



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Hiking Energy Saver

Test Model: Dnsys BOOSTSUIT Z1

Environmental Conditions

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



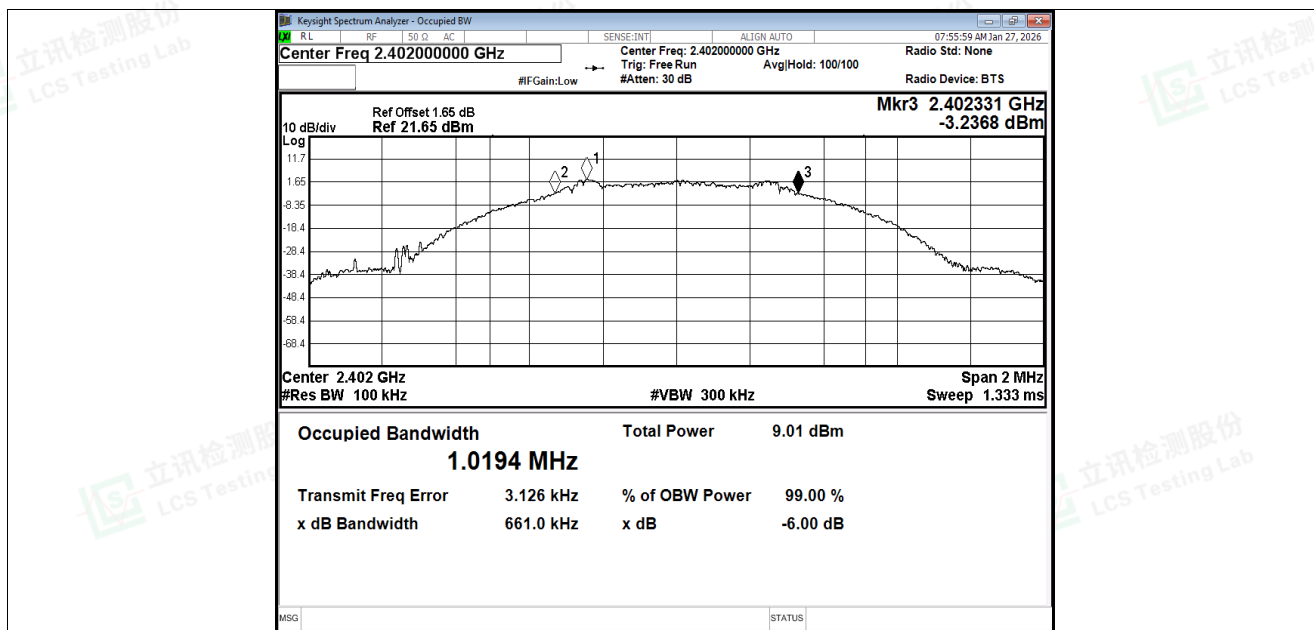
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518000, China
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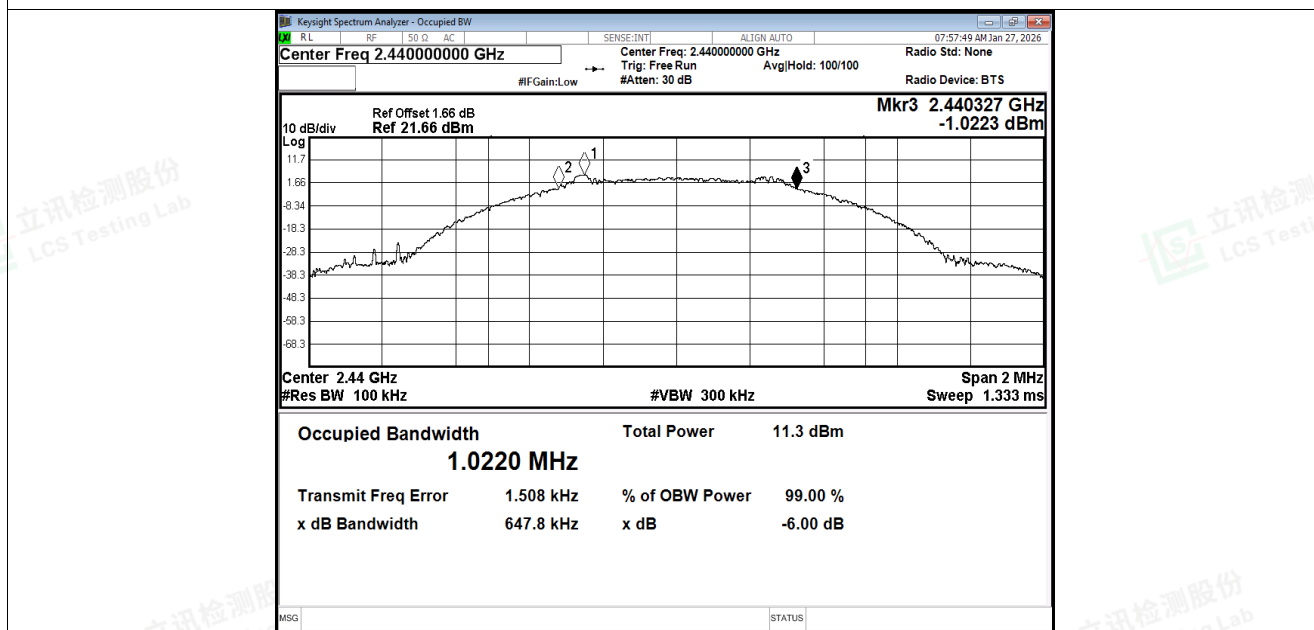
A.1 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.661	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.6478	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.6583	0.5	Pass
NVNT	BLE 2M	2402	Ant1	1.159	0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.118	0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.123	0.5	Pass





-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

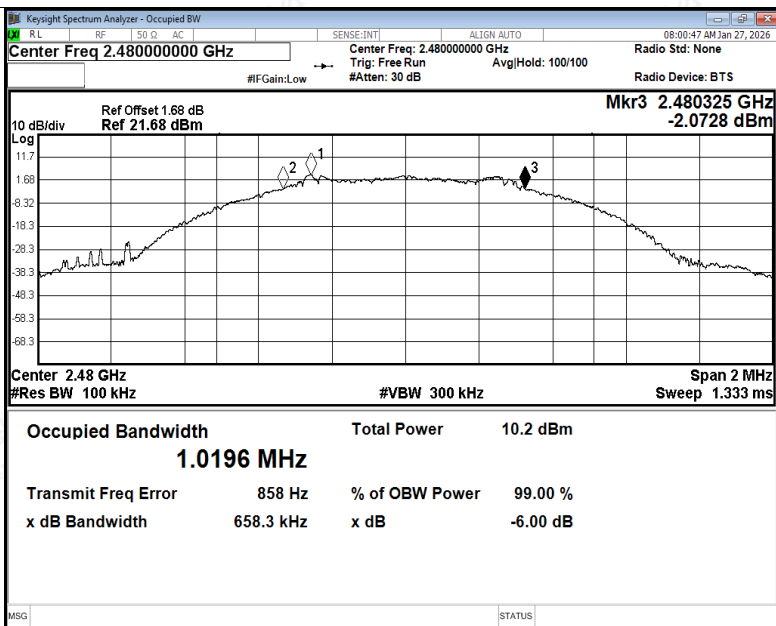


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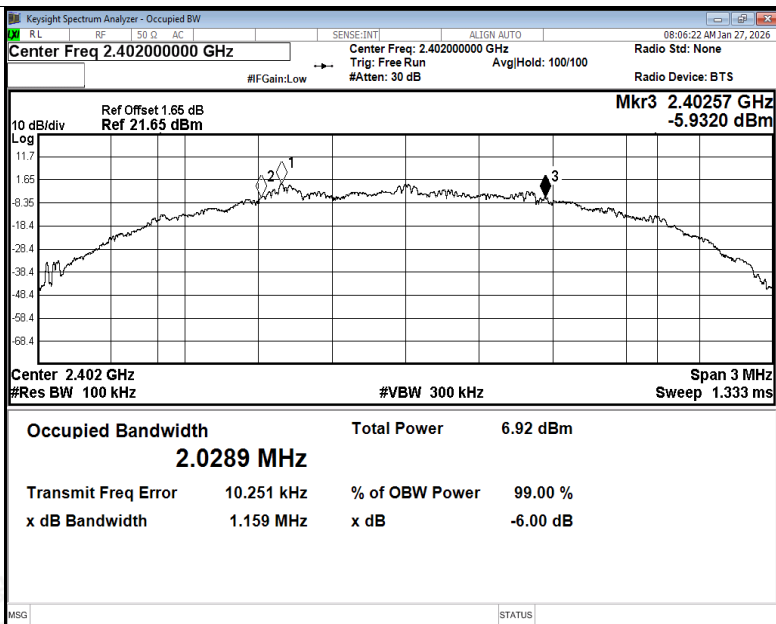
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-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1

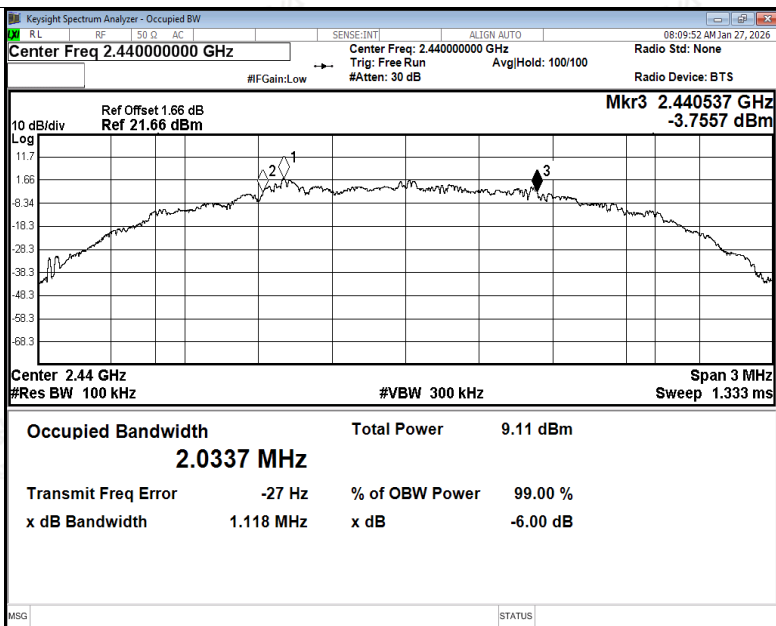


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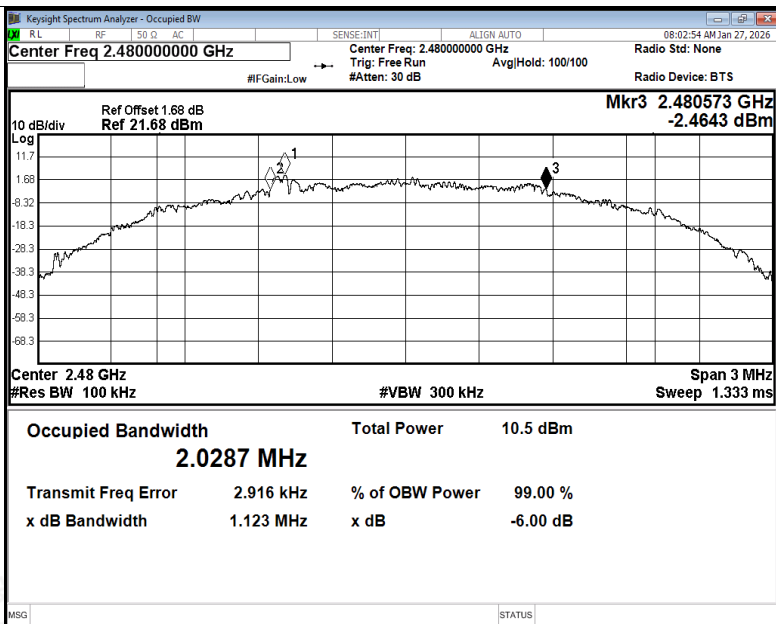
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant1



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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Limit Conducted(dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	3.22	0	3.22	30	Pass
NVNT	BLE 1M	2440	Ant1	3.06	0	3.06	30	Pass
NVNT	BLE 1M	2480	Ant1	2.03	0	2.03	30	Pass
NVNT	BLE 2M	2402	Ant1	0.56	0	0.56	30	Pass
NVNT	BLE 2M	2440	Ant1	2.85	0	2.85	30	Pass
NVNT	BLE 2M	2480	Ant1	1.8	0	1.8	30	Pass

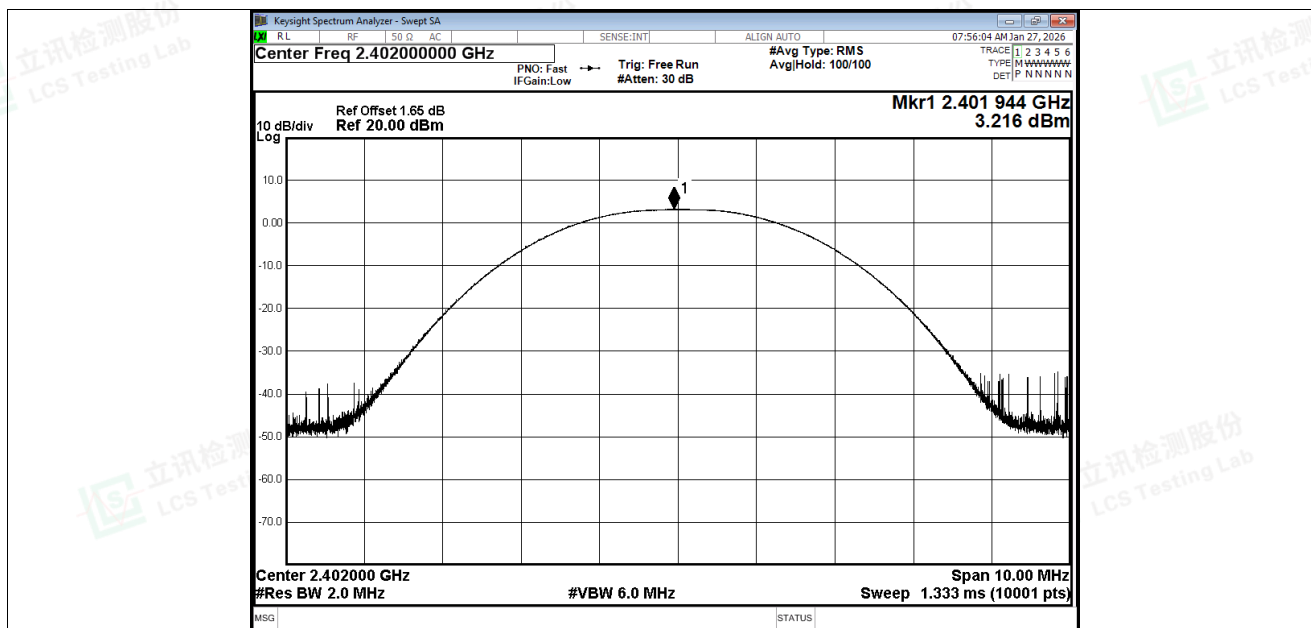


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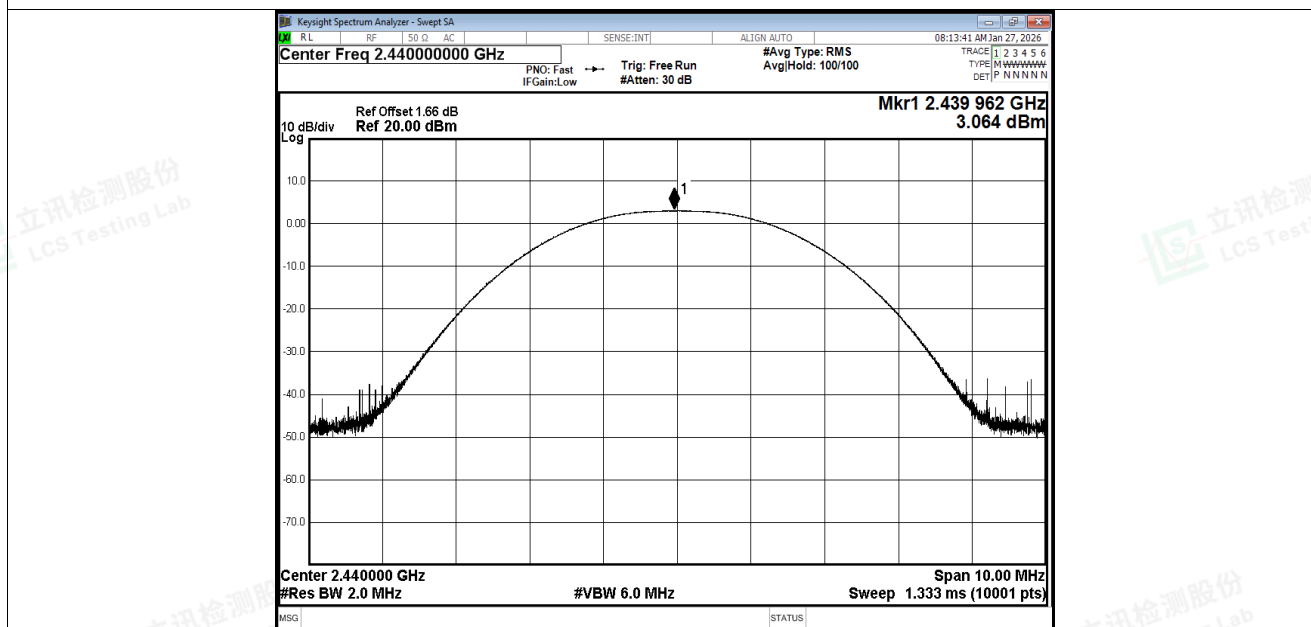
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Peak Power NVNT BLE 1M 2402MHz Ant1



