



Shenzhen GUOREN Certification Technology Service Co., Ltd.

101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community,
Fenghuang Street, Guangming District, Shenzhen, China

FCC ID:2BLJV-R-W52508

GRCTR250802012-01

Appendix A: 6dB Bandwidth

Ant 1

Test Result

Test Mode	Antenna	Channel Frequency[MHz]	6dB Bandwidth (MHz)	Limit[KHz]	Verdict
11B	Ant1	2412	10.34	≥500	Pass
11B	Ant1	2437	10.33	≥500	Pass
11B	Ant1	2462	10.33	≥500	Pass
11G	Ant1	2412	16.20	≥500	Pass
11G	Ant1	2437	16.37	≥500	Pass
11G	Ant1	2462	16.31	≥500	Pass
11N20SISO	Ant1	2412	17.64	≥500	Pass
11N20SISO	Ant1	2437	17.59	≥500	Pass
11N20SISO	Ant1	2462	17.62	≥500	Pass
11N40SISO	Ant1	2422	35.61	≥500	Pass
11N40SISO	Ant1	2437	35.62	≥500	Pass
11N40SISO	Ant1	2452	35.67	≥500	Pass



Test Graphs



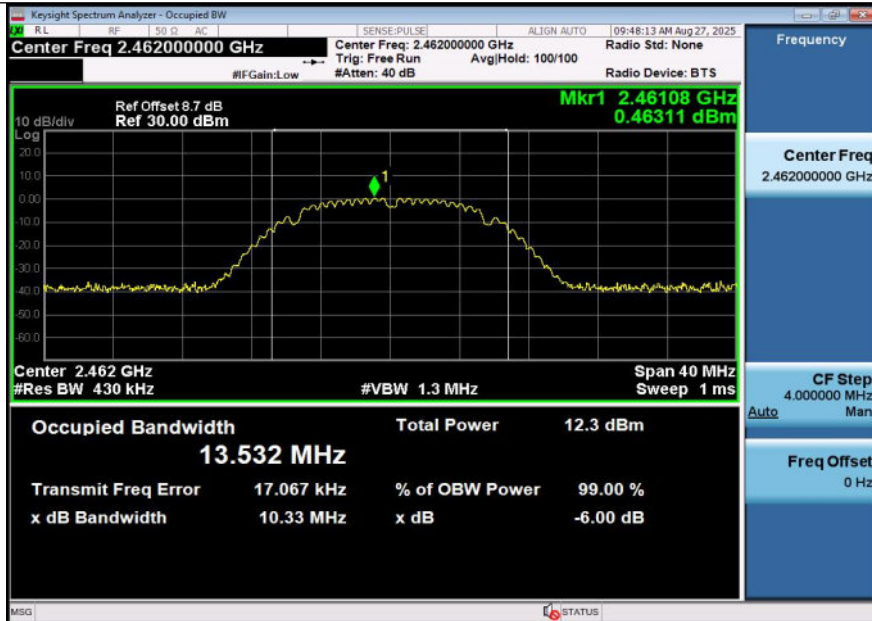


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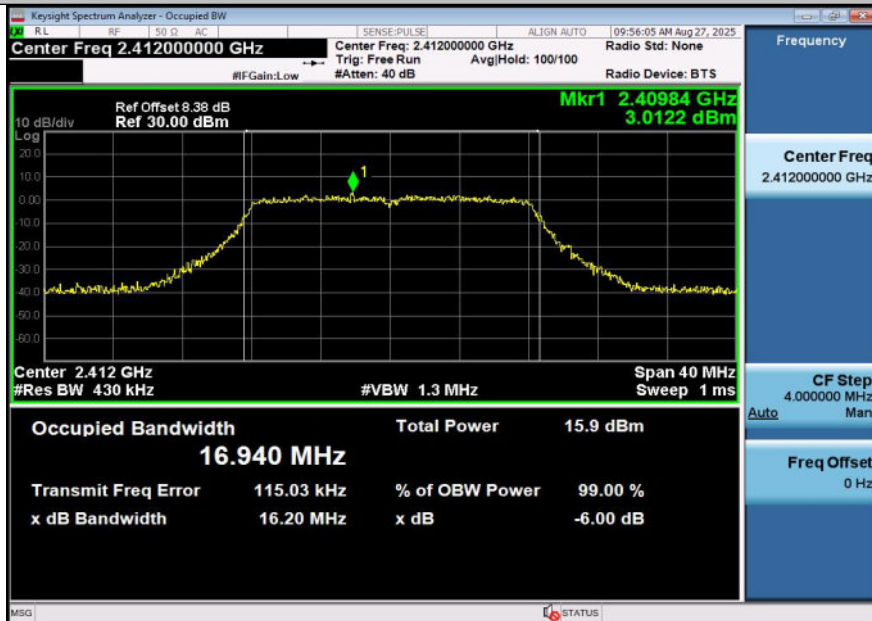
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11B-Ant1-2462



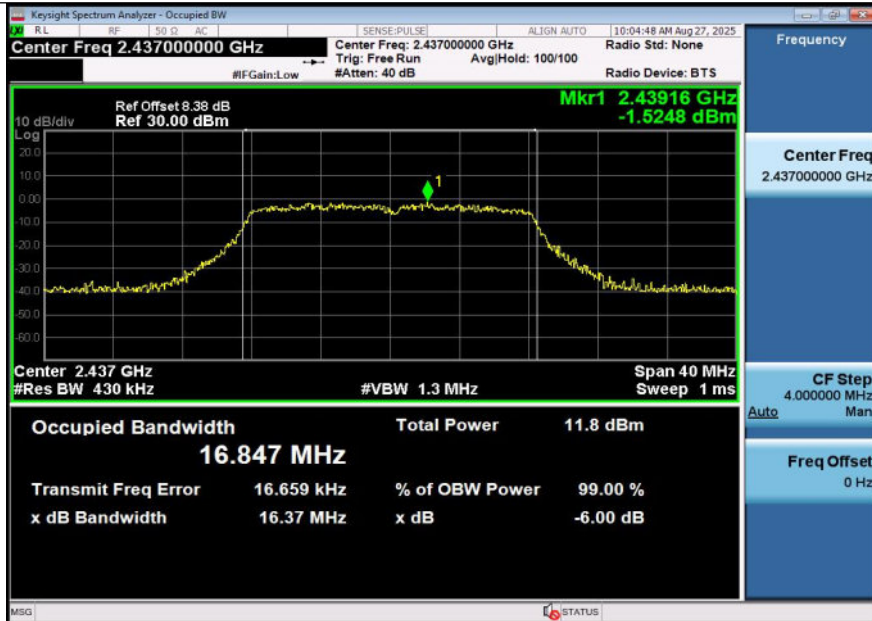
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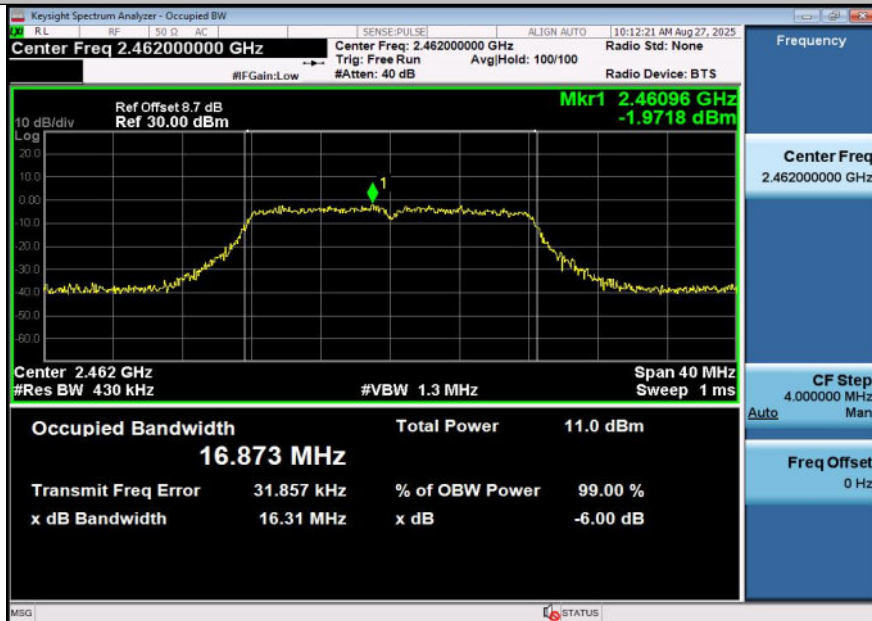
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11G-Ant1-2437



11G-Ant1-2462



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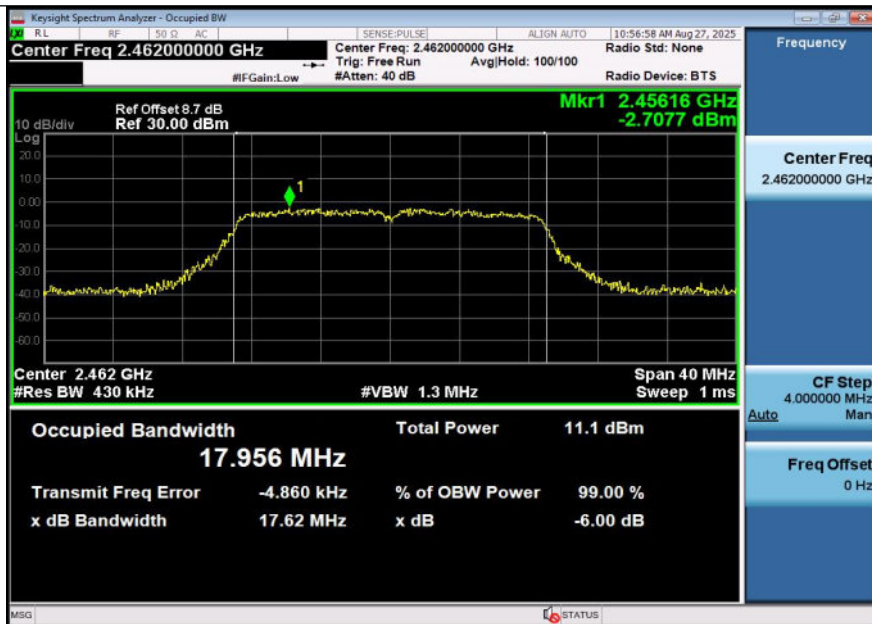




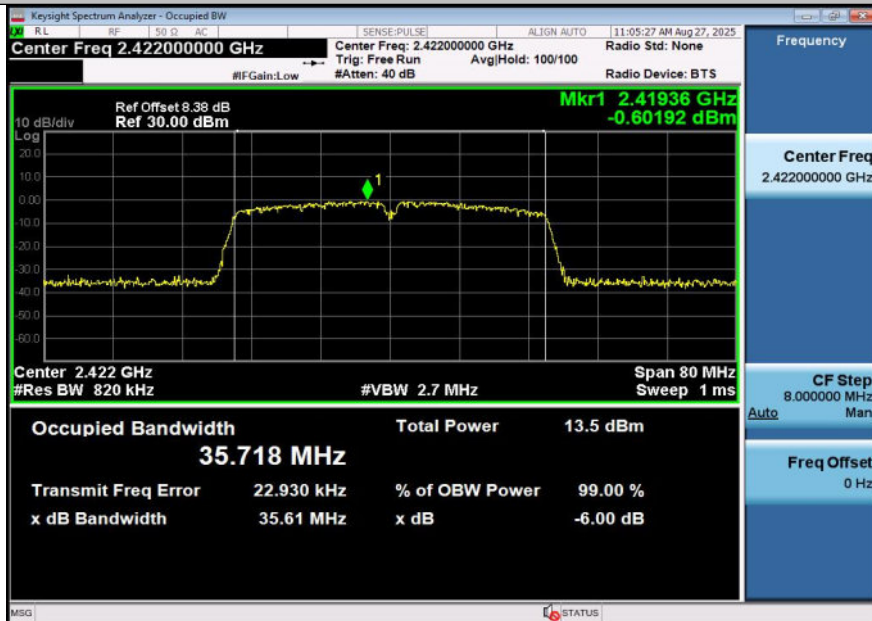
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11N20SISO-Ant1-2462



