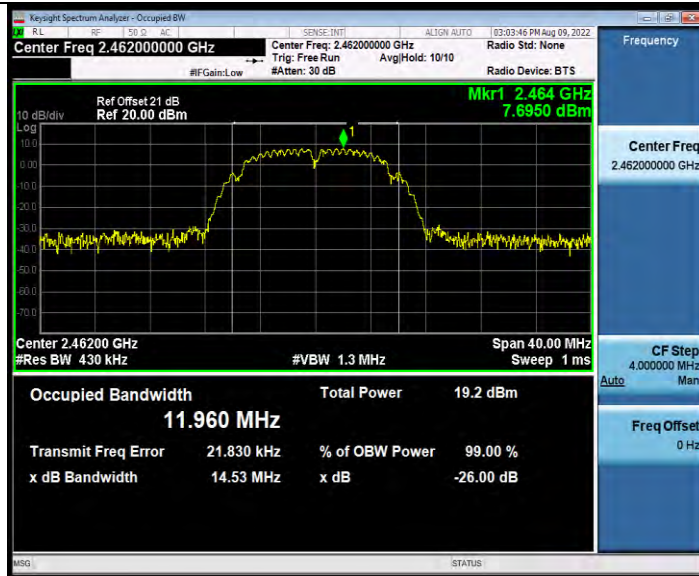


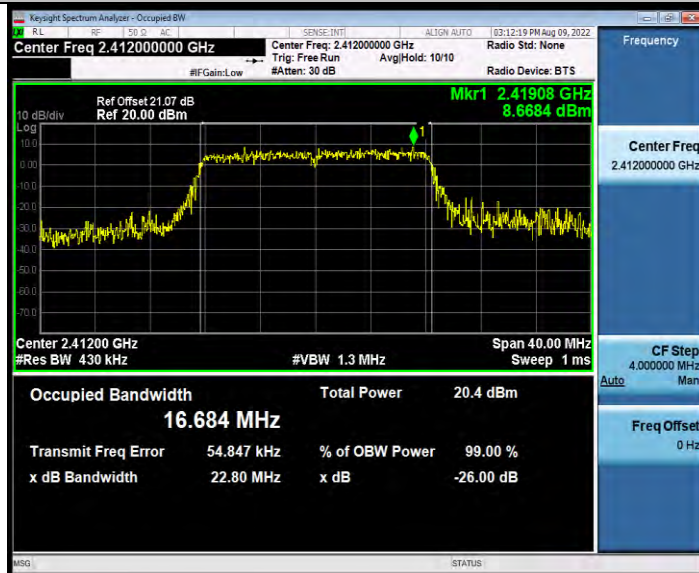


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Test Report No.: W7L-P22080003RF02



11G_Ant1_2412

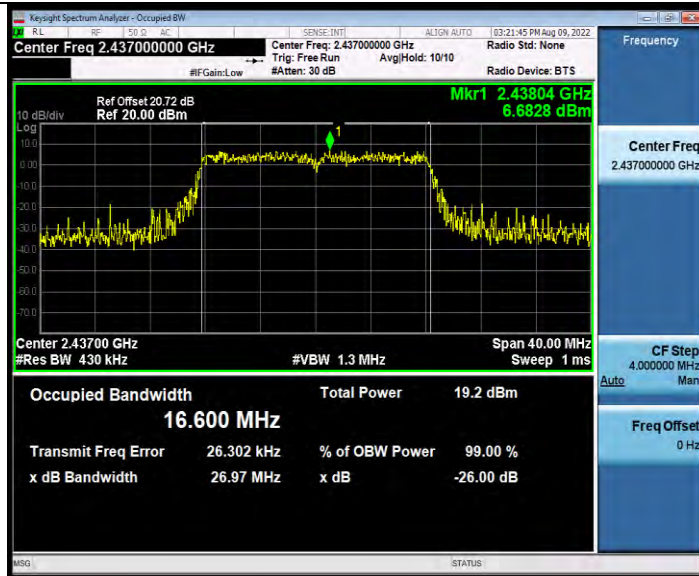


11G_Ant1_2437

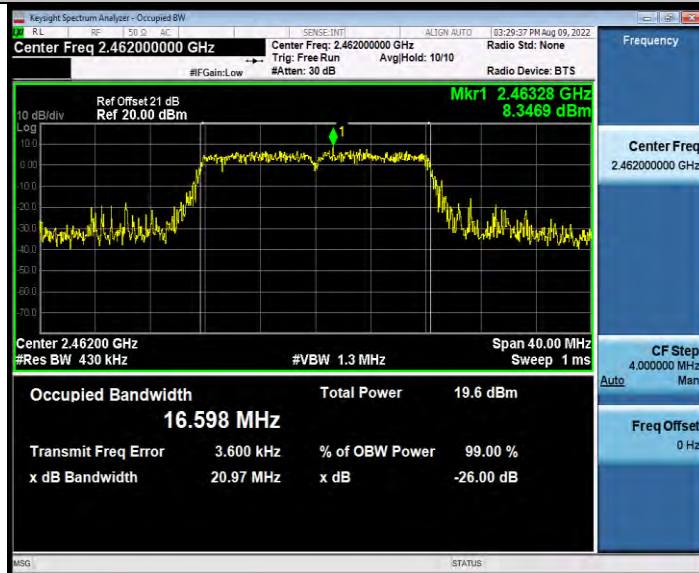


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Test Report No.: W7L-P22080003RF02



11G_Ant1_2462



11N20SISO_Ant1_2412

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 Email: customerservice.sw@bureauveritas.com

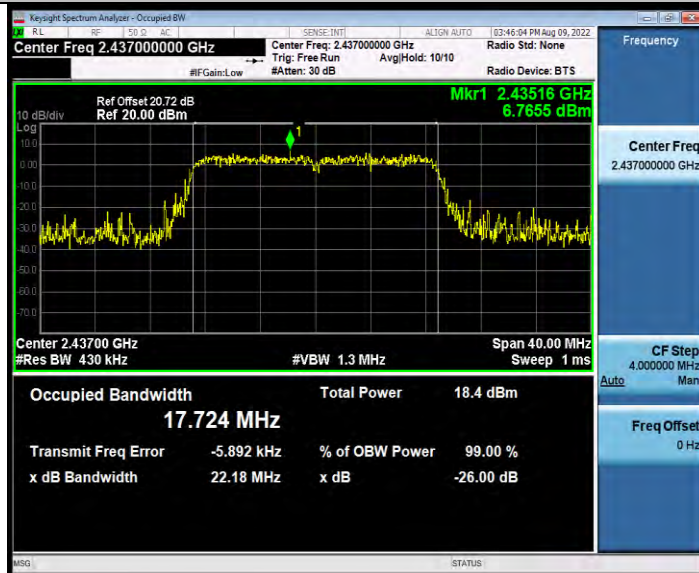


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Test Report No.: W7L-P22080003RF02



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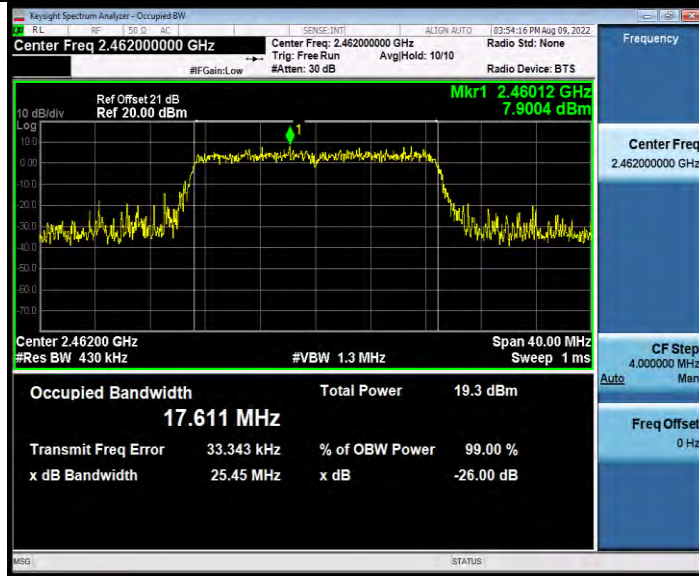


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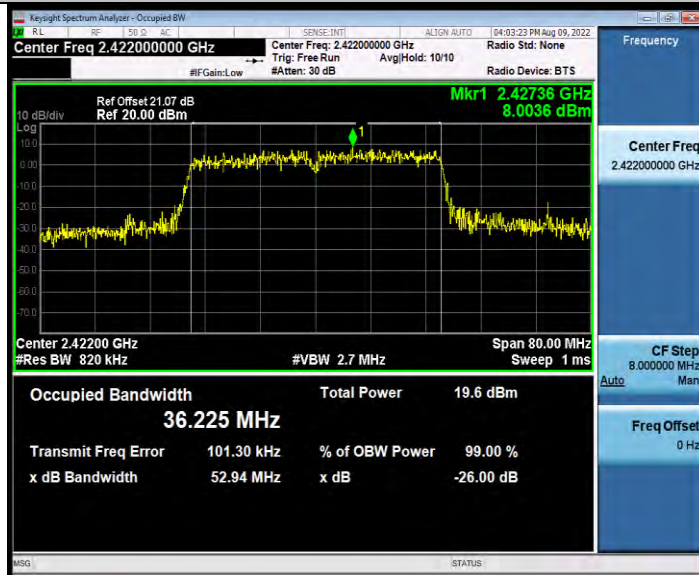


