RF Test Data for ZigBee (Conducted Measurements)

General Description of EUT	
Product Name:	Wired Gateway
Test Model:	NAS-ZW05B
Sample ID:	HC-C-202406-0134-01-02
Environmental Conditions	
Temperature:	24.6℃
Relative Humidity:	52.3%
Test Voltage:	DC 5V
Test Engineer:	Jolin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202406-0134-2 The report only show the worst case data.	

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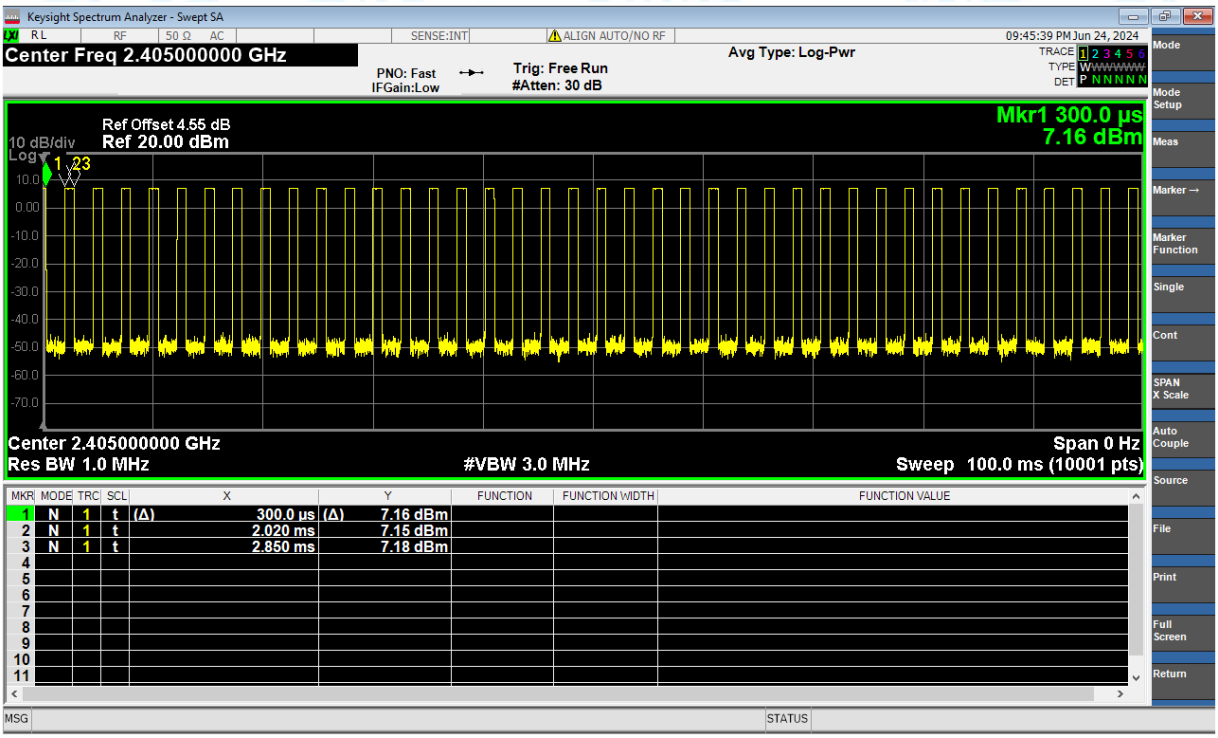
1. Duty Cycle

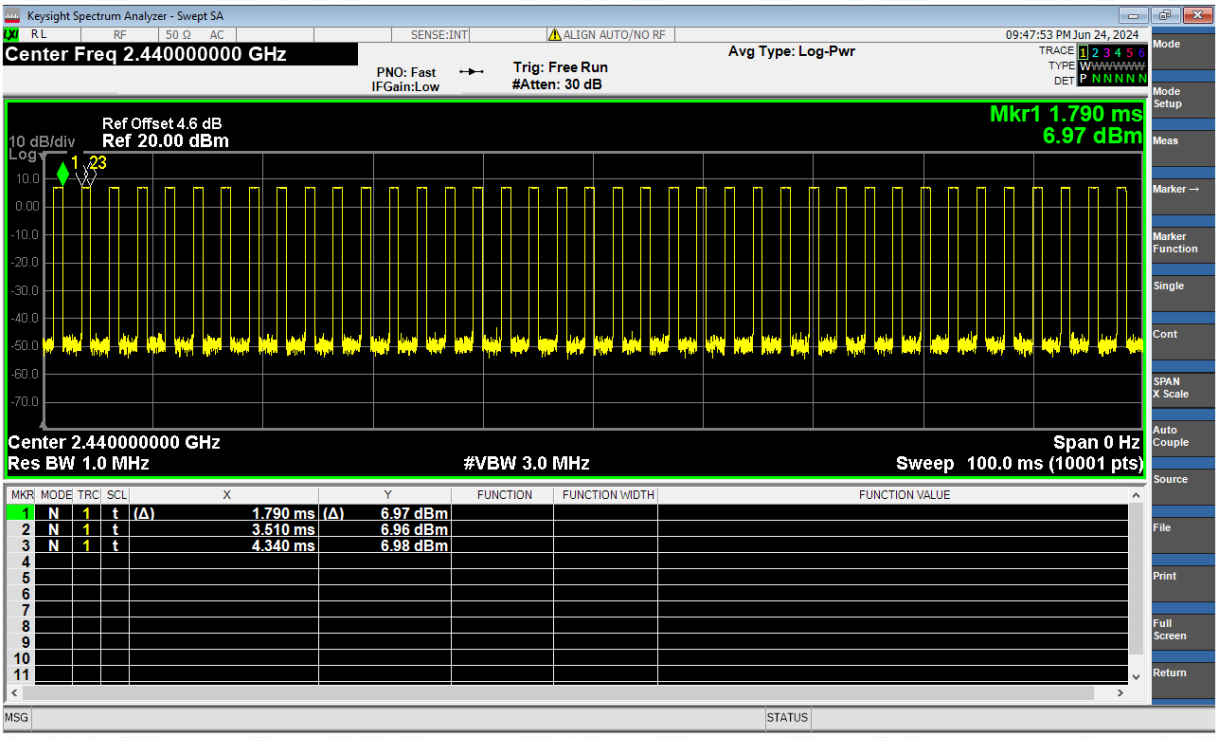
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	ZigBee	2405	Ant1	32.55	4.87	1.2
NVNT	ZigBee	2440	Ant1	32.55	4.87	1.2
NVNT	ZigBee	2480	Ant1	53.55	2.71	1.2

