



Appendix A

RF Test Data for Zigbee (Conducted Measurement)

Product Name: Nucleus-M II Hand Grip (Left)

Test Model: WLC-T06-HG-L

Environmental Conditions

Temperature:	23.6°C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Andre Tan
Supervised by:	Nick Peng



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A.1 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	ZigBee	2405	Ant1	1.471	≥ 0.5	Pass
NVNT	ZigBee	2440	Ant1	1.436	≥ 0.5	Pass
NVNT	ZigBee	2480	Ant1	1.359	≥ 0.5	Pass



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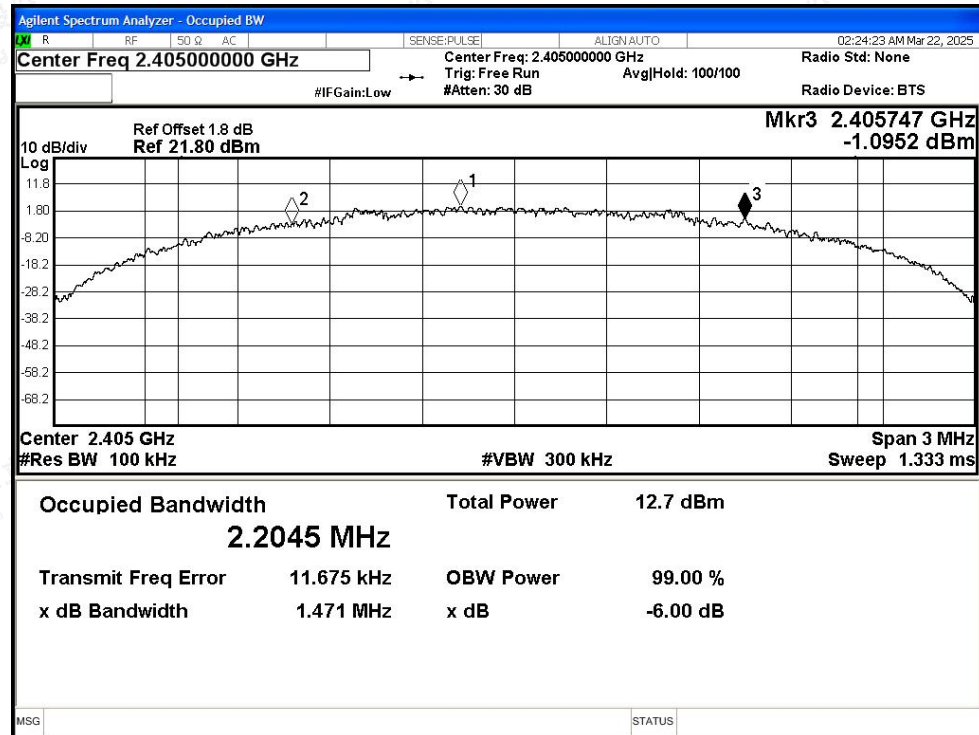
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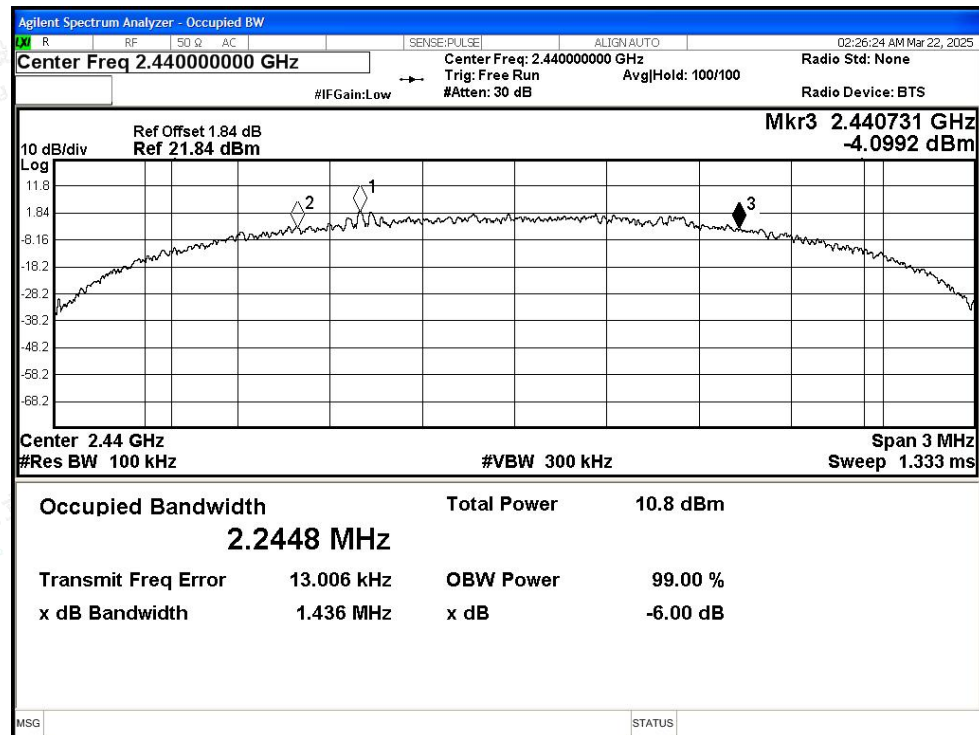


Test Graphs

-6dB Bandwidth NVNT ZigBee 2405MHz Ant1



-6dB Bandwidth NVNT ZigBee 2440MHz Ant1

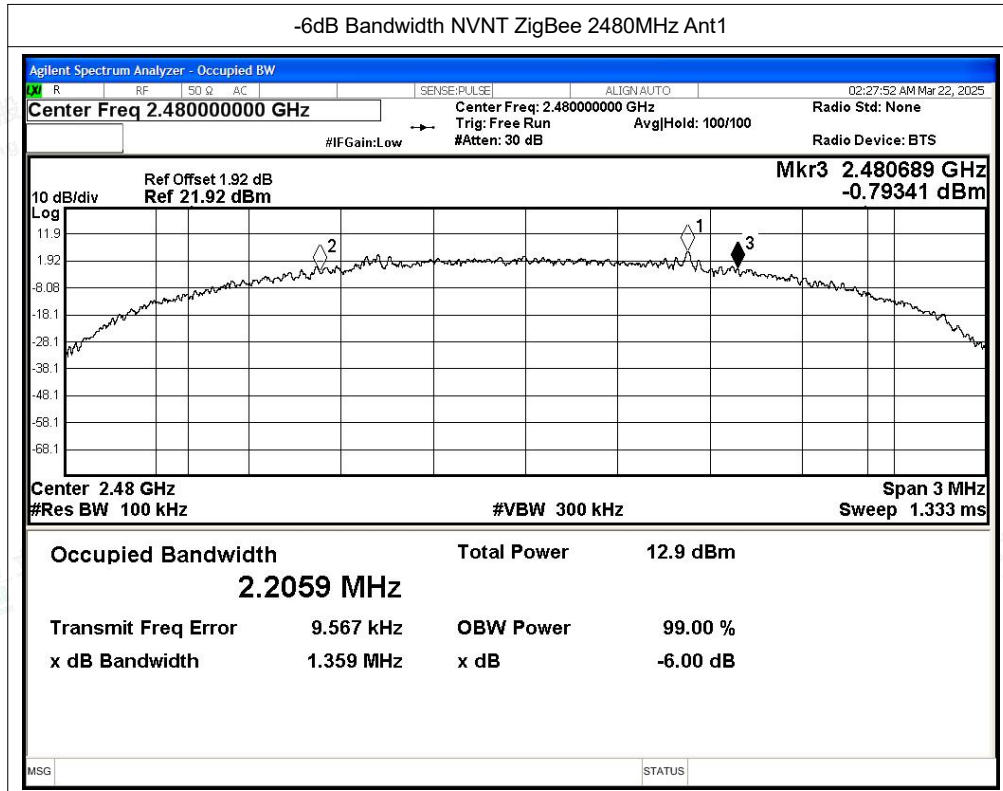


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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	ZigBee	2405	Ant1	-1.30	30	Pass
NVNT	ZigBee	2440	Ant1	-0.43	30	Pass
NVNT	ZigBee	2480	Ant1	1.60	30	Pass



