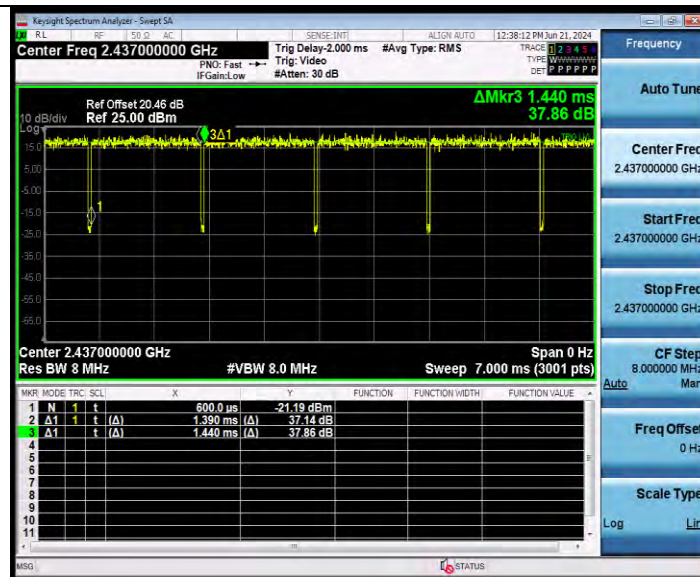




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11G_Ant1_2462

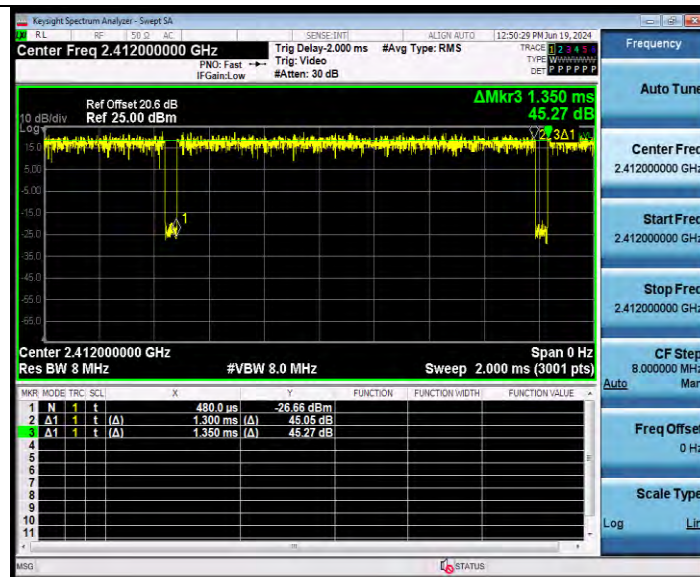


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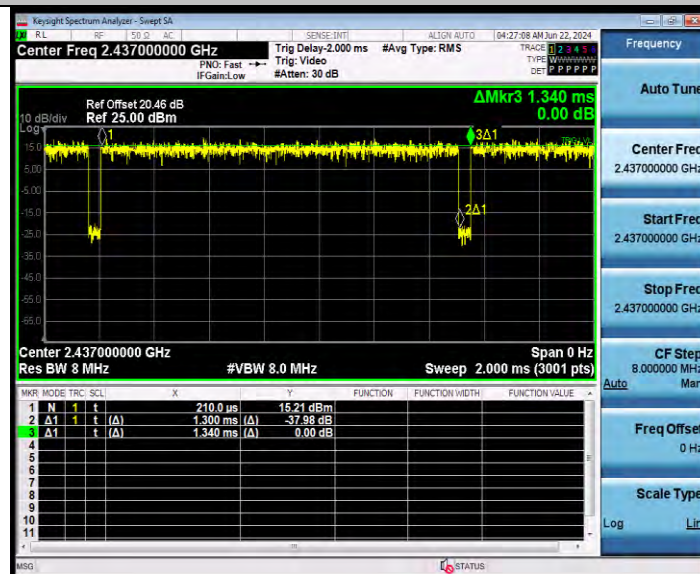


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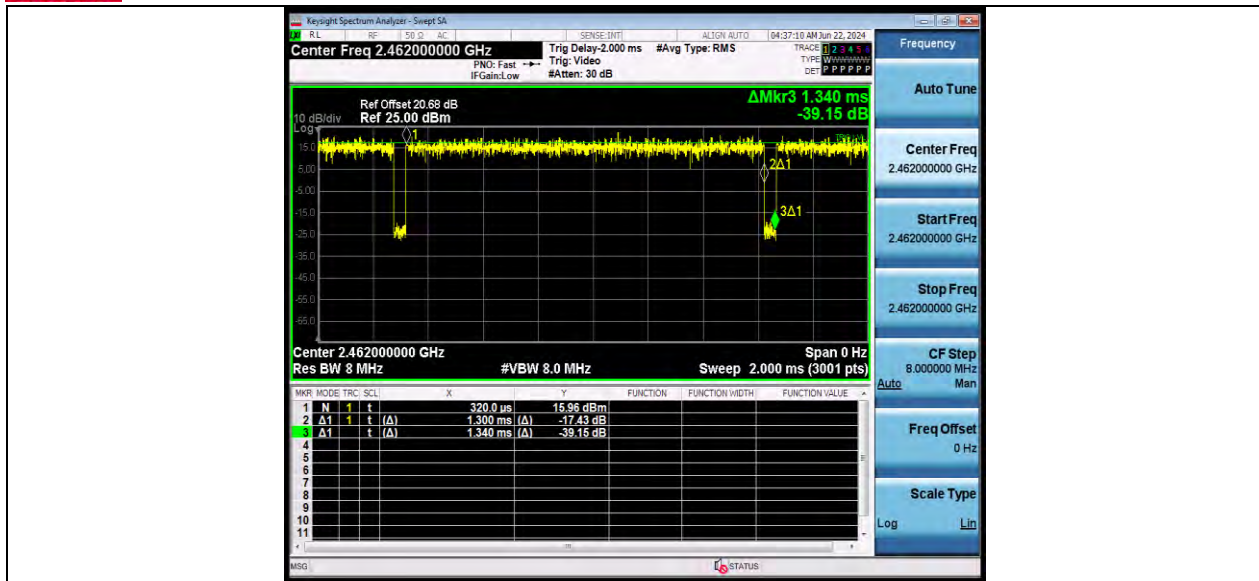


11N20SISO_Ant1_2462



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(Shenzhen) Co., Ltd

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Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

