



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Stage luminaire

Test Model: Omnibar 4

Environmental Conditions

Temperature:	24.6°C
Relative Humidity:	53.9%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Can Kun

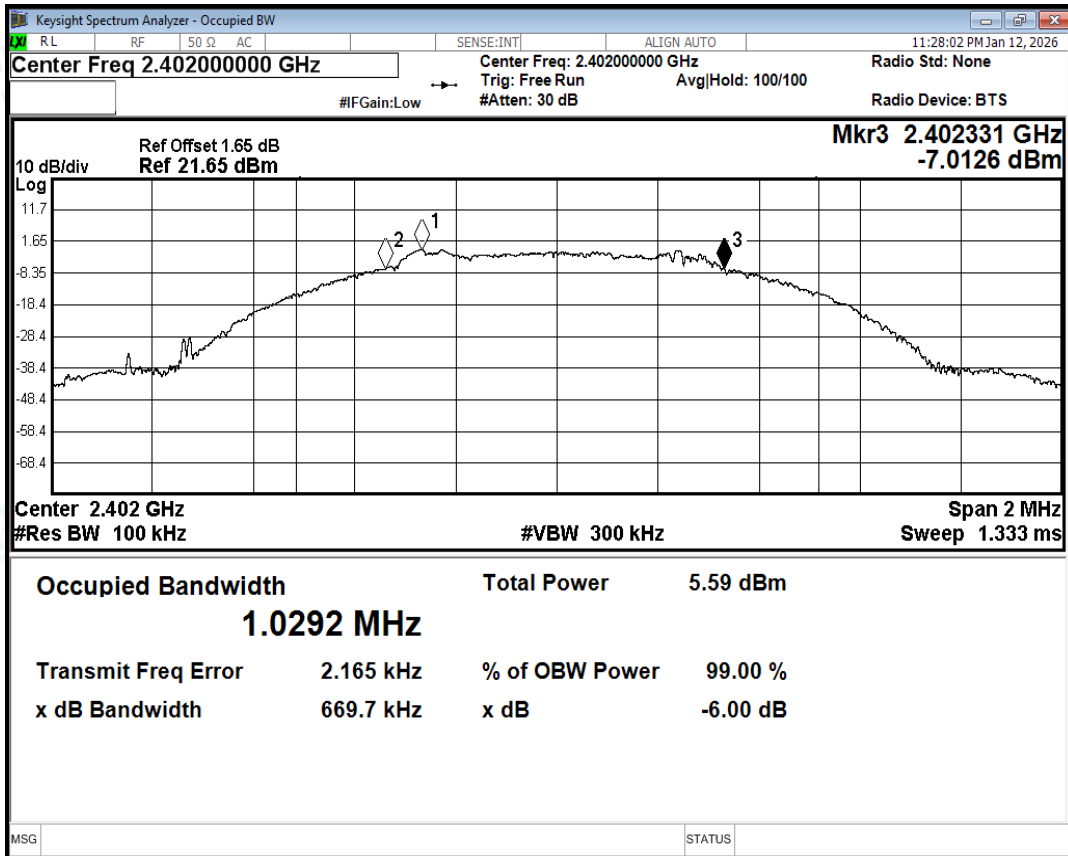




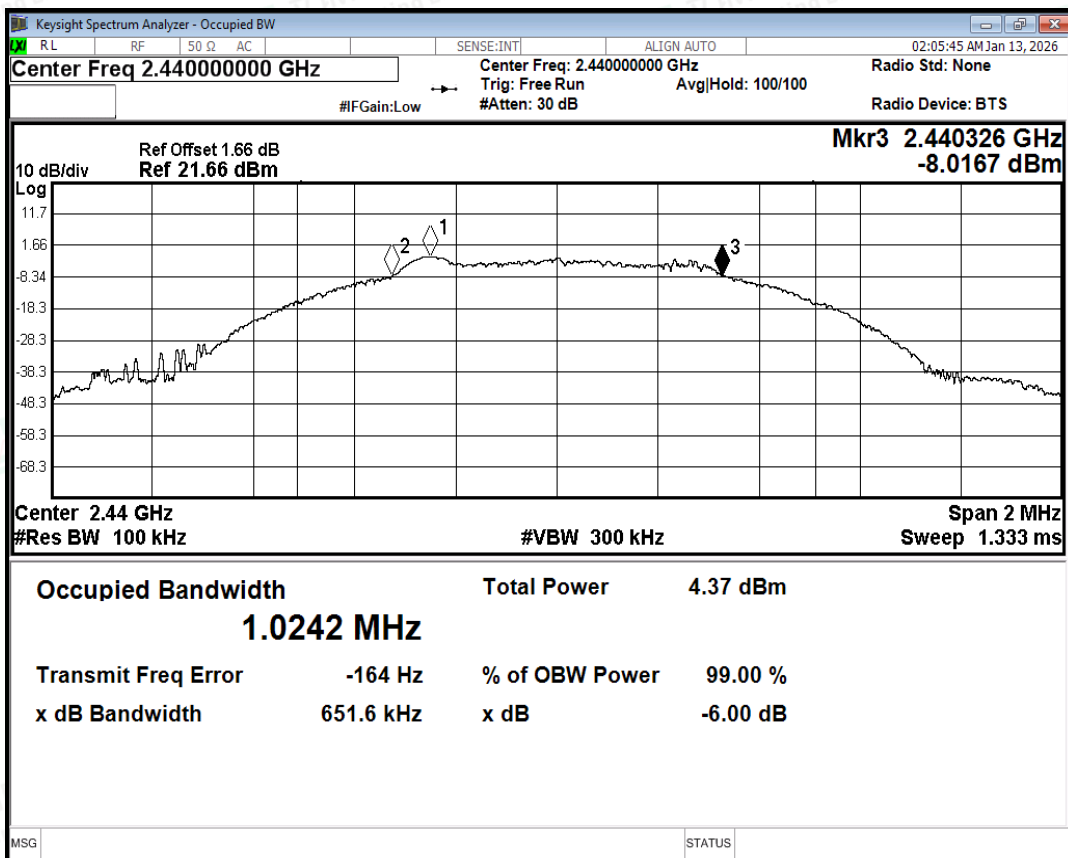
B.1 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.6697	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.6516	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.6466	0.5	Pass
NVNT	BLE 2M	2402	Ant1	1.166	0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.138	0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.141	0.5	Pass





-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

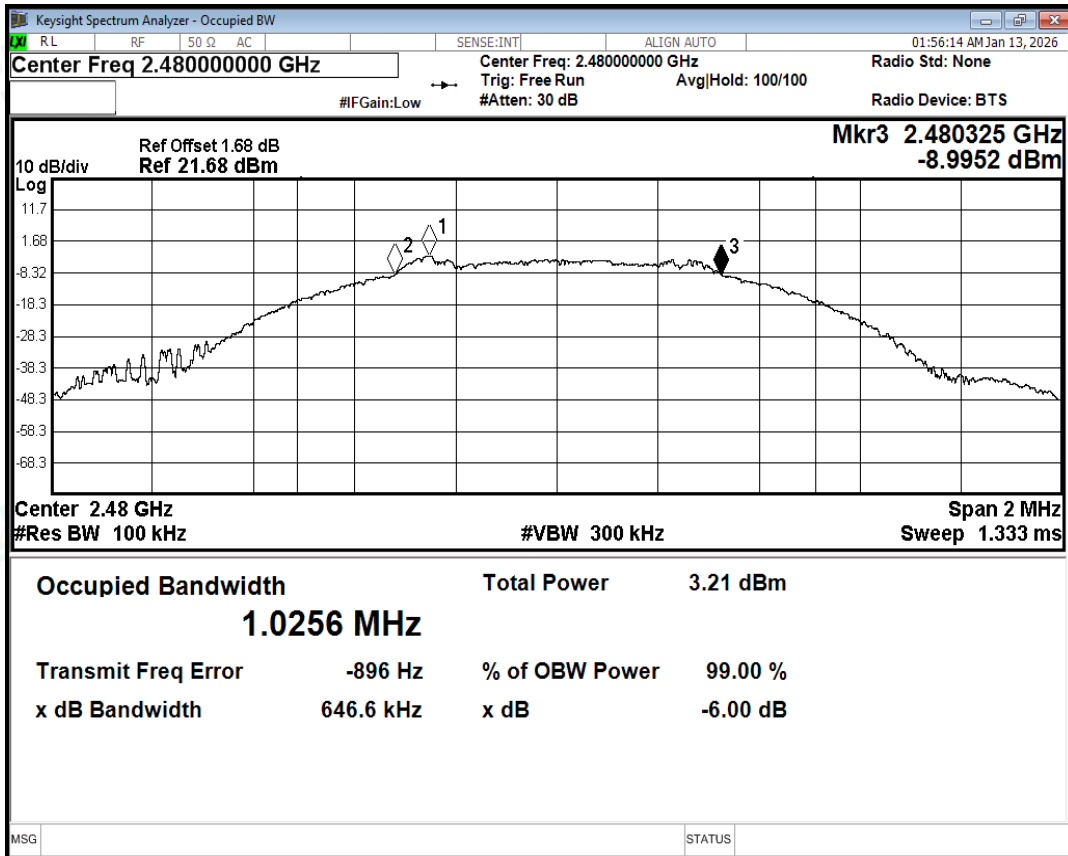


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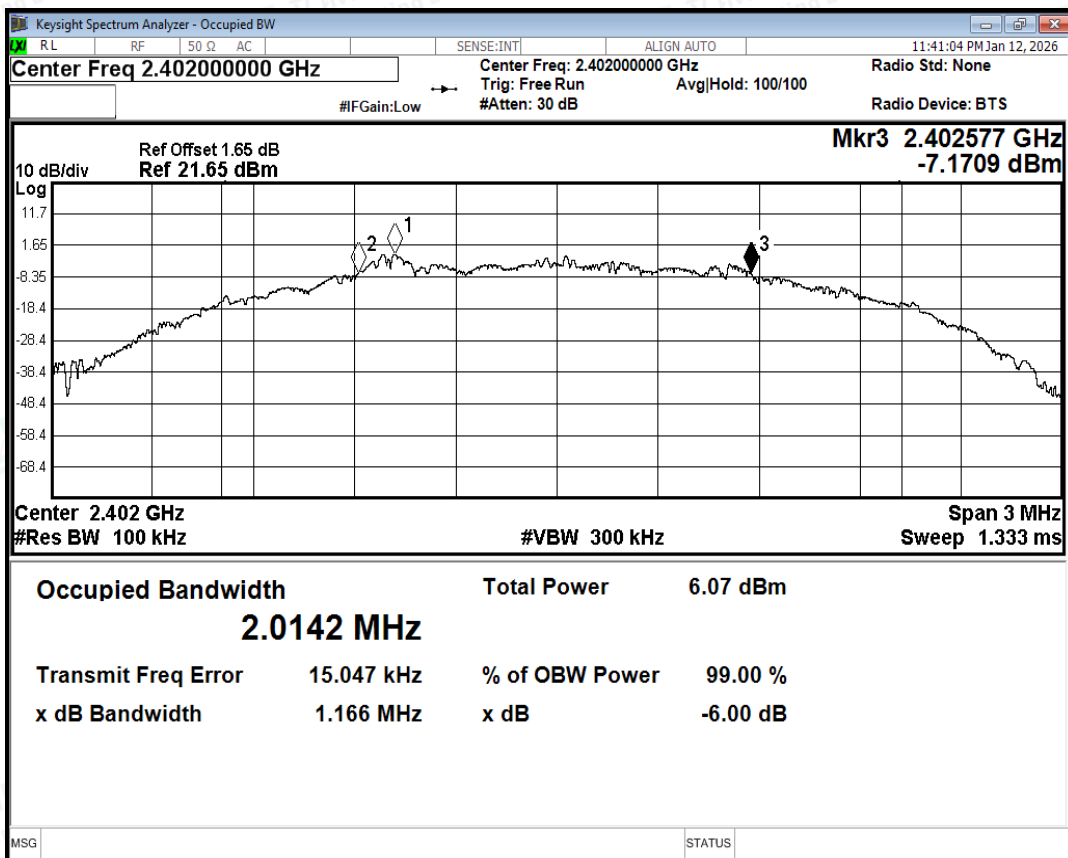
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-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1

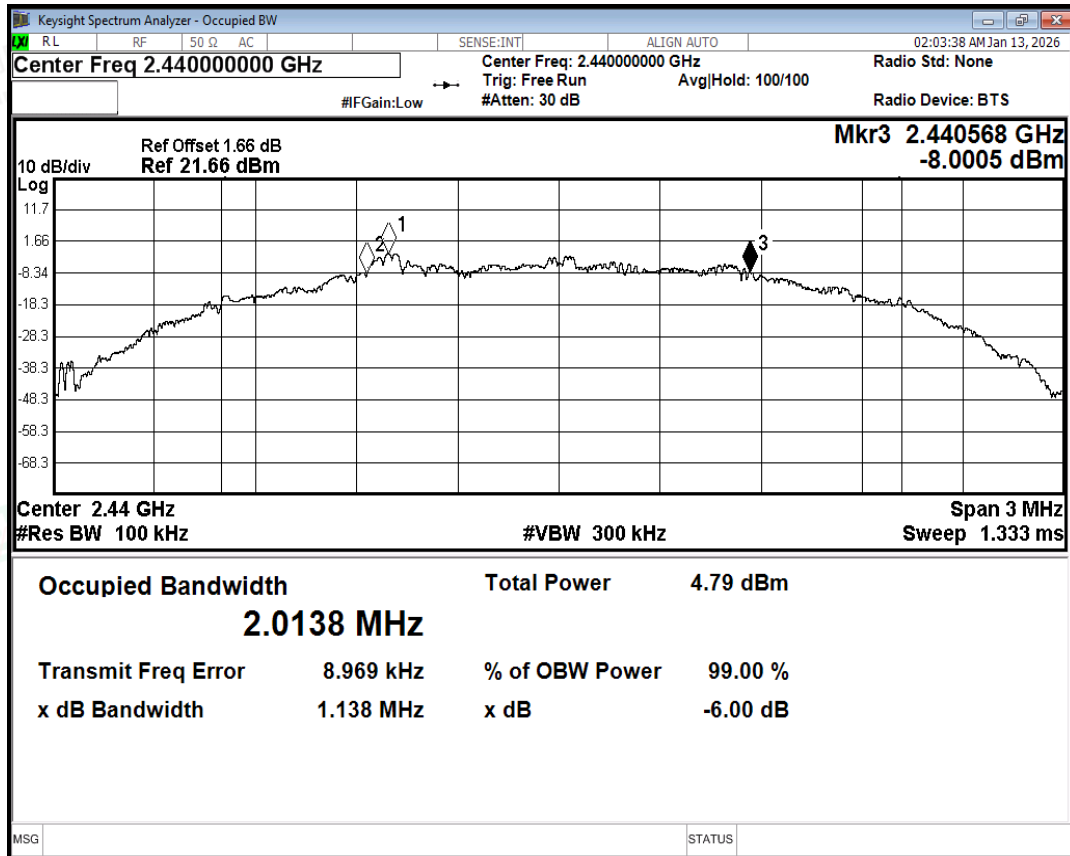


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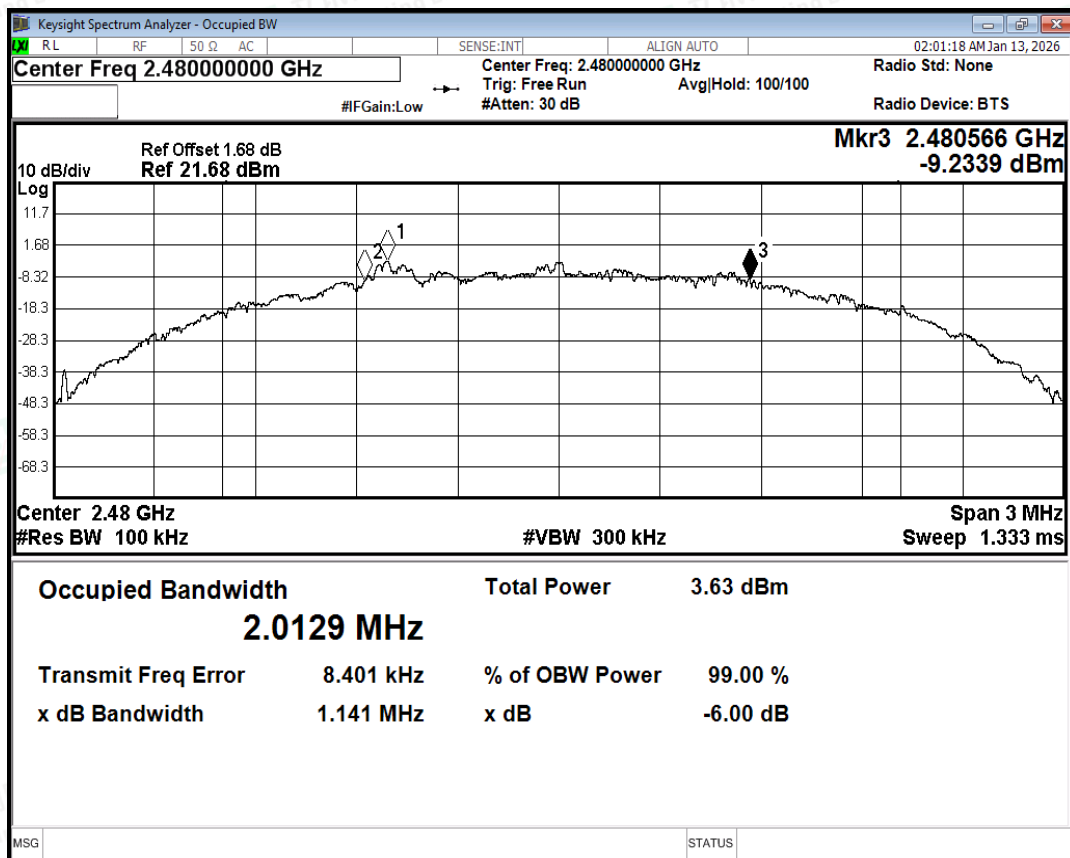
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-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant1



