



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: LCD PROJECTOR

Test Model: L009BQ

Environmental Conditions

Temperature:	23.1° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Summer Wu
Supervised by:	Nick Peng





B.1 -6dB Bandwidth

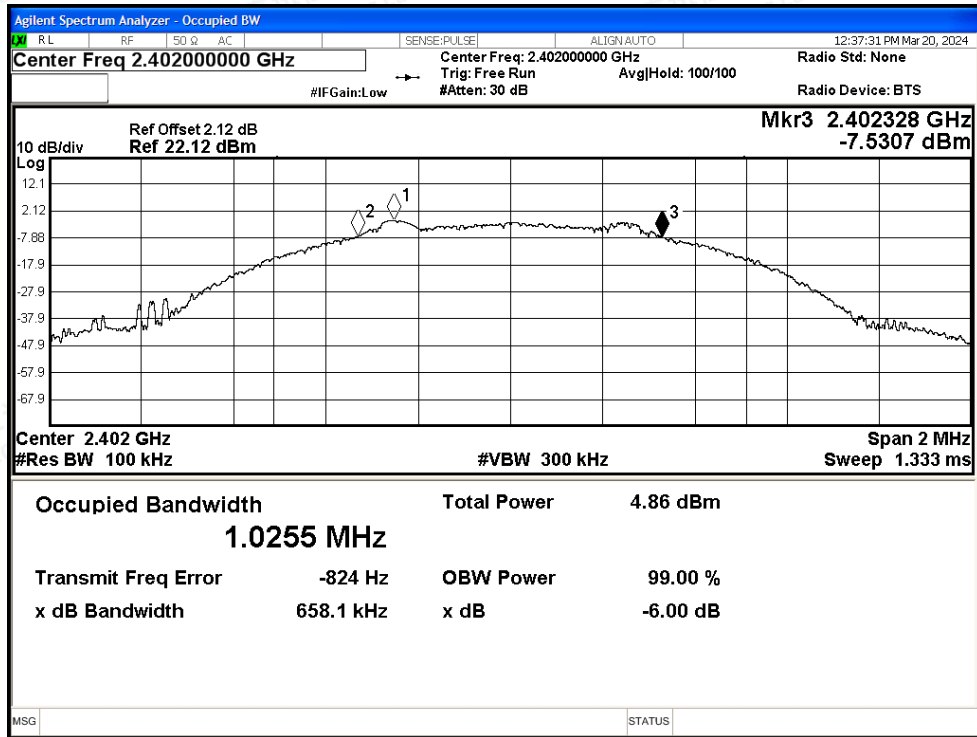
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	BT ANT	0.658	≥ 0.5	Pass
NVNT	BLE 1M	2440	BT ANT	0.655	≥ 0.5	Pass
NVNT	BLE 1M	2480	BT ANT	0.649	≥ 0.5	Pass
NVNT	BLE 2M	2402	BT ANT	1.156	≥ 0.5	Pass
NVNT	BLE 2M	2440	BT ANT	1.128	≥ 0.5	Pass
NVNT	BLE 2M	2480	BT ANT	1.14	≥ 0.5	Pass



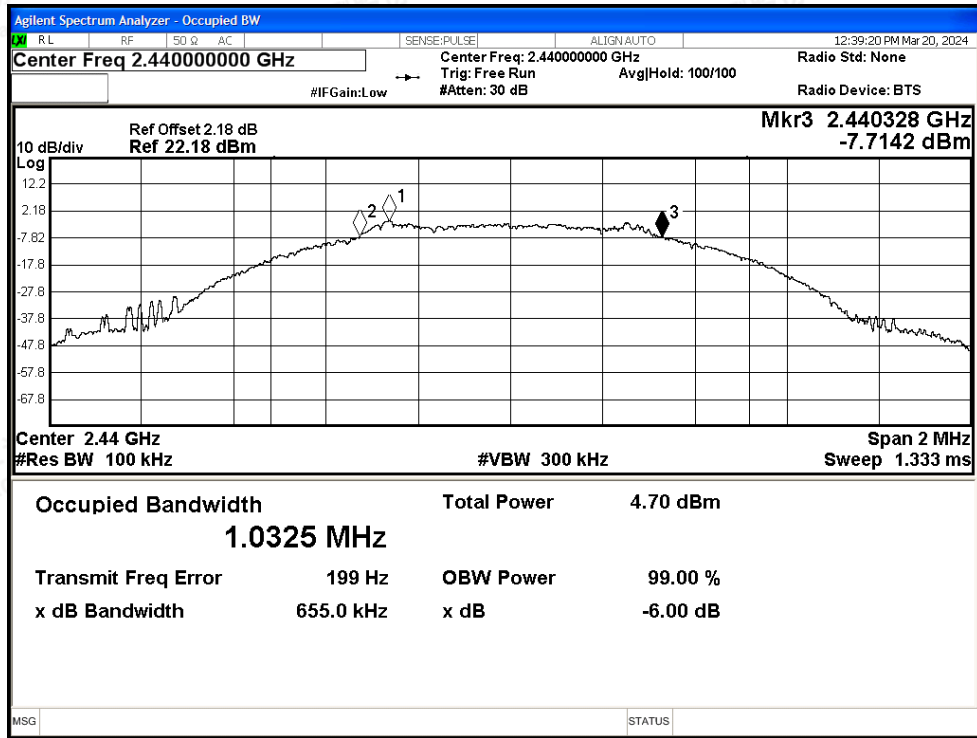


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz BT ANT

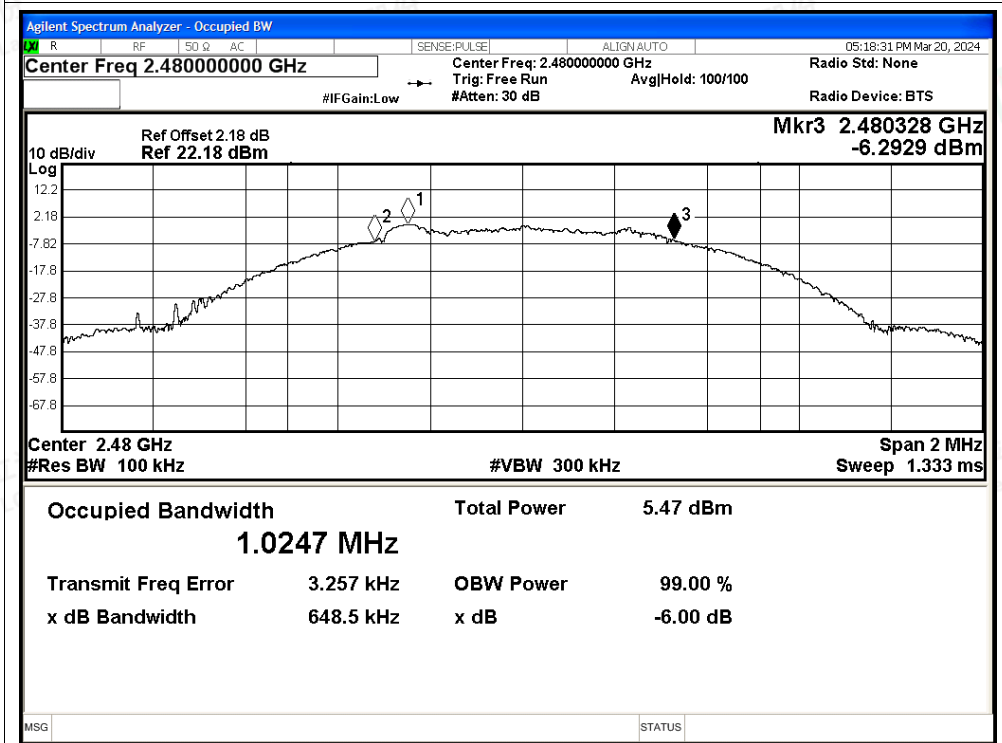


-6dB Bandwidth NVNT BLE 1M 2440MHz BT ANT

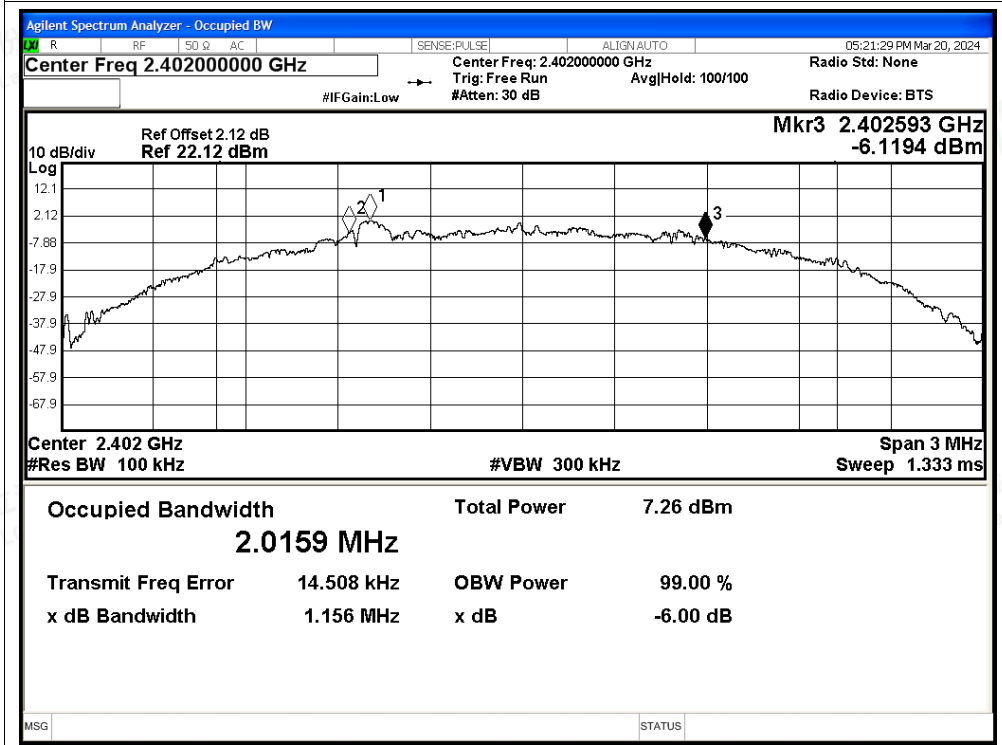




-6dB Bandwidth NVNT BLE 1M 2480MHz BT ANT

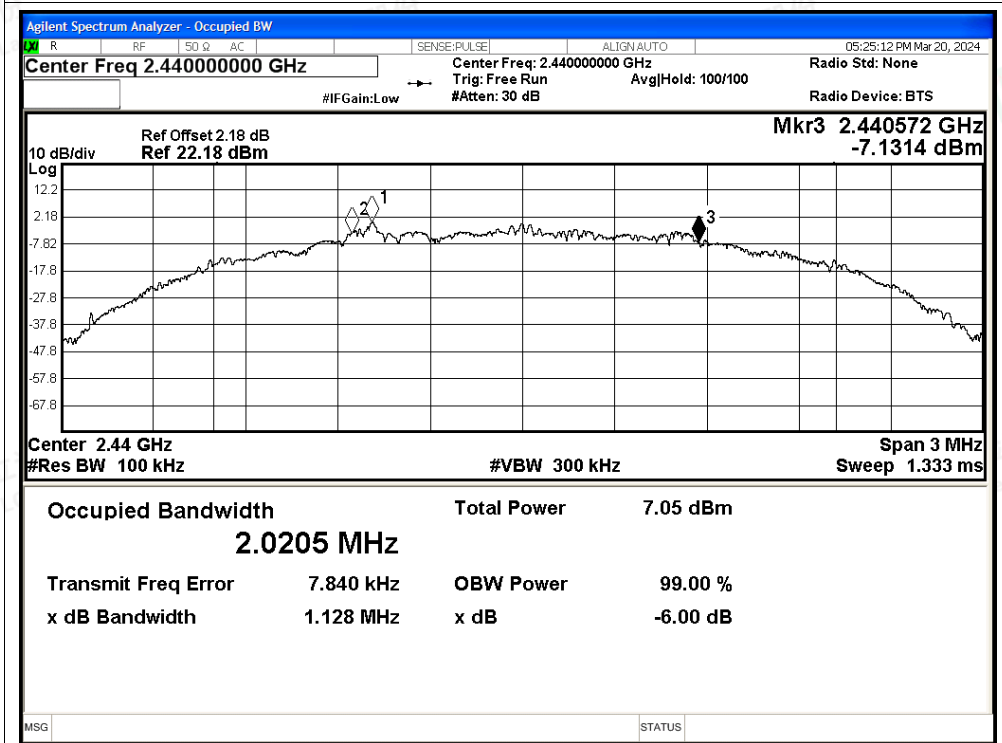


-6dB Bandwidth NVNT BLE 2M 2402MHz BT ANT

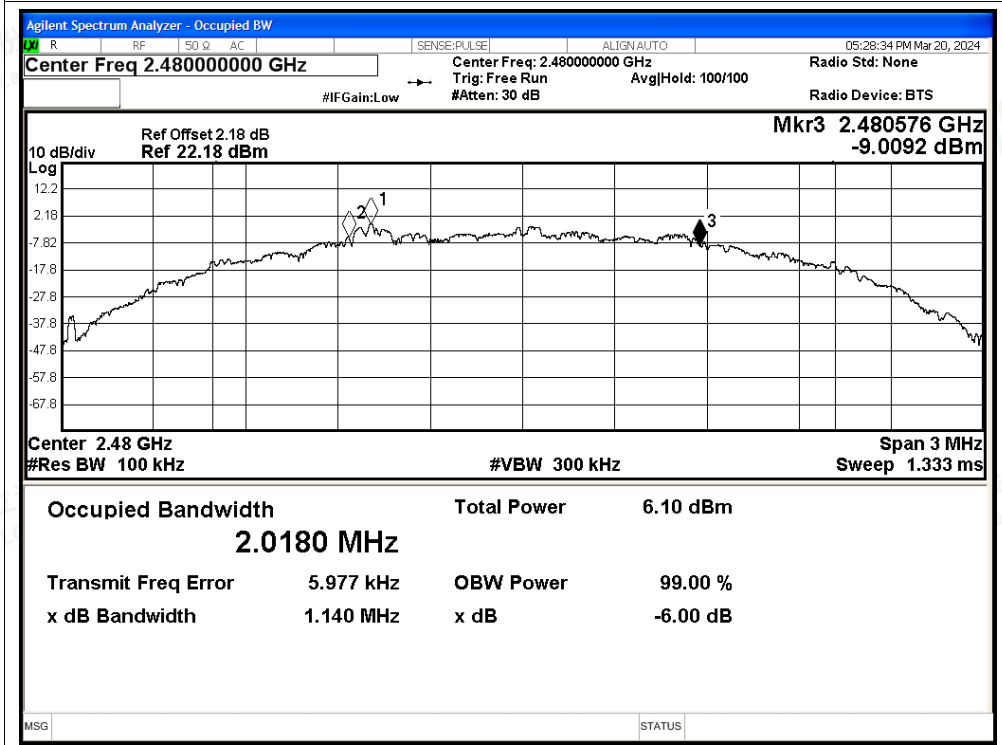




-6dB Bandwidth NVNT BLE 2M 2440MHz BT ANT



-6dB Bandwidth NVNT BLE 2M 2480MHz BT ANT





B.2 Maximum Peak Conducted Output Power

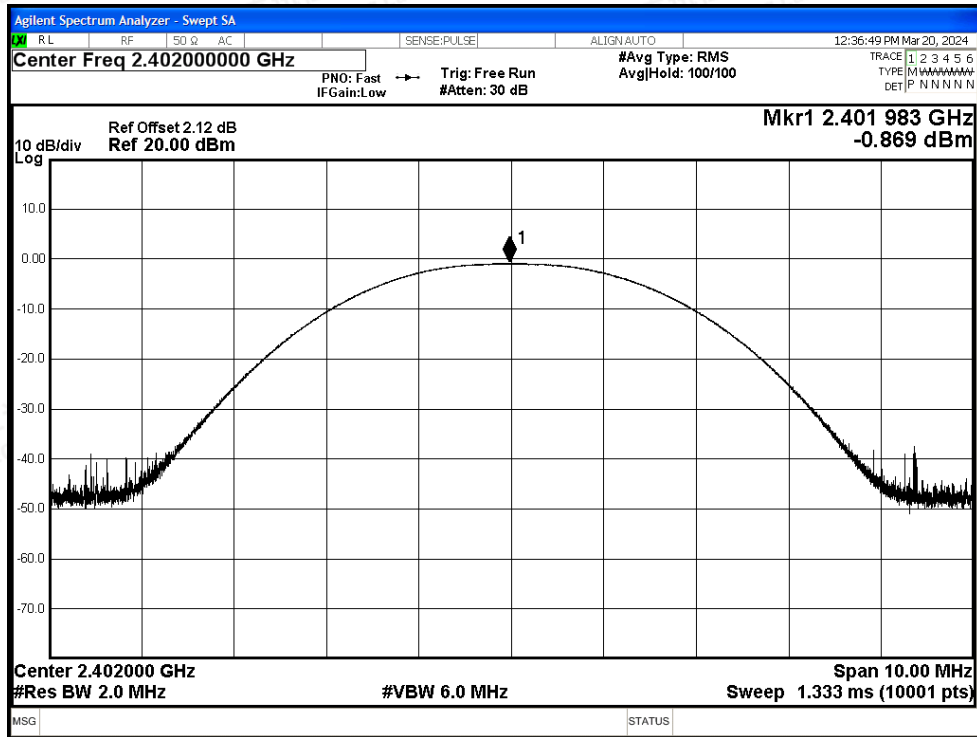
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	BT ANT	-0.87	30	Pass
NVNT	BLE 1M	2440	BT ANT	-0.86	30	Pass
NVNT	BLE 1M	2480	BT ANT	-0.24	30	Pass
NVNT	BLE 2M	2402	BT ANT	0.94	30	Pass
NVNT	BLE 2M	2440	BT ANT	0.75	30	Pass
NVNT	BLE 2M	2480	BT ANT	-0.27	30	Pass



