



Appendix C

RF Test Data for Zigbee (Conducted Measurement)

Product Name: Nucleus-M II FIZ Hand Unit

Test Model: WLC-T06-FIZ

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Andre Tan
Supervised by:	Nick Peng





C.1 -6dB Bandwidth

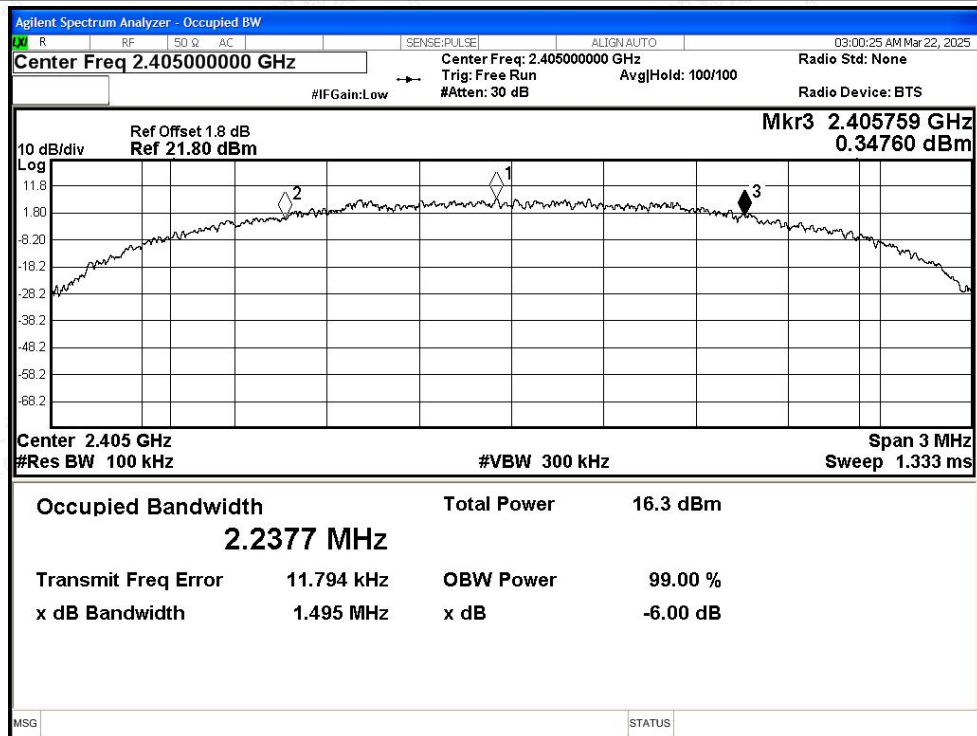
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	ZigBee	2405	Ant1	1.495	≥ 0.5	Pass
NVNT	ZigBee	2440	Ant1	1.385	≥ 0.5	Pass
NVNT	ZigBee	2480	Ant1	1.466	≥ 0.5	Pass



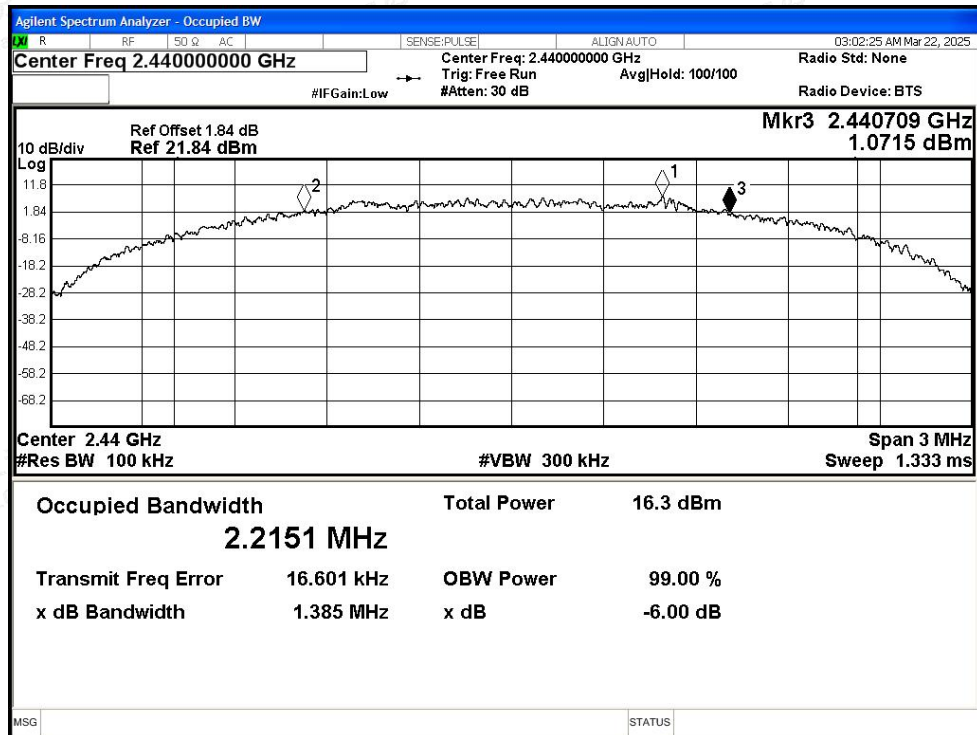


Test Graphs

-6dB Bandwidth NVNT ZigBee 2405MHz Ant1



-6dB Bandwidth NVNT ZigBee 2440MHz Ant1



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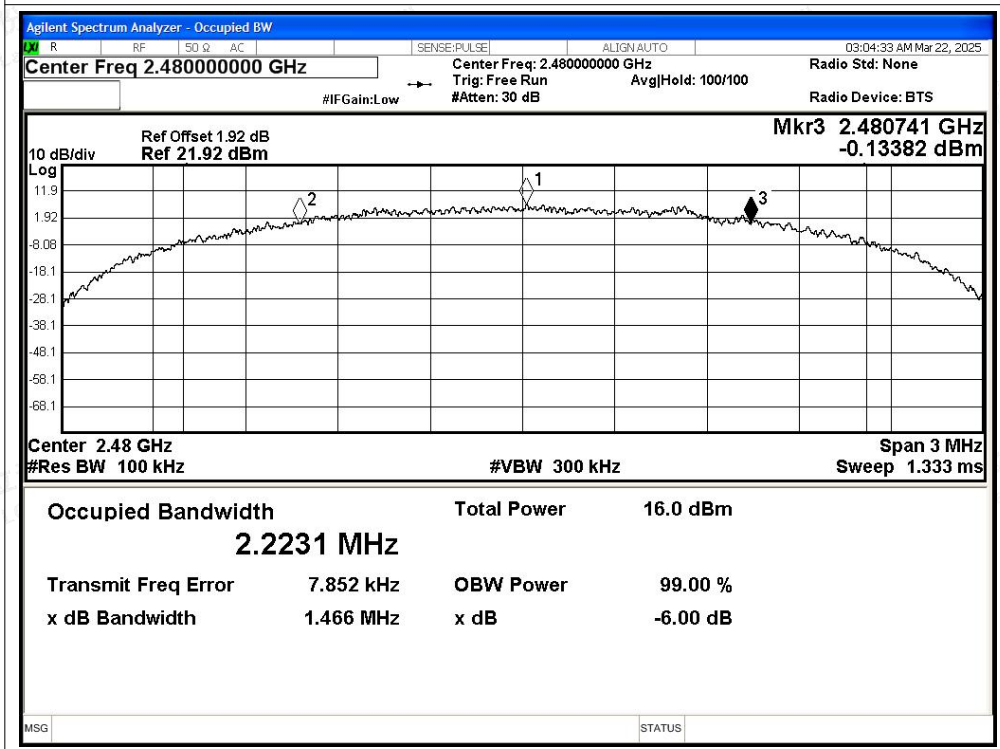
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-6dB Bandwidth NVNT ZigBee 2480MHz Ant1



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C.2 Maximum Peak Conducted Output Power

