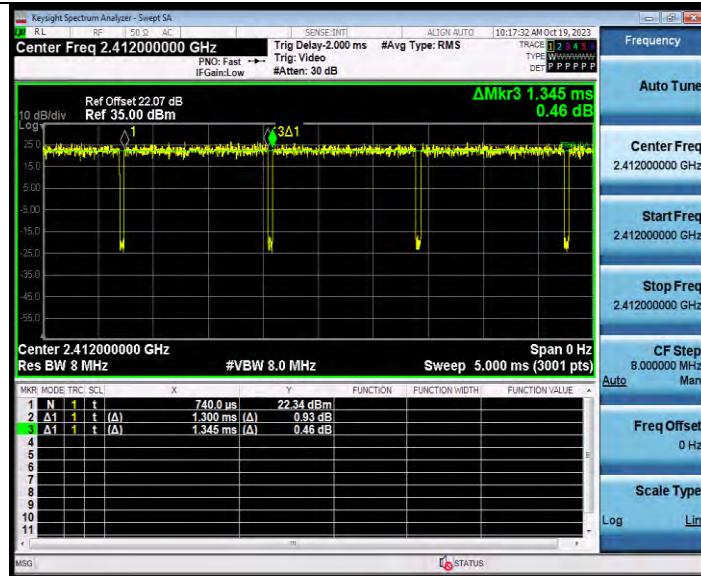


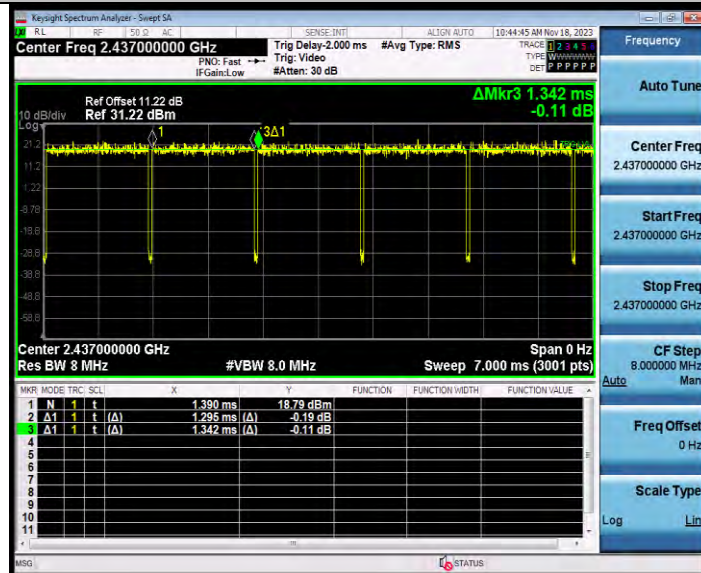


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11N20SISO_Ant1_2437

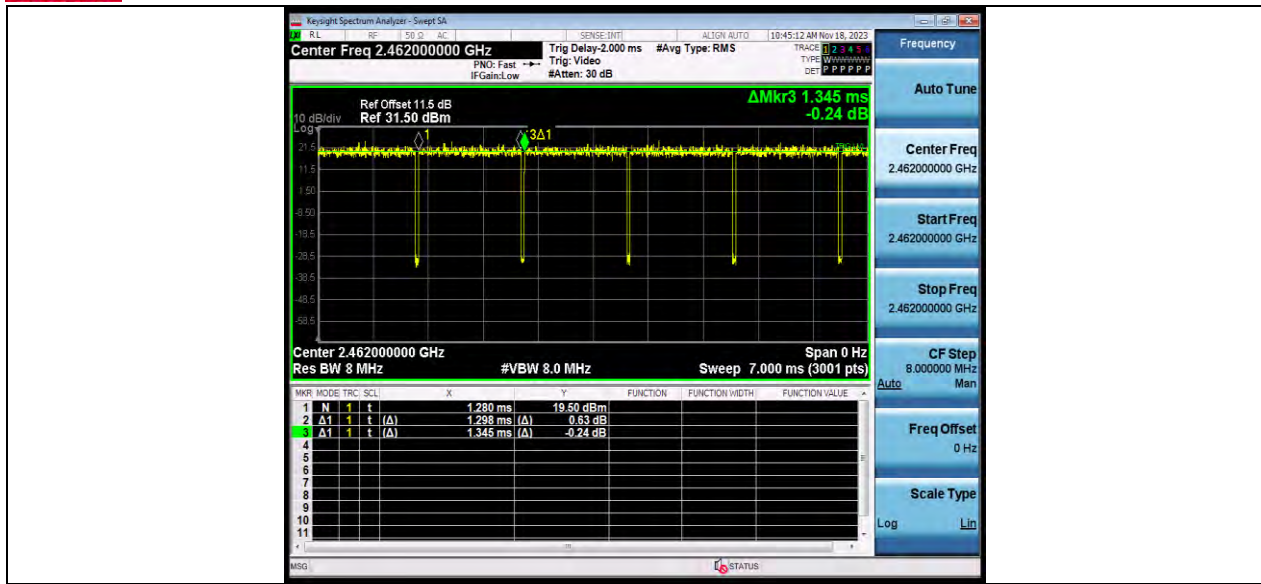


11N20SISO_Ant1_2462



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Technology (Suzhou) Co., Ltd

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Suzhou City, Anhui Province

Tel: +86(0557) 368 1008



7 APPENDIX 2 :BLE DTS BANDWIDTH

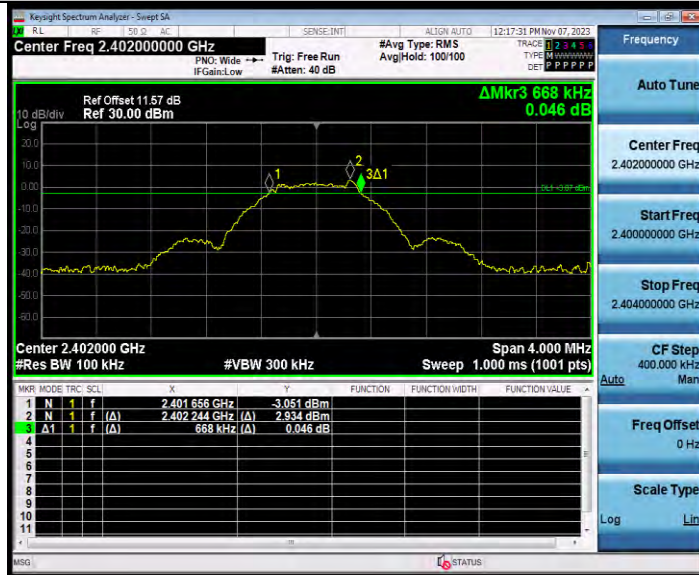
TEST RESULT

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.668	2401.656	2402.324	0.5	PASS
		2440	0.696	2439.648	2440.344	0.5	PASS
		2480	0.664	2479.664	2480.328	0.5	PASS
BLE_2M	Ant1	2404	1.156	2403.432	2404.588	0.5	PASS
		2440	1.188	2439.396	2440.584	0.5	PASS
		2478	1.140	2477.436	2478.576	0.5	PASS
BLE_125K	Ant1	2402	0.680	2401.656	2402.336	0.5	PASS
		2440	0.680	2439.656	2440.336	0.5	PASS
		2480	0.676	2479.660	2480.336	0.5	PASS
BLE_500K	Ant1	2402	0.664	2401.668	2402.332	0.5	PASS
		2440	0.656	2439.668	2440.324	0.5	PASS
		2480	0.664	2479.668	2480.332	0.5	PASS