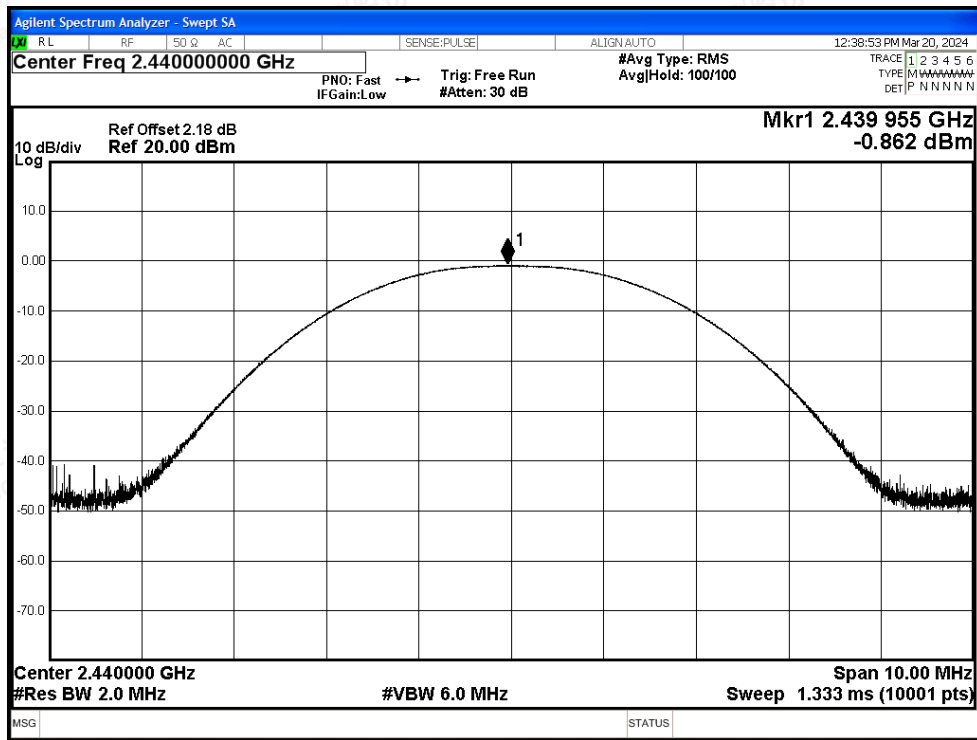


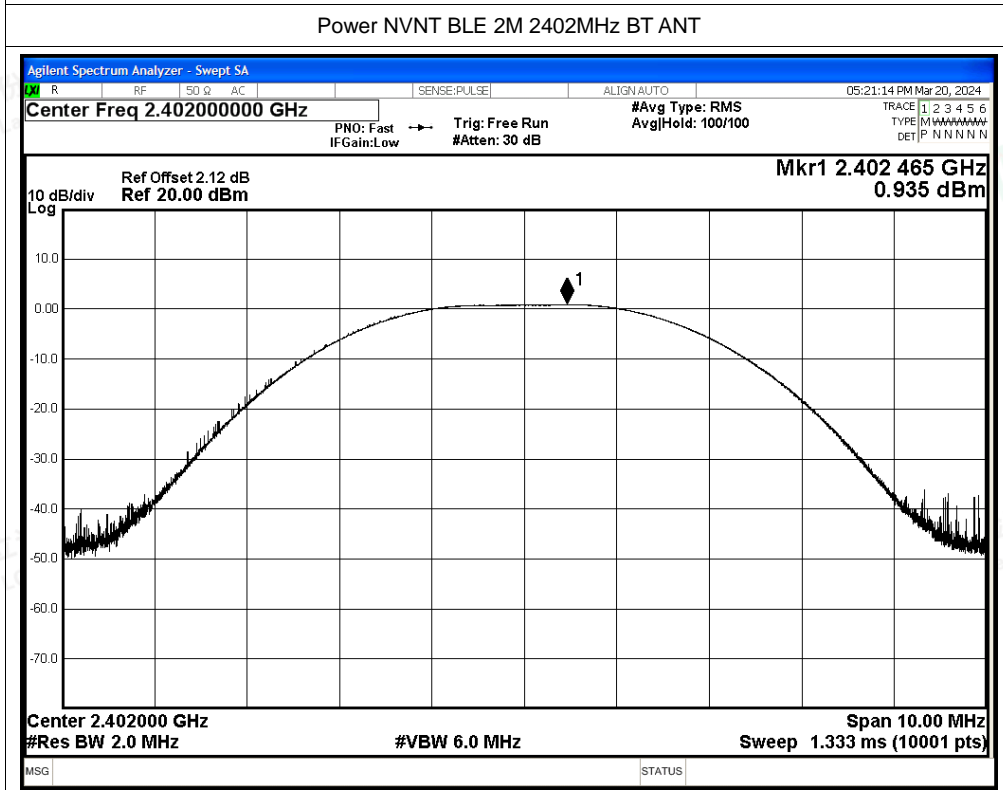
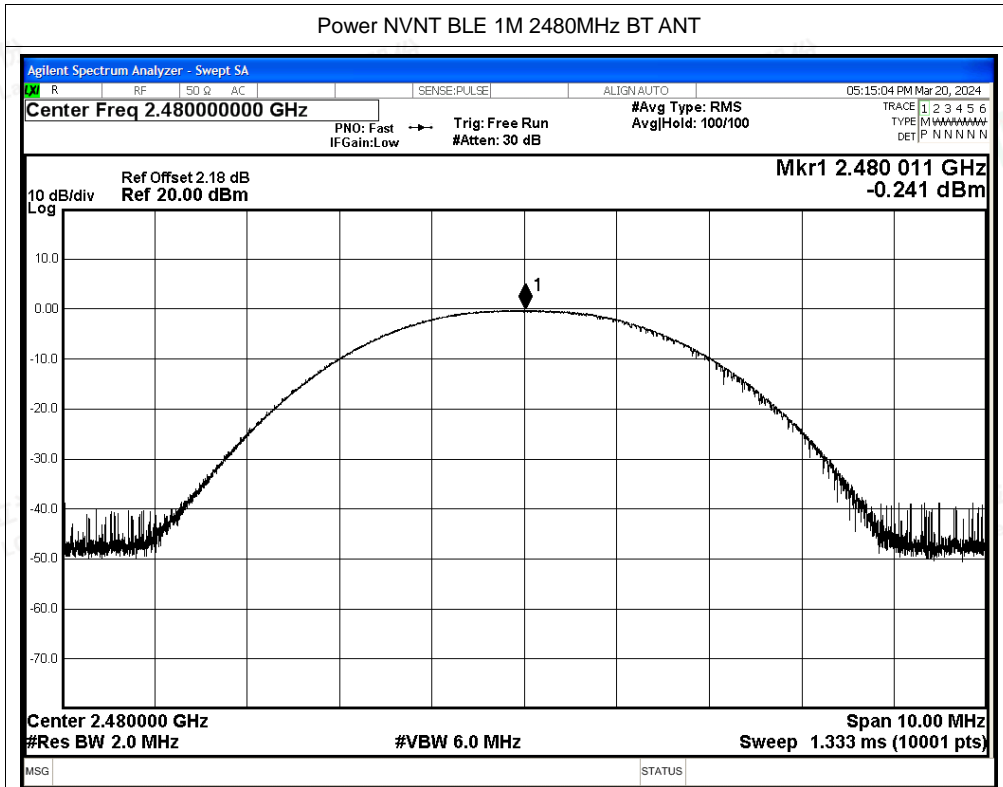
Test Graphs

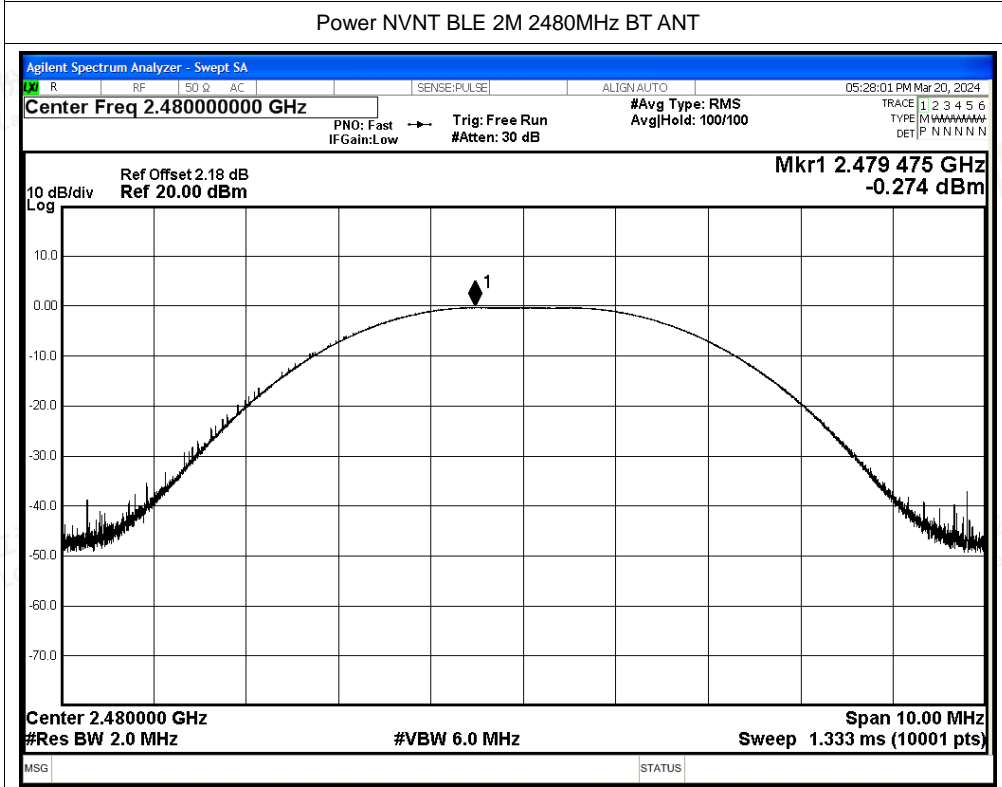
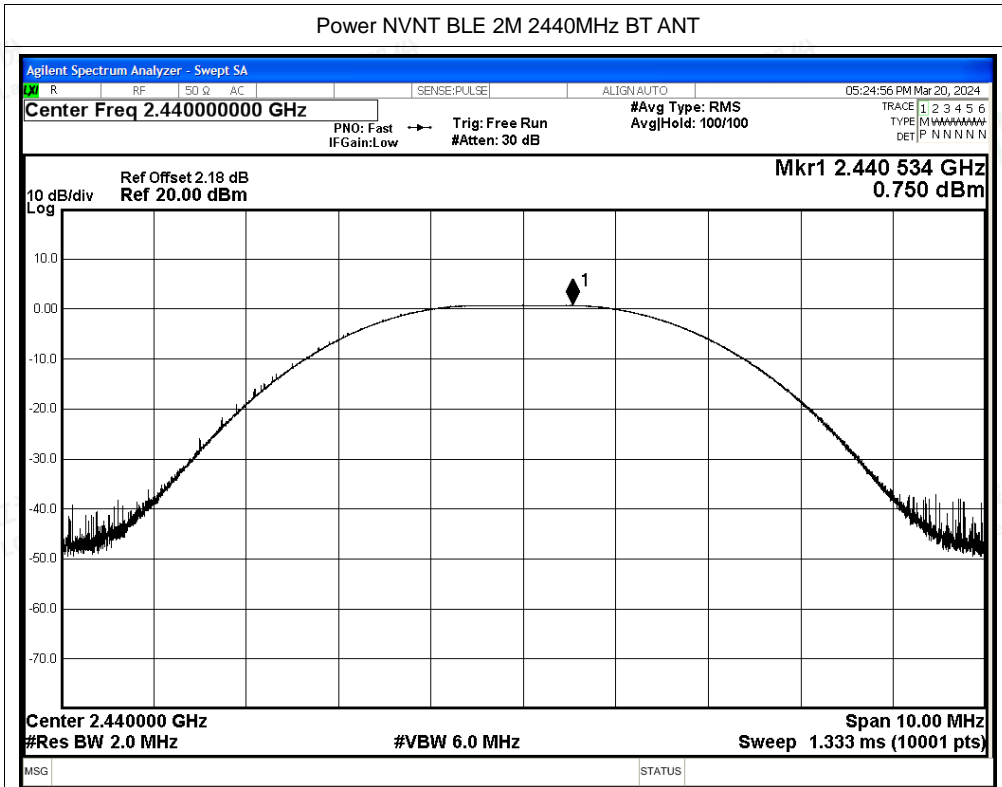
Power NVNT BLE 1M 2402MHz BT ANT



Power NVNT BLE 1M 2440MHz BT ANT









B.3 Maximum Peak Power Spectral Density Level

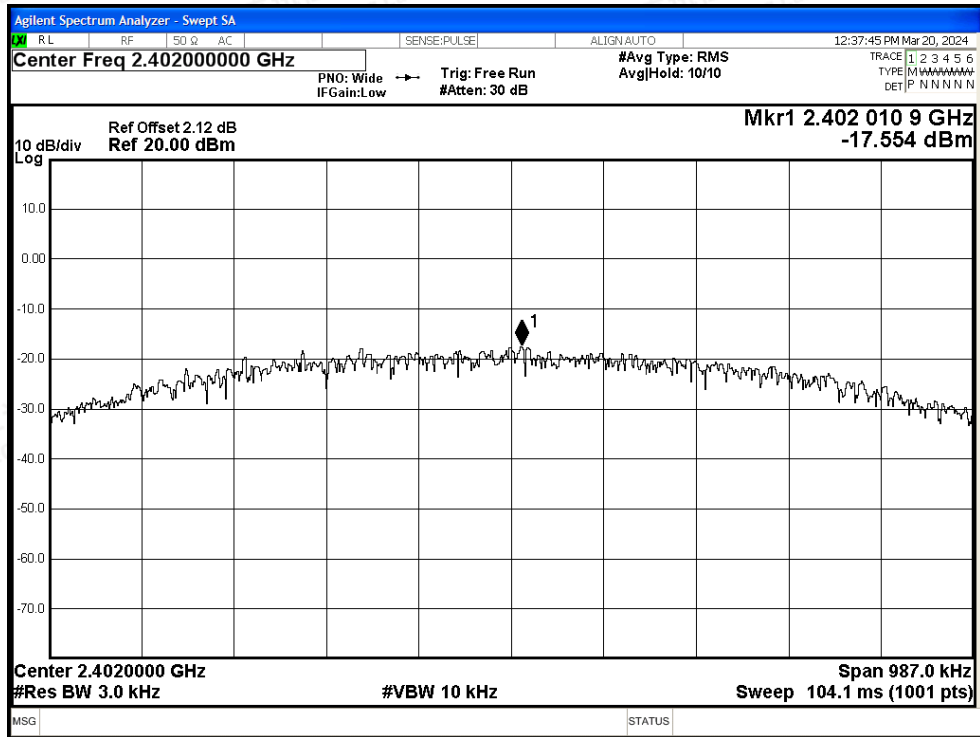
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	BT ANT	-17.55	8	Pass
NVNT	BLE 1M	2440	BT ANT	-17.26	8	Pass
NVNT	BLE 1M	2480	BT ANT	-17.11	8	Pass
NVNT	BLE 2M	2402	BT ANT	-18.76	8	Pass
NVNT	BLE 2M	2440	BT ANT	-18.73	8	Pass
NVNT	BLE 2M	2480	BT ANT	-19.65	8	Pass