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11N40SISO_Ant1_2422

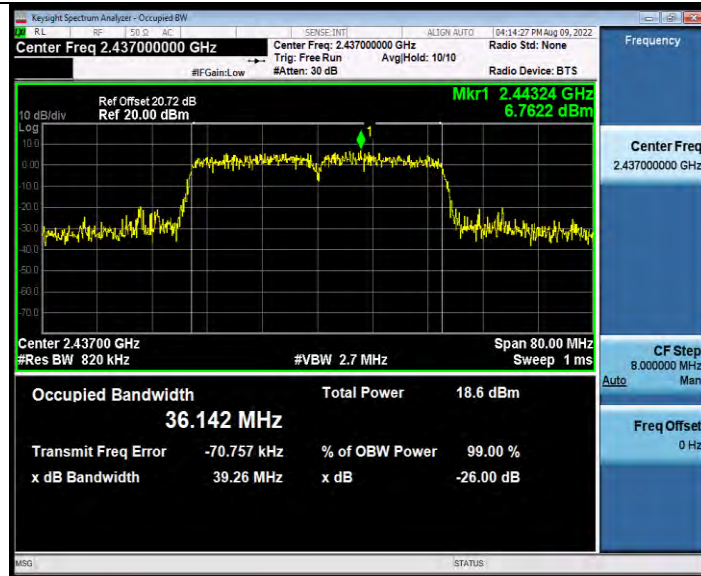


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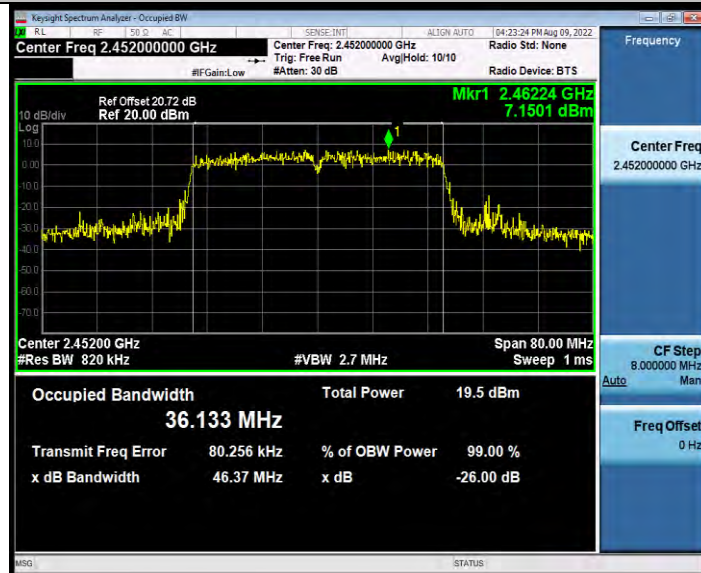


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11N40SISO_Ant1_2452



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**MAXIMUM CONDUCTED OUTPUT POWER
TEST RESULT PEAK**

TestMode	Antenna	Frequency [MHz]	Peak Power [dBm]	Peak Power [mW]	Conducted Limit [dBm]	Verdict	Set Power
11B	Ant1	2412	20.38	109.14	≤30.00	PASS	Default
		2437	19.52	89.54	≤30.00	PASS	Default
		2462	20.48	111.69	≤30.00	PASS	Default
11G	Ant1	2412	24.11	257.63	≤30.00	PASS	Default
		2437	22.58	181.13	≤30.00	PASS	Default
		2462	18.82	76.21	≤30.00	PASS	8
11N20SIS O	Ant1	2412	21.72	148.59	≤30.00	PASS	10
		2437	22.04	159.96	≤30.00	PASS	Default
		2462	18.88	77.27	≤30.00	PASS	8
11N40SIS O	Ant1	2422	17.52	56.49	≤30.00	PASS	7
		2437	21.16	130.62	≤30.00	PASS	Default
		2452	17.00	50.12	≤30.00	PASS	7

TEST RESULT AVERAGE

TestMode	Antenna	Frequency [MHz]	Average Power [dBm]	Average Power [mW]	Conducted Limit [dBm]	Verdict	Set Power
11B	Ant1	2412	16.38	43.45	/	PASS	Default
		2437	15.58	36.14	/	PASS	Default
		2462	16.52	44.87	/	PASS	Default
11G	Ant1	2412	16.16	41.3	/	PASS	Default
		2437	15.30	33.88	/	PASS	Default
		2462	11.01	12.62	/	PASS	8
11N20SIS O	Ant1	2412	13.33	21.53	/	PASS	10
		2437	14.02	25.23	/	PASS	Default
		2462	10.94	12.42	/	PASS	8
11N40SIS O	Ant1	2422	9.33	8.57	/	PASS	7
		2437	13.01	20	/	PASS	Default
		2452	9.22	8.36	/	PASS	7



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Test Report No.: W7L-P22080003RF02

SPOT CHECK

TestMode	Antenna	Frequenc y[MHz]	Peak Power[dBm]	Peak Power[mW]	Conducted Limit[dBm]	Verdict	Set Power
11G	Ant1	2412	23.95	248.31	≤30.00	PASS	Default
		2437	21.03	126.77	≤30.00	PASS	Default
		2462	18.31	67.76	≤30.00	PASS	8

TestMode	Antenna	Frequenc y[MHz]	Average Power[dBm]	Average Power[mW]	Conducted Limit[dBm]	Verdict	Set Power
11G	Ant1	2412	15.36	34.36	/	PASS	Default
		2437	14.88	30.76	/	PASS	Default
		2462	10.31	10.74	/	PASS	8

MAXIMUM POWER SPECTRAL DENSITY

TEST RESULT

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-3.49	≤8.00	PASS



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Test Report No.: W7L-P22080003RF02

		2437	-4.86	≤8.00	PASS
		2462	-3.48	≤8.00	PASS
11G	Ant1	2412	-7.72	≤8.00	PASS
		2437	-9.63	≤8.00	PASS
		2462	-9.58	≤8.00	PASS
11N20SISO	Ant1	2412	-8.45	≤8.00	PASS
		2437	-9.69	≤8.00	PASS
		2462	-8.79	≤8.00	PASS
11N40SISO	Ant1	2422	-12.21	≤8.00	PASS
		2437	-13.79	≤8.00	PASS
		2452	-12.78	≤8.00	PASS



BUREAU VERITAS

Test Report No.: W7L-P22080003RF02

TEST GRAPHS

11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



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Test Report No.: W7L-P22080003RF02



11G_Ant1_2412



11G_Ant1_2437

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11G_Ant1_2462



11N20SISO_Ant1_2412

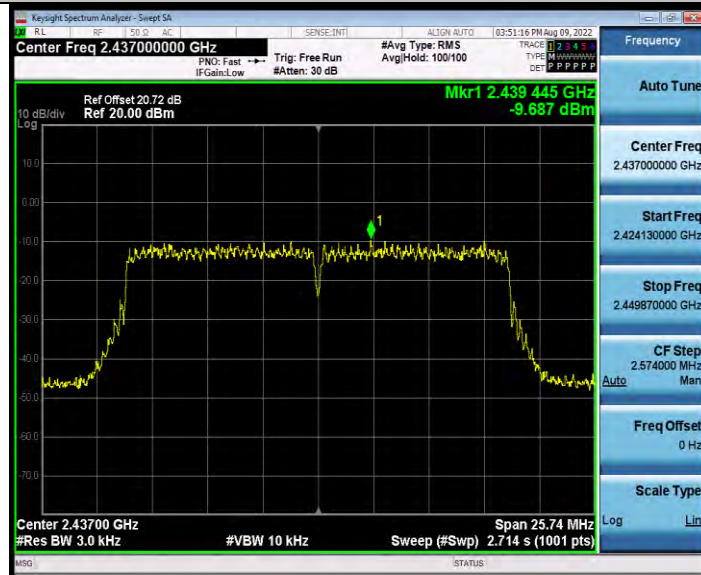


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Test Report No.: W7L-P22080003RF02



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



BUREAU VERITAS

Test Report No.: W7L-P22080003RF02



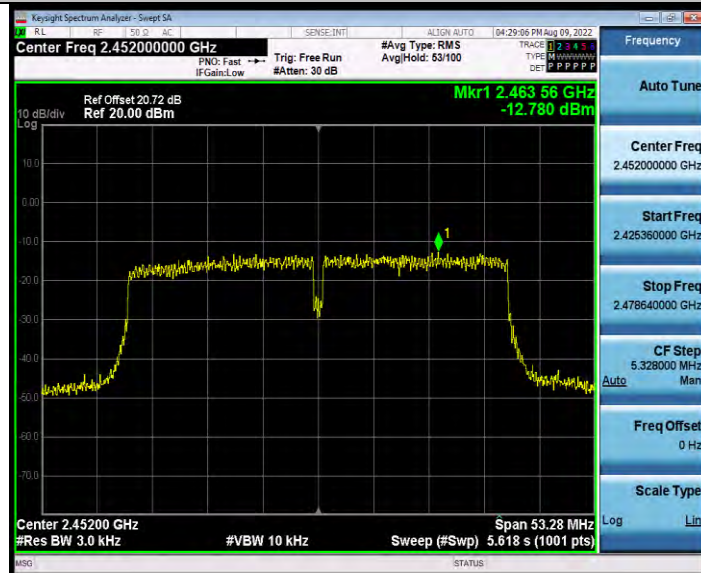
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452





REFERENCE LEVEL MEASUREMENT

TEST RESULT

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
11B	Ant1	2412	2413.99	7.57
		2437	2439.98	5.43
		2462	2462.99	7.69
11G	Ant1	2412	2413.25	5.66
		2437	2430.74	4.20
		2462	2469.49	4.87
11N20SISO	Ant1	2412	2419.51	5.40
		2437	2431.98	3.69
		2462	2466.99	4.09
11N40SISO	Ant1	2422	2434.49	2.10
		2437	2439.51	0.97
		2452	2463.24	1.77