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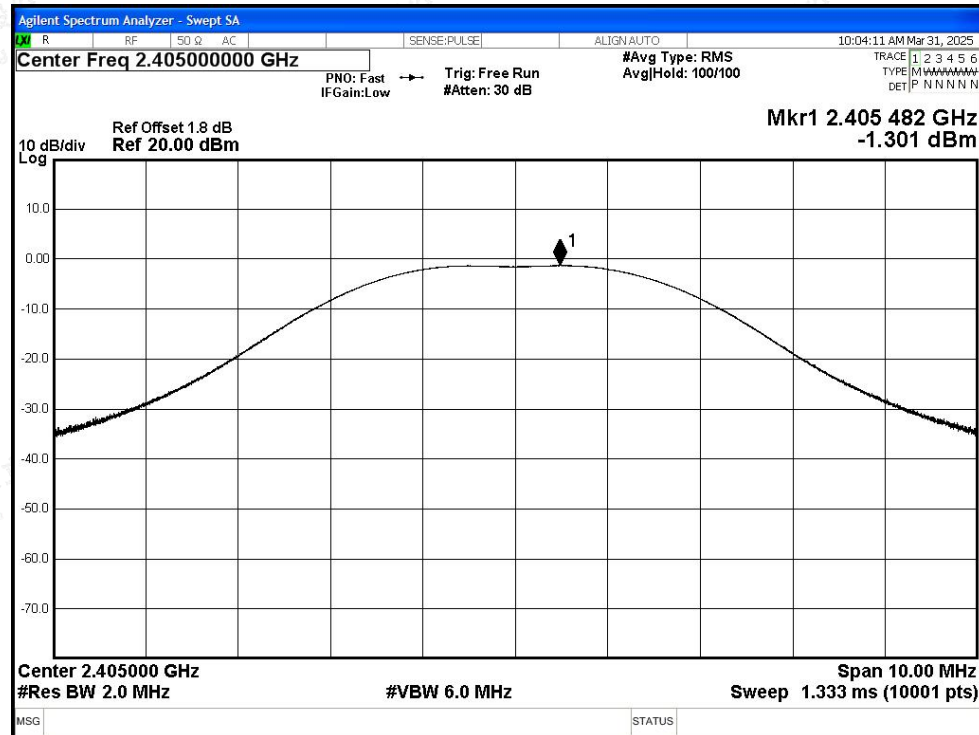
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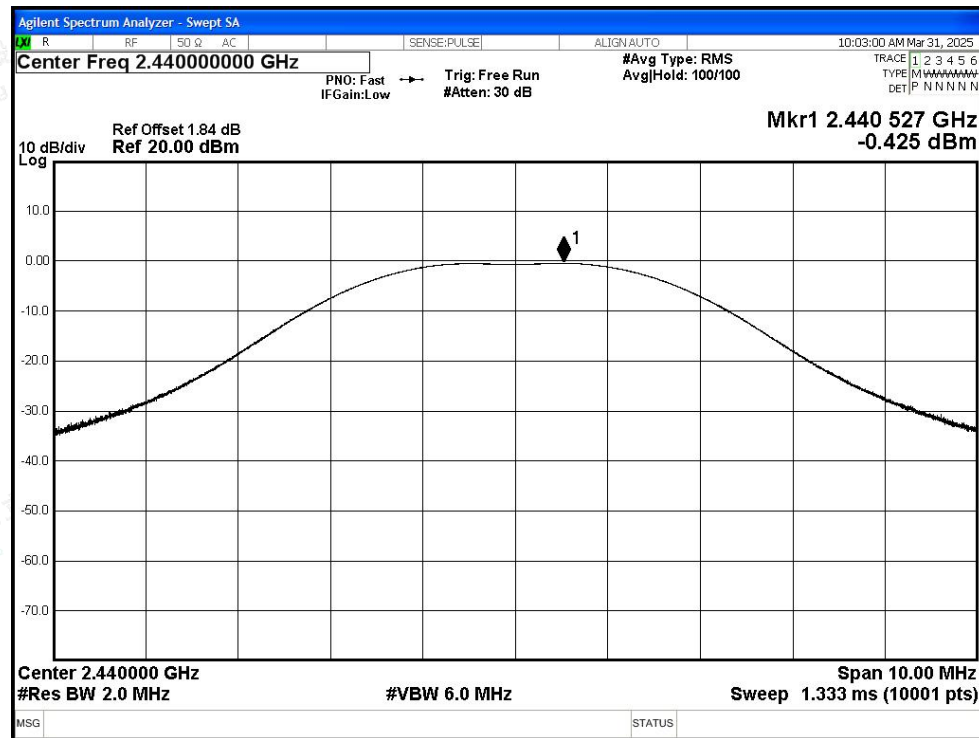


Test Graphs

Power NVNT ZigBee 2405MHz Ant1



Power NVNT ZigBee 2440MHz Ant1

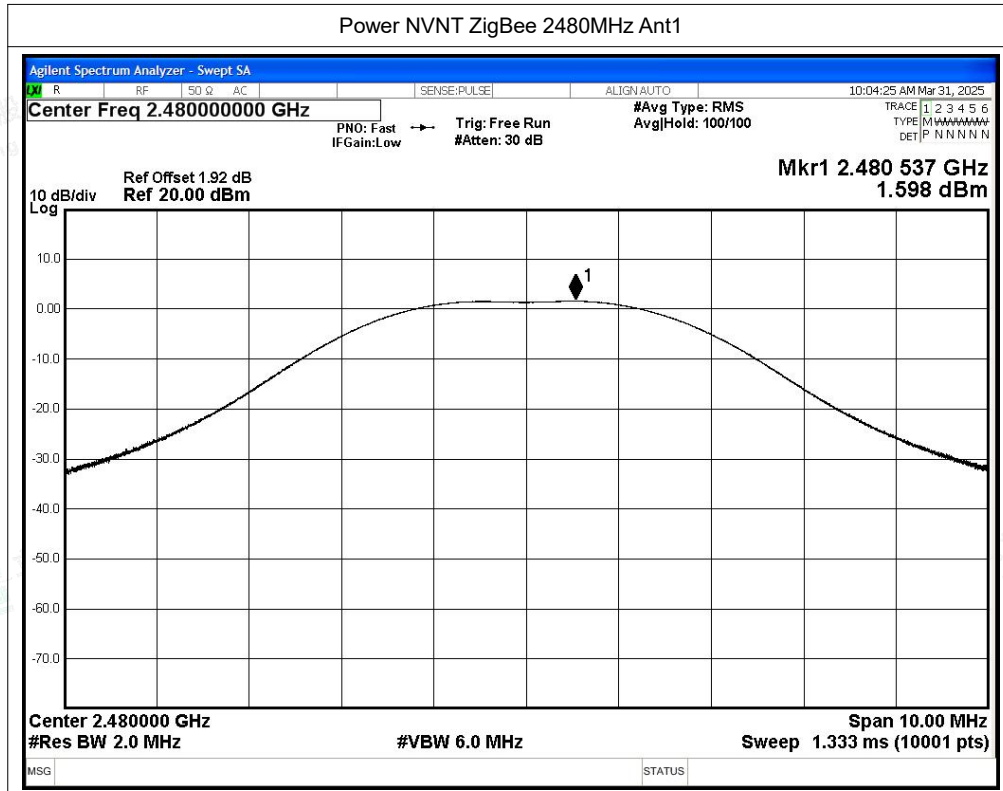


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A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	ZigBee	2405	Ant1	-8.69	8	Pass
NVNT	ZigBee	2440	Ant1	-11.17	8	Pass
NVNT	ZigBee	2480	Ant1	-7.24	8	Pass