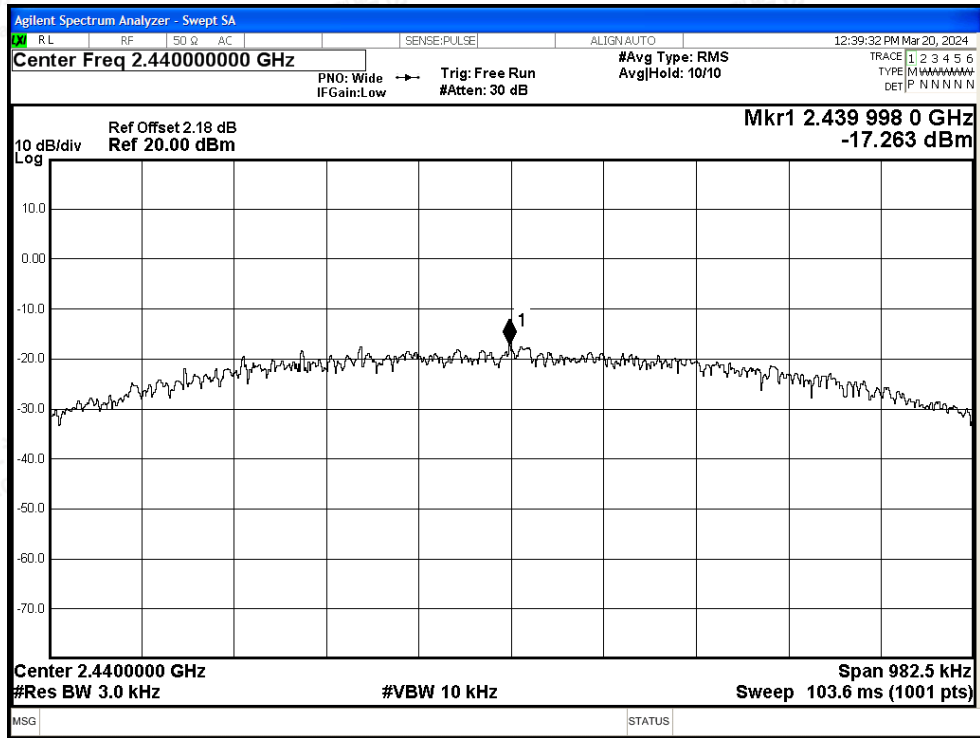


Test Graphs

PSD NVNT BLE 1M 2402MHz BT ANT

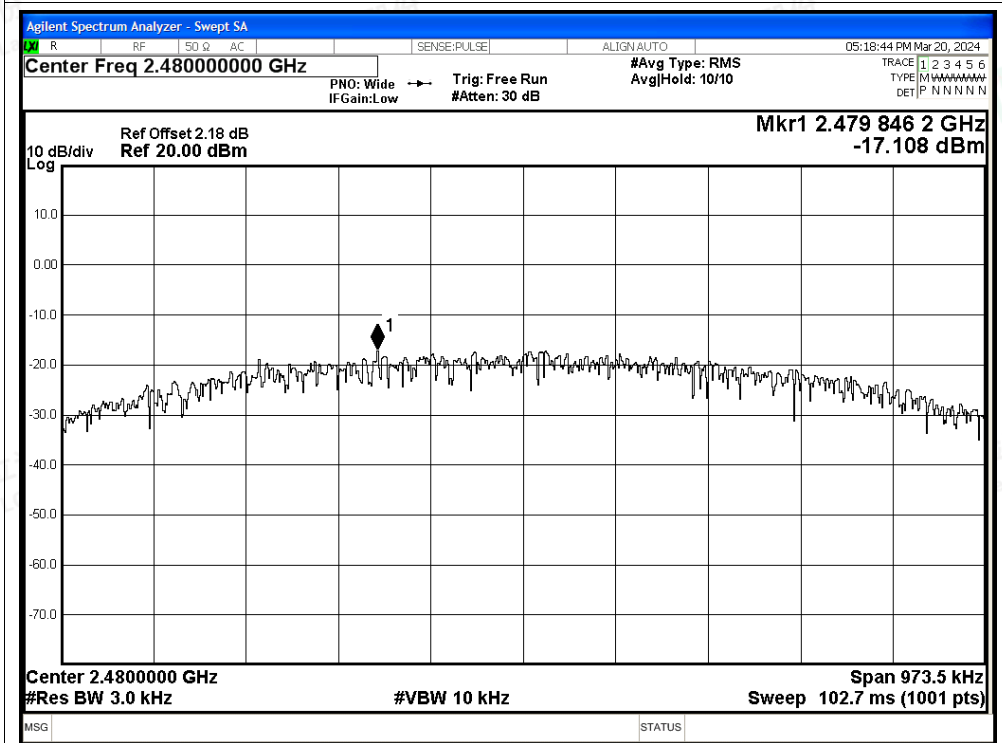


PSD NVNT BLE 1M 2440MHz BT ANT

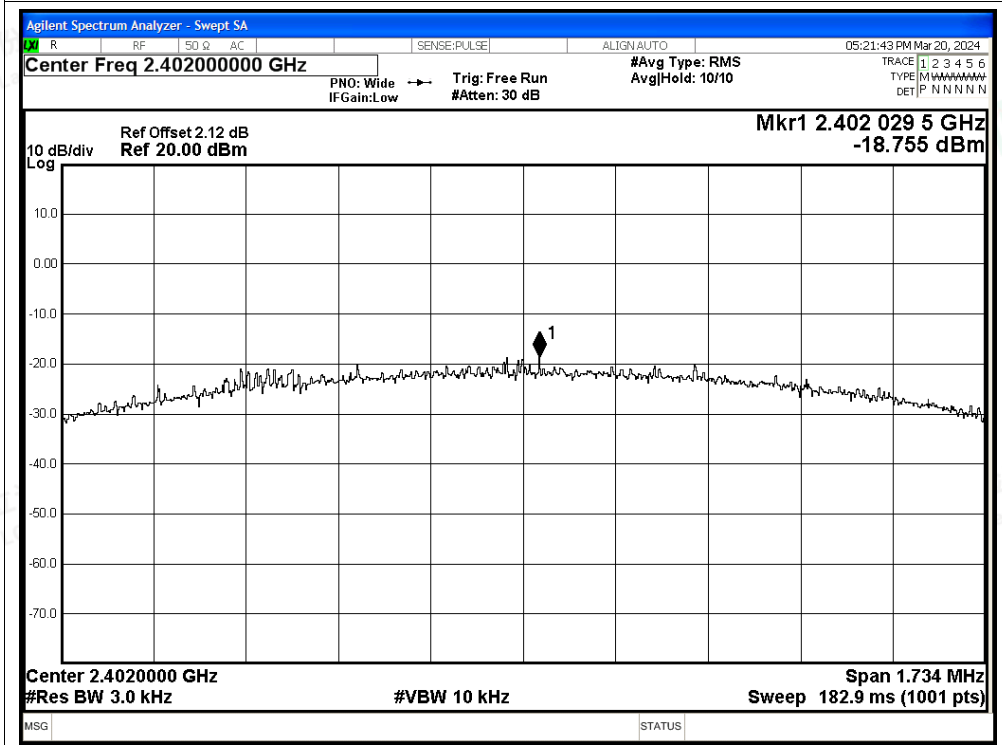


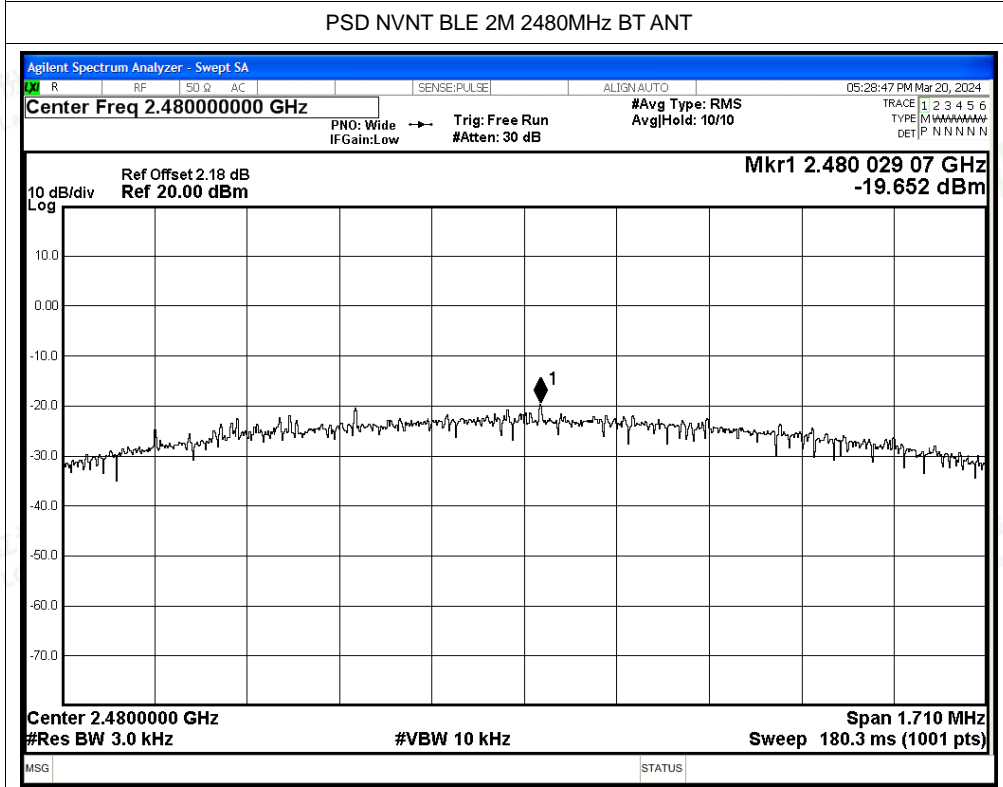
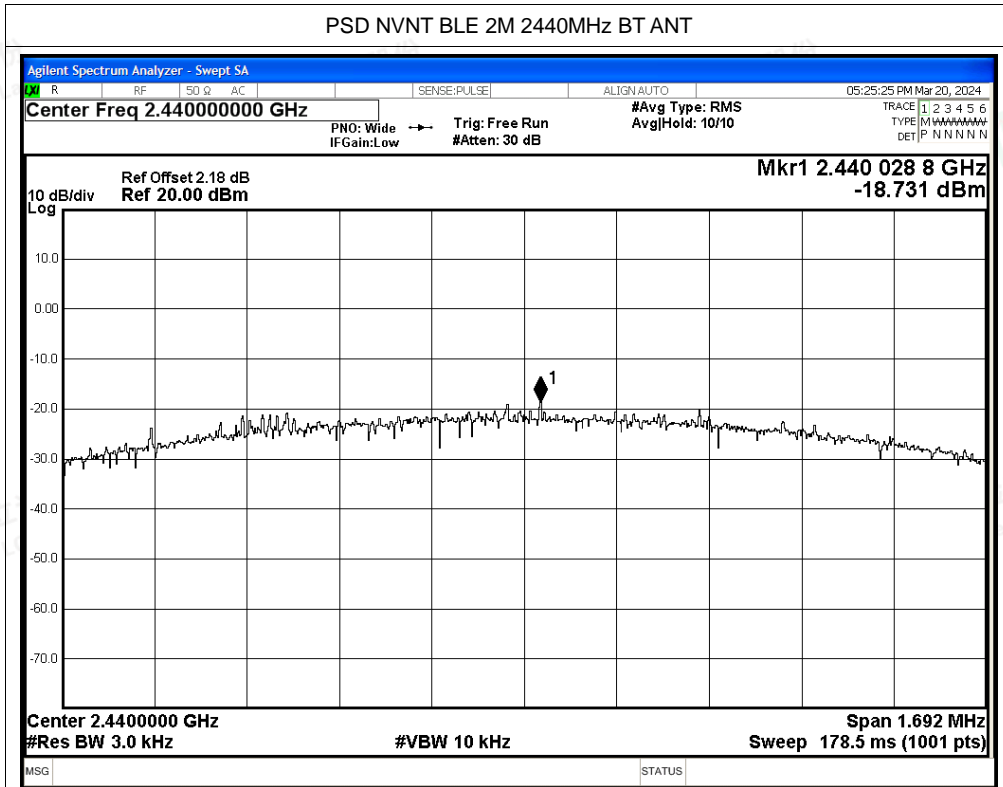


PSD NVNT BLE 1M 2480MHz BT ANT



PSD NVNT BLE 2M 2402MHz BT ANT







B.4 Band Edge

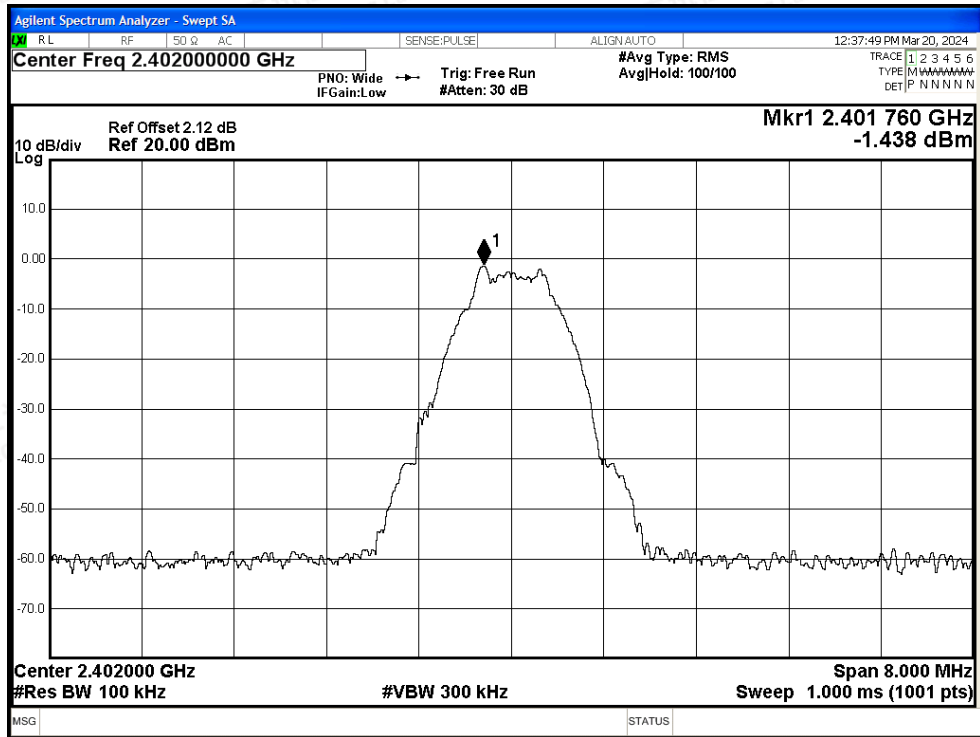
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	BT ANT	-55.52	-20	Pass
NVNT	BLE 1M	2480	BT ANT	-55.94	-20	Pass
NVNT	BLE 2M	2402	BT ANT	-46.15	-20	Pass
NVNT	BLE 2M	2480	BT ANT	-55.45	-20	Pass



