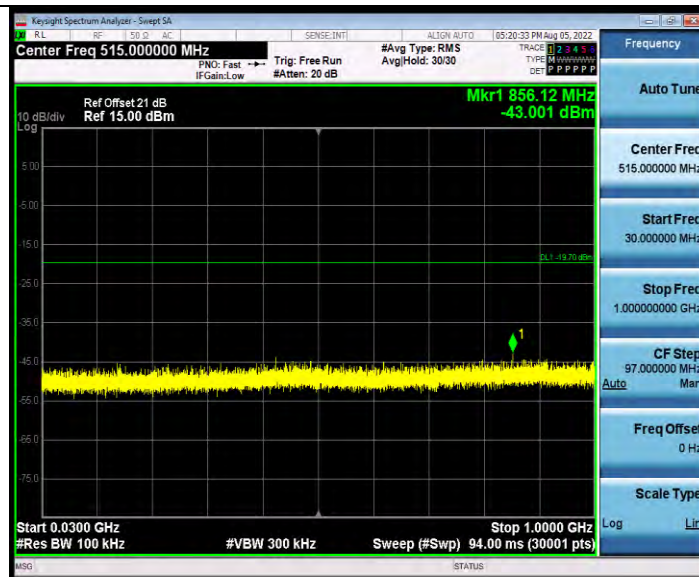


BLE_125K_Ant1_2480_30~1000



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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_125K_Ant1_2480_1000~26500

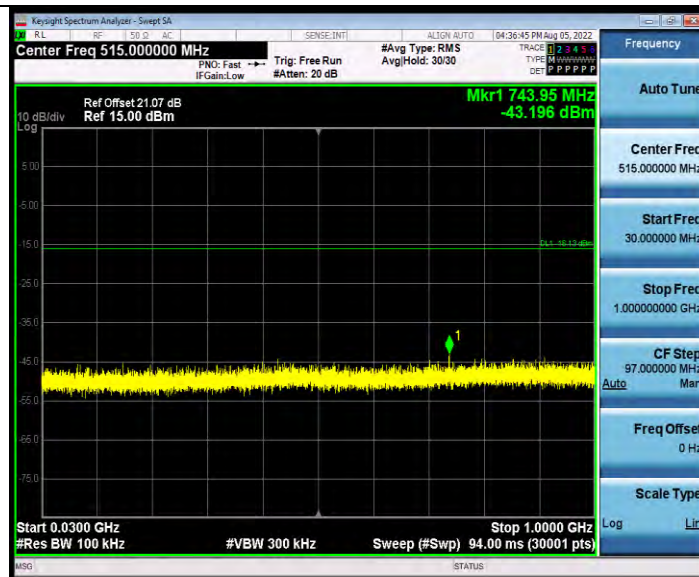


BLE_1M_Ant1_2402_30~1000



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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2402_1000~26500

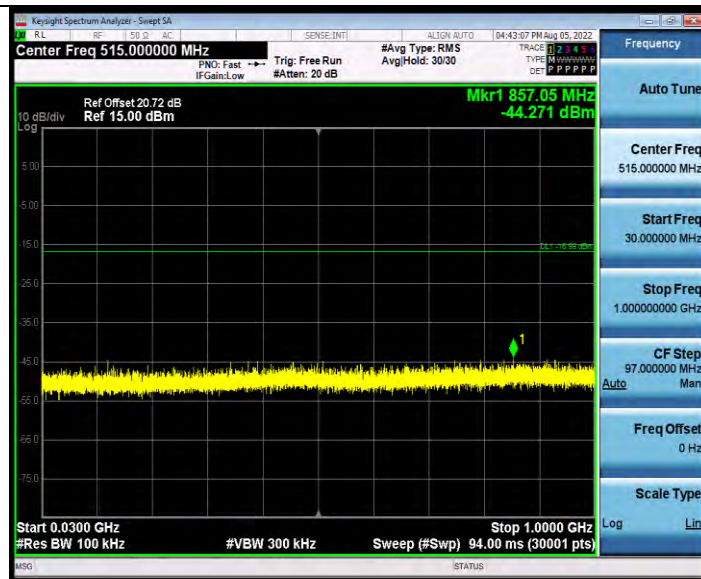


BLE_1M_Ant1_2440_30~1000



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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2440_1000~26500

