

Appendix

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1. Duty Cycle, Tx Sequence, Tx Gap, Medium Utilisation

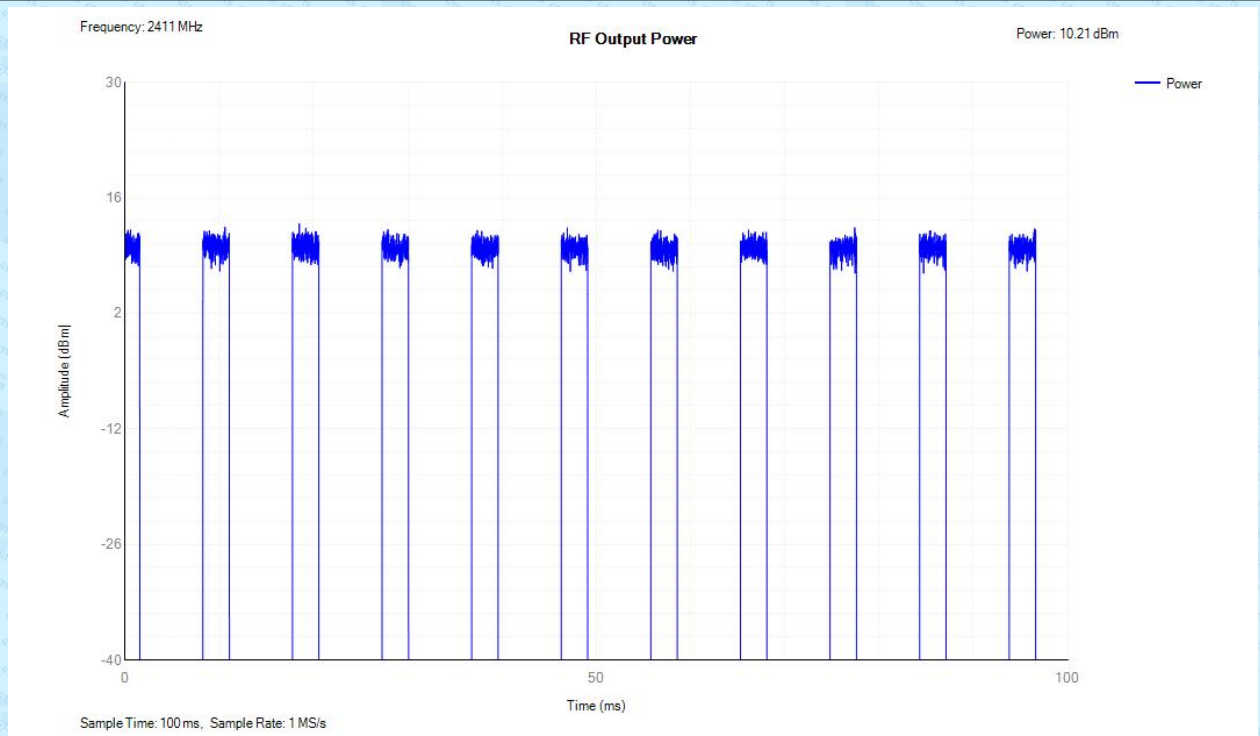
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Tx-sequence (ms)	Tx Gap (ms)	MU (%)
NVNT	TX	2411	Ant1	29.61	2.81	6.7	3.11
		2433		28.89	2.81	6.7	3
		2466		28.05	2.81	6.7	3.4
		2411	Ant2	28.04	2.8	6.7	3.06
		2433		30.84	2.8	6.7	3.3
		2466		28.04	2.8	6.7	3.65

1.1 RF Output Power

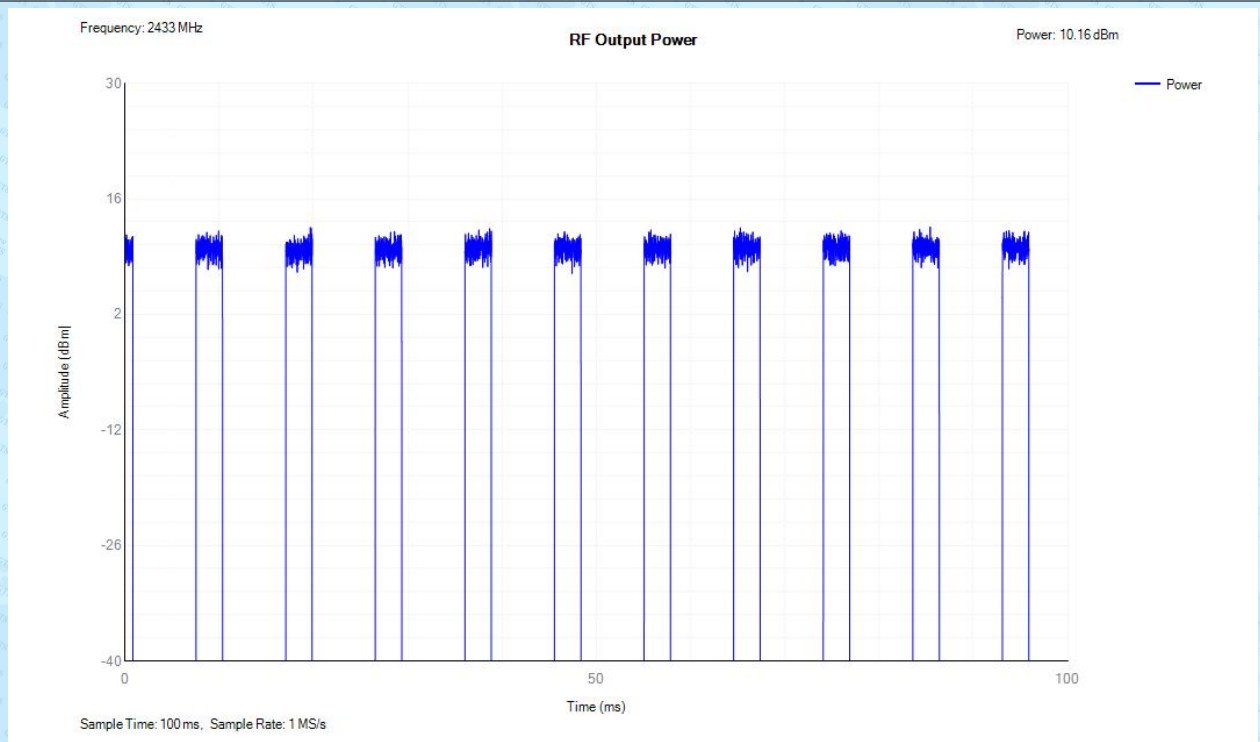
Condition	Mode	Frequency (MHz)	Antenna	Max Burst RMS Power (dBm)	Burst Number	Max EIRP (dBm)	Limit (dBm)	Verdict
NVNT	TX	2411	Ant1	10.21	11	10.21	20	Pass
		2433		10.16	11	10.16	20	Pass
		2466		10.84	10	10.84	20	Pass
		2411	Ant2	10.38	10	10.38	20	Pass
		2433		10.29	11	10.29	20	Pass
		2466		11.15	10	11.15	20	Pass

Test Graphs

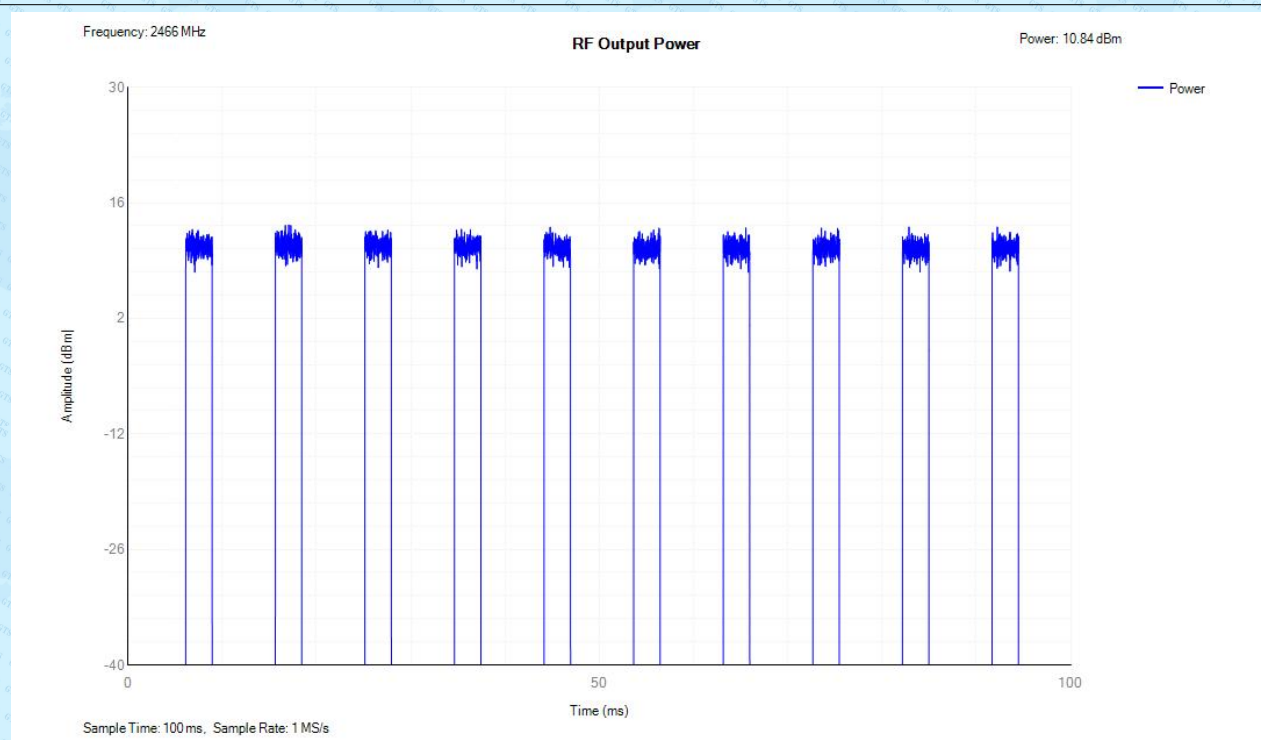
Power NVNT TX 2411MHz Ant1



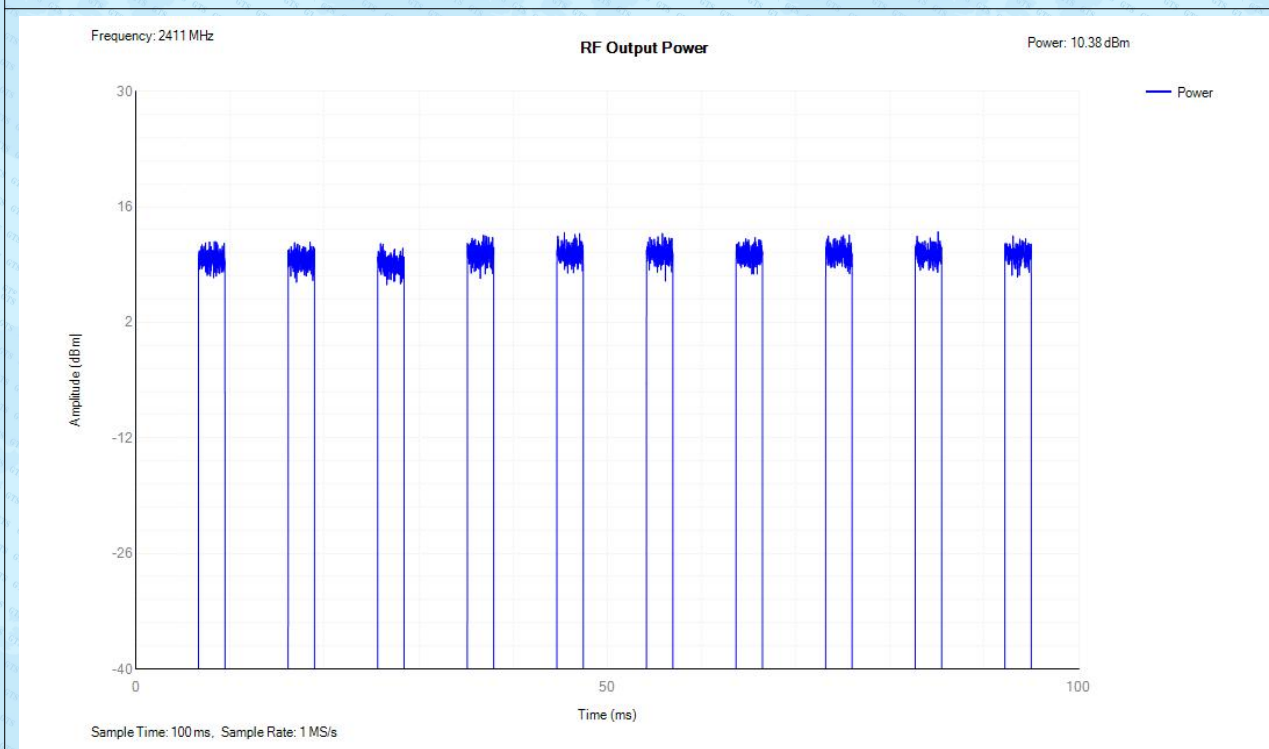
Power NVNT TX 2433MHz Ant1



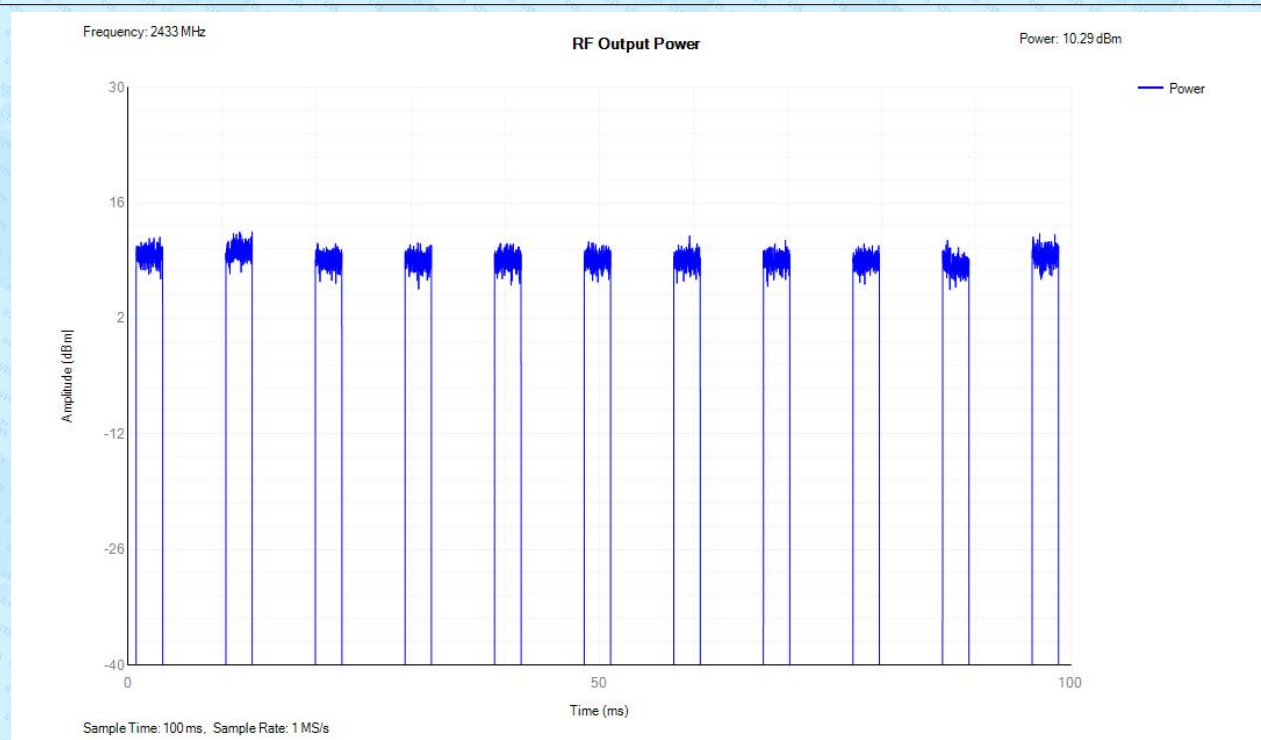
Power NVNT TX 2466MHz Ant1



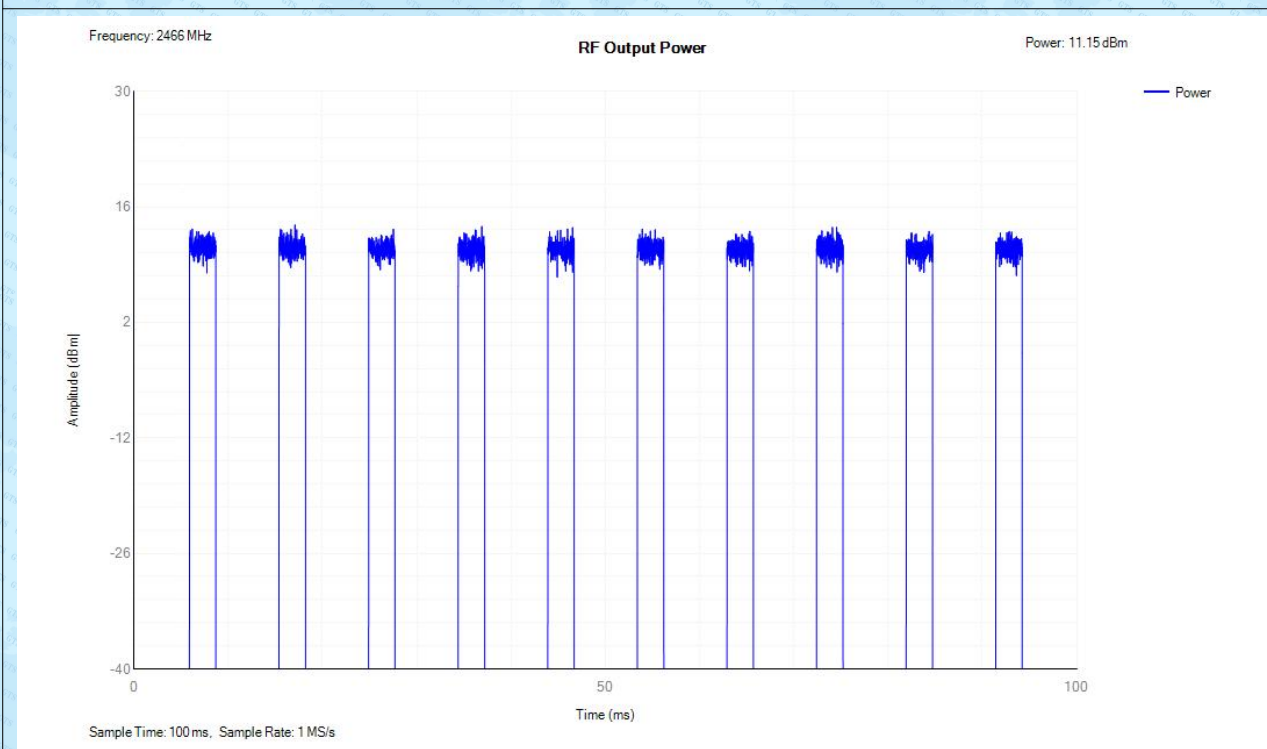
Power NVNT TX 2411MHz Ant2



Power NVNT TX 2433MHz Ant2



Power NVNT TX 2466MHz Ant2

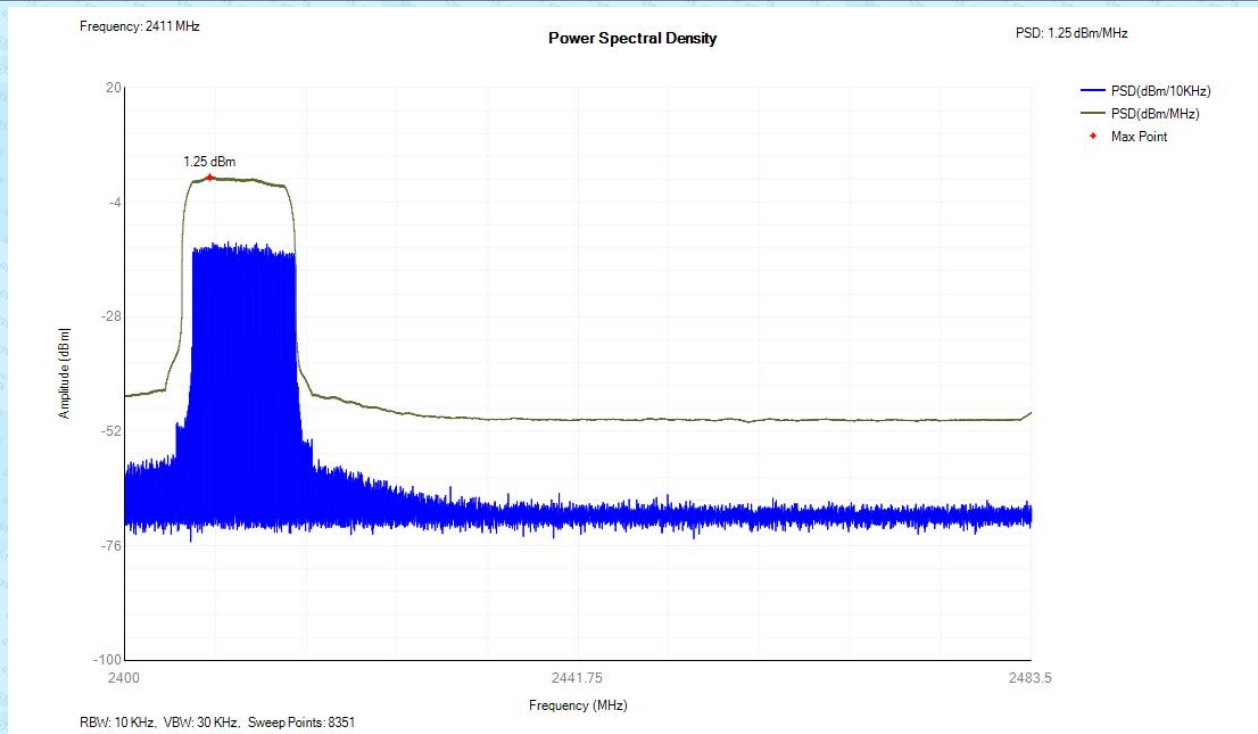


1.2 Power Spectral Density

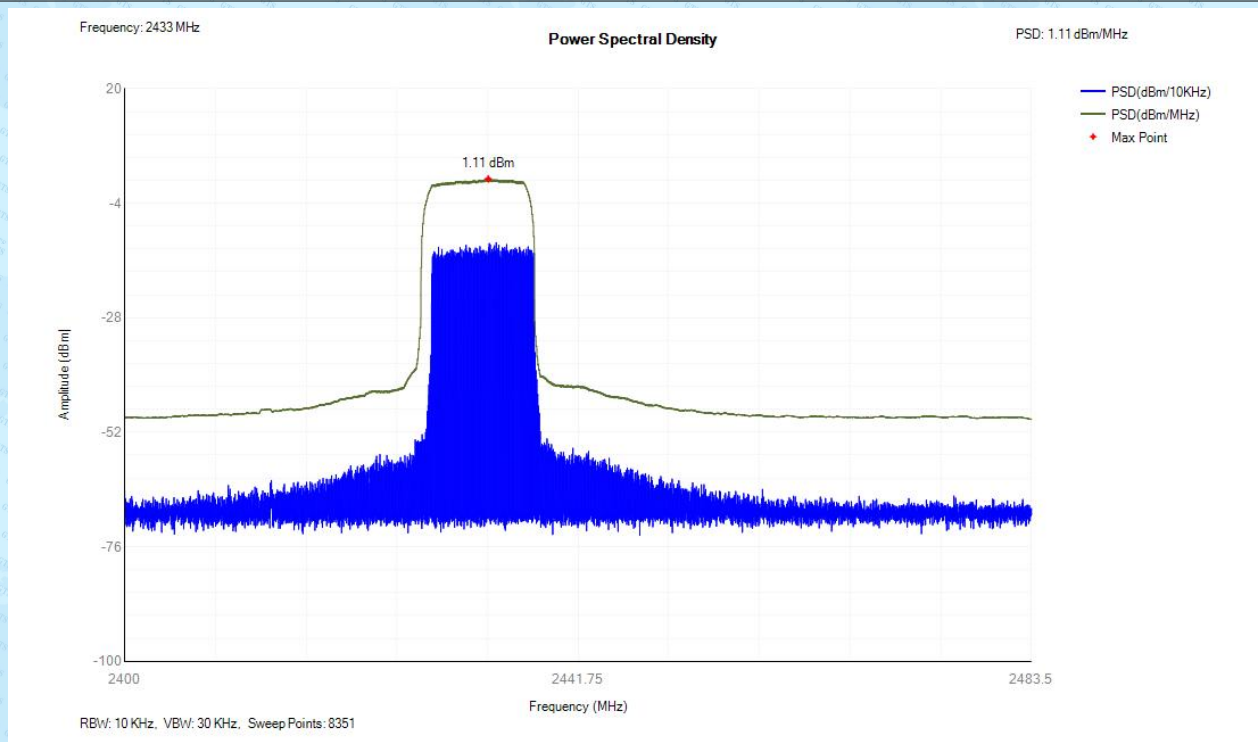
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	TX	2411	Ant1	1.25	10	Pass
		2433		1.11	10	Pass
		2466		1.7	10	Pass
		2411	Ant2	1.29	10	Pass
		2433		1.04	10	Pass
		2466		1.87	10	Pass

