



Appendix F for BT LE Test Data

Product Name: Smartphone

Test Model: KINGKONG 8

Environmental Conditions

Temperature:	22.2° C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu





F.1 RF Output Power

Condition	Mode	Frequency (MHz)	Antenna	Max EIRP (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-0.28	20	Pass
NVNT	BLE 1M	2440	Ant1	-1.46	20	Pass
NVNT	BLE 1M	2480	Ant1	-0.92	20	Pass
NVNT	BLE 2M	2402	Ant1	-0.29	20	Pass
NVNT	BLE 2M	2440	Ant1	-1.49	20	Pass
NVNT	BLE 2M	2480	Ant1	-0.94	20	Pass

Condition	Mode	Frequency (MHz)	Antenna	Max EIRP (dBm)	Limit (dBm)	Verdict
NVLT	BLE 1M	2402	Ant1	-0.29	20	Pass
NVLT	BLE 1M	2440	Ant1	-1.47	20	Pass
NVLT	BLE 1M	2480	Ant1	-0.93	20	Pass
NVLT	BLE 2M	2402	Ant1	-0.30	20	Pass
NVLT	BLE 2M	2440	Ant1	-1.51	20	Pass
NVLT	BLE 2M	2480	Ant1	-0.96	20	Pass

Condition	Mode	Frequency (MHz)	Antenna	Max EIRP (dBm)	Limit (dBm)	Verdict
NVHT	BLE 1M	2402	Ant1	-0.31	20	Pass
NVHT	BLE 1M	2440	Ant1	-1.49	20	Pass
NVHT	BLE 1M	2480	Ant1	-0.94	20	Pass
NVHT	BLE 2M	2402	Ant1	-0.32	20	Pass
NVHT	BLE 2M	2440	Ant1	-1.53	20	Pass
NVHT	BLE 2M	2480	Ant1	-0.98	20	Pass

***Note: 20 bursts had been captured for power measurement.



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F.2 Power Spectral Density

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-0.33	10	Pass
NVNT	BLE 1M	2440	Ant1	-1.51	10	Pass
NVNT	BLE 1M	2480	Ant1	-0.97	10	Pass
NVNT	BLE 2M	2402	Ant1	-1.47	10	Pass
NVNT	BLE 2M	2440	Ant1	-2.67	10	Pass
NVNT	BLE 2M	2480	Ant1	-2.11	10	Pass

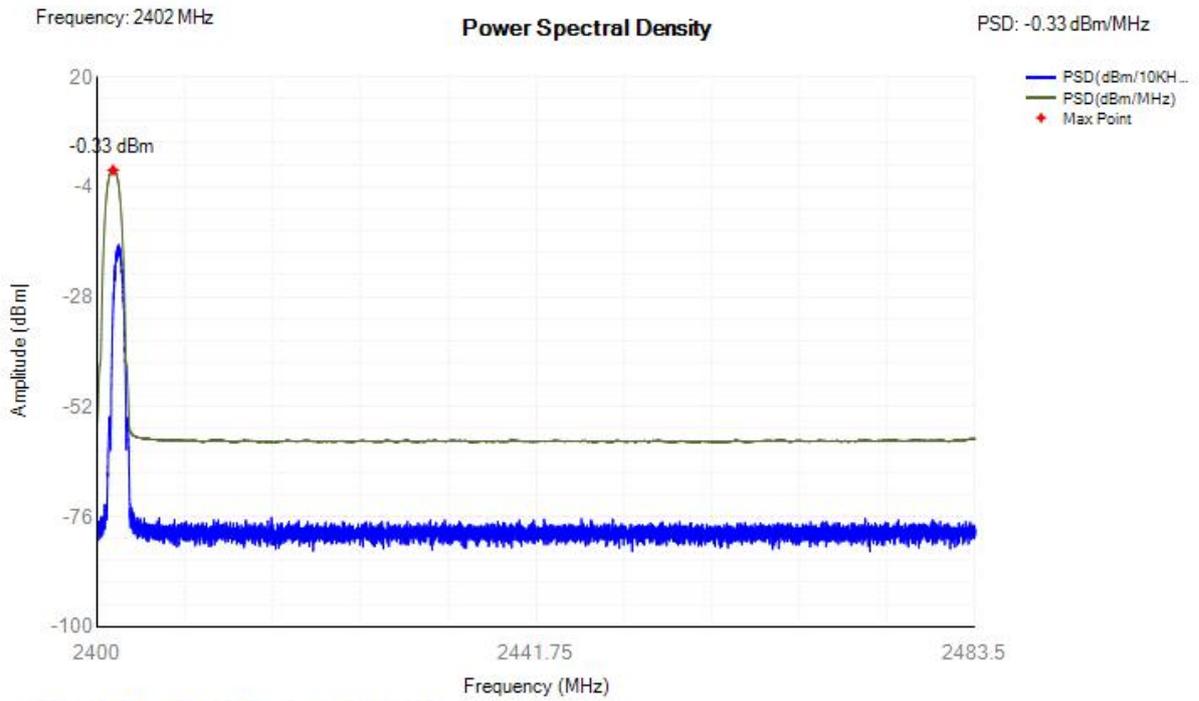


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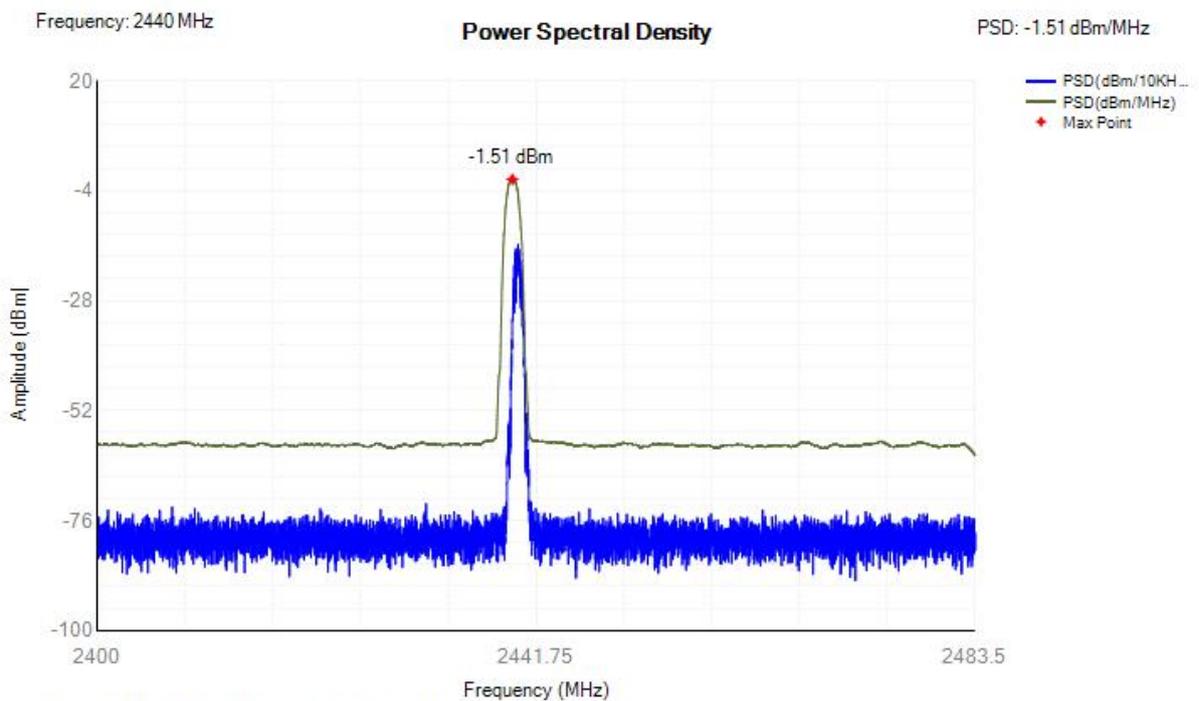