TEST GRAPHS

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

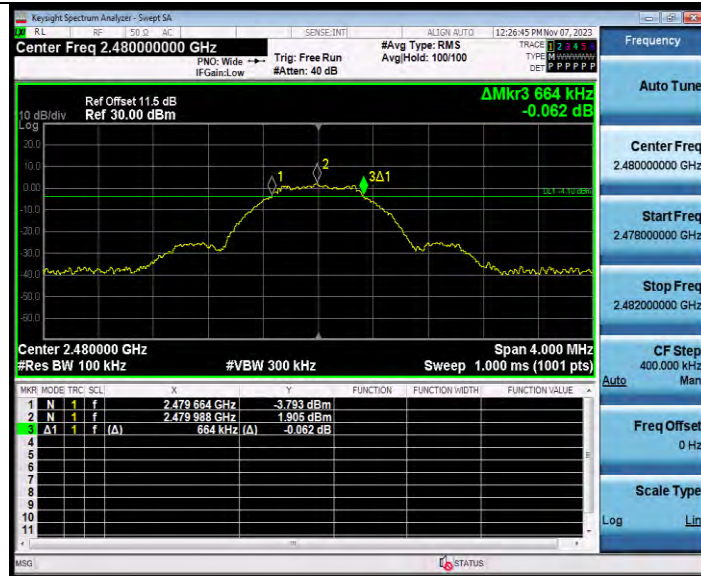


BLE_1M_Ant1_2480



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BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



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BLE_2M_Ant1_2478

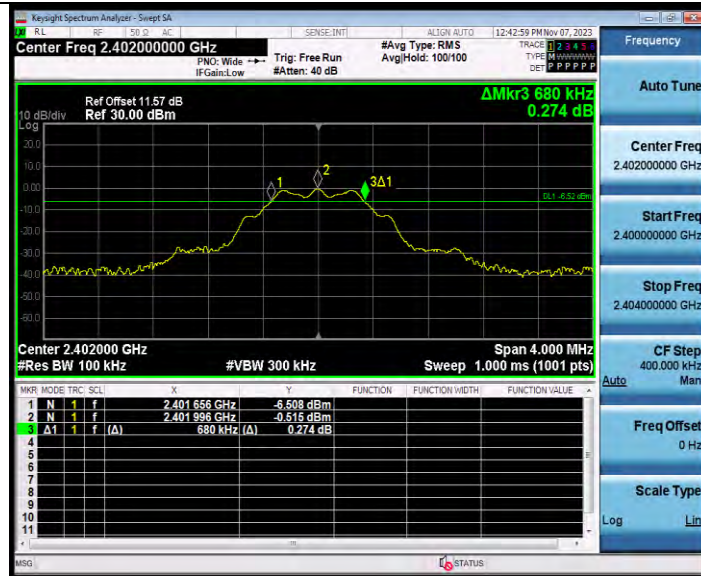


BLE_125K_Ant1_2402



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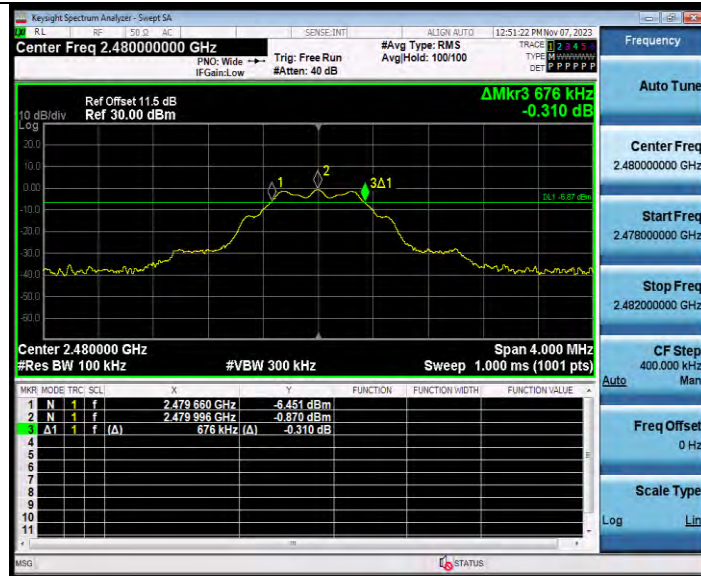
BLE_125K_Ant1_2440



BLE_125K_Ant1_2480



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BLE_500K_Ant1_2402

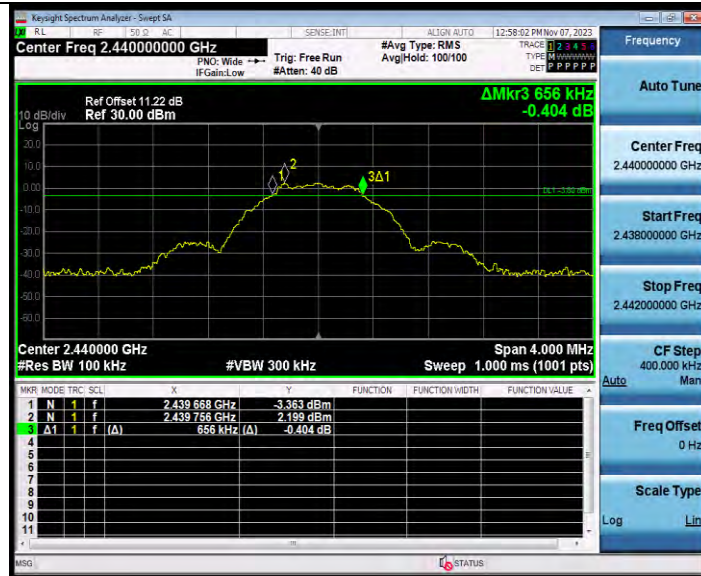


BLE_500K_Ant1_2440



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BLE_500K_Ant1_2480





OCCUPIED CHANNEL BANDWIDTH TEST RESULT

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0413	2401.4789	2402.5202	---	---
		2440	1.0486	2439.4770	2440.5256	---	---
		2480	1.0400	2479.4771	2480.5171	---	---
BLE_2M	Ant1	2404	2.0792	2402.9774	2405.0566	---	---
		2440	2.0698	2438.9757	2441.0455	---	---
		2478	2.0879	2476.9667	2479.0546	---	---
BLE_125K	Ant1	2402	1.0629	2401.4646	2402.5275	---	---
		2440	1.0609	2439.4635	2440.5244	---	---
		2480	1.0640	2479.4619	2480.5259	---	---
BLE_500K	Ant1	2402	1.0407	2401.4762	2402.5169	---	---
		2440	1.0306	2439.4773	2440.5079	---	---
		2480	1.0363	2479.4786	2480.5149	---	---



TEST GRAPHS





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BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



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Test Report No.: W7L-P23100008RF02



BLE_2M_Ant1_2478



BLE_125K_Ant1_2402



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Test Report No.: W7L-P23100008RF02



BLE_125K_Ant1_2440



BLE_125K_Ant1_2480



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Test Report No.: W7L-P23100008RF02



BLE_500K_Ant1_2402



BLE_500K_Ant1_2440

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Suzhou City, Anhui Province

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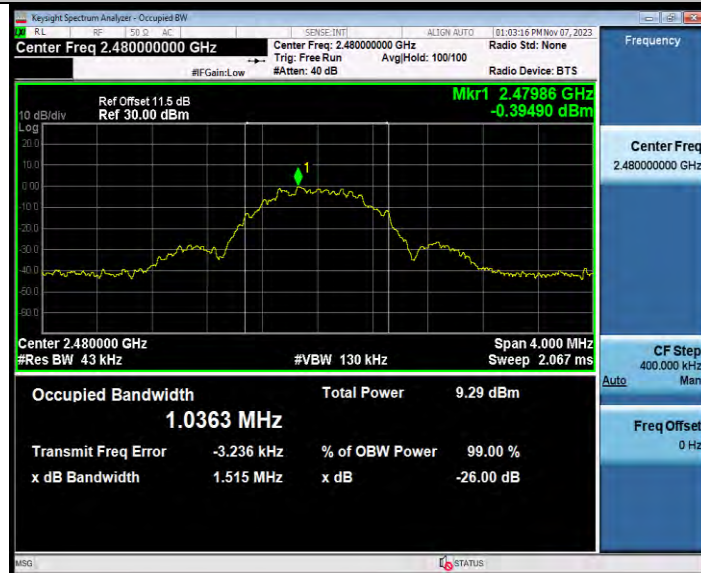