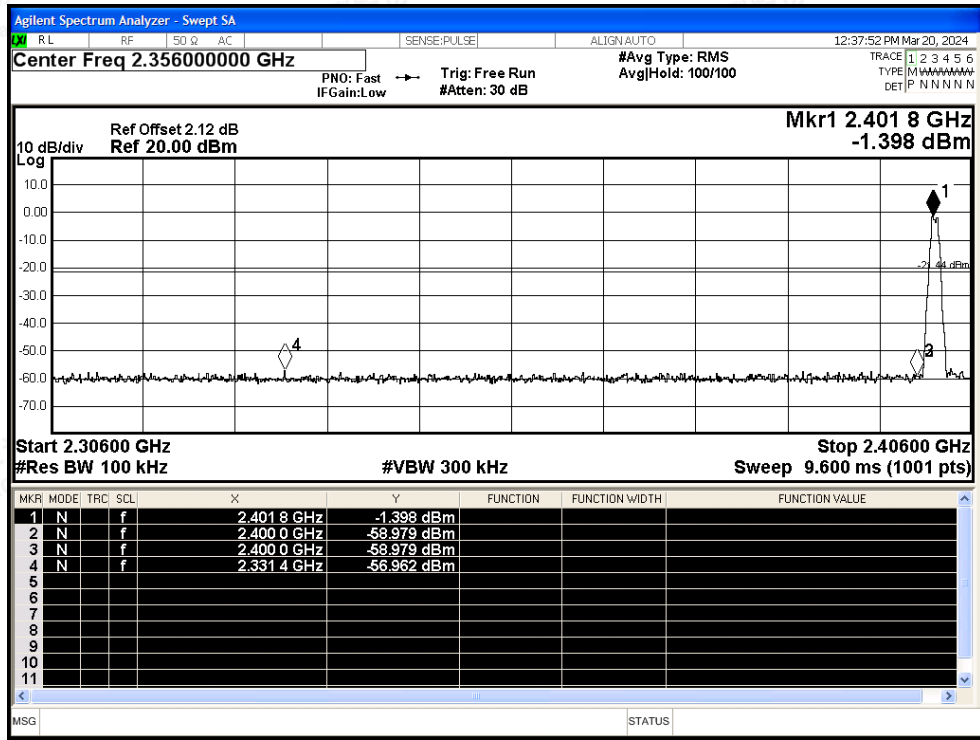


Test Graphs

Band Edge NVNT BLE 1M 2402MHz BT ANT Ref

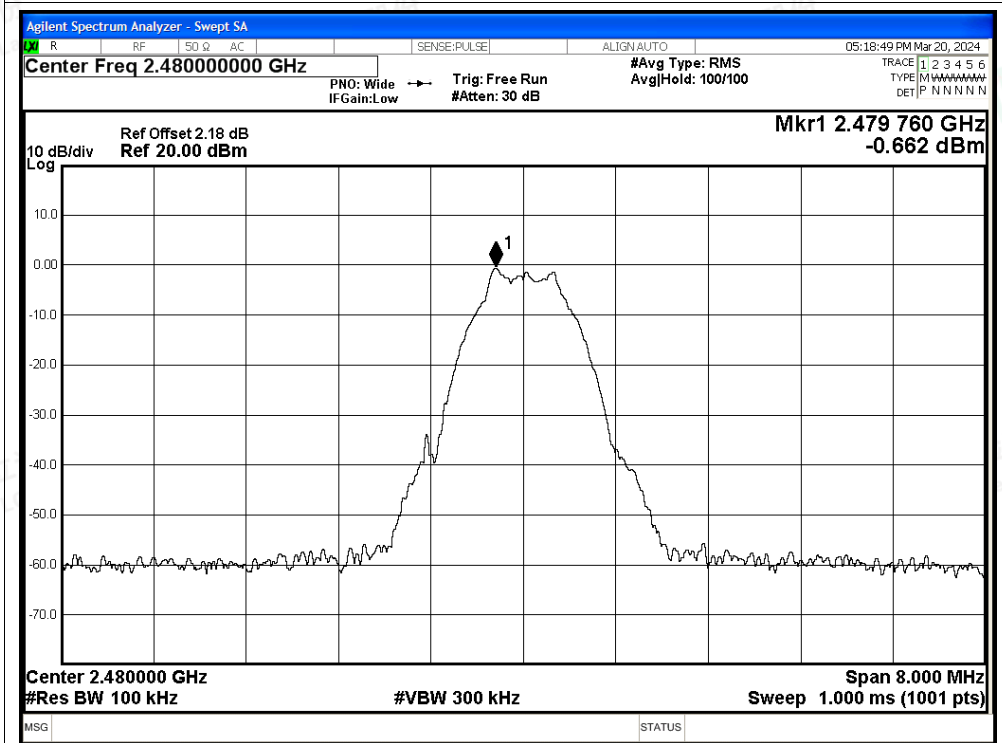


Band Edge NVNT BLE 1M 2402MHz BT ANT Emission

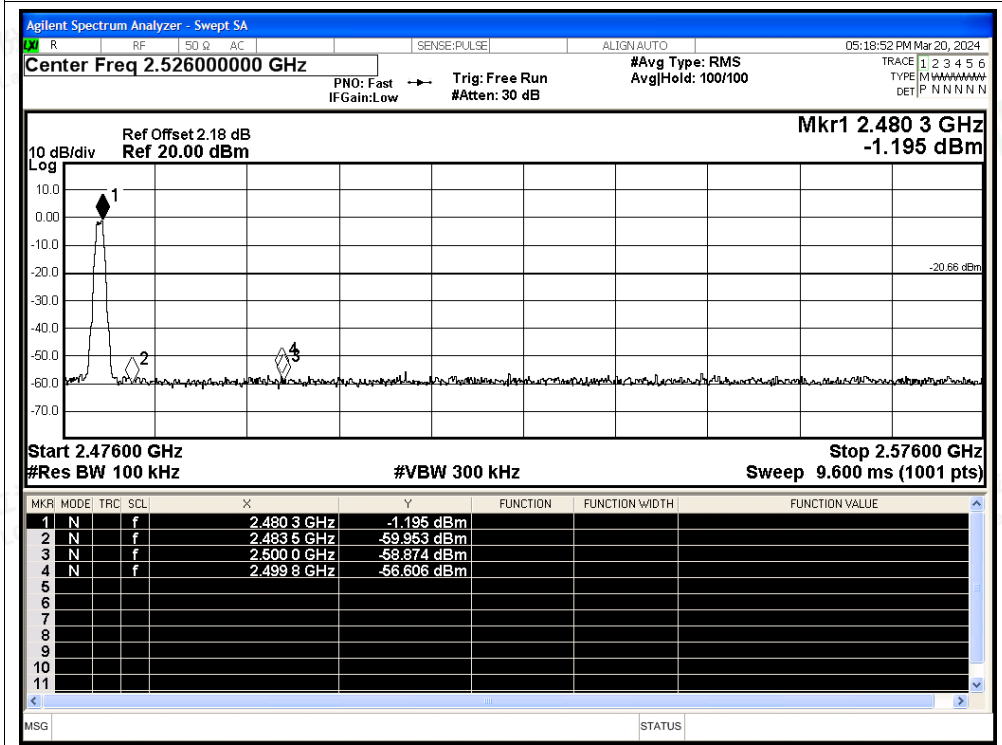




Band Edge NVNT BLE 1M 2480MHz BT ANT Ref

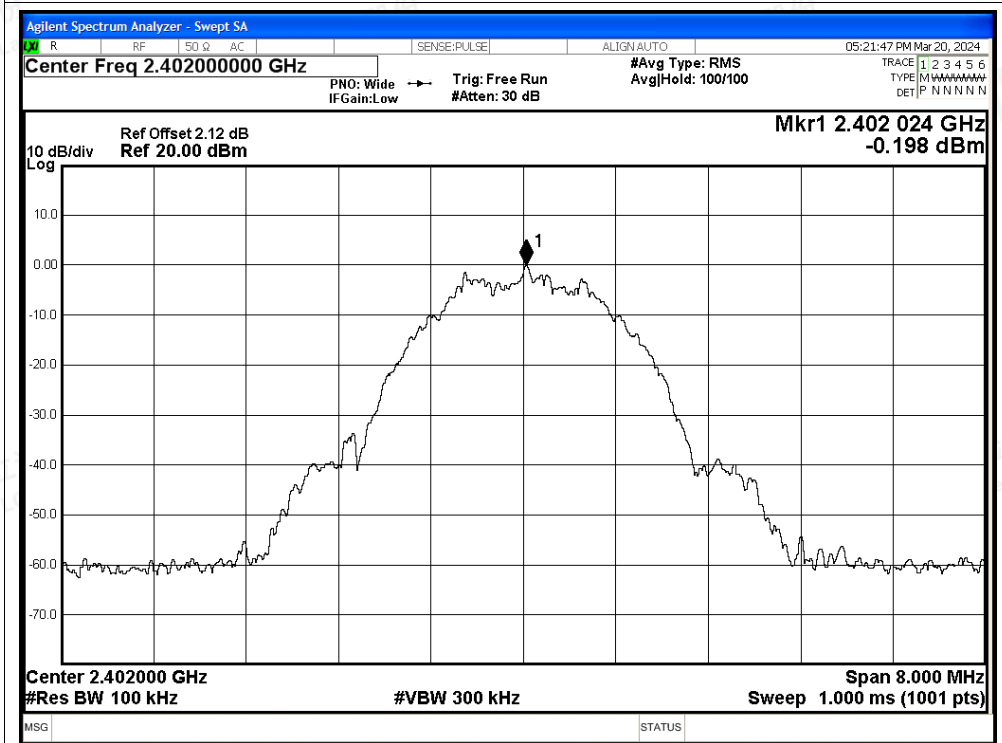


Band Edge NVNT BLE 1M 2480MHz BT ANT Emission

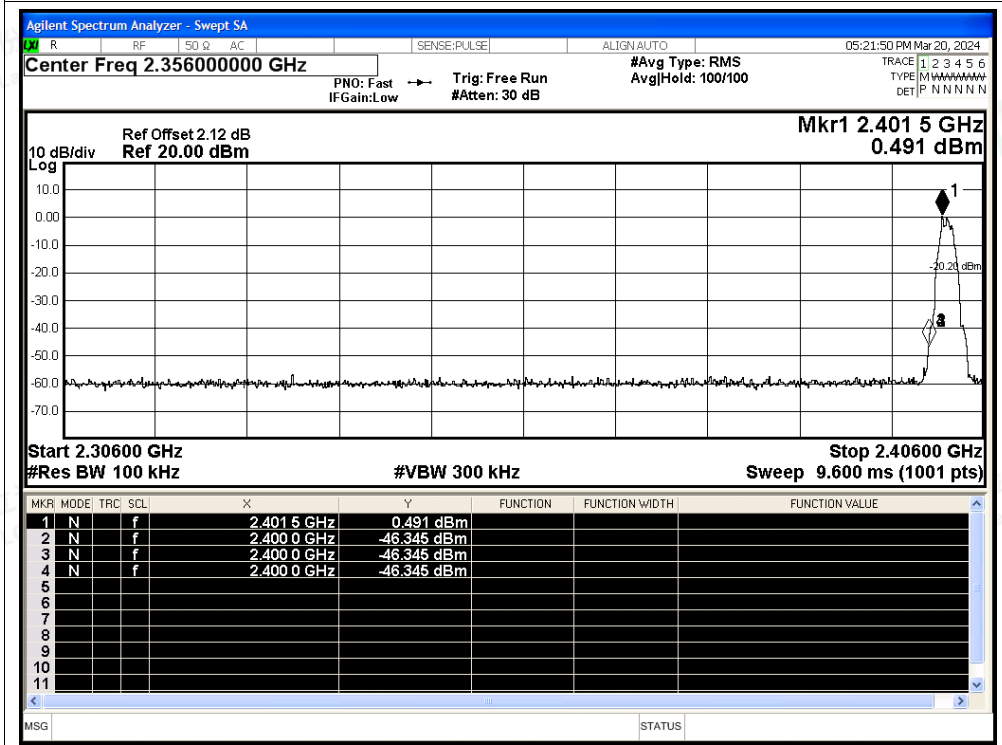




Band Edge NVNT BLE 2M 2402MHz BT ANT Ref

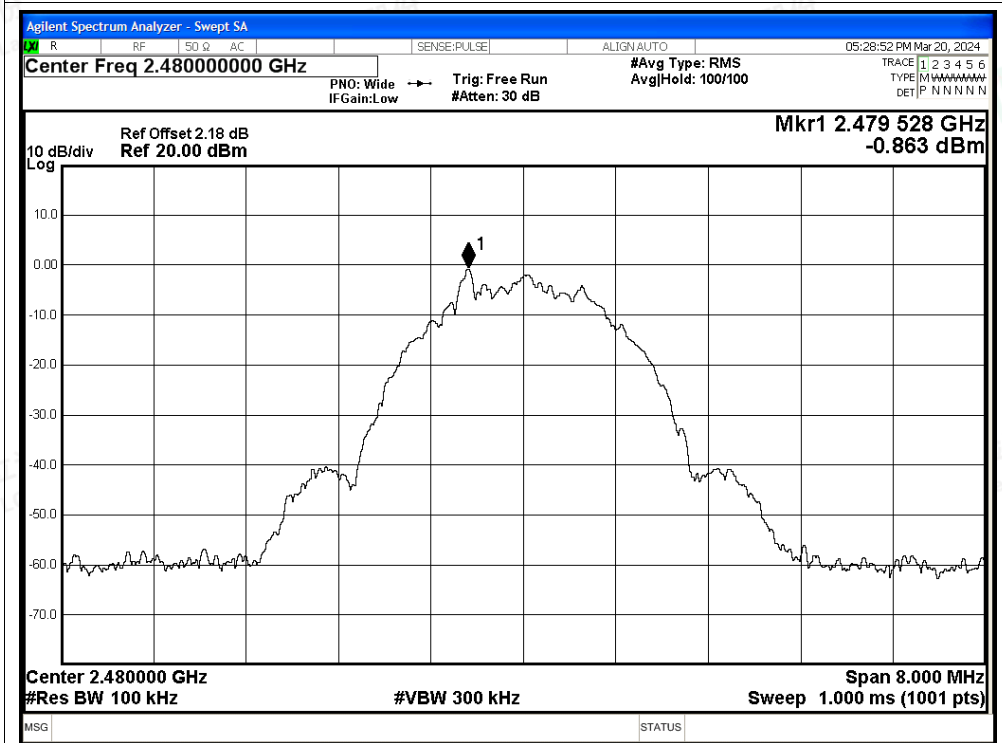


Band Edge NVNT BLE 2M 2402MHz BT ANT Emission

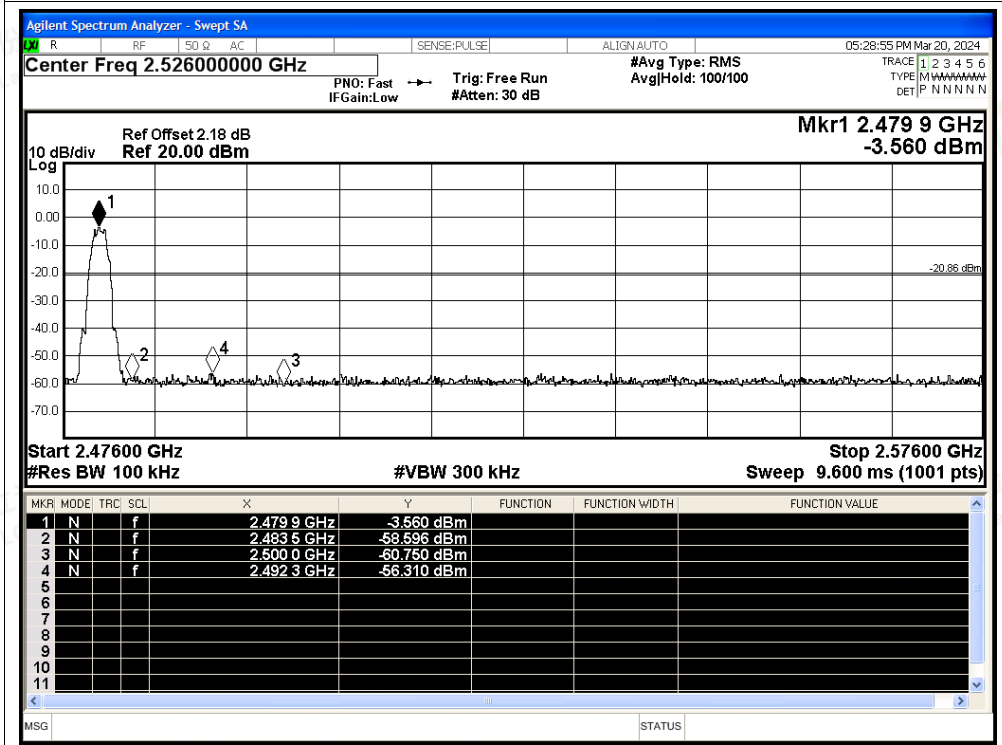




Band Edge NVNT BLE 2M 2480MHz BT ANT Ref



Band Edge NVNT BLE 2M 2480MHz BT ANT Emission





B.5 Conducted RF Spurious Emission

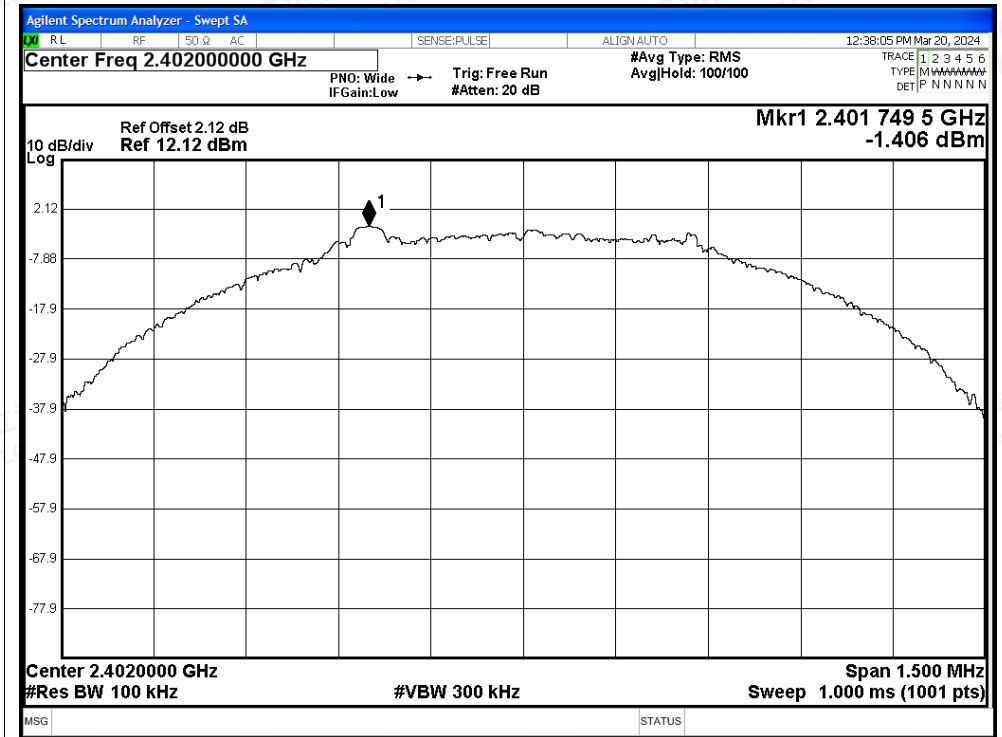
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	BT ANT	-53.95	-20	Pass
NVNT	BLE 1M	2440	BT ANT	-53.92	-20	Pass