Test Graphs

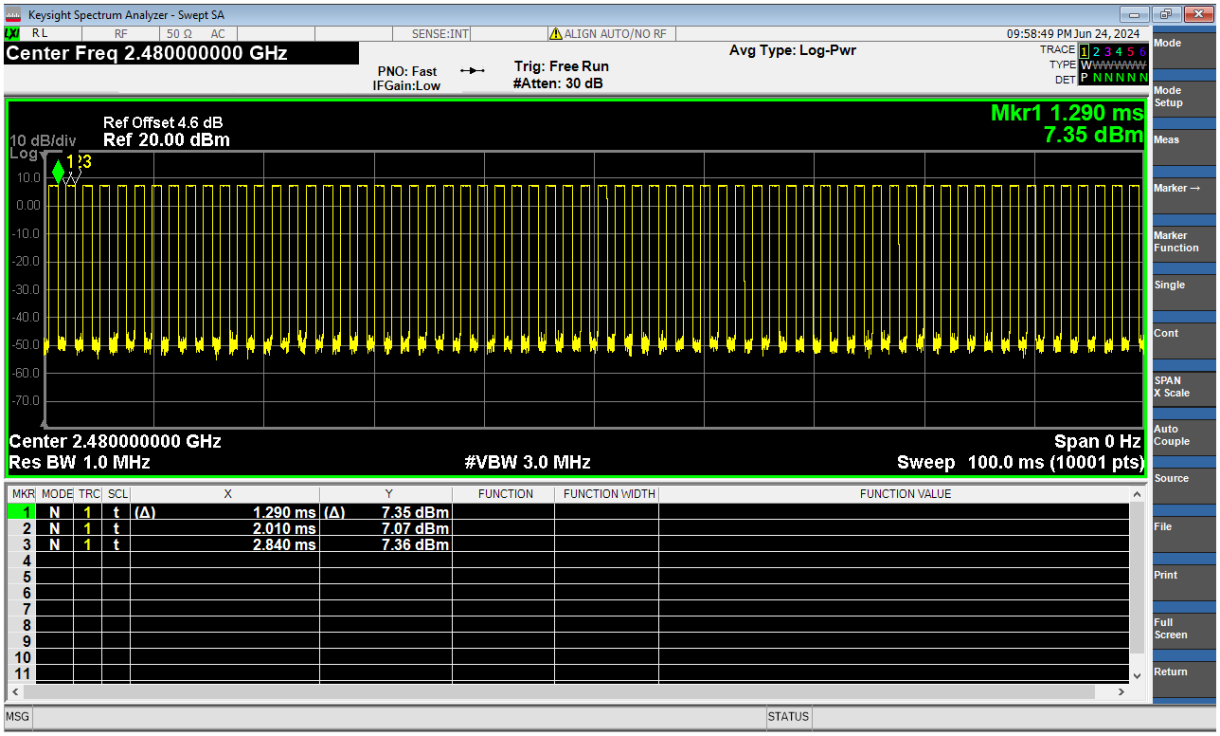
Duty Cycle NVNT ZigBee 2405MHz Ant1



Duty Cycle NVNT ZigBee 2440MHz Ant1



Duty Cycle NVNT ZigBee 2480MHz Ant1

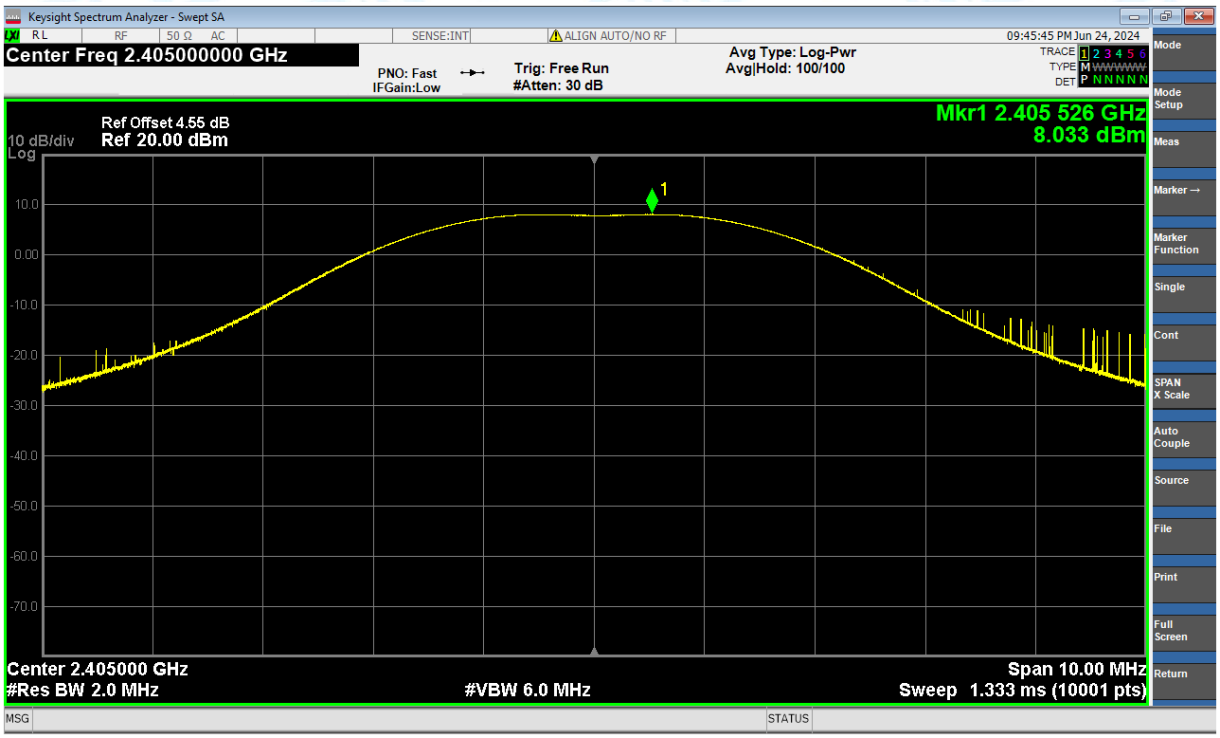


2. Maximum Conducted Output Power

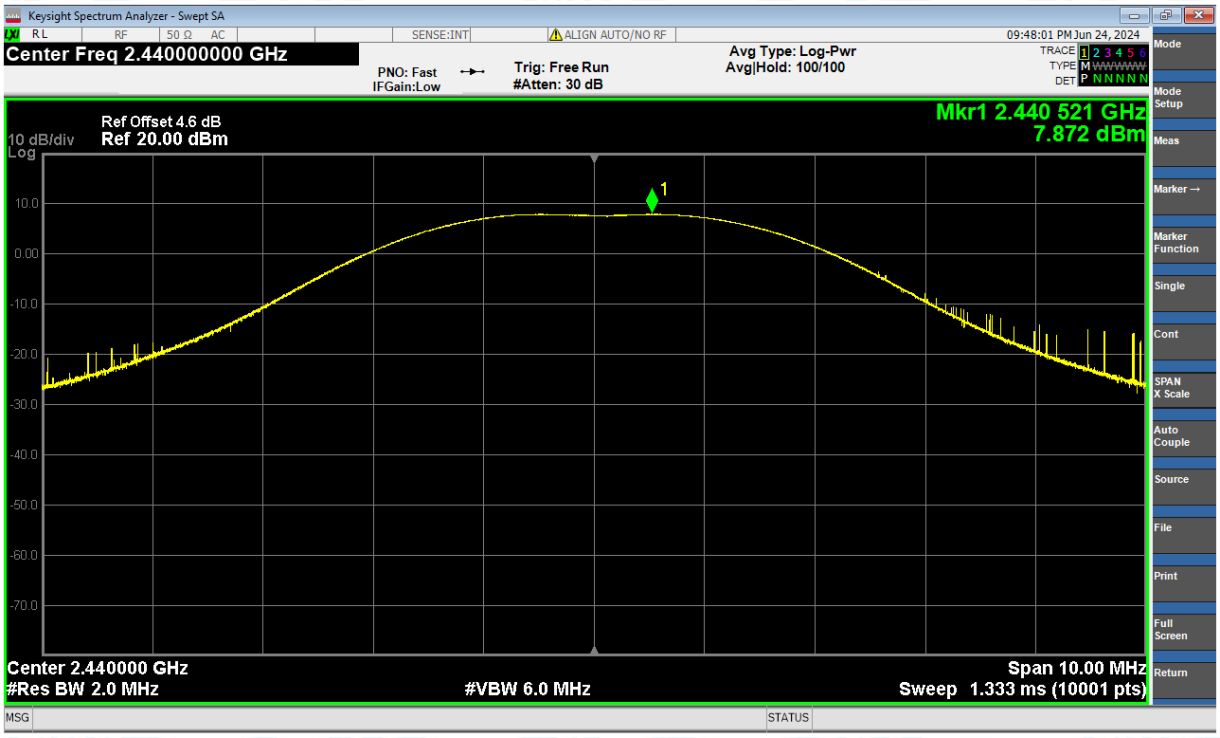
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	ZigBee	2405	Ant1	8.033	0	8.033	30	Pass
NVNT	ZigBee	2440	Ant1	7.872	0	7.872	30	Pass
NVNT	ZigBee	2480	Ant1	8.202	0	8.202	30	Pass