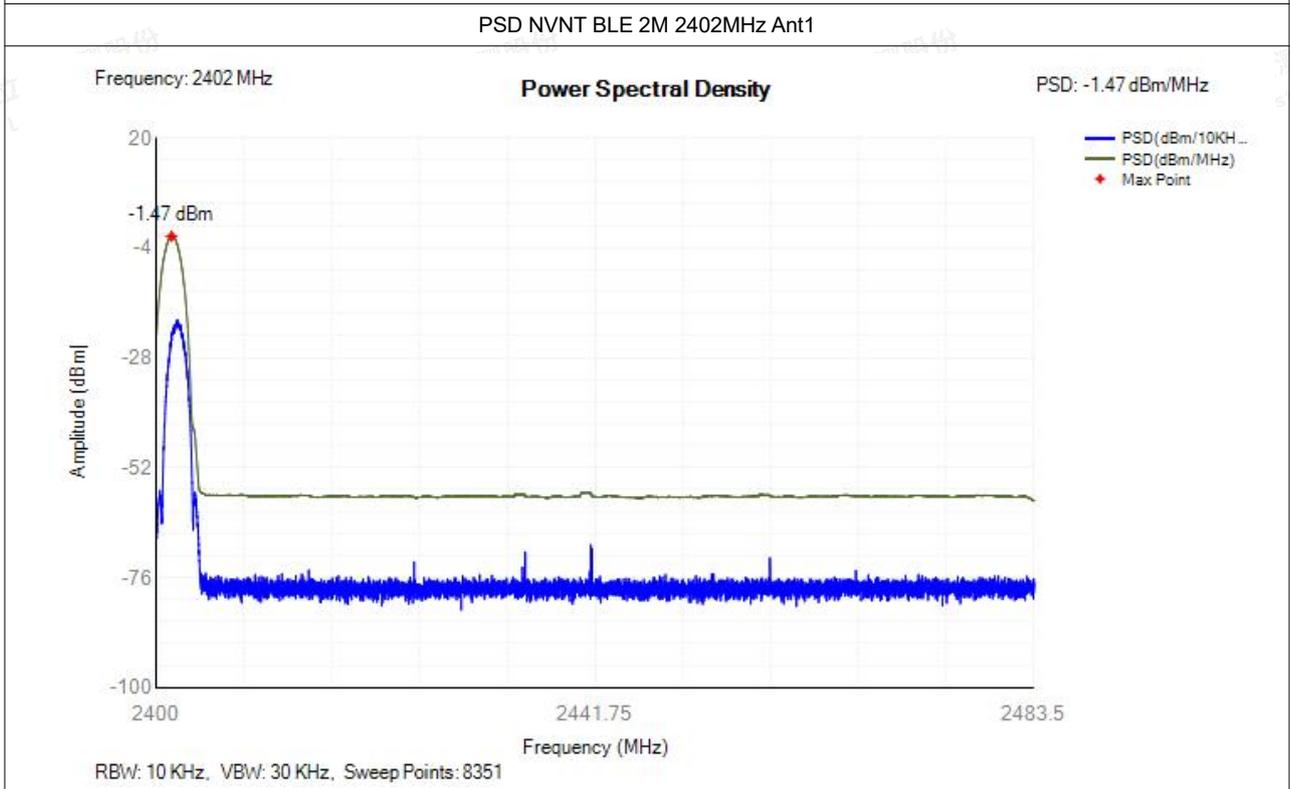
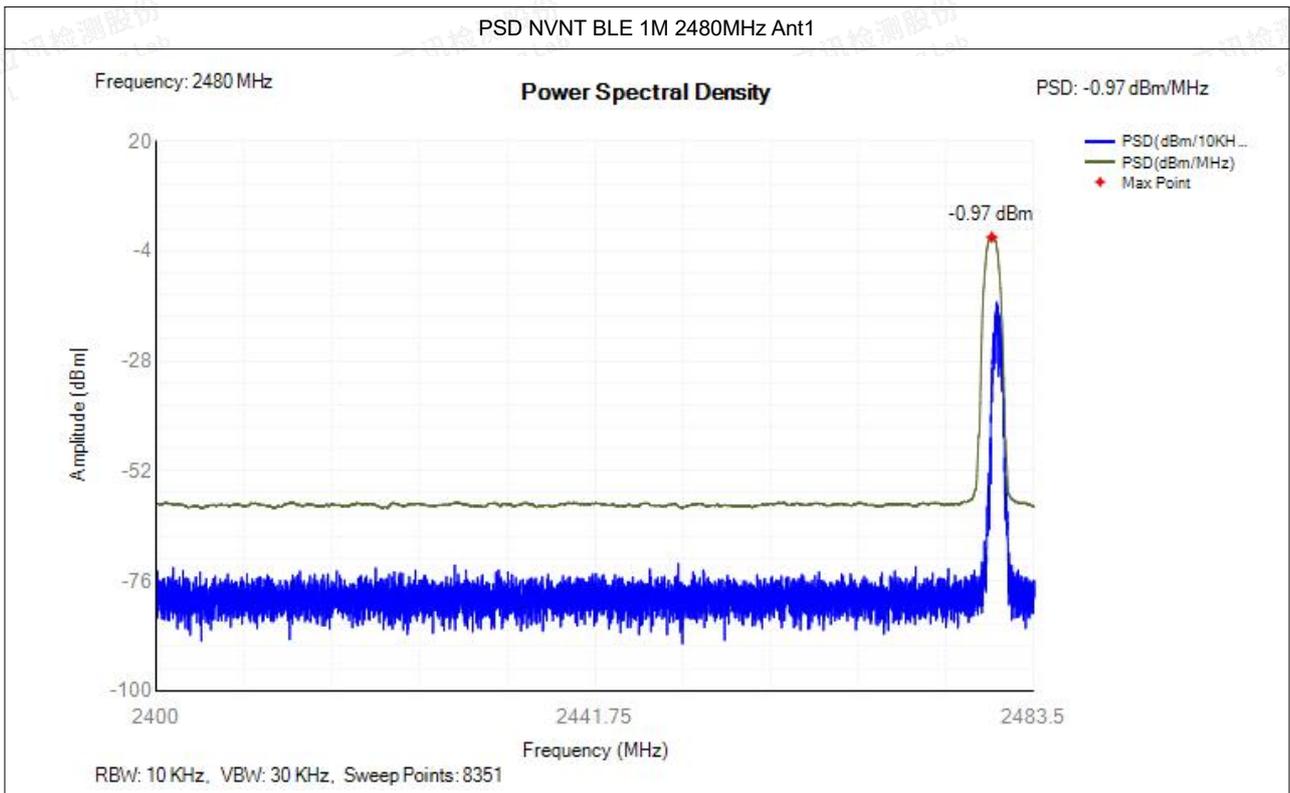
Test Graphs

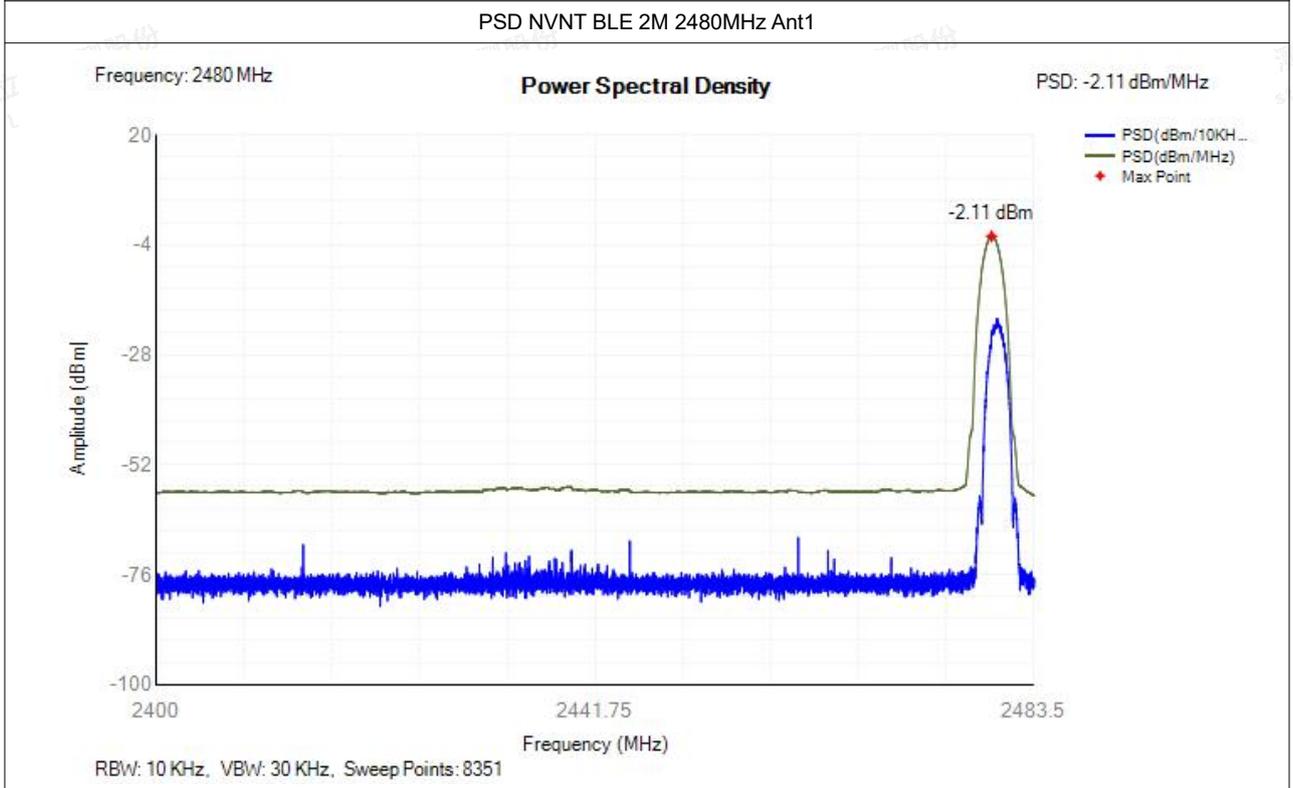
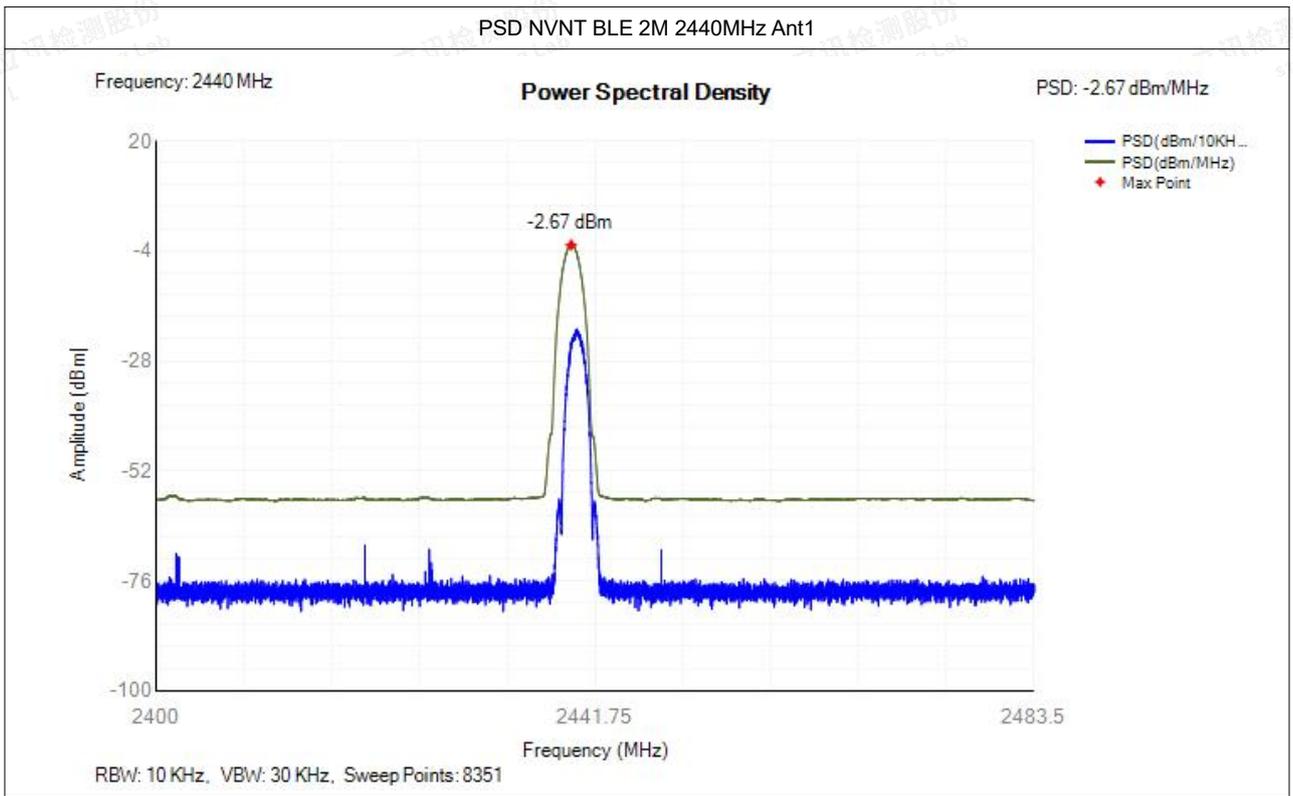
PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1