Test Graphs

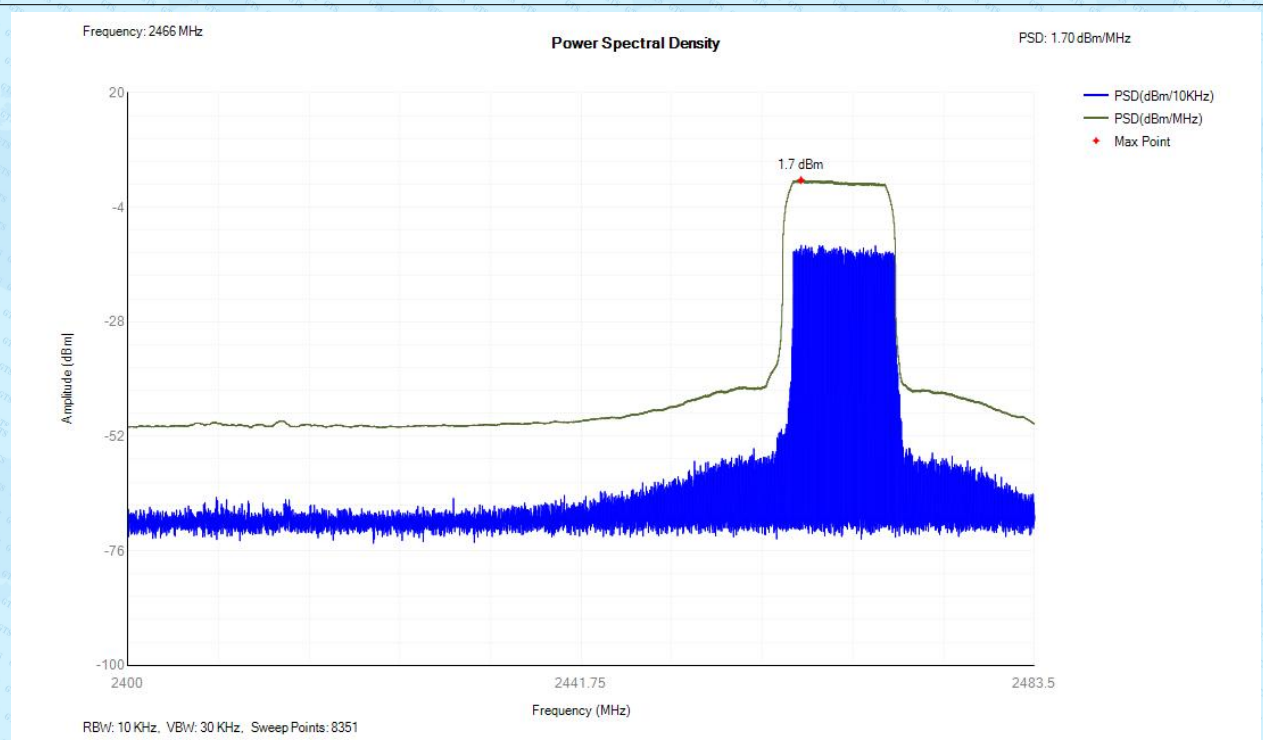
PSD NVNT TX 2411MHz Ant1



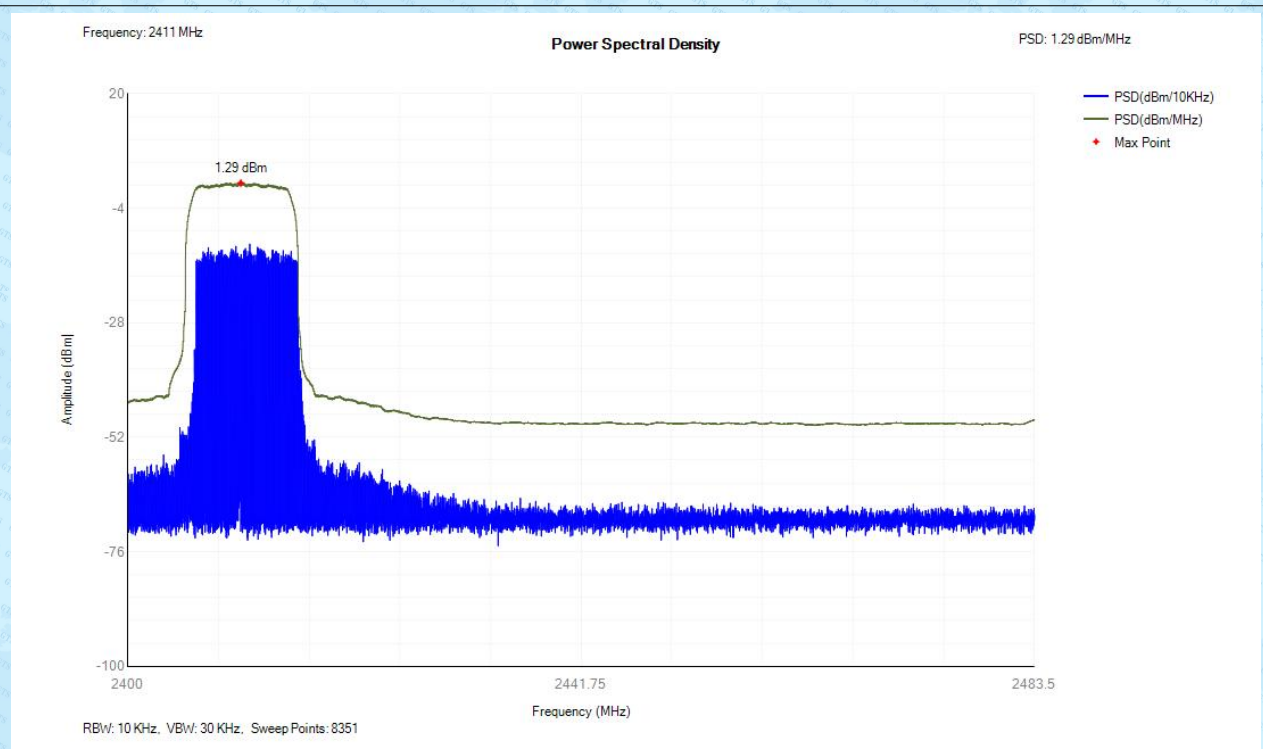
PSD NVNT TX 2433MHz Ant1



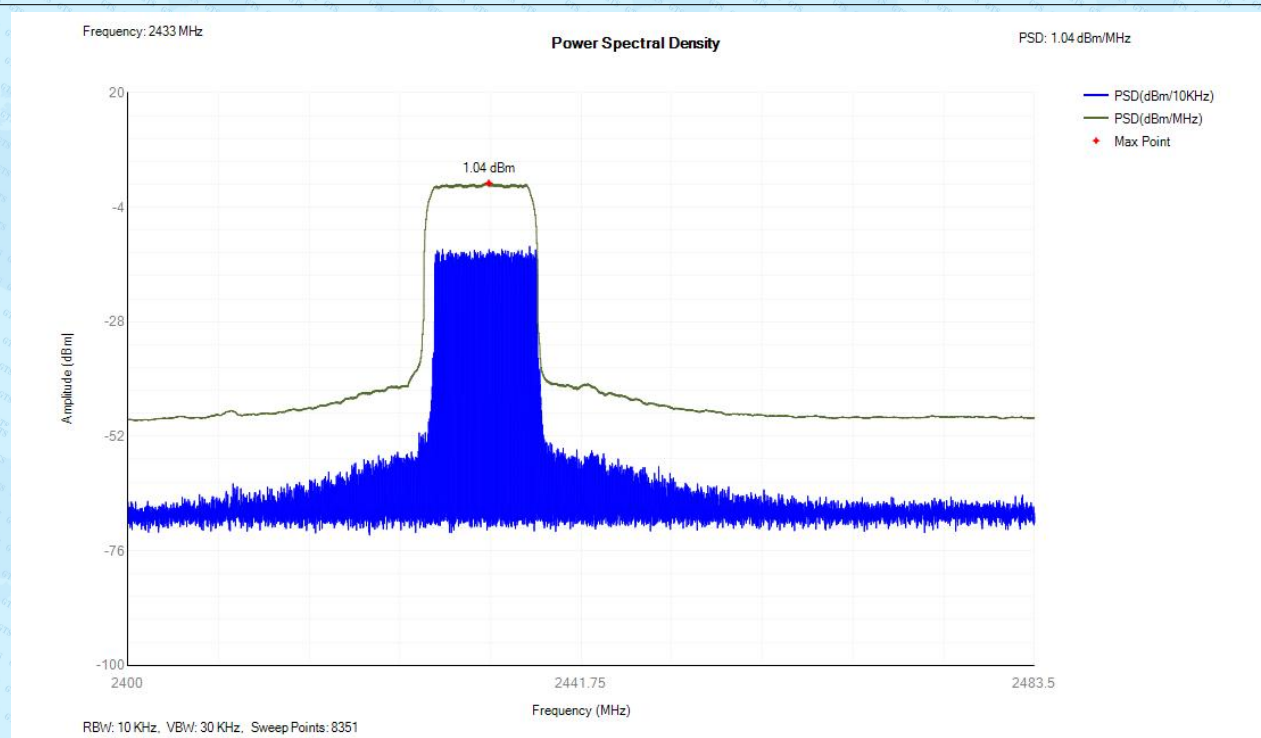
PSD NVNT TX 2466MHz Ant1



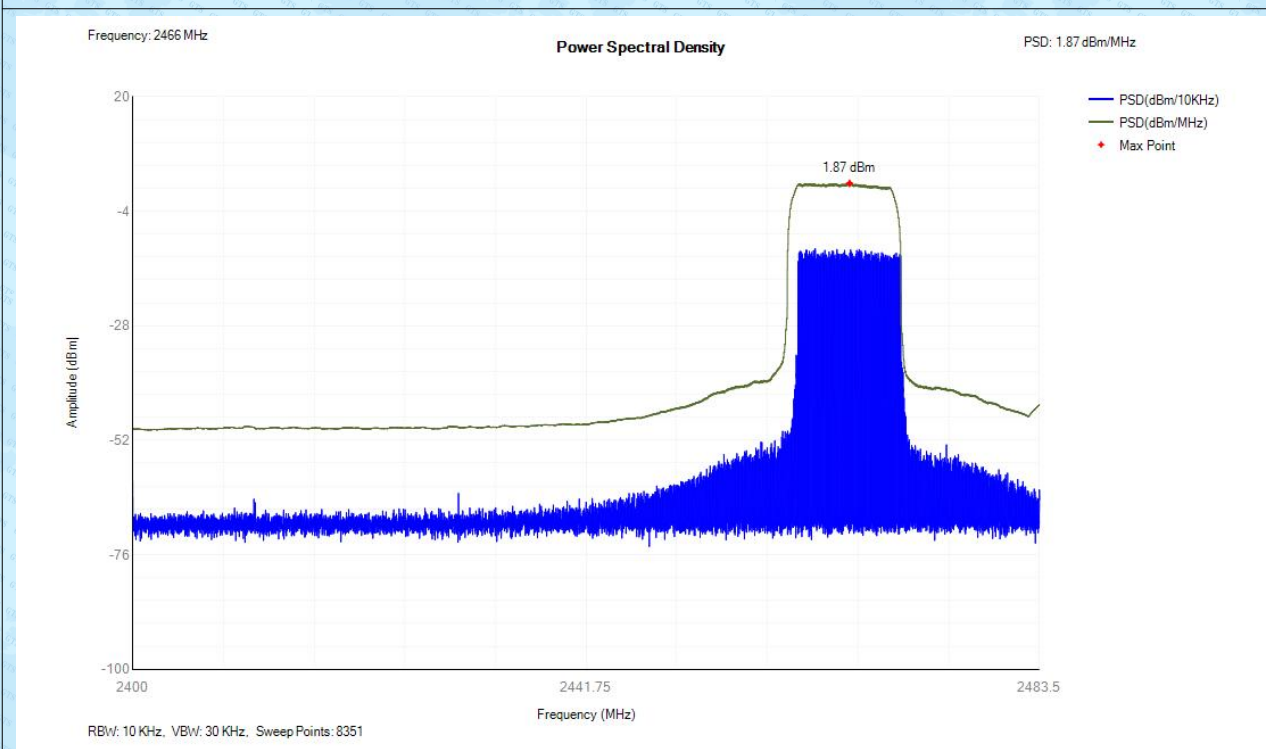
PSD NVNT TX 2411MHz Ant2



PSD NVNT TX 2433MHz Ant2



PSD NVNT TX 2466MHz Ant2

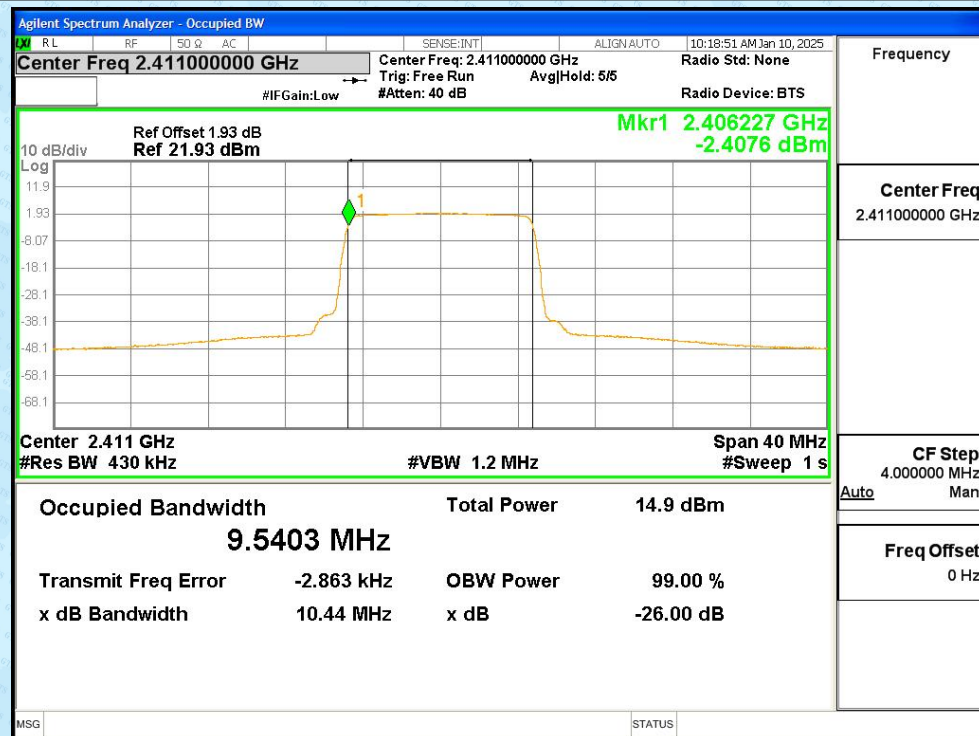


1.3 Occupied Channel Bandwidth

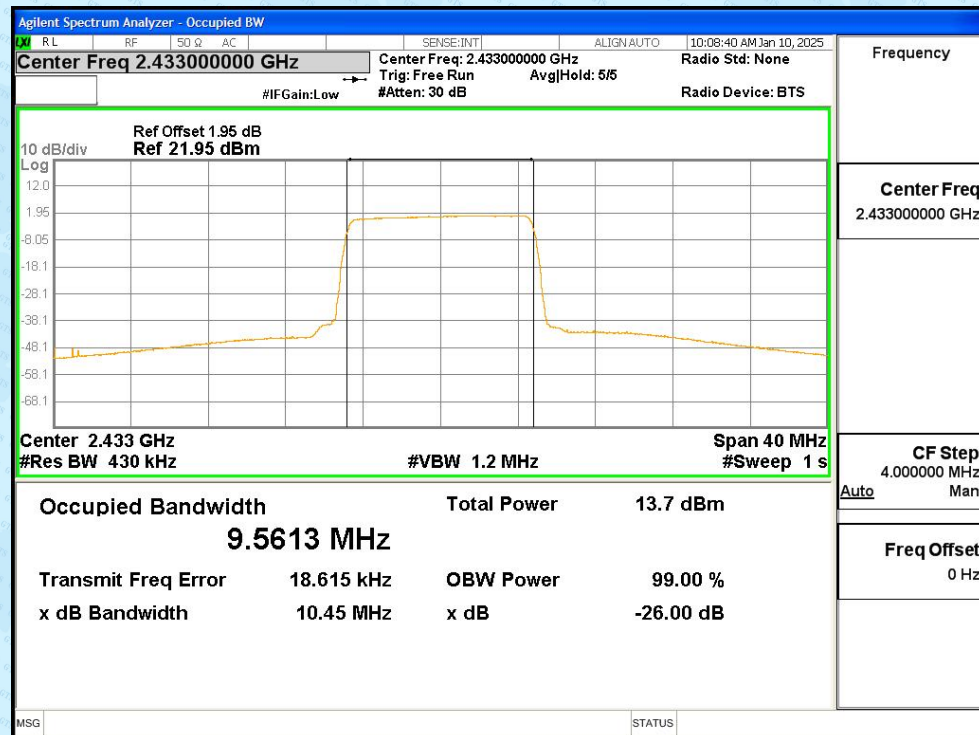
Condition	Mode	Frequency (MHz)	Antenna	Center Frequency (MHz)	OBW (MHz)	Lower Edge (MHz)	Upper Edge (MHz)	Limit OBW (MHz)	Verdict
NVNT	TX	2411	Ant1	2410.997	9.54	2406.227	2415.767	2400 - 2483.5MHz	Pass
		2433		2433.019	9.561	2428.238	2437.799	2400 - 2483.5MHz	Pass
		2466		2466.005	9.574	2461.217	2470.792	2400 - 2483.5MHz	Pass
		2411	Ant2	2410.985	9.536	2406.217	2415.753	2400 - 2483.5MHz	Pass
		2433		2433.009	9.558	2428.23	2437.788	2400 - 2483.5MHz	Pass
		2466		2465.986	9.568	2461.202	2470.77	2400 - 2483.5MHz	Pass

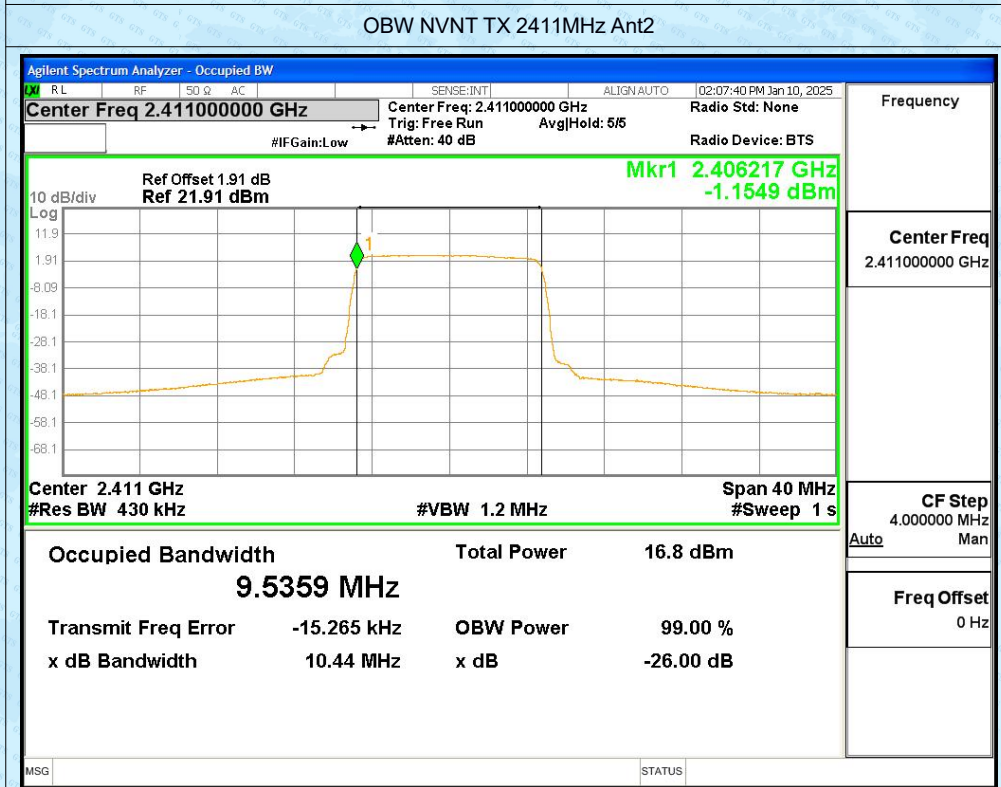
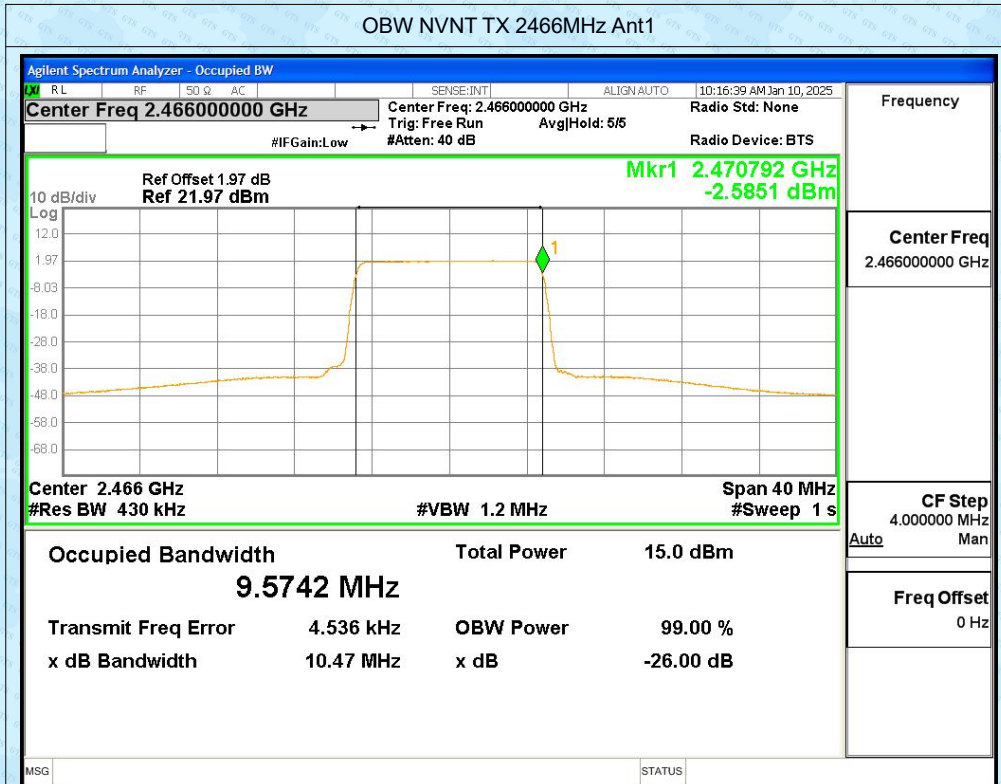
Test Graphs