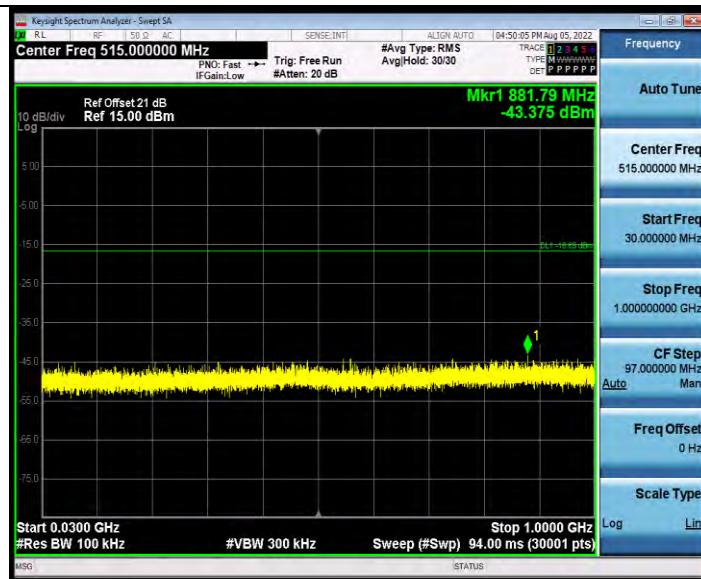


BLE_1M_Ant1_2480_30~1000



BUREAU
VERITAS

Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2480_1000~26500

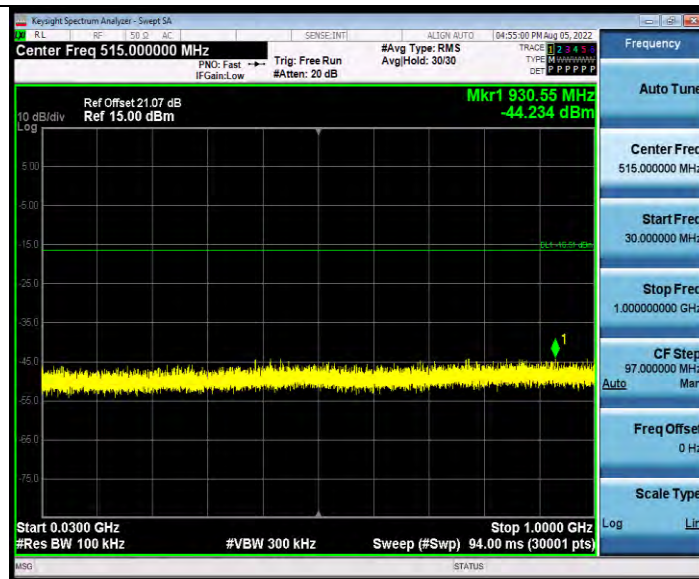


BLE_2M_Ant1_2402_30~1000



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Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2402_1000~26500

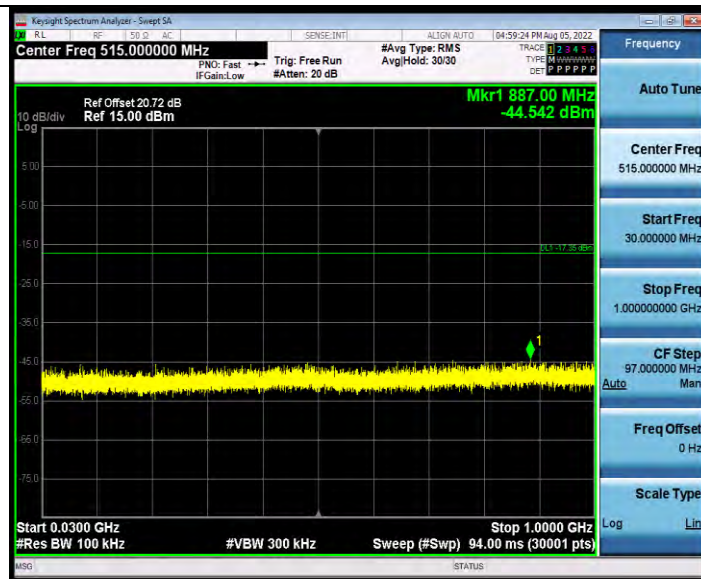


BLE_2M_Ant1_2440_30~1000



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Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2440_1000~26500

