



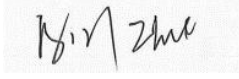
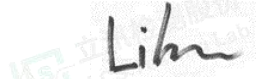
Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart switch

Test Model: Shelly Plus 1

Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan





A.1 Maximum Peak Conducted Output Power

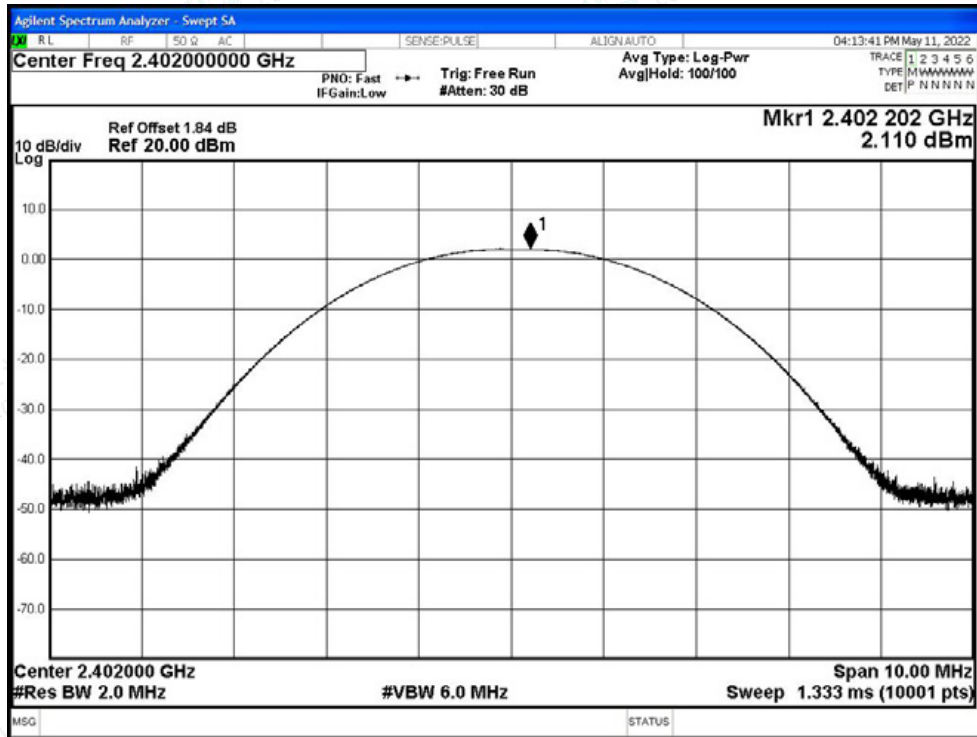
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	2.11	20.97	Pass
NVNT	1-DH5	2441	Ant1	1.59	20.97	Pass
NVNT	1-DH5	2480	Ant1	1.4	20.97	Pass
NVNT	2-DH5	2402	Ant1	4.27	20.97	Pass
NVNT	2-DH5	2441	Ant1	3.73	20.97	Pass
NVNT	2-DH5	2480	Ant1	3.54	20.97	Pass
NVNT	3-DH5	2402	Ant1	4.75	20.97	Pass
NVNT	3-DH5	2441	Ant1	4.23	20.97	Pass
NVNT	3-DH5	2480	Ant1	3.95	20.97	Pass