Peak Power NVNT BLE 1M 2440MHz Ant1

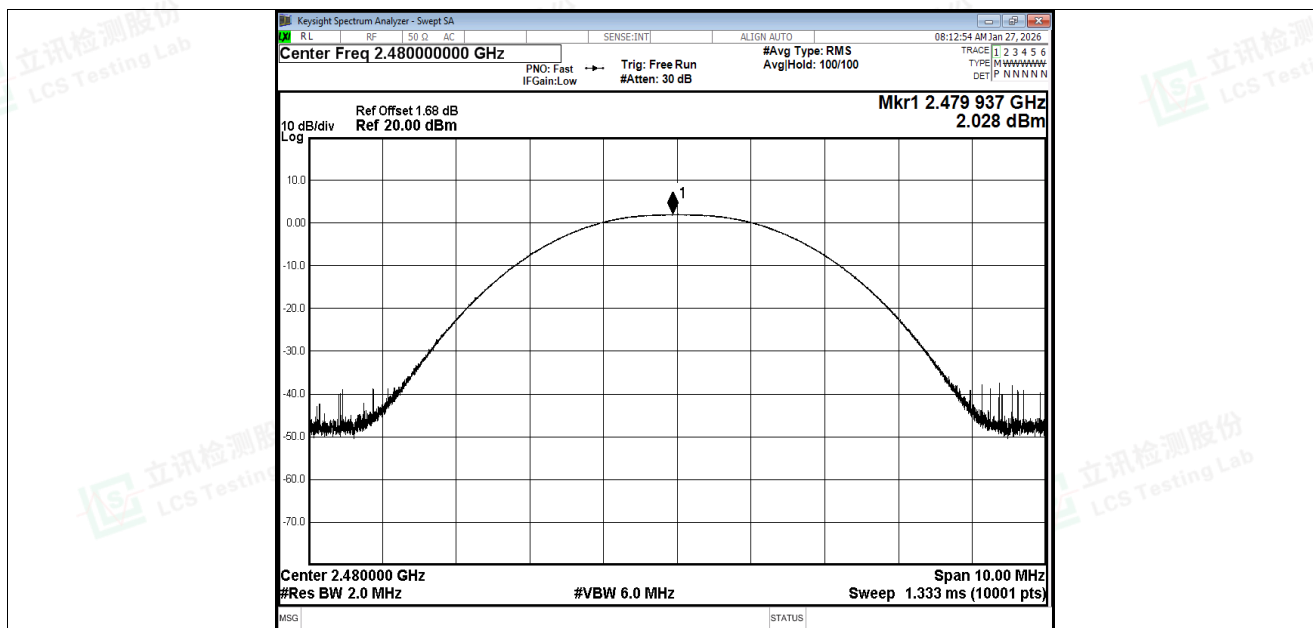


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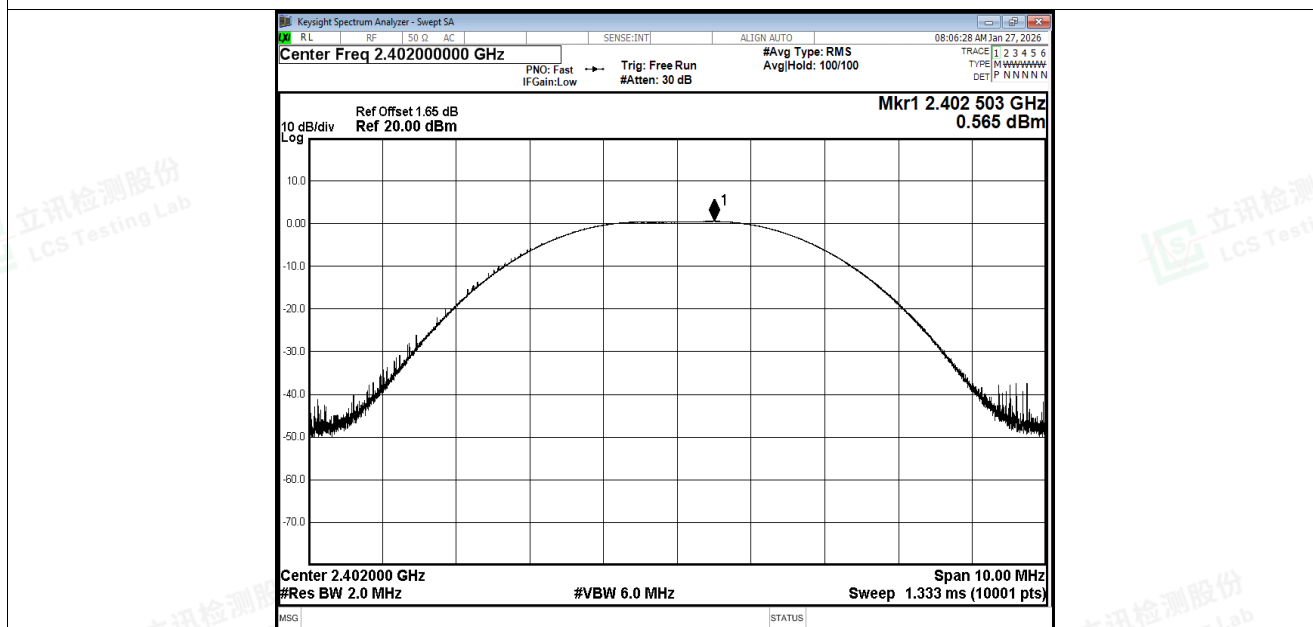
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Peak Power NVNT BLE 1M 2480MHz Ant1



Peak Power NVNT BLE 2M 2402MHz Ant1

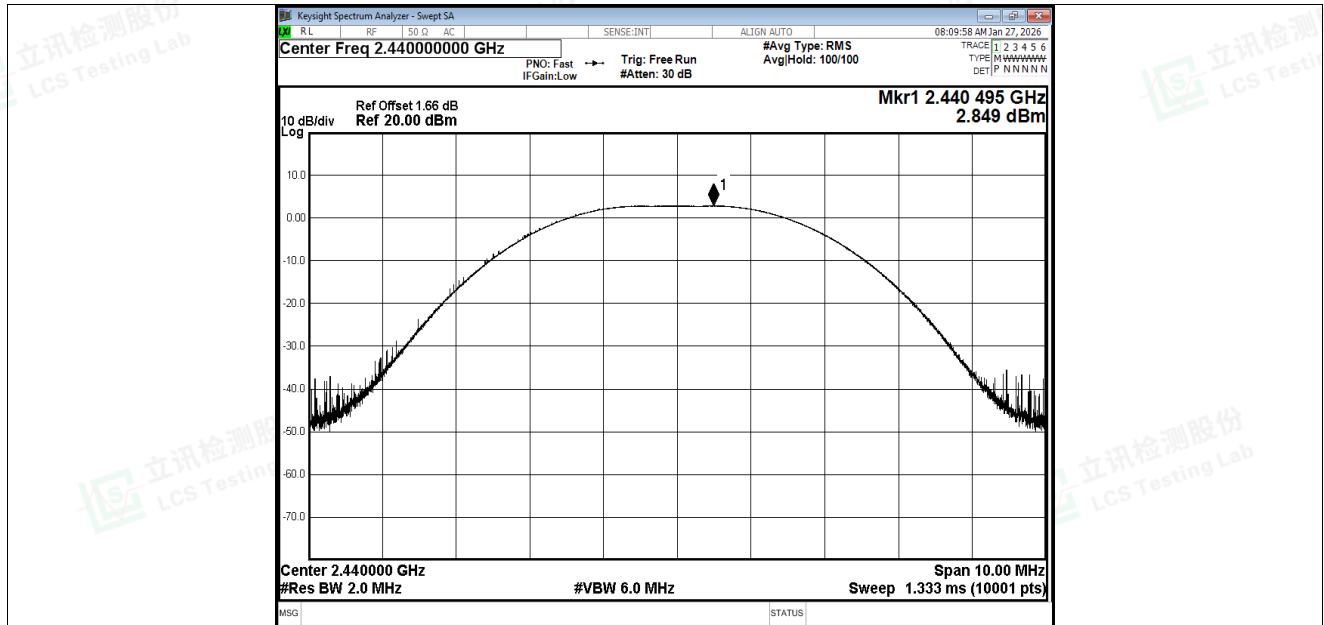


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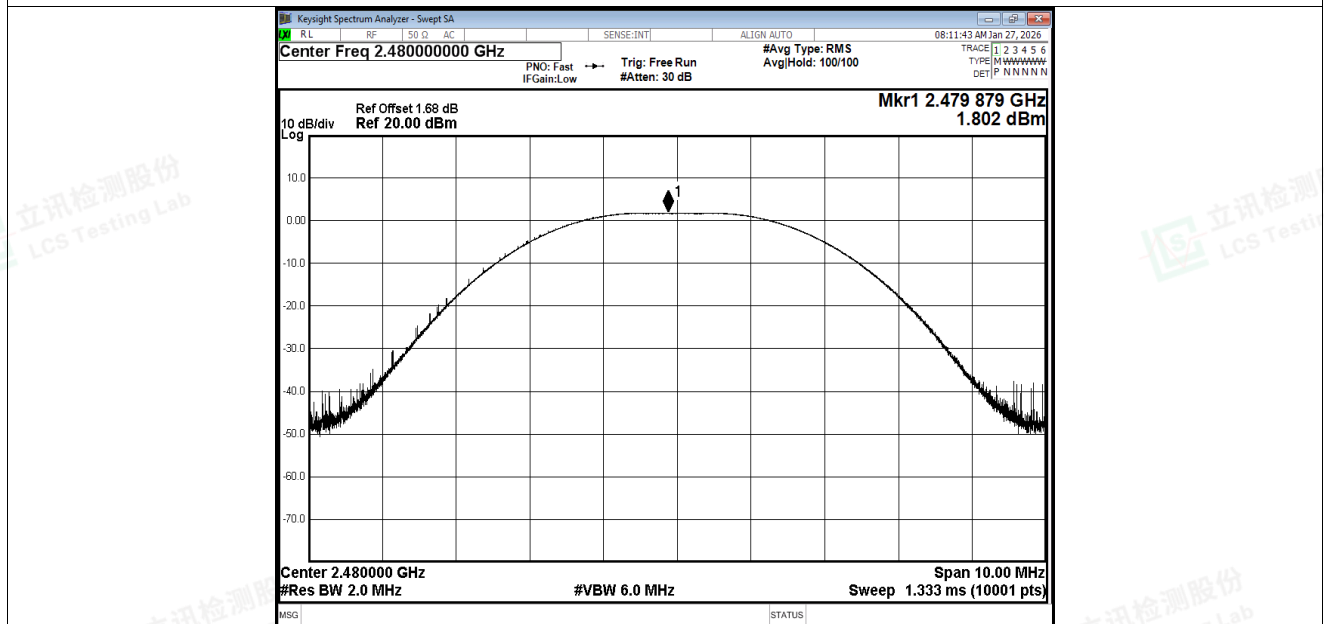
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Peak Power NVNT BLE 2M 2440MHz Ant1



Peak Power NVNT BLE 2M 2480MHz Ant1





A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-73.66	8	Pass
NVNT	BLE 1M	2440	Ant1	-13.42	8	Pass
NVNT	BLE 1M	2480	Ant1	-14.38	8	Pass
NVNT	BLE 2M	2402	Ant1	-18.95	8	Pass
NVNT	BLE 2M	2440	Ant1	-16.49	8	Pass
NVNT	BLE 2M	2480	Ant1	-17.61	8	Pass

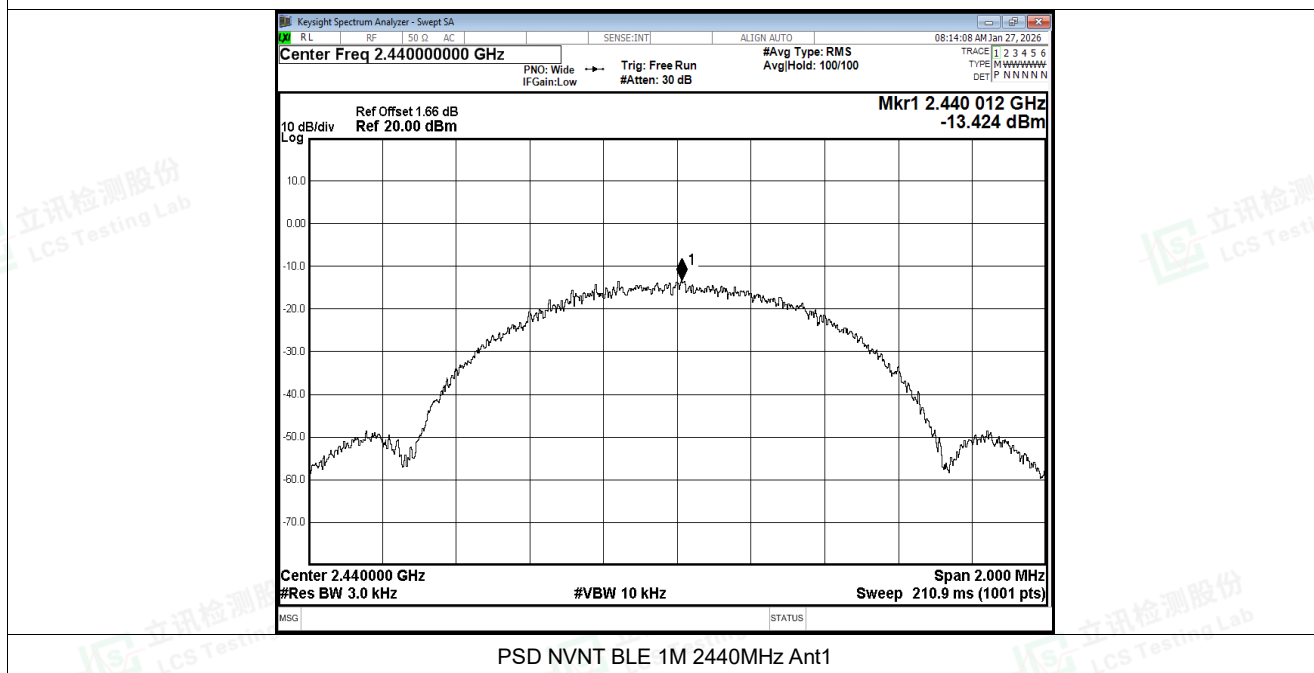
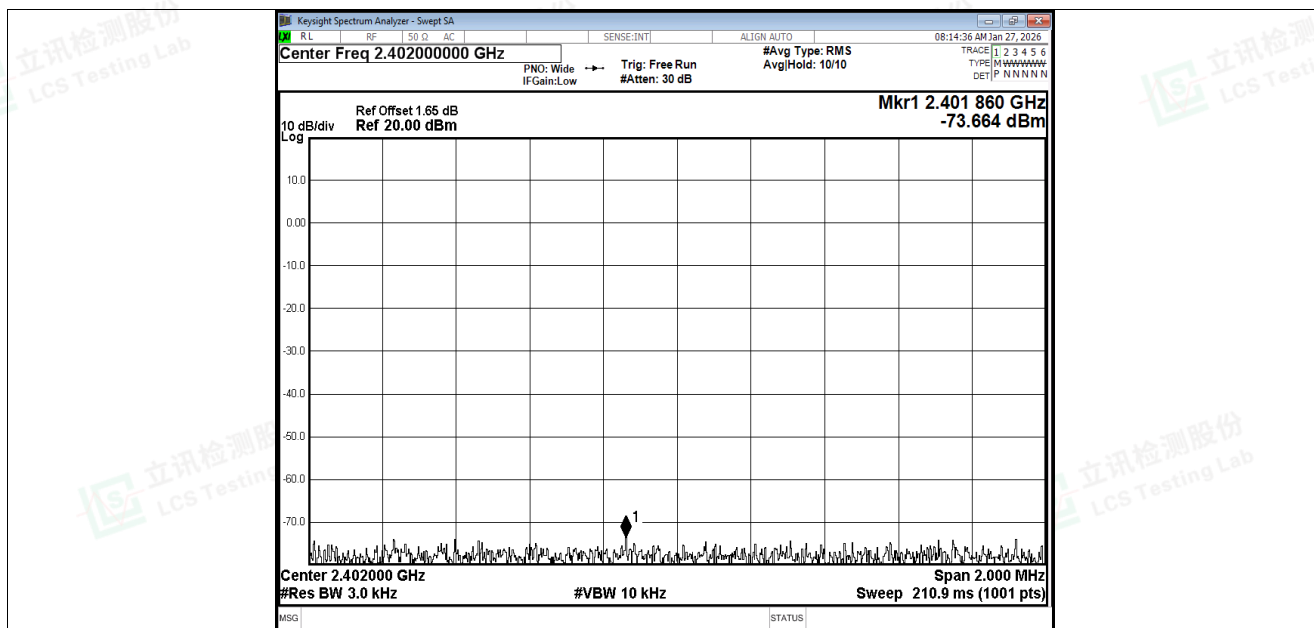


