



Appendix A

RF Test Data for 2.4G (Conducted Measurement)

Product Name: transmit modules

Test Model: CQ-MK8208A-TX-3DB

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng



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A.1 -20dB Bandwidth

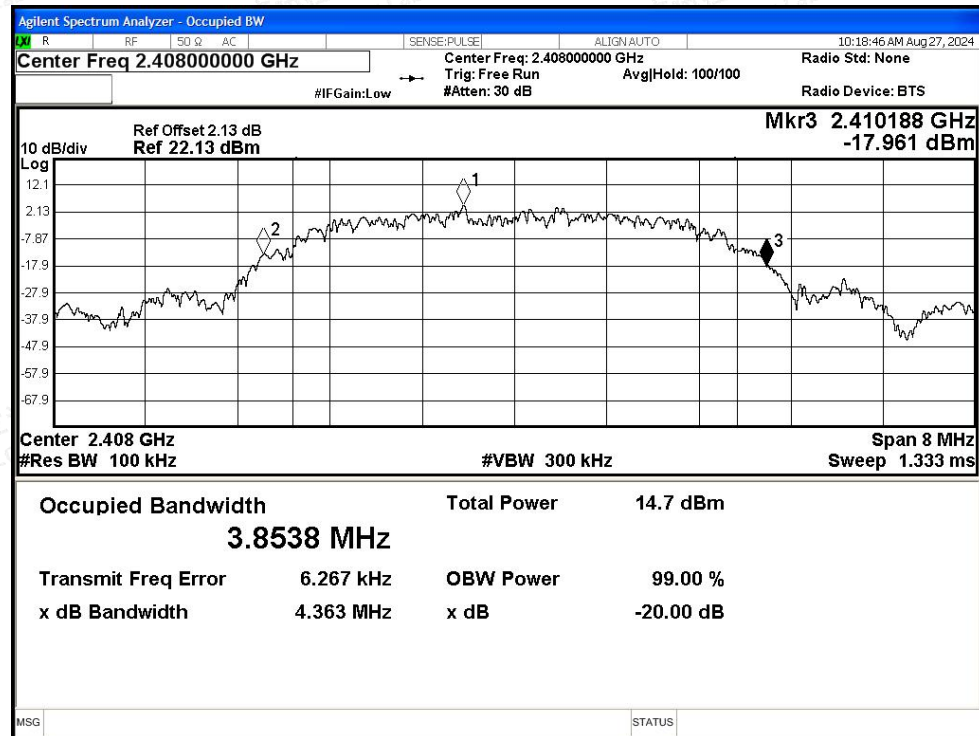
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	2.4G	2408	Ant1	4.363	N/A	Pass
NVNT	2.4G	2445	Ant1	4.372	N/A	Pass
NVNT	2.4G	2478	Ant1	4.34	N/A	Pass





Test Graphs

-20dB Bandwidth NVNT 2.4G 2408MHz Ant1



-20dB Bandwidth NVNT 2.4G 2445MHz Ant1

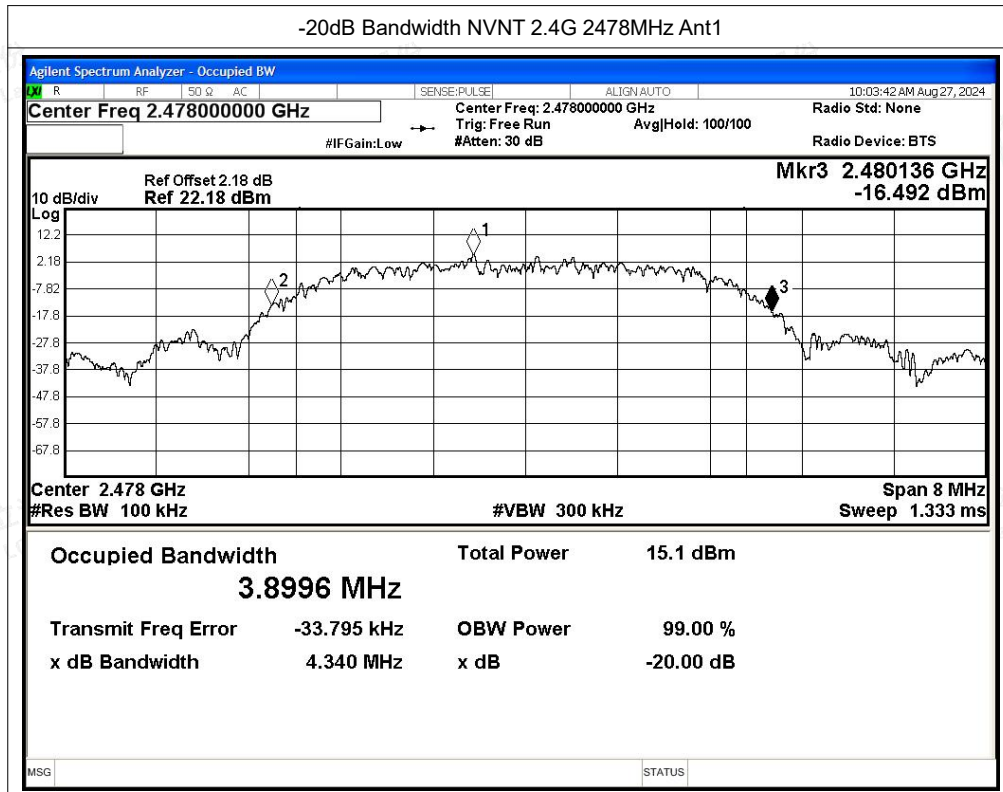


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A.2 Maximum Conducted Output Power

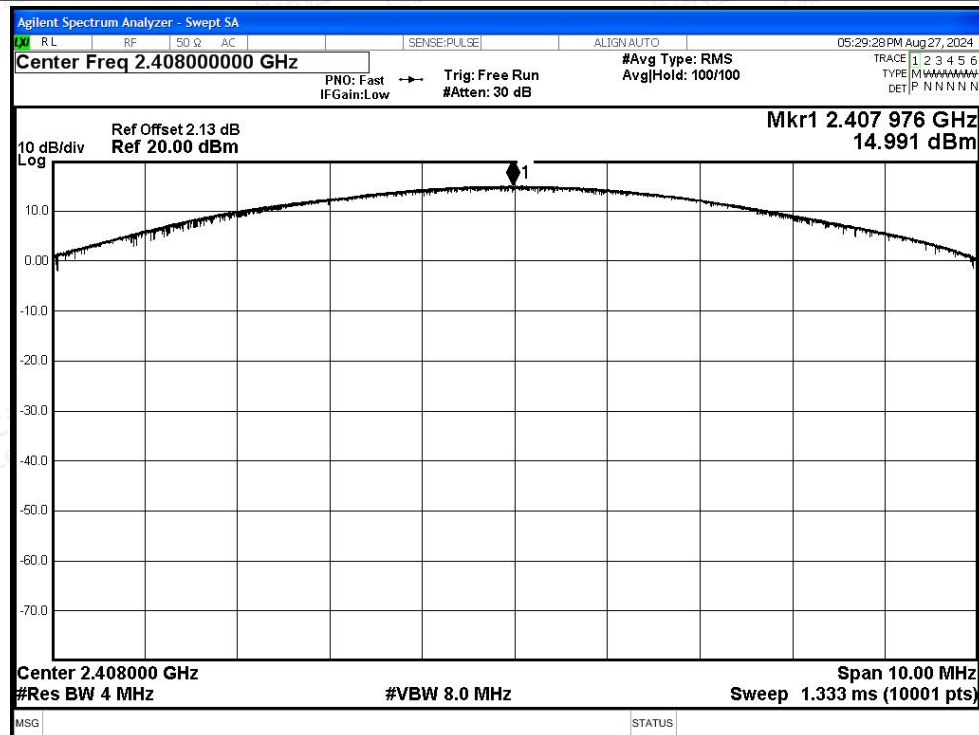
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	2.4G	2408	Ant1	14.99	21	Pass
NVNT	2.4G	2445	Ant1	14.99	21	Pass
NVNT	2.4G	2478	Ant1	14.46	21	Pass