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TEST GRAPHS

11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



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11G_Ant1_2412

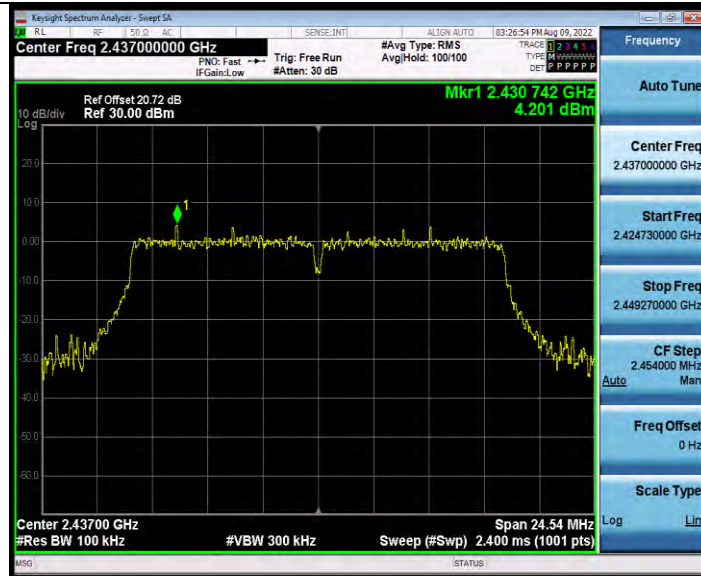


11G_Ant1_2437



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11G_Ant1_2462



11N20SISO_Ant1_2412



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Test Report No.: W7L-P22080003RF02



11N20SISO_Ant1_2437

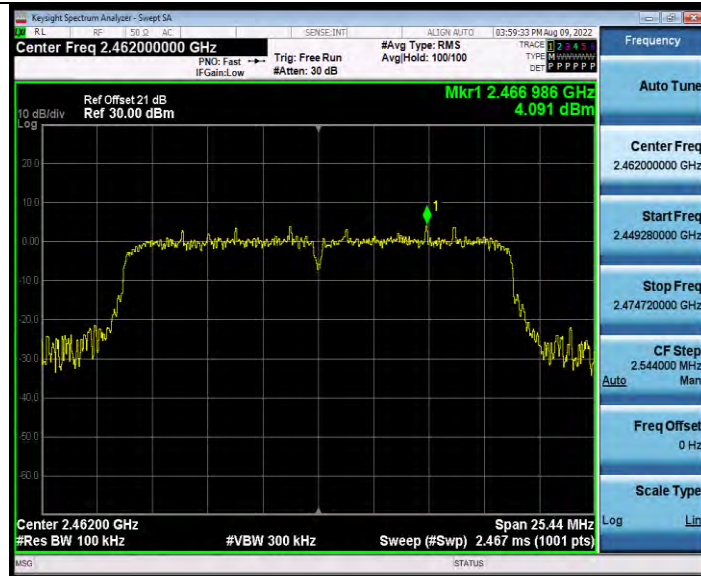


11N20SISO_Ant1_2462

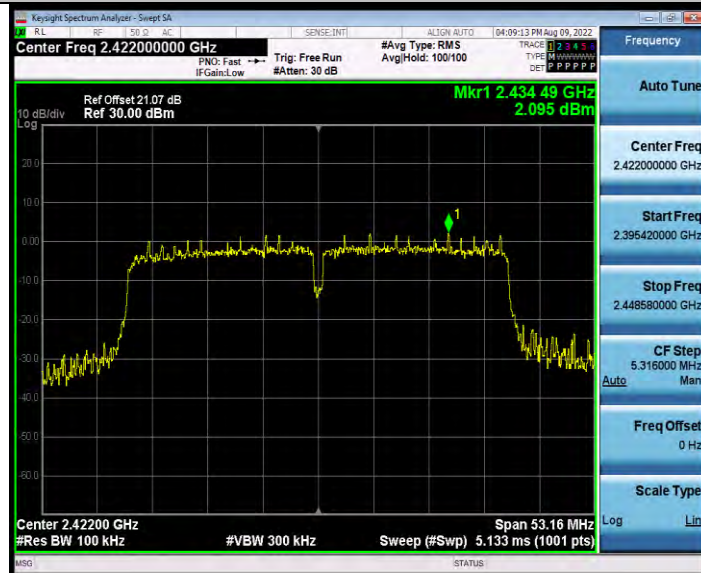


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11N40SISO_Ant1_2422

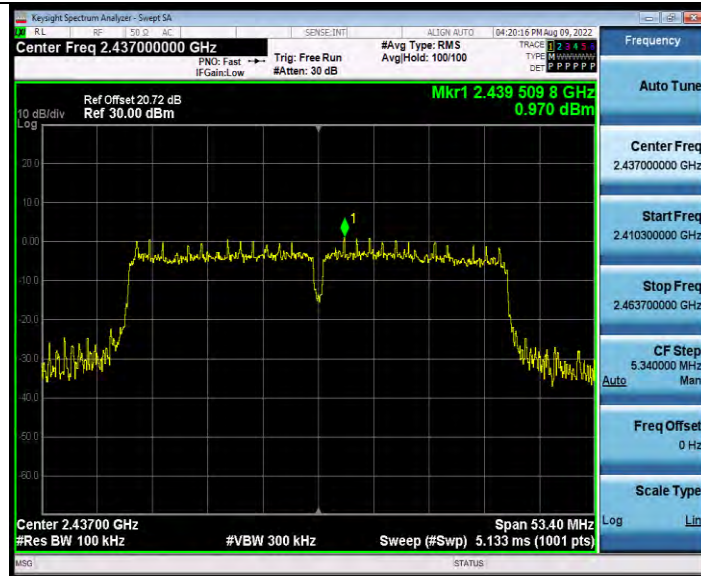


11N40SISO_Ant1_2437



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Test Report No.: W7L-P22080003RF02



11N40SISO_Ant1_2452





BAND EDGE MEASUREMENTS

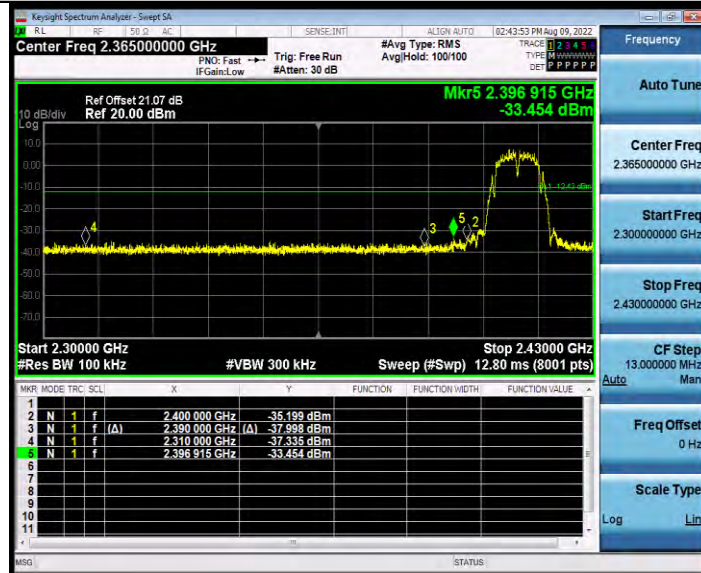
TEST RESULT

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	7.57	-33.45	≤-12.43	PASS
		High	2462	7.69	-33.63	≤-12.31	PASS
11G	Ant1	Low	2412	5.66	-24.35	≤-14.34	PASS
		High	2462	4.87	-33.56	≤-15.13	PASS
11N20SISO	Ant1	Low	2412	5.40	-24.22	≤-14.6	PASS
		High	2462	4.09	-34.2	≤-15.91	PASS
11N40SISO	Ant1	Low	2422	2.10	-26.75	≤-17.9	PASS
		High	2452	1.77	-31.13	≤-18.23	PASS