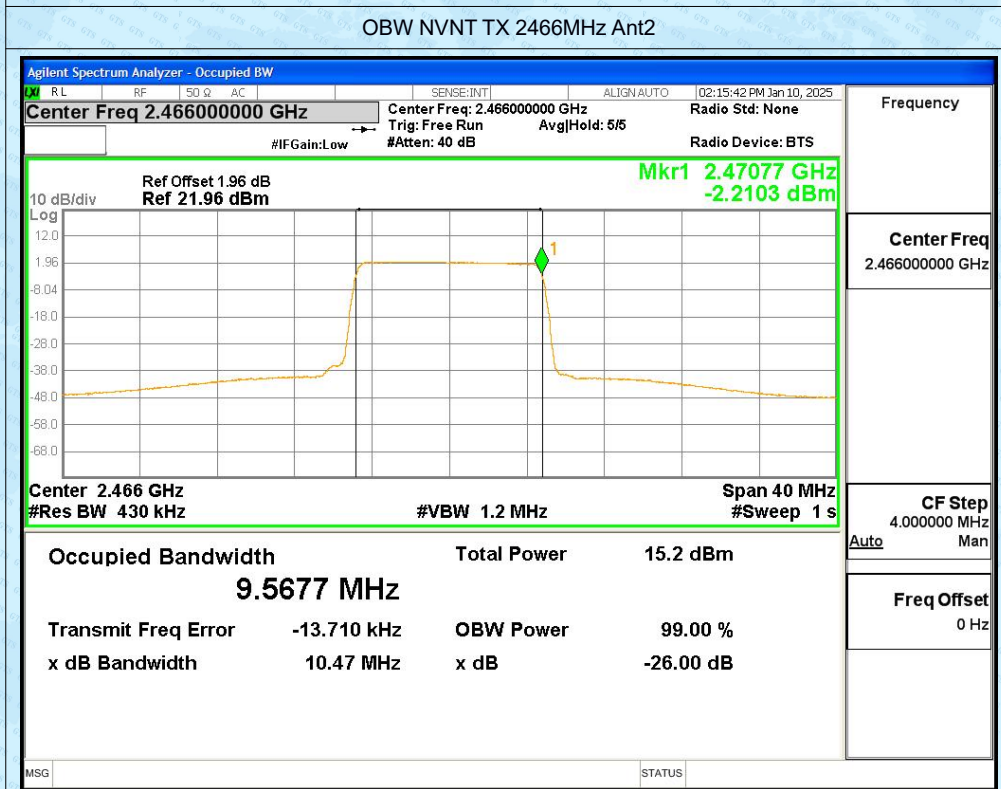
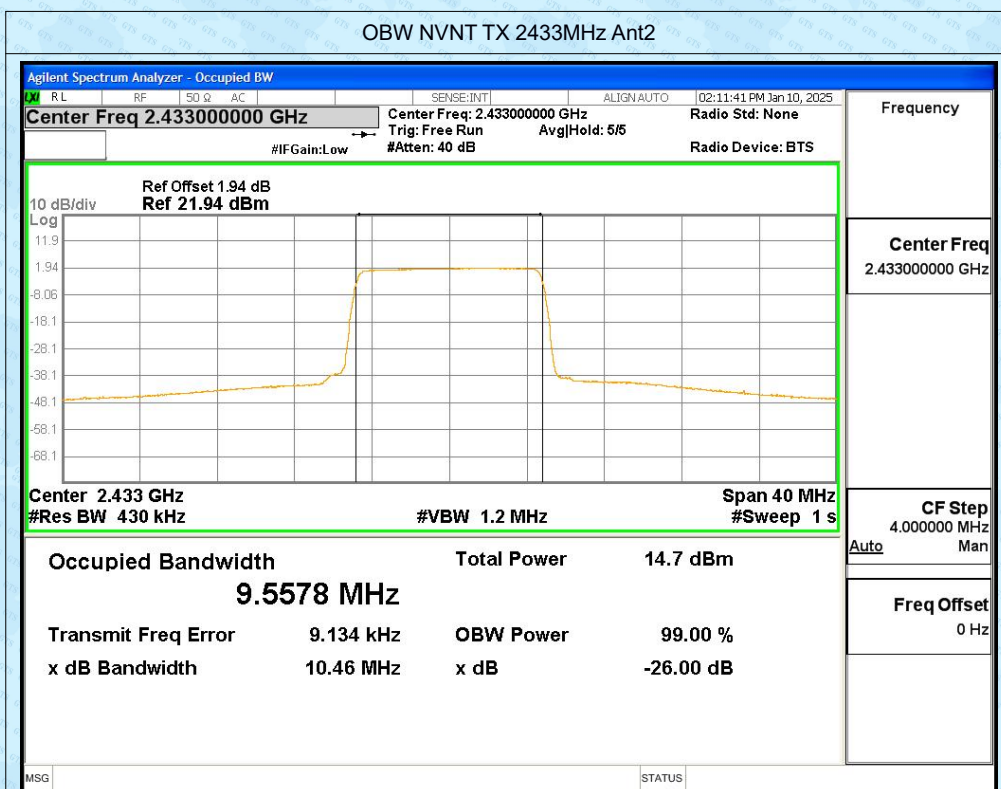
OBW NVNT TX 2411MHz Ant1



OBW NVNT TX 2433MHz Ant1







1.4 Transmitter unwanted emissions in the out-of-band domain

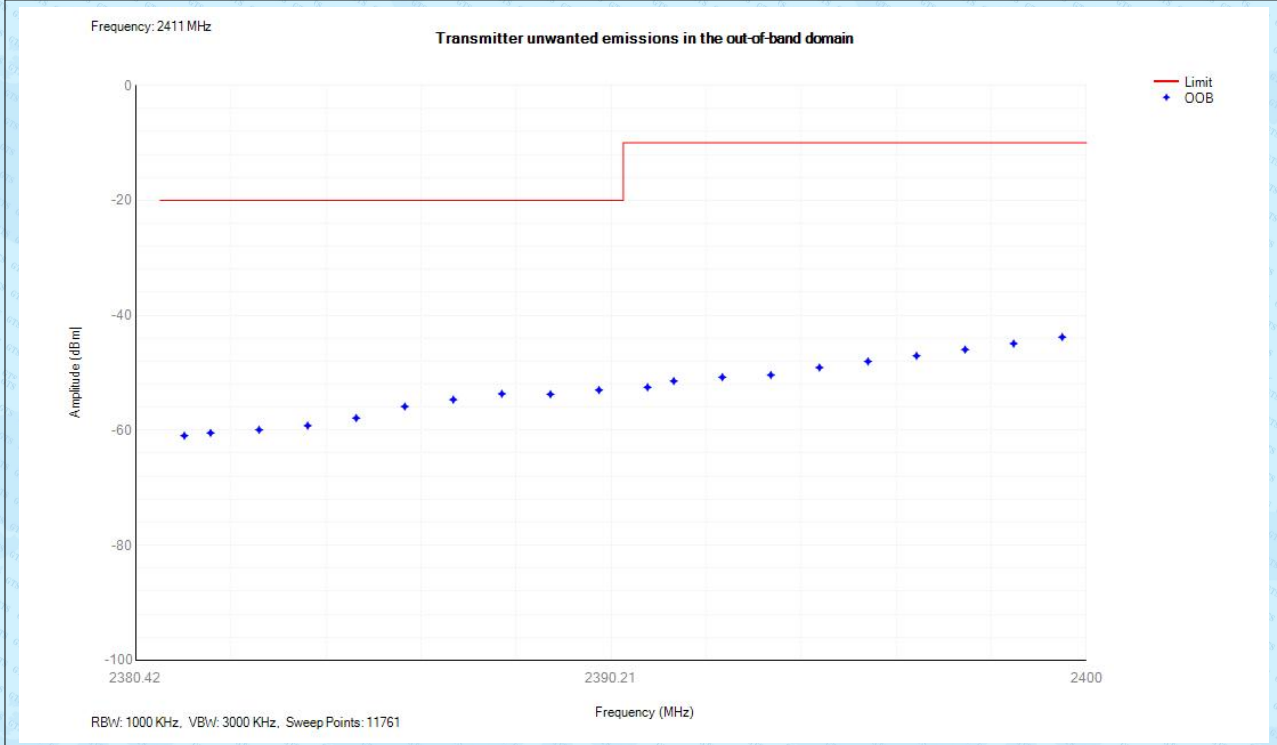
Condition	Mode	Frequency (MHz)	Antenna	OOB Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	TX	2411	Ant1	2399.5	-43.78	-10	Pass
				2398.5	-44.91	-10	Pass
				2397.5	-45.95	-10	Pass
				2396.5	-47.04	-10	Pass
				2395.5	-48.01	-10	Pass
				2394.5	-49.08	-10	Pass
				2393.5	-50.38	-10	Pass
				2392.5	-50.76	-10	Pass
				2391.5	-51.43	-10	Pass
				2390.96	-52.51	-10	Pass
				2389.96	-52.99	-20	Pass
				2388.96	-53.73	-20	Pass
				2387.96	-53.65	-20	Pass
				2386.96	-54.66	-20	Pass
				2385.96	-55.86	-20	Pass
				2384.96	-57.87	-20	Pass
				2383.96	-59.19	-20	Pass
				2382.96	-59.92	-20	Pass
				2381.96	-60.46	-20	Pass
				2381.42	-60.93	-20	Pass
		2484		-48.61	-10	Pass	
		2485		-49.41	-10	Pass	
		2486		-50.17	-10	Pass	
		2487		-50.86	-10	Pass	
		2488		-51.58	-10	Pass	
		2489		-52.56	-10	Pass	
		2490		-53.91	-10	Pass	
		2491		-55.42	-10	Pass	
		2492		-57.3	-10	Pass	
		2492.571		-59.07	-10	Pass	
		2493.571		-62.85	-20	Pass	
		2494.571		-64.88	-20	Pass	
		2495.571		-65.36	-20	Pass	
		2496.571		-65.39	-20	Pass	
		2497.571		-65.39	-20	Pass	
		2498.571		-65.45	-20	Pass	
		2499.571		-65.39	-20	Pass	
		2500.571		-65.47	-20	Pass	
		2501.571		-65.45	-20	Pass	
		2502.142		-65.4	-20	Pass	
		2411	Ant2	2399.5	-40.74	-10	Pass

			2398.5	-41.88	-10	Pass
			2397.5	-43.04	-10	Pass
			2396.5	-44.22	-10	Pass
			2395.5	-45.05	-10	Pass
			2394.5	-46.32	-10	Pass
			2393.5	-47.29	-10	Pass
			2392.5	-48.09	-10	Pass
			2391.5	-48.92	-10	Pass
			2390.964	-49.14	-10	Pass
			2389.964	-49.87	-20	Pass
			2388.964	-50.51	-20	Pass
			2387.964	-51.31	-20	Pass
			2386.964	-52.12	-20	Pass
			2385.964	-53.15	-20	Pass
			2384.964	-54.31	-20	Pass
			2383.964	-55.41	-20	Pass
			2382.964	-56.76	-20	Pass
			2381.964	-57.95	-20	Pass
			2381.428	-58.47	-20	Pass
			2484	-49.6	-10	Pass
			2485	-50.74	-10	Pass
			2486	-51.63	-10	Pass
			2487	-52.13	-10	Pass
			2488	-52.86	-10	Pass
			2489	-53.36	-10	Pass
			2490	-54.34	-10	Pass
			2491	-55.51	-10	Pass
			2492	-57.08	-10	Pass
			2492.568	-58.24	-10	Pass
			2493.568	-61.1	-20	Pass
			2494.568	-64.06	-20	Pass
			2495.568	-65.08	-20	Pass
			2496.568	-65.29	-20	Pass
			2497.568	-65.26	-20	Pass
			2498.568	-65.27	-20	Pass
			2499.568	-65.28	-20	Pass
			2500.568	-65.33	-20	Pass
			2501.568	-65.29	-20	Pass
			2502.136	-65.22	-20	Pass

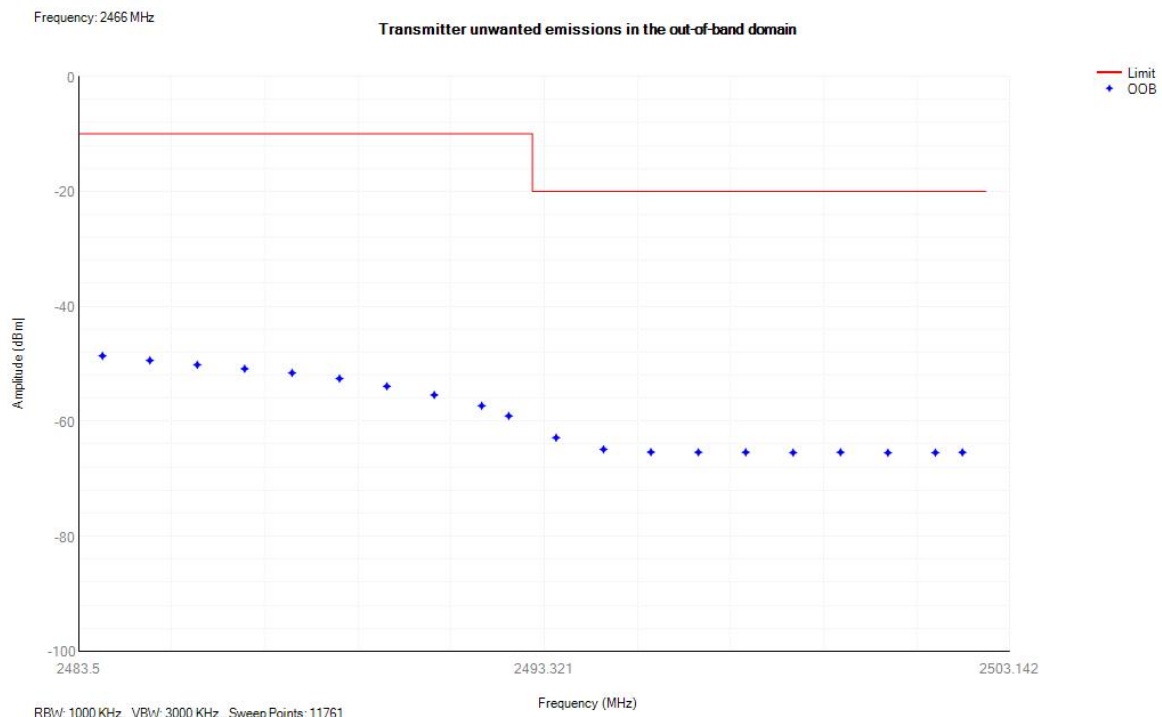
2466

Test Graphs

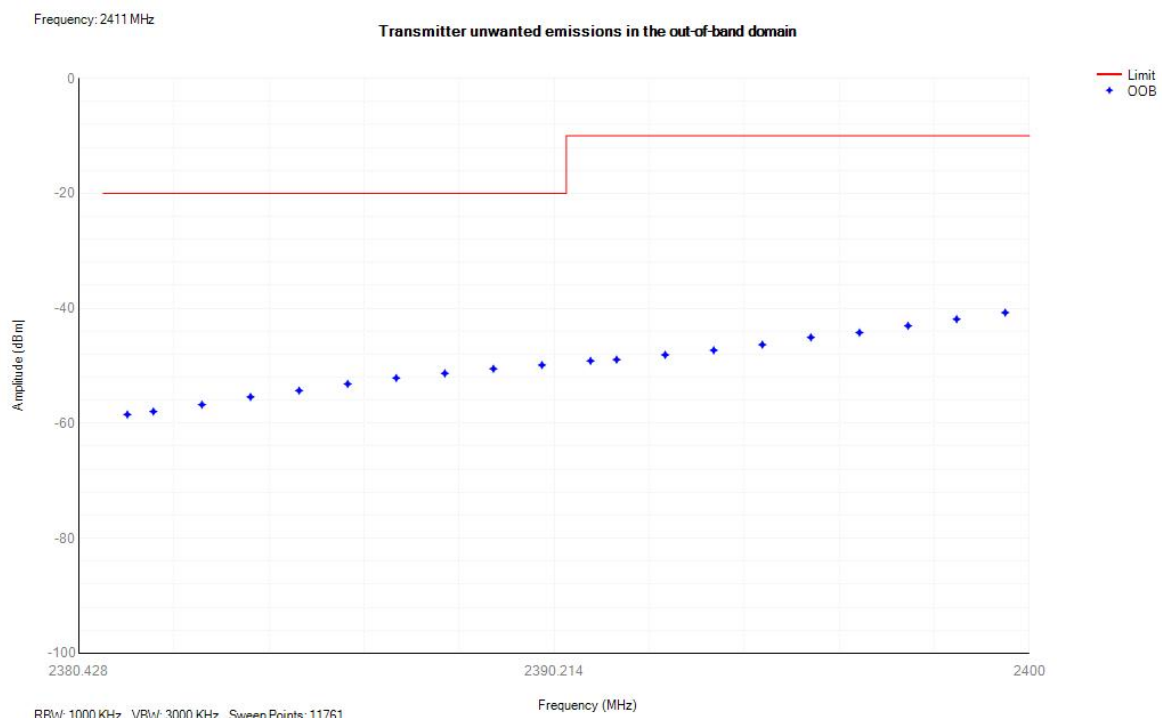
Tx. Emissions OOB NVNT TX 2411MHz Ant1

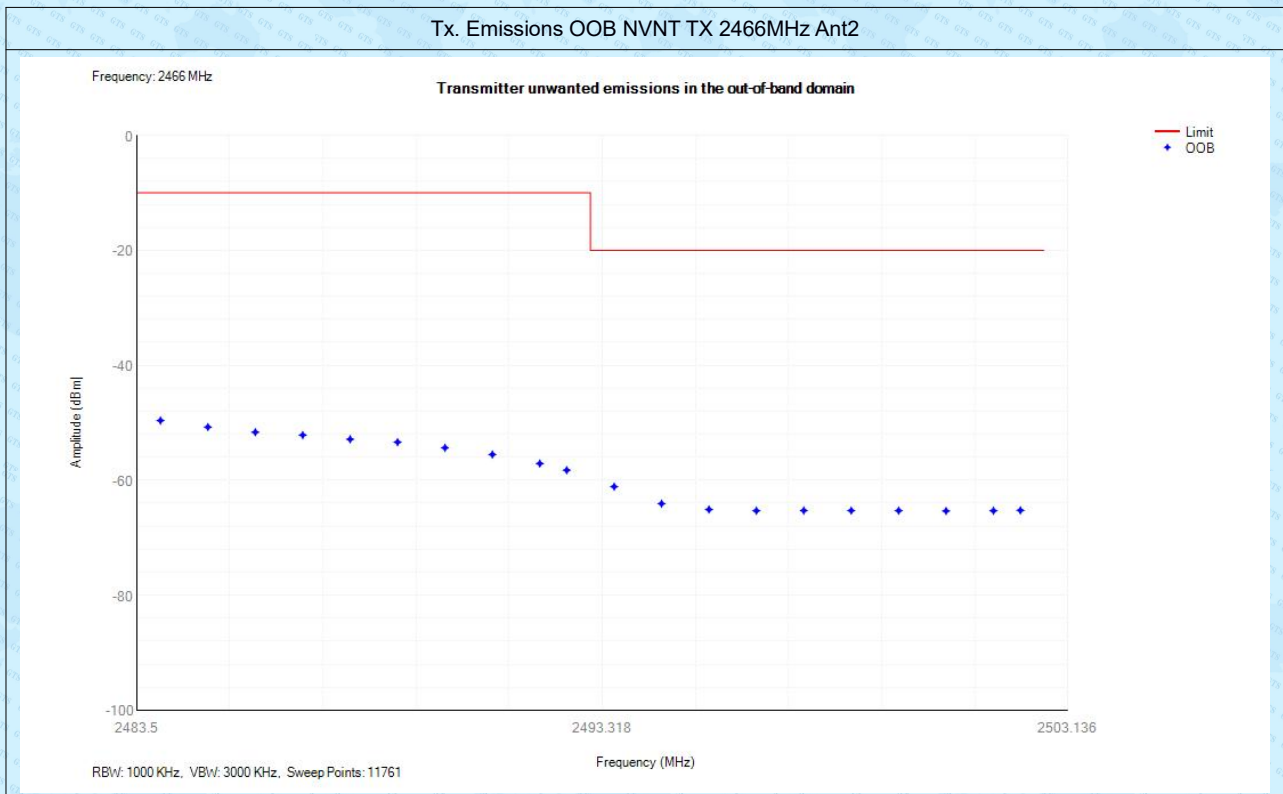


Tx. Emissions OOB NVNT TX 2466MHz Ant1



Tx. Emissions OOB NVNT TX 2411MHz Ant2





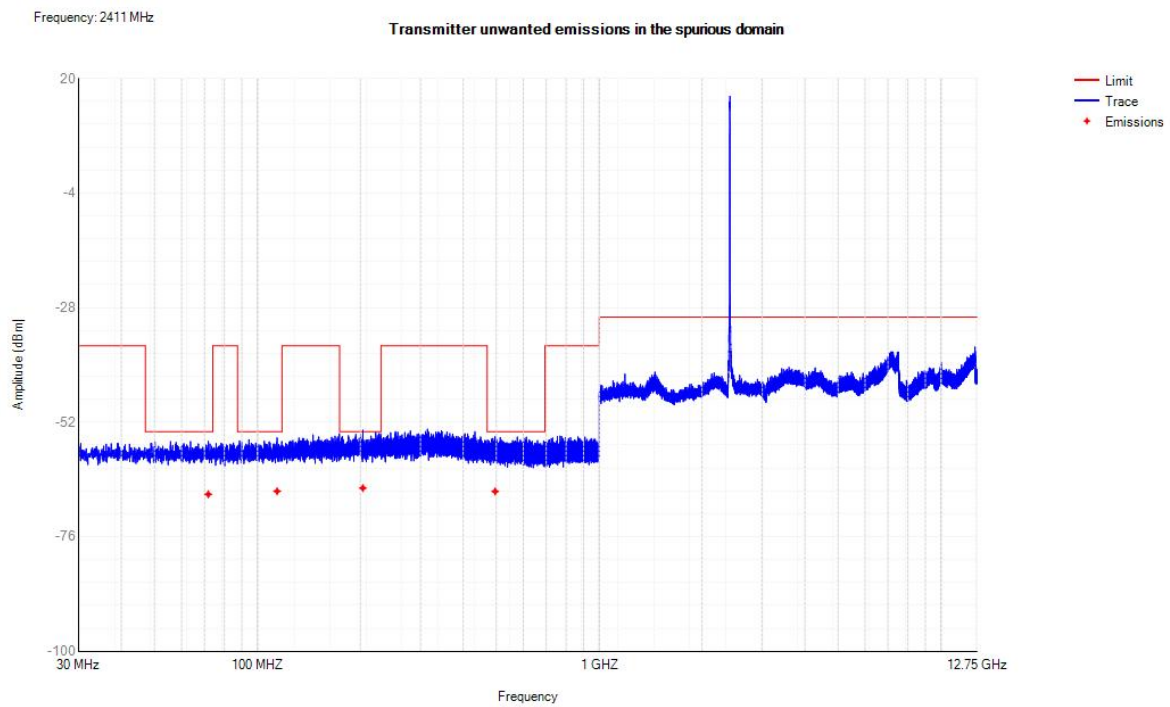
1.5 Transmitter unwanted emissions in the spurious domain

