



Appendix F for BT LE RF Test Data

Product Name: Smartphone

Test Model: KINGKONG X

Environmental Conditions

Temperature:	23.6°C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng





F.1 RF Output Power

Condition	Mode	Frequency (MHz)	Max EIRP (dBm)	Limit (dBm)	Verdict
NVNT	BLE_1M	2402	0.26	20	Pass
NVNT	BLE_1M	2412	0.42	20	Pass
NVNT	BLE_1M	2440	-0.55	20	Pass
NVNT	BLE_1M	2480	-0.28	20	Pass
NVNT	BLE_2M	2402	0.24	20	Pass
NVNT	BLE_2M	2440	-0.57	20	Pass
NVNT	BLE_2M	2480	-0.33	20	Pass

Condition	Mode	Frequency (MHz)	Max EIRP (dBm)	Limit (dBm)	Verdict
NVLT	BLE_1M	2402	0.23	20	Pass
NVLT	BLE_1M	2412	0.29	20	Pass
NVLT	BLE_1M	2440	-0.62	20	Pass
NVLT	BLE_1M	2480	-0.38	20	Pass
NVLT	BLE_2M	2402	0.15	20	Pass
NVLT	BLE_2M	2440	-0.64	20	Pass
NVLT	BLE_2M	2480	-0.36	20	Pass

Condition	Mode	Frequency (MHz)	Max EIRP (dBm)	Limit (dBm)	Verdict
NVHT	BLE_1M	2402	0.08	20	Pass
NVHT	BLE_1M	2412	0.19	20	Pass
NVHT	BLE_1M	2440	-0.76	20	Pass
NVHT	BLE_1M	2480	-0.47	20	Pass
NVHT	BLE_2M	2402	0.05	20	Pass
NVHT	BLE_2M	2440	-0.78	20	Pass
NVHT	BLE_2M	2480	-0.51	20	Pass

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

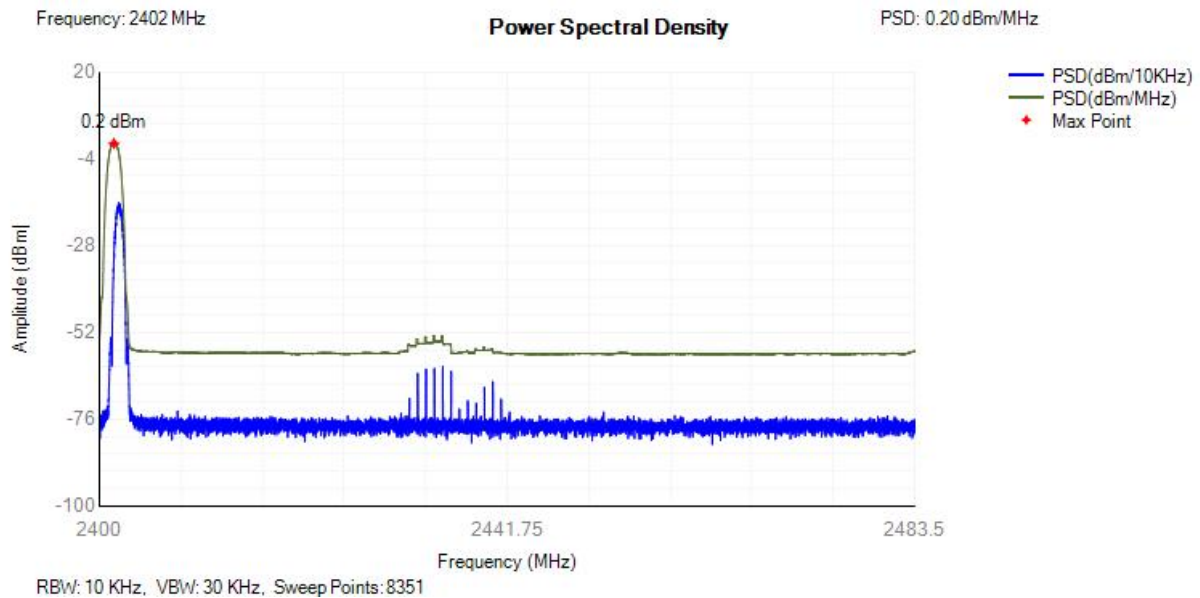




F.2 Power Spectral Density

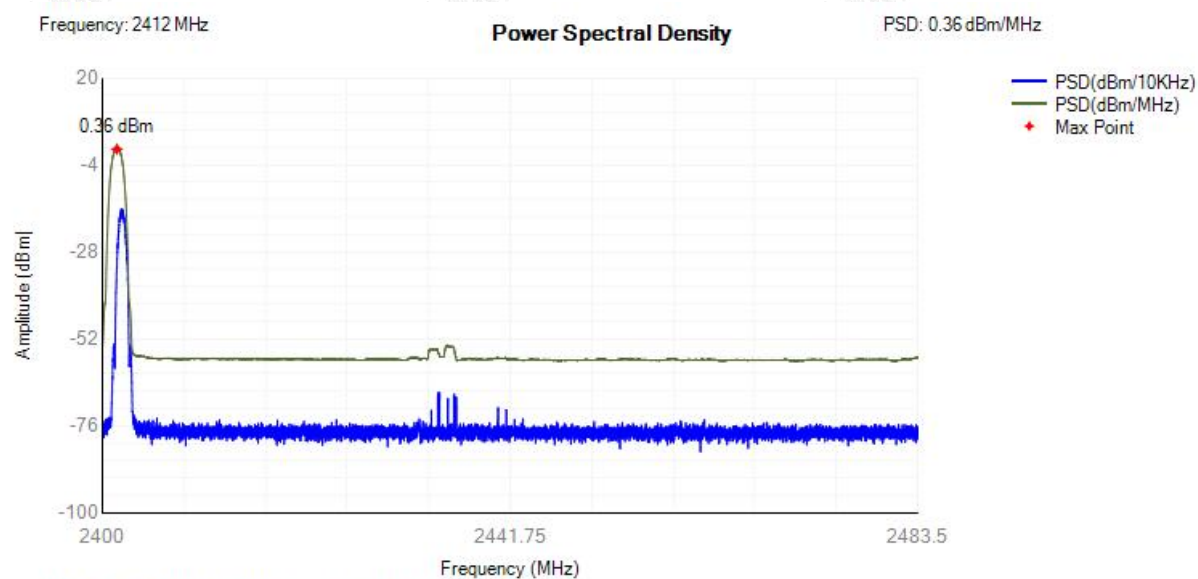
Condition	Mode	Frequency (MHz)	Max PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	BLE_1M	2402	0.2	10	Pass
NVNT	BLE_1M	2412	0.36	10	Pass
NVNT	BLE_1M	2440	-0.6	10	Pass
NVNT	BLE_1M	2480	-0.33	10	Pass
NVNT	BLE_2M	2402	-0.93	10	Pass
NVNT	BLE_2M	2440	-1.74	10	Pass
NVNT	BLE_2M	2480	-1.5	10	Pass