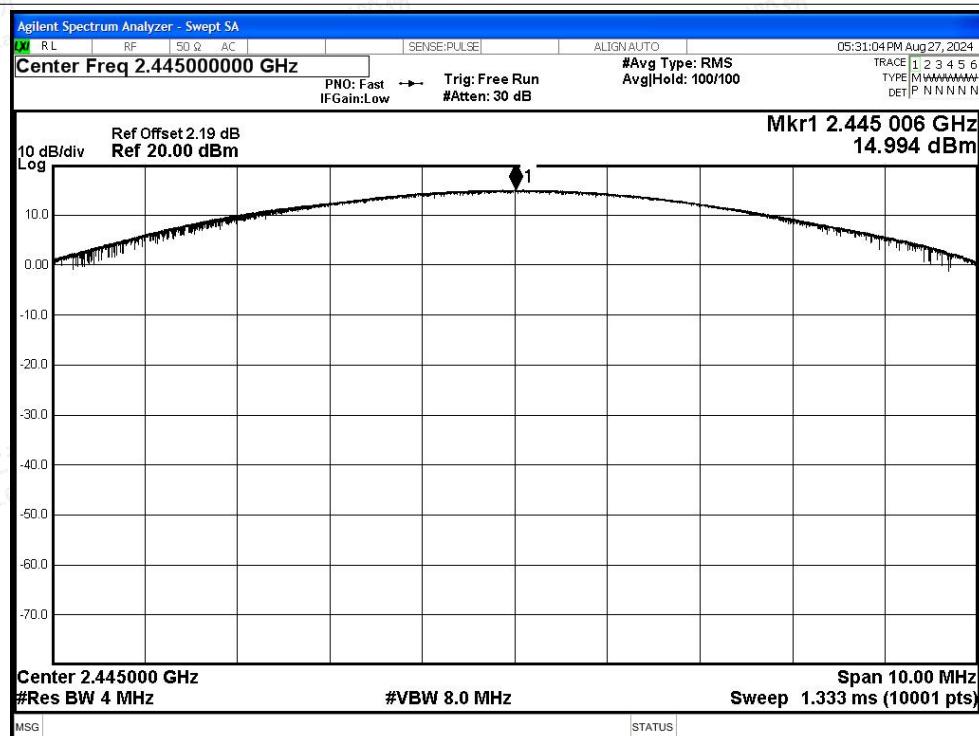


Test Graphs

Power NVNT 2.4G 2408MHz Ant1



Power NVNT 2.4G 2445MHz Ant1

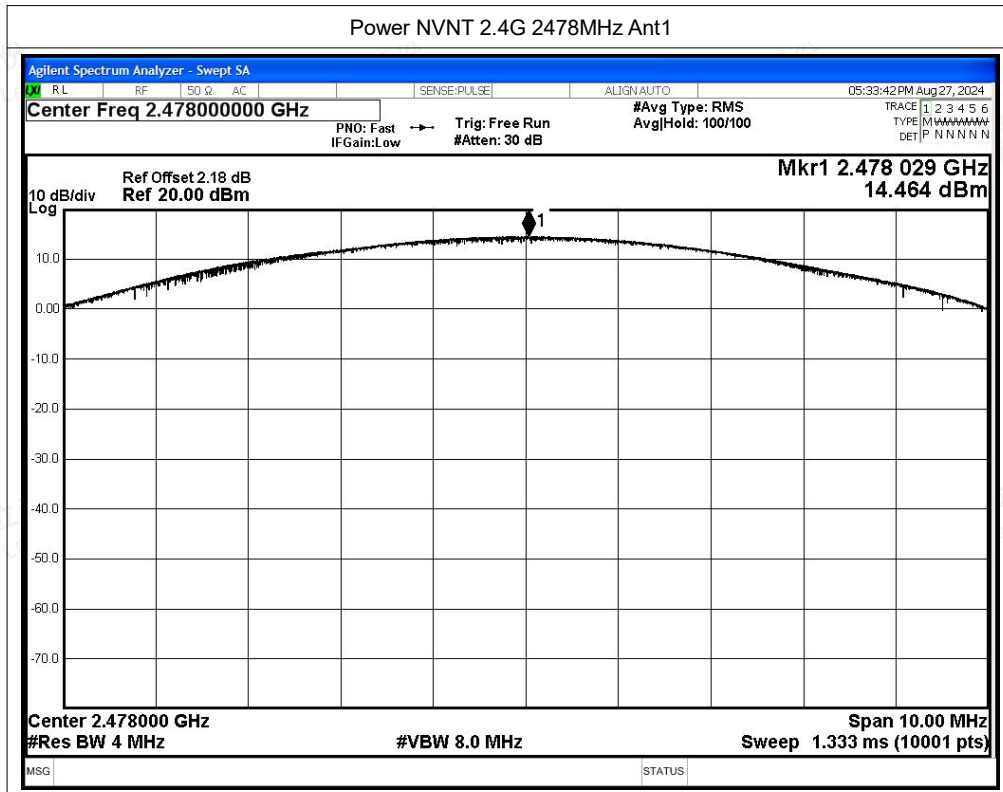


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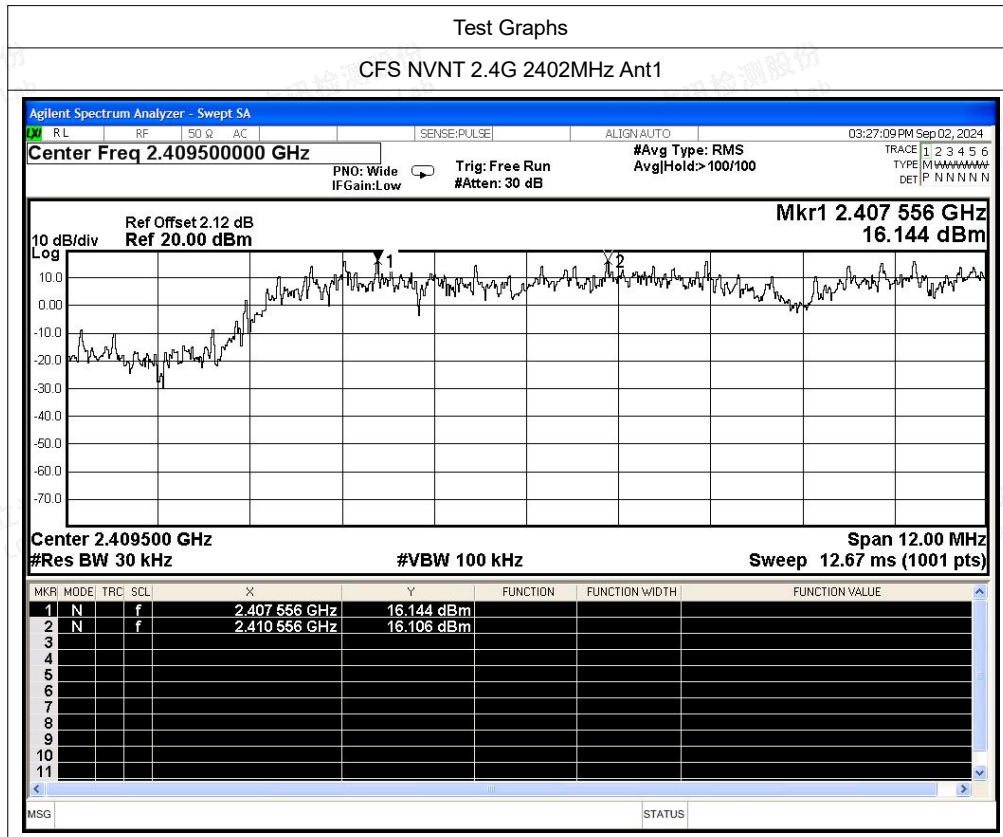
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A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	2.4G	Ant1	2407.556	2410.556	3	2.915	Pass





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A.4 Dwell Time

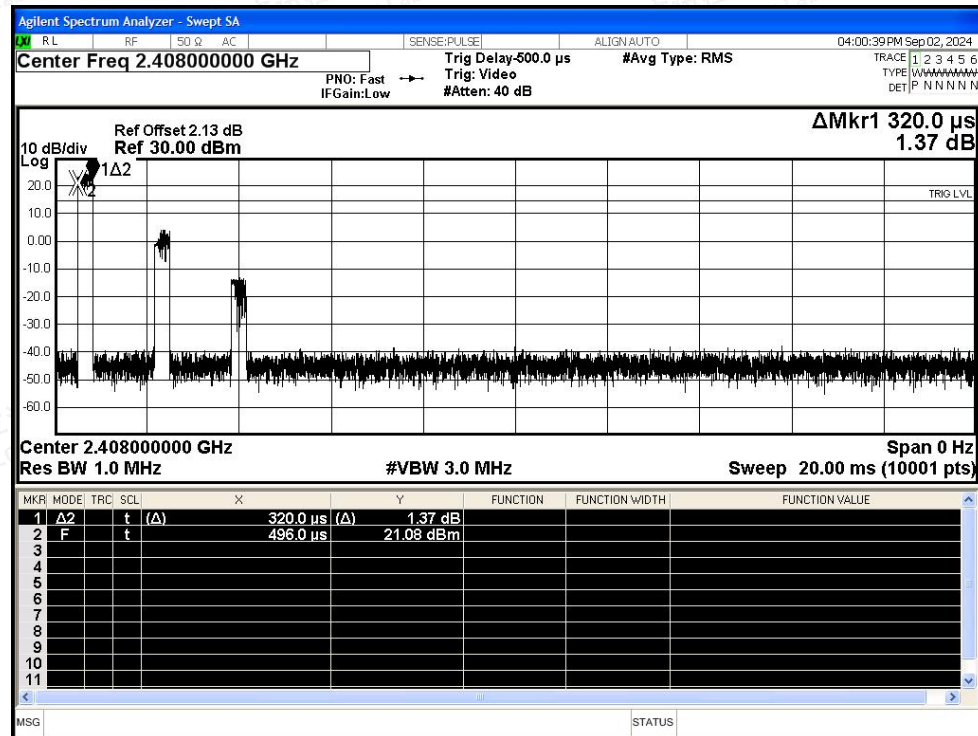
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	2.4G	2408	Ant1	0.32	1.28	4	7600	400	Pass