F.3 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Center Frequency (MHz)	OBW (MHz)	Lower Edge (MHz)	Upper Edge (MHz)	Limit OBW (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	2402.003	1.019	2401.493	2402.512	2400 - 2483.5MHz	Pass
NVNT	BLE 1M	2440	Ant1	2440.01	1.022	2439.499	2440.521	2400 - 2483.5MHz	Pass
NVNT	BLE 1M	2480	Ant1	2480.006	1.034	2479.489	2480.524	2400 - 2483.5MHz	Pass
NVNT	BLE 2M	2402	Ant1	2402.005	2.033	2400.988	2403.021	2400 - 2483.5MHz	Pass
NVNT	BLE 2M	2440	Ant1	2440.005	2.032	2438.989	2441.021	2400 - 2483.5MHz	Pass
NVNT	BLE 2M	2480	Ant1	2480.005	2.035	2478.987	2481.022	2400 - 2483.5MHz	Pass

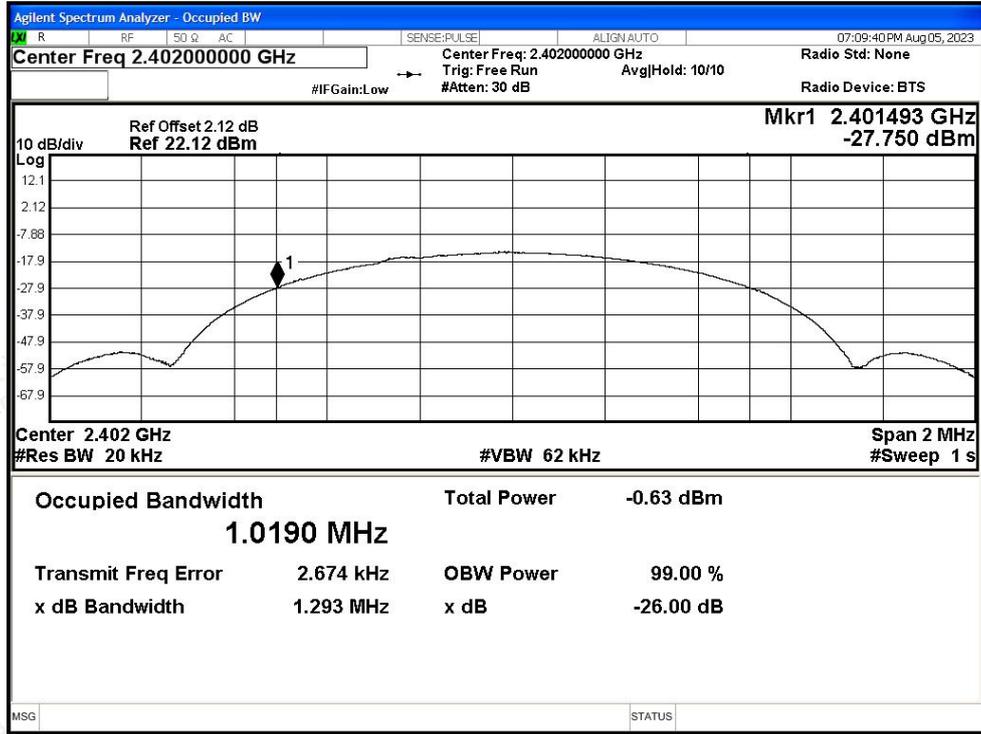


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Test Graphs

OBW NVNT BLE 1M 2402MHz Ant1

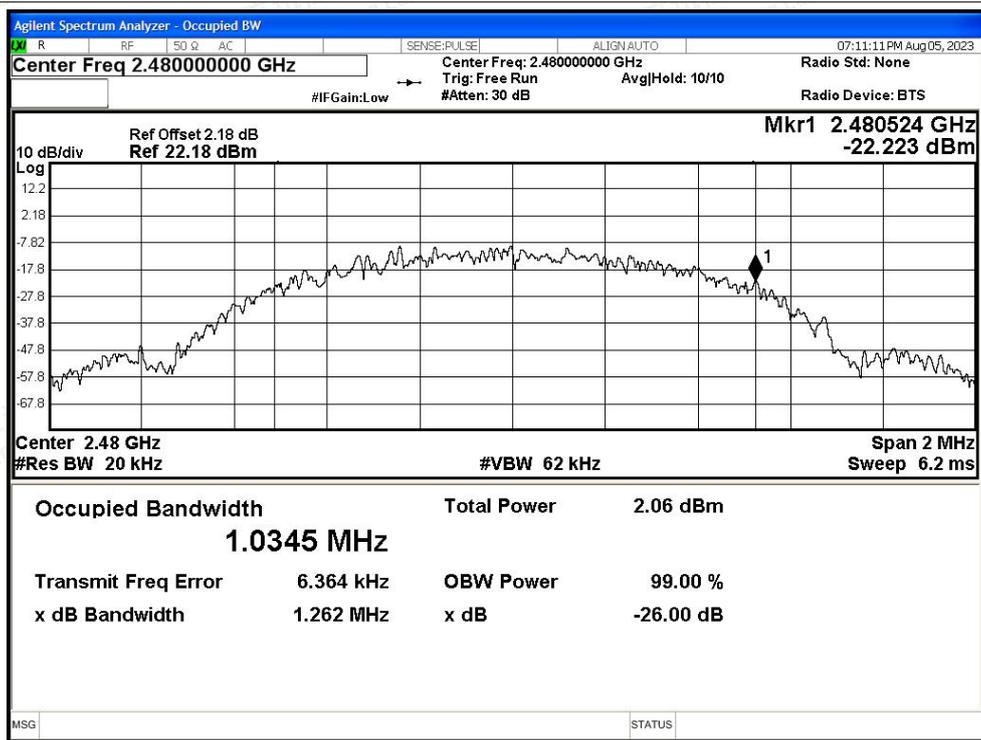


OBW NVNT BLE 1M 2440MHz Ant1

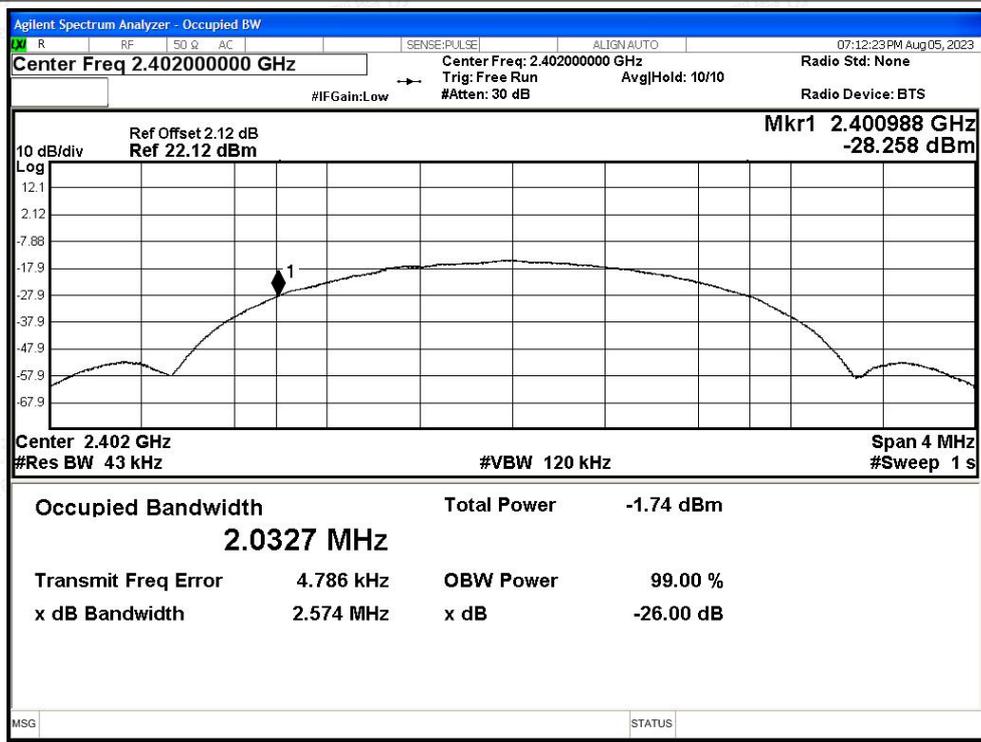




OBW NVNT BLE 1M 2480MHz Ant1

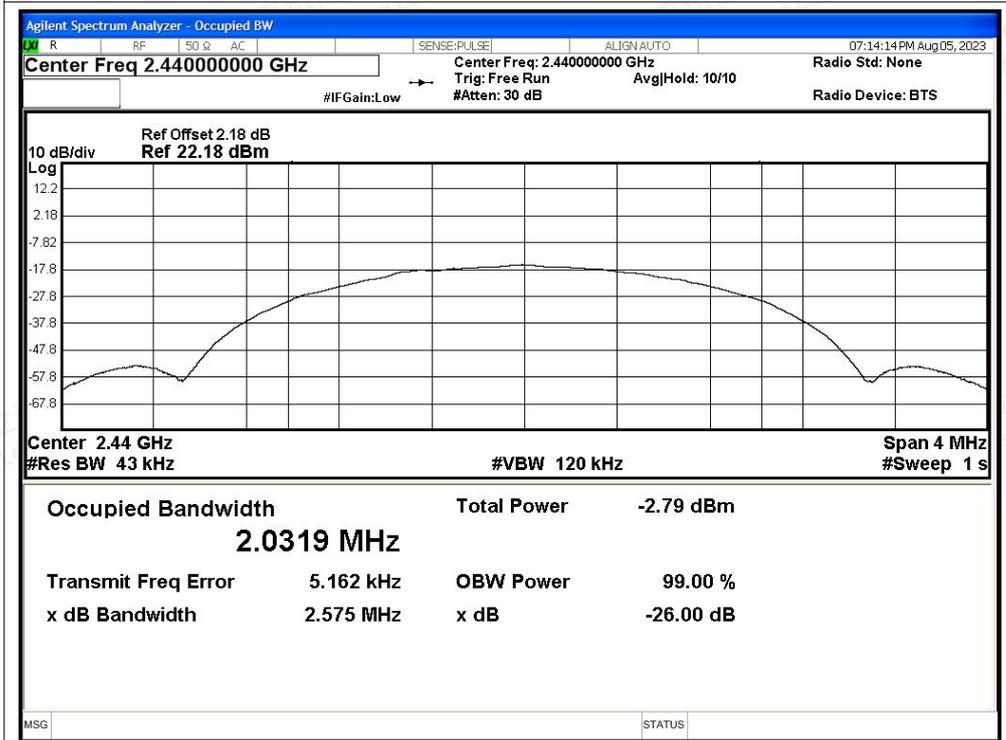


OBW NVNT BLE 2M 2402MHz Ant1

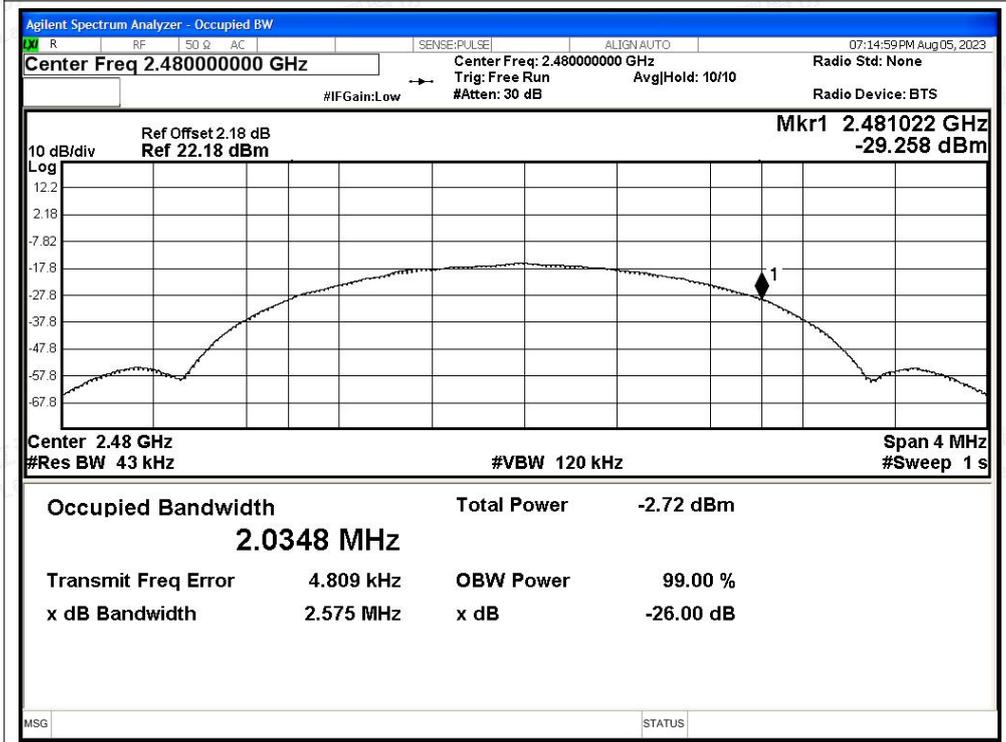




OBW NVNT BLE 2M 2440MHz Ant1



OBW NVNT BLE 2M 2480MHz Ant1