Test Graphs

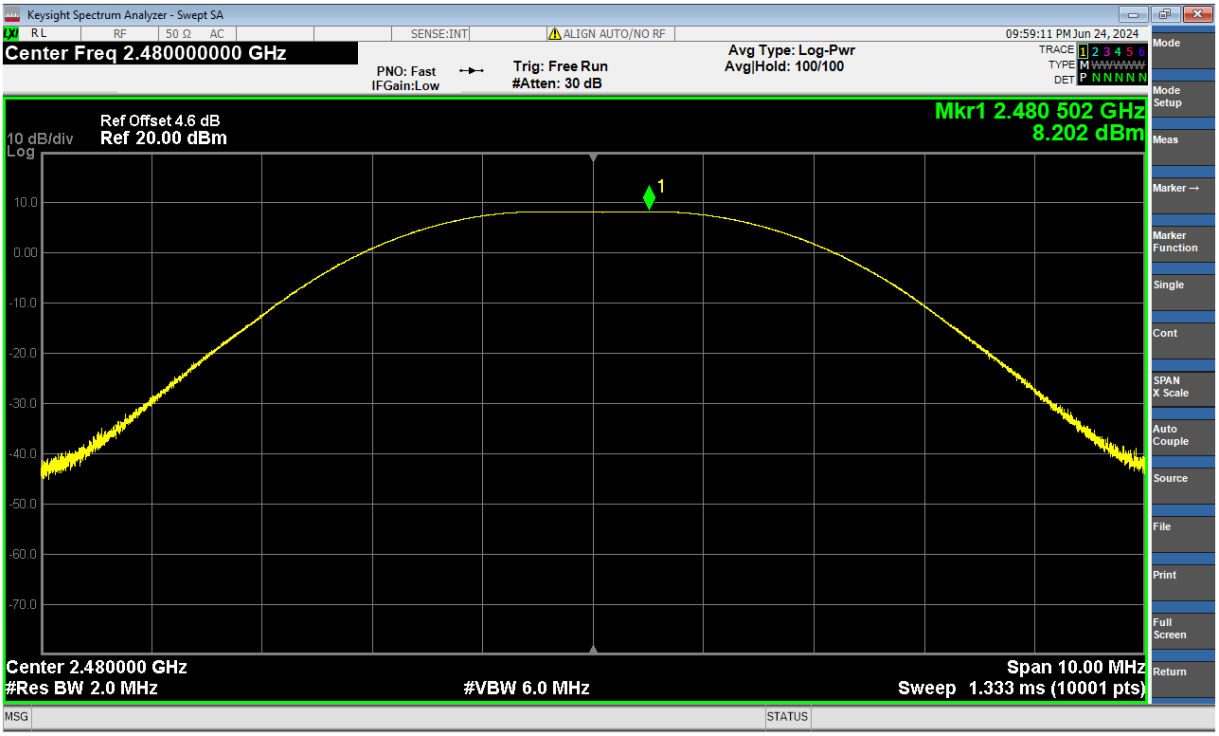
Power NVNT ZigBee 2405MHz Ant1



Power NVNT ZigBee 2440MHz Ant1



Power NVNT ZigBee 2480MHz Ant1

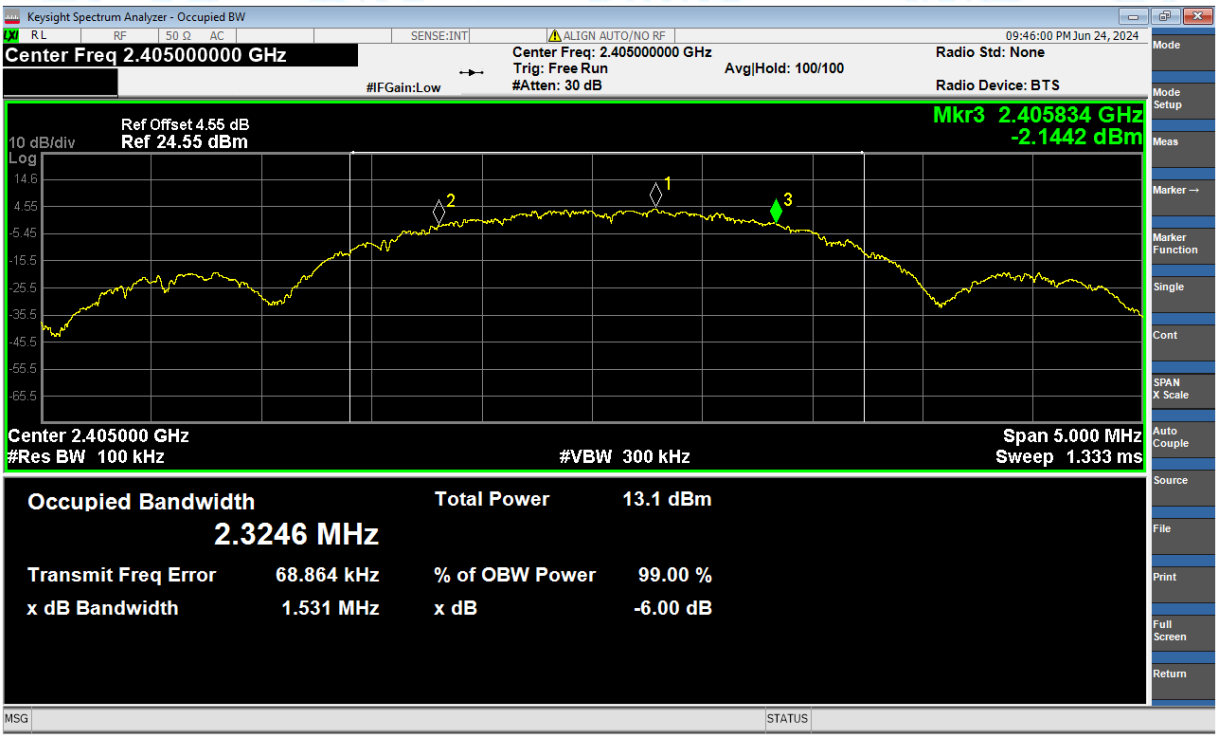


3. -6dB Bandwidth

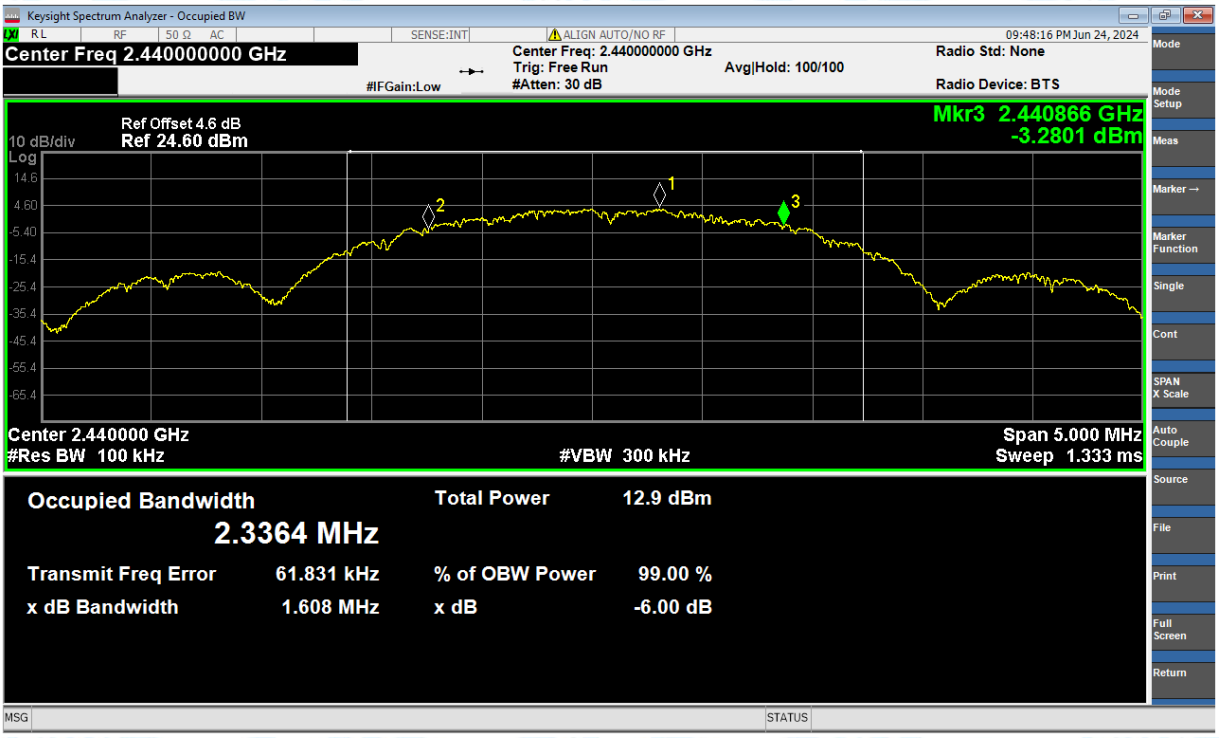
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	ZigBee	2405	Ant1	1.53	0.5	Pass
NVNT	ZigBee	2440	Ant1	1.61	0.5	Pass
NVNT	ZigBee	2480	Ant1	1.58	0.5	Pass

