



Appendix C

RF Test Data for Zigbee(Conducted Measurement)

Product Name: Smart Gateway

Test Model: GBZ01

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu





C.1 -6dB Bandwidth

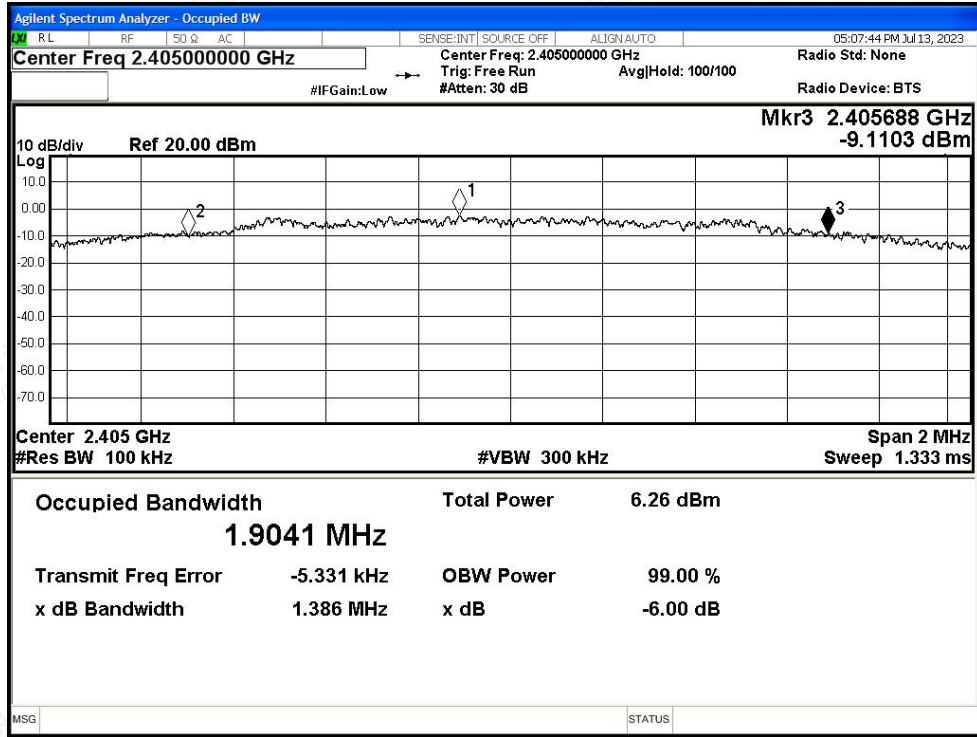
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	ZIGB	2405	Ant1	1.386	0.5	Pass
NVNT	ZIGB	2440	Ant1	1.467	0.5	Pass
NVNT	ZIGB	2480	Ant1	1.454	0.5	Pass



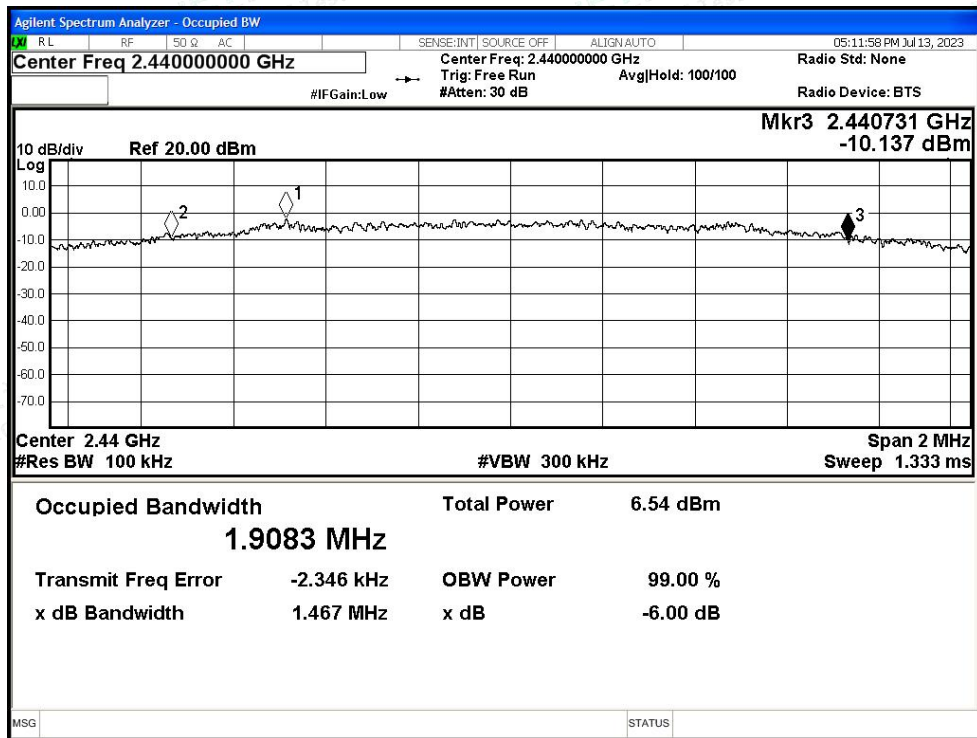


Test Graphs

-6dB Bandwidth NVNT ZIGB 2405MHz Ant1



-6dB Bandwidth NVNT ZIGB 2440MHz Ant1

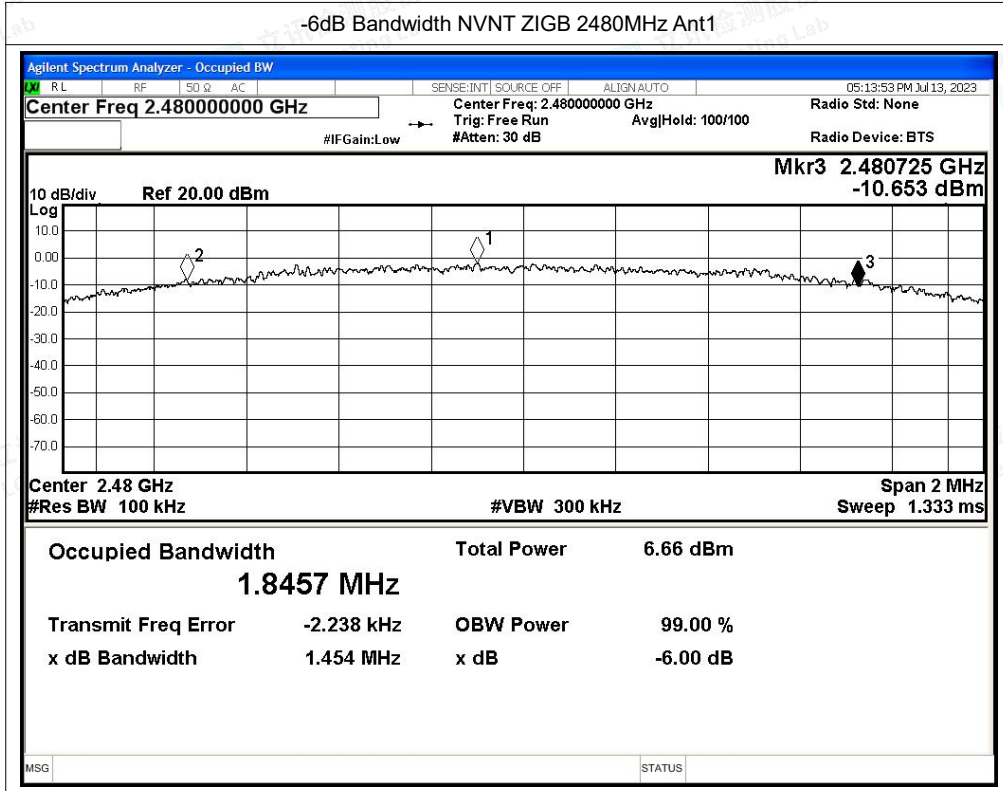


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C.2 Maximum Conducted Output Power