F.4 Transmitter unwanted emissions in the out-of-band domain

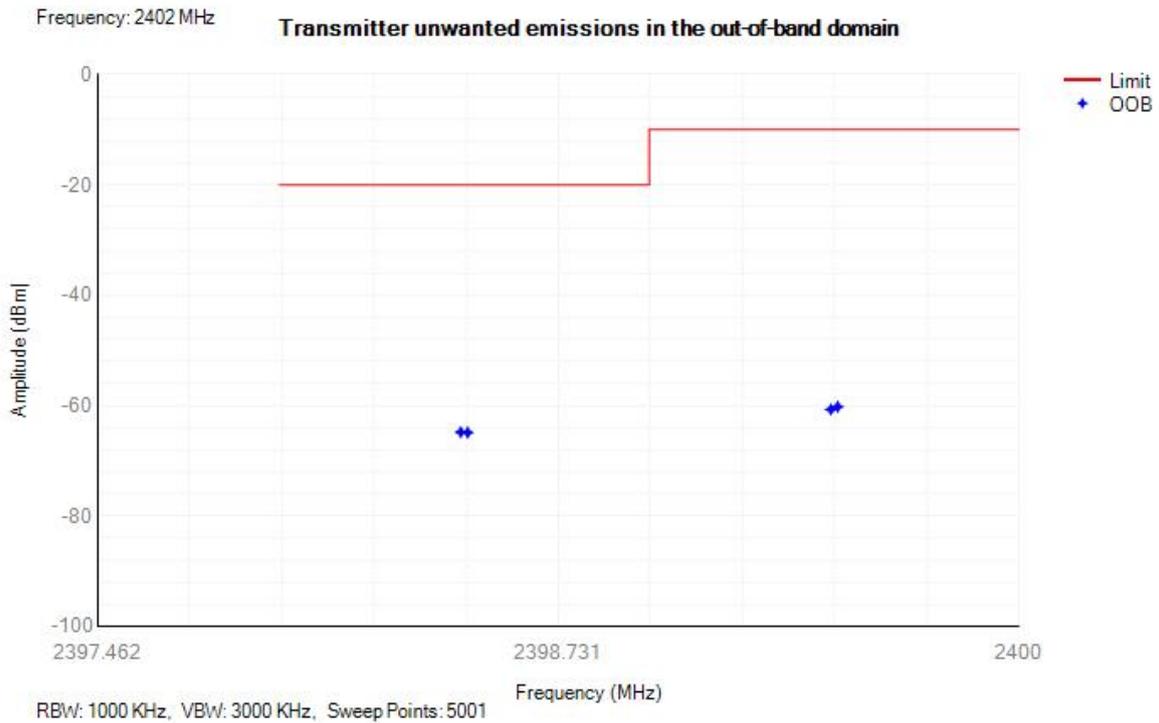
Condition	Mode	Frequency (MHz)	Antenna	OOB Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	2399.5	-60.18	-10	Pass
NVNT	BLE 1M	2402	Ant1	2399.481	-60.68	-10	Pass
NVNT	BLE 1M	2402	Ant1	2398.481	-64.86	-20	Pass
NVNT	BLE 1M	2402	Ant1	2398.462	-64.79	-20	Pass
NVNT	BLE 1M	2480	Ant1	2484	-65.33	-10	Pass
NVNT	BLE 1M	2480	Ant1	2484.034	-66.01	-10	Pass
NVNT	BLE 1M	2480	Ant1	2485.034	-66.3	-20	Pass
NVNT	BLE 1M	2480	Ant1	2485.068	-66.35	-20	Pass
NVNT	BLE 2M	2402	Ant1	2399.5	-42.69	-10	Pass
NVNT	BLE 2M	2402	Ant1	2398.5	-65.05	-10	Pass
NVNT	BLE 2M	2402	Ant1	2398.467	-64.91	-10	Pass
NVNT	BLE 2M	2402	Ant1	2397.467	-66.29	-20	Pass
NVNT	BLE 2M	2402	Ant1	2396.467	-66.87	-20	Pass
NVNT	BLE 2M	2402	Ant1	2396.434	-65.43	-20	Pass
NVNT	BLE 2M	2480	Ant1	2484	-65.79	-10	Pass
NVNT	BLE 2M	2480	Ant1	2485	-66.26	-10	Pass
NVNT	BLE 2M	2480	Ant1	2485.035	-64.7	-10	Pass
NVNT	BLE 2M	2480	Ant1	2486.035	-66.29	-20	Pass
NVNT	BLE 2M	2480	Ant1	2487.035	-66.86	-20	Pass
NVNT	BLE 2M	2480	Ant1	2487.07	-66.92	-20	Pass