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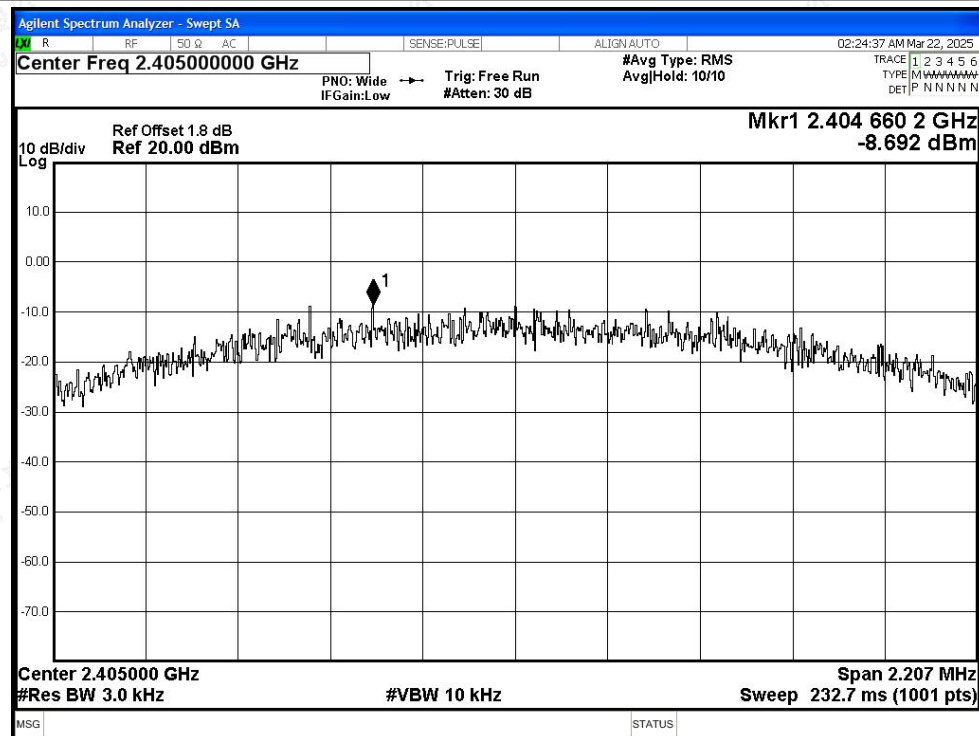
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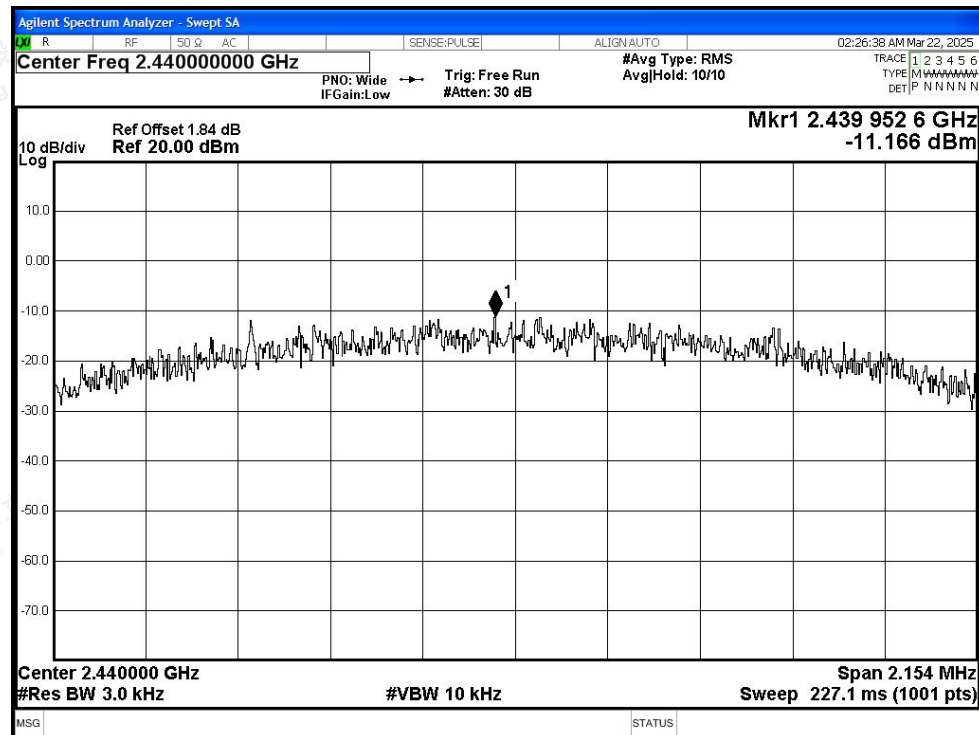


Test Graphs

PSD NVNT ZigBee 2405MHz Ant1



PSD NVNT ZigBee 2440MHz Ant1

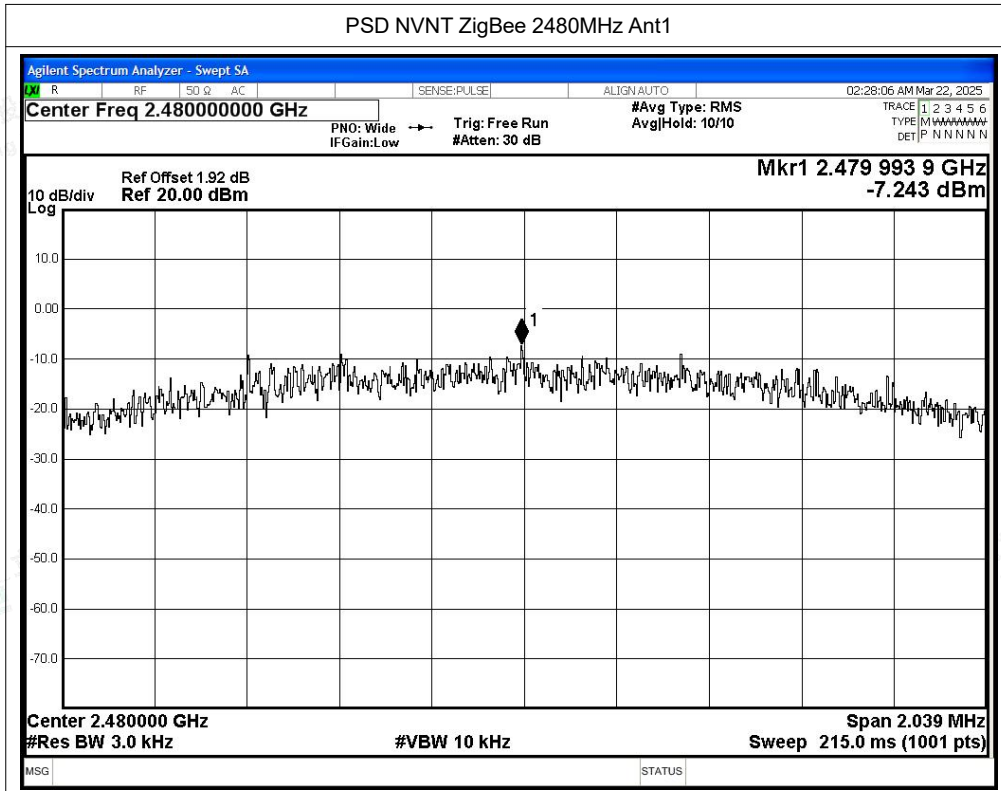


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A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ZigBee	2405	Ant1	-42.59	-20	Pass
NVNT	ZigBee	2480	Ant1	-37.15	-20	Pass