Test Graphs

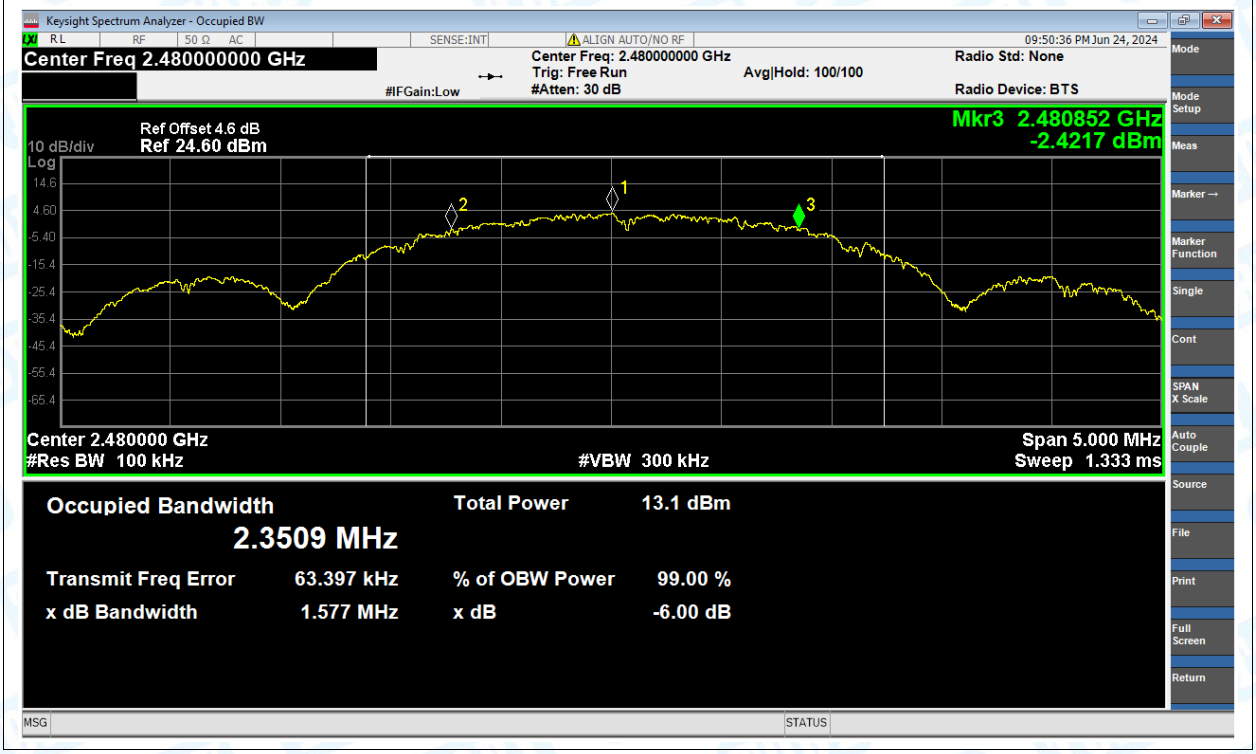
-6dB Bandwidth NVNT ZigBee 2405MHz Ant1



-6dB Bandwidth NVNT ZigBee 2440MHz Ant1



-6dB Bandwidth NVNT ZigBee 2480MHz Ant1

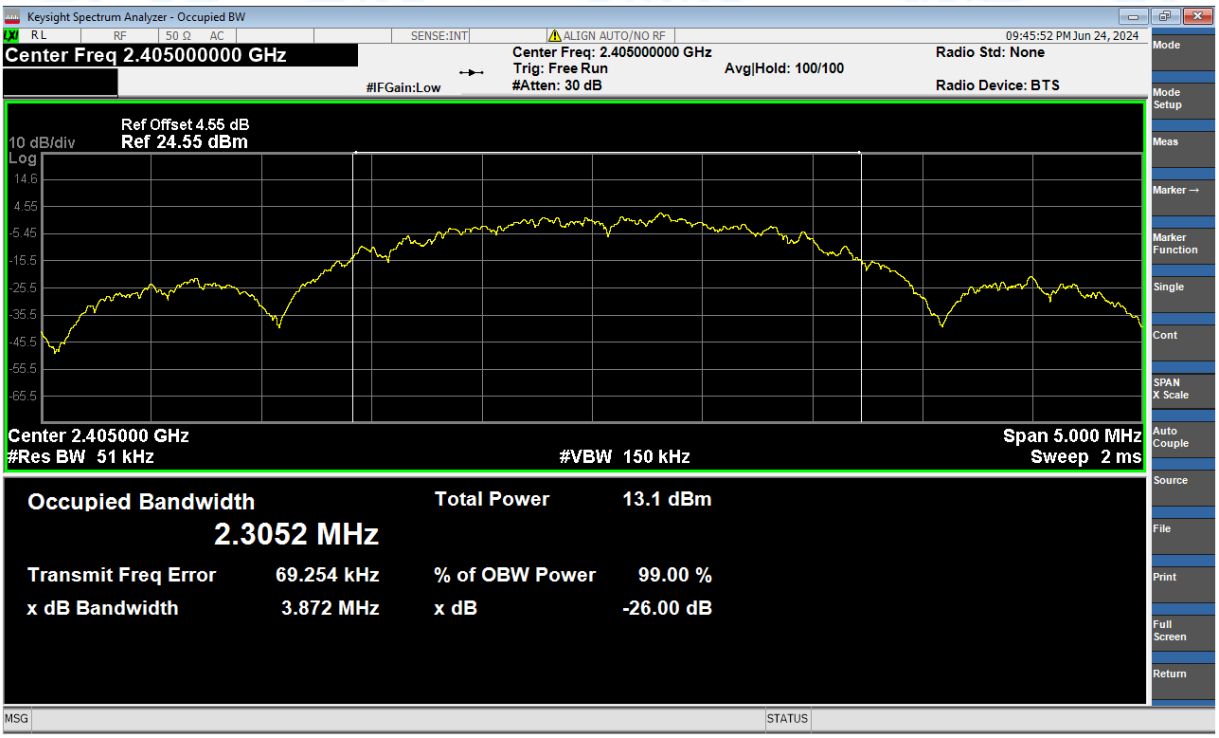


4. Occupied Channel Bandwidth

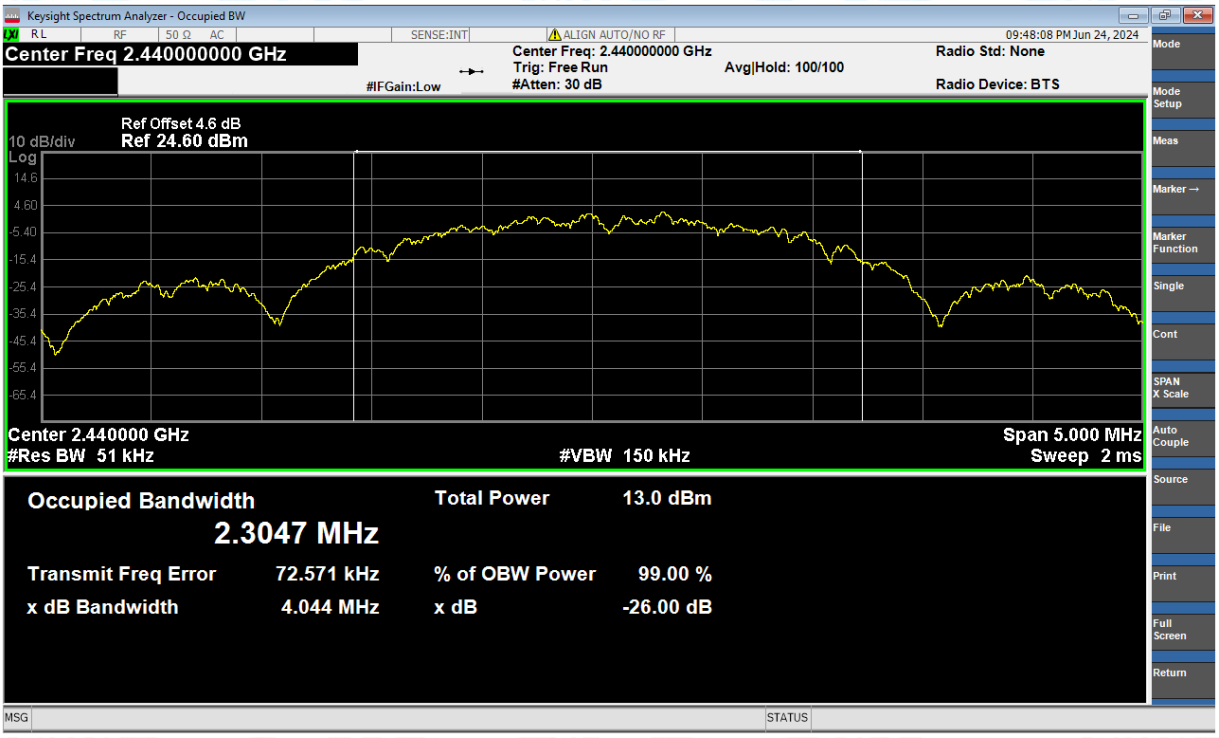
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	ZigBee	2405	Ant1	2.305
NVNT	ZigBee	2440	Ant1	2.305
NVNT	ZigBee	2480	Ant1	2.33

Test Graphs

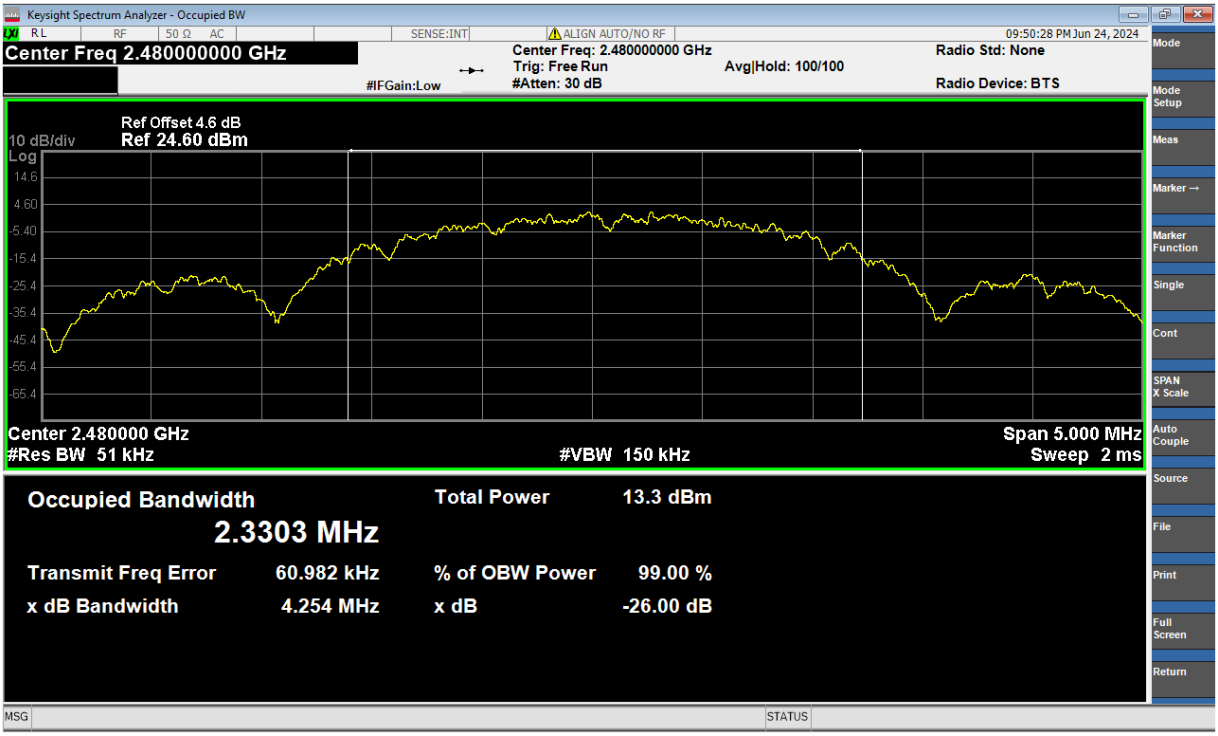
OBW NVNT ZigBee 2405MHz Ant1



OBW NVNT ZigBee 2440MHz Ant1



OBW NVNT ZigBee 2480MHz Ant1

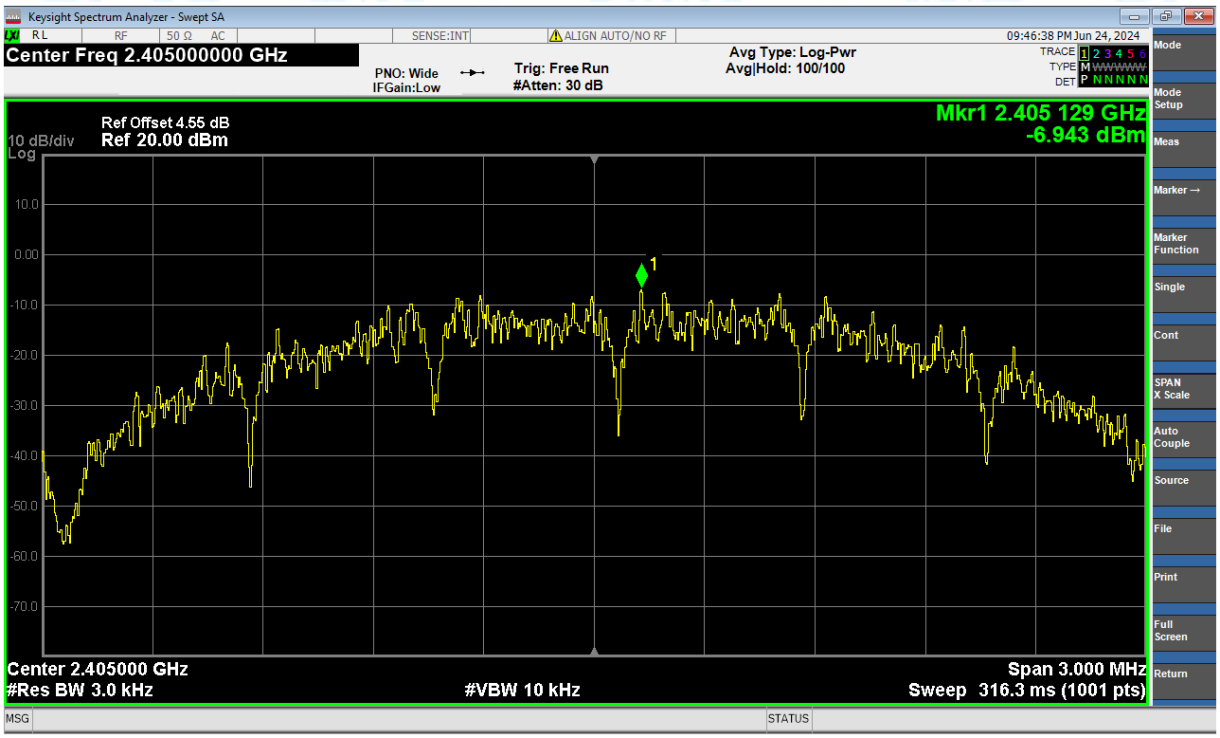


5. Maximum Power Spectral Density Level

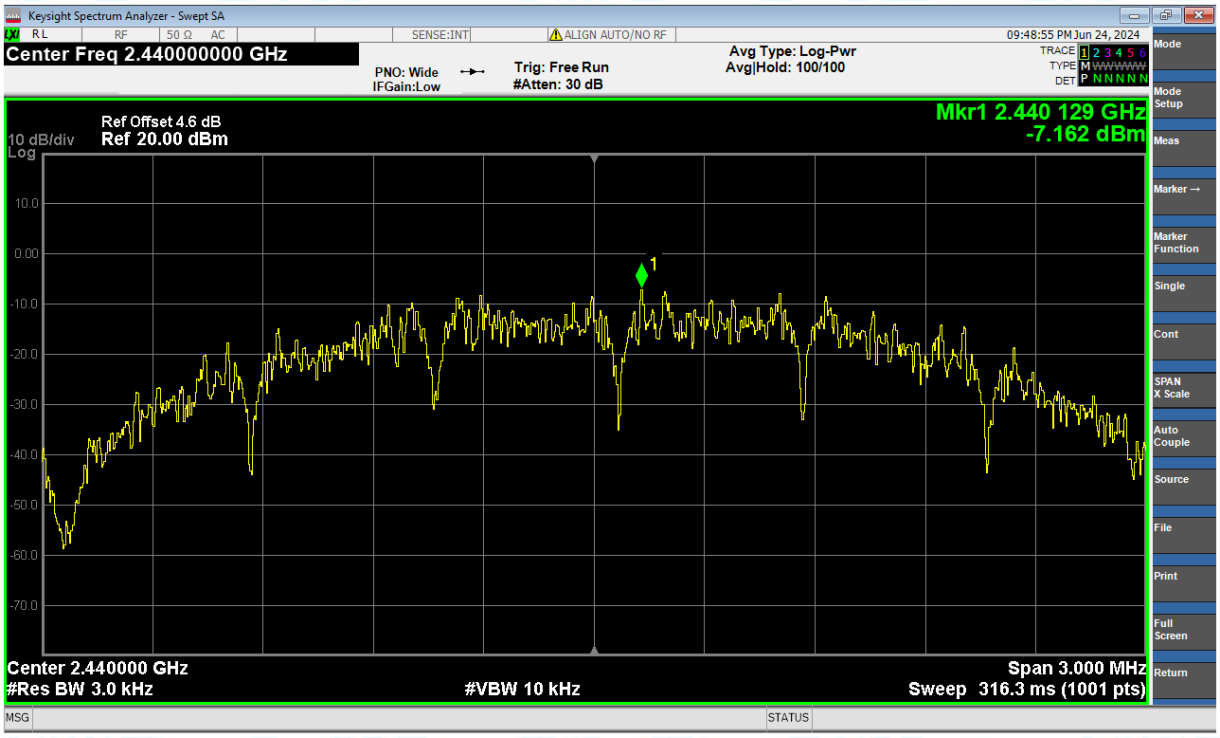
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	ZigBee	2405	Ant1	-6.943	8	Pass
NVNT	ZigBee	2440	Ant1	-7.162	8	Pass
NVNT	ZigBee	2480	Ant1	-6.693	8	Pass