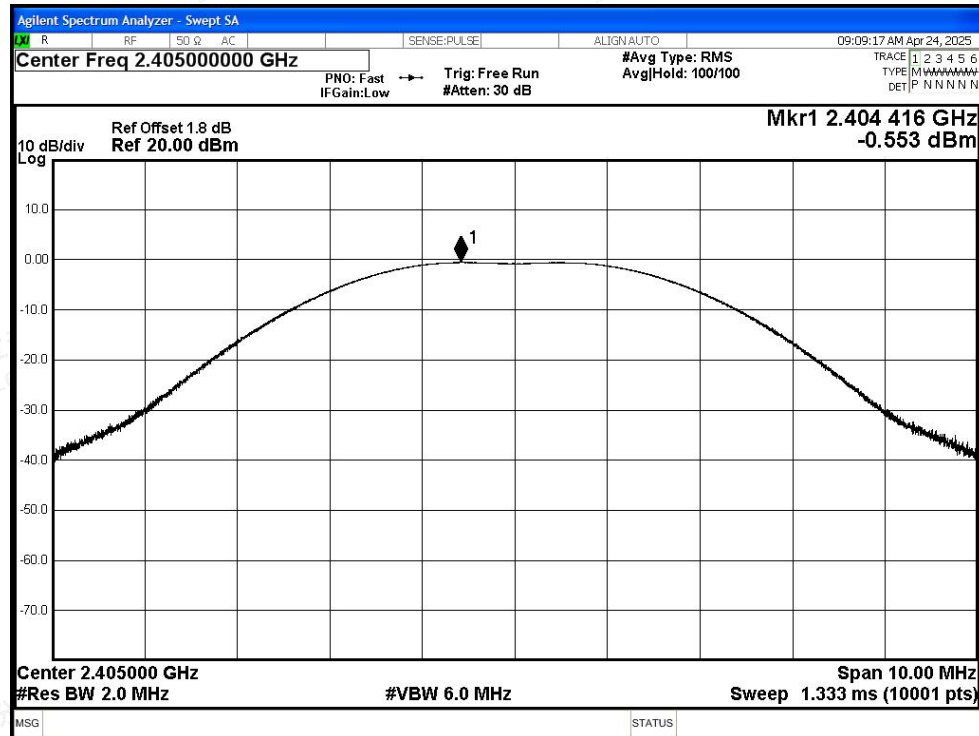
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	ZigBee	2405	Ant1	-0.55	30	Pass
NVNT	ZigBee	2440	Ant1	-0.32	30	Pass
NVNT	ZigBee	2480	Ant1	-0.39	30	Pass



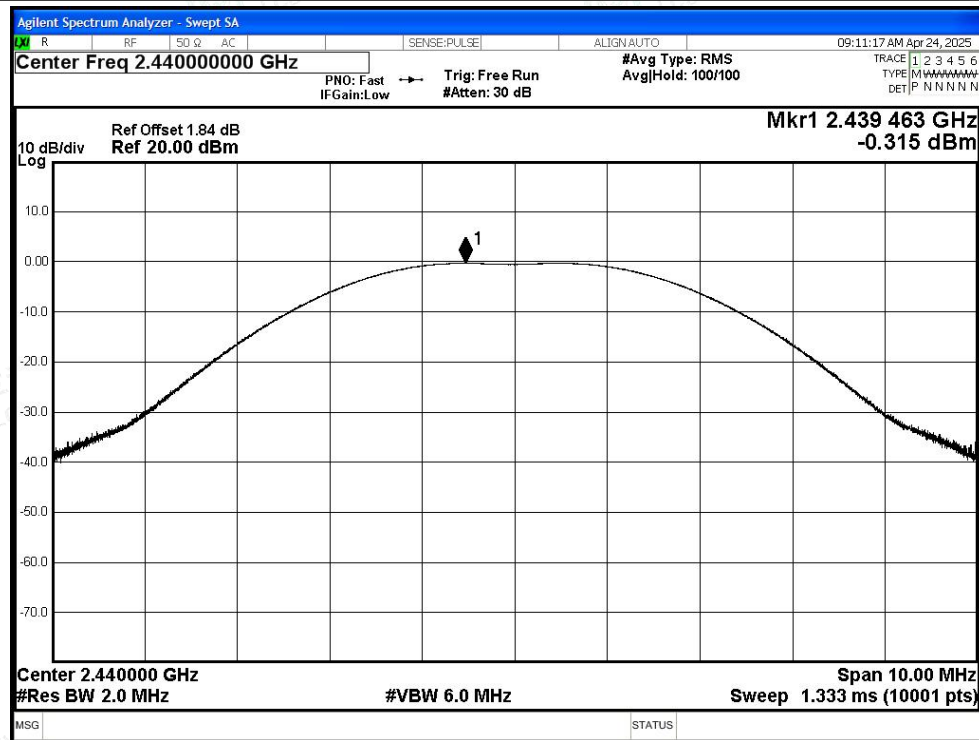


Test Graphs

Power NVNT ZIGBEE 2405MHz Ant1



Power NVNT ZIGBEE 2440MHz Ant1

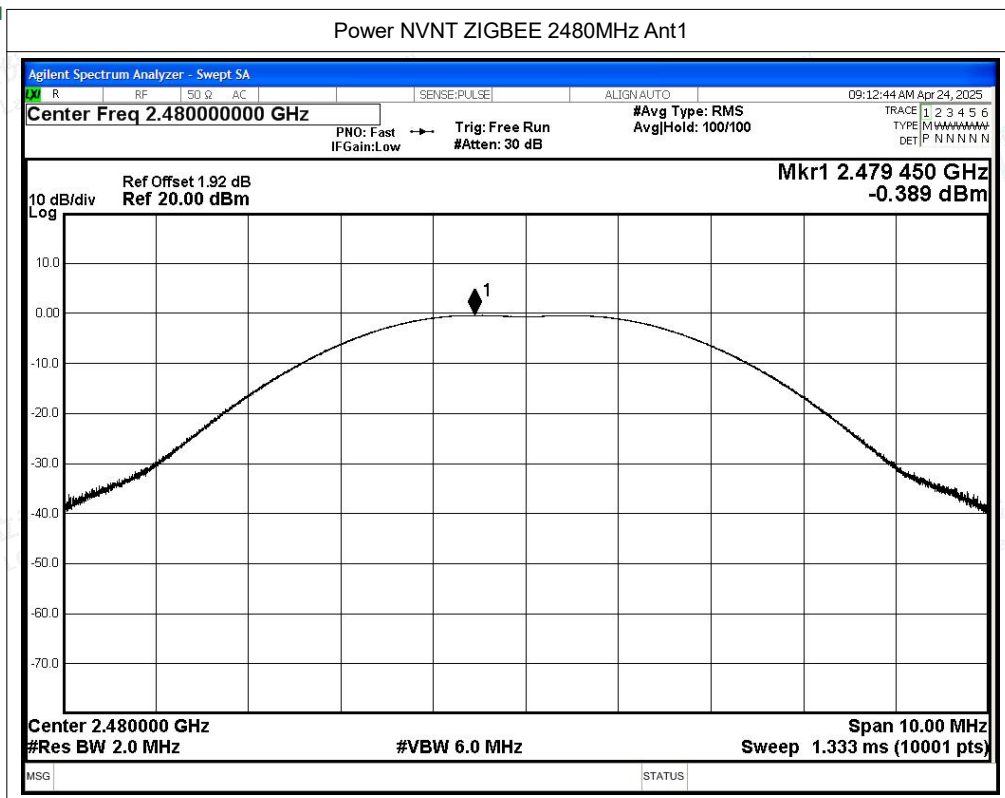


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C.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	ZigBee	2405	Ant1	-16.78	8	Pass
NVNT	ZigBee	2440	Ant1	-16.52	8	Pass
NVNT	ZigBee	2480	Ant1	-16.69	8	Pass



