

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart watch
Test Model:	D8pro
Test Standard:	ETSI EN 300328 V2.2.2
Environmental Conditions	
Temperature:	24°C
Relative Humidity:	48%
Test Voltage:	DC 3.8V
Test Engineer:	Mike Yan
Note: For a more detailed features description, please refer to the report TBR-C-202404-0272-41 The report only show the worst case data.	

Contents

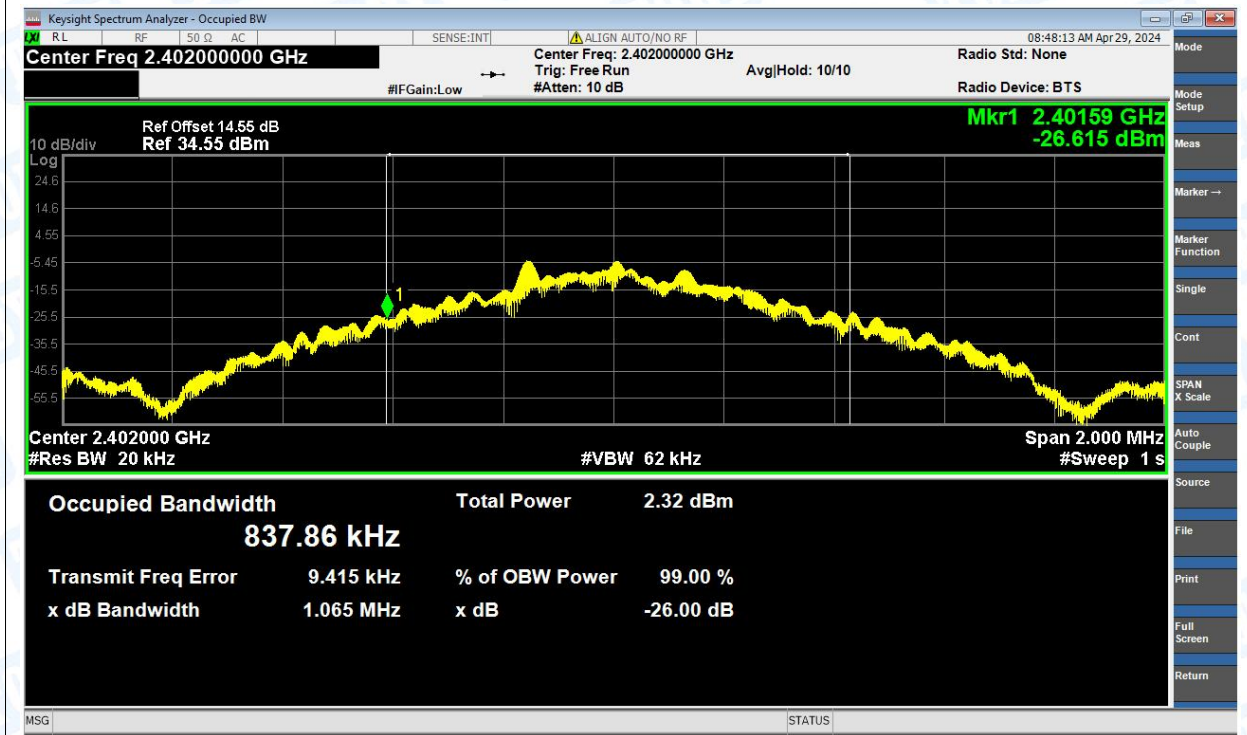
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5.4.7 Occupied Channel Bandwidth

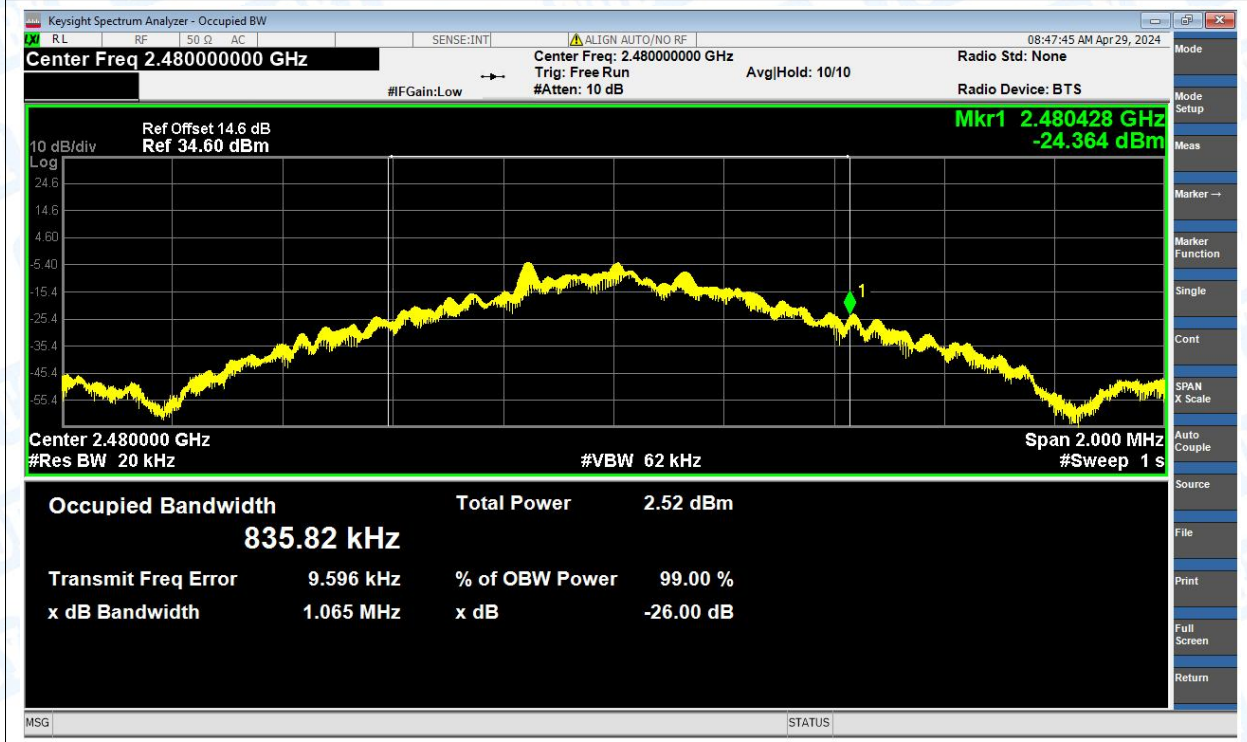
Condition	Mode	Frequency (MHz)	Antenna	Center Frequency (MHz)	OBW (MHz)	Lower Edge (MHz)	Upper Edge (MHz)	Limit OBW (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	2402.009	0.838	2401.59	2402.428	2400 - 2483.5MHz	Pass
NVNT	1-DH1	2480	Ant1	2480.01	0.836	2479.592	2480.428	2400 - 2483.5MHz	Pass
NVNT	2-DH1	2402	Ant1	2401.998	1.154	2401.421	2402.575	2400 - 2483.5MHz	Pass
NVNT	2-DH1	2480	Ant1	2479.998	1.154	2479.421	2480.575	2400 - 2483.5MHz	Pass
NVNT	3-DH1	2402	Ant1	2402.018	1.147	2401.444	2402.591	2400 - 2483.5MHz	Pass
NVNT	3-DH1	2480	Ant1	2480.019	1.157	2479.44	2480.597	2400 - 2483.5MHz	Pass