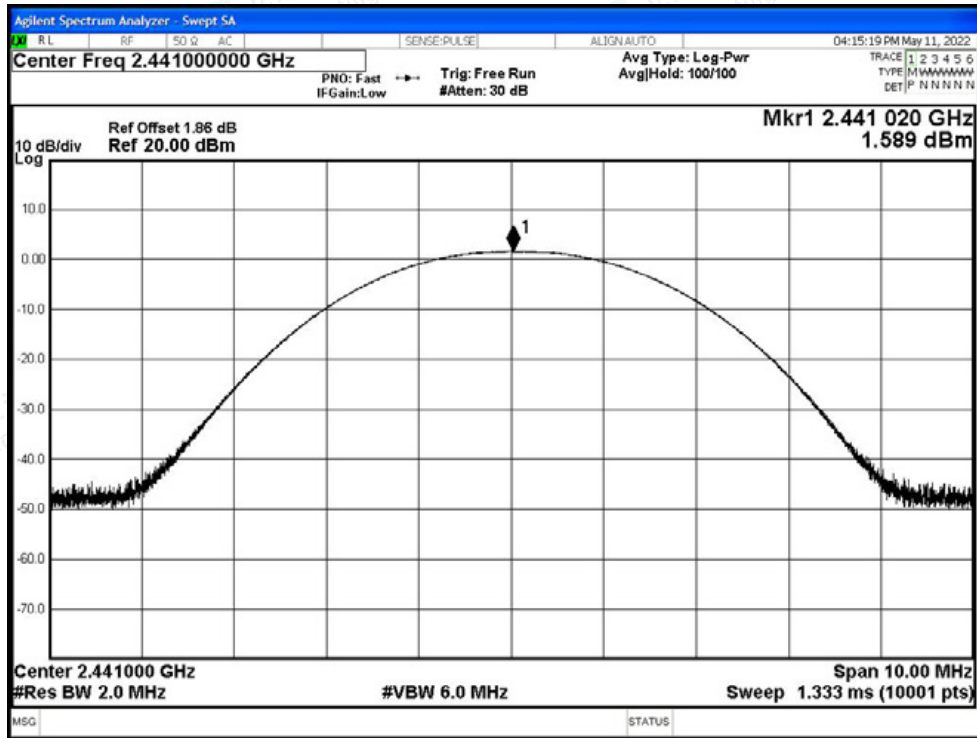


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

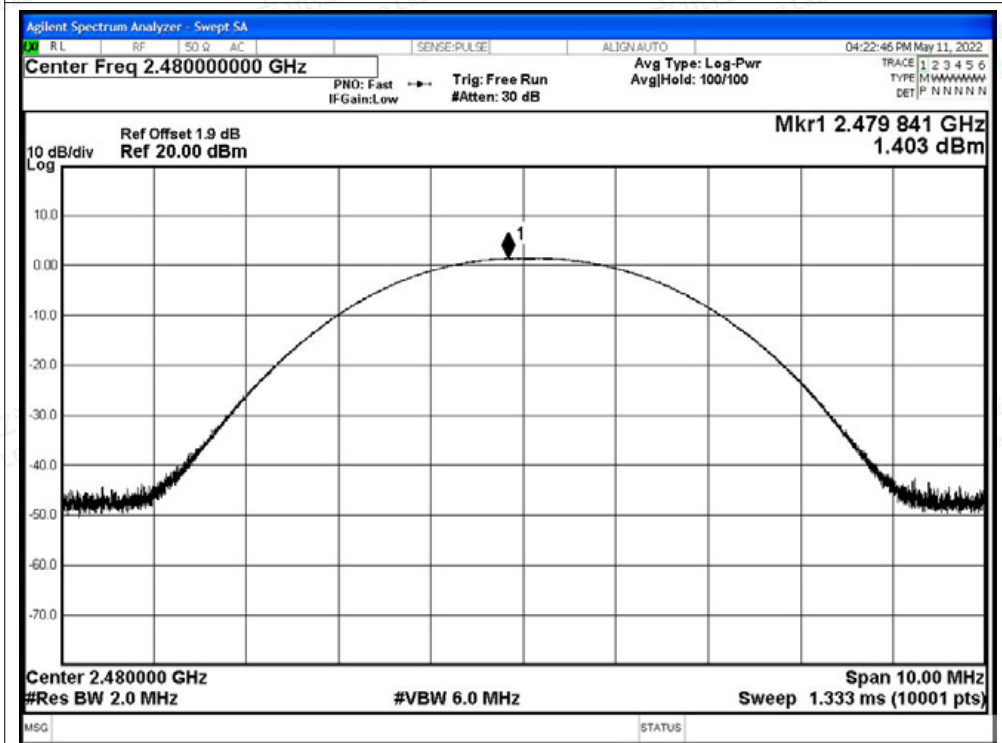


Power NVNT 1-DH5 2441MHz Ant1

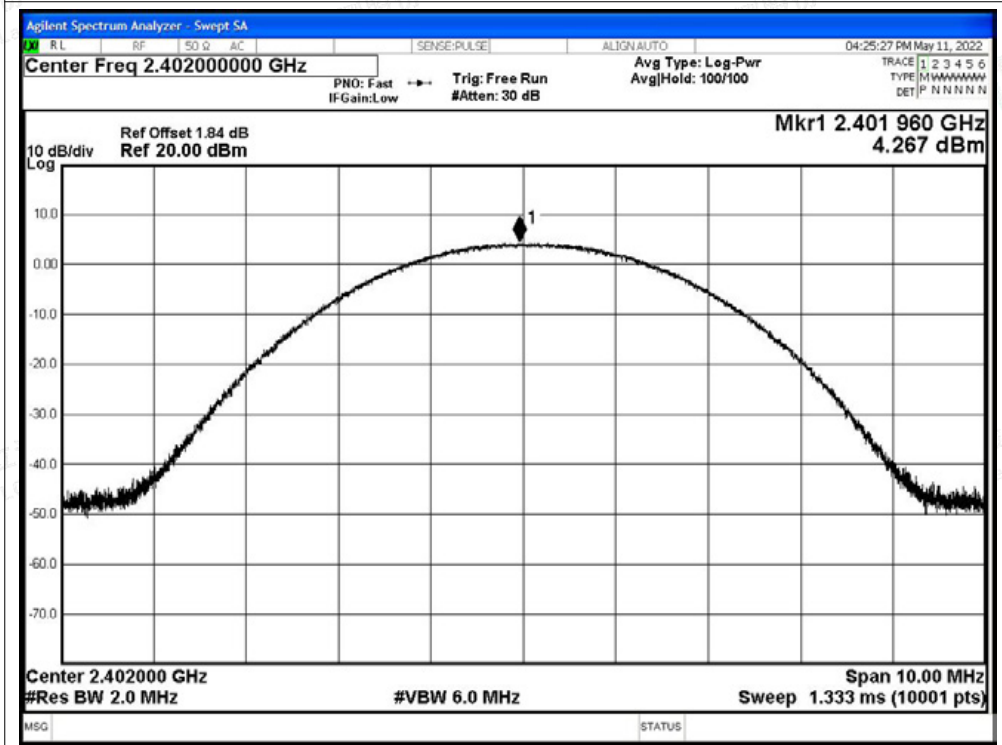




Power NVNT 1-DH5 2480MHz Ant1

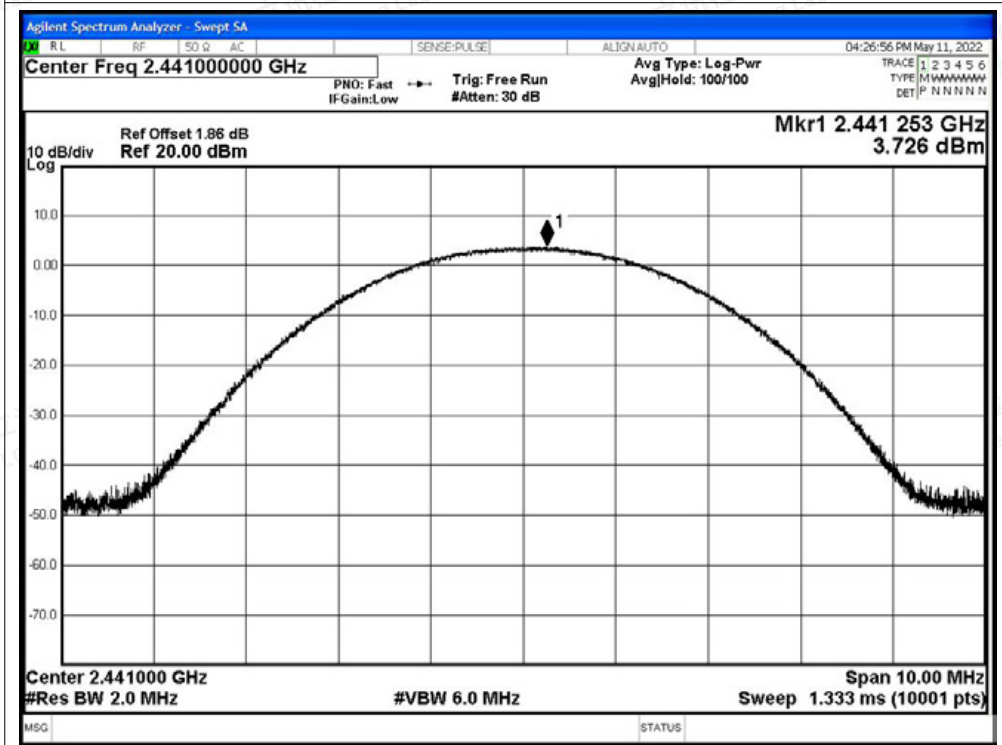


Power NVNT 2-DH5 2402MHz Ant1

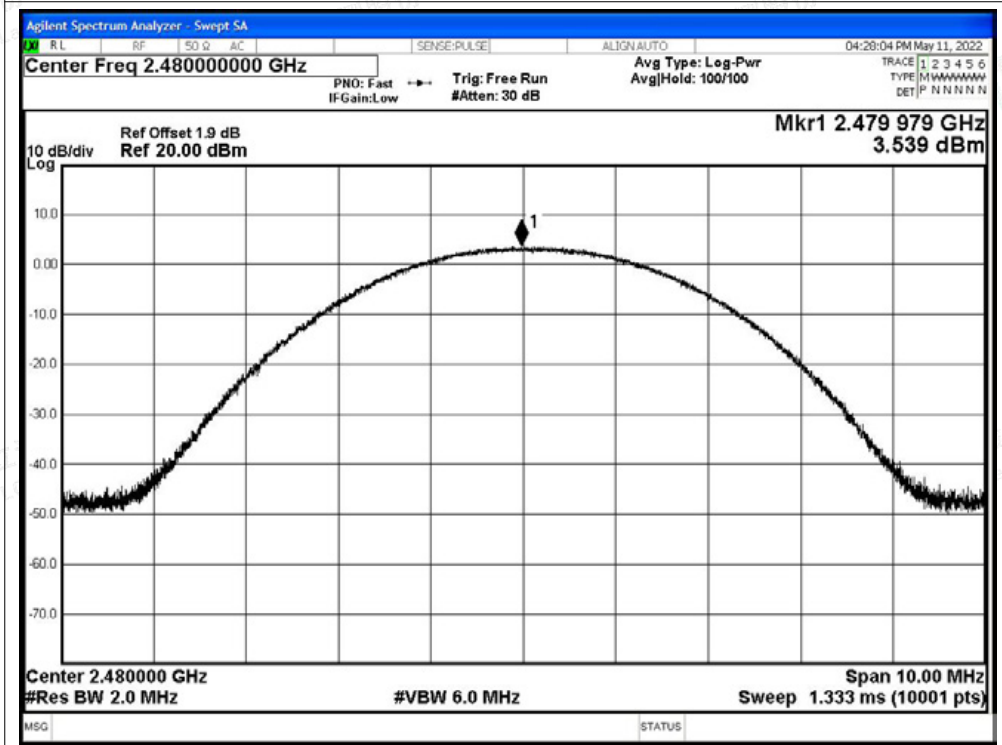




Power NVNT 2-DH5 2441MHz Ant1

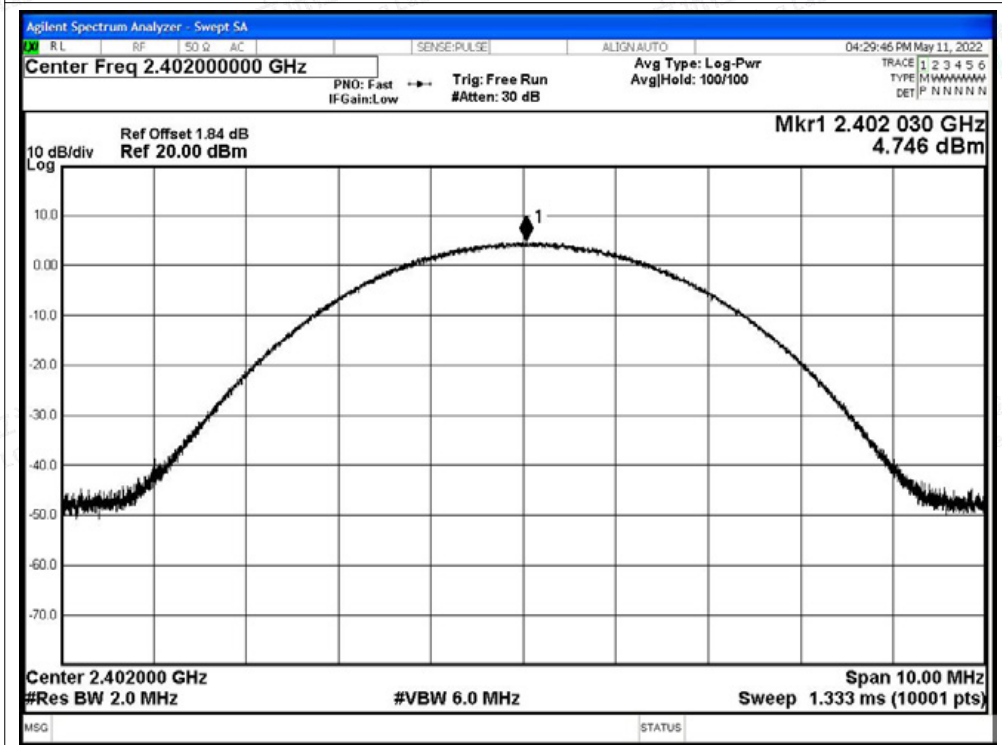


Power NVNT 2-DH5 2480MHz Ant1

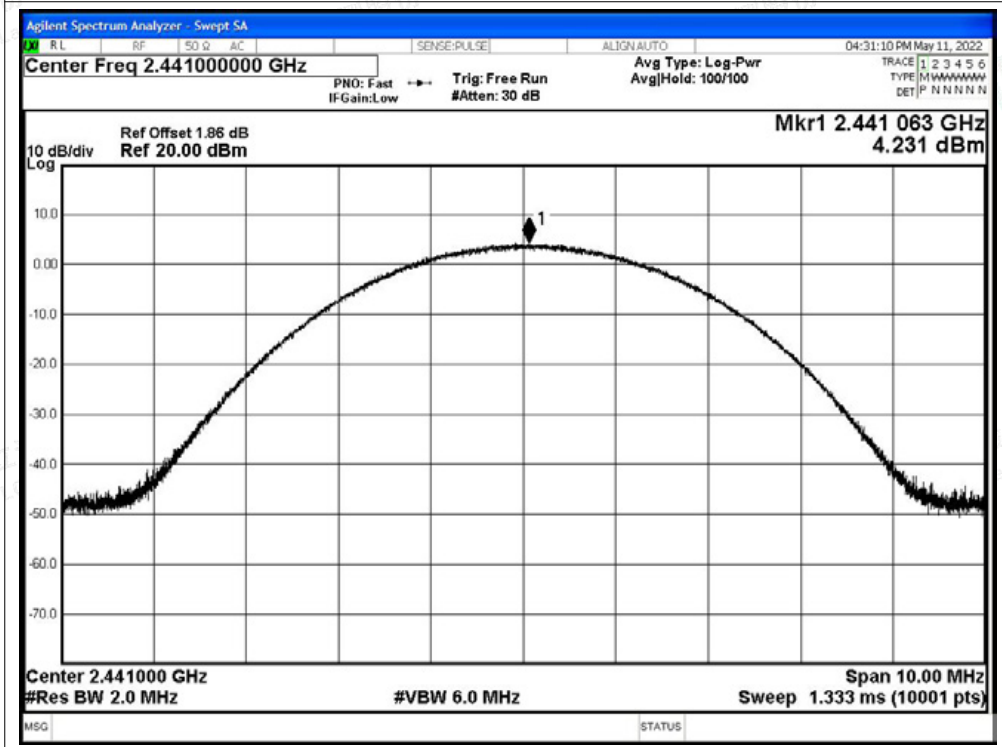


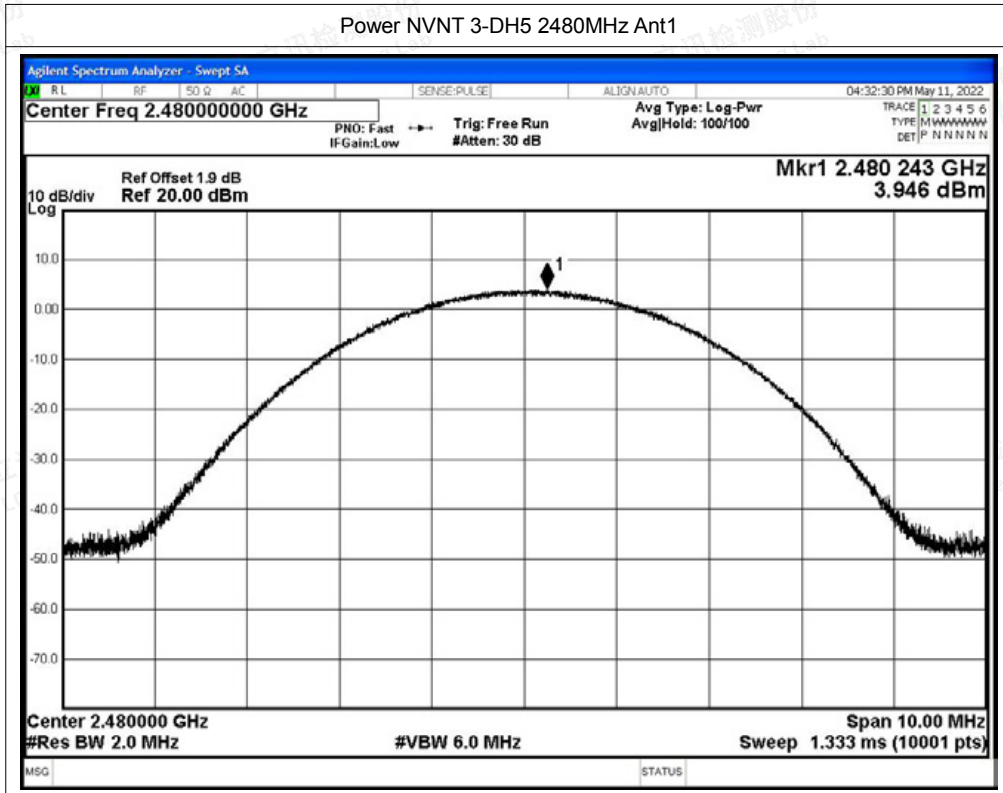


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1







A.2 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.941	---	Pass
NVNT	1-DH5	2441	Ant1	0.938	---	Pass
NVNT	1-DH5	2480	Ant1	0.927	---	Pass
NVNT	2-DH5	2402	Ant1	1.312	---	Pass
NVNT	2-DH5	2441	Ant1	1.277	---	Pass
NVNT	2-DH5	2480	Ant1	1.322	---	Pass
NVNT	3-DH5	2402	Ant1	1.311	---	Pass
NVNT	3-DH5	2441	Ant1	1.308	---	Pass
NVNT	3-DH5	2480	Ant1	1.305	---	Pass





Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

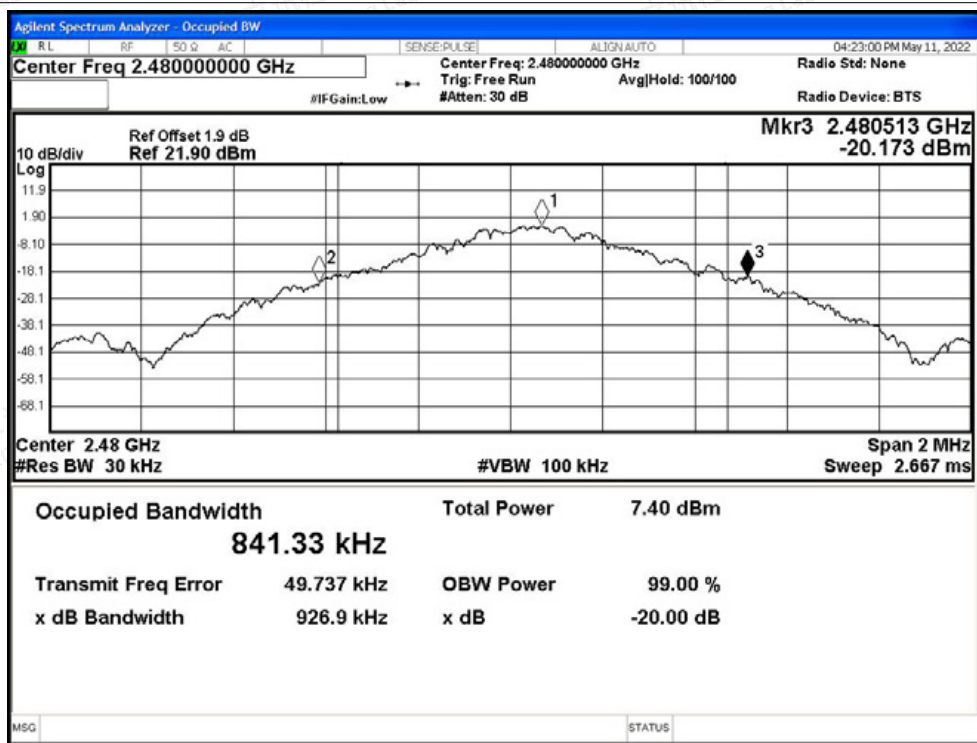


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

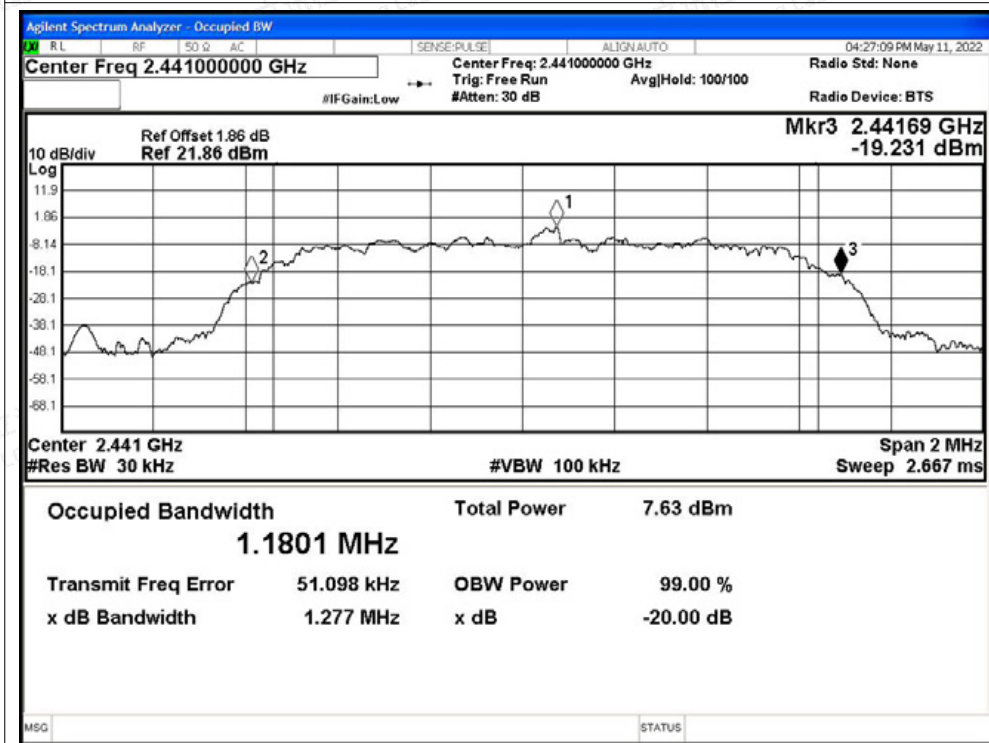


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

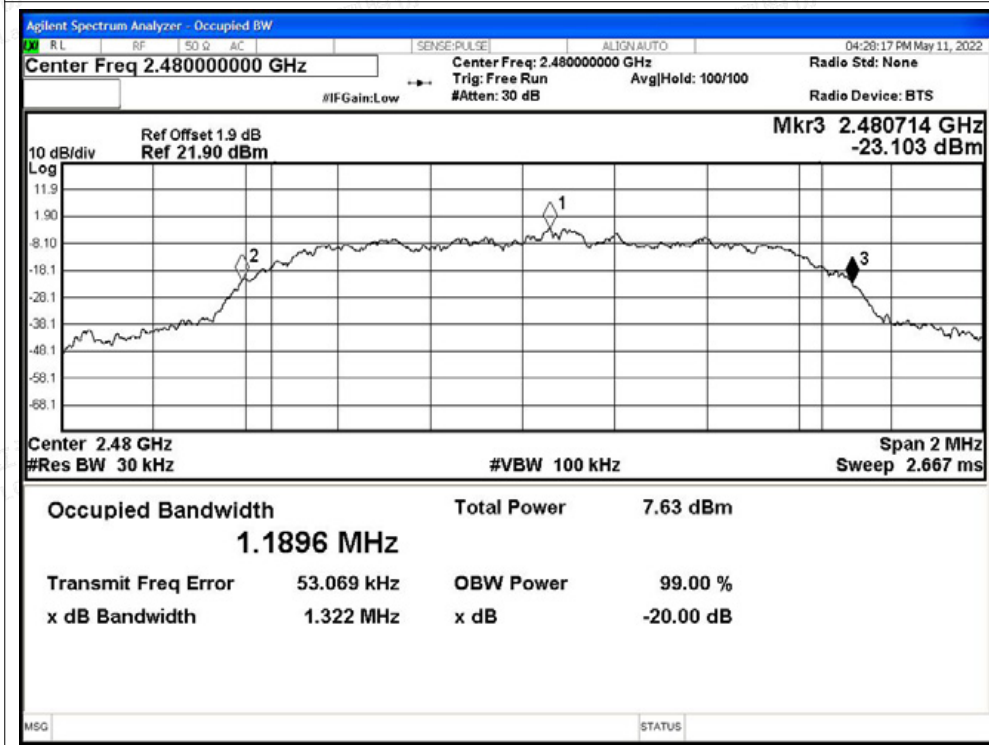




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

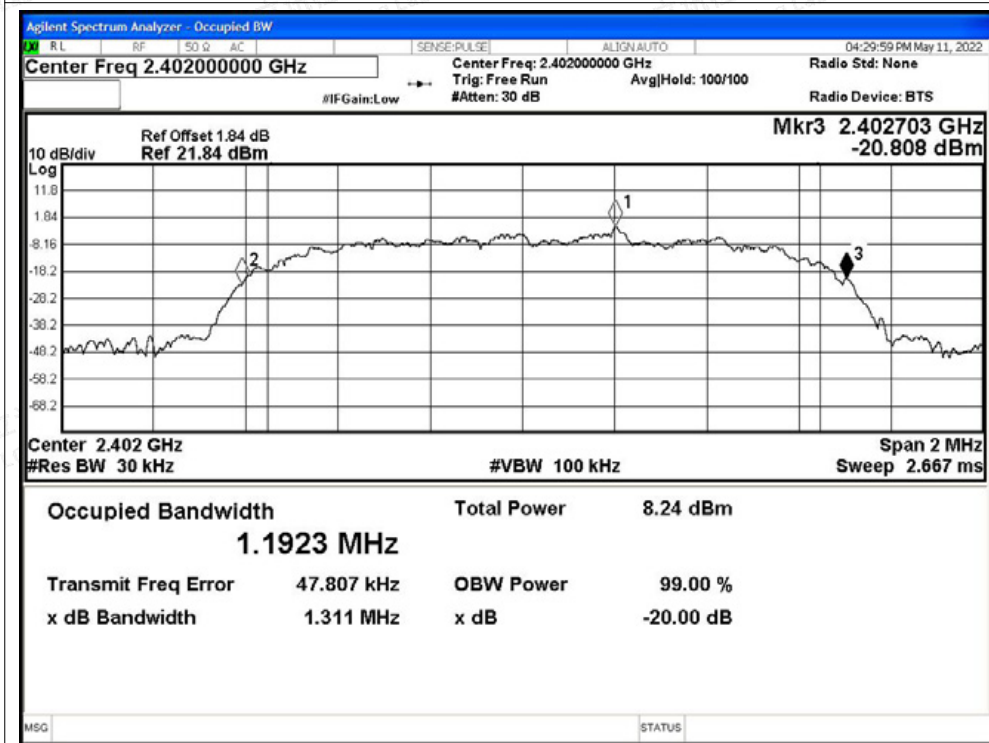


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

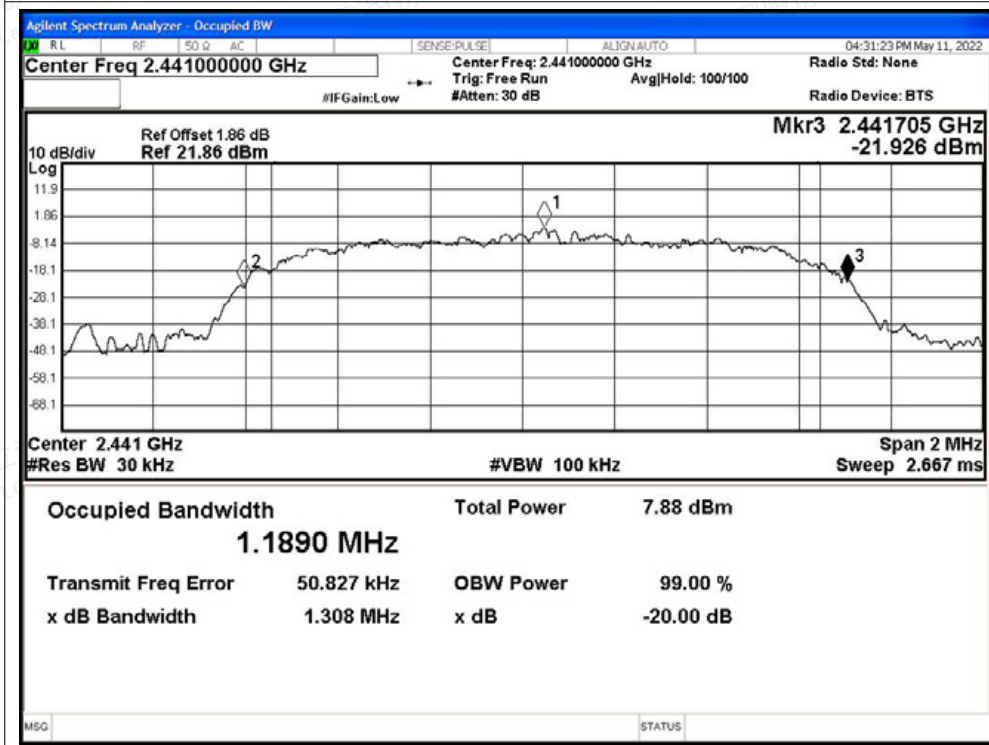




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

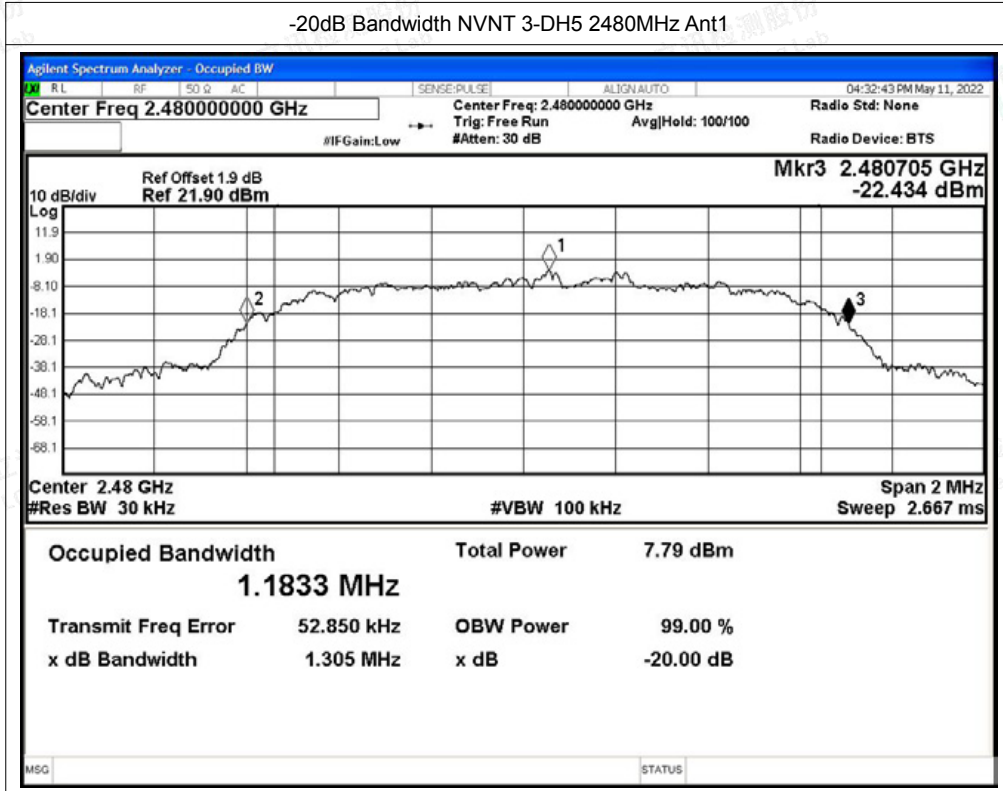


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.05	2403.068	1.018	0.627	Pass
NVNT	2-DH5	Ant1	2402.038	2403.044	1.006	0.875	Pass
NVNT	3-DH5	Ant1	2402.07	2403.074	1.004	0.874	Pass

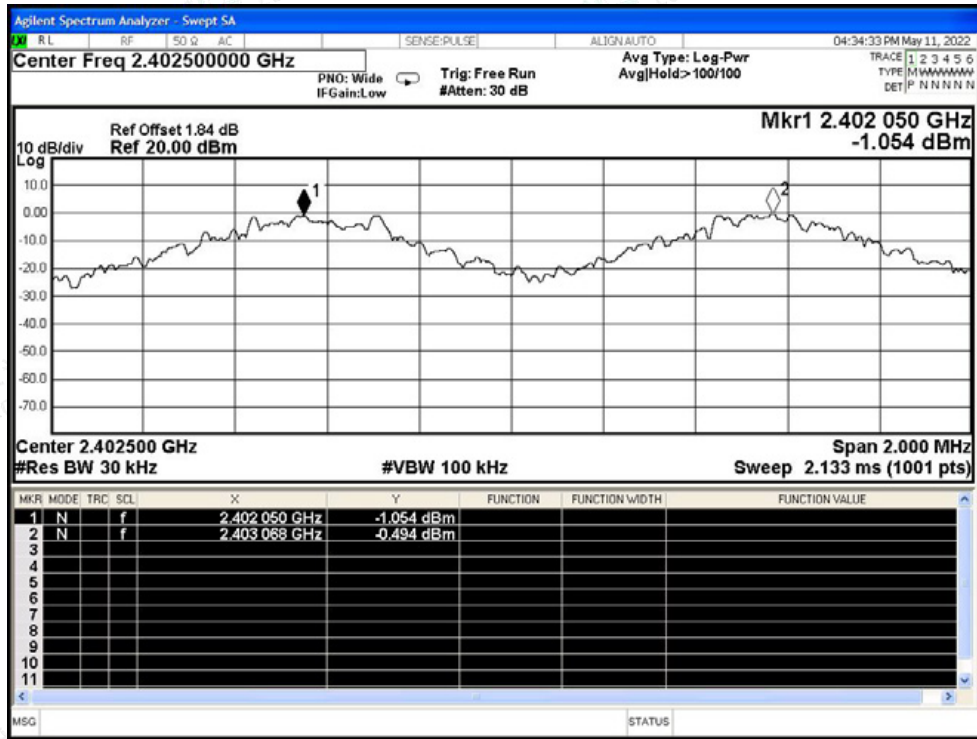


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Scan code to check authenticity