Condition	Mode	Frequency (MHz)	Antenna	Range (MHz)	Spur Freq (MHz)	Peak (dBm)	RMS (dBm)	Limit (dBm)	Verdict	
NVNT	TX	2411	Ant1	30 -47	30.40	-56.45	NA	-36	Pass	
				47 -74	71.80	-56.03	-67.11	-54	Pass	
				74 -87.5	85.05	-56.35	NA	-36	Pass	
				87.5 -118	114.15	-55.28	-66.47	-54	Pass	
				118 -174	173.65	-54.41	NA	-36	Pass	
				174 -230	203.50	-53.67	-65.81	-54	Pass	
				230 -470	314.35	-53.46	NA	-36	Pass	
				470 -694	496.10	-55.01	-66.51	-54	Pass	
				694 -1000	768.50	-54.91	NA	-36	Pass	
				1000 -2360	1455.50	-41.49	NA	-30	Pass	
				2523.5 -12750	12573.50	-36.22	NA	-30	Pass	
		2433		30 -47	40.60	-67.00	NA	-36	Pass	
				47 -74	53.65	-66.19	NA	-54	Pass	
				74 -87.5	78.00	-67.16	NA	-36	Pass	
				87.5 -118	98.70	-66.82	NA	-54	Pass	
				118 -174	144.40	-66.69	NA	-36	Pass	
				174 -230	215.55	-66.59	NA	-54	Pass	
				230 -470	270.00	-65.22	NA	-36	Pass	
				470 -694	486.20	-66.12	NA	-54	Pass	
				694 -1000	875.60	-65.71	NA	-36	Pass	
				1000 -2360	2247.00	-51.87	NA	-30	Pass	
				2523.5 -12750	4868.00	-39.58	NA	-30	Pass	
		2466		30 -47	34.85	-66.19	NA	-36	Pass	
				47 -74	54.40	-64.54	NA	-54	Pass	
				74 -87.5	86.10	-67.16	NA	-36	Pass	
				87.5 -118	99.50	-66.21	NA	-54	Pass	
				118 -174	165.85	-66.65	NA	-36	Pass	
				174 -230	227.30	-66.24	NA	-54	Pass	
				230 -470	270.00	-64.55	NA	-36	Pass	
				470 -694	493.85	-66.07	NA	-54	Pass	
				694 -1000	923.05	-65.22	NA	-36	Pass	
				1000 -2360	2213.00	-51.65	NA	-30	Pass	
				2523.5 -12750	4933.50	-35.40	-49.5	-30	Pass	
		2411		Ant2	30 -47	35.25	-46.76	NA	-36	Pass
					47 -74	58.20	-45.26	-59.4	-54	Pass
					74 -87.5	75.25	-45.45	NA	-36	Pass
					87.5 -118	117.00	-43.68	-57.09	-54	Pass

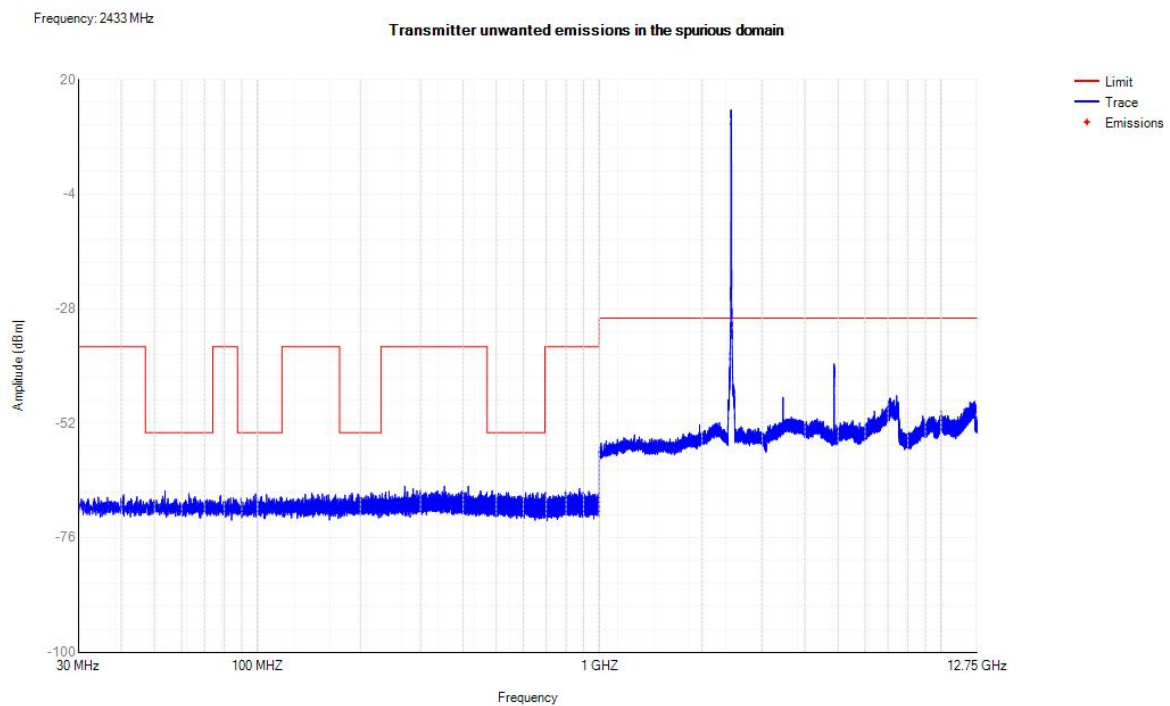
		2433	118 -174	164.90	-42.82	NA	-36	Pass
			174 -230	224.95	-42.02	-55.18	-54	Pass
			230 -470	278.70	-41.29	-54.73	-36	Pass
			470 -694	490.50	-43.54	-57.9	-54	Pass
			694 -1000	754.60	-44.16	NA	-36	Pass
			1000 -2360	1467.50	-26.80	-43.93	-30	Pass
			2523.5	4825.50	-34.78	-50.92	-30	Pass
			-12750					
			30 -47	35.85	-65.90	NA	-36	Pass
			47 -74	72.50	-65.66	NA	-54	Pass
			74 -87.5	82.00	-66.43	NA	-36	Pass
			87.5 -118	113.50	-66.41	NA	-54	Pass
		2466	118 -174	139.30	-67.21	NA	-36	Pass
			174 -230	201.20	-66.29	NA	-54	Pass
			230 -470	270.00	-64.65	NA	-36	Pass
			470 -694	537.10	-65.12	NA	-54	Pass
			694 -1000	837.45	-65.81	NA	-36	Pass
			1000 -2360	2212.50	-51.75	NA	-30	Pass
			2523.5	4864.00	-36.88	NA	-30	Pass
			-12750					
			30 -47	46.85	-66.48	NA	-36	Pass
			47 -74	54.60	-65.58	NA	-54	Pass
			74 -87.5	87.40	-66.68	NA	-36	Pass
			87.5 -118	102.20	-65.97	NA	-54	Pass
			118 -174	132.70	-66.15	NA	-36	Pass
			174 -230	181.60	-66.76	NA	-54	Pass
			230 -470	270.00	-64.37	NA	-36	Pass
			470 -694	507.25	-66.25	NA	-54	Pass
			694 -1000	861.10	-65.76	NA	-36	Pass
			1000 -2360	2270.00	-50.87	NA	-30	Pass
			2523.5	4931.50	-34.99	-50.04	-30	Pass
			-12750					

Test Graphs

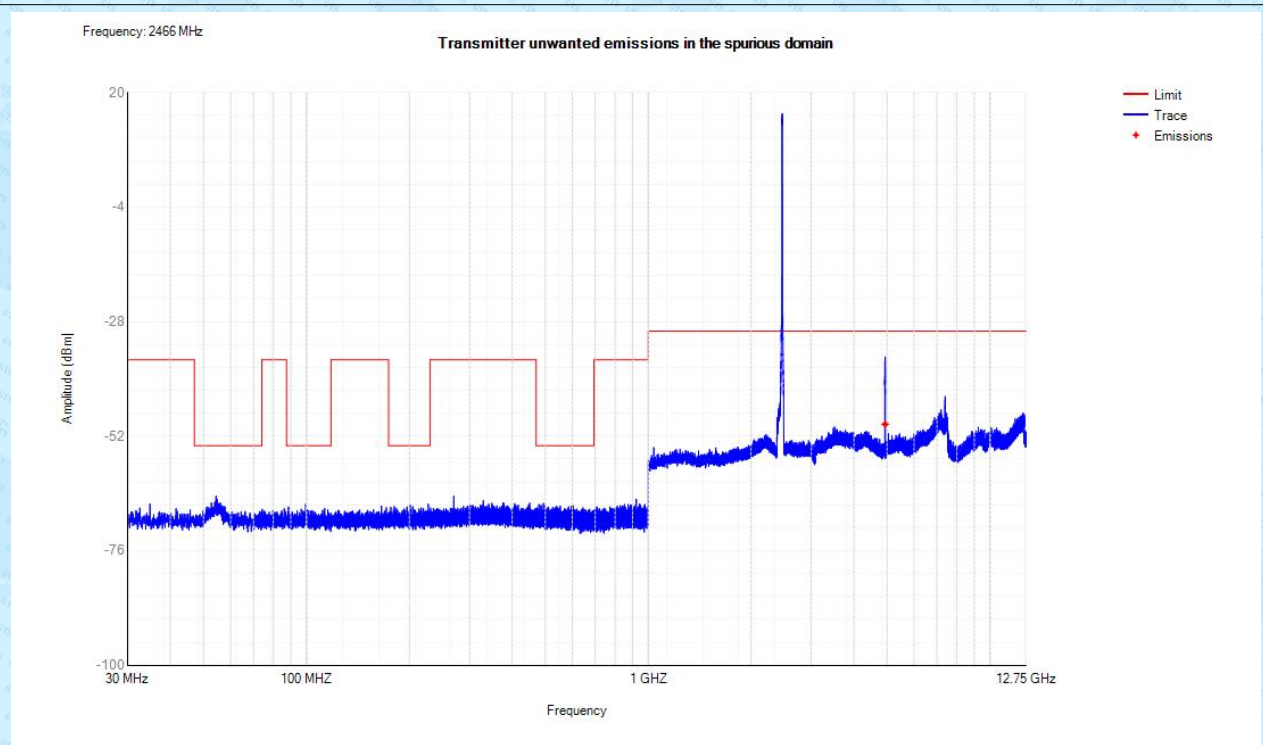
Tx. Spurious NVNT TX 2411MHz Ant1



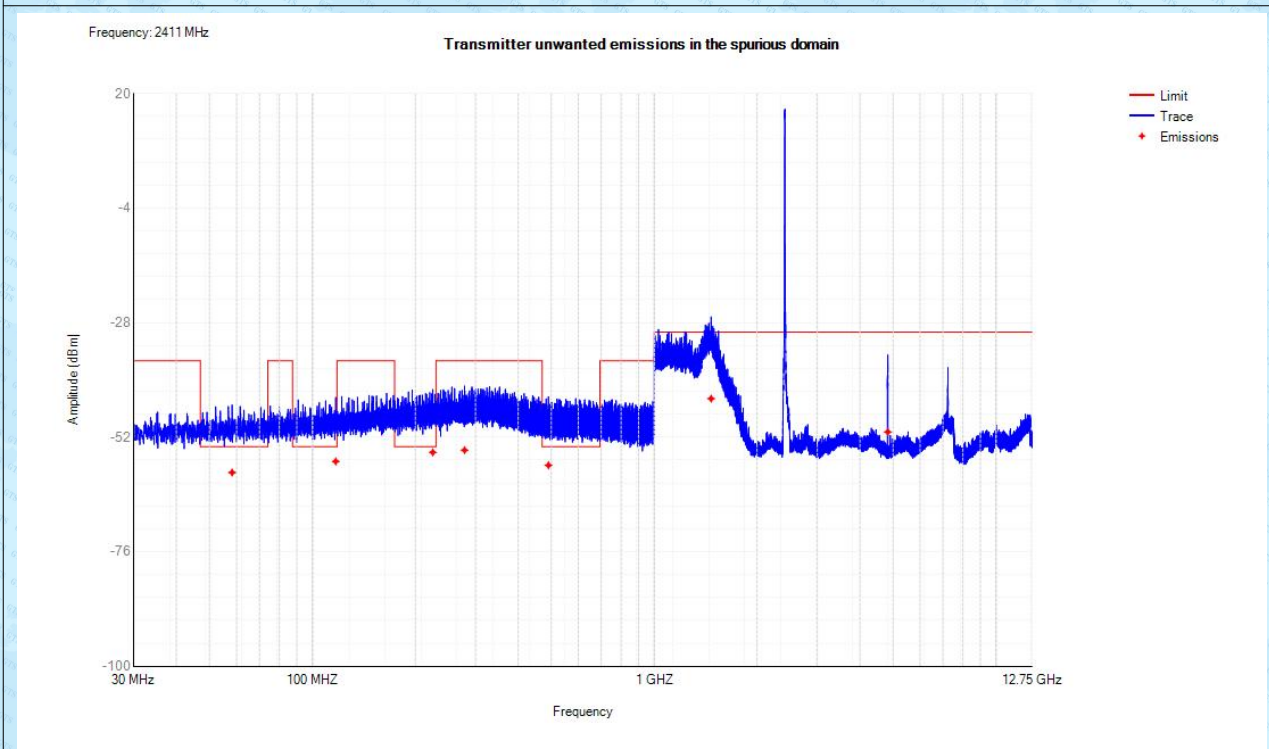
Tx. Spurious NVNT TX 2433MHz Ant1



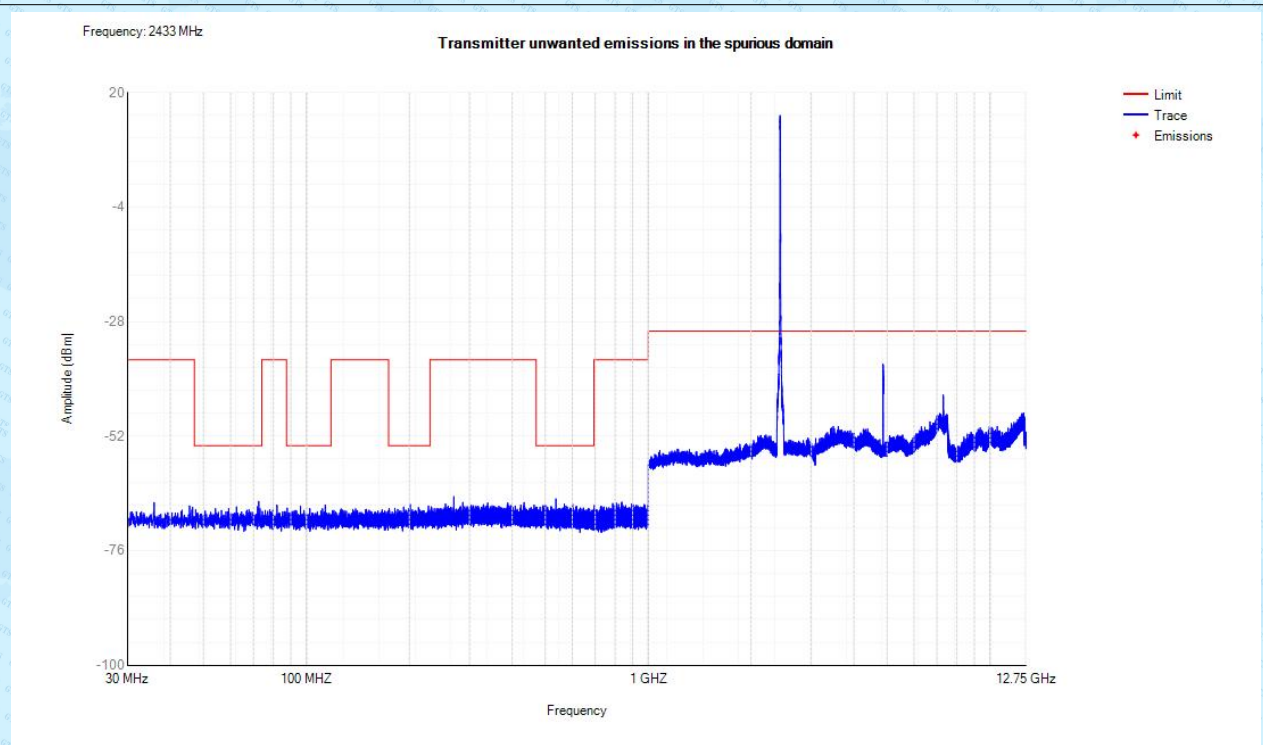
Tx. Spurious NVNT TX 2466MHz Ant1



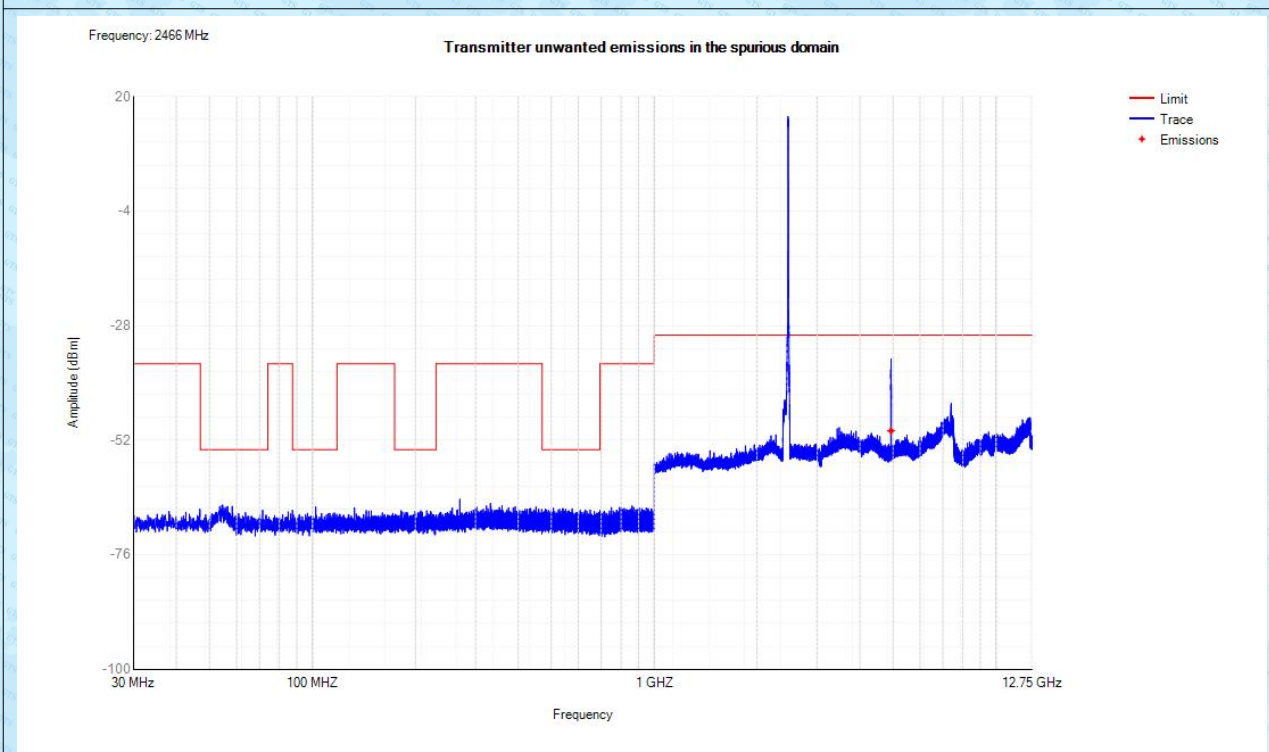
Tx. Spurious NVNT TX 2411MHz Ant2



Tx. Spurious NVNT TX 2433MHz Ant2



Tx. Spurious NVNT TX 2466MHz Ant2

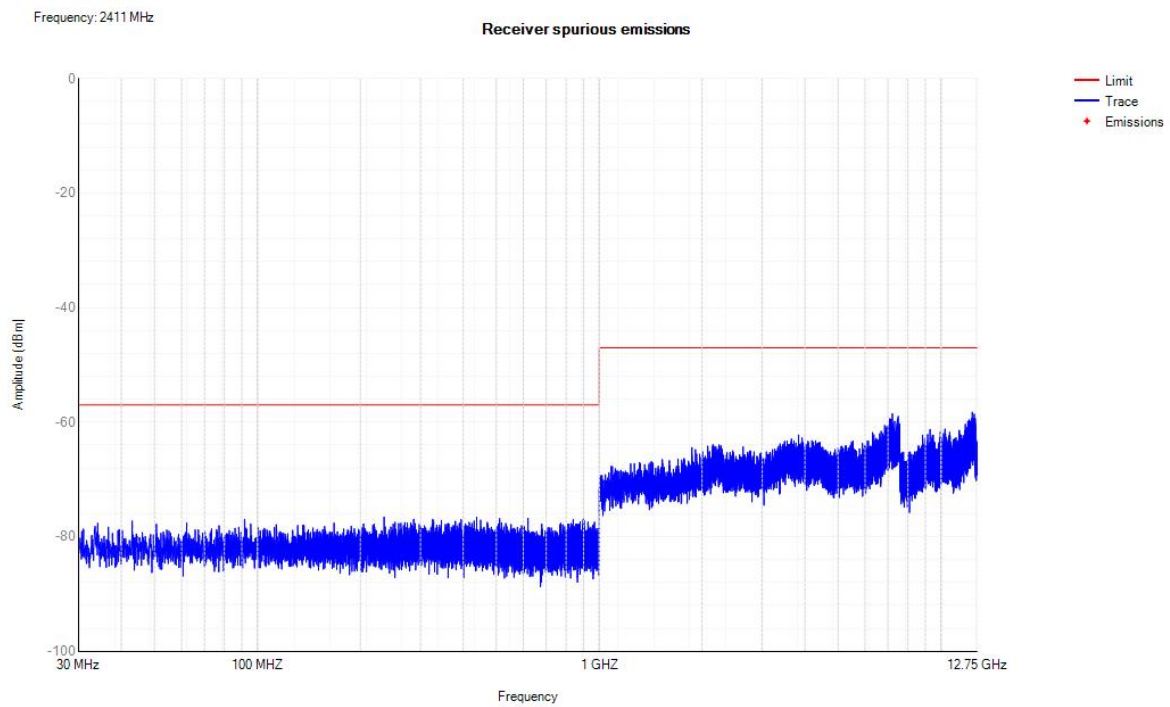


1.6 Receiver spurious emissions

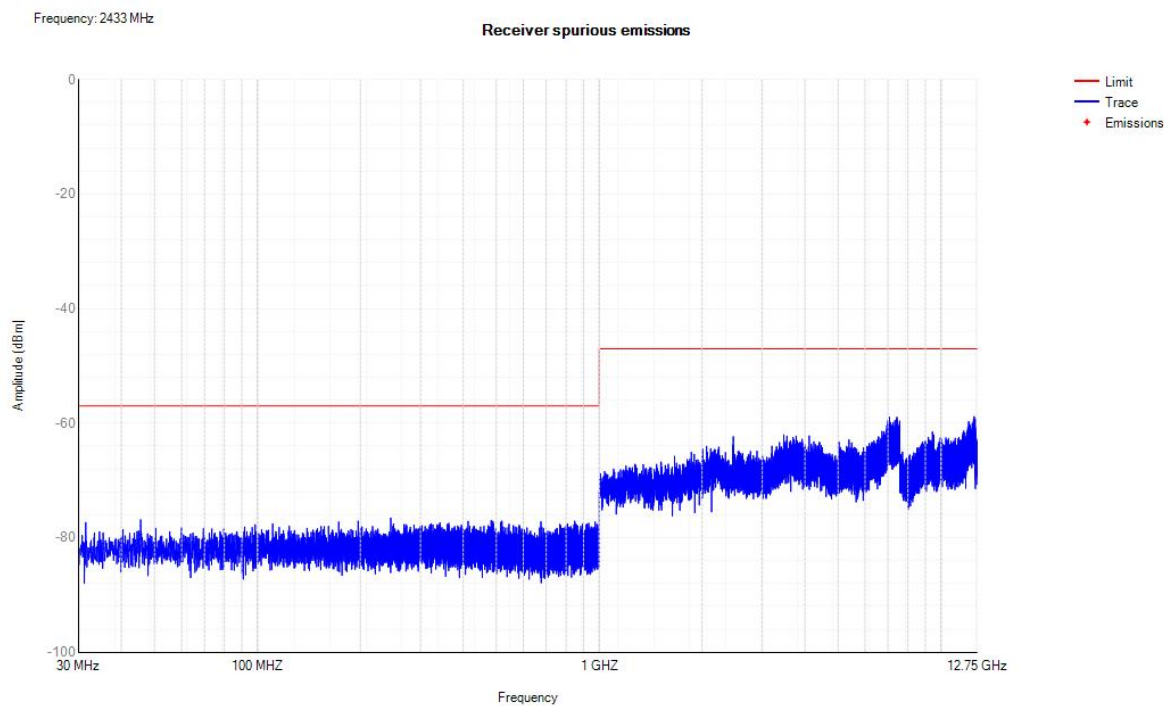
Condition	Mode	Frequency (MHz)	Antenna	Range (MHz)	Spur Freq (MHz)	Peak (dBm)	RMS (dBm)	Limit (dBm)	Verdict
NVNT	RX	2411	Ant1	30 -1000	234.75	-76.56	NA	-57	Pass
				1000 -12750	12349	-58.25	NA	-47	Pass
				30 -1000	245.55	-76.55	NA	-57	Pass
		2433		1000 -12750	12508.5	-58.85	NA	-47	Pass
				30 -1000	245.5	-75.83	NA	-57	Pass
				1000 -12750	12431	-57.74	NA	-47	Pass
		2466	Ant2	30 -1000	289.85	-75.81	NA	-57	Pass
				1000 -12750	12588.5	-58.54	NA	-47	Pass
				30 -1000	363.7	-75.00	NA	-57	Pass
		2433		1000 -12750	12483	-57.22	NA	-47	Pass
				30 -1000	366.25	-75.29	NA	-57	Pass
				1000 -12750	12578	-57.83	NA	-47	Pass