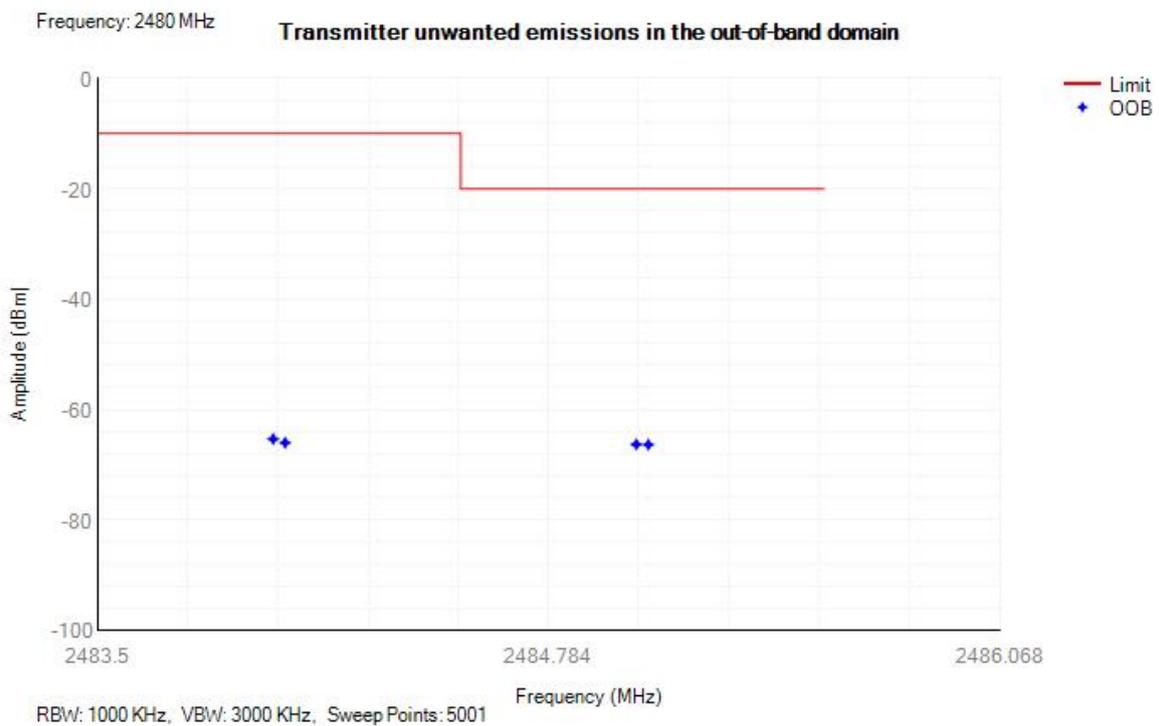


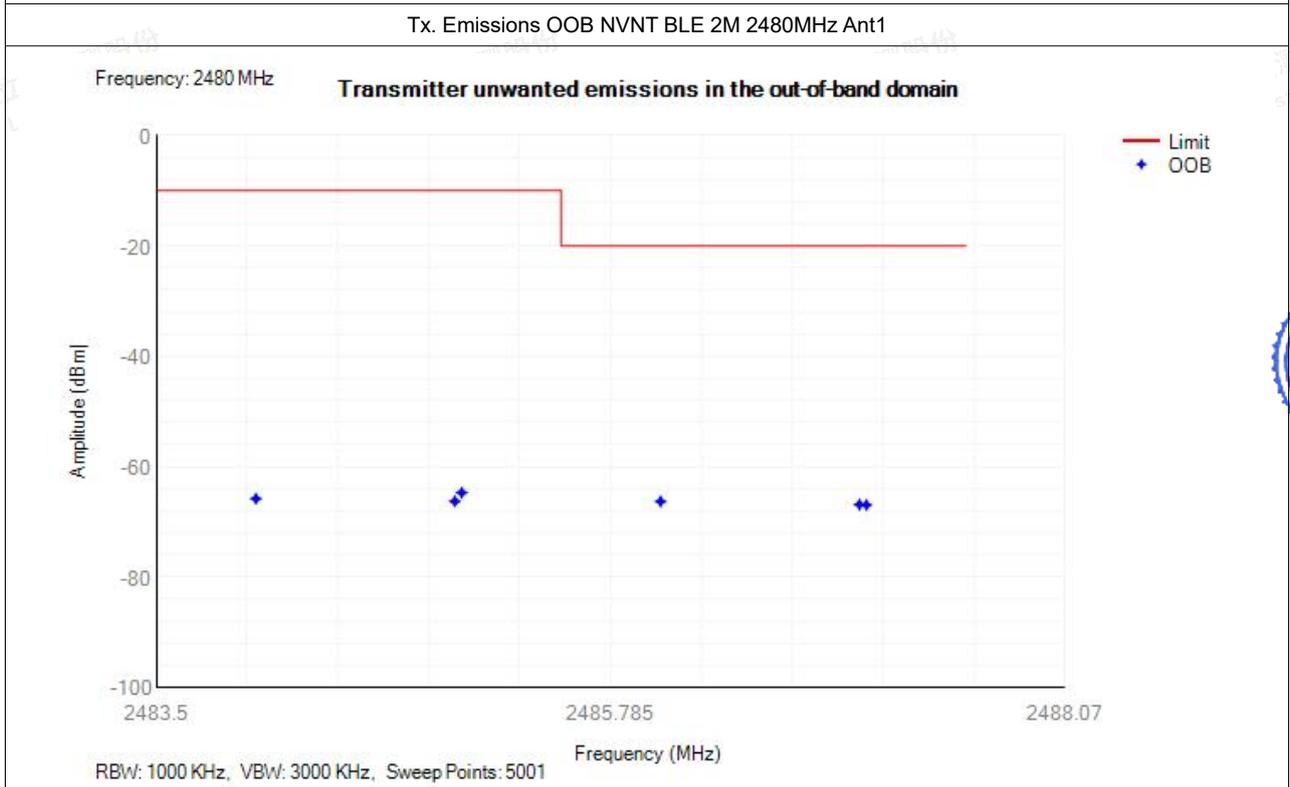
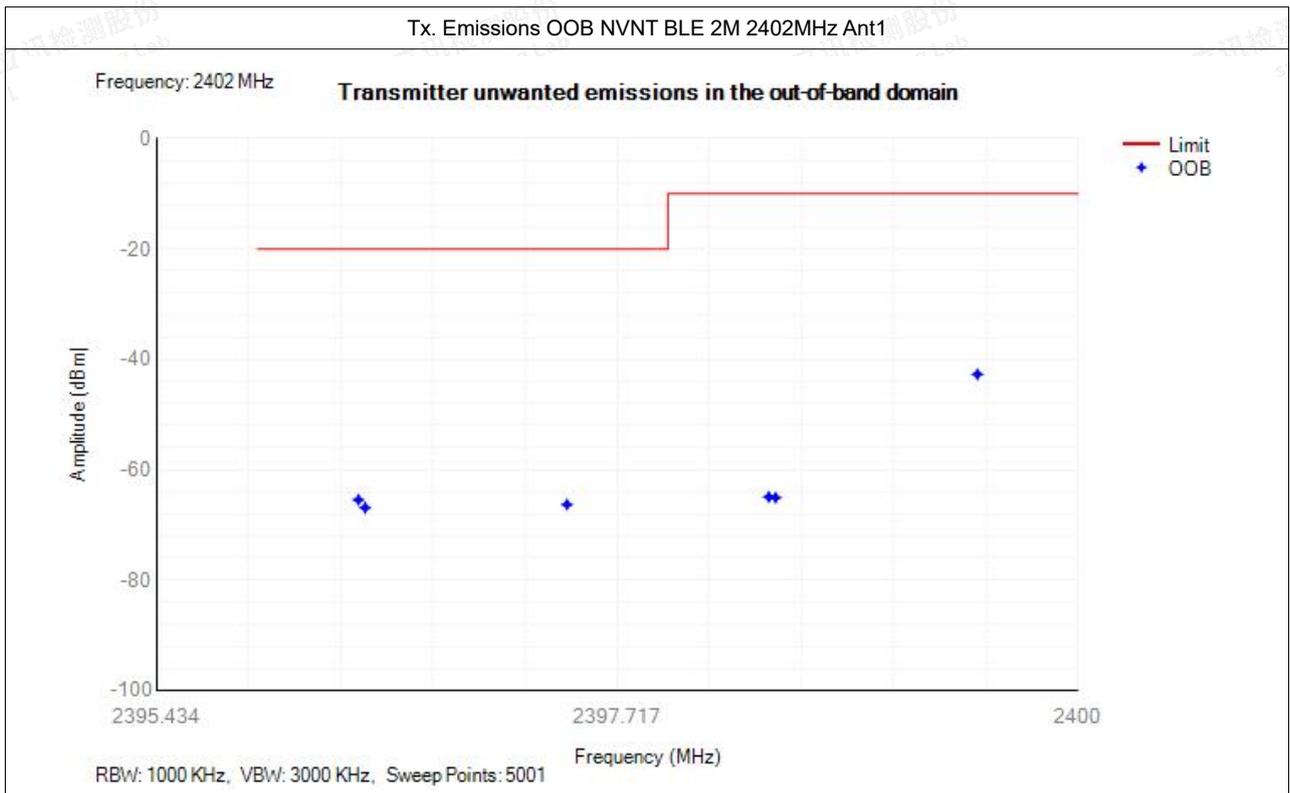
Test Graphs