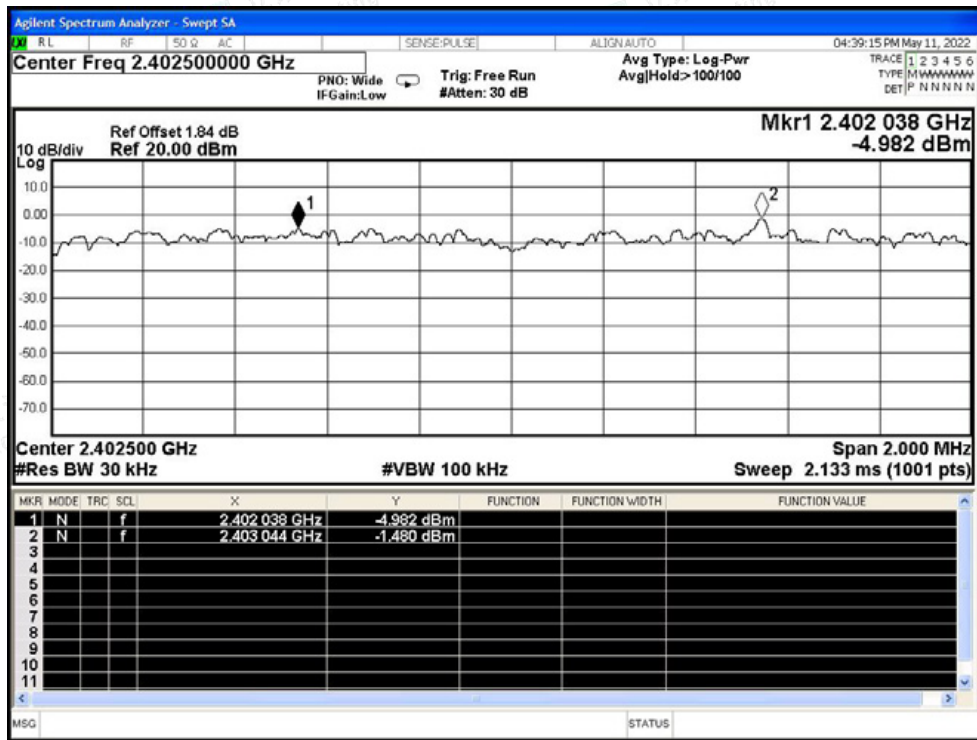


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

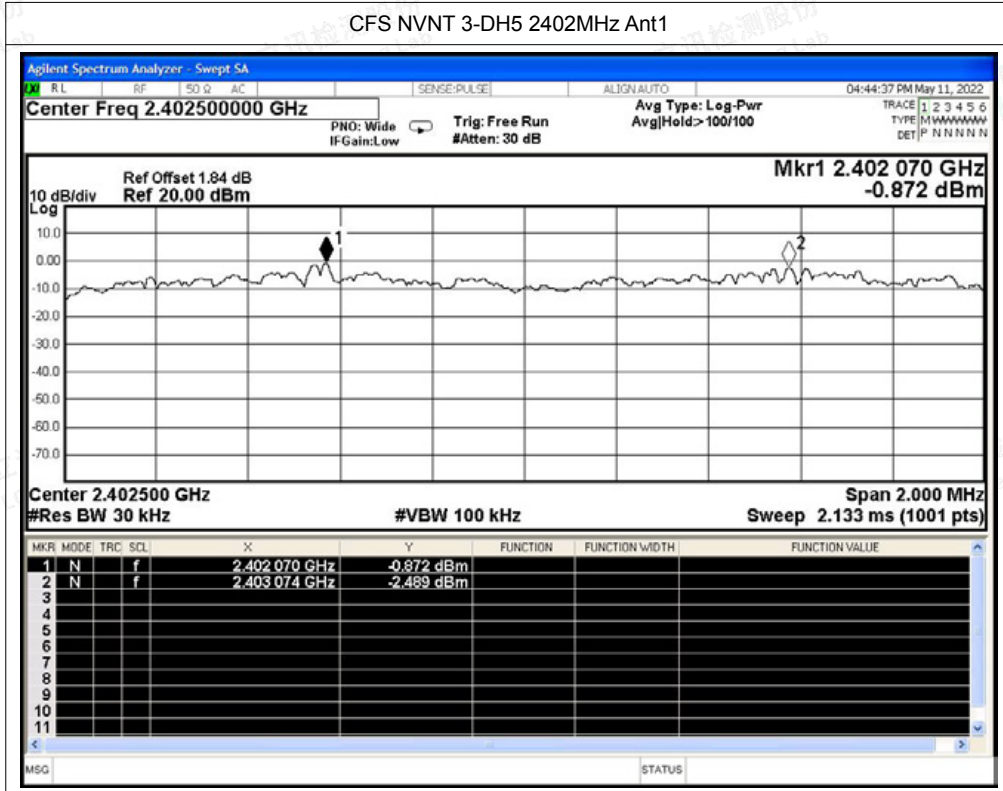


CFS NVNT 2-DH5 2402MHz Ant1





CFS NVNT 3-DH5 2402MHz Ant1





A.4 Number of Hopping Channel

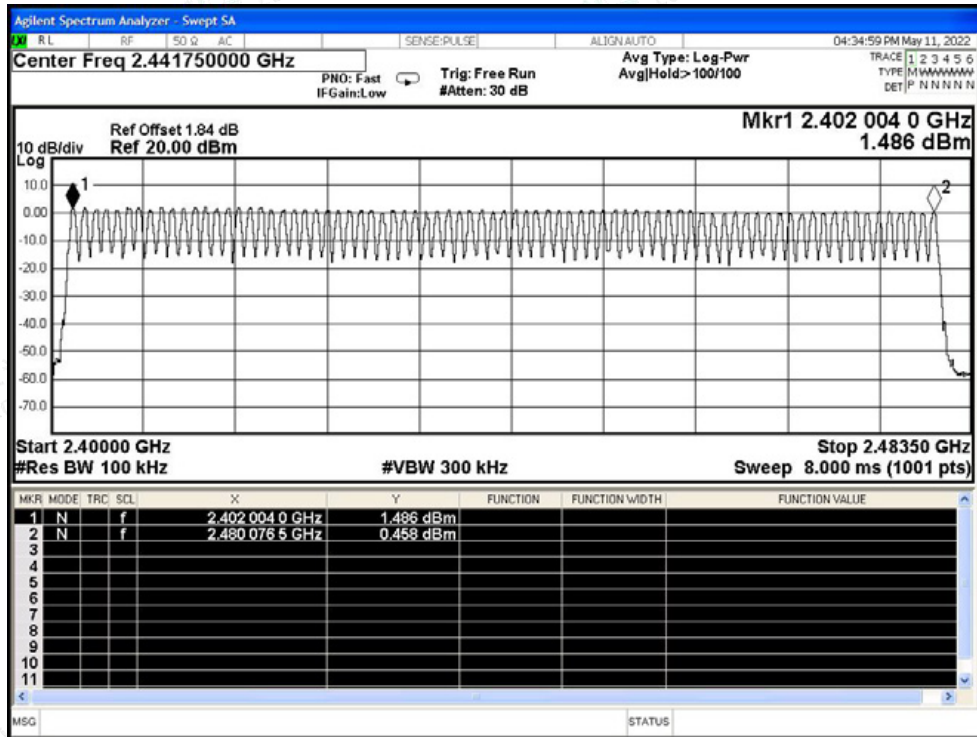
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



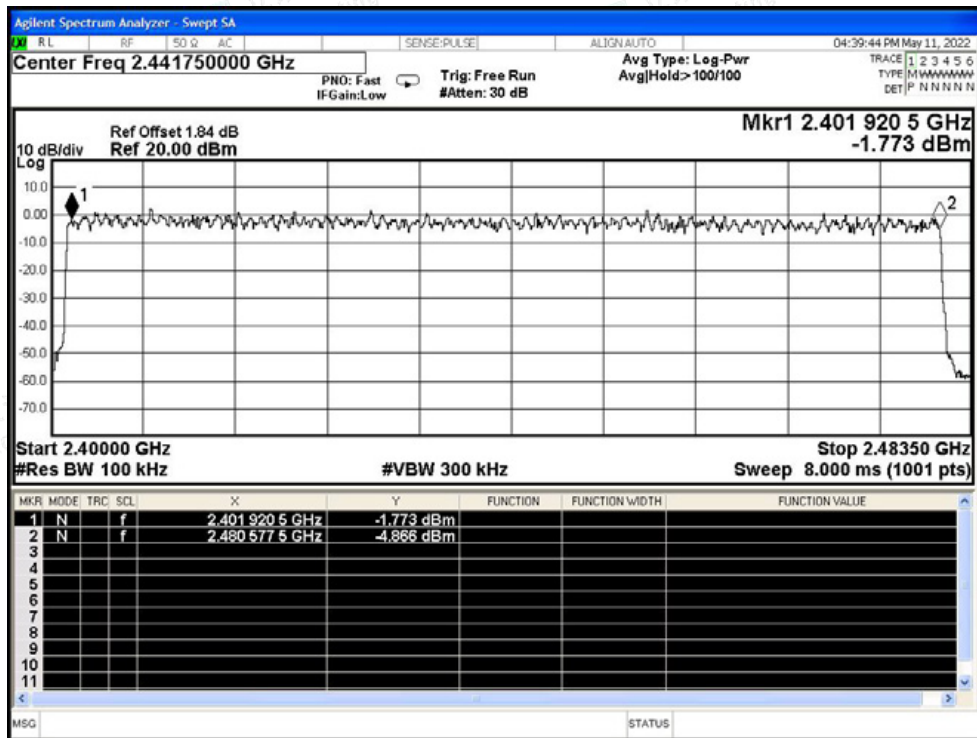


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

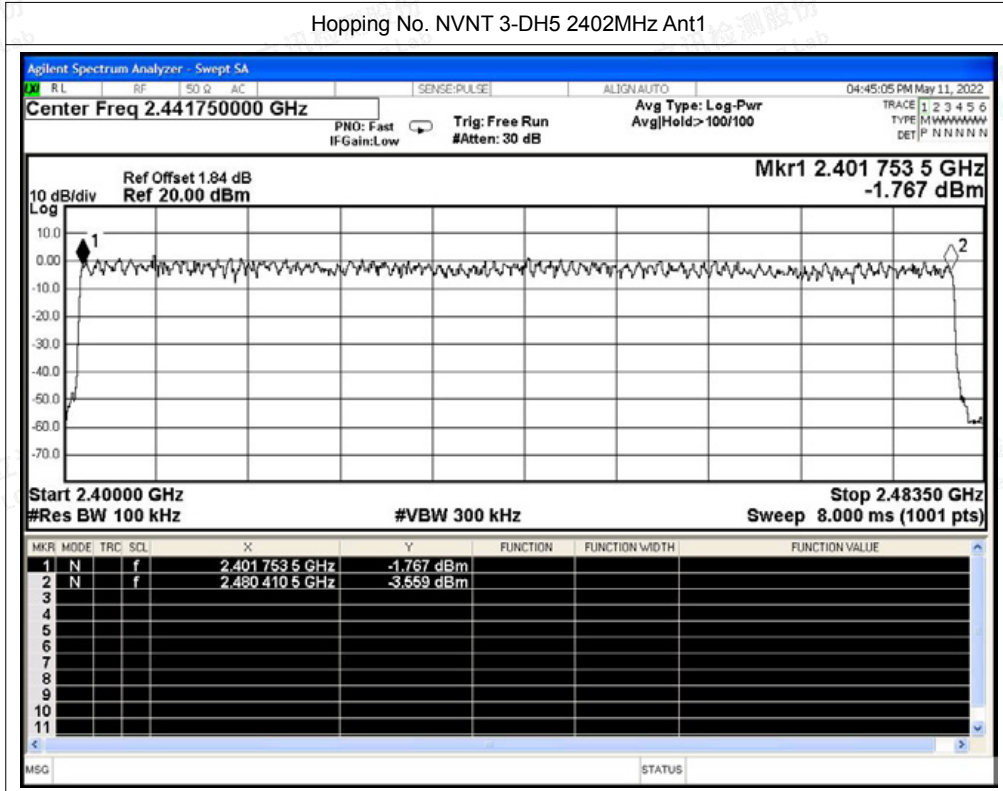


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No. NVNT 3-DH5 2402MHz Ant1





A.5 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	293.964	102	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.881	290.981	101	31600	400	Pass
NVNT	1-DH5	2480	Ant1	2.881	311.148	108	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.888	300.352	104	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.889	286.011	99	31600	400	Pass
NVNT	2-DH5	2480	Ant1	2.888	317.68	110	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.891	286.209	99	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.89	291.89	101	31600	400	Pass
NVNT	3-DH5	2480	Ant1	2.89	315.01	109	31600	400	Pass

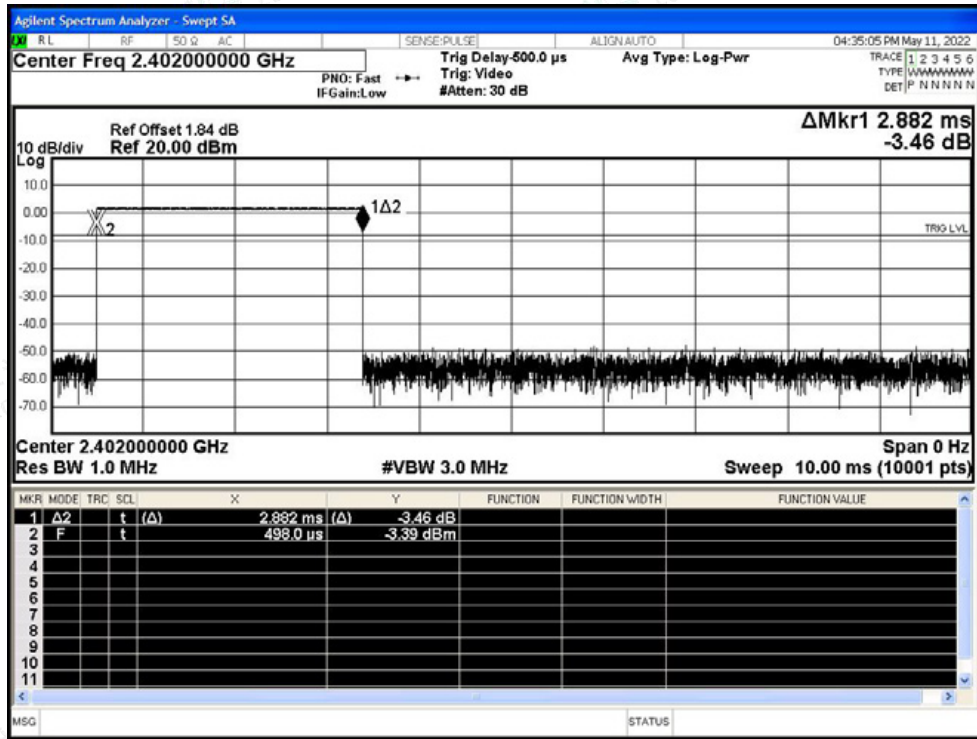


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 Scan code to check authenticity