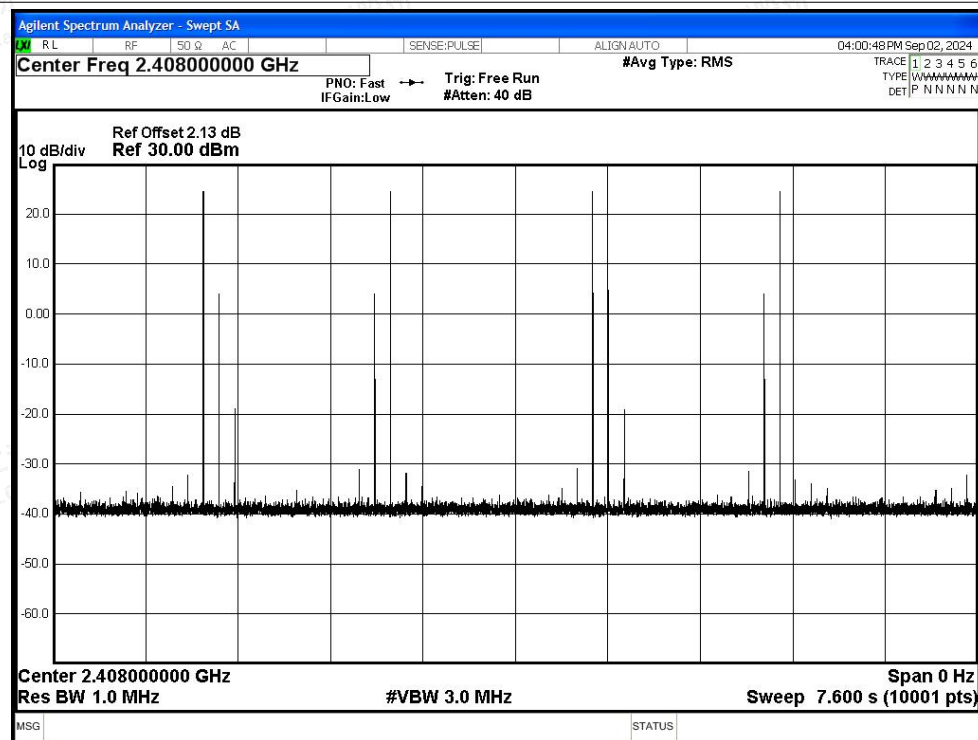


Test Graphs

Dwell NVNT 2.4G 2408MHz Ant1 One Burst



Dwell NVNT 2.4G 2408MHz Ant1 Accumulated



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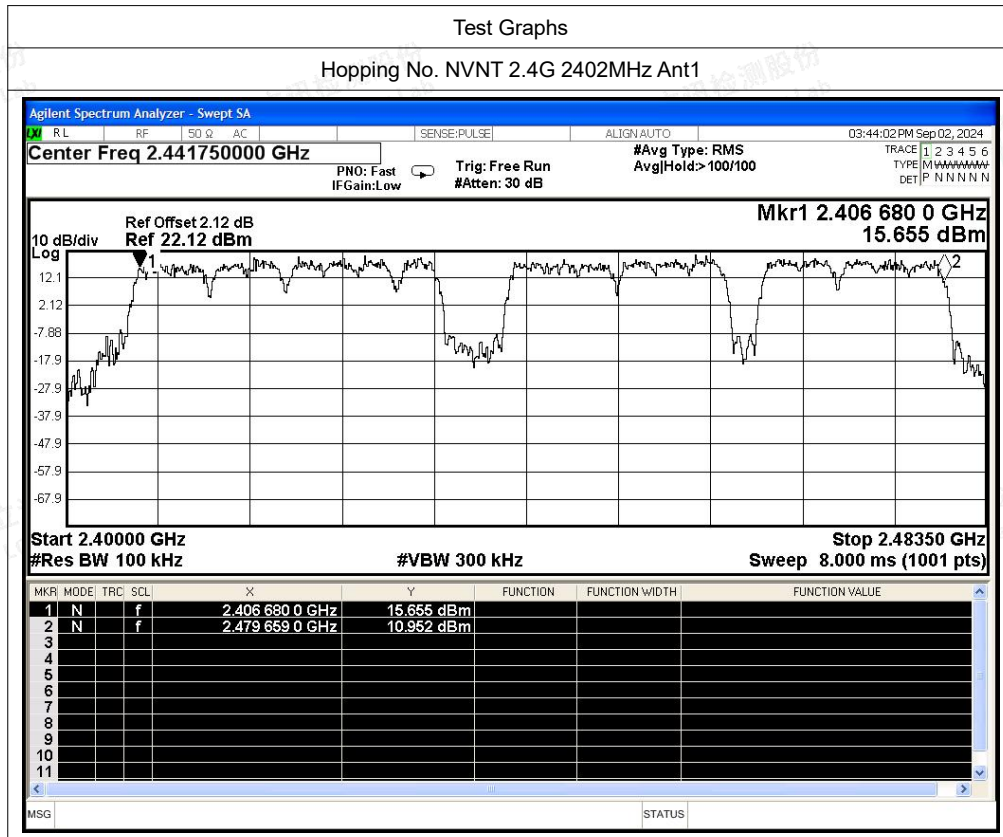
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A.5 Number of Hopping Channel

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	2.4G	Ant1	79	15	Pass





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A.6 Band Edge

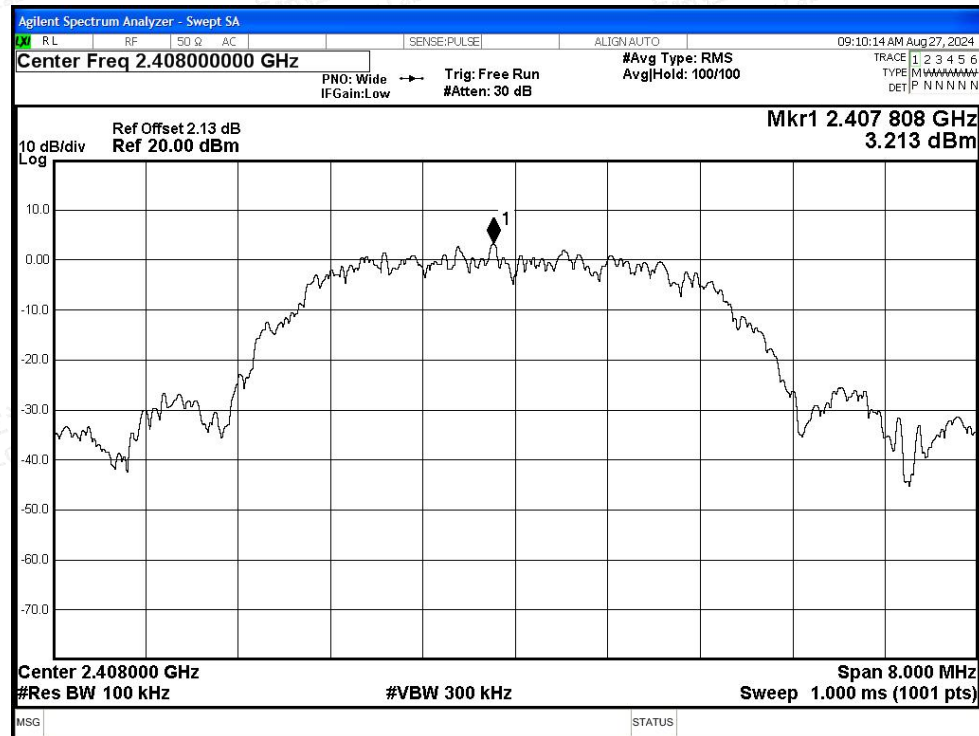
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	2.4G	2408	Ant1	No-Hopping	-46.33	-20	Pass
NVNT	2.4G	2478	Ant1	No-Hopping	-42.88	-20	Pass