PSD NVNT BLE_1M 2402MHz

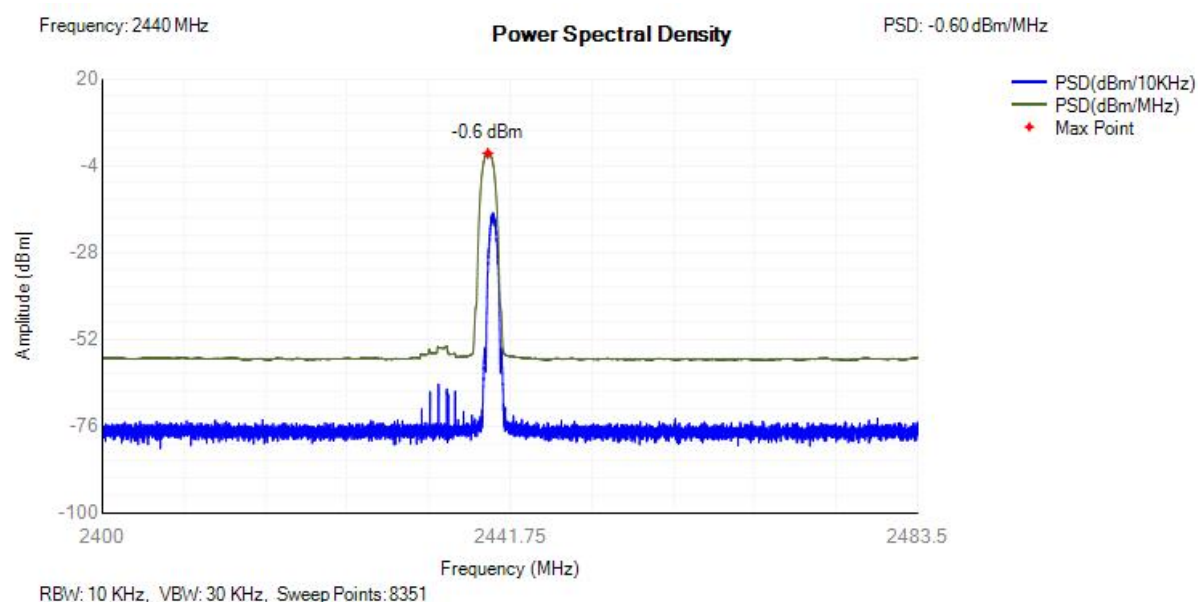




PSD NVNT BLE_1M 2412MHz

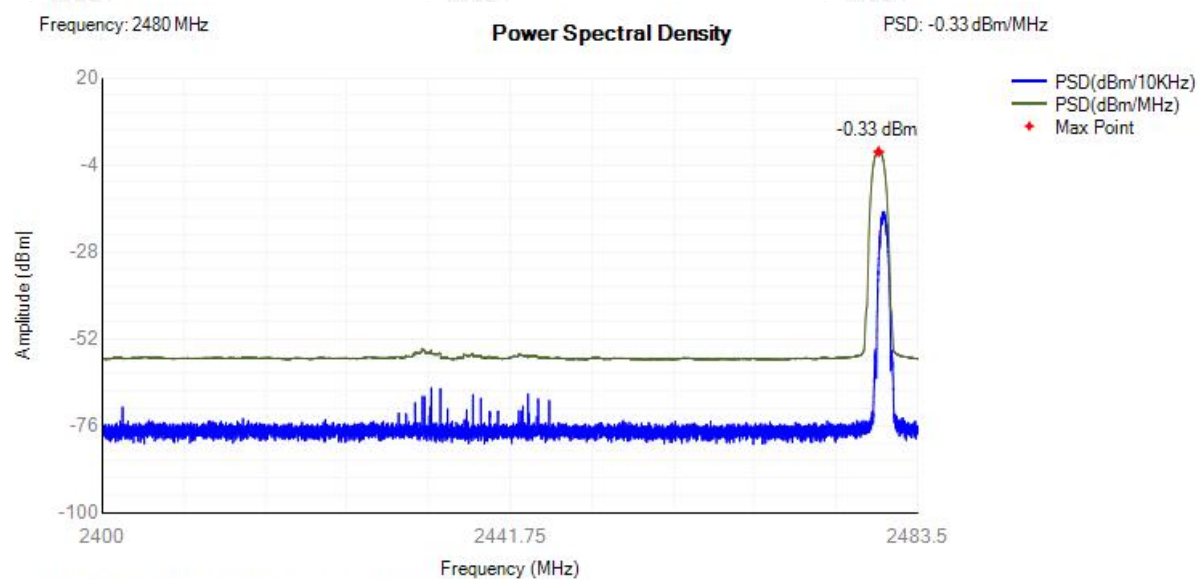


PSD NVNT BLE_1M 2440MHz

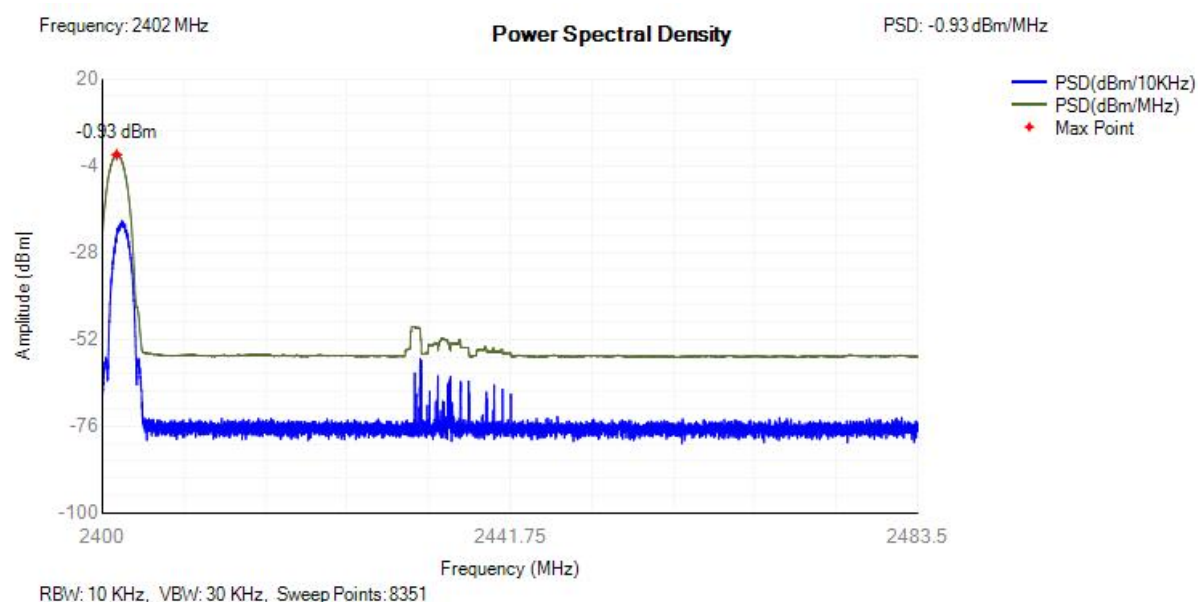




PSD NVNT BLE_1M 2480MHz

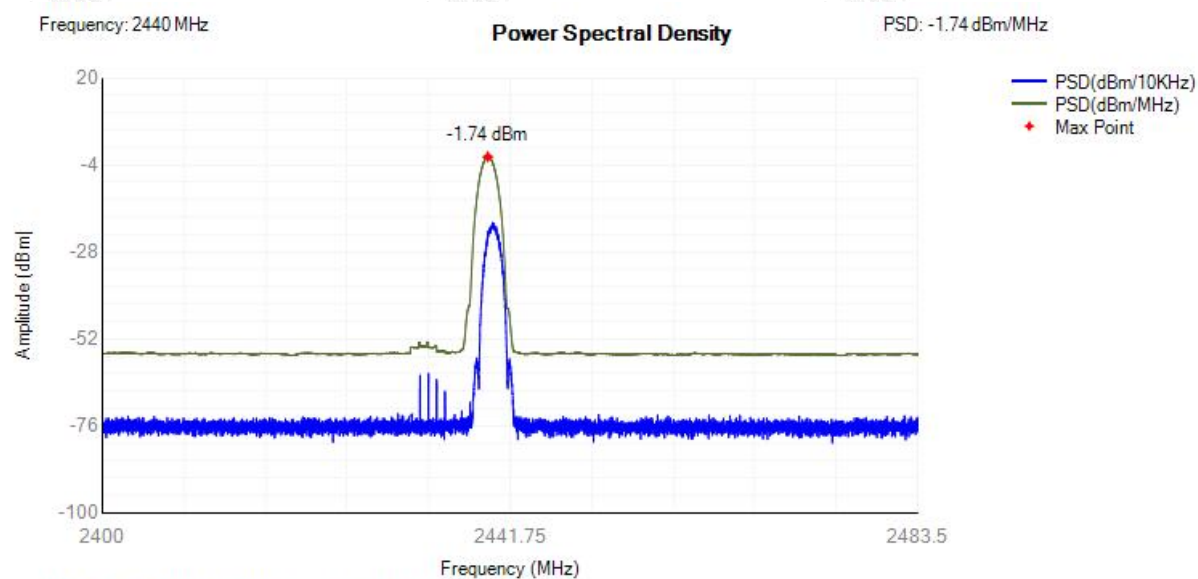


PSD NVNT BLE_2M 2402MHz

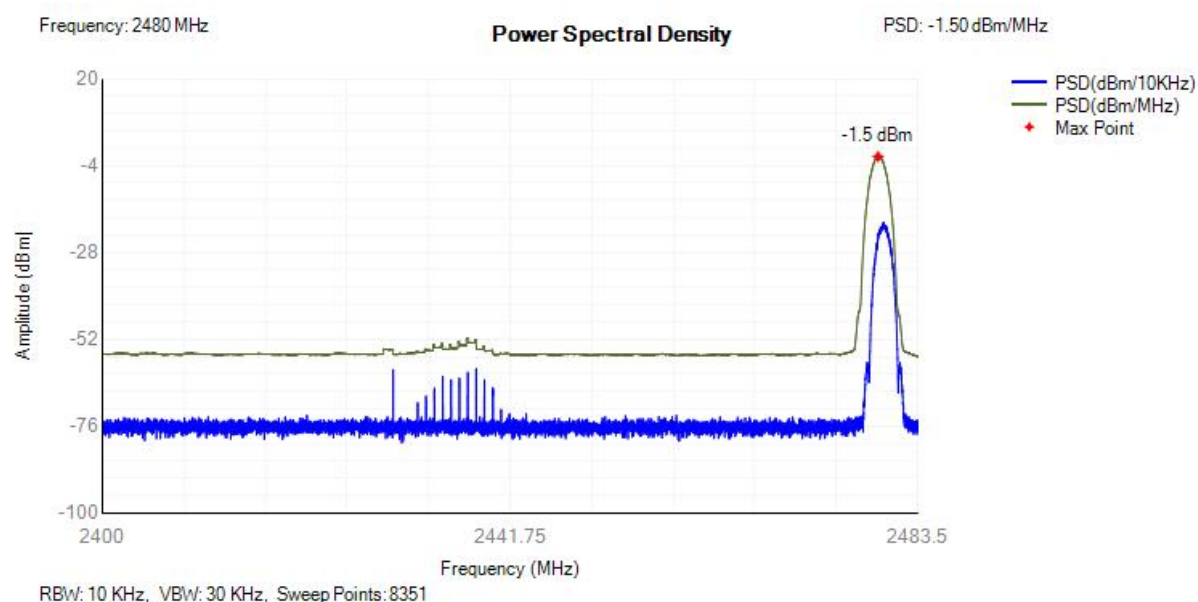




PSD NVNT BLE_2M 2440MHz



PSD NVNT BLE_2M 2480MHz

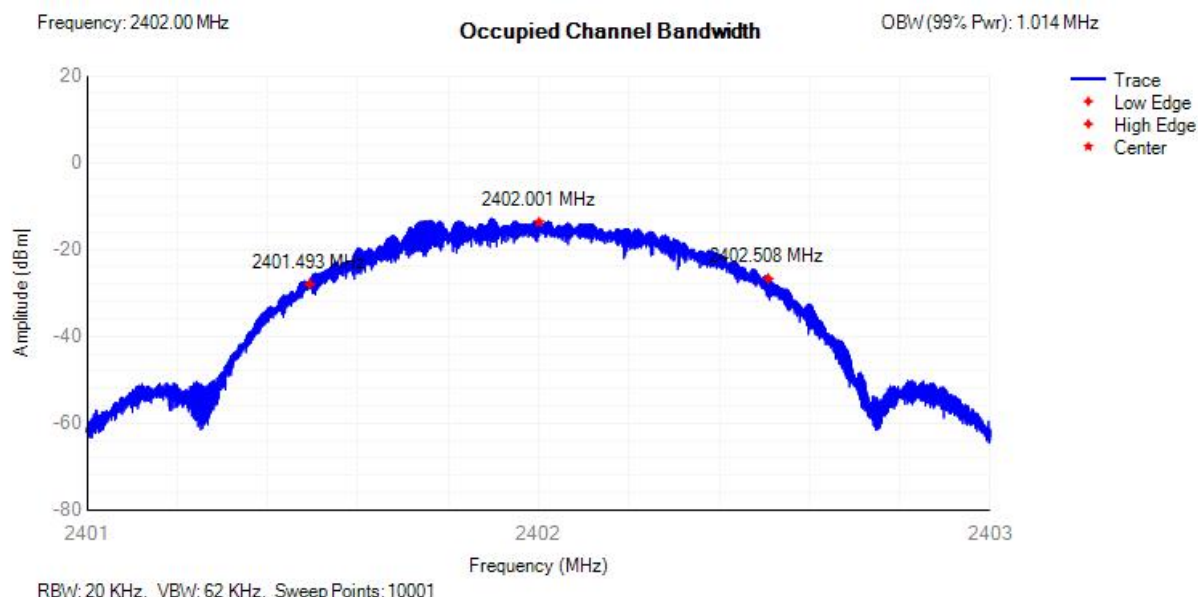




F.3 Occupied Channel Bandwidth

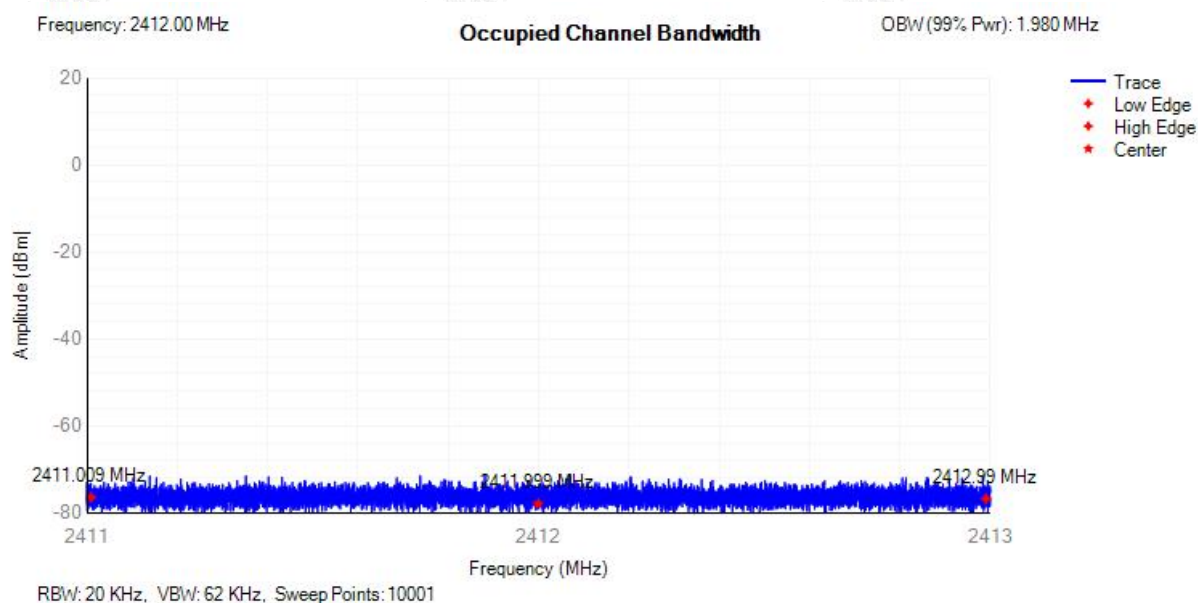
Condition	Mode	Frequency (MHz)	Center Frequency (MHz)	OBW (MHz)	Lower Edge (MHz)	Upper Edge (MHz)	Limit OBW (MHz)	Verdict
NVNT	BLE_1M	2402	2402.001	1.014	2401.493	2402.508	2400 - 2483.5MHz	Pass
NVNT	BLE_1M	2412	2411.999	1.98	2411.009	2412.99	2400 - 2483.5MHz	Pass
NVNT	BLE_1M	2440	2440.001	1.013	2439.494	2440.507	2400 - 2483.5MHz	Pass
NVNT	BLE_1M	2480	2480.001	1.015	2479.493	2480.509	2400 - 2483.5MHz	Pass
NVNT	BLE_2M	2402	2402.001	2.028	2400.987	2403.015	2400 - 2483.5MHz	Pass
NVNT	BLE_2M	2440	2440.001	2.027	2438.988	2441.015	2400 - 2483.5MHz	Pass
NVNT	BLE_2M	2480	2480.002	2.028	2478.987	2481.016	2400 - 2483.5MHz	Pass