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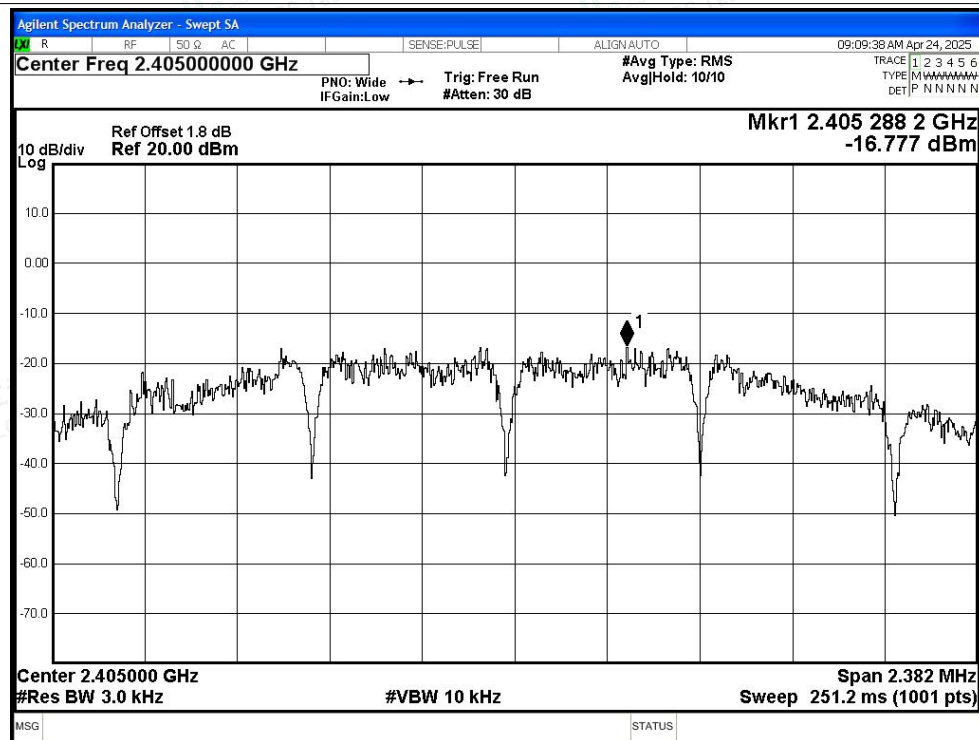
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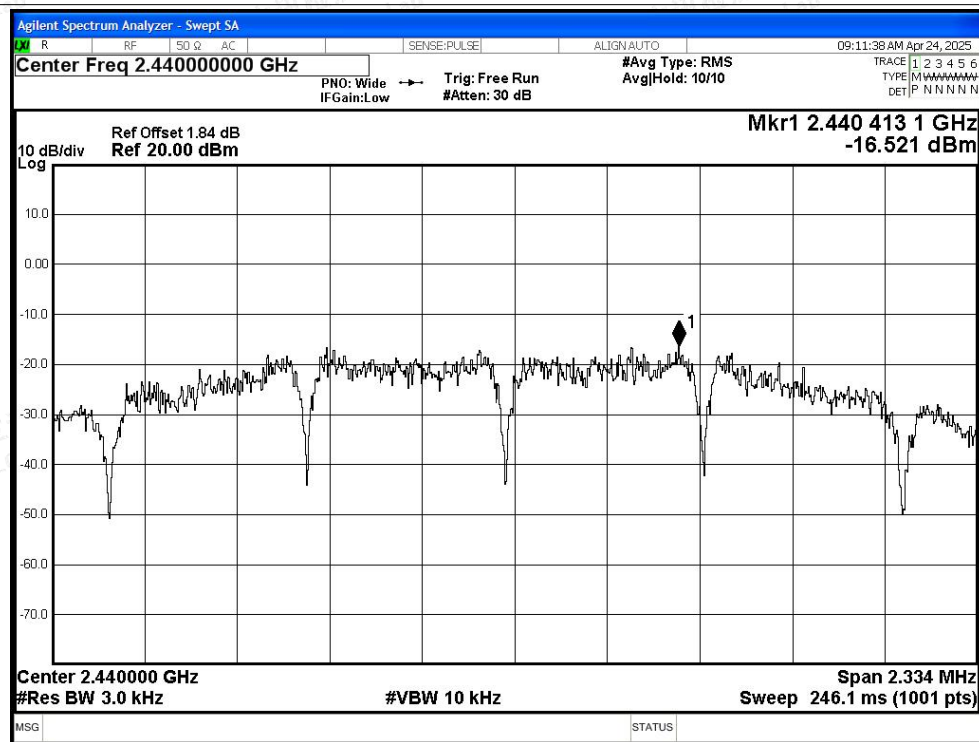


