



Appendix E for BT LE Test Data

Product Name: Inventory control beacon tag

Test Model: BIN001-1

Environmental Conditions

Temperature:	22.4° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
Supervised by:	Nick Peng





E.1 RF Output Power

Condition	Mode	Frequency (MHz)	Max EIRP (dBm)	Limit (dBm)	Verdict
NVNT	BLE1M	2402	0.67	20	Pass
NVNT	BLE1M	2440	0.81	20	Pass
NVNT	BLE1M	2480	-0.08	20	Pass
NVNT	BLE2M	2402	0.54	20	Pass
NVNT	BLE2M	2440	0.68	20	Pass
NVNT	BLE2M	2480	-0.16	20	Pass

Condition	Mode	Frequency (MHz)	Max EIRP (dBm)	Limit (dBm)	Verdict
NVLT	BLE1M	2402	0.50	20	Pass
NVLT	BLE1M	2440	0.76	20	Pass
NVLT	BLE1M	2480	-0.12	20	Pass
NVLT	BLE2M	2402	0.32	20	Pass
NVLT	BLE2M	2440	0.45	20	Pass
NVLT	BLE2M	2480	-0.28	20	Pass

Condition	Mode	Frequency (MHz)	Max EIRP (dBm)	Limit (dBm)	Verdict
NVHT	BLE1M	2402	0.35	20	Pass
NVHT	BLE1M	2440	0.64	20	Pass
NVHT	BLE1M	2480	-0.30	20	Pass
NVHT	BLE2M	2402	0.22	20	Pass
NVHT	BLE2M	2440	0.30	20	Pass
NVHT	BLE2M	2480	-0.43	20	Pass

Note: 20 bursts had been captured for power measurement.

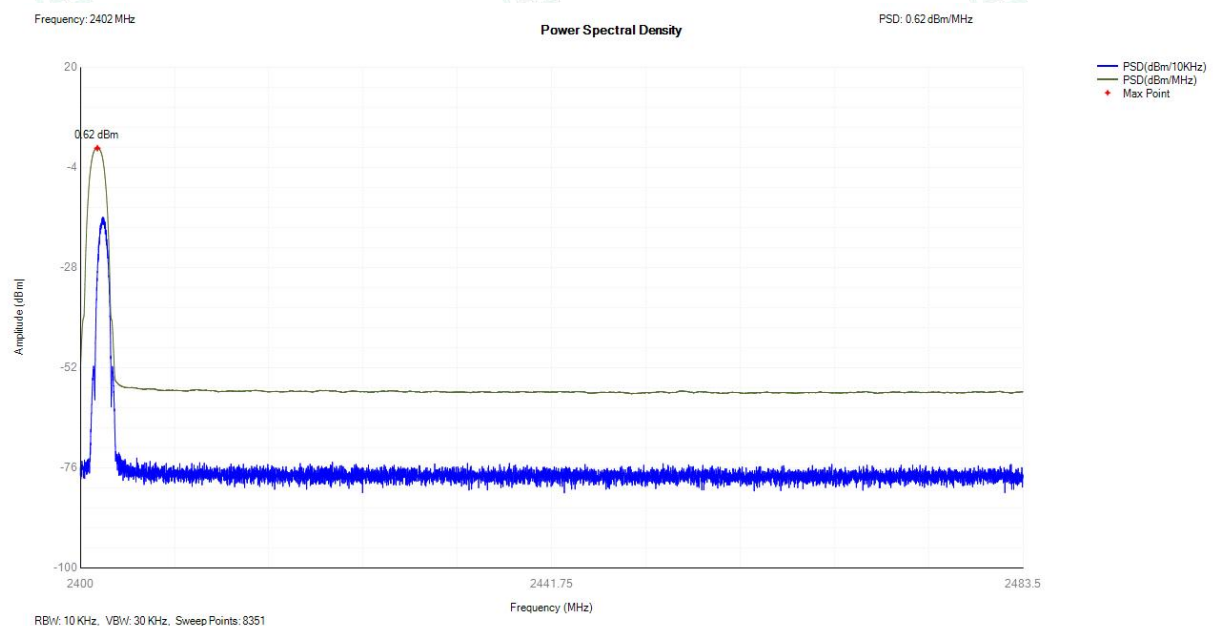




E.2 Power Spectral Density

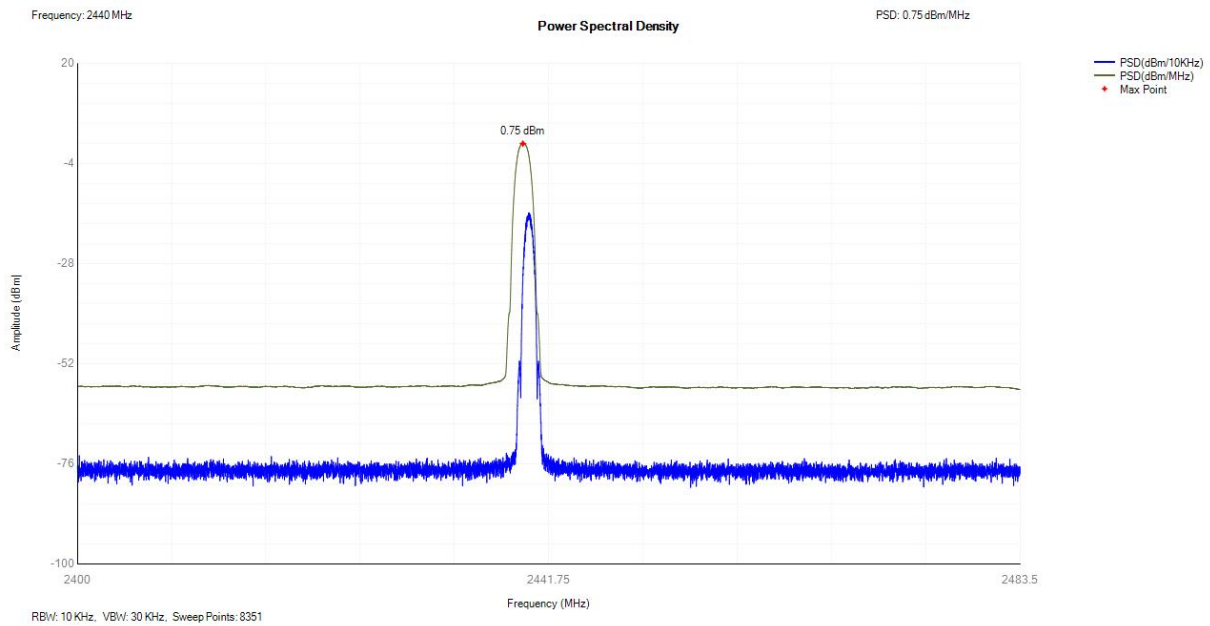
Condition	Mode	Frequency (MHz)	Max PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	BLE1M	2402	0.62	10	Pass
NVNT	BLE1M	2440	0.75	10	Pass
NVNT	BLE1M	2480	-0.13	10	Pass
NVNT	BLE2M	2402	-0.64	10	Pass
NVNT	BLE2M	2440	-0.49	10	Pass
NVNT	BLE2M	2480	-1.34	10	Pass

