



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: SwitchBot Air Purifier

Test Model: W5302300

Environmental Conditions

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





A.1 -6dB Bandwidth

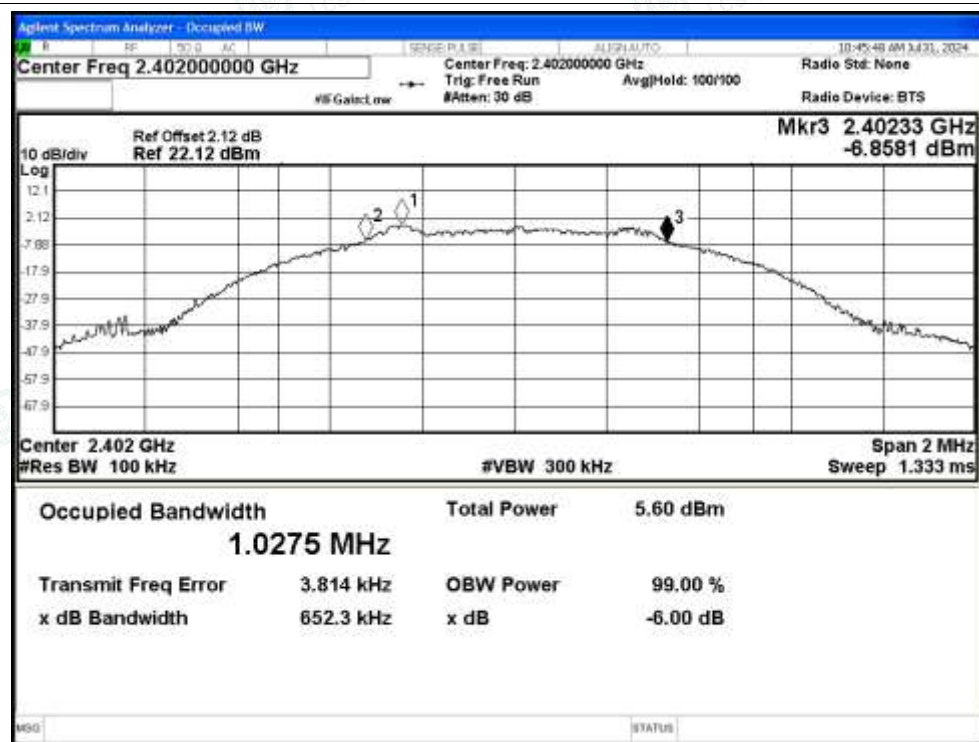
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE	2402	Ant	0.652	≥ 0.5	Pass
NVNT	BLE	2440	Ant	0.655	≥ 0.5	Pass
NVNT	BLE	2480	Ant	0.654	≥ 0.5	Pass



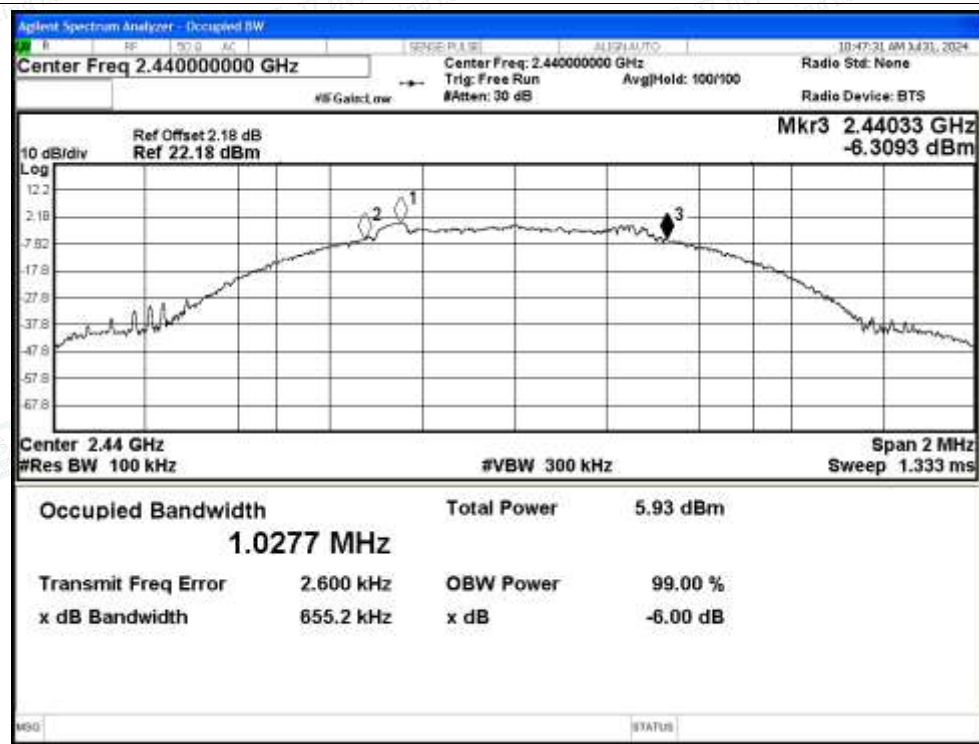


Test Graphs

-6dB Bandwidth NVNT BLE 2402MHz Ant



-6dB Bandwidth NVNT BLE 2440MHz Ant

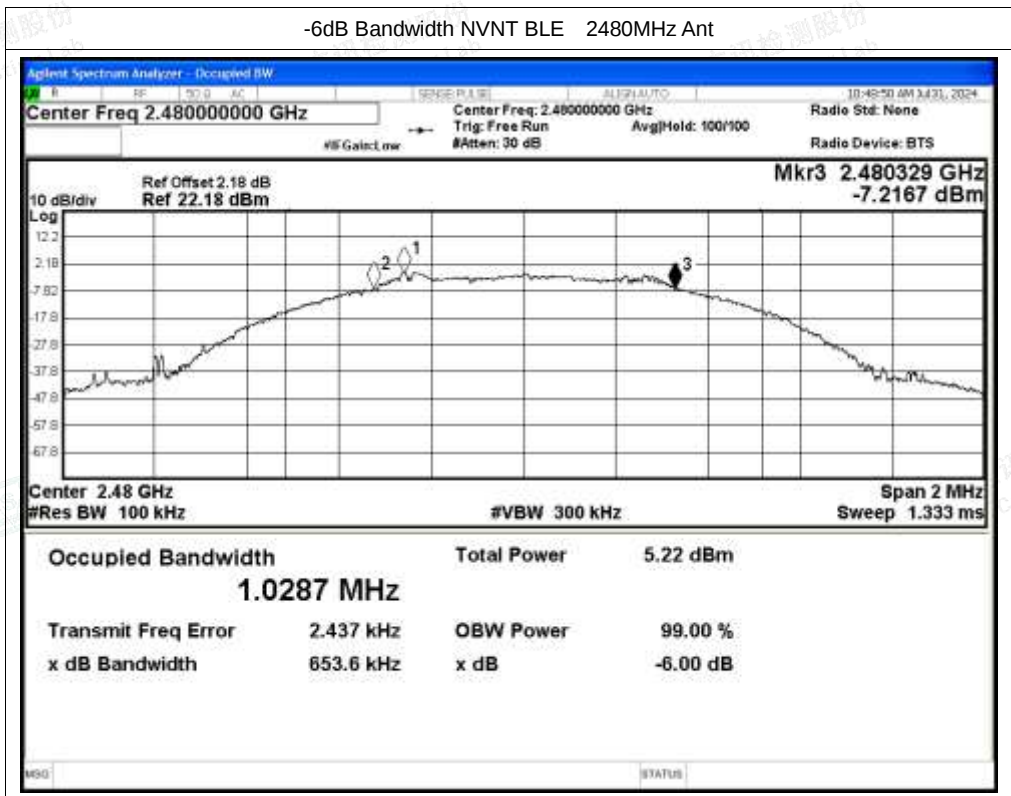


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A.2 Maximum Peak Conducted Output Power