Test Graphs

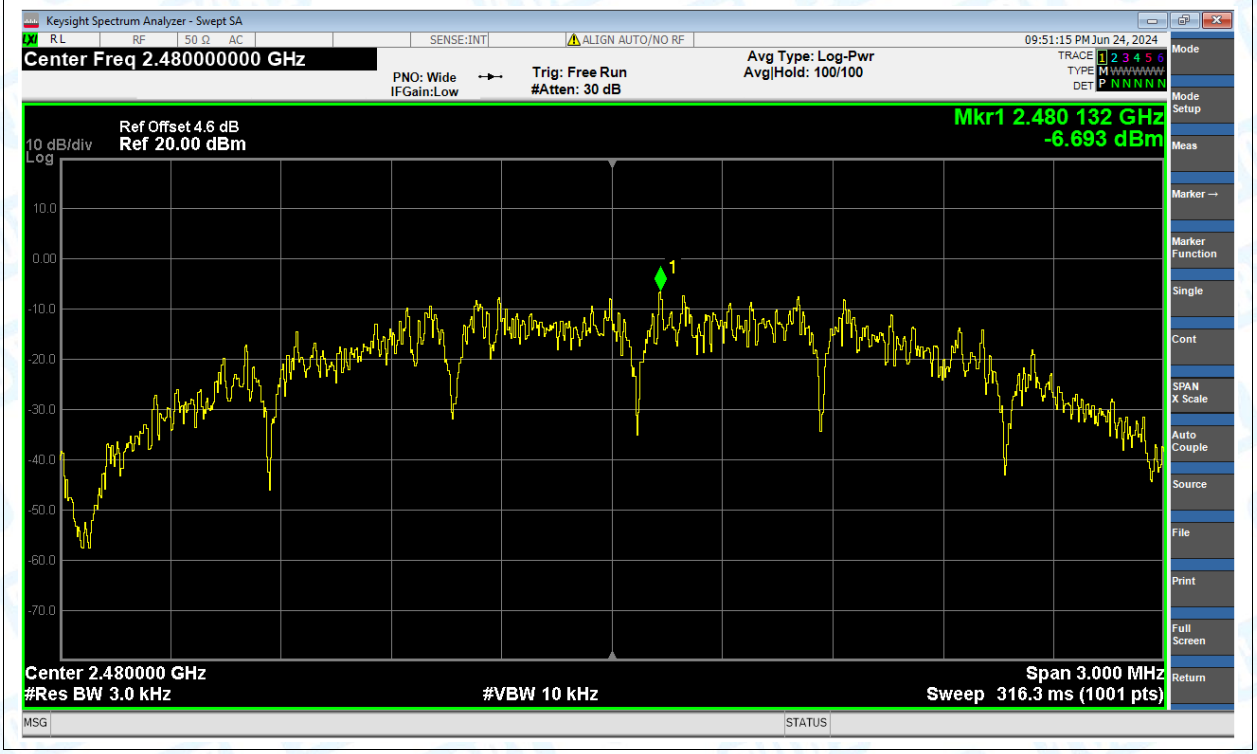
PSD NVNT ZigBee 2405MHz Ant1



PSD NVNT ZigBee 2440MHz Ant1



PSD NVNT ZigBee 2480MHz Ant1



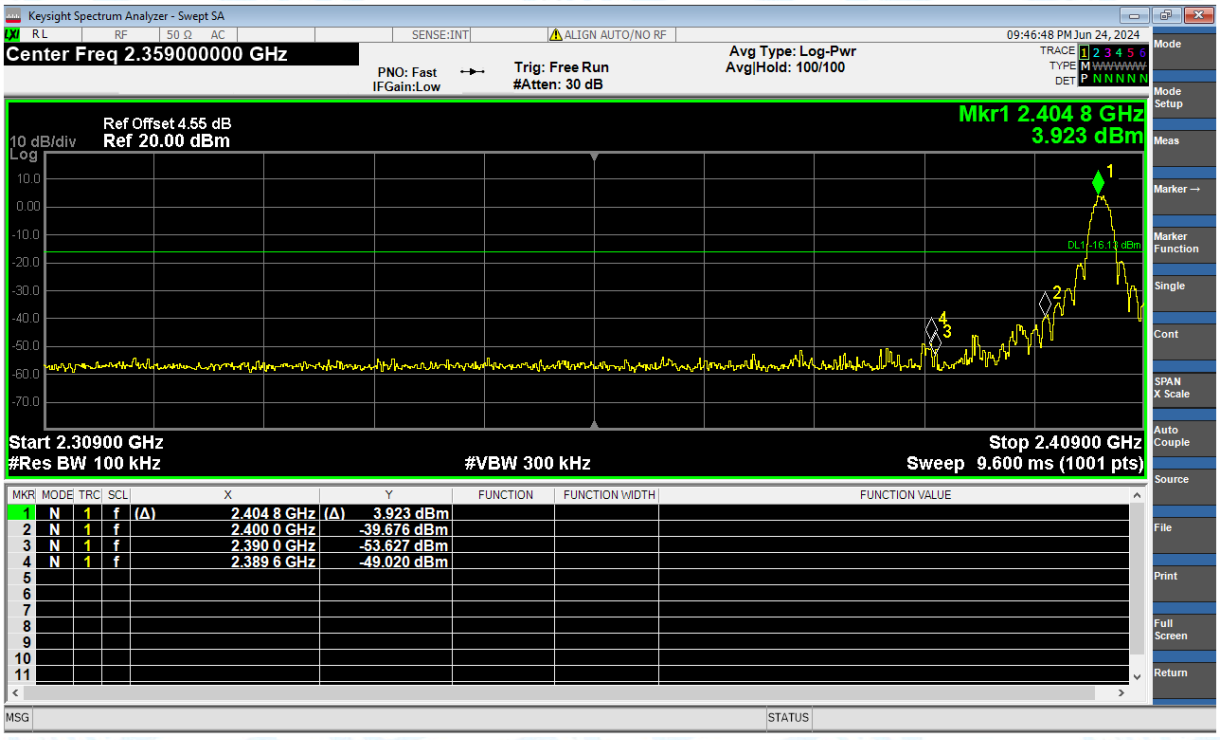
6. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ZigBee	2405	Ant1	-52.9	-20	Pass
NVNT	ZigBee	2480	Ant1	-37.84	-20	Pass