Test Graphs

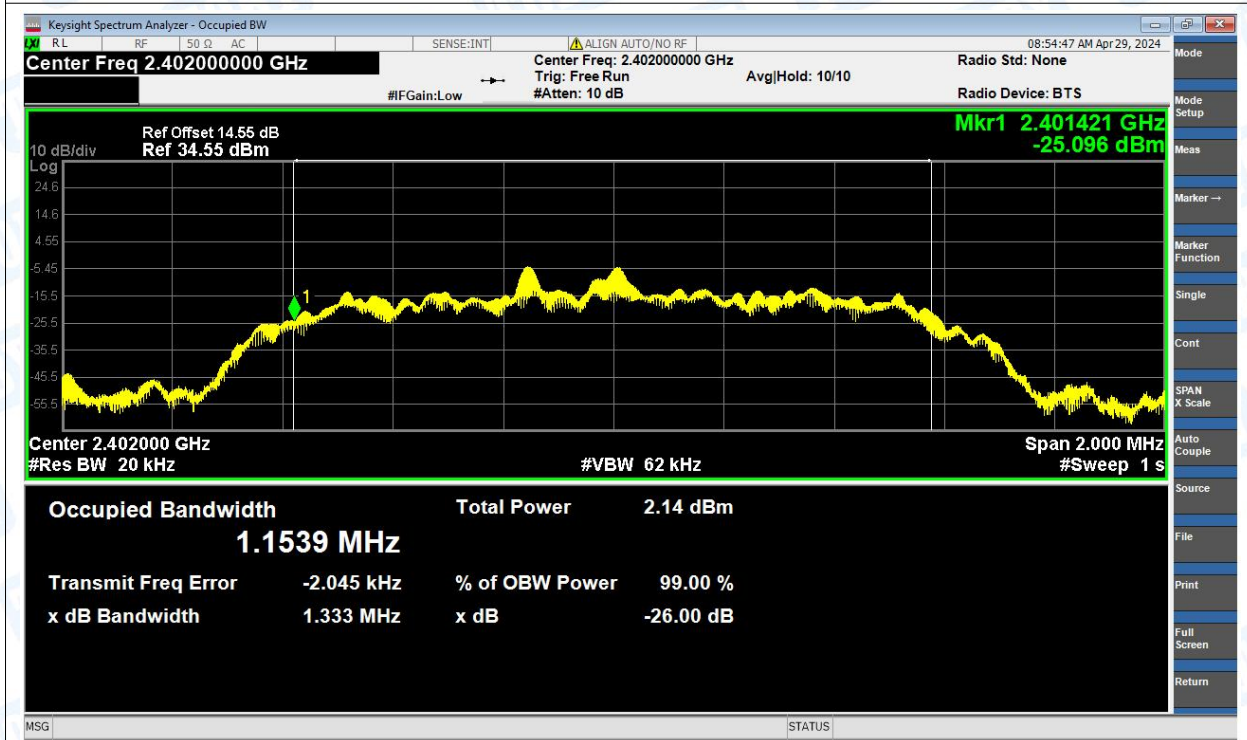
OBW NVNT 1-DH1 2402MHz Ant1



OBW NVNT 1-DH1 2480MHz Ant1



OBW NVNT 2-DH1 2402MHz Ant1



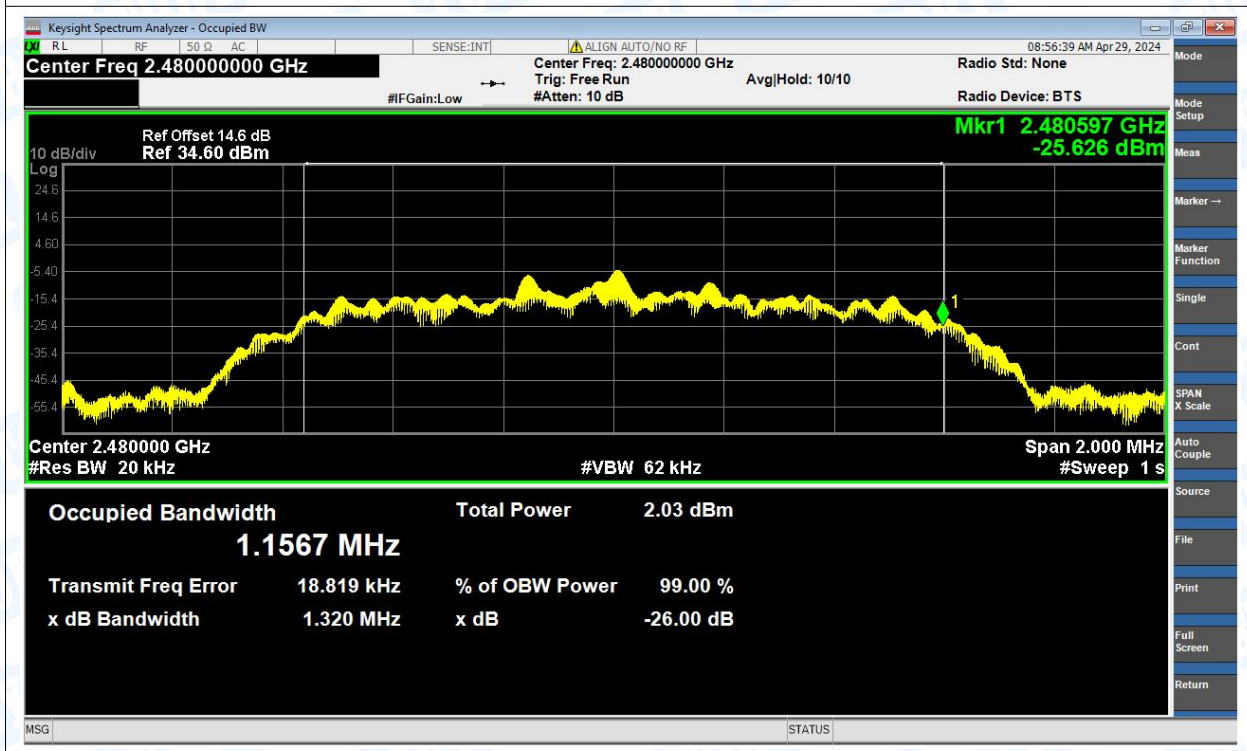
OBW NVNT 2-DH1 2480MHz Ant1



OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2480MHz Ant1

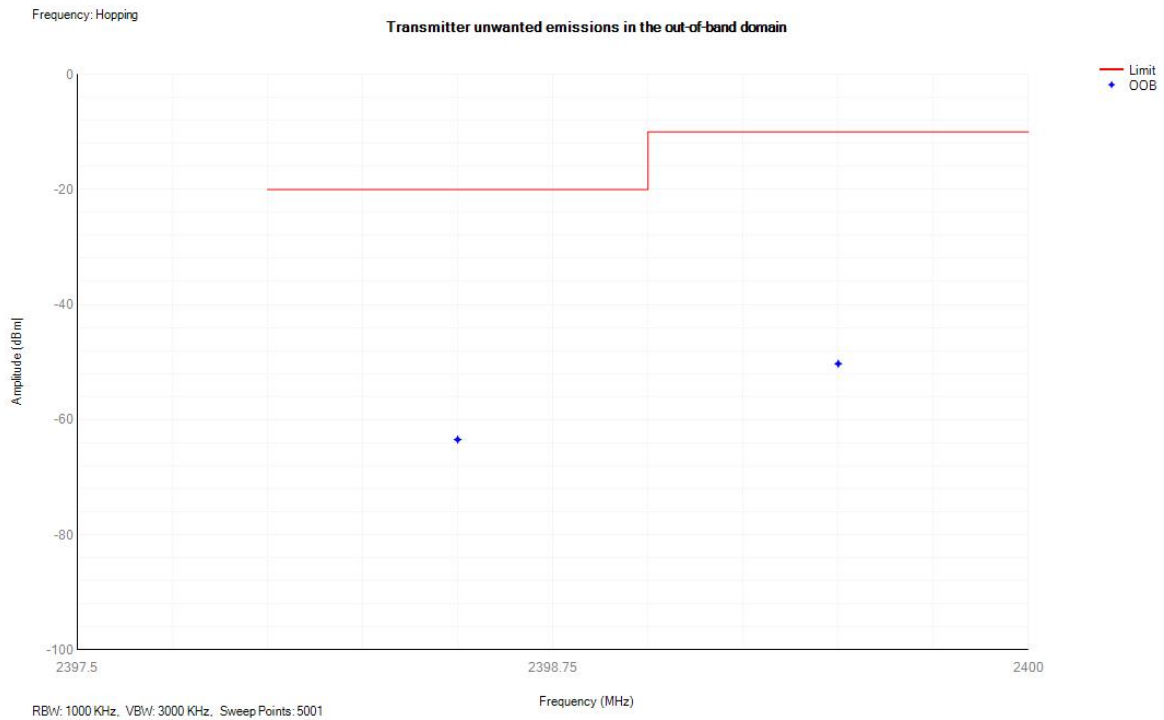


5.4.8 Transmitter unwanted emissions in the out-of-band domain

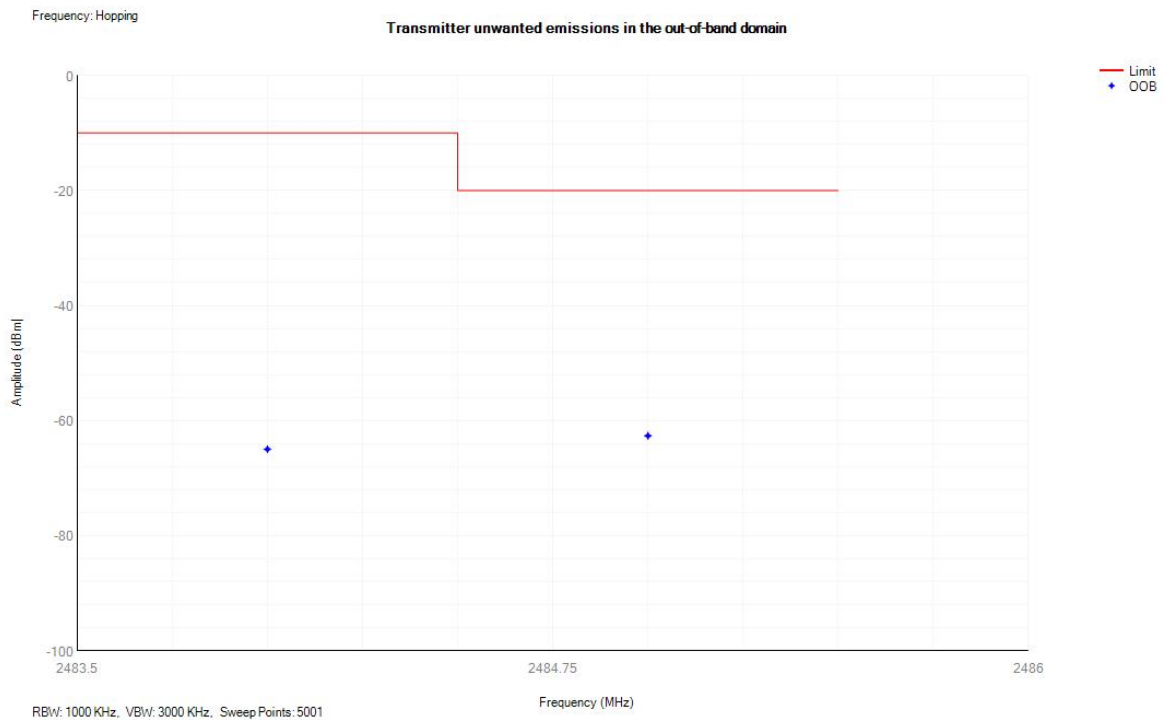
Condition	Mode	Frequency (MHz)	Antenna	OOB Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	1-DH1	Hopping	Ant1	2399.5	-50.28	-10	Pass
NVNT	1-DH1	Hopping	Ant1	2398.5	-63.46	-20	Pass
NVNT	1-DH1	Hopping	Ant1	2484	-64.96	-10	Pass
NVNT	1-DH1	Hopping	Ant1	2485	-62.63	-20	Pass
NVNT	2-DH1	Hopping	Ant1	2399.5	-65.52	-10	Pass
NVNT	2-DH1	Hopping	Ant1	2399.346	-65.64	-10	Pass
NVNT	2-DH1	Hopping	Ant1	2398.346	-65.69	-20	Pass
NVNT	2-DH1	Hopping	Ant1	2398.192	-65.63	-20	Pass
NVNT	2-DH1	Hopping	Ant1	2484	-60.57	-10	Pass
NVNT	2-DH1	Hopping	Ant1	2484.154	-61.39	-10	Pass
NVNT	2-DH1	Hopping	Ant1	2485.154	-62.18	-20	Pass
NVNT	2-DH1	Hopping	Ant1	2485.308	-62.57	-20	Pass
NVNT	3-DH1	Hopping	Ant1	2399.5	-64.53	-10	Pass
NVNT	3-DH1	Hopping	Ant1	2399.353	-62.8	-10	Pass
NVNT	3-DH1	Hopping	Ant1	2398.353	-65.34	-20	Pass
NVNT	3-DH1	Hopping	Ant1	2398.206	-63.27	-20	Pass
NVNT	3-DH1	Hopping	Ant1	2484	-63.15	-10	Pass
NVNT	3-DH1	Hopping	Ant1	2484.157	-65.41	-10	Pass
NVNT	3-DH1	Hopping	Ant1	2485.157	-63.01	-20	Pass
NVNT	3-DH1	Hopping	Ant1	2485.314	-64.68	-20	Pass

Test Graphs

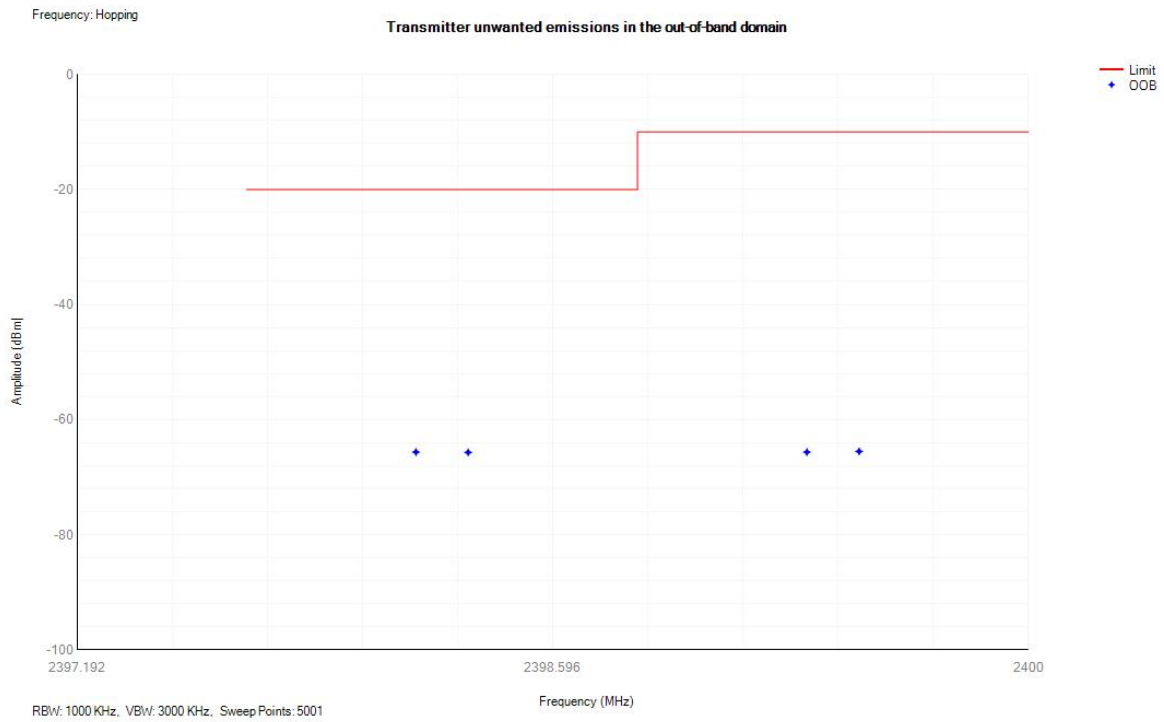
Tx. Emissions OOB NVNT 1-DH1 2402MHz Ant1



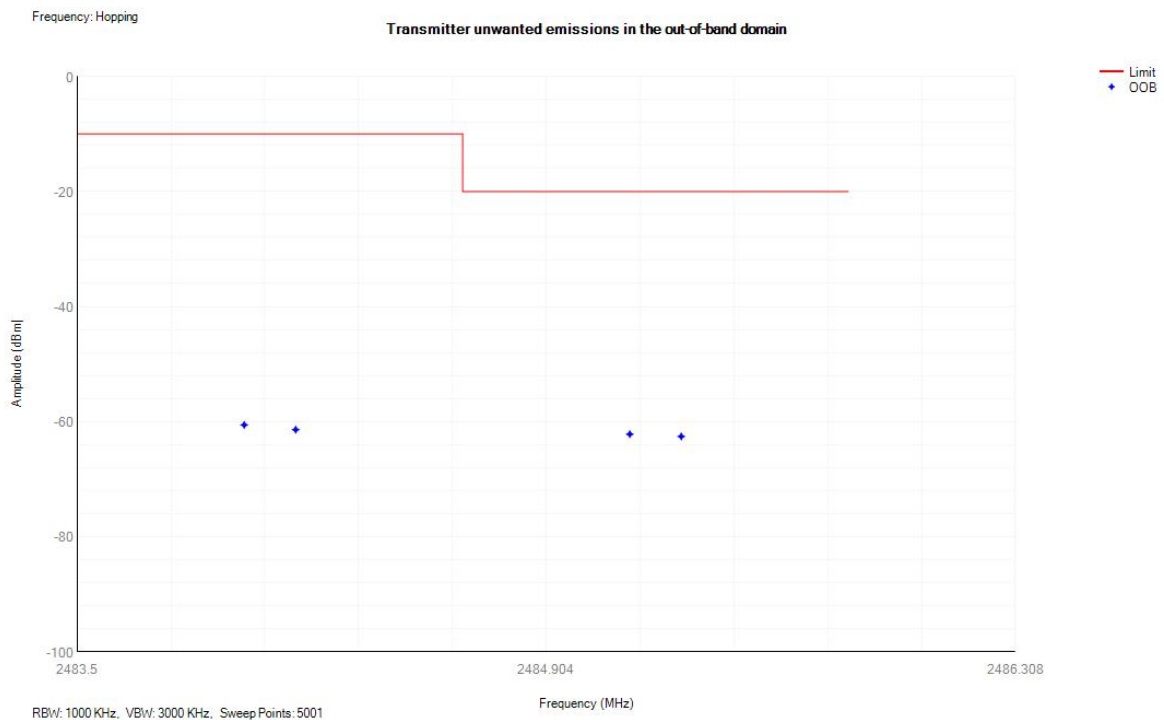
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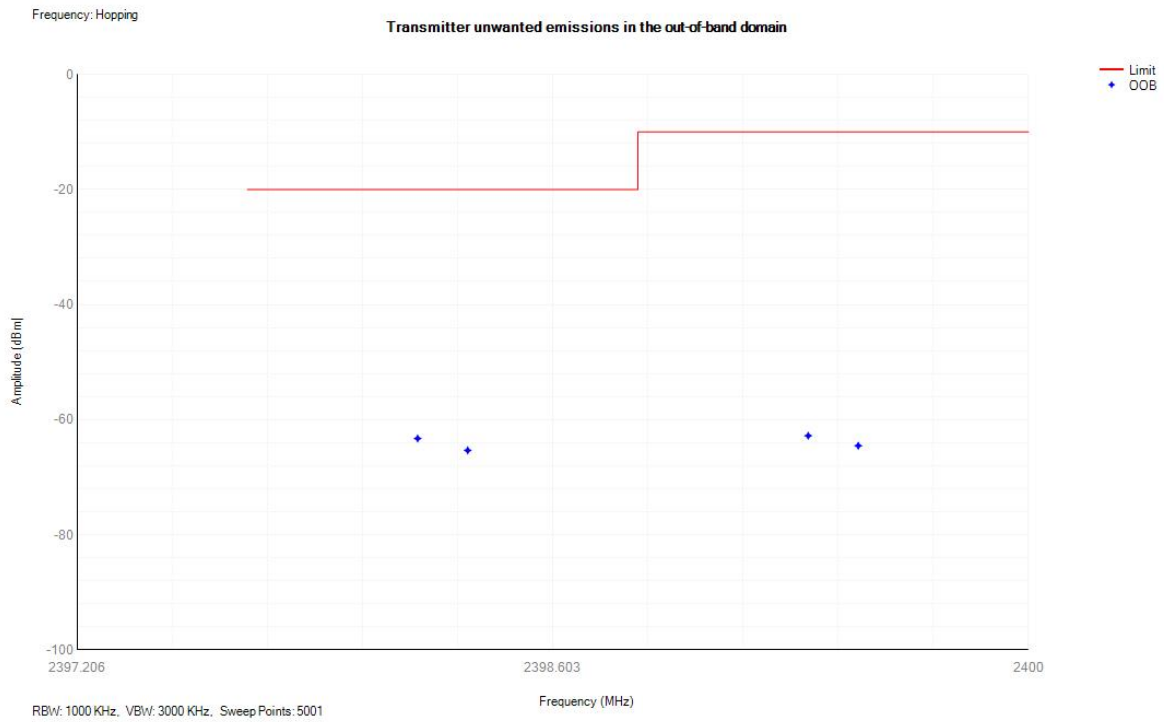
Tx. Emissions OOB NVNT 2-DH1 2402MHz Ant1



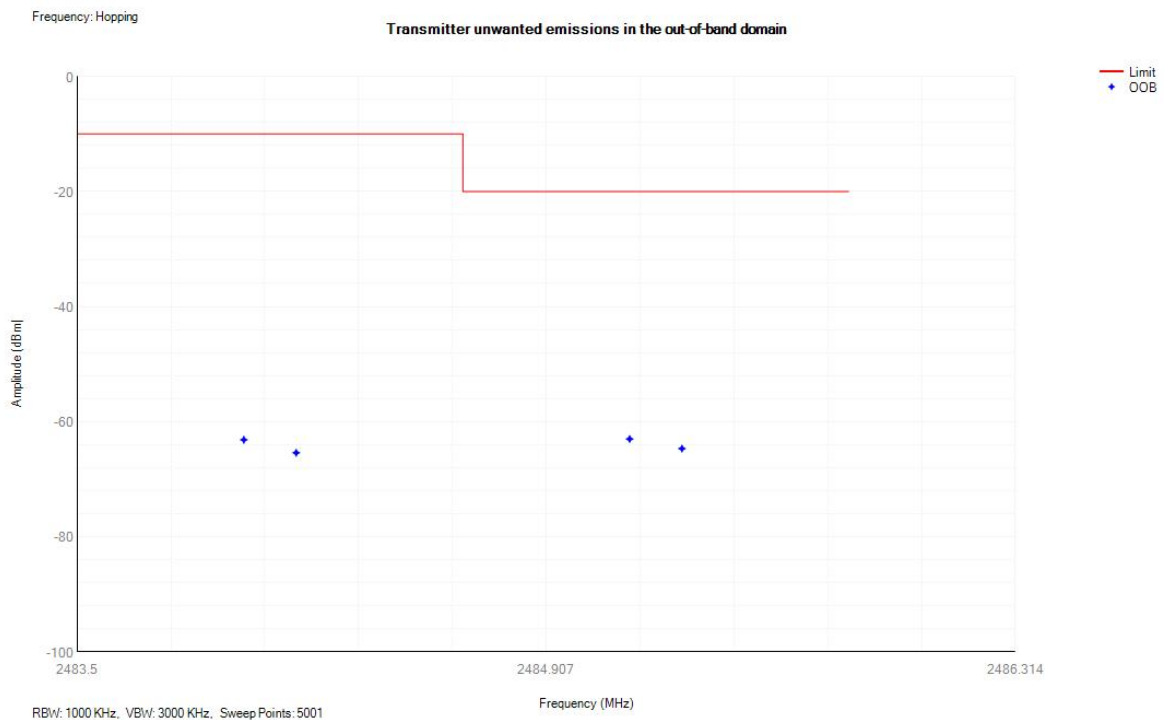
Tx. Emissions OOB NVNT 2-DH1 2480MHz Ant1