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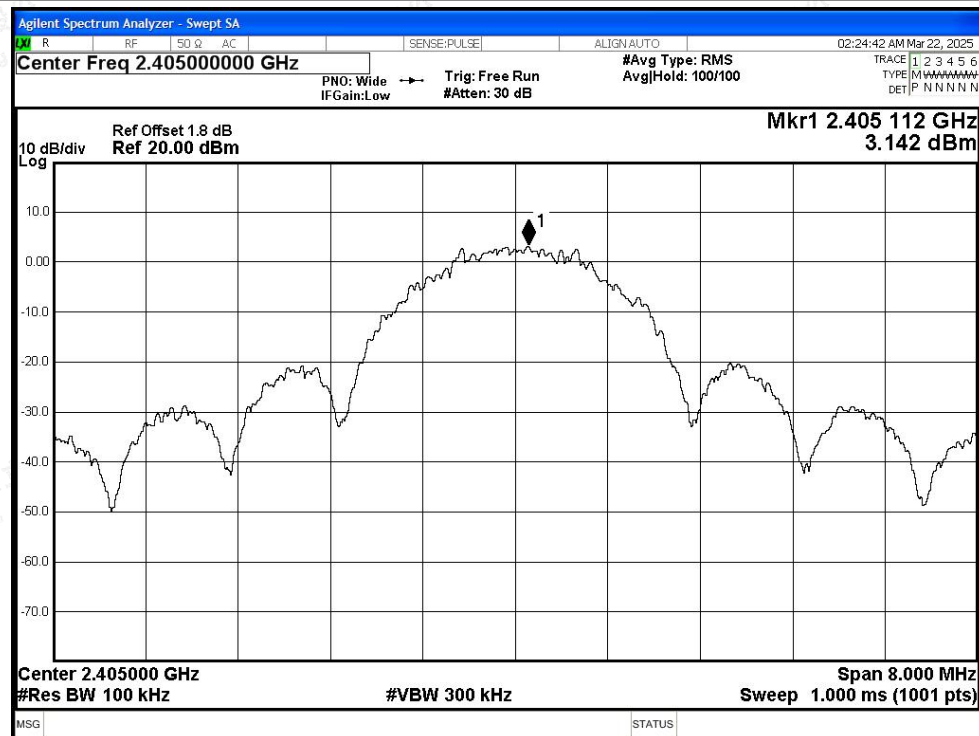
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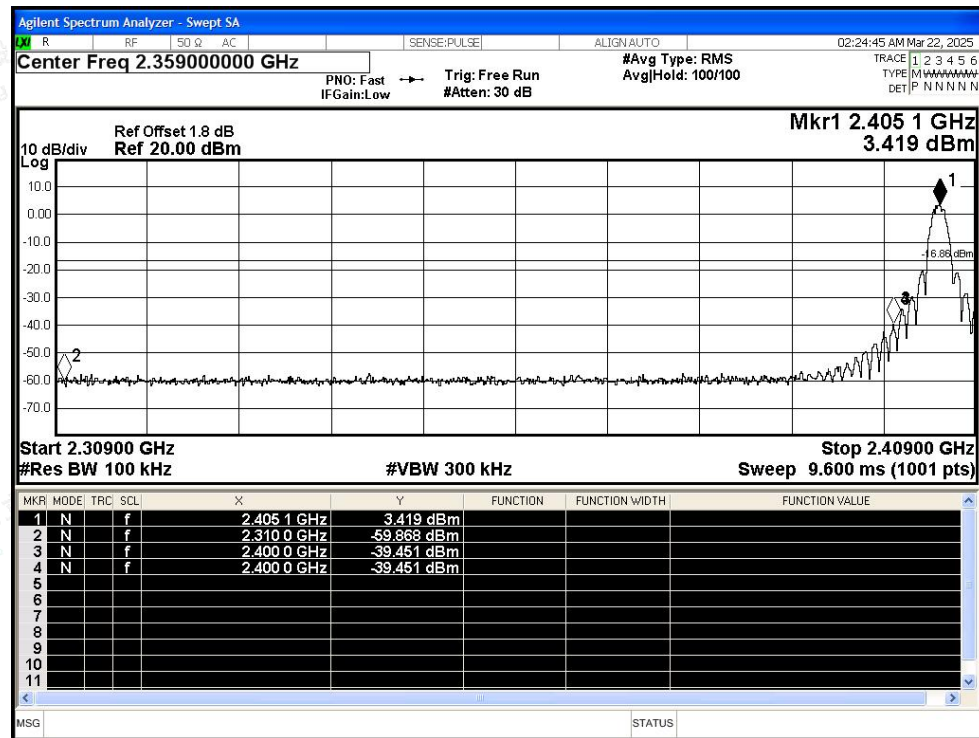


Test Graphs

Band Edge NVNT ZigBee 2405MHz Ant1 Ref



Band Edge NVNT ZigBee 2405MHz Ant1 Emission



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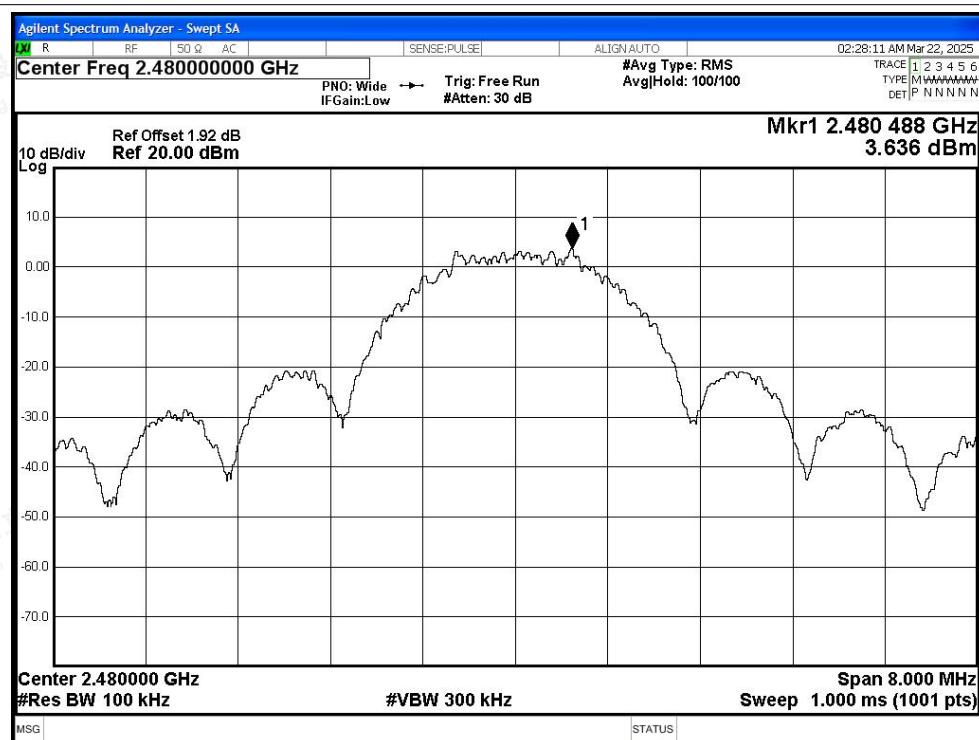
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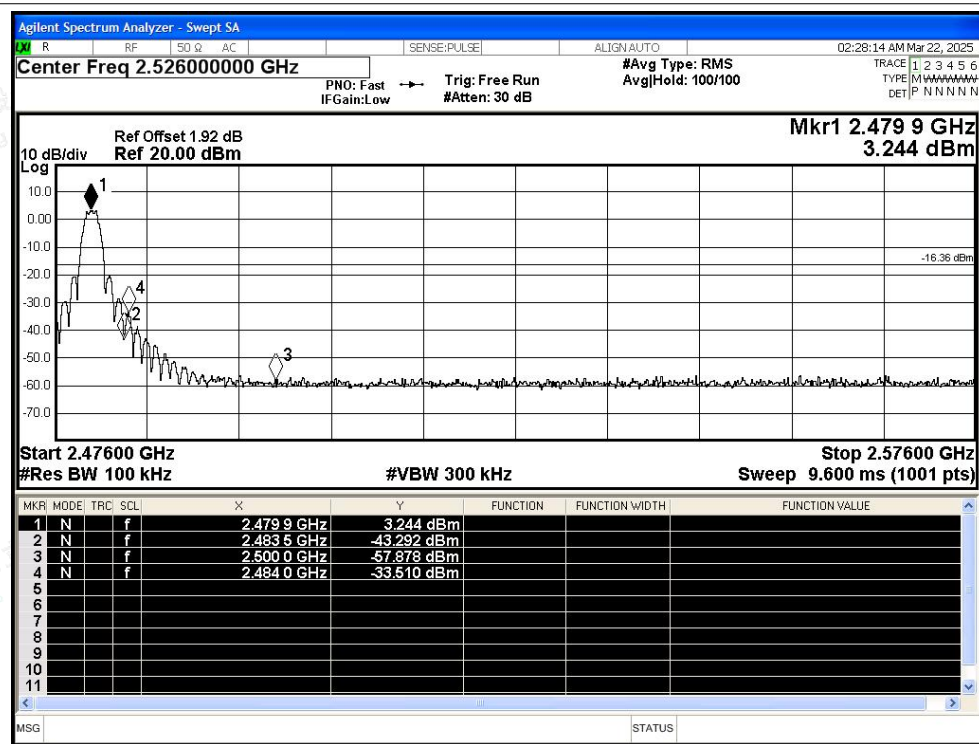
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Band Edge NVNT ZigBee 2480MHz Ant1 Ref



Band Edge NVNT ZigBee 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	ZigBee	2405	Ant1	-31.75	-20	Pass
NVNT	ZigBee	2440	Ant1	-31.4	-20	Pass
NVNT	ZigBee	2480	Ant1	-47.77	-20	Pass