PSD NVNT BLE1M 2402MHz

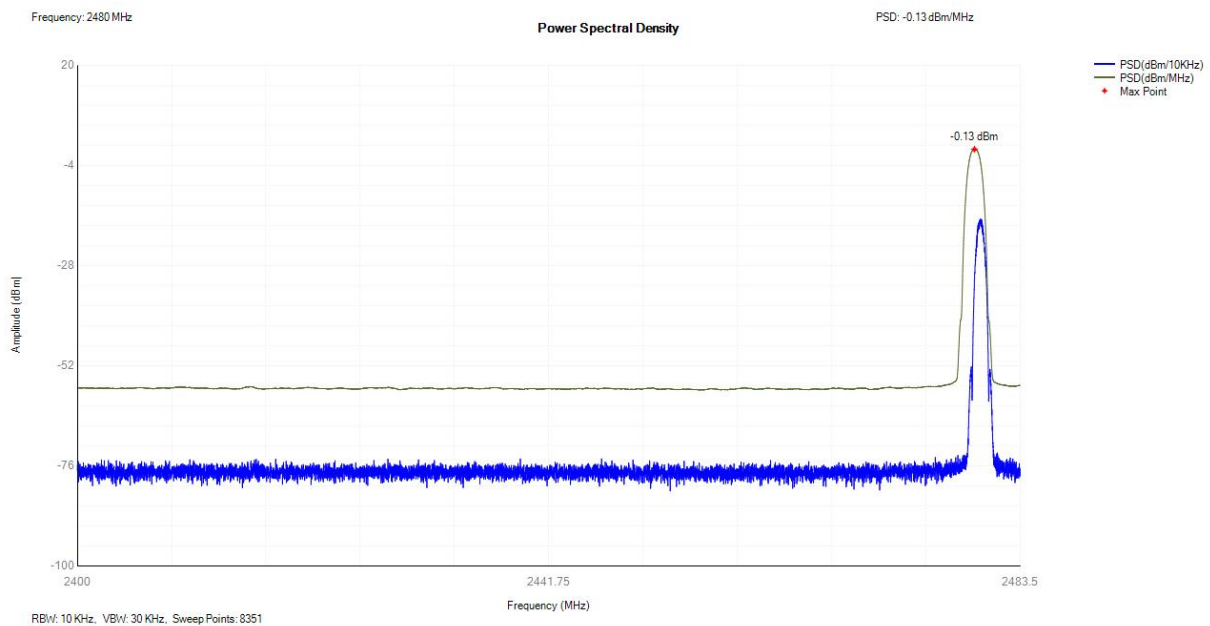




PSD NVNT BLE1M 2440MHz

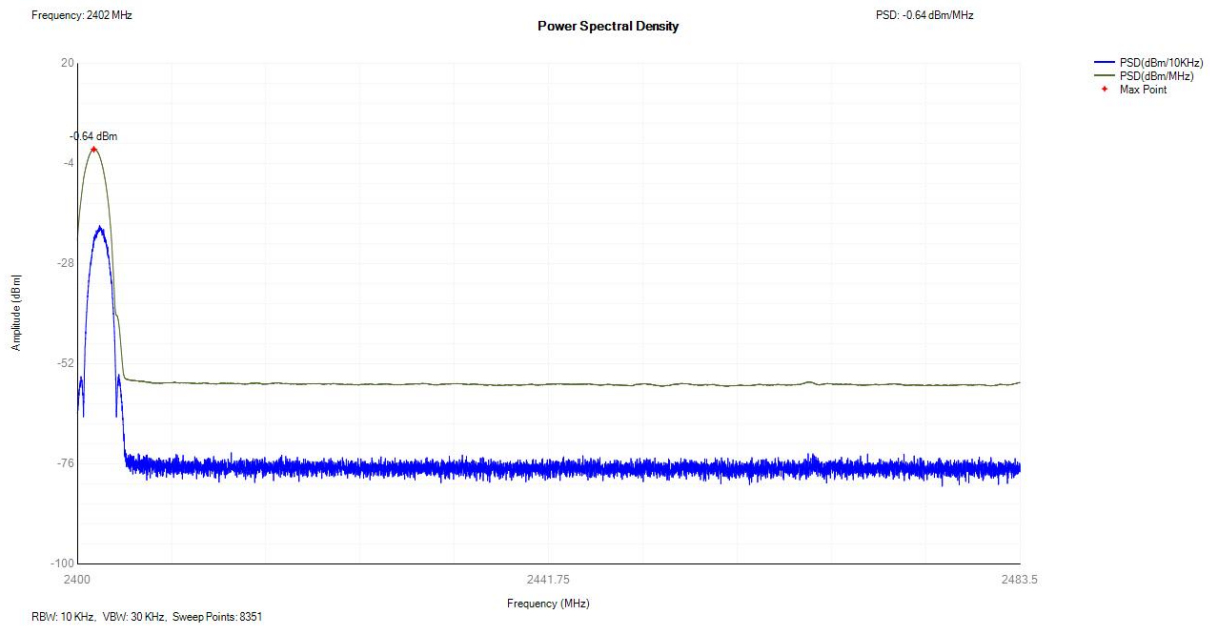


PSD NVNT BLE1M 2480MHz

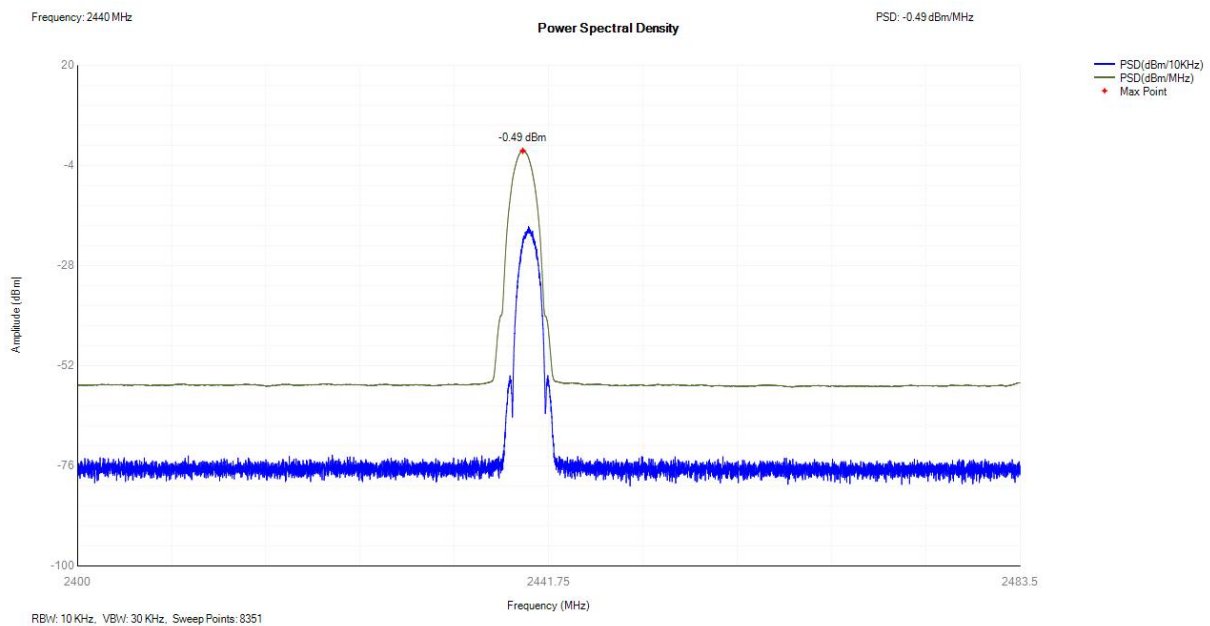




PSD NVNT BLE2M 2402MHz

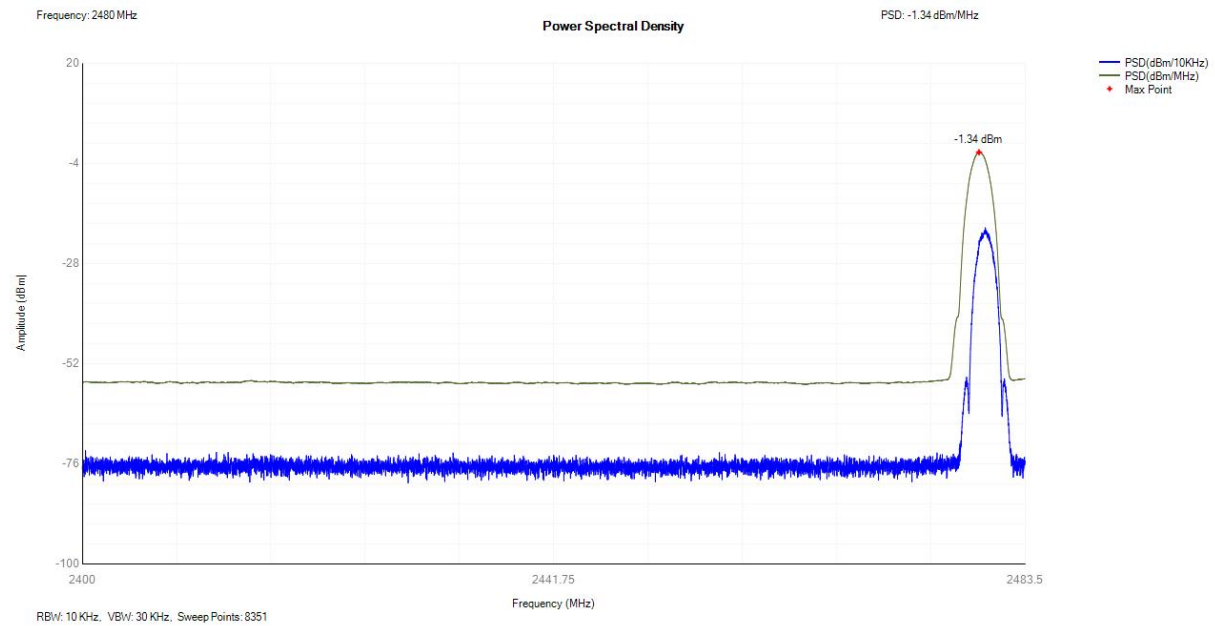


PSD NVNT BLE2M 2440MHz





PSD NVNT BLE2M 2480MHz

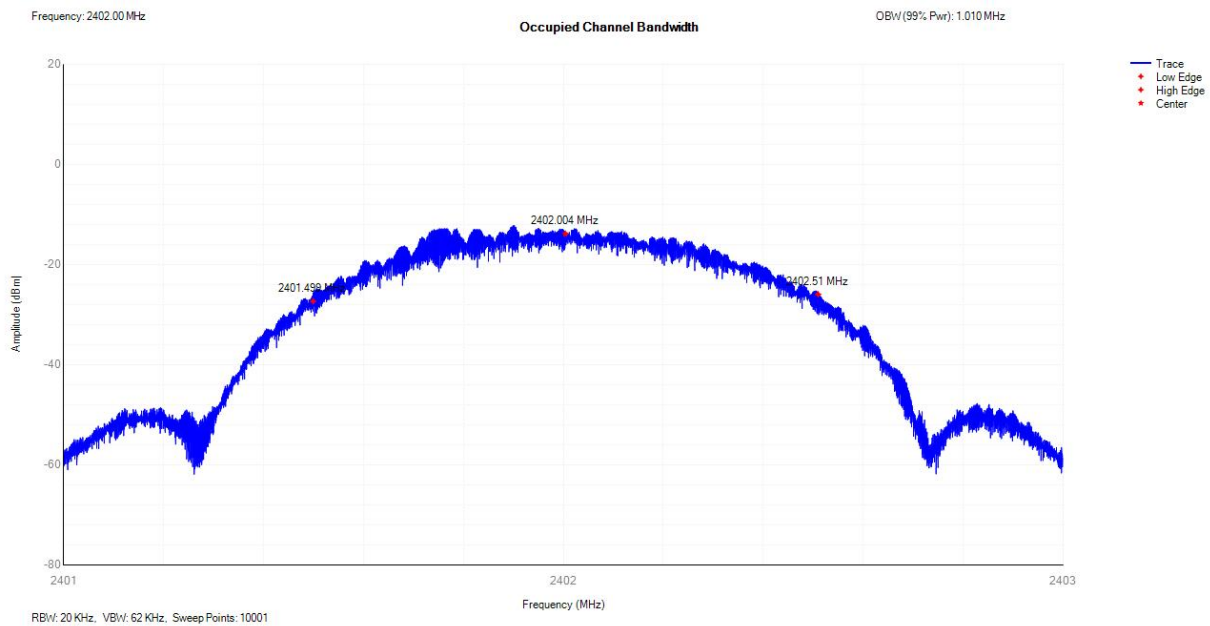




E.3 Occupied Channel Bandwidth

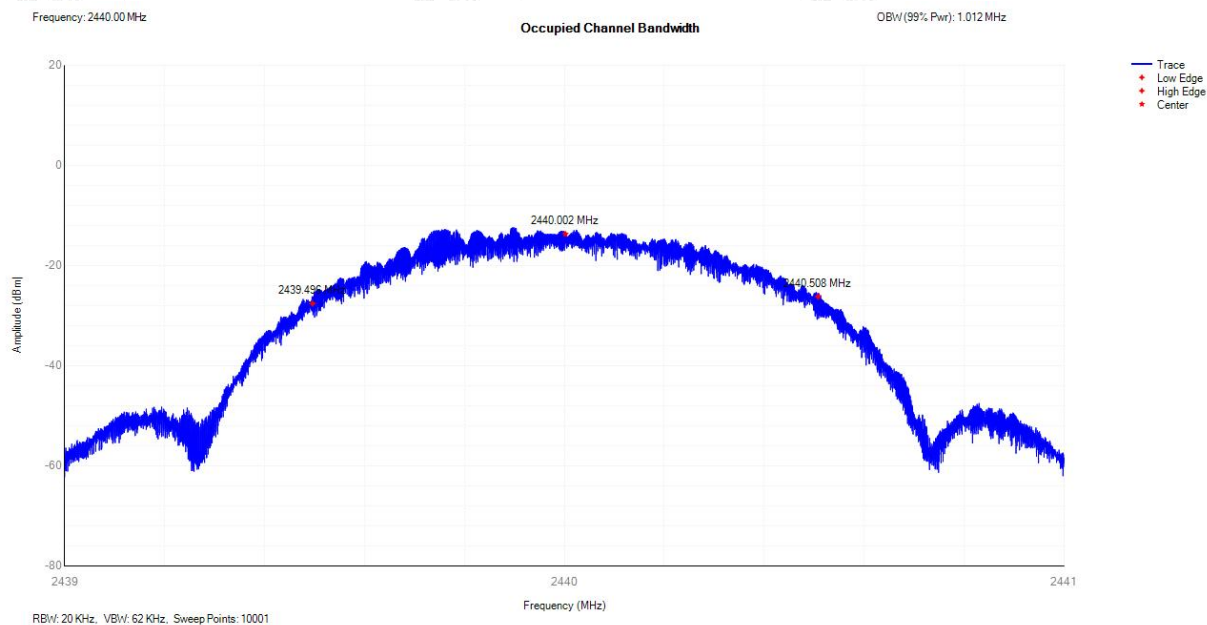
Condition	Mode	Frequency (MHz)	Center Frequency (MHz)	OBW (MHz)	Lower Edge (MHz)	Upper Edge (MHz)	Limit OBW (MHz)	Verdict
NVNT	BLE1M	2402	2402.004	1.01	2401.499	2402.51	2400 - 2483.5MHz	Pass
NVNT	BLE1M	2440	2440.002	1.012	2439.496	2440.508	2400 - 2483.5MHz	Pass
NVNT	BLE1M	2480	2480.001	1.012	2479.495	2480.508	2400 - 2483.5MHz	Pass
NVNT	BLE2M	2402	2402.006	2.028	2400.992	2403.02	2400 - 2483.5MHz	Pass
NVNT	BLE2M	2440	2440.001	2.027	2438.987	2441.014	2400 - 2483.5MHz	Pass
NVNT	BLE2M	2480	2480	2.028	2478.985	2481.014	2400 - 2483.5MHz	Pass