Tx. Emissions OOB NVNT 3-DH1 2402MHz Ant1



Tx. Emissions OOB NVNT 3-DH1 2480MHz Ant1

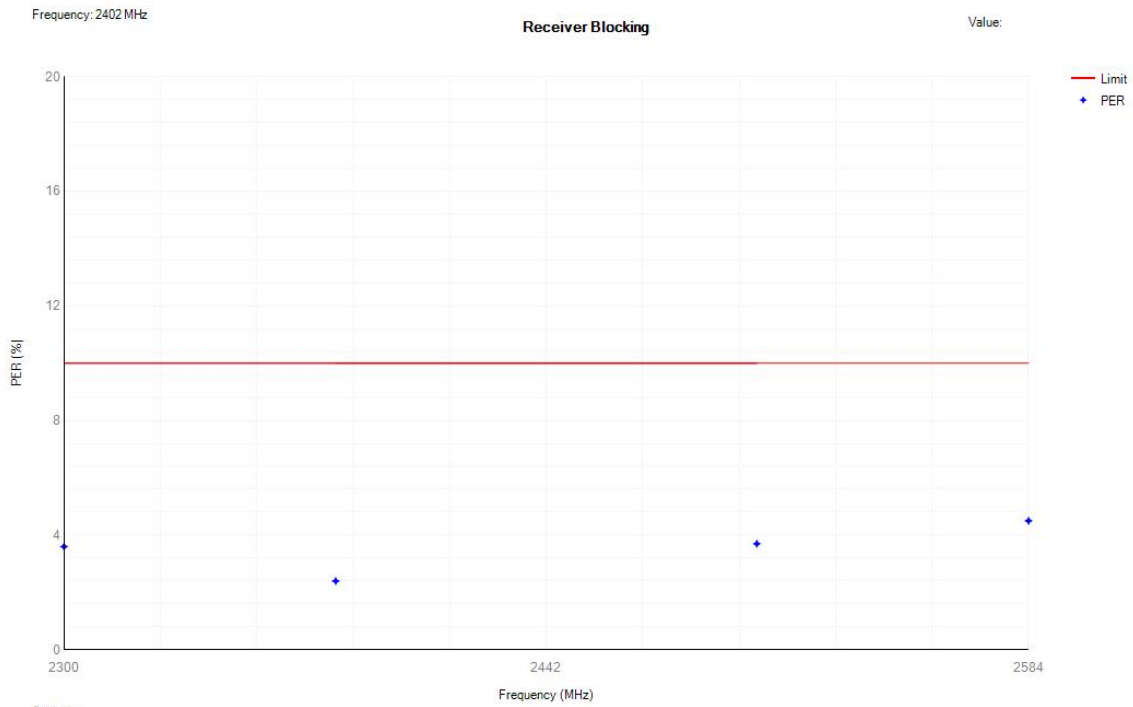


5.4.11 Receiver Blocking

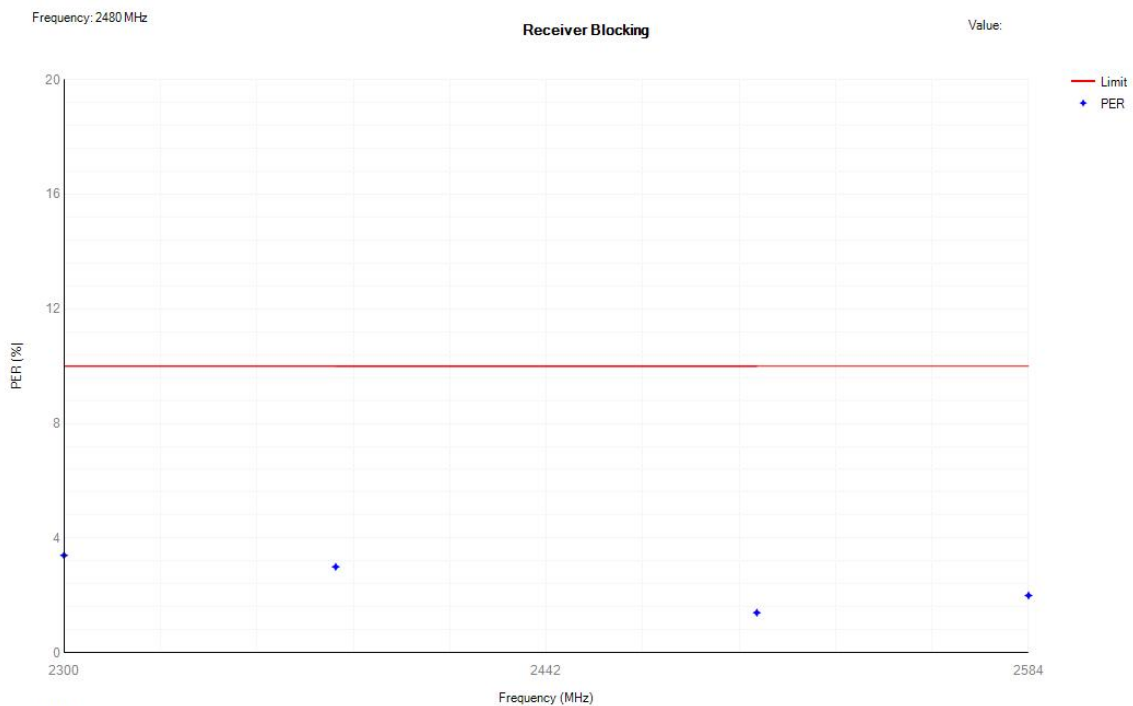
Condition	Mode	Frequency (MHz)	Antenna	Wanted Power (dBm)	Blocking Frequency (MHz)	Blocking Power (dBm)	PER (%)	Limit (%)	Verdict
NVNT	1-DH1	2402	Ant1	-69.77	2380	-31.5	2.4	10	Pass
NVNT	1-DH1	2402	Ant1	-69.77	2504	-31.5	3.7	10	Pass
NVNT	1-DH1	2402	Ant1	-69.77	2300	-31.5	3.6	10	Pass
NVNT	1-DH1	2402	Ant1	-69.77	2584	-31.5	4.5	10	Pass
NVNT	1-DH1	2480	Ant1	-69.78	2380	-31.5	3	10	Pass
NVNT	1-DH1	2480	Ant1	-69.78	2504	-31.5	1.4	10	Pass
NVNT	1-DH1	2480	Ant1	-69.78	2300	-31.5	3.4	10	Pass
NVNT	1-DH1	2480	Ant1	-69.78	2584	-31.5	2	10	Pass

Test Graphs

Rx. Blockings NVNT 1-DH1 2402MHz Ant1



Rx. Blockings NVNT 1-DH1 2480MHz Ant1

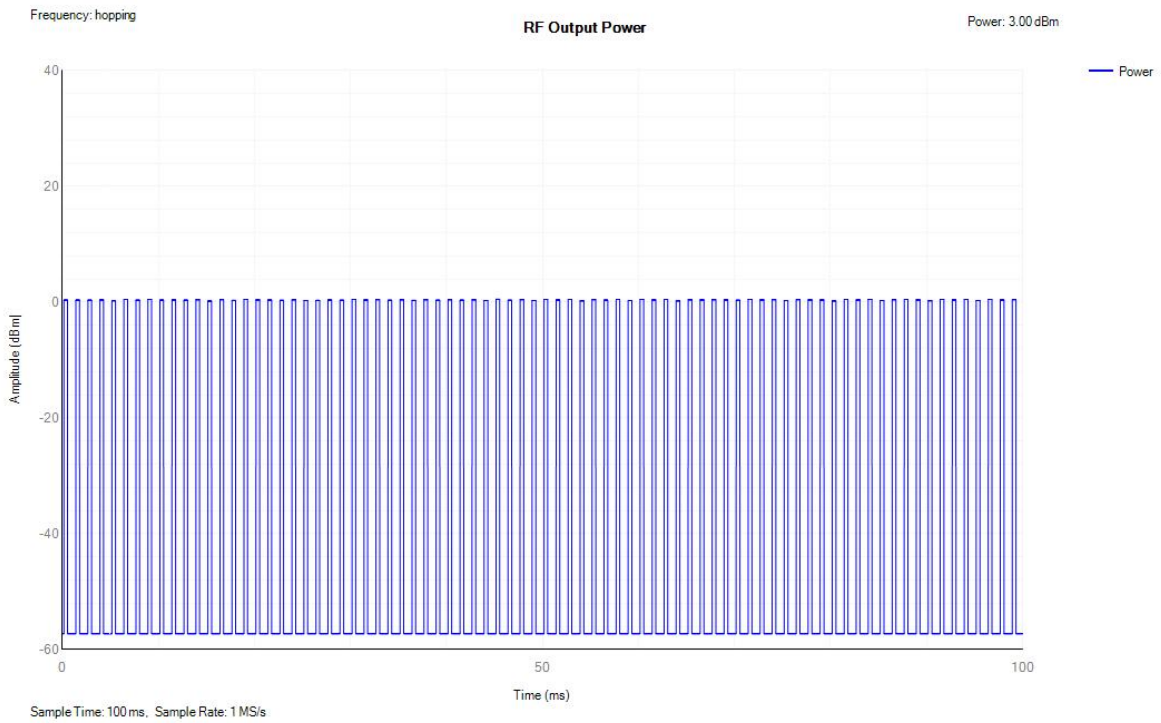


5.4.2 RF Output Power

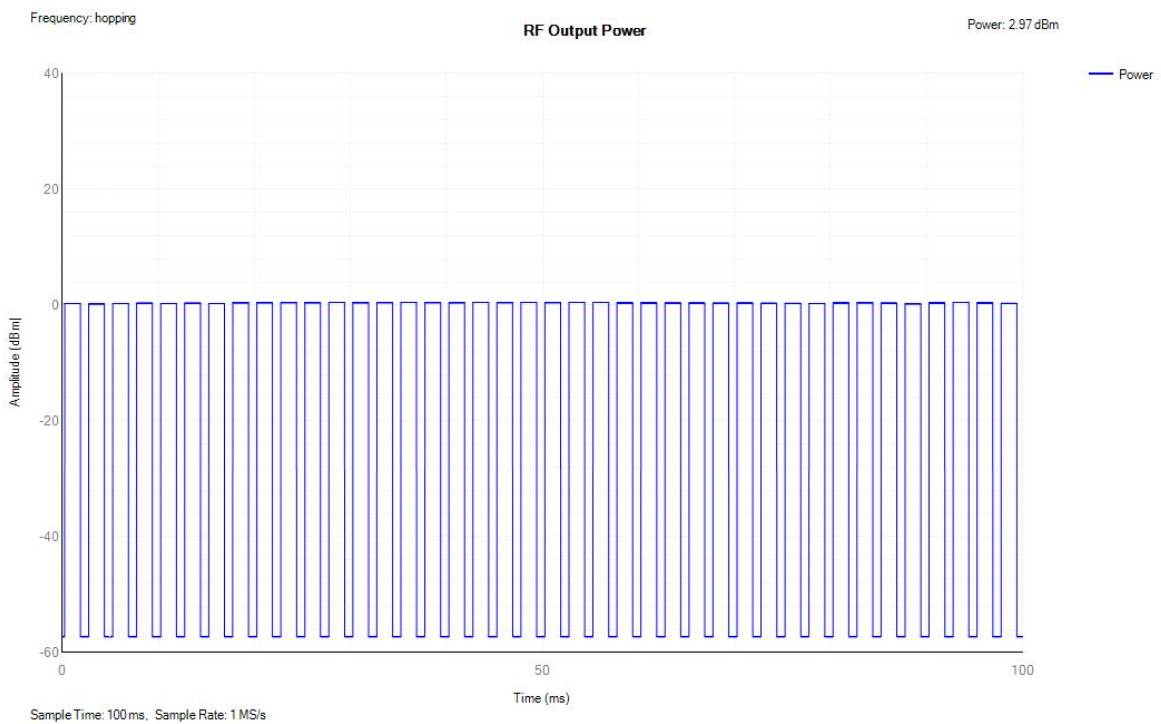
Condition	Mode	Frequency (MHz)	Antenna	Max Burst RMS Power (dBm)	Burst Number	Max EIRP (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	hopping	Ant1	0.5	80	3	20	Pass
NVNT	1-DH3	hopping	Ant1	0.47	40	2.97	20	Pass
NVNT	1-DH5	hopping	Ant1	0.44	27	2.94	20	Pass
NVNT	2-DH1	hopping	Ant1	-0.22	80	2.28	20	Pass
NVNT	2-DH3	hopping	Ant1	-0.65	41	1.85	20	Pass
NVNT	2-DH5	hopping	Ant1	-0.67	27	1.83	20	Pass
NVNT	3-DH1	hopping	Ant1	-0.25	81	2.25	20	Pass
NVNT	3-DH3	hopping	Ant1	-0.65	41	1.85	20	Pass
NVNT	3-DH5	hopping	Ant1	-0.67	28	1.83	20	Pass