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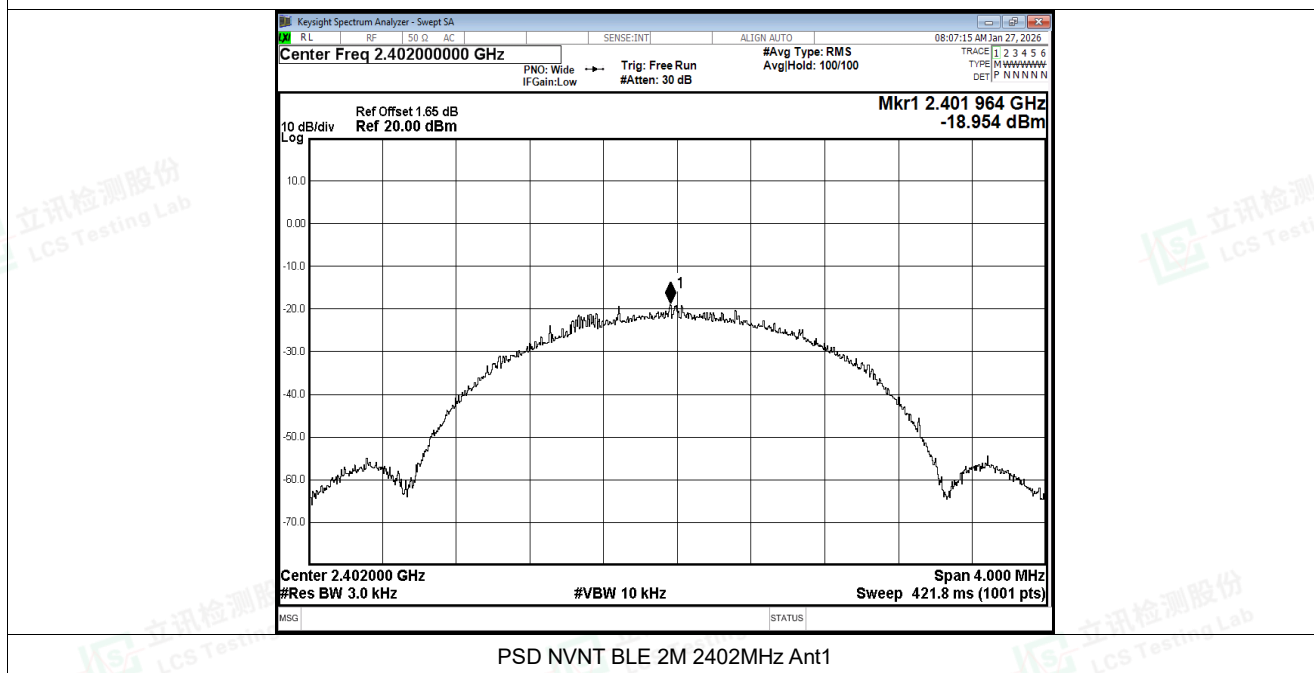
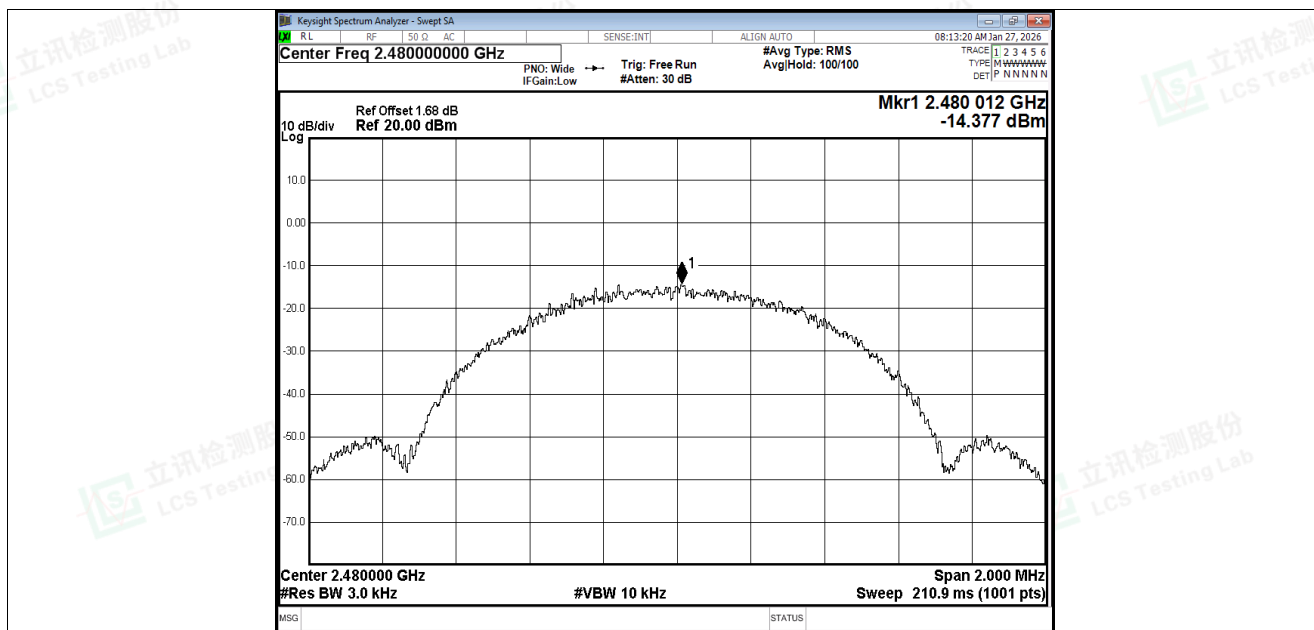


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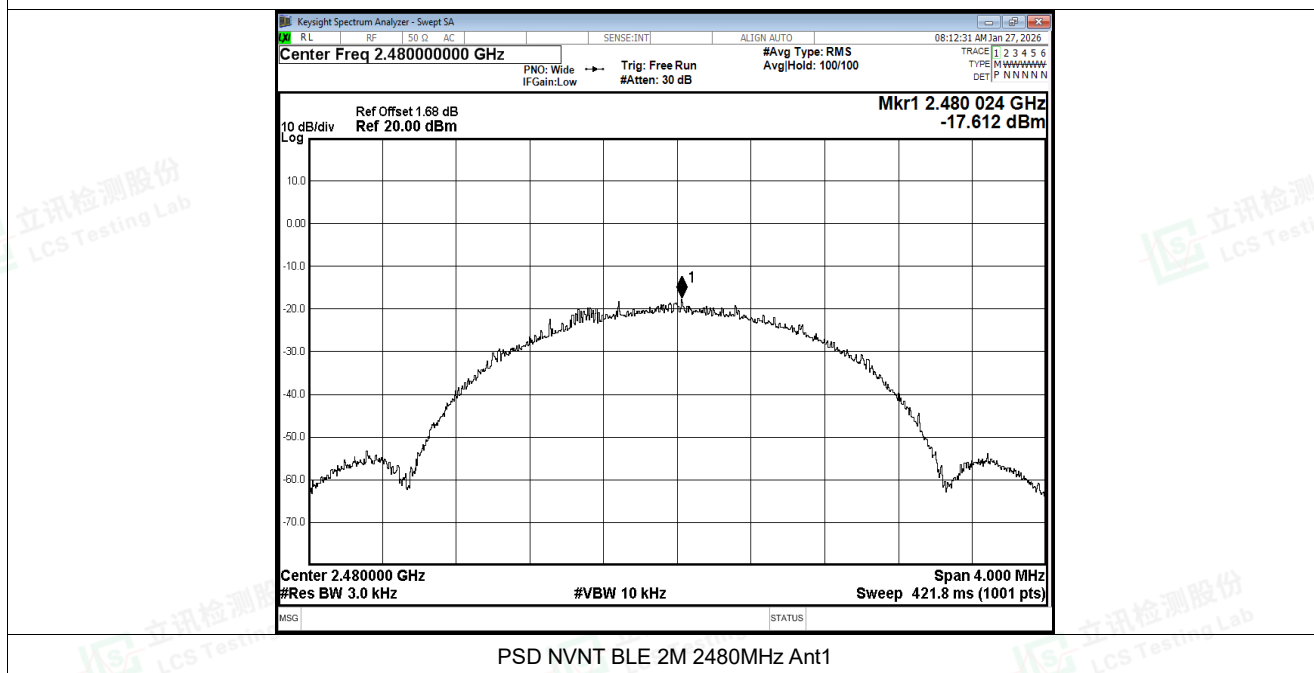
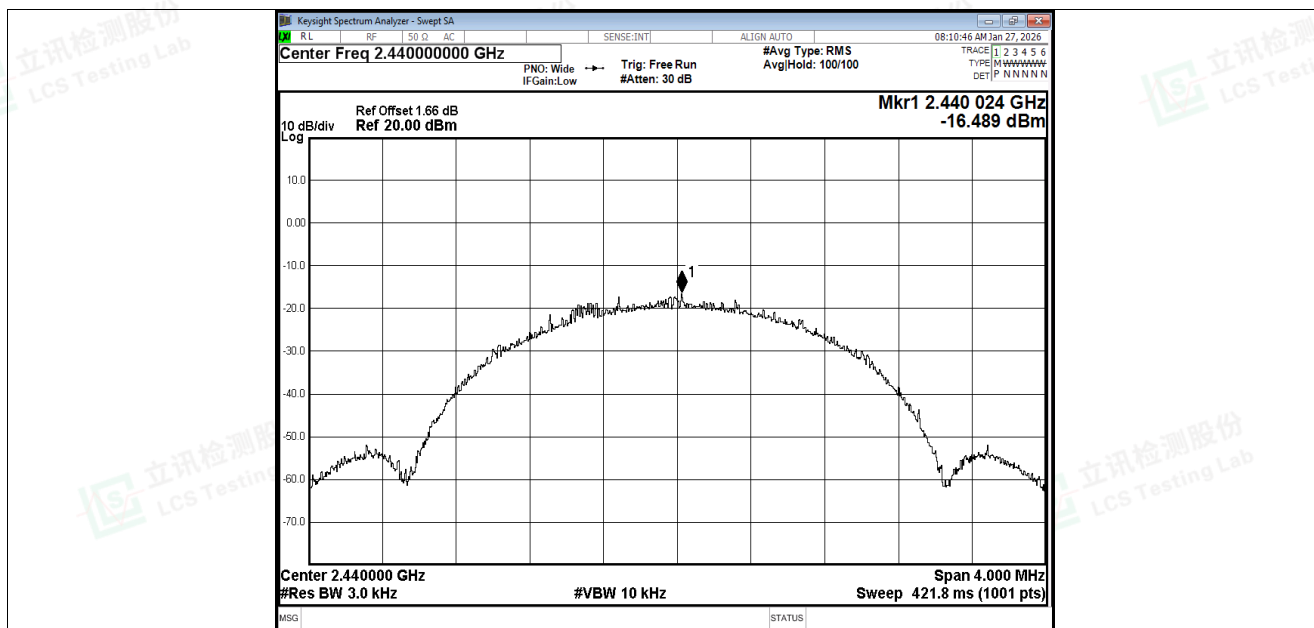


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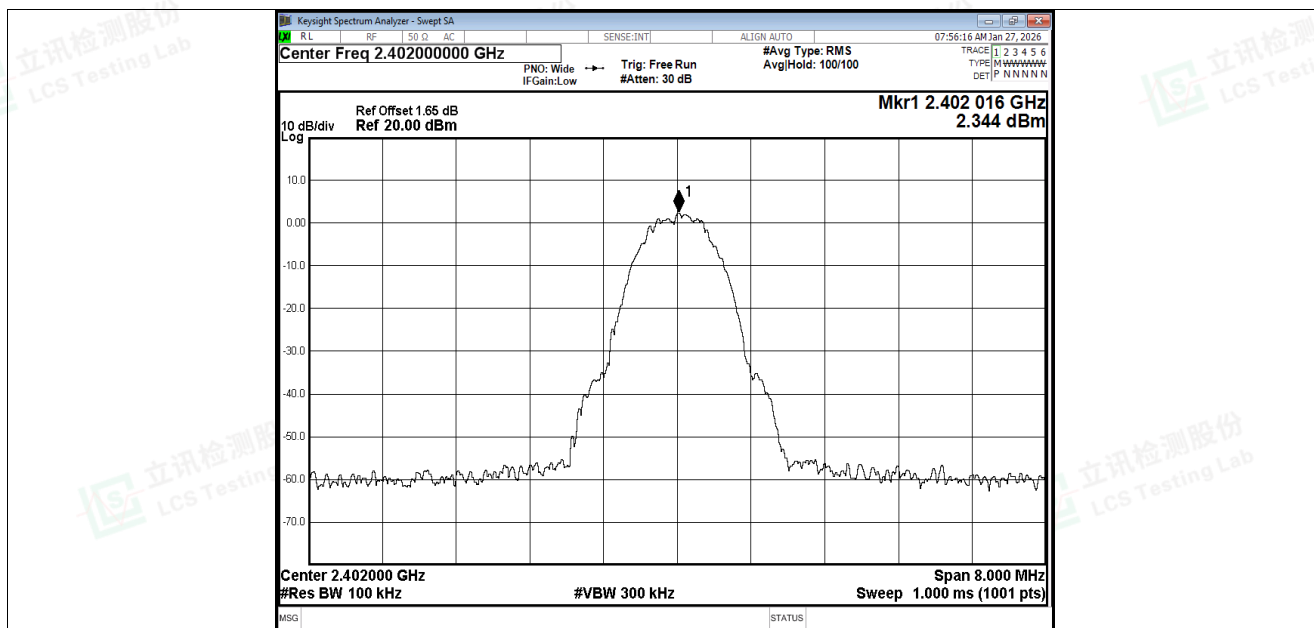


A.4 Band Edge

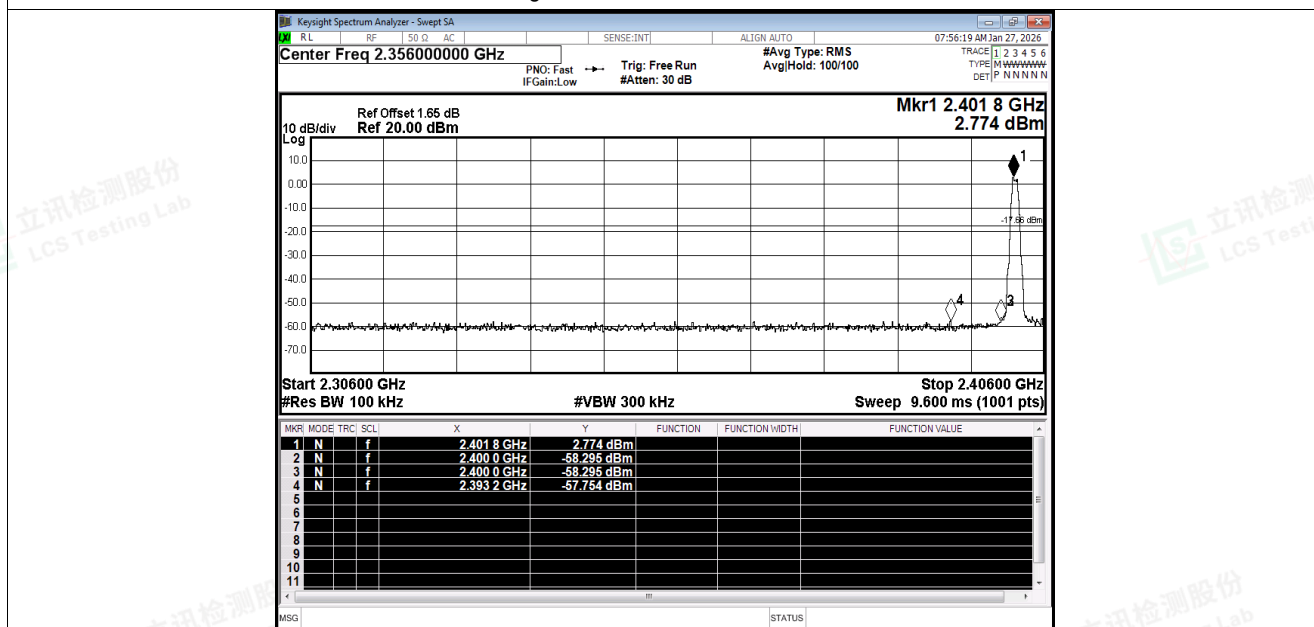
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NVNT	BLE 1M	2480	Ant1	-61.07	-20	Pass
NVNT	BLE 2M	2402	Ant1	-46.52	-20	Pass
NVNT	BLE 2M	2480	Ant1	-59.94	-20	Pass



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Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission

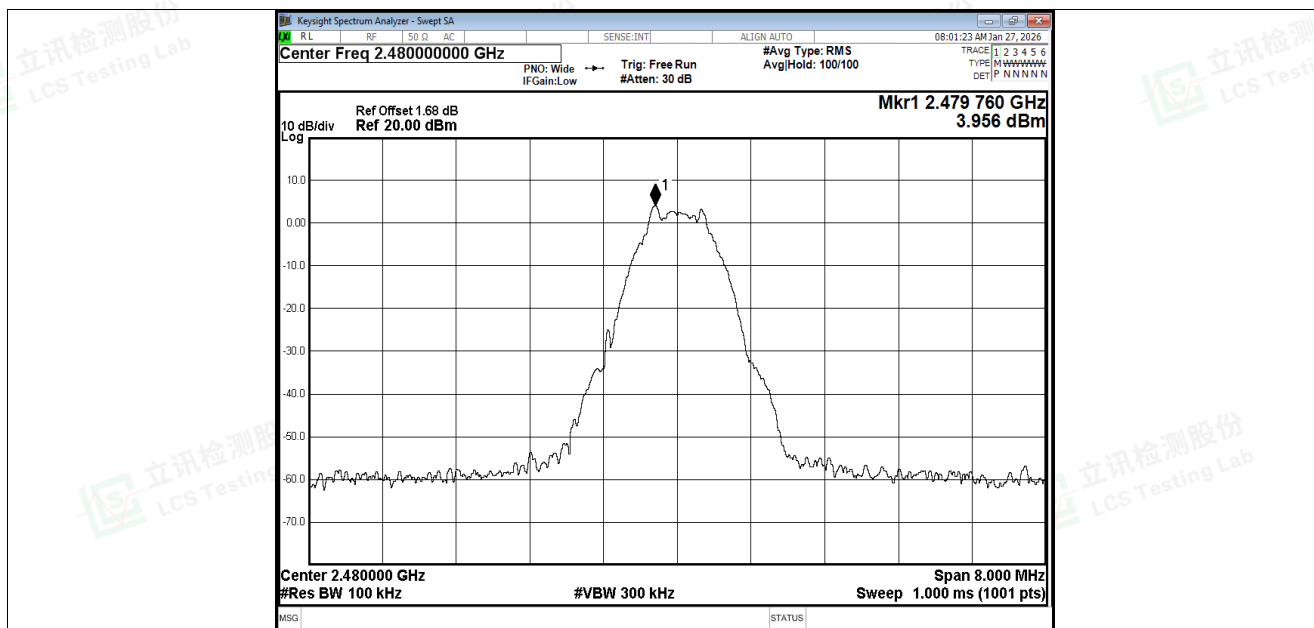


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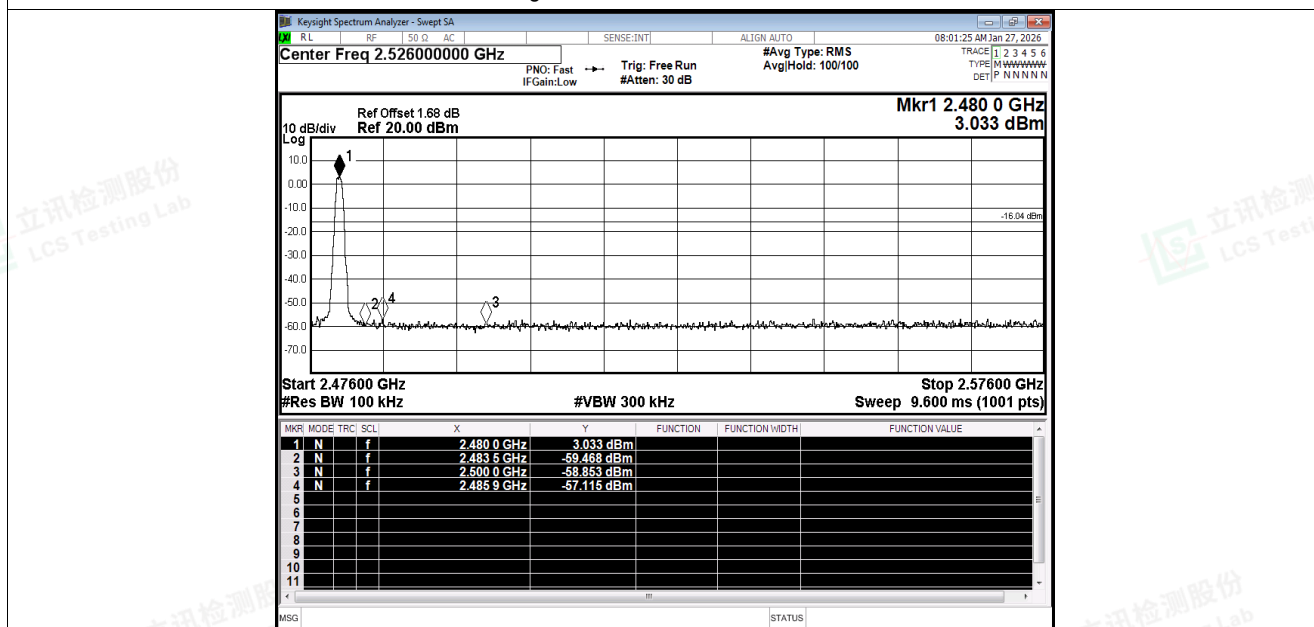
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission

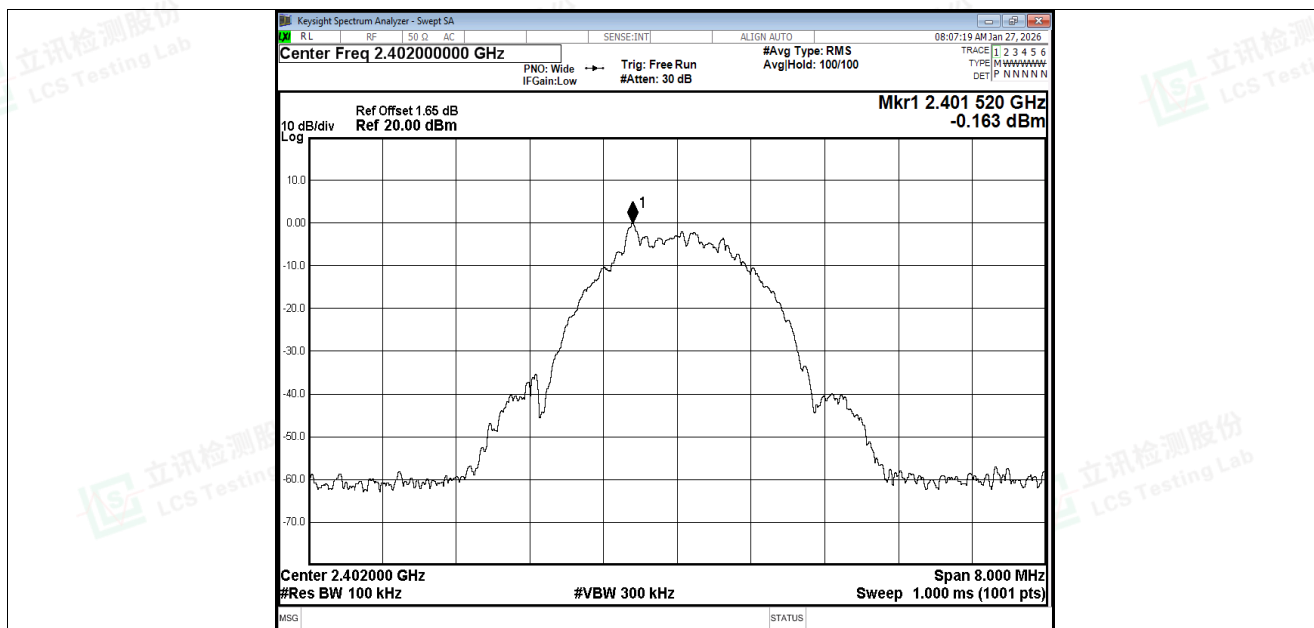


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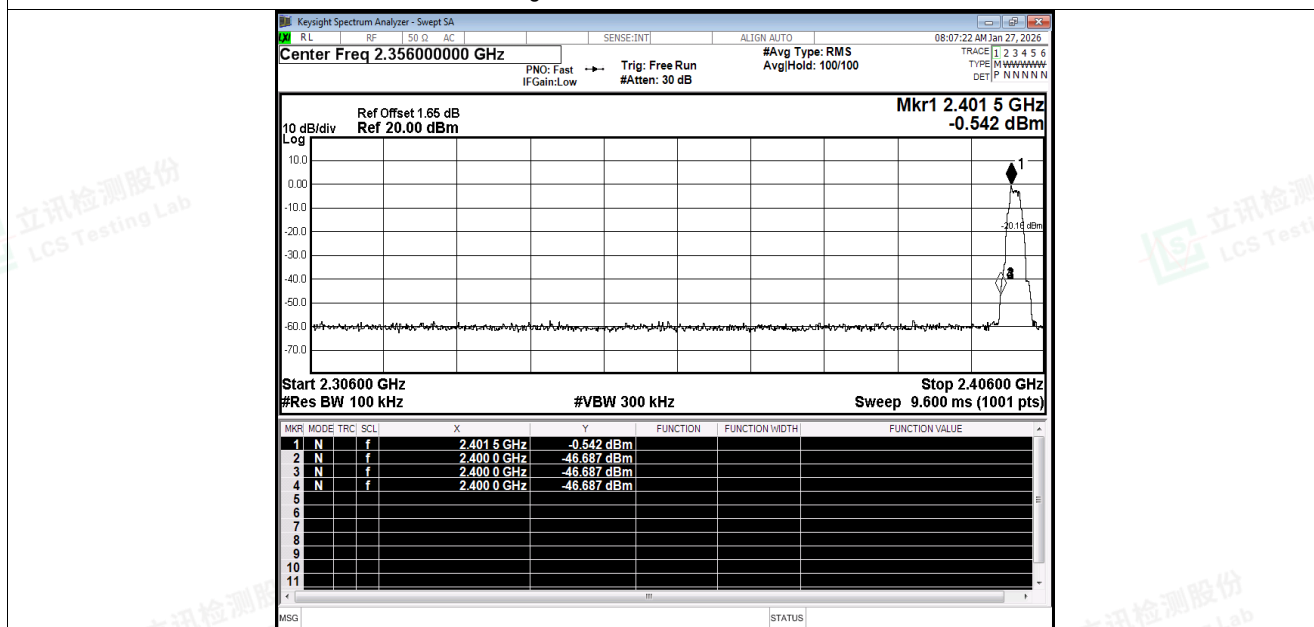
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Band Edge NVNT BLE 2M 2402MHz Ant1 Emission

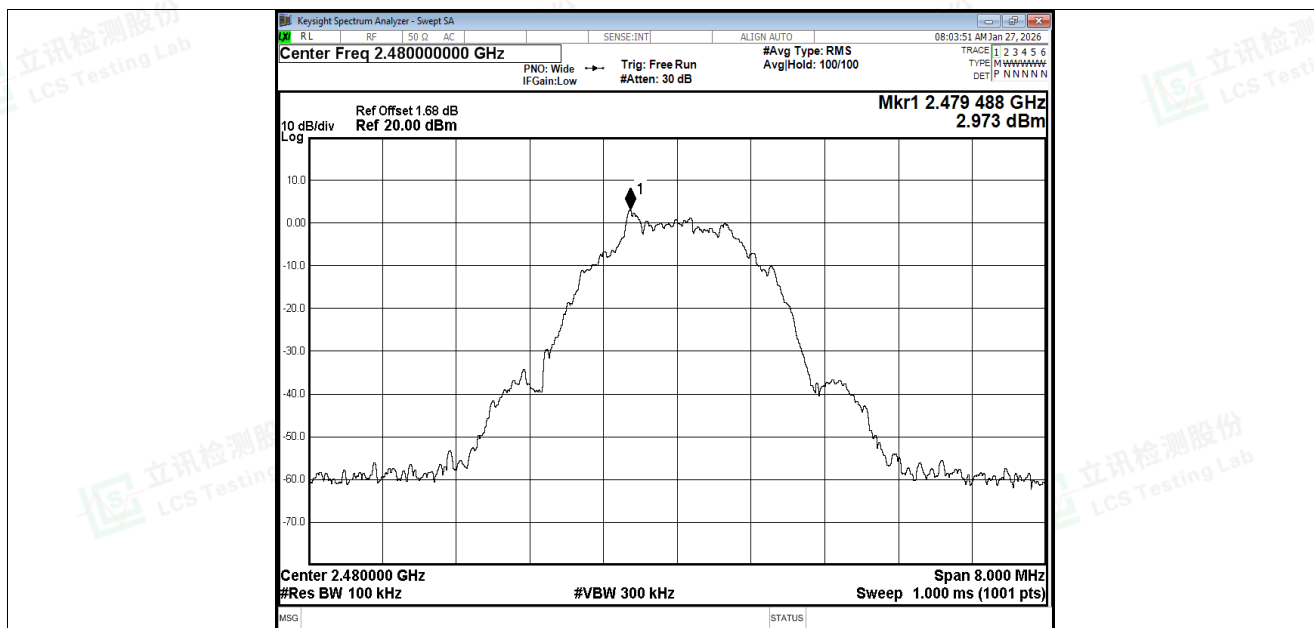


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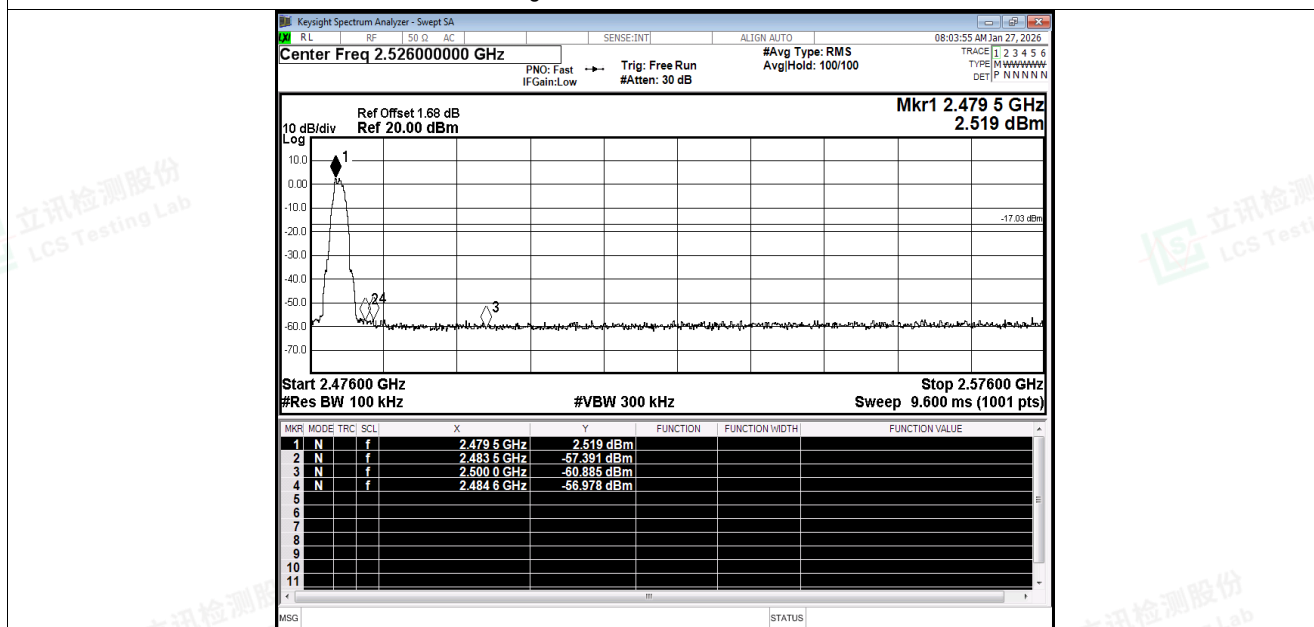
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Band Edge NVNT BLE 2M 2480MHz Ant1 Ref



Band Edge NVNT BLE 2M 2480MHz Ant1 Emission



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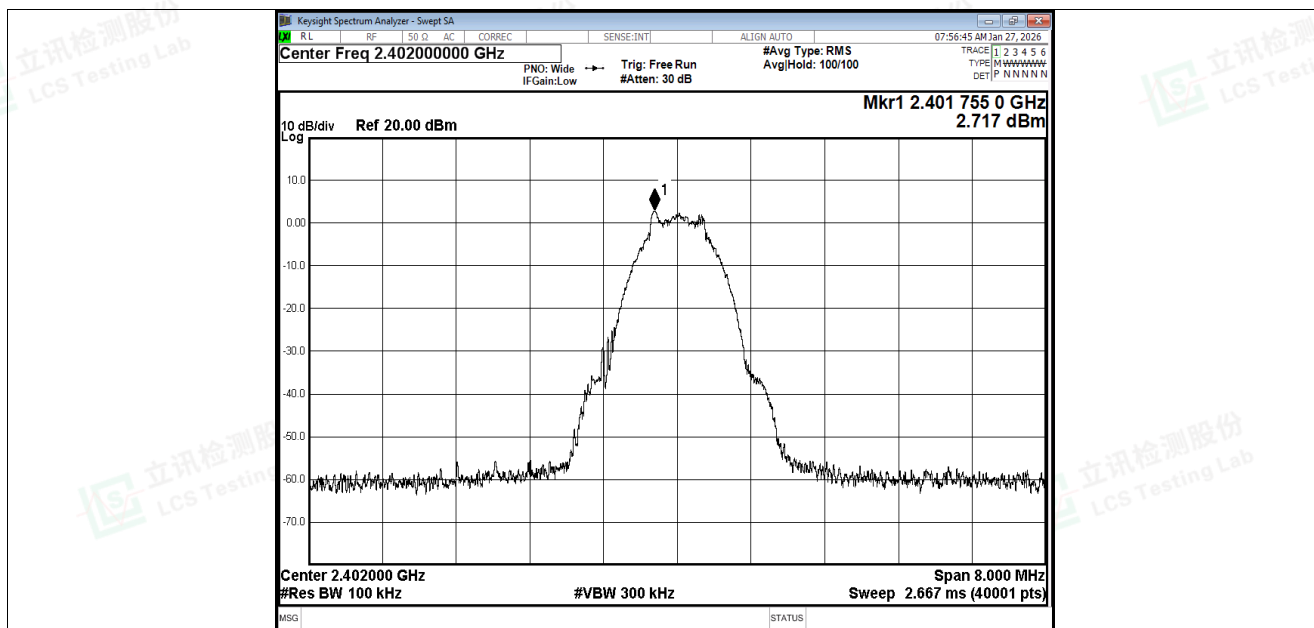