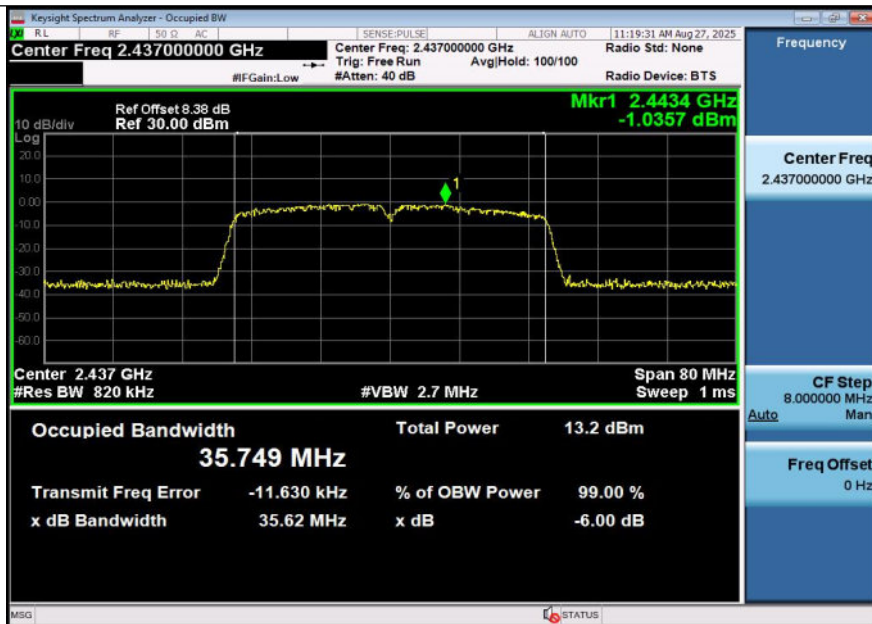
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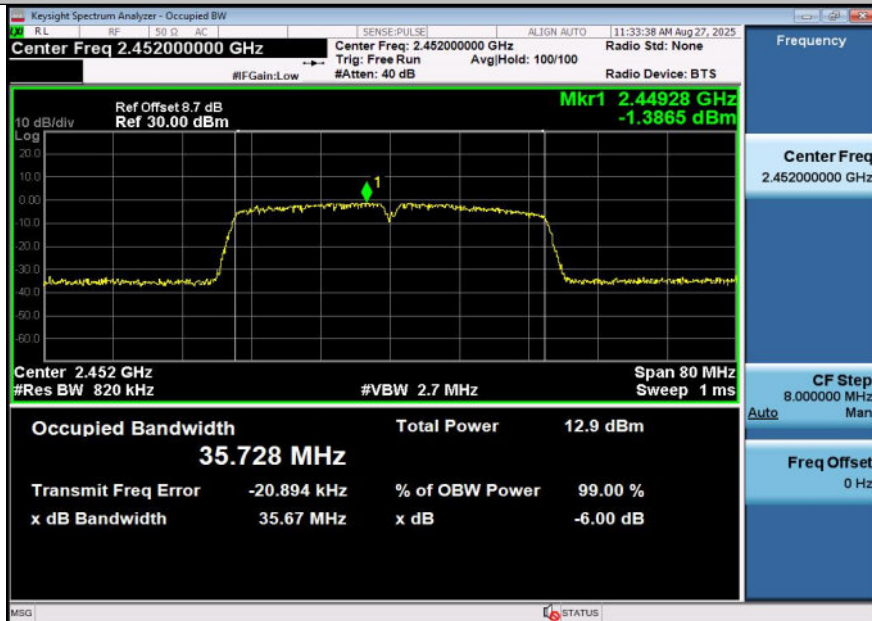
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11N40SISO-Ant1-2437



11N40SISO-Ant1-2452



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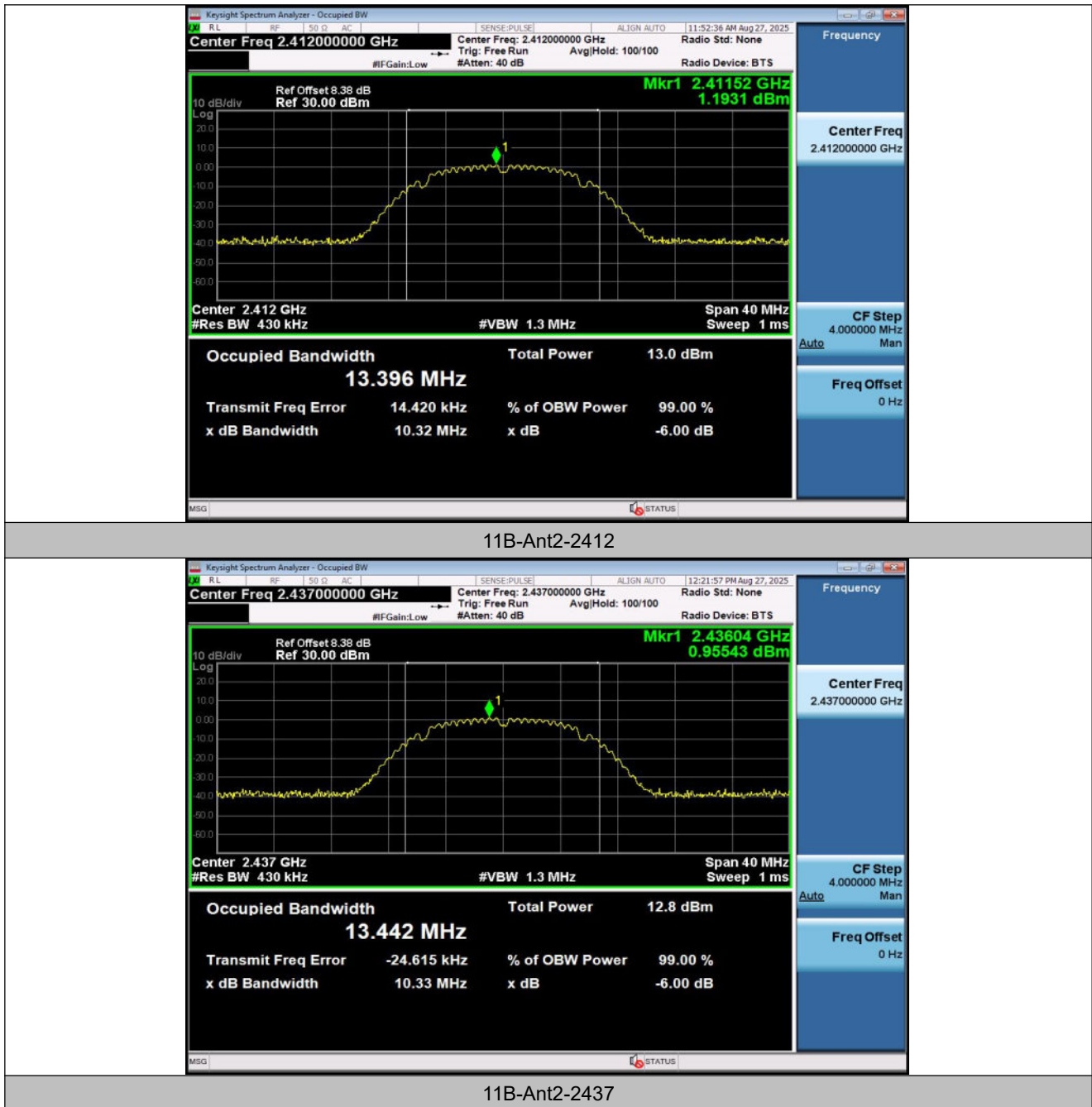
Ant 2

Test Result

Test Mode	Antenna	Channel Frequency[MHz]	6dB Bandwidth (MHz)	Limit[KHz]	Verdict
11B	Ant2	2412	10.32	≥500	Pass
11B	Ant2	2437	10.33	≥500	Pass
11B	Ant2	2462	10.32	≥500	Pass
11G	Ant2	2412	16.44	≥500	Pass
11G	Ant2	2437	16.34	≥500	Pass
11G	Ant2	2462	16.30	≥500	Pass
11N20SISO	Ant2	2412	17.60	≥500	Pass
11N20SISO	Ant2	2437	17.65	≥500	Pass
11N20SISO	Ant2	2462	17.53	≥500	Pass
11N40SISO	Ant2	2422	35.61	≥500	Pass
11N40SISO	Ant2	2437	35.67	≥500	Pass
11N40SISO	Ant2	2452	35.53	≥500	Pass



Test Graphs



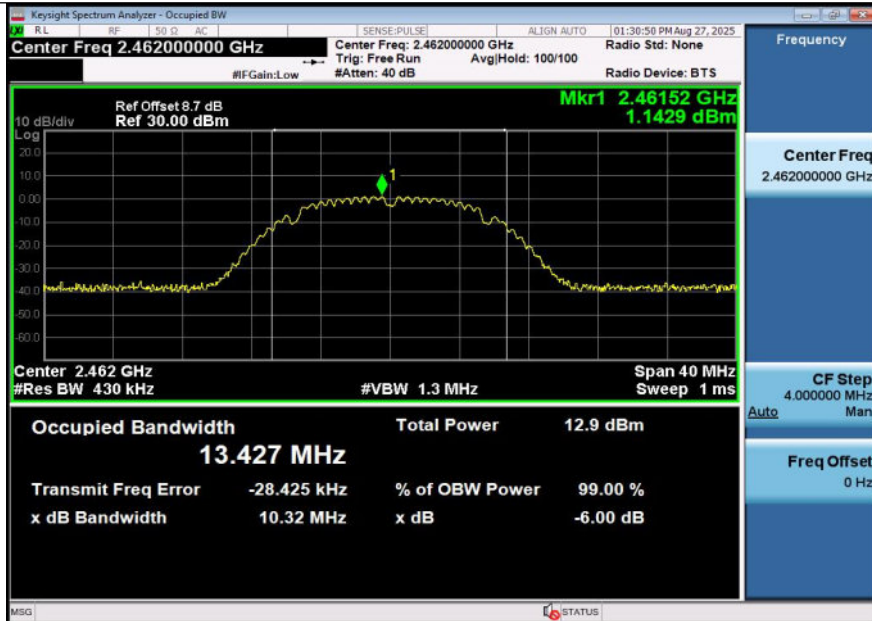


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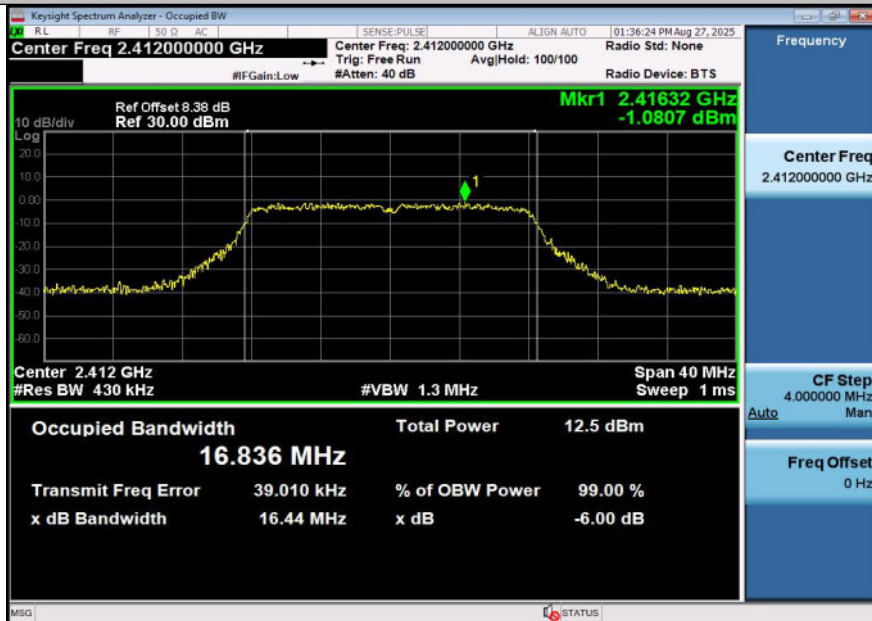
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11B-Ant2-2462