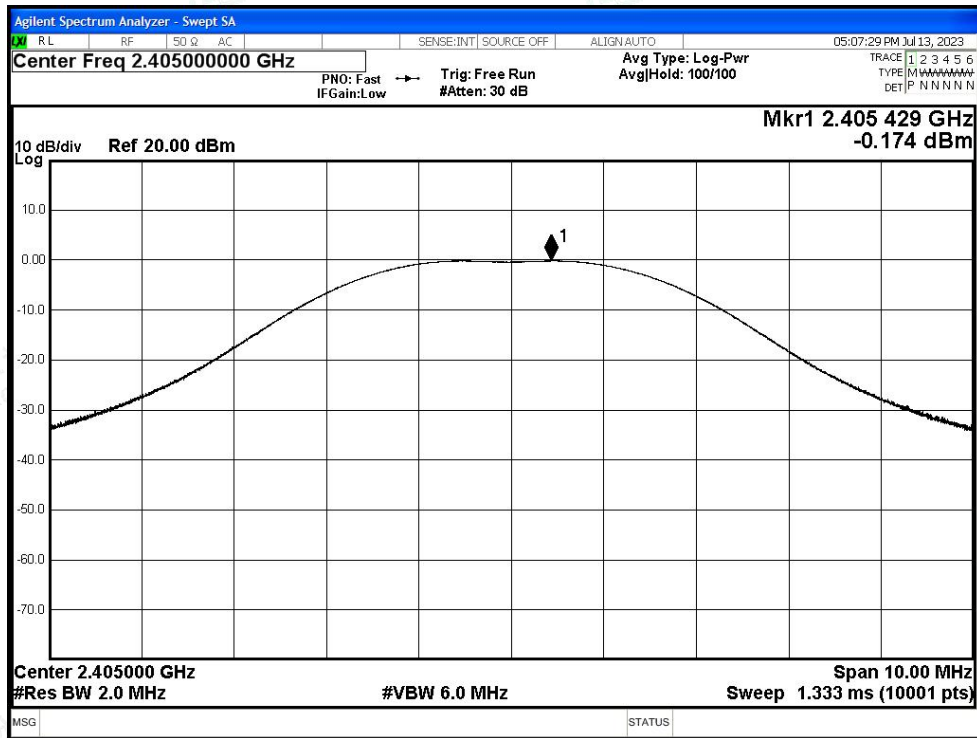
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	ZIGB	2405	Ant1	-0.17	30	Pass
NVNT	ZIGB	2440	Ant1	0.07	30	Pass
NVNT	ZIGB	2480	Ant1	0.18	30	Pass