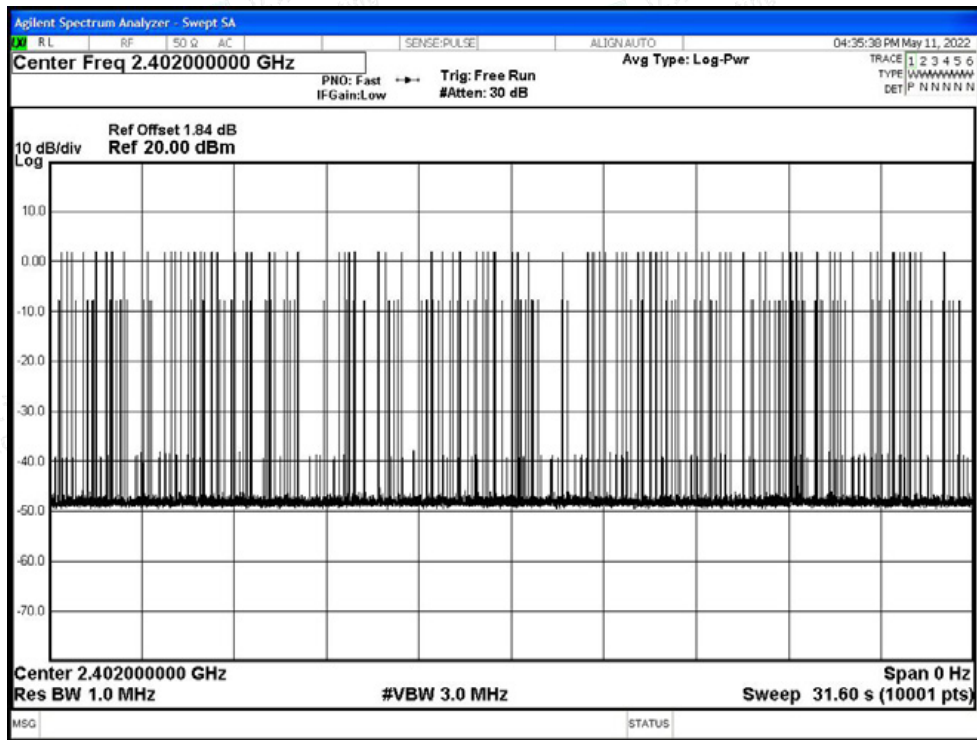


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

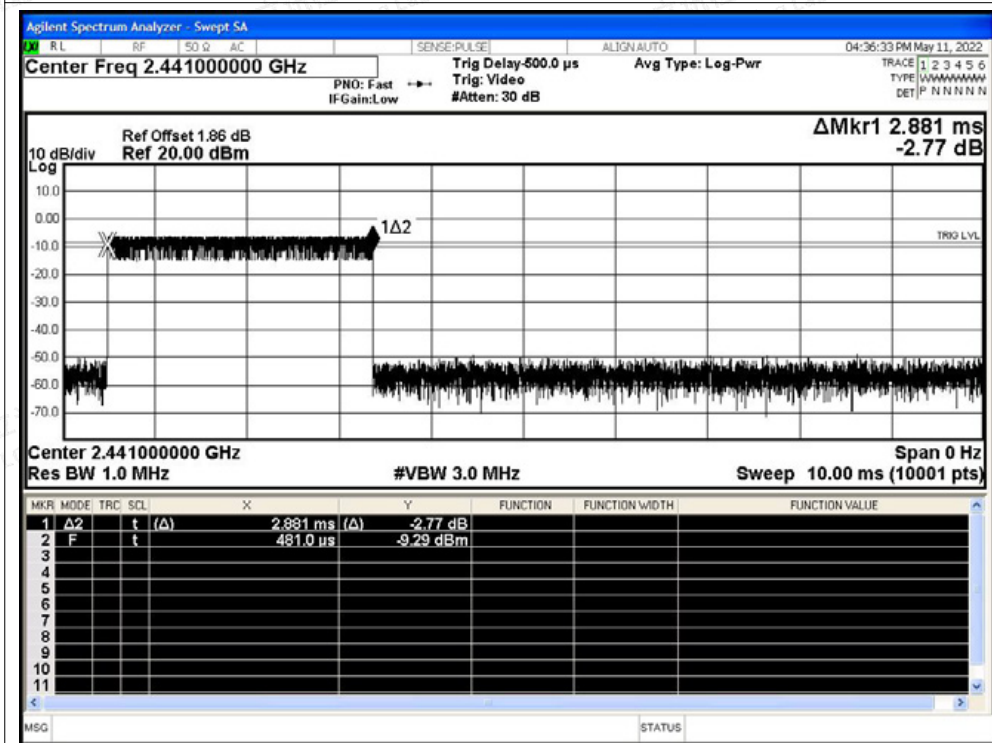


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

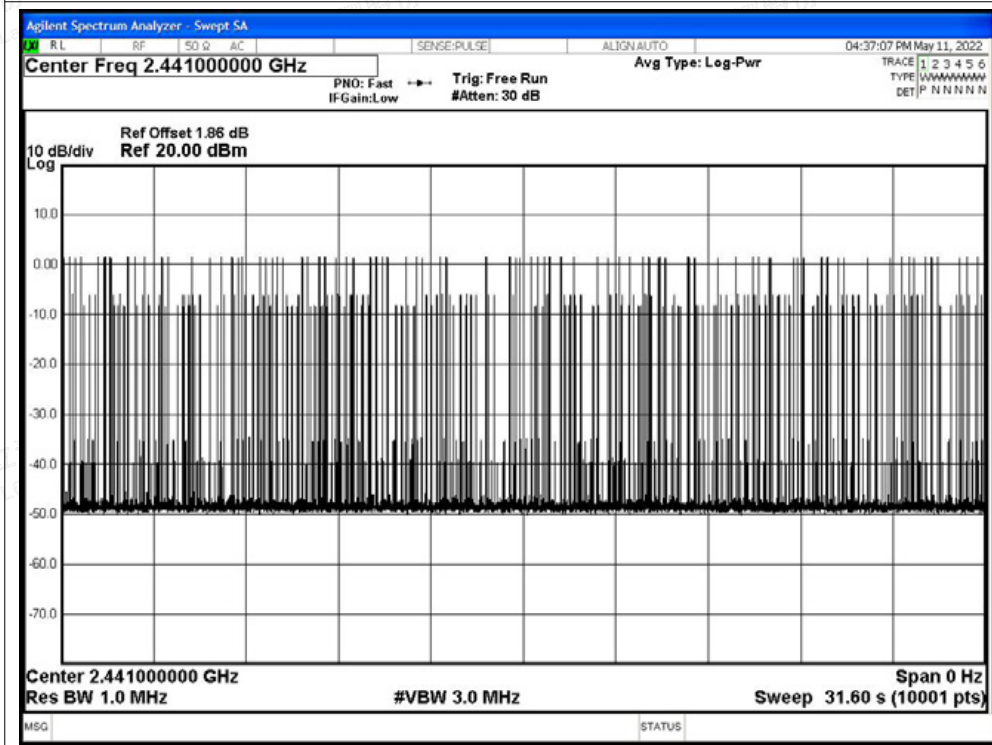




Dwell NVNT 1-DH5 2441MHz Ant1 One Burst

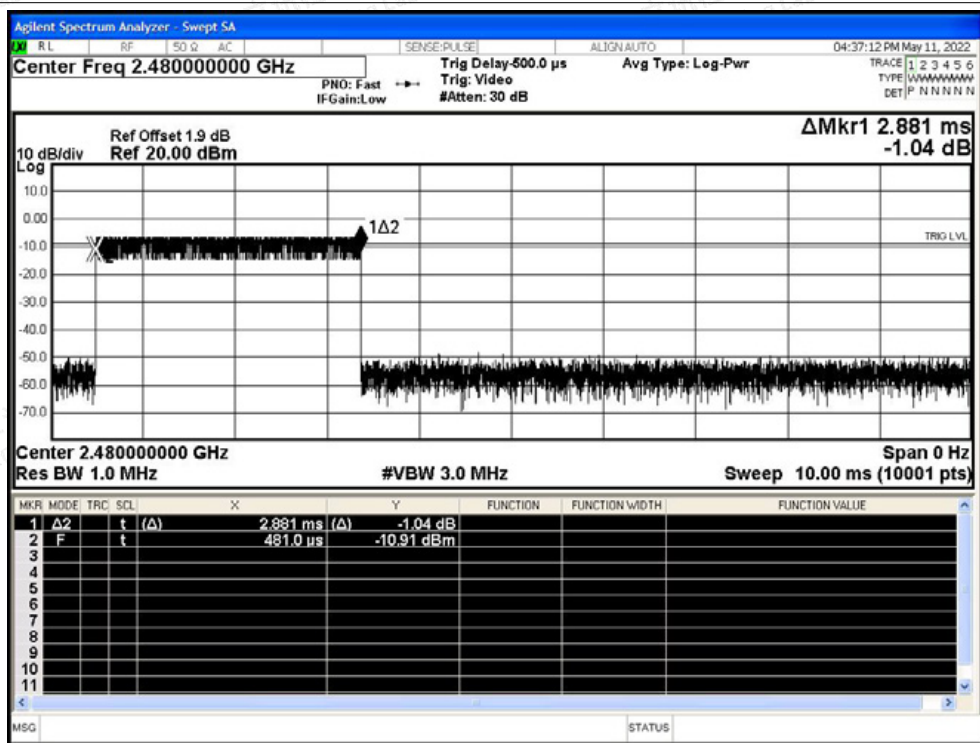


Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated

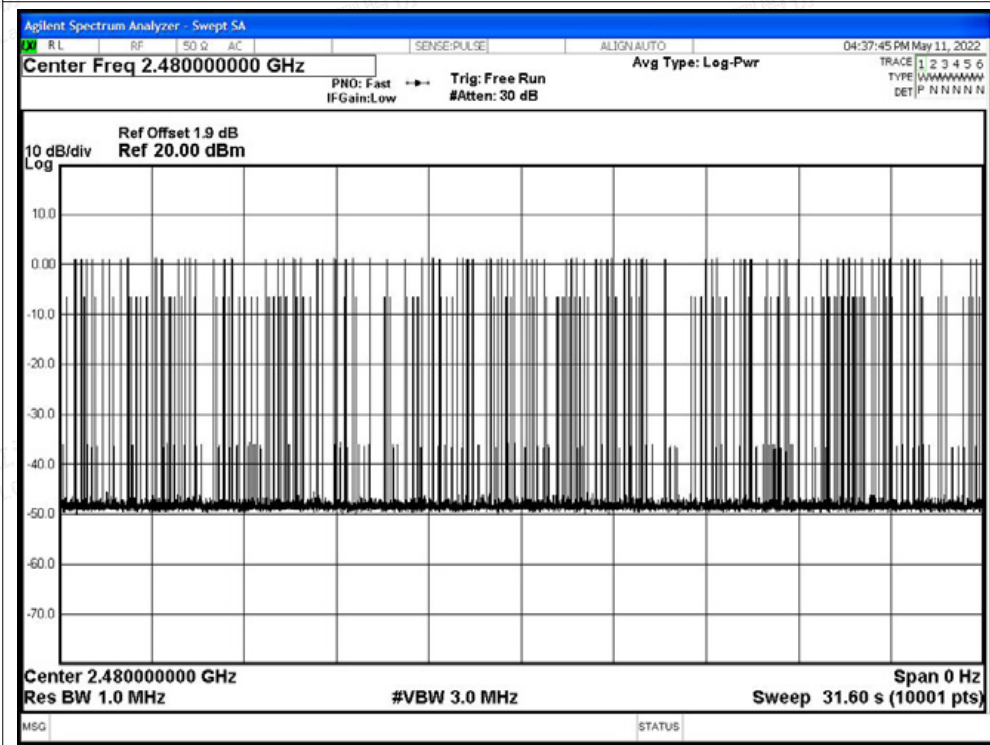




Dwell NVNT 1-DH5 2480MHz Ant1 One Burst

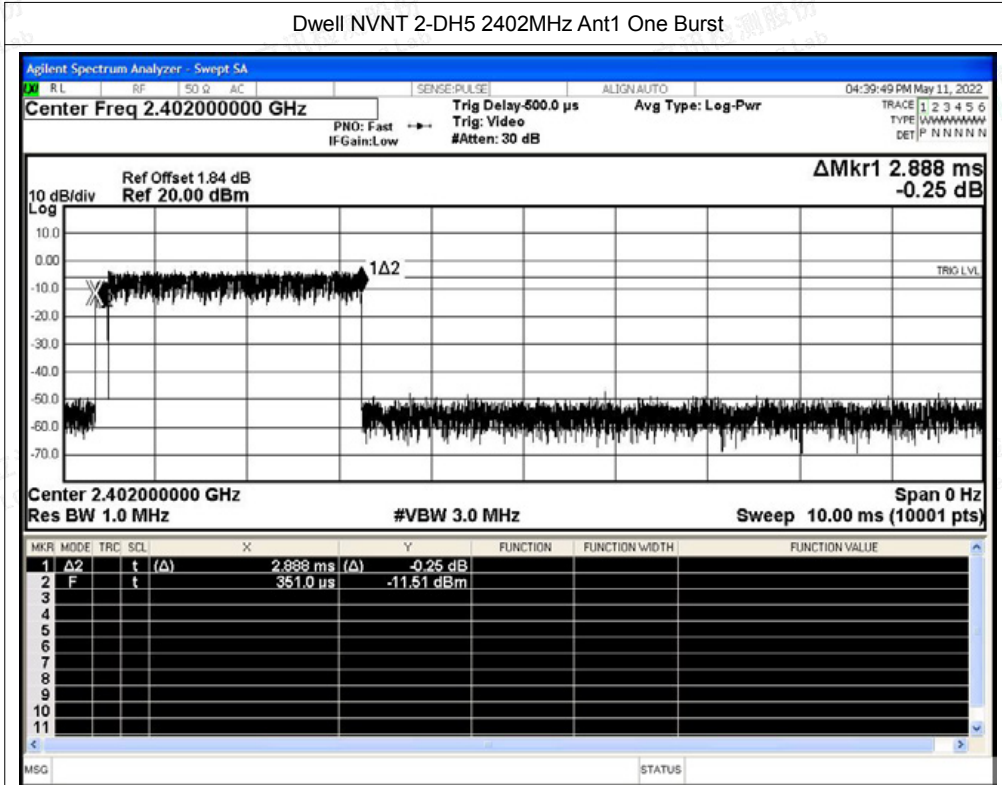


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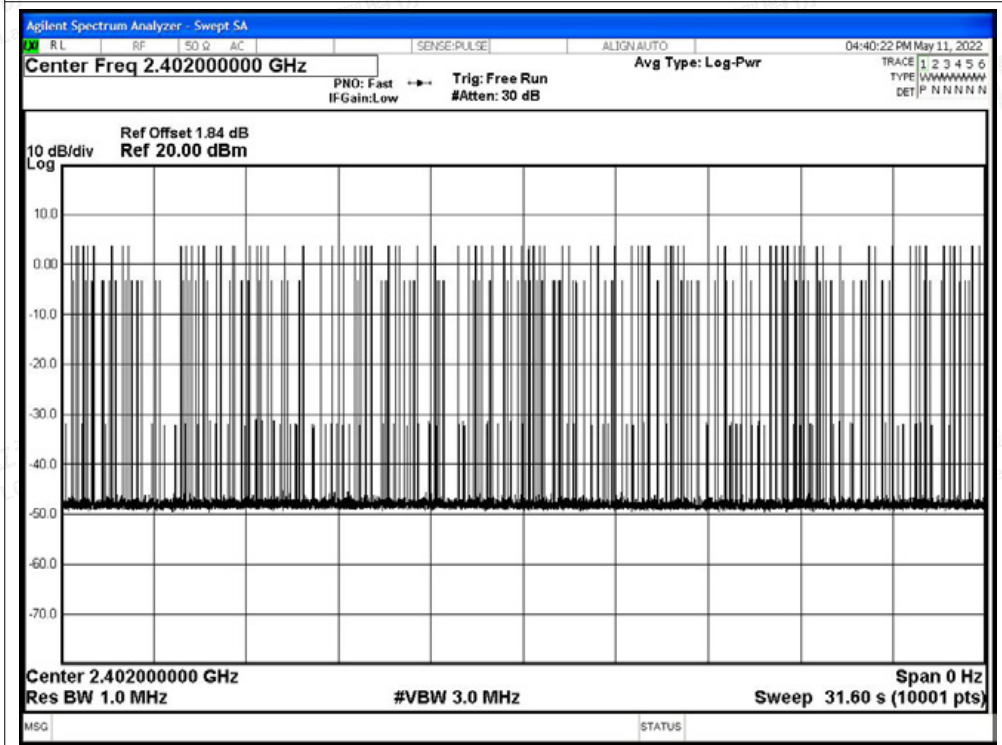