11G-Ant2-2412

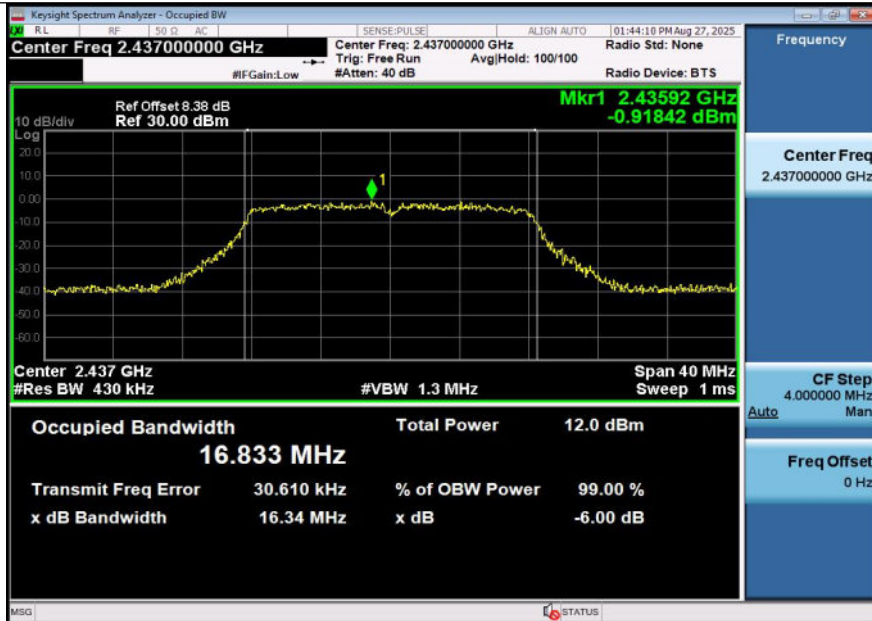


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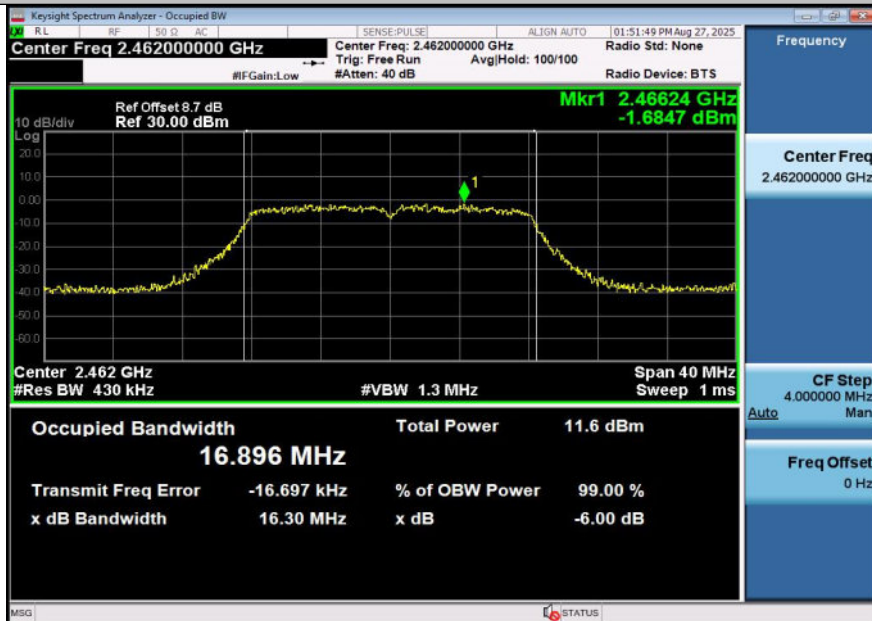
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11G-Ant2-2437



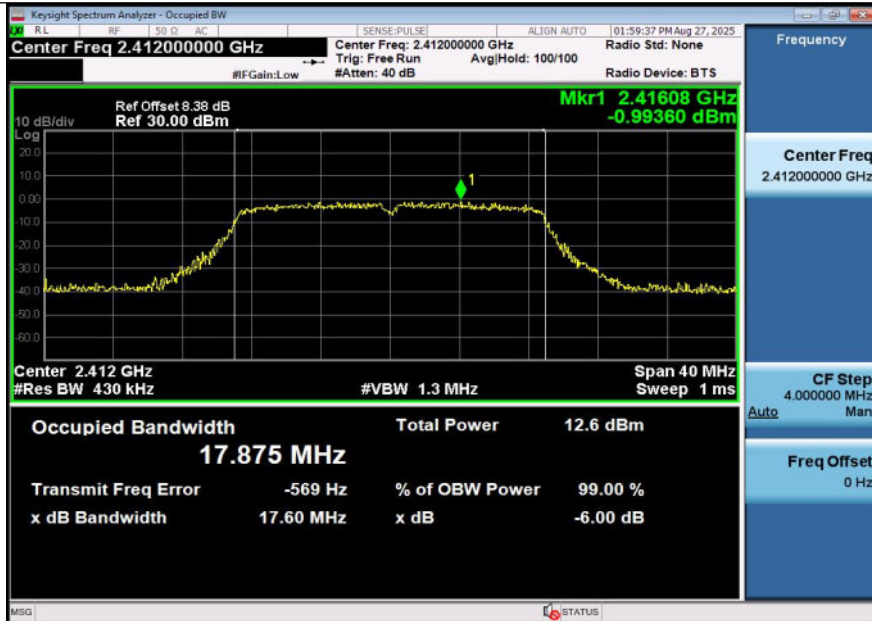
11G-Ant2-2462



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11N20SISO-Ant2-2412



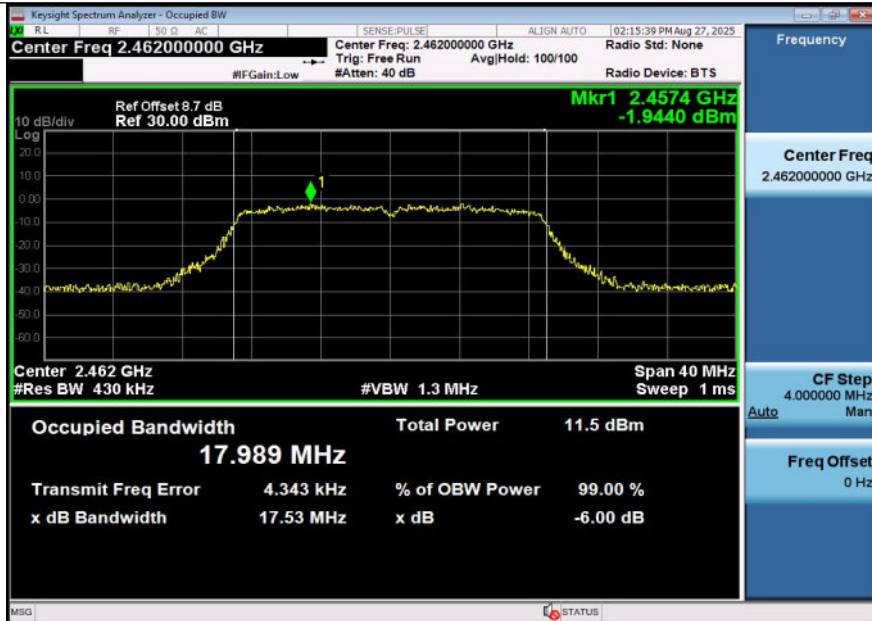
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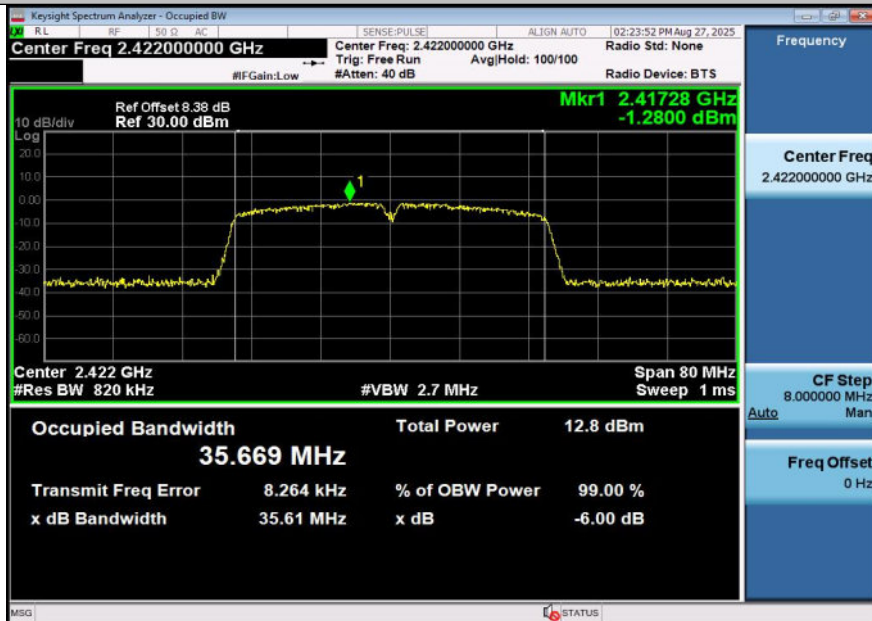
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11N20SISO-Ant2-2462