A.5 Conducted RF Spurious Emission

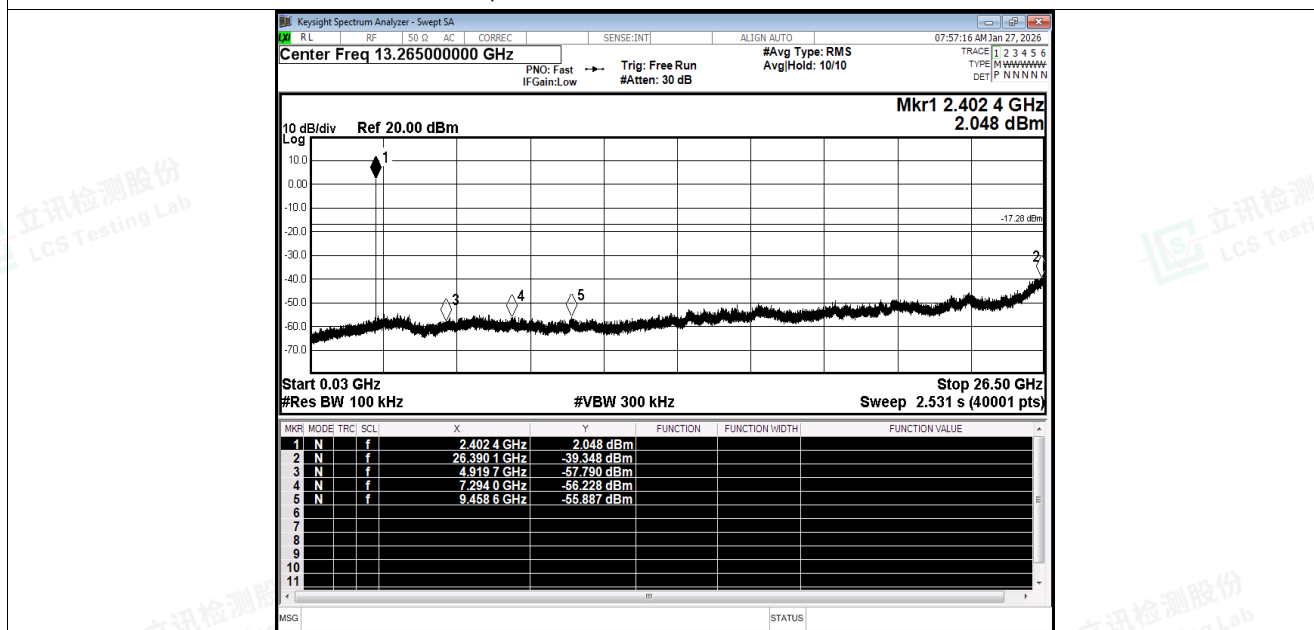
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-42.06	-20	Pass
NVNT	BLE 1M	2440	Ant1	-43.71	-20	Pass
NVNT	BLE 1M	2480	Ant1	-42.69	-20	Pass
NVNT	BLE 2M	2402	Ant1	-48.02	-20	Pass
NVNT	BLE 2M	2440	Ant1	-49.38	-20	Pass
NVNT	BLE 2M	2480	Ant1	-51.1	-20	Pass



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Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission

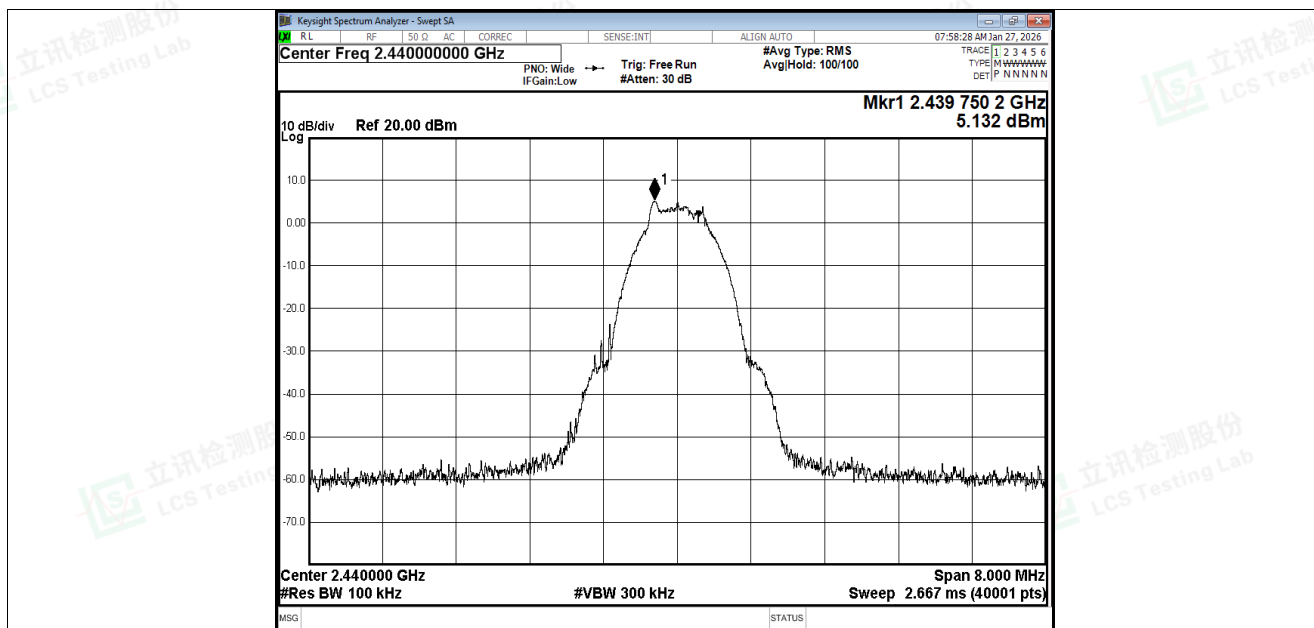


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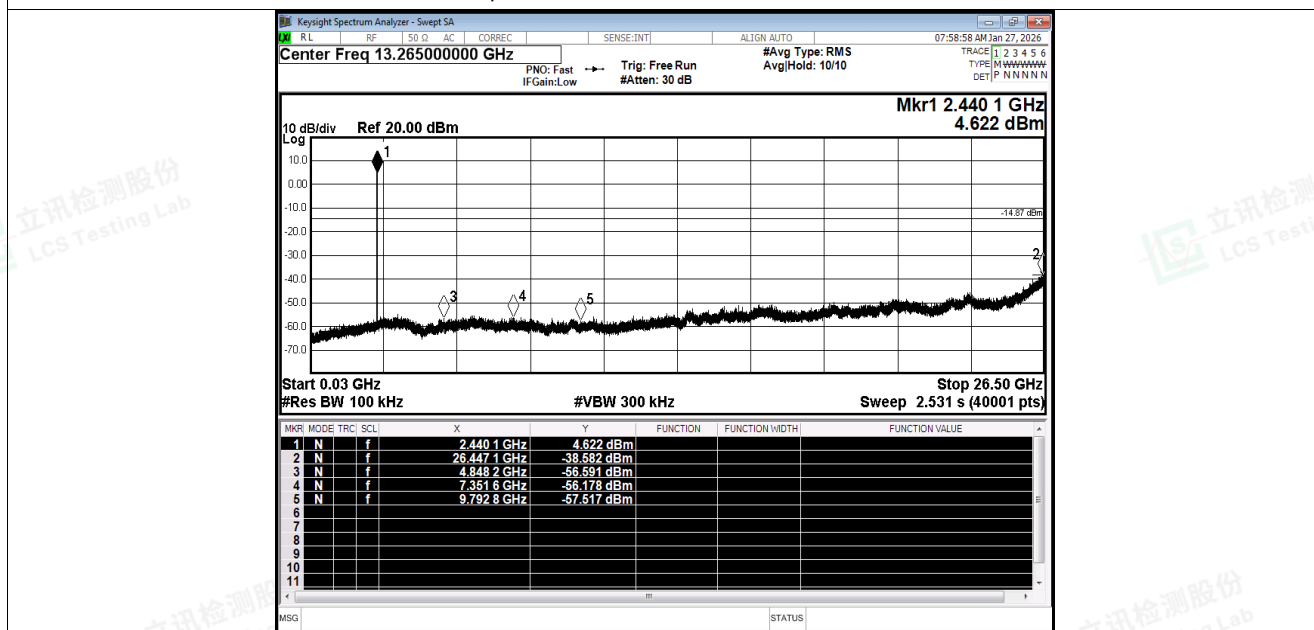
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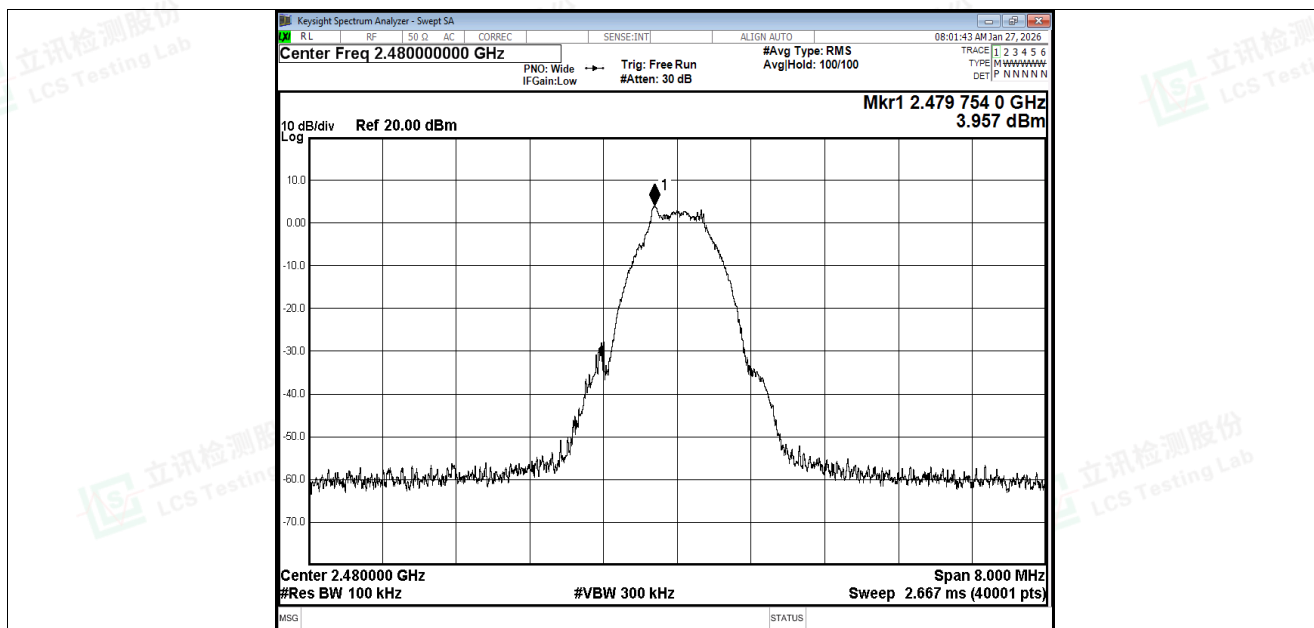


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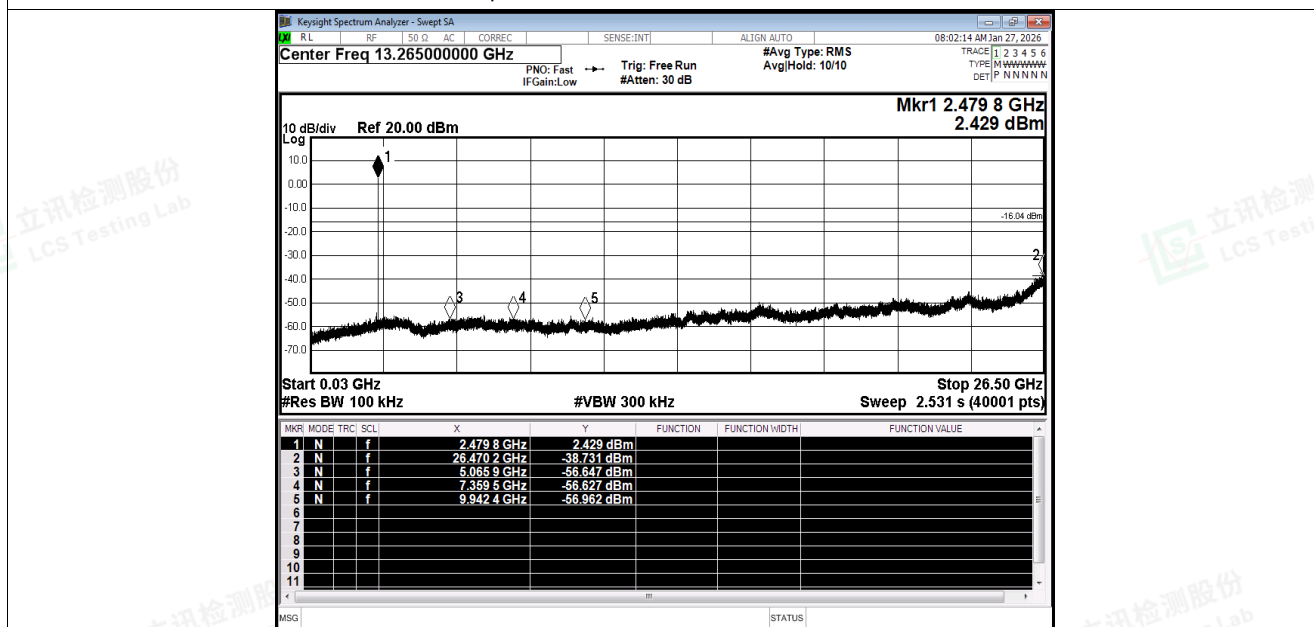
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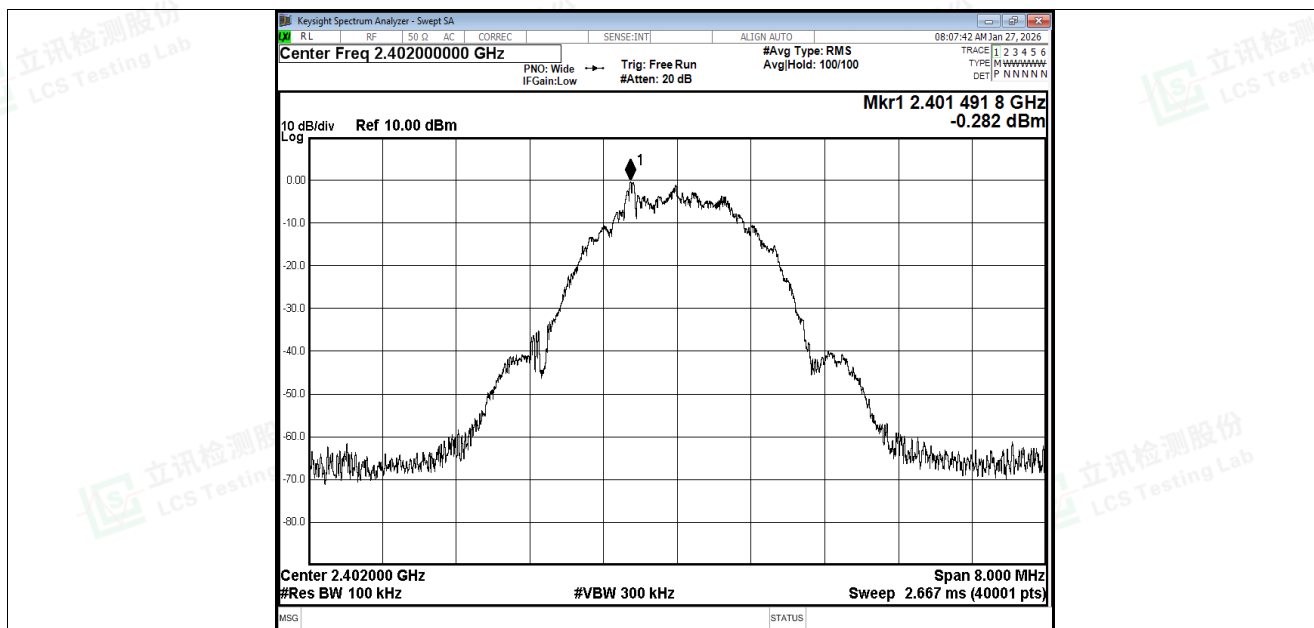