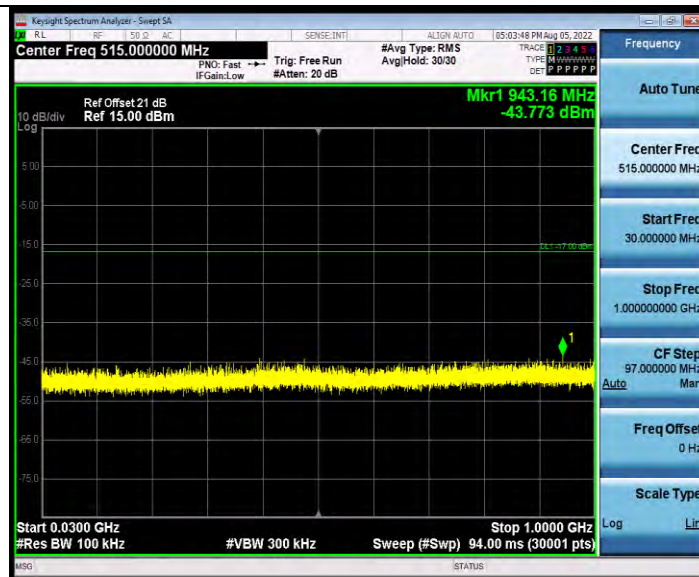


BLE_2M_Ant1_2480_30~1000



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Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2480_1000~26500



BLE_500K_Ant1_2402_30~1000



BUREAU
VERITAS

Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2402_1000~26500



BLE_500K_Ant1_2440_30~1000



BUREAU
VERITAS

Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2440_1000~26500

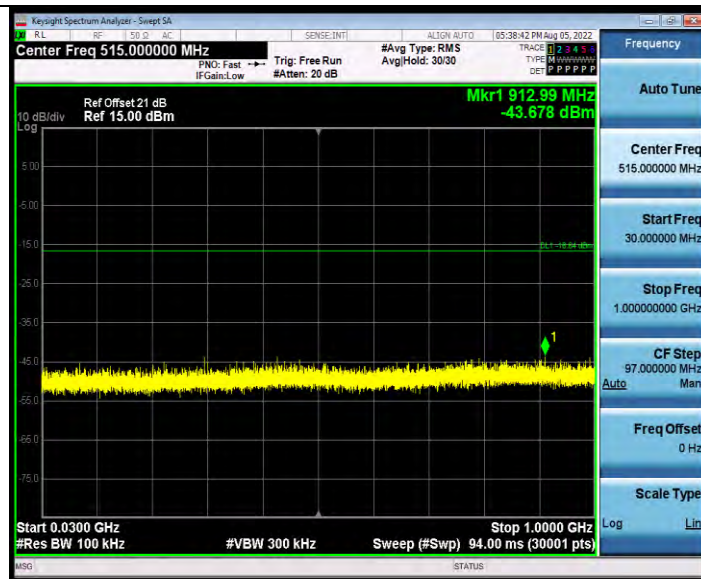


BLE_500K_Ant1_2480_30~1000



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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_500K_Ant1_2480_1000~26500





DUTY CYCLE TEST RESULT

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]
BLE_125K	Ant1	2402	13.05	13.75	94.91
		2440	13.05	13.75	94.91
		2480	13.05	13.75	94.91
BLE_1M	Ant1	2402	1.64	1.88	87.23
		2440	1.64	1.88	87.23
		2480	1.64	1.88	87.23
BLE_2M	Ant1	2402	0.82	1.25	65.60
		2440	0.82	1.25	65.60
		2480	0.82	1.25	65.60
BLE_500K	Ant1	2402	3.56	4.38	81.28
		2440	3.56	4.38	81.28
		2480	3.56	4.38	81.28