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



Test Report No.: W7L-P24100002RF02

BLE

DTS BANDWIDTH

TEST RESULT

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.684	2401.672	2402.356	0.5	PASS
		2440	0.656	2439.680	2440.336	0.5	PASS
		2480	0.696	2479.656	2480.352	0.5	PASS
BLE_2M	Ant1	2404	1.144	2403.448	2404.592	0.5	PASS
		2440	1.132	2439.452	2440.584	0.5	PASS
		2478	1.104	2477.448	2478.552	0.5	PASS
BLE_125K	Ant1	2402	0.684	2401.660	2402.344	0.5	PASS
		2440	0.680	2439.664	2440.344	0.5	PASS
		2480	0.684	2479.660	2480.344	0.5	PASS
BLE_500K	Ant1	2402	0.652	2401.680	2402.332	0.5	PASS
		2440	0.660	2439.676	2440.336	0.5	PASS
		2480	0.664	2479.676	2480.340	0.5	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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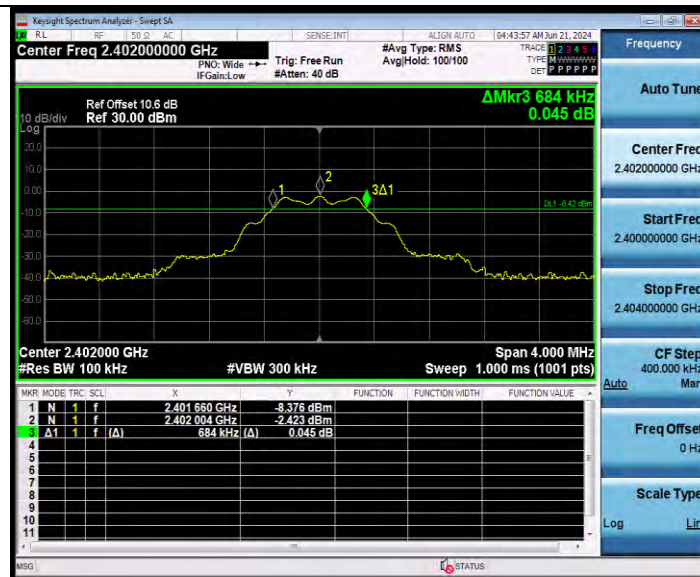
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Guangdong, People's Republic of China

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



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BLE_125K_Ant1_2440



BLE_125K_Ant1_2480

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Fax: +86 755 8869 6577
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BLE_500K_Ant1_2402



BLE_500K_Ant1_2440

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Zhaoshang Street, Nanshan District Shenzhen,
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Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
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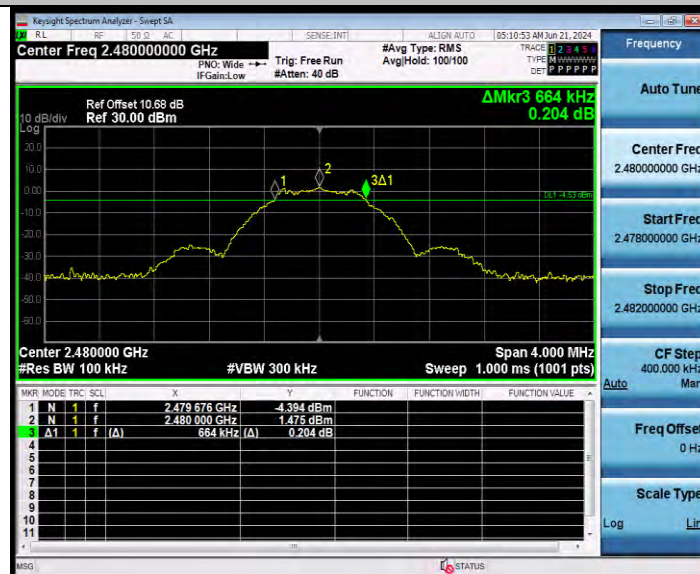


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BLE_500K_Ant1_2480



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Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

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

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

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0401	2401.4846	2402.5247	---	---
		2440	1.0489	2439.4835	2440.5324	---	---
		2480	1.0377	2479.4837	2480.5214	---	---
BLE_2M	Ant1	2404	2.0731	2402.9901	2405.0632	---	---
		2440	2.0836	2438.9771	2441.0607	---	---
		2478	2.0655	2476.9858	2479.0513	---	---
BLE_125K	Ant1	2402	1.0652	2401.4703	2402.5355	---	---
		2440	1.0629	2439.4692	2440.5321	---	---
		2480	1.0619	2479.4693	2480.5312	---	---
BLE_500K	Ant1	2402	1.0270	2401.4885	2402.5155	---	---
		2440	1.0286	2439.4868	2440.5154	---	---
		2480	1.0250	2479.4863	2480.5113	---	---



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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

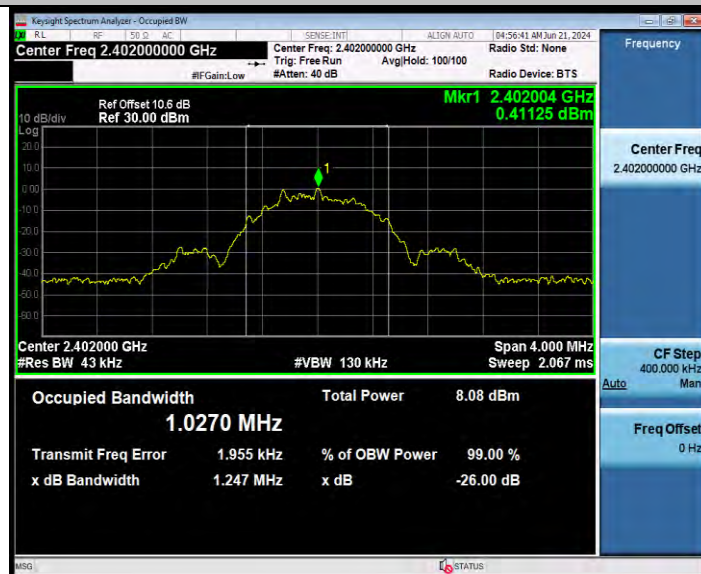


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BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



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Test Report No.: W7L-P24100002RF02



BLE_500K_Ant1_2480



**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	0.46	1	1.26	≤30	1.4	1.38	≤36	PASS	Default
		2440	0.97	1.48	1.41	≤30	1.88	1.54	≤36	PASS	Default
		2480	1.69	2.23	1.67	≤30	2.63	1.83	≤36	PASS	Default
BLE_2M	Ant1	2404	0.86	1.18	1.31	≤30	1.58	1.44	≤36	PASS	Default
		2440	1.14	1.51	1.42	≤30	1.91	1.55	≤36	PASS	Default
		2478	1.47	2.38	1.73	≤30	2.78	1.90	≤36	PASS	Default
BLE_125k	Ant1	2402	0.61	1.01	1.26	≤30	1.41	1.38	≤36	PASS	Default
		2440	1.13	1.49	1.41	≤30	1.89	1.55	≤36	PASS	Default
		2480	1.87	2.22	1.67	≤30	2.62	1.83	≤36	PASS	Default
BLE_500K	Ant1	2402	0.49	1.01	1.26	≤30	1.41	1.38	≤36	PASS	Default
		2440	0.98	1.49	1.41	≤30	1.89	1.55	≤36	PASS	Default
		2480	1.7	2.2	1.66	≤30	2.6	1.82	≤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	-15.13	≤8.00	PASS
		2440	-15.40	≤8.00	PASS
		2480	-14.04	≤8.00	PASS
BLE_2M	Ant1	2404	-17.45	≤8.00	PASS
		2440	-17.84	≤8.00	PASS
		2478	-16.38	≤8.00	PASS
BLE_125K	Ant1	2402	-5.30	≤8.00	PASS
		2440	-5.58	≤8.00	PASS
		2480	-4.30	≤8.00	PASS