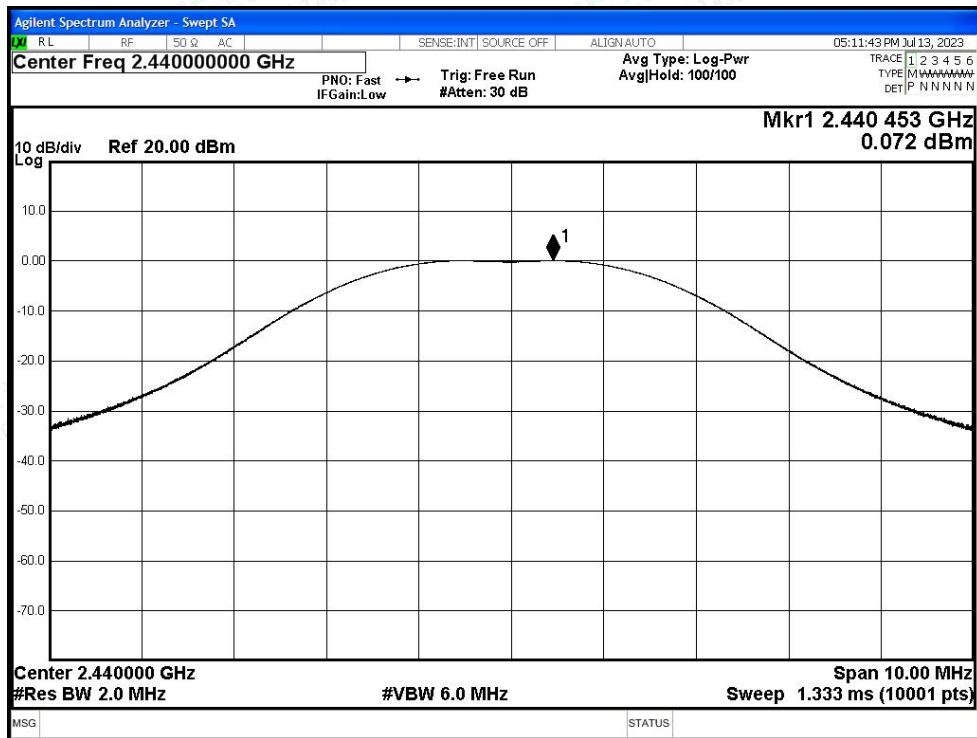


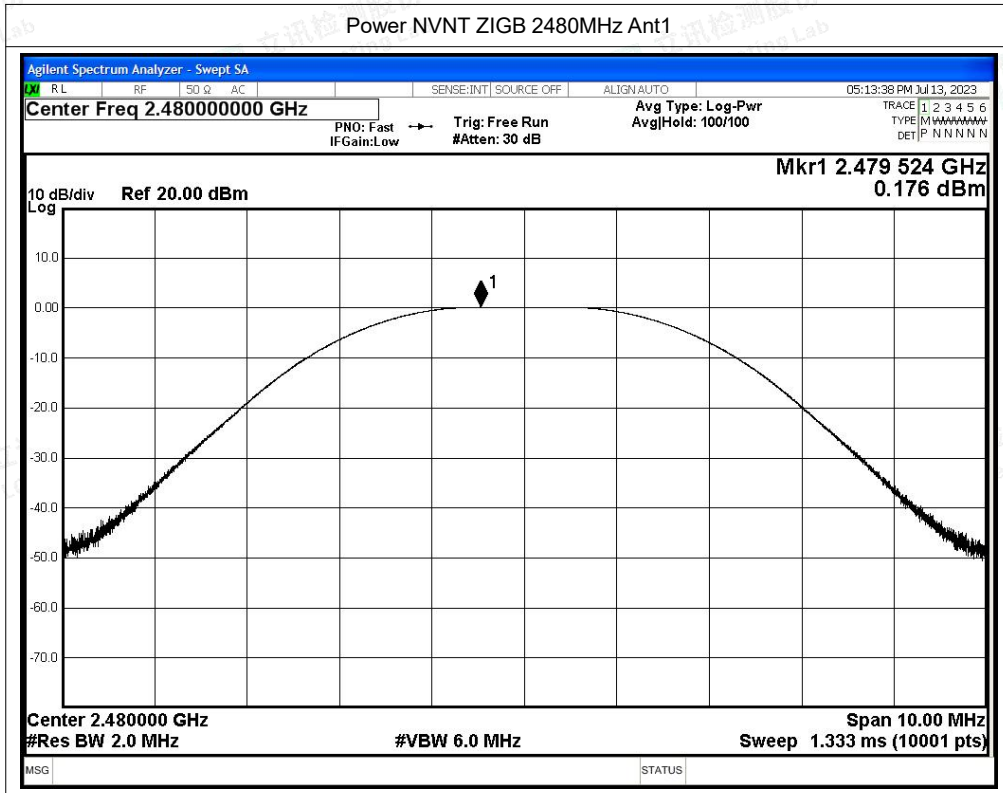
Test Graphs

Power NVNT ZIGB 2405MHz Ant1



Power NVNT ZIGB 2440MHz Ant1







C.3 Maximum Power Spectral Density Level

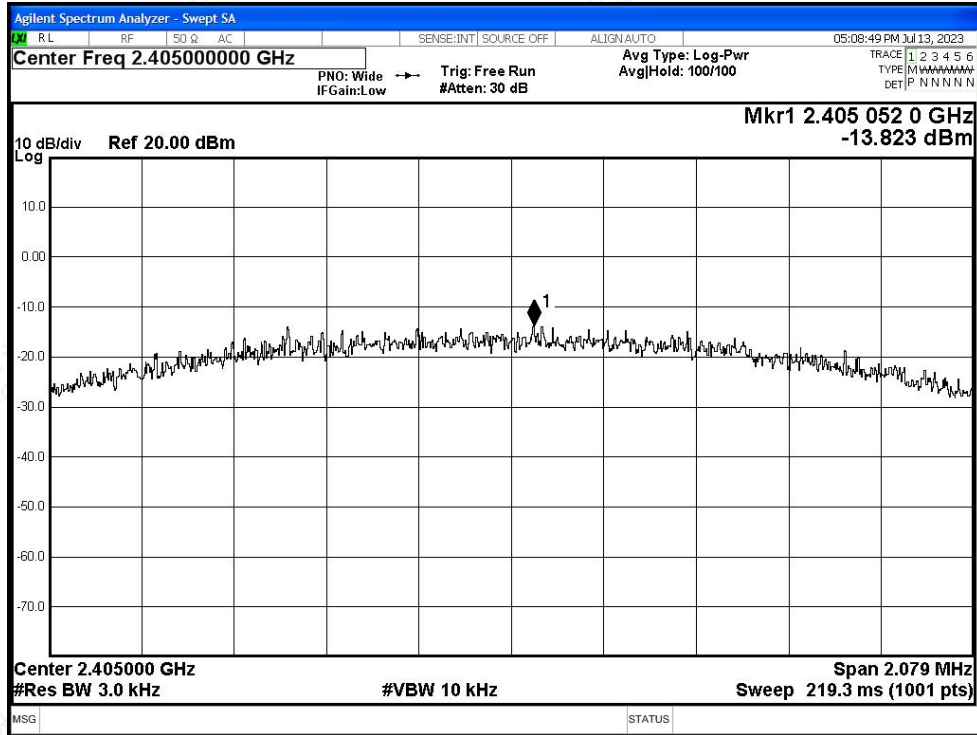
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	ZIGB	2405	Ant1	-13.82	8	Pass
NVNT	ZIGB	2440	Ant1	-12.91	8	Pass
NVNT	ZIGB	2480	Ant1	-11.71	8	Pass



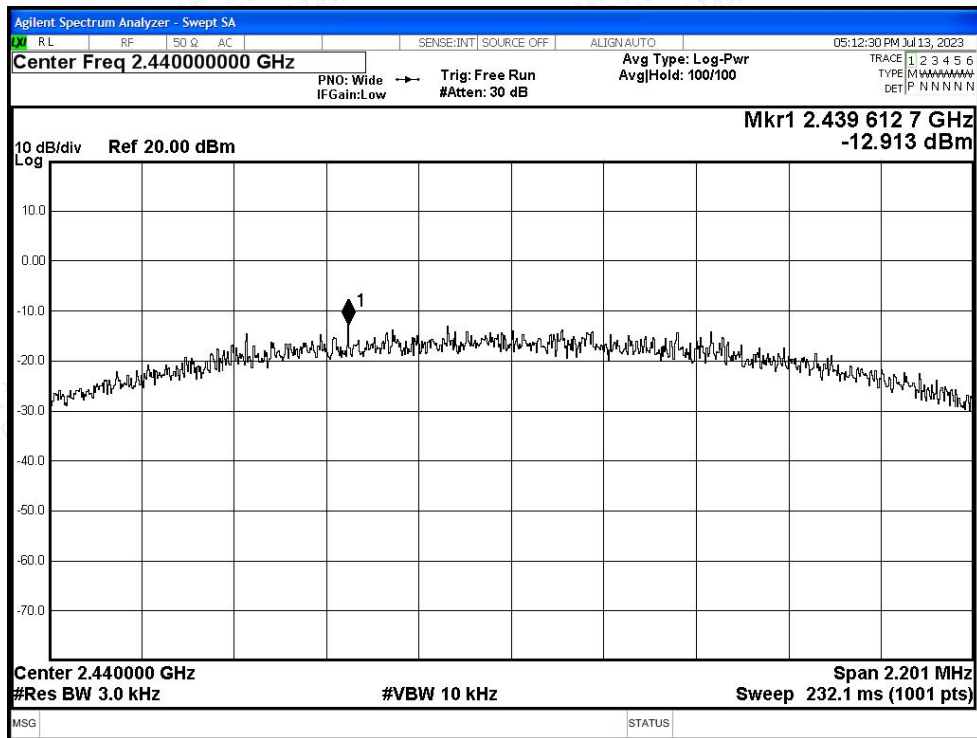


Test Graphs

PSD NVNT ZIGB 2405MHz Ant1



PSD NVNT ZIGB 2440MHz Ant1

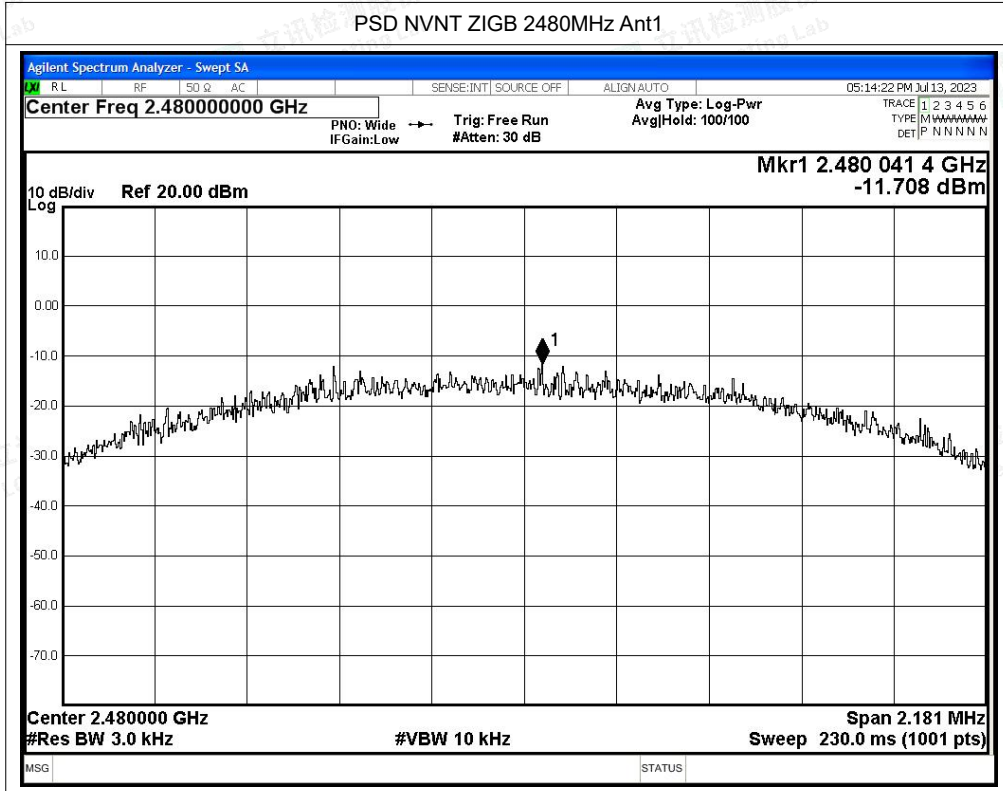


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C.4 Band Edge

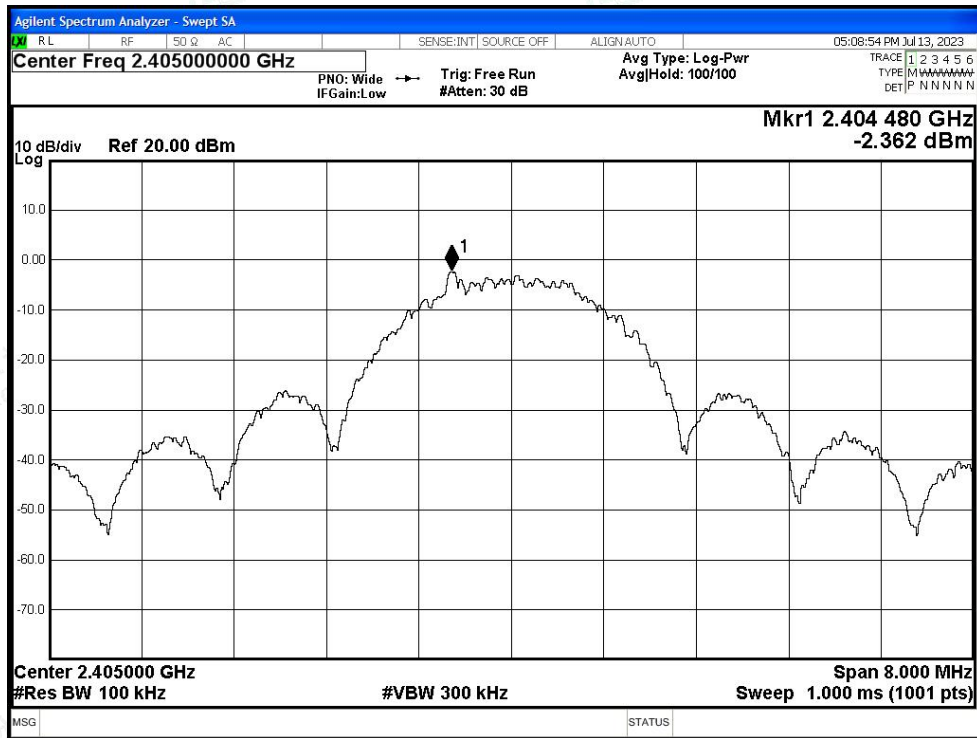
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ZIGB	2405	Ant1	-43.37	-20	Pass
NVNT	ZIGB	2480	Ant1	-56.21	-20	Pass