OBW NVNT BLE_1M 2402MHz

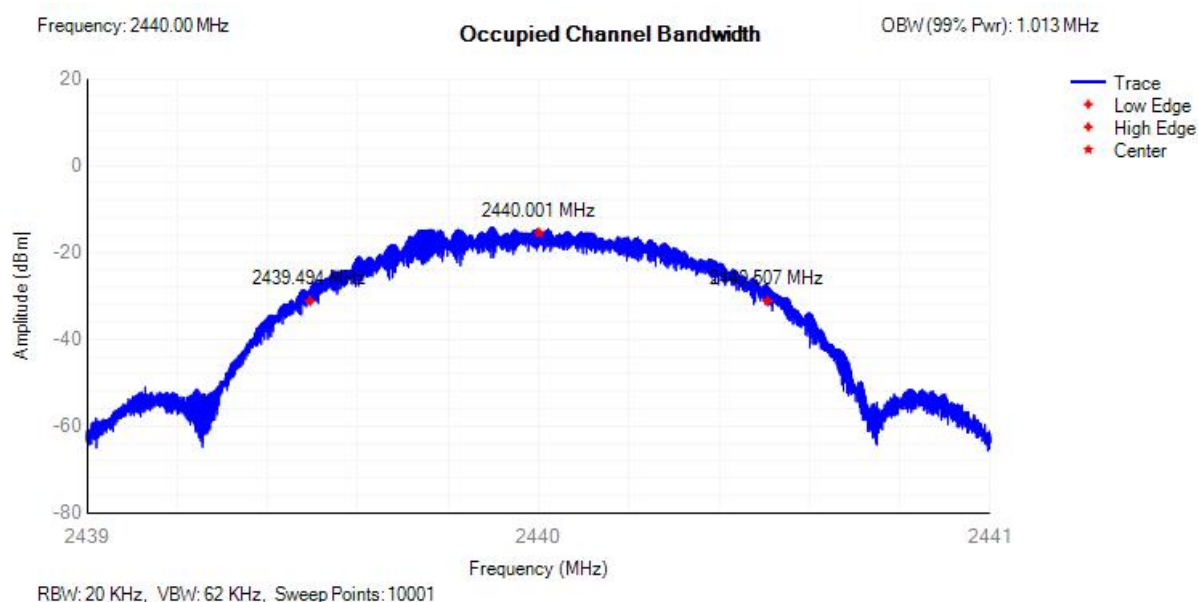




OBW NVNT BLE_1M 2412MHz

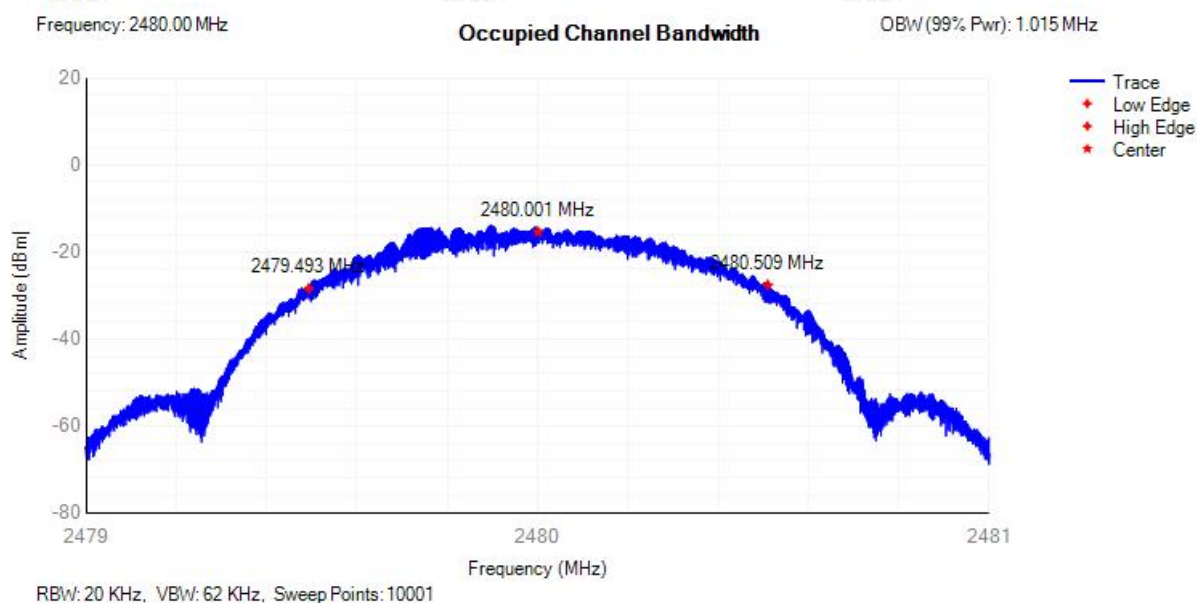


OBW NVNT BLE_1M 2440MHz

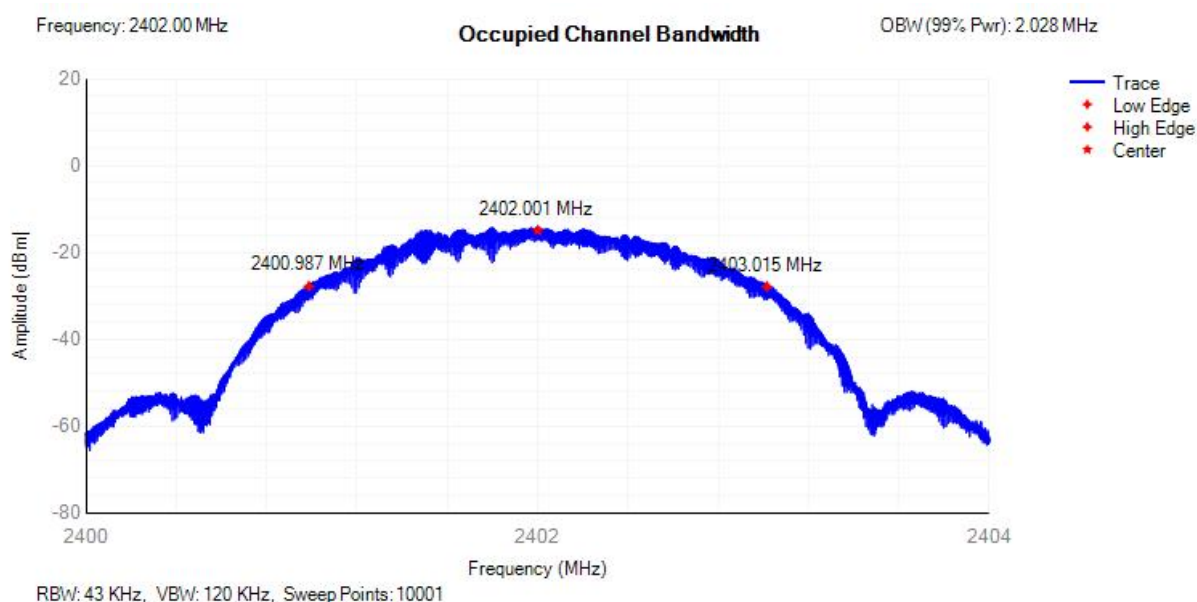




OBW NVNT BLE_1M 2480MHz

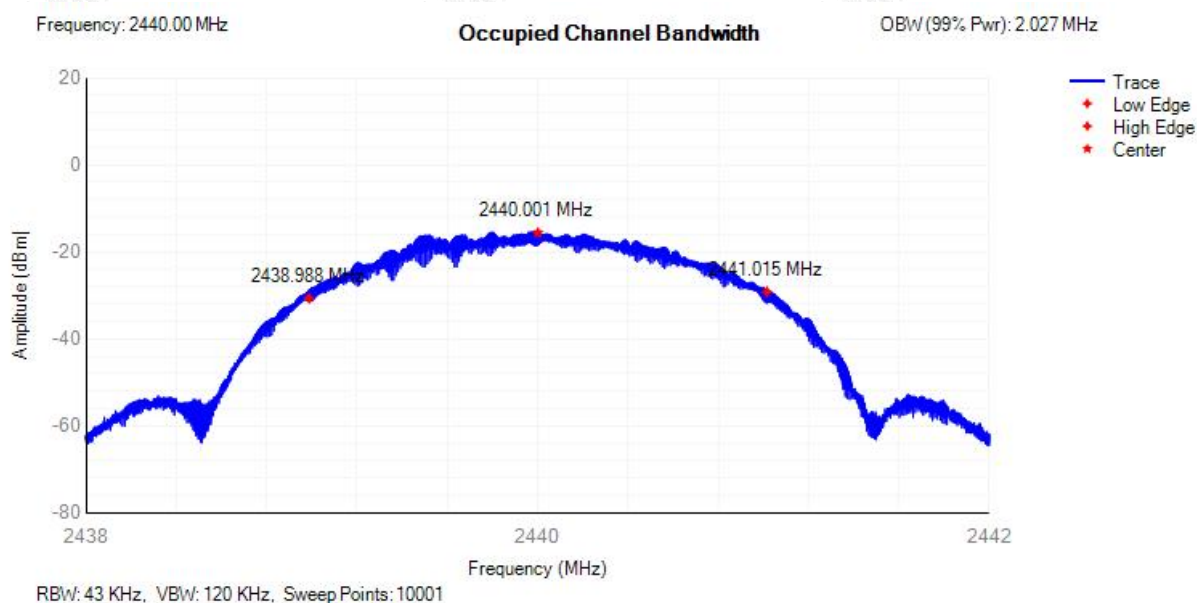


OBW NVNT BLE_2M 2402MHz

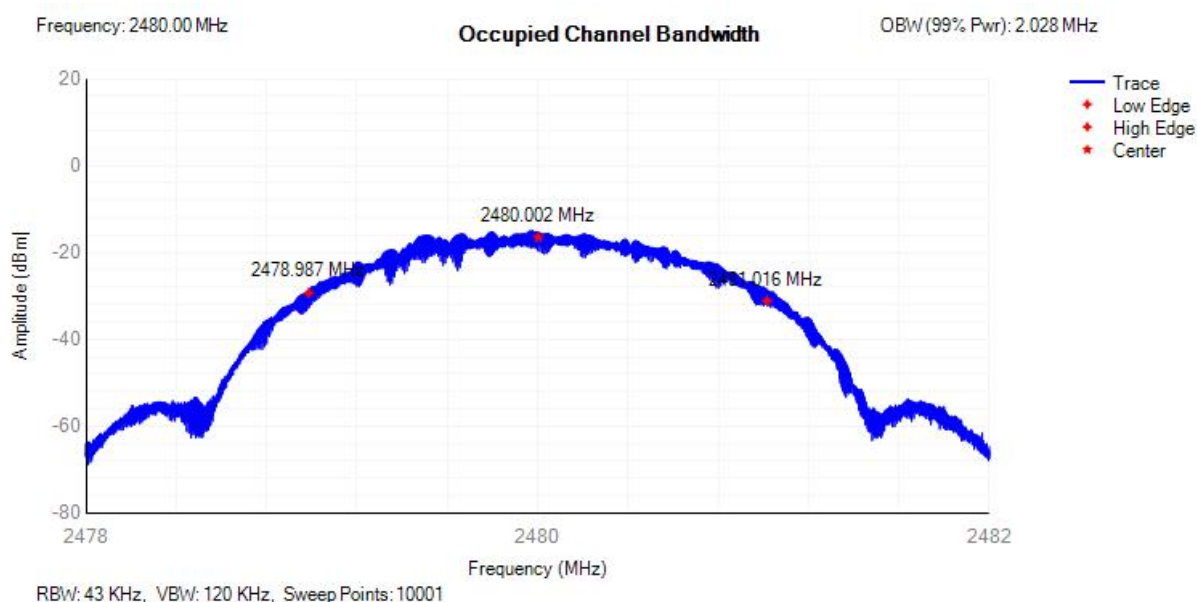




OBW NVNT BLE_2M 2440MHz



OBW NVNT BLE_2M 2480MHz





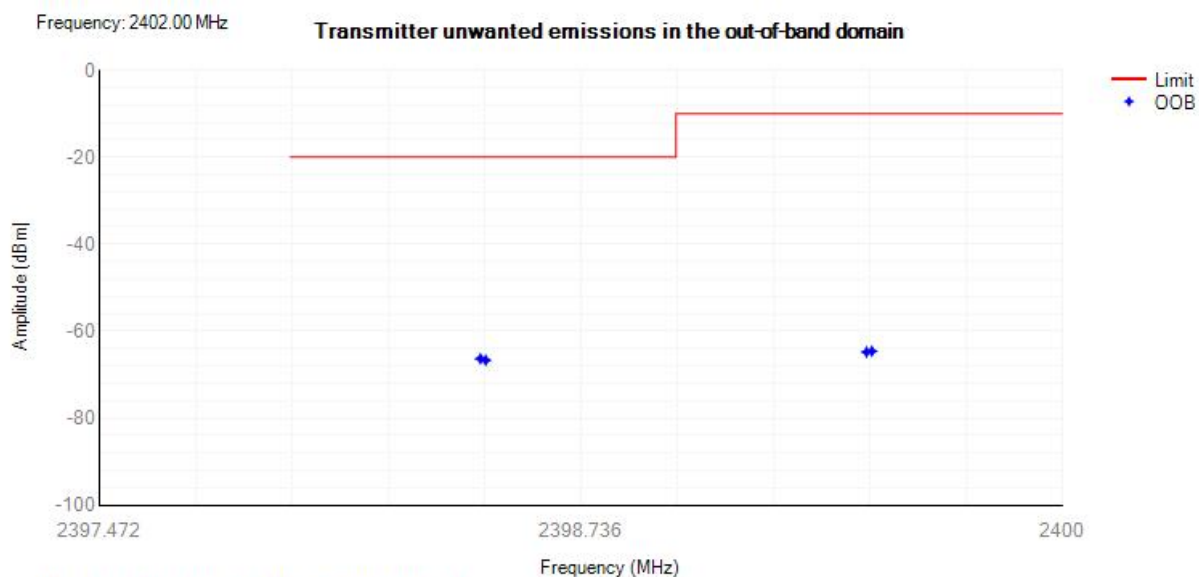
F.4 Transmitter unwanted emissions in the out-of-band domain

Condition	Mode	Frequency (MHz)	OOB Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	BLE_1M	2402	2399.5	-64.6	-10	Pass
NVNT	BLE_1M	2402	2399.486	-64.79	-10	Pass
NVNT	BLE_1M	2402	2398.486	-66.68	-20	Pass
NVNT	BLE_1M	2402	2398.472	-66.33	-20	Pass
NVNT	BLE_1M	2412	2399.5	-64.61	-10	Pass