Test Report No.: W7L-P24100002RF02

BLE_500K	Ant1	2402	-5.40	≤8.00	PASS
		2440	-5.69	≤8.00	PASS
		2480	-4.40	≤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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(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

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



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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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Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
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BLE_500K_Ant1_2480





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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	0.14	-45.32	≤ -19.86	PASS
		High	2480	1.79	-45.33	≤ -18.21	PASS
BLE_2M	Ant1	Low	2404	0.62	-45.36	≤ -19.38	PASS
		High	2478	1.03	-44.69	≤ -18.97	PASS
BLE_125K	Ant1	Low	2402	-2.42	-45.64	≤ -22.42	PASS
		High	2480	-1.44	-44.76	≤ -21.44	PASS
BLE_500K	Ant1	Low	2402	0.52	-45.36	≤ -19.48	PASS
		High	2480	1.53	-43.95	≤ -18.48	PASS

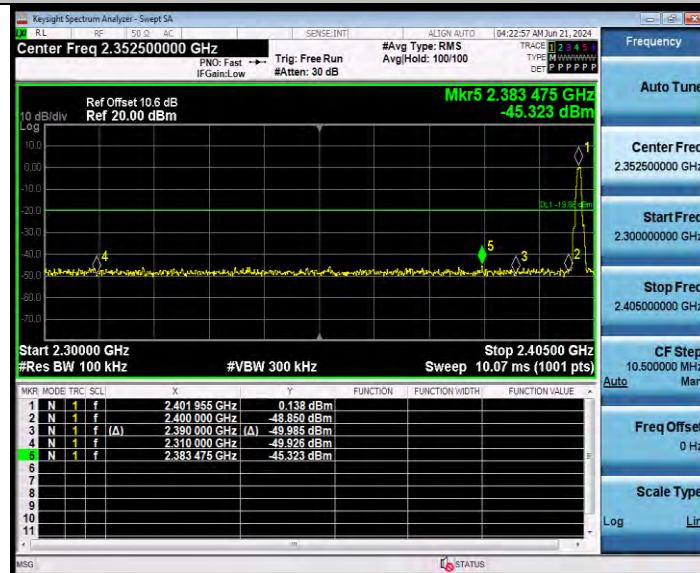


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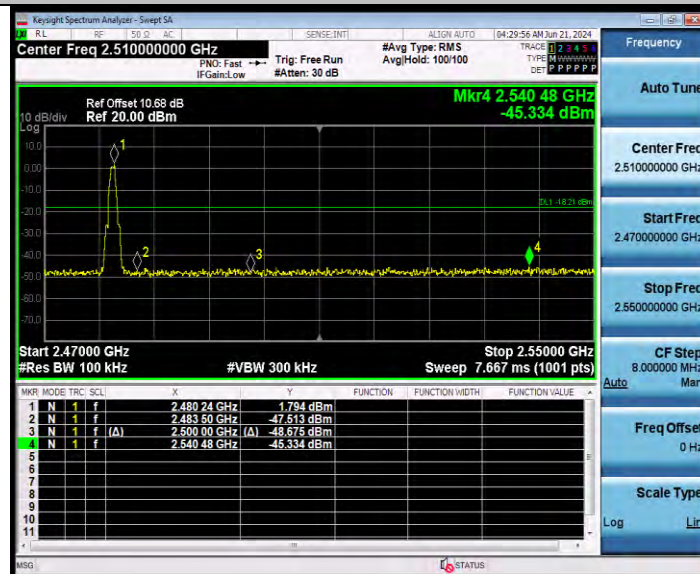
Test Report No.: W7L-P24100002RF02