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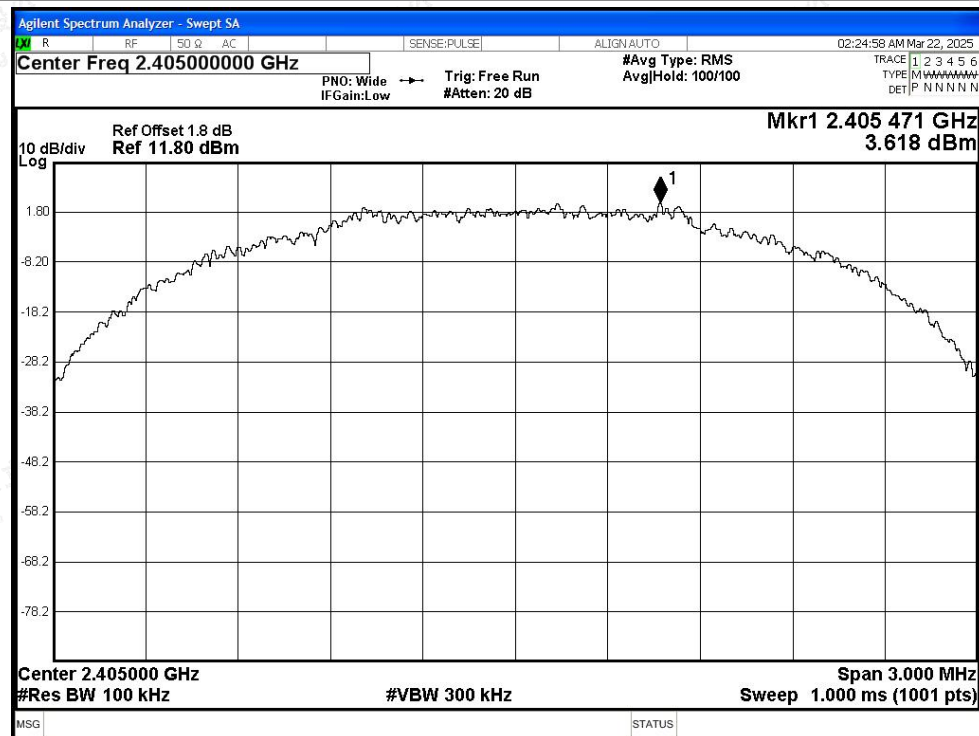
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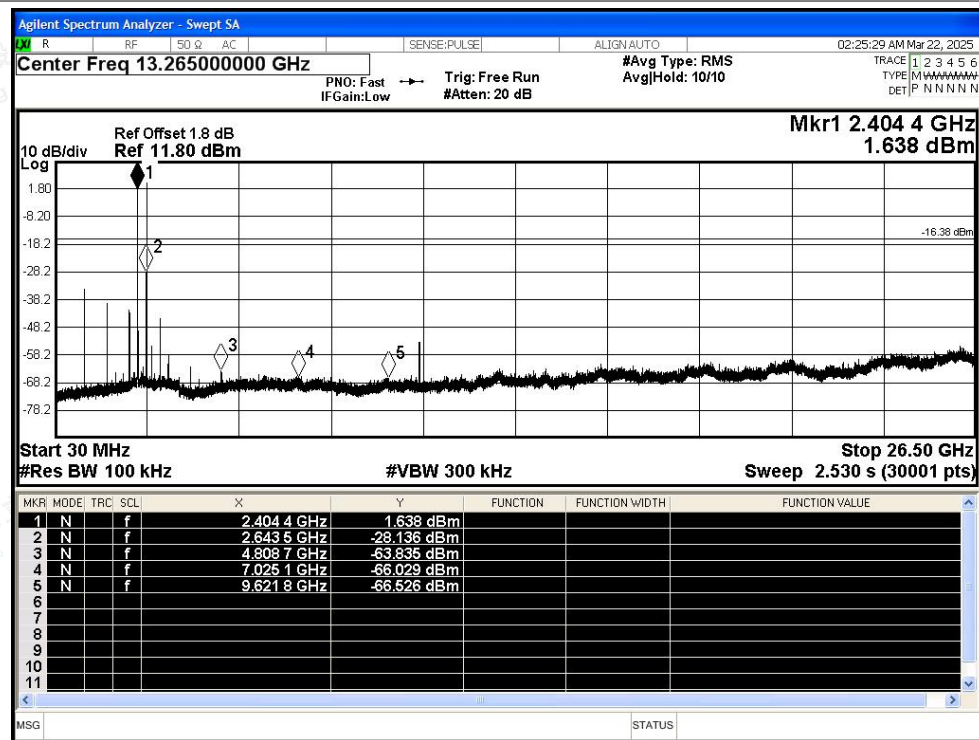


Test Graphs

Tx. Spurious NVNT ZigBee 2405MHz Ant1 Ref



Tx. Spurious NVNT ZigBee 2405MHz Ant1 Emission



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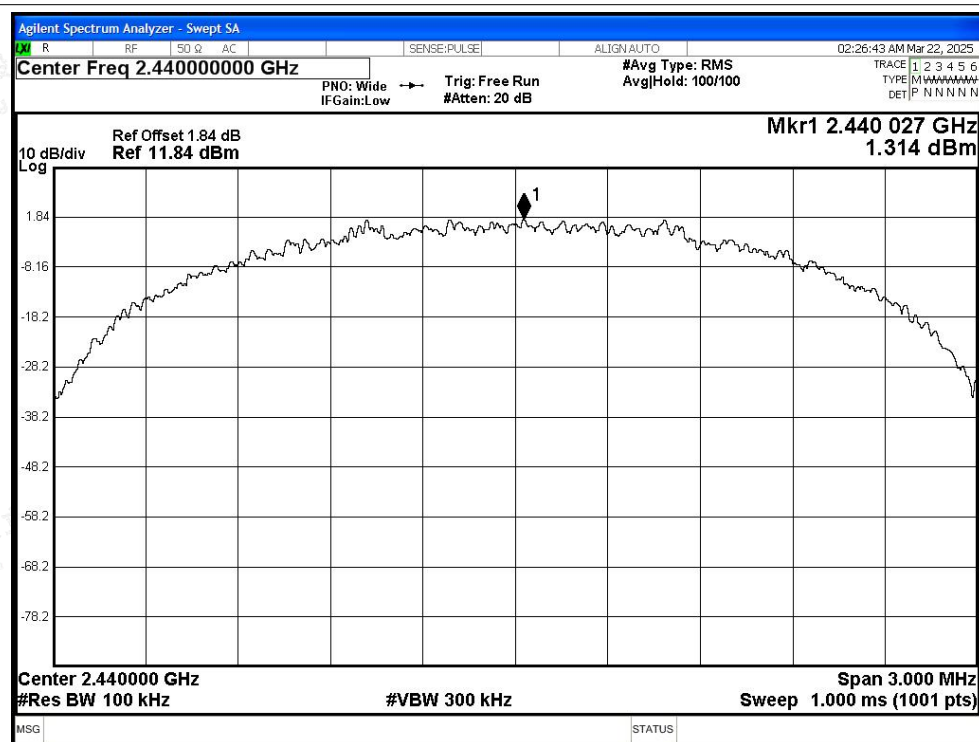
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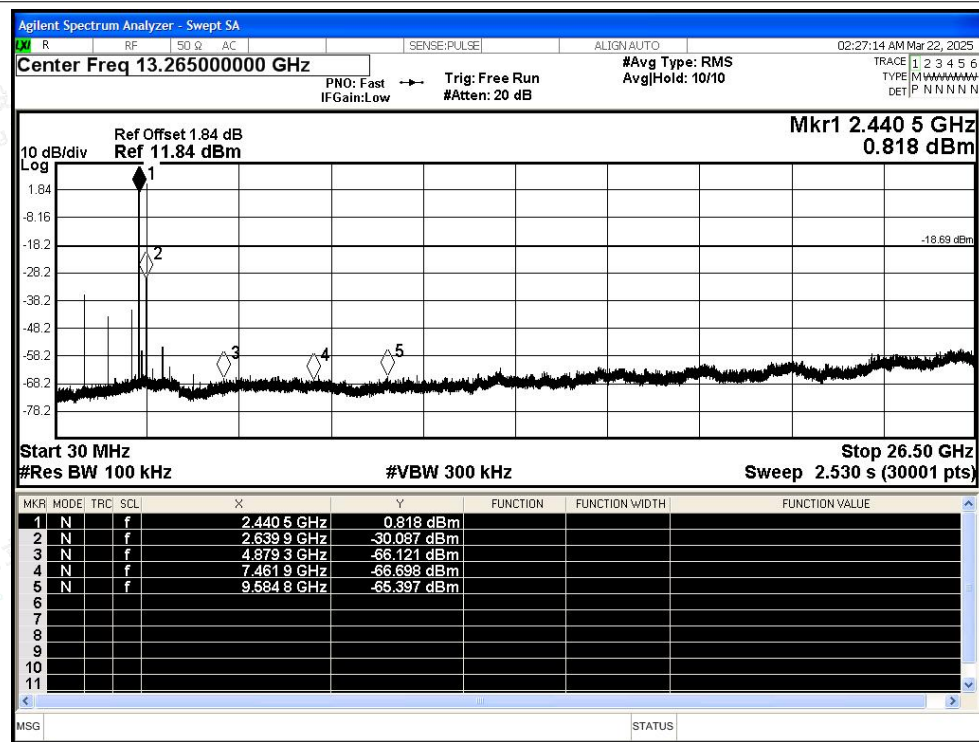
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Tx. Spurious NVNT ZigBee 2440MHz Ant1 Ref