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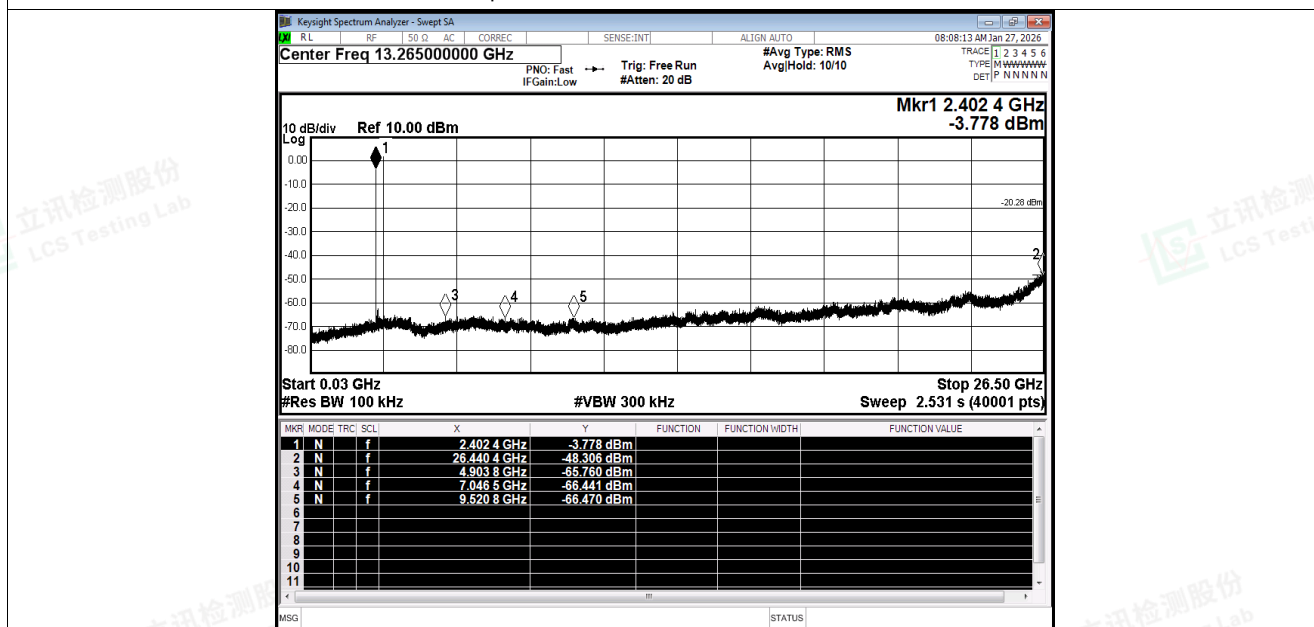
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Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission

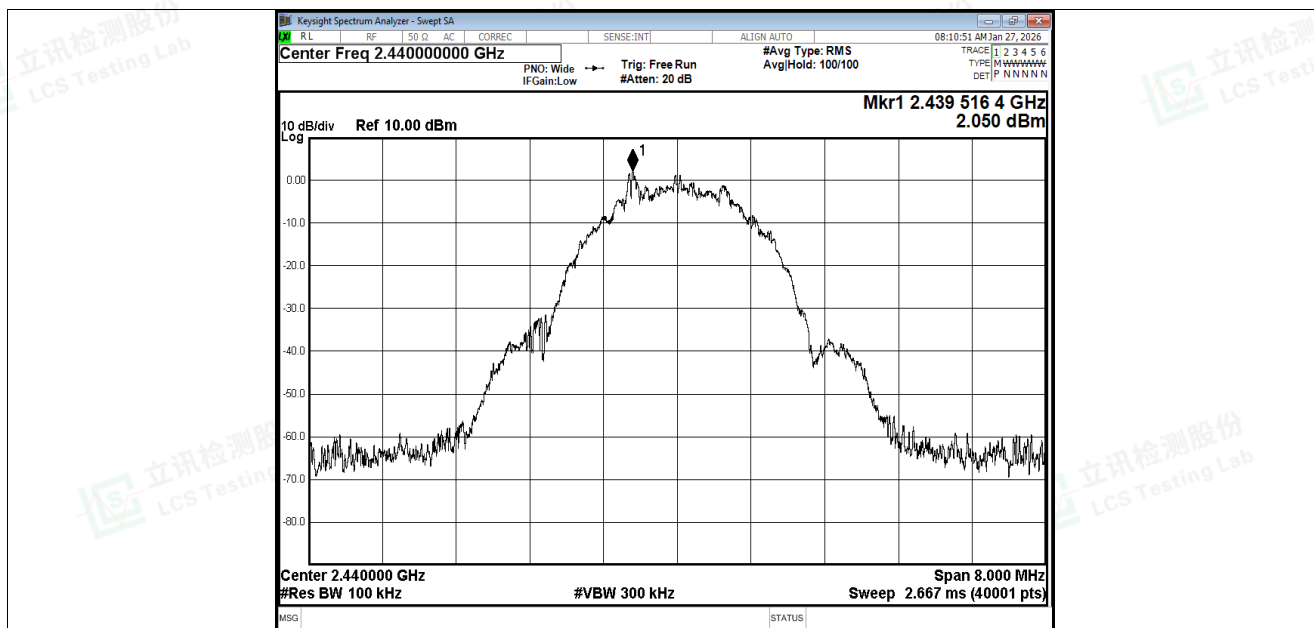


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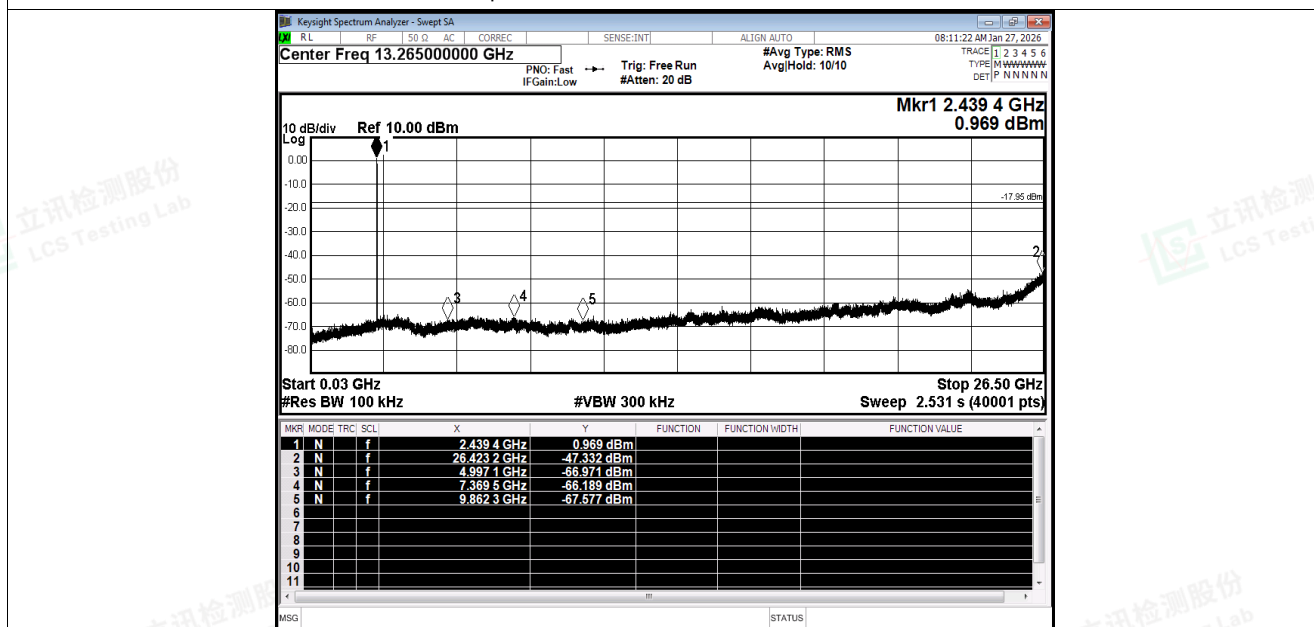
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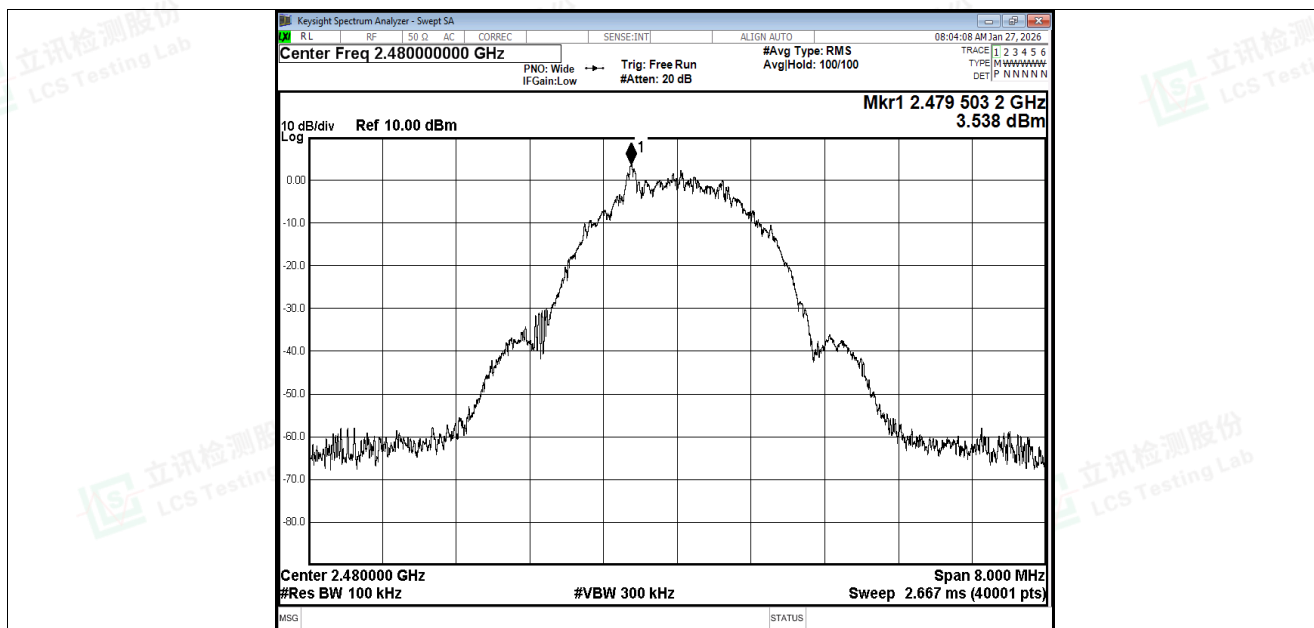


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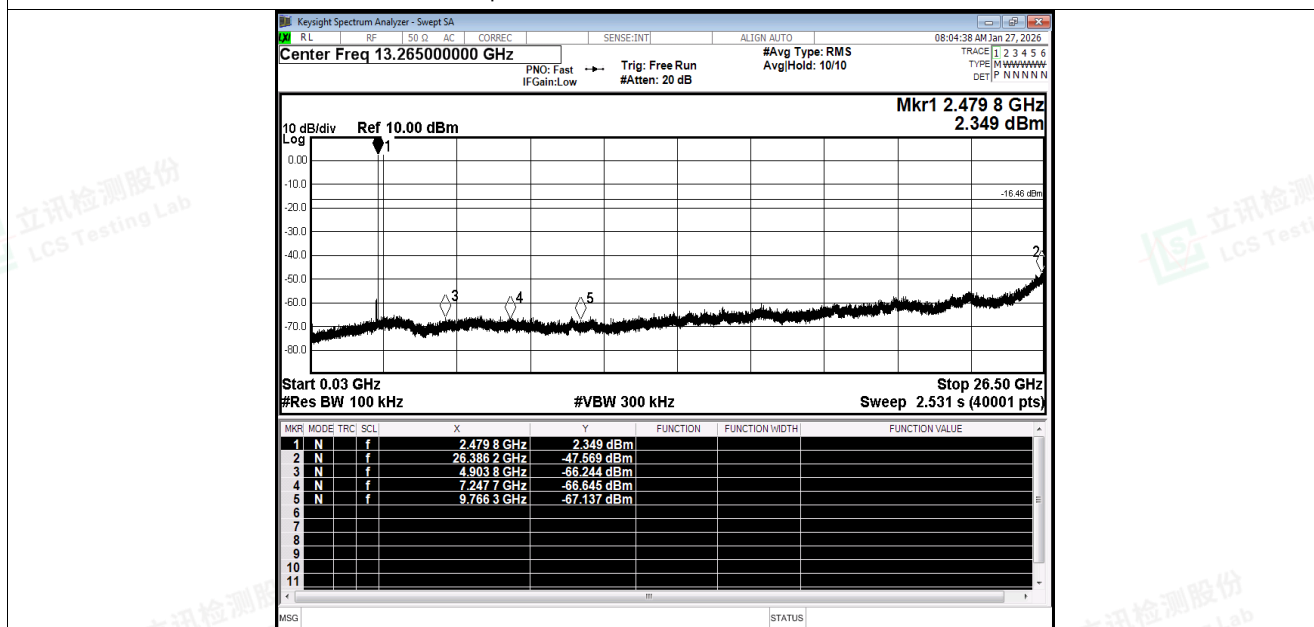
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A.6 Duty Cycle

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	65.97	1.81	1.21
NVNT	BLE 2M	2440	Ant1	5.88	12.3	2000
NVNT	BLE 2M	2480	Ant1	5.56	12.55	2000

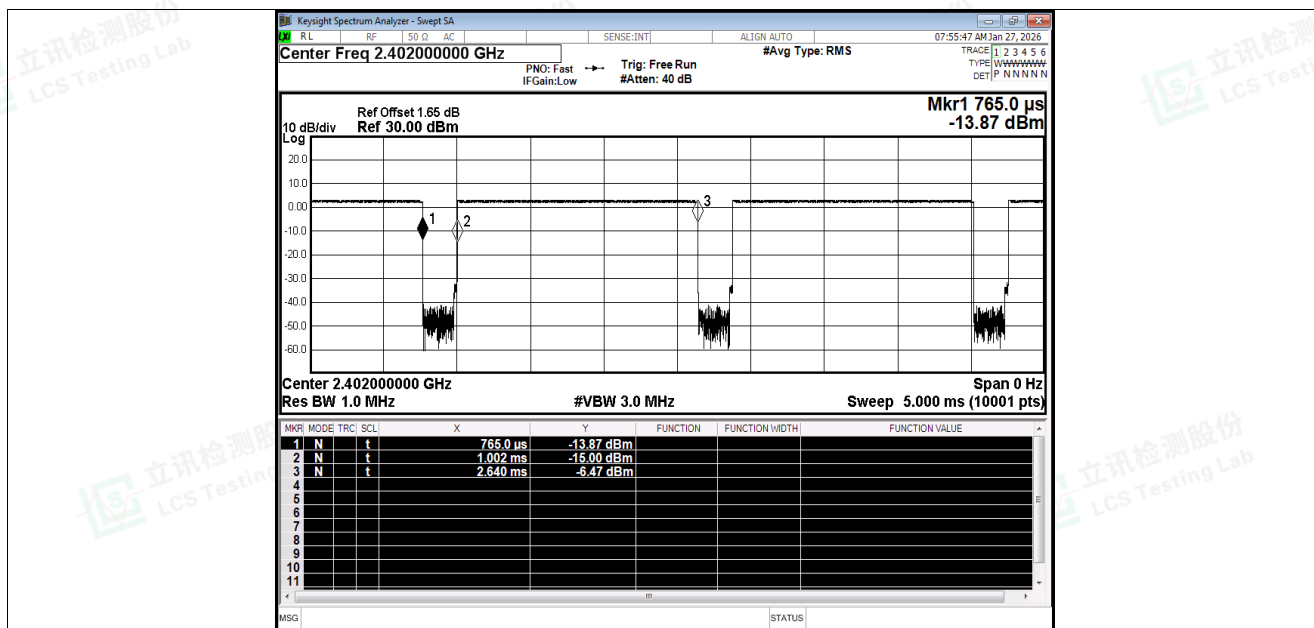


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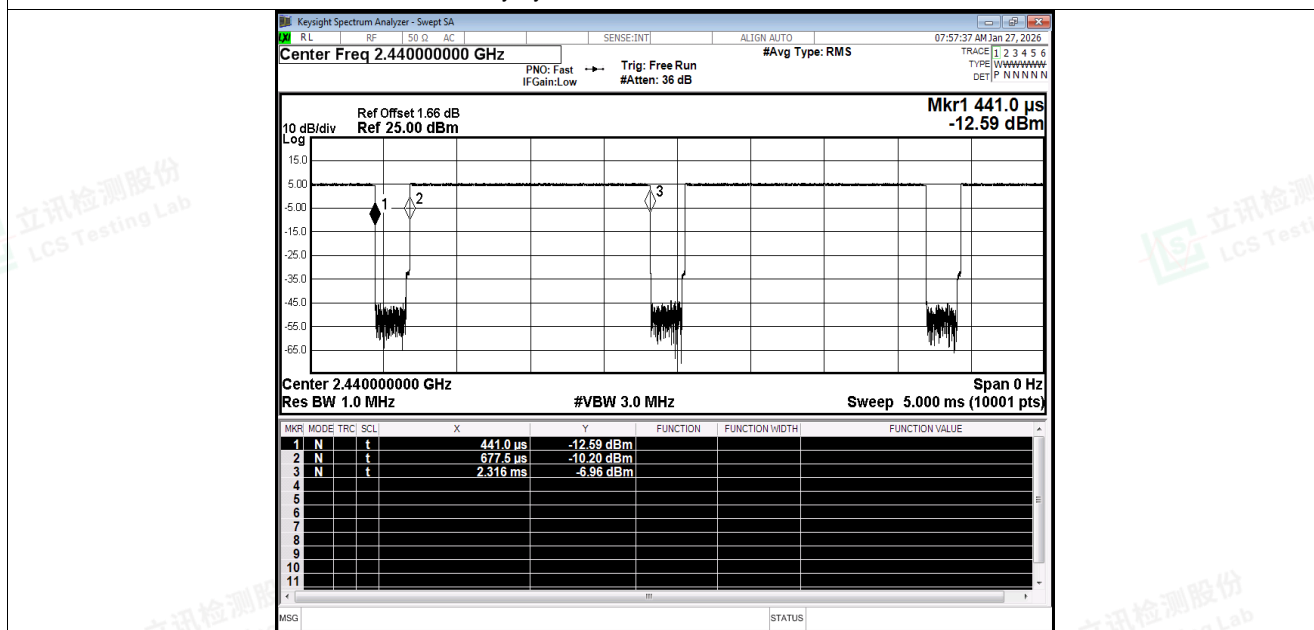
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Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