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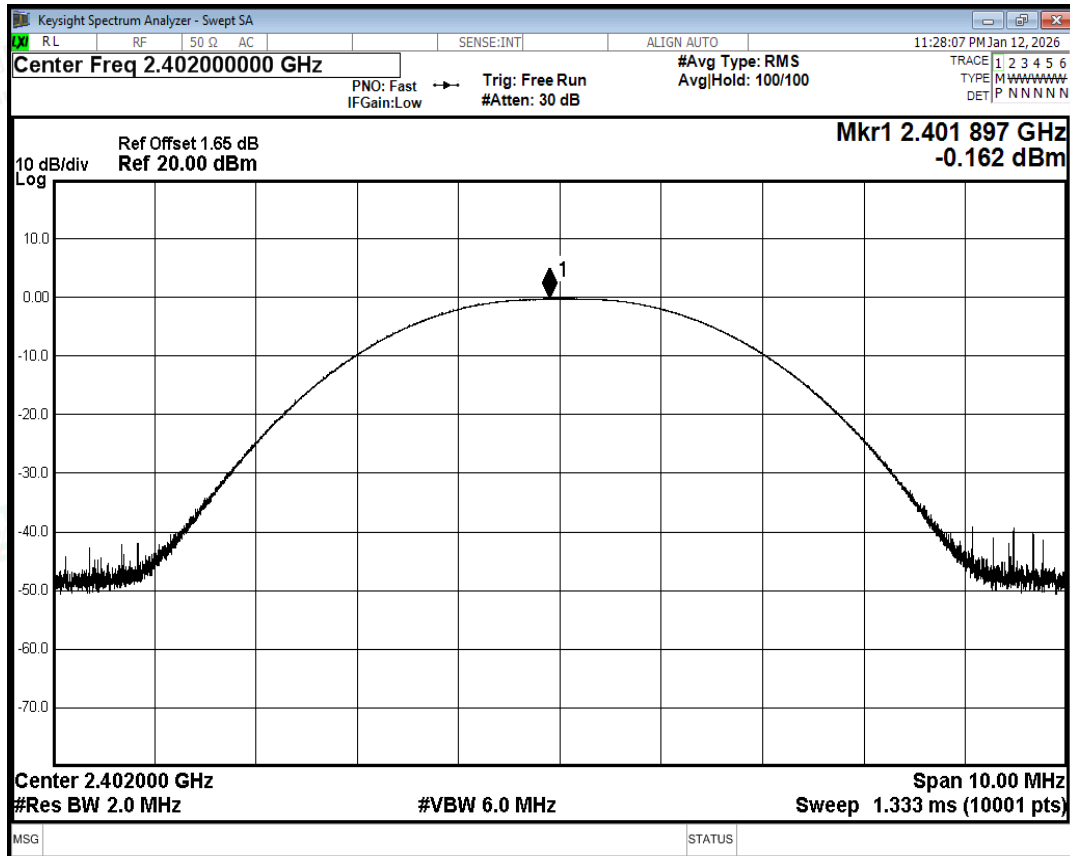
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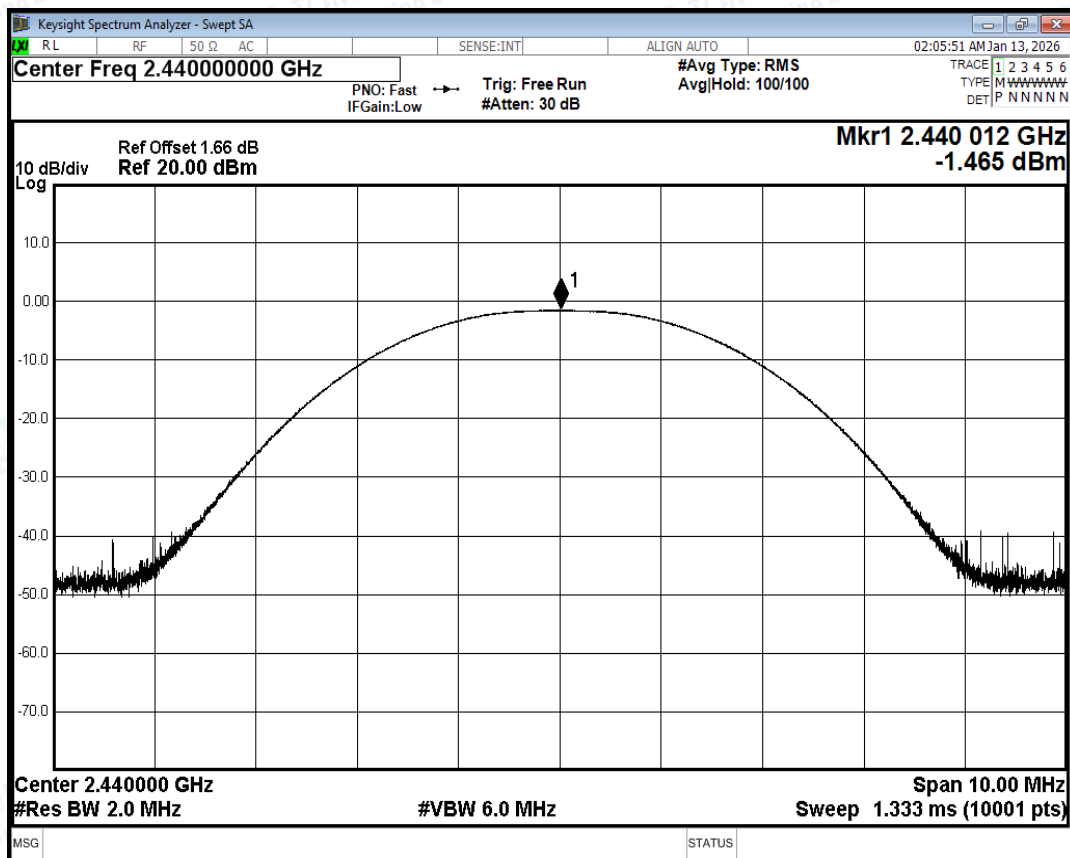
B.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted(dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-0.16	0.00096	30	Pass
NVNT	BLE 1M	2440	Ant1	-1.47	0.00071	30	Pass
NVNT	BLE 1M	2480	Ant1	-2.56	0.00055	30	Pass
NVNT	BLE 2M	2402	Ant1	-0.23	0.00095	30	Pass
NVNT	BLE 2M	2440	Ant1	-1.65	0.00068	30	Pass
NVNT	BLE 2M	2480	Ant1	-2.75	0.00053	30	Pass