Test Graphs

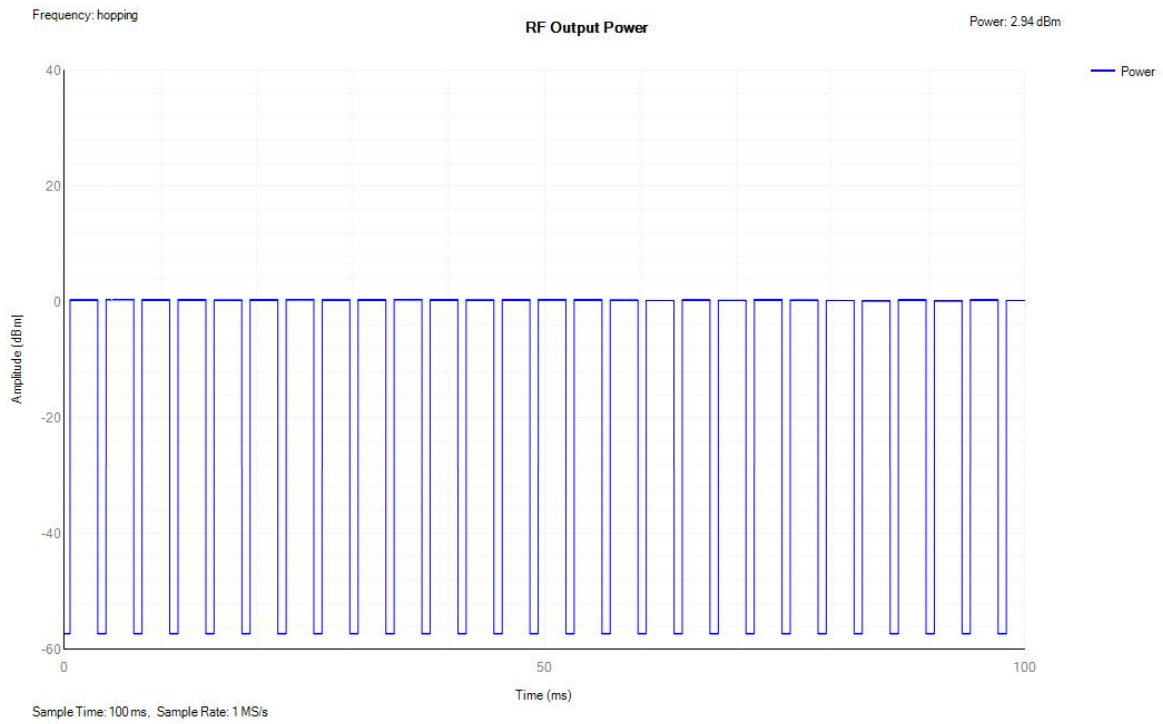
Power NVNT 1-DH1 2441MHz Ant1



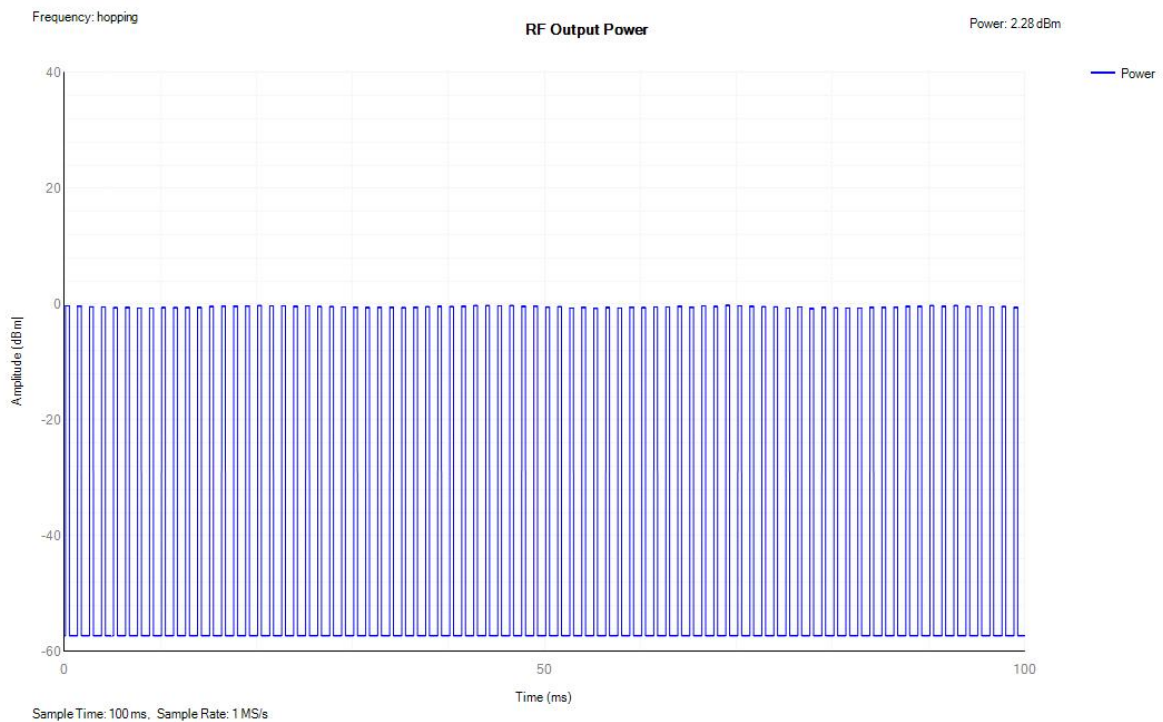
Power NVNT 1-DH3 2441MHz Ant1



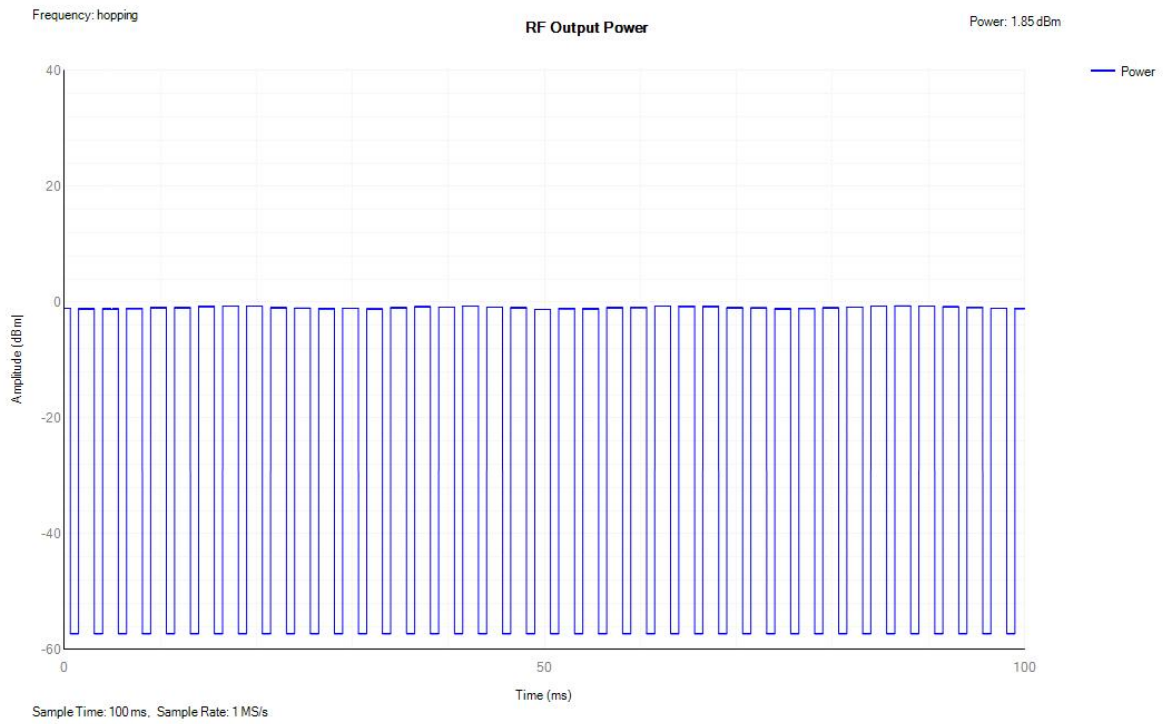
Power NVNT 1-DH5 2441MHz Ant1



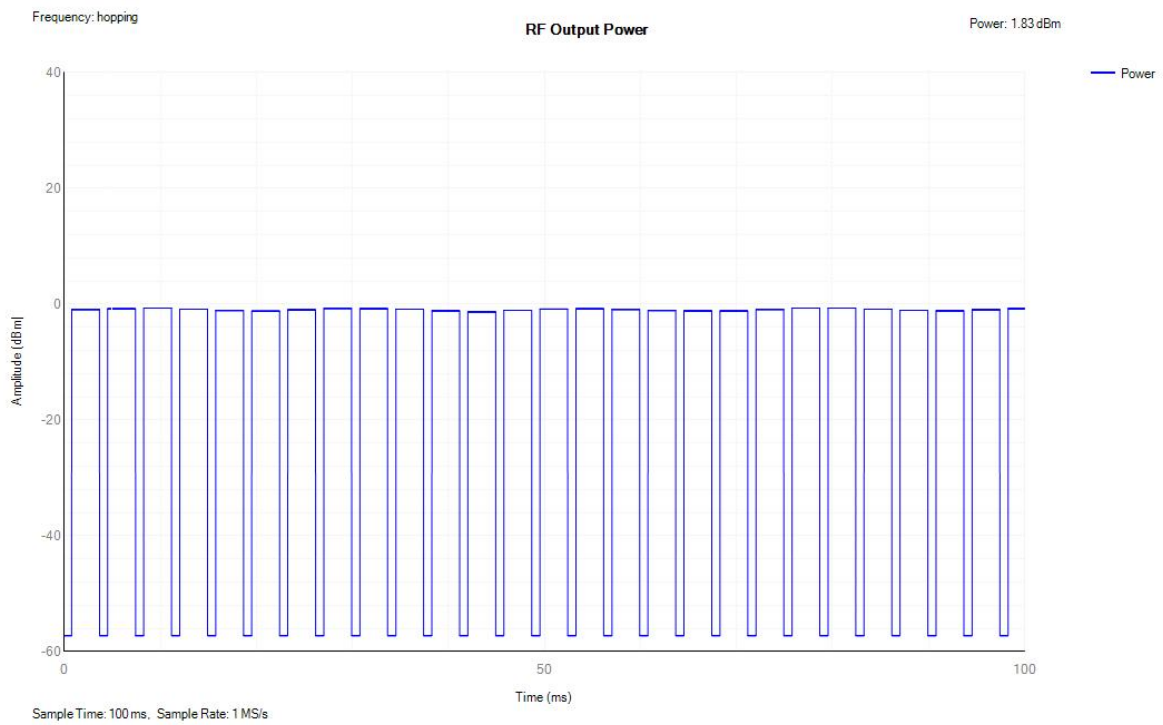
Power NVNT 2-DH1 2441MHz Ant1



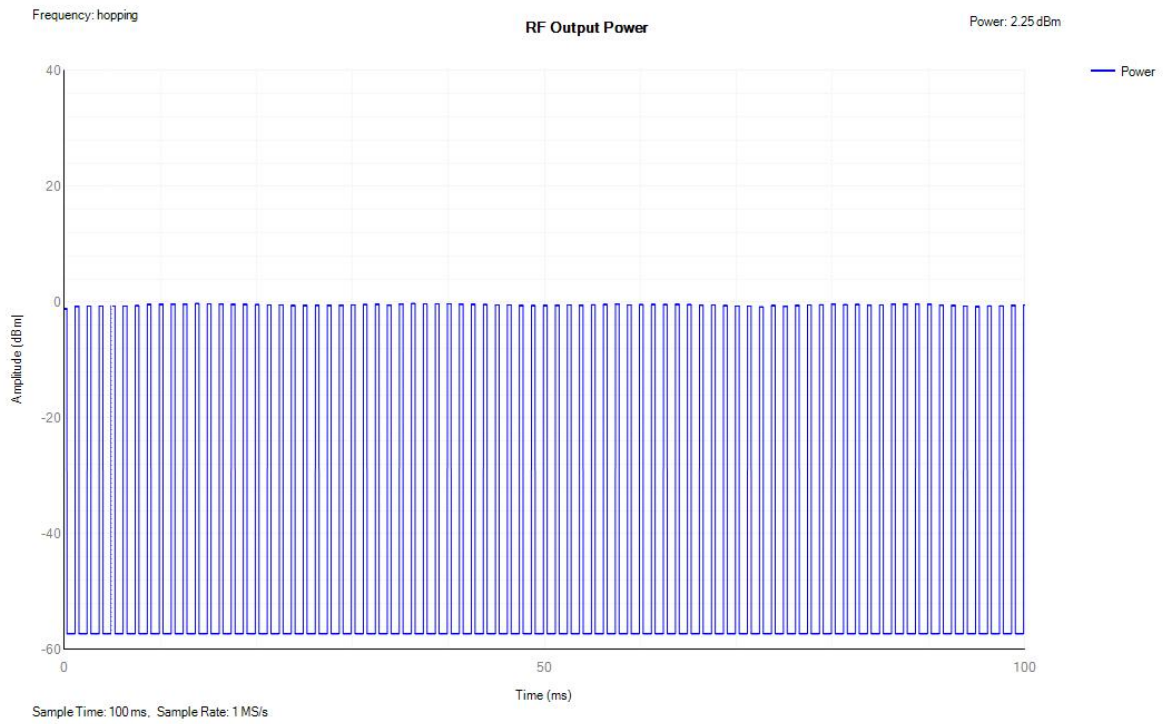
Power NVNT 2-DH3 2441MHz Ant1



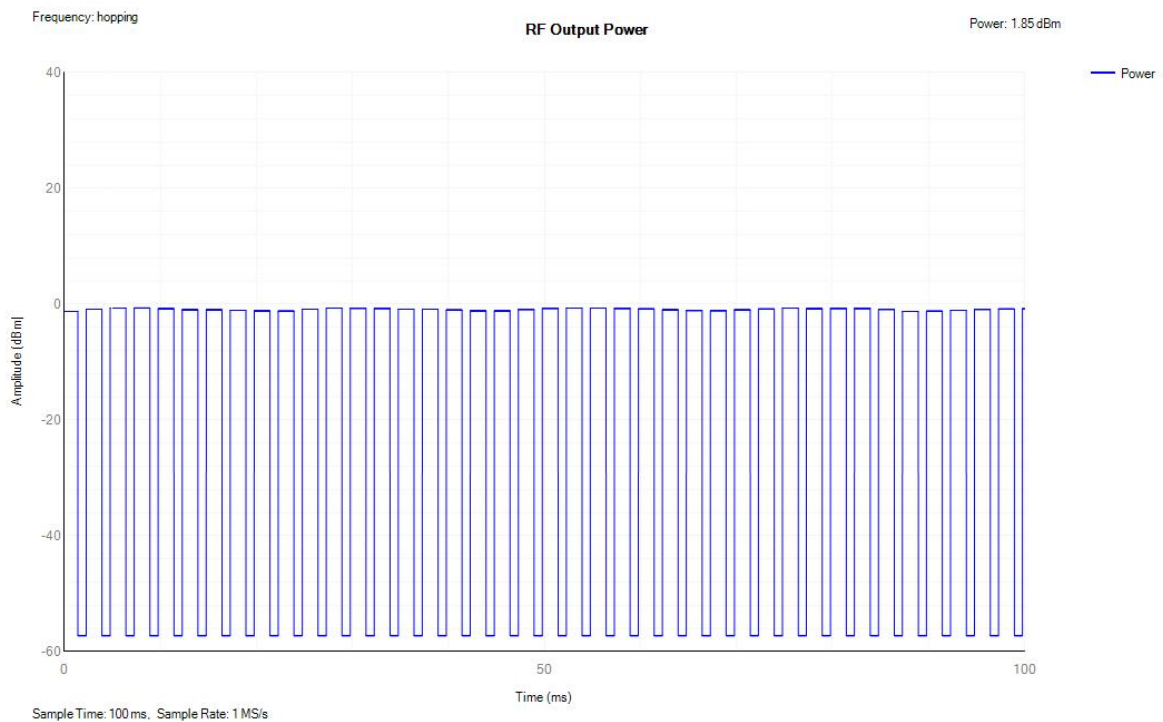
Power NVNT 2-DH5 2441MHz Ant1

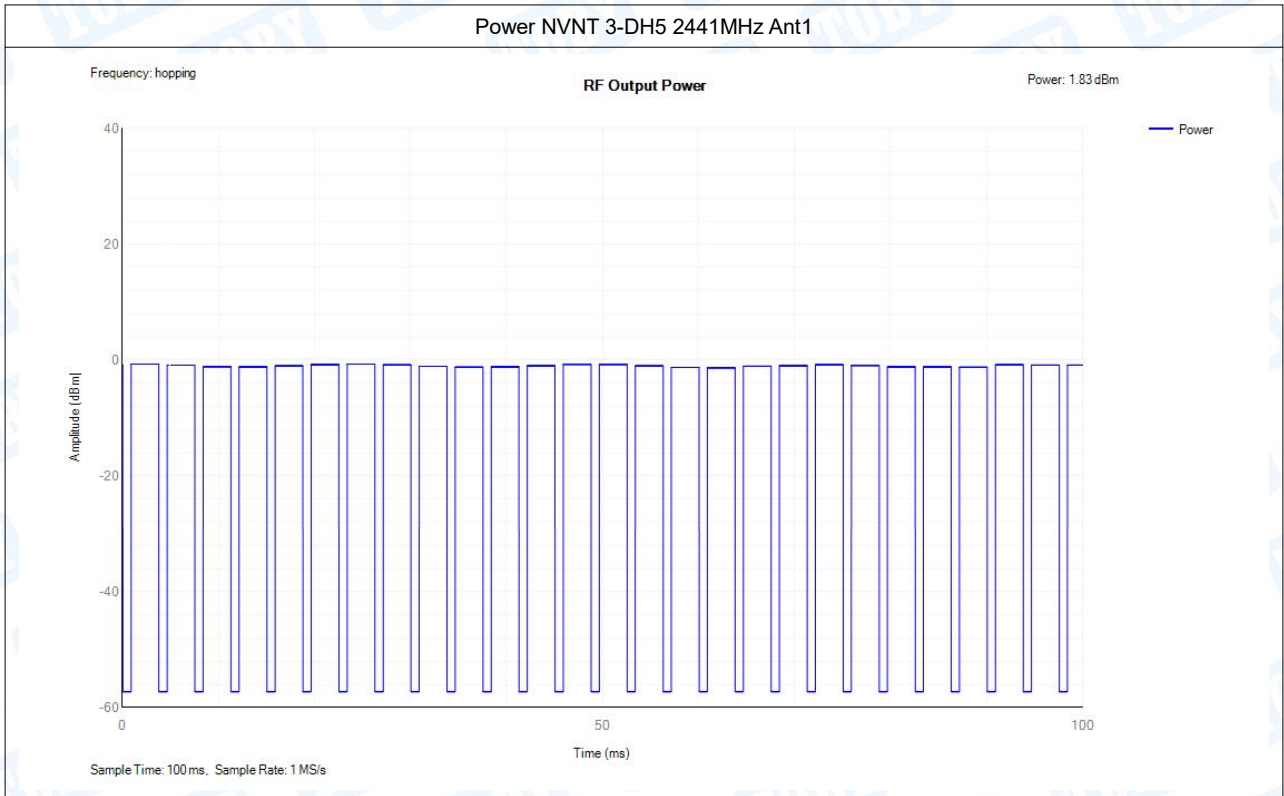


Power NVNT 3-DH1 2441MHz Ant1



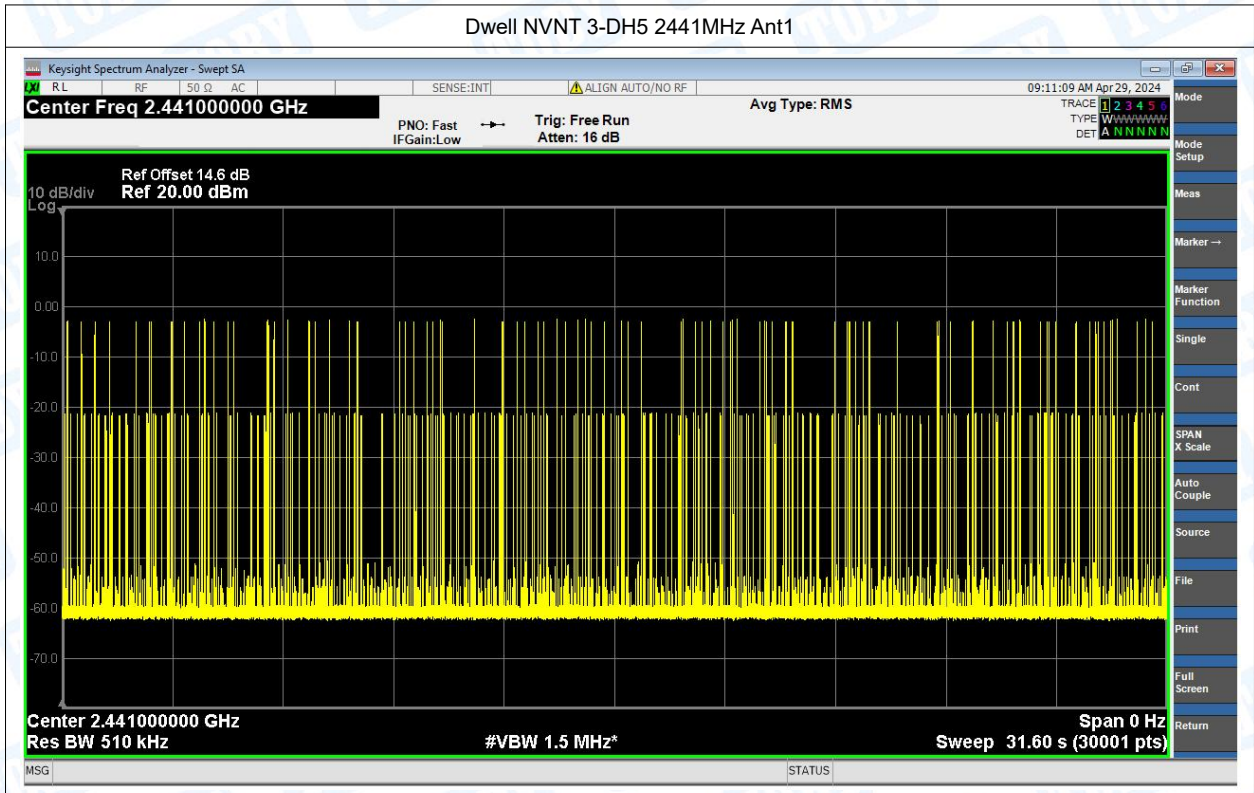
Power NVNT 3-DH3 2441MHz Ant1





5.4.4 Accumulated Transmit Time

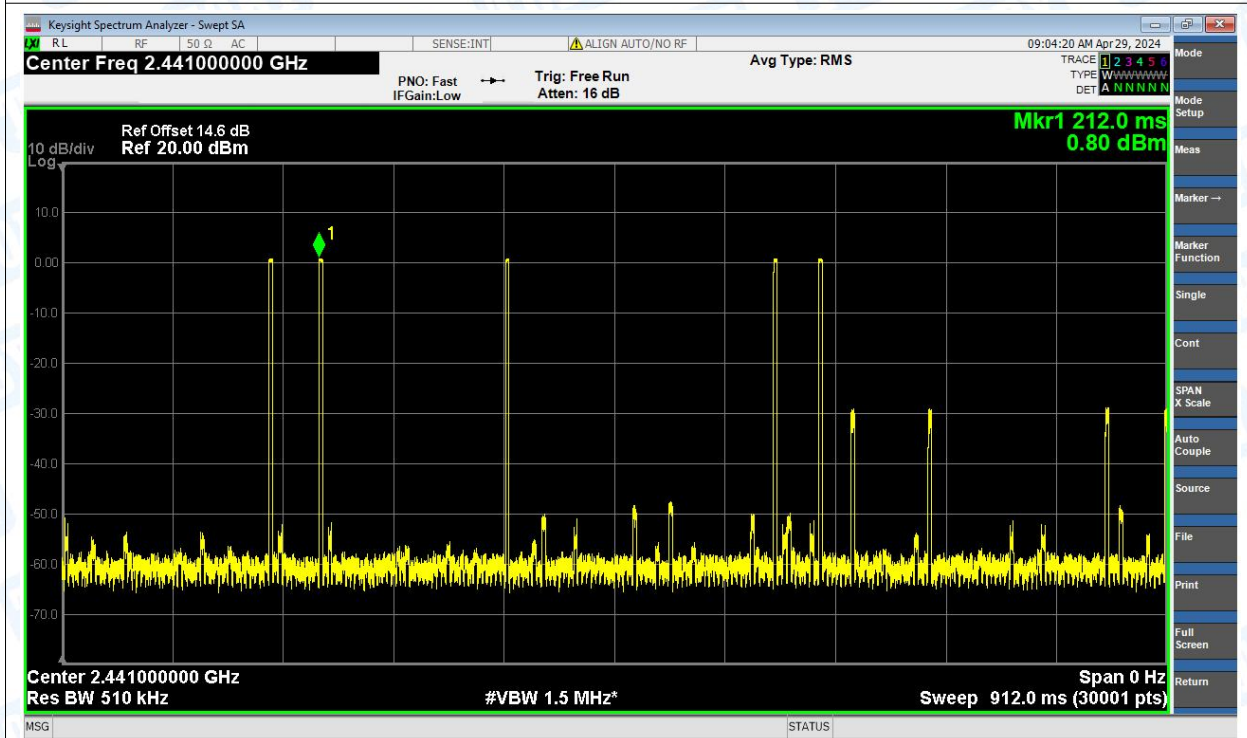
Condition	Mode	Frequency (MHz)	Antenna	Accumulated Transmit Time (ms)	Limit (ms)	Sweep Time (ms)	Burst Number	Verdict
NVNT	1-DH1	2441	Ant1	121.794	400	31600	318	Pass