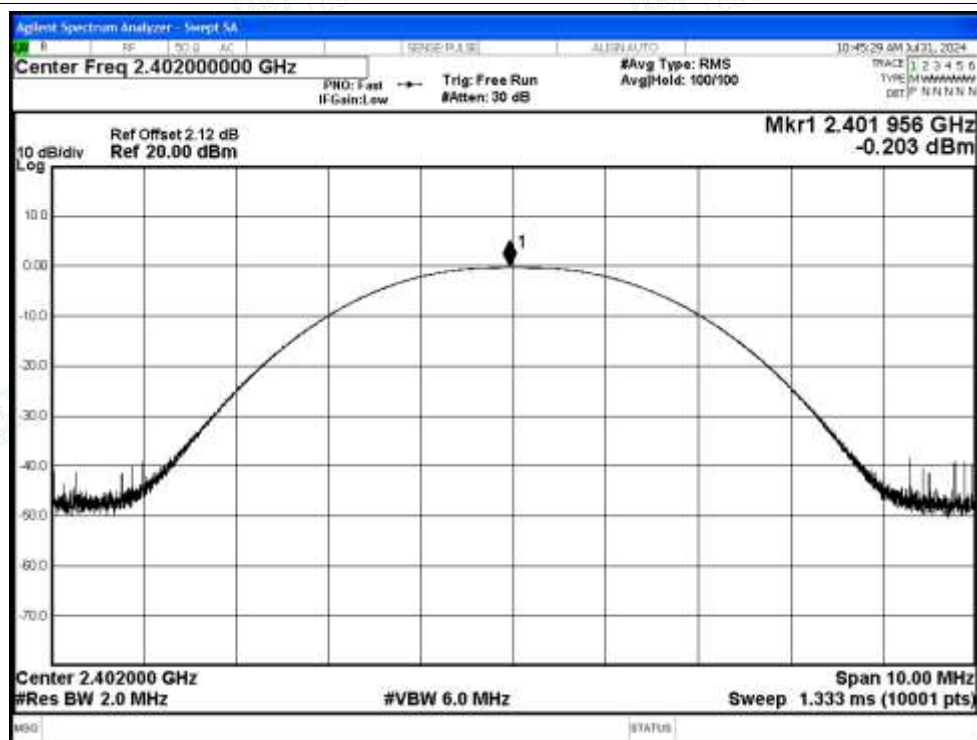
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant	-0.2	30	Pass
NVNT	BLE	2440	Ant	0.16	30	Pass
NVNT	BLE	2480	Ant	-0.53	30	Pass



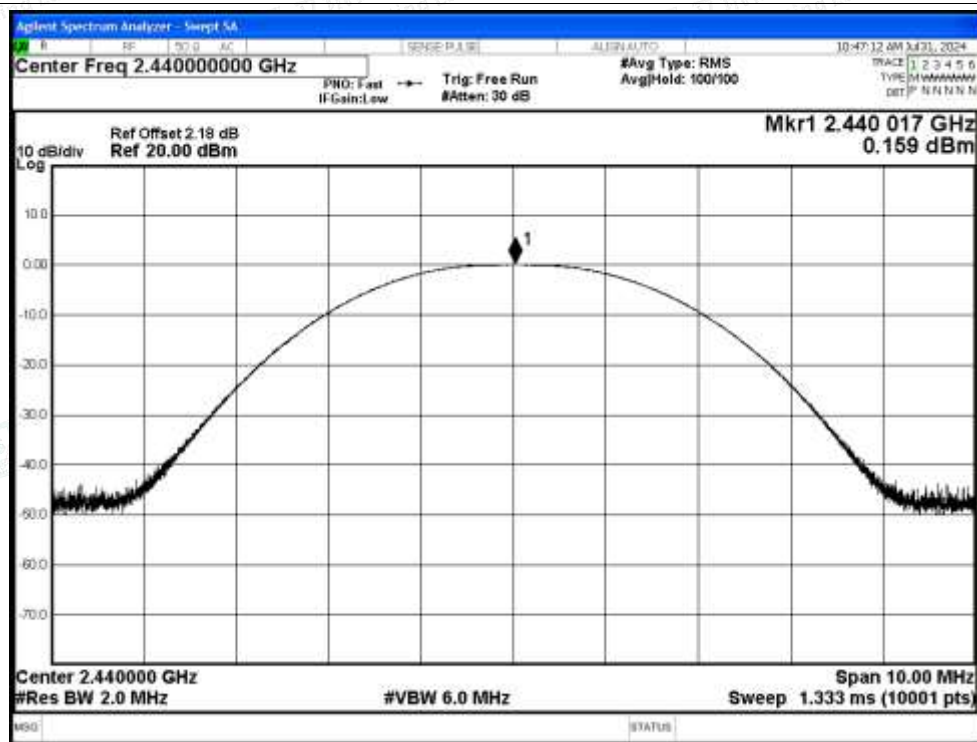


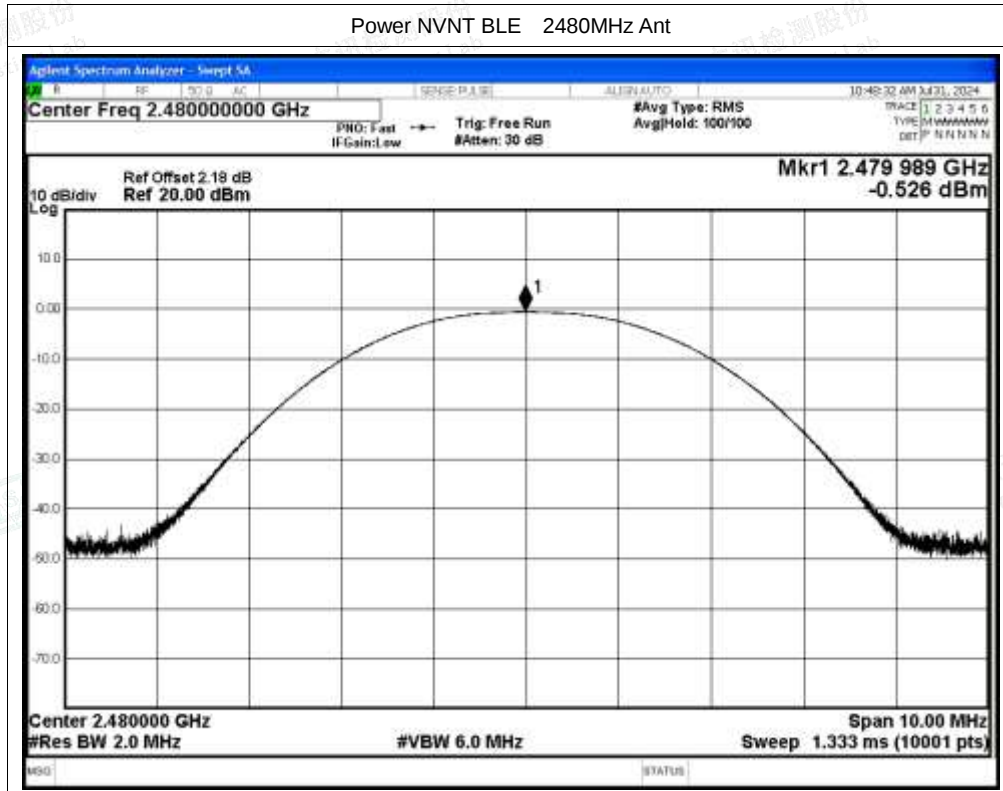
Test Graphs

Power NVNT BLE 2402MHz Ant



Power NVNT BLE 2440MHz Ant





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A.3 Maximum Power Spectral Density Level