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BLE_500K_Ant1_2480



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MAXIMUM CONDUCTED OUTPUT POWER TEST RESULT

TestMode	Antenna	Channel	Average power [dBm]	Peak power [dBm]	Peak power [mw]	Conducted Limit [dBm]	EIRP [dBm]	EIRP [mw]	EIRP Limit [dBm]	Verdict	Power Setting
BLE_1M	Ant1	2402	1.85	2.31	1.70	≤30	2.44	1.75	≤36	PASS	Default
		2440	2.65	3.07	2.03	≤30	3.2	2.09	≤36	PASS	Default
		2480	1.55	2.02	1.59	≤30	2.15	1.64	≤36	PASS	Default
BLE_2M	Ant1	2404	2.11	2.51	1.78	≤30	2.64	1.84	≤36	PASS	Default
		2440	2.69	3.1	2.04	≤30	3.23	2.10	≤36	PASS	Default
		2478	1.99	2.21	1.66	≤30	2.34	1.71	≤36	PASS	Default
BLE_125k	Ant1	2402	1.86	2.31	1.70	≤30	2.44	1.75	≤36	PASS	Default
		2440	3.05	3.07	2.03	≤30	3.2	2.09	≤36	PASS	Default
		2480	2.01	2.03	1.60	≤30	2.16	1.64	≤36	PASS	Default
BLE_500K	Ant1	2402	1.87	2.33	1.71	≤30	2.46	1.76	≤36	PASS	Default
		2440	2.66	3.08	2.03	≤30	3.21	2.09	≤36	PASS	Default
		2480	1.57	2.04	1.60	≤30	2.17	1.65	≤36	PASS	Default

Note:EIRP=Peak Power+Gain



MAXIMUM POWER SPECTRAL DENSITY TEST RESULT

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-13.34	≤8.00	PASS
		2440	-13.31	≤8.00	PASS
		2480	-13.65	≤8.00	PASS
BLE_2M	Ant1	2404	-15.57	≤8.00	PASS
		2440	-15.70	≤8.00	PASS
		2478	-15.84	≤8.00	PASS
BLE_125K	Ant1	2402	-3.44	≤8.00	PASS
		2440	-3.46	≤8.00	PASS
		2480	-3.77	≤8.00	PASS
BLE_500K	Ant1	2402	-3.68	≤8.00	PASS
		2440	-3.46	≤8.00	PASS
		2480	-3.76	≤8.00	PASS



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TEST GRAPHS

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

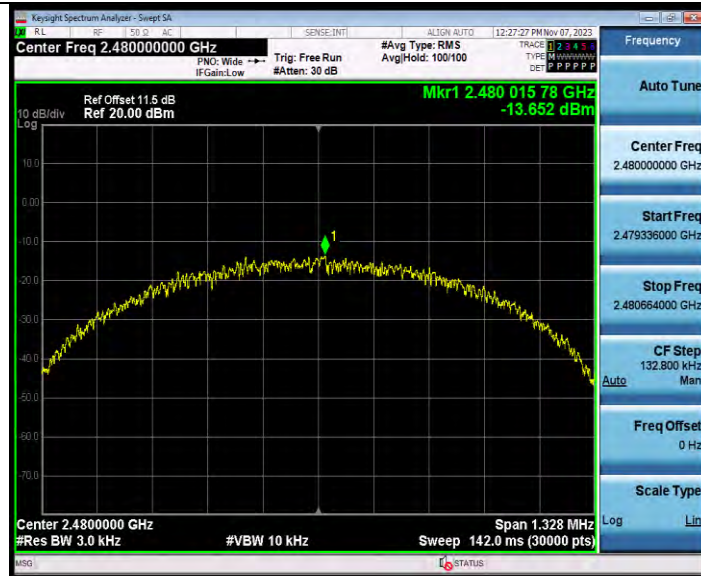


BLE_1M_Ant1_2480



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BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