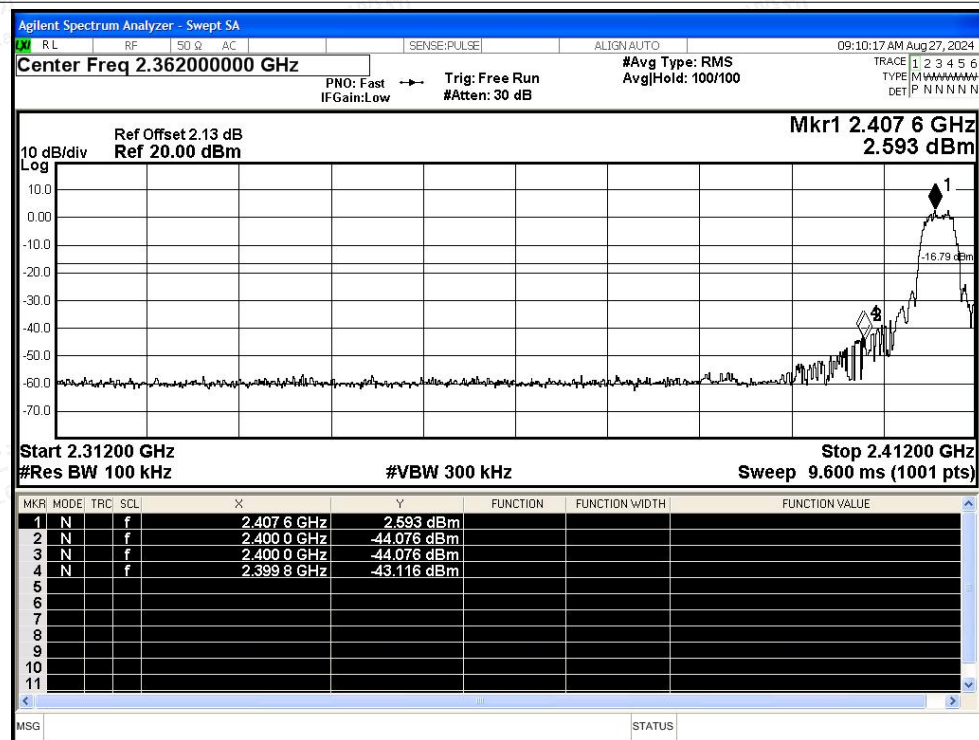


Test Graphs

Band Edge NVNT 2.4G 2408MHz Ant1 No-Hopping Ref



Band Edge NVNT 2.4G 2408MHz Ant1 No-Hopping Emission



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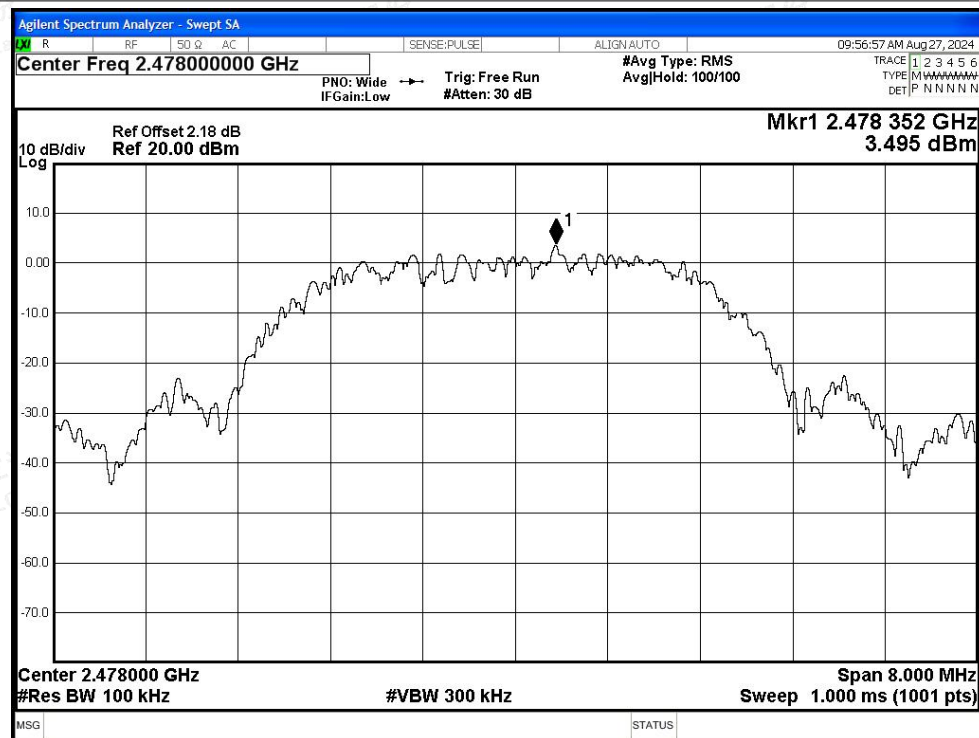
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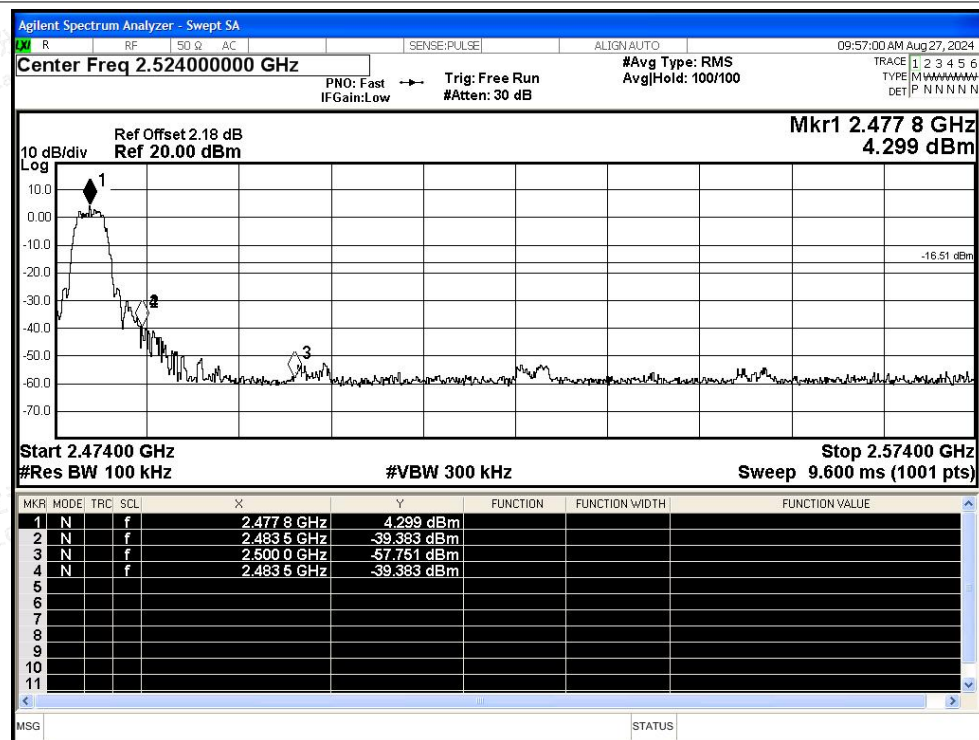
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Band Edge NVNT 2.4G 2478MHz Ant1 No-Hopping Ref



Band Edge NVNT 2.4G 2478MHz Ant1 No-Hopping Emission



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(Hopping)

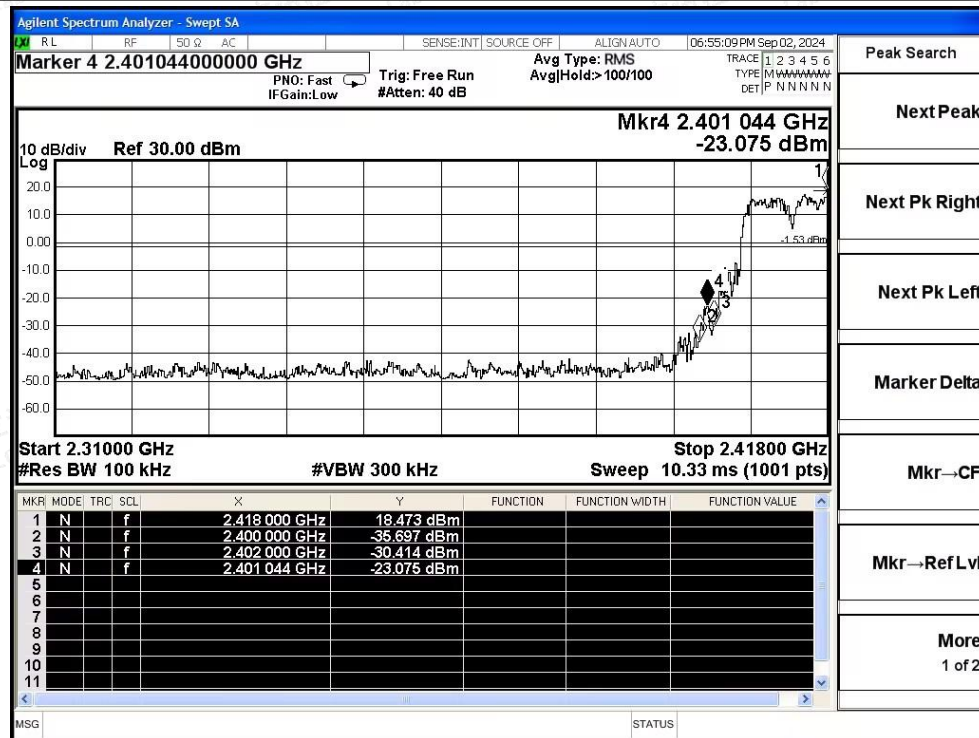
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	2.4G	2408	Ant1	Hopping	-23.075	-1.53	Pass
NVNT	2.4G	2478	Ant1	Hopping	-20.867	-1.39	Pass