Test Graphs

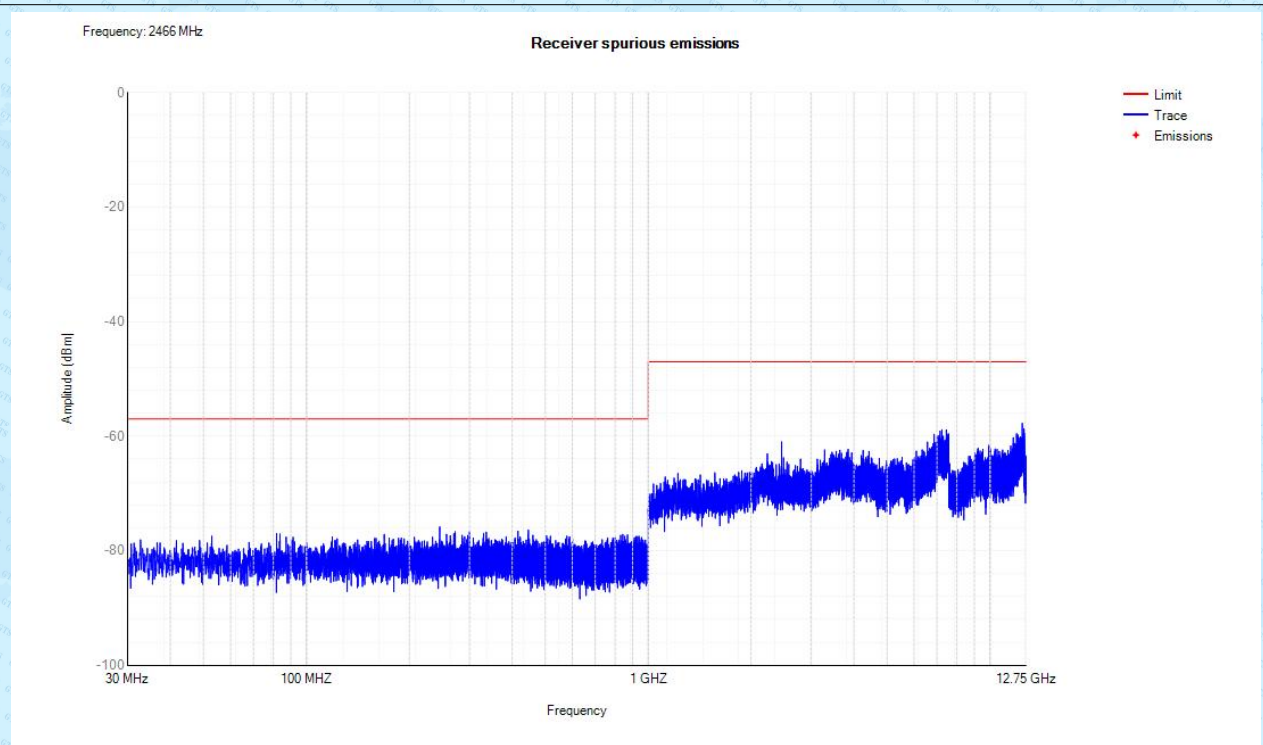
Rx. Spurious NVNT RX 2411MHz Ant1



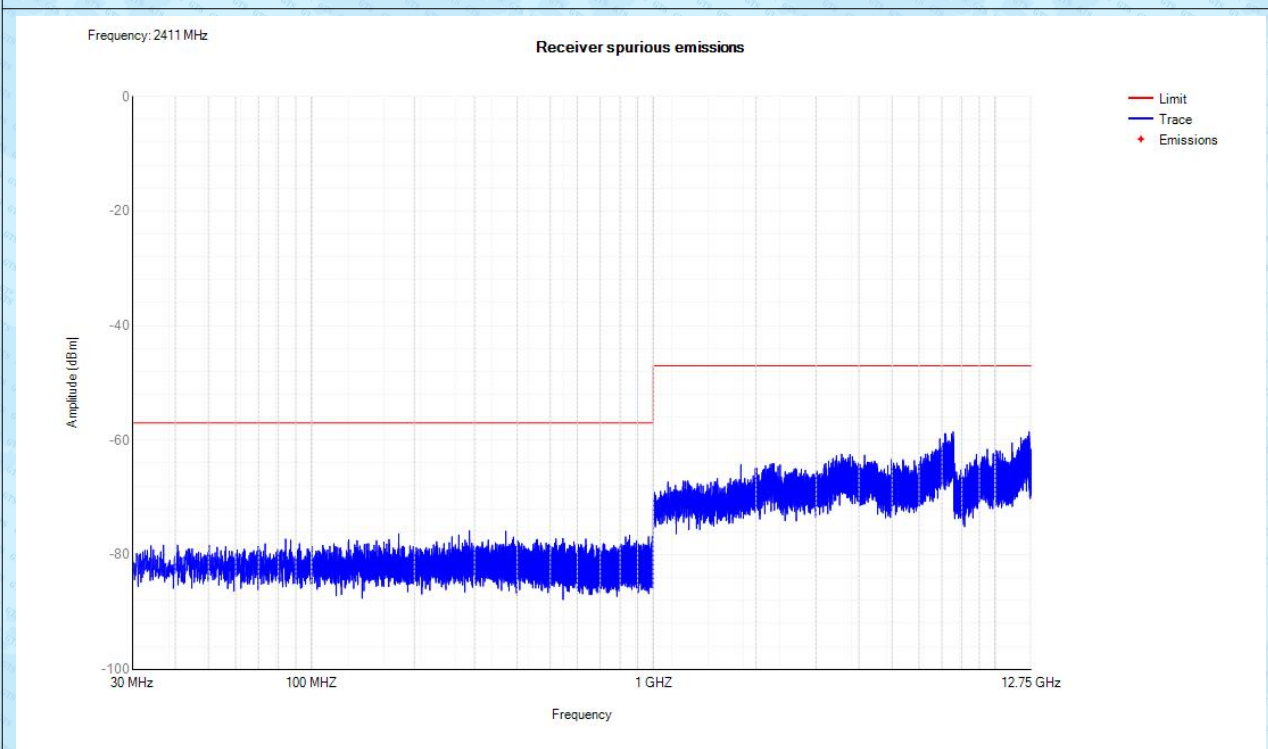
Rx. Spurious NVNT RX 2433MHz Ant1



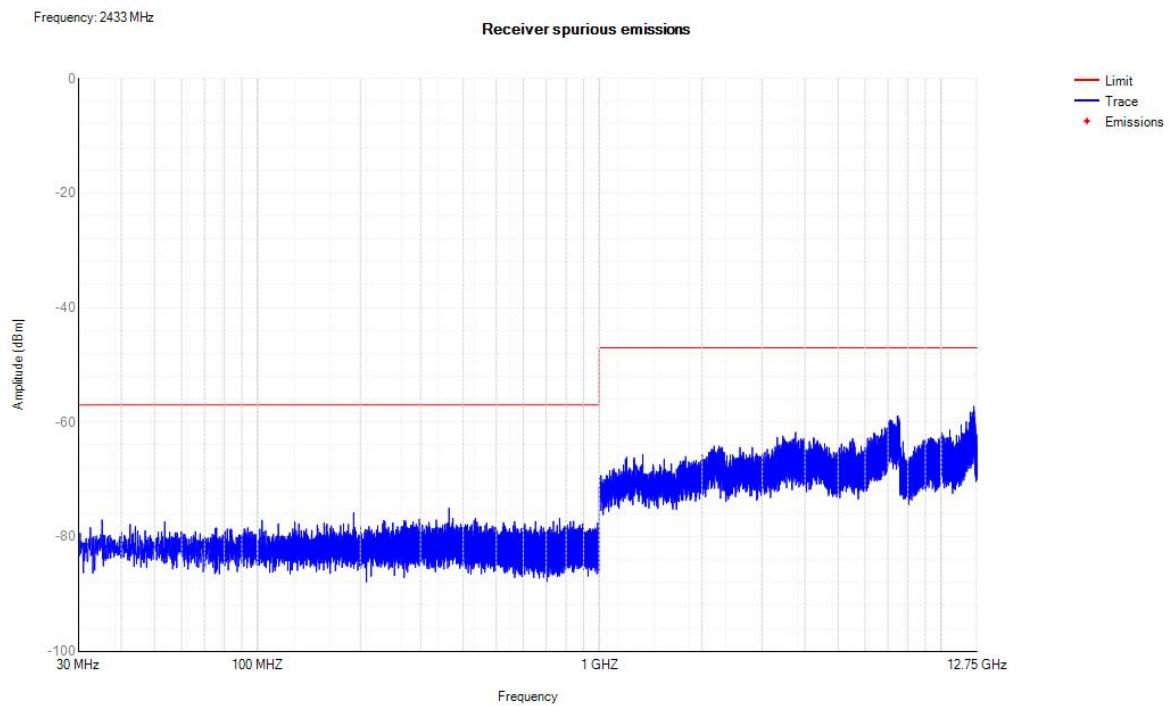
Rx. Spurious NVNT RX 2466MHz Ant1



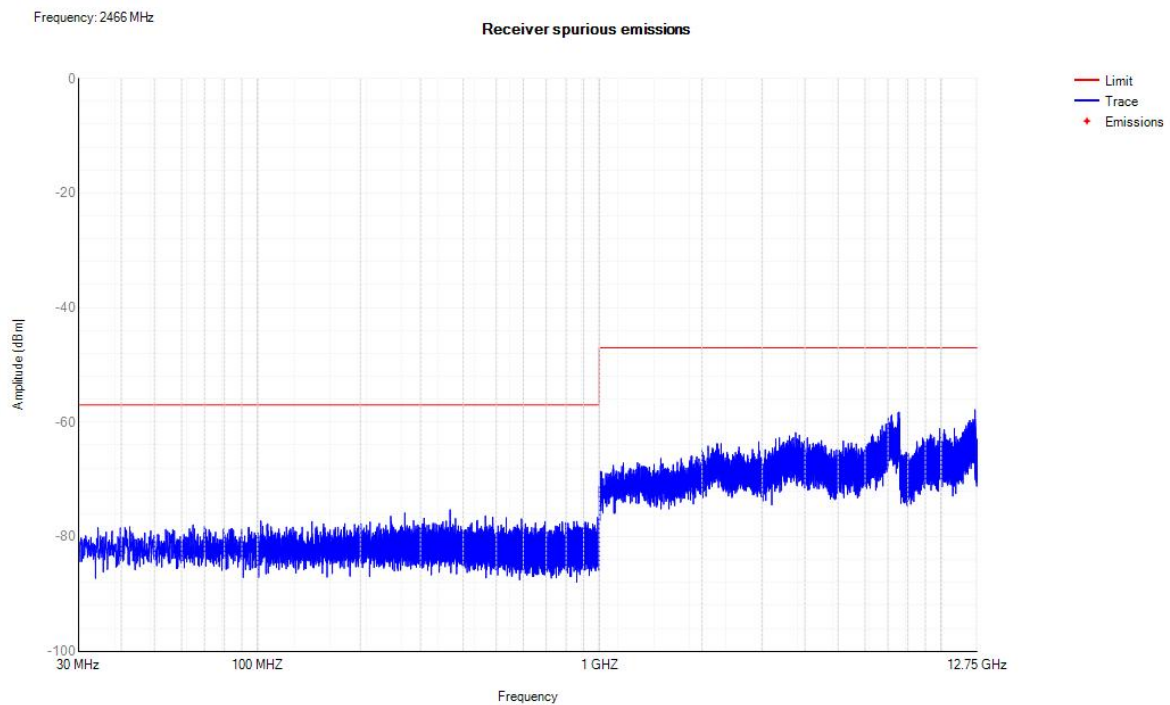
Rx. Spurious NVNT RX 2411MHz Ant2



Rx. Spurious NVNT RX 2433MHz Ant2



Rx. Spurious NVNT RX 2466MHz Ant2

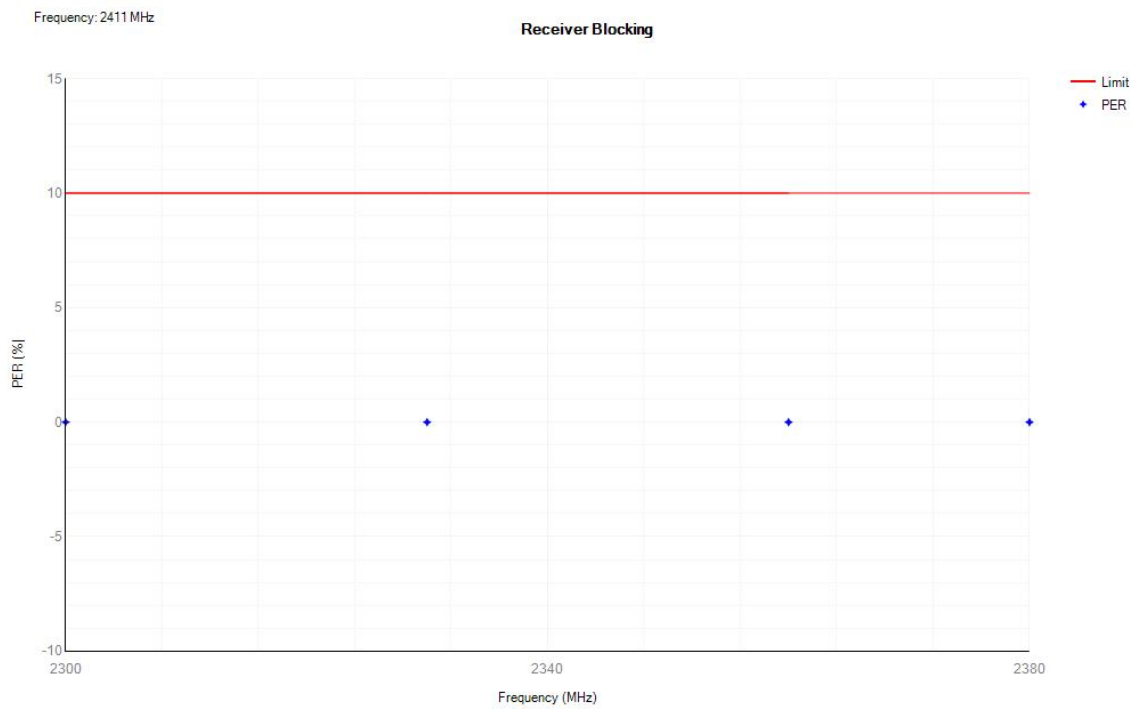


1.7 Receiver Blocking

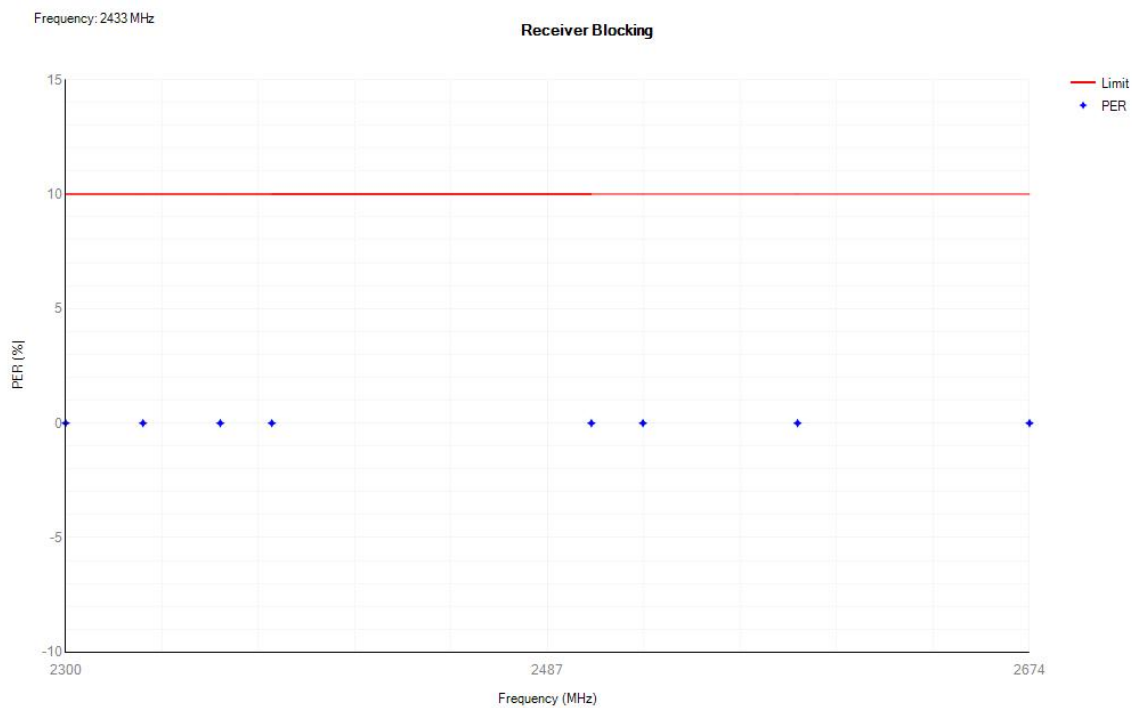
Condition	Mode	Frequency (MHz)	Antenna	Wanted Power (dBm)	Blocking Frequency (MHz)	Blocking Power (dBm)	PER (%)	Limit (%)	Verdict
NVNT	RX	2411	Ant1	-68	2380	-34	0	10	Pass
				-74	2300	-34	0	10	Pass
				-74	2330	-34	0	10	Pass
				-74	2360	-34	0	10	Pass
		-68		2380	-34	0	10	Pass	
		-68		2504	-34	0	10	Pass	
		-74		2300	-34	0	10	Pass	
		-74		2330	-34	0	10	Pass	
		-74		2360	-34	0	10	Pass	
		-74		2524	-34	0	10	Pass	
		-74		2584	-34	0	10	Pass	
		-74		2674	-34	0	10	Pass	
		-68		2504	-34	0	10	Pass	
		-74		2524	-34	0	10	Pass	
		-74		2584	-34	0	10	Pass	
		-74		2674	-34	0	10	Pass	
		2466	-68	2380	-34	0	10	Pass	
			-74	2300	-34	0	10	Pass	
			-74	2330	-34	0	10	Pass	
			-74	2360	-34	0	10	Pass	
		2411	Ant2	-68	2380	-34	0	10	Pass
				-68	2504	-34	0	10	Pass
				-74	2300	-34	0	10	Pass
				-74	2330	-34	0	10	Pass
		-74		2360	-34	0	10	Pass	
		-74		2524	-34	0	10	Pass	
		-74		2584	-34	0	10	Pass	
		-74		2674	-34	0	10	Pass	
		-68		2504	-34	0	10	Pass	
		-74		2524	-34	0	10	Pass	
		-74		2584	-34	0	10	Pass	
		-74		2674	-34	0	10	Pass	
2433	-68	2380		-34	0	10	Pass		
	-68	2504		-34	0	10	Pass		
	-74	2300		-34	0	10	Pass		
	-74	2330		-34	0	10	Pass		
2466	-74	2360	-34	0	10	Pass			
	-74	2524	-34	0	10	Pass			
	-74	2584	-34	0	10	Pass			
	-74	2674	-34	0	10	Pass			