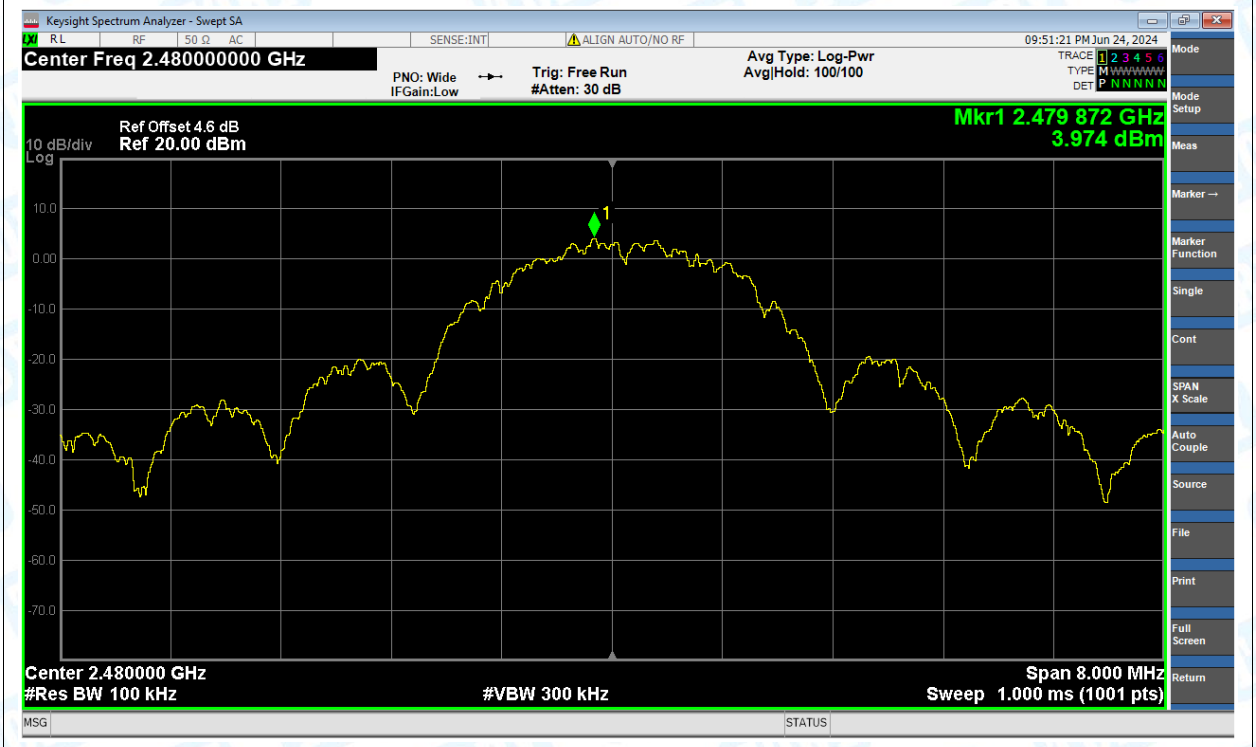
Test Graphs

Band Edge NVNT ZigBee 2405MHz Ant1 Ref

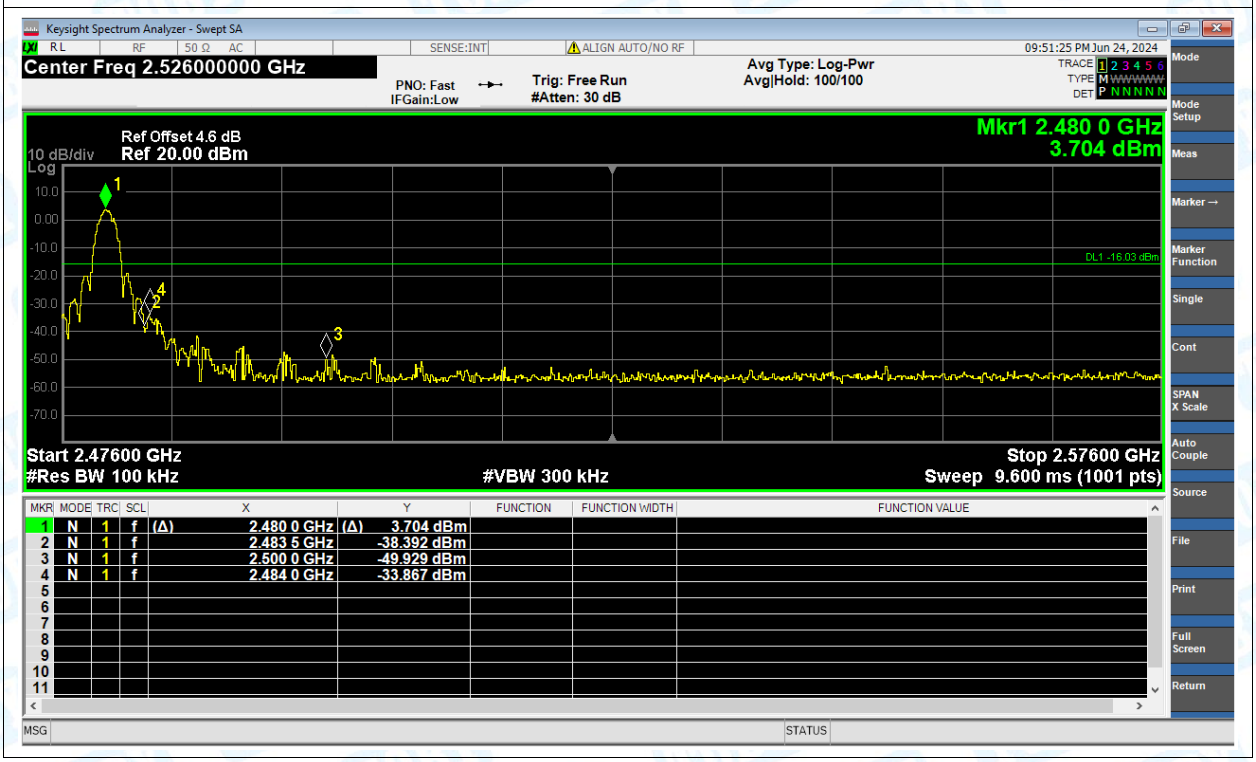
Band Edge NVNT ZigBee 2405MHz Ant1 Emission



Band Edge NVNT ZigBee 2480MHz Ant1 Ref



Band Edge NVNT ZigBee 2480MHz Ant1 Emission

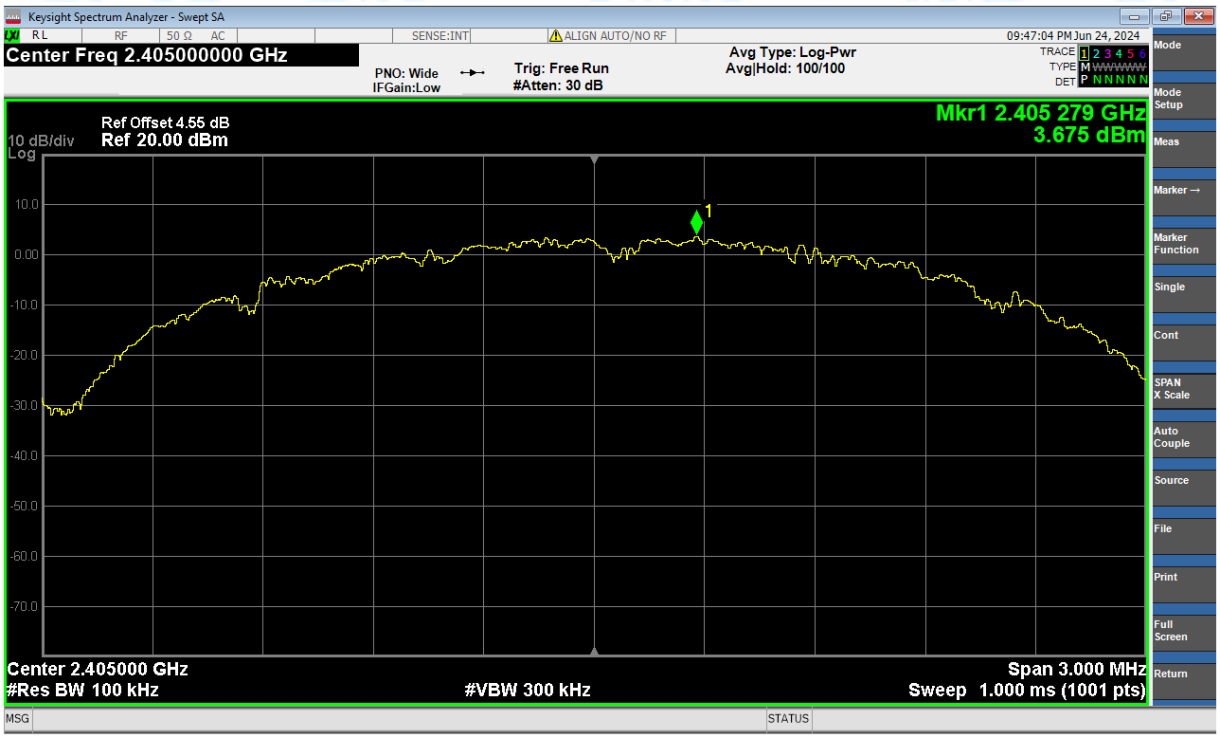


7. Conducted RF Spurious Emission

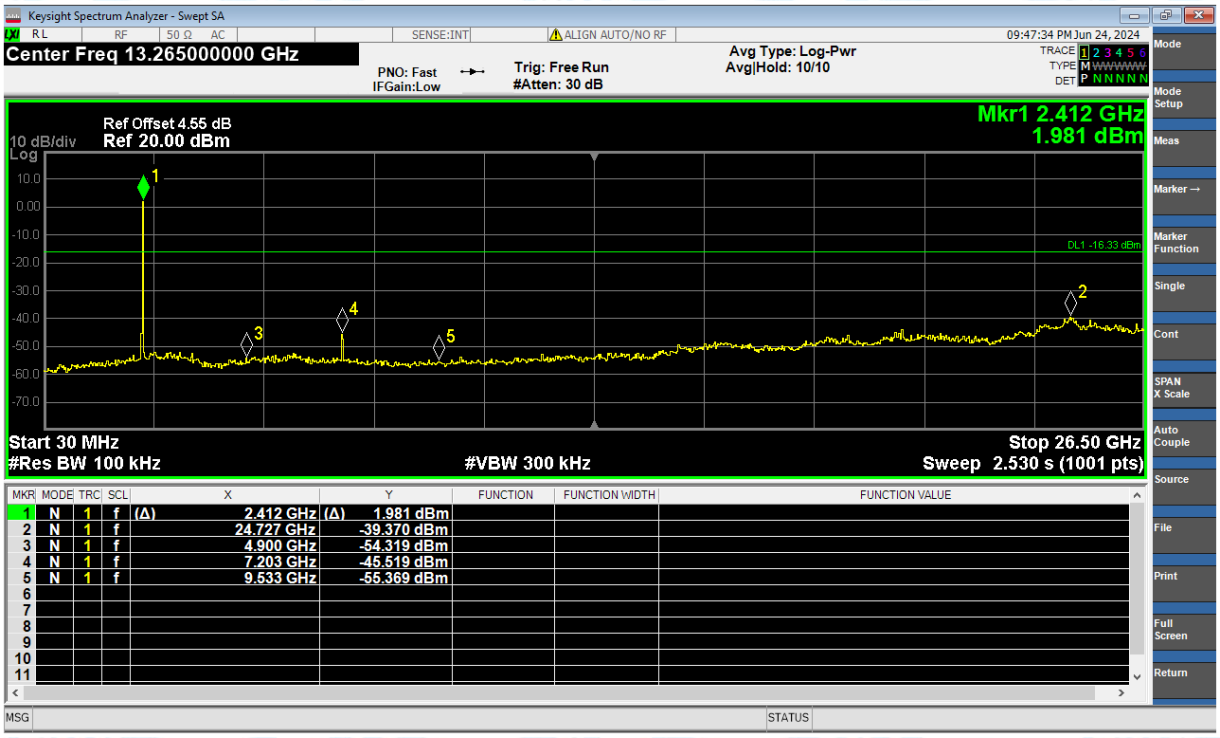
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ZigBee	2405	Ant1	-43.04	-20	Pass
NVNT	ZigBee	2440	Ant1	-43.8	-20	Pass
NVNT	ZigBee	2480	Ant1	-41.62	-20	Pass

Test Graphs

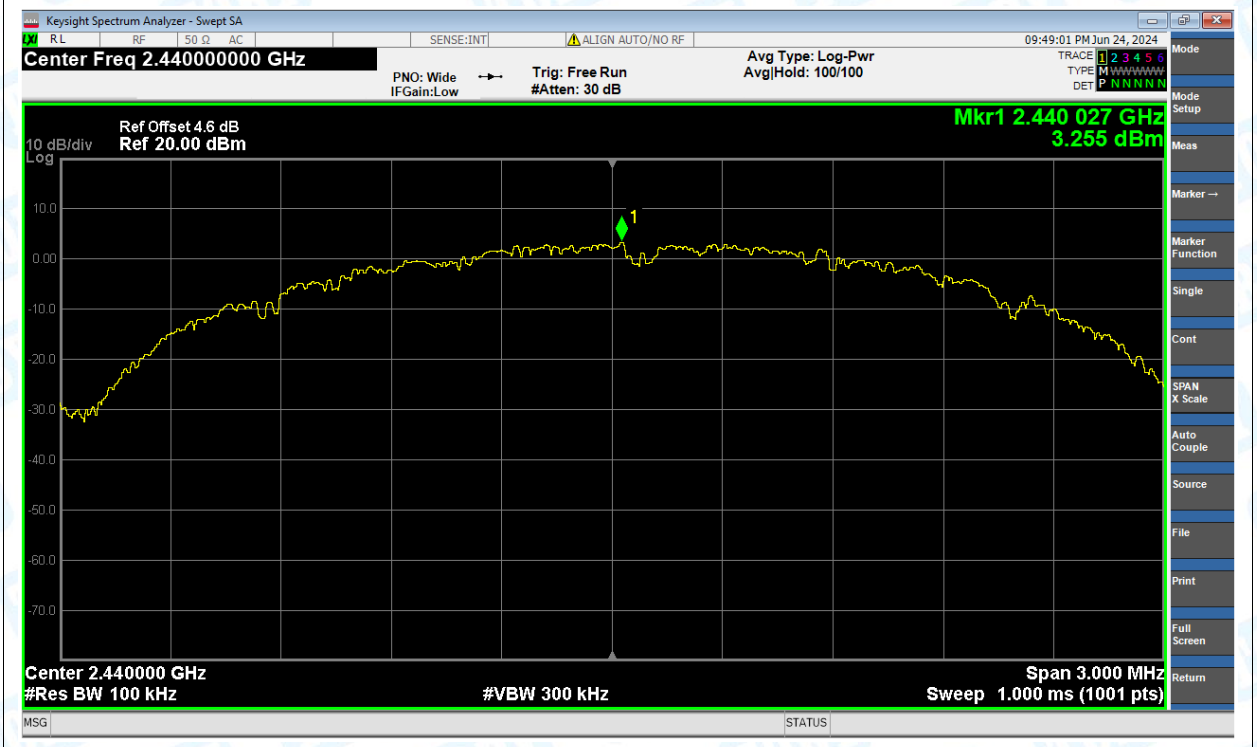
Tx. Spurious NVNT ZigBee 2405MHz Ant1 Ref