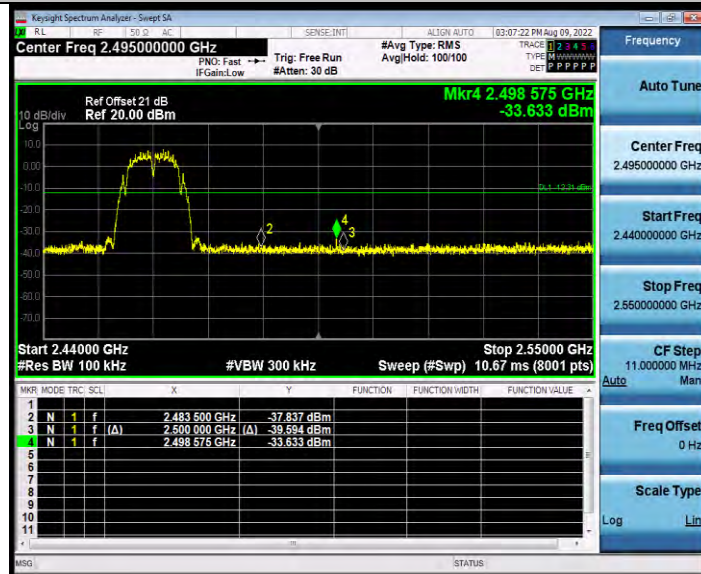


TEST GRAPHS

11B_Ant1_Low_2412



11B_Ant1_High_2462



11G_Ant1_Low_2412

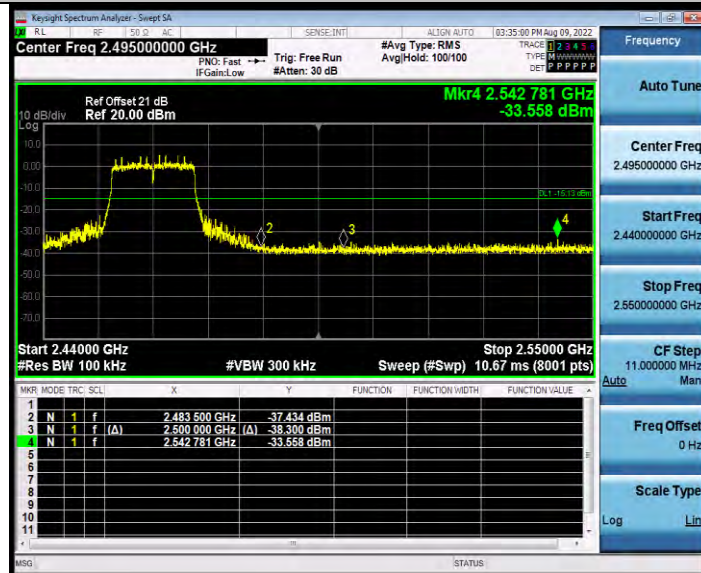


BUREAU VERITAS

Test Report No.: W7L-P22080003RF02



11G_Ant1_High_2462

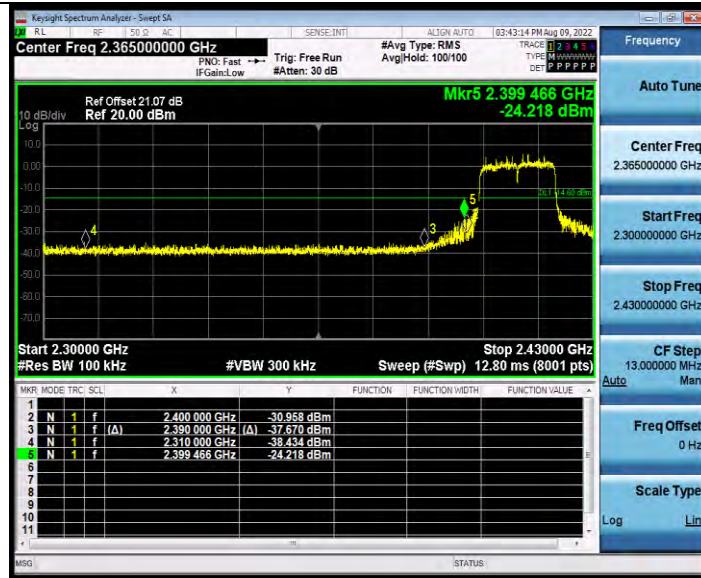


11N20SISO_Ant1_Low_2412

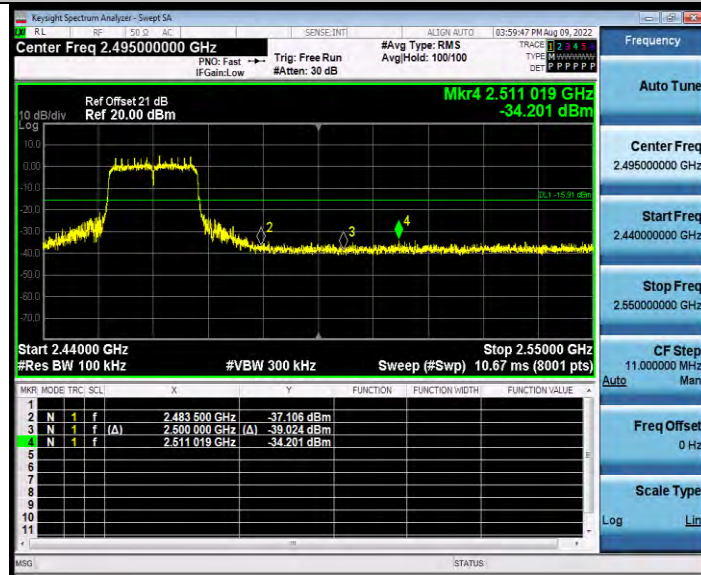


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11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422

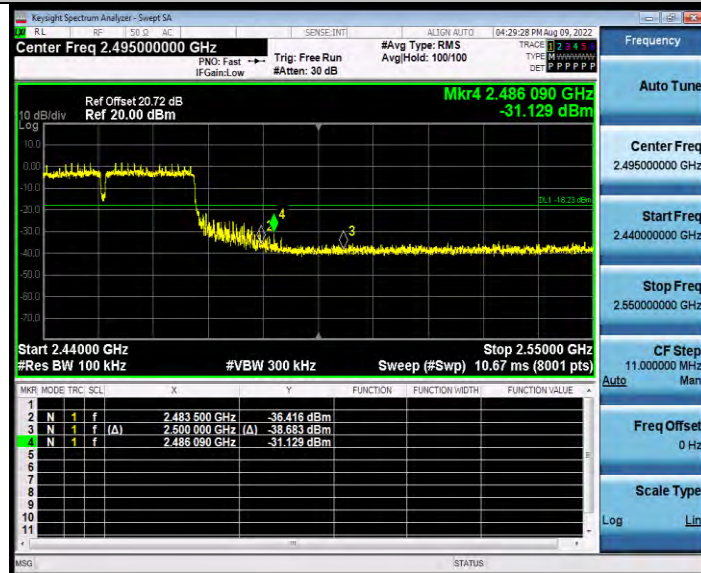


BUREAU VERITAS

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11N40SISO_Ant1_High_2452





CONDUCTED SPURIOUS EMISSION TEST RESULT

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	30~1000	7.57	-43.99	≤-12.43	PASS
			1000~26500	7.57	-27.61	≤-12.43	PASS
		2437	30~1000	5.43	-43.92	≤-14.57	PASS
			1000~26500	5.43	-28.08	≤-14.57	PASS
		2462	30~1000	7.69	-44.34	≤-12.31	PASS
			1000~26500	7.69	-28	≤-12.31	PASS
11G	Ant1	2412	30~1000	5.66	-44.14	≤-14.34	PASS
			1000~26500	5.66	-27.92	≤-14.34	PASS
		2437	30~1000	4.20	-44.13	≤-15.8	PASS
			1000~26500	4.20	-28.37	≤-15.8	PASS
		2462	30~1000	4.87	-43.43	≤-15.13	PASS
			1000~26500	4.87	-27.78	≤-15.13	PASS
11N20SISO	Ant1	2412	30~1000	5.40	-43.65	≤-14.6	PASS
			1000~26500	5.40	-27.32	≤-14.6	PASS
		2437	30~1000	3.69	-44.02	≤-16.31	PASS
			1000~26500	3.69	-27.83	≤-16.31	PASS
		2462	30~1000	4.09	-43.9	≤-15.91	PASS
			1000~26500	4.09	-27.69	≤-15.91	PASS
11N40SISO	Ant1	2422	30~1000	2.10	-44.16	≤-17.9	PASS
			1000~26500	2.10	-27.5	≤-17.9	PASS
		2437	30~1000	0.97	-44.15	≤-19.03	PASS
			1000~26500	0.97	-28.34	≤-19.03	PASS
		2452	30~1000	1.77	-43.9	≤-18.23	PASS
			1000~26500	1.77	-28.34	≤-18.23	PASS



TEST GRAPHS

11B_Ant1_2412_30~1000



11B_Ant1_2412_1000~26500



11B_Ant1_2437_30~1000



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11B_Ant1_2437_1000~26500



11B_Ant1_2462_30~1000

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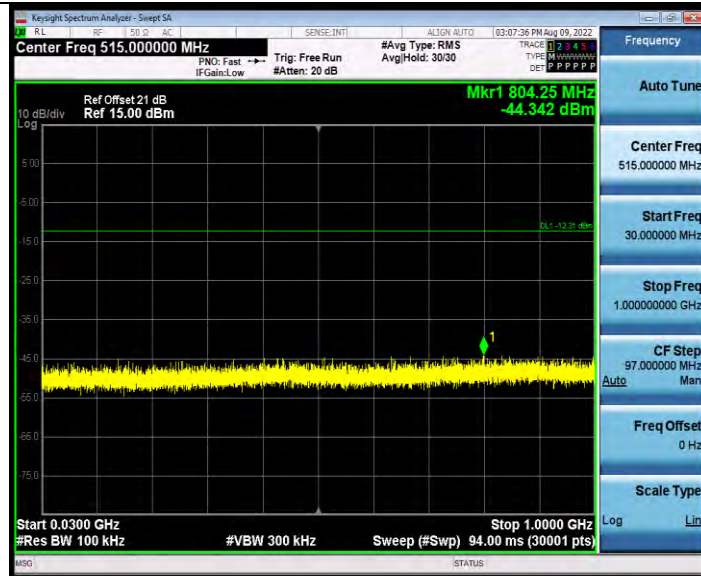
No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