NVNT	BLE 1M	2480	BT ANT	-54.55	-20	Pass
NVNT	BLE 2M	2402	BT ANT	-53.17	-20	Pass
NVNT	BLE 2M	2440	BT ANT	-54.21	-20	Pass
NVNT	BLE 2M	2480	BT ANT	-54.53	-20	Pass



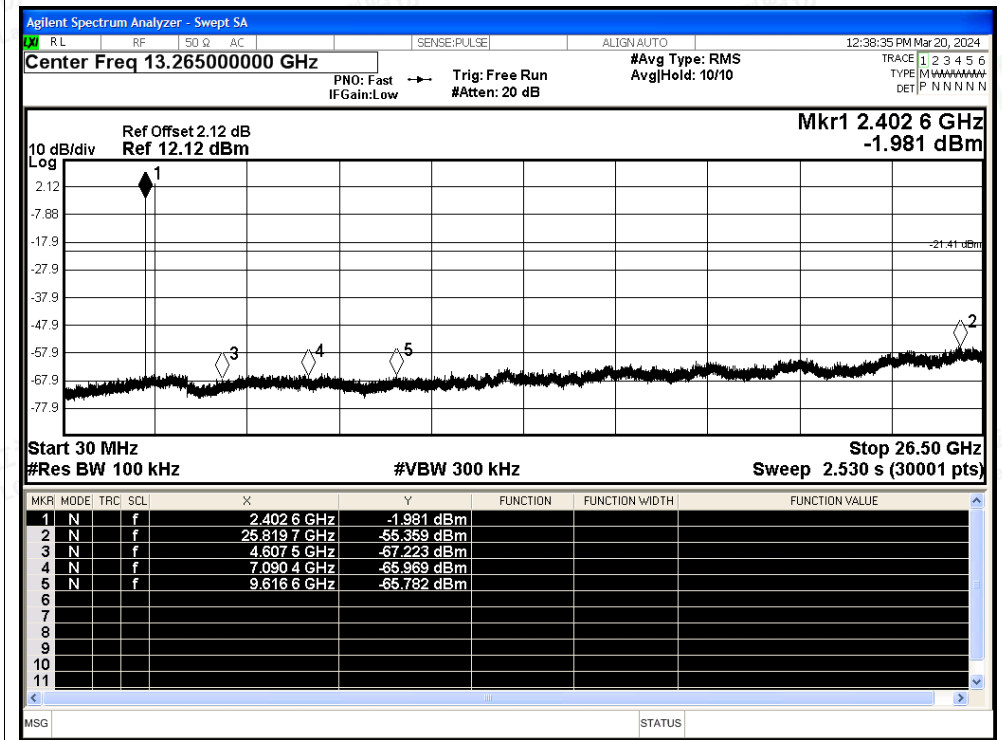


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz BT ANT Ref



Tx. Spurious NVNT BLE 1M 2402MHz BT ANT Emission



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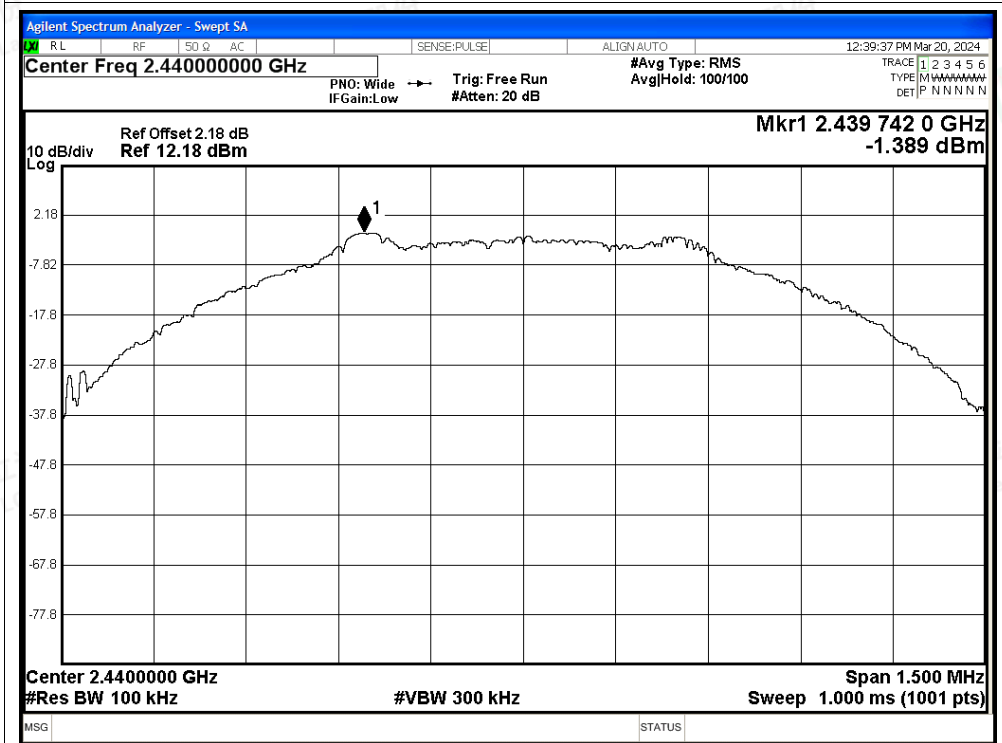
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

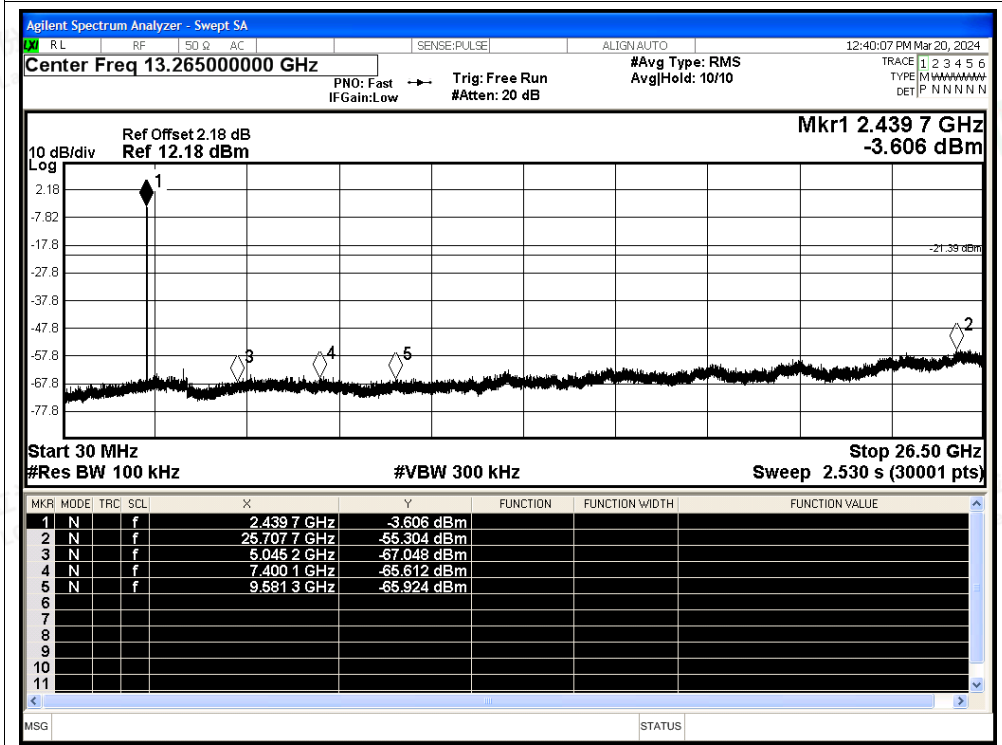
Scan code to check authenticity



Tx. Spurious NVNT BLE 1M 2440MHz BT ANT Ref

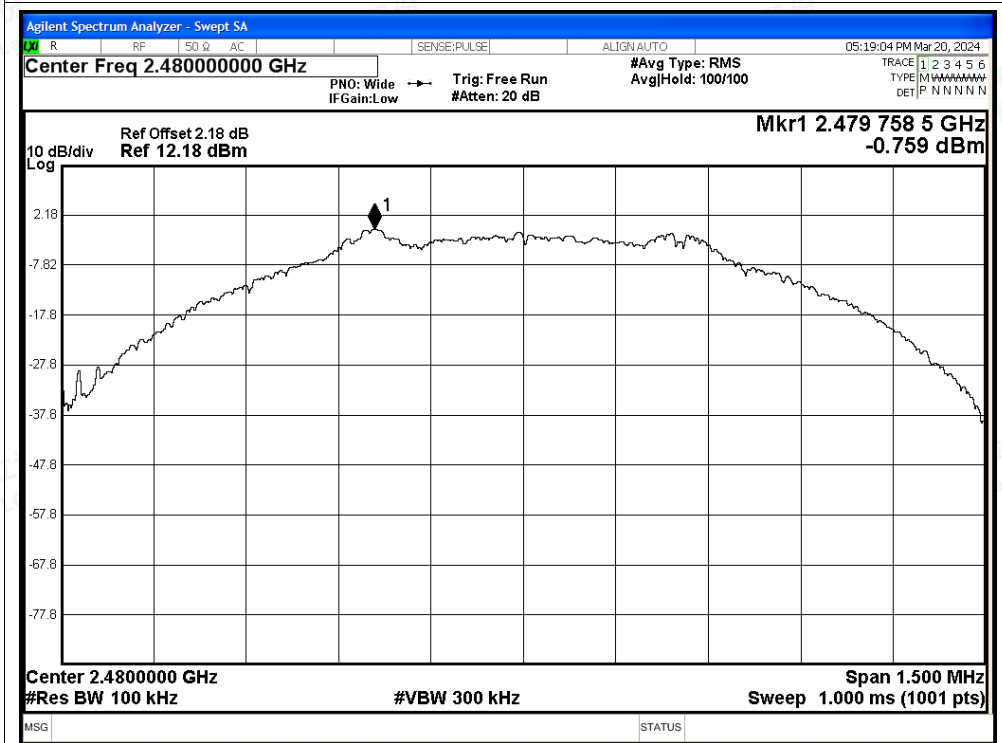


Tx. Spurious NVNT BLE 1M 2440MHz BT ANT Emission

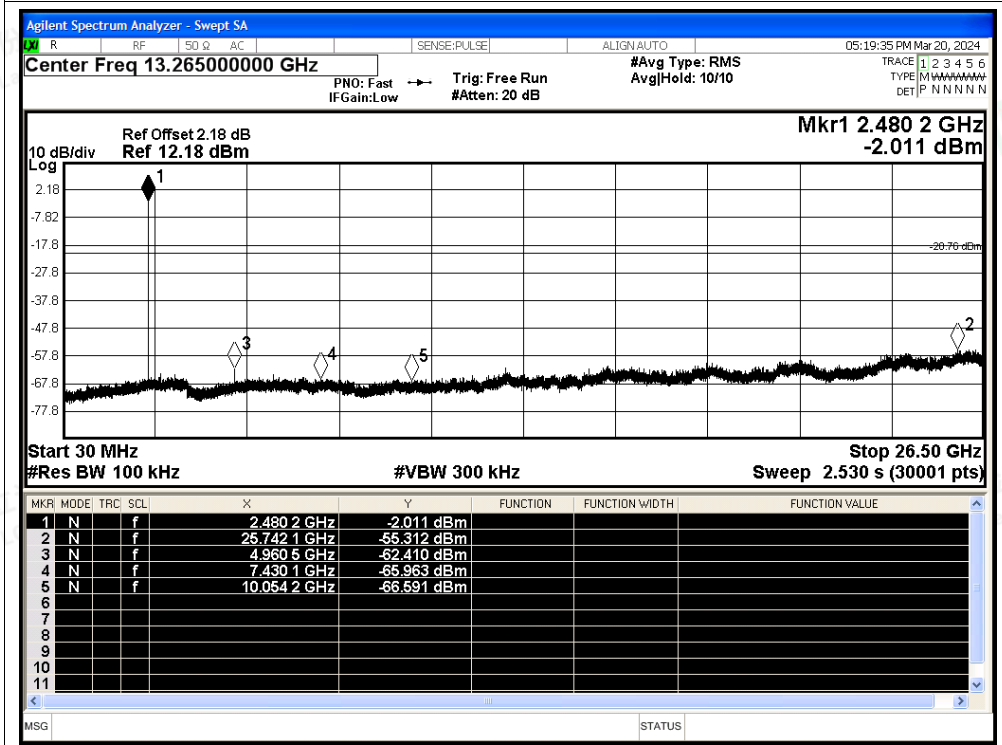




Tx. Spurious NVNT BLE 1M 2480MHz BT ANT Ref



Tx. Spurious NVNT BLE 1M 2480MHz BT ANT Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