TEST GRAPHS

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480

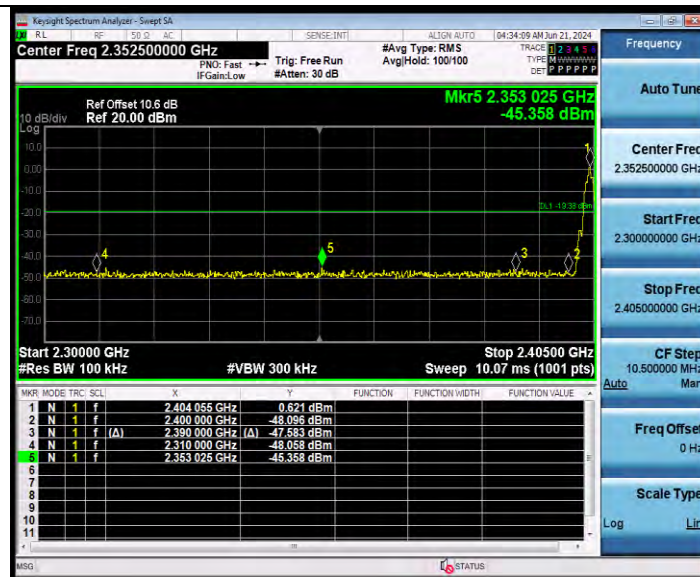


BLE_2M_Ant1_Low_2404

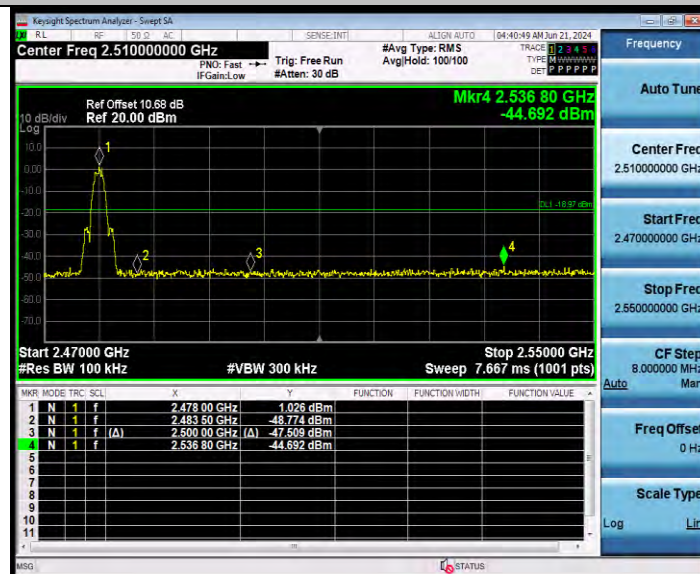


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BLE_2M_Ant1_High_2478

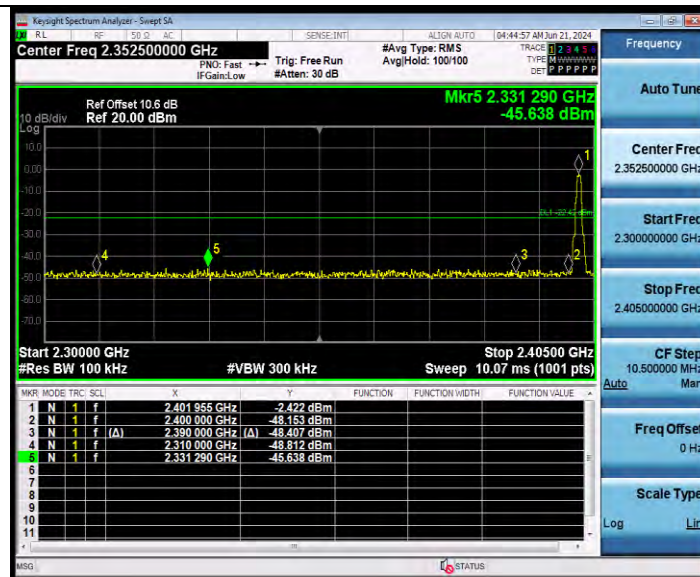


BLE_125K_Ant1_Low_2402

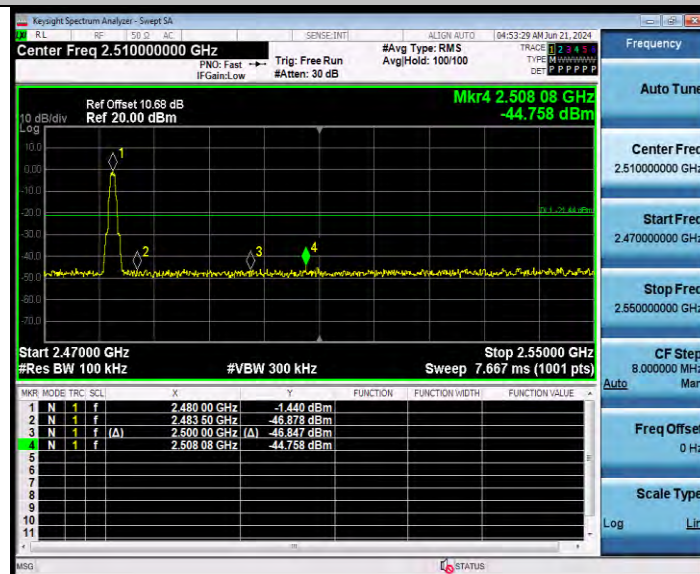


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BLE_125K_Ant1_High_2480

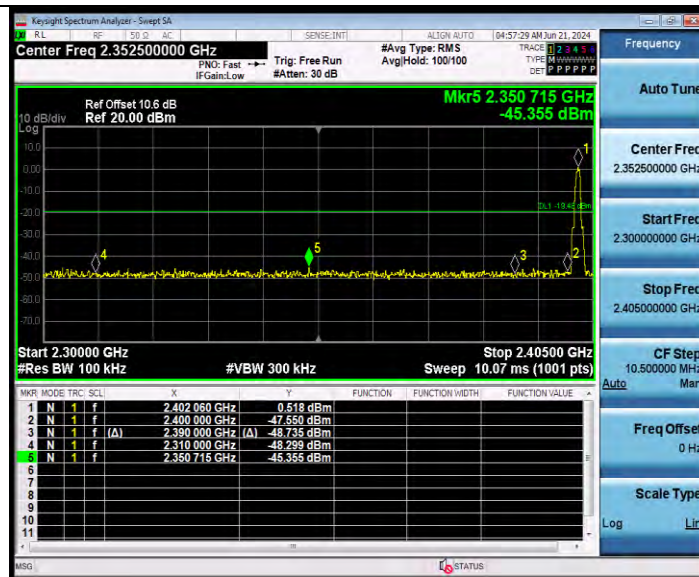


BLE_500K_Ant1_Low_2402

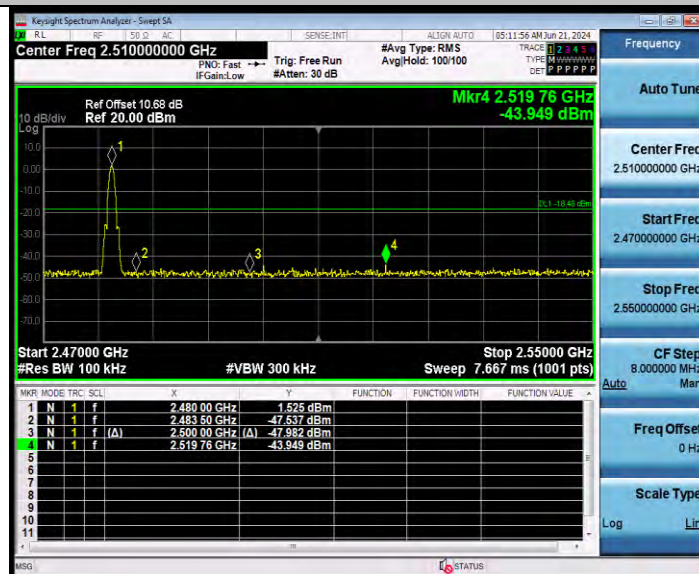


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BLE_500K_Ant1_High_2480





CONDUCTED SPURIOUS EMISSION TEST RESULT

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.44	-0.44	---	PASS
			30~1000	-0.44	-64.17	≤-20.44	PASS
			1000~26500	-0.44	-44.78	≤-20.44	PASS
		2440	Reference	-0.93	-0.93	---	PASS
			30~1000	-0.93	-64.4	≤-20.93	PASS
			1000~26500	-0.93	-45.4	≤-20.93	PASS
		2480	Reference	0.34	0.34	---	PASS
			30~1000	0.34	-63.88	≤-19.66	PASS
			1000~26500	0.34	-44.79	≤-19.66	PASS
BLE_2M	Ant1	2404	Reference	-1.33	-1.33	---	PASS
			30~1000	-1.33	-63.39	≤-21.33	PASS
			1000~26500	-1.33	-45.84	≤-21.33	PASS
		2440	Reference	-2.71	-2.71	---	PASS
			30~1000	-2.71	-63.37	≤-22.71	PASS
			1000~26500	-2.71	-45.77	≤-22.71	PASS
		2478	Reference	0.63	0.63	---	PASS
			30~1000	0.63	-64.08	≤-19.37	PASS
			1000~26500	0.63	-44.81	≤-19.37	PASS
BLE_125K	Ant1	2402	Reference	-2.45	-2.45	---	PASS
			30~1000	-2.45	-64.3	≤-22.45	PASS
			1000~26500	-2.45	-45.51	≤-22.45	PASS
		2440	Reference	-2.81	-2.81	---	PASS
			30~1000	-2.81	-64.48	≤-22.81	PASS
			1000~26500	-2.81	-44.79	≤-22.81	PASS
		2480	Reference	-1.51	-1.51	---	PASS
			30~1000	-1.51	-64.28	≤-21.51	PASS
			1000~26500	-1.51	-45.9	≤-21.51	PASS
BLE_500K	Ant1	2402	Reference	-0.42	-0.42	---	PASS
			30~1000	-0.42	-64.88	≤-20.42	PASS