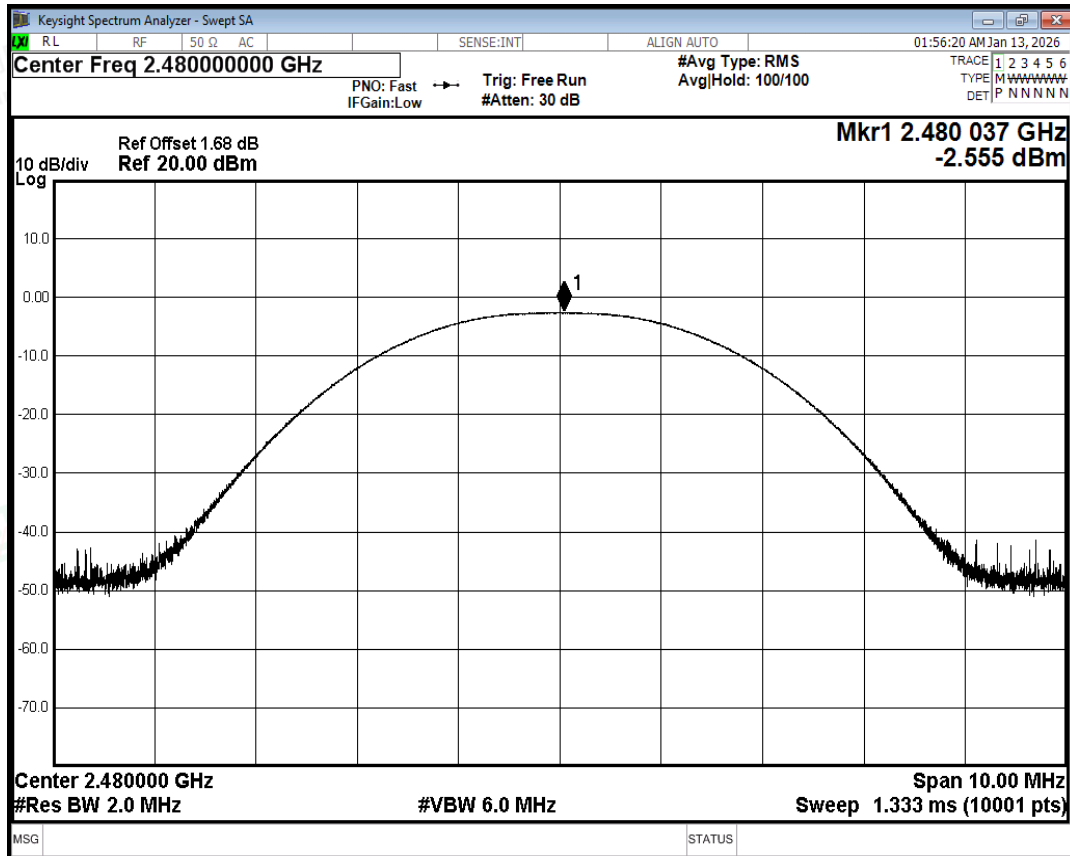


Peak Power NVNT BLE 1M 2402MHz Ant1

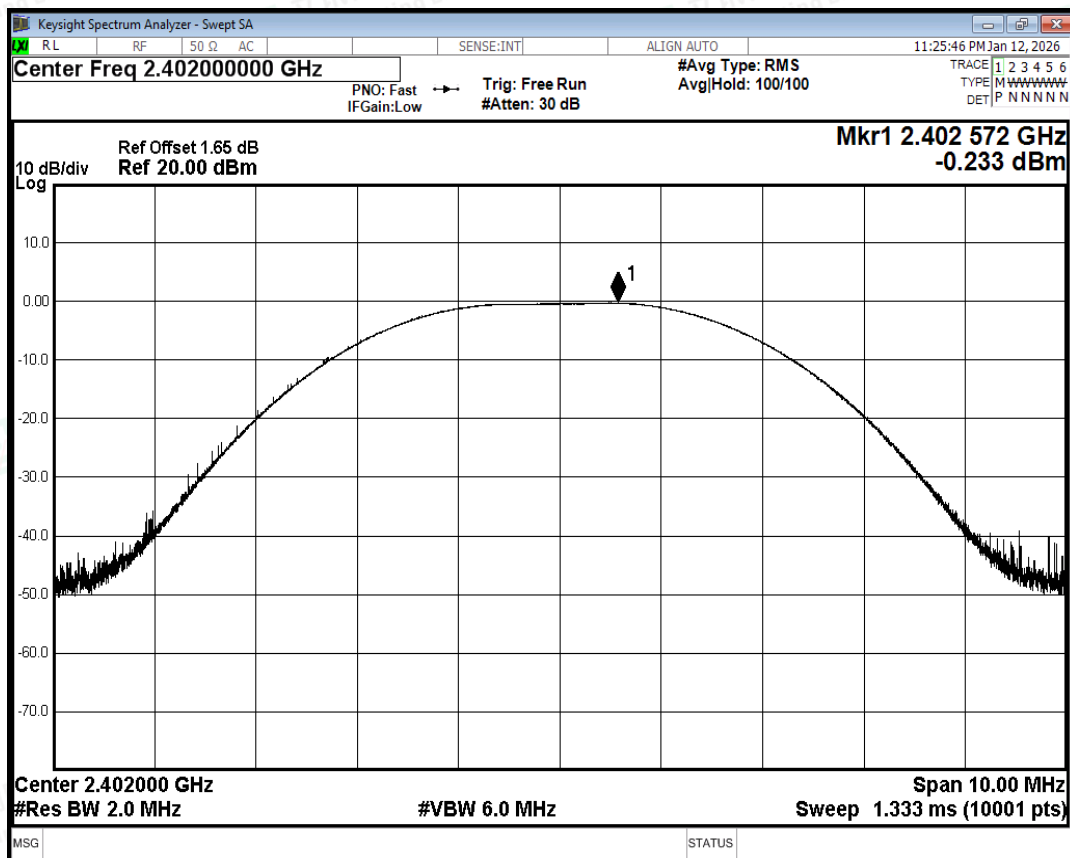


Peak Power NVNT BLE 1M 2440MHz Ant1



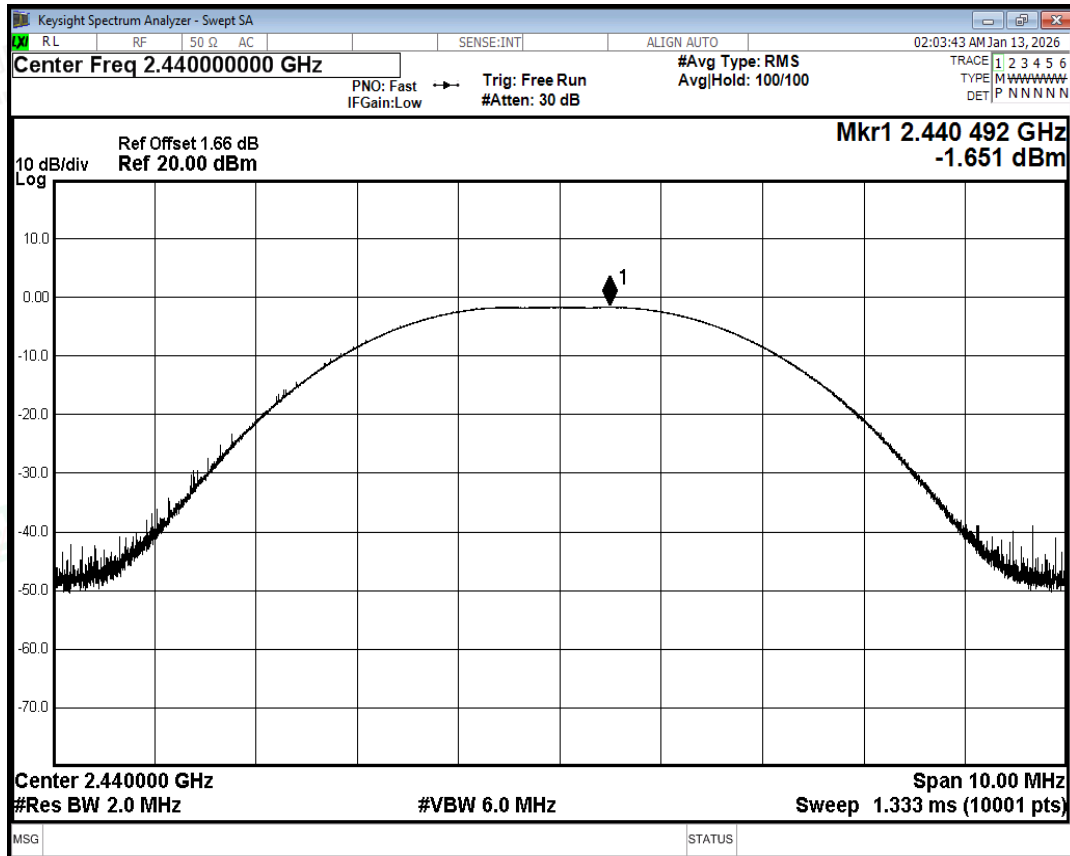


Peak Power NVNT BLE 1M 2480MHz Ant1

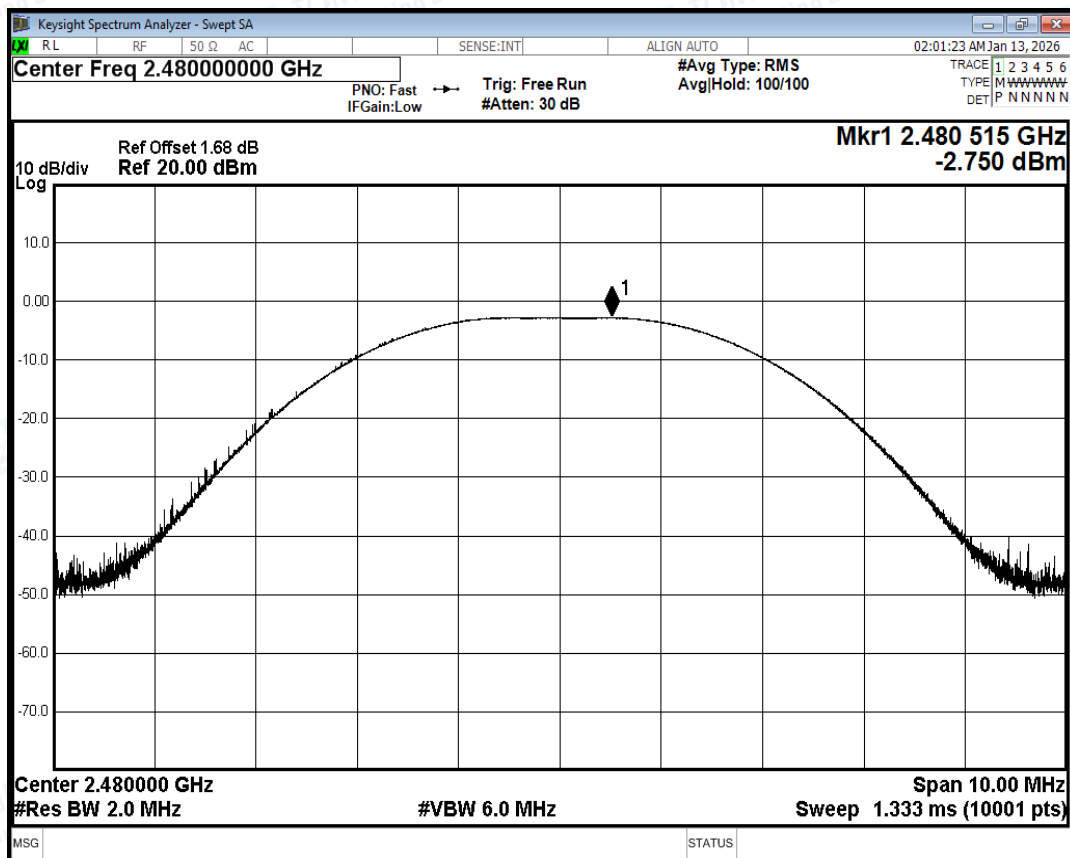


Peak Power NVNT BLE 2M 2402MHz Ant1





Peak Power NVNT BLE 2M 2440MHz Ant1



Peak Power NVNT BLE 2M 2480MHz Ant1

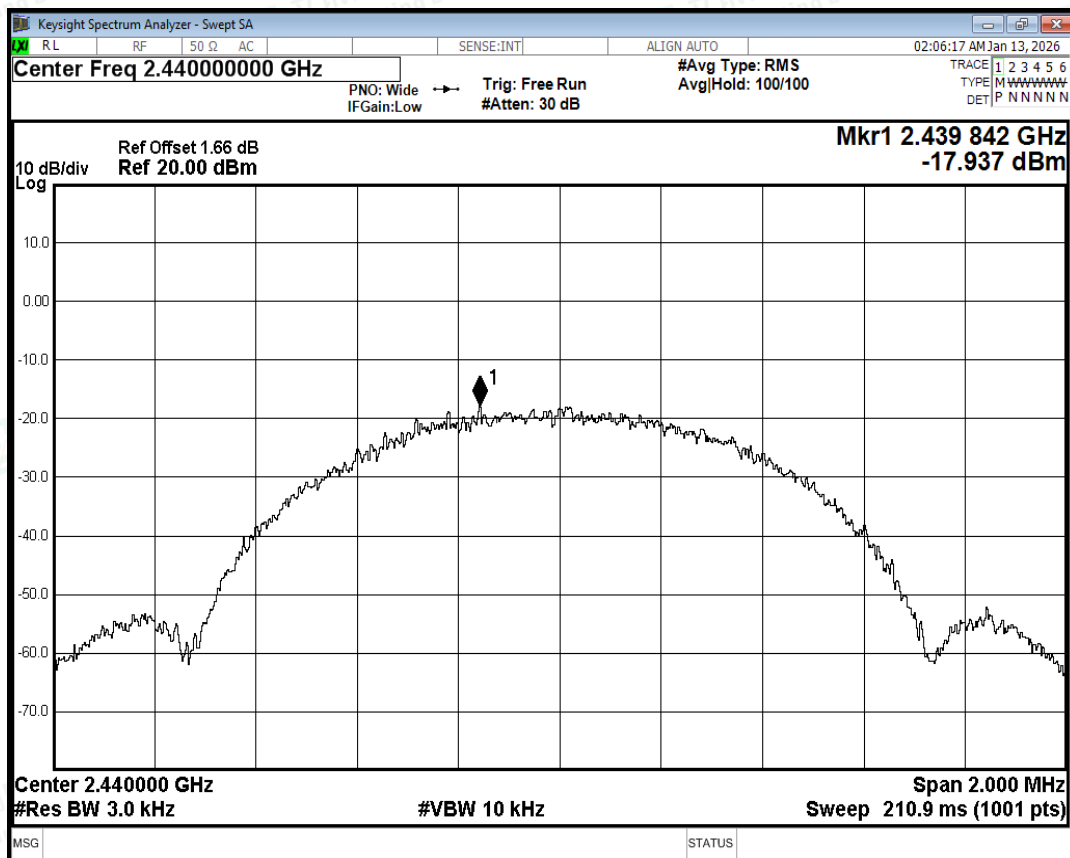
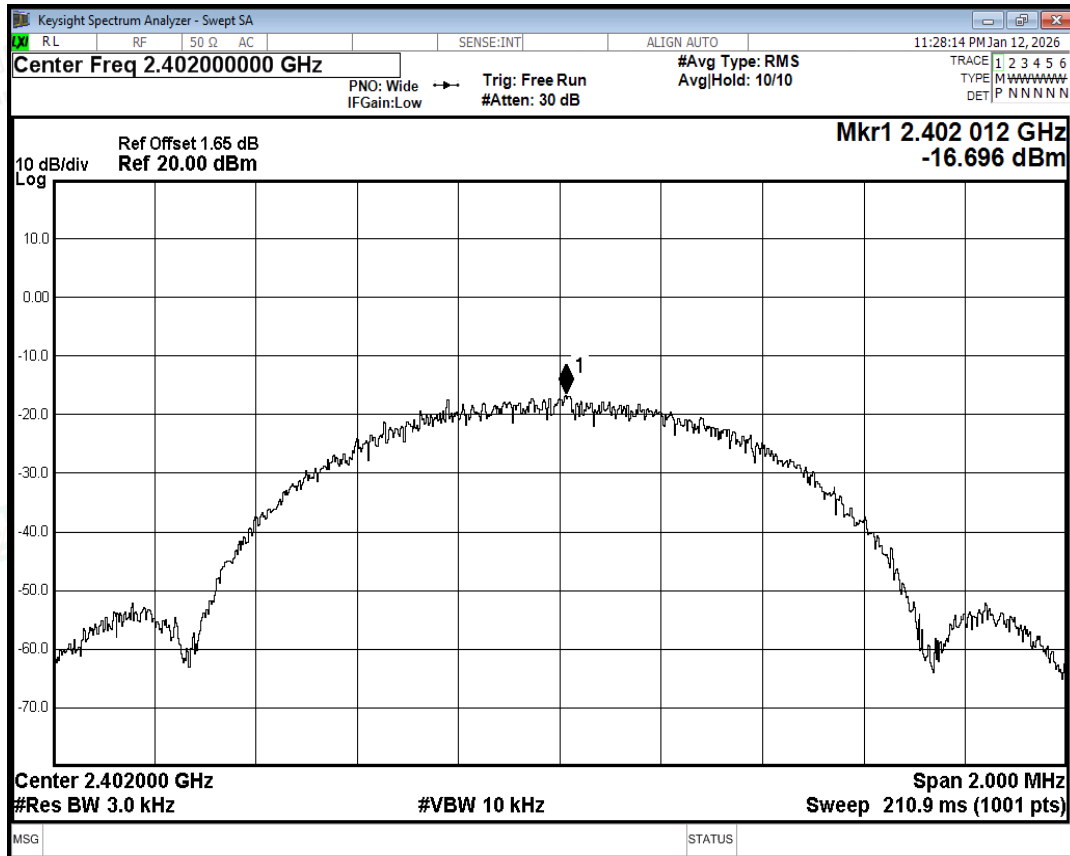


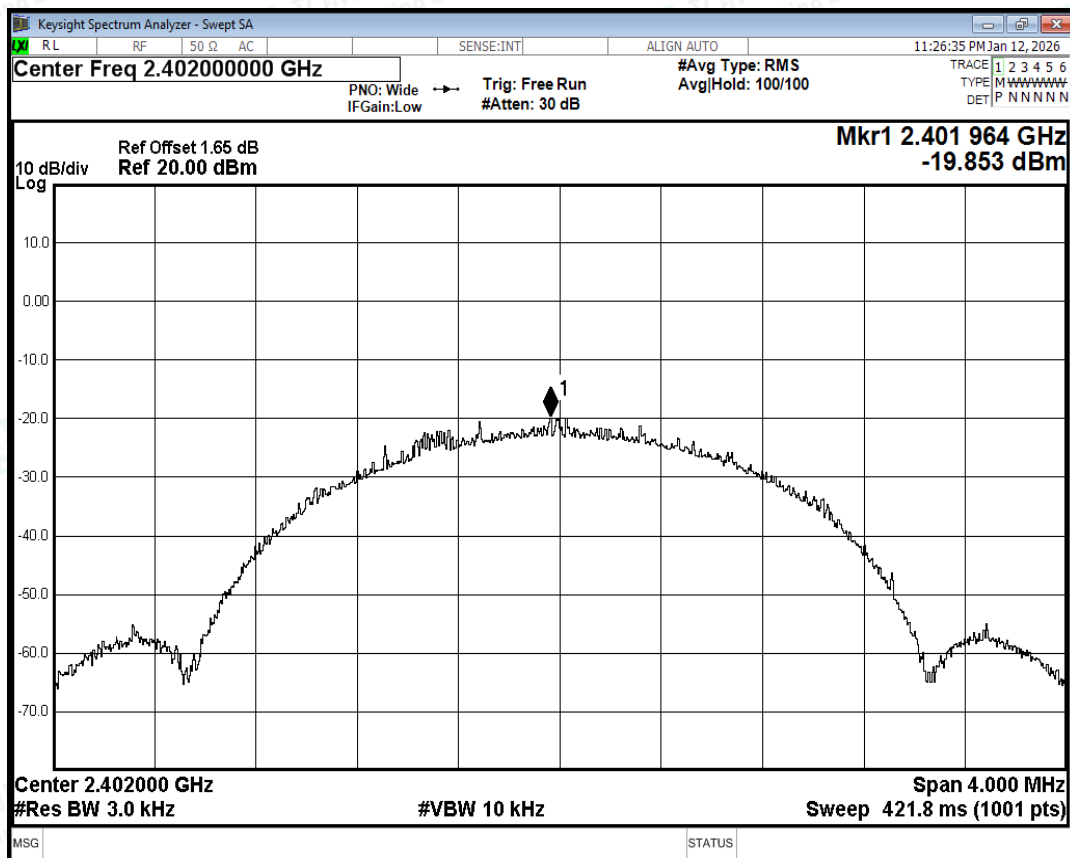
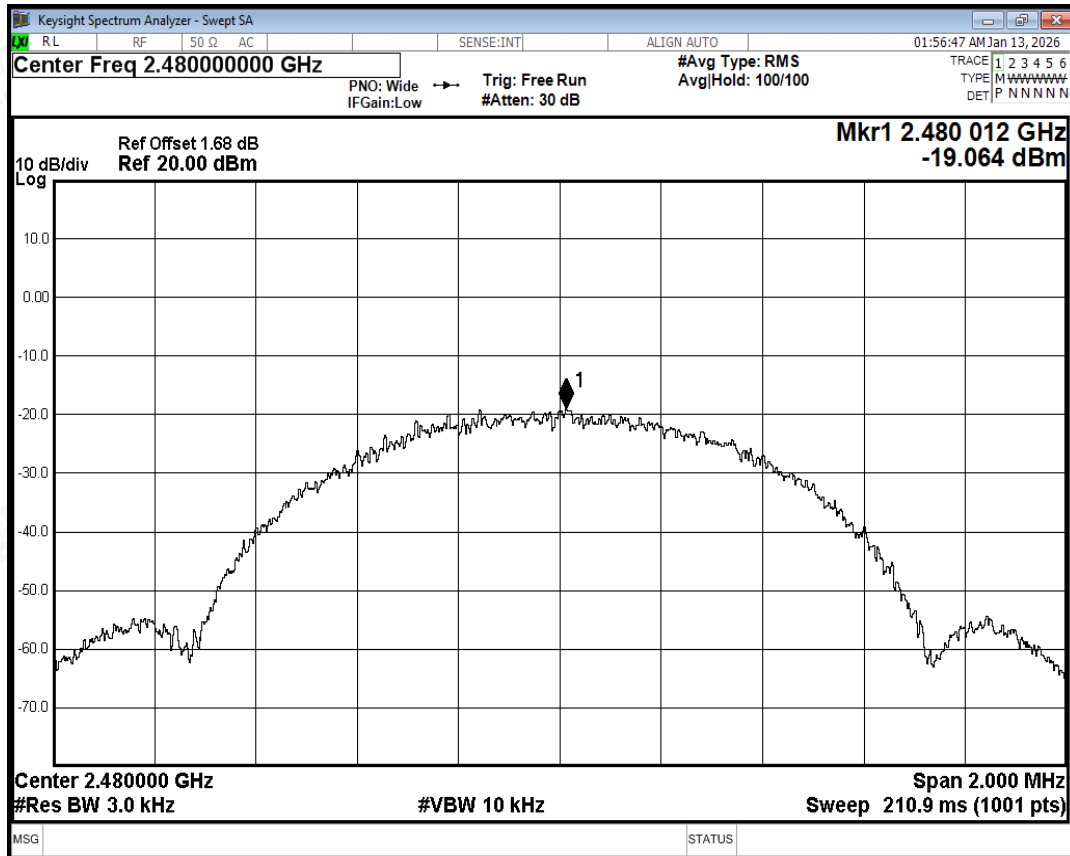


B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-16.7	8	Pass
NVNT	BLE 1M	2440	Ant1	-17.94	8	Pass
NVNT	BLE 1M	2480	Ant1	-19.06	8	Pass
NVNT	BLE 2M	2402	Ant1	-19.85	8	Pass
NVNT	BLE 2M	2440	Ant1	-21.04	8	Pass
NVNT	BLE 2M	2480	Ant1	-22.25	8	Pass





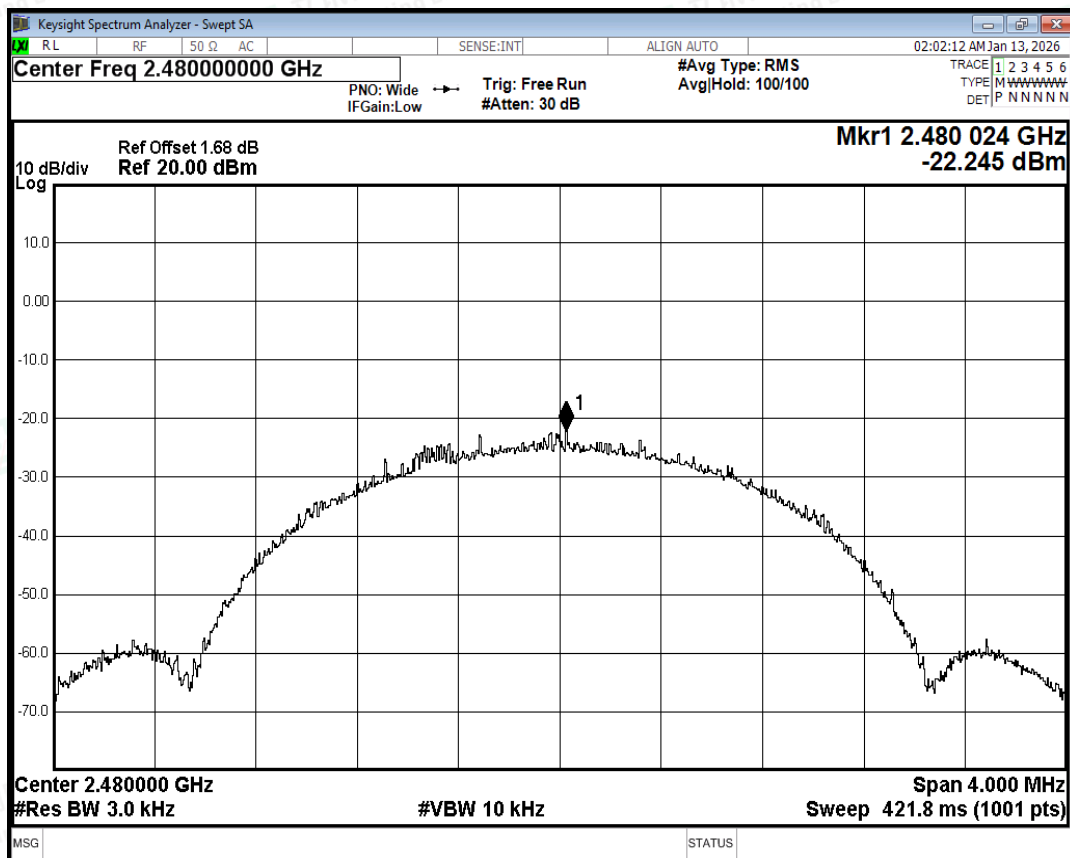
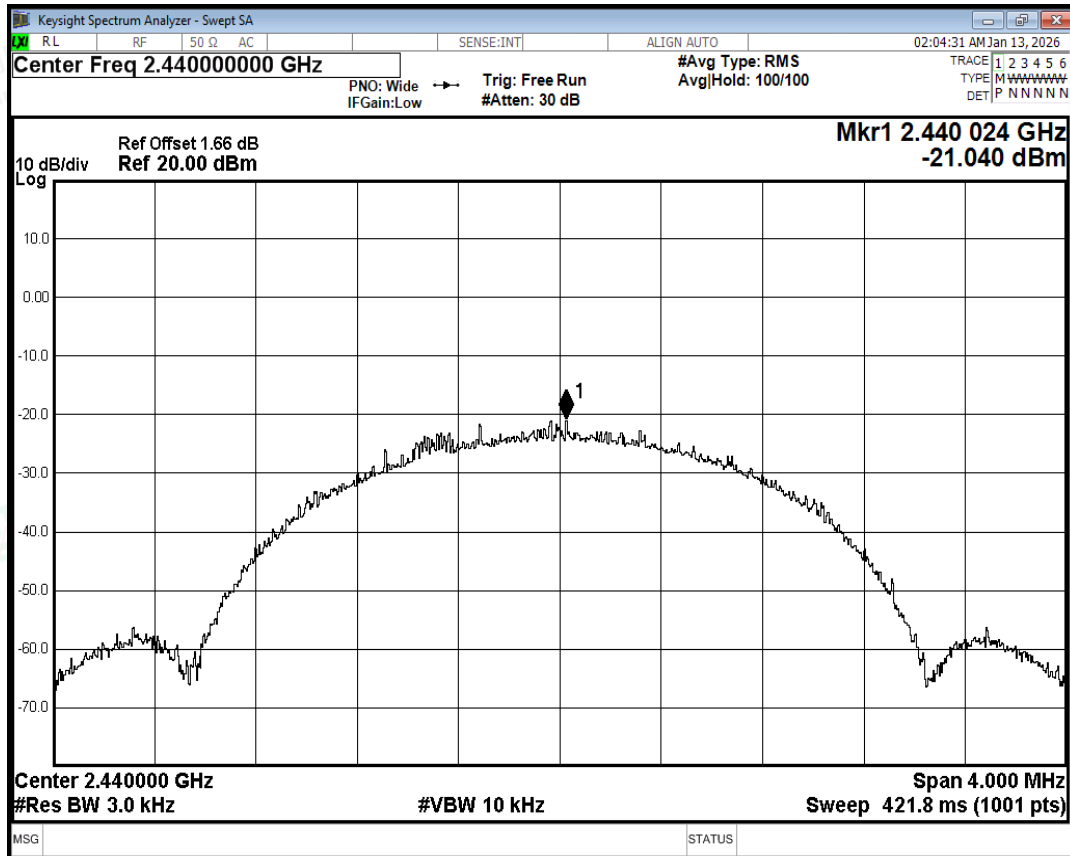


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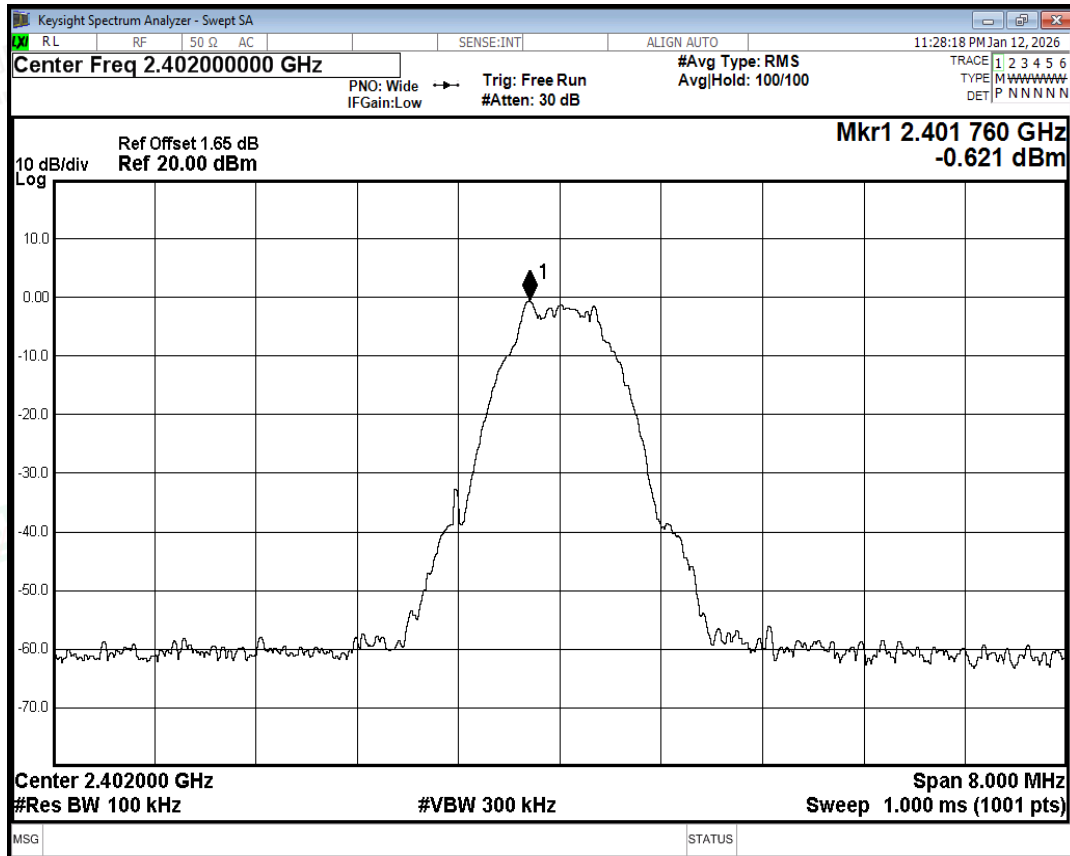
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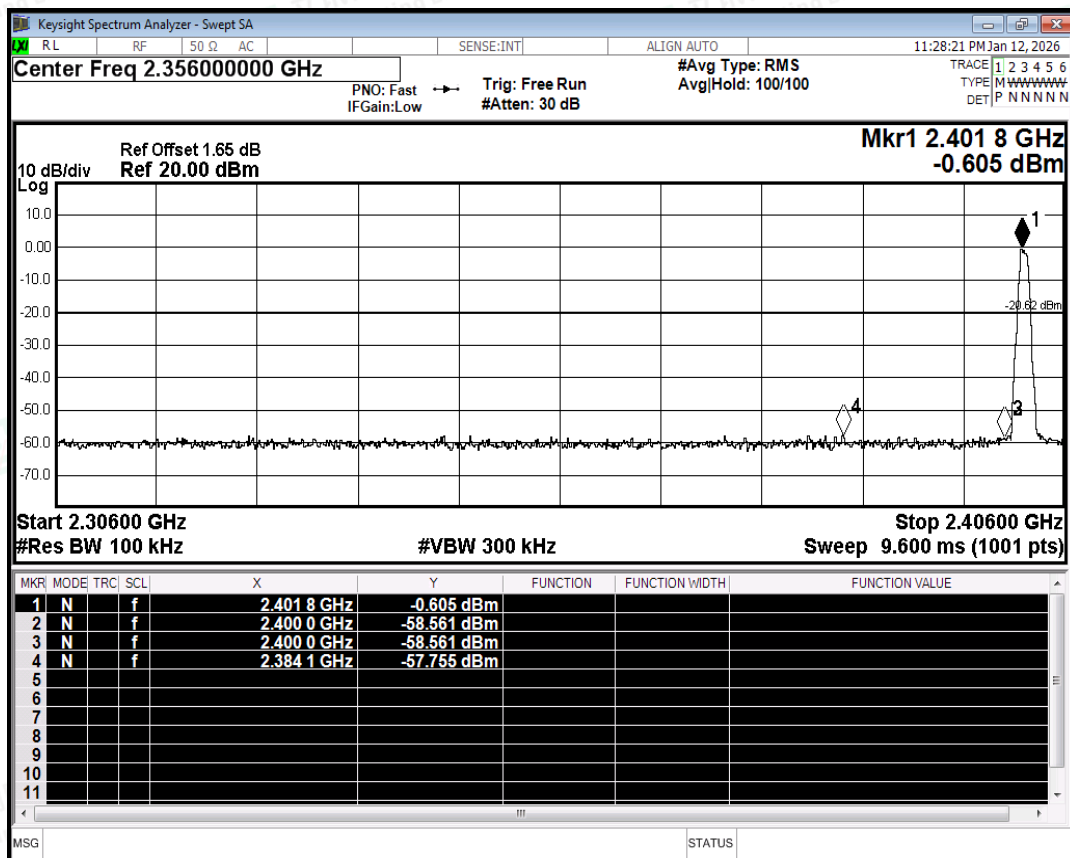
B.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-57.13	-20	Pass
NVNT	BLE 1M	2480	Ant1	-54.12	-20	Pass
NVNT	BLE 2M	2402	Ant1	-45.86	-20	Pass
NVNT	BLE 2M	2480	Ant1	-53.76	-20	Pass





Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission

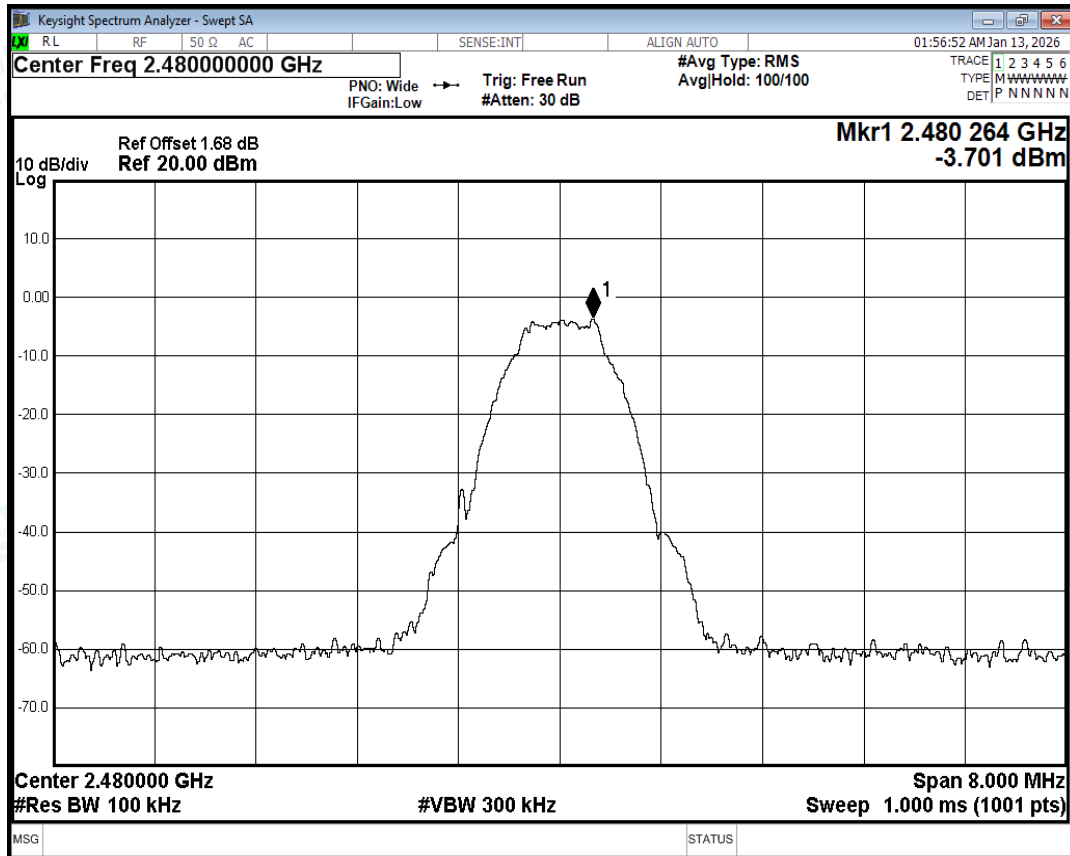


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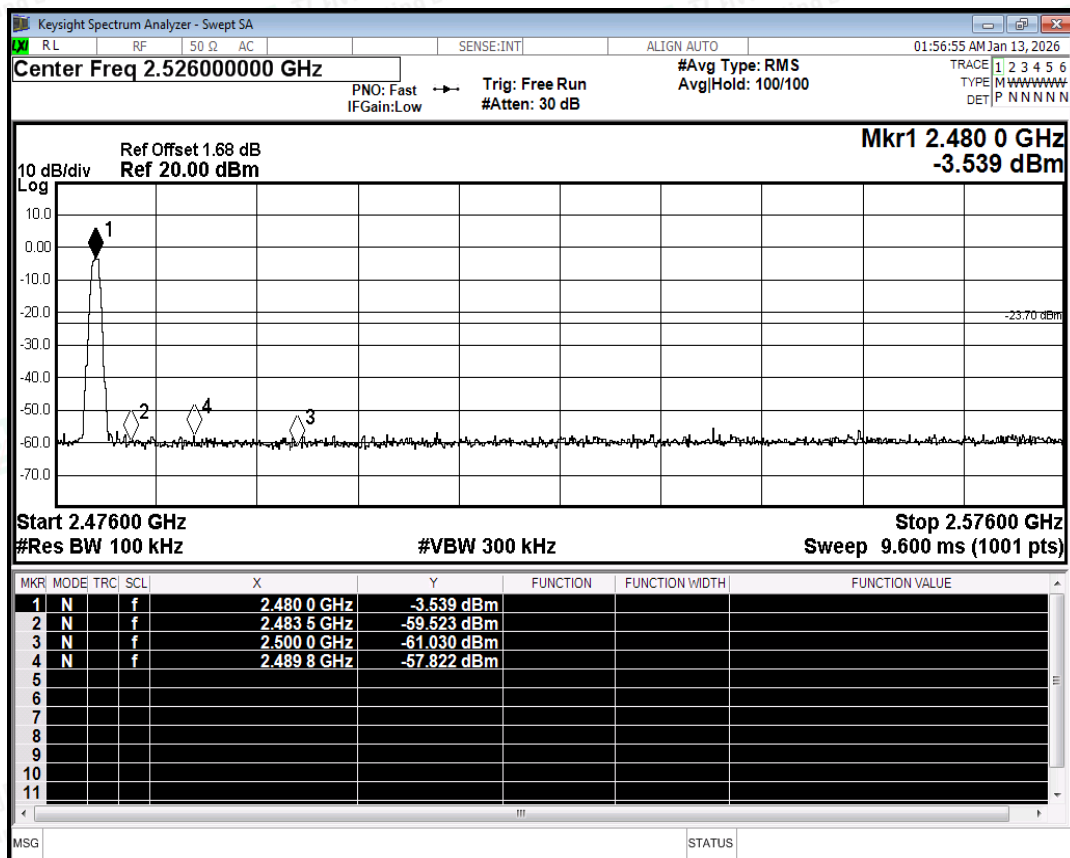
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission

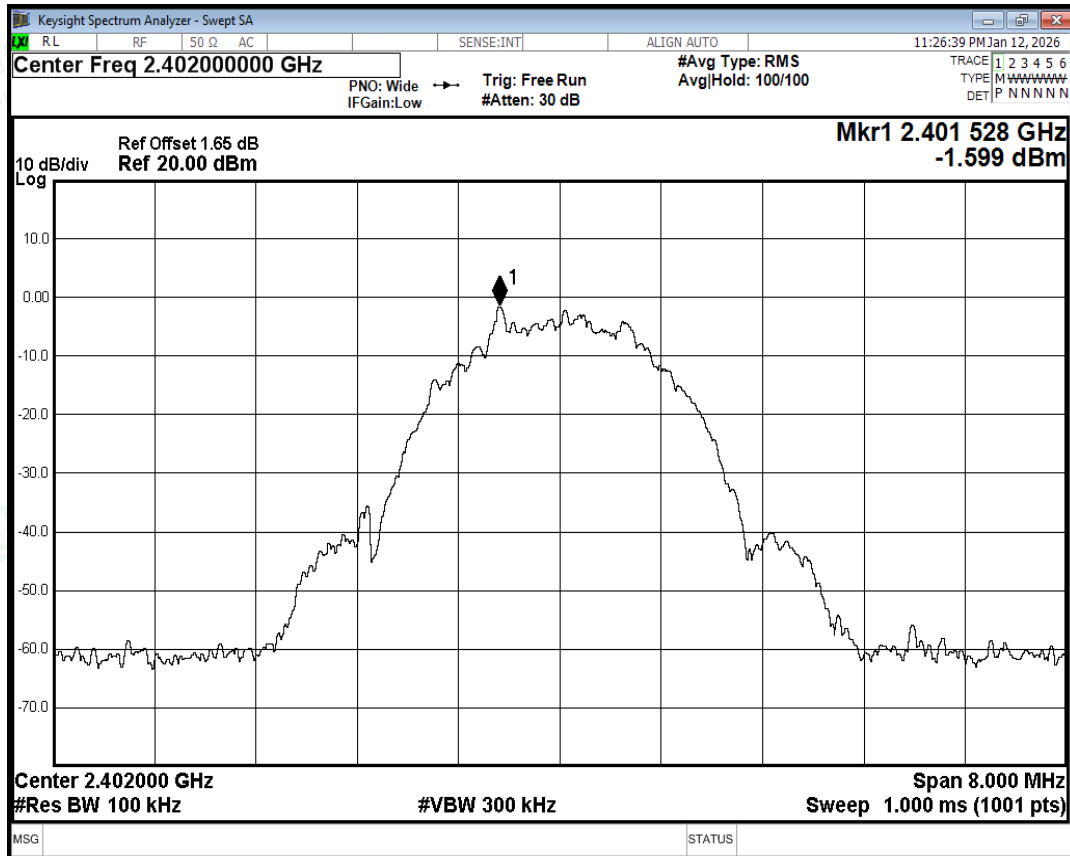


Shenzhen LCS Compliance Testing Laboratory Ltd.

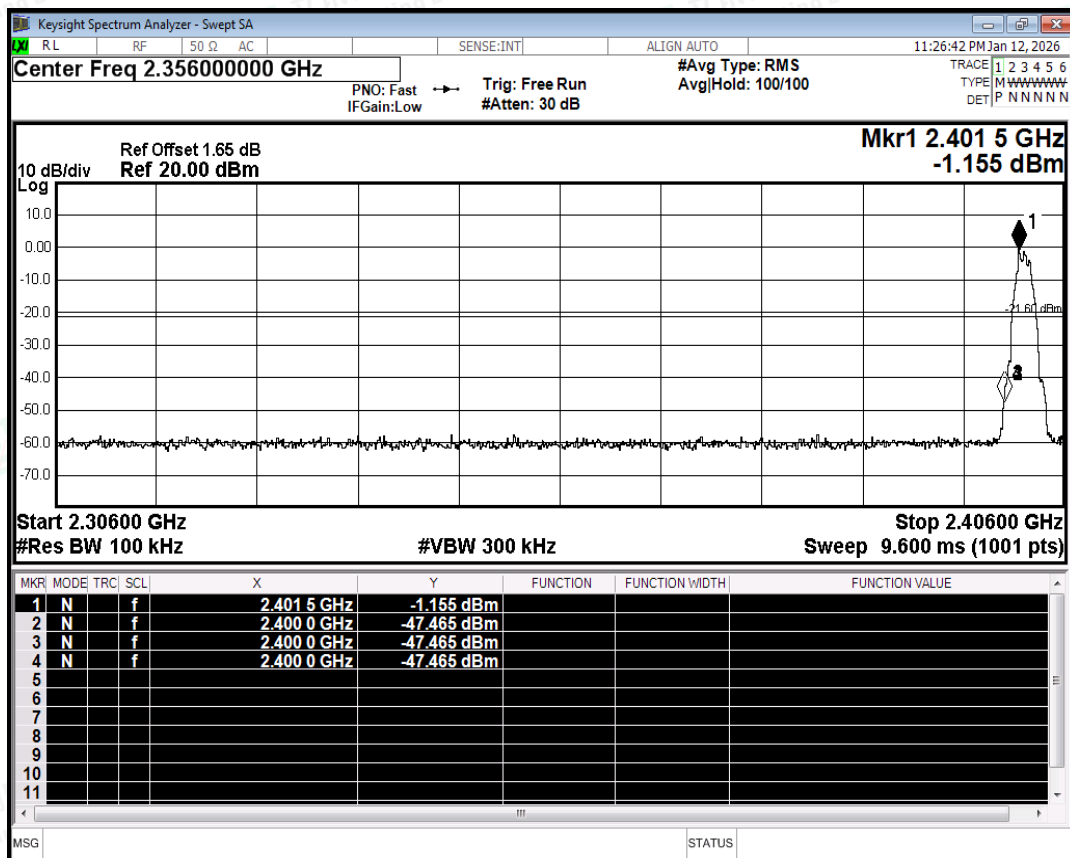
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Band Edge NVNT BLE 2M 2402MHz Ant1 Ref



Band Edge NVNT BLE 2M 2402MHz Ant1 Emission

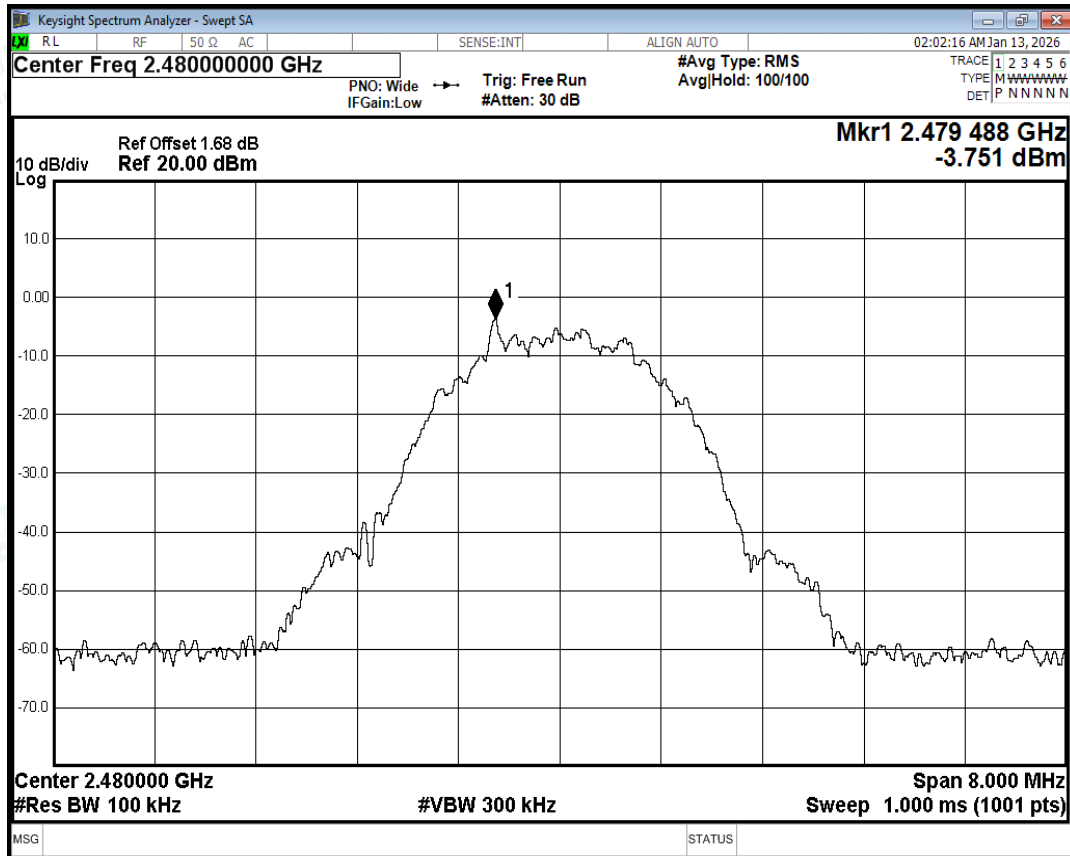


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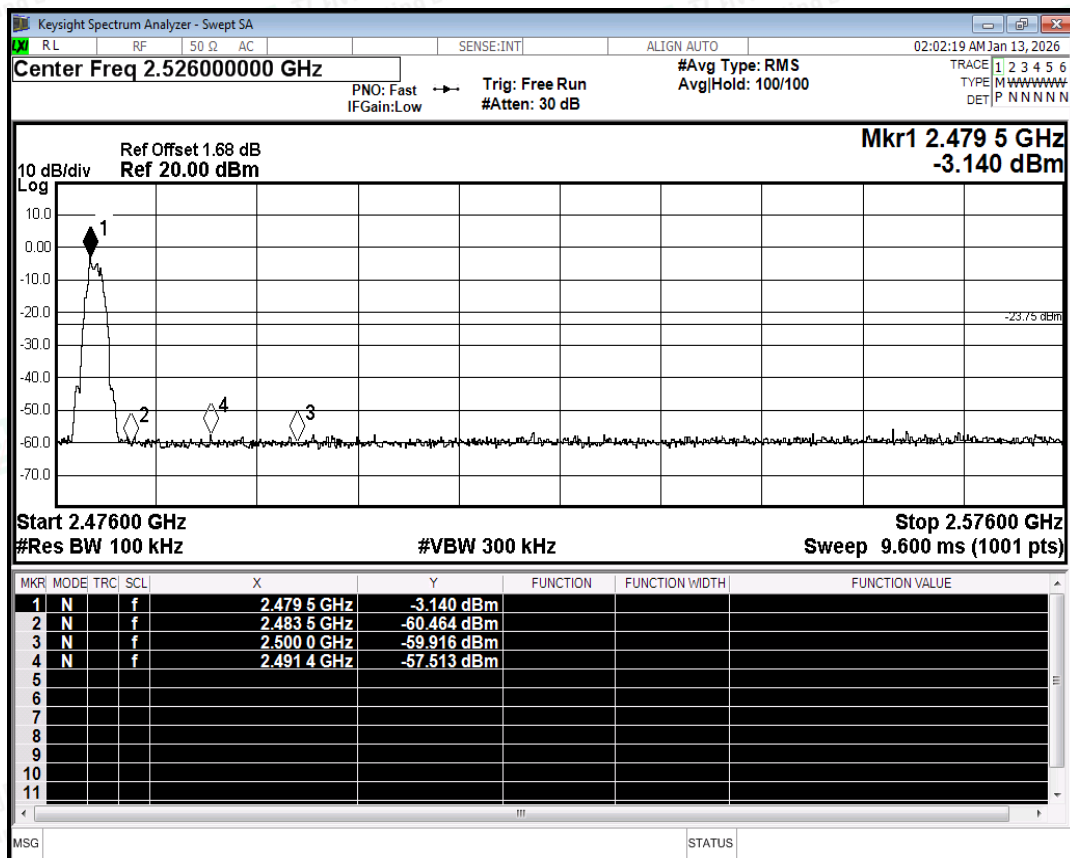
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Band Edge NVNT BLE 2M 2480MHz Ant1 Emission