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11B_Ant1_2462_1000~26500

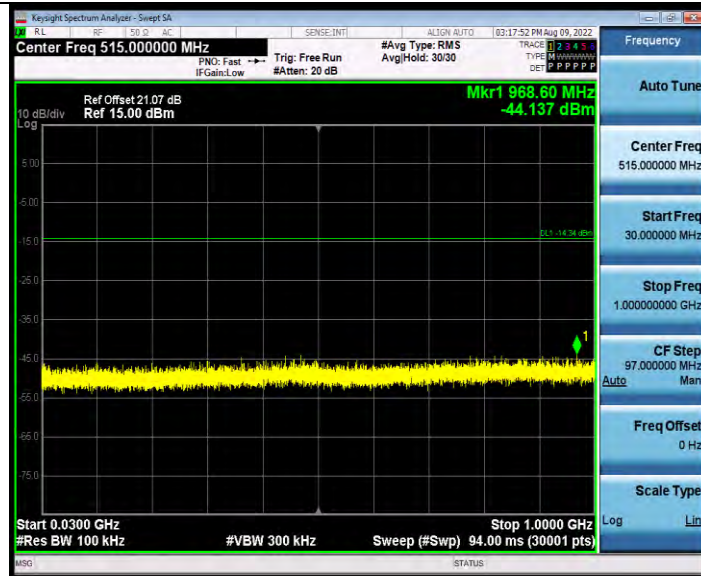


11G_Ant1_2412_30~1000



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11G_Ant1_2412_1000~26500

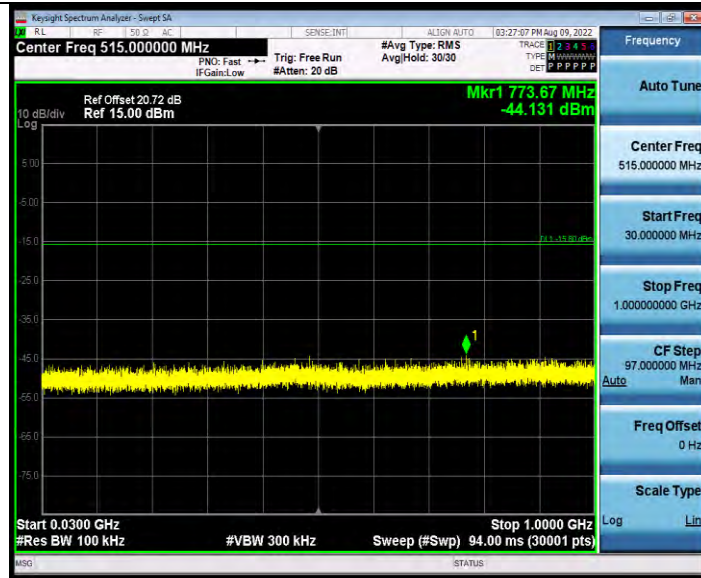


11G_Ant1_2437_30~1000



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11G_Ant1_2437_1000~26500

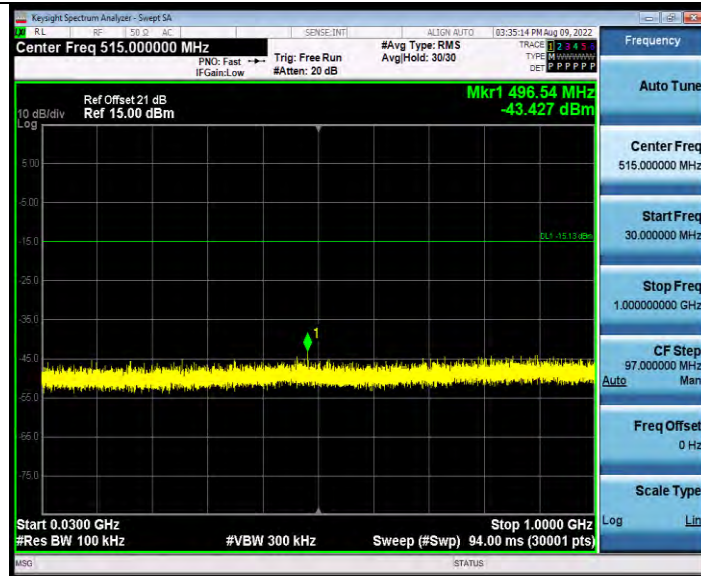


11G_Ant1_2462_30~1000



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Test Report No.: W7L-P22080003RF02



11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_30~1000

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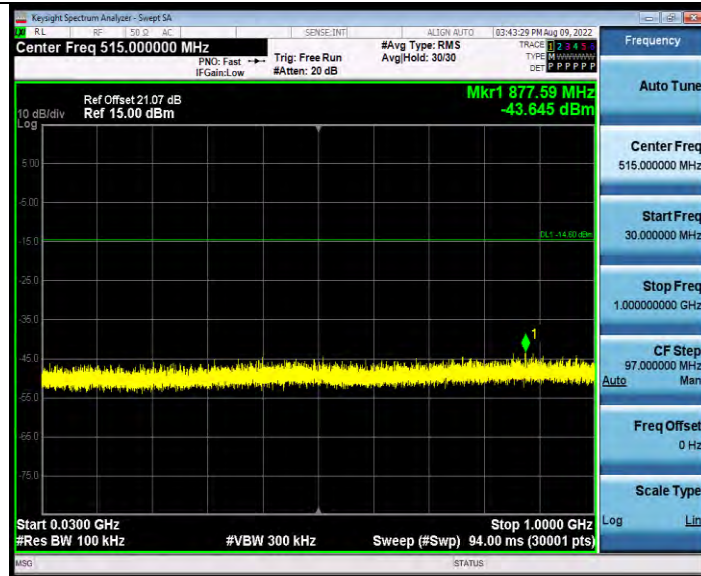
No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

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11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_30~1000

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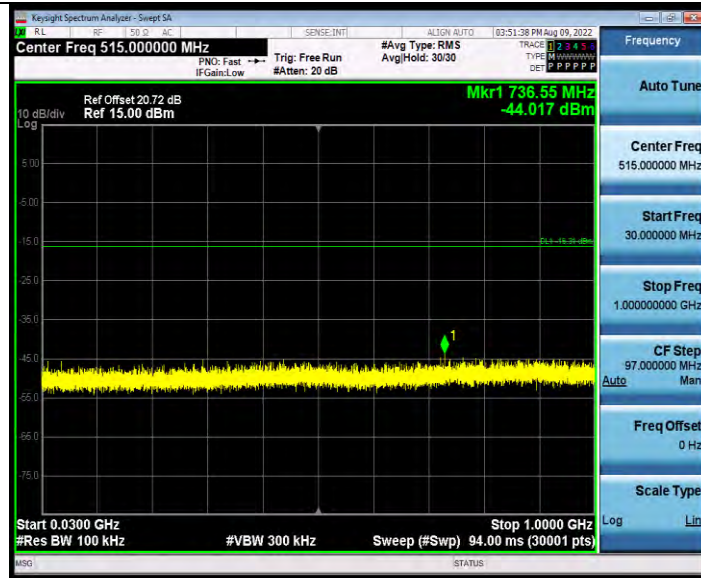
No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

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11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_30~1000

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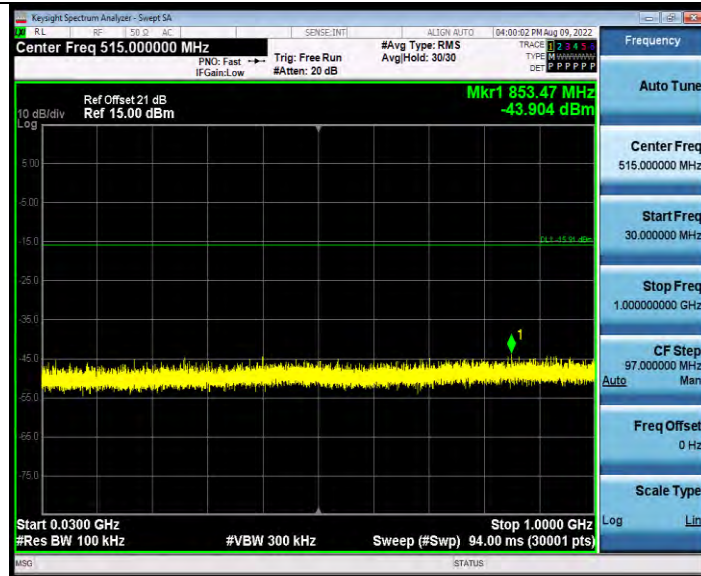
No.B102, Dazu Chuangxin Mansion, North of Beihuan
Avenue, North Area, Hi-Tech Industrial Park, Nanshan
District, Shenzhen, Guangdong, China

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Test Report No.: W7L-P22080003RF02



11N20SISO_Ant1_2462_1000~26500

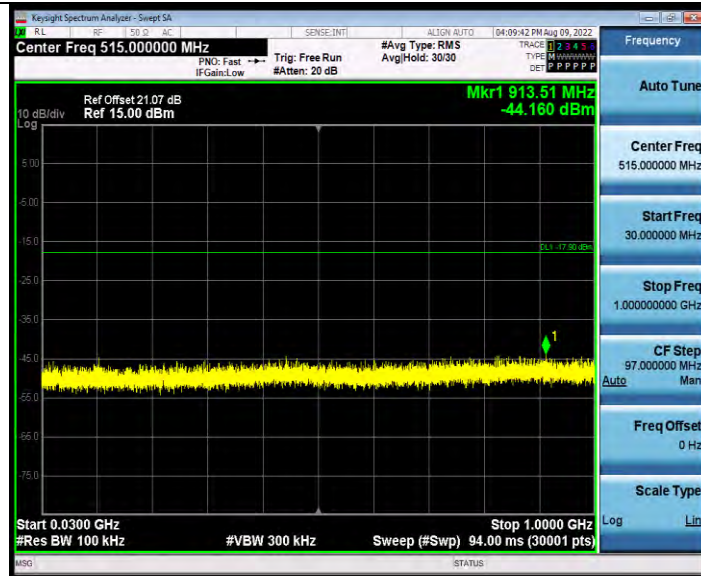


11N40SISO_Ant1_2422_30~1000



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Test Report No.: W7L-P22080003RF02