Test Graphs

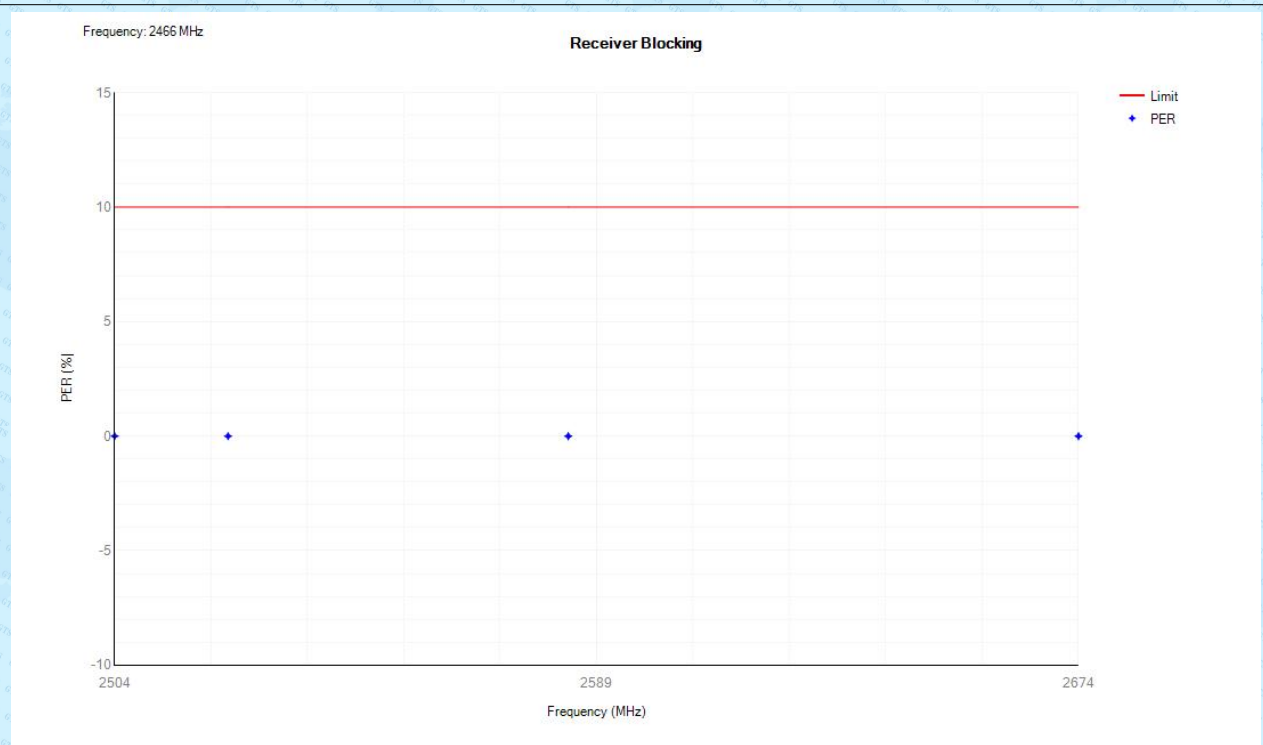
Rx. Blockings NVNT RX 2411MHz Ant1



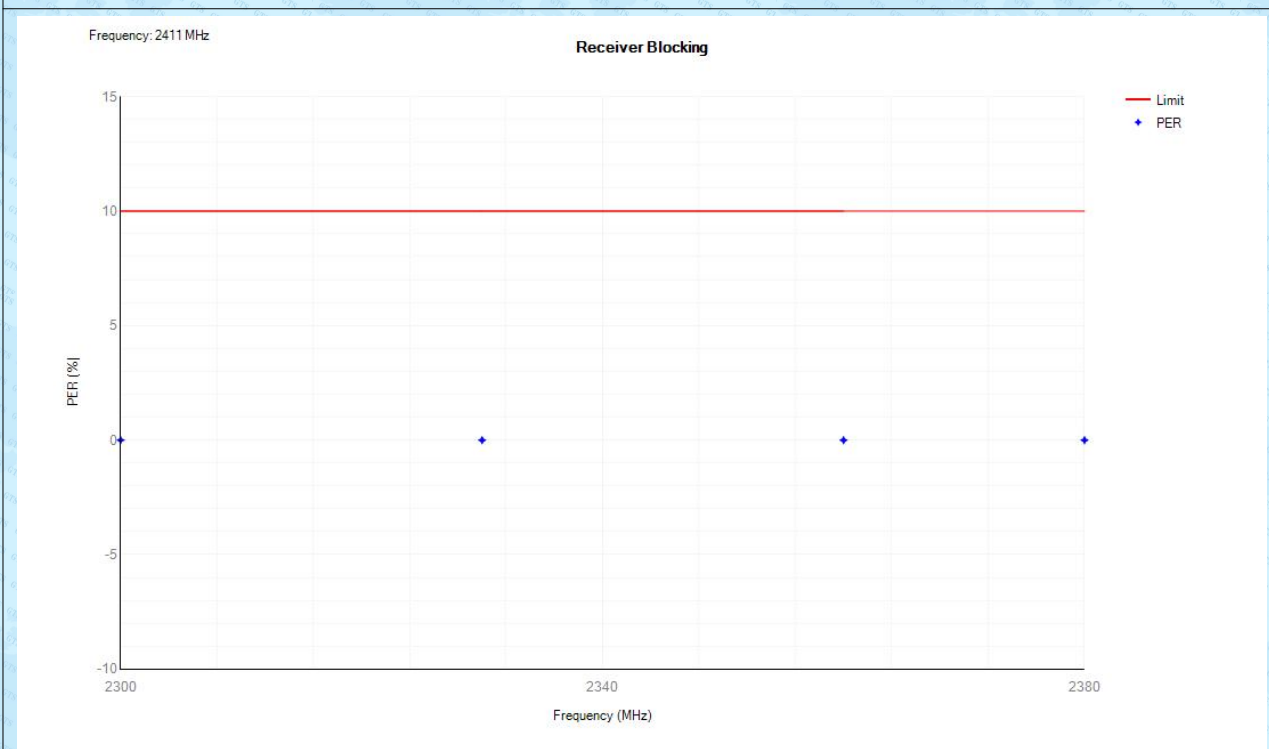
Rx. Blockings NVNT RX 2433MHz Ant1



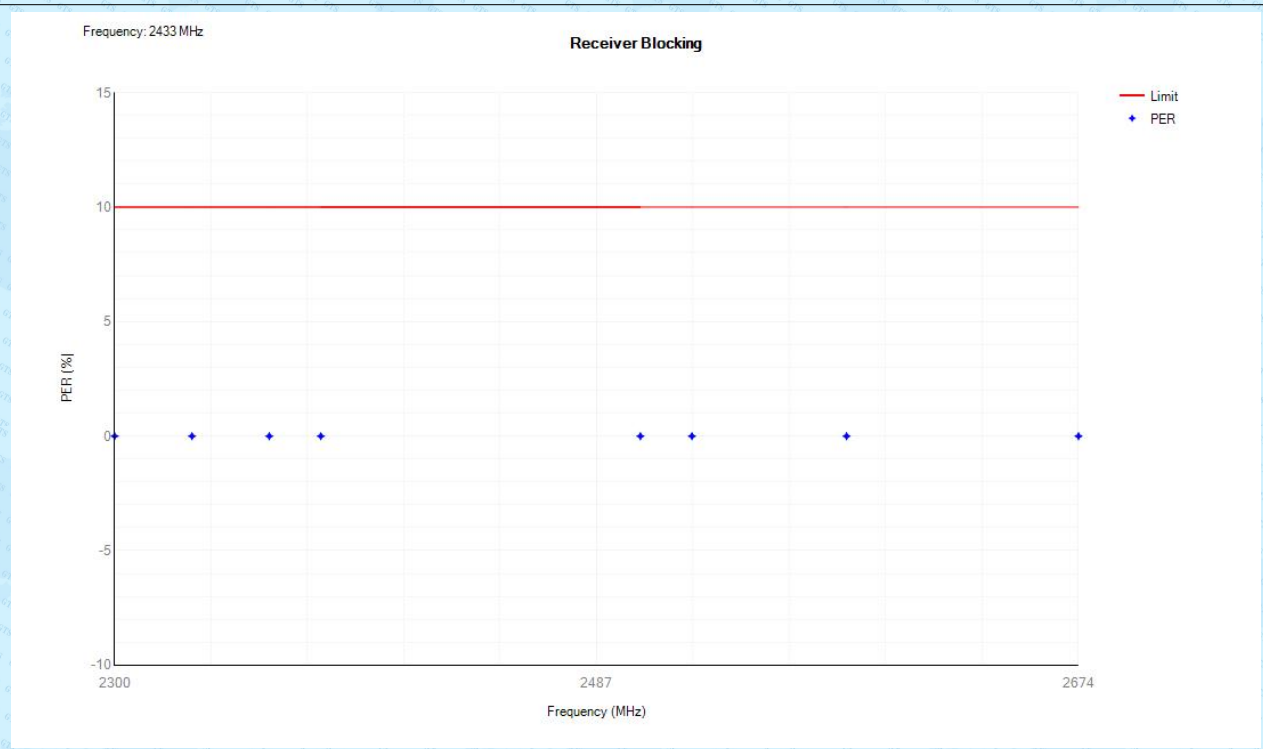
Rx. Blockings NVNT RX 2466MHz Ant1



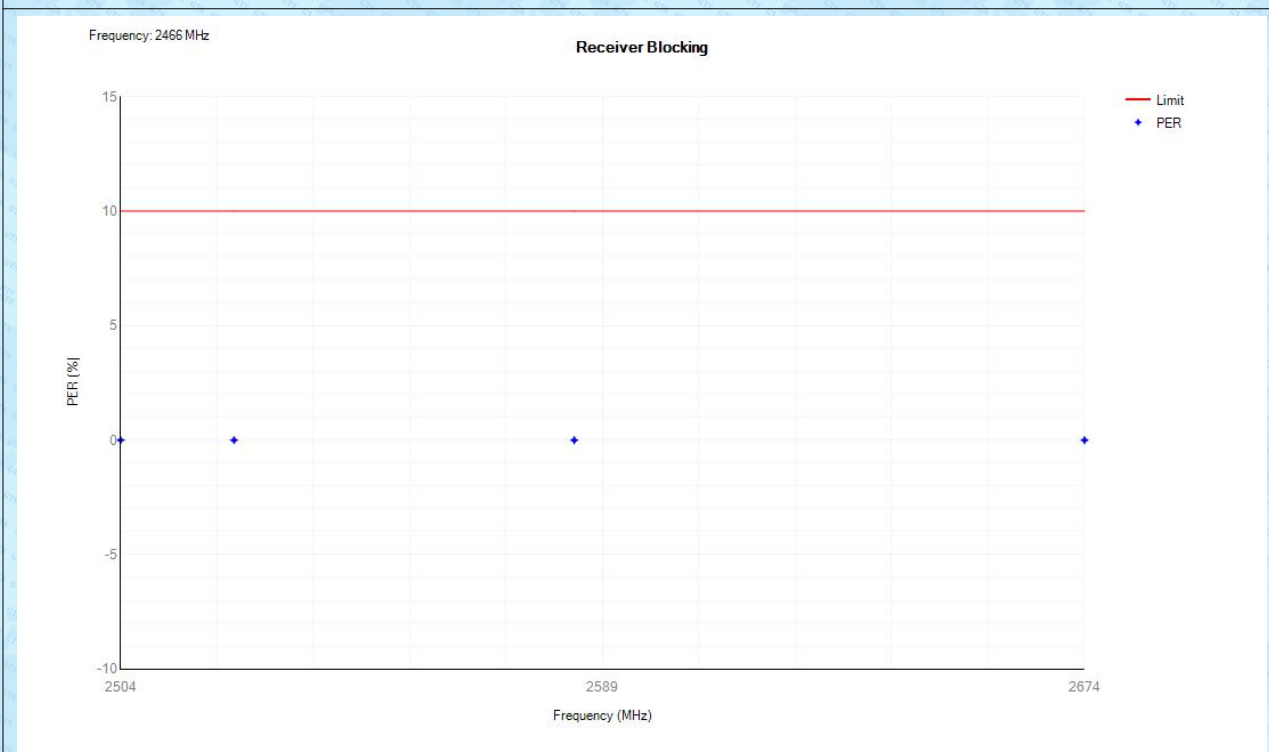
Rx. Blockings NVNT RX 2411MHz Ant2



Rx. Blockings NVNT RX 2433MHz Ant2



Rx. Blockings NVNT RX 2466MHz Ant2

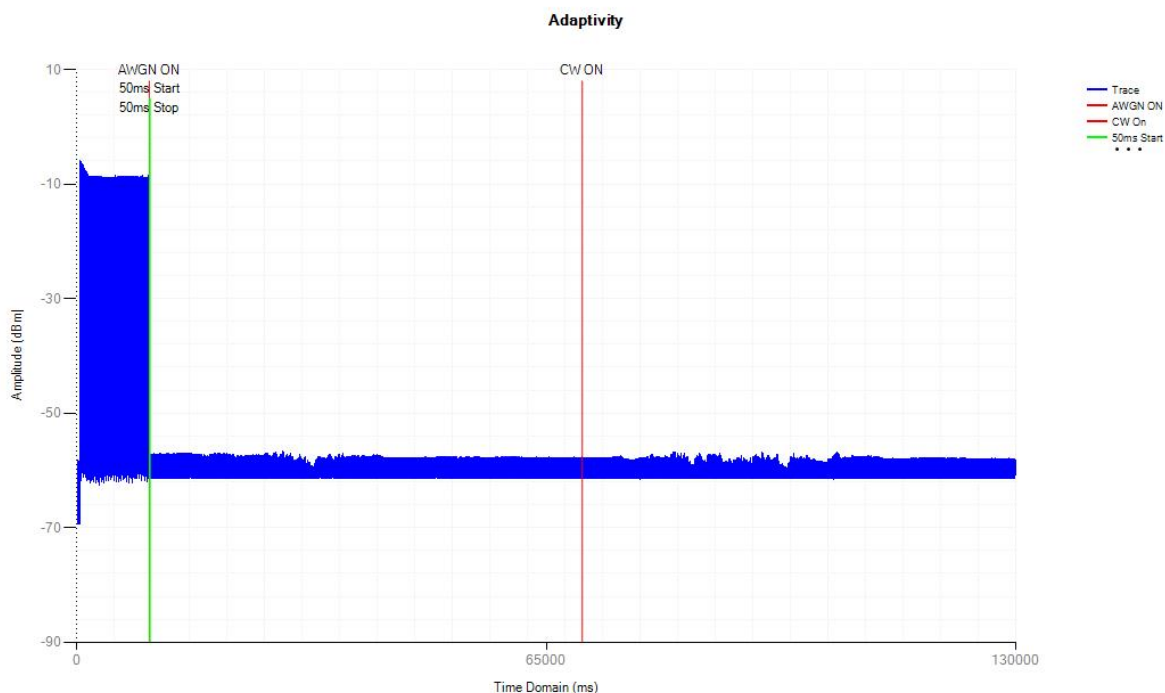


1.8 Adaptivity

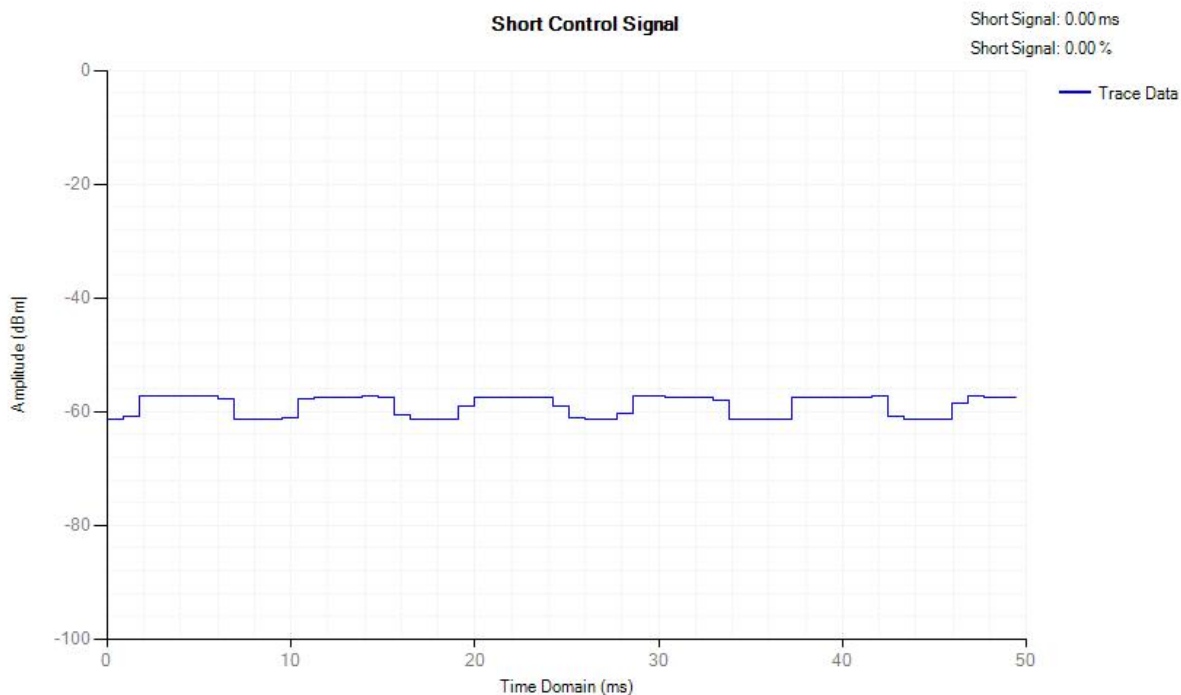
Condition	Mode	Frequency (MHz)	Antenna	AWGN Level (dBm)	CW Level (dBm)	Short Control Width (ms)	Short Control Ratio(%)	Limit (%)	Verdict
NVNT	TX	2411	Ant1	-70	-35	0	0	<=10	Pass
		2466		-70	-35	0	0	<=10	Pass
		2411	Ant2	-70	-35	0	0	<=10	Pass
		2466		-70	-35	0	0	<=10	Pass