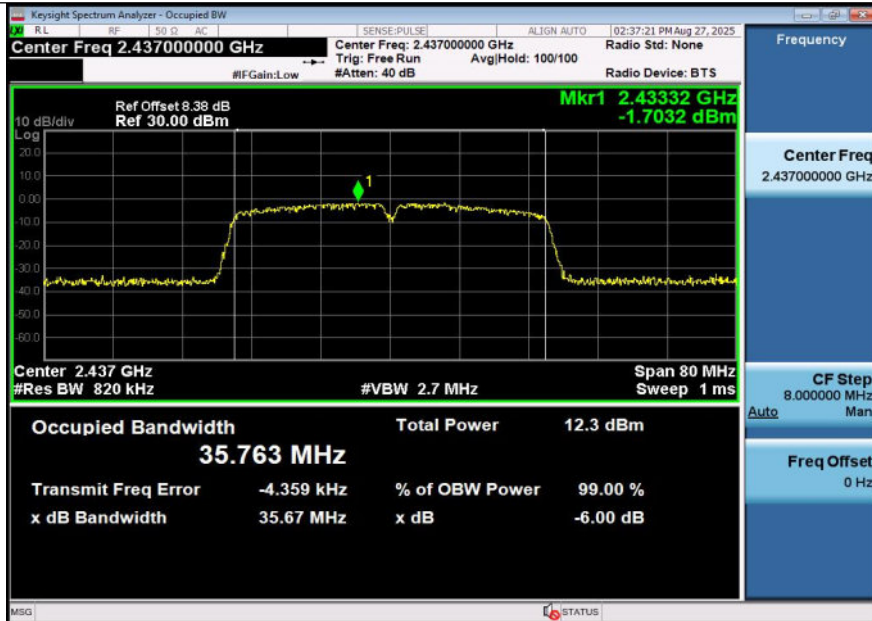
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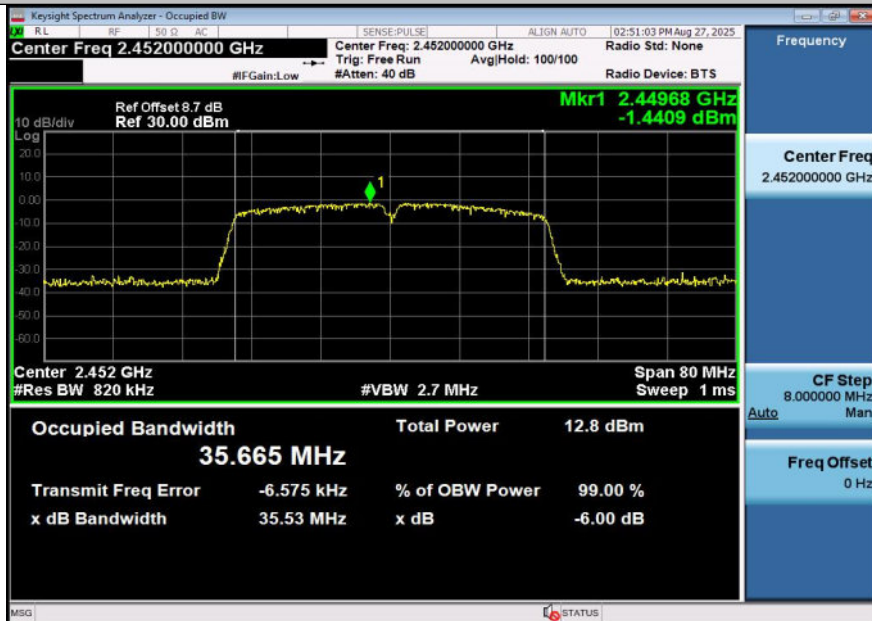
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11N40SISO-Ant2-2437



11N40SISO-Ant2-2452



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Appendix B: Maximum conducted output power

Ant 1

Test Result

Test Mode	Antenna	Frequency[MHz]	Output power PK (dBm)	Limit [dBm]	Result
11B	Ant1	2412	12.43	≤30.00	PASS
11B	Ant1	2437	12.88	≤30.00	PASS
11B	Ant1	2462	12.07	≤30.00	PASS
11G	Ant1	2412	13.37	≤30.00	PASS
11G	Ant1	2437	12.81	≤30.00	PASS
11G	Ant1	2462	12.00	≤30.00	PASS
11N20SISO	Ant1	2412	13.34	≤30.00	PASS
11N20SISO	Ant1	2437	12.68	≤30.00	PASS
11N20SISO	Ant1	2462	12.06	≤30.00	PASS
11N40SISO	Ant1	2422	13.66	≤30.00	PASS
11N40SISO	Ant1	2437	13.23	≤30.00	PASS
11N40SISO	Ant1	2452	12.77	≤30.00	PASS

Ant 2

Test Result

Test Mode	Antenna	Frequency[MHz]	Output power PK (dBm)	Limit [dBm]	Result
11B	Ant2	2412	12.80	≤30.00	PASS
11B	Ant2	2437	12.53	≤30.00	PASS
11B	Ant2	2462	12.59	≤30.00	PASS
11G	Ant2	2412	13.70	≤30.00	PASS
11G	Ant2	2437	13.10	≤30.00	PASS
11G	Ant2	2462	12.81	≤30.00	PASS
11N20SISO	Ant2	2412	13.71	≤30.00	PASS
11N20SISO	Ant2	2437	13.01	≤30.00	PASS
11N20SISO	Ant2	2462	12.61	≤30.00	PASS
11N40SISO	Ant2	2422	12.72	≤30.00	PASS
11N40SISO	Ant2	2437	12.37	≤30.00	PASS
11N40SISO	Ant2	2452	12.61	≤30.00	PASS

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MIMO

Type	Channel	Output power PK(dBm) ANT1	Output power PK(dBm) ANT2	Output power PK(dBm) MIMO	Limit (dBm)	Result
802.11n HT20	01	13.34	13.71	16.54	28.01	Pass
	06	12.68	13.01	15.86		
	11	12.06	12.61	15.35		
802.11n HT40	03	13.66	12.72	16.23	28.01	Pass
	06	13.23	12.37	15.83		
	09	12.77	12.61	15.70		

Remark: Directional gain is 7.99dBi.



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Appendix C: Maximum power spectral density

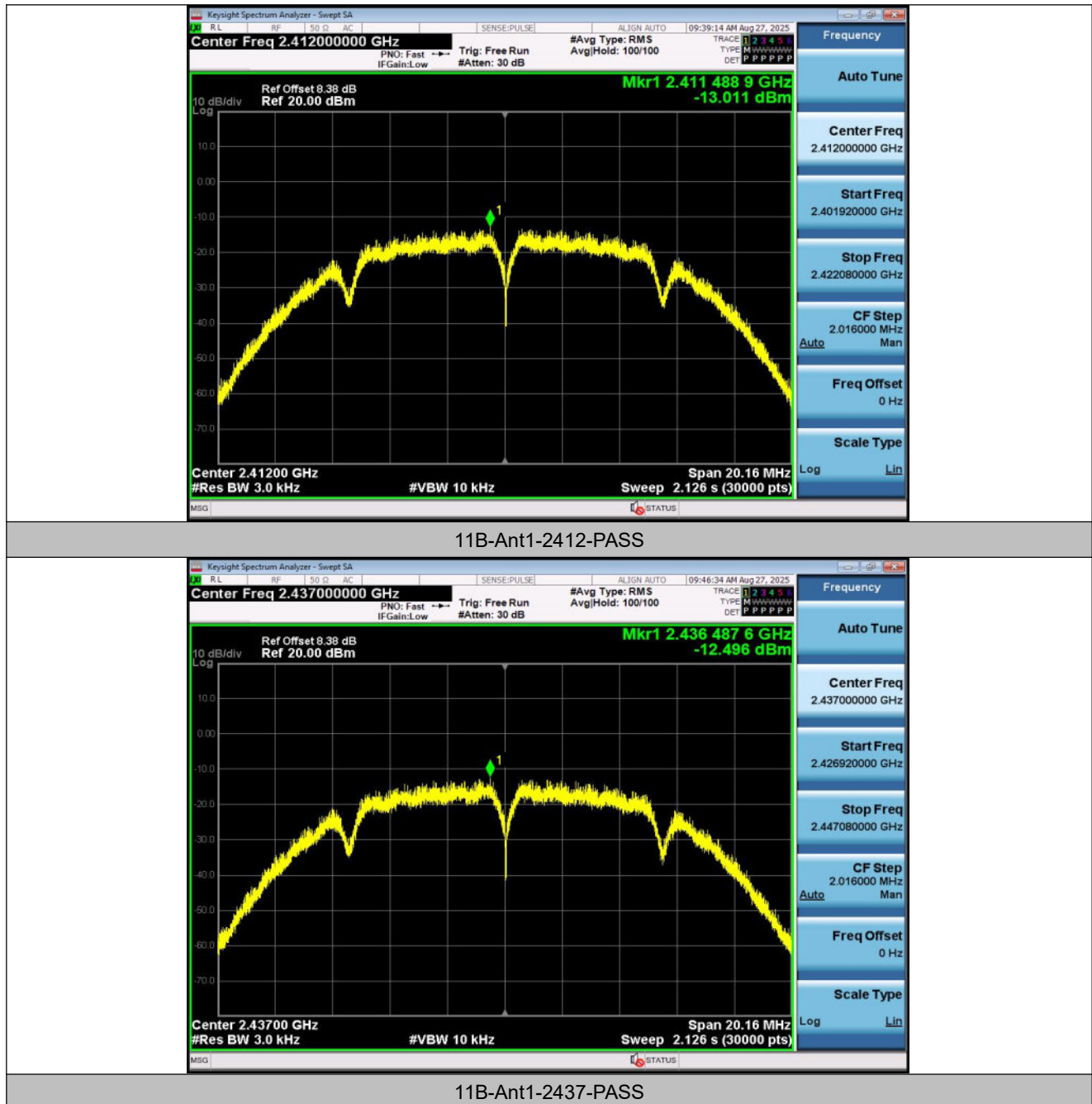
Ant 1

Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.01	≤8.00	PASS
11B	Ant1	2437	-12.50	≤8.00	PASS
11B	Ant1	2462	-13.50	≤8.00	PASS
11G	Ant1	2412	-19.03	≤8.00	PASS
11G	Ant1	2437	-19.61	≤8.00	PASS
11G	Ant1	2462	-20.33	≤8.00	PASS
11N20SISO	Ant1	2412	-18.71	≤8.00	PASS
11N20SISO	Ant1	2437	-19.36	≤8.00	PASS
11N20SISO	Ant1	2462	-19.92	≤8.00	PASS
11N40SISO	Ant1	2422	-20.18	≤8.00	PASS
11N40SISO	Ant1	2437	-20.44	≤8.00	PASS
11N40SISO	Ant1	2452	-20.68	≤8.00	PASS



Test Graphs





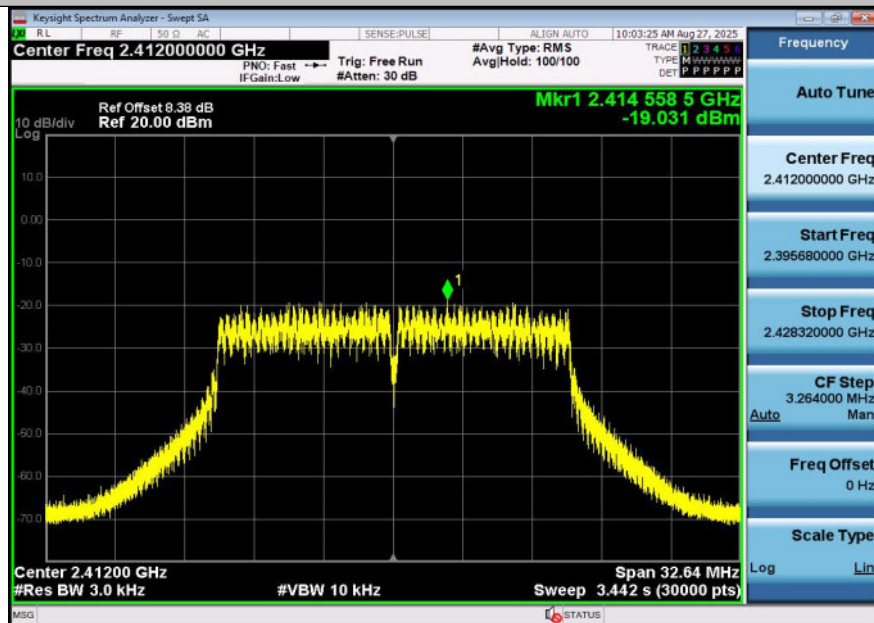
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11B-Ant1-2462-PASS