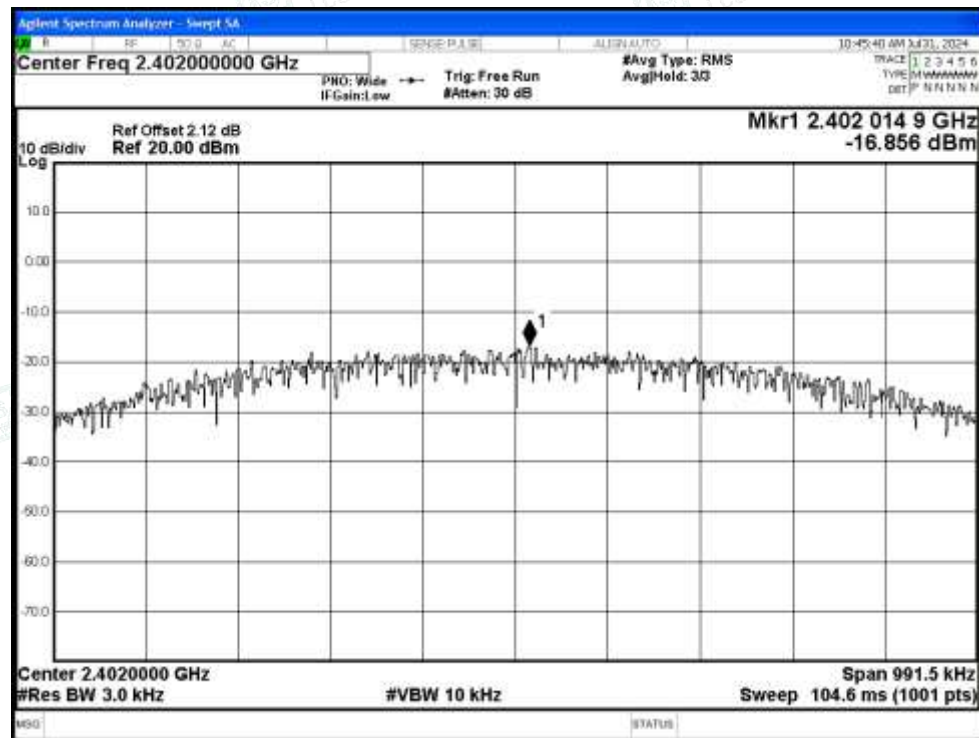
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE	2402	Ant	-16.86	8	Pass
NVNT	BLE	2440	Ant	-16.52	8	Pass
NVNT	BLE	2480	Ant	-17.38	8	Pass



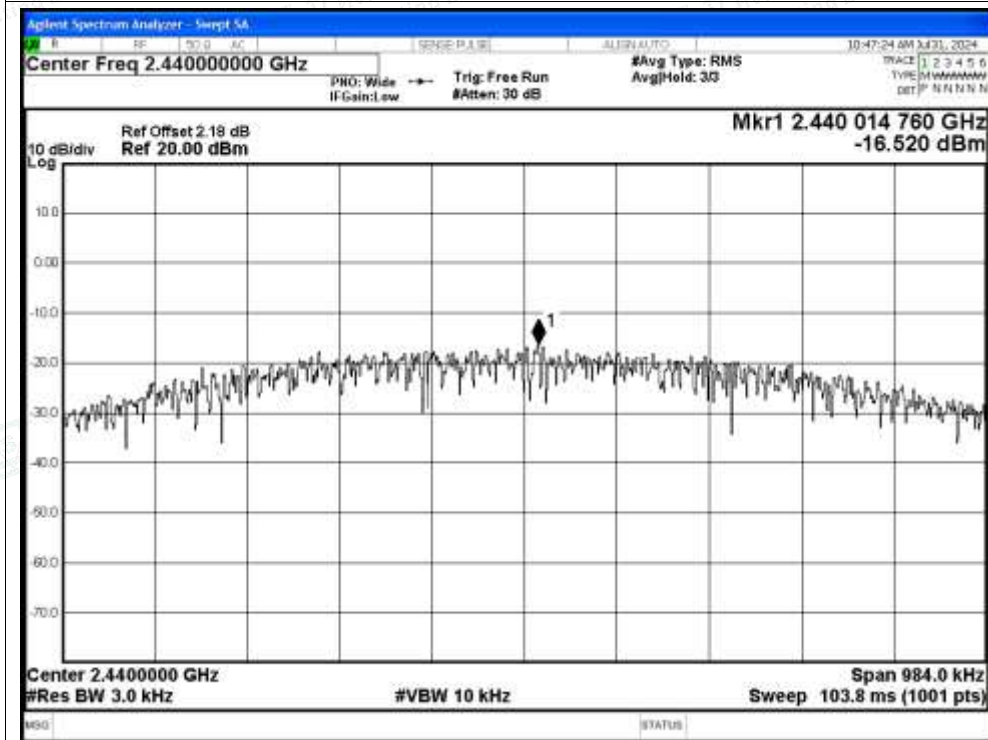


Test Graphs

PSD NVNT BLE 2402MHz Ant



PSD NVNT BLE 2440MHz Ant

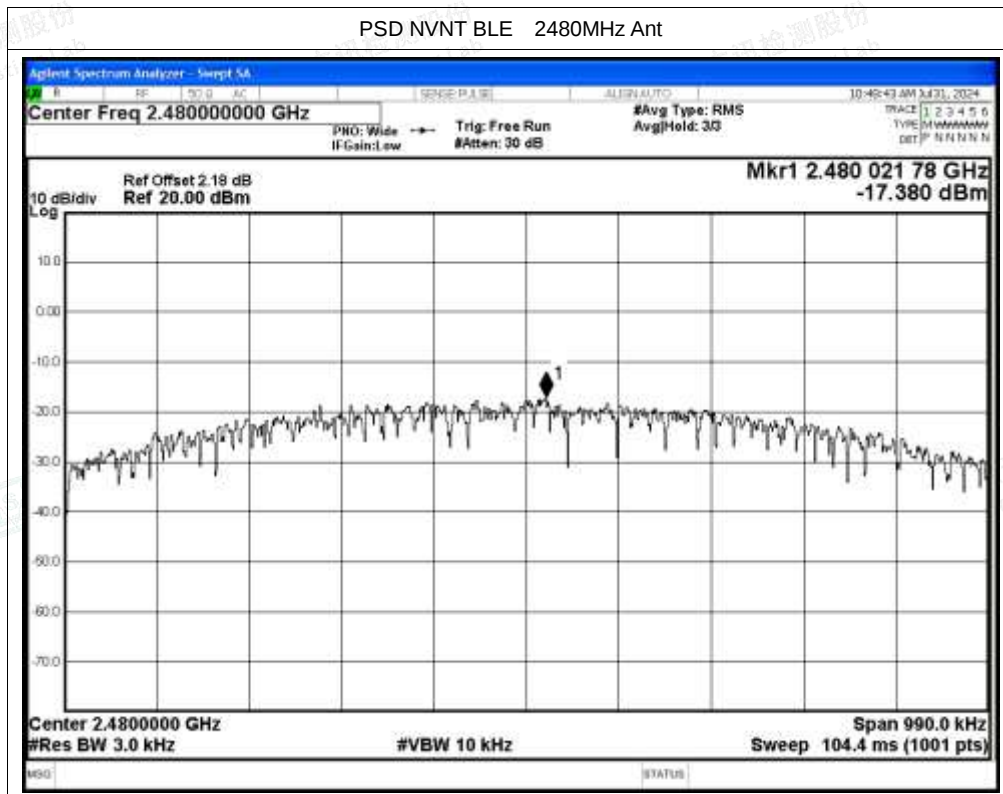


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A.4 Band Edge

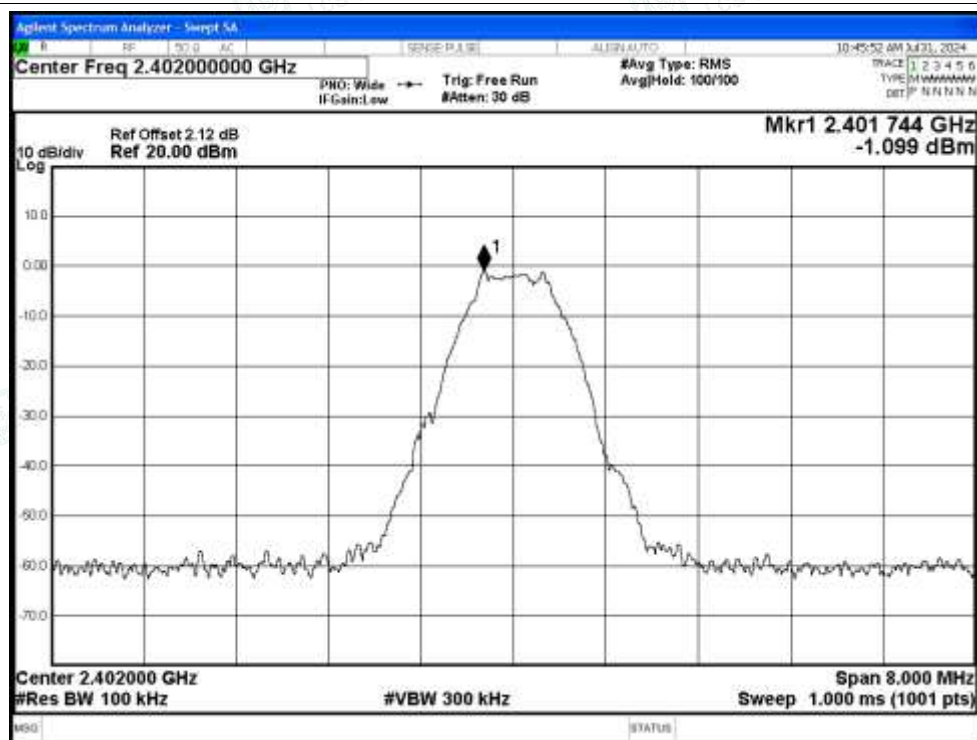
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant	-55.89	-20	Pass
NVNT	BLE	2480	Ant	-56.03	-20	Pass