OBW NVNT BLE1M 2402MHz

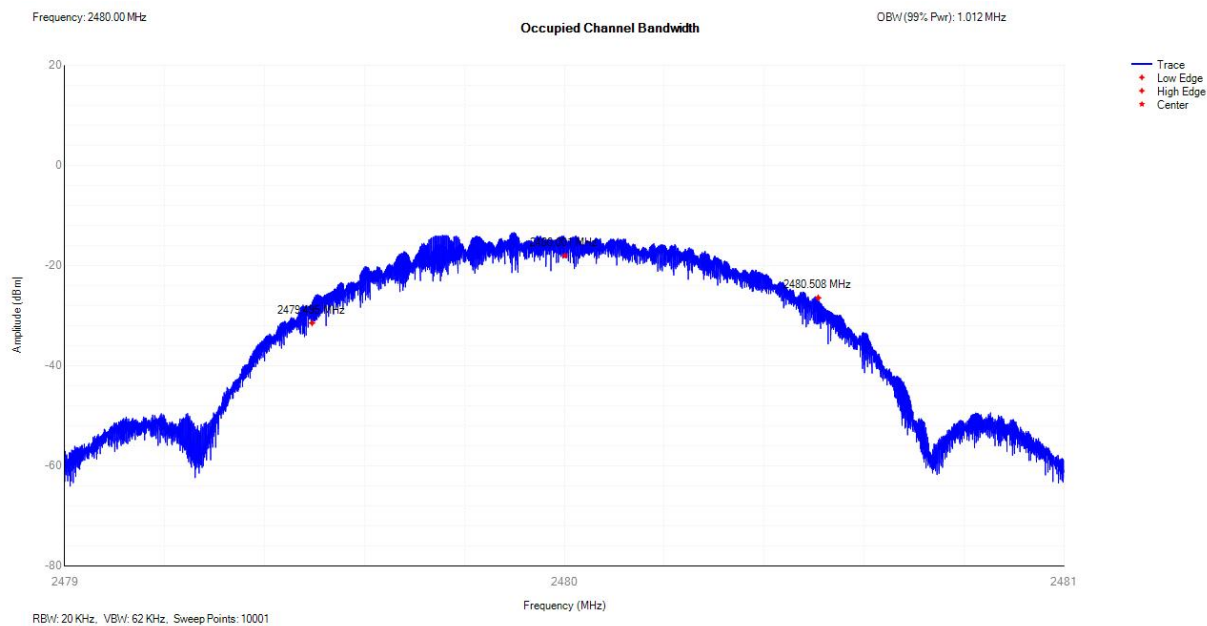




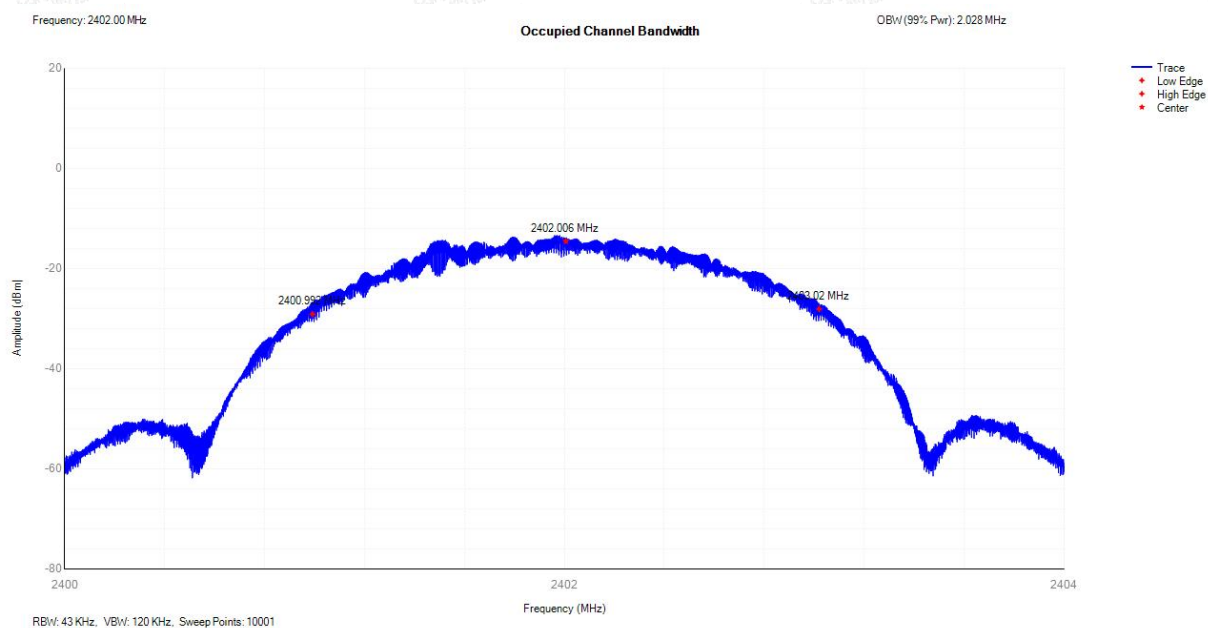
OBW NVNT BLE1M 2440MHz



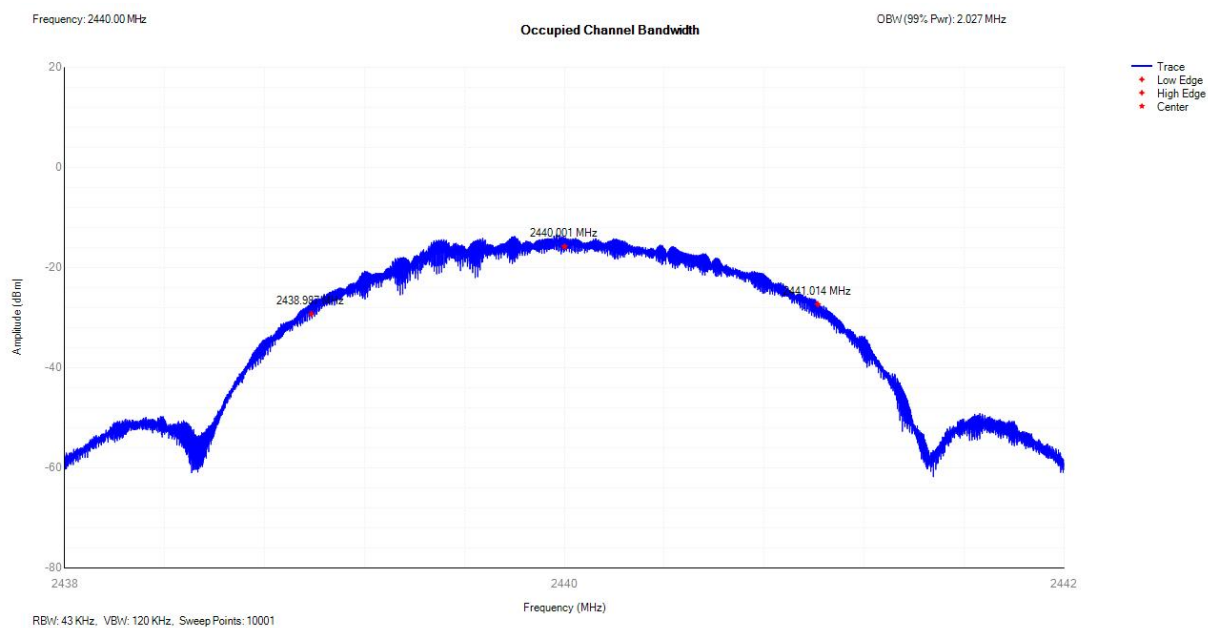
OBW NVNT BLE1M 2480MHz



OBW NVNT BLE2M 2402MHz

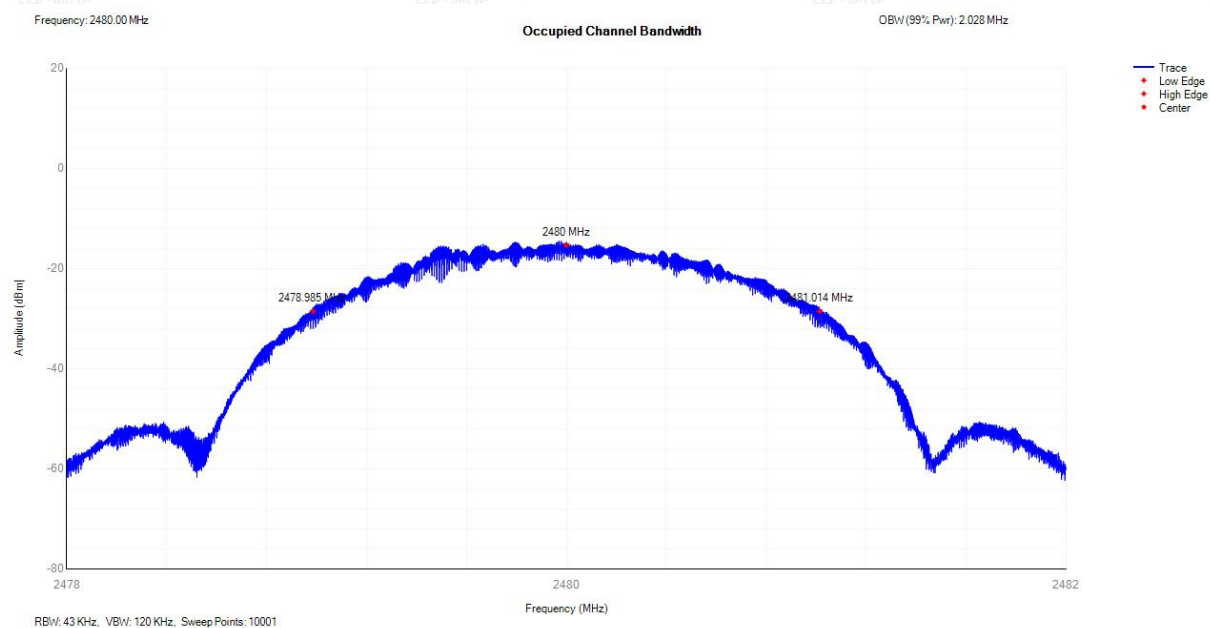


OBW NVNT BLE2M 2440MHz





OBW NVNT BLE2M 2480MHz





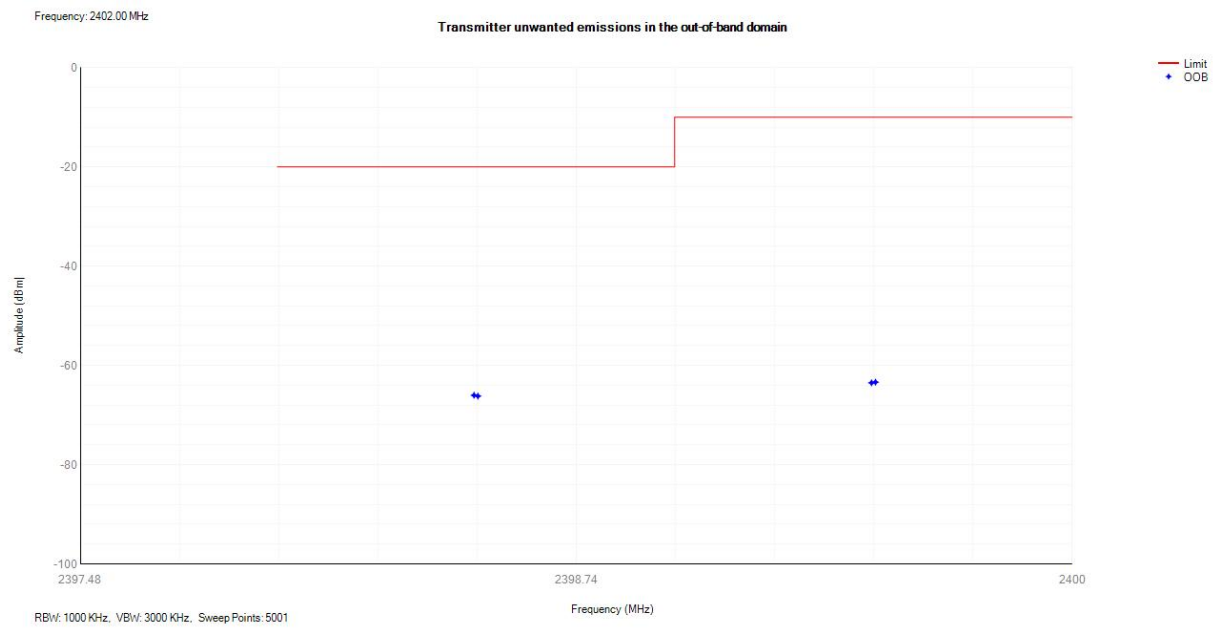
E.4 Transmitter unwanted emissions in the out-of-band domain

Condition	Mode	Frequency (MHz)	OOB Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	BLE1M	2402	2399.5	-63.37	-10	Pass
NVNT	BLE1M	2402	2399.49	-63.5	-10	Pass
NVNT	BLE1M	2402	2398.49	-66.18	-20	Pass
NVNT	BLE1M	2402	2398.48	-66.01	-20	Pass
NVNT	BLE1M	2480	2484	-67.34	-10	Pass
NVNT	BLE1M	2480	2484.012	-67.58	-10	Pass
NVNT	BLE1M	2480	2485.012	-69.14	-20	Pass
NVNT	BLE1M	2480	2485.024	-69.13	-20	Pass
NVNT	BLE2M	2402	2399.5	-45.26	-10	Pass
NVNT	BLE2M	2402	2398.5	-67.29	-10	Pass
NVNT	BLE2M	2402	2398.472	-67.5	-10	Pass
NVNT	BLE2M	2402	2397.472	-69.73	-20	Pass
NVNT	BLE2M	2402	2396.472	-70.84	-20	Pass
NVNT	BLE2M	2402	2396.444	-71.03	-20	Pass
NVNT	BLE2M	2480	2484	-68.16	-10	Pass
NVNT	BLE2M	2480	2485	-68.96	-10	Pass
NVNT	BLE2M	2480	2485.028	-68.85	-10	Pass
NVNT	BLE2M	2480	2486.028	-69.42	-20	Pass
NVNT	BLE2M	2480	2487.028	-70.51	-20	Pass
NVNT	BLE2M	2480	2487.056	-70.76	-20	Pass