Tx. Spurious NVNT ZigBee 2440MHz Ant1 Emission



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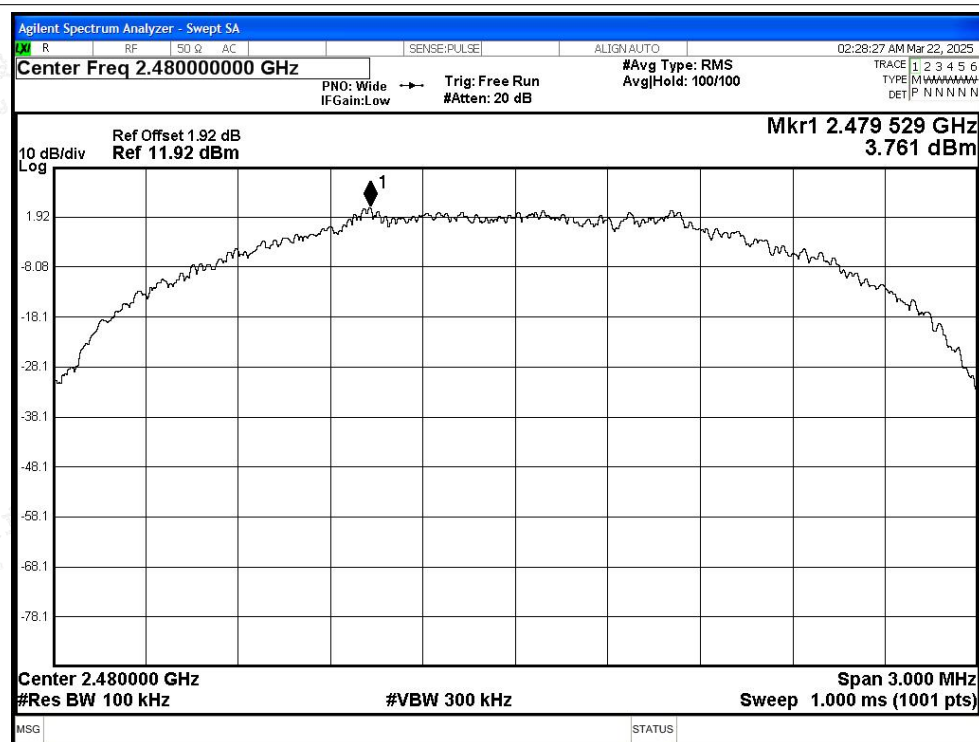
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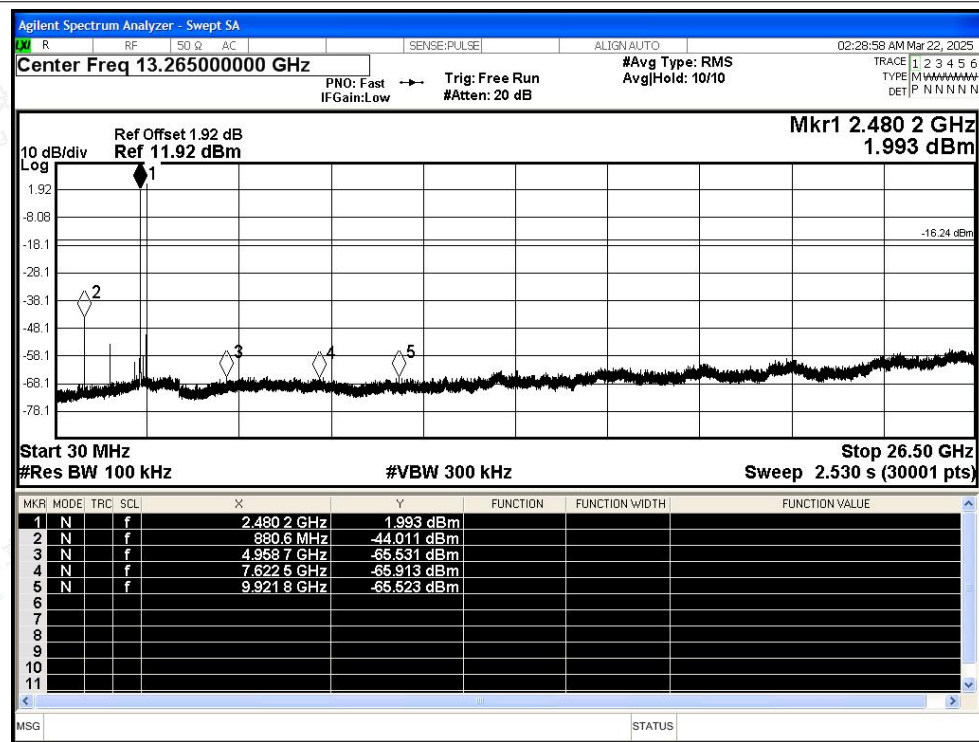
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Tx. Spurious NVNT ZigBee 2480MHz Ant1 Ref



Tx. Spurious NVNT ZigBee 2480MHz Ant1 Emission



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A.6 Duty Cycle

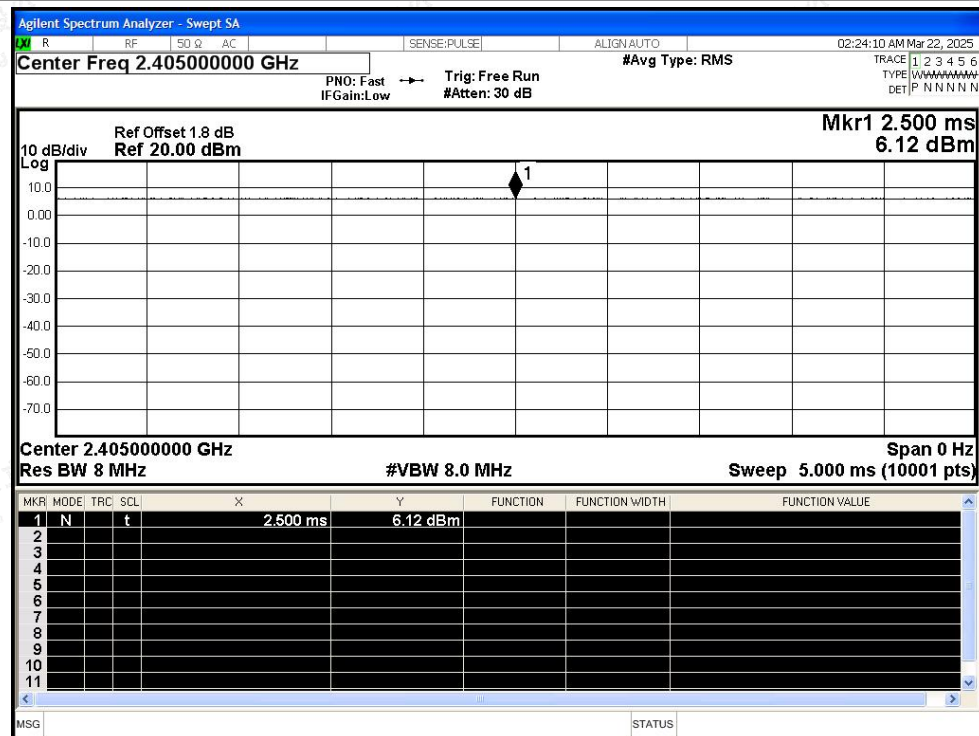
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	ZigBee	2405	Ant1	100	0	0
NVNT	ZigBee	2440	Ant1	100	0	0
NVNT	ZigBee	2480	Ant1	100	0	0