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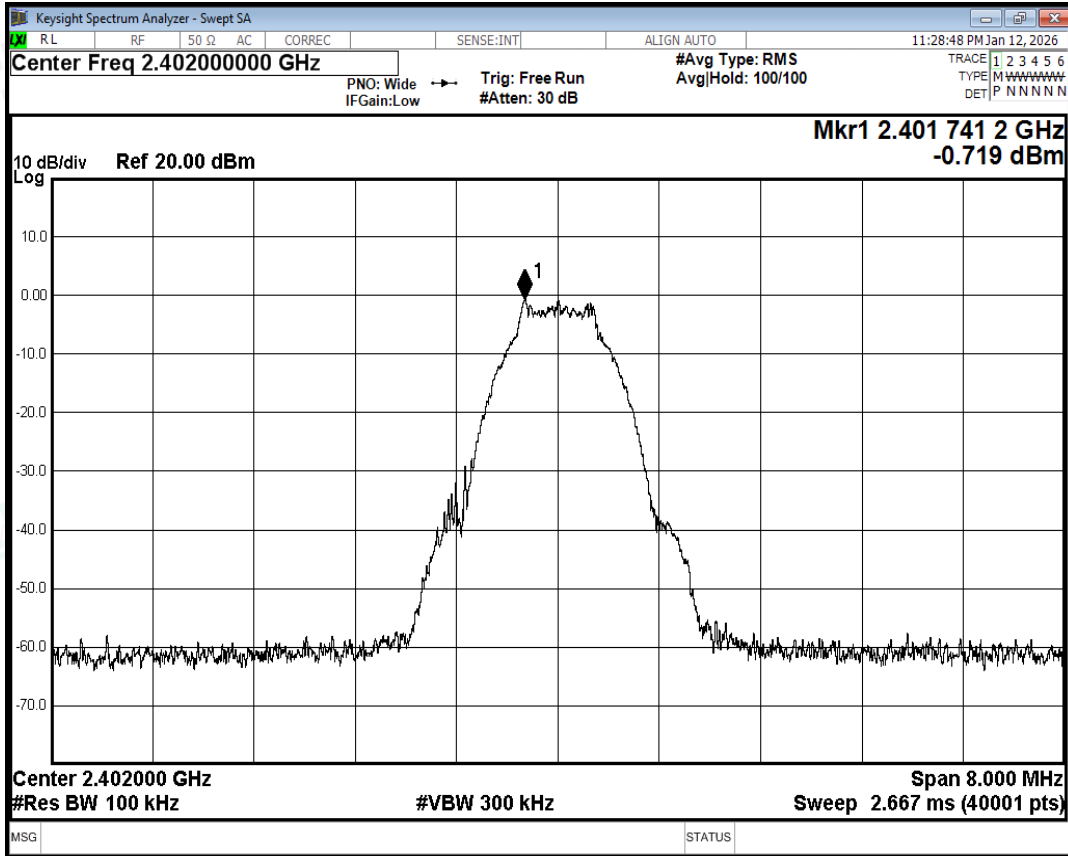
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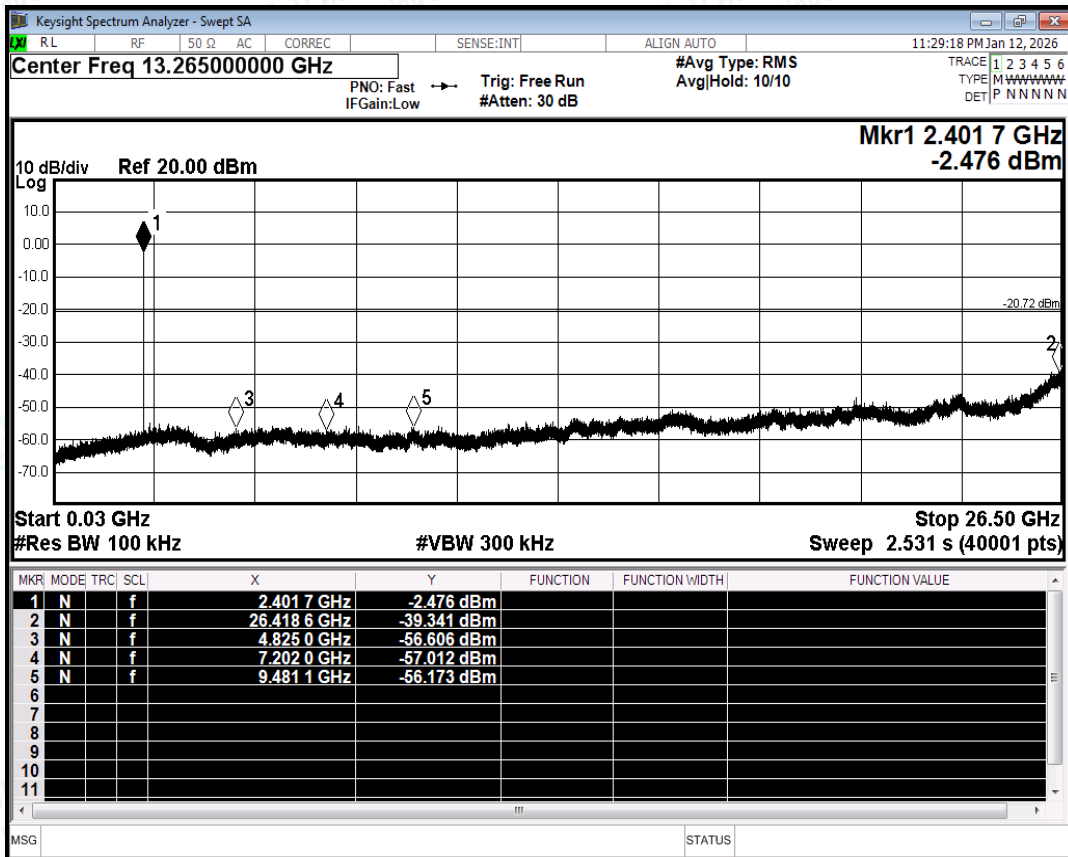
B.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-38.62	-20	Pass
NVNT	BLE 1M	2440	Ant1	-37.16	-20	Pass
NVNT	BLE 1M	2480	Ant1	-34.91	-20	Pass
NVNT	BLE 2M	2402	Ant1	-46.96	-20	Pass
NVNT	BLE 2M	2440	Ant1	-44.24	-20	Pass
NVNT	BLE 2M	2480	Ant1	-44.01	-20	Pass





Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission

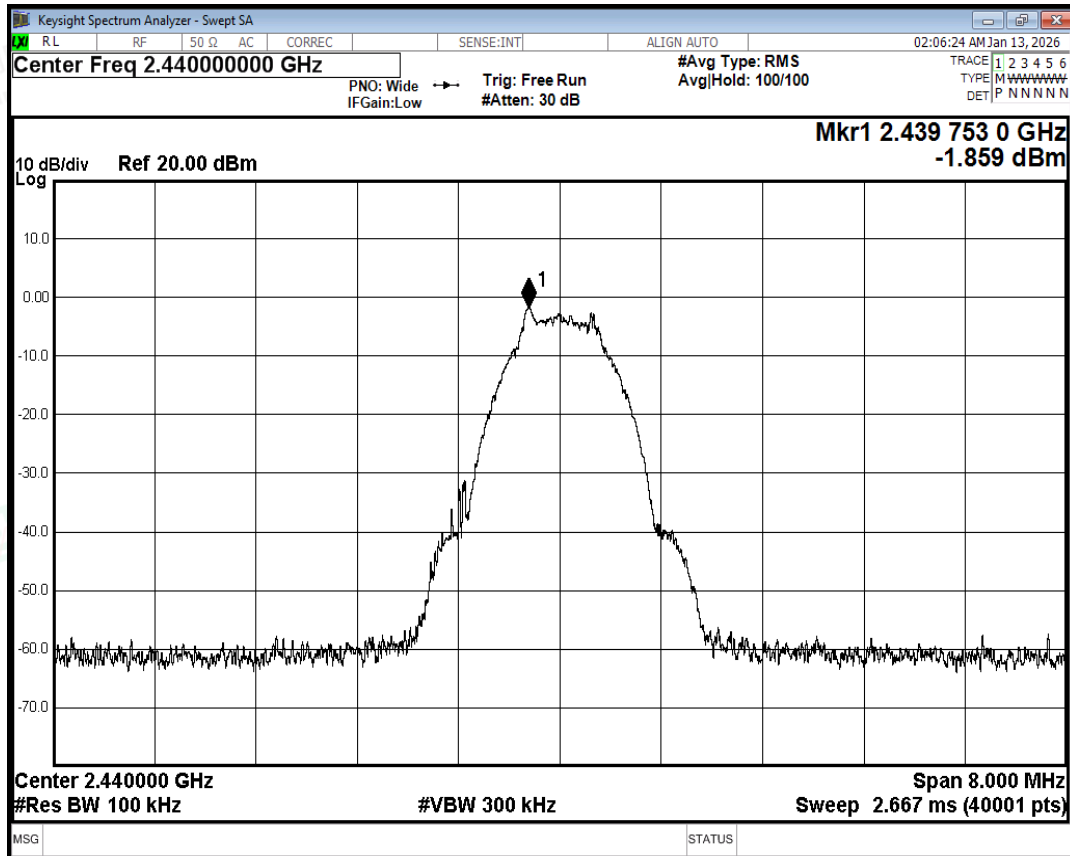


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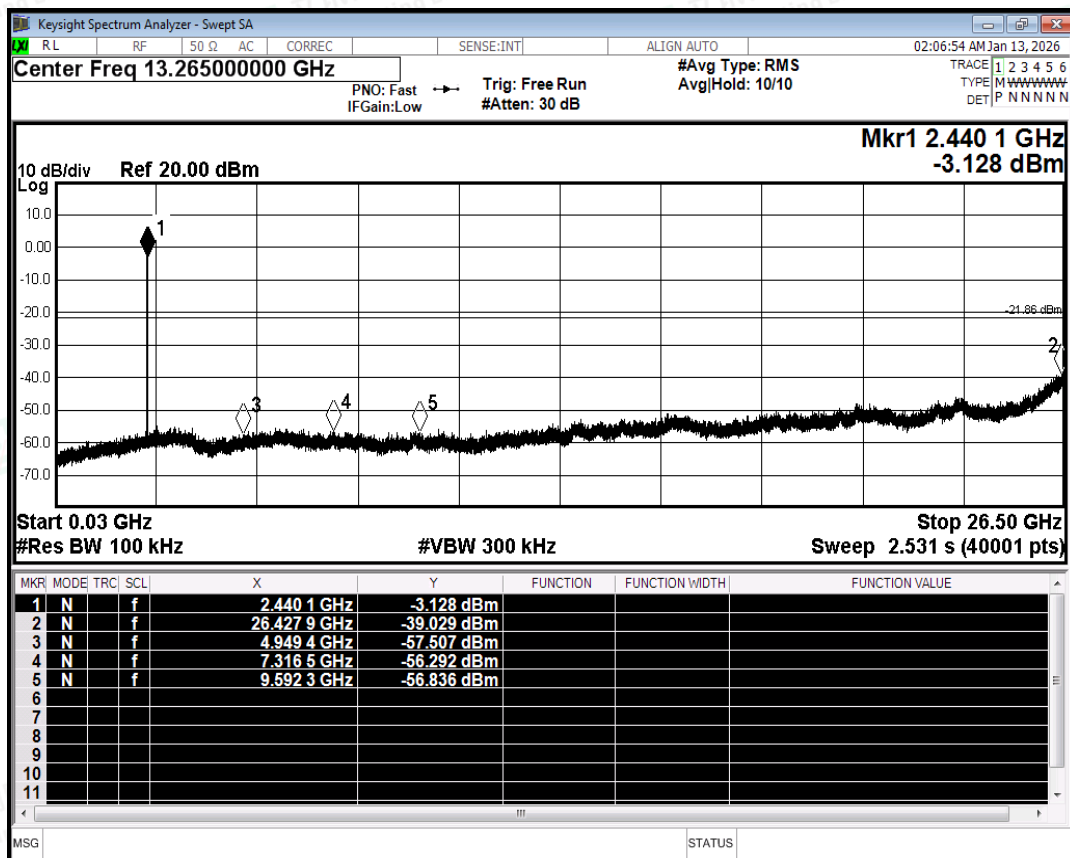
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Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission

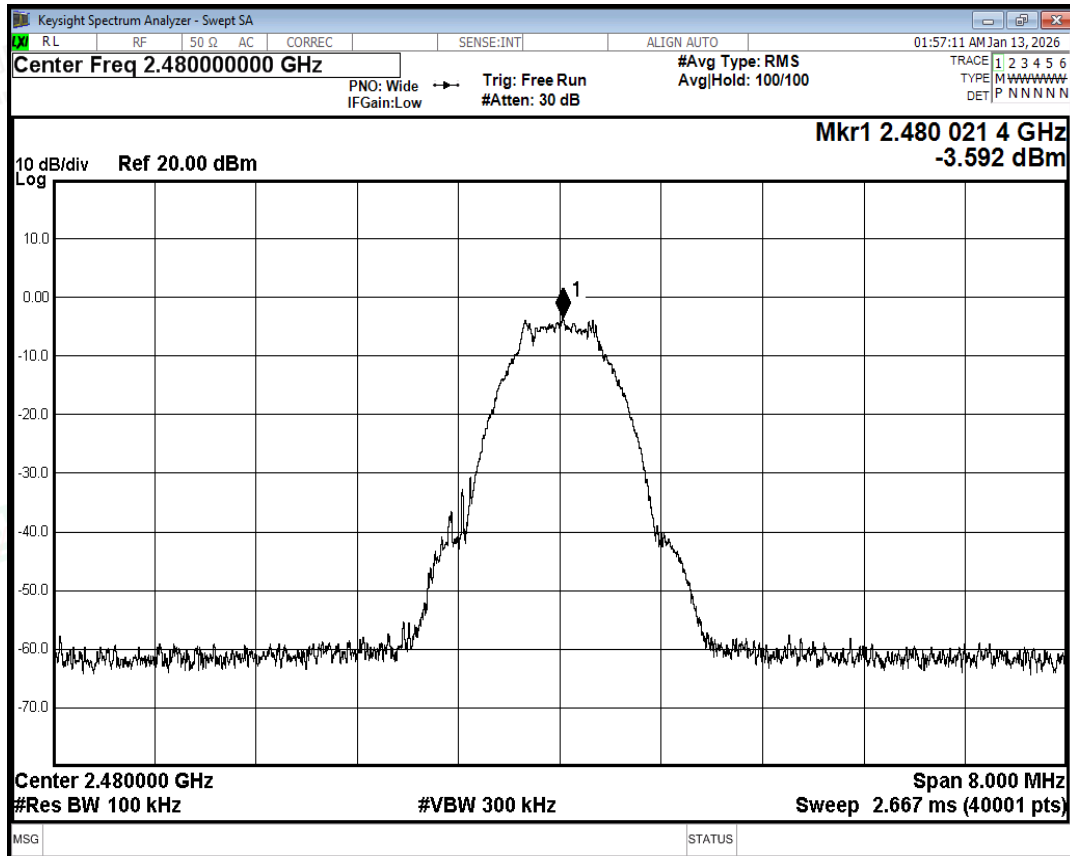


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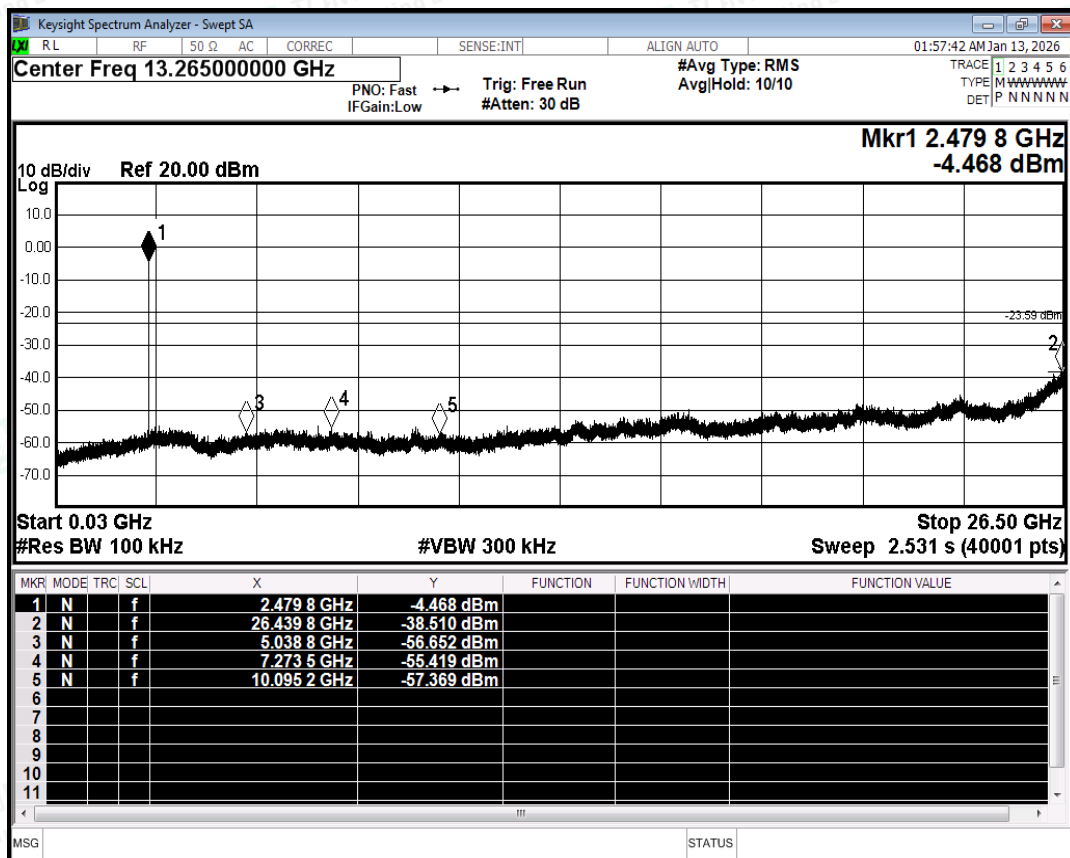
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission

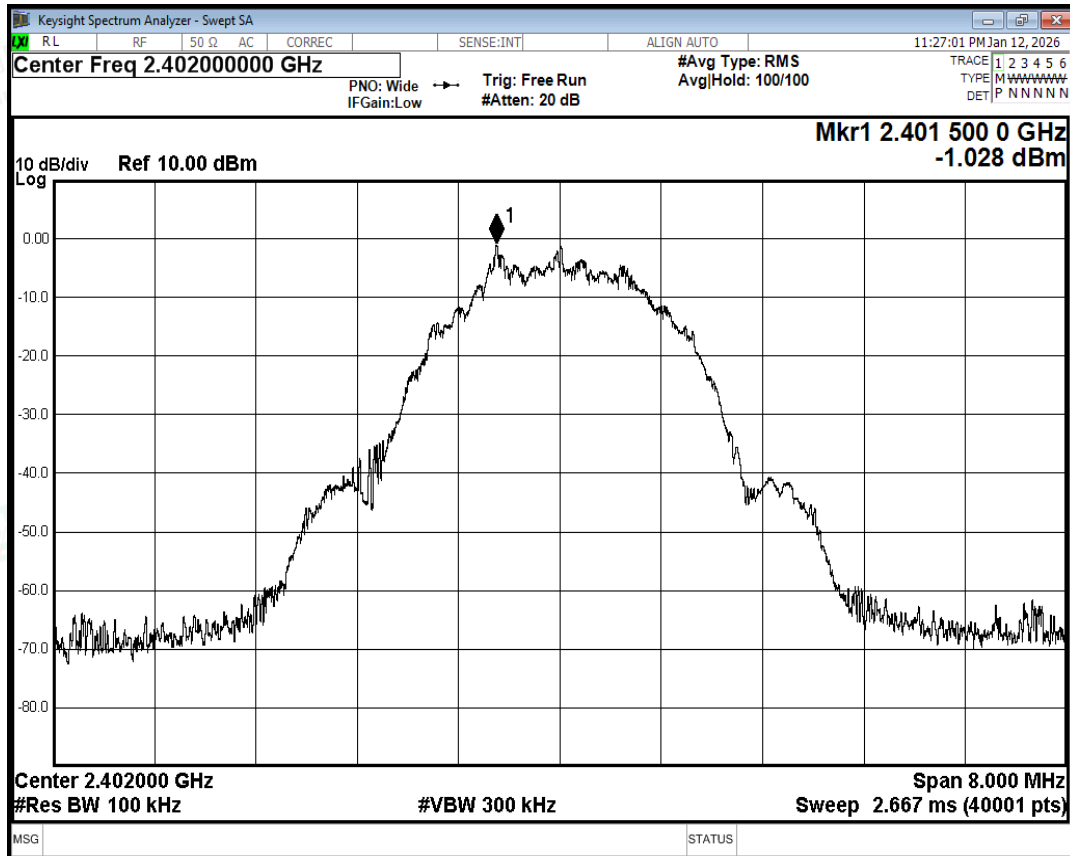


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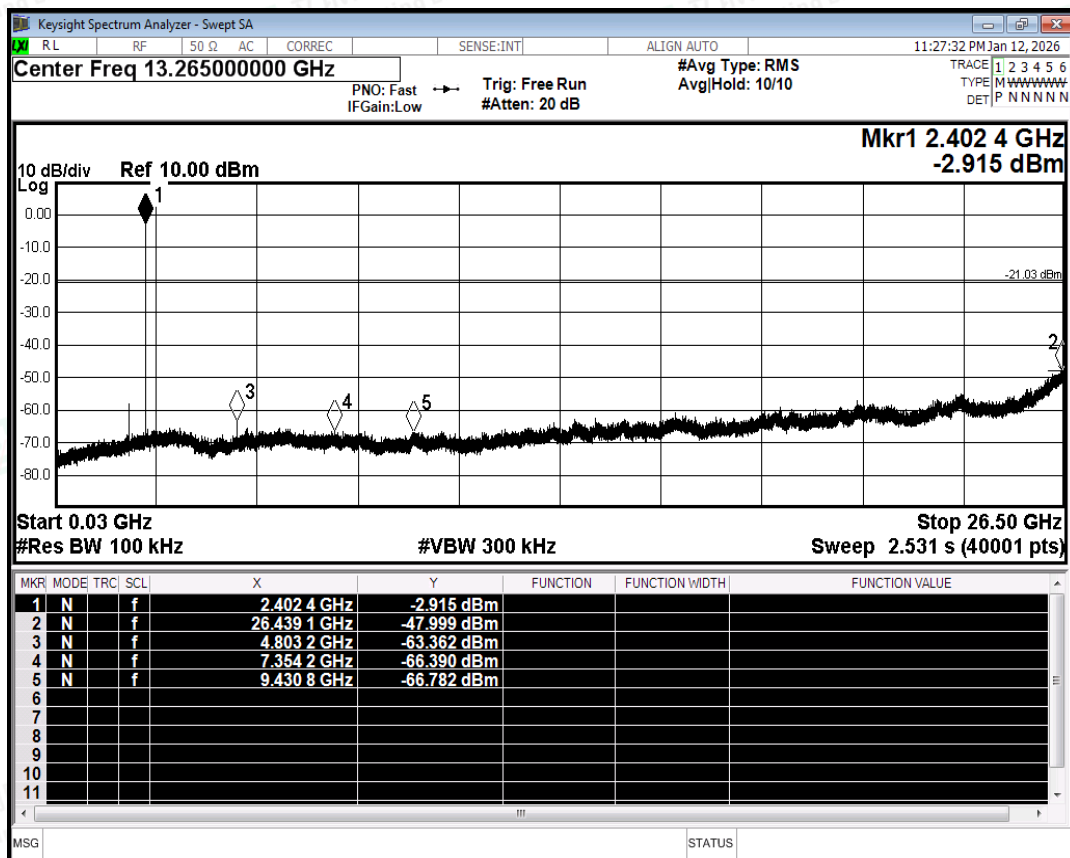
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Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission

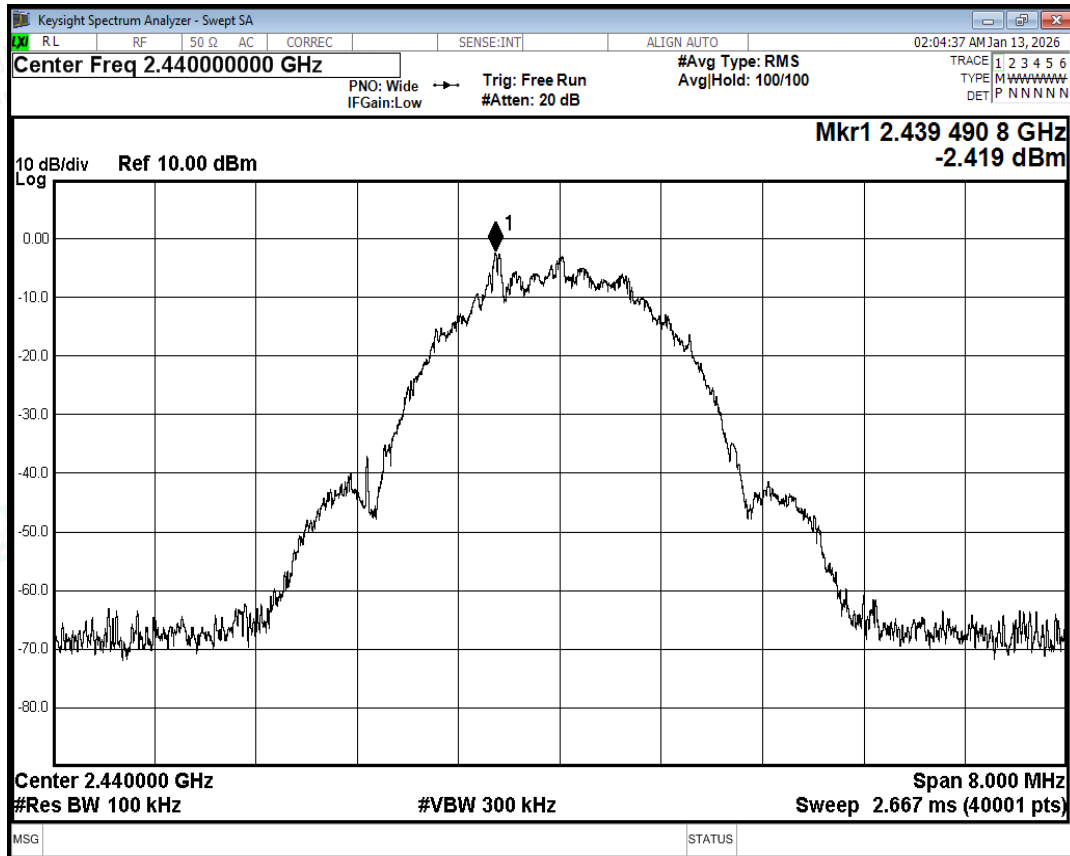


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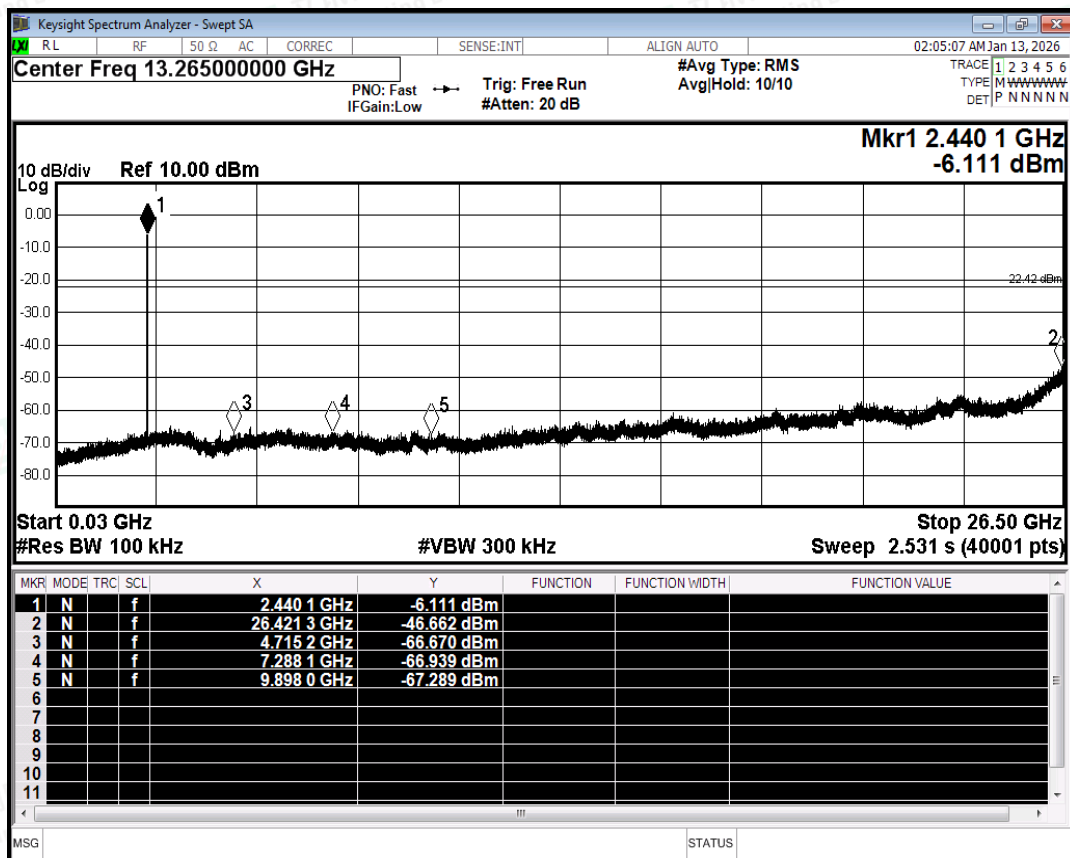
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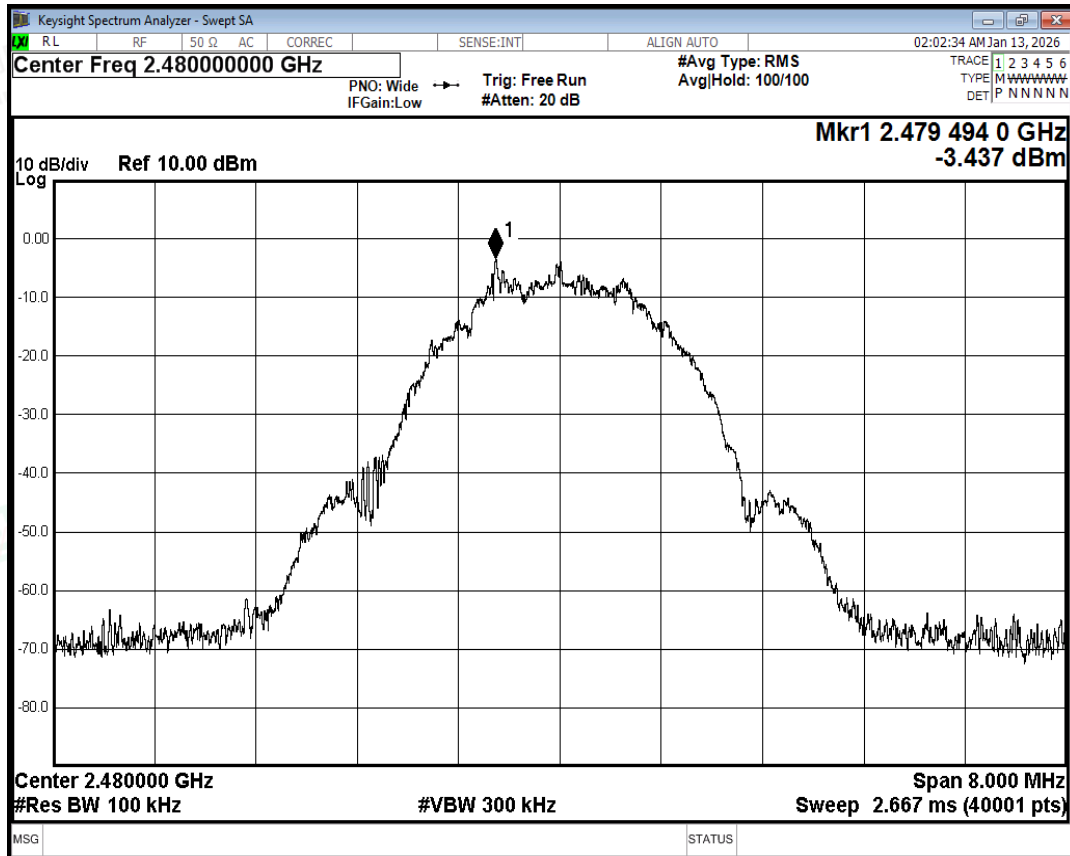


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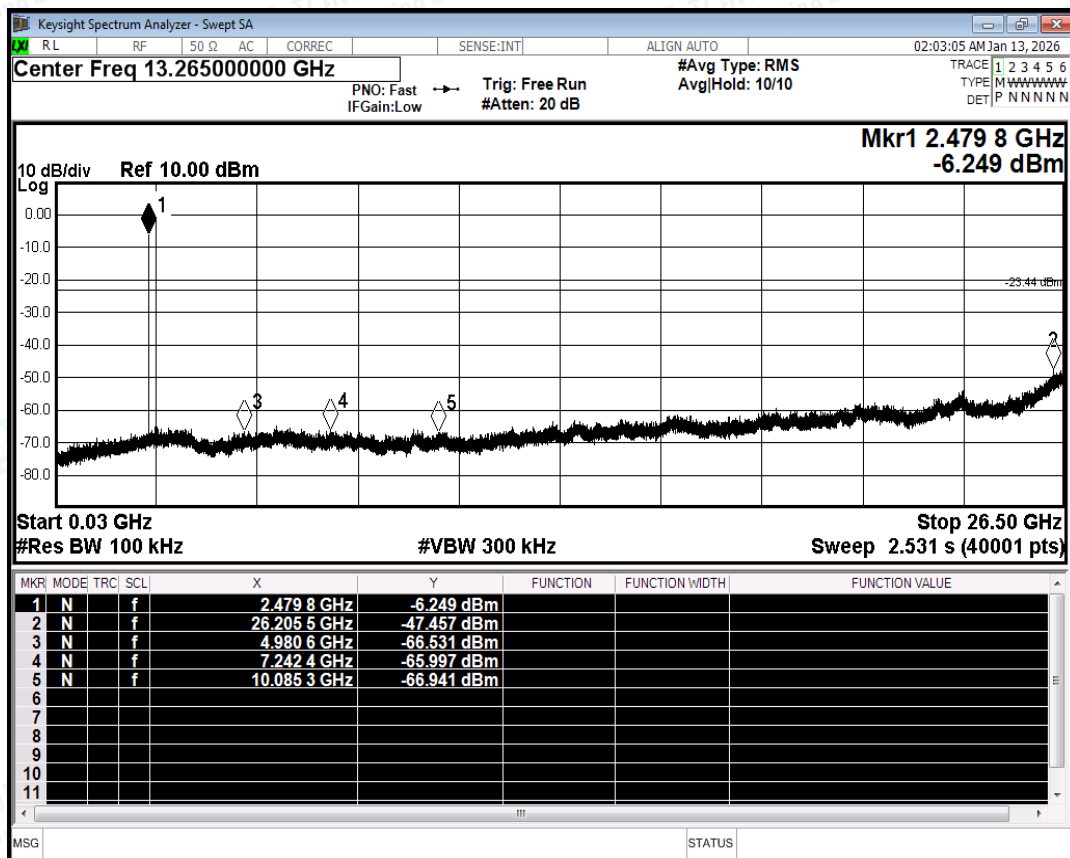
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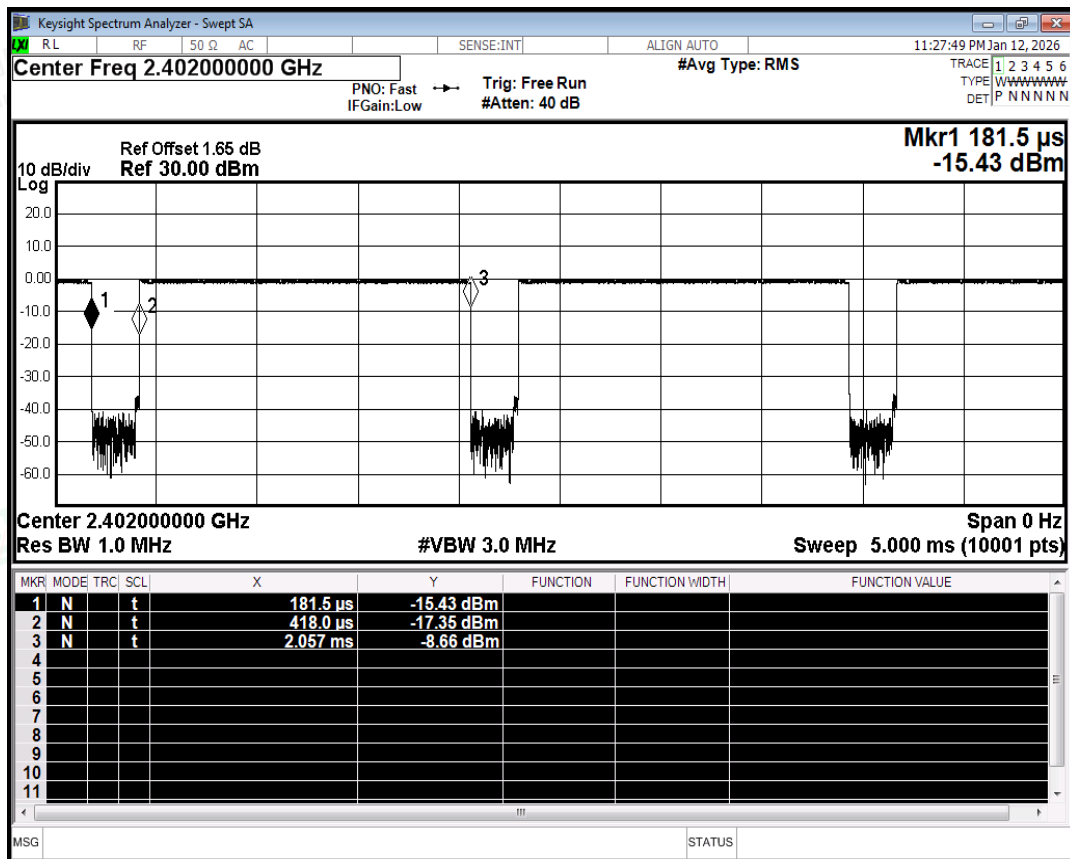
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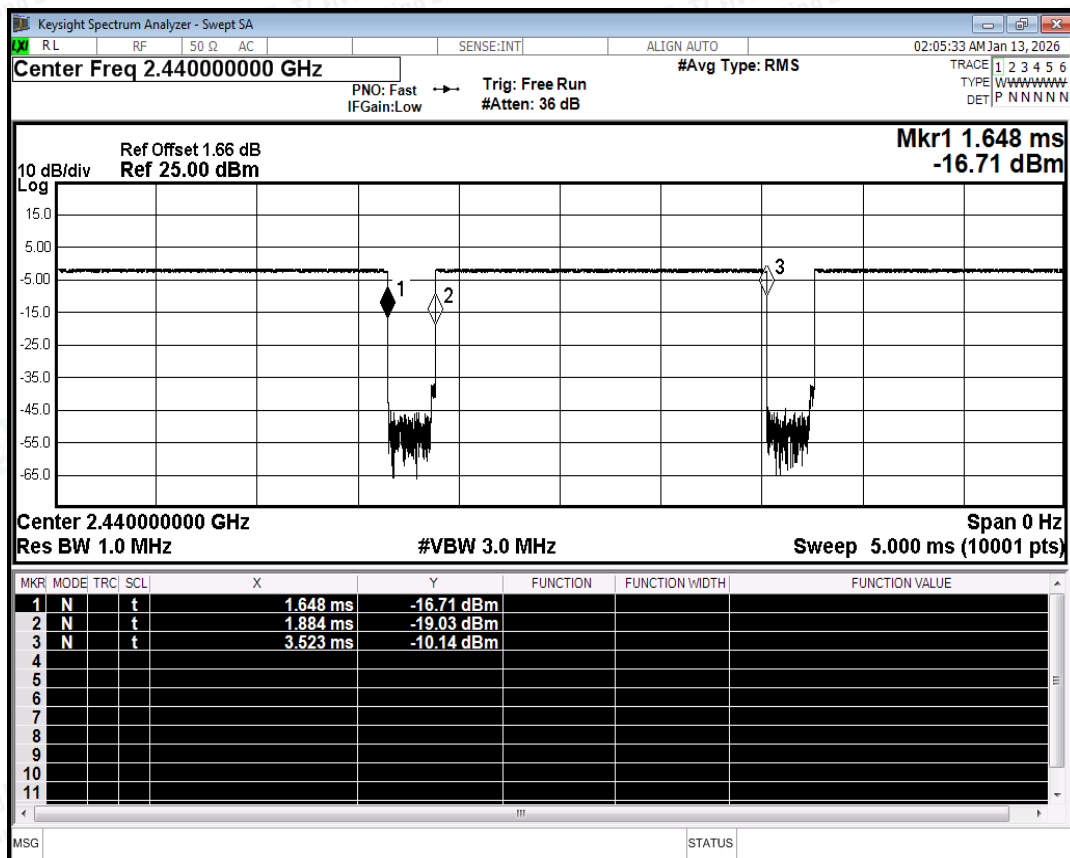
B.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	87.39	0.59	0.61
NVNT	BLE 1M	2440	Ant1	87.39	0.59	0.61
NVNT	BLE 1M	2480	Ant1	87.39	0.59	0.61
NVNT	BLE 2M	2402	Ant1	65.96	1.81	1.21
NVNT	BLE 2M	2440	Ant1	65.96	1.81	1.21
NVNT	BLE 2M	2480	Ant1	65.96	1.81	1.21





Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

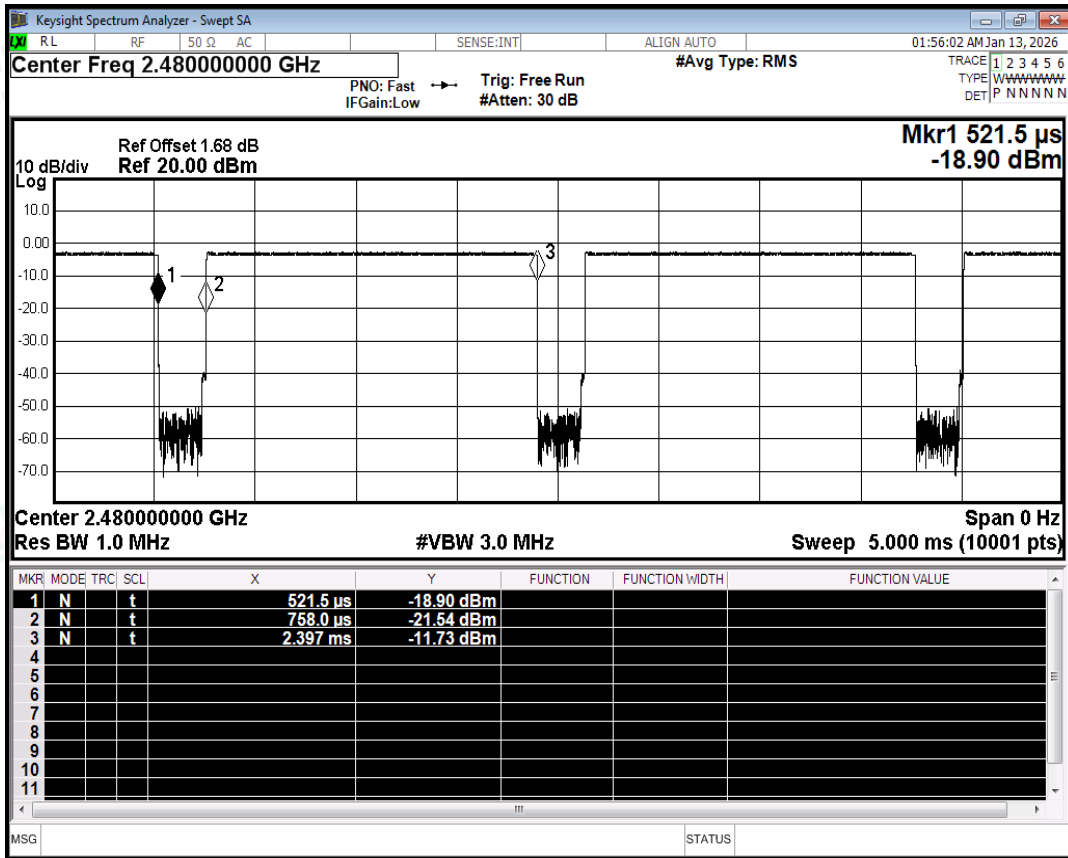


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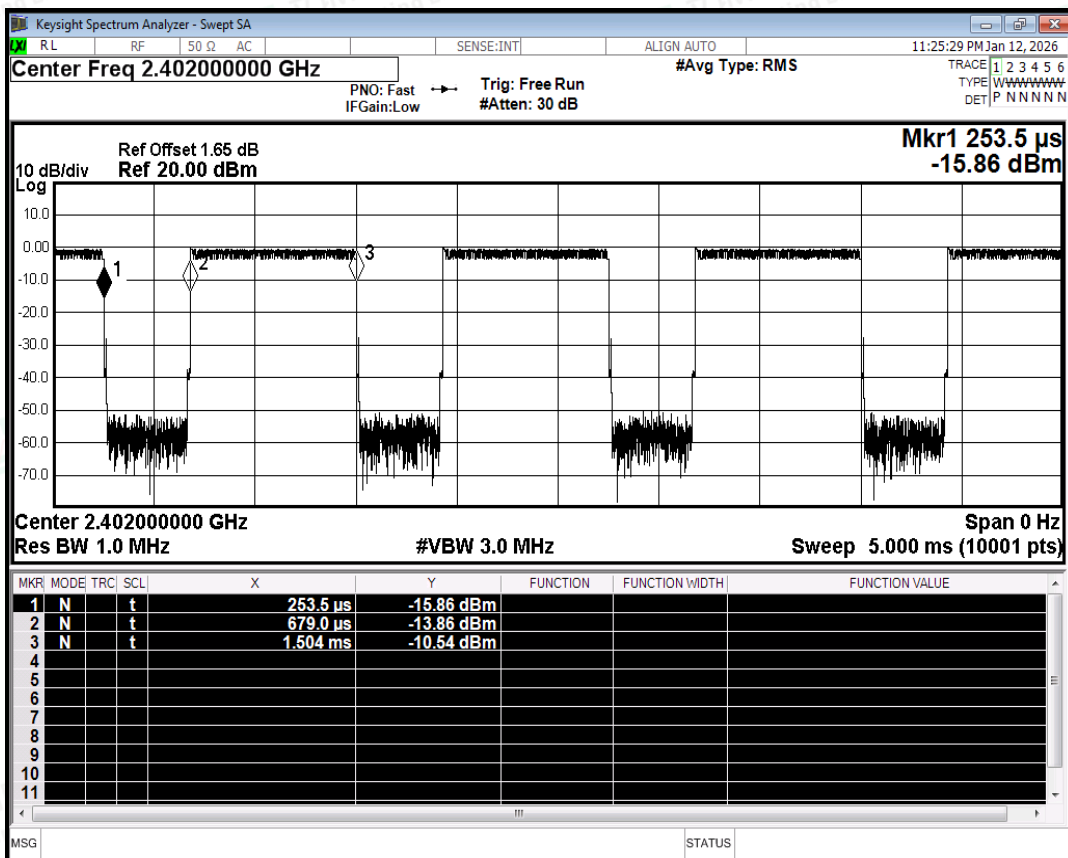
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Duty Cycle NVNT BLE 1M 2480MHz Ant1



Duty Cycle NVNT BLE 2M 2402MHz Ant1

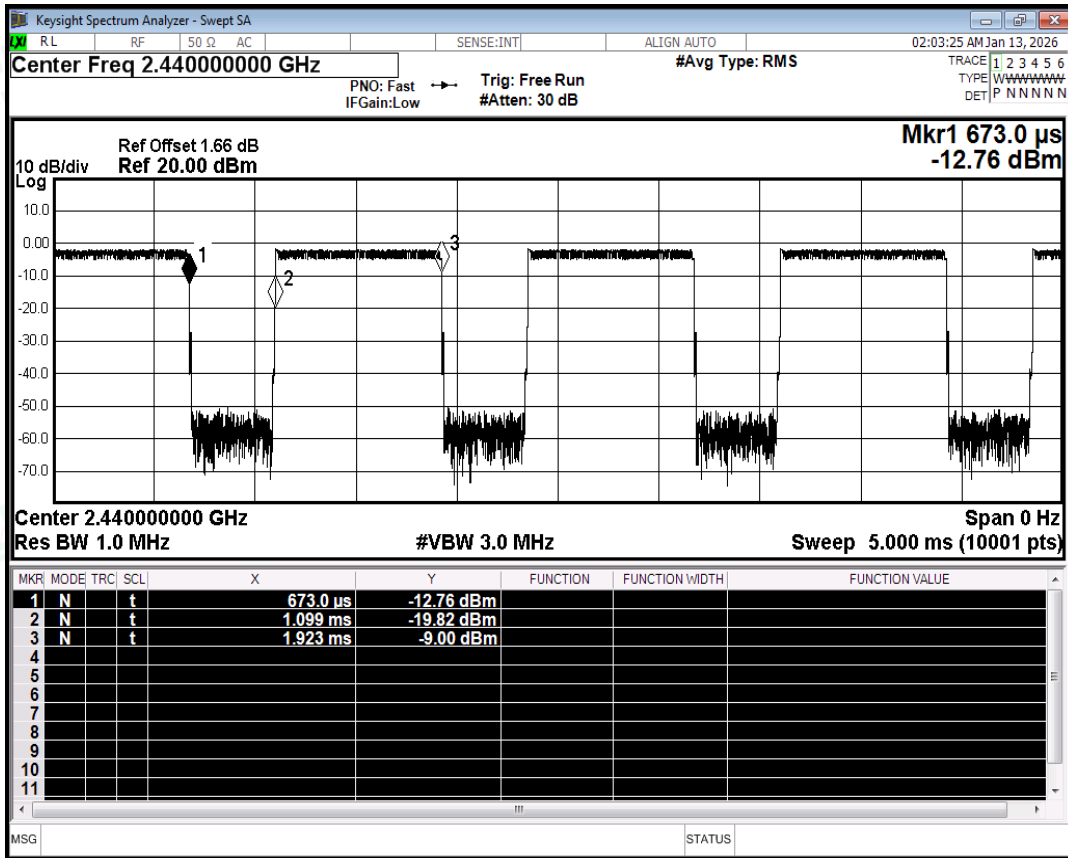


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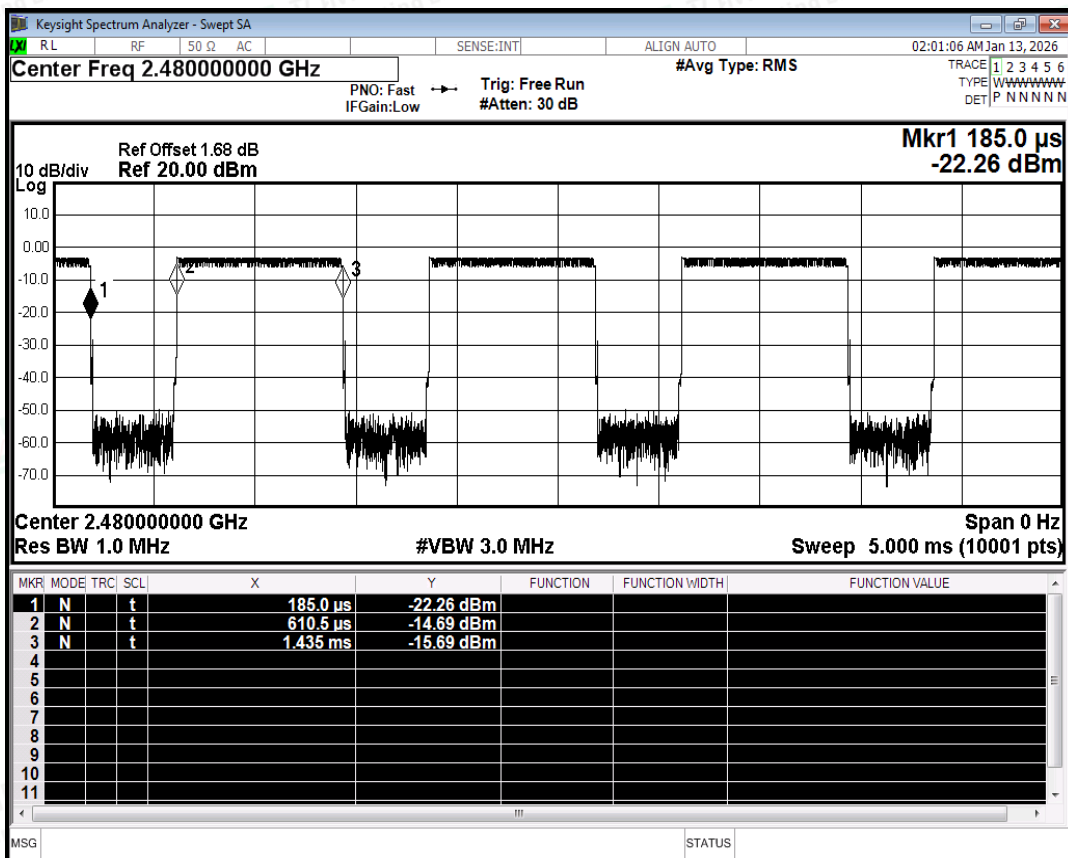
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Duty Cycle NVNT BLE 2M 2440MHz Ant1



Duty Cycle NVNT BLE 2M 2480MHz Ant1



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B.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant1	2310	-52.05	2	45.21	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-57.99	2	39.27	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2341.104	-47.81	2	49.45	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2322.096	-57.71	2	39.55	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-51.27	2	45.99	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-58.05	2	39.21	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-48.5	2	48.76	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-56.45	2	40.81	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2486.008	-45.95	2	51.31	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.512	-56.45	2	40.81	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-52	2	45.26	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-57.92	2	39.34	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2310	-49.94	2	47.32	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2310	-57.77	2	39.49	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2347.824	-48.11	2	49.15	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2312.112	-57.44	2	39.82	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2390	-51	2	46.26	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2390	-57.88	2	39.38	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-49.01	2	48.25	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-54.38	2	42.88	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2485.768	-45.9	2	51.36	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2483.512	-54.38	2	42.88	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2500	-50.18	2	47.08	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2500	-57.73	2	39.53	Average	54	Pass

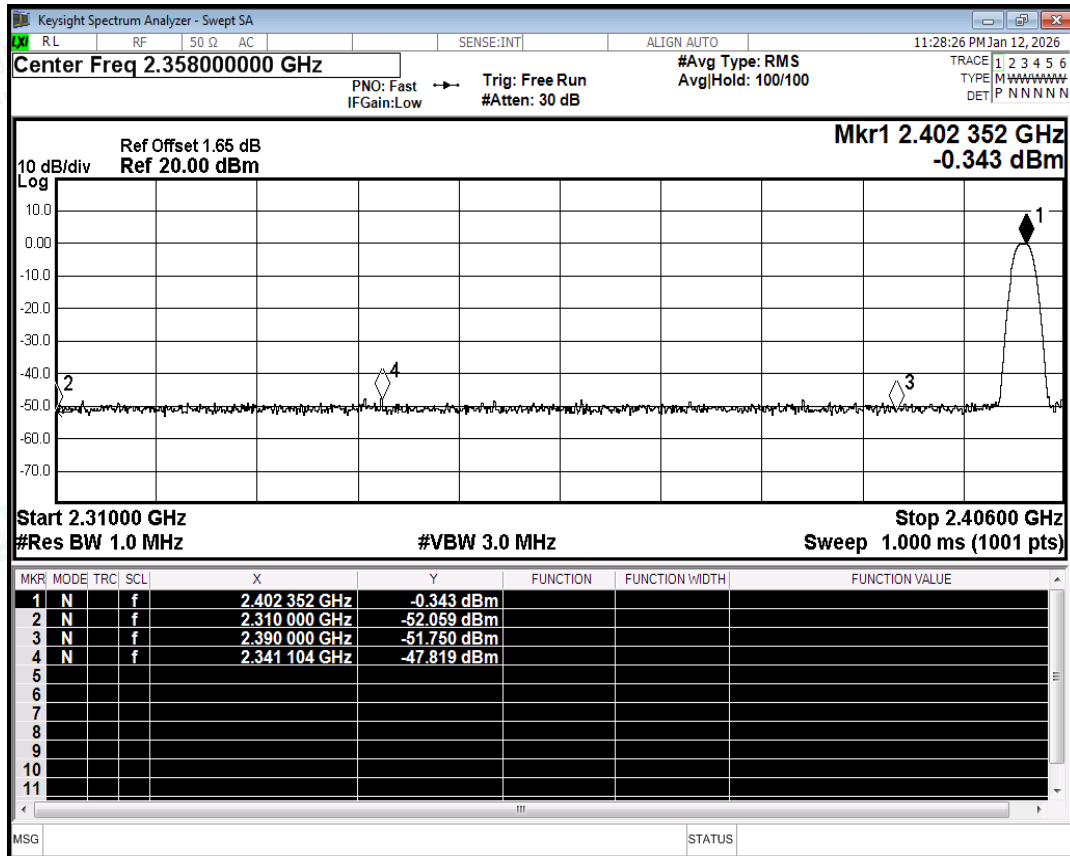


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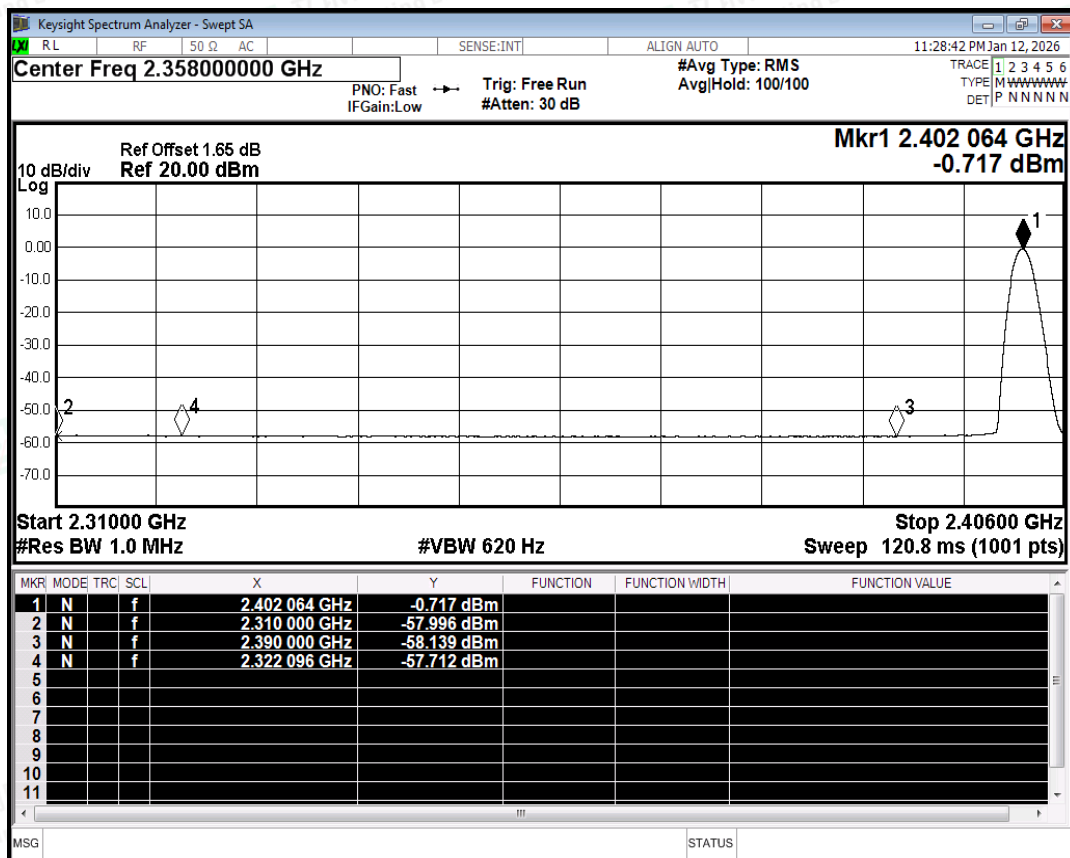
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average