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			1000~26500	-0.42	-45.55	≤ -20.42	PASS
		2440	Reference	-0.70	-0.70	---	PASS
			30~1000	-0.70	-37.07	≤ -20.7	PASS
			1000~26500	-0.70	-45.77	≤ -20.7	PASS
		2480	Reference	1.28	1.28	---	PASS
			30~1000	1.28	-63.72	≤ -18.72	PASS
			1000~26500	1.28	-45.31	≤ -18.72	PASS



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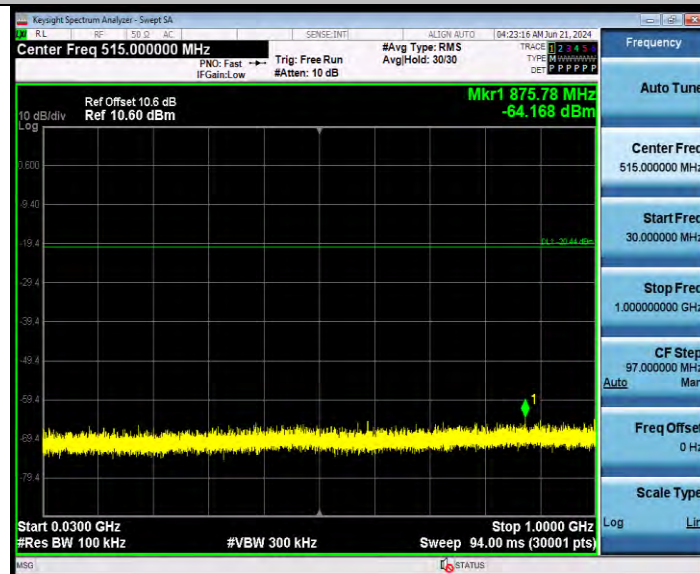
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TEST GRAPHS

BLE_1M_Ant1_2402_0~Reference



BLE_1M_Ant1_2402_30~1000



BLE_1M_Ant1_2402_1000~26500



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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

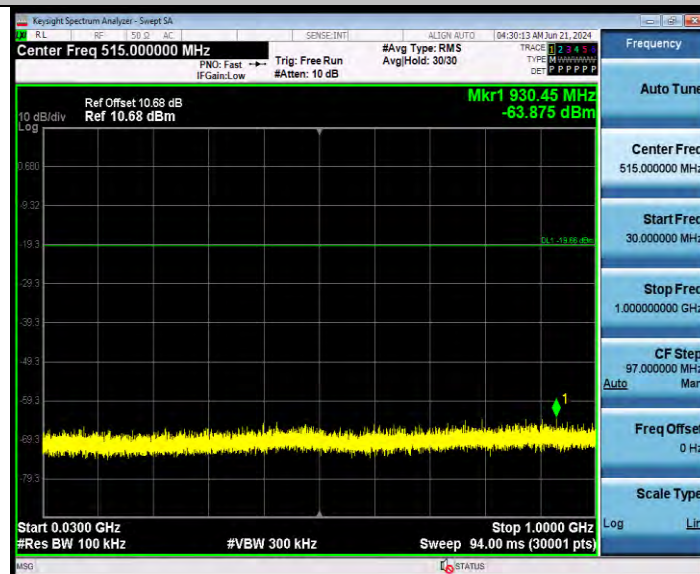


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BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



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Test Report No.: W7L-P24100002RF02



BLE_2M_Ant1_2404_0~Reference



BLE_2M_Ant1_2404_30~1000



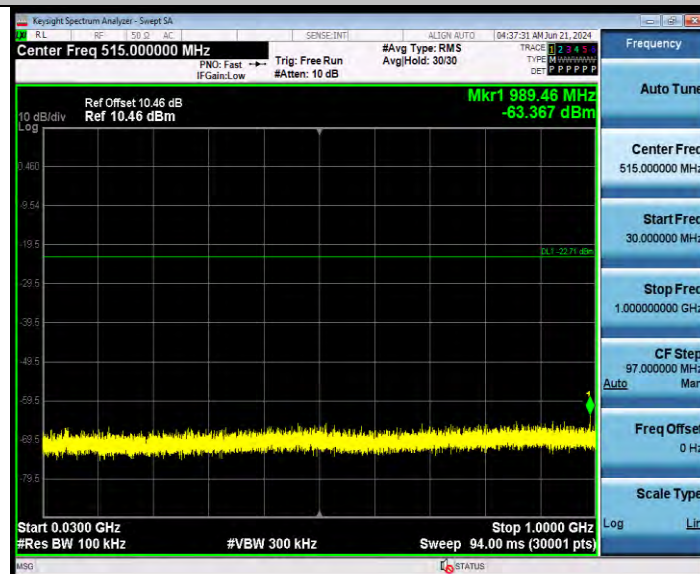


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BLE_2M_Ant1_2440_30~1000



BLE_2M_Ant1_2440_1000~26500



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Test Report No.: W7L-P24100002RF02



BLE_2M_Ant1_2478_0~Reference

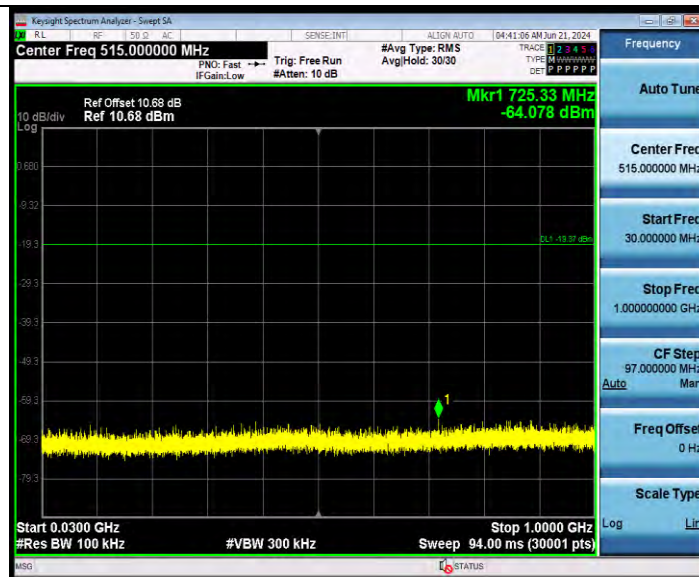


BLE_2M_Ant1_2478_30~1000



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BLE_2M_Ant1_2478_1000~26500



BLE_125K_Ant1_2402_0~Reference



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Test Report No.: W7L-P24100002RF02