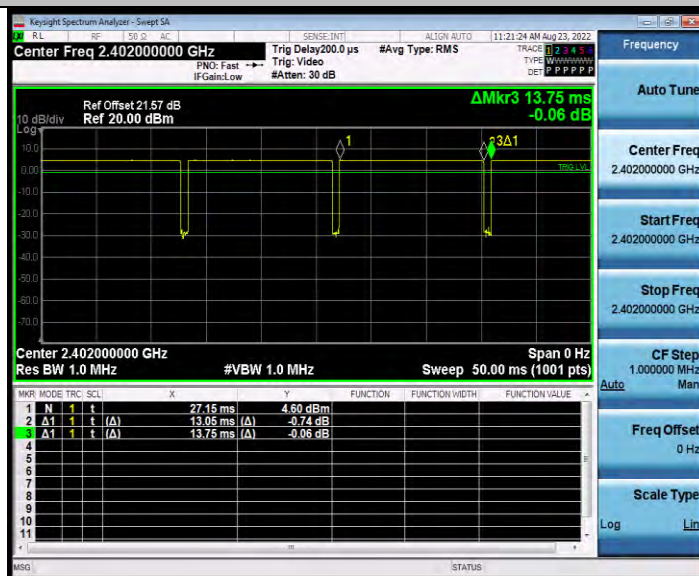


BUREAU
VERITAS

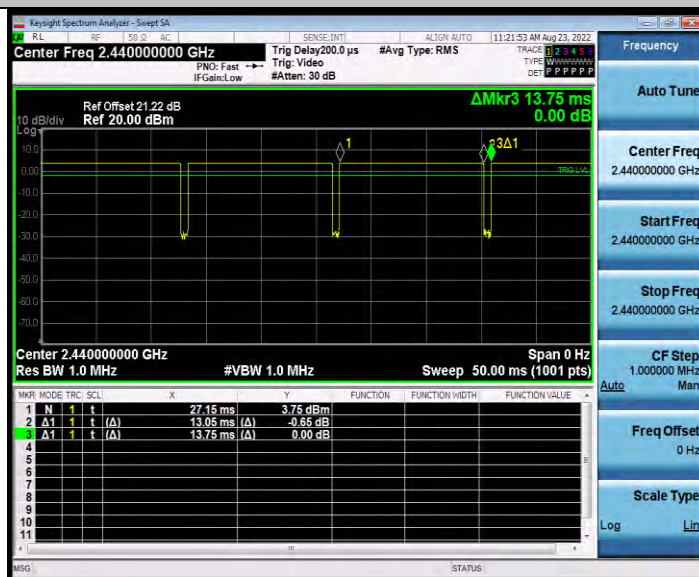
Test Report No.: W7L-P22070039RF02

TEST GRAPHS

BLE_125K_Ant1_2402



BLE_125K_Ant1_2440

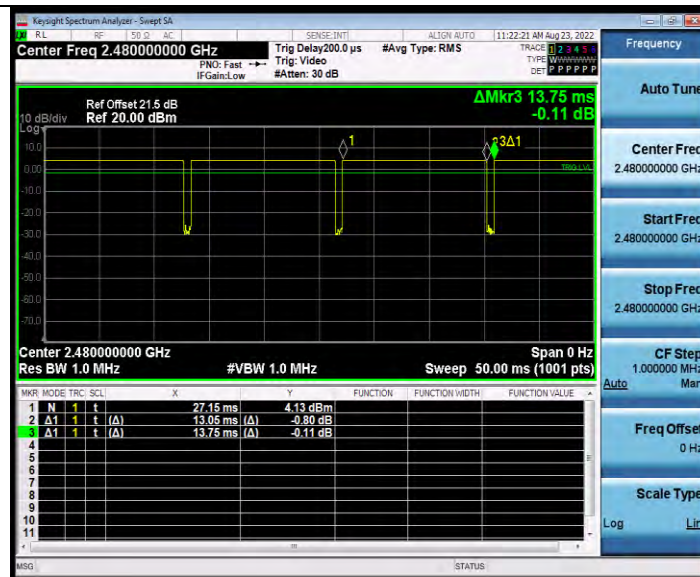


BLE_125K_Ant1_2480

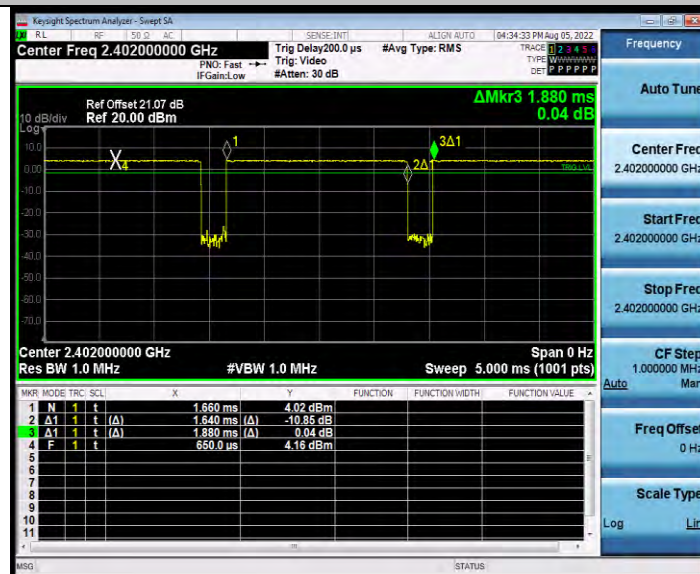