NVNT	BLE_1M	2412	2398.52	-66.56	-10	Pass
NVNT	BLE_1M	2412	2397.52	-67.93	-20	Pass
NVNT	BLE_1M	2412	2396.54	-69.75	-20	Pass
NVNT	BLE_1M	2480	2484	-68.21	-10	Pass
NVNT	BLE_1M	2480	2484.015	-68.4	-10	Pass
NVNT	BLE_1M	2480	2485.015	-69.73	-20	Pass
NVNT	BLE_1M	2480	2485.03	-70.56	-20	Pass
NVNT	BLE_2M	2402	2399.5	-45.55	-10	Pass
NVNT	BLE_2M	2402	2398.5	-68.35	-10	Pass
NVNT	BLE_2M	2402	2398.472	-68.53	-10	Pass
NVNT	BLE_2M	2402	2397.472	-70.35	-20	Pass
NVNT	BLE_2M	2402	2396.472	-71.12	-20	Pass
NVNT	BLE_2M	2402	2396.444	-71.34	-20	Pass
NVNT	BLE_2M	2480	2484	-70.1	-10	Pass
NVNT	BLE_2M	2480	2485	-71.34	-10	Pass
NVNT	BLE_2M	2480	2485.028	-70.8	-10	Pass
NVNT	BLE_2M	2480	2486.028	-72.45	-20	Pass
NVNT	BLE_2M	2480	2487.028	-72.6	-20	Pass
NVNT	BLE_2M	2480	2487.056	-73.46	-20	Pass