BLE_125K_Ant1_2402_30~1000



BLE_125K_Ant1_2402_1000~26500



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Test Report No.: W7L-P24100002RF02



BLE_125K_Ant1_2440_0~Reference



BLE_125K_Ant1_2440_30~1000



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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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Test Report No.: W7L-P24100002RF02



BLE_500K_Ant1_2402_0~Reference



BLE_500K_Ant1_2402_30~1000



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Test Report No.: W7L-P24100002RF02



BLE_500K_Ant1_2402_1000~26500



BLE_500K_Ant1_2440_0~Reference

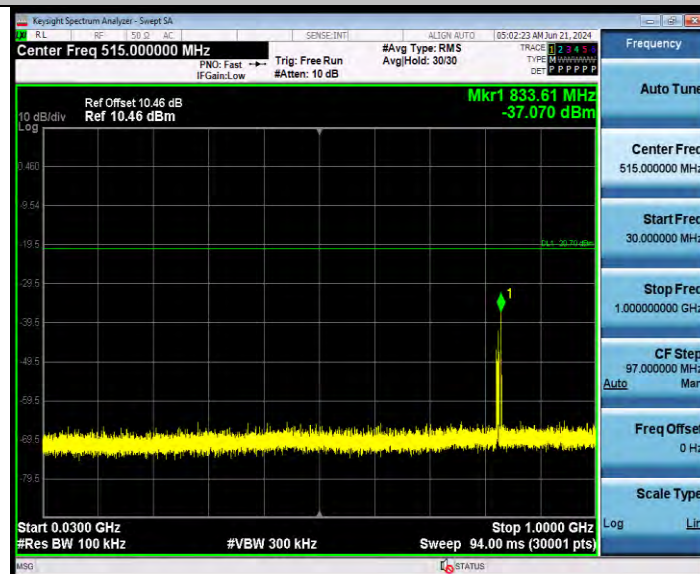


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BLE_500K_Ant1_2440_30~1000



BLE_500K_Ant1_2440_1000~26500



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Test Report No.: W7L-P24100002RF02



BLE_500K_Ant1_2480_0~Reference

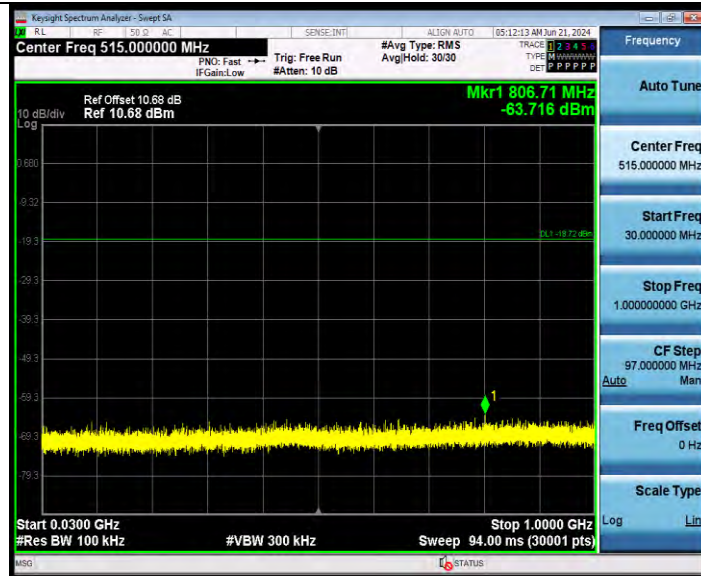


BLE_500K_Ant1_2480_30~1000



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BLE_500K_Ant1_2480_1000~26500



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(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

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



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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	2.13	2.50	85.20	0.70
		2480	2.13	2.50	85.20	0.70
BLE_2M	Ant1	2404	1.07	1.88	56.91	2.45
		2440	1.07	1.88	56.91	2.45
		2478	1.07	1.88	56.91	2.45
BLE_125K	Ant1	2402	17.05	17.50	97.43	0.11
		2440	17.05	17.50	97.43	0.11
		2480	17.05	17.50	97.43	0.11
BLE_500K	Ant1	2402	4.55	5.00	91.00	0.41
		2440	4.55	5.00	91.00	0.41
		2480	4.55	5.00	91.00	0.41

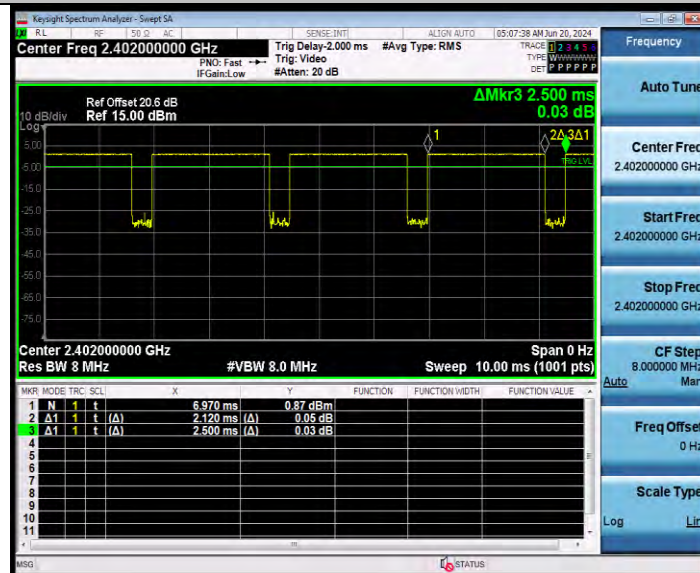


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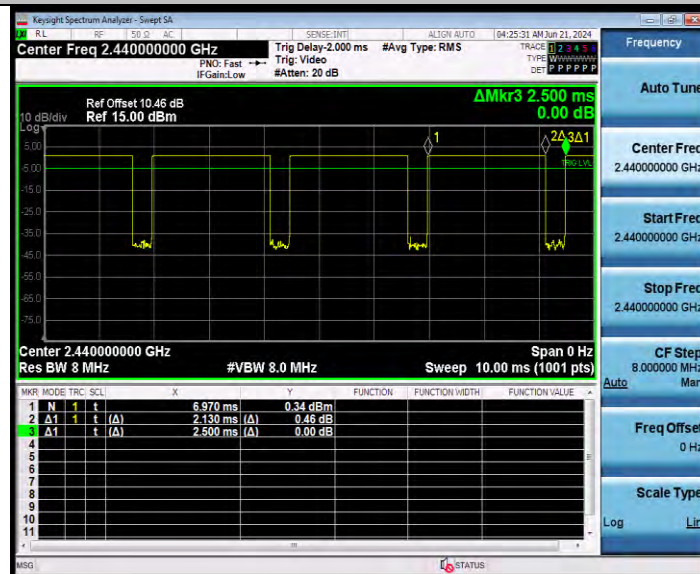
Test Report No.: W7L-P24100002RF02