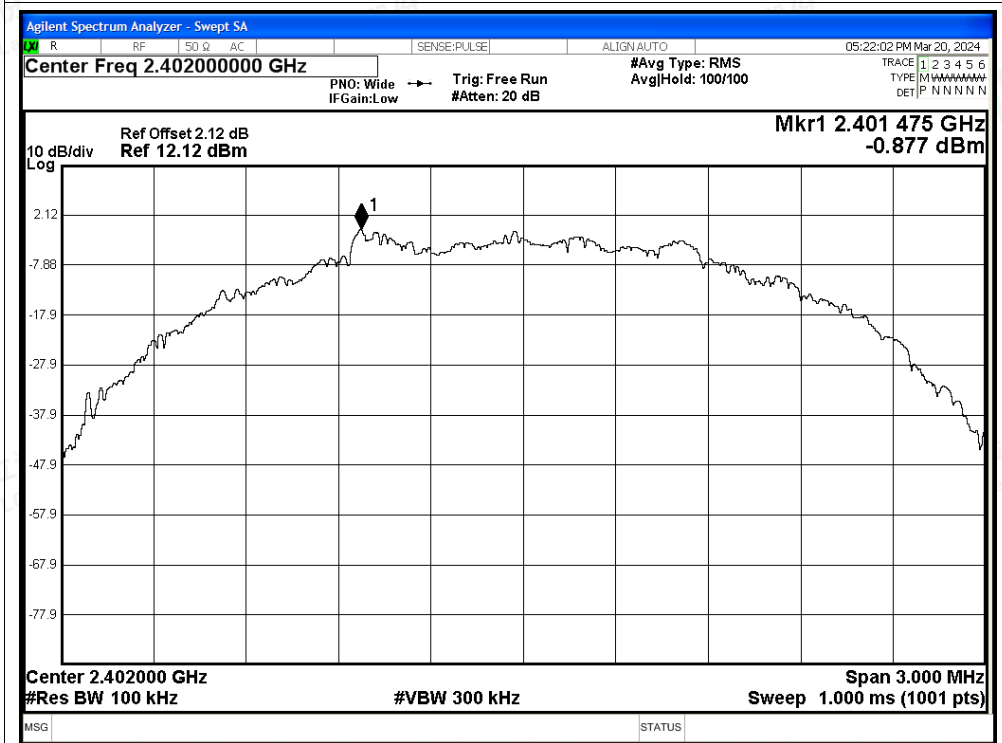
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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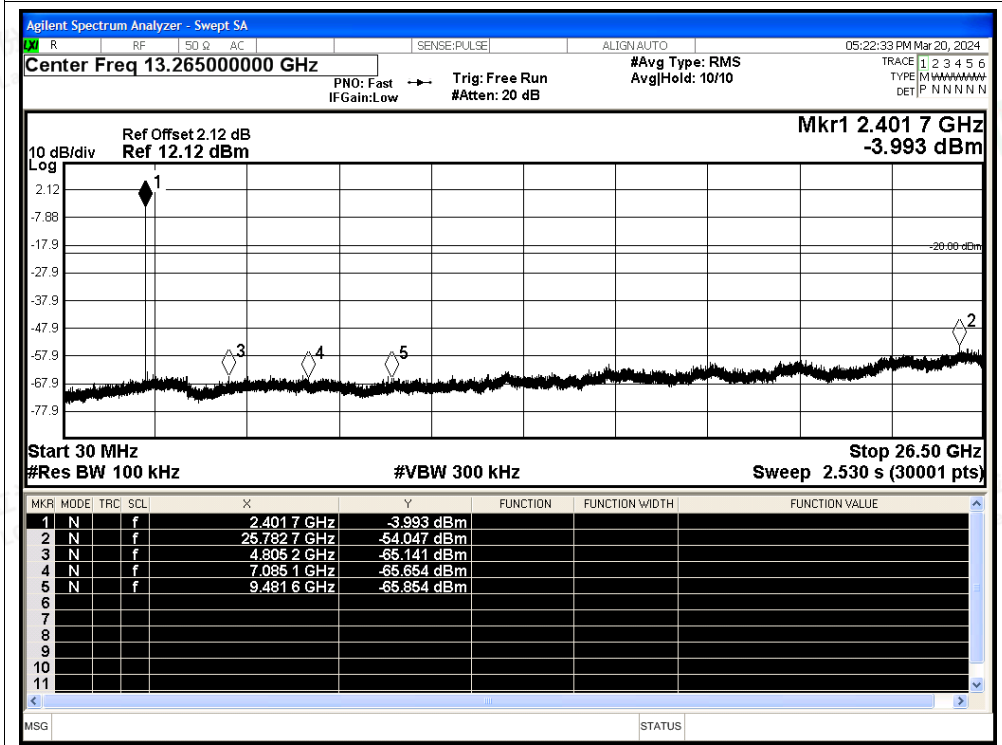
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2402MHz BT ANT Ref

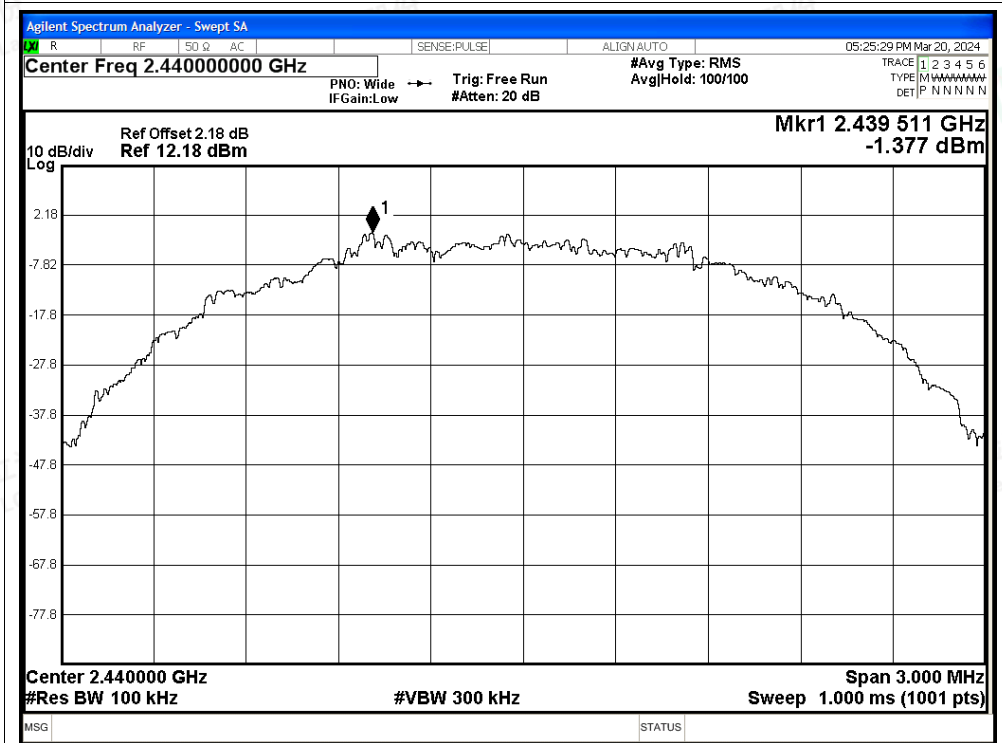


Tx. Spurious NVNT BLE 2M 2402MHz BT ANT Emission

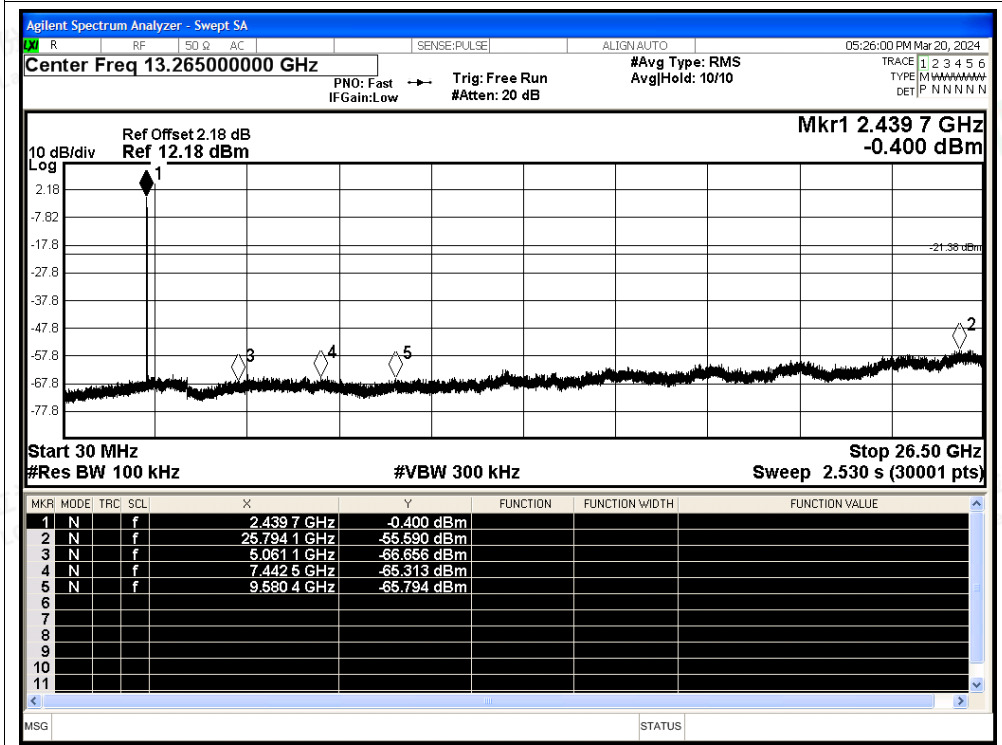




Tx. Spurious NVNT BLE 2M 2440MHz BT ANT Ref



Tx. Spurious NVNT BLE 2M 2440MHz BT ANT Emission

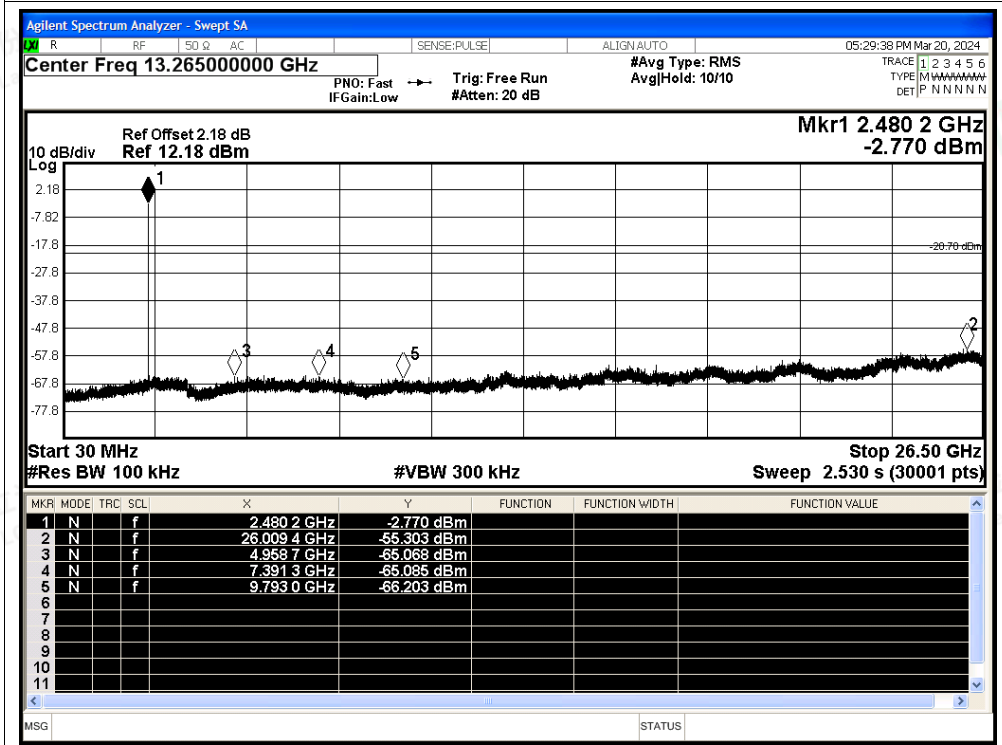




Tx. Spurious NVNT BLE 2M 2480MHz BT ANT Ref



Tx. Spurious NVNT BLE 2M 2480MHz BT ANT Emission





B.6 Duty Cycle

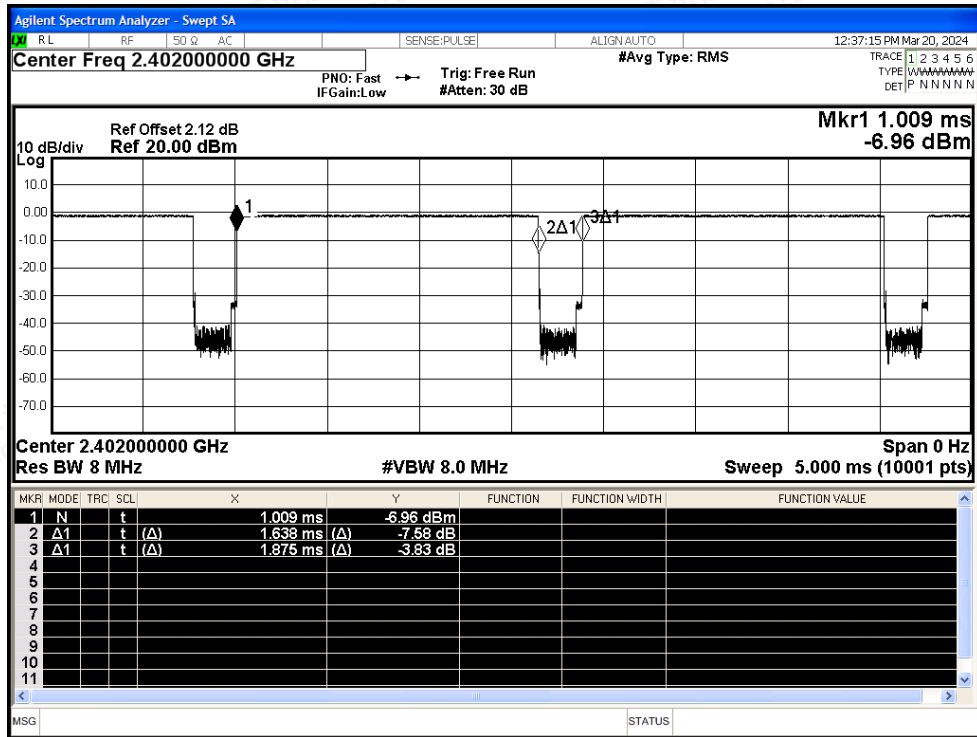
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	BT ANT	87.36	0.59	0.61
NVNT	BLE 1M	2440	BT ANT	87.39	0.59	0.61
NVNT	BLE 1M	2480	BT ANT	87.39	0.59	0.61
NVNT	BLE 2M	2402	BT ANT	98.99	0	1.21
NVNT	BLE 2M	2440	BT ANT	99.04	0	1.21
NVNT	BLE 2M	2480	BT ANT	65.96	1.81	1.21