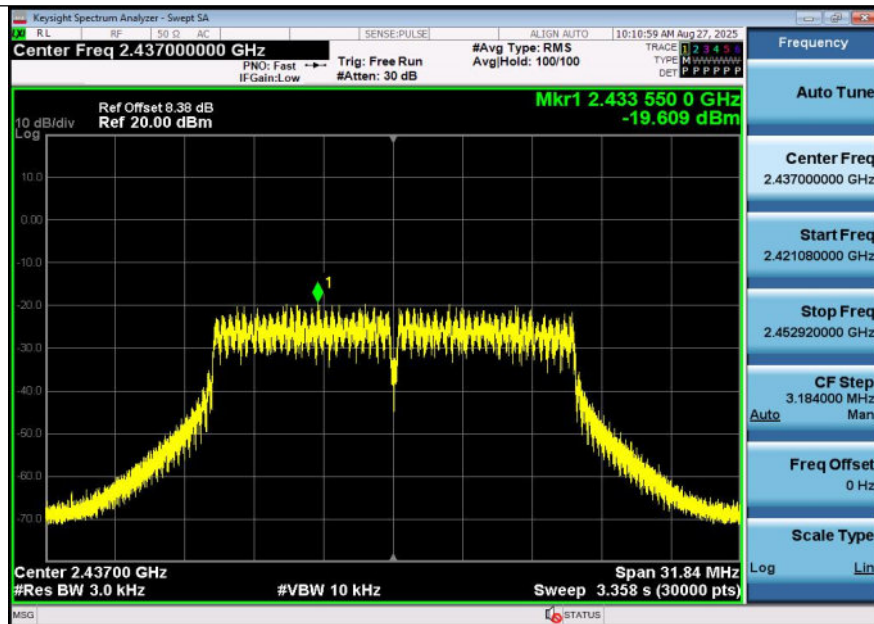
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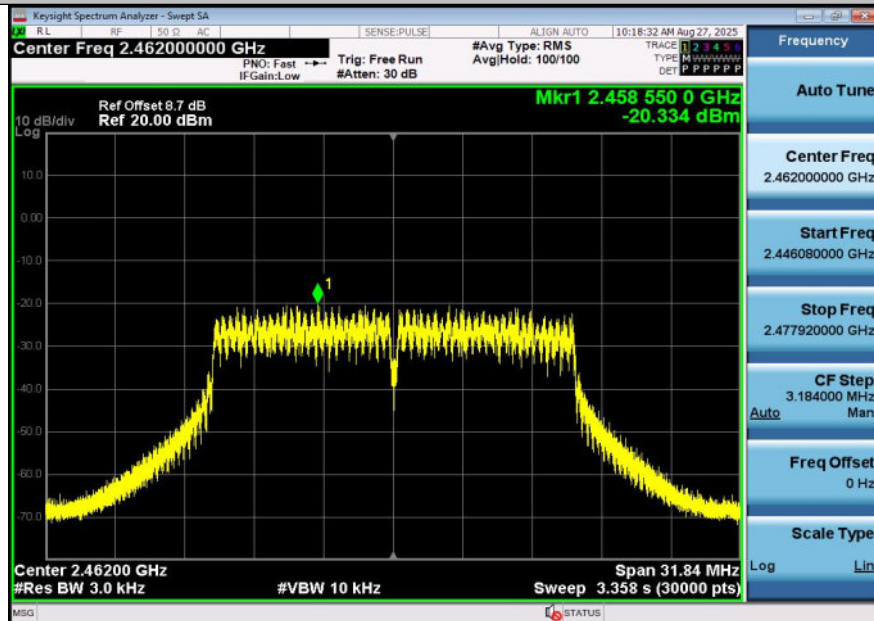
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11G-Ant1-2437-PASS



11G-Ant1-2462-PASS

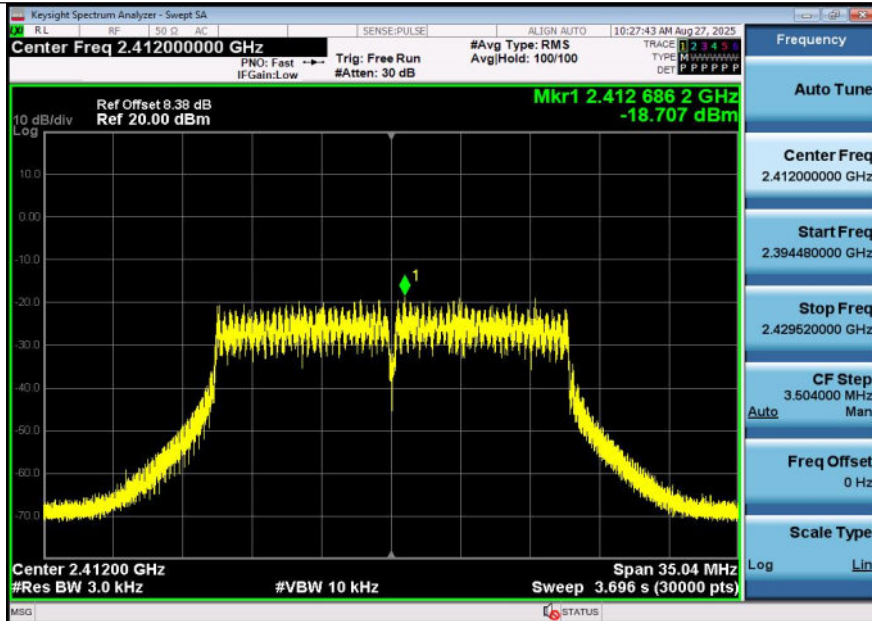


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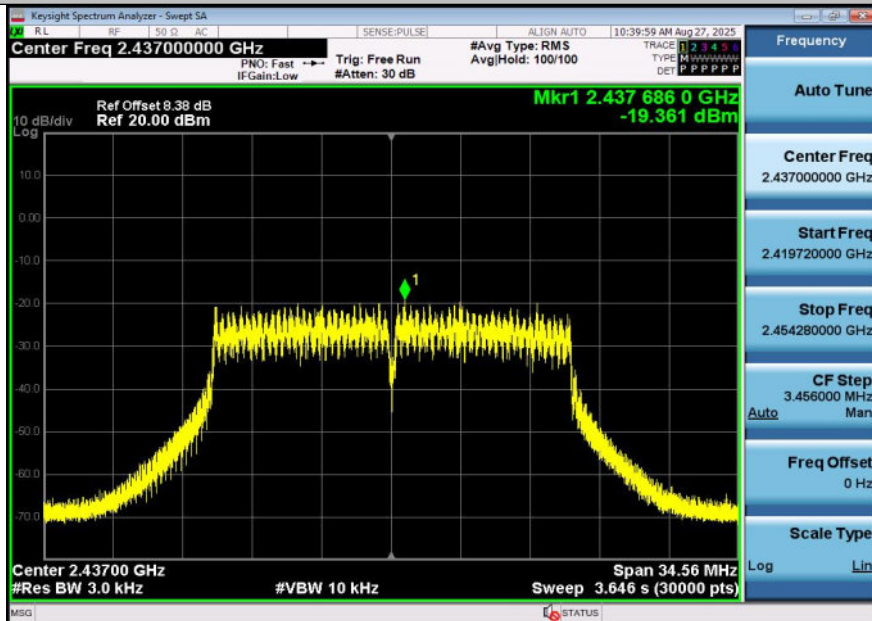
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11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2437-PASS

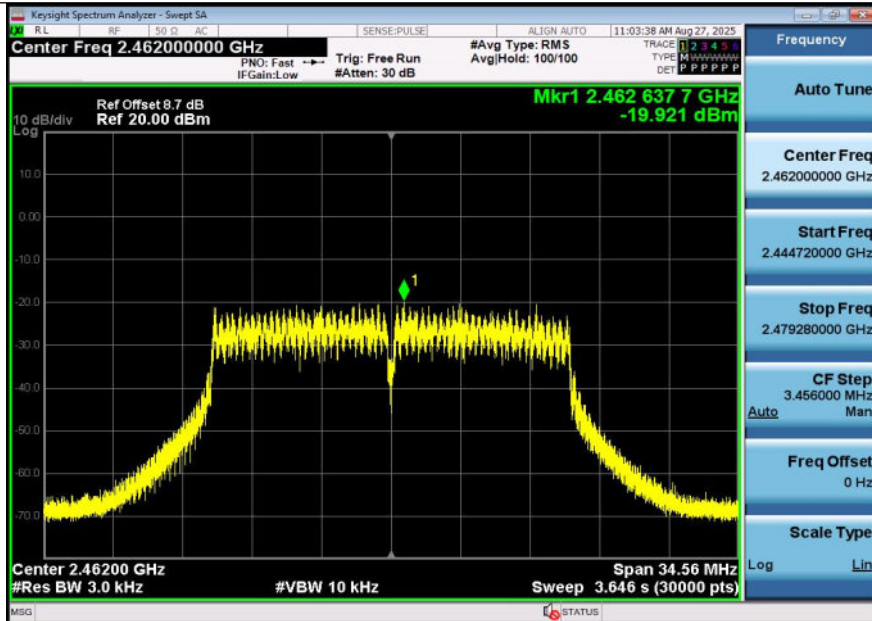


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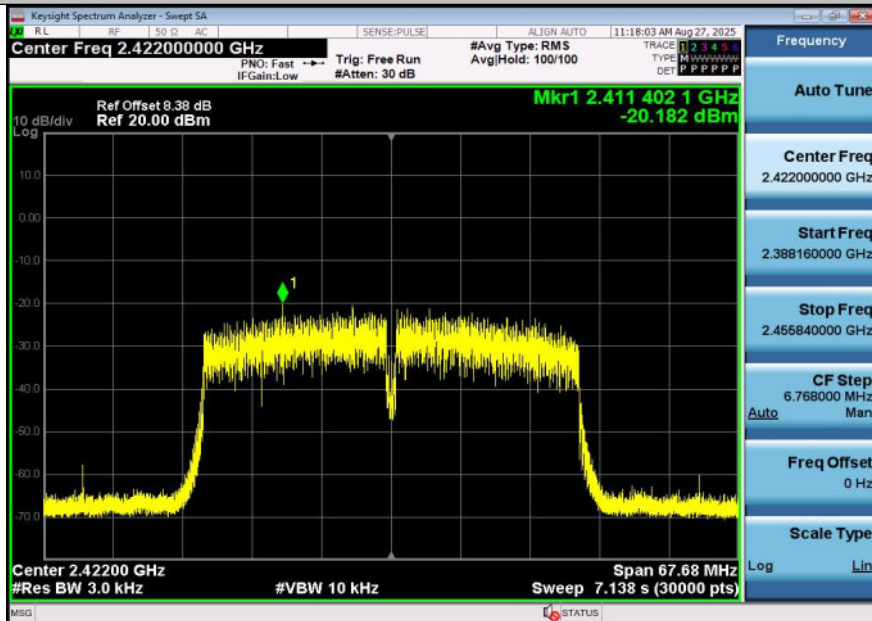
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11N20SISO-Ant1-2462-PASS