Test Graphs

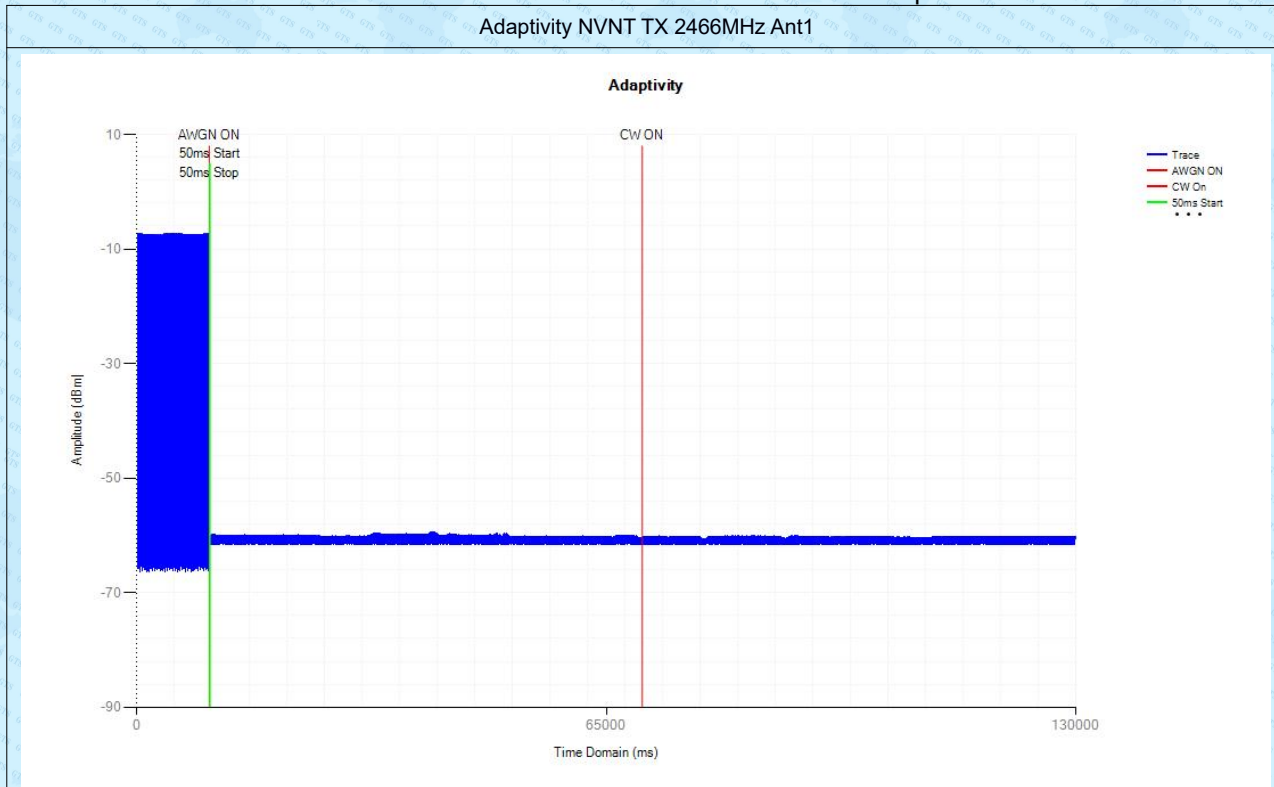
Adaptivity NVNT TX 2411MHz Ant1



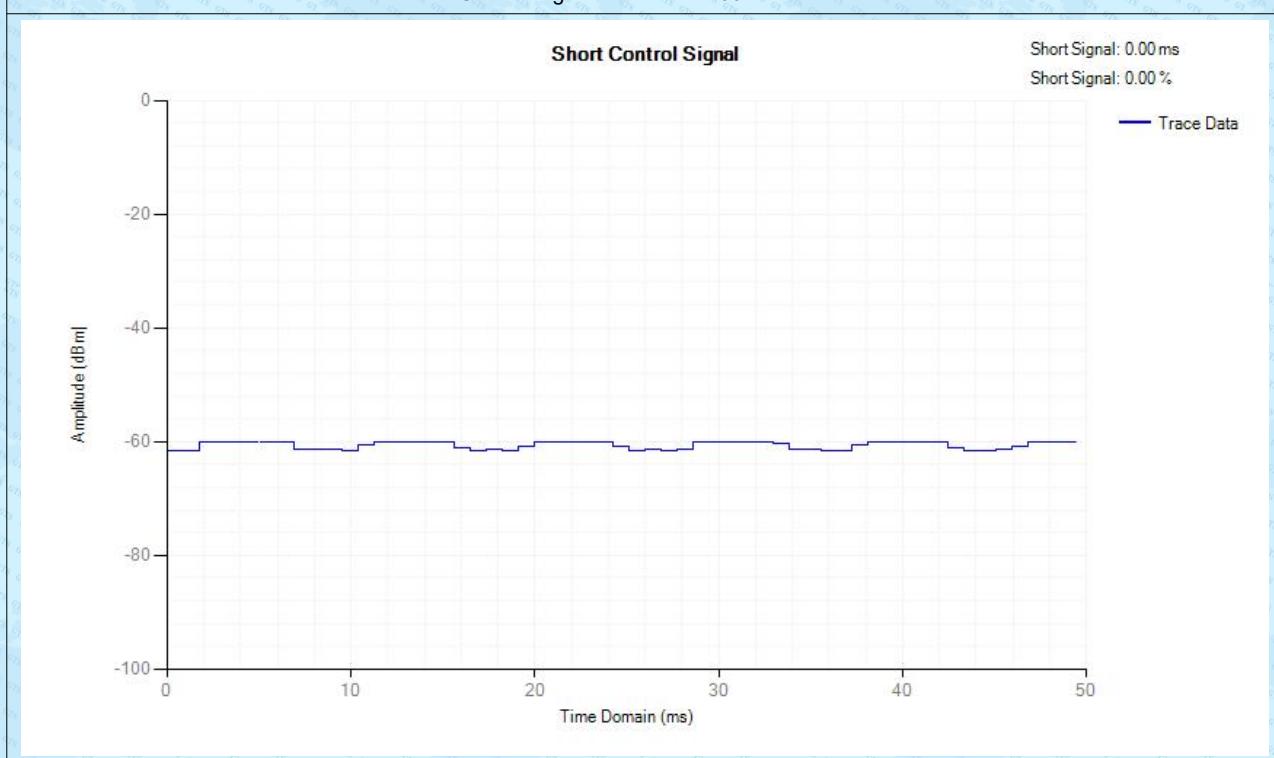
Control Signal NVNT TX 2411MHzAnt1



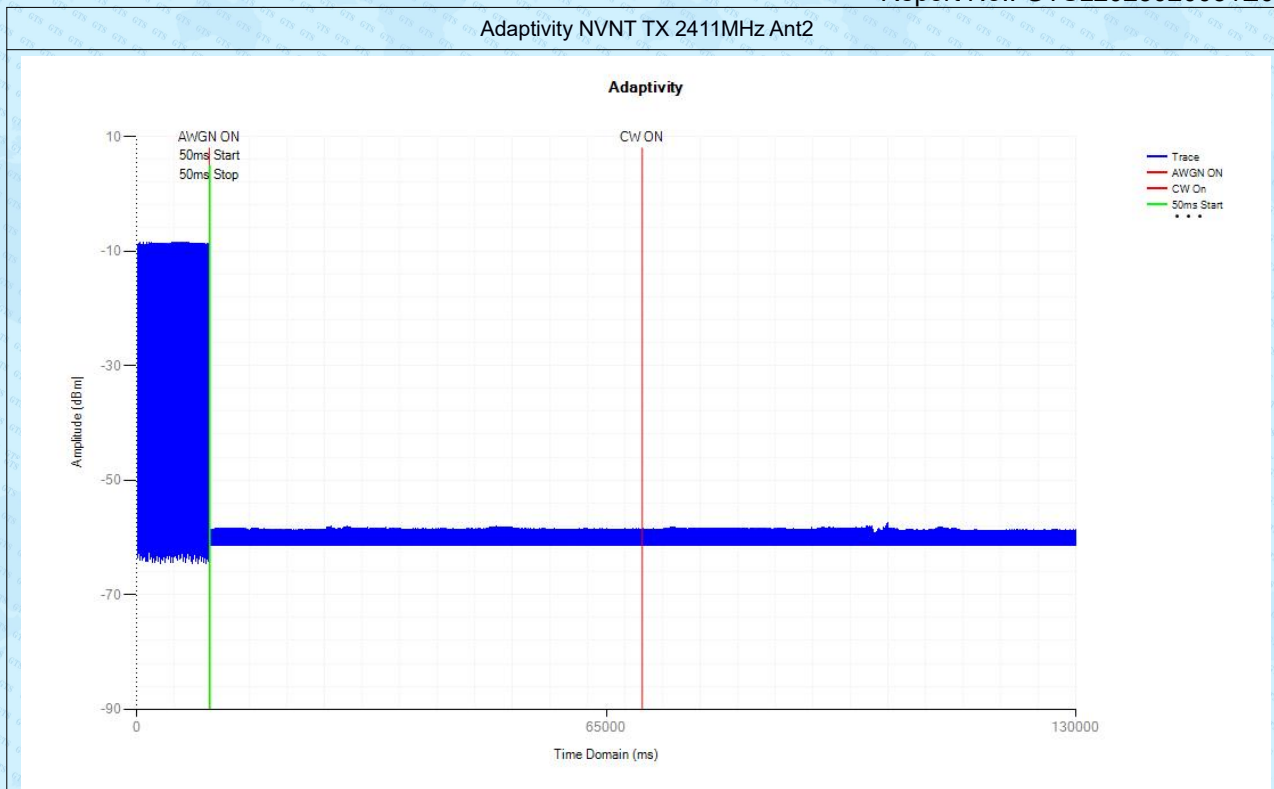
Adaptivity NVNT TX 2466MHz Ant1



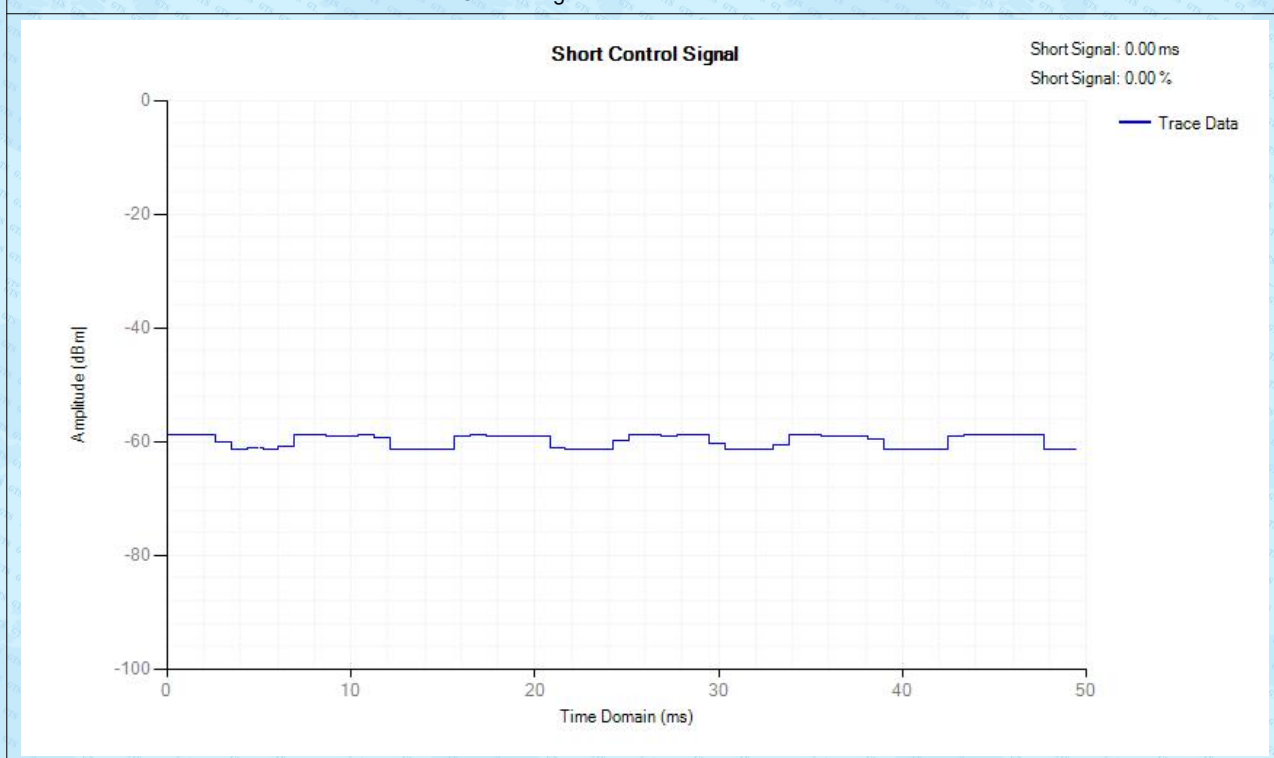
Control Signal NVNT TX 2466MHz Ant1



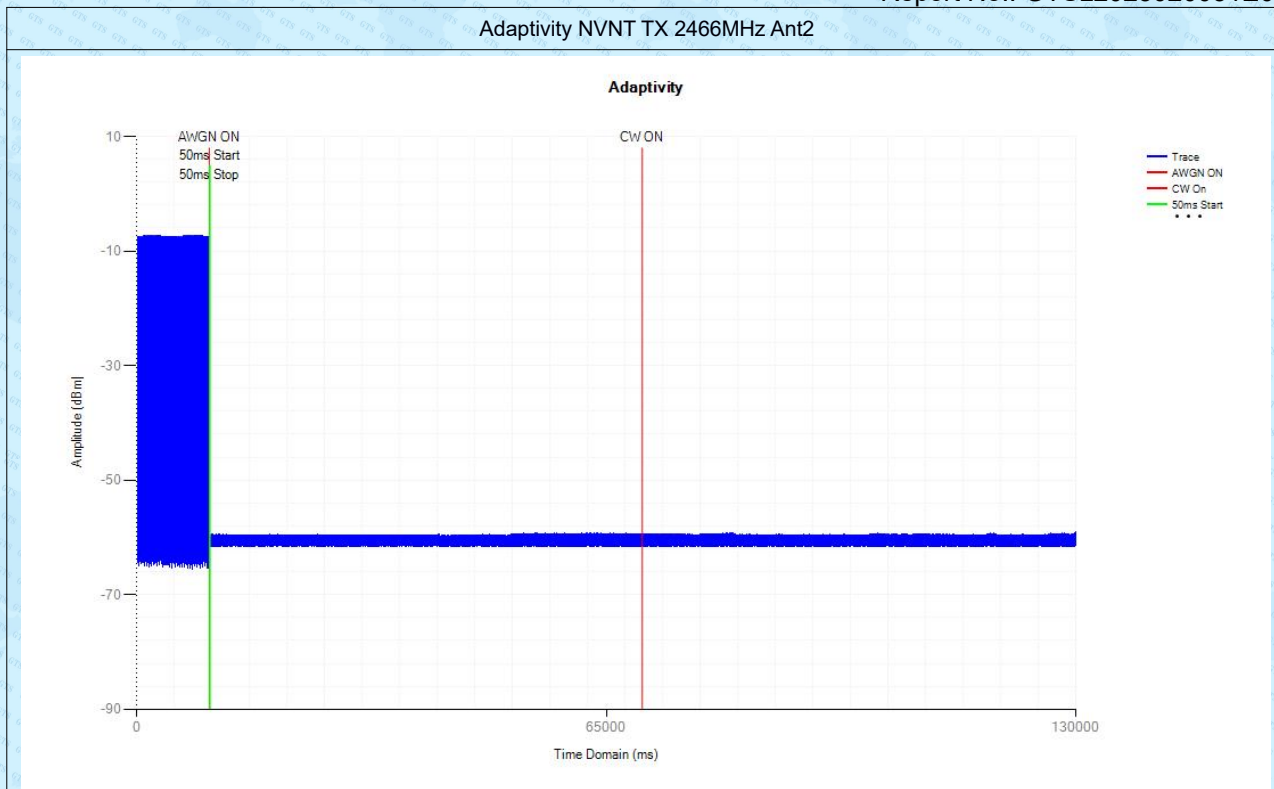
Adaptivity NVNT TX 2411MHz Ant2



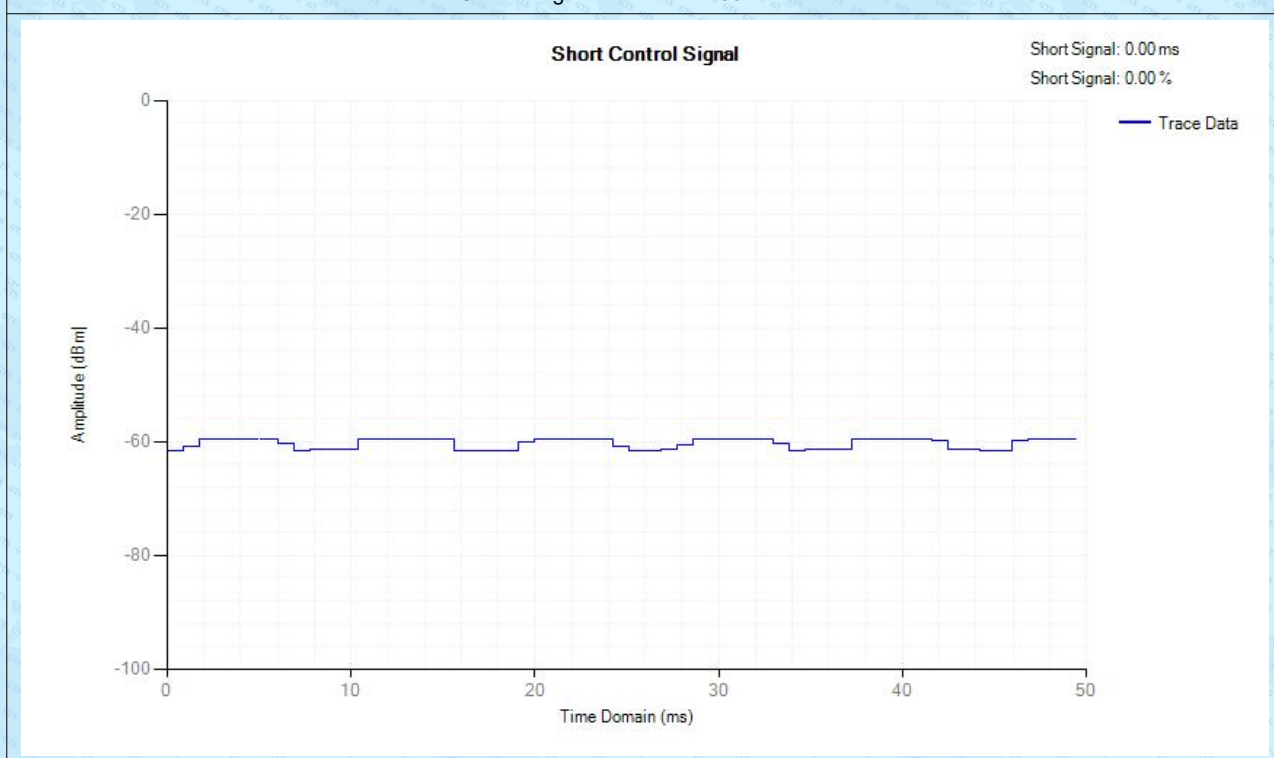
Control Signal NVNT TX 2411MHz Ant2



Adaptivity NVNT TX 2466MHz Ant2



Control Signal NVNT TX 2466MHz Ant2

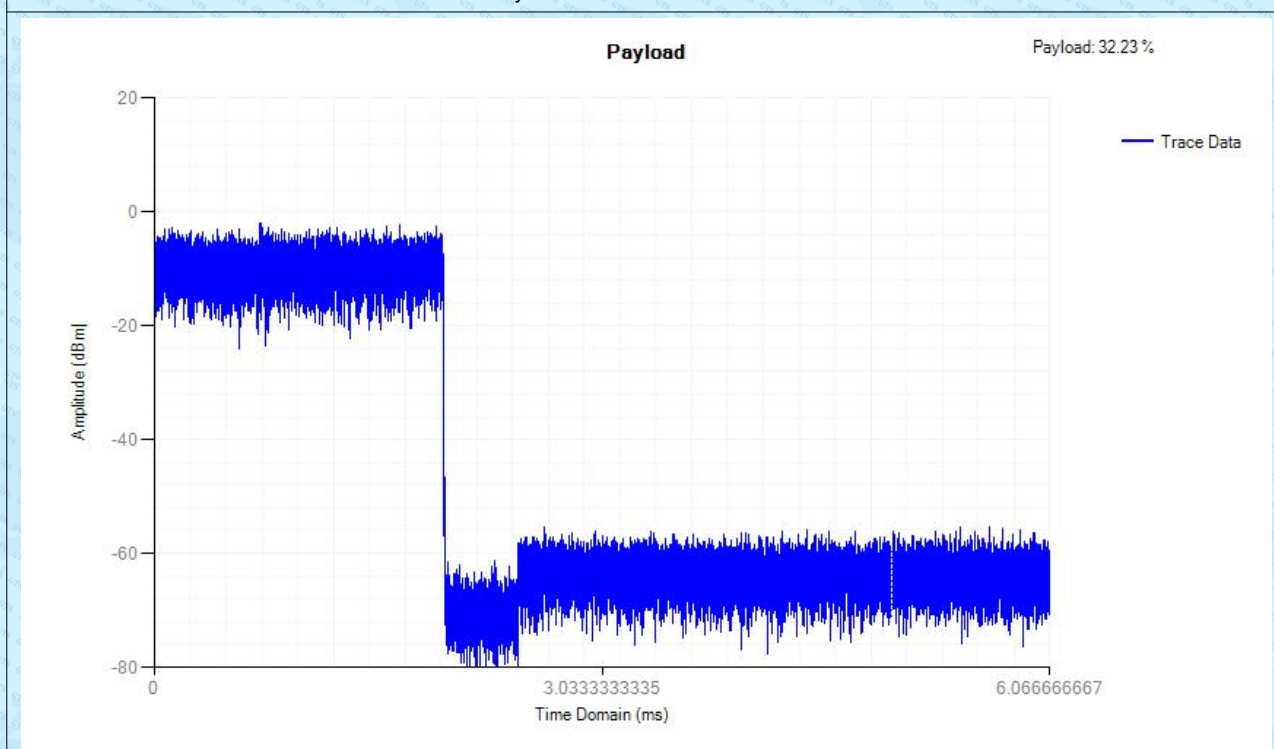


1.9 Adaptivity COT

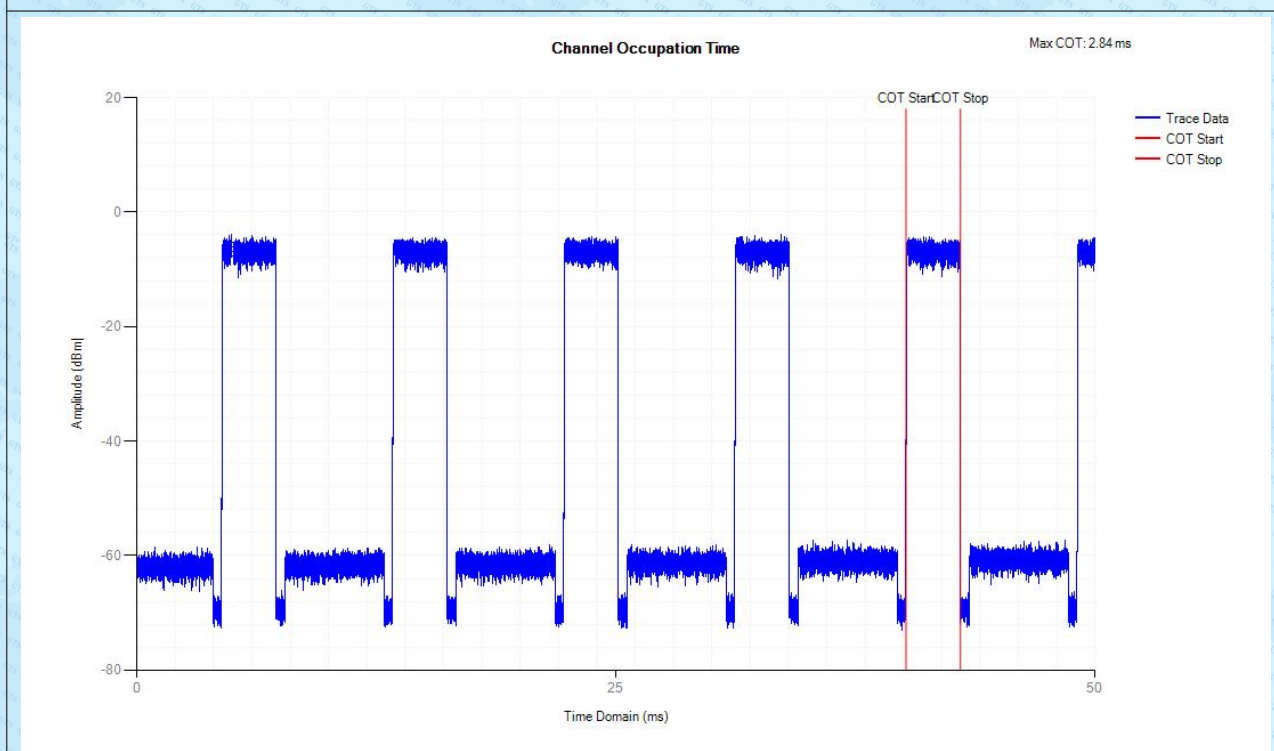
Condition	Mode	Frequency (MHz)	Antenna	Payload	Max COT (ms)	Limit COT (ms)	Min Idle Time (ms)	Limit Idle Time (ms)	Verdict
NVNT	TX	2411	Ant1	32.23	2.84	<=13	6.1	>0.018	Pass
		2466		17.36	2.843	<=13	6.088	>0.018	Pass
		2411	Ant2	46.16	2.842	<=13	6.088	>0.018	Pass
		2466		23.94	2.843	<=13	6.088	>0.018	Pass