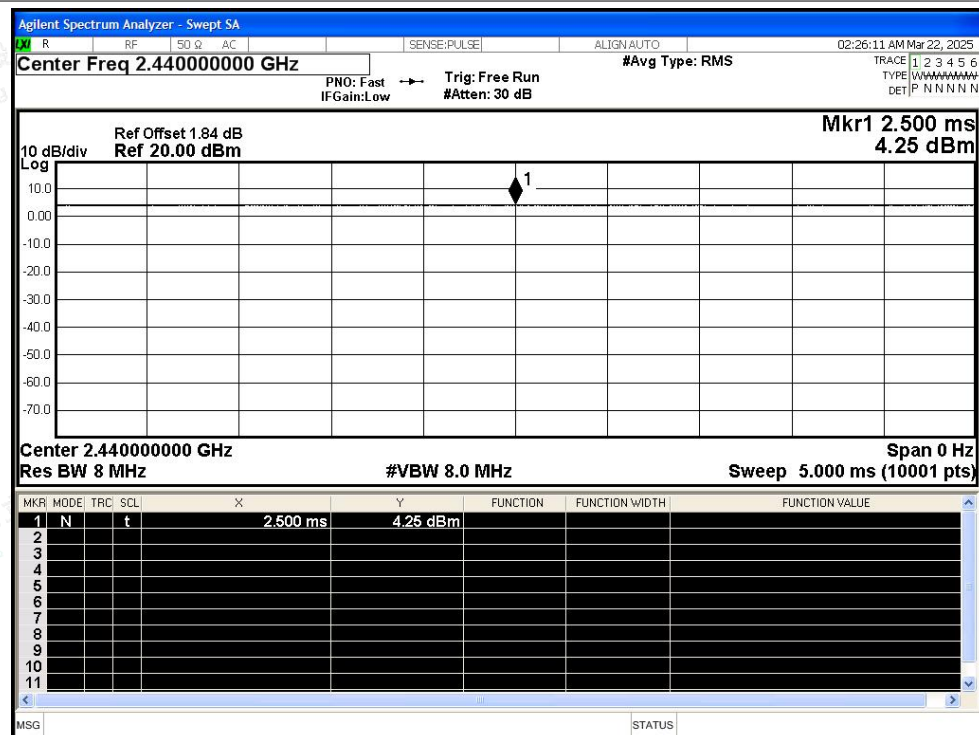


Test Graphs

Duty Cycle NVNT ZigBee 2405MHz Ant1



Duty Cycle NVNT ZigBee 2440MHz Ant1

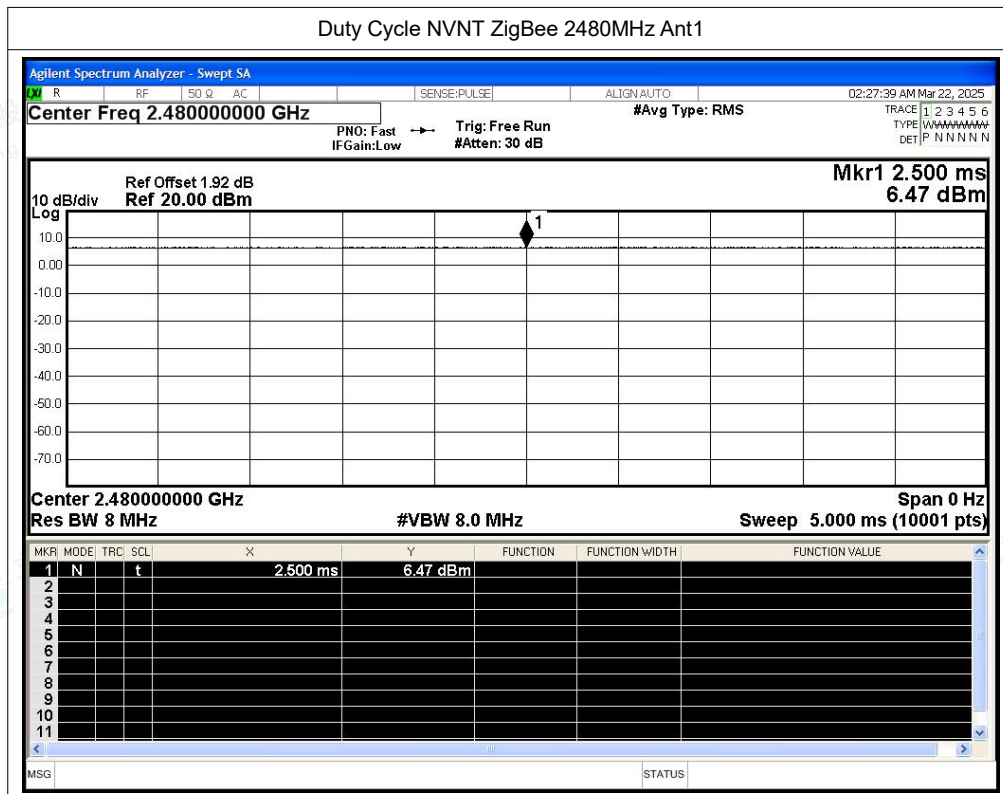


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A.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	ZigBee	2405	Ant1	2310	-51.01	2	-	46.25	Peak	74	Pass
NVNT	ZigBee	2405	Ant1	2310	-57.85	2	0	39.41	Average	54	Pass
NVNT	ZigBee	2405	Ant1	2344.551	-47.75	2	-	49.51	Peak	74	Pass
NVNT	ZigBee	2405	Ant1	2389.992	-57.35	2	0	39.91	Average	54	Pass
NVNT	ZigBee	2405	Ant1	2390	-49.94	2	-	47.32	Peak	74	Pass
NVNT	ZigBee	2405	Ant1	2390	-57.35	2	0	39.91	Average	54	Pass
NVNT	ZigBee	2480	Ant1	2483.5	-42.34	2	-	54.92	Peak	74	Pass
NVNT	ZigBee	2480	Ant1	2483.5	-48.63	2	0	48.63	Average	54	Pass
NVNT	ZigBee	2480	Ant1	2483.584	-42.3	2	-	54.96	Peak	74	Pass
NVNT	ZigBee	2480	Ant1	2483.512	-48.63	2	0	48.63	Average	54	Pass
NVNT	ZigBee	2480	Ant1	2500	-50.34	2	-	46.92	Peak	74	Pass
NVNT	ZigBee	2480	Ant1	2500	-58.23	2	0	39.03	Average	54	Pass