NVNT	1-DH3	2441	Ant1	257.166	400	31600	157	Pass
NVNT	1-DH5	2441	Ant1	314.574	400	31600	109	Pass
NVNT	2-DH1	2441	Ant1	124.729	400	31600	319	Pass
NVNT	2-DH3	2441	Ant1	261.396	400	31600	159	Pass
NVNT	2-DH5	2441	Ant1	329.574	400	31600	114	Pass
NVNT	3-DH1	2441	Ant1	125.048	400	31600	319	Pass
NVNT	3-DH3	2441	Ant1	267.646	400	31600	163	Pass
NVNT	3-DH5	2441	Ant1	289.3	400	31600	100	Pass



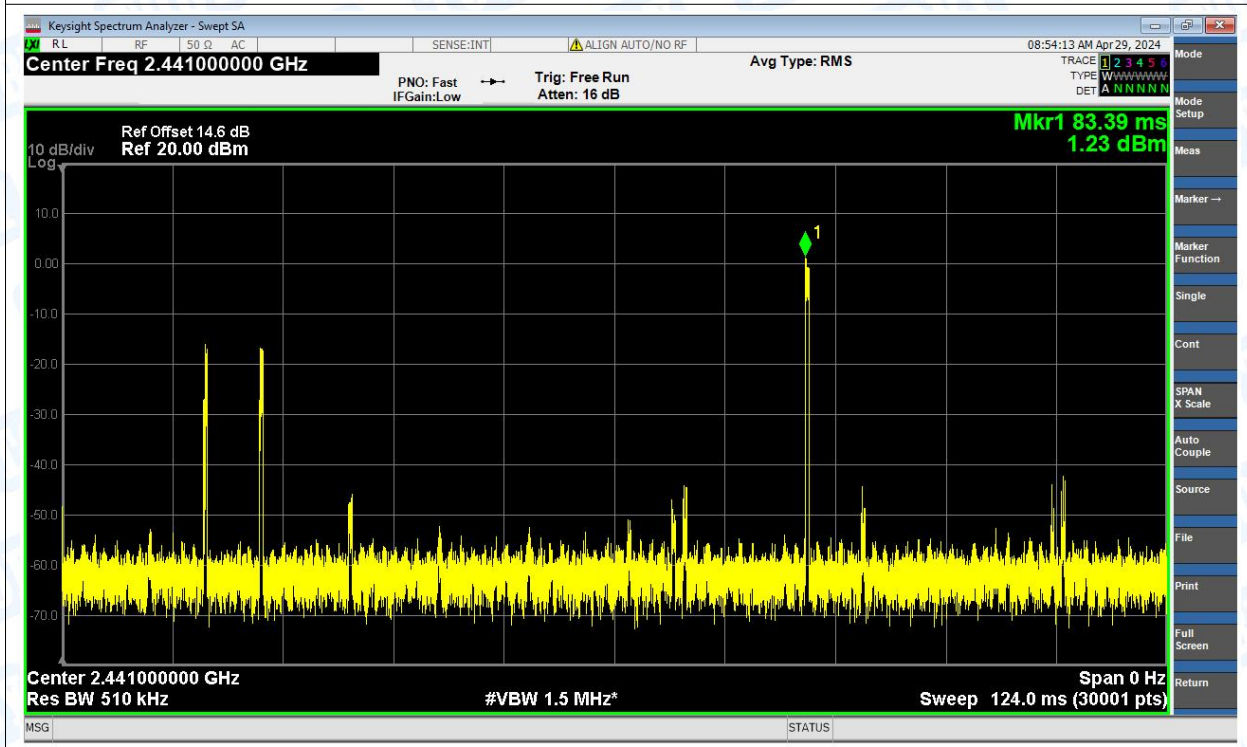
5.4.4 Frequency Occupation

Condition	Mode	Frequency (MHz)	Antenna	Burst Number	Limit	Sweep Time (ms)	Verdict
NVNT	1-DH1	2441	Ant1	2	1	121.028	Pass
NVNT	1-DH3	2441	Ant1	3	1	517.608	Pass
NVNT	1-DH5	2441	Ant1	5	1	911.976	Pass
NVNT	2-DH1	2441	Ant1	1	1	123.556	Pass
NVNT	2-DH3	2441	Ant1	4	1	519.504	Pass
NVNT	2-DH5	2441	Ant1	5	1	913.556	Pass
NVNT	3-DH1	2441	Ant1	1	1	123.872	Pass
NVNT	3-DH3	2441	Ant1	2	1	518.872	Pass
NVNT	3-DH5	2441	Ant1	3	1	914.188	Pass