Test Graphs

PSD NVNT ZIGBEE 2405MHz Ant1



PSD NVNT ZIGBEE 2440MHz Ant1

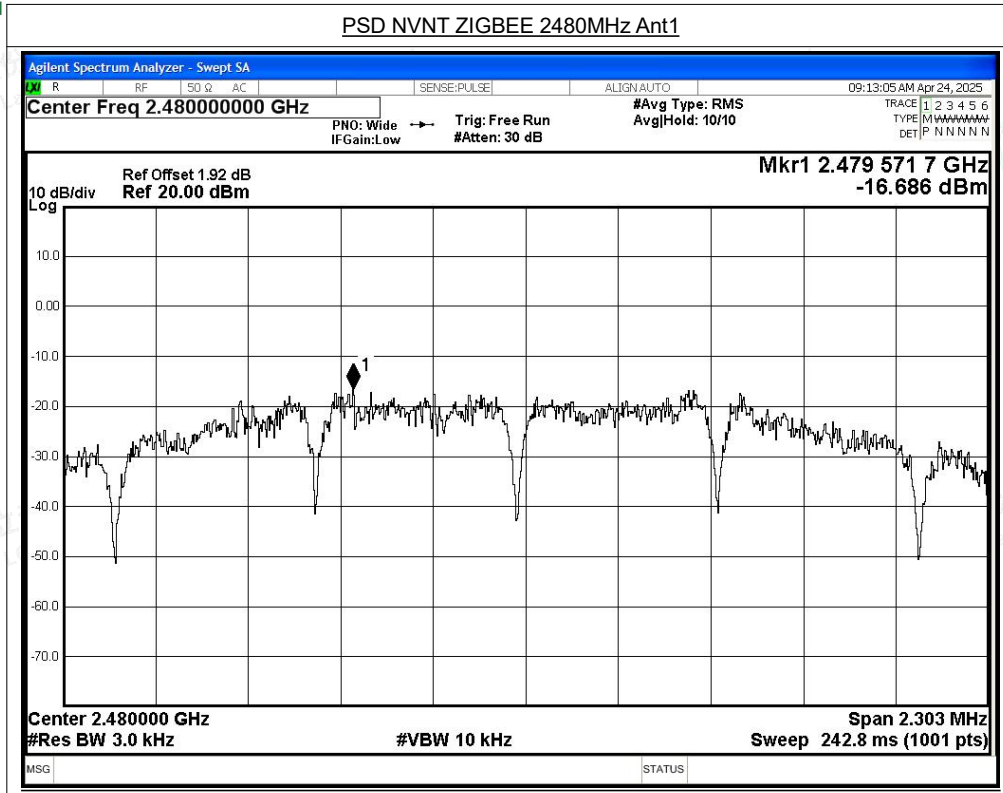


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C.4 Band Edge

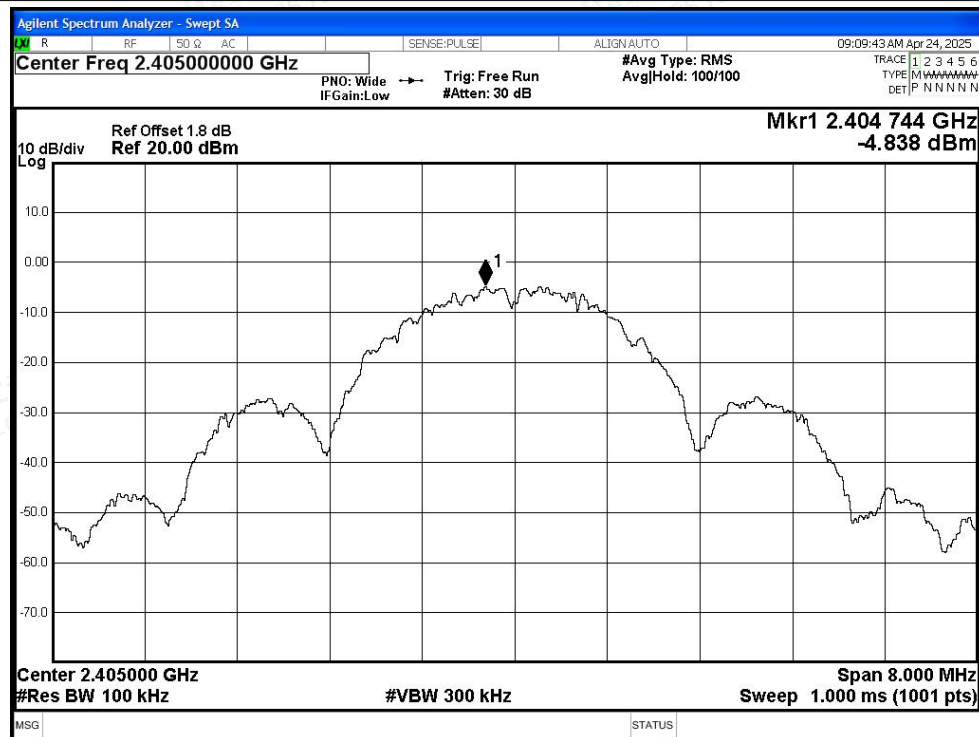
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ZigBee	2405	Ant1	-47.69	-20	Pass
NVNT	ZigBee	2480	Ant1	-43.75	-20	Pass



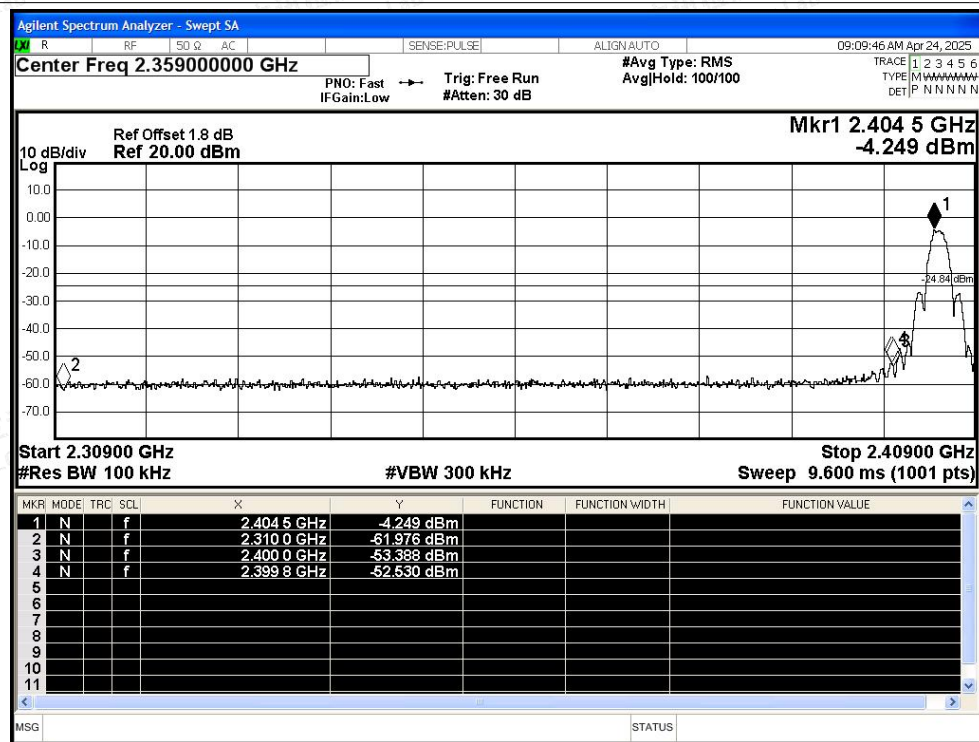


Test Graphs

Band Edge NVNT ZIGBEE 2405MHz Ant1 Ref



Band Edge NVNT ZIGBEE 2405MHz Ant1 Emission



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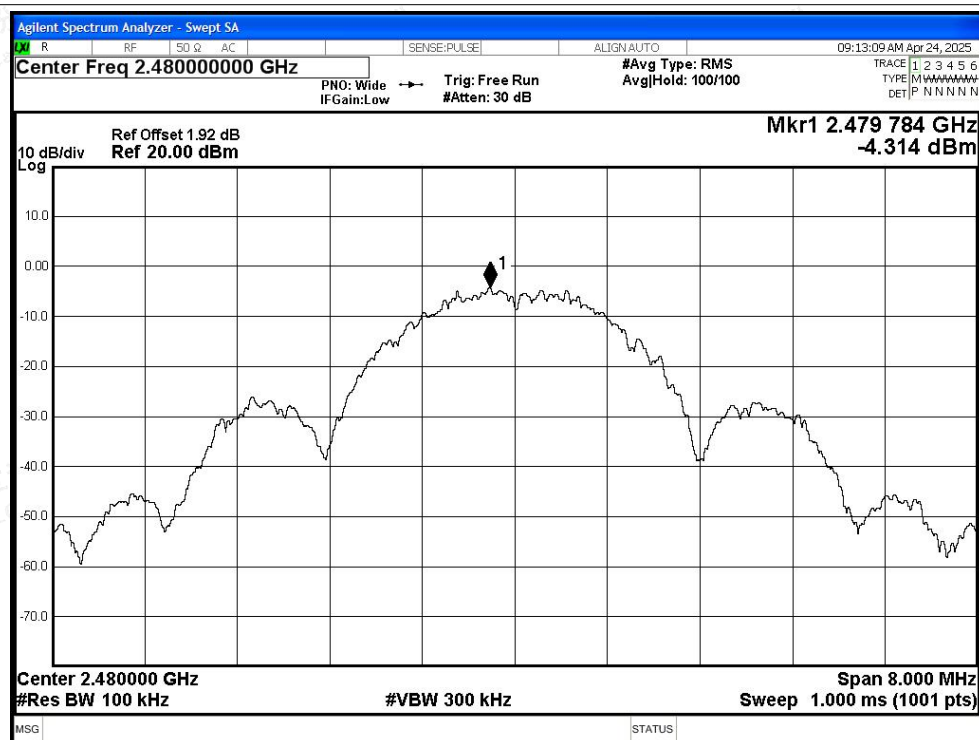
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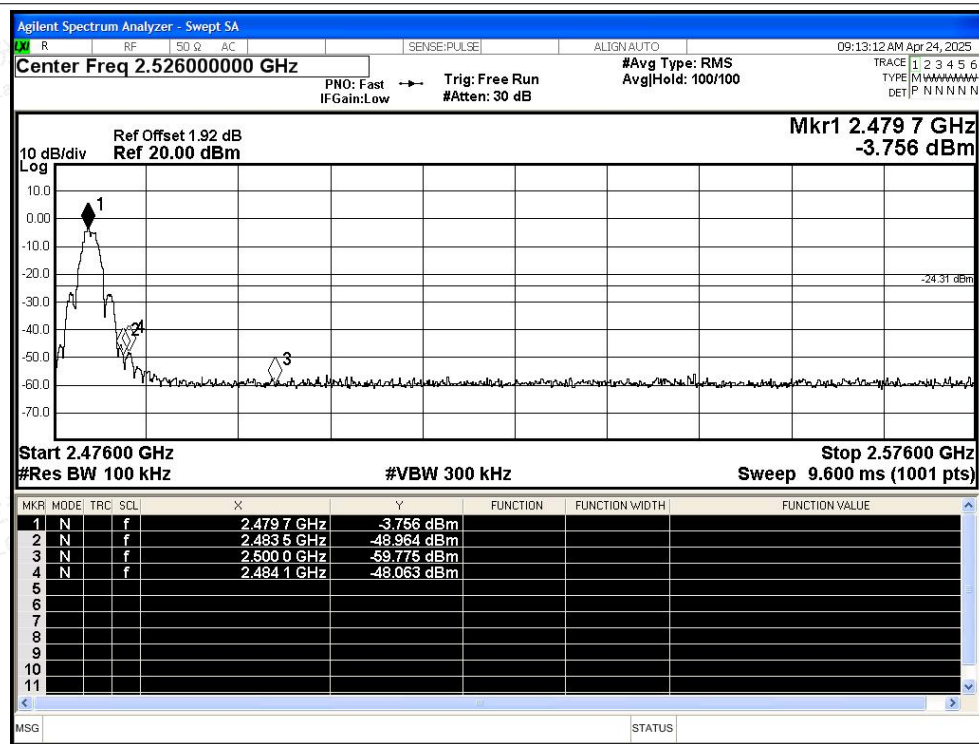
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Band Edge NVNT ZIGBEE 2480MHz Ant1 Ref