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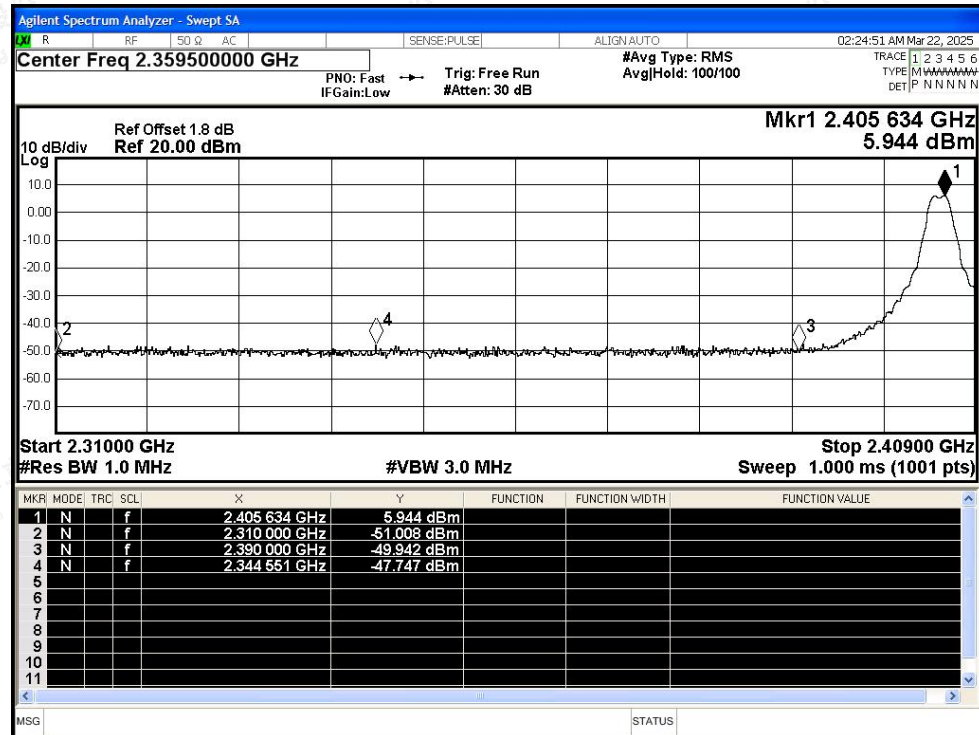
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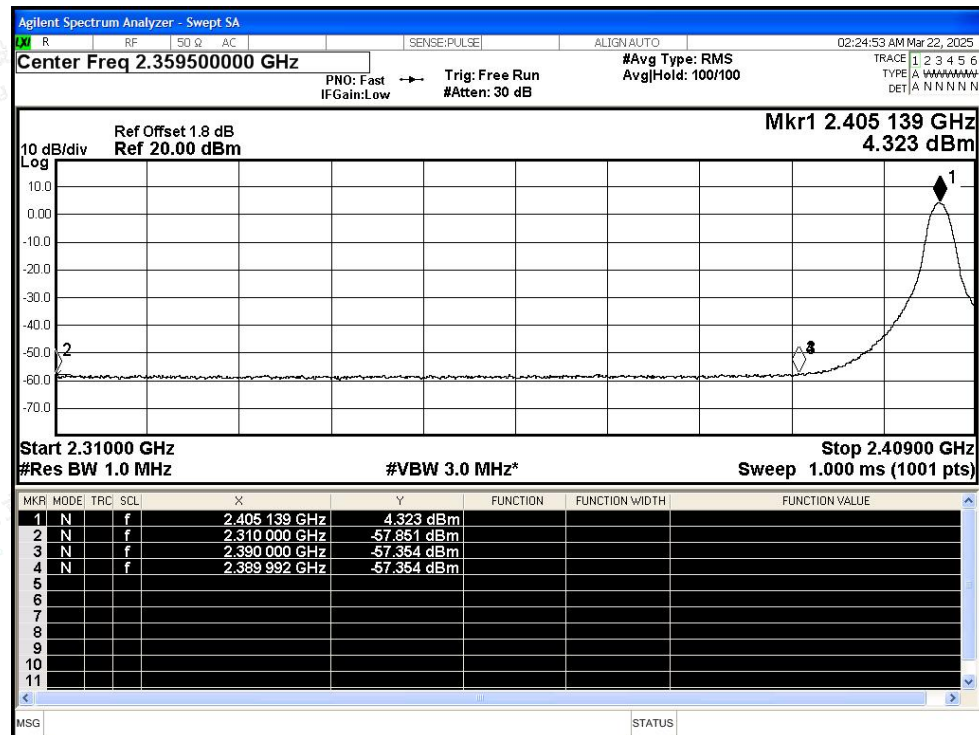


Test Graphs

Restrict Band NVNT ZigBee 2405MHz Ant1 Peak



Restrict Band NVNT ZigBee 2405MHz Ant1 Average



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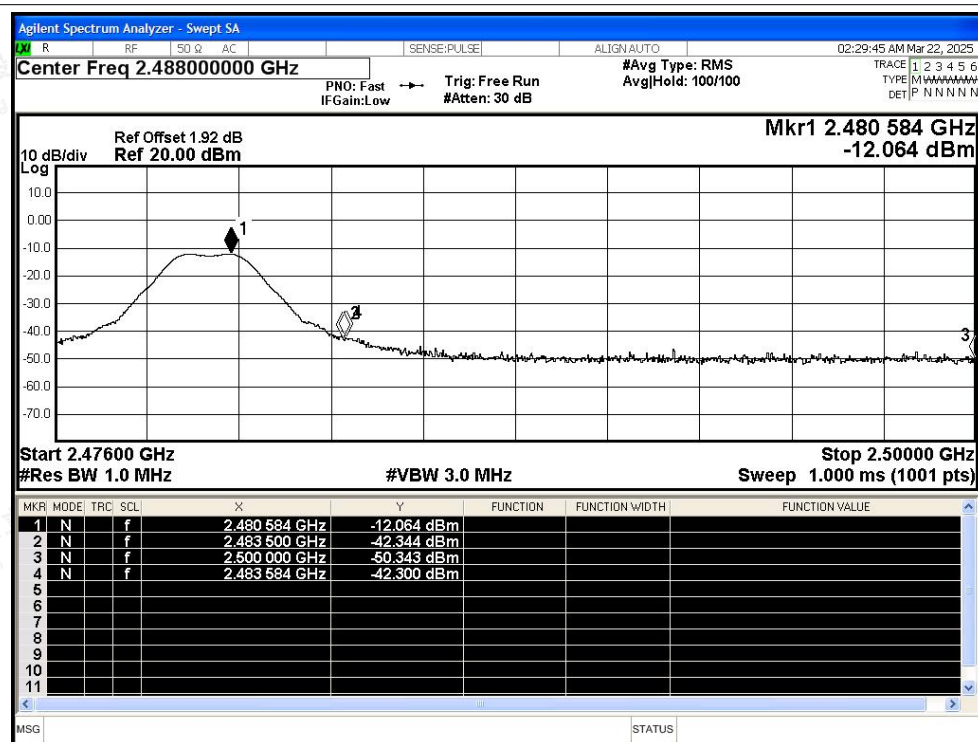
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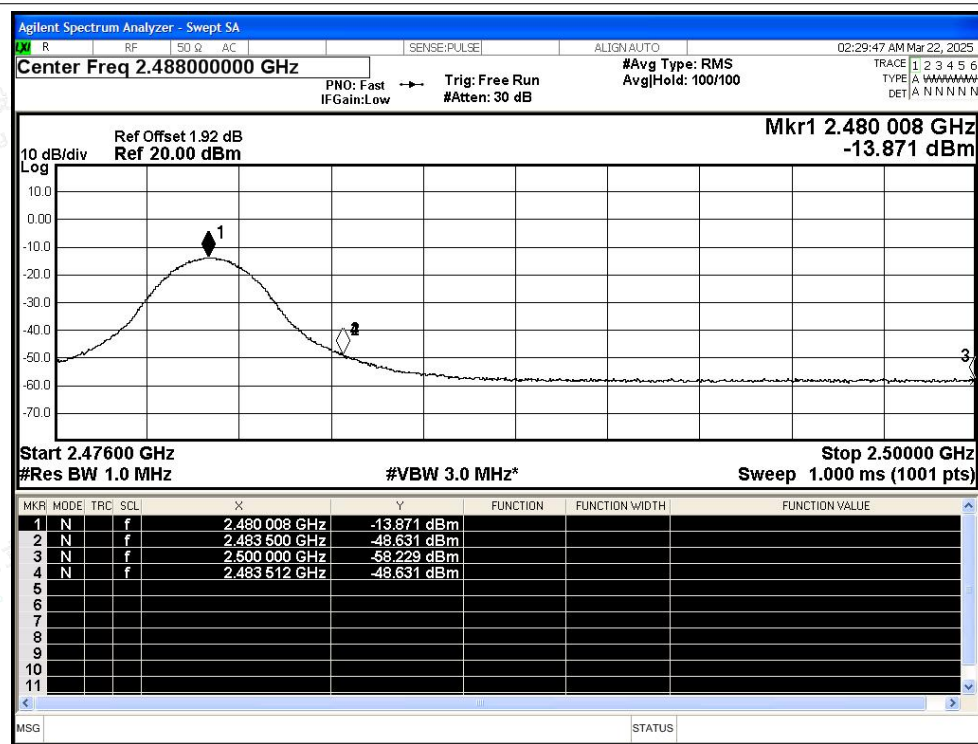
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Restrict Band NVNT ZigBee 2480MHz Ant1 Peak



Restrict Band NVNT ZigBee 2480MHz Ant1 Average



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