11N40SISO-Ant1-2422-PASS

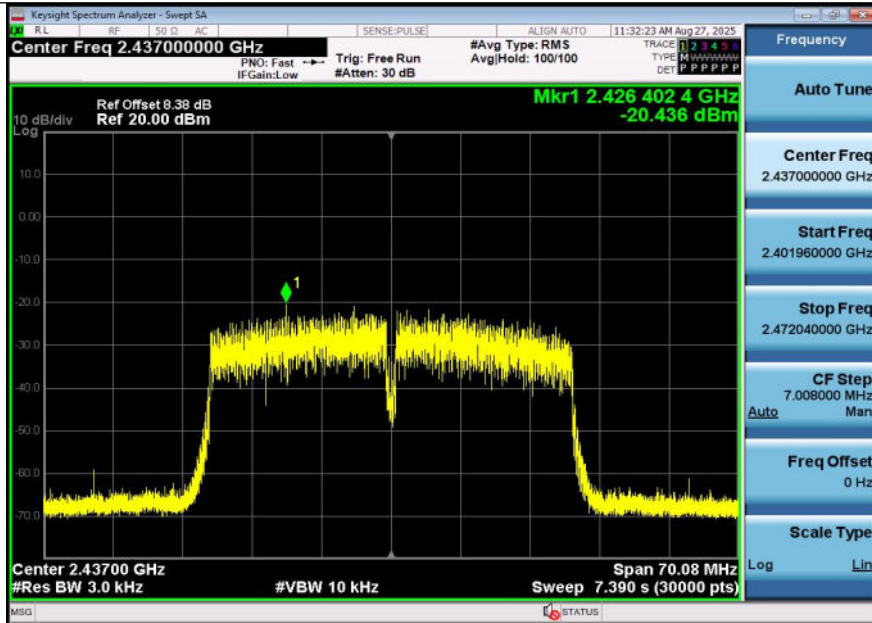


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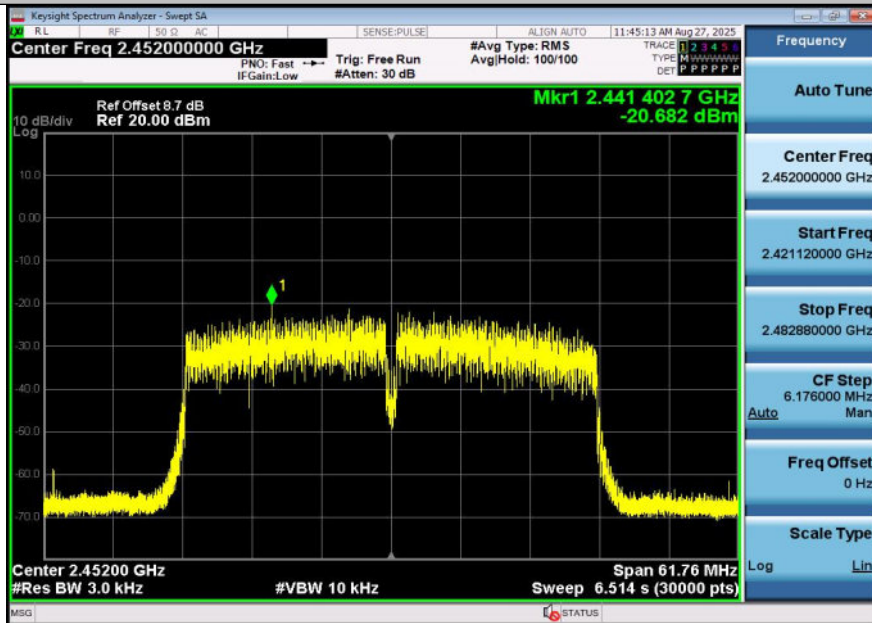
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11N40SISO-Ant1-2437-PASS



11N40SISO-Ant1-2452-PASS



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Ant 2

Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant2	2412	-12.62	≤8.00	PASS
11B	Ant2	2437	-12.74	≤8.00	PASS
11B	Ant2	2462	-12.64	≤8.00	PASS
11G	Ant2	2412	-18.67	≤8.00	PASS
11G	Ant2	2437	-19.37	≤8.00	PASS
11G	Ant2	2462	-19.67	≤8.00	PASS
11N20SISO	Ant2	2412	-18.29	≤8.00	PASS
11N20SISO	Ant2	2437	-19.01	≤8.00	PASS
11N20SISO	Ant2	2462	-19.32	≤8.00	PASS
11N40SISO	Ant2	2422	-20.95	≤8.00	PASS
11N40SISO	Ant2	2437	-21.29	≤8.00	PASS
11N40SISO	Ant2	2452	-20.96	≤8.00	PASS



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Test Graphs



11B-Ant2-2412-PASS



11B-Ant2-2437-PASS



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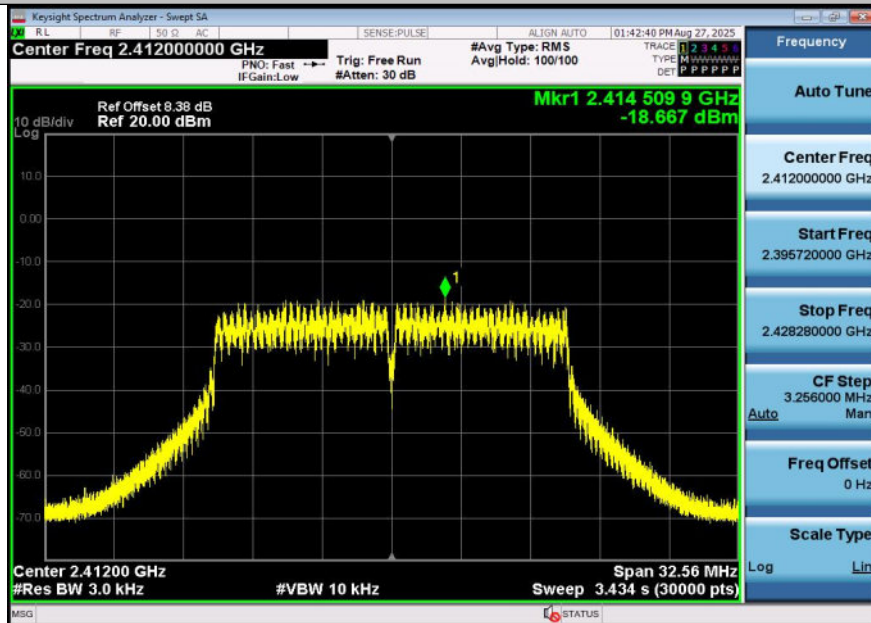
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11B-Ant2-2462-PASS



11G-Ant2-2412-PASS

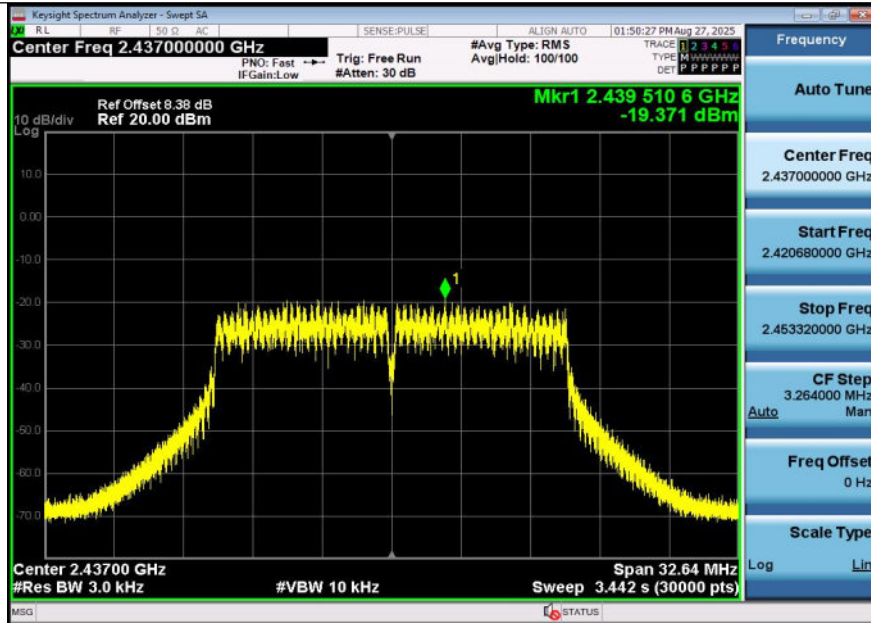


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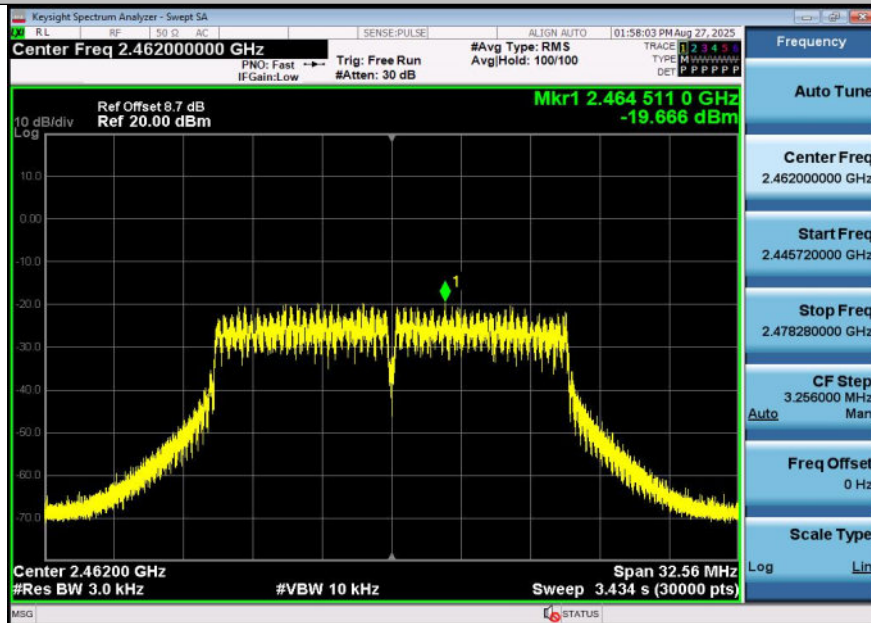
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11G-Ant2-2437-PASS