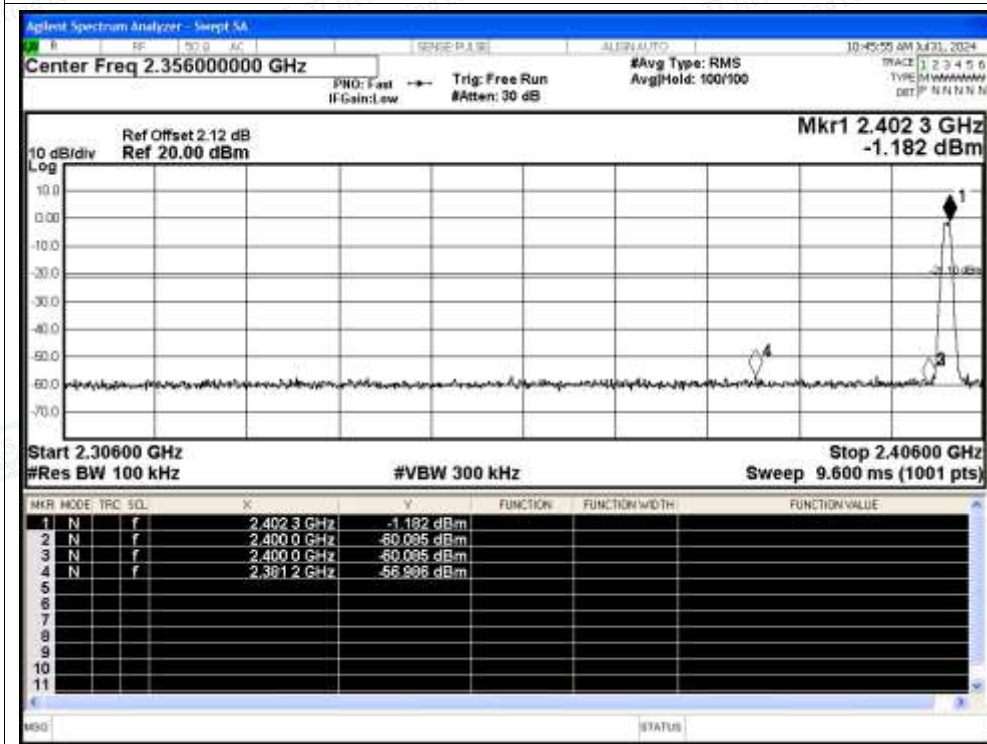


Test Graphs

Band Edge NVNT BLE 2402MHz Ant Ref



Band Edge NVNT BLE 2402MHz Ant Emission



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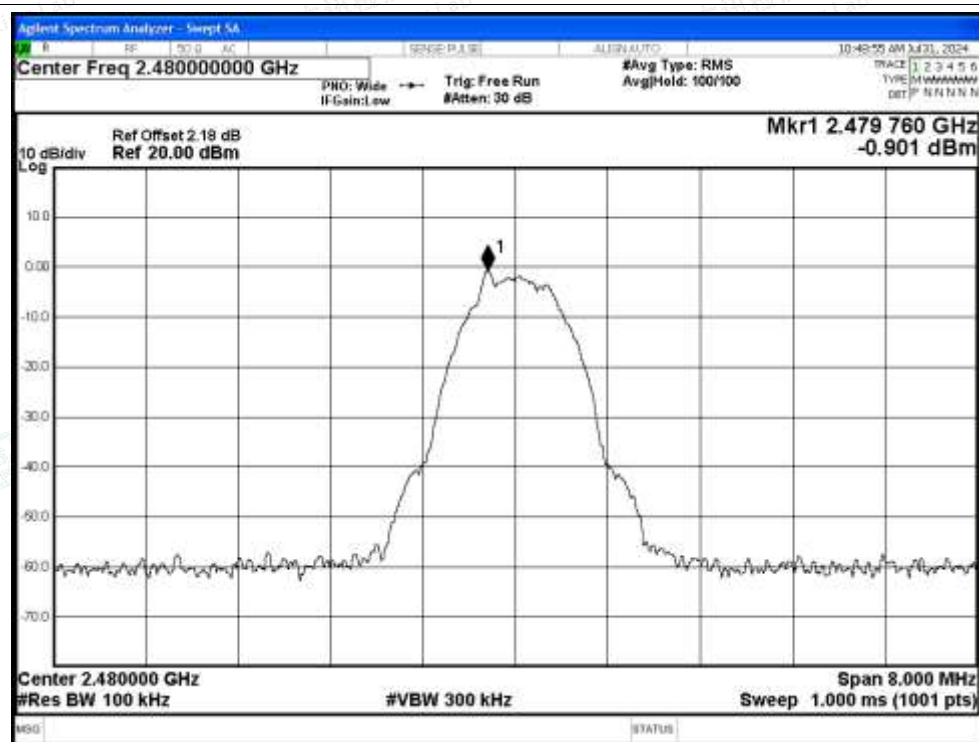
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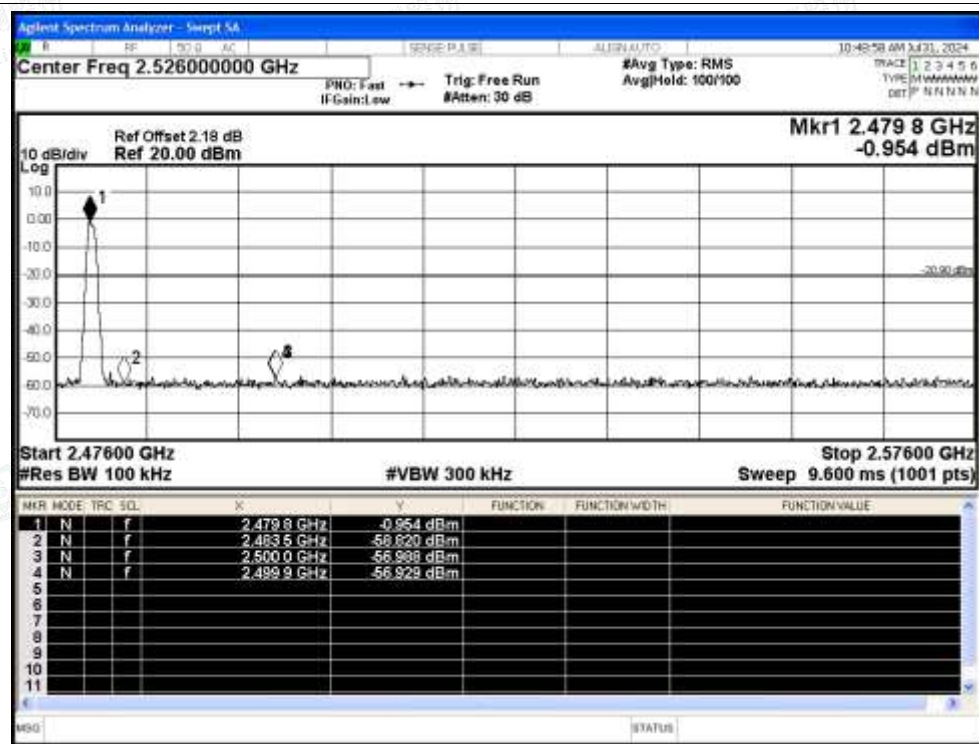
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Band Edge NVNT BLE 2480MHz Ant Ref