Tx. Emissions OOB NVNT BLE 1M 2402MHz Ant1



Tx. Emissions OOB NVNT BLE 1M 2480MHz Ant1







F.5 Transmitter unwanted emissions in the spurious domain

Condition	Mode	Frequency (MHz)	Antenna	Range (MHz)	Spur Freq (MHz)	Peak (dBm)	RMS (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	30 -47	42.55	-74.17	NA	-36	Pass
NVNT	BLE 1M	2402	Ant1	47 -74	59.95	-73.51	NA	-54	Pass
NVNT	BLE 1M	2402	Ant1	74 -87.5	80.05	-73.49	NA	-36	Pass
NVNT	BLE 1M	2402	Ant1	87.5 -118	112.60	-72.64	NA	-54	Pass
NVNT	BLE 1M	2402	Ant1	118 -174	122.65	-72.31	NA	-36	Pass
NVNT	BLE 1M	2402	Ant1	174 -230	211.60	-72.41	NA	-54	Pass
NVNT	BLE 1M	2402	Ant1	230 -470	462.15	-70.92	NA	-36	Pass
NVNT	BLE 1M	2402	Ant1	470 -694	638.30	-70.78	NA	-54	Pass
NVNT	BLE 1M	2402	Ant1	694 -1000	823.90	-68.93	NA	-36	Pass
NVNT	BLE 1M	2402	Ant1	1000 -2398	2394.50	-53.50	NA	-30	Pass
NVNT	BLE 1M	2402	Ant1	2485.5 -12750	12716.50	-50.55	NA	-30	Pass
NVNT	BLE 1M	2480	Ant1	30 -47	41.95	-73.61	NA	-36	Pass
NVNT	BLE 1M	2480	Ant1	47 -74	67.30	-72.61	NA	-54	Pass
NVNT	BLE 1M	2480	Ant1	74 -87.5	81.25	-72.98	NA	-36	Pass
NVNT	BLE 1M	2480	Ant1	87.5 -118	88.70	-72.98	NA	-54	Pass
NVNT	BLE 1M	2480	Ant1	118 -174	161.40	-72.12	NA	-36	Pass
NVNT	BLE 1M	2480	Ant1	174 -230	215.35	-71.48	NA	-54	Pass
NVNT	BLE 1M	2480	Ant1	230 -470	404.15	-71.03	NA	-36	Pass
NVNT	BLE 1M	2480	Ant1	470 -694	494.80	-70.25	NA	-54	Pass
NVNT	BLE 1M	2480	Ant1	694 -1000	908.35	-68.88	NA	-36	Pass
NVNT	BLE 1M	2480	Ant1	1000 -2398	1897.50	-37.54	NA	-30	Pass
NVNT	BLE 1M	2480	Ant1	2485.5 -12750	12748.00	-51.09	NA	-30	Pass
NVNT	BLE 2M	2402	Ant1	30 -47	42.05	-73.13	NA	-36	Pass
NVNT	BLE 2M	2402	Ant1	47 -74	72.60	-72.83	NA	-54	Pass
NVNT	BLE 2M	2402	Ant1	74 -87.5	76.75	-71.89	NA	-36	Pass
NVNT	BLE 2M	2402	Ant1	87.5 -118	116.00	-71.94	NA	-54	Pass
NVNT	BLE 2M	2402	Ant1	118 -174	157.30	-71.38	NA	-36	Pass
NVNT	BLE 2M	2402	Ant1	174 -230	202.60	-71.52	NA	-54	Pass
NVNT	BLE 2M	2402	Ant1	230 -470	296.70	-70.07	NA	-36	Pass
NVNT	BLE 2M	2402	Ant1	470 -694	500.10	-69.05	NA	-54	Pass
NVNT	BLE 2M	2402	Ant1	694 -1000	913.45	-69.09	NA	-36	Pass
NVNT	BLE 2M	2402	Ant1	1000 -2396	1904.00	-38.94	NA	-30	Pass
NVNT	BLE 2M	2402	Ant1	2487.5 -12750	12661.50	-51.13	NA	-30	Pass
NVNT	BLE 2M	2480	Ant1	30 -47	42.95	-73.18	NA	-36	Pass
NVNT	BLE 2M	2480	Ant1	47 -74	71.75	-72.12	NA	-54	Pass
NVNT	BLE 2M	2480	Ant1	74 -87.5	87.30	-72.90	NA	-36	Pass
NVNT	BLE 2M	2480	Ant1	87.5 -118	114.70	-71.85	NA	-54	Pass
NVNT	BLE 2M	2480	Ant1	118 -174	153.85	-72.14	NA	-36	Pass



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NVNT	BLE 2M	2480	Ant1	174 -230	196.00	-71.46	NA	-54	Pass
NVNT	BLE 2M	2480	Ant1	230 -470	445.10	-69.45	NA	-36	Pass
NVNT	BLE 2M	2480	Ant1	470 -694	521.95	-70.11	NA	-54	Pass
NVNT	BLE 2M	2480	Ant1	694 -1000	934.00	-68.76	NA	-36	Pass
NVNT	BLE 2M	2480	Ant1	1000 -2396	1903.50	-35.58	-69.71	-30	Pass
NVNT	BLE 2M	2480	Ant1	2487.5 -12750	2489.00	-46.33	NA	-30	Pass

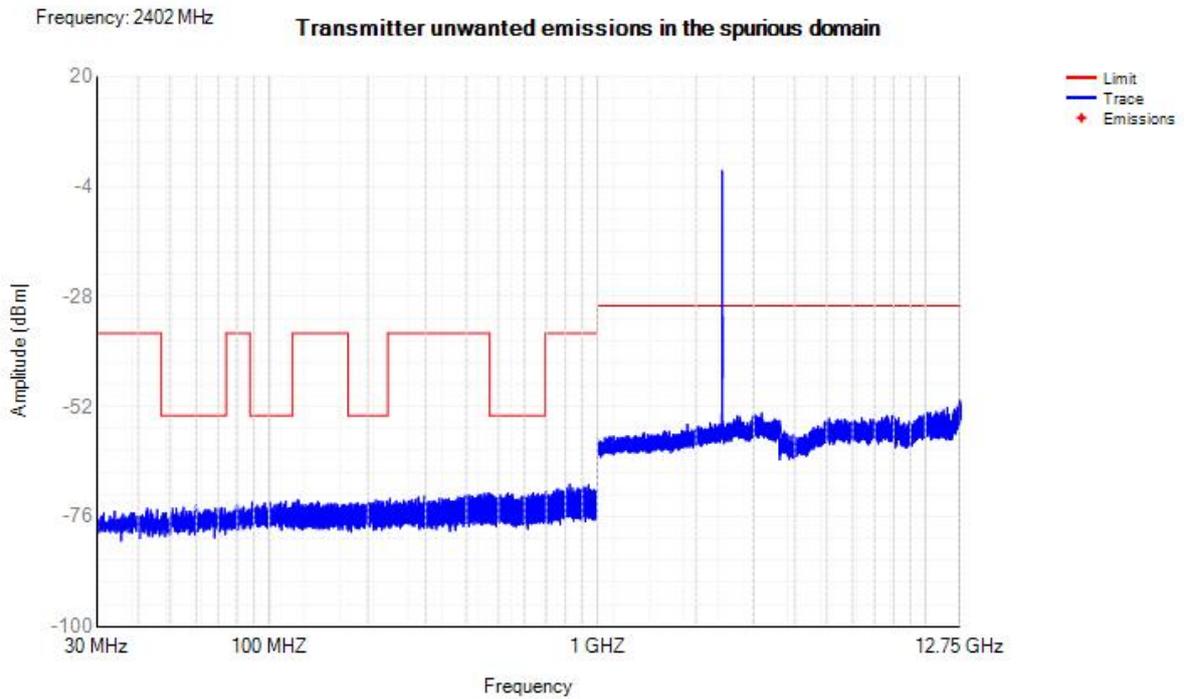


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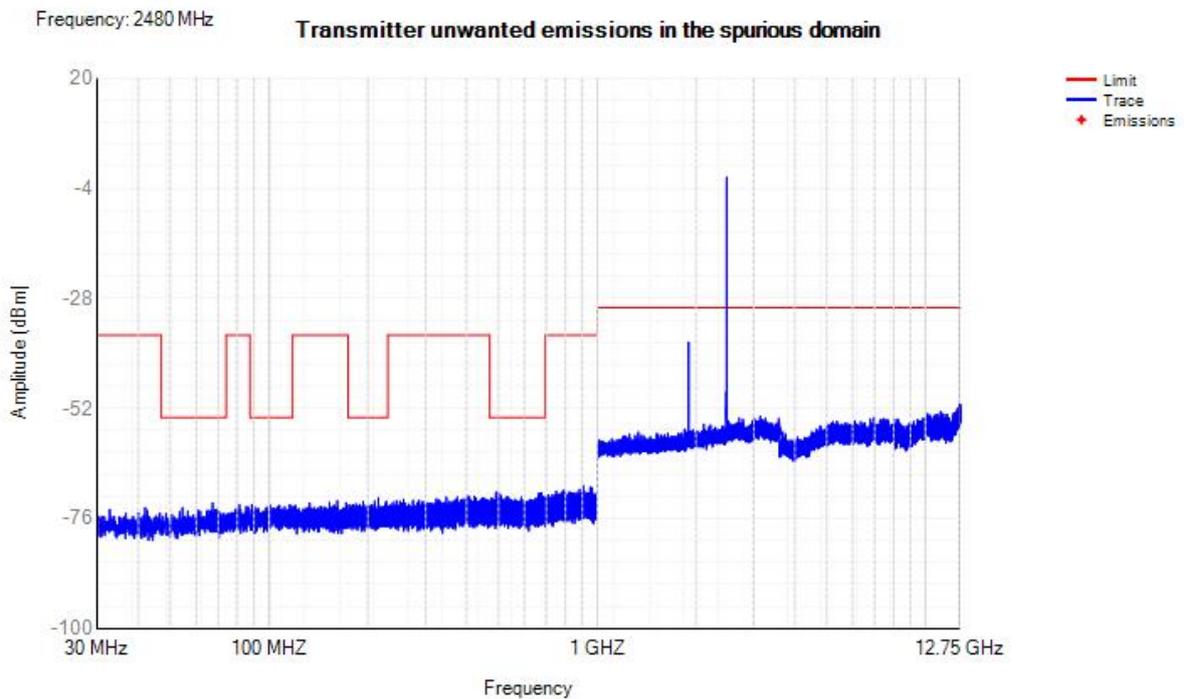