Band Edge NVNT ZIGBEE 2480MHz Ant1 Emission



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C.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ZigBee	2405	Ant1	-45.96	-20	Pass
NVNT	ZigBee	2440	Ant1	-47.64	-20	Pass
NVNT	ZigBee	2480	Ant1	-51.71	-20	Pass

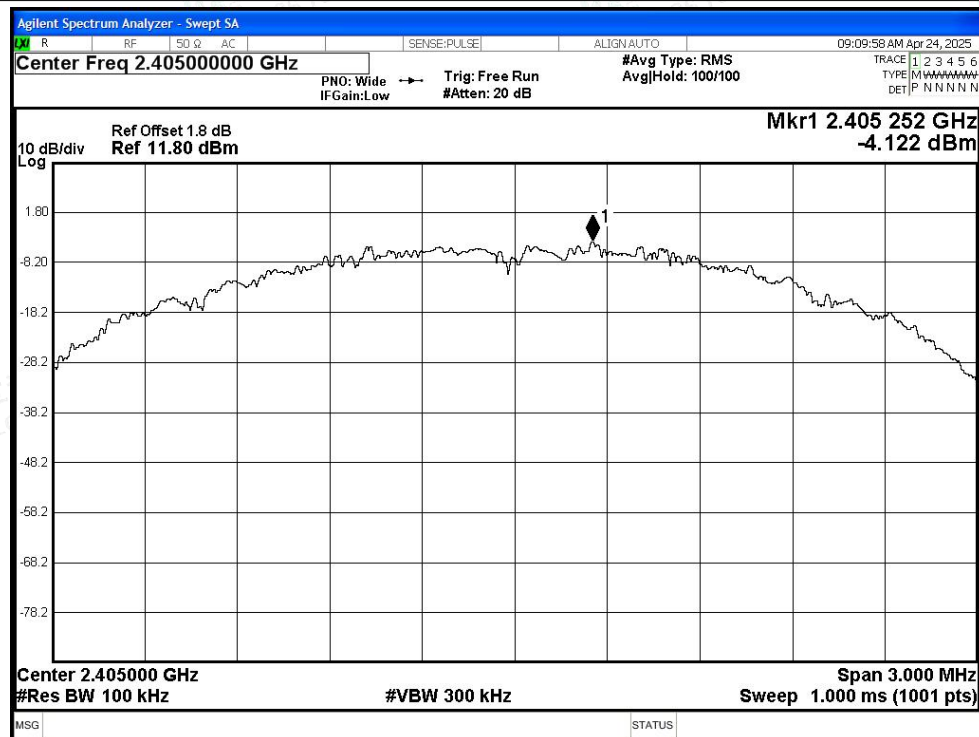


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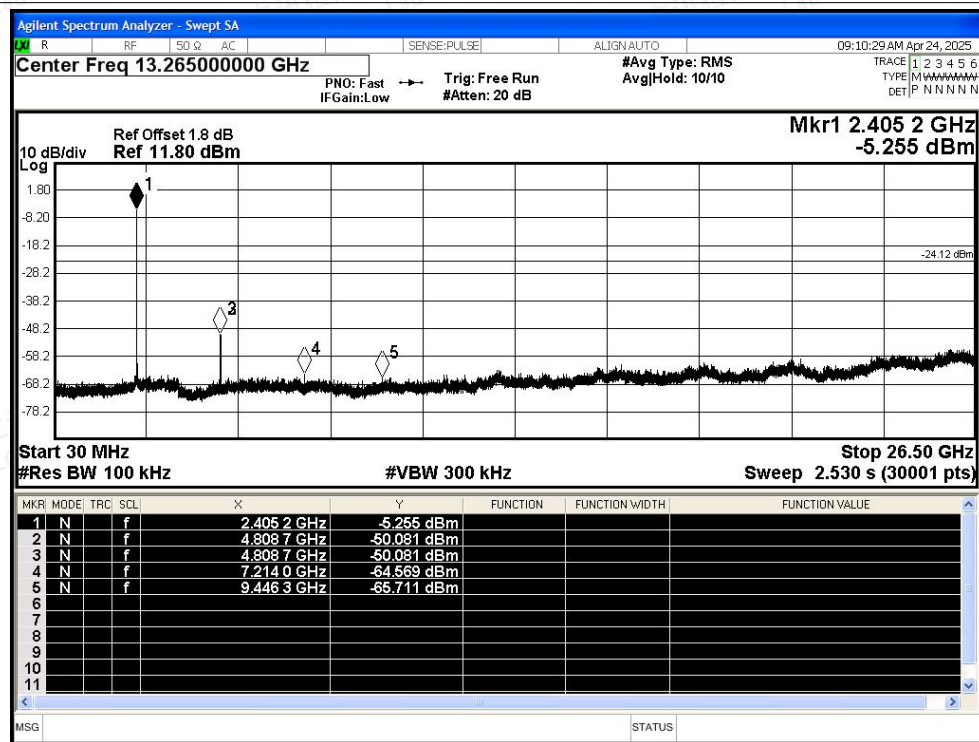


Test Graphs

Tx. Spurious NVNT ZIGBEE 2405MHz Ant1 Ref



Tx. Spurious NVNT ZIGBEE 2405MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