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BLE_2M_Ant1_2478



BLE_125K_Ant1_2402



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BLE_125K_Ant1_2440



BLE_125K_Ant1_2480

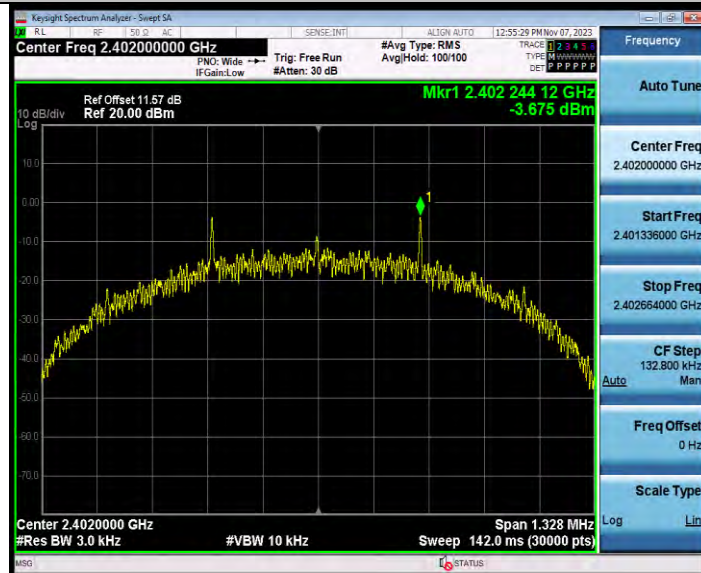


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BLE_500K_Ant1_2402

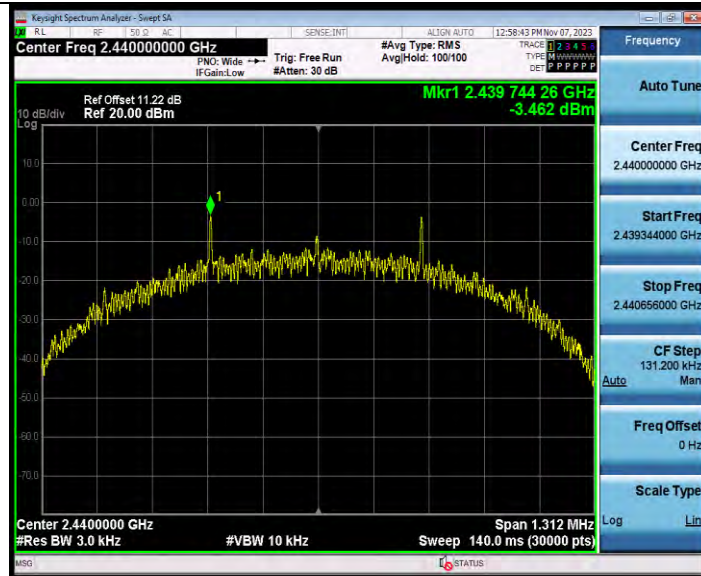


BLE_500K_Ant1_2440

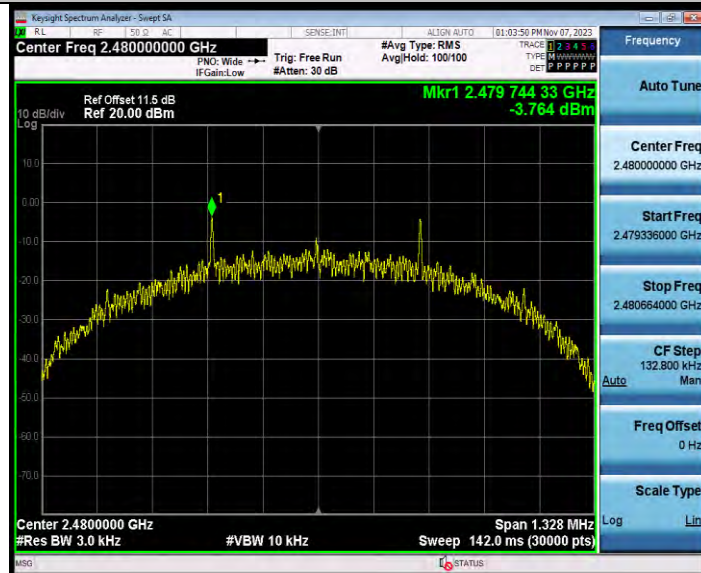


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BLE_500K_Ant1_2480



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Suzhou City, Anhui Province

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BAND EDGE MEASUREMENTS

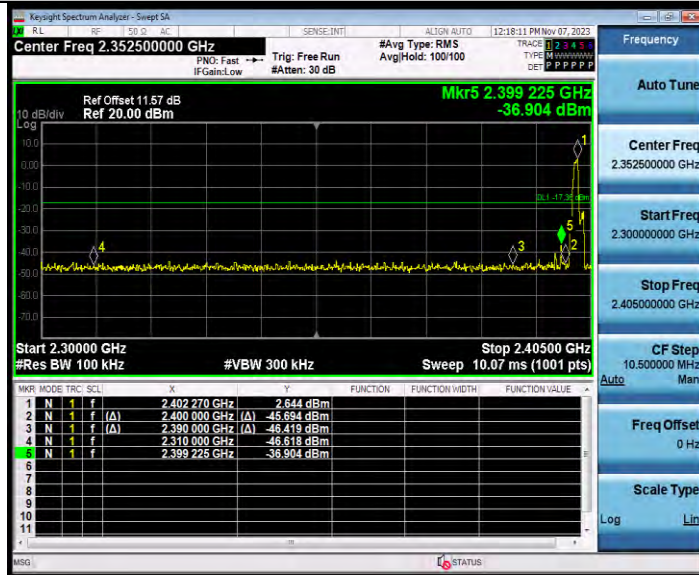
TEST RESULT

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.64	-36.9	≤-17.36	PASS
		High	2480	2.38	-43.82	≤-17.62	PASS
BLE_2M	Ant1	Low	2404	0.98	-43.08	≤-19.02	PASS
		High	2478	1.69	-43.7	≤-18.31	PASS
BLE_125K	Ant1	Low	2402	-0.53	-44.32	≤-20.53	PASS
		High	2480	-0.85	-43.5	≤-20.85	PASS
BLE_500K	Ant1	Low	2402	2.28	-44.59	≤-17.72	PASS
		High	2480	2.01	-43.48	≤-17.99	PASS

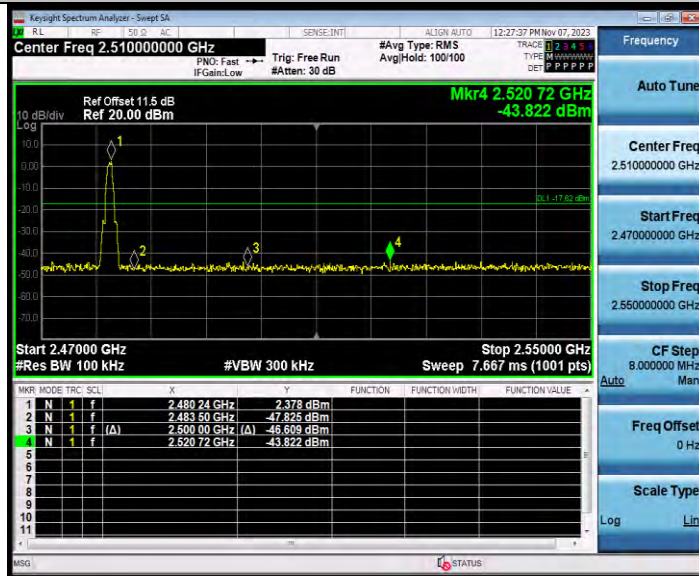


TEST GRAPHS

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480

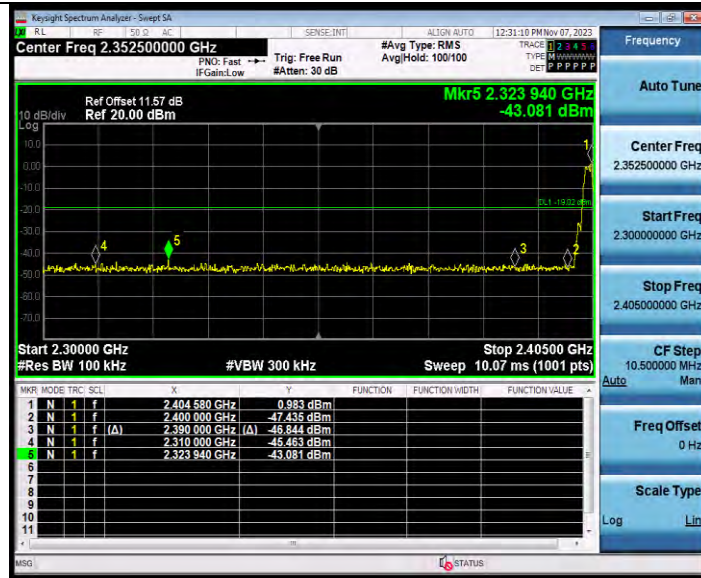


BLE_2M_Ant1_Low_2404

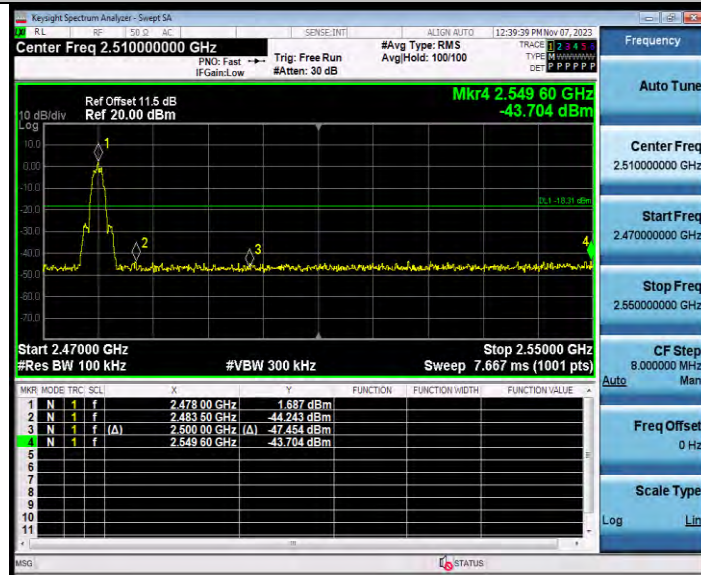


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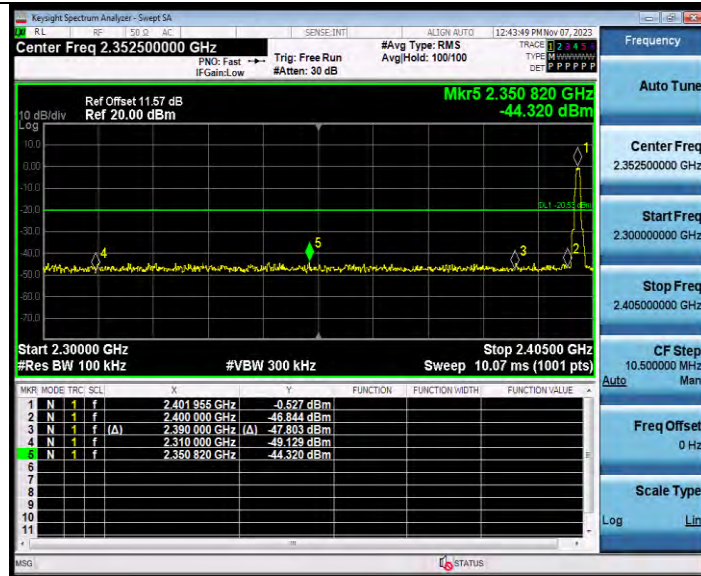
BLE_2M_Ant1_High_2478