11N40SISO_Ant1_2422_1000~26500

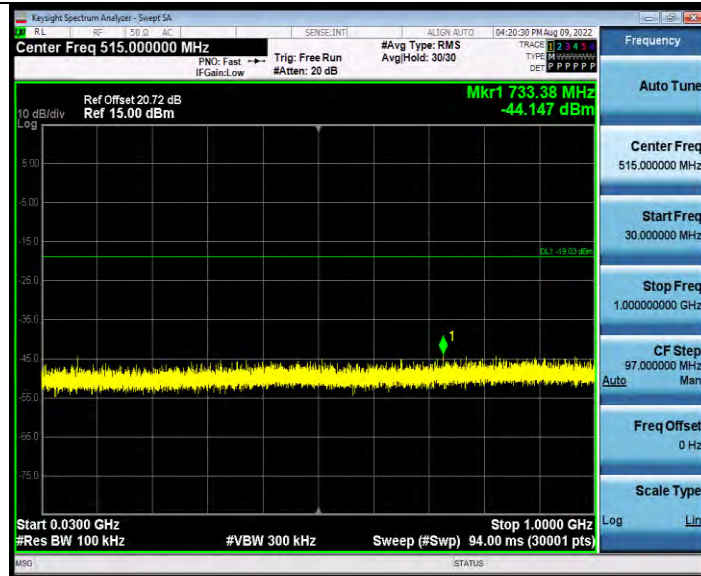


11N40SISO_Ant1_2437_30~1000



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Test Report No.: W7L-P22080003RF02



11N40SISO_Ant1_2437_1000~26500



11N40SISO_Ant1_2452_30~1000



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Test Report No.: W7L-P22080003RF02



11N40SISO_Ant1_2452_1000~26500



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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

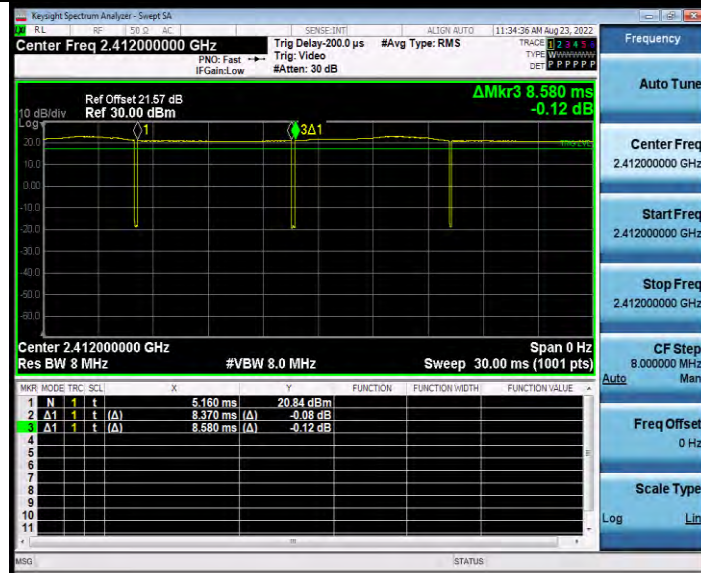


BUREAU VERITAS

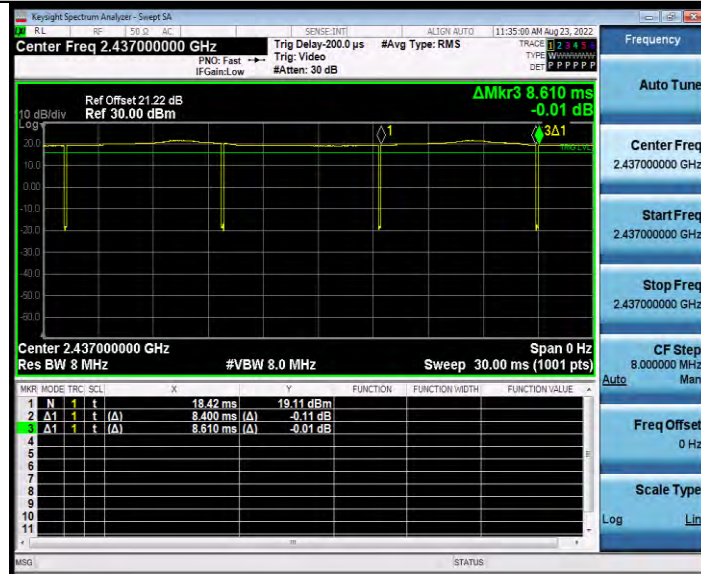
Test Report No.: W7L-P22080003RF02

TEST GRAPHS

11B_Ant1_2412



11B_Ant1_2437

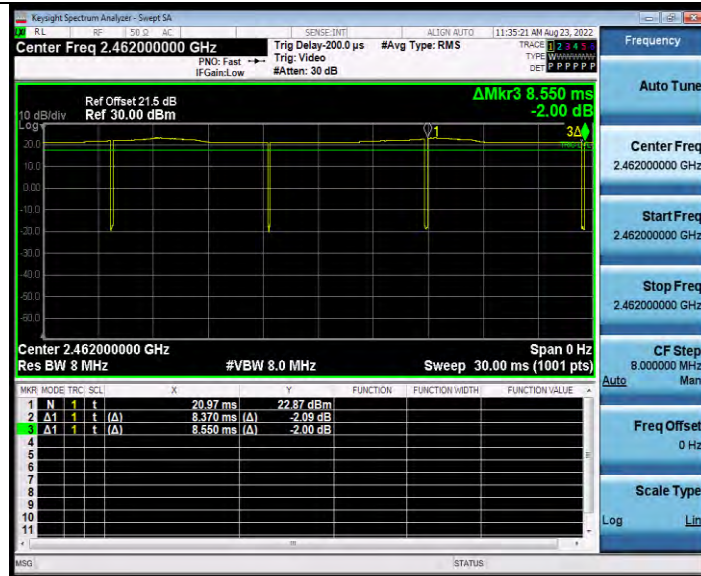


11B_Ant1_2462

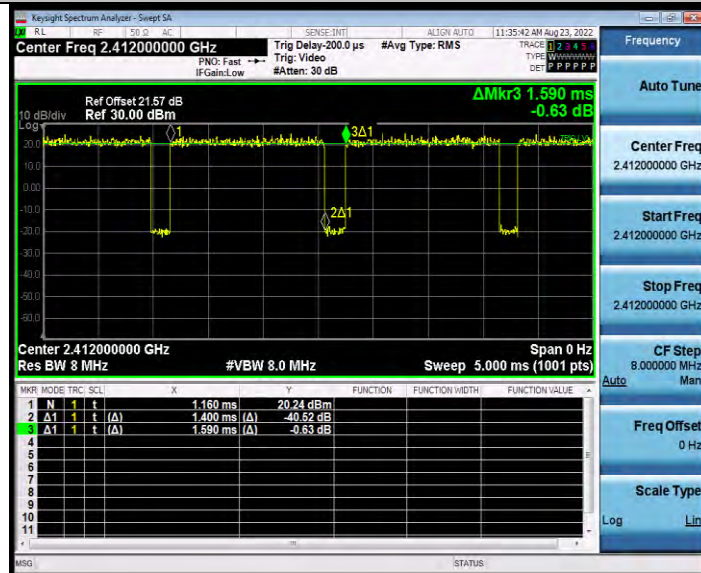


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11G_Ant1_2412

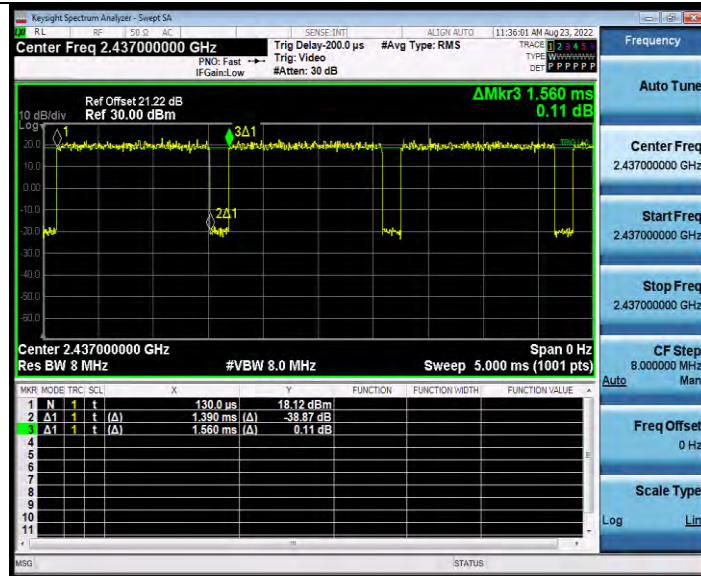


11G_Ant1_2437

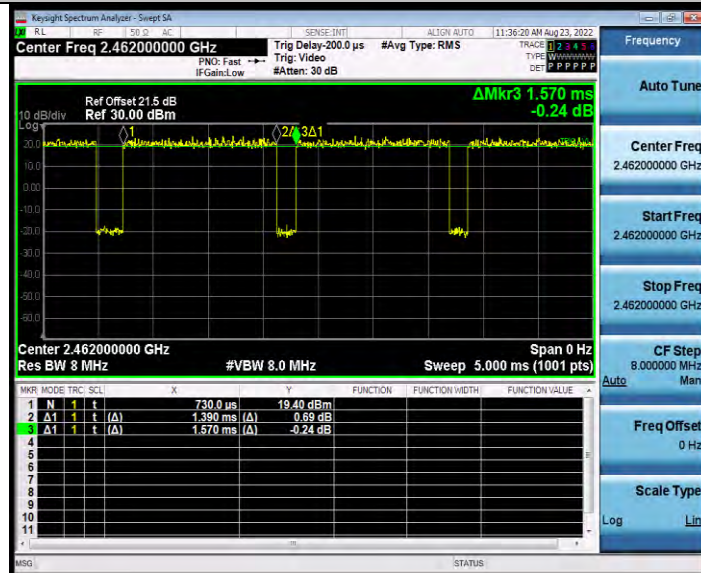


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Test Report No.: W7L-P22080003RF02