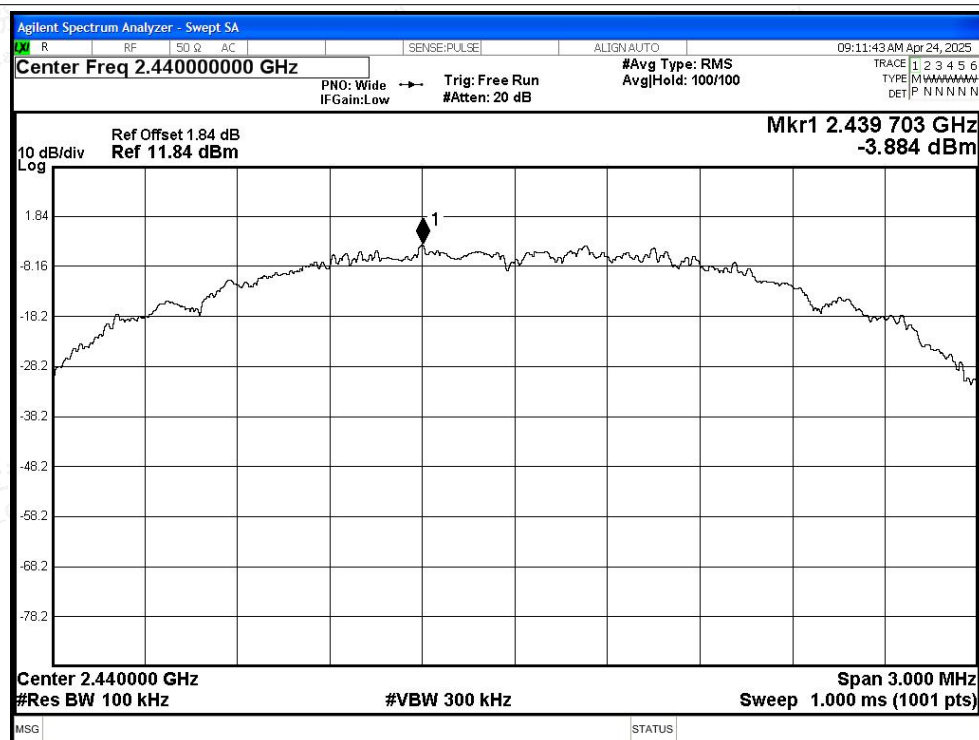
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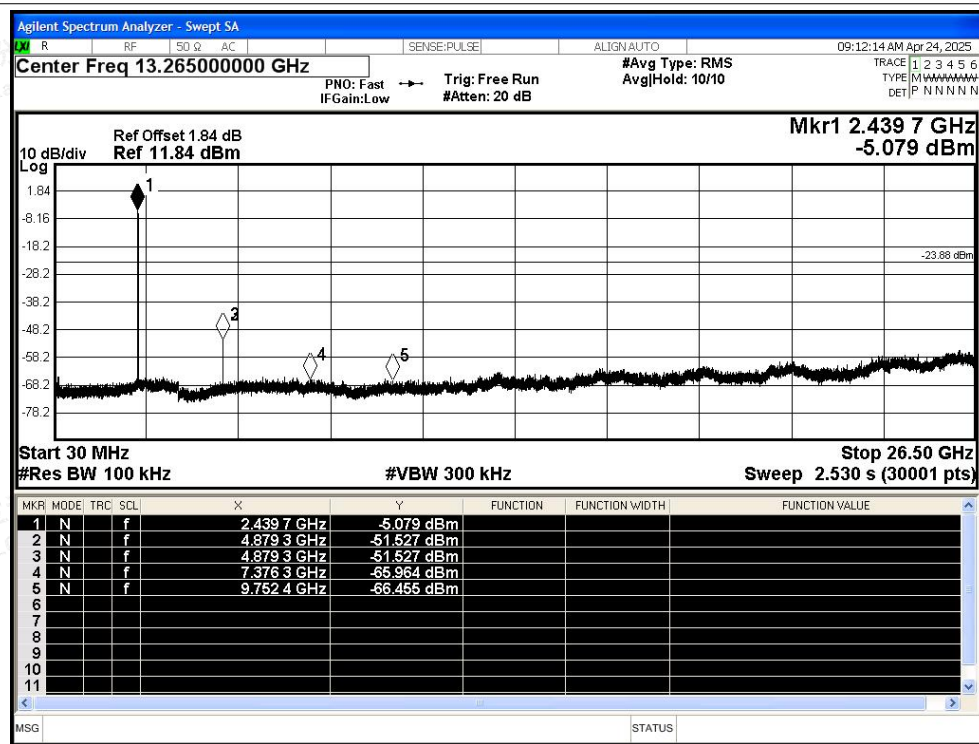
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Tx. Spurious NVNT ZIGBEE 2440MHz Ant1 Ref



Tx. Spurious NVNT ZIGBEE 2440MHz Ant1 Emission



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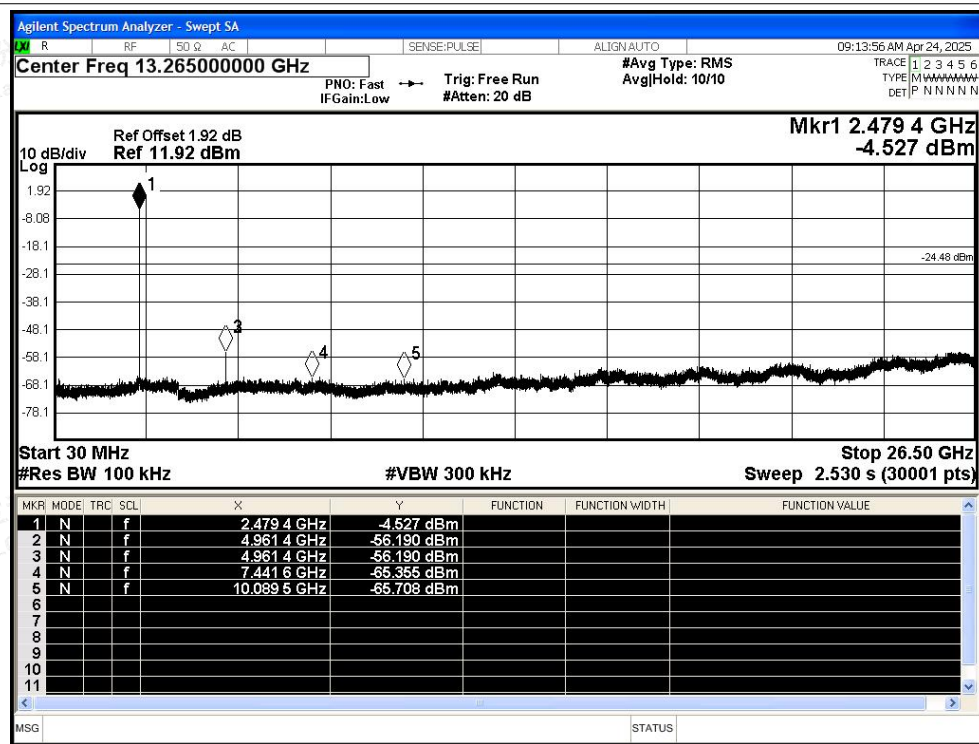
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Tx. Spurious NVNT ZIGBEE 2480MHz Ant1 Ref



Tx. Spurious NVNT ZIGBEE 2480MHz Ant1 Emission



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C.6 Duty Cycle

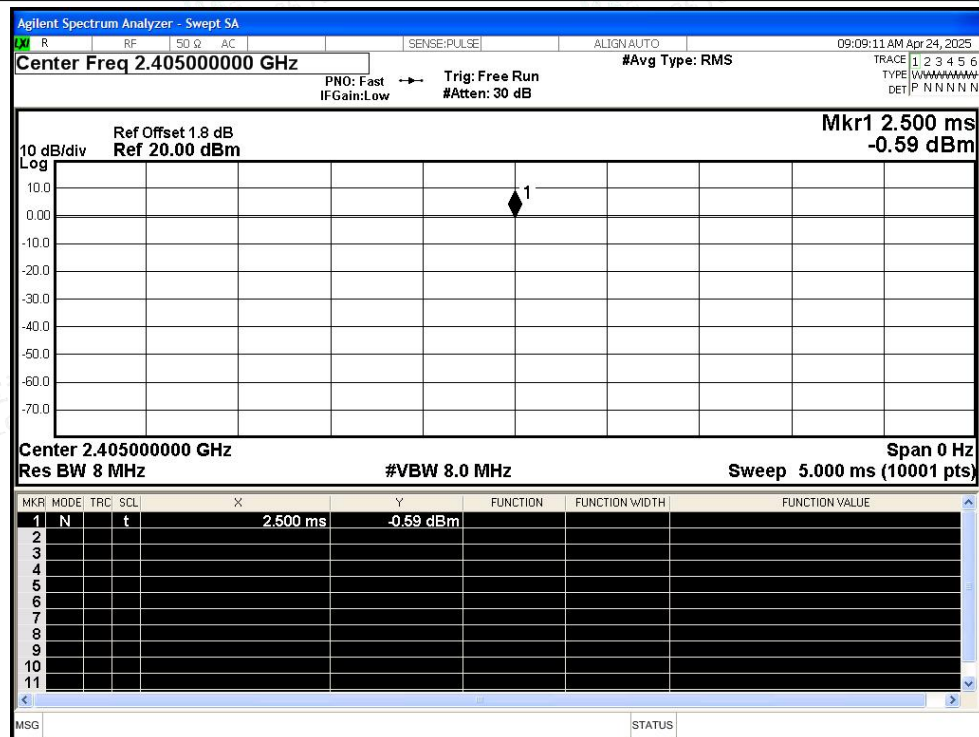
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	ZigBee	2405	Ant1	100	0	0
NVNT	ZigBee	2440	Ant1	100	0	0
NVNT	ZigBee	2480	Ant1	100	0	0