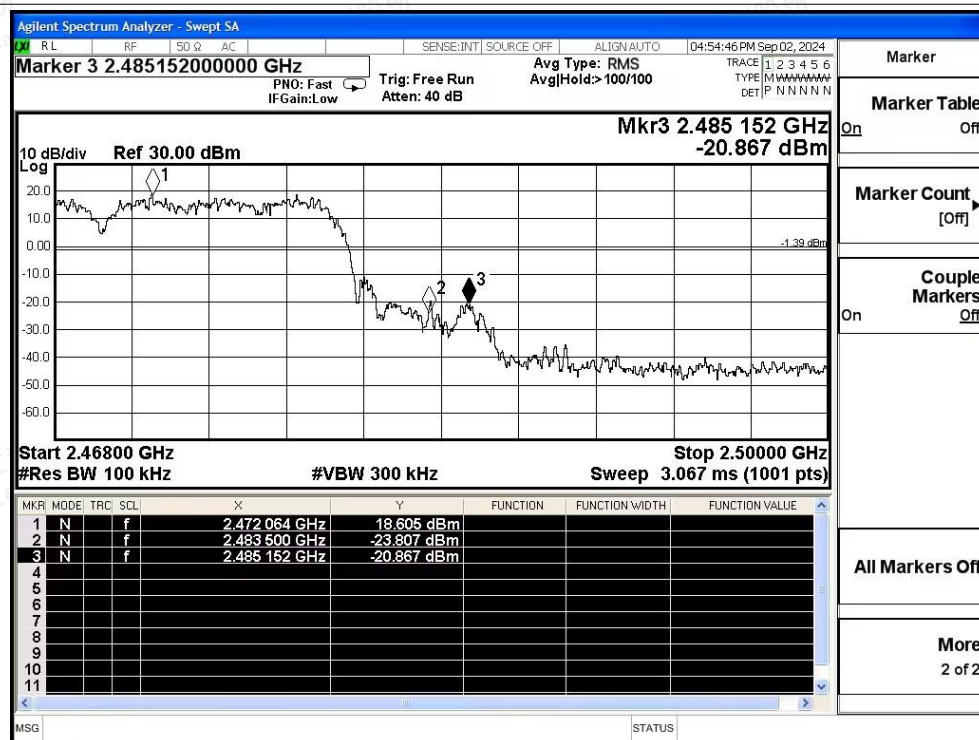


Test Graphs

Band Edge(Hopping) NVNT 2408MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2478MHz Ant1 Hopping Emission



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A.7 Conducted RF Spurious Emission

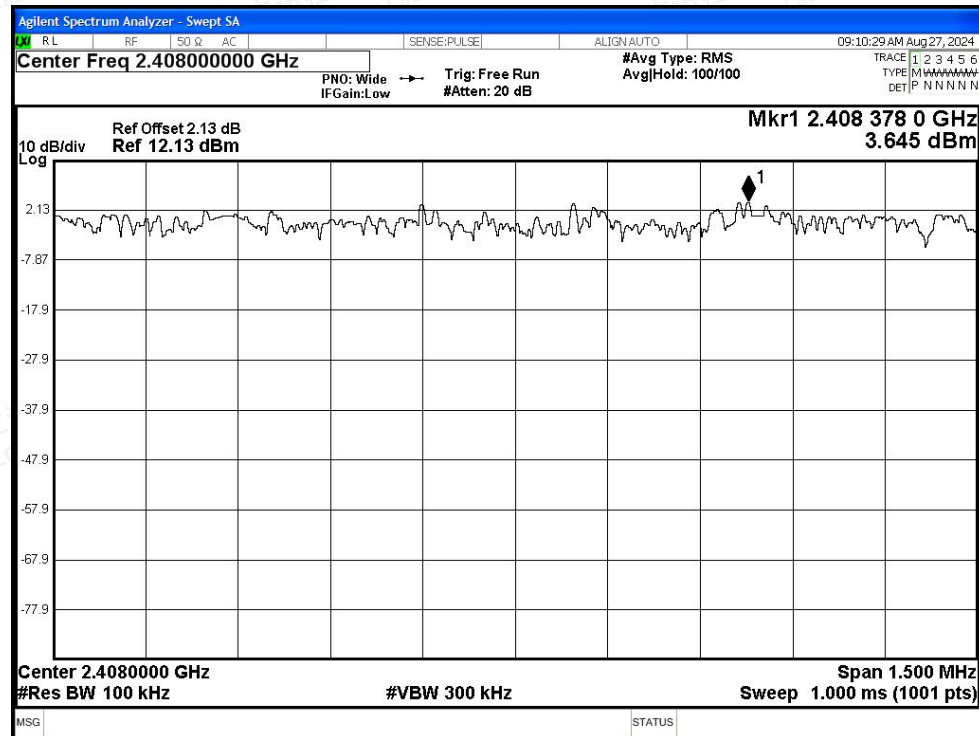
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	2.4G	2408	Ant1	-58.25	-20	Pass
NVNT	2.4G	2445	Ant1	-59.47	-20	Pass
NVNT	2.4G	2478	Ant1	-58.84	-20	Pass