Band Edge NVNT BLE 2480MHz Ant Emission



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A.5 Conducted RF Spurious Emission

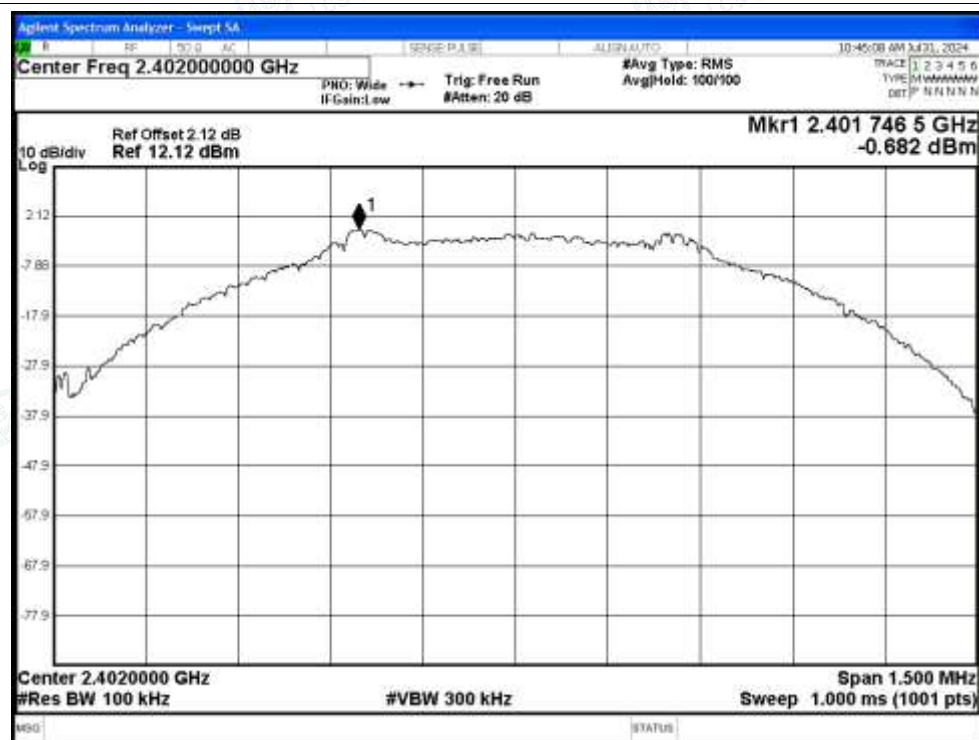
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant	-54.86	-20	Pass
NVNT	BLE	2440	Ant	-54.81	-20	Pass
NVNT	BLE	2480	Ant	-54.52	-20	Pass



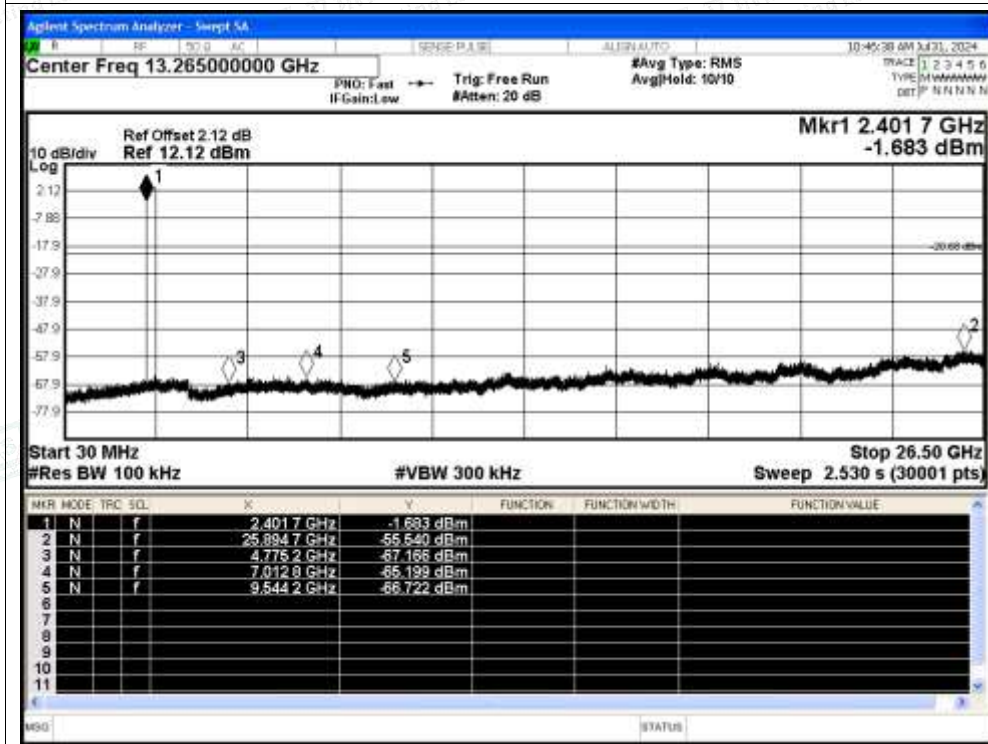


Test Graphs

Tx. Spurious NVNT BLE 2402MHz Ant Ref



Tx. Spurious NVNT BLE 2402MHz Ant Emission



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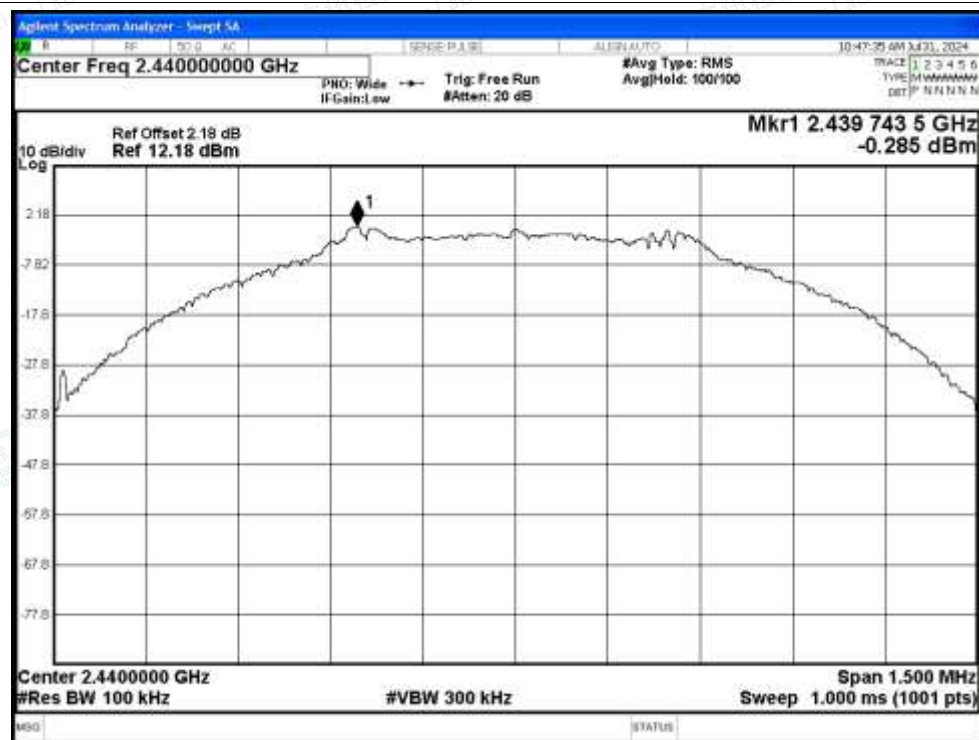
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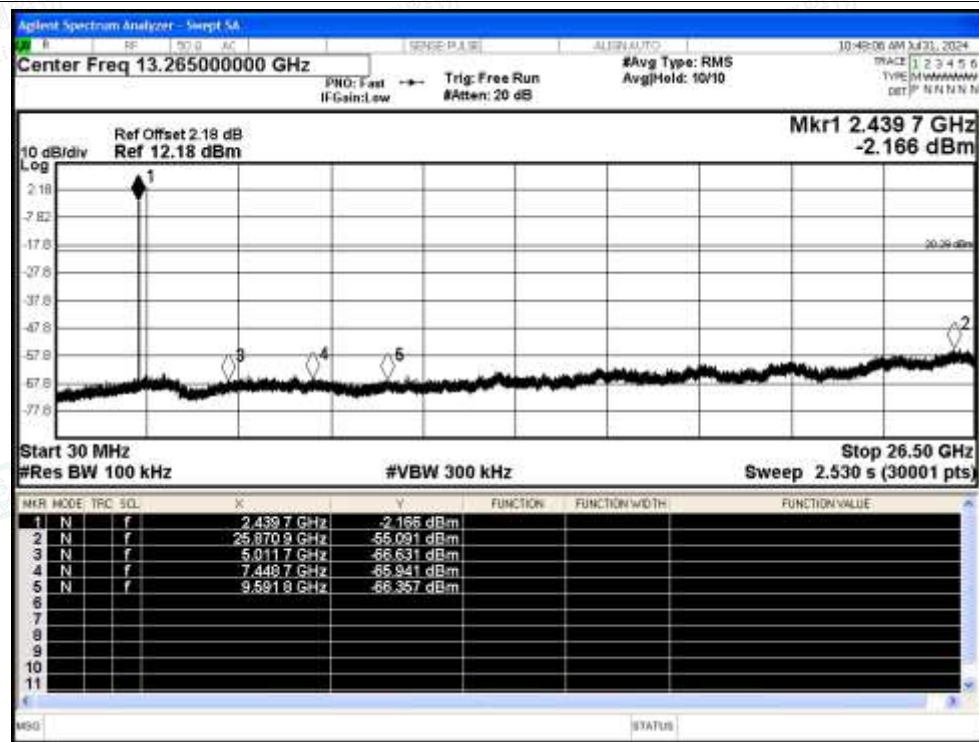
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Tx. Spurious NVNT BLE 2440MHz Ant Ref