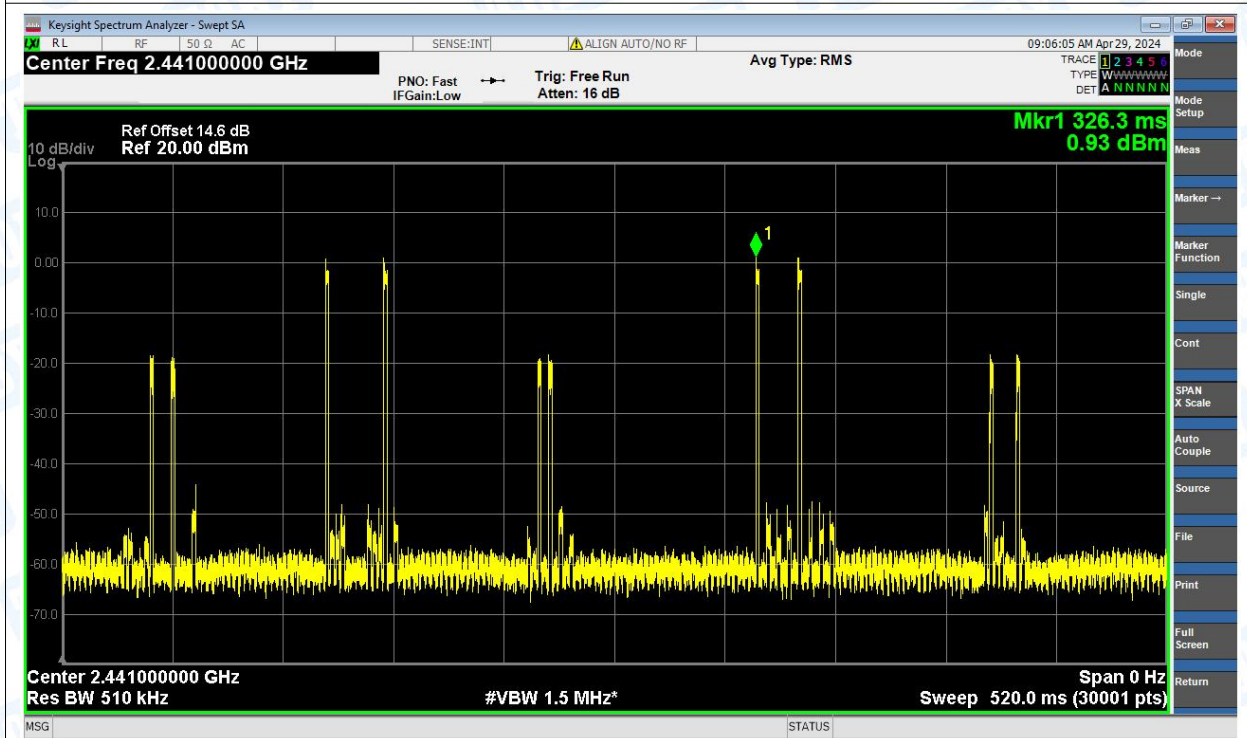
Freq. Occup. NVNT 1-DH5 2441MHz Ant1



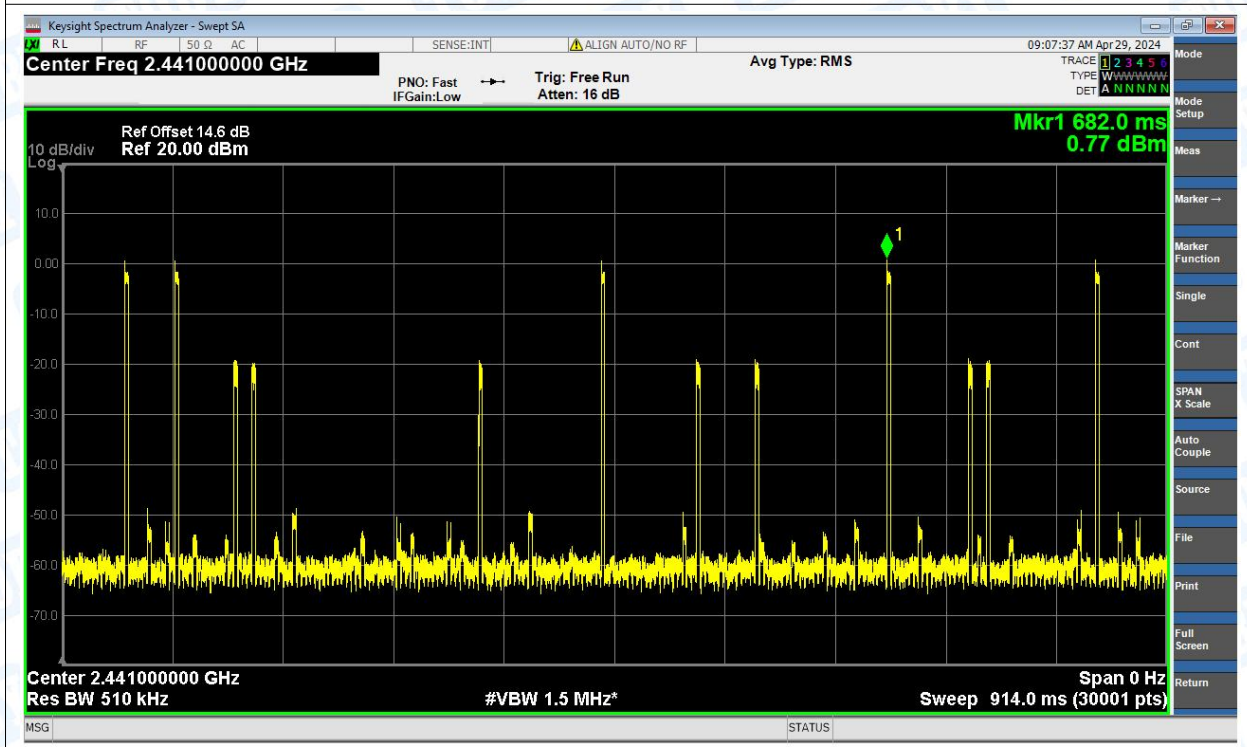
Freq. Occup. NVNT 2-DH1 2441MHz Ant1



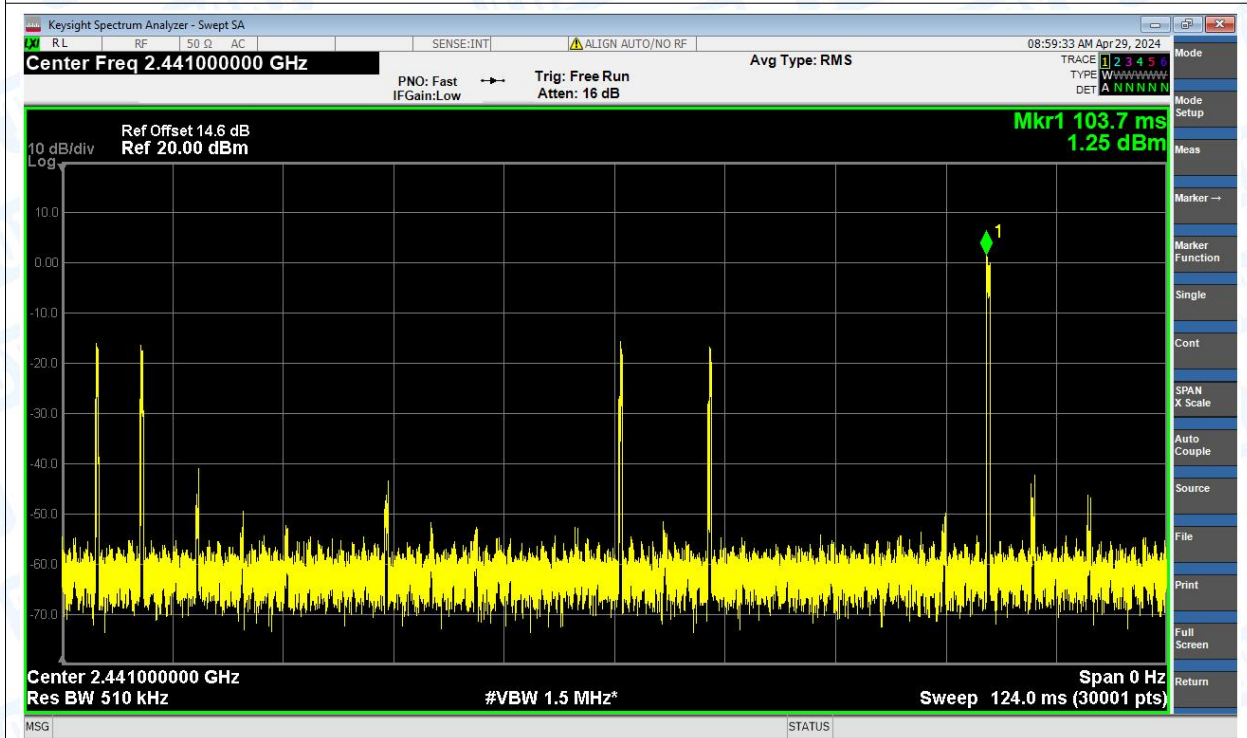
Freq. Occup. NVNT 2-DH3 2441MHz Ant1



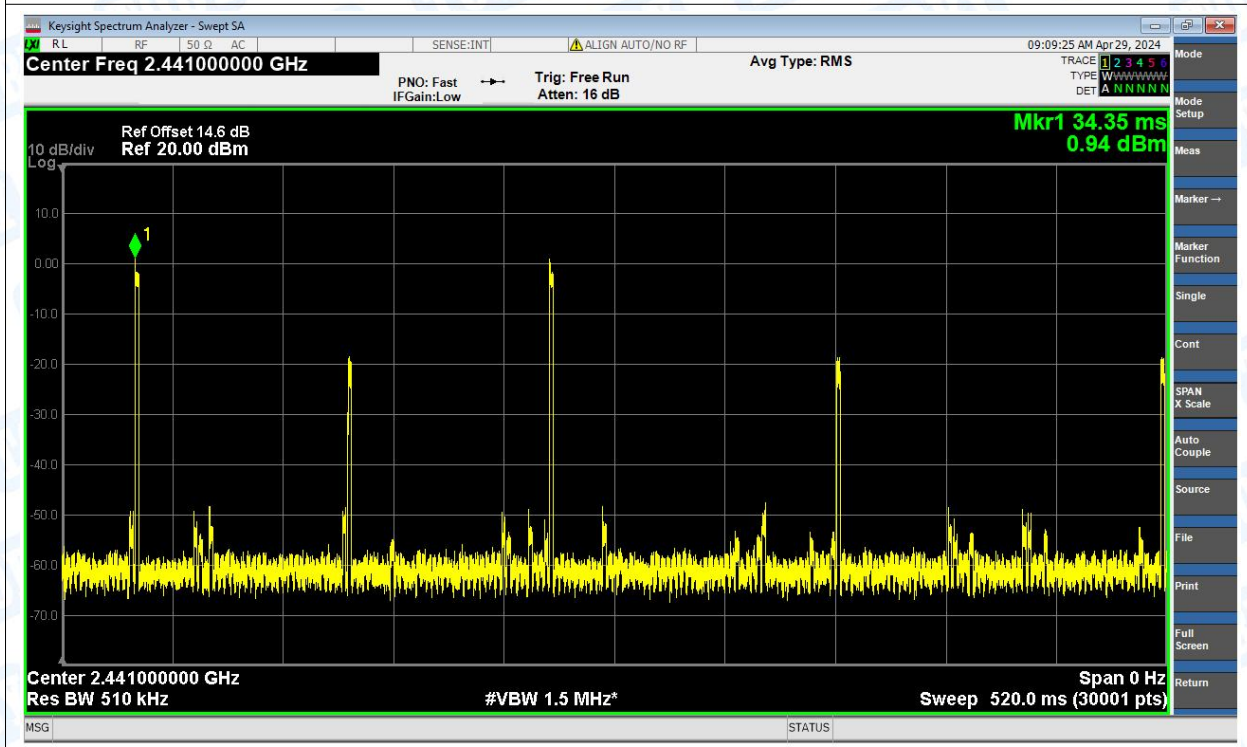
Freq. Occup. NVNT 2-DH5 2441MHz Ant1

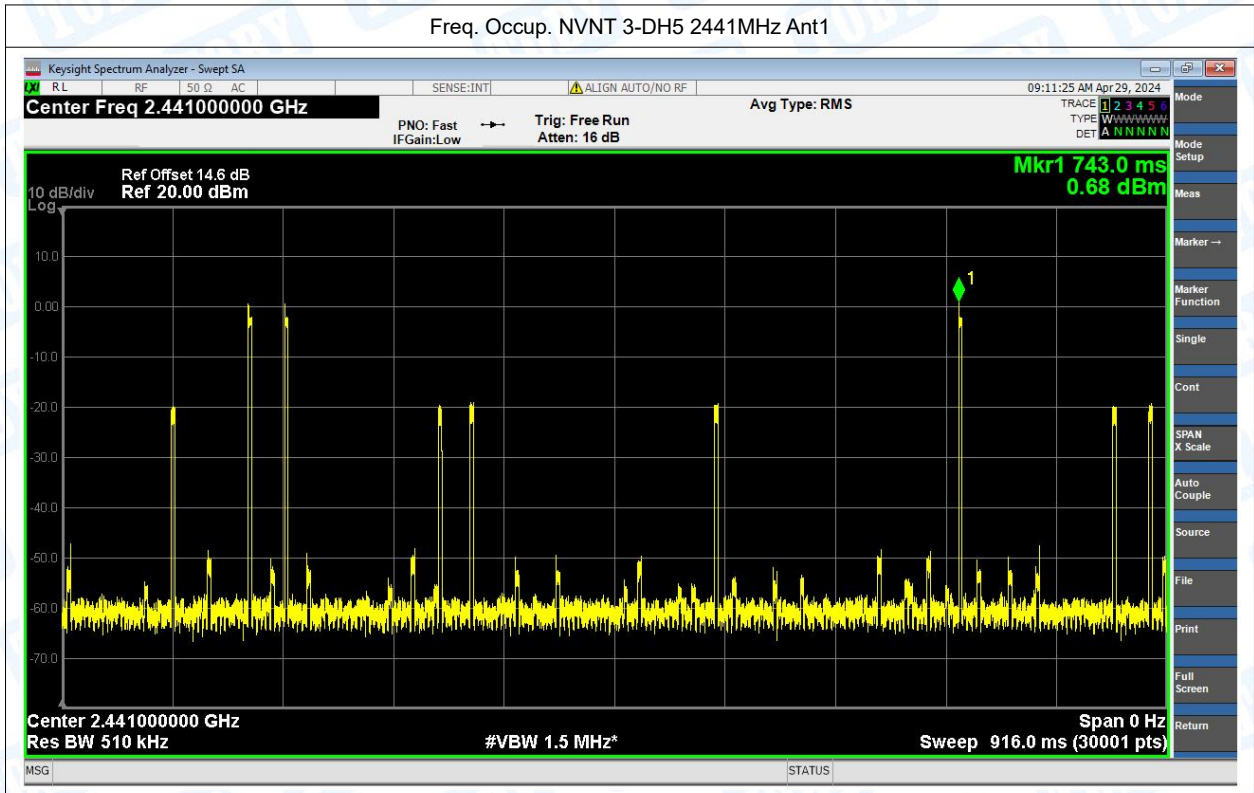


Freq. Occup. NVNT 3-DH1 2441MHz Ant1



Freq. Occup. NVNT 3-DH3 2441MHz Ant1



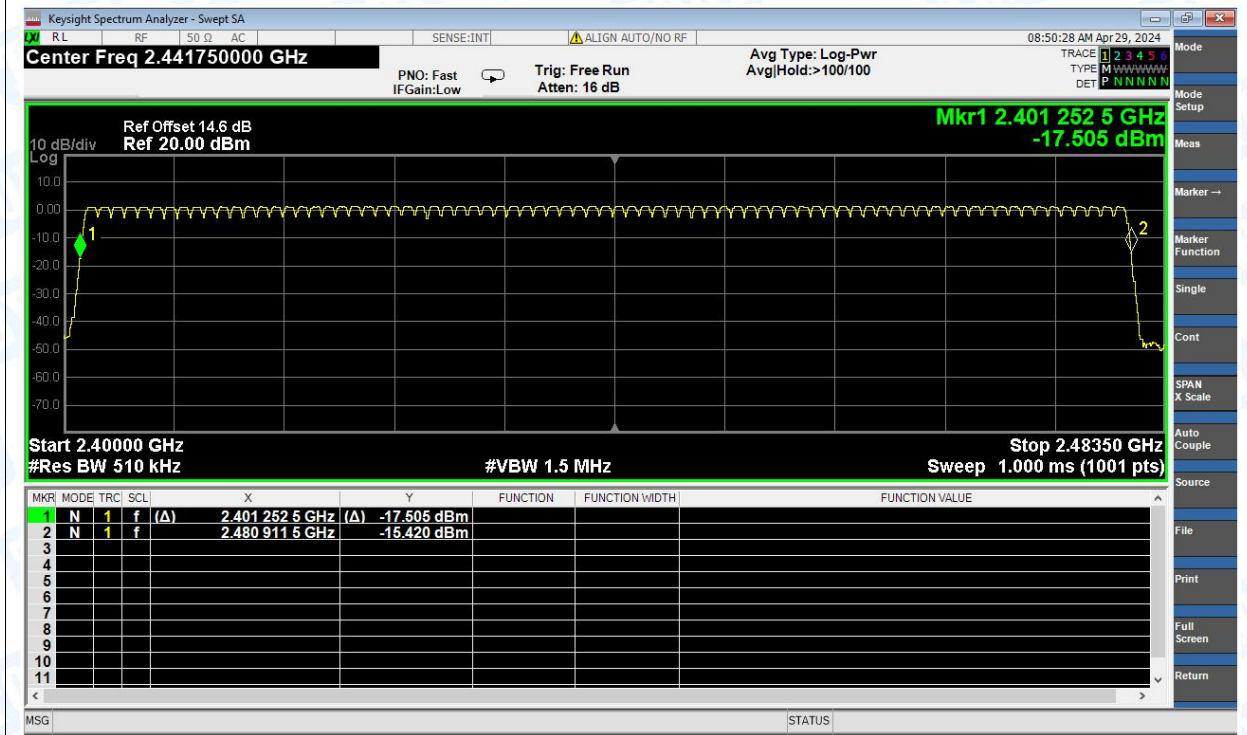


5.4.4 Hopping Sequence

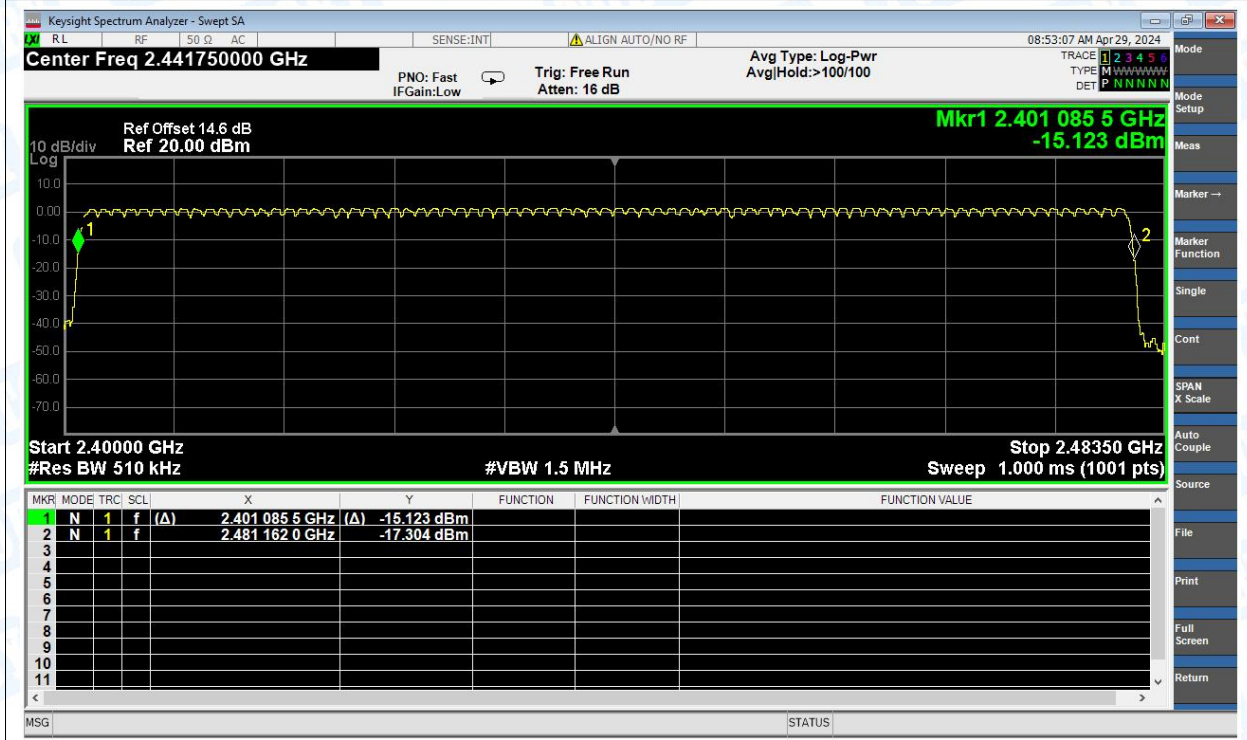
Condition	Mode	Antenna	Hopping Number	Limit	Band Allocation (%)	Limit Band Allocation (%)	Verdict
NVNT	1-DH1	Ant1	79	15	95.4	70	Pass
NVNT	2-DH1	Ant1	79	15	95.9	70	Pass
NVNT	3-DH1	Ant1	79	15	95.9	70	Pass