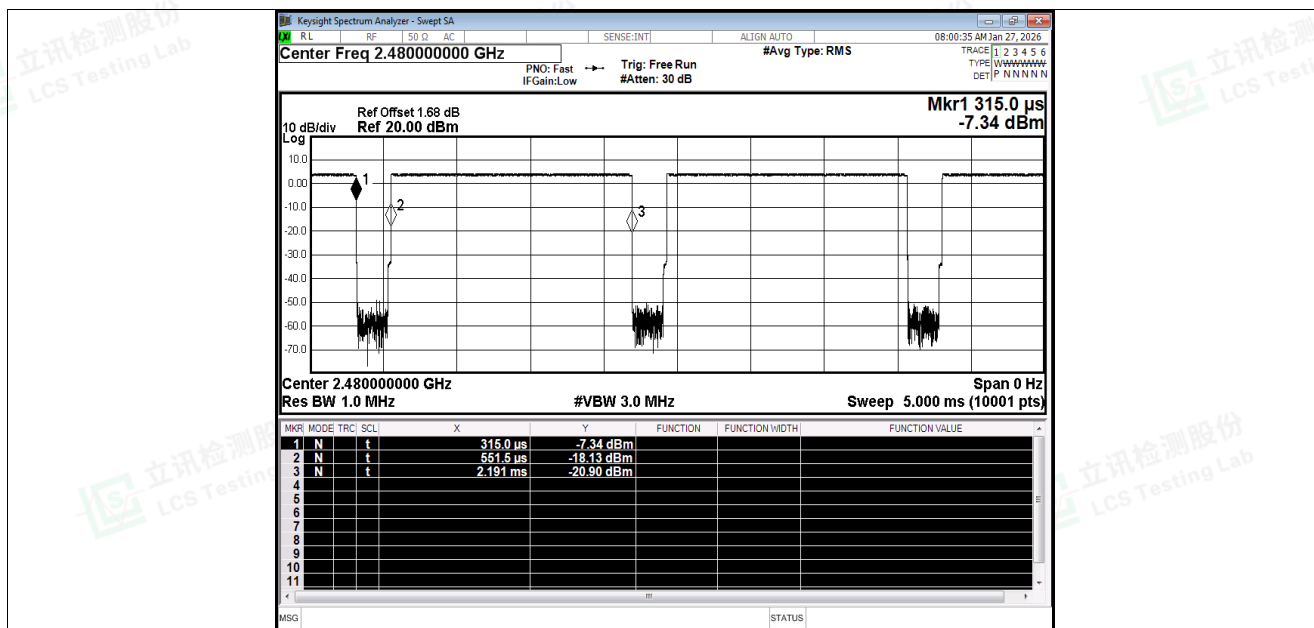


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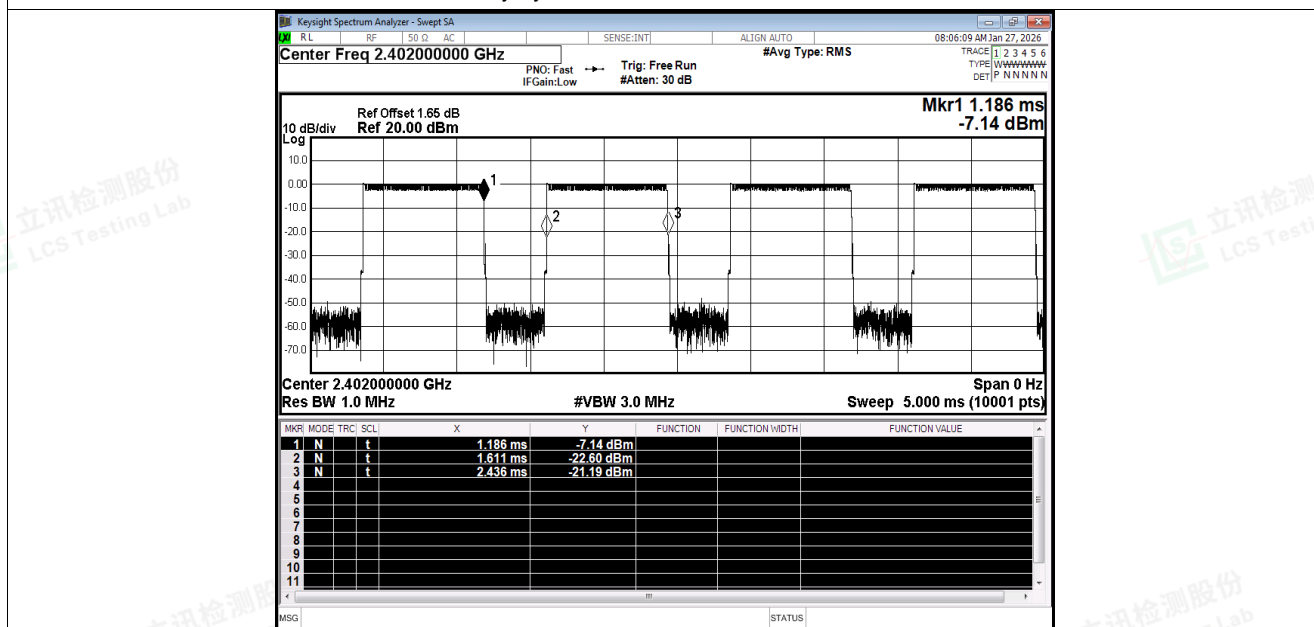
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Duty Cycle NVNT BLE 1M 2480MHz Ant1



Duty Cycle NVNT BLE 2M 2402MHz Ant1

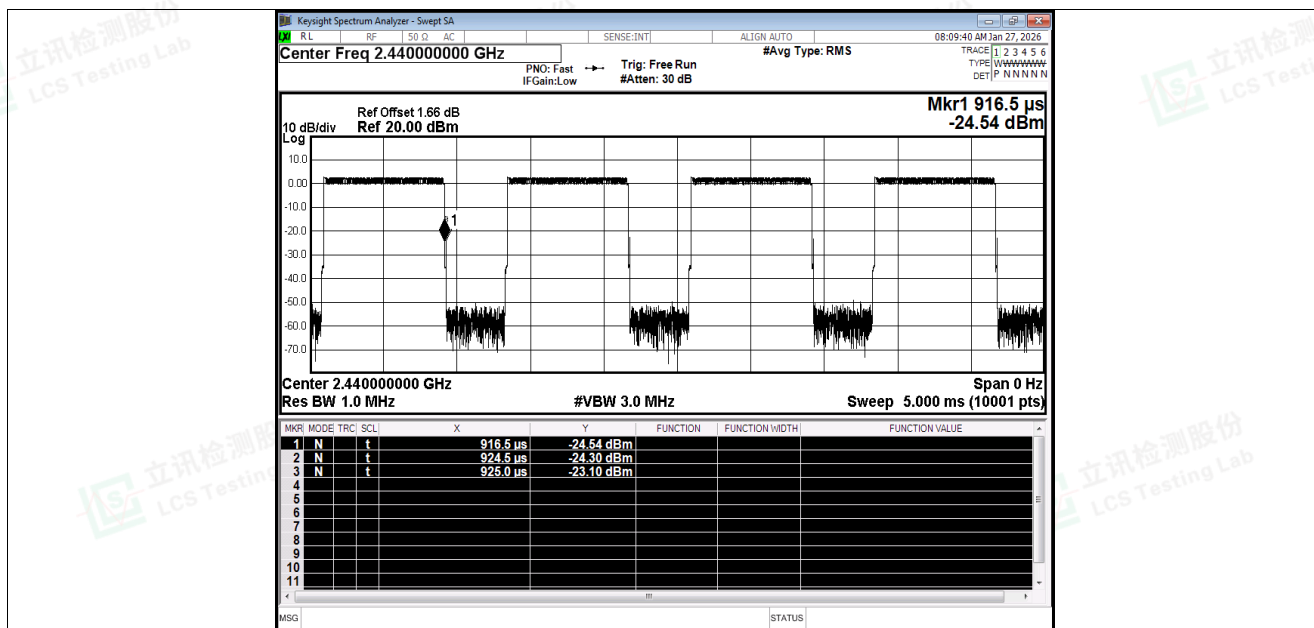


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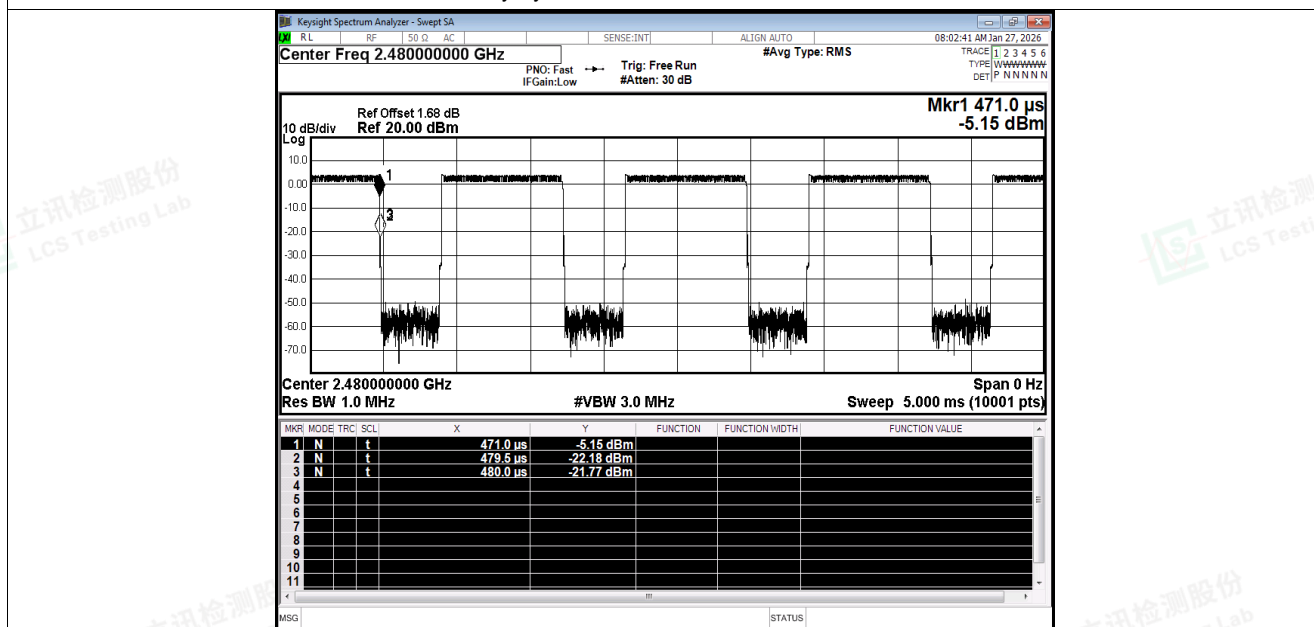
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Duty Cycle NVNT BLE 2M 2440MHz Ant1



Duty Cycle NVNT BLE 2M 2480MHz Ant1



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A.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	-50.24	4.54	49.56	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-57.9	4.54	41.90	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2376.24	-47.33	4.54	52.47	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310.768	-57.6	4.54	42.20	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-51.98	4.54	47.82	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-57.87	4.54	41.93	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-47.63	4.54	52.17	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-53.07	4.54	46.73	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2485.864	-41.96	4.54	57.84	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.512	-53.07	4.54	46.73	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-49.31	4.54	50.49	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-57.82	4.54	41.98	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2310	-51.61	4.54	48.19	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2310	-57.74	4.54	42.06	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2314.416	-48	4.54	51.80	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2311.44	-57.38	4.54	42.42	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2390	-49.88	4.54	49.92	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2390	-57.75	4.54	42.05	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-45.15	4.54	54.65	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-54.19	4.54	45.61	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2483.56	-44.07	4.54	55.73	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2484.424	-44.62	4.54	55.18	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2500	-60.94	4.54	38.86	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2500	-60.74	4.54	39.06	Average	54	Pass

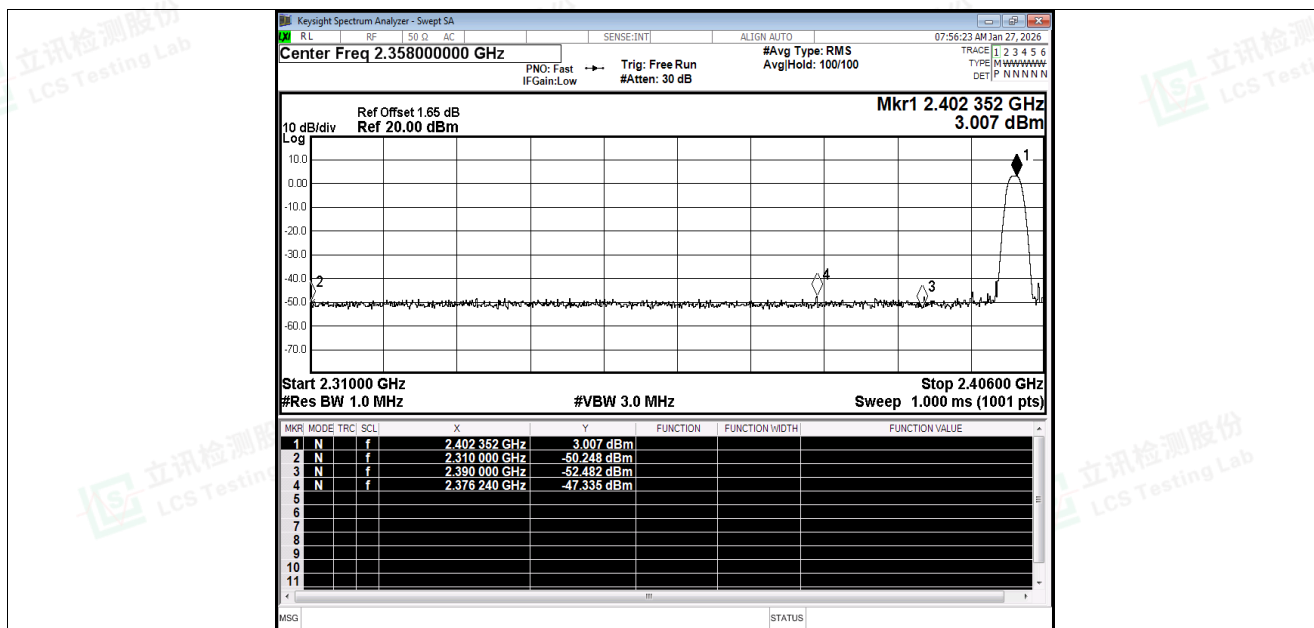


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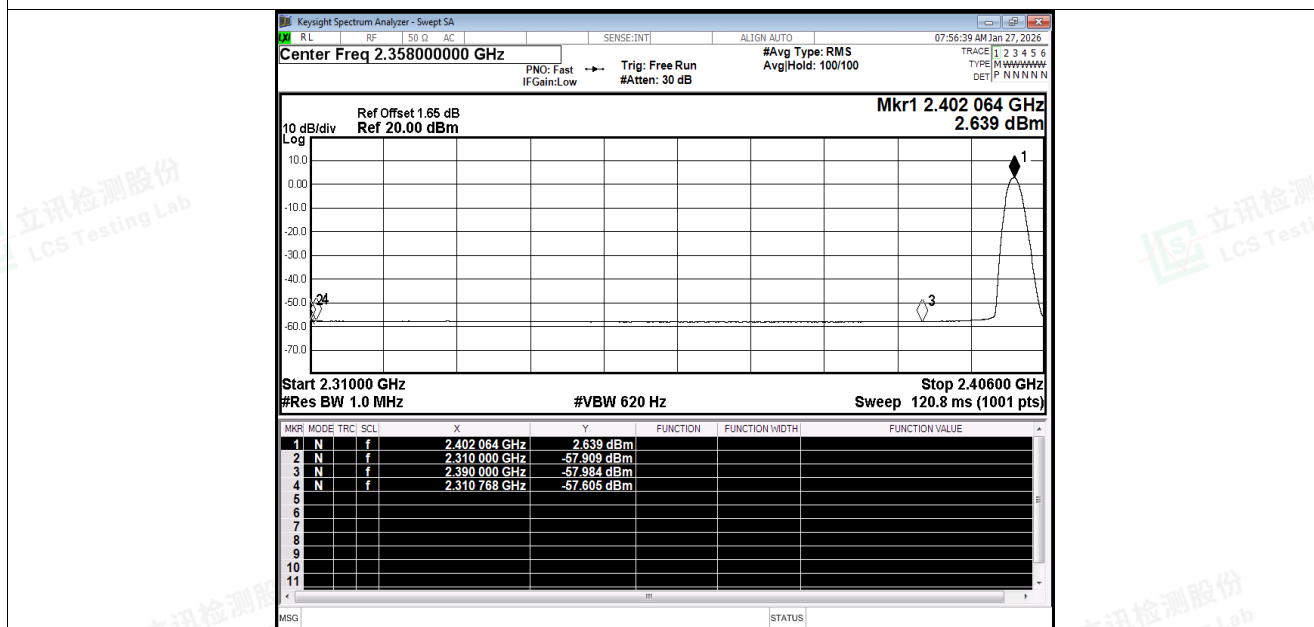
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Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average