TEST GRAPHS

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

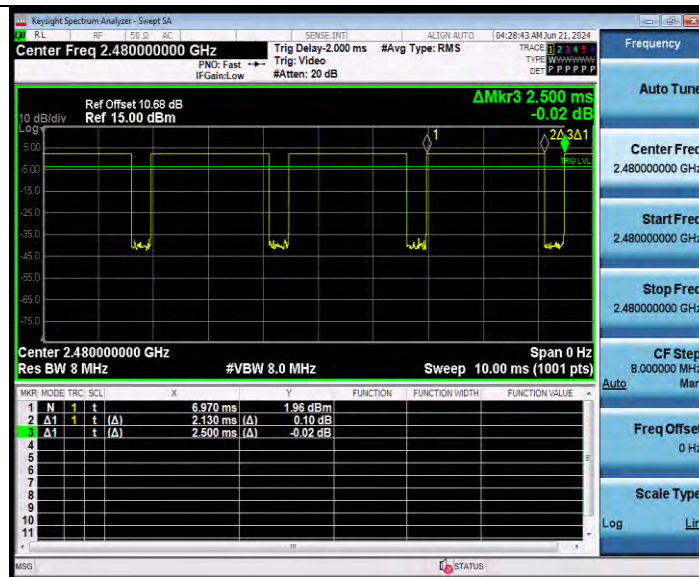


BLE_1M_Ant1_2480

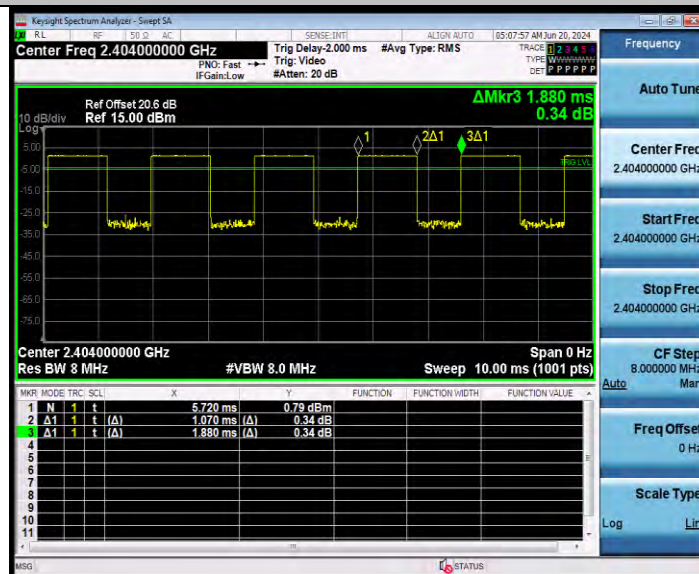


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VERITAS

Test Report No.: W7L-P24100002RF02



BLE_2M_Ant1_2404

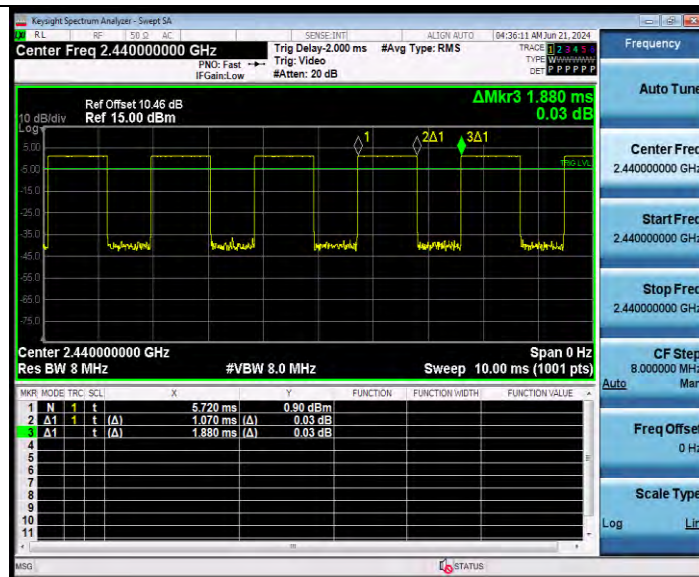


BLE_2M_Ant1_2440

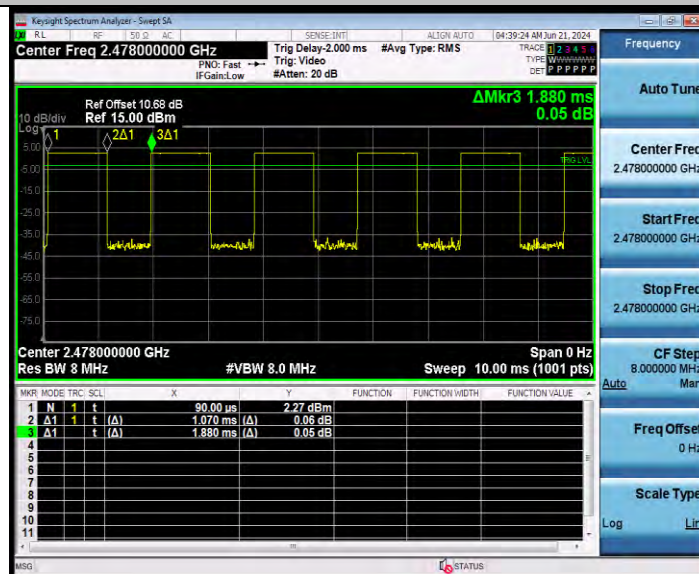


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VERITAS

Test Report No.: W7L-P24100002RF02



BLE_2M_Ant1_2478

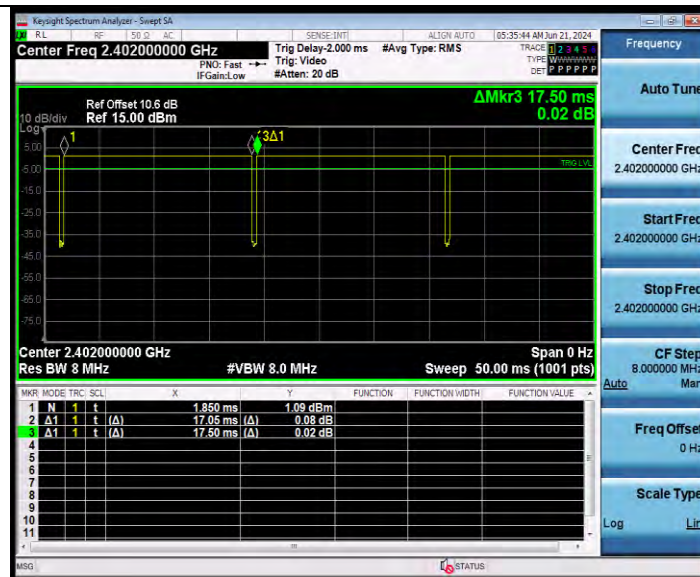


BLE_125K_Ant1_2402

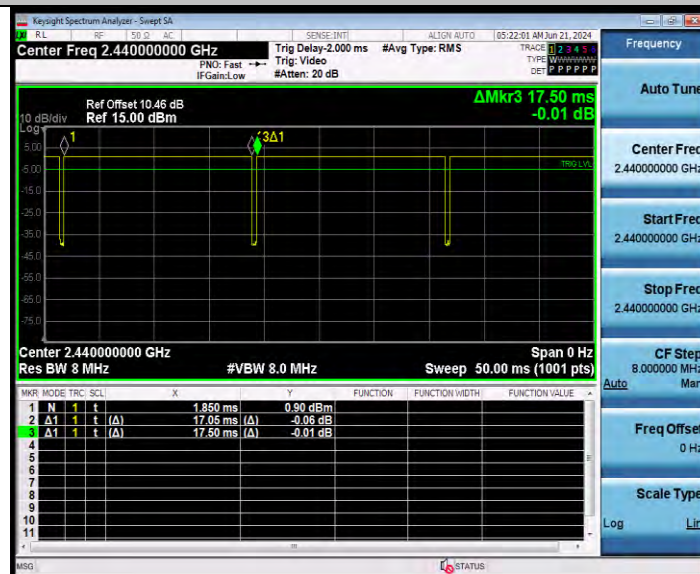