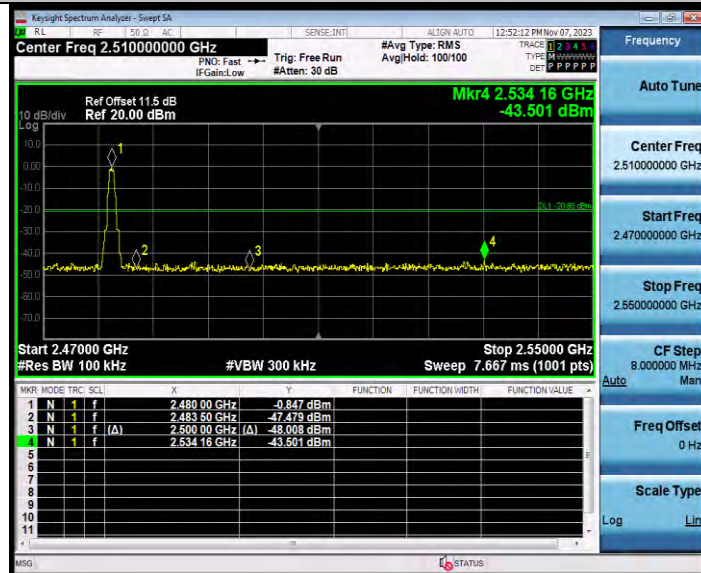
BLE_125K_Ant1_Low_2402



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BLE_125K_Ant1_High_2480

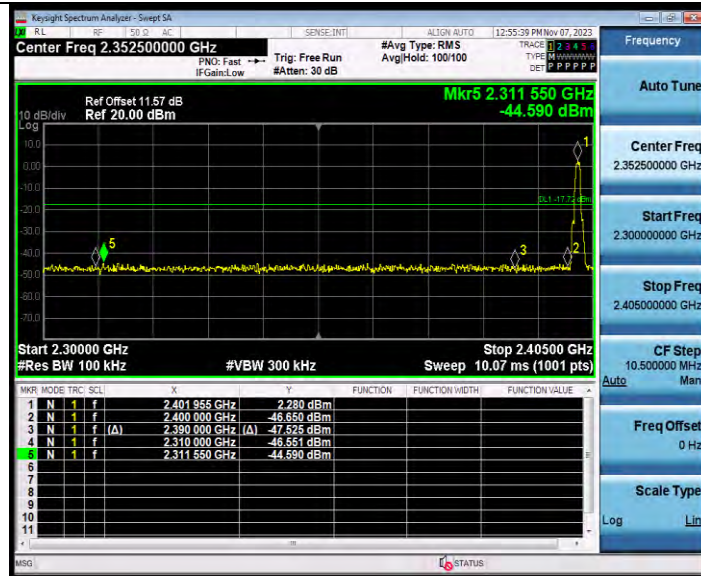


BLE_500K_Ant1_Low_2402

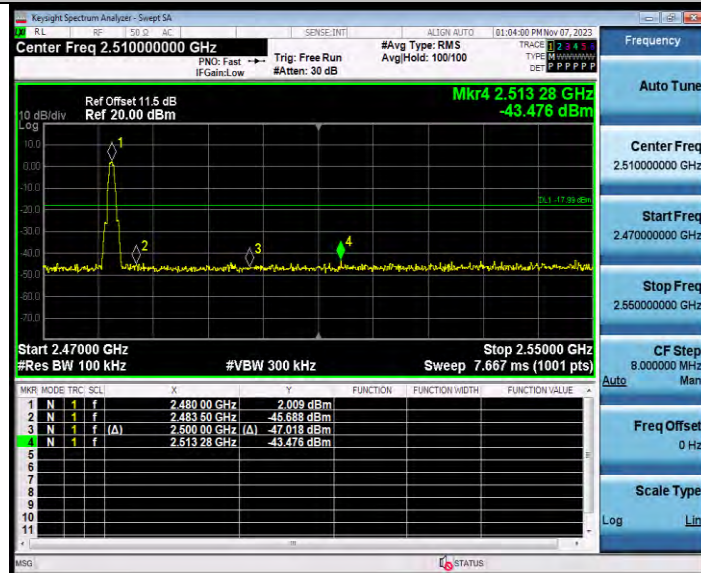


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BLE_500K_Ant1_High_2480





CONDUCTED SPURIOUS EMISSION

TEST RESULT

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	1.00	1.00	---	PASS
			30~1000	1.00	-52.67	≤-19	PASS
			1000~26500	1.00	-33.59	≤-19	PASS
		2440	Reference	2.23	2.23	---	PASS
			30~1000	2.23	-53.52	≤-17.77	PASS
			1000~26500	2.23	-33.86	≤-17.77	PASS
		2480	Reference	0.89	0.89	---	PASS
			30~1000	0.89	-53.38	≤-19.11	PASS
			1000~26500	0.89	-33.55	≤-19.11	PASS
BLE_2M	Ant1	2404	Reference	-1.42	-1.42	---	PASS
			30~1000	-1.42	-53.24	≤-21.42	PASS
			1000~26500	-1.42	-33.28	≤-21.42	PASS
		2440	Reference	1.60	1.60	---	PASS
			30~1000	1.60	-53.33	≤-18.4	PASS
			1000~26500	1.60	-33.87	≤-18.4	PASS
		2478	Reference	1.35	1.35	---	PASS
			30~1000	1.35	-52.52	≤-18.65	PASS
			1000~26500	1.35	-33.21	≤-18.65	PASS
BLE_125K	Ant1	2402	Reference	-0.61	-0.61	---	PASS
			30~1000	-0.61	-52.68	≤-20.61	PASS
			1000~26500	-0.61	-33.57	≤-20.61	PASS
		2440	Reference	-0.53	-0.53	---	PASS
			30~1000	-0.53	-52.4	≤-20.53	PASS
			1000~26500	-0.53	-33.5	≤-20.53	PASS
		2480	Reference	-0.91	-0.91	---	PASS
			30~1000	-0.91	-52.65	≤-20.91	PASS
			1000~26500	-0.91	-33.31	≤-20.91	PASS
BLE_500K	Ant1	2402	Reference	2.00	2.00	---	PASS
			30~1000	2.00	-52.68	≤-18	PASS



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			1000~26500	2.00	-33.75	≤ -18	PASS
		2440	Reference	1.46	1.46	---	PASS
			30~1000	1.46	-52.76	≤ -18.54	PASS
			1000~26500	1.46	-33.58	≤ -18.54	PASS
		2480	Reference	1.90	1.90	---	PASS
			30~1000	1.90	-53.11	≤ -18.1	PASS
			1000~26500	1.90	-34.04	≤ -18.1	PASS



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Test Report No.: W7L-P23100008RF02

TEST GRAPHS

BLE_1M_Ant1_2402_0~Reference



BLE_1M_Ant1_2402_30~1000



BLE_1M_Ant1_2402_1000~26500



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Test Report No.: W7L-P23100008RF02



BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000

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BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference

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BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



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BLE_2M_Ant1_2404_0~Reference



BLE_2M_Ant1_2404_30~1000

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BLE_2M_Ant1_2404_1000~26500



BLE_2M_Ant1_2440_0~Reference

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BLE_2M_Ant1_2440_30~1000



BLE_2M_Ant1_2440_1000~26500

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BLE_2M_Ant1_2478_0~Reference

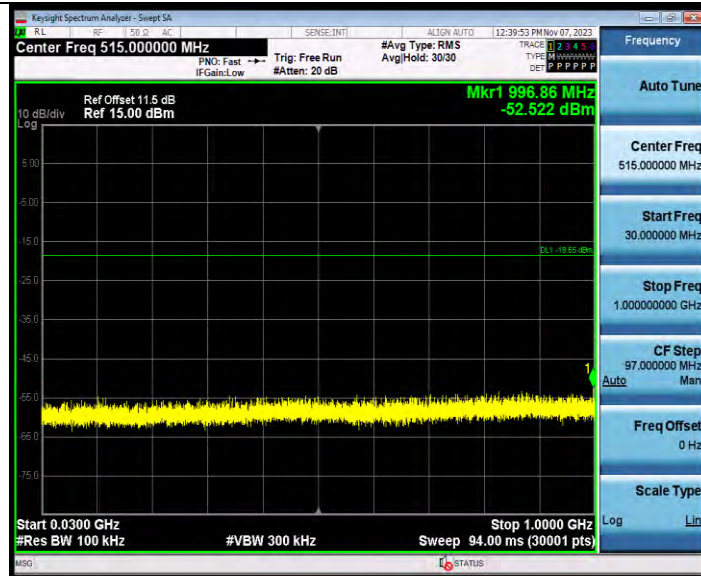


BLE_2M_Ant1_2478_30~1000



BUREAU VERITAS

Test Report No.: W7L-P23100008RF02



BLE_2M_Ant1_2478_1000~26500



BLE_125K_Ant1_2402_0~Reference

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BLE_125K_Ant1_2402_30~1000



BLE_125K_Ant1_2402_1000~26500



BUREAU VERITAS

Test Report No.: W7L-P23100008RF02



BLE_125K_Ant1_2440_0~Reference



BLE_125K_Ant1_2440_30~1000

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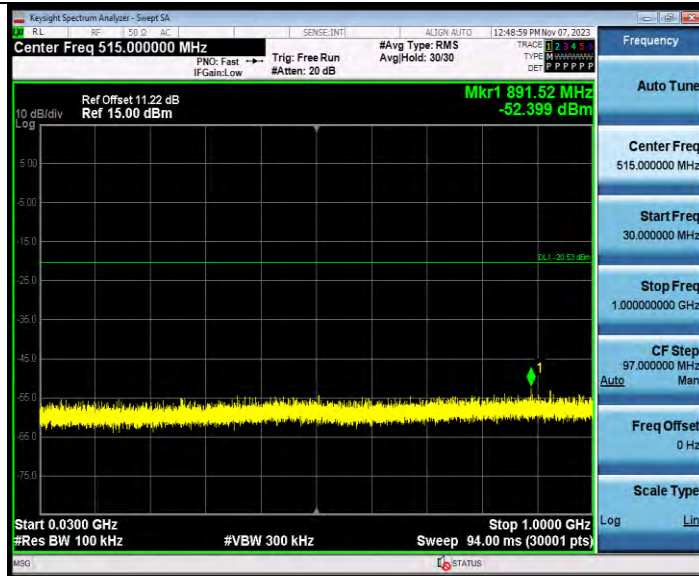
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BLE_125K_Ant1_2440_1000~26500