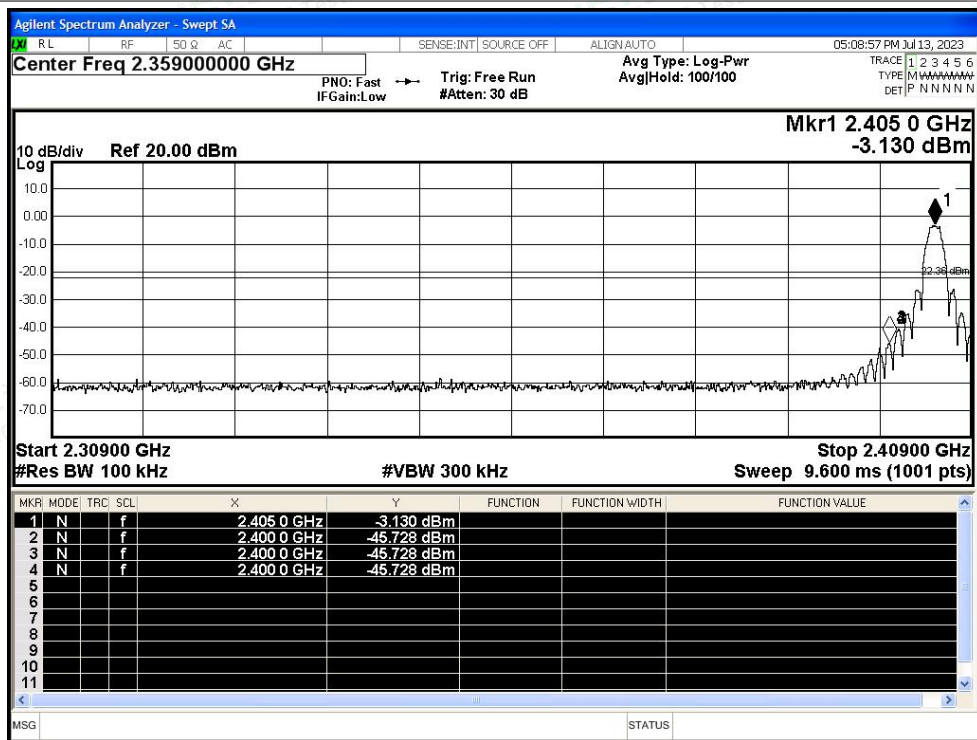


Test Graphs

Band Edge NVNT ZIGB 2405MHz Ant1 Ref



Band Edge NVNT ZIGB 2405MHz Ant1 Emission



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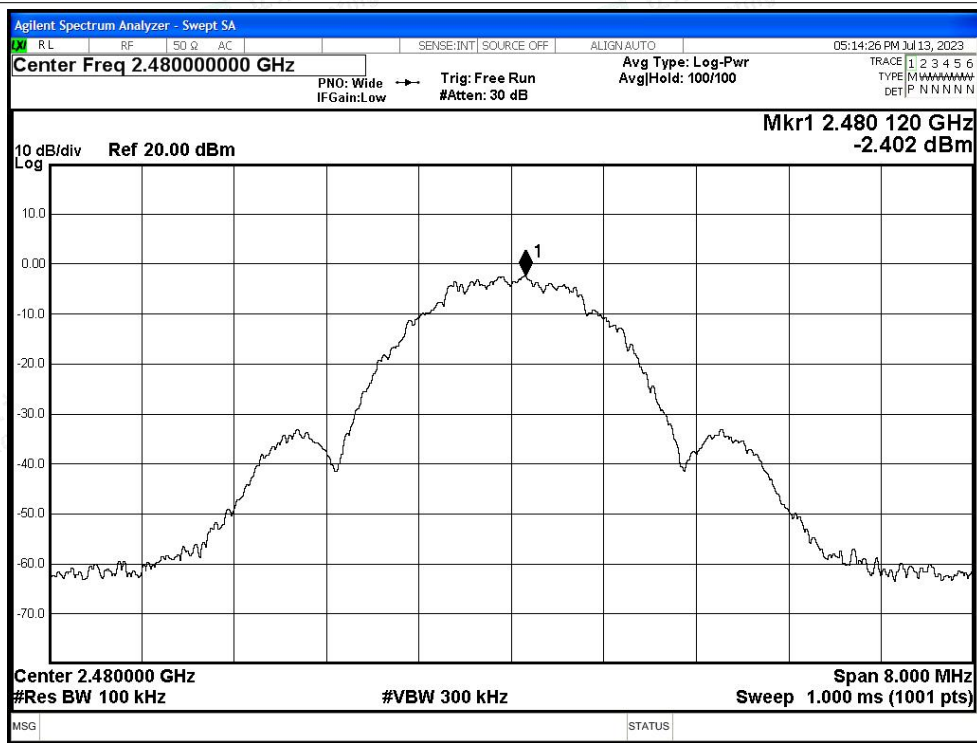
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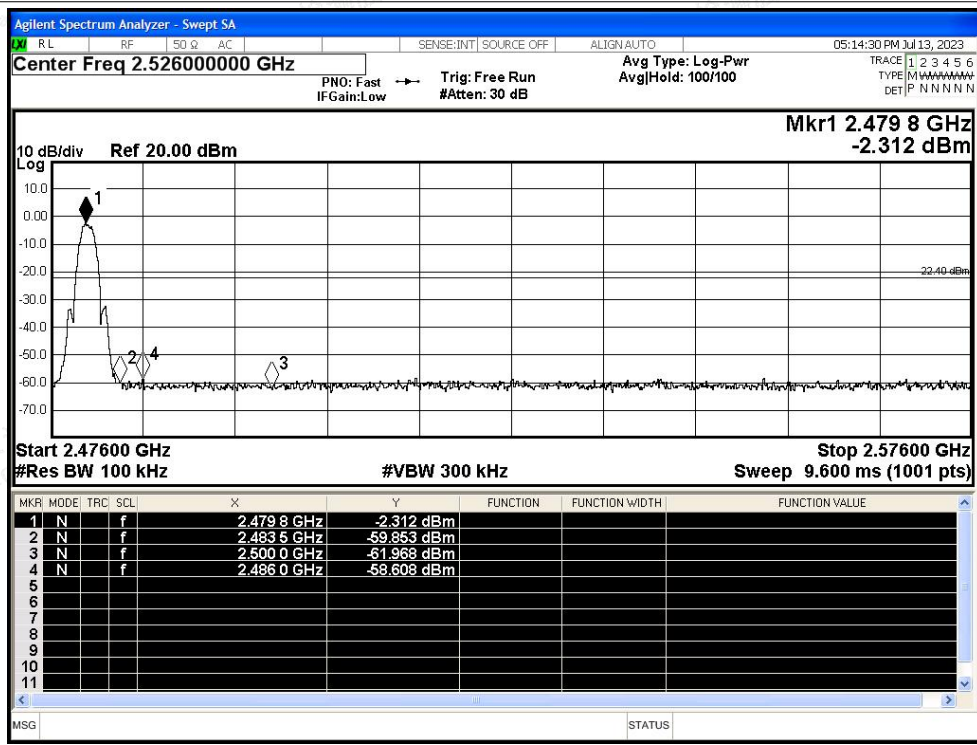
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Band Edge NVNT ZIGB 2480MHz Ant1 Ref



Band Edge NVNT ZIGB 2480MHz Ant1 Emission



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C.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ZIGB	2405	Ant1	-53.42	-20	Pass
NVNT	ZIGB	2440	Ant1	-53.89	-20	Pass
NVNT	ZIGB	2480	Ant1	-56.31	-20	Pass