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

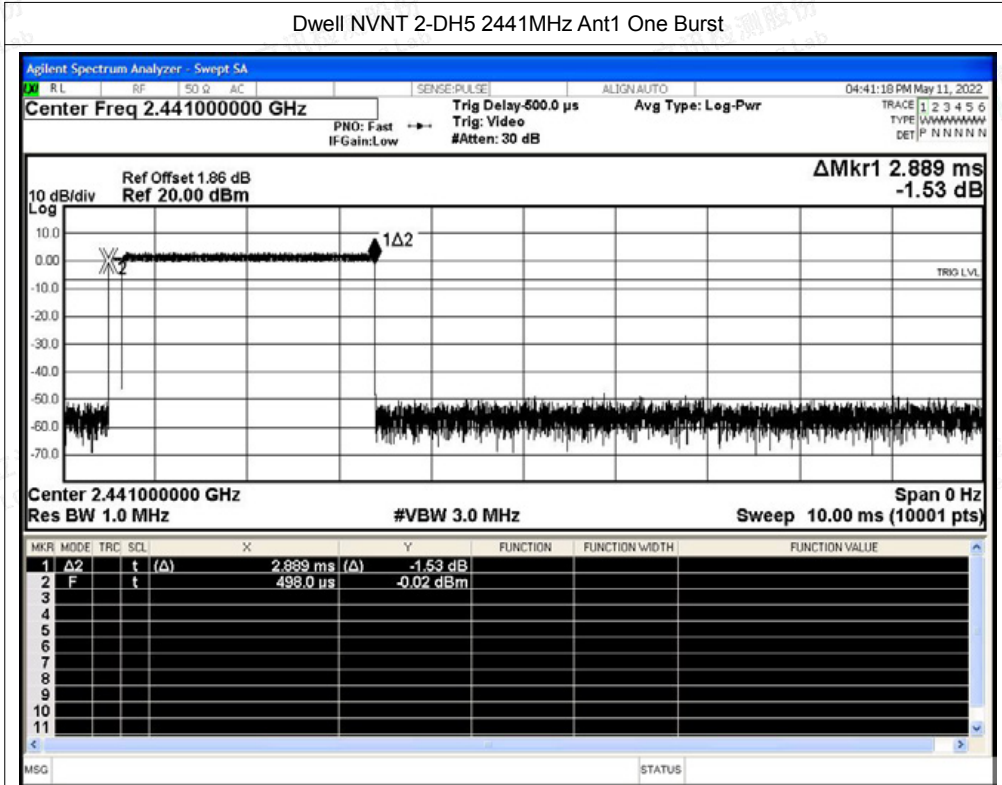


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

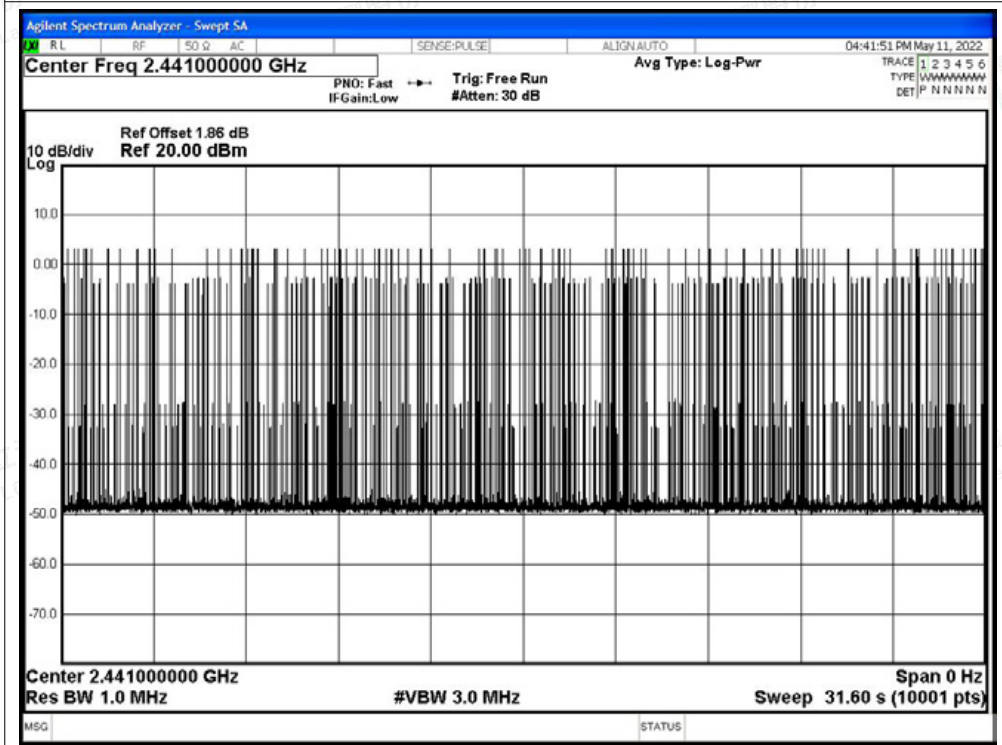




Dwell NVNT 2-DH5 2441MHz Ant1 One Burst

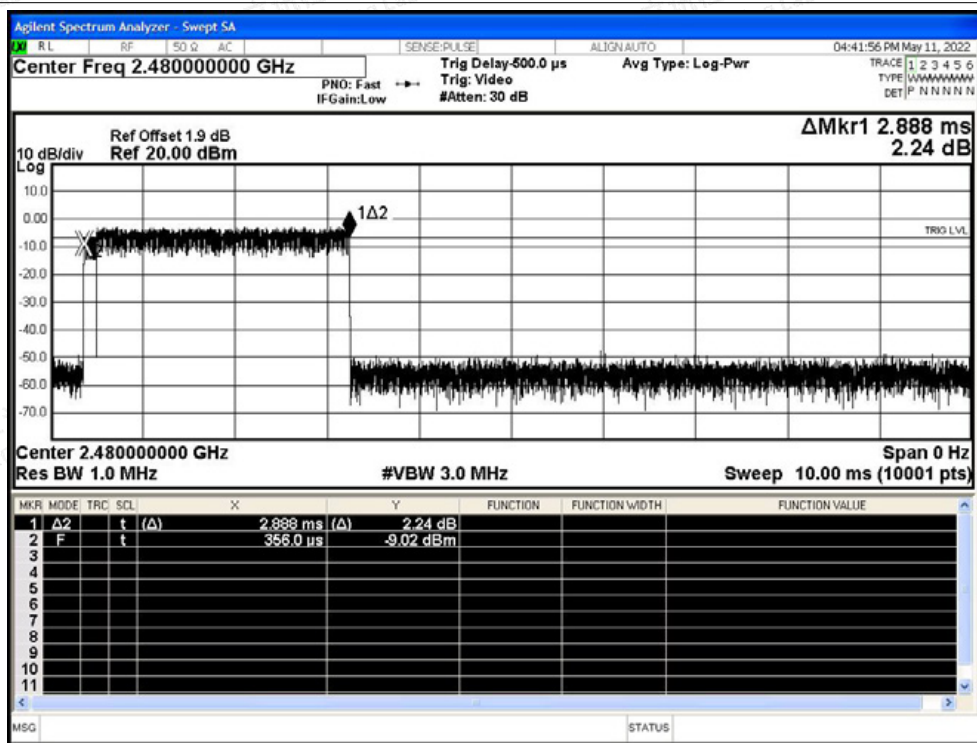


Dwell NVNT 2-DH5 2441MHz Ant1 Accumulated

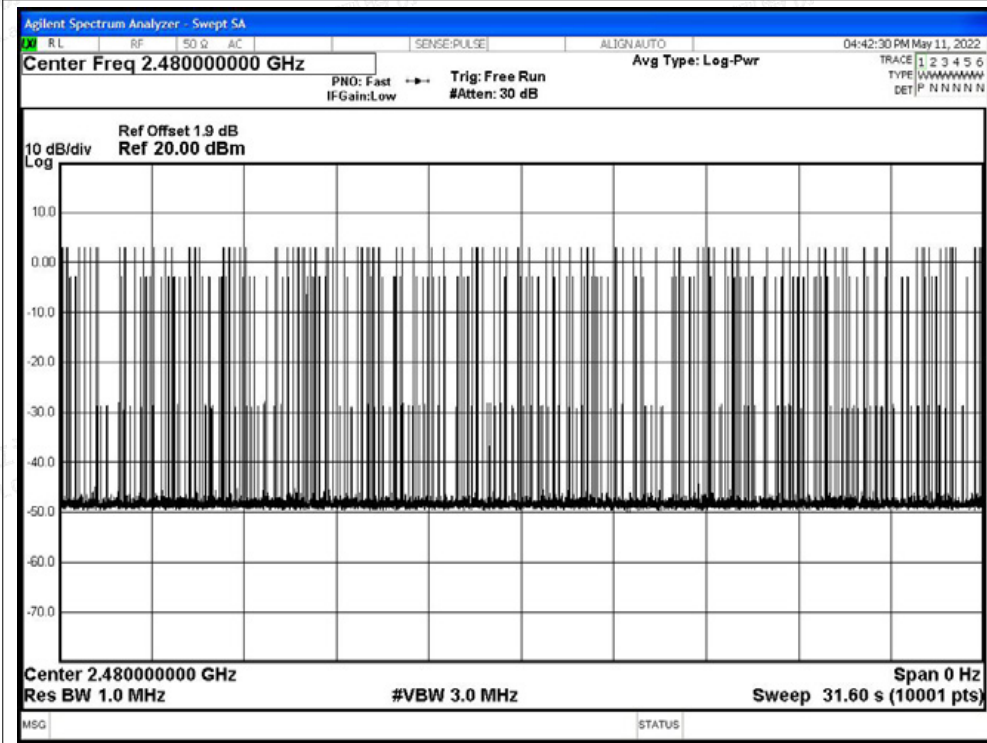




Dwell NVNT 2-DH5 2480MHz Ant1 One Burst

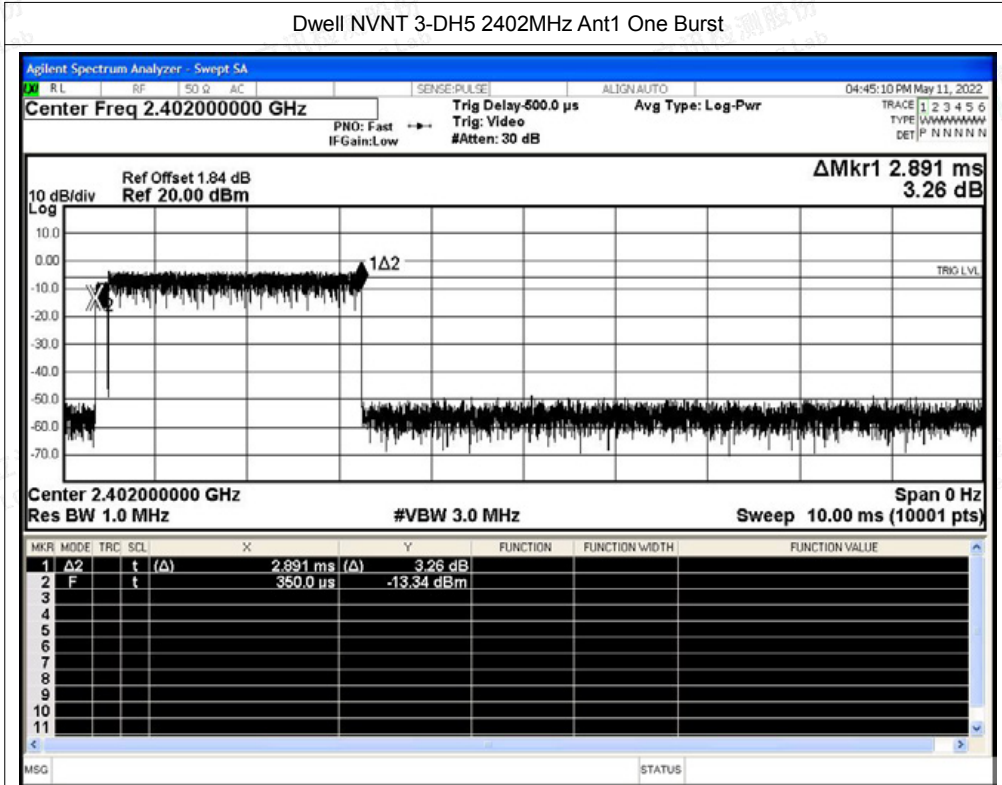


Dwell NVNT 2-DH5 2480MHz Ant1 Accumulated

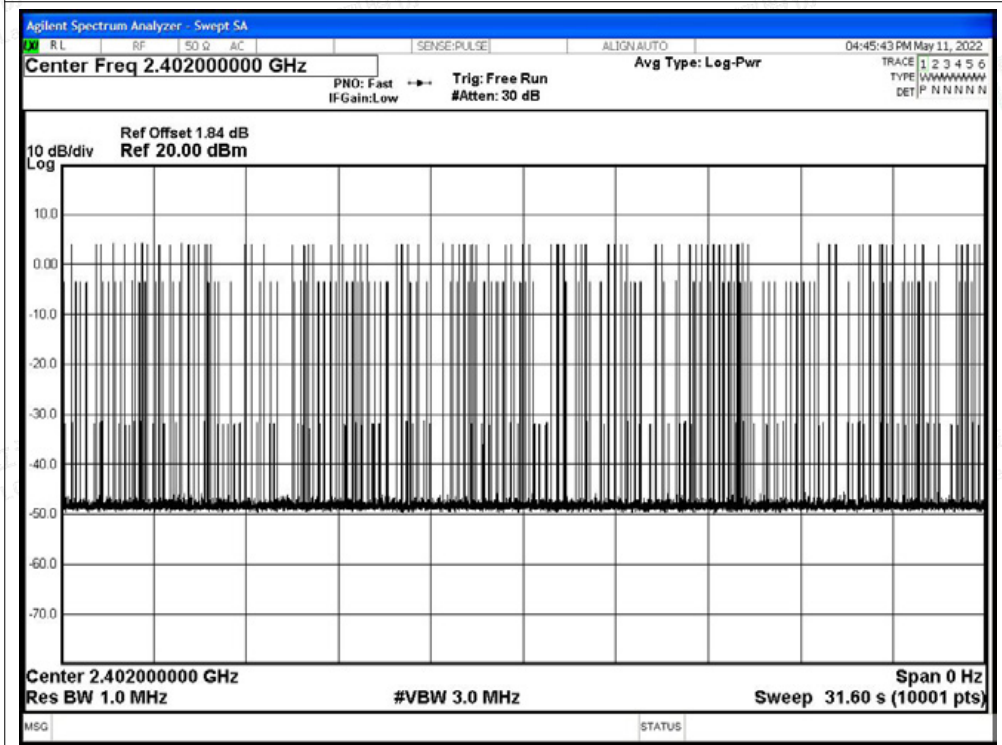




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst

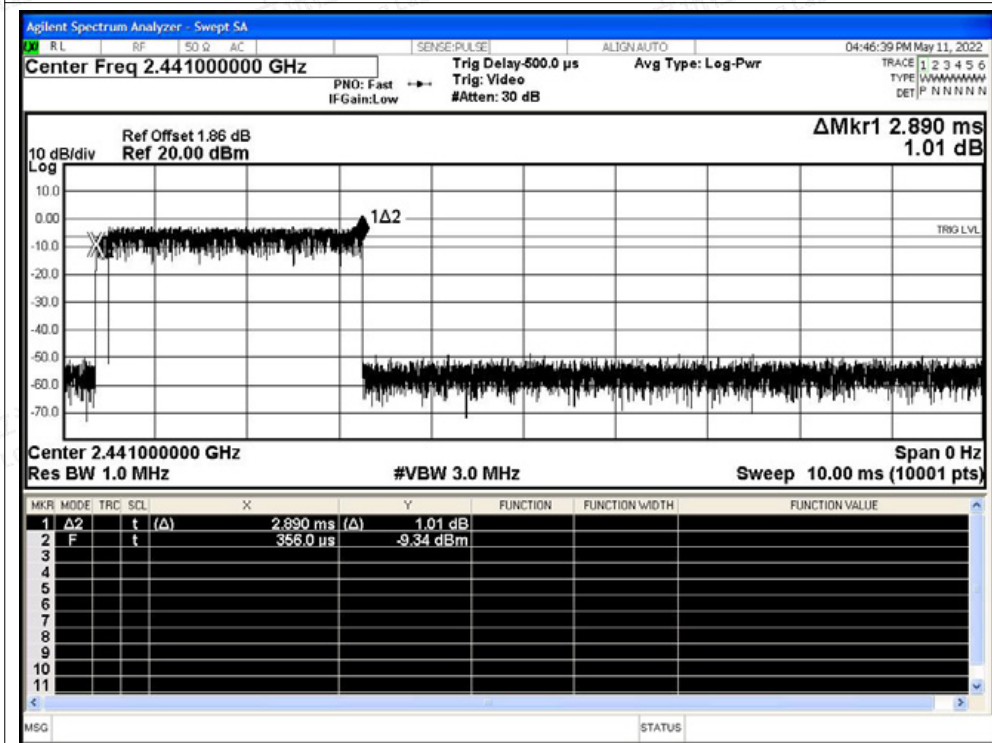


Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