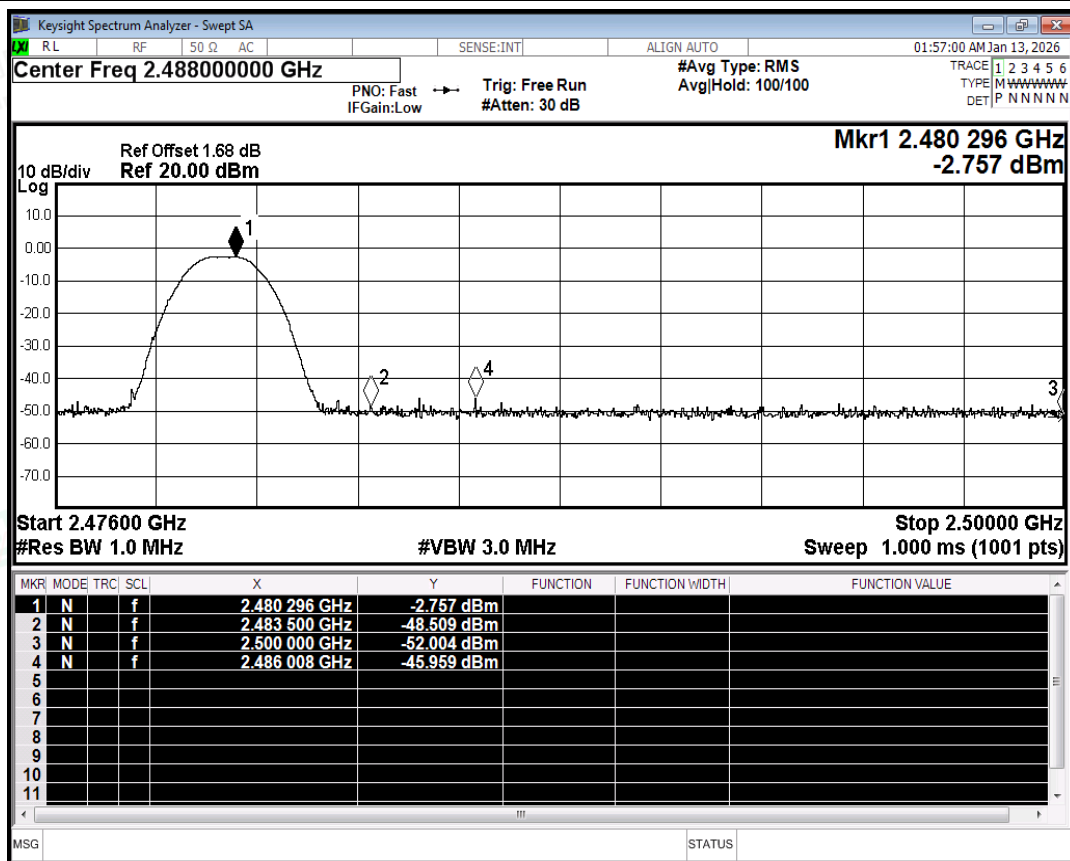


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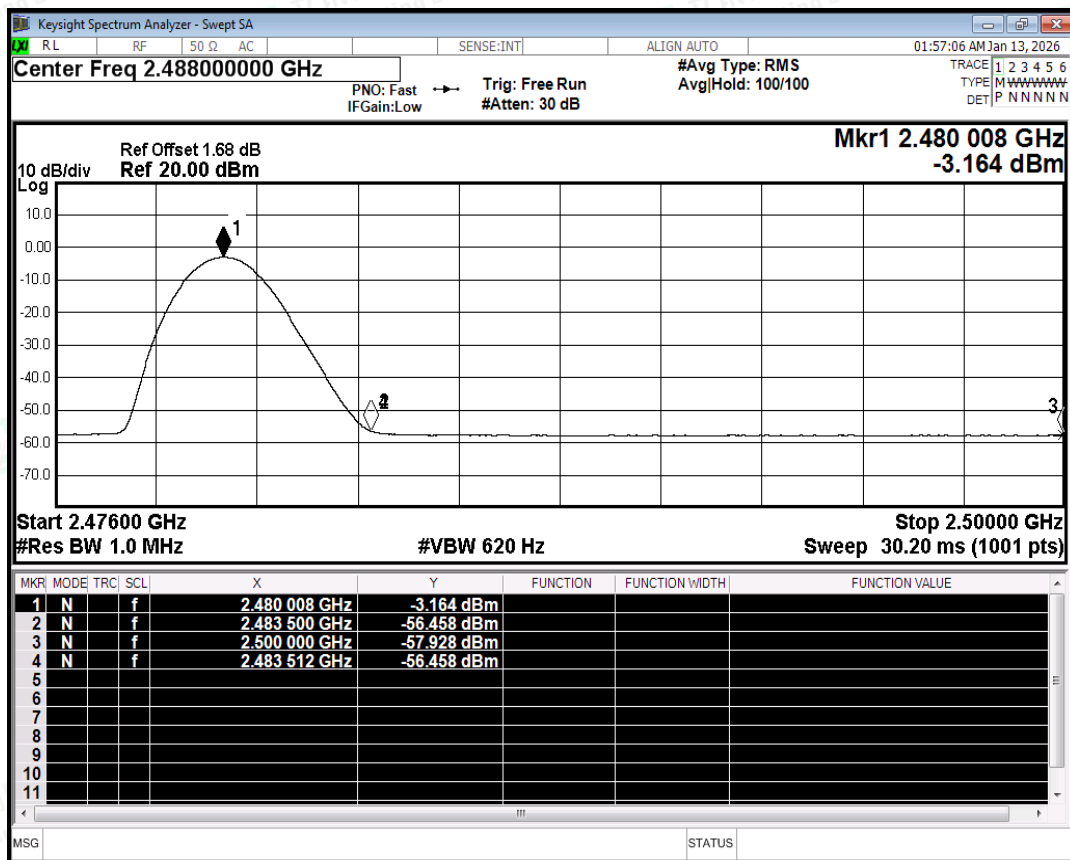
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average

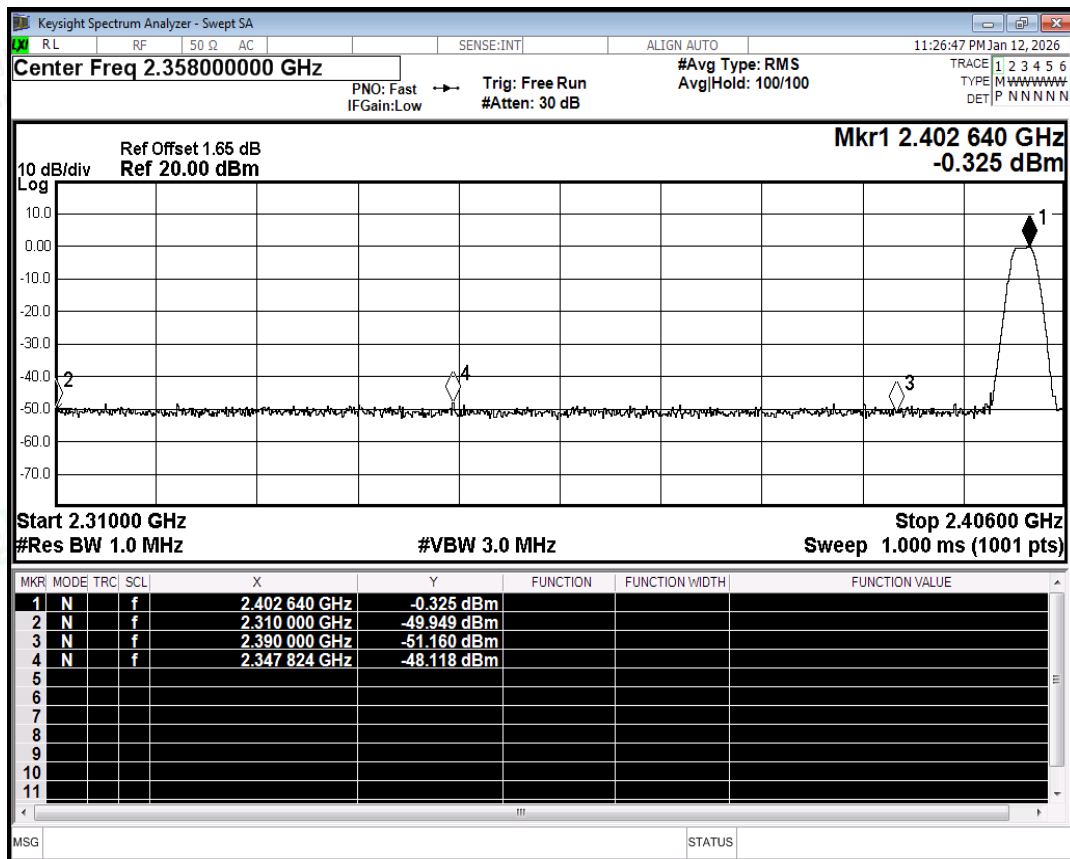


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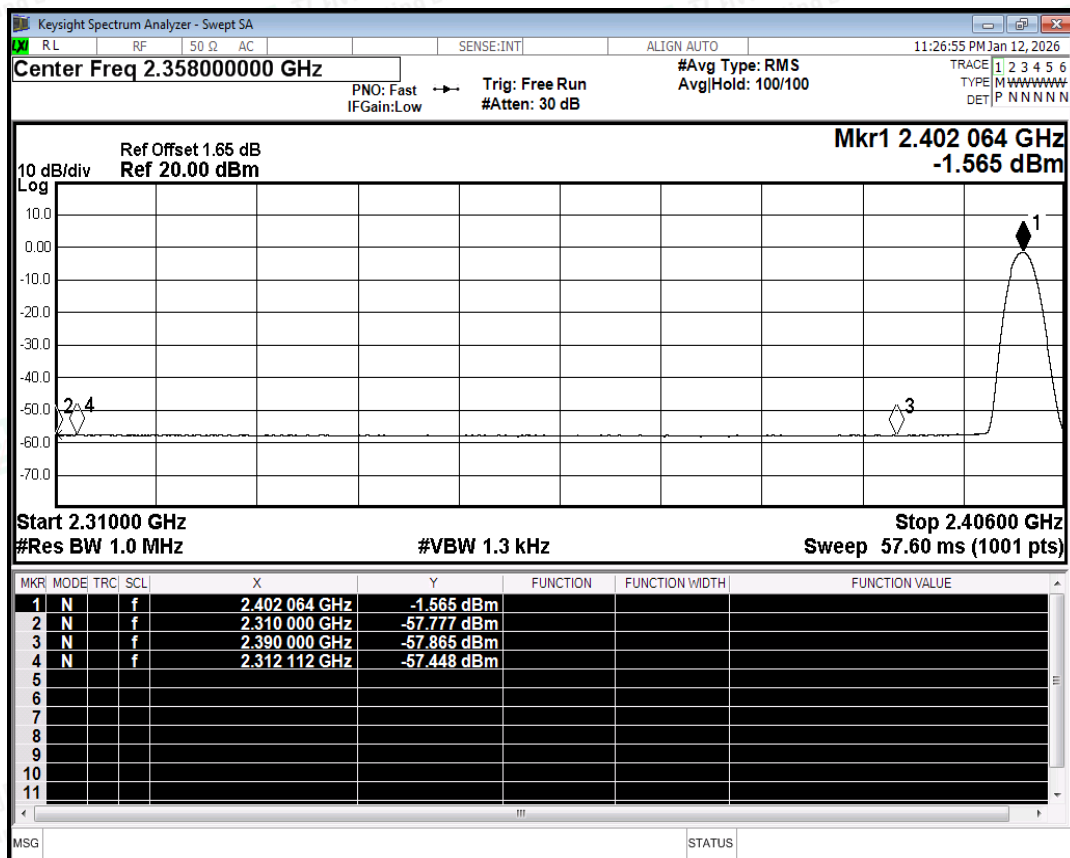
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Restrict Band NVNT BLE 2M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2402MHz Ant1 Average

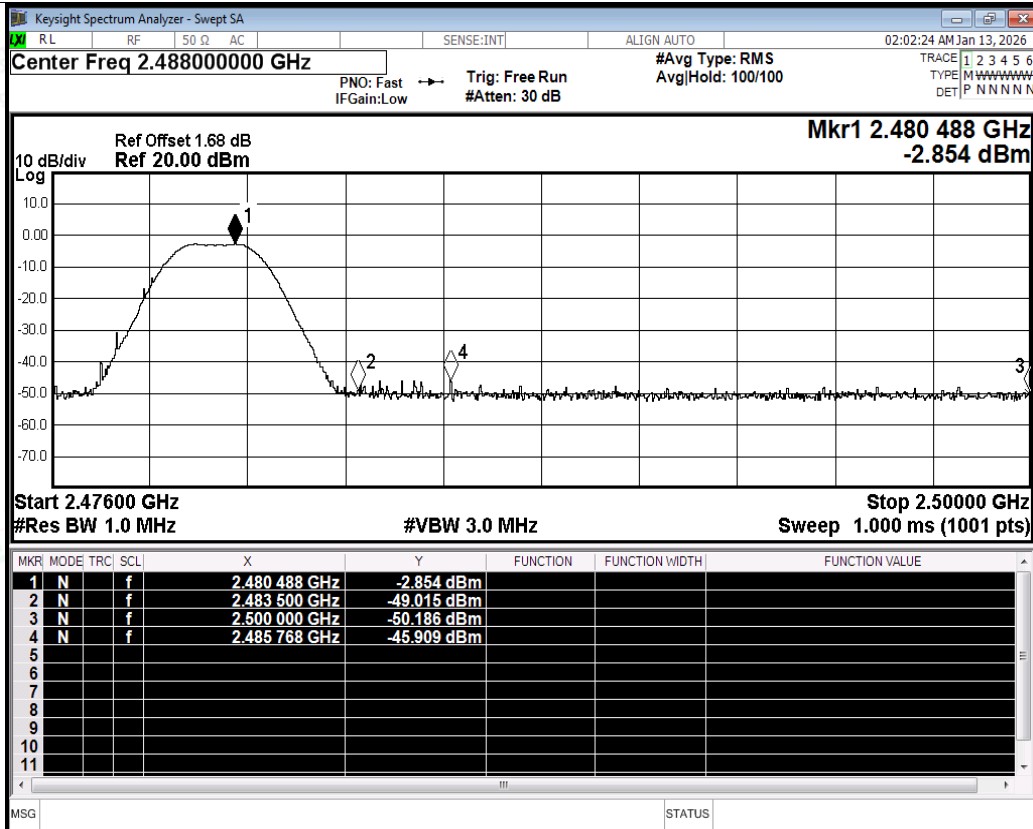


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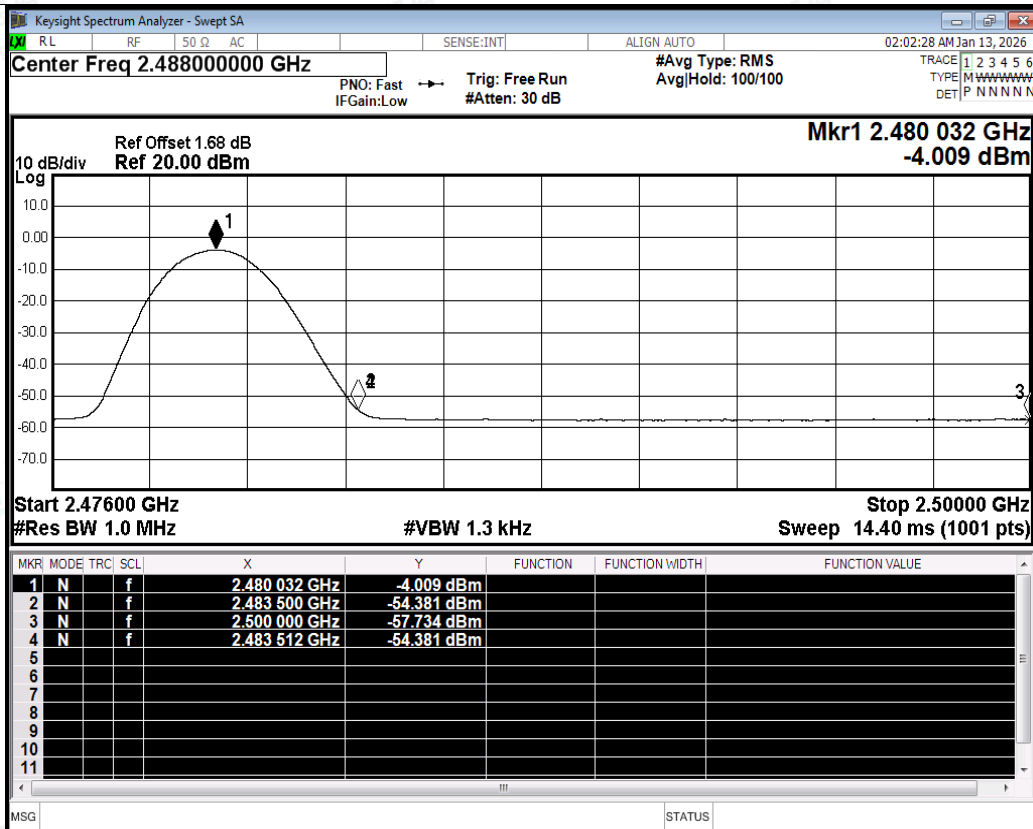
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Restrict Band NVNT BLE 2M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2480MHz Ant1 Average



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