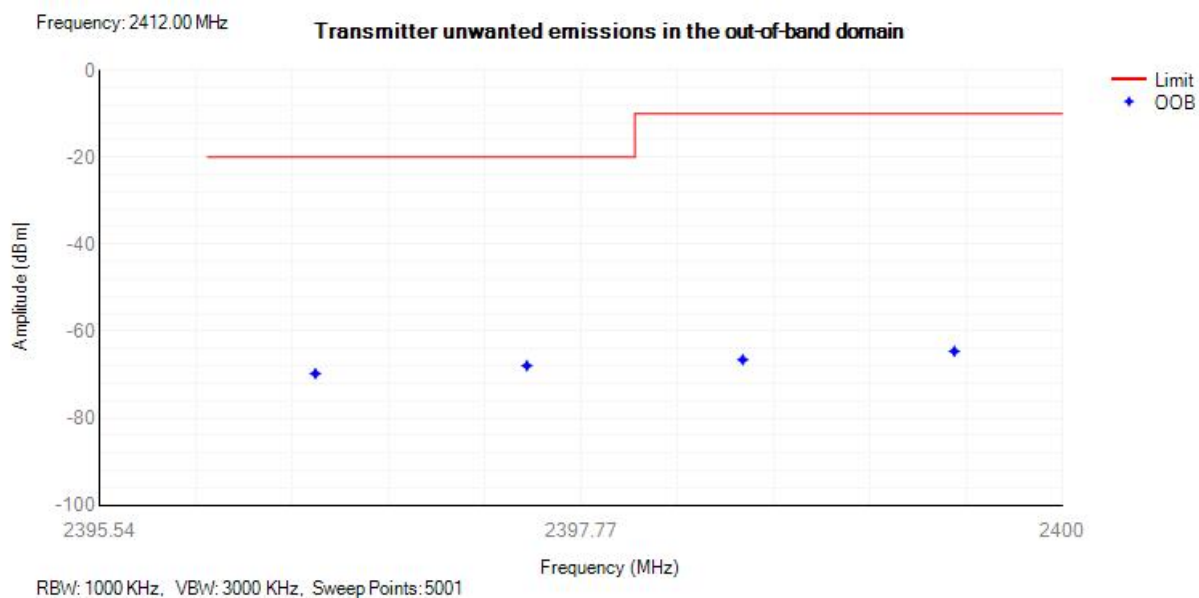




Tx. Emissions OOB NVNT BLE_1M 2402MHz

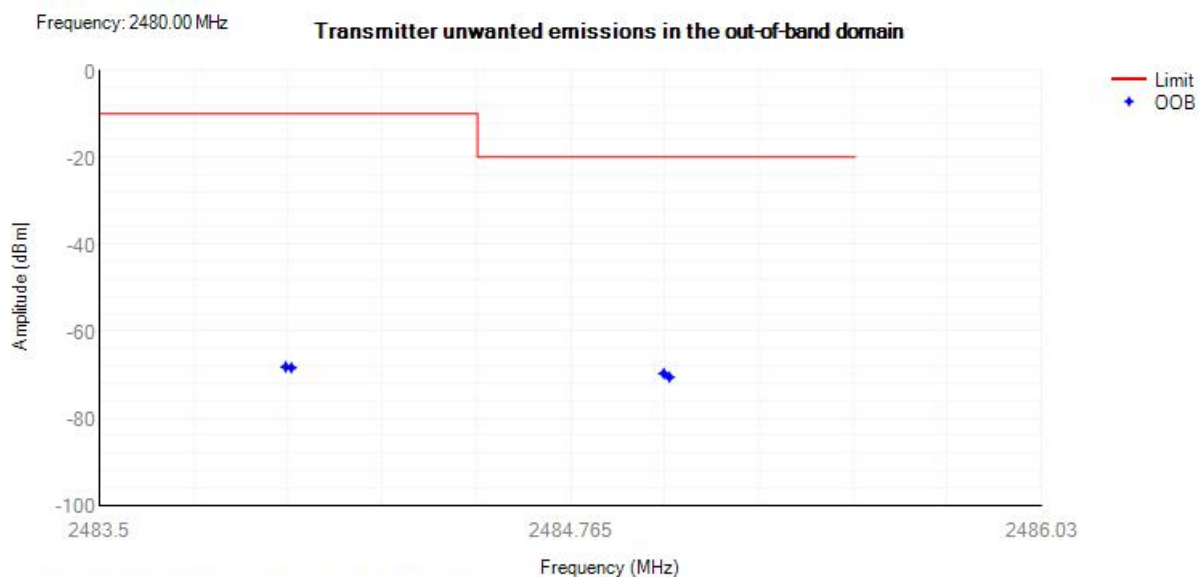


Tx. Emissions OOB NVNT BLE_1M 2412MHz

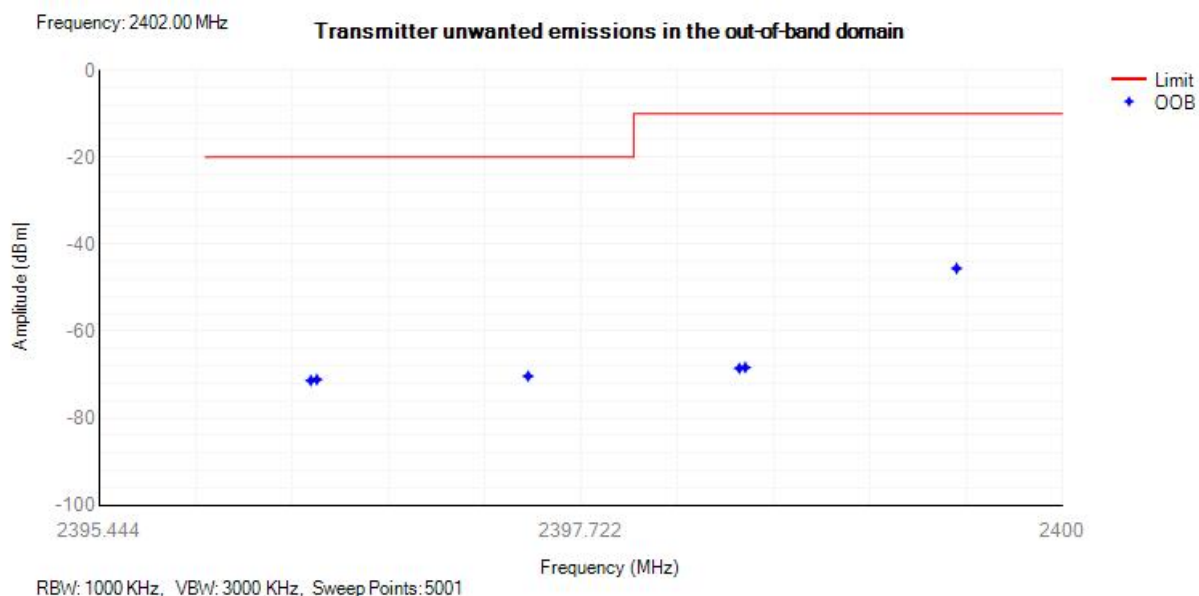




Tx. Emissions OOB NVNT BLE_1M 2480MHz

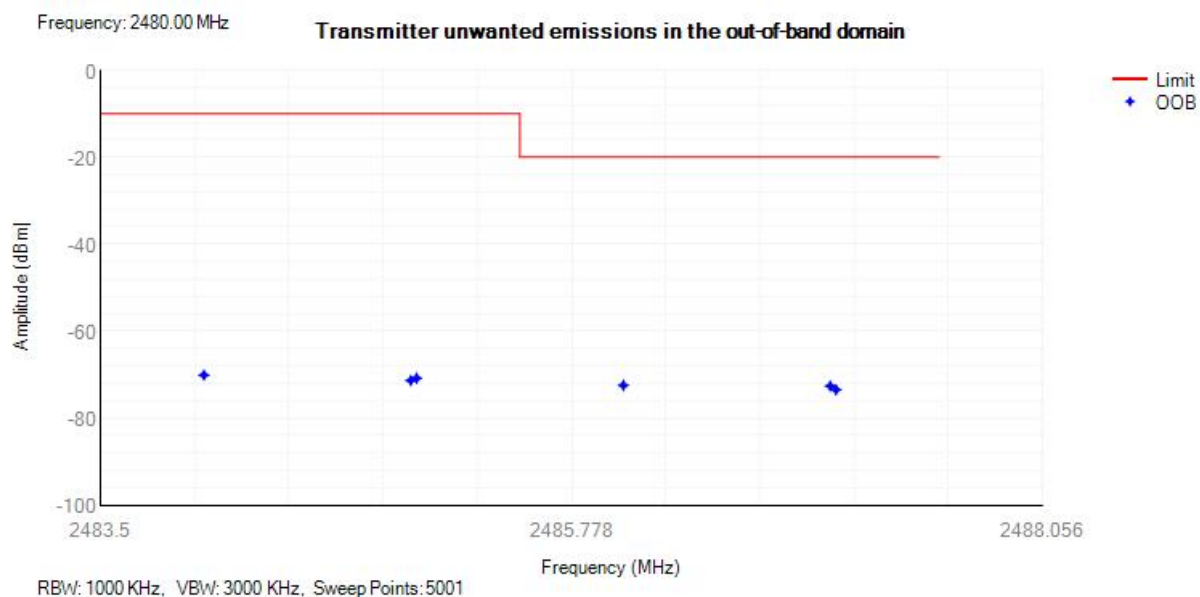


Tx. Emissions OOB NVNT BLE_2M 2402MHz





Tx. Emissions OOB NVNT BLE_2M 2480MHz

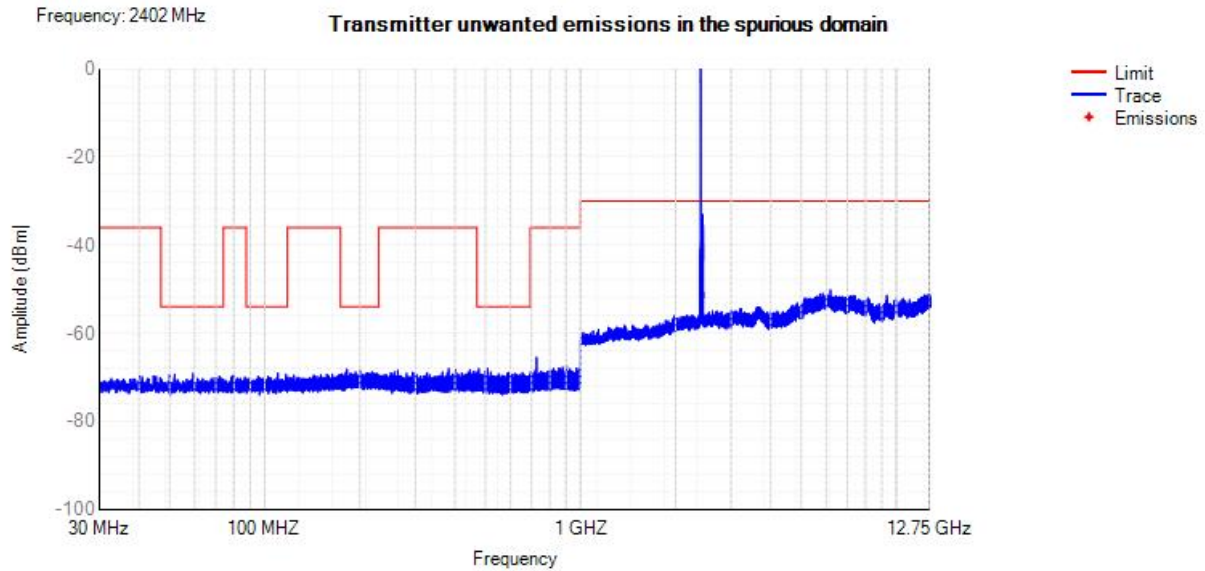




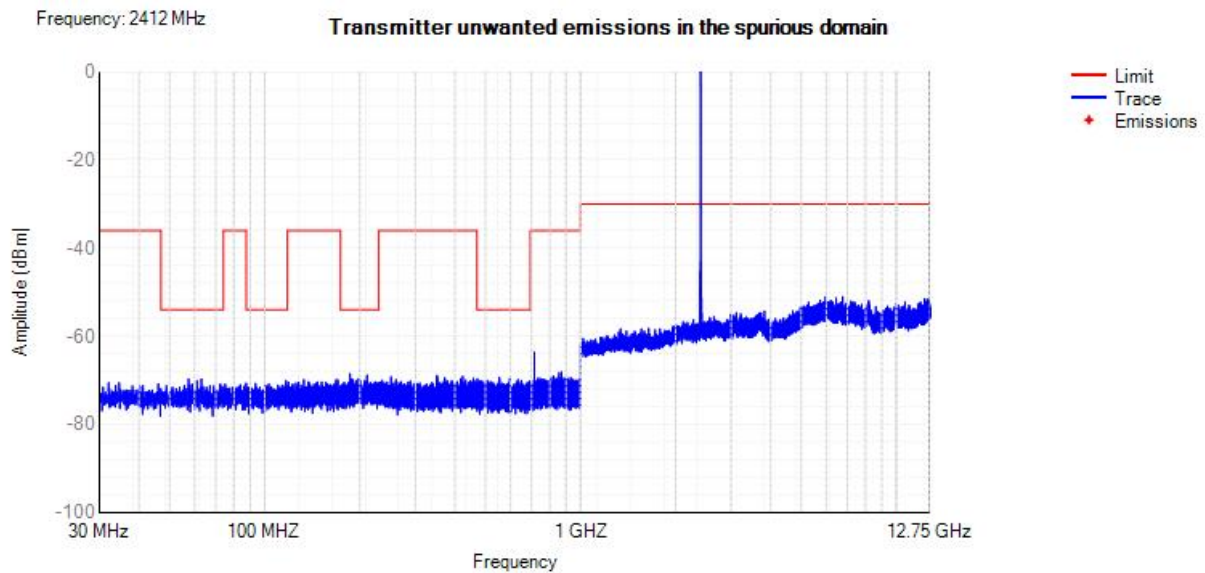
F.5 Transmitter unwanted emissions in the spurious domain