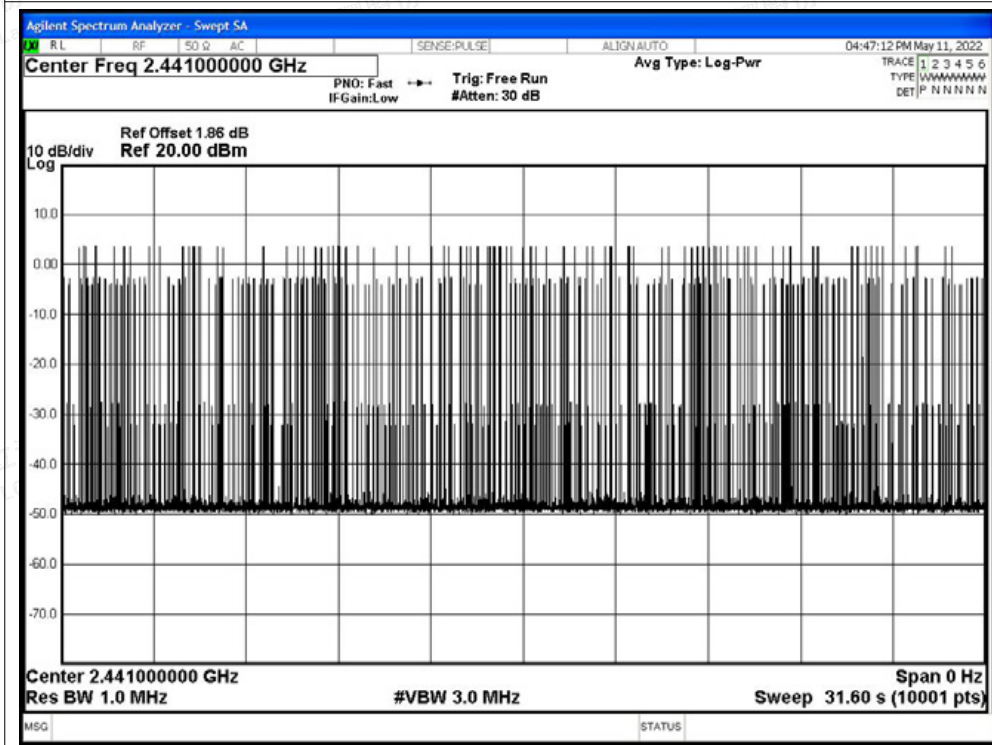




Dwell NVNT 3-DH5 2441MHz Ant1 One Burst

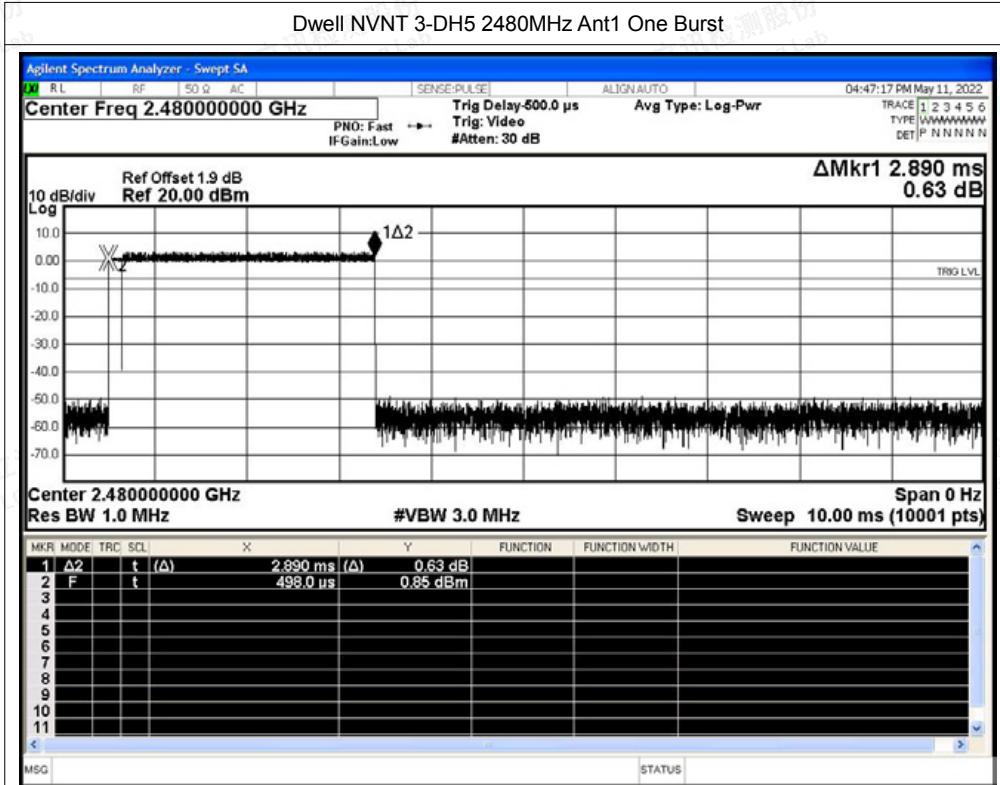


Dwell NVNT 3-DH5 2441MHz Ant1 Accumulated

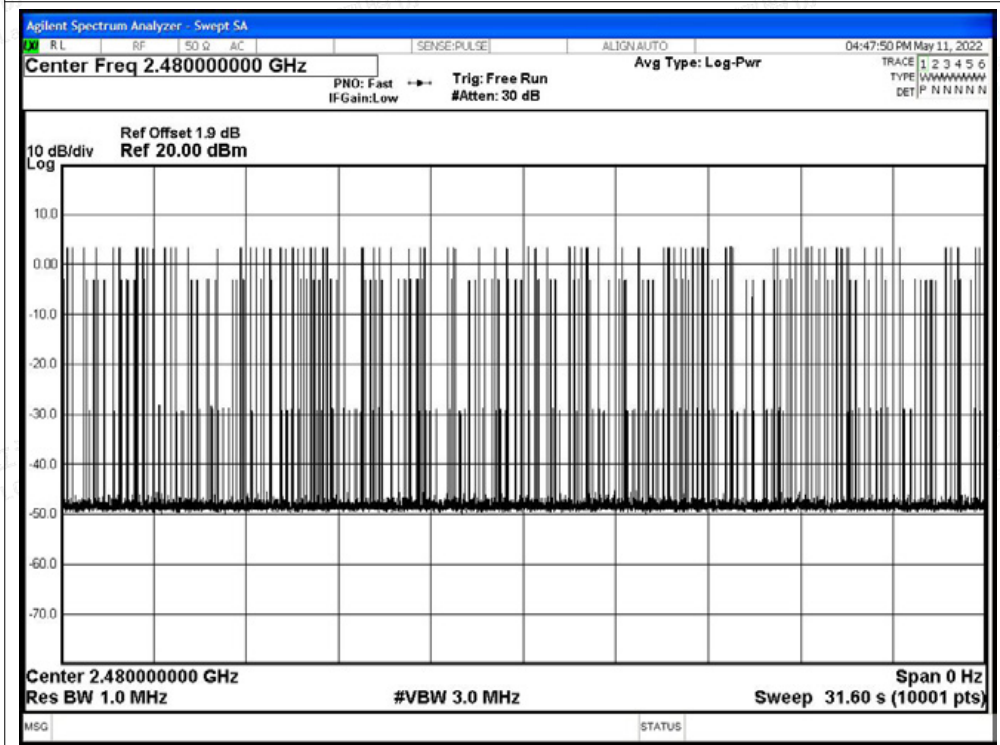




Dwell NVNT 3-DH5 2480MHz Ant1 One Burst



Dwell NVNT 3-DH5 2480MHz Ant1 Accumulated





A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-53.47	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-57.95	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.56	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-57.09	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-54.43	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.48	-20	Pass