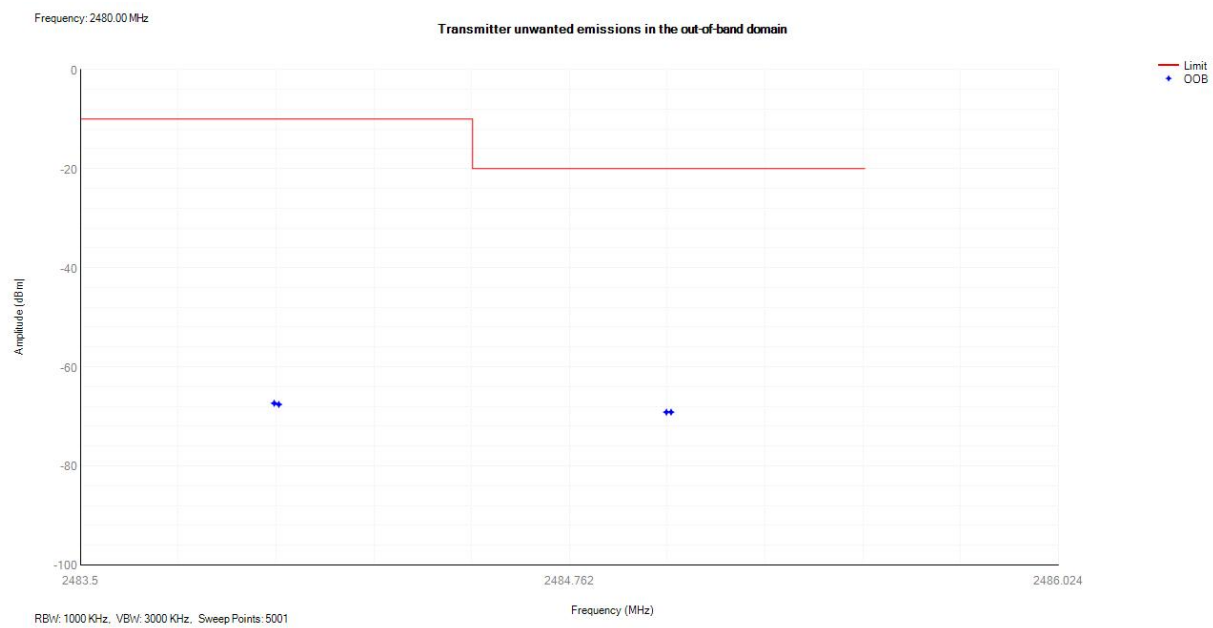




Tx. Emissions OOB NVNT BLE1M 2402MHz

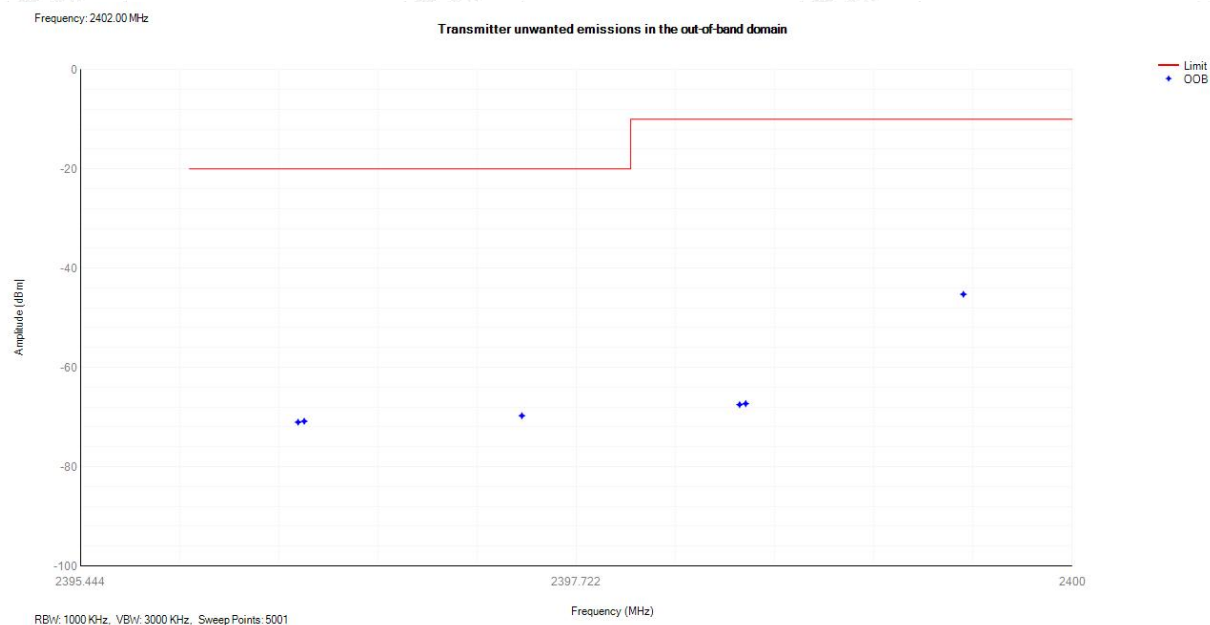


Tx. Emissions OOB NVNT BLE1M 2480MHz

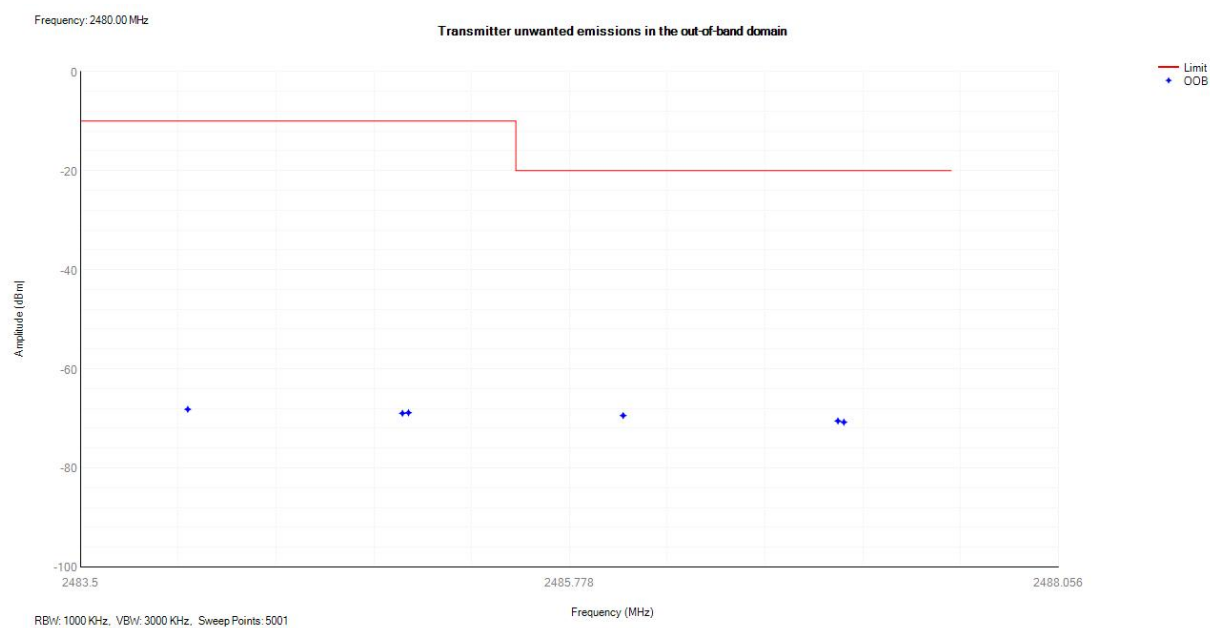




Tx. Emissions OOB NVNT BLE2M 2402MHz



Tx. Emissions OOB NVNT BLE2M 2480MHz

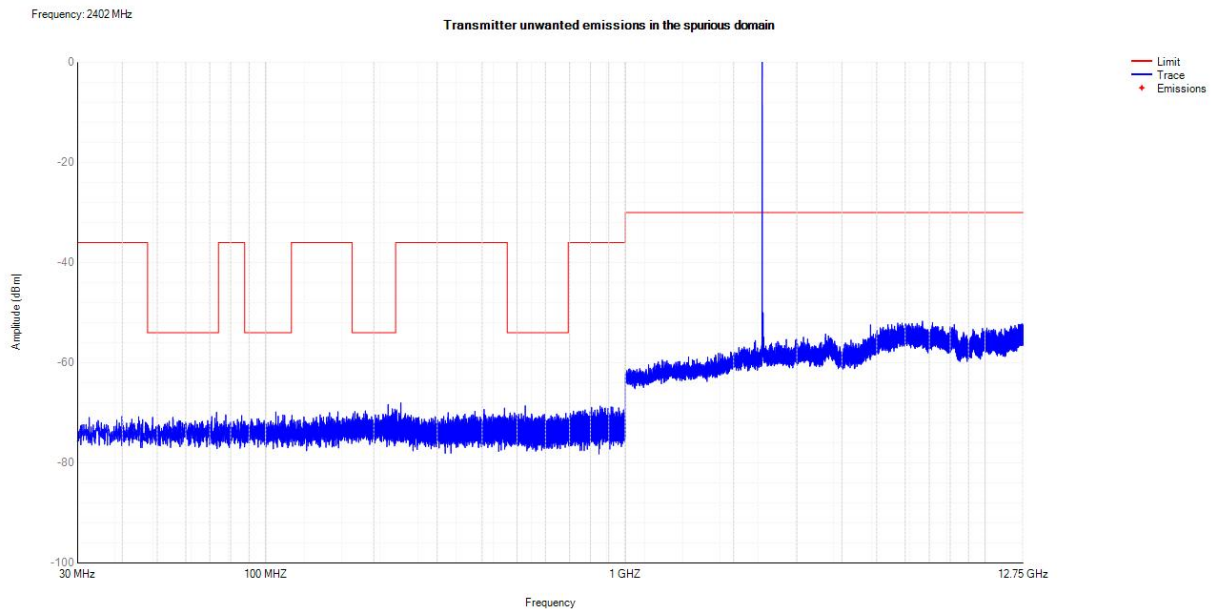




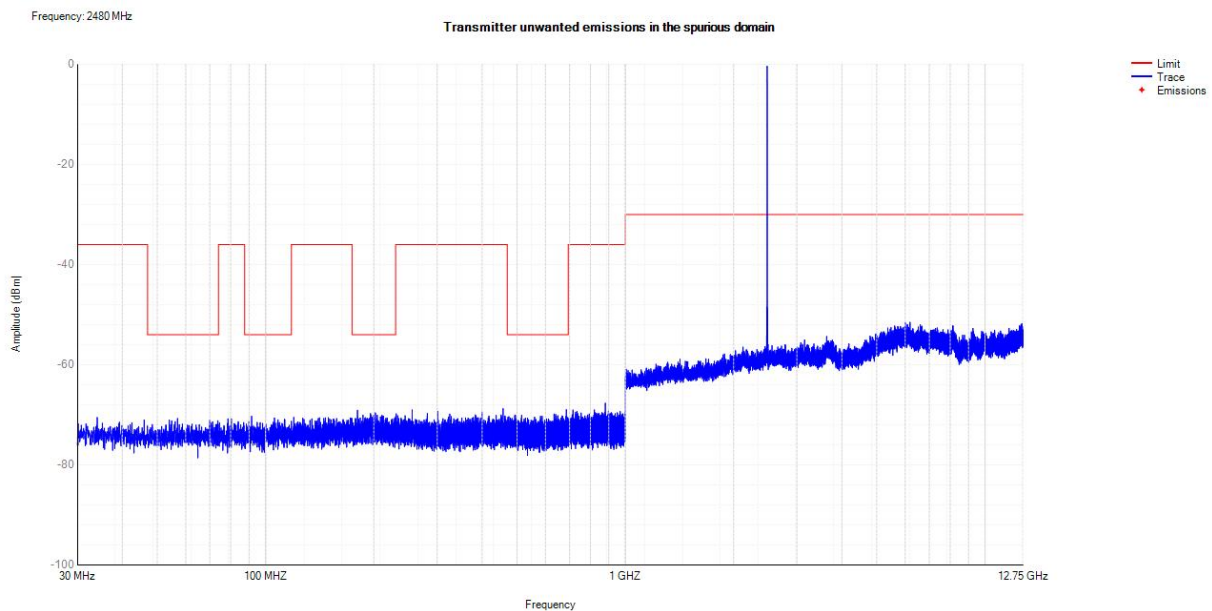
E.5 Transmitter unwanted emissions in the spurious domain