11G-Ant2-2462-PASS

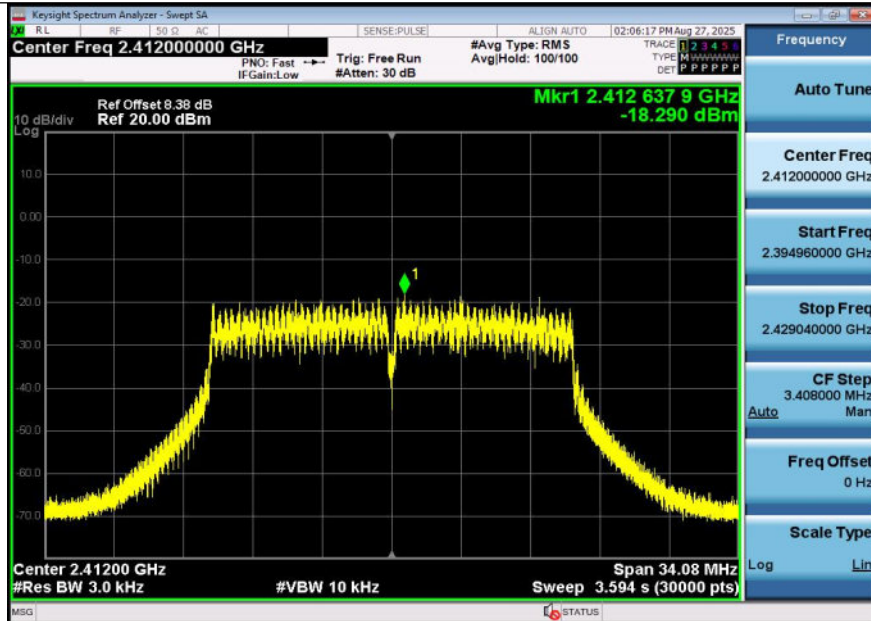


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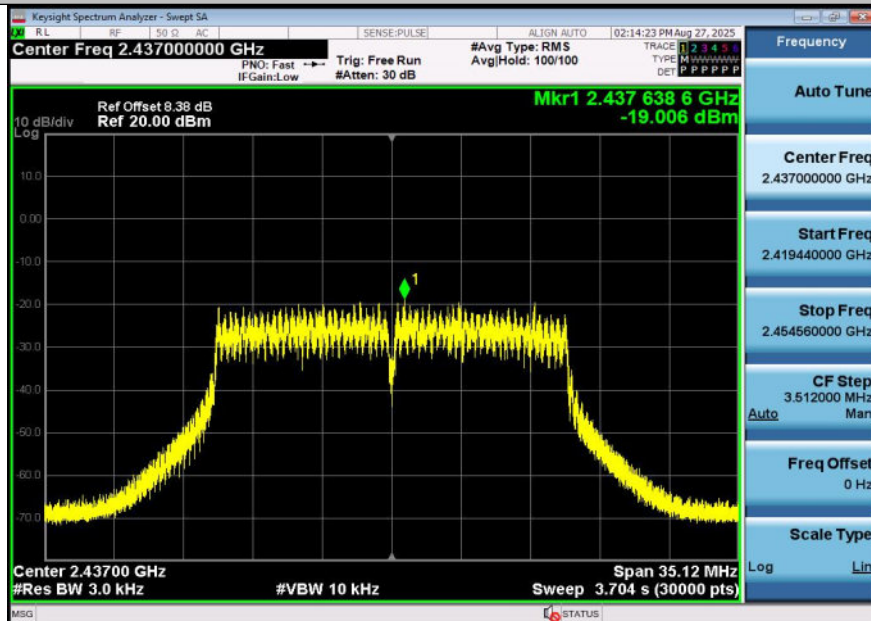
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11N20SISO-Ant2-2412-PASS



11N20SISO-Ant2-2437-PASS

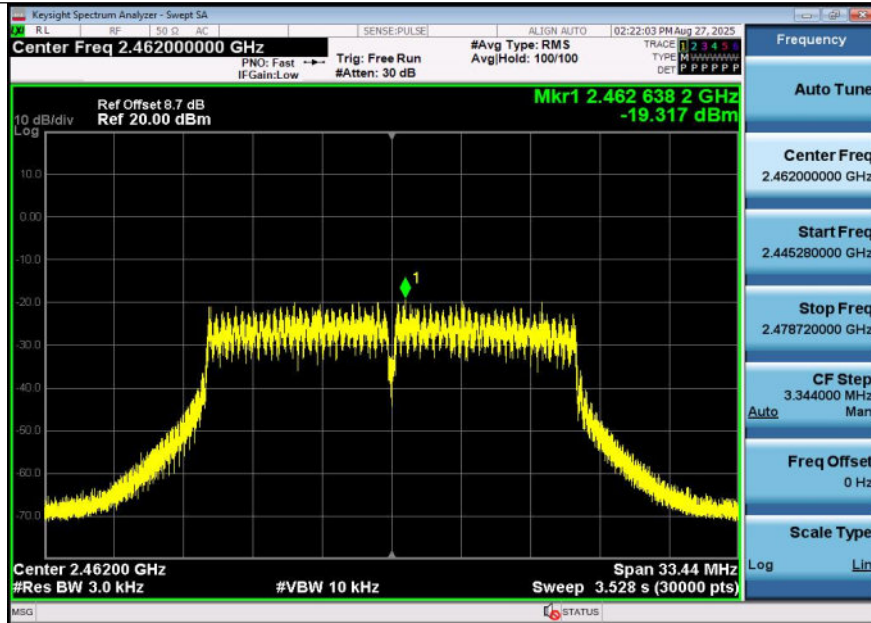


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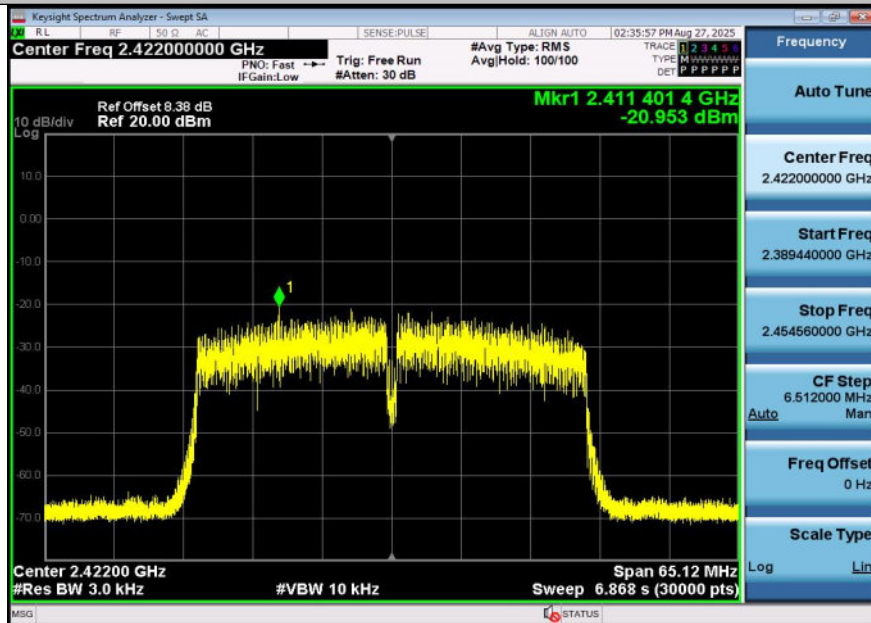
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11N20SISO-Ant2-2462-PASS



11N40SISO-Ant2-2422-PASS

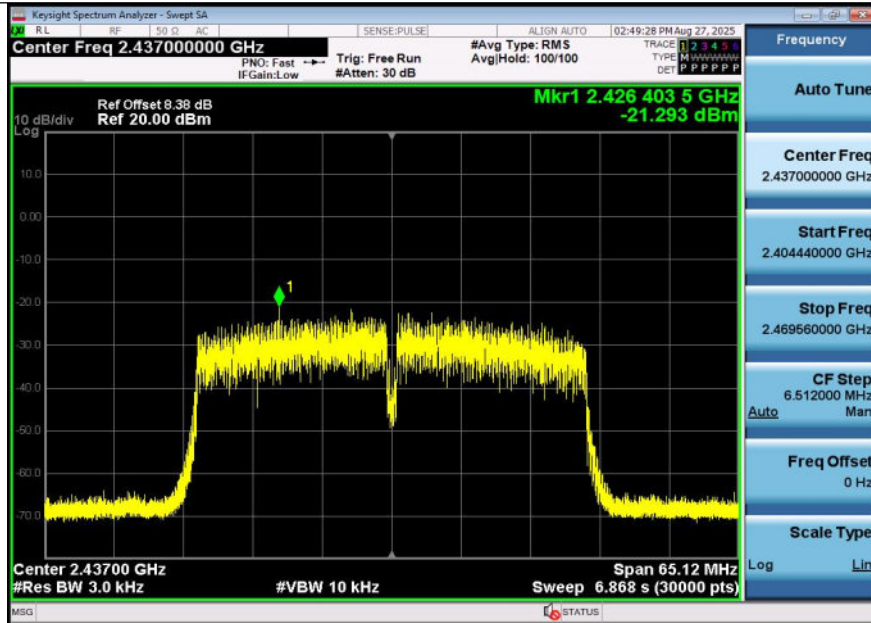


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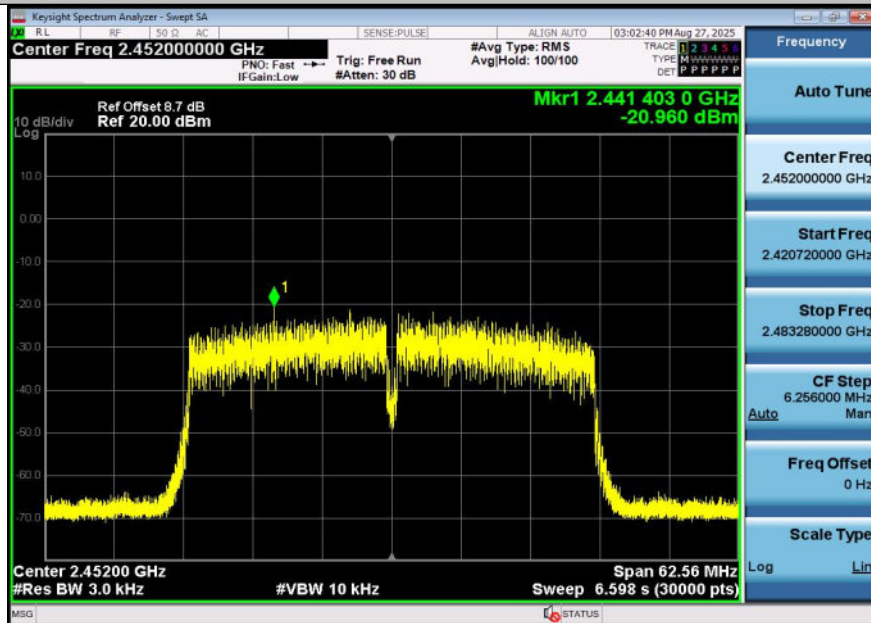
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11N40SISO-Ant2-2437-PASS



11N40SISO-Ant2-2452-PASS

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MIMO

Type	Channel	Power Spectral Density (dBm/3KHz) ANT1	Power Spectral Density (dBm/3KHz) ANT2	Power Spectral Density (dBm/3KHz) MIMO	Limit (dBm/3KHz)	Result
802.11n HT20	01	-18.71	-18.29	-15.48	6.01	Pass
	06	-19.36	-19.01	-16.17		
	11	-19.92	-19.32	-16.60		
802.11n HT40	03	-20.18	-20.95	-17.54	6.01	Pass
	06	-20.44	-21.29	-17.83		
	09	-20.68	-20.96	-17.81		

Remark: Directional gain is 7.99dBi.