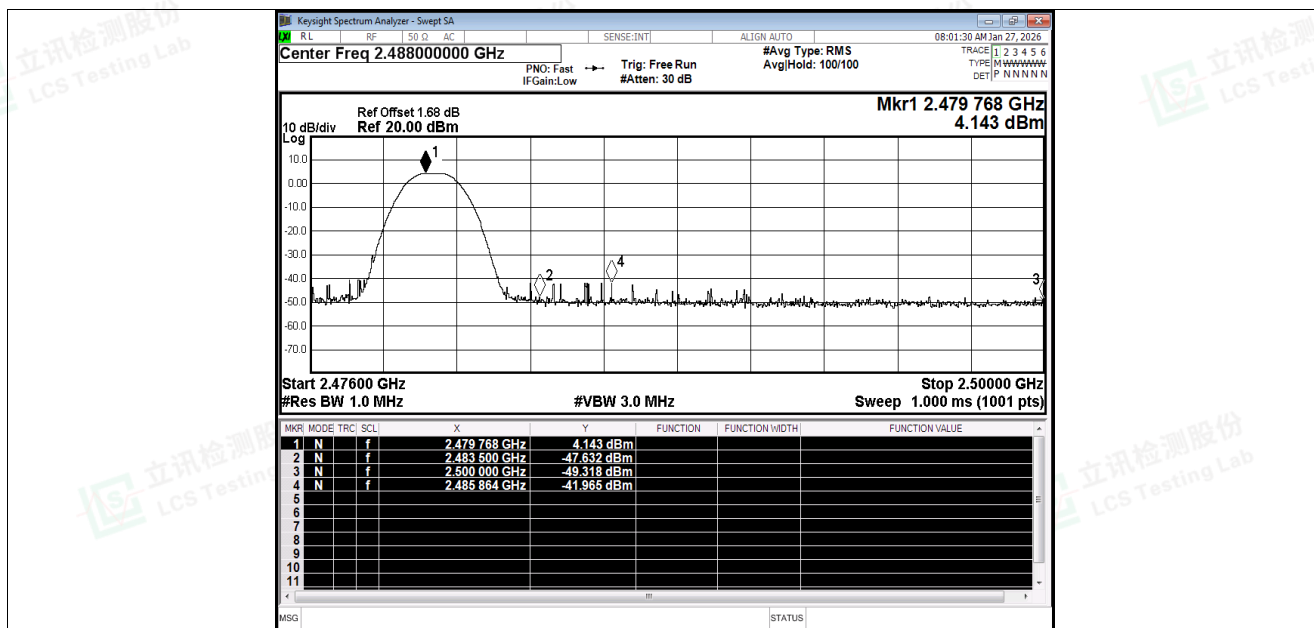


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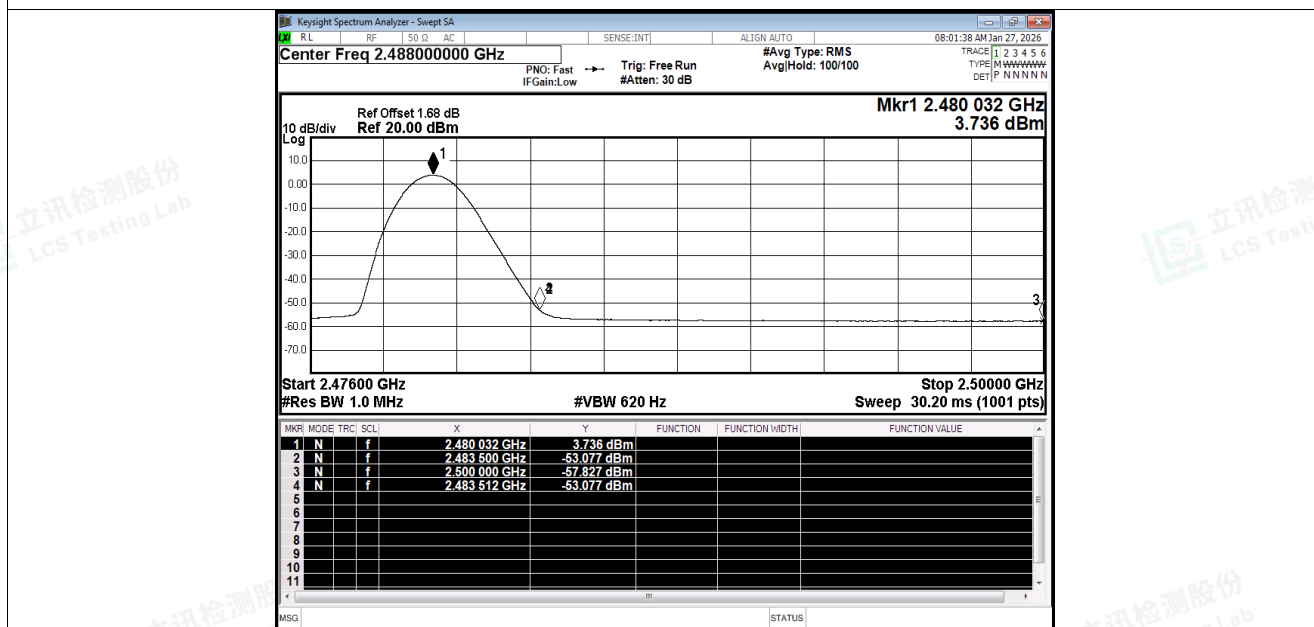
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average

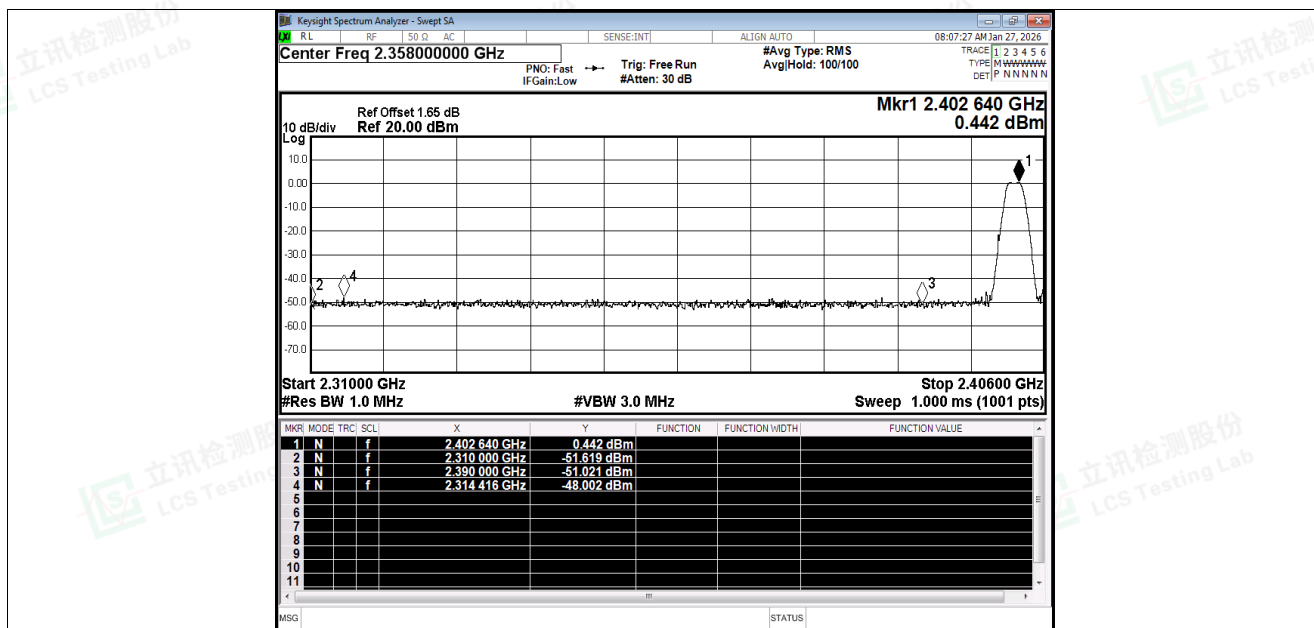


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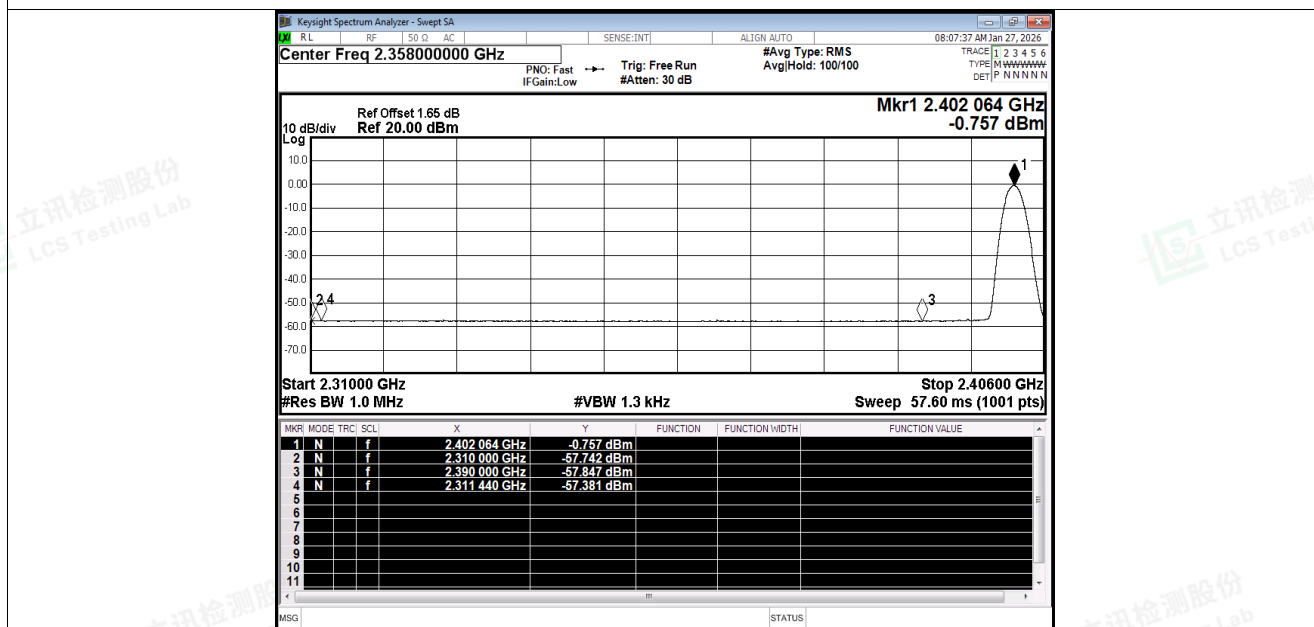
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Restrict Band NVNT BLE 2M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2402MHz Ant1 Average

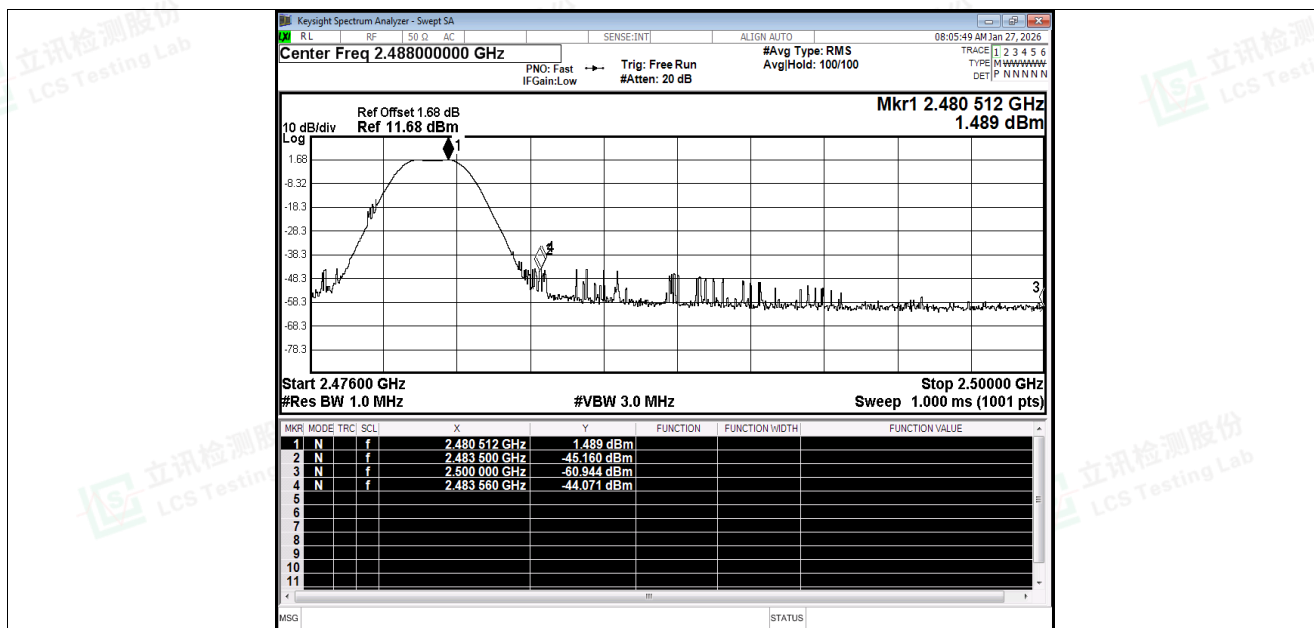


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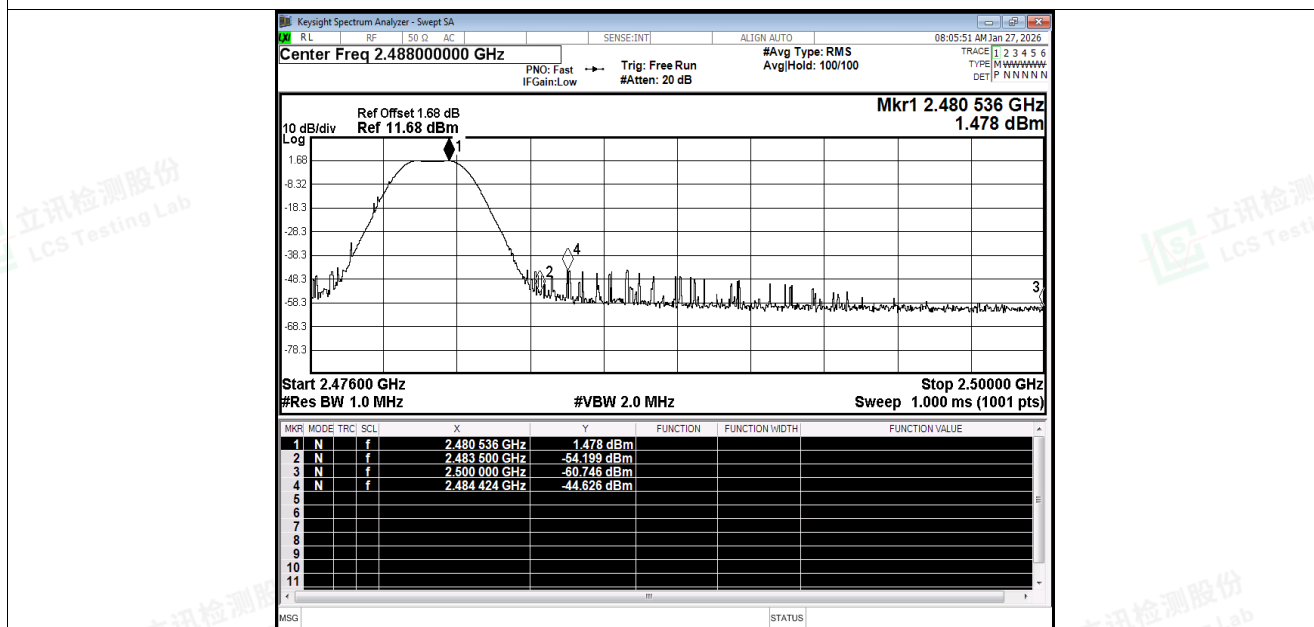
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Restrict Band NVNT BLE 2M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2480MHz Ant1 Average



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