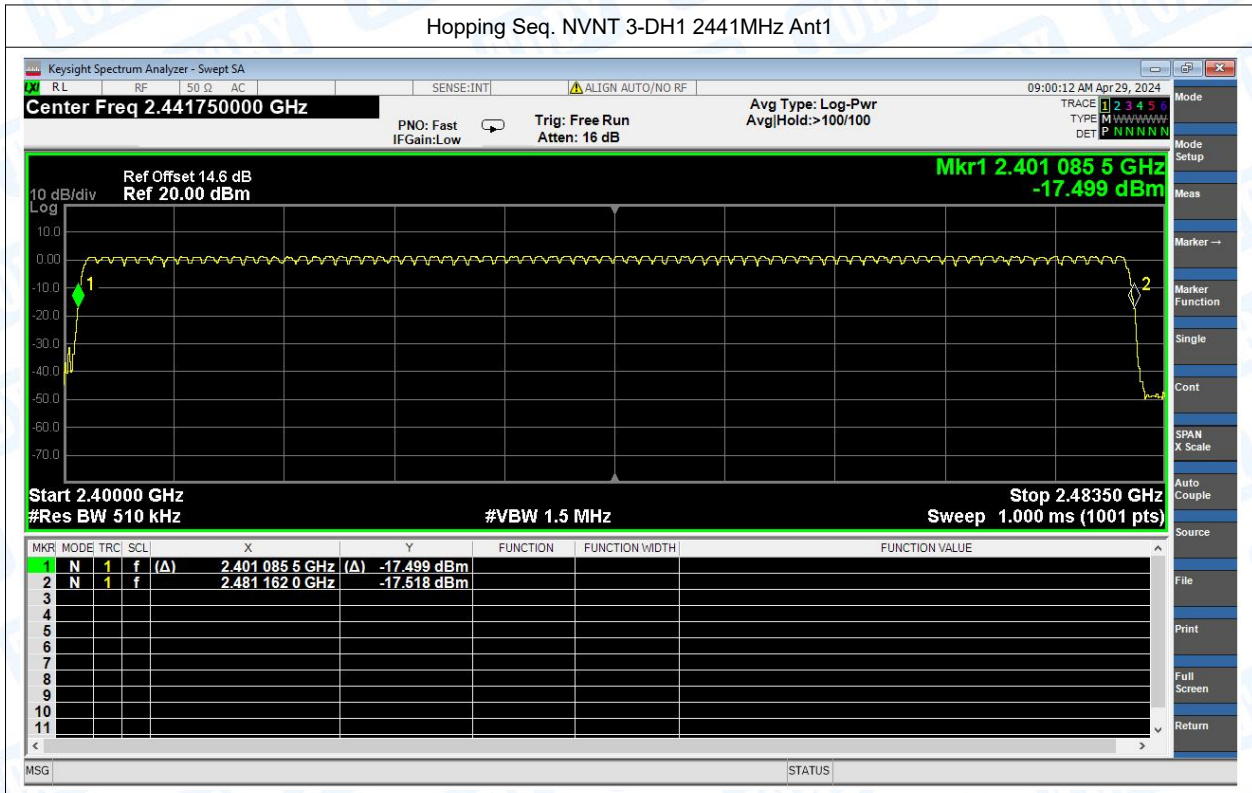
Test Graphs

Hopping Seq. NVNT 1-DH1 2441MHz Ant1



Hopping Seq. NVNT 2-DH1 2441MHz Ant1



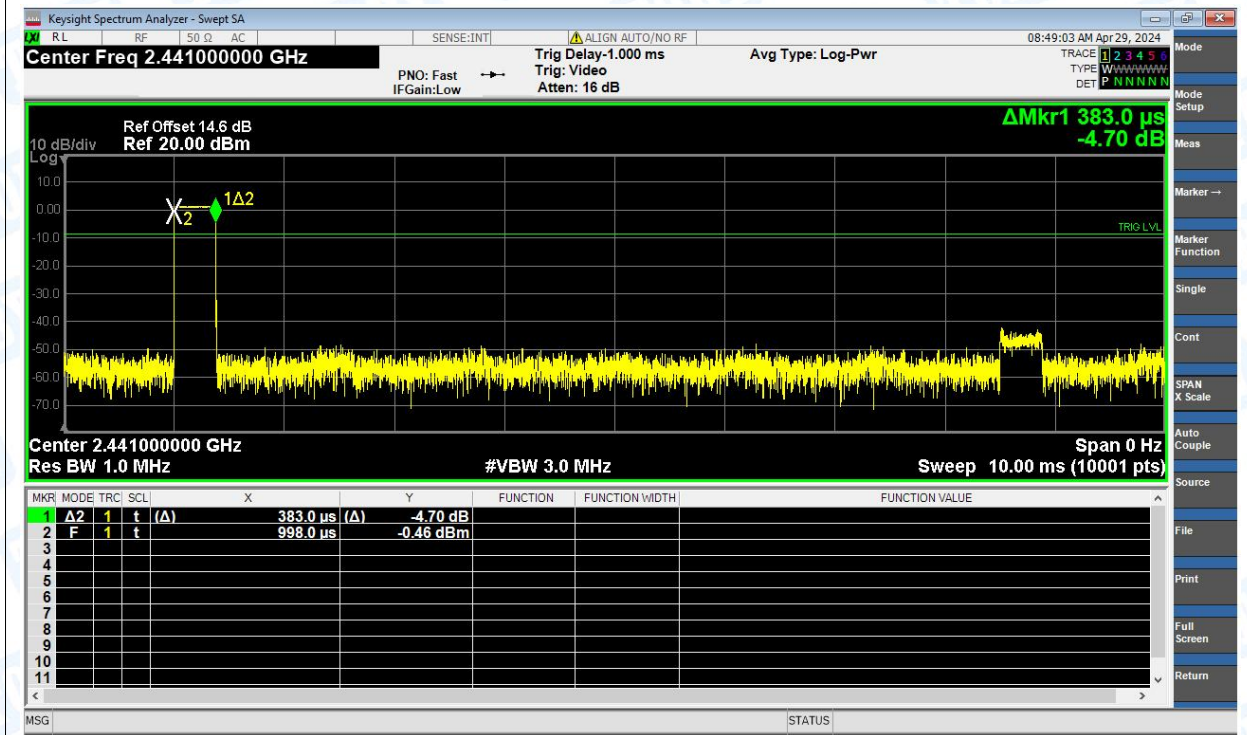


5.4.4 Dwell Time One Burst

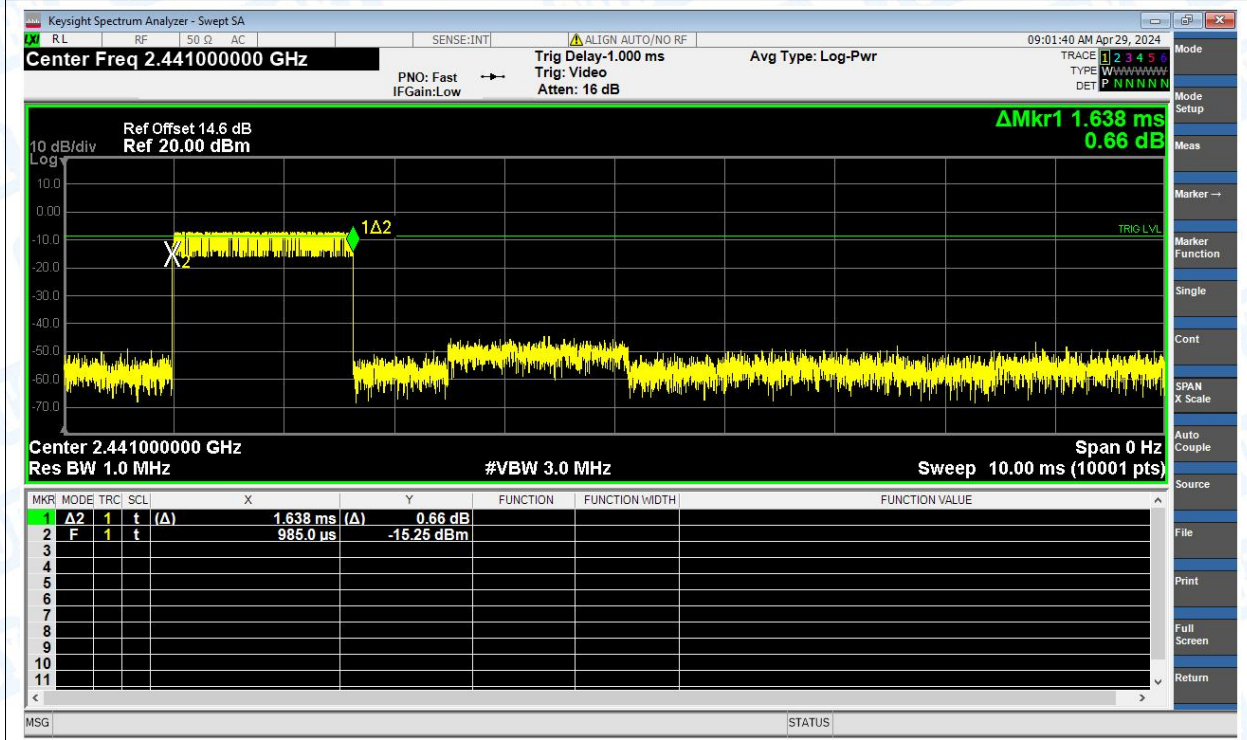
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)
NVNT	1-DH1	2441	Ant1	0.383
NVNT	1-DH3	2441	Ant1	1.638
NVNT	1-DH5	2441	Ant1	2.886
NVNT	2-DH1	2441	Ant1	0.391
NVNT	2-DH3	2441	Ant1	1.644
NVNT	2-DH5	2441	Ant1	2.891
NVNT	3-DH1	2441	Ant1	0.392
NVNT	3-DH3	2441	Ant1	1.642
NVNT	3-DH5	2441	Ant1	2.893

Test Graphs

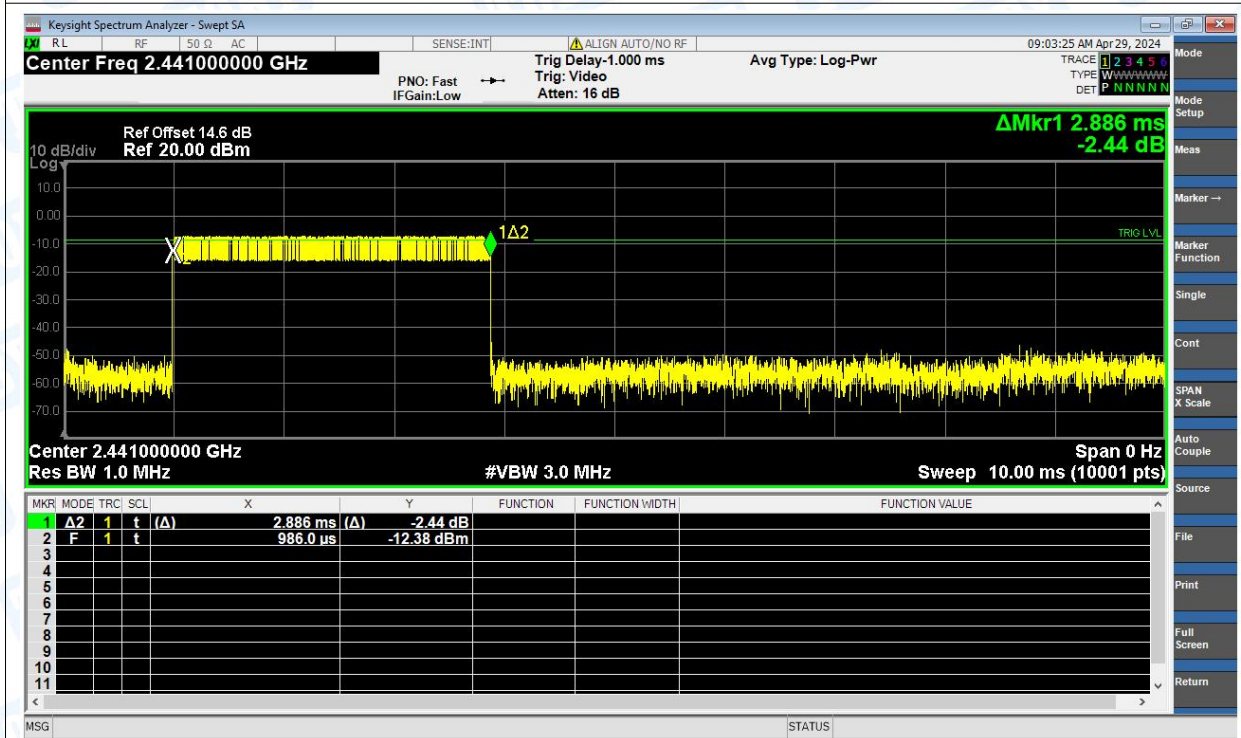
One Burst NVNT 1-DH1 2441MHz Ant1 One Burst



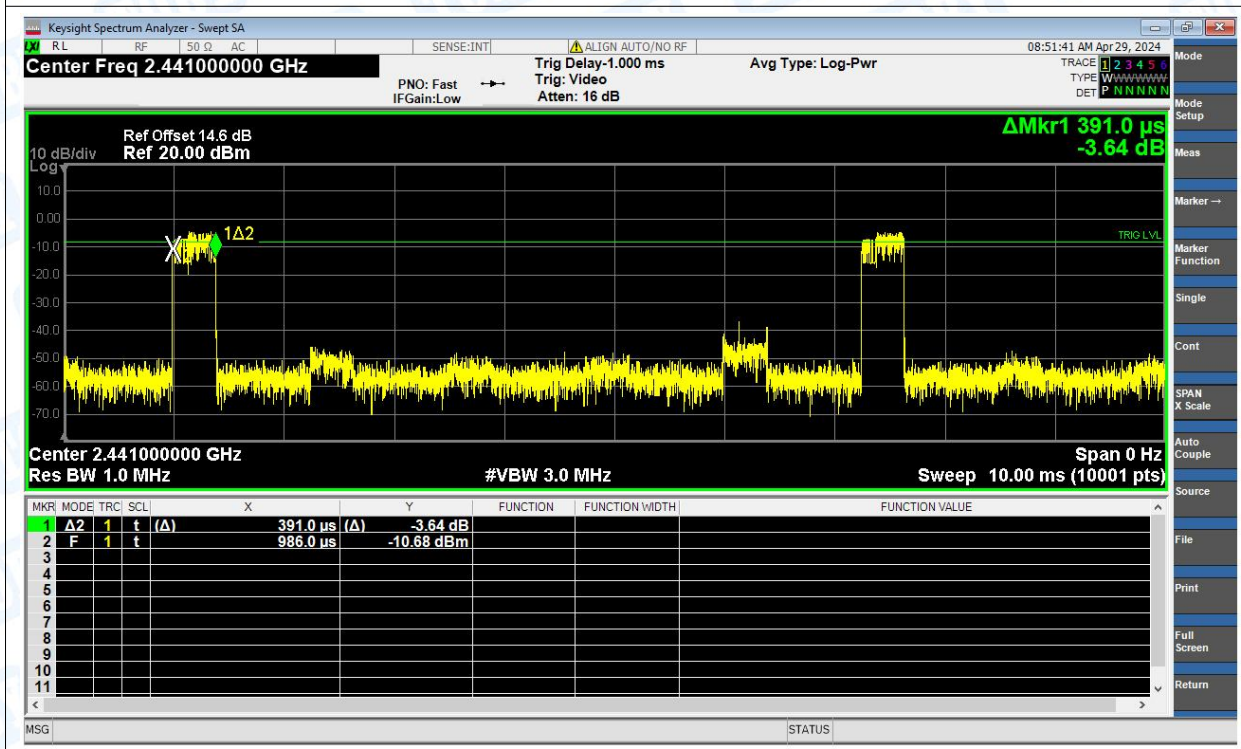
One Burst NVNT 1-DH3 2441MHz Ant1 One Burst



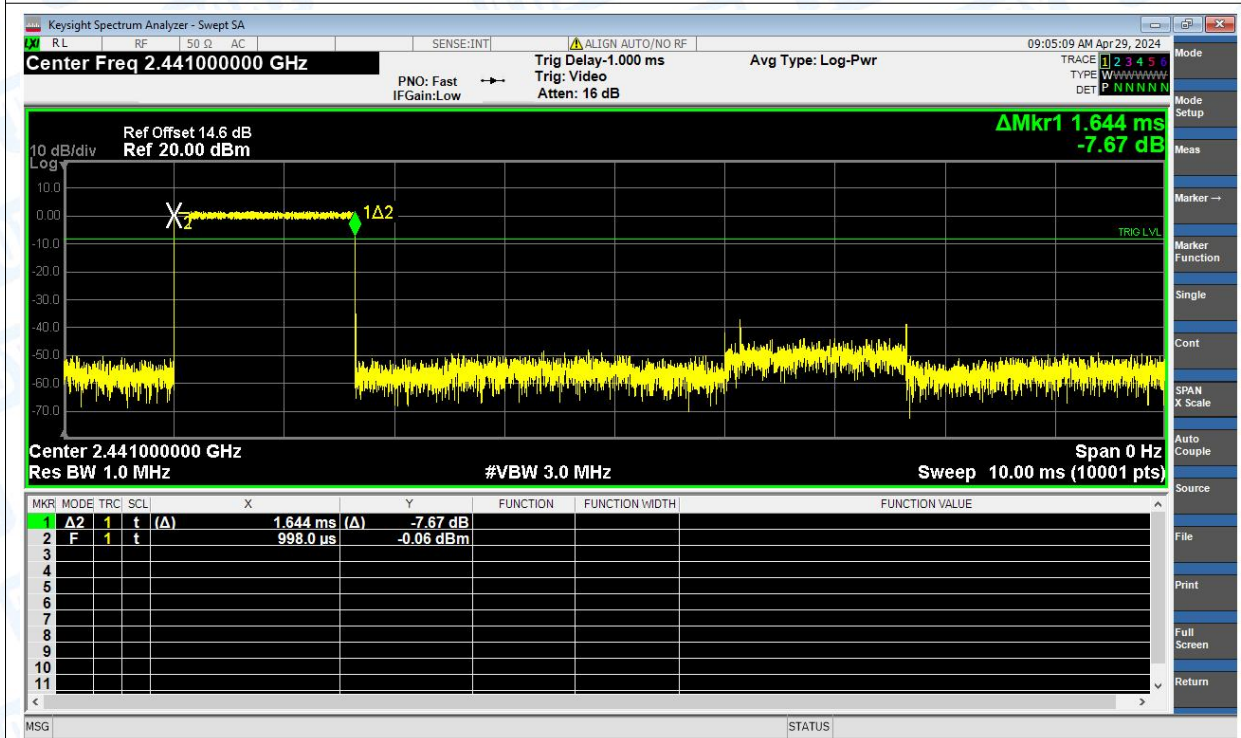
One Burst NVNT 1-DH5 2441MHz Ant1 One Burst