BLE_125K_Ant1_2480_0~Reference

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BLE_125K_Ant1_2480_30~1000



BLE_125K_Ant1_2480_1000~26500

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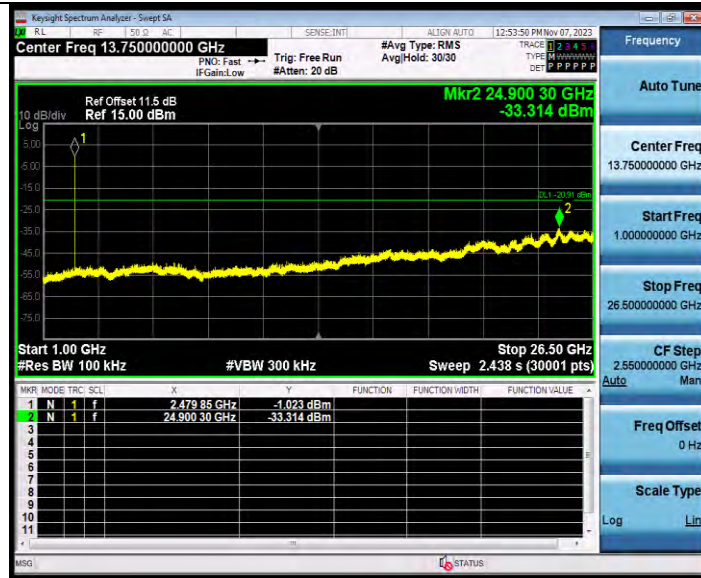
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BUREAU VERITAS

Test Report No.: W7L-P23100008RF02



BLE_500K_Ant1_2402_0~Reference



BLE_500K_Ant1_2402_30~1000

Huarui 7Layers High Technology (Suzhou) Co., Ltd

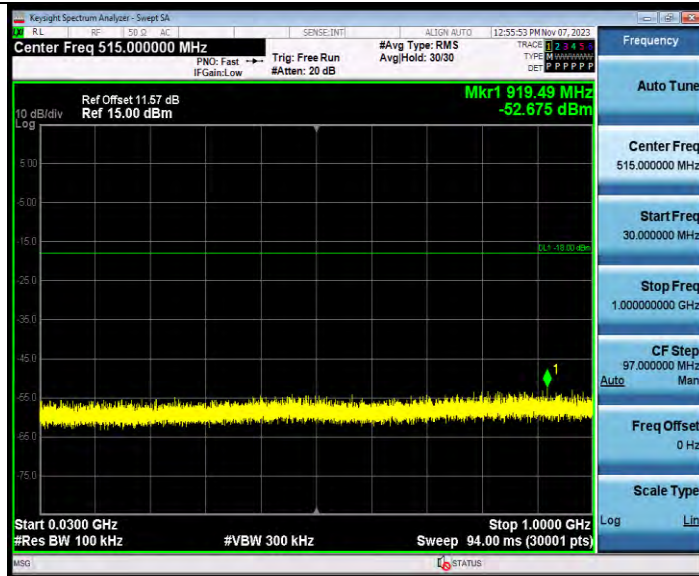
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BUREAU VERITAS

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BLE_500K_Ant1_2402_1000~26500



BLE_500K_Ant1_2440_0~Reference



**BUREAU
VERITAS**

Test Report No.: W7L-P23100008RF02



BLE_500K_Ant1_2440_30~1000



BLE_500K_Ant1_2440_1000~26500



BUREAU VERITAS

Test Report No.: W7L-P23100008RF02



BLE_500K_Ant1_2480_0~Reference



BLE_500K_Ant1_2480_30~1000

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VERITAS**

Test Report No.: W7L-P23100008RF02



BLE_500K_Ant1_2480_1000~26500



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Tel: +86(0557) 368 1008



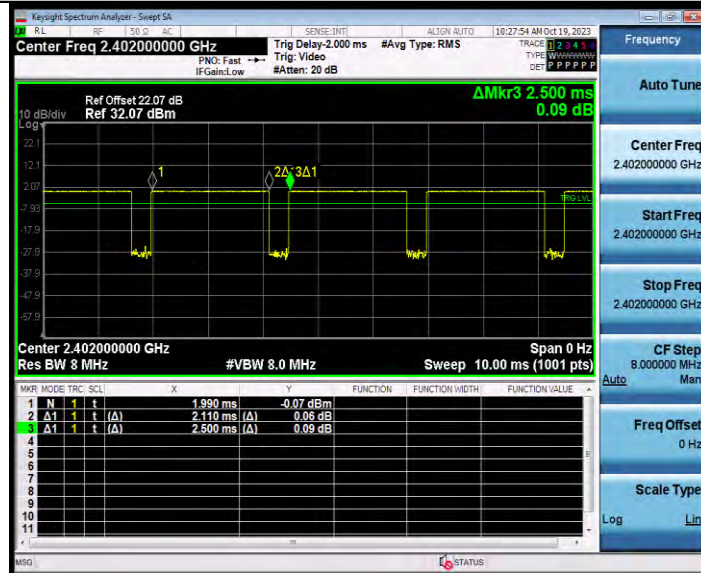
DUTY CYCLE TEST RESULT

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	2.12	2.50	84.80	0.72
		2440	2.12	2.50	84.80	0.72
		2480	2.13	2.50	85.20	0.70
BLE_2M	Ant1	2404	1.07	1.87	57.22	2.42
		2440	1.07	1.87	57.22	2.42
		2478	1.08	1.88	57.45	2.41
BLE_125K	Ant1	2402	4.55	5.00	91.00	0.41
		2440	17.04	17.52	97.26	0.12
		2480	17.04	17.52	97.26	0.12
BLE_500K	Ant1	2402	4.56	5.00	91.20	0.40
		2440	4.55	5.00	91.00	0.41
		2480	4.55	5.00	91.00	0.41