Condition	Mode	Frequency (MHz)	Range	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
-----------	------	-----------------	-------	-----------------	------------------	-------------	---------

Tx. Spurious NVNT BLE_1M 2402MHz



Tx. Spurious NVNT BLE_1M 2412MHz

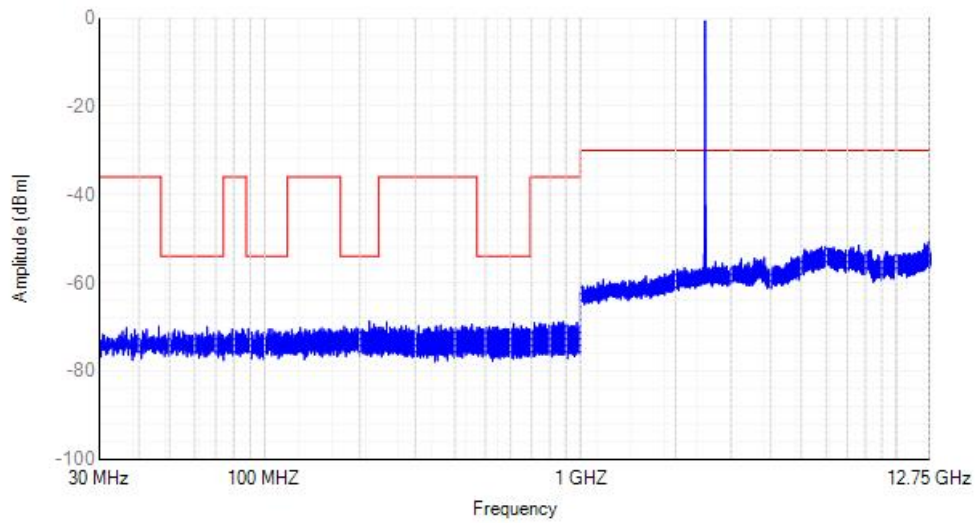




Tx. Spurious NVNT BLE_1M 2480MHz

Frequency: 2480 MHz

Transmitter unwanted emissions in the spurious domain

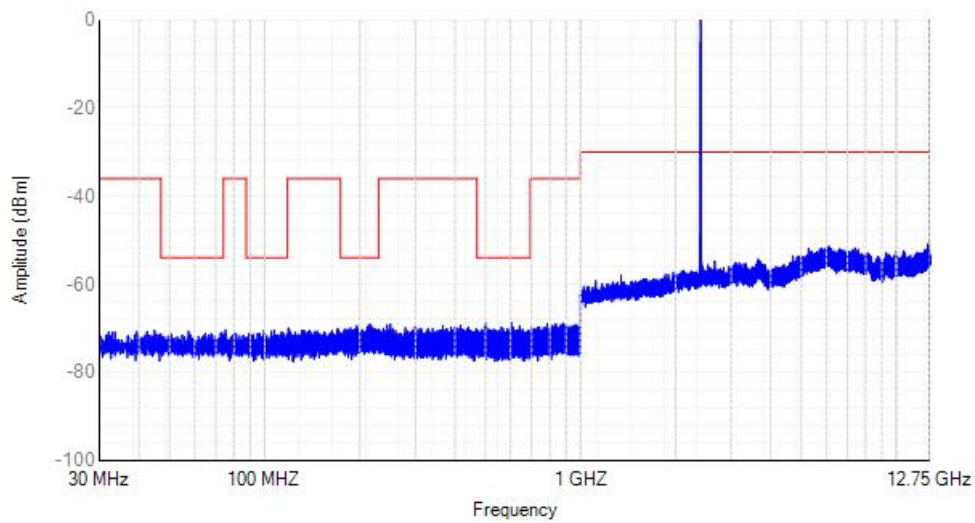


Condition	Mode	Frequency (MHz)	Range	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
-----------	------	-----------------	-------	-----------------	------------------	-------------	---------