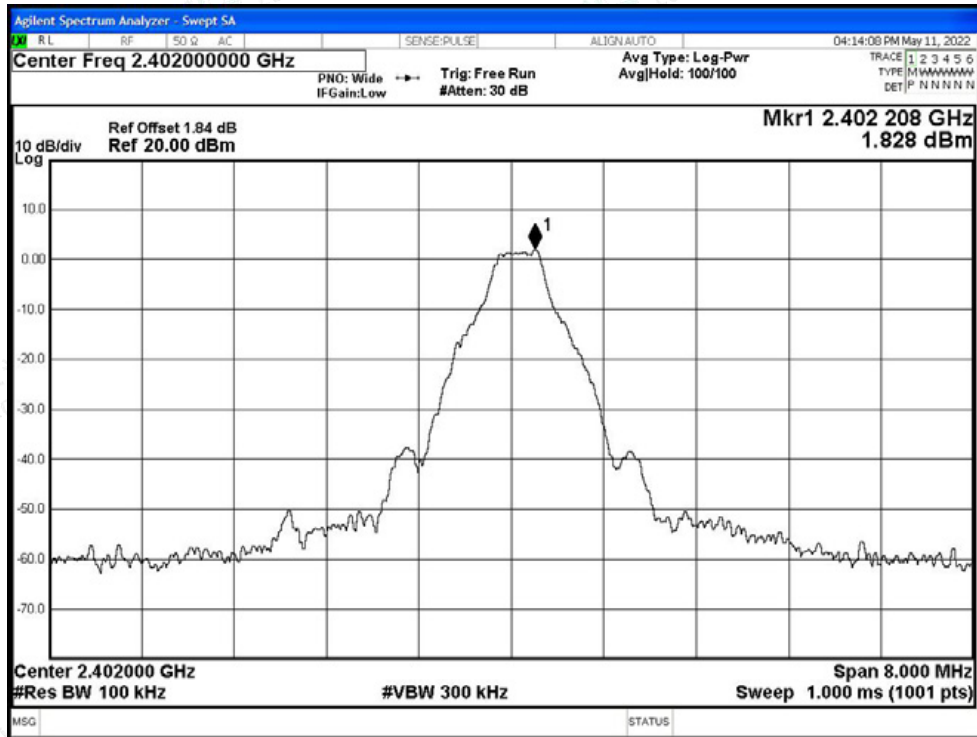


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Scan code to check authenticity

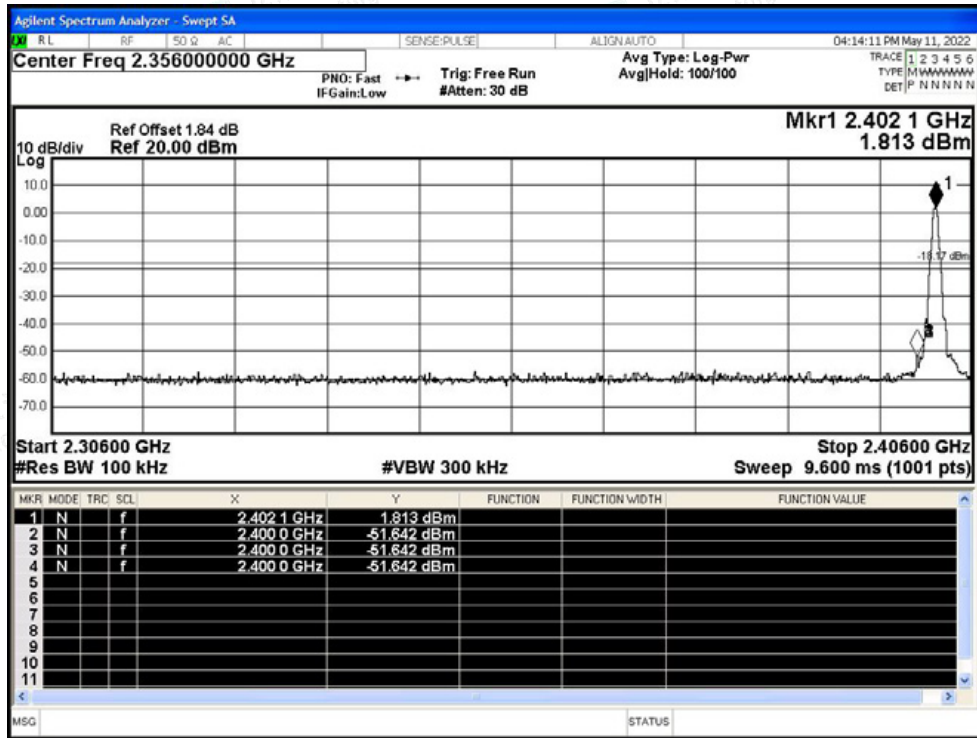


Test Graphs

Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref

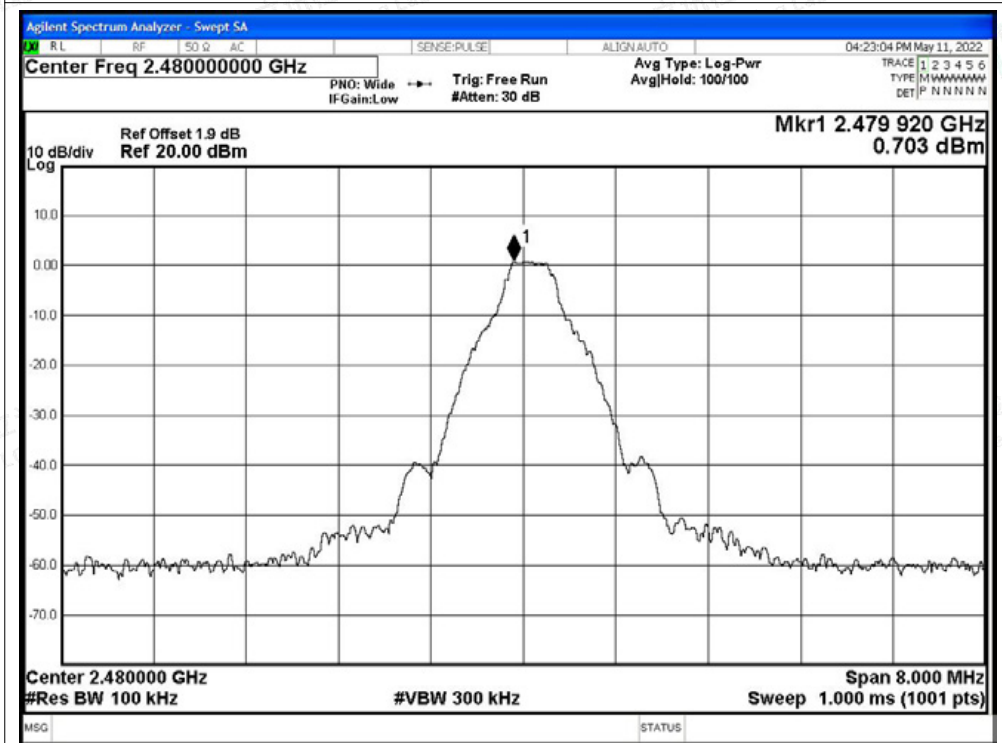


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

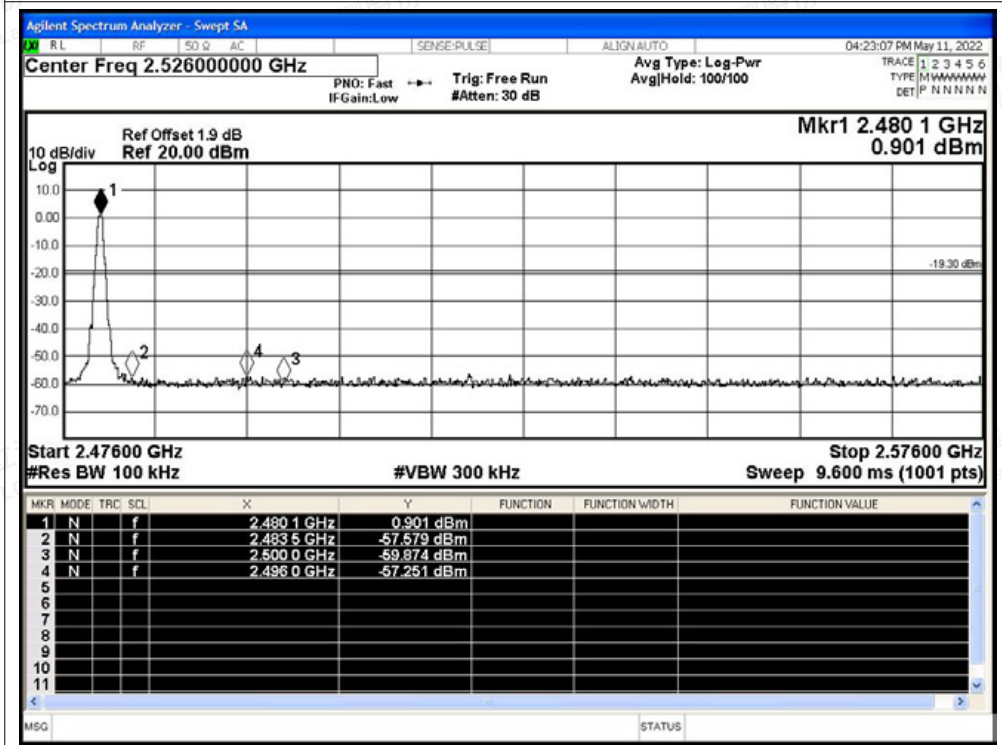




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

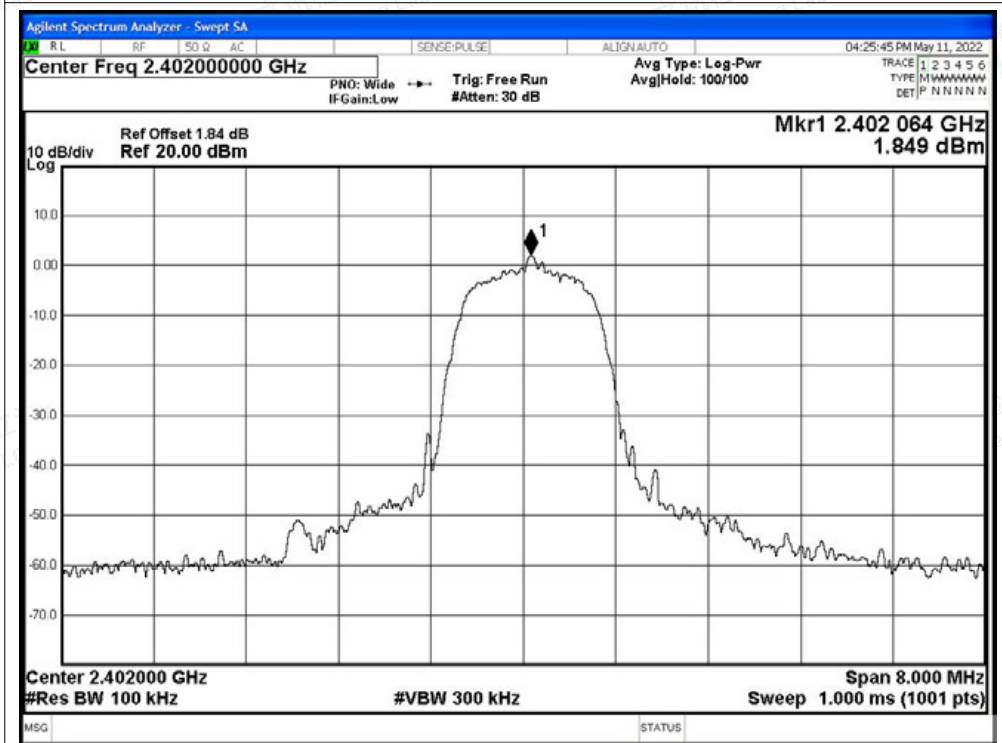


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission





Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