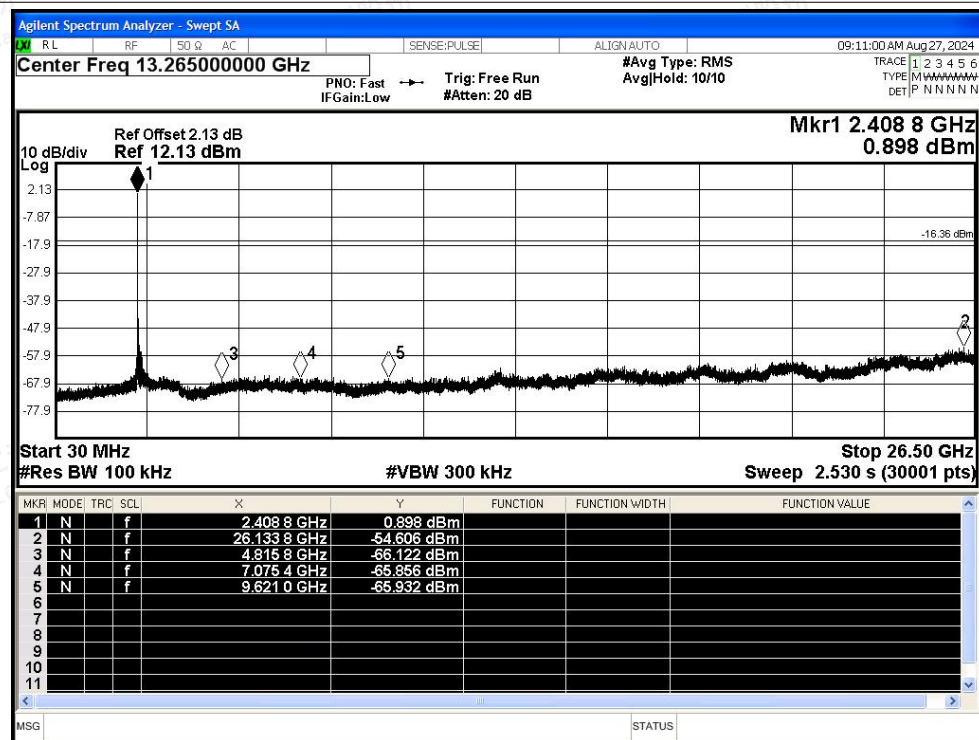


Test Graphs

Tx. Spurious NVNT 2.4G 2408MHz Ant1 Ref



Tx. Spurious NVNT 2.4G 2408MHz Ant1 Emission



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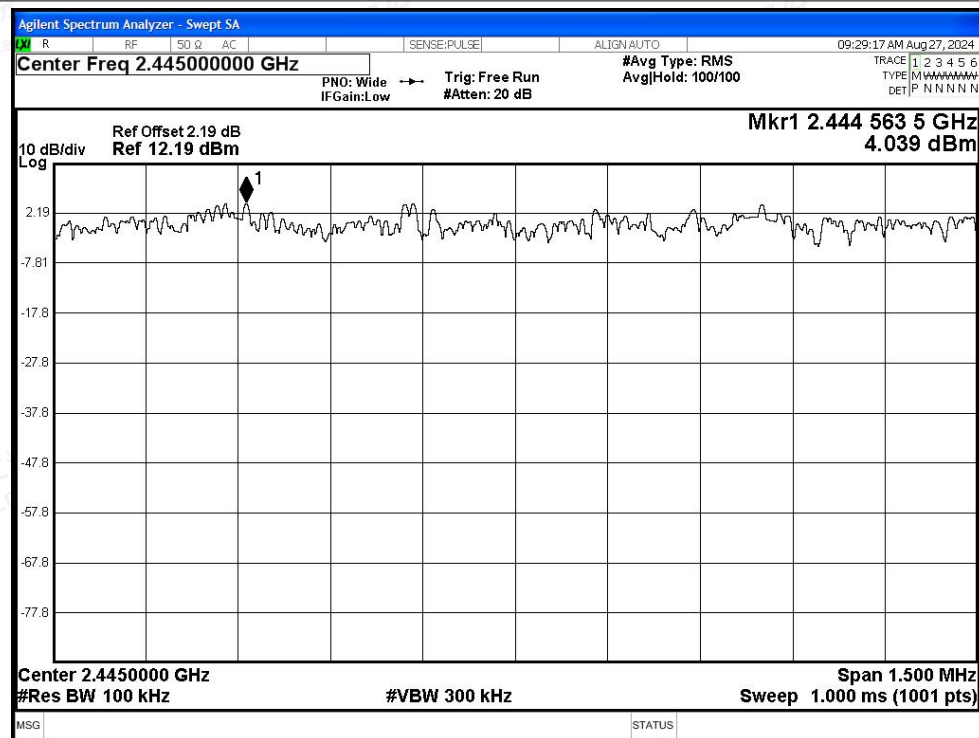
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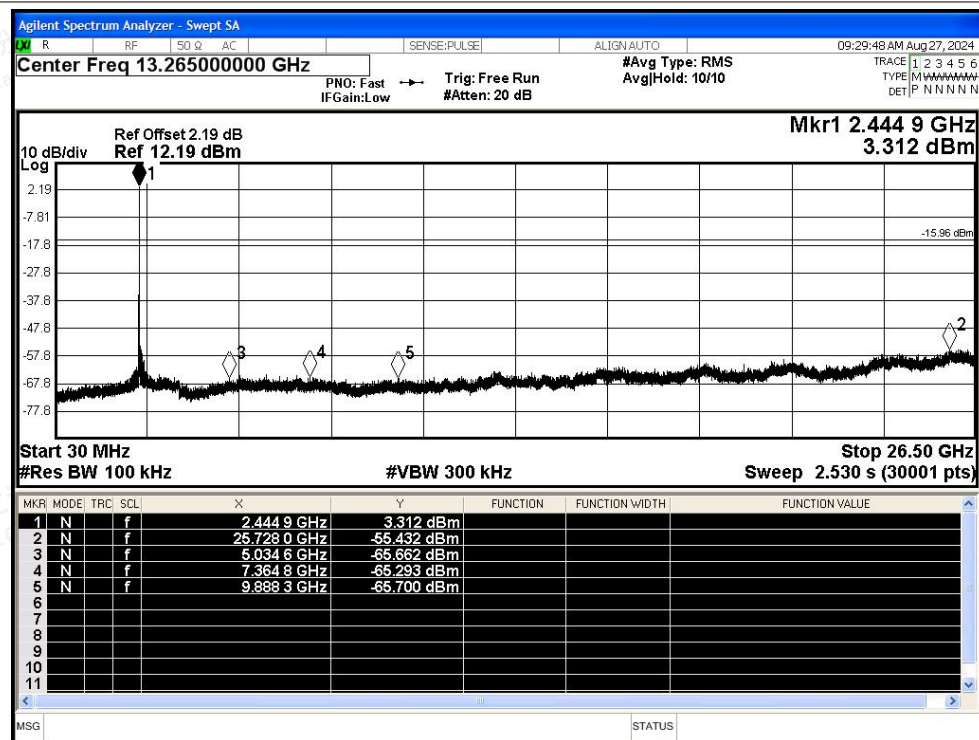
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Tx. Spurious NVNT 2.4G 2445MHz Ant1 Ref



Tx. Spurious NVNT 2.4G 2445MHz Ant1 Emission



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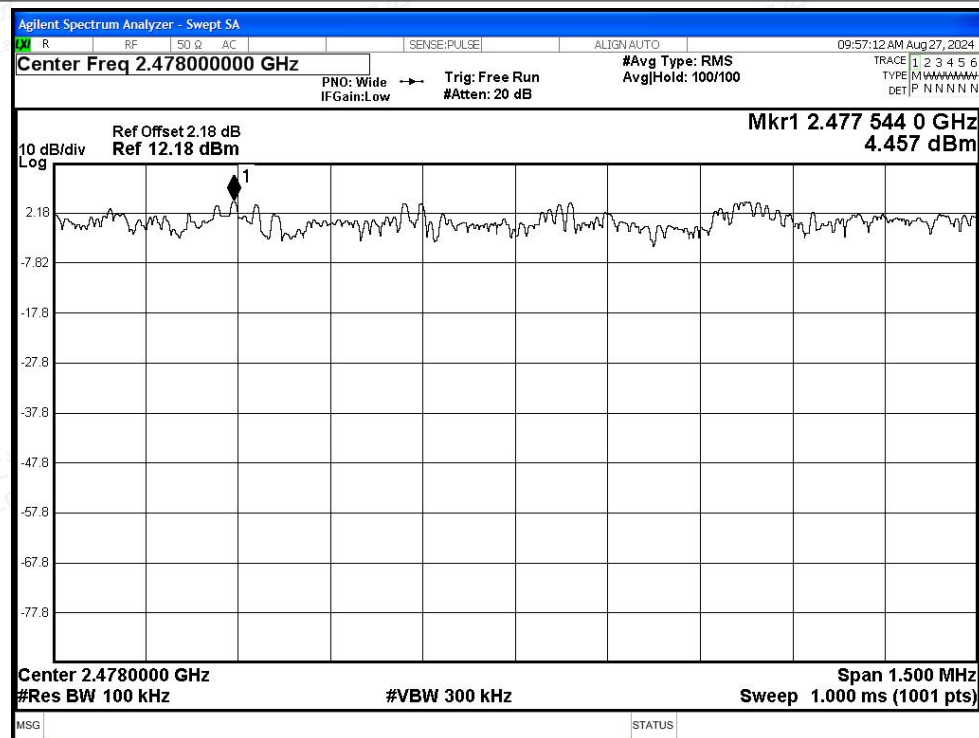
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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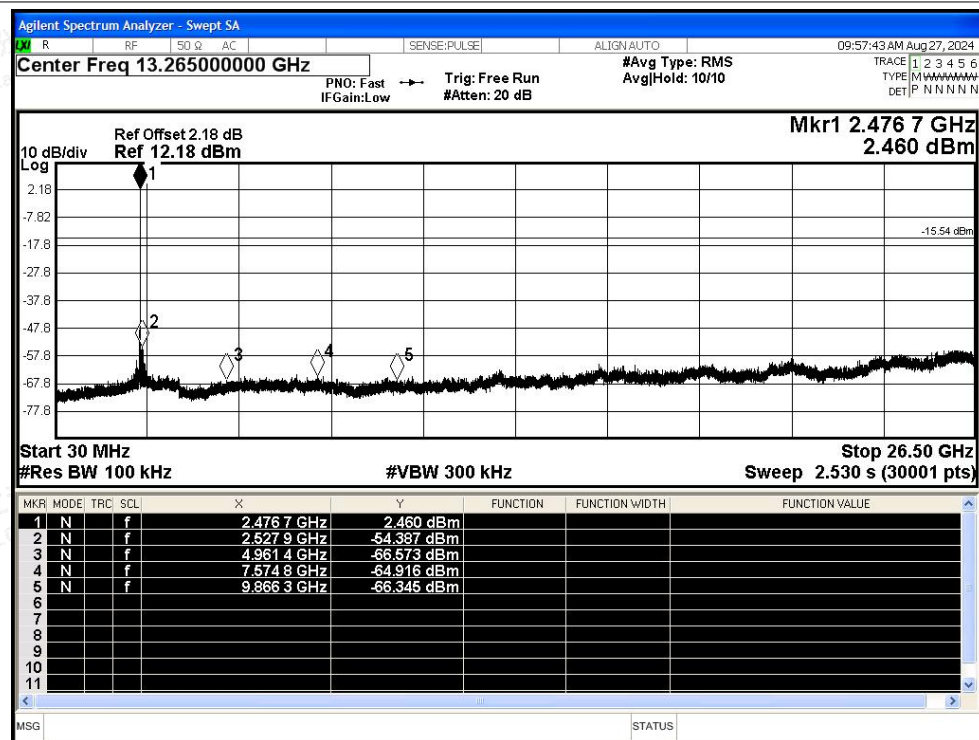
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Tx. Spurious NVNT 2.4G 2478MHz Ant1 Ref