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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_1M_Ant1_2402



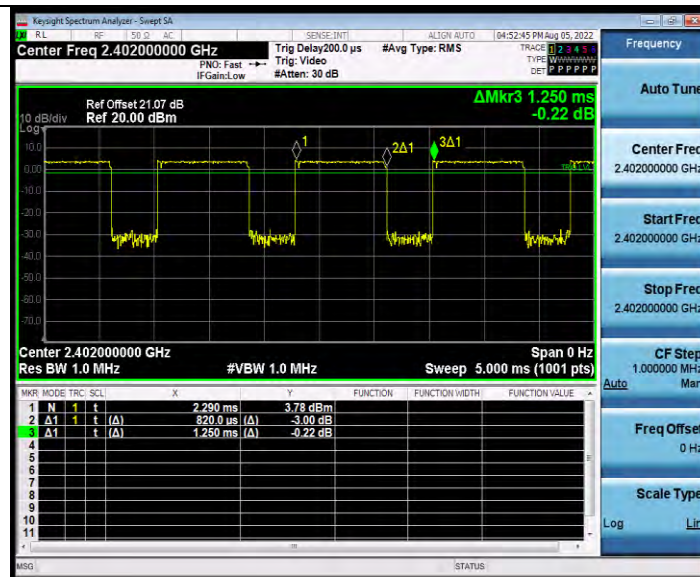
BLE_1M_Ant1_2440



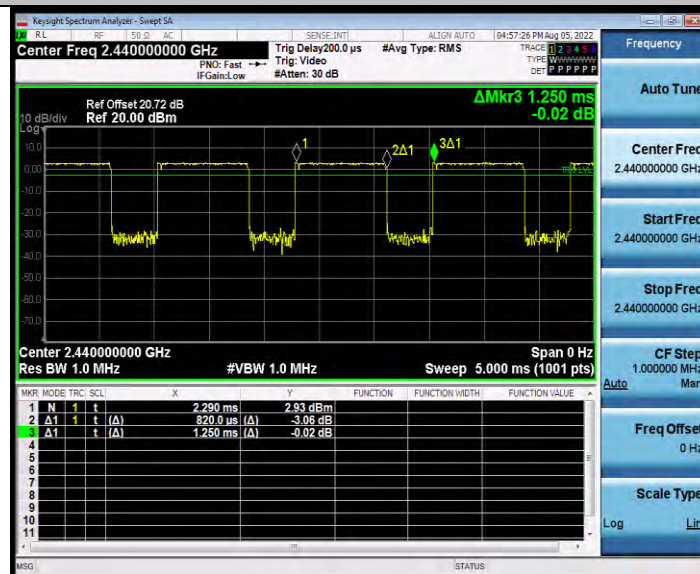


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VERITAS

Test Report No.: W7L-P22070039RF02



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480