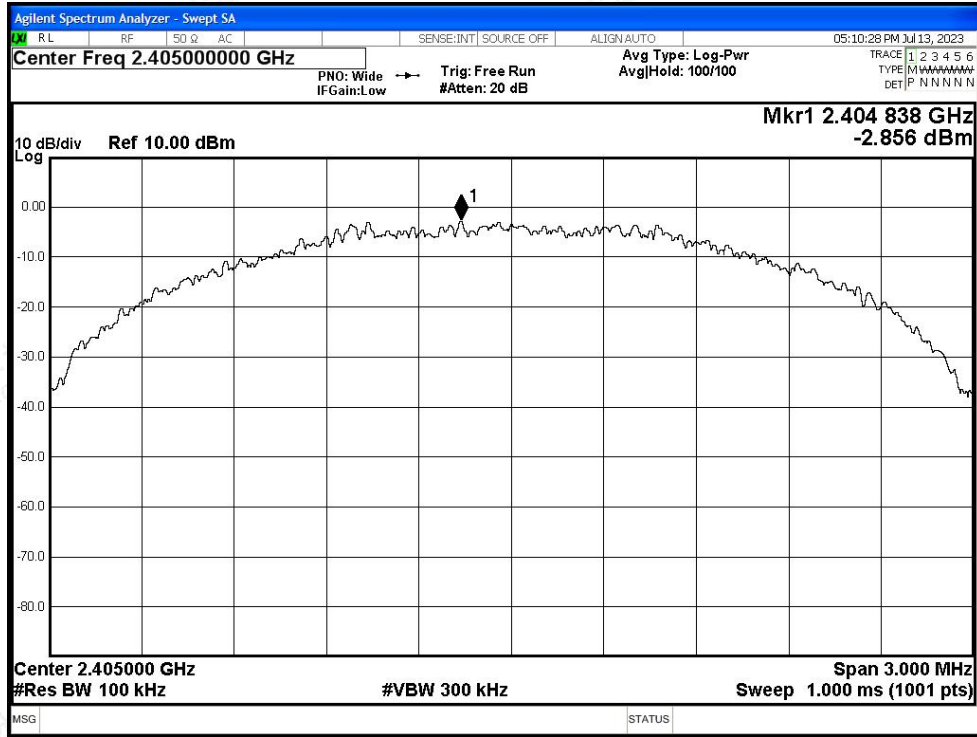


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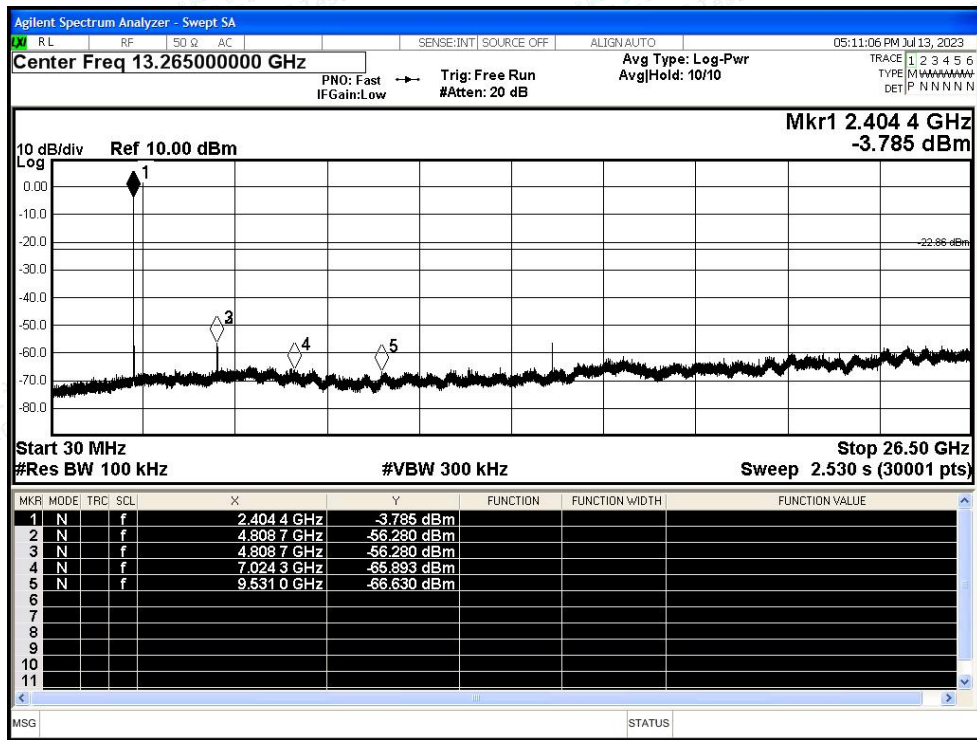


Test Graphs

Tx. Spurious NVNT ZIGB 2405MHz Ant1 Ref



Tx. Spurious NVNT ZIGB 2405MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

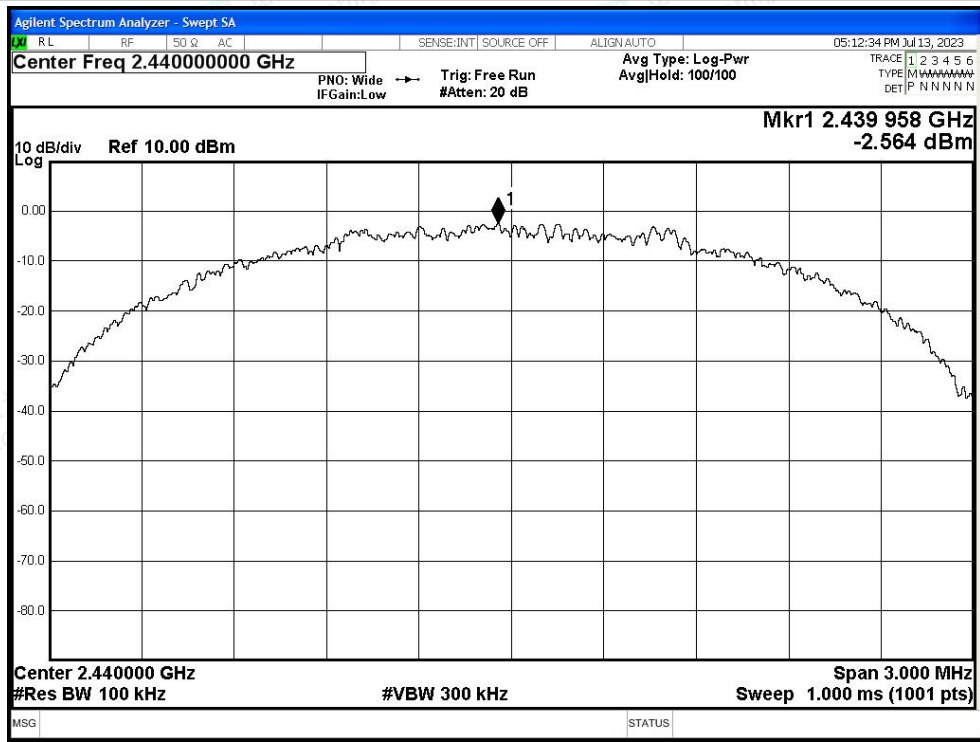
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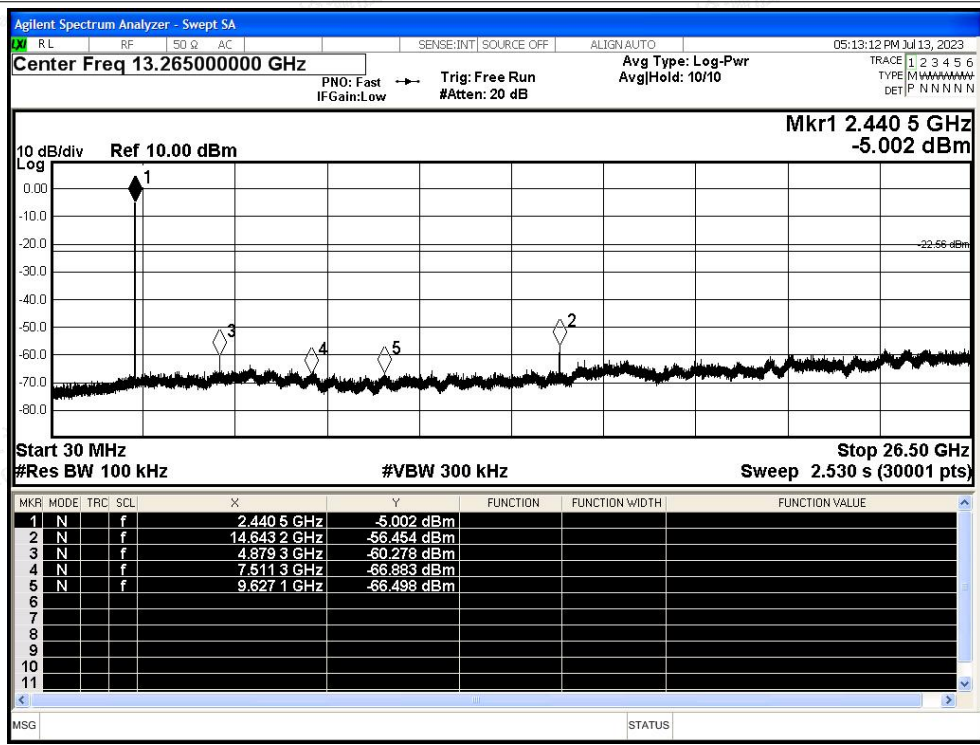
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Tx. Spurious NVNT ZIGB 2440MHz Ant1 Ref