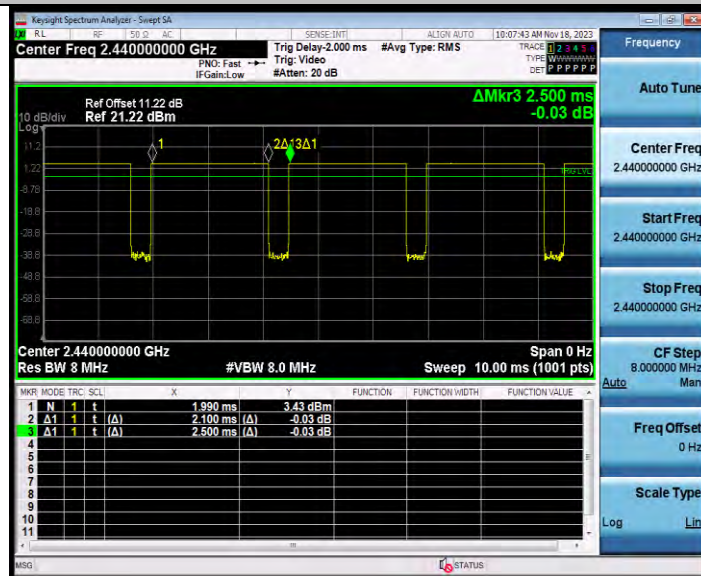


TEST GRAPHS

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

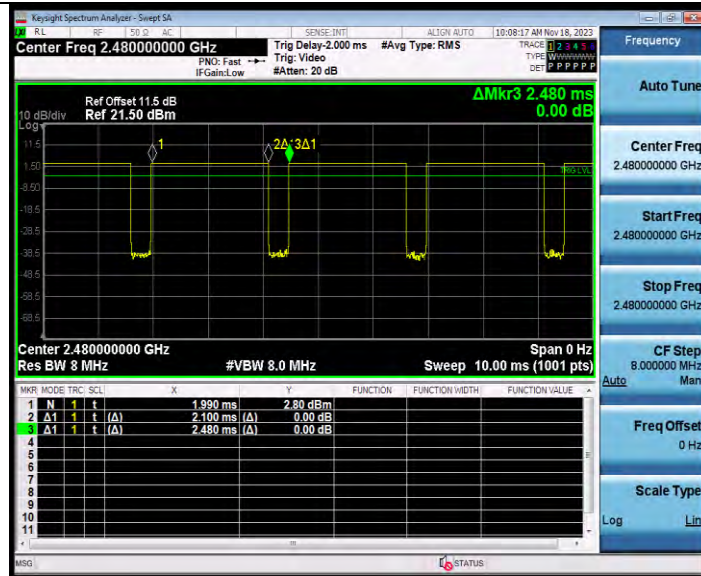


BLE_1M_Ant1_2480

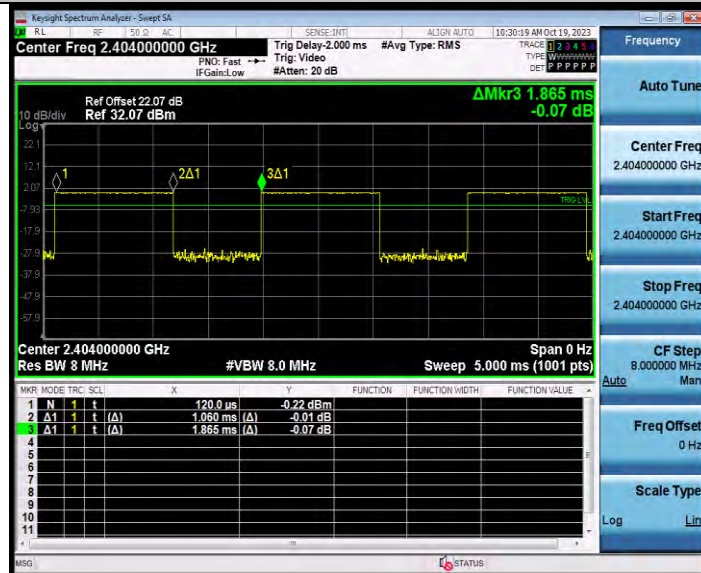


BUREAU VERITAS

Test Report No.: W7L-P23100008RF02



BLE_2M_Ant1_2404

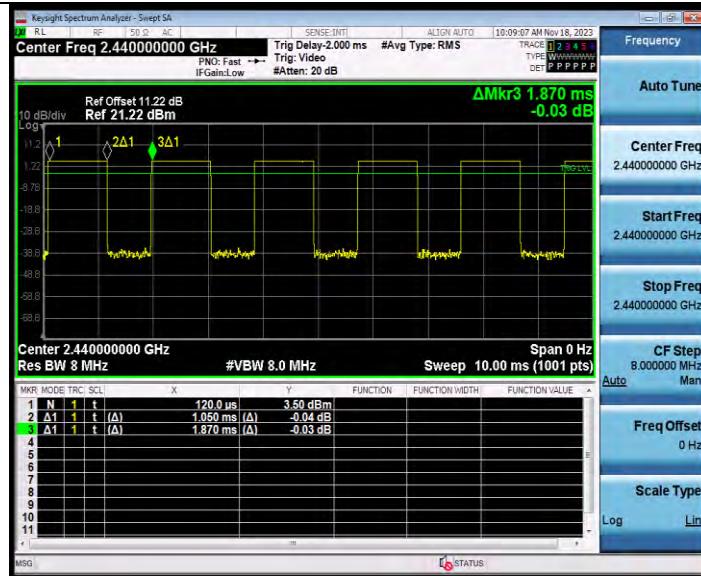


BLE_2M_Ant1_2440

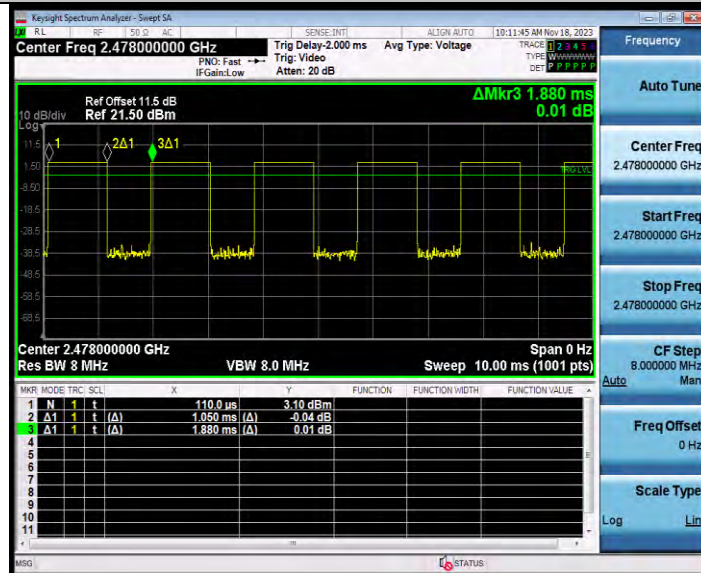


BUREAU VERITAS

Test Report No.: W7L-P23100008RF02



BLE_2M_Ant1_2478



BLE_125K_Ant1_2402

Huarui 7Layers High Technology (Suzhou) Co., Ltd

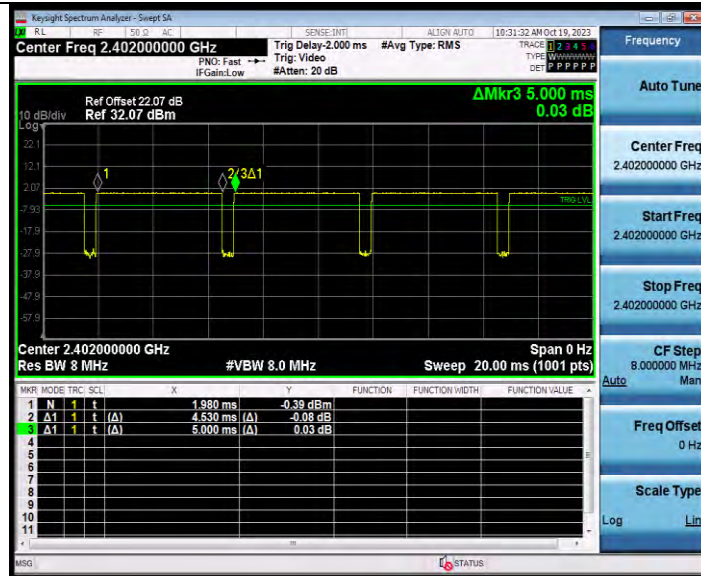
Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province