Tx. Spurious NVNT BLE_2M 2402MHz

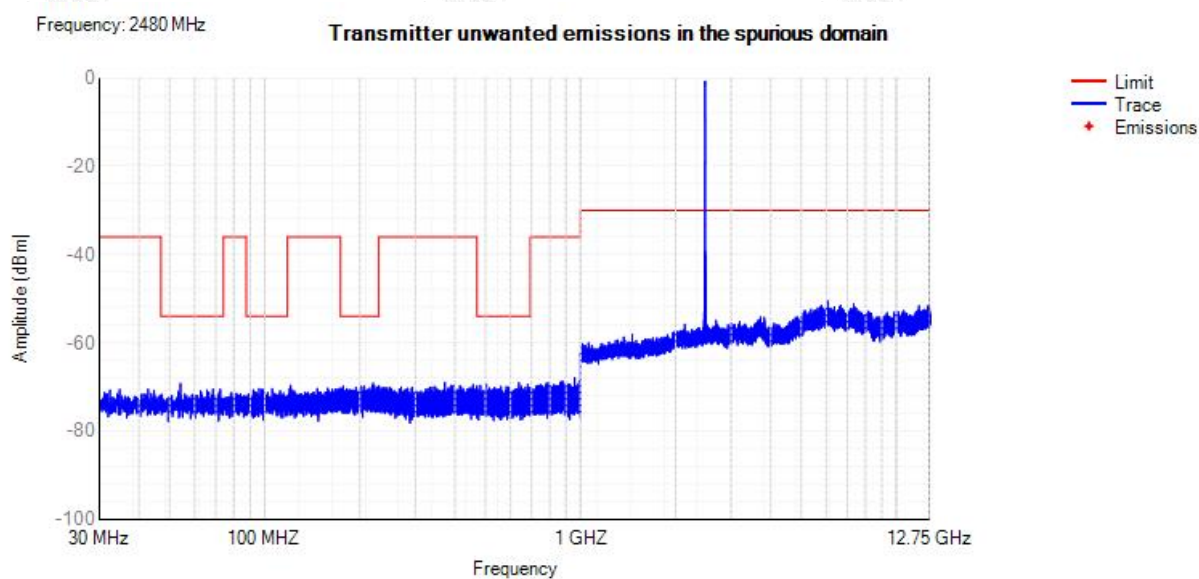
Frequency: 2402 MHz

Transmitter unwanted emissions in the spurious domain





Tx. Spurious NVNT BLE_2M 2480MHz

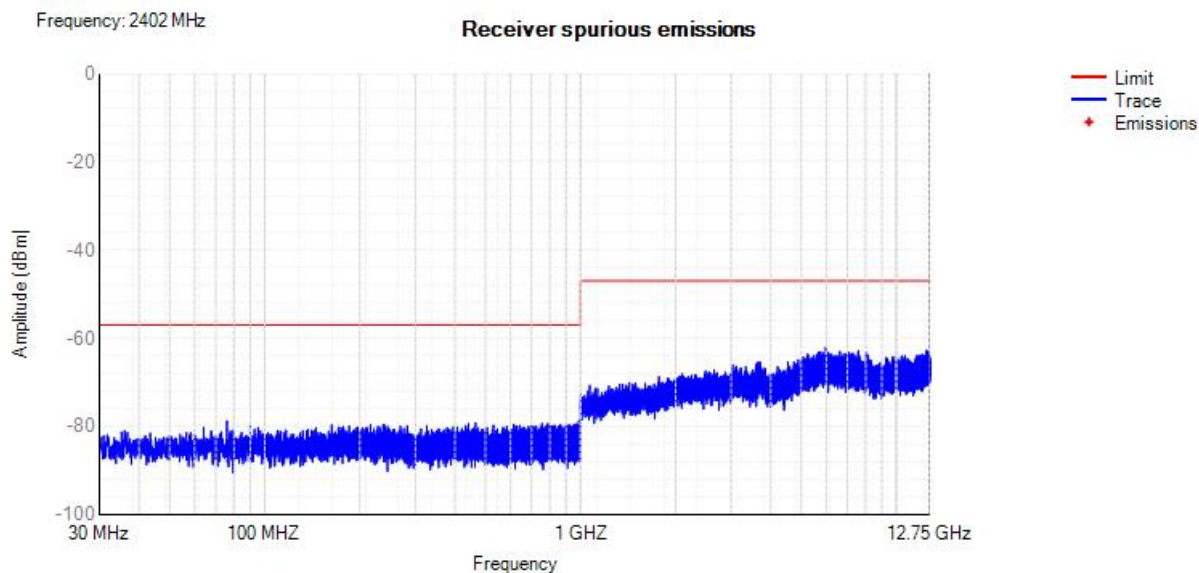




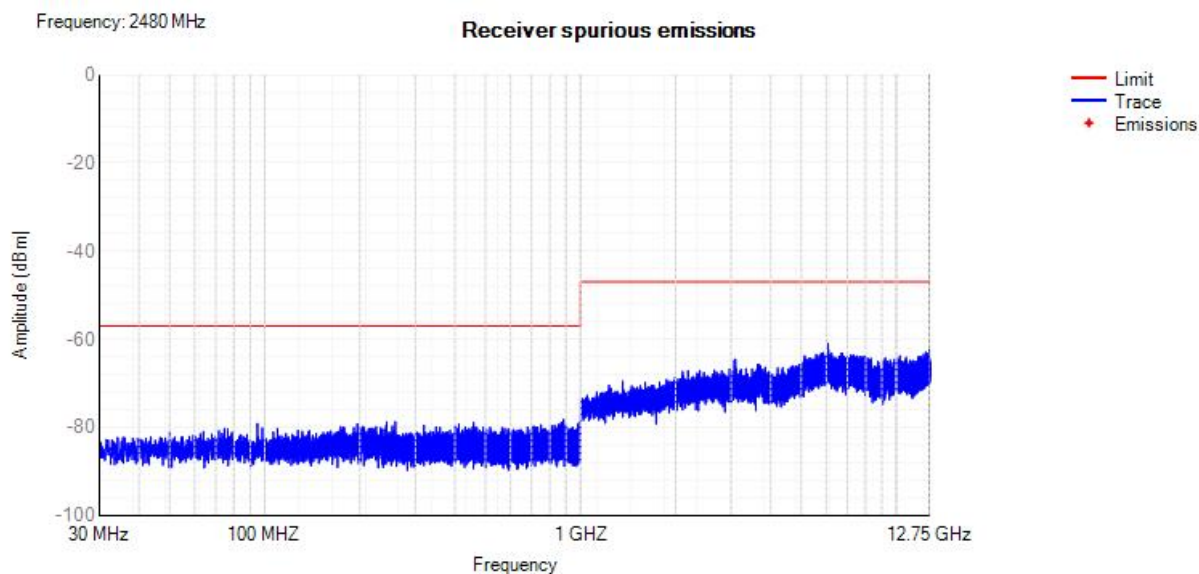
F.6 Receiver spurious emissions

Condition	Mode	Frequency (MHz)	Range	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
-----------	------	-----------------	-------	-----------------	------------------	-------------	---------

Rx. Spurious NVNT BLE_1M 2402MHz



Rx. Spurious NVNT BLE_1M 2480MHz

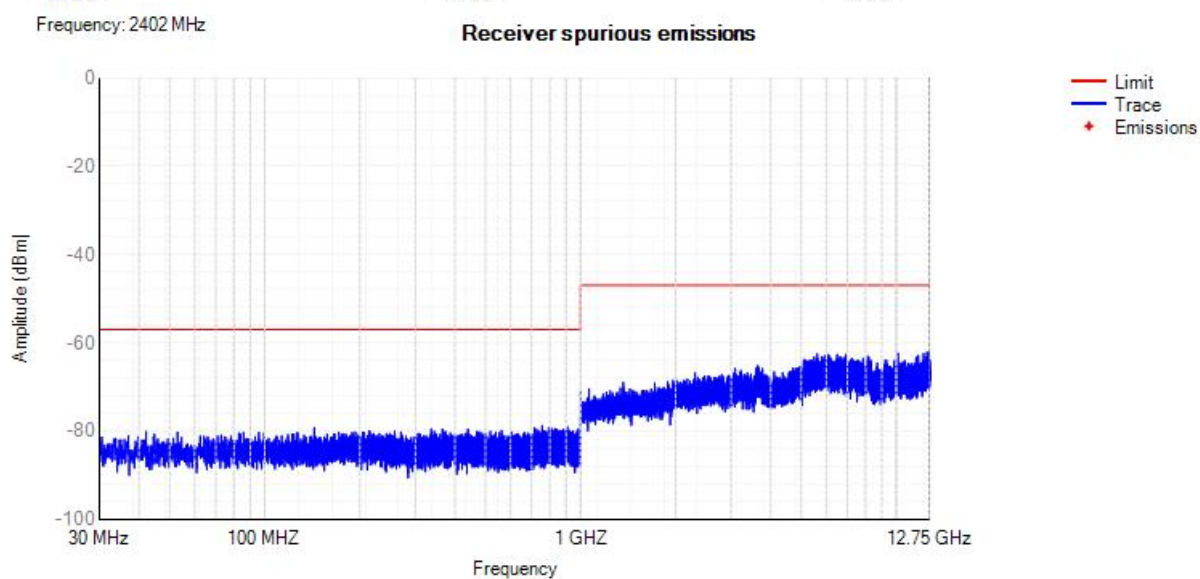


Condition	Mode	Frequency (MHz)	Range	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
-----------	------	-----------------	-------	-----------------	------------------	-------------	---------

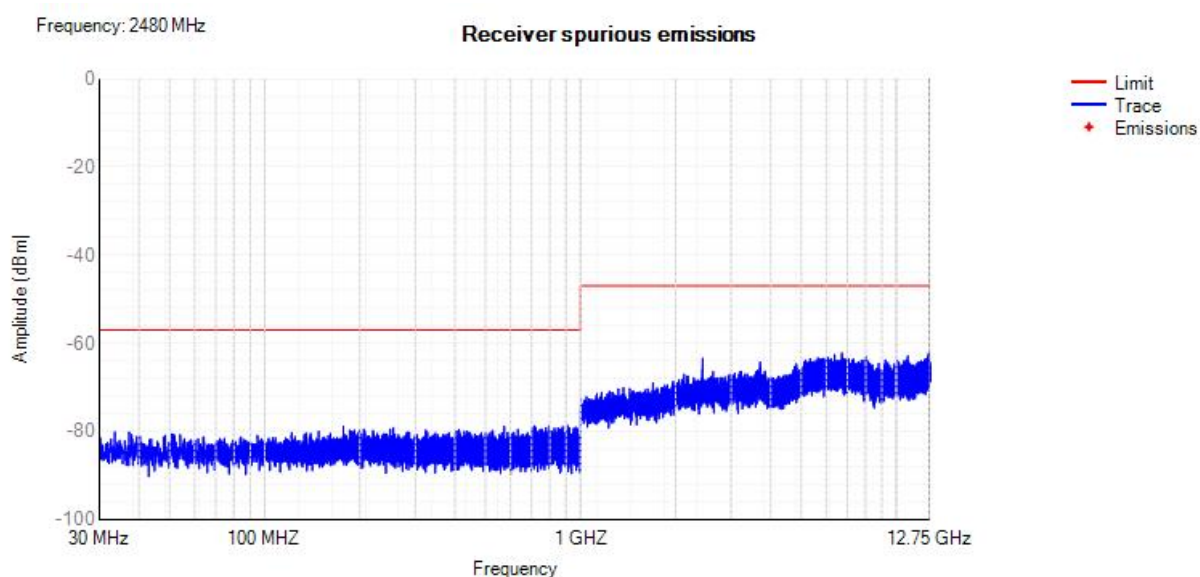




Rx. Spurious NVNT BLE_2M 2402MHz



Rx. Spurious NVNT BLE_2M 2480MHz





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	-69	2380	-27	≥-34	CW	2.70	10	Pass
			2504	-23	≥-34	CW	1.65	10	Pass
			2300	-27	≥-34	CW	3.05	10	Pass
			2584	-25	≥-34	CW	1.89	10	Pass
	2480	-69	2380	-30	≥-34	CW	3.76	10	Pass
			2504	-25	≥-34	CW	1.92	10	Pass
			2300	-28	≥-34	CW	4.45	10	Pass
			2584	-22	≥-34	CW	1.75	10	Pass
BLE_2M	2402	-69	2380	-21	≥-34	CW	4.30	10	Pass
			2504	-21	≥-34	CW	3.17	10	Pass
			2300	-29	≥-34	CW	2.97	10	Pass
			2584	-26	≥-34	CW	5.09	10	Pass
	2480	-69	2380	-24	≥-34	CW	5.08	10	Pass
			2504	-28	≥-34	CW	3.60	10	Pass
			2300	-25	≥-34	CW	1.14	10	Pass
			2584	-20	≥-34	CW	1.98	10	Pass