11G_Ant1_2462

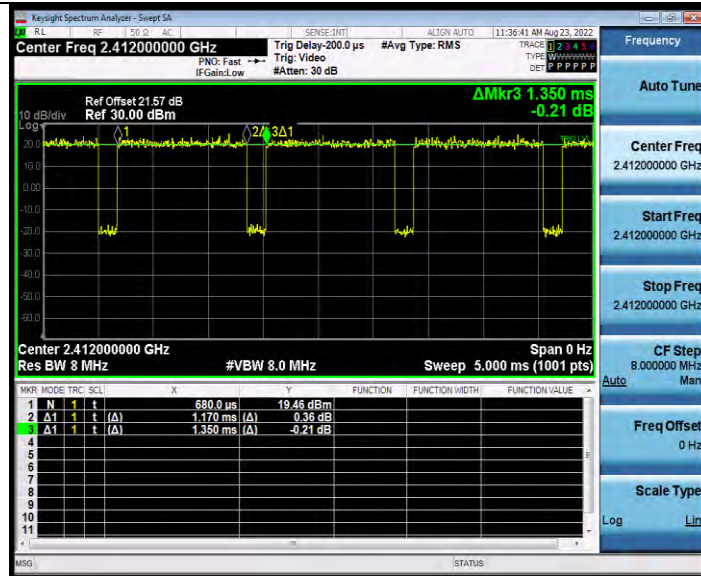


11N20SISO_Ant1_2412

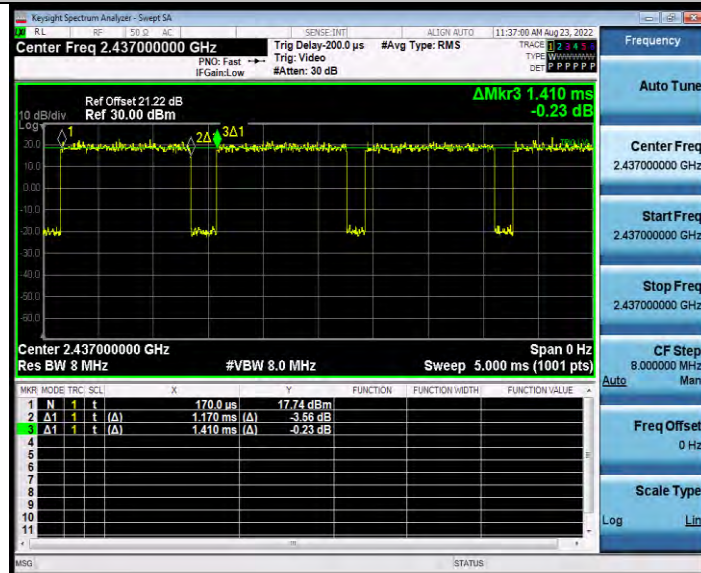


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Test Report No.: W7L-P22080003RF02



11N20SISO_Ant1_2437

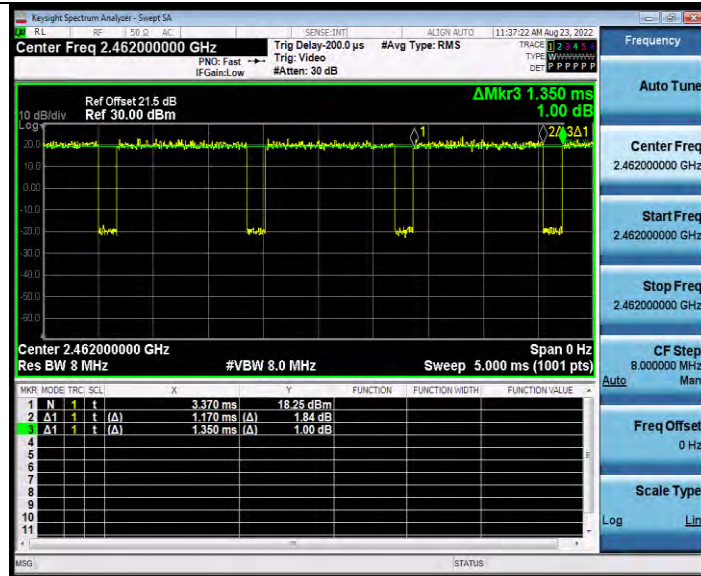


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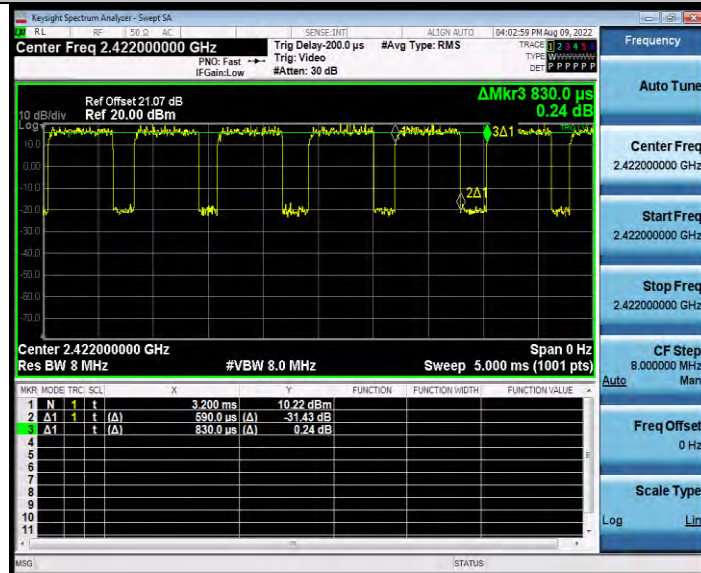


BUREAU VERITAS

Test Report No.: W7L-P22080003RF02



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

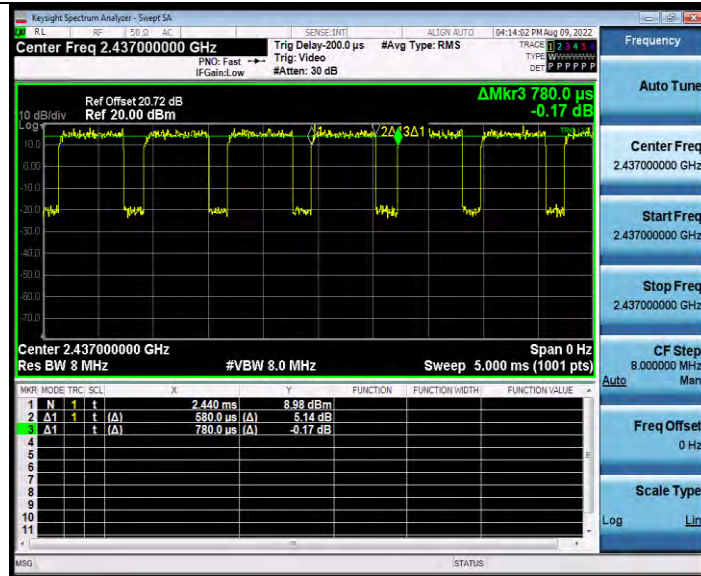
No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

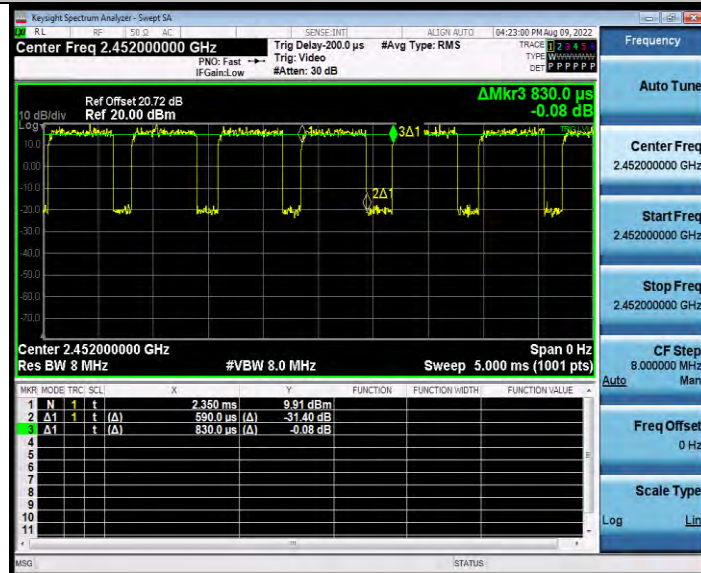


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Test Report No.: W7L-P22080003RF02