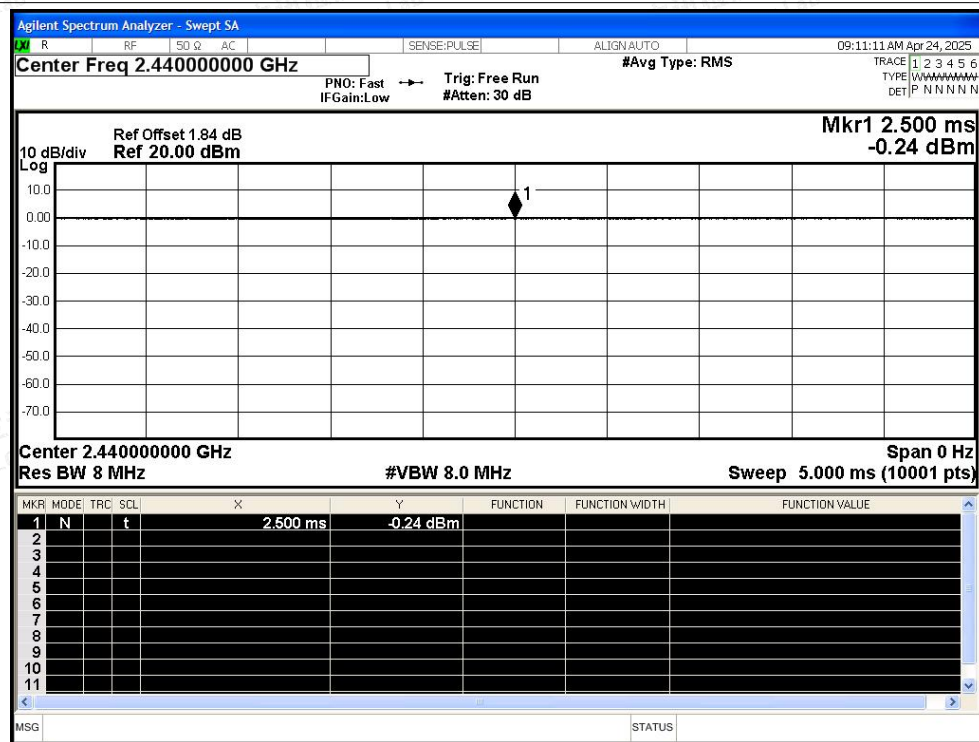


Test Graphs

Duty Cycle NVNT BLE 2M 2405MHz Ant1



Duty Cycle NVNT BLE 2M 2440MHz Ant1



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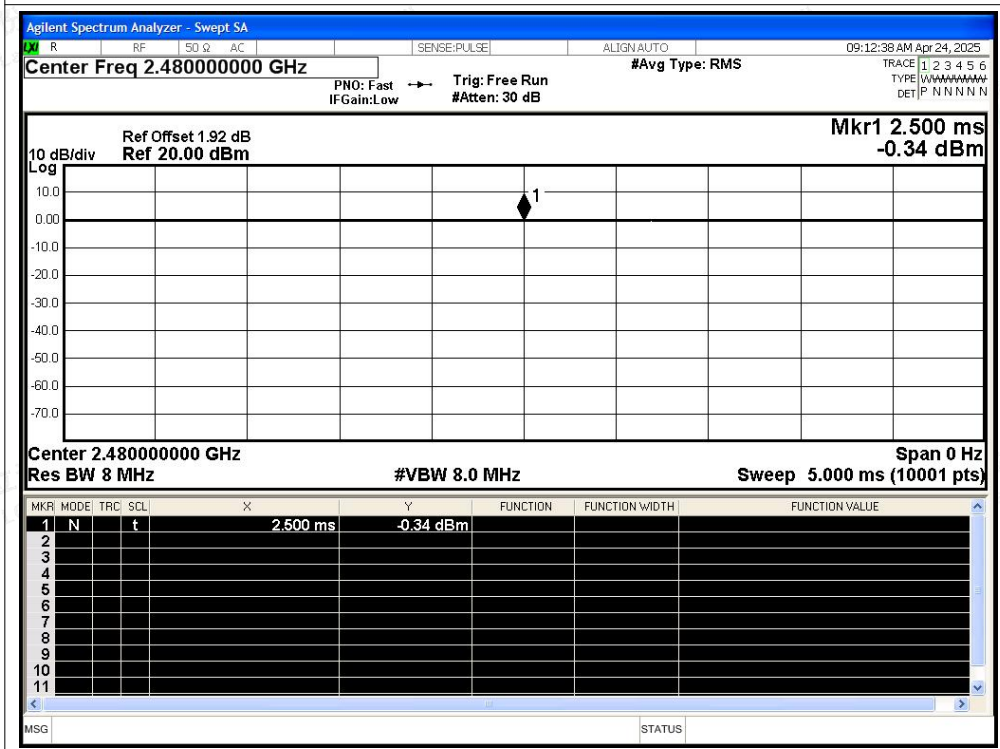
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Duty Cycle NVNT BLE 2M 2480MHz Ant1



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C.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	-50.05	3.2	-	48.41	Peak	74	Pass
NVNT	ZIGBEE	2405	Ant1	2310	-58.92	3.2	0	39.54	Average	54	Pass
NVNT	ZIGBEE	2405	Ant1	2354.451	-47.88	3.2	-	50.58	Peak	74	Pass
NVNT	ZIGBEE	2405	Ant1	2337.621	-57.7	3.2	0	40.76	Average	54	Pass
NVNT	ZIGBEE	2405	Ant1	2390	-49.39	3.2	-	49.07	Peak	74	Pass
NVNT	ZIGBEE	2405	Ant1	2390	-58.3	3.2	0	40.16	Average	54	Pass
NVNT	ZIGBEE	2480	Ant1	2483.5	-41.07	3.2	-	57.39	Peak	74	Pass
NVNT	ZIGBEE	2480	Ant1	2483.5	-47.8	3.2	0	50.66	Average	54	Pass
NVNT	ZIGBEE	2480	Ant1	2483.512	-41.07	3.2	-	57.39	Peak	74	Pass
NVNT	ZIGBEE	2480	Ant1	2483.512	-47.8	3.2	0	50.66	Average	54	Pass
NVNT	ZIGBEE	2480	Ant1	2500	-49.33	3.2	-	49.13	Peak	74	Pass
NVNT	ZIGBEE	2480	Ant1	2500	-58	3.2	0	40.46	Average	54	Pass