Appendix D: Band edge measurements

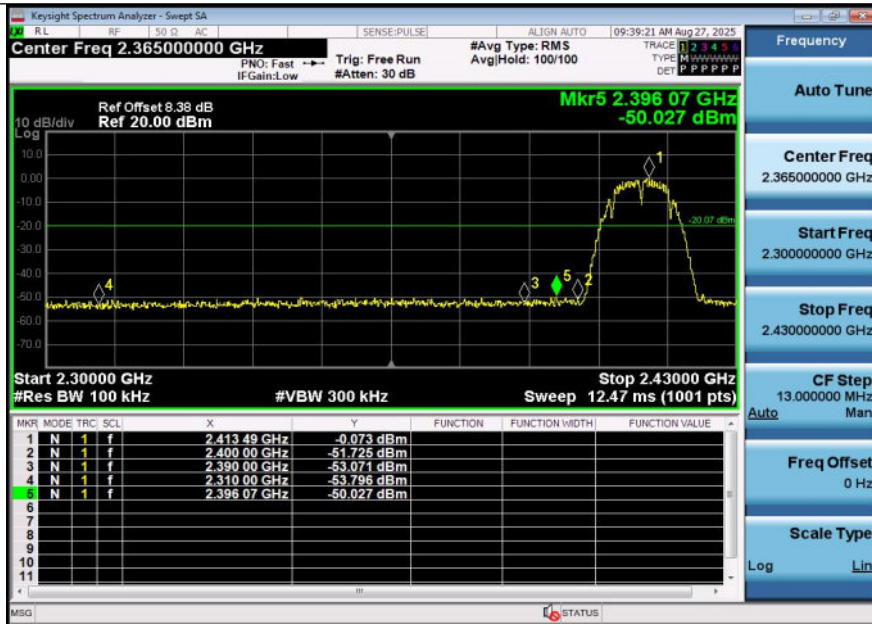
Ant 1

Test Result

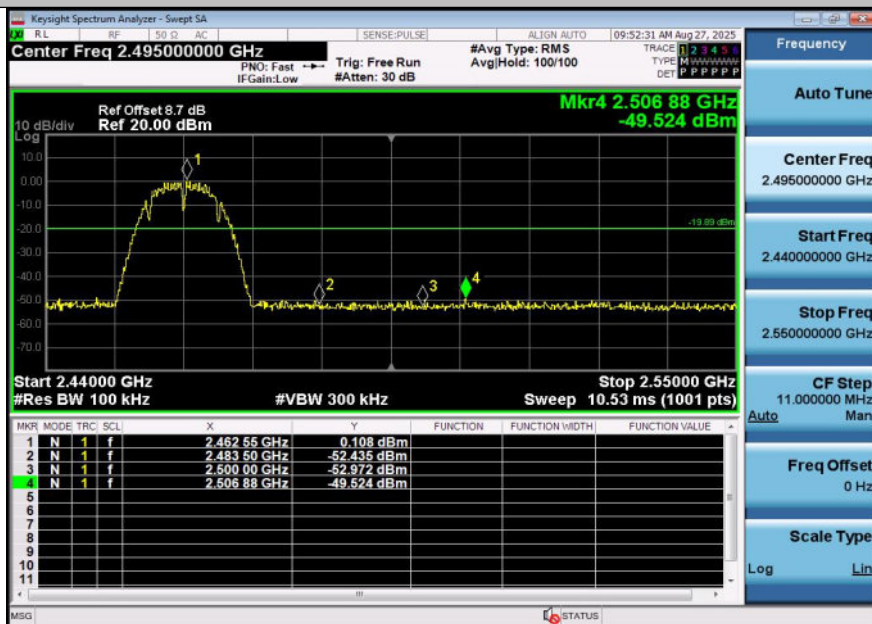
Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	-0.07	-50.03	≤ -20.07	PASS
11B	Ant1	High	2462	0.11	-49.52	≤ -19.89	PASS
11G	Ant1	Low	2412	-5.08	-44.31	≤ -25.08	PASS
11G	Ant1	High	2462	-6.22	-50.48	≤ -26.22	PASS
11N20SISO	Ant1	Low	2412	-4.66	-41.6	≤ -24.66	PASS
11N20SISO	Ant1	High	2462	-6.66	-49.21	≤ -26.66	PASS
11N40SISO	Ant1	Low	2422	-6.77	-48.77	≤ -26.77	PASS
11N40SISO	Ant1	High	2452	-7.34	-49.76	≤ -27.34	PASS



Test Graphs



11B-Ant1-2412-PASS



11B-Ant1-2462-PASS

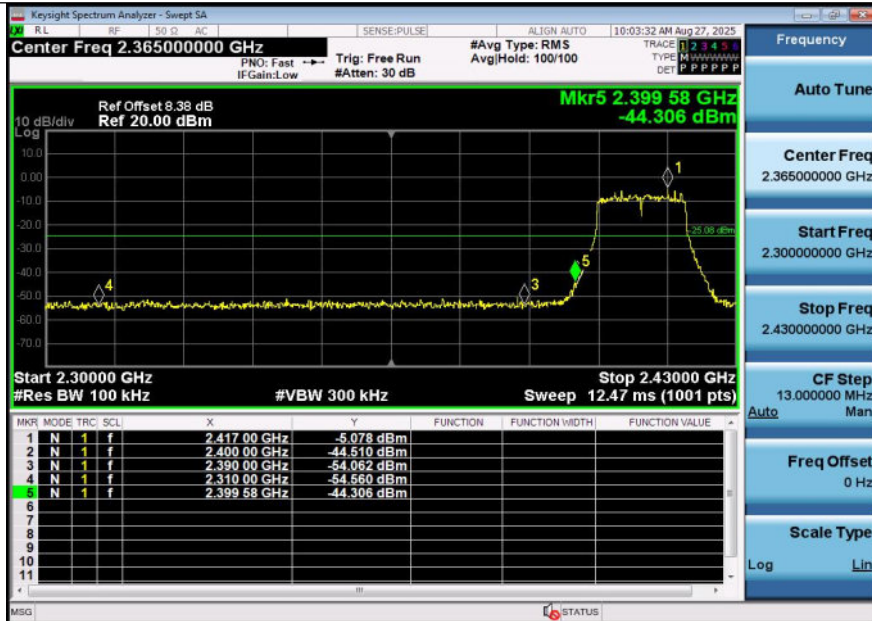


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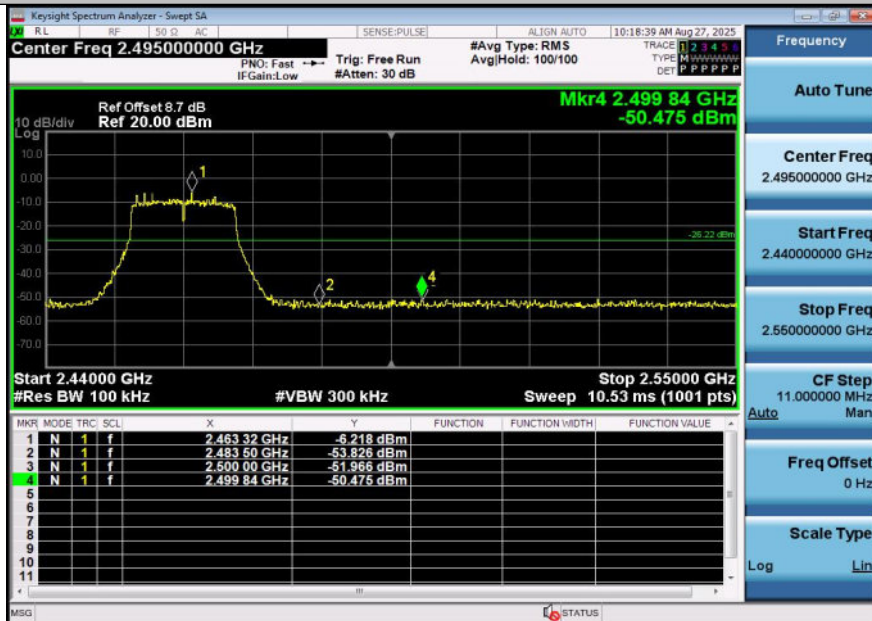
101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community,
Fenghuang Street, Guangming District, Shenzhen, China

FCC ID:2BLJV-R-W52508

GRCTR250802012-01



11G-Ant1-2412-PASS



11G-Ant1-2462-PASS

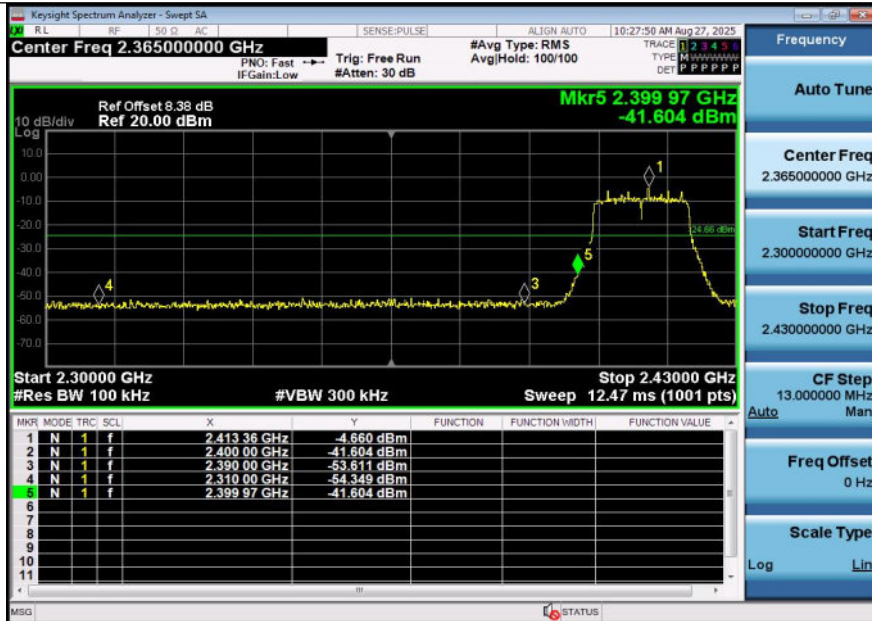


Shenzhen GUOREN Certification Technology Service Co., Ltd.

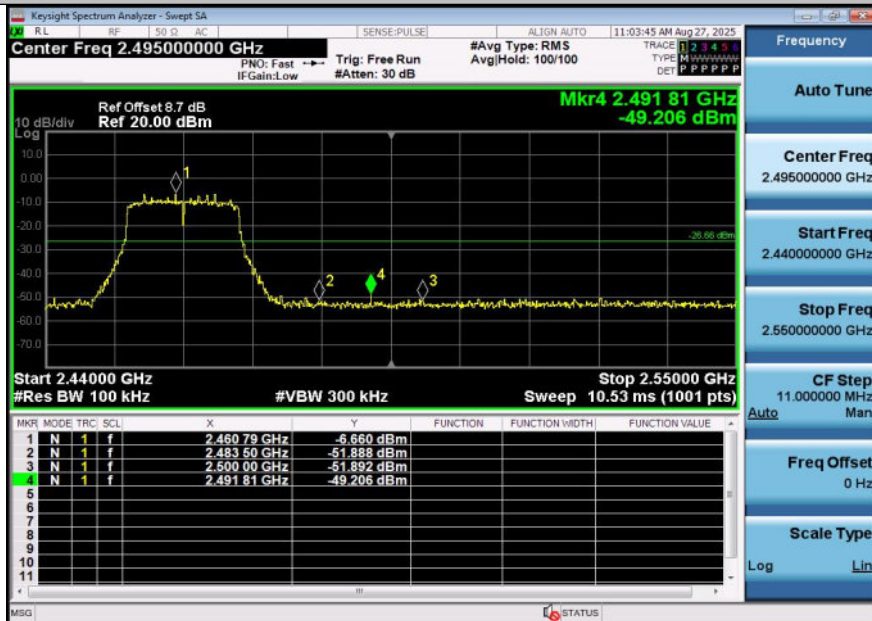
101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community,
Fenghuang Street, Guangming District, Shenzhen, China

FCC ID:2BLJV-R-W52508

GRCTR250802012-01



11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2462-PASS