Condition	Mode	Frequency (MHz)	Range	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
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Tx. Spurious NVNT BLE1M 2402MHz

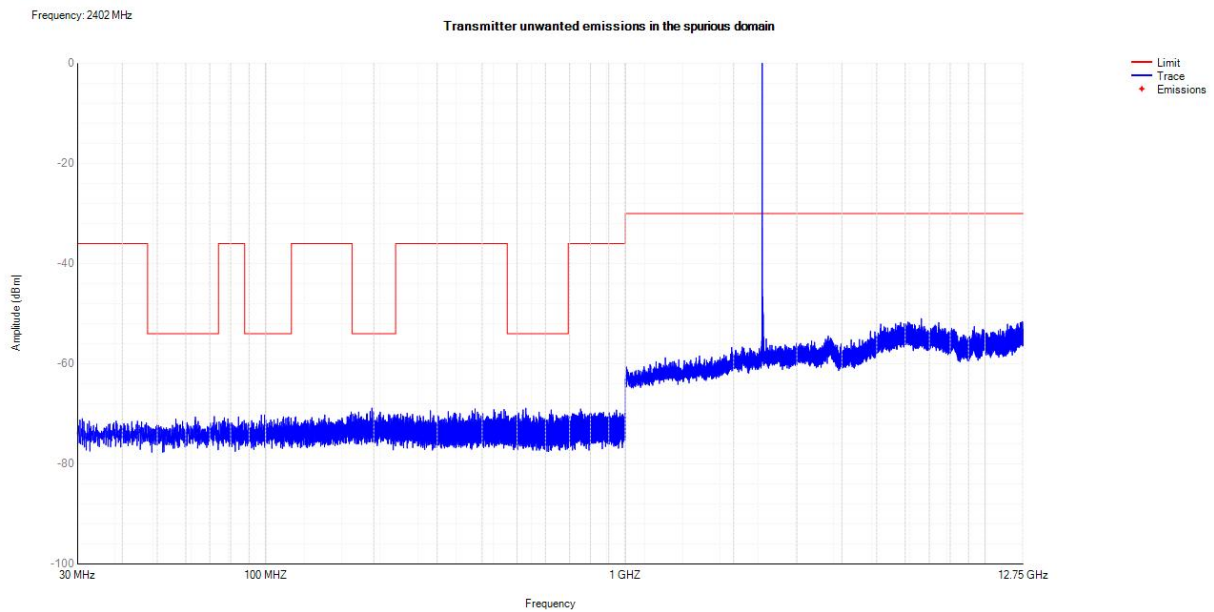


Tx. Spurious NVNT BLE1M 2480MHz

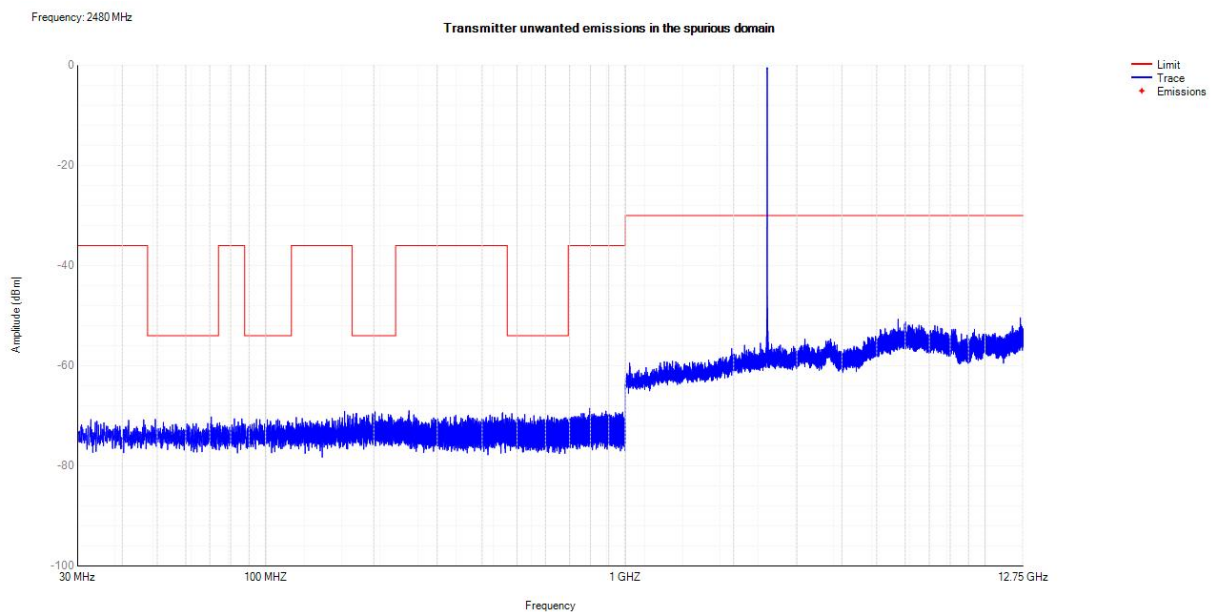




Tx. Spurious NVNT BLE2M 2402MHz



Tx. Spurious NVNT BLE2M 2480MHz

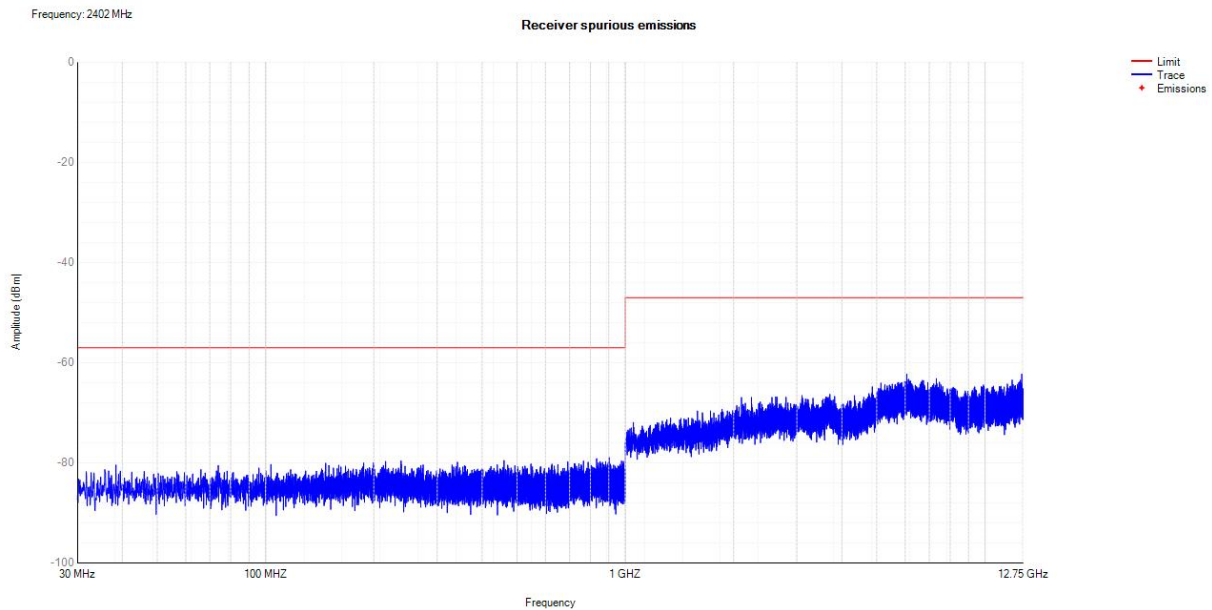




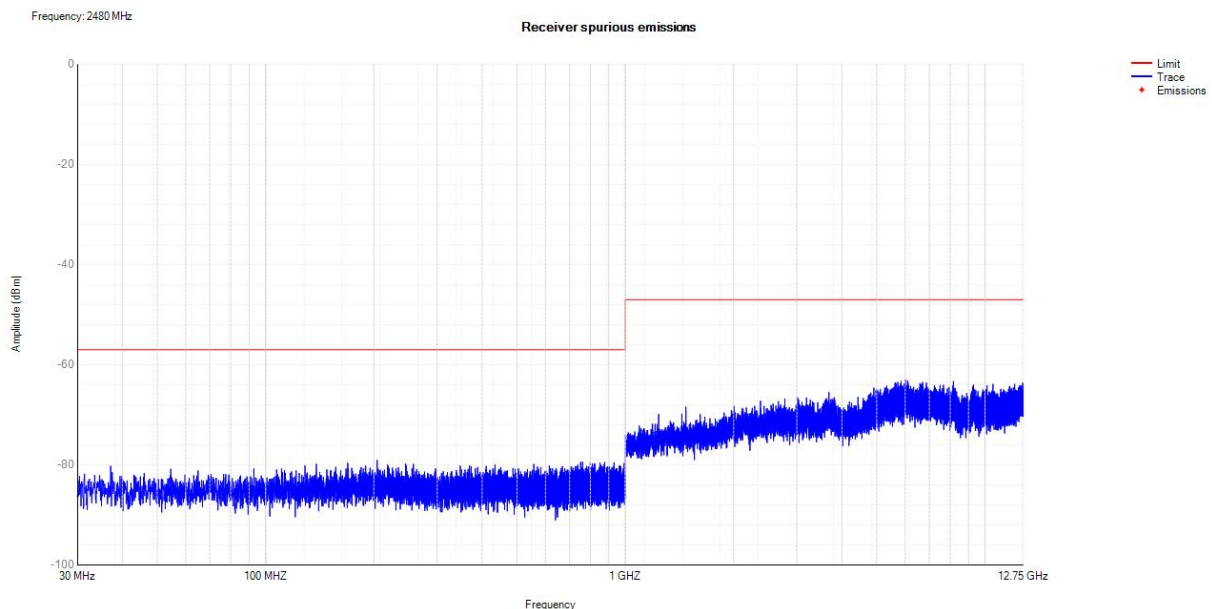
E.6 Receiver spurious emissions

Condition	Mode	Frequency (MHz)	Range	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
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Rx. Spurious NVNT BLE1M 2402MHz

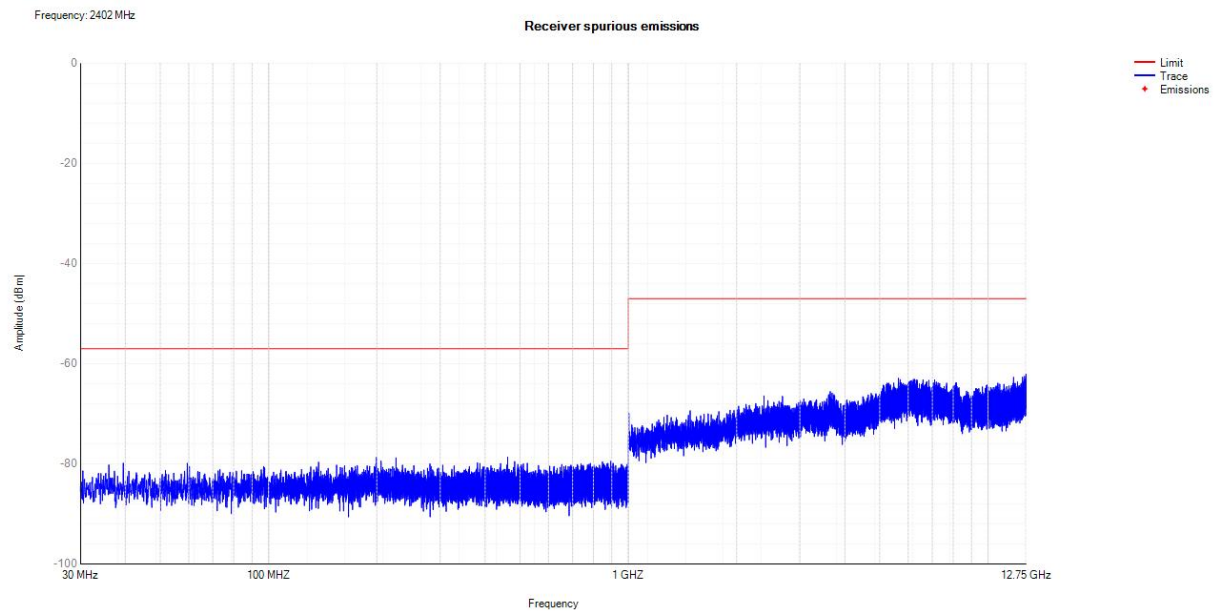


Rx. Spurious NVNT BLE1M 2480MHz