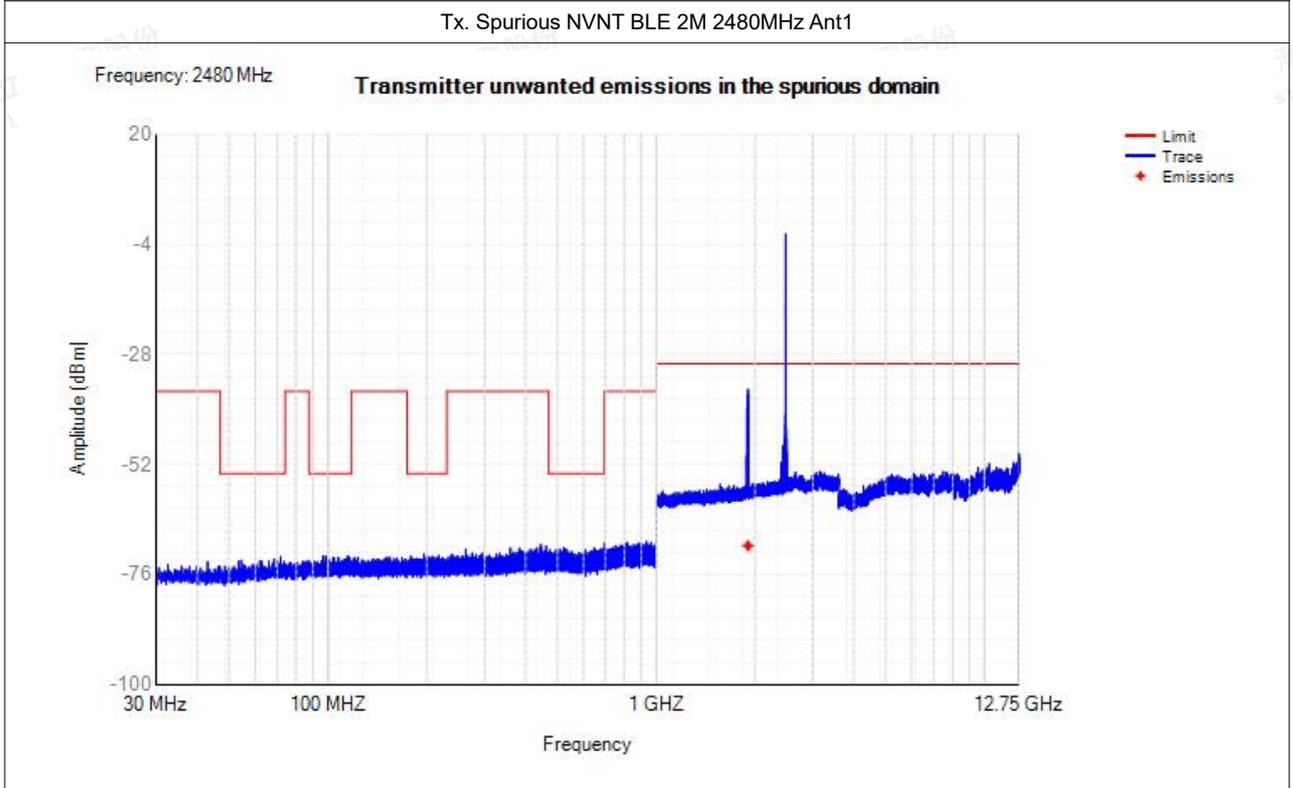
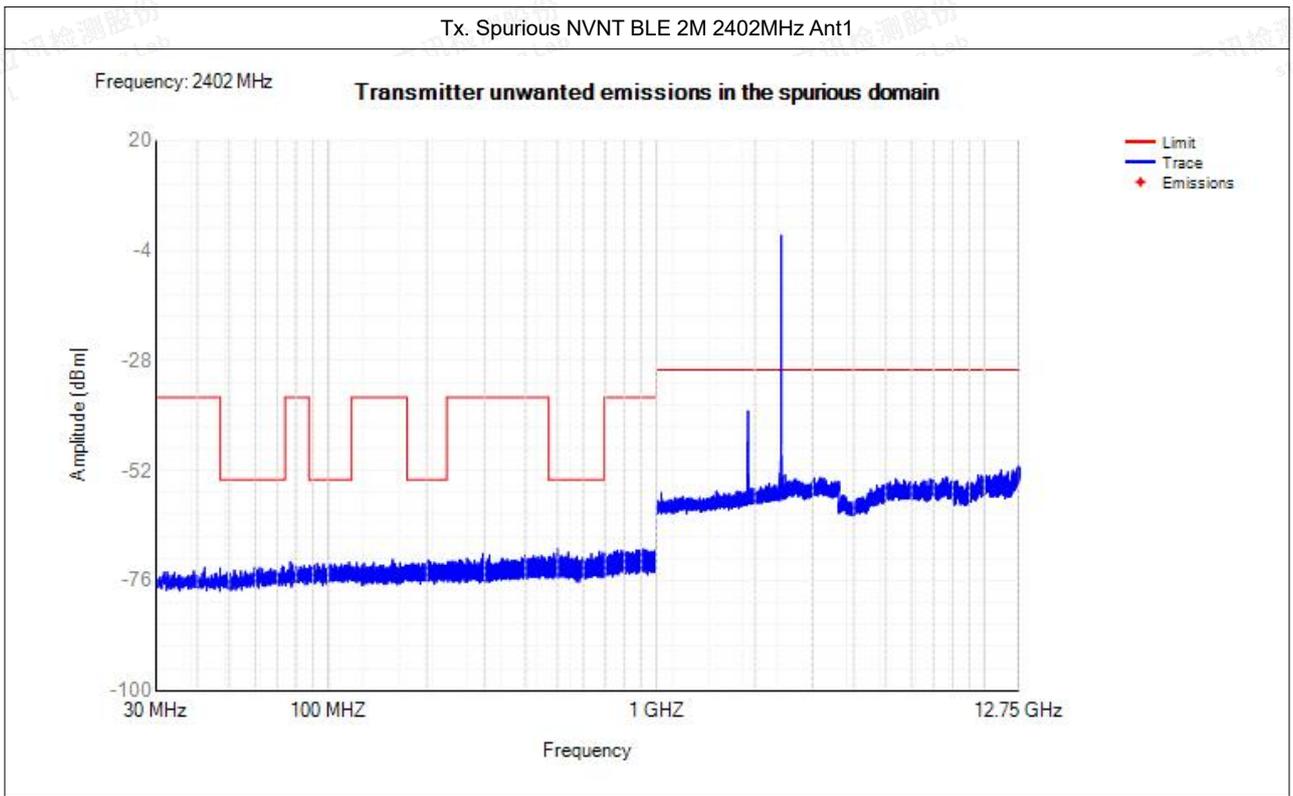
Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1



Tx. Spurious NVNT BLE 1M 2480MHz Ant1







F.6 Receiver spurious emissions

Condition	Mode	Frequency (MHz)	Antenna	Range (MHz)	Spur Freq (MHz)	Peak (dBm)	RMS (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	30 -1000	649.7	-79.98	NA	-57	Pass
NVNT	BLE 1M	2402	Ant1	1000 -12750	12442	-62.05	NA	-47	Pass
NVNT	BLE 1M	2480	Ant1	30 -1000	985.3	-78.48	NA	-57	Pass
NVNT	BLE 1M	2480	Ant1	1000 -12750	12449	-62.20	NA	-47	Pass
NVNT	BLE 2M	2402	Ant1	30 -1000	817.15	-83.29	NA	-57	Pass
NVNT	BLE 2M	2402	Ant1	1000 -12750	12741	-61.94	NA	-47	Pass
NVNT	BLE 2M	2480	Ant1	30 -1000	909.7	-79.40	NA	-57	Pass
NVNT	BLE 2M	2480	Ant1	1000 -12750	12718.5	-62.00	NA	-47	Pass