Tx. Spurious NVNT ZIGB 2440MHz Ant1 Emission



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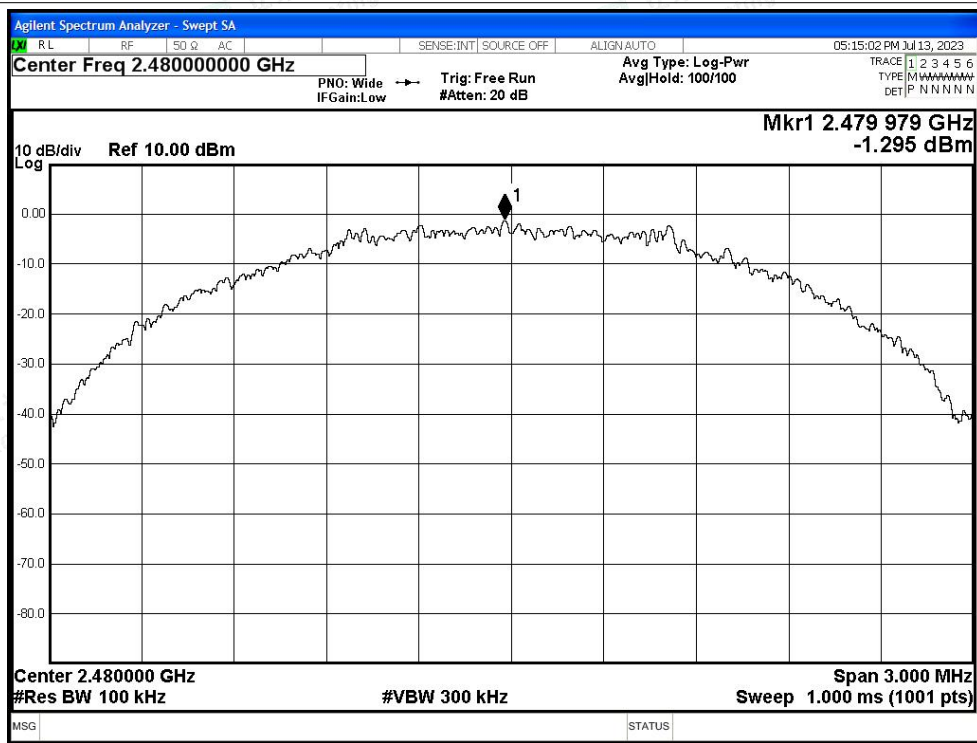
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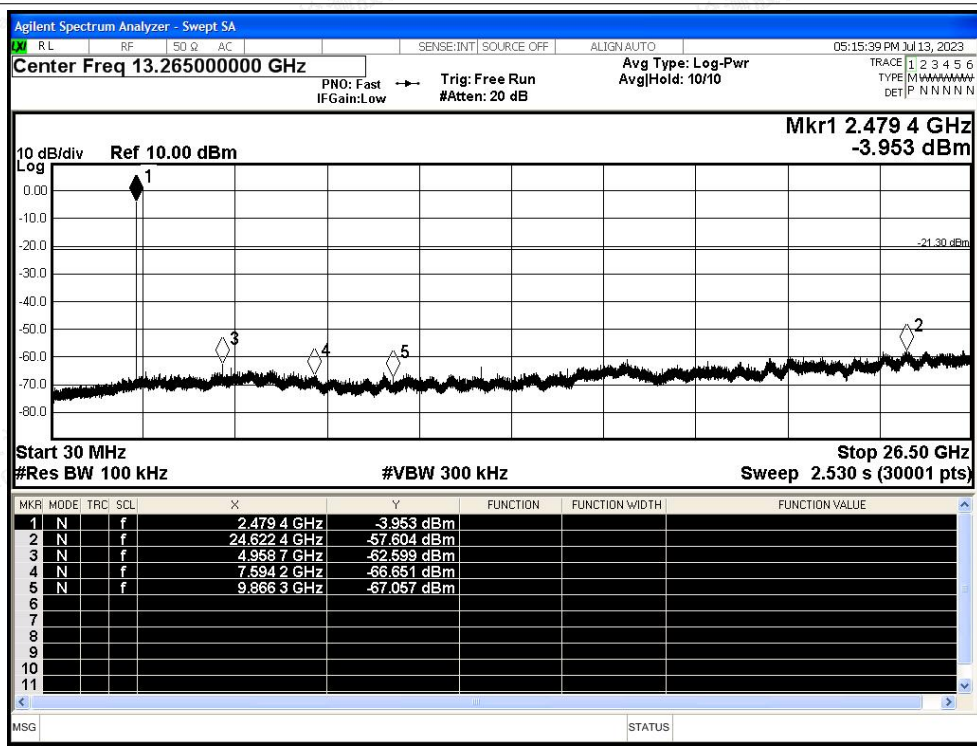
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Tx. Spurious NVNT ZIGB 2480MHz Ant1 Ref



Tx. Spurious NVNT ZIGB 2480MHz Ant1 Emission



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C.6 Duty Cycle

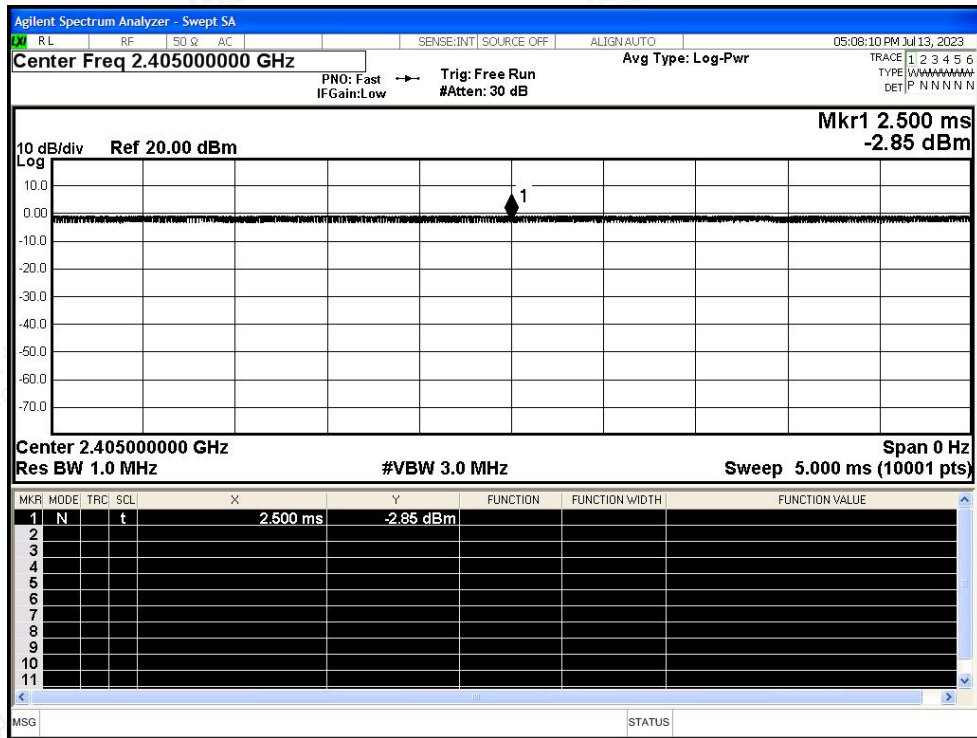
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	ZIGB	2405	Ant1	100	0	0
NVNT	ZIGB	2440	Ant1	100	0	0
NVNT	ZIGB	2480	Ant1	100	0	0