Tx. Spurious NVNT BLE 2440MHz Ant Emission



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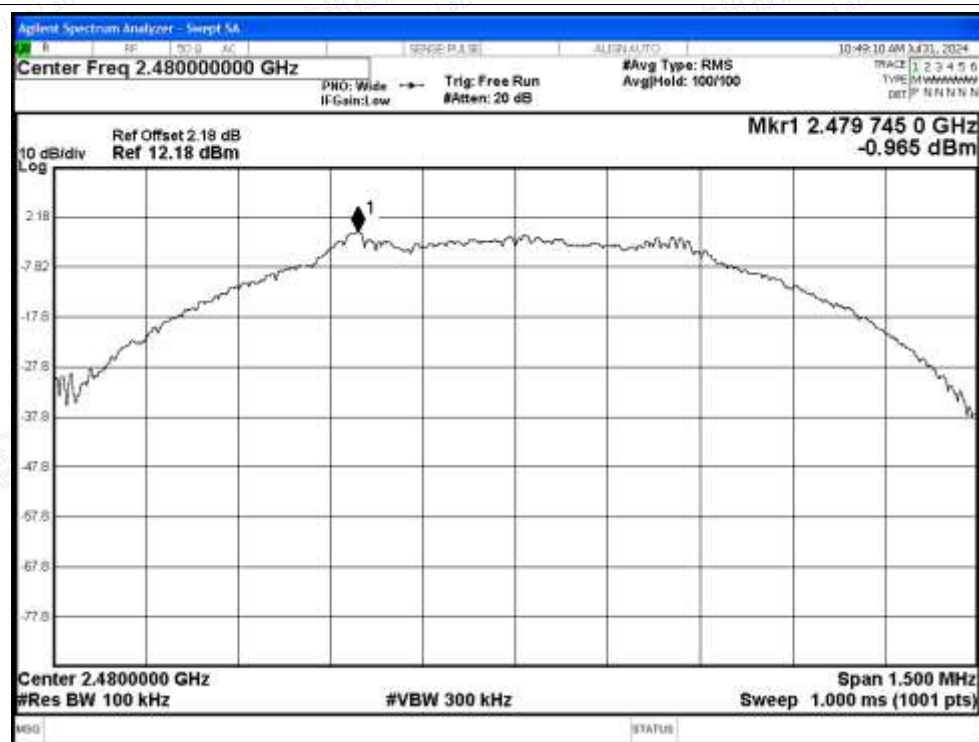
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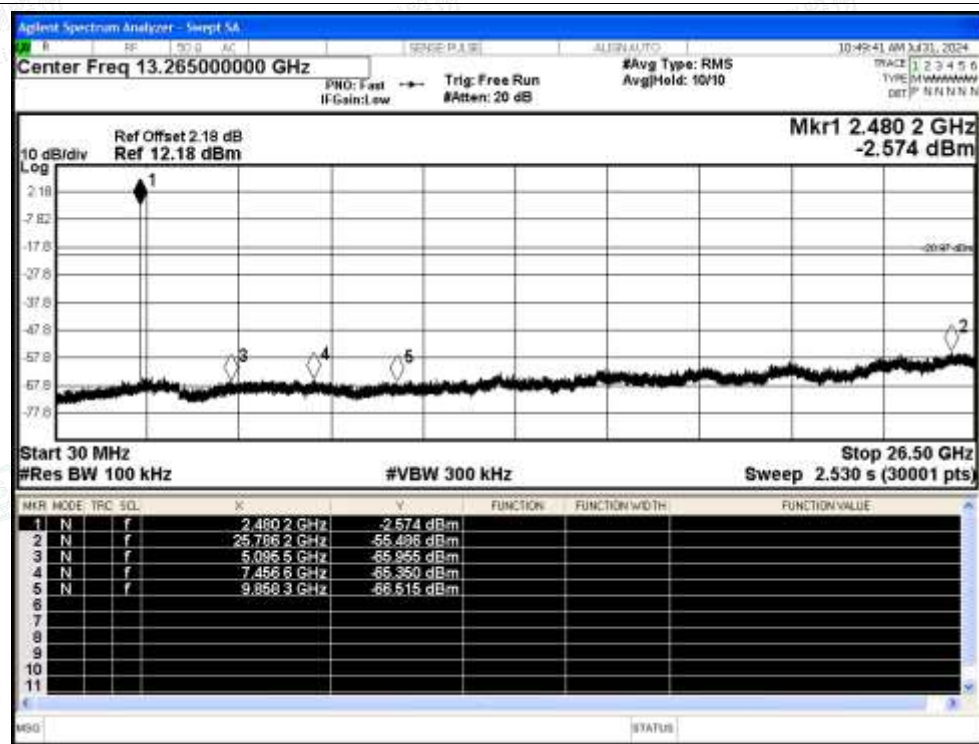
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Tx. Spurious NVNT BLE 2480MHz Ant Ref



Tx. Spurious NVNT BLE 2480MHz Ant Emission



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A.6 Duty Cycle

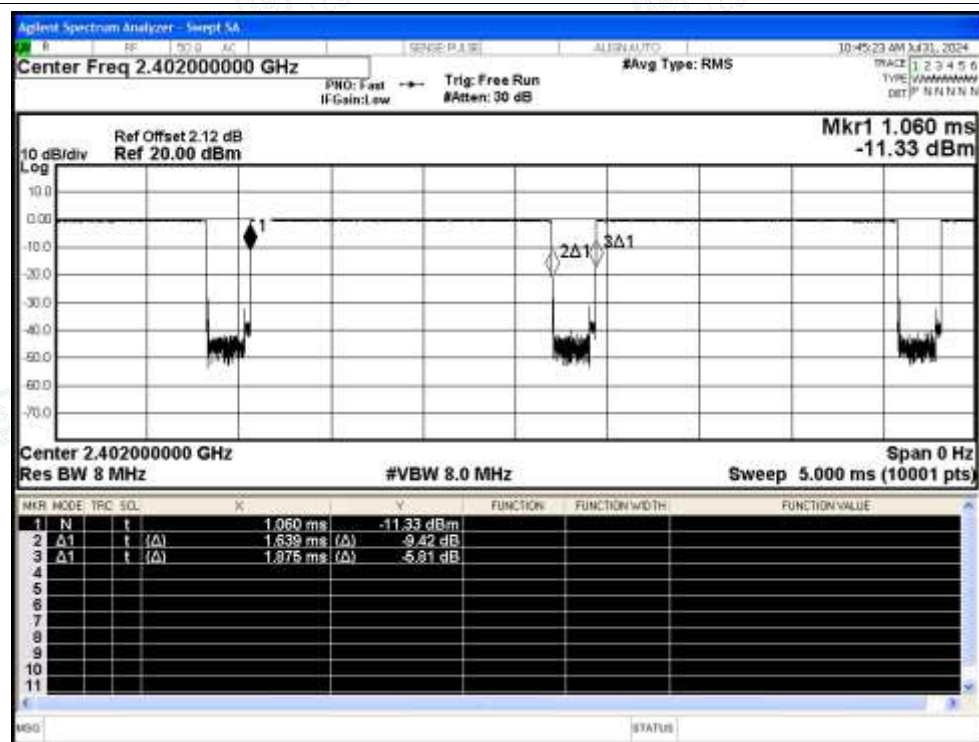
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE	2402	Ant	87.39	0.59	0.61
NVNT	BLE	2440	Ant	87.39	0.59	0.61
NVNT	BLE	2480	Ant	87.39	0.59	0.61