Tx. Spurious NVNT 2.4G 2478MHz Ant1 Emission



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A.8 Duty Cycle

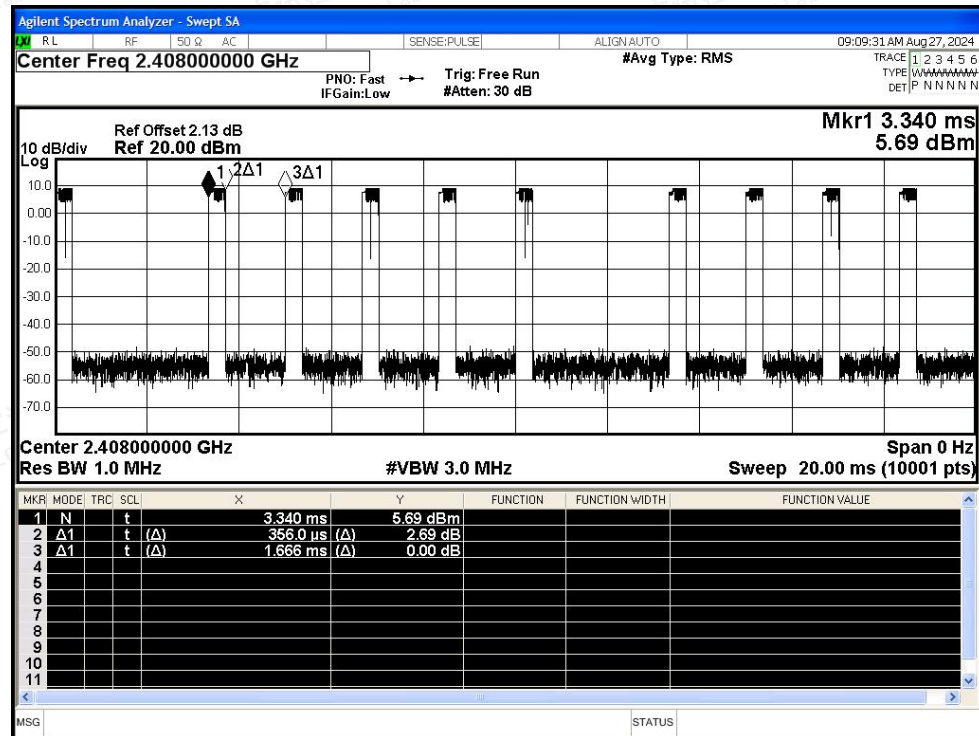
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	2.4G	2408	Ant1	21.37	6.7	2.81
NVNT	2.4G	2445	Ant1	21.49	6.68	2.79
NVNT	2.4G	2478	Ant1	21.49	6.68	2.79



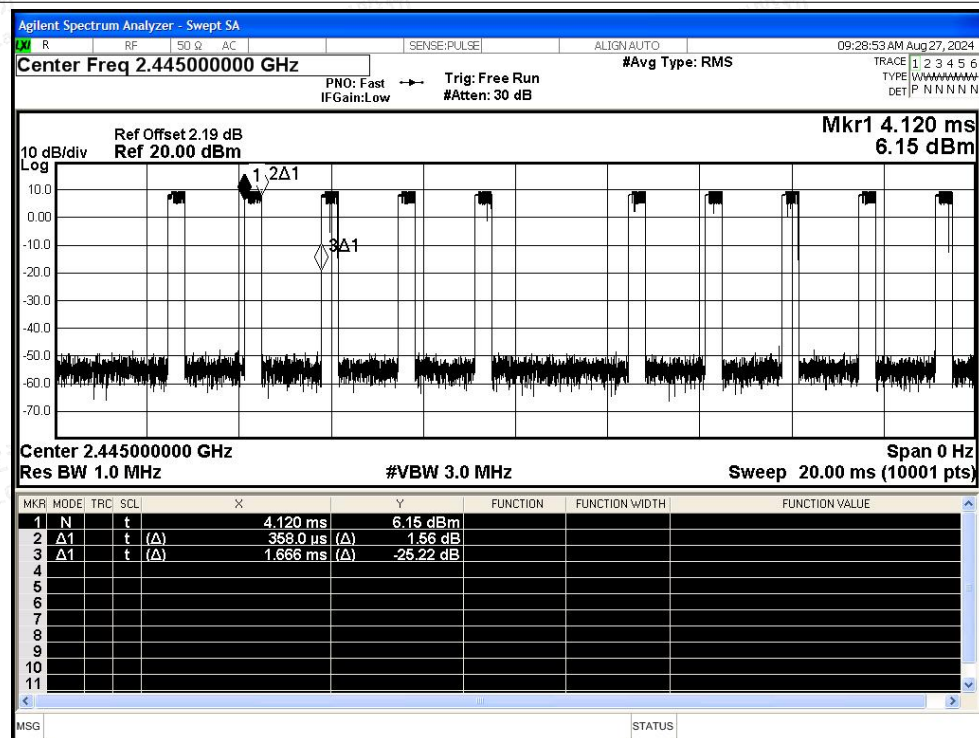


Test Graphs

Duty Cycle NVNT 2.4G 2408MHz Ant1



Duty Cycle NVNT 2.4G 2445MHz Ant1

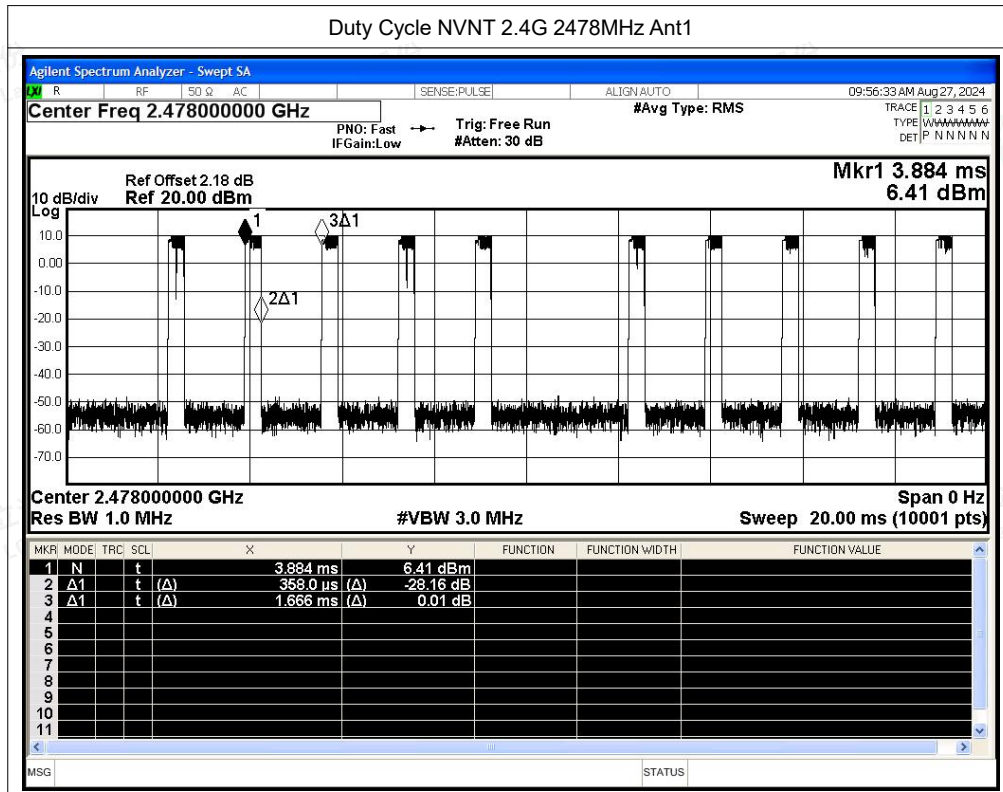


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A.9 Restrict Band

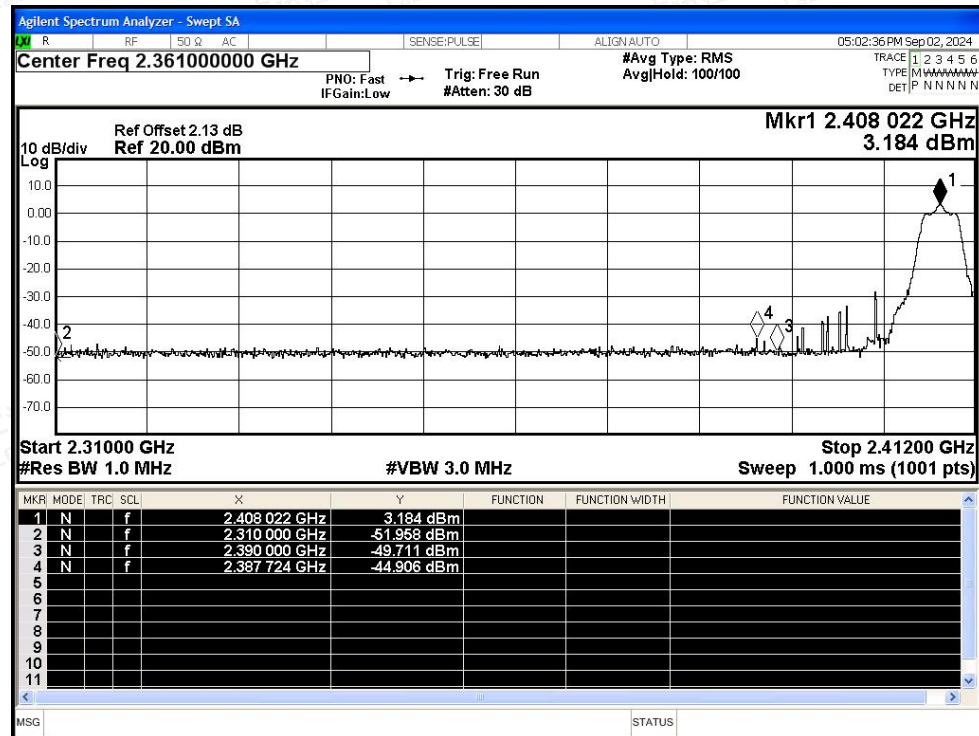
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	2.4G	2408	Ant1	No-Hopping	2310	-51.96	3.02	-	46.32	Peak	74	Pass
NVNT	2.4G	2408	Ant1	No-Hopping	2310	-58.9	3.02	6.7	46.08	Average	54	Pass
NVNT	2.4G	2408	Ant1	No-Hopping	2387.724	-44.91	3.02	-	53.37	Peak	74	Pass
NVNT	2.4G	2408	Ant1	No-Hopping	2377.116	-57.48	3.02	6.7	47.5	Average	54	Pass
NVNT	2.4G	2408	Ant1	No-Hopping	2390	-49.71	3.02	-	48.57	Peak	74	Pass
NVNT	2.4G	2408	Ant1	No-Hopping	2390	-57.89	3.02	6.7	47.09	Average	54	Pass
NVNT	2.4G	2478	Ant1	No-Hopping	2483.5	-25.11	3.02	-	73.17	Peak	74	Pass
NVNT	2.4G	2478	Ant1	No-Hopping	2483.5	-52.57	3.02	6.68	52.39	Average	54	Pass
NVNT	2.4G	2478	Ant1	No-Hopping	2483.516	-24.68	3.02	-	73.6	Peak	74	Pass
NVNT	2.4G	2478	Ant1	No-Hopping	2483.646	-52.37	3.02	6.68	52.59	Average	54	Pass
NVNT	2.4G	2478	Ant1	No-Hopping	2500	-47.39	3.02	-	50.89	Peak	74	Pass
NVNT	2.4G	2478	Ant1	No-Hopping	2500	-57.75	3.02	6.68	47.21	Average	54	Pass