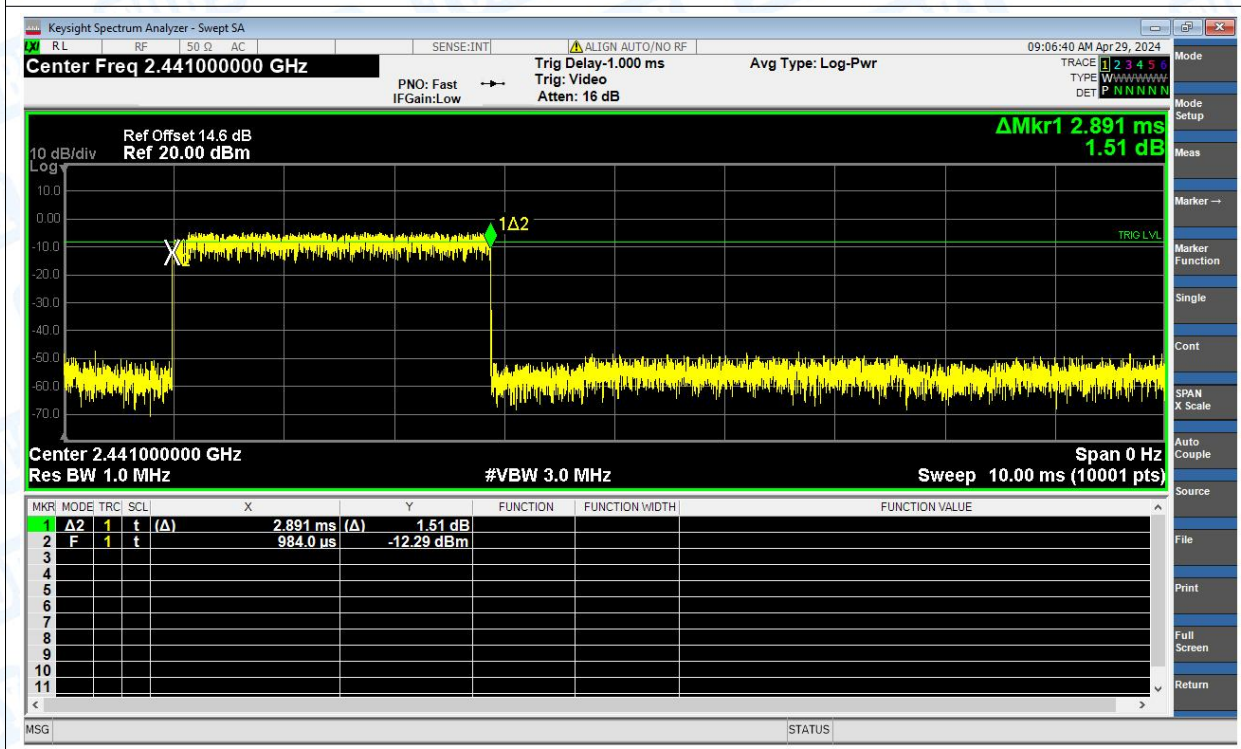
One Burst NVNT 2-DH1 2441MHz Ant1 One Burst



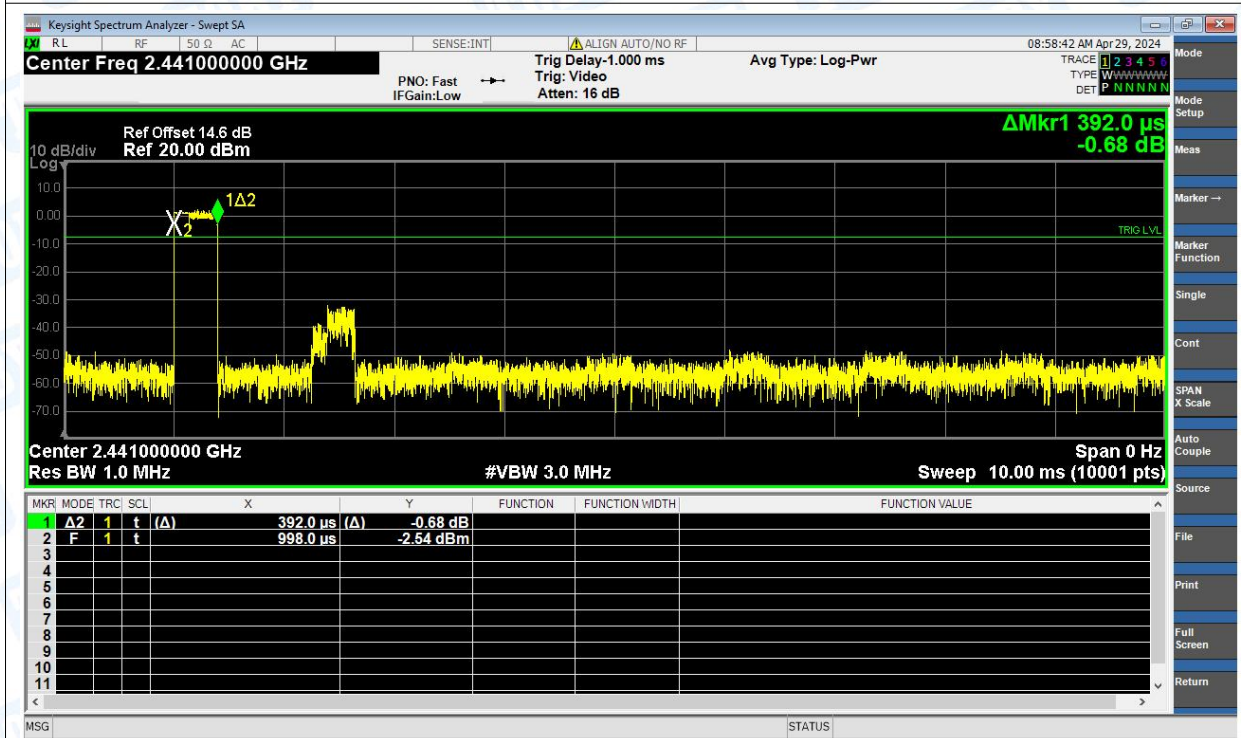
One Burst NVNT 2-DH3 2441MHz Ant1 One Burst



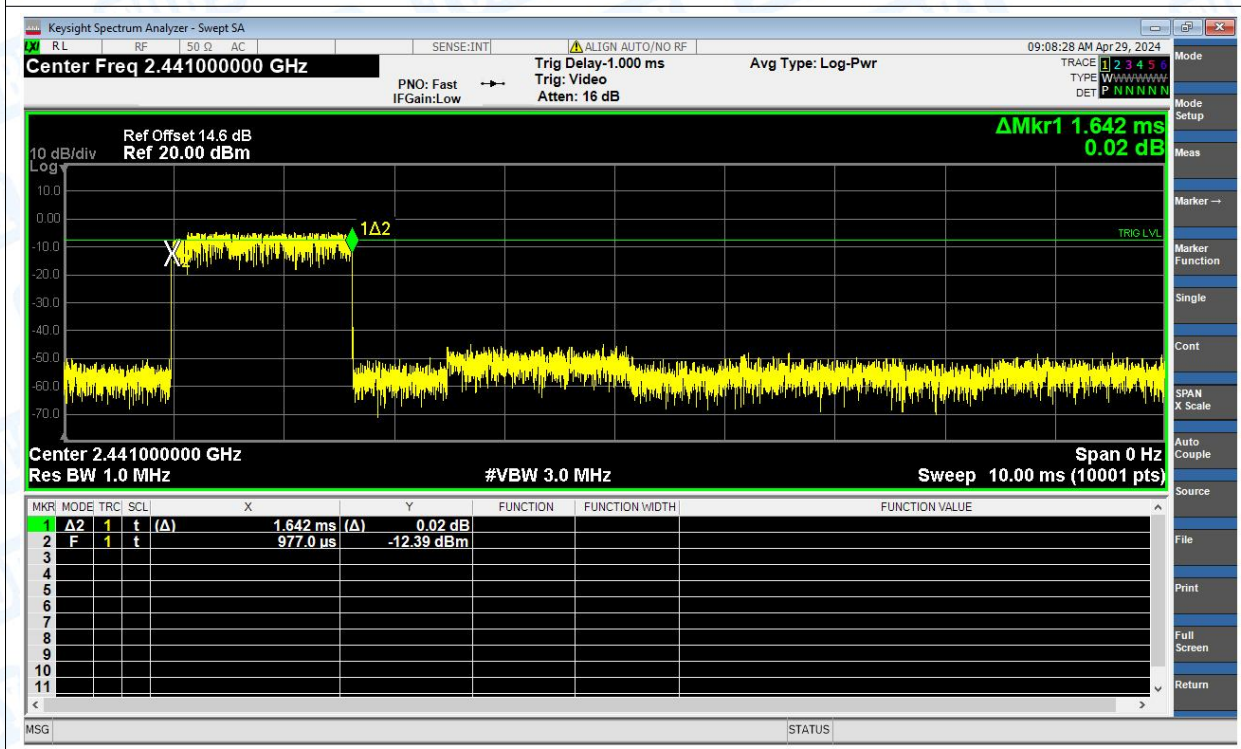
One Burst NVNT 2-DH5 2441MHz Ant1 One Burst

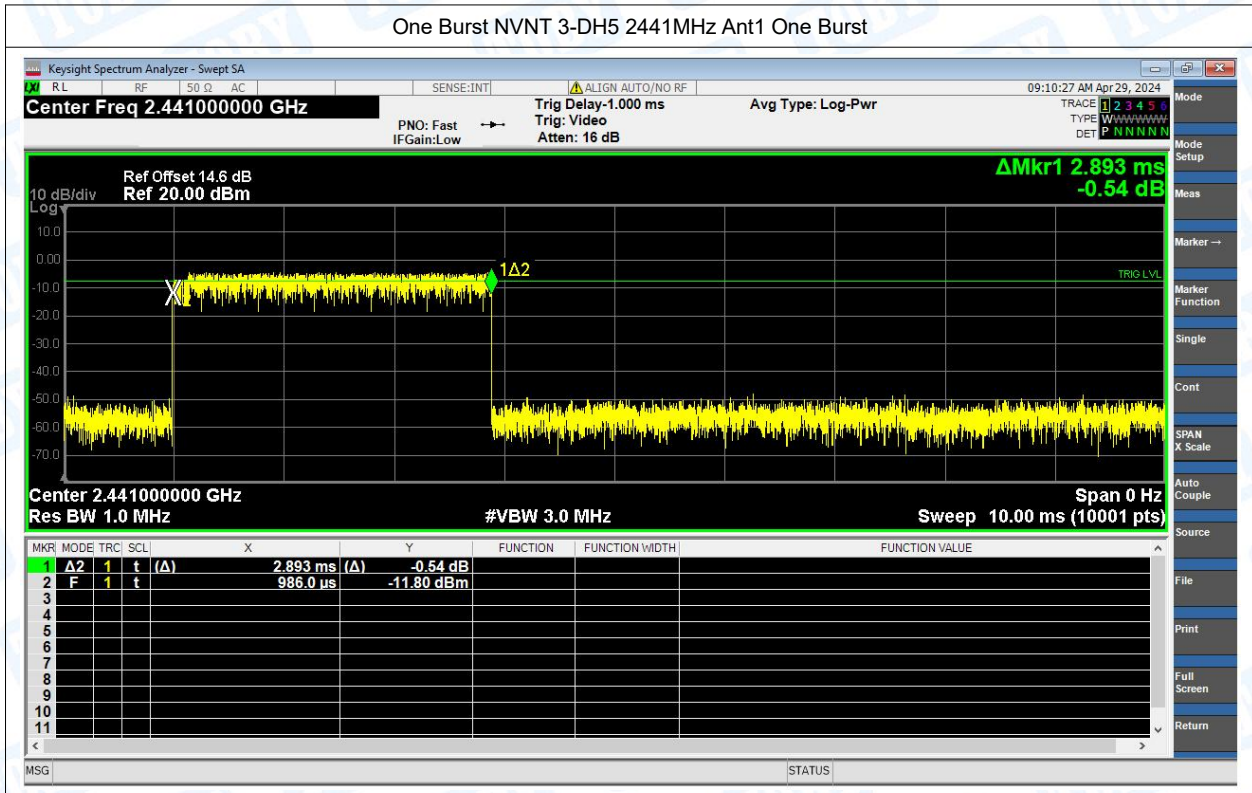


One Burst NVNT 3-DH1 2441MHz Ant1 One Burst



One Burst NVNT 3-DH3 2441MHz Ant1 One Burst





5.4.5 Hopping Frequency Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.844	2441.985	1.141	0.1	Pass
NVNT	2-DH1	Ant1	2440.849	2441.89	1.041	0.1	Pass
NVNT	3-DH1	Ant1	2440.966	2441.98	1.014	0.1	Pass

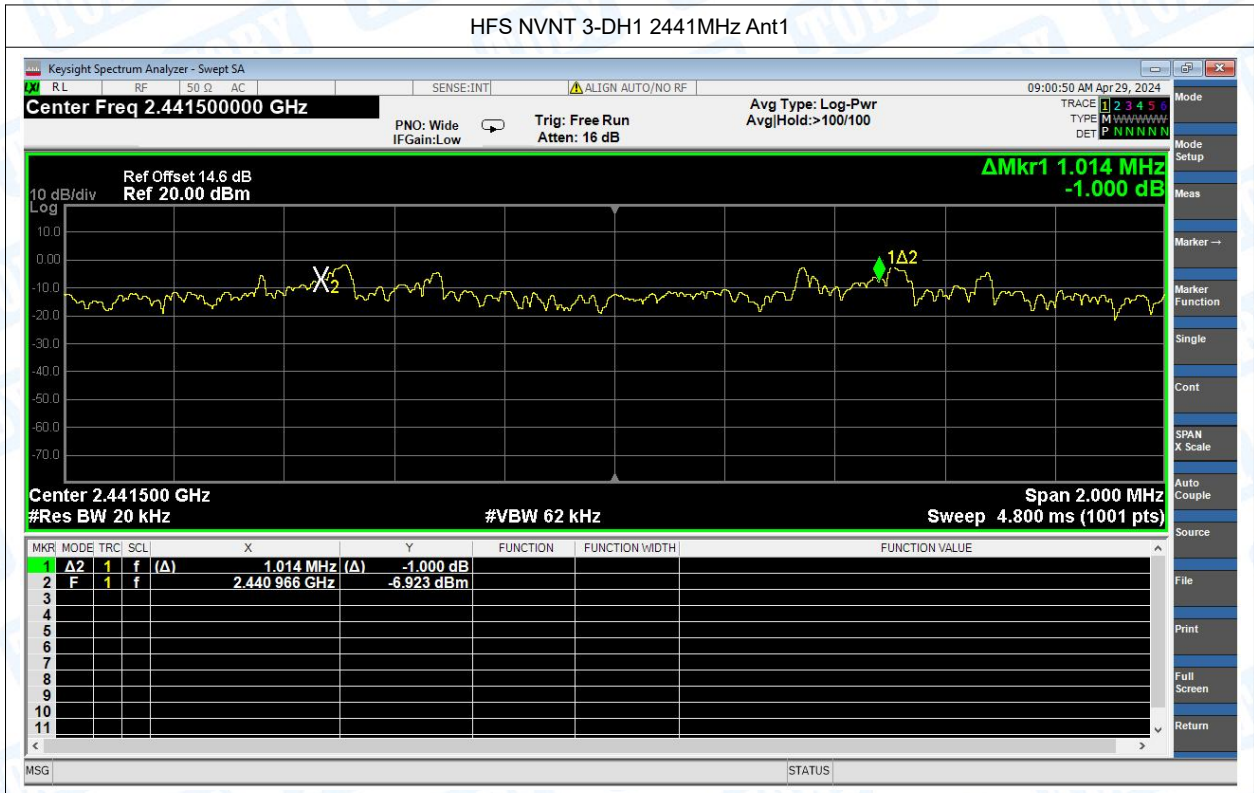
Test Graphs

HFS NVNT 1-DH1 2441MHz Ant1



HFS NVNT 2-DH1 2441MHz Ant1





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