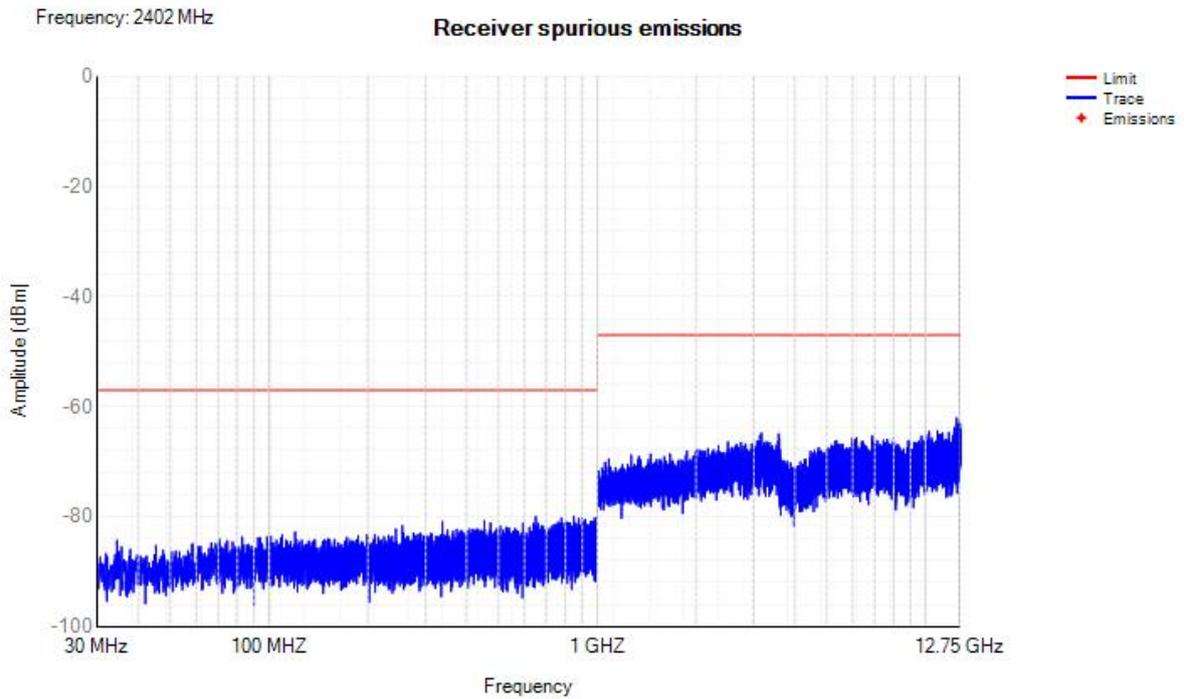


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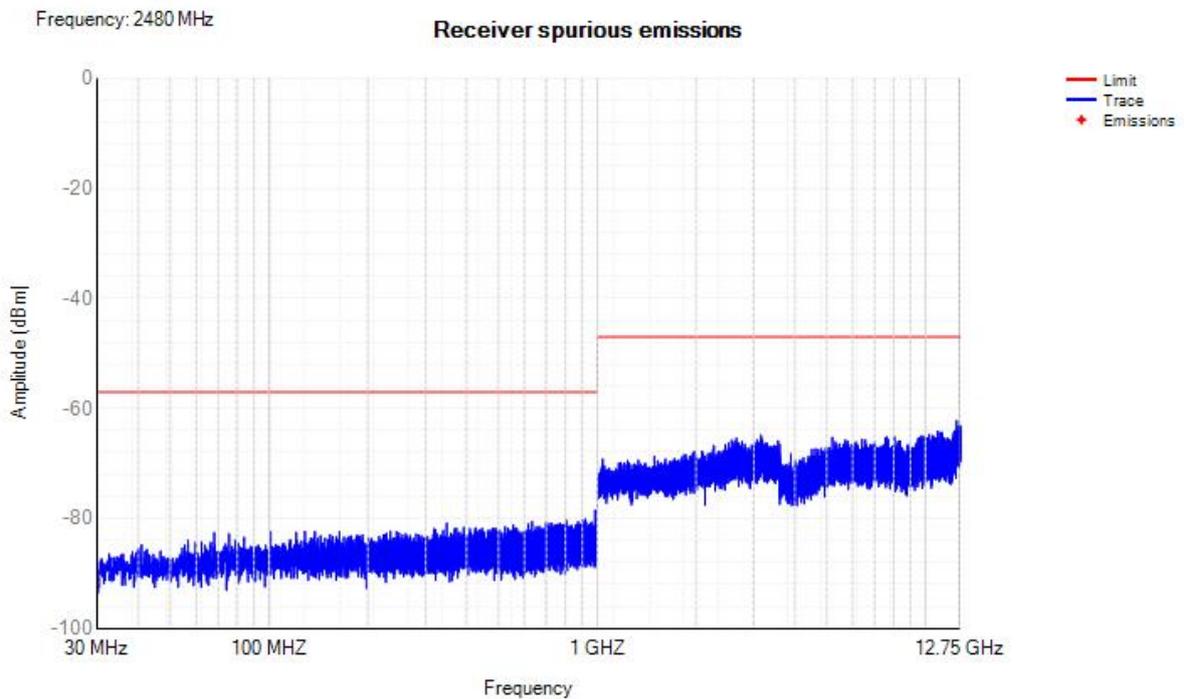


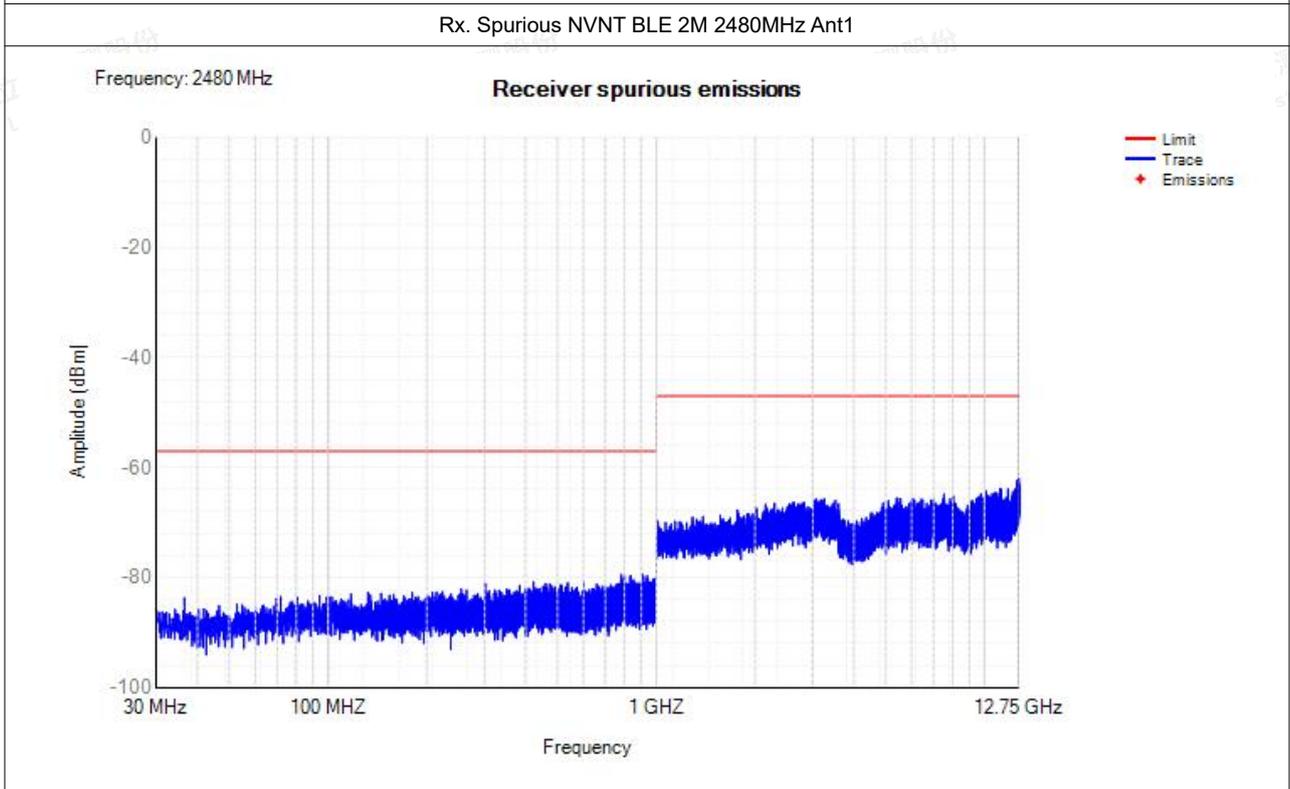
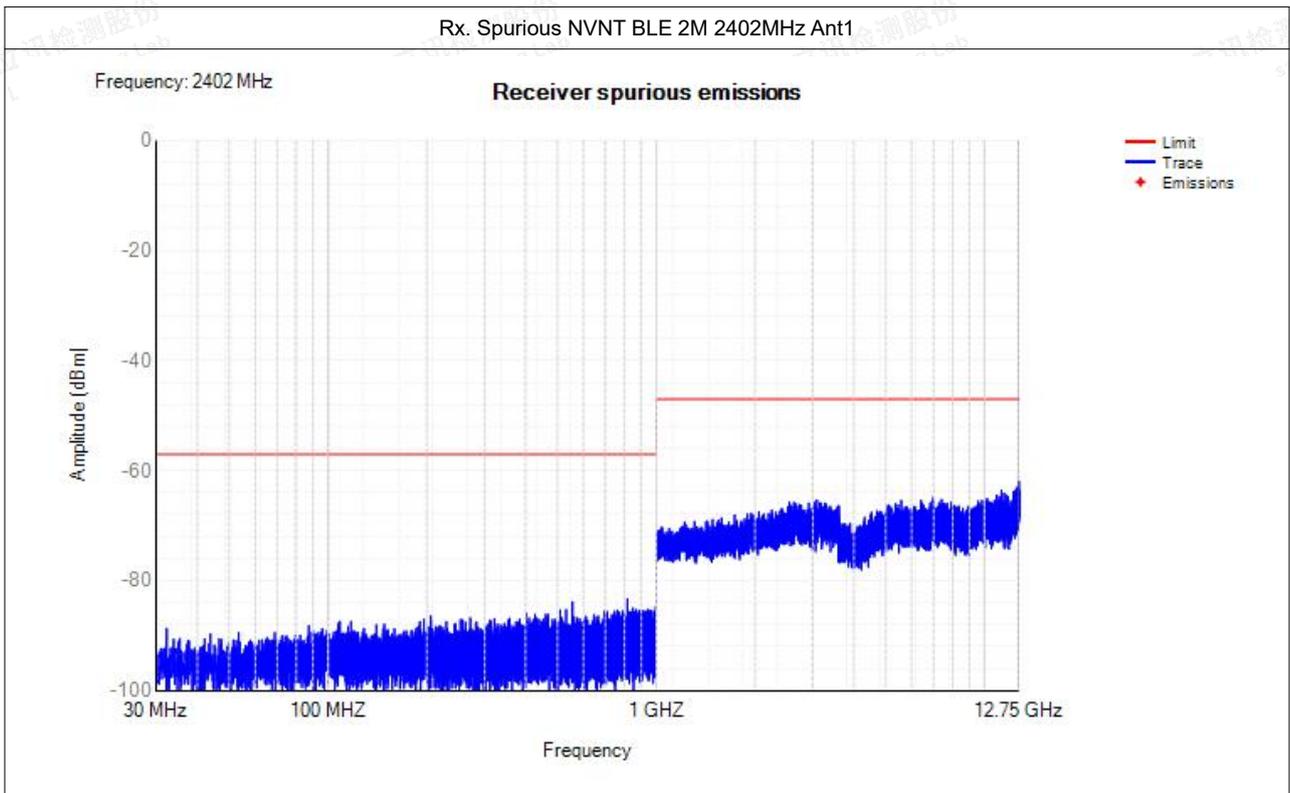
Test Graphs

Rx. Spurious NVNT BLE 1M 2402MHz Ant1



Rx. Spurious NVNT BLE 1M 2480MHz Ant1







F.7 Receiver Blocking

Test Mode	Test Channel (MHz)	Wanted Signal Mean Power from Companion Device (dBm)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm)		Type of Blocking Signal	PER(%)		Test Result
				Test Value	Limit		Test Value	Limit	
BLE 1M	2402	-59	2380	-27	≥-34	CW	3.17	10	Pass
			2504	-22	≥-34	CW	1.29	10	Pass
			2300	-26	≥-34	CW	1.52	10	Pass
			2584	-24	≥-34	CW	1.08	10	Pass
	2480	-59	2380	-30	≥-34	CW	4.04	10	Pass
			2504	-26	≥-34	CW	2.03	10	Pass
			2300	-27	≥-34	CW	2.77	10	Pass
			2584	-22	≥-34	CW	3.03	10	Pass
BLE 2M	2402	-59	2380	-22	≥-34	CW	2.60	10	Pass
			2504	-22	≥-34	CW	4.44	10	Pass
			2300	-29	≥-34	CW	1.98	10	Pass
			2584	-27	≥-34	CW	3.64	10	Pass
	2480	-59	2380	-23	≥-34	CW	5.08	10	Pass
			2504	-27	≥-34	CW	2.42	10	Pass
			2300	-25	≥-34	CW	1.95	10	Pass
			2584	-19	≥-34	CW	1.74	10	Pass



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