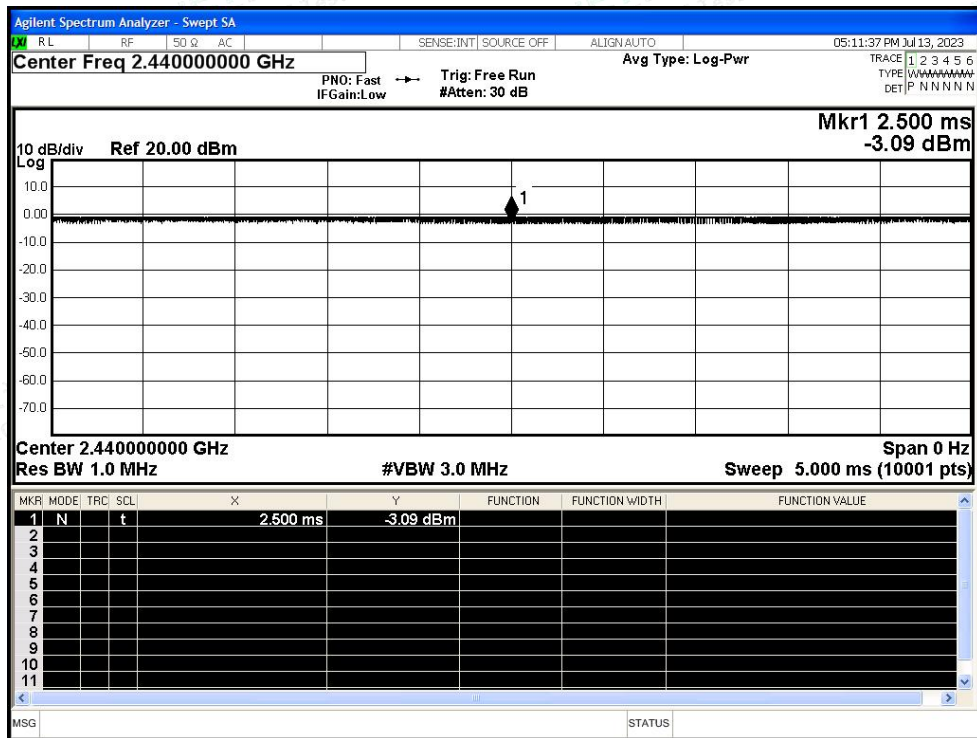


Test Graphs

Duty Cycle NVNT ZIGB 2405MHz Ant1



Duty Cycle NVNT ZIGB 2440MHz Ant1

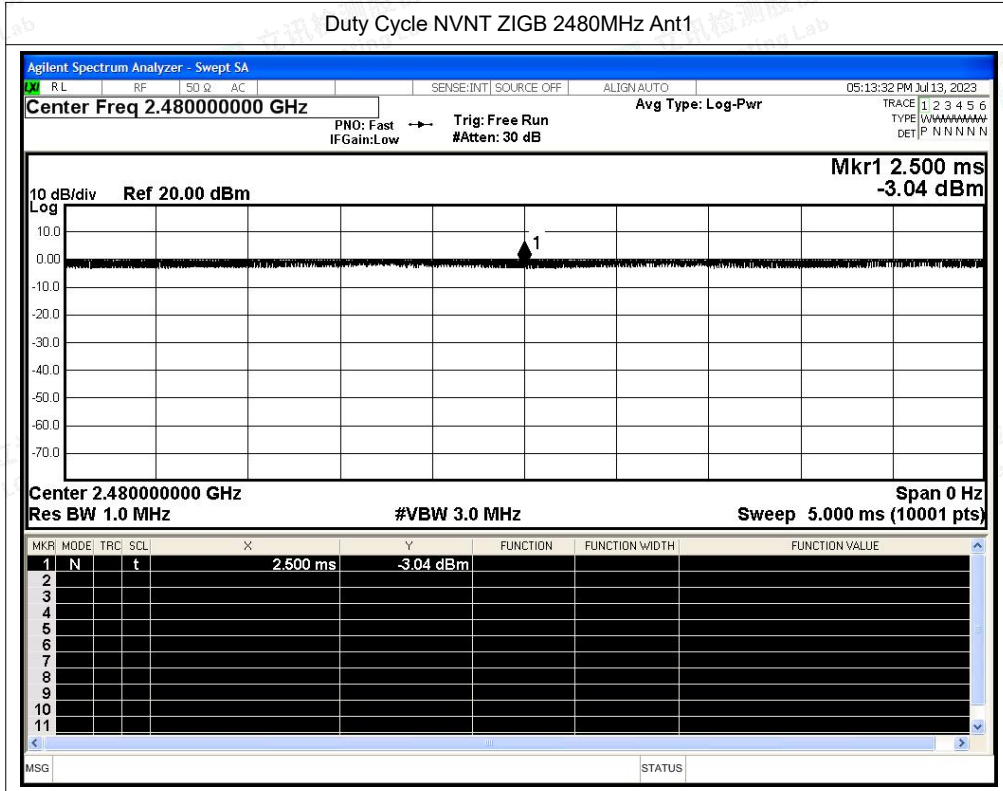


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C.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	ZIGB	2405	Ant1	2310	-53.04	2	44.22	Peak	74	Pass
NVNT	ZIGB	2405	Ant1	2310	-62.3	2	34.96	Average	54	Pass
NVNT	ZIGB	2405	Ant1	2369.697	-49.11	2	48.15	Peak	74	Pass
NVNT	ZIGB	2405	Ant1	2389.992	-61.63	2	35.63	Average	54	Pass
NVNT	ZIGB	2405	Ant1	2390	-51.25	2	46.01	Peak	74	Pass
NVNT	ZIGB	2405	Ant1	2390	-61.63	2	35.63	Average	54	Pass
NVNT	ZIGB	2480	Ant1	2483.5	-49.22	2	48.04	Peak	74	Pass
NVNT	ZIGB	2480	Ant1	2483.5	-58.4	2	38.86	Average	54	Pass
NVNT	ZIGB	2480	Ant1	2483.872	-48.23	2	49.03	Peak	74	Pass
NVNT	ZIGB	2480	Ant1	2483.512	-58.4	2	38.86	Average	54	Pass
NVNT	ZIGB	2480	Ant1	2500	-50.44	2	46.82	Peak	74	Pass
NVNT	ZIGB	2480	Ant1	2500	-61.77	2	35.49	Average	54	Pass