Test Graphs

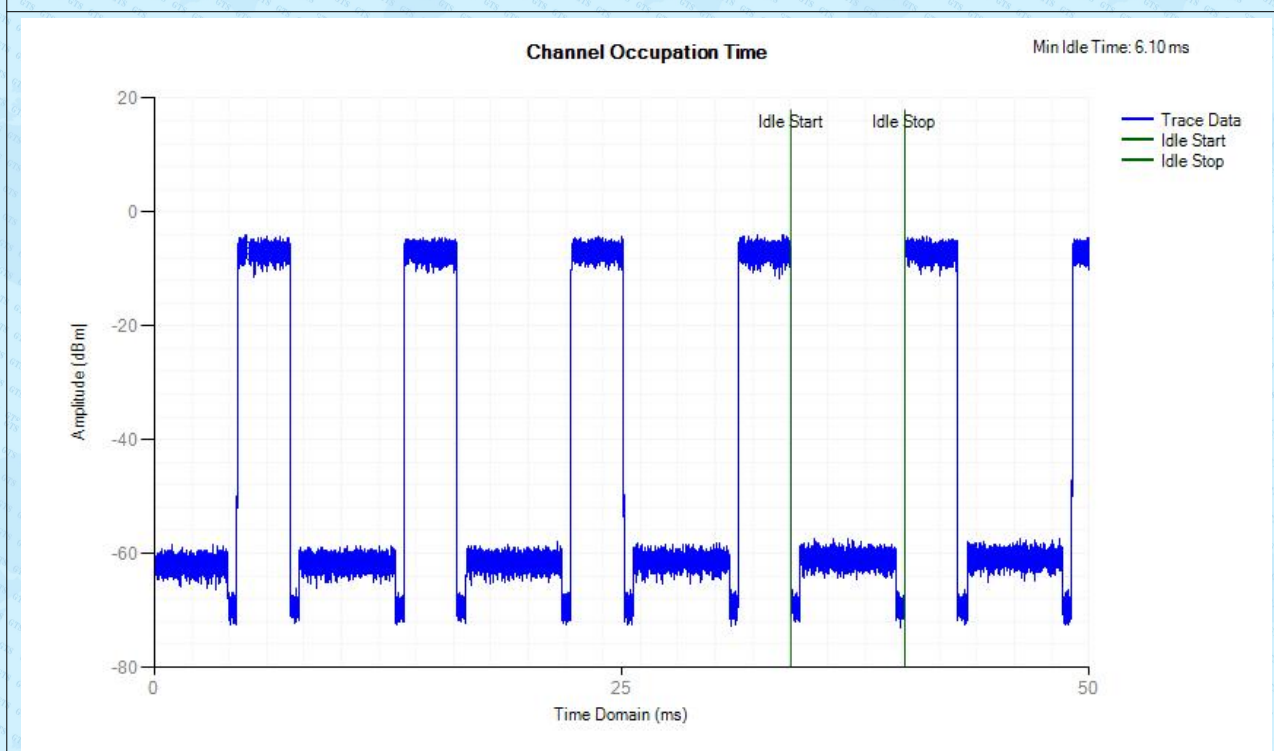
Payload NVNT TX 2411MHz Ant1



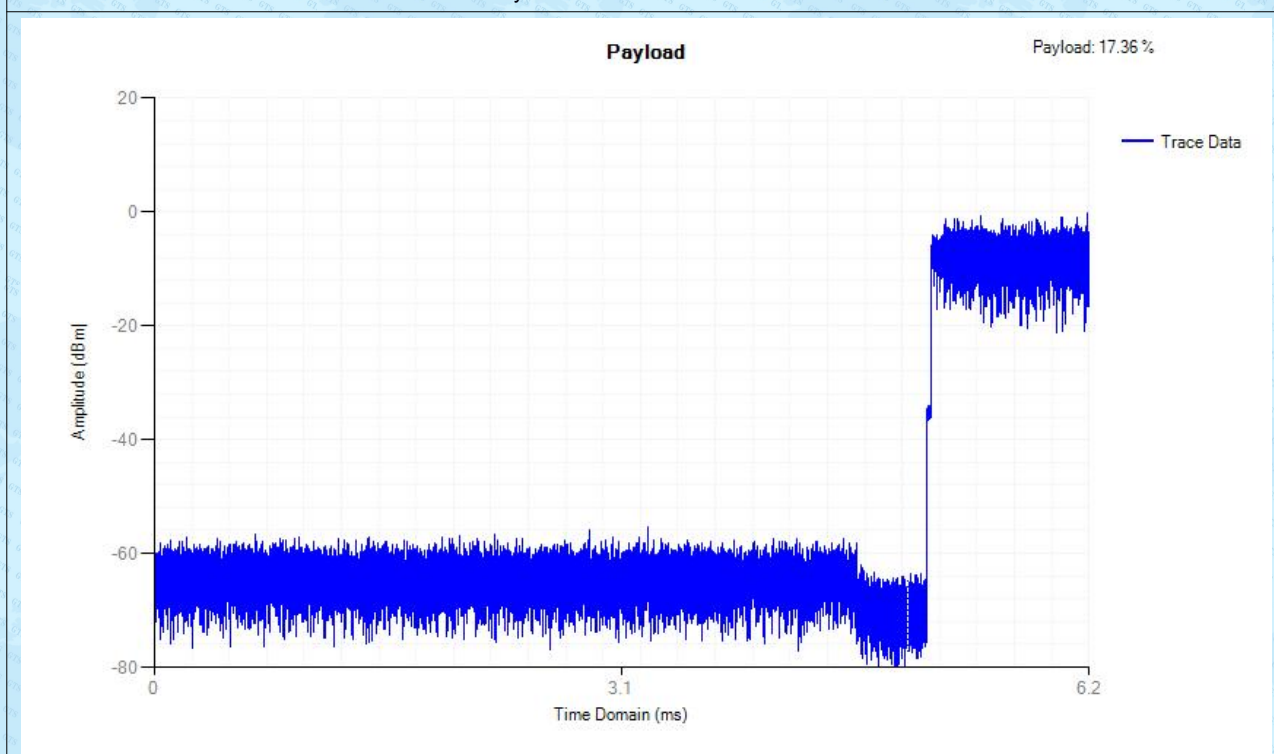
COT NVNT TX 2411MHz Ant1



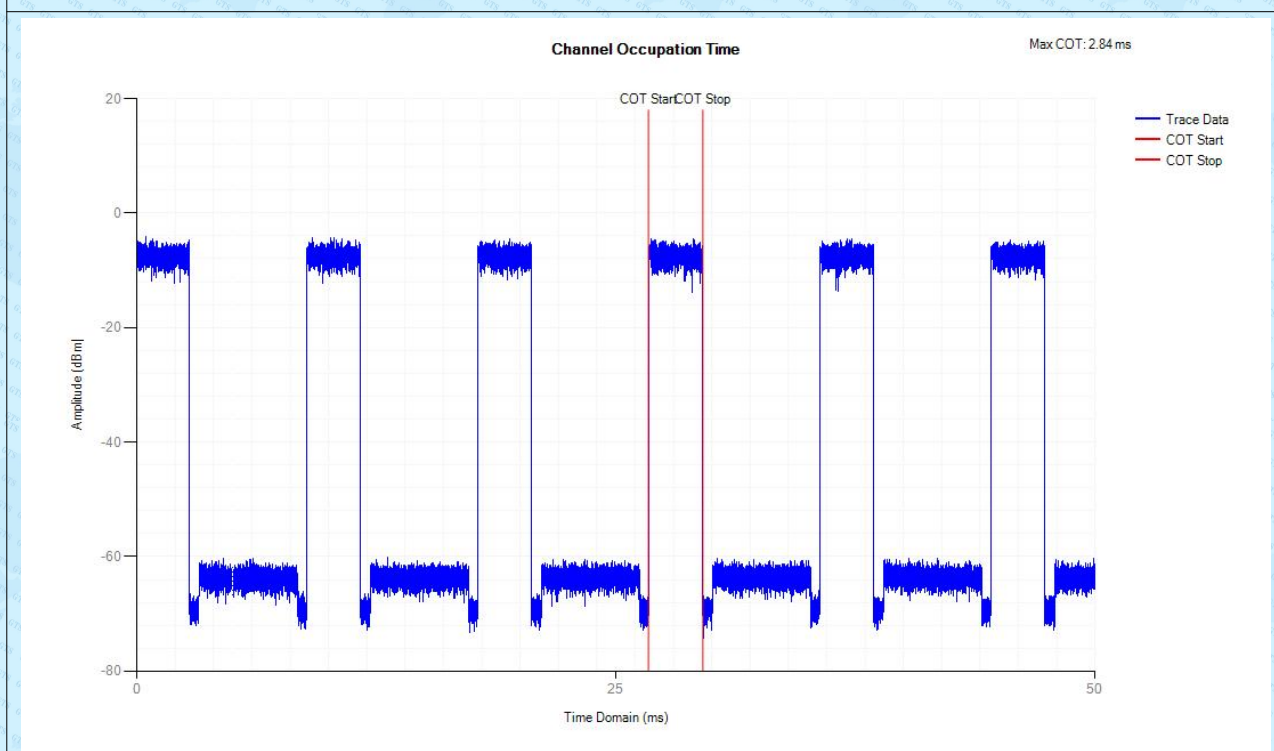
Idle NVNT TX 2411MHz Ant1



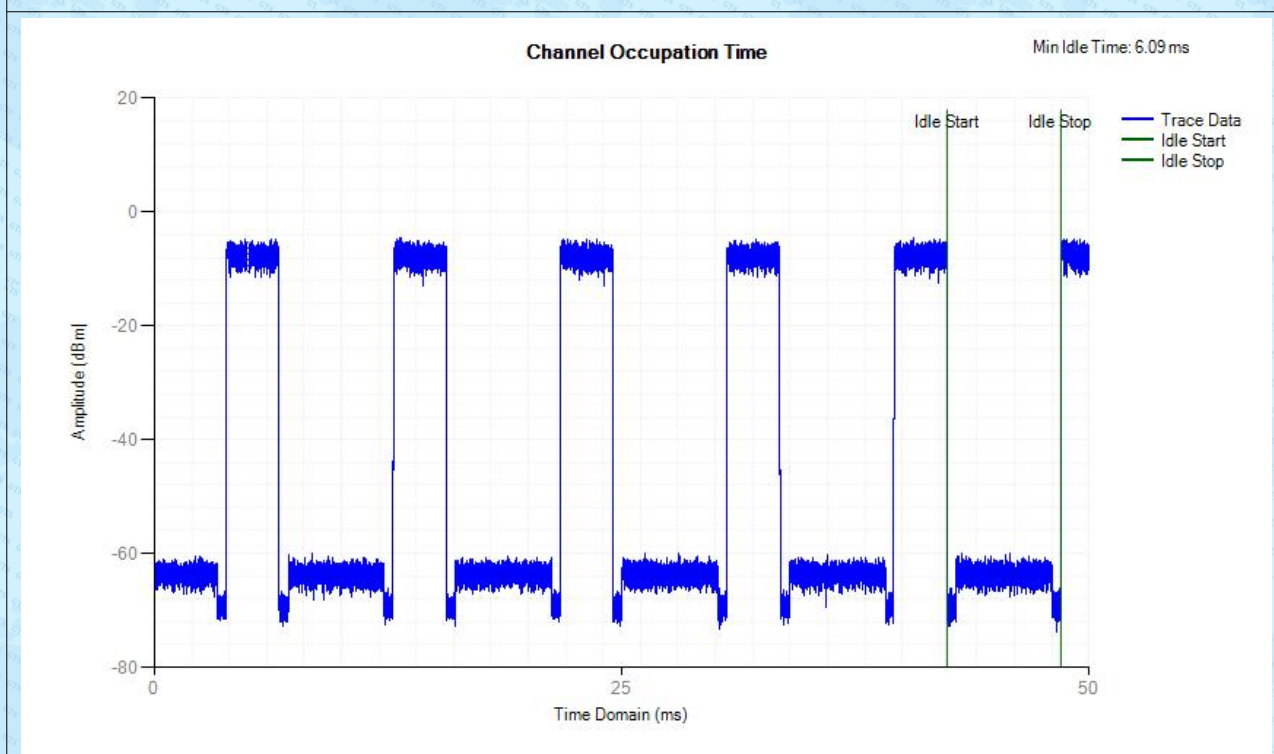
Payload NVNT TX 2466MHz Ant1



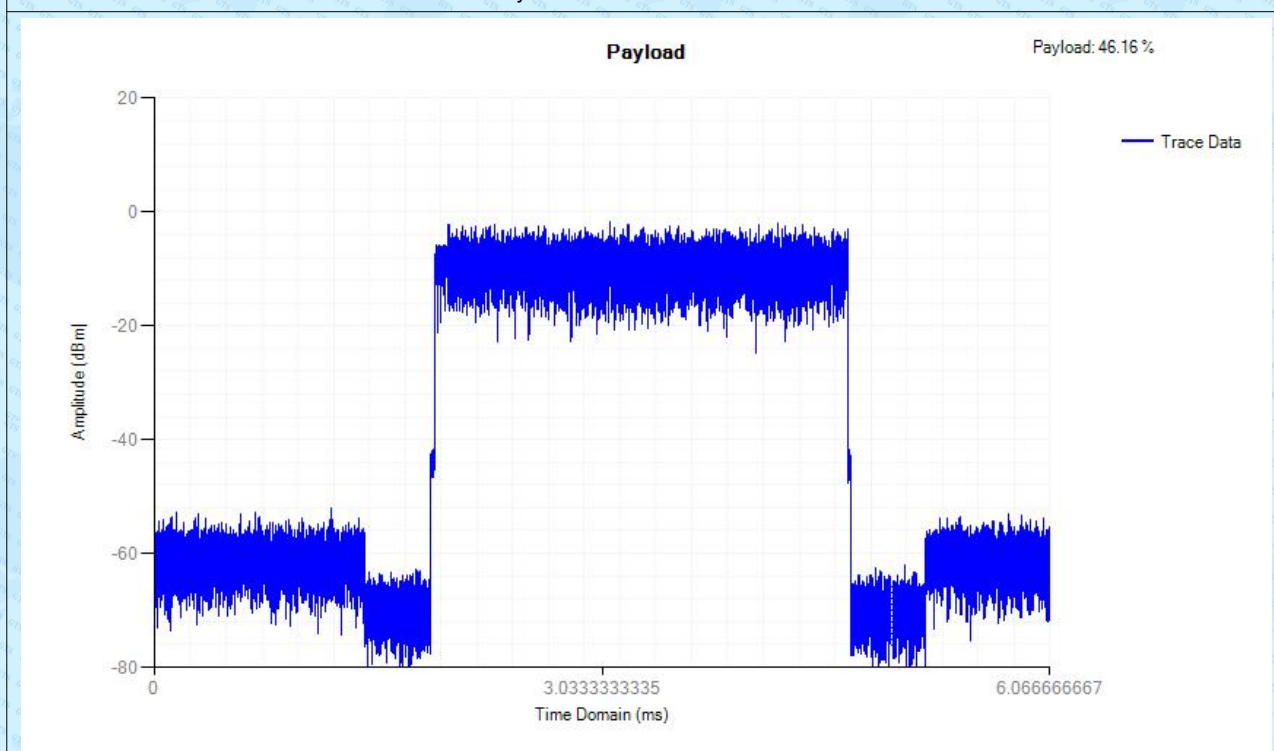
COT NVNT TX 2466MHz Ant1



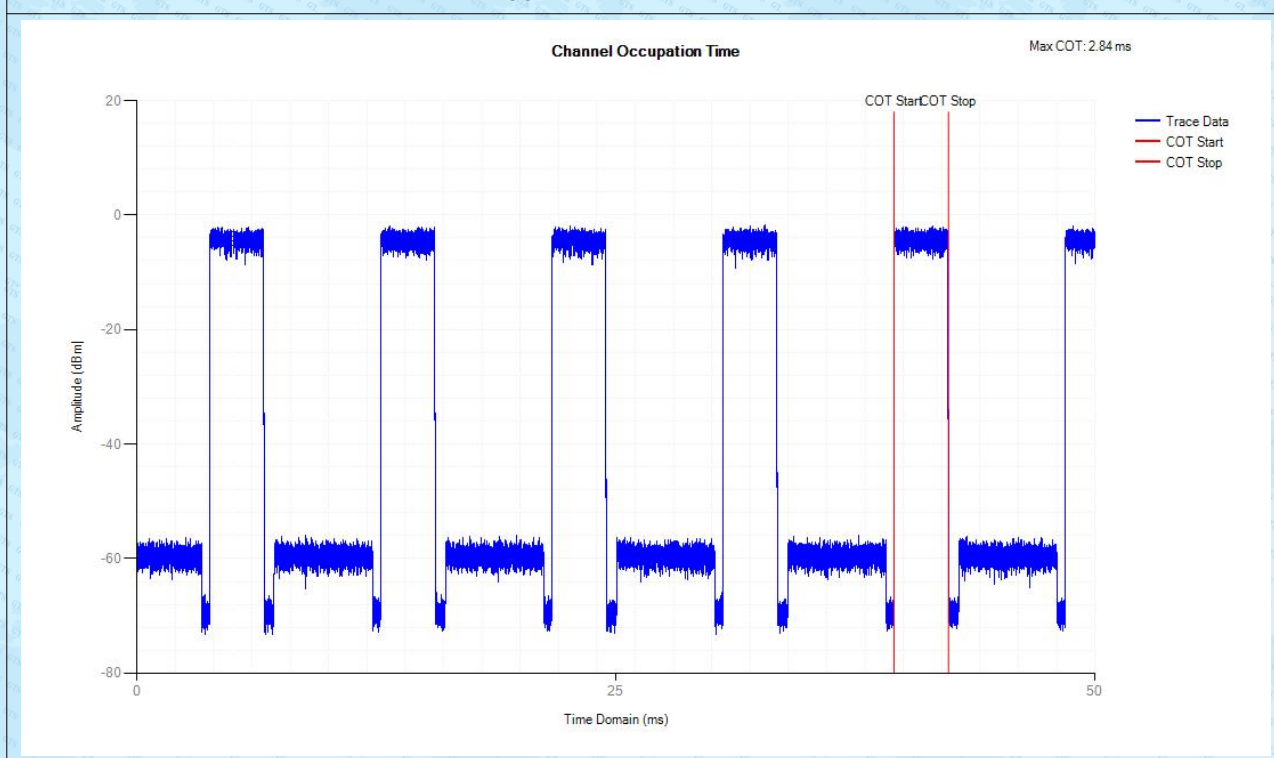
Idle NVNT TX 2466MHz Ant1



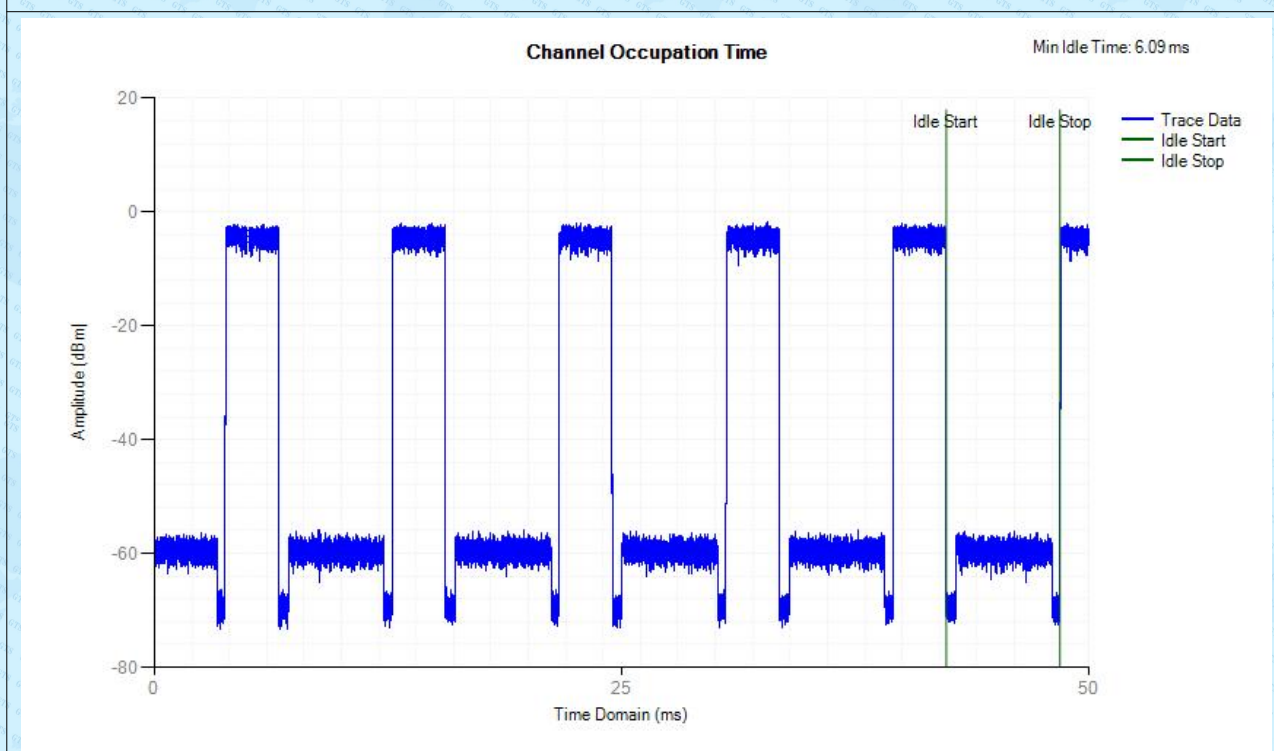
Payload NVNT TX 2411MHz Ant2



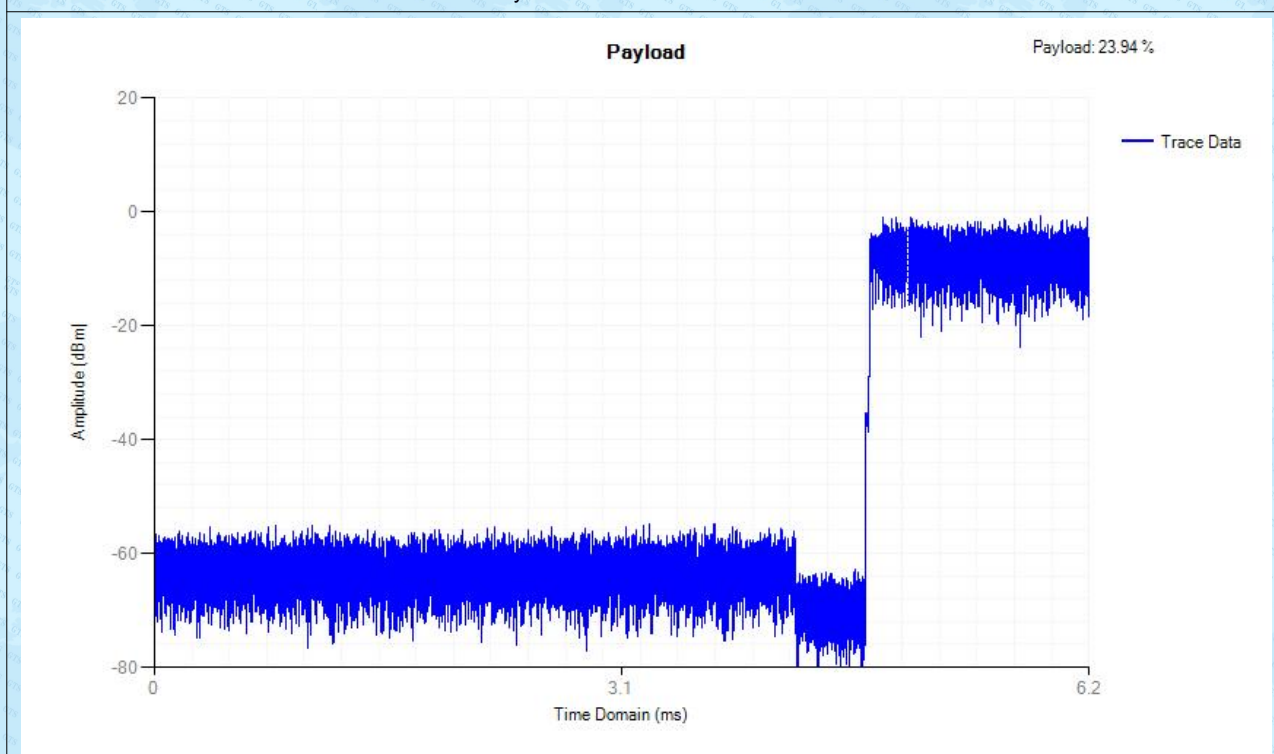
COT NVNT TX 2411MHz Ant2



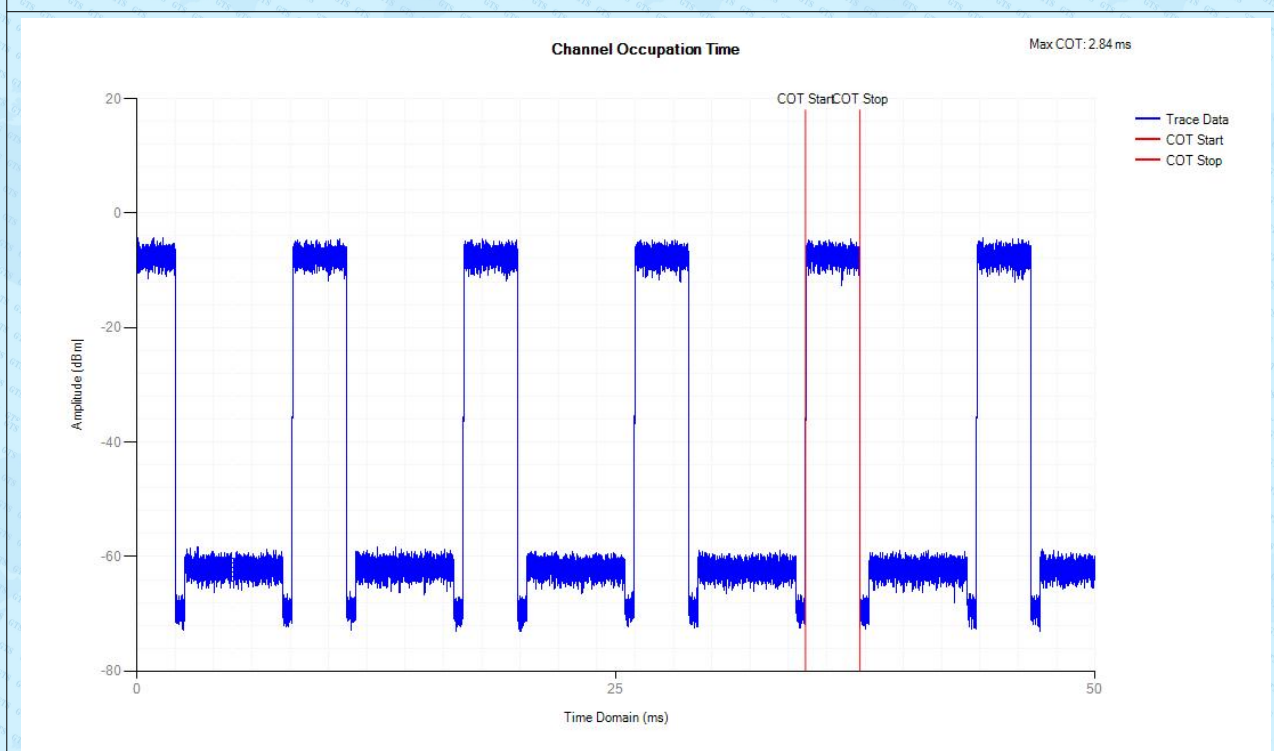
Idle NVNT TX 2411MHz Ant2



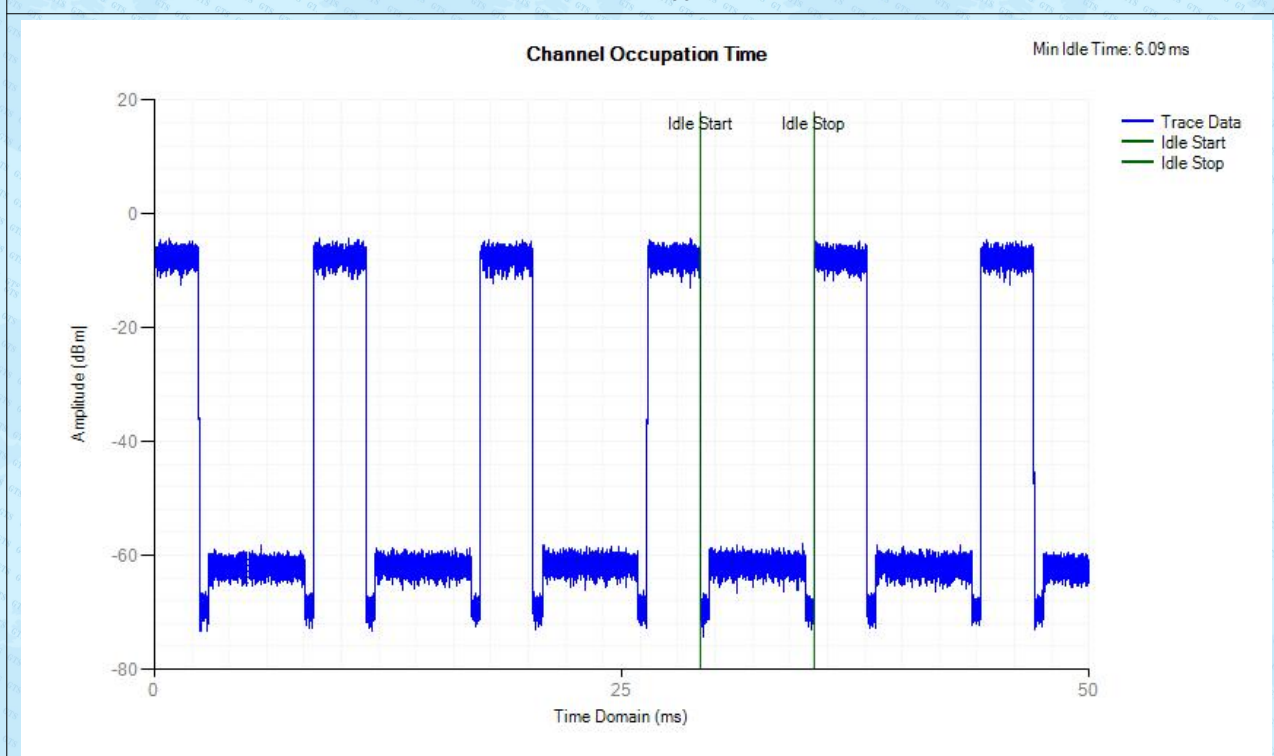
Payload NVNT TX 2466MHz Ant2



COT NVNT TX 2466MHz Ant2



Idle NVNT TX 2466MHz Ant2



-----End-----