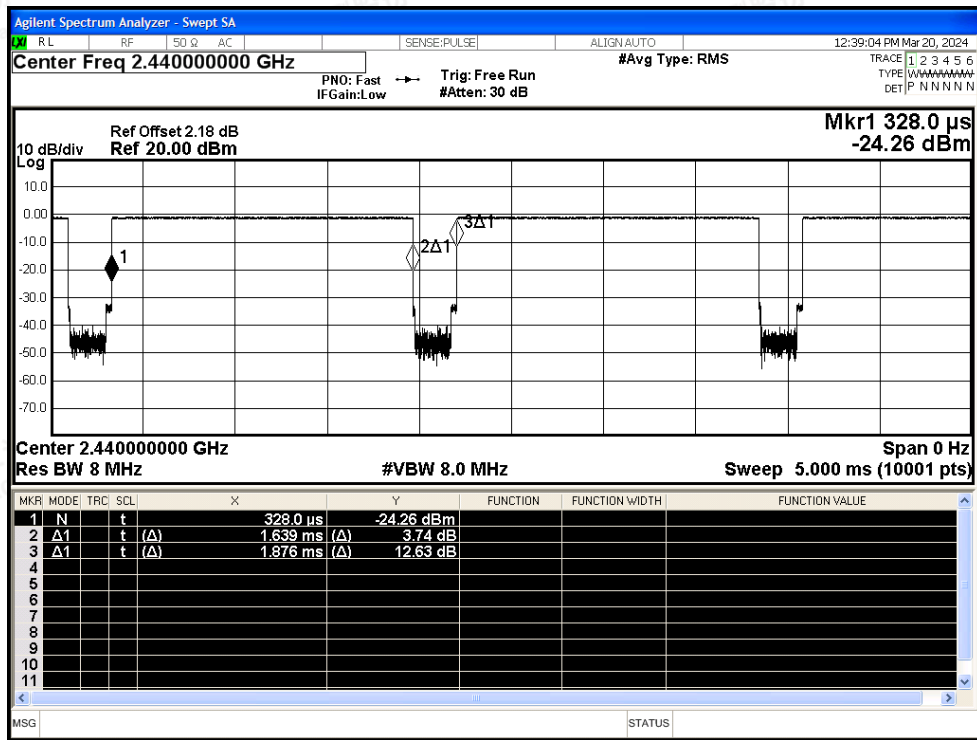


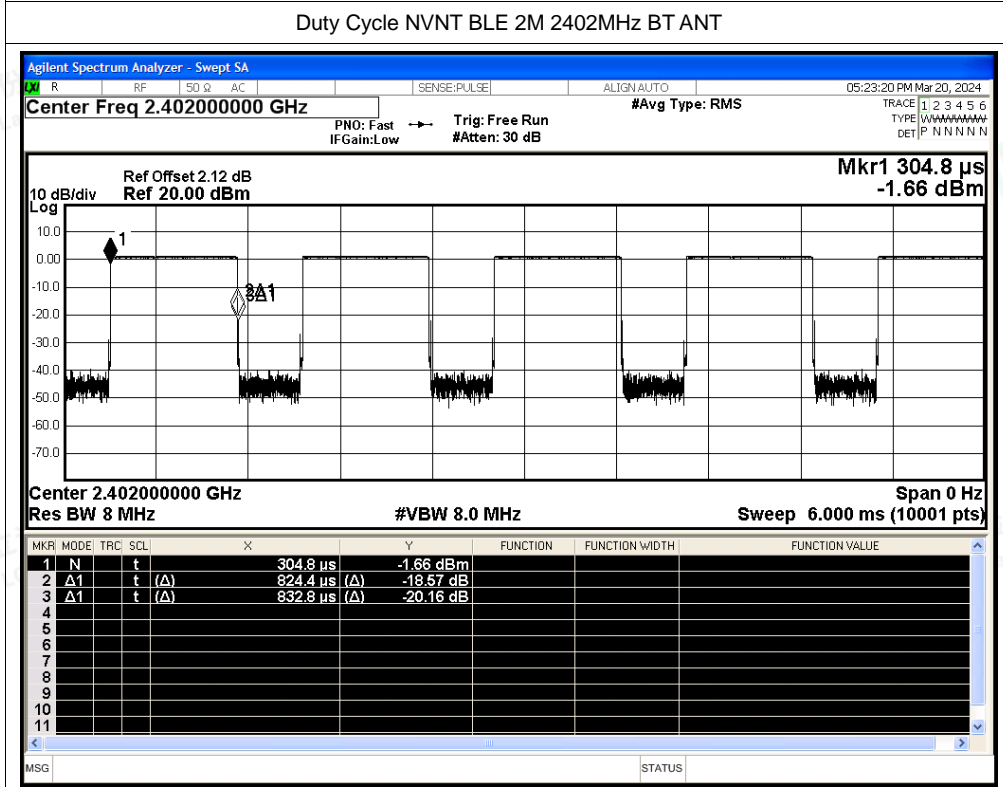
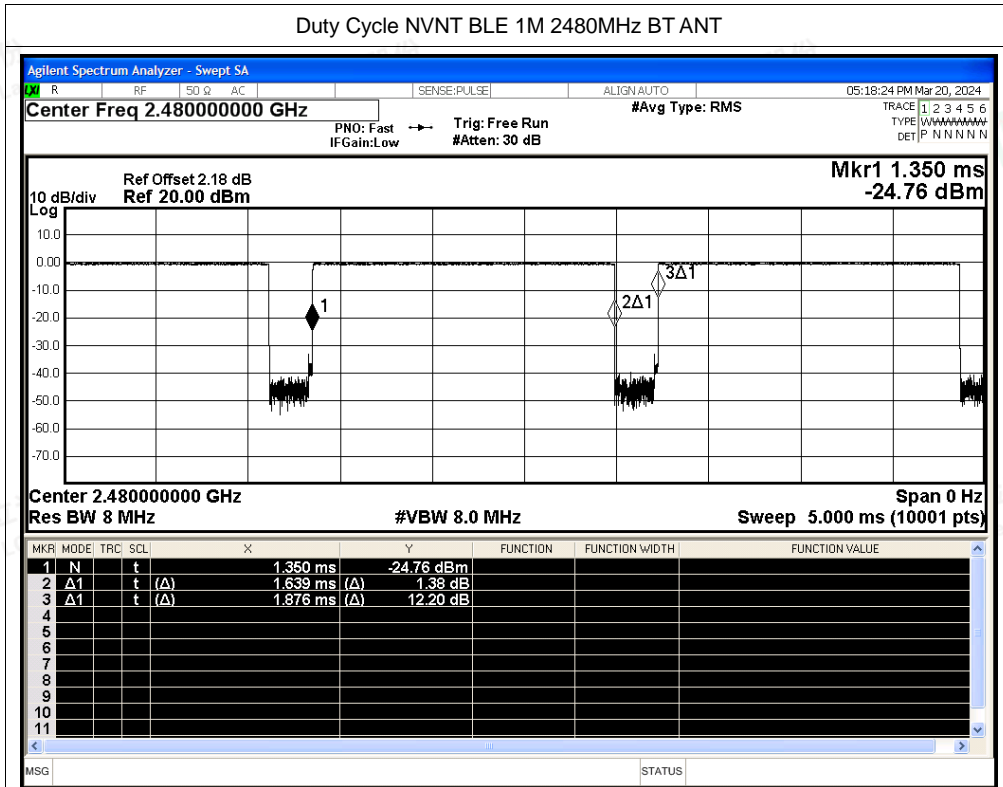
Test Graphs

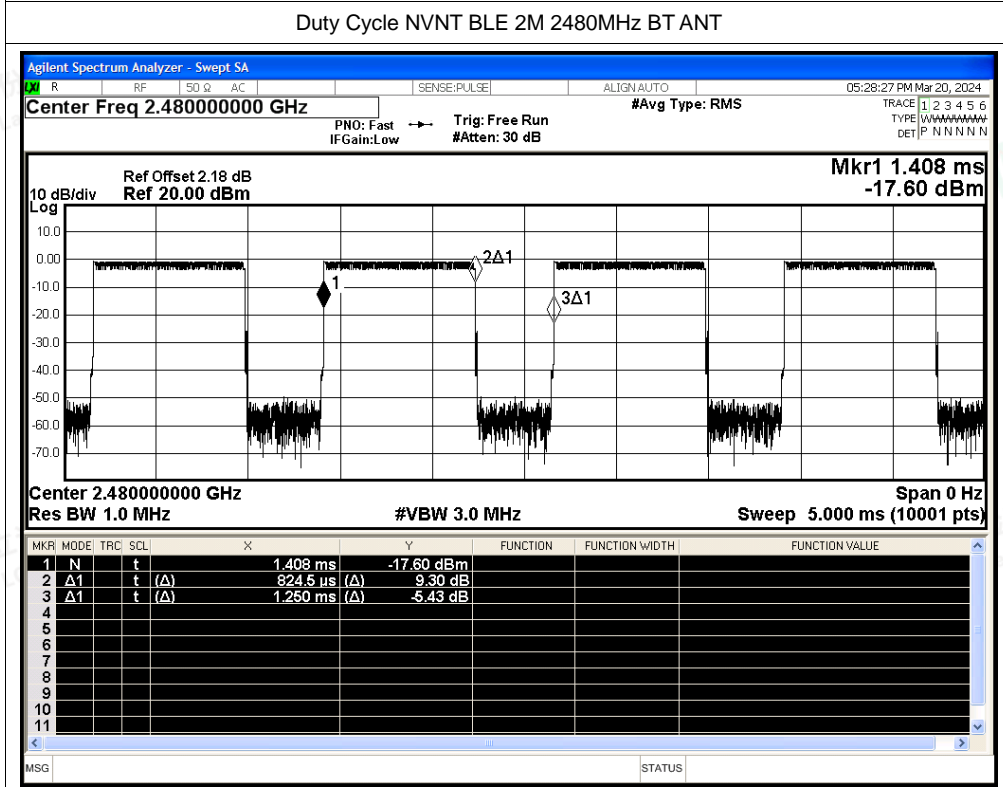
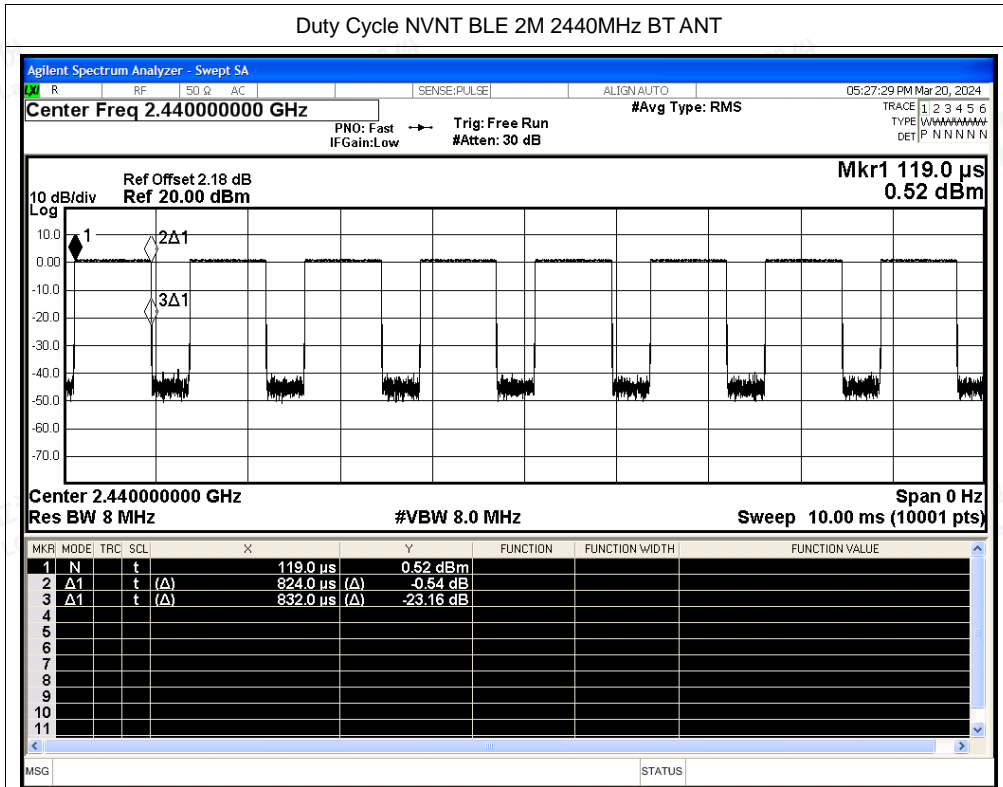
Duty Cycle NVNT BLE 1M 2402MHz BT ANT



Duty Cycle NVNT BLE 1M 2440MHz BT ANT









B.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	BLE 1M	2402	BT ANT	2310	-51.08	2.70	-	46.88	Peak	74	Pass
NVNT	BLE 1M	2402	BT ANT	2310	-57.93	2.70	0.59	40.62	Average	54	Pass
NVNT	BLE 1M	2402	BT ANT	2386.032	-47.07	2.70	-	50.89	Peak	74	Pass
NVNT	BLE 1M	2402	BT ANT	2319.504	-57.58	2.70	0.59	40.97	Average	54	Pass
NVNT	BLE 1M	2402	BT ANT	2390	-50.24	2.70	-	47.72	Peak	74	Pass
NVNT	BLE 1M	2402	BT ANT	2390	-58.65	2.70	0.59	39.90	Average	54	Pass
NVNT	BLE 1M	2480	BT ANT	2483.5	-49.17	2.70	-	48.79	Peak	74	Pass
NVNT	BLE 1M	2480	BT ANT	2483.5	-57.96	2.70	0.59	40.59	Average	54	Pass
NVNT	BLE 1M	2480	BT ANT	2484.76	-44.99	2.70	-	52.97	Peak	74	Pass
NVNT	BLE 1M	2480	BT ANT	2494.432	-57.02	2.70	0.59	41.53	Average	54	Pass
NVNT	BLE 1M	2480	BT ANT	2500	-50.04	2.70	-	47.92	Peak	74	Pass
NVNT	BLE 1M	2480	BT ANT	2500	-57.43	2.70	0.59	41.12	Average	54	Pass
NVNT	BLE 2M	2402	BT ANT	2310	-49.94	2.70	-	48.02	Peak	74	Pass
NVNT	BLE 2M	2402	BT ANT	2310	-58.92	2.70	0	39.04	Average	54	Pass
NVNT	BLE 2M	2402	BT ANT	2333.808	-47.29	2.70	-	50.67	Peak	74	Pass
NVNT	BLE 2M	2402	BT ANT	2387.664	-57.45	2.70	0	40.51	Average	54	Pass
NVNT	BLE 2M	2402	BT ANT	2390	-49.8	2.70	-	48.16	Peak	74	Pass
NVNT	BLE 2M	2402	BT ANT	2390	-58.53	2.70	0	39.43	Average	54	Pass
NVNT	BLE 2M	2480	BT ANT	2483.5	-45.72	2.70	-	52.24	Peak	74	Pass
NVNT	BLE 2M	2480	BT ANT	2483.5	-57.36	2.70	1.81	42.41	Average	54	Pass
NVNT	BLE 2M	2480	BT ANT	2484.04	-43.4	2.70	-	54.56	Peak	74	Pass
NVNT	BLE 2M	2480	BT ANT	2487.832	-57.03	2.70	1.81	42.74	Average	54	Pass
NVNT	BLE 2M	2480	BT ANT	2500	-50.64	2.70	-	47.32	Peak	74	Pass
NVNT	BLE 2M	2480	BT ANT	2500	-57.6	2.70	1.81	42.17	Average	54	Pass



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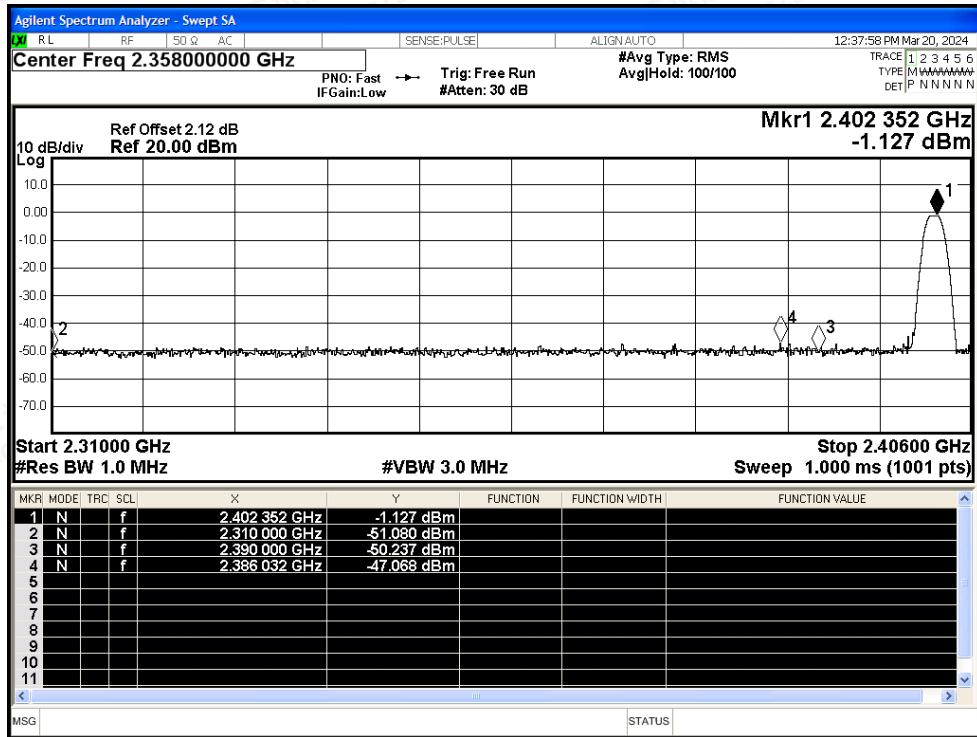
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Scan code to check authenticity