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Test Report No.: W7L-P24100002RF02



BLE_125K_Ant1_2440

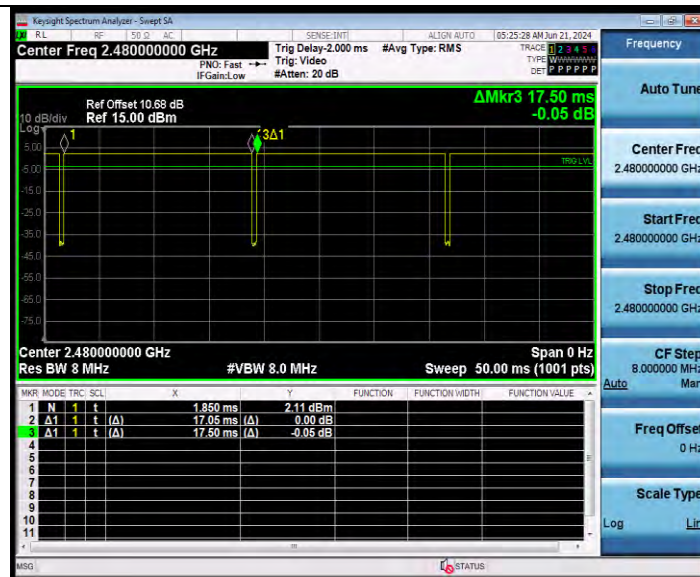


BLE_125K_Ant1_2480

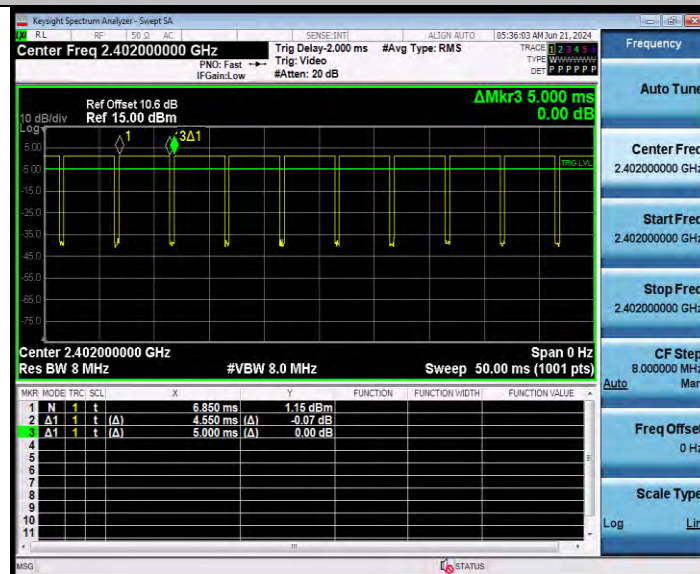


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VERITAS

Test Report No.: W7L-P24100002RF02



BLE_500K_Ant1_2402

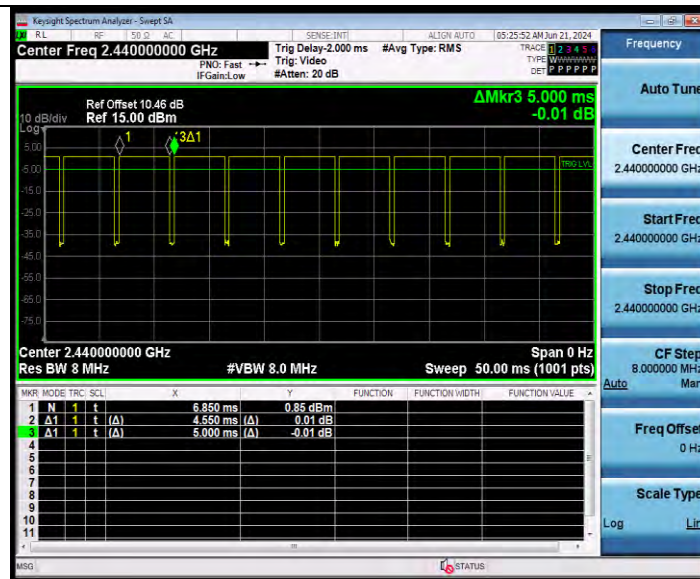


BLE_500K_Ant1_2440

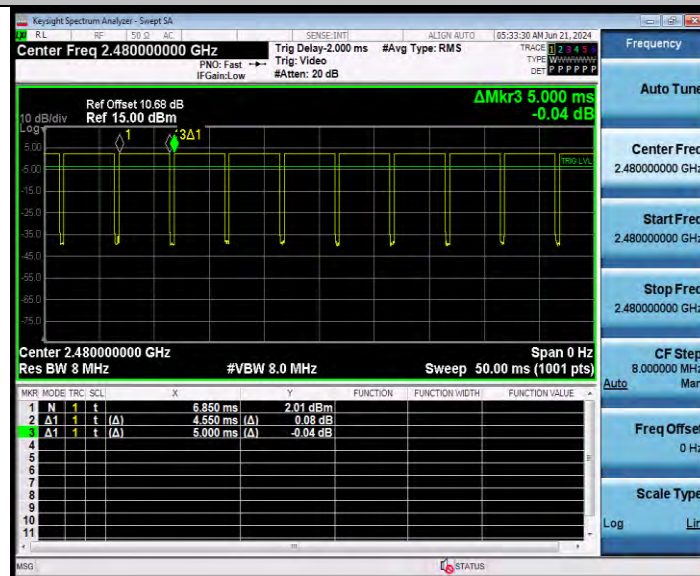


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VERITAS

Test Report No.: W7L-P24100002RF02



BLE_500K_Ant1_2480



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