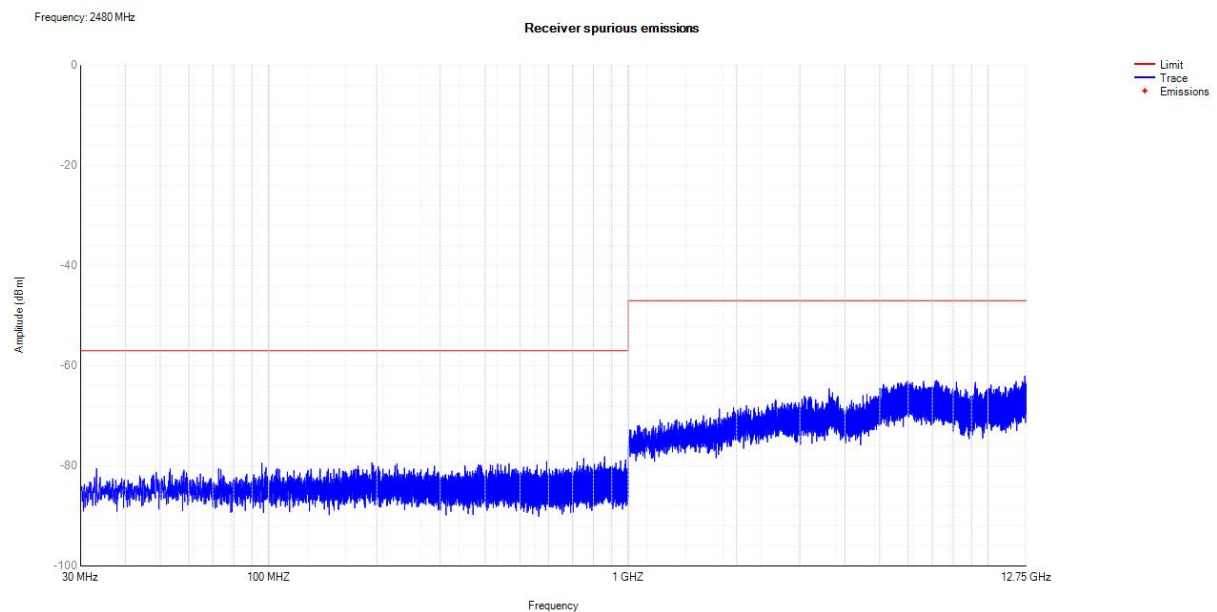




Rx. Spurious NVNT BLE2M 2402MHz



Rx. Spurious NVNT BLE2M 2480MHz





E.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	
BLE1M	2402	-59	2380	-23	≥ -34	CW	5.23	10	Pass
			2504	-25	≥ -34	CW	4.18	10	Pass
			2300	-26	≥ -34	CW	6.53	10	Pass
			2584	-24	≥ -34	CW	5.89	10	Pass
	2480	-59	2380	-28	≥ -34	CW	6.34	10	Pass
			2504	-23	≥ -34	CW	6.28	10	Pass
			2300	-21	≥ -34	CW	4.36	10	Pass
			2584	-27	≥ -34	CW	6.97	10	Pass
BLE2M	2402	-59	2380	-17	≥ -34	CW	4.75	10	Pass
			2504	-25	≥ -34	CW	3.62	10	Pass
			2300	-28	≥ -34	CW	5.74	10	Pass
			2584	-32	≥ -34	CW	6.64	10	Pass
	2480	-59	2380	-30	≥ -34	CW	3.70	10	Pass
			2504	-22	≥ -34	CW	6.55	10	Pass
			2300	-25	≥ -34	CW	3.42	10	Pass
			2584	-32	≥ -34	CW	5.56	10	Pass