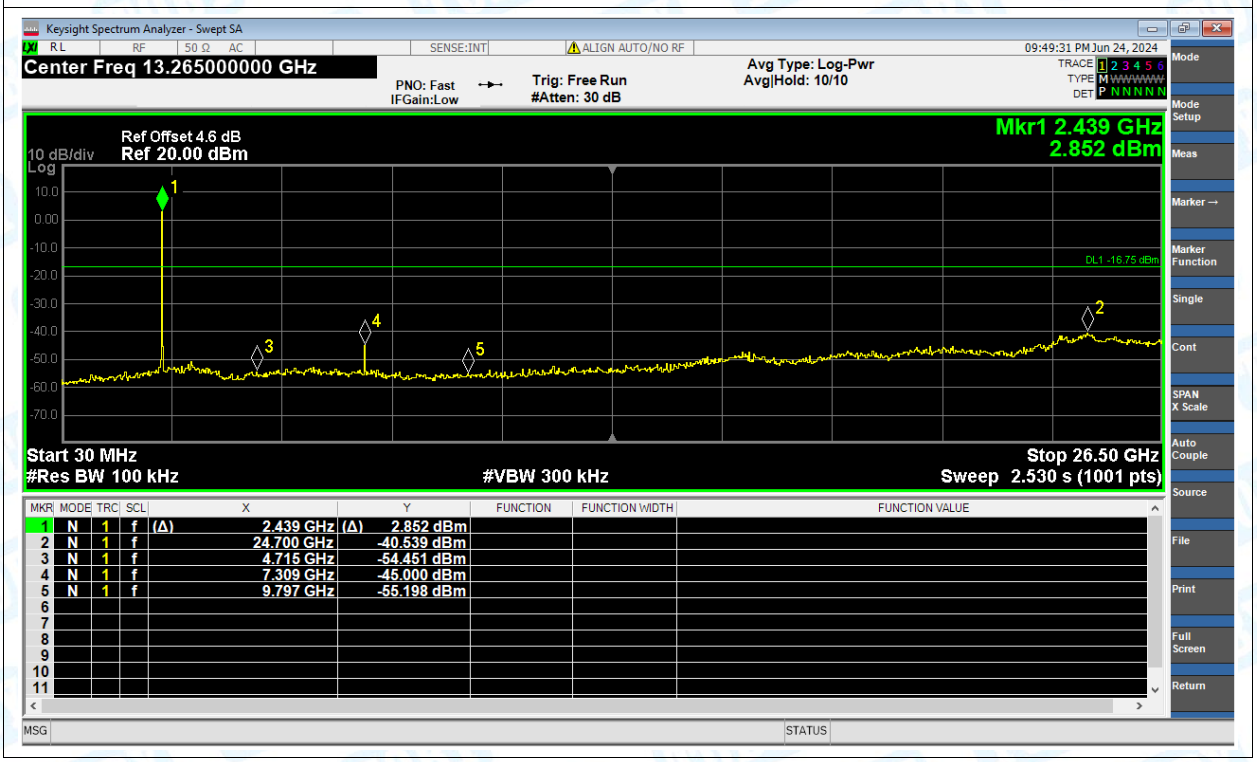
Tx. Spurious NVNT ZigBee 2405MHz Ant1 Emission



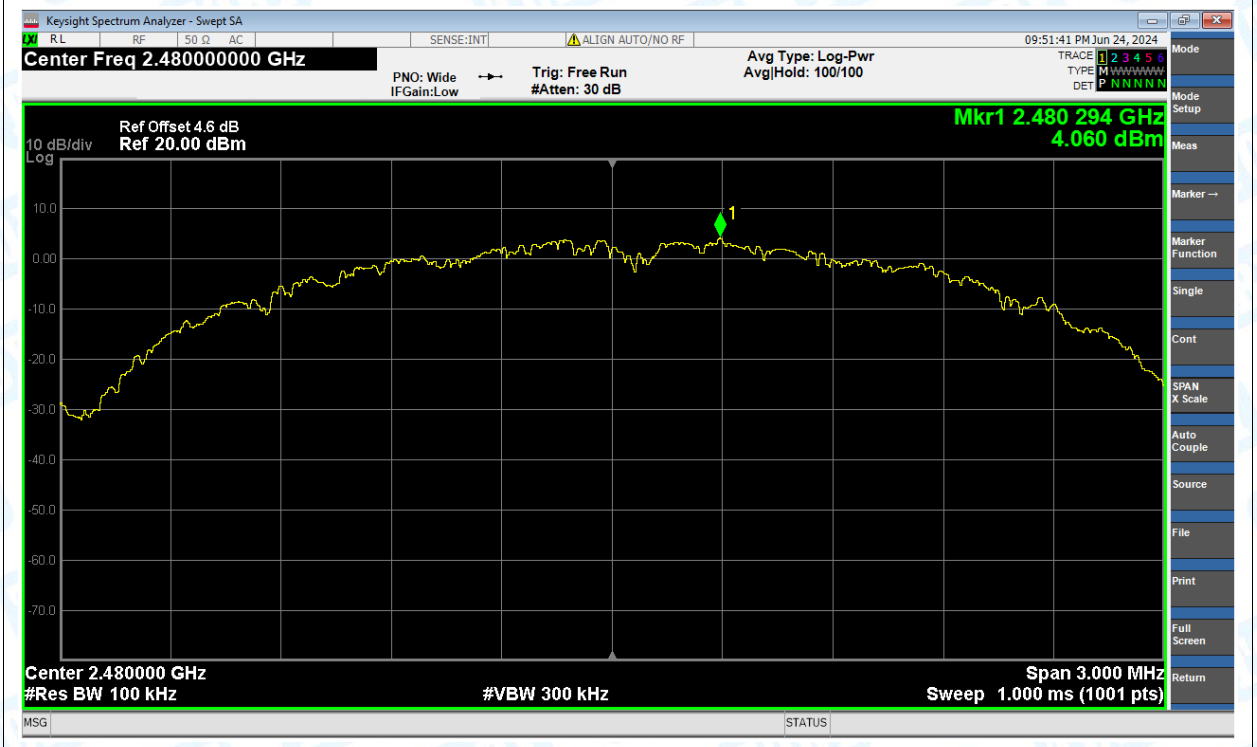
Tx. Spurious NVNT ZigBee 2440MHz Ant1 Ref



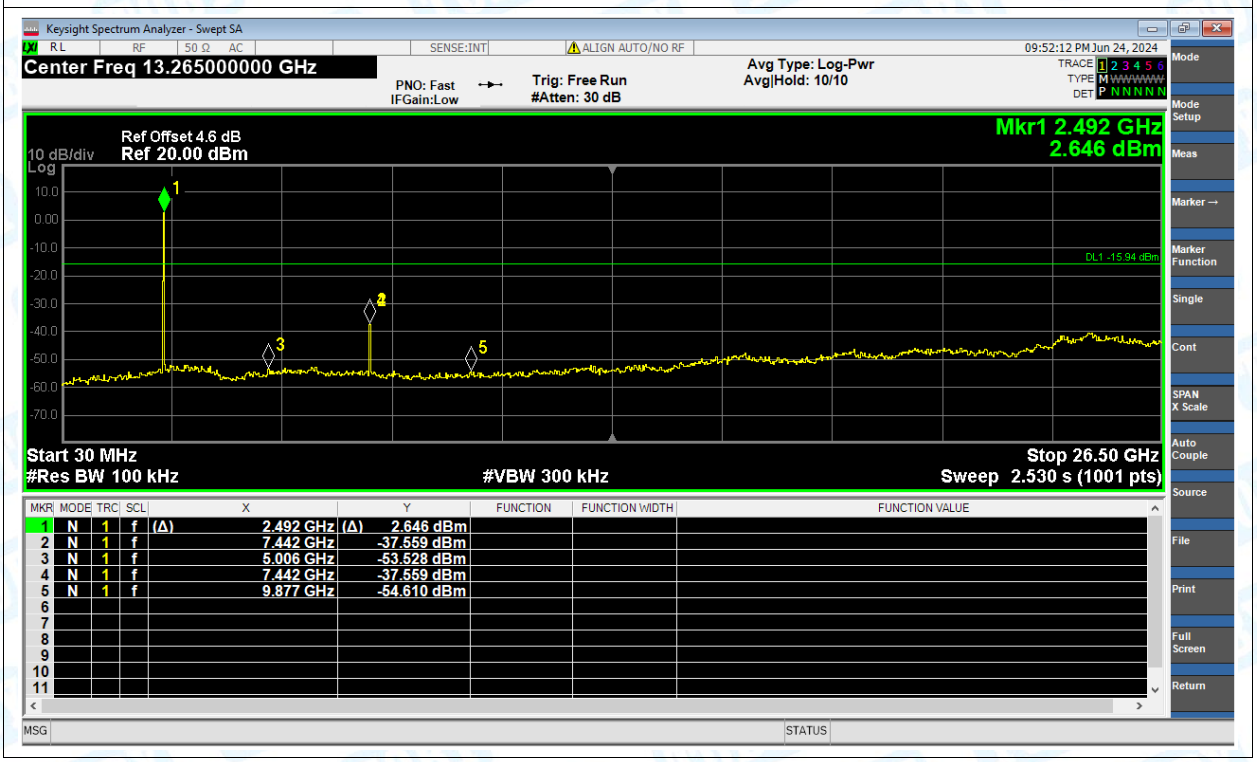
Tx. Spurious NVNT ZigBee 2440MHz Ant1 Emission