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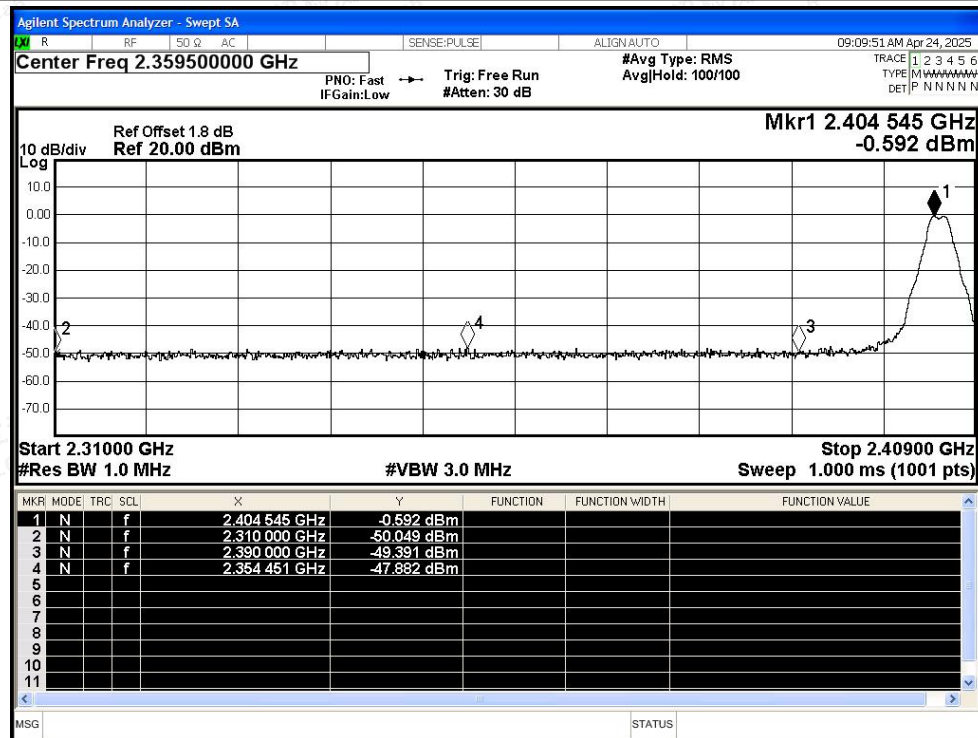
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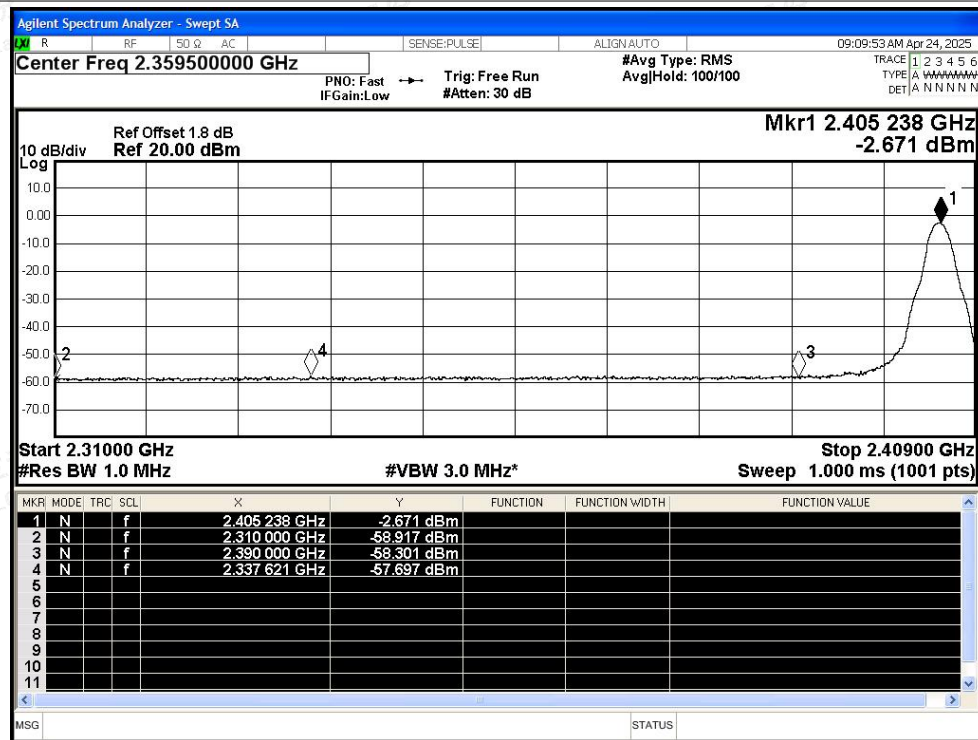


Test Graphs

Restrict Band NVNT ZIGBEE 2405MHz Ant1 Peak



Restrict Band NVNT ZIGBEE 2405MHz Ant1 Average



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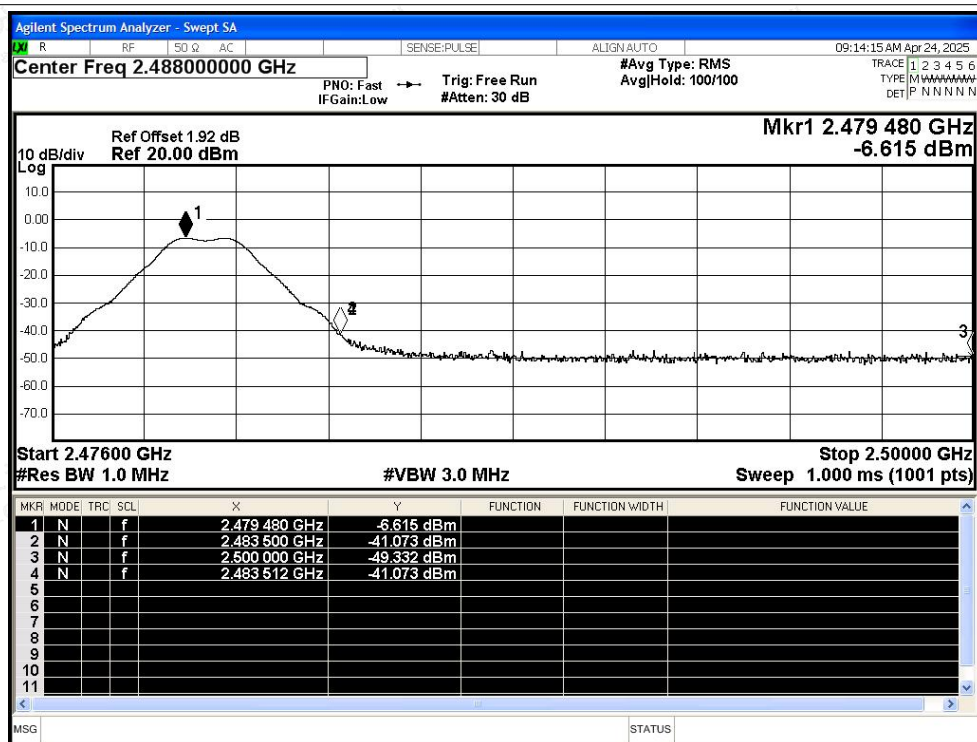
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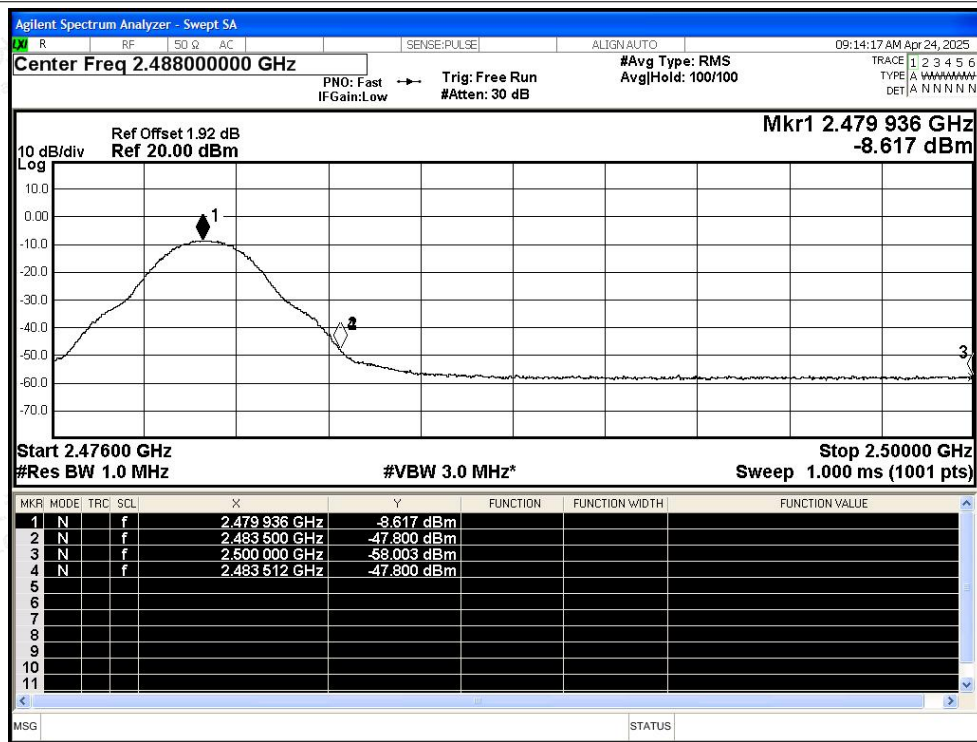
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Restrict Band NVNT ZIGBEE 2480MHz Ant1 Peak



Restrict Band NVNT ZIGBEE 2480MHz Ant1 Average



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