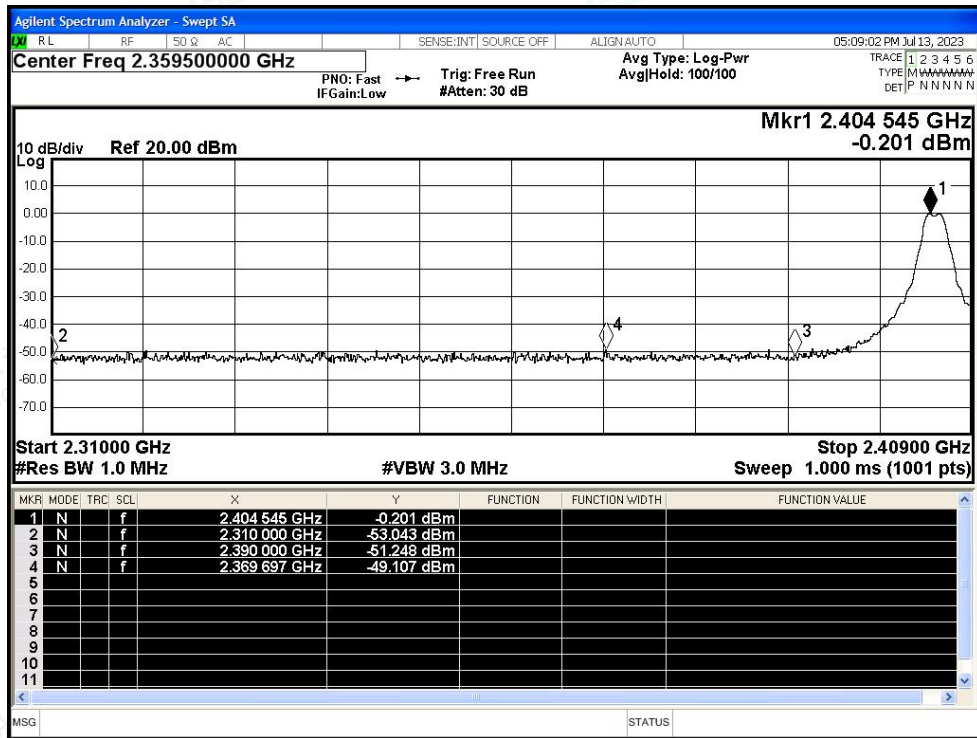


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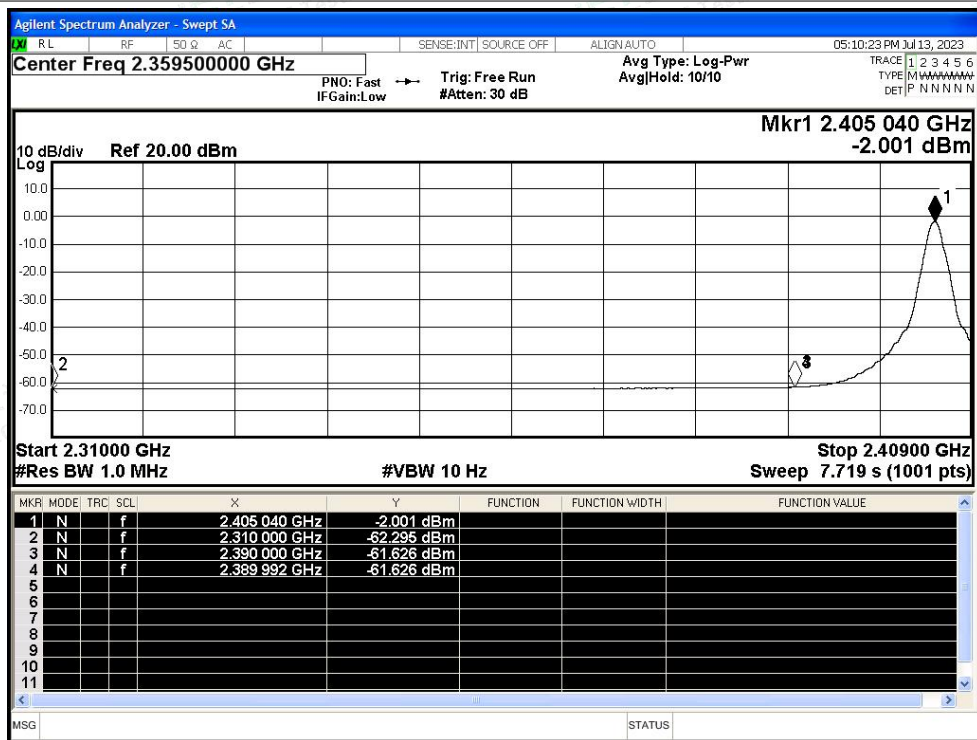


Test Graphs

Restrict Band NVNT ZIGB 2405MHz Ant1 Peak



Restrict Band NVNT ZIGB 2405MHz Ant1 Average



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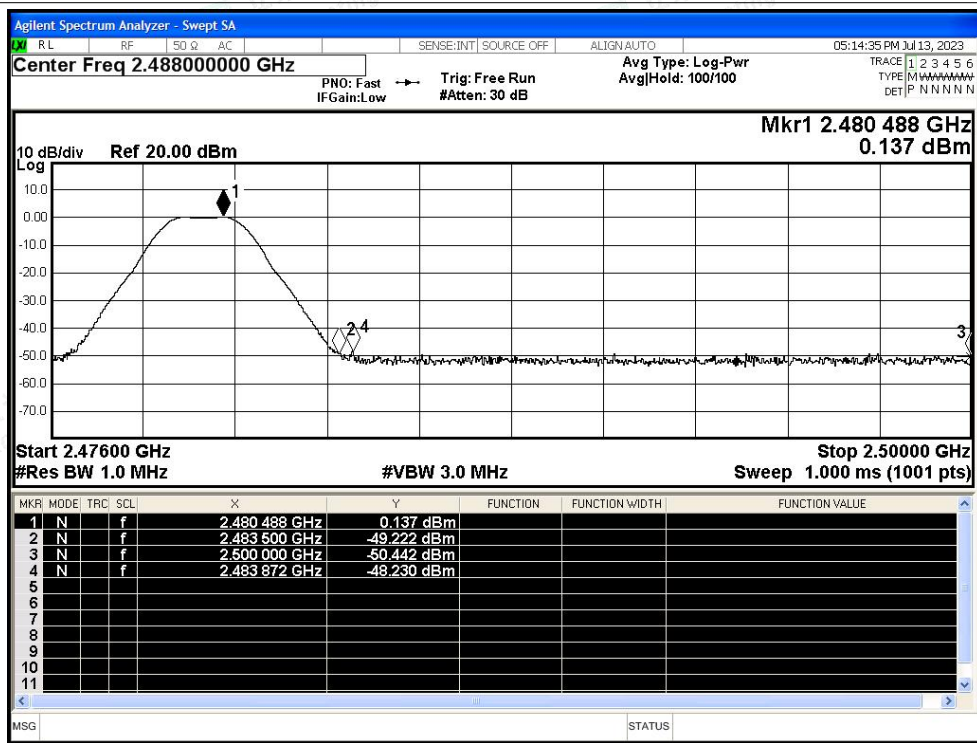
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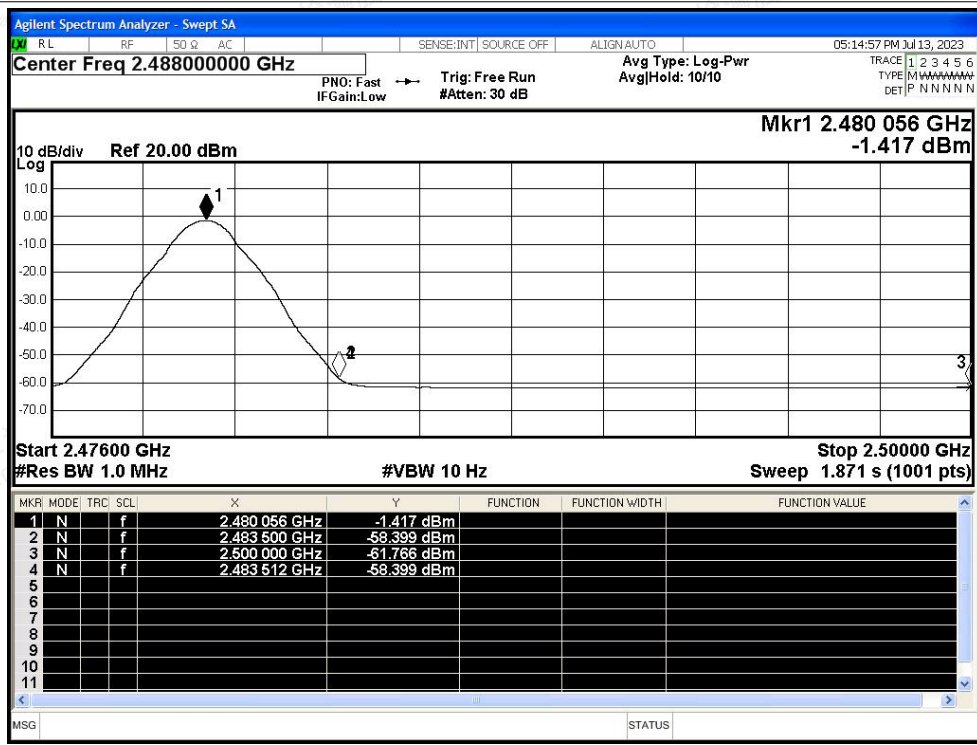
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Restrict Band NVNT ZIGB 2480MHz Ant1 Peak



Restrict Band NVNT ZIGB 2480MHz Ant1 Average



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