Tx. Spurious NVNT ZigBee 2480MHz Ant1 Ref



Tx. Spurious NVNT ZigBee 2480MHz Ant1 Emission

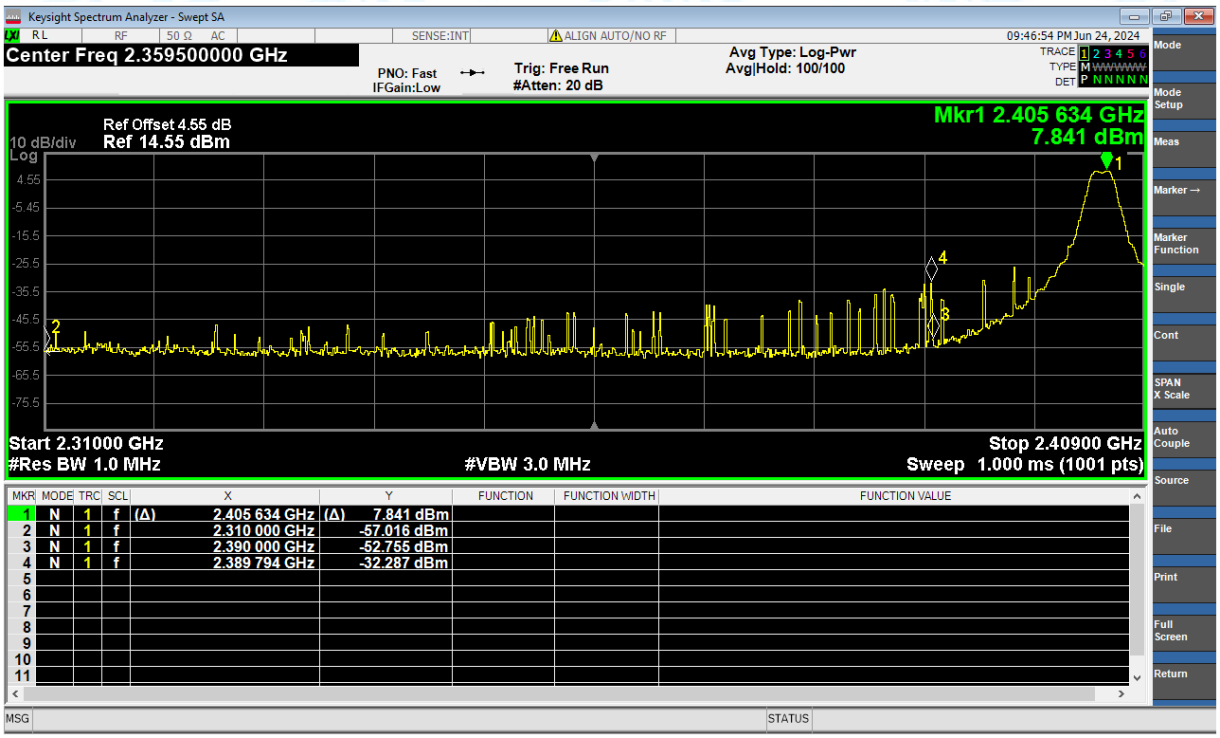


8. Restrict Band

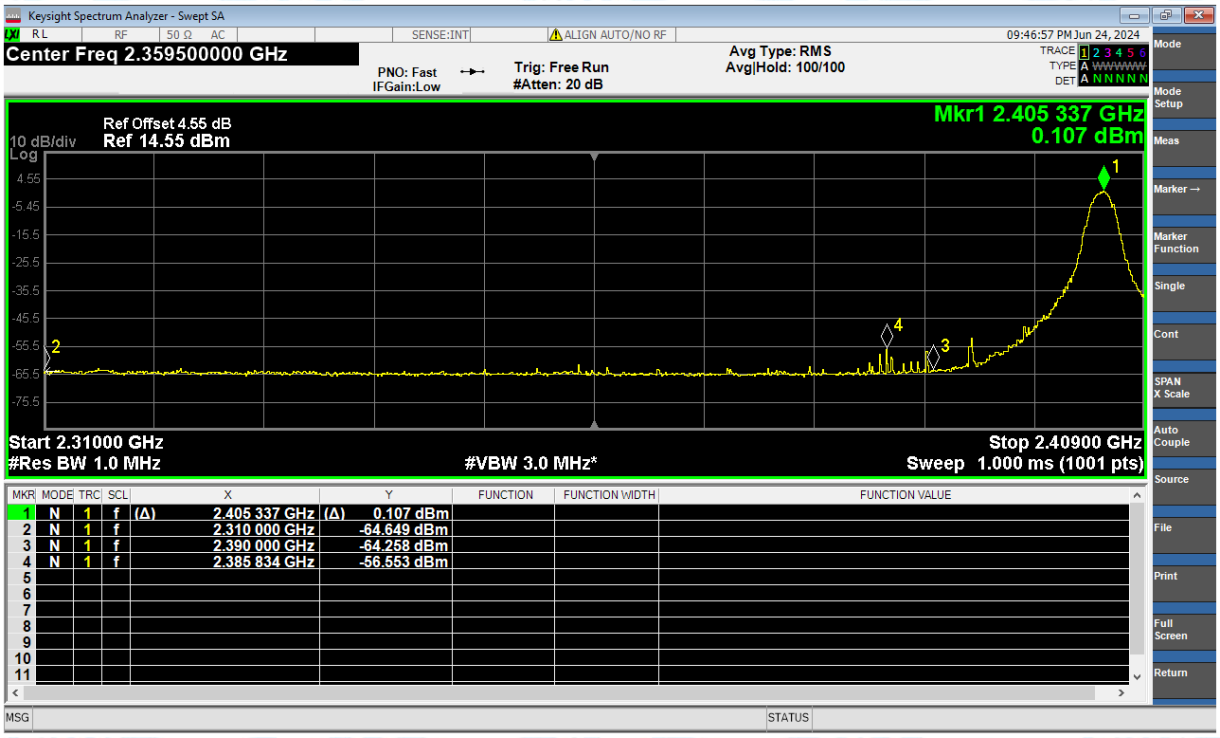
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	ZigBee	2405	Ant1	2310	-57.02	2	-	40.24	Peak	74	Pass
NVNT	ZigBee	2405	Ant1	2310	-64.65	2	4.87	37.48	Average	54	Pass
NVNT	ZigBee	2405	Ant1	2389.794	-32.29	2	-	64.97	Peak	74	Pass
NVNT	ZigBee	2405	Ant1	2385.834	-56.55	2	4.87	45.58	Average	54	Pass
NVNT	ZigBee	2405	Ant1	2390	-52.76	2	-	44.5	Peak	74	Pass
NVNT	ZigBee	2405	Ant1	2390	-64.26	2	4.87	37.87	Average	54	Pass
NVNT	ZigBee	2480	Ant1	2483.5	-43.89	2	-	53.37	Peak	74	Pass
NVNT	ZigBee	2480	Ant1	2483.5	-50.34	2	2.71	49.63	Average	54	Pass
NVNT	ZigBee	2480	Ant1	2483.536	-43.65	2	-	53.61	Peak	74	Pass
NVNT	ZigBee	2480	Ant1	2483.512	-50.34	2	2.71	49.63	Average	54	Pass
NVNT	ZigBee	2480	Ant1	2500	-56.23	2	-	41.03	Peak	74	Pass
NVNT	ZigBee	2480	Ant1	2500	-64.7	2	2.71	35.27	Average	54	Pass

Test Graphs

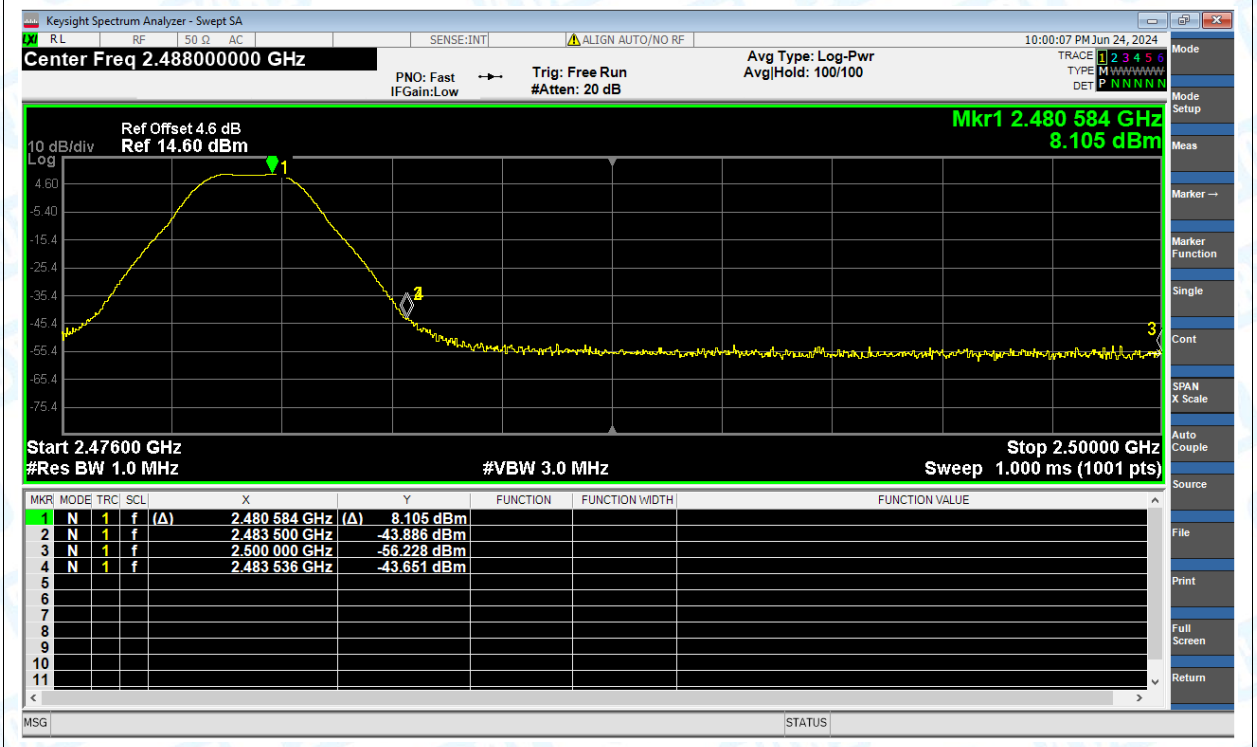
Restrict Band NVNT ZigBee 2405MHz Ant1 Peak



Restrict Band NVNT ZigBee 2405MHz Ant1 Average



Restrict Band NVNT ZigBee 2480MHz Ant1 Peak



Restrict Band NVNT ZigBee 2480MHz Ant1 Average

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