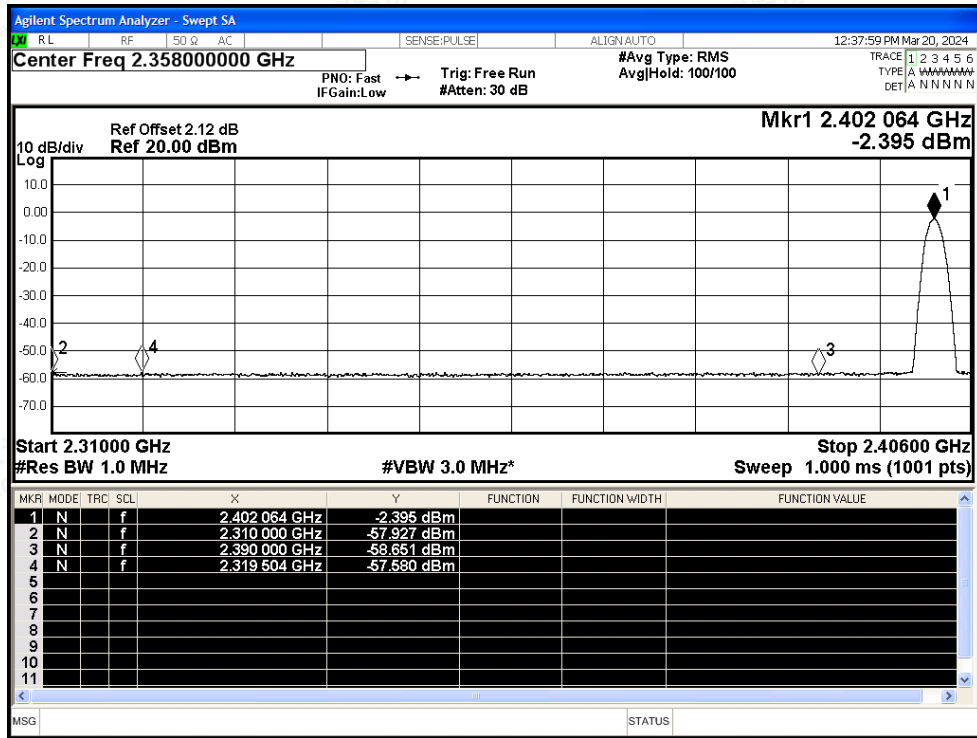


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz BT ANT Peak



Restrict Band NVNT BLE 1M 2402MHz BT ANT Average



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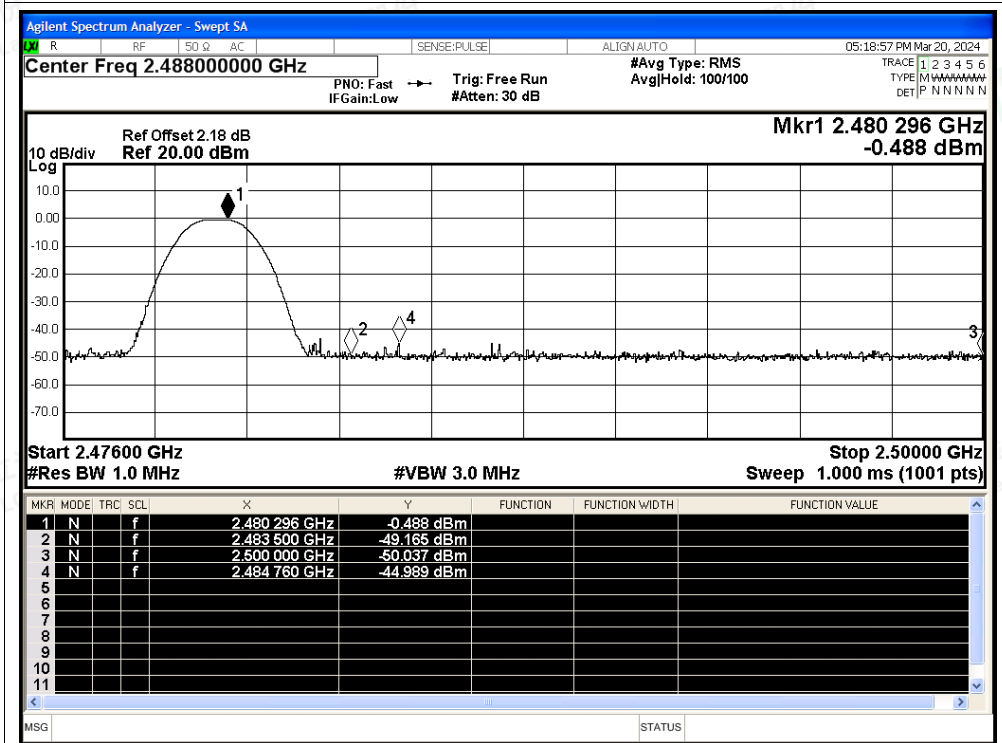
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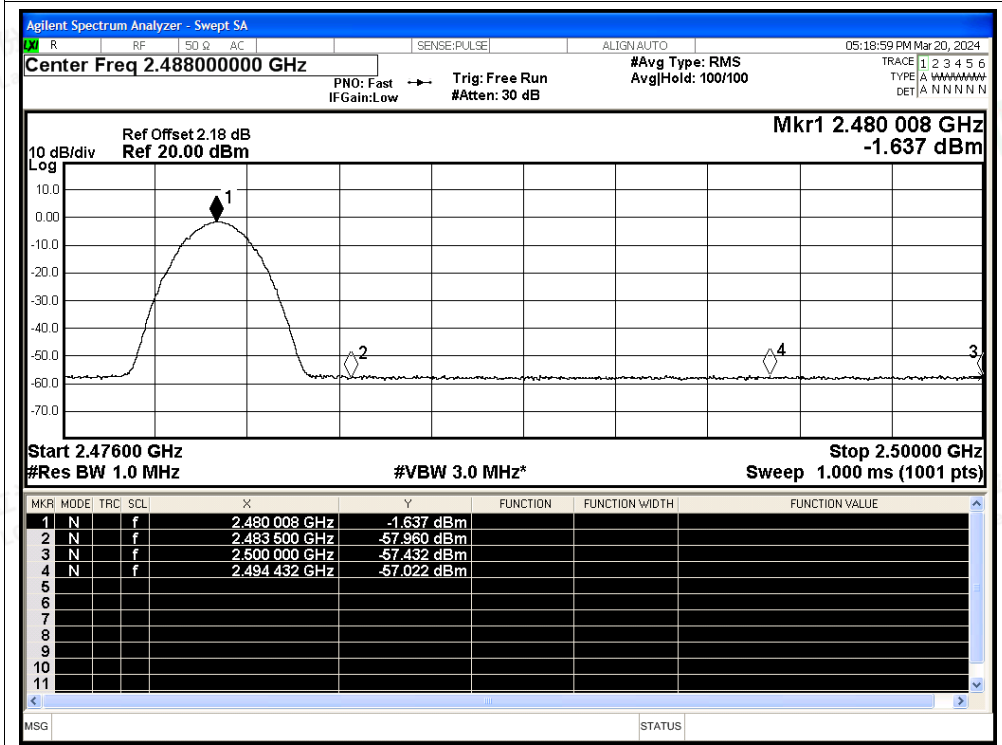
Scan code to check authenticity



Restrict Band NVNT BLE 1M 2480MHz BT ANT Peak



Restrict Band NVNT BLE 1M 2480MHz BT ANT Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

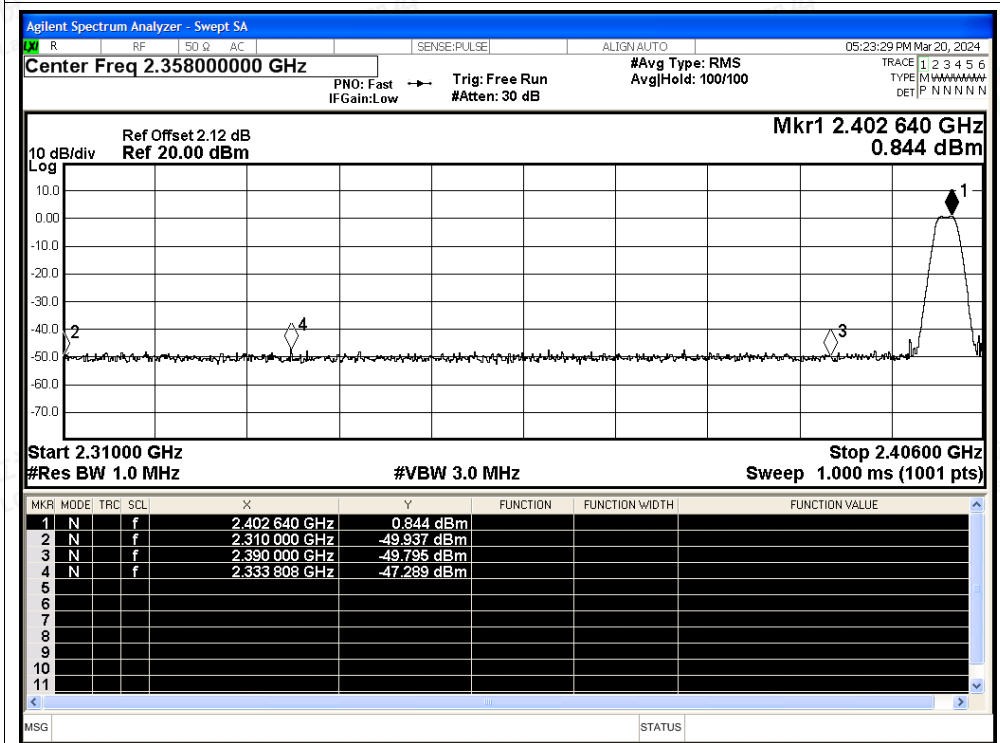
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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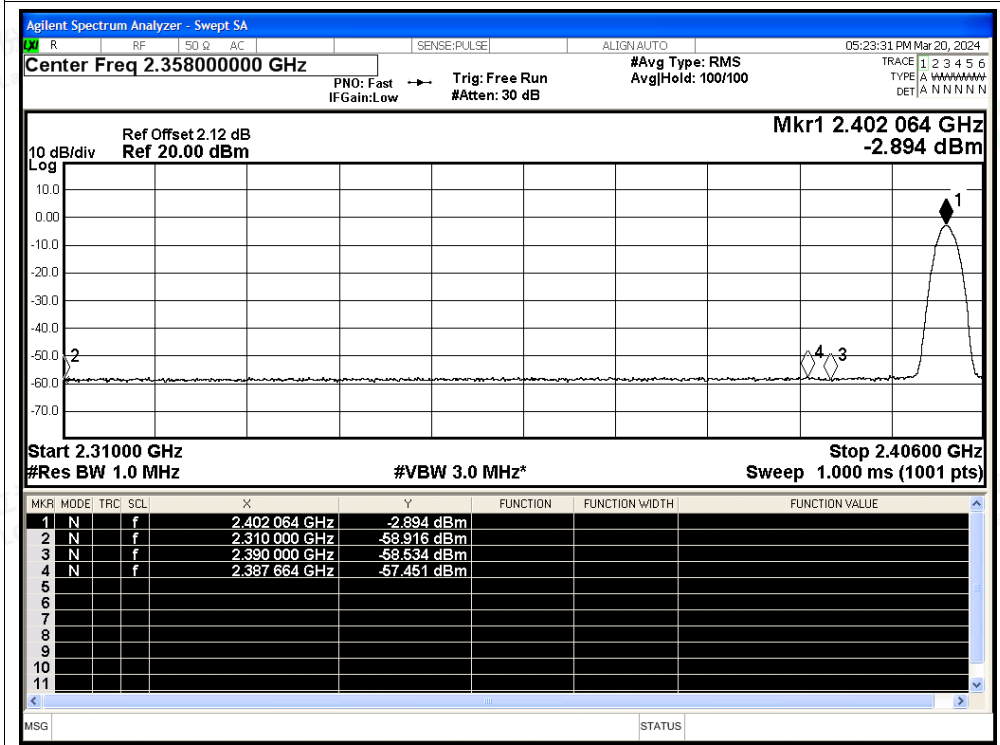
Scan code to check authenticity



Restrict Band NVNT BLE 2M 2402MHz BT ANT Peak

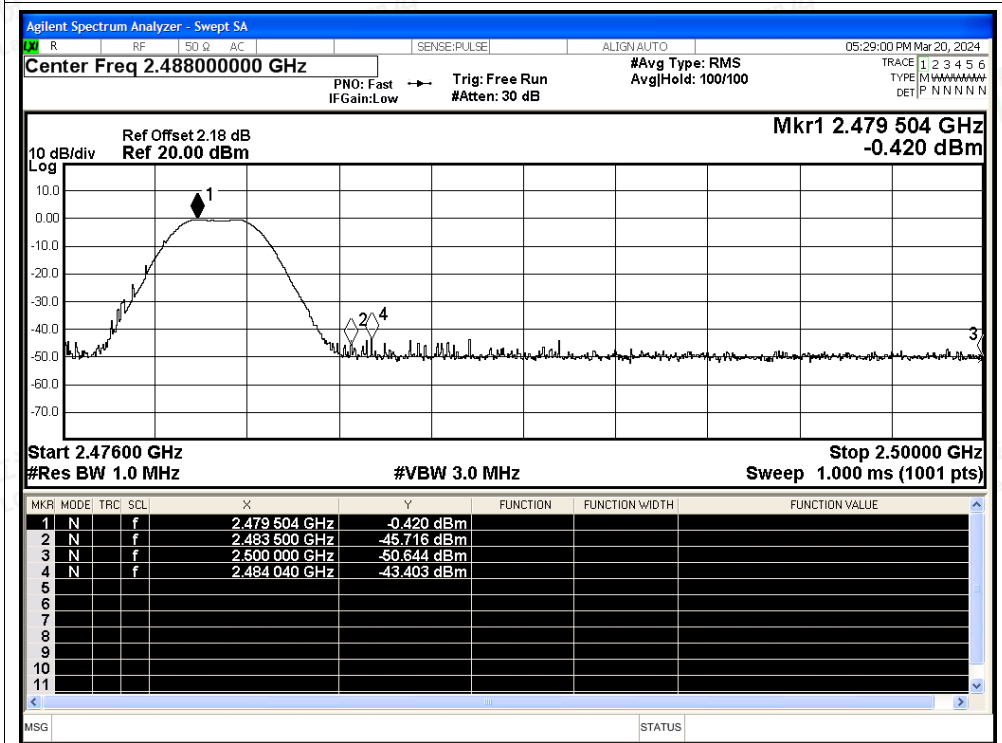


Restrict Band NVNT BLE 2M 2402MHz BT ANT Average

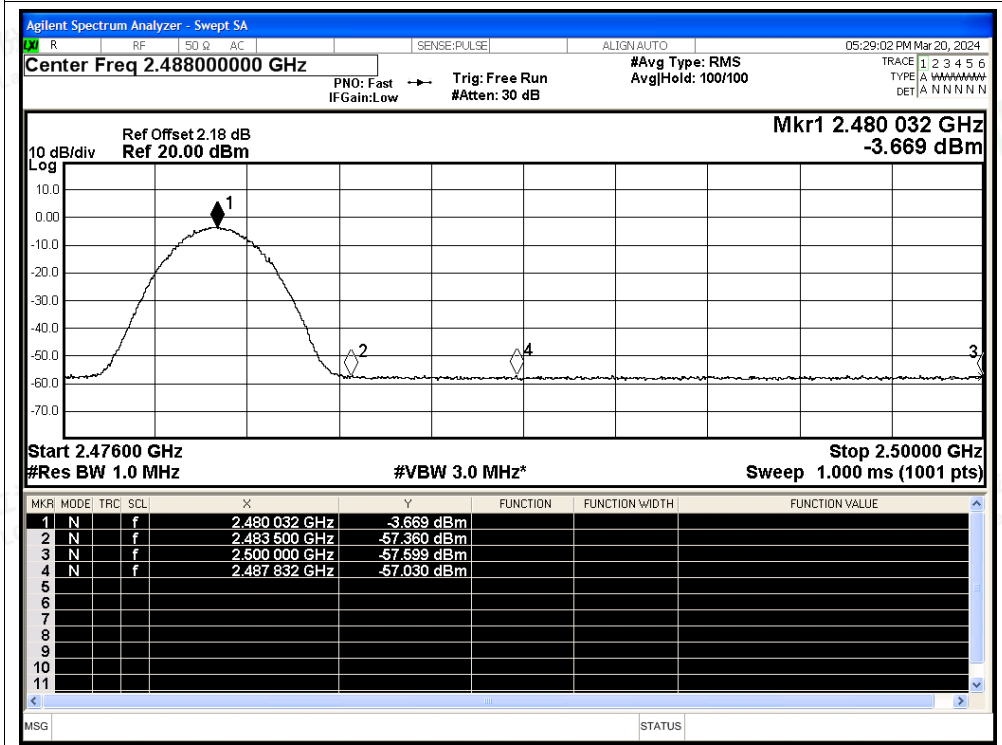




Restrict Band NVNT BLE 2M 2480MHz BT ANT Peak



Restrict Band NVNT BLE 2M 2480MHz BT ANT Average



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