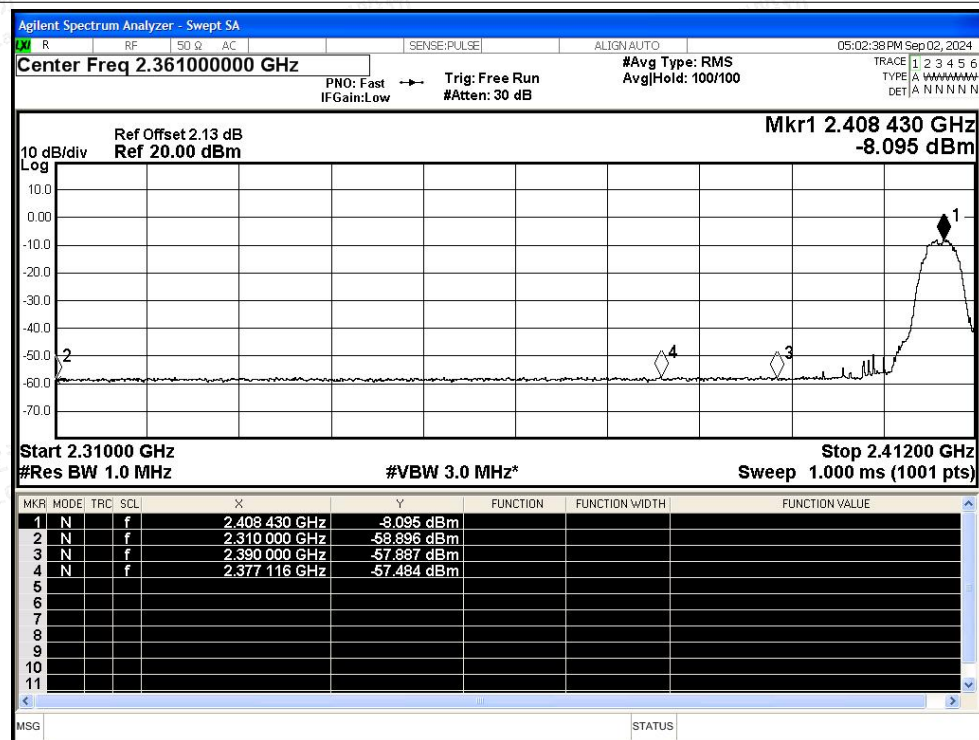


Test Graphs

Restrict Band NVNT 2.4G 2408MHz Ant1 No-Hopping Peak



Restrict Band NVNT 2.4G 2408MHz Ant1 No-Hopping Average



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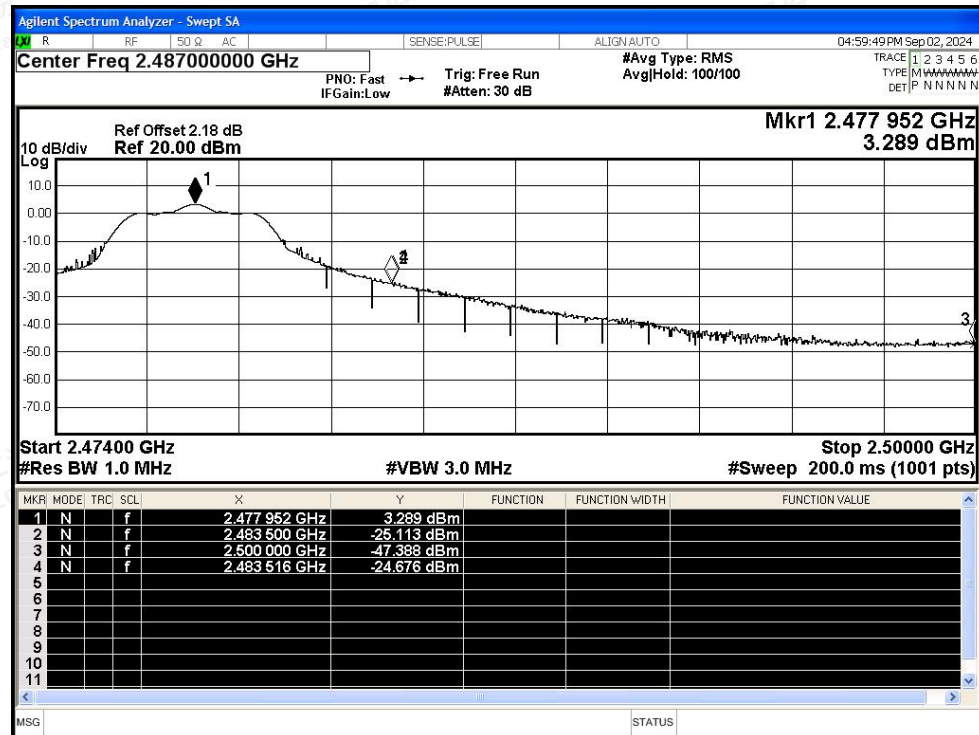
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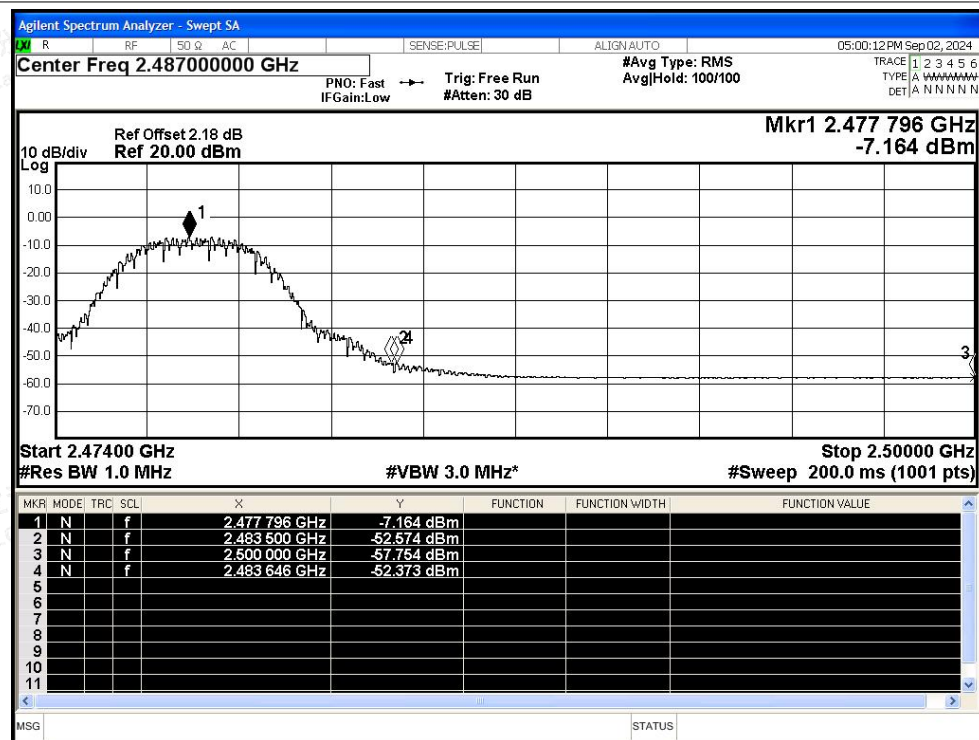
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Restrict Band NVNT 2.4G 2478MHz Ant1 No-Hopping Peak



Restrict Band NVNT 2.4G 2478MHz Ant1 No-Hopping Average



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