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



BUREAU VERITAS

Test Report No.: W7L-P22080003RF02

TEST GRAPHS

BLE_125K_Ant1_2402



BLE_125K_Ant1_2440

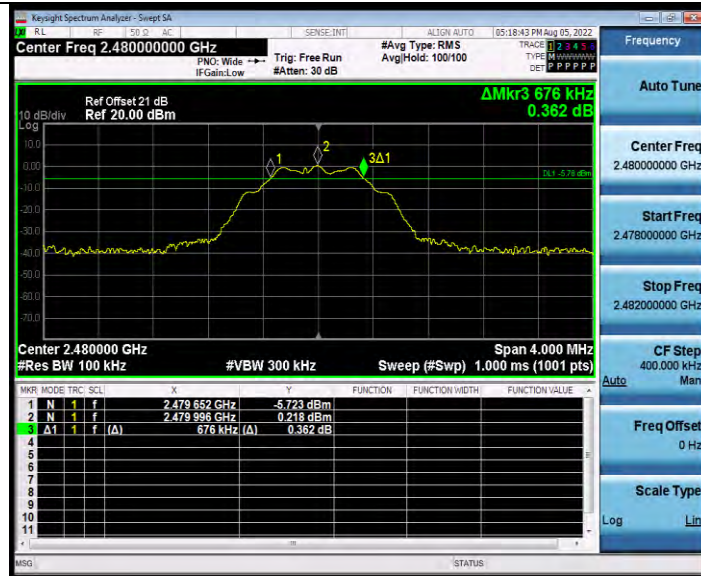


BLE_125K_Ant1_2480



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Test Report No.: W7L-P22080003RF02



BLE_1M_Ant1_2402

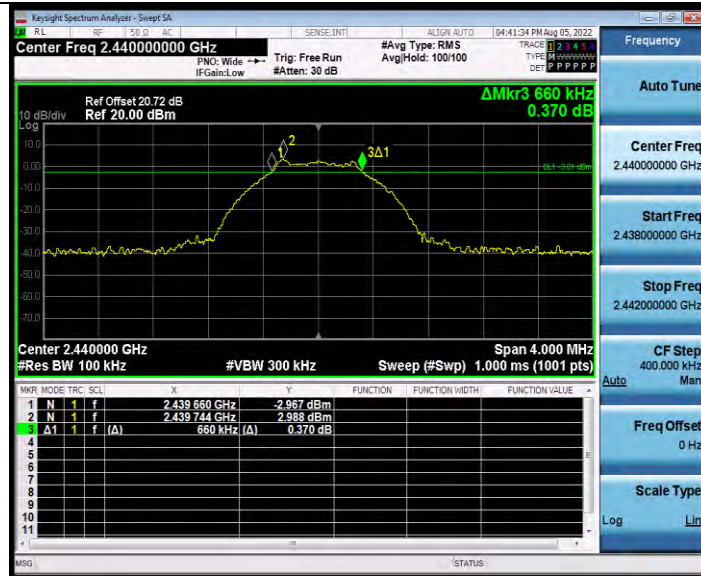


BLE_1M_Ant1_2440



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Test Report No.: W7L-P22080003RF02



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



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Test Report No.: W7L-P22080003RF02



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



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Test Report No.: W7L-P22080003RF02



BLE_500K_Ant1_2402

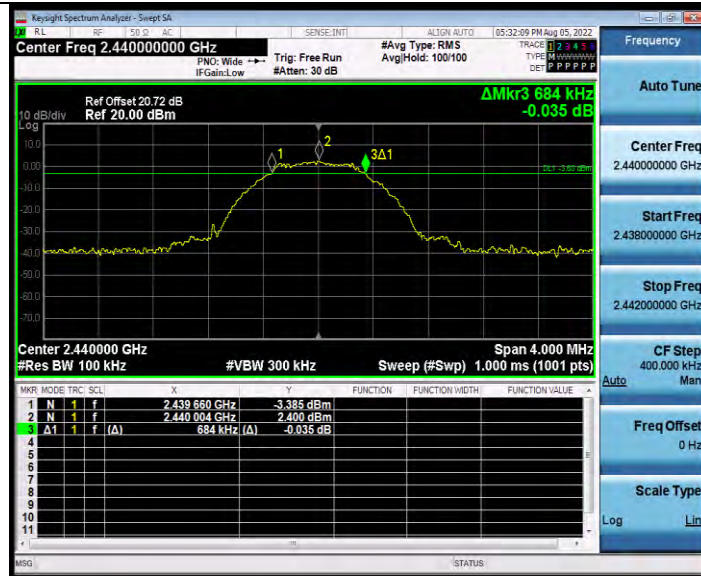


BLE_500K_Ant1_2440



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Test Report No.: W7L-P22080003RF02



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	---	---



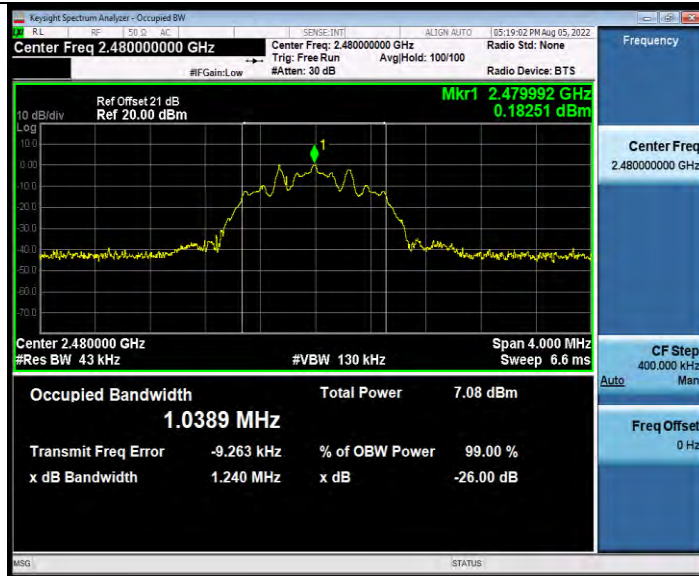
TEST GRAPHS



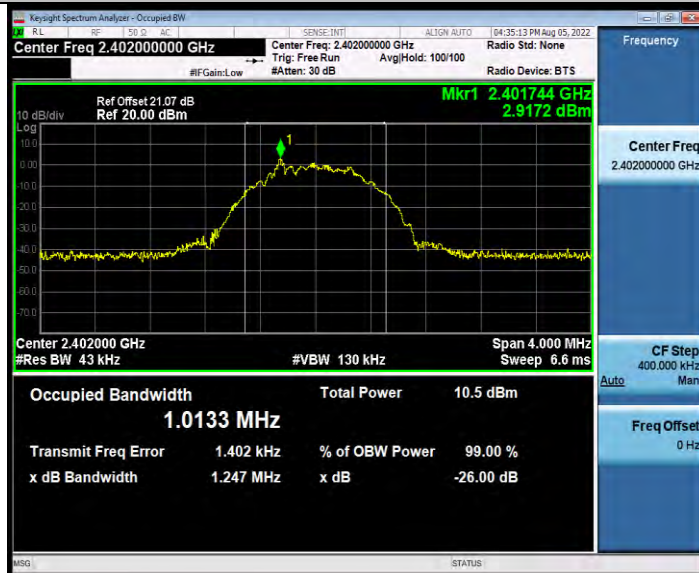


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VERITAS**

Test Report No.: W7L-P22080003RF02



BLE_1M_Ant1_2402

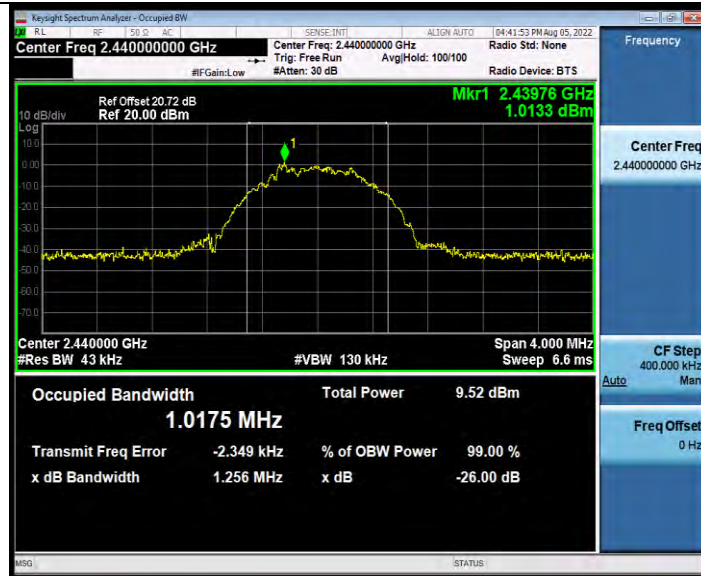


BLE_1M_Ant1_2440

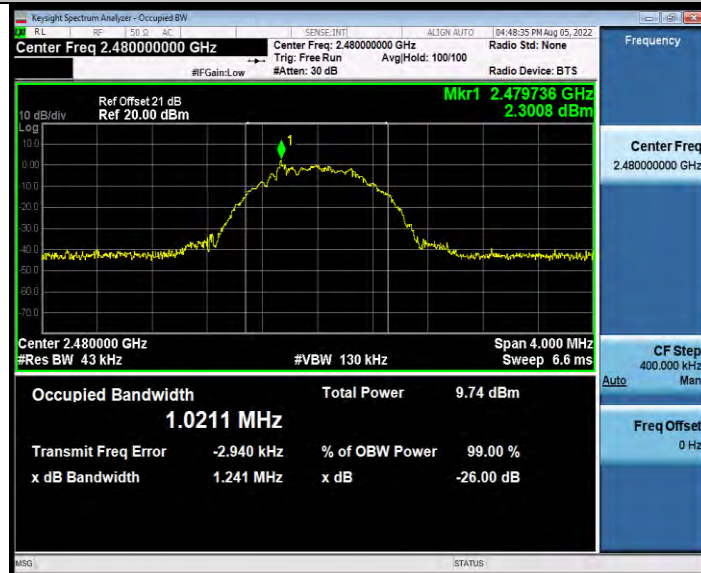


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VERITAS**

Test Report No.: W7L-P22080003RF02



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402