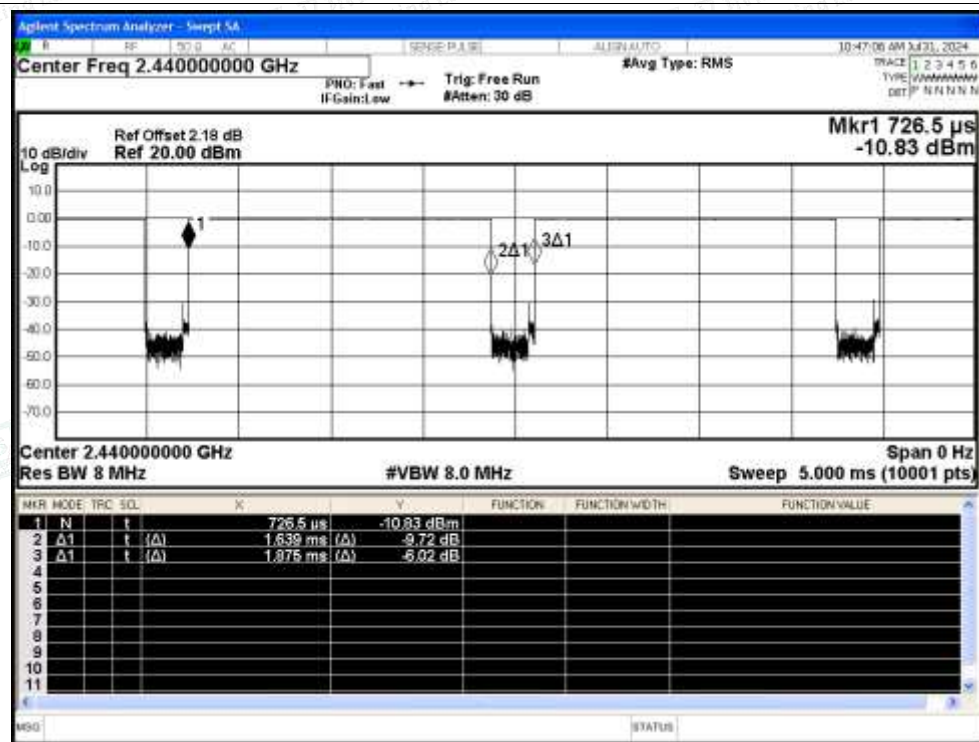


Test Graphs

Duty Cycle NVNT BLE 2402MHz Ant



Duty Cycle NVNT BLE 2440MHz Ant



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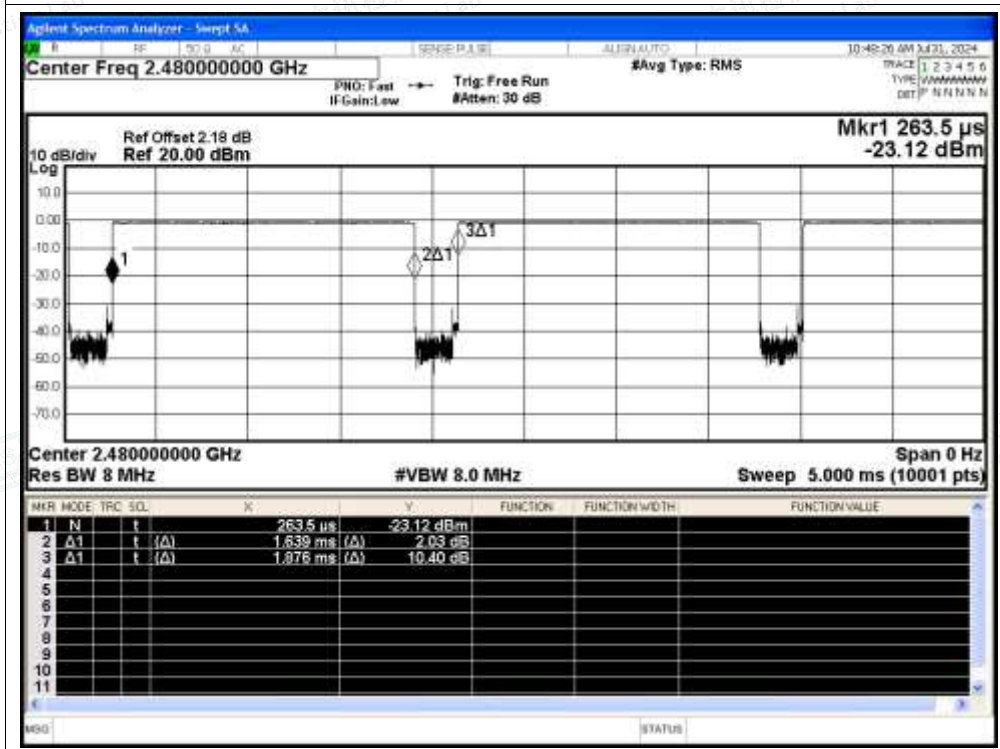
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Duty Cycle NVNT BLE 2480MHz Ant



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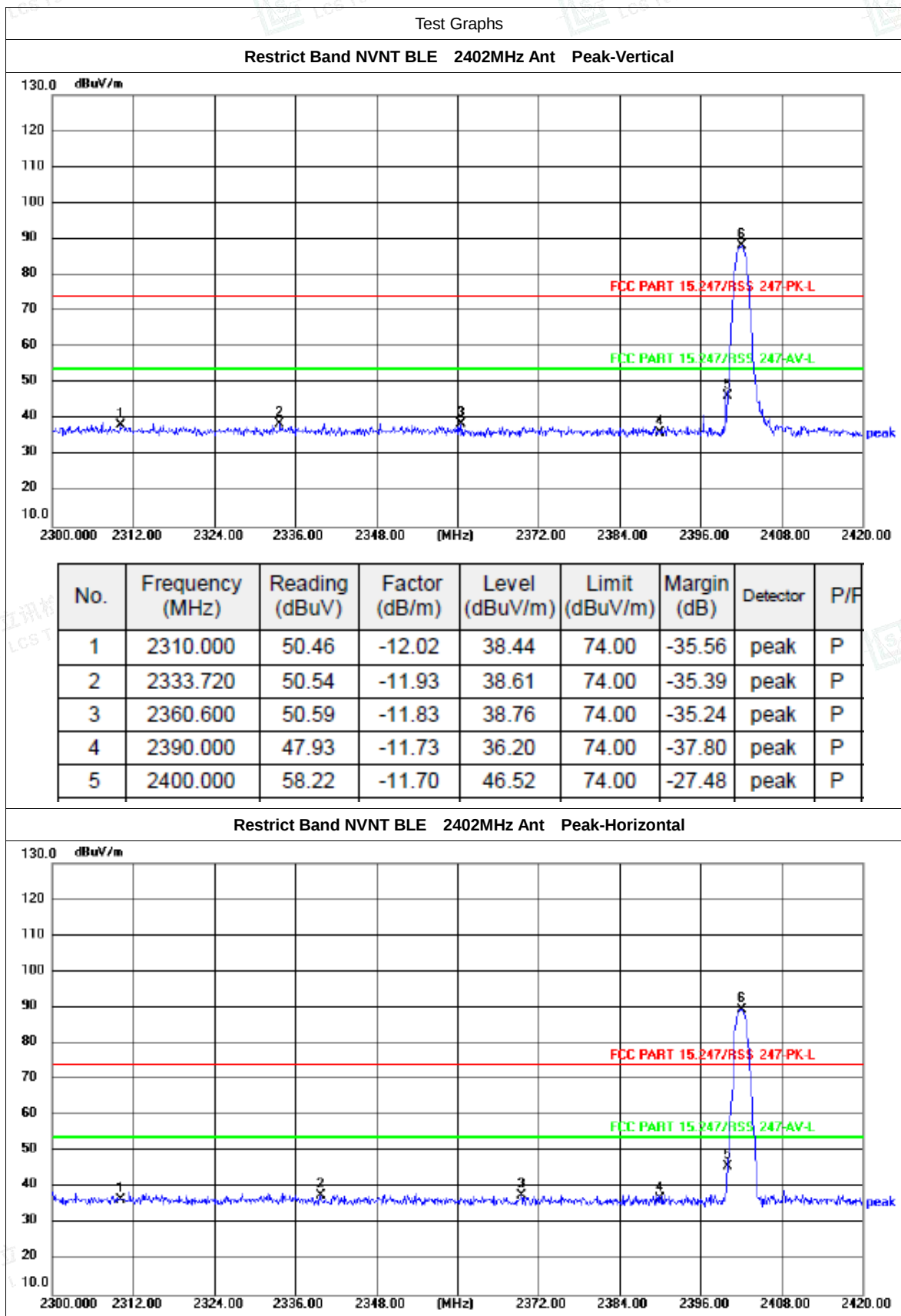
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A.7 Restrict Band