Tel: +86(0557) 368 1008

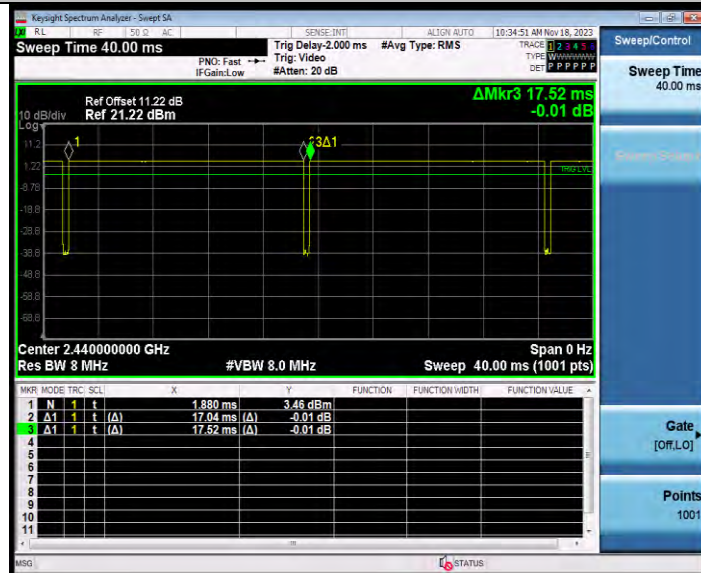


BUREAU VERITAS

Test Report No.: W7L-P23100008RF02



BLE_125K_Ant1_2440

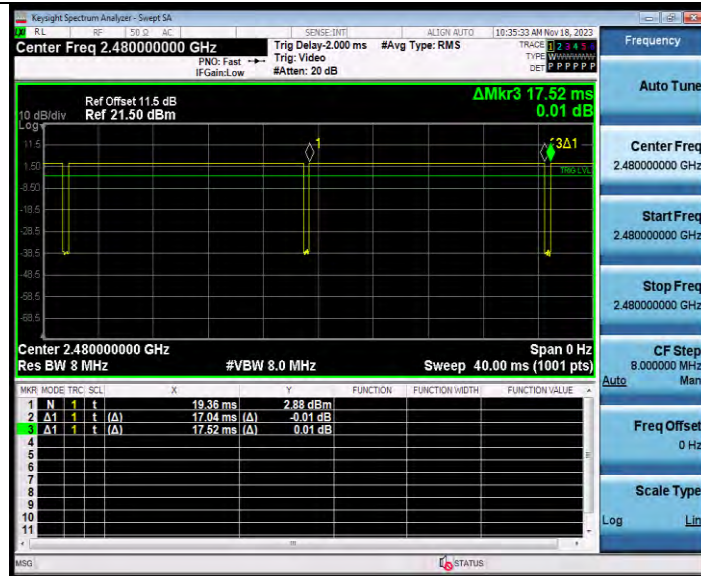


BLE_125K_Ant1_2480

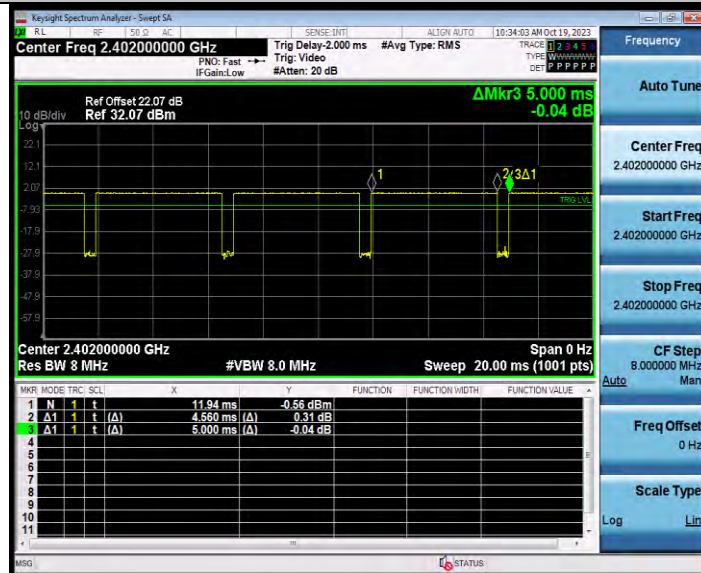


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Test Report No.: W7L-P23100008RF02



BLE_500K_Ant1_2402



BLE_500K_Ant1_2440

Huarui 7Layers High Technology (Suzhou) Co., Ltd

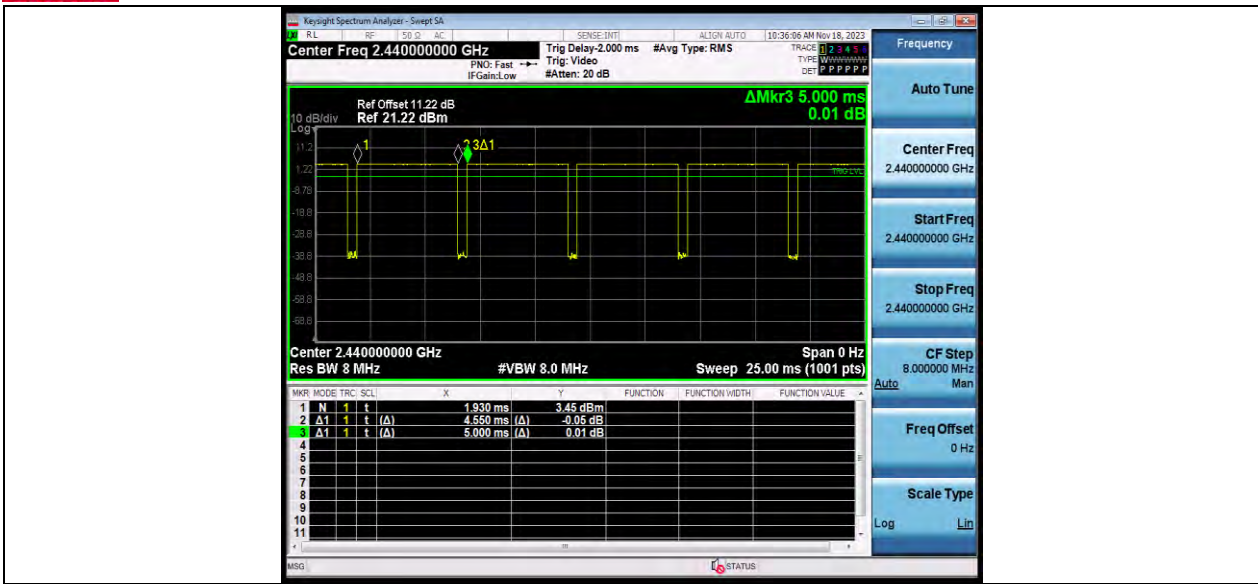
Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province

Tel: +86(0557) 368 1008

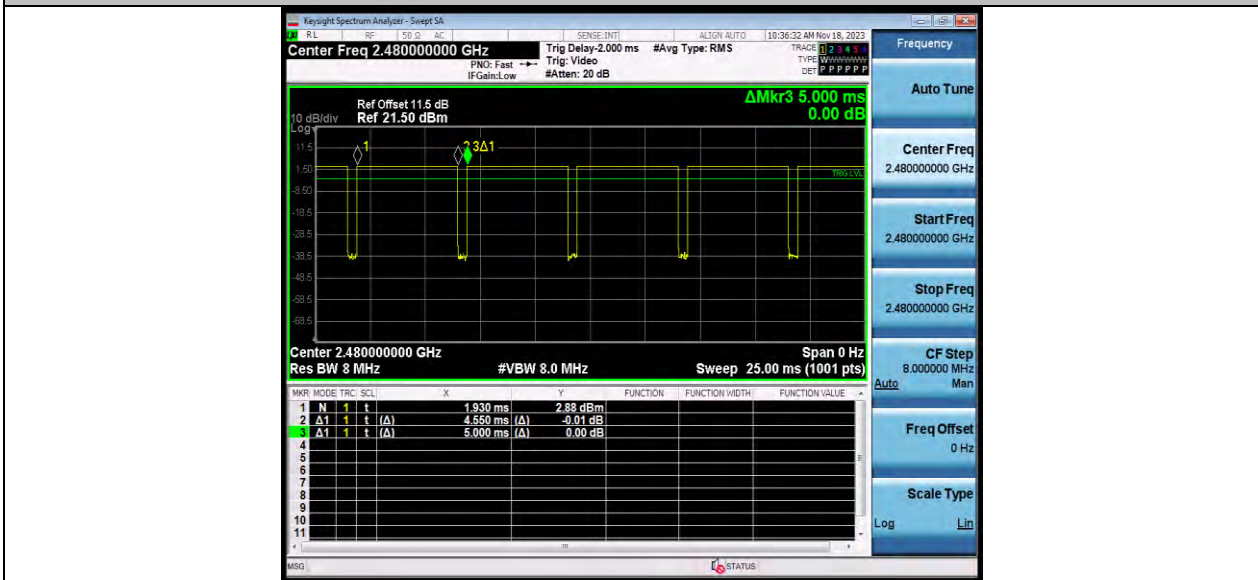


**BUREAU
VERITAS**

Test Report No.: W7L-P23100008RF02



BLE_500K_Ant1_2480



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