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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	46.88	-10.42	36.46	74.00	-37.54	peak	P
2	2339.720	48.46	-10.56	37.90	74.00	-36.10	peak	P
3	2369.480	48.60	-10.75	37.85	74.00	-36.15	peak	P
4	2390.000	47.59	-10.89	36.70	74.00	-37.30	peak	P
5	2400.000	56.87	-10.96	45.91	74.00	-28.09	peak	P

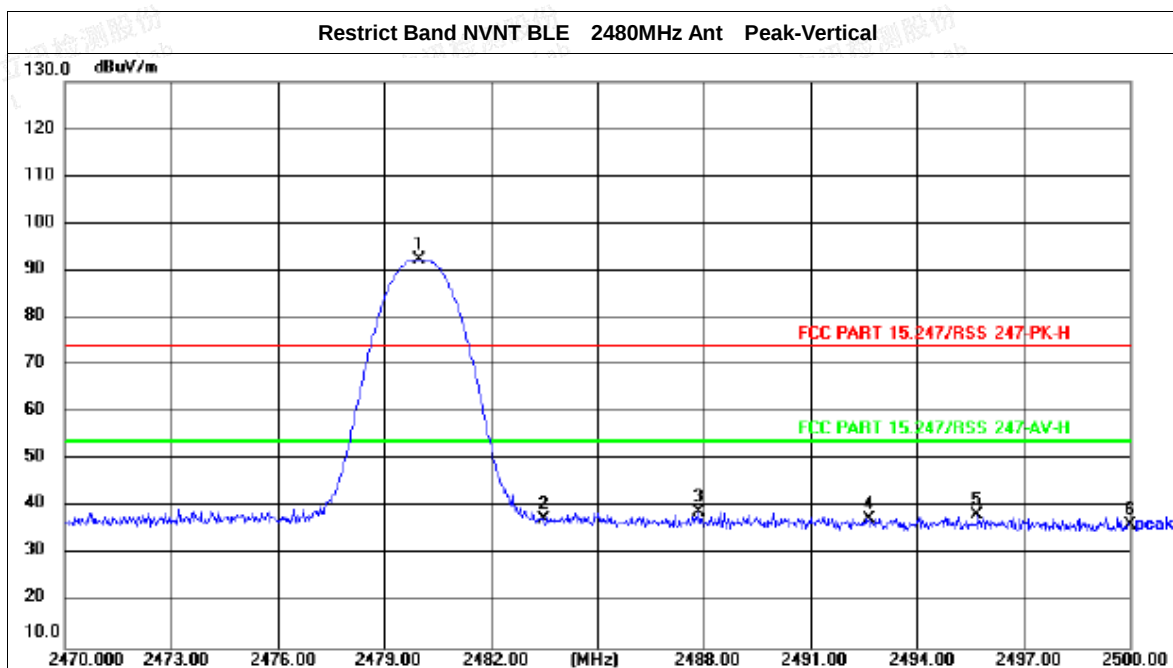


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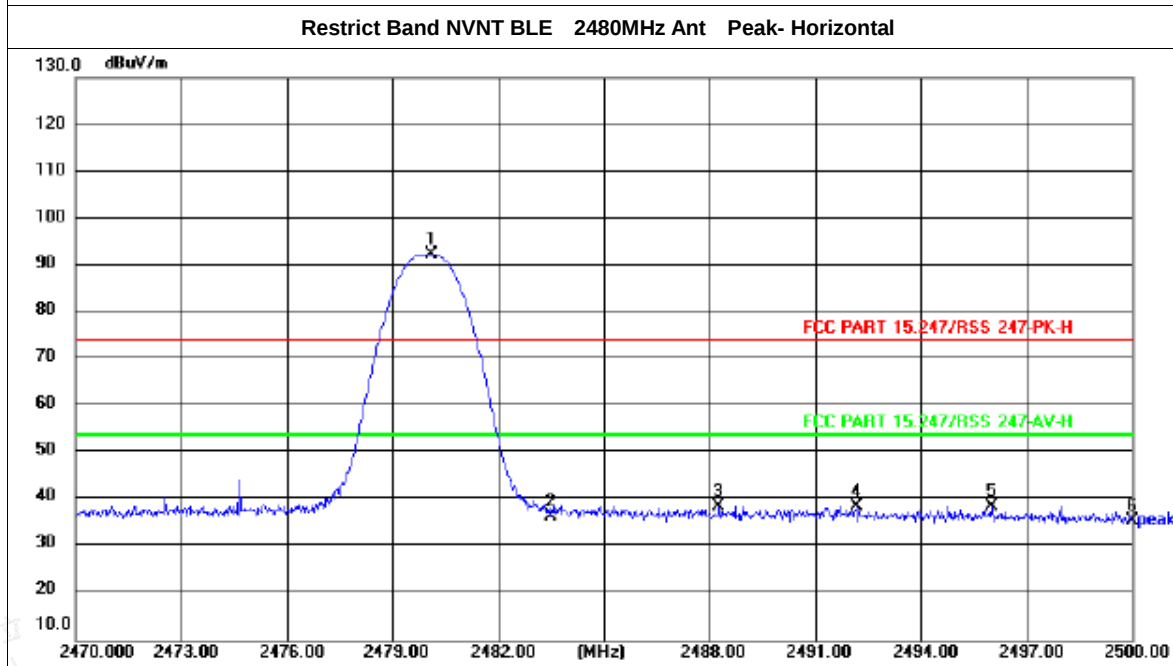
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2479.990	103.31	-10.93	92.38	74.00	18.38	peak
2	2483.500	48.44	-10.96	37.48	74.00	-36.52	peak
3	2487.850	50.01	-11.01	39.00	74.00	-35.00	peak
4	2492.650	48.65	-11.06	37.59	74.00	-36.41	peak
5	2495.710	49.40	-11.10	38.30	74.00	-35.70	peak
6	2500.000	47.54	-11.14	36.40	74.00	-37.60	peak



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No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector
1	2480.080	103.86	-11.42	92.44	74.00	18.44	peak
2	2483.500	47.87	-11.40	36.47	74.00	-37.53	peak
3	2488.270	50.07	-11.39	38.68	74.00	-35.32	peak
4	2492.170	49.96	-11.37	38.59	74.00	-35.41	peak
5	2496.010	49.94	-11.36	38.58	74.00	-35.42	peak
6	2500.000	47.01	-11.34	35.67	74.00	-38.33	peak



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